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

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Addendum I

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

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

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

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

The following example illustrates the changes :-

September 2002

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

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

Epicentral Estimates

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

Observational Data

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

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

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

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

Addendum II

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

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

BJI ***01*** *00:15:18.6, 6.81S×155.53E, h11km, mB6.0, mb5.4, Ms5.6, Msz5.3*

IDC ***01*** *00:15:19.4±0.3, 7.11S×155.17E, h0km, mb5.2/24, mb1 5.3/26, mb1mx5.3/27, mbtmp5.2/26, ML4.4/2, MS5.3/20, Ms1 5.3/20, ms1mx5.2/24, Error ellipse: s-maj=14.4km s-min=11.1km az=99.0*

NEIC ***01*** *00:15:20.8±0.1, 7.12S×155.13E, h9km, mb5.7/47, ME5.7, MS5.6/172, MW5.6, Error ellipse: s-maj=5.3km s-min=4.2km az=119.0 Broadband fault plane solution: P waves. NP1:φs45.00000°, δ70.00000°, λ-125.00000°. NP2:φs289.00000°, δ40.00000°, λ-32.00000°. Principal axes: T Plg18.0000°, Azm160.0000°; N Plg0.0000°, Azm0.0000°; P Plg52.0000°, Azm274.0000°; Moment Tensor Solution. s23 Moment tensor: Scale 10^17 Nm; Mrr-2.69; Mθθ0.12; Mφφ2.58; Mrθ-0.80; Mθφ1.19; Mφr-1.77; Best double couple: M0 3.50000×10^17 NP1:φs200.00000°, δ28.00000°, λ-93.00000°. NP2:φs24.00000°, δ62.00000°, λ-89.00000°. Principal axes: T 3.6500, Plg17.0000°, Azm112.0000°; N -0.3600, Plg1.0000°, Azm203.0000°; P -3.2900, Plg73.0000°, Azm297.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*

ISCJB ***01*** *00:15:20.0±0.9, 7.11S±0.03×155.11E±0.03, h14km±5km, mb5.6/131, MS5.5/209 Error ellipse: s-maj=5.4km s-min=4.8km az=138.4*

GCMT ***01*** *00:15:20.9±0.1, 7.27S×155.02E, h14km, MW5.7/98, Moment Tensor Solution. s98,c189; s95,c222; Duration: 1.7s Moment tensor: Scale 10^17Nm; Mrr-1.11±.04; Mθθ2.29±.04; Mφφ-1.18±.04; Mrθ-2.44±.16; Mθφ-1.64±.03; Mφr-3.19±.20; Best double couple: M0 4.49100×10^17 NP1:φs320.00000°, δ36.00000°, λ-15.00000°. NP2:φs62.00000°, δ81.00000°, λ-125.00000°. Principal axes: T 3.5640, Plg28.0000°, Azm179.0000°; N 1.8550, Plg35.0000°, Azm68.0000°; P -5.4190, Plg43.0000°, Azm299.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

MOS ***01*** *00:15:23.8±1.6, 7.00S×154.98E, h33km, mb5.8/35, MS5.4/54 Error ellipse: s-maj=8.8km s-min=5.7km az=89.9*

ISC 01 00:15:23.8±1.0**, 7.13S**±0.03×**155.14E**±0.03**, h28**km±6km**, h16**km±1.6km**:pP-P, n617, σ0.97**/339**, mb5.6**/130**, MS5.5**/209**, 31C-52D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	5.28	116	Pn	Pn	00 16 39.8	-1.1
	68nm,0.3s,baz=259,slow=3.8,SNR=14						
HNR				LR	LR	00 18 31.9	
	comp=Z,56μm,21.1s,baz=332,slow=37						
COEN	Coen	13.57	239	ePn	Pn	00 18 35.2	+0.7
	115nm,0.9s						
CTA	Charters Tower	15.49	213	eP	Pn	00 19 00.7	+0.3
	24nm,1.9s						
CTA				epP	pP	00 19 06.2	-5.9
CTA				esP	sP	00 19 11.6	-4.1
CTA				eS	Sn	00 21 58.3	+7.0
CTA				eSCP	ScP	00 27 40.1	+4.9
CTA	Charters Tower	15.49	213	eP	Pn	00 19 00.7	+0.3
CTA				eS	Sn	00 21 58.3	+7.0
CTA				pmax	pmax		
	comp=Z,24nm,1.9s						
CTA	Charters Tower	15.49	213	Pn	Pn	00 19 01.4	+0.9
	comp=Z,0.3nm,0.3s,baz=40,slow=14,SNR=17						
CTA				LR	LR	00 24 24.8	
	comp=Z,24μm,18.5s,baz=36,slow=35						
CTAO	Charters Tower	15.49	213	eP	Pn	00 18 59.8	-0.6
EIDS	Eidsvold	18.54	192	eP	Pn	00 19 38.0	-0.6
	comp=Z,29nm,1.2s						
TLE	Tual	22.31	273	⇓eP	P	00 20 23.0	+3.7
GUMO	Guam	22.97	334	P	P	00 20 25.6	-0.7
GUMO	Guam	22.97	334	P	P	00 20 26.4	+0.1
GUMO	Guam	22.97	334	P	P	00 20 26.5	+0.3
	comp=Z,25nm,0.4s,mb5.0,baz=189,slow=13,SNR=2.3						
KAKA	Kakadu	23.03	254	eP	P	00 20 25.6	-1.3
	comp=Z,698nm,1.2s,mb6.0						
ARMA	Armidale	23.40	188	eP	P	00 20 30.2	-0.4
ARMA				eS	S	00 24 42.9	+1.2
WRAB	Tennant Creek	23.84	236	d iP	P	00 20 33.6	-1.2
WRAB	Tennant Creek	23.84	236	eP	P	00 20 33.9	-0.9
	comp=Z,540nm,1.2s,mb5.8						
WRAB				LR	LR		
	comp=Z,6μm,21.0s,MS5.1						
WB2	Warramunga Arr	23.84	236	⇓iP	P	00 20 33.7	-1.2
WB2				eS	S	00 24 49.8	+0.6
WB2	Warramunga Arr	23.84	236	eP	P	00 20 34.0	-0.9
WB2				eS	S	00 24 50.5	+1.3
WRA	Warramunga Arr	23.86	236	P	P	00 20 34.5	-0.5
WRA						00 24 17.8	
WRA	Warramunga Arr	23.86	236	P	P	00 20 34.5	-0.4
	comp=Z,235nm,1.1s,mb5.5,baz=60,slow=9.9,SNR=222						
WRA				PcP	PcP	00 24 17.8	0.0
	comp=Z,12nm,0.9s,baz=58,slow=2.4,SNR=6.4						
WRA				LR	LR	00 27 55.6	
	comp=Z,2μm,18.3s,MS4.7,baz=70,slow=32						
WRA				ScP	ScP	00 27 59.3	+4.9
	comp=Z,7.6nm,0.9s,baz=65,slow=3.1,SNR=6.6						
FUNA	Funafuti	23.87	95	eP	P	00 20 33.7	-1.5
	comp=Z,276nm,1.0s,mb5.6						
FUNA				LR	LR		
	comp=Z,16μm,19.0s,MS5.5						
ASAR	Alice Springs	26.19	229	P	P	00 20 55.1	-1.1
ASAR						00 24 25.0	
ASAR	Alice Springs	26.19	229	P	P	00 20 55.0	-1.1
	comp=Z,35nm,1.0s,mb4.8,baz=59,slow=8.5,SNR=118						
ASAR				PcP	PcP	00 24 25.0	+2.1
	comp=Z,5.3nm,0.8s,baz=67,slow=2.6,SNR=4.3						
ASAR				ScP	ScP	00 28 04.7	+3.8
	comp=Z,9.8nm,1.0s,baz=55,slow=3.4,SNR=9.9						
RIV	Riverview	26.82	187	eP	P	00 21 03.7	+2.0
STKA	Stephens Creek	27.67	205	eP	P	00 21 07.8	-1.6
	comp=Z,71nm,0.8s,mb5.3						
STKA				eS	S	00 25 48.8	-1.0
STKA				eSCP	ScP	00 28 08.9	+3.7
STKA	Stephens Creek	27.67	205	P	P	00 21 08.9	-0.5
	comp=Z,66nm,0.9s,mb5.2,baz=36,slow=13,SNR=24						
STKA				LR	LR	00 31 39.1	
	comp=Z,17μm,18.7s,MS5.7,baz=21,slow=35						
CNB	Canberra Magne	28.55	190	eP	P	00 21 16.8	-0.4
	comp=Z,67nm,1.1s,mb5.3						
FITZ	Fitzroy Crossi	30.73	246	⇓iP	P	00 21 35.9	-0.8
	comp=Z,89nm,0.8s,mb5.7						
FITZ				ePCP	PcP	00 24 36.5	+2.3
FITZ				eS	S	00 26 36.9	-1.3
FITZ	Fitzroy Crossi	30.73	246	P	P	00 21 35.9	-0.8
	comp=Z,54nm,0.8s,mb5.5,baz=85,slow=9.2,SNR=114						
FITZ				PcP	PcP	00 24 35.9	+1.7
	comp=Z,17nm,0.8s,baz=77,slow=2.5,SNR=3.7						
FITZ				LR	LR	00 34 46.2	
	comp=Z,3μm,18.9s,MS5.0,baz=254,slow=38						
BATI	Kupang	31.26	262	P	P	00 21 42.9	+1.4
	comp=Z,103nm,1.2s,mb5.5,baz=126,slow=1.3,SNR=24						
BIPH	Bislig	32.48	297	⇓iP	P	00 21 50.8	-1.4
DAV	Davao City (W)	32.69	295	PFAKE		00 22 00.0	+6.0
DAV				LR	LR		
	comp=Z,3μm,20.0s,MS5.0						
AFI	Afiamalu	33.19	104	eP	P	00 21 57.5	-0.9
AFI				pmax	pmax		
	comp=Z,304nm,1.0s,mb6.2						
AFI				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.1						
AFI	Afiamalu	33.19	104	eP	P	00 21 57.5	-0.9
	comp=Z,304nm,1.0s,mb6.2						
AFI				LR	LR		
	comp=Z,4μm,19.0s,MS5.1						
BUKP	Musuan	33.49	296	eP	P	00 22 01.1	+0.1
RAO	Raoul Island	33.59	134	PFAKE		00 22 10.0	+8.3
RAO				LR	LR		
	comp=Z,5μm,19.0s,MS5.3						
RAO	Raoul Island	33.59	134	LR	LR	00 34 22.8	
	comp=Z,3μm,18.1s,MS5.1,baz=176,slow=34						
WSI	Waingapu	34.55	263	⇓eP	P	00 22 11.8	+1.6
WSI				eS	S	00 27 42.0	+4.2
FORT	Forrest	34.59	224	eP	P	00 22 04.1	-6.3
	comp=Z,55nm,0.7s,mb5.6						
FORT				eS	S	00 27 38.9	+0.9
FORT	Forrest	34.59	224	eP	P	00 22 08.7	-1.7
	comp=Z,63nm,0.7s,mb5.7						
FORT				eS	S	00 27 38.9	+0.9
MSLP	Maasin	34.69	299	eP	P	00 22 12.1	+0.6
TBP	Tagbilaran	35.35	298	eP	P	00 22 15.1	-2.1
TAU	Tasmania Unive	36.29	190	eP	P	00 22 24.9	+0.1
TAU				pmax	pmax		
	comp=Z,163nm,1.2s,mb5.8						
TAU				MLR	MLR		
	comp=Z,5μm,21.0s,MS5.3						
TAU	Tasmania Unive	36.29	190	eP	P	00 22 24.9	+0.1
	comp=Z,162nm,1.2s,mb5.8						
TAU				LR	LR		
	comp=Z,5μm,21.0s,MS5.3						
URZ	Urewera	36.82	151	P	P	00 22 29.5	+0.1
	comp=Z,66nm,1.1s,mb5.4,baz=8.5,slow=3.4,SNR=6.8						
URZ				LR	LR	00 36 12.6	
	comp=Z,7μm,18.7s,MS5.5,baz=341,slow=34						
MBWA	Marble Bar	36.94	244	eP	P	00 22 30.3	-0.4
	comp=Z,290nm,1.5s,mb5.9						
MBWA				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
RCP	Roxas	37.19	300	⇓eP	P	00 22 33.3	+0.4
OTRP	Odiongan	38.20	300	eP	P	00 22 41.7	+0.4
SNZO	South Karori	38.23	156	PFAKE		00 22 50.0	+8.7
SNZO				LR	LR		
	comp=Z,3μm,21.0s,MS5.1						
CUYO	Cuyo Island	38.37	297	eP	P	00 22 44.1	+1.3
TSM	Tawau	38.88	286	⇑P	P	00 22 48.6	+1.4
RPZ	Rata Peaks	39.02	162	P	P	00 22 46.8	-1.1
	comp=Z,35nm,0.7s,mb5.2,baz=332,slow=3.9,SNR=13						
RPZ				LR	LR	00 37 03.8	
	comp=Z,6μm,18.4s,MS5.5,baz=136,slow=33						
SDKM	Sandakan	39.93	288	⇑P	P	00 22 48.6	-7.4
PPR	Puerto Princes	39.97	294	⇓iP	P	00 22 58.1	+1.9
BALP	Baler	40.27	305	eP	P	00 22 58.0	-0.6
BATP	Bataraza	40.44	292	eP	P	00 23 00.9	+0.8
KDM	Kudat	40.68	289	⇓P	P	00 23 03.5	+1.3
KKM	Kota Kinabalu	40.98	288	eP	P	00 23 05.1	+0.4
	comp=Z,164nm,1.3s,mb5.5						
KKM	Kota Kinabalu	40.98	288	⇓P	P	00 23 06.0	+1.4
BCPH	Baguio City Da	41.41	305	⇓eP	P	00 23 07.0	-1.1
KLBR	Kellerberrin	42.51	230	eP	P	00 23 15.1	-1.8
	comp=Z,91nm,1.0s,mb5.5						
BTM	Bintulu	43.21	282	⇓P	P	00 23 24.4	+1.6
NWAO	Narrogin (SRO)	43.51	229	eP	P	00 23 24.1	-0.9
NWAO				pmax	pmax		
	comp=Z,43nm,1.0s						
NWAO	Narrogin (SRO)	43.51	229	eP	P	00 23 24.1	-0.9
	comp=Z,43nm,1.0s,mb5.1						
NWAO				LR	LR	00 42 58.5	
NWAO	Narrogin (SRO)	43.51	229	P	P	00 23 23.2	-1.8
	comp=Z,16nm,0.7s,mb4.8,baz=82,slow=11,SNR=7.9						
NWAO				LR	LR	00 42 58.5	
	comp=Z,7μm,18.7s,MS5.6,baz=62,slow=38						
MUN	Mundaring	43.86	230	eP	P	00 23 27.6	-0.2
MUN				eS	S	00 29 57.9	+0.6
SBUM	Sibu	43.88	281	⇓P	P	00 23 29.4	+1.2
MIDW	Midway	44.04	36	PFAKE		00 23 40.0	+11
MIDW				LR	LR		
	comp=Z,10μm,21.0s,MS5.7						
NACB	Ninganchiao	45.16	315	eP	P	00 23 39.0	+0.7
	comp=Z,107nm,1.3s,mb5.5						
NACB				ePcP	PcP	00 25 18.8	+0.4
KSM	Kuching	45.54	279	eP	P	00 23 42.1	+0.6
	comp=Z,214nm,1.4s,mb5.9						
KSM				ePP	PP	00 25 28.6	+0.1
KSM	Kuching	45.54	279	⇑P	P	00 23 41.8	+0.3
YHNB	Yeheng	45.62	315	eP	P	00 23 42.7	+0.8
	comp=Z,129nm,0.8s,mb5.9						
YHNB				ePP	PP	00 25 30.3	+1.2
RAR	Rarotonga	45.73	113	LR	LR	00 39 21.4	
	comp=Z,2μm,20.5s,MS5.0,baz=282,slow=32						
TATO	Taipei	45.74	315	eP	P	00 23 42.6	-0.2
	comp=Z,165nm,1.1s,mb5.9						
TATO				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
MJAR	Matsushiro Arr	46.26	341	P	P	00 23 45.8	-0.9
MJAR						00 25 23.0	
MJAR	Matsushiro Arr	46.26	341	P	P	00 23 45.8	-1.0
MJAR				PcP	PcP	00 25 23.0	+1.0
MJAR				LR	LR	00 40 44.5	
MJAR	Matsushiro Arr	46.26	341	P	P	00 23 45.8	-1.0
	comp=Z,6.1nm,0.8s,mb4.6,baz=166,slow=8.1,SNR=11						
MJAR				PcP	PcP	00 25 23.0	+1.0
	comp=Z,22nm,1.0s,baz=166,slow=3.4,SNR=12						
MJAR				LR	LR	00 40 44.5	
	comp=Z,2μm,19.3s,MS5.0,baz=185,slow=33						
MAJO	Matsushiro	46.26	341	eP	P	00 23 46.1	-0.6
MAJO				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.0						
MCQ	Macquarie Isla	47.33	177	eP	P	00 23 56.6	+1.7
QZH	Quanzhou	47.78	313	⇓iP	P	00 23 59.5	+0.7
QZH				S	S	00 30 53.8	-0.1
QZH				AMB	AMB		
	comp=Z,700nm,1.2s,mb6.6						
QZH				AMB	AMB		
	comp=Z,4μm,8.2s						
QZH				LR	LR		
	comp=N,3μm,10.3s						
QZH				LR	LR		
	comp=E,2μm,7.7s						
QZH				LR	LR		
	comp=Z,3μm,20.2s						
SSE	Sheshan	50.00	321	P	P	00 24 16.5	+0.7
SSE				XP	sP	00 24 20.7	-7.0
SSE				S	S	00 31 28.2	+3.2
SSE				XS	sS	00 31 33.6	-5.5
SSE				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.3						
SSE				AMB	AMB		
	comp=Z,1μm,8.6s						
SSE				LR	LR		
	comp=N,831nm,15.0s,MS5.2						
SSE				LR	LR		
	comp=E,2μm,15.0s,MS5.2						
SSE				LR	LR		
	comp=Z,2μm,15.8s,MS5.2						
ERM	Erimo	50.12	348	eP	P	00 24 16.4	-0.1
ERM				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.2						
GZH	Guangzhou	50.71	308	P	P	00 24 21.7	+0.4
GZH				S	S	00 31 40.8	+5.7
GZH				AMB	AMB		
	comp=Z,3μm,7.6s						
GZH				LR	LR		
	comp=N,872nm,16.6s,MS5.3						
GZH				LR	LR		
	comp=E,2μm,17.0s,MS5.3						
GZH				LR	LR		
	comp=Z,3μm,15.7s,MS5.4						
KSRS	Korea Array	51.12	332	P	P	00 24 24.6	+0.5
	comp=Z,14nm,0.9s,mb4.9,baz=150,slow=8.1,SNR=34						
KSRS				LR	LR	00 42 46.6	
	comp=Z,2μm,21.4s,MS5.0,baz=292,slow=32						
KS15	Wonju Array Si	51.13	332	eP	P	00 24 23.4	-0.8
YUK	Yuzh-Kuril'sk	51.62	351	eP	P	00 24 27.8	+0.1
YUK				e		00 25 36.0	
YUK				e		00 26 29.6	
YUK				eS	S	00 31 47.0	+0.1
YUK				ePS		00 32 08.0	
YUK				e		00 34 18.0	
YUK				eSS	SS	00 35 17.2	-6.5
YUK				eSSS		00 36 50.0	
YUK				smax			
	comp=E,4μm,5.0s						
YUK				smax			
	comp=N,3μm,4.0s						
QIZ	Qiongzhong	51.65	301	P	P	00 24 28.9	+0.5
QIZ				AP	pP	00 24 31.6	-5.4
QIZ				S	S	00 31 48.8	+0.6
QIZ				SS	SS	00 35 27.6	+2.6
QIZ				AMB	AMB		
	comp=Z,34nm,1.9s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,2μm,9.0s						
QIZ				LR	LR		
	comp=N,2μm,18.2s,MS5.2						
QIZ				LR	LR		
	comp=E,2μm,20.9s,MS5.2						
QIZ				LR	LR		
	comp=Z,3μm,20.2s,MS5.3						
QIZ	Qiongzhong	51.65	301	eP	P	00 24 30.4	+1.9
	comp=Z,33nm,0.8s,mb5.3						
QIZ				ePcP	PcP	00 25 42.4	+0.5
QIZ				LR	LR		
	comp=Z,3μm,20.0s,MS5.4						
INCN	Inchon	51.76	331	eP	P	00 24 30.0	+1.1
	comp=Z,88nm,1.1s,mb5.6						
INCN				ePcP	PcP	00 25 42.1	+0.2
MYKOM	Kota Tinggi	51.94	278	⇓P	P	00 24 30.7	0.0
NJ2	Nanjing	52.11	320	eP	P	00 24 32.6	+1.0
NJ2				AP	pP	00 24 36.4	-3.8
NJ2				XP	sP	00 24 39.8	-3.8
NJ2				PCP	PcP	00 25 43.4	0.0
NJ2				S	S	00 31 57.5	+3.3
NJ2				XS	sS	00 32 01.5	-6.8
NJ2				AMB	AMB		
	comp=Z,160nm,1.2s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,3μm,8.0s						
NJ2				LR	LR		
	comp=N,4μm,16.9s						
NJ2				LR	LR		
	comp=E,2μm,10.6s						
NJ2				LR	LR		
	comp=Z,2μm,10.6s						
KGM	Kluang	52.50	278	⇓P	P	00 24 35.7	+0.8
KTGM	Kuala Trenggan	53.35	282	⇓P	P	00 24 41.9	+0.7
WHN	Wuhan	54.14	316	P	P	00 24 45.4	-1.2
WHN				PP	PP	00 26 45.4	-3.1
WHN				AMB	AMB		
	comp=Z,6μm,3.9s						
WHN				LR	LR		
	comp=N,6μm,10.9s						
WHN				LR	LR		
	comp=E,2μm,8.6s						
WHN				LR	LR		
	comp=Z,6μm,14.8s,MS5.8						
VLA	Vladivostok	54.29	339	eP	P	00 24 47.8	+0.3
FRIM	Kepong	54.39	279	⇓P	P	00 24 41.9	-6.9
UBT	Ubonrachathani	54.41	294	P	P	00 24 51.0	+2.2
PPT	Papeete	54.82	106	eS	S	00 32 27.6	-3.9
	comp=Z,3μm,27.0s						
PPT				eSS	SS	00 36 11.1	-4.0
	comp=Z,1μm,24.2s						
PPT				eLQ		00 38 30.0	
	comp=Z,4μm,24.8s						
PPT				eLR	LR	00 40 51.0	
	comp=Z,1μm,20.8s						
PPT	Papeete	54.82	106	LR	LR	00 44 32.5	
	comp=Z,2μm,18.0s,MS5.2,baz=276,slow=32						
YSS	Yuzh-Sakhalins	54.96	350	deP	P	00 24 52.0	-0.2
YSS				e		00 25 10.2	
YSS				e		00 25 55.0	
YSS				e		00 26 56.0	
YSS				ePPP		00 28 06.0	
YSS				eS	S	00 32 30.0	-2.3
YSS				ePS		00 32 43.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.8s,mb5.4						
YSS				pmax	pmax		
	comp=Z,500nm,7.0s						
YSS				smax			
	comp=E,2μm,9.0s						
YSS				MLR	MLR		
	comp=Z,1μm,17.0s,MS5.1						
YSS				MLR	MLR		
	comp=N,1μm,15.0s						
YSS	Yuzh-Sakhalins	54.96	350	eP	P	00 24 53.3	+1.0
	comp=N,107nm,1.4s,mb5.7						
YSS				LR	LR		
	comp=Z,2μm,22.0s,MS5.1						
IPM	Ipoh	55.22	280	⇓P	P	00 24 54.2	-0.6
DL2	Dalian	55.36	328	iP	P	00 24 53.2	-2.1
DL2				S	S	00 32 33.9	-4.0
DL2				SCS	ScS	00 34 39.5	-3.2
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.3						
DL2				AMB	AMB		
	comp=Z,510nm,8.2s						
DL2				LR	LR		
	comp=N,2μm,15.9s						
DL2				LR	LR		
	comp=E,620nm,10.5s						
DL2				LR	LR		
	comp=Z,740nm,12.4s,MS5.0						
POHA	Pohakuloa	55.41	60	PFAKE		00 25 10.0	+14
POHA				LR	LR		
	comp=Z,5μm,20.0s,MS5.6						
KULM	Kulim	55.76	281	eP	P	00 24 58.3	-0.4
	comp=Z,103nm,1.1s,mb5.8						
KULM				ePcP	PcP	00 25 57.2	-0.5
KULM				eScP	ScP	00 29 58.1	+3.0
KULM	Kulim	55.76	281	⇓P	P	00 24 54.2	-4.4
TIA	Tai'an	55.96	323	eP	P	00 24 58.9	-0.8
TIA				AMB	AMB		
	comp=Z,55nm,1.1s,mb5.5						
TIA				LR	LR		
	comp=E,2μm,8.0s						
MDJ	Mudanjiang	56.42	338	P	P	00 25 02.9	+0.1
MDJ				XP	sP	00 25 07.5	-7.3
MDJ				S	S	00 32 52.6	+0.8
MDJ				XS	sS	00 32 59.6	-6.5
MDJ				SCS	ScS	00 34 52.2	+2.1
MDJ				AMB	AMB		
	comp=Z,23nm,1.7s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,773nm,12.6s						
MDJ				LR	LR		
	comp=N,809nm,22.3s,MS4.9						
MDJ				LR	LR		
	comp=E,838nm,22.9s,MS4.9						
MDJ				LR	LR		
	comp=Z,1μm,22.9s,MS4.9						
MDJ	Mudanjiang	56.42	338	eP	P	00 25 02.2	-0.5
	comp=Z,76nm,1.5s,mb5.5						
MDJ				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
SNY	Shenyang	56.63	332	⇑P	P	00 25 04.3	0.0
SNY				S	S	00 32 50.4	-4.4
SNY				SCS	ScS	00 34 51.3	-0.4
SNY				SS	SS	00 36 45.8	+2.9
SNY				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.2						
SNY				AMB	AMB		
	comp=Z,1μm,3.5s						
SNY				LR	LR		
	comp=N,3μm,15.2s						
SNY				LR	LR		
	comp=Z,2μm,17.1s,MS5.2						
CN2	Changchun	57.38	335	⇑P	P	00 25 06.7	-2.9
CN2				eXP	sP	00 25 14.0	-7.6
CN2				eS	S	00 33 02.6	-1.9
CN2				AMB	AMB		
	comp=Z,50nm,1.2s,mb5.4						
CN2				AMB	AMB		
	comp=Z,700nm,5.0s						
CN2				LR	LR		
	comp=N,2μm,17.0s,MS5.5						
CN2				LR	LR		
	comp=E,2μm,17.0s,MS5.5						
CN2				LR	LR		
	comp=Z,2μm,19.0s,MS5.3						
SKR	Severo-Kuril's	57.59	1	eP	P	00 25 08.0	-2.9
SKR				e		00 25 23.5	
SKR				eS	S	00 33 03.0	-4.0
SKR				pmax	pmax		
	comp=Z,1μm,8.0s						
SKR				pmax	pmax		
	comp=N,110nm,1.0s						
SKR				pmax	pmax		
	comp=E,110nm,1.0s						
SKR				pmax	pmax		
	comp=Z,130nm,1.0s,mb5.9						
SKR				smax			
	comp=N,2μm,10.0s						
SKR				smax			
	comp=E,5μm,10.0s						
SKR				MLR	MLR		
	comp=N,2μm,16.0s,MS5.5						
SKR				MLR	MLR		
	comp=E,1μm,16.0s,MS5.5						
SKR				MLR	MLR		
	comp=Z,2μm,16.0s,MS5.3						
COCO	West Island	57.61	260	eP	P	00 25 11.1	-0.7
COCO				LR	LR		
	comp=Z,5μm,20.0s,MS5.6						
GYA	Guiyang	57.65	307	⇓iP	P	00 25 12.7	+0.9
GYA				AP	pP	00 25 16.8	-3.7
GYA				XP	sP	00 25 19.5	-4.4
GYA				PCP	PcP	00 26 07.0	+2.2
GYA				PP	PP	00 27 24.4	+4.4
GYA				PPP		00 28 44.2	

GYA			SCP	ScP	00 30 05.4	+2.3
GYA			S	**S**	**00 33 08.1**	**-0.6**
GYA			PS		00 33 25.0	
GYA			SCS	ScS	00 35 01.0	+1.2
GYA			SS	SS	00 37 03.3	+3.8
GYA			SSS		00 39 19.8	
GYA			AMB	AMB		
	comp=Z,90nm,1.0s,mb5.8					
GYA			AMB	AMB		
	comp=Z,2μm,9.0s					
GYA			LR	LR		
	comp=N,1μm,15.8s,MS5.3					
GYA			LR	LR		
	comp=E,1μm,14.7s,MS5.3					
GYA			LR	LR		
	comp=Z,2μm,16.5s,MS5.3					
HABR	**Khabarovsk**	**58.12 344**	⇓*i*P	**P**	**00 25 13.5**	**-1.2**
HABR			*e*		00 25 28.0	
HABR			*e*		00 26 04.5	
HABR			*i*		00 27 21.6	
HABR			*e*S	**S**	**00 33 13.9**	**-0.2**
HABR			*e*		00 33 29.6	
HABR			*e*		00 35 02.1	
HABR			*e*		00 37 08.9	
HABR			pmax	pmax		
	comp=Z,118nm,1.4s,mb5.7					
HABR			pmax	pmax		
	comp=Z,768nm,5.6s					
NST	**Nakhon Sawan**	**58.99 293**	P	**P**	**00 25 20.0**	**-1.4**
	comp=Z,145nm,0.8s,mb6.1					
BJT	**Baijiatuau**	**59.10 326**	*e*P	**P**	**00 25 22.7**	**+1.0**
BJT			pmax	pmax		
	comp=Z,46nm,1.2s					
BJT			MLR	MLR		
	comp=Z,2μm,20.0s					
BJT	**Baijiatuau**	**59.10 326**	*e*P	**P**	**00 25 22.6**	**+0.9**
	comp=Z,46nm,1.2s,mb5.4					
BJT			LR	LR		
	comp=Z,2μm,20.0s,MS5.2					
BJI	**Beijing**	**59.11 326**	P	**P**	**00 25 20.9**	**-0.9**
BJI			PP	PP	00 27 28.8	-3.9
BJI			S	**S**	**00 33 26.7**	**-0.6**
BJI			AMB	AMB		
	comp=Z,30nm,1.1s,mb5.2					
BJI			AMB	AMB		
	comp=Z,1μm,12.5s					
BJI			LR	LR		
	comp=E,1μm,18.5s					
BJI			LR	LR		
	comp=Z,1μm,23.9s					
KLR	**Kul'dur**	**59.74 342**	*e*P	**P**	**00 25 21.0**	**-4.9**
KLR			*e*S	**S**	**00 33 32.0**	**-3.1**
KLR			*e*		00 35 09.0	
KLR			pmax	pmax		
	comp=E,62nm,1.6s					
KLR			pmax	pmax		
	comp=Z,140nm,1.6s,mb5.7					
KLR			pmax	pmax		
	comp=N,600nm,10.0s					
KLR			pmax	pmax		
	comp=Z,2μm,10.0s					
KLR			smax			
	comp=N,2μm,8.5s					
KLR			smax			
	comp=E,2μm,8.5s					
KLR			MLR	MLR		
	comp=Z,12μm,13.0s,MS6.2					
TIY	**Taiyuan**	**59.79 322**	*i* P	**P**	**00 25 25.6**	**-0.9**
TIY			S	**S**	**00 33 35.1**	**-1.0**
TIY			AMB	AMB		
	comp=Z,2μm,6.1s					
TIY			LR	LR		
	comp=N,2μm,12.9s					
TIY			LR	LR		
	comp=E,423nm,6.0s					
TIY			LR	LR		
	comp=Z,2μm,12.5s,MS5.4					
XAN	**Xi'an**	**59.90 316**	P	**P**	**00 25 26.4**	**-1.0**
XAN			AP	pP	00 25 33.9	-2.2
XAN			XP	sP	00 25 36.9	-2.5
XAN			PPP		00 28 59.5	
XAN			S	**S**	**00 33 32.7**	**-5.1**
XAN			SCS	ScS	00 35 08.3	-7.9
XAN			SS	SS	00 37 37.7	+3.0
XAN			AMB	AMB		
	comp=Z,61nm,1.7s,mb5.3					
XAN			AMB	AMB		
	comp=Z,1μm,10.2s					
XAN			LR	LR		
	comp=E,1μm,18.5s					
XAN			LR	LR		
	comp=Z,1μm,17.9s,MS5.2					
PET	**Petropavlovsk**	**60.00 2**	*i* P	**P**	**00 25 27.3**	**-0.3**
PET			pmax	pmax		
	comp=Z,228nm,1.5s,mb6.0					
PET	**Petropavlovsk**	**60.00 2**	*e*P	**P**	**00 25 27.9**	**+0.3**
PET			LR	LR		
	comp=Z,3μm,21.0s,MS5.4					
KMI	**Kunming**	**60.21 304**	P	**P**	**00 25 31.0**	**+1.3**
KMI			PCP	PcP	00 26 15.8	+0.8
KMI			S	**S**	**00 33 47.2**	**+5.2**
KMI			SCS	ScS	00 35 19.1	+0.3
KMI			SS	SS	00 37 44.6	+4.8
KMI			SSS		00 40 26.3	
KMI			AMB	AMB		
	comp=Z,205nm,1.3s,mb6.0					
KMI			AMB	AMB		
	comp=Z,2μm,7.4s					
KMI			LR	LR		
	comp=N,864nm,13.4s					
KMI			LR	LR		
	comp=E,1μm,19.0s					
KMI			LR	LR		
	comp=Z,1μm,19.7s					
DRV	**Dumont d'Urvil**	**60.35 187**	P	sP	00 25 42.0	+0.1
DRV			S	**S**	**00 33 48.0**	**+5.6**
DRV			L		00 40 00.0	
DRV			R		00 43 00.0	
CHRT	**Chiangrai**	**60.71 297**	⇓P	**P**	**00 25 34.0**	**+0.9**
	comp=Z,724nm,1.2s,mb6.7					
CM31	**Chiang Mai Arr**	**60.97 296**	*e*P	**P**	**00 25 36.6**	**+1.7**
	comp=Z,375nm,1.5s,mb6.3					
CM31			LR	LR		
	comp=Z,1μm,20.0s,MS5.0					
CHG	**Chiang Mai**	**61.09 296**	⇓P	**P**	**00 25 36.7**	**+0.9**
	comp=Z,122nm,1.1s,mb5.9					
CHTO	**Chiang Mai**	**61.09 296**	*e*P	**P**	**00 25 36.3**	**+0.6**
CHTO			MLR	MLR		
	comp=Z,1μm,19.0s,MS5.0					
SMY	**Shemya**	**61.78 13**	PFAKE		00 25 50.0	+10
SMY			LR	LR		
	comp=Z,4μm,20.0s,MS5.6					
CD2	**Chengdu**	**62.01 310**	⇑*i*P	**P**	**00 25 42.9**	**+1.1**
CD2			AP	pP	00 25 47.5	-3.0
CD2			XP	sP	00 25 50.5	-3.4
CD2			PP	PP	00 28 01.6	+3.0
CD2			PCS	PcS	00 30 24.8	-0.6
CD2			S	**S**	**00 34 05.2**	**+0.4**
CD2			XS	sS	00 34 12.9	-6.3
CD2			SCS	ScS	00 35 33.5	+1.4
CD2			SS	SS	00 38 09.3	+1.5
CD2			AMB	AMB		
	comp=Z,360nm,1.1s,mb6.4					
CD2			AMB	AMB		
	comp=Z,2μm,5.4s					
CD2			LR	LR		
	comp=N,2μm,14.4s,MS5.5					
CD2			LR	LR		
	comp=E,2μm,14.4s,MS5.5					
CD2			LR	LR		
	comp=Z,2μm,16.8s,MS5.2					
HHC	**Hu-ho-hao-te**	**62.29 324**	⇓P	**P**	**00 25 43.3**	**-0.1**
HHC			PCP	PcP	00 26 24.1	+1.1
HHC			PP	PP	00 28 04.0	+3.2
HHC			SCP	ScP	00 30 23.6	+0.3
HHC			S	**S**	**00 34 07.5**	**-0.4**
HHC			XS	sS	00 34 17.4	-4.9
HHC			SCS	ScS	00 35 32.0	-1.8
HHC			SS	SS	00 38 15.9	+4.1
HHC			AMB	AMB		
	comp=Z,75nm,1.1s,mb5.7					
HHC			AMB	AMB		
	comp=Z,2μm,6.9s					
HHC			LR	LR		
	comp=N,2μm,13.3s,MS5.6					
HHC			LR	LR		
	comp=E,2μm,13.7s,MS5.6					
HHC			LR	LR		
	comp=Z,2μm,15.7s,MS5.5					
BTO	**Baotou**	**63.05 323**	*e*P	**P**	**00 25 48.0**	**-0.5**
BTO			AMB	AMB		
	comp=Z,17nm,0.9s,mb5.2					
ADK	**Adak**	**63.55 19**	*e*P	**P**	**00 25 52.0**	**+0.4**
ADK			pmax	pmax		
	comp=Z,86nm,0.9s,mb5.8					
ADK			MLR	MLR		
	comp=Z,5μm,20.0s,MS5.7					
ADK	**Adak**	**63.55 19**	*e*P	**P**	**00 25 52.0**	**+0.5**
	comp=Z,86nm,0.9s,mb5.8					
ADK			LR	LR		
	comp=Z,5μm,20.0s,MS5.7					
HIA	**Hailar**	**64.11 335**	*i* P	**P**	**00 25 55.6**	**+0.3**
HIA	**Hailar**	**64.11 335**	*e*P	**P**	**00 25 55.3**	**+0.1**
	comp=Z,26nm,0.6s,mb5.4					
HIA			LR	LR		
	comp=Z,1μm,19.0s,MS5.2					
LZH	**Lanzhou**	**64.51 316**	⇓P	**P**	**00 25 59.2**	**+1.0**
LZH			PP	PP	00 28 23.7	+3.2
LZH			S	**S**	**00 34 37.2**	**+1.4**
LZH			XS	sS	00 34 44.6	-5.7
LZH			PS		00 34 57.0	
LZH			SS	SS	00 38 49.1	+2.3
LZH			AMB	AMB		
	comp=Z,115nm,1.4s,mb5.7					
LZH			AMB	AMB		
	comp=Z,1μm,8.8s					
LZH			LR	LR		
	comp=E,1μm,15.2s					
LZH			LR	LR		
	comp=Z,3μm,17.3s,MS5.5					
CASY	**Casey**	**66.51 198**	*e*P	**P**	**00 26 12.0**	**+1.4**
CASY			LR	LR		
	comp=Z,4μm,20.0s,MS5.6					
MA2	**Magadan**	**66.58 358**	*d i*P	**P**	**00 26 10.6**	**-0.5**
MA2			*e*		00 28 43.9	
MA2			*e*S	S	00 34 57.3	-2.9
MA2			*e*		00 35 55.6	
MA2			pmax	pmax		
	comp=N,60nm,0.8s					
MA2			pmax	pmax		
	comp=Z,200nm,0.8s,mb6.2					
MA2			smax			
	comp=N,7μm,6.2s					
MA2			smax			
	comp=E,11μm,6.0s					
MA2			MLR	MLR		
	comp=Z,600nm,14.0s,MS5.0					
MA2	**Magadan**	**66.58 358**	*e*P	**P**	**00 26 10.9**	**-0.2**
MA2			LR	LR		
	comp=Z,1μm,19.0s,MS5.2					
IMP	**Imphal**	**67.48 300**	*e*P	**P**	**00 26 17.0**	**-0.5**
NRGR	**Nerungri**	**68.30 342**	*i* P	**P**	**00 26 24.8**	**+2.8**
NRGR			S	S	00 35 26.2	+5.2
NRGR			smax			
	comp=N,29nm,0.5s					
CLNS	**Chul'man**	**68.40 343**	*e*P	**P**	**00 26 22.1**	**-0.6**
CLNS			*e**PP	pP	00 26 28.6	-2.9
CLNS			*e*		00 26 46.0	
CLNS			*e*S	S	00 35 20.5	-1.7
CLNS			*e*		00 36 03.0	
CLNS			pmax	pmax		
	comp=Z,53nm,1.0s,mb5.5					
CLNS			pmax	pmax		
	comp=N,20nm,0.8s					
CLNS			pmax	pmax		
	comp=E,7.0nm,0.7s					
CLNS			pmax	pmax		
	comp=Z,11nm,1.0s,mb4.8					
CLNS			pmax	pmax		
	comp=N,13nm,0.9s					
CLNS			pmax	pmax		
	comp=E,8.0nm,0.9s					
CLNS			smax			
	comp=N,515nm,11.2s					
CLNS			smax			
	comp=Z,86nm,8.2s					
CLNS			smax			
	comp=E,756nm,10.8s					
CLNS			MLR	MLR		
	comp=Z,2μm,14.0s,MS5.4					
CLNS			MLR	MLR		
	comp=N,900nm,12.0s,MS5.5					
CLNS			MLR	MLR		
	comp=E,1μm,11.0s,MS5.5					
RKT	**Rikitea**	**68.76 112**	*e*PP	PP	00 28 50.6	-7.1
	comp=E,247nm,25.8s					
RKT			*e*S	S	00 35 23.6	-4.2
	comp=E,1μm,26.0s					
RKT			*e*SS	SS	00 39 48.2	-4.9
	comp=E,1μm,29.0s					
RKT			*e*LQ		00 44 20.4	
	comp=E,2μm,36.2s					
RKT			*e*LR	LR	00 47 16.4	
	comp=E,4μm,27.0s,baz=279					
UNV	**Unalaska Valle**	**68.80 23**	*e*P	**P**	**00 26 24.6**	**-0.6**
UNV			LR	LR		
	comp=Z,14μm,21.0s,MS6.2					
GTA	**Gaotai**	**68.94 317**	P	**P**	**00 26 27.1**	**+0.7**
GTA			AP	pP	00 26 31.2	-4.1
GTA			XP	sP	00 26 34.1	-4.5
GTA			PCP	PcP	00 26 50.3	-0.3
GTA			PP	PP	00 29 01.1	+2.1
GTA			PCS		00 30 55.2	
GTA			S	S	00 35 32.8	+3.6
GTA			XS	sS	00 35 40.8	-3.0
GTA			SCS	ScS	00 36 24.3	-0.8
GTA			SS	SS	00 39 59.3	+4.0
GTA			AMB	AMB		
	comp=Z,37nm,1.6s,mb5.1					
GTA			AMB	AMB		
	comp=Z,1μm,7.6s					
GTA			LR	LR		
	comp=N,1μm,16.4s,MS5.4					
GTA			LR	LR		
	comp=E,1μm,15.6s,MS5.4					
GTA			LR	LR		
	comp=Z,1μm,16.7s,MS5.3					
ULN	**Ulaanbaatar**	**69.19 328**	*d i*P	**P**	**00 26 27.9**	**+0.1**
ULN	**Ulaanbaatar**	**69.19 328**	*e*P	**P**	**00 26 28.0**	**+0.2**
ULN			PP	PP	00 29 04.4	+3.3
ULN			LR	LR		
	comp=Z,1μm,19.0s,MS5.2					
SHL	**Shillong**	**69.49 301**	*i* P	**P**	**00 26 31.0**	**+0.9**
SHL			*i* S	S	00 35 39.0	+2.7
SONM	**Songino Array**	**69.53 327**	P	**P**	**00 26 29.8**	**-0.1**
SONM			⇑*e*		00 54 36.9	
SONM			LR	LR	00 56 14.9	
SONM	**Songino Array**	**69.53 327**	P	**P**	**00 26 29.8**	**-0.1**
	comp=Z,45nm,0.8s,mb5.4,baz=133,slow=5.2,SNR=200					
SONM			PKP2bc		00 54 36.9	
	comp=Z,3.0nm,1.0s,baz=308,slow=2.6,SNR=8.7					
SONM			LR	LR	00 56 14.9	
	comp=Z,2μm,19.8s,MS5.4,baz=124,slow=35					
SEY	**Seymchan**	**69.89 359**	*e*P	**P**	**00 26 31.7**	**-0.1**
VNDA	**Vanda**	**70.44 178**	P	**P**	**00 26 35.0**	**0.0**
VNDA			pmax	pmax		
	comp=Z,21nm,1.1s					
VNDA	**Vanda**	**70.44 178**	P	**P**	**00 26 36.4**	**+1.3**
	comp=Z,10nm,0.9s,mb4.8,baz=328,slow=5.3,SNR=20					
VNDA			LR	LR	00 52 28.6	
	comp=Z,1μm,18.6s,MS5.2,baz=359,slow=32					
SBA	**Scott Base**	**70.95 177**	*e*P	**P**	**00 26 38.4**	**+0.3**
SBA			*e*		00 26 55.2	
SBA			MLR	MLR		
	comp=Z,3μm,20.0s,MS5.5					
LSA	**Lhasa**	**71.47 304**	*e*P	**P**	**00 26 43.5**	**+1.4**
LSA			pmax	pmax		
	comp=Z,274nm,1.3s,mb6.0					
LSA			MLR	MLR		
	comp=Z,972nm,22.0s,MS5.0					
LSA	**Lhasa**	**71.47 304**	*e*P	**P**	**00 26 43.5**	**+1.3**
	comp=Z,274nm,1.3s,mb6.0					
LSA			LR	LR		
	comp=Z,972nm,22.0s,MS5.0					
YAK	**Yakutsk**	**71.72 348**	*de*P	**P**	**00 26 42.4**	**-0.5**
YAK			*e**PP	pP	00 26 47.8	-4.0
YAK			*e*		00 26 59.9	
YAK			*e*		00 29 17.2	
YAK			*e*S	S	00 36 02.5	+1.6
YAK			*e*		00 36 35.2	
YAK			pmax	pmax		
	comp=Z,179nm,1.3s,mb5.8					
YAK			pmax	pmax		
	comp=N,49nm,1.2s					
YAK			pmax	pmax		
	comp=E,21nm,1.3s					
YAK			pmax	pmax		
	comp=Z,171nm,2.5s,mb5.5					
YAK			pmax	pmax		
	comp=N,91nm,2.7s					
YAK			pmax	pmax		
	comp=E,52nm,1.9s					
YAK			smax			
	comp=N,1μm,4.8s					
YAK			smax			
	comp=Z,367nm,4.8s					
YAK			smax			
	comp=E,2μm,5.2s					
YAK			MLR	MLR		
	comp=N,744nm,12.0s,MS5.4					
YAK			MLR	MLR		
	comp=E,857nm,12.0s,MS5.4					
YAK			MLR	MLR		
	comp=Z,1μm,12.0s,MS5.3					
YAK	**Yakutsk**	**71.72 348**	*e*P	**P**	**00 26 43.1**	**+0.2**
YAK			LR	LR		
	comp=Z,1μm,21.0s,MS5.2					
SDPT	**Sand Point**	**72.31 25**	*e*P	**P**	**00 26 46.1**	**-0.5**
MIR	**Mirnyy**	**72.62 202**	*e*P	**P**	**00 26 52.0**	**+3.7**
MIR			*i*		00 27 05.0	
MIR			pmax	pmax		
	comp=Z,400nm,1.5s,mb6.1					
ZAK	**Zakamensk**	**72.68 328**	⇓*i*P	**P**	**00 26 49.0**	**+0.1**
ZAK			pmax	pmax		
	comp=Z,32nm,1.3s,mb5.1					
ZAK			pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6					
BOD	**Bodaibo**	**72.80 338**	⇓*i*P	**P**	**00 26 48.8**	**-0.6**
BOD			pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1					
TLY	**Talaya**	**73.25 329**	⇓*i*P	**P**	**00 26 51.5**	**-0.8**
TLY			*e*		00 29 40.0	
TLY			*e*S	S	00 36 17.1	-1.7
TLY			*e*SS	SS	00 40 54.6	-6.5
TLY			pmax	pmax		
	comp=Z,40nm,1.5s,mb5.1					
TLY	**Talaya**	**73.25 329**	*e*P	**P**	**00 26 52.9**	**+0.6**
TLY			LR	LR		
	comp=Z,1μm,22.0s,MS5.1					
IRK	**Irkutsk**	**73.27 330**	⇓*i*P	**P**	**00 26 50.6**	**-1.8**
IRK			*e*		00 27 16.7	
IRK			*e*S	S	00 36 21.6	+2.6
IRK			pmax	pmax		
	comp=Z,64nm,1.9s,mb5.2					
BOK	**Bokaro**	**74.19 297**	⇓*i*P	**P**	**00 26 58.6**	**+0.2**
BOK			AMb	AMB	00 27 04.8	
	comp=Z,192nm,1.2s,mb5.9					
MOY	**Mondy**	**74.60 328**	*e*P	**P**	**00 26 59.6**	**-0.6**
MOY			pmax	pmax		
	comp=Z,88nm,2.5s,mb5.2					
JIRN	**Jiri**	**74.97 301**	*e*P	**P**	**00 27 03.6**	**+0.7**
	comp=Z,172nm,0.8s,mb6.0					
GAMB	**Gambell**	**75.02 15**	*e*P	**P**	**00 27 03.4**	**+1.0**
VIS	**Vishakhapatnam**	**75.05 290**	⇓*i*P	**P**	**00 27 03.3**	**-0.2**
VIS			AMb	AMB	00 27 10.6	
	comp=Z,92nm,1.2s,mb5.6					
VIS			*i* S	S	00 36 40.1	-0.1
GUN	**Gumba**	**75.31 301**	*e*P	**P**	**00 27 05.5**	**+0.7**
	comp=Z,524nm,0.8s,mb6.5					
BILL	**Bilibino**	**75.41 4**	*d i*P	**P**	**00 27 04.4**	**-0.1**
BILL			*e*		00 27 17.2	
BILL			pmax	pmax		
	comp=Z,253nm,1.2s,mb6.0					
BILL	**Bilibino**	**75.41 4**	*i* P	**P**	**00 27 04.5**	**0.0**
PALK	**Pallekele**	**75.60 279**	*e*P	**P**	**00 27 07.3**	**+0.6**
PALK			LR	LR		
	comp=Z,789nm,19.0s,MS5.0					
PKI	**Pulchoki**	**75.62 301**	*e*P	**P**	**00 27 06.8**	**+0.2**
	comp=Z,515nm,1.3s,mb6.3					
PKIN	**Phulchoki**	**75.63 301**	*e*P	**P**	**00 27 06.7**	**0.0**
	comp=Z,168nm,0.9s,mb6.0					
KKN	**Kakani**	**75.79 301**	*e*P	**P**	**00 27 07.9**	**+0.3**
	comp=Z,271nm,0.8s,mb6.2					
DMN	**Daman**	**75.89 301**	*e*P	**P**	**00 27 08.8**	**+0.7**
	comp=Z,1μm,1.2s,mb6.7					
GKN	**Gorkha**	**76.39 301**	*e*P	**P**	**00 27 11.2**	**+0.2**
	comp=Z,968nm,1.2s,mb6.6					
MDRS	**Chennai**	**77.04 285**	⇓*i*P	**P**	**00 27 13.5**	**-1.4**
MDRS			*i* x	x	00 28 25.5	
MDRS			*e*S	S	00 37 03.5	+1.2
BLSP	**Bilaspur**	**77.13 295**	⇓*i*P	**P**	**00 27 14.2**	**-1.1**
BLSP			AMb	AMB	00 27 20.6	
	comp=Z,104nm,1.1s,mb5.7					
KOLN	**Koldanda**	**77.21 300**	*e*P	**P**	**00 27 15.6**	**0.0**
	comp=Z,355nm,0.9s,mb6.3					
KDAK	**Kodiak Island**	**77.23 26**	P	**P**	**00 27 14.7**	**-0.4**
	comp=Z,27nm,0.9s,mb5.2,baz=263,slow=3.7,SNR=6.1					
KDAK			LR	LR	00 55 15.5	
	comp=Z,3μm,19.5s,MS5.6,baz=234,slow=31					
DANN	**Dangsing**	**77.23 301**	*e*P	**P**	**00 27 15.5**	**-0.2**
	comp=Z,212nm,0.8s,mb6.1					
TNA	**Tin City**	**77.42 15**	*e*P	**P**	**00 27 16.9**	**+1.0**
	comp=Z,54nm,1.0s,mb5.4					
TNA			LR	LR		
	comp=Z,2μm,20.0s,MS5.4					
SVW2	**Sparrevohn**	**78.07 22**	*e*P	**P**	**00 27 19.6**	**-0.1**
WMQ	**Urumqi**	**79.02 317**	⇓*i*P	**P**	**00 27 25.8**	**+0.5**
WMQ			XP	sP	00 27 32.8	-4.8
WMQ			PP	PP	00 30 26.8	+2.1
WMQ			S	S	00 37 22.8	+0.2
WMQ			SKS		00 37 35.8	
WMQ			PS		00 38 07.8	
WMQ			SS	SS	00 42 31.8	+3.0
WMQ			AMB	AMB		
	comp=Z,45nm,1.2s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,1μm,7.0s					
WMQ			LR	LR		
	comp=N,849nm,22.0s,MS5.1					
WMQ			LR	LR		
	comp=E,658nm,22.0s,MS5.1					
WMQ			LR	LR		
	comp=Z,659nm,19.0s,MS5.0					
TTA	**Tatalina**	**79.10 21**	*e*P	**P**	**00 27 24.8**	**-0.5**
TTA			pmax	pmax		
	comp=Z,205nm,1.5s,mb5.8					
TTA	**Tatalina**	**79.10 21**	*e*P	**P**	**00 27 24.8**	**-0.5**
	comp=Z,205nm,1.5s,mb5.8					
HYB	**Hyderabad**	**79.45 289**	*e*P	**P**	**00 27 28.0**	**-0.2**
HYB			*e*S	S	00 37 24.0	-4.1
HYB			pmax	pmax		
	comp=Z,95nm,1.0s,mb5.7					
HYB	**Hyderabad**	**79.45 289**	*e*P	**P**	**00 27 28.0**	**-0.2**
	comp=Z,95nm,1.0s,mb5.7					
HYB			*e*S	S	00 37 24.0	-4.1
HYB	**Hyderabad**	**79.45 289**	⇓*i*P	**P**	**00 27 28.0**	**-0.2**
	comp=Z,95nm,1.0s,mb5.7					
HYB			*e*S	S	00 37 24.0	-4.1
TRD	**Trivandrum**	**79.46 280**	⇓*i*P	**P**	**00 27 27.7**	**-0.6**
TRD			AMb	AMB	00 27 32.0	
	comp=Z,63nm,0.9s,mb5.5					
NGP	**Nagpur**	**79.72 293**	*e*P	**P**	**00 27 28.4**	**-1.2**
NGP			*e*x	x	00 27 31.1	
	comp=Z,86nm,1.1s					
NGP			*e*S	S	00 37 32.5	+1.6
SLKM	**Skilak Lake**	**79.81 24**	P	**P**	**00 27 28.8**	**-0.4**
SLKM	**Skilak Lake**	**79.81 24**	*e*P	**P**	**00 27 28.7**	**-0.5**
TIXI	**Tiksi**	**80.51 352**	*d i*P	**P**	**00 27 31.5**	**-1.3**
TIXI			*i* S	S	00 37 36.4	-0.8
TIXI			pmax	pmax		
	comp=Z,54nm,1.4s,mb5.3					
TIXI	**Tiksi**	**80.51 352**	*e*P	**P**	**00 27 32.1**	**-0.7**
TIXI			LR	LR		
	comp=Z,1μm,19.0s,MS5.3					
PTH	**Pithoragarh**	**80.54 301**	*e*P	**P**	**00 27 33.9**	**0.0**
PMR	**Palmer**	**80.86 24**	*e*P	**P**	**00 27 34.3**	**-0.5**
PMR			pmax	pmax		
	comp=Z,77nm,1.0s,mb5.6					
PMR	**Palmer**	**80.86 24**	*e*P	**P**	**00 27 34.6**	**-0.2**
	comp=Z,67nm,0.9s,mb5.6					
PMR			LR	LR		
	comp=Z,2μm,20.0s,MS5.5					
SML	**Sawmill**	**81.30 24**	*e*P	**P**	**00 27 37.4**	**+0.2**
AKL	**Akola**	**81.50 292**	⇑*i*P	**P**	**00 27 39.2**	**0.0**
AKL			*e*x	x	00 27 41.2	

comp=Z,92nm,1.0s
AKL *i* x S 00 37 46.2 -3.2
LATR Latur 81.50 290 *e*P **P 00 27 38.2 -1.0**
LATR AMb AMB 00 27 40.8
comp=Z,42nm,1.0s,mb5.3
BHPL Bhopal 81.61 295⇓ *i*P **P 00 27 38.5 -1.2**
BHPL AMb AMB 00 27 44.6
comp=Z,96nm,1.3s,mb5.6
IMA2 Indian Mountai 81.89 19 *e*P **P 00 27 39.8 -0.4**
DGAR Diego Garcia 81.89 264 PFAKE 00 27 50.0 +8.6
DGAR LR LR
comp=Z,2μm,21.0s,MS5.4
DIV Divide 81.98 25 *e*P **P 00 27 41.1 +0.3**
DIV LR LR
comp=Z,7μm,20.0s,MS6.0
MCK McKinley 82.13 22 *e*P **P 00 27 40.3 -1.2**
MCK pmax pmax
comp=Z,159nm,0.9s,mb6.0
MCK MLR MLR
comp=Z,4μm,20.0s,MS5.8
MCK McKinley 82.13 22 *e*P **P 00 27 40.3 -1.2**
comp=Z,159nm,0.9s,mb6.0
MCK LR LR
comp=Z,4μm,20.0s,MS5.8
MNGI Mangalore 82.22 284 *e*x x 00 27 33.5
MNGI AMb AMB 00 27 50.8
comp=Z,61nm,1.5s,mb5.3
DDI Dehra Dun 82.54 302 *i*P **P 00 27 44.8 +0.4**
QSPA South Pole Qui 82.84 180 P **P 00 27 45.4 +0.4**
QSPA PKKPbc PKKPbc 00 46 09.6 -2.1
QSPA LR LR
comp=Z,1.0nm,20.0s
QSPA South Pole Qui 82.84 180 P **P 00 27 45.4 +0.4**
comp=Z,22nm,0.9s,mb5.2,baz=21,slow=1.3,SNR=38
QSPA PKKPbc PKKPbc 00 46 09.6 -2.1
comp=Z,2.8nm,0.9s,baz=358,slow=0.4,SNR=5.5
NDI New Delhi 82.90 300 *e*P **P 00 27 46.1 -0.3**
NDI AMb AMB 00 27 47.6
comp=Z,244nm,1.2s,mb6.1
COLA College 83.16 21 *e*P **P 00 27 45.1 -1.7**
KAD Karad 83.54 286⇓ *i*P **P 00 27 48.6 -1.2**
KAD AMb AMB 00 27 51.8
comp=Z,156nm,1.0s,mb6.1
GOA Goa 83.58 286⇑ *i*P **P 00 27 50.4 +0.3**
GOA AMb AMB 00 27 52.2
comp=Z,41nm,1.7s,mb5.3
GOA *i* S S 00 38 09.3 -1.7
MK31 Makanchi Array 83.60 319 *e*P **P 00 27 49.0 -0.5**
MKAR Makanchi Array 83.60 319 P **P 00 27 49.4 -0.2**
MKAR PKKPbc PKKPbc 00 46 08.3 -1.0
MKAR P'P' 00 54 13.7
MKAR LR LR 01 05 49.5
MKAR Makanchi Array 83.60 319 P **P 00 27 49.4 -0.2**
comp=Z,36nm,0.9s,mb5.5,baz=103,slow=5.2,SNR=109
MKAR PKKPbc PKKPbc 00 46 08.3 -1.0
comp=Z,1.1nm,0.9s,baz=270,slow=2.2,SNR=5.8
MKAR PKPPKP 00 54 13.7
comp=Z,1.4nm,1.0s,baz=333,slow=1.4,SNR=5.6
MKAR LR LR 01 05 49.5
comp=Z,788nm,18.8s,MS5.1,baz=103,slow=36
SDNR Sundarnagar 83.70 303 *e*P **P 00 27 51.0 +0.6**
MENT Mentasta 83.72 24 *e*P **P 00 27 49.5 -0.3**
POO Poona 84.05 289⇓ *i*P **P 00 27 51.1 -1.4**
POO AMb AMB 00 27 53.4
comp=Z,68nm,1.2s,mb5.7
BHK Bhakra 84.15 303 *e*P **P 00 27 51.2 -1.5**
MAW Mawson 84.32 203 *e*P **P 00 27 53.1 +0.2**
comp=Z,20nm,0.8s,mb5.3
MAW Mawson 84.32 203 *e*P **P 00 27 53.1 +0.2**
MAW pmax pmax
comp=Z,20nm,0.8s
MAW Mawson 84.32 203 P **P 00 27 52.7 -0.1**
comp=Z,27nm,0.9s,mb5.4,baz=91,slow=6.0,SNR=12
MAW LR LR 01 00 12.9
comp=Z,2μm,21.2s,MS5.4,baz=134,slow=32
ZAA0 Zalesovo Array 84.37 326 *e*P **P 00 27 51.8 -1.5**
ZALV Zalesovo Beam 84.37 326 P **P 00 27 51.8 -1.5**
ZALV P'P' 00 54 12.1
ZALV LR LR 01 06 30.4
ZALV Zalesovo Beam 84.37 326 P **P 00 27 51.8 -1.5**
comp=Z,11nm,0.5s,mb5.2,baz=112,slow=5.8,SNR=41
ZALV PKPPKP 00 54 12.1
comp=Z,0.4nm,0.5s,baz=27,slow=26,SNR=3.8
ZALV LR LR 01 06 30.4
comp=Z,914nm,19.1s,MS5.2,baz=105,slow=36
ZAL Zalesovo 84.38 326 P **P 00 27 51.8 -1.5**
AJM Ajmer 84.71 297 *i*x x 00 28 01.0
THN Thein Dam 84.94 303 *e*P **P 00 27 55.4 -1.3**
SIT Sitka 85.05 31 PFAKE 00 28 10.0 +13
SIT LR LR
comp=Z,4μm,19.0s,MS5.8
NVS Novosibirsk 85.54 327⇑ *i*P **P 00 27 58.1 -1.1**
NVS *e*S S 00 38 19.1 -10
NVS pmax pmax
comp=N,34nm,1.8s
NVS pmax pmax
comp=Z,107nm,1.8s,mb5.8
NVS pmax pmax
comp=E,61nm,1.6s
NVS smax
comp=E,135nm,3.1s
EGAK Eagle 85.59 23 *e*P **P 00 27 59.2 0.0**
EGAK LR LR
comp=Z,5μm,21.0s,MS5.8
SKAG Skagway 85.92 29 *e*P **P 00 28 01.5 +0.6**
DAWY Dawson 85.97 24 *e*P **P 00 28 02.4 +1.3**
KSH Kashi 86.21 310 *i*P **P 00 28 04.0 +1.2**
KSH *e*AP pP 00 28 08.3 -3.6
KSH *e*XP sP 00 28 12.0 -3.2
KSH *e*PP PP 00 31 28.3 +4.4
KSH *e*PPP 00 32 25.4
KSH *e*SKS SKSac 00 38 28.0 +0.7
KSH *e*S S 00 38 37.5 +1.3
KSH *e*XS sS 00 38 47.1 -4.1
KSH *e*PS 00 39 41.1
KSH *e*SS SS 00 44 23.1 +7.4
KSH AMB AMB
comp=Z,5μm,3.2s
KSH LR LR
comp=N,2μm,10.9s,MS6.0
KSH LR LR
comp=E,2μm,10.9s,MS6.0
KSH LR LR
comp=Z,2μm,15.5s,MS5.5
AAA Alma-Ata 86.33 314 *e*P **P 00 28 03.0 -0.3**
AAA *e*S S 00 38 27.0 -10
AAA pmax pmax
comp=Z,1μm,6.0s
AAA smax
comp=E,4μm,14.0s
AAA MLR MLR
comp=Z,1μm,18.5s,MS5.3
WRAK Wrangell Islan 86.38 32 PFAKE 00 28 10.0 +6.7
WRAK LR LR
comp=Z,2μm,19.0s,MS5.6
ULHL Ulahol 86.60 313 P **P 00 28 05.5 +0.8**
SNR=29
KURK Kurchatov 87.03 322 *d*iP **P 00 28 04.7 -1.9**
KURK Kurchatov 87.03 322 *e*P **P 00 28 06.2 -0.4**
comp=Z,51nm,1.4s,mb5.6
KURK LR LR
comp=Z,1μm,19.0s,MS5.3
TKM2 Tokmak 2 87.21 314 P **P 00 28 08.1 +0.4**
TKM2 pmax pmax
comp=Z,40nm,1.3s,mb5.5
TKM2 Tokmak 2 87.21 314 *e*P **P 00 28 08.0 +0.4**
comp=Z,40nm,1.3s,mb5.5
TKM2 *e*PP PP 00 31 32.6 +0.7
TKM2 LR LR
comp=Z,709nm,19.0s,MS5.1
TKM2 Tokmak 2 87.21 314 P **P 00 28 08.2 +0.6**
SNR=19
KZA Kyzart 87.29 313 P **P 00 28 12.2 +4.1**
SNR=34
BBB Bella Bella 87.55 37 P **P 00 28 07.7 -1.4**
comp=Z,7.4nm,0.9s,mb4.9,baz=145,slow=19,SNR=2.2
KBK Karagaybulak 87.62 313 P **P 00 28 10.4 +0.7**
SNR=17
CHMS Chumysh 87.83 314 P **P 00 28 10.8 +0.1**
SNR=18
UCH Uchtor 87.85 313 *e*P **P 00 28 11.8 +1.0**
comp=Z,165nm,1.8s,mb6.0
UCH *e*PP PP 00 31 36.7 -0.3
UCH LR LR
comp=Z,746nm,20.0s,MS5.1
UCH Uchtor 87.85 313 P **P 00 28 12.2 +1.5**
SNR=21
FRU Bishkek 87.90 313 *i*P **P 00 28 11.0 0.0**
FRU *e* SKSac 00 38 37.0 -0.5
FRU pmax pmax
comp=Z,150nm,2.0s,mb5.9
FRU MLR MLR
comp=Z,600nm,16.0s,MS5.1
AAK Ala-Archa 87.95 313⇓ *i*P **P 00 28 09.9 -1.3**
AAK pmax pmax
comp=Z,38nm,1.3s,mb5.5
AAK Ala-Archa 87.95 313 *e*P **P 00 28 10.8 -0.4**
AAK LR LR
comp=Z,2μm,19.0s,MS5.5
AAK Ala-Archa 87.95 313 P **P 00 28 11.9 +0.7**
SNR=17
USP Ospenovka 88.07 314 P **P 00 28 12.0 +0.2**
SNR=26
MCCM Marconi Confer 88.09 51 PFAKE 00 28 20.0 +8.0
MCCM LR LR
comp=Z,3μm,19.0s,MS5.7
HOPS Hopland 88.10 51 PFAKE 00 28 20.0 +8.0
HOPS LR LR
comp=Z,4μm,19.0s,MS5.8
DLBC Dease Lake 88.19 31 P **P 00 28 12.6 +0.6**
baz=264,slow=6.3
AML Almayashu 88.43 313 *e*P **P 00 28 14.4 +0.9**
comp=Z,35nm,0.9s,mb5.6
AML *e*PP PP 00 31 43.8 +2.1
AML LR LR
comp=Z,932nm,20.0s,MS5.2
AML Almayashu 88.43 313 P **P 00 28 14.8 +1.3**
SNR=39
EKS2 Erkin-Say 88.47 313 *e*P **P 00 28 14.2 +0.5**
comp=Z,26nm,1.0s,mb5.4
EKS2 LR LR
comp=Z,755nm,19.0s,MS5.1
EKS2 Erkin-Say 88.47 313 P **P 00 28 14.4 +0.7**
SNR=39
BHJ Bhuj 88.66 293⇓ *i*P **P 00 28 14.8 -0.2**
BHJ AMb AMB 00 28 20.5
comp=Z,139nm,1.4s,mb6.1
WDC Whiskeytown Da 88.79 49 *e*P **P 00 28 15.4 +0.1**
WDC pmax pmax
comp=Z,15nm,1.3s,mb5.2
WDC MLR MLR
comp=Z,3μm,19.0s,MS5.7
WDC Whiskeytown Da 88.79 49 *e*P **P 00 28 15.4 +0.2**
comp=Z,15nm,1.3s,mb5.2
WDC LR LR
comp=Z,3μm,19.0s,MS5.7
HUMO Hull Mountain 88.86 47 *e*P **P 00 28 16.1 +0.6**
HUMO LR LR
comp=Z,3μm,20.0s,MS5.7
YBH Yreka Blue Hor 88.88 48 *e*P **P 00 28 17.6 +2.0**
YBH MLR MLR
comp=Z,3μm,20.0s
SAO San Andreas Ge 88.98 53 PFAKE 00 28 30.0 +14
SAO LR LR
comp=Z,2μm,20.0s,MS5.5
COR Corvallis 88.98 45 PFAKE 00 28 30.0 +14
COR LR LR
comp=Z,3μm,21.0s,MS5.7
NLWA Neilton Lookou 89.14 42 PFAKE 00 28 30.0 +13
NLWA LR LR
comp=Z,3μm,19.0s,MS5.7
OHCM Honcut 89.38 50 *e*P **P 00 28 19.6 +1.6**
INK Inuvik 89.80 21 *e*P **P 00 28 19.8 +0.5**
INK Inuvik 89.80 21 P **P 00 28 19.0 -0.4**
comp=Z,60nm,1.0s,mb5.9,baz=219,slow=7.2,SNR=88
GNW Green Mountain 89.87 42 *e*P **P 00 28 20.7 +0.6**
SNCC San Nicolas Is 89.98 57 *e*P **P 00 28 22.6 +1.6**
SNCC LR LR
comp=Z,3μm,19.0s,MS5.7
CMB Columbia Colle 90.02 52 *e*P **P 00 28 20.9 -0.1**
CMB pmax pmax
comp=Z,26nm,1.8s,mb5.3
CMB MLR MLR
comp=Z,2μm,19.0s,MS5.6
CMB Columbia Colle 90.02 52 *e*P **P 00 28 20.9 -0.1**
comp=Z,26nm,1.8s,mb5.3
CMB LR LR
comp=Z,2μm,19.0s,MS5.6
MOD Modoc 90.68 48 PFAKE 00 28 30.0 +6.0
MOD LR LR
comp=Z,4μm,19.0s,MS5.8
KBL Kabul 90.79 305 *e*P **P 00 28 24.2 -0.6**
WAKR Walker 90.82 51 *e*P **P 00 28 25.6 +0.8**
KK31 Karatay Array 90.91 313 *i*P **P 00 28 24.6 -0.5**
PAHR Pah Rah Range 91.04 50 *e*P **P 00 28 26.6 +0.8**
comp=Z,143nm,2.5s,mb5.9
MWC Mount Wilson 91.33 56 *e*P **P 00 28 28.5 +1.2**
MTUM Tungsten Hills 91.34 53 *e*P **P 00 28 27.4 +0.2**
NVAR Mina Array Bea 91.69 52 P **P 00 28 29.8 +0.9**
NVAR Mina Array Bea 91.69 52 P **P 00 28 29.8 +0.9**
comp=Z,5.9nm,0.9s,mb4.9,baz=261,slow=3.3,SNR=21
HAWA Hanford 91.90 44 PFAKE 00 28 40.0 +10
HAWA LR LR
comp=Z,4μm,19.0s,MS5.9
WVOR Wild Horse Val 91.98 48 *e*P **P 00 28 30.1 0.0**
WVOR pmax pmax
comp=Z,45nm,1.7s,mb5.5
WVOR MLR MLR
comp=Z,2μm,19.0s,MS5.6
WVOR Wild Horse Val 91.98 48 *e*P **P 00 28 30.1 0.0**
comp=Z,45nm,1.7s,mb5.5
WVOR LR LR
comp=Z,2μm,19.0s,MS5.6
SYO Syowa Base 92.24 199⇑ *e*P **P 00 28 28.8 -2.0**
CHKZ Chkalovo 92.45 324 *i*P **P 00 28 29.8 -2.2**
CHKZ pmax pmax
comp=Z,30nm,1.4s,mb5.4
CHKZ Chkalovo 92.45 324 *i*P **P 00 28 29.9 -2.1**
BVAR Borovoye Array 92.49 323 LR LR 01 06 43.7
comp=Z,884nm,20.8s,MS5.2,baz=294,slow=33
GSC Goldstone 92.49 55 *e*P **P 00 28 33.5 +0.9**
GSC MLR MLR
comp=Z,3μm,20.0s,MS5.7
BRVK Borovoye 92.56 323 *e*P **P 00 28 30.7 -1.8**
BRVK MLR MLR
comp=Z,1μm,20.0s,MS5.3
PFO Pinyon Flat Ob 92.58 57 *e*P **P 00 28 34.1 +1.1**
PFO MLR MLR
comp=Z,2μm,19.0s,MS5.5
PFO Pinyon Flat Ob 92.58 57 P **P 00 28 33.5 +0.5**
comp=Z,6.0nm,0.9s,mb5.0,baz=299,slow=4.5,SNR=6.0
TPNV Topopah Spring 93.13 53 *e*P **P 00 28 36.5 +1.0**
TPNV pmax pmax
comp=Z,190nm,2.7s,mb6.0
TPNV MLR MLR
comp=Z,2μm,19.0s,MS5.7
TPNV Topopah Spring 93.13 53 *e*P **P 00 28 36.5 +0.9**
comp=Z,190nm,2.7s,mb6.0
TPNV LR LR
comp=Z,2μm,19.0s,MS5.7
BMO Blue Mountains 93.25 45 *e*P **P 00 28 35.4 -0.5**
BMO MLR MLR
comp=Z,3μm,19.0s,MS5.8
NEW Newport 93.76 42 *e*P **P 00 28 37.9 -0.3**
NEW MLR MLR
comp=Z,3μm,21.0s
NEW Newport 93.76 42 P **P 00 28 37.2 -1.0**
comp=Z,1.4nm,0.4s,mb4.7,baz=230,slow=6.2,SNR=4.4
GLA Glamis 93.87 57 PFAKE 00 28 50.0 +11
GLA LR LR
comp=Z,2μm,20.0s,MS5.5
CCUT Cedar City 95.48 53 *e*P **P 00 28 47.5 +1.2**
comp=Z,146nm,2.6s,mb6.0
MSO Missoula 95.78 44 PFAKE 00 29 00.0 +13
MSO LR LR
comp=Z,2μm,20.0s,MS5.7
WALA Waterton Lakes 95.95 41 *e*P **P 00 28 48.4 +0.2**
comp=Z,71nm,2.4s,mb5.7
DUG Dugway 96.11 50 *e*P **P 00 28 50.0 +0.9**
DUG pmax pmax
comp=Z,99nm,2.9s,mb5.7
DUG Dugway 96.11 50 PFAKE 00 29 00.0 +11
DUG LR LR
comp=Z,2μm,19.0s,MS5.6
CHMT Chamberlain Mo 96.25 44 *e*P **P 00 28 50.1 +0.6**
HVU Hansel Valley 96.25 49 *e*P **P 00 28 50.5 +0.8**
YKW3 Yellowknife Ar 96.39 28 *e*P **P 00 28 49.5 -0.3**
YKA Yellowknife Ar 96.39 28 P **P 00 28 48.7 -1.1**
comp=Z,14nm,0.8s,mb5.4,baz=265,slow=4.5,SNR=114
YKA PKiKP PKiKP 00 33 28.9 +1.5
comp=Z,0.3nm,0.6s,baz=277,slow=1.2,SNR=4.7
YKA PKKPbc PKKPbc 00 45 35.4 -2.2
comp=Z,0.7nm,0.7s,baz=83,slow=3.0,SNR=13
MSU Marysvale 96.49 52 *e*P **P 00 28 51.4 +0.5**
EDM Edmonton 96.56 37 *e*P **P 00 28 50.6 -0.2**
WUAZ Wupatki 96.93 55 PFAKE 00 29 00.0 +7.1
WUAZ LR LR
comp=Z,2μm,19.0s,MS5.6
MPU Maple Canyon 97.00 51 PFAKE 00 29 00.0 +6.8
MPU LR LR
comp=Z,3μm,20.0s,MS5.8
HWUT Hardware Ranch 97.15 49 *e*P **P 00 28 53.4 -0.3**
comp=Z,2.8nm,0.7s,mb4.8
HWUT LR LR
comp=Z,2μm,19.0s,MS5.7
JLU Jordanelle 97.18 50 *e*P **P 00 28 54.9 +1.0**
TUC Tucson 97.20 58 PFAKE 00 29 00.0 +5.8
TUC LR LR
comp=Z,2μm,19.0s,MS5.6
BOZ Bozeman (W) 97.31 45 *e*P **P 00 28 55.7 +1.3**
BOZ pmax pmax
comp=Z,48nm,2.8s,mb5.4
BOZ MLR MLR
comp=Z,3μm,20.0s,MS5.7
BOZ Bozeman (W) 97.31 45 *e*P **P 00 28 55.7 +1.3**
comp=Z,48nm,2.8s,mb5.4
BOZ LR LR
comp=Z,3μm,20.0s,MS5.7
AHID Auburn Hatcher 97.55 48 PFAKE 00 29 10.0 +14
AHID LR LR
comp=Z,3μm,20.0s,MS5.8
YMR Madison River 97.73 46 PFAKE 00 29 10.0 +14
YMR LR LR
comp=Z,4μm,22.0s,MS5.9
YFT Old Faithful 97.82 46 *e*P **P 00 28 56.9 +0.1**
SVE Sverdlovsk 98.39 326 *e*P **P 00 29 01.6 +2.6**
SVE *e*S SKSac 00 39 38.2 +3.4
SVE *e* 00 41 54.8
SVE pmax pmax
comp=Z,14nm,1.2s,mb5.4
SVE MLR MLR
comp=Z,993nm,17.0s,MS5.4
EGMT Eagleton 98.67 43 PFAKE 00 29 10.0 +10
EGMT LR LR
comp=Z,2μm,21.0s,MS5.5
BW06 Boulder Array 98.69 48 *e*P **P 00 29 00.3 -0.4**
BW06 LR LR
comp=Z,3μm,20.0s,MS5.8
AB31 Akbulak array 98.75 319 *i*P **P 00 28 58.7 -2.1**
PV10 Paradox Valley 98.94 52 *e*P **P 00 29 02.0 +0.1**
RLMT Red Lodge 98.95 46 PFAKE 00 29 10.0 +8.2
RLMT LR LR
comp=Z,3μm,20.0s,MS5.8
PV01 Paradox Valley 99.30 53 *e*P **P 00 29 03.5 0.0**
MVCO Mesa Verde 99.33 54 PFAKE 00 29 10.0 +6.3
MVCO LR LR
comp=Z,2μm,20.0s,MS5.5
ARU Arti 99.54 326 *c*iP **P 00 29 03.4 -0.7**
ARU *e* 00 33 09.4
ARU *e*PPP 00 35 23.7
ARU *e*S SKSac 00 39 39.5 -1.1
ARU *e*SP SP 00 42 01.6 -0.2
ARU *e*PS PS 00 42 12.4 +6.5
ARU *e*SS SS 00 47 18.2 -7.5
ARU *e*SSS 00 51 16.8
ARU pmax pmax
comp=Z,17nm,2.5s,mb5.0
ARU MLR MLR
comp=Z,2μm,22.0s,MS5.5
ARU Arti 99.54 326 *e*P **P 00 29 04.3 +0.2**
ARU LR LR
comp=Z,1μm,19.0s,MS5.5
AKTK Aktyubinsk 99.99 320 P Pdif 00 29 04.3 -1.9
AKTO Aktyubinsk 99.99 320 P Pdif 00 29 04.3 -1.9
comp=Z,2.2nm,0.9s,baz=59,slow=5.4,SNR=5.6
SNAA Sanae 100.02 187 *e*Pdiff Pdif 00 29 11.3 +4.9
SNAA *e* 00 29 18.2
SNAA *e* 00 29 23.5
SNAA *e* 00 29 31.0
SNAA *e* 00 29 38.2
SMCO Snowmass 100.57 52 *e*Pdif Pdif 00 29 10.7 +1.9
ANMO Albuquerque 100.92 56 *e*P Pdif 00 29 09.2 -1.2
ANMO MLR MLR
comp=Z,1μm,20.0s
LAO LASA Array 101.08 44 PFAKE 00 29 20.0 +9.0
LAO LR LR
comp=Z,3μm,19.0s,MS5.8
VNA3 Neumayer Olymp 101.13 185 *e*Pdiff Pdif 00 29 12.3 +1.0
VNA3 *e* 00 29 19.7
VNA3 *e* 00 29 26.9
VNA3 *e* 00 29 34.0
VNA3 *e* 00 29 39.7
VNA2 Neumayer--Watz 101.23 186 *e*Pdiff Pdif 00 29 12.3 +0.6
VNA2 *e* 00 29 19.0
VNA2 *e* 00 29 25.4
VNA2 *e* 00 29 31.0
VNA2 *e* 00 29 39.0
ISCO Idaho Springs 101.63 51 *e*P Pdif 00 29 14.1 +0.6
ISCO MLR MLR
comp=Z,1μm,19.0s,MS5.5
SDCO Great Sand Dun 101.72 53 PFAKE 00 29 20.0 +6.1
SDCO LR LR
comp=Z,506nm,20.0s,MS5.0
MNTX Cornudas Mount 101.76 59 PFAKE 00 29 20.0 +5.9
MNTX LR LR
comp=Z,2μm,20.0s,MS5.7
RES Resolute Bay 102.06 15 *e*P Pdif 00 29 14.9 -0.5
DGMT Dagmar 102.38 42 PFAKE 00 29 30.0 +13
DGMT LR LR
comp=Z,2μm,22.0s,MS5.5
PMSA Palmer Station 102.60 164 PFAKE 00 29 30.0 +12
PMSA LR LR
comp=Z,2μm,20.0s,MS5.6
TXAR Lajitas Array 103.20 62 PKKPbc PKKPbc 00 45 15.3 -1.7
comp=Z,0.8nm,0.8s,baz=122,slow=4.3,SNR=5.6
FFC Flin Flon 103.23 36 PFAKE 00 29 30.0 +9.4
FFC LR LR
comp=Z,2μm,19.0s,MS5.7
ABPO Ambohimpanom 104.41 248 PFAKE 00 29 40.0 +14
ABPO LR LR
comp=Z,2μm,20.0s,MS5.6
AMTX Amarillo 104.85 56 PFAKE 00 29 40.0 +12
AMTX LR LR
comp=Z,2μm,20.0s,MS5.6
KBS Kingsbay 105.94 353 *e*PP PP 00 33 56.7 +1.4
KBS AMS AMS 01 17 18.8
comp=Z,843nm,20.8s,MS5.3
KBS Kingsbay 105.94 353 *e*P PP 00 33 54.8 -0.5
KBS LR LR
comp=Z,923nm,21.0s,MS5.3
CBKS Cedar Bluff 106.22 52 PFAKE 00 34 00.0 +14
CBKS LR LR
comp=Z,2μm,20.0s,MS5.6
JCT Junction City 106.55 60 PFAKE 00 34 00.0 +13
JCT LR LR
comp=Z,2μm,19.0s,MS5.7
WMOK Wichita Mounta 107.24 56 PFAKE 00 34 00.0 +12
WMOK LR LR
comp=Z,2μm,20.0s,MS5.7
ULM Lac du Bonnet 107.57 40 PFAKE 00 34 00.0 +12
ULM LR LR
comp=Z,5μm,22.0s,MS6.0
AGMN Agassiz Refuge 107.91 42 PFAKE 00 34 00.0 +11
AGMN LR LR
comp=Z,2μm,19.0s,MS5.7
ECSD EROS,Sioux Fal 108.07 46 PFAKE 00 34 00.0 +11
ECSD LR LR
comp=Z,2μm,20.0s,MS5.6
KVTX Kingsville 108.30 63 PFAKE 00 34 00.0 +10
KVTX LR LR
comp=Z,2μm,19.0s,MS5.8
KSU1 Kansas State U 108.62 51 PFAKE 00 34 00.0 +10
KSU1 LR LR
comp=Z,2μm,20.0s,MS5.6
KEV Kevo 109.20 343 PFAKE 00 34 00.0 +9.4
KEV LR LR
comp=Z,2μm,22.0s,MS5.5
ARCES ARCESS Array B 109.76 343 PKiKP PKiKP 00 33 50.8 -0.8
comp=Z,2.8nm,0.8s,baz=48,slow=1.8,SNR=5.1
MTA Mtatsminda 109.89 312 P PP 00 34 24.2 -1.1
MTA S SKSac 00 40 31.2 +2.8
HKT Hockley 110.00 61 PFAKE 00 34 00.0 +6.7
HKT LR LR
comp=Z,2μm,20.0s,MS5.6
GOR Gori 110.35 312 P PP 00 34 20.9 -7.6

GOR S SKSac 00 40 12.7 -18
GOF Gofitskoye 110.59 315 *e*PKIKP PKiKP 00 33 51.0 -2.9
GOF pmax pmax
comp=Z,40nm,1.5s
ONI Oni 110.73 313 P PP 00 34 25.2 -6.2
ONI S SKSac 00 40 33.0 +1.2
SCIA State Center 110.81 48 PFAKE 00 34 00.0 +5.6
SCIA LR LR
comp=Z,2μm,20.0s,MS5.6
EYMN Ely 110.85 41 PFAKE 00 34 00.0 +5.7
EYMN LR LR
comp=Z,2μm,19.0s,MS5.7
NATX Nacogdoches 110.89 59 PFAKE 00 34 10.0 +15
NATX LR LR
comp=Z,2μm,19.0s,MS5.8
KIV Kislovodsk 111.04 314 PKIKP PKiKP 00 33 53.0 -1.8
KIV MLR MLR
comp=Z,711nm,22.0s,MS5.2
KIV Kislovodsk 111.04 314 PKiKP PKiKP 00 33 53.0 -1.8
KIV LR LR
comp=Z,711nm,22.0s,MS5.2
BHD Baghdad 111.22 303 *ex* x 00 34 36.0
BHD *ex* x 00 41 33.0
TRO Tromso 111.49 345 *e*PP PP 00 34 39.0 +3.2
TRO *e*SKS SKSac 00 40 37.0 +3.2
TRO AMS AMS 01 25 31.1
comp=Z,743nm,11.8s,MS5.5
MIAR Mount Ida 111.53 56 PFAKE 00 34 10.0 +14
MIAR LR LR
comp=Z,2μm,19.0s,MS5.8
OBN Obninsk 111.94 327 *e*P Pdif 00 29 55.6 -3.7
OBN *e* 00 34 40.7
OBN *e* 00 40 32.3
OBN pmax pmax
comp=Z,4.0nm,0.9s
OBN MLR MLR
comp=Z,1μm,16.0s,MS5.5
OBN Obninsk 111.94 327 PFAKE 00 34 10.0 +14
OBN LR LR
comp=Z,1μm,19.0s,MS5.5
MSL Mosul 111.94 306 *ex* x 00 34 39.0
MSL *ex* x 00 41 37.0
MSL *ex* x 00 44 10.0
JFWS Jewell Farm 112.79 46 PFAKE 00 34 10.0 +12
JFWS LR LR
comp=Z,2μm,20.0s,MS5.7
COWI Conover 112.85 43 PFAKE 00 34 10.0 +12
COWI LR LR
comp=Z,3μm,19.0s,MS5.9
CCM Cathedral Cave 112.93 52 PFAKE 00 34 10.0 +11
CCM LR LR
comp=Z,2μm,20.0s,MS5.8
SOC Sochi 113.22 314 *i* PKIKP PKiKP 00 34 00.1 +1.1
SOC *e* 00 34 46.8
SOC *e* 00 40 36.1
SOC *e*PS PS 00 44 22.2 -3.0
SOC *e* 00 45 26.6
SOC *e*SS SS 00 50 22.4 -10
SOC *e*SSS 00 54 41.4
HDIL Hopedale 113.97 49 PFAKE 00 34 10.0 +10
HDIL LR LR
comp=Z,2μm,19.0s,MS5.8
FINES FINESS Array B 114.12 336 PKP PKiKP 00 33 59.2 -0.9
FINES PKKPbc PKKPbc 00 44 43.6 +0.3
FINES FINESS Array B 114.12 336 PKP PKiKP 00 33 59.2 -0.9
comp=Z,3.5nm,0.9s,baz=61,slow=1.8,SNR=4.8
FINES PKKPbc PKKPbc 00 44 43.6 +0.3
comp=Z,5.7nm,1.2s,baz=242,slow=4.1,SNR=4.8
VBMS Vicksburg 114.34 58 PFAKE 00 34 10.0 +8.5
VBMS LR LR
comp=Z,2μm,20.0s,MS5.7
ANN Anapa 114.53 316 *i* PKIKP PKiKP 00 33 59.3 -2.1
ANN pmax pmax
comp=Z,38nm,1.0s
EFI East Falkland 114.87 158 PFAKE 00 34 10.0 +8.1
EFI LR LR
comp=Z,1μm,20.0s,MS5.4
MALT Malatya 115.28 309 *e*PKIKP PKPdf 00 34 04.5 +1.4
MALT Malatya 115.28 309 ⇑*i*P PP 00 35 04.4 +0.6
JMIC Jan Mayen 115.38 354 *e*PP PP 00 35 03.6 +0.4
WVT Waverly 115.95 53 PFAKE 00 34 10.0 +5.6
WVT LR LR
comp=Z,2μm,19.0s,MS5.7
PLAL Pickwick Lake 115.95 55 PFAKE 00 34 10.0 +5.5
PLAL LR LR
comp=Z,2μm,20.0s,MS5.7
PLCA Paso Flores 116.53 143 PKP PKPdf 00 34 05.5 0.0
PLCA PKKPbc PKKPbc 00 44 34.8 +0.4
PLCA LR LR
comp=Z,1μm,21.0s,MS5.5
PLCA Paso Flores 116.53 143 PKP PKPdf 00 34 05.5 0.0
comp=Z,2.6nm,0.8s,baz=231,slow=2.1,SNR=3.2
PLCA PKKPbc PKKPbc 00 44 34.8 +0.4
comp=Z,9.3nm,1.0s,baz=23,slow=4.3,SNR=11
LRAL Lakeview Retre 117.16 57 PFAKE 00 34 20.0 +13
LRAL LR LR
comp=Z,2μm,20.0s,MS5.8
TEIG Tepich 117.35 71 PFAKE 00 34 20.0 +12
TEIG LR LR
comp=Z,625nm,19.0s,MS5.2
BRAL Brewton 117.43 59 PFAKE 00 34 20.0 +13
BRAL LR LR
comp=Z,1μm,19.0s,MS5.5
KMBO Kilima Mbogo 117.49 265 PKIKP PKPdf 00 34 09.2 +1.1
KMBO Kilima Mbogo 117.49 265 PKP PKPdf 00 34 09.6 +1.5
comp=Z,3.2nm,0.9s,baz=106,slow=1.9,SNR=8.4
ASF Jabal al Asfar 117.62 303 PKP PKPdf 00 34 08.2 +0.5
comp=Z,2.3nm,0.8s,baz=84,slow=2.0,SNR=5.0
AAM Ann Arbor 117.66 46 PFAKE 00 34 20.0 +12
AAM LR LR
comp=Z,2μm,20.0s,MS5.7
SFJD Kangerlussuaq 117.69 11 PFAKE 00 34 20.0 +13
SFJD LR LR
comp=Z,973nm,19.0s,MS5.5
AKASG Malin Array Be 117.73 324 PKP PKPdf 00 34 07.7 +0.3
AKASG PKKPbc PKKPbc 00 44 29.4 -0.9
AKASG Malin Array Be 117.73 324 PKP PKPdf 00 34 07.7 +0.3
comp=Z,4.7nm,0.8s,baz=66,slow=2.1,SNR=15
AKASG PKKPbc PKKPbc 00 44 29.4 -0.9
comp=Z,0.2nm,0.3s,baz=257,slow=4.1,SNR=5.6
TGUH Tegucigalpa,Un 118.41 78 PFAKE 00 34 20.0 +10
TGUH LR LR
comp=Z,906nm,19.0s,MS5.4
MMAI Mount Meron Ar 118.71 304 PKP PKPdf 00 34 10.4 +0.5
comp=Z,0.3nm,0.3s,baz=66,slow=2.0,SNR=3.1
ACSO Alum Creek Sta 118.72 48 PFAKE 00 34 20.0 +10
ACSO LR LR
comp=Z,1μm,19.0s,MS5.6
ANTO Ankara 119.17 312 ⇑*i*P PKPdf 00 34 11.8 +1.3
TZTN Tazewell 119.24 52 PFAKE 00 34 20.0 +9.2
TZTN LR LR
comp=Z,3μm,20.0s,MS6.0
KIS Kishinev 119.49 321 *e*PP PP 00 35 10.0 -23
KIS LRM 01 26 45.0
comp=Z,500nm,17.0s
EIL Elat 119.67 300 PKP PKPdf 00 34 10.8 -1.0
EIL Elat 119.67 300 PKP PKPdf 00 34 10.8 -1.0
comp=Z,4.2nm,0.7s,baz=84,slow=2.0,SNR=4.7
HFS Hagfors 119.68 339 PKP PKPdf 00 34 09.5 -1.4
comp=Z,1.2nm,0.5s,baz=87,slow=3.1,SNR=8.2
NB2 NORSAR Subarra 119.88 341 PKPdf PKPdf 00 34 11.1 -0.1
comp=Z,4.8nm,1.1s,baz=42,slow=2.0
NB2 NORSAR Subarra 119.88 341 PKPdf PKPdf 00 34 11.1 -0.1
baz=42,slow=2.0
NOA NORSAR Array B 119.88 341 PKP PKPdf 00 34 10.3 -0.9
comp=Z,1.7nm,0.6s,baz=45,slow=1.9,SNR=9.6
NOA PKKPab PKKPab 00 44 22.4 +0.1
comp=Z,1.0nm,0.9s,baz=41,slow=3.6,SNR=3.5
SADO Sadowa 119.95 42 PKP PKPdf 00 34 11.4 -0.5
baz=280,slow=2.9
GOGA Godfrey 120.00 56 PFAKE 00 34 20.0 +7.7
GOGA LR LR
comp=Z,2μm,21.0s,MS5.7
BOSA Boshof 120.05 231 PKIKP PKPdf 00 34 13.6 +1.0
BOSA Boshof 120.05 231 PKP PKPdf 00 34 13.4 +0.9
comp=Z,5.8nm,0.7s,baz=81,slow=2.1,SNR=12
NAO01 NORSAR Array S 120.13 341 PFAKE 00 34 20.0 +8.3
NAO01 LR LR
comp=Z,1μm,21.0s,MS5.5
ERPA Erie 120.30 45 PFAKE 00 34 20.0 +7.4
ERPA LR LR
comp=Z,2μm,21.0s,MS5.8
JTS JuntasAbangare 120.59 82 PFAKE 00 34 20.0 +6.1
JTS LR LR
comp=Z,3μm,19.0s,MS6.0
MCWV Mont Chateau 121.20 48 PFAKE 00 34 20.0 +5.6
MCWV LR LR
comp=Z,2μm,19.0s,MS5.8
SUR Sutherland 121.40 225 PKP PKPdf 00 34 16.6 +1.5
SUR LR LR
comp=Z,3μm,21.0s,MS5.9
SUR Sutherland 121.40 225 PKP PKPdf 00 34 16.6 +1.5
comp=Z,11nm,1.0s,baz=122,slow=3.7,SNR=9.0
LBTB Lobatse 121.42 235 PKIKP PKPdf 00 34 16.4 +1.1
LBTB MLR MLR
comp=Z,2μm,20.0s,MS5.7
LBTB Lobatse 121.42 235 PKP PKPdf 00 34 16.4 +1.1
comp=Z,8.6nm,0.9s,baz=161,slow=5.3,SNR=15
BURAR Bucovina Array 121.45 323 ⇑*i*P PKPdf 00 34 15.9 +1.3
BLA Blacksburg 121.49 51 PFAKE 00 34 30.0 +15
BLA LR LR
comp=Z,2μm,20.0s,MS5.7
SCHQ Schefferville 121.84 27 PKP PKPdf 00 34 15.6 +0.4
SCHQ PKKPab PKKPab 00 44 15.2 +1.2
SCHQ LR LR
comp=Z,3μm,20.0s,MS5.9
SCHQ Schefferville 121.84 27 PKP PKPdf 00 34 15.6 +0.4
comp=Z,3.0nm,0.8s,baz=333,slow=5.0,SNR=4.5
SCHQ PKKPab PKKPab 00 44 15.2 +1.2
comp=Z,3.5nm,0.8s,baz=129,slow=4.0,SNR=5.7
MLR Muntele Rosu 121.92 320 PKP PKPdf 00 34 15.2 -0.4
comp=Z,3.0nm,0.6s,baz=92,slow=3.6,SNR=5.3
MLR Muntele Rosu 121.92 320 ||*i*P PKPdf 00 34 16.4 +0.8
KWP Kalwaria 121.94 326 *e*PKP PKPdf 00 34 16.4 +0.9
KWP Kalwaria 121.94 326 *e*PKP PKPdf 00 34 16.5 +1.0
KWP Kalwaria 121.94 326 ⇑*i*P PKPdf 00 34 16.5 +1.0
BER Bergen 122.22 343 *e*PP PP 00 35 49.3 -1.3
BER *e*SKS SKSac 00 41 13.4 -0.3
SSPA Standing Stone 122.29 46 *e*PKPdf PKPdf 00 34 16.5 0.0
SSPA LR LR
comp=Z,2μm,20.0s,MS5.8
BORG Borgarnes 122.43 358 *e*PKPdf PKPdf 00 34 16.0 0.0
KOLS Kolonicke sedl 122.54 325 *e*PKP PKPdf 00 34 17.8 +1.1
BSD Bornholm Skovb 122.63 334 *e*PKIKP PKPdf 00 34 14.1 -2.6
BSD MLR MLR
comp=Z,520nm,18.0s,MS5.2
BSD Bornholm Skovb 122.63 334 *i* P PKPdf 00 34 14.1 -2.6
BSD *i* 00 35 19.8
BSD *i* 00 46 58.1
BSD
comp=Z,520nm,18.0s
DWPF Disney 122.73 61 PFAKE 00 34 30.0 +12
DWPF LR LR
comp=Z,1μm,20.0s,MS5.5
GKP Gorka Klasztor 122.74 331 *e*PKP PKPdf 00 34 18.0 +1.1
GKP Gorka Klasztor 122.74 331 *e*PKP PKPdf 00 34 18.0 +1.0
NHSC New Hope 122.75 55 PFAKE 00 34 30.0 +12
NHSC LR LR
comp=Z,3μm,20.0s,MS5.9
SZH Strazhica 122.85 318 *e*P PKPdf 00 34 17.7 +0.2
STHS Stebnicka Huta 122.87 326 *e*PKP PKPdf 00 34 18.6 +1.3
STHS *e* 00 34 35.0
LSZ Lusaka 122.92 247 *e*PKIKP PKPdf 00 34 20.0 +1.6
LSZ *e* 00 35 55.2
LSZ MLR MLR
comp=Z,950nm,20.0s,MS5.5
LONY Lake Ozonia 122.99 41 PFAKE 00 34 30.0 +12
LONY LR LR
comp=Z,4μm,19.0s,MS6.0
CRVS Cervenica-Dubn 123.02 325 *e*PKP PKPdf 00 34 19.1 +1.5
BINY Binghamton 123.05 44 PFAKE 00 34 30.0 +12
BINY LR LR
comp=Z,2μm,20.0s,MS5.8
LCO Las Campanas 123.10 131 PFAKE 00 34 30.0 +12
LCO LR LR
comp=Z,1μm,20.0s,MS5.5
OJC Ojcow 123.23 327 *e*PKPdf PKPdf 00 34 18.9 +0.9
OJC *e*PP PP 00 36 03.6 +5.7
OJC *e*SKSac SKSac 00 41 21.0 +3.4
OJC *e*SKSdf SKSdf 00 41 29.9 +1.9
OJC *e*SP SP 00 45 53.5 +2.9
OJC L 01 28 26.9
comp=Z,1.2nm,21.7s
OJC Ojcow 123.23 327 *e*PKIKP PKPdf 00 34 18.9 +0.9
OJC *e* 00 36 03.6
OJC *e*SP SP 00 45 53.5 +2.9
OJC MLR MLR
comp=Z,1μm,21.7s,MS5.5
TRQA Tornquist 123.30 145 PFAKE 00 34 30.0 +11
TRQA LR LR
comp=Z,1μm,19.0s,MS5.6
DRGR 123.34 323 ⇑*i*P PKPdf 00 34 19.4 +1.1
NIE Niedzica 123.39 326 *e*PKPdf PKPdf 00 34 19.9 +1.6
CBN Corbin 123.49 49 PFAKE 00 34 30.0 +11
CBN LR LR
comp=Z,3μm,19.0s,MS5.9
NCB Newcomb 123.50 41 PFAKE 00 34 30.0 +11
NCB LR LR
comp=Z,4μm,21.0s,MS6.0
MVL Millersville 123.62 46 *e*PKPdf PKPdf 00 34 18.3 -0.8
KECS Kecovo 123.79 325 *e*PKP PKPdf 00 34 18.8 -0.3
KECS *e* 02 04 55.7
GZR Gura Zlata 123.97 321 ⇑*i*P PKPdf 00 34 18.0 -1.5
CNNC Cliffs of the 124.02 52 PFAKE 00 34 30.0 +10
CNNC LR LR
comp=Z,2μm,19.0s,MS5.8
RZN Rozhen 124.31 316 *e*P PKPdf 00 34 19.9 -0.4
OKC Ostrava-Krasne 124.32 328 *e*PKIKP PKPdf 00 34 21.9 +1.8
OKC *e* 00 34 29.8
OKC *e* 00 36 06.8
OKC *e* 00 41 24.8
OKC Ostrava-Krasne 124.32 328 *e*PKPdf PKPdf 00 34 21.9 +1.8
OKC *ex* x 00 34 29.8
OKC *e*PP PP 00 36 06.8 +1.6
OKC *e*SKS SKSdf 00 41 24.8 -5.3
OKC AMS AMS 01 30 30.0
comp=Z,800nm,16.3s
PSZ Piszkesteto 124.42 325 ||*e*PKP PKPdf 00 34 21.6 +1.3
PSZ Piszkesteto 124.42 325 ||*i*P PKPdf 00 34 21.7 +1.4
BZS Buzias 124.58 322 ⇑*i*P PKPdf 00 34 21.4 +0.7
MORC Moravsky Berou 124.68 328 ⇑*i*P PKPdf 00 34 21.8 +1.0
KSP Ksiaz 124.69 330 *e*PKP PKPdf 00 34 22.4 +1.6
KSP Ksiaz 124.69 330 *e*PKP PKPdf 00 34 21.6 +0.8
KSP *e*PP PP 00 36 04.5 -3.1
KSP *e*SP SP 00 46 01.0 -2.3
KSP *e*PPS 00 47 28.0
KSP *e*SS SS 00 52 58.0 -1.6
KSP LR LR
comp=Z,2μm,20.7s,MS5.9
VYHS Vyhne 124.71 326 *e*PKIKP PKPdf 00 34 21.4 +0.5
VYHS *e* 00 36 08.9
VYHS Vyhne 124.71 326 *e*PKP PKPdf 00 34 21.4 +0.5
VYHS *e*PP PP 00 36 08.9 +1.0
VYHS *e* 02 04 48.5
LBNH Lisbon 124.86 40 PFAKE 00 34 30.0 +8.7
LBNH LR LR
comp=Z,4μm,20.0s,MS6.1
KOLL Kolacno 124.90 326 *e*PKIKP PKPdf 00 34 21.7 +0.5
KOLL Kolacno 124.90 326 *e*PKP PKPdf 00 34 21.6 +0.4
NNA Nana 124.93 110 *e*PKPdf PKPdf 00 34 24.1 +1.8
NNA LR LR
comp=Z,633nm,20.0s,MS5.3
VTS Vitosha 124.95 318 ⇑*i*P PKPdf 00 34 23.0 +1.5
DPC Dobruska-Polom 124.97 329 *e*PKPdf PKPdf 00 34 22.8 +1.5
DPC *ex* x 00 34 30.1
DPC AMS AMS 01 33 50.0
comp=Z,900nm,16.9s
MMB Musomiste 125.03 317 *e*P PKPdf 00 34 21.1 -0.6
UPC Upice 125.03 329 *e*PKPdf PKPdf 00 34 22.6 +1.2
KKB Krupnik 125.35 317 *e*P PKPdf 00 34 21.5 -0.8
VRAC Vranov 125.45 328 PKP PKPdf 00 34 23.0 +0.8
comp=Z,1.4nm,0.3s,baz=65,slow=3.4,SNR=6.4
VRAC Vranov 125.45 328 ⇑*i*P PKPdf 00 34 23.9 +1.6
BCIP Isla Barro Col 125.58 84 PFAKE 00 34 30.0 +6.4
BCIP LR LR
comp=Z,934nm,19.0s,MS5.5
MODS Modra-Piesok 125.63 327 *e*PKP PKPdf 00 34 24.3 +1.7
MODS *e* 00 34 41.2
PVCC Panska Ves 125.75 330 *e*PKPdf PKPdf 00 34 24.0 +1.2
PVCC *ex* x 00 37 39.7
PVCC AMS AMS 01 35 10.0
comp=Z,1μm,15.2s
ZST Bratislava 125.83 327 *e*PKIKP PKPdf 00 34 24.4 +1.4
ZST MLR MLR
comp=Z,700nm,16.2s,MS5.4
ZST Bratislava 125.83 327 *e*PKP PKPdf 00 34 24.4 +1.4
ZST *e* 02 04 52.8
BRG Berggiesshubel 125.83 331 *e*PKIKP PKPdf 00 34 23.6 +0.7
BRG 00 41 27.0
BRG *i* 00 46 10.0
BRG *i* 00 47 41.0
BRG SS SS 00 53 14.0 +0.1
BRG pmax pmax
comp=Z,3.0nm,1.2s
BRG pmax pmax
comp=Z,12nm,1.2s
BRG MLR MLR
comp=N,8μm,16.4s,MS6.5
BRG MLR MLR
comp=E,331nm,15.8s,MS6.5
BRG MLR MLR
comp=Z,534nm,16.7s,MS5.3
BRG Berggiesshubel 125.83 331 Pdif Pdif 00 31 01.0 -0.1
BRG *e*PKP PKPdf 00 34 23.6 +0.7
BRG *e* 00 34 41.2
BRG PP PP 00 36 10.0 -5.2
BRG SKS SKSdf 00 41 27.0 -5.9
BRG *i* 00 43 13.0
BRG *i* 00 46 10.0
BRG *i* 00 47 41.0
BRG SS SS 00 53 14.0 +0.1
BRG
comp=N,553nm,16.4s
BRG
comp=E,892nm,15.8s
BRG
comp=Z,1μm,16.7s
HRV Adam Dziewonsk 125.90 42 PFAKE 00 34 30.0 +6.7
HRV LR LR
comp=Z,1μm,19.0s,MS5.6
VAY Valandovo 125.93 317 *e*PKP PKPdf 00 34 21.8 -1.6
CLL Collm 126.00 332 ⇑*e*PKIKP PKPdf 00 34 23.9 +0.6
CLL *e* 00 36 13.0
CLL *e* 00 41 28.0
CLL MLR MLR
comp=Z,800nm,18.5s,MS5.4
CLL Collm 126.00 332 ⇑*i*PKP PKPdf 00 34 23.9 +0.6
CLL *i* 00 34 27.6
CLL *e*PP PP 00 36 13.0 -3.3
CLL *e*SKP 00 37 43.0
CLL *e*SKS SKSdf 00 41 28.0 -5.2
CLL LR LR
comp=Z,800nm,18.5s,MS5.4
CLL Collm 126.00 332 *e*PKPdf PKPdf 00 34 23.4 +0.1
comp=Z,16nm,1.1s
CLL *e* 00 34 41.2
CLL *e*PP PP 00 36 15.5 -0.8
CLL *e*PPP 00 38 58.1
CLL *e*SKSac SKSac 00 41 26.9 +0.6
CLL *e*PSKS 00 46 18.6
CLL *e*PPS 00 47 53.8
CLL *e*SS SS 00 53 21.2 +5.3
CLL *e*SSS 00 58 12.4
CLL *e*(SSSS) 01 01 30.0
CLL Collm 126.00 332 ⇑*i*PKPdf PKPdf 00 34 23.9 +0.6
comp=Z,16nm,1.1s
CLL *i* pPKPdf pPKPdf 00 34 27.6 -5.0
CLL *i x* x 00 34 41.2
CLL *e*PP PP 00 36 13.0 -3.3
comp=Z,300nm,20.4s
CLL *e*(SKPdf) 00 37 43.0
CLL *e*PPP 00 39 05.0
CLL *e*SKSac SKSac 00 41 28.0 +1.7
CLL *e*SKKSac SKKSac 00 43 11.0 -1.9
CLL *e*PSKS 00 46 12.0
CLL *e*PPS 00 47 44.0
CLL *ex* x 00 48 49.0
CLL *e*SS SS 00 53 13.0 -2.9
CLL *ex* x 00 56 52.0
CLL *e*SSS 00 58 17.0
CLL *e*SSSS 01 01 24.0
CLL LmV 01 38 00.0
comp=Z,800nm,18.5s
PKME Peaks-Kenny Pk 126.00 38 PFAKE 00 34 30.0 +6.5
PKME LR LR
comp=Z,3μm,20.0s,MS5.9
TREC Trest 126.04 328 *e*PKIKP PKPdf 00 34 24.3 +0.9
TREC *e* 00 34 33.4
TREC MLR MLR
comp=Z,1μm,20.0s,MS5.5
TREC Trest 126.04 328 *e*PKPdf PKPdf 00 34 24.3 +0.9
TREC *ex* x 00 34 33.4
TREC *ex* x 00 37 41.4
TREC AMS AMS 01 29 50.0
comp=Z,1μm,20.0s
PKSM Moragy 126.06 324 ⇑*i*P PKPdf 00 34 24.9 +1.4
PRU Pruhonice 126.10 330 *e*PKIKP PKPdf 00 34 24.3 +0.8
PRU *e* 00 36 18.1
PRU MLR MLR
comp=Z,800nm,21.7s,MS5.3
PRU Pruhonice 126.10 330 *e*PKPdf PKPdf 00 34 24.3 +0.8
PRU *e*PP PP 00 36 18.1 +1.1
PRU *ex* x 00 37 41.5
PRU AMS AMS 01 28 40.0
comp=Z,800nm,21.7s
WES Weston 126.11 42 PFAKE 00 34 30.0 +6.2
WES LR LR
comp=Z,2μm,20.0s,MS5.8
SOP Sopron 126.42 326 ⇑*e*PKP PKPdf 00 34 25.7 +1.5
CONA Conrad Observa 126.66 327 ⇑*i*pPKPdf pPKPdf 00 34 26.3 -7.6
comp=Z,6.4nm,1.3s
KRUS Krusevo 126.80 317 *e*PKP PKPdf 00 34 23.6 -1.5
BIA Bitola 126.91 317 *e*PKP PKPdf 00 34 23.8 -1.5
NKC Novy Kostel 126.97 331 *e*PKIKP PKPdf 00 34 26.5 +1.3
NKC *e* 00 36 25.6
NKC Novy Kostel 126.97 331 *e*PKPdf PKPdf 00 34 26.5 +1.3
NKC *ex* x 00 36 25.6
NKC AMS AMS 01 38 00.0
comp=Z,1μm,17.1s
MOX Moxa 127.10 332 *e*PKP PKPdf 00 34 26.6 +1.2
comp=Z,28nm,2.0s
MOX
comp=Z,900nm,22.0s
KHC Kasperske Hory 127.13 329 *e*PKPdf PKPdf 00 34 26.4 +0.9
KHC *ex* x 00 34 43.0
KHC *e*PP PP 00 36 25.4 +1.6
KHC *e*SKS SKSdf 00 41 32.7 -2.7
KHC AMS AMS 01 33 00.0
comp=Z,1μm,18.4s
OHR Ohrid 127.22 317 *e*PKP PKPdf 00 34 24.2 -1.7
GEC2 GERESS Array S 127.24 329 PKIKP PKPdf 00 34 23.3 -2.4
GERES GERESS Array B 127.24 329 PKhKP 00 34 18.8
comp=Z,1.0nm,0.8s,baz=145,slow=3.6,SNR=3.8
GERES PKP PKPdf 00 34 27.1 +1.4
comp=Z,5.6nm,0.9s,baz=50,slow=1.5,SNR=30
PERS Pernice 127.83 326 *e*PKPdf PKPdf 00 34 27.1 +0.2
PERS *e* 00 34 43.6
GRA1 Grafenberg Arr 127.92 331 *e*PKPdf PKPdf 00 34 27.6 +0.6
GRA1 *e*PP PP 00 36 29.5 +0.5
GRA1 LR LR
comp=Z,1μm,18.7s,MS5.5
GRF Grafenberg Arr 127.92 331 *e*PKPdf PKPdf 00 34 27.6 +0.6
GRF *e*PP PP 00 36 29.5 +0.5
GRF *e*L 01 37 09.5
comp=Z,1μm,18.7s
GRFO Grafenberg 127.93 331 *e*PKIKP PKPdf 00 34 28.5 +1.5
GRFO MLR MLR
comp=Z,955nm,19.0s,MS5.5
LJU Ljubljana 128.51 326 *e*PKIKP PKPdf 00 34 28.9 +0.7
LJU *e* 00 36 32.3
LJU *e*SS SS 00 53 51.7 +4.1
LJU Ljubljana 128.51 326 *e*PKPdf PKPdf 00 34 28.9 +0.7
LJU *e*PP PP 00 36 32.3 -0.8
LJU *e* 00 36 59.5
LJU *e* 00 37 46.2
LJU *e*SS SS 00 53 51.7 +4.1
LJU *e* 00 56 19.8
CEY Cerknica 128.75 325 *e*PP PP 00 36 33.2 -1.5
CEY *e* 00 37 48.6

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
EKA	Eskdalemuir Ar	128.91	344	PKP	PKPdf	00 34 30.0	+1.3
	comp=Z,3.5nm,0.8s,baz=26,slow=2.2,SNR=6.4						
ESK	Eskdalemuir	128.94	344	PFAKE		00 34 40.0	+11
ESK				LR	LR		
	comp=Z,798nm,19.0s,MS5.4						
SQTA	Sankt Quirin	129.57	329	⇑iPKPdf	PKPdf	00 34 25.1	-5.1
	comp=Z,3.2nm,0.8s						
MEM	Membach	129.63	335	PKP	PKPdf	00 34 29.1	-1.1
MEM				XPKP		00 34 34.8	
FETA	Feichten	129.95	329	⇑iPKPdf	PKPdf	00 34 26.0	-5.0
	comp=Z,7.1nm,1.0s						
BFO	Black Forest	130.25	331	PFAKE		00 34 40.0	+8.6
BFO				LR	LR		
	comp=Z,614nm,19.0s,MS5.3						
WLF	Walferdange	130.27	334	PKP	PKPdf	00 34 31.4	-0.1
WLF				APKP		00 34 34.4	
DAVOX	Davos/Dischmat	130.54	329	PKP	PKPdf	00 34 30.7	-1.3
	comp=Z,11nm,0.9s,baz=50,slow=1.9,SNR=8.4						
DAVOX				SKPbc	SKPbc	00 37 57.9	+4.1
	comp=Z,11nm,1.0s,baz=95,slow=18,SNR=7.1						
DAVOS	Davos	130.55	329	PKIKP	PKPdf	00 34 30.7	-1.4
DOU	Dourbes	130.61	335	E	PKPdf	00 34 33.8	+1.7
TSUM	Tsumeb	130.67	237	PFAKE		00 34 40.0	+6.9
TSUM				LR	LR		
	comp=Z,1μm,20.0s,MS5.7						
CDF	Champ du Feu	130.68	332	ePKIKP	PKPdf	00 34 29.1	-3.2
ROSC	El Rosal	130.77	90	PKP	PKPdf	00 34 34.4	+1.0
	comp=Z,3.9nm,0.4s,baz=267,slow=1.9,SNR=6.7						
BAIF	Baives	130.79	336	ePKIKP	PKPdf	00 34 29.2	-3.2
	comp=Z,72nm,1.6s						
LPAZ	La Paz	131.27	119	PKIKP	PKPdf	00 34 34.6	+0.3
LPAZ	La Paz	131.27	119	PKP	PKPdf	00 34 35.3	+1.0
	comp=Z,18nm,1.1s,baz=243,slow=2.0,SNR=23						
LPAZ				SKPbc	SKPbc	00 38 01.5	+4.0
	comp=Z,15nm,1.0s,baz=247,slow=1.5,SNR=15						
HINF	Hinteralfeld	131.31	332	ePKIKP	PKPdf	00 34 30.2	-3.3
	comp=Z,44nm,1.3s						
HAU	Haudompre	131.40	332	ePKIKP	PKPdf	00 34 30.6	-3.1
	comp=Z,68nm,1.4s						
MEZF	Maizieres J'vi	131.62	334	ePKIKP	PKPdf	00 34 30.3	-3.8
	comp=Z,98nm,1.4s						
CABF	La Chapelle	132.54	331	ePKIKP	PKPdf	00 34 32.5	-3.3
	comp=Z,63nm,1.3s						
LPL	La Plagne	133.00	330	ePKIKP	PKPdf	00 34 31.5	-5.3
	comp=Z,22nm,1.0s						
LPG	La Plagne	133.01	330	ePKIKP	PKPdf	00 34 31.6	-5.2
	comp=Z,16nm,0.9s						
LOR	Lormes	133.08	333	ePKIKP	PKPdf	00 34 33.0	-3.8
	comp=Z,35nm,1.3s						
BNI	Bardonecchia	133.35	329	PKIKP	PKPdf	00 34 30.8	-6.6
BNI	Bardonecchia	133.35	329	PKP	PKPdf	00 34 30.6	-6.9
SSF	Saint Saulge	133.39	333	ePKIKP	PKPdf	00 34 34.1	-3.3
	comp=Z,17nm,1.0s						
SDDR	Presa de Saban	133.41	71	PFAKE		00 34 50.0	+12
SDDR				LR	LR		
	comp=Z,840nm,19.0s,MS5.5						
MBDF	Montbardon	133.53	329	ePKIKP	PKPdf	00 34 34.4	-3.4
ORIF	Oris-en-Rattie	133.85	330	ePKIKP	PKPdf	00 34 34.4	-4.0
	comp=Z,17nm,1.1s						
CPUP	Villa Florida	134.18	138	PKP	PKPdf	00 34 39.4	-0.2
	comp=Z,4.6nm,0.9s,baz=223,slow=1.9,SNR=8.8						
CPUP				SKPbc	SKPbc	00 38 09.9	+2.6
	comp=Z,16nm,1.1s,baz=229,slow=5.3,SNR=10.0						
TCF	Toulx Ste Croi	134.56	334	ePKIKP	PKPdf	00 34 36.1	-3.6
	comp=Z,23nm,1.0s						
SDV	Santo Domingo	134.66	85	ePKPdf	PKPdf	00 34 41.0	+0.2
SDV				LR	LR		
	comp=Z,231nm,19.0s,MS4.9						
BBSR	BB Station	135.28	50	PFAKE		00 34 50.0	+8.6
BBSR				LR	LR		
	comp=Z,1μm,20.0s,MS5.6						
KEST	Kesra	137.68	317	PKhKP		00 34 36.0	
	comp=Z,2.5nm,1.1s,baz=306,slow=9.1,SNR=4.3						
KEST				PKP	PKPdf	00 34 46.6	+0.8
	comp=Z,1.8nm,0.8s,baz=59,slow=1.9,SNR=7.5						
SJG	San Juan	138.36	71	PFAKE		00 35 00.0	+12
SJG				LR	LR		
	comp=Z,650nm,20.0s,MS5.4						
ETOR	Torete	140.77	332	PKIKP	PKPdf	00 34 46.7	-4.6
GUD	Guadarrama	141.85	334	PKIKP	PKPdf	00 34 49.9	-3.3
ESDC	Sonseca Array	142.56	333	P	PKPdf	00 34 51.5	-3.0
ESDC	Sonseca Array	142.56	333	PKP	PKPdf	00 34 52.2	-2.3
	comp=Z,2.9nm,0.8s,baz=20,slow=2.4,SNR=12						
ESDC				PP	PP	00 38 01.5	+0.2
	comp=Z,3.2nm,1.1s,baz=34,slow=6.0,SNR=4.3						
ESLA	Sonseca Array	142.56	333	PFAKE		00 35 00.0	+5.5
ESLA				LR	LR		
	comp=Z,4μm,19.0s,MS6.2						
MVO	Moncorvo	142.57	338	eLR	LR	01 25 34.6	
	comp=Z,649nm,19.1s						
EMUR	La Murta	142.67	328	P	PKPdf	00 34 49.6	-5.1
EVIA	Vianos	142.70	331	PKIKP	PKPdf	00 34 51.2	-3.6
PAB	San Pablo	142.83	333	PFAKE		00 35 10.0	+15
PAB				LR	LR		
	comp=Z,643nm,20.0s,MS5.4						
MTE	Manteigas	143.43	338	ePKPdf	PKPdf	00 34 54.3	-1.7
MTE	Manteigas	143.43	338	eLR	LR	01 25 48.6	
	comp=Z,803nm,19.1s						
EQES	Quesada	143.63	330	P	PKPdf	00 34 53.9	-2.5
EBAN	Banos Encina	143.69	331	PKIKP	PKPdf	00 34 55.2	-1.4
ENIJ	Nijar	143.83	328	PKIKP	PKPdf	00 34 54.4	-2.5
EADA	Adamuz	144.06	332	P	PKPdf	00 34 55.5	-1.7
EBER	Berja	144.24	329	P	PKPdf	00 34 55.3	-2.3
ECOG	Cogollos-Vega	144.28	330	PKIKP	PKPdf	00 34 56.1	-1.5
ELUQ	Luque	144.40	331	PKIKP	PKPdf	00 34 56.5	-1.3
ECAB	El Cabril	144.52	333	P	PKPdf	00 34 57.2	-0.9
ERON	Agron	144.61	330	P	PKPdf	00 34 56.7	-1.5
EGUA	Guajares	144.63	330	PKIKP	PKPdf	00 34 57.2	-1.1
EBAD	Badajoz	144.63	336	P	PKPdf	00 34 57.4	-0.8
ELOJ	Sierra Loja	144.67	331	PKIKP	PKPdf	00 34 57.1	-1.2
PESTR	Estremoz	144.77	336	ePKP	PKPdf	00 34 56.6	-1.8
PESTR				eLR	LR	01 26 55.2	
	comp=Z,929nm,17.7s						
EALB	Alboran	145.05	328	P	PKPbc	00 34 58.3	0.0
PBAR	Barrancos	145.14	335	ePKP	PKPdf	00 34 58.1	-1.0
PBAR				eLR	LR	01 27 12.7	
	comp=Z,855nm,17.7s						
EVO	Evora	145.23	337	⇑iPKIKP	PKPdf	00 34 59.5	+0.3
	comp=Z,361nm,1.3s						
EVO	Evora	145.23	337	ePKP	PKPdf	00 34 57.9	-1.3
EMIN	Mina Concepcio	145.32	334	P	PKPbc	00 35 00.2	+1.0
PMAFR	Mafra	145.34	338	ePKP	PKPdf	00 34 59.6	+0.2
PMAFR				eLR	LR	01 29 03.0	
	comp=Z,769nm,19.1s						
BBGH	Gun Hill	145.35	77	PFAKE		00 35 10.0	+10
BBGH				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
EMIJ	Mijas	145.44	331	P	PKPbc	00 34 58.8	-0.8
PBEJ	Beja	145.60	336	ePKP	PKPdf	00 34 59.7	-0.2
ESPR	Espera	145.70	332	P	PKPdf	00 35 01.4	+1.3
EJIF	Jimena Fronter	145.86	332	PKP2	PKPab	00 35 01.2	-0.2
EGRO	El Granado	145.87	335	P	PKPdf	00 35 02.1	+1.8
PVAQ	Vaqueiros	146.07	335	ePKP	PKPdf	00 35 02.1	+1.4
PVAQ				eLR	LR	01 27 49.5	
	comp=Z,1μm,19.1s						
PBDV	Barranco-do-Ve	146.30	335	ePKP	PKPdf	00 35 02.6	+1.5
PBDV				eLR	LR	01 27 48.8	
	comp=Z,780nm,19.1s						
PTEO	Sao Teotonio	146.36	336	ePKP	PKPdf	00 35 02.6	+1.4
MORF	Marmelete	146.54	336	ePKP	PKPdf	00 35 03.4	+1.9
MORF				eLR	LR	01 27 45.4	
	comp=Z,898nm,17.7s						
PFVI	Vila Bisbo	146.76	336	ePKP	PKPdf	00 35 02.8	+0.9
PFVI				eLR	LR	01 27 46.9	
	comp=Z,753nm,17.7s						
BDFB	Brasilia	147.78	135	PKPbc	PKPbc	00 35 05.4	-1.6
	comp=Z,17nm,0.9s,baz=200,slow=1.3,SNR=27						
MDT	Midelt	148.27	326	PKPbc	PKPbc	00 35 09.1	+1.2
	comp=Z,50nm,1.0s,baz=35,slow=3.5,SNR=25						
CMLA	Cha da Macela	149.50	1	ePKP	PKPab	00 35 16.9	+1.2
CMLA				LR	LR		
	comp=Z,837nm,19.0s,MS5.5						
DBIC	Dimbokro	160.13	270	PKP	PKPdf	00 35 23.1	+1.5
DBIC				ePKPdf	PKPdf	00 35 23.2	+1.6
DBIC				PKPab	PKPab	00 36 02.8	+1.0
DBIC				LR	LR		
	comp=Z,1μm,20.0s						
DBIC	Dimbokro	160.13	270	PKP	PKPdf	00 35 23.1	+1.5
	comp=Z,5.2nm,1.0s,baz=90,slow=4.0,SNR=3.9						
DBIC				PKPab	PKPab	00 36 02.8	+1.0
	comp=Z,27nm,0.9s,baz=82,slow=4.7,SNR=13						
LIC	Lamto	160.28	269	ePKIKP	PKPdf	00 35 16.0	-5.8
	comp=Z,25nm,1.2s						

IDC 01 00:22:08.8±1.1, 663S×15533E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.2/16, mbtmp4.2/10, MS5.0/1, Ms1 5.0/1, ms1mx3.9/22, Error ellipse: s-maj=41.0km s-min=20.5km az=112.0

NEIC 01 00:22:10.7±0.5, 662S×15527E, h10km, mb4.5/3, Error ellipse: s-maj=14.9km s-min=7.9km az=115.0

ISCJB 01 00:22:15.5±6.4, 67S±0.1×1552E±02, h58km±56km, mb4.3/16, Error ellipse: s-maj=25.1km s-min=22.5km az=169.4

ISC 01 00:22:16.9±5.4, 67S±01×1552E±01, h58km±49km, n23, σ0s74/23, mb4.3/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	Charters Tower	15.91	212	Pn	Pn	00 25 56.6	-0.7
	11nm,1.2s						
WRAB	Tennant Creek	24.15	235	eP	P	00 27 27.4	-0.4
	106nm,2.1s,mb4.9						
WB2	Warramunga Arr	24.15	235	eP	P	00 27 28.0	+0.1
WRA	Warramunga Arr	24.16	235	P	P	00 27 29.4	+1.4
	9.2nm,1.1s,mb4.1,baz=61,slow=9.6,SNR=4.8						
ASAR	Alice Springs	26.54	228	P	P	00 27 50.0	+0.6
	2.3nm,0.7s,mb3.8,baz=64,slow=8.7,SNR=4.8						
STKA	Stephens Creek	28.11	205	P	P	00 28 03.5	+0.1
	2.8nm,0.8s,mb4.0,baz=14,slow=16,SNR=2.8						
FITZ	Fitzroy Crossi	30.97	246	P	P	00 28 29.3	+0.3
	3.8nm,0.7s,mb4.3,baz=100,slow=7.8,SNR=4.6						
TAU	Tasmania Unive	36.75	190	P	P	00 29 18.2	-0.6
	52nm,1.5s,mb5.1						
MBWA	Marble Bar	37.20	244	eP	P	00 29 23.6	+0.7
	10nm,1.0s,mb4.6						
KSM	Kuching	45.53	279	eP	P	00 30 31.2	-0.2
KULM	Kulim	55.73	281	P	P	00 31 47.6	-0.6
ENH	Enshi	57.17	313	P	P	00 31 58.5	+0.3
CHTO	Chiang Mai	60.94	296	eP	P	00 32 24.3	-0.2
	3.1nm,0.9s,mb4.4						
SONM	Songino Array	69.18	327	P	P	00 33 18.1	+0.7
SONM	Songino Array	69.18	327	P	P	00 33 18.1	+0.7
	0.8nm,0.9s,mb3.6,baz=131,slow=6.6,SNR=3.1						
MCK	McKinley	81.69	22	eP	P	00 34 28.7	-0.1
	13nm,1.2s,mb4.8						
COLA	College	82.71	21	eP	P	00 34 34.6	+0.5
	3.3nm,0.4s,mb4.7						
MKAR	Makanchi Array	83.30	319	P	P	00 34 37.6	+0.1
	0.2nm,0.3s,mb3.6,baz=94,slow=5.5,SNR=3.3						
QSPA	South Pole Qui	83.30	180	P	P	00 34 36.7	-0.3
	2.1nm,0.7s,mb4.3,baz=104,slow=4.2,SNR=5.3						
ZALV	Zalesovo Beam	84.03	326	P	P	00 34 39.8	-1.3
	0.7nm,0.6s,mb4.0,baz=120,slow=5.2,SNR=2.2						
UCH	Uchtor	87.59	313	P	P	00 34 56.6	-2.4
INK	Inuvik	89.35	21	P	P	00 35 07.4	+0.7
	1.4nm,0.7s,mb4.4,baz=240,slow=10,SNR=4.4						
YKA	Yellowknife Ar	95.96	28	P	P	00 35 37.9	+0.5
	0.4nm,0.8s,mb3.9,baz=267,slow=4.5,SNR=5.5						

HLW 01 00:27:09.8, 3755N×2083E, h33km, Mb3.5

ISCJB 01 00:27:11.3±0.5, 3724N±002×21.12E±002, h1km±3km, mb3.6/6, Error ellipse: s-maj=3.6km s-min=2.8km az=32.8

ATH 01 00:27:13.0, 3731N×2121E, h9km±1km, MD3.9/20, ML3.6

THE 01 00:27:13.9, 3731N×21.19E, h3km, ML4.2

NEIC 01 00:27:13.9, 3731N×21.19E, h0km, ML4.2(THE), ML3.6(ATH), After THE.

CSEM 01 00:27:13.1±0.1, 3728N×21.11E, h2km, ML3.6, Error ellipse: s-maj=1.7km s-min=1.1km az=7.0

IDC 01 00:27:21.0±2.2, 3741N×2104E, h86km±26km, mb3.2/6, mb1 3.2/13, mb1mx3.1/29, mbtmp3.1/13, Error ellipse: s-maj=30.1km s-min=16.0km az=176.0

ISC 01 00:27:12.9±0.5, 3727N±002×2115E±002, h0km±3km, n102, σ1s02/131, mb3.6/6, 2C-3D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.60	128	ePg	Pg	00 27 25.1	+0.6
PYL				eSg	Sg	00 27 34.9	+2.7
PYL	PYLOS	0.60	128	ePg	Pg	00 27 25.0	+0.6
PYL				eSg	Sg	00 27 34.9	+2.6
ITM	Ithomi	0.63	98	⇓iPG	Pg	00 27 24.0	-0.9
ITM				eSB	Sg	00 27 32.8	-0.3
RLS	Riolos of Patr	0.83	18	⇑iPG	Pg	00 27 27.3	-1.5
RLS				eSB	Sg	00 27 38.2	-1.4
RLS	Riolos of Patr	0.83	18	⇑iPg	Pg	00 27 27.3	-1.5
RLS				eSb	Sg	00 27 39.3	-0.3
KFL	Anninata	0.89	341	ePg	Pg	00 27 30.0	+0.1
VLX	Vlachokerasia	0.99	84	ePg	Pg	00 27 31.1	-0.7
VLX				eSg	Sg	00 27 45.8	+1.1
VLS	Valsamata	1.01	334	ePg	Pg	00 27 32.1	-0.1
VLS				eSg	Sg	00 27 46.4	+1.0
VLS	Valsamata	1.01	334	⇓iPG	Pg	00 27 31.7	-0.6
VLS				eSB	Sb	00 27 46.6	-0.5
VLS	Valsamata	1.01	334	⇓iPg	Pg	00 27 31.5	-0.8
VLS				eSb	Sb	00 27 46.0	-1.1
VLS				eSg	Sg	00 27 46.4	+1.0
SELA	Sela	1.17	30	ePg	Pg	00 27 34.3	-0.9
SELA				eSg	Sg	00 27 51.1	+0.7
LKD	Levkas	1.49	345	ePg	Pg	00 27 40.1	-1.4
LKD				eSg	Sg	00 28 01.8	+1.0
VLI	Veliai	1.53	110	ePB	Pb	00 27 42.0	-0.2
VLI				eSB	Sb	00 28 01.8	-0.3
VLI	Veliai	1.53	110	ePb	Pb	00 27 41.0	-1.2
LTK	Loutraki	1.63	62	ePg	Pg	00 27 42.0	-2.2
LTK				eSg	Sg	00 28 04.9	-0.4
DID	Didima	1.68	81	ePb	Pb	00 27 43.5	-1.2
DID				eSb	Sb	00 28 06.4	0.0
EVR	Evrytania	1.73	17	ePG	Pn	00 27 44.0	-0.1
EVR				eSB	Sb	00 28 07.5	-0.2
EVR	Evrytania	1.73	17	ePg	Pn	00 27 43.7	-0.4
KYTH	Kithira	1.81	122	ePG	Pg	00 27 47.5	0.0
NAIG	Nisos Aigina	1.93	75	ePN	Pn	00 27 47.0	+0.1
AGG	Agios Georgios	1.98	28	eSb	Sb	00 28 13.2	-1.9
AGG				eSb	Sb	00 28 13.9	-1.2
AGG	Agios Georgios	1.98	28	eSb	Sb	00 28 13.9	-1.2
LKR	Lokris	2.01	46	ePG	Pn	00 27 48.9	+0.8
LKR				eSN	Sn	00 28 14.1	+0.2
LKR	Lokris	2.01	46	ePn	Pn	00 27 47.6	-0.5
ATH	Athens Observa	2.16	70	ePN	Pn	00 27 50.5	+0.4
ATH	Athens Observa	2.16	70	ePn	Pn	00 27 50.3	+0.2
ATH				eSn	Sn	00 28 16.0	-1.5
KVR	Kavouri	2.16	74	ePN	Pn	00 27 50.5	+0.4
PTL	Penteli	2.29	69	ePN	Pn	00 27 52.0	+0.1
IGT	Igoumenitsa	2.35	344	ePn	Pn	00 27 53.1	+0.4
IGT				eSn	Sn	00 28 22.7	+0.4
THL	Klokotos Trika	2.39	16	ePn	Pn	00 27 54.2	+0.9
THL				eSn	Sn	00 28 23.6	+0.4
THL	Klokotos Trika	2.39	16	ePN	Pn	00 27 54.4	+1.1
THL	Klokotos Trika	2.39	16	ePn	Pn	00 27 54.2	+0.9
THL				eSn	Sn	00 28 23.6	+0.3
JAN	Janina	2.40	355	ePn	Pn	00 27 54.2	+0.9
JAN				P		00 27 59.6	
JAN	Janina	2.40	355	ePN	Pn	00 27 55.4	+2.1
NEO	Neokhori	2.61	38	ePN	Pn	00 27 56.8	+0.5
XOR	Xorichti	2.64	37	ePn	Pn	00 27 57.6	+0.9
KEK	Kerkira	2.66	337	ePB	Pn	00 27 57.3	+0.3
AOS	Alonnisos	2.87	48	ePn	Pn	00 27 59.9	+0.1
LIT	Litokhoron	3.02	20	ePn	Pn	00 28 02.7	+0.8
LIT				eSn	Sn	00 28 39.4	+0.7
KZN	Kozani	3.07	9	ePN	Pn	00 28 03.5	+0.8
VAM	Vamos	3.08	126	ePN	Pn	00 28 04.0	+1.2
PAIG	Paliouri	3.31	36	ePn	Pn	00 28 05.7	-0.3
APE	Apeiranthos	3.51	92	ePn	Pn	00 28 08.3	-0.3
APE	Apeiranthos	3.51	92	ePN	Pn	00 28 08.2	-0.4
FNA	Florina	3.52	3	ePn	Pn	00 28 09.2	+0.5
PLG	Polygyros	3.58	29	ePn	Pn	00 28 10.2	+0.5
PLG	Polygyros	3.58	29	ePn	Pn	00 28 10.1	+0.4
HORT	Hortiatis	3.66	24	ePn	Pn	00 28 11.2	+0.6
BIA	Bitola	3.75	2	ePn	Pn	00 28 12.1	+0.2
GRG	Griva	3.81	14	ePn	Pn	00 28 12.7	-0.1
LCI	Lecce	3.87	323	Pn	Pn	00 28 13.1	-0.5
TIP	Timpagrande	3.95	300	ePn	Pn	00 28 14.3	-0.3
TIP				eSn	Sn	00 28 59.6	-2.1
TIP	Timpagrande	3.95	300	ePn	Pn	00 28 14.3	-0.4
TIP				eSn	Sn	00 28 59.6	-2.0
GRI	Girifalco	4.04	294	Pn	Pn	00 28 20.3	+4.4
CHOS	Chios island	4.04	72	ePn	Pn	00 28 16.3	+0.3
LAST	Lasithi	4.08	120	ePn	Pn	00 28 17.9	+1.4
KRUS	Krusevo	4.10	1	ePn	Pn	00 28 17.0	+0.3
KRUS	Krusevo	4.10	1	ePn	Pn	00 28 16.9	+0.2
LIA	Limnos Island	4.11	49	ePn	Pn	00 28 15.9	-1.0
KNT	Kendrikon	4.12	19	ePn	Pn	00 28 17.9	+0.9
NPS	Neapolis	4.13	118	ePN	Pn	00 28 17.7	+0.6
VAY	Valandovo	4.20	15	ePn	Pn	00 28 18.2	+0.1
VAY	Valandovo	4.20	15	ePn	Pn	00 28 18.1	0.0
SRS	Serrai	4.29	26	ePn	Pn	00 28 19.4	+0.1
SMG	Samos	4.55	83	ePN	Pn	00 28 22.8	-0.1
SMG	Samos	4.55	83	ePn	Pn	00 28 22.7	-0.2
NVR	Nevrokopi	4.59	26	ePN	Pn	00 28 24.5	+1.0
AGST	Augusta-Monte	4.72	272	Pn	Pn	00 28 24.5	-0.8
MMB	Musomiste	4.76	24	iP	Pn	00 28 26.2	+0.4
HAVL	Avola	4.82	268	Pn	Pn	00 28 26.5	-0.2
KKB	Krupnik	4.83	17	iP	Pn	00 28 26.6	-0.2
SSY	Sortino	4.85	270	Pn	Pn	00 28 26.3	-0.8
HMDC	Modica	5.10	268	Pn	Pn	00 28 30.4	-0.1
	60nm,0.6s						
HVZN	Vizzini	5.13	271	Pn	Pn	00 28 30.5	-0.5
	128nm,0.6s						
KARP	Karpathos	5.14	108	ePN	Pn	00 28 32.2	+1.1
RDO	Rodhopi	5.16	40	ePN	Pn	00 28 31.8	+0.5
RZN	Rozhen	5.21	31	iP	Pn	00 28 32.8	+0.8
ALN	Alexandroupoli	5.26	45	ePn	Pn	00 28 33.1	+0.4
VAE	Valguarnera	5.37	274	P	Pn	00 28 36.1	+1.9
	3.5nm,0.3s,baz=104,slow=11,SNR=7.6						
VAE				S	Sn	00 29 40.8	+4.1
	3.0nm,0.3s,baz=126,slow=19,SNR=5.1						
RAFF	Raffo Rosso	5.41	272	Pn	Pn	00 28 35.0	+0.2
	165nm,2.0s						
KDZ	Kurdzhali	5.48	36	iP	Pn	00 28 35.1	-0.7
VTS	Vitosha	5.55	16	iP	Pn	00 28 37.7	+1.1
SGO	Sicignano	5.62	308	Pn	Pn	00 28 39.1	+1.5
	20nm,0.6s						
ARG	Arkhangelos	5.70	99	ePn	Pn	00 28 40.8	+2.0
ARG				P		00 28 44.1	
SLUM		6.67	149	P	Pn	00 28 51.3	-0.8
HMAT	Matruh	7.88	140	P	Pn	00 29 08.4	-0.4
HMAT				S	Sn	00 30 34.4	-4.3
SWA2		8.78	155	P	Pn	00 29 19.9	-1.1
SWA1		8.85	153	P	Pn	00 29 21.0	-0.9
SWA1				S	Sn	00 30 57.7	-4.7
MLR	Muntele Rosu	8.97	22	P	Pn	00 29 26.7	+3.1
	0.1nm,0.3s,baz=123,slow=17,SNR=2.1						
BOJS	Bojanci	9.34	334	iPn	Pn	00 29 28.4	-0.3
BOJS				iSn	Sn	00 31 09.7	-4.8
KEST	Kesra	9.62	264	P	Pn	00 29 35.3	+2.7
	0.1nm,0.3s,baz=84,slow=9.2,SNR=5.8						
MMAI	Mount Meron Ar	12.41	106	P	Pn	00 30 16.5	+5.7
	0.5nm,0.3s,baz=286,slow=12,SNR=3.8						
GERES	GERESS Array B	12.78	337	P	Pn	00 30 15.9	+0.2
	0.1nm,0.3s,baz=152,slow=14,SNR=3.1						
AKASG	Malin Array Be	14.62	21	P	Pn	00 30 42.6	+1.8
	0.6nm,0.3s,baz=211,slow=13,SNR=4.4						
ESDC	Sonseca Array	19.79	285	P	Pn	00 31 42.1	-4.0
	0.0nm,0.3s,baz=82,slow=11,SNR=2.7						
HFS	Hagfors	23.38	351	P	P	00 32 20.4	-2.5
	0.6nm,0.4s,mb3.4,baz=147,slow=12,SNR=5.9						
FINES	FINESS Array B	24.40	6	P	P	00 32 29.4	-3.1
	0.5nm,0.5s,mb3.4,baz=180,slow=11,SNR=7.0						
NOA	NORSAR Array B	24.61	348	P	P	00 32 31.8	-2.6
	0.2nm,0.5s,mb3.1,baz=163,slow=11,SNR=2.2						
AKTK	Aktyubinsk	29.34	52	P	P	00 33 16.2	-1.0
AKTO	Aktyubinsk	29.34	52	P	P	00 33 16.2	-1.0
	1.1nm,0.5s,mb4.0,baz=281,slow=10,SNR=4.1						
MKAR	Makanchi Array	45.36	58	P	P	00 35 30.3	-2.4
	0.3nm,0.4s,mb3.6,baz=271,slow=7.1,SNR=2.8						
ZALV	Zalesovo Beam	45.94	48	P	P	00 35 34.6	-2.6
	0.6nm,0.5s,mb3.9,baz=289,slow=9.4,SNR=2.3						

IDC 01 00:28:12.8±5.2, 711S×15514E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=154.0km s-min=30.9km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.87	236	P	P	00 33 28.4	+0.2
	2.4nm,0.9s,baz=59,slow=9.4,SNR=7.2						
ASAR	Alice Springs	26.20	229	P	P	00 33 49.1	-0.3
	0.4nm,0.5s,baz=62,slow=9.3,SNR=4.7						
SONM	Songino Array	69.51	327	P	P	00 39 24.0	+0.8
	0.3nm,0.5s,baz=127,slow=6.1,SNR=3.1						
MKAR	Makanchi Array	83.58	319	P	P	00 40 42.6	-0.4
	0.1nm,0.4s,baz=113,slow=5.3,SNR=2.5						

IDC 01 00:31:54.6±1.8, 714S×15532E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, MS4.8/1, Ms1 4.8/1, ms1mx3.7/24, Error ellipse: s-maj=51.6km s-min=28.1km az=102.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.00	236	P	P	00 37 10.9	-0.4
	2.3nm,0.8s,baz=62,slow=9.4,SNR=9.1						
ASAR	Alice Springs	26.32	229	P	P	00 37 31.6	-0.8
	0.5nm,0.7s,baz=59,slow=10.0,SNR=5.0						
STKA	Stephens Creek	27.74	206	P	P	00 37 46.7	+1.7
	3.3nm,0.8s,baz=30,slow=8.7,SNR=3.4						
RAO	Raoul Island	33.45	134	LR	LR	00 49 10.1	
	comp=Z,2μm,21.6s,baz=193,slow=31						
SONM	Songino Array	69.64	327	P	P	00 43 05.8	0.0
	0.4nm,0.5s,baz=113,slow=3.0,SNR=3.9						
QSPA	South Pole Qui	82.83	180	P	P	00 44 20.3	-0.1
	0.8nm,0.8s,baz=9.5,slow=5.3,SNR=4.1						
MKAR	Makanchi Array	83.73	319	P	P	00 44 26.6	+1.0
	0.1nm,0.4s,baz=106,slow=5.3,SNR=2.4						

IDC 01 00:34:06.6±4.4, 703S×15507E, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.8/14, mbtmp3.7/6, Error ellipse: s-maj=130.7km s-min=27.0km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.86	235	P	P	00 39 22.6	+0.6
	2.5nm,0.7s,baz=60,slow=9.9,SNR=8.3						
ASAR	Alice Springs	26.21	229	P	P	00 39 42.9	-0.4
	0.7nm,0.8s,baz=61,slow=9.1,SNR=6.1						
FITZ	Fitzroy Crossi	30.71	246	P	P	00 40 23.6	0.0
	1.5nm,0.6s,baz=102,slow=7.5,SNR=4.0						
SONM	Songino Array	69.41	327	P	P	00 45 17.6	+1.2
	0.4nm,0.7s,baz=135,slow=5.7,SNR=3.5						
MKAR	Makanchi Array	83.48	319	P	P	00 46 37.0	+0.7
	0.2nm,0.6s,baz=100,slow=6.3,SNR=3.7						
ZALV	Zalesovo Beam	84.25	326	P	P	00 46 38.8	-1.3
	0.4nm,0.4s,baz=104,slow=6.1,SNR=2.3						

MEX 01 00:34:49.3±1.0, 1635N×9821W, h20km±9km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.09	62	iP	Pb	00 34 51.9	-1.3
PNIG				iS	Sb	00 34 54.8	-1.1
VHO	Vista Hermosa	1.59	63	iP	Pn	00 35 14.5	-1.8
VHO				iS	Sn	00 35 31.9	-4.4
OXX	Oaxaca	1.60	63	eP	Pn	00 35 15.5	-1.0
MEIG	Mezcala	2.07	320	iP	Pn	00 35 20.1	-2.7
MEIG				iS	Sn	00 35 44.5	-3.6
HUIG	Huatulco	2.10	106	iP	Pn	00 35 18.4	-5.0
HUIG				iS	Sn	00 35 44.4	-4.6
TPIG	Tehuac#an	2.21	21	eP	Pn	00 35 23.1	-1.8
TPIG				iS	Sn	00 35 48.3	-3.4
PLIG	Platanillo	2.38	329	eP	Pn	00 35 25.9	-1.2
PLIG				iS	Sn	00 35 51.7	-4.0
YAIG	Yautepec	2.63	342	eP	Pn	00 35 31.8	+1.2
YAIG				iS	Sn	00 35 58.8	-3.2
PPM	Popocatepetl	2.73	352	iP	Pn	00 35 32.3	+0.3
PPM				eP		00 35 35.0	
PPM				eS	Sn	00 36 01.7	-2.8
CMIG	Matias Romero	3.27	76	eP	Pn	00 35 36.8	-2.7
CMIG				iS	Sn	00 36 15.0	-2.9

NEIC 01 00:35:12.6±0.3, 691S×15506E, h10km, mb4.5/7, Error ellipse: s-maj=10.2km s-min=7.5km az=139.0

ISCJB 01 00:35:22.1±2.9, 7.1S±0.1×15503E±0.10, h98km±29km, mb4.4/21, Error ellipse: s-maj=24.6km s-min=12.4km az=152.6

IDC 01 00:35:22.3±3.1, 695S×15485E, h84km±30km, mb3.9/10, mb1 4.0/12, mb1mx4.0/17, mbtmp3.9/12, Error ellipse:

s-maj=20.4km s-min=16.9km az=146.0

ISC 01 00:35:23.2±2.6**,71S**±01×**15504E**±010**,h94**km±27km**,n41,** σ**1^{s}02**/39**,mb4.4**/21**,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.38**	**116**	ePn	**Pn**	**00 36 34.5**	**-6.6**
	366nm,0.9s						
HNR				Sn	**Sn**	**00 37 40.2**	**-1.5**
HNR	**Honiara**	**5.38**	**116**	P	**Pn**	**00 36 43.0**	**+1.9**
	19nm,0.3s,baz=263,slow=9.4,SNR=5.4						
HNR				S	**Sn**	**00 37 47.6**	**+5.8**
	31nm,0.3s,baz=270,slow=20,SNR=3.2						
CTA	**Charters Tower**	**15.46**	**213**	P	**Pn**	**00 38 57.0**	**+0.9**
	0.1nm,0.3s,baz=30,slow=15,SNR=2.2						
CTAO	**Charters Tower**	**15.46**	**213**	Pn	**Pn**	**00 38 53.4**	**-2.7**
	4.1nm,0.8s						
KAKA	**Kakadu**	**22.94**	**254**	eP	**P**	**00 40 18.8**	**-0.9**
	14nm,0.7s,mb4.4						
WRAB	**Tennant Creek**	**23.77**	**236**	eP	**P**	**00 40 26.9**	**-0.4**
	9.6nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**23.78**	**236**	eP	**P**	**00 40 27.2**	**-0.1**
WB2	**Warramunga Arr**	**23.78**	**236**	eP	**P**	**00 40 27.2**	**0.0**
WRA	**Warramunga Arr**	**23.79**	**236**	P	**P**	**00 40 27.2**	**-0.2**
	12nm,0.9s,mb4.2,baz=61,slow=9.6,SNR=18						
ASAR	**Alice Springs**	**26.13**	**229**	P	**P**	**00 40 47.8**	**-0.9**
	1.8nm,0.6s,mb3.7,baz=61,slow=8.5,SNR=9.5						
STKA	**Stephens Creek**	**27.65**	**205**	eP	**P**	**00 41 02.6**	**+0.5**
	4.3nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.65**	**205**	P	**P**	**00 41 03.2**	**+1.1**
	4.0nm,0.7s,mb4.0,baz=10,slow=10,SNR=5.7						
FITZ	**Fitzroy Crossi**	**30.65**	**246**	eP	**P**	**00 41 28.4**	**-0.5**
	7.5nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**30.65**	**246**	P	**P**	**00 41 28.3**	**-0.6**
	3.7nm,0.6s,mb4.3,baz=83,slow=7.6,SNR=10						
MBWA	**Marble Bar**	**36.86**	**244**	eP	**P**	**00 42 22.5**	**-0.2**
	7.5nm,0.8s,mb4.7						
KSM	**Kuching**	**45.44**	**279**	eP	**P**	**00 43 32.2**	**-1.0**
KSRS	**Korea Array**	**51.06**	**332**	P	**P**	**00 44 12.5**	**-3.4**
	0.7nm,0.6s,mb3.9,baz=148,slow=7.5,SNR=2.6						
KULM	**Kulim**	**55.65**	**281**	P	**P**	**00 44 50.0**	**-0.1**
SONM	**Songino Array**	**69.45**	**327**	P	**P**	**00 46 22.0**	**+0.8**
	1.5nm,0.5s,mb4.1,baz=141,slow=5.4,SNR=16						
JIRN	**Jiri**	**74.88**	**301**	eP	**P**	**00 46 55.5**	**+1.4**
	15nm,0.6s,mb4.9						
GUN	**Gumba**	**75.21**	**301**	eP	**P**	**00 46 57.3**	**+1.3**
	30nm,0.7s,mb5.1						
PKI	**Pulchoki**	**75.52**	**301**	eP	**P**	**00 46 58.7**	**+0.9**
KKN	**Kakani**	**75.69**	**301**	eP	**P**	**00 46 59.8**	**+1.1**
	16nm,0.7s,mb4.9						
DMN	**Daman**	**75.79**	**301**	eP	**P**	**00 47 00.5**	**+1.2**
	34nm,0.9s,mb5.1						
GKN	**Gorkha**	**76.29**	**301**	eP	**P**	**00 47 03.1**	**+0.9**
	20nm,0.6s,mb5.0						
KOLN	**Koldanda**	**77.12**	**300**	eP	**P**	**00 47 07.5**	**+0.7**
	17nm,0.8s,mb4.8						
DANN	**Dangsing**	**77.13**	**301**	eP	**P**	**00 47 07.5**	**+0.6**
	13nm,0.8s,mb4.7						
IMA2	**Indian Mountai**	**81.89**	**19**	eP	**P**	**00 47 31.9**	**+0.1**
MCK	**McKinley**	**82.14**	**22**	eP	**P**	**00 47 32.1**	**-1.1**
	7.3nm,0.8s,mb4.6						
QSPA	**South Pole Qui**	**82.87**	**180**	P	**P**	**00 47 37.6**	**+0.8**
	2.7nm,0.8s,mb4.1,baz=16,slow=2.9,SNR=5.8						
COLA	**College**	**83.17**	**21**	eP	**P**	**00 47 37.7**	**-0.8**
MKAR	**Makanchi Array**	**83.52**	**319**	P	**P**	**00 47 41.0**	**+0.3**
	1.0nm,0.6s,mb3.8,baz=104,slow=5.6,SNR=6.9						
ZALV	**Zalesovo Beam**	**84.30**	**326**	P	**P**	**00 47 42.6**	**-1.9**
	0.7nm,0.3s,mb4.0,baz=119,slow=5.4,SNR=5.1						
KURK	**Kurchatov**	**86.95**	**322**	P	**P**	**00 47 55.3**	**-2.4**
INK	**Inuvik**	**89.81**	**21**	eP	**P**	**00 48 10.6**	**-0.2**
	137nm,1.0s						
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**00 48 41.0**	**-0.4**
YKA	**Yellowknife Ar**	**96.42**	**28**	P	**P**	**00 48 41.0**	**-0.4**
	0.9nm,0.9s,mb4.2,baz=266,slow=4.7,SNR=8.3						
SANT	**Santorini**	**125.66**	**310**	PKPdf	PKPdf	00 54 14.7	+0.6
LPAZ	**La Paz**	**131.37**	**119**	PKP	PKPdf	00 54 28.2	+2.6
	1.0nm,0.8s,baz=271,slow=1.8,SNR=3.6						
ESLA	**Sonseca Array**	**142.49**	**333**	PKPdf	PKPdf	00 54 44.9	-0.5
BDFB	**Brasilia**	**147.87**	**135**	PKPbc	PKPbc	00 54 58.8	+0.4
	2.5nm,0.8s,baz=217,slow=2.7,SNR=5.9						

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*ISCJB **01** 00:50:22.3±0.4,2925N±004×12980E±008,h52km±5km, mb3.7/8,Error ellipse: s-maj=12.5km s-min=3.8km az=23.1*
*JMA **01** 00:50:22.2±0.3,2927N×12976E,h61km±4km,M3.9*
*NEIC **01** 00:50:24.4±0.8,29.19N×12982E,h55km±10km, MG3.9(JMA),Error ellipse: s-maj=14.7km s-min=8.0km az=115.0*
*IDC **01** 00:50:24.7±1.7,2921N×12981E,h58km±16km,mb3.4/8, mb1 3.7/12,mb1mx3.6/24,mbtmp3.5/12,MS4.3/1, Ms1 4.3/1,ms1mx3.4/15,Error ellipse: s-maj=23.4km s-min=10.9km az=100.0*

ISC 01 00:50:23.4±0.4**,2925N**±004×**12980E**±008**,h42**km±6km**, n27,**σ**1^{s}01**/36**,mb3.7**/8**,Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.60**	**7**	P	**Pn**	**00 50 35.0**	**-0.5**
JNN				eS	**Sn**	**00 50 43.9**	**-0.2**
JAM	**Amami Oshima**	**0.85**	**191**	P	**Pn**	**00 50 37.9**	**-1.0**
JAM				eS	**Sn**	**00 50 48.6**	**-1.6**
JZK	**Kikaishima**	**0.94**	**170**	P	**Pn**	**00 50 40.8**	**+0.6**
JZK				eS	**Sn**	**00 50 55.1**	**+2.7**
JKC	**Kuchinoerabu**	**1.26**	**16**	P	**Pn**	**00 50 43.9**	**-0.6**
JKC				S	**Sn**	**00 50 58.9**	**-1.4**
JTK	**Tokunoshima**	**1.64**	**207**	P	**Pn**	**00 50 49.5**	**-0.2**
JTK				eS	**Sn**	**00 51 08.6**	**-0.9**
JTN	**Tanegashima 3**	**1.74**	**36**	P	**Pn**	**00 50 50.1**	**-1.0**
JTN				eS	**Sn**	**00 51 11.7**	**-0.3**
JTSR	**Tashiro 2**	**2.15**	**27**	P	**Pn**	**00 50 56.2**	**-0.5**
JIH	**Iheya**	**2.73**	**217**	P	**Pn**	**00 51 04.1**	**-0.6**
JIH				eS	**Sn**	**00 51 36.0**	**-0.5**
JOW	**Kunigami**	**2.76**	**210**	P	**Pn**	**00 51 05.2**	**+0.1**
JOW				eS	**Sn**	**00 51 37.4**	**+0.3**
JOW	**Kunigami**	**2.76**	**210**	P	**Pn**	**00 51 05.6**	**+0.5**
	31nm,0.3s,baz=74,slow=11,SNR=91						
JOW				S	**Sn**	**00 51 38.5**	**+1.4**
	43nm,0.3s,baz=77,slow=28,SNR=6.1						
JAGN	**Aguni-jima**	**3.48**	**221**	P	**Pn**	**00 51 16.4**	**+1.4**
JAGN				eS	**Sn**	**00 51 55.4**	**+0.4**
JNU	**Nakatsue**	**3.97**	**13**	P	**Pn**	**00 51 23.9**	**+2.1**
	11nm,0.3s,baz=166,slow=7.5,SNR=38						
KSRS	**Korea Array**	**8.33**	**350**	P	**Pn**	**00 52 23.3**	**+1.7**
	0.2nm,0.3s,baz=169,slow=14,SNR=2.7						
MAJO	**Matsushiro**	**10.14**	**42**	Pn	**Pn**	**00 52 47.2**	**+0.9**
MJAR	**Matsushiro Arr**	**10.14**	**42**	P	**Pn**	**00 52 47.3**	**+0.9**
	0.9nm,0.3s,baz=252,slow=13,SNR=4.2						
ASAJ	**Asahikawa**	**18.01**	**31**	LR	LR	01 01 38.0	
	comp=Z,798nm,18.4s,baz=178,slow=37						
QIZ	**Qiongzhong**	**20.83**	**245**	P	**P**	**00 55 01.0**	**-0.4**
SONM	**Songino Array**	**25.90**	**322**	P	**P**	**00 55 52.4**	**+1.2**
	0.7nm,0.5s,mb3.4,baz=137,slow=9.7,SNR=5.7						
MKAR	**Makanchi Array**	**40.64**	**309**	P	**P**	**00 58 00.5**	**+1.2**
	0.3nm,0.7s,mb3.0,baz=98,slow=8.4,SNR=2.6						
BVAR	**Borovoye Array**	**49.00**	**316**	P	**P**	**00 59 05.8**	**+0.2**
	0.4nm,0.4s,mb3.8,baz=91,slow=12,SNR=3.5						
WRA	**Warramunga Arr**	**49.10**	**174**	P	**P**	**00 59 06.1**	**-0.5**
	1.6nm,0.6s,mb4.2,baz=354,slow=8.2,SNR=22						
ASAR	**Alice Springs**	**52.76**	**175**	P	**P**	**00 59 33.7**	**-0.4**
	1.3nm,0.5s,mb4.1,baz=8.8,slow=14,SNR=24						
FINES	**FINESS Array B**	**70.93**	**330**	P	**P**	**01 01 34.5**	**-1.4**
	1.8nm,0.8s,mb4.1,baz=46,slow=4.0,SNR=4.4						
AKASG	**Malin Array Be**	**74.15**	**319**	P	**P**	**01 01 54.0**	**-1.3**
AKASG	**Malin Array Be**	**74.15**	**319**	P	**P**	**01 01 54.0**	**-1.3**
	0.1nm,0.4s,mb3.1,baz=69,slow=5.7,SNR=3.0						
YKA	**Yellowknife Ar**	**75.22**	**26**	P	**P**	**01 02 01.8**	**+0.5**
YKA	**Yellowknife Ar**	**75.22**	**26**	P	**P**	**01 02 01.8**	**+0.5**
	0.4nm,0.6s,mb3.5,baz=306,slow=5.6,SNR=5.0						

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*NEIC **01** 00:58:14.2,3290S×6906W,h11km,ML3.5(GUC),After GUC.*
NEIC Felt at Mendoza.

GUC 01 00:58:14.2±0.6**,3290S**×**6906W,h11**km±2km**,MD4.1, ML3.5,8C-9D,Mendoza Province**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.12**	**247**	⇓iP	Pb	00 58 35.2	-0.4
FCH				i S	Sb	00 58 50.0	-0.2
FCH				AML	AML	00 58 51.8	
	comp=N,2μm,0.3s						
JACH	**Jahuel**	**1.31**	**279**	⇑iP	Pn	00 58 38.3	-0.1
JACH				i S	Sb	00 58 56.9	+1.3
SJCH	**San Jose de Ma**	**1.32**	**235**	⇑iP	Pn	00 58 38.7	+0.2
SJCH				i S	Sb	00 58 56.8	+1.0
CLCH	**Cerro Calan**	**1.34**	**248**	⇓iP	Pn	00 58 39.1	+0.3
CLCH				i S	Sb	00 58 57.5	+1.1
CLCH				AML	AML	00 59 04.3	
	comp=E,926nm,0.6s						
LMEL	**Las Melosas**	**1.35**	**225**	⇓iP	Pn	00 58 38.9	0.0
LMEL				i S	Sb	00 58 57.9	+1.2
PEL	**Peldehue**	**1.39**	**259**	⇑iP	Pn	00 58 39.7	+0.2
PEL				i S	Sn	00 58 58.8	+1.0
PCH	**Pirque**	**1.42**	**239**	⇓iP	Pn	00 58 40.4	+0.5
PCH				i S	Sn	00 59 00.3	+1.7
ANTU	**Antumapu**	**1.48**	**243**	⇑iP	Pn	00 58 41.6	+0.9
ANTU				i S	Sn	00 59 02.0	+1.9
ANTU	**Antumapu**	**1.48**	**243**	⇑iP	Pn	00 58 41.6	+0.9
ANTU				i S	Sn	00 59 02.0	+1.9
ANTU				AML	AML	00 59 03.2	
	comp=E,1μm,0.4s						
RCDM	**Rinconada Maip**	**1.58**	**248**	⇑iP	Pn	00 58 43.2	+1.0
RCDM				i S	Sn	00 59 05.4	+2.9
RCDM	**Rinconada Maip**	**1.58**	**248**	⇑iP	Pn	00 58 43.2	+1.0
RCDM				i S	Sn	00 59 05.4	+2.9
RCDM				AML	AML	00 59 12.0	
	comp=E,322nm,0.5s						
ROCH	**El Roble**	**1.65**	**267**	⇓iP	Pn	00 58 44.5	+1.5
ROCH				i S	Sn	00 59 07.1	+3.0
CHCH	**Chadas Angostu**	**1.69**	**232**	eP	Pn	00 58 44.8	+1.2
CHCH				i S	Sn	00 59 08.2	+3.0
TACH	**Talagante**	**1.75**	**244**	⇑iP	Pn	00 58 45.4	+1.0
TACH				i S	Sn	00 59 09.4	+2.7
CACH	**El Canelo**	**1.77**	**226**	⇓iP	Pn	00 58 46.4	+1.6
CACH				i S	Sn	00 59 11.2	+3.9
CICH	**Cipreses**	**1.82**	**218**	⇓iP	Pn	00 58 47.0	+1.6
CICH				i S	Sn	00 59 12.2	+3.7
LCCH	**Las Cruces**	**2.19**	**254**	i S	Sn	00 59 22.3	+4.8
LNV	**Longovilo**	**2.23**	**241**	eP	Pn	00 58 52.9	+1.8
CMCH	**Combarbala**	**2.38**	**316**	⇓iP	Pn	00 58 54.5	+1.4
CMCH				i S	Sn	00 59 26.5	+4.2
CMCH	**Combarbala**	**2.38**	**316**	⇓iP	Pn	00 58 54.5	+1.4
CMCH				i S	Sn	00 59 26.5	+4.2
CMCH				AML	AML	00 59 30.6	
	comp=N,2μm,0.8s						

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*ISCJB **01** 01:01:52.5±1.1,3463N±004×2501E±004,h2km±9km, Error ellipse: s-maj=6.2km s-min=5.6km az=178.9*
*CSEM **01** 01:01:53.3±0.1,3456N×2489E,h2km,MD3.6,Error ellipse: s-maj=4.2km s-min=3.4km az=91.0*
*HLW **01** 01:01:54.8,3484N×2492E,h33km,Mb3.2*
*ATH **01** 01:01:55.6,3483N×2495E,h11km±2km,MD3.6/10*
*NEIC **01** 01:01:55.7,3483N×2491E,h15km,MD3.6(ATH),After ATH.*

ISC 01 01:01:54.3±1.0**,3469N**±004×**2500E**±004**,h9**km±7km**,n24,** σ**1^{s}25**/33**,1C-2D,Crete**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.60**	**72**	ePB	**Pb**	**01 02 07.5**	**+0.6**
XRY				eSB	**Sb**	**01 02 15.5**	**0.0**
XRY	**Khrisi**	**0.60**	**72**	ePb	**Pb**	**01 02 07.8**	**+0.8**
XRY				eSn	**Sb**	**01 02 17.5**	**+2.0**
GVD	**Gavdhos**	**0.76**	**281**	ePB	**Pb**	**01 02 08.6**	**-1.0**
GVD				eSB	**Sb**	**01 02 19.5**	**-0.6**
NPS	**Neapolis**	**0.76**	**42**	⇓iPn	**Pg**	**01 02 09.1**	**+0.1**
NPS				eSn	**Sg**	**01 02 19.1**	**+0.2**
NPS	**Neapolis**	**0.76**	**42**	⇓iPG	**Pg**	**01 02 09.1**	**+0.1**
NPS				eSB	**Sb**	**01 02 18.0**	**-2.1**
VAM	**Vamos**	**0.96**	**318**	ePG	**Pg**	**01 02 11.5**	**-1.3**
SANT	**Santorini**	**1.72**	**13**	ePn	**Pn**	**01 02 24.2**	**-0.1**
SANT				eSn	**Sn**	**01 02 43.9**	**-2.4**
SANT	**Santorini**	**1.72**	**13**	ePn	**Pn**	**01 02 24.2**	**-0.1**
SANT				eSn	**Sn**	**01 02 43.8**	**-2.5**
KARP	**Karpathos**	**1.97**	**64**	ePn	**Pg**	**01 02 31.6**	**-0.4**
KARP	**Karpathos**	**1.97**	**64**	ePG	**Pg**	**01 02 31.5**	**-0.5**
KYTH	**Kithira**	**2.25**	**315**	ePn	**Pn**	**01 02 34.0**	**+2.4**
KYTH	**Kithira**	**2.25**	**315**	ePN	**Pn**	**01 02 33.5**	**+1.9**
APE	**Apeiranthos**	**2.41**	**10**	ePb	**Pn**	**01 02 34.3**	**+0.5**
APE	**Apeiranthos**	**2.41**	**10**	ePN	**Pn**	**01 02 35.0**	**+1.2**
VLI	**Veliai**	**2.62**	**321**	ePN	**Pn**	**01 02 38.0**	**+1.3**
ARG	**Arkhangelos**	**2.97**	**58**	ePB	**Pb**	**01 02 45.0**	**-2.4**
ARG	**Arkhangelos**	**2.97**	**58**	ePn	**Pn**	**01 02 43.2**	**+1.7**
SLUM		**3.20**	**177**	⇑P	**Pn**	**01 02 45.3**	**+0.6**
SMG	**Samos**	**3.36**	**26**	ePN	**Pn**	**01 02 48.9**	**+2.1**
ITM	**Ithomi**	**3.51**	**316**	ePn	**Pn**	**01 02 49.4**	**+0.4**
HMAT	**Matruh**	**4.00**	**153**	P	**Pn**	**01 02 56.1**	**+0.5**
HMAT				S	**Sn**	**01 03 41.0**	**-1.6**
SWA1		**5.45**	**173**	P	**Pn**	**01 03 16.0**	**+0.4**
SWA1				S	**Sn**	**01 04 15.0**	**-3.4**
SWA2		**5.45**	**176**	P	**Pn**	**01 03 15.5**	**-0.1**
AMAG	**Maghara**	**8.02**	**118**	P	**Pn**	**01 03 51.0**	**+0.1**

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*ISCJB **01** 01:19:02.5±0.3,722S±004×15535E±005,h10km, mb4.8/60,MS4.5/11,Error ellipse: s-maj=6.9km s-min=5.7km az=173.5*
*IDC **01** 01:19:02.7±0.5,7.17S×155.18E,h0km,mb4.6/13, mb1 4.7/14,mb1mx4.7/15,mbtmp4.5/14,ML3.3/1,MS4.1/4, Ms1 4.1/4,ms1mx3.6/22,Error ellipse: s-maj=23.9km s-min=15.2km az=91.0*
*NEIC **01** 01:19:04.1±0.2,722S×15532E,h10km,mb4.8/24,Error ellipse: s-maj=5.5km s-min=4.3km az=110.0*
*BJI **01** 01:19:05.3,666S×155.18E,h10km,mB5.2,mb4.9,Ms5.1, Msz4.8*
*MOS **01** 01:19:06.0±0.9,7.17S×15534E,h33km,mb4.9/13,Error ellipse: s-maj=12.7km s-min=9.0km az=109.8*

ISC 01 01:19:04.9±1.8**,724S**±005×**15534E**±005**,h14**km±11km**, h16**km±1.1km**:pP-P,n141,**σ**0^{s}88**/134**,mb4.8**/60**,MS4.5**/11**, 4C-2D,Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.05**	**116**	eP	**Pn**	**01 20 21.4**	**+1.1**
HNR				e		01 21 18.6	
HNR				pmax	pmax		
	comp=Z,427nm,0.8s						
HNR	**Honiara**	**5.05**	**116**	ePn	**Pn**	**01 20 21.4**	**+1.1**
	comp=Z,427nm,0.8s						
HNR				eSn	**Sn**	**01 21 18.6**	**0.0**
HNR	**Honiara**	**5.05**	**116**	Pn	**Pn**	**01 20 25.5**	**+5.2**
	comp=Z,16nm,0.3s,baz=249,slow=2.3,SNR=9.4						
HNR				Sn	**Sn**	**01 21 28.0**	**+9.5**
	comp=Z,24nm,0.3s,baz=255,slow=17,SNR=5.0						
HNR				LR	LR	01 22 02.6	
	comp=Z,2μm,19.4s,baz=345,slow=34						
COEN	**Coen**	**13.69**	**240**	Pn	**Pn**	**01 22 19.8**	**+1.0**
	comp=Z,6.2nm,0.8s						
CTA	**Charters Tower**	**15.52**	**214**	eP	**Pn**	**01 22 49.2**	**+5.8**
	comp=Z,7.3nm,0.8s						
CTA	**Charters Tower**	**15.52**	**214**	eP	**Pn**	**01 22 49.2**	**+5.8**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CTA	**Charters Tower**	**15.52**	**214**	Pn	**Pn**	**01 22 42.4**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=21,slow=18,SNR=3.2						
CTAO	**Charters Tower**	**15.52**	**214**	eP	**Pn**	**01 22 41.9**	**-1.5**
EIDS	**Eidsvold**	**18.48**	**192**	eP	**Pn**	**01 23 21.6**	**+0.9**
	comp=Z,19nm,1.5s						
KAKA	**Kakadu**	**23.19**	**255**	eP	**P**	**01 24 11.0**	**-0.6**
	comp=Z,23nm,0.6s,mb4.8						
ARMA	**Armidale**	**23.32**	**188**	eP	**P**	**01 24 12.9**	**+0.1**
	comp=Z,0.4nm,0.3s						
WRAB	**Tennant Creek**	**23.95**	**236**	P	**P**	**01 24 19.0**	**+0.1**
	comp=Z,247nm,1.1s,mb5.5,SNR=9.2						
WRAB	**Tennant Creek**	**23.95**	**236**	i P	**P**	**01 24 18.7**	**-0.2**
WRAB	**Tennant Creek**	**23.95**	**236**	eP	**P**	**01 24 18.8**	**-0.1**
	comp=Z,149nm,1.6s,mb5.2						
WB2	**Warramunga Arr**	**23.95**	**236**	eP	**P**	**01 24 18.5**	**-0.5**
WB2	**Warramunga Arr**	**23.95**	**236**	eP	**P**	**01 24 19.0**	**+0.1**
WB2				ePcP	PcP	01 28 01.5	+0.1
WRA	**Warramunga Arr**	**23.96**	**236**	P	**P**	**01 24 19.4**	**+0.3**
WRA						01 28 01.3	
WRA	**Warramunga Arr**	**23.96**	**236**	P	**P**	**01 24 19.4**	**+0.3**
	comp=Z,20nm,0.9s,mb4.6,baz=62,slow=9.3,SNR=65						
WRA				PcP	PcP	01 28 01.3	-0.1
	comp=Z,2.0nm,0.7s,baz=53,slow=2.5,SNR=8.6						
WRA				ScP	ScP	01 31 40.6	+1.0
	comp=Z,3.3nm,1.2s,baz=60,slow=2.7,SNR=7.0						
ASAR	**Alice Springs**	**26.27**	**229**	P	**P**	**01 24 39.3**	**-0.7**
ASAR						01 28 06.9	
ASAR	**Alice Springs**	**26.27**	**229**	P	**P**	**01 24 39.3**	**-0.7**
	comp=Z,4.8nm,0.9s,mb4.0,baz=60,slow=9.1,SNR=37						
ASAR				PcP	PcP	01 28 06.8	+0.4
	comp=Z,1.9nm,1.0s,baz=44,slow=4.3,SNR=4.1						
ASAR				ScP	ScP	01 31 48.8	+2.7
	comp=Z,2.7nm,0.8s,baz=53,slow=2.5,SNR=16						
STKA	**Stephens Creek**	**27.66**	**206**	eP	**P**	**01 24 52.2**	**-0.3**
	comp=Z,18nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**27.66**	**206**	eP	**P**	**01 24 52.1**	**-0.4**
STKA				ePcP	PcP	01 28 09.7	+0.1
STKA	**Stephens Creek**	**27.66**	**206**	P	**P**	**01 24 51.5**	**-1.0**
	comp=Z,25nm,0.8s,mb4.9,baz=25,slow=11,SNR=24						
FITZ	**Fitzroy Crossi**	**30.87**	**247**	eP	**P**	**01 25 20.5**	**-0.6**
	comp=Z,17nm,0.8s,mb4.9						
RAO	**Raoul Island**	**33.37**	**134**	P	**P**	**01 25 43.1**	**+0.2**
KAPI	**Kappang**	**35.45**	**272**	P	**P**	**01 26 00.4**	**-0.8**
	comp=Z,190nm,1.2s,mb5.9,SNR=5.1						
TAU	**Tasmania Unive**	**36.23**	**190**	eP	**P**	**01 26 07.7**	**+0.3**
TAU				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.2						
TAU	**Tasmania Unive**	**36.23**	**190**	eP	**P**	**01 26 07.7**	**+0.3**
	comp=Z,49nm,1.4s,mb5.2						
MBWA	**Marble Bar**	**37.08**	**244**	eP	**P**	**01 26 14.2**	**-0.8**
	comp=Z,10.0nm,0.8s,mb4.7						
RPZ	**Rata Peaks**	**38.86**	**162**	P	**P**	**01 26 30.9**	**+1.2**
	comp=Z,13nm,0.3s,mb5.1,baz=291,slow=4.2,SNR=4.5						
KLBR	**Kellerberrin**	**42.59**	**230**	eP	**P**	**01 26 59.7**	**-1.1**
	comp=Z,50nm,1.2s,mb5.1						
JOW	**Kunigami**	**42.84**	**323**	LR	LR	01 40 14.9	
	comp=Z,259nm,21.3s,MS4.1,baz=286,slow=30						
NACB	**Ninganchiao**	**45.37**	**315**	eP	**P**	**01 27 23.4**	**+0.3**
KSM	**Kuching**	**45.76**	**279**	P	**P**	**01 27 26.7**	**+0.3**
YHNB	**Yeheng**	**45.84**	**315**	eP	**P**	**01 27 27.1**	**+0.3**
JNU	**Nakatsue**	**46.39**	**331**	LR	LR	01 44 01.0	
	comp=Z,128nm,19.9s,MS3.9,baz=310,slow=32						
MJAR	**Matsushiro Arr**	**46.42**	**341**	P	**P**	**01 27 31.7**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=176,slow=8.5,SNR=3.3						
QZH	**Quanzhou**	**47.99**	**313**	P	**P**	**01 27 43.7**	**0.0**
QZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.7						
KSRS	**Korea Array**	**51.31**	**332**	P	**P**	**01 28 05.9**	**-2.8**
	comp=Z,2.8nm,0.9s,mb4.2,baz=153,slow=8.2,SNR=6.7						
QIZ	**Qiongzhong**	**51.88**	**301**	P	**P**	**01 28 14.3**	**+1.0**
QIZ	**Qiongzhong**	**51.88**	**301**	P	**P**	**01 28 13.2**	**-0.1**
NJ2	**Nanjing**	**52.32**	**320**	eP	**P**	**01 28 17.2**	**+0.8**
NJ2				AP	pP	01 28 22.0	+1.2
NJ2				XP	sP	01 28 24.8	+2.3
NJ2				PCP	PcP	01 29 27.9	+0.4
NJ2				S	**S**	**01 35 41.5**	**-0.1**
NJ2				XS	sS	01 35 49.0	+0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,180nm,4.9s						
NJ2				LR	LR		
	comp=N,520nm,13.2s,MS4.9						
NJ2				LR	LR		
	comp=E,600nm,13.7s,MS4.9						
NJ2				LR	LR		
	comp=Z,600nm,13.7s,MS4.8						
ASAJ	**Asahikawa**	**52.40**	**348**	LR	LR	01 48 09.2	
	comp=Z,154nm,19.1s,MS4.1,baz=210,slow=33						
KULM	**Kulim**	**55.97**	**281**	eP	**P**	**01 28 42.8**	**-0.6**
MDJ	**Mudanjiang**	**56.59**	**338**	P	**P**	**01 28 47.8**	**+0.6**
MDJ				AP	pP	01 28 51.1	-0.6
MDJ				AMB	AMB		
	comp=Z,9.0nm,2.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,258nm,12.8s						
MDJ				LR	LR		
	comp=N,118nm,24.5s,MS3.9						
MDJ				LR	LR		
	comp=E,59nm,28.3s,MS3.9						
MDJ	**Mudanjiang**	**56.59**	**338**	P	**P**	**01 28 47.5**	**+0.3**
CN2	**Changchun**	**57.55**	**335**	eP	**P**	**01 28 55.7**	**+1.7**
CN2				eXP	sP	01 29 03.0	+2.8
CN2				eS	**S**	**01 36 51.5**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,1μm,16.0s,MS5.3						
CN2				LR	LR		
	comp=E,1μm,16.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2μm,18.0s,MS5.2						
COCO	**West Island**	**57.79**	**260**	eP	**P**	**01 28 56.4**	**+0.1**
GYA	**Guiyang**	**57.87**	**307**	⇓iP	**P**	**01 28 57.2**	**+0.6**
GYA				AP	pP	01 29 01.8	+0.7
GYA				XP	sP	01 29 05.2	+2.4
GYA				PCP	PcP	01 29 50.9	+1.9
GYA				PP	PP	01 31 09.5	+4.4
GYA				SCP	ScP	01 33 49.7	+0.7
GYA				S	**S**	**01 36 57.8**	**+1.6**
GYA				PS		01 37 11.4	
GYA				SCS	ScS	01 38 45.2	-1.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,9.0s						
GYA				LR	LR		
	comp=N,480nm,17.8s,MS4.8						
GYA				LR	LR		
	comp=E,557nm,18.7s,MS4.8						
GYA				LR	LR		
	comp=Z,490nm,17.5s,MS4.7						
BJT	**Baijiatuau**	**59.30**	**326**	eP	**P**	**01 29 06.1**	**-0.2**
BJI	**Beijing**	**59.31**	**326**	P	**P**	**01 29 05.4**	**-1.0**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
NANT	**Nan**	**59.75**	**297**	P	**P**	**01 29 10.0**	**+0.2**
KLR	**Kul'dur**	**59.90**	**342**	eP	**P**	**01 29 06.2**	**-4.0**
PET	**Petropavlovsk**	**60.09**	**2**	⇓iP	**P**	**01 29 12.4**	**+0.9**
PET				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.1						
PET	**Petropavlovsk**	**60.09**	**2**	eP	**P**	**01 29 11.5**	**0.0**
	comp=Z,16nm,1.0s,mb5.0						
XAN	**Xi'an**	**60.12**	**316**	P	**P**	**01 29 11.6**	**-0.5**
XAN				AP	pP	01 29 18.6	+2.0
XAN				XP	sP	01 29 22.1	+3.8
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
KMI	**Kunming**	**60.44**	**304**	P	**P**	**01 29 16.2**	**+1.8**
KMI				AP	pP	01 29 20.7	+1.8
KMI				AMB	AMB		
	comp=Z,31nm,1.3s,mb5.2						
CM31	**Chiang Mai Arr**	**61.20**	**296**	eP	**P**	**01 29 18.9**	**-0.9**
CHG	**Chiang Mai**	**61.31**	**296**	⇑P	**P**	**01 29 22.3**	**+1.8**
	comp=Z,18nm,1.0s,mb5.2						
CHTO	**Chiang Mai**	**61.31**	**296**	eP	**P**	**01 29 21.9**	**+1.4**
CD2	**Chengdu**	**62.23**	**310**	⇑iP	**P**	**01 29 26.8**	**+0.3**
CD2				AP	pP	01 29 31.4	+0.4
CD2				XP	sP	01 29 34.8	+2.1
CD2				PP	PP	01 31 46.1	+2.5
CD2				S	**S**	**01 37 50.8**	**-1.4**
CD2				XS	sS	01 37 59.2	-0.4
CD2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,270nm,12.0s						
CD2				LR	LR		
	comp=Z,340nm,15.6s,MS4.6						
HHC	**Hu-ho-hao-te**	**62.49**	**324**	eP	**P**	**01 29 29.7**	**+1.7**
HHC				PCP	PcP	01 30 09.9	+2.7
HHC				PP	PP	01 31 50.5	+4.8
HHC				SCP	ScP	01 34 07.4	-1.7
HHC				S	**S**	**01 37 56.6**	**+1.5**
HHC				XS	sS	01 38 03.9	+1.4
HHC				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,633nm,9.4s						
HHC				LR	LR		
	comp=N,464nm,14.5s,MS4.9						
HHC				LR	LR		
	comp=E,482nm,15.1s,MS4.9						
HHC				LR	LR		
	comp=Z,584nm,15.7s,MS4.8						
HIA	**Hailar**	**64.28**	**335**	eP	**P**	**01 29 39.0**	**-0.7**
LZH	**Lanzhou**	**64.73**	**315**	eP	**P**	**01 29 44.0**	**+1.1**
LZH				AP	pP	01 29 48.7	+1.3
LZH				XP	sP	01 29 51.2	+2.1

LZH PP PP 01 32 09.3 +3.8
LZH eS **S** **01 38 23.1 0.0**
LZH XS sS 01 38 33.2 +2.6
LZH AMB AMB
comp=Z,24nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,105nm,7.1s
LZH LR LR
comp=E,437nm,14.5s
LZH LR LR
comp=Z,793nm,18.3s,MS4.9
MA2 Magadan 66.70 357 eP **P** **01 29 54.5 -0.6**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb5.3
MA2 pmax pmax
comp=N,7.0nm,0.8s
MA2 Magadan 66.70 357 eP **P** **01 29 55.1 0.0**
comp=N,15nm,0.8s,mb5.1
GTA Gaotai 69.15 317 eP **P** **01 30 11.9 +0.9**
GTA AP pP 01 30 16.3 +0.8
GTA XP sP 01 30 19.3 +2.1
GTA PCP PcP 01 30 36.6 +1.7
GTA AMB AMB
comp=Z,7.0nm,1.3s,mb4.4
ULN Ulaanbaatar 69.39 328 eP **P** **01 30 11.7 -0.6**
ULN Ulaanbaatar 69.39 328 eP **P** **01 30 12.4 +0.1**
comp=Z,5.5nm,0.9s,mb4.5
SONM Songino Array 69.72 327 P **P** **01 30 14.4 +0.1**
comp=Z,6.6nm,0.9s,mb4.6,baz=132,slow=5.8,SNR=34
SEY Seymchan 70.00 359 eP **P** **01 30 15.0 -0.7**
VNDA Vanda 70.33 178 eP **P** **01 30 18.7 +1.0**
VNDA pmax pmax
comp=Z,3.0nm,0.8s
VNDA Vanda 70.33 178 eP **P** **01 30 18.7 +1.1**
comp=Z,3.1nm,0.8s,mb4.3
VNDA Vanda 70.33 178 P **P** **01 30 18.9 +1.2**
comp=Z,2.9nm,0.9s,mb4.2,baz=320,slow=6.7,SNR=6.0
LSA Lhasa 71.69 304 P **P** **01 30 28.0 +1.2**
LSA Lhasa 71.69 304 eP **P** **01 30 27.2 +0.4**
LSA pmax pmax
comp=Z,16nm,1.0s,mb4.9
LSA Lhasa 71.69 304 eP **P** **01 30 27.2 +0.5**
comp=Z,16nm,1.0s,mb4.9
YAK Yakutsk 71.86 348 P **P** **01 30 27.3 +0.2**
ZAK Zakamensk 72.88 328 eP **P** **01 30 32.3 -1.1**
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BOD Bodaibo 72.97 338 eP **P** **01 30 30.7 -3.0**
BOD pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
TLY Talaya 73.44 329 eP **P** **01 30 37.6 +0.9**
TLY e 01 40 10.1
TLY pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
TLY MLR MLR
comp=Z,319nm,13.0s,MS4.8
MOY Mondy 74.80 328 eP **P** **01 30 44.7 +0.1**
BILL Bilibino 75.50 4 eP **P** **01 30 48.4 +0.1**
BILL pmax pmax
comp=Z,17nm,1.1s,mb4.9
BILL Bilibino 75.50 4 eP **P** **01 30 48.4 +0.1**
comp=Z,17nm,1.1s,mb4.9
GUN Gumba 75.54 301 eP **P** **01 30 49.8 +0.4**
comp=Z,57nm,0.8s,mb5.5
PKI Pulchoki 75.84 301 eP **P** **01 30 51.5 +0.3**
comp=Z,25nm,0.8s,mb5.2
PKIN Phulchoki 75.86 301 eP **P** **01 30 51.5 +0.3**
comp=Z,18nm,0.7s,mb5.1
KKN Kakani 76.01 301 eP **P** **01 30 52.4 +0.3**
comp=Z,27nm,0.8s,mb5.2
DMN Daman 76.11 301 eP **P** **01 30 53.5 +0.8**
comp=Z,52nm,0.8s,mb5.5
GKN Gorkha 76.62 301 eP **P** **01 30 55.8 +0.2**
KOLN Koldanda 77.44 300 eP **P** **01 31 00.4 +0.2**
comp=Z,33nm,1.0s,mb5.2
DANN Dangsing 77.46 301 eP **P** **01 30 59.9 -0.4**
comp=Z,28nm,0.9s,mb5.2
TTA Tatalina 79.13 20 eP **P** **01 31 09.1 +0.3**
TTA 01 31 17.5
TTA pmax pmax
comp=Z,19nm,1.3s,mb4.9
TTA Tatalina 79.13 20 eP **P** **01 31 09.1 +0.3**
comp=Z,19nm,1.3s,mb4.9
TTA PcP PcP 01 31 17.5 +0.4
WMQ Urumqi 79.23 317 eP **P** **01 31 10.0 +0.2**
WMQ AMB AMB
comp=Z,20nm,1.0s,mb5.0
SLKM Skilak Lake 79.82 24 P **P** **01 31 12.4 -0.2**
TIXI Tiksi 80.64 352 eP **P** **01 31 16.6 -0.2**
TIXI pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
TIXI Tiksi 80.64 352 eP **P** **01 31 16.9 +0.1**
comp=Z,19nm,1.8s,mb4.7
PMR Palmer 80.87 24 P **P** **01 31 16.7 -1.5**
IMA2 Indian Mountai 81.92 19 eP **P** **01 31 23.4 -0.3**
MCK McKinley 82.15 22 eP **P** **01 31 24.2 -0.7**
MCK pmax pmax
comp=Z,22nm,1.0s,mb5.0
MCK McKinley 82.15 22 eP **P** **01 31 24.2 -0.7**
comp=Z,22nm,1.0s,mb5.0
COLA College 83.18 21 eP **P** **01 31 28.3 -2.0**
COLA College 83.18 21 eP **P** **01 31 29.2 -1.1**
comp=Z,14nm,1.0s,mb5.0
MK31 Makanchi Array 83.81 319 eP **P** **01 31 33.6 -0.3**
MKAR Makanchi Array 83.81 319 i P **P** **01 31 33.2 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 83.81 319 P **P** **01 31 33.3 -0.6**
comp=Z,2.7nm,0.7s,mb4.5,baz=100,slow=5.6,SNR=17
MAW Mawson 84.31 203 P **P** **01 31 35.1 -1.0**
comp=Z,5.1nm,0.3s,mb5.2,baz=97,slow=5.1,SNR=10
ZALV Zalesovo Beam 84.57 326 P **P** **01 31 36.0 -1.6**
comp=Z,1.7nm,0.5s,mb4.4,baz=124,slow=5.2,SNR=8.9
ZAL Zalesovo 84.58 326 P **P** **01 31 36.0 -1.7**
EGAK Eagle 85.61 23 eP **P** **01 31 43.2 +0.6**
NVS Novosibirsk 85.74 326 eP **P** **01 31 41.9 -1.6**
NVS pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
DAWY Dawson 85.98 24 eP **P** **01 31 44.4 0.0**
KSH Kashi 86.43 310 eP **P** **01 31 50.0 +2.8**
KSH eAP pP 01 31 54.1 +2.2
KSH eXP sP 01 31 57.1 +3.5
KSH ePPP 01 36 12.1
KSH eSKS 01 42 14.1
KSH eS S 01 42 25.6 +2.5
KSH eXS sS 01 42 34.1 +3.3
KSH ePS 01 43 30.5
KSH AMB AMB
comp=Z,466nm,4.3s
KSH LR LR
comp=N,1μm,5.6s
KSH LR LR
comp=E,883nm,5.9s
KSH LR LR
comp=Z,1μm,9.9s
KURK Kurchatov 87.23 322 eP **P** **01 31 49.1 -1.8**
KURK Kurchatov 87.23 322 eP **P** **01 31 49.8 -1.1**
comp=Z,1.7nm,0.9s,mb4.3
TKM2 Tokmak 2 87.43 314 P **P** **01 31 52.4 +0.4**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
TKM2 Tokmak 2 87.43 314 P **P** **01 31 52.4 +0.4**
comp=Z,1.8nm,0.6s,mb4.5
UCH Uchtor 88.07 313 eP **P** **01 31 56.3 +1.1**
comp=Z,3.9nm,1.2s,mb4.5
AAK Ala-Archa 88.17 313 eP **P** **01 31 55.2 -0.4**
AAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
AAK Ala-Archa 88.17 313 eP **P** **01 31 55.3 -0.3**
comp=Z,3.9nm,1.1s,mb4.5
AML Almayashu 88.65 313 eP **P** **01 31 58.4 +0.5**
comp=Z,2.4nm,0.8s,mb4.6
EKS2 Erkin-Say 88.69 313 eP **P** **01 31 58.4 +0.3**
comp=Z,1.7nm,0.8s,mb4.4
INK Inuvik 89.82 21 eP **P** **01 32 02.6 -0.2**
NVAR Mina Array Bea 91.60 52 P **P** **01 32 13.1 +1.4**
comp=Z,1.4nm,1.1s,mb4.2,baz=237,slow=3.5,SNR=6.2
SYO Syowa Base 92.21 199⇑ eP **P** **01 32 12.7 -1.3**
SYO Syowa Base 92.21 199⇑ eSP sP 01 32 19.0 -1.3
BRVK Borovoye 92.76 323 eP **P** **01 32 15.9 -0.9**
YKA Yellowknife Ar 96.39 28 P **P** **01 32 32.9 -0.2**
YKA PKKPbc PKKPbc 01 49 17.6 -3.4
YKA Yellowknife Ar 96.39 28 P **P** **01 32 32.9 -0.2**
comp=Z,2.4nm,0.8s,mb4.7,baz=264,slow=4.5,SNR=30
YKA PKKPbc PKKPbc 01 49 17.6 -3.4
comp=Z,0.3nm,0.9s,baz=81,slow=3.0,SNR=3.7
WMOK Wichita Mounta 107.13 56 PKiKP PKiKP 01 37 30.3 -0.8
KIV Kislovodsk 111.26 314 PKIKP PKIKP 01 37 39.4 +0.8
KIV Kislovodsk 111.26 314 PKiKP PKiKP 01 37 39.4 +0.8
OBN Obninsk 112.14 327 eP Pdif 01 33 39.7 -3.8
OBN e 01 44 17.9
OBN eSS SS 01 54 01.3 -0.6
OBN pmax pmax
comp=Z,4.0nm,1.5s
AKASG Malin Array Be 117.94 324 PKP PKPdf 01 37 51.0 -0.2
comp=Z,0.1nm,0.3s,baz=59,slow=2.1,SNR=3.5
NNA Nana 124.71 110 ePKPdf PKPdf 01 38 04.8 -0.4
GERES GERESS Array B 127.44 329 PKP PKPdf 01 38 09.7 +0.2
comp=Z,0.7nm,0.8s,baz=64,slow=3.1,SNR=5.7
LPAZ La Paz 131.04 119 PKP PKPdf 01 38 17.7 +0.4
LPAZ ePKPdf PKPdf 01 38 18.6 +1.3
LPAZ SKPbc SKPbc 01 41 44.5 +3.0
LPAZ La Paz 131.04 119 PKP PKPdf 01 38 17.7 +0.4
comp=Z,4.0nm,1.0s,baz=312,slow=0.4,SNR=12
LPAZ SKPbc SKPbc 01 41 44.5 +3.0
comp=Z,3.8nm,1.0s,baz=286,slow=5.0,SNR=12
CPUP Villa Florida 133.97 138 PKP PKPdf 01 38 23.1 +0.5
comp=Z,1.3nm,0.6s,baz=191,slow=3.8,SNR=7.0
CPUP SKPbc SKPbc 01 41 54.0 +2.4
comp=Z,2.0nm,0.9s,baz=239,slow=3.2,SNR=5.2
BDFB Brasilia 147.57 135 PKPbc PKPbc 01 38 48.6 -1.2
comp=Z,16nm,0.9s,baz=202,slow=2.7,SNR=29

IDC 01 01:28:01.4±0.9,2335N×14330E,h0km,mb3.7/8, mb1 3.9/9,mb1mx3.8/18,mbtmp3.7/9,ML3.5/1,Error ellipse: s-maj=33.1km s-min=18.7km az=79.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**3.87**	**345**	Pn	Pn	01 29 01.6	-0.5
	5.2nm,0.3s,baz=252,slow=22,SNR=7.7						
CBIJ				Sn	Sn	01 29 47.6	-0.7
	41nm,0.3s,baz=286,slow=23,SNR=13						
SONM	**Songino Array**	**38.15**	**319**	P	P	01 35 21.8	-0.5
	0.3nm,0.6s,baz=126,slow=7.3,SNR=2.9						
WRA	**Warramunga Arr**	**43.91**	**192**	P	P	01 36 09.2	-0.7
	0.3nm,0.3s,baz=16,slow=9.0,SNR=22						
ZALV	**Zalesovo Beam**	**53.00**	**321**	P	P	01 37 19.9	+0.1
	0.3nm,0.3s,baz=109,slow=7.8,SNR=2.5						
MKAR	**Makanchi Array**	**53.67**	**312**	P	P	01 37 25.9	+1.0
	1.3nm,0.7s,baz=90,slow=9.5,SNR=14						
STKA	**Stephens Creek**	**54.94**	**182**	P	P	01 37 34.1	0.0
	3.0nm,0.8s,baz=356,slow=20,SNR=3.4						
YKA	**Yellowknife Ar**	**74.95**	**28**	P	P	01 39 42.3	-1.8
	0.1nm,0.5s,baz=292,slow=5.8,SNR=3.2						
FINES	**FINESS Array B**	**81.75**	**334**	P	P	01 40 22.4	+0.7
	0.8nm,0.6s,baz=64,slow=6.3,SNR=3.8						
NVAR	**Mina Array Bea**	**82.04**	**52**	P	P	01 40 26.0	+2.3
	0.3nm,0.7s,baz=267,slow=3.5,SNR=3.0						

*ISCJB **01** 01:45:21.5±0.9,7.14S±003×155.10E±003,h4km±5km, mb5.3/84,MS5.4/193,Error ellipse: s-maj=5.5km s-min=5.2km az=11.3*

*IDC **01** 01:45:22.2±0.5,7.16S×155.01E,h0km,mb4.9/14, mb1 5.0/16,mb1mx5.0/17,mbtmp4.9/16,ML4.1/2,MS5.3/17, Ms1 5.3/17,ms1mx5.2/20,Error ellipse: s-maj=19.0km s-min=14.8km az=89.0*

*BJI **01** 01:45:22.0,7.31S×155.42E,h21km,mB5.7,mb5.1,Ms5.5, Msz5.2*

*GCMT **01** 01:45:23.7±0.1,7.51S×155.14E,h12km,MW5.8/113, Moment Tensor Solution. s107,c213; s113,c331; Duration: 2±0 Moment tensor: Scale 10^{17}Nm; M_{rr}4.84±.05; $M_{\theta\theta}$-3.00±.04; $M_{\phi\phi}$-1.84±.05; $M_{r\theta}$3.63±.16; $M_{r\phi}$2.86±.04; $M_{\theta\phi}$-2.63±.15; Best double couple: $M_0$6.78200×10^{17} NP1:ϕ_s312.00000°,δ24.00000°, λ95.00000°. NP2:ϕ_s127.00000°,δ66.00000°,λ88.00000°. Principal axes: T 6.5380, Plg69.0000°, Azm33.0000°; N 0.4890, Plg2.0000°, Azm128.0000°; P -7.0270, Plg21.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*NEIC **01** 01:45:23.7±0.2,7.17S×155.11E,h10km,mb5.5/29, MS5.5/164,MW5.7 Error ellipse: s-maj=6.5km s-min=4.7km az=118.0,Moment Tensor Solution. s19 Moment tensor: Scale 10^{17}Nm; M_{rr}1.45; $M_{r\theta}$-0.36; $M_{\theta\theta}$-1.08; $M_{r\phi}$2.62; $M_{\theta\phi}$0.55; $M_{\phi\phi}$-3.55; Best double couple: $M_0$4.60000×10^{17} NP1:ϕ_s338.00000°,δ9.00000°, λ104.00000°. NP2:ϕ_s144.00000°,δ81.00000°,λ88.00000°. Principal axes: T 4.6800, Plg54.0000°, Azm51.0000°; N -0.0900, Plg2.0000°, Azm144.0000°; P -4.5900, Plg36.0000°, Azm236.0000°;*

*MOS **01** 01:45:25.9±1.2,7.08S×155.05E,h33km,mb5.4/13, MS5.3/37 Error ellipse: s-maj=9.1km s-min=6.6km az=88.2*

ISC 01 01:45:25.2±1.0,7.18S±003×15515E±003,h18km±6km, h26km±3.4km:pP-P,n428,σ1°19/268,mb5.3/84,MS5.4/193, 24C-14D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.25**	**116**	P	**Pn**	**01 46 43.5**	**+0.6**
HNR				pmax	pmax		
	comp=Z,2μm,1.2s						
HNR	**Honiara**	**5.25**	**116**	Pn	**Pn**	**01 46 43.5**	**+0.6**
	comp=Z,2μm,1.2s						
HNR	**Honiara**	**5.25**	**116**	Pn	**Pn**	**01 46 45.1**	**+2.2**
	comp=Z,11nm,0.3s,baz=271,slow=14,SNR=2.7						
HNR				Sn	**Sb**	**01 47 59.4**	**+0.1**
	comp=Z,12nm,0.3s,baz=278,slow=19,SNR=2.3						
HNR				LR	LR	01 48 43.3	
	comp=Z,38μm,19.0s,baz=339,slow=37						
COEN	**Coen**	**13.56**	**239**	ePn	**Pn**	**01 48 36.2**	**-0.7**
	comp=Z,67nm,1.2s						
CTA	**Charters Tower**	**15.46**	**213**	eP	**Pn**	**01 49 02.4**	**-0.2**
	comp=Z,44nm,1.0s						
CTA				eS	**Sn**	**01 52 05.5**	**+12**
CTA	**Charters Tower**	**15.46**	**213**	eP	**Pn**	**01 49 02.4**	**-0.2**
CTA				pmax	pmax		
	comp=Z,44nm,1.0s						
CTA	**Charters Tower**	**15.46**	**213**	Pn	**Pn**	**01 49 02.5**	**-0.1**
	comp=Z,0.4nm,0.3s,baz=32,slow=14,SNR=19						
CTA				LR	LR	01 54 07.2	
	comp=Z,30μm,21.0s,baz=33,slow=34						
CTAO	**Charters Tower**	**15.46**	**213**	eP	**Pn**	**01 49 02.2**	**-0.4**
CTAO				pmax	pmax		
	comp=Z,314nm,1.7s						
CTAO	**Charters Tower**	**15.46**	**213**	ePn	**Pn**	**01 49 02.2**	**-0.4**
	comp=Z,314nm,1.7s						
DZM	**Mont Dzumac**	**18.38**	**145**	eP	**Pn**	**01 49 39.9**	**+0.5**
EIDS	**Eidsvold**	**18.50**	**192**	eP	**Pn**	**01 49 39.7**	**-1.1**
	comp=Z,76nm,1.3s						
EIDS				ePcP	PcP	01 54 08.2	-2.3
TLE	**Tual**	**22.32**	**273⇑**	eP	**P**	**01 50 27.0**	**+4.7**
KAKA	**Kakadu**	**23.03**	**254**	eP	**P**	**01 50 28.0**	**-1.7**
	comp=Z,410nm,1.4s,mb5.7						
KAKA				eS	**S**	**01 54 40.7**	**+0.9**
ARMA	**Armidale**	**23.35**	**188**	eP	**P**	**01 50 31.3**	**-1.6**
WRAB	**Tennant Creek**	**23.83**	**236**	d iP	**P**	**01 50 35.3**	**-2.3**
WRAB	**Tennant Creek**	**23.83**	**236**	eP	**P**	**01 50 36.2**	**-1.4**
WRAB				LR	LR		
	comp=Z,15μm,19.0s,MS5.5						
WB2	**Warramunga Arr**	**23.83**	**236**	eP	**P**	**01 50 36.6**	**-1.0**
WB2				eS	**S**	**01 54 48.9**	**-3.9**
WRA	**Warramunga Arr**	**23.84**	**236**	i P	**P**	**01 50 36.0**	**-1.7**
WRA				pmax	pmax		
	comp=Z,161nm,1.0s						
WRA	**Warramunga Arr**	**23.84**	**236**	P	**P**	**01 50 36.1**	**-1.6**
	comp=Z,161nm,1.0s,mb5.4,baz=61,slow=9.4,SNR=98						
WRA				ScP	ScP	01 58 01.0	+2.3
	comp=Z,4.6nm,1.2s,baz=68,slow=1.8,SNR=5.4						
WRA				LR	LR	01 59 38.7	
	comp=Z,13μm,19.6s,MS5.4,baz=55,slow=36						
ASAR	**Alice Springs**	**26.17**	**229**	P	**P**	**01 50 56.6**	**-2.3**
	comp=Z,64nm,1.1s,mb5.1,baz=61,slow=9.0,SNR=47						
ASAR				ScP	ScP	01 58 07.5	+2.4
	comp=Z,4.7nm,1.0s,baz=60,slow=3.7,SNR=8.2						
RIV	**Riverview**	**26.78**	**187**	eP	**P**	**01 51 06.1**	**+1.9**
STKA	**Stephens Creek**	**27.64**	**205**	eP	**P**	**01 51 09.8**	**-2.2**
	comp=Z,52nm,1.0s,mb5.1						
STKA	**Stephens Creek**	**27.64**	**205**	P	**P**	**01 51 12.2**	**+0.2**
	comp=Z,76nm,1.0s,mb5.3,baz=7.7,slow=8.4,SNR=16						
STKA				LR	LR	02 01 51.8	
	comp=Z,23μm,19.6s,MS5.8,baz=21,slow=36						
CNB	**Canberra Magne**	**28.50**	**190**	eP	**P**	**01 51 19.9**	**+0.2**
	comp=Z,62nm,1.4s,mb5.1						
FITZ	**Fitzroy Crossi**	**30.72**	**247**	eP	**P**	**01 51 37.5**	**-2.1**
	comp=Z,67nm,0.8s,mb5.5						
FITZ				eS	**S**	**01 56 39.6**	**-2.4**
BATI	**Kupang**	**31.26**	**262**	P	**P**	**01 51 42.6**	**-1.8**
	comp=Z,11nm,0.4s,mb5.1,baz=99,slow=7.8,SNR=9.8						
DAV	**Davao City (W)**	**32.72**	**295⇓**	eP	**P**	**01 51 54.5**	**-2.6**
AFI	**Afiamalu**	**33.17**	**104**	PFAKE		01 52 10.0	+8.9
AFI				LR	LR		
	comp=Z,5μm,21.0s,MS5.2						
RAO	**Raoul Island**	**33.55**	**134**	P	**P**	**01 52 08.3**	**+4.0**
RAO				MLR	MLR		
	comp=Z,4μm,19.0s,MS5.1						
RAO	**Raoul Island**	**33.55**	**134**	LR	LR	02 04 01.4	
	comp=Z,5μm,18.8s,MS5.2,baz=317,slow=33						
WSI	**Waingapu**	**34.56**	**263⇓**	eP	**P**	**01 52 16.0**	**+2.8**
FORT	**Forrest**	**34.56**	**224**	eP	**P**	**01 52 08.9**	**-4.2**
	comp=Z,83nm,1.0s,mb5.6						
TAU	**Tasmania Unive**	**36.25**	**190**	eP	**P**	**01 52 28.7**	**+1.3**
TAU				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.2						
URZ	**Urewera**	**36.77**	**151**	LR	LR	02 06 01.7	
	comp=Z,5μm,19.8s,MS5.3,baz=339,slow=34						
MBWA	**Marble Bar**	**36.94**	**244**	eP	**P**	**01 52 32.6**	**-0.9**
	comp=Z,90nm,1.1s,mb5.5						
MBWA				LR	LR		
	comp=Z,6μm,19.0s,MS5.4						
SNZO	**South Karori**	**38.18**	**156**	PFAKE		01 53 00.0	+16
SNZO				LR	LR		
	comp=Z,4μm,19.0s,MS5.3						
MYLDM	**Lahad Datu**	**38.58**	**288**	⇑P	**P**	**01 52 51.5**	**+3.9**
TSM	**Tawau**	**38.91**	**286**	⇓P	**P**	**01 52 52.6**	**+2.2**
RPZ	**Rata Peaks**	**38.97**	**162**	P	**P**	**01 52 51.1**	**+0.7**
	comp=Z,17nm,0.8s,mb4.8,baz=25,slow=2.7,SNR=6.0						
RPZ				LR	LR	02 06 42.8	
	comp=Z,9μm,19.8s,MS5.6,baz=323,slow=33						
SDKM	**Sandakan**	**39.96**	**288**	⇓P	**P**	**01 53 02.7**	**+3.7**
PPR	**Puerto Princes**	**40.00**	**294**	eP	**P**	**01 52 50.7**	**-8.7**
BALP	**Baler**	**40.30**	**305**	eP	**P**	**01 53 04.6**	**+2.7**
BATP	**Bataraza**	**40.47**	**292**	eP	**P**	**01 53 05.9**	**+2.6**
KDM	**Kudat**	**40.70**	**289**	⇑P	**P**	**01 53 10.0**	**+4.7**
CAUP	**Cauayan**	**40.75**	**306**	eP	**P**	**01 53 07.7**	**+2.1**
KKM	**Kota Kinabalu**	**41.01**	**288**	⇓P	**P**	**01 53 10.7**	**+2.9**
BCPH	**Baguio City Da**	**41.45**	**305⇓**	eP	**P**	**01 53 11.4**	**0.0**
KLBR	**Kellerberrin**	**42.49**	**230**	eP	**P**	**01 53 19.1**	**-0.6**
	comp=Z,146nm,1.2s,mb5.5						
BTM	**Bintulu**	**43.23**	**282**	⇑P	**P**	**01 53 30.0**	**+4.0**
NWAO	**Narrogin (SRO)**	**43.49**	**229**	eP	**P**	**01 53 27.0**	**-0.8**
NWAO				e		01 55 09.9	
NWAO				eS	**S**	**01 59 59.9**	**+4.1**
NWAO				MLR	MLR		
	comp=Z,6μm,19.0s						
MUN	**Mundaring**	**43.84**	**230**	eP	**P**	**01 53 31.0**	**+0.4**
MUN				eS	**S**	**02 00 02.1**	**+1.1**
SBUM	**Sibu**	**43.90**	**281**	⇑P	**P**	**01 53 34.7**	**+3.4**
MIDW	**Midway**	**44.07**	**36**	eP	**P**	**01 53 39.9**	**+7.5**
MIDW				ePP	PP	01 55 26.8	+11
MIDW				eS	**S**	**02 00 16.8**	**+12**
MIDW				LR	LR		
	comp=Z,5μm,20.0s,MS5.4						
NACB	**Ninganchiao**	**45.20**	**315**	eP	**P**	**01 53 42.3**	**+0.8**
KSM	**Kuching**	**45.56**	**279**	eP	**P**	**01 53 45.1**	**+0.5**
KSM				ePP	PP	01 55 31.4	-0.1
KSM	**Kuching**	**45.56**	**279**	⇑P	**P**	**01 53 47.0**	**+2.4**
YHNB	**Yeheng**	**45.66**	**315**	eP	**P**	**01 53 43.5**	**-1.8**
YHNB				PcP	PcP	01 55 23.2	-0.1
TATO	**Taipei**	**45.78**	**315**	eP	**P**	**01 53 49.0**	**+2.9**
	comp=Z,86nm,1.0s,mb5.6						
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.1						
MJAR	**Matsushiro Arr**	**46.30**	**341**	P	**P**	**01 53 50.6**	**+0.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=173,slow=8.4,SNR=4.0						
MJAR				LR	LR	02 10 46.5	
	comp=Z,2μm,18.3s,MS5.0,baz=185,slow=33						
MAJO	**Matsushiro**	**46.30**	**341**	eP	**P**	**01 53 50.5**	**+0.4**
MAJO				pmax	pmax		
	comp=Z,29nm,1.8s,mb4.9						
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
MAJO	**Matsushiro**	**46.30**	**341**	eP	**P**	**01 53 50.5**	**+0.5**
	comp=Z,29nm,1.8s,mb4.9						
MAJO				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MAT	**Matsushiro**	**46.30**	**341**	P	**P**	**01 53 54.9**	**+4.8**
MAT				S	**S**	**02 00 26.0**	**-10**
QZH	**Quanzhou**	**47.82**	**313⇑**	i P	**P**	**01 54 01.6**	**-0.5**
QZH				S	**S**	**02 00 57.1**	**-1.3**
QZH				AMB	AMB		
	comp=Z,210nm,1.2s,mb6.0						
QZH				AMB	AMB		
	comp=Z,1μm,5.4s						
QZH				LR	LR		
	comp=N,12μm,25.8s						
QZH				LR	LR		
	comp=E,3μm,13.0s						
QZH				LR	LR		
	comp=Z,2μm,17.8s						
SSE	**Sheshan**	**50.05**	**321**	P	**P**	**01 54 20.2**	**+1.1**
SSE				S	**S**	**02 01 32.1**	**+2.6**
SSE				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
SSE				AMB	AMB		
	comp=Z,389nm,5.3s						
SSE				LR	LR		
	comp=N,855nm,15.8s,MS5.0						
SSE				LR	LR		
	comp=E,963nm,15.8s,MS5.0						
SSE				LR	LR		
	comp=Z,1μm,15.2s,MS5.1						
GZH	**Guangzhou**	**50.75**	**308**	P	**P**	**01 54 26.6**	**+2.0**
GZH				LR	LR		
	comp=N,838nm,16.7s,MS5.3						
GZH				LR	LR		
	comp=E,2μm,17.6s,MS5.3						
GZH				LR	LR		
	comp=Z,4μm,17.6s,MS5.4						
KSRS	**Korea Array**	**51.17**	**332**	P	**P**	**01 54 27.4**	**-0.1**
	comp=Z,8.7nm,1.1s,mb4.6,baz=149,slow=7.9,SNR=12						
KSRS				LR	LR	02 13 26.8	
	comp=Z,2μm,18.5s,MS5.2,baz=336,slow=33						
YUK	**Yuzh-Kuril'sk**	**51.66**	**351**	P	**P**	**01 54 28.9**	**-2.1**
YUK				e		01 55 52.0	
YUK				e		01 56 27.5	
YUK				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.4						
YUK				MLR	MLR		
	comp=N,4μm,17.0s,MS5.8						
YUK				MLR	MLR		
	comp=E,5μm,15.0s,MS5.8						
QIZ	**Qiongzhong**	**51.69**	**301**	P	**P**	**01 54 31.0**	**-0.7**
QIZ				AP	pP	01 54 40.1	+2.9
QIZ				XP	sP	01 54 43.7	+4.3
QIZ				S	**S**	**02 01 49.4**	**-3.3**
QIZ				XS	sS	02 02 05.1	+3.3
QIZ				LR	LR		
	comp=N,1μm,16.4s,MS5.1						
QIZ				LR	LR		
	comp=E,1μm,20.1s,MS5.1						
QIZ				LR	LR		
	comp=Z,2μm,20.1s,MS5.2						
QIZ	**Qiongzhong**	**51.69**	**301**	P	**P**	**01 54 32.7**	**+1.0**
QIZ				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
MYKOM	**Kota Tinggi**	**51.96**	**278**	⇓P	**P**	**01 54 36.1**	**+2.3**
NJ2	**Nanjing**	**52.15**	**320**	eP	**P**	**01 54 37.7**	**+2.8**
NJ2				AP	pP	01 54 47.0	+6.5
NJ2				XP	sP	01 54 49.2	+6.6
NJ2				PCP	PcP	01 55 50.4	+3.8
NJ2				S	**S**	**02 01 56.5**	**-2.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,950nm,6.6s						
NJ2				LR	LR		
	comp=N,3μm,18.9s,MS5.5						
NJ2				LR	LR		
	comp=E,2μm,17.6s,MS5.5						
NJ2				LR	LR		
	comp=Z,2μm,17.6s,MS5.3						
KGM	**Kluang**	**52.52**	**278**	⇑P	**P**	**01 54 40.1**	**+2.1**
KTGM	**Kuala Trenggan**	**53.37**	**282**	⇑P	**P**	**01 54 46.8**	**+2.5**
KIP	**Kipapa**	**54.03**	**57**	eP	**P**	**01 54 47.9**	**-1.0**
KIP				eS	**S**	**02 02 32.4**	**+7.8**
KIP				MLR	MLR		

comp=Z,2μm,19.0s,MS5.2
WHN Wuhan 54.18 316 ⇑P **P 01 54 49.3 -0.6**
WHN S **S 02 02 25.8 -0.5**
WHN AMB AMB
comp=Z,2μm,4.6s
FRIM Kepong 54.41 279 ⇑P **P 01 54 53.8 +1.9**
PPT Papeete 54.80 106 *e*S **S 02 02 38.3 +3.2**
comp=Z,3μm,26.5s
PPT *e*SS SS 02 06 29.4 +11
comp=Z,975nm,25.8s
PPT *e*LQ 02 08 40.5
comp=Z,6μm,24.8s
PPT *e*LR LR 02 11 01.2
comp=Z,5μm,29.2s,baz=274
PPT Papeete 54.80 106 LR LR 02 12 51.0
comp=Z,2μm,20.1s,MS5.1,baz=273,slow=30
YSS Yuzh-Sakhalins 55.01 350 *de*P **P 01 54 54.0 -1.6**
YSS *e* 01 55 57.0
YSS *e*S **S 02 02 30.0 -6.9**
YSS *e*PS 02 02 42.0
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.2
YSS MLR MLR
comp=N,2μm,15.0s
YSS Yuzh-Sakhalins 55.01 350 P **P 01 54 56.2 +0.7**
YSS LR LR
comp=Z,2μm,20.0s,MS5.3
IPM Ipoh 55.24 280 ⇓P **P 01 54 59.9 +2.0**
DL2 Dalian 55.40 328 ⇑P **P 01 54 58.5 -0.1**
DL2 PP PP 01 57 01.3 -1.3
DL2 S **S 02 02 40.2 -2.3**
DL2 AMB AMB
comp=Z,20nm,1.0s,mb5.1
DL2 AMB AMB
comp=Z,210nm,7.3s
DL2 LR LR
comp=N,1μm,16.0s,MS5.2
DL2 LR LR
comp=E,1μm,15.7s,MS5.2
DL2 LR LR
comp=Z,1μm,16.3s,MS5.0
POHA Pohakuloa 55.42 60 *e*P **P 01 55 07.1 +8.0**
POHA *e*S **S 02 02 45.4 +2.0**
POHA LR LR
comp=Z,3μm,19.0s,MS5.4
TBI Tubuai 55.46 113 *e*S **S 02 02 48.3 +4.4**
comp=Z,1μm,38.8s
TBI *e*S **S 02 02 51.3 +7.4**
comp=Z,2μm,30.0s
TBI *e*LQ 02 09 02.8
comp=Z,13μm,29.0s
TBI *e*LR LR 02 11 36.1
comp=Z,4μm,34.8s
KULM Kulim 55.78 281 *e*P **P 01 55 02.5 +0.7**
KULM *e*PcP PcP 01 56 00.9 +0.1
KULM Kulim 55.78 281 ⇓P **P 01 55 03.4 +1.6**
TIA Tai'an 56.01 323 *e*P **P 01 55 03.7 +0.7**
MDJ Mudanjiang 56.47 338 P **P 01 55 07.6 +1.5**
MDJ AP pP 01 55 16.8 +5.1
MDJ PP PP 01 57 13.3 +1.3
MDJ SCP ScP 02 00 01.4 -0.2
MDJ S **S 02 02 56.7 +0.3**
MDJ XS sS 02 03 12.5 +6.8
MDJ AMB AMB
comp=Z,11nm,1.2s,mb4.8
MDJ AMB AMB
comp=Z,288nm,7.8s
MDJ LR LR
comp=N,704nm,34.5s,MS4.8
MDJ LR LR
comp=E,1μm,35.3s,MS4.8
MDJ LR LR
comp=Z,1μm,22.7s
MDJ Mudanjiang 56.47 338 *e*P **P 01 55 06.0 -0.1**
comp=Z,46nm,1.3s,mb5.3
MDJ LR LR
comp=Z,756nm,22.0s,MS4.7
SNY Shenyang 56.68 332 ⇑P **P 01 55 07.5 -0.1**
SNY S **S 02 02 58.9 -0.4**
SNY AMB AMB
comp=Z,245nm,4.3s
SNY LR LR
comp=N,2μm,19.6s
SNY LR LR
comp=E,1μm,26.3s
SNY LR LR
comp=Z,1μm,28.9s
CN2 Changchun 57.42 335 ⇑P **P 01 55 13.2 +0.3**
CN2 *e*XP sP 01 55 20.0 -0.6
CN2 *e*S **S 02 03 09.0 -0.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,2μm,19.0s,MS5.4
CN2 LR LR
comp=E,2μm,19.0s,MS5.4
CN2 LR LR
comp=Z,2μm,19.0s,MS5.2
ENH Enshi 57.48 313 *e*P **P 01 55 11.8 -1.8**
ENH LR LR
comp=Z,5.0nm,21.0s
COCO West Island 57.61 260 *e*P **P 01 55 13.2 -1.6**
COCO LR LR
comp=Z,2μm,20.0s,MS5.2
SKR Severo-Kuril's 57.63 1 *e*P **P 01 55 12.0 -2.2**
SKR *e* 01 55 30.0
SKR *e* 01 56 10.0
SKR *e*S **S 02 03 12.0 +0.4**
SKR pmax pmax
comp=N,90nm,1.0s
SKR pmax pmax
comp=E,90nm,1.0s
SKR pmax pmax
comp=Z,110nm,1.0s,mb5.8
SKR pmax pmax
comp=E,1μm,14.0s
SKR pmax pmax
comp=Z,1μm,14.0s
SKR smax
comp=N,2μm,10.0s
SKR smax
comp=E,2μm,10.0s
SKR MLR MLR
comp=N,3μm,20.0s,MS5.6
SKR MLR MLR
comp=E,4μm,20.0s,MS5.6
SKR MLR MLR
comp=Z,3μm,20.0s,MS5.5
GYA Guiyang 57.69 307 ⇑*i*P **P 01 55 16.0 +0.9**
GYA AP pP 01 55 20.6 -0.1
GYA XP sP 01 55 23.4 +0.5
GYA PCP PcP 01 56 10.3 +2.3
GYA PP PP 01 57 28.0 +4.8
GYA PPP 01 58 48.8
GYA SCP ScP 02 00 09.2 +1.7
GYA S **S 02 03 17.2 +4.0**
GYA PS 02 03 29.3
GYA SCS ScS 02 05 04.8 +0.5
GYA SS SS 02 07 07.4 +3.5
GYA SSS 02 09 25.0
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,350nm,7.2s
GYA LR LR
comp=N,1μm,16.4s,MS5.1
GYA LR LR
comp=E,730nm,17.9s,MS5.1
GYA LR LR
comp=Z,2μm,16.7s,MS5.4
HABR Khabarovsk 58.17 344 ⇑*e*P **P 01 55 16.9 -1.1**
HABR *e* 01 55 30.7
HABR *e* 01 56 06.2
HABR *e*S **S 02 03 18.3 -0.4**
HABR *e* 02 03 34.7
HABR *e* 02 05 03.0
NST Nakhon Sawan 59.02 293 P **P 01 55 25.0 +0.4**
comp=Z,42nm,0.9s,mb5.5
BJT Baijiatuau 59.15 326 *e*P **P 01 55 24.7 -0.3**
BJT MLR MLR
comp=Z,3μm,19.0s
BJI Beijing 59.16 326 P **P 01 55 25.3 +0.2**
BJI PP PP 01 57 37.9 +1.9
BJI S **S 02 03 34.8 +2.9**
BJI SS SS 02 07 31.7 +5.1
BJI AMB AMB
comp=Z,13nm,1.4s,mb4.8
BJI LR LR
comp=N,2μm,17.2s,MS5.3
BJI LR LR
comp=E,1μm,17.2s,MS5.3
BJI LR LR
comp=Z,2μm,19.0s,MS5.3
NANT Nan 59.55 297 ⇑P **P 01 55 28.5 +0.3**
comp=Z,200nm,1.0s,mb6.1
KLR Kul'dur 59.79 342 *e*P **P 01 55 25.4 -3.8**
TIY Taiyuan 59.83 322 *e*P **P 01 55 30.8 +1.0**
TIY S **S 02 03 37.9 -2.8**
TIY LR LR
comp=N,777nm,11.9s,MS5.4
TIY LR LR
comp=E,2μm,13.9s,MS5.4
TIY LR LR
comp=Z,3μm,18.9s,MS5.4
XAN Xi'an 59.95 316 P **P 01 55 30.2 -0.5**
XAN AP pP 01 55 41.4 +5.1
XAN XP sP 01 55 46.3 +7.9
XAN PPP 01 59 12.9
XAN S **S 02 03 38.3 -4.0**
XAN SCS ScS 02 05 20.7 0.0
XAN SS SS 02 07 41.1 +1.9
XAN AMB AMB
comp=Z,12nm,1.0s,mb4.9
XAN AMB AMB
comp=Z,466nm,8.4s
XAN LR LR
comp=N,784nm,19.3s,MS5.0
XAN LR LR
comp=E,847nm,20.5s,MS5.0
XAN LR LR
comp=Z,2μm,19.3s,MS5.2
PET Petropavlovsk 60.04 2 ⇑*i*P **P 01 55 30.8 -0.1**
PET *e*S **S 02 03 41.5 -1.3**
PET *e*SS SS 02 07 41.7 +1.7
PET pmax pmax
comp=Z,700nm,9.3s
PET pmax pmax
comp=Z,27nm,1.2s,mb5.2
PET pmax pmax
comp=Z,700nm,9.7s
PET Petropavlovsk 60.04 2 *e*P **P 01 55 30.6 -0.3**
comp=Z,69nm,1.5s,mb5.5
PET LR LR
comp=Z,2μm,21.0s,MS5.2
KMI Kunming 60.25 304 P **P 01 55 34.3 +1.4**
KMI XP sP 01 55 48.5 +7.8
KMI PP PP 01 57 47.5 +1.5
KMI S **S 02 03 49.1 +2.6**
KMI SS SS 02 07 40.4 -3.8
KMI SSS 02 10 34.5
KMI AMB AMB
comp=Z,41nm,1.5s,mb5.2
KMI AMB AMB
comp=Z,702nm,8.0s
KMI LR LR
comp=N,587nm,18.1s,MS5.2
KMI LR LR
comp=E,1μm,17.6s,MS5.2
KMI LR LR
comp=Z,1μm,17.6s,MS5.2
DRV Dumont d'Urvil 60.30 187 P **P 01 55 40.0 +7.4**
DRV S **S 02 03 55.0 +9.1**
DRV SS SS 02 07 40.0 -3.4
DRV L 02 10 00.0
DRV R 02 14 00.0
DRV R 12 00 00.0
CHRT Chiangrai 60.74 297 ⇑P **P 01 55 37.5 +1.1**
comp=Z,171nm,1.3s,mb6.0
CM31 Chiang Mai Arr 61.00 296 *e*P **P 01 55 38.6 +0.5**
CM31 LR LR
comp=Z,1μm,21.0s,MS5.0
CHG Chiang Mai 61.12 296 ⇓P **P 01 55 40.1 +1.1**
comp=Z,44nm,1.2s,mb5.5
CHTO Chiang Mai 61.12 296 *e*P **P 01 55 39.9 +0.9**
CHTO MLR MLR
comp=Z,927nm,20.0s,MS4.9
SMY Shemya 61.82 13 *e*P **P 01 55 48.6 +5.6**
SMY *e*PP PP 01 58 22.2 +23
SMY *e*S **S 02 04 03.2 -2.3**
SMY LR LR
comp=Z,3μm,22.0s,MS5.4
CD2 Chengdu 62.05 311 ⇑*i*P **P 01 55 45.4 +0.4**
CD2 AP pP 01 55 50.2 -0.5
CD2 XP sP 01 55 53.2 +0.4
CD2 PP PP 01 58 04.4 +2.6
CD2 PCS PcS 02 00 26.9 -1.7
CD2 S **S 02 04 08.9 -0.4**
CD2 SCS ScS 02 05 33.0 -3.6
CD2 SS SS 02 08 13.7 +1.4
CD2 AMB AMB
comp=Z,90nm,0.8s,mb6.0
CD2 AMB AMB
comp=Z,820nm,9.6s
CD2 LR LR
comp=N,2μm,19.2s,MS5.5
CD2 LR LR
comp=E,2μm,15.6s,MS5.5
CD2 LR LR
comp=Z,2μm,14.4s,MS5.4
HHC Hu-ho-hao-te 62.33 324 *e*P **P 01 55 46.9 +0.2**
HHC XP sP 01 55 53.9 -0.6
HHC PCP PcP 01 56 25.7 -0.6
HHC PP PP 01 58 07.1 +3.0
HHC SCP ScP 02 00 25.0 -2.7
HHC S **S 02 04 12.6 +0.2**
HHC SCS ScS 02 05 34.6 -3.7
HHC SS SS 02 08 19.7 +3.3
HHC AMB AMB
comp=Z,52nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,661nm,7.1s
HHC LR LR
comp=N,2μm,16.1s,MS5.5
HHC LR LR
comp=E,2μm,16.1s,MS5.5
HHC LR LR
comp=Z,2μm,15.2s,MS5.4
BTO Baotou 63.09 323 *e*P **P 01 55 53.0 +1.2**
HIA Hailar 64.15 335 *c i*P **P 01 55 59.5 +0.9**
HIA Hailar 64.15 335 ⇑*i*P **P 01 55 59.6 +1.0**
LZH Lanzhou 64.55 316 ⇓P **P 01 56 02.8 +1.3**
LZH AP pP 01 56 07.5 +0.3
LZH XP sP 01 56 09.8 +0.5
LZH PP PP 01 58 27.0 +3.2
LZH S **S 02 04 41.0 +0.6**
LZH PS 02 05 02.5
LZH SS SS 02 08 53.4 +2.1
LZH AMB AMB
comp=Z,89nm,1.5s,mb5.6
LZH AMB AMB
comp=Z,832nm,9.2s
LZH LR LR
comp=E,1μm,15.5s
LZH LR LR
comp=Z,2μm,17.3s,MS5.4
CASY Casey 66.47 198 *e*P **P 01 56 14.3 +0.9**
CASY LR LR
comp=Z,5μm,20.0s,MS5.8
MA2 Magadan 66.63 358 *c i*P **P 01 56 13.6 -0.8**
MA2 *e* 01 56 49.6
MA2 *e* 01 58 43.2
MA2 *e*S S 02 05 01.2 -3.6
MA2 *e* 02 05 57.7
MA2 pmax pmax
comp=Z,40nm,0.9s,mb5.5
MA2 pmax pmax
comp=N,10.0nm,0.8s
MA2 smax
comp=N,19μm,12.7s
MA2 smax
comp=E,11μm,12.9s
MA2 MLR MLR
comp=Z,1μm,17.0s,MS5.1
MA2 Magadan 66.63 358 *e*P **P 01 56 13.7 -0.7**
MA2 LR LR
comp=Z,1μm,20.0s,MS5.1
CLNS Chul'man 68.45 343 *e*P **P 01 56 24.3 -1.7**
CLNS *e**PP pP 01 56 35.0 +3.3
CLNS *e* 01 56 50.0
CLNS *e* 01 58 55.4
CLNS *e*S S 02 05 21.6 -5.2
CLNS *e*PS 02 06 03.6
CLNS pmax pmax
comp=N,4.0nm,0.9s
CLNS pmax pmax
comp=E,7.0nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,4.0nm,0.6s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS smax
comp=N,418nm,12.0s
CLNS smax
comp=Z,492nm,11.9s
CLNS smax
comp=E,886nm,12.9s
CLNS MLR MLR
comp=Z,2μm,16.0s,MS5.4
CLNS MLR MLR
comp=N,1μm,14.0s,MS5.4
CLNS MLR MLR
comp=E,1μm,15.0s,MS5.4
RKT Rikitea 68.73 112 *e*S S 02 05 36.5 +5.0
comp=E,577nm,25.5s
RKT *e*SS SS 02 10 02.5 +6.0
comp=E,834nm,34.2s
RKT *e*LQ 02 14 40.5
comp=E,3μm,34.2s
RKT *e*LR LR 02 17 23.7
comp=E,2μm,27.2s,baz=292
UNV Unalaska Valle 68.83 23 *e*P **P 01 56 34.7 +6.3**
UNV *e*S S 02 05 40.0 +8.5
UNV LR LR
comp=Z,7μm,19.0s,MS5.9
GTA Gaotai 68.98 317 P **P 01 56 30.6 +0.9**
GTA AP pP 01 56 34.4 -1.0
GTA XP sP 01 56 36.9 -0.6
GTA PCP PcP 01 56 53.4 -0.5
GTA PP PP 01 59 06.3 +4.0
GTA PCS 02 00 58.5
GTA S S 02 05 35.7 +1.9
GTA XS sS 02 05 49.0 +5.8
GTA SCS ScS 02 06 28.3 -1.3
GTA SS SS 02 10 04.9 +5.1
GTA AMB AMB
comp=Z,17nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,383nm,7.2s
GTA LR LR
comp=N,834nm,17.5s,MS5.2
GTA LR LR
comp=E,899nm,17.1s,MS5.2
GTA LR LR
comp=Z,898nm,15.6s,MS5.1
ULN Ulaanbaatar 69.24 328 ⇑*i*P **P 01 56 31.3 +0.2**
ULN Ulaanbaatar 69.24 328 *e*P **P 01 56 31.5 +0.4**
comp=Z,106nm,1.8s,mb5.5
ULN LR LR
comp=Z,1μm,20.0s,MS5.2
AKUT Akutan 69.33 23 *e*P **P 01 56 36.7 +5.2**
AKUT *e*PP PP 01 59 30.3 +25
AKUT *e*S S 02 05 38.9 +1.5
SONA0 Songino Array 69.57 327 *e*P **P 01 56 31.1 -2.1**
SONM Songino Array 69.57 327 P **P 01 56 33.5 +0.3**
comp=Z,6.5nm,0.8s,mb4.6,baz=137,slow=7.2,SNR=24
SONM PKPPKP 02 24 41.2
comp=Z,0.7nm,0.7s,baz=257,slow=2.1,SNR=7.9
SONM LR LR 02 28 59.4
comp=Z,2μm,18.6s,MS5.4,baz=120,slow=38
SEY Seymchan 69.94 359 *i* P **P 01 56 34.8 -0.3**
SEY Seymchan 69.94 359 *i* P **P 01 56 34.9 -0.2**
VNDA Vanda 70.39 178 P **P 01 56 37.5 -0.2**
comp=Z,6.0nm,1.0s,mb4.5,baz=334,slow=7.2,SNR=8.7
VNDA LR LR 02 21 39.0
comp=Z,1μm,19.1s,MS5.2,baz=0.3,slow=31
SBA Scott Base 70.90 177 *e*P **P 01 56 42.1 +1.2**
SBA MLR MLR
comp=Z,2μm,20.0s,MS5.5
LSA Lhasa 71.50 304 P **P 01 56 47.0 +1.6**
LSA AP pP 01 56 58.0 +6.9
LSA PP PP 01 59 31.2 +6.9
LSA S S 02 05 58.0 -5.7
LSA AMB AMB
comp=Z,10.0nm,1.8s,mb4.4
LSA AMB AMB
comp=Z,310nm,6.0s
LSA LR LR
comp=N,390nm,27.0s,MS4.8
LSA LR LR
comp=E,510nm,24.0s,MS4.8
LSA LR LR
comp=Z,750nm,25.5s,MS4.8
LSA Lhasa 71.50 304 *e*P **P 01 56 46.4 +1.0**
LSA pmax pmax
comp=Z,30nm,1.0s,mb5.2
LSA MLR MLR
comp=Z,950nm,20.0s,MS5.0
LSA Lhasa 71.50 304 *e*P **P 01 56 46.4 +1.0**
comp=Z,30nm,1.0s,mb5.2
LSA LR LR
comp=Z,950nm,20.0s,MS5.0
YAK Yakutsk 71.77 348 *c i*P **P 01 56 45.6 -0.6**
YAK pmax pmax
comp=Z,63nm,1.8s,mb5.2
YAK Yakutsk 71.77 348 *e*P **P 01 56 46.6 +0.4**
comp=Z,50nm,0.8s,mb5.5
YAK LR LR
comp=Z,1μm,19.0s,MS5.2
ZAK Zakamensk 72.73 328 *e*P **P 01 56 51.6 -0.7**
BOD Bodaibo 72.84 338 *e*P **P 01 56 51.0 -1.7**
BOD pmax pmax
comp=Z,20nm,1.4s,mb4.8
TLY Talaya 73.30 329 *e*P **P 01 56 54.7 -0.9**
TLY *e* 01 59 35.5
TLY *e*S S 02 06 24.8 +1.4
TLY *e*SS SS 02 10 56.3 -9.3
TLY *e*SSS 02 14 09.2
TLY pmax pmax
comp=Z,29nm,1.6s,mb5.0
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.2
TLY Talaya 73.30 329 *e*P **P 01 56 55.8 +0.2**
TLY MLR MLR
comp=Z,1μm,19.0s,MS5.2
TLY Talaya 73.30 329 *e*P **P 01 56 55.8 +0.2**
TLY LR LR
comp=Z,1μm,19.0s,MS5.2
IRK Irkutsk 73.32 330 *e*P **P 01 56 54.8 -0.9**
IRK *e* 01 57 15.4
IRK *e*S S 02 06 23.2 -0.4
IRK pmax pmax
comp=Z,39nm,2.0s,mb5.0
BOK Bokaro 74.22 297 *e*P **P 01 57 01.7 +0.1**
BOK AMb AMB 01 57 07.9
comp=Z,62nm,1.4s,mb5.3
MOY Mondy 74.65 328 *e*P **P 01 57 05.8 +2.3**
JIRN Jiri 75.01 301 *e*P **P 01 57 06.7 +0.6**
comp=Z,370nm,1.7s,mb6.0
VIS Vishakhapatnam 75.08 290 *e*P **P 01 57 05.7 -1.0**
VIS *i* P 01 57 06.5
VIS AMb AMB 01 57 11.2
comp=Z,65nm,2.2s,mb5.2
VIS *e*x x 01 57 11.8
comp=Z,69nm,1.8s
VIS *i* S S 02 06 45.0 +0.3
GUN Gumba 75.34 301 *e*P **P 01 57 08.5 +0.4**
comp=Z,405nm,1.5s,mb6.1
BILL Bilibino 75.45 4 ⇑*i*P **P 01 57 08.0 +0.2**
PALK Pallekele 75.62 279 P **P 01 57 08.4 -1.6**
PALK LR LR
comp=Z,1μm,22.0s,MS5.1
PKI Pulchoki 75.65 301 *e*P **P 01 57 10.1 +0.3**
comp=Z,390nm,1.6s,mb6.1
PKIN Phulchoki 75.66 301 *e*P **P 01 57 09.9 0.0**
comp=Z,360nm,1.7s,mb6.0
KKN Kakani 75.82 301 *e*P **P 01 57 11.5 +0.7**
DMN Daman 75.92 301 *e*P **P 01 57 12.0 +0.6**
comp=Z,75nm,0.7s,mb5.7
GKN Gorkha 76.43 301 *e*P **P 01 57 14.3 +0.1**
comp=Z,424nm,1.6s,mb6.1

MDRS Chennai 77.06 285 *ex* x 01 57 45.5
BLSP Bilaspur 77.16 295 *eP* **P** **01 57 17.9 -0.6**
BLSP AMb AMB 01 57 25.0
comp=Z,60nm,1.3s,mb5.4
KOLN Koldanda 77.25 300 *eP* **P** **01 57 18.8 -0.1**
comp=Z,321nm,1.6s,mb6.0
KDAK Kodiak Island 77.26 26 PFAKE 01 57 30.0 +12
KDAK LR LR
comp=Z,544nm,22.0s,MS4.8
DANN Dangsing 77.27 301 *eP* **P** **01 57 18.8 -0.2**
comp=Z,344nm,1.5s,mb6.0
TNA Tin City 77.46 15 *eP* **P** **01 57 19.4 +0.2**
TNA LR LR
comp=Z,1µm,20.0s,MS5.3
SVW2 Sparrevohn 78.11 22 *eP* **P** **01 57 23.2 +0.3**
SVW2 *e* 01 57 38.5
WMQ Urumqi 79.06 317 P **P** **01 57 28.5 -0.1**
WMQ XP sP 01 57 35.5 -1.0
WMQ PP PP 02 00 29.5 +1.5
WMQ S S 02 07 26.5 -0.6
WMQ SKS 02 07 38.5
WMQ PS 02 08 11.5
WMQ SS SS 02 12 34.5 +1.2
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,786nm,7.0s
WMQ LR LR
comp=N,895nm,24.0s,MS5.2
WMQ LR LR
comp=E,724nm,22.0s,MS5.2
WMQ LR LR
comp=Z,686nm,20.0s,MS5.0
TTA Tatalina 79.14 21 *eP* **P** **01 57 28.6 0.0**
HYB Hyderabad 79.48 289 *eP* **P** **01 57 32.0 +0.6**
HYB Hyderabad 79.48 289 *i P* **P** **01 57 32.0 +0.6**
NGP Nagpur 79.75 293 *eP* **P** **01 57 31.2 -1.6**
NGP *ex* x 01 57 36.8
comp=Z,65nm,1.7s
NGP *eS* S 02 07 34.9 -0.4
SLKM Skilak Lake 79.84 24 P **P** **01 57 32.2 -0.2**
SLKM Skilak Lake 79.84 24 *eP* **P** **01 57 32.0 -0.4**
SLKM PcP PcP 01 57 41.4 +1.4
TIXI Tiksi 80.56 352 *eP* **P** **01 57 34.0 -2.1**
TIXI *eS* S 02 07 39.9 -1.9
TIXI *e*SS SS 02 13 00.9 +6.4
TIXI pmax pmax
comp=Z,10.0nm,2.3s,mb4.3
TIXI Tiksi 80.56 352 *eP* **P** **01 57 34.6 -1.5**
TIXI LR LR
comp=Z,1µm,19.0s,MS5.2
PTH Pithoragarh 80.57 301 *eP* **P** **01 57 37.2 +0.1**
PMR Palmer 80.89 24 *eP* **P** **01 57 36.8 -1.3**
PMR MLR MLR
comp=Z,2µm,20.0s,MS5.5
SML Sawmill 81.33 24 *eP* **P** **01 57 40.5 +0.1**
AKL Akola 81.53 292 *eP* **P** **01 57 41.6 -0.8**
AKL AMb AMB 01 57 46.1
comp=Z,76nm,1.0s,mb5.6
LATR Latur 81.53 290 *eP* **P** **01 57 40.9 -1.5**
LATR AMb AMB 01 57 46.0
comp=Z,39nm,1.7s,mb5.1
DGAR Diego Garcia 81.89 264 PFAKE 01 58 00.0 +16
DGAR LR LR
comp=Z,2µm,21.0s,MS5.3
IMA2 Indian Mountai 81.92 19 *eP* **P** **01 57 43.5 +0.1**
IMA2 *e* 01 57 59.5
DIV Divide 82.01 25 PFAKE 01 58 00.0 +16
DIV LR LR
comp=Z,4µm,21.0s,MS5.8
MCK McKinley 82.17 22 *eP* **P** **01 57 43.8 -1.0**
MCK pmax pmax
comp=Z,109nm,1.2s,mb5.7
MCK MLR MLR
comp=Z,1µm,22.0s,MS5.2
MCK McKinley 82.17 22 *eP* **P** **01 57 43.8 -1.0**
comp=Z,109nm,1.2s,mb5.7
MCK LR LR
comp=Z,1µm,22.0s,MS5.2
DDI Dehra Dun 82.57 302 *ex* x 01 57 51.0
NDI New Delhi 82.94 300 *eP* **P** **01 57 48.9 -0.7**
NDI AMb AMB 01 57 53.0
comp=Z,96nm,1.4s,mb5.6
COLA College 83.19 21 *d i P* **P** **01 57 48.3 -1.8**
COLA College 83.19 21 *i P* **P** **01 57 48.4 -1.7**
KAD Karad 83.56 288 *eP* **P** **01 57 52.3 -0.7**
KAD AMb AMB 01 57 58.8
comp=Z,66nm,1.1s,mb5.7
GOA Goa 83.61 286 *eP* **P** **01 57 52.5 -0.8**
GOA AMb AMB 01 57 59.2
comp=Z,61nm,2.0s,mb5.4
MK31 Makanchi Array 83.64 319 *eP* **P** **01 57 51.8 -1.0**
MKAR Makanchi Array 83.64 319 P **P** **01 57 52.4 -0.4**
comp=Z,17nm,1.0s,mb5.1,baz=98,slow=6.0,SNR=43
MKAR PKPPKP 02 24 16.2
comp=Z,0.5nm,0.9s,baz=276,slow=2.3,SNR=4.3
MKAR LR LR 02 36 37.6
comp=Z,831nm,18.7s,MS5.1,baz=262,slow=37
POO Poona 84.08 289 *eP* **P** **01 57 55.0 -0.6**
POO AMb AMB 01 58 02.4
comp=Z,56nm,2.2s,mb5.3
MAW Mawson 84.29 203 P **P** **01 57 56.3 +0.6**
comp=Z,25nm,1.2s,mb5.2,baz=87,slow=8.8,SNR=7.8
MAW LR LR 02 33 27.1
comp=Z,2µm,19.6s,MS5.4,baz=101,slow=34
ZAA0 Zalesovo Array 84.42 326 *eP* **P** **01 57 55.0 -1.6**
ZALV Zalesovo Beam 84.42 326 P **P** **01 57 54.9 -1.7**
ZALV LR LR 02 36 40.6
ZALV Zalesovo Beam 84.42 326 P **P** **01 57 54.9 -1.7**
comp=Z,2.0nm,0.5s,mb4.5,baz=119,slow=5.4,SNR=9.1
ZALV LR LR 02 36 40.6
comp=Z,763nm,18.2s,MS5.1,baz=107,slow=36
ZAL Zalesovo 84.42 326 P **P** **01 57 54.9 -1.7**
AJM Ajmer 84.74 297 *i x* x 01 58 06.0
THN Thein Dam 84.97 303 *eP* **P** **01 58 00.4 +0.5**
SIT Sitka 85.08 31 PFAKE 01 58 10.0 +10
SIT LR LR
comp=Z,3µm,20.0s,MS5.7
NVS Novosibirsk 85.59 327⇑ *i P* **P** **01 58 00.5 -2.0**
NVS *eS* S 02 08 23.3 -10
NVS pmax pmax
comp=Z,88nm,2.0s,mb5.6
NVS pmax pmax
comp=N,39nm,2.2s
NVS pmax pmax
comp=E,50nm,1.8s
NVS smax
comp=E,49nm,2.3s
EGAK Eagle 85.63 23 *eP* **P** **01 58 02.5 +0.1**
EGAK LR LR
comp=Z,2µm,22.0s,MS5.5
KSH Kashi 86.25 310⇑ *i P* **P** **01 58 08.0 +1.9**
KSH *e*AP pP 01 58 12.0 +0.1
KSH *e*XP sP 01 58 15.0 +1.0
KSH *e*PP PP 02 01 32.0 +4.9
KSH *e*PPP 02 03 29.3
KSH *e*SKS 02 08 31.2
KSH *e*S S 02 08 42.1 +1.4
KSH *e*XS sS 02 08 51.2 +0.8
KSH *e*PS 02 09 46.3
KSH AMB AMB
comp=Z,2µm,3.8s
KSH LR LR
comp=N,2µm,15.3s,MS5.8
KSH LR LR
comp=E,2µm,10.4s,MS5.8
KSH LR LR
comp=Z,1µm,15.2s,MS5.4
WRAK Wrangell Islan 86.41 32 PFAKE 01 58 20.0 +14
WRAK LR LR
comp=Z,2µm,20.0s,MS5.4
ULHL Ulahol 86.64 313 P **P** **01 58 09.2 +1.2**
SNR=6.9
KURK Kurchatov 87.07 322 *i P* **P** **01 58 08.4 -1.4**
KURK Kurchatov 87.07 322 *eP* **P** **01 58 09.0 -0.8**
comp=Z,89nm,1.9s,mb5.7
KURK LR LR
comp=Z,1µm,21.0s,MS5.3
TKM2 Tokmak 2 87.25 314 *eP* **P** **01 58 10.6 -0.3**
TKM2 pmax pmax
comp=Z,35nm,1.5s,mb5.4
TKM2 MLR MLR
comp=Z,673nm,21.0s,MS5.0
TKM2 Tokmak 2 87.25 314 *eP* **P** **01 58 10.6 -0.3**
comp=Z,35nm,1.5s,mb5.4
TKM2 LR LR
comp=Z,673nm,21.0s,MS5.0
TKM2 Tokmak 2 87.25 314 P **P** **01 58 11.8 +0.8**
SNR=7.9
KZA Kyzart 87.33 313 P **P** **01 58 13.1 +1.8**
SNR=30
UCH Uchtor 87.89 313 *eP* **P** **01 58 14.6 +0.5**
comp=Z,203nm,2.3s,mb6.0
UCH LR LR
comp=Z,1µm,21.0s,MS5.3
UCH Uchtor 87.89 313 P **P** **01 58 15.6 +1.6**
SNR=16
FRU Bishkek 87.94 313 *eP* **P** **01 58 13.5 -0.7**
FRU *e* 02 08 59.0
FRU pmax pmax
comp=Z,68nm,2.2s,mb5.5
AAK Ala-Archa 87.99 313 *eP* **P** **01 58 13.0 -1.5**
AAK MLR MLR
comp=Z,821nm,20.0s,MS5.1
MCCM Marconi Confer 88.11 51 PFAKE 01 58 30.0 +15
MCCM LR LR
comp=Z,2µm,19.0s,MS5.5
HOPS Hopland 88.12 51 PFAKE 01 58 30.0 +15
HOPS LR LR
comp=Z,2µm,19.0s,MS5.5
DLBC Dease Lake 88.22 31 *eP* **P** **01 58 16.0 +0.9**
AML Almayashu 88.47 313 *eP* **P** **01 58 17.0 +0.3**
comp=Z,59nm,1.4s,mb5.6
AML LR LR
comp=Z,911nm,20.0s,MS5.2
AML Almayashu 88.47 313 P **P** **01 58 17.1 +0.4**
SNR=19
EKS2 Erkin-Say 88.51 313 *eP* **P** **01 58 16.9 -0.1**
comp=Z,52nm,1.6s,mb5.6
EKS2 LR LR
comp=Z,815nm,20.0s,MS5.1
EKS2 Erkin-Say 88.51 313 P **P** **01 58 18.8 +1.8**
SNR=9.7
BHJ Bhuj 88.69 293 *eP* **P** **01 58 16.3 -1.9**
BHJ AMb AMB 01 58 24.2
comp=Z,68nm,1.1s,mb5.9
HUMO Hull Mountain 88.88 47 *eP* **P** **01 58 20.0 +1.3**
HUMO LR LR
comp=Z,2µm,21.0s,MS5.5
YBH Yreka Blue Hor 88.90 48 *eP* **P** **01 58 18.6 -0.2**
YBH MLR MLR
comp=Z,2µm,19.0s
SAO San Andreas Ge 88.99 53 PFAKE 01 58 30.0 +11
SAO LR LR
comp=Z,1µm,19.0s,MS5.4
COR Corvallis 89.00 45 PFAKE 01 58 30.0 +11
COR LR LR
comp=Z,2µm,22.0s,MS5.5
NLWA Neilton Lookou 89.16 42 PFAKE 01 58 30.0 +10
NLWA LR LR
comp=Z,2µm,20.0s,MS5.6
INK Inuvik 89.84 21 *eP* **P** **01 58 22.0 -0.6**
SNCC San Nicolas Is 90.00 57 PFAKE 01 58 40.0 +16
SNCC LR LR
comp=Z,3µm,21.0s,MS5.6
CMB Columbia Colle 90.03 52 *eP* **P** **01 58 24.1 -0.1**
CMB pmax pmax
comp=Z,26nm,1.7s,mb5.3
CMB MLR MLR
comp=Z,1µm,19.0s,MS5.3
CMB Columbia Colle 90.03 52 *eP* **P** **01 58 24.1 -0.1**
comp=Z,26nm,1.7s,mb5.3
CMB LR LR
comp=Z,1µm,19.0s,MS5.3
MOD Modoc 90.70 48 PFAKE 01 58 40.0 +13
MOD LR LR
comp=Z,2µm,19.0s,MS5.5
KBL Kabul 90.83 305 *eP* **P** **01 58 27.9 -0.1**
WAKR Walker 90.84 51 *eP* **P** **01 58 28.5 +0.5**
MWC Mount Wilson 91.34 56 *eP* **P** **01 58 30.6 +0.2**
MTUM Tungsten Hills 91.36 53 *eP* **P** **01 58 30.6 +0.2**
NVAR Mina Array Bea 91.71 52 P **P** **01 58 32.8 +0.8**
comp=Z,4.7nm,1.0s,mb4.8,baz=243,slow=3.6,SNR=18
HAWA Hanford 91.92 44 PFAKE 01 58 40.0 +7.2
HAWA LR LR
comp=Z,2µm,22.0s,MS5.5
WVOR Wild Horse Val 92.00 48 *eP* **P** **01 58 33.1 -0.1**
WVOR pmax pmax
comp=Z,20nm,1.3s,mb5.3
WVOR MLR MLR
comp=Z,2µm,19.0s,MS5.6
WVOR Wild Horse Val 92.00 48 *eP* **P** **01 58 33.1 -0.1**
comp=Z,20nm,1.3s,mb5.3
WVOR LR LR
comp=Z,2µm,19.0s,MS5.6
GSC Goldstone 92.50 55 *eP* **P** **01 58 35.8 +0.1**
GSC MLR MLR
comp=Z,2µm,19.0s,MS5.5
PFO Pinyon Flat Ob 92.59 57 PFAKE 01 58 50.0 +14
PFO LR LR
comp=Z,2µm,19.0s,MS5.7
BRVK Borovoye 92.60 323 *eP* **P** **01 58 36.5 +0.7**
BRVK MLR MLR
comp=Z,727nm,19.0s,MS5.2
TPNV Topopah Spring 93.15 53 *eP* **P** **01 58 38.9 +0.2**
TPNV MLR MLR
comp=Z,1µm,19.0s,MS5.4
BMO Blue Mountains 93.27 45 *eP* **P** **01 58 38.6 -0.4**
BMO pmax pmax
comp=Z,27nm,1.9s,mb5.3
BMO MLR MLR
comp=Z,1µm,19.0s,MS5.4
BMO Blue Mountains 93.27 45 *eP* **P** **01 58 38.6 -0.4**
comp=Z,26nm,1.9s,mb5.3
BMO LR LR
comp=Z,1µm,19.0s,MS5.4
NEW Newport 93.79 42 PFAKE 01 58 50.0 +8.7
NEW LR LR
comp=Z,3µm,19.0s,MS5.7
GLA Glamis 93.88 57 PFAKE 01 58 50.0 +7.8
GLA LR LR
comp=Z,2µm,20.0s,MS5.5
MSO Missoula 95.80 44 PFAKE 01 59 00.0 +9.4
MSO LR LR
comp=Z,1µm,22.0s,MS5.3
DUG Dugway 96.13 50 *eP* **P** **01 58 51.9 -0.4**
DUG pmax pmax
comp=Z,11nm,1.4s,mb5.1
DUG MLR MLR
comp=Z,1µm,20.0s,MS5.3
DUG Dugway 96.13 50 *eP* **P** **01 58 51.9 -0.4**
comp=Z,11nm,1.4s,mb5.1
DUG LR LR
comp=Z,1µm,20.0s,MS5.3
YKW3 Yellowknife Ar 96.42 28 *eP* **P** **01 58 52.8 -0.3**
YKA Yellowknife Ar 96.43 28 P **P** **01 58 52.1 -0.9**
comp=Z,3.4nm,0.8s,mb4.8,baz=265,slow=4.4,SNR=43
YKA PKKP PKKPbc 02 15 37.1 -3.5
comp=Z,0.2nm,0.8s,baz=91,slow=3.1,SNR=4.5
YKA LR LR 02 40 59.5
comp=Z,590nm,19.0s,MS5.1,baz=215,slow=35
MSU Marysvale 96.50 52 *eP* **P** **01 58 53.4 -0.6**
MSU *e* 01 59 03.9
MSU Marysvale 96.50 52 *eP* **P** **01 58 53.8 -0.2**
MSU Marysvale 96.50 52 *eP* **P** **01 58 53.8 -0.2**
WUAZ Wupatki 96.94 55 PFAKE 01 59 10.0 +14
WUAZ LR LR
comp=Z,2µm,19.0s,MS5.6
MPU Maple Canyon 97.02 51 PFAKE 01 59 10.0 +14
MPU LR LR
comp=Z,2µm,20.0s,MS5.5
HWUT Hardware Ranch 97.17 49 PFAKE 01 59 10.0 +13
HWUT LR LR
comp=Z,1µm,19.0s,MS5.4
JLU Jordanelle 97.20 50 *e*pP pP 01 59 12.2 +9.2
TUC Tucson 97.22 58 PFAKE 01 59 10.0 +13
TUC LR LR
comp=Z,1µm,20.0s,MS5.5
BOZ Bozeman (W) 97.33 45 PFAKE 01 59 10.0 +12
BOZ LR LR
comp=Z,2µm,22.0s,MS5.5
AHID Auburn Hatcher 97.57 48 PFAKE 01 59 10.0 +11
AHID LR LR
comp=Z,1µm,19.0s,MS5.4
IMW Indian Meadow 97.74 47 *eP* **P** **01 58 59.9 +0.4**
comp=Z,22nm,1.8s,mb5.4
YMR Madison River 97.75 46 PFAKE 01 59 10.0 +10
YMR LR LR
comp=Z,4µm,19.0s,MS5.9
EGMT Eagleton 98.69 43 PFAKE 01 59 10.0 +6.4
EGMT LR LR
comp=Z,2µm,20.0s,MS5.6
BW06 Boulder Array 98.71 48 *eP* **P** **01 59 04.5 +0.6**
comp=Z,4.1nm,0.9s,mb5.0
BW06 LR LR
comp=Z,1µm,19.0s,MS5.5
RLMT Red Lodge 98.97 46 PFAKE 01 59 20.0 +15
RLMT LR LR
comp=Z,1µm,19.0s,MS5.4
MVCO Mesa Verde 99.34 54 PFAKE 01 59 20.0 +13
MVCO LR LR
comp=Z,1µm,19.0s,MS5.4
SNAA Sanae 99.98 187 LR LR 02 43 41.9
comp=Z,754nm,20.0s,MS5.2,baz=163,slow=35
ANMO Albuquerque 100.94 56 PFAKE 01 59 30.0 +17
ANMO LR LR
comp=Z,950nm,20.0s,MS5.3
LAO LASA Array 101.10 44 PFAKE 01 59 30.0 +16
LAO LR LR
comp=Z,2µm,19.0s,MS5.6
ISCO Idaho Springs 101.64 51 PFAKE 01 59 30.0 +13
ISCO LR LR
comp=Z,1µm,20.0s,MS5.4
SDCO Great Sand Dun 101.74 53 PFAKE 01 59 30.0 +13
SDCO LR LR
comp=Z,1µm,20.0s,MS5.4
MNTX Cornudas Mount 101.77 59 PFAKE 01 59 30.0 +13
MNTX LR LR
comp=Z,2µm,19.0s,MS5.6
DGMT Dagmar 102.40 42 PFAKE 01 59 30.0 +10
DGMT LR LR
comp=Z,2µm,19.0s,MS5.6
PMSA Palmer Station 102.55 164 PFAKE 01 59 30.0 +9.3
PMSA LR LR
comp=Z,2µm,22.0s,MS5.6
FFC Flin Flon 103.26 36 PFAKE 01 59 30.0 +6.2
FFC LR LR
comp=Z,2µm,19.0s,MS5.7
ABPO Ambohimpanom 104.40 248 PFAKE 01 59 40.0 +11
ABPO LR LR
comp=Z,2µm,22.0s,MS5.7
KBS Kingsbay 105.99 353 PFAKE 02 04 00.0 +12
KBS LR LR
comp=Z,970nm,20.0s,MS5.3
CBKS Cedar Bluff 106.24 52 PFAKE 02 04 00.0 +11
CBKS LR LR
comp=Z,2µm,20.0s,MS5.6
JCT Junction City 106.56 60 PFAKE 02 04 00.0 +10
JCT LR LR
comp=Z,2µm,19.0s,MS5.7
WMOK Wichita Mounta 107.25 56 PFAKE 02 04 00.0 +8.9
WMOK LR LR
comp=Z,870nm,19.0s,MS5.3
ULM Lac du Bonnet 107.60 40 PFAKE 02 04 00.0 +8.8
ULM LR LR
comp=Z,3µm,20.0s,MS5.8
AGMN Agassiz Refuge 107.94 42 PFAKE 02 04 00.0 +8.1
AGMN LR LR
comp=Z,2µm,19.0s,MS5.6
ECSD EROS,Sioux Fal 108.09 46 PFAKE 02 04 00.0 +7.6
ECSD LR LR
comp=Z,1µm,22.0s,MS5.4
KVTX Kingsville 108.30 63 PFAKE 02 04 00.0 +6.7
KVTX LR LR
comp=Z,2µm,19.0s,MS5.7
KSU1 Kansas State U 108.64 51 PFAKE 02 04 00.0 +6.5
KSU1 LR LR
comp=Z,1µm,20.0s,MS5.4
KEV Kevo 109.25 343 PFAKE 02 04 10.0 +16
KEV LR LR
comp=Z,900nm,19.0s,MS5.4
HKT Hockley 110.02 61 PFAKE 02 04 10.0 +14
HKT LR LR
comp=Z,2µm,19.0s,MS5.7
SCIA State Center 110.83 48 PFAKE 02 04 10.0 +12
SCIA LR LR
comp=Z,1µm,21.0s,MS5.4
EYMN Ely 110.88 41 PFAKE 02 04 10.0 +13
EYMN LR LR
comp=Z,2µm,22.0s,MS5.5
NATX Nacogdoches 110.90 59 PFAKE 02 04 10.0 +12
NATX LR LR
comp=Z,2µm,20.0s,MS5.7
KIV Kislovodsk 111.08 314 PFAKE 02 04 10.0 +12
KIV LR LR
comp=Z,489nm,19.0s,MS5.1
MIAR Mount Ida 111.55 56 PFAKE 02 04 10.0 +11
MIAR LR LR
comp=Z,952nm,22.0s,MS5.3
OBN Obninsk 111.98 327 *eP* Pdif 02 00 00.2 -2.4
OBN *e* 02 04 44.0
OBN *e*SS SS 02 20 22.3 +3.0
OBN pmax pmax
comp=Z,2.0nm,0.8s
OBN MLR MLR
comp=Z,1µm,19.0s,MS5.5
OBN Obninsk 111.98 327 PFAKE 02 04 10.0 +11
OBN LR LR
comp=Z,971nm,19.0s,MS5.4
JFWS Jewell Farm 112.81 46 PFAKE 02 04 10.0 +8.7
JFWS LR LR
comp=Z,1µm,19.0s,MS5.4
COWI Conover 112.87 43 PFAKE 02 04 10.0 +8.7
COWI LR LR
comp=Z,2µm,21.0s,MS5.7
CCM Cathedral Cave 112.95 52 PFAKE 02 04 10.0 +8.3
CCM LR LR
comp=Z,1µm,19.0s,MS5.5
SOC Sochi 113.26 314 *i* PKIKP PKiKP 02 04 01.2 -0.9
SOC *e* 02 04 56.7
SOC *e*PPP 02 07 10.6
SOC *e*SSS 02 24 51.0
HDIL Hopedale 113.99 49 PFAKE 02 04 20.0 +16
HDIL LR LR
comp=Z,2µm,22.0s,MS5.6
FINES FINESS Array B 114.17 336 PKP PKiKP 02 04 02.6 -0.7
comp=Z,2.2nm,1.1s,baz=5.7,slow=5.6,SNR=4.0
VBMS Vicksburg 114.36 58 PFAKE 02 04 20.0 +15
VBMS LR LR
comp=Z,1µm,20.0s,MS5.6
EFI East Falkland 114.82 158 PFAKE 02 04 20.0 +15
EFI LR LR
comp=Z,1µm,21.0s,MS5.4
MALT Malatya 115.32 309 PKIKP PKPdf 02 04 05.3 -1.0
WVT Waverly 115.96 53 PFAKE 02 04 20.0 +12
WVT LR LR
comp=Z,1µm,19.0s,MS5.5
PLAL Pickwick Lake 115.97 55 PFAKE 02 04 20.0 +12
PLAL LR LR
comp=Z,1µm,20.0s,MS5.5
PLCA Paso Flores 116.48 143 PFAKE 02 04 20.0 +12
PLCA LR LR
comp=Z,960nm,19.0s,MS5.4
LRAL Lakeview Retre 117.18 57 PFAKE 02 04 20.0 +10
LRAL LR LR
comp=Z,2µm,20.0s,MS5.6
TEIG Tepich 117.36 71 PFAKE 02 04 20.0 +9.3
TEIG LR LR
comp=Z,851nm,19.0s,MS5.4
BRAL Brewton 117.44 59 PFAKE 02 04 20.0 +9.4
BRAL LR LR
comp=Z,976nm,20.0s,MS5.4
AAM Ann Arbor 117.68 46 PFAKE 02 04 20.0 +9.3
AAM LR LR
comp=Z,610nm,19.0s,MS5.2
SFJD Kangerlussuaq 117.73 11 PFAKE 02 04 20.0 +10
SFJD LR LR
comp=Z,863nm,21.0s,MS5.3
AKASG Malin Array Be 117.78 324 PKP PKPdf 02 04 09.0 -1.6
comp=Z,1.0nm,0.7s,baz=60,slow=1.8,SNR=5.7
AKASG PKKPbc PKKPab 02 14 44.9 +10
comp=Z,0.2nm,0.4s,baz=251,slow=3.6,SNR=4.9
TGUH Tegucigalpa,Un 118.41 78 PFAKE 02 04 20.0 +7.2
TGUH LR LR
comp=Z,1µm,19.0s,MS5.5
ACSO Alum Creek Sta 118.75 48 PFAKE 02 04 20.0 +7.2
ACSO LR LR
comp=Z,812nm,19.0s,MS5.4
ANTO Ankara 119.21 312 PFAKE 02 04 30.0 +16
ANTO LR LR
comp=Z,437nm,21.0s,MS5.1
TZTN Tazewell 119.26 52 PFAKE 02 04 30.0 +16
TZTN LR LR
comp=Z,2µm,19.0s,MS5.7
NB2 NORSAR Subarra119.92 341 PKPdf PKPdf 02 04 13.1 -1.3
comp=Z,1.5nm,0.9s,baz=42,slow=2.0

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
NOA	NORSAR Array B	119.92	341	PKP	PKPdf	02 04 13.3	-1.1
	comp=Z,0.6nm,0.7s,baz=49,slow=2.1,SNR=3.7						
GOGA	Godfrey	120.02	56	PFAKE		02 04 30.0	+15
GOGA				LR	LR		
	comp=Z,1µm,21.0s,MS5.4						
BOSA	Boshof	120.03	231	PKIKP	PKPdf	02 04 16.9	+1.2
BOSA				MLR	MLR		
	comp=Z,3µm,22.0s,MS5.8						
NAO01	NORSAR Array S	120.18	341	PFAKE		02 04 30.0	+15
NAO01				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
ERPA	Erie	120.33	45	PFAKE		02 04 30.0	+14
ERPA				LR	LR		
	comp=Z,2µm,19.0s,MS5.7						
JTS	JuntasAbangare	120.58	82	PFAKE		02 04 30.0	+13
JTS				LR	LR		
	comp=Z,944nm,21.0s,MS5.4						
MCWV	Mont Chateau	121.22	48	PFAKE		02 04 30.0	+12
MCWV				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
SUR	Sutherland	121.38	225	PFAKE		02 04 30.0	+12
SUR				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
LBTB	Lobatse	121.41	235	PFAKE		02 04 30.0	+12
LBTB				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
BLA	Blacksburg	121.51	51	PFAKE		02 04 30.0	+12
BLA				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
SCHQ	Schefferville	121.87	27	PFAKE		02 04 30.0	+12
SCHQ				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
SSPA	Standing Stone	122.32	46	PFAKE		02 04 30.0	+10
SSPA				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
BORG	Borgarnes	122.48	358	PFAKE		02 04 30.0	+11
BORG				LR	LR		
	comp=Z,615nm,20.0s,MS5.2						
KOLS	Kolonicke sedl	122.59	325	*e*PKP	PKPdf	02 04 24.6	+4.7
DWPF	Disney	122.75	61	PFAKE		02 04 30.0	+9.1
DWPF				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
NHSC	New Hope	122.77	55	PFAKE		02 04 30.0	+9.2
NHSC				LR	LR		
	comp=Z,847nm,20.0s,MS5.4						
LSZ	Lusaka	122.91	247	PFAKE		02 04 30.0	+8.5
LSZ				LR	LR		
	comp=Z,1µm,20.0s,MS5.6						
STHS	Stebnicka Huta	122.92	326	*e*PKP	PKPdf	02 04 29.2	+8.7
STHS				*e*		02 04 45.6	
LONY	Lake Ozonia	123.02	41	PFAKE		02 04 30.0	+9.1
LONY				LR	LR		
	comp=Z,2µm,21.0s,MS5.8						
LCO	Las Campanas	123.06	131	PFAKE		02 04 30.0	+8.5
LCO				LR	LR		
	comp=Z,1µm,20.0s,MS5.5						
BINY	Binghamton	123.07	44	PFAKE		02 04 30.0	+8.9
BINY				LR	LR		
	comp=Z,2µm,20.0s,MS5.7						
TRQA	Tornquist	123.25	145	PFAKE		02 04 30.0	+8.4
TRQA				LR	LR		
	comp=Z,788nm,19.0s,MS5.4						
CFAA	Coronel Fontan	123.40	135	PKP	PKPdf	02 04 22.1	+0.1
	comp=Z,0.2nm,0.5s,baz=241,slow=9.0,SNR=6.9						
CBN	Corbin	123.51	49	PFAKE		02 04 30.0	+8.0
CBN				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
NCB	Newcomb	123.53	41	PFAKE		02 04 30.0	+8.1
NCB				LR	LR		
	comp=Z,3µm,22.0s,MS5.9						
CNNC	Cliffs of the	124.03	52	PFAKE		02 04 30.0	+6.9
CNNC				LR	LR		
	comp=Z,2µm,19.0s,MS5.8						
OKC	Ostrava-Krasne	124.37	328	*e*SS	SS	02 23 07.0	+7.3
OKC				AMS	AMS	03 05 00.0	
	comp=Z,700nm,14.0s						
LBNH	Lisbon	124.89	40	PFAKE		02 04 40.0	+16
LBNH				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
NNA	Nana	124.91	110	PFAKE		02 04 40.0	+15
NNA				LR	LR		
	comp=Z,555nm,20.0s,MS5.2						
DPC	Dobruska-Polom	125.02	329	*e*PKP	pPKPdf	02 04 32.4	+1.9
DPC				*e*		02 04 44.1	
DPC				LR	LR		
	comp=Z,1µm,23.1s,MS5.5						
DPC	Dobruska-Polom	125.02	329	*e*pPKP	pPKPdf	02 04 32.4	+1.9
DPC				*e*x	x	02 04 44.1	
DPC				*e*SS	SS	02 23 15.5	+7.7
DPC				AMS	AMS	02 57 00.0	
	comp=Z,1µm,23.1s						
UPC	Upice	125.08	329	*e*PKPdf	PKPdf	02 04 26.8	+2.2
MODS	Modra-Piesok	125.68	327	*e*PKP	PKPdf	02 04 28.9	+3.0
MODS				*e*		02 04 51.1	
MODS	Modra-Piesok	125.68	327	*e*PKP	PKPdf	02 04 28.9	+3.0
MODS				*e*		02 04 51.1	
PVCC	Panska Ves	125.79	330	*e*PKPdf	PKPdf	02 04 25.7	-0.3
PVCC				*e*x	x	02 04 38.3	
PVCC				AMS	AMS	02 58 40.0	
	comp=Z,1µm,22.1s						
HRV	Adam Dziewonsk	125.92	42	PFAKE		02 04 40.0	+13
HRV				LR	LR		
	comp=Z,2µm,22.0s,MS5.7						
PKME	Peaks-Kenny Pk	126.03	38	PFAKE		02 04 40.0	+13
PKME				LR	LR		
	comp=Z,2µm,20.0s,MS5.9						
CLL	Collm	126.05	332	*i* PKP	pPKPdf	02 04 36.6	+4.1
CLL				*i*		02 04 49.3	
CLL				*e*SKS	SKSac	02 11 27.0	-3.7
CLL				LR	LR		
	comp=Z,1µm,19.0s,MS5.5						
CLL	Collm	126.05	332	*e*PKPdf	PKPdf	02 04 27.0	+0.5
CLL				*i* (pPKPdf)	pPKPdf	02 04 36.6	+4.1
	comp=Z,11nm,1.3s						
CLL				*i* x	x	02 04 49.3	
CLL				*e*PP	PP	02 06 18.0	-1.6
CLL				*e*PPP		02 08 52.0	
CLL				*e*SKSac	SKSac	02 11 27.0	-3.7
CLL				*e*PSKS		02 16 17.0	
CLL				*e*PPS		02 17 48.0	
CLL				*e*SS	SS	02 23 18.0	-2.5
CLL				*e*x	x	02 27 42.0	
CLL				*e*(SSSS)		02 31 30.0	
CLL				LmV		03 04 00.0	
	comp=Z,1µm,19.0s						
TREC	Trest	126.09	328	*e*PKIKP	PKPdf	02 04 26.8	+0.2
TREC				*e*		02 04 37.7	
TREC				MLR	MLR		
	comp=Z,1µm,23.7s,MS5.5						
TREC	Trest	126.09	328	*e*PKPdf	PKPdf	02 04 26.8	+0.2
TREC				*e*x	x	02 04 37.7	
TREC				*e*SS	SS	02 23 27.6	+6.4
TREC				AMS	AMS	02 57 40.0	
	comp=Z,1µm,23.7s						
WES	Weston	126.14	42	PFAKE		02 04 40.0	+13
WES				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
PRU	Pruhonice	126.14	330	*e*PKPdf	PKPdf	02 04 30.0	+3.3
PRU				*e*x	x	02 04 48.8	
PRU				*e*x	x	02 23 35.9	
PRU				AMS	AMS	03 03 30.0	
	comp=Z,1µm,18.7s						
NKC	Novy Kostel	127.02	331	*e*PKIKP	PKPdf	02 04 31.4	+3.0
NKC				*e*		02 16 27.8	
NKC	Novy Kostel	127.02	331	*e*PKP	PKPdf	02 04 31.4	+3.0
NKC				*e*		02 16 27.8	
NKC				*e*		02 19 09.9	
NKC	Novy Kostel	127.02	331	*e*PKP	PKPdf	02 04 31.4	+3.0
NKC				AMS	AMS	03 05 40.0	
	comp=Z,1µm,18.5s						
MOX	Moxa	127.14	332	*e*PKP	PKPdf	02 04 28.0	-0.6
MOX							
	comp=Z,600nm,22.0s						
KHC	Kasperske Hory	127.17	329	*e*PKIKP	PKPdf	02 04 29.8	+1.1
KHC				*e*		02 04 43.0	
KHC				MLR	MLR		
	comp=Z,900nm,18.7s,MS5.5						
KHC	Kasperske Hory	127.17	329	*e*PKP	PKPdf	02 04 29.8	+1.1
KHC				*e*		02 04 43.0	
KHC	Kasperske Hory	127.17	329	*e*PKPdf	PKPdf	02 04 29.8	+1.1
KHC				*e*x	x	02 04 43.0	
KHC				*e*SS	SS	02 23 43.4	+8.7
KHC				AMS	AMS	03 02 30.0	
	comp=Z,900nm,18.7s						
GEC2	GERESS Array S	127.29	329	*e*PKIKP	PKPdf	02 04 29.6	+0.7
GERES	GERESS Array B	127.29	329	PKP	PKPdf	02 04 28.6	-0.3
	comp=Z,0.6nm,0.6s,baz=166,slow=0.6,SNR=5.7						
GRA1	Grafenberg Arr	127.97	331	*e*PKPdf	PKPdf	02 04 29.7	-0.5
GRF	Grafenberg Arr	127.97	331	*e*PKPdf	PKPdf	02 04 29.7	-0.5
GRFO	Grafenberg	127.97	331	PFAKE		02 04 40.0	+10
GRFO				LR	LR		
	comp=Z,702nm,20.0s,MS5.3						
ESK	Eskdalemuir	128.98	344	PFAKE		02 04 40.0	+8.1
ESK				LR	LR		
	comp=Z,688nm,20.0s,MS5.3						
BFO	Black Forest	130.29	331	PFAKE		02 04 50.0	+15
BFO				LR	LR		
	comp=Z,764nm,19.0s,MS5.4						
CDF	Champ du Feu	130.73	332	*e*PKIKP	PKPdf	02 04 32.4	-3.1
LPAZ	La Paz	131.23	119	PKP	PKPdf	02 04 38.0	+0.6
	comp=Z,6.6nm,1.0s,baz=355,slow=2.9,SNR=14						
LPAZ				SKPbc	SKPbc	02 08 05.4	+3.8
	comp=Z,1.8nm,0.8s,baz=290,slow=9.6,SNR=5.3						
LPL	La Plagne	133.05	330	*e*PKIKP	PKPdf	02 04 34.6	-5.4
LPG	La Plagne	133.05	330	*e*PKIKP	PKPdf	02 04 34.8	-5.2
SDDR	Presa de Saban	133.41	71	PFAKE		02 04 50.0	+8.6
SDDR				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
ORIF	Oris-en-Rattie	133.90	330	*e*PKIKP	PKPdf	02 04 37.5	-4.1
CPUP	Villa Florida	134.14	138	PKP	PKPdf	02 04 42.9	+0.2
	comp=Z,0.7nm,0.5s,baz=299,slow=5.9,SNR=3.6						
TCF	Toulx Ste Croi	134.61	334	*e*PKIKP	PKPdf	02 04 39.4	-3.5
SDV	Santo Domingo	134.65	85	*e*PKPdf	PKPdf	02 04 44.3	+0.4
SDV				LR	LR		
	comp=Z,226nm,22.0s,MS4.8						
BBSR	BB Station	135.30	50	PFAKE		02 05 00.0	+15
BBSR				LR	LR		
	comp=Z,1µm,19.0s,MS5.7						
SIV	San Ignacio	137.38	123	PKP	PKPdf	02 04 49.2	+0.3
SIV	San Ignacio	137.38	123	PKhKP		02 04 38.1	
	comp=Z,1.3nm,0.8s,baz=227,slow=5.7,SNR=6.6						
SIV				PKP	PKPdf	02 04 49.2	+0.3
	comp=Z,5.5nm,1.0s,baz=264,slow=0.3,SNR=12						
SJG	San Juan	138.36	71	PKIKP	PKPdf	02 04 44.2	-6.4
SJG	San Juan	138.36	71	PFAKE		02 05 00.0	+9.4
SJG				LR	LR		
	comp=Z,614nm,19.0s,MS5.4						
SET	Setif	140.02	321	P	PKPdf	02 04 48.0	-5.2
ESDC	Sonseca Array	142.60	333	PKP	PKPdf	02 04 55.2	-2.5
ESDC	Sonseca Array	142.60	333	PKP	PKPdf	02 04 56.7	-1.0
	comp=Z,0.3nm,0.4s,baz=116,slow=3.0,SNR=4.4						
ESLA	Sonseca Array	142.60	333	PFAKE		02 05 10.0	+12
ESLA				LR	LR		
	comp=Z,5µm,21.0s,MS6.2						
MVO	Moncorvo	142.62	338	*e*LR	LR	02 54 12.7	
	comp=Z,773nm,18.0s						
PAB	San Pablo	142.88	333	PFAKE		02 05 10.0	+12
PAB				LR	LR		
	comp=Z,801nm,19.0s,MS5.5						
MTE	Manteigas	143.48	338	*e*LR	LR	02 55 37.6	
	comp=Z,701nm,16.0s						
EQES	Quesada	143.68	330	PKP	PKPdf	02 04 58.6	-1.1
EBAN	Banos Encina	143.74	331	PKIKP	PKPdf	02 04 56.9	-2.9
EADA	Adamuz	144.10	332	PKP	PKPdf	02 05 00.1	-0.3
ECOG	Cogollos-Vega	144.33	330	PKIKP	PKPdf	02 04 59.4	-1.4
ELUQ	Luque	144.45	331	PKIKP	PKPdf	02 04 59.2	-1.8
ERON	Agron	144.65	330	PKP	PKPdf	02 04 59.3	-2.1
EGUA	Guajares	144.68	330	PKIKP	PKPdf	02 04 59.0	-2.5
EBAD	Badajoz	144.68	336	PKP	PKPdf	02 05 00.7	-0.7
ELOJ	Sierra Loja	144.72	331	PKIKP	PKPdf	02 05 00.5	-1.0
PESTR	Estremoz	144.82	336	*e*PKP	PKPdf	02 04 58.9	-2.7
PESTR				*e*LR	LR	02 56 20.1	
	comp=Z,749nm,16.0s						
PBAR	Barrancos	145.18	335	*e*PKP	PKPdf	02 05 01.1	-1.2
PBAR				*e*LR	LR	02 56 20.1	
	comp=Z,676nm,20.0s						
EVO	Evora	145.28	336	*e*PKIKP	PKPdf	02 05 01.5	-0.9
	comp=Z,80nm,1.2s						
EVO	Evora	145.28	336	*e*PKP	PKPdf	02 05 01.4	-1.0
EMIN	Mina Concepcio	145.37	334	PKP	PKPdf	02 05 02.6	0.0
PMAFR	Mafra	145.39	338	*e*PKP	PKPdf	02 05 01.3	-1.3
PMAFR				*e*LR	LR	02 58 15.9	
	comp=Z,742nm,22.0s						
EMIJ	Mijas	145.48	331	PKP	PKPdf	02 05 01.1	-1.8
PBEJ	Beja	145.65	336	*e*PKP	PKPdf	02 05 03.0	-0.1
ESPR	Espera	145.75	332	PKP	PKPdf	02 05 04.1	+0.8
EJIF	Jimena Fronter	145.91	331	PKP2	PKPab	02 05 05.1	+0.5
EGRO	El Granado	145.91	335	PKP	PKPdf	02 05 04.8	+1.3
PVAQ	Vaqueiros	146.12	335	*e*PKP	PKPdf	02 05 04.4	+0.5
PVAQ				*e*LR	LR	02 57 33.5	
	comp=Z,716nm,18.0s						
PBDV	Barranco-do-Ve	146.35	335	*e*PKP	PKPdf	02 05 05.7	+1.4
PBDV				*e*LR	LR	02 58 43.0	
	comp=Z,988nm,20.0s						
MORF	Marmelete	146.59	336	*e*LR	LR	02 58 04.3	
	comp=Z,717nm,20.0s						
PFVI	Vila Bisbo	146.81	336	*e*LR	LR	02 57 48.9	
	comp=Z,634nm,18.0s						
BDFB	Brasilia	147.74	135	PKPbc	PKPbc	02 05 07.8	-2.2
	comp=Z,10nm,1.0s,baz=311,slow=3.8,SNR=14						
CMLA	Cha da Macela	149.55	1	PFAKE		02 05 20.0	+10
CMLA				LR	LR		
	comp=Z,1µm,19.0s,MS5.6						
DBIC	Dimbokro	160.15	270	PFAKE		02 05 40.0	+15
DBIC				LR	LR		
	comp=Z,1µm,22.0s						
DBIC	Dimbokro	160.15	270	PKPab	PKPab	02 06 04.9	0.0
	comp=Z,3.8nm,0.8s,baz=93,slow=7.8,SNR=3.9						
LIC	Lamto	160.29	268	*e*PKIKP	PKPdf	02 05 19.1	-5.8
	comp=Z,62nm,1.8s						

*NEIC **01** 02:15:11.2,3120S×7173W,h29^{km},ML3.8(GUC),After GUC.*

GUC 01 02:15:11.2±0.7**,3120S**×**7173W,h29**^{km}±4^{km}**,MD4.5, ML3.8,2C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.62	87	⇑*i*P	Pb	02 15 23.3	-0.2
CMCH				*i* S	Sb	02 15 32.5	+0.6
CMCH	Combarbala	0.62	87	⇑*i*P	Pb	02 15 23.3	-0.2
CMCH				*i* S	Sb	02 15 32.5	+0.6
CMCH				AML	AML	02 15 34.7	
	comp=N,9µm,0.6s						
OVCH	Ovalle	0.75	37	⇓*i*P	Pb	02 15 24.9	-0.7
OVCH				*i* S	Sb	02 15 35.5	0.0
LSCH	La Serena	1.36	18	⇓*i*P	Pn	02 15 34.9	+0.7
LSCH				*i* S	Sn	02 15 52.1	+0.9
JACH	Jahuel	1.76	147	⇓*i*P	Pn	02 15 41.3	+1.5
JACH				*i* S	Sn	02 16 03.9	+2.7
ROCH	El Roble	1.86	161	*e*P	Pn	02 15 41.8	+0.6
LCO	Las Campanas	2.36	22	*e*Pn	Pn	02 15 48.7	+0.7
LCO				*e*Sn	Sn	02 16 18.6	+2.6
CLCH	Cerro Calan	2.41	156	*e*P	Pn	02 15 50.7	+2.0
CLCH				*i* S	Sn	02 16 19.7	+2.5
RCDM	Rinconada Maip	2.41	161	*e*P	Pn	02 15 49.6	+0.9
RCDM				*i* S	Sn	02 16 19.6	+2.4
RCDM	Rinconada Maip	2.41	161	*e*P	Pn	02 15 49.6	+0.9
RCDM				*i* S	Sn	02 16 19.6	+2.4
RCDM				AML	AML	02 16 29.6	
	comp=E,427nm,0.6s						
FCH	Farellones	2.44	151	*e*P	Pn	02 15 50.9	+1.8
FCH				*i* S	Sn	02 16 21.6	+3.6
FCH				AML	AML	02 16 34.8	
	comp=N,272nm,0.2s						
VACH	Vallenar	2.75	18	*e*P	Pn	02 15 53.4	0.0
VACH				*i* S	Sn	02 16 26.5	+0.8
VACH	Vallenar	2.75	18	*e*P	Pn	02 15 53.4	0.0
VACH				*i* S	Sn	02 16 26.5	+0.8
VACH				AML	AML	02 16 39.3	
	comp=E,1µm,0.5s						
CICH	Cipreses	3.30	161	*e*P	Pn	02 16 02.5	+1.6

*ISCJB **01** 02:22:08.4±0.6,489S±0.1×1233E±03,h10^{km},mb4.0/9, MS4.3/2, Error ellipse: s-maj=33.7km s-min=11.8km az=18.5*
*IDC **01** 02:22:08.8±0.8,4891S×123.19E,h0^{km},mb4.1/8, mb1 4.1/8,mb1mx4.0/14,mbtmp4.0/8,MS4.5/2,Ms1 4.4/2, ms1mx4.1/15,Error ellipse: s-maj=41.5km s-min=16.9km az=108.0*
*NEIC **01** 02:22:10.2±0.6,4889S×123.18E,h10^{km},mb4.3/1,Error ellipse: s-maj=28.6km s-min=10.8km az=109.0*
ISC 01 02:22:10.3±0.6**,489S**±01×**1232E**±03**,h10**^{km}**,n16,** σ**0**^{s}**69**/11**,mb4.0**/9**,MS4.3**/2**,Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	21.92	46	P	P	02 27 04.7	+1.0
	1.8nm,0.6s,mb3.7,baz=251,slow=10,SNR=3.3						
STKA				LR	LR	02 33 36.4	
	comp=Z,864nm,18.2s,MS4.2,baz=51,slow=31						
ASAR	Alice Springs	26.55	22	P	P	02 27 48.9	+0.7
	8.4nm,1.2s,mb4.1,baz=203,slow=8.6,SNR=17						
WRA	Warramunga Arr	30.23	21	P	P	02 28 20.6	-0.5
	0.5nm,0.7s,mb3.3,baz=196,slow=8.0,SNR=4.6						
WRA				LR	LR	02 39 06.6	
	comp=Z,928nm,19.0s,MS4.5,baz=190,slow=34						
WRAB	Tennant Creek	30.24	21	*e*P	P	02 28 20.1	-1.1
	9.4nm,1.9s,mb4.2						
VNDA	Vanda	32.30	165	P	P	02 28 38.7	-0.1
	2.0nm,0.8s,mb4.0,baz=295,slow=8.0,SNR=7.0						
QSPA	South Pole Qui	41.24	180	P	P	02 29 53.9	-0.9
	3.4nm,1.0s,mb3.9,baz=359,slow=5.0,SNR=6.4						
SNAA	Sanae	53.87	198	*e*	P	02 31 33.2	+0.3
SNAA				*e*		02 31 41.5	
SNAA				*e*		02 31 46.5	
SNAA				*e*		02 31 50.0	
SNAA	Sanae	53.87	198	P	P	02 31 33.2	+0.3
	2.0nm,0.6s,mb4.2,baz=151,slow=9.4,SNR=29						
VNA2	Neumayer--Watz	55.38	198	*e*	P	02 31 44.2	+0.3
	baz=143,slow=5.3						
VNA2				*e*		02 31 51.8	
VNA2				*e*		02 31 57.2	
VNA2				*e*		02 32 00.5	
BOSA	Boshof	73.89	245	P	P	02 33 46.2	+0.8
	1.3nm,0.8s,mb3.9,baz=272,slow=18,SNR=5.1						
SONM	Songino Array	97.43	349	P	P	02 35 42.8	-0.6
	0.7nm,0.8s,mb4.2,baz=152,slow=2.8,SNR=4.5						
MKAR	Makanchi Array	101.71	333	P	Pdif	02 36 01.9	-1.4
	0.2nm,0.5s,baz=107,slow=4.2,SNR=3.8						
TXAR	Lajitas Array	139.48	101	PKP	PKPdf	02 41 29.3	-8.4
TXAR				PKP	PKPdf	02 41 37.1	-0.6
TXAR	Lajitas Array	139.48	101	PKhKP		02 41 29.3	
	0.2nm,0.7s,baz=152,slow=5.7,SNR=3.9						
TXAR				PKP	PKPdf	02 41 37.1	-0.6
	0.3nm,0.8s,baz=188,slow=5.9,SNR=3.8						
YKA	Yellowknife Ar	145.95	45	PKPbc	PKPbc	02 41 48.9	+0.1
YKA	Yellowknife Ar	145.95	45	PKPbc	PKPbc	02 41 48.9	+0.1
	2.6nm,0.8s,baz=270,slow=2.9,SNR=43						

*ISCJB **01** 02:31:19.4±0.6,5147N±003×16.10E±003,h0^{km},Error ellipse: s-maj=4.5km s-min=2.5km az=16.0*
*WAR **01** 02:31:21.8,5150N×1609E,ML2.5,Mining Induced*
*NEIC **01** 02:31:21.5±1.8,5149N×1609E,h5^{km},ML2.5(SZGRF), Error ellipse: s-maj=18.9km s-min=7.1km az=205.0*
*IPEC **01** 02:31:21.6±0.3,5147N×1637E,h0^{km},ML2.0/4,Error ellipse: s-maj=3.5km s-min=1.9km az=90.0*
*VIE **01** 02:31:24.0±0.5,5126N×1620E,h0^{km},mb1.9/2,ML2.7/4, Error ellipse: s-maj=3.5km s-min=3.0km az=97.0 60 km WNW of Wroclaw Suspected Mining induced.*
*PRU **01** 02:31:23.0,5143N×1607E,h0^{km}*
*CSEM **01** 02:31:23.9±0.4,5139N×1603E,h1^{km},ML3.2/9,Error ellipse: s-maj=6.7km s-min=3.5km az=8.0*
ISC 01 02:31:20.7±0.6**,5151N**±003×**1610E**±003**,h0**^{km}**,n32,** σ**1**^{s}**02**/64**,2C-3D,Poland**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.68	170	*e*Pg	Pg	02 31 34.1	+0.5
KSP				*e*Sg	Sg	02 31 43.2	+0.8
KSP	Ksiaz	0.68	170	⇓*i*Pg	Pg	02 31 34.1	+0.4
KSP				*e*Sg	Sg	02 31 43.0	+0.6
KSP	Ksiaz	0.68	170	*e*Pg	Pg	02 31 34.0	+0.3
KSP				*e*Sg	Sg	02 31 41.7	-0.7
UPC	Upice	1.00	183	*e*Pg	Pg	02 31 40.1	+0.2
DPC	Dobruska-Polom	1.17	173	*e*PG	Pg	02 31 42.9	-0.2
DPC				*e*SG	Sg	02 31 57.8	-0.3
	comp=Z,41nm,0.4s						
PVCC	Panska Ves	1.38	225	*e*Pg	Pg	02 31 47.4	+0.3
PVCC				*e*Sg	Sg	02 32 05.8	+0.9
	comp=Z,169nm,0.2s						
BRG	Berggiesshubel	1.50	246	Pg	Pg	02 31 49.7	+0.3
BRG	Berggiesshubel	1.50	246	PN	Pn	02 31 49.3	+0.4
BRG				PG	Pg	02 31 49.7	+0.2
BRG				SG	Sg	02 32 09.4	+0.6
	comp=Z,61nm,0.3s						
PRU	Pruhonice	1.81	214	*e*Pg	Pg	02 31 55.7	+0.2
PRU				*e*Sg	Sg	02 32 18.2	-0.8
	comp=Z,30nm,0.4s						
CLL	Collm	1.95	265	*e*Pg	Pg	02 31 57.0	-1.1
CLL				*i* x	x	02 32 00.4	
CLL				*e*Sg	Sg	02 32 23.0	-0.4
	comp=Z,13nm,0.5s						
MORC	Moravsky Berou	1.96	152	*e*Pn	Pn	02 31 54.4	-0.8
MORC				*e*S	Sn	02 32 21.7	+1.3
MORC	Moravsky Berou	1.96	152	*e*Pn	Pn	02 31 54.4	-0.8
MORC				*e*Sg	Sg	02 32 19.8	-3.8
OKC	Ostrava-Krasne	2.12	141	*e*Pg	Pg	02 32 02.2	+0.9
OKC				*e*Sg	Sg	02 32 28.6	-0.1
VRAC	Vranov	2.22	172	*e*Pn	Pn	02 31 58.8	0.0
VRAC				*e*Sg	Sg	02 32 29.3	-2.8
	comp=Z,9.7nm,0.3s						
TREC	Trest	2.25	190	*e*PN	Pn	02 32 00.3	+1.2
TREC				*e*PG	Pg	02 32 03.1	-0.7
KRUC	Moravsky	2.46	175	*e*Pn	Pn	02 32 02.5	+0.5
KRUC				*e*Sg	Sg	02 32 37.1	-2.4
	comp=Z,7.2nm,0.3s						
NKC	Novy Kostel	2.64	243	*e*Pg	Pg	02 32 11.9	+0.6
NKC				*e*Sg	Sg	02 32 46.2	+0.6
	comp=Z,28nm,0.3s						
NKC	Novy Kostel	2.64	243	*e*PN	Pn	02 32 06.4	+1.8
NKC				*e*PG	Pg	02 32 11.9	+0.6
NKC				*e*SG	Sg	02 32 46.2	+0.6
	comp=Z,28nm,0.3s						
OJC	Ojcow	2.67	117	*e*Pg	Pg	02 32 11.4	-0.5
OJC				*e*Sg	Sg	02 32 46.0	-0.6
JAVC	Velka Javorina	2.84	159	*e*Sg	Sg	02 32 51.9	+0.1
	comp=Z,4.3nm,0.4s						
KHC	Kasperske Hory	2.88	215	*e*Pg	Pg	02 32 14.5	-1.3
KHC				*e*Sn	Sn	02 32 41.0	-2.0
KHC				*e*Sg	Sg	02 32 51.3	-1.8
	comp=Z,6.1nm,0.3s						
KHC	Kasperske Hory	2.88	215	*e*PN	Pn	02 32 08.0	+0.2
KHC				*e*PG	Pg	02 32 14.5	-1.3
KHC				*e*SN	Sn	02 32 41.0	-2.0
KHC				*e*SG	Sg	02 32 51.3	-1.8
	comp=Z,6.1nm,0.3s						
MOX	Moxa	2.96	255	*e*PG	Pg	02 32 16.7	-0.7
MOX				*e*SG	Sg	02 32 57.0	+1.3
GEC2	GERESS Array S	3.08	211	*e*Pn	Pn	02 32 11.5	+1.0
MODS	Modra-Piesok	3.23	166	*e*SG	Sg	02 33 06.4	+2.1
MODS				*e*PP		04 10 18.8	
KOLL	Kolacno	3.29	152	*e*PG	Pg	02 32 24.2	+0.5
KOLL				*e*SG	Sg	02 33 07.8	+1.6
NIE	Niedzica	3.41	126	*e*Pg	Pg	02 32 24.0	-2.0
NIE				*e*Sg	Sg	02 33 09.6	-0.5
VYHS	Vyhne	3.49	149	*e*PG	Pg	02 32 27.6	-0.1
VYHS				*e*SG	Sg	02 33 13.9	+1.0
CONA	Conrad Observa	3.58	183	⇓*i*Pn	Pn	02 32 17.3	-0.2
CONA				⇑*i*Sg	Sg	02 33 15.0	-0.9
	comp=Z,9.8nm,0.4s						
BSD	Bornholm Skovb	3.68	349	*i* P	Pn	02 32 17.3	-1.6
BSD				*i* S	Sn	02 32 58.0	-4.9
BSD							
	comp=Z,840nm,18.0s						
MOA	Molln	3.85	199	⇑*i*Pn	Pn	02 32 21.5	+0.3
MOA				⇓*i*Sg	Sg	02 33 24.4	+0.1
	comp=Z,4.1nm,0.4s						
STHS	Stebnicka Huta	3.90	120	*e*PG	Pg	02 32 36.4	+1.1
STHS				*e*SG	Sg	02 33 29.9	+4.1

*NEIC **01** 02:45:07.2±0.7,2194N×14309E,mb4.2/2,Error ellipse: s-maj=28.6km s-min=14.9km az=81.0*
*ISCJB **01** 02:45:10.2±2.5,2188N±009×1430E±02,h63^{km}±22^{km}, mb3.9/11,Error ellipse: s-maj=32.5km s-min=15.0km az=174.4*
*IDC **01** 02:45:12.2±3.2,2189N×14296E,h70^{km}±28^{km},mb3.7/9, mb1 3.8/10,mb1mx3.7/19,mbtmp3.7/10,Error ellipse: s-maj=29.6km s-min=16.2km az=89.0*
ISC 01 02:45:12.5±2.2**,2189N**±009×**1431E**±02**,h69**^{km}±19^{km}**,n15,** σ**1**^{s}**07**/16**,mb3.9**/11**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.25**	**351**	P	**Pn**	**02 46 27.8**	**-0.5**
	6.4nm,0.3s,baz=116,slow=22,SNR=5.9						
CBIJ				S	**Sn**	**02 47 27.6**	**+0.1**
	2.9nm,0.3s,baz=298,slow=22,SNR=4.4						
MJAR	**Matsushiro Arr**	**15.21**	**345**	P	**Pn**	**02 48 50.9**	**+7.8**
	0.2nm,0.3s,baz=174,slow=12,SNR=4.7						
KSRS	**Korea Array**	**20.31**	**323**	P	**P**	**02 49 46.0**	**+3.2**
	3.6nm,0.7s,baz=141,slow=8.4,SNR=11						
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**02 52 33.7**	**+0.5**
	2.4nm,0.9s,mb4.0,baz=128,slow=6.2,SNR=12						
WRAB	**Tennant Creek**	**42.44**	**192**	*e*P	**P**	**02 53 01.9**	**+1.3**
	5.8nm,1.1s,mb4.2						
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**02 52 60.0**	**-0.7**
	1.8nm,0.9s,mb3.8,baz=17,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**02 53 29.7**	**-0.6**
	0.6nm,0.7s,mb3.4,baz=15,slow=9.6,SNR=8.1						
ZALV	**Zalesovo Beam**	**54.01**	**322**	P	**P**	**02 54 26.8**	**-2.6**
	1.8nm,0.5s,mb4.4,baz=97,slow=6.1,SNR=6.8						
MK31	**Makanchi Array**	**54.51**	**313**	*e*P	**P**	**02 54 33.5**	**+0.4**
MK31				*e*pP	pP	02 54 40.9	-10
MKAR	**Makanchi Array**	**54.51**	**313**	P	**P**	**02 54 32.6**	**-0.5**
	0.9nm,0.6s,mb4.0,baz=94,slow=8.9,SNR=13						
TKM2	**Tokmak 2**	**59.16**	**308**	*e*P	**P**	**02 55 07.3**	**+1.2**
	1.7nm,0.8s,mb4.1						
TKM2				*e*pP	pP	02 55 14.9	-9.2
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**02 56 53.6**	**-0.1**
	1.3nm,0.5s,mb3.9,baz=293,slow=5.8,SNR=27						
FINES	**FINESS Array B**	**82.97**	**334**	P	**P**	**02 57 29.5**	**-0.2**
	0.5nm,0.6s,mb3.5,baz=34,slow=7.1,SNR=5.0						
NVAR	**Mina Array Bea**	**83.09**	**51**	P	**P**	**02 57 31.9**	**+1.1**
	1.1nm,0.8s,mb3.8,baz=265,slow=8.4,SNR=8.2						
AKASG	**Malin Array Be**	**87.30**	**324**	P	**P**	**02 57 50.0**	**-1.6**
	0.5nm,0.5s,mb3.7,baz=55,slow=4.8,SNR=6.1						

MEX 01 02:46:37.6±0.7**,16.25N×98.27W,h24**km±7km**,MD3.6,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**42**	*i* P	Pb	02 46 42.2	-1.0
PNIG				*i* S	Sb	02 46 45.6	-1.3
VHO	**Vista Hermosa**	**1.68**	**61**	*i* P	Pn	02 47 03.4	-2.1
VHO				*i* S	Sn	02 47 23.4	-2.9
OXX	**Oaxaca**	**1.69**	**60**	*e*P	Pn	02 47 02.5	-3.2
MEIG	**Mezcala**	**2.11**	**322**	*i* P	Pn	02 47 10.4	-1.1
MEIG				*i* S	Sn	02 47 32.9	-4.0
TPIG	**Tehuac#an**	**2.33**	**22**	*i* P	Pn	02 47 13.0	-1.4
TPIG				*i* S	Sn	02 47 38.0	-4.2
PPM	**Popocatepetl**	**2.83**	**353**	*i* P	Pn	02 47 20.8	-0.5
PPM				*i* S	Sn	02 47 53.2	-1.4

*ISCJB **01** 02:49:08.3±2.5,21.82N±0.08×143.0E±0.2,h38km±23km, mb4.0/12,Error ellipse: s-maj=25.3km s-min=12.9km az=179.3*

*NEIC **01** 02:49:09.7±0.5,21.80N×143.05E,h35km,mb4.0/3,Error ellipse: s-maj=17.7km s-min=9.8km az=80.0*

*IDC **01** 02:49:10.9±3.1,21.88N×143.07E,h44km±28km,mb3.8/10, mb1 3.9/11,mb1mx3.9/19,mbtmp3.8/11,ML3.4/1,MS3.6/2, Ms1 3.6/2,ms1mx3.2/33,Error ellipse: s-maj=28.9km s-min=15.5km az=91.0*

ISC 01 02:49:11.0±2.0**,21.84N**±0.08×**143.0E**±0.2**,h47**km±19km**,n20,** σ**0.78**/19**,mb4.0**/12**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.29**	**352**	P	**Pn**	**02 50 26.8**	**-0.7**
	3.2nm,0.3s,baz=126,slow=20,SNR=4.9						
CBIJ				S	**Sn**	**02 51 26.9**	**-0.3**
	3.5nm,0.3s,baz=302,slow=21,SNR=5.9						
CBIJ				LR	LR	02 52 10.5	
	comp=Z,277nm,19.0s,baz=198,slow=34						
JOW	**Kunigami**	**14.34**	**293**	LR	LR	02 56 38.0	
	comp=Z,463nm,19.4s,baz=126,slow=31						
MJAR	**Matsushiro Arr**	**15.24**	**345**	P	**Pn**	**02 52 44.6**	**+1.6**
	0.3nm,0.3s,baz=139,slow=7.8,SNR=3.9						
TATO	**Taipei**	**20.02**	**283**	*e*P	**P**	**02 53 39.3**	**-0.5**
	10nm,0.5s						
KSRS	**Korea Array**	**20.32**	**323**	P	**P**	**02 53 48.1**	**+5.0**
	2.5nm,0.8s,baz=142,slow=8.4,SNR=7.7						
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**02 56 34.7**	**+0.8**
	1.4nm,0.8s,mb3.7,baz=123,slow=6.9,SNR=9.8						
CTAO	**Charters Tower**	**41.79**	**175**	P	**P**	**02 56 55.9**	**-0.1**
	1.3nm,0.6s,mb3.7						
WRAB	**Tennant Creek**	**42.37**	**192**	*e*P	**P**	**02 57 00.3**	**-0.5**
	3.0nm,1.1s,mb3.8						
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**02 57 02.2**	**+1.4**
	5.7nm,1.1s,mb4.1,baz=13,slow=8.8,SNR=9.1						
ASAR	**Alice Springs**	**46.09**	**192**	P	**P**	**02 57 30.4**	**0.0**
	0.9nm,0.7s,mb3.8,baz=14,slow=9.2,SNR=9.8						
STKA	**Stephens Creek**	**53.43**	**182**	P	**P**	**02 58 25.5**	**-0.6**
	4.8nm,1.0s,mb4.4,baz=190,slow=22,SNR=3.1						
ZALV	**Zalesovo Beam**	**54.01**	**322**	P	**P**	**02 58 29.9**	**-0.3**
	1.7nm,0.8s,mb4.1,baz=103,slow=6.7,SNR=6.7						
MKAR	**Makanchi Array**	**54.50**	**313**	P	**P**	**02 58 34.6**	**+0.7**
	0.6nm,0.7s,mb3.8,baz=91,slow=8.7,SNR=6.9						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**03 00 54.5**	**-0.6**
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**03 00 54.5**	**-0.6**
	2.3nm,0.7s,mb4.2,baz=293,slow=5.3,SNR=36						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**03 01 32.9**	**+0.6**
	2.1nm,0.8s,mb4.2,baz=280,slow=4.3,SNR=15						
AKASG	**Malin Array Be**	**87.31**	**324**	P	**P**	**03 01 51.4**	**-1.4**
	0.1nm,0.3s,mb3.5,baz=55,slow=3.5,SNR=4.2						
ULM	**Lac du Bonnet**	**91.40**	**33**	P	**P**	**03 02 12.0**	**+0.1**
ULM	**Lac du Bonnet**	**91.40**	**33**	P	**P**	**03 02 12.0**	**+0.1**
	1.2nm,0.9s,mb4.2,baz=6.0,slow=1.0,SNR=3.4						
LPAZ	**La Paz**	**150.07**	**85**	PKPbc	PKPbc	03 08 58.8	+1.5
	2.7nm,0.8s,baz=328,slow=5.5,SNR=7.8						

MEX 01 02:50:53.1±0.7**,16.30N×98.25W,h25**km±4km**,MD4.0,Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.15**	**52**	*i* P	Pb	02 50 56.9	-1.3
PNIG				*i* S	Sb	02 51 00.6	-1.0
VHO	**Vista Hermosa**	**1.65**	**62**	*i* P	Pn	02 51 18.1	-2.3
VHO				*i* S	Sn	02 51 37.6	-3.2
OXX	**Oaxaca**	**1.66**	**62**	*i* P	Pn	02 51 18.0	-2.6
CAIG	**El Cayaco**	**2.07**	**291**	*i* P	Pn	02 51 23.3	-3.0
CAIG				*i* S	Sn	02 51 48.6	-2.8
MEIG	**Mezcala**	**2.08**	**321**	*i* P	Pn	02 51 24.1	-2.4
MEIG				*i* S	Sn	02 51 48.1	-3.5
HUIG	**Huatulco**	**2.13**	**104**	*e*P	Pn	02 51 24.7	-2.3
HUIG				*i* S	Sn	02 51 49.8	-3.0
TPIG	**Tehuac#an**	**2.27**	**22**	*i* P	Pn	02 51 27.6	-1.5
TPIG				*i* S	Sn	02 51 52.7	-3.6
PLIG	**Platanillo**	**2.40**	**330**	*i* P	Pn	02 51 28.9	-1.9
PLIG				*i* S	Sn	02 51 57.2	-2.2
YAIG	**Yautepec**	**2.67**	**343**	*i* P	Pn	02 51 34.0	-0.5
YAIG				*i* S	Sn	02 52 02.0	-4.0
PPM	**Popocatepetl**	**2.78**	**353**	*i* P	Pn	02 51 35.1	-0.9
PPM				*i* P		02 51 35.5	
PPM				*i* S	Sn	02 52 07.8	-0.9
CMIG	**Matias Romero**	**3.32**	**76**	*i* P	Pn	02 51 40.3	-3.2
CMIG				*i* S	Sn	02 52 18.8	-3.5

*NEIC **01** 03:07:00.0,34.51S×71.96W,h36km,MD3.5(GUC),After GUC.*

GUC 01 03:07:00.0±0.7**,34.51S×71.96W,h36**km±2km**,MD3.5, ML2.6,4C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.72**	**40**⇓	*i*P	Pn	03 07 13.5	-0.1
LNV				*i* S	Sn	03 07 24.1	+0.7
SFDO	**San Fernando**	**0.79**	**98**	*e*P	Pn	03 07 14.6	0.0
SFDO				*i* S	Sn	03 07 26.1	+1.0
CACH	**El Canelo**	**1.19**	**71**⇑	*i*P	Pn	03 07 21.6	+1.5
CACH				*i* S	Sn	03 07 38.4	+3.2
TACH	**Talagante**	**1.21**	**45**	*e*P	Pn	03 07 21.0	+0.7
TACH				*i* S	Sn	03 07 37.2	+1.7
CHCH	**Chadas Angostu**	**1.23**	**62**⇑	*i*P	Pn	03 07 21.7	+1.1
CHCH				*i* S	Sn	03 07 38.5	+2.5
CICH	**Cipreses**	**1.29**	**82**⇑	*i*P	Pn	03 07 22.5	+1.0
RCDM	**Rinconada Maip**	**1.40**	**44**	*e*P	Pn	03 07 23.4	+0.4
RCDM				*i* S	Sn	03 07 41.6	+1.4
RCDM	**Rinconada Maip**	**1.40**	**44**	*e*P	Pn	03 07 23.4	+0.4
RCDM				*i* S	Sn	03 07 41.6	+1.4
RCDM				AML	AML	03 07 45.4	
	comp=E,128nm,0.2s						
PCH	**Pirque**	**1.49**	**54**	*e*P	Pn	03 07 25.6	+1.3
PCH				*i* S	Sn	03 07 45.8	+3.3
LMEL	**Las Melosas**	**1.60**	**66**	*e*P	Pn	03 07 27.9	+2.1
LMEL				*i* S	Sn	03 07 48.3	+3.1
LMEL	**Las Melosas**	**1.60**	**66**	*e*P	Pn	03 07 27.9	+2.1
LMEL				*i* S	Sn	03 07 48.3	+3.1
LMEL				AML	AML	03 07 51.7	
	comp=N,181nm,0.2s						
CLCH	**Cerro Calan**	**1.62**	**47**⇓	*i*P	Pn	03 07 27.8	+1.8
CLCH				*i* S	Sn	03 07 48.5	+2.7
CLCH				AML	AML	03 07 51.5	
	comp=N,132nm,0.7s						
PEL	**Peldehue**	**1.73**	**38**⇑	*i*P	Pn	03 07 29.4	+1.9
PEL				*i* S	Sn	03 07 50.7	+2.4
PEL				AML	AML	03 07 59.6	
	comp=N,96nm,0.3s						
FCH	**Farellones**	**1.82**	**50**	*e*P	Pn	03 07 29.9	+1.1
FCH				*i* S	Sn	03 07 53.4	+2.7
FCH				AML	AML	03 08 00.2	
	comp=N,48nm,0.2s						

*IDC **01** 03:09:09.5±1.2,15.20N×144.06E,h0km,mb3.7/9, mb1 3.9/9,mb1mx3.7/19,mbtmp3.7/9,Error ellipse: s-maj=41.3km s-min=28.8km az=76.0*

*ISCJB **01** 03:09:12.1±0.7,15.1N±0.1×144.1E±0.2,h33km,mb3.7/9, Error ellipse: s-maj=32.1km s-min=13.1km az=152.7*

*NEIC **01** 03:09:13.9±0.7,15.05N×144.18E,h35km,Error ellipse: s-maj=33.1km s-min=14.7km az=67.0*

ISC 01 03:09:13.8±0.7**,15.1N**±0.1×**144.2E**±0.2**,h35**km**,n12,** σ**1.05**/12**,mb3.7**/9**,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.61**	**155**	*e*Pn	**Pn**	**03 09 38.3**	**-1.5**
KSRS	**Korea Array**	**26.56**	**330**	P	**P**	**03 14 47.7**	**-0.8**
	1.7nm,0.7s,mb3.7,baz=148,slow=10,SNR=5.6						
WRA	**Warramunga Arr**	**36.10**	**196**	P	**P**	**03 16 14.5**	**+2.0**
	0.5nm,0.7s,mb3.6,baz=18,slow=9.6,SNR=3.8						
SONM	**Songino Array**	**45.15**	**324**	P	**P**	**03 17 26.7**	**-0.3**
	0.1nm,0.3s,mb3.1,baz=122,slow=10,SNR=2.9						
MK31	**Makanchi Array**	**59.97**	**316**	P	**P**	**03 19 17.1**	**+0.3**
MKAR	**Makanchi Array**	**59.97**	**316**	P	**P**	**03 19 17.4**	**+0.7**
	0.5nm,0.7s,mb3.7,baz=98,slow=8.8,SNR=5.5						
BVAR	**Borovoye Array**	**68.36**	**321**	P	**P**	**03 20 11.7**	**+0.1**
	1.1nm,0.7s,mb4.0,baz=102,slow=6.4,SNR=7.9						
AKTK	**Aktyubinsk**	**76.12**	**319**	P	**P**	**03 20 57.3**	**-0.8**
AKTO	**Aktyubinsk**	**76.12**	**319**	P	**P**	**03 20 57.3**	**-0.8**
	0.4nm,0.5s,mb3.6,baz=72,slow=3.2,SNR=3.0						
YKA	**Yellowknife Ar**	**81.88**	**27**	P	**P**	**03 21 31.6**	**+2.3**
	0.3nm,0.7s,mb3.3,baz=287,slow=5.2,SNR=5.5						
NVAR	**Mina Array Bea**	**86.54**	**51**	P	**P**	**03 21 53.8**	**+0.2**
	0.1nm,0.3s,mb3.5,baz=282,slow=4.5,SNR=2.5						
FINES	**FINESS Array B**	**89.55**	**335**	P	**P**	**03 22 06.6**	**-0.8**
	1.9nm,1.0s,mb4.4,baz=98,slow=3.9,SNR=3.6						

*ATH **01** 03:25:51.0,38.26N×20.40E,h11km±1km,MD3.6/13,ML3.7*

*NEIC **01** 03:25:51.8,38.31N×20.52E,h10km,ML3.6(ATH),After ATH.*

*CSEM **01** 03:25:52.7±0.2,38.26N×20.45E,h8km,ML3.6,Error ellipse: s-maj=4.5km s-min=1.8km az=61.0*

*ISCJB **01** 03:25:52.2±0.6,38.29N±0.02×20.52E±0.05,h3km,Error ellipse: s-maj=5.7km s-min=2.8km az=157.0*

*THE **01** 03:25:52.8,38.29N×20.49E,h3km,ML3.4*

*SKO **01** 03:26:01.6,38.70N×20.69E,h15km*

ISC 01 03:25:52.3±0.7**,38.28N**±0.02×**20.51E**±0.05**,h0**km±4km**,n37,** σ**1.20**/59**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.12**	**149**	*e*Pg	**Pg**	**03 25 55.3**	**+0.7**
VLS				*e*Sg	**Sg**	**03 25 58.4**	**+2.4**
VLS	**Valsamata**	**0.12**	**149**	*e*PG	**Pg**	**03 25 55.2**	**+0.7**
VLS				*e*SG	**Sg**	**03 25 58.3**	**+2.3**
VLS	**Valsamata**	**0.12**	**149**	*e*Pg	**Pg**	**03 25 55.3**	**+0.8**
VLS				*e*Sg	**Sg**	**03 25 58.3**	**+2.3**
KFL	**Anninata**	**0.27**	**128**	*e*Pg	**Pg**	**03 25 58.0**	**+0.5**
KFL	**Anninata**	**0.27**	**128**	*e*Pg	**Pg**	**03 25 58.0**	**+0.4**
LKD	**Levkas**	**0.44**	**14**	*e*Pg	**Pg**	**03 26 00.8**	**0.0**
LKD				*e*Sg	**Sg**	**03 26 07.8**	**+1.2**
RLS	**Riolos of Patr**	**0.78**	**106**	*e*PG	**Pg**	**03 26 07.0**	**-0.3**
RLS				*e*SB	**Sb**	**03 26 19.4**	**-0.5**
RLS	**Riolos of Patr**	**0.78**	**106**	*e*Pb	**Pb**	**03 26 06.8**	**-2.0**
SELA	**Sela**	**1.09**	**90**	*e*Pg	**Pg**	**03 26 14.1**	**+0.9**
SELA				*e*Sg	**Sg**	**03 26 29.6**	**+2.4**
EVR	**Evrytania**	**1.20**	**57**	*e*PB	**Pb**	**03 26 15.3**	**-0.6**
EVR				*e*SB	**Sb**	**03 26 33.3**	**+1.4**
EVR	**Evrytania**	**1.20**	**57**	*e*Pg	**Pg**	**03 26 13.8**	**-1.5**
IGT	**Igoumenitsa**	**1.26**	**354**	*e*Pg	**Pg**	**03 26 16.3**	**-0.2**
IGT				*e*Sg	**Sg**	**03 26 33.9**	**+1.0**
JAN	**Janina**	**1.40**	**11**	*e*PB	**Pb**	**03 26 18.2**	**-1.2**
JAN				*e*SB	**Sb**	**03 26 36.7**	**-1.1**
KEK	**Kerkira**	**1.54**	**339**	*e*PB	**Pb**	**03 26 19.6**	**-2.1**
ITM	**Ithomi**	**1.57**	**134**	*e*PG	**Pg**	**03 26 21.1**	**-1.3**
AGG	**Agios Georgios**	**1.61**	**62**	*e*Pg	**Pg**	**03 26 21.9**	**-1.2**
AGG				*e*Sg	**Sg**	**03 26 44.0**	**+0.1**
AGG	**Agios Georgios**	**1.61**	**62**	*e*Pg	**Pg**	**03 26 21.9**	**-1.2**
AGG				*e*Sg	**Sg**	**03 26 44.0**	**+0.1**
MEV	**Metsovon**	**1.61**	**20**	*e*Pg	**Pg**	**03 26 22.1**	**-1.0**
SRN	**Sarande**	**1.65**	**346**	*i* Pn	**Pn**	**03 26 23.4**	**+0.9**
SRN				*i* Sn	**Sn**	**03 26 45.5**	**+1.1**
PYL	**PYLOS**	**1.69**	**144**	*e*Pb	**Pb**	**03 26 23.0**	**-1.2**
PYL				*e*Sb	**Sb**	**03 26 46.8**	**+0.8**
THL	**Klokotos Trika**	**1.74**	**42**	*e*Pb	**Pb**	**03 26 23.7**	**-1.4**
THL				*e*Sb	**Sb**	**03 26 47.8**	**+0.3**
THL	**Klokotos Trika**	**1.74**	**42**	*e*Pn	**Pn**	**03 26 23.8**	**+0.1**
THL				*e*Sb	**Sb**	**03 26 47.8**	**+0.3**
LTK	**Loutraki**	**1.95**	**97**	*e*Pb	**Pb**	**03 26 26.9**	**-1.8**
LKR	**Lokris**	**1.99**	**78**	*e*Pn	**Pn**	**03 26 27.3**	**+0.1**
LKR				*e*Sn	**Sn**	**03 26 54.2**	**+1.5**
LKR	**Lokris**	**1.99**	**78**	*e*PN	**Pn**	**03 26 27.4**	**+0.2**
KZN	**Kozani**	**2.25**	**25**	*e*PN	**Pn**	**03 26 31.8**	**+1.0**
DID	**Didima**	**2.29**	**109**	*e*Pn	**Pn**	**03 26 31.5**	**+0.3**
DID				*e*Sn	**Sn**	**03 26 57.6**	**-2.6**
VLI	**Veliai**	**2.48**	**128**	*e*PN	**Pn**	**03 26 35.3**	**+1.4**
ATH	**Athens Observa**	**2.54**	**96**	*e*PB	**Pb**	**03 26 35.1**	**-3.7**
FNA	**Florina**	**2.59**	**15**	*e*Pn	**Pn**	**03 26 35.7**	**+0.2**
FNA				*e*Sn	**Sn**	**03 27 08.1**	**+0.4**
PTL	**Penteli**	**2.65**	**94**	*e*PN	**Pn**	**03 26 36.5**	**+0.2**
BIA	**Bitola**	**2.81**	**13**	*e*Pn	**Pn**	**03 26 40.7**	**+2.2**
BIA				*e*Sn	**Sn**	**03 27 09.1**	**-3.9**
BIA	**Bitola**	**2.81**	**13**	*e*Pn	**Pn**	**03 26 40.6**	**+2.1**
BIA				*e*Sn	**Sn**	**03 27 09.0**	**-4.0**
PLG	**Polygyros**	**3.09**	**46**	*e*PB	**Pb**	**03 26 44.1**	**-4.0**
PLG	**Polygyros**	**3.09**	**46**	*e*Pn	**Pn**	**03 26 41.0**	**-1.3**
KRUS	**Krusevo**	**3.14**	**10**	*e*Pn	**Pn**	**03 26 44.0**	**+1.0**
KRUS				*e*Sn	**Sn**	**03 27 16.3**	**-4.8**
KRUS	**Krusevo**	**3.14**	**10**	*e*Pn	**Pn**	**03 26 43.9**	**+0.9**
KRUS				*e*Sn	**Sn**	**03 27 16.3**	**-4.9**

*ISCJB **01** 03:27:00.8±0.3,17.98N±0.04×67.21W±0.03,h46km±3km, mb3.8/10,Error ellipse: s-maj=7.1km s-min=4.4km az=178.1*

*RSPR **01** 03:27:02.7,18.04N×67.22W,h35km±1km,MD3.9/23, MD3.9/23*

*IDC **01** 03:27:02.3±1.2,17.90N×67.16W,h47km±14km,mb3.5/11, mb1 3.8/15,mb1mx3.7/25,mbtmp3.7/15,ML3.8/4,MS3.6/1, Ms1 3.6/1,ms1mx3.0/32,Error ellipse: s-maj=16.0km s-min=11.6km az=150.0*

*NEIC **01** 03:27:02.7,18.04N×67.22W,h35km,MD3.9(RSPR),After RSPR.*

NEIC Felt [IV] at Cabo Rojo, Mayaguez, San German and San Sebastian; [III] at Aguada, Hormigueros and Lajas. Also felt at Aguadilla, Aguas Buenas, Anasco, Dorado, Ponce, Rincon, Sabana Grande, San Juan and Yauco.

ISC 01 03:27:01.9±0.3**,18.01N**±0.04×**67.20W**±0.03**,h37**km±4km**,n46,** σ**0.86**/60**,mb3.8**/10**,12C-10D,Mona Passage**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CRPR	**Cabo Rojo, PR**	**0.08**	**93**	*e*S	**Sn**	**03 27 12.7**	**+0.2**
CRPR	**Cabo Rojo, PR**	**0.08**	**93**⇑	*i*P	**Pn**	**03 27 08.0**	**-0.2**
CRPR	**Cabo Rojo, PR**	**0.08**	**93**⇑	*i*P	**Pn**	**03 27 08.0**	**-0.2**
CRPR				*e*S	**Sn**	**03 27 12.7**	**+0.2**
LSP	**Las Mesas**	**0.19**	**32**⇓	*i*P	**Pn**	**03 27 08.7**	**-0.2**
MPR	**Mayaguez**	**0.21**	**15**	*e*S	**Sn**	**03 27 13.7**	**-0.2**
MPR	**Mayaguez**	**0.21**	**15**⇓	*i*P	**Pn**	**03 27 08.6**	**-0.4**
MPR	**Mayaguez**	**0.21**	**15**⇓	*i*P	**Pn**	**03 27 08.6**	**-0.4**
MPR				*e*S	**Sn**	**03 27 13.7**	**-0.2**
GBPR	**Guanica, Bosqu**	**0.30**	**97**⇓	*i*P	**Pn**	**03 27 10.2**	**+0.2**
LRS	**Lares**	**0.43**	**50**⇓	*i*P	**Pn**	**03 27 11.2**	**-0.5**
AGPR	**Aguadilla, PR**	**0.46**	**10**⇓	*i*P	**Pn**	**03 27 11.4**	**-0.7**
AGPR				*e*S	**Sn**	**03 27 18.4**	**-0.8**
AOPR	**Arecibo Observ**	**0.54**	**51**⇓	*i*P	**Pn**	**03 27 12.6**	**-0.5**
AOPR				*e*S	**Sn**	**03 27 20.6**	**-0.3**
CELP	**Cerrillos**	**0.59**	**84**⇑	*i*P	**Pn**	**03 27 13.9**	**+0.1**
ICM	**Isla Caja Muer**	**0.65**	**100**⇑	*i*P	**Pn**	**03 27 14.9**	**+0.3**
IMO	**Isla Mona**	**0.69**	**278**⇓	*i*P	**Pn**	**03 27 14.5**	**-0.6**
SJG	**San Juan**	**1.00**	**84**⇑	*i*P	**Pn**	**03 27 19.7**	**+0.2**
SJG	**San Juan**	**1.00**	**84**⇑	*i*P	**Pn**	**03 27 19.7**	**+0.2**
SJG	**San Juan**	**1.00**	**84**	*e*S	**Sn**	**03 27 32.7**	**+0.4**
SJG	**San Juan**	**1.00**	**84**⇑	*i*P	**Pn**	**03 27 19.7**	**+0.2**
SJG				*e*S	**Sn**	**03 27 32.7**	**+0.4**
SJG	**San Juan**	**1.00**	**84**	P	**Pn**	**03 27 19.8**	**+0.3**
	377nm,0.3s,baz=268,slow=14,SNR=471						
SJG				S	**Sn**	**03 27 33.2**	**+0.8**
	2μm,0.3s,baz=88,slow=24,SNR=68						
CPD	**Cerro la Pandu**	**1.22**	**89**⇑	*i*P	**Pn**	**03 27 20.1**	**-2.4**
CPD				*e*S	**Sn**	**03 27 37.5**	**-0.2**
HUMP	**Col San Antoni**	**1.29**	**84**⇑	*e*P	**Pn**	**03 27 23.3**	**-0.1**
HUMP				*e*S	**Sn**	**03 27 40.1**	**+0.6**
CBYP	**Canovanas**	**1.30**	**78**⇑	*e*P	**Pn**	**03 27 18.2**	**-5.4**
MTP	**Monte Pirata**	**1.56**	**87**⇑	*e*P	**Pn**	**03 27 19.9**	**-7.4**
STVI	**Saint Thomas**	**2.16**	**81**⇑	*e*P	**Pn**	**03 27 36.2**	**+0.8**
STVI				*e*S	**Sn**	**03 28 01.6**	**+0.7**
DR12	**Loma Pena Alta**	**2.21**	**291**⇓	*e*P	**Pn**	**03 27 36.4**	**+0.3**
SMN1	**Samana, DR**	**2.29**	**301**⇓	*e*P	**Pn**	**03 27 38.1**	**+0.8**
CDVI	**St. Croix**	**2.33**	**96**⇑	*e*P	**Pn**	**03 27 36.7**	**-1.1**
TBVI	**Tortola**	**2.48**	**80**⇑	*e*P	**Pn**	**03 27 40.9**	**+1.0**
TBVI				*e*S	**Sn**	**03 28 09.5**	**+0.5**
ABV	**Anegada**	**2.81**	**75**⇑	*e*P	**Pn**	**03 27 46.0**	**+1.6**
DR08	**Loma La Naviza**	**2.84**	**290**⇑	*e*P	**Pn**	**03 27 45.4**	**+0.5**
SDDR	**Presa de Saban**	**4.00**	**285**⇑	*e*P	**Pn**	**03 28 02.1**	**+1.3**
PCRV	**Puerto La Cruz**	**8.17**	**162**	P	**Pn**	**03 28 58.3**	**+0.2**
	2.7nm,0.3s,baz=20,slow=22,SNR=16						
PCRV				S	**Sn**	**03 30 19.3**	**-10**
	1.7nm,0.3s,baz=204,slow=15,SNR=3.5						
PCRV				LR	LR	03 31 30.5	
	comp=Z,467nm,20.2s,baz=309,slow=33						
SDV	**Santo Domingo**	**9.67**	**201**	P	**Pn**	**03 29 18.2**	**-0.4**
	2.5nm,0.3s,baz=30,slow=11,SNR=10						
SDV				S	**Sn**	**03 30 59.4**	**-6.6**
	0.5nm,0.3s,baz=23,slow=21,SNR=2.6						
ROSC	**El Rosal**	**14.82**	**209**	P	**Pn**	**03 30 29.1**	**+0.1**
	1.6nm,0.3s,baz=96,slow=23,SNR=2.8						
ROSC				S	**Sn**	**03 33 12.9**	**+0.9**
	1.8nm,0.3s,baz=99,slow=20,SNR=2.9						
JTS	**JuntasAbangare**	**18.84**	**248**	P	**Pn**	**03 31 18.5**	**-1.1**
	0.3nm,0.3s,baz=73,slow=7.1,SNR=4.7						
TEIG	**Tepich**	**20.04**	**280**	P	**P**	**03 31 31.6**	**-0.3**
	2.5nm,0.4s,baz=18,slow=19,SNR=6.9						
TKL	**Tuckaleechee C**	**22.91**	**323**	P	**P**	**03 32 03.8**	**+1.2**
	0.5nm,0.3s,mb3.5,baz=207,slow=13,SNR=1.6						
TKL				S	**S**	**03 36 12.7**	**+2.6**
	1.1nm,0.5s,baz=244,slow=21,SNR=4.4						
TXAR	**Lajitas Array**	**35.12**	**296**	P	**P**	**03 33 51.9**	**-0.1**
	0.7nm,0.6s,mb3.8,baz=111,slow=9.6,SNR=11						
SCHQ	**Schefferville**	**36.75**	**0**	P	**P**	**03 34 06.5**	**+0.9**
	1.0nm,0.6s,mb3.8,baz=355,slow=15,SNR=3.7						
CPUP	**Villa Florida**	**45.10**	**167**	P	**P**	**03 35 12.8**	**-1.9**
	0.9nm,0.6s,mb3.8,baz=344,slow=8.1,SNR=3.3						
NVAR	**Mina Array Bea**	**48.74**	**306**	P	**P**	**03 35 43.6**	**+0.5**
	0.3nm,0.3s,mb3.7,baz=94,slow=6.4,SNR=4.5						
YKA	**Yellowknife Ar**	**55.17**	**335**	P	**P**	**03 36 29.0**	**-1.5**
	0.3nm,0.6s,mb3.5,baz=112,slow=6.9,SNR=6.7						
ESDC	**Sonseca Array**	**58.25**	**54**	P	**P**	**03 36 51.9**	**-0.9**
	1.1nm,0.7s,mb4.0,baz=278,slow=7.5,SNR=6.3						
DBIC	**Dimbokro**	**61.69**	**92**	P	**P**	**03 37 15.8**	**-1.0**
	1.8nm,0.9s,mb4.2,baz=291,slow=8.6,SNR=1.9						
INK	**Inuvik**	**64.70**	**338**	P	**P**	**03 37 34.6**	**-1.2**
	0.3nm,0.5s,mb3.6,baz=122,slow=6.5,SNR=2.7						
ARCES	**ARCESS Array B**	**74.22**	**21**	P	**P**	**03 38 36.3**	**+1.7**
	1.7nm,0.7s,mb4.1,baz=280,slow=5.4,SNR=6.2						

IDC 01 03:42:12.0±5.2**,19.72S×177.81W,h604**km±65km**,mb2.9**/6**, mb1 3.2**/7**,mb1mx3.1**/16**,mbtmp3.0**/7**,Error ellipse: s-maj=45.6km s-min=24.8km az=176.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.00**	**192**	P	P	03 45 55.7	-0.6
	1.2nm,0.3s,baz=161,slow=23,SNR=5.4						
CTA	**Charters Tower**	**33.76**	**263**	P	P	03 48 05.4	-0.1
	3.3nm,0.8s,baz=89,slow=10,SNR=4.9						
STKA	**Stephens Creek**	**38.30**	**243**	P	P	03 48 43.7	+1.1
	1.9nm,0.6s,baz=95,slow=11,SNR=3.3						
ASAR	**Alice Springs**	**44.88**	**256**	P	P	03 49 34.5	+0.1
	2.2nm,0.7s,baz=89,slow=7.8,SNR=28						
ASAR				PcP	PcP	03 51 03.0	+0.3
	0.4nm,0.7s,baz=104,slow=4.1,SNR=3.0						
WRA	**Warramunga Arr**	**44.89**	**261**	P	P	03 49 34.0	-0.5
	0.8nm,0.5s,baz=98,slow=8.0,SNR=32						
WRA				PcP	PcP	03 51 02.9	0.0
	0.6nm,1.1s,baz=92,slow=3.3,SNR=2.8						
NVAR	**Mina Array Bea**	**80.33**	**43**	P	P	03 53 21.6	+0.1
	0.2nm,0.4s,baz=239,slow=6.2,SNR=3.6						
TXAR	**Lajitas Array**	**86.48**	**57**	P	P	03 53 53.0	+0.9
	0.5nm,0.9s,baz=225,slow=7.2,SNR=5.2						
GERES	**GERESS Array B**	**149.50**	**345**	PKPbc	PKPbc	04 00 53.3	-0.7
	0.1nm,0.6s,baz=55,slow=5.1,SNR=4.9						

*NEIC **01** 03:49:31.9,31.95S×71.46W,h26km,ML2.6(GUC),After GUC.*

GUC 01 03:49:31.9±0.6**,31.95S×71.46W,h26**km±4km**,MD3.7, ML2.6,5C-3D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.86**	**27**⇑	*i*P	Pb	03 49 47.5	-0.8
CMCH				*i* S	Sb	03 49 59.5	+0.1
CMCH	**Combarbala**	**0.86**	**27**⇑	*i*P	Pb	03 49 47.5	-0.8
CMCH				*i* S	Sb	03 49 59.5	+0.1
CMCH				AML	AML	03 50 00.0	
	comp=E,566nm,0.8s						
JACH	**Jahuel**	**1.04**	**135**	*e*P	Pn	03 49 51.5	+0.7
JACH				*i* S	Sb	03 50 05.8	+1.4
ROCH	**El Roble**	**1.09**	**160**	*e*P	Pn	03 49 51.8	+0.2
ROCH				*i* S	Sn	03 50 06.6	+0.8
PEL	**Peldehue**	**1.36**	**151**⇓	*i*P	Pn	03 49 55.8	+0.6
PEL				*i* S	Sn	03 50 13.6	+1.1
PEL				AML	AML	03 50 14.8	
	comp=E,295nm,0.3s						
LCCH	**Las Cruces**	**1.53**	**183**⇑	*i*P	Pn	03 49 57.8	+0.3
RCDM	**Rinconada Maip**	**1.63**	**160**⇓	*i*P	Pn	03 49 59.6	+0.7
RCDM				*i* S	Sn	03 50 20.8	+1.7
RCDM	**Rinconada Maip**	**1.63**	**160**⇓	*i*P	Pn	03 49 59.6	+0.7
RCDM				*i* S	Sn	03 50 20.8	+1.7
RCDM				AML	AML	03 50 23.1	
	comp=E,110nm,0.3s						
CLCH	**Cerro Calan**	**1.64**	**152**	*e*P	Pn	03 50 00.3	+1.2
CLCH				*i* S	Sn	03 50 21.6	+2.3
CLCH				AML	AML	03 50 23.9	
	comp=N,101nm,0.5s						
FCH	**Farellones**	**1.69**	**145**⇑	*i*P	Pn	03 50 01.2	+1.4
FCH				*i* S	Sn	03 50 23.5	+2.9
FCH				AML	AML	03 50 24.5	
	comp=E,108nm,0.3s						
TACH	**Talagante**	**1.76**	**166**⇑	*i*P	Pn	03 50 01.7	+1.1
TACH				*i* S	Sn	03 50 24.2	+2.0
PCH	**Pirque**	**1.85**	**155**	*i* S	Sn	03 50 27.0	+2.5
TLL	**Tololo Astrono**	**1.86**	**18**	*e*P	Pn	03 50 04.1	+2.0
TLL				*i* S	Sn	03 50 28.3	+3.5
TLL	**Tololo Astrono**	**1.86**	**18**	*e*P	Pn	03 50 04.1	+2.0
TLL				*i* S	Sn	03 50 28.3	+3.5
TLL				AML	AML	03 50 34.7	
	comp=N,42nm,0.5s						
LMEL	**Las Melosas**	**2.17**	**151**	*e*P	Pn	03 50 08.3	+1.9
LMEL				*i* S	Sn	03 50 35.3	+2.9
LMEL	**Las Melosas**	**2.17**	**151**	*e*P	Pn	03 50 08.3	+1.9
LMEL				*i* S	Sn	03 50 35.3	+2.9
LMEL				AML	AML	03 50 39.3	
	comp=N,117nm,0.2s						

*ISCJB **01** 03:52:19.4±0.2,21.38S±0.03×68.56W±0.04,h121km, mb5.3/126,Error ellipse: s-maj=5.1km s-min=3.8km*

az=149.9

BJI ***01*** *03:52:20.2, 2107S×6868W, h114km, mB5.4*

CRAAG ***01*** *03:52:20.0, 2134S×6847W, Mb5.4*

GCMT ***01*** *03:52:21.0±0.1, 2144S×6880W, h137km±1km, MW5.5/92, Moment Tensor Solution. s80,c138; s92,c161; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.30±.03; $M_{\theta\theta}$0.37±.04; $M_{\phi\phi}$0.93±.04; $M_{r\theta}$1.01±.02; $M_{\theta\phi}$-0.73±.03; $M_{\phi r}$-0.97±.03; Best double couple: $M_0$1.95800×10^{17} NP1:ϕ_s156.00000°, δ23.00000°, λ-73.00000°. NP2:ϕ_s317.00000°, δ68.00000°, λ-97.00000°. Principal axes: T 2.0080, Plg23.0000°, Azm52.0000°; N -0.1020, Plg7.0000°, Azm320.0000°; P -1.9080, Plg66.0000°, Azm214.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

IDC ***01*** *03:52:21.1±0.4, 2130S×6838W, h121km±3km, mb5.0/12, mb1 5.0/18, mb1mx5.0/19, mbtmp4.9/18, MS4.2/10, Ms1 4.2/10, ms1mx3.9/24 Error ellipse: s-maj=10.1km s-min=8.9km az=71.0*

NEIC ***01*** *03:52:21.1±0.1, 2133S×6841W, mb5.4/104, Error ellipse: s-maj=5.7km s-min=3.7km az=224.0*

NEIC Felt [III] at Calama and [II] at Maria Elena. Also felt at Iquique.

MOS ***01*** *03:52:23.2±1.0, 2106S×6843W, h141km, mb5.4/40, MS4.6/6, Error ellipse: s-maj=9.5km s-min=6.4km az=93.9*

LDG ***01*** *03:52:24.1±0.3, 2087S×6823W, h140km, Mb5.2/27, Ms4.3/9, Error ellipse: s-maj=17.2km s-min=11.1km az=22.0*

ISC 01 03:52:21.3±0.2**, 2139S**±003×**6848W**±004**, h123**km**, h123**km±.6km**:pP-P, n547,** σ1s**04**/410**, mb5.2**/126**, 8C-5D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
CEN1	Los Morros	2.55	218⇓	eP	Pn	03 53 00.8	-1.2
CEN1				eS	Sn	03 53 29.3	-3.8
ANCH	Antofagasta	2.90	218	eP	Pn	03 53 01.9	-4.5
CPN1	Cerro Paranal	3.68	208	eP	Pn	03 53 12.2	-4.5
CPN1				eS	Sn	03 53 50.8	-8.8
LPAZ	La Paz	5.08	4	P	Pn	03 53 35.4	-0.1
LPAZ	La Paz	5.08	4	P	Pn	03 53 35.6	+0.2
	68nm,0.3s,baz=198,slow=5.8,SNR=989						
LPAZ				S	Sn	03 54 23.4	-10
	14nm,0.3s,baz=114,slow=16,SNR=3.9						
ARE	Arequipa	5.67	329	eP	Pn	03 53 38.0	-5.4
ARE				eS	Sn	03 54 37.0	-10
CPCH	Copiapo	6.19	196	eP	Pn	03 53 45.0	-5.3
CPCH				eS	Sn	03 54 48.5	-11
LCO	Las Campanas	7.85	194	ePn	Pn	03 54 06.1	-6.7
	560nm,0.8s						
LCO				eSn	Sn	03 55 30.9	-9.2
SIV	San Ignacio	8.83	54	P	Pn	03 54 22.8	-3.4
	116nm,0.3s,baz=241,slow=13,SNR=2382						
SIV				S	Sn	03 55 50.1	-14
	6.7nm,0.3s,baz=132,slow=22,SNR=1.3						
TLL	Tololo Astrono	8.99	193	eP	Pn	03 54 21.9	-6.3
TLL				eS	Sn	03 55 56.0	-12
CFAA	Coronel Fontan	10.18	179	P	Pn	03 54 38.8	-5.3
	1.6nm,0.3s,baz=357,slow=13,SNR=81						
CFAA				S	Sn	03 56 24.9	-11
	2.0nm,0.3s,baz=148,slow=14,SNR=9.1						
CPUP	Villa Florida	11.32	118	P	Pn	03 54 57.2	-2.2
	10nm,0.3s,baz=276,slow=12,SNR=46						
CPUP				LR	LR	04 00 32.0	
	comp=Z,1µm,18.9s,baz=284,slow=44						
PEL	Peldehue	11.87	189	eP	Pn	03 54 59.8	-6.9
FCH	Farellones	12.00	187	eP	Pn	03 55 02.6	-5.8
CLCH	Cerro Calan	12.10	188	eP	Pn	03 55 05.6	-4.0
CLCH				eS	Sn	03 57 12.0	-11
NNA	Nana	12.31	318	ePn	Pn	03 55 10.7	-1.8
NNA	Nana	12.31	318	P	Pn	03 55 10.7	-1.8
	2.0nm,0.3s,baz=171,slow=13,SNR=6.9						
NNA				S	Sn	03 57 13.5	-15
	3.6nm,0.3s,baz=229,slow=16,SNR=2.2						
LMEL	Las Melosas	12.51	187	eP	Pn	03 55 09.8	-5.2
ATAH	Atahualpa	17.22	325	P	Pn	03 56 13.9	-0.6
	1.1nm,0.3s,baz=172,slow=10,SNR=10						
ATAH				S	S	03 59 21.7	-4.7
	0.4nm,0.3s,baz=249,slow=15,SNR=1.6						
TRQA	Tornquist	17.54	163	eP	Pn	03 56 15.4	-2.6
TRQA				eSn	Sn	03 59 28.2	-5.6
PLCA	Paso Flores	19.37	185⇓	iP	P	03 56 36.3	-1.0
PLCA				S	S	04 00 11.8	+2.1
PLCA				pmax	pmax		
	comp=Z,222nm,0.9s						
PLCA	Paso Flores	19.37	185⇓	iP	P	03 56 36.3	-1.0
	comp=Z,222nm,0.9s						
PLCA				S	S	04 00 11.8	+2.0
PLCA				PcP	PcP	04 00 54.8	+0.7
PLCA	Paso Flores	19.37	185	P	P	03 56 36.5	-0.8
	comp=Z,8.2nm,0.3s,baz=8.8,slow=12,SNR=178						
PLCA				S	S	04 00 11.8	+2.0
	baz=180,slow=23,SNR=1.5						
PLCA				PcP	PcP	04 00 54.8	+0.7
	comp=Z,0.3nm,0.3s,baz=285,slow=6.1,SNR=3.1						
BDFB	Brasilia	20.22	77	P	P	03 56 45.9	-0.8
BDFB				S	S	04 00 24.7	-2.3
BDFB	Brasilia	20.22	77	P	P	03 56 45.9	-0.8
	comp=Z,141nm,0.5s,baz=244,slow=16,SNR=389						
BDFB				S	S	04 00 24.7	-2.3
	comp=Z,9.9nm,0.7s,baz=218,slow=26,SNR=1.7						
BDFB				LR	LR	04 04 43.3	
	comp=Z,597nm,21.7s,baz=85,slow=37						
ROSC	El Rosal	26.70	347	eP	P	03 57 49.3	+0.1
ROSC	El Rosal	26.70	347	P	P	03 57 49.7	+0.5
	comp=Z,20nm,0.5s,mb4.9,baz=112,slow=5.1,SNR=24						
ROSC				LR	LR	04 09 07.3	
	comp=Z,568nm,18.5s,baz=30,slow=38						
SDV	Santo Domingo	30.16	356	eP	P	03 58 17.5	-2.4
	comp=Z,29nm,0.7s,mb5.0						
EFI	East Falkland	31.30	167	P	P	03 58 28.6	-1.0
	comp=Z,499nm,1.3s,mb6.1,SNR=6.8						
EFI	East Falkland	31.30	167	eP	P	03 58 28.2	-1.4
EFI				pmax	pmax		
	comp=Z,93nm,1.0s,mb5.5						
EFI	East Falkland	31.30	167	eP	P	03 58 28.2	-1.3
	comp=Z,93nm,1.0s,mb5.5						
BCIP	Isla Barro Col	32.35	339	eP	P	03 58 38.3	-0.9
	comp=Z,32nm,0.8s,mb5.1						
USHA	Ushuaia	33.39	180	LR	LR	04 13 01.3	
	comp=Z,339nm,20.5s,baz=352,slow=37						
GRGR	Grenville	33.98	12	eP	P	03 58 51.7	-1.6
	comp=Z,129nm,0.6s,mb5.9						
JTS	JuntasAbangare	35.40	331	eP	P	03 59 05.6	+0.1
JTS				e*PP	pP	03 59 32.8	+0.1
JTS	JuntasAbangare	35.40	331	eP	P	03 59 03.2	-2.3
	comp=Z,17nm,1.1s,mb4.8						
JTS				epP	pP	03 59 32.8	+0.1
FDF	Fort de France	36.61	12	eP	P	03 59 13.4	-2.4
RPN	Rapa Nui	37.57	253	LR	LR	04 11 23.2	
	comp=Z,286nm,20.9s,baz=313,slow=30						
CPD	Cerro la Pandu	39.26	4	eP	P	03 59 32.6	-5.4
CPD				e*PP	pP	04 00 02.2	-3.4
SJG	San Juan	39.32	3	eP	P	03 59 34.5	-4.0
SJG				e*PP	pP	04 00 04.5	-1.6
MTP	Monte Pirata	39.34	4	epP	pP	03 59 57.5	-8.8
HUMP	Col San Antoni	39.37	4	eP	P	03 59 35.3	-3.6
HUMP				epP	pP	04 00 05.6	-0.9
MPR	Mayaguez	39.38	2	eP	P	03 59 36.2	-2.8
MPR				epP	pP	04 00 05.4	-1.2
CBYP	Canovanas	39.50	4	eP	P	03 59 31.0	-9.0
CBYP				epP	pP	03 59 59.9	-7.7
TGUH	Tegucigalpa,Un	39.77	331	eP	P	03 59 40.7	-1.6
	comp=Z,119nm,1.0s,mb5.7						
TGUH				epP	pP	04 00 09.2	-0.7
SDDR	Presa de Saban	40.21	356	eP	P	03 59 45.6	-0.3
HOPE	Hope Point	40.78	152	P	P	03 59 51.1	+0.9
	comp=Z,660nm,0.9s,mb6.5,SNR=6.9						
RCC	Rio Carpintero	41.73	350	eP	pP	04 00 22.7	-3.4
PMSA	Palmer Station	43.47	177	eP	P	04 00 12.4	+0.5
	comp=Z,84nm,0.8s,mb5.5						
PMSA	Palmer Station	43.47	177	LR	LR	04 19 06.6	
	comp=Z,410nm,18.8s,baz=0.2,slow=37						
MGV	Manicaragua	44.67	345	eP	pP	04 00 49.2	-0.8
TEIG	Tepich	45.66	334	eP	P	04 00 30.4	+0.6
TEIG				epP	pP	04 00 57.6	-0.5
DWPF	Disney	50.77	345	eP	P	04 01 08.6	-0.4
DWPF				epP	pP	04 01 36.6	-1.1
DWPF				esP	sP	04 01 50.3	-1.1
BRAL	Brewton	55.07	341	eP	P	04 01 40.8	+0.4
BRAL				epP	pP	04 02 10.2	+0.6
NHSC	New Hope	55.33	348	eP	P	04 01 42.0	-0.2
NHSC				epP	pP	04 02 11.4	0.0
NHSC				esP	sP	04 02 23.6	-1.4
COW	Cow Castle Cre	55.70	348	eP	P	04 01 45.0	+0.1
GOGA	Godfrey	56.34	345	eP	P	04 01 48.6	-0.8
JSC	Jenkinsville	56.68	347	eP	P	04 01 51.5	-0.4
HKT	Hockley	57.43	332	eP	P	04 01 57.0	-0.2
HKT				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
HKT	Hockley	57.43	332	eP	P	04 01 57.0	-0.2
	comp=Z,12nm,0.7s,mb5.0						
HKT				e		04 02 15.0	
HKT				epP	pP	04 02 25.4	-1.2
HKT				esP	sP	04 02 38.8	-1.3
CPCT	Cooper Cave	58.54	345	eP	P	04 02 04.0	-0.8
CPCT				epP	pP	04 02 32.8	-1.5
SWET	Sewanee	58.68	343	eP	P	04 02 04.4	-1.4
SWET				epP	pP	04 02 33.6	-1.7
SWET				esP	sP	04 02 46.6	-2.2
PLAL	Pickwick Lake	59.07	341	eP	P	04 02 06.3	-2.2
	comp=Z,62nm,1.1s,mb5.5						
PLAL				epP	pP	04 02 35.7	-2.4
PLAL				esP	sP	04 02 49.4	-2.1
URVA	University of	59.26	352	eP	P	04 02 08.5	-1.3
TZTN	Tazewell	59.35	346	eP	P	04 02 09.5	-1.0
BLA	Blacksburg	59.36	349	eP	P	04 02 09.9	-0.6
BLA				e*PP	pP	04 02 39.3	-0.8
BLA				pmax	pmax		
	comp=Z,243nm,1.4s,mb6.0						
BLA	Blacksburg	59.36	349	eP	P	04 02 09.9	-0.6
	comp=Z,243nm,1.4s,mb6.0						
BLA				epP	pP	04 02 39.3	-0.8
ELN	Prospectdale	59.44	349	eP	P	04 02 10.6	-0.4
ELN				epP	pP	04 02 39.8	-0.8
ELN				esP	sP	04 02 52.2	-1.8
JCT	Junction City	59.72	329	eP	P	04 02 13.4	+0.3
JCT				pmax	pmax		
	comp=Z,96nm,1.6s,mb5.6						
JCT	Junction City	59.72	329	eP	P	04 02 13.4	+0.4
	comp=Z,96nm,1.6s,mb5.6						
JCT				epP	pP	04 02 41.0	-1.7
WVT	Waverly	60.06	342	eP	P	04 02 12.9	-2.4
WVT				e*PP	pP	04 02 42.4	-2.6
WVT				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.5						
WVT	Waverly	60.06	342	eP	P	04 02 12.9	-2.4
	comp=Z,43nm,0.8s,mb5.5						
WVT				epP	pP	04 02 42.4	-2.6
VNA1	Neumayer--Stat	60.26	161	eP	P	04 02 17.1	+0.9
VNA1				e		04 02 21.7	
VNA1				e		04 02 27.7	
VNA1				e		04 02 33.2	
UALR	University of	60.28	337	eP	P	04 02 16.1	-0.8
	comp=Z,60nm,1.2s,mb5.5						
UALR				epP	pP	04 02 45.4	-1.1
UALR				esP	sP	04 02 58.3	-1.6
MIAR	Mount Ida	60.53	336	eP	P	04 02 17.0	-1.5
MIAR				e*PP	pP	04 02 47.0	-1.2
MIAR				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.6						
MIAR	Mount Ida	60.53	336	eP	P	04 02 17.0	-1.5
	comp=Z,72nm,1.1s,mb5.6						
MIAR				epP	pP	04 02 47.0	-1.2
UTMT	University of	60.57	341	eP	P	04 02 17.9	-0.8
UTMT				epP	pP	04 02 47.4	-1.0
VNA2	Neumayer--Watz	60.62	161	eP	P	04 02 19.1	+0.4
	baz=285,slow=8.2						
VNA2				e		04 02 23.8	
VNA2				e		04 02 29.1	
GLAT	Glass	60.63	341	eP	P	04 02 17.9	-1.3
GLAT				epP	pP	04 02 48.5	-0.3
TXAR	Lajitas Array	60.77	325	P	P	04 02 19.4	-0.9
	comp=Z,2.4nm,0.6s,mb4.4,baz=148,slow=9.0,SNR=39						
TXAR				pP	pP	04 02 48.3	-1.7
	comp=Z,13nm,1.1s,baz=132,slow=6.9,SNR=7.3						
SDMD	Soldier's Deli	60.98	353	eP	P	04 02 21.6	+0.1
SDMD				epP	pP	04 02 50.9	-0.3
RKT	Rikitea	61.07	255	eS	S	04 10 37.9	+5.7
	comp=Z,777nm,26.2s						
RKT	Rikitea	61.07	255	eLR	LR	04 20 52.7	
	comp=Z,714nm,36.8s						
PARMO	Parma	61.13	341	eP	P	04 02 21.0	-1.6
PARMO				e	pP	04 02 51.6	-0.7
MVL	Millersville	61.51	353	eP	P	04 02 24.6	-0.4
MVL				epP	pP	04 02 54.7	-0.1
MCWV	Mont Chateau	61.65	350	eP	P	04 02 25.7	-0.3
MCWV				epP	pP	04 02 54.9	-0.8
USIN	University of	61.73	343	eP	P	04 02 25.5	-1.1
USIN				epP	pP	04 02 54.3	-2.0
SIUC	Southern Illin	61.94	341	eP	P	04 02 26.9	-1.1
SIUC				epP	pP	04 02 56.2	-1.5
SNAA	Sanae	62.25	161	eP	P	04 02 29.9	+0.2
SNAA				e		04 02 34.9	
SNAA				e		04 02 40.8	
SNAA	Sanae	62.25	161 d	iP	P	04 02 27.5	-2.2
SSPA	Standing Stone	62.32	352	eP	P	04 02 29.9	-0.5
FVM	French Village	62.56	341	eP	P	04 02 30.7	-1.4
BLO	Bloomington	62.56	344	eP	P	04 02 30.4	-1.7
ACSO	Alum Creek Sta	62.77	348	eP	P	04 02 32.6	-0.9
ACSO				epP	pP	04 03 02.0	-1.4
WMOK	Wichita Mounta	62.81	332	eP	P	04 02 33.0	-0.8
CCM	Cathedral Cave	62.88	340	eP	P	04 02 32.6	-1.6
BRYW	Bryant College	63.05	357	eP	P	04 02 34.9	-0.3
SLM	Saint Louis	63.10	341	epP	pP	04 03 03.7	-1.8
GDL2	Guadalupe Moun	63.39	326	eP	P	04 02 38.3	+0.5
GDL2				epP	pP	04 03 07.1	-0.5
MNTX	Cornudas Mount	63.53	325	eP	P	04 02 37.4	-1.3
	comp=Z,69nm,1.4s,mb5.3						
ALLY	Alegheny Colle	63.64	350	eP	P	04 02 35.6	-3.6
BINY	Binghamton	63.64	354	eP	P	04 02 39.2	0.0
ERPA	Erie	64.07	350	eP	P	04 02 41.3	-0.7
AMTX	Amarillo	64.23	330	eP	P	04 02 42.5	-0.7
HDIL	Hopedale	64.60	343	eP	P	04 02 43.9	-1.5
ACCN	Adirondack Com	64.62	356	eP	P	04 02 45.8	+0.3
NCB	Newcomb	65.25	355	eP	P	04 02 47.8	-1.8
	comp=Z,94nm,1.7s,mb5.3						
LBNH	Lisbon	65.38	357	eP	P	04 02 51.1	+0.7
LBNH				pmax	pmax		
	comp=Z,39nm,0.7s,mb5.3						
LBNH	Lisbon	65.38	357	eP	P	04 02 51.1	+0.6
	comp=Z,39nm,0.7s,mb5.3						
KSU1	Kansas State U	65.68	336	eP	P	04 02 51.8	-0.7
	comp=Z,98nm,1.0s,mb5.6						
KSU1				epP	pP	04 03 21.0	-1.6
LONY	Lake Ozonia	65.92	355	eP	P	04 02 53.3	-0.6
	comp=Z,44nm,0.6s,mb5.5						
FRNY	Flat Rock	66.06	356	eP	P	04 02 54.6	-0.2
FRNY				epP	pP	04 03 24.9	0.0
BNM	Barren Site	66.10	326	eP	P	04 02 55.8	+0.5
BNM				e	pP	04 03 23.8	-1.6
LPM	Los Pinos Moun	66.22	326	eP	P	04 02 57.0	+1.0
LENM	Lemitar	66.29	326	eP	P	04 02 54.9	-1.6
LENM				epP	pP	04 03 26.9	+0.3
PKME	Peaks-Kenny Pk	66.33	359	eP	P	04 02 55.6	-0.8
	comp=Z,31nm,0.6s,mb5.3						
LAZ	Ladron	66.56	326	eP	P	04 02 58.5	+0.3
ANMO	Albuquerque	66.63	327	i P	P	04 02 58.1	-0.5
ANMO	Albuquerque	66.63	327	eP	P	04 02 58.6	0.0
	comp=Z,95nm,1.6s,mb5.4						
CBKS	Cedar Bluff	66.67	334	eP	P	04 02 59.2	+0.4
MAIT	Maitri	66.76	159	eP	P	04 02 59.8	+0.8
MAIT				epP	pP	04 03 09.1	-20
MAIT				eS	S	04 11 56.0	+15
MAIT				eSS	SS	04 16 10.2	+10
TUC	Tucson	67.00	322	eP	P	04 03 02.1	+1.1
SCIA	State Center	67.01	340	eP	P	04 02 59.9	-1.0
JFWS	Jewell Farm	67.05	343	eP	P	04 03 00.0	-1.1
LIC	Lamto	67.97	74⇑	iP	P	04 03 06.7	-0.9
	comp=Z,40nm,0.6s,mb5.1						
LIC				eMLR	MLR		
	comp=Z,319nm,20.0s						
LIC	Lamto	67.97	74⇑	iP	P	04 03 06.7	-0.9
	comp=Z,20nm,0.6s,mb5.1						
LIC				LR	LR		
	comp=Z,160nm,20.0s						
DBIC	Dimbokro	68.31	73	P	P	04 03 09.2	-0.5
DBIC				*PP	pP	04 03 39.4	-0.6
DBIC				S	S	04 11 59.7	-1.6
DBIC	Dimbokro	68.31	73	P	P	04 03 09.2	-0.6
DBIC				pP	pP	04 03 39.4	-0.6
DBIC				S	S	04 11 59.6	-1.6
DBIC				LR	LR	04 29 26.8	
DBIC	Dimbokro	68.31	73	P	P	04 03 09.2	-0.6
	comp=Z,98nm,0.8s,mb5.7,baz=217,slow=6.6,SNR=116						
DBIC				pP	pP	04 03 39.4	-0.6
	comp=Z,26nm,1.0s,baz=228,slow=11,SNR=1.9						
DBIC				S	S	04 11 59.6	-1.6
	comp=Z,3.1nm,0.9s,baz=7.6,slow=19,SNR=7.6						
DBIC				LR	LR	04 29 26.8	
	comp=Z,205nm,20.4s,baz=214,slow=33						
SDCO	Great Sand Dun	68.36	329	eP	P	04 03 09.7	+0.2
	comp=Z,66nm,1.0s,mb5.4						
SDCO				epP	pP	04 03 39.7	0.0
MVCO	Mesa Verde	69.42	327	eP	P	04 03 16.6	+0.6
WUAZ	Wupatki	69.68	324	eP	P	04 03 18.4	+0.8
	comp=Z,100nm,1.0s,mb5.6						
WUAZ				epP	pP	04 03 48.1	0.0
COWI	Conover	69.73	345	eP	P	04 03 16.7	-1.0
ECSD	EROS,Sioux Fal	69.76	339	eP	P	04 03 16.8	-1.2
GLA	Glamis	69.91	320	eP	P	04 03 19.8	+0.7
GLA				epP	pP	04 03 49.5	0.0
ISCO	Idaho Springs	70.05	330	eP	P	04 03 20.3	+0.5
ISCO				epP	pP	04 03 49.8	-0.4
PV01	Paradox Valley	70.17	327	eP	P	04 03 21.0	+0.4
SMCO	Snowmass	70.19	329	eP	P	04 03 21.4	+0.7
SMCO				epP	pP	04 03 51.0	-0.1
PV10	Paradox Valley	70.59	327	eP	P	04 03 23.1	0.0
BAR	Barrett	70.79	318	eP	P	04 03 24.8	+0.3
BAR				epP	pP	04 03 55.0	+0.1
PHWY	Pilot Hill	71.18	331	eP	P	04 03 27.1	+0.4
PHWY				epP	pP	04 03 57.0	-0.1
PFO	Pinyon Flat Ob	71.28	319	P	P	04 03 28.1	+0.6
	comp=Z,95nm,0.8s,mb5.7,SNR=7.2						
PFO	Pinyon Flat Ob	71.28	319	eP	P	04 03 28.0	+0.5
PFO				epP	pP	04 03 58.1	+0.1
LDFC	Landfair	71.49	321	eP	P	04 03 30.0	+1.4
LDFC				epP	pP	04 03 59.6	+0.4
SRU	San Rafael	71.90	327	eP	P	04 03 31.3	+0.3
EYMN	Ely	72.04	344	eP	P	04 03 30.9	-0.7
	comp=Z,95nm,1.1s,mb5.5						
CCUT	Cedar City	72.25	324	eP	P	04 03 34.2	+1.0
RWWY	Rawlins	72.28	331	eP	P	04 03 34.4	+1.1
	comp=Z,223nm,1.7s,mb5.7						
MSU	Marysvale	72.32	325	eP	P	04 03 34.3	+0.8
TMUT	Trail Mountain	72.39	326	eP	P	04 03 35.5	+1.5
ARUT	Antelope Range	72.47	324	eP	P	04 03 35.3	+0.9
GSC	Goldstone	72.65	320	eP	P	04 03 36.3	+0.7
MWC	Mount Wilson	72.68	319	eP	P	04 03 37.4	+1.6
MPU	Maple Canyon	73.15	327	eP	P	04 03 39.3	+0.9
DAU	Daniels Canyon	73.25	327	eP	P	04 03 39.6	+0.6
NLU	North Lily Min	73.33	326	eP	P	04 03 41.2	+1.7
TPNV	Topopah Spring	73.45	322	eP	P	04 03 41.2	+0.9
TPNV				pmax	pmax		
	comp=Z,75nm,1.1s,mb5.4						
TPNV	Topopah Spring	73.45	322	eP	P	04 03 41.2	+0.9
	comp=Z,76nm,1.1s,mb5.4						
JLU	Jordanelle	73.49	327	eP	P	04 03 41.3	+0.9
AGMN	Agassiz Refuge	73.58	341	eP	P	04 03 40.0	-0.7
CTU	Camp Tracy	73.71	327	eP	P	04 03 42.3	+0.7
NOQ	North Oquirrh	73.87	327	eP	P	04 03 43.0	+0.3
DUG	Dugway	73.89	326	eP	P	04 03 43.2	+0.5
DUG				pmax	pmax		
	comp=Z,92nm,1.1s,mb5.4						
DUG	Dugway	73.89	326	eP	P	04 03 43.2	+0.5
	comp=Z,92nm,1.1s,mb5.4						
TBI	Tubuai	73.91	251	eS	S	04 13 12.5	+6.8
	comp=Z,206nm,29.0s						
TBI	Tubuai	73.91	251	eLR	LR	04 26 29.2	
	comp=Z,291nm,37.8s						
BW06	Boulder Array	74.22	330	eP	P	04 03 44.5	-0.1
HWUT	Hardware Ranch	74.30	328	eP	P	04 03 44.5	-0.6
	comp=Z,63nm,1.0s,mb5.3						
SPUT	South Promonto	74.52	327	eP	P	04 03 46.9	+0.5
BGU	Big Grassy Mou	74.53	327	eP	P	04 03 46.8	+0.3
AHID	Auburn Hatcher	74.95	329	eP	P	04 03 49.3	+0.5
	comp=Z,99nm,1.0s,mb5.5						
HVU	Hansel Valley	75.03	327	eP	P	04 03 50.3	+1.0
MTUM	Tungsten Hills	75.08	321	eP	P	04 03 50.5	+0.8
MTUM				epP	pP	04 04 20.4	-0.1
REDW	Red Top Meadow	75.28	329	eP	P	04 03 50.9	+0.2
	comp=Z,83nm,1.0s,mb5.4						
SNOW	Snow King Moun	75.31	330	eP	P	04 03 51.3	+0.4
	comp=Z,88nm,1.0s,mb5.5						
ULM	Lac du Bonnet	75.33	342	P	P	04 03 50.3	-0.5
	comp=Z,13nm,0.8s,mb4.7,baz=155,slow=6.0,SNR=14						
ULM				pP	pP	04 04 19.9	-1.8
	comp=Z,70nm,1.0s,baz=149,slow=5.4,SNR=12						
LOHW	Long Hollow	75.35	330	eP	P	04 03 51.4	+0.3
	comp=Z,63nm,1.0s,mb5.3						
TPAW	Teton Pass	75.42	329	eP	P	04 03 52.2	+0.7
	comp=Z,89nm,1.0s,mb5.5						
MOOW	Moose Ponds	75.52	330	eP	P	04 03 52.1	0.0
	comp=Z,130nm,1.6s,mb5.4						
NVAR	Mina Array Bea	75.65	322	P	P	04 03 53.8	+0.8
	comp=Z,8.1nm,0.9s,mb4.5,baz=136,slow=6.8,SNR=44						
NVAR				pP	pP	04 04 23.6	-0.1
	comp=Z,19nm,0.9s,baz=124,slow=5.3,SNR=12						
IMW	Indian Meadow	75.73	330	eP	P	04 03 53.8	+0.5
	comp=Z,99nm,1.0s,mb5.5						
PPT	Papeete	75.74	257	eS	S	04 13 32.5	+6.3
	comp=Z,378nm,28.0s						
PPT	Papeete	75.74	257	eLR	LR	04 27 34.4	
	comp=Z,632nm,34.8s						
FLWY	Flagg Ranch	75.76	330	eP	P	04 03 54.2	+0.8
LAO	LASA Array	75.86	334	eP	P	04 03 54.6	+0.7
	comp=Z,115nm,1.1s,mb5.5						
LAO				epP	pP	04 04 25.1	+0.4
RLMT	Red Lodge	75.91	332	eP	P	04 03 54.5	+0.3
SCHQ	Schefferville	75.92	1	P	P	04 03 53.3	-0.7
	comp=Z,20nm,0.9s,mb4.9,baz=133,slow=5.3,SNR=12						
LKWY	Lake	75.99	331	eP	P	04 03 57.3	+2.6
LKWY				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.3						
LKWY	Lake	75.99	331	eP	P	04 03 57.2	+2.6
	comp=Z,69nm,1.0s,mb5.3						
YFT	Old Faithful	76.10	330	eP	P	04 03 56.9	+1.6
YFT				epP	pP	04 04 27.4	+1.1
YNR	Norris Junctio	76.23	330	eP	P	04 03 58.7	+2.6
YNR				epP	pP	04 04 27.9	+0.9
YMR	Madison River	76.33	330	eP	P	04 03 57.5	+0.9
	comp=Z,115nm,1.6s,mb5.4						
WAKR	Walker	76.36	321	eP	P	04 03 58.8	+1.8
WAKR				epP	pP	04 04 28.7	+0.9
SYO	Syowa Base	76.47	159⇑	iP	P	04 03 56.0	-1.1
DGMT	Dagmar	76.53	336	eP	P	04 03 58.3	+0.7
GCMT	Greycliff	76.60	332	eP	P	04 03 58.0	-0.1
CMB	Columbia Colle	76.61	320	eP	P	04 03 58.2	-0.2
CMB				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
CMB	Columbia Colle	76.61	320	eP	P	04 03 58.2	-0.2
	comp=Z,9.6nm,1.1s,mb4.4						
QLMT	Earthquake Lak	76.67	330	eP	P	04 03 59.6	+1.0
VNDA	Vanda	77.03	190	P	P	04 04 01.4	+1.2
	comp=Z,32nm,0.9s,mb5.0,baz=132,slow=5.2,SNR=75						
PAHR	Pah Rah Range	77.14	322	eP	P	04 04 02.2	+0.9
	comp=Z,137nm,1.2s,mb5.6						
MCMT	McKenzie Canyo	77.33	329	eP	P	04 04 03.1	+0.9
BOZ	Bozeman (W)	77.38	331	eP	P	04 04 02.6	+0.1
DLMT	Dillon	77.61	330	eP	P	04 04 04.5	+0.7
	comp=Z,157nm,1.4s,mb5.5						
LRM	Limekiln Ridge	77.89	330	eP	P	04 04 06.7	+1.4
OHCM	Honcut	78.11	321	eP	P	04 04 07.6	+0.9
OHCM				epP	pP	04 04 38.3	+0.6
HRY	Holter Researc	78.27	331	eP	P	04 04 08.2	+0.8
SUR	Sutherland	78.29	120	P	P	04 04 09.1	+1.1
	comp=Z,333nm,0.8s,mb6.1,SNR=5.9						
SUR	Sutherland	78.29	120	eP	P	04 04 09.4	+1.4
EGMT	Eagleton	78.38	333	eP	P	04 04 07.9	0.0
	comp=Z,97nm,1.0s,mb5.5						
WVOR	Wild Horse Val	78.56	325	eP	P	04 04 09.6	+0.5
WVOR				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.9						
WVOR	Wild Horse Val	78.56	325	eP	P	04 04 09.6	+0.5
	comp=Z,26nm,1.3s,mb4.9						
CHMT	Chamberlain Mo	79.07	331	eP	P	04 04 12.8	+1.0
MOD	Modoc	79.12	323	eP	P	04 04 12.5	+0.3
MSO	Missoula	79.33	330	eP	P	04 04 14.5	+1.3
WDC	Whiskeytown Da	79.53	321	eP	P	04 04 13.1	-1.4
WDC				pmax	pmax		
	comp=Z,17nm,0.6s,mb5.0						
WDC	Whiskeytown Da	79.53	321	eP	P	04 04 13.1	-1.4
	comp=Z,17nm,0.6s,mb5.0						
BMO	Blue Mountains	79.54	327	eP	P	04 04 14.8	+0.5
	comp=Z,86nm,1.1s,mb5.5						
KIPM	Iron Peak	79.60	320	eP	P	04 04 13.1	-1.8
TSUM	Tsumeb	79.69	107	eP	P	04 04 16.6	+0.8

comp=Z,61nm,0.9s,mb5.4
TSUM *e*pP pP 04 04 48.1 +1.2
UPI Upington 79.91 116 *e*P **P** **04 04 17.3 +0.4**
UPI *e*S pP 04 04 25.0 -23
UPI AML AML 04 04 26.6
comp=Z,8.7nm,0.4s
YBH Yreka Blue Hor 80.37 322 *e*P **P** **04 04 17.9 -1.0**
YBH pmax pmax
comp=Z,7.0nm,0.6s
YBH Yreka Blue Hor 80.37 322 *e*P **P** **04 04 17.9 -1.1**
comp=Z,7.2nm,0.6s,mb4.7
YBH *e*PcP PcP 04 04 23.1 -2.5
YBH *e*pP pP 04 04 48.3 -1.8
KHMM Horse Mountain 80.42 321 *e*P **P** **04 04 20.7 +1.5**
BSMT Bassoo Peak 80.47 330 *e*P **P** **04 04 20.0 +0.7**
PFVI Vila Bisbo 80.88 44 *e*P **P** **04 04 21.6 -0.2**
PFVI *e*pP pP 04 04 51.5 -1.5
WALA Waterton Lakes 80.96 332 *e*P **P** **04 04 21.8 -0.1**
FFC Flin Flon 81.05 341 P **P** **04 04 22.4 +0.2**
comp=Z,49nm,1.5s,mb5.1,SNR=6.0
FFC Flin Flon 81.05 341 *e*P **P** **04 04 20.6 -1.6**
FFC *e*pP pP 04 04 52.0 -1.4
HUMO Hull Mountain 81.07 323 *e*P **P** **04 04 22.0 -0.6**
PTEO Sao Teotonio 81.19 44 *e*P **P** **04 04 24.1 +0.7**
comp=Z,160nm,1.5s,mb5.6
PBDV Barranco-do-Ve 81.53 45 *e*P **P** **04 04 25.2 0.0**
comp=Z,57nm,1.1s,mb5.3
KBO Bosley Butte 81.55 322 *e*P **P** **04 04 27.1 +1.9**
KBO *e*pP pP 04 04 57.4 +1.0
HAWA Hanford 81.73 327 *e*P **P** **04 04 26.5 +0.5**
comp=Z,77nm,1.1s,mb5.5
PVAQ Vaqueiros 81.76 45 *e*P **P** **04 04 26.9 +0.5**
comp=Z,25nm,1.6s,mb4.8
NEW Newport 81.85 330 *e*P **P** **04 04 26.6 0.0**
EGRO El Granado 81.99 45 P **P** **04 04 27.3 -0.3**
comp=Z,14nm,0.8s,mb4.8
PBEJ Beja 82.02 44 *e*P **P** **04 04 26.8 -1.0**
comp=Z,40nm,1.7s,mb5.0
KEBM Edson Butte 82.02 322 *e*P **P** **04 04 29.1 +1.4**
KEBM *e*pP pP 04 04 59.8 +0.9
EVO Evora 82.22 44 *e*P **P** **04 04 27.8 -1.0**
comp=Z,30nm,1.0s,mb4.8
EVO *e*MLR MLR
comp=Z,198nm,22.8s
COR Corvallis 82.53 324 *e*P **P** **04 04 31.4 +1.2**
COR *e*pP pP 04 05 02.1 +0.5
FCC Fort Churchill 82.61 347 *e*P **P** **04 04 29.8 -0.5**
FCC pmax pmax
comp=Z,94nm,1.0s,mb5.6
FCC Fort Churchill 82.61 347 *e*P **P** **04 04 29.8 -0.6**
comp=Z,94nm,1.0s,mb5.6
FCC *e*pP pP 04 05 00.3 -1.4
PBAR Barrancos 82.64 44 *e*P **P** **04 04 30.9 -0.1**
comp=Z,41nm,1.7s,mb5.0
EMIN Mina Concepcio 82.65 45 P **P** **04 04 30.0 -1.1**
comp=Z,34nm,1.0s,mb5.1
PESTR Estremoz 82.68 43 *e*P **P** **04 04 31.3 +0.1**
comp=Z,40nm,1.9s,mb4.9
ESPR Espera 82.69 46 P **P** **04 04 31.6 +0.3**
comp=Z,9.6nm,1.0s,mb4.6
EJIF Jimena Fronter 82.73 46 P **P** **04 04 31.1 -0.4**
EJIF pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
EJIF Jimena Fronter 82.73 46 P **P** **04 04 31.1 -0.3**
comp=Z,9.6nm,0.7s,mb4.7
EBAD Badajoz 82.99 44 P **P** **04 04 32.4 -0.4**
comp=Z,60nm,1.2s,mb5.3
BOSA Boshof 83.14 118 P **P** **04 04 34.1 +0.1**
BOSA *PP pP 04 05 06.3 +1.0
BOSA S S 04 14 43.6 -0.4
BOSA Boshof 83.14 118 P **P** **04 04 34.0 +0.1**
comp=Z,61nm,0.9s,mb5.4,baz=253,slow=4.4,SNR=76
BOSA pP pP 04 05 06.3 +1.0
comp=Z,26nm,1.1s,baz=201,slow=1.6,SNR=3.0
BOSA S S 04 14 43.5 -0.4
comp=Z,2.3nm,1.0s,baz=93,slow=21,SNR=4.5
BOSA LR LR 04 40 39.3
comp=Z,214nm,19.0s,baz=3.1,slow=35
MTE Manteigas 83.58 42 *e*P **P** **04 04 36.6 +0.8**
comp=Z,53nm,1.3s,mb5.2
PVRL Vila Real 83.98 41 *e*P **P** **04 04 38.9 +1.1**
ELOJ Sierra Loja 83.99 46 P **P** **04 04 36.9 -1.0**
ELOJ pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
ELOJ Sierra Loja 83.99 46 P **P** **04 04 36.9 -1.1**
comp=Z,9.3nm,0.7s,mb4.7
ELOB Lobios 84.11 41 P **P** **04 04 40.0 +1.6**
comp=Z,13nm,0.8s,mb4.8
ELUQ Luque 84.14 46 P **P** **04 04 39.6 +0.9**
ELUQ pmax pmax
comp=Z,87nm,1.2s,mb5.5
ELUQ Luque 84.14 46 P **P** **04 04 39.6 +0.9**
comp=Z,87nm,1.2s,mb5.5
ERON Agron 84.16 47 P **P** **04 04 40.7 +1.9**
GNW Green Mountain 84.20 326 *e*P **P** **04 04 38.7 0.0**
GNW *e*pP pP 04 05 09.0 -1.1
EADA Adamuz 84.25 45 P **P** **04 04 39.1 -0.1**
comp=Z,37nm,1.2s,mb5.1
MAW Mawson 84.32 163 P **P** **04 04 39.7 +0.5**
comp=Z,72nm,0.6s,mb5.7,baz=206,slow=6.7,SNR=53
MVO Moncorvo 84.34 42 *e*P **P** **04 04 41.1 +1.5**
comp=Z,63nm,1.2s,mb5.3
ECOG Cogollos-Vega 84.46 47 P **P** **04 04 40.9 +0.6**
ECOG pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ECOG Cogollos-Vega 84.46 47 P **P** **04 04 40.9 +0.7**
comp=Z,7.4nm,0.8s,mb4.6
NLWA Neilton Lookou 84.63 326 *e*P **P** **04 04 41.5 +0.6**
NLWA *e*pP pP 04 05 12.7 +0.4
LBTB Lobatse 84.70 115 *e*P **P** **04 04 41.6 -0.3**
LBTB *e*S PcP 04 04 50.1 +4.9
LBTB AML AML 04 04 55.1
comp=Z,9.2nm,0.8s
LBTB Lobatse 84.70 115 *e*P **P** **04 04 42.1 +0.2**
LBTB pmax pmax
comp=Z,67nm,0.8s,mb5.6
LBTB Lobatse 84.70 115 *e*P **P** **04 04 42.1 +0.2**
comp=Z,67nm,0.8s,mb5.6
EBAN Banos Encina 84.78 46 P **P** **04 04 41.9 0.0**
EBAN pmax pmax
comp=Z,76nm,1.2s,mb5.5
EBAN Banos Encina 84.78 46 P **P** **04 04 41.9 0.0**
comp=Z,76nm,1.2s,mb5.5
ECAL Calabor 84.96 41 P **P** **04 04 42.6 -0.1**
comp=Z,57nm,1.6s,mb5.2
ERUA La Rua 84.97 41 P **P** **04 04 43.0 +0.3**
ERUA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
ERUA La Rua 84.97 41 P **P** **04 04 43.0 +0.3**
comp=Z,5.7nm,0.6s,mb4.7
EQES Quesada 85.07 46 P **P** **04 04 43.9 +0.5**
comp=Z,73nm,1.2s,mb5.5
PAB San Pablo 85.15 44 *e*P **P** **04 04 42.8 -0.9**
PAB *e**PP pP 04 05 17.2 +2.0
PAB pmax pmax
comp=Z,27nm,0.8s,mb5.2
PAB San Pablo 85.15 44 *e*P **P** **04 04 42.8 -0.9**
comp=Z,27nm,0.8s,mb5.2
PAB *e*PcP PcP 04 04 47.5 +0.9
PAB *e*pP pP 04 05 17.2 +2.0
PGC Sidney 85.22 327 *e*P **P** **04 04 44.2 +0.4**
comp=Z,84nm,0.9s,mb5.7
PGC *e*pP pP 04 05 15.5 +0.2
ENIJ Nijar 85.22 47 P **P** **04 04 45.3 +1.2**
ENIJ pmax pmax
comp=Z,35nm,1.3s,mb5.1
ENIJ Nijar 85.22 47 P **P** **04 04 45.3 +1.1**
comp=Z,35nm,1.3s,mb5.1
ESDC Sonseca Array 85.47 44 P **P** **04 04 45.5 +0.2**
comp=Z,28nm,1.1s,mb5.1,baz=244,slow=4.2,SNR=18
ESDC pP pP 04 05 17.3 +0.5
comp=Z,8.1nm,0.9s,baz=237,slow=5.2,SNR=3.7
ESDC LR LR 04 41 23.7
comp=Z,122nm,20.2s,baz=195,slow=34
ESLA Sonseca Array 85.47 44 *e*P **P** **04 04 45.8 +0.5**
comp=Z,11nm,1.1s,mb4.7
GUD Guadarrama 85.87 43 P **P** **04 04 48.1 +0.9**
GUD pmax pmax
comp=Z,17nm,1.2s,mb4.8
GUD Guadarrama 85.87 43 P **P** **04 04 48.1 +0.9**
comp=Z,17nm,1.2s,mb4.9
EVIA Vianos 85.89 46 P **P** **04 04 47.0 -0.4**
EVIA pmax pmax
comp=Z,16nm,0.8s,mb5.0
EVIA Vianos 85.89 46 P **P** **04 04 47.0 -0.4**
comp=Z,16nm,0.8s,mb5.0
ETOB Tobarra 86.53 46 P **P** **04 04 50.0 -0.5**
comp=Z,82nm,1.5s,mb5.4
ETOR Torete 87.31 44 P **P** **04 04 56.9 +2.6**
ETOR pmax pmax
comp=Z,26nm,1.1s,mb5.1
ETOR Torete 87.31 44 P **P** **04 04 56.9 +2.6**
comp=Z,26nm,1.1s,mb5.1
ECHE Chera 87.40 46 P **P** **04 04 56.9 +2.2**
ECHE pmax pmax
comp=Z,13nm,1.5s,mb4.6
ECHE Chera 87.40 46 P **P** **04 04 56.9 +2.2**
comp=Z,13nm,1.5s,mb4.6
ERTA Horta de San J 88.94 45 P **P** **04 05 04.2 +2.3**
comp=Z,21nm,1.0s,mb5.1
SJPF Ste Jean 89.02 42 *e*P **P** **04 05 02.0 -0.3**
ETSF Etsaut 89.34 43 *e*P **P** **04 05 03.3 -0.5**
EPOB Poblet 89.63 45 P **P** **04 05 07.4 +2.3**
comp=Z,12nm,0.9s,mb5.0
EBIE Bielsa 89.68 43 P **P** **04 05 08.8 +3.4**
comp=Z,6.6nm,0.8s,mb4.8
EPF Esparros 89.97 43 *e*P **P** **04 05 06.6 -0.1**
EMIR Miracle 90.19 45 P **P** **04 05 09.4 +1.6**
comp=Z,12nm,0.9s,mb5.0
CKHR Kef el Ahmar 90.22 51 P **P** **04 05 11.0 +2.9**
SET Setif 90.22 51 P **P** **04 05 13.0 +4.9**
QUIF Quistinic 90.36 38 *e*P **P** **04 05 07.7 -0.7**
comp=Z,74nm,1.3s,mb5.3
QUIF Quistinic 90.36 38 *e*P **P** **04 05 07.7 -0.7**
QUIF pmax pmax
comp=Z,37nm,1.3s,mb5.3
QUIF Quistinic 90.36 38 *e*P **P** **04 05 07.7 -0.7**
comp=Z,37nm,1.3s,mb5.3
SALF Salau 90.39 44 *e*P **P** **04 05 12.4 +3.7**
SALF Salau 90.39 44 *e*P **P** **04 05 08.3 -0.4**
MLS Moulis 90.42 43 *e*P **P** **04 05 12.1 +3.3**
MLS Moulis 90.42 43 *e*P **P** **04 05 08.5 -0.3**
ROSF Rostrenen 90.53 37 *e*P **P** **04 05 08.6 -0.6**
LSZ Lusaka 90.54 107 *e*P **P** **04 05 11.7 +1.6**
DFRA Djebel Bou Aff 90.72 51 P **P** **04 05 13.0 +2.6**
CTEI Djebel Teioual 90.89 51 P **P** **04 05 13.0 +1.8**
SGMF Saint Gilles 90.89 38 *e*P **P** **04 05 09.9 -1.0**
CASM Ain Smara 91.04 51 P **P** **04 05 14.0 +2.1**
LFF La Frestale 91.17 42 *e*P **P** **04 05 12.1 -0.1**
comp=Z,66nm,1.0s,mb5.4
LFF La Frestale 91.17 42 *e*P **P** **04 05 12.1 -0.1**
LFF pmax pmax
comp=Z,33nm,1.0s,mb5.4
LFF La Frestale 91.17 42 *e*P **P** **04 05 12.1 -0.1**
comp=Z,33nm,1.0s,mb5.4
FILF Fillols 91.18 44 *e*P **P** **04 05 12.1 -0.2**
FILF Fillols 91.18 44 *e*P **P** **04 05 07.6 -4.7**
YKA Yellowknife Ar 91.22 340 P **P** **04 05 11.1 -0.9**
comp=Z,16nm,0.6s,mb5.3,baz=134,slow=4.5,SNR=448
YKA pP pP 04 05 42.5 -1.2
comp=Z,21nm,0.9s,baz=133,slow=4.5,SNR=5.0
YKA PKKP PKKPbc 04 22 33.6 -3.3
comp=Z,0.3nm,0.7s,baz=322,slow=3.2,SNR=8.1
YKA LR LR 04 49 01.1
comp=Z,96nm,18.7s,baz=145,slow=37
YKW3 Yellowknife Ar 91.27 340 *e*P **P** **04 05 11.1 -1.1**
YKW3 *e*pP pP 04 05 42.7 -1.3
MTLF Montolieu 91.33 44 *e*P **P** **04 05 12.7 -0.3**
comp=Z,49nm,1.3s,mb5.2
MTLF Montolieu 91.33 44 *e*P **P** **04 05 12.7 -0.3**
MTLF pmax pmax
comp=Z,25nm,1.3s,mb5.2
MTLF Montolieu 91.33 44 *e*P **P** **04 05 12.7 -0.3**
comp=Z,24nm,1.3s,mb5.2
MFF Saint Martin d 91.45 40 *e*P **P** **04 05 13.2 -0.3**
comp=Z,40nm,0.9s,mb5.2
MFF Saint Martin d 91.45 40 *e*P **P** **04 05 13.2 -0.3**
MFF pmax pmax
comp=Z,20nm,0.9s,mb5.2
MFF Saint Martin d 91.45 40 *e*P **P** **04 05 13.2 -0.3**
comp=Z,20nm,0.9s,mb5.2
RJF Les Rejaudoux 91.82 42 *e*P **P** **04 05 14.9 -0.4**
comp=Z,56nm,1.3s,mb5.3
RJF *e*MLR MLR
comp=Z,326nm,21.2s
RJF Les Rejaudoux 91.82 42 *e*P **P** **04 05 14.9 -0.4**
RJF pmax pmax
comp=Z,28nm,1.3s,mb5.3
RJF MLR MLR
comp=Z,330nm,21.3s
RJF Les Rejaudoux 91.82 42 *e*P **P** **04 05 14.9 -0.4**
comp=Z,28nm,1.3s,mb5.3
RJF LR LR
comp=Z,330nm,21.3s
CMAH Djebel Manchou 91.87 51 P **P** **04 05 18.0 +2.3**
GRR Gorron 91.93 38 *e*P **P** **04 05 14.9 -0.8**
comp=Z,82nm,1.4s,mb5.5
GRR Gorron 91.93 38 *e*P **P** **04 05 14.9 -0.8**
GRR pmax pmax
comp=Z,41nm,1.4s,mb5.5
GRR Gorron 91.93 38 *e*P **P** **04 05 14.9 -0.8**
comp=Z,41nm,1.4s,mb5.5
CAF Calviac 91.98 42 *e*P **P** **04 05 15.8 -0.2**
comp=Z,23nm,1.0s,mb5.0
CAF Calviac 91.98 42 *e*P **P** **04 05 15.8 -0.2**
CAF pmax pmax
comp=Z,11nm,1.0s,mb5.0
CAF Calviac 91.98 42 *e*P **P** **04 05 15.8 -0.2**
comp=Z,11nm,1.0s,mb5.1
FLN La Foliniere 92.33 38 *e*P **P** **04 05 17.0 -0.5**
FLN *e*MLR MLR
comp=Z,219nm,19.2s
FLN La Foliniere 92.33 38 *e*P **P** **04 05 17.0 -0.5**
FLN LR LR
comp=Z,220nm,19.3s
LDF La Druitiere 92.46 38 *e*P **P** **04 05 17.5 -0.6**
comp=Z,95nm,1.6s,mb5.5
LDF La Druitiere 92.46 38 *e*P **P** **04 05 17.5 -0.6**
LDF pmax pmax
comp=Z,48nm,1.6s,mb5.5
LDF La Druitiere 92.46 38 *e*P **P** **04 05 17.5 -0.6**
comp=Z,48nm,1.6s,mb5.5
TCF Toulx Ste Croi 92.72 41 *e*P **P** **04 05 18.8 -0.6**
comp=Z,15nm,1.0s,mb5.0
TCF Toulx Ste Croi 92.72 41 *e*P **P** **04 05 18.8 -0.6**
TCF pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
TCF Toulx Ste Croi 92.72 41 *e*P **P** **04 05 18.8 -0.6**
comp=Z,7.7nm,1.0s,mb5.0
LBL Lubilhac 92.87 42 *e*P **P** **04 05 25.0 +4.9**
KEST Kesra 92.91 53 P **P** **04 05 23.6 +3.0**
comp=Z,3.6nm,1.0s,mb4.7,baz=243,slow=4.5,SNR=7.7
AGO Saint Agoulin 93.17 41 *e*P **P** **04 05 26.0 +4.5**
AGO Saint Agoulin 93.17 41 *e*P **P** **04 05 25.5 +4.0**
BGF Bois d'Agland 93.23 41 *e*P **P** **04 05 21.4 -0.4**
comp=Z,45nm,1.2s,mb5.4
BGF Bois d'Agland 93.23 41 *e*P **P** **04 05 21.4 -0.4**
BGF pmax pmax
comp=Z,23nm,1.2s,mb5.4
BGF Bois d'Agland 93.23 41 *e*P **P** **04 05 21.4 -0.4**
comp=Z,22nm,1.2s,mb5.4
PLDF La Plantade 93.44 42 *e*P **P** **04 05 27.5 +4.8**
PLDF La Plantade 93.44 42 *e*P **P** **04 05 26.8 +4.1**
HYF Humbligny 93.44 40 *e*P **P** **04 05 22.3 -0.4**
VIVF Saint-Julien-l 93.59 43 *e*P **P** **04 05 22.6 -0.8**
comp=Z,27nm,1.3s,mb5.1
VIVF Saint-Julien-l 93.59 43 *e*P **P** **04 05 22.6 -0.8**
VIVF pmax pmax
comp=Z,14nm,1.3s,mb5.1
VIVF Saint-Julien-l 93.59 43 *e*P **P** **04 05 22.6 -0.8**
comp=Z,14nm,1.3s,mb5.1
AVF Avril sur Loir 93.65 41 *e*P **P** **04 05 23.1 -0.6**
comp=Z,39nm,1.4s,mb5.2
AVF Avril sur Loir 93.65 41 *e*P **P** **04 05 23.1 -0.6**
AVF pmax pmax
comp=Z,19nm,1.4s,mb5.2
AVF Avril sur Loir 93.65 41 *e*P **P** **04 05 23.1 -0.6**
comp=Z,19nm,1.4s,mb5.2
SMRF Simiane la Rot 93.78 44 *e*P **P** **04 05 23.6 -0.7**
comp=Z,21nm,1.2s,mb5.0
SMRF Simiane la Rot 93.78 44 *e*P **P** **04 05 23.6 -0.7**
comp=Z,21nm,1.2s,mb5.3
SSF Saint Saulge 93.87 41 *e*P **P** **04 05 23.7 -1.0**
comp=Z,27nm,1.3s,mb5.1
SSF Saint Saulge 93.87 41 *e*P **P** **04 05 23.7 -1.0**
SSF pmax pmax
comp=Z,14nm,1.3s,mb5.1
SSF Saint Saulge 93.87 41 *e*P **P** **04 05 23.7 -1.0**
comp=Z,14nm,1.3s,mb5.1
SMF Signal de Mont 93.88 41 *e*P **P** **04 05 24.4 -0.3**
comp=Z,40nm,1.1s,mb5.4
SMF Signal de Mont 93.88 41 *e*P **P** **04 05 24.4 -0.3**
SMF pmax pmax
comp=Z,20nm,1.1s,mb5.4
SMF Signal de Mont 93.88 41 *e*P **P** **04 05 24.4 -0.3**
comp=Z,20nm,1.1s,mb5.4
LMR La Mourre 94.11 45 *e*P **P** **04 05 25.2 -0.7**
comp=Z,32nm,1.2s,mb5.2
LMR La Mourre 94.11 45 *e*P **P** **04 05 25.2 -0.7**
LMR pmax pmax
comp=Z,16nm,1.2s,mb5.2
LMR La Mourre 94.11 45 *e*P **P** **04 05 25.2 -0.7**
comp=Z,16nm,1.2s,mb5.2
LOR Lormes 94.18 41 *e*P **P** **04 05 25.2 -0.9**
comp=Z,14nm,1.1s,mb4.9
LOR *e*MLR MLR
comp=Z,240nm,21.8s
LOR Lormes 94.18 41 *e*P **P** **04 05 25.2 -0.9**
LOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
LOR MLR MLR
comp=Z,240nm,21.8s
LOR Lormes 94.18 41 *e*P **P** **04 05 25.2 -0.9**
comp=Z,7.3nm,1.1s,mb4.9
LOR LR LR
comp=Z,240nm,21.8s
FRF La Foret Royal 94.30 45 *e*P **P** **04 05 26.0 -0.7**
comp=Z,49nm,1.3s,mb5.4
FRF La Foret Royal 94.30 45 *e*P **P** **04 05 26.0 -0.7**
FRF pmax pmax
comp=Z,24nm,1.3s,mb5.4
FRF La Foret Royal 94.30 45 *e*P **P** **04 05 26.0 -0.7**
comp=Z,24nm,1.3s,mb5.4
ORIF Oris-en-Rattie 94.39 43 *e*P **P** **04 05 26.6 -0.5**
comp=Z,26nm,1.3s,mb5.1
ORIF *e*MLR MLR
comp=Z,310nm,22.5s
ORIF Oris-en-Rattie 94.39 43 *e*P **P** **04 05 26.6 -0.5**
ORIF pmax pmax
comp=Z,13nm,1.3s,mb5.1
ORIF Oris-en-Rattie 94.39 43 *e*P **P** **04 05 26.6 -0.5**
comp=Z,13nm,1.3s,mb5.1
MVIF Mont Vial 94.78 45 *e*P **P** **04 05 32.4 +3.5**
REVF Revere 94.85 45 *e*P **P** **04 05 32.7 +3.5**
MBDF Montbardon 94.88 44 *e*P **P** **04 05 28.8 -0.6**
LUCF Luceram 94.90 45 *e*P **P** **04 05 32.9 +3.4**
SBF Sospel 94.95 45 *e*P **P** **04 05 29.0 -0.7**
comp=Z,51nm,1.1s,mb5.6
SBF Sospel 94.95 45 *e*P **P** **04 05 29.0 -0.7**
SBF pmax pmax
comp=Z,26nm,1.1s,mb5.6
SBF Sospel 94.95 45 *e*P **P** **04 05 29.0 -0.7**
comp=Z,26nm,1.1s,mb5.6
AUTN L'Aution 95.00 45 *e*P **P** **04 05 32.9 +3.0**
SAOF Saorge 95.08 45 *e*P **P** **04 05 33.9 +3.6**
LPL La Plagne 95.19 43 *e*P **P** **04 05 31.4 +0.6**
comp=Z,20nm,1.1s,mb5.2
LPL La Plagne 95.19 43 *e*P **P** **04 05 31.4 +0.6**
LPL pmax pmax
comp=Z,10.0nm,1.1s,mb5.2
LPL La Plagne 95.19 43 *e*P **P** **04 05 31.4 +0.6**
comp=Z,10nm,1.1s,mb5.2
LPG La Plagne 95.20 43 *e*P **P** **04 05 31.7 +0.9**
comp=Z,35nm,1.4s,mb5.3
LPG La Plagne 95.20 43 *e*P **P** **04 05 31.7 +0.9**
LPG pmax pmax
comp=Z,18nm,1.4s,mb5.3
LPG La Plagne 95.20 43 *e*P **P** **04 05 31.7 +0.9**
comp=Z,18nm,1.4s,mb5.3
PGF Pioggiola 95.44 46 *e*P **P** **04 05 31.2 -0.8**
comp=Z,72nm,1.4s,mb5.6
PGF Pioggiola 95.44 46 *e*P **P** **04 05 31.2 -0.8**
PGF pmax pmax
comp=Z,36nm,1.4s,mb5.6
PGF Pioggiola 95.44 46 *e*P **P** **04 05 31.2 -0.8**
comp=Z,36nm,1.4s,mb5.6
HAU Haudompre 96.02 41 *e*P **P** **04 05 33.8 -0.6**
HAU *e*MLR MLR
comp=Z,267nm,23.0s
HAU Haudompre 96.02 41 *e*P **P** **04 05 33.8 -0.6**
HAU LR LR
comp=Z,270nm,23.0s
GIVF Givet 96.02 38 *e*P **P** **04 05 34.0 -0.4**
HINF Hinteralfeld 96.24 41 *e*P **P** **04 05 34.8 -0.7**
CDF Champ du Feu 96.75 41 *e*P **P** **04 05 37.3 -0.5**
DAVOX Davos/Dischmat 97.70 43 PP PP 04 09 39.6 -2.4
comp=Z,3.4nm,0.9s,baz=301,slow=9.3,SNR=4.9
GRA1 Grafenberg Arr 99.64 40 *e*Pdif Pdif 04 05 53.9 +3.1
GRA1 *e*PP PP 04 09 49.7 -6.9
GRF Grafenberg Arr 99.64 40 *e*Pdiff Pdif 04 05 53.9 +3.1
GRF *e*PP PP 04 09 49.7 -6.9
MOX Moxa 100.22 40 *e*P PP 04 09 57.1 -3.9
comp=Z,22nm,1.8s
NKC Novy Kostel 100.57 40 *e*PP PP 04 09 59.2 -4.4
NKC *e*SKS 04 16 27.8
NKC *e*PS PS 04 19 09.9 +2.9
GERES GERESS Array B 100.86 42 P Pdif 04 05 57.1 +0.8
GERES 04 10 02.4
GERES GERESS Array B 100.86 42 P Pdif 04 05 57.1 +0.8
comp=Z,1.0nm,0.9s,baz=270,slow=2.0,SNR=7.3
GERES PP PP 04 10 02.4 -3.4
comp=Z,1.2nm,0.9s,baz=222,slow=5.4,SNR=5.0
GERES PKKPbc PKKPbc 04 22 05.8 -4.2
comp=Z,0.6nm,0.8s,baz=80,slow=1.5,SNR=5.0
KHC Kasperske Hory 100.88 41 *e*PP PP 04 10 02.9 -3.1
KHC *e*SP SP 04 18 55.5 +0.8
CLL Collm 101.28 39 *e*P Pdif 04 06 02.0 +3.9
CLL *i* 04 10 04.3
CLL pmax pmax
comp=Z,20nm,1.8s
CLL Collm 101.28 39 *e*Pdif Pdif 04 06 02.0 +3.9
comp=Z,20nm,1.8s
CLL *e* 04 06 30.0
CLL *i* PP PP 04 10 04.3 -4.6
CLL *e*SKS 04 16 30.0
CLL Collm 101.28 39 *e*(Pdif) Pdif 04 06 02.0 +3.9
CLL *e*PDif 04 06 30.0
CLL *i* PP PP 04 10 04.3 -4.6
comp=Z,20nm,1.8s
CLL *e*SKSac SKSac 04 16 30.0 +4.6
CLL *e*SP SP 04 19 04.0 +5.2
CLL *e*PPS 04 20 02.0
CLL *e*SS SS 04 24 43.0 +13
CLL *e*SSS 04 28 37.0
BRG Berggiesshubel 101.69 40 *e*P PP 04 10 08.5 -3.5
comp=Z,17nm,1.7s
PRU Pruhonice 101.76 41 *e*PP PP 04 10 04.2 -8.4
PRU *e*SKS 04 16 32.2
TREC Trest 102.11 42 *e*PP PP 04 10 12.7 -2.6
TREC *e*SKS 04 16 32.2
UPC Upice 102.82 41 *e*PP PP 04 10 14.3 -6.2
DPC Dobruska-Polom 102.96 41 *e*PP PP 04 10 16.0 -5.5
NB2 NORSAR Subarra103.62 30 PP PP 04 10 24.4 -1.8
comp=Z,62nm,1.7s,baz=252,slow=7.9
NB2 NORSAR Subarra103.62 30 PP PP 04 10 24.4 -1.8
baz=252,slow=7.9
NOA NORSAR Array B103.62 30 PP PP 04 10 24.5 -1.7
comp=Z,12nm,1.2s,baz=248,slow=7.4,SNR=6.5
NOA PKKPab 04 22 19.8
comp=Z,1.2nm,0.8s,baz=74,slow=4.6,SNR=4.7
VYHS Vyhne 103.98 43 *e*PP PP 04 10 26.1 -3.1
HFS Hagfors 104.50 31 PP PP 04 10 30.7 -2.0
comp=Z,15nm,1.1s,baz=247,slow=7.7,SNR=14
HFS PKKPab PKKPab 04 22 15.5 +0.7
comp=Z,1.4nm,0.5s,baz=74,slow=6.3,SNR=10
CRVS Cervenica-Dubn 105.77 43 *e*P PP 04 10 39.4 -3.0
CRVS Cervenica-Dubn 105.77 43 *e*PP PP 04 10 39.4 -3.0
KOLS Kolonicke sedl 106.29 43 *e*P PP 04 10 41.0 -5.3
KOLS Kolonicke sedl 106.29 43 *e*PP PP 04 10 41.0 -5.3
FINES FINESS Array B 110.70 31 PP PP 04 11 16.6 -1.3
comp=Z,3.7nm,1.0s,baz=243,slow=13,SNR=5.1
FINES PKKPbc PKKPbc 04 21 38.5 -1.6
comp=Z,1.3nm,0.7s,baz=97,slow=5.5,SNR=8.1
FINES PKKPab PKKPab 04 21 47.4 +0.2
comp=Z,2.2nm,0.9s,baz=20,slow=6.1,SNR=4.6
AKASG Malin Array Be 111.05 42 PKiKP PKiKP 04 10 39.1 -0.8
comp=Z,1.4nm,0.5s,baz=266,slow=2.8,SNR=9.2
AKASG PP PP 04 11 15.7 -5.0
comp=Z,2.3nm,0.8s,baz=258,slow=8.0,SNR=5.0
AKASG PKKPbc PKKPbc 04 21 37.0 -1.7
comp=Z,0.9nm,0.5s,baz=66,slow=3.8,SNR=6.7
ARCES ARCESS Array B 111.23 22 PKKPbc PKKPbc 04 21 36.5 -2.2
comp=Z,1.3nm,0.4s,baz=83,slow=3.4,SNR=19
ARCES PKKPab PKKPab 04 21 46.1 +1.4
comp=Z,2.5nm,0.6s,baz=79,slow=6.3,SNR=9.4
MMAI Mount Meron Ar 112.61 62 PKiKP PKiKP 04 10 44.1 +0.6
comp=Z,2.4nm,0.4s,baz=153,slow=0.4,SNR=5.9

ASF	Jabal al Asfar	113.68	63	PKiKP	PKiKP	04 10 46.6	+1.0
	comp=Z,4.1nm,0.9s,baz=15,slow=0.5,SNR=4.5						
OBN	Obninsk	115.83	38	*i* PKIKP	PKPdf	04 10 49.1	+0.1
OBN				*e*		04 11 51.7	
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
ANN	Anapa	115.88	50	*i* PKIKP	PKPdf	04 10 47.3	-2.1
ANN				*e*		04 11 53.1	
ANN				*e*		04 17 25.7	
ANN				pmax	pmax		
	comp=Z,38nm,1.1s						
MALT	Malatya	115.91	57	⇑PKIKP	PKPdf	04 10 50.4	+0.7
MALT	Malatya	115.91	57	⇑*i*P	PKPdf	04 10 50.3	+0.6
STKA	Stephens Creek	119.71	209	PKiKP	PKiKP	04 10 56.9	-0.5
	comp=Z,7.7nm,1.1s,baz=295,slow=5.6,SNR=3.1						
BILL	Bilibino	122.56	339	*i* PKIKP	PKPdf	04 11 00.9	-0.7
BILL				*e*		04 11 34.6	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
NWAO	Narrogin (SRO)	125.72	186	PKiKP	PKiKP	04 11 08.8	-0.5
	comp=Z,13nm,0.7s,baz=0.2,slow=19,SNR=4.6						
FORT	Forrest	125.76	198	*e*P	PKPdf	04 11 08.7	-0.3
	comp=Z,24nm,0.8s						
CTA	Charters Tower	126.59	222	*e*P	PKPdf	04 11 11.2	+0.4
	comp=Z,5.6nm,0.8s						
CTA	Charters Tower	126.59	222	PKP	PKPdf	04 11 11.2	+0.3
	comp=Z,7.7nm,0.7s,baz=176,slow=1.3,SNR=10						
CTAO	Charters Tower	126.59	222	*e*PKIKP	PKPdf	04 11 10.8	0.0
MUN	Mundaring	126.75	185	*e*P	PKPdf	04 11 10.9	+0.1
KLBR	Kellerberrin	126.99	187	*e*P	PKPdf	04 11 10.8	-0.5
	comp=Z,34nm,0.8s						
ARU	Arti	127.83	34	*i* PKIKP	PKPdf	04 11 12.8	+0.8
ARU						04 13 15.5	
ARU						04 18 08.8	
ARU				SS	SS	04 30 31.9	+14
ARU	Arti	127.83	34	*e*PKPdf	PKPdf	04 11 12.4	+0.5
TIXI	Tiksi	128.73	353	*i* PKIKP	PKPdf	04 11 12.3	-1.0
TIXI	Tiksi	128.73	353	*e*PKPdf	PKPdf	04 11 12.9	-0.4
AKTK	Aktyubinsk	129.28	42	PKP	PKPdf	04 11 15.4	+0.5
AKTK				pPKP	pPKPdf	04 11 48.3	+0.2
AKTO	Aktyubinsk	129.28	42	PKP	PKPdf	04 11 15.4	+0.4
	comp=Z,5.6nm,0.8s,baz=175,slow=1.3,SNR=20						
AKTO				pPKP	pPKPdf	04 11 48.3	+0.2
	comp=Z,3.6nm,0.8s,baz=52,slow=2.4,SNR=2.9						
SEY	Seymchan	130.15	337	*i* PKIKP	PKPdf	04 11 16.2	0.0
ASAR	Alice Springs	130.20	207	PKP	PKPdf	04 11 16.4	-1.3
	comp=Z,13nm,0.8s,baz=140,slow=1.9,SNR=56						
ASAR				pPKP	pPKPdf	04 11 50.4	-0.4
	comp=Z,7.9nm,1.0s,baz=153,slow=2.6,SNR=3.9						
WB2	Warramunga Arr	133.25	210	*e*	PKPdf	04 11 23.7	+0.2
WB2	Warramunga Arr	133.25	210	*e*PKPdf	PKPdf	04 11 23.0	-0.4
WB2				*e*		04 11 23.7	
WRA	Warramunga Arr	133.26	210	PKIKP	PKPdf	04 11 23.2	-0.3
WRA						04 11 55.8	
WRA	Warramunga Arr	133.26	210	PKP	PKPdf	04 11 23.2	-0.3
	comp=Z,13nm,0.8s,baz=157,slow=1.7,SNR=42						
WRA				pPKP	pPKPdf	04 11 55.8	-0.8
	comp=Z,5.9nm,1.1s,baz=157,slow=1.9,SNR=2.4						
WRA				PP	PP	04 13 48.8	-1.5
	comp=Z,1.6nm,1.1s,baz=132,slow=5.5,SNR=4.6						
WRAB	Tennant Creek	133.26	210	*e*PKIKP	PKPdf	04 11 23.3	-0.2
BRVK	Borovoye	135.40	35	*e*PKIKP	PKPdf	04 11 27.1	+0.7
YAK	Yakutsk	137.50	347	*e*PKIKP	PKPdf	04 11 29.9	-0.1
YAK				pmax	pmax		
	comp=Z,13nm,0.9s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,21nm,1.0s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.1s						
FITZ	Fitzroy Crossi	138.39	200	*e*	PKPdf	04 11 33.7	+0.7
FITZ	Fitzroy Crossi	138.39	200	PKP	PKPdf	04 11 33.7	+0.6
	comp=E,12nm,0.7s,baz=201,slow=5.3,SNR=20						
NVS	Novosibirsk	140.39	25	*e*PKIKP	PKPdf	04 11 36.0	+0.5
NVS				pmax	pmax		
	comp=Z,34nm,1.5s						
NVS				pmax	pmax		
	comp=E,11nm,1.3s						
KURK	Kurchatov	141.01	33	*e*PKIKP	PKPdf	04 11 37.3	+0.5
ZAA0	Zalesovo Array	141.68	25	*e*PKPdf	PKPdf	04 11 38.8	+0.9
ZAL	Zalesovo	141.68	25	PKHKP		04 11 32.1	
ZAL						04 11 37.9	
ZALV	Zalesovo Beam	141.68	25	PKhKP		04 11 32.1	
	comp=E,4.0nm,0.7s,baz=318,slow=2.0,SNR=14						
ZALV				PKP	PKPdf	04 11 37.9	0.0
	comp=E,13nm,0.6s,baz=291,slow=2.5,SNR=22						
ZALV				pPKP	pPKPdf	04 12 09.8	-1.3
	comp=E,6.0nm,0.7s,baz=336,slow=3.3,SNR=1.7						
EKS2	Erkin-Say	142.03	47	*e*PKPdf	PKPdf	04 11 39.8	+0.9
EKS2	Erkin-Say	142.03	47	P	PKPdf	04 11 41.0	+2.2
	SNR=11						
AML	Almayashu	142.17	48	*e*PKPdf	PKPdf	04 11 38.8	-0.3
AML	Almayashu	142.17	48	P	PKPdf	04 11 44.0	+4.9
	SNR=10						
USP	Ospenovka	142.29	46	P	PKPdf	04 11 40.5	+1.2
	SNR=10						
AAK	Ala-Archa	142.53	47	*e*PKIKP	PKPdf	04 11 37.3	-2.5
FRU	Bishkek	142.54	47	*e*PKIKP	PKPdf	04 11 41.0	+1.2
FRU				pmax	pmax		
	comp=Z,34nm,1.8s						
UCH	Uchtor	142.70	48	*e*PKPdf	PKPdf	04 11 38.7	-1.3
UCH	Uchtor	142.70	48	P	PKPdf	04 11 42.6	+2.6
	SNR=6.8						
TKM2	Tokmak 2	143.16	46	*e*PKIKP	PKPdf	04 11 39.3	-1.6
TKM2	Tokmak 2	143.16	46	P	PKPdf	04 11 39.4	-1.4
	SNR=6.0						
KZA	Kyzart	143.26	47	P	PKPdf	04 11 40.5	-0.5
	SNR=11						
BOD	Bodaibo	143.57	358	*e*PKHKP		04 11 36.9	
BOD				pmax	pmax		
	comp=Z,15nm,1.3s						
BOD				pmax	pmax		
	comp=Z,22nm,1.6s						
GOA	Goa	143.82	93	*e*P	PKPdf	04 11 42.3	-0.5
ULHL	Ulahol	143.88	47	P	PKPdf	04 11 42.0	-0.1
	SNR=10.0						
YSS	Yuzh-Sakhalins	144.10	323	*e*PKIKP	PKPdf	04 11 39.0	-3.4
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
TRD	Trivandrum	144.33	106	*e*P	PKPdf	04 11 43.4	-0.4
POO	Poona	144.53	88	*e*P	PKPdf	04 11 42.0	-1.9
POO				*e*P		04 11 43.1	
KAD	Karad	144.59	90	*e*P	PKPdf	04 11 43.0	-1.1
KSH	Kashi	144.72	51	*e*PKP	PKPdf	04 11 44.0	+0.3
KSH				*e*PKS		04 15 18.2	
KSH				*e*SKS	SKSdf	04 18 34.5	-7.2
KSH				*e*PPP		04 18 45.4	
KSH				PP	PP		
	comp=Z,485nm,5.2s						
KSH				LR	LR		
	comp=N,516nm,4.7s						
KSH				LR	LR		
	comp=E,409nm,8.1s						
KSH				LR	LR		
	comp=Z,407nm,6.6s						
MK31	Makanchi Array	145.31	36	*e*PKIKP	PKPdf	04 11 44.9	+0.4
MKAR	Makanchi Array	145.31	36	PKPbc	PKPbc	04 11 45.1	+0.6
	comp=Z,57nm,1.0s,baz=321,slow=3.1,SNR=219						
MKAR				pPKPbc	pPKPbc	04 12 16.3	-0.8
	comp=Z,40nm,0.9s,baz=308,slow=2.5,SNR=5.9						
AJM	Ajmer	145.99	74	*e*P	PKPdf	04 11 45.0	-1.3
THN	Thein Dam	146.37	63	*e*P	PKPdf	04 11 46.6	-0.1
BATI	Kupang	146.42	202	PKPbc	PKPbc	04 11 49.4	+0.6
	comp=Z,133nm,1.0s,baz=190,slow=0.6,SNR=9.4						
ERM	Erimo	146.42	315	*e*PKP2	PKPab	04 11 47.5	-1.6
LATR	Latur	147.03	89	*e*P	PKPdf	04 11 46.9	-1.4
HABR	Khabarovsk	147.06	331	⇑*i*PKP2	PKPab	04 11 50.1	-1.3
HABR				*e*		04 15 13.6	
HABR				*e*		04 18 30.7	
HABR				*e*		04 18 42.4	
HABR				*e*		04 34 04.9	
HABR				*e*		04 39 38.5	
PALK	Pallekele	147.09	111	*e*PKPdf	PKPdf	04 11 49.5	+1.0
AKL	Akola	147.82	85	*e*P	PKPdf	04 11 47.9	-1.6
KLR	Kul'dur	147.89	335	*e*PKHKP		04 11 45.0	
KLR				*e*		04 11 51.2	
NDI	New Delhi	148.16	70	*e*P	PKPdf	04 11 49.5	-0.3
NDI				*e*P		04 11 49.5	
NDI				*e*P		04 11 50.3	
BHPL	Bhopal	148.44	80	*e*P	PKPdf	04 11 49.6	-0.8
MOY	Mondy	148.68	13	*e*PKIKP	PKPdf	04 11 51.7	+1.8
MOY				pmax	pmax		
	comp=Z,72nm,1.9s						
HYB	Hyderabad	148.68	91	*e*P	PKPdf	04 11 52.0	+1.0
HYB				*e*		04 12 10.0	
HYB				*e*		04 12 25.0	
HYB	Hyderabad	148.68	91	⇑*i*PKP	PKPdf	04 11 52.0	+1.0
	comp=Z,35nm,1.0s						
HYB				*e*sPKP		04 13 04.0	
DDI	Dehra Dun	148.69	67	*i* P	PKPdf	04 11 52.0	+1.4
IRK	Irkutsk	148.69	9	⇑*i*PKIKP	PKPdf	04 11 50.5	+0.6
IRK				*e*		04 12 24.1	
IRK				pmax	pmax		
	comp=Z,115nm,1.9s						
TLY	Talaya	149.15	10	*e*PKIKP	PKPdf	04 11 51.8	+1.1
TLY				*e*		04 11 55.7	
NGP	Nagpur	149.76	84	*e*P	PKPdf	04 11 51.8	-0.8
WMQ	Urumqi	150.14	36	*e*PKP	PKPdf	04 11 52.8	+0.3
WMQ				PP	PP	04 15 35.8	+2.7
WMQ				SKS	SKSdf	04 18 48.8	-0.2
WMQ				SS	SS	04 34 42.8	+2.5
WMQ				PP	PP		
	comp=Z,195nm,9.0s						
WMQ				LR	LR		
	comp=N,153nm,27.0s						
WMQ				LR	LR		
	comp=E,127nm,27.0s						
WMQ				LR	LR		
	comp=Z,125nm,27.0s						
ZAK	Zakamensk	150.34	11	*e*PKIKP	PKPdf	04 11 49.2	-3.4
ZAK				*e*		04 12 31.1	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.8s						
ZAK				pmax	pmax		
	comp=Z,11nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,29nm,1.4s						
PTH	Pithoragarh	150.66	68	*e*x	PKPbc	04 11 58.2	-1.2
LGTI	Lohaghat	150.70	68	*e*x	PKPbc	04 12 00.0	+0.5
HIA	Hailar	151.42	349	*e*PKIKP	PKPdf	04 11 59.6	+5.3
MJAR	Matsushiro Arr	152.32	309	PKP	PKPdf	04 11 56.6	+0.5
	comp=Z,6.0nm,0.6s,baz=73,slow=1.5,SNR=4.4						
MJAR				PKPbc	PKPbc	04 12 02.1	-0.8
	comp=Z,13nm,0.7s,baz=90,slow=1.4,SNR=30						
MJAR				pPKPbc	pPKPbc	04 12 35.0	-1.0
	comp=Z,13nm,0.9s,baz=67,slow=0.9,SNR=4.8						
MAJO	Matsushiro	152.32	309	*e*PKIKP	PKPbc	04 12 02.4	-0.6
MAT	Matsushiro	152.32	309	PKP	PKPdf	04 12 01.4	+5.3
MDJ	Mudanjiang	152.44	331	PKP	PKPdf	04 11 56.1	+0.1
MDJ				PP	PP	04 15 47.4	+1.4
MDJ				SS	SS	04 35 07.7	+2.4
MDJ				LR	LR		
	comp=E,96nm,54.1s						
MDJ				LR	LR		
	comp=Z,99nm,41.6s						
VIS	Vishakhapatnam	153.20	93	*e*x	PKPbc	04 12 05.9	+0.5
SONM	Songino Array	153.29	8	PKP	PKPdf	04 11 57.6	+0.5
	comp=Z,6.8nm,0.9s,baz=314,slow=1.1,SNR=43						
SONM				PKPbc	PKPbc	04 12 05.4	+0.6
	comp=Z,9.9nm,0.7s,baz=309,slow=1.4,SNR=39						
ULN	Ulaanbaatar	153.34	7	*e*PKIKP	PKPdf	04 11 57.0	-0.2
KOLN	Koldanda	153.86	70	*e*P	PKPdf	04 11 58.6	0.0
	comp=Z,21nm,1.0s						
DANN	Dangsing	153.91	69	*e*P	PKPdf	04 11 59.6	+1.0
	comp=Z,78nm,0.9s						
GKN	Gorkha	154.73	70	*e*P	PKPdf	04 12 00.0	+0.2
CN2	Changchun	154.83	336	*e*PKP	PKPdf	04 11 59.7	+0.3
CN2				*e*APKP		04 12 30.0	
CN2				*e*PP	PP	04 16 02.5	+3.2
CN2				*e*SS	SS	04 35 34.2	+3.2
CN2				PP	PP		
	comp=Z,400nm,8.0s						
CN2				LR	LR		
	comp=N,300nm,20.0s						
CN2				LR	LR		
	comp=E,400nm,20.0s						
CN2				LR	LR		
	comp=Z,500nm,20.0s						
DMN	Daman	155.20	70	*e*P	PKPdf	04 12 00.6	+0.1
KKN	Kakani	155.33	70	*e*P	PKPdf	04 12 00.4	-0.2
PKIN	Phulchoki	155.46	70	*e*P	PKPdf	04 12 00.3	-0.5
PKI	Pulchoki	155.47	70	*e*P	PKPdf	04 12 00.8	0.0
GUN	Gumba	155.83	69	*e*P	PKPdf	04 12 01.4	+0.1
	comp=Z,39nm,1.2s						
JIRN	Jiri	156.14	70	*e*P	PKPdf	04 12 01.6	-0.1
	comp=Z,4.0nm,0.6s						
BOK	Bokaro	156.22	79	*e*P	PKPdf	04 12 00.7	-1.2
BOK				AMb	AMB	04 12 03.2	
	comp=Z,16nm,0.8s						
KSRS	Korea Array	158.60	322	PKP	PKPdf	04 12 05.0	+0.5
	comp=Z,8.0nm,0.9s,baz=66,slow=1.2,SNR=23						
KSRS				pPKP	pPKPdf	04 12 37.4	-0.4
	comp=Z,7.1nm,0.9s,baz=66,slow=1.6,SNR=6.9						
KSRS				pPKPab	pPKPab	04 13 09.1	-3.1
	comp=Z,14nm,1.0s,baz=68,slow=3.9,SNR=7.6						
GTA	Gaotai	159.43	27	*e*PKP	PKPdf	04 12 06.0	+0.6
GTA				PKS		04 15 37.9	
GTA				PP	PP	04 16 28.8	+4.2
GTA				SKS	SKSdf	04 19 00.9	+1.4
GTA				SKKS	SKKSac	04 23 03.9	+1.6
GTA				SS	SS	04 36 20.8	+0.5
GTA				PP	PP		
	comp=Z,126nm,8.4s						
GTA				LR	LR		
	comp=N,149nm,9.1s						
GTA				LR	LR		
	comp=E,96nm,10.3s						
GTA				LR	LR		
	comp=Z,110nm,11.0s						
KSM	Kuching	160.17	176	*e*PKPbc	PKPdf	04 12 07.3	+0.2
HHC	Hu-ho-hao-te	160.60	360	*e*PKP	PKPdf	04 12 07.9	+1.2
HHC				PKS		04 15 37.8	
HHC				PP	PP	04 16 31.2	+0.7
HHC				SKS	SKSdf	04 18 59.6	-0.9
HHC				PP	PP		
	comp=Z,278nm,5.7s						
HHC				LR	LR		
	comp=N,304nm,19.4s						
HHC				LR	LR		
	comp=E,622nm,22.4s						
HHC				LR	LR		
	comp=Z,283nm,21.4s						
BJI	Beijing	160.99	349	PKP	PKPdf	04 12 08.1	+1.0
BJI				APKP		04 12 37.4	
BJI				SS	SS	04 36 39.0	+3.0
BJI				PP	PP		
	comp=Z,327nm,7.8s						
SHL	Shillong	161.51	73	*e*P	PKPdf	04 12 09.5	+1.4
LZH	Lanzhou	163.89	23	*e*PKP	PKPdf	04 12 11.0	+0.9
LZH				APKP		04 12 43.5	
LZH				XPKP		04 12 56.0	
LZH				PP	PP	04 16 53.2	+4.9
LZH				SKS	SKSdf	04 19 02.3	-1.1
LZH				SKKS	SKKSac	04 23 27.2	+1.9
LZH				SS	SS	04 37 08.5	+1.9
LZH				PP	PP		
	comp=Z,357nm,9.5s						
LZH				LR	LR		
	comp=E,376nm,18.5s						
LZH				LR	LR		
	comp=Z,769nm,20.1s						
XAN	Xi'an	167.19	10	PKP	PKPdf	04 12 12.9	0.0
CHG	Chiang Mai	167.91	100	⇓P	PKPdf	04 12 13.4	-0.4
	comp=Z,16nm,1.1s						
CHTO	Chiang Mai	167.91	100	*e*PKIKP	PKPdf	04 12 13.4	-0.4
CD2	Chengdu	168.23	35	*e*PKP	PKPdf	04 12 14.4	+0.7
CD2				APKP		04 12 44.4	
CD2				XPKP		04 12 57.0	
CD2				PKP2	PKPab	04 13 24.5	+1.9
CD2				PP	PP	04 17 13.9	+2.8
CD2				SKS	SKSdf	04 19 06.7	+0.4
CD2				SKKS	SKKSac	04 23 49.8	+2.4
CD2				SS	SS	04 37 52.9	+1.6
CD2				PP	PP		
	comp=Z,120nm,12.0s						
CD2				LR	LR		
	comp=N,170nm,24.0s						
CD2				LR	LR		
	comp=Z,120nm,16.8s						
NANT	Nan	169.51	102	P	PKPdf	04 12 13.0	-1.9
WHN	Wuhan	170.53	345	PKP	PKPdf	04 12 16.0	+0.9
WHN				APKP		04 12 49.0	
KMI	Kunming	171.11	64	PKP	PKPdf	04 12 15.3	-0.3
KMI				LR	LR		
	comp=Z,119nm,23.0s						
GYA	Guiyang	173.27	40	*i* PKP	PKPdf	04 12 17.0	+0.5
GYA				APKP		04 12 48.2	
GYA				XPKP		04 13 00.4	
GYA				PKP2	PKPab	04 13 45.8	+0.7
GYA				PKS		04 15 46.7	
GYA				PP	PP	04 17 38.3	+1.8
GYA				SKS	SKSdf	04 19 05.4	-3.2
GYA				PPP		04 21 51.5	
GYA				SKKS	SKKSac	04 24 11.5	-0.5
GYA				SS	SS	04 38 39.4	-2.0
GYA				SSS		04 45 34.6	
GYA				PP	PP		
	comp=Z,160nm,8.7s						
GYA				LR	LR		
	comp=N,800nm,22.4s						
GYA				LR	LR		
	comp=E,730nm,24.9s						
GYA				LR	LR		
	comp=Z,870nm,21.7s						

IDC 01 04:00:59.0±1.9**, 1130N**×**9192E, h0km, mb3.6**/5**, mb1 3.7**/5**, mb1mx3.6**/20**, mbtmp3.6**/5**, Error ellipse: s-maj=79.5km s-min=21.6km az=61.0, Andaman Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	36.31	349	P	P	04 08 04.9	+0.6
	1.2nm,0.7s,baz=163,slow=8.2,SNR=12						
SONM	Songino Array	38.40	16	P	P	04 08 21.8	-0.3
	0.2nm,0.4s,baz=196,slow=12,SNR=2.6						
WRA	Warramunga Arr	52.03	126	P	P	04 10 10.8	0.0
	0.3nm,0.5s,baz=302,slow=9.4,SNR=8.9						
ASAR	Alice Springs	53.78	131	P	P	04 10 23.8	+0.1
	0.3nm,0.7s,baz=316,slow=6.5,SNR=3.8						
FINES	FINESS Array B	68.68	332	P	P	04 12 03.8	-0.3
	1.1nm,0.7s,baz=108,slow=6.2,SNR=4.9						

*IDC **01** 04:08:50.4±1.5, 3973N×2276E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/22, mbtmp3.7/9, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.6/35, Error ellipse: s-maj=26.0km s-min=20.9km az=142.0*
*SOF **01** 04:08:51.3, 3994N×2291E, h4km, MD3.4*
*ATH **01** 04:08:52.8, 3986N×2295E, h26km±1km, MD3.7/14, ML3.5*
*ISCJB **01** 04:08:52.4±0.3, 3989N±001×2291E±002, h11km±2km, mb3.6/8, Error ellipse: s-maj=2.7km s-min=2.3km az=1.2*
*NEIC **01** 04:08:53.5, 3988N×2287E, h12km, ML4.0(THE), ML3.4(ATH), After THE.*
*CSEM **01** 04:08:53.5±0.0, 3986N×2288E, h25km, ML4.0, Error ellipse: s-maj=1.4km s-min=0.8km az=92.0*
*SKO **01** 04:08:53.3, 3991N×2281E, h18km, M2.8, ML3.2*
*THE **01** 04:08:53.5, 3988N×2287E, h11km, ML4.0*
*NAO **01** 04:09:11.6, 4157N×2364E, h33km, mb3.5*
ISC 01 04:08:53.1±0.3**, 3988N**±001×**2290E**±002**, h10**km±2km**, n92,** σ1s02/128**, mb3.6**/8**, 12C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LIT	Litokhoron	0.39	305	*e*Pg	Pg	04 09 00.8	+0.1
LIT				*e*Sg	Sg	04 09 05.8	0.0
LIT	Litokhoron	0.39	305	*e*Pg	Pg	04 09 00.8	+0.1
LIT				*e*Sg	Sg	04 09 05.8	0.0
XOR	Xorichti	0.56	156	*e*Pg	Pg	04 09 04.2	+0.3
PAIG	Paliouri	0.60	85	*e*Pg	Pg	04 09 05.2	+0.5
PAIG				*e*Sg	Sg	04 09 14.2	+1.6
PAIG	Paliouri	0.60	85	*e*Pg	Pg	04 09 05.2	+0.5
PAIG				*e*Sg	Sg	04 09 14.2	+1.6
NEO	Neokhori	0.62	156	*e*PN	Pg	04 09 05.0	-0.1
NEO				*e*SN	Sg	04 09 13.2	0.0
PLG	Polygyros	0.65	40	*e*Pg	Pg	04 09 06.1	+0.4
PLG				*e*Sg	Sg	04 09 15.5	+1.4
PLG	Polygyros	0.65	40	⇑*i*PN	Pg	04 09 06.0	+0.4
PLG				*e*SN	Sg	04 09 14.8	+0.7
HORT	Hortiatis	0.74	12	*e*Pg	Pg	04 09 07.7	+0.4
HORT				*e*Sg	Sg	04 09 18.2	+1.3
THL	Klokotos Trika	0.75	246	*e*Pg	Pg	04 09 07.1	-0.5
THL	Klokotos Trika	0.75	246	⇑*i*PN	Pg	04 09 07.0	-0.5
THL				*e*SN	Sg	04 09 19.8	+2.5
THL	Klokotos Trika	0.75	246	⇑*i*Pn	Pg	04 09 07.0	-0.5
THL				*e*Sn	Sg	04 09 19.5	+2.2
THE	Thessaloniki	0.76	4	*e*Pg	Pg	04 09 07.8	+0.1
THE				*e*Sg	Sg	04 09 18.7	+1.1
OUR	Ouranopolis	0.95	61	*e*Pg	Pg	04 09 11.8	+0.5
AGG	Agios Georgios	0.96	207	*e*Pg	Pg	04 09 11.2	-0.3
AGG				*e*Sg	Sn	04 09 28.7	+2.4
KZN	Kozani	0.97	297	*e*PN	Pg	04 09 12.0	+0.3
KZN				*e*SN	Sg	04 09 26.5	+2.3
SOH	Sokhos	1.00	20	*e*Pg	Pg	04 09 12.4	0.0
SOH				*e*Sg	Sg	04 09 26.0	+0.5
AOS	Alonnisos	1.04	133	*e*Pg	Pg	04 09 12.9	-0.1
GRG	Griva	1.14	341	*e*Pg	Pg	04 09 14.4	-0.7
GRG				*e*Sg	Sg	04 09 29.8	-0.1
LKR	Lokris	1.23	176	*e*PN	Pn	04 09 15.4	-0.9
LKR				*e*SN	Sn	04 09 33.1	+0.2
LKR	Lokris	1.23	176	*e*Pg	Pg	04 09 15.6	-1.0
EVR	Evrytania	1.28	222	*e*PN	Pn	04 09 16.5	-0.5
EVR				*e*SN	Sn	04 09 34.6	+0.4
KNT	Kendrikon	1.28	360	*e*Pg	Pg	04 09 16.9	-0.8
KNT				*e*Sg	Sg	04 09 34.0	-0.4
SRS	Serrai	1.35	23	*e*Pg	Pg	04 09 17.6	-1.3
SRS				*e*Sg	Sg	04 09 36.1	-0.3
VAY	Valandovo	1.46	350	*e*Pg	Pn	04 09 18.2	-1.4
VAY				*e*Sg	Sn	04 09 38.0	-0.8
	comp=E,297nm,0.5s						
VAY				*e*Lg		04 09 40.6	
VAY				*e*Lg		04 09 40.8	
VAY	Valandovo	1.46	350	*e*Pg	Pn	04 09 18.1	-1.5
VAY				*e*Sg	Sn	04 09 37.9	-0.9
	comp=E,297nm,0.5s						
FNA	Florina	1.48	308	*e*Sg	Sg	04 09 40.7	+0.2
FNA				*e*Sg	Sg	04 09 38.7	-1.8
FNA	Florina	1.48	308	*e*Sg	Sg	04 09 38.7	-1.8
JAN	Janina	1.59	263	*e*PN	Pn	04 09 22.6	+1.3
NVR	Nevrokopi	1.64	26	*e*PB	Pn	04 09 21.5	-0.5
NVR				*e*SN	Sn	04 09 43.0	-0.2
BIA	Bitola	1.66	314	*e*Pb	Pn	04 09 21.6	-0.7
BIA	Bitola	1.66	314	*e*Pg	Pn	04 09 21.9	-0.4
BIA				*e*Sg	Sn	04 09 44.2	+0.7
	comp=E,104nm,0.5s						
BIA				*e*Lg		04 09 49.1	
BIA				*e*Lg		04 09 51.4	
BIA	Bitola	1.66	314	P	Pn	04 09 21.5	-0.7
BIA	Bitola	1.66	314	*e*Pg	Pn	04 09 21.8	-0.4
BIA				*e*Sg	Sn	04 09 44.2	+0.6
	comp=E,104nm,0.5s						
LOS	Limnos	1.68	87	*e*Pb	Pn	04 09 21.7	-0.8
LIA	Limnos Island	1.76	89	*e*PB	Pn	04 09 22.5	-1.1
KBN	Korca	1.78	295	*i* PN	Pg	04 09 25.8	-1.4
KBN				*i* SN	Sg	04 09 50.2	-0.1
MMB	Musomiste	1.82	20	P	Pn	04 09 24.5	0.0
LTK	Loutraki	1.85	178	*e*Pb	Pn	04 09 24.7	-0.2
LTK				*e*Sb	Sn	04 09 48.3	-0.1
KRUS	Krusevo	1.95	320	*e*Pg	Pn	04 09 26.8	+0.6
PTL	Penteli	1.98	157	*e*PB	Pn	04 09 26.2	-0.4
KKB	Krupnik	1.99	4	P	Pn	04 09 26.5	-0.4
KKB				Pg	Pb	04 09 28.4	-1.0
ATH	Athens Observa	2.01	161	*e*PB	Pn	04 09 27.6	+0.6
OHR	Ohrid	2.02	308	*e*Sn	Sn	04 09 52.0	-0.6
OHR	Ohrid	2.02	308	*e*Pg	Pn	04 09 27.9	+0.7
OHR				*e*Sg	Sn	04 09 52.8	+0.3
	comp=N,361nm,0.9s						
OHR				*e*Lg		04 09 59.1	
OHR				*e*Lg		04 09 59.6	
OHR	Ohrid	2.02	308	*e*Pg	Pn	04 09 27.9	+0.7
OHR				*e*Sn	Sn	04 09 52.0	-0.6
OHR				*e*Sg	Sb	04 09 52.8	-2.3
	comp=N,361nm,0.9s						
RLS	Riolos of Patr	2.13	212	*e*PB	Pb	04 09 30.2	-1.6
KVR	Kavouri	2.16	161	*e*PN	Pn	04 09 29.0	-0.1
NAIG	Nisos Aigina	2.17	168	*e*PN	Pn	04 09 28.5	-0.7
SRN	Sarande	2.23	271	*i* SN	Sg	04 10 02.7	-2.0
SRN				*i* PN	Pn	04 09 32.4	+2.3
RZN	Rozhen	2.27	37	P	Pn	04 09 30.7	0.0
RDO	Rodhopi	2.38	57	*e*PN	Pn	04 09 31.0	-1.1

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
KEK	Kerkira	2.40	267	ePB	Pn	04 09 34.2	+1.8
VLS	Valsamata	2.47	227	P	Pn	04 09 31.7	-1.7
KDZ	Kurdzhali	2.61	46	eP	Pn	04 09 33.9	-1.4
KDZ				Pg	Pg	04 09 41.5	-1.5
ALN	Alexandroupoli	2.61	66	ePn	Pn	04 09 35.0	-0.3
ALN				eSn	Sg	04 10 15.5	-1.4
PLD	Plovdiv	2.61	31	ePn	Pn	04 09 36.3	+1.0
VTS	Vitosha	2.72	5	P	Pn	04 09 37.5	+0.6
VTS				Pg	Pg	04 09 45.8	+0.6
VTS	Vitosha	2.72	5	ePn	Pn	04 09 37.5	+0.6
TIR	Tirane	2.74	303	i PN	Pn	04 09 36.5	-0.6
ITM	Ithomi	2.80	196	ePb	Pn	04 09 40.4	+2.5
CHOS	Chios island	2.87	120	ePn	Pn	04 09 39.6	+0.7
PUK	Puka	3.14	315	i PN	Pn	04 09 44.3	+1.7
APE	Apeiranthos	3.48	143	ePn	Pn	04 09 47.4	+0.1
APE	Apeiranthos	3.48	143	ePN	Pn	04 09 47.5	+0.2
SZH	Strazhica	4.08	33	P	Pn	04 09 55.5	0.0
DIVS	Divibare	4.74	334	ePn	Pn	04 10 05.3	+0.7
DIVS	Divibare	4.74	334	ePn	Pn	04 10 05.3	+0.7
GVD	Gavdhos	5.12	169	ePn	Pn	04 10 06.0	-3.8
GVD	Gavdhos	5.12	169	ePn	Pn	04 10 06.0	-3.8
BZS	Buzias	5.81	351	⇑P	Pn	04 10 18.6	-0.7
BZS	Buzias	5.81	351	⇑iP	Pn	04 10 18.6	-0.7
MLR	Muntele Rosu	6.04	21	⇑P	Pn	04 10 24.6	+2.1
MLR	Muntele Rosu	6.04	21	Pn	Pn	04 10 24.0	+1.6
	comp=N,2.1nm,0.3s,baz=243,slow=3.3,SNR=21						
MLR				Sn	Sn	04 11 35.2	+3.6
	baz=135,slow=23,SNR=2.8						
MLR				Lg		04 12 14.8	
	comp=N,0.5nm,0.3s,baz=177,slow=23,SNR=4.1						
MLR	Muntele Rosu	6.04	21	⇑iP	Pn	04 10 24.6	+2.1
TIRR	Tirgusor	6.14	40	⇑P	Pn	04 10 23.4	-0.4
TIRR	Tirgusor	6.14	40	⇑iP	Pn	04 10 23.4	-0.4
PLOR	Plostina	6.58	24	⇑iP	Pn	04 10 31.8	+2.0
VRI	Vrincioaia	6.61	24	⇑iP	Pn	04 10 32.3	+2.0
PKSM	Moragy	7.06	335	⇑iP	Pn	04 10 36.7	+0.3
GERES	GERESS Array B	11.12	327	Pn	Pn	04 11 41.5	+10
	comp=N,0.1nm,0.3s,baz=137,slow=13,SNR=3.4						
ESDC	Sonseca Array	20.62	278	P	P	04 13 36.3	+3.7
	comp=N,1.5nm,0.6s,baz=69,slow=10,SNR=13						
HFS	Hagfors	21.08	347	P	P	04 13 37.2	-0.1
	comp=N,1.3nm,0.6s,mb3.5,baz=159,slow=12,SNR=6.5						
NB2	NORSAR Subarra	22.39	345	P	P	04 13 50.9	-0.3
	comp=Z,1.8nm,0.7s,mb3.6,baz=153,slow=11						
NOA	NORSAR Array B	22.39	345	P	P	04 13 50.9	-0.3
	comp=Z,1.2nm,0.7s,mb3.5,baz=152,slow=11,SNR=5.9						
EKA	Eskdalemuir Ar	23.21	320	P	P	04 13 58.5	-1.5
	comp=Z,1.4nm,0.9s,mb3.4,baz=126,slow=12,SNR=3.9						
MKAR	Makanchi Array	42.84	60	P	P	04 16 51.6	+0.4
	comp=Z,0.8nm,0.6s,mb3.6,baz=286,slow=6.3,SNR=2.8						
ZALV	Zalesovo Beam	43.18	50	P	P	04 16 53.8	0.0
	comp=Z,1.3nm,0.5s,mb3.9,baz=281,slow=7.8,SNR=2.7						
SONM	Songino Array	57.95	52	P	P	04 18 45.4	-0.1
	comp=Z,0.2nm,0.4s,mb3.5,baz=309,slow=8.6,SNR=2.8						
SCHQ	Schefferville	58.47	317	P	P	04 18 48.8	-0.2
	comp=Z,1.1nm,0.5s,mb4.2,baz=45,slow=5.7,SNR=6.1						
YKA	Yellowknife Ar	72.41	341	P	P	04 20 18.7	-0.4
YKA	Yellowknife Ar	72.41	341	P	P	04 20 18.7	-0.4
	comp=Z,0.2nm,0.7s,mb3.2,baz=31,slow=5.1,SNR=5.8						

IDC 01 04:25:40.5±2.2**, 755S×15550E, h0^{km}, mb3.7**/4**, mb1 3.9**/4**, mb1mx3.7**/13**, mbtmp3.6**/4**, Error ellipse: s-maj=88.9km s-min=29.6km az=129.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.92	237	P	P	04 30 56.0	-0.4
	2.7nm,1.0s,baz=62,slow=9.5,SNR=8.3						
ASAR	Alice Springs	26.19	230	P	P	04 31 17.1	+0.1
	0.7nm,0.6s,baz=67,slow=8.1,SNR=5.8						
MKAR	Makanchi Array	84.15	319	P	P	04 38 13.8	+0.2
	0.1nm,0.3s,baz=104,slow=6.1,SNR=2.5						
YKA	Yellowknife Ar	96.59	28	P	P	04 39 12.1	+0.1
	0.2nm,0.7s,baz=266,slow=4.5,SNR=5.0						

*NEIC **01** 04:41:13.5±1.1, 495N×12642E, h35^{km}, mb3.7/1, Error ellipse: s-maj=144.0km s-min=12.5km az=68.0*
*IDC **01** 04:41:14.8±3.7, 521N×127.13E, h63^{km}±32^{km}, mb3.6/7, mb1 3.7/7, mb1mx3.6/17, mbtmp3.6/7, Error ellipse: s-maj=155.2km s-min=17.2km az=70.0*
*ISCJB **01** 04:41:21.9±1.7, 49N±01×1266E±03, h142^{km}±14^{km}, mb3.7/8, Error ellipse: s-maj=51.1km s-min=12.8km az=161.5*
ISC 01 04:41:22.9±1.6**, 49N**±01×**1266E**±03**, h134**^{km}±14^{km}**, n12, σ0^{s}78**/14**, mb3.7**/8**, 1D, Talaud Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.99	305	⇓eP	Pn	04 41 55.3	-1.6
GSPH				eS	Sn	04 42 23.5	+0.5
BUKP	Musuan	3.29	333	eP	Pn	04 42 13.0	-0.3
BUKP				eS	Sn	04 42 53.2	+0.8
WRAB	Tennant Creek	25.87	163	eP	P	04 46 43.1	+0.8
	1.2nm,0.5s,mb3.8						
WRA	Warramunga Arr	25.88	163	P	P	04 46 41.7	-0.7
	0.6nm,0.4s,mb3.6,baz=343,slow=10,SNR=15						
ASAR	Alice Springs	29.32	166	P	P	04 47 14.0	+1.0
	0.2nm,0.7s,mb2.9,baz=339,slow=7.0,SNR=3.1						
ASAR				PcP	PcP	04 50 16.9	+0.5
	0.2nm,0.5s,baz=1.8,slow=2.3,SNR=4.1						
SONM	Songino Array	46.11	341	P	P	04 49 34.1	+0.5
	1.0nm,0.6s,mb3.6,baz=152,slow=6.6,SNR=9.1						
SONM				PcP	PcP	04 51 06.8	-0.7
	0.3nm,0.4s,baz=164,slow=4.2,SNR=3.1						
MK31	Makanchi Array	56.49	325	P	P	04 50 51.5	+0.6
MKAR	Makanchi Array	56.49	325	P	P	04 50 51.1	+0.2
MKAR				PcP	PcP	04 51 45.8	-0.3
MKAR				ScP	ScP	04 55 42.1	+8.9
MKAR	Makanchi Array	56.49	325	P	P	04 50 51.1	+0.2
	0.7nm,0.4s,mb3.8,baz=123,slow=8.8,SNR=11						
MKAR				PcP	PcP	04 51 45.8	-0.3
	0.3nm,0.4s,baz=115,slow=4.4,SNR=2.5						
MKAR				ScP	ScP	04 55 42.1	+8.9
	0.6nm,0.7s,baz=116,slow=5.5,SNR=6.6						
ZALV	Zalesovo Beam	59.45	333	P	P	04 51 11.4	-0.1
	1.6nm,0.4s,mb4.2,baz=134,slow=6.2,SNR=3.6						
ARCES	ARCESS Array B	89.27	340	P	P	04 54 02.6	-0.8
	2.8nm,0.9s,mb4.2,baz=84,slow=6.4,SNR=12						
FINES	FINESS Array B	90.70	332	P	P	04 54 09.3	-1.0
	0.4nm,0.5s,mb3.7,baz=58,slow=5.0,SNR=7.4						

*ISCJB **01** 04:49:31.7±0.5, 4954S±008×1175E±02, h10^{km}, mb4.3/15, MS3.8/8, Error ellipse: s-maj=22.0km s-min=9.5km az=17.5*
*IDC **01** 04:49:31.8±0.8, 4950S×11739E, h0^{km}, mb4.2/9, mb1 4.3/10, mb1mx4.2/16, mbtmp4.2/10, ML2.9/1, MS3.8/9, Ms1 3.8/9, ms1mx3.7/17, Error ellipse: s-maj=41.9km s-min=15.1km az=108.0*
*NEIC **01** 04:49:33.1±0.5, 4953S×11745E, h10^{km}, mb4.5/4, Error ellipse: s-maj=22.0km s-min=9.2km az=109.0*
*BJI **01** 04:49:33.1, 4950S×11740E, h10^{km}, mb4.7*
ISC 01 04:49:33.5±0.5**, 4952S**±008×**1175E**±02**, h10**^{km}**, (h18**^{km}±1.7^{km}**: pP-P), n30, σ0^{s}85**/24**, mb4.3**/15**, MS3.8**/8**, Western Indian-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.58	359	Pn	Pn	04 53 27.4	+1.5
NWAO				LR	LR	04 58 10.1	
NWAO	Narrogin (SRO)	16.58	359	Pn	Pn	04 53 27.4	+1.5
	2.0nm,0.3s,baz=185,slow=13,SNR=14						
NWAO				LR	LR	04 58 10.1	
	comp=Z,603nm,21.0s,baz=67,slow=31						
STKA	Stephens Creek	25.23	55	P	P	04 55 00.5	+1.1
STKA				LR	LR	05 03 05.7	
STKA	Stephens Creek	25.23	55	P	P	04 55 00.5	+1.1
	4.7nm,0.8s,mb4.1,baz=199,slow=8.3,SNR=4.5						
STKA				LR	LR	05 03 05.7	
	comp=Z,152nm,19.6s,MS3.5,baz=202,slow=32						
ASAR	Alice Springs	28.86	33	P	P	04 55 31.8	-0.3
	1.6nm,0.8s,mb3.8,baz=209,slow=8.6,SNR=14						
FITZ	Fitzroy Crossi	32.03	15	eP	P	04 55 59.8	-0.3
	4.4nm,0.7s,mb4.4						
FITZ	Fitzroy Crossi	32.03	15	P	P	04 56 00.4	+0.3
	2.6nm,0.7s,mb4.2,baz=197,slow=9.3,SNR=6.3						
FITZ				LR	LR	05 07 29.8	
	comp=Z,210nm,21.1s,MS3.8,baz=162,slow=34						
MAW	Mawson	32.30	216	P	P	04 56 02.7	+0.7
	6.9nm,0.9s,mb4.5,baz=55,slow=9.8,SNR=4.8						
MAW				LR	LR	05 07 30.2	
	comp=Z,139nm,18.1s,MS3.7,baz=130,slow=33						
WRA	Warramunga Arr	32.45	31	P	P	04 56 03.4	-0.5
	1.9nm,0.8s,mb4.0,baz=201,slow=8.6,SNR=11						
WRA				PcP	PcP	04 58 49.6	-1.3
	0.8nm,0.8s,baz=218,slow=2.6,SNR=5.7						
WRA				LR	LR	05 08 04.6	
	comp=Z,193nm,19.6s,MS3.8,baz=265,slow=34						
WB2	Warramunga Arr	32.45	31	eP	P	04 56 03.3	-0.6
WRAB	Tennant Creek	32.46	31	eP	P	04 56 03.1	-0.8
	3.9nm,0.8s,mb4.3						
VNDA	Vanda	32.69	164	P	P	04 56 05.7	+0.3
	2.1nm,0.7s,mb4.2,baz=282,slow=8.3,SNR=9.5						
VNDA				LR	LR	05 07 45.0	
	comp=Z,179nm,21.4s,MS3.7,baz=311,slow=33						
QSPA	South Pole Qui	40.61	180	P	P	04 57 12.9	+0.2
	2.3nm,0.7s,mb3.9,baz=305,slow=2.2,SNR=9.3						
SNAA	Sanae	52.01	200	e	P	04 58 48.1	+5.7
SNAA				e	pP	04 58 52.9	+7.3
SNAA				e		04 58 58.7	
SNAA	Sanae	52.01	200	P	P	04 58 42.3	-0.2
	0.9nm,0.9s,mb3.7,baz=136,slow=6.0,SNR=3.9						
VNA2	Neumayer--Watz	53.57	200	e	P	04 58 54.9	+1.0
	baz=123,slow=5.5						
VNA2				e		04 58 59.8	
VNA2				e		04 59 05.2	
VNA3	Neumayer Olymp	53.81	199	e	P	04 58 52.7	-3.0
VNA3				e	pP	04 58 57.4	-1.5
VNA3				e		04 59 02.0	
LSZ	Lusaka	78.08	261	eP	P	05 01 31.6	-1.0
	8.3nm,0.9s,mb4.7						
SHL	Shillong	78.15	337	eP	P	05 01 33.5	+0.9
TSUM	Tsumeb	81.82	250	eP	P	05 01 58.9	+6.0
	3.4nm,0.9s,mb4.3						
XAN	Xi'an	83.54	353	P	P	05 02 00.8	-0.4
XAN				AP	pP	05 02 07.9	+3.4
XAN				AMB	AMB		
	comp=Z,8.0nm,1.9s,mb4.5						
LZH	Lanzhou	86.09	349	eP	P	05 02 14.5	+0.5
LZH				AP	pP	05 02 19.3	+2.0
LZH				XP	sP	05 02 21.6	+3.1
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb5.2						
KSRS	Korea Array	87.09	8	LR	LR	05 40 17.3	
	comp=Z,32nm,19.1s,MS3.7,baz=210,slow=35						
PLCA	Paso Flores	89.85	174	LR	LR	05 43 41.0	
	comp=Z,112nm,20.6s,MS4.3,baz=186,slow=36						
GTA	Gaotai	89.91	346	eP	P	05 02 31.8	-0.4
GTA				XP	sP	05 02 38.8	+2.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.7						
ASAJ	Asahikawa	95.81	18	LR	LR	05 42 41.6	
	comp=Z,46nm,21.9s,MS3.9,baz=335,slow=33						
SONM	Songino Array	97.44	353	P	P	05 03 05.7	-0.9
	comp=Z,0.3nm,0.6s,mb3.9,baz=199,slow=3.1,SNR=2.6						
GERES	GERESS Array B	132.21	300	PKP	PKPdf	05 08 46.3	-0.4
	comp=Z,0.4nm,0.7s,baz=229,slow=1.2,SNR=3.4						
TXAR	Lajitas Array	142.97	108	PKP	PKPdf	05 09 04.8	-2.3
	comp=Z,0.4nm,0.7s,baz=194,slow=5.2,SNR=6.3						
YKA	Yellowknife Ar	149.07	45	PKP	PKPdf	05 09 15.6	-0.8
	comp=Z,2.0nm,0.7s,baz=285,slow=2.2,SNR=4.5						
YKA				PKPbc	PKPbc	05 09 20.3	-0.3
	comp=Z,2.1nm,0.7s,baz=276,slow=2.2,SNR=59						

*IDC **01** 04:56:11.1±4.1, 1342N×12520E, h0^{km}, mb3.4/3, mb1 3.6/3, mb1mx3.3/18, mbtmp3.4/3, Error ellipse: s-maj=329.5km s-min=25.5km az=64.0*
*ISCJB **01** 04:56:14.5±0.5, 1260N±003×12340E±003, h10^{km}, mb3.4/3, Error ellipse: s-maj=4.7km s-min=4.1km az=20.1*
*MAN **01** 04:56:15, 1262N×12340E, h20^{km}, mb4.2, ML3.0, MS2.8*
ISC 01 04:56:14.5±0.6**, 1261N**±003×**12341E**±003**, h2**^{km}±6^{km}**, n14, σ0^{s}90**/21**, mb3.4**/3**, 1C-2D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.22	36	⇓eP	Pg	04 56 36.9	-0.9
PVCP				eS	Sg	04 56 53.8	+0.1
CNP	Catarman	1.22	94	eP	Pg	04 56 37.1	-0.8
CNP				eS	Sg	04 56 54.4	+0.5
RCP	Roxas	1.23	212	⇑eP	Pg	04 56 37.0	-1.1
RCP				eS	Sg	04 56 54.4	+0.3
OTRP	Odiongan	1.38	260	eP	Pn	04 56 39.3	-1.5
OTRP				eS	Sg	04 56 58.1	-0.8
GQP	Guinayangan	1.60	324	⇓eP	Pn	04 56 43.4	-0.3
GQP				eS	Sn	04 57 05.2	+0.2
BOAC	Boac	1.75	299	eP	Pn	04 56 41.4	-4.4
OCLP	Ormoc	1.94	143	eP	Pn	04 56 49.2	+0.7
GUIM	Jordan	2.13	202	eP	Pg	04 56 55.7	+0.4
GUIM				eS	Sg	04 57 24.2	+1.2
POLP	Polilio Island	2.55	326	eP	Pn	04 56 59.8	+2.9
POLP				eS	Sg	04 57 37.4	+1.0
MSLP	Maasin	2.84	150	eP	Pn	04 57 06.6	+5.7
TBP	Tagbilaran	2.93	171	eP	Pn	04 57 02.6	+0.4
WRA	Warramunga Arr	34.09	161	P	P	05 02 59.4	-1.2
	0.3nm,0.9s,mb3.2,baz=344,slow=9.1,SNR=2.7						
ASAR	Alice Springs	37.48	164	P	P	05 03 29.8	+0.1
	0.1nm,0.3s,mb3.1,baz=354,slow=7.8,SNR=3.6						
MKAR	Makanchi Array	48.48	323	P	P	05 04 58.8	+0.2
	0.9nm,0.6s,mb4.0,baz=128,slow=7.9,SNR=11						

MAN 01 05:03:09, 1259N×12346E, h67^{km}**, mb3.6, ML2.3, MS1.9, 1D, Luzon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	1.21	34	eP	Pn	05 03 31.1	+1.1
PVCP				eS	Sn	05 03 48.2	+2.5
RCP	Roxas	1.24	214	⇓eP	Pn	05 03 31.3	+0.8
RCP				eS	Sn	05 03 48.4	+1.9
OTRP	Odiongan	1.42	261	eP	Pn	05 03 34.5	+1.7
OTRP				eS	Sn	05 03 53.5	+2.7
BOAC	Boac	1.79	299	eP	Pn	05 03 39.5	+1.7
BOAC				eS	Sn	05 04 00.4	+0.8

*KRSC **01** 05:06:40.8±0.5, 4985N×15653E, h5^{km}±5^{km}, ML4.4*
*MOS **01** 05:06:40.2±0.8, 4980N×15572E, h61^{km}, mb4.1/6, Error ellipse: s-maj=20.8km s-min=7.5km az=72.8*
*ISCJB **01** 05:06:41.0±0.8, 4974N±006×15596E±010, h71^{km}±7^{km}, mb3.8/14, Error ellipse: s-maj=13.7km s-min=5.6km az=42.9*
*NEIC **01** 05:06:42.5±1.3, 4985N×15559E, h62^{km}±14^{km}, mb3.9/2, Error ellipse: s-maj=31.0km s-min=9.0km az=131.0*
*IDC **01** 05:06:46.8±4.4, 4988N×15557E, h105^{km}±41^{km}, mb3.5/12, mb1 3.8/14, mb1mx3.6/21, mbtmp3.6/14, Error ellipse: s-maj=21.7km s-min=13.5km az=126.0*
ISC 01 05:06:42.1±0.7**, 4974N**±005×**15589E**±010**, h64**^{km}±6^{km}**, n48, σ1^{s}23**/61**, mb3.9**/14**, 2C-3D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	0.96	9	⇓iPN	Pn	05 06 57.5	-2.3
SKR				i S	Sn	05 07 10.9	-1.9
SKR				pmax	pmax		
	comp=N,320nm,0.4s						
SKR				pmax	pmax		
	comp=E,160nm,0.4s						
SKR				pmax	pmax		
	comp=Z,490nm,0.4s						
SKR				smax			
	comp=N,2μm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=Z,460nm,0.5s						
SKR				smax			
	comp=N,2μm,2.0s						
SKR				smax			
	comp=E,3μm,2.0s						
ALID	Alaid	1.16	349	i P	Pn	05 07 03.3	+1.0
ALID				i S	Sn	05 07 18.9	+1.6
MIPR	Malaya Ipel'ka	2.60	12	eP	Pn	05 07 22.4	+0.6
MIPR				i S	Sn	05 07 52.5	+0.3
GRL	Gorelyy	3.14	25	P	Pn	05 07 29.7	+0.6
GRL				i S	Sn	05 08 05.2	-0.1
RUS	Russkaya	3.17	30	eP	Pn	05 07 28.4	-1.1
RUS				i S	Sn	05 08 03.4	-2.6
PET	Petropavlovsk	3.72	27	ePN	Pn	05 07 38.1	+1.1
PET				eS	Sn	05 08 19.6	+0.1
PET				pmax	pmax		
	comp=Z,25nm,0.5s						
PET				smax			
	comp=N,223nm,0.5s						
PET				smax			
	comp=E,208nm,0.6s						
PET	Petropavlovsk	3.72	27	ePn	Pn	05 07 37.5	+0.5
PET				eSn	Sn	05 08 18.9	-0.6
PET	Petropavlovsk	3.72	27	eP	Pn	05 07 37.7	+0.7
PET				i S	Sn	05 08 19.7	+0.2
SDLR	Sedlovina	4.01	27	eP	Pn	05 07 41.6	+0.6
SDLR				i S	Sn	05 08 26.6	0.0
GNL	Ganaly	4.17	17	eP	Pn	05 07 45.2	+2.1
GNL				i S	Sn	05 08 32.4	+2.0
SPN	Mys Shipunski	4.25	36	eP	Pn	05 07 44.0	-0.2
SPN				i S	Sn	05 08 30.5	-1.9
KII	Karymskiy	4.84	26	P	Pn	05 07 54.2	+1.9
KII				i S	Sn	05 08 49.6	+2.7
MKZ	Mys Kozlova	6.02	34	eP	Pn	05 08 07.7	-0.7
MKZ				i S	Sn	05 09 12.7	-3.1
KBTR	Krutoberegovo	7.71	30	eP	Pn	05 08 30.9	-0.7
YSS	Yuzh-Sakhalins	9.18	257	⇓ePN	Pn	05 08 55.3	+3.6
YSS				pmax	pmax		
	comp=Z,13nm,0.7s						
ASAJ	Asahikawa	10.68	243	PN	Pn	05 09 14.9	+2.7
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	Asahikawa	10.68	243	P	Pn	05 09 14.9	+2.7
	comp=Z,1.7nm,0.3s,baz=78,slow=15,SNR=6.9						
ERM	Erimo	11.75	234	i PN	Pn	05 09 26.2	-0.6
ERM	Erimo	11.75	234	ePn	Pn	05 09 25.2	-1.6
	comp=Z,5.9nm,0.6s						
ERM				eSn	Sn	05 11 30.9	-5.3
MAJO	Matsushiro	18.39	231	eP	Pn	05 10 52.0	-0.4
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAJO	Matsushiro	18.39	231	eP	Pn	05 10 52.0	-0.4
	comp=Z,4.8nm,0.8s						
MJAR	Matsushiro Arr	18.39	231	P	Pn	05 10 51.8	-0.7
	comp=Z,0.6nm,0.3s,baz=21,slow=11,SNR=5.3						
YAK	Yakutsk	19.00	320	⇑eP	Pn	05 10 58.9	-0.7
YAK				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BILL	Bilibino	19.07	12	⇑eP	Pn	05 10 59.1	-1.3
BILL				eS	S	05 14 32.4	+0.7
BILL				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s						
KSRS	Korea Array	23.53	249	P	P	05 11 47.4	+0.9
	comp=Z,1.5nm,0.5s,mb3.7,baz=46,slow=9.7,SNR=5.5						
TIXI	Tiksi	25.20	340	i P	P	05 12 00.5	-0.8
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
TIXI	Tiksi	25.20	340	eP	P	05 12 00.6	-0.7
	comp=Z,4.0nm,0.6s,mb4.1						
SONM	Songino Array	32.20	286	PcP	PcP	05 15 51.0	0.0
	comp=Z,0.4nm,0.7s,baz=112,slow=1.6,SNR=3.4						
INK	Inuvik	38.14	35	P	P	05 13 55.1	+0.6
	comp=Z,0.6nm,0.4s,mb3.7,baz=275,slow=6.5,SNR=11						
ZALV	Zalesovo Beam	42.42	304	PcP	PcP	05 16 22.4	+0.4
	comp=Z,0.5nm,0.4s,baz=27,slow=3.5,SNR=2.2						
MKAR	Makanchi Array	47.25	296	P	P	05 15 08.1	-0.5
	comp=Z,0.3nm,0.3s,mb3.7,baz=77,slow=6.9,SNR=5.9						
KURK	Kurchatov	47.29	302	⇓eP	P	05 15 08.6	-0.2
YKA	Yellowknife Ar	47.43	39	P	P	05 15 10.3	+0.6
	comp=Z,0.7nm,0.7s,mb3.7,baz=297,slow=7.8,SNR=13						
ARCES	ARCESS Array B	55.64	341	P	P	05 16 08.8	-2.0
	comp=Z,2.6nm,0.9s,mb4.3,baz=44,slow=8.0,SNR=3.7						
NVAR	Mina Array Bea	59.45	65	P	P	05 16 39.6	+1.5
	comp=Z,0.3nm,0.6s,mb3.5,baz=286,slow=7.4,SNR=2.6						
FINES	FINESS Array B	62.12	335	P	P	05 16 55.7	-0.1
FINES	FINESS Array B	62.12	335	P	P	05 16 53.9	-1.9
	comp=Z,0.2nm,0.3s,mb3.7,baz=36,slow=7.6,SNR=4.7						
OBN	Obninsk	63.88	326	eP	P	05 17 07.4	-0.2
OBN				e		05 17 41.8	
OBN				eSS	SS	05 29 47.4	+1.3
OBN				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2						
NOA	NORSAR Array B	65.98	342	P	P	05 17 20.0	-1.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	NORSAR Array B	65.98	342	P	P	05 17 20.0	-1.2
	comp=Z,0.5nm,0.8s,mb3.6,baz=23,slow=6.5,SNR=3.0						
GOF	Gofitskoye	69.01	316	eP	P	05 17 48.9	+8.4
SCHQ	Schefferville	69.83	25	P	P	05 17 45.5	+0.2
	comp=Z,1.0nm,0.4s,mb4.1,baz=314,slow=8.1,SNR=11						
WRA	Warramunga Arr	71.95	201	P	P	05 17 58.4	-0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	Warramunga Arr	71.95	201	P	P	05 17 58.4	-0.2
	comp=Z,0.8nm,0.5s,mb3.9,baz=16,slow=6.4,SNR=19						
TXAR	Lajitas Array	74.45	63	P	P	05 18 14.4	+1.0
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	Lajitas Array	74.45	63	P	P	05 18 14.4	+1.0
	comp=Z,1.5nm,0.7s,mb4.0,baz=297,slow=4.2,SNR=24						
ASAR	Alice Springs	75.64	201	P	P	05 18 21.1	+1.0
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	75.64	201	P	P	05 18 21.1	+1.0
	comp=Z,0.9nm,0.7s,mb3.8,baz=14,slow=5.4,SNR=11						

*ISCJB **01** 05:08:40.6±0.7, 3837N±003×4034E±004, h1^{km}±7^{km}, Error ellipse: s-maj=5.6km s-min=5.1km az=39.0*
*CSEM **01** 05:08:40.2±0.1, 3842N×4031E, h10^{km}, MD3.0, Error ellipse: s-maj=2.6km s-min=2.5km az=121.0*
*ISK **01** 05:08:40.5, 3841N×4032E, h13^{km}, MD3.0*
*DDA **01** 05:08:41.4, 3838N×4036E, h4^{km}±4^{km}, Md3.1*
ISC 01 05:08:41.2±0.5**, 3838N**±003×**4034E**±004**, h5**^{km}±7^{km}**, n12, σ1^{s}21**/20**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIY	Diyarbakir	0.49	191	ePG	Pg	05 08 50.8	+0.2
DIY				eSG	Sg	05 08 59.3	+2.3
BINT	Bingol	0.51	13	ePG	Pg	05 08 50.0	-1.1
BINT				eSG	Sg	05 08 58.1	+0.4
SVRC	Sivrice-ELAZID	0.82	270	ePG	Pg	05 08 56.2	-0.6
SVRC				eSG	Sg	05 09 08.2	+0.8
BNGL	BINGOL	0.85	47	i P	Pg	05 08 56.9	-0.7
BNGL				i S	Sg	05 09 10.9	+2.2
PTK	Pertek	0.91	305	ePG	Pg	05 08 57.6	-1.0
BTMT	Batman	0.92	101	ePG	Pg	05 08 57.1	-1.8
ELZG	Elazig	1.07	277	i P	Pg	05 09 00.7	-1.2
ELZG				i S	Sg	05 09 16.9	+1.2
MARD	Mardin	1.11	162	i P	Pg	05 09 01.6	-1.0
MARD				i S	Sg	05 09 17.5	+0.4
EZC	Erzincan	1.43	343	ePN	Pn	05 09 08.2	+0.5
MALT	Malatya	1.51	268	ePN	Pn	05 09 07.6	-1.2
KOPT	Kop Dagi	1.64	4	i P	Pn	05 09 13.4	+2.8
KOPT				i S	Sn	05 09 37.8	+5.6
ATAB	Bozova	1.86	241	i P	Pn	05 09 08.8	-4.9
ATAB				i S	Sn	05 09 37.1	-0.3

*NEIC **01** 05:29:06.7, 4068S×17320E, h181^{km}, MG4.1(WEL), After WEL.*
WEL 01 05:29:06.7±0.3**, 4069S×17320E, h180**^{km}±3^{km}**, ML4.0**/18**, Error ellipse: s-maj=1.8km s-min=1.6km az=90.0, Cook Strait**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.53	254	P	Pn	05 29 31.4	-0.2
QRZ				S	Sn	05 29 49.0	-1.7
QRZ	Quartz Range	0.53	254	PN	Pn	05 29 31.4	-0.1
QRZ				SN	Sn	05 29 49.0	-1.7
NNZ	Nelson	0.55	165	PN	Pn	05 29 31.6	-0.1
NNZ				SN	Sn	05 29 49.8	-1.3
DUWZ	D'Urville Isla	0.56	102	PN	Pn	05 29 31.9	+0.1
DUWZ				SN	Sn	05 29 50.6	-0.4
TUWZ	Tuamarina	0.93	143	PN	Pn	05 29 34.1	+0.2
TCW	Tory Channel	0.97	123	P	Pn	05 29 34.6	+0.4
TCW	Tory Channel	0.97	123	PN	Pn	05 29 34.6	+0.4
THZ	Tophouse	1.10	192	PN	Pn	05 29 35.2	+0.1
BSWZ	Blackbirch Sta	1.15	154	P	Pn	05 29 35.7	+0.2
BSWZ	Blackbirch Sta	1.15	154	PN	Pn	05 29 35.7	+0.2
MRW	Makara Radio	1.26	116	P	Pn	05 29 36.5	0.0
MRW	Makara Radio	1.26	116	PN	Pn	05 29 36.5	0.0
SNZO	South Karori	1.30	119	PN	Pn	05 29 36.7	-0.1
KIW	Kapiti Island	1.31	98	P	Pn	05 29 36.9	0.0
KIW				S	Sn	05 29 58.3	-1.9
KIW	Kapiti Island	1.31	98	PN	Pn	05 29 36.9	0.0

KIW				SN	Sn	05 29 58.3	-1.9
WEL	Wellington	1.33	117	P	Pn	05 29 37.1	0.0
WEL	Wellington	1.33	117	PN	Pn	05 29 37.1	0.0
BHW	Baring Head	1.46	120	P	Pn	05 29 37.9	-0.3
BHW	Baring Head	1.46	120	PN	Pn	05 29 37.9	-0.3
CAW	Cannon Point	1.48	107	P	Pn	05 29 38.3	-0.1
CAW	Cannon Point	1.48	107	PN	Pn	05 29 38.3	-0.1
DSZ	Denniston Nort	1.49	224	P	Pn	05 29 38.3	-0.2
DSZ	Denniston Nort	1.49	224	PN	Pn	05 29 38.3	-0.3
NEZ	North Egmont	1.57	26	P	Pn	05 29 39.2	-0.2
NEZ	North Egmont	1.57	26	PN	Pn	05 29 39.2	-0.2
PKE	Pukeiti	1.61	22	P	Pn	05 29 39.7	0.0
PKE	Pukeiti	1.61	22	PN	Pn	05 29 39.7	-0.1
WAZ	Wanganui	1.66	56	P	Pn	05 29 40.6	+0.4
WAZ	Wanganui	1.66	56	PN	Pn	05 29 40.6	+0.4
MSWZ	Moikau Station	1.71	116	P	Pn	05 29 40.5	-0.2
MSWZ	Moikau Station	1.71	116	PN	Pn	05 29 40.5	-0.3
PLWZ	Palliser	1.79	120	PN	Pn	05 29 41.1	-0.3
MTW	Mount Morrison	1.81	106	P	Pn	05 29 41.5	-0.2
MTW	Mount Morrison	1.81	106	PN	Pn	05 29 41.5	-0.2
MRZ	Mangatainoka R	1.81	90	P	Pn	05 29 41.5	-0.2
MRZ	Mangatainoka R	1.81	90	PN	Pn	05 29 41.5	-0.2
PAWZ	Paruwai Farm	1.82	113	P	Pn	05 29 41.5	-0.3
PAWZ	Paruwai Farm	1.82	113	PN	Pn	05 29 41.5	-0.3
VRZ	Vera Road	1.97	38	P	Pn	05 29 42.8	-0.6
VRZ	Vera Road	1.97	38	PN	Pn	05 29 42.8	-0.7
TRWZ	Traveller	2.01	112	PN	Pn	05 29 43.7	-0.1
PKVZ	Pokaka	2.16	51	PN	Pn	05 29 45.2	-0.3
MTVZ	Mangateitei	2.18	54	PN	Pn	05 29 45.4	-0.3
TSZ	Takapari Road	2.20	74	P	Pn	05 29 45.7	-0.3
TSZ	Takapari Road	2.20	74	PN	Pn	05 29 45.7	-0.3
LTZ	Lake Taylor	2.21	198	P	Pn	05 29 45.7	-0.3
LTZ	Lake Taylor	2.21	198	PN	Pn	05 29 45.7	-0.3
WNVZ	Wahianoa	2.29	54	P	Pn	05 29 46.5	-0.5
WNVZ	Wahianoa	2.29	54	PN	Pn	05 29 46.5	-0.4
FWVZ	Far West T-bar	2.31	52	eP	Pn	05 29 46.4	-0.8
FWVZ	Far West T-bar	2.31	52	PN	Pn	05 29 46.4	-0.7
BFZ	Birch Farm	2.32	91	P	Pn	05 29 47.1	-0.2
BFZ	Birch Farm	2.32	91	PN	Pn	05 29 47.1	-0.1
WPVZ	Whakapapa	2.33	51	P	Pn	05 29 46.8	-0.7
WPVZ	Whakapapa	2.33	51	PN	Pn	05 29 46.8	-0.7
MOVZ	Moawhango	2.34	58	P	Pn	05 29 46.6	-0.9
MOVZ	Moawhango	2.34	58	PN	Pn	05 29 46.6	-0.9
TUVZ	Tukino	2.36	54	P	Pn	05 29 47.4	-0.4
TUVZ	Tukino	2.36	54	PN	Pn	05 29 47.4	-0.4
TWVZ	Taurewa	2.36	48	PN	Pn	05 29 47.0	-0.8
NGZ	Ngauruhoe	2.39	52	PN	Pn	05 29 47.3	-0.8
WTVZ	West Tongariro	2.42	50	P	Pn	05 29 47.6	-0.8
WTVZ	West Tongariro	2.42	50	PN	Pn	05 29 47.6	-0.8
OTVZ	Oturere	2.43	52	PN	Pn	05 29 48.0	-0.6
KRVZ	Karewarewa	2.46	51	PN	Pn	05 29 48.2	-0.7
HIZ	Hauiti	2.52	31	P	Pn	05 29 48.8	-0.8
HIZ	Hauiti	2.52	31	PN	Pn	05 29 48.8	-0.8
WPHZ	Waipukurau	2.55	77	PN	Pn	05 29 49.8	-0.2
KATZ	Kakaramea	2.57	49	P	Pn	05 29 49.7	-0.5
KATZ	Kakaramea	2.57	49	PN	Pn	05 29 49.7	-0.6
PXZ	Pawanui	2.88	78	PN	Pn	05 29 53.6	-0.2
BKZ	Black Stump Fm	2.95	60	P	Pn	05 29 53.6	-1.2
BKZ	Black Stump Fm	2.95	60	PN	Pn	05 29 53.6	-1.2
MQZ	McQueen's Vall	3.05	187	P	Pn	05 29 54.0	-1.8
MQZ	McQueen's Vall	3.05	187	PN	Pn	05 29 54.0	-1.9
RPZ	Rata Peaks	3.42	207	P	Pn	05 29 59.3	-1.1
RPZ	Rata Peaks	3.42	207	PN	Pn	05 29 59.3	-1.1
MWZ	Matawai	4.09	56	eP	Pn	05 30 07.0	-1.9
MWZ	Matawai	4.09	56	PN	Pn	05 30 07.0	-1.9
LBZ	Lake Benmore	4.32	210	P	Pn	05 30 10.7	-1.0
LBZ	Lake Benmore	4.32	210	PN	Pn	05 30 10.7	-1.0
ODZ	Otahua Downs	4.74	202	P	Pn	05 30 16.1	-1.1
ODZ	Otahua Downs	4.74	202	PN	Pn	05 30 16.1	-1.1

*MOS **01** 05:35:20.9±1.1, 4572N×15128E, h43km, mb4.2/2, Error ellipse: s-maj=38.7km s-min=34.1km az=99.0*
*IDC **01** 05:35:25.9±3.8, 4626N×153.10E, h0km, mb3.6/6, mb1 3.8/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=109.0km s-min=33.3km az=4.0*
*ISCJB **01** 05:35:30.0±3.2, 464N±06×153.1E±03, h33km, mb3.5/6, Error ellipse: s-maj=93.1km s-min=27.4km az=1.0*
ISC 01 05:35:31.6±3.2, 463N±06×1531E±03, h35km, n11, σ0^{s}32/9, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
YSS	Yuzh-Sakhalins	7.14	279	*i* PN	Px	05 36 49.6	
ERM	Erimo	8.32	243	*i* PN	Px	05 37 02.7	
TIXI	Tiksi	27.89	344	eP	P	05 41 09.8	-7.8
MKAR	Makanchi Array	47.13	298	P	P	05 44 00.3	+0.3
	0.2nm,0.2s,mb3.6,baz=64,slow=8.2,SNR=3.7						
YKA	Yellowknife Ar	51.30	36	P	P	05 44 32.1	+0.5
	0.3nm,0.8s,mb3.2,baz=296,slow=8.1,SNR=4.3						
FINES	FINESS Array B	64.44	335	P	P	05 46 03.6	-0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	64.44	335	P	P	05 46 03.6	-0.2
	comp=Z,0.8nm,0.6s,mb4.0,baz=28,slow=8.6,SNR=5.6						
NOA	NORSAR Array B	68.65	341	P	P	05 46 30.2	-0.5
	comp=Z,0.3nm,0.5s,mb3.5,baz=32,slow=7.4,SNR=2.6						
AKASG	Malin Array Be	71.91	326	P	P	05 46 50.8	0.0
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	Malin Array Be	71.91	326	P	P	05 46 50.8	+0.1
	comp=Z,1.0nm,0.6s,mb3.9,baz=33,slow=6.0,SNR=6.1						
TXAR	Lajitas Array	77.73	60	P	P	05 47 24.6	-0.2
	comp=Z,0.1nm,0.5s,mb3.0,baz=299,slow=3.4,SNR=5.5						

SOF 01 05:41:13.7, 4030N×2505E, h9km, MD3.8, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KDZ	Kurdzhali	1.38	12	Pg	Pg	05 41 40.4	+0.3
RZN	Rozhen	1.41	350	Pg	Pg	05 41 42.1	+1.4
MMB	Musomiste	1.63	323	Pg	Pg	05 41 45.6	+0.6
DIM	Dimitrovgrad	1.79	12	P	Pn	05 41 46.9	+2.2
DIM				Pg	Pg	05 41 49.9	+2.0
DIM	Dimitrovgrad	1.79	12	P	Pn	05 41 46.9	+2.2
DIM				Pg	Pg	05 41 49.9	+2.0
JMB	Yambol	2.45	28	P	Pn	05 41 55.4	+1.5
JMB				Pg	Pg	05 42 02.9	+2.1
JMB	Yambol	2.45	28	P	Pn	05 41 55.4	+1.5
JMB				Pg	Pg	05 42 02.9	+2.1
PVL	Pavlikeni	2.92	4	P	Pn	05 42 00.2	-0.1

*IDC **01** 05:50:51.0±1.5, 3534N×7847E, h0km, mb3.6/6, mb1 3.7/9, mb1mx3.5/22, mbtmp3.6/9, ML3.2/3, MS3.3/1, Ms1 3.3/1, ms1mx2.4/25, Error ellipse: s-maj=42.4km s-min=22.0km az=49.0*
*ISCJB **01** 05:50:55.7±1.0, 3546N±008×788E±02, h47km±13km, mb3.4/6, Error ellipse: s-maj=28.0km s-min=5.9km az=151.8*
*NEIC **01** 05:51:16.7±2.0, 3687N×7860E, h135km±19km, mb3.9/5, Error ellipse: s-maj=24.4km s-min=13.1km az=141.0*
ISC 01 05:50:58.9±0.7, 3554N±006×789E±01, h59km±11km, n22, σ1^{s}07/25, mb3.4/6, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
UCH	Uchtor	7.50	334	ePn	Pn	05 52 45.4	-0.2
	5.3nm,0.6s						
AML	Almayashu	7.74	330	ePn	Pn	05 52 50.3	+1.5
	2.7nm,0.6s						
TKM2	Tokmak 2	7.80	342	ePn	Pn	05 52 50.7	+1.1
	5.4nm,0.7s						
AAK	Ala-Archa	7.87	335	Pn	Pn	05 52 50.6	+0.1
	1.3nm,0.3s,baz=135,slow=8.1,SNR=13						
AAK				Pg	Pn	05 53 17.7	+27
	0.6nm,0.3s,baz=187,slow=19,SNR=5.3						
AAK				Lg		05 54 56.1	
	0.3nm,0.3s,baz=196,slow=22,SNR=3.1						
EKS2	Erkin-Say	8.15	332	ePn	Pn	05 52 55.1	+0.7
	1.9nm,0.6s						
DANN	Dangsing	8.27	149	eP	Pn	05 52 54.4	-1.7
	10nm,0.3s						
DANN				eS	Sn	05 54 28.6	+0.6
KOLN	Koldanda	8.72	151	eP	Pn	05 52 59.3	-2.9
GKN	Gorkha	8.96	145	eP	Pn	05 53 05.1	-0.4
	13nm,0.3s						
KKN	Kakani	9.44	143	eP	Pn	05 53 12.3	+0.2
GUN	Gumba	9.64	140	eP	Pn	05 53 15.5	+0.6
JIRN	Jiri	10.01	140	eP	Pn	05 53 20.7	+0.8
	9.5nm,0.3s						
MK31	Makanchi Array	11.52	12	ePn	Pn	05 53 41.9	+1.4
MKAR	Makanchi Array	11.52	12	Pn	Pn	05 53 40.2	-0.3
MKAR				Sn	Sn	05 55 46.0	-1.4
MKAR	Makanchi Array	11.52	12	Pn	Pn	05 53 40.2	-0.3
	0.1nm,0.3s,baz=182,slow=13,SNR=3.6						
MKAR				Sn	Sn	05 55 46.0	-1.4
	0.4nm,0.3s,baz=192,slow=22,SNR=7.0						
BVAR	Borovoye Array	18.49	344	P	Pn	05 55 08.8	-1.8
	0.1nm,0.3s,baz=146,slow=11,SNR=2.2						
AKTK	Aktyubinsk	21.23	321	P	P	05 55 38.5	-1.2
AKTO	Aktyubinsk	21.23	321	P	P	05 55 38.5	-1.2
	0.7nm,0.4s,mb3.4,baz=120,slow=14,SNR=3.4						
SONM	Songino Array	23.78	50	P	P	05 56 10.7	+4.9
	0.9nm,0.6s,mb3.4,baz=244,slow=9.6,SNR=9.1						
FINES	FINESS Array B	41.90	325	P	P	05 58 43.0	-0.2
	0.5nm,0.4s,mb3.5,baz=115,slow=10,SNR=5.1						
ARCES	ARCESS Array B	44.54	336	P	P	05 59 05.0	+0.7
	1.4nm,0.8s,mb3.9,baz=96,slow=7.4,SNR=3.9						
WRA	Warramunga Arr	76.16	127	P	P	06 02 41.7	+1.0
	0.2nm,0.7s,mb3.1,baz=315,slow=7.4,SNR=2.9						
YKA	Yellowknife Ar	81.70	6	P	P	06 03 11.5	+1.0
	0.3nm,0.6s,mb3.4,baz=341,slow=5.5,SNR=9.4						

IDC 01 06:14:58.2±3.2, 3005S×13878E, h0km, mb1 3.0/3, mb1mx3.0/13, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=102.3km s-min=15.7km az=47.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
STKA	Stephens Creek	3.03	128	Pn	Pn	06 15 46.5	-0.9
	0.3nm,0.3s,baz=318,slow=14,SNR=3.0						
STKA				Pg	Pg	06 15 54.8	-1.5
	1.4nm,0.3s,baz=300,slow=18,SNR=12						
STKA				Sn	Sn	06 16 24.9	+0.5
	0.8nm,0.3s,baz=354,slow=18,SNR=3.6						
STKA				Lg		06 16 34.1	
	1.5nm,0.3s,baz=206,slow=24,SNR=4.6						
ASAR	Alice Springs	7.70	324	Pn	Pn	06 16 51.2	-0.4
	0.1nm,0.3s,baz=151,slow=12,SNR=4.4						
WRA	Warramunga Arr	10.83	337	Pn	Pn	06 17 34.7	+0.2
	0.1nm,0.3s,baz=156,slow=14,SNR=8.2						
WRA				Sn	Sn	06 19 39.0	+2.5
	0.0nm,0.3s,baz=159,slow=24,SNR=2.9						

*NEIC **01** 06:20:48.3±0.8, 3739N×6974E, h10km, Error ellipse: s-maj=21.6km s-min=10.9km az=114.0*
*IDC **01** 06:20:48.6±9.3, 3660N×7148E, h117km±60km, mb3.4/4, mb1 3.5/5, mb1mx3.1/20, mbtmp3.4/5, Error ellipse: s-maj=80.0km s-min=51.8km az=164.0*
*ISCJB **01** 06:20:50.1±1.2, 3693N±009×709E±02, h113km±13km, mb3.6/4, Error ellipse: s-maj=31.5km s-min=10.9km az=22.3*
ISC 01 06:20:51.2±1.2, 3690N±009×710E±02, h111km±12km, n11, σ0^{s}82/13, mb3.6/4, 2C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KBL	Kabul	2.81	214	ePn	Pn	06 21 34.8	-0.1
AML	Almayashu	5.64	21	ePn	Pn	06 22 12.9	+0.2
	8.7nm,0.5s						
KK31	Karatay Array	6.21	357	⇑P	Pn	06 22 20.8	+0.5
	1.3nm,0.3s,baz=186,slow=13,SNR=48						
KK31				⇑S	Sn	06 23 28.9	-1.0
	6.5nm,0.5s,baz=188,slow=22						
AAK	Ala-Archa	6.35	24	P	Pn	06 22 21.5	-0.7
	2.1nm,0.3s,baz=165,slow=5.7,SNR=14						
AAK				S	Sn	06 23 34.1	+0.9
	0.5nm,0.3s,baz=109,slow=24,SNR=5.0						
ZALV	Zalesovo Beam	19.57	25	P	P	06 25 16.6	+6.5
	0.4nm,0.3s,baz=211,slow=13,SNR=3.3						
FINES	FINESS Array B	37.13	326	P	P	06 27 51.4	+0.7
	1.0nm,0.7s,mb3.9,baz=115,slow=11,SNR=3.4						
ARCES	ARCESS Array B	40.76	337	P	P	06 28 21.7	+0.9
	1.5nm,0.8s,mb3.9,baz=102,slow=8.4,SNR=4.7						
NB2	NORSAR Subarra	44.04	323	P	P	06 28 47.4	-0.1
	comp=Z,0.6nm,0.5s,mb3.6,baz=96,slow=7.9						
NOA	NORSAR Array B	44.04	323	P	P	06 28 47.7	+0.3
NOA	NORSAR Array B	44.04	323	P	P	06 28 47.7	+0.3
	comp=Z,0.5nm,0.5s,mb3.5,baz=96,slow=7.7,SNR=3.5						
YKA	Yellowknife Ar	80.85	3	P	P	06 32 50.6	-1.8
	comp=Z,0.2nm,0.5s,mb3.2,baz=351,slow=5.3,SNR=10						

*ATH **01** 06:35:03.2, 3830N×2028E, h5km±3km, MD3.5/7*
*NEIC **01** 06:35:03.2, 3830N×2028E, h5km, MD3.5(ATH), After ATH.*
*ISCJB **01** 06:35:04.2±0.9, 3836N±003×2037E±006, h5km, Error ellipse: s-maj=7.6km s-min=4.2km az=155.2*
*CSEM **01** 06:35:04.8±0.3, 3831N×2033E, h2km, ML3.0, Error ellipse: s-maj=6.2km s-min=2.7km az=54.0*
*THE **01** 06:35:05.1, 3837N×2041E, h7km, ML3.0*
ISC 01 06:35:04.6±1.0, 3838N±004×2038E±007, h4km±7km, n14, σ0^{s}85/24, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	Valsamata	0.26	141	ePg	Pg	06 35 09.5	-0.2
VLS				eSg	Sg	06 35 14.1	+0.9
VLS	Valsamata	0.26	141	⇑iPG	Pg	06 35 09.4	-0.3
VLS				eSG	Sg	06 35 13.4	+0.2
VLS	Valsamata	0.26	141	ePg	Pg	06 35 09.5	-0.2
VLS				eSg	Sg	06 35 13.4	+0.2
KFL	Anninata	0.42	130	ePg	Pg	06 35 12.2	-0.6
RLS	Riolos of Patr	0.92	111	ePG	Pg	06 35 21.3	-0.9
RLS				eSB	Sb	06 35 34.9	-0.7
IGT	Igoumenitsa	1.15	358	ePg	Pg	06 35 27.3	+0.6
IGT				eSg	Sn	06 35 43.9	+0.2
SELA	Sela	1.19	95	ePg	Pg	06 35 27.4	-0.1
SELA				eSg	Sg	06 35 43.9	+0.9
EVR	Evrytania	1.24	64	ePB	Pb	06 35 29.2	+0.6
EVR				eSB	Sn	06 35 46.8	+0.9
KEK	Kerkira	1.40	341	ePB	Pb	06 35 30.9	-0.5
AGG	Agios Georgios	1.65	67	ePb	Pn	06 35 33.5	-0.9
AGG				eSb	Sb	06 35 55.9	-1.0
ITM	Ithomi	1.72	134	ePN	Pn	06 35 36.0	+0.7
ITM				eSN	Sg	06 35 59.7	-0.1
THL	Klokotos Trika	1.73	47	ePb	Pn	06 35 34.5	-1.1
THL	Klokotos Trika	1.73	47	ePG	Pg	06 35 37.8	-0.1
THL				eSN	Sg	06 36 04.3	+3.9
VLI	Veliai	2.62	129	ePN	Pn	06 35 50.4	+2.6

*IDC **01** 06:48:00.2±1.1, 1259N×9255E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.8/7, Error ellipse: s-maj=56.6km s-min=17.7km az=57.0*
NEIC 01 06:48:04.7±0.8, 1259N×9259E, h30km, Error ellipse: s-maj=37.8km s-min=13.4km az=55.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKAR	Makanchi Array	35.18	348	P	P	06 54 56.1	+0.2
	1.0nm,0.8s,baz=168,slow=8.2,SNR=10						
SONM	Songino Array	36.98	15	P	P	06 55 11.6	+0.3
	0.2nm,0.3s,baz=208,slow=7.0,SNR=2.2						
AKTK	Aktyubinsk	47.11	330	P	P	06 56 33.7	-0.2
AKTO	Aktyubinsk	47.11	330	P	P	06 56 33.7	-0.2
	0.9nm,0.5s,baz=115,slow=9.7,SNR=4.6						
WRA	Warramunga Arr	52.28	128	P	P	06 57 13.6	-0.1
	2.2nm,0.5s,baz=307,slow=8.4,SNR=60						
WRA				PcP	PcP	06 58 25.7	+0.9
	0.7nm,0.6s,baz=319,slow=2.9,SNR=12						
ASAR	Alice Springs	54.13	132	P	P	06 57 27.5	+0.2
	1.0nm,0.5s,baz=311,slow=6.7,SNR=18						
ASAR				PcP	PcP	06 58 32.8	+1.0
	0.6nm,0.8s,baz=324,slow=4.2,SNR=4.5						
GERES	GERESS Array B	73.33	317	P	P	06 59 34.2	+0.6
	0.2nm,0.3s,baz=106,slow=6.2,SNR=3.6						
NOA	NORSAR Array B	74.90	330	P	P	06 59 42.3	-0.2
	0.2nm,0.5s,baz=94,slow=5.6,SNR=3.3						

*ISCJB **01** 06:55:50.2±1.0, 2132S±004×6795W±007, h106km±9km, mb4.6/50, Error ellipse: s-maj=10.7km s-min=6.4km az=155.1*
*MOS **01** 06:55:54.4±1.4, 2129S×6796W, h140km, mb4.6/9, Error ellipse: s-maj=16.9km s-min=7.0km az=115.0*
*NEIC **01** 06:55:55.7±0.2, 2130S×6788W, mb4.6/43, Error ellipse: s-maj=9.2km s-min=5.3km az=57.0*
*IDC **01** 06:55:55.8±0.7, 2133S×6795W, h140km±6km, mb4.1/13, mb1 4.2/19, mb1mx4.2/21, mbtmp4.1/19, MS2.9/1, Ms1 2.9/1, ms1mx2.6/18, Error ellipse: s-maj=15.8km s-min=9.2km az=74.0*
*BJI **01** 06:55:57.6, 2130S×6790W, h140km, mB5.1*
ISC 01 06:55:51.9±0.9, 2132S±004×6793W±006, h104km±8km, h142km±1.2km:pP-P, n168, σ0^{s}88/141, mb4.6/50, 1C-4D, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LPAZ	La Paz	5.01	358	eP	Pn	06 57 10.9	+6.1
LPAZ	La Paz	5.01	358	P	Pn	06 57 11.2	+6.3
	8.1nm,0.3s,baz=167,slow=7.4,SNR=130						
LPAZ				S	Sn	06 58 08.6	+7.0
	baz=322,slow=10,SNR=2.6						
ARE	Arequipa	5.89	324	eP	Pn	06 57 17.0	+0.2
ARE				eS	Sn	06 58 35.0	+12
SIV	San Ignacio	8.38	52	P	Pn	06 57 52.9	+2.3
	45nm,0.3s,baz=240,slow=12,SNR=1062						
SIV				S	Sn	06 59 22.6	-1.0
	3.0nm,0.3s,baz=313,slow=22,SNR=6.4						
CFAA	Coronel Fontan	10.25	181	P	Pn	06 58 13.2	-2.6
	0.1nm,0.3s,baz=352,slow=13,SNR=8.6						
CFAA				S	Sn	07 00 00.4	-8.3
	0.1nm,0.3s,baz=239,slow=21,SNR=3.2						
CPUP	Villa Florida	10.90	119	P	Pn	06 58 26.6	+1.7
	4.1nm,0.3s,baz=282,slow=12,SNR=30						
CPUP				LR	LR	07 03 23.1	
	comp=Z,62nm,19.9s,baz=222,slow=41						
NNA	Nana	12.61	316	ePn	Pn	06 58 50.7	+3.1
NNA				S	Sn	07 00 54.4	-12
NNA	Nana	12.61	316	P	Pn	06 58 46.6	-1.0
	1.0nm,0.3s,baz=117,slow=16,SNR=3.1						
NNA				S	Sn	07 00 54.4	-12
	1.2nm,0.3s,baz=213,slow=14,SNR=2.4						
TRQA	Tornquist	17.45	164	eP	Pn	06 59 48.3	-0.4
	12nm,0.7s						
ATAH	Atahualpa	17.47	323	P	Pn	06 59 49.0	0.0
	0.3nm,0.3s,baz=295,slow=23,SNR=3.5						
PLCA	Paso Flores	19.48	186	eP	P	07 00 10.4	-0.1
PLCA				pmax	pmax		
	comp=Z,15nm,0.7s						
PLCA	Paso Flores	19.48	186	eP	P	07 00 10.4	-0.2
	comp=Z,15nm,0.7s						
PLCA	Paso Flores	19.48	186	P	P	07 00 10.4	-0.1
	comp=Z,0.5nm,0.3s,baz=3.7,slow=12,SNR=28						
PLCA				PcP	PcP	07 04 27.1	-0.1
	comp=Z,0.1nm,0.3s,baz=269,slow=8.6,SNR=4.1						
BDFB	Brasilia	19.71	77	P	P	07 00 14.6	+1.4
	comp=Z,1.2nm,0.3s,baz=254,slow=18,SNR=32						
ROSC	El Rosal	26.76	346	P	P	07 01 22.3	+0.3
	comp=Z,4.0nm,0.5s,mb4.2,baz=118,slow=5.5,SNR=3.7						
SDV	Santo Domingo	30.14	355	eP	P	07 01 50.6	-1.4
	comp=Z,12nm,1.1s,mb4.4						
USHA	Ushuaia	33.46	181	P	P	07 02 19.5	-1.3
	comp=Z,3.2nm,0.6s,mb4.3,baz=35,slow=13,SNR=4.4						
JTS	JuntasAbangare	35.59	330	eP	P	07 02 40.2	+0.6
JTS				pmax	pmax		
	comp=Z,7.0nm,0.6s						
JTS	JuntasAbangare	35.59	330	eP	P	07 02 40.2	+0.6
	comp=Z,6.5nm,0.6s,mb4.7						
JTS	JuntasAbangare	35.59	330	P	P	07 02 39.4	-0.1
	comp=Z,4.7nm,0.7s,mb4.5,baz=92,slow=4.4,SNR=6.2						
SJG	San Juan	39.23	3	eP	P	07 03 08.3	-1.9
SJG				pmax	pmax		
	comp=Z,12nm,0.5s						
SJG	San Juan	39.23	3	eP	P	07 03 08.3	-1.9
	comp=Z,12nm,0.5s,mb5.0						
SJG	San Juan	39.23	3	P	P	07 03 08.3	-1.9
	comp=Z,15nm,0.6s,mb5.0,baz=118,slow=3.6,SNR=6.3						
TEIG	Tepich	45.84	333	eP	P	07 04 03.2	-0.4
	comp=Z,20nm,0.6s,mb5.0						
BRAL	Brewton	55.18	340	eP	P	07 05 14.6	+0.8
GOGA	Godfrey	56.41	344	eP	P	07 05 22.0	-0.5
CPCT	Cooper Cave	58.61	344	eP	P	07 05 37.0	-0.9
SWET	Sewanee	58.77	343	eP	P	07 05 38.1	-0.9
PLAL	Pickwick Lake	59.17	341	eP	P	07 05 40.3	-1.5
	comp=Z,11nm,0.8s,mb5.0						
ELN	Prospectdale	59.48	348	eP	P	07 05 43.7	-0.2
JCT	Junction City	59.93	328	eP	P	07 05 46.6	-0.5
JCT				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2						
JCT	Junction City	59.93	328	eP	P	07 05 46.6	-0.5
	comp=Z,22nm,0.9s,mb5.2						
VNA3	Neumayer Olymp	59.95	161	eP	P	07 05 47.0	+0.2
VNA3				e		07 05 50.5	
VNA3				e		07 05 53.7	
VNA1	Neumayer--Stat	60.15	161	eP	P	07 05 48.6	+0.5
VNA1				e		07 05 52.2	
VNA1				e		07 05 55.4	
WVT	Waverly	60.16	341	eP	P	07 05 47.2	-1.4
WVT				pmax	pmax		
	comp=Z,20nm,0.5s,mb5.4						
WVT	Waverly	60.16	341	eP	P	07 05 47.2	-1.4
	comp=Z,20nm,0.5s,mb5.4						
UALR	University of	60.42	337	eP	P	07 05 49.3	-1.1
	comp=Z,7.7nm,0.6s,mb4.9						
VNA2	Neumayer--Watz	60.52	161	eP	P	07 05 51.1	+0.5
	baz=311,slow=8.2						
VNA2				e		07 05 54.6	
VNA2				e		07 05 57.4	
TXAR	Lajitas Array	61.01	324	P	P	07 05 54.1	-0.5
	comp=Z,1.5nm,0.5s,mb4.2,baz=150,slow=8.7,SNR=31						
TXAR				pP	pP	07 06 28.3	+8.2
	comp=Z,1.0nm,0.9s,baz=123,slow=9.1,SNR=2.8						
SIUC	Southern Illin	62.05	341	eP	P	07 06 00.3	-1.0
	comp=Z,27nm,0.8s,mb5.3						
SNAA	Sanae	62.15	161	eP	P	07 06 01.5	-0.1
SNAA				e		07 06 05.7	
SNAA				e		07 06 09.3	
SNAA	Sanae	62.15	161	P	P	07 06 01.7	+0.1
	comp=Z,3.6nm,0.7s,mb4.5,baz=286,slow=6.0,SNR=41						
BLO	Bloomington	62.64	344	eP	P	07 06 03.9	-1.4
FVM	French Village	62.67	340	eP	P	07 06 04.5	-0.9
FVM				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.6						
FVM	French Village	62.67	340	eP	P	07 06 04.5	-1.0
	comp=Z,44nm,0.6s,mb5.6						
ACSO	Alum Creek Sta	62.82	347	eP	P	07 06 05.6	-0.8
	comp=Z,17nm,1.1s,mb4.9						
CCM	Cathedral Cave	63.00	339	eP	P	07 06 06.6	-1.0
CCM				pmax	pmax		
	comp=Z,34nm,0.7s,mb5.4						
CCM	Cathedral Cave	63.00	339	eP	P	07 06 06.5	-1.1
	comp=Z,34nm,0.7s,mb5.4						
MNTX	Cornudas Mount	63.77	325	eP	P	07 06 11.6	-1.3
	comp=Z,7.6nm,1.3s,mb4.4						
AMTX	Amarillo	64.44	330	eP	P	07 06 16.6	-0.6
HDIL	Hopedale	64.69	342	eP	P	07 06 17.3	-1.4
	comp=Z,10nm,0.6s,mb4.8						
HDIL				ePcP	PcP	07 06 51.5	0.0
KSU1	Kansas State U	65.83	336	eP	P	07 06 25.2	-0.9
	comp=Z,9.4nm,0.7s,mb4.7						
LAZ	Ladron	66.79	325	eP	P	07 06 33.1	+0.8
CBKS	Cedar Bluff	66.83	333	eP	P	07 06 32.6	+0.1
ANMO	Albuquerque	66.86	326	eP	P	07 06 33.1	+0.4
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ANMO	Albuquerque	66.86	326	eP	P	07 06 33.1	+0.3
	comp=Z,3.8nm,0.8s,mb4.3						
SCIA	State Center	67.12	340	eP	P	07 06 33.4	-0.9
JFWS	Jewell Farm	67.14	342	eP	P	07 06 33.4	-1.0
TUC	Tucson	67.26	321	eP	P	07 06 37.1	+1.7
DBIC	Dimbokro	67.81	73	eP	P	07 06 39.1	-0.1
DBIC				pmax	pmax		
	comp=Z,11nm,0.8s						
DBIC	Dimbokro	67.81	73	eP	P	07 06 39.1	-0.1
	comp=Z,11nm,0.8s,mb4.8						
DBIC	Dimbokro	67.81	73	P	P	07 06 39.1	-0.1
	comp=Z,11nm,0.7s,mb4.8,baz=210,slow=5.7,SNR=14						
SDCO	Great Sand Dun	68.56	329	eP	P	07 06 44.0	+0.6
	comp=Z,4.6nm,0.8s,mb4.4						
MVCO	Mesa Verde	69.65	326	eP	P	07 06 50.4	+0.3
ECSD	EROS,Sioux Fal	69.89	338	eP	P	07 06 50.3	-1.1
WUAZ	Wupatki	69.93	323	eP	P	07 06 52.7	+0.8
	comp=Z,9.5nm,0.8s,mb4.7						
GLA	Glamis	70.19	319	eP	P	07 06 54.2	+0.6
ISCO	Idaho Springs	70.25	330	eP	P	07 06 54.1	+0.4
PV01	Paradox Valley	70.39	327	eP	P	07 06 54.2	-0.4
SMCO	Snowmass	70.40	329	eP	P	07 06 55.2	+0.5
PV10	Paradox Valley	70.81	327	eP	P	07 06 56.8	-0.4
BAR	Barrett	71.08	318	eP	P	07 06 59.5	+0.6
PFO	Pinyon Flat Ob	71.57	319	eP	P	07 07 02.6	+0.7
PFO				pmax	pmax		

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
	comp=Z,5.0nm,0.8s,mb4.4						
PFO	Pinyon Flat Ob	71.57	319	eP	P	07 07 02.6	+0.7
	comp=Z,5.1nm,0.8s,mb4.4						
EYMN	Ely	72.12	344	eP	P	07 07 03.9	-0.9
	comp=Z,12nm,0.8s,mb4.8						
SRU	San Rafael	72.13	326	eP	P	07 07 05.3	+0.2
CCUT	Cedar City	72.50	324	eP	P	07 07 08.9	+1.5
MSU	Marysvale	72.55	325	eP	P	07 07 08.5	+0.9
ARUT	Antelope Range	72.72	324	eP	P	07 07 10.1	+1.5
ARUT				e*PP	pP	07 07 44.7	+10
GSC	Goldstone	72.93	320	eP	P	07 07 10.5	+0.6
MPU	Maple Canyon	73.37	326	eP	P	07 07 12.7	+0.3
DAU	Daniels Canyon	73.47	327	eP	P	07 07 14.0	+1.0
AGMN	Agassiz Refuge	73.68	341	eP	P	07 07 13.5	-0.5
	comp=Z,9.6nm,0.6s,mb4.7						
JLU	Jordanelle	73.71	327	eP	P	07 07 15.6	+1.2
TPNV	Topopah Spring	73.72	321	eP	P	07 07 15.4	+0.9
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
TPNV	Topopah Spring	73.72	321	eP	P	07 07 15.3	+0.8
	comp=Z,7.4nm,1.0s,mb4.4						
DUG	Dugway	74.12	326	eP	P	07 07 17.6	+0.8
BW06	Boulder Array	74.42	329	eP	P	07 07 18.6	+0.1
	comp=Z,38nm,2.7s,mb4.7						
HWUT	Hardware Ranch	74.52	328	eP	P	07 07 19.3	+0.2
SPUT	South Promonto	74.75	327	eP	P	07 07 20.7	+0.3
ULM	Lac du Bonnet	75.43	342	eP	P	07 07 23.1	-1.0
	comp=Z,16nm,0.5s,mb5.0						
ULM	Lac du Bonnet	75.43	342	P	P	07 07 23.1	-1.0
	comp=Z,19nm,0.5s,mb5.1,baz=153,slow=6.2,SNR=49						
REDW	Red Top Meadow	75.48	329	eP	P	07 07 25.1	+0.5
	comp=Z,22nm,1.6s,mb4.6						
SNOW	Snow King Moun	75.51	329	P	P	07 07 20.2	-4.5
	comp=Z,5.0nm,0.8s,mb4.3						
LOHW	Long Hollow	75.56	329	eP	P	07 07 25.5	+0.5
TPAW	Teton Pass	75.63	329	eP	P	07 07 25.9	+0.5
	comp=Z,46nm,2.3s,mb4.8						
MOOW	Moose Ponds	75.72	329	eP	P	07 07 26.4	+0.4
	comp=Z,33nm,2.5s,mb4.6						
SCHQ	Schefferville	75.85	1	P	P	07 07 25.9	-0.4
	comp=Z,9.1nm,0.6s,mb4.7,baz=179,slow=4.5,SNR=25						
NVAR	Mina Array Bea	75.92	321	P	P	07 07 27.6	+0.4
	comp=Z,2.6nm,0.9s,mb4.0,baz=184,slow=6.6,SNR=16						
IMW	Indian Meadow	75.93	329	eP	P	07 07 27.4	+0.3
	comp=Z,6.3nm,0.8s,mb4.4						
FLWY	Flagg Ranch	75.96	330	eP	P	07 07 27.8	+0.5
	comp=Z,30nm,1.4s,mb4.8						
RLMT	Red Lodge	76.09	331	eP	P	07 07 28.6	+0.6
LKWY	Lake	76.18	330	eP	P	07 07 30.1	+1.6
LKWY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
LKWY	Lake	76.18	330	eP	P	07 07 30.1	+1.5
	comp=Z,3.8nm,0.9s,mb4.1						
SYO	Syowa Base	76.35	159	⇓eP	P	07 07 27.0	-2.2
SYO	Syowa Base	76.35	159	⇓ePcP	PcP	07 07 37.4	-3.2
DGMT	Dagmar	76.67	336	eP	P	07 07 31.6	+0.4
GCMT	Greycliff	76.79	331	eP	P	07 07 32.4	+0.5
VNDA	Vanda	77.18	190	eP	P	07 07 33.2	-0.6
VNDA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
VNDA	Vanda	77.18	190	eP	P	07 07 33.2	-0.6
	comp=Z,3.6nm,1.0s,mb4.1						
VNDA	Vanda	77.18	190	P	P	07 07 34.9	+1.0
	comp=Z,2.0nm,0.7s,mb4.0,baz=132,slow=5.6,SNR=7.9						
PAHR	Pah Rah Range	77.40	322	eP	P	07 07 36.6	+1.1
MCMT	McKenzie Canyo	77.53	329	eP	P	07 07 37.0	+0.9
BOZ	Bozeman (W)	77.57	330	eP	P	07 07 36.7	+0.4
DLMT	Dillon	77.81	330	eP	P	07 07 38.4	+0.8
	comp=Z,22nm,1.6s,mb4.6						
HRY	Holter Researc	78.46	331	eP	P	07 07 41.9	+0.7
TSUM	Tsumeb	79.21	106	eP	P	07 07 46.9	+0.9
	comp=Z,1.1nm,0.6s,mb3.9						
MOD	Modoc	79.37	323	eP	P	07 07 47.1	+0.8
BMO	Blue Mountains	79.76	327	eP	P	07 07 48.8	+0.4
	comp=Z,5.4nm,0.8s,mb4.4						
YBH	Yreka Blue Hor	80.63	322	eP	P	07 07 52.2	-0.9
BSMT	Bassoo Peak	80.66	330	eP	P	07 07 53.7	+0.6
WALA	Waterton Lakes	81.15	331	eP	P	07 07 55.6	-0.1
	comp=Z,9.4nm,0.8s,mb4.7						
FFC	Flin Flon	81.16	341	eP	P	07 07 55.1	-0.5
HAWA	Hanford	81.96	327	eP	P	07 08 00.3	+0.4
	comp=Z,7.5nm,0.8s,mb4.6						
NEW	Newport	82.06	329	eP	P	07 07 59.6	-0.8
NEW				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NEW	Newport	82.06	329	eP	P	07 07 59.6	-0.8
	comp=Z,1.6nm,0.8s,mb3.9						
FCC	Fort Churchill	82.67	347	eP	P	07 08 02.3	-1.1
FCC				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.6						
FCC	Fort Churchill	82.67	347	eP	P	07 08 02.3	-1.1
	comp=Z,8.4nm,0.8s,mb4.6						
BOSA	Boshof	82.72	118	P	P	07 08 04.6	+0.1
	comp=Z,3.3nm,0.7s,mb4.3,baz=214,slow=6.1,SNR=5.3						
MAW	Mawson	84.24	163	P	P	07 08 11.5	0.0
	comp=Z,6.0nm,0.7s,mb4.5,baz=242,slow=8.4,SNR=7.1						
LBTB	Lobatse	84.26	114	eP	P	07 08 12.1	-0.4
LBTB				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
LBTB	Lobatse	84.26	114	eP	P	07 08 12.1	-0.4
	comp=Z,2.7nm,0.5s,mb4.3						
ESDC	Sonseca Array	85.06	44	P	P	07 08 16.7	+0.7
	comp=Z,0.1nm,0.3s,baz=241,slow=2.6,SNR=3.8						
ESDC				pP	pP	07 08 52.7	+10
	comp=Z,0.6nm,0.5s,baz=244,slow=5.1,SNR=2.4						
YKA	Yellowknife Ar	91.33	340	P	P	07 08 45.2	-0.1
	comp=Z,18nm,0.6s,mb5.4,baz=134,slow=4.5,SNR=695						
YKA				pP	pP	07 09 20.6	+8.0
	comp=Z,1.4nm,0.8s,baz=134,slow=4.5,SNR=1.9						
YKW3	Yellowknife Ar	91.38	340	eP	P	07 08 45.0	-0.5
RES	Resolute Bay	97.33	353	eP	P	07 09 11.9	-0.7
	comp=Z,31nm,0.8s						
OBN	Obninsk	115.46	38	ePKIKP	PKPdf	07 14 20.9	-0.3
OBN				e		07 15 25.2	
OBN				e		07 24 49.6	
OBN				eSS	SS	07 31 13.4	-1.8
OBN				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BILL	Bilibino	122.69	339	ePKIKP	PKPdf	07 14 34.2	-0.5
BILL				e		07 16 12.5	
BILL				eSS	SS	07 32 45.5	-1.9
BILL				pmax	pmax		
	comp=Z,1.0nm,1.1s						
CTA	Charters Tower	126.98	221	PKP	PKPdf	07 14 44.4	-0.1
	comp=Z,1.7nm,0.6s,baz=172,slow=7.1,SNR=3.4						
ARU	Arti	127.49	34	i PKIKP	PKPdf	07 14 44.9	+0.7
ARU						07 16 41.8	
ARU						07 21 38.1	
ARU				SS	SS	07 33 38.0	-10
TIXI	Tiksi	128.73	353	⇓iPKIKP	PKPdf	07 14 45.7	-0.5
AKTO	Aktyubinsk	128.89	42	PKP	PKPdf	07 14 47.6	+0.5
	comp=Z,1.1nm,0.7s,baz=283,slow=7.5,SNR=4.1						
ASAR	Alice Springs	130.49	207	PKP	PKPdf	07 14 50.1	-0.9
	comp=Z,3.8nm,0.8s,baz=132,slow=1.8,SNR=26						
WB2	Warramunga Arr	133.56	209	ePKP	PKPdf	07 14 56.4	-0.6
WRA	Warramunga Arr	133.57	209	PKP	PKPdf	07 14 56.2	-0.8
	comp=Z,4.4nm,0.6s,baz=157,slow=1.8,SNR=64						
WRAB	Tennant Creek	133.57	209	i PKIKP	PKPdf	07 14 57.1	+0.1
BVAR	Borovoye Array	135.13	35	PKP	PKPdf	07 14 58.2	-0.6
	comp=Z,1.3nm,0.8s,baz=318,slow=2.0,SNR=5.0						
FITZ	Fitzroy Crossi	138.63	200	ePKP	PKPdf	07 15 06.1	-0.3
	comp=Z,5.2nm,0.8s						
FITZ	Fitzroy Crossi	138.63	200	PKP	PKPdf	07 15 06.1	-0.3
	comp=Z,2.5nm,0.7s,baz=167,slow=7.3,SNR=6.8						
NVS	Novosibirsk	140.11	26	ePKIKP	PKPdf	07 15 07.4	-0.5
ZALV	Zalesovo Beam	141.40	26	PKhKP		07 15 06.4	
	comp=Z,2.9nm,0.6s,baz=299,slow=3.1,SNR=3.8						
ZALV				PKP	PKPdf	07 15 10.5	+0.2
	comp=Z,2.5nm,0.5s,baz=300,slow=3.3,SNR=7.0						
AAK	Ala-Archa	142.11	47	i PKIKP	PKPdf	07 15 13.8	+1.9
AAK	Ala-Archa	142.11	47	PKP	PKPdf	07 15 13.3	+1.4
	comp=Z,0.7nm,0.3s,baz=76,slow=3.4,SNR=5.2						
BOD	Bodaibo	143.52	358	ePKIKP	PKPdf	07 15 09.6	-4.3
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s						
YSS	Yuzh-Sakhalins	144.35	323	⇓ePKIKP	PKPdf	07 15 13.3	-2.4
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
MK31	Makanchi Array	144.95	36	ePKIKP	PKPdf	07 15 16.6	-0.2
MKAR	Makanchi Array	144.95	36	PKP	PKPdf	07 15 16.6	-0.2
	comp=Z,17nm,0.8s,baz=318,slow=3.3,SNR=135						
MKAR				pPKP	pPKPdf	07 15 53.3	+8.1
	comp=Z,4.5nm,0.8s,baz=316,slow=3.3,SNR=4.6						
HABR	Khabarovsk	147.25	331	ePKP2	PKPdf	07 15 21.3	+0.7
HABR				e		07 18 48.5	
HABR				e		07 22 08.6	
HABR				e		07 22 14.9	
HABR				e		07 37 43.9	
HABR				e		07 43 18.0	
MOY	Mondy	148.50	13	ePKP2	PKPbc	07 15 27.2	+0.9
ZAK	Zakamensk	150.18	11	ePKIKP	PKPdf	07 15 26.1	+0.8
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MJAR	Matsushiro Arr	152.67	309	PKPbc	PKPbc	07 15 36.0	-0.6
	comp=Z,4.4nm,0.8s,baz=87,slow=1.9,SNR=11						
MAT	Matsushiro	152.67	309	PKP	PKPbc	07 15 34.8	-1.9
SONM	Songino Array	153.15	8	PKP	PKPdf	07 15 30.5	+0.7
	comp=Z,2.3nm,0.8s,baz=329,slow=1.4,SNR=12						
SONM				PKPbc	PKPbc	07 15 37.5	+0.1
	comp=Z,4.4nm,0.7s,baz=331,slow=1.3,SNR=18						
SONM				PKPab	PKPab	07 15 49.7	+0.5
	comp=Z,2.2nm,0.7s,baz=326,slow=2.7,SNR=6.2						
ULN	Ulaanbaatar	153.21	8	⇑iPKIKP	PKPbc	07 15 38.1	+0.6
KSRS	Korea Array	158.86	323	PKP	PKPdf	07 15 38.3	+0.6
	comp=Z,2.4nm,0.7s,baz=72,slow=1.2,SNR=8.9						
KSRS				PKPab	PKPab	07 16 14.0	-0.1
	comp=Z,1.8nm,0.7s,baz=63,slow=3.8,SNR=5.2						
HHC	Hu-ho-hao-te	160.53	1	ePKP	PKPdf	07 15 35.0	-4.5
HHC				APKP		07 16 17.0	
HHC				XPKP		07 16 35.2	
HHC				PKS		07 19 09.2	
HHC				PP	PP	07 20 03.5	+0.6
HHC				SKKS	SKKSac	07 26 35.6	-7.0
HHC				SS	SS	07 40 01.7	-3.7
HHC				LR	LR		
	comp=N,197nm,21.4s						
HHC				LR	LR		
	comp=E,335nm,23.8s						
HHC				LR	LR		
	comp=Z,245nm,22.6s						
CD2	Chengdu	167.88	36	ePKP	PKPdf	07 15 44.2	-2.2
GYA	Guiyang	172.88	43	ePKP	PKPdf	07 15 46.2	-3.1
GYA				APKP		07 16 24.8	
GYA				XPKP		07 16 38.6	
GYA				PKP2	PKPab	07 17 15.7	-0.5
GYA				PKS		07 19 18.0	
GYA				PP	PP	07 21 08.3	+0.9
GYA				PP	PP		
	comp=Z,80nm,7.9s						

ISCJB ***01*** *07:11:53.9±0.4,3890N±002×2793E±002,h8km±3km, Error ellipse: s-maj=2.9km s-min=2.8km az=136.4*
CSEM ***01*** *07:11:53.3±0.0,3890N×2793E,h5km,MD3.7,Error ellipse: s-maj=1.3km s-min=1.0km az=110.0*
NEIC ***01*** *07:11:53.0,3890N×2793E,h5km,ML3.7(ISK), ML3.1(BUC),After ISK.*
ISK ***01*** *07:11:53.4,3889N×2795E,h5km,MD3.7,ML3.7*
THE ***01*** *07:11:54.5,3884N×2793E,h3km,ML4.2*
DDA ***01*** *07:11:54.2,3891N×2797E,h5km±2km,Md3.6*
ATH ***01*** *07:11:56.5,3885N×2780E,h40km±9km,MD3.8/8*
ISC 01 07:11:54.3±0.3**,3888N**±002×**2793E**±002**,h7**km±2km**,n79, σ1s00**/101**,10C-1D,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.09	267	i P	Pg	07 11 56.3	-0.1
AKHS				i S	Sg	07 11 58.3	+0.3
AKS	Akhisar	0.09	267	PG	Pg	07 11 56.4	0.0
AKS				eSG	Sg	07 11 58.7	+0.8
KULA	Kula-Manisa	0.68	122	PG	Pg	07 12 06.3	-1.1
KDAG	Bornova	0.70	227	i P	Pg	07 12 05.7	-2.2
KDAG				i S	Sg	07 12 19.5	+2.4
BALB	Balikesir	0.76	357	ePG	Pg	07 12 08.7	-0.1
BALB				eSG	Sg	07 12 19.7	+0.9
BLCB	Balcova	0.85	235	ePG	Pg	07 12 10.1	-0.6
BLCB				eSG	Sg	07 12 22.6	+0.8
BLCB	Balcova	0.85	235	ePg	Pg	07 12 10.0	-0.7
BLCB				eSg	Sg	07 12 22.7	+0.9
BLCB	Balcova	0.85	235	ePg	Pg	07 12 10.1	-0.6
BLCB				eSg	Sg	07 12 22.7	+0.9
BTOK	Tokmak	0.88	5	i P	Pg	07 12 10.3	-1.0
BTOK				i S	Sg	07 12 25.1	+2.4
DST	Dursunbey	0.90	37	ePG	Pg	07 12 10.8	-0.9
AYVA	Ayvalik	1.05	294	i P	Pg	07 12 14.1	-0.5
AYVA				i S	Sg	07 12 28.8	+0.7
URLA	Izmir	1.17	244	i P	Pg	07 12 14.8	-1.9
URLA				i S	Sg	07 12 32.9	+1.1
AYDN	Tasoluk	1.22	182	i P	Pb	07 12 17.0	-0.7
AYDN				i S	Sg	07 12 34.7	+1.1
GDZ	Gediz	1.23	80	i P	Pb	07 12 16.1	-1.7
GDZ				i S	Sg	07 12 32.3	-1.5
PRK	Paraskevi	1.34	286	eP	Pn	07 12 18.5	-0.9
KHL	Karahalli	1.37	114	ePN	Pn	07 12 20.1	+0.4
KCT	Karacabey	1.42	13	ePN	Pn	07 12 20.3	-0.2
DENT	Denizli	1.42	142	ePN	Pn	07 12 20.4	-0.1
SMG	Samos	1.45	217	eP	Pn	07 12 20.5	-0.4
SMG				eS	Sn	07 12 38.2	-2.0
EDC	Edincik	1.46	358	ePN	Pn	07 12 20.6	-0.5
BNT	Bandirma	1.47	360	ePN	Pn	07 12 20.7	-0.4
CHOS	Chios island	1.55	252	ePg	Pg	07 12 21.5	-2.5
CHOS				eSg	Sg	07 12 42.3	-1.8
EZN	Ezine	1.56	308	ePN	Pn	07 12 21.9	-0.5
MLSB	Milas	1.59	184	ePN	Pn	07 12 23.1	+0.3
ALT	Altintas	1.71	84	ePN	Pn	07 12 24.1	-0.4
MRMT	Marmara Adasi	1.74	352	ePN	Pn	07 12 25.1	+0.3
LPK	Lapseki	1.74	329	ePN	Pn	07 12 24.7	-0.2
BOZC	Bozcaada	1.74	304	i P	Pn	07 12 23.2	-1.7
BOZC				i S	Sn	07 12 51.6	+4.4
YER	Yerkesik	1.77	171	ePN	Pn	07 12 25.8	+0.5
GEMT	Gemlik	1.83	32	ePN	Pn	07 12 25.3	-0.8
IZI	Iznik	1.88	39	ePN	Pn	07 12 27.0	+0.2
BODT	Bodrum	1.88	195	ePN	Pn	07 12 27.4	+0.5
RKY	Sarkoy-Tekirda	1.89	342	ePN	Pn	07 12 26.6	-0.4
SART	Tekirdag	1.89	343	i P	Pn	07 12 26.2	-0.8
SART				i S	Sn	07 12 53.8	+2.8
MFT	Murefte	1.96	346	ePN	Pn	07 12 28.6	+0.6
YLV	Yalova	2.02	33	ePN	Pn	07 12 28.9	+0.2
GADA	Gvkgeada	2.04	310	ePN	Pn	07 12 30.0	+1.0
TKTP	Tekketepe	2.06	113	i P	Pb	07 12 31.2	-0.8
TKTP				i S	Sg	07 13 03.1	+2.6
SHUT	Suhut-Afyon	2.08	98	ePN	Pn	07 12 30.0	+0.5
ADVT	Abdulvahap	2.09	42	ePN	Pn	07 12 28.9	-0.8
DAT	Datca	2.17	187	ePN	Pn	07 12 31.6	+0.8
BADT	Buyukada	2.17	25	ePN	Pn	07 12 31.6	+0.8
ISP	Isparta	2.28	116	ePN	Pn	07 12 33.1	+0.9
ISP	Isparta	2.28	116	ePn	Pn	07 12 31.8	-0.5
ISP				eSn	Sn	07 12 59.8	-0.7
ISP	Isparta	2.28	116	⇑iP	Pn	07 12 32.1	-0.2
CTT	Catalca	2.29	10	ePN	Pn	07 12 32.9	+0.4
ENEZ	Enez	2.30	324	ePN	Pn	07 12 33.7	+1.1
GPA	Golpazari	2.31	52	ePN	Pn	07 12 33.7	+0.9
ISK	Istanbul-Kandi	2.35	21	ePN	Pn	07 12 33.4	+0.2
HRT	Hereke	2.35	34	ePN	Pn	07 12 33.1	-0.2
LIA	Limnos Island	2.36	296	eP	Pn	07 12 34.1	+0.8
ESKT	Eskisehir	2.36	73	i P	Pn	07 12 32.0	-1.4
ESKT				i S	Sg	07 13 08.9	-1.2
ESKT	Eskisehir	2.36	73	ePn	Pn	07 12 34.2	+0.8
SEYT	Eskypehyr	2.36	73	i P	Pn	07 12 32.0	-1.4
FETY	Fethiye	2.42	157	ePN	Pn	07 12 34.7	+0.4
LOS	Limnos	2.44	296	ePn	Pn	07 12 34.6	+0.1
ALN	Alexandroupoli	2.48	325	ePn	Pn	07 12 34.6	-0.4
ALN				eSn	Sn	07 13 04.5	-0.9
KLYT	Kilyos	2.52	20	ePN	Pn	07 12 36.1	+0.5
APE	Apeiranthos	2.62	227	ePn	Pn	07 12 36.5	-0.5
APE	Apeiranthos	2.62	227	eP	Pn	07 12 38.0	+1.0
APE	Apeiranthos	2.62	227	⇓iP	Pb	07 12 42.0	+0.5
ARG	Arkhangelos	2.67	177	eP	Pn	07 12 38.8	+1.2
RDO	Rodhopi	2.91	322	eP	Pn	07 12 41.5	+0.5
RDO				eS	Sn	07 13 15.3	-0.9
KIZT	Kizilcal	3.08	89	ePN	Pn	07 12 43.4	0.0
EDRB	Edirne	3.10	343	ePN	Pn	07 12 44.7	+1.2
KARP	Karpathos	3.38	191	eP	Pn	07 12 48.0	+0.5
PAIG	Paliouri	3.45	289	ePn	Pn	07 12 48.4	0.0
PLG	Polygyros	3.77	295	ePn	Pn	07 12 52.9	+0.1
ANTO	Ankara	3.90	74	ePN	Pn	07 12 55.7	+1.2
ANTO	Ankara	3.90	74	⇑iP	Pb	07 13 04.6	+1.3
NVR	Nevrokopi	3.97	310	eP	Pn	07 12 55.8	+0.2
NVR				eS	Sn	07 13 39.9	-2.5
VTS	Vitosha	5.15	317	⇑iP	Sg	07 14 39.0	-0.8
TIRR	Tirgusor	5.58	4	⇑P	Pn	07 13 17.1	-0.5
TIRR	Tirgusor	5.58	4	⇑iP	Pn	07 13 17.1	-0.6
MLR	Muntele Rosu	6.76	348	⇑P	Pn	07 13 35.0	+1.1
MLR	Muntele Rosu	6.76	348	⇑iP	Pn	07 13 35.0	+1.1
PLOR	Plostina	7.03	353	⇑iP	Pn	07 13 39.2	+1.7
BZS	Buzias	8.19	327	⇑iP	Pn	07 13 44.4	-9.1
BURAR	Bucovina Array	8.95	348	⇑iP	Pn	07 14 04.3	+0.5

ISCJB ***01*** *07:29:44.9±1.3,3733N±004×1367E±01,h10km±11km, Error ellipse: s-maj=14.1km s-min=6.8km az=10.0*
JMA ***01*** *07:29:45.3,3732N×13675E,h10km,M3.0*
JMA Felt I J1.
ISC 01 07:29:45.3±1.3**,3732N**±004×**1368E**±01**,h13**km±9km**,n4, σ0s43**/8**,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	Hakui	0.40	176	P	Pg	07 29 53.1	-0.2
JJH				S	Sg	07 29 58.9	+0.3
JSZ	Suzu	0.51	76	P	Pg	07 29 55.0	-0.3
JSZ				S	Sg	07 30 02.0	0.0
JHG	Hegura jima	0.54	15	P	Pg	07 29 55.8	-0.1
JHG				S	Sg	07 30 03.5	+0.4
MAT	Matsushiro	1.41	123	P	Pn	07 30 10.1	-0.5
MAT				S	Sn	07 30 29.4	+0.4

ISCJB ***01*** *07:45:50.9±0.5,3852N±002×2151E±003,h3km±4km, Error ellipse: s-maj=3.9km s-min=3.2km az=1.9*
CSEM ***01*** *07:45:51.8±0.1,3850N×2151E,h4km±1km,ML3.4,Error ellipse: s-maj=2.0km s-min=1.9km az=102.0*
ATH ***01*** *07:45:51.5,3852N×2149E,h15km±1km,MD3.6/12,ML3.3*
NEIC ***01*** *07:45:51.5,3851N×2150E,h15km,ML3.3(ATH),After ATH.*
THE ***01*** *07:45:51.7,3850N×2152E,h3km,ML3.4*
ISC 01 07:45:51.8±0.4**,3852N**±002×**2152E**±003**,h6**km±4km**,n34, σ1s03**/55**,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.38	130	ePg	Pg	07 45 58.5	-0.7
SELA				eSg	Sg	07 46 04.5	+0.2
EVR	Evrytania	0.45	30	ePB	Pg	07 46 00.2	-0.4
EVR				eSB	Sg	07 46 07.6	+1.1
RLS	Riolos of Patr	0.47	185	ePB	Pg	07 46 00.7	-0.1
RLS				eSB	Sg	07 46 07.8	+0.9
RLS	Riolos of Patr	0.47	185	ePb	Pg	07 46 00.7	-0.1
RLS				eSb	Sg	07 46 07.9	+1.0
KFL	Anninata	0.71	235	ePg	Pg	07 46 04.5	-1.0
KFL	Anninata	0.71	235	ePg	Pg	07 46 04.4	-1.1
AGG	Agios Georgios	0.81	52	ePg	Pg	07 46 07.3	0.0
AGG				eSg	Sg	07 46 19.1	+1.3
VLS	Valsamata	0.81	245	ePg	Pg	07 46 06.0	-1.3
VLS				eSg	Sg	07 46 19.2	+1.2
VLS	Valsamata	0.81	245	ePB	Pg	07 46 06.1	-1.3
VLS				eSN	Sg	07 46 18.3	+0.4
VLS	Valsamata	0.81	245	ePg	Pg	07 46 06.1	-1.3
VLS				eSn	Sg	07 46 18.3	+0.4
VLS				eSg	Sg	07 46 19.2	+1.3
THL	Klokotos Trika	1.11	20	ePg	Pg	07 46 13.3	+0.1
THL				eSg	Sg	07 46 29.0	+1.5
THL	Klokotos Trika	1.11	20	ePN	Pn	07 46 12.8	-1.0
THL				eSN	Sn	07 46 28.7	-0.7
THL	Klokotos Trika	1.11	20	ePg	Pg	07 46 13.3	+0.2
THL				eSn	Sn	07 46 28.7	-0.7
THL				eSg	Sg	07 46 29.0	+1.5
LKR	Lokris	1.17	83	ePg	Pg	07 46 13.3	-0.9
LKR	Lokris	1.17	83	ePN	Pn	07 46 13.6	-1.0
LKR	Lokris	1.17	83	ePb	Pb	07 46 13.0	-1.3
LKR	Lokris	1.17	83	ePg	Pg	07 46 13.3	-0.9
LTK	Loutraki	1.24	113	ePg	Pg	07 46 14.6	-1.0
LTK				eSg	Sg	07 46 33.4	+1.6
LTK	Loutraki	1.24	113	ePg	Pg	07 46 14.6	-1.1
LTK				eSg	Sg	07 46 33.3	+1.5
JAN	Janina	1.25	335	ePn	Pn	07 46 15.0	-0.7
JAN				eSn	Sn	07 46 33.0	+0.2
MEV	Metsovon	1.28	350	ePg	Pg	07 46 16.7	+0.3
VLX	Vlachokerasia	1.34	149	ePg	Pg	07 46 16.0	-1.4
VLX				eSg	Sg	07 46 39.3	+4.5
IGT	Igoumenitsa	1.37	318	ePg	Pg	07 46 17.1	-1.0
IGT				eSg	Sg	07 46 37.8	+1.9
ITM	Ithomi	1.38	166	ePN	Pn	07 46 17.6	+0.1
ITM				eSN	Sn	07 46 36.7	+0.7
NEO	Neokhori	1.54	59	ePN	Pn	07 46 20.2	+0.4
XOR	Xorichti	1.55	57	ePg	Pg	07 46 20.1	-1.4
PYL	PYLOS	1.64	174	eSg	Sg	07 46 44.6	+0.3
PYL				eSg	Sg	07 46 45.3	+0.9
NAIG	Nisos Aigina	1.73	116	ePN	Pn	07 46 24.0	+1.7
LIT	Litokhoron	1.75	25	ePb	Pb	07 46 23.2	-1.0
LIT				eSb	Sb	07 46 46.8	+0.4
KEK	Kerkira	1.79	312	ePN	Pn	07 46 23.7	+0.5
ATH	Athens Observa	1.81	107	ePN	Pn	07 46 25.0	+1.5
AOS	Alonnisos	1.95	70	ePb	Pb	07 46 25.3	-2.4
VLI	Veliai	2.12	148	ePN	Pn	07 46 29.0	+1.2
CHOS	Chios island	3.56	91	ePn	Pn	07 46 47.8	+0.2

IDC ***01*** *07:51:24.8±0.7,2686N×5586E,h0km,mb3.9/18, mb1 4.0/19,mb1mx4.0/25,mbtmp3.9/19,ML3.9/1,MS3.1/4, Ms1 3.1/4,ms1mx2.7/28,Error ellipse: s-maj=18.8km s-min=16.2km az=147.0*
ISCJB ***01*** *07:51:26.0±0.2,2690N±002×5579E±003,h10km, mb4.0/28,MS3.1/3,Error ellipse: s-maj=4.3km s-min=3.3km az=174.0*
CSEM ***01*** *07:51:27.2±0.1,2692N×5582E,h20km,mb4.2/7,Error ellipse: s-maj=2.1km s-min=1.8km az=38.0*
THR ***01*** *07:51:27.6±0.3,2700N×5578E,h2km±4km,ML3.9*
NEIC ***01*** *07:51:30.8,2693N×5588E,h9km,mb4.1/9,ML3.9(THR), MN4.2(TEH),After TEH.*
TEH ***01*** *07:51:44.9,2701N×5585E,h9km,ML4.1*
ISC 01 07:51:27.8±0.2**,2688N**±002×**5588E**±003**,h10**km**,n95, σ1s46**/99**,mb4.0**/28**,MS3.1**/3**,3C-5D,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	Bandar-Abbas	0.58	27	ePg	Pg	07 51 39.0	-0.1
BNDS				eSg	Sg	07 51 46.4	-0.4
BNDS	Bandar-Abbas	0.58	27	ePg	Pg	07 51 38.5	-0.6
BNDS				eSg	Sg	07 51 46.4	-0.4
BNDS				AML	AML	07 52 04.7	
	comp=N,7μm,0.7s						
BNDS	Bandar-Abbas	0.58	27	ePg	Pg	07 51 38.5	-0.6
	SNR=94						
BNDS				eSg	Sg	07 51 46.3	-0.4
	comp=N,7μm,0.7s,SNR=94						
IBND	Bandar-abas	0.82	46	eSg	Sg	07 51 55.4	+1.1
BANOM	Banah	1.02	158	⇓P	Pg	07 51 47.3	-0.2
	SNR=4321						
BANOM				⇓S	Sg	07 52 02.5	+1.7
BANOM	Banah	1.02	158	P	Pg	07 51 47.3	-0.2
	SNR=1000						
BANOM				S	Sg	07 52 01.9	+1.1
HATD	Hatta, Dubai	2.06	174	P	Pn	07 52 03.6	+1.2
	SNR=38						
HATD	Hatta, Dubai	2.06	174	P	Pn	07 52 03.2	+0.8
HATD				S	Sn	07 52 29.2	+1.1
ASHO	Ashiyiah	2.19	176	P	Pn	07 52 05.6	+1.4
	SNR=94						
KRBR	Kerman	3.19	14	ePn	Pn	07 52 19.9	+1.9
KRBR				AML	AML	07 53 24.0	
	comp=N,406nm,0.6s						
ISRV	Sarvestan	3.49	316	ePn	Pn	07 52 24.7	+2.6
ISRV				e		07 53 49.2	
	comp=Z,6μm,0.4s						
HOQ	Hoqain	3.53	158	⇑P	Pn	07 52 21.7	-1.0
	SNR=14						
IMOK	Mouk	3.54	308	Pn	Pn	07 52 25.2	+2.5
IMOK	Mouk	3.54	308	ePn	Pn	07 52 25.3	+2.5
IMOK				e		07 53 38.1	
	comp=Z,7μm,0.4s						
IPAR	Pars	3.87	320	Pn	Pn	07 52 29.6	+2.3
IPAR	Pars	3.87	320	ePn	Pn	07 52 29.1	+1.8
IPAR				e		07 53 46.8	
	comp=Z,3μm,0.5s						
BIDO	Bidbid	3.91	148	⇑P	Pn	07 52 27.6	-0.4
	SNR=9.7						
SMDO	Samad	4.28	152	⇓P	Pn	07 52 34.0	+1.0
	SNR=16						
BSY	Bisya	4.29	163	P	Pn	07 52 34.3	+1.2
	SNR=21						
BSYO	Bisya	4.31	163	P	Pn	07 52 34.3	+0.9
	SNR=21						
IBAF	Bafgh	4.70	357	e	Pn	07 52 44.6	+5.8
	comp=Z,1μm,0.2s						

IBAF	Bafgh	4.70 357	Pn	Pn	07 52 40.4	+1.6
WBK	Wadi Bani Khal	5.09 146	P	Pn	07 52 43.9	-0.3
	SNR=12					
ZHSF	Zahedan	5.11 57	ePn	Pn	07 52 47.5	+3.1
ISAD	Sadrabad	5.37 340	ePn	Pn	07 52 50.3	+2.3
ISAD			e		07 52 55.8	
	comp=N,1μm,0.2s					
ICHK	Chekchek	5.50 347	e	Pb	07 53 11.8	+7.9
	comp=Z,852nm,0.3s					
ICHK	Chekchek	5.50 347	Pn	Pn	07 52 51.5	+1.8
IKOO	Kooshah	6.16 25	ePn	Pn	07 53 00.6	+1.8
IGAR	Gharneh	6.44 330	e	Pb	07 53 16.0	-3.9
	comp=Z,1μm,0.1s					
NASN	Na'in	6.47 336	ePn	Pn	07 53 04.5	+1.4
NASN			AML	AML	07 54 20.5	
	comp=N,31nm,0.5s					
ITEG	Tejag	6.50 22	ePn	Pn	07 53 05.2	+1.8
IZEF	Zefreh	6.74 334	e	Pn	07 53 09.7	+2.9
	comp=Z,498nm,0.3s					
IPIR	Pirpir	7.23 324	e	Sn	07 54 39.5	+3.8
	comp=Z,787nm,0.2s					
QRN	Al-Qurain	7.29 287	eP	Pn	07 53 14.8	+0.5
QRN			AML	AML	07 54 35.2	
	comp=Z,63nm,0.3s					
KBD	Kabd	7.59 289	eP	Pn	07 53 18.9	+0.5
KBD			AML	AML	07 54 42.0	
	comp=Z,218nm,0.3s					
RDF	Al-Radifah	7.65 287	eP	Pn	07 53 19.2	0.0
RDF			AML	AML	07 54 44.0	
	comp=Z,53nm,0.5s					
UMR	Umm Al-Rimmam	7.68 292	eP	Pn	07 53 20.2	+0.5
UMR			AML	AML	07 54 44.5	
	comp=Z,55nm,0.3s					
NAY	Al-Naaiem	7.99 289	eP	Pn	07 53 24.2	+0.3
NAY			AML	AML	07 54 52.9	
	comp=Z,31nm,0.5s					
MIB	Mutribah	8.07 293	eP	Pn	07 53 25.2	+0.2
MIB			AML	AML	07 54 53.2	
	comp=Z,46nm,0.5s					
SHAO	Shalim	8.82 182	P	Pn	07 53 33.9	-1.5
	SNR=18					
ASAO	Ashtian	9.15 328	ePn	Pn	07 53 41.2	+1.3
ASF	Jabal al Asfar	17.34 292	P	Pn	07 55 29.7	-0.2
	comp=Z,0.4nm,0.3s,baz=56,slow=3.6,SNR=2.2					
ASF			S	Sn	07 58 32.1	-11
	comp=Z,0.2nm,0.3s,baz=190,slow=11,SNR=3.0					
MALT	Malatya	18.57 312	eP	Pn	07 55 46.7	+1.6
	comp=Z,2.6nm,0.5s					
MALT	Malatya	18.57 312	eP	Pn	07 55 46.7	+1.6
	comp=Z,2.5nm,0.5s					
EIL	Elat	18.64 283	P	Pn	07 55 50.3	+4.3
	comp=Z,0.5nm,0.3s,baz=82,slow=10,SNR=4.1					
EIL			LR	LR	08 03 05.0	
	comp=Z,33nm,20.4s,baz=82,slow=38					
MMAI	Mount Meron Ar	18.76 294	P	Pn	07 55 49.9	+2.6
	comp=Z,1.0nm,0.3s,baz=102,slow=13,SNR=5.1					
ATD	Arta Tunnel	19.58 221	P	Pn	07 55 58.0	+0.6
	comp=Z,1.2nm,0.3s,baz=90,slow=20,SNR=3.7					
KIV	Kislovodsk	20.10 331	eP	P	07 56 00.7	-0.9
	comp=Z,12nm,0.7s					
KIV	Kislovodsk	20.10 331	eP	P	07 56 00.7	-0.9
	comp=Z,12nm,0.7s					
AML	Almayashu	21.08 39	eP	P	07 56 10.8	-1.4
	comp=Z,4.9nm,0.5s,mb4.1					
EKS2	Erkin-Say	21.47 38	eP	P	07 56 16.7	+0.3
	comp=Z,8.5nm,1.0s,mb4.0					
EKS2	Erkin-Say	21.47 38	eP	P	07 56 16.7	+0.3
	comp=Z,8.5nm,1.0s,mb4.0					
UCH	Uchtor	21.61 40	eP	P	07 56 20.3	+2.5
	comp=Z,5.9nm,1.0s,mb4.0					
UCH	Uchtor	21.61 40	eP	P	07 56 20.3	+2.4
	comp=Z,5.9nm,1.0s,mb4.0					
AAK	Ala-Archa	21.86 39	P	P	07 56 20.0	-0.5
	comp=Z,3.3nm,0.5s,mb4.0,baz=202,slow=13,SNR=5.0					
TKM2	Tokmak 2	22.67 40	eP	P	07 56 30.3	+1.1
	comp=Z,3.0nm,0.9s,mb3.7					
TKM2	Tokmak 2	22.67 40	eP	P	07 56 30.3	+1.1
	comp=Z,3.0nm,0.9s,mb3.7					
AKTK	Aktyubinsk	23.58 3	P	P	07 56 37.5	-1.1
AKTK	Aktyubinsk	23.58 3	P	P	07 56 37.5	-1.1
AKTO	Aktyubinsk	23.58 3	P	P	07 56 37.5	-1.1
	comp=Z,1.7nm,0.4s,mb3.8,baz=172,slow=7.7,SNR=16					
BVAR	Borovoye Array	28.27 19	P	P	07 57 19.8	-1.3
	comp=Z,2.6nm,0.8s,mb3.9,baz=217,slow=6.6,SNR=9.7					
MK31	Makanchi Array	28.79 39	eP	P	07 57 26.3	+0.5
MK31	Makanchi Array	28.79 39	eP	P	07 57 26.3	+0.5
MKAR	Makanchi Array	28.79 39	P	P	07 57 24.9	-0.9
	comp=Z,0.6nm,0.6s,mb3.5,baz=224,slow=7.9,SNR=11					
AKASG	Malin Array Be	31.28 327	P	P	07 57 45.8	-2.0
	comp=Z,0.8nm,0.5s,mb3.9,baz=131,slow=8.6,SNR=8.2					
KMBO	Kilima Mbogo	33.13 216	eP	P	07 58 05.5	+1.2
	comp=Z,1.5nm,0.8s,mb4.0					
KMBO	Kilima Mbogo	33.13 216	eP	P	07 58 05.5	+1.2
	comp=Z,1.5nm,0.8s,mb4.0					
ZALV	Zalesovo Beam	34.44 30	P	P	07 58 13.8	-1.5
	comp=Z,2.7nm,0.3s,mb4.6,baz=243,slow=9.7,SNR=11					
ZALV			LR	LR	08 14 14.4	
	comp=Z,24nm,19.4s,MS2.9,baz=138,slow=40					
GERES	GERESS Array B	39.21 315	P	P	07 58 54.6	-1.4
	comp=Z,0.3nm,0.4s,mb3.4,baz=102,slow=12,SNR=4.9					
GERES			LR	LR	08 18 47.7	
	comp=Z,20nm,18.4s,MS3.0,baz=73,slow=42					
KHC	Kasperske Hory	39.38 316	eP	P	07 59 01.5	+4.1
JOF	Joensuu	39.50 343	ep	P	07 58 56.5	-1.7
	comp=Z,0.8nm,0.4s,mb3.8					
FINES	FINESS Array B	39.93 338	P	P	07 59 00.4	-1.4
	comp=Z,1.0nm,0.5s,mb3.8,baz=144,slow=10,SNR=12					
SQTA	Sankt Quirin	40.36 312	⇓iP	P	07 59 04.0	-1.6
	comp=Z,3.9nm,0.4s,mb4.5					
FETA	Feichten	40.63 312	⇓epP	pP	07 59 12.1	+1.1
	comp=Z,3.3nm,0.6s					
DAVA	Damuels	41.25 312	⇑iP	P	07 59 11.2	-1.7
	comp=Z,6.3nm,0.4s,mb4.6					
MBDF	Montbardon	42.93 308	eP	P	07 59 24.2	-2.5
	comp=Z,7.3nm,0.8s,mb4.2					
MBDF	Montbardon	42.93 308	eP	P	07 59 24.2	-2.5
	comp=Z,3.7nm,0.8s,mb4.2					
LPG	La Plagne	43.05 309	eP	P	07 59 24.5	-3.2
CDF	Champ du Feu	43.21 313	eP	P	07 59 25.2	-3.7
SONM	Songino Array	44.36 48	P	P	07 59 38.5	+0.3
	comp=Z,1.7nm,0.9s,mb3.8,baz=251,slow=4.5,SNR=8.6					
SONM			LR	LR	08 20 21.7	
	comp=Z,51nm,20.5s,MS3.4,baz=163,slow=39					
LOR	Lormes	45.28 311	eP	P	07 59 42.2	-3.3
NB2	NORSAR Subarra	45.41 331	P	P	07 59 44.1	-2.2
	comp=Z,0.3nm,0.4s,mb3.5,baz=116,slow=7.9					
NOA	NORSAR Array B	45.41 331	P	P	07 59 43.9	-2.4
NOA	NORSAR Array B	45.41 331	P	P	07 59 43.9	-2.4
	comp=Z,0.2nm,0.5s,mb3.2,baz=128,slow=7.6,SNR=2.4					
KEV	Kevo	46.07 347	ep	P	07 59 48.7	-2.7
	comp=Z,3.3nm,0.7s,mb4.4					
ARCES	ARCESS Array B	46.21 346	P	P	07 59 51.6	-0.9
	comp=Z,7.2nm,1.1s,mb4.5,baz=341,slow=10,SNR=4.0					
ESDC	Sonseca Array	50.78 301	P	P	08 00 27.2	-1.0
	comp=Z,0.2nm,0.3s,mb3.6,baz=75,slow=7.7,SNR=3.2					
KSRS	Korea Array	60.57 60	P	P	08 01 35.9	-2.7
	comp=Z,1.3nm,0.6s,mb4.3,baz=278,slow=6.8,SNR=5.2					
DBIC	Dimbokro	60.95 262	P	P	08 01 39.3	-2.2
	comp=Z,3.2nm,0.7s,mb4.6,baz=94,slow=4.0,SNR=4.5					
BOSA	Boshof	62.51 210	P	P	08 01 50.7	-0.9
	comp=Z,2.8nm,0.5s,mb4.7,baz=42,slow=7.3,SNR=8.6					
WRA	Warramunga Arr	89.10 113	P	P	08 04 22.3	-1.4
	comp=Z,0.6nm,0.6s,mb4.1,baz=314,slow=4.0,SNR=4.6					
ASAR	Alice Springs	90.55 116	P	P	08 04 28.6	-1.8
	comp=Z,0.2nm,0.4s,mb3.8,baz=306,slow=4.8,SNR=4.1					
YKA	Yellowknife Ar	90.62 356	P	P	08 04 28.8	-1.3
	comp=Z,0.1nm,0.5s,mb3.4,baz=4.5,slow=5.3,SNR=7.4					
TXAR	Lajitas Array	120.77 339	PKP	PKPdf	08 10 18.8	-1.9
	comp=Z,0.4nm,1.0s,baz=350,slow=4.6,SNR=3.2					
CFAA	Coronel Fontan	131.45 250	PKP	PKPdf	08 10 40.5	-0.3
	comp=Z,0.1nm,0.4s,baz=135,slow=2.9,SNR=2.9					

*ISCJB **01** 08:07:07.1±2.6, 237S±0.1×1800W±0.2, h534km±34km, mb4.1/6, Error ellipse: s-maj=23.1km s-min=20.0km az=169.6*
*NEIC **01** 08:07:07.0±4.4, 2375S×17983W, h531km±51km, mb4.2/2, Error ellipse: s-maj=45.3km s-min=18.8km az=195.0*
*IDC **01** 08:07:08.8±2.9, 2378S×17988W, h546km±34km, mb3.4/6, mb1 3.6/7, mb1mx3.3/15, mbtmp3.4/7, Error ellipse: s-maj=31.7km s-min=17.4km az=171.0*
ISC 01 08:07:08.7±2.5, 239S±01×1799W±02, h542km±33km, n18, σ0§84/13, mb4.1/6, 2C-1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	14.55 189		P	P	08 10 12.6	-0.8
	2.2nm,0.3s,baz=328,slow=15,SNR=12						
URZ				S	S	08 12 45.2	-0.3
	0.4nm,0.3s,baz=192,slow=19,SNR=4.4						
RPZ	Rata Peaks	21.12 198		P	P	08 11 16.1	+1.1
	5.1nm,0.4s,mb4.5,baz=9.5,slow=6.1,SNR=4.8						
CTA	Charters Tower	31.55 270	eP	P	P	08 12 47.3	+0.3
	3.7nm,0.3s,mb4.4						
CTA	Charters Tower	31.55 270	P	P	P	08 12 47.4	+0.4
	4.4nm,0.3s,mb4.4,baz=92,slow=12,SNR=12						
STKA	Stephens Creek	34.79 248	eP	P	P	08 13 15.4	+1.2
	4.2nm,0.9s,mb4.0						
STKA	Stephens Creek	34.79 248	P	P	P	08 13 15.8	+1.5
	2.1nm,0.4s,mb4.0,baz=76,slow=8.3,SNR=5.2						
ASAR	Alice Springs	42.10 261	P	P	P	08 14 13.8	+0.2
	3.8nm,0.9s,mb3.9,baz=100,slow=7.0,SNR=24						
ASAR				S	S	08 19 55.1	+0.9
	0.6nm,0.7s,baz=95,slow=15,SNR=5.9						
WB2	Warramunga Arr	42.47 266	⇓iP	P	P	08 14 15.7	-0.8
WRA	Warramunga Arr	42.48 266	P	P	P	08 14 16.1	-0.5
	1.9nm,0.2s,mb4.2,baz=90,slow=5.8,SNR=353						
WRA				S	S	08 19 57.5	-2.1
	0.8nm,0.9s,baz=103,slow=13,SNR=4.3						
TXAR	Lajitas Array	90.37 58	P	P	P	08 19 12.3	-0.1
	0.7nm,0.8s,mb3.5,baz=225,slow=8.8,SNR=11						
ARCES	ARCESS Array B	131.89 348	PKP	PKPdf	08 25 18.6	-1.1
	1.7nm,0.8s,baz=72,slow=1.6,SNR=7.6						
NB2	NORSAR Subarra	142.08 351	PKhKP		08 25 32.6	
	comp=Z,0.1nm,0.7s,baz=28,slow=3.8						
NOA	NORSAR Array B	142.08 351	PKhKP		08 25 33.4	
	comp=Z,0.7nm,0.7s,baz=23,slow=2.5,SNR=5.7						
AKASG	Malin Array Be	145.00 327	PKP	PKPdf	08 25 42.8	-1.3
	comp=Z,2.4nm,0.6s,baz=45,slow=4.0,SNR=23						
CLL	Collm	150.87 343	⇑iP	PKPbc	08 25 58.9	-0.9
CLL	Collm	150.87 343	⇑iPKPbc	PKPbc	08 25 58.9	-0.9
	comp=Z,7.0nm,0.7s						
BRG	Berggiesshubel	151.00 342	eP	PKPbc	08 25 59.1	-1.0
	comp=Z,5.5nm,0.8s						
GERES	GERESS Array B	152.87 340	PKPbc	PKPbc	08 26 03.3	-1.0
	comp=Z,0.4nm,0.7s,baz=52,slow=6.4,SNR=3.8						

*ISCJB **01** 08:07:09.8±0.4, 3892N±003×2801E±003, h1km±5km, Error ellipse: s-maj=4.8km s-min=3.3km az=152.6*
*CSEM **01** 08:07:10.9±0.1, 3880N×2795E, h10km, MD2.9, Error ellipse: s-maj=3.3km s-min=3.0km az=137.0*
*DDA **01** 08:07:11.1, 3891N×2800E, h6km±1km, Md2.9*
*ISK **01** 08:07:11.1, 3882N×2797E, h7km, MD2.9*
ISC 01 08:07:10.6±0.4, 3891N±003×2800E±003, h10km±4km, n22, σ0§67/31, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AKHS	Akhisar	0.14 258		iP	Pg	08 07 14.1	+0.3
AKHS				iS	Sg	08 07 16.0	0.0
AKS	Akhisar	0.15 258		PG	Pg	08 07 14.1	+0.3
AKS				eSG	Sg	08 07 16.2	+0.2
KULA	Kula-Manisa	0.65 127		ePG	Pg	08 07 24.0	+0.8
KULA				eSG	Sg	08 07 31.9	+0.2
BALB	Balikesir	0.73 353		ePG	Pn	08 07 27.5	+0.4
KDAG	Bornova	0.76 229		iP	Pg	08 07 24.0	-1.3
KDAG				iS	Sg	08 07 36.1	+0.9
DST	Dursunbey	0.85 35		ePG	Pn	08 07 30.3	+1.6
BLCB	Balcova	0.91 235		ePG	Pg	08 07 28.2	+0.1
BLCB				eSG	Sg	08 07 40.2	+0.2
AYVA	Ayvalik	1.09 292		iP	Pg	08 07 31.3	-0.2
AYVA				iS	Sg	08 07 45.3	-0.4
GDZ	Gediz	1.17 81		iP	Pb	08 07 33.8	+0.9
GDZ				iS	Sb	08 07 48.2	0.0
URLA	Izmir	1.23 244		iP	Pn	08 07 33.2	-0.6
URLA				iS	Sb	08 07 50.0	+0.2
AYDN	Tasoluk	1.25 184		iP	Pn	08 07 32.7	-1.4
AYDN				iS	Sb	08 07 50.3	-0.2
KCT	Karacabey	1.38 12		ePN	Pg	08 07 37.9	+0.8
BNT	Bandirma	1.45 358		ePN	Pg	08 07 38.9	+0.6
EZN	Ezine	1.59 306		ePN	Pg	08 07 41.0	0.0
ALT	Altintas	1.65 84		ePN	Pg	08 07 41.6	-0.7
MRMT	Marmara Adasi	1.72 350		ePN	Pg	08 07 44.1	+0.5
GEMT	Gemlik	1.78 31		ePN	Pg	08 07 44.6	-0.1
IZI	Iznik	1.83 38		ePN	Pg	08 07 45.0	-0.6
RKY	Sarkoy-Tekirda	1.89 341		ePN	Pg	08 07 45.7	-1.0
BDRM	Kayabasi	1.89 193		iP	Pn	08 07 43.3	+0.3
YLV	Yalova	1.97 32		ePN	Pg	08 07 47.4	-0.9
ESKT	Eskisehir	2.30 74		iP	Pg	08 07 54.0	-0.7

*CSEM **01** 08:07:55.8±0.2, 3108N×3547E, h15km, ML2.7, Error ellipse: s-maj=6.7km s-min=4.7km az=109.0*
HLW 01 08:07:57.4, 3113N×3557E, h25km, Mb3.0, 2C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNKL	Nakhl	1.82 229	⇓eP		Pn	08 08 26.2	-0.9
HNKL				S	Sn	08 08 46.9	-2.5
AMAG	Maghara	2.09 257	⇓eP		Pn	08 08 29.6	-1.2
SUZ		2.69 242	⇑eP		Pn	08 08 38.1	-0.9
HKAT	Jabal Katrina	2.94 208	⇑eP		Pn	08 08 41.5	-1.0

*HLW **01** 08:14:39.8, 3130N×3613E, h25km, Mb3.3*
*ISCJB **01** 08:14:45.8±0.7, 3101N±002×3555E±005, h4km±4km, Error ellipse: s-maj=7.3km s-min=2.8km az=11.5*
*CSEM **01** 08:14:45.3±0.1, 3105N×3549E, h15km, ML2.8, Error ellipse: s-maj=3.0km s-min=1.9km az=117.0*
*GII **01** 08:14:46.1±0.8, 3102N×3547E, h1km±1km, ML2.2/7*
ISC 01 08:14:46.5±0.7, 3101N±002×3555E±005, h8km±4km, n23, σ1§07/40, 3C-2D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MZDA	Masada	0.34 331		Pg	Pg	08 14 53.1	-0.1
MZDA				Sg	Sg	08 14 57.9	+0.1
YTIR	Yattir	0.52 313		Pg	Pg	08 14 55.9	-0.7
YTIR				Sg	Sg	08 15 03.0	-0.2
ZFRI	Zfri	0.56 216		Pg	Pg	08 14 57.8	+0.5
ZFRI				Sg	Sg	08 15 05.7	+1.2
DSI	Dead Sea	0.58 345		Pg	Pg	08 14 57.8	+0.1
DSI				Sg	Sg	08 15 07.4	+2.1
RTMI	Retamim	0.74 274		Pg	Pg	08 14 59.9	-0.9
RTMI				Sg	Sg	08 15 10.6	+0.1
RMNI	Mount Ramon	0.80 239		Pg	Pg	08 15 01.8	-0.1
RMNI				Sg	Sg	08 15 13.4	+1.2
PRNI	Paran	0.81 216		Pg	Pg	08 15 02.3	+0.3
PRNI				Sg	Sg	08 15 13.8	+1.2
KZIT	Kziot	1.00 264		Pg	Pg	08 15 04.6	-1.2
KZIT				Sg	Sg	08 15 17.8	-0.9
HRFI	Mount Harif	1.07 205		Pg	Pg	08 15 06.9	-0.1
HRFI				Sg	Sg	08 15 22.2	+1.4
KRMI	Paran Flat	1.14 219		Pg	Pg	08 15 07.8	-0.6
KRMI				Sg	Sg	08 15 24.0	+0.8
HMDT	Nahal Hemdat	1.24 359		Pg	Pg	08 15 09.0	-1.3
HMDT				Sg	Sg	08 15 26.8	+0.3
SLTI	Sal'it	1.30 340		Pg	Pg	08 15 10.4	-1.1
SLTI				Sg	Sg	08 15 28.4	-0.1
MBH	Mount Berech	1.33 205		Pn	Pn	08 15 10.9	-0.5
MBH				Sn	Sn	08 15 29.9	+0.5
MMLI	Mount Malkishu	1.43 355		Pn	Pn	08 15 12.8	+0.1
MMLI				Sn	Sn	08 15 32.9	+1.2
EIL	Elat	1.43 202		Pn	Pn	08 15 12.3	-0.5
EIL				Sn	Sn	08 15 32.5	+0.7
HNKL	Nakhl	1.73 232	⇓eP		Pn	08 15 15.4	-1.6
HBST	Basata	1.92 202	⇑eP		Pn	08 15 16.4	-3.2
MMC5	Mount Meron ar	2.00 357		Pn	Pn	08 15 21.2	+0.6
MMA2	Mount Meron ar	2.00 356		Pn	Pn	08 15 21.7	+1.1
MMA2				Sn	Sn	08 15 48.4	+2.5
AMAG	Maghara	2.05 260	⇑P		Pn	08 15 19.3	-2.0
AMAG				S	Sn	08 15 48.1	+1.0
SUZ		2.62 244	⇑eP		Pn	08 15 27.6	-1.6
SUZ		2.62 244	P		Pn	08 15 27.5	-1.7
HKAT	Jabal Katrina	2.83 209	⇓eP		Pn	08 15 29.9	-2.1

*ISCJB **01** 08:18:54.1±0.7, 2406S±005×6668W±008, h203km±14km, Error ellipse: s-maj=12.6km s-min=7.6km az=4.8*
*IDC **01** 08:18:54.9±1.6, 2395S×6670W, h195km±19km, mb3.2/1, mb1 3.2/7, mb1mx3.1/19, mbtmp3.1/7, Error ellipse: s-maj=24.9km s-min=15.9km az=88.0*
*GUC **01** 08:18:57.1±0.4, 2419S×6712W, h225km, ML4.2*
*NEIC **01** 08:18:57.2, 2414S×6703W, h225km, MG4.2(GUC), After GUC.*
ISC 01 08:18:55.0±0.6, 2405S±005×6666W±008, h194km±14km, n15, σ1§28/20, 2C, Salta Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CEN1	Los Morros	3.31 281		eP	Pn	08 19 50.1	+2.1
CEN1				i S	Sn	08 20 30.5	+1.1
CEN1				AML	AML	08 20 33.6	
	comp=N,163nm,0.5s						
ANCH	Antofagasta	3.45 275		⇑iP	Pn	08 19 50.6	+0.9
ANCH				i S	Sn	08 20 31.1	-1.3
CPN1	Cerro Paranal	3.46 260		⇑iP	Pn	08 19 51.3	+1.5
CPN1				i S	Sn	08 20 32.4	-0.3
CPN1				AML	AML	08 20 34.6	
	comp=N,423nm,0.3s						
CPCH	Copiapo	4.68 225		i S	Sn	08 20 58.8	-1.6
CFAA	Coronel Fontan	7.65 190		P	Pn	08 20 44.2	+0.6
CFAA				S	Sn	08 22 07.1	-2.9
CFAA	Coronel Fontan	7.65 190		P	Pn	08 20 44.2	+0.6
	comp=N,0.2nm,0.3s,baz=2.2,slow=14,SNR=32						
CFAA				S	Sn	08 22 07.1	-2.9
	comp=N,0.3nm,0.3s,baz=298,slow=22,SNR=20						
LPAZ	La Paz	7.84 350		P	Pn	08 20 46.9	+0.6
	comp=N,0.4nm,0.3s,baz=138,slow=7.5,SNR=17						
LPAZ				S	Sn	08 22 12.0	-2.7
	comp=N,0.2nm,0.3s,baz=7.4,slow=24,SNR=4.1						
CPUP	Villa Florida	8.76 107		P	Pn	08 20 59.0	+0.9
CPUP	Villa Florida	8.76 107		P	Pn	08 20 59.0	+0.9
	comp=N,0.5nm,0.3s,baz=276,slow=9.5,SNR=7.9						
SIV	San Ignacio	9.58 34		P	Pn	08 21 07.6	-1.4
	comp=N,0.7nm,0.3s,baz=218,slow=14,SNR=23						
PLCA	Paso Flores	16.95 190		P	Pn	08 22 41.4	+0.5
	comp=N,0.1nm,0.3s,baz=30,slow=16,SNR=3.5						
BDFB	Brasilia	19.42 68		P	P	08 23 06.8	+0.1
	comp=N,0.2nm,0.3s,baz=235,slow=16,SNR=8.9						
YKA	Yellowknife Ar	94.28 340		P	P	08 31 51.0	-0.5
YKA	Yellowknife Ar	94.28 340		P	P	08 31 51.0	-0.5
	comp=N,0.1nm,0.6s,baz=134,slow=4.8,SNR=6.4						
MKAR	Makanchi Array	146.37 40		PKPbc	PKPbc	08 38 11.3	-1.5
	comp=N,0.2nm,0.2s,baz=295,slow=2.3,SNR=4.9						

*IDC **01** 09:19:33.5±0.8, 1386N×121.10E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=79.3km s-min=17.8km az=68.0*
*NEIC **01** 09:19:38.7±0.6, 1382N×121.07E, h35km, mb4.5/1, Error ellipse: s-maj=48.4km s-min=12.7km az=71.0*
*ISCJB **01** 09:19:50.3±0.4, 1367N±004×12054E±008, h152km±3km, mb3.6/10, Error ellipse: s-maj=12.5km s-min=5.9km az=166.7*
*MAN **01** 09:19:51, 1369N×12056E, h135km, mb4.3, ML3.2, MS3.0*
ISC 01 09:19:51.3±0.4, 1368N±004×12058E±007, h148km±3km, n28, σ0§94/33, mb3.6/10, 3C-3D, Mindoro

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LUBP	Lubang	0.33 280		eP	Pn	09 20 12.0	+0.4
LUBP				eS	Sn	09 20 26.8	-0.3
TGY	Tagaytay City	0.55 40		⇑eP	Pn	09 20 13.1	+0.5
LBPH	Los Banos	0.75 51		⇑iP	Pn	09 20 14.4	+0.5
NBP	Mount Natib	1.07 352		⇑eP	Pn	09 20 16.0	-0.4
NBP				eS	Sn	09 20 34.8	-0.9
QVPH	Quezon City--P	1.07 26		⇓eP	Pn	09 20 18.1	+1.6
NZB	Bigte	1.28 23		⇓eP	Pn	09 20 16.2	-2.2
POLP	Polilio Island	1.68 52		eP	Pn	09 20 23.4	+0.7
BUSP	Coron	1.71 193		eP	Pn	09 20 23.8	+0.8
BUSP				eS	Sn	09 20 47.0	-0.2
OTRP	Odiongan	1.92 133		eP	Pn	09 20 25.0	-0.4
OTRP				eS	Sn	09 20 49.4	-2.1
SCZP	Santa Cruz	2.18 343		eP	Pn	09 20 28.5	+0.1
SCZP				eS	Sn	09 20 56.1	-1.0
BALP	Baler	2.27 25		eP	Pn	09 20 30.2	+0.7
BOLP	Bolinao	2.76 347		eP	Pn	09 20 35.8	+0.2
BOLP				eS	Sn	09 21 09.6	-0.2
CUYO	Cuyo Island	2.84 171		eP	Pn	09 20 37.6	+0.9
PVCP	Virac	3.48 91		⇓eP	Pn	09 20 45.5	+0.8
GUIM	Jordan	3.62 147		eP	Pn	09 20 48.3	+1.8
MBWA	Marble Bar	34.63 181		eP	P	09 26 26.0	-0.5
MBWA				epP	pP	09 26 36.7	-22
SONM	Songino Array	36.05 344		P	P	09 26 38.4	+0.1
	0.3nm,0.4s,mb3.2,baz=158,slow=11,SNR=2.5						
WRA	Warramunga Arr	36.05 158		P	P	09 26 37.1	-1.5
	0.7nm,0.4s,mb3.6,baz=336,slow=9.5,SNR=17						
ASAR	Alice Springs	39.34 161		P	P	09 27 05.0	-1.2
	0.6nm,0.3s,mb3.6,baz=334,slow=7.6,SNR=26						
MKAR	Makanchi Array	45.98 324		P	P	09 28 01.2	+1.6
	0.3nm,0.3s,mb3.5,baz=126,slow=8.2,SNR=8.1						
KURK	Kurchatov	50.14 326		eP	P	09 28 32.6	+1.1
	4.0nm,0.8s,mb4.1						
JOF	Joensuu	77.61 332		ep	P	09 31 30.3	-0.6
	0.5nm,0.3s,mb3.6						
ARCES	ARCESS Array B	79.06 339		P	P	09 31 38.9	+0.1
	1.2nm,0.7s,mb3.7,baz=79,slow=6.3,SNR=6.0						
FINES	FINESS Array B	80.

CAIG	**El Cayaco**	**1.40**	**107**	*i* P		**Pn**	**09 44 49.6 -2.1**
CAIG				*i* S		**Sn**	**09 45 10.2 +0.6**
ACX	**Acapulco**	**1.77**	**109**	*e*P		**Pn**	**09 44 55.1 -1.8**
ACX				*i* S		**Sn**	**09 45 20.2 +1.4**
MEIG	**Mezcala**	**2.01**	**76**	*e*P		**Pn**	**09 44 59.4 -0.8**
MEIG				*i* S		**Sn**	**09 45 23.3 -1.3**
MOIG	**Morelia**	**2.25**	**12**	*e*P		**Pn**	**09 45 04.2 +0.7**
MOIG				*i* S		**Sn**	**09 45 36.3 +5.6**
MOIG	**Morelia**	**2.25**	**12**	*i* P		**Pn**	**09 45 01.4 -2.1**
MOIG				*i* S		**Sn**	**09 45 28.2 -2.5**
PLIG	**Platanillo**	**2.26**	**65**	*e*P		**Pn**	**09 45 04.0 +0.4**
PLIG				*e*S		**Sn**	**09 45 38.5 +7.6**
PLIG	**Platanillo**	**2.26**	**65**	*e*P		**Pn**	**09 45 03.1 -0.5**
PLIG				*i* S		**Sn**	**09 45 31.1 +0.2**
YAIG	**Yautepec**	**2.84**	**60**	*e*P		**Pn**	**09 45 13.7 +2.2**
YAIG				*i* S		**Sn**	**09 45 53.1 +8.0**
YAIG	**Yautepec**	**2.84**	**60**	*i* P		**Pn**	**09 45 11.6 0.0**
YAIG				*i* S		**Sn**	**09 45 47.5 +2.3**
SZVM	**Salazar**	**2.86**	**49**	*e*P		**Pn**	**09 45 08.4 -3.4**
SZVM				*i* S		**Sn**	**09 45 44.8 -0.8**
MZVM		**2.89**	**53**	*e*P		**Pn**	**09 45 11.7 -0.6**
MZVM				*i* S		**Sn**	**09 45 51.6 +5.2**
UNM	**Universidad Na**	**3.01**	**51**	*i* P		**Pn**	**09 45 17.9 +4.0**
UNM				*i* S		**Sn**	**09 45 58.0 +8.6**
UNM	**Universidad Na**	**3.01**	**51**	*i* P		**Pn**	**09 45 16.0 +2.1**
UNM				*i* S		**Sn**	**09 45 50.1 +0.8**
PBVM	**Pinon**	**3.15**	**51**	*i* P		**Pn**	**09 45 21.2 +5.4**
PBVM				*i* S		**Sn**	**09 45 53.7 +0.9**
PBVM	**Pinon**	**3.15**	**51**	*e*P		**Pn**	**09 45 14.5 -1.3**
PBVM				*i* S		**Sn**	**09 45 52.7 -0.1**
SFJM	**Santa Fe**	**3.28**	**337**	*e*P		**Pn**	**09 45 17.3 -0.3**
SFJM				*i* S		**Sn**	**09 45 56.2 +0.1**
SFJM	**Santa Fe**	**3.28**	**337**	*e*P		**Pn**	**09 45 11.2 -6.4**
SFJM				*i* S		**Sn**	**09 45 46.2 -10**
PPM	**Popocatepetl**	**3.30**	**61**	*e*P		**Pn**	**09 45 20.3 +2.3**
PPM				*i* S		**Sn**	**09 46 06.7 +10**
PPM				*e*S		**Sn**	**09 46 07.3 +11**
PPM				*i* S		**Sn**	**09 46 07.7 +11**
PPM	**Popocatepetl**	**3.30**	**61**	*i* P		**Pn**	**09 45 16.0 -2.0**
PPM				*i* P			09 45 18.4
PPM				*i* S		**Sn**	**09 45 57.3 +0.7**
PPM				*i* S		**Sn**	**09 45 58.2 +1.5**
IIO	**Organos**	**3.51**	**52**	*e*P		**Pn**	**09 45 20.8 0.0**
IIO				*i* S		**Sn**	**09 46 10.3 +8.6**
IIO	**Organos**	**3.51**	**52**	*e*P		**Pn**	**09 45 20.8 0.0**
IIO				*i* S		**Sn**	**09 46 02.6 +0.9**
DEIG	**Demacu**	**3.77**	**41**	*e*P		**Pn**	**09 45 22.5 -1.8**
DEIG				*i* S		**Sn**	**09 46 07.3 -0.8**
TPIG	**Tehuac#an**	**4.21**	**76**	*e*P		**Pn**	**09 45 31.4 +1.0**
TPIG				*i* S		**Sn**	**09 46 19.6 +0.6**
ANIG	**Ahuacatlan**	**4.48**	**323**	*i* P		**Pn**	**09 45 28.1 -6.0**
ANIG				*i* S		**Sn**	**09 46 15.5 -10**
VHO	**Vista Hermosa**	**4.73**	**94**	*e*P		**Pn**	**09 45 37.2 -0.3**
VHO				*i* S		**Sn**	**09 46 36.8 +4.9**
VHO	**Vista Hermosa**	**4.73**	**94**	*e*P		**Pn**	**09 45 37.2 -0.3**
VHO				*i* S		**Sn**	**09 46 32.6 +0.7**
OXX	**Oaxaca**	**4.74**	**94**	*i* P		**Pn**	**09 45 37.4 -0.3**
OXX				*i* S		**Sn**	**09 46 31.5 -0.6**
HUIG	**Huatulco**	**5.59**	**107**	*i* S		**Sn**	**09 46 53.5 +0.5**
CMIG	**Matias Romero**	**6.49**	**92**	*e*P		**Pn**	**09 46 01.2 -0.6**
CMIG				*e*S		**Sn**	**09 47 19.0 +3.7**
CMIG	**Matias Romero**	**6.49**	**92**	*e*P		**Pn**	**09 46 01.2 -0.6**
CMIG				*e*S		**Sn**	**09 47 17.1 +1.8**
LNIG	**Linares**	**7.68**	**15**	*i* P		**Pn**	**09 46 15.5 -2.7**
HPIG		**10.13**	**339**	*i* P		**Pn**	**09 46 51.4 -0.4**
TXAR	**Lajitas Array**	**11.96**	**352**	Pn		**Pn**	**09 47 20.4 +3.6**
	0.0nm,0.3s,baz=159,slow=14,SNR=5.1						
TXAR				Lg			09 50 53.4
	0.1nm,0.3s,baz=168,slow=34,SNR=5.5						
TXAR				LR		LR	09 53 18.4
	comp=Z,71nm,18.9s,baz=180,slow=44						
AMTX	**Amarillo**	**17.36**	**360**	*e*Pn		**Pn**	**09 48 29.6 +1.2**
	6.3nm,0.6s						
ANMO	**Albuquerque**	**17.94**	**347**	P		**Pn**	**09 48 38.7 +3.1**
ANMO				LR		LR	09 56 17.4
ANMO	**Albuquerque**	**17.94**	**347**	P		**Pn**	**09 48 38.7 +3.1**
	0.1nm,0.3s,baz=152,slow=11,SNR=8.7						
ANMO				LR		LR	09 56 17.4
	comp=Z,188nm,19.8s,baz=266,slow=39						
MIAR	**Mount Ida**	**18.49**	**21**	*e*P		**Pn**	**09 48 41.5 -0.9**
	7.6nm,1.2s						
WUAZ	**Wupatki**	**19.95**	**336**	P		**Pn**	**09 48 57.6 -2.3**
	9.2nm,1.0s						
SDCO	**Great Sand Dun**	**20.49**	**351**	*e*P		**P**	**09 49 06.2 +2.1**
	4.8nm,1.1s						
MVCO	**Mesa Verde**	**20.58**	**344**	*e*P		**P**	**09 49 07.0 +2.0**
	8.6nm,0.9s						
PLAL	**Pickwick Lake**	**21.25**	**32**	*e*P		**P**	**09 49 10.3 -2.0**
	4.2nm,0.4s,mb4.1						
PV01	**Paradox Valley**	**21.47**	**345**	P		**P**	**09 49 16.3 +1.7**
CCM	**Cathedral Cave**	**22.46**	**22**	*e*P		**P**	**09 49 23.8 -1.5**
	5.5nm,1.1s,mb3.9						
ISCO	**Idaho Springs**	**22.52**	**352**	*e*P		**P**	**09 49 27.2 +1.3**
	5.0nm,0.9s,mb3.9						
NVAR	**Mina Array Bea**	**25.46**	**328**	P		**P**	**09 49 57.1 +3.1**
	3.2nm,0.8s,mb3.9,baz=146,slow=11,SNR=19						
MCMT	**McKenzie Canyo**	**28.86**	**343**	P		**P**	**09 50 26.9 +2.4**
DLMT	**Dillon**	**29.29**	**344**	*e*P		**P**	**09 50 30.4 +2.1**
	7.8nm,1.0s,mb4.4						
ULM	**Lac du Bonnet**	**33.04**	**7**	LR		LR	10 05 45.0
	comp=Z,66nm,21.1s,MS3.3,baz=349,slow=39						
ATAH	**Atahualpa**	**33.46**	**135**	LR		LR	10 01 29.6
	comp=Z,1μm,20.1s,MS4.6,baz=134,slow=31						
SCHQ	**Schefferville**	**45.85**	**27**	P		**P**	**09 52 46.1 -1.9**
	1.5nm,0.6s,mb4.1,baz=250,slow=6.6,SNR=5.7						
YKA	**Yellowknife Ar**	**45.89**	**352**	P		**P**	**09 52 48.1 -0.1**
	1.5nm,0.8s,mb4.0,baz=160,slow=7.3,SNR=29						
YKA				PcP		PcP	09 54 25.2 +0.2
	0.3nm,0.7s,baz=158,slow=3.1,SNR=7.0						
CPUP	**Villa Florida**	**61.24**	**134**	LR		LR	10 17 48.5
	comp=Z,100nm,18.9s,MS4.0,baz=226,slow=33						

*ISCJB **01** 10:13:03.0±0.7,691N±006×7302W±007,h164km±8km, Error ellipse: s-maj=13.2km s-min=7.0km az=41.5*
*IDC **01** 10:13:03.3±0.8,678N×7297W,h165km±11km,mb2.7/1, mb1 3.3/3,mb1mx2.9/20,mbtmp3.2/3, Error ellipse: s-maj=58.0km s-min=7.5km az=131.0*
*FUNV **01** 10:13:04.7,689N×73.12W,h156km,MW3.4*

ISC 01 10:13:04.0±0.7,691N±006×7301W±007,h158km±8km,n20, σ0°96/26,6C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.18**	**36**	⇑*i*P	**Pn**	**10 13 32.5**	**+1.4**
CAPV				*e*S	**Sn**	**10 13 51.4**	**-0.5**
ROSC	**El Rosal**	**2.42**	**213**	P	**Pn**	**10 13 44.5**	**-0.1**
	29nm,0.3s,baz=278,slow=22,SNR=98						
ROSC				S	**Sn**	**10 14 15.2**	**-0.7**
	47nm,0.3s,baz=84,slow=22,SNR=16						
VIGV	**El Vigia**	**2.52**	**40**	⇑*i*P	**Pn**	**10 13 46.9**	**+1.1**
VIGV				*e*S	**Sn**	**10 14 16.4**	**-1.8**
SOCV	**Socops**	**2.54**	**57**	⇑*e*P	**Pn**	**10 13 47.2**	**+1.2**
SOCV				*e*S	**Sn**	**10 14 18.7**	**+0.2**
SDV	**Santo Domingo**	**3.07**	**50**	P	**Pn**	**10 13 54.0**	**+1.4**
	16nm,0.3s,baz=247,slow=4.4,SNR=148						
SDV				S	**Sn**	**10 14 31.6**	**+1.3**
	23nm,0.3s,baz=82,slow=22,SNR=27						
ELOV	**Elorza**	**3.51**	**88**	*e*P	**Pn**	**10 13 58.5**	**+0.3**
ELOV				*e*S	**Sn**	**10 14 39.3**	**-0.8**
VIRV	**Villa del Rosa**	**3.62**	**9**	⇑*e*P	**Pn**	**10 13 59.2**	**-0.5**
VIRV				*e*S	**Sn**	**10 14 39.5**	**-3.4**
QARV	**Quebrada Arrib**	**4.10**	**37**	⇑*e*P	**Pn**	**10 14 06.7**	**+0.9**
QARV				*e*S	**Sn**	**10 14 51.7**	**-2.3**
SANV	**Sanarito**	**4.30**	**53**	*e*P	**Pn**	**10 14 08.8**	**+0.4**
CURV	**Curarigua**	**4.32**	**44**	⇑*e*P	**Pn**	**10 14 09.1**	**+0.5**
DABV	**Dabajuro**	**4.63**	**30**	*e*P	**Pn**	**10 14 13.1**	**+0.4**
TEPV	**Terepaima**	**4.85**	**51**	⇓*i*P	**Pn**	**10 14 16.2**	**+0.6**
SIQV	**Siquisique**	**4.89**	**40**	*e*P	**Pn**	**10 14 15.9**	**-0.1**
BAUV	**El Baul**	**5.33**	**67**	*e*P	**Pn**	**10 14 21.3**	**-0.6**
TURV	**Turiamo**	**6.21**	**55**	*e*P	**Pn**	**10 14 33.7**	**+0.2**
CAOV	**Caicara del Or**	**6.65**	**86**	*e*P	**Pn**	**10 14 38.5**	**-1.0**
CUPV	**Cœpira**	**7.80**	**66**	*e*P	**Pn**	**10 14 53.9**	**-0.9**
YKA	**Yellowknife Ar**	**63.22**	**340**	P	**P**	**10 23 14.7**	**-0.4**
	0.1nm,0.5s,baz=128,slow=6.4,SNR=5.4						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	PKPbc	10 32 32.8	-2.0
	0.6nm,0.5s,baz=114,slow=3.3,SNR=12						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	10 32 35.8	-1.9
	0.5nm,0.4s,baz=108,slow=2.5,SNR=27						

IDC 01 10:14:29.6±4.2,376S×14212E,h0km,mb3.5/3,mb1 3.9/4, mb1mx3.7/14,mbtmp3.7/4,ML4.2/1,Error ellipse: s-maj=127.5km s-min=30.2km az=97.0,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.78**	**205**	P	Pn	10 18 38.6	-0.1
	0.9nm,0.3s,baz=23,slow=12,SNR=56						
ASAR	**Alice Springs**	**21.32**	**201**	P	P	10 19 18.3	+0.1
	1.4nm,0.6s,baz=31,slow=10,SNR=29						
FITZ	**Fitzroy Crossi**	**21.53**	**227**	P	P	10 19 20.5	0.0
	1.1nm,0.8s,baz=72,slow=16,SNR=3.3						
MKAR	**Makanchi Array**	**72.71**	**322**	P	P	10 25 59.6	+0.2
	0.1nm,0.3s,baz=111,slow=7.8,SNR=5.0						

*TEH **01** 10:18:12.7,2752N×5654E,h12km,ML3.7*
*CSEM **01** 10:18:49.7±0.1,2763N×5616E,h16km,ML3.8/3,Error ellipse: s-maj=4.2km s-min=2.5km az=73.0*
*THR **01** 10:18:49.4±0.3,2760N×5632E,h14km±3km,ML3.5*
*ISCJB **01** 10:18:51.0±0.8,2746N±003×5602E±006,h14km±7km, Error ellipse: s-maj=9.4km s-min=5.7km az=175.8*

ISC 01 10:18:52.0±0.8,2744N±003×5621E±006,h17km±5km,n29, σ1°04/36,2C,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.05**	**218**	*e*Pg	**Pg**	**10 18 54.8**	**-0.3**
BNDS				AML	AML	10 19 04.2	
	comp=N,7μm,0.4s						
BANOM	**Banah**	**1.51**	**177**	P	**Pn**	**10 19 17.4**	**-0.9**
	SNR=134						
BANOM				⇑S	**Sn**	**10 19 39.4**	**+1.8**
BANOM	**Banah**	**1.51**	**177**	Pn	**Pn**	**10 19 17.5**	**-0.8**
	SNR=11						
BANOM				Sn	**Sn**	**10 19 38.3**	**+0.7**
BANOM				S	**Sn**	**10 19 39.4**	**+1.8**
KRBR	**Kerman**	**2.58**	**11**	*e*Pn	**Pn**	**10 19 30.7**	**-2.3**
KRBR				*e*Sg	**Sn**	**10 20 05.1**	**+1.2**
KRBR				AML	AML	10 20 10.3	
	comp=N,264nm,0.5s						
KRBR	**Kerman**	**2.58**	**11**	*e*Pn	**Pn**	**10 19 30.7**	**-2.3**
	SNR=52						
KRBR				*e*Sg	**Sn**	**10 20 05.1**	**+1.1**
	SNR=90						
HATD	**Hatta, Dubai**	**2.60**	**181**	⇑P	**Pn**	**10 19 34.9**	**+1.6**
HATD	**Hatta, Dubai**	**2.60**	**181**	Pn	**Pn**	**10 19 33.7**	**+0.4**
HATD	**Hatta, Dubai**	**2.60**	**181**	P	**Pn**	**10 19 34.9**	**+1.6**
ASHO	**Ashiyiah**	**2.75**	**183**	P	**Pn**	**10 19 35.2**	**0.0**
	SNR=10						
ASHO	**Ashiyiah**	**2.75**	**183**	Pn	**Pn**	**10 19 34.9**	**-0.4**
	SNR=10						
ASHO	**Ashiyiah**	**2.75**	**183**	P	**Pn**	**10 19 35.2**	**-0.1**
	SNR=10						
ASUD	**Al Ashush, Dub**	**2.91**	**196**	P	**Pn**	**10 19 38.7**	**+1.2**
	SNR=21						
ISRV	**Sarvestan**	**3.34**	**306**	*e*	**Sg**	**10 20 57.8**	**+18**
	comp=Z,812nm,0.2s						
IMOK	**Mouk**	**3.47**	**298**	*e*Pn	**Pn**	**10 19 46.6**	**+1.4**
IMOK				*e*		10 21 13.0	
	comp=Z,1μm,0.4s						
IPAR	**Pars**	**3.67**	**312**	*e*Pn	**Pn**	**10 19 49.1**	**+1.2**
IPAR				*e*Sg	**Sg**	**10 20 49.7**	**0.0**
IPAR				*e*		10 20 59.3	
	comp=Z,853nm,0.4s						
IPAR	**Pars**	**3.67**	**312**	*e*Pn	**Pn**	**10 19 49.1**	**+1.2**
IPAR				*e*Sg	**Sg**	**10 20 49.7**	**0.0**
IBAF	**Bafgh**	**4.17**	**352**	*e*	**Pg**	**10 20 13.6**	**+1.7**
	comp=Z,412nm,0.2s						
IMEH	**Mehriz**	**4.17**	**341**	*e*	**Pn**	**10 19 55.8**	**+0.8**
	comp=Z,649nm,0.2s						
ZHSF	**Zahedan**	**4.56**	**61**	*e*Pn	**Pn**	**10 19 58.0**	**-2.3**
SLWS		**5.65**	**243**	P	**Pn**	**10 20 15.6**	**+0.4**
BTHS		**5.90**	**236**	P	**Pn**	**10 20 18.1**	**-0.5**
NASN	**Na'in**	**6.10**	**332**	*e*Pn	**Pn**	**10 20 20.4**	**-1.0**
QRN	**Al-Qurain**	**7.44**	**282**	*e*P	**Pn**	**10 20 39.6**	**-0.2**
HRDDS		**7.58**	**235**	S	**Sn**	**10 22 06.4**	**-0.9**
HRDDS		**7.58**	**235**	P	**Pn**	**10 20 41.3**	**-0.5**
UMR	**Umm Al-Rimmam**	**7.76**	**288**	*e*P	**Pn**	**10 20 43.4**	**-0.8**
UMR				AML	AML	10 22 12.5	
	comp=Z,15nm,0.4s						
RDF	**Al-Radifah**	**7.78**	**283**	*e*P	**Pn**	**10 20 44.3**	**-0.2**
RDF				AML	AML	10 22 14.0	
	comp=Z,25nm,0.4s						
NAY	**Al-Naaiem**	**8.10**	**285**	*e*P	**Pn**	**10 20 48.8**	**-0.1**
NAY				AML	AML	10 22 21.6	
	comp=Z,8.2nm,0.6s						
MIB	**Mutribah**	**8.14**	**289**	*e*P	**Pn**	**10 20 48.7**	**-0.7**
MIB				AML	AML	10 22 21.0	
	comp=Z,10nm,0.5s						

*ISCJB **01** 11:07:12.1±0.4,3930N±002×2177E±003,h11km±3km, Error ellipse: s-maj=3.3km s-min=2.9km az=2.2*
*ATH **01** 11:07:12.0,3928N×2178E,h23km,MD3.7/17,ML3.5*
*NEIC **01** 11:07:12.0,3928N×2178E,h24km,ML3.5(ATH),After ATH.*
*THE **01** 11:07:12.9,3934N×2172E,h7km,ML4.2*
*SKO **01** 11:07:12.9,3928N×2172E,h0km*
*CSEM **01** 11:07:13.2±0.1,3929N×2175E,h12km,ML4.2,Error ellipse: s-maj=1.4km s-min=1.2km az=93.0*
*SOF **01** 11:07:16.9,3944N×2226E,h20km,MD2.7*

ISC 01 11:07:12.8±0.4,3930N±002×2178E±003,h12km±3km,n61, σ1°27/81,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.32**	**35**	*e*Pg	**Pg**	**11 07 19.4**	**+0.1**
THL				*e*Sg	**Sg**	**11 07 25.3**	**+1.7**
THL	**Klokotos Trika**	**0.32**	**35**	*e*PB	**Pg**	**11 07 19.2**	**-0.1**
THL				*e*SB	**Sg**	**11 07 25.2**	**+1.6**
EVR	**Evrytania**	**0.39**	**177**	*e*PB	**Pg**	**11 07 19.4**	**-1.1**
EVR				*e*SB	**Sg**	**11 07 25.8**	**+0.1**
AGG	**Agios Georgios**	**0.51**	**123**	*e*Pg	**Pg**	**11 07 23.2**	**+0.4**
AGG				*e*Sg	**Sg**	**11 07 32.4**	**+2.7**
AGG	**Agios Georgios**	**0.51**	**123**	*e*Pg	**Pg**	**11 07 23.2**	**+0.3**
AGG				*e*Sg	**Sg**	**11 07 32.4**	**+2.7**
MEV	**Metsovon**	**0.64**	**319**	*e*Pg	**Pg**	**11 07 23.9**	**-1.4**
JAN	**Janina**	**0.80**	**296**	*e*PN	**Pn**	**11 07 27.6**	**-2.3**
LIT	**Litokhoron**	**0.97**	**34**	*e*Pg	**Pg**	**11 07 30.6**	**-0.9**
LIT				*e*Sg	**Sg**	**11 07 45.2**	**+1.1**
KZN	**Kozani**	**1.00**	**360**	*e*PN	**Pn**	**11 07 31.3**	**-1.4**
KZN				*e*SN	**Sn**	**11 07 46.5**	**-0.2**
LKD	**Levkas**	**1.06**	**236**	*e*Sg	**Sg**	**11 07 47.4**	**+0.3**
LKD				*e*Sg	**Sg**	**11 07 49.0**	**+1.9**
XOR	**Xorichti**	**1.10**	**86**	*e*Pg	**Pg**	**11 07 33.8**	**-0.2**
NEO	**Neokhori**	**1.12**	**89**	*e*PN	**Pn**	**11 07 33.6**	**-0.7**
NEO				*e*SN	**Sn**	**11 07 48.8**	**-0.8**
IGT	**Igoumenitsa**	**1.14**	**282**	*e*Pg	**Pg**	**11 07 32.7**	**-2.1**
IGT				*e*Sg	**Sg**	**11 07 49.4**	**-0.3**
LKR	**Lokris**	**1.15**	**124**	*e*Pg	**Pg**	**11 07 35.2**	**+0.2**
LKR	**Lokris**	**1.15**	**124**	*e*PN	**Pn**	**11 07 34.5**	**-0.3**
LKR				*e*SN	**Sn**	**11 07 48.9**	**-1.5**
LKR	**Lokris**	**1.15**	**124**	*e*Pg	**Pg**	**11 07 35.2**	**+0.2**
LKR				*e*Sn	**Sn**	**11 07 48.9**	**-1.5**
RLS	**Riolos of Patr**	**1.27**	**191**	*e*PN	**Pn**	**11 07 35.7**	**-0.6**
RLS				*e*SN	**Sn**	**11 07 53.9**	**+0.6**
KFL	**Anninata**	**1.42**	**213**	*e*Pg	**Pg**	**11 07 39.5**	**-0.7**
VLS	**Valsamata**	**1.46**	**220**	*e*PN	**Pn**	**11 07 38.9**	**-0.1**
SRN	**Sarande**	**1.49**	**293**	*i* PN	**Pn**	**11 07 41.7**	**+2.3**
FNA	**Florina**	**1.51**	**348**	*e*Pg	**Pg**	**11 07 39.8**	**-2.1**
KBN	**Korca**	**1.52**	**330**	*i* PN	**Pn**	**11 07 45.3**	**+5.4**
LTK	**Loutraki**	**1.58**	**144**	*e*Pb	**Pb**	**11 07 41.8**	**-0.1**
KEK	**Kerkira**	**1.59**	**286**	*e*PN	**Pn**	**11 07 41.0**	**+0.3**
KEK				*e*SN	**Sn**	**11 08 01.5**	**+0.4**
HORT	**Hortiatis**	**1.64**	**38**	*e*Pb	**Pb**	**11 07 41.0**	**-2.1**
PLG	**Polygyros**	**1.67**	**50**	*e*Pb	**Pb**	**11 07 41.5**	**-2.0**
PLG	**Polygyros**	**1.67**	**50**	*e*PB	**Pb**	**11 07 40.9**	**-2.6**
GRG	**Griva**	**1.72**	**16**	*e*Pb	**Pb**	**11 07 41.9**	**-2.4**
BIA	**Bitola**	**1.75**	**349**	*e*Pn	**Pn**	**11 07 44.9**	**+2.0**
BIA				*e*Sg	**Sg**	**11 08 09.5**	**+0.4**
SOH	**Sokhos**	**1.94**	**38**	*e*Pb	**Pb**	**11 07 45.9**	**-2.2**
OHR	**Ohrid**	**1.96**	**338**	*e*Pn	**Pn**	**11 07 48.1**	**+2.3**
OHR				*e*Sg	**Sg**	**11 08 15.3**	**-0.4**
OHR	**Ohrid**	**1.96**	**338**	*e*Pn	**Pn**	**11 07 48.0**	**+2.2**
OHR				*e*Sg	**Sg**	**11 08 15.3**	**-0.4**
OUR	**Ouranopolis**	**1.98**	**58**	*e*Pn	**Pn**	**11 07 46.5**	**+0.3**
ATH	**Athens Observa**	**2.02**	**131**	*e*PN	**Pn**	**11 07 47.1**	**+0.5**
ATH				*e*SN	**Sn**	**11 08 11.1**	**-0.7**
KNT	**Kendrikon**	**2.04**	**24**	*e*Pn	**Pn**	**11 07 47.2**	**+0.2**
NAIG	**Nisos Aigina**	**2.04**	**138**	*e*PN	**Pn**	**11 07 48.0**	**+1.0**
NAIG	**Nisos Aigina**	**2.04**	**138**	*e*Pn	**Pn**	**11 07 48.5**	**+1.5**
PTL	**Penteli**	**2.06**	**127**	*e*PB	**Pb**	**11 07 47.5**	**-2.6**
VAY	**Valandovo**	**2.10**	**16**	*e*Pn	**Pn**	**11 07 50.1**	**+2.2**
VAY	**Valandovo**	**2.10**	**16**	*e*Pn	**Pn**	**11 07 50.0**	**+2.2**
ITM	**Ithomi**	**2.12**	**177**	*e*PN	**Pn**	**11 07 48.5**	**+0.4**
ITM				*e*SN	**Sn**	**11 08 13.4**	**-1.0**
DID	**Didima**	**2.13**	**147**	*e*Pn	**Pn**	**11 07 49.0**	**+0.8**
SRS	**Serrai**	**2.28**	**37**	*e*Pn	**Pn**	**11 07 50.1**	**-0.2**
TIR	**Tirane**	**2.51**	**325**	*i* PN	**Pn**	**11 07 57.5**	**+4.1**
NVR	**Nevrokopi**	**2.59**	**37**	*e*PN	**Pn**	**11 07 55.6**	**+1.1**
NVR				*e*SN	**Sn**	**11 08 26.5**	**+0.6**
QSH	**Qafa e Shtames**	**2.64**	**328**	*i* PN	**Pg**	**11 08 07.0**	**+3.6**
MMB	**Musomiste**	**2.73**	**32**	*e*P	**Pn**	**11 07 56.5**	**+0.1**
VLI	**Veliai**	**2.74**	**160**	*e*PN	**Pn**	**11 07 56.9**	**+0.3**
KKB	**Krupnik**	**2.75**	**21**	*e*P	**Pn**	**11 07 58.0**	**+1.3**
PUK	**Puka**	**3.09**	**333**	*i* PN	**Pg**	**11 08 13.0**	**+1.0**
RZN	**Rozhen**	**3.27**	**42**	*e*P	**Pn**	**11 08 04.2**	**+0.4**
VTS	**Vitosha**	**3.46**	**18**	*e*Pg	**Pg**	**11 08 22.0**	**+2.9**
APE	**Apeiranthos**	**3.70**	**126**	*e*Pn	**Pn**	**11 08 11.0**	**+1.2**
APE	**Apeiranthos**	**3.70**	**126**	*e*Pn	**Pn**	**11 08 10.8**	**+1.0**
TIP	**Timpagrande**	**3.90**	**270**	P	**Pn**	**11 08 13.7**	**+1.2**
SG1	**Sgolgore (BA)**	**4.20**	**293**	*e*Pn	**Pn**	**11 08 17.7**	**+1.0**
SMG	**Samos**	**4.28**	**110**	P	**Pn**	**11 08 20.0**	**+2.3**
PSZ	**Piszkesteto**	**8.72**	**352**	*e*Pn	**Pn**	**11 09 16.6**	**-2.0**
	4.7nm,0.7s						
KECS	**Kecovo**	**9.22**	**355**	*e*PN	**Pn**	**11 09 25.2**	**-0.4**
VYHS	**Vyhne**	**9.43**	**348**	*e*PN	**Pn**	**11 09 26.6**	**-1.8**
VYHS	**Vyhne**	**9.43**	**348**	*e*Pn	**Pn**	**11 09 26.7**	**-1.7**

*NEIC **01** 11:12:08.4,2844S×6759W,h100km,MG4.0(GUC),After GUC.*

GUC 01 11:12:08.4±0.8,2844S×6759W,h100km,ML4.0,3C,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.67**	**293**	*e*P	Pn	11 12 50.8	+1.0
CPCH				*i* S	Sn	11 13 22.0	+0.4
CPCH	**Copiapo**	**2.67**	**293**	*e*P	Pn	11 12 50.8	+1.0
CPCH				*i* S	Sn	11 13 22.0	+0.4
CPCH				AML	AML	11 13 22.6	
	comp=E,794nm,0.1s						
LCO	**Las Campanas**	**2.79**	**257**	*e*Pn	Pn	11 12 52.7	+1.3
LCO				*e*Sn	Sn	11 13 26.1	+1.7
VACH	**Vallenar**	**2.79**	**266**	⇑*i*P	Pn	11 12 52.2	+0.8
VACH				*i* S	Sn	11 13 24.8	+0.3
TLL	**Tololo Astrono**	**3.30**	**238**	⇑*i*P	Pn	11 12 59.0	+0.9
TLL				*i* S	Sn	11 13 38.1	+1.6
TLL	**Tololo Astrono**	**3.30**	**238**	⇑*i*P	Pn	11 12 59.0	+0.9
TLL				*i* S	Sn	11 13 38.1	+1.6
TLL				AML	AML	11 13 40.0	
	comp=E,157nm,0.6s						
CMCH	**Combarbala**	**4.03**	**227**	*e*P	Pn	11 13 07.2	-0.8
CMCH				*i* S	Sn	11 13 53.4	-0.7

*NIED **01** 11:12:00,3400N×14100E,h74km,Mw4.5 Best double couple: M0:5.36000×10^15 NP1:φ0=195.00000°,δ71.00000°, λ-57.00000°. NP2:φ0=312.00000°,δ37.00000°, λ-147.00000°.*
*NEIC **01** 11:12:33.5,3404N×14096E,h84km,mb4.5/21, MW4.4(NIED),After JMA.*
NEIC Recorded [1 JMA] in Chiba, Kanagawa, Shizuoka and Tokyo Prefectures.
*MOS **01** 11:12:33.5±0.9,3392N×14074E,h89km,mb4.5/22,Error ellipse: s-maj=12.6

comp=Z,200nm,11.8s
YHNB Yeheng 19.34 246 P **Pn 11 16 50.3 -5.2**
BJI Beijing 20.59 294 P **P 11 17 04.5 -2.6**
BJI LR LR
comp=Z,92nm,22.2s
WHN Wuhan 22.66 269 *e*P **P 11 17 26.5 -2.8**
HHC Hu-ho-hao-te 24.19 295 *e*P **P 11 17 42.7 -0.8**
HHC PP 11 18 17.2
HHC PCP PcP 11 21 25.6 +3.5
HHC AMB AMB
comp=Z,43nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,161nm,6.1s
HHC LR LR
comp=N,253nm,14.2s
HHC LR LR
comp=E,811nm,18.6s
HHC LR LR
comp=Z,194nm,13.7s
MA2 Magadan 26.43 11 *e*P **P 11 18 00.6 -2.9**
MA2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
MA2 Magadan 26.43 11 *e*P **P 11 18 02.7 -0.8**
XAN Xi'an 26.43 279 P **P 11 18 02.6 -1.3**
XAN AMB AMB
comp=Z,10.0nm,1.0s,mb4.2
ULN Ulaanbaatar 28.82 309 *e*P **P 11 18 26.8 +1.8**
ULN pmax pmax
comp=Z,15nm,1.1s,mb4.5
ULN Ulaanbaatar 28.82 309 *e*P **P 11 18 26.8 +1.8**
comp=Z,15nm,1.1s,mb4.5
YAK Yakutsk 28.96 349 *i* P **P 11 18 29.6 +3.5**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.5
SONM Songino Array 29.23 309 P **P 11 18 30.0 +1.3**
comp=Z,2.7nm,0.6s,mb4.1,baz=105,slow=9.5,SNR=17
BOD Bodaibo 29.93 331 *e*P **P 11 18 33.6 -1.1**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.2
GYA Guiyang 30.39 265 P **P 11 18 38.2 -1.0**
GYA PP PP 11 19 38.4 -11
GYA PCP PcP 11 21 39.4 +2.2
GYA S **S 11 23 36.7 +2.7**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 Chengdu 31.36 275⇓ *i*P **P 11 18 46.2 -1.5**
CD2 PP PP 11 19 49.2 -11
CD2 S **S 11 23 50.2 +1.1**
CD2 SS SS 11 25 36.2 -30
CD2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,180nm,12.0s
CD2 LR LR
comp=Z,120nm,16.8s
ZAK Zakamensk 31.91 312 *e*P **P 11 18 52.6 +0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb4.0
TLY Talaya 32.08 315⇑ *e*P **P 11 18 54.7 +1.0**
TLY pmax pmax
comp=Z,1.0nm,1.3s
TLY Talaya 32.08 315 *e*P **P 11 18 54.8 +1.1**
GTA Gaotai 33.15 291 *e*P **P 11 19 02.6 -0.7**
GTA PCP PcP 11 21 45.7 +1.2
GTA S **S 11 24 20.2 +3.4**
GTA PCS PcS 11 25 30.6 +0.6
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.3
GTA AMB AMB
comp=Z,29nm,6.5s
GTA LR LR
comp=N,68nm,8.8s
GTA LR LR
comp=E,62nm,7.3s
GTA LR LR
comp=Z,65nm,9.2s
BILL Bilibino 37.08 16 *i* P **P 11 19 29.7 -6.9**
BILL pmax pmax
comp=Z,3μm,1.3s
TIXI Tiksi 38.27 354 *i* P **P 11 19 47.0 +0.4**
TIXI pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
CHTO Chiang Mai 40.19 259 *e*P **P 11 20 01.7 -1.5**
WMQ Urumqi 41.90 300 P **P 11 20 18.0 +1.0**
WMQ PP PP 11 21 58.0 +2.8
WMQ AMB AMB
comp=Z,28nm,1.0s,mb5.0
WMQ LR LR
comp=N,65nm,15.0s
WMQ LR LR
comp=E,84nm,15.0s
WMQ LR LR
comp=Z,45nm,12.0s
LSA Lhasa 42.13 278 P **P 11 20 16.8 -2.2**
ZALV Zalesovo Beam 43.69 315 P **P 11 20 31.4 +0.1**
ZALV LR LR 11 41 37.2
ZALV Zalesovo Beam 43.69 315 P **P 11 20 31.4 +0.1**
comp=Z,5.3nm,0.4s,mb4.6,baz=115,slow=8.7,SNR=13
ZALV LR LR 11 41 37.2
comp=Z,12nm,18.1s,baz=132,slow=40
ZAL Zalesovo 43.71 315 P **P 11 20 31.4 0.0**
NVS Novosibirsk 44.67 316 *e*P **P 11 20 38.7 -0.5**
NVS pmax pmax
comp=N,2.0nm,0.5s
NVS pmax pmax
comp=E,5.0nm,0.5s
NVS pmax pmax
comp=Z,6.0nm,0.5s,mb4.6
MK31 Makanchi Array 45.42 305 *i* P **P 11 20 45.4 +0.2**
MK31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.6
MK31 Makanchi Array 45.42 305 *e*P **P 11 20 45.3 +0.1**
MKAR Makanchi Array 45.42 305 P **P 11 20 45.3 +0.1**
MKAR ScP ScP 11 26 07.5 -1.1
MKAR Makanchi Array 45.42 305 P **P 11 20 45.3 +0.1**
comp=Z,5.3nm,0.4s,mb4.6,baz=86,slow=9.5,SNR=56
MKAR ScP ScP 11 26 07.5 -1.1
comp=Z,0.3nm,0.4s,baz=76,slow=5.1,SNR=4.7
HNR Honiara 46.82 154 LR LR 11 38 00.6
comp=Z,53nm,18.2s,baz=0.8,slow=33
JIRN Jiri 46.92 278 *e*P **P 11 20 57.3 +0.1**
comp=Z,63nm,0.4s
GUN Gumba 47.08 278 *e*P **P 11 20 58.7 +0.2**
comp=Z,32nm,0.4s,mb5.4
KAKA Kakadu 47.12 191 *e*P **P 11 20 58.2 -0.6**
comp=Z,14nm,0.6s,mb4.9
KURK Kurchatov 47.51 310 *c i*P **P 11 21 00.8 -0.7**
KURK Kurchatov 47.51 310 *e*P **P 11 21 00.9 -0.6**
comp=Z,12nm,0.7s,mb4.8
PKIN Phulchoki 47.60 278 *e*P **P 11 21 01.5 -1.1**
KKN Kakani 47.62 278 *e*P **P 11 21 02.2 -0.5**
comp=Z,20nm,0.5s,mb5.2
DMN Daman 47.83 278 *e*P **P 11 21 03.6 -0.7**
comp=Z,9.9nm,0.5s,mb4.9
GKN Gorkha 48.07 279 *e*P **P 11 21 05.6 -0.6**
comp=Z,21nm,0.3s,mb5.4
DANN Dangsing 48.66 280 *e*P **P 11 21 10.8 +0.1**
comp=Z,81nm,0.5s
KOLN Koldanda 49.01 279 *e*P **P 11 21 13.0 -0.4**
comp=Z,18nm,0.5s,mb5.3
TKM2 Tokmak 2 50.74 300 P **P 11 21 26.9 +0.6**
SNR=18
KZA Kyzart 51.19 300 P **P 11 21 31.3 +1.7**
SNR=9.6
KBK Karagaybulak 51.27 300 P **P 11 21 31.2 +1.0**
SNR=7.7
USP Ospenovka 51.45 301 P **P 11 21 31.8 +0.2**
SNR=8.5
AAK Ala-Archa 51.60 300 *c i*P **P 11 21 32.2 -0.5**
AAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
AAK Ala-Archa 51.60 300 *e*P **P 11 21 32.3 -0.4**
AAK Ala-Archa 51.60 300 P **P 11 21 30.9 -1.8**
comp=Z,2.2nm,0.3s,mb4.6,baz=102,slow=5.5,SNR=9.3
UCH Uchtor 51.68 300 *e*P **P 11 21 34.7 +1.4**
comp=Z,6.3nm,1.1s,mb4.6
AML Almayashu 52.30 300 *e*P **P 11 21 39.1 +1.2**
comp=Z,122nm,0.6s
AML Almayashu 52.30 300 P **P 11 21 39.2 +1.3**
SNR=7.2
BVAR Borovoye Array 52.33 314 P **P 11 21 37.8 -0.2**
comp=Z,0.9nm,0.3s,mb4.3,baz=92,slow=7.4,SNR=16
BRVK Borovoye 52.39 314 *e*P **P 11 21 38.6 +0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
BRVK Borovoye 52.39 314 *e*P **P 11 21 38.6 +0.2**
comp=Z,2.6nm,0.5s,mb4.5
FITZ Fitzroy Crossi 53.79 198 *e*P **P 11 21 48.9 -0.1**
comp=Z,4.9nm,0.5s,mb4.8
WRAB Tennant Creek 53.97 188 *e*P **P 11 21 49.7 -0.6**
WB2 Warramunga Arr 53.98 188 *e*P **P 11 21 49.7 -0.6**
WRA Warramunga Arr 53.98 188 P **P 11 21 49.7 -0.7**
comp=Z,6.8nm,0.3s,mb5.1,baz=4.0,slow=7.4,SNR=508
WRA ScP ScP 11 26 43.6 -1.7
comp=Z,0.7nm,0.7s,baz=358,slow=4.3,SNR=6.8
CTA Charters Tower 54.01 174 *e*P **P 11 21 50.2 -0.4**
comp=Z,2.8nm,0.6s,mb4.5
CTA Charters Tower 54.01 174 *e*P **P 11 21 50.2 -0.4**
CTA pmax pmax
comp=Z,3.0nm,0.6s
CTAO Charters Tower 54.01 174 *e*P **P 11 21 50.4 -0.2**
CTAO pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
CTAO Charters Tower 54.01 174 *e*P **P 11 21 50.4 -0.2**
comp=Z,3.2nm,0.5s,mb4.6
KK31 Karatay Array 54.31 302 *i* P **P 11 21 52.9 +0.2**
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
INK Inuvik 57.31 26 *e*P **P 11 22 13.6 0.0**
comp=Z,41nm,0.3s
INK Inuvik 57.31 26 P **P 11 22 13.6 -0.1**
comp=Z,1.2nm,0.5s,mb4.2,baz=277,slow=8.7,SNR=13
ASAR Alice Springs 57.71 188 P **P 11 22 16.6 -0.3**
comp=Z,1.8nm,0.4s,mb4.5,baz=2.3,slow=6.8,SNR=52
ARU Arti 58.37 320 *c i*P **P 11 22 20.7 -0.6**
ARU *e*S **S 11 30 21.2 +3.6**
ARU *e*SS SS 11 34 05.8 -4.5
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ARU Arti 58.37 320 *e*P **P 11 22 20.9 -0.4**
comp=Z,6.5nm,0.7s,mb4.8
MBWA Marble Bar 58.41 203 *e*P **P 11 22 21.7 -0.2**
comp=Z,6.0nm,0.5s,mb4.9
STKA Stephens Creek 65.51 179 *e*P **P 11 23 12.5 +3.2**
comp=Z,3.6nm,0.9s,mb4.2
STKA Stephens Creek 65.51 179 P **P 11 23 08.5 -0.7**
STKA Stephens Creek 65.51 179 P **P 11 23 08.5 -0.7**
comp=Z,3.1nm,0.8s,mb4.2,baz=177,slow=20,SNR=2.9
RES Resolute Bay 65.66 14 *e*P **P 11 23 09.5 -0.4**
comp=Z,104nm,0.9s
KEV Kevo 66.14 340 *e*p **P 11 23 11.1 -1.8**
comp=Z,4.6nm,0.9s,mb4.3
KEV Kevo 66.14 340 *e*P **P 11 23 11.1 -1.8**
KEV pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
YKA Yellowknife Ar 66.67 29 P **P 11 23 15.7 -0.7**
YKA *PP pP 11 23 39.7 +2.4
YKA Yellowknife Ar 66.67 29 P **P 11 23 15.7 -0.7**
comp=Z,0.5nm,0.6s,mb3.5,baz=303,slow=6.3,SNR=10.0
YKA pP pP 11 23 39.7 +2.4
comp=Z,0.8nm,0.9s,baz=291,slow=5.9,SNR=5.0
ARCES ARCESS Array B 66.70 340 P **P 11 23 15.7 -0.8**
comp=Z,3.4nm,1.1s,mb4.1,baz=47,slow=7.9,SNR=3.4
JOF Joensuu 68.45 332 *e*p **P 11 23 23.1 -4.5**
comp=Z,1.0nm,0.4s,mb4.0
OBN Obninsk 70.28 324 *e*P **P 11 23 36.6 -2.5**
OBN *e* pP 11 23 55.2 -4.9
OBN *e* 11 26 16.3
OBN pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
OBN MLR MLR
comp=Z,100nm,18.0s
FINES FINESS Array B 71.31 333 *i* P **P 11 23 44.4 -0.8**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 71.31 333 P **P 11 23 44.6 -0.6**
comp=Z,2.0nm,0.9s,mb4.0,baz=60,slow=7.7,SNR=5.9
FINES pP pP 11 24 07.2 +0.9
comp=Z,0.9nm,0.4s,baz=81,slow=6.1,SNR=3.3
EDM Edmonton 72.02 37 *e*P **P 11 23 49.3 -0.3**
KIV Kislovodsk 72.58 311⇑ *e*P **P 11 23 54.3 +1.2**
KIV Kislovodsk 72.58 311 *e*P **P 11 23 50.9 -2.3**
NEW Newport 72.64 43 *e*P **P 11 23 53.9 +0.5**
NEW pmax pmax
comp=Z,2.0nm,0.6s
NEW Newport 72.64 43 *e*P **P 11 23 53.9 +0.6**
comp=Z,1.6nm,0.6s,mb4.0
NEW Newport 72.64 43 P **P 11 23 51.7 -1.6**
comp=Z,1.2nm,0.6s,mb3.9,baz=317,slow=5.1,SNR=4.3
WALA Waterton Lakes 74.00 41 *e*P **P 11 24 01.9 +0.5**
comp=Z,1.8nm,0.6s,mb4.0
BMO Blue Mountains 74.34 46 *e*P **P 11 24 04.1 +0.7**
ANN Anapa 75.33 314 *e*P **P 11 24 05.1 -4.0**
ANN *e* 11 24 18.3
ANN *e* 11 26 53.8
ANN *e*S S 11 33 42.8 +0.6
ANN pmax pmax
comp=Z,41nm,1.0s,mb5.1
CMB Columbia Colle 76.02 54 *e*P **P 11 24 13.3 +0.1**
AKASG Malin Array Be 76.44 323 *i* P **P 11 24 14.3 -1.0**
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG Malin Array Be 76.44 323 P **P 11 24 14.4 -0.9**
comp=Z,0.6nm,0.3s,mb3.8,baz=47,slow=5.5,SNR=8.0
AKASG pP pP 11 24 38.0 +1.4
comp=Z,2.7nm,0.5s,baz=48,slow=6.0,SNR=6.8
AKASG LR LR 12 00 57.3
comp=Z,25nm,21.1s,baz=240,slow=38
HRY Holter Researc 76.49 43 *e*P **P 11 24 16.7 +1.0**
FFC Flin Flon 76.52 32 *e*P **P 11 24 15.1 -0.6**
FFC pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
FFC Flin Flon 76.52 32 *e*P **P 11 24 15.1 -0.5**
comp=Z,3.4nm,0.8s,mb4.1
LRM Limekiln Ridge 76.65 44 *e*P **P 11 24 17.5 +0.9**
NB2 NORSAR Subarra 76.83 337 P **P 11 24 16.5 -0.8**
comp=Z,0.8nm,0.8s,mb3.5,baz=40,slow=6.2
NOA NORSAR Array B 76.83 337 P **P 11 24 16.7 -0.6**
NOA *PP pP 11 24 40.3 +1.7
NOA NORSAR Array B 76.83 337 P **P 11 24 16.7 -0.6**
comp=Z,0.8nm,0.7s,mb3.6,baz=39,slow=5.7,SNR=5.1
NOA pP pP 11 24 40.2 +1.6
comp=Z,2.6nm,0.8s,baz=40,slow=5.7,SNR=6.4
NOA LR LR 12 00 57.2
comp=Z,17nm,18.8s,baz=45,slow=38
DLMT Dillon 76.83 44 *e*P **P 11 24 18.6 +1.0**
comp=Z,3.4nm,0.6s,mb4.2
NVAR Mina Array Bea 77.19 52 P **P 11 24 20.2 +0.4**
NVAR pP pP 11 24 44.5 +3.4
NVAR Mina Array Bea 77.19 52 P **P 11 24 20.2 +0.4**
comp=Z,1.6nm,0.9s,mb3.8,baz=291,slow=3.9,SNR=10
NVAR pP pP 11 24 44.5 +3.4
comp=Z,1.5nm,0.8s,baz=279,slow=8.4,SNR=5.6
BOZ Bozeman (W) 77.22 43 *e*P **P 11 24 20.7 +0.9**
MALT Malatya 78.31 308 *e*P **P 11 24 26.2 +0.2**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
MALT Malatya 78.31 308 *e*P **P 11 24 26.2 +0.2**
comp=Z,3.1nm,0.8s,mb4.1
IMW Indian Meadow 78.65 44 *e*P **P 11 24 29.5 +1.8**
comp=Z,4.1nm,0.9s,mb4.3
HVU Hansel Valley 78.80 47 *e*P **P 11 24 29.8 +1.2**
HVU pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
HVU Hansel Valley 78.80 47 *e*P **P 11 24 29.8 +1.2**
comp=Z,5.6nm,0.7s,mb4.5
TPNV Topopah Spring 79.36 53 *e*P **P 11 24 32.4 +0.6**
TPNV pmax pmax
comp=Z,12nm,1.6s,mb4.5
TPNV Topopah Spring 79.36 53 *e*P **P 11 24 32.4 +0.5**
comp=Z,12nm,1.6s,mb4.5
HWUT Hardware Ranch 79.63 47 *e*P **P 11 24 34.4 +1.2**
DUG Dugway 79.70 48 *e*P **P 11 24 34.6 +1.0**
DUG pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
DUG Dugway 79.70 48 *e*P **P 11 24 34.6 +1.0**
comp=Z,3.9nm,0.6s,mb4.4
BW06 Boulder Array 80.13 45 *e*P **P 11 24 35.9 0.0**
MSU Marysvale 81.09 49 *e*P **P 11 24 42.5 +1.4**
PFO Pinyon Flat Ob 81.12 55 *e*P **P 11 24 41.6 +0.3**
PFO pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
PFO Pinyon Flat Ob 81.12 55 *e*P **P 11 24 41.6 +0.3**
comp=Z,3.9nm,0.8s,mb4.3
SRU San Rafael 81.76 48 *e*P **P 11 24 45.4 +0.8**
GLA Glamis 82.55 55 *e*P **P 11 24 49.4 +0.5**
PV10 Paradox Valley 83.13 48 *e*P **P 11 24 52.9 +1.2**
PV01 Paradox Valley 83.57 48 *e*P **P 11 24 54.8 +0.8**
GERES GERESS Array B 85.07 328 P **P 11 24 59.8 -1.5**
GERES *PP pP 11 25 24.5 +1.5
GERES GERESS Array B 85.07 328 P **P 11 24 59.8 -1.5**
comp=Z,0.6nm,0.7s,mb3.6,baz=40,slow=4.4,SNR=4.8
GERES pP pP 11 25 24.5 +1.5
comp=Z,0.8nm,0.6s,baz=38,slow=5.0,SNR=4.7
GERES LR LR 12 07 55.4
comp=Z,40nm,18.2s,baz=72,slow=39
SDCO Great Sand Dun 85.69 47 *e*P **P 11 25 04.6 -0.1**
TXAR Lajitas Array 92.34 52 P **P 11 25 36.6 +0.3**
comp=Z,0.9nm,0.5s,mb4.3,baz=304,slow=3.2,SNR=32
QSPA South Pole Qui 123.73 180 PKP PKPdf 11 31 20.7 -1.0
comp=Z,1.4nm,0.7s,baz=272,slow=1.9,SNR=11
LPAZ La Paz 148.54 63 *e*PKPdf PKPdf 11 32 08.0 -1.0
LPAZ PKPbc PKPbc 11 32 13.1 +0.4
LPAZ *e*PKPbc PKPbc 11 32 13.6 +0.9
LPAZ *e*PKPab PKPab 11 32 14.8 -1.5
LPAZ La Paz 148.54 63 PKPbc PKPbc 11 32 13.1 +0.4
comp=Z,2.5nm,0.7s,baz=346,slow=4.0,SNR=17
USHA Ushuaia 150.81 145 PKPbc PKPbc 11 32 17.2 +0.1
comp=Z,7.5nm,0.8s,baz=244,slow=2.7,SNR=8.9

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*ISCJB **01** 11:14:43.6±0.5,3853N±003×2149E±004,h14km±5km,*
Error ellipse: s-maj=6.0km s-min=4.5km az=146.6
*ATH **01** 11:14:43.2,3855N×2146E,h19km±4km,MD3.1/5*
*NEIC **01** 11:14:43.2,3855N×2146E,h19km,MD3.1(ATH),After ATH.*
*CSEM **01** 11:14:44.1±0.2,3851N×2149E,h12km,ML2.4,Error ellipse: s-maj=5.9km s-min=4.8km az=136.0*
*THE **01** 11:14:44.3,3849N×2149E,h5km,ML2.4*
ISC 01 11:14:44.4±0.5,3852N±003×2150E±004,h6km±10km,n12,
σ0§94/19,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.40**	**128**	*e*Pg	**Pg**	**11 14 51.1**	**-1.0**
SELA				*e*Sg	**Sg**	**11 14 57.7**	**+0.5**
EVR	**Evrytania**	**0.46**	**32**	*e*PB	**Pg**	**11 14 52.4**	**-0.9**
EVR				*e*SB	**Sg**	**11 14 59.4**	**0.0**
RLS	**Riolos of Patr**	**0.47**	**183**	*e*PB	**Pg**	**11 14 52.8**	**-0.5**
RLS				*e*SB	**Sg**	**11 15 00.4**	**+1.0**
LKD	**Levkas**	**0.69**	**286**	*e*Pg	**Pg**	**11 14 56.9**	**-0.7**
LKD				*e*Sg	**Sg**	**11 15 08.1**	**+1.5**
VLS	**Valsamata**	**0.79**	**245**	*e*Pg	**Pg**	**11 14 58.1**	**-1.5**
VLS				*e*Sg	**Sg**	**11 15 10.7**	**+0.8**
VLS	**Valsamata**	**0.79**	**245**	*e*PN	**Pg**	**11 14 58.2**	**-1.4**
VLS				*e*SN	**Sg**	**11 15 10.1**	**+0.2**
AGG	**Agios Georgios**	**0.82**	**52**	*e*Pg	**Pg**	**11 14 59.5**	**-0.6**
AGG				*e*Sg	**Sg**	**11 15 12.7**	**+1.9**
THL	**Klokotos Trika**	**1.12**	**21**	*e*Pg	**Pg**	**11 15 06.0**	**+0.2**
THL	**Klokotos Trika**	**1.12**	**21**	*e*Pn	**Pg**	**11 15 04.0**	**-1.8**
THL	**Klokotos Trika**	**1.12**	**21**	*e*Pg	**Pg**	**11 15 06.0**	**+0.2**
ITM	**Ithomi**	**1.38**	**166**	*e*PN	**Pn**	**11 15 10.2**	**+0.1**
SRS	**Serrai**	**3.05**	**31**	*e*Pn	**Pn**	**11 15 33.4**	**+0.3**

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*CSEM **01** 11:29:18.7,3922N×2202E,h26km,MD3.5/11,After ATH*
*NEIC **01** 11:29:18.7,3922N×2202E,h26km,MD3.5(ATH),After ATH.*
ATH 01 11:29:18.9,3921N×2201E,h31km±2km,MD3.5/11,2C,
Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.33**	**208**	*e*PB	Pb	11 29 27.3	+0.4
EVR				*e*SB	Sb	11 29 32.8	+0.5
THL	**Klokotos Trika**	**0.35**	**1**⇑	*i*PB	Pb	11 29 27.3	+0.1
THL				*e*SB	Sb	11 29 33.9	+1.1
THL	**Klokotos Trika**	**0.35**	**1**⇑	*i*Pb	Pb	11 29 27.3	+0.1
THL				*e*Sb	Sb	11 29 32.6	-0.2
NEO	**Neokhori**	**0.95**	**84**	*e*PB	Pb	11 29 36.3	-0.5
NEO	**Neokhori**	**0.95**	**84**	*e*Pn	Pn	11 29 36.4	+0.4
JAN	**Janina**	**1.00**	**297**	*e*PB	Pb	11 29 37.2	-0.5
KZN	**Kozani**	**1.11**	**351**	*e*PN	Pn	11 29 39.3	+1.0
KZN				*e*SN	Sn	11 29 54.8	+2.3
RLS	**Riolos of Patr**	**1.23**	**200**	*e*PN	Pn	11 29 41.8	+1.9
RLS				*e*SN	Sn	11 29 58.8	+3.4
RLS	**Riolos of Patr**	**1.23**	**200**	*e*Pn	Pn	11 29 41.8	+1.9
RLS				*e*Sn	Sn	11 29 59.6	+4.2
VLS	**Valsamata**	**1.52**	**228**	*e*PN	Pn	11 29 45.9	+2.0
PLG	**Polygyros**	**1.60**	**43**	*e*PB	Pb	11 29 48.5	+0.6
PLG	**Polygyros**	**1.60**	**43**	*e*Pn	Pn	11 29 47.5	+2.4
KEK	**Kerkira**	**1.78**	**287**	*e*PB	Pb	11 29 50.3	-0.6
KEK	**Kerkira**	**1.78**	**287**	*e*Pn	Pn	11 29 50.9	+3.4
ITM	**Ithomi**	**2.03**	**182**	*e*PB	Pb	11 29 53.5	-1.6
VLI	**Veliai**	**2.59**	**163**	*e*PN	Pn	11 30 01.5	+2.8

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*ISCJB **01** 11:35:36.9±1.0,2984N±003×3630E±005,h0km,Error ellipse: s-maj=6.8km s-min=4.7km az=7.7*
*SGS **01** 11:35:38.6,2993N×3626E,h6km*
*CSEM **01** 11:35:38.6,2993N×3626E,h6km,ML3.0,After SNSN*
*GII **01** 11:36:11.4±0.8,2990N×3620E,h0km,ML2.6/3*
ISC 01 11:35:36.8±1.0,2983N±003×3634E±006,h0km,n16,
σ0§60/26,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.15**	**281**	Pg	**Pg**	**11 35 58.2**	**-0.7**
HRFI				Sg	**Sg**	**11 36 13.6**	**-0.2**
EIL	**Elat**	**1.22**	**263**	Pg	**Pg**	**11 36 00.8**	**+0.6**
EIL				Sg	**Sg**	**11 36 16.7**	**+0.7**
HQLS		**1.23**	**245**	P	**Pg**	**11 36 00.2**	**-0.3**
HQLS		**1.23**	**245**	P	**Pg**	**11 36 00.2**	**-0.3**
HQLS				S	**Sg**	**11 36 16.3**	**-0.1**
MBH	**Mount Berech**	**1.24**	**269**	Pg	**Pg**	**11 36 01.1**	**+0.5**
MBH				Sg	**Sg**	**11 36 17.4**	**+0.7**
ZFRI	**Zfri**	**1.24**	**306**	Pg	**Pg**	**11 35 59.7**	**-0.9**
ZFRI				Sg	**Sg**	**11 36 16.2**	**-0.5**
PRNI	**Paran**	**1.27**	**295**	Pg	**Pg**	**11 36 00.5**	**-0.7**
PRNI				Sg	**Sg**	**11 36 18.1**	**+0.4**
JLOS		**1.32**	**214**	P	**Pg**	**11 36 02.2**	**0.0**
JLOS		**1.32**	**214**	P	**Pg**	**11 36 02.2**	**+0.1**
JLOS				S	**Sg**	**11 36 19.9**	**+0.7**
KRMI	**Paran Flat**	**1.43**	**282**	Pg	**Pg**	**11 36 03.5**	**-0.7**
RMNI	**Mount Ramon**	**1.57**	**300**	Pn	**Pn**	**11 36 05.3**	**-0.7**
RMNI				Sn	**Sn**	**11 36 26.3**	**-0.6**
MZDA	**Masada**	**1.70**	**331**	Pn	**Pn**	**11 36 07.7**	**0.0**
DSI	**Dead Sea**	**1.92**	**335**	Pn	**Pn**	**11 36 11.2**	**+0.4**
DSI				Sn	**Sn**	**11 36 36.4**	**+0.7**
KZIT	**Kziot**	**1.99**	**303**	Pn	**Pn**	**11 36 11.7**	**-0.1**
KZIT				Sn	**Sn**	**11 36 37.5**	**0.0**
RSHS		**2.04**	**222**	P	**Pn**	**11 36 11.9**	**-0.5**
HMDT	**Nahal Hemdat**	**2.52**	**344**	Sn	**Sn**	**11 36 51.8**	**+1.4**

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*NEIC **01** 11:40:48.2,2881S×7048W,h91km,MG3.5(GUC),After GUC.*
GUC 01 11:40:48.2±0.8,2881S×7048W,h91km±18km,ML3.5,6D,
Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.28**	**224**	*e*P	Pn	11 41 02.4	+0.7
LCO				*e*S	Sn	11 41 12.9	+1.2
VACH	**Vallenar**	**0.34**	**313**⇓	*i*P	Pn	11 41 02.4	+0.5
VACH				*i* S	Sn	11 41 12.6	+0.4
VACH	**Vallenar**	**0.34**	**313**⇓	*i*P	Pn	11 41 02.4	+0.5
VACH				*i* S	Sn	11 41 12.6	+0.4
VACH				AML	AML	11 41 13.2	
	comp=N,3μm,0.1s						
TLL	**Tololo Astrono**	**1.38**	**192**	*e*P	Pn	11 41 13.8	+1.2
TLL				*i* S	Sn	11 41 32.9	+1.9
CPCH	**Copiapo**	**1.45**	**4**⇓	*i*P	Pn	11 41 13.9	+0.6
CPCH				*i* S	Sn	11 41 32.8	+0.4
CPCH	**Copiapo**	**1.45**	**4**⇓	*i*P	Pn	11 41 13.9	+0.6
CPCH				*i* S	Sn	11 41 32.8	+0.4
CPCH				AML	AML	11 41 34.0	
	comp=E,2μm,0.1s						
CMCH	**Combarbala**	**2.40**	**191**⇓	*i*P	Pn	11 41 26.1	+0.4
CMCH				*i* S	Sn	11 41 55.1	+0.6
CMCH	**Combarbala**	**2.40**	**191**⇓	*i*P	Pn	11 41 26.1	+0.4
CMCH				*i* S	Sn	11 41 55.1	+0.6
CMCH				AML	AML	11 42 18.2	
	comp=N,96nm,0.7s						

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*CSEM **01** 11:53:30.8±1.0,3702N×2448W,h5km,ML3.4,Error ellipse: s-maj=6.5km s-min=4.9km az=69.0,After PDA*
PDA 01 11:53:30.8±1.0,3702N×2448W,h5km,MD3.9,ML3.4,
Error ellipse: s-maj=6.5km s-min=4.9km az=69.0,

Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.47**	**268**	*e*P	Pg	11 53 39.0	-0.9
PSMN				*e*S	Sg	11 53 45.3	-0.7
CMLA	**Cha da Macela**	**1.12**	**312**	*e*P	Pg	11 53 48.3	-3.9
CMLA				*e*S	Sg	11 54 01.1	-5.6
CMLA				A		11 54 05.1	
	404nm,0.4s						
CMLA	**Cha da Macela**	**1.12**	**312**	*e*P	Pg	11 53 48.3	-3.9
CMLA				*e*S	Sg	11 54 01.1	-5.6
PDA	**Ponta Delgada**	**1.19**	**308**	*e*P	Pg	11 53 49.4	-4.2
PDA				*e*S	Sg	11 54 02.6	-6.5
PSET	**Sete Cidades**	**1.27**	**309**	*e*P	Pg	11 53 50.0	-5.2
PSET				*e*S	Sg	11 54 05.3	-6.4
PSET				A		11 54 08.7	
	173nm,0.3s						
PSET	**Sete Cidades**	**1.27**	**309**	*e*P	Pg	11 53 50.0	-5.2
PSET				*e*S	Sg	11 54 05.3	-6.4
PSCM	**Serra do Cume**	**2.68**	**310**	*e*P	Pn	11 54 10.3	-4.3
PSCM				*e*S	Sn	11 54 39.6	-7.8
PSCM				A		11 54 48.6	
	104nm,0.3s						
PSCM	**Serra do Cume**	**2.68**	**310**	*e*P	Pn	11 54 10.3	-4.3
PSCM				*e*S	Sn	11 54 39.6	-7.8
ADH	**Angra Heroismo**	**2.73**	**308**	*e*P	Pn	11 54 10.3	-4.9
ADH				*e*S	Sn	11 54 40.0	-8.5
ROSA	**Rosais**	**3.43**	**301**	*e*P	Pn	11 54 21.3	-3.6
ROSA				*e*S	Sn	11 54 58.5	-7.3
PICO	**Pico**	**3.46**	**296**	*e*P	Pn	11 54 22.2	-3.1
PICO				*e*S	Sn	11 54 59.6	-7.1

IDC 01 11:55:02.1±1.9, 270N×12544E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/17, mbtmp3.5/4, Error ellipse: s-maj=121.8km s-min=24.6km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**20.67**	**179**	P	P	11 59 44.6	+0.9
	0.5nm,0.3s,baz=354,slow=11,SNR=8.8						
WRA	**Warramunga Arr**	**24.14**	**159**	P	P	12 00 20.3	+0.4
	0.6nm,0.3s,baz=337,slow=10.0,SNR=33						
ASAR	**Alice Springs**	**27.47**	**163**	P	P	12 00 49.4	-0.7
	0.2nm,0.3s,baz=338,slow=8.8,SNR=7.1						
MKAR	**Makanchi Array**	**57.68**	**326**	P	P	12 04 54.4	0.0
	0.3nm,0.4s,baz=119,slow=8.6,SNR=5.1						

NIED ***01*** *12:04:00, 26.10N×12880E, h20km, Mw4.3 Best double couple: M0 3.07000×10^15 NP1:φs 51.00000°, δ58.00000°, λ111.00000°. NP2:φs 194.00000°, δ37.00000°, λ60.00000°.*
IDC ***01*** *12:04:22.8±0.8, 2621N×12845E, h0km, mb4.1/11, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, ML3.6/3, MS3.3/5, Ms1 3.3/5, ms1mx3.1/24, Error ellipse: s-maj=32.5km s-min=13.0km az=79.0*
BJI ***01*** *12:04:23.1, 2571N×12902E, h54km, mB4.4, mb4.3, Ms4.2, Msz4.0*
JMA ***01*** *12:04:24.1±0.2, 2615N×12885E, h32km, M4.2*
NEIC ***01*** *12:04:24.2, 2615N×12885E, h32km, mb4.5/7, MW4.3(NIED), After JMA.*
ISCJB ***01*** *12:04:24.7±0.9, 2617N±003×12878E±003, h30km±5km, mb4.3/31, MS3.6/6, Error ellipse: s-maj=6.0km s-min=4.4km az=142.8*
MOS ***01*** *12:04:26.0±1.4, 2625N×12861E, h33km, mb4.5/12, Error ellipse: s-maj=18.9km s-min=9.6km az=109.3*
ISC 01 12:04:25.5±0.9, 2621N±003×12877E±004, h23km±6km, h32km±2.0km: pP-P, n69, σ1°11/78, mb4.3/31, MS3.6/6, 3C-3D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.76**	**325**	P	**Pb**	**12 04 39.8**	**-0.3**
JOW				S	**Sb**	**12 04 51.4**	**+1.4**
JOW	**Kunigami**	**0.76**	**325**	Pn	**Pn**	**12 04 40.1**	**-0.8**
	2μm,0.3s,baz=140,slow=17,SNR=8372						
JOW				Sn	**Sn**	**12 04 50.1**	**-1.5**
	2μm,0.3s,baz=328,slow=19,SNR=39						
JJT2	**Tamagusuku 2**	**0.92**	**266**	P	**Pb**	**12 04 42.0**	**-0.8**
JJT2				*e*S	**Sb**	**12 04 54.9**	**+0.4**
NAH1	**Naha**	**0.97**	**270**	P	**Pb**	**12 04 42.6**	**-1.0**
NAH1				S	**Sb**	**12 04 57.6**	**+1.6**
JIH	**Iheya**	**1.09**	**319**	P	**Pn**	**12 04 44.8**	**-0.6**
JIH				S	**Sb**	**12 05 00.0**	**+0.5**
JAGN	**Aguni-jima**	**1.42**	**286**	P	**Pn**	**12 04 49.5**	**-0.4**
JTK	**Tokunoshima**	**1.58**	**6**	P	**Pn**	**12 04 52.0**	**-0.1**
JTK				*e*S	**Sn**	**12 05 11.0**	**-0.8**
JKE	**Kume jima 2**	**1.78**	**274**	P	**Pn**	**12 04 53.6**	**-1.3**
JMZ	**Minamidaito 2**	**2.24**	**99**	P	**Pn**	**12 05 00.3**	**-1.0**
JMZ				*e*S	**Sn**	**12 05 26.2**	**-2.0**
JAM	**Amami Oshima**	**2.31**	**19**	P	**Pn**	**12 05 02.0**	**-0.3**
JAM				*e*S	**Sn**	**12 05 29.6**	**-0.4**
JZK	**Kikaishima**	**2.35**	**27**	P	**Pn**	**12 05 05.0**	**+2.2**
JZK				*e*S	**Sn**	**12 05 31.6**	**+0.6**
JOGS	**Gusukube**	**3.36**	**245**	P	**Pn**	**12 05 16.0**	**-0.7**
JMJ	**Miyako jima 2**	**3.43**	**247**	P	**Pn**	**12 05 16.9**	**-0.7**
JMJ				*e*S	**Sn**	**12 05 57.9**	**+0.3**
JTJ	**Tarama**	**3.99**	**248**	P	**Pn**	**12 05 23.6**	**-1.8**
JIJ	**Ishigaki jima**	**4.57**	**247**	P	**Pn**	**12 05 31.6**	**-1.7**
IRIF	**Iriomote-Funau**	**4.93**	**249**	P	**Pn**	**12 05 38.7**	**+0.5**
JNU	**Nakatsue**	**7.13**	**14**	Pn	**Pn**	**12 06 09.9**	**+1.5**
	3.0nm,0.3s,baz=181,slow=6.9,SNR=17						
JNU				Sn	**Sn**	**12 07 26.9**	**-1.8**
	1.4nm,0.3s,baz=45,slow=18,SNR=3.0						
JNU				LR	LR	12 09 21.0	
	comp=Z,223nm,19.2s,baz=166,slow=41						
KSRS	**Korea Array**	**11.23**	**357**	Pn	**Pn**	**12 07 03.3**	**-1.4**
	0.1nm,0.3s,baz=174,slow=15,SNR=5.3						
KSRS				LR	LR	12 11 44.2	
	comp=Z,170nm,18.6s,baz=175,slow=39						
JHJ	**Hachijo jima 2**	**11.79**	**52**	LR	LR	12 10 42.1	
	comp=Z,619nm,21.2s,baz=291,slow=32						
MJAR	**Matsushiro Arr**	**13.07**	**36**	Pn	**Pn**	**12 07 32.2**	**+2.4**
	0.1nm,0.3s,baz=194,slow=12,SNR=2.8						
BJI	**Beijing**	**17.34**	**326**	P	**Pn**	**12 08 29.8**	**+3.8**
BJI				AMB	AMB		
	comp=Z,12nm,0.8s						
BJI				LR	LR		
	comp=N,562nm,11.4s						
BJI				LR	LR		
	comp=E,293nm,12.3s						
BJI				LR	LR		
	comp=Z,209nm,14.1s						
XAN	**Xi'an**	**18.84**	**299**	P	**Pn**	**12 08 44.3**	**-0.2**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s						
XAN				LR	LR		
	comp=E,168nm,13.9s						
XAN				LR	LR		
	comp=Z,268nm,13.0s						
GUMO	**Guam**	**19.64**	**127**	LR	LR	12 14 48.9	
	comp=Z,43nm,18.6s,baz=38,slow=32						
ASAJ	**Asahikawa**	**21.09**	**29**	LR	LR	12 17 46.6	
	comp=Z,51nm,18.5s,MS2.9,baz=174,slow=38						
LZH	**Lanzhou**	**23.43**	**301**	*e*P	**P**	**12 09 32.2**	**-1.1**
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.3						
LZH				AMB	AMB		
	comp=Z,106nm,5.1s						
YSS	**Yuzh-Sakhalins**	**23.48**	**25⇑**	*e*P	**P**	**12 09 36.2**	**+2.5**
YSS				pmax	pmax		
	comp=Z,15nm,0.6s,mb4.6						
YSS				MLR	MLR		
	comp=Z,100nm,15.0s,MS3.4						
ULN	**Ulaanbaatar**	**27.53**	**327**	*e*P	**P**	**12 10 11.6**	**+1.2**
ULN				pmax	pmax		
	comp=Z,16nm,1.3s,mb4.5						
ULN	**Ulaanbaatar**	**27.53**	**327**	*e*P	**P**	**12 10 11.6**	**+1.2**
	comp=Z,16nm,1.3s,mb4.5						
GTA	**Gaotai**	**27.53**	**306**	*e*P	**P**	**12 10 09.7**	**-0.8**
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.5						
GTA				AMB	AMB		
	comp=Z,43nm,6.1s						
GTA				LR	LR		
	comp=N,132nm,14.5s,MS3.9						
GTA				LR	LR		
	comp=E,198nm,13.0s,MS3.9						
GTA				LR	LR		
	comp=Z,237nm,12.6s,MS4.0						
SONM	**Songino Array**	**27.83**	**327**	P	**P**	**12 10 12.2**	**-0.9**
	comp=Z,5.9nm,0.7s,mb4.3,baz=136,slow=11,SNR=16						
YAK	**Yakutsk**	**35.82**	**1⇑**	*e*P	**P**	**12 11 23.7**	**+0.8**
YAK				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
YAK				MLR	MLR		
	comp=Z,100nm,22.0s,MS3.5						
GUN	**Gumba**	**38.09**	**282**	*e*P	**P**	**12 11 43.8**	**+1.1**
	comp=Z,9.2nm,0.6s,mb4.7						
PKI	**Pulchoki**	**38.55**	**282**	*e*P	**P**	**12 11 46.9**	**+0.3**
PKIN	**Phulchoki**	**38.56**	**282**	*e*P	**P**	**12 11 46.7**	**0.0**
KKN	**Kakani**	**38.63**	**282**	*e*P	**P**	**12 11 47.7**	**+0.4**
DMN	**Daman**	**38.81**	**282**	*e*P	**P**	**12 11 49.2**	**+0.4**
	comp=Z,16nm,0.8s,mb4.8						
GKN	**Gorkha**	**39.17**	**283**	*e*P	**P**	**12 11 52.0**	**+0.2**
	comp=Z,15nm,0.5s,mb5.0						
DANN	**Dangsing**	**39.88**	**284**	*e*P	**P**	**12 11 58.3**	**+0.5**
	comp=Z,14nm,0.5s,mb4.9						
KOLN	**Koldanda**	**40.11**	**283**	*e*P	**P**	**12 12 00.0**	**+0.4**
	comp=Z,22nm,1.0s,mb4.8						
MK31	**Makanchi Array**	**41.91**	**312**	*e*P	**P**	**12 12 13.8**	**-0.4**
MKAR	**Makanchi Array**	**41.91**	**312**	P	**P**	**12 12 13.3**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.0,baz=96,slow=11,SNR=31						
ZALV	**Zalesovo Beam**	**42.55**	**323**	P	**P**	**12 12 17.9**	**-1.5**
	comp=Z,1.3nm,0.4s,mb4.0,baz=118,slow=7.9,SNR=8.6						
ZAL	**Zalesovo**	**42.56**	**323**	P	**P**	**12 12 17.9**	**-1.5**
KURK	**Kurchatov**	**45.16**	**317**	*e*P	**P**	**12 12 40.3**	**-0.1**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
KURK	**Kurchatov**	**45.16**	**317**	*e*P	**P**	**12 12 40.3**	**-0.1**
	comp=Z,4.9nm,1.0s,mb4.3						
TIXI	**Tiksi**	**45.48**	**0⇓**	*e*P	**P**	**12 12 42.8**	**+0.3**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
TIXI				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.9						
TIXI	**Tiksi**	**45.48**	**0**	*e*P	**P**	**12 12 42.3**	**-0.2**
	comp=Z,2.3nm,0.7s,mb4.1						
TKM2	**Tokmak 2**	**46.08**	**305**	*e*P	**P**	**12 12 48.8**	**+1.1**
TKM2				*e**PP	pP	12 12 57.4	+2.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**46.08**	**305**	*e*P	**P**	**12 12 48.8**	**+1.1**
	comp=Z,3.2nm,0.7s,mb4.4						
TKM2				*e*pP	pP	12 12 57.4	+2.7
WRA	**Warramunga Arr**	**46.20**	**173**	P	**P**	**12 12 49.5**	**+0.7**
	comp=Z,1.5nm,0.7s,mb4.0,baz=353,slow=8.5,SNR=13						
UCH	**Uchtor**	**46.85**	**304**	*e*P	**P**	**12 12 56.0**	**+2.2**
	comp=Z,8.0nm,1.0s,mb4.6						
UCH				*e*pP	pP	12 13 04.5	+3.7
UCH				*e*sP	sP	12 13 07.2	+3.7
AAK	**Ala-Archa**	**46.88**	**305⇓**	*e*P	**P**	**12 12 54.0**	**0.0**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
AAK				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.9						
BILL	**Bilibino**	**47.54**	**18**	*e*P	**P**	**12 12 56.8**	**-2.0**
BILL				*e*		12 14 29.4	
BILL				*e*		12 14 50.5	
BILL				*e*SS	SS	12 23 12.4	-7.5
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
ASAR	**Alice Springs**	**49.83**	**174**	P	**P**	**12 13 18.3**	**+1.4**
	comp=Z,0.6nm,0.6s,mb3.8,baz=5.3,slow=12,SNR=10						
ARU	**Arti**	**57.70**	**322**	*d*P	**P**	**12 14 14.3**	**+0.1**
ARU				*e*		12 15 05.8	
ARU				*e*		12 16 18.0	
ARU				*e*S	**S**	**12 22 09.7**	**-1.7**
ARU				*e*SS	SS	12 25 56.8	-4.7
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
ARCES	**ARCESS Array B**	**70.20**	**339**	P	**P**	**12 15 36.0**	**-0.2**
	comp=Z,2.2nm,0.9s,mb4.1,baz=46,slow=4.2,SNR=4.2						
JOF	**Joensuu**	**70.29**	**331**	*e*p	**P**	**12 15 35.8**	**-1.0**
	comp=Z,2.8nm,0.6s,mb4.4						
FINES	**FINESS Array B**	**73.12**	**331**	*i* P	**P**	**12 15 54.0**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**73.12**	**331**	P	**P**	**12 15 54.1**	**+0.3**
	comp=Z,1.3nm,0.5s,mb4.1,baz=73,slow=6.0,SNR=13						
AKASG	**Malin Array Be**	**75.86**	**320**	P	**P**	**12 16 09.8**	**-0.2**
	comp=Z,2.9nm,0.5s,mb4.5,baz=60,slow=6.6,SNR=13						
YKA	**Yellowknife Ar**	**78.34**	**25**	P	**P**	**12 16 25.1**	**+1.4**
	comp=Z,0.7nm,0.6s,mb3.8,baz=301,slow=5.6,SNR=12						
NB2	**NORSAR Subarra**	**79.54**	**334**	P	**P**	**12 16 30.3**	**0.0**
	comp=Z,1.3nm,0.6s,mb4.0,baz=50,slow=5.6						
NOA	**NORSAR Array B**	**79.54**	**334**	P	**P**	**12 16 30.6**	**+0.3**
	comp=Z,1.6nm,0.6s,mb4.1,baz=51,slow=5.6,SNR=9.9						
BRG	**Berggiesshubel**	**84.21**	**325**	*e*P	**P**	**12 16 56.9**	**+1.8**
BRG				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb4.0						
BRG	**Berggiesshubel**	**84.21**	**325**	*e*(P)	**P**	**12 16 56.9**	**+1.8**
	comp=Z,2.2nm,0.9s,mb4.3						
CLL	**Collm**	**84.44**	**325**	*i* P	**P**	**12 16 57.1**	**+0.9**
CLL				*i*		12 17 08.1	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CLL	**Collm**	**84.44**	**325**	*i* P	**P**	**12 16 57.1**	**+0.9**
	comp=Z,4.0nm,0.9s,mb4.5						
CLL				*i* pP	pP	12 17 08.1	+4.5
KHC	**Kasperske Hory**	**85.41**	**323⇑**	*e*P	**P**	**12 17 03.1**	**+2.0**
GERES	**GERESS Array B**	**85.50**	**323**	P	**P**	**12 17 03.2**	**+1.5**
	comp=Z,0.3nm,0.4s,mb3.9,baz=64,slow=3.1,SNR=5.2						

CSEM ***01*** *12:07:27.5±0.3, 4551N×2636E, h148km±2km, MD3.9/2, Error ellipse: s-maj=1.9km s-min=1.6km az=13.0, After BUC*
NEIC ***01*** *12:07:31.3, 4556N×2629E, h160km, MG3.2(BUC), After BUC.*
ISCJB ***01*** *12:07:34.1±1.4, 4550N±007×2643E±009, h128km±10km, Error ellipse: s-maj=12.2km s-min=9.8km az=158.8*
BUC ***01*** *12:07:34.1±0.9, 4545N×2640E, h132km±8km, MD3.8/1, Error ellipse: s-maj=7.4km s-min=4.9km az=14.0*
ISC 01 12:07:34.4±1.5, 4549N±007×2641E±009, h128km±11km, n15, σ0°76/23, 2C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLR	**Muntele Rosu**	**0.33**	**270**	P	**Pn**	**12 07 52.9**	**+0.5**
MLR	**Muntele Rosu**	**0.33**	**270⇓**	*i*P	**Pn**	**12 07 53.0**	**+0.6**
MLR				*i* S	**Sn**	**12 08 07.0**	**+1.0**
MLR	**Muntele Rosu**	**0.33**	**270⇓**	*i*P	**Pn**	**12 07 48.0**	**-4.4**
MLR				*i* S	**Sn**	**12 08 03.0**	**-3.0**
VRI	**Vrincioaia**	**0.43**	**31**	P	**Pn**	**12 07 53.4**	**+0.5**
VRI	**Vrincioaia**	**0.43**	**31⇑**	*i*P	**Pn**	**12 07 53.4**	**+0.5**
VRI				*i* S	**Sn**	**12 08 07.9**	**+1.0**
VRI	**Vrincioaia**	**0.43**	**31⇓**	*i*P	**Pn**	**12 07 48.5**	**-4.4**
VRI				*i* S	**Sn**	**12 08 04.0**	**-2.9**
VOIR		**0.96**	**267**	P	**Pn**	**12 07 56.2**	**-0.6**
VARR		**1.08**	**69⇓**	*i*P	**Pn**	**12 07 58.6**	**+0.7**
VARR				*i* S	**Sn**	**12 08 16.6**	**+0.8**
BUC1	**Bucharest**	**1.18**	**194**	P	**Pn**	**12 07 59.0**	**+0.1**
CFR	**Carcaliu**	**1.26**	**104⇑**	*i*P	**Pn**	**12 07 59.8**	**+0.1**
CFR				*i* S	**Sn**	**12 08 18.6**	**-0.3**
HARR	**Harsova**	**1.34**	**126**	P	**Pn**	**12 08 01.0**	**+0.4**
HARR	**Harsova**	**1.34**	**126⇓**	*i*P	**Pn**	**12 08 01.0**	**+0.4**
HARR				*i* S	**Sn**	**12 08 20.0**	**-0.6**
HARR	**Harsova**	**1.34**	**126⇓**	*i*P	**Pn**	**12 07 56.0**	**-4.6**
TIRR	**Tirgusor**	**1.76**	**125**	P	**Pn**	**12 08 05.5**	**+0.1**
KIS	**Kishinev**	**2.25**	**47**	*e*P	**Pn**	**12 08 11.0**	**-0.3**
KIS				*i* S	**Sn**	**12 08 39.0**	**-0.6**
	600nm,0.8s						

IDC 01 12:14:57.8±18.0, 1841S×17780W, h283km±185km, mb3.4/6, mb1 3.6/6, mb1mx3.4/15, mbtmp3.4/6, Error ellipse: s-maj=88.6km s-min=22.6km az=179.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.27**	**192**	P	P	12 19 12.1	-0.5
	4.6nm,0.5s,baz=215,slow=7.4,SNR=5.0						
STKA	**Stephens Creek**	**38.90**	**242**	P	P	12 21 57.8	+1.1
	4.0nm,1.1s,baz=70,slow=12,SNR=3.1						
WRA	**Warramunga Arr**	**45.11**	**260**	P	P	12 22 46.1	-0.7
	0.3nm,0.5s,baz=98,slow=6.3,SNR=10						
ASAR	**Alice Springs**	**45.21**	**255**	P	P	12 22 47.5	0.0
	4.8nm,0.6s,baz=91,slow=8.5,SNR=86						
NVAR	**Mina Array Bea**	**79.39**	**44**	P	P	12 26 33.2	+0.4
	0.5nm,0.6s,baz=224,slow=8.8,SNR=3.9						
TXAR	**Lajitas Array**	**85.78**	**57**	P	P	12 27 06.6	+0.8
	0.6nm,0.7s,baz=213,slow=6.2,SNR=9.0						
VNA2	**Neumayer--Watz**	**90.65**	**177**	*e*	P	12 27 25.9	-2.2
	baz=206,slow=5.0						
VNA2				*e*		12 27 30.1	
GERES	**GERESS Array B**	**148.24**	**346**	PKPbc	PKPbc	12 34 09.4	-1.0
	0.2nm,0.4s,baz=245,slow=2.1,SNR=2.4						

ISCJB ***01*** *12:39:45.3±0.3, 3215N±002×3530E±004, h8km±3km, Error ellipse: s-maj=5.7km s-min=2.4km az=10.7*
HLW ***01*** *12:39:45.6, 3238N×3532E, h26km, Mb3.5*
CSEM ***01*** *12:39:46.0±0.1, 3212N×3522E, h15km, ML3.3, Error ellipse: s-maj=8.6km s-min=2.5km az=105.0*
GII ***01*** *12:39:46.0±0.4, 3217N×3530E, h8km±1km, ML2.6/3, Mw2.3/5*
GRAL ***01*** *12:39:48.8±2.1, 3219N×3566E, h0km±28km, MD3.3*
ISC 01 12:39:45.9±0.3, 3215N±002×3530E±004, h9km±3km, n28, σ0°78/45, 3D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.22**	**62**	Pg	**Pg**	**12 39 51.0**	**+0.6**
HMDT				Sg	**Sg**	**12 39 53.6**	**+0.3**
SLTI	**Sal'it**	**0.24**	**292**	Pg	**Pg**	**12 39 51.4**	**+0.7**
SLTI				Sg	**Sg**	**12 39 55.4**	**+1.4**
MMLI	**Mount Malkishu**	**0.30**	**20**	Pg	**Pg**	**12 39 52.1**	**+0.2**
MMLI				Sg	**Sg**	**12 39 56.8**	**+0.8**
OFRI	**'Ofer**	**0.54**	**331**	Pg	**Pg**	**12 39 55.9**	**-0.4**
OFRI				Sg	**Sg**	**12 40 03.2**	**-0.2**
DSI	**Dead Sea**	**0.58**	**173**	Pg	**Pg**	**12 39 57.1**	**-0.1**
DSI				Sg	**Sg**	**12 40 05.7**	**+0.8**
YTIR	**Yattir**	**0.80**	**191**	Pg	**Pg**	**12 40 01.5**	**+0.2**
YTIR				Sg	**Sg**	**12 40 12.6**	**+0.8**
MZDA	**Masada**	**0.84**	**176**	Pg	**Pg**	**12 40 01.8**	**-0.3**
MZDA				Sg	**Sg**	**12 40 13.5**	**+0.4**
MMA0	**Mount Meron ar**	**0.86**	**6**	Pg	**Pg**	**12 40 01.5**	**-1.1**
MMA0				Sg	**Sg**	**12 40 13.5**	**-0.3**
HNTI	**Hanita**	**0.93**	**354**	Sg	**Sg**	**12 40 15.6**	**-0.5**
KSHT	**Keshet**	**0.93**	**27**	Pg	**Pg**	**12 40 03.6**	**-0.3**
KSHT				Sg	**Sg**	**12 40 16.2**	**+0.2**
KSDI	**Kefar Szold**	**1.08**	**16**	Pg	**Pg**	**12 40 05.5**	**-1.2**
KSDI				Sg	**Sg**	**12 40 20.0**	**-0.7**
HRI	**Mount Hermon**	**1.17**	**18**	Sg	**Sg**	**12 40 22.9**	**-0.7**
RTMI	**Retamim**	**1.21**	**205**	Pg	**Pg**	**12 40 08.4**	**-0.8**
RCY	**Rachaya**	**1.40**	**18**	*e*P	**Pn**	**12 40 10.3**	**-1.3**
RCY				*e*S	**Sb**	**12 40 29.3**	**-1.0**
KZIT	**Kziot**	**1.46**	**212**	Pn	**Pn**	**12 40 12.3**	**-0.2**
KZIT				Sn	**Sn**	**12 40 31.9**	**+0.1**
ZFRI	**Zfri**	**1.60**	**184**	Pn	**Pn**	**12 40 13.6**	**-0.8**
ZFRI				Sn	**Sn**	**12 40 35.5**	**+0.4**
BEYL	**Beyrouth**	**1.72**	**5**	*e*S	**Sn**	**12 40 39.4**	**+1.1**
BHL	**Bhannes**	**1.77**	**10**	*e*P	**Pn**	**12 40 19.6**	**+2.8**
BHL				*e*S	**Sn**	**12 40 40.8**	**+1.3**
PRNI	**Paran**	**1.81**	**188**	Pn	**Pn**	**12 40 17.3**	**-0.1**
HRFI	**Mount Harif**	**2.12**	**186**	Pn	**Pn**	**12 40 21.1**	**-0.4**
HRFI				Sn	**Sn**	**12 40 48.6**	**+0.6**
HWQ	**Hawqa**	**2.19**	**14**	*e*P	**Pn**	**12 40 24.2**	**+1.6**
HWQ				*e*S	**Sn**	**12 40 50.5**	**+0.8**
AMAG	**Maghara**	**2.34**	**230**	P	**Pn**	**12 40 23.5**	**-1.1**
HNKL	**Nakhl**	**2.49**	**207⇓**	*e*P	**Pn**	**12 40 26.3**	**-0.3**
HNKL				S	**Sn**	**12 40 56.3**	**-0.9**
EIL	**Elat**	**2.49**	**187**	Pn	**Pn**	**12 40 25.9**	**-0.8**
HBST	**Basata**	**2.97**	**190**	P	**Pn**	**12 40 33.4**	**+0.2**
SUZ		**3.13**	**223⇓**	*e*P	**Pn**	**12 40 35.1**	**-0.3**
HDHB	**Dhahab**	**3.47**	**190⇓**	*e*P	**Pn**	**12 40 40.1**	**0.0**
HKAT	**Jabal Katrina**	**3.79**	**198**	P	**Pn**	**12 40 44.7**	**+0.2**

JMA 01 12:41:01.2±0.2, 2617N×12881E, h38km, M2.5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.82**	**324**	P	Pn	12 41 16.3	+0.1
JOW				*e*S	Sn	12 41 27.5	+0.4
JJT2	**Tamagusuku 2**	**0.95**	**268**	P	Pn	12 41 18.5	+0.4
JJT2				*e*S	Sn	12 41 31.1	+0.6
JIH	**Iheya**	**1.15**	**319**	P	Pn	12 41 21.4	+0.7
JAGN	**Aguni-jima**	**1.47**	**287**	P	Pn	12 41 26.0	+0.9
JAGN				*e*S	Sn	12 41 44.5	+1.4
JTK	**Tokunoshima**	**1.61**	**4**	P	Pn	12 41 28.5	+1.3
JTK				*e*S	Sn	12 41 47.6	+0.8
JKE	**Kume jima 2**	**1.82**	**275**	P	Pn	12 41 30.2	+0.1
JMZ	**Minamidaito 2**	**2.20**	**99**	P	Pn	12 41 36.8	+1.6

NIED ***01*** *12:41:00, 2620N×12880E, h20km, Mw4.7 Best double couple: M0 1.15000×10^16 NP1:φs 41.00000°, δ64.00000°, λ103.00000°. NP2:φs 193.00000°, δ29.00000°, λ65.00000°.*
IDC ***01*** *12:41:26.9±0.6, 2622N×12852E, h0km, mb4.5/16, mb1 4.5/19, mb1mx4.5/24, mbtmp4.4/19, ML4.0/3, MS3.9/14, Ms1 3.9/14, ms1mx3.7/24, Error ellipse: s-maj=23.8km s-min=11.0km az=77.0*
BJI ***01*** *12:41:28.5, 2616N×12881E, h32km, mB4.7, mb4.7, Ms4.6, Msz4.5*
JMA ***01*** *12:41:29.8±0.2, 2621N×12876E, h41km±5km, M4.6*
JMA Felt I J1.
ISCJB ***01*** *12:41:30.2±0.2, 2624N±002×12866E±002, h29km, mb4.8/83, MS4.2/27, Error ellipse: s-maj=3.7km s-min=2.8km az=145.4*
MOS ***01*** *12:41:31.1±1.2, 2624N×12869E, h33km, mb5.0/35, M

comp=E,1μm,12.8s
QZH LR LR
comp=Z,2μm,10.4s
NJ2 Nanjing 10.28 306 *e*P **Pn** **12 43 57.7 -0.1**
NJ2 PP 12 44 06.1
NJ2 S **Sn** **12 45 50.0 -2.0**
NJ2 AMB AMB
comp=Z,20nm,0.8s
NJ2 AMB AMB
comp=Z,200nm,8.3s
NJ2 LR LR
comp=N,4μm,11.6s
NJ2 LR LR
comp=E,5μm,11.6s
NJ2 LR LR
comp=Z,5μm,11.6s
KSRS Korea Array 11.14 357 Pn **Pn** **12 44 08.3 -1.2**
comp=Z,0.3nm,0.3s,baz=175,slow=14,SNR=14
KSRS LR LR 12 48 49.5
comp=Z,760nm,18.6s,baz=178,slow=40
CBIJ Chichi jima 12.15 83 LR LR 12 48 07.3
comp=Z,219nm,21.9s,baz=165,slow=33
MAJO Matsushiro 13.08 36 *e*P **Pn** **12 44 33.5 -2.6**
MJAR Matsushiro Arr 13.08 36 Pn **Pn** **12 44 35.5 -0.7**
comp=Z,0.2nm,0.3s,baz=226,slow=8.7,SNR=3.4
DL2 Dalian 13.88 337 P **Pn** **12 44 50.8 +3.8**
DL2 S **Sn** **12 47 22.6 +2.6**
DL2 AMB AMB
comp=Z,20nm,0.9s
DL2 AMB AMB
comp=Z,120nm,6.3s
DL2 LR LR
comp=N,550nm,12.3s
DL2 LR LR
comp=E,450nm,12.9s
DL2 LR LR
comp=Z,700nm,13.5s
SNY Shenyang 16.04 346 P **Pn** **12 45 20.2 +4.5**
SNY XS sS 12 48 28.7 -10
SNY AMB AMB
comp=Z,259nm,6.5s
SNY LR LR
comp=N,951nm,15.9s
SNY LR LR
comp=Z,1μm,14.5s
BJT Baijiatuau 17.18 326 *e*P **Pn** **12 45 32.2 +2.1**
BJT pmax pmax
comp=Z,22nm,0.8s
BJT Baijiatuau 17.18 326 *e*P **Pn** **12 45 32.2 +2.1**
comp=Z,22nm,0.8s
BJI Beijing 17.19 326 P **Pn** **12 45 30.5 +0.3**
BJI S **Sn** **12 48 48.6 +8.1**
BJI AMB AMB
comp=Z,19nm,0.6s
BJI LR LR
comp=N,2μm,12.4s
BJI LR LR
comp=E,1μm,11.6s
BJI LR LR
comp=Z,805nm,14.0s
ENH Enshi 17.31 288 *e*P **Pn** **12 45 30.5 -1.3**
CN2 Changchun 17.66 352 *e*P **Pn** **12 45 37.1 +1.1**
CN2 *e*S **Sn** **12 48 48.0 -3.6**
CN2 AMB AMB
comp=Z,10.0nm,0.7s
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,2μm,12.0s
CN2 LR LR
comp=E,600nm,12.0s
CN2 LR LR
comp=Z,2μm,12.0s
TIY Taiyuan 17.80 314 P **Pn** **12 45 39.2 +1.3**
TIY S **Sn** **12 48 53.4 -2.0**
TIY LR LR
comp=N,1μm,10.2s
TIY LR LR
comp=E,1μm,8.3s
TIY LR LR
comp=Z,2μm,10.0s
MDJ Mudanjiang 18.30 2 P **Pn** **12 45 44.2 +0.4**
MDJ PCS PcS 12 53 53.7 +2.5
MDJ AMB AMB
comp=Z,5.0nm,1.2s
MDJ AMB AMB
comp=Z,131nm,7.8s
MDJ LR LR
comp=E,326nm,18.7s
MDJ LR LR
comp=Z,464nm,13.8s
MDJ Mudanjiang 18.30 2 *e*P **Pn** **12 45 44.7 +0.9**
XAN Xi'an 18.68 299 P **Pn** **12 45 48.0 -0.6**
XAN AP pP 12 45 56.1 -0.3
XAN XP sP 12 46 00.2 -0.2
XAN S **Sn** **12 49 11.6 -5.0**
XAN SS 12 49 45.0
XAN AMB AMB
comp=Z,23nm,0.9s
XAN AMB AMB
comp=Z,140nm,8.4s
XAN LR LR
comp=E,647nm,13.0s
XAN LR LR
comp=Z,959nm,13.9s
QIZ Qiongzhong 18.77 251 P **Pn** **12 45 50.4 +0.7**
QIZ AP pP 12 45 53.6 -3.8
QIZ S **Sn** **12 49 20.8 +2.0**
QIZ XS sS 12 49 29.8 -4.5
QIZ AMB AMB
comp=Z,30nm,1.5s
QIZ AMB AMB
comp=Z,157nm,7.7s
QIZ LR LR
comp=N,839nm,19.6s
QIZ LR LR
comp=Z,457nm,22.2s
QIZ Qiongzhong 18.77 251 *e*P **Pn** **12 45 50.8 +1.1**
GYA Guiyang 19.67 275⇑ *i*P **Pn** **12 45 59.4 -1.2**
GYA PP 12 46 19.0
GYA S **Sn** **12 49 34.4 -6.3**
GYA SS 12 50 01.0
GYA AMB AMB
comp=Z,20nm,0.8s
GYA AMB AMB
comp=Z,100nm,5.7s
GYA LR LR
comp=N,890nm,11.4s
GYA LR LR
comp=E,580nm,12.6s
GYA LR LR
comp=Z,1μm,12.9s
GUMO Guam 19.80 127 LR LR 12 51 56.5
comp=Z,161nm,20.4s,baz=328,slow=32
HHC Hu-ho-hao-te 20.26 320 *e*P **P** **12 46 04.7 -0.6**
HHC PP 12 46 23.2
HHC S **S** **12 49 45.0 -5.9**
HHC AMB AMB
comp=Z,40nm,1.1s
HHC AMB AMB
comp=Z,255nm,4.5s
HHC LR LR
comp=N,3μm,11.5s,MS4.9
HHC LR LR
comp=E,2μm,11.7s,MS4.9
HHC LR LR
comp=Z,3μm,11.6s,MS4.9
BTO Baotou 21.02 317 *e*P **P** **12 46 12.9 -0.6**
ASAJ Asahikawa 21.08 29 P **P** **12 46 13.1 -1.0**
ASAJ pmax pmax
comp=Z,8.0nm,0.9s
ASAJ MLR MLR
comp=Z,317nm,21.8s
ASAJ Asahikawa 21.08 29 P **P** **12 46 13.1 -1.0**
comp=Z,8.4nm,0.9s,mb4.1,baz=205,slow=24,SNR=4.5
ASAJ LR LR 12 54 41.0
comp=Z,317nm,21.8s,MS3.7,baz=186,slow=38
CD2 Chengdu 22.29 288⇓ *i*P **P** **12 46 25.1 -2.1**
CD2 PP 12 46 50.9
CD2 S **S** **12 50 22.5 -8.4**
CD2 AMB AMB
comp=Z,20nm,1.1s,mb4.5
CD2 AMB AMB
comp=Z,210nm,8.4s
CD2 LR LR
comp=N,1μm,12.0s,MS4.8
CD2 LR LR
comp=E,2μm,13.2s,MS4.8
CD2 LR LR
comp=Z,2μm,12.0s,MS4.7
HABR Khabarovsk 22.70 11 *e*P **P** **12 46 31.2 -0.2**
HABR *e* 12 46 39.6
HABR *e* 12 50 21.5
HABR *e*S **S** **12 50 37.4 -0.6**
HABR *e* 12 51 13.0
HABR *e* 12 57 45.7
KLR Kul'dur 23.03 5 *e*P **P** **12 46 30.2 -4.6**
KLR MLR MLR
comp=E,500nm,13.5s
KLR MLR MLR
comp=Z,900nm,13.5s,MS4.4
LZH Lanzhou 23.28 301⇑ P **P** **12 46 36.3 -1.3**
LZH PP 12 47 06.2
LZH S **S** **12 50 41.7 -6.0**
LZH AMB AMB
comp=Z,58nm,1.3s,mb4.8
LZH AMB AMB
comp=Z,176nm,4.7s
LZH LR LR
comp=E,763nm,11.2s
LZH LR LR
comp=Z,1μm,13.5s,MS4.5
KMI Kunming 23.34 273 P **P** **12 46 37.9 -0.4**
KMI S **S** **12 50 47.9 -0.9**
KMI AMB AMB
comp=Z,19nm,1.2s,mb4.4
KMI AMB AMB
comp=Z,126nm,5.8s
KMI LR LR
comp=N,401nm,12.4s,MS4.5
KMI LR LR
comp=E,842nm,10.1s,MS4.5
KMI LR LR
comp=Z,818nm,10.3s,MS4.5
YSS Yuzh-Sakhalins 23.46 25*c* *i*P **P** **12 46 39.2 -0.1**
YSS pmax pmax
comp=Z,135nm,1.2s,mb5.2
YSS MLR MLR
comp=Z,400nm,30.0s,MS3.7
YSS Yuzh-Sakhalins 23.46 25 *e*P **P** **12 46 39.7 +0.4**
comp=Z,94nm,1.0s,mb5.2
CHRT Chiangrai 27.25 262⇑ P **P** **12 47 09.0 -5.0**
comp=Z,124nm,1.1s,mb5.3
GTA Gaotai 27.38 306 P **P** **12 47 13.8 -1.2**
GTA PP 12 48 04.5
GTA S **S** **12 51 51.8 -1.2**
GTA AMB AMB
comp=Z,31nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,113nm,7.3s
GTA LR LR
comp=E,683nm,14.1s,MS4.5
GTA LR LR
comp=N,601nm,13.8s,MS4.5
GTA LR LR
comp=Z,1μm,14.9s,MS4.5
ULN Ulaanbaatar 27.39 327*c* *i*P **P** **12 47 16.9 +1.9**
ULN Ulaanbaatar 27.39 327 *e*P **P** **12 47 13.4 -1.6**
comp=Z,30nm,0.9s,mb4.8
SONM Songino Array 27.69 327 P **P** **12 47 15.5 -2.1**
comp=Z,23nm,0.8s,mb4.8,baz=136,slow=9.0,SNR=57
SONM LR LR 12 59 35.2
comp=Z,257nm,18.6s,MS3.8,baz=83,slow=39
CHG Chiang Mai 28.35 261 P pP 12 47 34.1 +1.2
CHTO Chiang Mai 28.35 261 *e*P **P** **12 47 24.5 +0.6**
ZAK Zakamensk 30.92 328 *e*P **P** **12 47 40.8 -5.5**
ZAK pmax pmax
comp=Z,2.0nm,2.3s
SHL Shillong 32.98 277⇑ *i*P **P** **12 48 06.0 +1.3**
LSA Lhasa 33.17 285 *e*P **P** **12 48 07.0 +0.7**
PET Petropavlovsk 34.85 32 *e*P **P** **12 48 20.3 -0.3**
PET *e*S **S** **12 53 45.6 -3.9**
PET pmax pmax
comp=Z,29nm,1.0s,mb5.2
PET MLR MLR
comp=Z,300nm,21.0s,MS4.0
YAK Yakutsk 35.74 1 *e*P **P** **12 48 27.2 -0.8**
YAK *e* pP 12 48 36.2 -1.0
YAK *e*S **S** **12 54 00.5 -2.3**
YAK *e*SS SS 12 56 18.6 -20
YAK pmax pmax
comp=Z,14nm,0.9s,mb4.9
YAK pmax pmax
comp=N,3.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,1.1s
YAK pmax pmax
comp=N,18nm,1.2s
YAK pmax pmax
comp=Z,26nm,1.2s,mb5.0
YAK pmax pmax
comp=E,9.0nm,1.4s
YAK smax
comp=N,57nm,3.9s
YAK smax
comp=Z,47nm,4.2s
YAK smax
comp=E,51nm,4.5s
YAK MLR MLR
comp=Z,238nm,12.0s,MS4.2
YAK MLR MLR
comp=N,150nm,11.0s,MS4.2
YAK MLR MLR
comp=E,246nm,15.0s,MS4.2
YAK Yakutsk 35.74 1 *e*P **P** **12 48 27.3 -0.8**
MA2 Magadan 36.64 19 *e*P **P** **12 48 37.3 +1.5**
MA2 *e*S **S** **12 54 16.0 -0.6**
MA2 pmax pmax
comp=N,10.0nm,1.2s
MA2 pmax pmax
comp=Z,20nm,1.2s,mb4.8
MA2 MLR MLR
comp=Z,100nm,21.0s
MA2 Magadan 36.64 19 *e*P **P** **12 48 35.7 0.0**
WMQ Urumqi 37.35 309 P **P** **12 48 42.0 -0.1**
WMQ PP PP 12 50 08.0 +0.5
WMQ S **S** **12 54 26.0 -1.9**
WMQ AMB AMB
comp=Z,40nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,156nm,5.0s
WMQ LR LR
comp=N,135nm,16.0s,MS4.1
WMQ LR LR
comp=E,214nm,16.0s,MS4.1
WMQ LR LR
comp=Z,223nm,16.0s,MS4.0
JIRN Jiri 37.70 282 *e*P **P** **12 48 45.5 +0.2**
comp=Z,35nm,0.9s,mb5.1
GUN Gumba 37.94 282 *e*P **P** **12 48 47.6 +0.3**
comp=Z,22nm,0.6s,mb5.1
PKI Pulchoki 38.40 282 *e*P **P** **12 48 51.1 -0.1**
comp=Z,50nm,0.7s,mb5.3
PKIN Phulchoki 38.41 282 *e*P **P** **12 48 51.0 -0.3**
comp=Z,34nm,0.8s,mb5.1
KKN Kakani 38.49 282 *e*P **P** **12 48 52.1 +0.2**
comp=Z,49nm,0.7s,mb5.3
DMN Daman 38.66 282 *e*P **P** **12 48 53.4 0.0**
comp=Z,41nm,0.8s,mb5.2
GKN Gorkha 39.02 283 *e*P **P** **12 48 56.3 -0.1**
comp=Z,52nm,0.8s,mb5.3
DANN Dangsing 39.74 283 *e*P **P** **12 49 02.7 +0.4**
comp=Z,35nm,0.6s,mb5.3
SEY Seymchan 39.86 17⇑ *e*P **P** **12 49 05.7 +2.9**
KOLN Koldanda 39.96 283 *e*P **P** **12 49 04.5 +0.3**
comp=Z,43nm,1.0s,mb5.1
MK31 Makanchi Array 41.75 312 *i* P **P** **12 49 18.2 -0.5**
MK31 pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
MK31 Makanchi Array 41.75 312 *e*P **P** **12 49 18.0 -0.7**
MKAR Makanchi Array 41.75 312 P **P** **12 49 18.0 -0.7**
comp=Z,5.4nm,0.6s,mb4.4,baz=98,slow=11,SNR=69
ZAA0 Zalesovo Array 42.41 323 *e*P **P** **12 49 22.4 -1.5**
ZALV Zalesovo Beam 42.41 323 P **P** **12 49 22.1 -1.8**
comp=Z,4.2nm,0.6s,mb4.3,baz=111,slow=8.6,SNR=17
ZALV LR LR 13 08 36.4
comp=Z,148nm,19.0s,MS3.9,baz=106,slow=38
ZAL Zalesovo 42.41 323 P **P** **12 49 22.1 -1.9**
PTH Pithoragarh 42.65 286 *e*P pP 12 49 34.3 -1.3
NVS Novosibirsk 43.61 323 *e*P **P** **12 49 31.2 -2.4**
NVS pmax pmax
comp=Z,38nm,2.5s,mb4.7
NVS pmax pmax
comp=N,7.0nm,1.9s
NVS pmax pmax
comp=E,9.0nm,1.9s
FITZ Fitzroy Crossi 44.23 184 *e*P **P** **12 49 38.3 -0.6**
comp=E,4.6nm,0.8s,mb4.3
FITZ *e* pP 12 49 45.9 -2.4
FITZ Fitzroy Crossi 44.23 184 *e*P **P** **12 49 38.0 -0.9**
comp=E,18nm,0.9s,mb4.8
FITZ *e*pP pP 12 49 46.1 -2.2
FITZ Fitzroy Crossi 44.23 184 P **P** **12 49 36.9 -2.0**
comp=E,3.1nm,1.0s,mb4.0,baz=15,slow=18,SNR=4.1
KURK Kurchatov 45.01 316 P **P** **12 49 44.7 -0.2**
comp=E,59nm,1.2s,mb5.3,SNR=7.5
KURK Kurchatov 45.01 316 *e*P **P** **12 49 43.7 -1.2**
KURK *e**PP pP 12 49 52.9 -1.4
KURK pmax pmax
comp=Z,21nm,1.1s,mb4.9
KURK Kurchatov 45.01 316 *e*P **P** **12 49 43.7 -1.2**
comp=Z,21nm,1.1s,mb4.9
KURK *e*pP pP 12 49 52.9 -1.4
TIXI Tiksi 45.39 0 *e*P **P** **12 49 46.6 -1.1**
TIXI pmax pmax
comp=Z,26nm,1.7s,mb4.8
TIXI MLR MLR
comp=Z,206nm,11.0s,MS4.3
TIXI Tiksi 45.39 0 *e*P **P** **12 49 46.8 -0.9**
comp=Z,30nm,1.5s,mb4.9
TIXI *e*pP pP 12 49 58.7 +1.7
ULHL Ulahol 45.41 304 P **P** **12 49 49.5 +1.2**
SNR=9.1
TKM2 Tokmak 2 45.93 305 *e*P pP 12 50 02.0 +0.3
TKM2 Tokmak 2 45.93 305 *e*pP pP 12 50 02.0 +0.4
TKM2 *e*sP sP 12 50 04.9 -0.5
TKM2 Tokmak 2 45.93 305 P **P** **12 49 53.5 +1.2**
SNR=16
KZA Kyzart 46.14 304 P **P** **12 49 56.0 +2.0**
SNR=9.8
WRAB Tennant Creek 46.29 173 *i* P **P** **12 49 54.6 -0.7**
WRAB Tennant Creek 46.29 173 *e*P **P** **12 49 54.1 -1.1**
comp=Z,12nm,0.8s,mb4.9
WRAB *e*pP pP 12 50 02.3 -2.3
WRAB *e*sP sP 12 50 06.5 -1.8
WRA Warramunga Arr 46.30 173 P **P** **12 49 53.8 -1.5**
comp=Z,5.0nm,0.7s,mb4.6,baz=353,slow=8.5,SNR=64
WB2 Warramunga Arr 46.30 173 *e*P **P** **12 49 53.8 -1.5**
WB2 *e* pP 12 50 02.3 -2.4
WB2 Warramunga Arr 46.30 173 *e*P **P** **12 49 54.3 -1.1**
WB2 *e* pP 12 50 02.3 -2.4
CHMS Chumysh 46.55 305 P **P** **12 49 57.9 +0.7**
SNR=6.0
UCH Uchtor 46.69 304 *e*pP pP 12 50 08.9 +1.2
UCH *e*sP sP 12 50 11.6 +0.2
UCH Uchtor 46.69 304 P **P** **12 50 00.4 +2.0**
SNR=23
AAK Ala-Archa 46.72 305 *e*P **P** **12 49 58.5 0.0**
AAK *e*pP pP 12 50 06.6 -1.3
AAK *e*sP sP 12 50 09.7 -2.0
AAK Ala-Archa 46.72 305 P **P** **12 49 58.1 -0.5**
comp=Z,2.4nm,0.5s,mb4.4,baz=106,slow=5.7,SNR=6.6
USP Ospenovka 46.75 306 P **P** **12 49 59.5 +0.7**
SNR=5.3
EKS2 Erkin-Say 47.25 305 *e*P **P** **12 50 03.6 +0.9**
comp=Z,2.0nm,0.9s,mb4.0
AML Almayashu 47.30 304 *e*P **P** **12 50 03.7 +0.7**
AML *e*pP pP 12 50 15.7 +3.3
AML *e*PcP PcP 12 51 35.1 +1.4
BILL Bilibino 47.50 18*c* *i*P **P** **12 50 04.6 +0.4**
BILL *e* 12 50 16.9
BILL *e* 12 51 32.6
BILL *e* 12 51 55.9
BILL pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
BILL MLR MLR
comp=Z,100nm,16.0s,MS3.9
BILL Bilibino 47.50 18 *e*P **P** **12 50 04.4 +0.2**
comp=Z,6.9nm,0.8s,mb4.7
BILL *e*pP pP 12 50 14.0 +0.3
BILL *e*sP sP 12 50 17.5 +0.1
CTA Charters Tower 49.18 158 *e*P **P** **12 50 17.1 -0.6**
comp=Z,4.9nm,0.7s,mb4.7
CTA *e* pP 12 50 25.0 -2.1
CTA Charters Tower 49.18 158 *e*P **P** **12 50 17.1 -0.6**
CTA *e* pP 12 50 25.0 -2.1
CTA pmax pmax
comp=Z,5.0nm,0.7s
CTAO Charters Tower 49.18 158 *e*P **P** **12 50 17.2 -0.5**
CTAO *e**PP pP 12 50 25.2 -1.9
CTAO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
CTAO Charters Tower 49.18 158 *e*P **P** **12 50 17.2 -0.5**
comp=Z,9.2nm,0.8s,mb4.9
CTAO *e*pP pP 12 50 25.2 -1.9
KK31 Karatay Array 49.66 305 *i* P **P** **12 50 21.8 +0.6**
KK31 pmax pmax
comp=Z,12nm,0.8s,mb5.0
ASAR Alice Springs 49.93 174 P **P** **12 50 22.7 -0.7**
comp=Z,2.3nm,0.7s,mb4.3,baz=6.2,slow=14,SNR=33
BRVK Borovoye 50.53 318 P **P** **12 50 27.8 +0.2**
comp=Z,98nm,1.2s,mb5.6,SNR=8.3
BRVK Borovoye 50.53 318 *e*P **P** **12 50 27.8 +0.2**
BRVK *e*pP pP 12 50 36.9 -0.2
ZRNK Zerenda 51.28 318 *i* P **P** **12 50 33.3 0.0**
ZRNK pmax pmax
comp=Z,27nm,0.9s,mb5.2
KBL Kabul 51.40 294 *e*P **P** **12 50 35.2 +0.8**
KBL *e*pP pP 12 50 44.8 +0.8
SVE Sverdlovsk 56.42 322⇓ *e*P pP 12 51 19.6 -0.8
SVE pmax pmax
comp=Z,22nm,0.9s,mb5.2
SVE MLR MLR
comp=Z,837nm,14.0s,MS5.0
ARU Arti 57.56 322*c* *i*P **P** **12 51 18.1 -0.8**
ARU *e*S **S** **12 59 13.2 -1.2**
ARU pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ARU MLR MLR
comp=Z,406nm,18.0s,MS4.6
ARU Arti 57.56 322 *e*P **P** **12 51 18.5 -0.4**
ARU *e**PP pP 12 51 27.9 -0.6
ARU pmax pmax
comp=Z,19nm,1.1s,mb5.0
ARU Arti 57.56 322 *e*P **P** **12 51 18.5 -0.4**
comp=Z,19nm,1.1s,mb5.0
ARU *e*pP pP 12 51 27.9 -0.6
STKA Stephens Creek 59.16 167 P **P** **12 51 28.8 -1.4**
comp=Z,1.7nm,0.6s,mb4.3,baz=297,slow=11,SNR=4.9
STKA LR LR 13 18 49.7
comp=Z,101nm,20.0s,MS4.0,baz=24,slow=38
TTA Tatalina 60.30 31 *e*P **P** **12 51 38.5 +0.7**
IMA2 Indian Mountai 61.29 27 *e*P **P** **12 51 45.4 +0.8**
KDAK Kodiak Island 62.26 36 P **P** **12 51 51.3 +0.2**
comp=Z,7.9nm,0.8s,mb4.9,baz=12,slow=3.7,SNR=5.2
MCK McKinley 63.44 30 *e*P **P** **12 51 59.3 +0.4**
COLA College 63.79 28 *e*P **P** **12 52 02.2 +1.0**
COLA pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
COLA College 63.79 28 *e*P **P** **12 52 02.2 +1.0**
comp=Z,3.5nm,0.5s,mb4.7
TMCR Tamitsa 66.92 332 *e*P **P** **12 52 20.0 -1.5**
TMCR pmax pmax
comp=Z,37nm,1.3s,mb5.2
APA Apatity 67.94 336⇑ *e*P **P** **12 52 28.2 +0.3**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.0
INK Inuvik 68.69 23 *e*P **P** **12 52 33.0 +0.4**
comp=Z,134nm,0.8s,mb5.9
KIV Kislovodsk 69.47 310*c* *i*P **P** **12 52 38.5 +0.7**
KIV pmax pmax
comp=Z,15nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,100nm,26.0s,MS3.9
KIV Kislovodsk 69.47 310 *e*P **P** **12 52 39.0 +1.2**
comp=Z,26nm,1.0s,mb5.1
KIV *e*PcP PcP 12 52 58.0 -3.0
KEV Kevo 69.50 339 *e*p **P** **12 52 33.8 -3.8**
OBN Obninsk 69.99 322 *i* P **P** **12 52 41.3 +0.5**
OBN *e* 12 53 01.7
OBN *e*S S 13 01 52.9 +3.9
OBN pmax pmax
comp=Z,8.0nm,0.5s,mb4.9
OBN MLR MLR
comp=Z,300nm,19.0s,MS4.6
ARCES ARCESS Array B 70.07 339 P **P** **12 52 39.7 -1.4**
ARCES LR LR 13 27 44.9

ARCES **ARCESS Array B 70.07 339** P **P** **12 52 39.7 -1.4**
comp=Z,3.0nm,0.8s,mb4.3,baz=79,slow=6.3,SNR=8.4
ARCES LR LR 13 27 44.9
comp=Z,95nm,19.0s,MS4.1,baz=40,slow=40
UMR Umm Al-Rimmam 70.13 294 *eP* **P** **12 52 38.1 -4.1**
UMR AMb AMB 12 52 47.4
comp=Z,21nm,1.1s,mb5.0
JOF Joensuu 70.16 331 *ep* **P** **12 52 40.2 -1.5**
comp=Z,9.9nm,0.7s,mb4.8
MIB Mutribah 70.36 294 *eP* **P** **12 52 39.1 -4.4**
MIB AMb AMB 12 52 45.1
comp=Z,19nm,0.9s,mb5.0
RDF Al-Radifah 70.48 293 *eP* **P** **12 52 40.3 -4.0**
RDF AMb AMB 12 52 47.3
comp=Z,31nm,0.5s,mb5.5
NAY Al-Naaiem 70.62 294 *eP* **P** **12 52 40.9 -4.3**
NAY AMb AMB 12 52 46.6
comp=Z,16nm,1.0s,mb4.9
FINES FINESS Array B 72.98 331 *i P* **P** **12 52 58.7 0.0**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 72.98 331 P **P** **12 52 58.6 -0.1**
comp=Z,5.3nm,0.7s,mb4.6,baz=65,slow=5.9,SNR=29
FINES LR LR 13 29 12.3
comp=Z,71nm,19.2s,MS4.0,baz=157,slow=39
VSU Vasula 73.88 328⇑ *eP* **P** **12 53 05.3 +1.2**
MALT Malatya 74.36 305 *eP* **P** **12 53 08.8 +1.5**
DAG Danmarks Havn 75.24 353⇑ *iP* **P** **12 53 11.8 +0.1**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
DAG Danmarks Havn 75.24 353⇑ *iP* **P** **12 53 11.8 +0.1**
comp=Z,2.0nm,0.6s,mb4.2
RES Resolute Bay 75.42 11 *eP* **P** **12 53 12.3 -0.4**
AKASG Malin Array Be 75.71 320 *i P* **P** **12 53 14.3 -0.5**
AKASG pmax pmax
comp=Z,7.0nm,0.6s
AKASG Malin Array Be 75.71 320 P **P** **12 53 14.4 -0.4**
comp=Z,6.5nm,0.6s,mb4.8,baz=54,slow=5.8,SNR=39
AKBB Malin Array Si 75.71 320 *eP* **P** **12 53 14.7 -0.1**
YKW3 Yellowknife Ar 78.28 25 *eP* **P** **12 53 29.8 +0.8**
YKA Yellowknife Ar 78.32 25 *i P* **P** **12 53 29.5 +0.2**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 78.32 25 P **P** **12 53 29.5 +0.3**
comp=Z,2.3nm,0.7s,mb4.2,baz=302,slow=5.6,SNR=48
YKA LR LR 13 28 12.4
comp=Z,37nm,20.8s,MS3.7,baz=205,slow=36
LVV L'vov 79.09 320 *eP* **P** **12 53 33.9 +0.1**
NB2 NORSAR Subarra 79.41 334 P **P** **12 53 34.5 -0.8**
comp=Z,8.7nm,0.8s,mb4.7,baz=52,slow=5.6
NOA NORSAR Array B 79.41 334 P **P** **12 53 34.6 -0.7**
NOA LR LR 13 29 56.3
NOA NORSAR Array B 79.41 334 P **P** **12 53 34.6 -0.7**
comp=Z,6.5nm,0.7s,mb4.7,baz=51,slow=5.5,SNR=33
NOA LR LR 13 29 56.3
comp=Z,51nm,18.3s,MS3.9,baz=120,slow=37
CSS Prodhromos 79.44 304 *eP* **P** **12 53 36.4 +0.5**
comp=Z,8.4nm,0.6s,mb4.8
KWP Kalwaria 79.94 321 *eP* **P** **12 53 39.3 +0.9**
KWP Kalwaria 79.94 321 *eP* **P** **12 53 39.3 +0.9**
KOLS Kolonicke sedl 80.53 320 *eP* **P** **12 53 43.6 +2.0**
STHS Stebnicka Huta 80.88 321 *eP* **P** **12 53 43.4 0.0**
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 80.88 321 *eP* **P** **12 53 43.4 0.0**
comp=Z,3.7nm,0.9s,mb4.3
OJC Ojcow 81.28 322 *eP* **P** **12 53 46.4 +0.9**
KECS Kecovo 81.78 320 *eP* **P** **12 53 48.6 +0.4**
KECS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
KECS Kecovo 81.78 320 *eP* **P** **12 53 48.6 +0.4**
comp=Z,1.7nm,0.8s,mb4.0
OKC Ostrava-Krasne 82.39 322 *eP* **P** **12 53 52.2 +0.8**
OKC *e* pP 12 54 01.2 -0.1
OKC Ostrava-Krasne 82.39 322 *eP* **P** **12 53 52.2 +0.8**
OKC epP pP 12 54 01.2 -0.1
OKC AMS AMS 13 33 10.0
comp=Z,300nm,16.1s
VYHS Vyhne 82.71 321 *eP* **P** **12 53 54.1 +1.0**
VYHS pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
VYHS Vyhne 82.71 321 *eP* **P** **12 53 54.1 +1.0**
comp=Z,7.1nm,1.4s,mb4.5
MORC Moravsky Berou 82.75 322 *eP* **P** **12 53 53.8 +0.5**
MORC *e**PP pP 12 54 04.0 +0.8
MORC pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
MORC Moravsky Berou 82.75 322 *eP* **P** **12 53 53.8 +0.5**
comp=Z,7.4nm,1.3s,mb4.6
MORC *ep*P pP 12 54 04.0 +0.7
KSP Ksiaz 82.85 324 *eP* **P** **12 53 54.8 +1.1**
KSP Ksiaz 82.85 324 *eP* **P** **12 53 54.4 +0.6**
KSP *ep*P pP 12 54 02.6 -1.1
KOLL Kolacno 82.91 321 *eP* **P** **12 53 55.3 +1.2**
DPC Dobruska-Polom 83.10 323 *eP* **P** **12 53 55.6 +0.5**
DPC *ep*P pP 12 54 06.3 +1.3
DPC AMS AMS 13 36 20.0
comp=Z,300nm,16.8s
UPC Upice 83.18 324 *eP* **P** **12 53 56.7 +1.2**
UPC *ep*P pP 12 54 06.3 +0.9
MODS Modra-Piesok 83.66 321 *eP* **P** **12 53 59.1 +1.1**
MODS Modra-Piesok 83.66 321 *eP* **P** **12 53 59.0 +1.0**
PVCC Panska Ves 83.94 324 *eP* **P** **12 54 00.1 +0.7**
PVCC AMS AMS 13 35 30.0
comp=Z,300nm,13.3s
BSEG Bad Segeberg 84.05 328 *eP* **P** **12 54 00.6 +0.7**
comp=Z,18nm,1.0s,mb5.2
BRG Berggiesshubel 84.06 325 *eP* **P** **12 54 00.6 +0.6**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.3
BRG Berggiesshubel 84.06 325 *eP* **P** **12 54 00.4 +0.4**
comp=Z,8.0nm,1.1s,mb4.8
BRG Berggiesshubel 84.06 325 *eP* **P** **12 54 00.6 +0.5**
comp=Z,8.3nm,1.1s,mb4.8
TREC Trest 84.14 323 *eP* **P** **12 54 01.4 +1.0**
TREC AMS AMS 13 34 20.0
comp=Z,300nm,18.6s
PRU Pruhonice 84.25 324 *eP* **P** **12 54 02.0 +1.0**
PRU *ep*P pP 12 54 11.0 0.0
PRU AMS AMS 13 35 50.0
comp=Z,200nm,11.4s
CLL Collm 84.30 325⇑ *iP* **P** **12 54 01.4 +0.2**
CLL *i* pP 12 54 10.4 -0.8
CLL pmax pmax
comp=Z,12nm,0.8s,mb5.1
CLL Collm 84.30 325⇑ *iP* **P** **12 54 01.4 +0.2**
comp=Z,12nm,0.8s,mb5.1
CLL *i* PcP PcP 12 54 04.0 -0.9
CLL *i* pP 12 54 10.4 -0.8
CLL Collm 84.30 325 *eP* **P** **12 54 01.3 +0.1**
comp=Z,12nm,0.8s,mb5.1
CLL Collm 84.30 325⇑ *iP* **P** **12 54 01.4 +0.2**
comp=Z,12nm,0.8s,mb5.1
CLL *i* pP pP 12 54 10.4 -0.8
EDM Edmonton 84.35 32 *eP* **P** **12 54 03.0 +1.6**
CONA Conrad Observa 84.69 321⇑ *iPcP* **P** **12 54 04.5 +1.2**
comp=Z,11nm,1.4s,mb4.8
TANN Tannenbergstha 85.10 325 *eP* **P** **12 54 06.0 +0.7**
comp=Z,4.0nm,1.1s,mb4.5
NKC Novy Kostel 85.21 325 *eP* **P** **12 54 06.7 +0.9**
ARSA Arzberg 85.26 321⇓ *iP* **P** **12 54 07.1 +1.0**
comp=Z,4.0nm,1.3s,mb4.4
ARSA Arzberg 85.26 321⇓ *iPcP* **P** **12 54 07.1 +1.0**
comp=Z,4.0nm,1.3s,mb4.4
KHC Kasperske Hory 85.26 323⇓ *eP* **P** **12 54 06.9 +0.8**
KHC Kasperske Hory 85.26 323 *eP* **P** **12 54 07.0 +0.9**
KHC *ep*P pP 12 54 17.1 +1.0
KHC AMS AMS 13 36 10.0
comp=Z,300nm,14.9s
CLZ Clausthal 85.30 327 *eP* **P** **12 54 07.6 +1.4**
CLZ pmax pmax
comp=Z,16nm,0.9s,mb5.2
CLZ Clausthal 85.30 327 *eP* **P** **12 54 07.6 +1.4**
comp=Z,16nm,0.9s,mb5.2
GEC2 GERESS Array S 85.36 323 *eP* **P** **12 54 07.2 +0.6**
GEC2 pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
GEC2 GERESS Array S 85.36 323 *eP* **P** **12 54 07.2 +0.6**
comp=Z,4.0nm,1.0s,mb4.5
GERES GERESS Array B 85.36 323 P **P** **12 54 07.3 +0.7**
comp=Z,2.4nm,0.8s,mb4.4,baz=41,slow=4.3,SNR=16
GERES LR LR 13 35 48.4
comp=Z,145nm,20.6s,MS4.3,baz=83,slow=38
MOX Moxa 85.40 325 *eP* **P** **12 54 08.0 +1.3**
MOX
comp=Z,300nm,16.0s
MOX Moxa 85.40 325 *eP* **P** **12 54 07.6 +0.9**
comp=Z,4.0nm,1.2s,mb4.4
MANZ Manzenberg 85.54 325 *eP* **P** **12 54 08.2 +0.8**
comp=Z,7.0nm,1.4s,mb4.7
ROTZ Rotzenmuhle 85.61 324 *eP* **P** **12 54 08.9 +1.1**
comp=Z,8.0nm,0.9s,mb5.0
MOA Molln 85.62 322⇓ *iP* **P** **12 54 09.3 +1.3**
comp=Z,4.6nm,0.8s,mb4.7
MOA Molln 85.62 322⇓ *iPcP* **P** **12 54 09.3 +1.3**
comp=Z,4.6nm,0.8s,mb4.7
KCPM Cahto Peak 86.07 47 *eP* **P** **12 54 06.7 -3.7**
GRA1 Grafenberg Arr 86.17 325 *eP* **P** **12 54 11.8 +1.2**
comp=Z,14nm,0.9s,mb5.2
GRA1 *ep*P pP 12 54 20.9 +0.3
GRA1 LR LR
comp=Z,200nm,18.1s,MS4.6
GRF Grafenberg Arr 86.17 325 *eP* **P** **12 54 11.8 +1.2**
GRF *e**PP pP 12 54 20.9 +0.3
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,200nm,18.1s,MS4.6
GRF Grafenberg Arr 86.17 325 *eP* **P** **12 54 11.8 +1.2**
GRF *e**PP pP 12 54 20.9 +0.3
GRF pmax pmax
comp=Z,14nm,0.9s,mb5.2
GRF MLR MLR
comp=Z,200nm,18.1s,MS4.6
GRF Grafenberg Arr 86.17 325 *eP* **P** **12 54 11.8 +1.2**
comp=Z,14nm,0.9s,mb5.2
GRF *ep*P pP 12 54 20.9 +0.3
GRF *e*L 13 36 54.8
comp=Z,227nm,18.1s
WALA Waterton Lakes 86.59 36 *eP* **P** **12 54 13.5 +0.9**
comp=Z,10nm,1.5s,mb4.8
WVOR Wild Horse Val 87.75 43 *eP* **P** **12 54 20.1 +1.7**
WVOR *e**PP pP 12 54 28.6 +0.2
WVOR pmax pmax
comp=Z,4.0nm,1.2s,mb4.5
WVOR Wild Horse Val 87.75 43 *eP* **P** **12 54 20.1 +1.7**
comp=Z,3.9nm,1.2s,mb4.5
WVOR *ep*P pP 12 54 28.6 +0.1
FCC Fort Churchill 88.15 21 *eP* **P** **12 54 19.8 -0.2**
FCC pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
FCC Fort Churchill 88.15 21 *eP* **P** **12 54 19.8 -0.2**
comp=Z,3.5nm,0.7s,mb4.7
FFC Flin Flon 88.38 27 P **P** **12 54 21.3 +0.2**
comp=Z,56nm,1.1s,mb5.7,SNR=5.8
FFC Flin Flon 88.38 27 *eP* **P** **12 54 21.4 +0.3**
FFC pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
FFC Flin Flon 88.38 27 *eP* **P** **12 54 21.4 +0.3**
comp=Z,10nm,1.1s,mb5.0
BFO Black Forest 88.51 325 *eP* **P** **12 54 24.6 +2.7**
BFO pmax pmax
comp=Z,16nm,1.6s,mb5.1
BFO Black Forest 88.51 325 *eP* **P** **12 54 24.6 +2.7**
comp=Z,16nm,1.6s,mb5.1
BCLA Clavier 88.67 328 P **P** **12 54 19.0 -3.6**
PPT Papeete 90.58 109 LR LR 13 30 29.7
comp=Z,141nm,18.4s,MS4.4,baz=300,slow=32

IDC 01 13:08:27.0±1.3,138N×12377E,h0km,mb3.7/5,mb1 3.9/5, mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=66.6km s-min=20.1km az=75.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.59**	**154**	P	P	13 13 40.7	+0.8
	1.4nm,0.4s,baz=334,slow=11,SNR=24						
ASAR	**Alice Springs**	**26.78**	**159**	P	P	13 14 08.1	-0.6
	0.3nm,0.7s,baz=354,slow=7.5,SNR=3.0						
STKA	**Stephens Creek**	**37.14**	**154**	P	P	13 15 39.8	+0.1
	2.0nm,0.6s,baz=341,slow=9.7,SNR=6.0						
MJAR	**Matsushiro Arr**	**37.45**	**19**	P	P	13 15 42.3	+0.1
	1.0nm,0.5s,baz=210,slow=6.7,SNR=6.5						
MKAR	**Makanchi Array**	**57.86**	**327**	P	P	13 18 20.1	-0.5
	0.2nm,0.5s,baz=123,slow=8.5,SNR=4.3						

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*ISCJB **01** 13:16:56.2±2.3, 189N±0.1×1457E±03, h218km±22km, mb3.3/8, Error ellipse: s-maj=49.5km s-min=20.9km az=14.1*
*IDC **01** 13:16:56.6±2.7, 1892N×14572E, h205km±23km, mb3.1/6, mb1 3.4/7, mb1mx3.2/19, mbtmp3.2/7, Error ellipse: s-maj=42.0km s-min=17.7km az=94.0*
*NEIC **01** 13:16:57.5±1.9, 1894N×14570E, h217km±18km, mb3.5/1, Error ellipse: s-maj=36.3km s-min=15.5km az=104.0*
ISC 01 13:16:56.6±2.1,189N±01×1457E±03,h207km±21km,n11, σ0§84/12,mb3.3/8,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.36**	**189**	P	**Pn**	**13 18 17.2**	**+1.3**
	3.5nm,0.3s,baz=2.2,slow=14,SNR=2.8						
GUMO				S	**Sn**	**13 19 17.3**	**-1.2**
	4.4nm,0.3s,baz=255,slow=20,SNR=2.9						
WRAB	**Tennant Creek**	**40.18**	**197**	*eP*	**P**	**13 24 12.9**	**0.0**
	1.6nm,0.8s,mb3.5						
WRA	**Warramunga Arr**	**40.20**	**197**	P	**P**	**13 24 13.4**	**+0.3**
	0.9nm,0.6s,mb3.4,baz=25,slow=8.7,SNR=24						
WRA				PcP	PcP	13 26 12.6	-0.3
	0.2nm,0.4s,baz=17,slow=3.5,SNR=5.2						
FITZ	**Fitzroy Crossi**	**41.74**	**209**	P	**P**	**13 24 25.6**	**0.0**
	0.7nm,0.3s,mb3.6,baz=41,slow=9.7,SNR=15						
ASAR	**Alice Springs**	**43.86**	**196**	P	**P**	**13 24 43.0**	**+0.4**
	0.3nm,0.5s,mb2.9,baz=13,slow=7.3,SNR=7.5						
MKAR	**Makanchi Array**	**58.32**	**314**	P	**P**	**13 26 30.3**	**+0.5**
	0.1nm,0.4s,mb2.8,baz=91,slow=8.1,SNR=2.5						
DLBC	**Dease Lake**	**71.11**	**34**	*eP*	**P**	**13 27 51.5**	**-0.7**
YKA	**Yellowknife Ar**	**77.79**	**28**	P	**P**	**13 28 31.4**	**+0.8**
YKA	**Yellowknife Ar**	**77.79**	**28**	P	**P**	**13 28 31.4**	**+0.8**
	0.3nm,0.5s,mb3.2,baz=289,slow=5.3,SNR=5.0						
JOF	**Joensuu**	**83.83**	**335**	*ep*	**P**	**13 28 54.7**	**-7.8**
	0.4nm,0.3s,mb3.6						
FINES	**FINESS Array B**	**86.69**	**335**	P	**P**	**13 29 15.2**	**-1.5**
	1.1nm,0.8s,mb3.6,baz=96,slow=4.2,SNR=5.6						

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*NEIC **01** 13:22:13.1±3.3, 854S×11909E, h107km±36km, mb3.8/1, Error ellipse: s-maj=67.2km s-min=15.5km az=51.0*
*IDC **01** 13:22:15.4±3.4, 873S×11890E, h134km±28km, mb3.9/5, mb1 3.8/8, mb1mx3.6/18, mbtmp3.8/8, Error ellipse: s-maj=74.0km s-min=11.6km az=55.0*
*ISCJB **01** 13:22:16.1±1.3, 86S±01×1193E±01, h157km±10km, mb4.1/4, Error ellipse: s-maj=31.5km s-min=10.7km az=44.1*
ISC 01 13:22:17.3±1.3,86S±01×1192E±01,h147km±10km,n11, σ0§92/18,mb4.1/4,1D,Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**1.52**	**137**⇓	*eP*	**Pn**	**13 22 47.3**	**+0.5**
WSI				*eS*	**Sn**	**13 22 59.9**	**-10**
BATI	**Kupang**	**4.66**	**111**	P	**Pn**	**13 23 27.7**	**+1.5**
	28nm,0.3s,baz=306,slow=3.1,SNR=144						
BATI				S	**Sn**	**13 24 18.9**	**-0.9**
	13nm,0.3s,baz=252,slow=20,SNR=6.3						
FITZ	**Fitzroy Crossi**	**11.34**	**147**	P	**Pn**	**13 24 53.3**	**-1.8**
	0.2nm,0.3s,baz=239,slow=18,SNR=13						
FITZ				S	**Sn**	**13 26 50.5**	**-10**
	1.3nm,0.3s,baz=198,slow=20,SNR=15						
WRA	**Warramunga Arr**	**18.48**	**129**	P	**P**	**13 26 22.1**	**-0.1**
	1.1nm,0.3s,baz=308,slow=12,SNR=60						
WRA				S	**S**	**13 29 40.8**	**-4.6**
	0.2nm,0.3s,baz=300,slow=23,SNR=5.3						
WRAB	**Tennant Creek**	**18.48**	**129**	*eP*	**P**	**13 26 22.1**	**0.0**
	3.1nm,0.6s						
WRAB				*eS*	**S**	**13 29 40.4**	**-5.2**
WB2	**Warramunga Arr**	**18.49**	**129**	*eP*	**P**	**13 26 22.3**	**+0.1**
WB2				*eS*	**S**	**13 29 45.2**	**-0.4**
ASAR	**Alice Springs**	**20.56**	**139**	P	**P**	**13 26 44.9**	**+0.3**
	4.0nm,0.3s,baz=310,slow=9.8,SNR=70						
ASAR				S	**S**	**13 30 28.9**	**+2.4**
	0.2nm,0.8s,baz=315,slow=20,SNR=3.6						
STKA	**Stephens Creek**	**31.14**	**141**	P	**P**	**13 28 23.1**	**+0.9**
	1.7nm,0.4s,mb4.2,baz=270,slow=16,SNR=9.6						
SONM	**Songino Array**	**57.28**	**350**	P	**P**	**13 31 50.2**	**+0.7**
	2.5nm,0.6s,mb4.2,baz=167,slow=7.4,SNR=8.3						
MKAR	**Makanchi Array**	**64.17**	**333**	P	**P**	**13 32 35.6**	**-0.6**
	0.6nm,0.4s,mb3.8,baz=148,slow=7.1,SNR=10						
ZALV	**Zalesovo Beam**	**68.71**	**339**	P	**P**	**13 33 04.0**	**-0.9**
	1.6nm,0.3s,mb4.2,baz=144,slow=4.4,SNR=5.1						

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*CSEM **01** 13:27:04.6±1.3, 3705N×2447W, h5km, ML3.0, Error ellipse: s-maj=11.6km s-min=6.6km az=96.0, After PDA*
PDA 01 13:27:04.6±1.3,3705N×2447W,h5km,MD3.6,ML3.0, Error ellipse: s-maj=11.6km s-min=6.6km az=96.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.48**	**265**	*eP*	Pg	13 27 13.0	-0.8
PSMN				*eS*	Sg	13 27 19.2	-0.9
CMLA	**Cha da Macela**	**1.10**	**311**	*eP*	Pg	13 27 22.3	-3.5
CMLA				*eS*	Sg	13 27 34.9	-5.2
CMLA				A		13 27 39.4	
	120nm,0.4s						
CMLA	**Cha da Macela**	**1.10**	**311**	*eP*	Pg	13 27 22.3	-3.5
CMLA				*eS*	Sg	13 27 34.9	-5.2
PDA	**Ponta Delgada**	**1.18**	**307**	*eP*	Pg	13 27 22.4	-4.8
PDA				*eS*	Sg	13 27 36.3	-6.3
PSET	**Sete Cidades**	**1.26**	**308**	*eP*	Pg	13 27 24.0	-4.8
PSET				*eS*	Sg	13 27 38.2	-7.0
PSET				A		13 27 43.6	
	104nm,0.3s						
PSET	**Sete Cidades**	**1.26**	**308**	*eP*	Pg	13 27 24.0	-4.8
PSET				*eS*	Sg	13 27 38.2	-7.0
PSCM	**Serra do Cume**	**2.67**	**309**	*eS*	Sn	13 28 13.4	-7.5
PSCM				A		13 28 16.4	
	33nm,0.3s						

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*IDC **01** 13:33:24.1±3.0, 2254S×17950W, h579km±32km, mb3.6/9, mb1 3.7/10, mb1mx3.5/18, mbtmp3.6/10, Error ellipse: s-maj=33.7km s-min=23.7km az=159.0*
*ISCJB **01** 13:33:27.0±2.3, 227S±01×1797W±01, h630km±32km, mb4.3/11, Error ellipse: s-maj=20.7km s-min=19.6km az=152.3*
*NEIC **01** 13:33:27.2±5.2, 2261S×17960W, h624km±61km, mb4.4/5, Error ellipse: s-maj=47.0km s-min=20.9km az=201.0*
ISC 01 13:33:28.7±2.3,228S±01×1796W±01,h637km±30km,n23, σ0§82/21,mb4.2/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.68**	**189**	P	**P**	**13 36 40.8**	**-0.6**
	1.5nm,0.3s,baz=273,slow=7.7,SNR=8.9						
URZ				S	**S**	**13 39 17.9**	**-0.3**
	0.2nm,0.3s,baz=198,slow=20,SNR=2.8						
ARMA	**Armidale**	**26.74**	**247**	*eP*	**P**	**13 38 21.9**	**+1.5**
CTA	**Charters Tower**	**31.82**	**268**	*eP*	**P**	**13 39 03.6**	**-0.5**
	7.1nm,0.4s,mb4.5						
CTA	**Charters Tower**	**31.82**	**268**	P	**P**	**13 39 04.1**	**0.0**
	8.4nm,0.4s,mb4.6,baz=92,slow=11,SNR=36						
STKA	**Stephens Creek**	**35.45**	**247**	*eP*	**P**	**13 39 35.6**	**+1.4**
	2.6nm,0.4s,mb4.1						
STKA	**Stephens Creek**	**35.45**	**247**	P	**P**	**13 39 35.5**	**+1.3**
	3.3nm,0.4s,mb4.2,baz=93,slow=11,SNR=10.0						
ASAR	**Alice Springs**	**42.55**	**259**	P	**P**	**13 40 31.5**	**+0.4**
	5.9nm,0.5s,mb4.3,baz=78,slow=7.8,SNR=119						
ASAR				S	**S**	**13 46 10.8**	**+1.2**
	0.8nm,1.0s,baz=102,slow=14,SNR=4.1						
WB2	**Warramunga Arr**	**42.81**	**265**	*eP*	**P**	**13 40 32.0**	**-1.1**
WRAB	**Tennant Creek**	**42.81**	**265**	*eP*	**P**	**13 40 32.5**	**-0.6**
	14nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**42.82**	**265**	P	**P**	**13 40 32.6**	**-0.6**
	5.8nm,0.3s,mb4.4,baz=90,slow=5.9,SNR=532						
WRA				ScP	ScP	13 45 07.6	+6.8
	1.1nm,0.9s,baz=88,slow=4.5,SNR=5.5						
WRA				S	**S**	**13 46 12.4**	**-1.1**
	0.3nm,0.8s,baz=102,slow=14,SNR=4.5						
KAKA	**Kakadu**	**46.55**	**274**	*eP*	**P**	**13 41 00.5**	**-1.1**
	15nm,0.3s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.25**	**265**	*eP*	**P**	**13 41 35.4**	**-0.7**
	7.5nm,1.4s,mb3.7						
FITZ	**Fitzroy Crossi**	**51.25**	**265**	P	**P**	**13 41 36.6**	**+0.5**
	1.6nm,0.5s,mb3.5,baz=83,slow=7.0,SNR=18						
BATI	**Kupang**	**55.48**	**273**	P	**P**	**13 42 05.8**	**-0.2**
	7.2nm,0.3s,mb4.3,baz=148,slow=7.0,SNR=4.6						
NWAO	**Narrogin (SRO)**	**56.00**	**245**	P	**P**	**13 42 10.2**	**+1.0**
	36nm,1.2s,mb4.4,baz=114,slow=10.0,SNR=3.2						
KSRS	**Korea Array**	**77.60**	**320**	P	**P**	**13 44 21.3**	**+0.3**
	1.3nm,0.8s,mb3.5,baz=128,slow=6.3,SNR=3.6						
TXAR	**Lajitas Array**	**89.56**	**58**	P	**P**	**13 45 20.5**	**+0.2**
TXAR	**Lajitas Array**	**89.56**	**58**	P	**P**	**13 45 20.5**	**+0.3**
	0.7nm,0.8s,mb3.5,baz=224,slow=5.2,SNR=5.9						
ARCES	**ARCESS Array B**	**130.86**	**349**	PKP	PKPdf	13 51 28.4	0.0
	1.8nm,0.8s,baz=0.0,slow=1.9,SNR=4.0						
FINES	**FINESS Array B**	**137.49**	**342**	PKP	PKPdf	13 51 40.0	-1.0
	1.1nm,0.8s,baz=85,slow=2.9,SNR=3.4						
AKASG	**Malin Array Be**	**144.20**	**328**	PKP	PKPdf	13 51 51.8	-1.5
	1.6nm,0.4s,baz=45,slow=4.4,SNR=8.4						
CLL	**Collm**	**149.88**	**344**	*i* PKPbc	PKPbc	13 52 08.0	-0.3
	comp=Z,5.0nm,0.9s						
BRG	**Berggiesshubel**	**150.03**	**343**	*eP*	PKPbc	13 52 08.5	-0.2
	comp=Z,2.5nm,0.6s						

ISC 01 13:33:36.5±1.5,3642N±006×718E±02,h152km±23km,n17, σ1§07/23,1C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.12**	**140**	*eP*	**P**	**13 34 50.7**	**-1.7**
	MS0.0						
THN				*eS*	**S**	**13 35 52.6**	**+1.6**
AML	**Almayashu**	**5.89**	**14**	P	**P**	**13 35 01.4**	**-1.2**
	SNR=19						
UCH	**Uchtor**	**6.17**	**19**	P	**P**	**13 35 05.9**	**-0.4**
	SNR=6.8						
KZA	**Kyzart**	**6.25**	**24**	P	**P**	**13 35 07.8**	**+0.4**
	SNR=6.9						
EKS2	**Erkin-Say**	**6.42**	**13**	P	**P**	**13 35 09.2**	**-0.4**
	SNR=6.3						
AAK	**Ala-Archa**	**6.54**	**18**	P	**P**	**13 35 10.9**	**-0.4**
	SNR=5.9						
KK31	**Karatay Array**	**6.75**	**352**	⇓P	**P**	**13 35 07.5**	**-6.7**
	2.5nm,0.3s,baz=185,slow=14,SNR=57						
KK31				⇓S	**S**	**13 36 19.9**	**-10**
	3.3nm,0.2s,baz=183,slow=23						
TKM2	**Tokmak 2**	**7.12**	**23**	⇑P	**P**	**13 35 18.5**	**-0.6**
	2.5nm,0.7s						
TKM2				⇓S	**S**	**13 36 40.4**	**+1.5**
	2.2nm,0.7s						
DANN	**Dangsing**	**12.90**	**125**	*eP*	**P**	**13 36 34.2**	**-0.9**
DANN				*eS*	**S**	**13 38 53.6**	**-2.0**
KOLN	**Koldanda**	**13.19**	**128**	*eP*	**P**	**13 36 38.3**	**-0.5**
	2.9nm,0.3s						
GKN	**Gorkha**	**13.71**	**124**	*eP*	**P**	**13 36 45.0**	**-0.4**
GKN				*eS*	**S**	**13 39 12.5**	**-1.8**
KKN	**Kakani**	**14.28**	**123**	*eP*	**P**	**13 36 54.0**	**+1.3**
DMN	**Daman**	**14.28**	**124**	*eP*	**P**	**13 36 53.5**	**+0.8**
PKIN	**Phulchoki**	**14.49**	**124**	*eP*	**P**	**13 36 56.7**	**+1.3**
PKI	**Pulchoki**	**14.51**	**124**	*eP*	**P**	**13 36 56.8**	**+1.2**
	3.8nm,0.2s						
GUN	**Gumba**	**14.61**	**122**	*eP*	**P**	**13 36 57.8**	**+0.9**
	3.7nm,0.3s						
JIRN	**Jiri**	**14.98**	**122**	*eP*	**P**	**13 37 02.3**	**+0.8**
	8.5nm,0.3s						
JIRN				*eS*	**S**	**13 39 43.5**	**0.0**

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*ISCJB **01** 14:00:05.9±0.8, 3732N±003×21.19E±005, h5km, Error ellipse: s-maj=6.3km s-min=3.2km az=139.4*
*ATH **01** 14:00:06.5, 3735N×2124E, h5km±1km, MD3.6/7*
*NEIC **01** 14:00:06.1, 3734N×2122E, h6km, MD3.6(ATH), After ATH.*
*THE **01** 14:00:06.9, 3731N×2120E, h3km, ML3.3*
*CSEM **01** 14:00:07.2±0.3, 3733N×2120E, h2km, MD3.6, Error ellipse: s-maj=6.2km s-min=2.8km az=45.0*
ISC 01 14:00:06.3±0.8,3734N±004×2120E±005,h1km±5km,n23, σ0§90/42,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.60**	**106**	*eP*B	**Pg**	**14 00 16.9**	**-0.9**

KFL	Anninata	0.83	337	*e*Pg		Pg		14 00 23.0	+0.8
VLX	Vlachokerasia	0.94	88	*e*Pg		Pg		14 00 24.6	+0.3
VLX				*e*Sg		Sn		14 00 38.7	-2.0
VLS	Valsamata	0.96	330	*e*Pg		Pg		14 00 25.0	+0.3
VLS				*e*Sg		Sn		14 00 40.2	-1.0
VLS	Valsamata	0.96	330	*e*Pg		Pg		14 00 24.2	-0.5
VLS				*e*Sb		Sb		14 00 39.1	+0.2
VLS	Valsamata	0.96	330	*e*PG		Pg		14 00 24.8	+0.1
VLS				*e*SB		Sb		14 00 39.1	+0.2
VLS	Valsamata	0.96	330	*e*Pg		Pg		14 00 25.0	+0.3
VLS				*e*Sb		Sb		14 00 39.1	+0.2
VLS				*e*Sg		Sn		14 00 40.2	-1.0
SELA	Sela	1.08	30	*e*Pg		Pg		14 00 26.9	0.0
SELA				*e*Sg		Sn		14 00 44.2	0.0
LKD	Levkas	1.43	343	*e*Pg		Pg		14 00 34.0	+0.4
LKD				*e*Sg		Sg		14 00 57.8	+5.6
LKD	Levkas	1.43	343	*e*Pg		Pg		14 00 34.0	+0.3
VLI	Veliai	1.52	114	*e*PB		Pb		14 00 34.9	-0.4
VLI				*e*SB		Sb		14 00 55.7	+0.6
LTK	Loutraki	1.56	64	*e*Pg		Pg		14 00 35.5	-0.6
LTK				*e*Sg		Sg		14 00 57.1	+0.8
LTK	Loutraki	1.56	64	*e*Pg		Pg		14 00 35.5	-0.6
LTK				*e*Sg		Sg		14 00 57.2	+0.9
DID	Didima	1.63	84	*e*Pb		Pb		14 00 36.4	-0.7
DID				*e*Sb		Sb		14 00 58.7	+0.5
EVR	Evrytania	1.64	17	*e*PB		Pb		14 00 36.9	-0.4
EVR				*e*SB		Sb		14 00 59.0	+0.5
AGG	Agios Georgios	1.90	28	*e*Sb		Sb		14 01 06.3	+0.4
LKR	Lokris	1.93	47	*e*PG		Pg		14 00 42.0	-1.3
LKR				*e*SN		Sb		14 01 07.2	+0.4
LKR	Lokris	1.93	47	*e*Pn		Pg		14 00 41.6	-1.7
THL	Klokotos Trika	2.31	16	*e*Pn		Pn		14 00 47.2	+1.8
THL				*e*Sn		Sn		14 01 16.1	+1.7

*ISCJB **01** 14:01:04.2±0.4, 2835N±004×1400E±0.1, h419km±5km, mb3.4/13, Error ellipse: s-maj=17.5km s-min=5.7km az=170.6*
*IDC **01** 14:01:04.5±0.7, 2837N×13989E, h407km±8km, mb3.2/11, mb1 3.3/14, mb1mx3.2/21, mbtmp3.2/14, Error ellipse: s-maj=23.7km s-min=9.7km az=75.0*
*NEIC **01** 14:01:05.6±1.4, 2836N×14004E, h422km±15km, mb3.4/1, Error ellipse: s-maj=18.7km s-min=9.9km az=86.0*
*JMA **01** 14:01:06.4±0.2, 2850N×14038E, h417km, M3.7*
ISC 01 14:01:05.2±0.4,**2841N**±004×**1401E**±01,**h416**km±6km,**n34,**
σ1§**08**/43,**mb3.4**/13,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.27**	**125**	P	**P**	**14 02 04.8**	**+0.4**
CBIJ				*e*S	**S**	**14 02 50.5**	**-1.7**
CBIJ	**Chichi jima**	**2.27**	**125**	P	**P**	**14 02 04.8**	**+0.4**
	45nm,0.3s,baz=93,slow=23,SNR=40						
CBIJ				S	**S**	**14 02 51.9**	**-0.3**
	36nm,0.3s,baz=286,slow=22,SNR=8.4						
JHHJ	**Haha-jima-NKT**	**2.56**	**133**	P	**P**	**14 02 07.0**	**+0.5**
JHHJ				*e*S	**S**	**14 02 55.6**	**-0.3**
JHJ2	**Mitsune**	**4.69**	**357**	P	**P**	**14 02 26.0**	**+1.2**
JHJ	**Hachijo jima 2**	**4.70**	**357**	P	**P**	**14 02 24.1**	**-0.8**
	8.4nm,0.3s,baz=72,slow=20,SNR=3.8						
JHJ				S	**S**	**14 03 26.4**	**-3.3**
	13nm,0.3s,baz=74,slow=18,SNR=3.3						
BSO1	**Boso 1**	**6.27**	**7**	*e*S	**S**	**14 03 58.9**	**-0.6**
BSO3	**Boso 3**	**6.38**	**3**	P	**P**	**14 02 43.8**	**+1.4**
BSO3				*e*S	**S**	**14 04 00.9**	**-0.8**
BSO4	**Boso 4**	**6.56**	**2**	P	**P**	**14 02 46.1**	**+1.8**
BSO4				*e*S	**S**	**14 04 05.4**	**+0.1**
HMMJ	**Hamamatsu 2**	**6.74**	**343**	P	**P**	**14 02 48.1**	**+1.9**
JHU	**Hanno**	**7.45**	**355**	P	**P**	**14 02 54.3**	**+0.2**
JHU				*e*S	**S**	**14 04 20.1**	**-3.1**
JRY	**Ryogami san**	**7.65**	**353**	P	**P**	**14 02 57.2**	**+0.9**
JRY				S	**S**	**14 04 26.4**	**-0.9**
JAG	**Ashikaga**	**8.01**	**356**	*e*S	**S**	**14 04 32.1**	**-2.5**
MJAR	**Matsushiro Arr**	**8.26**	**349**	P	**P**	**14 03 02.8**	**-0.3**
	0.3nm,0.3s,baz=164,slow=9.4,SNR=4.0						
JMM	**Marumori**	**9.45**	**3**	P	**P**	**14 03 17.6**	**+1.4**
JMM				S	**S**	**14 05 03.9**	**0.0**
JYA	**Atsumi**	**10.16**	**358**	P	**P**	**14 03 27.6**	**+3.6**
JOW	**Kunigami**	**10.60**	**264**	P	**P**	**14 03 30.3**	**+1.2**
	2.1nm,0.3s,baz=104,slow=11,SNR=15						
KSRS	**Korea Array**	**13.62**	**315**	P	**P**	**14 04 12.1**	**+10**
	0.2nm,0.3s,baz=131,slow=8.4,SNR=4.6						
SONM	**Songino Array**	**32.48**	**316**	P	**P**	**14 06 59.5**	**+0.4**
	0.9nm,0.4s,mb3.5,baz=116,slow=9.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**47.28**	**319**	P	**P**	**14 08 58.3**	**-0.5**
	0.5nm,0.4s,mb3.2,baz=102,slow=6.1,SNR=2.6						
ZALV				PcP	PcP	14 10 21.5	-0.6
	0.7nm,0.5s,baz=79,slow=5.3,SNR=3.6						
MK31	**Makanchi Array**	**48.21**	**309**	*e*P	**P**	**14 09 05.9**	**0.0**
MKAR	**Makanchi Array**	**48.21**	**309**	P	**P**	**14 09 05.8**	**-0.2**
	0.7nm,0.4s,mb3.3,baz=91,slow=9.2,SNR=11						
MKAR				PcP	PcP	14 10 25.0	-0.6
	0.4nm,0.6s,baz=74,slow=7.5,SNR=5.4						
WRAB	**Tennant Creek**	**48.38**	**187**	*e*P	**P**	**14 09 06.6**	**-0.9**
	0.6nm,0.3s,mb3.4						
WB2	**Warramunga Arr**	**48.39**	**187**	*e*P	**P**	**14 09 06.7**	**-0.8**
WRA	**Warramunga Arr**	**48.39**	**187**	P	**P**	**14 09 06.7**	**-0.8**
	0.7nm,0.3s,mb3.4,baz=6.4,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**52.12**	**187**	P	**P**	**14 09 34.1**	**-0.9**
	0.4nm,0.3s,mb3.1,baz=3.0,slow=4.8,SNR=22						
ARCES	**ARCESS Array B**	**71.69**	**340**	P	**P**	**14 11 43.5**	**+0.6**
	3.6nm,0.9s,mb3.9,baz=66,slow=7.3,SNR=6.4						
YKA	**Yellowknife Ar**	**71.86**	**28**	P	**P**	**14 11 45.1**	**+1.1**
	0.4nm,0.6s,mb3.1,baz=294,slow=5.8,SNR=6.0						
JOF	**Joensuu**	**73.08**	**333**	*e*p	**P**	**14 11 50.6**	**-0.6**
	0.9nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**75.95**	**333**	P	**P**	**14 12 07.2**	**-0.2**
FINES	**FINESS Array B**	**75.95**	**333**	P	**P**	**14 12 07.2**	**-0.2**
	0.6nm,0.4s,mb3.6,baz=85,slow=5.5,SNR=13						
AKASG	**Malin Array Be**	**80.46**	**323**	P	**P**	**14 12 30.9**	**-1.1**
	0.2nm,0.3s,mb3.2,baz=60,slow=5.5,SNR=3.5						
NVAR	**Mina Array Bea**	**81.15**	**51**	P	**P**	**14 12 38.0**	**+2.0**
NVAR	**Mina Array Bea**	**81.15**	**51**	P	**P**	**14 12 38.0**	**+2.0**
	0.5nm,0.6s,mb3.4,baz=285,slow=7.6,SNR=4.1						
HFS	**Hagfors**	**81.48**	**336**	P	**P**	**14 12 36.8**	**-0.4**
	0.7nm,0.3s,mb3.9,baz=202,slow=1.6,SNR=4.5						

*ISCJB **01** 14:11:28.2±0.5, 5785N±004×1079E±005, h0km, Error ellipse: s-maj=5.7km s-min=4.0km az=19.7*
*HEL **01** 14:11:28.6±0.2, 5764N×1062E, h0km, ML2.4, ML2.4(UPP), ML1.6(BER), Suspected explosion*
*BER **01** 14:11:31.1±3.1, 5769N×1064E, h0km±12km, MD2.3, ML1.6, ML2.1(NAO)*
*NAO **01** 14:11:32.6±3.1, 5790N×1047E, h1km±12km, ML2.1*
*IDC **01** 14:11:32.6±2.1, 5787N×1061E, h0km, mb1 3.3/4, mb1mx3.2/22, mbtmp3.2/4, ML2.8/4, Error ellipse: s-maj=16.9km s-min=14.4km az=76.0*
ISC 01 14:11:28.7±0.5,**5774N**±004×**1073E**±005,**h0**km,**n42,**
σ1§**38**/64,**1C**,**Denmark**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STRU	**Stroemstad**	**1.32**	**10⇑**	*e*P	**Pg**	**14 11 55.5**	**+1.6**
STRU				*e*S	**Sg**	**14 12 14.8**	**+3.8**
NASU	**Vaermlandsnaes**	**1.76**	**46**	*e*P	**Pn**	**14 12 01.9**	**+1.5**
SNART	**Snartemo**	**1.96**	**289**	*e*P	**Pn**	**14 12 02.5**	**-0.7**
SNART				AML	AML	14 12 32.3	
	comp=Z,11nm,0.2s						
DEL	**Delary**	**2.14**	**125**	*e*P	**Pn**	**14 12 05.0**	**-0.5**
VXJU	**Vaexsjoe**	**2.43**	**108**	*e*P	**Pn**	**14 12 09.7**	**+0.1**
ASKU	**Askersund**	**2.45**	**60**	*e*P	**Pn**	**14 12 11.6**	**+1.7**
LNKU	**Linkoeping**	**2.59**	**77**	*e*P	**Pn**	**14 12 13.3**	**+1.5**
UDD	**Uddeholm**	**2.79**	**31**	*e*P	**Pn**	**14 12 16.1**	**+1.6**
BLS5	**Blasjo**	**2.80**	**309**	*e*P	**Pn**	**14 12 15.8**	**+1.1**
BLS5				*e*S	**Sn**	**14 12 49.6**	**+0.5**
BLS5				AML	AML	14 13 01.6	
	comp=Z,9.3nm,0.4s						
HFS	**Hagfors**	**2.85**	**31**	*e*P	**Pn**	**14 12 16.9**	**+1.5**
HFS				*e*PG	**Pg**	**14 12 22.9**	**-0.3**
HFS				*e*S	**Sn**	**14 12 50.9**	**+0.6**
HFS				*e*SG	**Sg**	**14 12 59.9**	**-0.2**
HFS	**Hagfors**	**2.85**	**31**	Pn	**Pn**	**14 12 16.9**	**+1.5**
	baz=222,slow=14						
HFS				Pg	**Pg**	**14 12 22.9**	**-0.3**
	baz=198,slow=18						
HFS				Sn	**Sn**	**14 12 50.9**	**+0.6**
	baz=207,slow=22						
HFS				Lg		14 12 59.9	
	baz=225,slow=37						
HFS	**Hagfors**	**2.85**	**31**	Pn	**Pn**	**14 12 16.9**	**+1.6**
	comp=Z,0.9nm,0.3s,baz=221,slow=13,SNR=45						
HFS				Sn	**Sn**	**14 12 51.7**	**+1.4**
	comp=Z,0.6nm,0.3s,baz=204,slow=25,SNR=3.3						
HFS				Lg		14 12 59.3	
	comp=Z,2.2nm,0.3s,baz=215,slow=28,SNR=12						
OSKU	**Oskarshamn**	**2.95**	**98**	*e*P	**Pn**	**14 12 17.6**	**+0.8**
ODD1	**Odda**	**3.04**	**317**	*e*P	**Pn**	**14 12 18.2**	**+0.1**
ODD1				*e*S	**Sn**	**14 12 54.5**	**-0.6**
VSTU	**Vaestervik**	**3.12**	**89**	*e*P	**Pn**	**14 12 20.3**	**+1.2**
KMY	**Karmoy**	**3.23**	**299**	*e*P	**Pn**	**14 12 20.4**	**-0.3**
KMY				*e*S	**Sn**	**14 12 57.3**	**-2.4**
KMY				AML	AML	14 12 58.1	
	comp=Z,1.9nm,0.2s						
VIKU	**Vikbolandet**	**3.26**	**74**	*e*P	**Pn**	**14 12 22.9**	**+2.0**
NB2	**NORSAR Subarra**	**3.32**	**4**	Pn	**Pn**	**14 12 22.6**	**+0.8**
	baz=187,slow=14						
NB2				Sn	**Sn**	**14 13 01.2**	**-0.6**
NB2				Lg		14 13 14.6	
NB2	**NORSAR Subarra**	**3.32**	**4**	*e*P	**Pn**	**14 12 22.6**	**+0.8**
NB2				*e*S	**Sn**	**14 13 01.2**	**-0.6**
NB2				*e*SG	**Sg**	**14 13 14.6**	**-0.6**
NOA	**NORSAR Array B**	**3.32**	**4**	Pn	**Pn**	**14 12 21.9**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=188,slow=13,SNR=5.4						
NOA				Sn	**Sn**	**14 12 58.9**	**-3.0**
	comp=Z,0.5nm,0.3s,baz=282,slow=20,SNR=4.1						
NOA				Lg		14 13 13.6	
	comp=Z,1.3nm,0.3s,baz=198,slow=20,SNR=6.0						
ESKU	**Eskilstuna**	**3.33**	**61**	*e*P	**Pn**	**14 12 23.8**	**+1.9**
BYXU	**Byxelkrok**	**3.42**	**95**	*e*P	**Pn**	**14 12 24.1**	**+0.9**
BSD	**Bornholm Skovb**	**3.52**	**137**	*i* P	**Pg**	**14 12 30.8**	**-5.2**
BSD				*e*S	**Sg**	**14 13 17.7**	**-3.8**
EGD	**Espegrend**	**3.81**	**314**	*e*P	**Pn**	**14 12 28.9**	**+0.4**
BACU	**Backbrunna**	**3.94**	**55**	*e*P	**Pn**	**14 12 31.8**	**+1.5**
HYA	**Hoyanger**	**4.14**	**328**	*e*P	**Pn**	**14 12 34.3**	**+1.2**
GOTU	**Gotland**	**4.21**	**87**	*e*P	**Pn**	**14 12 34.8**	**+0.8**
RAF	**Rauma**	**6.53**	**55**	*e*P	**Pn**	**14 13 05.1**	**-0.7**
RAF				*e*S	**Sn**	**14 14 18.8**	**-2.1**
RAF				MSN		14 14 21.0	
	comp=Z,0.9nm,0.2s						
MTSE	**Matsula**	**6.98**	**76**	*e*P	**Pn**	**14 13 09.6**	**-2.5**
MTSE				*e*S	**Sn**	**14 14 25.6**	**-6.4**
MEF	**Metsahovi**	**7.49**	**65**	*e*P	**Pn**	**14 13 17.0**	**-2.0**
MEF				*e*SB	**Sb**	**14 15 10.2**	**+1.2**
VAF	**Ylistaro**	**7.94**	**43**	*e*P	**Pn**	**14 13 25.4**	**+0.1**
PVF	**Pernaja**	**8.27**	**64**	*e*P	**Pn**	**14 13 27.0**	**-2.7**
KEF	**Keuruu**	**8.36**	**52**	*e*P	**Pn**	**14 13 30.5**	**-0.5**
KEF				*e*S	**Sn**	**14 15 02.7**	**-3.3**
KEF				MSN		14 15 04.5	
	comp=Z,0.5nm,0.2s						
FIA0	**FINESS Array S**	**8.62**	**58**	*e*P	**Pn**	**14 13 31.9**	**-2.6**
FIA0				*e*S	**Sn**	**14 15 08.9**	**-3.4**
FIA0	**FINESS Array S**	**8.62**	**58**	Pn	**Pn**	**14 13 35.2**	**+0.8**
	baz=248,slow=12						
FIA0				Sn	**Sn**	**14 15 10.4**	**-1.8**
	baz=248,slow=28						
FIA0				Lg		14 15 59.9	
	baz=251,slow=28						
FINES	**FINESS Array B**	**8.62**	**58**	Pn	**Pn**	**14 13 35.3**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=255,slow=13,SNR=18						
FINES				Sn	**Sn**	**14 15 08.5**	**-3.8**
	comp=Z,0.1nm,0.3s,baz=243,slow=20,SNR=3.5						
FINES				Lg		14 16 01.1	
	comp=Z,0.3nm,0.3s,baz=248,slow=24,SNR=8.2						
VJF	**Virojoki**	**9.09**	**65**	*e*SB	Sx	14 15 55.2	
SUF	**Sumiainen**	**9.14**	**50**	*e*P	**Pn**	**14 13 41.1**	**-0.6**
SUF				*e*S	**Sn**	**14 15 21.1**	**-3.9**
SUF				MSN		14 15 24.4	
	comp=Z,0.5nm,0.2s						
JOF	**Joensuu**	**11.41**	**54**	*e*p	**Pn**	**14 14 10.5**	**-2.2**
ARA0	**ARCESS Array S**	**13.47**	**23**	Pn	**Pn**	**14 14 38.5**	**-2.3**
	baz=212,slow=14						
ARA0	**ARCESS Array S**	**13.47**	**23**	*e*P	**Pn**	**14 14 38.5**	**-2.3**
ARCES	**ARCESS Array B**	**13.47**	**23**	Pn	**Pn**	**14 14 38.3**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=210,slow=12,SNR=4.1						

IDC 01 14:29:03.7±76.0,**1315S**×**16920E**,**h0**km,**mb4.0**/3,
mb1 4.2/3,**mb1mx3.8**/14,**mbtmp4.0**/3,**Error ellipse:**
s-maj=1297.0km s-min=116.9km az=64.0,**Vanuatu Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**31.44**	**229**	P	P	14 35 27.0	+0.1
	2.1nm,0.4s,baz=58,slow=10,SNR=16						
WRA	**Warramunga Arr**	**34.05**	**254**	P	P	14 35 50.0	+0.1
	0.7nm,0.9s,baz=83,slow=8.4,SNR=9.4						
ASAR	**Alice Springs**	**35.00**	**247**	P	P	14 35 57.9	-0.2
	0.9nm,0.4s,baz=78,slow=9.3,SNR=35						

*ATH **01** 15:03:02.8, 4052N×1916E, h12km±6km, MD3.5/5*
*NEIC **01** 15:03:02.8, 4052N×1916E, h12km, MD3.5(ATH), After ATH.*
*ISCJB **01** 15:03:04.7±0.8, 4040N±005×1918E±004, h0km±7km, Error ellipse: s-maj=9.0km s-min=5.1km az=20.2*
*CSEM **01** 15:03:05.6±0.2, 4053N×1933E, h2km, MD3.5, Error ellipse: s-maj=5.8km s-min=3.2km az=59.0*
*TIR **01** 15:07:02.8±0.3, 4074N×1950E, h7km*
ISC 01 15:03:05.1±0.8,**4040N**±005×**1920E**±005,**h0**km±7km,**n14,**
σ1§**04**/21,**Albania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.24**	**72**	*i* PG	**Pg**	**15 03 08.4**	**-1.3**
VLO				*i* SG	**Sg**	**15 03 12.7**	**-0.1**
SRN	**Sarande**	**0.80**	**130**	*i* PG	**Pg**	**15 03 21.4**	**+0.9**
SRN				*i* SG	**Sg**	**15 03 34.8**	**+3.9**
SRN	**Sarande**	**0.80**	**130**	*i* Pg	**Pg**	**15 03 21.5**	**+1.0**
SRN				*i* Sg	**Sg**	**15 03 34.9**	**+4.0**
KEK	**Kerkira**	**0.82**	**146**	*e*PG	**Pg**	**15 03 20.5**	**-0.4**
KEK				*e*SB	**Sb**	**15 03 33.5**	**-0.3**
LCI	**Lecce**	**0.83**	**266**	Pn	**Pg**	**15 03 21.3**	**+0.2**
KBN	**Korca**	**1.23**	**79**	*i* PN	**Pn**	**15 03 22.2**	**-7.3**
KBN				*i* SN	**Sg**	**15 03 48.8**	**+4.1**
QSH	**Qafa e Shtames**	**1.25**	**25**	*i* Pn	**Pg**	**15 03 29.5**	**+0.5**
PE1	**Pezze di Greco**	**1.41**	**287**	*e*Pn	**Pn**	**15 03 30.8**	**-1.2**
PE1				*e*Sn	**Sn**	**15 03 52.1**	**+0.8**
JAN	**Janina**	**1.47**	**120**	*e*PB	**Pn**	**15 03 32.2**	**-0.6**
JAN				*e*SB	**Sn**	**15 03 53.3**	**+0.7**
SG1	**Sgolgore (BA)**	**1.97**	**284**	*e*Pn	**Pn**	**15 03 41.1**	**+1.5**
TIP	**Timpagrande**	**2.24**	**238**	*e*Pn	**Pn**	**15 03 40.7**	**-2.7**
THL	**Klokotos Trika**	**2.32**	**110**	*e*PN	**Pn**	**15 03 43.8**	**-0.7**
VLS	**Valsamata**	**2.46**	**154**	*e*PN	**Pn**	**15 03 48.0**	**+1.5**
EVR	**Evrytania**	**2.50**	**125**	*e*PB	**Pn**	**15 03 46.3**	**-0.6**

ISC 01 15:23:55.1±1.5,**3700N**±006×**718E**±02,**h155**km±19km,**n21,**
σ0§**56**/24,**2C-2D**,**Afghanistan-Tajikistan border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.33**	**15**	P	**Pn**	**15 25 12.8**	**0.0**
	SNR=166						
THN	**Thein Dam**	**5.58**	**144**	*e*P	**Pn**	**15 25 17.8**	**+1.5**
THN				*e*S	**Sn**	**15 26 19.0**	**-0.7**
UCH	**Uchtor**	**5.63**	**21**	P	**Pn**	**15 25 17.1**	**+0.3**
	SNR=62						
KZA	**Kyzart**	**5.73**	**27**	P	**Pn**	**15 25 17.8**	**-0.3**
	SNR=6.9						
EKS2	**Erkin-Say**	**5.86**	**14**	P	**Pn**	**15 25 19.9**	**+0.1**
	SNR=32						
AAK	**Ala-Archa**	**6.00**	**19**	P	**Pn**	**15 25 22.1**	**+0.4**
	SNR=26						
KBK	**Karagaybulak**	**6.15**	**22**	P	**Pn**	**15 25 23.9**	**+0.2**
	SNR=12						
KK31	**Karatay Array**	**6.18**	**351**	⇑P	**Pn**	**15 25 23.3**	**-0.8**
	5.4nm,0.3s,baz=177,slow=14,SNR=93						
KK31				⇓S	**Sn**	**15 26 27.5**	**-6.4**
	7.2nm,0.3s,baz=170,slow=22						
ULHL	**Ulahol**	**6.26**	**32**	P	**Pn**	**15 25 25.0**	**-0.2**
	SNR=10.0						
CHMS	**Chumysh**	**6.41**	**20**	P	**Pn**	**15 25 27.2**	**0.0**
	SNR=5.4						
TKM2	**Tokmak 2**	**6.59**	**25**	⇑P	**Pn**	**15 25 29.1**	**-0.5**
	3.5nm,0.8s						
TKM2				⇓S	**Sn**	**15 26 43.8**	**0.0**
	3.2nm,0.8s						
USP	**Ospenovka**	**6.59**	**17**	P	**Pn**	**15 25 30.1**	**+0.5**
	SNR=7.7						
DANN	**Dangsing**	**13.25**	**127**	*e*P	**Pn**	**15 26 56.6**	**-0.7**
	3.8nm,0.3s						
KOLN	**Koldanda**	**13.55**	**129**	*e*P	**Pn**	**15 26 59.9**	**-1.3**
	3.5nm,0.4s						
GKN	**Gorkha**	**14.05**	**126**	*e*P	**Pn**	**15 27 07.4**	**0.0**
	3.6nm,0.3s						
KKN	**Kakani**	**14.61**	**125**	*e*P	**Pn**	**15 27 14.9**	**+0.4**
	4.3nm,0.4s						
DMN	**Daman**	**14.62**	**126**	*e*P	**Pn**	**15 27 14.4**	**-0.2**
	3.8nm,0.4s						
PKIN	**Phulchoki**	**14.83**	**125**	*e*P	**Pn**	**15 27 17.6**	**+0.4**
PKI	**Pulchoki**	**14.84**	**125**	*e*P	**Pn**	**15 27 17.9**	**+0.5**
	3.3nm,0.2s						
GUN	**Gumba**	**14.93**	**123**	*e*P	**Pn**	**15 27 18.6**	**+0.2**
	5.0nm,0.5s						
JIRN	**Jiri**	**15.30**	**123**	*e*P	**Pn**	**15 27 23.3**	**+0.3**
	4.9nm,0.3s						

*ISCJB **01** 15:58:09.8±0.7, 3841N±002×2044E±005, h10km, Error ellipse: s-maj=6.2km s-min=3.2km az=162.1*
*CSEM **01** 15:58:09.1±0.1, 3841N×2039E, h2km, MD3.6, Error ellipse: s-maj=3.4km s-min=1.5km az=70.0*
*ATH **01** 15:58:09.2, 3833N×2037E, h10km±1km, MD3.6/8*
*NEIC **01** 15:58:09.2, 3833N×2037E, h10km, MD3.6(ATH), After ATH.*
*THE **01** 15:58:09.2, 3841N×2041E, h3km, ML3.4*
ISC 01 15:58:09.2±0.8,**3839N**±003×**2043E**±005,**h1**km±5km,**n19,**
σ0§**90**/34,**1C**,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**149**	*e*Pg	**Pg**	**15 58 14.3**	**+0.4**
VLS				*e*Sg	**Sg**	**15 58 18.6**	**+1.4**
VLS	**Valsamata**	**0.25**	**149⇑**	*i*Pg	**Pg**	**15 58 14.3**	**+0.3**
VLS				*e*Sg	**Sg**	**15 58 18.4**	**+1.2**
LKD	**Levkas**	**0.36**	**29**	*e*Pg	**Pg**	**15 58 15.8**	**-0.4**
LKD				*e*Sg	**Sg**	**15 58 21.5**	**+0.7**
KFL	**Anninata**	**0.40**	**135**	*e*Pg	**Pg**	**15 58 16.9**	**+0.1**
RLS	**Riolos of Patr**	**0.88**	**112**	*e*PB	**Pb**	**15 58 25.6**	**-1.8**
RLS				*e*SB	**Sb**	**15 58 39.2**	**-0.5**
IGT	**Igoumenitsa**	**1.14**	**356**	*e*Pg	**Pg**	**15 58 30.3**	**-0.8**
IGT				*e*Sg	**Sn**	**15 58 47.0**	**-1.7**
SELA	**Sela**	**1.16**	**95**	*e*Pg	**Pg**	**15 58 30.3**	**-1.1**
SELA				*e*Sg	**Sn**	**15 58 48.9**	**-0.2**
SELA	**Sela**	**1.16**	**95**	*e*Pg	**Pg**	**15 58 30.3**	**-1.1**
SELA				*e*Sg	**Sn**	**15 58 48.8**	**-0.2**
EVR	**Evrytania**	**1.20**	**64**	*e*PN	**Pn**	**15 58 32.2**	**-1.0**
EVR				*e*SB	**Sn**	**15 58 51.1**	**+1.0**
JAN	**Janina**	**1.30**	**15**	*e*PB	**Pn**	**15 58 35.1**	**+0.5**
JAN				*e*SB	**Sn**	**15 58 53.5**	**+0.8**
KEK	**Kerkira**	**1.41**	**340**	*e*PB	**Pb**	**15 58 36.5**	**+0.2**
SRN	**Sarande**	**1.52**	**348**	*i* Pn	**Pg**	**15 58 38.5**	**+0.1**
SRN				*i* Sn	**Sg**	**15 59 02.0**	**+3.9**
AGG	**Agios Georgios**	**1.62**	**67**	*e*Pg	**Pb**	**15 58 38.4**	**-1.4**
AGG				*e*Sg	**Sg**	**15 59 00.6**	**-0.6**
ITM	**Ithomi**	**1.70**	**135**	*e*PB	**Pb**	**15 58 41.3**	**+0.1**
THL	**Klokotos Trika**	**1.70**	**46**	*e*PN	**Pg**	**15 58 42.2**	**+0.3**
THL				*e*SN	**Sg**	**15 59 06.0**	**+2.1**
PYL	**PYLOS**	**1.82**	**145**	*e*Pb	**Pn**	**15 58 41.6**	**-0.1**
PYL				*e*Sb	**Sb**	**15 59 06.8**	**+0.1**
LTK	**Loutraki**	**2.03**	**100**	*e*Pn	**Pn**	**15 58 44.4**	**-0.2**
LTK				*e*Sn	**Sn**	**15 59 11.3**	**+0.6**
DID	**Didima**	**2.39**	**111**	*e*Pn	**Pn**	**15 58 50.4**	**+0.9**
DID				*e*Sn	**Sg**	**15 59 25.0**	**-1.0**
VLI	**Veliai**	**2.60**	**129**	*e*PN	**Pn**	**15 58 53.6**	**+1.2**

*NEIC **01** 16:07:58.2±3.6, 627S×14581E, h153km±34km, mb4.4/3, Error ellipse: s-maj=24.7km s-min=19.2km az=218.0*
*ISCJB **01** 16:07:59.2±5.1, 64S±02×1457E±02, h178km±46km, mb3.6/4, Error ellipse: s-maj=39.9km s-min=27.6km az=144.1*
*IDC **01** 16:07:59.7±10.0, 634S×14594E, h176km±99km, mb3.3/5, mb1 3.5/7, mb1mx3.3/15, mbtmp3.4/7, Error ellipse: s-maj=53.3km s-min=42.2km az=83.0*
ISC 01 16:07:57.3±5.4,**63S**±02×**1458E**±02,**h143**km±49km,**n17,**
σ1§**01**/17,**mb3.6**/4,**New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.28**	**6**	*e*P	x	16 41 58.4	
PBA				*e*S	x	16 42 33.3	
PSI	**Prapat**	**8.55**	**130**	Pn	**Pn**	**16 42 59.3**	**+0.6**
	1.0nm,0.3s,baz=317,slow=17,SNR=5.0						
KULM	**Kulim**	**8.77**	**110**	*e*P	**Pn**	**16 43 02.0**	**+0.2**
PALK	**Pallekele**	**11.61**	**265**	*e*P	**Pn**	**16 43 40.2**	**-0.5**
CM31	**Chiang Mai Arr**	**11.89**	**32**	*e*P	**Pn**	**16 43 44.6**	**+0.2**
CHTO	**Chiang Mai**	**12.18**	**31**	*e*P	**Pn**	**16 43 48.2**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CHTO	**Chiang Mai**	**12.18**	**31**	*e*P	**Pn**	**16 43 48.2**	**-0.3**
	comp=Z,8.0nm,0.8s						
VIS	**Vishakhapatnam**	**12.80**	**317**	*e*P	**Pn**	**16 43 55.4**	**-1.5**
VIS				AMb	AMB	16 43 59.3	
	comp=Z,12nm,0.3s						
VIS				*e*S	**Sn**	**16 46 04.3**	**-14**
HYB	**Hyderabad**	**16.18**	**305**	*e*P	**Pn**	**16 44 43.0**	**+1.0**
HYB				*e*S	**Sn**	**16 47 40.0**	**-0.6**
HYB	**Hyderabad**	**16.18**	**305**	*i* P	**Pn**	**16 44 43.0**	**+1.0**
HYB				*e*S	**Sn**	**16 47 40.0**	**-0.6**
IMP	**Imphal**	**16.39**	**5**	*ex*	**Pn**	**16 44 44.0**	**-0.6**
BOK	**Bokaro**	**16.55**	**339**	*e*P	**Pn**	**16 44 45.5**	**-1.0**
BOK				*ex*	x	16 47 34.2	
BLSP	**Bilaspur**	**16.86**	**325**	*e*P	**Pn**	**16 44 49.6**	**-0.9**
BLSP				AMb	AMB	16 44 50.8	
	comp=Z,8.0nm,0.7s						
BLSP				*ex*	x	16 47 39.4	
SHL	**Shillong**	**17.11**	**358**	*e*P	**Pn**	**16 44 53.0**	**-0.6**
LATR	**Latur**	**18.32**	**305**	*ex*	x	16 48 09.4	
KSM	**Kuching**	**19.13**	**110**	*e*P	**Pn**	**16 45 17.7**	**-0.6**
JIRN	**Jiri**	**20.06**	**344**	*e*P	**P**	**16 45 28.5**	**+1.3**
PKI	**Pulchoki**	**20.20**	**342**	*e*P	**P**	**16 45 29.6**	**+0.8**
PKIN	**Phulchoki**	**20.21**	**342**	*e*P	**P**	**16 45 29.5**	**+0.6**
	comp=Z,14nm,0.7s						
DMN	**Daman**	**20.33**	**341**	*e*P	**P**	**16 45 30.9**	**+0.7**
GUN	**Gumba**	**20.38**	**343**	*e*P	**P**	**16 45 31.7**	**+1.0**
	comp=Z,40nm,0.7s						
KKN	**Kakani**	**20.45**	**342**	*e*P	**P**	**16 45 31.9**	**+0.5**
BHPL	**Bhopal**	**20.59**	**318**	*e*P	**P**	**16 45 34.4**	**+1.3**
BHPL				AMb	AMB	16 45 37.9	
	comp=Z,5.3nm,0.4s						
BHPL				*ex*	x	16 49 11.2	
GKN	**Gorkha**	**20.85**	**340**	*e*P	**P**	**16 45 36.4**	**+0.6**
KOLN	**Koldanda**	**21.00**	**338**	*e*P	**P**	**16 45 38.2**	**+0.7**
	comp=Z,47nm,0.7s,mb4.9						
LSA	**Lhasa**	**21.25**	**357**	P	**P**	**16 45 41.6**	**+1.5**
LSA	**Lhasa**	**21.25**	**357**	*e*P	**P**	**16 45 39.6**	**-0.5**
LSA				pmax	pmax		
	comp=Z,11nm,0.4s,mb4.5						
LSA	**Lhasa**	**21.25**	**357**	*e*P	**P**	**16 45 39.6**	**-0.5**
	comp=Z,11nm,0.4s,mb4.5						
DANN	**Dangsing**	**21.47**	**339**	*e*P	**P**	**16 45 43.1**	**+0.6**
GYA	**Guiyang**	**22.53**	**35**	P	**P**	**16 45 54.7**	**+0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
KKM	**Kota Kinabalu**	**23.77**	**94**	*e*P	**P**	**16 46 07.5**	**+1.1**
GTA	**Gaotai**	**31.62**	**11**	*e*P	**P**	**16 47 16.8**	**+0.3**
GTA				AP	pP	16 47 28.3	+0.6
GTA				XP	sP	16 47 34.3	+1.7
GTA				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.6						
NJ2	**Nanjing**	**34.06**	**43**	*e*P	**P**	**16 47 37.8**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3						
UCH	**Uchtor**	**37.22**	**338**	*e*P	**P**	**16 48 06.2**	**+1.3**
	comp=Z,3.3nm,0.8s,mb4.2						
TKM2	**Tokmak 2**	**37.43**	**340**	*e*P	**P**	**16 48 07.5**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
TKM2	**Tokmak 2**	**37.43**	**340**	*e*P	**P**	**16 48 07.5**	**+0.8**
	comp=Z,2.1nm,0.6s,mb4.1						
AML	**Almayashu**	**37.45**	**337**	*e*P	**P**	**16 48 07.9**	**+1.1**
	comp=Z,187nm,0.8s						
AAK	**Ala-Archa**	**37.58**	**338**	P	**P**	**16 48 08.8**	**+0.9**
	comp=Z,2.4nm,0.5s,mb4.2,baz=120,slow=2.8,SNR=12						
EKS2	**Erkin-Say**	**37.87**	**337**	*e*P	**P**	**16 48 11.6**	**+1.2**
	comp=Z,4.0nm,0.7s,mb4.3						
MK31	**Makanchi Array**	**39.25**	**349**	*e*P	**P**	**16 48 21.2**	**-0.7**
MKAR	**Makanchi Array**	**39.25**	**349**⇑	*e*P	**P**	**16 48 21.3**	**-0.6**
MKAR	**Makanchi Array**	**39.25**	**349**	P	**P**	**16 48 21.1**	**-0.7**
	comp=Z,1.4nm,0.5s,mb4.0,baz=164,slow=8.6,SNR=21						
SONM	**Songino Array**	**41.09**	**14**	P	**P**	**16 48 36.3**	**-0.8**
	comp=Z,2.1nm,0.8s,mb3.8,baz=201,slow=7.6,SNR=15						
ULN	**Ulaanbaatar**	**41.28**	**15**⇑	*e*P	**P**	**16 48 37.9**	**-0.8**
FITZ	**Fitzroy Crossi**	**42.08**	**129**	*e*P	**P**	**16 48 45.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**42.08**	**129**	P	**P**	**16 48 45.4**	**-0.2**
	comp=Z,2.2nm,1.0s,mb3.8,baz=284,slow=8.3,SNR=4.4						
ZAK	**Zakamensk**	**42.85**	**10**	*e*P	**P**	**16 48 51.0**	**-0.4**
ZAK				*e*		16 50 45.1	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.5s,mb3.3						
ZAK				pmax	pmax		
	comp=Z,1.0nm,2.0s,mb3.2						
KURK	**Kurchatov**	**43.73**	**347**	*d* iP	**P**	**16 48 58.2**	**-0.3**
KURK	**Kurchatov**	**43.73**	**347**	*e*P	**P**	**16 48 57.6**	**-0.9**
	comp=Z,6.0nm,1.1s,mb4.2						
ZAL	**Zalesovo**	**45.85**	**354**	P	**P**	**16 49 15.0**	**-0.3**
ZALV	**Zalesovo Beam**	**45.85**	**354**	P	**P**	**16 49 15.0**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.9,baz=134,slow=10,SNR=5.1						
BVAR	**Borovoye Array**	**47.97**	**342**	P	**P**	**16 49 31.3**	**-0.7**
BVAR	**Borovoye Array**	**47.97**	**342**	P	**P**	**16 49 31.3**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=142,slow=13,SNR=8.7						
BRVK	**Borovoye**	**48.03**	**342**	*e*P	**P**	**16 49 31.7**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**48.03**	**342**	*e*P	**P**	**16 49 31.7**	**-0.7**
	comp=Z,2.9nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**49.98**	**125**	*i* P	**P**	**16 49 47.5**	**-0.3**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
WRA	**Warramunga Arr**	**49.98**	**125**	P	**P**	**16 49 47.6**	**-0.2**
	comp=Z,1.5nm,0.4s,mb4.4,baz=300,slow=10.0,SNR=55						
WRAB	**Tennant Creek**	**49.98**	**125**	*e*P	**P**	**16 49 47.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**49.98**	**125**	*e*P	**P**	**16 49 47.7**	**-0.1**
	comp=Z,3.4nm,0.6s,mb4.5						
WB2	**Warramunga Arr**	**49.99**	**125**	*e*P	**P**	**16 49 47.6**	**-0.3**
WB2	**Warramunga Arr**	**49.99**	**125**	*e*P	**P**	**16 49 47.5**	**-0.4**
ASAR	**Alice Springs**	**51.58**	**129**	P	**P**	**16 49 59.7**	**-0.2**
	comp=Z,1.9nm,0.5s,mb4.2,baz=304,slow=7.6,SNR=42						
BOD	**Bodaibo**	**52.09**	**14**	*e*P	**P**	**16 50 00.9**	**-2.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
STKA	**Stephens Creek**	**61.72**	**133**	P	**P**	**16 51 12.7**	**+0.9**
	comp=Z,3.0nm,0.9s,mb4.4,baz=300,slow=6.2,SNR=3.0						
OBN	**Obninsk**	**64.03**	**328**	*e*P	**P**	**16 51 26.1**	**-0.7**
OBN				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
AKASG	**Malin Array Be**	**66.68**	**322**	*i* P	**P**	**16 51 39.9**	**-4.1**
TIXI	**Tiksi**	**67.10**	**12**‖	*e*P	**P**	**16 51 45.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
TIXI	**Tiksi**	**67.10**	**12**	*e*P	**P**	**16 51 45.4**	**-0.9**
	comp=Z,2.5nm,0.5s,mb4.5						
FINES	**FINESS Array B**	**71.46**	**332**	*i* P	**P**	**16 52 12.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**71.46**	**332**	P	**P**	**16 52 11.9**	**-1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=101,slow=9.9,SNR=3.9						
ARCES	**ARCESS Array B**	**74.21**	**340**	P	**P**	**16 52 29.0**	**-0.6**
	comp=Z,1.5nm,0.7s,mb4.0,baz=98,slow=5.0,SNR=4.7						
GERES	**GERESS Array B**	**76.29**	**318**	P	**P**	**16 52 42.5**	**+0.5**
	comp=Z,0.2nm,0.5s,mb3.3,baz=84,slow=14,SNR=3.6						

ISCJB ***01*** *16:49:13.7±1.4,4293N±008×1464E±01,h51km±10km, mb3.4/5, Error ellipse: s-maj=14.2km s-min=12.1km az=31.0*
JMA ***01*** *16:49:13.0±0.1,4290N×14644E,h38km±2km, M3.7*
JMA Felt I J1.
NEIC ***01*** *16:49:18.1±2.6,4290N×14620E,h71km±16km, MG3.7(JMA), Error ellipse: s-maj=35.5km s-min=15.4km az=96.0*
IDC ***01*** *16:49:19.4±6.0,4295N×14587E,h75km±45km, mb3.2/5, mb1 3.3/6, mb1mx3.1/20, mbtmp3.2/6, Error ellipse: s-maj=58.8km s-min=26.4km az=72.0*
ISC 01 16:49:14.9±1.5,4295N±007×1464E±01,h43km±11km,n19, σ0°84/27,mb3.4/5,Off southeast coast of Hokkaido

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.64**	**311**	P	**Pn**	**16 49 26.3**	**-1.2**
NEM2				*e*S	**Sn**	**16 49 35.8**	**-0.8**
JAK	**Akkeshi**	**1.25**	**273**	P	**Pn**	**16 49 34.9**	**-1.0**
JAK				*e*S	**Sn**	**16 49 51.1**	**-0.4**
JRA	**Rausu**	**1.36**	**317**	P	**Pn**	**16 49 37.2**	**-0.2**
JRA				*e*S	**Sn**	**16 49 54.6**	**+0.4**
JNK	**Nakash**	**1.39**	**298**	P	**Pn**	**16 49 36.9**	**-0.8**
JNK				*e*S	**Sn**	**16 49 54.3**	**-0.5**
JOB	**Onbets**	**1.89**	**270**	P	**Pn**	**16 49 44.2**	**-0.4**
JOB				*e*S	**Sn**	**16 50 07.1**	**0.0**
JAR	**Ashorobuto**	**1.96**	**281**	P	**Pn**	**16 49 45.3**	**-0.3**
JAR				*e*S	**Sn**	**16 50 09.0**	**+0.1**
JTKR	**Abashiri--Toko**	**2.08**	**300**	P	**Pn**	**16 49 47.8**	**+0.5**
JTKR				*e*S	**Sn**	**16 50 13.2**	**+1.2**
JCH	**Churui**	**2.26**	**263**	P	**Pn**	**16 49 49.7**	**0.0**
JMP	**Maruseppu**	**2.46**	**297**	P	**Pn**	**16 49 53.3**	**+0.9**
ERM	**Erimo**	**2.57**	**250**	*e*Pn	**Pn**	**16 49 55.0**	**+1.0**
ASAJ	**Asahikawa**	**3.00**	**294**	P	**Pn**	**16 50 01.8**	**+1.8**
	3.4nm,0.3s,baz=120,slow=11,SNR=32						
ASAJ				S	**Sn**	**16 50 30.9**	**-3.7**
	3.9nm,0.3s,baz=57,slow=9.2,SNR=5.9						
YSS	**Yuzh-Sakhalins**	**4.77**	**328**	*e*P	**Pn**	**16 50 27.3**	**+3.2**
SONM	**Songino Array**	**28.29**	**294**	P	**P**	**16 55 03.8**	**-0.2**
	0.3nm,0.5s,mb3.2,baz=93,slow=12,SNR=3.4						
MK31	**Makanchi Array**	**44.48**	**298**	*e*P	**P**	**16 57 22.2**	**+0.6**
MKAR	**Makanchi Array**	**44.48**	**298**	P	**P**	**16 57 20.9**	**-0.7**
MKAR	**Makanchi Array**	**44.48**	**298**	P	**P**	**16 57 20.9**	**-0.7**
	0.3nm,0.6s,mb3.2,baz=77,slow=8.3,SNR=4.1						
WRA	**Warramunga Arr**	**63.55**	**193**	P	**P**	**16 59 41.0**	**+0.2**
	0.3nm,0.6s,mb3.5,baz=13,slow=6.8,SNR=3.7						
FINES	**FINESS Array B**	**65.34**	**333**	P	**P**	**16 59 51.8**	**-0.4**
	0.5nm,0.7s,mb3.7,baz=42,slow=8.8,SNR=4.1						
NOA	**NORSAR Array B**	**70.15**	**339**	P	**P**	**17 00 22.0**	**-0.5**
	0.3nm,0.6s,mb3.4,baz=33,slow=6.3,SNR=3.4						

ISCJB ***01*** *17:05:17.2±1.6,2186N±005×14320E±008,h9km±10km, mb4.5/51, MS3.6/13, Error ellipse: s-maj=11.9km s-min=7.8km az=172.1*
BJI ***01*** *17:05:18.1,2176N×14348E,h29km,mB4.9,mb4.7,Ms4.2, Msz3.9*
NEIC ***01*** *17:05:19.1±0.3,2187N×143.14E,h10km,mb4.6/10, Error ellipse: s-maj=13.4km s-min=7.6km az=77.0*
MOS ***01*** *17:05:20.8±1.1,2187N×14306E,h33km,mb4.8/18, Error ellipse: s-maj=19.0km s-min=7.3km az=108.9*
IDC ***01*** *17:05:23.9±2.6,2192N×14303E,h43km±24km,mb4.1/16, mb1 4.2/18,mb1mx4.1/25,mbtmp4.1/18,ML3.9/2,MS3.3/9, Ms1 3.3/9,ms1mx3.1/33, Error ellipse: s-maj=21.2km s-min=12.1km az=82.0*
ISC 01 17:05:20.2±1.8,2187N±005×14324E±008,h16km±11km, h16km±.2km:pP-P,n93,σ1°12/95,mb4.5/51,MS3.6/13, 6C-3D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.29**	**350**	P	**Pn**	**17 06 39.4**	**+0.8**
	15nm,0.3s,baz=101,slow=22,SNR=24						
CBIJ				S	**Sn**	**17 07 38.4**	**-0.9**
	7.6nm,0.3s,baz=105,slow=23,SNR=3.4						
GUMO	**Guam**	**8.38**	**169**	LR	LR	17 10 13.7	
	comp=Z,115nm,18.2s,baz=146,slow=34						
JOW	**Kunigami**	**14.50**	**293**	LR	LR	17 13 32.9	
	comp=Z,102nm,18.1s,baz=331,slow=34						
MJAR	**Matsushiro Arr**	**15.26**	**344**	P	**Pn**	**17 08 53.3**	**-1.7**
	0.2nm,0.3s,baz=119,slow=26,SNR=3.9						
MJAR				LR	LR	17 14 23.6	
	comp=Z,158nm,19.0s,baz=190,slow=36						
JNU	**Nakatsue**	**15.67**	**318**	LR	LR	17 14 25.8	
	comp=Z,41nm,20.2s,baz=116,slow=35						
KSRS	**Korea Array**	**20.41**	**323**	P	**P**	**17 10 00.0**	**+3.5**
	7.2nm,0.7s,baz=144,slow=8.4,SNR=24						
KSRS				LR	LR	17 16 53.3	
	comp=Z,65nm,20.4s,MS3.0,baz=145,slow=34						
ASAJ	**Asahikawa**	**22.20**	**359**	LR	LR	17 19 11.9	
	comp=Z,42nm,21.1s,MS2.8,baz=359,slow=37						
VLA	**Vladivostok**	**23.21**	**339**⇑	*e*P	**P**	**17 10 26.4**	**0.0**
VLA				pmax	pmax		
	comp=Z,25nm,1.0s,mb4.6						
NJ2	**Nanjing**	**23.93**	**300**	*e*P	**P**	**17 10 32.0**	**-1.6**
NJ2				AP		17 10 36.6	
NJ2				PP		17 11 05.0	
NJ2				PPP		17 11 14.9	
NJ2				S	**S**	**17 14 43.0**	**-6.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,160nm,4.4s						
NJ2				LR	LR		
	comp=N,390nm,14.0s,MS4.0						
NJ2				LR	LR		
	comp=E,130nm,17.5s,MS4.0						
NJ2				LR	LR		
	comp=Z,100nm,11.7s						
MDJ	**Mudanjiang**	**25.33**	**337**	P	**P**	**17 10 46.2**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,72nm,5.5s						
CN2	**Changchun**	**26.38**	**330**	*e*P	**P**	**17 10 57.7**	**+2.0**
HABR	**Khabarovsk**	**27.34**	**348**	*e*P	**P**	**17 11 03.9**	**-0.4**
HABR				*e*		17 11 12.1	
HABR				*e*		17 11 16.4	
HABR				*e*		17 11 46.8	
HABR				*e*S	**S**	**17 15 42.7**	**-0.6**
HABR				*e*		17 15 56.5	
HABR				*e*		17 16 51.9	
HABR				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.4						
KLR	**Kul'dur**	**28.79**	**344**	*e*P	**P**	**17 11 14.2**	**-3.0**
BJI	**Beijing**	**29.27**	**314**	P	**P**	**17 11 23.2**	**+1.6**
BJI				S	**S**	**17 16 15.4**	**+1.5**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.4						
BJI				LR	LR		
	comp=Z,20nm,15.2s,MS2.9						
HHC	**Hu-ho-hao-te**	**32.76**	**313**	*e*P	**P**	**17 11 53.8**	**+1.5**
HHC				AP	pP	17 11 58.3	+1.0
HHC				XP	sP	17 12 00.7	+1.4
HHC				PP	PP	17 13 03.8	-2.6
HHC				PCP	PcP	17 14 39.4	+1.9
HHC				S	**S**	**17 17 09.9**	**+1.5**
HHC				SS	SS	17 19 08.7	-21
HHC				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,194nm,6.3s						
HHC				LR	LR		
	comp=N,245nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=E,232nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=Z,185nm,16.0s,MS3.9						
GYA	**Guiyang**	**33.61**	**285**	P	**P**	**17 12 01.0**	**+1.1**
GYA				AP	pP	17 12 05.6	+0.7
GYA				XP	sP	17 12 08.4	+1.5
GYA				PP	PP	17 13 13.4	-2.6
GYA				PCP	PcP	17 14 41.7	+1.5
GYA				S	**S**	**17 17 22.2**	**+0.2**
GYA				SCP	ScP	17 18 25.4	+1.2
GYA				SCS	ScS	17 22 24.9	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,490nm,17.4s,MS4.4						
GYA				LR	LR		
	comp=E,480nm,16.6s,MS4.4						
GYA				LR	LR		
	comp=Z,430nm,16.9s,MS4.2						
CD2	**Chengdu**	**36.34**	**293**	*e*P	**P**	**17 12 24.2**	**+0.7**
CD2				AP	pP	17 12 28.6	+0.1
CD2				XP	sP	17 12 31.8	+1.3
CD2				PP	PP	17 13 47.2	+1.0
CD2				S	**S**	**17 18 03.7**	**-0.3**
CD2				SS	SS	17 20 27.2	-16
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,120nm,12.4s,MS4.0						
CD2				LR	LR		
	comp=E,150nm,14.2s,MS4.0						
CD2				LR	LR		
	comp=Z,100nm,14.0s,MS3.7						
LZH	**Lanzhou**	**37.00**	**301**	*e*P	**P**	**17 12 29.5**	**+0.5**
LZH				PP	PP	17 13 55.2	+1.8
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,103nm,5.3s						
LZH				LR	LR		
	comp=N,512nm,13.4s						
LZH				LR	LR		
	comp=Z,798nm,17.2s,MS4.6						
KMI	**Kunming**	**37.19**	**283**	P	**P**	**17 12 30.8**	**0.0**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.7						
KMI				LR	LR		
	comp=Z,54nm,20.4s,MS3.3						
ULN	**Ulaanbaatar**	**38.87**	**321**	*d* iP	**P**	**17 12 44.9**	**+0.3**
ULN	**Ulaanbaatar**	**38.87**	**321**	*e*P	**P**	**17 12 44.7**	**+0.1**
	comp=Z,7.7nm,1.2s,mb4.3						
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**17 12 47.9**	**+0.2**
	comp=Z,3.3nm,0.5s,mb4.3,baz=129,slow=7.2,SNR=24						
GTA	**Gaotai**	**40.82**	**305**	*e*P	**P**	**17 13 00.8**	**-0.2**
GTA				AP	pP	17 13 05.3	-0.7
GTA				PCP	PcP	17 15 03.7	+1.9
GTA				S	**S**	**17 19 07.5**	**-3.9**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.7						
GTA				AMB	AMB		
	comp=Z,109nm,5.3s						
GTA				LR	LR		
	comp=N,60nm,6.1s						
GTA				LR	LR		
	comp=E,55nm,8.0s						
GTA				LR	LR		
	comp=Z,50nm,7.3s						
YAK	**Yakutsk**	**41.21**	**350**	*e*P	**P**	**17 13 02.5**	**-1.3**
YAK				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.5						
YAK				pmax	pmax		
	comp=N,5.0nm,1.4s						
SEY	**Seymchan**	**41.51**	**6**⇑	*e*P	**P**	**17 13 07.9**	**+1.6**
CTA	**Charters Tower**	**41.80**	**176**	P	**P**	**17 13 10.6**	**+1.4**
	comp=N,9.7nm,1.0s,mb4.4,baz=15,slow=7.9,SNR=7.1						
CTAO	**Charters Tower**	**41.80**	**176**	*e*P	**P**	**17 13 06.9**	**-2.3**
ZAK	**Zakamensk**	**42.24**	**322**‖	*i* P	**P**	**17 13 12.7**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.2						
WRAB	**Tennant Creek**	**42.44**	**192**	*e*P	**P**	**17 13 14.0**	**-0.4**
WRAB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.3						
WRAB	**Tennant Creek**	**42.44**	**192**	*e*P	**P**	**17 13 14.0**	**-0.4**
	comp=Z,6.9nm,0.9s,mb4.3						
WB2	**Warramunga Arr**	**42.45**	**192**	*e*P	**P**	**17 13 14.3**	**-0.1**
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**17 13 14.6**	**+0.1**
	comp=Z,3.0nm,0.7s,mb4.0,baz=16,slow=9.0,SNR=24						
TLY	**Talaya**	**42.66**	**324**	*e*P	**P**	**17 13 16.7**	**+0.9**
TLY				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.2						
TLY	**Talaya**	**42.66**	**324**	*e*P	**P**	**17 13 16.3**	**+0.5**
	comp=Z,2.3nm,0.8s,mb4.0						
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**17 13 43.9**	**-0.3**
	comp=Z,1.7nm,0.6s,mb4.1,baz=14,slow=9.1,SNR=37						
LSA	**Lhasa**	**47.22**	**291**	*e*P	**P**	**17 13 54.7**	**+2.2**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
LSA	**Lhasa**	**47.22**	**291**	*e*P	**P**	**17 13 54.7**	**+2.1**
	comp=Z,3.3nm,0.8s,mb4.3						
BILL	**Bilibino**	**48.34**	**11**⇑	*e*P	**P**	**17 14 01.6**	**+1.0**
BILL				*e*		17 15 22.9	
BILL				*e*SS	SS	17 24 30.4	+1.2
BILL				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.5						
TIXI	**Tiksi**	**50.49**	**354**⇑	*e*P	**P**	**17 14 16.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.1						
TIXI	**Tiksi**	**50.49**	**354**	*e*P	**P**	**17 14 16.9**	**0.0**
	comp=Z,2.3nm,0.8s,mb4.3						
WMQ	**Urumqi**	**50.51**	**309**	P	**P**	**17 14 19.0**	**+1.4**
WMQ				XP	sP	17 14 26.0	+1.3
WMQ				PP	PP	17 16 15.0	+1.7
WMQ				S	**S**	**17 21 31.0**	**0.0**
WMQ				SCS	ScS	17 24 06.0	-2.1
WMQ				SS	SS	17 25 03.0	-1.9
WMQ				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.2						
WMQ				LR	LR		
	comp=N,42nm,18.0s,MS3.6						
WMQ				LR	LR		
	comp=E,38nm,18.0s,MS3.6						
WMQ				LR	LR		
	comp=Z,31nm,18.0s,MS3.4						
STKA	**Stephens Creek**	**53.46**	**182**	P	**P**	**17 14 39.4**	**-0.2**
	comp=Z,5.1nm,1.0s,mb4.4,baz=320,slow=11,SNR=3.5						
ZAA0	**Zalesovo Array**	**54.11**	**322**	*e*P	**P**	**17 14 42.9**	**-1.2**
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	**P**	**17 14 43.5**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.6,baz=99,slow=6.8,SNR=24						
ZALV				LR	LR	17 38 12.0	
	comp=Z,27nm,18.4s,MS3.3,baz=110,slow=36						
ZAL	**Zalesovo**	**54.12**	**322**	P	**P**	**17 14 43.5**	**-0.7**
MK31	**Makanchi Array**	**54.62**	**313**	*e*P	**P**	**17 14 47.9**	**-0.1**
MKAR	**Makanchi Array**	**54.62**	**313**	*i* P	**P**	**17 14 48.0**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Mak

YKA Yellowknife Ar 76.28 28 *i* P **P 17 17 08.1 +0.3**
YKA pmax pmax
comp=Z,2.0nm,0.5s
YKA Yellowknife Ar 76.28 28 P **P 17 17 08.2 +0.3**
YKA Yellowknife Ar 76.28 28 P **P 17 17 08.2 +0.4**
comp=Z,2.2nm,0.5s,mb4.4,baz=292,slow=5.7,SNR=34
RES Resolute Bay 76.90 13 *e*P **P 17 17 11.2 0.0**
JOF Joensuu 80.18 334 *e*p **P 17 17 21.2 -8.2**
comp=Z,1.9nm,0.6s,mb4.2
OBN Obninsk 81.37 326 *i* P **P 17 17 35.5 -0.5**
OBN pmax pmax
comp=Z,6.0nm,1.5s,mb4.3
KIV Kislovodsk 82.34 314⇑*e*P **P 17 17 41.2 -0.1**
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
NVAR Mina Array Bea 83.00 52 P **P 17 17 45.5 +0.6**
comp=Z,2.1nm,0.8s,mb4.2,baz=282,slow=4.2,SNR=14
FINES FINESS Array B 83.05 334 P **P 17 17 43.0 -1.7**
comp=Z,1.0nm,0.6s,mb4.1,baz=46,slow=5.5,SNR=10
MIB Mutribah 84.25 300 *e*P **P 17 17 49.3 -2.1**
MIB AMb AMB 17 17 52.7
comp=Z,21nm,0.8s,mb5.3
RDF Al-Radifah 84.41 299 *e*P **P 17 17 49.7 -2.6**
RDF AMb AMB 17 17 53.0
comp=Z,31nm,1.0s,mb5.4
NAY Al-Naaiem 84.54 299 *e*P **P 17 17 50.5 -2.4**
NAY AMb AMB 17 17 54.5
comp=Z,13nm,1.0s,mb5.0
QLMT Earthquake Lak 85.10 44 *e*P **P 17 17 57.1 +1.7**
FLWY Flagg Ranch 85.90 44 *e*P **P 17 18 01.7 +2.2**
HWUT Hardware Ranch 86.42 46 P **P 17 18 03.1 +1.0**
comp=Z,1.7nm,0.4s,mb4.6
FCC Fort Churchill 86.86 26 *e*P **P 17 18 03.7 -0.2**
FCC pmax pmax
comp=Z,10.0nm,1.2s,mb4.9
FCC Fort Churchill 86.86 26 *e*P **P 17 18 03.7 -0.2**
comp=Z,10nm,1.2s,mb4.9
AKASG Malin Array Be 87.40 324 *i* P **P 17 18 04.8 -1.8**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 87.40 324 P **P 17 18 03.9 -2.7**
comp=Z,1.2nm,0.6s,mb4.3,baz=51,slow=4.8,SNR=14
NOA NORSAR Array B 88.81 339 P **P 17 18 10.9 -2.2**
comp=Z,0.3nm,0.7s,mb3.7,baz=51,slow=4.2,SNR=2.9
LPIG La Paz 95.17 62 LR LR 18 01 02.1
comp=Z,64nm,18.1s,MS4.1,baz=175,slow=35
PLCA Paso Flores 145.83 131 PKPbc PKPbc 17 24 59.0 +0.2
comp=Z,1.3nm,0.8s,baz=246,slow=6.0,SNR=4.8
LPAZ La Paz 149.87 85 PKPbc PKPbc 17 25 11.8 +1.4
comp=Z,2.2nm,0.9s,baz=307,slow=3.5,SNR=7.6
LPAZ PKPab PKPab 17 25 17.9 +2.0
comp=Z,3.0nm,0.7s,baz=235,slow=2.4,SNR=14

*ISCJB **01** 17:07:05.0±0.4,3854N±003×73.13E±008,h127km±12km, mb4.2/3,Error ellipse: s-maj=10.3km s-min=4.7km az=11.3*
*NEIC **01** 17:07:06.9±1.0,3862N×7308E,h122km±13km,mb4.1/1, Error ellipse: s-maj=23.6km s-min=9.9km az=124.0*
*BJI **01** 17:07:06.9,3860N×7310E,h122km,mB4.6,mb4.5*
*IDC **01** 17:07:08.3±7.3,3876N×7311E,h118km±58km,mb3.3/1, mb1 3.1/6,mb1mx2.9/24,mbtmp3.1/6,MS2.6/1,Ms1 2.6/1, ms1mx2.2/29,Error ellipse: s-maj=61.0km s-min=51.1km az=2.0*

ISC 01 17:07:06.2±0.4,3855N±003×7313E±008,h124km±12km, n35,σ0§95/44,mb4.2/3,2C-2D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.42**	**66**	*e*P		**Pn**	**17 07 45.6**	**+0.6**
KSH				S		**Sn**	**17 08 14.3**	**-0.6**
KSH				Smax				
	comp=N,832nm,0.3s							
KSH				Smax				
	comp=E,1μm,0.6s							
AML	**Almayashu**	**3.60**	**7**	P		**Pn**	**17 08 00.7**	**+0.2**
	SNR=18							
UCH	**Uchtor**	**3.82**	**16**	*e*Pn		**Pn**	**17 08 03.9**	**+0.5**
UCH	**Uchtor**	**3.82**	**16**	P		**Pn**	**17 08 04.1**	**+0.8**
	SNR=44							
KZA	**Kyzart**	**3.88**	**24**	P		**Pn**	**17 08 04.5**	**+0.4**
	SNR=40							
EKS2	**Erkin-Say**	**4.14**	**7**	*e*Pn		**Pn**	**17 08 08.6**	**+1.1**
EKS2				*e*Sn		**Sn**	**17 08 47.5**	**-7.6**
EKS2	**Erkin-Say**	**4.14**	**7**	P		**Pn**	**17 08 08.5**	**+1.0**
	SNR=17							
AAK	**Ala-Archa**	**4.21**	**14**	*e*Pn		**Pn**	**17 08 08.3**	**-0.3**
AAK	**Ala-Archa**	**4.21**	**14**	P		**Pn**	**17 08 08.5**	**0.0**
	comp=E,3.8nm,0.3s,baz=166,slow=6.0,SNR=35							
AAK				S		**Sn**	**17 08 55.0**	**-1.9**
	comp=E,11nm,0.3s,baz=352,slow=21,SNR=28							
AAK	**Ala-Archa**	**4.21**	**14**	P		**Pn**	**17 08 09.4**	**+0.9**
	SNR=17							
KBK	**Karagaybulak**	**4.33**	**18**	P		**Pn**	**17 08 11.1**	**+0.9**
	SNR=12							
ULHL	**Ulahol**	**4.39**	**32**	P		**Pn**	**17 08 11.3**	**+0.4**
	SNR=22							
CHMS	**Chumysh**	**4.61**	**15**	P		**Pn**	**17 08 14.6**	**+0.7**
	SNR=7.6							
TKM2	**Tokmak 2**	**4.75**	**22**	⇑P		**Pn**	**17 08 15.5**	**-0.3**
TKM2				⇓S		**Sn**	**17 09 09.7**	**-0.2**
	comp=E,11nm,0.7s							
TKM2	**Tokmak 2**	**4.75**	**22**	*e*P		**Pn**	**17 08 16.1**	**+0.3**
TKM2	**Tokmak 2**	**4.75**	**22**	P		**Pn**	**17 08 16.5**	**+0.7**
	SNR=6.1							
USP	**Ospenovka**	**4.83**	**12**	P		**Pn**	**17 08 17.2**	**+0.4**
	SNR=7.3							
CHCP	**Chirah Chowk**	**4.88**	**179**	P		**Pn**	**17 08 18.2**	**+0.6**
KK31	**Karatay Array**	**4.96**	**337**	⇓P		**Pn**	**17 08 17.5**	**-1.1**
	comp=E,1.9nm,0.2s,baz=156,slow=14,SNR=182							
KK31				⇑S		**Sn**	**17 09 10.7**	**-4.3**
	comp=E,9.6nm,0.4s,baz=147,slow=22,SNR=11							
KBL	**Kabul**	**5.18**	**221**	*e*P		**Pn**	**17 08 22.8**	**+1.2**
	comp=E,6.0nm,0.4s							
KBL				Sn		**Sn**	**17 09 20.6**	**+0.3**
THW	**Thamme Wali**	**5.85**	**191**	P		**Pn**	**17 08 29.7**	**-1.0**
DLH	**Dalhousie**	**6.43**	**158**	*e*P		**Pn**	**17 08 42.0**	**+3.6**
DLH				*e*S		**Sn**	**17 09 49.0**	**-1.4**
THN	**Thein Dam**	**6.46**	**160**	*e*P		**Pn**	**17 08 37.3**	**-1.6**
THN				*e*S		**Sn**	**17 09 44.1**	**-7.1**
DRP	**Derazinda**	**7.20**	**200**	P		**Pn**	**17 08 47.9**	**-1.0**
DRP				S		**Sn**	**17 10 02.0**	**-7.1**
KLP	**Kalpa**	**8.16**	**148**	*e*P		**Pn**	**17 09 03.6**	**+1.7**
KLP				*e*S		**Sn**	**17 10 26.6**	**-5.8**
JOSI	**Joshimath**	**9.57**	**144**	*e*x		x	17 09 27.3	
JOSI				*e*S		**Sn**	**17 11 01.8**	**-4.9**
JOSI				AML		AML	17 11 02.4	
	comp=E,74nm,0.5s							
JOSI				AML		AML	17 11 03.3	
	comp=N,44nm,0.4s							
MKAR	**Makanchi Array**	**10.64**	**36**	P		**Pn**	**17 09 35.1**	**0.0**
	comp=N,0.1nm,0.3s,baz=214,slow=15,SNR=3.6							
KUDL	**Kundal**	**10.75**	**164**	*e*x		x	17 11 21.7	
BVAR	**Borovoye Array**	**14.60**	**353**	P		**Pn**	**17 10 25.4**	**-1.1**
	comp=N,0.2nm,0.3s,baz=146,slow=16,SNR=4.0							
BVAR				LR		LR	17 16 00.9	
	comp=N,22nm,18.1s,baz=224,slow=37							
AKTK	**Aktyubinsk**	**16.00**	**323**	P		**Pn**	**17 10 43.4**	**-0.7**
AKTO	**Aktyubinsk**	**16.00**	**323**	P		**Pn**	**17 10 43.4**	**-0.7**
	comp=N,0.7nm,0.3s,baz=120,slow=12,SNR=8.4							
ZALV	**Zalesovo Beam**	**17.36**	**24**	P		**Pn**	**17 11 00.1**	**-0.4**
	comp=N,0.2nm,0.3s,baz=216,slow=14,SNR=4.8							
LZH	**Lanzhou**	**24.50**	**86**	*e*P		**P**	**17 12 19.7**	**+5.8**
LZH				AMB		AMB		
	comp=Z,21nm,1.0s,mb4.4							
LZH				AMB		AMB		
	comp=Z,82nm,4.5s							
LZH				LR		LR		
	comp=N,395nm,10.5s							
LZH				LR		LR		
	comp=Z,607nm,13.7s							
FINES	**FINESS Array B**	**36.77**	**324**	P		**P**	**17 14 02.8**	**+1.4**
	comp=Z,2.1nm,1.1s,mb4.0,baz=110,slow=12,SNR=3.5							
MDJ	**Mudanjiang**	**41.95**	**63**	P		**P**	**17 14 52.3**	**+7.7**
MDJ				AMB		AMB		
	comp=Z,5.0nm,0.9s,mb4.2							
MDJ				AMB		AMB		
	comp=Z,60nm,5.3s							

*IDC **01** 17:18:44.4±1.4,3573N×2746E,h0km,mb3.9/8, mb1 3.8/12,mb1mx3.6/24,mbtmp3.7/12,ML3.7/4,Error ellipse: s-maj=29.8km s-min=16.5km az=29.0*
*CSEM **01** 17:18:47.7±0.1,3575N×2756E,h25km,ML4.3,Error ellipse: s-maj=1.5km s-min=1.3km az=72.0*
*DDA **01** 17:18:47.9,3585N×2711E,h29km±2km,Md3.7*
*ISK **01** 17:18:47.0,3584N×2739E,h12km,MD3.6*
*ATH **01** 17:18:47.7,3580N×2752E,h11km,MD4.0/18,ML4.3*
*NEIC **01** 17:18:47.5,3577N×2756E,h15km,mb3.7/5,ML4.3(ATH), After ATH.*
*MOS **01** 17:18:47.7±2.0,3587N×2743E,h22km,mb4.3/2,Error ellipse: s-maj=9.0km s-min=7.1km az=108.8*
*ISCJB **01** 17:18:48.0±0.3,3576N±002×2750E±002,h32km±3km, mb4.2/14,Error ellipse: s-maj=2.7km s-min=2.5km az=154.2*
*THE **01** 17:18:52.5,3579N×2730E,h19km,ML4.1*
*HLW **01** 17:18:52.3,3566N×2767E,h33km,Mb3.6*

ISC 01 17:18:48.3±0.4,3581N±001×2747E±002,h17km±3km, n153,σ1§20/195,mb4.2/14,8C-7D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.36**	**223**	*e*Pb		**Pg**	**17 18 55.4**	**-0.4**
KARP				*e*Sb		**Sg**	**17 19 01.1**	**+0.3**
KARP	**Karpathos**	**0.36**	**223**	⇑*i*PB		**Pg**	**17 18 55.2**	**-0.6**
KARP				*e*SB		**Sg**	**17 19 01.1**	**+0.3**
ARG	**Arkhangelos**	**0.67**	**53**	*e*PB		**Pg**	**17 19 00.0**	**-1.4**
ARG				*e*SB		**Sb**	**17 19 09.1**	**-1.5**
ARG	**Arkhangelos**	**0.67**	**53**	⇑*i*Pb		**Pg**	**17 18 59.5**	**-1.9**
ARG				*e*Sn		**Sg**	**17 19 09.4**	**-0.9**
NISR	**Nisiros**	**0.84**	**341**	*e*PB		**Pb**	**17 19 04.5**	**0.0**
NISR				*e*SB		**Sb**	**17 19 16.5**	**+1.0**
NISR	**Nisiros**	**0.84**	**341**	*e*Pn		**Pn**	**17 19 05.0**	**-0.4**
DAT	**Datca**	**0.92**	**6**	*e*PG		**Pg**	**17 19 05.4**	**-0.7**
DAT				*e*SG		**Sg**	**17 19 17.6**	**-0.6**
ZKR	**Zakros**	**1.23**	**236**	*e*Pg		**Pn**	**17 19 10.7**	**-0.1**
BDRM	**Kayabasi**	**1.25**	**359**	*i* P		**Pn**	**17 19 09.9**	**-1.1**
BDRM				*i* S		**Sb**	**17 19 25.7**	**-1.6**
YER	**Yerkesik**	**1.47**	**26**	*e*PN		**Pn**	**17 19 14.4**	**+0.3**
YER				*e*SN		**Sb**	**17 19 34.4**	**+0.7**
MLSB	**Milas**	**1.50**	**10**	*e*PN		**Pn**	**17 19 13.7**	**-0.7**
MLSB				*e*SN		**Sn**	**17 19 34.0**	**+0.4**
FETY	**Fethiye**	**1.54**	**57**	*e*PN		**Pn**	**17 19 15.5**	**+0.5**
NPS	**Neapolis**	**1.61**	**251**	*e*PN		**Pn**	**17 19 16.5**	**+0.6**
NPS	**Neapolis**	**1.61**	**251**	*e*Pb		**Pb**	**17 19 17.1**	**-0.4**
THR1	**Thera Island**	**1.72**	**289**	*e*Pg		**Pn**	**17 19 17.6**	**+0.2**
SANT	**Santorini**	**1.72**	**289**	*e*Pg		**Pn**	**17 19 17.3**	**-0.1**
SANT				*e*Sg		**Sn**	**17 19 37.9**	**-1.1**
SANT	**Santorini**	**1.72**	**289**	*e*Pn		**Pn**	**17 19 16.9**	**-0.5**
SANT				*e*Pg		**Pg**	**17 19 20.5**	**-0.9**
SANT				*e*Sn		**Sn**	**17 19 38.6**	**-0.4**
SANT	**Santorini**	**1.72**	**289**	*e*Pn		**Pn**	**17 19 16.9**	**-0.5**
SANT	**Santorini**	**1.72**	**289**	*e*Pg		**Pn**	**17 19 17.3**	**-0.1**
SANT				*e*Sg		**Sn**	**17 19 37.9**	**-1.1**
XRY	**Khrisi**	**1.72**	**238**	*e*PN		**Pb**	**17 19 20.0**	**+0.5**
XRY				*e*SN		**Sg**	**17 19 44.0**	**+0.2**
LAST	**Lasithi**	**1.75**	**249**	*e*Pg		**Pn**	**17 19 18.2**	**+0.4**
LAST				*e*Sg		**Sn**	**17 19 37.3**	**-2.4**
KSL	**Kastellorizon**	**1.75**	**78**	*e*Pn		**Pb**	**17 19 18.5**	**-1.4**
KSL	**Kastellorizon**	**1.75**	**78**	*e*PG		**Pb**	**17 19 19.5**	**-0.5**
AKAS	**Kas**	**1.79**	**76**	*i* P		**Pb**	**17 19 19.4**	**-1.2**
AKAS				*i* S		**Sg**	**17 19 45.9**	**+0.1**
AYDN	**Tasoluk**	**1.87**	**10**	*i* P		**Pn**	**17 19 19.2**	**-0.4**
AYDN				*i* S		**Sn**	**17 19 41.2**	**-1.7**
SMG	**Samos**	**1.96**	**345**	*e*Pn		**Pb**	**17 19 23.3**	**-0.2**
SMG				*e*Sn		**Sb**	**17 19 49.3**	**+1.7**
SMG	**Samos**	**1.96**	**345**	*e*PN		**Pb**	**17 19 23.3**	**-0.2**
SMG				*e*SN		**Sb**	**17 19 49.5**	**+1.9**
APE	**Apeiranthos**	**2.00**	**309**	*e*Pb		**Pn**	**17 19 22.2**	**+0.8**
APE				*e*Sb		**Sn**	**17 19 44.5**	**-1.5**
APE	**Apeiranthos**	**2.00**	**309**	*c* iP		**Pn**	**17 19 20.6**	**-0.7**
APE	**Apeiranthos**	**2.00**	**309**	P		**Pn**	**17 19 21.0**	**-0.3**
APE				*e*Sn		**Sb**	**17 19 50.5**	**+1.6**
APE	**Apeiranthos**	**2.00**	**309**	*e*PB		**Pn**	**17 19 23.0**	**+1.7**
APE				*e*SN		**Sb**	**17 19 50.8**	**+1.9**
APE	**Apeiranthos**	**2.00**	**309**	*e*Pb		**Pn**	**17 19 22.2**	**+0.9**
IDI	**Anoyia**	**2.16**	**257**	P		**Pn**	**17 19 23.9**	**+0.3**
ELL	**Elmali**	**2.18**	**64**	*e*PN		**Pn**	**17 19 24.8**	**+1.0**
GOLH	**Golhisar**	**2.21**	**49**	*i* P		**Pb**	**17 19 26.5**	**-1.3**
GOLH				*i* S		**Sb**	**17 19 55.1**	**+0.3**
DENT	**Denizli**	**2.31**	**33**	*e*PN		**Pn**	**17 19 25.9**	**+0.3**
SIVA	**Sivas**	**2.31**	**251**	*e*Pn		**Pn**	**17 19 26.9**	**+1.3**
SIVA				*e*Sn		**Sn**	**17 19 51.1**	**-2.5**
BLCB	**Balcova**	**2.59**	**353**	*e*PN		**Pn**	**17 19 30.3**	**+0.9**
BLCB	**Balcova**	**2.59**	**353**	*e*Pn		**Pn**	**17 19 31.7**	**+2.3**
KDAG	**Bornova**	**2.59**	**357**	*i* P		**Pn**	**17 19 28.7**	**-0.7**
KDAG				*i* S		**Sg**	**17 20 10.8**	**-0.7**
URLA	**Izmir**	**2.63**	**345**	*i* P		**Pn**	**17 19 24.6**	**-5.4**
URLA				*i* S		**Sb**	**17 20 09.7**	**+2.6**
VAM	**Vamos**	**2.69**	**262**	P		**Pn**	**17 19 30.8**	**0.0**
VAM				*e*Pb		**Pb**	**17 19 34.4**	**-1.6**
VAM	**Vamos**	**2.69**	**262**	*e*PN		**Pn**	**17 19 34.0**	**+3.2**
VAM	**Vamos**	**2.69**	**262**	*e*Pb		**Pb**	**17 19 34.4**	**-1.6**
ANTB	**Antalya**	**2.79**	**66**	*e*PN		**Pn**	**17 19 33.1**	**+0.9**
CHOS	**Chios island**	**2.81**	**337**	*e*Pn		**Pn**	**17 19 33.9**	**+1.5**
CHOS				*e*Sn		**Sn**	**17 20 06.5**	**+0.7**
KULA	**Kula-Manisa**	**2.86**	**19**	*e*PN		**Pn**	**17 19 33.5**	**+0.4**
KARN	**Karanos**	**2.92**	**263**	*e*Pn		**Pn**	**17 19 34.2**	**+0.3**
KARN				*e*Sn		**Sn**	**17 20 06.0**	**-2.6**
GVD	**Gavdhos**	**2.93**	**252**	*e*Pn		**Pn**	**17 19 33.2**	**-0.8**
GVD	**Gavdhos**	**2.93**	**252**	*e*PB		**Pb**	**17 19 37.5**	**-2.5**
GVD	**Gavdhos**	**2.93**	**252**	*e*Pn		**Pn**	**17 19 33.2**	**-0.9**
KHL	**Karahalli**	**3.00**	**33**	*e*PN		**Pn**	**17 19 36.5**	**+1.4**
BCK	**Bucak**	**3.00**	**56**	*e*PN		**Pn**	**17 19 36.9**	**+1.8**
AKHS	**Akhisar**	**3.07**	**5**	*i* P		**Pn**	**17 19 34.7**	**-1.4**
AKHS				*i* S		**Sn**	**17 20 11.0**	**-1.5**
AKS	**Akhisar**	**3.07**	**5**	*e*PN		**Pn**	**17 19 36.2**	**+0.1**
ISP	**Isparta**	**3.17**	**49**	*e*Pn		**Pn**	**17 19 40.9**	**+3.4**
ISP				*e*Sn		**Sn**	**17 20 19.0**	**+4.1**
ISP	**Isparta**	**3.17**	**49**	*i* P		**Pn**	**17 19 40.7**	**+3.3**
ISP	**Isparta**	**3.17**	**49**	*e*Pn		**Pn**	**17 19 40.2**	**+2.7**
ISP	**Isparta**	**3.17**	**49**	*e*Pn		**Pn**	**17 19 39.2**	**+1.8**
PRK	**Paraskevi**	**3.56**	**345**	*e*PN		**Pn**	**17 19 46.0**	**+3.3**
KYTH	**Kithira**	**3.62**	**279**	*e*Pn		**Pn**	**17 19 46.0**	**+2.4**
KYTH	**Kithira**	**3.62**	**279**	*e*PN		**Pn**	**17 19 44.5**	**+0.9**
GDZ	**Gediz**	**3.64**	**26**	*i* P		**Pn**	**17 19 43.0**	**-0.9**
GDZ				*i* S		**Sn**	**17 20 26.2**	**-0.3**
PTL	**Penteli**	**3.65**	**309**	*e*PN		**Pn**	**17 19 46.5**	**+2.6**
ATH	**Athens Observa**	**3.70**	**307**	*e*PN		**Pn**	**17 19 48.0**	**+3.4**
VLI	**Veliai**	**3.77**	**285**	*e*PN		**Pn**	**17 19 47.0**	**+1.4**
VLI	**Veliai**	**3.77**	**285**	*e*Pn		**Pn**	**17 19 46.6**	**+1.0**
DID	**Didima**	**3.80**	**298**	*e*Pn		**Pn**	**17 19 46.6**	**+0.6**
DID				*e*Sn		**Sn**	**17 20 27.2**	**-3.1**
BALB	**Balikesir**	**3.83**	**5**	*e*PN		**Pn**	**17 19 47.6**	**+1.1**
ALT	**Altintas**	**3.86**	**32**	*e*PN		**Pn**	**17 19 47.7**	**+0.8**
LTK	**Loutraki**	**4.22**	**303**	*e*Pn		**Pn**	**17 19 53.4**	**+1.5**
VLX	**Vlachokerasia**	**4.38**	**292**	*e*Pn		**Pn**	**17 19 55.6**	**+1.7**
ERMK	**Ermenek**	**4.48**	**78**	*i* P		**Pn**	**17 19 55.6**	**+0.2**
ERMK				*i* S		**Sn**	**17 20 50.9**	**+3.7**
LKR	**Lokris**	**4.55**	**310**	*e*Pn		**Pn**	**17 19 57.3**	**+0.9**
KDHN	**Kadinhani**	**4.59**	**53**	*i* P		**Pn**	**17 19 57.8**	**+0.9**
KDHN				*i* S		**Sn**	**17 20 51.9**	**+1.9**
KDHN	**Kadinhani**	**4.59**	**53**	*i* P		**Pn**	**17 19 57.8**	**+0.8**
KDHN				*i* S		**Sn**	**17 20 51.8**	**+1.9**
KIZT	**Kizilcal**	**4.66**	**48**	*e*PN		**Pn**	**17 20 00.1**	**+2.2**
ITM	**Ithomi**	**4.67**	**289**	*e*PN		**Pn**	**17 20 00.8**	**+2.8**
HMAT	**Matruh**	**4.72**	**184**	⇓*e*P		**Pn**	**17 19 59.9**	**+1.2**
HMAT				S		**Sn**	**17 20 48.3**	**-4.7**
HMAT	**Matruh**	**4.72**	**184**	P		**Pn**	**17 19 59.8**	**+1.1**
HMAT				S		**Sn**	**17 20 48.3**	**-4.7**
PYL	**PYLOS**	**4.74**	**285**	*e*Sn		**Sn**	**17 20 52.4**	**-1.3**
CSS	**Prodhromos**	**4.87**	**98**	*e*Pn		**Pn**	**17 20 00.0**	**-0.7**
CSS	**Prodhromos**	**4.87**	**98**	*e*Pn		**Pn**	**17 20 00.0**	**-0.7**
EVR	**Evrytania**	**5.47**	**306**	*e*PN		**Pn**	**17 20 12.5**	**+3.5**
THL	**Klokotos Trika**	**5.72**	**313**	*e*Pn		**Pn**	**17 20 13.9**	**+1.5**
THL	**Klokotos Trika**	**5.72**	**313**	*e*PN		**Pn**	**17 20 15.5**	**+3.1**
ANTO	**Ankara**	**5.84**	**45**	*e*P		**Pn**	**17 20 15.0**	**+0.9**
ANTO	**Ankara**	**5.84**	**45**	*e*Pn		**Pn**	**17 20 14.9**	**+0.8**
SWA1		**6.70**	**193**	⇓*e*P		**Pn**	**17 20 27.1**	**+1.2**
SWA1				S		**Sn**	**17 21 36.9**	**-5.0**
HNAT	**Natroun**	**6.71**	**156**	P		**Pn**	**17 20 26.2**	**+0.1**
SWA2		**6.77**	**195**	⇑P		**Pn**	**17 20 28.2**	**+1.4**
AMAG	**Maghara**	**7.05**	**135**	⇑*e*P		**Pn**	**17 20 30.6**	**-0.1**
MMAI	**Mount Meron Ar**	**7.13**	**111**	Pn		**Pn**	**17 20 30.4**	**-1.4**
	2.7nm,0.3s,baz=317,slow=12,SNR=9.4							
MMAI				Sn		**Sn**	**17 21 51.2**	**-1.2**
	2.7nm,0.3s,baz=306,slow=27,SNR=5.2							
SUZ		**7.47**	**141**	⇓*e*P		**Pn**	**17 20 36.8**	**+0.3**
HNKL	**Nakhl**	**8.03**	**135**	P		**Pn**	**17 20 44.2**	**0.0**
HNKL				S		**Sn**	**17 22 06.1**	**-8.4**
HFRF	**Wahat Farafira**	**8.67**	**175**	⇑*e*P		**Pn**	**17 20 53.9**	**+1.0**
EIL	**Elat**	**8.79**	**132**	Pn		**Pn**	**17 20 51.6**	**-3.0**
	0.7nm,0.3s,baz=22,slow=5.2,SNR=5.0							
EIL				Sn		**Sn**	**17 22 31.3**	**-2.0**
	1.8nm,0.3s,baz=47,slow=18,SNR=6.7							
HBST	**Basata**	**8.99**	**135**	⇓*e*P		**Pn**	**17 20 57.4**	**0.0**
HKAT	**Jabal Katrina**	**9.13**	**141**	⇓*e*P		**Pn**	**17 20 59.6**	**+0.3**
TIP	**Timpagrande**	**9.15**	**295**	*e*Pn		**Pn**	**17 21 00.9**	**+1.5**
TIP	**Timpagrande**	**9.15**	**295**	*e*Pn		**Pn**	**17 21 00.9**	**+1.4**
HDHB	**Dhahab**	**9.31**	**137**	⇓*e*P		**Pn**	**17 21 02.1**	**+0.4**
TR1		**9.54**	**143**	⇓*e*P		**Pn**	**17 21 04.7**	**-0.1**
SHRM		**9.72**	**142**	P		**Pn**	**17 21 07.6**	**+0.3**
HHRG	**Al Ghardaqah**	**10.02**	**147**	⇓*e*P		**Pn**	**17 21 12.1**	**+0.5**
HDK1	**Dakhla**	**10.37**	**170**	⇓*e*P		**Pn**	**17 21 17.6**	**+1.2**
HDK1	**Dakhla**	**10.37**	**170**	P		**Pn**	**17 21 17.5**	**+1.2**
AKASG	**Malin Array Be**	**14.94**	**4**	Pn		**Pn**	**17 22 18.2**	**-0.3**
	0.2nm,0.3s,baz=183,slow=12,SNR=3.3							
GERES	**GERESS Array B**	**16.49**	**326**	Pn		**Pn**	**17 22 40.6**	**+1.9**
	0.1nm,0.3s,baz=214,slow=12,SNR=3.1							
KHC	**Kasperske Hory**	**16.76**	**327**	*i* P		**Pn**	**17 22 44.2**	**+2.1**
MBDF	**Montbardon**	**18.09**	**306**	*e*P		**Pn**	**17 22 56.2**	**-2.5**
5.2nm,0.7s								
MBDF	**Montbardon**	**18.09**	**306**	*e*P		**Pn**	**17 22 56.2**	**-2.5**
MBDF				pmax		pmax		
	comp=Z,3.0nm,0.7s							
MBDF	**Montbardon**	**18.09**	**306**	*e*P		**Pn**	**17 22 56.2**	**-2.5**
	comp=Z,2.6nm,0.7s							
LPG	**La Plagne**	**18.41**	**308**	*e*P		**Pn**	**17 23 01.3**	**-1.3**
LPL	**La Plagne**	**18.43**	**308**	*e*P		**Pn**	**17 23 00.8**	**-2.0**
	comp=Z,7.9nm,0.9s							
LPL	**La Plagne**	**18.43**	**308**	*e*P		**Pn**	**17 23 00.8**	**-2.0**
LPL				pmax		pmax		
	comp=Z,4.0nm,0.9s							
LPL	**La Plagne**	**18.43**	**308**	*e*P		**Pn**	**17 23 00.8**	**-2.0**
	comp=Z,4.0nm,0.9s							
CABF	**La Chapelle**	**19.30**	**311**	*e*P		**Pn**	**17 23 11.4**	**-2.0**
	comp=Z,5.5nm,0.6s							
CABF	**La Chapelle**	**19.30**	**311**	*e*P		**Pn**	**17 23 11.4**	**-2.0**
CABF				pmax		pmax		
	comp=Z,3.0nm,0.6s							
CABF	**La Chapelle**	**19.30**	**311**	*e*P		**Pn**	**17 23 11.4**	**-2.0**
	comp=Z,2.8nm,0.6s							
CDF	**Champ du Feu**	**19.49**	**316**	*e*P		**Pn**	**17 23 13.9**	**-1.8**
OBN	**Obninsk**	**20.30**	**15**	*i* P		**P**	**17 23 22.0**	**-1.1**
OBN				*e*			17 23 40.7	
OBN				pmax		pmax		
	comp=Z,9.0nm,0.8s							
OBN	**Obninsk**	**20.30**	**15**	*i* P		**P**	**17 23 22.0**	**-1.1**
	comp=Z,9.0nm,0.8s							
SMF	**Signal de Mont**	**20.73**	**309**	*e*P		**P**	**17 23 27.0**	**-0.8**
SSF	**Saint Saulge**	**21.10**	**310**	*e*P		**P**	**17 23 30.7**	**-1.2**
	comp=Z,22nm,1.1s,mb4.1							
SSF	**Saint Saulge**	**21.10**	**310**	*e*P		**P**	**17 23 30.7**	**-1.2**
SSF				pmax		pmax		
	comp=Z,11nm,1.1s,mb4.1							
SSF	**Saint Saulge**	**21.10**	**310**	*e*P		**P**	**17 23 30.7**	**-1.2**
	comp=Z,11nm,1.1s,mb4.1							
ESDC	**Sonseca Array**	**25.08**	**288**	P		**P**	**17 24 11.6**	**-0.3**
	comp=Z,0.2nm,0.5s,baz=266,slow=28,SNR=3.4							
FINES	**FINESS Array B**	**25.67**	**358**	P		**P**	**17 24 14.8**	**-2.1**
	comp=Z,1.

ISC 01 17:33:55.2±0.9,4742N±010×1561E±01,h35km,n33, σ1°24/32,mb3.9/16,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.27**	**0**	*e*PN	**Pn**	**17 34 41.6**	**-2.2**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
PET	**Petropavlovsk**	**5.85**	**15**	*e*PN	**Pn**	**17 35 17.3**	**-2.0**
PET				*e*S	**Sn**	**17 36 25.1**	**+0.1**
PET				smax			
	comp=N,71nm,0.8s						
PET				smax			
	comp=E,59nm,0.8s						
KUR	**Kuril'sk**	**6.09**	**252**	*e*PN	**Pn**	**17 35 19.0**	**-3.6**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
YSS	**Yuzh-Sakhalins**	**9.09**	**272**	*e*PN	**Pn**	**17 36 08.0**	**+4.3**
HABR	**Khabarovsk**	**14.13**	**282**	*e*P	**Pn**	**17 37 08.5**	**-4.1**
HABR				*e*		17 39 44.8	
YAK	**Yakutsk**	**20.91**	**324**	*e*P	**P**	**17 38 32.6**	**-1.6**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
BILL	**Bilibino**	**21.32**	**11**	*i* P	**P**	**17 38 41.1**	**+2.5**
BILL				*e*		17 42 37.5	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
KSRS	**Korea Array**	**22.93**	**255**	P	**P**	**17 38 54.9**	**-1.1**
	comp=Z,1.1nm,0.7s,mb3.4,baz=60,slow=8.3,SNR=4.1						
TIXI	**Tiksi**	**27.43**	**342**	*i* P	**P**	**17 39 40.5**	**+3.3**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb3.6						
TIXI	**Tiksi**	**27.43**	**342**	*e*P	**P**	**17 39 38.6**	**+1.4**
	comp=Z,2.9nm,0.8s,mb3.9						
KDAK	**Kodiak Island**	**32.10**	**52**	P	**P**	**17 40 17.2**	**-1.4**
	comp=Z,4.4nm,0.9s,mb4.3,baz=312,slow=5.1,SNR=4.2						
ZAK	**Zakamensk**	**34.23**	**295**	*e*P	**P**	**17 40 38.0**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.5						
INK	**Inuvik**	**39.99**	**33**	*e*P	**P**	**17 41 26.8**	**+0.9**
INK	**Inuvik**	**39.99**	**33**	P	**P**	**17 41 27.1**	**+1.1**
	comp=Z,2.6nm,0.7s,mb4.1,baz=288,slow=6.4,SNR=8.9						
ZALV	**Zalesovo Beam**	**43.86**	**306**	P	**P**	**17 41 58.8**	**+1.1**
ZALV	**Zalesovo Beam**	**43.86**	**306**	P	**P**	**17 41 58.8**	**+1.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=50,slow=7.3,SNR=3.2						
ZAL	**Zalesovo**	**43.87**	**306**	P	**P**	**17 41 58.8**	**+1.0**
MK31	**Makanchi Array**	**48.42**	**298**	*e*P	**P**	**17 42 33.6**	**0.0**
MKAR	**Makanchi Array**	**48.42**	**298**	P	**P**	**17 42 33.6**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.42**	**298**	P	**P**	**17 42 33.4**	**-0.2**
MKAR	**Makanchi Array**	**48.42**	**298**	P	**P**	**17 42 33.4**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.7,baz=69,slow=6.8,SNR=6.7						
KURK	**Kurchatov**	**48.67**	**304**	*e*P	**P**	**17 42 34.3**	**-1.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**48.67**	**304**	*e*P	**P**	**17 42 34.3**	**-1.2**
	comp=Z,2.4nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**49.17**	**38**	P	**P**	**17 42 39.8**	**+0.7**
	comp=Z,1.7nm,0.7s,mb4.2,baz=295,slow=7.3,SNR=16						
BVAR	**Borovoye Array**	**51.99**	**310**	P	**P**	**17 43 00.8**	**+0.3**
	comp=Z,1.2nm,0.5s,mb4.1,baz=55,slow=8.3,SNR=13						
ARCES	**ARCESS Array B**	**57.87**	**342**	P	**P**	**17 43 44.0**	**+1.2**
	comp=Z,5.3nm,0.9s,mb4.5,baz=28,slow=9.6,SNR=3.5						
FINES	**FINESS Array B**	**64.28**	**336**	P	**P**	**17 44 27.1**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=201,slow=36,SNR=4.4						
HFS	**Hagfors**	**68.51**	**341**	P	**P**	**17 44 54.6**	**+1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=76,slow=6.3,SNR=6.8						
AKASG	**Malin Array Be**	**72.09**	**328**	P	**P**	**17 45 14.9**	**-0.6**
	comp=Z,0.4nm,0.4s,mb3.7,baz=34,slow=6.5,SNR=4.4						
TXAR	**Lajitas Array**	**75.39**	**63**	P	**P**	**17 45 34.8**	**-0.4**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**75.39**	**63**	P	**P**	**17 45 34.1**	**-1.1**
	comp=Z,0.7nm,0.5s,mb3.8,baz=300,slow=4.1,SNR=9.3						
PLCA	**Paso Flores**	**146.26**	**96**	*e*PKIKP	PKPdf	17 53 30.0	-0.2
PLCA	**Paso Flores**	**146.26**	**96**	PKPbc	PKPbc	17 53 29.6	-1.8
	comp=Z,1.8nm,0.8s,baz=93,slow=3.0,SNR=3.8						

*ISCJB **01** 17:35:17.1±1.0,218N±0.1×1430E±03,h33km,mb4.0/10, Error ellipse: s-maj=36.3km s-min=16.2km az=162.7*
*NEIC **01** 17:35:18.8±0.5,2182N×143.15E,h35km,mb4.3/3,Error ellipse: s-maj=20.3km s-min=11.5km az=66.0*
*IDC **01** 17:35:30.3±9.9,2175N×14293E,h140km±91km,mb3.5/8, mb1 3.6/8,mb1mx3.5/20,mbtmp3.5/8,Error ellipse: s-maj=41.4km s-min=15.2km az=76.0*

ISC 01 17:35:19.1±1.0,218N±01×1431E±03,h35km,n13, σ0°81/12,mb4.0/10,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.39**	**323**	P	**P**	**17 39 56.1**	**+3.2**
	2.6nm,0.8s,baz=144,slow=9.3,SNR=8.8						
SONM	**Songino Array**	**39.22**	**320**	P	**P**	**17 42 43.8**	**-0.1**
	1.6nm,0.9s,mb3.7,baz=134,slow=7.7,SNR=7.8						
WRA	**Warramunga Arr**	**42.35**	**192**	P	**P**	**17 43 10.0**	**0.0**
	1.4nm,0.8s,mb3.7,baz=13,slow=9.0,SNR=8.9						
ASAR	**Alice Springs**	**46.06**	**192**	P	**P**	**17 43 39.8**	**+0.1**
	0.7nm,0.7s,mb3.7,baz=12,slow=9.1,SNR=13						
ZALV	**Zalesovo Beam**	**54.09**	**322**	P	**P**	**17 44 39.3**	**-1.0**
	2.7nm,0.9s,mb4.2,baz=101,slow=7.7,SNR=8.6						
MK31	**Makanchi Array**	**54.58**	**313**	*e*P	**P**	**17 44 44.1**	**+0.2**
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**17 44 44.0**	**0.0**
	0.6nm,0.6s,mb3.8,baz=91,slow=9.5,SNR=7.5						
KURK	**Kurchatov**	**57.35**	**317**	*e*P	**P**	**17 45 02.7**	**-1.0**
	1.5nm,0.8s,mb4.1						
UCH	**Uchtor**	**60.05**	**307**	*e*P	**P**	**17 45 24.1**	**+1.4**
	4.6nm,1.2s,mb4.4						
BVAR	**Borovoye Array**	**62.55**	**319**	P	**P**	**17 45 39.0**	**-0.3**
	3.5nm,0.7s,mb4.6,baz=90,slow=8.9,SNR=19						
BRVK	**Borovoye**	**62.61**	**320**	*e*P	**P**	**17 45 39.3**	**-0.5**
	1.6nm,0.7s,mb4.3						
NVAR	**Mina Array Bea**	**83.15**	**51**	P	**P**	**17 47 42.1**	**+0.3**
	0.9nm,0.8s,mb3.9,baz=278,slow=4.2,SNR=5.1						
LPAZ	**La Paz**	**150.01**	**85**	PKPab	PKPab	17 55 12.3	-0.2
	1.2nm,0.7s,baz=276,slow=5.6,SNR=3.8						

*ISCJB **01** 17:37:09.0±1.2,1881N±004×14635E±006,h52km±11km, mb4.7/51,MS3.8/16,Error ellipse: s-maj=10.1km s-min=6.5km az=179.1*
*MOS **01** 17:37:10.1±0.9,1880N×146.19E,h66km,mb4.7/12,Error ellipse: s-maj=17.8km s-min=7.8km az=99.0*
*NEIC **01** 17:37:12.5±1.6,1878N×14623E,h70km±15km,mb4.6/21, Error ellipse: s-maj=12.7km s-min=6.3km az=91.0*
*BJI **01** 17:37:12.5,1880N×14620E,h70km,mB5.0,mb4.8,Ms4.5, Msz4.1*
*IDC **01** 17:37:15.0±2.3,1871N×146.17E,h95km±21km,mb4.1/15, mb1 4.3/18,mb1mx4.2/23,mbtmp4.2/18,MS3.6/10, Ms1 3.7/10,ms1mx3.5/19,Error ellipse: s-maj=20.5km s-min=10.6km az=82.0*

ISC 01 17:37:11.0±1.0,1883N±004×14638E±006,h53km±9km, h60km±2.4km:pP-P,n103,σ1°37/106,mb4.7/51,MS3.8/16, 2C,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.41**	**196**	*e*P	**Pn**	**17 38 29.1**	**0.0**
GUMO	**Guam**	**5.41**	**196**	P	**Pn**	**17 38 29.2**	**+0.1**
	26nm,0.3s,baz=356,slow=22,SNR=9.9						
GUMO				S	**Sn**	**17 39 32.0**	**+2.0**
	33nm,0.3s,baz=12,slow=23,SNR=3.7						
CBIJ	**Chichi jima**	**9.09**	**336**	P	**Pn**	**17 39 25.1**	**+5.6**
	8.3nm,0.3s,baz=252,slow=18,SNR=5.9						
CBIJ				S	**Sn**	**17 40 59.5**	**-0.9**
	9.9nm,0.3s,baz=285,slow=23,SNR=4.4						
JOW	**Kunigami**	**18.48**	**299**	P	**Pn**	**17 41 27.8**	**+4.6**
	1.3nm,0.3s,baz=136,slow=13,SNR=11						
JOW				LR	LR	17 47 17.9	
	comp=Z,337nm,21.7s,baz=135,slow=33						
MJAR	**Matsushiro Arr**	**19.05**	**339**	P	**Pn**	**17 41 29.7**	**-0.4**
MJAR				S	**S**	**17 45 11.7**	**+9.4**
MJAR				LR	LR	17 48 31.7	
MJAR	**Matsushiro Arr**	**19.05**	**339**	P	**Pn**	**17 41 29.7**	**-0.4**
	0.9nm,0.3s,baz=166,slow=11,SNR=11						
MJAR				S	**S**	**17 45 11.7**	**+9.4**
	0.2nm,0.3s,baz=154,slow=16,SNR=4.2						
MJAR				LR	LR	17 48 31.7	
	comp=Z,57nm,18.1s,baz=215,slow=36						
MAJO	**Matsushiro**	**19.06**	**339**	*e*P	**Pn**	**17 41 28.8**	**-1.3**
	13nm,0.6s						
MAT	**Matsushiro**	**19.06**	**339**	P	**Pn**	**17 41 28.5**	**-1.6**
MAT				*e*S	**S**	**17 45 12.0**	**+10**
JNU	**Nakatsue**	**19.88**	**319**	LR	LR	17 48 38.6	
	comp=Z,117nm,19.7s,baz=337,slow=34						
YHNB	**Yeheng**	**23.92**	**288**	*e*P	**P**	**17 42 22.8**	**+2.7**
KSRS	**Korea Array**	**24.60**	**323**	P	**P**	**17 42 25.8**	**-0.4**
	5.2nm,0.7s,mb4.2,baz=149,slow=8.9,SNR=16						
KSRS				LR	LR	17 51 38.1	
	comp=Z,220nm,21.1s,MS3.6,baz=135,slow=35						
ASAJ	**Asahikawa**	**25.41**	**354**	LR	LR	17 52 51.5	
	comp=Z,45nm,18.7s,MS3.0,baz=173,slow=37						
SSE	**Sheshan**	**25.83**	**303**	P	**P**	**17 42 38.7**	**+1.3**
SSE				AMB	AMB		
	comp=Z,21nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,151nm,3.8s						
SSE				LR	LR		
	comp=N,73nm,25.0s,MS3.4						
SSE				LR	LR		
	comp=E,117nm,25.0s,MS3.4						
SSE				LR	LR		
	comp=Z,156nm,25.0s,MS3.4						
NJ2	**Nanjing**	**28.03**	**303**	*e*P	**P**	**17 42 59.2**	**+2.0**
NJ2				AP	pP	17 43 14.2	+3.5
NJ2				XP	sP	17 43 19.9	+2.9
NJ2				PP	PP	17 43 51.1	-10
NJ2				PPP		17 44 01.9	
NJ2				S	**S**	**17 47 36.5**	**-1.6**
NJ2				XS	sS	17 48 02.5	+1.6
NJ2				AMB	AMB		
	comp=Z,20nm,1.2s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,310nm,3.8s						
NJ2				LR	LR		
	comp=N,240nm,21.9s,MS3.9						
NJ2				LR	LR		
	comp=E,250nm,19.4s,MS3.9						
NJ2				LR	LR		
	comp=Z,250nm,19.3s,MS3.8						
YSS	**Yuzh-Sakhalins**	**28.21**	**355**	*e*P	**P**	**17 43 02.0**	**+3.4**
MDJ	**Mudanjiang**	**29.29**	**335**	P	**P**	**17 43 09.9**	**+1.7**
MDJ				AP	pP	17 43 22.3	+0.6
MDJ				S	**S**	**17 48 01.4**	**+3.8**
MDJ				XS	sS	17 48 23.9	+3.5
MDJ				PCS	PcS	17 49 57.4	+0.7
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.5s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,75nm,5.5s						
MDJ				LR	LR		
	comp=Z,104nm,25.5s,MS3.4						
CN2	**Changchun**	**30.48**	**329**	*e*P	**P**	**17 43 21.0**	**+2.2**
KKM	**Kota Kinabalu**	**32.01**	**251**	*e*P	**P**	**17 43 35.6**	**+3.0**
KLR	**Kul'dur**	**32.54**	**342**	*e*P	**P**	**17 43 33.6**	**-3.2**
BJI	**Beijing**	**33.49**	**316**	P	**P**	**17 43 44.8**	**-0.4**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
BJI				LR	LR		
	comp=N,120nm,19.1s,MS3.8						
BJI				LR	LR		
	comp=E,142nm,20.2s,MS3.8						
BJI				LR	LR		
	comp=Z,119nm,25.8s						
KAKA	**Kakadu**	**34.22**	**205**	*e*P	**P**	**17 43 49.2**	**-2.6**
	comp=Z,6.9nm,0.9s,mb4.6						
HHC	**Hu-ho-hao-te**	**36.97**	**314**	*e*P	**P**	**17 44 17.5**	**+2.3**
HHC				AP	pP	17 44 32.7	+3.8
HHC				XP	sP	17 44 41.0	+5.9
HHC				PP	PP	17 45 44.7	+4.5
HHC				PCP	PcP	17 46 38.2	+2.7
HHC				S	**S**	**17 49 59.5**	**+2.7**
HHC				XS	sS	17 50 25.3	+5.4
HHC				SS	SS	17 52 30.8	-9.5
HHC				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,180nm,6.1s						
HHC				LR	LR		
	comp=N,246nm,17.8s,MS4.2						
HHC				LR	LR		
	comp=E,305nm,18.4s,MS4.2						
HHC				LR	LR		
	comp=Z,275nm,17.6s,MS4.1						
GYA	**Guiyang**	**37.32**	**289**	P	**P**	**17 44 18.2**	**-0.1**
GYA				AP	pP	17 44 34.8	+2.8
GYA				XP	sP	17 44 41.6	+3.4
GYA				PP	PP	17 45 48.5	+4.3
GYA				PCP	PcP	17 46 38.1	+1.3
GYA				S	**S**	**17 50 03.2**	**+0.8**
GYA				SCP	ScP	17 50 19.4	-0.3
GYA				PCS	PcS	17 50 25.5	+0.1
GYA				XS	sS	17 50 29.2	+3.7
GYA				SCS	ScS	17 54 25.7	-2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,5.4s						
GYA				LR	LR		
	comp=N,470nm,17.8s,MS4.5						
GYA				LR	LR		
	comp=E,480nm,16.7s,MS4.5						
GYA				LR	LR		
	comp=Z,460nm,16.8s,MS4.3						
CTA	**Charters Tower**	**38.67**	**180**	*e*P	**P**	**17 44 30.4**	**+0.7**
	comp=Z,2.0nm,0.6s,mb4.0						
CTA	**Charters Tower**	**38.67**	**180**	*e*P	**P**	**17 44 30.4**	**+0.7**
CTA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CTAO	**Charters Tower**	**38.67**	**180**	*e*P	**P**	**17 44 29.2**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
CTAO	**Charters Tower**	**38.67**	**180**	*e*P	**P**	**17 44 29.2**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.2						
CD2	**Chengdu**	**40.27**	**296**	*e*P	**P**	**17 44 43.7**	**+0.7**
CD2				AP	pP	17 44 59.0	+2.2
CD2				XP	sP	17 45 06.5	+3.5
CD2				PP	PP	17 46 21.2	+4.8
CD2				S	**S**	**17 50 47.7**	**+0.9**
CD2				XS	sS	17 51 12.4	+2.4
CD2				SS	SS	17 53 40.7	-6.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,100nm,14.2s,MS4.0						
CD2				LR	LR		
	comp=E,120nm,12.2s,MS4.0						
CD2				LR	LR		
	comp=Z,110nm,10.2s,MS4.0						
WRAB	**Tennant Creek**	**40.28**	**198**	*e*P	**P**	**17 44 41.6**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.7						
WRAB	**Tennant Creek**	**40.28**	**198**	*e*P	**P**	**17 44 41.6**	**-1.5**
	comp=Z,8.8nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**40.29**	**198**	*e*P	**P**	**17 44 42.2**	**-1.0**
WRA	**Warramunga Arr**	**40.30**	**198**	P	**P**	**17 44 40.8**	**-2.4**
	comp=Z,2.4nm,0.4s,mb4.3,baz=20,slow=8.3,SNR=50						
KMI	**Kunming**	**40.81**	**287**	P	**P**	**17 44 50.2**	**+2.6**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
LZH	**Lanzhou**	**41.11**	**304**	*e*P	**P**	**17 44 48.5**	**-1.3**
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,114nm,6.3s						
LZH				LR	LR		
	comp=E,475nm,14.6s						
LZH				LR	LR		
	comp=Z,703nm,17.8s,MS4.6						
FITZ	**Fitzroy Crossi**	**41.98**	**210**	*e*P	**P**	**17 44 55.5**	**-1.5**
	comp=Z,14nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**43.07**	**321**	*i* P	**P**	**17 45 05.8**	**+0.2**
ULN	**Ulaanbaatar**	**43.07**	**321**	P	**P**	**17 45 05.5**	**-0.1**
	comp=Z,2.6nm,0.6s,mb4.1						
SONM	**Songino Array**	**43.45**	**321**	P	**P**	**17 45 08.8**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.0,baz=139,slow=8.1,SNR=12						
SONM				LR	LR	18 04 54.8	
	comp=Z,134nm,18.4s,MS3.9,baz=341,slow=38						
ASAR	**Alice Springs**	**43.95**	**197**	P	**P**	**17 45 11.1**	**-1.9**
	comp=Z,1.0nm,0.4s,mb3.9,baz=18,slow=6.7,SNR=17						
YAK	**Yakutsk**	**44.72**	**349**	*e*P	**P**	**17 45 18.1**	**-0.5**
YAK				*e*	pP	17 45 31.6	-1.0
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb4.9						
YAK				pmax	pmax		
	comp=N,10.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=Z,36nm,1.2s,mb5.1						
YAK				pmax	pmax		
	comp=N,8.0nm,1.5s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK	**Yakutsk**	**44.72**	**349**	*e*P	**P**	**17 45 17.9**	**-0.7**
	comp=E,20nm,0.6s,mb5.1						
BOD	**Bodaibo**	**45.65**	**336**	*e*P	**P**	**17 45 23.1**	**-2.9**
ZAK	**Zakamensk**	**46.43**	**323**	*e*P	**P**	**17 45 32.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1						
MBWA	**Marble Bar**	**47.54**	**215**	*e*P	**P**	**17 45 39.8**	**-1.5**
	comp=Z,14nm,0.8s,mb5.1						
STKA	**Stephens Creek**	**50.62**	**185**	*e*P	**P**	**17 46 04.0**	**-0.7**
STKA	**Stephens Creek**	**50.62**	**185**	P	**P**	**17 46 03.6**	**-1.1**
	comp=Z,7.1nm,0.8s,mb4.6,baz=358,slow=9.2,SNR=8.1						
BILL	**Bilibino**	**50.78**	**10**	*i* P	**P**	**17 46 06.7**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BILL	**Bilibino**	**50.78**	**10**	*e*P	**P**	**17 46 07.8**	**+2.3**
	comp=Z,2.2nm,0.8s,mb4.1						
LSA	**Lhasa**	**51.09**	**293**	P	**P**	**17 46 12.3**	**+3.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
LSA	**Lhasa**	**51.09**	**293**	P	**P**	**17 46 12.3**	**+3.9**
	comp=Z,3.4nm,0.6s,mb4.5						
FORT	**Forrest**	**52.37**	**200**	*e*P	**P**	**17 46 19.1**	**+1.3**
	comp=Z,16nm,0.6s,mb5.1						
TIXI	**Tiksi**	**53.82**	**353↑**	*e*P	**P**	**17 46 28.4**	**+0.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
TIXI	**Tiksi**	**53.82**	**353**	*e*P	**P**	**17 46 27.9**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.3						
WMQ	**Urumqi**	**54.71**	**311**	*e*P	**P**	**17 46 34.0**	**-0.9**
WMQ				AP	pP	17 46 50.0	+0.7
WMQ				PP	PP	17 48 38.0	+0.2
WMQ				S	**S**	**17 54 09.0**	**-2.4**
WMQ				SS	SS	17 57 52.0	-2.9
WMQ				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.3						
WMQ				LR	LR		
	comp=N,35nm,18.0s,MS3.7						
WMQ				LR	LR		
	comp=E,54nm,18.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,45nm,18.0s,MS3.6						
KLBR	**Kellerberrin**	**57.16**	**209**	*e*P	**P**	**17 46 53.5**	**+1.0**
	comp=Z,8.1nm,0.5s,mb5.0						
MUN	**Mundaring**	**58.21**	**210**	*e*P	**P**	**17 47 00.6**	**+0.8**
ZAA0	**Zalesovo Array**	**58.31**	**322**	*e*P	**P**	**17 46 59.1**	**-1.2**
ZALV	**Zalesovo Beam**	**58.31**	**322**	P	**P**	**17 46 59.7**	**-0.6**
ZALV	**Zalesovo Beam**	**58.31**	**322**	P	**P**	**17 46 59.7**	**-0.6**
	comp=Z,4.6nm,0.6s,mb4.7,baz=105,slow=7.4,SNR=20						
ZAL	**Zalesovo**	**58.32**	**322**	P	**P**	**17 46 59.7**	**-0.6**
SVW2	**Sparrevohn**	**58.40**	**29**	*e*P	**P**	**17 47 01.8**	**+1.0**
MK31	**Makanchi Array**	**58.84**	**314**	*e*P	**P**	**17 47 03.7**	**-0.4**
MKAR	**Makanchi Array**	**58.84**	**314**	P	**P**	**17 47 04.0**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=90,slow=8.7,SNR=18						
MKAR				LR	LR	18 12 29.3	
	comp=Z,58nm,21.0s,MS3.7,baz=255,slow=36						
KDAK	**Kodiak Island**	**58.90**	**33**	P	**P**	**17 47 05.8**	**+1.4**
	comp=Z,7.2nm,0.6s,mb4.9,baz=230,slow=7.0,SNR=10						
NVS	**Novosibirsk**	**59.39**	**323**	*e*P	**P**	**17 47 15.7**	**+7.9**
KURK	**Kurchatov**	**61.60**	**318↑**	*e*P	**P**	**17 47 22.7**	**-0.3**
COLA	**College**	**62.87**	**26**	*i* P	**P**	**17 47 31.5**	**+0.3**
UCH	**Uchtor**	**64.29**	**308**	*e*P	**P**	**17 47 41.7**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.2						
BVAR	**Borovoye Array**	**66.79**	**320**	P	**P**	**17 47 56.1**	**-0.8**
	comp=Z,4.5nm,0.5s,mb4.8,baz=95,slow=7.1,SNR=22						
BRVK	**Borovoye**	**66.85**	**320**	*e*P	**P**	**17 47 57.0**	**-0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
BRVK	**Borovoye**	**66.85**	**320**	*e*P	**P**	**17 47 57.0**	**-0.3**
	comp=Z,4.9nm,0.7s,mb4.7						
INK	**Inuvik**	**69.00**	**23**	P	**P**	**17 48 09.6**	**-0.9**
INK	**Inuvik**	**69.00**	**23**	P	**P**	**17 48 10.2**	**-0.4**
	comp=Z,1.9nm,0.9s,mb4.0,baz=267,slow=6.6,SNR=5.0						
PPT	**Papeete**	**72.59**	**116**	LR	LR	18 14 34.3	
	comp=Z,239nm,20.0s,MS4.5,baz=276,slow=31						
ARU	**Arti**	**73.33**	**325**	P	**P**	**17 48 36.1**	**-0.8**
YKA	**Yellowknife Ar**	**77.58**	**28**	P	**P**	**17 49 00.7**	**-0.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=288,slow=5.5,SNR=25						
TMCR	**Tamitsa**	**80.92**	**335**	*e*P	**P**	**17 49 17.7**	**-1.6**
TMCR				*e*S	S	17 59 19.2	-4.6
TMCR				pmax	pmax		
	comp=Z,25nm,0.7s,mb5.2						
KEV	**Kevo**	**82.01**	**342**	*e*p	**P**	**17 49 23.1**	**-1.9**
	comp=Z,4.1nm,0.6s,mb4.5						
KEV	**Kevo**	**82.01**	**342**	*e*P	**P**	**17 49 23.1**	**-1.9**
KEV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
NVAR	**Mina Array Bea**	**82.56**	**52**	P	**P**	**17 49 29.0**	**+0.5**
	comp=Z,4.6nm,0.6s,mb4.7,baz=281,slow=4.5,SNR=19						
ARCES	**ARCESS Array B**	**82.57**	**342**	P	**P**	**17 49 28.1**	**+0.2**
	comp=Z,10nm,0.9s,mb4.9,baz=64,slow=6.9,SNR=18						
JOF	**Joensuu**	**84.17**	**335**	*e*p	**P**	**17 49 34.2**	**-2.1**
	comp=Z,19nm,0.5s,mb5.5						
HRY	**Holter Researc**	**84.29**	**43**	*e*P	**P**	**17 49 38.0**	**+0.8**
DUG	**Dugway**	**85.98**	**49**	*e*P	**P**	**17 49 45.8**	**0.0**

Error ellipse: s-maj=10.4km s-min=6.8km az=149.0
*IDC **01** 17:38:10.7±3.9, 4692N×15262E, h94km±35km, mb3.8/16, mb1 4.0/17, mb1mx3.9/23, mbtmp3.8/17, MS3.1/1, Ms1 3.1/1, ms1mx2.6/28, Error ellipse: s-maj=17.3km s-min=16.0km az=131.0*

ISC 01 17:38:06.3±0.7, 4675N±006×15286E±008, h57km±6km, n104, σ1$30/120, mb4.3/25, 1C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.80**	**248**	*e*PN	**Pn**	**17 39 00.5**	**-1.7**
KUR				*e*S	**Sn**	**17 39 43.0**	**-2.6**
KUR				pmax	pmax		
	comp=N,80nm,0.6s						
KUR				pmax	pmax		
	comp=E,70nm,0.6s						
KUR				pmax	pmax		
	comp=Z,150nm,0.6s						
KUR				smax			
	comp=N,300nm,0.6s						
KUR				smax			
	comp=E,650nm,0.6s						
KUR	**Kuril'sk**	**3.80**	**248**	*e*P	**Pn**	**17 39 00.5**	**-1.7**
KUR				AMB	AMB	17 39 07.5	
	comp=E,84nm,0.6s						
KUR				AMB	AMB	17 39 07.5	
	comp=E,68nm,0.6s						
KUR				AMB	AMB	17 39 07.5	
	comp=E,152nm,0.6s						
KUR				*e*S	**Sn**	**17 39 43.0**	**-2.6**
KUR				A		17 39 59.0	
	comp=E,304nm,0.6s						
KUR				A		17 39 59.0	
	comp=E,646nm,0.6s						
SKR	**Severo-Kuril's**	**4.49**	**27**	*e*PN	**Pn**	**17 39 09.5**	**-2.2**
SKR				*e*S	**Sn**	**17 39 58.2**	**-4.4**
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				smax			
	comp=E,220nm,0.5s						
SKR				smax			
	comp=N,110nm,0.3s						
SKR				smax			
	comp=Z,80nm,0.5s						
SKR	**Severo-Kuril's**	**4.49**	**27**	*e*P	**Pn**	**17 39 09.5**	**-2.2**
SKR				AMB	AMB	17 39 10.0	
	comp=Z,50nm,0.4s						
SKR				*e*S	**Sn**	**17 39 58.2**	**-4.4**
SKR				A		17 40 04.6	
	comp=Z,110nm,0.3s						
SKR				A		17 40 04.6	
	comp=Z,220nm,0.5s						
SKR				A		17 40 04.6	
	comp=Z,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**244**	*e*PN	**Pn**	**17 39 27.1**	**-0.2**
YUK				S	**Sn**	**17 40 33.4**	**+2.9**
YUK				pmax	pmax		
	comp=Z,230nm,0.4s						
YUK				pmax	pmax		
	comp=E,150nm,0.4s						
YUK				pmax	pmax		
	comp=N,190nm,0.3s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,5μm,1.0s						
YUK				smax			
	comp=N,760nm,0.6s						
YUK				smax			
	comp=E,390nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.63**	**244**	*e*P	**Pn**	**17 39 27.1**	**-0.2**
YUK				AMB	AMB	17 39 30.1	
	comp=E,150nm,0.4s						
YUK				AMB	AMB	17 39 30.1	
	comp=E,230nm,0.3s						
YUK				AMB	AMB	17 39 30.1	
	comp=E,190nm,0.3s						
YUK				*e*S	**Sn**	**17 40 33.4**	**+2.9**
YUK				A		17 40 56.5	
	comp=E,5μm,1.0s						
YUK				A		17 40 58.7	
	comp=E,390nm,0.5s						
YUK				A		17 40 58.7	
	comp=E,760nm,0.6s						
NEM2	**Nemuro 2**	**6.07**	**239**	P	**Pn**	**17 39 32.2**	**-1.2**
NEM2				*e*S	**Sn**	**17 40 36.7**	**-4.7**
JRA	**Rausu**	**6.13**	**246**	P	**Pn**	**17 39 35.9**	**+1.6**
JNK	**Nakash**	**6.57**	**244**	P	**Pn**	**17 39 41.1**	**+0.9**
JNK				*e*S	**Sn**	**17 40 51.0**	**-2.6**
JTKR	**Abashiri--Toko**	**6.89**	**249**	P	**Pn**	**17 39 46.5**	**+1.9**
JAK	**Akkeshi**	**6.91**	**240**	P	**Pn**	**17 39 43.8**	**-1.0**
JAK				*e*S	**Sn**	**17 40 58.2**	**-3.7**
YSS	**Yuzh-Sakhalins**	**6.94**	**275**	⇓*e*PN	**Pn**	**17 39 47.8**	**+2.6**
YSS				*e*S	**Sn**	**17 41 04.9**	**+2.3**
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.94**	**275**	*e*Pn	**Pn**	**17 39 47.7**	**+2.5**
	comp=Z,21nm,0.3s						
YSS	**Yuzh-Sakhalins**	**6.94**	**275**	⇓*e*P	**Pn**	**17 39 47.8**	**+2.6**
YSS				AMB	AMB	17 39 49.5	
	comp=Z,50nm,1.0s						
YSS				*e*S	**Sn**	**17 41 04.9**	**+2.3**
YSS				eLQ		17 41 48.0	
JMP	**Maruseppu**	**7.23**	**251**	P	**Pn**	**17 39 51.8**	**+2.6**
JAR	**Ashorobuto**	**7.31**	**245**	P	**Pn**	**17 39 51.4**	**+1.1**
JAR				*e*S	**Sn**	**17 41 12.5**	**+0.7**
PET	**Petropavlovsk**	**7.31**	**29**	⇓*e*PN	**Pn**	**17 39 52.1**	**+1.8**
PET	**Petropavlovsk**	**7.31**	**29**	Pn	**Pn**	**17 39 56.0**	**+5.7**
JOB	**Onbets**	**7.48**	**242**	P	**Pn**	**17 39 52.9**	**+0.2**
JOB				*e*S	**Sn**	**17 41 13.8**	**-2.2**
UGL	**Uglegorsk**	**7.62**	**292**	*e*P	**Pn**	**17 39 56.7**	**+2.1**
UGL				AMB	AMB	17 39 58.0	
	comp=Z,48nm,0.8s						
ASAJ	**Asahikawa**	**7.69**	**254**	PN	**Pn**	**17 39 58.1**	**+2.6**
ASAJ				S	**Sn**	**17 41 30.6**	**+10**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,127nm,19.8s						
ASAJ	**Asahikawa**	**7.69**	**254**	P	**Pn**	**17 39 58.3**	**+2.8**
ASAJ	**Asahikawa**	**7.69**	**254**	P	**Pn**	**17 39 58.0**	**+2.6**
	comp=Z,2.4nm,0.3s,baz=84,slow=19,SNR=18						
ASAJ				S	**Sn**	**17 41 30.6**	**+10**
	baz=264,slow=29,SNR=1.8						
ASAJ				LR	LR	17 42 43.5	
	comp=Z,127nm,19.8s,baz=37,slow=36						
JKK2	**Kamakawa 2**	**7.69**	**252**	P	**Pn**	**17 39 58.0**	**+2.5**
JWK2	**Keihoku**	**7.76**	**263**	P	**Pn**	**17 40 01.6**	**+5.1**
JCH	**Churui**	**7.93**	**242**	P	**Pn**	**17 39 58.3**	**-0.5**
JCH				*e*S	**Sn**	**17 41 22.8**	**-4.2**
JFR	**Furan**	**8.12**	**248**	P	**Pn**	**17 40 04.2**	**+2.8**
ERM	**Erimo**	**8.40**	**239**	*i* PN	**Pn**	**17 40 06.3**	**+1.0**
ERM	**Erimo**	**8.40**	**239**	*e*P	**Pn**	**17 40 06.1**	**+0.8**
ERM	**Erimo**	**8.40**	**239**	*e*P	**Pn**	**17 40 06.3**	**+1.0**
JBT2	**Biratori 2**	**8.46**	**246**	P	**Pn**	**17 40 06.7**	**+0.7**
JNBK	**Urakawa-nobuka**	**8.49**	**242**	P	**Pn**	**17 40 06.3**	**-0.2**
JNB	**Noboribetsu**	**9.45**	**247**	P	**Pn**	**17 40 19.4**	**-0.3**
JKB	**Kayabe**	**9.77**	**244**	P	**Pn**	**17 40 23.1**	**-0.9**
JKB				*e*S	**Sn**	**17 42 05.5**	**-6.6**
JSH	**Shimam**	**10.00**	**250**	P	**Pn**	**17 40 28.4**	**+1.2**
JYM2	**Yakumo 2**	**10.06**	**247**	P	**Pn**	**17 40 27.4**	**-0.5**
JSR	**Shiriuchi**	**10.35**	**244**	P	**Pn**	**17 40 30.1**	**-1.8**
JTM	**Tenmabayashi**	**10.40**	**239**	P	**Pn**	**17 40 29.8**	**-2.8**
JTM				*e*S	**Sn**	**17 42 18.8**	**-8.7**
JANG	**Nango**	**10.40**	**236**	P	**Pn**	**17 40 28.9**	**-3.8**
JANG				*e*S	**Sn**	**17 42 17.1**	**-11**
JTH	**Tanohata**	**10.50**	**234**	*e*S	**Sn**	**17 42 19.7**	**-10**
JOSM	**Okushiri--Mats**	**10.65**	**249**	P	**Pn**	**17 40 35.8**	**-0.2**
OFUJ	**Ofunato**	**11.22**	**231**	*e*S	**Sn**	**17 42 36.8**	**-11**
JRG	**Rokugo**	**11.56**	**235**	P	**Pn**	**17 40 45.7**	**-2.8**
JRG				*e*S	**Sn**	**17 42 49.3**	**-6.7**
JIO	**Ouri**	**11.85**	**230**	*e*S	**Sn**	**17 42 51.3**	**-12**
MA2	**Magadan**	**12.91**	**355**	*e*PN	**Pn**	**17 41 06.8**	**+0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.5s						
MA2				pmax	pmax		
	comp=N,4.0nm,0.4s						
YAK	**Yakutsk**	**20.23**	**328**	*e*P	**P**	**17 42 35.9**	**-0.4**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.9s						
YAK	**Yakutsk**	**20.23**	**328**	*e*P	**P**	**17 42 36.4**	**+0.1**
	comp=E,7.5nm,0.4s						
BILL	**Bilibino**	**22.43**	**13**	*e*P	**P**	**17 42 58.8**	**-1.0**
BILL				*e*		17 46 49.1	
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s						
BOD	**Bodaibo**	**25.86**	**310**	*e*P	**P**	**17 43 27.1**	**-5.0**
TNA	**Tin City**	**28.13**	**34**	*e*P	**P**	**17 43 52.7**	**+0.3**
SONM	**Songino Array**	**31.17**	**289**	P	**P**	**17 44 20.0**	**+0.4**
	comp=Z,0.6nm,0.7s,mb3.5,baz=48,slow=8.8,SNR=3.8						
IMA2	**Indian Mountai**	**33.91**	**36**	*e*P	**P**	**17 44 43.3**	**+0.1**
COLA	**College**	**36.25**	**38**	⇓*e*P	**P**	**17 45 04.0**	**+0.6**
LZH	**Lanzhou**	**37.72**	**272**	*e*P	**P**	**17 45 16.7**	**+0.5**
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,106nm,5.1s						
GTA	**Gaotai**	**38.80**	**279**	*e*P	**P**	**17 45 26.7**	**+1.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb3.8						
GTA				AMB	AMB		
	comp=Z,69nm,5.7s						
GTA				LR	LR		
	comp=N,67nm,13.0s						
GTA				LR	LR		
	comp=E,124nm,14.9s						
GTA				LR	LR		
	comp=Z,140nm,14.9s						
INK	**Inuvik**	**41.75**	**32**	P	**P**	**17 45 50.0**	**+0.7**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**41.75**	**32**	*e*P	**P**	**17 45 49.6**	**+0.3**
INK	**Inuvik**	**41.75**	**32**	P	**P**	**17 45 50.0**	**+0.7**
	comp=Z,2.1nm,0.5s,mb4.1,baz=271,slow=7.6,SNR=14						
ZALV	**Zalesovo Beam**	**42.47**	**306**	P	**P**	**17 45 53.4**	**-2.0**
	comp=Z,0.9nm,0.4s,mb3.8,baz=63,slow=7.0,SNR=5.5						
ZAL	**Zalesovo**	**42.49**	**306**	P	**P**	**17 45 53.4**	**-2.1**
MK31	**Makanchi Array**	**46.79**	**297**	*e*P	**P**	**17 46 28.7**	**-1.1**
MKAR	**Makanchi Array**	**46.79**	**297**	P	**P**	**17 46 28.7**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=64,slow=5.8,SNR=10						
KURK	**Kurchatov**	**47.22**	**304**	⇑*e*P	**P**	**17 46 32.9**	**-0.2**
BVAR	**Borovoye Array**	**50.73**	**309**	P	**P**	**17 46 58.4**	**-1.5**
	comp=Z,0.8nm,0.4s,mb4.0,baz=61,slow=7.6,SNR=5.3						
YKA	**Yellowknife Ar**	**51.03**	**37**	P	**P**	**17 47 02.2**	**+0.2**
	comp=Z,1.5nm,0.8s,mb4.0,baz=296,slow=6.4,SNR=13						
YKA				PcP	PcP	17 48 14.8	-2.4
	comp=Z,0.5nm,0.4s,baz=301,slow=3.5,SNR=5.7						
SHL	**Shillong**	**52.20**	**268**	*e*P	**P**	**17 47 14.0**	**+2.7**
JIRN	**Jiri**	**54.77**	**274**	*e*P	**P**	**17 47 31.3**	**+1.2**
	comp=Z,16nm,0.5s,mb5.3						
GUN	**Gumba**	**54.83**	**275**	*e*P	**P**	**17 47 31.3**	**+0.8**
	comp=Z,8.2nm,0.4s,mb5.2						
KKN	**Kakani**	**55.32**	**275**	*e*P	**P**	**17 47 35.2**	**+1.2**
	comp=Z,7.3nm,0.3s,mb5.2						
PKI	**Pulchoki**	**55.37**	**275**	*e*P	**P**	**17 47 34.8**	**+0.4**
PKIN	**Phulchoki**	**55.37**	**275**	*e*P	**P**	**17 47 34.8**	**+0.4**
DMN	**Daman**	**55.55**	**275**	*e*P	**P**	**17 47 36.8**	**+1.1**
	comp=Z,14nm,0.5s,mb5.2						
GKN	**Gorkha**	**55.62**	**276**	*e*P	**P**	**17 47 36.9**	**+0.7**
	comp=Z,6.2nm,0.5s,mb4.9						
DANN	**Dangsing**	**56.00**	**277**	*e*P	**P**	**17 47 40.7**	**+1.8**
KOLN	**Koldanda**	**56.48**	**276**	*e*P	**P**	**17 47 43.4**	**+1.1**
ARCES	**ARCESS Array B**	**57.80**	**341**	P	**P**	**17 47 50.0**	**-1.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=30,slow=7.6,SNR=4.6						
FCC	**Fort Churchill**	**61.36**	**33**	*e*P	**P**	**17 48 15.3**	**-0.4**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.6						
FCC	**Fort Churchill**	**61.36**	**33**	*e*P	**P**	**17 48 15.3**	**-0.4**
	comp=Z,3.3nm,0.6s,mb4.6						
NVAR	**Mina Array Bea**	**62.59**	**62**	P	**P**	**17 48 25.0**	**+0.8**
NVAR	**Mina Array Bea**	**62.59**	**62**	P	**P**	**17 48 25.0**	**+0.8**
	comp=Z,1.1nm,0.8s,mb4.0,baz=294,slow=6.8,SNR=3.6						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**17 48 31.9**	**-1.0**
	comp=Z,4.0nm,0.4s,mb4.8,baz=41,slow=7.0,SNR=45						
NB2	**NORSAR Subarra**	**68.18**	**341**	P	**P**	**17 48 59.1**	**-0.9**
	comp=Z,5.3nm,0.6s,mb4.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**68.18**	**341**	P	**P**	**17 48 59.0**	**-0.9**
	comp=Z,4.3nm,0.5s,mb4.7,baz=27,slow=6.3,SNR=29						
WRA	**Warramunga Arr**	**68.45**	**199**	P	**P**	**17 49 02.4**	**+0.4**
	comp=Z,0.9nm,0.8s,mb3.8,baz=16,slow=6.4,SNR=4.7						
AKASG	**Malin Array Be**	**71.45**	**326**	P	**P**	**17 49 19.1**	**-1.1**
	comp=Z,7.1nm,0.5s,mb4.9,baz=34,slow=6.0,SNR=55						
ASAR	**Alice Springs**	**72.15**	**198**	P	**P**	**17 49 26.2**	**+1.6**
	comp=Z,1.3nm,0.7s,mb4.0,baz=17,slow=5.3,SNR=9.7						
SCHQ	**Schefferville**	**73.38**	**23**	P	**P**	**17 49 31.2**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.9,baz=328,slow=8.5,SNR=5.4						
KOLS	**Kolonicke sedl**	**75.48**	**329**	*e*P	**P**	**17 49 43.5**	**-0.5**
CRVS	**Cervenica-Dubn**	**75.79**	**329**	*e*P	**P**	**17 49 40.1**	**-5.6**
CRVS	**Cervenica-Dubn**	**75.79**	**329**	*e*P	**P**	**17 49 40.0**	**-5.7**
DPC	**Dobruska-Polom**	**76.25**	**333**	*e*P	**P**	**17 49 48.4**	**+0.1**
CLL	**Collm**	**76.40**	**335**	⇓*i*P	**P**	**17 49 48.3**	**-0.8**
CLL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
CLL	**Collm**	**76.40**	**335**	⇓*i*P	**P**	**17 49 48.3**	**-0.8**
	comp=Z,5.0nm,0.8s,mb4.5						
KECS	**Kecovo**	**76.49**	**330**	*e*P	**P**	**17 49 49.4**	**-0.3**
VYHS	**Vyhne**	**77.05**	**331**	*e*P	**P**	**17 49 52.2**	**-0.6**
PRU	**Pruhonice**	**77.12**	**334**	*e*P	**P**	**17 49 53.0**	**-0.2**
TXAR	**Lajitas Array**	**77.64**	**60**	P	**P**	**17 49 57.1**	**+0.6**
	comp=Z,0.6nm,0.5s,mb3.8,baz=297,slow=4.4,SNR=12						
KHC	**Kasperske Hory**	**78.17**	**334**	⇓*e*P	**P**	**17 49 59.3**	**+0.2**
KHC	**Kasperske Hory**	**78.17**	**334**	*e*P	**P**	**17 49 59.0**	**-0.1**
GERES	**GERESS Array B**	**78.38**	**334**	P	**P**	**17 49 59.0**	**-1.3**
	comp=Z,0.8nm,0.6s,mb3.8,baz=43,slow=6.0,SNR=7.6						
PLCA	**Paso Flores**	**148.38**	**95**	PKPbc	PKPbc	17 57 46.7	+1.0
	comp=Z,2.1nm,0.8s,baz=290,slow=12,SNR=4.1						
CPUP	**Villa Florida**	**148.62**	**60**	PKP2	PKPbc	17 57 47.0	+0.3
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	**Villa Florida**	**148.62**	**60**	*e*PKPbc	PKPbc	17 57 46.6	-0.1
CPUP	**Villa Florida**	**148.62**	**60**	PKPbc	PKPbc	17 57 47.0	+0.3
	comp=Z,1.1nm,0.5s,baz=337,slow=4.6,SNR=5.1						

MEX 01 17:56:32.8±0.5, 1620N×9498W, h71km±19km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMIG	**Matias Romero**	**0.90**	**6**	*i* P	Pn	17 56 48.8	-1.2
CMIG				*i* S	Sn	17 57 01.0	-1.9
HUIG	**Huatulco**	**1.17**	**249**	*i* P	Pn	17 56 52.0	-1.5
HUIG				*i* S	Sn	17 57 07.3	-1.5
VHO	**Vista Hermosa**	**1.89**	**298**	*i* P	Pn	17 57 00.4	-2.6
VHO				*i* S	Sn	17 57 24.4	-1.6
CCIG	**Comitan**	**2.73**	**88**	*i* P	Pn	17 57 12.3	-2.1
CCIG				*i* S	Sn	17 57 45.5	-0.8
PPM	**Popocatepetl**	**4.50**	**310**	*i* P	Pn	17 57 39.0	+0.5
PPM				*i* S	Sn	17 58 30.7	+1.2

MAN 01 18:03:48, 873N×12588E, h35km, mb4.0, ML2.7, MS2.4, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SCPH	**Surigao**	**1.11**	**340**	*e*P	Pn	18 04 07.3	+0.2
SCPH				*e*S	Sn	18 04 20.3	-1.0
BUKP	**Musuan**	**1.17**	**224**	*e*P	Pn	18 04 08.2	+0.4
MSLP	**Maasin**	**1.72**	**324**	*e*P	Pn	18 04 17.5	+2.0

IGQ 01 18:20:07.0, 069S×7863W, h15km±3km, Mb4.1, Ms3.9, 3C-6D, Error ellipse: s-maj=1.7km s-min=0.9km az=175.6, Ecuador

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PISA	**Pisayambo**	**0.44**	**146**	⇑P	Pg	18 20 16.6	+0.7
JUA2	**San Juan 2**	**0.47**	**3**	⇓P	Pg	18 20 16.5	0.0
JUA2	**San Juan 2**	**0.47**	**3**	⇓S	Sg	18 20 24.2	+1.3
ANTI	**Antisana**	**0.53**	**63**	⇓P	Pg	18 20 18.2	+0.7
PINO	**Pino**	**0.53**	**3**	⇓P	Pg	18 20 17.8	+0.2
YANA	**Yana**	**0.57**	**6**	P	Pg	18 20 18.1	-0.2
JUIV	**Juive**	**0.75**	**167**	P	Pg	18 20 21.6	-0.1
JUIV	**Juive**	**0.75**	**167**	S	Sg	18 20 32.4	+0.9
RUN5	**Runtun**	**0.75**	**164**	P	Pg	18 20 22.5	+0.9
ARRY	**Arrayan**	**0.83**	**168**	P	Pg	18 20 22.4	-0.8
ARRY	**Arrayan**	**0.83**	**168**	S	Sg	18 20 33.7	-0.3
PATA	**Patacocha**	**0.83**	**166**	P	Pg	18 20 23.3	+0.1
CAYA	**Cayambe**	**0.99**	**40**	⇓P	Pb	18 20 26.7	+0.8
CAYA	**Cayambe**	**0.99**	**40**	⇓S	Sb	18 20 40.6	+1.7
CONE	**Cono NE Rev Vo**	**1.17**	**58**	P	Pn	18 20 31.0	+2.1
MAGD	**Magdalena**	**1.30**	**298**	⇑P	Pn	18 20 30.4	-0.3
MAGD	**Magdalena**	**1.30**	**298**	⇑S	Sb	18 20 49.3	+1.6

*NEIC **01** 18:20:52.2, 2901S×7138W, h18km, ML3.7(GUC), After GUC.*

GUC 01 18:20:52.2±0.8, 2901S×7138W, h18km±6km, ML3.7, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LCO	**Las Campanas**	**0.60**	**90**	*e*Pg	Pg	18 21 04.5	+0.4
LCO				*e*Sg	Sg	18 21 13.5	+1.4
VACH	**Vallenar**	**0.70**	**52**	*e*P	Pb	18 21 05.2	-0.7
VACH				*i* S	Sb	18 21 14.8	-0.3
VACH	**Vallenar**	**0.70**	**52**	*e*P	Pb	18 21 05.2	-0.7
VACH				*i* S	Sb	18 21 14.8	-0.3
VACH				AML	AML	18 21 16.7	
	comp=N,6μm,0.1s						
LSCH	**La Serena**	**0.90**	**172**	⇑*i* P	Pb	18 21 08.2	-1.1
LSCH				*i* S	Sb	18 21 20.3	-0.7
TLL	**Tololo Astrono**	**1.26**	**157**	⇓*i* P	Pn	18 21 14.8	0.0
TLL				*i* S	Sb	18 21 31.8	+0.5
CPCH	**Copiapo**	**1.88**	**29**	⇓*i* P	Pn	18 21 24.1	+0.7
CPCH				*i* S	Sn	18 21 47.7	+1.1
CPCH	**Copiapo**	**1.88**	**29**	⇓*i* P	Pn	18 21 24.1	+0.7
CPCH				*i* S	Sn	18 21 47.7	+1.1
CPCH				AML	AML	18 21 51.7	
	comp=E,2μm,0.1s						
CMCH	**Combarbala**	**2.18**	**171**	⇑*i* P	Pn	18 21 26.6	-1.0
CMCH				*i* S	Sn	18 21 53.8	-0.3
CMCH	**Combarbala**	**2.18**	**171**	⇑*i* P	Pn	18 21 26.6	-1.0
CMCH				*i* S	Sn	18 21 53.8	-0.3
CMCH				AML	AML	18 22 03.1	
	comp=E,396nm,0.6s						

IDC 01 18:29:13.7±14.0, 2103N×14305E, h84km±131km, mb3.1/6, mb1 3.2/6, mb1mx3.2/18, mbtmp3.1/6, Error ellipse: s-maj=58.3km s-min=25.7km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KSRS	**Korea Array**	**20.98**	**325**	P	P	18 33 50.5	+0.4
	0.8nm,0.7s,baz=151,slow=11,SNR=3.3						
SONM	**Songino Array**	**39.78**	**321**	P	P	18 36 38.0	-0.3
	0.3nm,0.4s,baz=116,slow=8.3,SNR=2.6						
WRA	**Warramunga Arr**	**41.60**	**192**	P	P	18 36 53.4	-0.1
	0.1nm,0.3s,baz=347,slow=22,SNR=4.7						
ZALV	**Zalesovo Beam**	**54.66**	**322**	P	P	18 38 33.1	-0.6
	0.8nm,0.7s,baz=100,slow=7.9,SNR=3.3						
MKAR	**Makanchi Array**	**55.06**	**313**	P	P	18 38 37.5	+0.7
	0.2nm,0.5s,baz=91,slow=9.7,SNR=3.8						
YKA	**Yellowknife Ar**	**77.10**	**28**	P	P	18 40 57.7	+0.1
	0.4nm,0.6s,baz=298,slow=5.6,SNR=6.6						

IDC 01 18:29:15.7±1.2, 2098N×14324E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=52.0km s-min=24.2km az=91.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**41.59**	**193**	P	P	18 37 06.6	+1.2
	0.6nm,1.0s,baz=17,slow=8.9,SNR=5.3						
ASAR	**Alice Springs**	**45.29**	**192**	P	P	18 37 34.1	-1.2
	0.3nm,0.6s,baz=24,slow=9.4,SNR=7.1						
ZALV	**Zalesovo Beam**	**54.81**	**322**	P	P	18 38 46.4	-0.9
	0.8nm,0.6s,baz=96,slow=9.1,SNR=3.6						
MKAR	**Makanchi Array**	**55.23**	**313**	P	P	18 38 51.0	+0.5
	0.2nm,0.6s,baz=92,slow=8.1,SNR=3.3						
YKA	**Yellowknife Ar**	**77.07**	**28**	P	P	18 41 10.8	+0.3
	0.6nm,0.6s,baz=293,slow=5.7,SNR=8.0						

IDC 01 18:41:28.6±5.5, 537S×14619E, h0km, mb3.7/3, mb1 4.0/4, mb1mx3.6/14, mbtmp3.7/4, ML3.9/1, Error ellipse: s-maj=119.7km s-min=50.3km az=171.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	**Warramunga Arr**	**18.51**	**217**	P	Pn	18 45 48.0	+1.3
	0.4nm,0.3s,baz=50,slow=12,SNR=20						
ASAR	**Alice Springs**	**21.70**	**212**	P	P	18 46 20.7	-0.6
	0.6nm,0.3s,baz=34,slow=11,SNR=38						
FITZ	**Fitzroy Crossi**	**23.73**	**236**	P	P	18 46 42.6	-0.2
	1.9nm,0.6s,baz=56,slow=11,SNR=10						
VNDA	**Vanda**	**72.59**	**176**	P	P	18 52 57.3	0.0
	0.4nm,0.4s,baz=342,slow=6.4,SNR=7.5						

*IDC **01** 18:44:30.8±1.0, 2189N×143.17E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, ML3.5/1, Error ellipse: s-maj=36.0km s-min=19.2km az=85.0*
*NEIC **01** 18:44:32.3±0.8, 2188N×143.13E, h10km, mb3.5/1, Error ellipse: s-maj=26.7km s-min=15.6km az=77.0*
*ISCJB **01** 18:44:34.3±0.8, 2190N±007×1430E±02, h33km, mb3.6/8, Error ellipse: s-maj=28.1km s-min=10.2km az=175.0*

ISC 01 18:44:36.3±2.7, 2190N±01×1431E±02, h36km±24km, n13, σ0$77/14, mb3.6/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.26**	**351**	Pn	**Pn**

ELZG					*i* S	**Sg**	**19 24 09.6**	**-0.4**
MALT	**Malatya**	**0.33**	**272**		*e*PG	**Pg**	**19 24 07.9**	**-0.9**
MALT					*e*SG	**Sg**	**19 24 12.8**	**-0.4**
MYA	**Malataya**	**0.33**	**275**		*e*PG	**Pg**	**19 24 08.1**	**-0.8**
MYA					*e*SG	**Sg**	**19 24 13.0**	**-0.3**
SVRC	**Sivrice-ELAZID**	**0.37**	**78**		*e*PG	**Pg**	**19 24 09.2**	**-0.3**
PTK	**Pertek**	**0.73**	**36**		*e*PG	**Pg**	**19 24 16.3**	**0.0**
URFA	**Urfa**	**0.86**	**181**		*e*PG	**Pg**	**19 24 18.4**	**-0.4**
KEMA	**Kemaliye**	**1.01**	**344**		*e*P	**Pg**	**19 24 23.8**	**+2.2**
KEMA					*i* S	**Sg**	**19 24 34.9**	**+0.2**
GZT	**Gaziantep**	**1.39**	**228**		*i* P	**Pg**	**19 24 29.7**	**+0.9**
GZT					*i* S	**Sg**	**19 24 47.6**	**+0.8**

*NEIC **01** 19:32:13.0, 1539N×9724W, h10km, MD3.8(MEX), After MEX.*

MEX 01 19:32:13.0±0.8, 1539N×9724W, h10km±14km, MD3.8, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.15**	**71**	*i* P	Pb	19 32 31.3	-3.7
HUIG				*i* S	Sb	19 32 46.0	-4.1
PNIG	**Pinotepa**	**1.31**	**319**	*e*P	Pn	19 32 34.4	-2.9
PNIG				*i* S	Sb	19 32 49.4	-5.2
VHO	**Vista Hermosa**	**1.74**	**16**	*e*P	Pn	19 32 39.6	-3.7
VHO				*i* S	Sn	19 33 01.2	-4.3
OXX	**Oaxaca**	**1.75**	**16**	*i* P	Pn	19 32 40.7	-2.7
OXX				*i* S	Sn	19 33 02.3	-3.5
CMIG	**Matias Romero**	**2.82**	**53**	*i* P	Pn	19 32 55.1	-3.1
CMIG				*i* S	Sn	19 33 28.9	-3.4
TPIG	**Tehuac#an**	**3.01**	**358**	*i* P	Pn	19 32 57.5	-3.3
TPIG				*i* S	Sn	19 33 32.6	-4.4
MEIG	**Mezcala**	**3.40**	**318**	*i* S	Sn	19 33 43.2	-3.2
PLIG	**Platanillo**	**3.69**	**324**	*i* S	Sn	19 33 50.5	-3.1
PPM	**Popocatepetl**	**3.89**	**340**	*i* S	Sn	19 33 55.7	-2.8

KRSC 01 19:35:18.0±1.2, 4995N×15647E, h5km±5km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.09**	**328**	*e*S	Sg	19 35 55.6	+2.5
MIPR	**Malaya Ipel'ka**	**2.34**	**4**	*e*P	Pn	19 35 58.2	+1.2
MIPR				*e*S	Sn	19 36 27.4	+1.3
GRL	**Gorelyy**	**2.79**	**21**	*e*P	Pn	19 36 03.7	+0.4
GRL				S	Sn	19 36 37.6	+0.3
RUS	**Russkaya**	**2.80**	**27**	*e*P	Pn	19 36 05.0	+1.6
RUS				*e*S	Sn	19 36 38.8	+1.3
PET	**Petropavlovsk**	**3.37**	**23**	S	Sn	19 36 51.7	+0.2
SDLR	**Sedlovina**	**3.66**	**23**	*e*P	Pn	19 36 17.3	+2.1
SDLR				*e*S	Sn	19 37 00.4	+1.8
NLC	**Nalytchevo**	**3.69**	**28**	*e*P	Pn	19 36 16.3	+0.7
NLC				*e*S	Sn	19 36 58.9	-0.6
SPN	**Mys Shipunski**	**3.85**	**34**	*e*P	Pn	19 36 19.9	+2.0
SPN				*e*S	Sn	19 37 05.1	+1.6
GNL	**Ganaly**	**3.86**	**13**	P	Pn	19 36 20.7	+2.8
MKZ	**Mys Kozlova**	**5.63**	**33**	*e*P	Pn	19 36 43.5	+1.2
KBTR	**Krutoberegovo**	**7.34**	**29**	P	Pn	19 37 06.5	+0.8

*MOS **01** 19:44:16.1±0.8, 557N×9463E, h33km, mb5.3/77, MS4.1/10, Error ellipse: s-maj=9.3km s-min=4.3km az=123.2*
*BJI **01** 19:44:17.7, 532N×9455E, h67km, mB5.0, mb5.0, Ms4.4, Msz4.3*
*ISCJB **01** 19:44:18.2±0.2, 547N±003×9460E±002, h53km, mb5.0/165, MS4.2/38, Error ellipse: s-maj=4.8km s-min=3.0km az=25.5*
*NEIC **01** 19:44:19.8±0.1, 551N×9462E, mb5.0/95, Error ellipse: s-maj=4.9km s-min=3.1km az=213.0*
NEIC Felt [III] at Banda Aceh.
*IDC **01** 19:44:19.6±0.4, 545N×9465E, h54km±3km, mb4.5/24, mb1 4.5/25, mb1mx4.5/27, mbtmp4.5/25, MS4.1/17, Ms1 4.1/17, ms1mx4.0/25, Error ellipse: s-maj=12.8km s-min=7.1km az=45.0*
*SZGRF **01** 19:44:19.4, 529N×9454E, h53km, mb5.1, Northern Sumatera, Indonesia*
*GCMT **01** 19:44:19.8±0.3, 529N×9438E, h51km±1km, MW5.0/72, Moment Tensor Solution. s44,c62; s72,c100; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}3.17±.14; $M_{\theta\theta}$-1.13±.09; $M_{\phi\phi}$-2.04±.11; $M_{r\theta}$1.54±.07; $M_{r\phi}$1.85±.08; $M_{\theta\phi}$-0.82±.09; Best double couple: $M_0$3.76700×10^{16} NP1:ϕ_s131.00000°, δ33.00000°, λ110.00000°. NP2: ϕ_s131.00000°, δ59.00000°, λ77.00000°. Principal axes: T 3.6740, Plg73.0000°, Azm9.0000°; N 0.1850, Plg11.0000°, Azm137.0000°; P -3.8600, Plg13.0000°, Azm230.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 01 19:44:20.2±0.2, 546N±003×9457E±002, h55km, h55km±.8km: pP-P, n476, σ0=88/473, mb5.0/164, MS4.2/38, 105C-21D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKT	**Phuket**	**4.44**	**54**	P	**Pn**	**19 45 28.0**	**+3.0**
PSI	**Prapat**	**5.09**	**121**	P	**Pn**	**19 45 34.4**	**+0.5**
PSI				S	**Sn**	**19 46 31.2**	**-0.2**
PSI	**Prapat**	**5.09**	**121**	P	**Pn**	**19 45 34.4**	**+0.4**
	22nm,0.3s,baz=298,slow=14,SNR=39						
PSI				S	**Sn**	**19 46 31.2**	**-0.2**
	29nm,0.3s,baz=235,slow=19,SNR=5.1						
PSI				LR	LR	19 47 50.3	
	comp=Z,2μm,21.8s,baz=288,slow=42						
KULM	**Kulim**	**6.06**	**91**	⇓*e*Pn	**Pn**	**19 45 47.0**	**-0.2**
KULM				*e*Sn	**Sn**	**19 46 52.7**	**-2.6**
KULM	**Kulim**	**6.06**	**91**	⇑P	**Pn**	**19 45 47.4**	**+0.2**
SNG	**Songkhla**	**6.25**	**74**	P	**Pn**	**19 45 50.0**	**+0.1**
	496nm,0.9s						
PBA	**Port Blair**	**6.41**	**344**	*e*P	x	19 46 04.7	
PBA				*e*S	x	19 47 15.6	
IPM	**Ipoh**	**6.51**	**98**	⇑P	**Pn**	**19 45 54.4**	**+0.9**
FRIM	**Kepong**	**7.38**	**107**	⇑P	**Pn**	**19 46 04.8**	**-0.6**
KTGM	**Kuala Trenggan**	**8.53**	**91**	⇓P	**Pn**	**19 46 22.3**	**+1.1**
KGM	**Kluang**	**9.38**	**111**	⇓P	**Pn**	**19 46 32.5**	**-0.3**
MYKOM	**Kota Tinggi**	**9.96**	**111**	⇓P	**Pn**	**19 46 39.5**	**-1.2**
NST	**Nakhon Sawan**	**11.52**	**28**	P	**Pn**	**19 47 03.7**	**+1.6**
CM31	**Chiang Mai Arr**	**13.60**	**18**	*e*Pn	**Pn**	**19 47 33.2**	**+2.8**
PALK	**Pallekele**	**13.90**	**278**	Pn	**Pn**	**19 47 34.7**	**+0.2**
	151nm,0.5s,SNR=8.8						
PALK	**Pallekele**	**13.90**	**278**	⇓*e*Pn	**Pn**	**19 47 33.9**	**-0.6**
	16nm,0.6s						
PALK				*e*Sn	**Sn**	**19 49 51.0**	**-16**
CHG	**Chiang Mai**	**13.94**	**17**	⇑P	**Pn**	**19 47 38.4**	**+3.4**
	91nm,0.8s						
CHTO	**Chiang Mai**	**13.94**	**17**	*e*P	**Pn**	**19 47 35.3**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,105nm,1.0s						
CHTO	**Chiang Mai**	**13.94**	**17**	*e*Pn	**Pn**	**19 47 35.3**	**+0.3**
	comp=Z,105nm,1.0s						
CHTO	**Chiang Mai**	**13.94**	**17**	Pn	**Pn**	**19 47 37.2**	**+2.3**
	SNR=26						
CHTO	**Chiang Mai**	**13.94**	**17**	P	**Pn**	**19 47 37.2**	**+2.3**
	SNR=26						
UBT	**Ubonrachathani**	**14.14**	**46**	P	**Pn**	**19 47 46.5**	**+8.8**
NANT	**Nan**	**14.54**	**24**	⇓P	**Pn**	**19 47 44.0**	**+1.1**
	comp=Z,198nm,1.0s						
CHRT	**Chiangrai**	**15.19**	**19**	⇑P	**Pn**	**19 47 53.0**	**+1.6**
	comp=Z,260nm,1.0s						
KSM	**Kuching**	**16.20**	**104**	*e*Pn	**Pn**	**19 48 06.5**	**+2.2**
KSM	**Kuching**	**16.20**	**104**	⇓P	**Pn**	**19 48 07.3**	**+2.9**
VIS	**Vishakhapatnam**	**16.41**	**319**	*e*P	**Pn**	**19 48 07.1**	**+0.2**
VIS				AMb	AMB	19 48 13.3	
	comp=Z,113nm,1.2s						
VIS				*ex*	x	19 50 53.1	
SBUM	**Sibu**	**17.86**	**99**	⇑P	**Pn**	**19 48 25.8**	**+0.8**
BTM	**Bintulu**	**18.60**	**96**	⇓P	**Pn**	**19 48 35.3**	**+1.4**
HYB	**Hyderabad**	**19.66**	**308**	*e*P	**Pn**	**19 48 46.5**	**0.0**
HYB				*e*S	**S**	**19 52 29.0**	**+5.3**
HYB				pmax	pmax		
	comp=Z,40nm,1.0s						
HYB	**Hyderabad**	**19.66**	**308**	*e*P	**Pn**	**19 48 46.5**	**0.0**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**19 52 29.0**	**+5.3**
HYB	**Hyderabad**	**19.66**	**308**	⇑*i*P	**Pn**	**19 48 46.5**	**0.0**
	comp=Z,40nm,1.0s						
HYB				*e*S	**S**	**19 52 29.0**	**+5.3**
BOK	**Bokaro**	**20.05**	**336**	*e*P	**P**	**19 48 47.1**	**-1.8**
BOK				AMb	AMB	19 48 54.4	
	comp=Z,191nm,3.0s						
QIZ	**Qiongzhong**	**20.09**	**47**	P	**P**	**19 48 49.6**	**+0.3**
QIZ				AP		19 49 02.6	
QIZ				XP	sP	19 49 10.4	+1.8
QIZ				S	**S**	**19 52 32.7**	**+0.5**
QIZ				XS	sS	19 52 54.6	+2.4
QIZ				AMB	AMB		
	comp=Z,37nm,1.4s						
QIZ				AMB	AMB		
	comp=Z,237nm,8.2s						
QIZ				LR	LR		
	comp=N,921nm,17.0s,MS4.3						
QIZ				LR	LR		
	comp=E,759nm,17.0s,MS4.3						
QIZ				LR	LR		
	comp=Z,1μm,18.4s,MS4.2						
QIZ	**Qiongzhong**	**20.09**	**47**	*e*P	**P**	**19 48 51.0**	**+1.6**
	comp=Z,65nm,1.1s						
SHL	**Shillong**	**20.15**	**353**	*e*P	**P**	**19 48 50.0**	**0.0**
SHL				*ex*	x	19 52 50.0	
BLSP	**Bilaspur**	**20.47**	**325**	*e*P	**P**	**19 48 53.6**	**+0.1**
BLSP				AMb	AMB	19 48 59.8	
	comp=Z,104nm,1.7s						
KMI	**Kunming**	**21.06**	**21**	P	**P**	**19 49 01.6**	**+1.8**
KMI				S	**S**	**19 52 43.1**	**-8.2**
KMI				AMB	AMB		
	comp=Z,44nm,1.2s,mb4.7						
KMI				AMB	AMB		
	comp=Z,119nm,3.1s						
KMI				LR	LR		
	comp=N,503nm,19.2s,MS4.1						
KMI				LR	LR		
	comp=E,498nm,14.2s,MS4.1						
KMI				LR	LR		
	comp=Z,631nm,24.3s						
KKM	**Kota Kinabalu**	**21.55**	**87**	*e*P	**P**	**19 49 04.9**	**-0.2**
KKM	**Kota Kinabalu**	**21.55**	**87**	⇑P	**P**	**19 49 07.6**	**+2.5**
NGP	**Nagpur**	**21.67**	**317**	*e*P	**P**	**19 49 07.9**	**+1.5**
NGP				AMb	AMB	19 49 08.7	
	comp=Z,48nm,0.8s,mb5.0						
LATR	**Latur**	**21.79**	**308**	*e*P	**P**	**19 49 08.7**	**+1.1**
LATR				*e*P		19 49 09.1	
KDM	**Kudat**	**22.18**	**85**	⇓P	**P**	**19 49 14.8**	**+2.9**
SDKM	**Sandakan**	**22.52**	**88**	⇑P	**P**	**19 49 15.7**	**+0.2**
GOA	**Goa**	**22.68**	**298**	*ex*	x	19 49 13.1	
AKL	**Akola**	**22.80**	**313**	*e*P	**P**	**19 49 20.0**	**+1.6**
AKL				AMb	AMB	19 49 22.2	
	comp=Z,64nm,1.2s,mb4.9						
KAD	**Karad**	**23.16**	**302**	*ex*	x	19 49 29.4	
TSM	**Tawau**	**23.25**	**92**	⇑P	**P**	**19 49 24.2**	**+1.1**
JIRN	**Jiri**	**23.47**	**341**	*e*P	**P**	**19 49 23.7**	**-1.3**
	comp=Z,88nm,0.6s,mb5.3						
PKI	**Pulchoki**	**23.65**	**339**	*e*P	**P**	**19 49 25.3**	**-1.3**
	comp=Z,37nm,0.6s,mb5.0						
PKIN	**Phulchoki**	**23.66**	**339**	*e*P	**P**	**19 49 25.0**	**-1.7**
	comp=Z,18nm,0.4s,mb4.9						
DMN	**Daman**	**23.79**	**339**	*e*P	**P**	**19 49 26.8**	**-1.1**
	comp=Z,67nm,0.7s,mb5.2						
GUN	**Gumba**	**23.80**	**341**	*e*P	**P**	**19 49 26.7**	**-1.3**
	comp=Z,73nm,0.4s,mb5.4						
MYLDM	**Lahad Datu**	**23.83**	**90**	⇑P	**P**	**19 49 30.4**	**+2.0**
GYA	**Guiyang**	**23.86**	**28**	⇑*i*P	**P**	**19 49 28.9**	**+0.3**
GYA				AP		19 49 44.8	
GYA				XP	sP	19 49 52.2	+3.3
GYA				PP		19 50 05.3	
GYA				PCP	PcP	19 53 12.9	+2.4
GYA				S	**S**	**19 53 40.6**	**-0.2**
GYA				XS	sS	19 54 04.3	+0.2
GYA				SS		19 54 33.1	
GYA				SCP	ScP	19 56 44.6	+0.2
GYA				PCS	PcS	19 56 51.4	+1.2
GYA				AMB	AMB		
	comp=Z,70nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,390nm,5.7s						
GYA				LR	LR		
	comp=N,590nm,20.1s,MS4.2						
GYA				LR	LR		
	comp=E,540nm,21.2s,MS4.2						
GYA				LR	LR		
	comp=Z,1μm,20.1s,MS4.3						
KKN	**Kakani**	**23.90**	**339**	*e*P	**P**	**19 49 27.7**	**-1.2**
	comp=Z,79nm,0.7s,mb5.3						
POO	**Poona**	**24.03**	**304**	⇑*i*P	**P**	**19 49 32.0**	**+1.8**
	comp=Z,30nm,1.0s,mb4.7						
POO				*ex*	x	19 50 09.5	
BHPL	**Bhopal**	**24.20**	**319**	*e*P	**P**	**19 49 32.7**	**+1.0**
GKN	**Gorkha**	**24.32**	**338**	*e*P	**P**	**19 49 32.3**	**-0.5**
	comp=Z,101nm,0.6s,mb5.5						
LSA	**Lhasa**	**24.32**	**353**	P	**P**	**19 49 32.6**	**-0.1**
LSA	**Lhasa**	**24.32**	**353**	*e*P	**P**	**19 49 32.4**	**-0.3**
LSA				pmax	pmax		
	comp=Z,95nm,1.1s,mb5.1						
LSA	**Lhasa**	**24.32**	**353**	*e*P	**P**	**19 49 32.4**	**-0.3**
	comp=Z,95nm,1.1s,mb5.1						
KOLN	**Koldanda**	**24.51**	**336**	*e*P	**P**	**19 49 35.0**	**+0.5**
	comp=Z,129nm,0.5s,mb5.7						
DANN	**Dangsing**	**24.97**	**337**	*e*P	**P**	**19 49 39.0**	**+0.4**
	comp=Z,122nm,0.6s,mb5.6						
CD2	**Chengdu**	**26.75**	**18**	⇑*i*P	**P**	**19 49 54.2**	**-0.5**
CD2				AP	pP	19 50 08.7	+0.1
CD2				XP	sP	19 50 16.1	+1.0
CD2				PP		19 50 41.0	
CD2				PCP	PcP	19 53 16.1	-0.8
CD2				S	**S**	**19 54 34.1**	**+7.4**
CD2				XS	sS	19 54 49.1	-1.1
CD2				SS		19 55 40.0	
CD2				PCS	PcS	19 56 56.3	-2.0
CD2				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,140nm,5.8s						
CD2				LR	LR		
	comp=N,350nm,14.8s,MS4.3						
CD2				LR	LR		
	comp=E,610nm,16.8s,MS4.3						
CD2				LR	LR		
	comp=Z,340nm,14.2s,MS4.0						
LGTI	**Lohaghat**	**27.43**	**332**	*e*P	**P**	**19 50 01.0**	**+0.1**
PTH	**Pithoragarh**	**27.53**	**332**	*e*P	**P**	**19 50 01.1**	**-0.6**
DDI	**Dehra Dun**	**29.21**	**330**	*e*P	**P**	**19 50 17.0**	**+0.3**
SMLA	**Simla**	**30.31**	**329**	*e*P	**P**	**19 50 26.3**	**-0.1**
SMLA				AMb	AMB	19 50 29.4	
	comp=Z,21nm,0.7s,mb5.0						
WHN	**Wuhan**	**31.13**	**34**	⇓P	**P**	**19 50 35.0**	**+1.3**
XAN	**Xi'an**	**31.40**	**23**	P	**P**	**19 50 35.1**	**-0.9**
XAN				LR	LR		
	comp=N,312nm,18.5s						
XAN				LR	LR		
	comp=Z,607nm,20.4s,MS4.3						
LZH	**Lanzhou**	**31.65**	**14**	⇑P	**P**	**19 50 37.5**	**-0.7**
LZH				AP	pP	19 50 52.4	+0.3
LZH				XP	sP	19 51 00.0	+1.3
LZH				*e*S	**S**	**19 55 41.5**	**-2.0**
LZH				XS	sS	19 56 07.1	-0.1
LZH				SS	SS	19 57 35.7	-25
LZH				AMB	AMB		
	comp=Z,31nm,1.2s,mb5.0						
LZH				AMB	AMB		
	comp=Z,112nm,5.3s						
LZH				LR	LR		
	comp=E,758nm,13.5s						
LZH				LR	LR		
	comp=Z,998nm,17.2s,MS4.5						
BATI	**Kupang**	**32.90**	**118**	P	**P**	**19 50 47.4**	**-2.0**
	comp=Z,12nm,0.5s,mb5.1,baz=219,slow=5.1,SNR=6.1						
GTA	**Gaotai**	**34.13**	**7**	P	**P**	**19 50 59.6**	**-0.2**
GTA				AMB	AMB		
	comp=Z,39nm,1.0s,mb5.3						
NJ2	**Nanjing**	**34.87**	**38**	*e*P	**P**	**19 51 07.3**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,260nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,20.8s						
NJ2				LR	LR		
	comp=E,1μm,15.4s						
NJ2				LR	LR		
	comp=Z,1μm,15.4s						
SSE	**Sheshan**	**35.70**	**41**	P	**P**	**19 51 10.0**	**-3.5**
SSE				PP	PP	19 52 32.1	-3.4
SSE				S	**S**	**19 56 44.0**	**-2.5**
SSE				PCS	PcS	19 57 24.3	-3.9
SSE				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
SSE				AMB	AMB		
	comp=Z,152nm,7.0s						
SSE				LR	LR		
	comp=N,294nm,20.2s,MS4.3						
SSE				LR	LR		
	comp=E,407nm,20.2s,MS4.3						
SSE				LR	LR		
	comp=Z,544nm,19.1s,MS4.3						
KBL	**Kabul**	**37.35**	**324**	*e*P	**P**	**19 51 25.2**	**-2.3**
	comp=Z,3.3nm,0.5s,mb4.4						
KSH	**Kashi**	**37.83**	**336**	*e*P	**P**	**19 51 31.5**	**0.0**
KSH				*e*AP	pP	19 51 47.2	+1.5
KSH				*i* XP	sP	19 51 54.1	+2.0
KSH				*e*PP	PP	19 53 02.3	+3.5
KSH				*e*PPP		19 53 24.3	
KSH				*e*PCP	PcP	19 53 48.1	+1.0
KSH				*e*S	**S**	**19 57 16.1**	**-2.6**
KSH				*e*SCP	ScP	19 57 29.1	-1.0
KSH				*e*PCS	PcS	19 57 35.1	-0.7
KSH				*e*XS	sS	19 57 44.1	+1.4
KSH				*e*SS	SS	19 59 56.0	-10
KSH				*e*SCS	ScS	20 01 36.3	-2.7
KSH				AMB	AMB		
	comp=Z,365nm,4.8s						
KSH				LR	LR		
	comp=N,477nm,4.6s						
KSH				LR	LR		
	comp=E,305nm,4.3s						
KSH				LR	LR		
	comp=Z,524nm,4.4s						
HHC	**Hu-ho-hao-te**	**38.39**	**21**	⇓P	**P**	**19 51 36.0**	**-0.1**
HHC				AP	pP	19 51 51.6	+1.3
HHC				XP	sP	19 51 59.4	+2.6
HHC				PP	PP	19 53 10.7	+5.9
HHC				PCP	PcP	19 53 46.5	-2.3
HHC				S	**S**	**19 57 27.4**	**+0.4**
HHC				XS	sS	19 57 52.3	+1.3
HHC				SS	SS	20 00 13.9	-4.0
HHC				SCS	ScS	20 01 38.9	-3.3
HHC				AMB	AMB		
	comp=Z,75nm,1.1s,mb5.3						
HHC				AMB	AMB		
	comp=Z,310nm,6.5s						
HHC				LR	LR		
	comp=N,915nm,17.4s,MS4.8						
HHC				LR	LR		
	comp=E,794nm,15.1s,MS4.8						
HHC				LR	LR		
	comp=Z,702nm,18.0s,MS4.5						
JOW	**Kunigami**	**38.51**	**53**	P	**P**	**19 51 36.1**	**-1.3**
	comp=Z,10nm,0.5s,mb4.8,baz=211,slow=8.1,SNR=15						
FITZ	**Fitzroy Crossi**	**38.58**	**128**	*e*P	**P**	**19 51 36.7**	**-1.3**
	comp=Z,12nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**38.58**	**128**	P	**P**	**19 51 36.9**	**-1.1**
	comp=Z,4.8nm,0.6s,mb4.4,baz=308,slow=4.1,SNR=20						
WMQ	**Urumqi**	**38.68**	**352**	P	**P**	**19 51 39.0**	**+0.5**
WMQ				AP	pP	19 51 54.0	+1.3
WMQ				XP	sP	19 52 02.0	+2.8
WMQ				PP	PP	19 53 12.0	+4.0
WMQ				S	**S**	**19 57 31.0**	**-0.3**
WMQ				SS	SS	20 00 15.0	-8.6
WMQ				AMB	AMB		
	comp=Z,49nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,127nm,5.0s						
WMQ				LR	LR		
	comp=N,175nm,15.0s,MS4.3						
WMQ				LR	LR		
	comp=E,358nm,16.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,254nm,15.0s,MS4.2						
BIDO	**Bidbid**	**39.41**	**301**	P	**P**	**19 51 48.1**	**+3.2**
	SNR=5.3						
BIDO	**Bidbid**	**39.41**	**301**	P	**P**	**19 51 48.1**	**+3.2**
	SNR=5.3						
BJT	**Baijiatuau**	**39.52**	**26**	*e*P	**P**	**19 51 46.4**	**+0.8**
BJT				pmax	pmax		
	comp=Z,66nm,1.0s						
BJT	**Baijiatuau**	**39.52**	**26**	*e*P	**P**	**19 51 46.4**	**+0.8**
	comp=Z,66nm,1.0s,mb5.3						
BJI	**Beijing**	**39.54**	**26**	P	**P**	**19 51 45.7**	**-0.1**
BJI				AP	pP	19 52 00.3	+0.3
BJI				AMB	AMB		
	comp=Z,52nm,1.2s,mb5.1						
BJI				LR	LR		
	comp=N,299nm,20.1s,MS4.2						
BJI				LR	LR		
	comp=E,145nm,21.4s,MS4.2						
BJI				LR	LR		
	comp=Z,447nm,25.6s,MS4.2						
BSY	**Bisya**	**39.94**	**299**	P	**P**	**19 51 52.2**	**+2.8**
	SNR=6.4						
BSY	**Bisya**	**39.94**	**299**	P	**P**	**19 51 52.2**	**+2.8**
	SNR=6.4						
ULHL	**Ulahol**	**40.09**	**339**	P	**P**	**19 51 51.0**	**+0.7**
	SNR=72						
KZA	**Kyzart**	**40.31**	**338**	P	**P**	**19 51 53.3**	**+1.1**
	SNR=36						
UCH	**Uchtor**	**40.72**	**337**	*e*P	**P**	**19 51 56.3**	**+0.8**
UCH	**Uchtor**	**40.72**	**337**	P	**P**	**19 51 56.7**	**+1.2**
	SNR=62						
TKM2	**Tokmak 2**	**40.91**	**339**	*e*P	**P**	**19 51 57.4**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,17nm,0.5s,mb4.9						
TKM2	**Tokmak 2**	**40.91**	**339**	*e*P	**P**	**19 51 57.4**	**+0.4**
	comp=Z,17nm,0.5s,mb4.9						
TKM2	**Tokmak 2**	**40.91**	**339**	P	**P**	**19 51 57.9**	**+0.8**
	SNR=31						
KBK	**Karagaybulak**	**40.92**	**338**	P	**P**	**19 51 58.4**	**+1.2**
	SNR=93						
AML	**Almayashu**	**40.96**	**336**	P	**P**	**19 51 59.0**	**+1.4**
	SNR=9.0						
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**19 51 58.6**	**+0.2**
	comp=Z,179nm,1.2s,mb5.6,SNR=31						
AAK	**Ala-Archa**	**41.07**	**337**	⇑*i*P	**P**	**19 51 58.3**	**-0.1**
AAK				*e*PP	PP	19 53 32.0	-2.1
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**19 51 58.9**	**+0.4**
	SNR=29						
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**19 51 58.9**	**+0.4**
	SNR=29						
AAK	**Ala-Archa**	**41.07**	**337**	P	**P**	**19 51 59.7**	**+1.3**
	SNR=36						
FRU	**Bishkek**	**41.20**	**338**	*e*P	**P**	**19 52 01.0**	**+1.6**
FRU				*i*	pP	19 52 13.5	-0.3
FRU				pmax	pmax		
	comp=Z,114nm,2.2s,mb5.1						
CHMS	**Chumysh**	**41.29**	**338**	P	**P**	**19 52 01.1**	**+1.0**
	SNR=19						
DL2	**Dalian**	**41.34**	**33**	P	**P**	**19 52 01.9**	**+1.3**
DL2				AP	pP	19 52 19.0	+4.0
DL2				*e*S	**S**	**19 58 15.0**	**+3.8**
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
DL2				LR	LR		
	comp=N,220nm,17.9s,MS4.2						
DL2				LR	LR		
	comp=E,170nm,16.4s,MS4.2						
DL2				LR	LR		
	com

comp=Z,282nm,20.1s,MS4.2,baz=209,slow=39
JNU Nakatsue 43.56 46 P **P 19 52 18.6 -0.2**
comp=Z,14nm,0.9s,mb4.7,baz=141,slow=13,SNR=9.0
ULN Ulaanbaatar 43.58 12⇑ *i*P **P 19 52 18.1 -0.6**
ULN *e* 19 54 05.6
ULN pmax pmax
comp=Z,11nm,0.6s,mb4.8
ULN Ulaanbaatar 43.58 12⇑ *i*P **P 19 52 18.1 -0.7**
comp=Z,10nm,0.6s,mb4.7
ULN *e*PcP PcP 19 54 05.5 0.0
ULN Ulaanbaatar 43.58 12 P **P 19 52 18.5 -0.2**
SNR=6.4
ULN Ulaanbaatar 43.58 12 P **P 19 52 18.5 -0.2**
SNR=6.4
KSRS Korea Array 44.03 39 P **P 19 52 21.9 -0.6**
comp=Z,4.2nm,0.5s,mb4.4,baz=222,slow=8.4,SNR=18
KSRS LR LR 20 13 01.6
comp=Z,307nm,18.1s,MS4.3,baz=223,slow=39
SNY Shenyang 44.48 31⇑ P **P 19 52 25.9 -0.1**
SNY AMB AMB
comp=Z,22nm,0.6s,mb5.1
ZAK Zakamensk 45.36 8⇓ *i*P **P 19 52 32.2 -0.7**
ZAK *e* 19 54 11.7
ZAK pmax pmax
comp=Z,6.0nm,1.2s,mb4.3
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.7s,mb3.7
ABKT Ailbek 46.28 319 P **P 19 52 40.6 +0.2**
comp=Z,135nm,0.4s,mb6.2,SNR=14
WRA Warramunga Arr 46.55 124 P **P 19 52 42.2 -0.5**
WRA *PP pP 19 52 56.8 -0.5
WRA S **S 19 59 24.1 -3.5**
WRA Warramunga Arr 46.55 124 P **P 19 52 42.2 -0.5**
comp=Z,20nm,0.8s,mb5.1,baz=303,slow=9.6,SNR=313
WRA pP pP 19 52 56.8 -0.4
comp=Z,15nm,0.6s,baz=302,slow=9.3,SNR=7.9
WRA ScP ScP 19 58 04.4 -1.0
comp=Z,1.1nm,0.8s,baz=310,slow=3.4,SNR=4.6
WRA S **S 19 59 24.1 -3.6**
comp=Z,0.5nm,0.9s,baz=296,slow=14,SNR=2.8
WRA LR LR 20 12 22.6
comp=Z,153nm,22.0s,MS3.9,baz=310,slow=36
WRAB Tennant Creek 46.55 124 P **P 19 52 42.0 -0.7**
comp=Z,202nm,0.5s,mb6.3,SNR=54
WRAB Tennant Creek 46.55 124*c i*P **P 19 52 42.4 -0.3**
WRAB Tennant Creek 46.55 124 *e*P **P 19 52 42.0 -0.8**
comp=Z,48nm,1.0s,mb5.4
WB2 Warramunga Arr 46.56 124 *e*P **P 19 52 42.6 -0.2**
TLY Talaya 46.68 8 *e*P **P 19 52 43.6 +0.4**
TLY pmax pmax
comp=Z,15nm,1.2s,mb4.8
TLY MLR MLR
comp=Z,281nm,19.0s,MS4.2
TLY Talaya 46.68 8 *e*P **P 19 52 43.0 -0.3**
comp=Z,7.9nm,0.9s,mb4.6
TLY Talaya 46.68 8 P **P 19 52 44.3 +1.0**
SNR=7.3
TLY Talaya 46.68 8 P **P 19 52 44.3 +1.0**
SNR=7.3
KURK Kurchatov 47.04 346 P **P 19 52 46.1 +0.1**
comp=Z,450nm,0.8s,SNR=74
KURK Kurchatov 47.04 346*c i*P **P 19 52 46.4 +0.4**
KURK Kurchatov 47.04 346 *e*P **P 19 52 46.5 +0.5**
comp=Z,23nm,1.0s,mb5.1
IRK Irkutsk 47.31 8 *e*P **P 19 52 47.8 -0.4**
IRK pmax pmax
comp=Z,49nm,1.9s,mb5.1
ASAR Alice Springs 48.07 129 P **P 19 52 54.1 -0.4**
comp=Z,6.3nm,0.5s,mb4.9,baz=301,slow=8.0,SNR=147
ASAR pP pP 19 53 08.8 -0.3
comp=Z,9.1nm,0.5s,baz=303,slow=7.7,SNR=12
ASAR S **S 19 59 46.5 -2.8**
comp=Z,0.8nm,0.7s,baz=294,slow=13,SNR=7.4
FORT Forrest 48.21 140 *e*P **P 19 52 55.6 +0.1**
comp=Z,23nm,0.7s,mb5.3
ZAL Zalesovo 48.98 352 P **P 19 53 01.1 +0.1**
ZAL S **S 20 00 05.0 +3.9**
ZALV Zalesovo Beam 48.98 352 P **P 19 53 01.1 0.0**
ZALV ScP ScP 19 58 12.2 -2.7
ZALV S **S 20 00 05.0 +3.7**
ZALV LR LR 20 18 42.6
ZALV Zalesovo Beam 48.98 352 P **P 19 53 01.1 0.0**
comp=Z,88nm,1.0s,mb5.7,baz=167,slow=7.2,SNR=208
ZALV ScP ScP 19 58 12.2 -2.7
comp=Z,1.1nm,0.7s,baz=165,slow=2.2,SNR=3.5
ZALV S **S 20 00 05.0 +3.7**
comp=Z,0.9nm,0.8s,baz=183,slow=13,SNR=2.2
ZALV LR LR 20 18 42.6
comp=Z,57nm,18.6s,MS3.6,baz=299,slow=42
MDJ Mudanjiang 49.58 33 P **P 19 53 06.3 +0.6**
MDJ AP pP 19 53 21.7 +1.3
MDJ PCP PcP 19 54 26.8 +0.1
MDJ PP PP 19 55 00.9 +0.4
MDJ PCS PcS 19 58 22.9 -0.4
MDJ AMB AMB
comp=Z,19nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,83nm,4.3s
MDJ LR LR
comp=E,245nm,22.6s
MDJ LR LR
comp=Z,205nm,23.9s,MS4.0
MDJ Mudanjiang 49.58 33 *e*P **P 19 53 05.8 +0.1**
comp=Z,26nm,1.0s,mb5.2
NVS Novosibirsk 50.08 351 *i* P **P 19 53 08.6 -0.7**
NVS *e*PP pP 19 53 27.4 +3.4
NVS *e*S **S 20 00 08.6 -7.8**
NVS pmax pmax
comp=N,44nm,1.1s
NVS pmax pmax
comp=E,27nm,1.1s
NVS pmax pmax
comp=Z,63nm,1.1s,mb5.6
NVS smax
comp=N,27nm,1.1s
CBIJ Chichi jima 50.13 59 P **P 19 53 08.9 -1.3**
comp=N,95nm,0.9s,mb5.8,baz=271,slow=23,SNR=5.7
RDF Al-Radifah 50.17 303 *e*P **P 19 53 10.7 +0.1**
RDF AMb AMB 19 53 14.3
comp=Z,36nm,1.0s,mb5.3
UMR Umm Al-Rimmam 50.23 304 *e*P **P 19 53 11.0 0.0**
UMR AMb AMB 19 53 12.8
comp=Z,29nm,0.6s,mb5.5
MAJO Matsushiro 50.49 46 *e*P **P 19 53 13.1 +0.3**
MAJO pmax pmax
comp=Z,34nm,1.4s,mb5.2
MAJO Matsushiro 50.49 46 *e*P **P 19 53 13.1 +0.3**
comp=Z,34nm,1.4s,mb5.2
MJAR Matsushiro Arr 50.49 46 P **P 19 53 11.9 -0.9**
MJAR 19 54 29.9
MJAR Matsushiro Arr 50.49 46 P **P 19 53 11.9 -0.9**
comp=Z,4.0nm,1.0s,mb4.4,baz=248,slow=8.0,SNR=6.6
MJAR PcP PcP 19 54 29.9 -0.4
comp=Z,3.3nm,1.0s,baz=250,slow=1.8,SNR=4.5
MJAR pPcP 19 54 44.3
comp=Z,4.3nm,0.9s,baz=248,slow=2.7,SNR=5.6
MJAR LR LR 20 16 26.5
comp=Z,238nm,19.2s,MS4.2,baz=260,slow=38
NAY Al-Naaiem 50.53 304 *e*P **P 19 53 13.0 -0.2**
NAY AMb AMB 19 53 16.7
comp=Z,15nm,0.7s,mb5.0
MIB Mutribah 50.63 304 *e*P **P 19 53 13.8 -0.1**
MIB AMb AMB 19 53 15.2
comp=Z,56nm,0.9s,mb5.5
RST Umm Al-Ruwaisa 50.81 304 *e*P **P 19 53 14.8 -0.6**
RST AMb AMB 19 53 17.3
comp=Z,56nm,0.9s,mb5.5
BRVK Borovoye 51.45 341 P **P 19 53 19.8 +0.1**
comp=Z,279nm,0.9s,mb6.2,SNR=14
BRVK Borovoye 51.45 341 *e*P **P 19 53 19.5 -0.2**
BRVK *e*PP pP 19 53 33.2 -1.3
BRVK pmax pmax
comp=Z,53nm,1.0s,mb5.4
BRVK Borovoye 51.45 341 *e*P **P 19 53 19.5 -0.3**
comp=Z,53nm,1.0s,mb5.4
BRVK *e*pP pP 19 53 33.2 -1.3
KLR Kul'dur 53.75 29 *e*P **P 19 53 32.0 -4.8**
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,38nm,1.4s,mb5.1
BOD Bodaibo 54.39 13⇓ *i*P **P 19 53 40.4 -0.9**
BOD pmax pmax
comp=Z,27nm,1.2s,mb5.0

HABR Khabarovsk 54.94 32 *e*P **P 19 53 45.1 -0.3**
HABR *e* pP 19 54 02.4 +2.1
HABR *e* 19 54 44.8
HABR *e* 19 55 49.2
HABR S **S 20 01 24.7 +1.6**
HABR *e* 20 01 45.8
HABR *e* 20 03 26.4
HABR *e* 20 05 06.8
HABR *e* 20 07 10.9
CTA Charters Tower 56.78 118 *e*P **P 19 53 58.3 -0.8**
comp=Z,9.0nm,1.0s,mb4.8
CTA Charters Tower 56.78 118 *e*P **P 19 53 58.3 -0.8**
CTA pmax pmax
comp=Z,9.0nm,1.0s
CTA Charters Tower 56.78 118 P **P 19 53 58.2 -1.0**
comp=Z,7.6nm,1.0s,mb4.7,baz=314,slow=6.1,SNR=5.3
CTA pP pP 19 54 14.2 +0.2
comp=Z,12nm,1.0s,baz=280,slow=7.4,SNR=5.7
CTAO Charters Tower 56.78 118 *e*P **P 19 53 58.1 -1.0**
CTAO *e*PP pP 19 54 14.2 +0.1
ASAJ Asahikawa 56.97 40 LR LR 20 17 14.8
comp=Z,124nm,21.7s,MS4.0,baz=255,slow=35
KMBO Kilima Mbogo 57.61 265 *e*P **P 19 54 07.1 +2.0**
KMBO *e*PP pP 19 54 17.9 -2.2
KMBO *e*SP sP 19 54 22.9 -3.5
KMBO pmax pmax
comp=Z,13nm,1.2s
KMBO Kilima Mbogo 57.61 265 *e*P **P 19 54 07.1 +2.0**
comp=Z,13nm,1.2s,mb4.8
KMBO *e*pP pP 19 54 17.9 -2.2
KMBO *e*sP sP 19 54 22.9 -3.5
KMBO Kilima Mbogo 57.61 265 P **P 19 54 06.2 +1.1**
comp=Z,1.4nm,0.9s,mb4.0,baz=104,slow=4.2,SNR=3.0
KMBO LR LR 20 14 57.7
comp=Z,239nm,21.1s,MS4.3,baz=97,slow=32
SVE Sverdlovsk 57.78 339 *e*P **P 19 54 05.7 +0.2**
SVE pmax pmax
comp=Z,55nm,1.0s,mb5.5
STKA Stephens Creek 58.16 133 *e*P **P 19 54 08.2 -0.4**
comp=Z,7.8nm,0.8s,mb4.8
STKA Stephens Creek 58.16 133 P **P 19 54 08.0 -0.6**
comp=Z,4.7nm,0.5s,mb4.8,baz=306,slow=5.4,SNR=12
STKA LR LR 20 18 34.5
comp=Z,228nm,21.2s,MS4.3,baz=222,slow=35
ARU Arti 58.26 337 P **P 19 54 08.5 -0.4**
comp=Z,120nm,1.1s,mb5.8,SNR=8.3
ARU Arti 58.26 337*c i*P **P 19 54 08.3 -0.6**
ARU *e* 19 54 59.2
ARU *e* 19 56 16.8
ARU *e*S **S 20 02 07.3 +0.5**
ARU *e*SS SS 20 05 52.9 -6.4
ARU pmax pmax
comp=Z,35nm,1.2s,mb5.3
ARU Arti 58.26 337 *e*P **P 19 54 08.1 -0.7**
comp=Z,22nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 58.43 37⇑ *e*P **P 19 54 10.2 0.0**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS MLR MLR
comp=Z,200nm,19.0s,MS4.2
YSS Yuzh-Sakhalins 58.43 37 *e*P **P 19 54 10.6 +0.4**
comp=Z,9.1nm,0.7s,mb4.9
KIV Kislovodsk 59.39 319 P **P 19 54 16.8 -0.1**
comp=Z,135nm,0.8s,mb6.0,SNR=5.7
KIV Kislovodsk 59.39 319*c i*P **P 19 54 16.3 -0.6**
KIV pmax pmax
comp=Z,34nm,1.2s,mb5.2
KIV Kislovodsk 59.39 319 *e*P **P 19 54 16.1 -0.9**
comp=Z,31nm,1.1s,mb5.2
GOF Gofitskoye 59.63 320 *e*P **P 19 54 10.9 -7.7**
MALT Malatya 60.35 311 *e*P **P 19 54 23.4 -0.3**
MALT pmax pmax
comp=Z,15nm,1.4s,mb4.8
MALT Malatya 60.35 311 *e*P **P 19 54 23.4 -0.3**
comp=Z,15nm,1.4s,mb4.8
YAK Yakutsk 62.14 18 *e*P **P 19 54 32.4 -2.9**
YAK pmax pmax
comp=Z,21nm,1.1s,mb5.2
YAK pmax pmax
comp=N,7.0nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.2s
YAK pmax pmax
comp=Z,23nm,1.4s,mb5.1
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,1.1s
YAK Yakutsk 62.14 18 *e*P **P 19 54 33.2 -2.1**
comp=E,40nm,1.1s,mb5.5
VRHR Novokhopersk 63.15 326 *e*P **P 19 54 40.7 -1.5**
VRHR pmax pmax
comp=Z,30nm,1.0s,mb5.4
VRHR pmax pmax
comp=N,20nm,1.5s
VRHR pmax pmax
comp=E,20nm,1.1s
ANN Anapa 63.19 318 *e*P **P 19 54 49.9 +7.3**
ERMK Ermenek 64.13 308 *e*P **P 19 54 50.9 +1.9**
VRSR Storozhevoye 64.58 325 *e*P **P 19 54 49.5 -2.1**
VRSR pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,4.0nm,0.7s
ANTO Ankara 64.99 312 *e*P **P 19 54 54.0 -0.6**
ANTO pmax pmax
comp=Z,23nm,1.3s,mb5.0
ANTO Ankara 64.99 312 *e*P **P 19 54 54.0 -0.5**
comp=Z,23nm,1.3s,mb5.0
SIM Simferopol' 65.47 317*c e*P **P 19 54 58.0 +0.5**
SIM *e* pP 19 55 12.5 -0.3
SIM pmax pmax
comp=Z,18nm,0.8s,mb5.2
GOLH Golhisar 66.88 308 *i* P **P 19 55 06.6 -0.2**
GDZ Gediz 67.31 310 *i* P **P 19 55 09.2 -0.2**
MOS Moscow 67.35 329 *e*P **P 19 55 07.9 -1.4**
MOS *e* pP 19 55 23.5 -1.1
MOS *e* 19 57 40.1
MOS pmax pmax
comp=Z,46nm,0.8s,mb5.6
OBN Obninsk 67.63 328*c i*P **P 19 55 10.1 -1.1**
OBN *e*PP pP 19 55 25.1 -1.4
OBN *e* 19 55 35.8
OBN *e* 19 57 40.8
OBN *e*SS SS 20 08 27.5 +1.8
OBN pmax pmax
comp=Z,60nm,1.5s,mb5.4
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.1
OBN Obninsk 67.63 328 *e*P **P 19 55 09.6 -1.6**
comp=Z,22nm,0.8s,mb5.2
OBN *e*pP pP 19 55 24.4 -2.1
MA2 Magadan 68.70 27 *e*P **P 19 55 17.1 -0.6**
MA2 *e*S S 20 04 14.9 -1.7
MA2 pmax pmax
comp=Z,40nm,1.2s,mb5.2
MA2 Magadan 68.70 27 *e*P **P 19 55 16.6 -1.2**
comp=Z,9.5nm,0.7s,mb4.8
LSZ Lusaka 68.89 251 P **P 19 55 21.0 +1.3**
LSZ pmax pmax
comp=Z,16nm,1.3s,mb4.8
LSZ Lusaka 68.89 251 P **P 19 55 21.0 +1.2**
comp=Z,16nm,1.3s,mb4.8
TIXI Tiksi 69.50 11*c i*P **P 19 55 20.9 -1.6**
TIXI pmax pmax
comp=Z,53nm,1.4s,mb5.3
TIXI MLR MLR
comp=Z,153nm,17.0s,MS4.3
TIXI Tiksi 69.50 11 *e*P **P 19 55 20.7 -1.8**
comp=Z,21nm,0.6s,mb5.2
PET Petropavlovsk 70.23 35 *e*P **P 19 55 29.5 +2.1**
PET *e* 20 04 38.1
PET MLR MLR
comp=Z,200nm,17.0s,MS4.4
AKASG Malin Array Be 70.30 322 *i* P **P 19 55 26.3 -1.5**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 70.30 322 P **P 19 55 25.9 -1.9**
comp=Z,4.1nm,0.5s,mb4.6,baz=92,slow=4.9,SNR=55
AKASG pP pP 19 55 41.3 -1.9
comp=Z,5.6nm,0.7s,baz=90,slow=4.9,SNR=6.7
AKBB Malin Array Si 70.30 322 *e*P **P 19 55 25.9 -1.9**
AKBB *e*PP pP 19 55 40.7 -2.5

VRI Vrincioaia 70.73 317 P **P 19 55 31.0 +0.5**
PLOR Plostina 70.78 317 P **P 19 55 31.2 +0.4**
KDZ Kurdzhali 70.84 312 P **P 19 55 31.3 0.0**
SEY Seymchan 70.93 24⇓ *e*P **P 19 55 30.8 -0.6**
TMCR Tamitsa 71.00 337 *e*P **P 19 55 30.1 -1.7**
TMCR *e*PP pP 19 55 44.1 -3.1
TMCR *e* 19 55 52.6
PVL Pavlikeni 71.18 314 P **P 19 55 33.8 +0.5**
ZIMR 71.24 314 P **P 19 55 34.3 +0.6**
RZN Rozhen 71.37 312 P **P 19 55 33.8 -0.7**
MMB Musomiste 72.08 312 P **P 19 55 37.7 -1.1**
KKB Krupnik 72.60 312 P **P 19 55 41.8 -0.1**
VTS Vitosha 72.62 313 P **P 19 55 41.7 -0.2**
VTS Vitosha 72.62 313 P **P 19 55 41.8 -0.1**
VAY Valandovo 72.90 311 *e*P **P 19 55 39.1 -4.6**
JOF Joensuu 73.19 335 *e*p **P 19 55 43.4 -1.5**
comp=Z,8.2nm,0.6s,mb4.8
LVV L'vov 73.33 320 *e*P **P 19 55 45.3 -0.7**
LVV *e* pP 19 56 00.5 -1.0
LBTB Lobatse 73.48 242 *e*P **P 19 55 48.7 +1.3**
LBTB *e*PP pP 19 55 59.6 -3.2
LBTB *e* pP 19 56 03.4 +0.6
LBTB pmax pmax
comp=Z,34nm,1.2s,mb5.2
LBTB Lobatse 73.48 242 *e*P **P 19 55 48.7 +1.3**
comp=Z,34nm,1.2s,mb5.2
LBTB *e*pP pP 19 55 59.6 -3.2
LBTB *e* pP 19 56 03.4 +0.6
DRGR 73.64 317 P **P 19 55 48.2 +0.3**
VSU Vasula 73.86 330⇓ *e*P **P 19 55 48.6 -0.4**
KWP Kalwaria 74.13 320 *e*P **P 19 55 50.9 +0.2**
BZS Buzias 74.20 316 P **P 19 55 51.1 -0.1**
KOLS Kolonicke sedl 74.29 319 *e*P **P 19 55 52.0 +0.4**
BOSA Boshof 74.68 239 *e*P **P 19 55 55.0 +0.7**
BOSA *e*PP pP 19 56 10.2 +0.4
BOSA pmax pmax
comp=Z,22nm,1.1s,mb5.0
BOSA Boshof 74.68 239 *e*P **P 19 55 55.0 +0.7**
comp=Z,22nm,1.1s,mb5.0
BOSA *e*pP pP 19 56 10.2 +0.4
BOSA Boshof 74.68 239 P **P 19 55 54.7 +0.4**
comp=Z,1.9nm,0.5s,mb4.3,baz=63,slow=3.5,SNR=9.6
BOSA pP pP 19 56 10.2 +0.4
comp=Z,15nm,0.9s,baz=89,slow=7.1,SNR=10
BOSA LR LR 20 22 26.5
comp=Z,291nm,20.0s,MS4.6,baz=116,slow=31
SUW Suwalki 74.70 325 *e*P **P 19 55 53.0 -0.9**
SUW Suwalki 74.70 325 *e*P **P 19 55 53.0 -0.9**
CRVS Cervenica-Dubn 74.81 319 *i* P **P 19 55 55.0 +0.3**
FIA1 FINESS Array S 75.03 332 *e*P **P 19 55 54.3 -1.3**
FIA1 *e*pP pP 19 56 09.4 -1.8
FINES FINESS Array B 75.03 332 P **P 19 55 54.9 -0.8**
comp=Z,2.5nm,0.4s,mb4.5,baz=99,slow=5.6,SNR=35
FINES pP pP 19 56 09.5 -1.7
comp=Z,10nm,0.9s,baz=107,slow=6.6,SNR=8.4
STHS Stebnicka Huta 75.04 320 *e*P **P 19 55 56.4 +0.4**
STHS *e* pP 19 56 10.3 -1.2
STHS pmax pmax
comp=Z,13nm,0.9s,mb4.9
STHS Stebnicka Huta 75.04 320 *e*P **P 19 55 56.4 +0.4**
comp=Z,13nm,0.9s,mb4.9
STHS *e* pP 19 56 10.3 -1.2
KECS Kecovo 75.39 319 *e*P **P 19 55 57.5 -0.5**
KECS *e* pP 19 56 12.5 -1.0
KECS pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KECS Kecovo 75.39 319 *e*P **P 19 55 57.5 -0.5**
comp=Z,8.3nm,0.9s,mb4.7
KECS *e* pP 19 56 12.5 -1.0
NIE Niedzica 75.64 320 *e*P **P 19 56 00.1 +0.7**
PSZ Piszkesteto 75.70 318 *e*P **P 19 55 59.6 -0.2**
PSZ *e*PP pP 19 56 13.7 -1.6
PSZ pmax pmax
comp=Z,17nm,0.9s,mb5.0
PSZ Piszkesteto 75.70 318 P **P 19 55 59.9 +0.1**
PSZ Piszkesteto 75.70 318 *e*P **P 19 55 59.6 -0.2**
comp=Z,17nm,0.9s,mb5.0
PSZ *e*pP pP 19 56 13.7 -1.7
PSZ Piszkesteto 75.70 318⇑ *e*P **P 19 55 59.9 +0.1**
OJC Ojcow 76.08 320 *i* P **P 19 56 02.1 +0.2**
PKSM Moragy 76.34 316 P **P 19 56 03.2 -0.3**
VYHS Vyhne 76.48 318 *i* P **P 19 56 04.2 0.0**
VYHS *e* pP 19 56 19.2 -0.6
VYHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VYHS Vyhne 76.48 318 *i* P **P 19 56 04.2 0.0**
comp=Z,8.8nm,1.1s,mb4.6
VYHS *e* pP 19 56 19.2 -0.6
KOLL Kolacno 76.77 319 *e*P **P 19 56 06.1 +0.2**
KOLL *e* pP 19 56 21.4 0.0
KOLL Kolacno 76.77 319 *e*P **P 19 56 06.0 +0.1**
KOLL *e*pP pP 19 56 21.4 0.0
OKC Ostrava-Krasne 77.09 320⇑ *i*P **P 19 56 07.9 +0.3**
OKC *e*pP pP 19 56 23.0 -0.2
KEV Kevo 77.24 341 *e*p **P 19 56 07.0 -1.1**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 77.24 341 *e*P **P 19 56 07.0 -1.1**
KEV pmax pmax
comp=Z,11nm,0.7s,mb4.9
MORC Moravsky Berou 77.47 320 *e*P **P 19 56 10.0 +0.2**
MORC *e* pP 19 56 24.8 -0.6
MORC pmax pmax
comp=Z,20nm,1.1s,mb5.0
MORC Moravsky Berou 77.47 320 *e*P **P 19 56 10.0 +0.2**
comp=Z,20nm,1.1s,mb5.0
MORC *e* pP 19 56 24.8 -0.5
MODS Modra-Piesok 77.49 318 *e*P **P 19 56 10.2 +0.3**
MODS *e*pP pP 19 56 25.7 +0.2
ZST Bratislava 77.59 318 *i* P **P 19 56 10.6 +0.1**
ZST *e* pP 19 56 25.3 -0.8
ZST pmax pmax
comp=Z,32nm,0.9s,mb5.2
ZST Bratislava 77.59 318 *i* P **P 19 56 10.6 +0.1**
comp=Z,32nm,0.9s,mb5.2
ZST *e* pP 19 56 25.3 -0.8
ARCES ARCESS Array B 77.66 340 P **P 19 56 10.4 0.0**
ARCES *PP pP 19 56 25.3 -0.7
ARCES ARCESS Array B 77.66 340 P **P 19 56 10.3 -0.1**
comp=Z,6.0nm,0.6s,mb4.7,baz=87,slow=6.2,SNR=42
ARCES pP pP 19 56 25.2 -0.8
comp=Z,17nm,0.9s,baz=76,slow=5.1,SNR=7.2
ARCES LR LR 20 36 29.8
comp=Z,81nm,18.3s,MS4.1,baz=124,slow=40
SOP Sopron 77.91 317⇑ *e*P **P 19 56 12.4 +0.2**
KOGS Kog 78.01 316 *i* P **P 19 56 12.9 +0.1**
KOGS *i* pP 19 56 27.8 -0.7
BILL Bilibino 78.16 21*c i*P **P 19 56 11.7 -1.5**
BILL *e*PP pP 19 56 25.6 -3.2
BILL *e*S S 20 06 04.2 +1.0
BILL pmax pmax
comp=Z,15nm,1.5s,mb4.7
BILL MLR MLR
comp=Z,200nm,22.0s,MS4.4
BILL Bilibino 78.16 21 *e*P **P 19 56 12.2 -1.1**
comp=Z,11nm,1.1s,mb4.7
DPC Dobruska-Polom 78.31 320⇑ *i*P **P 19 56 15.3 +0.9**
DPC *e*pP pP 19 56 30.3 +0.3
KSP Ksiaz 78.38 321 *e*P **P 19 56 15.4 +0.6**
KSP Ksiaz 78.38 321⇑ *e*P **P 19 56 15.1 +0.3**
KSP *e*pP pP 19 56 30.0 -0.4
CONA Conrad Observa 78.40 318⇑ *i*P **P 19 56 14.9 0.0**
comp=Z,12nm,1.2s,mb4.7,SNR=9.4
CRES Cresnjev 78.51 316 *i* P **P 19 56 15.8 +0.1**
CRES *e* pP 19 56 30.6 -0.7
UPC Upice 78.53 320⇑ *i*P **P 19 56 16.0 +0.4**
ARSA Arzberg 78.57 317⇑ *i*P **P 19 56 16.3 +0.4**
comp=Z,50nm,1.6s,mb5.2,SNR=11
BOJS Bojanci 78.64 315 *i* P **P 19 56 16.3 0.0**
TREC Trest 78.76 319⇑ *i*P **P 19 56 16.9 0.0**
PERS Pernice 78.81 316 *i* P **P 19 56 17.5 +0.2**
PERS *i* pP 19 56 32.0 -0.8
LJU Ljubljana 79.17 316 *e*P **P 19 56 19.6 +0.4**
LJU *e* pP 19 56 34.1 -0.8
OBKA Obir 79.19 316⇑ *i*P **P 19 56 19.8 +0.5**
comp=Z,44nm,1.7s,mb5.1,SNR=6.4
SUR Sutherland 79.33 236 *e*P **P 19 56 22.5 +2.2**
comp=Z,14nm,0.8s,mb5.0
PRU Pruhonice 79.42 320⇑ *i*P **P 19 56 20.7 +0.2**
PRU *e*pP pP 19 56 36.1 -0.1
MOA Molln 79.46 318 *i* P **P 19 56 20.6 -0.2**
comp=Z,12nm,1.1s,mb4.7,SNR=8.2
VOY Vojsko 79.62 316 *e*P **P 19 56 21.1 -0.6**
VOY *e* pP 19 56 36.3 -1.0

BSD Bornholm Skovb 79.62 325 *i* P **P 19 56 21.1 -0.4**
AQU L'Aquila 79.81 312 *e*P **P 19 56 22.8 0.0**
AQU pmax pmax
comp=Z,18nm,1.0s,mb5.0
AQU L'Aquila 79.81 312 *e*P **P 19 56 22.8 0.0**
comp=Z,18nm,1.0s,mb5.0
BRG Berggiesshubel 79.87 321 *e*P **P 19 56 23.1 +0.2**
BRG *e* pP 19 56 38.3 -0.3
BRG pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
BRG pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
BRG Berggiesshubel 79.87 321 *e*P **P 19 56 22.9 0.0**
comp=Z,15nm,1.1s,mb4.8
BRG Berggiesshubel 79.87 321 *e*P **P 19 56 23.1 +0.2**
comp=Z,15nm,1.1s,mb4.8
BRG *e* pP 19 56 38.3 -0.3
comp=Z,14nm,1.2s
GEC2 GERESS Array S 79.90 319 *e*P **P 19 56 23.2 +0.1**
GEC2 pmax pmax
comp=Z,34nm,1.1s,mb5.2
GEC2 GERESS Array S 79.90 319 *e*P **P 19 56 23.2 +0.1**
comp=Z,34nm,1.1s,mb5.2
GERES GERESS Array B 79.90 319 P **P 19 56 23.5 +0.4**
GERES *PP pP 19 56 38.4 -0.4
GERES GERESS Array B 79.90 319 P **P 19 56 23.5 +0.4**
comp=Z,15nm,0.9s,mb5.0,baz=91,slow=5.7,SNR=94
GERES pP pP 19 56 38.4 -0.4
comp=Z,9.3nm,0.7s,baz=91,slow=5.3,SNR=12
GERES LR LR 20 35 16.2
comp=Z,44nm,21.9s,MS3.8,baz=56,slow=38
KHC Kasperske Hory 80.00 319⇑*i*P **P 19 56 23.8 +0.2**
KHC *e*pP pP 19 56 38.4 -0.9
PTCC Patocco-Chiusa 80.01 316 P **P 19 56 23.8 0.0**
NRCA Norcia 80.04 312 P **P 19 56 23.8 -0.3**
RUE Ruedersdorf 80.08 322 *e*P **P 19 56 23.9 -0.1**
comp=Z,14nm,0.5s,mb5.2
RUE pP pP 19 56 38.3 -1.4
SNTG Esanatoglia 80.18 313 P **P 19 56 24.9 +0.1**
comp=Z,34nm,1.2s,mb5.2
FSSB Fossombrone 80.31 313 P **P 19 56 25.9 +0.4**
WET Wettzell 80.45 319 *e*P **P 19 56 26.1 0.0**
WET pmax pmax
comp=Z,19nm,1.2s,mb4.9
WET Wettzell 80.45 319 *e*P **P 19 56 26.1 0.0**
comp=Z,19nm,1.2s,mb4.9
CLL Collm 80.48 321⇑*i*P **P 19 56 25.7 -0.5**
CLL *i* *PP pP 19 56 40.4 -1.5
CLL *e*S S 20 06 22.0 -6.5
CLL pmax pmax
comp=Z,11nm,1.2s,mb4.7
CLL Collm 80.48 321⇑*i*P **P 19 56 25.7 -0.5**
comp=Z,11nm,1.2s,mb4.7
CLL *i* pP pP 19 56 40.4 -1.5
CLL *e*S S 20 06 22.0 -6.5
CLL Collm 80.48 321 *e*P **P 19 56 25.8 -0.4**
comp=Z,11nm,1.2s,mb4.7
CLL Collm 80.48 321⇑*i*P **P 19 56 25.7 -0.5**
comp=Z,11nm,1.2s,mb4.7
CLL *i* PcP PcP 19 56 32.9 -0.2
CLL *i* pP pP 19 56 40.4 -1.5
CLL *i* (sP) sP 19 56 44.6 -3.4
CLL *i* x x 19 56 51.9
CLL *e*PPP 20 01 21.0
CLL *e*(S) S 20 06 22.0 -6.5
CLL LmV 20 38 00.0
comp=Z,100nm,22.0s
BADI Badiali 80.70 313 P **P 19 56 28.2 +0.6**
TANN Tannenbergstha 80.78 320 *e*P **P 19 56 27.9 +0.1**
comp=Z,10.0nm,1.2s,mb4.6
NKC Novy Kostel 80.78 320⇑*e*P **P 19 56 28.4 +0.5**
NKC *e*pP pP 19 56 42.8 -0.7
CRE Caprese Michel 80.91 313 P **P 19 56 28.7 0.0**
CRE pmax pmax
comp=Z,78nm,1.8s,mb5.3
CRE Caprese Michel 80.91 313 P **P 19 56 28.7 0.0**
comp=Z,78nm,1.8s,mb5.3
ROTZ Rotzenmuhle 80.92 319 *e*P **P 19 56 28.7 +0.1**
comp=Z,18nm,1.1s,mb4.9
MANZ Manzenberg 80.99 320 *e*P **P 19 56 29.3 +0.3**
comp=Z,23nm,1.1s,mb5.0
SFI Santa Sofia 80.99 313 P **P 19 56 30.2 +1.1**
SFI pmax pmax
comp=Z,123nm,2.3s,mb5.4
SFI Santa Sofia 80.99 313 P **P 19 56 30.2 +1.1**
comp=Z,123nm,2.3s,mb5.4
CTI Castel Tesino 81.18 316 P **P 19 56 28.6 -1.5**
WTTA Wattenberg 81.22 317 *i* P **P 19 56 29.8 -0.4**
comp=Z,32nm,1.2s,mb5.1,SNR=13
WTTA Wattenberg 81.22 317 *i* P **P 19 56 29.8 -0.4**
WTTA pmax pmax
comp=Z,32nm,1.2s,mb5.1
WTTA Wattenberg 81.22 317 *i* P **P 19 56 29.8 -0.4**
comp=Z,32nm,1.2s,mb5.1
WATA Walderalm 81.26 317⇑*i*P **P 19 56 29.7 -0.7**
comp=Z,7.7nm,0.9s,mb4.6
WATA Walderalm 81.26 317⇑*i*P **P 19 56 29.7 -0.8**
WATA pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MOX Moxa 81.33 320 *e*P **P 19 56 30.7 -0.1**
comp=Z,12nm,1.5s,mb4.6
MOX *e* pP 19 56 46.3 -0.2
comp=Z,21nm,1.6s
MOX Moxa 81.33 320 *e*P **P 19 56 30.7 -0.1**
MOX *e* pP 19 56 46.3 -0.2
MOX pmax pmax
comp=Z,12nm,1.5s,mb4.6
MOX Moxa 81.33 320 *e*P **P 19 56 30.6 -0.2**
comp=Z,13nm,1.4s,mb4.7
SEI Scarperia 81.35 314 P **P 19 56 31.8 +0.8**
comp=Z,101nm,0.9s,mb5.8
FUR Furstenfeldbru 81.48 318 *e*P **P 19 56 31.2 -0.4**
FUR pmax pmax
comp=Z,24nm,1.1s,mb5.0
FUR Furstenfeldbru 81.48 318 *e*P **P 19 56 31.2 -0.4**
comp=Z,24nm,1.1s,mb5.0
SQTA Sankt Quirin 81.51 317⇑*i*P **P 19 56 31.3 -0.4**
comp=Z,9.8nm,0.9s,mb4.7,SNR=8.3
SQTA Sankt Quirin 81.51 317⇑*i*P **P 19 56 31.3 -0.5**
SQTA pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
FNVD Fontana Vidola 81.52 314 P **P 19 56 32.9 +1.0**
comp=Z,50nm,1.4s,mb5.2
GRA1 Grafenberg Arr 81.56 319 *e*P **P 19 56 32.2 +0.2**
comp=Z,26nm,1.2s,mb5.0
GRA1 *e*pP pP 19 56 47.4 -0.3
GRF Grafenberg Arr 81.56 319 *e*P **P 19 56 32.2 +0.2**
GRF *e**PP pP 19 56 47.4 -0.3
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 81.56 319 *e*P **P 19 56 32.2 +0.2**
GRF *e**PP pP 19 56 47.4 -0.3
GRF pmax pmax
comp=Z,26nm,1.2s,mb5.0
GRF Grafenberg Arr 81.56 319 *e*P **P 19 56 32.2 +0.2**
comp=Z,26nm,1.2s,mb5.0
GRF *e*pP pP 19 56 47.4 -0.3
MOTA Moosalm 81.58 317⇓*i*P **P 19 56 31.6 -0.6**
comp=Z,16nm,1.0s,mb4.9,SNR=17
MOTA Moosalm 81.58 317⇓*i*P **P 19 56 31.6 -0.6**
MOTA pmax pmax
comp=Z,16nm,1.0s,mb4.9
GRFL Gerfalco 81.62 313 P **P 19 56 31.8 -0.6**
RETA Reutte 81.81 317⇑*i*P **P 19 56 33.1 -0.3**
comp=Z,52nm,1.6s,mb5.2,SNR=9.2
FETA Feichten 81.83 317⇑*i*P **P 19 56 33.4 -0.1**
comp=Z,17nm,1.1s,mb4.9,SNR=9.0
GSCL Gusciola 81.91 314 P **P 19 56 35.0 +1.1**
comp=Z,12nm,0.8s,mb4.9
MABI Malga Bissina 81.97 316 P **P 19 56 34.5 +0.3**
comp=Z,22nm,1.3s,mb4.9
NB2 NORSAR Subarra 82.03 331 P **P 19 56 33.2 -1.0**
comp=Z,0.6nm,0.6s,mb3.7,baz=97,slow=5.3
NOA NORSAR Array B 82.03 331 P **P 19 56 32.8 -1.4**
NOA *PP pP 19 56 48.5 -1.4
NOA NORSAR Array B 82.03 331 P **P 19 56 32.8 -1.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=94,slow=5.5,SNR=5.4
NOA pP pP 19 56 48.5 -1.4
comp=Z,4.0nm,0.8s,baz=94,slow=5.4,SNR=11
NOA LR LR 20 38 46.2
comp=Z,73nm,19.1s,MS4.1,baz=85,slow=40
CLZ Clausthal 82.15 321 *e*P **P 19 56 35.0 0.0**
CLZ pmax pmax
comp=Z,20nm,1.2s,mb4.9
CLZ Clausthal 82.15 321 *e*P **P 19 56 35.0 0.0**
comp=Z,20nm,1.2s,mb4.9

BSEG Bad Segeberg 82.23 324 *e*P **P 19 56 35.4 0.0**
comp=Z,20nm,1.1s,mb5.0
DAVA Damuels 82.41 317⇓*i*P **P 19 56 36.6 +0.1**
comp=Z,20nm,1.2s,mb4.9
KEST Kesra 82.97 305 P **P 19 56 39.8 +0.1**
comp=Z,7.5nm,1.1s,mb4.7,baz=93,slow=1.9,SNR=9.2
KEST pP pP 19 56 55.5 +0.1
comp=Z,5.7nm,0.9s,baz=38,slow=0.9,SNR=6.4
PGF Pioggiola 83.08 312⇑*i*P **P 19 56 40.1 0.0**
comp=Z,48nm,1.3s,mb5.1
PGF Pioggiola 83.08 312⇑*i*P **P 19 56 40.1 0.0**
PGF pmax pmax
comp=Z,24nm,1.3s,mb5.1
PGF Pioggiola 83.08 312⇑*i*P **P 19 56 40.1 0.0**
comp=Z,24nm,1.3s,mb5.1
SYO Syowa Base 83.24 197⇑*e*P **P 19 56 41.0 +0.7**
SYO Syowa Base 83.24 197⇓*e*PcP PcP 19 56 46.6 +1.9
KBS Kingsbay 83.25 349⇑*e*P **P 19 56 39.1 -1.2**
BFO Black Forest 83.45 318 *e*P **P 19 56 41.4 -0.5**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BFO Black Forest 83.45 318 *e*P **P 19 56 41.4 -0.5**
comp=Z,8.0nm,0.9s,mb4.8
FIN Finale Ligure 83.62 314 P **P 19 56 42.6 -0.2**
IBBN Ibbenburen 83.76 322 *e*P **P 19 56 43.5 +0.1**
comp=Z,22nm,1.2s,mb5.2
BUG Bochum--Univer 84.08 321 *e*P **P 19 56 45.1 +0.1**
comp=Z,36nm,1.5s,mb5.3
CDF Champ du Feu 84.15 318⇑*i*P **P 19 56 44.8 -0.7**
comp=Z,16nm,1.0s,mb4.8
CDF Champ du Feu 84.15 318⇑*i*P **P 19 56 44.8 -0.7**
CDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
CDF Champ du Feu 84.15 318⇑*i*P **P 19 56 44.8 -0.7**
comp=Z,7.9nm,1.0s,mb4.8
SBF Sospel 84.18 313⇑*i*P **P 19 56 45.6 -0.1**
comp=Z,60nm,0.9s,mb5.4
SBF Sospel 84.18 313⇑*i*P **P 19 56 45.6 -0.1**
SBF pmax pmax
comp=Z,30nm,0.9s,mb5.4
SBF Sospel 84.18 313⇑*i*P **P 19 56 45.6 -0.1**
comp=Z,30nm,0.9s,mb5.4
LPG La Plagne 84.61 315⇑*i*P **P 19 56 48.1 +0.3**
comp=Z,23nm,0.7s,mb5.1
LPG La Plagne 84.61 315⇑*i*P **P 19 56 48.1 +0.3**
LPG pmax pmax
comp=Z,11nm,0.7s,mb5.1
LPG La Plagne 84.61 315⇑*i*P **P 19 56 48.1 +0.3**
comp=Z,11nm,0.7s,mb5.1
LPL La Plagne 84.62 315⇑*i*P **P 19 56 48.1 +0.2**
comp=Z,28nm,0.7s,mb5.2
LPL La Plagne 84.62 315⇑*i*P **P 19 56 48.1 +0.2**
LPL pmax pmax
comp=Z,14nm,0.7s,mb5.2
LPL La Plagne 84.62 315⇑*i*P **P 19 56 48.1 +0.2**
comp=Z,14nm,0.7s,mb5.2
MBDF Montbardon 84.63 314 *e*P **P 19 56 47.2 -0.7**
comp=Z,27nm,1.1s,mb5.0
MBDF Montbardon 84.63 314 *e*P **P 19 56 47.2 -0.7**
MBDF pmax pmax
comp=Z,14nm,1.1s,mb5.0
MBDF Montbardon 84.63 314 *e*P **P 19 56 47.2 -0.7**
comp=Z,14nm,1.1s,mb5.0
BNI Bardonecchia 84.68 315 *e*P **P 19 56 47.5 -0.7**
BNI pmax pmax
comp=Z,14nm,1.0s,mb5.0
BNI Bardonecchia 84.68 315 *e*P **P 19 56 47.5 -0.7**
comp=Z,14nm,1.0s,mb5.1
FRF La Foret Royal 84.77 313⇑*i*P **P 19 56 48.6 -0.1**
comp=Z,44nm,1.1s,mb5.2
FRF La Foret Royal 84.77 313⇑*i*P **P 19 56 48.6 -0.1**
FRF pmax pmax
comp=Z,22nm,1.1s,mb5.2
FRF La Foret Royal 84.77 313⇑*i*P **P 19 56 48.6 -0.1**
comp=Z,22nm,1.1s,mb5.2
HAU Haudompre 84.79 318⇑*i*P **P 19 56 48.1 -0.6**
comp=Z,25nm,0.8s,mb5.1
HAU *e*MLR MLR
comp=Z,53nm,22.5s,MS3.6
HAU Haudompre 84.79 318⇑*i*P **P 19 56 48.1 -0.6**
HAU pmax pmax
comp=Z,13nm,0.8s,mb5.1
HAU MLR MLR
comp=Z,50nm,22.5s,MS3.9
HAU Haudompre 84.79 318⇑*i*P **P 19 56 48.1 -0.6**
comp=Z,13nm,0.8s,mb5.1
HAU LR LR
comp=Z,50nm,22.5s,MS3.9
LMR La Mourre 84.88 313⇑*i*P **P 19 56 49.2 0.0**
comp=Z,49nm,1.2s,mb5.2
LMR La Mourre 84.88 313⇑*i*P **P 19 56 49.2 0.0**
LMR pmax pmax
comp=Z,25nm,1.2s,mb5.2
LMR La Mourre 84.88 313⇑*i*P **P 19 56 49.2 0.0**
comp=Z,25nm,1.2s,mb5.2
MEM Membach 84.90 320 P **P 19 56 49.4 +0.2**
CABF La Chapelle 85.03 316⇑*i*P **P 19 56 49.9 0.0**
comp=Z,25nm,0.9s,mb5.0
CABF La Chapelle 85.03 316⇑*i*P **P 19 56 49.9 0.0**
CABF pmax pmax
comp=Z,12nm,0.9s,mb5.0
CABF La Chapelle 85.03 316⇑*i*P **P 19 56 49.9 0.0**
comp=Z,12nm,0.9s,mb5.0
ORIF Oris-en-Rattie 85.25 315⇑*i*P **P 19 56 50.8 -0.3**
comp=Z,14nm,0.8s
ORIF *e*MLR MLR
comp=Z,37nm,19.0s
ORIF Oris-en-Rattie 85.25 315⇑*i*P **P 19 56 50.8 -0.3**
ORIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
ORIF Oris-en-Rattie 85.25 315⇑*i*P **P 19 56 50.8 -0.3**
comp=Z,6.8nm,0.8s,mb4.8
SMRF Simiane la Rot 85.52 314 *e*P **P 19 56 52.9 +0.5**
MEZF Maizieres J'vi 85.63 318 *e*P **P 19 56 52.4 -0.5**
GIVF Givet 85.69 320 *e*P **P 19 56 52.9 -0.2**
BAIF Baives 86.08 320⇑*i*P **P 19 56 55.1 0.0**
comp=Z,21nm,1.1s,mb5.0
BAIF Baives 86.08 320⇑*i*P **P 19 56 55.1 0.0**
BAIF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
BAIF Baives 86.08 320⇑*i*P **P 19 56 55.1 0.0**
comp=Z,10nm,1.1s,mb5.0
VIVF Saint-Julien-I 86.11 315⇑*i*P **P 19 56 55.2 -0.2**
comp=Z,20nm,1.1s,mb5.0
VIVF Saint-Julien-I 86.11 315⇑*i*P **P 19 56 55.2 -0.2**
VIVF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
VIVF Saint-Julien-I 86.11 315⇑*i*P **P 19 56 55.2 -0.2**
comp=Z,9.8nm,1.1s,mb5.0
LOR Lormes 86.51 317⇑*i*P **P 19 56 56.8 -0.4**
comp=Z,22nm,1.0s,mb5.0
LOR *e*MLR MLR
comp=Z,52nm,22.8s,MS3.6
LOR Lormes 86.51 317⇑*i*P **P 19 56 56.8 -0.4**
LOR pmax pmax
comp=Z,11nm,1.0s,mb5.0
LOR MLR MLR
comp=Z,50nm,22.8s,MS3.9
LOR Lormes 86.51 317⇑*i*P **P 19 56 56.8 -0.4**
comp=Z,11nm,1.0s,mb5.0
LOR LR LR
comp=Z,50nm,22.8s,MS3.9
SMF Signal de Mont 86.57 316⇑*i*P **P 19 56 57.1 -0.4**
comp=Z,20nm,1.0s,mb5.0
SMF Signal de Mont 86.57 316⇑*i*P **P 19 56 57.1 -0.4**
SMF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
SMF Signal de Mont 86.57 316⇑*i*P **P 19 56 57.1 -0.4**
comp=Z,10nm,1.0s,mb5.0
SSF Saint Saulge 86.77 317⇑*i*P **P 19 56 58.0 -0.5**
comp=Z,17nm,1.1s,mb4.9
SSF Saint Saulge 86.77 317⇑*i*P **P 19 56 58.0 -0.5**
SSF pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
SSF Saint Saulge 86.77 317⇑*i*P **P 19 56 58.0 -0.5**
comp=Z,8.4nm,1.1s,mb4.9
AVF Avril sur Loir 86.89 317 *e*P **P 19 56 58.7 -0.4**
comp=Z,31nm,1.3s,mb5.1
AVF Avril sur Loir 86.89 317 *e*P **P 19 56 58.7 -0.4**
AVF pmax pmax
comp=Z,16nm,1.3s,mb5.1
AVF Avril sur Loir 86.89 317 *e*P **P 19 56 58.7 -0.4**
comp=Z,16nm,1.3s,mb5.1
BGF Bois d'Agland 87.26 316 *e*P **P 19 57 00.9 0.0**
comp=Z,42nm,1.2s,mb5.2
BGF Bois d'Agland 87.26 316 *e*P **P 19 57 00.9 0.0**
BGF pmax pmax
comp=Z,21nm,1.2s,mb5.2
BGF Bois d'Agland 87.26 316 *e*P **P 19 57 00.9 0.0**
comp=Z,21nm,1.2s,mb5.2
TCF Toulx Ste Croi 87.72 316⇑*i*P **P 19 57 03.1 0.0**
comp=Z,25nm,1.2s,mb5.0
TCF Toulx Ste Croi 87.72 316⇑*i*P **P 19 57 03.1 0.0**
TCF pmax pmax
comp=Z,13nm,1.2s,mb5.0
TCF Toulx Ste Croi 87.72 316⇑*i*P **P 19 57 03.1 0.0**
comp=Z,13nm,1.2s,mb5.0
CAF Calviac 87.95 315 *e*P **P 19 57 04.5 +0.2**
comp=Z,6.4nm,0.8s,mb4.6
CAF Calviac 87.95 315 *e*P **P 19 57 04.5 +0.2**
CAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
CAF Calviac 87.95 315 *e*P **P 19 57 04.5 +0.2**
comp=Z,3.2nm,0.8s,mb4.6
MTLF Montolieu 88.00 313 *e*P **P 19 57 04.7 +0.2**
comp=Z,30nm,1.1s,mb5.1
MTLF Montolieu 88.00 313 *e*P **P 19 57 04.7 +0.2**
MTLF pmax pmax
comp=Z,15nm,1.1s,mb5.1
MTLF Montolieu 88.00 313 *e*P **P 19 57 04.7 +0.2**
comp=Z,15nm,1.1s,mb5.1
RJF Les Rejaudoux 88.30 315 *e*P **P 19 57 05.7 -0.2**
RJF *e*MLR MLR
comp=Z,50nm,22.2s,MS3.6
RJF Les Rejaudoux 88.30 315 *e*P **P 19 57 05.7 -0.2**
RJF LR LR
comp=Z,50nm,22.3s,MS3.9
LDF La Druitiere 89.04 319 *e*P **P 19 57 09.4 +0.1**
FLN La Foliniere 89.26 319 *e*P **P 19 57 10.2 -0.1**
comp=Z,68nm,1.2s,mb5.5
FLN *e*MLR MLR
comp=Z,52nm,22.8s,MS3.6
FLN La Foliniere 89.26 319 *e*P **P 19 57 10.2 -0.1**
FLN pmax pmax
comp=Z,34nm,1.2s,mb5.5
FLN MLR MLR
comp=Z,50nm,22.8s,MS3.9
FLN La Foliniere 89.26 319 *e*P **P 19 57 10.2 -0.1**
comp=Z,34nm,1.2s,mb5.5
FLN LR LR
comp=Z,50nm,22.8s,MS3.9
MFF Saint Martin d 89.31 317 *e*P **P 19 57 10.5 -0.1**
comp=Z,43nm,1.2s,mb5.3
MFF Saint Martin d 89.31 317 *e*P **P 19 57 10.5 -0.1**
MFF pmax pmax
comp=Z,21nm,1.3s,mb5.3
MFF Saint Martin d 89.31 317 *e*P **P 19 57 10.5 -0.1**
comp=Z,21nm,1.3s,mb5.3
DAG Danmarks Havn 89.91 348⇓*i*P **P 19 57 11.9 -0.9**
DAG pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
DAG Danmarks Havn 89.91 348⇓*i*P **P 19 57 11.9 -0.9**
comp=Z,2.2nm,0.8s,mb4.5
RAO Raoul Island 90.47 119 LR LR 20 41 36.2
comp=Z,99nm,19.1s,MS4.3,baz=196,slow=38
VNDA Vanda 90.50 168 P **P 19 57 17.7 +2.2**
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 90.50 168 P **P 19 57 17.6 +2.1**
comp=Z,1.4nm,0.9s,mb4.3
VNDA Vanda 90.50 168 P **P 19 57 16.0 +0.5**
comp=Z,0.9nm,0.8s,mb4.1,baz=290,slow=9.3,SNR=3.2
VNDA LR LR 20 34 21.8
comp=Z,191nm,20.2s,MS4.5,baz=268,slow=33
SJPF Ste Jean 90.53 313 *e*P **P 19 57 17.2 +0.8**
comp=Z,25nm,1.0s,mb5.2
SJPF Ste Jean 90.53 313 *e*P **P 19 57 17.2 +0.8**
SJPF pmax pmax
comp=Z,12nm,1.0s,mb5.2
SJPF Ste Jean 90.53 313 *e*P **P 19 57 17.2 +0.8**
comp=Z,12nm,1.0s,mb5.2
SGMF Saint Gilles 90.70 318⇑*i*P **P 19 57 17.1 0.0**
comp=Z,148nm,1.8s,mb5.7
SGMF Saint Gilles 90.70 318⇑*i*P **P 19 57 17.1 0.0**
SGMF pmax pmax
comp=Z,74nm,1.8s,mb5.7
SGMF Saint Gilles 90.70 318⇑*i*P **P 19 57 17.1 0.0**
comp=Z,74nm,1.8s,mb5.7
QUIF Quistinic 91.15 318 *e*P **P 19 57 18.8 -0.4**
ROSF Rostrenen 91.16 319 *e*P **P 19 57 19.3 +0.1**
ALE Alert 91.52 357 P **P 19 57 20.0 -0.3**
comp=Z,66nm,0.6s,mb6.1,SNR=12
SBA Scott Base 91.60 168 *e*P **P 19 57 21.8 +1.2**
SBA *e**PP pP 19 57 35.1 -1.4
ESDC Sonseca Array 93.08 310 P **P 19 57 28.4 +0.1**
comp=Z,2.2nm,0.8s,mb4.7,baz=56,slow=3.6,SNR=7.9
ESDC pP pP 19 57 44.8 +0.6
comp=Z,0.8nm,0.5s,baz=66,slow=4.1,SNR=4.1
IMA2 Indian Mountai 93.68 22 *e*P **P 19 57 30.5 0.0**
DBIC Dimbokro 98.68 278 LR LR 20 38 04.0
comp=Z,131nm,21.9s,MS4.4,baz=68,slow=33
RES Resolute Bay 99.78 3 *e*P Pdif 19 57 58.0 -0.2
comp=Z,203nm,0.9s
RES *e*pP pP 19 58 10.9 -3.0
YKA Yellowknife Ar 108.65 14 PP PP 20 03 05.2 -3.1
comp=Z,0.9nm,0.8s,baz=335,slow=8.0,SNR=6.9
SCHQ Schefferville 117.95 348 PKP PKPdf 20 02 60.0 -0.6
SCHQ Schefferville 117.95 348 PKP PKPdf 20 02 60.0 -0.6
comp=Z,1.4nm,0.4s,baz=294,slow=3.8,SNR=4.3
MSO Missoula 122.14 23 *e*PKPdf PKPdf 20 03 08.1 -0.8
ULM Lac du Bonnet 123.78 8 PKP PKPdf 20 03 11.2 -0.8
comp=Z,4.5nm,0.6s,baz=342,slow=4.6,SNR=6.4
DLMT Dillon 123.87 23 *e*PKPdf PKPdf 20 03 12.4 +0.1
NVAR Mina Array Bea 126.74 32 PKP PKPdf 20 03 19.3 +1.3
comp=Z,2.7nm,0.8s,baz=319,slow=0.6,SNR=11
MSU Marysvale 129.70 27 *e*PKIKP PKPdf 20 03 25.6 +1.9
ECSD EROS,Sioux Fal 130.00 11 *e*PKPdf PKPdf 20 03 23.1 -0.9
SSPA Standing Stone 133.61 352 *e*PKPdf PKPdf 20 03 31.2 +0.3
SSPA *e* 20 03 47.9
ANMO Albuquerque 135.19 25⇑*i*PKIKP PKPdf 20 03 36.2 +2.1
TXAR Lajitas Array 141.22 26 PKhKP 20 03 38.5
comp=Z,0.7nm,0.5s,baz=185,slow=1.3,SNR=12
TXAR PKP PKPdf 20 03 45.5 +0.1
comp=Z,1.8nm,0.5s,baz=246,slow=0.9,SNR=18
JCT Junction City 141.70 20 *e*PKHKP 20 03 40.2
JCT *e* 20 03 45.9
CPUP Villa Florida 146.08 229 *e*PKIKP PKPdf 20 03 53.5 -0.4
CPUP Villa Florida 146.08 229 PKPbc PKPbc 20 03 55.0 +0.1
comp=Z,1.7nm,0.5s,baz=78,slow=4.4,SNR=6.0
CFAA Coronel Fontan 149.41 210 PKPbc PKPbc 20 04 03.6 -0.1
comp=Z,0.8nm,0.5s,baz=156,slow=2.3,SNR=12
SDDR Presa de Saban 152.00 330 *e*PKPbc PKPbc 20 04 10.6 +0.5
SIV San Ignacio 153.91 244 PKPbc PKPbc 20 04 13.5 -1.0
comp=Z,0.6nm,0.6s,baz=306,slow=15,SNR=3.6
TEIG Tepich 154.32 6 PKPbc PKPbc 20 04 14.9 -0.3
comp=Z,13nm,1.0s,baz=356,slow=1.9,SNR=4.0
TEIG PKPab PKPab 20 04 28.9 -0.2
comp=Z,19nm,0.9s,baz=304,slow=3.9,SNR=6.0
LPAZ La Paz 159.91 236 PKP PKPdf 20 04 14.8 +0.7
comp=Z,0.7nm,0.6s,baz=5.0,slow=4.8,SNR=3.9
ROSC El Rosal 164.90 313 PKP PKPdf 20 04 19.5 +0.3
comp=Z,3.7nm,0.3s,baz=100,slow=19,SNR=5.0

IDC 01 20:06:50.0±9.9, 2188N×14295E, h208km±96km, mb3.0/5, mb1 3.2/5, mb1mx3.0/19, mbtmp3.0/5, Error ellipse: s-maj=53.7km s-min=22.3km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.24**	**323**	P	P	20 11 09.8	+0.6
	1.0nm,0.6s,baz=144,slow=8.7,SNR=4.5						
SONM	**Songino Array**	**39.06**	**320**	P	P	20 13 56.1	-0.6
	0.6nm,0.5s,baz=118,slow=7.8,SNR=5.0						
WRA	**Warramunga Arr**	**42.41**	**192**	P	P	20 14 24.4	+0.1
	0.2nm,0.5s,baz=17,slow=9.3,SNR=5.0						
MKAR	**Makanchi Array**	**54.41**	**313**	P	P	20 15 55.6	0.0
	0.2nm,0.2s,baz=93,slow=7.5,SNR=3.7						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	P	20 18 16.4	+0.3
	0.3nm,0.4s,baz=292,slow=5.4,SNR=4.4						

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*ISCJB **01** 20:26:22.3±1.0, 177S×01.0×70.1W±0.1, h107km±12km, mb3.8/6, Error ellipse: s-maj=21.4km s-min=15.0km az=32.6*
*NEIC **01** 20:26:23.4±1.3, 1779S×7022W, h103km±12km, mb3.8/1, Error ellipse: s-maj=19.6km s-min=14.4km az=212.0*
*IDC **01** 20:26:26.3±2.8, 1783S×6999W, h125km±24km, mb3.7/5, mb1 3.9/7, mb1mx3.6/18, mbtmp3.8/7, Error ellipse: s-maj=29.5km s-min=23.7km az=77.0*
ISC 01 20:26:23.2±1.0, 178S±01×702W±01, h103km±11km, n16,

σ0§90/14, mb3.8/6, 1C, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.80**	**315**	⇑*iP*	**Pn**	**20 26 53.5**	**+0.2**
ARE				*eS*	**Sn**	20 27 16.0	-0.2
LPAZ	**La Paz**	**2.44**	**54**	*e*Pn	**Pn**	**20 27 05.4**	**+3.9**
LPAZ	**La Paz**	**2.44**	**54**	*eP*	**Pn**	**20 27 05.7**	**+4.1**
	28nm,0.3s,baz=228,slow=8.3,SNR=1081						
SIV	**San Ignacio**	**8.89**	**80**	P	**Pn**	**20 28 28.9**	**+0.1**
	4.8nm,0.3s,baz=267,slow=11,SNR=145						
BDFB	**Brasilia**	**21.33**	**88**	P	**P**	**20 31 01.2**	**-0.8**
	0.7nm,0.3s,mb3.4,baz=253,slow=22,SNR=4.9						
TRQA	**Tornquist**	**21.46**	**162**	P	**P**	**20 31 03.0**	**-0.3**
	3.8nm,0.9s,mb3.7						
PLCA	**Paso Flores**	**22.90**	**181**	P	**P**	**20 31 18.4**	**+0.2**
PLCA				*eP*		20 31 18.7	
PLCA	**Paso Flores**	**22.90**	**181**	P	**P**	**20 31 18.4**	**+0.2**
	2.3nm,0.7s,mb3.6,baz=355,slow=11,SNR=7.4						
JTS	**JuntasAbangare**	**31.46**	**331**	P	**P**	**20 32 32.9**	**-2.2**
DBIC	**Dimbokro**	**68.88**	**75**	P	**P**	**20 37 17.3**	**-0.1**
	4.1nm,0.6s,mb4.4,baz=219,slow=6.5,SNR=12						
ULM	**Lac du Bonnet**	**71.40**	**343**	P	**P**	**20 37 32.8**	**+0.8**
	1.9nm,0.3s,mb4.4,baz=151,slow=3.9,SNR=8.8						
YKA	**Yellowknife Ar**	**87.27**	**341**	P	**P**	**20 38 59.2**	**+1.4**
YKA				pP	pP	20 39 24.1	-0.6
YKA	**Yellowknife Ar**	**87.27**	**341**	P	**P**	**20 38 59.2**	**+1.4**
	0.4nm,0.6s,mb3.5,baz=135,slow=4.8,SNR=13						
YKA				pP	pP	20 39 24.1	-0.6
	1.8nm,0.9s,baz=135,slow=4.9,SNR=18						
ASAR	**Alice Springs**	**132.59**	**211**	PKP	PKPdf	20 45 27.1	+0.6
	0.3nm,0.8s,baz=122,slow=3.4,SNR=3.5						
WRA	**Warramunga Arr**	**135.47**	**214**	PKP	PKPdf	20 45 32.8	+0.8
	0.4nm,0.9s,baz=144,slow=1.6,SNR=5.8						
MKAR	**Makanchi Array**	**143.21**	**32**	PKP	PKPdf	20 45 47.6	+2.3
	0.2nm,0.2s,baz=45,slow=4.3,SNR=3.1						

*IDC **01** 20:51:36.2±1.0, 2590N×9622E, h0km, mb3.8/9, mb1 3.9/9, mb1mx3.7/22, mbtmp3.8/9, MS3.5/1, Ms1 3.5/1, ms1mx2.7/27, Error ellipse: s-maj=50.4km s-min=17.5km az=57.0*
*ISCJB **01** 20:51:37.0±1.5, 2581N±007×9628E±005, h21km±12km, mb4.1/25, Error ellipse: s-maj=11.3km s-min=6.8km az=179.5*
*NEIC **01** 20:51:38.0±0.7, 2614N×9662E, h10km, mb4.1/10, Error ellipse: s-maj=28.3km s-min=12.9km az=51.0*
*BJI **01** 20:51:38.1, 2601N×9631E, h17km, mB4.6, mb4.0, ML3.4, Ms3.7, Msz3.8*
*MOS **01** 20:51:39.5±1.4, 2597N×9652E, h33km, mb4.3/6, Error ellipse: s-maj=25.5km s-min=9.9km az=115.5*

ISC 01 20:51:40.7±1.2, 2581N±007×9623E±004, h31km±10km, n51, σ1§19/55, mb4.1/25, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.32**	**244**	*eP*	**Pb**	**20 52 20.0**	**-1.8**
IMP				*eS*	**Sn**	**20 52 55.0**	**+11**
SHL	**Shillong**	**3.93**	**267**	*eP*	**Pn**	**20 52 43.0**	**+4.1**
SHL				*eS*	**Sn**	**20 53 21.0**	**-3.0**
KMI	**Kunming**	**5.92**	**95**	PG	**Pb**	**20 53 24.9**	**+1.6**
KMI				SG	Sb	20 54 39.0	+5.3
KMI				Smax			
	comp=N,39nm,1.1s						
KMI				Smax			
	comp=E,27nm,0.9s						
LSA	**Lhasa**	**5.94**	**312**	*eP*	**Pn**	**20 53 10.1**	**+3.6**
LSA				*e*		20 54 16.4	
LSA				pmax	pmax		
	comp=Z,11nm,0.4s						
LSA	**Lhasa**	**5.94**	**312**	*e*Pn	**Pn**	**20 53 10.1**	**+3.6**
	comp=Z,11nm,0.4s						
LSA				*e*Sn	**Sn**	**20 54 16.4**	**+2.8**
CD2	**Chengdu**	**8.35**	**51**	*eP*	**Pn**	**20 53 39.2**	**-0.5**
CD2				S	**Sn**	**20 55 12.8**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,180nm,4.2s						
CD2				LR	LR		
	comp=Z,200nm,3.8s						
JIRN	**Jiri**	**9.16**	**284**	*eP*	**Pn**	**20 53 52.7**	**+1.9**
	comp=Z,70nm,0.3s						
GYA	**Guiyang**	**9.40**	**84**	P	**Pn**	**20 53 53.1**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GUN	**Gumba**	**9.48**	**285**	*eP*	**Pn**	**20 53 56.1**	**+1.0**
	comp=Z,52nm,0.4s						
PKI	**Pulchoki**	**9.84**	**283**	*eP*	**Pn**	**20 54 00.6**	**+0.6**
	comp=Z,13nm,0.4s						
PKIN	**Phulchoki**	**9.85**	**283**	*eP*	**Pn**	**20 54 01.0**	**+0.8**
KKN	**Kakani**	**9.98**	**284**	*eP*	**Pn**	**20 54 02.4**	**+0.4**
	comp=Z,38nm,0.4s						
DMN	**Daman**	**10.11**	**283**	*eP*	**Pn**	**20 54 04.1**	**+0.4**
GKN	**Gorkha**	**10.58**	**284**	*eP*	**Pn**	**20 54 09.7**	**-0.5**
	comp=Z,40nm,0.4s						
DANN	**Dangsing**	**11.40**	**286**	*eP*	**Pn**	**20 54 19.8**	**-1.6**
	comp=Z,25nm,0.4s						
KOLN	**Koldanda**	**11.45**	**283**	*eP*	**Pn**	**20 54 21.5**	**-0.7**
	comp=Z,11nm,0.3s						
SONM	**Songino Array**	**23.40**	**17**	P	**P**	**20 56 45.6**	**-1.4**
	comp=Z,0.6nm,0.4s,mb3.3,baz=208,slow=12,SNR=5.2						
ULN	**Ulaanbaatar**	**23.61**	**18**	P	**P**	**20 56 43.5**	**-5.5**
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
ULN	**Ulaanbaatar**	**23.61**	**18**	P	**P**	**20 56 43.5**	**-5.5**
	comp=Z,0.9nm,0.6s,mb3.4						
MK31	**Makanchi Array**	**23.69**	**336**	*eP*	**P**	**20 56 49.5**	**-0.2**
MKAR	**Makanchi Array**	**23.69**	**336**	P	**P**	**20 56 49.3**	**-0.4**
	comp=Z,2.8nm,0.4s,mb4.1,baz=144,slow=8.9,SNR=61						
TKM2	**Tokmak 2**	**24.01**	**320**	*eP*	**P**	**20 56 54.5**	**+1.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
TKM2	**Tokmak 2**	**24.01**	**320**	*eP*	**P**	**20 56 54.5**	**+1.9**
	comp=Z,2.8nm,0.9s,mb3.7						
UCH	**Uchtor**	**24.23**	**318**	*eP*	**P**	**20 56 53.5**	**-1.2**
	comp=Z,2.9nm,0.9s,mb3.7						
AAK	**Ala-Archa**	**24.48**	**319**	*eP*	**P**	**20 56 57.6**	**+0.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
AAK	**Ala-Archa**	**24.48**	**319**	*eP*	**P**	**20 56 57.6**	**+0.6**
	comp=Z,3.6nm,1.0s,mb3.8						
AAK	**Ala-Archa**	**24.48**	**319**	P	**P**	**20 56 57.7**	**+0.7**
	comp=Z,1.3nm,0.5s,mb3.7,baz=129,slow=6.7,SNR=6.4						
AML	**Almayashu**	**24.67**	**317**	*eP*	**P**	**20 57 00.8**	**+2.0**
	comp=Z,3.3nm,1.0s,mb3.8						
EKS2	**Erkin-Say**	**24.93**	**318**	*eP*	**P**	**20 57 03.0**	**+2.0**
	comp=Z,4.3nm,0.9s,mb4.0						
KBL	**Kabul**	**25.00**	**297**	*eP*	**P**	**20 57 01.9**	**+0.1**
	comp=Z,17nm,0.8s,mb4.6						
ZAK	**Zakamensk**	**25.13**	**11**	*eP*	**P**	**20 57 02.5**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
KURK	**Kurchatov**	**28.31**	**336**	*eP*	**P**	**20 57 31.0**	**-0.4**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9						
KURK	**Kurchatov**	**28.31**	**336**	*eP*	**P**	**20 57 31.0**	**-0.4**
	comp=Z,2.7nm,0.9s,mb3.9						
ZAL	**Zalesovo**	**29.36**	**346**	P	**P**	**20 57 40.5**	**-0.2**
ZALV	**Zalesovo Beam**	**29.36**	**346**	P	**P**	**20 57 40.5**	**-0.3**
	comp=Z,2.3nm,0.6s,mb4.1,baz=163,slow=8.2,SNR=15						
RDF	**Al-Radifah**	**43.11**	**286**	*eP*	**P**	**20 59 38.2**	**-0.1**
RDF				AMb	AMB	20 59 41.4	
	comp=Z,19nm,0.6s,mb5.0						
MIB	**Mutribah**	**43.18**	**287**	*eP*	**P**	**20 59 37.7**	**-1.1**
MIB				AMb	AMB	20 59 42.7	
	comp=Z,13nm,0.6s,mb4.8						
NAY	**Al-Naaiem**	**43.33**	**286**	*eP*	**P**	**20 59 38.9**	**-1.1**
NAY				AMb	AMB	20 59 44.0	
	comp=Z,6.2nm,0.7s,mb4.4						
RST	**Umm Al-Ruwaisa**	**43.51**	**286**	*eP*	**P**	**20 59 40.3**	**-1.3**
RST				AMb	AMB	20 59 44.9	
	comp=Z,15nm,0.6s,mb4.9						
KIV	**Kislovodsk**	**46.66**	**307**	P	**P**	**21 00 08.4**	**+2.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
KIV	**Kislovodsk**	**46.66**	**307**	P	**P**	**21 00 08.4**	**+2.0**
	comp=Z,4.7nm,0.8s,mb4.5						
OBN	**Obninsk**	**51.98**	**321**	*eP*	**P**	**21 00 40.0**	**-6.8**
OBN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
JOF	**Joensuu**	**55.95**	**330**	*ep*	**P**	**21 01 14.0**	**-1.7**
	comp=Z,0.9nm,0.4s,mb4.2						
AKASG	**Malin Array Be**	**56.08**	**315**	P	**P**	**21 01 16.1**	**-0.7**
	comp=Z,0.2nm,0.3s,mb3.7,baz=75,slow=5.9,SNR=4.0						
FINES	**FINESS Array B**	**58.21**	**328**	P	**P**	**21 01 31.4**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9,baz=93,slow=6.7,SNR=4.9						
WRA	**Warramunga Arr**	**58.64**	**137**	P	**P**	**21 01 36.5**	**+1.3**
	comp=Z,0.8nm,0.6s,mb4.0,baz=327,slow=7.5,SNR=7.5						
WRAB	**Tennant Creek**	**58.64**	**137**	P	**P**	**21 01 36.1**	**+0.9**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**58.64**	**137**	P	**P**	**21 01 36.1**	**+0.9**
	comp=Z,4.3nm,1.1s,mb4.4						
ASAR	**Alice Springs**	**61.23**	**140**	P	**P**	**21 01 53.5**	**+0.6**
	comp=Z,0.9nm,0.7s,mb4.0,baz=320,slow=6.6,SNR=7.9						
NB2	**NORSAR Subarra**	**65.39**	**328**	P	**P**	**21 02 18.9**	**-1.1**
	comp=Z,0.9nm,0.7s,mb3.9,baz=80,slow=6.2						
NOA	**NORSAR Array B**	**65.39**	**328**	P	**P**	**21 02 18.2**	**-1.8**
	comp=Z,1.0nm,0.7s,mb4.0,baz=82,slow=6.3,SNR=6.1						

FUNV 01 21:10:41.5, 1036N×7307W, h128km, MW3.6, 3C-5D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	**Villa del Rosa**	**0.67**	**78**	⇑*iP*	Pn	21 11 01.2	-0.3
VIRV				*eS*	Sn	21 11 15.5	-1.1
VIGV	**El Vigia**	**2.26**	**132**	⇑*iP*	Pn	21 11 18.2	-0.4
VIGV				*eS*	Sn	21 11 44.1	-3.0
DABV	**Dabajuro**	**2.46**	**77**	*eP*	Pn	21 11 20.1	-1.0
DABV				*eS*	Sn	21 11 48.4	-3.1
QARV	**Quebrada Arrib**	**2.51**	**93**	⇓*iP*	Pn	21 11 20.9	-0.9
CAPV	**Capacho**	**2.59**	**163**	⇓*iP*	Pn	21 11 22.7	-0.1
CAPV				*eS*	Sn	21 11 52.3	-2.3
SOCV	**Socops**	**3.00**	**133**	⇓*iP*	Pn	21 11 27.9	-0.3
SOCV				*eS*	Sn	21 11 59.9	-4.2
CURV	**Curarigua**	**3.08**	**96**	⇓*eP*	Pn	21 11 27.8	-1.3
CURV				*eS*	Sn	21 12 01.8	-4.1
SIQV	**Siquisique**	**3.22**	**85**	*eP*	Pn	21 11 29.4	-1.5
SIQV				*eS*	Sn	21 12 06.0	-3.1
SANV	**Sanarito**	**3.58**	**103**	⇓*eP*	Pn	21 11 34.9	-0.8
SANV				*eS*	Sn	21 12 13.8	-3.9
TEPV	**Terepaima**	**3.84**	**96**	*eP*	Pn	21 11 37.6	-1.5
TEPV				*eS*	Sn	21 12 19.5	-4.2
JACV	**Jacura**	**4.23**	**80**	*eP*	Pn	21 11 43.1	-1.2
JACV				*eS*	Sn	21 12 28.5	-4.5
ELOV	**Elorza**	**4.87**	**133**	*eP*	Pn	21 11 51.5	-1.3
TURV	**Turiamo**	**5.14**	**89**	*eP*	Pn	21 11 54.3	-2.3
TURV				*eS*	Sn	21 12 49.3	-5.7
BAUV	**El Baul**	**5.15**	**105**	⇑*iP*	Pn	21 11 54.4	-2.2
BAUV				*eS*	Sn	21 12 49.5	-5.7
FUNV	**FUNVISIS**	**6.16**	**88**	*eP*	Pn	21 12 08.6	-1.6
FUNV				*eS*	Sn	21 13 12.4	-7.0
BIRV	**Birongo**	**6.69**	**88**	*eP*	Pn	21 12 15.8	-1.6
BIRV				*eS*	Sn	21 13 24.7	-7.5
MERV	**Las Mercedes**	**6.76**	**99**	*eP*	Pn	21 12 15.8	-2.6
MERV				*eS*	Sn	21 13 24.8	-9.3
ORCV	**Isla La Orchil**	**6.90**	**77**	*eP*	Pn	21 12 16.1	-4.1
CUPV	**Cœpira**	**7.17**	**92**	*eP*	Pn	21 12 21.6	-2.3
CUPV				*eS*	Sn	21 13 35.3	-8.6
CAOV	**Caicara del Or**	**7.32**	**114**	*eP*	Pn	21 12 22.4	-3.4
CAOV				*eS*	Sn	21 13 38.2	-9.2
PCRV	**Puerto La Cruz**	**8.30**	**91**	*eP*	Pn	21 12 37.0	-2.1
IBAV	**Isla La Blanqu**	**8.46**	**79**	*eP*	Pn	21 12 36.5	-4.8

*NEIC **01** 21:15:55.9±1.6, 346S×14588E, h10km, mb4.2/4, Error ellipse: s-maj=46.6km s-min=13.1km az=104.0*
*IDC **01** 21:15:55.5±4.8, 340S×14561E, h0km, mb3.8/4, mb1 4.1/5, mb1mx3.8/14, mbtmp3.9/5, ML3.7/1, MS3.3/4, Ms1 3.3/4, ms1mx3.1/19, Error ellipse: s-maj=156.1km s-min=25.0km az=101.0*
*ISCJB **01** 21:15:57.4±2.2, 35S±02×1459E±04, h33km, mb3.9/5, MS3.4/3, Error ellipse: s-maj=60.0km s-min=17.5km az=14.2*

ISC 01 21:15:58.9±2.3, 36S±02×1460E±04, h35km, n13, σ0§59/10, mb3.9/5, MS3.4/3, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.05**	**113**	LR	LR	21 23 40.6	
	comp=Z,55nm,20.3s,baz=181,slow=30						
KAKA	**Kakadu**	**16.14**	**235**	*eP*	**Pn**	**21 19 43.3**	**+0.1**
	9.6nm,0.8s						
WRAB	**Tennant Creek**	**19.78**	**214**	*eP*	**Pn**	**21 20 27.1**	**-0.8**
	8.2nm,0.8s						
WB2	**Warramunga Arr**	**19.79**	**214**	*eP*	**Pn**	**21 20 27.7**	**-0.4**
WRA	**Warramunga Arr**	**19.80**	**214**	P	**Pn**	**21 20 28.0**	**-0.2**
	0.2nm,0.3s,baz=39,slow=11,SNR=25						
ASAR	**Alice Springs**	**23.09**	**209**	P	**P**	**21 21 02.8**	**+1.0**
	3.6nm,0.7s,mb3.9,baz=34,slow=10,SNR=31						
FITZ	**Fitzroy Crossi**	**24.56**	**233**	*eP*	**P**	**21 21 16.2**	**+0.5**
	3.7nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**24.56**	**233**	P	**P**	**21 21 16.1**	**+0.4**
	1.9nm,0.8s,mb3.7,baz=37,slow=10,SNR=4.7						
FITZ				LR	LR	21 30 45.3	
	comp=Z,80nm,19.0s,MS3.2,baz=261,slow=36						
STKA	**Stephens Creek**	**28.41**	**188**	*eP*	**P**	**21 21 59.7**	**+9.4**
	8.3nm,0.9s,mb4.4						
KSRS	**Korea Array**	**44.16**	**339**	LR	LR	21 40 21.9	
	comp=Z,26nm,19.1s,MS3.2,baz=131,slow=33						
URZ	**Urewera**	**44.69**	**145**	LR	LR	21 40 36.6	
	comp=Z,118nm,19.2s,MS3.8,baz=324,slow=33						
MKAR	**Makanchi Array**	**75.00**	**320**	P	**P**	**21 27 37.3**	**+0.5**
	0.2nm,0.2s,mb3.6,baz=99,slow=8.4,SNR=2.2						
ZALV	**Zalesovo Beam**	**76.45**	**328**	P	**P**	**21 27 44.3**	**-0.6**
	0.7nm,0.6s,mb3.8,baz=111,slow=6.3,SNR=4.2						

*NEIC **01** 21:28:22.9±1.4, 1785S×17825W, h554km±15km, Error ellipse: s-maj=60.5km s-min=16.4km az=157.0*
*ISCJB **01** 21:28:24.9±1.7, 179S±05×1783W±03, h598km±25km, mb3.6/5, Error ellipse: s-maj=76.7km s-min=20.9km az=154.6*
*IDC **01** 21:28:27.2±6.0, 1817S×17830W, h609km±65km, mb3.0/5, mb1 3.2/5, mb1mx3.0/15, mbtmp3.0/5, Error ellipse: s-maj=58.0km s-min=32.1km az=145.0*

ISC 01 21:28:23.9±1.6, 180S±04×1782W±03, h573km±22km, n13, σ1§51/7, mb3.6/5, 1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.40**	**58**	*eP*	**P**	**21 30 14.7**	**-2.0**
AFI				*eS*	**S**	**21 31 50.3**	**+1.4**
CTA	**Charters Tower**	**33.61**	**261**	P	**P**	**21 34 19.4**	**+1.4**
	1.4nm,0.3s,mb4.1,baz=85,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**44.79**	**260**	P	**P**	**21 35 47.8**	**+0.1**
	0.6nm,0.3s,mb3.6,baz=97,slow=7.6,SNR=51						
WRA				PcP	PcP	21 37 15.6	-1.8
	0.4nm,0.6s,baz=92,slow=3.3,SNR=3.9						
ASAR	**Alice Springs**	**44.94**	**254**	P	**P**	**21 35 48.2**	**-0.6**
	0.9nm,0.4s,mb3.6,baz=88,slow=8.5,SNR=26						
ASAR				PcP	PcP	21 37 15.8	-2.0
	0.5nm,0.5s,baz=111,slow=3.7,SNR=5.2						
MJAR	**Matsushiro Arr**	**68.07**	**323**	P	**P**	**21 38 26.6**	**-0.5**
	0.8nm,0.6s,mb3.4,baz=122,slow=14,SNR=4.1						
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**21 40 04.2**	**+0.2**
	0.5nm,0.6s,mb3.3,baz=216,slow=6.3,SNR=9.8						
ARCES	**ARCESS Array B**	**126.41**	**350**	PKP	PKPdf	21 46 22.1	+0.5
	10nm,1.2s,baz=18,slow=1.5,SNR=7.1						
FINES	**FINESS Array B**	**133.30**	**344**	PKP	PKPdf	21 46 36.3	+1.5
	1.8nm,1.0s,baz=102,slow=5.8,SNR=3.2						
AKASG	**Malin Array Be**	**140.70**	**332**	PKP	PKPdf	21 46 45.0	-3.8
AKASG	**Malin Array Be**	**140.70**	**332**	PKhKP		21 46 45.0	
	0.6nm,0.5s,baz=42,slow=4.4,SNR=5.3						
CLL	**Collm**	**145.57**	**348**	⇓*i*PKPbc	PKPbc	21 47 00.8	+2.0
	comp=Z,5.0nm,1.0s						
VYHS	**Vyhne**	**146.54**	**339**	*e*PKP	PKPdf	21 47 03.2	+4.2
GERES	**GERESS Array B**	**147.72**	**345**	PKPbc	PKPbc	21 47 06.1	+1.5
	comp=Z,0.9nm,0.6s,baz=35,slow=3.3,SNR=8.9						

*NEIC **01** 21:43:17.7±0.9, 008N×9786E, h30km, Error ellipse: s-maj=29.9km s-min=13.0km az=67.0*

IDC 01 21:43:17.2±1.7, 008N×9790E, h24km±6km, mb3.7/5, mb1 3.8/6, mb1mx3.5/20, mbtmp3.7/6, ML2.7/1, Error ellipse: s-maj=65.1km s-min=16.6km az=59.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.88**	**21**	Pn	Pn	21 44 00.3	-1.4
	1.3nm,0.3s,baz=167,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**40.85**	**121**	P	P	21 50 57.5	0.0
	0.9nm,0.7s,baz=301,slow=9.0,SNR=16						
WRA				pP	pP	21 51 04.3	-0.5
	0.5nm,0.6s,baz=301,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**42.17**	**127**	P	P	21 51 08.7	+0.4
	0.7nm,0.6s,baz=298,slow=7.6,SNR=10						
SONM	**Songino Array**	**48.13**	**8**	P	P	21 51 55.4	+0.2
	0.4nm,0.3s,baz=185,slow=9.4,SNR=4.2						
MK31	**Makanchi Array**	**48.49**	**346**	*eP*	P	21 51 57.6	-0.4
MKAR	**Makanchi Array**	**48.49**	**346**	P	P	21 51 58.1	+0.1
	2.0nm,0.7s,baz=157,slow=8.3,SNR=22						
MKAR				pP	pP	21 52 05.6	+0.3
	0.5nm,0.5s,baz=161,slow=8.0,SNR=2.8						
ZALV	**Zalesovo Beam**	**54.77**	**351**	P	P	21 52 44.5	-0.3
	1.9nm,0.5s,baz=176,slow=6.9,SNR=10						
ZALV				pP	pP	21 52 52.4	+0.2
	1.0nm,0.5s,baz=187,slow=5.7,SNR=4.0						
TXAR	**Lajitas Array**	**144.23**	**33**	PKP	PKPdf	22 02 50.4	-1.6
	0.2nm,0.5s,baz=328,slow=1.2,SNR=3.3						

IDC 01 21:57:05.6±1.6, 846S×15773E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.9/14, mbtmp4.1/5, ML4.1/1, 1D, Error ellipse: s-maj=37.0km s-min=23.6km az=8.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.40**	**114**	Pn	Pn	21 57 44.6	-1.6
	43nm,0.3s,baz=263,slow=4.9,SNR=8.7						
HNR				Sn	Sn	21 58 18.7	+2.4
	277nm,0.3s,baz=273,slow=21,SNR=20						
WB2	**Warramunga Arr**	**25.33**	**241**	⇓*iP*	P	22 02 34.2	-0.2
WRA	**Warramunga Arr**	**25.34**	**241**	P	P	22 02 33.9	-0.5
	4.1nm,0.6s,baz=67,slow=9.4,SNR=70						
ASAR	**Alice Springs**	**27.36**	**234**	P	P	22 02 51.4	-1.3
	0.7nm,0.9s,baz=57,slow=9.2,SNR=6.0						
STKA	**Stephens Creek**	**27.71**	**211**	P	P	22 02 57.4	+1.6
	3.5nm,0.7s,baz=50,slow=14,SNR=7.8						
MKAR	**Makanchi Array**	**86.29**	**318**	P	P	22 09 50.2	+0.8
	0.2nm,0.2s,baz=90,slow=6.8,SNR=2.7						

KRSC 01 22:14:47.1±0.8, 5397N×15975E, h124km±26km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.19**	**291**	*i*P	Pn	22 15 05.0	+0.9
KII				*i*S	Sn	22 15 18.6	+1.6
NLC	**Nalytchevo**	**0.84**	**197**	*i*P	Pn	22 15 08.8	+0.9
NLC				*i*S	Sn	22 15 24.6	+0.9
SPN	**Mys Shipunski**	**0.89**	**169**	*i*P	Pn	22 15 09.1	+0.7
SPN				*i*S	Sn	22 15 25.2	+0.7
AVH	**Avacha**	**0.93**	**221**	*e*P	Pn	22 15 10.1	+1.3
AVH				*i*S	Sn	22 15 27.0	+1.9
GNL	**Ganaly**	**1.11**	**256**	*i*P	Pn	22 15 10.7	+0.2
GNL				*i*S	Sn	22 15 28.2	0.0
PET	**Petropavlovsk**	**1.15**	**215**	P	Pn	22 15 11.4	+0.5
PET				*i*S	Sn	22 15 29.2	+0.2
MKZ	**Mys Kozlova**	**1.30**	**62**	*i*P	Pn	22 15 13.2	+0.7
MKZ				*i*S	Sn	22 15 32.4	+0.6
TUMR	**Tumrok**	**1.34**	**10**	*e*P	Pn	22 15 13.6	+0.7
TUMR				*i*S	Sn	22 15 33.1	+0.6
RUS	**Russkaya**	**1.71**	**206**	*e*P	Pn	22 15 17.8	+0.6
RUS				*i*S	Sn	22 15 40.5	+0.4
MIPR	**Malaya Ipel'ka**	**2.48**	**228**	*e*P	Pn	22 15 27.4	+0.7
KBTR	**Krutoberegovo**	**2.85**	**37**	*e*P	Pn	22 15 32.4	+0.9
KBTR				*e*S	Sn	22 16 04.7	-1.0

*DDA **01** 22:53:30.8, 3833N×3932E, h7km±10km, Md3.5*
*ISK **01** 22:53:30.9, 3840N×3922E, h5km, MD3.6*
*ISCJB **01** 22:53:31.6±0.5, 3838N±003×3924E±003, h2km±5km, Error ellipse: s-maj=4.9km s-min=3.5km az=161.8*
*CSEM **01** 22:53:31.3±0.1, 3840N×3920E, h2km, MD3.6, Error ellipse: s-maj=1.4km s-min=1.0km az=163.0*

ISC 01 22:53:32.1±0.5, 3838N±003×3924E±003, h2km±4km, n30, σ1§13/38, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.05**	**92**	PG	**Pg**	**22 53 32.0**	**-1.2**
ELZG	**Elazig**	**0.23**	**300**	*i*P	**Pg**	**22 53 36.6**	**0.0**
ELZG				*i*S	**Sg**	**22 53 40.8**	**+4.1**
PTK	**Pertek**	**0.53**	**13**	*e*PG	**Pg**	**22 53 41.6**	**-0.6**
PTK				*e*SG	**Sg**	**22 53 50.0**	**+1.0**
MALT	**Malatya**	**0.64**	**264**	*e*PG	**Pg**	**22 53 43.6**	**-0.8**
MALT				*e*SG	**Sg**	**22 53 54.1**	**+1.3**
MYA	**Malataya**	**0.64**	**265**	*e*PG	**Pg**	**22 53 44.1**	**-0.4**
DIY	**Diyarbakir**

JIRN Jiri 23.57 342 *e*P **P** 23 14 11.7 +0.2
PKI Pulchoki 23.75 340 *e*P **P** 23 14 12.2 -0.9
DMN Daman 23.89 339 *e*P **P** 23 14 13.8 -0.6
4.9nm,0.5s,mb4.2
GUN Gumba 23.90 341 *e*P **P** 23 14 14.7 +0.2
14nm,0.6s,mb4.6
KKN Kakani 23.99 340 *e*P **P** 23 14 15.3 -0.1
GKN Gorkha 24.41 339 *e*P **P** 23 14 19.0 -0.2
6.4nm,0.3s,mb4.5
LSA Lhasa 24.46 353 *e*P **P** 23 14 19.9 +0.3
3.4nm,0.6s,mb4.0
KOLN Koldanda 24.60 336 *e*P **P** 23 14 21.3 +0.4
18nm,0.6s,mb4.8
DANN Dangsing 25.05 337 *e*P **P** 23 14 25.6 +0.6
14nm,0.5s,mb4.7
DGAR Diego Garcia 25.29 240 P **P** 23 14 27.5 +0.1
MBWA Marble Bar 36.17 137 P **P** 23 16 03.4 +0.1
FITZ Fitzroy Crossi 38.60 128 P **P** 23 16 23.6 -0.2
UCH Uchtor 40.81 337 *e*P **P** 23 16 42.1 +0.2
2.8nm,1.2s,mb3.8
TKM2 Tokmak 2 41.00 339 *e*P **P** 23 16 44.5 +1.0
1.6nm,0.5s,mb3.9
AAK Ala-Archa 41.16 338 *e*P **P** 23 16 45.6 +0.7
1.1nm,0.7s,mb3.6
MKAR Makanchi Array 42.64 348 P **P** 23 16 56.9 +0.1
MKAR Makanchi Array 42.64 348 P **P** 23 16 56.9 +0.1
2.0nm,0.4s,mb4.2,baz=170,slow=8.3,SNR=35
SONM Songino Array 43.60 12 P **P** 23 17 04.1 -0.5
1.1nm,0.5s,mb3.8,baz=192,slow=7.7,SNR=9.8
WRA Warramunga Arr 46.59 124 P **P** 23 17 29.1 +0.4
1.3nm,0.6s,mb4.0,baz=303,slow=9.7,SNR=23
WRAB Tennant Creek 46.59 124 *e*P **P** 23 17 29.1 +0.4
47nm,2.4s,mb5.0
WB2 Warramunga Arr 46.60 124 *e*P **P** 23 17 29.2 +0.4
KURK Kurchatov 47.16 346 *e*P **P** 23 17 32.9 +0.2
2.4nm,0.5s,mb4.4
ASAR Alice Springs 48.09 128 P **P** 23 17 41.1 +0.7
0.4nm,0.5s,mb3.7,baz=300,slow=7.8,SNR=6.5
ZALV Zalesovo Beam 49.12 353 P **P** 23 17 47.4 -0.5
1.8nm,0.2s,mb4.7,baz=181,slow=7.3,SNR=17
MAJO Matsushiro 50.71 46 P **P** 23 18 00.5 +0.3
BRVK Borovoye 51.56 342 P **P** 23 18 06.2 -0.1
AKASG Malin Array Be 70.33 322 P **P** 23 20 12.3 -1.6
AKASG Malin Array Be 70.33 322 P **P** 23 20 12.3 -1.6
0.4nm,0.5s,mb3.6,baz=92,slow=5.1,SNR=4.9
FINES FINESS Array B 75.10 332 P **P** 23 20 41.0 -0.9
0.5nm,0.6s,mb3.6,baz=116,slow=8.7,SNR=4.3
GERES GERESS Array B 79.91 319 P **P** 23 21 09.4 +0.3
1.1nm,0.8s,mb3.9,baz=108,slow=4.3,SNR=6.6

*IDC **01** 23:12:40.0±0.9, 1723S×17367W, h0km, mb4.1/7, mb1 4.3/7, mb1mx4.1/17, mbtmp4.1/7, MS3.7/2, Ms1 3.7/2, ms1mx3.1/19, Error ellipse: s-maj=37.2km s-min=20.9km az=130.0*
*ISCJB **01** 23:12:42.8±0.5, 1712S±008×1736W±01, h35km, mb4.3/12, MS3.7/2, Error ellipse: s-maj=17.2km s-min=7.9km az=33.0*
*NEIC **01** 23:12:45.0±0.4, 1719S×17365W, h35km, mb4.3/3, Error ellipse: s-maj=15.0km s-min=9.7km az=124.0*
ISC 01 23:12:42.1±6.6, 1715S±009×1736W±01, h15km±42km, n25, σ0§97/19, mb4.3/12, MS3.7/2, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.68**	**29**	*e*Pn	**Pn**	**23 13 38.7**	**+0.3**
AFI				*e*Sn	**Sn**	**23 14 18.9**	**-2.7**
URZ	**Urewera**	**22.55**	**199**	P	**P**	**23 17 39.5**	**-2.0**
9.3nm,0.5s,mb4.5,baz=19,slow=9.1,SNR=15							
PPT	**Papeete**	**22.95**	**95**	LR	LR	23 25 20.7	
comp=Z,110nm,19.5s,MS3.3,baz=265,slow=33							
SNZO	**South Karori**	**26.09**	**200**	*e*P	**P**	**23 18 14.7**	**-0.4**
277nm,1.7s,mb5.5							
HNR	**Honiara**	**26.82**	**283**	P	**P**	**23 18 22.1**	**+0.1**
RPZ	**Rata Peaks**	**29.49**	**203**	P	**P**	**23 18 46.1**	**+0.6**
7.6nm,0.5s,mb4.7,baz=354,slow=4.7,SNR=7.0							
CTAO	**Charters Tower**	**38.07**	**259**	*e*P	**P**	**23 19 60.0**	**-0.4**
13nm,1.5s,mb4.4							
WB2	**Warramunga Arr**	**49.25**	**258**	*e*P	**P**	**23 21 31.2**	**+0.8**
WRA	**Warramunga Arr**	**49.26**	**258**	P	**P**	**23 21 30.1**	**-0.3**
0.8nm,0.4s,mb4.1,baz=97,slow=7.6,SNR=26							
ASAR	**Alice Springs**	**49.39**	**252**	P	**P**	**23 21 31.6**	**+0.2**
1.9nm,0.6s,mb4.3,baz=89,slow=8.8,SNR=34							
SBA	**Scott Base**	**61.50**	**185**	*e*P	**P**	**23 22 58.5**	**+0.7**
2.6nm,0.9s,mb4.4							
VNDA	**Vanda**	**61.62**	**186**	*e*P	**P**	**23 22 58.6**	**0.0**
0.7nm,0.8s,mb3.8							
VNDA	**Vanda**	**61.62**	**186**	P	**P**	**23 22 58.5**	**-0.1**
0.8nm,0.9s,mb3.8,baz=11,slow=4.4,SNR=4.2							
QSPA	**South Pole Qui**	**72.90**	**180**	*e*P	**P**	**23 24 09.4**	**-0.6**
13nm,1.6s,mb4.6							
NVAR	**Mina Array Bea**	**75.77**	**42**	P	**P**	**23 24 29.2**	**+1.8**
NVAR	**Mina Array Bea**	**75.77**	**42**	P	**P**	**23 24 29.2**	**+1.9**
0.8nm,0.7s,mb3.8,baz=224,slow=8.5,SNR=5.2							
KDAK	**Kodiak Island**	**76.67**	**11**	LR	LR	23 54 23.6	
comp=Z,67nm,18.1s,MS4.0,baz=89,slow=33							
WVOR	**Wild Horse Val**	**77.93**	**38**	*e*P	**P**	**23 24 38.4**	**-1.1**
6.7nm,1.1s,mb4.5							
TXAR	**Lajitas Array**	**81.76**	**56**	P	**P**	**23 25 01.6**	**+1.1**
0.3nm,0.7s,mb3.3,baz=197,slow=3.9,SNR=5.1							
PLCA	**Paso Flores**	**88.50**	**132**	P	**P**	**23 25 34.5**	**+0.3**
KMBO	**Kilima Mbogo**	**144.56**	**242**	PKP	PKPdf	23 32 19.4	+0.4
KMBO	**Kilima Mbogo**	**144.56**	**242**	PKP	PKPdf	23 32 19.4	+0.4
0.3nm,0.4s,baz=45,slow=20,SNR=4.7							
CLL	**Collm**	**145.51**	**353**	*i* PKPbc	PKPbc	23 32 22.0	+2.4
comp=Z,8.0nm,0.9s							
VYHS	**Vyhne**	**147.12**	**345**	*e*PKP	PKPdf	23 32 27.0	+4.7
GERES	**GERESS Array B**	**147.83**	**351**	PKPbc	PKPbc	23 32 25.6	-0.7
comp=Z,0.9nm,0.8s,baz=15,slow=4.1,SNR=6.6							

*IDC **01** 23:13:01.3±0.8, 590N×93.15E, h0km, mb4.0/11, mb1 4.2/12, mb1mx4.0/22, mbtmp4.0/12, ML4.1/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/29, Error ellipse: s-maj=31.9km s-min=17.1km az=51.0*
*NEIC **01** 23:13:03.1±4.5, 585N×93.13E, h12km±28km, mb4.1/8, Error ellipse: s-maj=9.4km s-min=6.9km az=69.0*
*ISCJB **01** 23:13:04.0±3.8, 583N±006×93.19E±008, h30km±28km, mb4.1/21, Error ellipse: s-maj=14.0km s-min=9.2km az=153.1*
ISC 01 23:13:07.0±1.6, 582N±006×9319E±008, h40km±16km, n44, σ0§94/42, mb4.1/21, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.46**	**117**	Pn	**Pn**	**23 14 39.8**	**+0.2**
3.9nm,0.3s,baz=323,slow=18,SNR=15							
KULM	**Kulim**	**7.45**	**94**	*e*Pn	**Pn**	**23 14 52.7**	**-0.5**
COCO	**West Island**	**18.26**	**169**	Pn	**Pn**	**23 17 16.7**	**-0.8**
QIZ	**Qiongzhong**	**20.87**	**50**	P	**P**	**23 17 46.0**	**+0.2**
JIRN	**Jiri**	**22.71**	**344**	*e*P	**P**	**23 18 06.2**	**+0.7**
PKI	**Pulchoki**	**22.86**	**342**	*e*P	**P**	**23 18 09.4**	**+2.4**
KKM	**Kota Kinabalu**	**22.91**	**88**	*e*P	**P**	**23 18 08.2**	**+0.6**
DMN	**Daman**	**22.99**	**341**	*e*P	**P**	**23 18 11.1**	**+2.7**
GUN	**Gumba**	**23.04**	**343**	*e*P	**P**	**23 18 08.3**	**-0.6**
KKN	**Kakani**	**23.10**	**342**	*e*P	**P**	**23 18 09.3**	**-0.3**
GKN	**Gorkha**	**23.51**	**341**	*e*P	**P**	**23 18 09.8**	**-3.8**
KOLN	**Koldanda**	**23.65**	**338**	*e*P	**P**	**23 18 14.8**	**-0.1**
7.9nm,0.6s,mb4.4							
LSA	**Lhasa**	**23.83**	**356**	*e*P	**P**	**23 18 15.8**	**-0.7**
4.8nm,0.5s,mb4.2							
DGAR	**Diego Garcia**	**24.51**	**238**	P	**P**	**23 18 21.0**	**-1.9**
ENH	**Enshi**	**28.76**	**30**	*e*P	**P**	**23 19 00.8**	**-0.2**
0.4nm,0.4s,mb3.5							
UCH	**Uchtor**	**39.87**	**338**	*e*P	**P**	**23 20 37.7**	**+0.9**
1.5nm,0.5s,mb4.0							
FITZ	**Fitzroy Crossi**	**39.88**	**127**	P	**P**	**23 20 37.1**	**-0.1**
1.2nm,0.7s,mb3.7,baz=332,slow=15,SNR=3.6							
AML	**Almayashu**	**40.09**	**337**	*e*P	**P**	**23 20 39.8**	**+1.1**
3.4nm,0.7s,mb4.2							
EKS2	**Erkin-Say**	**40.52**	**338**	*e*P	**P**	**23 20 43.2**	**+1.0**
1.2nm,0.5s,mb3.8							
MK31	**Makanchi Array**	**41.89**	**349**	*e*P	**P**	**23 20 53.1**	**-0.3**
MKAR	**Makanchi Array**	**41.89**	**349**	P	**P**	**23 20 52.9**	**-0.5**
1.4nm,0.5s,mb3.9,baz=169,slow=8.6,SNR=18							
SONM	**Songino Array**	**43.36**	**13**	P	**P**	**23 21 04.6**	**-0.7**
0.2nm,0.3s,mb3.3,baz=201,slow=12,SNR=2.8							
KURK	**Kurchatov**	**46.37**	**347**	*e*P	**P**	**23 21 27.8**	**-1.5**
WRA	**Warramunga Arr**	**47.89**	**123**	P	**P**	**23 21 42.1**	**+0.6**
1.1nm,0.7s,mb4.0,baz=303,slow=8.9,SNR=8.4							
WRAB	**Tennant Creek**	**47.89**	**123**	*e*P	**P**	**23 21 42.4**	**+0.9**
3.5nm,0.6s,mb4.6							
ZALV	**Zalesovo Beam**	**48.46**	**353**	P	**P**	**23 21 45.8**	**+0.3**
3.5nm,0.7s,mb4.5,baz=168,slow=9.2,SNR=18							
ZALV				LR	LR	23 46 08.6	
comp=Z,17nm,18.9s,baz=352,slow=41							
BRVK	**Borovoye**	**50.69**	**342**	*e*P	**P**	**23 22 02.0**	**-0.5**
1.7nm,0.6s,mb4.2							
KMBO	**Kilima Mbogo**	**56.27**	**265**	P	**P**	**23 22 45.0**	**+0.9**
ARU	**Arti**	**57.41**	**338**	*e*P	**P**	**23 22 51.2**	**-0.1**
KIV	**Kislovodsk**	**58.22**	**319**	P	**P**	**23 22 57.3**	**0.0**
MALT	**Malatya**	**59.08**	**312**	*e*P	**P**	**23 23 03.6**	**+0.1**
2.7nm,1.5s,mb4.1							
HNR	**Honiara**	**68.23**	**103**	*e*P	**P**	**23 24 04.1**	**-0.1**
46nm,0.4s							
AKASG	**Malin Array Be**	**69.18**	**322**	P	**P**	**23 24 07.3**	**-2.1**
AKASG	**Malin Array Be**	**69.18**	**322**	P	**P**	**23 24 07.3**	**-2.1**
0.7nm,0.5s,mb3.8,baz=91,slow=5.6,SNR=8.5							
TIXI	**Tiksi**	**69.42**	**11**	P	**P**	**23 24 09.2**	**-1.3**
8.1nm,0.3s,mb5.1							
JOF	**Joensuu**	**72.29**	**335**	*e*p	**P**	**23 24 26.7**	**-1.4**
BOSA	**Boshof**	**73.70**	**238**	P	**P**	**23 24 38.5**	**+1.3**
1.9nm,0.7s,mb4.1,baz=64,slow=6.8,SNR=4.1							
FINES	**FINESS Array B**	**74.08**	**333**	P	**P**	**23 24 38.4**	**-0.3**
2.5nm,0.8s,mb4.2,baz=100,slow=6.6,SNR=6.4							
ARCES	**ARCESS Array B**	**76.87**	**340**	P	**P**	**23 24 54.9**	**+0.3**
3.5nm,1.0s,mb4.3,baz=81,slow=7.5,SNR=6.1							
GERES	**GERESS Array B**	**78.72**	**319**	P	**P**	**23 25 05.4**	**+0.1**
1.7nm,0.7s,mb4.1,baz=90,slow=6.7,SNR=12							
KEST	**Kesra**	**81.64**	**305**	P	**P**	**23 25 22.1**	**+0.8**
0.8nm,0.8s,mb3.7,baz=331,slow=19,SNR=4.8							
VNDA	**Vanda**	**91.12**	**168**	P	**P**	**23 26 07.9**	**+0.9**
TXAR	**Lajitas Array**	**141.47**	**24**	PKP	PKPdf	23 32 36.2	+1.7
TXAR	**Lajitas Array**	**141.47**	**24**	PKP	PKPdf	23 32 36.2	+1.7
0.1nm,0.5s,baz=341,slow=3.8,SNR=3.8							

*TEH **01** 23:31:39.8, 3230N×4972E, h17km, ML3.6*
*ISCJB **01** 23:31:49.4±0.4, 3236N±004×4985E±004, h10km, Error ellipse: s-maj=6.0km s-min=4.0km az=43.5*
*CSEM **01** 23:31:49.8±0.1, 3237N×4988E, h15km, ML3.2, Error ellipse: s-maj=2.3km s-min=1.1km az=132.0*
*THR **01** 23:31:50.3±1.1, 3248N×4985E, h14km±11km, ML3.2*
*SGS **01** 23:31:50.0, 3246N×4973E, h27km*
ISC 01 23:31:52.2±1.3, 3233N±003×4982E±005, h26km±14km, n36, σ0§90/41, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.89**	**256**	*e*Pg	**Pb**	**23 32 08.1**	**-0.9**
SHGR				*e*Sg	**Sb**	**23 32 21.4**	**+0.9**
SHGR				AML	AML	23 32 24.2	
comp=E,777nm,0.7s							
SHGR				AML	AML	23 32 29.6	
comp=N,803nm,0.5s							
SHGR	**Shooshtar-Gavs**	**0.89**	**256**	*e*Pg	**Pb**	**23 32 08.1**	**-0.9**
SNR=90							
SHGR				*e*Sg	**Sb**	**23 32 21.4**	**+1.0**
SNR=90							
ASAO	**Ashtian**	**2.22**	**4**	*e*Pg	**Pn**	**23 32 28.0**	**+0.6**
ASAO				*e*Sg	**Sn**	**23 32 55.6**	**+1.6**
ASAO				AML	AML	23 33 01.4	
comp=N,122nm,0.6s							
ASAO				AML	AML	23 33 03.4	
comp=E,169nm,0.6s							
ASAO	**Ashtian**	**2.22**	**4**	*e*Pg	**Pn**	**23 32 28.0**	**+0.6**
SNR=90							
ASAO				*e*Sg	**Sn**	**23 32 55.6**	**+1.6**
SNR=90							
GHVR	**GHOM**	**2.48**	**30**	*e*Pg	**Pn**	**23 32 31.8**	**+0.9**
NASN	**Na'in**	**2.57**	**79**	*e*Pn	**Pn**	**23 32 33.0**	**+0.8**
ISFB	**Sefidab**	**2.86**	**44**	*e*Pn	**Pn**	**23 32 36.1**	**-0.1**
ISFB				*e*		23 32 41.5	
comp=Z,892nm,0.2s							
IRAZ	**Razeghan**	**3.07**	**2**	*e*Pn	**Pn**	**23 32 39.4**	**+0.3**
IRAZ				*e*		23 32 40.7	
comp=Z,2μm,0.2s							
IRAZ				*e*Sn	**Sn**	**23 33 13.9**	**-1.1**
MIB	**Mutribah**	**3.29**	**221**	*e*P	**Pn**	**23 32 43.0**	**+0.9**
MIB				AML	AML	23 33 22.5	
comp=Z,30nm,0.5s							
UMR	**Umm Al-Rimmam**	**3.30**	**214**	*e*P	**Pn**	**23 32 43.2**	**+1.0**
IVIS	**Veis**	**3.31**	**312**	*e*	**Sn**	**23 33 26.5**	**+5.6**
comp=Z,395nm,0.2s							
IGHG	**Ghaleghazi**	**3.37**	**307**	*e*Pn	**Pn**	**23 32 41.7**	**-1.5**
IMHD	**Mahdasht**	**3.42**	**12**	*e*Pn	**Pn**	**23 32 43.7**	**-0.2**
IMHD				*e*		23 32 44.6	
comp=Z,1μm,0.2s							
ILIN	**Lien**	**3.52**	**318**	*e*Pn	**Pn**	**23 32 43.8**	**-1.4**
ILIN				*e*		23 32 50.2	
comp=Z,391nm,0.1s							
KBD	**Kabd**	**3.63**	**211**	*e*P	**Pn**	**23 32 47.8**	**+1.0**
KBD				AML	AML	23 33 31.5	
comp=Z,65nm,0.2s							
THKV	**Tehran--Karaj**	**3.69**	**14**	*e*Pn	**Pn**	**23 32 47.5**	**0.0**
RST	**Umm Al-Ruwaisa**	**3.71**	**221**	*e*P	**Pn**	**23 32 48.4**	**+0.4**
RST				AML	AML	23 33 33.0	
comp=Z,13nm,0.4s							
RST	**Umm Al-Ruwaisa**	**3.71**	**221**	*e*P	**Pn**	**23 32 48.3**	**+0.4**
DAMV	**Damavand**	**3.75**	**28**	*e*Pn	**Pn**	**23 32 48.5**	**+0.2**
DAMV				AML	AML	23 33 49.6	
comp=E,41nm,0.6s							
DAMV				AML	AML	23 33 49.6	
comp=N,39nm,0.5s							
DAMV	**Damavand**	**3.75**	**28**	*e*Pn	**Pn**	**23 32 48.5**	**+0.1**
SNR=52							
NAY	**Al-Naaiem**	**3.78**	**217**	*e*P	**Pn**	**23 32 49.9**	**+1.0**
NAY				AML	AML	23 33 33.8	
comp=Z,11nm,0.4s							
RDF	**Al-Radifah**	**3.91**	**211**	*e*P	**Pn**	**23 32 51.7**	**+1.0**
RDF				AML	AML	23 33 36.2	
comp=Z,26nm,0.4s							
ILAS	**Lasjerd**	**4.02**	**40**	*e*Pn	**Pn**	**23 32 52.1**	**+0.1**
ILAS				*e*		23 32 52.9	
comp=Z,461nm,0.1s							
ISRV	**Sarvestan**	**4.08**	**135**	*e*Pn	**Pn**	**23 32 52.4**	**-0.5**
ISRV				*e*		23 33 45.7	
comp=Z,515nm,0.1s							
IFIR	**Firoozkooh**	**4.11**	**36**	*e*Pn	**Pn**	**23 32 53.6**	**+0.3**
IFIR				*e*		23 32 55.1	
comp=Z,492nm,0.1s							
IMOK	**Mouk**	**4.11**	**142**	*e*Pn	**Pn**	**23 32 53.2**	**-0.2**
IMOK				*e*		23 33 47.7	
comp=Z,371nm,0.1s							
IMEH	**Mehriz**	**4.19**	**102**	*e*Pn	**Pn**	**23 32 54.6**	**+0.2**
IMEH				*e*		23 33 46.5	
comp=Z,243nm,0.1s							
IPRN	**Peran**	**4.43**	**27**	*e*Pn	**Pn**	**23 32 57.3**	**-0.4**
IPRN				*e*		23 33 00.5	
comp=Z,550nm,0.1s							
ISHM	**Shahmirzad**	**4.51**	**39**	*e*Pn	**Pn**	**23 32 59.0**	**+0.1**
ISHM				*e*		23 33 00.4	
comp=Z,801nm,0.2s							
IANJ	**Anjilo**	**4.63**	**46**	*e*Pn	**Pn**	**23 32 59.8**	**-0.7**
IANJ				*e*		23 33 30.7	
comp=Z,192nm,0.3s							
IBAF	**Bafgh**	**4.94**	**97**	*e*Pn	**Pn**	**23 33 04.9**	**+0.1**
ASYS		**6.76**	**226**	S	**Sn**	**23 34 39.6**	**-6.3**
ASYS		**6.76**	**226**	P	**Pn**	**23 33 27.0**	**-2.8**
BTHS		**8.30**	**173**	S	**Sn**	**23 35 19.2**	**-4.6**
BTHS		**8.30**	**173**	P	**Pn**	**23 33 49.5**	**-1.4**
HRDDS		**9.37**	**182**	P	**Pn**	**23 34 04.0**	**-1.5**

*NEIC **01** 23:33:19.6, 3239S×7152W, h16km±4km, MD4.1, ML3.5, 10C-12D, Near coast of central Chile*
GUC 01 23:33:19.6±0.7, 3239S×7152W, h16km±4km, MD4.1, ML3.5, 10C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.64**	**189**	⇓*i*P	Pg	23 33 32.0	-0.3
IHA				*i* S	Sg	23 33 40.2	-0.7
ROCH	**El Roble**	**0.72**	**144**	⇓*i*P	Pg	23 33 33.6	-0.2
ROCH				*i* S	Sg	23 33 43.9	+0.5
JACH	**Jahuel**	**0.84**	**111**	⇑*i*P	Pb	23 33 35.2	-0.6
JACH				*i* S	Sb	23 33 46.5	-0.2
PEL	**Peldehue**	**1.03**	**137**	⇓*i*P	Pb	23 33 38.0	-1.0
PEL				*i* S	Sb	23 33 51.8	-0.5
PEL				AML	AML	23 33 53.0	
comp=E,3μm,0.3s							
RCDM	**Rinconada Maip**	**1.25**	**152**	⇑*i*P	Pn	23 33 41.4	-1.0
RCDM				*i* S	Sb	23 33 57.8	-0.9
RCDM	**Rinconada Maip**	**1.25**	**152**	⇑*i*P	Pn	23 33 41.4	-1.0
RCDM				*i* S	Sb	23 33 57.8	-0.9
RCDM				AML	AML	23 33 59.4	
comp=N,863nm,0.2s							
STL	**Santa Lucia**	**1.28**	**145**	⇓*i*P	Pn	23 33 41.9	-0.9
STL				*i* S	Sb	23 33 58.8	-0.7
DSCH	**Colegio Aleman**	**1.29**	**142**	*e*P	Pn	23 33 41.8	-1.0
DSCH				*i* S	Sb	23 33 58.8	-0.9
CMCH	**Combarbala**	**1.29**	**20**	⇓*i*P	Pn	23 33 41.6	-1.3
CMCH				S	Sb	23 33 57.9	-1.8
CMCH	**Combarbala**	**1.29**	**20**	⇓*i*P	Pn	23 33 41.6	-1.3
CMCH				*i* S	Sb	23 33 57.9	-1.8
CMCH				AML	AML	23 34 01.7	
comp=E,5μm,0.7s							
CLCH	**Cerro Calan**	**1.30**	**141**	⇑*i*P	Pn	23 33 42.3	-0.7
CLCH				*i* S	Sn	23 33 59.8	-0.3
CLCH				AML	AML	23 34 01.1	
comp=N,1μm,0.4s							
TACH	**Talagante**	**1.35**	**159**	*e*P	Pn	23 33 42.9	-0.9
TACH				*i* S	Sn	23 34 00.9	-0.5
FSR	**Penalolen**	**1.37**	**143**	⇓*i*P	Pn	23 33 44.0	0.0
FSR				*i* S	Sn	23 34 01.9	+0.1
FSR	**Penalolen**	**1.37**	**143**	⇓*i*P	Pn	23 33 44.0	0.0
FSR				*i* S	Sn	23 34 01.9	+0.1
FSR				AML	AML	23 34 03.6	
comp=E,2μm,0.2s							
ANTU	**Antumapu**	**1.39**	**148**	⇑*i*P	Pn	23 33 44.0	-0.3
ANTU				*i* S	Sn	23 34 02.2	-0.2
ANTU	**Antumapu**	**1.39**	**148**	⇑*i*P	Pn	23 33 44.0	-0.3
ANTU				*i* S	Sn	23 34 02.2	-0.2
ANTU				AML	AML	23 34 04.2	
comp=E,1μm,0.2s							
FCH	**Farellones**	**1.40**	**132**	⇑*i*P	Pn	23 33 43.9	-0.5
FCH				*i* S	Sn	23 34 02.0	-0.4
FCH				AML	AML	23 34 02.7	
comp=E,622nm,0.1s							
PCH	**Pirque**	**1.49**	**146**	*e*P	Pn	23 33 45.5	-0.1
PCH				*i* S	Sn	23 34 05.0	+0.2
LNV	**Longovilo**	**1.57**	**177**	⇓*i*P	Pn	23 33 46.2	-0.5
LNV				*i* S	Sn	23 34 06.3	-0.3
SJCH	**San Jose de Ma**	**1.59**	**142**	⇑*i*P	Pn	23 33 46.7	-0.3
SJCH				*i* S	Sn	23 34 07.2	+0.1
CHCH	**Chadas Angostu**	**1.70**	**155**	*e*P	Pn	23 33 48.8	+0.2
CHCH				*e*S	Sn	23 34 10.2	+0.2
OVCH	**Ovalle**	**1.79**	**9**	*e*P	Pn	23 33 50.5	+0.7
OVCH				*i* S	Sn	23 34 13.0	+0.7
LMEL	**Las Melosas**	**1.83**	**143**	⇓*i*P	Pn	23 33 50.5	+0.2
LMEL				*i* S	Sn	23 34 14.6	+1.5
LMEL	**Las Melosas**	**1.83**	**143**	⇓*i*P	Pn	23 33 50.5	+0.2
LMEL				*i* S	Sn	23 34 14.6	+1.5
LMEL				AML	AML	23 34 17.1	
comp=N,607nm,0.2s							
CICH	**Cipreses**	**2.13**	**155**	⇓*i*P	Pn	23 33 55.8	+1.3
CICH				*i* S	Sn	23 34 22.8	+2.1
SFDO	**San Fernando**	**2.26**	**169**	*i* P	Pn	23 33 57.6	+1.4
SFDO				*i* S	Sn	23 34 25.8	+2.0
TLL	**Tololo Astrono**	**2.30**	**16**	⇑*i*P	Pn	23 33 58.0	+1.3
TLL				*i* S	Sn	23 34 28.1	+3.4
TLL	**Tololo Astrono**	**2.30**	**16**	⇑*i*P	Pn	23 33 58.0	+1.3
TLL				*i* S	Sn	23 34 28.1	+3.4
TLL				AML	AML	23 34 34.3	
comp=E,424nm,0.5s							

*TEH **01** 23:37:08.5, 2808N×5639E, h24km, ML3.8*
*ISCJB **01** 23:37:55.7±0.3, 2813N±003×5628E±004, h10km, mb3.8/16, MS3.5/3, Error ellipse: s-maj=5.5km s-min=3.7km az=39.9*
*IDC **01** 23:37:55.4±0.9, 2822N×5623E, h0km, mb3.8/13, mb1 3.9/16, mb1mx3.8/26, mbtmp3.8/16, ML3.7/3, MS3.4/4, Ms1 3.4/4, ms1mx2.9/32, Error ellipse: s-maj=20.4km s-min=18.4km az=4.0*
*MOS **01** 23:37:58.6±1.0, 2818N×5620E, h33km, mb4.5/4, Error ellipse: s-maj=12.3km s-min=8.8km az=97.7*
*NEIC **01** 23:38:00.8, 2808N×5639E, h24km, ML3.7(THR), MN3.9(TEH), After TEH.*
*CSEM **01** 23:38:00.4±0.1, 2807N×5624E, h60km, mb4.1/5, Error ellipse: s-maj=2.5km s-min=1.9km az=129.0*
*THR **01** 23:38:00.3±0.6, 2835N×5623E, h14km±12km, ML3.7*
ISC 01 23:37:58.0±0.3, 2817N±003×5635E±004, h10km, n91, σ1§40/99, mb3.8/16, MS3.5/3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.84**	**11**	*e*Pg	**Pb**	**23 38 31.0**	**-0.8**
KRBR				*e*Sg	**Sb**	**23 38 54.0**	**-0.9**
KRBR	**Kerman**	**1.84**	**11**	*e*Pg	**Pb**	**23 38 31.4**	**-0.4**
KRBR				*e*Sg	**Sb**	**23 38 54.1**	**-0.8**
KRBR				AML	AML	23 39 02.8	
comp=N,905nm,0.6s							
KRBR	**Kerman**	**1.84**	**11**	*e*Pg	**Pb**	**23 38 31.4**	**-0.4**
SNR=90							
KRBR				*e*Sg	**Sb**	**23 38 54.0**	**-0.9**
GHIR	**Ghir-Karzin**	**2.97**	**273**	*e*Pn	**Pn**	**23 38 47.0**	**+1.9**
GHIR	**Ghir-Karzin**	**2.97**	**273**	*e*Pn	**Pn**	**23 38 47.3**	**+2.2**
GHIR				AML	AML	23 39 57.6	
comp=N,229nm,0.6s							
GHIR				AML	AML	23 39 57.9	
comp=E,245nm,

NAY	Al-Naaiem	8.07	280	eP		Pn	23 39 54.9 -0.4
NAY				AML		AML	23 41 23.8
	comp=Z,4.9nm,0.5s						
RST	Umm Al-Ruwaisa	8.31	281	eP		Pn	23 39 57.8 -0.7
RST				AML		AML	23 41 31.8
	comp=Z,19nm,0.7s						
IPRN	Peran	8.73	338	Pn		Pn	23 40 06.3 +1.9
IPRN	Peran	8.73	338	ePn		Pn	23 40 06.4 +2.0
IPRN				e			23 40 39.2
	comp=Z,162nm,0.1s						
WHFO	Wadi Hawf	10.47	194	P		Pn	23 40 27.6 -0.7
ASF	Jabal al Asfar	17.28	288	P		Pn	23 41 55.7 -3.8
	comp=Z,0.2nm,0.3s,baz=162,slow=6.4,SNR=3.4						
MALT	Malatya	18.05	309	eP		Pn	23 42 09.5 +0.5
MMAI	Mount Meron Ar	18.66	290	P		Pn	23 42 12.3 -4.1
	comp=Z,0.3nm,0.3s,baz=104,slow=16,SNR=5.1						
MMAI				LR		LR	23 50 03.7
	comp=Z,26nm,21.5s,baz=105,slow=39						
EIL	Elat	18.79	280	P		Pn	23 42 16.3 -1.7
	comp=Z,0.2nm,0.3s,baz=61,slow=6.0,SNR=4.7						
KIV	Kislovodsk	19.20	329	P		Pn	23 42 22.6 -0.2
KIV	Kislovodsk	19.20	329	P		Pn	23 42 22.6 -0.2
EKS2	Erkin-Say	20.21	40	eP		P	23 42 33.5 +0.5
EKS2	Erkin-Say	20.21	40	eP		P	23 42 33.5 +0.5
UCH	Uchtor	20.37	42	eP		P	23 42 36.9 +2.2
AAK	Ala-Archa	20.61	41	P		P	23 42 38.7 +1.4
AKTK	Aktyubinsk	22.27	3	P		P	23 42 53.8 -1.4
AKTK				LR		LR	23 53 13.9
AKTK	Aktyubinsk	22.27	3	P		P	23 42 53.8 -1.3
AKTO	Aktyubinsk	22.27	3	P		P	23 42 53.8 -1.4
	comp=Z,2.6nm,0.7s,mb3.8,baz=180,slow=14,SNR=7.1						
AKTO				LR		LR	23 53 13.9
	comp=Z,81nm,18.1s,MS3.2,baz=250,slow=41						
BRVK	Borovoye	26.92	19	eP		P	23 43 39.1 -0.1
BVAR	Borovoye Array	26.92	19	P		P	23 43 38.4 -0.8
BVAR				LR		LR	23 55 33.0
BVAR	Borovoye Array	26.92	19	P		P	23 43 38.4 -0.8
	comp=Z,1.6nm,0.8s,mb3.6,baz=195,slow=11,SNR=7.2						
BVAR				LR		LR	23 55 33.0
	comp=Z,46nm,19.3s,MS3.0,baz=213,slow=39						
MK31	Makanchi Array	27.54	41	eP		P	23 43 44.7 -0.2
MKAR	Makanchi Array	27.54	41	P		P	23 43 43.4 -1.4
	comp=Z,0.6nm,0.4s,mb3.5,baz=228,slow=9.4,SNR=8.3						
KURK	Kurchatov	28.13	31	P		P	23 43 50.4 +0.3
ARU	Arti	28.29	3	P		P	23 43 52.4 +1.0
ARU	Arti	28.29	3	P		P	23 43 52.4 +1.0
LSA	Lhasa	30.43	79	P		P	23 44 11.7 +0.9
AKASG	Malin Array Be	30.44	325	P		P	23 44 08.5 -2.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=133,slow=7.0,SNR=6.2						
ZAL	Zalesovo	33.10	31	P		P	23 44 32.8 -1.1
ZALV	Zalesovo Beam	33.12	31	P		P	23 44 32.8 -1.3
	comp=Z,1.5nm,0.6s,mb4.1,baz=228,slow=7.8,SNR=4.7						
PSZ	Piszkesteto	34.39	315	P		P	23 44 43.8 -1.4
TIP	Timpagrande	34.48	299	P		P	23 44 46.7 +0.5
TIP	Timpagrande	34.48	299	P		P	23 44 46.7 +0.6
DPC	Dobruska-Polom	37.47	317	eP		P	23 45 14.5 +3.0
GERES	GERESS Array B	38.60	314	P		P	23 45 19.2 -1.9
	comp=Z,0.5nm,0.6s,mb3.4,baz=120,slow=7.9,SNR=6.3						
KHC	Kasperske Hory	38.76	315	eP		P	23 45 21.1 -1.3
FINES	FINESS Array B	38.90	337	P		P	23 45 22.1 -1.4
	comp=Z,0.8nm,0.7s,mb3.5,baz=161,slow=8.8,SNR=3.1						
BSD	Bornholm Skovb	40.12	324	iP		P	23 45 31.7 -2.0
BSD				pmax		pmax	
	comp=Z,9.0nm,0.8s,mb4.5						
BSD	Bornholm Skovb	40.12	324	iP		P	23 45 31.7 -2.0
	comp=Z,8.9nm,0.8s,mb4.5						
SONM	Songino Array	43.20	49	P		P	23 45 59.3 +0.2
	comp=Z,1.3nm,0.8s,mb3.7,baz=270,slow=8.8,SNR=9.0						
MUD	Monsted U'grnd	43.63	324	eP		P	23 46 02.4 0.0
MUD				pmax		pmax	
	comp=Z,10.0nm,1.4s,mb4.3						
MUD	Monsted U'grnd	43.63	324	iP		P	23 46 02.4 0.0
	comp=Z,9.9nm,1.4s,mb4.3						
MUD	Monsted U'grnd	43.63	324	eP		P	23 46 02.4 0.0
	comp=Z,10.0nm,1.4s,mb4.3						
NB2	NORSAR Subarra	44.49	331	P		P	23 46 07.8 -1.4
	comp=Z,0.5nm,0.7s,mb3.4,baz=119,slow=8.6						
NOA	NORSAR Array B	44.49	331	P		P	23 46 07.8 -1.4
	comp=Z,0.7nm,0.8s,mb3.5,baz=118,slow=8.1,SNR=5.0						
BOD	Bodaibo	49.50	36	eP		P	23 46 46.2 -2.2
BOD				pmax		pmax	
	comp=Z,3.0nm,1.8s,mb4.0						
BOD	Bodaibo	49.50	36	eP		P	23 46 46.2 -2.2
	comp=Z,3.0nm,1.8s,mb4.0						
BOSA	Boshof	63.83	210	P		P	23 48 30.0 -0.6
BOSA				pmax		pmax	
	comp=Z,1.0nm,0.6s,mb4.0						
BOSA	Boshof	63.83	210	P		P	23 48 30.0 -0.6
	comp=Z,1.3nm,0.6s,mb4.2,baz=20,slow=7.3,SNR=5.3						
JHJ	Hachijo jima 2	70.12	62	LR		LR	00 19 42.0
	comp=Z,210nm,21.5s,MS4.3,baz=81,slow=36						
WRA	Warramunga Arr	89.22	113	P		P	23 50 54.1 -0.4
	comp=Z,0.3nm,0.8s,mb3.7,baz=299,slow=7.0,SNR=4.0						
YKA	Yellowknife Ar	89.36	356	P		P	23 50 52.1 -2.3
	comp=Z,0.3nm,0.9s,mb3.6,baz=2.0,slow=5.3,SNR=3.2						
ASAR	Alice Springs	90.75	116	P		P	23 51 01.0 -0.6
	comp=Z,0.3nm,0.7s,mb3.7,baz=297,slow=5.4,SNR=3.6						

*CSEM **01** 23:38:38.4±0.1, 3747N×3740E, h2km, MD2.8, Error ellipse: s-maj=2.9km s-min=1.9km az=153.0*
*ISK **01** 23:38:38.8, 3747N×3736E, h2km, MD3.1*
*DDA **01** 23:38:39.6, 3739N×3708E, h7km±13km, Md2.8*
*ISCJB **01** 23:38:40.5±1.1, 3749N±008×3734E±004, h11km±9km, Error ellipse: s-maj=13.5km s-min=5.6km az=178.2*
ISC 01 23:38:40.8±0.7, 3748N±008×3734E±004, h13km±7km, n13, σ0=93/17, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GZT	Gaziantep	0.22	124	iP		Pg	23 38 47.1	+1.5
GZT				iS		Sg	23 38 54.2	+5.4
GAZ	Gaziantep	0.32	198	ePG		Pg	23 38 46.0	-1.4
ATAB	Bozova	0.76	90	iP		Pg	23 38 53.9	-1.8
ATAB				iS		Sg	23 39 06.8	+1.2
ANDN	Andirin	0.80	278	iP		Pg	23 38 52.0	-4.2
ANDN				iS		Sg	23 39 06.8	+0.1
URFA	Urfa	1.18	91	ePN		Pn	23 39 01.9	-1.1
URFA				eSN		Sn	23 39 18.9	0.0
MALT	Malatya	1.20	46	ePN		Pn	23 39 02.4	-0.8
KOZT	Kozan	1.20	271	ePN		Pn	23 39 03.0	-0.4
MYA	Malataya	1.21	45	ePN		Pn	23 39 03.0	-0.4
HTY	Hatay	1.66	216	ePN		Pn	23 39 10.6	+1.0
SVRC	Sivrice-ELAZID	1.80	59	ePN		Pn	23 39 11.9	+0.4
BNN	Bunyan	1.81	320	ePN		Pn	23 39 12.1	+0.5
KARA	Karaisali	1.83	264	ePN		Pn	23 39 12.6	+0.6
PTK	Pertek	2.15	48	ePN		Pn	23 39 16.9	+0.6

IDC 01 23:43:08.2±41.0, 1506S×16980W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/15, mbtmp4.4/3, Error ellipse: s-maj=820.6km s-min=186.0km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	47.22	240	P		P	23 51 43.5	+0.3
	1.7nm,0.5s,baz=112,slow=12,SNR=4.5							
WRA	Warramunga Arr	53.31	256	P		P	23 52 29.1	-0.4
	1.1nm,0.5s,baz=95,slow=6.8,SNR=47							
ASAR	Alice Springs	53.52	252	P		P	23 52 31.1	+0.1
	7.5nm,0.4s,baz=89,slow=8.1,SNR=151							

*ISCJB **02** 00:01:06.6±0.3, 3926S±002×17517E±003, h16km±5km, Error ellipse: s-maj=4.4km s-min=3.7km az=149.3*
*WEL **02** 00:01:06.9±0.1, 3926S×17520E, h12km, ML3.7/46, Error ellipse: s-maj=0.7km s-min=0.5km az=0.0*
WEL Felt from King Country to Manawatu, maximum reported intensity MM 4.
*NEIC **02** 00:01:06.9, 3926S×17520E, h12km, ML3.7(WEL), After WEL.*
NEIC Felt in the Raetihi area.
ISC 02 00:01:06.6±0.3, 3924S±002×17517E±003, h15km±3km, n103, σ0=69/108, North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.14	109	PG		Pg	00 01 10.6	+0.3
TWVZ	Taurewa	0.27	51	P		Pg	00 01 12.4	+0.1
TWVZ				S		Sg	00 01 16.6	+0.4
TWVZ	Taurewa	0.27	51	P*		Pg	00 01 12.4	+0.1
TWVZ				S*		Sg	00 01 16.6	+0.4
MTVZ	Mangateitei	0.27	121	P*		Pg	00 01 12.2	-0.2
MTVZ				S*		Sg	00 01 16.6	+0.2
WPVZ	Whakapapa	0.29	83	eP		Pg	00 01 12.8	0.0
WPVZ	Whakapapa	0.29	83	P*		Pg	00 01 12.8	+0.1
FWVZ	Far West T-bar	0.30	92	P		Pg	00 01 12.9	+0.1
FWVZ				S		Sg	00 01 18.1	+1.1
FWVZ	Far West T-bar	0.30	92	P*		Pg	00 01 12.9	+0.1
FWVZ				S*		Sg	00 01 18.1	+1.1
TRVZ	Turoa	0.30	101	P*		Pg	00 01 12.9	+0.1
DRZ	Dome Shelter	0.31	96	P		Pg	00 01 13.1	+0.1
DRZ	Dome Shelter	0.31	96	P*		Pg	00 01 13.1	+0.1
VRZ	Vera Road	0.34	290	P		Pg	00 01 13.9	+0.3
VRZ	Vera Road	0.34	290	P*		Pg	00 01 13.9	+0.4
NGZ	Ngauruhoe	0.34	79	P		Pg	00 01 13.6	0.0
NGZ	Ngauruhoe	0.34	79	P*		Pg	00 01 13.6	0.0
WNVZ	Wahianoa	0.34	104	P		Pg	00 01 13.6	0.0
WNVZ	Wahianoa	0.34	104	P*		Pg	00 01 13.6	0.0
WTVZ	West Tongariro	0.35	69	P		Pg	00 01 13.7	0.0
WTVZ	West Tongariro	0.35	69	P*		Pg	00 01 13.7	0.0
TUVZ	Tukino	0.38	94	P		Pg	00 01 14.4	+0.2
TUVZ	Tukino	0.38	94	P*		Pg	00 01 14.4	+0.1
OTVZ	Oturere	0.39	79	P*		Pg	00 01 14.6	+0.1
KRVZ	Karewarewa	0.40	68	P*		Pg	00 01 14.5	-0.1
MOVZ	Moawhango	0.48	110	P		Pg	00 01 15.7	-0.4
MOVZ	Moawhango	0.48	110	P*		Pb	00 01 15.7	-1.1
KATZ	Kakaramea	0.49	57	P		Pg	00 01 16.2	-0.1
KATZ	Kakaramea	0.49	57	P*		Pb	00 01 16.2	-0.7
WAZ	Wanganui	0.53	195	P		Pg	00 01 16.5	-0.6
WAZ	Wanganui	0.53	195	P*		Pb	00 01 16.5	-1.1
RITZ	Rihia Road	0.60	64	P		Pg	00 01 18.2	-0.1
RITZ	Rihia Road	0.60	64	P*		Pb	00 01 18.2	-0.6
RATZ	Rangitukua	0.60	52	P		Pg	00 01 18.3	0.0
RATZ	Rangitukua	0.60	52	P*		Pb	00 01 18.3	-0.5
RAEZ	Rainy Point	0.60	266	P		Pg	00 01 18.9	+0.5
RAEZ	Rainy Point	0.60	266	P*		Pb	00 01 18.9	0.0
WATZ	Wairara	0.69	40	P*		Pb	00 01 19.6	-0.7
HIZ	Hauiti	0.77	341	P		Pg	00 01 21.1	-0.4
HIZ	Hauiti	0.77	341	P*		Pb	00 01 21.1	-0.6
HATZ	Hinemaiaia	0.80	64	P		Pg	00 01 21.4	-0.7
HATZ	Hinemaiaia	0.80	64	P*		Pb	00 01 21.4	-0.8
DFE	Dawson Falls	0.83	264	P		Pg	00 01 23.2	+0.5
DFE	Dawson Falls	0.83	264	P*		Pb	00 01 23.2	+0.4
NEZ	North Egmont	0.83	268	P		Pg	00 01 22.7	0.0
NEZ	North Egmont	0.83	268	P*		Pb	00 01 22.7	0.0
WHTZ	Whakaora	0.84	47	P		Pg	00 01 22.3	-0.6
WHTZ	Whakaora	0.84	47	P*		Pb	00 01 22.3	-0.6
PKE	Pukeiti	0.92	273	P		Pb	00 01 24.0	-0.2
PKE	Pukeiti	0.92	273	P*		Pb	00 01 24.0	-0.2
NWEZ	Newall Road	1.01	268	P		Pb	00 01 25.7	-0.1
NWEZ	Newall Road	1.01	268	P*		Pb	00 01 25.7	-0.1
TSZ	Takapari Road	1.02	143	eP		Pb	00 01 24.8	-1.1
TSZ	Takapari Road	1.02	143	eP*		Pb	00 01 24.8	-1.2
BKZ	Black Stump Fm	1.03	86	P		Pb	00 01 25.7	-0.4
BKZ	Black Stump Fm	1.03	86	P*		Pb	00 01 25.7	-0.5
WPHZ	Waipukurau	1.28	130	P*		Pb	00 01 30.6	+0.2
UTU	Utuhina	1.33	37	P		Pn	00 01 31.5	+0.8
UTU	Utuhina	1.33	37	PN		Pn	00 01 31.5	+0.8
MRZ	Mangatainoka R	1.45	168	P		Pn	00 01 31.9	-0.4
MRZ	Mangatainoka R	1.45	168	PN		Pn	00 01 31.9	-0.4
KARZ	Kaharoa	1.48	35	P		Pn	00 01 33.7	+1.0
KARZ	Kaharoa	1.48	35	PN		Pn	00 01 33.7	+1.0
PXZ	Pawanui	1.53	122	PN		Pn	00 01 34.8	+1.5
TOZ	Tahuroa Road	1.53	10	P		Pn	00 01 32.2	-1.2
TOZ	Tahuroa Road	1.53	10	PN		Pn	00 01 32.2	-1.2
KIW	Kapiti Island	1.63	187	P		Pn	00 01 34.0	-0.7
KIW	Kapiti Island	1.63	187	PN		Pn	00 01 34.0	-0.7
BFZ	Birch Farm	1.66	150	P		Pn	00 01 36.2	+1.1
BFZ	Birch Farm	1.66	150	PN		Pn	00 01 36.2	+1.1
URZ	Urewera	1.81	58	eP		Pn	00 01 38.7	+1.5
URZ	Urewera	1.81	58	PN		Pn	00 01 38.7	+1.5
DUWZ	D'Urville Isla	1.83	211	PN		Pn	00 01 36.9	-0.5
CAW	Cannon Point	1.86	182	P		Pn	00 01 37.9	-0.1
CAW	Cannon Point	1.86	182	PN		Pn	00 01 37.9	-0.1
MTW	Mount Morrison	1.93	173	PN		Pn	00 01 39.0	+0.1
MRW	Makara Radio	2.02	190	P		Pn	00 01 40.1	0.0
MRW	Makara Radio	2.02	190	PN		Pn	00 01 40.1	+0.1
MWZ	Matawai	2.06	65	eP		Pn	00 01 41.5	+0.9
MWZ	Matawai	2.06	65	PN		Pn	00 01 41.5	+1.0
WEL	Wellington	2.06	188	P		Pn	00 01 41.5	+0.8
WEL	Wellington	2.06	188	PN		Pn	00 01 41.5	+0.8
SNZO	South Karori	2.09	190	P		Pn	00 01 41.4	+0.3
SNZO	South Karori	2.09	190	PN		Pn	00 01 41.4	+0.3
BHW	Baring Head	2.17	186	P		Pn	00 01 42.3	+0.1
BHW	Baring Head	2.17	186	PN		Pn	00 01 42.3	+0.1
TRWZ	Traveller	2.19	170	PN		Pn	00 01 43.2	+0.8
PLWZ	Palliser	2.33	178	PN		Pn	00 01 43.9	-0.4
WTAZ	Waiatarua	2.35	348	P		Pn	00 01 44.9	+0.2
WTAZ	Waiatarua	2.35	348	PN		Pn	00 01 44.9	+0.2
NNZ	Nelson	2.40	214	eP		Pn	00 01 46.0	+0.6
NNZ	Nelson	2.40	214	PN		Pn	00 01 46.0	+0.6
KUZ	Kuaotunu	2.53	10	P		Pn	00 01 49.9	+2.8
KUZ	Kuaotunu	2.53	10	PN		Pn	00 01 49.9	+2.8
QRZ	Quartz Range	2.57	231	P		Pn	00 01 46.9	-0.8
QRZ	Quartz Range	2.57	231	PN		Pn	00 01 46.9	-0.8
BSWZ	Blackbirch Sta	2.66	201	PN		Pn	00 01 50.4	+1.5
THZ	Tophouse	3.05	214	eP		Pn	00 01 55.2	+0.9
THZ	Tophouse	3.05	214	PN		Pn	00 01 55.2	+0.9
WCZ	Waipu Caves	3.36	349	eP		Pn	00 01 58.6	0.0
WCZ	Waipu Caves	3.36	349	PN		Pn	00 01 58.6	0.0
LTZ	Lake Taylor	4.16	211	eP		Pn	00 02 09.0	-0.5
LTZ	Lake Taylor	4.16	211	PN		Pn	00 02 09.0	-0.6
ODZ	Otahua Downs	6.70	209	eP		Pn	00 02 42.4	-2.0
ODZ	Otahua Downs	6.70	209	PN		Pn	00 02 42.4	-2.0

*CSEM **02** 00:11:32.6±0.8, 4058N×2902W, h5km, ML3.4, Error ellipse: s-maj=20.2km s-min=5.5km az=80.0, After PDA*
PDA 02 00:11:32.6±0.8, 4058N×2902W, h5km, MD3.9, ML3.4, Error ellipse: s-maj=20.2km s-min=5.5km az=80.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSA	Rosais	1.95	162	eP		Pn	00 12 01.3	-5.0
ROSA				eS		Sn	00 12 23.3	-7.9
CALA	Caldeira	2.01	173	eP		Pn	00 12 02.7	-4.4
CALA				eS		Sn	00 12 24.5	-8.1
HOR	Horta	2.07	172	eP		Pn	00 12 03.2	-4.8
HOR				eS		Sn	00 12 26.1	-8.0
PMAN	Manadas	2.07	159	iP		Pn	00 12 02.9	-5.1
PMAN				eS		Sn	00 12 26.4	-7.7
PMAN				A			00 12 31.0	
	84nm,0.3s							
PICO	Pico	2.12	167	eP		Pn	00 12 04.5	-4.2
PICO				eS		Sn	00 12 28.0	-7.5

*ISCJB **02** 00:58:56.8±1.0, 1684N±005×10139W±004, h26km±7km, mb3.8/8, Error ellipse: s-maj=8.0km s-min=5.3km az=21.2*
*MEX **02** 00:58:58.9±0.7, 1682N×10147W, h21km±15km, MD4.2*
*NEIC **02** 00:58:58.8, 1682N×10147W, h20km, mb4.2/4, MD4.2(MEX), After MEX.*
*IDC **02** 00:59:07.2±7.3, 1693N×10090W, h88km±68km, mb3.5/5, mb1 3.6/6, mb1mx3.4/20, mbtmp3.4/6, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.4/20, Error ellipse: s-maj=60.5km s-min=28.4km az=56.0*
ISC 02 00:58:56.9±1.0, 1686N±005×10135W±004, h10km±5km, n39, σ0=96/52, mb3.8/8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.75	351	iP		Pg	00 59 11.1	-0.3
ZIIG				iS		Sg	00 59 21.3	+0.2
CAIG	El Cayaco	1.05	80	iP		Pg	00 59 16.7	-0.4
CAIG				iS		Sg	00 59 30.7	0.0
ACX	Acapulco	1.37	90	iP		Pn	00 59 21.2	-0.9
ACX				iP			00 59 21.8	
ACX				iS		Sb	00 59 39.0	-1.2
ACX				iS		Sb	00 59 39.2	-1.0
ACX	Acapulco	1.37	90	iP		Pn	00 59 21.8	-0.3
ACX				iS		Sb	00 59 39.0	-1.2
MEIG	Mezcala	1.96	57	iP		Pn	00 59 30.8	+0.6
MEIG				iS		Sn	00 59 52.9	-2.0
PLIG	Platanillo	2.32	49	iP		Pn	00 59 36.0	+0.7
PLIG				iS		Sn	01 00 03.4	-0.6
MOIG	Morelia	2.80	3	iP		Pn	00 59 41.3	-0.5
MOIG				iS		Sn	01 00 14.0	-1.7
YAIG	Yautepec	2.94	47	iP		Pn	00 59 43.9	+0.1
YAIG				iS		Sn	01 00 18.5	-0.7
MZVM		3.07	41	iP		Pn	00 59 46.6	+1.1
SZVM	Salazar	3.08	37	iP		Pn	00 59 43.0	-2.6
SZVM				iS		Sn	01 00 23.9	+1.4
UNM	Universidad Na	3.20	40	iP		Pg	00 59 58.0	-0.4
PBVM	Pinon	3.34	40	iP		Pn	00 59 49.9	+0.6
PPM	Popocatepetl	3.39	49	iP		Pn	00 59 49.8	-0.2
PPM				iP			00 59 49.8	
PPM				iP			00 59 50.7	
PPM				iS		Sn	01 00 30.2	0.0
PTVM	Pico Tres Padr	3.44	38	iP		Pn	00 59 51.7	+1.0
IIO	Organos	3.68	42	iP		Pn	00 59 54.3	+0.3
SFJM	Santa Fe	3.94	336	iP		Pn	00 59 54.8	-2.7
DEIG	Demacu	4.06	32	iP		Pn	00 59 59.1	0.0
DEIG				iS		Sn	01 00 48.1	+1.4
TPIG	Tehuac#an	4.10	67	iP		Pn	01 00 00.6	+0.9
TPIG				iS		Sn	01 00 48.1	+0.3
VHO	Vista Hermosa	4.42	87	iP		Pn	01 00 05.2	+1.1
VHO				iS		Sn	01 00 56.0	+0.4
CMIG	Matias Romero	6.19	87	iP		Pn	01 00 29.1	+0.7
TXAR	Lajitas Array	12.59	351	P		Pn	01 02 03.4	+7.1
	0.0nm,0.3s,baz=183,slow=15,SNR=3.4							
TEIG	Tepich	12.84	73	LR		LR	01 07 58.3	
	comp=Z,63nm,18.4s,baz=93,slow=43							
MNTX	Cornudas Mount	15.22	347	Pn		Pn	01 02 32.4	+0.5
NATX	Nacogdoches	16.02	21	Pn		Pn	01 02 45.7	+3.2
	24nm,0.4s							
JTS	JuntasAbangare	17.22	110	Pn		Pn	01 02 57.8	0.0
TUC	Tucson	17.59	333	Pn		Pn	01 03 02.2	-0.1
WMOK	Wichita Mounta	17.95	7	ePn		Pn	01 03 06.3	-0.3
ANMO	Albuquerque	18.58	347	eP		Pn	01 03 15.0	+0.6
LRAL	Lakeview Retre	20.66	36	eP		P	01 03 36.6	-0.3
SDCO	Great Sand Dun	21.12	351	eP		P	01 03 43.2	+1.4
	4.8nm,1.1s,mb3.7							
MVCO	Mesa Verde	21.23	344	eP		P	01 03 44.3	+1.3
	7.5nm,0.9s,mb4.0							
PLAL	Pickwick Lake	21.59	31	eP		P	01 03 46.4	-0.6
	9.4nm,0.8s,mb4.3							
PV01	Paradox Valley	22.12	345	eP		P	01 03 51.0	-1.6
NVAR	Mina Array Bea	26.13	329	P		P	01 04 35.7	+4.5
	0.9nm,0.7s,mb3.4,baz=144,slow=11,SNR=6.9							
ULM	Lac du Bonnet	33.59	6	P		P	01 05 36.7	-0.5
ULM	Lac du Bonnet	33.59	6	P		P	01 05 36.7	-0.5
	3.0nm,1.0s,mb4.2,baz=197,slow=7.3,SNR=3.8							
SCHQ	Schefferville	46.24	27	P		P	01 07 22.6	+0.4
	3.5nm,0.8s,mb4.3,baz=244,slow=9.0,SNR=6.8							
YKA	Yellowknife Ar	46.52	352	P		P	01 07 24.2	0.0
	0.3nm,0.7s,mb3.3,baz=157,slow=7.3,SNR=5.5							
SIV	San Ignacio	51.41	127	P		P	01 08 01.1	-1.4
	0.4nm,0.8s,mb3.4,baz=321,slow=13,SNR=3.6							

*ISCJB **02** 01:05:60.0±0.2, 1640N±002×12087E±003, h33km, mb4.3/29, MS3.4/4, Error ellipse: s-maj=4.6km s-min=3.1km az=167.2*
*MAN **02** 01:05:59, 1634N×12093E, h10km, mb5.2, ML4.2, MS4.4*
MAN INTENSITY III - BAGUIO CITY; INTENSITY II - SAN FERNANDO, LA UNION, SANTIAGO, ISABELA; INTENSITY I - SAN MANUEL, PANGASINAN.
*IDC **02** 01:06:01.8±4.7, 1639N×121.12E, h42km±45km, mb3.8/13, mb1 4.0/14, mb1mx3.9/21, mbtmp3.9/14, ML4.1/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/28, Error ellipse: s-maj=32.0km s-min=15.0km az=72.0*
*BJI **02** 01:06:02.3, 1640N×121.10E, h49km, mB4.6, mb4.3, Ms3.7, Msz3.5*
*NEIC **02** 01:06:02.4±0.8, 1637N×121.13E, h50km±7km, mb4.5/12, Error ellipse: s-maj=8.3km s-min=5.4km az=71.0*
NEIC Felt [III PIVS] at Baguio; [II PIVS] at San Fernando and Santiago; [I PIVS] at San Manuel.
ISC 02 01:06:00.9±0.6, 1637N±002×12089E±003, h30km±5km, n68, σ0=24/83, mB4.3/29, MS3.4/4, 7C-6D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BCPH	Baguio City Da	0.29	273	⇑iP		Pb	01 06 07.3	-1.0
BCPH				iS		Sb	01 06 12.8	-0.5
PCPH	Palayan	0.82	166	⇓iP		Pn	01 06 15.2	-1.3
PCPH				iS		Sn	01 06 28.5	+0.9
BALP	Baler	0.91	133	eP		Pn	01 06 15.8	-1.8
BOLP	Bolinao	0.94	271	eP		Pn	01 06 18.1	+0.1
CAUP	Cauayan	1.07	57

HIA	Hailar	32.83	359	P	P	01 12 31.2	-0.4
ULN	Ulaanbaatar	33.42	343	eP	P	01 12 36.6	-0.2
	comp=Z,1.2nm,0.4s,mb4.2						
SONM	Songino Array	33.58	342	P	P	01 12 38.6	+0.4
	comp=Z,0.8nm,0.5s,mb3.9,baz=161,slow=9.4,SNR=9.5						
FITZ	Fitzroy Crossi	34.57	172	eP	P	01 12 47.2	+0.1
	comp=Z,4.1nm,0.7s,mb4.5						
TLY	Talaya	37.82	342	P	P	01 13 14.4	-0.1
WRAB	Tennant Creek	38.42	159	eP	P	01 13 18.4	-1.5
	comp=Z,11nm,0.9s,mb4.6						
WRA	Warramunga Arr	38.42	159	P	P	01 13 18.8	-1.2
	comp=Z,5.5nm,0.9s,mb4.3,baz=339,slow=9.3,SNR=22						
WB2	Warramunga Arr	38.43	159	⇑iP	P	01 13 18.6	-1.4
ASAR	Alice Springs	41.77	162	P	P	01 13 46.9	-0.8
	comp=Z,2.3nm,0.6s,mb4.0,baz=338,slow=6.9,SNR=26						
CTAO	Charters Tower	43.97	145	P	P	01 14 03.9	-1.7
MKAR	Makanchi Array	44.03	322	P	P	01 14 06.7	+0.9
	comp=Z,1.2nm,0.8s,mb3.7,baz=121,slow=8.7,SNR=12						
MKAR				LR	LR	01 32 59.0	
	comp=Z,52nm,21.0s,MS3.4,baz=174,slow=37						
ZALV	Zalesovo Beam	46.80	331	P	P	01 14 27.5	-0.1
	comp=Z,0.4nm,0.5s,mb3.6,baz=99,slow=4.5,SNR=3.1						
ZALV				LR	LR	01 35 01.0	
	comp=Z,51nm,19.3s,MS3.5,baz=194,slow=37						
UCH	Uchtor	47.20	313	eP	P	01 14 34.3	+3.4
	comp=Z,1.7nm,0.8s,mb4.0						
AML	Almayashu	47.75	312	eP	P	01 14 37.8	+2.6
	comp=Z,1.4nm,0.5s,mb4.2						
KURK	Kurchatov	48.10	325	eP	P	01 14 38.1	+0.3
	comp=Z,4.5nm,0.8s,mb4.5						
BVAR	Borovoye Array	53.70	325	P	P	01 15 19.9	0.0
	comp=Z,0.5nm,0.3s,mb3.9,baz=118,slow=6.6,SNR=2.8						
BRVK	Borovoye	53.77	325	P	P	01 15 19.7	-0.7
TIXI	Tiksi	55.48	3	eP	P	01 15 31.3	-1.2
	comp=Z,8.8nm,1.1s,mb4.7						
BILL	Bilibino	59.13	18	eP	P	01 15 57.5	-0.9
	comp=Z,2.4nm,0.5s,mb4.5						
ARU	Arti	61.28	326	eP	P	01 16 12.7	-0.5
	comp=Z,7.3nm,0.8s,mb4.9						
KDAK	Kodiak Island	74.48	34	P	P	01 17 35.3	-0.9
	comp=Z,4.1nm,0.8s,mb4.4,baz=248,slow=5.4,SNR=4.1						
JOF	Joensuu	75.39	332	ep	P	01 17 40.3	-1.1
	comp=Z,1.7nm,0.4s,mb4.3						
ARCES	ARCESS Array B	76.68	339	P	P	01 17 48.5	-0.2
ARCES	ARCESS Array B	76.68	339	P	P	01 17 48.5	-0.2
	comp=Z,4.0nm,0.9s,mb4.3,baz=74,slow=5.2,SNR=5.1						
FINES	FINESS Array B	78.06	331	P	P	01 17 56.0	-0.5
FINES	FINESS Array B	78.06	331	P	P	01 17 56.0	-0.5
	comp=Z,1.3nm,0.5s,mb4.1,baz=63,slow=5.6,SNR=14						
INK	Inuvik	80.56	21	eP	P	01 18 08.9	-1.2
	comp=Z,121nm,1.2s,mb5.7						
NB2	NORSAR Subarra	84.99	333	P	P	01 18 31.8	-1.4
	comp=Z,0.6nm,0.6s,mb3.9,baz=66,slow=5.6						
NOA	NORSAR Array B	84.99	333	P	P	01 18 32.2	-1.0
	comp=Z,1.4nm,0.8s,mb4.1,baz=64,slow=5.0,SNR=6.6						
YKA	Yellowknife Ar	90.26	22	P	P	01 18 57.6	-0.9
	comp=Z,0.4nm,0.8s,mb3.8,baz=308,slow=4.4,SNR=8.6						

IDC 02 01:20:21.1±1.3, 1297N×14390E, h236km±38km, mb3.1/4, mb1 3.2/4, mb1mx3.0/17, mbtmp3.1/4, Error ellipse: s-maj=120.6km s-min=23.8km az=86.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.13	57	P	Pn	01 20 55.8	+0.4
	9.8nm,0.3s,baz=182,slow=23,SNR=8.2						
GUMO				S	S	01 21 22.5	+0.2
	29nm,0.3s,baz=12,slow=23,SNR=7.8						
WRA	Warramunga Arr	34.03	196	P	P	01 26 43.0	0.0
	0.6nm,0.8s,baz=17,slow=9.3,SNR=4.8						
SONM	Songino Array	46.69	326	P	P	01 28 26.7	+0.4
	0.6nm,0.7s,baz=137,slow=7.7,SNR=4.6						
MKAR	Makanchi Array	61.28	316	P	P	01 30 11.4	0.0
	0.3nm,0.7s,baz=93,slow=7.8,SNR=2.3						
FINES	FINESS Array B	91.32	335	P	P	01 32 59.2	-0.4
	0.9nm,0.9s,baz=58,slow=7.2,SNR=4.4						

NEIC 02 01:25:38.4±1.6, 15.16S×173.18W, h10km, mb4.2/1, Error ellipse: s-maj=111.0km s-min=11.1km az=147.0
IDC 02 01:25:38.4±1.8, 15.35S×173.33W, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/15, mbtmp3.9/4, Error ellipse: s-maj=189.2km s-min=28.8km az=154.0
ISC 02 01:25:42.3±1.6, 150S±08×1733W±05, h35km, n9, σ0°79/9, mb3.9/5, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	1.80	54	ePn	Pn	01 26 09.9	-1.0
AFI				Sn	Sn	01 26 32.7	+0.2
CTAO	Charters Tower	38.86	257	P	P	01 33 04.2	-0.3
	7.1nm,1.3s,mb4.2						
STKA	Stephens Creek	44.35	240	P	P	01 33 48.6	-0.7
	2.1nm,0.8s,mb3.9,baz=101,slow=10,SNR=3.1						
WB2	Warramunga Arr	50.05	256	P	P	01 34 33.7	-0.3
WRA	Warramunga Arr	50.06	256	P	P	01 34 34.3	+0.3
	0.5nm,0.6s,mb3.7,baz=93,slow=6.7,SNR=13						
ASAR	Alice Springs	50.36	252	P	P	01 34 36.4	+0.2
	2.5nm,0.6s,mb4.4,baz=86,slow=8.2,SNR=40						
MBWA	Marble Bar	63.60	254	P	P	01 36 10.6	+0.5
TXAR	Lajitas Array	80.28	56	P	P	01 37 53.1	+3.2
	0.5nm,0.9s,mb3.5,baz=232,slow=6.2,SNR=6.1						
KURK	Kurchatov	112.92	319	PKiKP	PKiKP	01 44 16.6	+1.1

IDC 02 01:32:41.1±2.4, 683N×7341W, h35km±23km, mb2.9/2, mb1 3.6/4, mb1mx3.3/20, mbtmp3.4/4, ML3.8/2, MS2.8/1, Ms1 2.8/1, ms1mx2.3/10, Error ellipse: s-maj=38.6km s-min=17.3km az=131.0
ISCJB 02 01:32:43.8±0.9, 694N±009×73.19W±009, h100km±11km, mb3.1/2, Error ellipse: s-maj=17.8km s-min=10.3km az=42.5
FUNV 02 01:32:43.0, 695N×7346W, h91km, MW4.0
ISC 02 01:32:44.5±0.9, 704N±007×7333W±009, h77km±14km, n20, σ1°10/25, mb3.1/2, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.29	51	eP	Pn	01 33 07.6	+0.6
CAPV				eS	Sn	01 33 26.1	+2.1
ROSC	El Rosal	2.39	205	Pg	Pn	01 33 22.1	+0.6
	6.3nm,0.3s,baz=41,slow=7.2,SNR=17						
VIGV	El Vigia	2.64	47	eP	Pn	01 33 24.9	0.0
VIGV				eS	Sn	01 33 56.9	+0.9
SOCV	Socops	2.74	63	eP	Pn	01 33 26.4	+0.1
SOCV				eS	Sn	01 33 59.2	+0.7
SDV	Santo Domingo	3.24	55	Pn	Pn	01 33 33.5	+0.5
	7.5nm,0.3s,baz=270,slow=5.5,SNR=94						
SDV				Pg	Pn	01 33 44.4	+11
	8.1nm,0.3s,baz=230,slow=17,SNR=13						
SDV				Sn	Sn	01 34 11.7	+1.2
	15nm,0.3s,baz=322,slow=14,SNR=5.2						
SDV				Lg		01 34 25.6	
	40nm,0.3s,baz=20,slow=9.9,SNR=10.0						
VIRV	Villa del Rosa	3.56	15	eP	Pn	01 33 35.9	-1.5
VIRV				eS	Sn	01 34 16.2	-2.1
ELOV	Elorza	3.81	90	⇑iP	Pn	01 33 40.5	-0.4
QARV	Quebrada Arrib	4.19	41	⇑iP	Pn	01 33 46.2	+0.1
CURV	Curarigua	4.45	48	eP	Pn	01 33 49.2	-0.3
SANV	Sanarito	4.48	57	eP	Pn	01 33 49.5	-0.4
DABV	Dabajuro	4.68	34	eP	Pn	01 33 52.3	-0.4
SIQV	Siquisique	4.99	44	eP	Pn	01 33 56.7	-0.2
TEPV	Terepaima	5.01	54	eP	Pn	01 33 57.1	-0.2
TURV	Turiamo	6.39	58	eP	Pn	01 34 15.2	-0.9
CAOV	Caicara del Or	6.96	87	⇑iP	Pn	01 34 21.9	-1.9
CAOV				eS	Sn	01 35 33.9	-7.5
PCRV	Puerto La Cruz	9.14	69	Pn	Pn	01 34 52.3	-1.4
	1.2nm,0.3s,baz=196,slow=5.5,SNR=8.3						
PCRV				LR	LR	01 38 00.4	
	comp=Z,63nm,21.4s,baz=31,slow=34						
TXAR	Lajitas Array	36.16	312	P	P	01 39 41.9	+2.2
	0.1nm,0.4s,mb3.1,baz=113,slow=9.1,SNR=4.8						
YKA	Yellowknife Ar	62.99	340	P	P	01 43 04.6	+1.8
	0.1nm,0.4s,mb3.1,baz=131,slow=6.5,SNR=8.5						
YKA				pP	pP	01 43 13.8	-8.9
	0.3nm,0.8s,baz=131,slow=6.8,SNR=3.9						
YKA				sP	sP	01 43 18.9	-12
	0.2nm,0.4s,baz=130,slow=7.2,SNR=6.4						
ASAR	Alice Springs	149.07	235	PKPbc	PKPbc	01 52 25.6	+0.9
	0.4nm,0.6s,baz=121,slow=3.4,SNR=7.6						
ASAR				sPKPbc		01 52 41.1	
	0.4nm,0.6s,baz=108,slow=4.0,SNR=3.0						
WRA	Warramunga Arr	150.26	242	PKPbc	PKPbc	01 52 28.7	+1.0
	0.4nm,0.4s,baz=106,slow=2.7,SNR=19						
WRA				sPKPbc		01 52 44.7	
	0.7nm,0.5s,baz=107,slow=2.7,SNR=6.8						

CSEM 02 01:41:05.7±0.1, 4084N×3090E, h10km±1km, MD2.9, Error ellipse: s-maj=1.7km s-min=1.2km az=174.0
ISK 02 01:41:05.9, 4083N×3089E, h11km, MD3.1
ISCJB 02 01:41:06.5±0.4, 4084N±003×3087E±004, h10km±3km, Error ellipse: s-maj=6.1km s-min=4.3km az=156.7
DDA 02 01:41:06.0, 4091N×3100E, h7km, Md2.9
ISC 02 01:41:06.9±0.5, 4084N±004×3088E±004, h10km±3km, n30, σ0°75/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	Hendek	0.02	132	iP	Pg	01 41 08.7	0.0
HENT				iS	Sg	01 41 10.1	+0.1
KDZE	Karadeniz Ereo	0.64	42	ePG	Pg	01 41 18.4	-0.9
KDZE				eSG	Sg	01 41 28.5	+0.9
GPA	Golpazari	0.70	218	ePG	Pg	01 41 19.3	-1.1
GPA				eSG	Sg	01 41 30.3	+0.8
HRT	Hereke	0.92	269	ePG	Pg	01 41 24.1	-0.4
ADVT	Abdulvahap	0.96	245	ePG	Pg	01 41 24.6	-0.6
ADVT				eSG	Sg	01 41 38.5	+0.8
YLV	Yalova	1.17	257	ePN	Pn	01 41 28.9	-0.4
IZI	Iznik	1.18	245	ePN	Pn	01 41 29.4	0.0
ESKT	Eskisehir	1.32	181	iP	Pn	01 41 30.5	-0.8
ESKT				iS	Sb	01 41 49.3	+0.7
ESKT	Eskisehir	1.32	181	ePn	Pn	01 41 30.9	-0.4
SEYT	Eskypehyr	1.32	181	iP	Pn	01 41 30.5	-0.8
SEYT				iS	Sb	01 41 49.3	+0.7
BADT	Buyukada	1.33	271	ePN	Pn	01 41 30.8	-0.7
GEMT	Gemlik	1.34	253	ePN	Pn	01 41 31.5	-0.2
ISK	Istanbul-Kandi	1.39	280	ePN	Pn	01 41 32.2	-0.1
SAFT	Safranbolu	1.43	73	ePN	Pn	01 41 32.0	-0.8
KLYT	Kilyos	1.45	287	ePN	Pn	01 41 33.2	+0.1
LOD	Lodumlu	1.73	123	ePN	Pn	01 41 36.5	-0.4
ANTO	Ankara	1.76	123	ePN	Pn	01 41 36.6	-0.7
ALT	Altintas	1.88	199	iP	Pn	01 41 36.1	-2.9
ALT				iS	Sn	01 41 58.6	-4.0
ALT	Altintas	1.88	199	ePn	Pn	01 41 38.7	-0.3
ELBA	Catalca	1.88	280	iP	Pn	01 41 40.4	+1.4
ELBA				iS	Sn	01 42 06.8	+4.1
CTT	Catalca	1.88	280	ePN	Pn	01 41 38.6	-0.4
ELDT	Eldivan	1.97	99	iP	Pn	01 41 42.4	+2.1
ELDT				iS	Sn	01 42 09.8	+4.7
KCT	Karacabey	2.00	254	ePN	Pn	01 41 40.5	-0.2
CANT	Cankiri	2.10	95	ePN	Pn	01 41 42.5	+0.5
KIZT	Kizilcal	2.10	158	ePN	Pn	01 41 42.0	-0.1
DST	Dursunbey	2.12	235	ePN	Pn	01 41 43.0	+0.7
SHUT	Suhut-Afyon	2.30	186	ePN	Pn	01 41 44.9	+0.2
KAMT	Kaman	2.62	123	ePN	Pn	01 41 49.3	0.0
KULA	Kula-Manisa	2.88	217	ePN	Pn	01 41 53.2	+0.3
EDRB	Edirne	3.27	289	ePN	Pn	01 41 58.6	+0.5

FUNV 02 01:44:07.2, 675N×7314W, h162km, MW3.7, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.38	36	⇑iP	Pn	01 44 36.1	-0.3
CAPV				eS	Sn	01 44 57.1	-1.8
VIGV	El Vigia	2.72	40	eP	Pn	01 44 50.7	-0.9
VIGV				eS	Sn	01 45 22.3	-3.7
SOCV	Socops	2.73	56	eP	Pn	01 44 51.1	-0.6
SOCV				eS	Sn	01 45 22.8	-3.3
ELOV	Elorza	3.64	86	eP	Pn	01 45 02.5	-0.6
VIRV	Villa del Rosa	3.80	11	eP	Pn	01 45 03.2	-1.9
VIRV				eS	Sn	01 45 46.0	-4.3
QARV	Quebrada Arrib	4.30	37	eP	Pn	01 45 10.7	-1.0
SANV	Sanarito	4.49	52	eP	Pn	01 45 12.7	-1.4
CURV	Curarigua	4.51	44	eP	Pn	01 45 13.0	-1.5
TEPV	Terepaima	5.04	50	eP	Pn	01 45 19.9	-1.5
BAUV	El Baul	5.50	66	eP	Pn	01 45 24.6	-2.8
BAUV				eS	Sn	01 46 23.7	-6.4
TURV	Turiamo	6.40	55	⇓eP	Pn	01 45 37.9	-1.5
CAOV	Caicara del Or	6.79	85	eP	Pn	01 45 41.6	-2.9

NSSP 02 01:49:31.9, 3853N×4485E, h10km, ML3.3
CSEM 02 01:49:33.4±0.1, 3846N×4480E, h2km, MD3.7, Error ellipse: s-maj=2.6km s-min=1.6km az=162.0
ISCJB 02 01:49:34.3±0.5, 3846N±004×4479E±003, h2km, Error ellipse: s-maj=5.7km s-min=3.3km az=159.7
ISK 02 01:49:34.4, 3848N×4470E, h5km, MD3.7
ISC 02 01:49:34.4±0.7, 3843N±004×4482E±003, h1km±5km, n29, σ1°05/36, 4D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	Caldiran	1.00	315	ePG	Pg	01 49 52.1	-1.5
CLDR				eSG	Sg	01 50 06.8	+0.2
TVAN	Van	1.11	275	iP	Pg	01 49 54.6	-1.2
VANT	Van	1.12	271	ePN	Pn	01 49 57.3	-0.1
VANB	Van	1.13	279	ePG	Pn	01 49 54.5	-2.9
MGRZ	Megri	1.21	67	⇓P	Pg	01 49 57.5	-0.1
MGRZ				S	Sg	01 50 13.6	+0.4
HKR	Hakkari	1.21	225	ePN	Pn	01 49 58.1	-0.3
KDR	Kadzharan	1.23	54	⇓P	Pg	01 49 58.2	+0.2
KDR				S	Sg	01 50 14.5	+0.5
HAKT	HAKKARI	1.24	226	iP	Pg	01 49 58.2	0.0
DYDN	Diyadin	1.42	322	iP	Pn	01 50 00.0	-1.4
CUKT	Cukurca	1.52	219	ePN	Pn	01 50 03.7	+0.8
EGVZ	Egvard	1.57	59	⇓P	Pn	01 50 03.5	0.0
EGVZ				S	Sn	01 50 23.8	-0.6
GRS	Goris	1.59	47	⇓P	Pn	01 50 02.0	-1.7
GRS				S	Sn	01 50 24.0	-0.9
AGRB	Hanur-Agry	1.82	309	ePN	Pn	01 50 07.0	0.0
MSL	Mosul	2.54	213	ex	x	01 50 18.0	
MSL				ex	x	01 50 52.0	
KARS	Kars	2.55	329	ePN	Pn	01 50 17.4	+0.4
BTMT	Batman	2.63	266	ePN	Pb	01 50 20.6	-1.8
DGRG	David-gareji	3.04	8	P	Pb	01 50 30.2	+0.8
DGRG				S	Sg	01 51 11.4	-0.8
ERZM	Erzurum	3.06	300	iP	Pb	01 50 30.5	+0.8
EZM	Erzurum	3.06	300	ePN	Pn	01 50 24.4	+0.4
MTA	Mtatsminda	3.26	360	P	Pg	01 50 38.6	+1.7
MTA				S	Sg	01 51 15.5	-3.6
TBLG	Delisi	3.29	359	P	Pn	01 50 23.2	-4.0
TBLG				S	Sn	01 51 07.0	0.0
BINT	Bingol	3.42	279	ePN	Pn	01 50 29.5	+0.6
GOR	Gori	3.59	351	P	Pb	01 50 39.3	+0.5
BCA	Borcka	3.88	322	ePN	Pn	01 50 36.0	+0.7
EZC	Erzincan	4.11	290	ePN	Pb	01 50 44.2	-3.3
ONI	Oni	4.27	346	P	Pb	01 50 52.0	+1.7
PTK	Pertek	4.27	278	ePN	Pn	01 50 41.8	+1.1
SVRC	Sivrice-ELAZID	4.33	271	ePN	Pn	01 50 42.7	+1.3
GUMT	Gumushane	4.60	298	ePN	Pn	01 50 46.3	+1.1

IDC 02 01:55:36.1±0.7, 081N×9730E, h0km, mb4.3/19, mb1 4.4/20, mb1mx4.3/25, mbtmp4.3/20, ML3.8/1, MS3.6/4, Ms1 3.6/4, ms1mx3.3/28, Error ellipse: s-maj=25.0km s-min=14.0km az=48.0
BJI 02 01:55:38.9, 078N×9723E, h37km, mB4.8, mb4.9
MOS 02 01:55:39.7±0.8, 090N×9734E, h33km, mb4.7/12, Error ellipse: s-maj=14.7km s-min=7.4km az=97.1
ISCJB 02 01:55:40.0±1.3, 084N±006×9741E±006, h40km±11km, mb4.5/49, MS3.8/4, Error ellipse: s-maj=12.1km s-min=7.0km az=141.4
NEIC 02 01:55:40.8±2.3, 086N×9742E, h31km±16km, mb4.4/14, Error ellipse: s-maj=8.9km s-min=5.1km az=66.0
ISC 02 01:55:41.9±1.0, 084N±005×9741E±006, h38km±9km, n105, σ0°93/104, mb4.5/49, MS3.8/4, 7C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.47	38	Pn	Pn	01 56 19.1	-0.7
	19nm,0.3s,baz=231,slow=7.5,SNR=52						
PSI				LR	LR	01 57 09.8	
	comp=Z,399nm,21.5s,baz=317,slow=38						
FRIM	Kepong	4.84	60	⇑P	Pn	01 56 53.1	+0.8
IPM	Ipoh	5.11	45	⇑P	Pn	01 56 56.4	+0.3
KULM	Kulim	5.48	36	ePn	Pn	01 57 00.2	-0.9
KULM				eSn	Sn	01 57 59.4	-3.5
KULM	Kulim	5.48	36	⇑P	Pn	01 57 01.0	-0.1
KGM	Kluang	6.03	79	⇓P	Pn	01 57 09.7	+1.1
MYKOM	Kota Tinggi	6.51	82	⇓P	Pn	01 57 16.3	+1.0
KTGM	Kuala Trenggan	7.25	52	⇑P	Pn	01 57 26.8	+1.4
KSM	Kuching	12.91	87	Pn	Pn	01 58 41.6	-1.5
COCO	West Island	12.96	182	Pn	Pn	01 58 43.1	-0.5
SBUM	Sibu	14.89	84	⇑P	Pn	01 59 10.4	+0.4
CHTO	Chiang Mai	17.93	5	eP	Pn	01 59 46.4	-2.0
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
CHTO	Chiang Mai	17.93	5	ePn	Pn	01 59 46.4	-2.0
	comp=Z,6.9nm,0.8s						
KKM	Kota Kinabalu	19.47	74	eP	Pn	02 00 05.5	-1.7
KKM	Kota Kinabalu	19.47	74	⇓P	Pn	02 00 05.9	-1.2
KDM	Kudat	20.29	72	⇓P	P	02 00 15.2	+0.5
SDKM	Sandakan	20.32	76	⇓P	P	02 00 16.1	+1.1
TSM	Tawau	20.73	80	⇓P	P	02 00 20.7	+1.2
MYLDM	Lahad Datu	21.50	78	⇓P	P	02 00 27.8	+0.1
QIZ	Qiongzhong	21.81	33	eP	P	02 00 28.6	-2.3
	comp=Z,7.1nm,0.8s,mb4.2						
SHL	Shillong	25.15	348	eP	P	02 01 03.5	-0.2
JIRN	Jiri	28.75	339	eP	P	02 01 36.9	+0.8
	comp=Z,16nm,0.7s,mb4.9						
GUN	Gumba	29.09	339	eP	P	02 01 40.0	+0.9
	comp=Z,22nm,0.6s,mb5.1						
DMN	Daman	29.11	337	eP	P	02 01 39.9	+0.6
	comp=Z,9.1nm,0.8s,mb4.6						
LSA	Lhasa	29.31	349	P	P	02 01 42.0	+1.0
LSA	Lhasa	29.31	349	eP	P	02 01 40.6	-0.4
LSA				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.7						
LSA	Lhasa	29.31	349	eP	P	02 01 40.6	-0.4
	comp=Z,8.1nm,0.5s,mb4.7						
GKN	Gorkha	29.65	337	eP	P	02 01 44.6	+0.6
	comp=Z,16nm,0.8s,mb4.8						
KOLN	Koldanda	29.87	335	eP	P	02 01 46.7	+0.7
	comp=Z,15nm,0.6s,mb4.9						
DANN	Dangsing	30.31	336	eP	P	02 01 49.9	0.0
	comp=Z,8.1nm,0.6s,mb4.7						
MBWA	Marble Bar	30.89	136	P	P	02 01 54.9	-0.3
FITZ	Fitzroy Crossi	33.55	126	eP	P	02 02 18.1	-0.4
	comp=Z,4.6nm,0.8s,mb4.5						
FITZ				LR	LR	02 17 01.2	
FITZ	Fitzroy Crossi	33.55	126	P	P	02 02 17.7	-0.8
	comp=Z,1.0nm,0.5s,mb4.0,baz=297,slow=6.8,SNR=3.5						
FITZ				LR	LR	02 17 01.2	
	comp=Z,81nm,19.7s,MS3.5,baz=172,slow=38						
XAN	Xi'an	34.74	17	P	P	02 02 27.1	-1.5
XAN				AP	pP	02 02 34.4	-4.9
XAN				AMB	AMB		
	comp=Z,19nm,0.9s,mb5.0						
LZH	Lanzhou	35.58	9	eP	P	02 02 33.5	-2.2
LZH				AMB	AMB		
	comp=Z,18nm,1.0s,mb5.0						
LZH				AMB	AMB		
	comp=Z,91nm,5.1s						
NJ2	Nanjing	37.06	31	eP	P	02 02 51.6	+3.1
NJ2				AP	pP	02 03 00.6	+1.3
NJ2				XP	sP	02 03 05.1	+1.3
NJ2				PP	PP	02 04 19.2	+5.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,140nm,5.0s						
GTA	Gaotai	38.45	3	eP	P	02 02 59.7	-0.4
GTA				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
JOW	Kunigami	39.34	46	P	P	02 03 07.9	+0.1
	comp=Z,12nm,0.8s,mb4.7,baz=153,slow=9.0,SNR=4.8						
WRA	Warramunga Arr	41.67	122	P	P	02 03 27.1	-0.1
	comp=Z,2.6nm,0.6s,mb4.0,baz=302,slow=9.5,SNR=4.9						
WRA				LR	LR	02 20 55.5	
	comp=Z,72nm,18.9s,MS3.6,baz=335,slow=36						
WRAB	Tennant Creek	41.68	122	eP	P	02 03 27.5	+0.3
WRAB				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
WRAB	Tennant Creek	41.68	122	eP	P	02 03 27.4	+0.3
	comp=Z,3.0nm,0.7s,mb4.0						
WB2	Warramunga Arr	41.68	122	eP	P	02 03 25.4	-1.8
BJT	Baijiatuau	42.57	21	eP	P	02 03 34.6	+0.4
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	Baijiatuau	42.57	21	eP	P	02 03 34.5	+0.4
	comp=Z,14nm,0.8s,mb4.8						
ASAR	Alice Springs	43.01	127	P	P	02 03 38.5	+0.5
	comp=Z,1.9nm,0.6s,mb4.0,baz=297,slow=7.9,SNR=23						
ULHL	Ulahol	45.40	338	P	P	02 03 57.8	+0.9
	SNR=6.5						
KSRS	Korea Array	46.03	34	P	P	02 04 01.7	-0.2
	comp=Z,2.8nm,0.7s,mb4.3,baz=224,slow=9.3,SNR=9.1						
UCH	Uchtor	46.06	336	eP	P	02 04 02.7	+0.6
	comp=Z,4.1nm,0.7s,mb4.5						
UCH	Uchtor	46.06	336	P	P	02 04 03.4	+1.3
	SNR=9.1						
TKM2	Tokmak 2	46.23	338	eP	P	02 04 04.0	+0.6
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
TKM2	Tokmak 2	46.23	338	eP	P	02 04 04.0	+0.7
	comp=Z,3.0nm,0.8s,mb4.3						
KBK	Karagaybulak	46.25	337	P	P	02 04 05.3	+1.8
	SNR=5.3						
AML	Almayashu	46.31	336

comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 56.72 341 *e*P **P 02 05 21.1 -0.6**
comp=Z,3.4nm,0.8s,mb4.4
BOD Bodaibo 58.32 10 *e*P **P 02 05 32.7 -0.2**
BOD pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
AKTK Aktyubinsk 59.64 332 P **P 02 05 41.1 -1.1**
AKTO Aktyubinsk 59.64 332 P **P 02 05 41.1 -1.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=140,slow=5.2,SNR=4.0
ARU Arti 63.59 337 *d i*P **P 02 06 08.1 -0.6**
ARU *e* 02 08 25.3
ARU *e*S **S 02 14 41.9 +2.2**
ARU *e*SS SS 02 18 42.8 -4.9
ARU pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MALT Malatya 65.52 312 P **P 02 06 22.5 +0.8**
YAK Yakutsk 65.71 16 *e*P **P 02 06 21.6 -0.8**
YAK pmax pmax
comp=Z,15nm,1.0s,mb5.0
YAK pmax pmax
comp=E,5.0nm,1.3s
ANN Anapa 68.50 319 *e*P **P 02 06 38.0 -2.5**
ANN pmax pmax
comp=Z,35nm,1.2s,mb5.2
TIXI Tiksi 73.50 10 *e*P **P 02 07 05.8 -4.5**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TIXI Tiksi 73.50 10 *e*P **P 02 07 09.2 -1.1**
comp=Z,1.7nm,0.6s,mb4.2
SEY Seymchan 74.01 23⇑ *e*P **P 02 07 13.3 -0.1**
BOSA Boshof 74.78 240 LR LR 02 36 20.5
comp=Z,135nm,18.1s,MS4.3,baz=147,slow=33
AKASG Malin Array Be 75.67 322 *i*P **P 02 07 23.1 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 75.67 322 P **P 02 07 22.5 -0.8**
comp=Z,1.2nm,0.6s,mb4.0,baz=91,slow=4.5,SNR=8.8
MLR Muntele Rosu 76.47 317 P **P 02 07 28.1 +0.1**
comp=Z,2.7nm,0.9s,mb4.2,baz=232,slow=17,SNR=5.4
JOF Joensuu 78.56 335 *e*p **P 02 07 37.7 -1.5**
comp=Z,2.3nm,0.6s,mb4.3
FINES FINESS Array B 80.41 333 *i*P **P 02 07 48.7 -0.6**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 80.41 333 P **P 02 07 48.8 -0.5**
comp=Z,1.5nm,0.6s,mb4.1,baz=99,slow=6.0,SNR=9.1
ARCES ARCESS Array B 82.94 340 P **P 02 08 02.6 +0.1**
comp=Z,5.3nm,0.8s,mb4.6,baz=13,slow=7.5,SNR=8.6
GERES GERESS Array B 85.22 319 P **P 02 08 15.2 +0.6**
comp=Z,1.1nm,0.8s,mb4.0,baz=96,slow=5.4,SNR=6.8
KHC Kasperske Hory 85.32 319 *e*P **P 02 08 15.2 +0.1**
NB2 NORSAR Subarra 87.42 331 P **P 02 08 24.7 -0.4**
comp=Z,1.7nm,0.8s,mb4.3,baz=96,slow=4.8
NOA NORSAR Array B 87.42 331 P **P 02 08 25.0 -0.1**
comp=Z,1.1nm,0.7s,mb4.2,baz=94,slow=4.9,SNR=6.4
TXAR Lajitas Array 143.86 32 PKP PKPdf 02 15 13.2 -0.7
comp=Z,0.2nm,0.5s,baz=287,slow=1.0,SNR=3.7
CPUP Villa Florida 144.88 222 PKP PKPdf 02 15 15.4 -0.4
comp=Z,0.3nm,0.4s,baz=49,slow=9.3,SNR=2.7

*IDC **02** 02:02:12.0±0.6,2075N×10309E,h0km,mb4.2/15,*
mb1 4.3/16,mb1mx4.2/24,mbtmp4.2/16,ML4.1/1,MS3.6/5,
Ms1 3.6/5,ms1mx3.2/27,Error ellipse: s-maj=29.4km
s-min=13.5km az=63.0
*PLV **02** 02:02:11.1±1.9,2073N×10308E,h0km±12km,MD4.7,*
ML4.3
*ISCJB **02** 02:02:11.8±0.3,2067N±003×10321E±002,h10km,*
mb4.3/34,MS3.6/7,Error ellipse: s-maj=4.0km
s-min=2.8km az=173.0
*NEIC **02** 02:02:13.9±0.3,2073N×103.13E,h10km,mb4.5/12,Error*
ellipse: s-maj=8.2km s-min=7.0km az=63.0
*BJI **02** 02:02:14.0,2056N×103.15E,h33km,mB4.5,mb4.3,ML4.2,*
Ms4.4,Msz4.2
*MOS **02** 02:02:15.3±0.9,2070N×103.11E,h33km,mb4.6/11,Error*
ellipse: s-maj=13.9km s-min=7.9km az=107.7
ISC 02 02:02:13.5±0.2,2068N±003×10319E±002,h10km,n79,
σ1§23/101,mb4.3/34,MS3.6/7,6C,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**0.72**	**348**	*e*PG	**Pg**	**02 02 23.9**	**-3.5**
DBV				*e*PG	**Pg**	02 02 23.9	-3.5
DBV				*e*Sg	**Sg**	02 02 32.3	-4.6
DBV				AMP		02 02 34.4	
	comp=Z,16μm,0.4s						
SLVN	**Son La**	**0.94**	**46**	*e*PG	**Pg**	**02 02 31.5**	**0.0**
SLVN				*e*SG	**Sg**	02 02 42.1	-1.6
BVV	**Ba Vi**	**2.08**	**78**	*e*PN	**Pn**	02 02 48.3	-0.2
BVV				*e*Pg	**Pg**	02 02 53.1	-0.3
BVV				*e*Sg	**Sg**	02 03 22.7	+2.2
HNV	**Hanoi**	**2.47**	**81**	*e*PN	**Pn**	02 02 52.6	-1.2
HNV				*e*PG	**Pg**	02 02 58.3	-2.6
HNV				*e*SG	**Sg**	02 03 29.4	-3.5
DSV	**Doi Son**	**2.61**	**92**	*e*PN	**Pn**	02 02 56.1	+0.3
DSV				*e*Sg	**Sg**	02 03 38.8	+1.3
MTZV	**Met**	**3.07**	**73**	*e*Pn	**Pn**	02 03 01.8	-0.3
MTZV				*e*Pg	**Pg**	02 03 11.5	-0.9
MTZV				*e*Sg	**Sg**	02 03 52.0	-0.2
PLV	**Phu-Lien**	**3.23**	**87**	*e*Pn	**Pn**	02 03 04.3	+0.1
PLV				*e*Pg	**Pg**	02 03 13.1	-2.3
PLV				*e*Sg	**Sg**	02 03 57.9	+0.7
YTV	**Yen Tu**	**3.33**	**81**	*e*PN	**Pn**	02 03 05.6	-0.1
YTV				*e*SG	**Sg**	02 04 01.1	+0.4
KKTK	**Khon Kaen**	**4.33**	**185**	PN	**Pn**	02 03 19.5	**0.0**
KKTK				PG	**Pg**	02 03 33.0	-3.6
KKTK				SG	**Sb**	02 04 20.5	-1.7
CHTO	**Chiang Mai**	**4.41**	**246**	*e*Pn	**Pn**	02 03 19.8	-0.6
CHTO				*e*Pg	**Pg**	02 03 34.8	-3.2
CHTO				*e*Sn	**Sg**	02 04 34.3	-0.7
KMI	**Kunming**	**4.44**	**355**	PG	**Pg**	02 03 35.7	-2.9
KMI				SG	**Sg**	02 04 32.8	-3.4
KMI				Smax			
	comp=N,151nm,1.3s						
KMI				Smax			
	comp=E,229nm,1.3s						
KMI				LR	LR		
	comp=N,3μm,7.4s						
KMI				LR	LR		
	comp=E,1μm,6.2s						
KMI				LR	LR		
	comp=Z,2μm,7.6s						
CM31	**Chiang Mai Arr**	**4.57**	**242**	*e*Pg	**Pg**	02 03 40.9	-0.2
NST	**Nakhon Sawan**	**5.76**	**211**	PN	**Pb**	02 03 49.5	-4.7
NST				PG	**Pg**	02 04 09.5	+5.5
NST				SG	**Sg**	02 05 15.7	-3.0
QIZ	**Qiongzhong**	**6.48**	**104**	P	**Pn**	02 03 49.0	+0.1
QIZ				S	**Sn**	02 05 01.7	-1.2
QIZ				LR	LR		
	comp=N,856nm,6.9s						
QIZ				LR	LR		
	comp=Z,602nm,13.6s						
QIZ	**Qiongzhong**	**6.48**	**104**	*e*Pn	**Pn**	02 03 48.7	-0.3
	comp=Z,44nm,0.8s						
QIZ				*e*Sn	**Sn**	02 05 01.1	-1.8
GYA	**Guiyang**	**6.58**	**28**	PG	**Pg**	02 04 14.7	-4.8
GYA				Smax			
	comp=N,510nm,1.0s						
GYA				Smax			
	comp=E,60nm,1.0s						
GYA				LR	LR		
	comp=N,1μm,4.3s						
GYA				LR	LR		
	comp=E,2μm,5.0s						
GYA				LR	LR		
	comp=Z,3μm,5.2s						
LZH	**Lanzhou**	**15.36**	**2**	*e*P	**Pn**	02 05 52.5	+2.2
LZH				AP	pP	02 06 00.2	+2.3
LZH				XP	sP	02 06 04.7	+5.5
LZH				*e*S	**Sn**	02 08 43.2	+2.6
LZH				XS	sS	02 08 55.1	-6.3
LZH				*e*SS		02 09 01.6	
LZH				AMB	AMB		
	comp=Z,21nm,1.0s						
LZH				AMB	AMB		
	comp=Z,142nm,4.1s						
LZH				LR	LR		
	comp=E,665nm,8.6s						
LZH				LR	LR		
	comp=Z,793nm,10.2s						
NJ2	**Nanjing**	**18.01**	**48**	*e*P	**Pn**	02 06 24.0	**0.0**
NJ2				AP	pP	02 06 32.5	+5.2
NJ2				XP	sP	02 06 35.8	+7.2
NJ2				PP		02 06 39.4	
NJ2				PPP		02 06 49.2	
NJ2				S	**Sn**	02 09 42.0	-3.0
NJ2				XS	sS	02 09 54.0	-1.6
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,140nm,5.3s						
NJ2				LR	LR		
	comp=N,1μm,11.2s						
NJ2				LR	LR		
	comp=E,790nm,7.6s						
NJ2				LR	LR		
	comp=Z,780nm,7.7s						
PSI	**Prapat 18.25 194**			P	**Pn**	02 06 30.6	+3.5
	comp=Z,0.6nm,0.3s,baz=4.0,slow=10,SNR=5.1						
GTA	**Gaotai 18.89 352**			*e*P	**Pn**	02 06 35.8	+1.1
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s						
KKM	**Kota Kinabalu 19.27 137**			*e*P	**Pn**	02 06 42.5	+3.0
BJT	**Baijiatuau 22.25 27**			*e*P	**P**	02 07 12.1	+1.7
BJT				pmax	pmax		
	comp=Z,23nm,0.9s						
BJT	**Baijiatuau 22.25 27**			*e*P	**P**	02 07 12.1	+1.6
	comp=Z,23nm,0.9s,mb4.6						
BJI	**Beijing 22.27 27**			P	**P**	02 07 12.0	+1.3
BJI				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.5						
BJI				LR	LR		
	comp=N,263nm,8.1s						
BJI				LR	LR		
	comp=E,354nm,7.1s						
KSRS Korea Array 27.20 47				LR	LR	02 18 32.4	
	comp=E,87nm,20.2s,MS3.3,baz=64,slow=36						
SONM Songino Array 27.21 5				P	**P**	02 07 57.9	+0.6
	comp=E,3.1nm,1.1s,mb3.8,baz=186,slow=10,SNR=12						
ULN Ulaanbaatar 27.30 6⇑				*e*P	**P**	02 07 59.6	+1.4
ULN Ulaanbaatar 27.30 6				*e*P	**P**	02 07 59.4	+1.3
	comp=E,17nm,1.7s,mb4.3						
JNU Nakatsue 27.54 58				LR	LR	02 20 43.1	
	comp=E,137nm,18.4s,MS3.6,baz=67,slow=40						
TLY Talaya 30.94 1				*i*P	**P**	02 08 32.9	+2.4
MK31 Makanchi Array 31.12 332				*e*P	**P**	02 08 31.9	-0.2
MKAR Makanchi Array 31.12 332				P	**P**	02 08 32.5	+0.4
	comp=E,2.6nm,0.5s,mb4.3,baz=140,slow=8.9,SNR=24						
MKAR				PcP	PcP	02 11 27.2	-0.1
	comp=E,0.5nm,0.7s,baz=134,slow=6.9,SNR=3.6						
TKM2 Tokmak 2 32.02 320				*e*P	**P**	02 08 40.8	+0.7
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
TKM2 Tokmak 2 32.02 320				*e*P	**P**	02 08 40.8	+0.6
	comp=Z,3.6nm,0.9s,mb4.2						
UCH Uchtor 32.30 318				*e*P	**P**	02 08 45.3	+2.7
	comp=Z,3.0nm,0.9s,mb4.1						
AAK Ala-Archa 32.53 319⇑				*e*P	**P**	02 08 45.6	+1.0
AAK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
AAK				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.7						
AAK Ala-Archa 32.53 319				*e*P	**P**	02 08 44.5	-0.1
	comp=Z,7.0nm,1.1s,mb4.5						
AAK Ala-Archa 32.53 319				P	**P**	02 08 43.5	-1.1
	comp=Z,2.1nm,0.7s,mb4.2,baz=116,slow=6.8,SNR=6.1						
AML Almayashu 32.77 317				*e*P	**P**	02 08 48.0	+1.3
	comp=Z,9.8nm,1.2s,mb4.6						
EKS2 Erkin-Say 32.99 318				*e*P	**P**	02 08 50.0	+1.4
	comp=Z,2.6nm,0.6s,mb4.3						
MJAR Matsushiro Arr 34.34 55				LR	LR	02 23 25.2	
	comp=Z,90nm,18.6s,MS3.5,baz=225,slow=37						
KURK Kurchatov 35.67 333⇑				*e*P	**P**	02 09 12.9	+1.2
KURK Kurchatov 35.67 333				*e*P	**P**	02 09 11.7	**0.0**
	comp=Z,11nm,1.1s,mb4.7						
ZAL Zalesovo 36.05 342				P	**P**	02 09 14.8	-0.1
ZALV Zalesovo Beam 36.05 342				P	**P**	02 09 14.8	-0.2
	comp=Z,9.6nm,1.0s,mb4.7,baz=146,slow=8.2,SNR=18						
BVAR Borovoye Array 40.95 330				P	**P**	02 09 56.0	-0.1
	comp=Z,3.9nm,0.9s,mb4.1,baz=125,slow=7.8,SNR=8.6						
BRVK Borovoye 41.02 330				*e*P	**P**	02 09 56.7	**0.0**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.4						
BRVK Borovoye 41.02 330				*e*P	**P**	02 09 56.7	-0.1
	comp=Z,11nm,1.1s,mb4.4						
YAK Yakutsk 45.20 17⇑				*e*P	**P**	02 10 26.7	-3.6
YAK				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.0						
AKTK Aktyubinsk 46.21 321				P	**P**	02 10 38.2	-0.4
AKTO Aktyubinsk 46.21 321				P	**P**	02 10 38.2	-0.4
	comp=Z,1.6nm,0.6s,mb4.1,baz=132,slow=9.0,SNR=4.2						
ARU Arti 48.54 329				*e i*P	**P**	02 10 57.1	+0.5
ARU				*e*		02 12 47.8	
ARU				*e*S	**S**	02 17 57.0	-0.8
ARU				SS	SS	02 21 22.8	-4.8
ARU				pmax	pmax		
	comp=Z,18nm,1.7s,mb4.8						
ARU Arti 48.54 329				*e*P	**P**	02 10 55.2	-1.3
	comp=Z,16nm,1.3s,mb4.9						
WRAB Tennant Creek 50.59 141				*i*P	**P**	02 11 13.6	+0.9
WRA Warramunga Arr 50.59 141				P	**P**	02 11 13.3	+0.5
	comp=Z,5.1nm,0.8s,mb4.5,baz=330,slow=8.0,SNR=49						
WB2 Warramunga Arr 50.60 141				*e*P	**P**	02 11 12.9	+0.1
TIXI Tiksi 53.11 10				*e*P	**P**	02 11 28.8	-2.0
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
ASAR Alice Springs 53.28 144				P	**P**	02 11 33.4	+0.7
	comp=Z,2.0nm,0.8s,mb4.1,baz=322,slow=7.5,SNR=16						
KIV Kislovodsk 54.84 310				*e*P	**P**	02 11 44.1	+0.2
KIV				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
KIV				MLR	MLR		
	comp=Z,50nm,19.0s,MS3.6						
ANN Anapa 58.65 311				*e*P	**P**	02 12 12.3	+1.3
ANN				*e*		02 14 18.7	
ANN				*e*S	**S**	02 20 15.1	-0.3
ANN				pmax	pmax		
	comp=Z,60nm,1.9s,mb5.3						
OBN Obninsk 59.94 322⇑				*e*P	**P**	02 12 21.0	+1.3
OBN				pmax	pmax		
	comp=Z,21nm,1.5s,mb5.0						
BILL Bilibino 61.01 23				*e*P	**P**	02 12 27.2	+0.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb4.0						
JOF Joensuu 63.55 331				*e*p	**P**	02 12 39.4	-4.5
	comp=Z,1.6nm,0.6s,mb4.2						
STKA Stephens Creek 63.91 144				P	**P**	02 12 47.9	+1.2
STKA Stephens Creek 63.91 144				P	**P**	02 12 47.9	+1.2
	comp=Z,2.2nm,0.8s,mb4.2,baz=320,slow=7.6,SNR=7.0						
AKASG Malin Array Be 64.19 317				*i*P	**P**	02 12 47.0	-1.3
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
AKASG Malin Array Be 64.19 317				P	**P**	02 12 46.6	-1.7
	comp=Z,1.6nm,0.9s,mb4.0,baz=79,slow=6.0,SNR=8.5						
AKBB Malin Array Si 64.19 317				*e*P	**P**	02 12 48.5	+0.2
FINES FINESS Array B 65.90 329				*i*P	**P**	02 12 59.4	+0.1
FINES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
FINES FINESS Array B 65.90 329				P	**P**	02 12 57.9	-1.4
	comp=Z,2.5nm,0.9s,mb4.2,baz=126,slow=9.7,SNR=5.3						
KMBO Kilima Mbogo 67.98 260				P	**P**	02 13 13.6	+0.3
	comp=Z,1.3nm,0.7s,mb4.1,baz=55,slow=15,SNR=4.1						
GAMB Gambell 69.52 28				*e*P	**P**	02 13 22.1	+0.1
	comp=Z,5.1nm,1.3s,mb4.3						
NOA NORSAR Array B 73.08 329				P	**P**	02 13 42.1	-1.6
	comp=Z,1.2nm,1.0s,mb3.8,baz=81,slow=5.8,SNR=2.9						
BRG Berggiesshubel 73.77 319				P	**P**	02 13 48.7	+0.8
BRG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
BRG Berggiesshubel 73.77 319				*e*(P)	**P**	02 13 48.7	+0.7
	comp=Z,2.0nm,0.6s,mb4.2						
GERES GERESS Array B 74.39 317				LR	LR	02 49 20.2	
	comp=Z,36nm,18.3s,MS3.7,baz=74,slow=38						
LSZ Lusaka 81.84 250				P	**P**	02 14 33.6	+0.2
	comp=Z,4.5nm,0.8s,mb4.4,baz=49,slow=8.9,SNR=8.8						
INK Inuvik 82.25 18				*e*P	**P**	02 14 34.0	-0.7
	comp=Z,204nm,1.2s						
YKA Yellowknife Ar 91.87 17				P	**P**	02 15 21.1	-0.6
	comp=Z,0.2nm,0.9s,mb3.5,baz=325,slow=5.4,SNR=3.9						
YKA				LR	LR	02 56 28.9	
	comp=Z,21nm,18.6s,MS3.6,baz=160,slow=36						

*TEH **02** 02:02:00.5,28.17N×5630E,h8km,ML3.8*
*IDC **02** 02:02:57.6±0.8,2823N×5637E,h0km,mb3.7/14,*
mb1 3.9/16,mb1mx3.8/27,mbtmp3.7/16,ML3.5/2,MS3.7/2,
Ms1 3.6/2,ms1mx2.8/27,Error ellipse: s-maj=20.2km
s-min=18.5km az=116.0
*ISCJB **02** 02:02:58.6±0.3,2826N±003×5621E±004,h10km,*
mb3.9/17,Error ellipse: s-maj=5.6km s-min=4.1km
az=177.5
*CSEM **02** 02:02:59.8±0.1,2820N×5627E,h2km,ML3.8,Error*
ellipse: s-maj=2.2km s-min=1.6km az=96.0
*NEIC **02** 02:03:02.9,2841N×5618E,h29km,mb3.8/6,ML3.7(THR),*
MN3.8(TEH),After THR.
*THR **02** 02:03:03.1±0.4,2842N×5617E,h28km±6km,ML3.7*
ISC 02 02:03:00.1±0.3,2822N±003×5632E±004,h10km,n68,
σ1§43/72,mb3.9/17,4C-3D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.79**	**12**	Pg	**Pg**	**02 03 32.0**	**-2.6**
KRBR	**Kerman**	**1.79**	**12**	*e*Pg	**Pg**	**02 03 32.8**	**-1.7**
KRBR				AML	AML	02 04 04.7	
	comp=N,1μm,0.4s						
BANOM	**Banah**	**2.29**	**180**	P	**Pn**	**02 03 38.8**	**+0.8**
	SNR=23						
BANOM				S	**Sn**	02 04 08.0	+1.8
GHIR	**Ghir-Karzin**	**2.94**	**272**	*e*Pn	**Pn**	02 03 48.4	+1.6
GHIR	**Ghir-Karzin**	**2.94**	**272**	Pn	**Pn**	02 03 48.0	+1.1
ISRV	**Sarvestan**	**3.04**	**293**	*e*Pn	**Pn**	02 03 50.9	+2.7
ISRV				*e*		02 05 15.7	
	comp=Z,4μm,0.5s						
IMOK	**Mouk**	**3.27**	**285**	Pn	**Pn**	02 03 53.8	+2.4
IPAR	**Pars**	**3.28**	**300**	Pn	**Pn**	02 03 54.9	+3.3
HATD	**Hatta, Dubai**	**3.39**	**183**	P	**Pn**	02 03 54.9	+1.8
	SNR=15						
IBAF	**Bafgh**	**3.42**	**349**	Pn	**Pn**	02 03 56.0	+2.6
IBAF				Sg	**Sg**	02 04 51.9	+2.0
IBAF	**Bafgh**	**3.42**	**349**	*e*Pn	**Pn**	02 03 56.0	+2.6
IBAF				*e*Sg	**Sg**	02 04 51.1	+1.2
IMEH	**Mehriz**	**3.49**	**335⇓**	*e*Pn	**Pn**	02 03 57.4	+3.0
IMEH				*e*		02 05 19.6	
	comp=Z,1μm,0.5s						
ASHO	**Ashiyiah**	**3.53**	**184**	P	**Pn**	02 03 55.4	+0.4
	SNR=26						
ASUD	**Al Ashush, Dub**	**3.69**	**194**	P	**Pn**	02 03 58.4	+1.2
ZHSF	**Zahedan**	**4.15**	**69**	*e*Pn	**Pn**	02 04 07.8	+4.4
ZHSF	**Zahedan**	**4.15**	**69**	Pn	**Pn**	02 04 07.0	+3.5
IKOO	**Kooshah**	**4.79**	**28⇑**	*e*Pn	**Pn**	02 04 15.1	+2.8
ITEG	**Tejag**	**5.11**	**24**	*e*Pn	**Pn**	02 04 19.6	+2.9
IDAH	**Dahanechah**	**5.45**	**33**	*e*Pn	**Pn**	02 04 24.1	+2.8
NASN	**Na'in**	**5.47**	**327**	*e*Pn	**Pn**	02 04 22.3	+0.6
NASN	**Na'in**	**5.47**	**327**	Pn	**Pn**	02 04 22.0	+0.3
IMON	**Monand**	**5.73**	**29**	*e*Pn	**Pn**	02 04 28.0	+2.8
BTHS		**6.44**	**231**	P	**Pn**	02 04 33.6	-1.4
IPIR	**Pirpir**	**6.46**	**315**	Pn	**Pn**	02 04 37.4	+2.2
IPIR				Sn	**Sn**	02 05 47.8	-1.1
IPIR	**Pirpir**	**6.46**	**315**	*e*Pn	**Pn**	02 04 37.6	+2.4
IPIR				*e*		02 04 43.2	
	comp=Z,333nm,0.2s						
IPIR				*e*Sn	**Sn**	02 05 47.8	-1.1
IKLH	**Kolahrood**	**6.51**	**322⇓**	*e*Pn	**Pn**	02 04 38.2	+2.2
IKLH				*e*		02 04 59.0	
	comp=N,139nm,0.2s						
BOQSS		**6.62**	**251**	P	**Pn**	02 04 35.6	-1.8
UMR	**Umm Al-Rimmam**	**7.66**	**282**	*e*P	**Pn**	02 04 51.3	-0.4
UMR				AML	AML	02 06 16.9	
	comp=Z,16nm,0.3s						
RDF	**Al-Radifah**	**7.74**	**277**	*e*P	**Pn**	02 04 52.8	-0.1
RDF				AML	AML	02 06 19.8	
	comp=Z,8.9nm,0.5s						
MIB	**Mutribah**	**8.02**	**283**	*e*P	**Pn**	02 04 56.5	-0.1
NAY	**Al-Naaiem**	**8.03**	**279**	*e*P	**Pn**	02 04 56.1	-0.7
NAY				AML	AML	02 06 25.6	
	comp=Z,4.4nm,0.6s						
RST	**Umm Al-Ruwaisa**	**8.27**	**281**	*e*P	**Pn**	02 04 59.5	-0.6
RST				AML	AML	02 06 31.8	
	comp=Z,6.7nm,0.5s						
ASAO	**Ashtian**	**8.28**	**321**	*e*Pn	**Pn**	02 05 00.9	+0.6
ASAO				AML	AML	02 06 41.7	
	comp=N,7.2nm,0.6s						
ASAO				AML	AML	02 06 57.8	
	comp=E,5.2nm,0.6s						
ASAO	**Ashtian**	**8.28**	**321**	Pn	**Pn**	02 05 00.0	-0.3
SNGE	**Sanandaj**	**10.26**	**314**	*e*Pn	**Pn**	02 05 27.8	+0.5
SNGE	**Sanandaj**	**10.26**	**314**	Pn	**Pn**	02 05 27.0	-0.4
IGHG	**Ghaleghazi**	**10.32**	**309**	*e*Pn	**Pn**	02 05 29.9	+1.7
ASF	**Jabal al Asfar**	**17.24**	**288**	P	**Pn**	02 07 00.9	-0.1
	comp=E,0.3nm,0.3s,baz=253,slow=2.7,SNR=3.3						
MALT	**Malatya**	**18.00**	**309**	*e*P	**Pn**	02 07 09.9	-0.5
	comp=E,3.5nm,0.9s						
MALT	**Malatya**	**18.00**	**309**	*e*P	**Pn**	02 07 09.9	-0.5
	comp=E,3.5nm,0.9s						
MMAI	**Mount Meron Ar**	**18.61**	**290**	P	**Pn**	02 07 17.1	-0.8
	comp=E,0.1nm,0.3s,baz=100,slow=16,SNR=2.6						
AML	**Almayashu**	**19.80**	**41**	*e*P	**Pn**	02 07 30.9	-1.3
	comp=E,3.2nm,0.8s						
AML	**Almayashu**	**19.80**	**41**	*e*P	**Pn**	02 07 30.9	-1.3
	comp=E,3.2nm,0.8s						
AAK	**Ala-Archa**	**20.58**	**41**	*e*P	**P**	02 07 38.5	-0.6
	comp=E,1.5nm,0.7s						
AAK	**Ala-Archa**	**20.58**	**41**	P	**P**	02 07 39.3	+0.2
	comp=E,0.8nm,0.3s,baz=264,slow=10,SNR=3.7						
AAK	**Ala-Archa**	**20.58**	**41**	*e*P	**P**	02 07 38.5	-0.6
	comp=E,1.5nm,0.7s						
AKTK	**Aktyubinsk**	**22.22**	**3**	P	**P**	02 07 54.6	-2.0
AKTO	**Aktyubinsk**	**22.22**	**3**	P	**P**	02 07 54.6	-2.0
	comp=E,1.4nm,0.6s,mb3.5,baz=175,slow=14,SNR=6.0						
BVAR	**Borovoye Array**	**26.88**	**19**	P	**P**	02 08 39.2	-1.7
	comp=E,1.1nm,0.7s,mb3.5,baz=188,slow=9.7,SNR=4.7						
MKAR	**Makanchi Array**	**27.52**	**41**	LR	LR	02 21 08.8	
	comp=E,84nm,20.8s,baz=168,slow=40						
AKASG	**Malin Array Be**	**30.39**	**325**	P	**P**	02 09 10.6	-1.6
	comp=E,0.4nm,0.5s,mb3.4,baz=130,slow=8.6,SNR=5.5						
GERES	**GERESS Array B**	**38.54**	**314**	P	**P**	02 10 22.1	-0.6
	comp=E,0.4nm,0.7s,mb3.3,baz=121,slow=12,SNR=3.8						
KHC	**Kasperske Hory**	**38.70**	**315**	*e*P	**P**	02 10 23.4	-0.6
KHC				*e*x	x	02 10 27.9	
WTTA	**Wattenberg**	**39.48**	**311⇑**	*i*P	**P**	02 10 29.4	-1.2
	com

LPAZ	La Paz	50.15	306	eP	P	02 20 16.9	0.0
	1.4nm,0.5s,mb4.2						
LPAZ	La Paz	50.15	306	P	P	02 20 17.4	+0.5
	0.9nm,0.4s,mb4.1,baz=141,slow=8.0,SNR=9.2						
YKA	Yellowknife Ar	136.00	318	PKP	PKPdf	02 30 39.3	-1.7
	0.1nm,0.4s,baz=130,slow=2.3,SNR=7.9						
INK	Inuvik	145.64	321	ePKPbc	PKPbc	02 30 55.6	-3.1
SONM	Songino Array	151.06	87	PKPbc	PKPbc	02 31 09.0	-4.6
	0.7nm,0.4s,baz=227,slow=4.5,SNR=7.8						

*TRN **02** 02:30:08.8, 1753N×6246W, h101km, MD3.5, M4.4(FDF)*
TRN Felt St. Bartholomew (II).
*ISCJB **02** 02:30:09.3±0.5, 1750N±006×6251W±004, h107km±4km, mb3.5/3, Error ellipse: s-maj=11.7km s-min=3.2km az=31.1*
*IDC **02** 02:30:09.5±2.7, 1756N×6244W, h90km±43km, mb3.1/3, mb1 3.4/4, mb1mx3.1/21, mbtmp3.1/4, Error ellipse: s-maj=97.4km s-min=7.8km az=23.0*
*RSPR **02** 02:30:10.1, 1764N×6246W, h91km±18km, MD4.0/9, MD4.0/9*
*NEIC **02** 02:30:11.8, 1770N×6224W, h25km, MD4.0(RSPR), MD3.5(TRN), After TRN.*

ISC 02 02:30:10.3±0.5, 1751N±006×6249W±004, h101km±4km, n62, σ0§93/90, mb3.5/3, 24C-1D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKI	Saint Kitts	0.30	234	⇓iP	Pn	02 30 26.0	+1.0
SKI				eS	Sn	02 30 36.3	+0.4
SKTB	Turtle Beach	0.32	202	eP	Pn	02 30 26.1	+0.9
SKTB				eS	Sn	02 30 35.8	-0.4
NVRH	Round Hill, Ne	0.34	198	eP	Pn	02 30 25.7	+0.5
NVRH				eS	Sn	02 30 36.2	-0.2
BPA	Boggy Peak	0.76	127⇑	eP	Pn	02 30 27.8	-0.6
BPA				eS	Sn	02 30 40.6	-1.3
STMA	St. Maarten, A	0.80	312⇑	eP	Pn	02 30 30.5	+1.8
STMA				eS	Sn	02 30 43.7	+1.2
LZG	Guadaloupe-1	1.52	153	eP	Pn	02 30 36.9	0.0
BCG	Bois Riant Cap	1.64	149	eP	Pn	02 30 38.7	+0.3
SCG	Saint Claude	1.66	152	eP	Pn	02 30 39.0	+0.3
DOG	Dongo Capester	1.69	150	eP	Pn	02 30 39.5	+0.5
HMG	Houelmont	1.70	153	eP	Pn	02 30 39.6	+0.5
DEG	La Desirade	1.81	131	eP	Pn	02 30 40.1	-0.5
TBG	Guadaloupe-3	1.83	154	eP	Pn	02 30 40.8	-0.1
MGG	Marie-Galante	1.94	144	eP	Pn	02 30 42.4	+0.2
ABV	Anegada	2.13	305⇑	eP	Pn	02 30 44.2	-0.4
ABV	Anegada	2.13	305	eP	Pn	02 30 45.2	+0.6
ABV				eS	Sn	02 31 10.2	-0.7
CDVI	St. Croix	2.19	277⇑	eP	Pn	02 30 45.4	+0.1
CDVI				eS	Sn	02 31 11.6	-0.5
TBVI	Tortola	2.22	294⇑	eP	Pn	02 30 45.0	-0.7
TBVI	Tortola	2.22	294	eS	Sn	02 31 09.6	-3.3
TBVI	Tortola	2.22	294⇑	eP	Pn	02 30 45.1	-0.7
TBVI	Tortola	2.22	294	eS	Sn	02 31 10.0	-2.9
TBVI	Tortola	2.22	294⇑	eP	Pn	02 30 45.1	-0.7
TBVI				eS	Sn	02 31 10.0	-2.9
STVI	Saint Thomas	2.49	290	eS	Sn	02 31 16.5	-2.8
STVI	Saint Thomas	2.49	290⇑	eP	Pn	02 30 48.7	-0.6
STVI	Saint Thomas	2.49	290	eS	Sn	02 31 16.6	-2.7
STVI	Saint Thomas	2.49	290⇑	eP	Pn	02 30 48.8	-0.6
STVI				eS	Sn	02 31 16.6	-2.7
STVI	Saint Thomas	2.49	290	eP	Pn	02 30 48.8	-0.6
STVI				eS	Sn	02 31 16.5	-2.8
MTP	Monte Pirata	2.98	282	ePn	Pn	02 30 48.5	-7.3
MTP				eSn	Sn	02 31 21.1	-10
FDF	Fort de France	3.04	155	eP	Pn	02 30 56.5	-0.2
FDF				eS	Sn	02 31 31.0	-1.4
HUMP	Col San Antoni	3.26	282	eS	Sn	02 31 37.3	-0.4
HUMP	Col San Antoni	3.26	282⇑	eP	Pn	02 31 00.1	+0.5
HUMP	Col San Antoni	3.26	282	eS	Sn	02 31 38.5	+0.8
HUMP	Col San Antoni	3.26	282⇑	eP	Pn	02 31 00.1	+0.5
HUMP				eS	Sn	02 31 38.5	+0.8
HUMP	Col San Antoni	3.26	282	eP	Pn	02 30 59.9	+0.3
HUMP				eS	Sn	02 31 37.3	-0.4
CPD	Cerro la Pandu	3.31	280⇑	eP	Pn	02 30 58.0	-2.2
CPD	Cerro la Pandu	3.31	280	eS	Sn	02 31 36.9	-1.9
MVM	Montagne Vaucl	3.31	152	eP	Pn	02 30 59.8	-0.5
MVM				eS	Sn	02 31 39.8	+0.9
SJG	San Juan	3.54	280⇑	eP	Pn	02 31 00.7	-2.6
SJG				eS	Sn	02 31 44.1	-0.2
SJG	San Juan	3.54	280⇑	eP	Pn	02 31 02.5	-0.8
SJG				eS	Sn	02 31 44.3	0.0
SJG	San Juan	3.54	280⇑	eP	Pn	02 31 03.4	+0.1
SJG	San Juan	3.54	280⇑	eP	Pn	02 31 03.0	-0.3
SJG				eS	Sn	02 31 43.7	-0.6
SJG	San Juan	3.54	280	P	Pn	02 31 02.4	-1.0
	4.0nm,0.3s,baz=59,slow=12,SNR=7.7						
SJG				S	Sn	02 31 44.9	+0.6
	12nm,0.3s,baz=345,slow=20,SNR=11						
SJG	San Juan	3.54	280	eP	Pn	02 31 00.7	-2.6
SJG	San Juan	3.54	280	eP	Pn	02 31 03.0	-0.3
SJG				eS	Sn	02 31 43.9	-0.5
SJG				eS	Sn	02 31 44.1	-0.2
ICM	Isla Caja Muer	3.86	276	eS	Sn	02 31 53.4	+1.3
CELP	Cerrillos	3.94	279⇑	eP	Pn	02 31 09.4	+0.7
CELP				eS	Sn	02 31 55.8	+1.9
CELP	Cerrillos	3.94	279	eP	Pn	02 31 09.1	+0.4
AOPR	Arecibo Observ	4.14	282⇑	eP	Pn	02 31 12.1	+0.7
AOPR	Arecibo Observ	4.14	282⇑	eP	Pn	02 31 12.1	+0.7
AOPR				eS	Sn	02 32 00.4	+1.5
AOPR	Arecibo Observ	4.14	282	eP	Pn	02 31 12.1	+0.6
AOPR				eS	Sn	02 31 58.0	-0.9
LRS	Lares	4.22	281⇑	eP	Pn	02 31 12.7	+0.2
LRS				eS	Sn	02 32 01.2	+0.4
LRS	Lares	4.22	281	eP	Pn	02 31 12.8	+0.3
LSP	Las Mesas	4.43	279	eS	Sn	02 32 06.5	+0.7
CRPR	Cabo Rojo, PR	4.43	277⇑	eP	Pn	02 31 15.0	-0.4
CRPR	Cabo Rojo, PR	4.43	277⇑	eP	Pn	02 31 15.0	-0.4
CRPR				eS	Sn	02 32 08.1	+2.2
CRPR	Cabo Rojo, PR	4.43	277	eP	Pn	02 31 14.9	-0.5
CRPR				eS	Sn	02 32 05.7	-0.2
AGPR	Aguadilla, PR	4.50	283⇑	eP	Pn	02 31 15.5	-0.8
AGPR				eS	Sn	02 32 07.4	-0.1
SMN1	Samana, DR	6.66	286⇑	eP	Pn	02 31 45.3	-0.3
TXAR	Lajitas Array	39.39	295	P	P	02 37 30.4	+0.1
TXAR	Lajitas Array	39.39	295	P	P	02 37 30.4	+0.1
	0.1nm,0.3s,mb3.1,baz=117,slow=9.3,SNR=4.9						
DBIC	Dimbokro	57.18	93	P	P	02 39 48.1	+0.8
	1.7nm,0.9s,mb4.1,baz=276,slow=8.8,SNR=3.6						
YKA	Yellowknife Ar	57.53	334	P	P	02 39 48.7	-0.1
YKA	Yellowknife Ar	57.53	334	P	P	02 39 48.7	-0.1
	0.2nm,0.4s,mb3.5,baz=104,slow=7.3,SNR=6.0						

*IDC **02** 03:43:40.6±6.8, 5267N×171.11W, h44km±60km, mb3.3/6, mb1 3.6/7, mb1mx3.4/24, mbtmp3.4/7, ML3.5/1, Error ellipse: s-maj=38.3km s-min=35.9km az=40.0*
*ISCJB **02** 03:43:43.0±0.9, 525N±0.1×17070W±0.10, h76km±8km, mb3.4/6, Error ellipse: s-maj=24.3km s-min=7.2km az=163.7*
*NEIC **02** 03:43:45.3, 5237N×17057W, h41km, ML3.4(AEIC), After AEIC.*

ISC 02 03:43:44.3±0.8, 525N±01×17068W±010, h71km±8km, n17, σ1§20/20, mb3.4/6, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.20	67	P	Pn	03 44 04.2	-1.0
NIKO				S	Sn	03 44 19.5	-1.5
UNV	Unalaska Valle	2.84	61	P	Pn	03 44 27.6	+0.4
UNV				S	Sn	03 45 00.8	+0.5
AKLV	Akutan Long Va	3.27	58	P	Pn	03 44 33.8	+0.7
AKUT	Akutan	3.35	59	P	Pn	03 44 35.9	+1.7
ADK	Adak	3.75	263	ePn	Pn	03 44 40.0	+0.4
ADK				eSn	Sn	03 45 22.4	-0.1
SPIA	Saint Paul Isl	4.67	3	P	Pn	03 44 53.5	+1.4
KDAK	Kodiak Island	11.60	56	P	Pn	03 46 24.3	-2.4
KDAK	Kodiak Island	11.60	56	P	Pn	03 46 24.3	-2.4
	0.3nm,0.3s,baz=266,slow=14,SNR=8.3						
DLBC	Dease Lake	23.49	59	P	P	03 48 49.3	+2.0
	baz=276,slow=8.8						
INK	Inuvik	23.66	34	P	P	03 48 47.7	-1.1
INK	Inuvik	23.66	34	P	P	03 48 47.7	-1.1
	0.9nm,0.6s,mb3.3,baz=249,slow=7.0,SNR=9.3						
YKA	Yellowknife Ar	30.74	49	P	P	03 49 51.7	-0.5
YKA	Yellowknife Ar	30.74	49	P	P	03 49 51.7	-0.5
	0.2nm,0.5s,mb3.1,baz=274,slow=7.9,SNR=6.9						
NVAR	Mina Array Bea	38.47	90	P	P	03 51 00.6	+1.5
	0.3nm,0.6s,mb3.3,baz=301,slow=5.0,SNR=4.2						
TXAR	Lajitas Array	53.54	88	P	P	03 52 57.6	+0.1
	0.3nm,0.6s,mb3.5,baz=298,slow=4.7,SNR=4.0						
NOA	NORSAR Array B	66.78	359	P	P	03 54 25.6	-1.9
	0.2nm,0.5s,mb3.2,baz=3.6,slow=6.6,SNR=2.7						
ASAR	Alice Springs	89.88	229	P	P	03 56 34.5	-0.6
	0.5nm,0.5s,mb3.9,baz=25,slow=4.7,SNR=5.4						

*MOS **02** 03:46:48.6±1.3, 5544N×16180E, h27km, mb4.2/4, Error ellipse: s-maj=16.9km s-min=7.5km az=77.2*
*KRSC **02** 03:46:50.1±0.4, 5508N×16226E, h29km±29km, ML4.6*
*ISCJB **02** 03:46:51.4±0.5, 55.11N±003×16225E±007, h61km±5km, mb4.0/22, Error ellipse: s-maj=7.4km s-min=3.9km az=19.1*
*IDC **02** 03:46:51.1±0.7, 5525N×16187E, h34km±6km, mb3.7/15, mb1 3.9/16, mb1mx3.8/24, mbtmp3.7/16, ML3.8/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/29, Error ellipse: s-maj=20.0km s-min=13.6km az=139.0*
*NEIC **02** 03:46:54.0±1.3, 5524N×16191E, h63km±12km, mb4.0/5, Error ellipse: s-maj=9.9km s-min=7.7km az=143.0*

ISC 02 03:46:52.4±0.6, 5512N±003×16227E±008, h50km±5km, h37km±2.3km: pP-P, n60, σ1§12/78, mb4.0/22, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.65	209	iP	Pn	03 47 03.0	-2.4
MKZ				iS	Sn	03 47 11.5	-3.4
KBTR	Krutoberegovo	1.13	16	iP	Pn	03 47 10.7	-1.1
KBTR				iS	Sn	03 47 26.2	-0.1
ZLN	Zelenaya	1.22	318	P	Pn	03 47 13.1	0.0
TUMR	Tumrok	1.23	278	iP	Pn	03 47 12.8	-0.3
TUMR				iS	Sn	03 47 29.3	+0.8
KMNR	Kamenistaya	1.32	300	iP	Pn	03 47 14.1	-0.3
KMNR				iS	Sn	03 47 31.0	+0.2
KPT	Kopyto	1.44	307	eP	Pn	03 47 15.9	-0.1
KPT				iS	Sn	03 47 35.3	+1.6
KLY	Klyuchi	1.50	323	iP	Pn	03 47 15.3	-1.6
KLY				iS	Sn	03 47 34.0	-1.3
KOZR	Kozyr	1.64	306	PN	Pn	03 47 19.1	+0.3
KOZ	Kozyrevsk	1.65	306	eP	Pn	03 47 19.1	+0.2
KOZ				iS	Sn	03 47 39.8	+0.9
SRKR	Sorokina	1.65	339	eP	Pn	03 47 19.1	+0.2
SRKR				iS	Sn	03 47 40.6	+1.6
SRDR	Sredinnyy	1.87	311	eP	Pn	03 47 21.9	0.0
SRDR				iS	Sn	03 47 44.6	+0.2
KII	Karymskiy	1.97	238	eP	Pn	03 47 23.1	-0.1
KII				iS	Sn	03 47 47.5	+0.8
SPN	Mys Shipunski	2.42	214	eP	Pn	03 47 27.4	-2.0
SPN				iS	Sn	03 47 54.2	-3.6
NLC	Nalytchevo	2.60	222	eP	Pn	03 47 31.4	-0.5
NLC				iS	Sn	03 48 02.0	-0.3
AVH	Avacha	2.79	230	eP	Pn	03 47 35.1	+0.7
AVH				iS	Sn	03 48 08.1	+1.3
GNL	Ganaly	2.90	242	eP	Pn	03 47 36.6	+0.6
GNL				iS	Sn	03 48 10.3	+0.6
PET	Petropavlovsk	2.99	227	⇑iPN	Pn	03 47 37.9	+0.6
PET				eS	Sn	03 48 14.1	+2.3
PET				pmax	pmax		
	comp=Z,69nm,0.4s						
PET				smax			
	comp=E,600nm,0.4s						
PET				smax			
	comp=E,695nm,0.5s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	Petropavlovsk	2.99	227	ePn	Pn	03 47 37.8	+0.5
PET				eSn	Sn	03 48 14.2	+2.3
PET	Petropavlovsk	2.99	227	eP	Pn	03 47 38.0	+0.7
PET				iS	Sn	03 48 12.4	+0.6
RUS	Russkaya	3.50	221	eP	Pn	03 47 43.9	-0.3
RUS				iS	Sn	03 48 23.5	-0.7
GRL	Gorelyy	3.58	226	eP	Pn	03 47 45.8	+0.5
MIPR	Malaya Ipel'ka	4.34	231	P	Pn	03 47 55.4	-0.3
ASAJ	Asahikawa	16.78	237	P	Pn	03 50 42.3	-1.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,39nm,21.7s						
ASAJ	Asahikawa	16.78	237	Pn	Pn	03 50 42.3	-1.3
	comp=Z,0.6nm,0.3s,baz=165,slow=28,SNR=2.9						
ASAJ				LR	LR	03 56 04.4	
	comp=Z,39nm,21.7s,baz=93,slow=33						
ERM	Erimo	18.14	232	iP	Pn	03 51 01.7	+1.4
YAK	Yakutsk	18.18	306	eP	Pn	03 50 53.6	-7.1
YAK				pmax	pmax		
	comp=Z,10.0nm,0.6s						
TIXI	Tiksi	21.83	332	iP	P	03 51 34.9	-5.0
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb3.9						
TIXI	Tiksi	21.83	332	eP	P	03 51 39.6	-0.3
	comp=Z,5.2nm,0.8s,mb4.0						
MJAR	Matsushiro Arr	24.81	231	P	P	03 52 09.8	+0.3
	comp=Z,2.2nm,0.7s,mb3.8,baz=31,slow=7.6,SNR=5.1						
INK	Inuvik	31.48	40	P	P	03 53 09.5	+0.7
	comp=Z,1.1nm,0.5s,mb3.9,baz=293,slow=7.9,SNR=11						
ULN	Ulaanbaatar	34.33	281	eP	P	03 53 29.8	-3.9
SONM	Songino Array	34.71	282	P	P	03 53 36.5	-0.6
	comp=Z,0.3nm,0.5s,mb3.5,baz=66,slow=8.2,SNR=2.3						
YKA	Yellowknife Ar	40.81	45	P	P	03 54 29.4	+1.1
	comp=Z,1.5nm,0.5s,mb3.9,baz=299,slow=8.0,SNR=34						
RES	Resolute Bay	40.95	23	eP	P	03 54 29.4	0.0
	comp=Z,30nm,0.7s,mb5.0						
MKAR	Makanchi Array	48.44	295	P	P	03 55 27.9	-1.3
	comp=Z,0.3nm,0.2s,mb3.9,baz=57,slow=10,SNR=3.7						
MKAR				LR	LR	04 16 34.5	
	comp=Z,33nm,19.4s,baz=174,slow=37						
BVAR	Borovoye Array	50.13	308	P	P	03 55 39.7	-2.4
	comp=Z,0.8nm,0.4s,mb4.1,baz=29,slow=9.1,SNR=3.4						
FCC	Fort Churchill	51.10	41	eP	P	03 55 49.6	+0.3
FCC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
FCC	Fort Churchill	51.10	41	eP	P	03 55 49.6	+0.3
	comp=Z,1.5nm,0.6s,mb4.1						
ARCES	ARCESS Array B	51.75	342	P	P	03 55 54.7	+0.7
	comp=Z,3.2nm,0.9s,mb4.2,baz=13,slow=8.6,SNR=5.4						
ARU	Arti	52.77	317	eP	P	03 55 58.8	-2.9
ARU				e		03 57 58.9	
ARU				eS	S	04 03 21.7	-4.1
ARU				SS	SS	04 06 56.7	-7.5
TKM2	Tokmak 2	54.55	296	eP	P	03 56 13.6	-1.4
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.4						
TKM2	Tokmak 2	54.55	296	eP	P	03 56 13.6	-1.4
	comp=Z,1.8nm,0.5s,mb4.4						
BW06	Boulder Array	55.44	63	eP	P	03 56 23.0	+1.6
	comp=Z,0.8nm,0.8s,mb3.8						
DUG	Dugway	55.59	68	eP	P	03 56 24.6	+2.1
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
DUG	Dugway	55.59	68	eP	P	03 56 24.6	+2.1
	comp=Z,0.9nm,0.7s,mb3.9						
JOF	Joensuu	56.26	335	ep	P	03 56 25.0	-1.9
	comp=Z,0.8nm,0.4s,mb4.1						
ULM	Lac du Bonnet	56.51	49	P	P	03 56 30.3	+1.4
ULM	Lac du Bonnet	56.51	49	P	P	03 56 30.3	+1.4
	comp=Z,1.1nm,0.4s,mb4.2,baz=324,slow=8.2,SNR=4.8						
FINES	FINESS Array B	58.76	337	iP	P	03 56 44.0	-0.5
FINES	FINESS Array B	58.76	337	P	P	03 56 43.7	-0.8
FINES	FINESS Array B	58.76	337	P	P	03 56 43.7	-0.8
	comp=Z,0.4nm,0.5s,mb3.7,baz=28,slow=8.6,SNR=6.3						
NB2	NORSAR Subarra	61.94	345	P	P	03 57 04.8	-1.4
	comp=Z,0.1nm,0.5s,mb3.2,baz=21,slow=6.9						
NOA	NORSAR Array B	61.94	345	P	P	03 57 04.9	-1.3
	comp=Z,0.7nm,0.6s,mb4.0,baz=19,slow=6.9,SNR=5.4						
SCHQ	Schefferville	63.25	29	P	P	03 57 14.9	-0.2
	comp=Z,0.5nm,0.3s,mb4.0,baz=333,slow=11,SNR=3.9						
AKASG	Malin Array Be	67.52	330	P	P	03 57 41.7	-1.0
	comp=Z,0.5nm,0.4s,mb3.9,baz=25,slow=7.1,SNR=3.2						
TXAR	Lajitas Array	68.69	69	P	P	03 57 52.2	+1.8
	comp=Z,0.5nm,0.6s,mb3.6,baz=290,slow=4.9,SNR=8.4						
TXAR				pP	pP	03 58 04.2	-0.4
	comp=Z,0.4nm,0.6s,baz=306,slow=4.5,SNR=4.5						
WRA	Warramunga Arr	78.47	207	P	P	03 58 48.1	+0.5
	comp=Z,0.8nm,0.7s,mb3.7,baz=21,slow=6.0,SNR=8.5						
WRA				pP	pP	03 58 58.9	-3.3
	comp=Z,0.8nm,0.7s,baz=16,slow=5.9,SNR=5.0						
ASAR	Alice Springs	82.14	206	eP	P	03 59 08.8	+1.5
ASAR	Alice Springs	82.14	206	P	P	03 59 08.6	+1.2
	comp=Z,1.0nm,0.5s,mb4.0,baz=18,slow=4.9,SNR=11						
ASAR				pP	pP	03 59 18.6	-3.3
	comp=Z,1.4nm,0.9s,baz=11,slow=4.9,SNR=6.0						
QSPA	South Pole Qui	144.87	180	PKPbc	PKPdf	04 06 21.2	-0.5
	comp=Z,1.9nm,0.6s,baz=351,slow=1.5,SNR=8.7						

*ISCJB **02** 04:01:52.2±0.9, 2059N±009×10278E±009, h10km, mb3.7/4, Error ellipse: s-maj=13.9km s-min=9.6km az=140.0*
*IDC **02** 04:01:52.4±1.8, 2063N×103.14E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.5/19, mbtmp3.8/4, MS3.1/1, Ms1 3.1/1, ms1mx2.4/28, Error ellipse: s-maj=103.1km s-min=25.1km az=63.0*

ISC 02 04:01:54.1±0.9, 2056N±009×10278E±009, h10km, n8, σ1§51/10, mb3.7/4, 1C, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	Nan	2.63	229	P	Pn	04 02 36.0	-0.6
NANT				PG	Pg	04 02 43.0	-1.5
CHRT	Chiangrai	2.90	257	PG	Pg	04 02 53.0	+3.3
CHRT				SG	Sn	04 03 13.0	-2.2
CHG	Chiang Mai	4.01	245	⇑P	Pg	04 03 13.8	+2.8
	74nm,0.8s						
KKTK	Khon Kaen	4.20	179	P	Pn	04 03 00.0	+1.8
SONM	Songino Array	27.37	5	P	P	04 07 38.9	-0.4
	0.2nm,0.3s,mb3.1,baz=171,slow=10,SNR=3.8						
MKAR	Makanchi Array	31.05	332	P	P	04 08 12.9	+0.9
	1.1nm,0.6s,mb3.9,baz=134,slow=9.3,SNR=12						
ZALV	Zalesovo Beam	36.05	342	P	P	04 08 55.4	-0.1
	1.7nm,0.7s,mb4.1,baz=131,slow=6.8,SNR=6.0						
WRA	Warramunga Arr	50.74	141	P	P	04 10 53.0	-1.4
	0.7nm,0.8s,mb3.6,baz=330,slow=8.0,SNR=7.4						

*IDC **02** 04:22:20.8±0.9, 2163N×14584E, h0km, mb3.6/7, mb1 3.9/9, mb1mx3.8/20, mbtmp3.8/9, ML4.1/3, MS2.9/2, Ms1 2.9/2, ms1mx2.5/26, Error ellipse: s-maj=31.3km s-min=17.6km az=83.0*
*ISCJB **02** 04:22:23.9±0.8, 2158N±008×1456E±02, h33km, mb3.6/7, Error ellipse: s-maj=28.4km s-min=10.9km az=170.3*

ISC 02 04:22:24.9±4.6, 2164N±008×1456E±02, h25km±34km, n12, σ1§13/11, mb3.6/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	6.28	331	Pn	Pn	04 23 55.1	-0.8
	6.5nm,0.3s,baz=107,slow=19,SNR=5.8						
CBIJ				Sn	Sn	04 25 04.3	-2.5
	4.9nm,0.3s,baz=288,slow=19,SNR=3.1						
GUMO	Guam	8.04	185	Pn	Pn	04 24 19.4	-0.7
	12nm,0.3s,baz=61,slow=19,SNR=5.8						
MJAR	Matsushiro Arr	16.20	338	Pn	Pn	04 26 11.9	+1.1
	0.4nm,0.3s,baz=162,slow=10,SNR=5.7						
JOW	Kunigami	16.66	291	LR	LR	04 31 43.9	
	comp=Z,46nm,20.8s,baz=250,slow=34						
JNU	Nakatsue	17.38	314	LR	LR	04 31 57.2	
	comp=Z,38nm,20.9s,baz=38,slow=33						
KSRS	Korea Array	21.98	320	P	P	04 27 19.6	+2.6
	1.7nm,0.6s,mb3.7,baz=146,slow=9.3,SNR=7.2						
SONM	Songino Array	40.85	319	P	P	04 30 04.8	+0.3
	0.4nm,0.5s,mb3.3,baz=136,slow=5.5,SNR=5.0						
WRA	Warramunga Arr	42.78	196	P	P	04 30 20.5	0.0
	1.4nm,0.6s,mb3.9,baz=17,slow=8.7,SNR=29						
ASAR	Alice Springs	46.46	195	P	P	04 30 49.6	-0.2
	0.5nm,0.7s,mb3.6,baz=12,slow=8.1,SNR=6.4						
MKAR	Makanchi Array	56.42	313	P	P	04 32 05.0	+0.7
	0.2nm,0.2s,mb3.7,baz=97,slow=10,SNR=2.6						
YKA	Yellowknife Ar	75.43	28	P	P	04 34 05.1	-1.2
	0.3nm,0.7s,mb3.4,baz=292,slow=5.5,SNR=6.9						
NVAR	Mina Array Bea	81.38	52	P	P	04 34 40.1	+0.5
	0.3nm,0.5s,mb3.5,baz=312,slow=5.9,SNR=3.3						

IDC 02 04:44:16.5±0.6, 2179N×14322E, h28km±3km, mb3.4/7, mb1 3.6/7, mb1mx3.6/17, mbtmp3.4/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=22.4km s-min=15.9km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	14.52	293	LR	LR	04 52 38.7	
	comp=Z,30nm,21.6s,baz=324,slow=35						
KSRS	Korea Array	20.46	323	P	P	04 48 55.8	+3.9
	0.4nm,0.3s,baz=142,slow=8.6,SNR=3.6						
SONM	Songino Array	39.29	320	P	P	04 51 43.0	+0.2
	0.3nm,0.5s,baz=131,slow=5.9,SNR=2.2						
SONM				sP	sP	04 51 56.1	+1.5
	0.9nm,0.6s,baz=111,slow=8.1,SNR=3.4						
WRA	Warramunga Arr	42.37	192	P	P	04 52 07.9	-0.6
	0.2nm,0.5s,baz=16,slow=9.3,SNR=7.1						
ASAR	Alice Springs	46.08	192	P	P	04 52 38.5	+0.4
	0.2nm,0.6s,baz=16,slow=13,SNR=4.4						
ASAR				pP	pP	04 52 45.9	-0.7
	0.4nm,0.6s,baz=16,slow=9.4,SNR=3.6						
ASAR				sP	sP	04 52 51.4	+1.5
	0.5nm,0.6s,baz=15,slow=11,SNR=4.0						
ZALV	Zalesovo Beam	54.16	322	P

0.3nm,0.7s,mb3.4,baz=241,slow=3.5,SNR=4.3
FFC Flin Flon 85.72 32 *e*P **P 05 10 49.8 +0.5**
3.0nm,1.0s,mb4.5

MEX 02 05:29:52.5±0.4, 1621N×9813W, h4km±4km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.18**	**360**	*i* P	Pg	05 29 55.9	-0.1
PNIG				*i* S	Sg	05 29 58.5	0.0
VHO	**Vista Hermosa**	**1.59**	**57**	*i* P	Pn	05 30 17.9	-3.5
VHO				*i* S	Sn	05 30 38.8	-3.6
OXX	**Oaxaca**	**1.60**	**57**	*i* P	Pn	05 30 25.0	+3.4
OXX				*i* S	Sn	05 30 39.5	-3.2
ACX	**Acapulco**	**1.84**	**291**	*e*P	Pn	05 30 29.5	+4.7
ACX				*e*S	Sn	05 30 41.0	-7.6
MEIG	**Mezcala**	**2.23**	**320**	*i* P	Pn	05 30 27.8	-2.4
MEIG				*i* S	Sn	05 30 53.4	-4.8
TPIG	**Tehuac#an**	**2.31**	**18**	*i* P	Pn	05 30 28.6	-2.8
TPIG				*i* S	Sn	05 30 56.4	-4.0
PPM	**Popocatepetl**	**2.88**	**351**	*e*P	Pn	05 30 37.4	-1.8
PPM				*i* S	Sn	05 31 11.2	-3.1
CMIG	**Matias Romero**	**3.23**	**74**	*e*P	Pn	05 30 42.0	-2.0
CMIG				*i* S	Sn	05 31 18.8	-4.1

IDC 02 05:34:19.4±1.9, 594N×12326E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.6/19, mbtmp3.8/4, Error ellipse: s-maj=143.4km s-min=24.3km az=66.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**24.00**	**174**	*e*P	P	05 39 37.6	+1.6
	5.5nm,1.5s						
FITZ	**Fitzroy Crossi**	**24.00**	**174**	P	P	05 39 37.7	+1.7
	1.2nm,1.0s,baz=14,slow=15,SNR=6.3						
WRA	**Warramunga Arr**	**27.93**	**157**	P	P	05 40 10.9	-0.7
	1.0nm,0.4s,baz=332,slow=10,SNR=29						
WB2	**Warramunga Arr**	**27.94**	**157**	*e*P	P	05 40 10.9	-0.8
ASAR	**Alice Springs**	**31.21**	**161**	P	P	05 40 40.2	-0.4
	0.8nm,0.5s,baz=335,slow=6.9,SNR=14						
MKAR	**Makanchi Array**	**53.79**	**326**	P	P	05 43 43.8	0.0
	0.4nm,0.3s,baz=121,slow=8.0,SNR=6.5						

IDC 02 05:38:58.3±2.0, 3138N×13707E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/20, mbtmp3.4/3, ML3.2/1, MS3.8/1, Ms1 3.8/1, ms1mx2.5/22, Error ellipse: s-maj=69.5km s-min=30.7km az=83.0
ISCJB 02 05:39:14.6±1.8, 322N±02×1389E±02, h227km±20km, mb3.0/2, Error ellipse: s-maj=37.0km s-min=22.9km az=143.4
JMA 02 05:39:15.1±0.3, 3339N×13749E, h378km, M3.5
ISC 02 05:39:15.7±1.7, 322N±02×1389E±02, h220km±20km, n10, σ0s85/10, mb3.0/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWZ	**Kozaga**	**2.98**	**298**	P	**Pn**	**05 40 05.9**	**-0.2**
JRY	**Ryogami san**	**3.82**	**0**	P	**Pn**	**05 40 16.9**	**+1.0**
JYT	**Yasato**	**4.17**	**15**	P	**Pn**	**05 40 21.1**	**+0.9**
JAG	**Ashikaga**	**4.25**	**6**	P	**Pn**	**05 40 20.2**	**-1.0**
MJAR	**Matsushiro Arr**	**4.38**	**353**	Pn	**Pn**	**05 40 18.0**	**-4.8**
	0.8nm,0.3s,baz=187,slow=10,SNR=6.4						
JHO	**Hitachi**	**4.63**	**17**	P	**Pn**	**05 40 26.6**	**+0.8**
JFK	**Kawauchi**	**5.42**	**17**	P	**Pn**	**05 40 34.2**	**-1.6**
JFK				S	**S**	**05 41 32.0**	**-7.4**
MKAR	**Makanchi Array**	**45.09**	**306**	P	**P**	**05 47 09.9**	**+0.1**
	0.3nm,0.3s,mb3.1,baz=82,slow=8.4,SNR=4.4						
FITZ	**Fitzroy Crossi**	**51.59**	**196**	LR	LR	06 06 10.6	
	comp=Z,83nm,19.1s,baz=153,slow=32						
WRA	**Warramunga Arr**	**52.02**	**185**	P	**P**	**05 48 02.7**	**0.0**
	0.2nm,0.3s,mb3.0,baz=360,slow=7.6,SNR=5.4						

ISCJB 02 05:48:47.6±1.5, 2155N±009×143.1E±02, h308km±12km, mb3.6/16, Error ellipse: s-maj=23.2km s-min=13.8km az=3.7
IDC 02 05:48:48.3±1.8, 2160N×14303E, h297km±17km, mb3.2/11, mb1 3.4/12, mb1mx3.3/20, mbtmp3.3/12, Error ellipse: s-maj=21.5km s-min=11.6km az=90.0
NEIC 02 05:48:53.8±1.8, 2156N×14294E, h356km±18km, mb3.8/4, Error ellipse: s-maj=13.9km s-min=8.3km az=92.0
ISC 02 05:48:48.4±1.5, 2157N±009×1431E±02, h302km±12km, n27, σ0s82/24, mb3.6/16, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.56**	**352**	P	**Pn**	**05 50 12.3**	**-0.2**
	19nm,0.3s,baz=276,slow=15,SNR=13						
CBIJ				S	**S**	**05 51 18.9**	**-1.3**
	23nm,0.3s,baz=124,slow=23,SNR=12						
MJAR	**Matsushiro Arr**	**15.51**	**345**	P	**P**	**05 52 13.5**	**+2.6**
	1.3nm,0.3s,baz=167,slow=11,SNR=5.9						
MAJO	**Matsushiro**	**15.51**	**345**	*e*Pn	**Pn**	**05 52 13.8**	**+1.1**
KSRS	**Korea Array**	**20.56**	**324**	P	**P**	**05 53 05.9**	**+0.9**
	0.8nm,0.4s,baz=147,slow=8.4,SNR=4.1						
PET	**Petropavlovsk**	**33.60**	**17**	*e*P	**P**	**05 55 01.9**	**+1.2**
	8.5nm,0.4s,mb4.6						
ULN	**Ulaanbaatar**	**39.00**	**321**	*e*P	**P**	**05 55 46.6**	**+0.4**
	0.7nm,0.5s,mb3.4						
WRA	**Warramunga Arr**	**42.13**	**192**	P	**P**	**05 56 12.0**	**0.0**
	0.7nm,0.4s,mb3.2,baz=14,slow=8.9,SNR=49						
FITZ	**Fitzroy Crossi**	**42.97**	**205**	P	**P**	**05 56 18.8**	**+0.2**
	1.3nm,0.7s,mb3.3,baz=0.0,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**45.84**	**192**	P	**P**	**05 56 41.2**	**+0.1**
	0.3nm,0.5s,mb2.9,baz=18,slow=12,SNR=5.0						
ZALV	**Zalesovo Beam**	**54.25**	**322**	P	**P**	**05 57 43.9**	**+0.3**
	0.7nm,0.4s,mb3.3,baz=100,slow=6.0,SNR=2.8						
MKAR	**Makanchi Array**	**54.71**	**313**	P	**P**	**05 57 47.3**	**+0.3**
	0.4nm,0.2s,mb3.4,baz=96,slow=10,SNR=5.9						
KURK	**Kurchatov**	**57.50**	**317**	*e*P	**P**	**05 58 06.2**	**-0.4**
	1.6nm,0.6s,mb3.6						
TKM2	**Tokmak 2**	**59.35**	**308**	*e*P	**P**	**05 58 18.5**	**-0.8**
BRVK	**Borovoye**	**62.77**	**320**	*e*P	**P**	**05 58 42.1**	**0.0**
	2.6nm,0.6s,mb4.0						
INK	**Inuvik**	**67.72**	**24**	*e*P	**P**	**05 59 12.6**	**-0.8**
YKA	**Yellowknife Ar**	**76.61**	**28**	P	**P**	**06 00 05.5**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=291,slow=5.9,SNR=30						
RES	**Resolute Bay**	**77.22**	**13**	*e*P	**P**	**06 00 08.6**	**-0.4**
ARCES	**ARCESS Array B**	**79.01**	**341**	P	**P**	**06 00 19.3**	**+0.5**
	2.0nm,0.6s,mb4.0,baz=71,slow=8.5,SNR=12						
JOF	**Joensuu**	**80.39**	**334**	*e*p	**P**	**06 00 25.3**	**-1.0**
	2.8nm,0.4s,mb4.3						
FINES	**FINESS Array B**	**83.25**	**334**	P	**P**	**06 00 40.4**	**-0.8**
	1.3nm,0.4s,mb4.1,baz=74,slow=5.7,SNR=15						
NVAR	**Mina Array Bea**	**83.30**	**51**	P	**P**	**06 00 42.5**	**+0.6**
	0.7nm,0.8s,mb3.6,baz=281,slow=9.1,SNR=5.9						
FFC	**Flin Flon**	**85.99**	**32**	*e*P	**P**	**06 00 55.0**	**+0.1**
	1.0nm,0.6s,mb3.8						
AKASG	**Malin Array Be**	**87.55**	**324**	P	**P**	**06 01 01.1**	**-1.4**
	0.1nm,0.3s,mb3.1,baz=52,slow=5.4,SNR=1.8						
PLCA	**Paso Flores**	**145.75**	**132**	PKPbc	PKPbc	06 07 53.0	+0.7
PLCA	**Paso Flores**	**145.75**	**132**	PKPbc	PKPbc	06 07 53.0	+0.7
	2.5nm,0.7s,baz=305,slow=8.7,SNR=7.9						
LPAZ	**La Paz**	**150.05**	**85**	PKPbc	PKPbc	06 08 05.7	+1.5
LPAZ				PKPab	PKPab	06 08 12.8	+1.6
LPAZ	**La Paz**	**150.05**	**85**	PKPbc	PKPbc	06 08 05.7	+1.5
	1.3nm,0.6s,baz=247,slow=3.1,SNR=13						
LPAZ				PKPab	PKPab	06 08 12.8	+1.6
	0.6nm,0.4s,baz=360,slow=2.1,SNR=6.5						

IDC 02 06:49:09.5±1.2, 723S×15551E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/13, mbtmp3.8/6, ML4.3/1, Error ellipse: s-maj=29.5km s-min=25.7km az=164.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.91**	**117**	Pn	Pn	06 50 26.1	+1.6
	11nm,0.3s,baz=227,slow=1.2,SNR=4.7						
HNR				Sn	Sn	06 51 20.8	-1.2
	19nm,0.3s,baz=273,slow=18,SNR=4.3						
WRA	**Warramunga Arr**	**24.11**	**236**	P	P	06 54 27.8	+0.8
	1.2nm,0.5s,baz=61,slow=9.5,SNR=11						
ASAR	**Alice Springs**	**26.40**	**229**	P	P	06 54 47.1	-0.8
	0.4nm,0.5s,baz=58,slow=9.9,SNR=8.3						
SONM	**Songino Array**	**69.81**	**327**	P	P	07 00 23.5	+1.7
	0.7nm,0.6s,baz=144,slow=6.7,SNR=4.5						
MKAR	**Makanchi Array**	**83.92**	**319**	P	P	07 01 41.0	-0.4
	0.5nm,0.7s,baz=94,slow=4.9,SNR=5.0						
YKA	**Yellowknife Ar**	**96.30**	**28**	P	P	07 02 38.0	-1.6
	0.1nm,0.8s,baz=267,slow=4.1,SNR=4.0						

ISCJB 02 07:08:19.5±0.3, 5465N±003×1942E±006, h5km, mb3.4/2, Error ellipse: s-maj=5.5km s-min=3.2km az=41.6
NEIC 02 07:08:22.7±0.5, 5461N×1924E, h5km, Error ellipse: s-maj=10.1km s-min=6.2km az=114.0
IDC 02 07:08:23.4±0.7, 5455N×1927E, h0km, mb3.4/2, mb1 3.7/9, mb1mx3.5/24, mbtmp3.5/9, ML3.6/7, Error ellipse: s-maj=11.5km s-min=7.7km az=65.0
NAO 02 07:08:25.7±3.0, 5474N×1932E, ML3.1
CSEM 02 07:08:26.3±0.1, 5467N×1835E, h2km, ML3.1, Error ellipse: s-maj=3.4km s-min=2.6km az=110.0
PRU 02 07:08:42.7, 5322N×1843E, h0km
ISC 02 07:08:21.7±1.0, 5458N±003×1934E±006, h3km±7km, n29, σ1s56/50, mb3.4/2, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IIGN	**Ignalina**	**4.04**	**76**	*e*P	**Pg**	**07 09 38.4**	**-0.8**
	20nm,0.8s						
IZAR	**Zarasai**	**4.13**	**71**	*e*P	**Pg**	**07 09 38.3**	**-2.6**
IZAR				*e*S	**Sg**	**07 10 36.2**	**+1.8**
IDID	**Didziasalis**	**4.33**	**77**	*e*P	**Pg**	**07 09 42.5**	**-2.2**
	6.9nm,1.1s						
UPC	**Upice**	**4.55**	**208**	*e*PN	**Pn**	**07 09 32.0**	**+0.6**
UPC				*e*PG	**Pg**	**07 09 41.5**	**-7.4**
UPC				*e*SG	**Sn**	**07 10 22.4**	**-2.4**
DPC	**Dobruska-Polom**	**4.62**	**205**	*e*PN	**Pn**	**07 09 33.2**	**+0.9**
DPC				*e*PG	**Pg**	**07 09 43.4**	**-6.7**
DPC				*e*SG	**Sn**	**07 10 23.1**	**-3.3**
	comp=Z,4.1nm,0.4s						
BRG	**Berggiesshubel**	**4.95**	**224**	*e*(PG)	**Pb**	**07 09 46.9**	**-2.0**
BRG				SG	**Sn**	**07 10 31.8**	**-2.8**
	comp=Z,6.5nm,0.4s						
PVCC	**Panska Ves**	**4.99**	**218**	*e*PN	**Pn**	**07 09 39.2**	**+1.8**
PVCC				*e*x	**Pb**	**07 09 48.7**	**-0.9**
PVCC				*e*SG	**Sn**	**07 10 37.6**	**+2.0**
	comp=Z,10nm,0.4s						
CLL	**Collm**	**5.04**	**232**	*i* Pn	**Pn**	**07 09 39.4**	**+1.3**
CLL				*e*x	x	07 09 48.0	
CLL				*e*Pg	**Pg**	**07 10 03.0**	**+4.8**
CLL				*i* x	x	07 10 34.2	
CLL				*e*Sn	**Sn**	**07 10 37.0**	**+0.2**
	comp=Z,10.0nm,0.4s						
CLL				*e*x	x	07 10 50.0	
CLL				*e*Sg	**Sg**	**07 11 12.0**	**+8.6**
VRAC	**Vranov**	**5.54**	**199**	Pn	**Pn**	**07 09 45.3**	**+0.2**
	comp=Z,0.6nm,0.3s,baz=85,slow=12,SNR=3.7						
VSU	**Vasula**	**5.65**	**43**	Pn	**Pn**	**07 09 47.7**	**+1.2**
VSU				Sn	**Sn**	**07 10 54.4**	**+2.6**
HFS	**Hagfors**	**6.35**	**334**	Pn	**Pn**	**07 09 57.2**	**+1.1**
	baz=151,slow=12						
HFS				Sn	**Sn**	**07 11 06.2**	**-2.9**
	baz=145,slow=28						
HFS				Lg		07 11 39.1	
	baz=150,slow=37						
HFS	**Hagfors**	**6.35**	**334**	Pn	**Pn**	**07 09 56.9**	**+0.8**
	comp=Z,1.9nm,0.3s,baz=135,slow=15,SNR=52						
HFS				Sn	**Sn**	**07 11 07.5**	**-1.6**
	comp=Z,2.5nm,0.3s,baz=132,slow=22,SNR=7.8						
HFS				Lg		07 11 36.5	
	comp=Z,2.2nm,0.3s,baz=139,slow=27,SNR=5.1						
HFA0	**Hagfors New Ar**	**6.36**	**334**	Pn	**Pn**	**07 09 56.8**	**+0.5**
KHC	**Kasperske Hory**	**6.51**	**216**	*e*Pn	**Pn**	**07 10 00.6**	**+2.2**
	comp=Z,2.8nm,0.5s						
KHC	**Kasperske Hory**	**6.51**	**216**	*e*PN	**Pn**	**07 10 00.6**	**+2.2**
KHC				*e*SG	**Sb**	**07 11 25.7**	**-8.1**
GERES	**GERESS Array B**	**6.72**	**214**	Pn	**Pn**	**07 10 01.9**	**+0.7**
	comp=Z,0.2nm,0.3s,baz=16,slow=7.4,SNR=2.1						
AKASG	**Malin Array Be**	**7.16**	**119**	Pn	**Pn**	**07 10 07.9**	**+0.7**
	comp=Z,6.8nm,0.3s,baz=308,slow=12,SNR=21						
AKASG				Sn	**Sn**	**07 11 26.3**	**-2.6**
	comp=Z,3.2nm,0.3s,baz=310,slow=23,SNR=5.1						
AKASG				Lg		07 12 08.3	
	comp=Z,2.5nm,0.3s,baz=328,slow=13,SNR=4.3						
FIA0	**FINESS Array S**	**7.76**	**25**	Pn	**Pn**	**07 10 16.5**	**+1.1**
	baz=208,slow=10						
FIA0				Sn	**Sn**	**07 11 41.2**	**-2.5**
	baz=199,slow=22						
FINES	**FINESS Array B**	**7.76**	**25**	Pn	**Pn**	**07 10 16.1**	**+0.7**
	comp=Z,0.8nm,0.3s,baz=201,slow=11,SNR=18						
FINES				Sn	**Sn**	**07 11 40.9**	**-2.8**
	comp=Z,1.8nm,0.3s,baz=221,slow=19,SNR=9.7						
FINES	**FINESS Array B**	**7.76**	**25**	Pn	**Pn**	**07 10 16.1**	**+0.7**
FIA1	**FINESS Array S**	**7.76**	**25**	*e*Pn	**Pn**	**07 10 16.6**	**+1.2**
FIA1				*e*Sn	**Sn**	**07 11 42.3**	**-1.4**
FIA1	**FINESS Array S**	**7.76**	**25**	*e*Pn	**Pn**	**07 10 16.6**	**+1.2**
NB2	**NORSAR Subarra**	**7.79**	**330**	Pn	**Pn**	**07 10 15.1**	**-0.8**
	baz=147,slow=16						
NB2				Sn	**Sn**	**07 11 45.8**	**+1.2**
NB2				Lg		07 12 26.2	
	baz=152,slow=37						
NOA	**NORSAR Array B**	**7.79**	**330**	Pn	**Pn**	**07 10 15.1**	**-0.8**
	comp=Z,0.8nm,0.3s,baz=153,slow=12,SNR=8.4						
NOA				Sn	**Sn**	**07 11 36.8**	**-7.8**
	comp=Z,0.5nm,0.3s,baz=153,slow=21,SNR=2.8						
NOA				Lg		07 12 23.3	
	comp=Z,2.0nm,0.3s,baz=355,slow=11,SNR=5.3						
EKA	**Eskdalemuir Ar**	**12.94**	**283**	Pn	**Pn**	**07 11 25.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=92,slow=12,SNR=4.4						
ARA0	**ARCESS Array S**	**15.28**	**8**	Pn	**Pn**	**07 11 53.1**	**-4.9**
	baz=193,slow=14						
ARCES	**ARCESS Array B**	**15.28**	**8**	Pn	**Pn**	**07 11 54.3**	**-3.7**
	comp=Z,0.7nm,0.3s,baz=188,slow=14,SNR=33						
MKAR	**Makanchi Array**	**39.41**	**75**	P	**P**	**07 15 53.9**	**+1.4**
	comp=Z,0.1nm,0.3s,mb3.0,baz=324,slow=8.9,SNR=4.0						
YKA	**Yellowknife Ar**	**57.83**	**337**	P	**P**	**07 18 15.0**	**+1.2**
	comp=Z,0.5nm,0.5s,mb3.8,baz=25,slow=7.4,SNR=21						

IDC 02 07:28:19.0±5.7, 724S×15573E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.7/12, mbtmp3.7/4, Error ellipse: s-maj=168.5km s-min=32.4km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29**	**237**	P	P	07 33 39.1	+0.8
	1.1nm,0.5s,baz=63,slow=9.5,SNR=15						
ASAR	**Alice Springs**	**26.57**	**230**	P	P	07 33 58.5	-0.4
	0.1nm,0.3s,baz=62,slow=9.7,SNR=4.8						
SONM	**Songino Array**	**69.93**	**327**	P	P	07 39 32.5	+0.5
	0.4nm,0.6s,baz=128,slow=5.4,SNR=3.6						
MKAR	**Makanchi Array**	**84.07**	**319**	P	P	07 40 51.5	-0.2
	0.8nm,0.6s,baz=104,slow=5.6,SNR=8.1						

IDC 02 07:50:54.1±0.9, 2194N×143.16E, h0km, mb3.8/7, mb1 4.0/8, mb1mx3.9/18, mbtmp3.9/8, ML3.5/1, Error ellipse: s-maj=34.8km s-min=19.1km az=86.0
ISCJB 02 07:50:57.5±3.3, 219N±0.1×143.1E±02, h33km±29km, mb3.8/7, Error ellipse: s-maj=37.1km s-min=18.9km az=176.2
ISC 02 07:50:59.8±2.8, 219N±01×1431E±02, h38km±25km, n9, σ0s94/10, mb3.8/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.22**	**351**	Pn	**Pn**	**07 52 15.3**	**-0.1**
	4.0nm,0.3s,baz=286,slow=19,SNR=4.5						
CBIJ				Sn	**Sn**	**07 53 14.2**	**-0.2**
	3.8nm,0.3s,baz=287,slow=19,SNR=3.8						
KSRS	**Korea Array**	**20.30**	**323**	P	**P**	**07 55 35.8**	**+3.3**
	2.1nm,0.6s,baz=145,slow=8.8,SNR=6.6						
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**07 58 24.0**	**+0.4**
	0.8nm,0.5s,mb3.8,baz=132,slow=7.6,SNR=7.3						
WRA	**Warramunga Arr**	**42.48**	**192**	P	**P**	**07 58 52.6**	**+1.2**
	0.6nm,0.6s,mb3.4,baz=18,slow=9.0,SNR=8.2						
ASAR	**Alice Springs**	**46.19**	**192**	P	**P**	**07 59 19.6**	**-1.5**
	0.4nm,0.7s,mb3.5,baz=14,slow=9.9,SNR=5.1						
ZALV	**Zalesovo Beam**	**54.00**	**322**	P	**P**	**08 00 18.9**	**-1.1**
	1.1nm,0.4s,mb4.1,baz=105,slow=5.6,SNR=3.5						
MKAR	**Makanchi Array**	**54.50**	**313**	P	**P**	**08 00 23.7**	**0.0**
	0.3nm,0.3s,mb3.9,baz=94,slow=8.2,SNR=6.6						
YKA	**Yellowknife Ar**	**76.29**	**28**	P	**P**	**08 02 44.0**	**-0.4**
	1.1nm,0.6s,mb4.0,baz=293,slow=5.9,SNR=31						
NVAR	**Mina Array Bea**	**83.05**	**51**	P	**P**	**08 03 22.3**	**+0.7**
	0.6nm,0.7s,mb3.7,baz=294,slow=3.4,SNR=4.7						

NEIC 02 07:55:54.4, 3594S×7181W, h105km, MD3.7(GUC), After GUC.
GUC 02 07:55:54.4±0.8, 3594S×7181W, h105km±6km, MD3.7, ML3.5, 1C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.81**	**256**	⇓*i*P	Pn	07 56 13.4	+0.1
COCH				*i* S	Sn	07 56 28.0	+0.5
COCH	**Cobquecura**	**0.81**	**256**	⇓*i*P	Pn	07 56 13.4	+0.1
COCH				*i* S	Sn	07 56 28.0	+0.5
COCH				AML	AML	07 56 31.4	
	comp=E,864nm,0.3s						
NICH	**Los Niches**	**1.05**	**27**	⇓*i*P	Pn	07 56 15.8	+0.1
NICH				*i* S	Sn	07 56 32.1	+0.2
SFDO	**San Fernando**	**1.48**	**27**	⇑*i*P	Pn	07 56 20.9	+0.3
SFDO				*i* S	Sn	07 56 40.9	+0.3
CICH	**Cipreses**	**1.98**	**36**	⇓*i*P	Pn	07 56 27.9	+1.0
CICH				*i* S	Sn	07 56 53.4	+1.7
LNV	**Longovilo**	**2.01**	**10**	*e*P	Pn	07 56 28.5	+1.2
CACH	**El Canelo**	**2.08**	**29**	⇓*i*P	Pn	07 56 29.0	+0.8
CACH				*i* S	Sn	07 56 54.9	+1.0
CHCH	**Chadas Angostu**	**2.22**	**26**	*e*P	Pn	07 56 29.4	-0.6
TACH	**Talagante**	**2.39**	**18**	⇓*i*P	Pn	07 56 32.8	+0.5
LMEL	**Las Melosas**	**2.47**	**33**	⇓*i*P	Pn	07 56 34.0	+0.7
LMEL				*i* S	Sn	07 57 04.2	+1.1
LMEL	**Las Melosas**	**2.47**	**33**	⇓*i*P	Pn	07 56 34.0	+0.7
LMEL				*i* S	Sn	07 57 04.2	+1.1
LMEL				AML	AML	07 57 13.7	
	comp=N,205nm,0.2s						
ANTU	**Antumapu**	**2.56**	**23**	*e*P	Pn	07 56 35.0	+0.6
ANTU				*i* S	Sn	07 57 06.3	+1.1
ANTU	**Antumapu**	**2.56**	**23**	*e*P	Pn	07 56 35.0	+0.6
ANTU				*i* S	Sn	07 57 06.3	+1.1
ANTU				AML	AML	07 57 26.6	
	comp=E,240nm,0.5s						
RCDM	**Rinconada Maip**	**2.58**	**19**	*e*P	Pn	07 56 35.2	+0.4
RCDM				*i* S	Sn	07 57 06.0	+0.2
RCDM	**Rinconada Maip**	**2.58**	**19**	*e*P	Pn	07 56 35.2	+0.4
RCDM				*i* S	Sn	07 57 06.0	+0.2
RCDM				AML	AML	07 57 10.1	
	comp=E,315nm,0.1s						
SJCH	**San Jose de Ma**	**2.59**	**28**	*e*P	Pn	07 56 36.4	+1.6
SJCH				*i* S	Sn	07 57 07.8	+1.8
FSR	**Penalolen**	**2.68**	**24**	*e*P	Pn	07 56 36.8	+0.8
FSR				*i* S	Sn	07 57 08.6	+0.6
STL	**Santa Lucia**	**2.68**	**21**	*e*P	Pn	07 56 36.1	+0.1
STL				*i* S	Sn	07 57 08.7	+0.7
CLCH	**Cerro Calan**	**2.75**	**23**	*e*P	Pn	07 56 37.5	+0.6
CLCH				*i* S	Sn	07 57 10.3	+0.6
CLCH				AML	AML	07 57 38.3	
	comp=N,210nm,0.7s						
FCH	**Farellones**	**2.89**	**26**	*e*P	Pn	07 56 40.0	+1.2
FCH				*i* S	Sn	07 57 14.8	+1.8
FCH				AML	AML	07 57 17.9	
	comp=N,144nm,0.2s						

ROM 02 08:14:45.2±0.5, 4349N×1428E, h10km, Md2.6/8, Ml2.4/5, Error ellipse: s-maj=5.6km s-min=2.8km az=123.0
CSEM 02 08:14:46.1±0.1, 4333N×1410E, h10km, MD2.6/8, Error ellipse: s-maj=2.6km s-min=2.0km az=107.0
ISCJB 02 08:14:47.3±0.9, 4337N±004×1413E±008, h7km±19km, Error ellipse: s-maj=9.5km s-min=6.0km az=14.9
ISC 02 08:14:48.4±0.8, 4337N±004×1407E±008, h19km±13km, n9, σ1s15/14, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.39**	**297**	Pg	**Pg**	**08 14 55.2**	**-1.2**
AOI				Sg	**Sg**	**08 15 02.5**	**+0.6**
	74nm,0.5s						
CING	**Cingoli**	**0.64**	**270**	Pg	**Pg**	**08 15 00.4**	**-0.6**
	41nm,0.4s						
SNTG	**Esanatoglia**	**0.83**	**262**	Pg	**Pg**	**08 15 03.0**	**-1.7**
SNTG				Sg	**Sg**	**08 15 18.1**	**+2.4**
	40nm,0.3s						
NRCA	**Norcia**	**0.89**	**233**	Pg	**Pg**	**08 15 05.7**	**0.0**
	55nm,0.1s						
VCEL	**Villa Celiera**	**0.99**	**190**	Pg	**Pg**	**08 15 06.3**	**-1.4**
VCEL				Sg	**Sg**	**08 15 21.9**	**+1.1**
	87nm,0.5s						
LNSS	**Leonessa**	**1.08**	**225**	Pg	**Pg**	**08 15 08.4**	**-0.9**
LNSS				Sg	**Sg**	**08 15 25.3**	**+1.8**
	137nm,0.3s						
ASS	**Assisi**	**1.08**	**254**	Pg	**Pg**	**08 15 09.0**	**-0.4**
	1.0nm,0.3s						
MURB	**Monte Urbino**	**1.14**	**265**	Pg	**Pg**	**08 15 09.7**	**-0.7**
	107nm,0.3s						
NVLJ	**Novalja**	**1.32**	**26**	*e*Pn	**Pn**	**08 15 12.5**	**+0.7**
NVLJ				Sg	**Sg**	**08 15 32.1**	**+0.9**

ATH 02 08:29:56.9, 3750N×2089E, h19km±1km, MD3.6/4
NEIC 02 08:29:56.9, 3750N×2089E, h19km, MD3.6(ATH), After ATH.
ISCJB 02 08:29:57.8±1.0, 3748N±005×2089E±008, h31km±7km, Error ellipse: s-maj=12.0km s-min=5.8km az=141.7
CSEM 02 08:29:57.2±0.2, 3745N×2091E, h2km, ML3.3, Error ellipse: s-maj=4.9km s-min=2.2km az=46.0
THE 02 08:29:57.2, 3745N×2090E, h3km, ML3.3
**ISC

*ISCJB **02** 09:08:22.1±0.6, 1321N×008×9266E×007, h33km, mb4.1/13, MS3.5/8, Error ellipse: s-maj=14.0km s-min=6.6km az=41.0*
*NEIC **02** 09:08:33.3±2.0, 1334N×9336E, h93km±18km, mb4.5/1, Error ellipse: s-maj=19.1km s-min=11.5km az=221.0*
*BJI **02** 09:08:43.1, 14.19N×9378E, h93km, mb4.0*
ISC 02 09:08:24.4±3.4, 1332N±008×9271E±006, h34km±26km, n40, σ1§40/35, mb4.1/13, MS3.5/8, 1C, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.65**	**179⇑**	*eP*	x	09 09 06.4	
PBA				*eS*	x	09 09 32.3	
CHTO	**Chiang Mai**	**8.11**	**47**	*ePn*	**Pn**	**09 10 22.1**	**+2.2**
	9.4nm,0.8s						
CHTO				*e*Sn	**Sn**	**09 11 48.8**	**-1.6**
VIS	**Vishakhapatnam**	**10.04**	**297**	*i P*	**Pn**	**09 10 48.2**	**+1.9**
VIS				*i* S	**Sn**	**09 12 30.0**	**-7.8**
PSI	**Prapat**	**12.12**	**149**	LR	LR	09 16 50.2	
	comp=Z,203nm,18.3s,baz=115,slow=42						
SHL	**Shillong**	**12.21**	**356**	*eP*	**Pn**	**09 11 14.0**	**-2.0**
SHL				*ex*	x	09 13 22.0	
BOK	**Bokaro**	**12.26**	**329**	*eP*	**Pn**	**09 11 15.7**	**-1.0**
BOK				*ex*	x	09 13 55.5	
BLSP	**Bilaspur**	**13.35**	**313**	*ex*	x	09 11 15.8	
BLSP				AMb	AMB	09 11 17.5	
	comp=Z,17nm,0.8s						
BLSP				*e*S	**Sn**	**09 13 44.0**	**-15**
HYB	**Hyderabad**	**14.24**	**288**	*eP*	Px	09 11 58.5	
HYB	**Hyderabad**	**14.24**	**288**	*i P*	Px	09 11 58.5	
JIRN	**Jiri**	**15.52**	**338**	*eP*	**Pn**	**09 11 59.7**	**-1.0**
	comp=Z,4.4nm,0.2s						
PKI	**Pulchoki**	**15.74**	**335**	*eP*	**Pn**	**09 12 02.8**	**-0.8**
	comp=Z,9.6nm,0.4s						
PKIN	**Phulchoki**	**15.75**	**335**	*eP*	**Pn**	**09 12 03.1**	**-0.6**
	comp=Z,5.6nm,0.3s						
GUN	**Gumba**	**15.86**	**337**	*eP*	**Pn**	**09 12 05.0**	**-0.1**
	comp=Z,12nm,0.5s						
DMN	**Daman**	**15.89**	**335**	*eP*	**Pn**	**09 12 04.6**	**-1.0**
	comp=Z,18nm,0.5s						
GKN	**Gorkha**	**16.44**	**334**	*eP*	**Pn**	**09 12 12.7**	**+0.1**
	comp=Z,22nm,0.5s						
KOLN	**Koldanda**	**16.71**	**331**	*eP*	**Pn**	**09 12 15.9**	**0.0**
	comp=Z,16nm,0.6s						
DANN	**Dangsing**	**17.12**	**332**	*eP*	**Pn**	**09 12 21.7**	**+0.5**
	comp=Z,8.6nm,0.4s						
BHPL	**Bhopal**	**17.54**	**306**	*eP*	**Pn**	**09 12 29.6**	**+3.3**
BHPL				AMb	AMB	09 12 33.0	
	comp=Z,5.1nm,0.2s						
BHPL				*e*S	**Sn**	**09 15 38.8**	**-1.8**
GYA	**Guiyang**	**18.50**	**43**	P	**Pn**	**09 12 39.4**	**+1.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
AAK	**Ala-Archa**	**33.19**	**335**	LR	LR	09 29 13.9	
	comp=Z,62nm,19.1s,MS3.3,baz=276,slow=38						
MK31	**Makanchi Array**	**34.50**	**347**	*eP*	**P**	**09 15 14.8**	**+5.6**
MKAR	**Makanchi Array**	**34.50**	**347**	P	**P**	**09 15 11.6**	**+2.4**
	comp=Z,2.5nm,0.8s,mb4.2,baz=165,slow=8.1,SNR=17						
MKAR				LR	LR	09 32 36.6	
	comp=Z,48nm,20.4s,MS3.2,baz=163,slow=42						
JOW	**Kunigami**	**35.88**	**62**	LR	LR	09 31 24.0	
	comp=Z,77nm,19.8s,MS3.5,baz=304,slow=39						
SONM	**Songino Array**	**36.26**	**16**	P	**P**	**09 15 27.3**	**+3.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=189,slow=7.5,SNR=4.5						
SONM				LR	LR	09 32 21.3	
	comp=Z,79nm,20.3s,MS3.5,baz=217,slow=40						
KSRS	**Korea Array**	**39.51**	**46**	P	**P**	**09 15 52.5**	**+0.5**
	comp=Z,1.4nm,0.7s,mb3.8,baz=246,slow=9.2,SNR=7.0						
KSRS				LR	LR	09 34 50.2	
	comp=Z,90nm,19.5s,MS3.6,baz=230,slow=41						
JNU	**Nakatsue**	**39.94**	**54**	LR	LR	09 35 36.9	
	comp=Z,82nm,19.3s,MS3.6,baz=60,slow=41						
ZALV	**Zalesovo Beam**	**41.01**	**353**	P	**P**	**09 16 06.2**	**+2.1**
	comp=Z,1.6nm,0.3s,mb4.1,baz=180,slow=10,SNR=6.5						
FITZ	**Fitzroy Crossi**	**45.05**	**133**	*eP*	**P**	**09 16 36.5**	**-0.8**
	comp=Z,3.7nm,0.4s,mb4.6						
FITZ	**Fitzroy Crossi**	**45.05**	**133**	P	**P**	**09 16 36.6**	**-0.7**
	comp=Z,2.3nm,0.4s,mb4.4,baz=325,slow=6.1,SNR=19						
WRA	**Warramunga Arr**	**52.63**	**128**	P	**P**	**09 17 34.7**	**-0.8**
	comp=Z,2.2nm,0.6s,mb4.3,baz=305,slow=9.1,SNR=37						
WRA				PcP	PcP	09 18 46.1	+0.8
	comp=Z,1.0nm,0.4s,baz=322,slow=3.1,SNR=21						
WRAB	**Tennant Creek**	**52.64**	**128**	*eP*	**P**	**09 17 34.1**	**-1.4**
	comp=Z,2.8nm,0.6s,mb4.4						
WB2	**Warramunga Arr**	**52.64**	**128**	*eP*	**P**	**09 17 34.6**	**-1.0**
ASAR	**Alice Springs**	**54.53**	**132**	P	**P**	**09 17 49.0**	**-0.4**
	comp=Z,2.0nm,0.4s,mb4.5,baz=308,slow=6.8,SNR=74						
AKASG	**Malin Array Be**	**63.06**	**320**	P	**P**	**09 18 52.9**	**+4.6**
	comp=Z,0.3nm,0.5s,mb3.7,baz=77,slow=5.3,SNR=4.0						
ARCES	**ARCESS Array B**	**69.70**	**340**	P	**P**	**09 19 32.8**	**+2.4**
	comp=Z,2.4nm,0.9s,mb4.1,baz=83,slow=3.9,SNR=4.5						
ARCES				LR	LR	09 51 31.5	
	comp=Z,44nm,21.6s,MS3.7,baz=102,slow=37						
GERES	**GERESS Array B**	**72.88**	**317**	P	**P**	**09 19 56.0**	**+6.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=87,slow=6.8,SNR=4.2						
GERES				LR	LR	09 57 47.2	
	comp=Z,23nm,18.2s,MS3.5,baz=79,slow=40						
CLL	**Collm**	**73.30**	**320**	*eP*	**P**	**09 19 57.0**	**+4.6**
NOA	**NORSAR Array B**	**74.33**	**330**	P	**P**	**09 20 03.4**	**+5.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=88,slow=6.0,SNR=3.6						
BOSA	**Boshof**	**77.34**	**236**	P	**P**	**09 20 23.1**	**+7.0**
	comp=Z,2.1nm,0.8s,mb4.1,baz=94,slow=4.5,SNR=3.2						
TXAR	**Lajitas Array**	**134.75**	**20**	PKP	PKPdf	09 27 43.4	+3.1
	comp=Z,0.1nm,0.4s,baz=139,slow=0.6,SNR=4.3						

*IDC **02** 09:17:31.9±2.2, 5352N×16054E, h0km, mb3.4/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=166.1km s-min=26.5km az=131.0*
*MOS **02** 09:17:39.9±1.3, 5396N×16006E, h79km, mb4.2/1, Error ellipse: s-maj=26.9km s-min=10.9km az=75.5*
*ISCJB **02** 09:17:40.6±0.5, 5376N±004×16039E±009, h79km±5km, mb3.4/5, Error ellipse: s-maj=10.5km s-min=4.6km az=37.0*
*KRSC **02** 09:17:41.3±0.6, 5377N×16038E, h62km±51km, ML4.0*
ISC 02 09:17:41.6±0.5, 5375N±004×16039E±009, h73km±5km, n23, σ0§49/35, mb3.4/5, 1C, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.63**	**297**	*i P*	**Pn**	**09 17 55.5**	**-0.4**
KII				*i* S	**Sn**	**09 18 06.0**	**-0.5**
SPN	**Mys Shipunski**	**0.69**	**199**	*i P*	**Pn**	**09 17 56.5**	**-0.1**
SPN				*i* S	**Sn**	**09 18 07.5**	**-0.1**
NLC	**Nalytchevo**	**0.85**	**228**	*i P*	**Pn**	**09 17 58.2**	**-0.2**
NLC				*i* S	**Sn**	**09 18 10.4**	**-0.5**
AVH	**Avacha**	**1.10**	**244**	*eP*	**Pn**	**09 18 01.9**	**+0.4**
AVH				*i* S	**Sn**	**09 18 16.6**	**+0.3**
MKZ	**Mys Kozlova**	**1.13**	**44**	*i P*	**Pn**	**09 18 01.9**	**+0.1**
MKZ				*i* S	**Sn**	**09 18 16.9**	**0.0**
PET	**Petropavlovsk**	**1.27**	**236⇑**	*i*PN	**Pn**	**09 18 03.7**	**+0.1**
PET				*e*S	**Sn**	**09 18 20.7**	**+0.5**
PET				pmax	pmax		
	comp=Z,200nm,0.5s						
PET				pmax	pmax		
	comp=Z,157nm,0.5s						
PET				smax			
	comp=E,2μm,0.5s						
PET				smax			
	comp=E,2μm,0.5s						
PET				smax			
	comp=N,2μm,0.8s						
PET	**Petropavlovsk**	**1.27**	**236**	*i P*	**Pn**	**09 18 03.8**	**+0.2**
PET				*i* S	**Sn**	**09 18 19.9**	**-0.3**
GNL	**Ganaly**	**1.46**	**269**	*eP*	**Pn**	**09 18 06.0**	**0.0**
GNL				*i* S	**Sn**	**09 18 23.8**	**-0.7**
TUMR	**Tumrok**	**1.54**	**355**	*i P*	**Pn**	**09 18 07.7**	**+0.5**
TUMR				*i* S	**Sn**	**09 18 27.0**	**+0.5**
RUS	**Russkaya**	**1.74**	**221**	*i P*	**Pn**	**09 18 09.6**	**-0.2**
RUS				*i* S	**Sn**	**09 18 30.6**	**-0.5**
GRL	**Gorelyy**	**1.84**	**230**	P	**Pn**	**09 18 12.2**	**+1.1**
GRL				*i* S	**Sn**	**09 18 34.2**	**+0.6**
MIPR	**Malaya Ipel'ka**	**2.65**	**238**	P	**Pn**	**09 18 22.7**	**+0.7**
KBTR	**Krutoberegovo**	**2.83**	**29**	P	**Pn**	**09 18 24.8**	**+0.3**
KBTR				*i* S	**Sn**	**09 18 56.7**	**-0.8**
SKR	**Severo-Kuril's**	**4.04**	**222**	*e*PN	**Pn**	**09 18 47.5**	**+6.5**
SKR				*e*		09 19 31.5	
MA2	**Magadan**	**7.88**	**322**	PN	**Pn**	**09 19 28.1**	**-5.2**
MA2				pmax	pmax		
	comp=Z,20nm,1.1s						
BILL	**Bilibino**	**14.61**	**9**	*eP*	**Pn**	**09 20 58.6**	**-5.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s						
HIA	**Hailar**	**25.44**	**277**	*eP*	**P**	**09 22 54.2**	**-8.0**
TLY	**Talaya**	**33.66**	**290**	*eP*	**P**	**09 24 15.0**	**0.0**
TLY				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
YKA	**Yellowknife Ar**	**42.56**	**43**	P	**P**	**09 25 29.2**	**-0.4**
	comp=Z,0.1nm,0.5s,mb2.8,baz=297,slow=7.8,SNR=4.4						
TXAR	**Lajitas Array**	**70.22**	**67**	P	**P**	**09 28 47.0**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=293,slow=5.0,SNR=9.2						
WRA	**Warramunga Arr**	**76.75**	**205**	P	**P**	**09 29 23.9**	**-0.9**
	comp=Z,0.2nm,0.4s,mb3.2,baz=17,slow=5.9,SNR=8.5						
ASAR	**Alice Springs**	**80.43**	**205**	P	**P**	**09 29 45.4**	**+0.4**
ASAR	**Alice Springs**	**80.43**	**205**	P	**P**	**09 29 44.5**	**-0.5**
	comp=Z,0.4nm,0.9s,mb3.2,baz=12,slow=5.3,SNR=4.2						

*CSEM **02** 09:29:53.3, 4347N×4575E, h8km, mb3.9, After OBN*
MOS 02 09:29:53.3±1.3, 4347N×4575E, h8km, mb3.9/1, 1C, Error ellipse: s-maj=10.8km s-min=7.5km az=9.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.79**	**289**	*e*Pg	Pg	09 30 11.7	+3.3
TRKR				*e*Sg	Sg	09 30 25.8	+7.2
SNJR	**Sundja**	**0.80**	**240**	*e*Pg	Pg	09 30 09.0	+0.4
SNJR				*e*Sg	Sg	09 30 22.9	+4.0
BTLR	**Botlikh**	**0.87**	**157**	*e*PG	Pg	09 30 11.5	+1.5
BTLR				*i* S	Sg	09 30 23.0	+1.6
BTKR	**Batakoyurt**	**0.89**	**264**	*e*Pg	Pg	09 30 12.4	+2.0
BTKR				*e*Sg	Sg	09 30 27.7	+5.8
KRNR	**Karanay**	**1.06**	**127**	*i* PG	Pg	09 30 14.2	+0.6
KRNR				*e*S	Sg	09 30 33.5	+6.2
KMSR	**Komsomolskaya**	**1.07**	**265**	*i* Pg	Pg	09 30 15.0	+1.2
KMSR				*i* Sg	Sg	09 30 31.1	+3.4
UNCR	**Uncukul**	**1.07**	**134**	*e*PG	Pg	09 30 14.0	+0.2
UNCR				*e*S	Sg	09 30 33.8	+6.1
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**1.07**	**134**	*e*Pg	Pg	09 30 14.0	+0.2
	comp=Z,34nm,0.2s						
UNCR				*e*Sg	Sg	09 30 33.8	+6.1
PRTR	**Priterechnaya**	**1.11**	**285**	*e*Pg	Pg	09 30 15.2	+0.7
PRTR				*e*Sg	Sg	09 30 31.7	+2.8
ARNR	**Ardon**	**1.11**	**256**	*e*Pg	Pg	09 30 15.1	+0.5
ARNR				*e*Sg	Sg	09 30 31.4	+2.4
LACR	**Lac**	**1.25**	**240**	*e*Pg	Pg	09 30 16.5	-0.7
LACR				*e*Sg	Sg	09 30 34.2	+0.9
KORR	**Kora**	**1.29**	**253**	*e*Pg	Pg	09 30 18.0	0.0
KORR				*e*Sg	Sg	09 30 36.7	+2.0
ZEI	**Tsey**	**1.53**	**244**	*i* Pg	Pg	09 30 19.8	-2.8
ZEI				*e*Sg	Sg	09 30 40.2	-2.1
KMKR	**Kumukh**	**1.66**	**143**	*e*PN	Pn	09 30 22.0	-0.7
KMKR				*e*S	Sn	09 30 47.0	+2.8
DIGR	**Digorskoe uzhe**	**1.69**	**251**	*e*Pn	Pn	09 30 22.5	-0.5
DIGR				*e*Sg	Sg	09 30 44.8	-2.7
KUBR	**Kubataba**	**1.73**	**282**	*e*Pn	Pn	09 30 23.0	-0.7
KUBR				*e*Sg	Sg	09 30 46.6	-2.4
SHAR	**Shatzhatmas**	**2.26**	**278⇑**	*e*PN	Pn	09 30 30.4	-0.5
SHAR				*e*S	Sn	09 30 59.8	+0.9
KIV0	**Kislovodsk Arr**	**2.27**	**283**	*e*Pn	Pn	09 30 31.2	+0.1
KIV0				*e*Sn	Sn	09 30 59.9	+0.7
KIV	**Kislovodsk**	**2.28**	**283**	*e*PN	Pn	09 30 31.2	0.0
KIV				*e*S	Sn	09 31 00.1	+0.7

*NEIC **02** 09:31:51.1, 3851S×17591E, h156km, MG3.7(WEL), After WEL.*
WEL 02 09:31:51.0±0.6, 3850S×17592E, h157km±4km, ML3.7/15, Error ellipse: s-maj=3.5km s-min=2.4km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.39**	**198**	P	Pn	09 32 12.7	+0.1
RATZ	**Rangitukua**	**0.39**	**198**	PN	Pn	09 32 12.7	+0.1
KRVZ	**Karewarewa**	**0.63**	**200**	PN	Pn	09 32 14.1	+0.4
WTVZ	**West Tongariro**	**0.67**	**203**	P	Pn	09 32 14.2	+0.2
WTVZ	**West Tongariro**	**0.67**	**203**	PN	Pn	09 32 14.2	+0.3
TWVZ	**Taurewa**	**0.68**	**213**	P	Pn	09 32 14.3	+0.2
TWVZ	**Taurewa**	**0.68**	**213**	PN	Pn	09 32 14.3	+0.2
NGZ	**Ngauruhoe**	**0.72**	**200**	P	Pn	09 32 14.6	+0.3
NGZ	**Ngauruhoe**	**0.72**	**200**	PN	Pn	09 32 14.6	+0.3
WPVZ	**Whakapapa**	**0.76**	**202**	PN	Pn	09 32 14.9	+0.3
TUVZ	**Tukino**	**0.80**	**195**	P	Pn	09 32 15.2	+0.4
TUVZ	**Tukino**	**0.80**	**195**	PN	Pn	09 32 15.2	+0.4
BKZ	**Black Stump Fm**	**0.80**	**146**	P	Pn	09 32 15.1	+0.2
BKZ				S	Sn	09 32 32.5	-0.7
BKZ	**Black Stump Fm**	**0.80**	**146**	PN	Pn	09 32 15.1	+0.3
BKZ				SN	Sn	09 32 32.5	-0.7
FWVZ	**Far West T-bar**	**0.81**	**201**	P	Pn	09 32 15.1	+0.2
FWVZ	**Far West T-bar**	**0.81**	**201**	PN	Pn	09 32 15.1	+0.2
TRVZ	**Turoa**	**0.85**	**200**	PN	Pn	09 32 15.6	+0.4
WNVZ	**Wahianoa**	**0.86**	**197**	PN	Pn	09 32 15.6	+0.3
PKVZ	**Pokaka**	**0.91**	**209**	PN	Pn	09 32 15.7	+0.1
MOVZ	**Moawhango**	**0.92**	**188**	P	Pn	09 32 15.6	-0.1
MOVZ	**Moawhango**	**0.92**	**188**	PN	Pn	09 32 15.6	-0.1
MTVZ	**Mangateitei**	**0.95**	**202**	PN	Pn	09 32 16.1	+0.1
URZ	**Urewera**	**0.96**	**76**	*e*P	Pn	09 32 15.6	-0.5
URZ	**Urewera**	**0.96**	**76**	PN	Pn	09 32 15.6	-0.5
URZ				SN	Sn	09 32 34.2	-1.0
VRZ	**Vera Road**	**1.10**	**235**	P	Pn	09 32 17.1	-0.1
VRZ	**Vera Road**	**1.10**	**235**	PN	Pn	09 32 17.1	-0.1
MWZ	**Matawai**	**1.27**	**83**	*e*P	Pn	09 32 18.9	+0.1
MWZ	**Matawai**	**1.27**	**83**	PN	Pn	09 32 18.9	+0.1
WAZ	**Wanganui**	**1.45**	**210**	P	Pn	09 32 20.2	-0.3
WAZ	**Wanganui**	**1.45**	**210**	PN	Pn	09 32 20.2	-0.3
TSZ	**Takapari Road**	**1.56**	**179**	P	Pn	09 32 21.4	-0.2
TSZ	**Takapari Road**	**1.56**	**179**	PN	Pn	09 32 21.4	-0.2
WPHZ	**Waipukurau**	**1.61**	**166**	PN	Pn	09 32 22.1	-0.1
PXZ	**Pawanui**	**1.69**	**155**	PN	Pn	09 32 23.2	+0.1
MRZ	**Mangatainoka R**	**2.17**	**187**	P	Pn	09 32 27.2	-1.3
MRZ	**Mangatainoka R**	**2.17**	**187**	PN	Pn	09 32 27.2	-1.3
BFZ	**Birch Farm**	**2.19**	**174**	P	Pn	09 32 27.7	-1.0
BFZ	**Birch Farm**	**2.19**	**174**	PN	Pn	09 32 27.7	-1.0
KIW	**Kapiti Island**	**2.48**	**198**	P	Pn	09 32 30.3	-1.9
KIW	**Kapiti Island**	**2.48**	**198**	PN	Pn	09 32 30.3	-1.9
MTW	**Mount Morrison**	**2.67**	**187**	P	Pn	09 32 32.4	-2.1
MTW	**Mount Morrison**	**2.67**	**187**	PN	Pn	09 32 32.4	-2.1
CAW	**Cannon Point**	**2.69**	**194**	P	Pn	09 32 32.7	-2.0
CAW	**Cannon Point**	**2.69**	**194**	PN	Pn	09 32 32.7	-2.0
DUWZ	**D'Urville Isla**	**2.77**	**213**	PN	Pn	09 32 33.5	-2.2
MRW	**Makara Radio**	**2.88**	**199**	P	Pn	09 32 34.8	-2.3
MRW	**Makara Radio**	**2.88**	**199**	PN	Pn	09 32 34.8	-2.3
TRWZ	**Traveller**	**2.90**	**183**	PN	Pn	09 32 35.4	-1.9
PAWZ	**Paruwai Farm**	**2.90**	**187**	P	Pn	09 32 35.1	-2.2
PAWZ	**Paruwai Farm**	**2.90**	**187**	PN	Pn	09 32 35.1	-2.3
MSWZ	**Moikau Station**	**2.96**	**190**	P	Pn	09 32 35.6	-2.4
MSWZ	**Moikau Station**	**2.96**	**190**	PN	Pn	09 32 35.6	-2.4
TCW	**Tory Channel**	**2.99**	**205**	P	Pn	09 32 36.0	-2.4
TCW	**Tory Channel**	**2.99**	**205**	PN	Pn	09 32 36.0	-2.5
PLWZ	**Palliser**	**3.11**	**189**	PN	Pn	09 32 37.2	-2.7
TUWZ	**Tuamarina**	**3.30**	**207**	PN	Pn	09 32 39.5	-2.8
NNZ	**Nelson**	**3.34**	**215**	P	Pn	09 32 39.9	-3.0
NNZ	**Nelson**	**3.34**	**215**	PN	Pn	09 32 39.9	-3.0
QRZ	**Quartz Range**	**3.50**	**227**	*e*P	Pn	09 32 41.1	-3.8
QRZ	**Quartz Range**	**3.50**	**227**	PN	Pn	09 32 41.1	-3.8
BSWZ	**Blackbirch Sta**	**3.57**	**205**	PN	Pn	09 32 43.1	-2.7
THZ	**Tophouse**	**4.00**	**214**	*e*P	Pn	09 32 47.7	-3.6
THZ	**Tophouse**	**4.00**	**214**	PN	Pn	09 32 47.7	-3.6
KHZ	**Kahutara**	**4.31**	**204**	*e*P	Pn	09 32 52.3	-3.1
KHZ	**Kahutara**	**4.31**	**204**	PN	Pn	09 32 52.3	-3.2
LTZ	**Lake Taylor**	**5.10**	**212**	*e*P	Pn	09 33 01.4	-4.3
LTZ	**Lake Taylor**	**5.10**	**212**	PN	Pn	09 33 01.4	-4.4
MQZ	**McQueen's Vall**	**5.76**	**204**	*e*P	Pn	09 33 09.2	-5.2
MQZ	**McQueen's Vall**	**5.76**	**204**	PN	Pn	09 33 09.2	-5.2

*NEIC **02** 09:34:58.6, 1873N×6405W, h12km, MD3.5(RSPR), After RSPR.*
RSPR 02 09:34:58.6, 1873N×6405W, h12km±1km, MD3.5/7, MD3.5/7, 10C, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**0.27**	**270⇑**	*e*P	Pg	09 35 04.3	+0.2
ABV	**Anegada**	**0.27**	**270**	*e*S	Sg	09 35 08.8	+1.0
TBVI	**Tortola**	**0.62**	**240**	*e*S	Sg	09 35 18.7	-0.2
TBVI	**Tortola**	**0.62**	**240⇑**	*e*P	Pg	09 35 09.9	-0.8
TBVI	**Tortola**	**0.62**	**240⇑**	*e*P	Pg	09 35 09.9	-0.8
TBVI				*e*S	Sg	09 35 18.7	-0.2
STVI	**Saint Thomas**	**0.94**	**246⇑**	*e*P	Pg	09 35 14.4	-2.2
STVI				*e*S	Sg	09 35 26.7	-2.2
HUMP	**Col San Antoni**	**1.81**	**251⇑**	*e*P	Pn	09 35 26.4	-3.1
HUMP				*e*S	Sn	09 35 48.2	-4.2
CELP	**Cerrillos**	**2.49**	**255⇑**	*e*P	Pn	09 35 36.4	-2.6
CELP				*e*S	Sn	09 36 06.1	-3.1
AOPR	**Arecibo Observ**	**2.59**	**262⇑**	*e*P	Pn	09 35 38.1	-2.3
AOPR				*e*S	Sn	09 36 08.4	-3.4
LRS	**Lares**	**2.69**	**261⇑**	*e*P	Pn	09 35 39.3	-2.4
LRS				*e*S	Sn	09 36 10.9	-3.3
LSP	**Las Mesas**	**2.93**	**260⇑**	*e*P	Pn	09 35 42.6	-2.5
LSP				*e*S	Sn	09 36 16.5	-3.8
CRPR	**Cabo Rojo, PR**	**2.99**	**257⇑**	*e*P	Pn	09 35 43.4	-2.5
CRPR				*e*S	Sn	09 36 18.6	-3.1

IDC 02 10:06:18.0±6.4, 790S×12936E, h128km±68km, mb3.4/1, mb1 3.5/5, mb1mx3.3/15, mbtmp3.4/5, Error ellipse: s-maj=56.8km s-min=20.0km az=39.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.07**	**247**	P	Pn	10 07 45.0	-0.6
	9.0nm,0.3s,baz=43,slow=3.7,SNR=3.6						
BATI				S	Sn	10 08 54.9	+1.0
	6.0nm,0.3s,baz=312,slow=19,SNR=3.5						
FITZ	**Fitzroy Crossi**	**10.77**	**199**	P	Pn	10 08 49.5	+0.8
	0.6nm,0.3s,baz=34,slow=14,SNR=24						
FITZ				S	Sn	10 10 47.2	-0.3
	0.3nm,0.3s,baz=94,slow=20,SNR=4.7						
WRA	**Warramunga Arr**	**12.91**	**159**	P	Pn	10 09 16.3	-0.5
	0.3nm,0.3s,baz=333,slow=13,SNR=28						
WRA				S	Sn	10 11 38.7	-0.6
	0.8nm,0.3s,baz=334,slow=22,SNR=11						
ASAR	**Alice Springs**	**16.27**	**165**	P	Pn	10 10 01.2	+1.9
	0.4nm,0.3s,baz=338,slow=9.6,SNR=36						
ASAR				S	S	10 12 59.8	-1.1
	0.2nm,0.3s,baz=348,slow=25,SNR=6.2						
MKAR	**Makanchi Array**	**68.63**	**327**	P	P	10 17 07.2	0.0
	0.6nm,0.6s,baz=103,slow=6.4,SNR=6.3						

*CSEM **02** 10:16:38.4, 1198N×4493E, h13km, ML3.9, After DHMR*
DHMR 02 10:16:38.4±1.1, 1198N×4493E, h14km±4km, ML3.9, 2C-3D, Western Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADEN	**Aden**	**0.79**	**4**	*i P*	Pg	10 16 52.8	-0.9
ADEN				*i* S	Sg	10 17 04.2	+0.1
ADEN				AML	AML	10 17 05.3	
	comp=E,8μm,0.3s						
ADEN	**Aden**	**0.79**	**4**	*i P*	Pg	10 16 52.8	-0.9
ADEN				*i* S	Sg	10 17 04.2	+0.1
	comp=E,4μm,0.3s						
TRBA	**At Turbah**	**1.47**	**327⇑**	*i*P	Pn	10 17 04.8	+0.2
TRBA				*i* S	Sn	10 17 25.1	+1.3
LBOS		**1.90**	**9⇓**	*e*P	Pn	10 17 11.9	+1.4
LBOS				*i* S	Sn	10 17 37.9	+3.7
BDHA	**Al Bayda'**	**2.07**	**17⇓**	*i*P	Pn	10 17 14.9	+2.0
BDHA				*i* S	Sn	10 17 43.4	+4.8
BDHA				AML	AML	10 17 56.8	
	comp=E,1μm,0.7s						
BDHA	**Al Bayda'**	**2.07**	**17⇓**	*i*P	Pn	10 17 14.9	+2.0
BDHA				*i* S	Sn	10 17 43.3	+4.8
	comp=E,679nm,0.7s						
UDYN	**Al 'Udayn**	**2.18**	**335**	*i P*	Pn	10 17 16.4	+2.0
UDYN				*i* S	Sn	10 17 45.8	+4.5
UDYN				AML	AML	10 17 55.3	
	comp=N,744nm,0.7s						
DHBB	**Dhamar BB**	**2.62**	**348**	*i P*	Pn	10 17 23.9	+3.5
DHBB				*i* S	Sn	10 17 58.8	+6.7
HAJJ	**Hajjah**	**3.91**	**341**	*i* S	Sn	10 18 29.9	+6.0

mb1 4.2/10, mb1mx4.0/16, mbtmp4.0/10, ML4.0/2, MS3.5/5, Ms1 3.5/5, ms1mx3.2/24, Error ellipse: s-maj=43.4km s-min=19.8km az=143.0

ISC 02 11:04:59.1±2.5, 73S±02×1551E±01, h83km±26km, n31, σ0982/32, mb4.4/19, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**5.27 114**	P	**Pn**	**11 06 15.6**	**+0.1**
	9.4nm,0.3s,baz=269,slow=6.4,SNR=2.9						
HNR				S	**Sn**	**11 07 24.6**	**+10**
	7.2nm,0.3s,baz=271,slow=14,SNR=3.7						
HNR				LR	LR	11 08 06.9	
	comp=Z,270nm,19.8s,baz=349,slow=35						
CTA	**Charters Tower**		**15.29 213**	*e*P	**Pn**	**11 08 37.6**	**+7.2**
	5.8nm,0.8s						
CTA	**Charters Tower**		**15.29 213**	P	**Pn**	**11 08 30.8**	**+0.4**
CTA	**Charters Tower**		**15.29 213**	P	**Pn**	**11 08 30.8**	**+0.4**
	0.2nm,0.3s,baz=24,slow=10.0,SNR=2.2						
CTA				LR	LR	11 13 43.7	
	comp=Z,193nm,19.4s,baz=44,slow=34						
CTAO	**Charters Tower**		**15.29 213**	*e*P	**Pn**	**11 08 33.7**	**+3.3**
KAKA	**Kakadu**		**22.90 255**	*e*P	**P**	**11 09 55.5**	**-0.7**
	9.1nm,0.8s,mb4.2						
WRAB	**Tennant Creek**		**23.67 236**	*e*P	**P**	**11 10 02.7**	**-0.6**
	16nm,0.9s,mb4.3						
WB2	**Warramunga Arr**		**23.67 236**	*e*P	**P**	**11 10 03.2**	**-0.1**
WRA	**Warramunga Arr**		**23.68 236**	P	**P**	**11 10 02.4**	**-1.0**
	14nm,0.8s,mb4.3,baz=61,slow=9.7,SNR=35						
WRA				LR	LR	11 18 44.1	
	comp=Z,91nm,18.0s,baz=170,slow=35						
ASAR	**Alice Springs**		**26.00 229**	P	**P**	**11 10 24.0**	**-0.5**
	4.8nm,0.9s,mb4.0,baz=59,slow=8.6,SNR=27						
STKA	**Stephens Creek**		**27.46 205**	*e*P	**P**	**11 10 38.8**	**+1.3**
	4.1nm,0.8s,mb4.0						
STKA	**Stephens Creek**		**27.46 205**	P	**P**	**11 10 39.0**	**+1.5**
	5.0nm,0.9s,mb4.0,baz=36,slow=12,SNR=6.5						
STKA				LR	LR	11 21 41.4	
	comp=Z,155nm,20.3s,baz=206,slow=36						
FITZ	**Fitzroy Crossi**		**30.58 247**	*e*P	**P**	**11 11 05.0**	**-0.3**
	9.6nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**		**30.58 247**	P	**P**	**11 11 05.0**	**-0.3**
	6.7nm,0.8s,mb4.4,baz=79,slow=6.6,SNR=15						
FITZ				LR	LR	11 23 22.8	
	comp=Z,81nm,19.5s,baz=92,slow=36						
CD2	**Chengdu**		**62.07 311**	*e*P	**P**	**11 15 11.4**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
LZH	**Lanzhou**		**64.59 316**	*e*P	**P**	**11 15 28.5**	**+0.6**
LZH				AP	pP	11 15 32.6	-17
LZH				XP	sP	11 15 34.1	-24
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,91nm,5.1s						
GTA	**Gaotai**		**69.02 317**	*e*P	**P**	**11 15 57.3**	**+1.3**
GTA				AP	pP	11 16 00.8	-17
GTA				XP	sP	11 16 05.1	-21
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb4.2						
SONM	**Songino Array**		**69.64 327**	P	**P**	**11 15 59.9**	**+0.3**
	comp=Z,1.0nm,0.7s,mb3.7,baz=137,slow=6.5,SNR=7.0						
BILL	**Bilibino**		**75.60 4**	*e*P	**P**	**11 16 34.2**	**-0.3**
	comp=Z,2.0nm,0.3s,mb4.3						
IMA2	**Indian Mountai**		**82.09 19**	*e*P	**P**	**11 17 09.8**	**-0.3**
MCK	**McKinley**		**82.34 22**	*e*P	**P**	**11 17 10.2**	**-1.2**
	comp=Z,14nm,0.9s,mb4.8						
COLA	**College**		**83.36 21**	*e*P	**P**	**11 17 14.9**	**-1.8**
	comp=Z,13nm,1.2s,mb4.6						
MK31	**Makanchi Array**		**83.69 319**	*e*P	**P**	**11 17 19.0**	**+0.2**
MKAR	**Makanchi Array**		**83.69 319**	P	**P**	**11 17 19.1**	**+0.2**
	comp=Z,1.5nm,0.7s,mb3.9,baz=100,slow=6.3,SNR=7.5						
EGAK	**Eagle**		**85.79 23**	*e*P	**P**	**11 17 29.2**	**+0.2**
	comp=Z,6.0nm,1.2s,mb4.4						
DAWY	**Dawson**		**86.17 24**	*e*P	**P**	**11 17 31.4**	**+0.6**
UCH	**Uchtor**		**87.92 313**	*e*P	**P**	**11 17 41.4**	**+1.6**
	comp=Z,2.2nm,0.9s,mb4.2						
INK	**Inuvik**		**90.00 21**	*e*P	**P**	**11 17 48.5**	**-0.5**
	comp=Z,132nm,0.9s						
NVAR	**Mina Array Bea**		**91.88 52**	P	**P**	**11 17 59.8**	**+1.4**
	comp=Z,0.2nm,0.3s,mb3.8,baz=213,slow=6.8,SNR=3.9						
YKA	**Yellowknife Ar**		**96.60 28**	P	**P**	**11 18 19.0**	**-0.4**
	comp=Z,0.9nm,0.7s,mb4.3,baz=266,slow=4.6,SNR=21						
YMR	**Madison River**		**97.92 46**	*e*P	**P**	**11 18 25.3**	**-0.6**
	comp=Z,8.7nm,0.7s,mb5.4						

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*ISCJB **02** 11:10:40.0±1.2, 3734N±004×1368E±01, h7km±12km, Error ellipse: s-maj=13.6km s-min=6.7km az=11.1*
*JMA **02** 11:10:40.2, 3733N×13676E, h7km, M2.8*
JMA Felt I J1.

ISC 02 11:10:40.4±1.3, 3734N±004×1368E±01, h10km±9km, n4, σ0971/8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**		**0.41 179**	P	**Pg**	**11 10 48.3**	**-0.2**
JJH				S	**Sg**	**11 10 54.4**	**+0.4**
JSZ	**Suzu**		**0.49 77**	P	**Pg**	**11 10 49.7**	**-0.2**
JSZ				S	**Sg**	**11 10 56.2**	**-0.1**
JHG	**Hegura jima**		**0.52 13**	P	**Pg**	**11 10 50.6**	**0.0**
JHG				*e*S	**Sg**	**11 10 57.9**	**+0.4**
MAT	**Matsushiro**		**1.40 124**	P	**Pn**	**11 11 05.0**	**-1.0**
MAT				*e*S	**Sn**	**11 11 25.3**	**+0.8**

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*ISCJB **02** 11:13:46.9±1.2, 193S±01×1777W±01, h555km±18km, mb4.3/16, Error ellipse: s-maj=21.6km s-min=12.5km az=144.0*
*NEIC **02** 11:13:47.7±0.9, 1925S×17756W, h554km±12km, mb4.6/9, Error ellipse: s-maj=15.9km s-min=8.7km az=142.0*
*IDC **02** 11:13:50.3±2.1, 1938S×17760W, h584km±26km, mb3.7/10, mb1 3.9/11, mb1mx3.7/18, mbtmp3.7/11, Error ellipse: s-maj=19.4km s-min=11.9km az=161.0*

ISC 02 11:13:48.0±1.2, 193S±01×1776W±01, h552km±17km, n29, σ0979/30, mb4.3/16, 1C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**		**7.73 47**	*e*P	**P**	**11 15 42.5**	**-0.7**
	91nm,0.6s						
URZ	**Urewera**		**19.49 192**	P	**P**	**11 17 36.9**	**-2.2**
	8.0nm,0.3s,baz=326,slow=1.3,SNR=45						
URZ				S	**S**	**11 20 38.3**	**-8.3**
	0.0nm,0.3s,baz=56,slow=6.0,SNR=3.5						
RPZ	**Rata Peaks**		**26.18 199**	P	**P**	**11 18 38.4**	**-0.3**
	7.9nm,0.5s,mb4.6,baz=127,slow=6.5,SNR=5.2						
ARMA	**Armidale**		**29.94 242**	*e*P	**P**	**11 19 13.3**	**+1.5**
CNB	**Canberra Magne**		**33.22 234**	⇓*i*P	**P**	**11 19 40.9**	**+1.2**
	7.6nm,0.6s,mb4.4						
CTA	**Charters Tower**		**33.98 262**	⇓*i*P	**P**	**11 19 47.0**	**+0.7**
	12nm,0.9s,mb4.4						
CTA	**Charters Tower**		**33.98 262**	P	**P**	**11 19 47.2**	**+0.9**
	14nm,0.7s,mb4.6,baz=95,slow=9.6,SNR=15						
STKA	**Stephens Creek**		**38.66 243**	⇓*i*P	**P**	**11 20 25.8**	**+1.2**
	12nm,0.6s,mb4.6						
STKA	**Stephens Creek**		**38.66 243**	*e*P	**P**	**11 20 25.8**	**+1.2**
STKA	**Stephens Creek**		**38.66 243**	P	**P**	**11 20 25.4**	**+0.7**
	13nm,0.5s,mb4.8,baz=90,slow=9.3,SNR=48						
WB2	**Warramunga Arr**		**45.12 261**	⇓*i*P	**P**	**11 21 15.4**	**-0.3**
WRAB	**Tennant Creek**		**45.12 261**	*e*P	**P**	**11 21 15.5**	**-0.3**
	14nm,0.7s,mb4.6						
WRA	**Warramunga Arr**		**45.13 261**	P	**P**	**11 21 15.6**	**-0.2**
	9.1nm,0.4s,mb4.6,baz=98,slow=7.5,SNR=53						
WRA				PcP	PcP	11 22 43.8	-0.8
	0.9nm,0.4s,baz=101,slow=3.6,SNR=3.9						
WRA				S	**S**	**11 27 13.8**	**-1.6**
	0.9nm,0.8s,baz=94,slow=14,SNR=6.0						
ASAR	**Alice Springs**		**45.16 255**	P	**P**	**11 21 16.3**	**+0.4**
	23nm,0.7s,mb4.8,baz=87,slow=8.0,SNR=326						
ASAR				PcP	PcP	11 22 43.8	-0.8
	1.5nm,0.5s,baz=108,slow=4.0,SNR=5.2						
ASAR				S	**S**	**11 27 14.0**	**-1.7**
	2.1nm,0.9s,baz=92,slow=15,SNR=11						
KAKA	**Kakadu**		**48.31 270**	⇓*i*P	**P**	**11 21 39.7**	**-0.1**
	20nm,0.4s,mb5.0						
FORT	**Forrest**		**50.12 246**	*e*P	**P**	**11 21 52.7**	**-0.2**
	40nm,0.6s,mb5.0						
FITZ	**Fitzroy Crossi**		**53.55 261**	⇓*i*P	**P**	**11 22 18.0**	**+0.2**
	18nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**		**53.55 261**	P	**P**	**11 22 18.1**	**+0.2**
	9.0nm,0.5s,mb4.3,baz=117,slow=6.2,SNR=40						
MBWA	**Marble Bar**		**58.47 257**	*e*P	**P**	**11 22 51.3**	**-0.5**
	12nm,0.7s,mb4.2						
KLBR	**Kellerberrin**		**58.90 244**	*e*P	**P**	**11 22 54.2**	**-0.3**
	18nm,0.7s,mb4.4						
VNDA	**Vanda**		**59.18 185**	P	**P**	**11 22 56.4**	**+0.8**
	0.8nm,0.7s,mb3.0,baz=353,slow=9.4,SNR=5.5						
MUN	**Mundaring**		**60.18 244**	⇑*i*P	**P**	**11 23 03.2**	**+0.2**
MJAR	**Matsushiro Arr**		**69.42 323**	P	**P**	**11 24 00.6**	**-0.4**
MJAR	**Matsushiro Arr**		**69.42 323**	P	**P**	**11 24 00.6**	**-0.4**
	2.1nm,0.6s,mb3.8,baz=154,slow=6.0,SNR=5.4						
NVAR	**Mina Array Bea**		**79.88 43**	P	**P**	**11 24 59.8**	**+0.2**
	1.4nm,0.7s,mb3.4,baz=231,slow=9.5,SNR=10.0						
TXAR	**Lajitas Array**		**86.09 57**	P	**P**	**11 25 31.1**	**+0.2**
	2.5nm,0.7s,mb4.0,baz=217,slow=6.7,SNR=37						
QLMT	**Earthquake Lak**		**87.65 41**	*e*P	**P**	**11 25 38.4**	**+0.5**
ARCES	**ARCESS Array B**		**127.76 350**	PKP	PKPdf	11 31 48.9	-1.3
	1.6nm,0.8s,baz=29,slow=2.8,SNR=7.5						
EKA	**Eskdalemuir Ar**		**143.74 5**	PKP	PKPdf	11 32 17.5	-2.6
	1.5nm,0.9s,baz=1.1,slow=4.2,SNR=4.4						

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*BJI **02** 11:22:28.8, 860S×15808E, h6km, mB5.2, mb5.0, Ms4.9, Msz4.6*
*IDC **02** 11:22:29.7±0.6, 889S×15780E, h0km, mb4.9/13, mb1 4.9/15, mb1mx4.9/17, mbtmp4.8/15, ML4.2/2, MS4.5/19, Ms1 4.5/19, ms1mx4.3/29, Error ellipse: s-maj=19.9km s-min=16.0km az=134.0*
*ISCJB **02** 11:22:30.8±0.2, 878S±004×15766E±003, h10km, mb5.0/61, MS4.6/36, Error ellipse: s-maj=6.3km s-min=4.2km az=1.1*
*GCMT **02** 11:22:31.6±0.2, 892S×15781E, h12km, MW5.1/82, Moment Tensor Solution. s57,c78; s82,c142; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.64±.12; $M_{\theta\theta}$4.00±.12; $M_{\phi\phi}$-4.64±.12; $M_{r\theta}$-0.48±.30; $M_{\theta\phi}$3.65±.10; $M_{\phi r}$-2.13±.30; Best double couple: $M_0$6.04500×10^{16} NP1:ϕ_s294.00000°, δ69.00000°, λ0.00000°. NP2: ϕ_s25.00000°, δ90.00000°, λ-159.00000°. Principal axes: T 5.6310, Plg14.0000°, Azm158.0000°; N 0.8310, Plg69.0000°, Azm26.0000°; P -6.4590, Plg15.0000°, Azm251.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **02** 11:22:31.6±0.2, 888S×15781E, h10km, mb5.1/30 Error ellipse: s-maj=7.9km s-min=5.4km az=136.0*
*MOS **02** 11:22:34.1±1.1, 874S×15754E, h33km, mb5.1/11, Error ellipse: s-maj=12.5km s-min=8.7km az=72.6*

ISC 02 11:22:31.1±1.4, 879S±005×15773E±003, h3km±9km, h15km±1.6km: pP-P, n309, σ0979/293, mb5.0/61, MS4.6/36, 63C-56D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**		**2.29 106**	*e*Pn	**Pn**	**11 23 05.4**	**-4.4**
HNR				*e*Sn	**Sn**	**11 23 38.7**	**+0.1**
HNR	**Honiara**		**2.29 106**	Pn	**Pn**	**11 23 07.0**	**-2.8**
	108nm,0.3s,baz=262,slow=4.2,SNR=19						
HNR				Sn	**Sn**	**11 23 40.3**	**+1.7**
	962nm,0.3s,baz=97,slow=23,SNR=14						
CTA	**Charters Tower**		**15.79 223**	*e*P	**Pn**	**11 26 13.6**	**-1.0**
	26nm,1.2s						
CTA	**Charters Tower**		**15.79 223**	*e*P	**Pn**	**11 26 13.6**	**-1.0**
CTA				pmax	pmax		
	comp=Z,26nm,1.2s						
CTA	**Charters Tower**		**15.79 223**	Pn	**Pn**	**11 26 13.3**	**-1.3**
	comp=Z,0.5nm,0.3s,baz=51,slow=13,SNR=7.4						
CTA				LR	LR	11 31 15.2	
	comp=Z,2μm,21.8s,baz=45,slow=33						
CTAO	**Charters Tower**		**15.79 223**	*e*P	**Pn**	**11 26 13.7**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,117nm,1.4s						
CTAO	**Charters Tower**		**15.79 223**	*e*Pn	**Pn**	**11 26 13.7**	**-0.9**
	comp=Z,117nm,1.4s						
ARMA	**Armidale**		**22.26 194**	*e*P	**P**	**11 27 29.8**	**+0.4**
KAKA	**Kakadu**		**25.14 259**	⇓*i*P	**P**	**11 27 57.3**	**-0.5**
	comp=Z,34nm,0.6s,mb5.0						
WRAB	**Tennant Creek**		**25.17 241**	P	**P**	**11 27 57.0**	**-1.0**
	comp=Z,360nm,0.6s,mb6.1,SNR=29						
WRAB	**Tennant Creek**		**25.17 241**	⇓*i*P	**P**	**11 27 56.8**	**-1.2**
WRAB	**Tennant Creek**		**25.17 241**	*e*P	**P**	**11 27 57.5**	**-0.6**
	comp=Z,46nm,0.8s,mb5.1						
WB2	**Warramunga Arr**		**25.18 241**	⇓*i*P	**P**	**11 27 57.1**	**-1.0**
WB2	**Warramunga Arr**		**25.18 241**	*e*P	**P**	**11 27 57.1**	**-0.9**
WRA	**Warramunga Arr**		**25.19 241**	*i*P	**P**	**11 27 56.0**	**-2.2**
WRA				pmax	pmax		
	comp=Z,32nm,0.7s						
WRA	**Warramunga Arr**		**25.19 241**	P	**P**	**11 27 57.3**	**-0.9**
	comp=Z,32nm,0.7s,mb5.0,baz=67,slow=9.0,SNR=127						
WRA				LR	LR	11 37 16.5	
	comp=Z,3μm,20.9s,MS4.7,baz=65,slow=35						
GUMO	**Guam**		**25.63 330**	LR	LR	11 36 43.0	
	comp=Z,764nm,21.3s,MS4.2,baz=105,slow=33						
ASAR	**Alice Springs**		**27.17 234**	P	**P**	**11 28 14.6**	**-1.6**
	comp=Z,11nm,0.8s,mb4.4,baz=63,slow=9.0,SNR=74						
STKA	**Stephens Creek**		**27.43 211**	*e*P	**P**	**11 28 17.9**	**-0.4**
	comp=Z,22nm,0.7s,mb4.8						
STKA	**Stephens Creek**		**27.43 211**	*e*P	**P**	**11 28 18.1**	**-0.2**
	comp=Z,25nm,0.7s,mb4.8						
STKA	**Stephens Creek**		**27.43 211**	P	**P**	**11 28 17.5**	**-0.8**
	comp=Z,27nm,0.7s,mb4.9,baz=24,slow=11,SNR=41						
STKA				LR	LR	11 38 22.8	
	comp=Z,922nm,20.1s,MS4.3,baz=32,slow=35						
CNB	**Canberra Magne**		**27.49 195**	*e*P	**P**	**11 28 19.7**	**+0.9**
	comp=Z,44nm,1.1s,mb4.9						
RAO	**Raoul Island**		**30.61 135**	LR	LR	11 38 31.1	
	comp=Z,411nm,21.3s,MS4.0,baz=30,slow=32						
FITZ	**Fitzroy Crossi**		**32.50 250**	*e*P	**P**	**11 29 02.3**	**-1.2**
	comp=Z,10nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**		**32.50 250**	P	**P**	**11 29 02.7**	**-0.8**
	comp=Z,5.5nm,0.6s,mb4.6,baz=93,slow=10,SNR=18						
FITZ				LR	LR	11 41 47.0	
	comp=Z,880nm,22.0s,MS4.4,baz=73,slow=36						
BATI	**Kupang**		**33.62 265**	P	**P**	**11 29 13.5**	**+0.3**
	comp=Z,29nm,0.8s,mb5.2,baz=107,slow=3.9,SNR=5.1						
BATI				LR	LR	11 45 01.9	
	comp=Z,2μm,18.1s,MS4.9,baz=105,slow=40						
URZ	**Urewera**		**34.15 152**	LR	LR	11 41 33.6	
	comp=Z,1μm,18.0s,MS4.7,baz=144,slow=34						
FORT	**Forrest**		**35.27 228**	*e*P	**P**	**11 29 20.8**	**-6.6**
	comp=Z,30nm,0.8s,mb5.3						
RPZ	**Rata Peaks**		**36.69 164**	LR	LR	11 42 53.6	
	comp=Z,1μm,19.4s,MS4.7,baz=151,slow=34						
MBWA	**Marble Bar**		**38.60 247**	*e*P	**P**	**11 29 54.7**	**-1.1**
	comp=Z,38nm,1.2s,mb5.0						
RAR	**Rarotonga**		**42.73 112**	LR	LR	11 44 34.5	
	comp=Z,480nm,20.1s,MS4.4,baz=280,slow=31						
KKM	**Kota Kinabalu**		**43.93 288**	*e*P	**P**	**11 30 41.3**	**+1.5**
JOW	**Kunigami**		**45.50 322**	P	**P**	**11 30 52.5**	**+0.4**
	comp=Z,44nm,0.9s,mb5.3,baz=159,slow=5.6,SNR=12						
NACB	**Ninganchiao**		**48.14 314**	*e*P	**P**	**11 31 13.1**	**+0.3**
KSM	**Kuching**		**48.34 280**	*e*P	**P**	**11 31 15.5**	**+0.9**
YHNB	**Yeheng**		**48.60 314**	P	**P**	**11 31 16.8**	**+0.4**
MJAR	**Matsushiro Arr**		**48.67 339**	P	**P**	**11 31 15.1**	**-1.6**
	comp=Z,6.0nm,0.9s,mb4.6,baz=167,slow=9.1,SNR=13						
MAJO	**Matsushiro**		**48.68 339**	*e*P	**P**	**11 31 15.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
MAJO	**Matsushiro**		**48.68 339**	*e*P	**P**	**11 31 15.7**	**-1.1**
	comp=Z,7.1nm,0.6s,mb4.9						
MAT	**Matsushiro**		**48.68 339**	P	**P**	**11 31 15.3**	**-1.5**
MAT				S	**S**	**11 38 17.0**	**-2.9**
JNU	**Nakatsue**		**48.89 330**	LR	LR	11 48 52.9	
	comp=Z,263nm,20.6s,MS4.2,baz=310,slow=32						
QZH	**Quanzhou**		**50.77 312**	⇑*i*P	**P**	**11 31 33.0**	**0.0**
QZH				S	**S**	**11 38 51.1**	**+1.4**
QZH				AMB	AMB		
	comp=Z,120nm,1.2s,mb5.7						
QZH				LR	LR		
	comp=N,360nm,13.8s,MS4.7						
QZH				LR	LR		
	comp=E,330nm,10.6s,MS4.7						
QZH				LR	LR		
	comp=Z,450nm,19.7s						
PPT	**Papeete**		**51.91 105**	*e*S	**S**	**11 38 50.0**	**-16**
	comp=Z,487nm,27.0s						
PPT				*e*LQ		11 44 00.1	
	comp=Z,1μm,28.5s						
PPT				*e*LR	LR	11 46 05.8	
	comp=Z,1μm,29.5s,baz=271						
PPT	**Papeete**		**51.91 105**	LR	LR	11 47 19.4	
	comp=Z,356nm,21.7s,MS4.4,baz=275,slow=29						
TBI	**Tubuai**		**52.49 113**	*e*LQ		11 44 19.2	
	comp=Z,2μm,31.2s						
TBI				*e*LR	LR	11 46 30.9	
	comp=Z,780nm,31.5s						
SSE	**Sheshan**		**52.90 320**	P	**P**	**11 31 49.2**	**+0.5**
SSE				S	**S**	**11 39 20.5**	**+1.8**
SSE				XS	sS	11 39 25.8	+5.8
SSE				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.9						
SSE				AMB	AMB		
	comp=Z,95nm,4.4s						
SSE				LR	LR		
	comp=N,307nm,17.0s,MS4.5						
SSE				LR	LR		
	comp=E,195nm,17.0s,MS4.5						
SSE				LR	LR		
	comp=Z,350nm,13.4s,MS4.6						
KSRS	**Korea Array**		**53.79 331**	P	**P**	**11 31 55.5**	**+0.3**
	comp=Z,9.5nm,1.1s,mb4.7,baz=144,slow=8.4,SNR=27						
KS15	**Wonju Array Si**		**53.80 331**	*e*P	**P**	**11 31 56.5**	**+1.3**
ASAJ	**Asahikawa**		**54.41 347**	LR	LR	11 52 33.4	
	comp=Z,802nm,19.7s,MS4.8,baz=274,slow=33						
QIZ	**Qiongzhong**		**54.69 301**	P	**P**	**11 32 03.1**	**+1.0**
QIZ				AP	pP	11 32 06.5	+3.6
QIZ				XP	sP	11 32 07.8	+4.6
QIZ				S	**S**	**11 39 45.5**	**+2.1**
QIZ				XS	sS	11 39 51.2	+6.4
QIZ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,137nm,2.9s,mb5.5						
QIZ				LR	LR		
	comp=N,163nm,17.8s,MS4.5						
QIZ				LR	LR		
	comp=E,314nm,17.1s,MS4.5						
QIZ				LR	LR		
	comp=Z,389nm,19.9s,MS4.5						
QIZ	**Qiongzhong**		**54.69 301**	*e*P	**P**	**11 32 03.7**	**+1.6**
NJ2	**Nanjing**		**55.02 319**	*e*P	**P**	**11 32 05.6**	**+1.4**
NJ2				AP	pP	11 32 09.6	+4.6
NJ2				XP	sP	11 32 13.1	+7.8
NJ2				PCP	PcP	11 33 05.6	-0.3
NJ2				S	**S**	**11 39 49.0**	**+1.6**
NJ2				XS	sS	11 39 55.5	+6.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,290nm,4.8s						
NJ2				LR	LR		
	comp=N,670nm,22.4s,MS4.8						
NJ2				LR	LR		
	comp=E,410nm,19.2s,MS4.8						
NJ2				LR	LR		
	comp=Z,410nm,19.2s,MS4.5						
YSS	**Yuzh-Sakhalins**		**57.07 348**	*e*P	**P**	**11 32 18.8**	**+0.2**
YSS				pmax	pmax		
	comp=Z,100nm,5.0s						
YSS	**Yuzh-Sakhalins**		**57.07 348**	*e*P	**P**	**11 32 19.0**	**+0.4**
DL2	**Dalian**		**58.11 327**	P	**P**	**11 32 26.5**	**+0.4**
DL2				S	**S**	**11 40 27.8**	**-0.4**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
DL2				LR	LR		
	comp=N,160nm,14.1s,MS4.4						
DL2				LR	LR		
	comp=E,170nm,17.0s,MS4.4						
DL2				LR	LR		
	comp=Z,190nm,17.0s,MS4.3						
MDJ	**Mudanjiang**		**58.91 337**	P	**P**	**11 32 31.7**	**+0.1**
MDJ				AP	pP	11 32 34.8	+2.4
MDJ				XP	sP	11 32 36.1	+3.4
MDJ				PP	PP	11 34 41.7	-0.3
MDJ				SCP	ScP	11 37 21.4	-1.2
MDJ				S	**S**	**11 40 36.5**	**-1.9**
MDJ				AMB	AMB		
	comp=Z,18nm,1.2s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,91nm,7.0s						
MDJ				LR	LR		
	comp=N,410nm,15.6s,MS4.9						
MDJ				LR	LR		
	comp=E,501nm,13.6s,MS4.9						
MDJ				LR	LR		
	comp=Z,589nm,13.6s,MS4.9						
MDJ	**Mudanjiang**		**58.91 337**	*e*P	**P**	**11 32 31.8**	**+0.2**
	comp=Z,10nm,0.9s,mb4.8						
CN2	**Changchun**		**59.97 333**	⇑P	**P**	**11 32 38.8**	**-0.1**
CN2				*e*XP	sP	11 32 46.0	+6.0
CN2				*e*S	**S**	**11 40 51.0**	**-1.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,300nm,3.0s						
CN2				LR	LR		
	comp=N,300nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=E,400nm,16.0s,MS4.8						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.6						
HABR	**Khabarovsk**		**60.42 343**	*e*P	**P**	**11 32 38.9**	**-3.0**
HABR				*e*		11 33 22.8	
HABR				S	**S**	**11 40 55.1**	**-2.5**
HABR				*e*		11 41 00.8	
HABR				*e*		11 44 55.3	
GYA	**Guiyang**		**60.68 307**	⇑*i*P	**P**	**11 32 46.8**	**+2.6**
GYA				AP	pP	11 32 51.2	+6.2
GYA				PCP	PcP	11 33 31.0	+2.6
GYA				PP	PP	11 35 04.3	+6.3
GYA				SCP	ScP	11 37 31.2	+0.3
GYA				S	**S**	**11 41 04.7**	**+2.8**
GYA				PS		11 41 21.2	
GYA				SCS	ScS	11 42 35.3	-1.3
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4						
GYA				AMB	AMB		
	comp=Z,370

KMI LR LR
comp=Z,316nm,19.4s,MS4.5
CHRT Chiangrai 63.74 297 ⇓P **P 11 33 06.0 +1.2**
comp=Z,105nm,0.9s,mb5.9
CHG Chiang Mai 64.11 296 ⇓P **P 11 33 08.3 +1.0**
comp=Z,10nm,0.6s,mb5.0
CHTO Chiang Mai 64.11 296 *e*P **P 11 33 08.2 +0.9**
CD2 Chengdu 65.03 310 P **P 11 33 12.6 -0.4**
CD2 AP pP 11 33 17.3 +3.4
CD2 XP sP 11 33 19.8 +5.6
CD2 PP PP 11 35 38.2 +2.0
CD2 S S 11 41 53.7 -2.6
CD2 XS sS 11 42 01.5 +3.9
CD2 SS SS 11 46 08.0 -0.5
CD2 AMB AMB
comp=Z,40nm,1.0s,mb5.4
CD2 AMB AMB
comp=Z,120nm,5.8s
CD2 LR LR
comp=N,270nm,26.4s,MS4.7
CD2 LR LR
comp=E,530nm,22.8s,MS4.7
CD2 LR LR
comp=Z,320nm,20.4s,MS4.5
HHC Hu-ho-hao-te 65.13 323 *e*P **P 11 33 15.5 +2.0**
HHC AP pP 11 33 20.2 +5.9
HHC XP sP 11 33 22.5 +7.9
HHC PCP PcP 11 33 46.9 +0.7
HHC PP PP 11 35 41.6 +4.7
HHC SCP 11 37 48.8
HHC S S 11 41 57.9 +0.7
HHC XS sS 11 42 06.3 +7.8
HHC SCS ScS 11 43 06.6 -3.1
HHC AMB AMB
comp=Z,46nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,308nm,5.2s
HHC LR LR
comp=N,624nm,17.5s
HHC LR LR
comp=E,393nm,12.4s
HHC LR LR
comp=Z,555nm,17.5s,MS4.8
RKT Rikitea 65.77 111 *e*LQ 11 49 49.2
comp=Z,540nm,31.8s
RKT *e*LR LR 11 52 39.9
comp=Z,230nm,24.5s
HIA Hailar 66.69 334 *e*P **P 11 33 24.1 +0.7**
HIA Hailar 66.69 334 *e*P **P 11 33 25.3 +1.9**
comp=Z,6.7nm,0.7s,mb4.8
LZH Lanzhou 67.48 315 *e*P **P 11 33 29.7 +1.0**
LZH AP pP 11 33 34.5 +5.0
LZH XP sP 11 33 36.8 +7.0
LZH PP PP 11 36 01.5 +3.9
LZH *e*S S 11 42 25.9 0.0
LZH XS sS 11 42 33.6 +6.3
LZH PS 11 42 51.8
LZH AMB AMB
comp=Z,25nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,132nm,8.2s
LZH LR LR
comp=E,537nm,16.5s
LZH LR LR
comp=Z,845nm,18.8s,MS5.0
MA2 Magadan 68.36 356 *e*P **P 11 33 31.4 -2.3**
MA2 *e*S S 11 42 29.4 -6.1
MA2 *e*PS 11 43 00.0
MA2 *e* 11 43 31.9
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.4
MA2 Magadan 68.36 356 *e*P **P 11 33 32.6 -1.1**
comp=Z,23nm,1.0s,mb5.2
VNDA Vanda 68.74 179 LR LR 11 59 57.2
comp=Z,212nm,18.4s,MS4.4,baz=347,slow=33
CLNS Chul'man 70.75 342 *e*P **P 11 33 48.4 -0.1**
CLNS pmax pmax
comp=Z,26nm,1.0s,mb5.1
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,12nm,0.9s
SEY Seymchan 71.62 357⇑ *e*P **P 11 33 53.4 -0.3**
GTA Gaotai 71.89 316 *e*P **P 11 33 56.7 +0.9**
GTA AP pP 11 34 00.2 +3.6
GTA XP sP 11 34 03.6 +6.7
GTA PP PP 11 36 38.3 +2.7
GTA S S 11 43 16.8 -0.9
GTA XS sS 11 43 24.8 +5.7
GTA SKS 11 43 56.9
GTA SCS ScS 11 43 59.1 -3.6
GTA AMB AMB
comp=Z,9.0nm,0.8s,mb4.8
GTA AMB AMB
comp=Z,129nm,5.7s
GTA LR LR
comp=N,186nm,18.7s,MS4.7
GTA LR LR
comp=E,300nm,19.5s,MS4.7
GTA LR LR
comp=Z,188nm,19.1s,MS4.4
ULN Ulaanbaatar 71.96 327 *e*P **P 11 33 57.0 +0.9**
ULN pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ULN Ulaanbaatar 71.96 327 *e*P **P 11 33 57.0 +0.9**
comp=Z,10nm,1.1s,mb4.7
SONM Songino Array 72.30 326 P **P 11 33 58.9 +0.8**
comp=Z,7.1nm,0.9s,mb4.6,baz=135,slow=5.2,SNR=26
SHL Shillong 72.53 300 *e*P **P 11 34 01.0 +1.1**
YAK Yakutsk 73.89 347 *c*/P **P 11 34 06.5 -0.7**
YAK *e*PP pP 11 34 15.3 +7.3
YAK *e* 11 34 23.1
YAK *e* 11 36 49.5
YAK *e*PPP 11 38 36.9
YAK *e*S S 11 43 38.2 -1.4
YAK *e* 11 44 11.4
YAK pmax pmax
comp=Z,48nm,0.8s,mb5.5
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.6s
YAK pmax pmax
comp=Z,22nm,1.8s,mb4.8
YAK pmax pmax
comp=N,13nm,1.9s
YAK pmax pmax
comp=E,26nm,2.4s
YAK smax
comp=E,26nm,2.8s
YAK smax
comp=N,18nm,2.0s
YAK Yakutsk 73.89 347 *e*P **P 11 34 06.6 -0.6**
comp=N,36nm,0.8s,mb5.3
BOD Bodaibo 75.28 338 *e*P **P 11 34 14.3 -1.0**
BOD pmax pmax
comp=Z,12nm,1.4s,mb4.6
ZAK Zakamensk 75.44 327 *e*P **P 11 34 16.3 -0.1**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TLY Talaya 75.98 329 *e*P **P 11 34 19.1 -0.4**
TLY pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
TLY Talaya 75.98 329 *e*P **P 11 34 23.2 +3.7**
GAMB Gambell 75.99 13 *e*P **P 11 34 19.1 -0.2**
comp=Z,21nm,1.3s,mb4.9
BILL Bilibino 76.88 3 *e*P **P 11 34 23.6 -0.6**
BILL *i* 11 34 39.3
BILL pmax pmax
comp=Z,77nm,1.2s,mb5.5
BILL MLR MLR
comp=Z,600nm,21.0s,MS4.9
BILL Bilibino 76.88 3 *e*P **P 11 34 22.8 -1.4**
comp=Z,54nm,1.0s,mb5.4
TNA Tin City 78.37 14 *e*P **P 11 34 32.5 -0.1**
PALK Pallekele 78.40 279 *e*P **P 11 34 35.3 +1.4**
comp=Z,22nm,1.0s,mb5.0
SVW2 Sparrevohn 78.65 21 *e*P **P 11 34 34.0 -0.3**
TTA Tatalina 79.76 20 *e*P **P 11 34 39.9 -0.4**
QSPA South Pole Qui 81.20 180 *e*P **P 11 34 47.1 -0.8**
comp=Z,8.0nm,0.9s,mb4.7
PMR Palmer 81.36 23 *e*P **P 11 34 48.0 -0.9**
SML Sawmill 81.79 23 *e*P **P 11 34 51.5 +0.3**
WMQ Urumqi 81.97 317 *e*P **P 11 34 53.0 +0.4**
WMQ XP sP 11 35 00.0 +6.3
WMQ PP PP 11 38 03.0 +2.7
WMQ S S 11 45 06.0 -1.6
WMQ SKS 11 45 10.0
WMQ AMB AMB
comp=Z,24nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,142nm,6.0s
WMQ LR LR
comp=N,187nm,20.0s,MS4.6
WMQ LR LR
comp=E,216nm,20.0s,MS4.6
WMQ LR LR
comp=Z,259nm,21.0s,MS4.6
TIXI Tiksi 82.51 351 *e*P **P 11 34 53.7 -1.1**
TIXI pmax pmax
comp=Z,21nm,1.5s,mb5.0
TIXI MLR MLR
comp=Z,618nm,18.0s,MS5.0
TIXI Tiksi 82.51 351 *e*P **P 11 34 53.6 -1.2**
comp=Z,29nm,1.5s,mb5.1
IMA2 Indian Mountai 82.64 18 *e*P **P 11 34 54.9 -0.6**
MCK McKinley 82.72 21 *e*P **P 11 34 55.1 -0.9**
MCK pmax pmax
comp=Z,52nm,1.0s,mb5.5
MCK McKinley 82.72 21 *e*P **P 11 34 55.1 -1.0**
comp=Z,52nm,1.0s,mb5.5
COLA College 83.78 20 *e*P **P 11 34 59.7 -1.8**
COLA College 83.78 20 *e*P **P 11 34 59.5 -2.0**
comp=Z,18nm,0.7s,mb5.3
MAW Mawson 83.79 203 LR LR 12 09 47.5
comp=Z,450nm,18.3s,MS4.9,baz=303,slow=34
MENT Mentasta 84.21 23 *e*P **P 11 35 03.5 -0.2**
NDI New Delhi 85.94 300 *e*P **P 11 35 11.0 -2.2**
EGAK Eagle 86.13 22 *e*P **P 11 35 13.0 -0.3**
SKAG Skagway 86.15 28 *e*P **P 11 35 13.2 -0.3**
comp=Z,29nm,1.4s,mb5.3
DAWY Dawson 86.45 23 *e*P **P 11 35 15.4 +0.5**
MK31 Makanchi Array 86.53 318 *e*P **P 11 35 15.0 -0.7**
MKAR Makanchi Array 86.53 318 P **P 11 35 15.1 -0.6**
comp=Z,3.3nm,0.8s,mb4.6,baz=96,slow=5.7,SNR=12
ZALV Zalesovo Beam 87.17 326 P **P 11 35 17.6 -1.1**
comp=Z,0.8nm,0.3s,mb4.4,baz=125,slow=7.2,SNR=5.3
ZAL Zalesovo 87.18 326 P **P 11 35 17.6 -1.1**
BNLO Ben Lomond (Sa 87.44 52 ⇓P **P 11 35 20.6 +0.2**
baz=88
GASB Alder Springs 87.60 49 ⇑P **P 11 35 21.4 +0.3**
baz=88
MNRC McLaughlin Nat 87.63 50 ⇓P **P 11 35 21.2 -0.1**
baz=88
O02C Red Bluff 87.67 49 ⇓P **P 11 35 21.0 -0.4**
baz=88
HAST Hastings Reser 87.77 53 ⇑P **P 11 35 21.0 -0.9**
baz=88
PACP Pacheco Peak 88.11 52 ⇓P **P 11 35 23.4 -0.2**
baz=88
S04C Ingram Canyon, 88.18 52 ⇓P **P 11 35 23.7 -0.2**
baz=88
SUTB Sutter Butte 88.21 50 ⇑P **P 11 35 23.4 -0.6**
baz=88
NVS Novosibirsk 88.33 326 *e*P **P 11 35 32.5 +8.3**
U04C Hernandez Rese 88.37 53 ⇓P **P 11 35 25.0 +0.1**
baz=88
M03C McCloud 88.41 48 ⇑P **P 11 35 24.8 -0.1**
baz=88
PKD Parkfield 88.47 53 ⇓P **P 11 35 25.1 -0.2**
baz=88
ORV Oroville 88.50 50 ⇓P **P 11 35 25.3 -0.1**
baz=88
M04C Macdoel 88.73 48 ⇑P **P 11 35 26.6 +0.2**
baz=89
I04A Tendick Farm, 88.78 45 ⇑P **P 11 35 25.8 -0.7**
baz=89
LAVA Lava Cap Winer 88.90 51 ⇓P **P 11 35 27.1 -0.1**
baz=89
S05C Merced 88.93 52 ⇑P **P 11 35 27.4 -0.1**
baz=89
O05C Quincy 89.02 49 ⇓P **P 11 35 27.7 -0.1**
baz=89
CMB Columbia Colle 89.02 51 ⇑P **P 11 35 27.6 -0.3**
baz=89
P05C Yuba Gap, Truc 89.12 50 ⇓P **P 11 35 27.8 -0.5**
baz=89
M05C Lookout 89.15 48 ⇑P **P 11 35 28.1 -0.2**
baz=89
KSH Kashi 89.22 310 *e*P **P 11 35 30.1 +1.3**
KSH *e*AP pP 11 35 34.1 +4.5
KSH *e*XP sP 11 35 37.3 +7.4
KSH *e*PP PP 11 39 04.0 +4.7
KSH *e*PPP 11 41 03.1
KSH *e*SKS 11 45 57.2
KSH *e*S S 11 46 17.6 -1.6
KSH *e*XS sS 11 46 26.1 +5.5
KSH *e*PS PS 11 47 28.3 +4.4
KSH AMB AMB
comp=Z,297nm,4.7s
KSH LR LR
comp=N,528nm,4.4s
KSH LR LR
comp=E,442nm,5.8s
KSH LR LR
comp=Z,488nm,5.5s
T06C Millerton Lake 89.34 53 ⇓P **P 11 35 29.5 +0.2**
baz=89
R05C Kirkwood Meado 89.40 51 ⇓P **P 11 35 29.6 0.0**
baz=89
J05A Fort Rock 89.50 46 ⇓P **P 11 35 30.0 +0.1**
baz=90
VES Vestal, Richgr 89.61 54 ⇓P **P 11 35 30.3 -0.4**
baz=90
K05A Summer Lake 89.62 47 ⇓P **P 11 35 30.9 +0.3**
baz=90
CIS Catalina Islan 89.71 56 ⇑P **P 11 35 31.2 +0.1**
baz=90
KCC Kaiser Creek 89.71 52 ⇑P **P 11 35 31.1 0.0**
baz=90
HELL Mitchell Peak 89.82 53 ⇑P **P 11 35 31.6 0.0**
baz=90
R06C Coleville 89.84 51 ⇑P **P 11 35 32.1 +0.5**
baz=90
WAKR Walker 89.85 51 *e*P **P 11 35 32.6 +0.9**
O06A Flanigan 89.88 49 ⇑P **P 11 35 32.0 +0.2**
baz=90
KURK Kurchatov 89.91 321 *e*P **P 11 35 31.0 -0.7**
N06A Buffalo Meadow 89.99 49 ⇑P **P 11 35 32.4 +0.1**
baz=90
PAHR Pah Rah Range 90.12 50 *e*P **P 11 35 33.3 +0.3**
comp=Z,16nm,1.3s,mb5.2
MWC Mount Wilson 90.14 56 *e*P **P 11 35 33.7 +0.5**
MTUM Tungsten Hills 90.31 52 *e*P **P 11 35 33.8 0.0**
EDW2 Edwards Air Fo 90.31 55 ⇓P **P 11 35 34.1 +0.1**
baz=90
I06A Prineville 90.36 46 ⇑P **P 11 35 34.4 +0.5**
baz=90
E06A Yakima 90.38 43 ⇑P **P 11 35 33.1 -0.9**
baz=90
Q07A Schurz 90.42 51 ⇓P **P 11 35 34.8 +0.5**
baz=90
INK Inuvik 90.44 20 *e*P **P 11 35 31.5 -2.3**
INK Inuvik 90.44 20 LR LR 12 14 04.4
comp=Z,202nm,21.4s,MS4.5,baz=47,slow=34
BFSC Mount Baldy St 90.47 56 ⇓P **P 11 35 34.6 -0.1**
baz=90
CWC Cottonwood Cre 90.52 53 ⇑P **P 11 35 35.3 +0.3**
baz=90
L07A Adell 90.61 48 ⇑P **P 11 35 35.3 +0.1**
baz=91
M07A Soldier Meadow 90.61 48 ⇑P **P 11 35 35.5 +0.3**
baz=91
N07B Gerlach 90.64 49 ⇓P **P 11 35 35.7 +0.3**
baz=91
S08C White Mtn Res 90.64 52 ⇑P **P 11 35 36.3 +0.9**
baz=91
LRMC Laurel Mountai 90.66 54 ⇑P **P 11 35 35.9 +0.3**
baz=91
NVAR Mina Array Bea 90.71 51 P **P 11 35 35.9 +0.1**
comp=Z,8.7nm,0.9s,mb5.1,baz=241,slow=4.5,SNR=36
K07A Rock Creek Ran 90.81 47 ⇑P **P 11 35 36.0 -0.1**
baz=91
UCH Uchtor 90.85 312 *e*P **P 11 35 37.6 +1.3**
comp=Z,4.5nm,1.2s,mb4.7
I07A Izee 90.89 46 ⇓P **P 11 35 36.5 +0.1**
baz=91
J07A Hines 90.89 46 ⇓P **P 11 35 36.6 +0.2**
baz=91
MPMC Manual Prospec 90.92 54 ⇓P **P 11 35 36.9 +0.1**
baz=91,SNR=6.9
AAK Ala-Archa 90.94 313⇑ *e*P **P 11 35 34.6 -2.1**
AAK pmax pmax
comp=Z,2.0nm,1.2s,mb4.3
H07A Lands Inn, Kim 90.95 45 ⇑P **P 11 35 36.9 +0.2**
baz=91
Q08A Gabbs 91.07 51 ⇑P **P 11 35 37.6 +0.2**
baz=91
P08A Dixie Valley 91.11 50 ⇓P **P 11 35 38.0 +0.5**
baz=91
GRAC Grapevine Rang 91.18 53 ⇓P **P 11 35 37.6 -0.4**
baz=91
D07A Quincy 91.19 43 ⇓P **P 11 35 37.1 -0.7**
baz=91
WVOR Wild Horse Val 91.20 47 *e*P **P 11 35 37.7 -0.2**
WVOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.9
WVOR Wild Horse Val 91.20 47 *e*P **P 11 35 37.7 -0.2**
comp=Z,7.2nm,1.1s,mb4.9
M08A Happy Creek Ra 91.21 48 ⇑P **P 11 35 38.5 +0.6**
baz=91
MONP Monument Peak 91.25 57 ⇑P **P 11 35 38.8 +0.4**
baz=91
N08A GE Springer Mi 91.27 49 ⇑P **P 11 35 38.7 +0.4**
baz=91
A07A Ashnola River, 91.29 41 ⇓P **P 11 35 37.8 -0.3**
baz=91
GSC Goldstone 91.34 55 *e*P **P 11 35 39.1 +0.4**
GSC Goldstone 91.34 55 ⇓P **P 11 35 38.1 -0.6**
baz=91
B07A Winthrop 91.34 41 ⇓P **P 11 35 38.1 -0.3**
baz=91
L08A Fields 91.37 48 ⇑P **P 11 35 38.8 +0.1**
baz=91
S09A Goldfield 91.42 52 P **P 11 35 39.0 -0.1**
baz=91,SNR=22
J08A Circle Bar Ran 91.49 46 P **P 11 35 39.0 -0.2**
baz=92,SNR=12
FURC Furnace Creek, 91.50 53 P **P 11 35 39.6 +0.1**
baz=92,SNR=12
G08A Pilot Rock 91.50 45 ⇓P **P 11 35 39.0 -0.3**
baz=92
SYO Syowa Base 91.51 199⇑ *e*P **P 11 35 39.0 +0.1**
I08A Drewsey 91.52 46 ⇓P **P 11 35 39.2 -0.2**
baz=92
H08A Prairie City 91.56 45 ⇑P **P 11 35 39.6 +0.1**
baz=92
R09A Tonopah 91.63 52 P **P 11 35 40.1 +0.1**
baz=92,SNR=14
Q09A Carvers 91.65 51 ⇑P **P 11 35 40.1 +0.1**
baz=92
HEC Hector,Ludlow 91.65 55 ⇓P **P 11 35 40.0 -0.2**
baz=92
N09A Rock Creek Ran 91.73 49 ⇑P **P 11 35 41.1 +0.6**
baz=92
BELC Belle Mtn. 91.78 56 ⇑P **P 11 35 40.7 -0.2**
baz=92
P09A Austin 91.80 50 P **P 11 35 41.4 +0.6**
baz=92,SNR=7.8
L09A Wilkinson Ranc 91.83 48 P **P 11 35 41.6 +0.8**
baz=92,SNR=5.5
B08A Colville Reser 91.84 41 ⇓P **P 11 35 39.2 -1.5**
baz=92
SHOC Shoshone 91.86 54 ⇑P **P 11 35 41.5 +0.3**
baz=92
O09A Fish Creek Ran 91.87 50 P **P 11 35 41.3 +0.3**
baz=92,SNR=6.8
K09A Rome 91.91 47 P **P 11 35 41.5 +0.3**
baz=92,SNR=6.8
S10A Tonopah Range, 91.95 52 P **P 11 35 41.9 +0.4**
baz=92,SNR=19
A08A Turner Farm, O 91.99 41 ⇓P **P 11 35 40.8 -0.6**
baz=92
J09A Fry Pan Ranch, 92.00 47 P **P 11 35 41.9 +0.3**
baz=92,SNR=10
TPNV Topopah Spring 92.06 53 *e*P **P 11 35 42.1 +0.1**
TPNV pmax pmax
comp=Z,39nm,1.6s,mb5.5
TPNV Topopah Spring 92.06 53 *e*P **P 11 35 42.1 +0.1**
comp=Z,39nm,1.6s,mb5.5
TPNV Topopah Spring 92.06 53 ⇓P **P 11 35 42.1 +0.1**
baz=92
I09A Lost Marbles R 92.12 46 ⇑P **P 11 35 42.0 -0.1**
baz=92
GMRC Granite Mounta 92.19 55 P **P 11 35 42.8 +0.1**
baz=92,SNR=7.6
R10A Warm Springs 92.23 52 ⇓P **P 11 35 42.9 +0.1**
baz=92
Q10A Clear Creek Ra 92.25 51 P **P 11 35 43.0 +0.2**
baz=92,SNR=13
O10A Cortez Mining, 92.41 50 ⇑P **P 11 35 44.2 +0.6**
baz=92
IRM Iron Mountain 92.50 56 ⇑P **P 11 35 44.1 0.0**
baz=92
V11A Goodsprings 92.53 54 ⇑P **P 11 35 44.6 +0.4**
baz=92
K10A MacKenzie Ranc 92.54 47 P **P 11 35 44.5 +0.4**
baz=93,SNR=9.5
S11A Rachel 92.56 52 ⇑P **P 11 35 44.1 -0.3**
baz=93
BMO Blue Mountains 92.58 45 *e*P **P 11 35 43.5 -0.7**
BMO pmax pmax
comp=Z,10.0nm,1.5s,mb5.0
BMO Blue Mountains 92.58 45 *e*P **P 11 35 43.5 -0.8**
comp=Z,10nm,1.5s,mb5.0
M10A I.L. Ranch, Tu 92.58 49 ⇓P **P 11 35 44.7 +0.4**
baz=93
L10A Juniper Basin 92.72 48 P **P 11 35 45.6 +0.7**
baz=93,SNR=11
J10A Berg Farm, Mel 92.72 47 ⇑P **P 11 35 44.8 -0.1**
baz=93
G10A Bishop Farm, J 92.78 45 P **P 11 35 44.0 -1.2**
baz=93,SNR=8.4
R11A Troy Canyon, C 92.80 52 P **P 11 35 46.0 +0.6**
baz=93,SNR=14
F10A Beach Ranch, E 92.82 44 ⇑P **P 11 35 44.1 -1.3**
baz=93
Q11A Duckwater 92.83 51 P **P 11 35 46.0 +0.4**
baz=93,SNR=26
SHPR Sheep Range 92.85 54 *e*P **P 11 35 46.6 +0.9**
P11A Circle Ranch, 92.86 51 ⇑P **P 11 35 45.7 0.0**
baz=93
T11A Corn Creek, Al 92.92 53 P **P 11 35 46.4 +0.4**
baz=93,SNR=9.3
H10A Noah's Angus R 92.93 46 P **P 11 35 45.0 -0.9**
baz=93,SNR=7.5
V12A Nelson 92.98 54 ⇓P **P 11 35 46.1 -0.3**
baz=93
O11A Cowboy Ranch, 93.02 50 P **P 11 35 46.8 +0.4**
baz=93,SNR=7.4
M11A Holland Ranch, 93.12 49 ⇑P **P 11 35 47.3 +0.5**
baz=93
K11A Parker Ranch, 93.15 47 P **P 11 35 47.4 +0.5**
baz=93,SNR=9.4
L11A Cat Creek Ranc 93.26 48 P **P 11 35 47.9 +0.4**
baz=93,SNR=9.5
S12A Delamar Landin 93.27 53 ⇑P **P 11 35 48.3 +0.7**
baz=93,SNR=7.3
NEW Newport 93.27 42 LR LR 12 09 51.1
comp=Z,242nm,20.7s,MS4.6,baz=259,slow=30
I11A Placerville 93.38 46 P **P 11 35 47.6 -0.4**
baz=93,SNR=9.4
G11A Walters Elk Ra 93.39 45 ⇓P **P 11 35 46.5 -1.4**
baz=93
MFID Camas Ranch 93.40 47 ⇑P **P 11 35 48.4 +0.3**
baz=93
H11A Donnelly 93.46 45 ⇓P **P 11 35 47.7 -0.6**
baz=94
Q12A Willow Creek R 93.49 51 P **P 11 35 49.1 +0.6**
baz=94,SNR=13
P12A McGill 93.49 51 P **P 11 35 48.8 +0.2**
baz=94,SNR=9.1
R12A Pony Springs, 93.56 52 P **P 11 35 49.9 +1.0**
baz=94,SNR=10
N12A Clover Valley, 93.60 49 ⇑P **P 11 35 49.5 +0.5**
baz=94
D11A Klaveano Farm, 93.60 43 ⇓P **P 11 35 48.8 -0.1**
baz=94
W13A Hualapai Mount 93.67 55 ⇓P **P 11 35 49.1 -0.4**
baz=94
V13A Grand Canyon W 93.70 54 ⇓P **P 11 35 50.1 +0.5**
baz=94
O12A Currie 93.73 50 P **P 11 35 50.1 +0.4**
baz=94,SNR=7.7
M12A Wells 93.77 49 ⇓P **P 11 35 50.0 +0.2**
baz=94
L12A House Creek Ra 93.80 48 P **P 11 35 50.9 +1.0**
baz=94,SNR=8.9
A11A Hall Mountain, 93.88 41 ⇓P **P 11 35 50.0 -0.2**
baz=94

J12A	Stokes Ranch,	93.90	47	P	P	11 35 50.5	+0.1
	baz=94,SNR=14						
T13A	Saint George	93.92	53	P	P	11 35 51.7	+1.0
	baz=94,SNR=6.7						
K12A	Draper Farm, C	93.95	48	P	P	11 35 51.2	+0.6
	baz=94,SNR=7.3						
S13A	Holt Ranch, En	94.04	53	P	P	11 35 52.2	+1.0
	baz=94,SNR=6.3						
Q13A	Wheeler Ranch,	94.10	51	P	P	11 35 52.3	+0.9
	baz=94,SNR=6.3						
P13A	Bates Ranch, G	94.17	51	P	P	11 35 52.0	+0.2
	baz=94,SNR=11						
D12A	Red Ives Fores	94.27	43	⇑P	P	11 35 52.1	+0.1
	baz=94						
M13A	Montello	94.32	49	⇑P	P	11 35 52.4	+0.1
	baz=94						
HLID	Hailey	94.44	47	P	P	11 35 53.3	+0.5
	baz=94,SNR=9.0						
K13A	Stover Farm, H	94.55	48	⇓P	P	11 35 54.1	+0.7
	baz=95						
L13A	Double Diamond	94.58	48	⇑P	P	11 35 53.8	+0.2
	baz=95						
J13A	Cove Ranch, Pi	94.59	47	⇓P	P	11 35 54.1	+0.5
	baz=95						
H13A	Challis	94.69	46	⇑P	P	11 35 53.8	-0.2
	baz=95						
I13A	Wildhorse Cree	94.70	46	P	P	11 35 54.4	+0.4
	baz=95,SNR=6.2						
G13A	Cobalt	94.77	45	⇓P	P	11 35 53.7	-0.6
	baz=95						
F13A	Darby	94.80	45	⇑P	P	11 35 54.2	-0.2
	baz=95						
M14A	Sheep Mountain	94.95	49	P	P	11 35 55.7	+0.5
	baz=95,SNR=7.0						
N14A	Grayback Hills	94.99	50	⇓P	P	11 35 55.3	-0.1
	baz=95						
K14A	Jones Ranch, D	95.21	48	⇑P	P	11 35 56.6	+0.2
	baz=95						
BVAR	Borovoye Array	95.35	323	LR	LR	12 21 46.5	
	comp=Z,117nm,18.2s,MS4.4,baz=285,slow=37						
MCMT	McKenzie Canyo	95.71	46	eP	P	11 35 59.3	+0.7
G15A	Dillon	96.01	45	⇑P	P	11 35 59.5	-0.5
	baz=96						
E15A	Deer Lodge	96.04	44	⇓P	P	11 35 59.3	-0.8
	baz=96						
JLU	Jordanelle	96.27	50	eP	P	11 36 02.3	+1.1
EDM	Edmonton	96.32	37	eP	P	11 35 59.5	-1.7
YKA	Yellowknife Ar	96.65	28	P	P	11 36 00.5	-2.0
	comp=Z,2.7nm,1.1s,mb4.6,baz=264,slow=4.3,SNR=16						
YKA				PKKP	PKKPbc	11 52 46.6	-1.8
	comp=Z,0.4nm,0.9s,baz=76,slow=3.0,SNR=5.6						
YKA				LR	LR	12 15 45.4	
	comp=Z,157nm,18.6s,MS4.5,baz=230,slow=33						
YKW3	Yellowknife Ar	96.65	28	eP	P	11 36 02.2	-0.2
BOZ	Bozeman (W)	96.66	45	eP	P	11 36 02.2	-0.7
BOZ				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb5.2						
BOZ	Bozeman (W)	96.66	45	eP	P	11 36 02.2	-0.7
	comp=Z,2.0nm,0.2s,mb5.2						
BOZ	Bozeman (W)	96.66	45	⇑P	P	11 36 02.3	-0.6
	baz=97						
219A	White Tail Can	97.13	59	⇓P	P	11 36 05.1	-0.3
	baz=97						
BW06	Boulder Array	97.88	48	eP	P	11 36 07.9	-0.6
TXAR	Lajitas Array	101.72	62	P	Pdif	11 36 26.4	+1.1
	comp=Z,0.3nm,0.9s,baz=132,slow=1.3,SNR=3.3						
AKASG	Malin Array Be	120.56	325	PKP	PKPdf	11 41 22.6	-1.8
	comp=Z,1.5nm,0.8s,baz=62,slow=1.9,SNR=5.9						
BOSA	Boshof	120.96	229	PKP	PKPdf	11 41 23.4	-2.6
	comp=Z,0.8nm,0.4s,baz=96,slow=9.2,SNR=3.4						
NB2	NORSAR Subarra	122.26	341	PKPdf	PKPdf	11 41 26.1	-1.3
	comp=Z,2.7nm,1.0s,baz=40,slow=2.0						
NOA	NORSAR Array B	122.26	341	PKP	PKPdf	11 41 26.2	-1.1
	comp=Z,1.9nm,0.9s,baz=38,slow=1.9,SNR=4.7						
KONO	Kongsberg	123.85	341	⇑/PKIKP	PKPdf	11 41 30.7	+0.3
MLR	Muntele Rosu	124.83	320	PKP	PKPdf	11 41 32.1	-0.7
	comp=Z,0.6nm,0.5s,baz=166,slow=7.9,SNR=3.3						
LPAZ	La Paz	128.23	119	PKP	PKPdf	11 41 40.3	+0.2
	comp=Z,2.6nm,0.9s,baz=20,slow=4.9,SNR=7.9						
BRG	Berggiesshubel	128.51	331	ePKIKP	PKPdf	11 41 39.9	+0.3
BRG				pmax	pmax		
	comp=Z,4.0nm,1.2s						
BRG	Berggiesshubel	128.51	331	eP	PKPdf	11 41 39.9	+0.2
	comp=Z,6.2nm,1.1s						
CLL	Collm	128.66	332	ePKPdf	PKPdf	11 41 39.0	-0.9
KHC	Kasperske Hory	129.84	330	⇑/PKIKP	PKPdf	11 41 40.8	-1.4
GERES	GERESS Array B	129.97	330	PKP	PKPdf	11 41 42.3	-0.1
	comp=Z,0.5nm,0.2s,baz=108,slow=4.3,SNR=4.4						
BDFB	Brasilia	144.80	133	PKP	PKPdf	11 42 08.2	-2.5
	comp=Z,16nm,0.8s,baz=194,slow=4.6,SNR=23						
ESDC	Sonseca Array	145.16	335	PKPbc	PKPbc	11 42 09.9	-0.2
	comp=Z,0.4nm,0.3s,baz=52,slow=1.6,SNR=6.7						

GII ***02*** *11:31:04.0±1.1,2989N×3621E,h0km,ML2.5/7*
HLW ***02*** *11:31:07.8,2969N×3612E,h9km,Mb3.1*
ISC 02 11:31:02.8±1.0,2986N±005×3635E±006,h0km,n20,
σ0§81/29,5C-3D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.15	279	Pg	Pg	11 31 23.8	-1.0
HRFI				Sg	Sg	11 31 40.0	+0.3
EIL	Elat	1.23	262	Pg	Pg	11 31 26.2	-0.1
EIL				Sg	Sg	11 31 42.5	+0.3
ZFRI	Zfri	1.23	305	Pg	Pg	11 31 25.1	-1.3
ZFRI				Sg	Sg	11 31 42.1	-0.2
MBH	Mount Berech	1.24	267	Pg	Pg	11 31 25.9	-0.8
MBH				Sg	Sg	11 31 43.6	+0.9
PRNI	Paran	1.26	293	Pg	Pg	11 31 26.1	-0.9
PRNI				Sg	Sg	11 31 44.1	+0.7
KRMI	Paran Flat	1.43	281	Pn	Pn	11 31 29.3	-0.7
KRMI				Sn	Sn	11 31 48.7	-0.8
HBST	Basata	1.54	246	⇑eP	Pn	11 31 31.4	-0.1
HBST	Basata	1.54	246	⇑P	Pn	11 31 32.3	+0.8
RMNI	Mount Ramon	1.56	299	Pn	Pn	11 31 31.8	0.0
YTIR	Yattir	1.84	325	Pn	Pn	11 31 35.9	+0.3
HDHB	Dhahab	1.88	234	⇓P	Pn	11 31 35.9	-0.3
HDHB	Dhahab	1.88	234	⇑P	Pn	11 31 36.0	-0.2
DSI	Dead Sea	1.90	334	Pn	Pn	11 31 37.4	+0.9
KZIT	Kziot	1.98	302	Pn	Pn	11 31 38.1	+0.5
KZIT				Sn	Sn	11 32 02.7	-0.4
HNKL	Nakhl	2.06	273	P	Pn	11 31 39.2	+0.6
HNKL				S	Sn	11 32 02.3	-2.6
HNKL	Nakhl	2.06	273	⇓P	Pn	11 31 39.5	+0.9
HNKL				S	Sn	11 32 07.0	+2.1
HKAT	Jabal Katrina	2.45	238	P	Pn	11 31 43.8	-0.2
HKAT	Jabal Katrina	2.45	238	⇑P	Pn	11 31 44.0	+0.1
TR1		2.79	229	⇑eP	Pn	11 31 48.5	-0.2
AMAG	Maghara	2.83	287	⇓P	Pn	11 31 50.7	+1.6

BJI ***02*** *11:40:58.4,862S×158.19E,h13km,mB5.1,mb5.1,Ms5.1, Msz4.9*
IDC ***02*** *11:40:58.9±0.7,887S×15782E,h0km,mb4.6/13, mb1 4.7/15,mb1mx4.7/18,mbtmp4.6/15,ML4.0/1,MS4.3/10, Ms1 4.3/10,ms1mx4.0/24,Error ellipse: s-maj=20.6km s-min=16.4km az=133.0*
ISCJB ***02*** *11:40:59.6±0.3,878S±005×15773E±005,h10km, mb4.9/45,MS4.5/23,Error ellipse: s-maj=7.9km s-min=6.7km az=142.8*
GCMT ***02*** *11:41:00.7±0.3,889S×15780E,h12km,MW4.9/69, Moment Tensor Solution. s15,c16; s69,c99; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.61±.09; Mθθ2.00±.09; Mφφ-2.61±.09; Mrθ0.42±.25; Mθφ1.33±.07; Mφr-1.39±.24; Best double couple: M0=2.92000×10^16 NP1:φs=32.00000°,δ75.00000°,λ-167.00000°. NP2: φs=299.00000°,δ78.00000°,λ-16.00000°. Principal axes: T 2.3580, Plg2.0000°, Azm346.0000°; N 1.1280, Plg70.0000°, Azm81.0000°; P -3.4810, Plg20.0000°, Azm255.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***02*** *11:41:00.7±0.3,884S×15781E,h10km,mb5.1/18 Error ellipse: s-maj=9.6km s-min=6.6km az=136.0*
MOS ***02*** *11:41:02.8±1.0,871S×15756E,h33km,mb5.3/10,Error ellipse: s-maj=14.4km s-min=9.9km az=65.0*
ISC 02 11:41:00.1±2.1,876S±006×15774E±005,h2km±12km,
n119,σ1§11/113,mb4.9/45,MS4.5/23,5C-3D,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.28	107	ePn	Pn	11 41 34.5	-4.3
HNR				eSn	Sn	11 42 01.8	-5.7
HNR	Honiara	2.28	107	Pn	Pn	11 41 34.4	-4.3
	82nm,0.3s,baz=22,slow=0.9,SNR=20						
HNR				Sn	Sn	11 42 08.2	+0.7
	777nm,0.3s,baz=269,slow=17,SNR=10						
CTA	Charters Tower	15.82	223	eP	Pn	11 44 42.9	-1.1
	25nm,2.0s						
CTA				eS	Sn	11 47 29.6	-10
CTA	Charters Tower	15.82	223	eP	Pn	11 44 42.9	-1.1
CTA				eS	Sn	11 47 29.6	-10
CTA				pmax	pmax		
	comp=Z,25nm,2.0s						
CTA	Charters Tower	15.82	223	Pn	Pn	11 44 42.4	-1.6
	comp=Z,0.4nm,0.3s,baz=42,slow=13,SNR=6.7						
CTA				LR	LR	11 48 30.4	
	comp=Z,14nm,20.9s,baz=46,slow=29						
CTAO	Charters Tower	15.82	223	eP	Pn	11 44 43.0	-1.0
ARMA	Armidale	22.29	194	eP	P	11 45 59.2	+0.4
KAKA	Kakadu	25.16	259	eP	P	11 46 27.0	0.0
	comp=Z,19nm,0.6s,mb4.8						
WRAB	Tennant Creek	25.20	241	P	P	11 46 27.0	-0.3
	comp=Z,209nm,0.7s,mb5.8,SNR=12						
WRAB	Tennant Creek	25.20	241	⇓iP	P	11 46 25.8	-1.5
WRAB	Tennant Creek	25.20	241	eP	P	11 46 27.2	-0.1
	comp=Z,28nm,0.8s,mb4.8						
WB2	Warramunga Arr	25.20	241	⇑iP	P	11 46 27.0	-0.4
WB2	Warramunga Arr	25.20	241	eP	P	11 46 27.2	-0.1
WRA	Warramunga Arr	25.21	241	P	P	11 46 27.0	-0.5
WRA						11 50 00.3	
WRA	Warramunga Arr	25.21	241	P	P	11 46 27.0	-0.4
	comp=Z,21nm,0.9s,mb4.7,baz=67,slow=9.2,SNR=144						
WRA				PcP	PcP	11 50 00.3	-1.1
	comp=Z,1.0nm,0.8s,baz=64,slow=2.9,SNR=4.0						
WRA				LR	LR	11 56 05.2	
	comp=Z,1μm,18.8s,MS4.4,baz=60,slow=36						
GUMO	Guam	25.62	330	LR	LR	11 54 22.2	
	comp=Z,691nm,18.3s,MS4.2,baz=266,slow=31						
ASAR	Alice Springs	27.20	234	P	P	11 46 44.1	-1.3
	comp=Z,5.7nm,0.8s,mb4.1,baz=63,slow=8.8,SNR=44						
ASAR				PcP	PcP	11 50 05.0	-0.9
	comp=Z,1.3nm,1.1s,baz=69,slow=2.5,SNR=3.0						
STKA	Stephens Creek	27.46	211	eP	P	11 46 49.1	+1.4
	comp=Z,16nm,1.8s,mb4.2						
STKA	Stephens Creek	27.46	211	eP	P	11 46 49.1	+1.5
	comp=Z,67nm,1.5s,mb5.0						
STKA	Stephens Creek	27.46	211	P	P	11 46 47.6	-0.1
	comp=Z,10nm,0.7s,mb4.5,baz=20,slow=10,SNR=17						
STKA				LR	LR	11 56 21.3	
	comp=Z,341nm,19.7s,MS3.9,baz=33,slow=34						
CNB	Canberra Magne	27.52	195	eP	P	11 46 51.3	+3.2
	comp=Z,84nm,1.8s,mb5.1						
RAO	Raoul Island	30.62	135	LR	LR	11 56 58.9	
	comp=Z,238nm,20.7s,MS3.8,baz=302,slow=32						
FITZ	Fitzroy Crossi	32.52	250	eP	P	11 47 31.6	-1.1
	comp=Z,7.3nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	32.52	250	P	P	11 47 31.5	-1.2
	comp=Z,6.4nm,0.9s,mb4.6,baz=108,slow=10.0,SNR=15						
BATI	Kupang	33.63	265	P	P	11 47 41.0	-1.4
	comp=Z,31nm,0.9s,mb5.2,baz=86,slow=9.9,SNR=4.7						
BATI				LR	LR	12 03 31.1	
	comp=Z,937nm,18.3s,MS4.5,baz=101,slow=40						
MBWA	Marble Bar	38.62	247	eP	P	11 48 24.3	-0.8
KKM	Kota Kinabalu	43.93	288	eP	P	11 49 09.3	+0.4
NWAO	Narrogin (SRO)	44.44	231	LR	LR	12 06 34.2	
	comp=Z,538nm,18.8s,MS4.5,baz=50,slow=35						
JHJ	Hachijo jima 2	45.02	339	LR	LR	12 03 57.6	
	comp=Z,288nm,20.7s,MS4.2,baz=306,slow=30						
JOW	Kunigami	45.48	322	P	P	11 49 22.1	+1.0
	comp=Z,28nm,0.9s,mb5.1,baz=143,slow=9.2,SNR=6.2						
NACB	Ningbanchiao	48.13	314	eP	P	11 49 42.5	+0.6
KSM	Kuching	48.35	280	eP	P	11 49 44.2	+0.4
YHNB	Yeheng	48.59	314	eP	P	11 49 46.7	+1.3
MJAR	Matsushiro Arr	48.66	339	P	P	11 49 44.5	-1.2
	comp=Z,2.9nm,0.8s,mb4.4,baz=169,slow=8.3,SNR=5.5						
MAT	Matsushiro	48.66	339	P	P	11 49 44.2	-1.5
QZH	Quanzhou	50.77	312	⇓iP	P	11 50 03.2	+1.2
QZH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.7						
PPT	Papeete	51.90	105	eLQ		12 02 54.0	
	comp=Z,484nm,29.2s						
PPT				eLR	LR	12 05 04.3	
	comp=Z,695nm,30.5s						
PPT	Papeete	51.90	105	LR	LR	12 06 17.4	
	comp=Z,220nm,21.3s,MS4.2,baz=37,slow=29						
TBI	Tubuai	52.49	113	eLQ		12 03 11.3	
	comp=Z,1μm,31.8s						
TBI				eLR	LR	12 05 24.1	
	comp=Z,484nm,31.0s						
KSRS	Korea Array	53.78	331	P	P	11 50 24.4	+0.3
	comp=Z,7.6nm,1.1s,mb4.5,baz=149,slow=8.1,SNR=20						
HKL	Haleakala	53.87	56	eP	P	11 50 27.0	+1.9
ASAJ	Asahikawa	54.39	347	LR	LR	12 13 50.1	
	comp=Z,447nm,18.2s,MS4.6,baz=354,slow=36						
QIZ	Qiongzhong	54.69	301	P	P	11 50 31.6	+0.4
NJ2	Nanjing	55.01	319	eP	P	11 50 34.9	+1.7
NJ2				AP		11 50 38.7	
NJ2				XP	sP	11 50 42.3	+8.4
NJ2				PCP	PcP	11 51 35.1	+0.1
NJ2				S	S	11 58 16.5	+0.1
NJ2				XS	sS	11 58 26.5	+9.2
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,220nm,10.1s						
NJ2				LR	LR		
	comp=N,260nm,15.6s,MS4.7						
NJ2				LR	LR		
	comp=E,350nm,14.1s,MS4.7						
NJ2				LR	LR		
	comp=Z,340nm,14.0s,MS4.6						
DL2	Dalian	58.10	327	P	P	11 50 55.0	-0.1
DL2				eS	S	11 58 56.1	-1.1
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
DL2				LR	LR		
	comp=N,120nm,14.2s,MS4.3						
DL2				LR	LR		
	comp=E,130nm,15.0s,MS4.3						
DL2				LR	LR		
	comp=Z,150nm,19.2s,MS4.1						
MDJ	Mudanjiang	58.90	337	P	P	11 51 00.8	+0.3
MDJ				AP		11 51 05.5	
MDJ				PCP	PcP	11 51 50.6	+0.7
MDJ				PP	PP	11 53 12.8	+1.9
MDJ				S	S	11 59 11.0	+3.7
MDJ				XS	sS	11 59 16.4	+8.2
MDJ				SS	SS	12 03 03.1	+2.0
MDJ				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,272nm,10.9s						
MDJ				LR	LR		
	comp=N,411nm,15.7s,MS4.8						
MDJ				LR	LR		
	comp=E,417nm,18.0s,MS4.8						
MDJ				LR	LR		
	comp=Z,692nm,16.0s,MS4.9						
MDJ	Mudanjiang	58.90	337	eP	P	11 51 01.0	+0.5
	comp=Z,12nm,0.9s,mb4.9						
CN2	Changchun	59.95	333	eP	P	11 51 07.9	0.0
CN2				eS	S	11 59 20.1	-0.9
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.0						
CN2				AMB	AMB		
	comp=Z,400nm,7.0s						
CN2				LR	LR		
	comp=N,600nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=E,500nm,18.0s,MS4.9						
CN2				LR	LR		
	comp=Z,600nm,19.0s,MS4.8						
HABR	Khabarovsk	60.40	343	eP	P	11 51 08.3	-2.5
HABR				e		11 51 52.6	
HABR				eS	S	11 59 25.6	-0.9
HABR				e		11 59 31.0	
HABR				e		12 00 58.5	
HABR				e		12 03 25.1	
HABR				pmax	pmax		
	comp=Z,35nm,1.8s,mb5.1						
GYA	Guiyang	60.68	307	⇑iP	P	11 51 15.8	+2.6
GYA				AP		11 51 21.2	
GYA				PCP	PcP	11 51 59.8	+2.4
GYA				PP	PP	11 53 32.7	+5.7
GYA				SCP	ScP	11 55 59.8	-0.3
GYA				S	S	11 59 32.9	+1.9
GYA				PS		11 59 49.3	
GYA				SCS	ScS	12 01 03.8	-1.9
GYA				SS	SS	12 03 33.7	+3.9
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.5						
GYA				AMB	AMB		
	comp=Z,470nm,6.5s						
GYA				LR	LR		
	comp=N,790nm,24.8s,MS4.9						
GYA				LR	LR		
	comp=E,840nm,23.6s,MS4.9						
GYA				LR	LR		
	comp=Z,710nm,22.4s,MS4.8						
TAOE	Nuku Hiva Isla	61.31	95	eLR	LR	12 09 27.2	
	comp=Z,10μm,27.1s						
PET	Petropavlovsk	61.55	1	eP	P	11 51 17.7	-0.8
PET	Petropavlovsk	61.55	1	eP	P	11 51 17.9	-0.7
	comp=Z,43nm,1.2s,mb5.5						
KLR	Kul'dur	62.08	341	eP	P	11 51 18.6	-3.6
XAN	Xi'an	62.86	315	P	P	11 51 27.2	-0.6
XAN				AP		11 51 35.8	
XAN				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.9						
XAN				LR	LR		
	comp=N,271nm,15.2s,MS4.7						
XAN				LR	LR		
	comp=E,217nm,14.3s,MS4.7						
XAN				LR	LR		
	comp=Z,346nm,16.8s,MS4.6						
KMI	Kunming	63.25	304	P	P	11 51 32.3	+1.8
KMI				AP		11 51 35.6	
KMI				AMB	AMB		
	comp=Z,30nm,1.3s,mb5.3						
KMI				LR	LR		
	comp=Z,251nm,14.2s,MS4.5						
CM31	Chiang Mai Arr	63.99	295	eP	P	11 51 36.4	+0.8
CHG	Chiang Mai	64.11	296	⇑P	P	11 51 36.8	+0.5
	comp=Z,11nm,1.0s,mb4.8						
CHTO	Chiang Mai	64.11	296	eP	P	11 51 36.8	+0.5
CD2	Chengdu	65.02	310	P	P	11 51 42.3	+0.2
CD2				AP		11 51 47.0	
CD2				XP	sP	11 51 50.2	+7.4
CD2				PP	PP	11 54 08.3	+3.1
CD2				S	S	12 00 24.3	-1.1
CD2				SS	SS	12 04 37.7	+0.1
CD2				AMB	AMB		
	comp=Z,40nm,1.2s,mb5.3						
CD2				AMB	AMB		
	comp=Z,100nm,5.2s						
CD2				LR	LR		
	comp=E,250nm,24.0s						
CD2				LR	LR		
	comp=Z,160nm,21.4s,MS4.2						
HHC	Hu-ho-hao-te	65.12	323	eP	P	11 51 45.3	+2.8
HHC				XP	sP	11 51 52.4	+9.2
HHC				PCP	PcP	11 52 16.6	+1.4
HHC				PP	PP	11 54 11.6	+5.7
HHC				S	S	12 00 27.4	+1.2
HHC				XS	sS	12 00 35.6	+8.5
HHC				SS	SS	12 04 43.0	+4.2
HHC				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,204nm,8.6s						
HHC				LR	LR		
	comp=N,937nm,15.5s,MS5.1						
HHC				LR	LR		
	comp=E,654nm,18.9s,MS5.1						
HHC				LR	LR		
	comp=Z,1μm,16.7s,MS5.1						
RKT	Rikitea	65.77	111	eLR	LR	12 11 27.8	
	comp=Z,214nm,26.5s						
HIA	Hailar	66.67	334	eP	P	11 51 53.5	+1.2
LZH	Lanzhou	67.47	315	⇓P	P	11 51 59.5	+1.8
LZH				AP		11 52 04.3	
LZH				XP	sP	11 52 06.2	+7.7
LZH				PP	PP	11 54 31.3	+4.7
LZH				eS	S	12 00 51.6	-3.4
LZH				PS		12 01 21.5	
LZH				SS	SS	12 05 18.4	+2.9
LZH				AMB	AMB		
	comp=Z,31nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,157nm,7.9s						
LZH				LR	LR		
	comp=E,667nm,16.7s						
LZH				LR	LR		
	comp=Z,998nm,18.5s,MS5.1						
MA2	Magadan	68.34	356	eP	P	11 52 00.2	-2.4
GTA	Gaotai	71.88	316	eP	P	11 52 25.8	+1.0
GTA				AP		11 52 30.7	
GTA				XP	sP	11 52 34.4	+8.8
GTA				PP	PP	11 55 06.5	+1.9
GTA				S	S	12 01 47.6	+0.8
GTA				SS	SS	12 06 25.6	+2.2
GTA				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.3						
GTA				AMB	AMB		
	comp=Z,119nm,6.5s						
GTA				LR	LR		
	comp=N,395nm,18.0s,MS4.9						
GTA				LR	LR		
	comp=E,389nm,18.3s,MS4.9						
GTA				LR	LR		
	comp=Z,520nm,17.6s,MS4.8						
ULN	Ulaanbaatar	71.95	327	eP	P	11 52 25.7	+0.6
SONM	Songino Array	72.29	326	P	P	11 52 27.9	+0.8
	comp=Z,3.6nm,0.8s,mb4.3,baz=131,slow=5.9,SNR=8.6						
SHL	Shillong	72.53	300	eP	P	11 52 30.0	+1.0
YAK	Yakutsk	73.87	347	eiP	P	11 52 35.5	-0.6
YAK				e*PP		11 52 45.0	
YAK				e		11 52 49.9	
YAK				eS	S	12 02 06.0	-2.5
YAK				e		12 02 39.6	
YAK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.2						
YAK				pmax	pmax		
	comp=N,13nm,1.5s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.2s						
YAK				smax			
	comp=N,83nm,3.7s						
YAK				smax			
	comp=E,85nm,4.5s						
YAK				MLR	MLR		
	comp=Z,171nm,18.0s,MS4.4						
YAK				MLR	MLR		
	comp=N,116nm,22.0s,MS4.2						
YAK				MLR	MLR		
	comp=E,79nm,20.0s,MS4.2						
YAK	Yakutsk	73.87	347	eP	P	11 52 36.1	-0.1
	comp=E,29nm,0.8s,mb5.3						
BOD	Bodaibo	75.26	338	eP	P	11 52 42.8	-1.5
BOD				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
GAMB	Gambell	75.96	13	eP	P	11 52 48.2	0.0
TLY	Talaya	75.96	329	eP	P	11 52 48.0	-0.5
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
TLY	Talaya	75.96	329	eP	P	11 52 48.0	-0.5
	comp=Z,2.3nm,0.6s,mb4.3						
BILL	Bilibino	76.85	3	eP	P	11 52 52.5	-0.7
BILL				pmax	pmax		
	comp=Z,53nm,1.2s,mb5.3						
BILL	Bilibino	76.85	3	eP	P	11 52 52.7	-0.5
	comp=Z,44nm,1.1s,mb5.3						
PALK	Pallekele	78.41	279	eP	P	11 53 04.3	+1.2

comp=E,219nm,18.0s,MS4.7
WMQ LR LR
comp=Z,327nm,18.0s,MS4.7
TIXI Tiksi 82.49 351 *e*P **P 11 53 22.0 -1.8**
TIXI pmax pmax
comp=Z,25nm,1.6s,mb4.9
TIXI Tiksi 82.49 351 *e*P **P 11 53 22.5 -1.3**
IMA2 Indian Mountai 82.61 18 *e*P **P 11 53 20.8 -3.6**
MCK McKinley 82.69 21 *e*P **P 11 53 23.6 -1.4**
MCK pmax pmax
comp=Z,35nm,1.0s,mb5.3
MCK McKinley 82.69 21 *e*P **P 11 53 23.6 -1.4**
comp=Z,35nm,1.0s,mb5.3
COLA College 83.75 20 *e*P **P 11 53 28.4 -2.1**
comp=Z,10nm,0.9s,mb5.0
EGAK Eagle 86.10 22 *e*P **P 11 53 42.4 +0.2**
comp=Z,10nm,1.1s,mb5.0
SKAG Skagway 86.12 28 *e*P **P 11 53 43.4 +0.9**
comp=Z,26nm,1.6s,mb5.2
DAWY Dawson 86.43 23 *e*P **P 11 53 43.8 -0.1**
MKAR Makanchi Array 86.52 318 P **P 11 53 44.3 -0.4**
comp=Z,1.3nm,0.6s,mb4.3,baz=100,slow=5.6,SNR=6.1
ZALV Zalesovo Beam 87.16 326 P **P 11 53 46.4 -1.3**
comp=Z,1.2nm,0.4s,mb4.5,baz=126,slow=4.2,SNR=4.4
ZAL Zalesovo 87.17 326 P **P 11 53 46.4 -1.3**
KSH Kashi 89.22 310 *e*P **P 11 53 59.1 +1.3**
KSH *e*AP 11 54 03.2
KSH *e*XP sP 11 54 06.0 +7.4
KSH *e*PP PP 11 57 33.2 +4.9
KSH *e*PPP 11 59 32.3
KSH *e*SKS 12 04 26.0
KSH *e*S S 12 04 46.2 -2.1
KSH *e*XS sS 12 04 55.5 +6.3
KSH *e*PS 12 05 57.1
KSH *e*SS SS 12 10 47.3 +4.8
KSH AMB AMB
comp=Z,591nm,5.3s
KSH LR LR
comp=N,470nm,5.6s
KSH LR LR
comp=E,540nm,6.7s
KSH LR LR
comp=Z,292nm,7.2s
KURK Kurchatov 89.89 321 *e*P **P 11 53 59.7 -1.0**
KURK Kurchatov 89.89 321 *e*P **P 11 53 59.4 -1.3**
MTUM Tungsten Hills 90.28 52 *e*P **P 11 54 03.8 +1.0**
INK Inuvik 90.41 20 *e*P **P 11 54 02.0 -0.7**
NVAR Mina Array Bea 90.68 51 P **P 11 54 05.2 +0.5**
NVAR Mina Array Bea 90.68 51 P **P 11 54 05.2 +0.5**
comp=Z,5.3nm,1.0s,mb4.8,baz=242,slow=4.4,SNR=23
AAK Ala-Archa 90.93 313 *e*P **P 11 54 03.5 -2.2**
WVOR Wild Horse Val 91.17 47 *e*P **P 11 54 07.1 +0.2**
WVOR pmax pmax
comp=Z,9.0nm,1.4s,mb4.9
WVOR Wild Horse Val 91.17 47 *e*P **P 11 54 07.1 +0.3**
comp=Z,8.9nm,1.4s,mb4.9
EKS2 Erkin-Say 91.46 313 *e*P **P 11 54 08.8 +0.6**
SYO Syowa Base 91.54 199⇑ *e*pP pP 11 54 10.6 +2.0
TPNV Topopah Spring 92.03 53 *e*P **P 11 54 11.7 +0.7**
TPNV pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
TPNV Topopah Spring 92.03 53 *e*P **P 11 54 11.7 +0.7**
comp=Z,7.1nm,1.0s,mb5.0
BMO Blue Mountains 92.55 45 *e*P **P 11 54 13.3 +0.1**
BMO pmax pmax
comp=Z,19nm,2.1s,mb5.2
BMO Blue Mountains 92.55 45 *e*P **P 11 54 13.3 +0.1**
comp=Z,18nm,2.1s,mb5.1
SHPR Sheep Range 92.83 54 *e*P **P 11 54 15.5 +0.8**
YKA Yellowknife Ar 96.62 28 P **P 11 54 30.3 -1.1**
YKA LR LR 12 34 42.9
YKA Yellowknife Ar 96.62 28 P **P 11 54 30.3 -1.1**
comp=Z,0.9nm,1.0s,mb4.2,baz=261,slow=4.3,SNR=9.9
YKA LR LR 12 34 42.9
comp=Z,89nm,19.2s,MS4.3,baz=215,slow=33
LBTB Lobatse 122.56 233 *e*PKIKP PKPdf 11 59 55.7 -2.5
LPAZ La Paz 128.23 119 PKP PKPdf 12 00 08.9 -0.3
comp=Z,1.2nm,0.9s,baz=37,slow=2.7,SNR=4.6
SDV Santo Domingo 132.23 86 PKP PKPdf 12 00 16.5 -0.4
comp=Z,3.3nm,0.9s,baz=254,slow=9.5,SNR=4.8
BDFB Brasilia 144.81 133 PKP PKPdf 12 00 37.6 -2.2
comp=Z,5.3nm,0.8s,baz=101,slow=5.2,SNR=12
ESDC Sonseca Array 145.14 335 PKPbc PKPbc 12 00 38.6 -0.6
comp=Z,0.5nm,0.6s,baz=9.7,slow=2.3,SNR=5.4

NIED ***02*** *11:44:00,3730N×13670E,h5km,Mw4.3 Best double couple: M*$_0$*3.68000×10*^{15} *NP1:*ϕ_s*=203.00000°,*δ*71.00000°,* λ*63.00000°. NP2:*ϕ_s*=80.00000°,*δ*33.00000°,*λ*142.00000°.*
BJI ***02*** *11:44:36.6,3734N×13698E,h12km,mB4.9,mb4.5,Ms4.4, Msz4.3*
ISCJB ***02*** *11:44:37.5±0.6,3731N±003×13671E±003,h9km±4km, mb4.4/54,MS4.2/4,Error ellipse: s-maj=4.8km s-min=4.1km az=140.4*
IDC ***02*** *11:44:37.2±0.5,3725N×13666E,h0km,mb4.4/20, mb1 4.5/20,mb1mx4.5/24,mbtmp4.4/20,MS3.8/4, Ms1 3.8/4,ms1mx3.4/32,Error ellipse: s-maj=17.6km s-min=10.1km az=47.0*
NEIC ***02*** *11:44:38.2,3733N×13676E,h7km±1km,M4.7*
NEIC Recorded [4 JMA] in Ishikawa; [2 JMA] in Fukui and Toyama; [1 JMA] in Gifu, Nagano and Niigata Prefectures.
JMA ***02*** *11:44:38.2,3733N×13676E,h7km±1km,M4.7 Broadband fault plane solution: P waves. NP1:* ϕ_s*=45.00000°,*δ*22.00000°,*λ*67.00000°. NP2:*ϕ_s*=250.00000°,* δ*70.00000°,*λ*99.00000°. Principal axes: T Plg64.0000°, Azm175.0000°; N Plg9.0000°, Azm67.0000°; P Plg24.0000°, Azm333.0000°;*
JMA Felt IV J1.
MOS ***02*** *11:44:40.2±1.2,3723N×13662E,h33km,mb4.8/21 Error ellipse: s-maj=10.7km s-min=6.1km az=104.8*
ISC 02 11:44:38.7±0.6,**3729N**±003×**13677E**±003,**h6**km±4km, **n114,**σ1º**11**/118,**mb4.4**/54,**MS4.2**/4,**8C-6D,Near west coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.37**	**179**	⇑P	**Pg**	**11 44 46.3**	**+0.5**
JJH				S	**Sg**	**11 44 52.3**	**+1.7**
JSZ	**Suzu**	**0.49**	**71**	⇓P	**Pg**	**11 44 47.7**	**-0.6**
JSZ				S	**Sg**	**11 44 54.8**	**+0.1**
JHG	**Hegura jima**	**0.57**	**12**	⇓P	**Pg**	**11 44 48.5**	**-1.2**
JHG				*e*S	**Sg**	**11 44 56.3**	**-0.8**
JTT	**Ttatey**	**0.82**	**147**	⇓P	**Pg**	**11 44 54.4**	**0.0**
MAJO	**Matsushiro**	**1.37**	**123**	*e*Pn	**Pn**	**11 45 02.8**	**-1.5**
MAJO				*e*Sn	**Sn**	**11 45 22.9**	**+0.2**
MAT	**Matsushiro**	**1.37**	**123**	P	**Pn**	**11 45 02.6**	**-1.7**
MAT				S	**Sb**	**11 45 22.6**	**+0.1**
MJAR	**Matsushiro Arr**	**1.37**	**123**	Pg	**Pg**	**11 45 03.3**	**-1.8**
	159nm,0.3s,baz=311,slow=12,SNR=935						
MJAR				Lg		11 45 25.2	
	250nm,0.3s,baz=303,slow=27,SNR=29						
JHJ	**Hachijo jima 2**	**4.84**	**149**	Pn	**Pn**	**11 45 57.5**	**+5.5**
	45nm,0.3s,baz=275,slow=16,SNR=20						
JHJ				LR	LR	11 47 55.7	
	comp=Z,1μm,18.3s,baz=13,slow=41						
JNU	**Nakatsue**	**6.37**	**231**	Pn	**Pn**	**11 46 14.7**	**+1.6**
	3.2nm,0.3s,baz=5.5,slow=9.9,SNR=25						
ERM	**Erimo**	**6.82**	**44**	*e*P	**Pn**	**11 46 21.8**	**+2.6**
KSRS	**Korea Array**	**7.05**	**274**	Pn	**Pn**	**11 46 23.4**	**+1.0**
	2.2nm,0.3s,baz=90,slow=14,SNR=20						
KSRS				Sn	**Sn**	**11 47 42.8**	**0.0**
	0.9nm,0.3s,baz=88,slow=24,SNR=4.3						
KSRS				LR	LR	11 48 54.2	
	comp=Z,485nm,21.4s,baz=316,slow=37						
ASAJ	**Asahikawa**	**8.12**	**31**	P	**Pn**	**11 46 40.6**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.12**	**31**	Pn	**Pn**	**11 46 40.6**	**+3.5**
	comp=Z,0.5nm,0.3s,baz=203,slow=13,SNR=4.9						
MDJ	**Mudanjiang**	**9.11**	**326**	*e*Pn	**Pn**	**11 46 49.4**	**-1.2**
	comp=Z,8.1nm,0.7s						
YSS	**Yuzh-Sakhalins**	**10.62**	**23⇑**	*e*P	**Pn**	**11 47 14.0**	**+2.7**
YSS				pmax	pmax		
	comp=Z,30nm,0.9s						
CN2	**Changchun**	**10.79**	**311**	⇑P	**Pn**	**11 47 15.8**	**+2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
CBIJ	**Chichi jima**	**11.15**	**154**	LR	LR	11 50 48.3	
	comp=Z,270nm,18.9s,baz=119,slow=33						
HABR	**Khabarovsk**	**11.25**	**354**	*e*P	**Pn**	**11 47 21.2**	**+1.4**
HABR				*e*		11 49 27.7	
KLR	**Kul'dur**	**12.48**	**345**	*e*P	**Pn**	**11 47 36.8**	**+0.1**
KLR				pmax	pmax		
	comp=Z,57nm,1.6s						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s						
BJI	**Beijing**	**16.32**	**286**	P	**Pn**	**11 48 29.7**	**+1.3**
BJI				AMB	AMB		
	comp=Z,12nm,1.6s						
BJT	**Baijiatuau**	**16.32**	**286**	*e*P	**Pn**	**11 48 30.9**	**+2.5**
BJT				pmax	pmax		
	comp=Z,13nm,0.6s						
BJT	**Baijiatuau**	**16.32**	**286**	*e*P	**Pn**	**11 48 30.9**	**+2.4**
	comp=Z,14nm,0.6s						
HIA	**Hailar**	**17.19**	**320**	*e*P	**Pn**	**11 48 37.7**	**-1.6**
HIA	**Hailar**	**17.19**	**320**	*e*P	**Pn**	**11 48 39.7**	**+0.4**
	comp=Z,32nm,1.0s						
HHC	**Hu-ho-hao-te**	**19.87**	**288**	*e*P	**Pn**	**11 49 12.6**	**+0.5**
HHC				AP	pP	11 49 17.1	+4.8
HHC				XP	sP	11 49 19.6	+6.5
HHC				AMB	AMB		
	comp=Z,35nm,1.3s						
HHC				AMB	AMB		
	comp=Z,144nm,5.4s						
HHC				LR	LR		
	comp=N,937nm,15.4s						
HHC				LR	LR		
	comp=E,654nm,17.6s						
HHC				LR	LR		
	comp=Z,1μm,17.4s						
XAN	**Xi'an**	**22.83**	**270**	P	**P**	**11 49 42.9**	**+0.5**
XAN				AP		11 49 49.9	
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb3.7						
ULN	**Ulaanbaatar**	**24.16**	**305**	*e*P	**P**	**11 49 55.5**	**+0.1**
ULN				pmax	pmax		
	comp=Z,34nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**24.16**	**305**	*e*P	**P**	**11 49 55.5**	**0.0**
	comp=Z,34nm,1.0s,mb4.7						
SONM	**Songino Array**	**24.58**	**305**	P	**P**	**11 49 59.6**	**+0.4**
	comp=Z,15nm,0.6s,mb4.7,baz=106,slow=11,SNR=34						
YAK	**Yakutsk**	**25.16**	**352**	*e*P	**P**	**11 50 05.6**	**+1.3**
YAK				pmax	pmax		
	comp=Z,28nm,1.6s,mb4.5						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.4s						
BOD	**Bodaibo**	**25.42**	**331**	*e*P	**P**	**11 50 03.4**	**-3.4**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.9						
LZH	**Lanzhou**	**26.36**	**277**	*e*P	**P**	**11 50 16.4**	**+0.8**
LZH				AP	pP	11 50 23.9	+6.4
LZH				XP	sP	11 50 27.5	+9.2
LZH				AMB	AMB		
	comp=Z,31nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,166nm,5.2s						
LZH				LR	LR		
	comp=N,613nm,13.6s						
LZH				LR	LR		
	comp=Z,852nm,17.5s,MS4.3						
ZAK	**Zakamensk**	**27.22**	**309**	*e*P	**P**	**11 50 21.8**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s,mb3.1						
TLY	**Talaya**	**27.39**	**312**	*e*P	**P**	**11 50 25.0**	**+0.4**
TLY				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3						
TLY	**Talaya**	**27.39**	**312**	*e*P	**P**	**11 50 28.0**	**+3.4**
	comp=Z,11nm,0.9s,mb4.4						
TIXI	**Tiksi**	**34.67**	**356⇑**	*e*P	**P**	**11 51 27.3**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
BILL	**Bilibino**	**34.91**	**19**	*e*P	**P**	**11 51 29.0**	**-1.6**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
ZALV	**Zalesovo Beam**	**39.00**	**312**	P	**P**	**11 52 04.9**	**-0.7**
	comp=Z,0.8nm,0.4s,mb3.8,baz=92,slow=4.5,SNR=4.7						
ZALV				PcP	PcP	11 54 16.3	+0.6
	comp=Z,3.2nm,0.8s,baz=93,slow=2.7,SNR=7.7						
ZAL	**Zalesovo**	**39.01**	**312**	P	**P**	**11 52 04.9**	**-0.8**
ZAL						11 54 16.3	
NVS	**Novosibirsk**	**39.98**	**314**	*e*P	**P**	**11 52 04.8**	**-9.0**
MK31	**Makanchi Array**	**40.83**	**301**	*e*P	**P**	**11 52 20.0**	**-0.9**
MKAR	**Makanchi Array**	**40.83**	**301**	P	**P**	**11 52 19.6**	**-1.3**
	comp=Z,2.2nm,0.6s,mb4.0,baz=88,slow=10,SNR=22						
MKAR				LR	LR	12 09 51.7	
	comp=Z,225nm,19.1s,MS4.0,baz=106,slow=37						
KURK	**Kurchatov**	**42.84**	**307**	*e*P	**P**	**11 52 35.8**	**-1.5**
KURK				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
KURK	**Kurchatov**	**42.84**	**307**	*e*P	**P**	**11 52 35.8**	**-1.6**
	comp=Z,8.5nm,0.8s,mb4.5						
AAK	**Ala-Archa**	**47.09**	**297⇑**	*e*P	**P**	**11 53 10.6**	**-0.6**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.9						
AML	**Almayashu**	**47.80**	**296**	*e*P	**P**	**11 53 16.6**	**-0.1**
	comp=Z,3.6nm,0.6s,mb4.6						
KAKA	**Kakadu**	**49.90**	**186**	*e*P	**P**	**11 53 29.1**	**-4.0**
	comp=Z,6.5nm,0.6s,mb4.8						
ARU	**Arti**	**53.69**	**318**	*c i*P	**P**	**11 54 00.1**	**-0.9**
ARU				*e*		11 55 56.3	
ARU				*e*PPP		11 57 08.0	
ARU				*e*S	**S**	**12 01 32.8**	**-2.2**
ARU				*e*SS	SS	12 05 08.2	-6.9
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
INK	**Inuvik**	**55.84**	**27**	P	**P**	**11 54 16.4**	**0.0**
	comp=Z,2.2nm,0.7s,mb4.3,baz=313,slow=3.7,SNR=6.2						
FITZ	**Fitzroy Crossi**	**56.09**	**193**	*e*P	**P**	**11 54 17.8**	**-0.9**
	comp=Z,6.1nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	**56.96**	**183**	*e*P	**P**	**11 54 23.7**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
WRAB	**Tennant Creek**	**56.96**	**183**	*e*P	**P**	**11 54 23.7**	**-1.1**
	comp=Z,5.9nm,0.5s,mb4.9						
WB2	**Warramunga Arr**	**56.97**	**183**	*e*P	**P**	**11 54 23.8**	**-1.1**
WRA	**Warramunga Arr**	**56.97**	**183**	P	**P**	**11 54 23.7**	**-1.2**
	comp=Z,5.1nm,0.4s,mb4.9,baz=360,slow=7.7,SNR=136						
CTA	**Charters Tower**	**57.77**	**169**	*e*P	**P**	**11 54 28.0**	**-2.5**
	comp=Z,2.5nm,0.6s,mb4.4						
CTA	**Charters Tower**	**57.77**	**169**	P	**P**	**11 54 28.8**	**-1.7**
CTA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
CTA	**Charters Tower**	**57.77**	**169**	P	**P**	**11 54 28.8**	**-1.8**
	comp=Z,6.4nm,1.0s,mb4.6,baz=351,slow=6.8,SNR=4.1						
ASAR	**Alice Springs**	**60.69**	**183**	P	**P**	**11 54 50.0**	**-0.7**
	comp=Z,3.5nm,0.7s,mb4.6,baz=358,slow=5.3,SNR=49						
KEV	**Kevo**	**61.86**	**338**	*e*p	**P**	**11 54 57.4**	**-0.8**
ARCES	**ARCESS Array B**	**62.42**	**338**	P	**P**	**11 55 01.6**	**-0.3**
	comp=Z,5.5nm,0.8s,mb4.8,baz=60,slow=5.9,SNR=13						
RES	**Resolute Bay**	**63.25**	**14**	*e*P	**P**	**11 55 06.6**	**-0.8**
JOF	**Joensuu**	**63.95**	**331**	*e*p	**P**	**11 55 07.4**	**-4.8**
YKA	**Yellowknife Ar**	**65.41**	**29**	P	**P**	**11 55 21.2**	**-0.6**
	comp=Z,0.6nm,0.7s,mb3.8,baz=309,slow=7.2,SNR=10						
OBN	**Obninsk**	**65.63**	**322**	*e*P	**P**	**11 55 22.5**	**-0.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
FIA1	**FINESS Array S**	**66.82**	**331**	*e*P	**P**	**11 55 30.8**	**0.0**
FINES	**FINESS Array B**	**66.82**	**331**	P	**P**	**11 55 30.1**	**-0.6**
	comp=Z,5.1nm,0.7s,mb4.7,baz=76,slow=8.0,SNR=13						
KIV	**Kislovodsk**	**67.90**	**309**	*e*P	**P**	**11 55 38.1**	**+0.1**
KIV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,135nm,21.0s,MS4.2						
STKA	**Stephens Creek**	**68.96**	**176**	*e*P	**P**	**11 55 44.2**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**68.96**	**176**	P	**P**	**11 55 44.2**	**-0.3**
	comp=Z,5.3nm,0.8s,mb4.5,baz=347,slow=20,SNR=8.7						
ANN	**Anapa**	**70.64**	**312**	*e*P	**P**	**11 55 51.8**	**-3.1**
ANN				*e*		11 58 29.7	
ANN				*e*S	S	12 05 09.7	+0.5
ANN				pmax	pmax		
	comp=Z,111nm,1.9s,mb5.5						
AKASG	**Malin Array Be**	**71.78**	**320**	P	**P**	**11 56 00.8**	**-0.9**
AKASG	**Malin Array Be**	**71.78**	**320**	P	**P**	**11 56 00.8**	**-0.9**
	comp=Z,9.5nm,0.8s,mb4.8,baz=48,slow=6.2,SNR=37						
AKBB	**Malin Array Si**	**71.78**	**320**	*e*P	**P**	**11 56 01.1**	**-0.6**
HFS	**Hagfors**	**72.28**	**334**	P	**P**	**11 56 03.5**	**-1.0**
	comp=Z,1.8nm,0.6s,mb4.2,baz=76,slow=6.3,SNR=5.8						
NB2	**NORSAR Subarra**	**72.47**	**335**	P	**P**	**11 56 06.0**	**+0.4**
	comp=Z,7.4nm,1.1s,mb4.5,baz=43,slow=6.2						
NOA	**NORSAR Array B**	**72.47**	**335**	P	**P**	**11 56 04.9**	**-0.7**
	comp=Z,2.5nm,0.8s,mb4.2,baz=42,slow=6.0,SNR=8.0						
BMO	**Blue Mountains**	**74.43**	**45**	*e*P	**P**	**11 56 18.1**	**+0.7**
	comp=Z,10nm,1.4s,mb4.6						
CMB	**Columbia Colle**	**76.69**	**52**	*e*P	**P**	**11 56 31.3**	**+0.7**
CMB				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.7						
CMB	**Columbia Colle**	**76.69**	**52**	*e*P	**P**	**11 56 31.3**	**+0.7**
	comp=Z,12nm,1.3s,mb4.7						
DLMT	**Dillon**	**76.72**	**43**	*e*P	**P**	**11 56 31.4**	**+0.8**
	comp=Z,20nm,1.0s,mb5.0						
BOZ	**Bozeman (W)**	**77.05**	**42**	*e*P	**P**	**11 56 33.1**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
BOZ	**Bozeman (W)**	**77.05**	**42**	*e*P	**P**	**11 56 33.1**	**+0.6**
	comp=Z,5.2nm,1.0s,mb4.4						
NVAR	**Mina Array Bea**	**77.75**	**51**	P	**P**	**11 56 37.7**	**+1.1**
	comp=Z,2.7nm,0.8s,mb4.3,baz=318,slow=5.1,SNR=12						
GCMT	**Greycliff**	**78.00**	**41**	*e*P	**P**	**11 56 38.3**	**+0.5**
LKWY	**Lake**	**78.42**	**42**	*e*P	**P**	**11 56 42.9**	**+2.8**
LKWY				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
LKWY	**Lake**	**78.42**	**42**	*e*P	**P**	**11 56 42.9**	**+2.8**
	comp=Z,4.1nm,0.9s,mb4.4						
MOOW	**Moose Ponds**	**78.77**	**43**	*e*P	**P**	**11 56 43.5**	**+1.4**
	comp=Z,3.5nm,1.1s,mb4.2						
TPAW	**Teton Pass**	**78.83**	**43**	*e*P	**P**	**11 56 43.8**	**+1.3**
	comp=Z,3.8nm,0.8s,mb4.4						
LOHW	**Long Hollow**	**78.94**	**43**	*e*P	**P**	**11 56 44.3**	**+1.2**
	comp=Z,2.5nm,0.9s,mb4.1						
CLL	**Collm**	**78.97**	**328⇓**	*i*P	**P**	**11 56 43.6**	**+0.6**
CLL				*i*		11 56 53.9	
CLL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
CLL				MLR	MLR		
	comp=Z,200nm,21.9s,MS4.4						
CLL	**Collm**	**78.97**	**328⇓**	*i*P	**P**	**11 56 43.6**	**+0.6**
	comp=Z,9.0nm,0.9s,mb4.7						
CLL				*i*		11 56 53.9	
CLL				LR	LR		
	comp=Z,200nm,21.9s,MS4.4						
CLL	**Collm**	**78.97**	**328⇓**	*i*P	**P**	**11 56 43.6**	**+0.6**
	comp=Z,9.0nm,0.9s,mb4.7						
CLL				*i* pP	pP	11 56 46.1	+1.0
CLL				*i* pPcP		11 56 53.9	
CLL				Lm		12 40 00.0	
	comp=Z,200nm,21.9s						
HWUT	**Hardware Ranch**	**79.73**	**45**	*e*P	**P**	**11 56 48.4**	**+1.0**
	comp=Z,5.8nm,1.0s,mb4.5						
DUG	**Dugway**	**79.94**	**47**	*e*P	**P**	**11 56 49.6**	**+1.1**
DUG				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
DUG	**Dugway**	**79.94**	**47**	*e*P	**P**	**11 56 49.6**	**+1.0**
	comp=Z,8.1nm,1.3s,mb4.5						
TPNV	**Topopah Spring**	**79.95**	**51**	*e*P	**P**	**11 56 49.4**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
TPNV	**Topopah Spring**	**79.95**	**51**	*e*P	**P**	**11 56 49.4**	**+0.8**
	comp=Z,4.8nm,1.0s,mb4.4						
KHC	**Kasperske Hory**	**80.32**	**326⇑**	*e*P	**P**	**11 56 50.0**	**-0.4**
GERES	**GERESS Array B**	**80.48**	**326**	P	**P**	**11 56 52.0**	**+0.7**
	comp=Z,0.7nm,0.4s,mb3.9,baz=7.4,slow=4.2,SNR=5.9						
ULM	**Lac du Bonnet**	**81.26**	**31**	P	**P**	**11 56 54.3**	**-1.2**
	comp=Z,3.5nm,0.7s,mb4.4,baz=336,slow=6.3,SNR=5.7						
MSU	**Marysvale**	**81.41**	**48**	*e*P	**P**	**11 56 57.7**	**+1.3**
EKA	**Eskdalemuir Ar**	**81.58**	**338**	P	**P**	**11 56 57.1**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.8,baz=32,slow=6.7,SNR=3.7						
PFO	**Pinyon Flat Ob**	**81.93**	**54**	*e*P	**P**	**11 56 59.9**	**+0.6**
PFO				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
PFO	**Pinyon Flat Ob**	**81.93**	**54**	*e*P	**P**	**11 56 59.9**	**+0.6**
	comp=Z,4.0nm,0.9s,mb4.3						
SRU	**San Rafael**	**81.98**	**46**	*e*P	**P**	**11 57 00.0**	**+0.6**
SRU				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
SRU	**San Rafael**	**81.98**	**46**	*e*P	**P**	**11 56 60.0**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.1						
PV10	**Paradox Valley**	**83.33**	**46**	*e*P	**P**	**11 57 07.6**	**+1.1**
PV01	**Paradox Valley**	**83.76**	**46**	*e*P	**P**	**11 57 09.6**	**+0.9**
EYMN	**Ely**	**84.85**	**30**	*e*P	**P**	**11 57 13.5**	**-0.6**
	comp=Z,14nm,1.3s,mb4.9						
SCHQ	**Schefferville**	**86.03**	**13**	P	**P**	**11 57 18.9**	**-0.9**
	comp=Z,2.9nm,0.9s,mb4.5,baz=25,slow=8.5,SNR=3.7						
ANMO	**Albuquerque**	**87.19**	**47⇑**	*e*P	**P**	**11 57 27.4**	**+1.5**
TXAR	**Lajitas Array**	**92.84**	**50**	P	**P**	**11 57 52.8**	**+0.3**
	comp=Z,1.3nm,0.7s,mb4.5,baz=286,slow=2.3,SNR=18						
SDV	**Santo Domingo**	**127.38**	**35**	PKP	PKPdf	12 03 44.8	-0.1
SDV	**Santo Domingo**	**127.38**	**35**	PKP	PKPdf	12 03 44.8	-0.1
	comp=Z,6.7nm,0.7s,baz=280,slow=4.1,SNR=6.6						

NEIC ***02*** *11:45:28.1±1.2,1990S×6887W,h122km±13km,Error ellipse: s-maj=19.9km s-min=12.8km az=51.0*
IDC 02 11:45:29.5±2.9,**1992S**×**6873W,h130**km±26km,**mb3.5**/2, **mb1 3.7**/5,**mb1mx3.4**/19,**mbtmp3.5**/5,**Error ellipse: s-maj=45.4km s-min=21.5km az=85.0,Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.65**	**9**	P	Pn	11 46 25.4	+0.8
	2.3nm,0.3s,baz=194,slow=7.5,SNR=78						
ARE	**Arequipa**	**4.33**	**322**	P	Pn	11 46 30.0	-3.6
ARE				*e*S	Sn	11 47 15.0	-8.4
SIV	**San Ignacio**	**8.26**	**63**	P	Pn	11 47 26.1	-0.5
	2.1nm,0.3s,baz=263,slow=10,SNR=33						
CPUP	**Villa Florida**	**12.27**	**123**	P	Pn	11 48 19.8	-0.1
	0.4nm,0.3s,baz=278,slow=11,SNR=8.3						
PLCA	**Paso Flores**	**20.81**	**184**	P	P	11 50 00.9	+0.5
	1.3nm,0.6s,baz=354,slow=13,SNR=6.8						
YKA	**Yellowknife Ar**	**89.76**	**341**	P	P	11 58 12.0	-0.6
YKA				pP	p

h20km$_{\Delta}$5.2km**:pP-P,n386,**σ**1**$**03**/402**,mb4.9**/142**,MS4.3**/29**,**
24C-9D,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.81**	**353**	*i* P		**Pn**	**12 01 04.5**	**-2.2**
NLC	**Nalytchevo**	**1.01**	**330**	*i* P		**Pn**	**12 01 09.0**	**-0.5**
RUS	**Russkaya**	**1.03**	**278**	*i* P		**Pn**	**12 01 10.2**	**+0.4**
PET	**Petropavlovsk**	**1.18**	**309**	⇑*i* PN		**Pn**	**12 01 12.0**	**+0.2**
PET				pmax	pmax			
	comp=Z,2μm,0.6s							
PET				pmax	pmax			
	comp=Z,3μm,0.5s							
PET	**Petropavlovsk**	**1.18**	**309**	*e*Pn		**Pn**	**12 01 11.9**	**+0.1**
PET	**Petropavlovsk**	**1.18**	**309**	*i* P		**Pn**	**12 01 11.9**	**+0.1**
PET				*i* S		**Sn**	**12 01 28.0**	**+1.3**
INSR	**Institute**	**1.23**	**309**	*e*P		**Pn**	**12 01 13.0**	**+0.5**
INSR				*i* S		**Sn**	**12 01 30.4**	**+2.5**
AVH	**Avacha**	**1.31**	**318**	*i* P		**Pn**	**12 01 14.2**	**+0.6**
GRL	**Gorelyy**	**1.32**	**282**	*i* P		**Pn**	**12 01 15.3**	**+1.6**
GRL				*i* S		**Sn**	**12 01 33.7**	**+3.7**
KII	**Karymskiy**	**1.80**	**346**	*i* P		**Pn**	**12 01 19.9**	**-0.4**
GNL	**Ganaly**	**1.95**	**317**	*i* P		**Pn**	**12 01 23.9**	**+1.6**
GNL				*i* S		**Sn**	**12 01 48.6**	**+3.1**
MIPR	**Malaya Ipel'ka**	**2.10**	**271**	*e*P		**Pn**	**12 01 26.5**	**+2.0**
MIPR				*i* S		**Sn**	**12 01 52.4**	**+3.0**
MKZ	**Mys Kozlova**	**2.44**	**22**	*i* P		**Pn**	**12 01 26.5**	**-2.6**
TUMR	**Tumrok**	**2.99**	**360**	*i* P		**Pn**	**12 01 36.8**	**+0.2**
SKR	**Severo-Kuril's**	**3.01**	**239**	*e*PN		**Pn**	**12 01 35.0**	**-1.9**
SKR				pmax	pmax			
	comp=E,60nm,0.5s							
SKR				pmax	pmax			
	comp=Z,150nm,0.5s							
SKR				pmax	pmax			
	comp=Z,800nm,2.0s							
SKR				MLR	MLR			
	comp=E,5μm,18.0s							
SKR				MLR	MLR			
	comp=N,4μm,16.0s							
KMNR	**Kamenistaya**	**3.47**	**0**	*e*P		**Pn**	**12 01 44.0**	**+0.9**
KMNR				*i* S		**Sn**	**12 02 23.6**	**+0.7**
KOZ	**Kozyrevsk**	**3.77**	**357**	P		**Pn**	**12 01 48.1**	**+0.7**
KOZR	**Kozyr**	**3.78**	**358**	PN		**Pn**	**12 01 48.1**	**+0.6**
KLY	**Klyuchi**	**4.03**	**4**	P		**Pn**	**12 01 52.9**	**+2.0**
KLY				*i* S		**Sn**	**12 02 38.7**	**+1.9**
SRDR	**Sredinnyy**	**4.04**	**356**	*e*P		**Pn**	**12 01 50.6**	**-0.4**
KBTR	**Krutoberegovo**	**4.21**	**20**	*e*P		**Pn**	**12 01 51.9**	**-1.5**
KBTR				*i* S		**Sn**	**12 02 37.3**	**-3.9**
SRKR	**Sorokina**	**4.40**	**7**	*e*P		**Pn**	**12 01 56.8**	**+0.8**
SRKR				*i* S		**Sn**	**12 02 45.6**	**-0.3**
SMY	**Shemya**	**8.50**	**82**	*e*PN		**Pn**	**12 02 49.7**	**-2.5**
MA2	**Magadan**	**9.00**	**328**	*e*PN		**Pn**	**12 02 58.2**	**-0.8**
MA2				pmax	pmax			
	comp=Z,30nm,0.8s							
OKH	**Okha**	**10.49**	**284**	*e*PN		**Pn**	**12 03 23.3**	**+3.8**
SEY	**Seymchan**	**11.44**	**342**	⇑*e*PN		**Pn**	**12 03 33.2**	**+0.8**
UGL	**Uglegorsk**	**11.93**	**262**	*e*PN		**Pn**	**12 03 44.0**	**+4.9**
UGL				pmax	pmax			
	comp=Z,42nm,0.8s							
UGL				MLR	MLR			
	comp=E,1μm,14.0s							
UGL				MLR	MLR			
	comp=Z,1μm,14.0s							
UGL				MLR	MLR			
	comp=N,500nm,17.0s							
YSS	**Yuzh-Sakhalins**	**12.49**	**252**	*e*PN		**Pn**	**12 03 49.0**	**+2.2**
YSS				pmax	pmax			
	comp=Z,40nm,1.1s							
YSS				MLR	MLR			
	comp=E,600nm,15.0s							
YSS				MLR	MLR			
	comp=Z,1μm,15.0s							
YSS	**Yuzh-Sakhalins**	**12.49**	**252**	*e*Pn		**Pn**	**12 03 51.8**	**+5.0**
ASAJ	**Asahikawa**	**14.27**	**242**	P		**Pn**	**12 04 11.7**	**+0.6**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ASAJ	**Asahikawa**	**14.27**	**242**	Pn		**Pn**	**12 04 11.7**	**+0.6**
	comp=Z,2.3nm,0.3s,baz=74,slow=16,SNR=15							
ERM	**Erimo**	**15.45**	**235**	*e*P		**Pn**	**12 04 24.2**	**-2.4**
BILL	**Bilibino**	**16.07**	**8**	*e*P		**Pn**	**12 04 33.8**	**-0.5**
BILL				pmax	pmax			
	comp=Z,56nm,1.0s							
BILL				MLR	MLR			
	comp=Z,500nm,21.0s							
BILL	**Bilibino**	**16.07**	**8**	*e*P		**Pn**	**12 04 33.2**	**-1.1**
	comp=Z,43nm,0.7s							
HABR	**Khabarovsk**	**16.45**	**267**	*e*P		**Pn**	**12 04 39.8**	**+0.5**
HABR				*e*			12 07 43.3	
HABR				pmax	pmax			
	comp=Z,58nm,2.5s							
KLR	**Kul'dur**	**18.20**	**272**	*e*P		**Pn**	**12 04 57.2**	**-3.7**
KLR				MLR	MLR			
	comp=E,900nm,13.0s							
KLR				MLR	MLR			
	comp=Z,2μm,13.0s							
YAK	**Yakutsk**	**19.01**	**313**	*d i* P		**Pn**	**12 05 07.8**	**-2.9**
YAK				*e*S		**S**	**12 08 41.2**	**-1.8**
YAK				pmax	pmax			
	comp=Z,175nm,1.1s							
YAK				pmax	pmax			
	comp=N,50nm,1.4s							
YAK				pmax	pmax			
	comp=E,62nm,1.0s							
YAK				smax				
	comp=N,82nm,3.3s							
YAK				smax				
	comp=E,125nm,3.0s							
YAK				MLR	MLR			
	comp=Z,538nm,19.0s							
YAK				MLR	MLR			
	comp=N,295nm,14.0s							
YAK				MLR	MLR			
	comp=E,287nm,12.0s							
YAK	**Yakutsk**	**19.01**	**313**	*e*P		**Pn**	**12 05 07.7**	**-3.0**
	comp=E,159nm,0.8s							
CLNS	**Chul'man**	**20.80**	**297**	*e*P		**P**	**12 05 24.1**	**-5.1**
CLNS				*e**PP			12 05 30.9	
CLNS				*e*PPP			12 05 46.1	
CLNS				*e*S		**S**	**12 09 08.5**	**-10**
CLNS				*e*			12 09 34.5	
CLNS				*e*SS			12 10 04.4	
CLNS				pmax	pmax			
	comp=Z,17nm,0.7s							
CLNS				pmax	pmax			
	comp=N,10.0nm,0.8s							
CLNS				pmax	pmax			
	comp=E,11nm,0.8s							
CLNS				smax				
	comp=N,81nm,12.2s							
CLNS				smax				
	comp=Z,76nm,11.7s							
CLNS				smax				
	comp=E,32nm,12.1s							
CLNS				MLR	MLR			
	comp=Z,600nm,15.0s,MS4.1							
CLNS				MLR	MLR			
	comp=N,200nm,13.0s,MS4.1							
CLNS				MLR	MLR			
	comp=E,500nm,16.0s,MS4.1							
TNA	**Tin City**	**20.84**	**38**	*e*P		**P**	**12 05 27.6**	**-1.9**
MDJ	**Mudanjiang**	**21.57**	**261**	P		**P**	**12 05 36.1**	**-1.4**
MDJ				S		**S**	**12 09 33.9**	**-0.1**
MDJ				XS		sS	12 09 40.1	-11
MDJ				SCP		ScP	12 13 14.5	+3.0
MDJ				SCS		ScS	12 16 58.4	+2.8
MDJ				AMB		AMB		
	comp=Z,12nm,0.9s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,85nm,3.9s							
MDJ				LR		LR		
	comp=N,333nm,17.4s,MS4.0							
MDJ				LR		LR		
	comp=E,417nm,18.2s,MS4.0							
MDJ				LR		LR		
	comp=Z,404nm,18.2s,MS3.9							
MDJ	**Mudanjiang**	**21.57**	**261**	*e*P		**P**	**12 05 35.3**	**-2.2**
	comp=Z,8.3nm,0.7s,mb4.3							
MAJO	**Matsushiro**	**22.10**	**233**	*e*P		**P**	**12 05 45.1**	**+1.8**
MAJO				pmax	pmax			
	comp=Z,41nm,0.8s,mb4.9							
MAJO	**Matsushiro**	**22.10**	**233**	*e*P		**P**	**12 05 45.1**	**+1.8**
	comp=Z,41nm,0.8s,mb4.9							
MAT	**Matsushiro**	**22.10**	**233**	P		**P**	**12 05 44.7**	**+1.4**
MAT				S		**S**	**12 09 52.0**	**+7.6**
MJAR	**Matsushiro Arr**	**22.10**	**233**	P		**P**	**12 05 44.8**	**+1.5**
	comp=Z,18nm,0.6s,mb4.7,baz=21,slow=9.1,SNR=47							
MJAR				LR		LR	12 14 43.0	
	comp=Z,479nm,20.5s,MS3.9,baz=60,slow=38							
TIXI	**Tiksi**	**23.83**	**336**	*e*P		**P**	**12 05 57.8**	**-2.7**
TIXI				pmax		pmax		
	comp=Z,33nm,0.8s,mb4.8							
TIXI	**Tiksi**	**23.83**	**336**	*e*P		**P**	**12 05 57.9**	**-2.6**
	comp=Z,30nm,0.8s,mb4.8							
CN2	**Changchun**	**24.53**	**264**	*e*P		**P**	**12 06 05.0**	**-2.1**
CN2				*e*XP		sP	12 06 12.0	-11
CN2				*e*S		**S**	**12 10 22.0**	**-2.7**
CN2				AMB		AMB		
	comp=Z,20nm,0.7s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,7.0s							
CN2				LR		LR		
	comp=N,200nm,13.0s,MS4.0							
CN2				LR		LR		
	comp=E,300nm,13.0s,MS4.0							
CN2				LR		LR		
	comp=Z,400nm,14.0s,MS4.1							
TTA	**Tatalina**	**25.24**	**48**	*e*P		**P**	**12 06 13.2**	**-0.2**
TTA				pmax		pmax		
	comp=Z,26nm,1.3s,mb4.6							
TTA	**Tatalina**	**25.24**	**48**	*e*P		**P**	**12 06 13.2**	**-0.2**
	comp=Z,26nm,1.3s,mb4.6							
HIA	**Hailar**	**25.52**	**279**	*e*P		**P**	**12 06 14.5**	**-1.5**
HIA				pmax		pmax		
	comp=Z,63nm,0.8s							
HIA	**Hailar**	**25.52**	**279**	*e*P		**P**	**12 06 14.5**	**-1.5**
	comp=Z,63nm,0.8s,mb5.2							
BOD	**Bodaibo**	**26.59**	**300**	*e*P		**P**	**12 06 22.6**	**-3.0**
BOD				pmax		pmax		
	comp=Z,22nm,1.1s,mb4.6							
IMA2	**Indian Mountai**	**26.60**	**41**	*e*P		**P**	**12 06 25.2**	**-0.4**
KSRS	**Korea Array**	**26.98**	**249**	P		**P**	**12 06 30.2**	**+0.9**
	comp=Z,4.8nm,0.7s,mb4.2,baz=44,slow=9.4,SNR=22							
KSRS				LR		LR	12 18 00.8	
	comp=Z,313nm,18.9s,MS3.9,baz=50,slow=38							
KDAK	**Kodiak Island**	**27.15**	**60**	P		**P**	**12 06 30.6**	**-0.1**
	comp=Z,13nm,1.0s,mb4.4,baz=246,slow=11,SNR=3.0							
JNU	**Nakatsue**	**28.52**	**239**	P		**P**	**12 06 44.5**	**+1.3**
	comp=Z,12nm,0.6s,mb4.8,baz=16,slow=7.8,SNR=8.9							
COLA	**College**	**28.93**	**44**	*e*P		**P**	**12 06 45.9**	**-0.6**
EGAK	**Eagle**	**31.79**	**44**	*e*P		**P**	**12 07 10.5**	**-1.3**
	comp=Z,2.5nm,0.6s,mb4.2							
BJI	**Beijing**	**32.35**	**265**	P		**P**	**12 07 20.6**	**+3.7**
BJI				S		**S**	**12 12 27.6**	**-0.2**
BJI				SS		SS	12 14 22.0	-26
BJI				LR		LR		
	comp=N,514nm,16.6s,MS4.5							
BJI				LR		LR		
	comp=E,568nm,15.4s,MS4.5							
BJI				LR		LR		
	comp=Z,423nm,20.7s							
ULN	**Ulaanbaatar**	**33.74**	**284**	*e*P		**P**	**12 07 27.9**	**-1.0**
ULN				pmax		pmax		
	comp=Z,21nm,1.5s,mb4.8							
ULN	**Ulaanbaatar**	**33.74**	**284**	*e*P		**P**	**12 07 27.9**	**-1.0**
	comp=Z,21nm,1.5s,mb4.8							
ULN	**Ulaanbaatar**	**33.74**	**284**	P		**P**	**12 07 28.3**	**-0.6**
	SNR=5.4							
ULN	**Ulaanbaatar**	**33.74**	**284**	P		**P**	**12 07 28.3**	**-0.6**
	SNR=5.4							
TLY	**Talaya**	**34.07**	**292**	*e*P		**P**	**12 07 31.0**	**-0.7**
TLY				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.7							
TLY	**Talaya**	**34.07**	**292**	*e*P		**P**	**12 07 30.9**	**-0.8**
SONM	**Songino Array**	**34.15**	**284**	P		**P**	**12 07 31.8**	**-0.7**
	comp=Z,2.0nm,0.3s,mb4.5,baz=59,slow=9.2,SNR=19							
SONM				PcP		PcP	12 10 09.4	+0.7
	comp=Z,1.0nm,0.9s,baz=54,slow=1.5,SNR=2.8							
INK	**Inuvik**	**34.47**	**37**	*e*P		**P**	**12 07 34.6**	**-0.4**
INK	**Inuvik**	**34.47**	**37**	P		**P**	**12 07 34.5**	**-0.6**
	comp=Z,1.9nm,0.5s,mb4.2,baz=296,slow=5.8,SNR=19							
INK				PcP		PcP	12 10 09.8	+0.6
	comp=Z,1.6nm,0.6s,baz=283,slow=3.6,SNR=4.4							
HHC	**Hu-ho-hao-te**	**34.70**	**270**	*e*P		**P**	**12 07 37.6**	**+0.3**
HHC				XP		sP	12 07 45.1	-8.6
HHC				PP		PP	12 08 53.5	-2.8
HHC				PCP		PcP	12 10 12.4	+2.0
HHC				S		**S**	**12 13 05.2**	**+1.1**
HHC				XS		sS	12 13 13.4	-10
HHC				SS		SS	12 15 17.0	-18
HHC				AMB		AMB		
	comp=Z,29nm,1.2s,mb5.1							
HHC				AMB		AMB		
	comp=Z,176nm,8.0s							
HHC				LR		LR		
	comp=N,937nm,15.5s,MS4.7							
HHC				LR		LR		
	comp=E,647nm,16.3s,MS4.7							
HHC				LR		LR		
	comp=Z,1μm,16.6s,MS4.7							
ZAK	**Zakamensk**	**34.82**	**290**	⇑*i* P		**P**	**12 07 37.4**	**-0.8**
ZAK				*e*			12 10 17.8	
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
JOW	**Kunigami**	**34.90**	**236**	P		**P**	**12 07 40.0**	**+0.8**
	comp=Z,14nm,0.5s,mb5.2,baz=45,slow=7.5,SNR=15							
MOY	**Mondy**	**35.58**	**293**	*e*P		**P**	**12 07 44.0**	**-0.7**
NJ2	**Nanjing**	**36.06**	**252**	*e*P		**P**	**12 07 49.2**	**+0.1**
NJ2				AP		pP	12 07 53.4	-7.2
NJ2				XP		sP	12 07 56.6	-8.9
NJ2				PP		PP	12 09 09.9	-1.6
NJ2				S		**S**	**12 13 26.0**	**+0.8**
NJ2				XS		sS	12 13 43.0	-1.4
NJ2				AMB		AMB		
	comp=Z,30nm,0.6s,mb5.4							
NJ2				AMB		AMB		
	comp=Z,170nm,6.0s							
NJ2				LR		LR		
	comp=N,770nm,21.6s							
NJ2				LR		LR		
	comp=E,400nm,13.7s							
NJ2				LR		LR		
	comp=Z,400nm,13.7s							
DLBC	**Dease Lake**	**38.48**	**52**	*e*P		**P**	**12 08 10.6**	**+1.3**
LZH	**Lanzhou**	**42.40**	**270**	*e*P		**P**	**12 08 39.5**	**-2.4**
LZH				AP		pP	12 08 49.4	-4.2
LZH				XP		sP	12 08 53.5	-5.0
LZH				PP		PP	12 10 20.6	+0.1
LZH				*e*S		**S**	**12 14 57.8**	**-2.5**
LZH				XS		sS	12 15 14.5	-5.2
LZH				*e*SS		SS	12 18 01.7	-8.3
LZH				AMB		AMB		
	comp=Z,27nm,1.5s,mb4.7							
LZH				AMB		AMB		
	comp=Z,113nm,5.3s							
LZH				LR		LR		
	comp=N,598nm,14.6s							
LZH				LR		LR		
	comp=Z,1μm,17.8s,MS4.8							
GTA	**Gaotai**	**42.76**	**277**	*e*P		**P**	**12 08 44.3**	**-0.5**
GTA				AP		pP	12 08 48.3	-8.2
GTA				XP		sP	12 08 51.7	-10
GTA				PCP		PcP	12 10 36.8	+1.2
GTA				SCP		ScP	12 14 26.6	+3.7
GTA				S		**S**	**12 15 08.5**	**+3.0**
GTA				XS		sS	12 15 18.8	-6.1
GTA				SS		SS	12 18 13.0	-4.0
GTA				SCS		ScS	12 18 43.6	+1.7
GTA				AMB		AMB		
	comp=Z,7.0nm,1.1s,mb4.3							
GTA				AMB		AMB		
	comp=Z,170nm,5.7s							
GTA				LR		LR		
	comp=N,446nm,15.3s,MS4.5							
GTA				LR		LR		
	comp=E,274nm,15.7s,MS4.5							
GTA				LR		LR		
	comp=Z,217nm,15.3s,MS4.2							
ZALV	**Zalesovo Beam**	**43.26**	**303**	P		**P**	**12 08 46.3**	**-2.3**
	comp=Z,4.9nm,0.5s,mb4.5,baz=62,slow=6.9,SNR=32							
ZAL	**Zalesovo**	**43.27**	**303**	P		**P**	**12 08 46.3**	**-2.5**
NVS	**Novosibirsk**	**43.62**	**305**	⇑*i* P		**P**	**12 08 49.5**	**-2.0**
NVS				*e*			12 10 32.0	
NVS				*e*S		**S**	**12 15 07.8**	**-10**
NVS				pmax		pmax		
	comp=N,29nm,1.0s							
NVS				pmax		pmax		
	comp=E,61nm,1.0s							
NVS				pmax		pmax		
	comp=Z,80nm,1.0s,mb5.4							
NVS				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.5							
NVS				pmax		pmax		
	comp=N,9.0nm,1.4s							
NVS				smax				
	comp=E,58nm,2.0s							
YKA	**Yellowknife Ar**	**43.72**	**42**	P		**P**	**12 08 51.6**	**-0.6**
	comp=E,1.3nm,0.8s,mb3.7,baz=298,slow=7.9,SNR=17							
RES	**Resolute Bay**	**44.04**	**22**	*e*P		**P**	**12 08 54.7**	**0.0**
RES				pmax		pmax		
	comp=Z,98nm,0.6s,mb5.7							
RES	**Resolute Bay**	**44.04**	**22**	*e*P		**P**	**12 08 54.7**	**-0.1**
	comp=Z,98nm,0.6s,mb5.7							
CD2	**Chengdu**	**45.95**	**265**	⇓*i* P		**P**	**12 09 10.6**	**+0.2**
CD2				AP		pP	12 09 15.1	-7.1
CD2				XP		sP	12 09 17.9	-9.2
CD2				PP		PP	12 10 58.8	+0.3
CD2				S		**S**	**12 15 54.5**	**+2.4**
CD2				XS		sS	12 16 02.0	-10
CD2				SS		SS	12 19 11.3	-5.6
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
CD2				AMB		AMB		
	comp=Z,40nm,4.2s							
CD2				LR		LR		
	comp=N,270nm,15.6s,MS4.7							
CD2				LR		LR		
	comp=E,610nm,14.4s,MS4.7							
CD2				LR		LR		
	comp=Z,430nm,13.2s,MS4.6							
WMQ	**Urumqi**	**47.29**	**290**	P		**P**	**12 09 20.0**	**-0.8**
WMQ				XP		sP	12 09 27.0	-10
WMQ				PP		PP	12 11 10.0	-1.8
WMQ				S		**S**	**12 16 13.0**	**+2.0**
WMQ				SS		SS	12 19 34.0	-4.3
WMQ				AMB		AMB		
	comp=Z,26nm,1.0s,mb5.1							
WMQ				AMB		AMB		
	comp=Z,427nm,5.0s							
WMQ				LR		LR		
	comp=N,145nm,16.0s,MS4.3							
WMQ				LR		LR		
	comp=E,201nm,16.0s,MS4.3							
WMQ				LR		LR		
	comp=Z,285nm,16.0s,MS4.3							
GYA	**Guiyang**	**47.39**	**258**	*e*P		**P**	**12 09 21.7**	**0.0**
GYA				PCP		PcP	12 10 54.0	+2.2
GYA				SCP		ScP	12 14 46.7	+4.5
GYA				S		**S**	**12 16 15.7**	**+3.0**
GYA				SCS		ScS	12 19 14.4	+2.5
GYA				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.1							
GYA				AMB		AMB		
	comp=Z,110nm,5.4s							
GYA				LR		LR		
	comp=N,490nm,18.8s,MS4.7							
GYA				LR		LR		
	comp=E,540nm,17.6s,MS4.7							
GYA				LR		LR		
	comp=Z,510nm,18.4s,MS4.5							
KBS	**Kingsbay**	**47.67**	**352**	⇑*e*P		**P**	**12 09 22.8**	**-0.5**
KBS	**Kingsbay**	**47.67**	**352**	*e*P		**P**	**12 09 22.6**	**-0.7**
	comp=Z,17nm,0.9s,mb5.1							
SPB4	**Spitsbergen Ar**	**47.93**	**351**	*e*P		**P**	**12 09 24.9**	**-0.4**
KURK	**Kurchatov**	**48.21**	**302**	*e*P		**P**	**12 09 25.9**	**-1.8**
KURK				pmax		pmax		
	comp=Z,44nm,0.9s,mb5.5							
KURK	**Kurchatov**	**48.21**	**302**	*e*P		**P**	**12 09 25.9**	**-1.8**
	comp=Z,44nm,0.9s,mb5.5							
MK31	**Makanchi Array**	**48.55**	**296**	*e*P		**P**	**12 09 29.0**	**-1.5**
MKAR	**Makanchi Array**	**48.55**	**296**	P		**P**	**12 09 28.9**	**-1.6**
	comp=Z,5.3nm,0.5s,mb4.9,baz=60,slow=6.8,SNR=62							
KMI	**Kunming**	**50.74**	**261**	P		**P**	**12 09 46.4**	**-1.0**
KMI				S		**S**	**12 17 00.8**	**+1.0**
KMI				LR		LR		
	comp=N,181nm,15.7s,MS4.4							
KMI				LR		LR		
	comp=E,236nm,16.7s,MS4.4							
KMI				LR		LR		
	comp=Z,109nm,18.6s,MS3.9							
BVAR	**Borovoye Array**	**50.93**	**309**	P		**P**	**12 09 46.9**	**-1.6**
	comp=Z,26nm,0.5s,mb5.4,baz=60,slow=8.3,SNR=95							
BVAR				PP		PP	12 11 45.3	+0.6
	comp=Z,4.7nm,0.6s,baz=58,slow=11,SNR=4.1							
BRVK	**Borovoye**	**50.96**	**309**	*e*P		**P**	**12 09 47.1**	**-1.6**
DAG	**Danmarks Havn**	**51.20**	**360**	⇑*i* P		**P**	**12 09 49.7**	**-0.5**
DAG				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.4							
DAG	**Danmarks Havn**	**51.20**	**360**	⇑*i* P		**P**	**12 09 49.7**	**-0.5**
	comp=Z,3.7nm,0.8s,mb4.4							
QIZ	**Qiongzhong**	**51.20**	**249**	P		**P**	**12 09 50.9**	**0.0**
QIZ				LR		LR		
	comp=E,206nm,14.8s							
QIZ				LR		LR		
	comp=Z,137nm,18.6s,MS4.0							
WALA	**Waterton Lakes**	**51.44**	**57**	*e*P		**P**	**12 09 52.5**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.4							
KEV	**Kevo**	**53.59**	**342**	*e*p		**P**	**12 10 06.0**	**-1.9**
	comp=Z,10nm,0.6s,mb4.9							
KEV	**Kevo**	**53.59**	**342**	*e*P		**P**	**12 10 06.0**	**-1.9**
KEV				pmax		pmax		
	comp=Z,10.0nm,0.6s,mb4.9							
APA	**Apatity**	**54.01**	**338**	⇑*i* P		**P**	**12 10 10.8**	**-0.2**
APA				pmax		pmax		
	comp=Z,18nm,1.0s,mb5.0							
APA				MLR		MLR		
	comp=Z,500nm,18.0s,MS4.6							
ARU	**Arti**	**54.02**	**318**	*e*P		**P**	**12 10 10.0**	**-1.3**
ARU				*e*			12 12 09.8	
ARU				*e*S		**S**	**12 17 44.5**	**+0.6**
ARU				SS		SS	12 21 22.9	-2.0
ARCES	**ARCESS Array B**	**54.06**	**342**	P		**P**	**12 10 10.6**	**-0.8**
	comp=Z,19nm,0.8s,mb5.1,baz=41,slow=7.8,SNR=54							
ARE0	**ARCESS Array S**	**54.06**	**342**	*e*P		**P**	**12 10 10.8**	**-0.6**
EGMT	**Eagleton**	**54.23**	**56**	*e*P		**P**	**12 10 11.2**	**-1.7**
LSA	**Lhasa**	**54.53**	**274**	P		**P**	**12 10 15.0**	**-0.4**
LSA	**Lhasa**	**54.53**	**274**	*e*P		**P**	**12 10 16.5**	**+1.1**
LSA				pmax		pmax		
	comp=Z,11nm,0.8s,mb4.9							
LSA	**Lhasa**	**54.53**	**274**	*e*P		**P**	**12 10 16.5**	**+1.1**
	comp=Z,11nm,0.8s,mb5.0							
TKM2	**Tokmak 2**	**54.69**	**296**	*e*P		**P**	**12 10 15.2**	**-1.1**
TKM2				pmax		pmax		
	comp=Z,9.0nm,0.9s,mb4.8							
TKM2	**Tokmak 2**	**54.69**	**296**	*e*P		**P**	**12 10 15.2**	**-1.1**
	comp=Z,9.1nm,0.9s,mb4.8							
TKM2	**Tokmak 2**	**54.69**	**296**	P		**P**	**12 10 15.4**	**-1.0**
	SNR=8.5							
BOZ	**Bozeman (W)**	**54.82**	**59**	*e*P		**P**	**12 10 21.3**	**+4.0**
BOZ				pmax		pmax		
	comp=Z,36nm,3.0s							
BOZ	**Bozeman (W)**	**54.82**	**59**	*e*P		**P**	**12 10 21.2**	**+4.0**
	comp=Z,36nm,3.0s							
**

SNR=8.0
NANT Nan 56.76 257 P **P 12 10 30.0 -1.4**
SHL Shillong 57.06 270 *eP* **P 12 10 33.0 -0.5**
KK31 Karatay Array 57.32 300 *i* P **P 12 10 33.1 -2.0**
KK31 pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
CHG Chiang Mai 57.80 259 ⇑P **P 12 10 39.8 +1.0**
comp=Z,27nm,0.8s,mb5.3
CHTO Chiang Mai 57.80 259 *eP* **P 12 10 39.9 +1.1**
CHTO pmax pmax
comp=Z,15nm,0.6s,mb5.2
CHTO Chiang Mai 57.80 259 *eP* **P 12 10 39.9 +1.1**
comp=Z,15nm,0.6s,mb5.2
BW06 Boulder Array 57.87 60 *eP* **P 12 10 39.9 +0.9**
TPNV Topopah Spring 58.16 70 *eP* **P 12 10 43.4 +2.3**
TPNV pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
TPNV Topopah Spring 58.16 70 *eP* **P 12 10 43.4 +2.2**
comp=Z,2.4nm,0.9s,mb4.2
JOF Joensuu 58.31 335 *ep* **P 12 10 40.6 -1.2**
comp=Z,31nm,0.4s,mb5.7
AKTO Aktyubinsk 58.40 313 *i* P **P 12 10 40.8 -1.8**
GUN Gumba 59.04 276 *eP* **P 12 10 47.0 -0.3**
comp=Z,19nm,0.4s,mb5.5
ULM Lac du Bonnet 59.33 46 P **P 12 10 48.9 -0.1**
ULM LR LR 12 35 30.7
ULM Lac du Bonnet 59.33 46 P **P 12 10 48.9 -0.1**
comp=Z,1.6nm,0.5s,mb4.3,baz=311,slow=8.0,SNR=5.3
ULM LR LR 12 35 30.7
comp=Z,145nm,18.5s,MS4.1,baz=292,slow=35
KKN Kakani 59.49 277 *eP* **P 12 10 50.0 -0.5**
comp=Z,32nm,0.7s,mb5.5
PKI Pulchoki 59.57 277 *eP* **P 12 10 50.9 -0.1**
comp=Z,40nm,0.8s,mb5.5
PKIN Phulchoki 59.57 277 *eP* **P 12 10 50.9 -0.1**
comp=Z,29nm,0.7s,mb5.4
DMN Daman 59.73 277 *eP* **P 12 10 52.2 +0.1**
comp=Z,43nm,0.6s,mb5.6
GKN Gorkha 59.73 277 *eP* **P 12 10 51.8 -0.3**
comp=Z,52nm,0.8s,mb5.6
SRU San Rafael 59.89 64 *eP* **P 12 10 54.2 +1.2**
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
SRU San Rafael 59.89 64 *eP* **P 12 10 54.2 +1.2**
comp=Z,2.6nm,0.7s,mb4.4
DANN Dangsing 60.01 278 *eP* **P 12 10 53.3 -0.7**
comp=Z,56nm,0.8s,mb5.6
KOLN Koldanda 60.53 278 *eP* **P 12 10 57.1 -0.5**
comp=Z,36nm,0.8s,mb5.5
FIA1 FINESS Array S 60.87 337 *eP* **P 12 10 59.5 0.0**
FINES FINESS Array B 60.88 337 P **P 12 10 59.4 -0.1**
comp=Z,42nm,0.5s,mb5.8,baz=39,slow=8.3,SNR=168
PV10 Paradox Valley 61.22 64 *eP* **P 12 11 10.2 +8.1**
HNR Honiara 61.48 180 LR LR 12 35 29.9
comp=Z,111nm,19.4s,MS4.0,baz=359,slow=34
SMCO Snowmass 61.78 62 *eP* **P 12 11 11.7 +5.8**
comp=Z,8.3nm,1.5s,mb4.6
ISCO Idaho Springs 62.06 60 *eP* **P 12 11 09.2 +1.4**
ISCO pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
ISCO Idaho Springs 62.06 60 *eP* **P 12 11 09.2 +1.4**
comp=Z,2.4nm,0.8s,mb4.4
MOS Moscow 62.36 327 *eP* **P 12 11 08.5 -1.0**
MOS pmax pmax
comp=Z,77nm,1.1s,mb5.8
OBN Obninsk 63.22 328 *eP* **P 12 11 14.5 -0.7**
OBN *e* 12 11 51.3
OBN pmax pmax
comp=Z,73nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,200nm,21.0s,MS4.3
OBN Obninsk 63.22 328 *eP* **P 12 11 14.5 -0.7**
comp=Z,35nm,0.6s,mb5.7
KBL Kabul 64.19 294 *eP* **P 12 11 20.3 -1.7**
comp=Z,6.7nm,0.7s,mb4.8
NB2 NORSAR Subarra 64.32 344 P **P 12 11 21.7 -0.7**
comp=Z,7.5nm,0.7s,mb4.8,baz=20,slow=6.9
NOA NORSAR Array B 64.32 344 P **P 12 11 22.1 -0.3**
comp=Z,4.2nm,0.5s,mb4.7,baz=22,slow=6.8,SNR=24
VRHR Novokhopersk 64.70 322 *eP* **P 12 11 27.3 +2.3**
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
VRHR pmax pmax
comp=N,30nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.7s
HFS Hagfors 64.73 342 P **P 12 11 24.9 -0.2**
comp=E,6.4nm,0.4s,mb5.0,baz=39,slow=5.7,SNR=37
VRSR Storozhevoye 65.50 324 *eP* **P 12 11 29.2 -1.0**
VRSR pmax pmax
comp=N,9.0nm,0.7s
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRSR pmax pmax
comp=E,6.0nm,0.8s
VORD Divnogorie 65.67 323 *eP* **P 12 11 30.8 -0.5**
VORD pmax pmax
comp=Z,50nm,1.1s,mb5.5
VORD pmax pmax
comp=N,50nm,0.7s
VORD pmax pmax
comp=E,20nm,0.5s
SCHQ Schefferville 66.33 28 P **P 12 11 35.1 -0.4**
comp=E,4.9nm,0.8s,mb4.6,baz=322,slow=4.8,SNR=12
MNK Minsk 66.44 332 *eP* **P 12 11 35.0 -1.2**
SCIA State Center 66.78 51 *eP* **P 12 11 38.5 -0.2**
comp=E,14nm,0.5s,mb5.3
SUW Suwalki 68.16 334 *eP* **P 12 11 47.0 -0.1**
SUW Suwalki 68.16 334 *eP* **P 12 11 47.0 -0.1**
GOF Gofitskoye 69.02 318 *eP* **P 12 11 58.6 +6.0**
GOF pmax pmax
comp=Z,60nm,0.8s,mb5.6
BSD Bornholm Skovb 69.15 339 *i* P **P 12 11 54.3 +1.1**
BSD pmax pmax
comp=Z,16nm,0.6s,mb5.1
BSD Bornholm Skovb 69.15 339 *i* P **P 12 11 54.3 +1.1**
comp=Z,16nm,0.6s,mb5.1
AKASG Malin Array Be 69.33 329 P **P 12 11 53.6 -0.8**
comp=Z,16nm,0.5s,mb5.2,baz=30,slow=6.7,SNR=76
AKBB Malin Array Si 69.33 329 *eP* **P 12 11 53.5 -0.9**
WMOK Wichita Mounta 69.46 60 *eP* **P 12 11 55.8 +0.3**
WMOK pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WMOK Wichita Mounta 69.46 60 *eP* **P 12 11 55.8 +0.3**
comp=Z,3.1nm,0.8s,mb4.3
KIV Kislovodsk 70.06 317 *eP* **P 12 11 59.1 +0.1**
KIV pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KIV MLR MLR
comp=Z,120nm,18.0s,MS4.2
GKP Gorka Klasztor 70.33 337 *eP* **P 12 12 01.9 +1.3**
GKP Gorka Klasztor 70.33 337 *eP* **P 12 12 01.9 +1.4**
TXAR Lajitas Array 70.90 67 P **P 12 12 04.5 +0.1**
comp=Z,0.9nm,0.5s,mb4.0,baz=301,slow=4.3,SNR=23
BSEG Bad Segeberg 71.19 342 *eP* **P 12 12 06.3 +0.5**
comp=Z,9.0nm,0.5s,mb5.0
HYB Hyderabad 71.33 274 *eP* **P 12 12 07.0 -0.1**
HYB Hyderabad 71.33 274 *i* P **P 12 12 07.0 -0.1**
ANN Anapa 71.48 321 *eP* **P 12 12 09.5 +1.9**
ANN pmax pmax
comp=Z,129nm,2.3s,mb5.5
LVV L'vov 71.68 332 *eP* **P 12 12 08.2 -0.6**
LVV MLR MLR
comp=Z,200nm,19.0s,MS4.4
LVV MLR MLR
comp=N,200nm,20.0s,MS4.4
LVV MLR MLR
comp=E,100nm,20.0s,MS4.4
KWP Kalwaria 72.23 333 *eP* **P 12 12 12.5 +0.5**
OJC Ojcow 72.49 335 *eP* **P 12 12 13.8 +0.2**
SIM Simferopol' 72.61 323 *eP* **P 12 12 15.0 +0.6**
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SIM MLR MLR
comp=Z,450nm,16.3s,MS4.8
KSP Ksiaz 72.80 337 *eP* **P 12 12 15.6 +0.1**
KSP Ksiaz 72.80 337 *eP* **P 12 12 15.4 0.0**
STHS Stebnicka Huta 72.83 333 *eP* **P 12 12 16.4 +0.8**
STHS pmax pmax
comp=Z,12nm,0.9s,mb4.8
STHS Stebnicka Huta 72.83 333 *eP* **P 12 12 16.4 +0.8**
comp=Z,12nm,0.9s,mb4.8
KOLS Kolonicke sedl 72.98 332 *eP* **P 12 12 16.9 +0.4**
CLL Collm 73.12 339 *i* P **P 12 12 17.2 -0.1**
CLL *i* 12 12 26.0
CLL pmax pmax
comp=Z,15nm,1.0s,mb4.9
CLL MLR MLR
comp=Z,200nm,19.9s,MS4.4
CLL Collm 73.12 339 *i* P **P 12 12 17.2 -0.1**
comp=Z,15nm,1.0s,mb4.9
CLL *i* 12 12 26.0
CLL LR LR
comp=Z,200nm,19.9s,MS4.4
CLL Collm 73.12 339 *eP* **P 12 12 17.3 0.0**
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 73.12 339 *i* P **P 12 12 17.2 -0.1**
comp=Z,15nm,1.0s,mb4.9
CLL *i* pP pP 12 12 26.0 -3.7
CLL *i* pPcP 12 12 42.0
CLL LmV 12 49 00.0
comp=Z,200nm,19.9s
CLZ Clausthal 73.17 341 *eP* **P 12 12 18.4 +0.8**
UPC Upice 73.18 337 *eP* **P 12 12 18.1 +0.4**
IBBN Ibbenburen 73.22 343 *eP* **P 12 12 18.2 +0.3**
comp=Z,17nm,0.8s,mb5.0
CRVS Cervenica-Dubn 73.24 333 *eP* **P 12 12 18.1 +0.1**
CRVS Cervenica-Dubn 73.24 333 *eP* **P 12 12 18.0 -0.1**
DPC Dobruska-Polom 73.25 337 *eP* **P 12 12 18.8 +0.7**
DPC AMS AMS 12 36 10.0
comp=Z,200nm,14.7s
OKC Ostrava-Krasne 73.27 335 AMS AMS 12 48 00.0
comp=Z,200nm,22.1s
BURAR Bucovina Array 73.29 330 ⇓P **P 12 12 18.7 +0.3**
BURAR Bucovina Array 73.29 330 ⇓*i*P **P 12 12 18.6 +0.2**
BRG Berggiesshubel 73.32 338 *eP* **P 12 12 18.5 0.0**
BRG *e* 12 12 43.1
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRG MLR MLR
comp=N,4μm,23.7s
BRG MLR MLR
comp=E,167nm,14.1s
BRG MLR MLR
comp=Z,57nm,20.0s,MS3.9
BRG Berggiesshubel 73.32 338 *eP* **P 12 12 18.5 0.0**
comp=Z,2.7nm,0.8s,mb4.2
BRG *e* 12 12 43.1
BRG LR LR
comp=Z,140nm,20.0s,MS4.2
BRG Berggiesshubel 73.32 338 *eP* **P 12 12 18.5 0.0**
comp=Z,4.5nm,0.8s,mb4.5
BRG *e* 12 12 43.1
comp=Z,6.0nm,0.8s
BRG
comp=N,279nm,23.7s
BRG
comp=E,95nm,14.1s
BRG
comp=Z,240nm,20.0s
FBE Freiberg 73.41 339 *eP* **P 12 12 18.8 -0.2**
comp=Z,6.0nm,0.6s,mb4.7
MORC Moravsky Berou 73.48 336 ⇑*i*P **P 12 12 19.8 +0.3**
PVCC Panska Ves 73.50 338 AMS AMS 12 37 00.0
comp=Z,300nm,17.8s
KECS Kecovo 73.89 333 *eP* **P 12 12 22.4 +0.5**
KECS pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
KECS Kecovo 73.89 333 *eP* **P 12 12 22.4 +0.5**
comp=Z,4.0nm,0.8s,mb4.4
PRU Pruhonice 74.01 338 *eP* **P 12 12 23.3 +0.7**
PRU AMS AMS 12 36 50.0
comp=Z,300nm,19.2s
MOX Moxa 74.04 340 *eP* **P 12 12 23.3 +0.6**
MOX
comp=Z,100nm,23.0s
MOX Moxa 74.04 340 *eP* **P 12 12 22.6 -0.1**
comp=Z,11nm,1.1s,mb4.7
TANN Tannenbergstha 74.08 339 *eP* **P 12 12 23.0 0.0**
comp=Z,4.0nm,0.9s,mb4.3
WERD Werda 74.08 339 *eP* **P 12 12 23.3 +0.3**
comp=Z,6.0nm,0.9s,mb4.5
GUNZ Gunzen 74.15 339 *eP* **P 12 12 24.0 +0.6**
comp=Z,7.0nm,0.8s,mb4.6
UBBA Unterbreizbach 74.21 341 *eP* **P 12 12 24.0 +0.3**
WERN Wernitzgruen 74.22 339 *eP* **P 12 12 24.2 +0.4**
comp=Z,10.0nm,0.7s,mb4.8
NKC Novy Kostel 74.25 339 *eP* **P 12 12 24.5 +0.5**
NKC AMS AMS 12 41 30.0
comp=Z,200nm,19.5s
VYHS Vyhne 74.32 334 *eP* **P 12 12 24.5 +0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.5s,mb4.4
VYHS Vyhne 74.32 334 *eP* **P 12 12 24.5 +0.1**
comp=Z,7.2nm,1.5s,mb4.4
TREC Trest 74.43 337 AMS AMS 12 38 40.0
comp=Z,300nm,17.8s
MANZ Manzenberg 74.56 339 *eP* **P 12 12 26.4 +0.6**
comp=Z,3.0nm,0.5s,mb4.5
ROTZ Rotzenmuhle 74.74 339 *eP* **P 12 12 27.8 +1.0**
comp=Z,5.0nm,0.7s,mb4.5
DRGR 74.79 331 ⇑*i*P **P 12 12 27.9 +0.8**
MLR Muntele Rosu 74.96 329 P **P 12 12 28.8 +0.7**
MLR pmax pmax
comp=Z,6.0nm,0.5s
MLR Muntele Rosu 74.96 329 ⇑P **P 12 12 29.2 +1.1**
MLR Muntele Rosu 74.96 329 P **P 12 12 28.8 +0.6**
comp=Z,5.9nm,0.5s,mb4.8,baz=326,slow=2.7,SNR=15
MLR Muntele Rosu 74.96 329 ⇑*i*P **P 12 12 29.2 +1.1**
GRA1 Grafenberg Arr 75.03 340 *eP* **P 12 12 29.4 +0.9**
comp=Z,13nm,0.6s,mb5.0
GRA1 LR LR
comp=Z,200nm,21.2s,MS4.4
GRF Grafenberg Arr 75.03 340 *eP* **P 12 12 29.4 +0.9**
GRF pmax pmax
comp=Z,13nm,0.6s,mb5.0
GRF MLR MLR
comp=Z,200nm,21.2s,MS4.4
GRF Grafenberg Arr 75.03 340 *eP* **P 12 12 29.4 +0.9**
GRF pmax pmax
comp=Z,13nm,0.6s,mb5.0
GRF MLR MLR
comp=Z,200nm,21.2s,MS4.4
GRF Grafenberg Arr 75.03 340 *eP* **P 12 12 29.4 +0.9**
comp=Z,13nm,0.6s,mb5.0
GRF *e*L 12 40 25.3
comp=Z,171nm,21.2s
KHC Kasperske Hory 75.03 338 *eP* **P 12 12 29.3 +0.8**
KHC *ep*P pP 12 12 38.0 -3.0
KHC AMS AMS 12 36 40.0
comp=Z,300nm,16.4s
ZST Bratislava 75.05 335 *eP* **P 12 12 30.2 +1.6**
ZST MLR MLR
comp=Z,300nm,17.3s,MS4.7
MEM Membach 75.17 343 P **P 12 12 29.1 -0.2**
comp=Z,18nm,1.0s,mb5.0
WET Wettzell 75.18 338 *eP* **P 12 12 33.8 +4.4**
WET pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
WET Wettzell 75.18 338 *eP* **P 12 12 33.8 +4.4**
comp=Z,6.0nm,0.8s,mb4.6
WET Wettzell 75.18 338 *eP* **P 12 12 29.8 +0.4**
comp=Z,6.0nm,0.8s,mb4.6
GEC2 GERESS Array S 75.27 338 *eP* **P 12 12 30.4 +0.5**
GEC2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
GEC2 GERESS Array S 75.27 338 *eP* **P 12 12 30.4 +0.5**
comp=Z,6.0nm,1.0s,mb4.5
GERES GERESS Array B 75.27 338 P **P 12 12 30.3 +0.4**
comp=Z,3.2nm,0.6s,mb4.4,baz=20,slow=4.7,SNR=15
VOIR 75.29 329 ⇑*i*P **P 12 12 30.6 +0.5**
WRAB Tennant Creek 75.37 205 *eP* **P 12 12 31.3 +0.6**
WB2 Warramunga Arr 75.38 205 *eP* **P 12 12 30.9 +0.2**
WRA Warramunga Arr 75.38 205 P **P 12 12 31.1 +0.3**
comp=Z,2.8nm,0.8s,mb4.3,baz=19,slow=5.9,SNR=12
BCLA Clavier 75.47 344 P **P 12 12 31.6 +0.5**
comp=Z,16nm,2.8s,mb4.5
CONA Conrad Observa 75.61 336 ⇑*i*P **P 12 12 32.9 +1.0**
comp=Z,8.7nm,0.9s,mb4.7
GIVF Givet 75.86 344 *eP* **P 12 12 33.0 -0.2**
BAIF Baives 76.00 344 *eP* **P 12 12 33.9 -0.2**
comp=Z,10nm,0.7s,mb4.5
BAIF Baives 76.00 344 *eP* **P 12 12 33.9 -0.2**
BAIF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
BAIF Baives 76.00 344 *eP* **P 12 12 33.9 -0.2**
comp=Z,5.2nm,0.7s,mb4.6
GZR Gura Zlata 76.03 331 ⇓*i*P **P 12 12 34.1 -0.2**
FITZ Fitzroy Crossi 76.27 214 *eP* **P 12 12 36.8 +1.0**
comp=Z,6.2nm,0.9s,mb4.5
FITZ Fitzroy Crossi 76.27 214 P **P 12 12 36.9 +1.1**
comp=Z,3.8nm,0.8s,mb4.4,baz=47,slow=7.7,SNR=8.2
ARSA Arzberg 76.33 336 ⇑*i*P **P 12 12 37.6 +1.7**
comp=Z,6.1nm,0.7s,mb4.7
MALT Malatya 76.53 317 ⇑*i*P **P 12 12 38.3 +1.0**
BFO Black Forest 76.92 341 *eP* **P 12 12 40.2 +0.9**
BFO pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BFO Black Forest 76.92 341 *eP* **P 12 12 40.2 +0.9**
comp=Z,8.0nm,1.2s,mb4.5
PERS Pernice 77.00 336 *i* P **P 12 12 40.9 +1.1**
PERS *i* 12 12 45.4
KBA Koelnbreinsper 77.01 337 ⇑*i*P **P 12 12 41.2 +1.3**
comp=Z,40nm,0.8s,mb5.4
KBA Koelnbreinsper 77.01 337 ⇑*i*P **P 12 12 41.2 +1.4**
KBA pmax pmax
comp=Z,40nm,0.8s,mb5.4
CDF Champ du Feu 77.04 342 *eP* **P 12 12 40.0 0.0**
comp=Z,20nm,0.9s,mb4.8
CDF Champ du Feu 77.04 342 *eP* **P 12 12 40.0 0.0**
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CDF Champ du Feu 77.04 342 *eP* **P 12 12 40.0 0.0**
comp=Z,10nm,0.9s,mb4.8
WTTA Wattenberg 77.23 339 ⇓*i*P **P 12 12 42.0 +1.0**
comp=Z,14nm,1.2s,mb4.8
WTTA Wattenberg 77.23 339 ⇓*i*P **P 12 12 42.0 +1.0**
WTTA pmax pmax
comp=Z,14nm,1.2s,mb4.8
OBKA Obir 77.26 336 ⇑*i*P **P 12 12 41.9 +0.7**
comp=Z,11nm,1.1s,mb4.7
MOTA Moosalm 77.27 339 ⇑*i*P **P 12 12 42.2 +0.9**
comp=Z,8.6nm,1.0s,mb4.7
MOTA Moosalm 77.27 339 ⇑*i*P **P 12 12 42.2 +0.9**
MOTA pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
SQTA Sankt Quirin 77.37 339 ⇓*i*P **P 12 12 42.6 +0.8**
comp=Z,11nm,1.0s,mb4.7
SQTA Sankt Quirin 77.37 339 ⇓*i*P **P 12 12 42.6 +0.8**
SQTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
DAVA Damuels 77.59 340 ⇑*i*P **P 12 12 42.6 -0.4**
comp=Z,16nm,1.1s,mb4.8
HAU Haudompre 77.61 342 *eP* **P 12 12 42.9 -0.2**
FETA Feichten 77.66 339 ⇑*i*P **P 12 12 44.3 +0.9**
comp=Z,9.9nm,0.9s,mb4.8
HINF Hinteralfeld 77.69 342 *eP* **P 12 12 43.2 -0.4**
VISS Visnje 77.84 336 *i* P **P 12 12 44.5 0.0**
BANOM Banah 77.85 297 P **P 12 12 44.9 0.0**
SNR=5.7
BANOM Banah 77.85 297 P **P 12 12 44.9 0.0**
SNR=5.7
JAVS Javornik 77.95 337 *i* P **P 12 12 39.4 -5.7**
FLN La Foliniere 77.98 347 *eP* **P 12 12 44.6 -0.6**
comp=Z,77nm,1.2s,mb5.2
FLN La Foliniere 77.98 347 *eP* **P 12 12 44.6 -0.6**
FLN pmax pmax
comp=Z,39nm,1.2s,mb5.2
FLN La Foliniere 77.98 347 *eP* **P 12 12 44.6 -0.6**
comp=Z,39nm,1.2s,mb5.2
BOJS Bojanci 78.02 336 *i* P **P 12 12 46.0 +0.5**
LDF La Druitiere 78.09 347 *eP* **P 12 12 46.2 +0.4**
GRR Gorron 78.40 347 *eP* **P 12 12 47.2 -0.3**
BIDO Bidbid 78.73 294 P **P 12 12 50.7 +0.9**
SNR=5.1
BIDO Bidbid 78.73 294 P **P 12 12 50.7 +0.9**
SNR=5.1
SGMF Saint Gilles 78.75 348 *eP* **P 12 12 49.3 -0.2**
comp=Z,12nm,0.6s,mb4.7
SGMF Saint Gilles 78.75 348 *eP* **P 12 12 49.3 -0.2**
SGMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SGMF Saint Gilles 78.75 348 *eP* **P 12 12 49.3 -0.2**
comp=Z,5.9nm,0.6s,mb4.7
ROSF Rostrenen 78.76 349 *eP* **P 12 12 49.3 -0.2**
LOR Lormes 78.77 344 *eP* **P 12 12 49.4 -0.2**
comp=Z,31nm,1.0s,mb4.9
LOR Lormes 78.77 344 *eP* **P 12 12 49.4 -0.2**
LOR pmax pmax
comp=Z,15nm,1.0s,mb4.9
LOR Lormes 78.77 344 *eP* **P 12 12 49.4 -0.2**
comp=Z,15nm,1.0s,mb4.9
HATD Hatta, Dubai 78.81 296 P **P 12 12 50.1 -0.1**
SNR=7.2
HATD Hatta, Dubai 78.81 296 P **P 12 12 50.1 -0.1**
SNR=7.2
ASHO Ashiyiah 78.97 296 P **P 12 12 51.1 +0.1**
SNR=9.2
ASHO Ashiyiah 78.97 296 P **P 12 12 51.1 +0.1**
SNR=9.2
WBK Wadi Bani Khal 78.97 293 P **P 12 12 52.2 +1.1**
SNR=7.5
WBK Wadi Bani Khal 78.97 293 P **P 12 12 52.2 +1.1**
SNR=7.5
CABF La Chapelle 79.00 342 *eP* **P 12 12 51.2 +0.4**
comp=Z,29nm,1.0s,mb4.8
CABF La Chapelle 79.00 342 *eP* **P 12 12 51.2 +0.4**
CABF pmax pmax
comp=Z,15nm,1.0s,mb4.9
CABF La Chapelle 79.00 342 *eP* **P 12 12 51.2 +0.4**
comp=Z,15nm,1.0s,mb4.9
SSF Saint Saulge 79.03 344 *eP* **P 12 12 50.8 -0.2**
ASAR Alice Springs 79.05 204 P **P 12 12 52.3 +1.1**
comp=Z,2.6nm,0.6s,mb4.3,baz=15,slow=5.4,SNR=26
SMDO Samad 79.14 294 P **P 12 12 52.4 +0.4**
SNR=9.0
SMDO Samad 79.14 294 P **P 12 12 52.4 +0.4**
SNR=9.0
HOQ Hoqain 79.14 294 P **P 12 12 52.0 0.0**
SNR=11
HOQ Hoqain 79.14 294 P **P 12 12 52.0 0.0**
SNR=11
AVF Avril sur Loir 79.31 344 *eP* **P 12 12 52.6 0.0**
comp=Z,44nm,1.1s,mb5.0
AVF Avril sur Loir 79.31 344 *eP* **P 12 12 52.6 0.0**
AVF pmax pmax
comp=Z,22nm,1.1s,mb5.0
AVF Avril sur Loir 79.31 344 *eP* **P 12 12 52.6 0.0**
comp=Z,22nm,1.1s,mb5.0
SMF Signal de Mont 79.37 344 *eP* **P 12 12 52.9 0.0**
comp=Z,29nm,1.1s,mb4.8
SMF Signal de Mont 79.37 344 *eP* **P 12 12 52.9 0.0**
SMF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SMF Signal de Mont 79.37 344 *eP* **P 12 12 52.9 0.0**
comp=Z,15nm,1.1s,mb4.8
MIB Mutribah 79.45 305 *eP* **P 12 12 53.0 -0.6**
MIB AMb AMB 12 12 54.5
comp=Z,142nm,0.9s,mb5.9
UMR Umm Al-Rimmam 79.47 305 *eP* **P 12 12 52.8 -0.9**
UMR AMb AMB 12 12 54.0
comp=Z,77nm,0.7s,mb5.8
BGF Bois d'Agland 79.62 344 *eP* **P 12 12 54.3 0.0**
JMDO Jabal Madar 79.65 293 P **P 12 12 55.2 +0.4**
SNR=14
JMDO Jabal Madar 79.65 293 P **P 12 12 55.2 +0.4**
SNR=14
BSY Bisya 79.86 294 P **P 12 12 55.9 -0.1**
SNR=20
BSY Bisya 79.86 294 P **P 12 12 55.9 -0.1**
SNR=20
LPL La Plagne 79.93 341 *eP* **P 12 12 57.1 +1.2**
comp=Z,42nm,0.9s,mb5.0
LPL La Plagne 79.93 341 *eP* **P 12 12 57.1 +1.2**
LPL pmax pmax
comp=Z,21nm,0.9s,mb5.1
LPL La Plagne 79.93 341 *eP* **P 12 12 57.1 +1.2**
comp=Z,21nm,0.9s,mb5.1
LPG La Plagne 79.94 341 *eP* **P 12 12 57.3 +1.3**
comp=Z,54nm,1.0s,mb5.1
LPG La Plagne 79.94 341 *eP* **P 12 12 57.3 +1.3**
LPG pmax pmax
comp=Z,27nm,1.0s,mb5.1
LPG La Plagne 79.94 341 *eP* **P 12 12 57.3 +1.3**
comp=Z,27nm,1.0s,mb5.1
NAY Al-Naaiem 79.96 305 *eP* **P 12 12 55.5 -0.9**
NAY AMb AMB 12 12 56.7
comp=Z,55nm,0.8s,mb5.6
TCF Toulx Ste Croi 79.99 345 *eP* **P 12 12 56.3 0.0**
comp=Z,37nm,1.3s,mb4.9
TCF Toulx Ste Croi 79.99 345 *eP* **P 12 12 56.3 0.0**
TCF pmax pmax
comp=Z,18nm,1.3s,mb4.8
TCF Toulx Ste Croi 79.99 345 *eP* **P 12 12 56.3 0.0**
comp=Z,18nm,1.3s,mb4.8
MFF Saint Martin d 80.05 346 *eP* **P 12 12 56.7 +0.2**
comp=Z,18nm,0.9s,mb4.7
MFF Saint Martin d 80.05 346 *eP* **P 12 12 56.7 +0.2**
MFF pmax pmax

comp=Z,9.0nm,0.9s,mb4.7
MFF Saint Martin d 80.05 346 *e*P **P 12 12 56.7 +0.2**
comp=Z,8.8nm,0.9s,mb4.7
RDF Al-Radifah 80.06 305 *e*P **P 12 12 56.2 -0.8**
RDF AMb AMB 12 12 58.8
comp=Z,175nm,1.1s,mb5.9
ORIF Oris-en-Rattie 80.67 342 *e*P **P 12 13 00.9 +1.0**
comp=Z,39nm,1.0s,mb5.0
ORIF Oris-en-Rattie 80.67 342 *e*P **P 12 13 00.9 +1.0**
ORIF pmax pmax
comp=Z,19nm,1.0s,mb5.0
ORIF Oris-en-Rattie 80.67 342 *e*P **P 12 13 00.9 +1.0**
comp=Z,20nm,1.0s,mb5.0
MBDF Montbardon 80.68 341 *e*P **P 12 13 00.5 +0.5**
comp=Z,17nm,0.9s,mb4.7
MBDF Montbardon 80.68 341 *e*P **P 12 13 00.5 +0.5**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 80.68 341 *e*P **P 12 13 00.5 +0.5**
comp=Z,8.4nm,0.9s,mb4.7
VIVF Saint-Julien-I 80.95 343 *e*P **P 12 13 02.2 +0.8**
comp=Z,28nm,0.9s,mb4.9
VIVF Saint-Julien-I 80.95 343 *e*P **P 12 13 02.2 +0.8**
VIVF pmax pmax
comp=Z,14nm,0.9s,mb4.9
VIVF Saint-Julien-I 80.95 343 *e*P **P 12 13 02.2 +0.8**
comp=Z,14nm,0.9s,mb4.9
RJF Les Rejaudoux 81.06 345 *e*P **P 12 13 02.4 +0.4**
comp=Z,13nm,0.9s,mb4.6
RJF Les Rejaudoux 81.06 345 *e*P **P 12 13 02.4 +0.4**
RJF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
RJF Les Rejaudoux 81.06 345 *e*P **P 12 13 02.4 +0.4**
comp=Z,6.6nm,0.9s,mb4.6
CAF Calviac 81.34 344 *e*P **P 12 13 04.3 +0.8**
comp=Z,24nm,0.9s,mb4.8
CAF Calviac 81.34 344 *e*P **P 12 13 04.3 +0.8**
CAF pmax pmax
comp=Z,12nm,0.9s,mb4.8
CAF Calviac 81.34 344 *e*P **P 12 13 04.3 +0.8**
comp=Z,12nm,0.9s,mb4.8
LFF La Frestale 81.54 345 *e*P **P 12 13 05.1 +0.6**
LASF Ste Croix 81.86 343 *e*P **P 12 13 07.2 +1.0**
comp=Z,30nm,1.1s,mb4.8
PPT Papeete 82.07 132 LR LR 12 43 17.3
comp=Z,126nm,20.6s,MS4.3,baz=305,slow=31
MTLF Montolieu 82.86 344 *e*P **P 12 13 12.2 +0.7**
comp=Z,22nm,0.9s,mb4.9
MTLF Montolieu 82.86 344 *e*P **P 12 13 12.2 +0.7**
MTLF pmax pmax
comp=Z,11nm,0.9s,mb4.9
MTLF Montolieu 82.86 344 *e*P **P 12 13 12.2 +0.7**
comp=Z,11nm,0.9s,mb4.9
EPF Esparros 83.46 345 *e*P **P 12 13 14.8 +0.2**
comp=Z,15nm,0.7s,mb4.8
EPF Esparros 83.46 345 *e*P **P 12 13 14.8 +0.2**
EPF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
EPF Esparros 83.46 345 *e*P **P 12 13 14.8 +0.2**
comp=Z,7.7nm,0.7s,mb4.8
SJPF Ste Jean 83.62 346 *e*P **P 12 13 15.7 +0.3**
comp=Z,24nm,0.9s,mb5.0
SJPF Ste Jean 83.62 346 *e*P **P 12 13 15.7 +0.3**
SJPF pmax pmax
comp=Z,12nm,0.9s,mb5.0
SJPF Ste Jean 83.62 346 *e*P **P 12 13 15.7 +0.3**
comp=Z,12nm,0.9s,mb5.0
ETSF Etsaut 83.73 346 *e*P **P 12 13 17.0 +1.0**
comp=Z,26nm,0.7s,mb5.2
ETSF Etsaut 83.73 346 *e*P **P 12 13 17.0 +1.0**
ETSF pmax pmax
comp=Z,13nm,0.7s,mb5.2
ETSF Etsaut 83.73 346 *e*P **P 12 13 17.0 +1.0**
comp=Z,13nm,0.7s,mb5.2
STKA Stephens Creek 85.38 196 LR LR 12 54 46.4
comp=Z,128nm,18.1s,MS4.4,baz=206,slow=38
EIL Elat 85.39 315 LR LR 12 54 12.7
comp=Z,81nm,18.1s,MS4.2,baz=282,slow=38
ESDC Sonseca Array 87.37 348 P **P 12 13 34.3 +0.1**
comp=Z,4.0nm,0.7s,mb4.7,baz=4.6,slow=4.7,SNR=11
KEST Kesra 88.71 337 P **P 12 13 40.5 -0.1**
comp=Z,3.7nm,0.9s,mb4.7,baz=301,slow=3.0,SNR=7.9
LPAZ La Paz 127.75 65 PKP PKPdf 12 19 53.5 +0.9
comp=Z,0.6nm,0.6s,baz=316,slow=5.4,SNR=4.3
BOSA Boshof 139.23 288 PKP PKPdf 12 20 14.1 +0.4
comp=Z,1.8nm,0.8s,baz=180,slow=4.0,SNR=2.5

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*ISCJB **02** 12:02:30.1±3.3,275S±009×1285E±02,h19km±24km, mb4.1/5,Error ellipse: s-maj=33.6km s-min=11.0km az=160.9*
*IDC **02** 12:02:38.8±3.3,302S×12832E,h78km±29km,mb3.8/5, mb1 4.0/8,mb1mx3.8/17,mbtmp3.9/8,Error ellipse: s-maj=58.6km s-min=11.0km az=70.0*
*NEIC **02** 12:02:42.4±2.8,305S×12847E,h118km±28km,mb4.1/4, Error ellipse: s-maj=37.1km s-min=13.6km az=67.0*
ISC 02 12:02:39.7±2.1,30S±01×1283E±02,h88km±20km,n13, σ0§84/15,mb4.0/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.49**	**213**	P	**Pn**	**12 04 39.3**	**-0.7**
	2.1nm,0.3s,baz=322,slow=17,SNR=3.2						
KAKA	**Kakadu**	**10.45**	**157**	*e*P	**Pn**	**12 05 08.1**	**+1.5**
	15nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.21**	**190**	*e*P	**Pn**	**12 06 11.2**	**+1.5**
	5.6nm,0.7s						
FITZ	**Fitzroy Crossi**	**15.21**	**190**	P	**Pn**	**12 06 10.9**	**+1.2**
	0.3nm,0.3s,baz=15,slow=12,SNR=10.0						
WRAB	**Tennant Creek**	**17.80**	**161**	*e*P	**Pn**	**12 06 41.4**	**-0.5**
	5.5nm,0.5s						
WRA	**Warramunga Arr**	**17.81**	**161**	P	**Pn**	**12 06 40.9**	**-1.0**
	1.4nm,0.3s,baz=340,slow=12,SNR=100						
WRA				S	**S**	**12 10 00.6**	**-0.3**
	0.3nm,0.3s,baz=336,slow=20,SNR=5.9						
WB2	**Warramunga Arr**	**17.82**	**161**	*e*P	**Pn**	**12 06 40.9**	**-1.1**
ASAR	**Alice Springs**	**21.22**	**166**	P	**P**	**12 07 18.5**	**0.0**
	10.0nm,0.4s,mb4.5,baz=346,slow=12,SNR=250						
ASAR				S	**S**	**12 11 10.8**	**+1.3**
	1.8nm,0.9s,baz=345,slow=19,SNR=7.6						
ASAR				PcP	PcP	12 11 21.8	+1.1
	0.6nm,0.5s,baz=344,slow=1.6,SNR=7.4						
STKA	**Stephens Creek**	**31.30**	**158**	*e*P	**P**	**12 08 51.2**	**-0.4**
	5.0nm,1.5s,mb4.0						
STKA	**Stephens Creek**	**31.30**	**158**	P	**P**	**12 08 51.6**	**0.0**
	1.2nm,0.4s,mb4.0,baz=344,slow=8.1,SNR=11						
SONM	**Songino Array**	**54.17**	**342**	P	**P**	**12 11 56.7**	**+0.8**
	0.9nm,0.8s,mb3.9,baz=168,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**64.00**	**327**	P	**P**	**12 13 04.2**	**+0.3**
	1.3nm,0.8s,mb3.8,baz=130,slow=7.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**67.30**	**334**	P	**P**	**12 13 24.2**	**-0.8**
	0.9nm,0.7s,mb3.7,baz=140,slow=7.5,SNR=3.2						

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*ISCJB **02** 12:18:04.3±4.3,460N±0.1×1536E±02,h31km±29km, mb3.7/12,Error ellipse: s-maj=25.0km s-min=13.3km az=145.5*
*MOS **02** 12:18:05.4±1.4,4600N×15354E,h40km,mb4.0/4,Error ellipse: s-maj=16.8km s-min=14.0km az=104.8*
*IDC **02** 12:18:09.6±5.1,4582N×15347E,h67km±46km,mb3.4/10, mb1 3.6/11,mb1mx3.5/19,mbtmp3.4/11,ML3.2/1,Error ellipse: s-maj=24.8km s-min=20.0km az=132.0*
ISC 02 12:18:07.5±1.8,460N±01×1536E±02,h39km±15km,n24, σ1§17/24,mb3.7/12,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.98**	**19**	*e*PN	**Pn**	**12 19 18.1**	**-1.5**
YSS	**Yuzh-Sakhalins**	**7.57**	**281**	*e*PN	**Pn**	**12 19 56.3**	**+1.1**
YSS				pmax	pmax		
	comp=Z,11nm,1.0s						
ASAJ	**Asahikawa**	**8.04**	**260**	P	**Pn**	**12 20 02.2**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=81,slow=17,SNR=2.9						
HABR	**Khabarovsk**	**12.87**	**288**	*e*PN	**Pn**	**12 21 06.7**	**-0.9**
KSRS	**Korea Array**	**20.93**	**255**	P	**P**	**12 22 49.7**	**+3.1**
	comp=Z,0.6nm,0.7s,baz=51,slow=13,SNR=3.1						
BILL	**Bilibino**	**23.06**	**12**	*e*P	**P**	**12 23 10.4**	**+1.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
SONM	**Songino Array**	**31.93**	**291**	P	**P**	**12 24 27.0**	**-2.1**
	comp=Z,0.2nm,0.4s,mb3.3,baz=95,slow=3.3,SNR=3.1						
MKAR	**Makanchi Array**	**47.61**	**298**	P	**P**	**12 26 41.6**	**+2.4**
MKAR	**Makanchi Array**	**47.61**	**298**	P	**P**	**12 26 38.6**	**-0.6**
	comp=Z,0.4nm,0.6s,mb3.6,baz=58,slow=6.3,SNR=5.4						
KURK	**Kurchatov**	**48.09**	**304**	*e*P	**P**	**12 26 42.0**	**-0.8**

YKA Yellowknife Ar 51.32 36 P **P 12 27 07.9 +0.7**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 51.32 36 P **P 12 27 07.9 +0.7**
comp=Z,1.0nm,0.6s,mb3.9,baz=294,slow=7.0,SNR=17
NVAR Mina Array Bea 62.47 62 P **P 12 28 27.2 +0.6**
comp=Z,0.7nm,0.7s,mb3.9,baz=283,slow=8.8,SNR=6.0
FINES FINESS Array B 64.88 335 P **P 12 28 43.0 +0.9**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES FINESS Array B 64.88 335 P **P 12 28 43.0 +0.9**
comp=Z,0.9nm,0.7s,mb3.9,baz=36,slow=7.4,SNR=2.7
WRA Warramunga Arr 67.91 200 P **P 12 29 02.1 +0.2**
WRA Warramunga Arr 67.91 200 P **P 12 28 58.9 -3.0**
comp=Z,0.3nm,0.7s,mb3.5,baz=18,slow=6.8,SNR=5.9
NOA NORSAR Array B 69.06 341 P **P 12 29 08.0 -0.6**
comp=Z,0.3nm,0.6s,mb3.4,baz=41,slow=6.5,SNR=2.1
ASAR Alice Springs 71.60 199 P **P 12 29 23.9 -0.6**
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR Alice Springs 71.60 199 P **P 12 29 23.6 -0.9**
comp=Z,0.8nm,0.9s,mb3.6,baz=21,slow=5.3,SNR=6.0
AKASG Malin Array Be 72.38 327 P **P 12 29 29.0 0.0**
comp=Z,0.2nm,0.4s,mb3.4,baz=32,slow=5.1,SNR=2.9
TXAR Lajitas Array 77.55 61 P **P 12 29 59.3 +0.1**
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 77.55 61 P **P 12 29 59.3 +0.1**
comp=Z,1.1nm,0.8s,mb3.9,baz=311,slow=3.6,SNR=14
STKA Stephens Creek 78.26 190 P **P 12 29 57.2 -5.5**
comp=Z,3.4nm,1.0s,mb4.2,baz=14,slow=8.3,SNR=3.1

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*ISCJB **02** 12:49:11.4±0.2,46568N±0009×1446E±001,h0km±1km, mb3.7/6,Error ellipse: s-maj=1.5km s-min=1.4km az=9.1*
*MOS **02** 12:49:12.8±1.9,4640N×1448E,h19km,mb4.0/1,Error ellipse: s-maj=4.8km s-min=3.8km az=95.3*
*LJU **02** 12:49:12.4,4650N×1446E,h13km,ML3.4*
*VIE **02** 12:49:12.6±0.2,4651N×1446E,h13km±2km,mb3.2/6, ML3.9/5,Error ellipse: s-maj=1.2km s-min=1.0km az=167.0 5 km SE of Sankt Margarethen im Rosental felt 5 EMS98 at Sankt Margareten im Rosental / CARINTHIA*
*IDC **02** 12:49:12.2±1.4,4646N×1438E,h0km,mb3.5/6,mb1 3.7/9, mb1mx3.6/21,mbtmp3.5/9,ML3.4/2,MS2.8/1,Ms1 2.8/1, ms1mx2.3/37,Error ellipse: s-maj=22.5km s-min=15.0km az=53.0*
*NEIC **02** 12:49:12.2,4649N×1454E,h2km,ML3.7(CSEM), ML3.6(STR),ML3.6(LDG),ML3.4(LJU),ML3.1(BUC),After CSEM.*
NEIC Felt [IV] in northern Slovenia. Also felt at Volkermarkt, Austria.
*IPEC **02** 12:49:13.7±0.1,4651N×1449E,h4km,ML3.3/3,Error ellipse: s-maj=0.6km s-min=0.5km az=80.0*
*CSEM **02** 12:49:13.0±0.0,4652N×1446E,h2km,ML4.5/17,Error ellipse: s-maj=0.7km s-min=0.6km az=31.0*
*LDG **02** 12:49:13.0±0.1,4648N×1457E,h10km,Ml3.6/5,Error ellipse: s-maj=2.9km s-min=2.4km az=154.0*
*PRU **02** 12:49:14.1,4657N×1440E,h0km*
*SZGRF **02** 12:49:15.8,4661N×1449E,h10km,mb4.1,Northwestern Balkan Peninsula*
*STR **02** 12:49:28.6±1.2,4683N×1304E,h10km,Ml3.6,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 02 12:49:12.8±0.2,46529N±0008×1445E±001,h2km±1km, n246,σ1§18/394,mb3.6/6,36C-67D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OBKA	**Obir**	**0.07**	**107**	⇓*i*Pg	**Pg**	**12 49 15.4**	**+1.3**
	comp=Z,14μm,0.2s,SNR=90070						
OBKA				⇑*i*Sg	**Sg**	**12 49 17.1**	**+2.0**
	comp=N,28μm,0.1s						
OBKA	**Obir**	**0.07**	**107**	Pg	**Pg**	**12 49 15.4**	**+1.2**
	SNR=1000						
OBKA				*e*Sg	**Sg**	**12 49 16.9**	**+1.8**
MOZS	**Mozjanca**	**0.23**	**182**	⇓*i*Pg	**Pg**	**12 49 17.8**	**+0.5**
MOZS				*i* Sg	**Sg**	**12 49 20.8**	**+0.4**
GORS	**Gorjuse**	**0.38**	**236**	⇓*i*Pg	**Pg**	**12 49 20.2**	**+0.1**
GORS				*i* Sg	**Sg**	**12 49 25.5**	**+0.5**
GORS	**Gorjuse**	**0.38**	**236**	⇓*i*Pg	**Pg**	**12 49 20.2**	**+0.1**
GORS				*i* Sg	**Sg**	**12 49 25.5**	**+0.5**
GORS							
	comp=Z,2μm,0.2s						
GORS	**Gorjuse**	**0.38**	**236**	⇓*i*Pg	**Pg**	**12 49 20.2**	**+0.1**
GORS				*i* Sg	**Sg**	**12 49 25.5**	**+0.5**
	comp=Z,2μm,0.2s						
ZAVS	**Zavodnje**	**0.41**	**103**	*i* Pg	**Pg**	**12 49 21.0**	**+0.4**
ZAVS				*i* Sg	**Sg**	**12 49 26.8**	**+0.9**
VNDS	**Vrh nad Dolski**	**0.46**	**158**	⇓*i*Pg	**Pg**	**12 49 22.0**	**+0.4**
PERS	**Pernice**	**0.47**	**77**	⇑*i*Pg	**Pg**	**12 49 22.4**	**+0.6**
PERS				*i* Sg	**Sg**	**12 49 28.6**	**+0.7**
PERS	**Pernice**	**0.47**	**77**	⇑*i*Pg	**Pg**	**12 49 22.4**	**+0.6**
PERS				*i* Sg	**Sg**	**12 49 28.6**	**+0.7**
PERS							
	comp=Z,6μm,0.1s						
PERS	**Pernice**	**0.47**	**77**	⇑*i*Pg	**Pg**	**12 49 22.5**	**+0.7**
PERS				*i* Sg	**Sg**	**12 49 28.6**	**+0.7**
	comp=Z,6μm,0.1s						
LJU	**Ljubljana**	**0.49**	**174**	⇓*i*Pg	**Pg**	**12 49 22.5**	**+0.4**
LJU				*i* Sg	**Sg**	**12 49 28.6**	**+0.2**
LJU	**Ljubljana**	**0.49**	**174**	⇓*i*Pg	**Pg**	**12 49 22.5**	**+0.4**
LJU				*i* Sg	**Sg**	**12 49 28.6**	**+0.2**
LJU							
	comp=Z,716nm,0.1s						
LJU	**Ljubljana**	**0.49**	**174**	⇓*i*Pg	**Pg**	**12 49 22.5**	**+0.4**
LJU				*e*Sg	**Sg**	**12 49 28.4**	**-0.1**
MYKA	**Terra Mystica**	**0.57**	**280**	⇑*i*Pg	**Pg**	**12 49 24.1**	**+0.4**
	comp=Z,201nm,0.0s						
MYKA				⇑*i*Sg	**Sg**	**12 49 32.1**	**+1.0**
	comp=Z,849nm,0.2s						
PDKS	**Podkum**	**0.60**	**141**	⇓*i*Pg	**Pg**	**12 49 24.8**	**+0.5**
PDKS				*i* Sg	**Sg**	**12 49 31.6**	**-0.4**
PDKS	**Podkum**	**0.60**	**141**	⇓*i*Pg	**Pg**	**12 49 24.8**	**+0.5**
PDKS				*i* Sg	**Sg**	**12 49 31.6**	**-0.4**
PDKS							
	comp=Z,592nm,0.1s						
VOY	**Vojsko**	**0.63**	**218**	⇓*i*Pg	**Pg**	**12 49 24.2**	**-0.7**
LSR	**Lussari**	**0.64**	**266**	⇑*i*Pg	**Pg**	**12 49 25.4**	**+0.3**
LSR				*i* Sg	**Sg**	**12 49 34.7**	**+1.3**
DRE	**Drenchia**	**0.66**	**238**	⇓*i*Pg	**Pg**	**12 49 25.0**	**-0.5**
DRE				*i* Sg	**Sg**	**12 49 34.3**	**+0.2**
JAVS	**Javornik**	**0.69**	**203**	⇓*i*Pg	**Pg**	**12 49 25.6**	**-0.4**
JAVS				*i* Sg	**Sg**	**12 49 35.0**	**0.0**
JAVS	**Javornik**	**0.69**	**203**	⇓*i*Pg	**Pg**	**12 49 25.6**	**-0.4**
JAVS				*i* Sg	**Sg**	**12 49 35.0**	**0.0**
JAVS							
	comp=Z,451nm,0.2s						
JAVS	**Javornik**	**0.69**	**203**	⇓*i*Pg	**Pg**	**12 49 25.6**	**-0.4**
JAVS				*i* Sg	**Sg**	**12 49 35.0**	**0.0**
	comp=Z,451nm,0.2s						
GROS	**Grobnik**	**0.73**	**95**	⇑*i*Pg	**Pg**	**12 49 26.8**	**+0.1**
GROS				*i* Sg	**Sg**	**12 49 36.2**	**0.0**
GROS	**Grobnik**	**0.73**	**95**	⇑*i*Pg	**Pg**	**12 49 26.8**	**+0.1**
GROS				*i* Sg	**Sg**	**12 49 36.2**	**0.0**
GROS							
	comp=Z,983nm,0.1s						
GROS	**Grobnik**	**0.73**	**95**	⇑*i*Pg	**Pg**	**12 49 26.8**	**+0.1**
GROS				*i* Sg	**Sg**	**12 49 36.2**	**0.0**
	comp=Z,983nm,0.1s						
PTCC	**Patocco-Chiusa**	**0.77**	**261**	Pg	**Pg**	**12 49 27.6**	**+0.1**
PTCC				Sg	**Sb**	**12 49 39.1**	**-0.6**
VISS	**Visnje**	**0.77**	**160**	⇓*i*Pg	**Pg**	**12 49 27.5**	**-0.2**
VISS				*i* Sg	**Sg**	**12 49 37.2**	**-0.4**
VISS	**Visnje**	**0.77**	**160**	⇓*i*Pg	**Pg**	**12 49 27.5**	**-0.2**
VISS				*i* Sg	**Sg**	**12 49 37.2**	**-0.4**
VISS							
	comp=Z,944nm,0.2s						
VISS	**Visnje**	**0.77**	**160**	⇓*i*Pg	**Pg**	**12 49 27.5**	**-0.1**
VISS				*i* Sg	**Sg**	**12 49 37.2**	**-0.4**
	comp=Z,944nm,0.2s						
CEY	**Cerknica**	**0.79**	**181**	⇓*i*Pg	**Pg**	**12 49 27.5**	**-0.4**
CEY							
	comp=Z,1μm,0.3s						
CEY	**Cerknica**	**0.79**	**181**	*e*Pg	**Pg**	**12 49 27.6**	**-0.3**
CEY				*e*Sg	**Sg**	**12 49 38.0**	**-0.2**
DOBS	**Dobrina**	**0.80**	**118**	⇓*i*Pg	**Pg**	**12 49 28.2**	**+0.1**
DOBS				*i* Sg	**Sg**	**12 49 39.0**	**+0.5**
DOBS	**Dobrina**	**0.80**	**118**	⇓*i*Pg	**Pg**	**12 49 28.2**	**+0.1**
DOBS				*i* Sg	**Sg**	**12 49 39.0**	**+0.5**
DOBS							
	comp=Z,1μm,0.1s						
DOBS	**Dobrina**	**0.80**	**118**	⇓*i*Pg	**Pg**	**12 49 28.2**	**+0.1**
DOBS				*i* Sg	**Sg**	**12 49 39.0**	**+0.5**
	comp=Z,1μm,0.1s						
LEGS	**Legarje**	**0.83**	**134**	⇓*i*Pg	**Pg**	**12 49 29.1**	**+0.3**
LEGS				*e*Sg	**Sg**	**12 49 39.6**	**+0.1**
COLI	**Coloredo**	**0.84**	**242**	⇑*i*Pg	**Pg**	**12 49 28.7**	**-0.3**
COLI				*i* Sg	**Sg**	**12 49 40.6**	**+0.8**
GMNA	**Gemona**	**0.88**	**254**	Pg	**Pg**	**12 49 30.7**	**+1.1**
BAD	**Bernadia**	**0.89**	**251**	⇑*i*Pg	**Pg**	**12 49 29.4**	**-0.4**
BAD				*i* Sg	**Sb**	**12 49 42.9**	**-0.2**
CESS	**Cesta pri Krsk**	**0.90**	**128**	⇓*i*Pg	**Pg**	**12 49 30.3**	**+0.3**
CESS				*i* Sg	**Sb**	**12 49 42.7**	**-0.6**
CESS	**Cesta pri Krsk**	**0.90**	**128**	⇓*i*Pg	**Pg**	**12 49 30.3**	**+0.3**
CESS				*i* Sg	**Sb**	**12 49 42.7**	**-0.6**
CESS							
	comp=Z,780nm,0.1s						
CESS	**Cesta pri Krsk**	**0.90**	**128**	⇓*i*Pg	**Pg**	**12 49 30.3**	**+0.4**
CESS				*i* Sg	**Sb**	**12 49 42.7**	**-0.6**
	comp=Z,780nm,0.1s						
PLRO	**Paularo**	**0.90**	**272**	⇑*i*Pg	**Pg**	**12 49 29.9**	**-0.2**
PLRO				*i* Sg	**Sn**	**12 49 44.1**	**-1.8**
KBA	**Koelnbreinsper**	**0.94**	**306**	⇑*e*Pg	**Pg**	**12 49 31.2**	**+0.4**
	comp=Z,615nm,0.3s,SNR=88						
KBA				⇑*i*Sg	**Sg**	**12 49 44.2**	**+1.2**
	comp=Z,923nm,0.3s						
KBA	**Koelnbreinsper**	**0.94**	**306**	*e*Pg	**Pg**	**12 49 31.1**	**+0.3**
KBA				Sg	**Sg**	**12 49 44.2**	**+1.2**
	comp=Z,923nm,0.3s						
BOO	**Bordano**	**0.96**	**258**	⇑*i*Pg	**Pg**	**12 49 30.8**	**-0.4**
GOLS	**Golise**	**0.96**	**122**	⇓*i*Pg	**Pg**	**12 49 31.6**	**+0.3**
GOLS				*e*Sg	**Sg**	**12 49 44.0**	**+0.3**
GOLS	**Golise**	**0.96**	**122**	⇓*i*Pg	**Pg**	**12 49 31.6**	**+0.3**
GOLS				*e*Sg	**Sg**	**12 49 44.0**	**+0.3**
GOLS							
	comp=Z,788nm,0.1s						
GOLS	**Golise**	**0.96**	**122**	⇓*i*Pg	**Pg**	**12 49 31.6**	**+0.3**
GOLS				*e*Sg	**Sg**	**12 49 44.0**	**+0.3**
	comp=Z,788nm,0.1s						
BUA	**Buia**	**0.97**	**252**	⇓*i*Pg	**Pg**	**12 49 31.1**	**-0.3**
BUA				*i* Sg	**Sg**	**12 49 45.6**	**+1.6**
CRES	**Cresnjev**	**0.99**	**135**	⇓*i*Pg	**Pg**	**12 49 31.6**	**-0.1**
CRES				*i* Sg	**Sg**	**12 49 45.5**	**+0.9**
CRES	**Cresnjev**	**0.99**	**135**	⇓*i*Pg	**Pg**	**12 49 31.6**	**-0.1**
CRES				*i* Sg	**Sg**	**12 49 45.5**	**+0.9**
CRES							
	comp=Z,281nm,0.2s						
CRES	**Cresnjev**	**0.99**	**135**	⇓*i*Pg	**Pg**	**12 49 31.6**	**-0.2**
CRES				*e*Sg	**Sg**	**12 49 44.5**	**-0.1**
KNDS	**Knezji Dol**	**1.00**	**183**	⇓*i*Pg	**Pg**	**12 49 31.2**	**-0.8**
KNDS				*e*Sg	**Sb**	**12 49 45.6**	**-0.8**
KNDS	**Knezji Dol**	**1.00**	**183**	⇓*i*Pg	**Pg**	**12 49 31.2**	**-0.8**
KNDS				*e*Sg	**Sb**	**12 49 45.6**	**-0.8**
KNDS							
	comp=Z,990nm,0.3s						
KNDS	**Knezji Dol**	**1.00**	**183**	⇓*i*Pg	**Pg**	**12 49 31.2**	**-0.8**
KNDS				*e*Sg	**Sb**	**12 49 45.6**	**-0.8**
	comp=Z,990nm,0.3s						
ZOU	**Zoufplan**	**1.02**	**272**	⇑*i*Pg	**Pg**	**12 49 32.0**	**-0.4**
ZOU				*i* Sg	**Sn**	**12 49 48.3**	**-0.7**
ARSA	**Arzberg**	**1.03**	**45**	*e*Pg	**Pg**	**12 49 32.5**	**-0.1**
	comp=Z,183nm,0.2s,SNR=264						
ARSA				⇓*i*Sg	**Sg**	**12 49 46.0**	**+0.1**
	comp=Z,618nm,0.2s						
ARSA	**Arzberg**	**1.03**	**45**	*e*Pg	**Pg**	**12 49 32.9**	**+0.4**
ARSA				*e*Sg	**Sg**	**12 49 46.2**	**+0.3**
SKDS	**Skadanscina**	**1.03**	**197**	⇓*i*Pg	**Pg**	**12 49 31.3**	**-1.2**
SKDS				*i* Sg	**Sg**	**12 49 45.8**	**-0.1**
GCIS	**Gornji Cirnik**	**1.05**	**129**	⇓*i*Pg	**Pg**	**12 49 33.0**	**+0.1**
GCIS				*i* Sg	**Sg**	**12 49 46.3**	**-0.2**
GCIS	**Gornji Cirnik**	**1.05**	**129**	⇓*i*Pg	**Pg**	**12 49 33.0**	**+0.1**
GCIS				*i* Sg	**Sg**	**12 49 46.3**	**-0.2**
GCIS							
	comp=Z,374nm,0.1s						
MPRI	**Monte Prat**	**1.05**	**255**	⇓*i*Pg	**Pg**	**12 49 32.7**	**-0.3**
MPRI				*i* Sg	**Sn**	**12 49 48.6**	**-1.1**
TLI	**Talmassons**	**1.12**	**238**	⇓*e*Pg	**Pg**	**12 49 34.6**	**+0.4**
FVI	**Forni Avoltri**	**1.16**	**274**	Pg	**Pg**	**12 49 34.5**	**-0.4**
BOJS	**Bojanci**	**1.17**	**151**	⇓*i*Pg	**Pg**	**12 49 34.8**	**-0.4**
BOJS				*i* Sg	**Sg**	**12 49 50.0**	**-0.3**
BOJS	**Bojanci**	**1.17**	**151**	⇓*i*Pg	**Pg**	**12 49 34.8**	**-0.4**
BOJS				*i* Sg	**Sg**	**12 49 50.0**	**-0.3**
BOJS							
	comp=Z,1μm,0.5s						
BOJS	**Bojanci**	**1.17**	**151**	⇓*i*Pg	**Pg**	**12 49 34.8**	**-0.3**
BOJS				*i* Sg	**Sg**	**12 49 50.0**	**-0.2**
	comp=Z,1μm,0.5s						
CSMI	**Casera Mimoias**	**1.24**	**270**	⇑*i*Pg	**Pg**	**12 49 36.7**	**+0.1**
CSMI				*i* Sg	**Sg**	**12 49 55.5**	**+2.8**
KOGS	**Kog**	**1.25**	**93**	*i* Pg	**Pg**	**12 49 36.6**	**0.0**
KOGS				*e*Sg	**Sg**	**12 49 53.5**	**+0.7**
MOA	**Molln**	**1.33**	**355**	⇓*e*Pg	**Pg**	**12 49 38.4**	**+0.2**
	comp=Z,84nm,0.1s,SNR=105						
MOA				⇓*i*Sg	**Sg**	**12 49 56.6**	**+1.2**
	comp=Z,642nm,0.4s						
MOA	**Molln**	**1.33**	**355**	*e*Pg	**Pg**	**12 49 39.7**	**+1.5**
MOA	**Molln**	**1.33**	**355**	*e*Pn	**Pg**	**12 49 39.2**	**+1.0**
MOA				Sg	**Sg**	**12 49 56.6**	**+1.2**
	comp=Z,642nm,0.4s						
MLNI	**Malnisio**	**1.33**	**254**	⇓*e*Pg	**Pg**	**12 49 38.0**	**-0.3**
MLNI				*e*Sg	**Sg**	**12 49 58.1**	**+2.5**
ABTA	**Abfaltersbach**	**1.35**	**280**	⇓*e*Pg	**Pg**	**12 49 38.4**	**-0.4**
	comp=Z,31nm,0.1s,SNR=40						
ABTA				⇑*i*Sg	**Sg**	**12 49 58.0**	**+1.7**
	comp=Z,306nm,0.4s						
CAE	**Caneva**	**1.49**	**250**	⇓*i*Pg

comp=Z,29nm,0.5s
MODS Modra-Piesok 2.66 45 *e*PN **Pn 12 49 57.1 +0.5**
MODS *e*PG **Pg 12 50 03.8 0.0**
MODS *e*SG **Sg 12 50 38.1 -0.1**
KHC Kasperske Hory 2.67 348 *e*Pg **Pg 12 50 01.8 -2.1**
KHC *e*Sg **Sg 12 50 38.1 -0.4**
comp=Z,244nm,0.6s
KHC Kasperske Hory 2.67 348 *e*PN **Pn 12 49 57.7 +1.0**
KHC *e*PG **Pg 12 50 01.8 -2.1**
KHC *e*x x 12 50 20.0
KHC *e*SG **Sg 12 50 38.1 -0.4**
comp=Z,244nm,0.6s
FUR Furstenfeldbru 2.71 308 *e*Pg **Pg 12 50 04.7 0.0**
FUR *e*Sg **Sg 12 50 40.4 +0.6**
FUR Furstenfeldbru 2.71 308 *e*Pg **Pg 12 50 04.7 0.0**
FUR *e*Sg **Sg 12 50 39.7 -0.1**
RHK3 Tenkes 2.71 102 ⇑*i*P **Pn 12 49 56.3 -1.0**
MABI Malga Bissina 2.77 262 Pg **Pn 12 49 59.9 +1.8**
BRMO Bormio 2.82 270 Pg **Pb 12 50 03.3 -0.5**
WET Wettzell 2.82 339 *e*Pn **Pn 12 50 00.0 +1.2**
WET *e*Sg **Sg 12 50 43.7 +0.3**
WET Wettzell 2.82 339 *e*Pn **Pn 12 50 00.0 +1.2**
WET *e*Sg **Sg 12 50 42.5 -0.9**
PKSG 2.83 71 ⇓*e*P **Pn 12 49 56.1 -2.8**
KRUC Moravsky 2.85 27 *e*Pn **Pn 12 49 59.5 +0.3**
KRUC Moravsky 2.85 27 *e*Pg **Pg 12 50 05.0 -2.4**
KRUC *e*Sg **Sg 12 50 42.6 -1.8**
comp=Z,115nm,0.4s
TREC Trest 2.85 14 *e*Pg **Pg 12 50 05.5 -2.0**
PKSM Moragy 2.92 95 ⇑*i*P **Pn 12 49 59.4 -0.7**
PKSM Moragy 2.92 95 ⇑*e*Pn **Pn 12 49 58.8 -1.3**
PKSM Moragy 2.92 95 ⇑P **Pn 12 49 59.4 -0.7**
PKSM *e*Sn **Sn 12 50 33.8 -1.9**
AOI Ancona 3.04 192 Pg **Pn 12 50 02.1 +0.3**
FSSB Fossombrone 3.08 203 Pg **Pn 12 50 01.9 -0.4**
VRAC Vranov 3.13 27 ⇑P **Pn 12 50 03.3 +0.2**
VRAC Lg 12 50 49.3
VRAC LR LR 12 51 15.6
VRAC Vranov 3.13 27 Pn **Pb 12 50 07.5 -1.6**
comp=Z,12nm,0.3s,baz=222,slow=14,SNR=24
VRAC Lg 12 50 49.3
comp=Z,29nm,0.3s,baz=129,slow=16,SNR=8.6
VRAC LR LR 12 51 15.6
comp=Z,151nm,19.1s,baz=325,slow=38
VRAC Vranov 3.13 27 ⇑*i*P **Pn 12 50 03.3 +0.2**
VRAC Vranov 3.13 27 *e*Pn **Pn 12 50 03.4 +0.3**
VRAC *e*Sg **Sg 12 50 50.5 -2.8**
comp=Z,116nm,0.5s
DAVOX Davos/Dischmat 3.16 276 Pn **Pn 12 50 07.3 +3.9**
comp=Z,5.7nm,0.3s,baz=93,slow=16,SNR=17
DAVOX Lg 12 50 46.9
comp=Z,6.0nm,0.3s,baz=279,slow=24,SNR=3.8
SFI Santa Sofia 3.21 216 P **Pn 12 50 04.0 -0.1**
DAVOS Davos 3.22 277 P **Pn 12 50 07.3 +3.0**
DAVA Damuels 3.23 285 ⇑*i*Pn **Pn 12 50 07.0 +2.6**
comp=Z,39nm,0.3s
DAVA ⇑*i*Sg **Sg 12 50 59.3 +3.0**
comp=Z,125nm,0.7s
DAVA Damuels 3.23 285 *e*Pn **Pn 12 50 06.8 +2.5**
DAVA *e*Sg **Sg 12 50 59.2 +2.9**
DAVA Damuels 3.23 285 *e*Pn **Pn 12 50 06.9 +2.6**
BUD Budapest 3.27 71 *e*Sg **Sg 12 51 08.4 +11**
PIEI Pieia 3.29 205 Pg **Pn 12 50 04.6 -0.6**
VMG Vicchio 3.29 220 Pg **Pn 12 50 05.5 +0.3**
SEI Scarperia 3.30 223 Pg **Pn 12 50 06.3 +0.9**
KOLL Kolacno 3.37 51 *e*PN **Pn 12 50 06.2 -0.1**
KOLL *e*SN **Sn 12 50 44.8 -2.0**
CRE Caprese Michel 3.41 212 P **Pn 12 50 07.1 +0.3**
PRU Pruhonice 3.46 1 *e*Pn **Pn 12 50 08.1 +0.5**
PRU Pruhonice 3.46 1 *e*PN **Pn 12 50 08.2 +0.6**
PRU *e*PG **Pg 12 50 16.7 -2.4**
PRU *e*SG **Sg 12 51 04.7 +0.8**
comp=Z,148nm,0.5s
GSCL Gusciola 3.48 233 Pg **Pn 12 50 08.1 +0.2**
TUE Stuetta 3.53 271 Pg **Pb 12 50 12.4 -3.4**
PENC Penc 3.53 67 ⇑*i*P **Pn 12 50 08.9 +0.4**
PRA Prague 3.54 360 PG **Pg 12 50 20.0 -0.7**
VYHS Vyhne 3.56 55 *i*Pn **Pn 12 50 08.6 -0.4**
VYHS *e*SN **Sn 12 50 49.4 -2.2**
ROTZ Rotzenmuhle 3.57 336 *e*Pn **Pn 12 50 09.6 +0.5**
ROTZ *e*Sg **Sg 12 51 07.2 -0.3**
MANZ Manzenberg 3.80 336 *e*Pn **Pn 12 50 12.8 +0.6**
MANZ *e*Sg **Sg 12 51 14.8 +0.1**
NRCA Norcia 3.82 195 Pg **Pn 12 50 11.6 -0.9**
GRA1 Grafenberg Arr 3.83 327 *e*Pn **Pn 12 50 14.4 +1.7**
GRA1 *e*Sg **Sg 12 51 15.0 -0.9**
GRF Grafenberg Arr 3.83 327 *e*Pn **Pn 12 50 14.4 +1.7**
GRF *e*Sg **Sg 12 51 15.0 -0.9**
GRFO Grafenberg 3.83 327 *e*Pn **Pn 12 50 09.6 -3.1**
MORC Moravsky Berou 3.85 31 ⇓*i*P **Pn 12 50 13.3 +0.3**
MORC Moravsky Berou 3.85 31 *e*Pn **Pn 12 50 13.2 +0.2**
MORC Moravsky Berou 3.85 31 *e*Pg **Pg 12 50 26.3 -0.3**
MORC *e*Sg **Sg 12 51 15.5 -1.0**
comp=Z,78nm,0.6s
NKC Novy Kostel 3.94 341 *e*PN **Pn 12 50 14.9 +0.7**
NKC *e*PG **Pg 12 50 25.8 -2.5**
NKC *e*SG **Sg 12 51 17.9 -1.4**
comp=Z,266nm,0.4s
TERO Teramo 3.95 189 Pg **Pn 12 50 14.2 -0.2**
PSZ Piszkesteto 3.96 67 ⇑*e*Pn **Pn 12 50 14.7 +0.3**
PSZ *e*Sn **Sn 12 51 04.3 +2.9**
PSZ Piszkesteto 3.96 67 ⇑*i*P **Pn 12 50 14.7 +0.3**
PSZ Piszkesteto 3.96 67 *e*Pn **Pn 12 50 14.5 +0.1**
PVCC Panska Ves 4.00 1 *e*PN **Pn 12 50 15.8 +0.8**
PVCC *e*PG **Pg 12 50 27.2 -2.3**
PVCC *e*SG **Sg 12 51 21.3 0.0**
comp=Z,287nm,0.5s
WERN Wernitzgruen 4.01 341 *e*Pn **Pn 12 50 15.7 +0.6**
WERN *e*Sg **Sg 12 51 20.9 -0.5**
DPC Dobruska-Polom 4.02 17 *e*Pg **Pg 12 50 27.9 -1.9**
DPC *e*Sg **Sg 12 51 22.2 +0.3**
comp=Z,134nm,0.7s
DPC Dobruska-Polom 4.02 17 *e*PN **Pn 12 50 16.2 +0.9**
DPC *e*PG **Pg 12 50 26.9 -2.9**
DPC *e*SG **Sg 12 51 22.2 +0.3**
comp=Z,134nm,0.7s
GUNZ Gunzen 4.09 341 *e*Pn **Pn 12 50 17.3 +1.1**
TANN Tannenbergstha 4.11 342 *e*Pn **Pn 12 50 17.4 +0.9**
TANN *e*Sg **Sg 12 51 24.6 -0.1**
UPC Upice 4.11 14 *e*Pn **Pn 12 50 19.3 +2.8**
UPC *e*Sg **Sg 12 51 24.7 -0.2**
OKC Ostrava-Krasne 4.13 35 *e*Pn **Pn 12 50 17.4 +0.6**
OKC *e*Sg **Sg 12 51 26.5 +1.1**
comp=Z,93nm,0.6s
SPAK Spaichingen-Ko 4.16 294 P **Pn 12 50 18.4 +1.2**
WERD Werda 4.17 341 *e*Pn **Pn 12 50 18.2 +0.8**
WERD *e*Sg **Sg 12 51 27.1 +0.3**
STON Ston 4.33 147 *e*Pn **Pn 12 50 20.4 +0.9**
STON Sn **Sn 12 51 12.7 +2.2**
STON Ston 4.33 147 *e*Pn **Pn 12 50 20.4 +0.9**
STON Sn **Sn 12 51 12.6 +2.1**
BRG Berggiesshubel 4.36 356 P **Pn 12 50 20.1 +0.2**
BRG 12 51 09.6
BRG Berggiesshubel 4.36 356 Pn **Pn 12 50 20.1 +0.1**
BRG *e* 12 50 33.0
BRG Pg **Pg 12 50 39.0 +2.7**
BRG Sn **Sn 12 51 09.6 -1.6**
BRG Sg **Sg 12 51 31.1 -1.7**
BRG Berggiesshubel 4.36 356 *e*Pn **Pn 12 50 20.1 +0.2**
BRG *e*Sg **Sg 12 51 31.2 -1.6**
BRG Berggiesshubel 4.36 356 Pn **Pn 12 50 20.1 +0.2**
BRG S **Sn 12 51 09.6 -1.7**
BRG Sg **Sg 12 51 31.1 -1.7**
BRG Berggiesshubel 4.36 356 PN **Pn 12 50 20.1 +0.1**
BRG *e* 12 50 33.0
BRG Berggiesshubel 4.36 356 PG **Pg 12 50 39.0 +2.7**
BRG SN **Sn 12 51 09.6 -1.6**
BRG SG **Sg 12 51 31.1 -1.7**
comp=Z,119nm,0.7s
FBE Freiberg 4.46 351 *e*Pn **Pn 12 50 23.9 +2.7**
KSP Ksiaz 4.49 15 *e*Pn **Pn 12 50 23.3 +1.6**
KSP *e*Sn **Sg 12 51 34.5 -2.3**
KSP Ksiaz 4.49 15 *e*Pn **Pn 12 50 22.9 +1.2**
KSP *e*Pg **Pg 12 50 35.9 -2.8**
KSP *e*Sg **Sg 12 51 33.5 -3.3**
KSP Ksiaz 4.49 15 *e*Pg **Pg 12 50 35.9 -2.8**
KSP *e*Sg **Sg 12 51 33.5 -3.3**
MOX Moxa 4.53 336 *e*PN **Pn 12 50 23.3 +1.1**
MOX *e*SN **Sn 12 51 13.9 -1.5**
MOX *e*SG **Sg 12 51 37.9 -0.3**
MOX Moxa 4.53 336 *e*Pn **Pn 12 50 23.5 +1.3**
MOX Moxa 4.53 336 *e*Pn **Pn 12 50 23.3 +1.1**
MOX *e*Sn **Sn 12 51 13.9 -1.5**
BFO Black Forest 4.53 296 *e*Pn **Pn 12 50 23.4 +1.1**
KECS Kecovo 4.53 62 *e*P **Pn 12 50 22.1 -0.2**
KECS Kecovo 4.53 62 *e*PN **Pn 12 50 22.0 -0.3**
INTR Introdacqua 4.53 185 Pg **Pn 12 50 19.0 -3.3**
FELD Feldberg im Sc 4.60 289 P **Pn 12 50 24.0 +0.8**
FELD S **Sn 12 51 09.6 -7.5**
BBS Basel-Blauen 4.84 284 P **Pn 12 50 26.7 +0.1**
CLL Collm 4.88 349 *e*Pn **Pn 12 50 28.0 +1.0**
CLL Pg **Pg 12 50 41.0 -5.2**
CLL Collm 4.88 349 *e*Pn **Pn 12 50 27.8 +0.8**
CLL Collm 4.88 349 *e*Pn **Pn 12 50 28.0 +1.0**
CLL *i*x x 12 50 32.6
CLL *e*(Pg) **Pg 12 50 41.0 -5.2**
CLL *e*x x 12 51 05.0
CLL *e*Sn **Sn 12 51 22.0 -2.0**
CLL *e*x x 12 51 45.0
CLL *i*Sg **Sg 12 51 47.1 -2.2**
comp=Z,143nm,0.8s
CLL Collm 4.88 349 Pg **Pg 12 50 41.0 -5.2**
TOD Tromm 4.88 311 P **Pn 12 50 28.2 +1.1**
RGNG Rignano Grg 4.92 170 Pg **Pn 12 50 26.4 -1.3**
BZS Buzias 5.07 98 ⇓*i*P **Pn 12 50 29.3 -0.4**
MOF Molkenrain 5.16 288 P **Pn 12 50 31.0 0.0**
CDF Champ du Feu 5.22 294 *e*Pn **Pn 12 50 31.1 -0.6**
ECH Echery 5.24 291 P **Pn 12 50 33.0 +1.0**
CRVS Cervenica-Dubn 5.29 61 *e*PN **Pn 12 50 33.2 +0.5**
HINF Hinteralfeld 5.34 287 *e*Pn **Pn 12 50 31.7 -1.7**
HINF *e*Sn **Sn 12 51 31.2 -4.2**
comp=Z,22nm,0.3s
HINF Hinteralfeld 5.34 287 *e*Pn **Pn 12 50 31.7 -1.7**
HINF *e*Sn **Sn 12 51 31.2 -4.2**
comp=Z,11nm,0.3s
LPG La Plagne 5.46 262 *e*P **Pn 12 50 37.8 +2.7**
LPG *e*Sn **Sn 12 51 33.4 -5.0**
comp=Z,11nm,0.6s
LPL La Plagne 5.47 262 *e*P **Pn 12 50 37.7 +2.5**
PGF Pioggiola 5.57 226 *e*Pn **Pn 12 50 34.6 -2.0**
PGF *e*Sn **Sn 12 51 35.6 -5.5**
comp=Z,7.8nm,0.3s
PGF Pioggiola 5.57 226 *e*Pn **Pn 12 50 34.6 -2.0**
PGF *e*Sn **Sn 12 51 35.6 -5.5**
comp=Z,3.9nm,0.3s
SBF Sospel 5.63 244 *e*Pn **Pn 12 50 35.8 -1.6**
SBF *e*Sn **Sn 12 51 37.5 -5.1**
comp=Z,11nm,0.3s
MBDF Montbardon 5.68 254 *e*Pn **Pn 12 50 36.5 -1.6**
MBDF Montbardon 5.68 254 *e*P **Pn 12 50 40.8 +2.7**
MBDF Montbardon 5.68 254 *e*P **Pn 12 50 40.8 +2.7**
ABH Alteburg 5.71 309 P **Pn 12 50 40.3 +1.9**
HAU Haudompre 5.71 288 *e*Pn **Pn 12 50 37.7 -0.8**
CABF La Chapelle 5.77 274 *e*Pn **Pn 12 50 38.7 -0.6**
RUP Ruppelstein 5.88 305 P **Pn 12 50 43.4 +2.6**
SG1 Sgolgore (BA) 5.91 163 *e*Pn **Pn 12 50 40.5 -0.8**
GZR Gura Zlata 5.91 98 ⇑P **Pn 12 50 41.6 +0.3**
GZR Gura Zlata 5.91 98 ⇑*i*P **Pn 12 50 41.6 +0.3**
THEF They Montfort 6.00 290 P **Pn 12 50 44.3 +1.9**
ORIF Oris-en-Rattie 6.21 258 *e*Pn **Pn 12 50 43.3 -2.1**
ORIF Oris-en-Rattie 6.21 258 *e*P **Pn 12 50 47.7 +2.3**
ORIF Oris-en-Rattie 6.21 258 *e*P **Pn 12 50 47.7 +2.3**
FRF La Foret Royal 6.28 245 *e*Pn **Pn 12 50 43.9 -2.4**
LMR La Mourre 6.48 243 *e*Pn **Pn 12 50 47.2 -1.9**
LMR *e*Sn **Sn 12 51 57.5 -6.0**
comp=Z,15nm,0.4s
SMRF Simiane la Rot 6.77 251 *e*Pn **Pn 12 50 51.1 -1.9**
SMRF Simiane la Rot 6.77 251 *e*P **Pn 12 50 55.7 +2.7**
SMRF Simiane la Rot 6.77 251 *e*P **Pn 12 50 55.7 +2.7**
VIVF Saint-Julien-I 7.05 260 *e*Pn **Pn 12 50 55.0 -1.9**
LOR Lormes 7.30 280 *e*P **Pn 12 51 03.5 +3.2**
SMF Signal de Mont 7.31 275 *e*Pn **Pn 12 50 58.6 -1.9**
SMF Signal de Mont 7.31 275 *e*P **Pn 12 51 03.8 +3.3**
SMF Signal de Mont 7.31 275 *e*P **Pn 12 51 03.8 +3.3**
AVF Avril sur Loir 7.64 276 *e*Pn **Pn 12 51 03.4 -1.6**
LASF Ste Croix 7.86 256 *e*Pn **Pn 12 51 06.0 -2.0**
AKASG Malin Array Be 10.63 62 Pn **Pn 12 51 46.4 +0.5**
comp=Z,0.5nm,0.3s,baz=234,slow=28,SNR=5.0
APE Apeiranthos 12.54 135 *e*P **Pn 12 52 10.9 -1.2**
EKA Eskdalemuir Ar 14.14 315 Pn **Pn 12 52 34.9 +1.1**
comp=Z,0.1nm,0.3s,baz=121,slow=13,SNR=3.5
NOA NORSAR Array B 14.66 354 Pn **Pn 12 52 43.3 +2.4**
comp=Z,0.1nm,0.3s,baz=168,slow=11,SNR=2.1
FINES FINESS Array B 16.39 20 Pn **Pn 12 53 06.7 +3.0**
comp=Z,0.2nm,0.3s,baz=214,slow=13,SNR=6.2
ARCES ARCESS Array B 23.72 10 P **P 12 54 26.3 +0.5**
comp=Z,1.4nm,0.8s,mb3.4,baz=201,slow=10,SNR=5.2
MKAR Makanchi Array 45.21 64 P **P 12 57 30.6 -0.4**
comp=Z,0.3nm,0.6s,mb3.3,baz=291,slow=6.0,SNR=4.0
SCHQ Schefferville 49.42 311 P **P 12 58 02.9 -0.7**
comp=Z,1.3nm,0.6s,mb4.1,baz=290,slow=12,SNR=3.8
SONM Songino Array 58.75 52 P **P 12 59 13.2 +1.4**
comp=Z,0.2nm,0.4s,mb3.5,baz=308,slow=7.1,SNR=2.9
YKA Yellowknife Ar 63.98 336 *i*P **P 12 59 46.7 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 63.98 336 P **P 12 59 46.3 -0.6**
comp=Z,0.7nm,0.8s,mb3.7,baz=36,slow=6.6,SNR=14
TXAR Lajitas Array 86.08 309 P **P 13 01 55.6 +0.6**
comp=Z,0.2nm,0.5s,mb3.6,baz=51,slow=4.6,SNR=5.3

IDC 02 13:02:23.8±1.0, 2192N×14317E, h0km, mb3.5/7, mb1 3.8/7, mb1mx3.6/19, mbtmp3.5/7, MS2.7/1, Ms1 2.7/1, ms1mx2.2/28, Error ellipse: s-maj=39.0km s-min=23.1km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.44**	**169**	LR	LR	13 07 18.7	
	comp=Z,45nm,18.8s,baz=208,slow=35						
SONM	**Songino Array**	**39.16**	**320**	P	P	13 09 53.5	+0.3
	0.3nm,0.4s,baz=121,slow=7.2,SNR=3.3						
WRA	**Warramunga Arr**	**42.49**	**192**	P	P	13 10 22.0	+1.2
	0.5nm,0.7s,baz=16,slow=9.1,SNR=4.0						
ASAR	**Alice Springs**	**46.20**	**192**	P	P	13 10 49.5	-1.0
	0.4nm,0.6s,baz=14,slow=13,SNR=8.1						
ZALV	**Zalesovo Beam**	**54.03**	**322**	P	P	13 11 49.3	-0.4
	0.8nm,0.3s,baz=99,slow=8.9,SNR=2.7						
MKAR	**Makanchi Array**	**54.54**	**313**	P	P	13 11 53.7	+0.2
	0.2nm,0.5s,baz=97,slow=9.1,SNR=3.2						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	P	13 14 13.9	-0.1
	0.4nm,0.5s,baz=293,slow=5.9,SNR=6.8						
NVAR	**Mina Array Bea**	**83.02**	**51**	P	P	13 14 51.9	+0.6
	0.3nm,0.7s,baz=241,slow=5.1,SNR=3.2						

*ISCJB **02** 13:26:44.4±2.4, 62S×01×15478E±007, h89km±22km, mb4.2/17, Error ellipse: s-maj=18.3km s-min=11.7km az=166.0*
*NEIC **02** 13:26:44.7±1.7, 622S×15475E, h77km±16km, mb4.4/6, Error ellipse: s-maj=13.4km s-min=9.5km az=154.0*
*IDC **02** 13:26:45.3±3.4, 622S×15474E, h84km±31km, mb4.0/11, mb1 4.1/13, mb1mx4.0/16, mbtmp4.0/13, MS3.4/2, Ms1 3.3/2, ms1mx2.8/17, Error ellipse: s-maj=21.0km s-min=18.0km az=132.0*

ISC 02 13:26:45.9±2.1, 62S×01×15475E±008, h89km±20km, n26, σ0=66/26, mb4.2/17, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.06**	**122**	*e*Pn	**Pn**	**13 28 11.6**	**-1.3**
HNR				S	**Sn**	**13 29 21.5**	**+0.7**
HNR	**Honiara**	**6.06**	**122**	P	**Pn**	**13 28 12.0**	**-0.9**
	14nm,0.3s,baz=280,slow=6.0,SNR=10						
HNR				S	**Sn**	**13 29 21.5**	**+0.7**
	1.7nm,0.3s,baz=273,slow=17,SNR=4.6						
CTA	**Charters Tower**	**16.07**	**210**	P	**Pn**	**13 30 27.2**	**+0.6**
	0.2nm,0.3s,baz=37,slow=15,SNR=3.1						
CTA				LR	LR	13 35 31.9	
	comp=Z,92nm,21.6s,baz=47,slow=33						
CTAO	**Charters Tower**	**16.07**	**210**	*e*P	**Pn**	**13 30 28.0**	**+1.4**
KAKA	**Kakadu**	**22.93**	**252**	*e*P	**P**	**13 31 42.1**	**-0.6**
	10nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**24.06**	**234**	*e*P	**P**	**13 31 53.5**	**+0.5**
	8.4nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**24.06**	**234**	⇑*i*P	**P**	**13 31 53.5**	**+0.5**
WB2	**Warramunga Arr**	**24.06**	**234**	*e*P	**P**	**13 31 53.7**	**+0.6**
WRA	**Warramunga Arr**	**24.07**	**234**	P	**P**	**13 31 53.8**	**+0.7**
	7.3nm,0.7s,mb4.1,baz=58,slow=11,SNR=84						
WRA				PcP	PcP	13 35 32.9	+0.2
	0.9nm,0.6s,baz=29,slow=2.2,SNR=8.9						
ASAR	**Alice Springs**	**26.52**	**227**	P	**P**	**13 32 15.1**	**-0.2**
	4.3nm,0.6s,mb4.2,baz=57,slow=9.1,SNR=149						
ASAR				PcP	PcP	13 35 38.0	0.0
	0.8nm,0.6s,baz=64,slow=2.0,SNR=6.4						
STKA	**Stephens Creek**	**28.34**	**204**	P	**P**	**13 32 30.0**	**-1.5**
	2.3nm,0.6s,mb3.9,baz=12,slow=9.3,SNR=3.5						
STKA				LR	LR	13 43 07.3	
	comp=Z,97nm,19.0s,baz=25,slow=35						
FITZ	**Fitzroy Crossi**	**30.76**	**245**	*e*P	**P**	**13 32 52.6**	**-0.4**
	3.2nm,0.4s,mb4.4						
URZ	**Urewera**	**37.80**	**151**	P	**P**	**13 33 53.6**	**0.0**
	6.1nm,0.5s,mb4.7,baz=350,slow=6.8,SNR=3.0						
KSM	**Kuching**	**45.02**	**278**	*e*P	**P**	**13 34 53.4**	**+0.3**
SONM	**Songino Array**	**68.56**	**327**	P	**P**	**13 37 39.3**	**+0.4**
	0.8nm,0.6s,mb3.8,baz=139,slow=5.1,SNR=7.4						
VNDA	**Vanda**	**71.36**	**178**	P	**P**	**13 37 55.3**	**-0.4**
	0.8nm,0.9s,mb3.5,baz=321,slow=6.3,SNR=6.4						
BILL	**Biiibino**	**74.53**	**4**	*e*P	**P**	**13 38 14.8**	**+0.4**
	4.5nm,0.7s,mb4.3						
MKAR	**Makanchi Array**	**82.67**	**319**	P	**P**	**13 38 59.5**	**0.0**
	2.0nm,0.6s,mb4.2,baz=100,slow=5.3,SNR=19						
ZALV	**Zalesovo Beam**	**83.40**	**326**	P	**P**	**13 39 02.3**	**-0.9**
	2.5nm,0.7s,mb4.1,baz=113,slow=7.0,SNR=7.2						
QSPA	**South Pole Qui**	**83.75**	**180**	*e*P	**P**	**13 39 04.8**	**+0.2**
	7.3nm,0.6s,mb4.7						
MAW	**Mawson**	**85.02**	**203**	P	**P**	**13 39 11.0**	**-0.2**
	3.8nm,0.6s,mb4.5,baz=79,slow=5.2,SNR=10.0						
TKM2	**Tokmak 2**	**86.31**	**314**	*e*P	**P**	**13 39 18.2**	**+0.2**
	1.4nm,0.5s,mb4.2						
TKM2				*e*PcP	PcP	13 39 20.7	+0.2
NVAR	**Mina Array Bea**	**91.43**	**52**	P	**P**	**13 39 43.6**	**+1.2**
	1.1nm,0.8s,mb4.0,baz=259,slow=4.3,SNR=6.6						
YKA	**Yellowknife Ar**	**95.76**	**28**	P	**P**	**13 40 01.1**	**-0.6**
	0.4nm,0.6s,mb4.0,baz=266,slow=4.4,SNR=8.7						
WVT	**Waverly**	**115.70**	**53**	*e*PKPdf	PKPdf	13 45 21.3	+2.9
LUPA	**Lehigh Univers**	**123.72**	**45**	*e*PKPdf	PKPdf	13 45 35.1	+1.5

WEL 02 13:58:41.7±0.5, 3826S×17628E, h149km±4km, ML3.5/14, Error ellipse: s-maj=3.6km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.65**	**91**	PN	Pn	13 59 03.5	-0.2
URZ				SN	Sn	13 59 20.1	-0.3
BKZ	**Black Stump Fm**	**0.93**	**170**	PN	Pn	13 59 05.9	+0.3
BKZ				SN	Sn	13 59 24.2	+0.1
MWZ	**Matawai**	**0.98**	**95**	PN	Pn	13 59 06.4	+0.3
MWZ				SN	Sn	13 59 24.9	+0.1
TWVZ	**Taurewa**	**1.05**	**219**	PN	Pn	13 59 06.8	+0.1
WPVZ	**Whakapapa**	**1.11**	**211**	PN	Pn	13 59 07.5	+0.3
TUVZ	**Tukino**	**1.12**	**206**	PN	Pn	13 59 07.7	+0.4
WNVZ	**Wahianoa**	**1.20**	**206**	PN	Pn	13 59 08.3	+0.2
MOVZ	**Moawhango**	**1.22**	**200**	PN	Pn	13 59 08.1	-0.2
MTVZ	**Mangateitei**	**1.29**	**209**	PN	Pn	13 59 09.1	+0.1
WAZ	**Wanganui**	**1.81**	**214**	PN	Pn	13 59 14.2	-0.2
WPHZ	**Waipukurau**	**1.81**	**176**	PN	Pn	13 59 11.5	-3.0
TSZ	**Takapari Road**	**1.82**	**188**	PN	Pn	13 59 14.2	-0.4
PXZ	**Pawanui**	**1.83**	**166**	PN	Pn	13 59 14.8	+0.1
MRZ	**Mangatainoka R**	**2.46**	**193**	PN	Pn	13 59 20.7	-1.6
KIW	**Kapiti Island**	**2.81**	**202**	PN	Pn	13 59 24.4	-2.1
MTW	**Mount Morrison**	**2.96**	**191**	PN	Pn	13 59 26.0	-2.4
CAW	**Cannon Point**	**3.00**	**198**	PN	Pn	13 59 26.7	-2.2
PAWZ	**Paruwai Farm**	**3.19**	**192**	PN	Pn	13 59 28.8	-2.5
MSWZ	**Moikau Station**	**3.25**	**194**	PN	Pn	13 59 29.4	-2.7
TCW	**Tory Channel**	**3.33**	**207**	PN	Pn	13 59 30.4	-2.7
TCW				SN	Sn	14 00 10.6	-2.6
TUWZ	**Tuamarina**	**3.65**	**209**	PN	Pn	13 59 34.1	-3.1
BSWZ	**Blackbirch Sta**	**3.92**	**207**	PN	Pn	13 59 37.6	-3.1
KHZ	**Kahutara**	**4.65**	**206**	PN	Pn	13 59 46.9	-3.5

MAN 02 14:03:00, 534N×12575E, h189km, mb4.5, ML3.4, MS3.3, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.09**	**313**	⇑*e*P	Pn	14 03 29.3	0.0
GSPH				*e*S	Sn	14 03 51.9	0.0
MATI	**Mati**	**1.67**	**18**	*e*P	Pn	14 03 36.0	+1.6
MATI				*e*S	Sn	14 04 02.6	+1.5
BUKP	**Musuan**	**2.61**	**345**	*e*P	Pn	14 03 47.2	+2.7
PAGZ	**Pagadian**	**3.42**	**317**	*e*P	Pn	14 03 55.2	+1.0

MAN 02 14:25:41, 949N×12597E, h3km, mb4.1, ML2.9, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.56**	**302**	*e*P	Pg	14 25 52.5	+0.8
SCPH				*e*S	Sg	14 26 05.2	+6.2

MAN 02 14:32:28, 979N×12690E, h13km, mb4.2, ML3.1, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.39**	**270**	*e*P	Pn	14 32 51.0	-2.1
SCPH				*e*S	Sn	14 33 06.3	-5.0
MSLP	**Maasin**	**2.04**	**280**	*e*P	Pn	14 33 03.1	+1.1
MSLP				*e*S	Sn	14 33 27.8	+0.4
BUKP	**Musuan**	**2.63**	**224**	*e*P	Pn	14 33 12.2	+2.0
BUKP				*e*S	Sn	14 33 43.5	+1.5
MATI	**Mati**	**2.90**	**193**	*e*P	Pn	14 33 14.0	+0.1

*MOS **02** 14:37:06.4±1.0, 5525N×11131E, h14km, mb4.4/1, Error ellipse: s-maj=25.3km s-min=15.7km az=71.8*

BYKL 02 14:37:07.2±0.2, 5529N×11127E, h14km±11km, 3C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.60**	**356**	⇑*i*PG	Pg	14 37 18.7	-0.2
KMO				*e*		14 37 26.2	
KMO				pmax	pmax		
	comp=Z,1μm,0.3s						
KMO				smax			
	comp=N,2μm,0.6s						
YOA	**Uoyan**	**0.88**	**17**	⇓*i*PG	Pg	14 37 23.9	-0.4
YOA				*i*		14 37 36.7	
YOA				pmax	pmax		
	comp=Z,415nm,0.2s						
YOA				smax			
	comp=N,2μm,0.4s						
NIZ	**Nizh Angarsk**	**1.10**	**297**	*e*PG	Pg	14 37 27.2	-1.1
NIZ				*e*		14 37 43.3	
NIZ				pmax	pmax		
	comp=Z,143nm,0.3s						
NIZ				smax			
	comp=N,617nm,0.4s						
NIZ	**Nizh Angarsk**	**1.10**	**297**	⇑*i*Pg	Pg	14 37 27.2	-1.1
NIZ				*e*Sg	Sg	14 37 42.3	-0.3
NIZ				*e*Sb	Sb	14 37 45.0	+3.0

OGRR	**Ongureny**	**2.71**	**234**	*e*Pn	Pn	14 37 50.9	+0.7
OGRR				*e*Pg	Pg	14 37 55.4	-3.6
OGRR				*e*Sn	Sn	14 38 24.0	+1.3
OGRR				*e*Sg	Sg	14 38 31.1	-3.0
OGRR				Pmax			
	comp=N,22nm,0.2s						
OGRR				Smax			
	comp=N,79nm,0.2s						
NLYR	**Nelyaty**	**2.77**	**62**	*e*Pn	Pn	14 37 52.1	+1.0
NLYR				*e*Pg	Pg	14 37 57.1	-3.2
NLYR				*e*Sg	Sg	14 38 32.9	-3.3
NLYR				Pmax			
	comp=N,34nm,0.5s						
NLYR				Smax			
	comp=N,164nm,0.9s						
BOD	**Bodaibo**	**2.95**	**30**	*e*Pn	Pn	14 37 53.7	+0.1
BOD				*e*Sn	Sn	14 38 27.8	-1.0
BOD				*e*Sg	Sg	14 38 36.6	-5.4
BOD				Smax			
	comp=N,64nm,0.3s						
ZRHB	**Zarechye**	**3.67**	**223**	*e*	Pn	14 38 19.4	+16
ZRHB				*e*Sg	Sg	14 39 01.3	-3.5
ZRHB				Smax			
	comp=N,81nm,0.7s						
TRTB	**Turuntaevo**	**3.75**	**217**	*e*Pn	Pn	14 38 04.9	+0.4
TRTB				*e*Pg	Pg	14 38 14.0	-5.0
TRTB				*e*Sg	Sg	14 39 03.5	-4.0
TRTB				Pmax			
	comp=N,10.0nm,0.4s						
TRTB				Smax			
	comp=N,43nm,0.6s						
TRG	**Tyrgan**	**3.85**	**231**	*e*Pn	Pn	14 38 06.8	+0.8
TRG				*e*Pg	Pg	14 38 15.8	-5.2
TRG				*e*Sg	Sg	14 39 05.9	-4.9
TRG				Pmax			
	comp=N,6.0nm,0.3s						
TRG				Smax			
	comp=N,37nm,0.3s						
UUDB	**Ulan-Yde**	**4.05**	**214**	*e*Pg	Pg	14 38 20.6	-4.1
UUDB				*e*Sg	Sg	14 39 12.4	-4.6
UUDB				Pmax			
	comp=N,8.0nm,0.1s						
UUDB				Smax			
	comp=N,40nm,0.7s						
CRS	**Chara**	**4.24**	**65**	*e*PN	Pn	14 38 11.6	+0.4
CRS				*e*		14 38 22.3	
CRS				*e*		14 39 17.3	
CRS				pmax	pmax		
	comp=Z,15nm,0.8s						
CRS				smax			
	comp=N,63nm,1.2s						
CRS	**Chara**	**4.24**	**65**	*e*Pn	Pn	14 38 11.5	+0.3
CRS				*e*Pg	Pg	14 38 23.6	-4.7
CRS				*e*		14 38 30.7	
CRS				*e*Sg	Sg	14 39 18.2	-5.0
CRS				Pmax			
	comp=N,3.0nm,0.1s						
CRS				Smax			
	comp=N,64nm,1.3s						
KAB	**Kabansk**	**4.25**	**222**	*e*Sg	Sg	14 39 19.3	-4.3
KAB				Smax			
	comp=N,134nm,0.6s						
TUP	**Tupik**	**5.09**	**96**	*e*PN	Pn	14 38 22.6	-0.4
TUP				*e*		14 38 36.7	
TUP				*e*S	Sn	14 39 20.5	-1.0
TUP				*e*		14 39 43.0	
TUP				pmax	pmax		
	comp=Z,14nm,0.5s						
TUP				smax			
	comp=N,88nm,0.7s						
TUP	**Tupik**	**5.09**	**96**	*e*Pn	Pn	14 38 22.8	-0.2
TUP				*e*Pg	Pg	14 38 39.2	-5.4
TUP				*e*Sg	Sg	14 39 44.5	-6.0
TUP				Pmax			
	comp=N,15nm,0.3s						
TUP				Smax			
	comp=N,99nm,1.0s						
KHNR	**Khani**	**5.14**	**68**	*e*Sg	Sg	14 39 47.2	-4.9
KPC	**Khapcheranga**	**5.64**	**173**	*e*Pn	Pn	14 38 31.2	+0.7
KPC				*e*Pg	Pg	14 38 47.5	-7.5
KPC				*e*Sg	Sg	14 40 00.8	-7.2
KPC				Pmax			
	comp=N,2.0nm,0.2s						
KPC				Smax			
	comp=N,56nm,1.1s						
TLY	**Talaya**	**5.81**	**235**	*e*Pg	Pg	14 38 52.0	-6.4
TLY				*e*Sg	Sg	14 40 05.9	-7.7
TLY				Pmax			
	comp=N,4.0nm,0.3s						
TLY				Smax			
	comp=N,15nm,0.4s						
ARS	**Arshan**	**6.25**	**241**	*e*PN	Pn	14 38 51.7	+13
ARS				*e*S	Sn	14 40 20.6	+31
ARS				smax			
	comp=E,80nm,0.6s						
ARS	**Arshan**	**6.25**	**241**	*e*Pn	Pn	14 38 40.7	+1.8
ARS				*e*		14 39 11.0	
ARS				*e*Sg	Sg	14 40 19.6	-8.1
ARS				Smax			
	comp=E,80nm,0.6s						
ZAK	**Zakamensk**	**6.90**	**228**	*e*Sg	Sg	14 40 41.5	-6.8
ZAK				Smax			
	comp=E,13nm,1.1s						
MOY	**Mondy**	**7.12**	**244**	*e*Pn	Pn	14 38 53.0	+2.1
MOY				*e*Sn	Sn	14 40 08.9	-2.6
MOY				*e*Sg	Sn	14 40 47.7	+36
MOY				Smax			
	comp=E,32nm,1.4s						
ORL	**Orlik**	**7.31**	**253**	*e*PN	Pn	14 38 54.3	+0.9
ORL				*e*		14 39 18.7	
ORL				*e*S	Sn	14 40 12.8	-3.2
ORL				*e*		14 40 53.5	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ORL				smax			
	comp=N,42nm,1.3s						

NEIC ***02*** *14:53:37.8, 42.92N×075W, h5km, ML2.6(LDG), ML2.5(STR), MN2.1(MDD), After STR.*
STR ***02*** *14:53:37.8±0.3, 42.92N×075W, h5km, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***02*** *14:53:37.7±0.1, 42.90N×078W, h2km, Md2.8/1, Ml2.6/6, Error ellipse: s-maj=1.7km s-min=0.8km az=22.0*
MDD ***02*** *14:53:38.3±0.1, 42.92N×076W, h0km, mbLg2.1/24, Error ellipse: s-maj=1.9km s-min=1.0km az=3.0, PRXIMO*
CSEM ***02*** *14:53:38.2±0.1, 42.95N×076W, h0km, ML2.8/10, Error ellipse: s-maj=1.4km s-min=0.8km az=6.0*

ISC 02 14:53:37.8±0.2, 4296N±002×073W±002, h8km±2km, n103, σ1§03/192, 1D, Pyrenees

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATE	**Arette**	**0.13**	**10**	Pg	**Pg**	**14 53 41.6**	**+0.9**
ATE				Sg	**Sg**	**14 53 44.2**	**+1.5**
ATE	**Arette**	**0.13**	**10**	P	**Pg**	**14 53 41.6**	**+0.9**
ATE				S	**Sg**	**14 53 44.7**	**+2.0**
ETSF	**Etsaut**	**0.14**	**114**	*e*Pg	**Pg**	**14 53 40.9**	**+0.1**
ETSF				*e*Sg	**Sg**	**14 53 42.5**	**-0.4**
	391nm,0.3s						
ETSF	**Etsaut**	**0.14**	**114**	*e*Pg	**Pg**	**14 53 40.9**	**+0.1**
ETSF				*e*Sg	**Sg**	**14 53 42.5**	**-0.4**
	195nm,0.3s						
FDAF	**Les Forges d'A**	**0.18**	**139**	P	**Pg**	**14 53 41.3**	**-0.3**
FDAF				S	**Sg**	**14 53 43.2**	**-0.9**
LARF	**Larrau**	**0.20**	**294**	P	**Pg**	**14 53 41.9**	**-0.1**
LARF				S	**Sg**	**14 53 45.1**	**+0.3**
REYF	**Montagne du Re**	**0.27**	**65**	Pg	**Pg**	**14 53 44.1**	**+0.9**
REYF				Sg	**Sg**	**14 53 48.6**	**+1.7**
REYF	**Montagne du Re**	**0.27**	**65**	P	**Pg**	**14 53 44.1**	**+0.9**
REYF				S	**Sg**	**14 53 49.0**	**+2.1**
ORDF	**Ordiarp**	**0.30**	**330**	Pg	**Pg**	**14 53 44.2**	**+0.5**
ORDF				Sg	**Sg**	**14 53 49.4**	**+1.7**
ORDF	**Ordiarp**	**0.30**	**330**	P	**Pg**	**14 53 44.3**	**+0.6**
ORDF				S	**Sg**	**14 53 49.5**	**+1.8**
SJPF	**Ste Jean**	**0.40**	**294**	*e*Pg	**Pg**	**14 53 45.0**	**-0.5**
SJPF				*e*Sg	**Sg**	**14 53 50.7**	**0.0**
	142nm,0.2s						
SJPF	**Ste Jean**	**0.40**	**294**	*e*Pg	**Pg**	**14 53 45.0**	**-0.5**
SJPF				*e*Sg	**Sg**	**14 53 50.7**	**0.0**
	71nm,0.2s						
EORO	**Oroz-Betelu**	**0.43**	**262**	⇓Pg	**Pg**	**14 53 45.6**	**-0.6**
	5.8nm,0.1s,SNR=18						
EORO				Lg		14 53 52.1	
	54nm,0.1s,SNR=7.9						
EORO	**Oroz-Betelu**	**0.43**	**262**	Pg	**Pg**	**14 53 45.6**	**-0.6**
	5.8nm,0.1s,SNR=18						
IPRE	**Itoiz**	**0.48**	**252**	Pg	**Pg**	**14 53 46.9**	**-0.3**
	2.2nm,0.1s,SNR=11						
IPRE				Lg		14 53 52.6	
	11nm,0.1s,SNR=27						
IPRE	**Itoiz**	**0.48**	**252**	Pg	**Pg**	**14 53 46.9**	**-0.3**
	2.2nm,0.1s,SNR=11						
OSSF	**Osses**	**0.49**	**308**	Pg	**Pg**	**14 53 47.5**	**+0.2**
OSSF				Sg	**Sg**	**14 53 53.7**	**-0.1**
OSSF	**Osses**	**0.49**	**308**	P	**Pg**	**14 53 47.5**	**+0.2**
OSSF				S	**Sg**	**14 53 55.0**	**+1.2**
IZUN	**Zunzarren**	**0.54**	**260**	Pg	**Pg**	**14 53 47.7**	**-0.6**
	2.5nm,0.1s,SNR=7.9						
IZUN				Lg		14 53 55.3	
	17nm,0.2s,SNR=7.9						
IZUN	**Zunzarren**	**0.54**	**260**	Pg	**Pg**	**14 53 47.7**	**-0.6**
	2.5nm,0.1s,SNR=7.9						
VIEF	**Viey**	**0.56**	**97**	Pg	**Pg**	**14 53 49.2**	**+0.6**
VIEF				Sg	**Sg**	**14 53 56.6**	**+0.7**
VIEF	**Viey**	**0.56**	**97**	P	**Pg**	**14 53 48.9**	**+0.2**
VIEF				S	**Sg**	**14 53 56.8**	**+0.8**
LABF	**Labassere**	**0.60**	**81**	Pg	**Pg**	**14 53 49.8**	**+0.4**
LABF				Sg	**Sg**	**14 53 59.0**	**+1.8**
LABF	**Labassere**	**0.60**	**81**	P	**Pg**	**14 53 49.5**	**+0.2**
LABF				S	**Sg**	**14 53 58.7**	**+1.5**
IUSE	**Utxeti**	**0.60**	**269**	Pg	**Pg**	**14 53 49.0**	**-0.4**
	3.2nm,0.1s,SNR=8.8						
IUSE				Lg		14 53 56.4	
	12nm,0.1s,SNR=7.9						
IUSE	**Utxeti**	**0.60**	**269**	Pg	**Pg**	**14 53 49.0**	**-0.4**
	3.2nm,0.1s,SNR=8.8						
ELIZ	**Elizondo**	**0.62**	**290**	Pg	**Pg**	**14 53 49.1**	**-0.7**
	3.0nm,0.1s,SNR=26						
EALK	**Alkurruntz**	**0.63**	**295**	Pg	**Pg**	**14 53 49.5**	**-0.5**
	1.1nm,0.1s,SNR=24						
EALK				Lg		14 53 58.3	
	17nm,0.1s,SNR=17						
EARA	**Aranguren**	**0.65**	**254**	Pg	**Pg**	**14 53 50.5**	**+0.2**
	4.5nm,0.1s,SNR=12						
EARA				Lg		14 53 59.2	
	33nm,0.2s,SNR=5.2						
EARA	**Aranguren**	**0.65**	**254**	Pg	**Pg**	**14 53 50.5**	**+0.1**
	4.5nm,0.1s,SNR=12						
EBIE	**Bielsa**	**0.70**	**112**	Pg	**Pg**	**14 53 50.9**	**-0.4**
	1.0nm,0.1s,SNR=18						
EBIE				Lg		14 54 01.2	
	11nm,0.1s,SNR=18						
EBIE	**Bielsa**	**0.70**	**112**	Pg	**Pg**	**14 53 50.9**	**-0.4**
	1.0nm,0.1s,SNR=18						
EPF	**Esparros**	**0.79**	**84**	*e*Pg	**Pg**	**14 53 53.1**	**+0.1**
EPF				*e*Sg	**Sg**	**14 54 04.2**	**+0.9**
	48nm,0.4s						
EPF	**Esparros**	**0.79**	**84**	*e*Pg	**Pg**	**14 53 53.1**	**+0.1**
EPF				*e*Sg	**Sg**	**14 54 04.2**	**+0.9**
	24nm,0.4s						
RESF	**Ens**	**0.80**	**100**	Pg	**Pg**	**14 53 52.8**	**-0.4**
RESF				Sg	**Sg**	**14 54 03.3**	**-0.3**
RESF	**Ens**	**0.80**	**100**	P	**Pg**	**14 53 53.0**	**-0.2**
RESF				S	**Sg**	**14 54 03.9**	**+0.3**
MELF	**Melles**	**1.10**	**94**	Pg	**Pg**	**14 53 58.7**	**-0.2**
MELF				Sg	**Sg**	**14 54 14.1**	**+0.9**
MELF	**Melles**	**1.10**	**94**	P	**Pg**	**14 53 58.8**	**-0.1**
MELF				S	**Sg**	**14 54 13.9**	**+0.8**
ESAC	**San Caprasio**	**1.25**	**171**	Pg	**Pg**	**14 54 02.4**	**+0.6**
	32nm,0.3s,SNR=22						
ESAC				Lg		14 54 19.2	
	52nm,0.2s,SNR=19						
ESAC	**San Caprasio**	**1.25**	**171**	Pg	**Pg**	**14 54 02.4**	**+0.6**
	32nm,0.3s,SNR=22						
SALF	**Salau**	**1.43**	**97**	Pg	**Pg**	**14 54 05.5**	**+0.3**
SALF				Sg	**Sg**	**14 54 23.4**	**-0.3**
SALF	**Salau**	**1.43**	**97**	P	**Pn**	**14 54 05.2**	**+1.2**
SALF				S	**Sn**	**14 54 25.1**	**+2.2**
EMIR	**Miracle**	**1.97**	**121**	Pg	**Pg**	**14 54 14.3**	**-1.2**
	1.1nm,0.1s,SNR=5.0						
EMIR				Lg		14 54 41.5	
	5.0nm,0.1s,SNR=7.9						
EMIR	**Miracle**	**1.97**	**121**	Pg	**Pg**	**14 54 14.3**	**-1.3**
	1.1nm,0.1s,SNR=5.0						
ELAN	**Lanestosa**	**2.00**	**279**	Pg	**Pg**	**14 54 13.2**	**-2.9**
	1.0nm,0.2s,SNR=5.2						
ELAN				Lg		14 54 40.3	
	3.2nm,0.2s,SNR=7.9						
ELAN	**Lanestosa**	**2.00**	**279**	Pg	**Pg**	**14 54 13.2**	**-2.9**
	1.0nm,0.2s,SNR=5.2						
EPOB	**Poblet**	**2.09**	**139**	Pn	**Pn**	**14 54 13.7**	**+0.6**
	0.5nm,0.1s,SNR=7.9						
EPOB				Pg	**Pg**	**14 54 16.6**	**-1.3**
	2.2nm,0.2s,SNR=6.8						
EPOB				Sn	**Sn**	**14 54 39.7**	**+0.3**
	5.6nm,0.4s,SNR=5.0						
EPOB				Lg		14 54 44.1	
	3.6nm,0.2s,SNR=7.9						
EPOB	**Poblet**	**2.09**	**139**	Pn	**Pn**	**14 54 13.7**	**+0.5**
	0.5nm,0.1s,SNR=7.9						
EPOB	**Poblet**	**2.09**	**139**	Pg	**Pg**	**14 54 16.6**	**-1.3**
	2.2nm,0.2s,SNR=6.8						
EPOB				Sn	**Sn**	**14 54 39.7**	**+0.3**
	5.6nm,0.4s,SNR=5.0						
VALF	**Valcebollere**	**2.10**	**104**	Pg	**Pg**	**14 54 18.5**	**+0.4**
ERTA	**Horta de San J**	**2.15**	**158**	Pn	**Pn**	**14 54 13.7**	**-0.3**
ERTA				Pg	**Pg**	**14 54 17.9**	**-1.1**
ERTA				Sn	**Sn**	**14 54 41.2**	**+0.4**
ERTA				Lg		14 54 46.3	
ERTA	**Horta de San J**	**2.15**	**158**	Pn	**Pn**	**14 54 13.7**	**-0.3**
	1.0nm,0.3s,SNR=7.9						
ERTA				Pg	**Pg**	**14 54 17.9**	**-1.1**
	1.3nm,0.2s,SNR=6.0						
ERTA				Sn	**Sn**	**14 54 41.2**	**+0.4**
	2.6nm,0.2s,SNR=7.9						
ERTA				Lg		14 54 46.3	
	4.8nm,0.1s,SNR=6.4						
ERTA	**Horta de San J**	**2.15**	**158**	Pn	**Pn**	**14 54 13.7**	**-0.2**
	1.0nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**2.15**	**158**	Pg	**Pg**	**14 54 17.9**	**-1.1**
	1.3nm,0.2s,SNR=6.0						
ERTA				Sn	**Sn**	**14 54 41.2**	**+0.4**
	2.6nm,0.2s,SNR=7.9						
MTLF	**Montolieu**	**2.19**	**79**	*e*Pn	**Pn**	**14 54 13.9**	**-0.6**
MTLF	**Montolieu**	**2.19**	**79**	*e*P	**Pn**	**14 54 16.4**	**+1.9**
MTLF	**Montolieu**	**2.19**	**79**	*e*Pg	**Pg**	**14 54 19.4**	**-0.4**
MTLF				*e*Sg	**Sg**	**14 54 48.0**	**-0.2**
	9.0nm,0.4s						
MTLF	**Montolieu**	**2.19**	**79**	*e*P	**Pn**	**14 54 16.4**	**+1.9**
MTLF				*e*Pg	**Pg**	**14 54 19.4**	**-0.4**
MTLF				*e*Sg	**Sg**	**14 54 48.0**	**-0.2**
MTLF	**Montolieu**	**2.19**	**79**	Pn	**Pn**	**14 54 13.9**	**-0.6**
MTLF				P		14 54 16.4	
MTLF				Pg	**Pg**	**14 54 19.4**	**-0.4**
MTLF				Lg		14 54 48.0	
	4.5nm,0.4s						
MTLF	**Montolieu**	**2.19**	**79**	*e*P	**Pn**	**14 54 16.4**	**+1.9**
MTLF	**Montolieu**	**2.19**	**79**	*e*Pg	**Pg**	**14 54 19.4**	**-0.4**
MTLF				*e*Sg	**Sg**	**14 54 48.0**	**-0.2**
	4.5nm,0.4s						
LFF	**La Frestale**	**2.25**	**28**	*e*Pn	**Pn**	**14 54 14.8**	**-0.5**
LFF	**La Frestale**	**2.25**	**28**	*e*P	**Pn**	**14 54 17.4**	**+2.1**
LFF	**La Frestale**	**2.25**	**28**	*e*Pg	**Pg**	**14 54 20.2**	**-0.7**
LFF				*e*Sn	**Sn**	**14 54 42.1**	**-1.1**
LFF				*e*Sg	**Sg**	**14 54 50.6**	**+0.5**
	18nm,0.3s						
LFF	**La Frestale**	**2.25**	**28**	*e*P	**Pn**	**14 54 17.4**	**+2.1**
LFF				*e*Pg	**Pg**	**14 54 20.2**	**-0.7**
LFF				*e*Sn	**Sn**	**14 54 42.1**	**-1.1**
LFF				*e*Sg	**Sg**	**14 54 50.6**	**+0.5**
LFF	**La Frestale**	**2.25**	**28**	Pn	**Pn**	**14 54 14.8**	**-0.5**
LFF				P		14 54 17.4	
LFF				Pg	**Pg**	**14 54 20.2**	**-0.7**
LFF				Sn	**Sn**	**14 54 42.1**	**-1.1**
LFF				Lg		14 54 50.6	
	8.9nm,0.3s						
LFF	**La Frestale**	**2.25**	**28**	*e*P	**Pn**	**14 54 17.4**	**+2.1**
LFF	**La Frestale**	**2.25**	**28**	*e*Pg	**Pg**	**14 54 20.2**	**-0.7**
LFF				*e*Sn	**Sn**	**14 54 42.1**	**-1.1**
LFF				*e*Sg	**Sg**	**14 54 50.6**	**+0.5**
	8.9nm,0.3s						
ETOR	**Torete**	**2.35**	**205**	Pn	**Pn**	**14 54 17.8**	**+1.0**
ETOR				Pg	**Pg**	**14 54 21.3**	**-1.6**
ETOR				Sn	**Sn**	**14 54 47.3**	**+1.5**
ETOR				Lg		14 54 52.9	
ETOR	**Torete**	**2.35**	**205**	Pn	**Pn**	**14 54 17.8**	**+1.0**
	3.6nm,0.1s,SNR=6.2						
ETOR				Pg	**Pg**	**14 54 21.3**	**-1.6**
	10nm,0.2s,SNR=7.8						
ETOR				Sn	**Sn**	**14 54 46.0**	**+0.2**
	9.0nm,0.4s,SNR=7.9						
ETOR				Lg		14 54 52.9	
	23nm,0.3s,SNR=4.6						
ETOR	**Torete**	**2.35**	**205**	Pg	**Pg**	**14 54 21.3**	**-1.6**
	10nm,0.2s,SNR=7.8						
ETOR	**Torete**	**2.35**	**205**	Pg	**Pg**	**14 54 21.3**	**-1.6**
ETOR				Sn	**Sn**	**14 54 47.3**	**+1.5**
	9.0nm,0.4s,SNR=7.9						
EMOS	**Mosqueruela**	**2.60**	**176**	Pg	**Pg**	**14 54 23.8**	**-3.8**
EMOS				Sn	**Sn**	**14 54 53.8**	**+2.0**
EMOS				Lg		14 55 02.8	
EMOS	**Mosqueruela**	**2.60**	**176**	Pg	**Pg**	**14 54 23.8**	**-3.8**
	0.5nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**14 54 52.0**	**+0.2**
	1.9nm,0.2s,SNR=7.9						
EMOS				Lg		14 55 00.7	
	4.5nm,0.3s,SNR=7.9						
EMOS	**Mosqueruela**	**2.60**	**176**	Pg	**Pg**	**14 54 23.8**	**-3.8**
	0.5nm,0.1s,SNR=7.9						
EMOS				Sn	**Sn**	**14 54 53.8**	**+2.0**
	1.9nm,0.2s,SNR=7.9						
EJON	**La Jonquera**	**2.72**	**100**	Pg	**Pg**	**14 54 29.6**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
EJON				Lg		14 55 04.9	
	4.2nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**2.72**	**100**	Pg	**Pg**	**14 54 29.6**	**-0.3**
	0.8nm,0.2s,SNR=7.9						
CAF	**Calviac**	**2.82**	**45**	*e*Pn	**Pn**	**14 54 22.8**	**-0.4**
CAF	**Calviac**	**2.82**	**45**	*e*P	**Pn**	**14 54 25.9**	**+2.7**
CAF	**Calviac**	**2.82**	**45**	*e*Pg	**Pg**	**14 54 31.1**	**-0.8**
CAF				*e*Sn	**Sn**	**14 54 56.2**	**-1.1**
CAF				*e*Sg	**Sg**	**14 55 08.3**	**-0.1**
	5.6nm,0.3s						
CAF	**Calviac**	**2.82**	**45**	*e*P	**Pn**	**14 54 25.9**	**+2.7**
CAF				*e*Pg	**Pg**	**14 54 31.1**	**-0.8**
CAF				*e*Sn	**Sn**	**14 54 56.2**	**-1.1**
CAF				*e*Sg	**Sg**	**14 55 08.3**	**-0.1**
CAF	**Calviac**	**2.82**	**45**	Pn	**Pn**	**14 54 22.8**	**-0.4**
CAF				P		14 54 25.9	
CAF				Pg	**Pg**	**14 54 31.1**	**-0.8**
CAF				Sn	**Sn**	**14 54 56.2**	**-1.1**
CAF				Lg		14 55 08.3	
	2.8nm,0.3s						
CAF	**Calviac**	**2.82**	**45**	*e*P	**Pn**	**14 54 25.9**	**+2.7**
CAF	**Calviac**	**2.82**	**45**	*e*Pg	**Pg**	**14 54 31.1**	**-0.8**
CAF				*e*Sn	**Sn**	**14 54 56.2**	**-1.1**
CAF				*e*Sg	**Sg**	**14 55 08.3**	**-0.1**
	2.8nm,0.3s						
RJF	**Les Rejaudoux**	**2.85**	**34**	*e*Pg	**Pg**	**14 54 31.7**	**-0.8**
RJF				*e*Sn	**Sn**	**14 54 56.6**	**-1.5**
RJF				*e*Sg	**Sg**	**14 55 09.2**	**-0.2**
	6.2nm,0.3s						
RJF	**Les Rejaudoux**	**2.85**	**34**	*e*Pn	**Pn**	**14 54 23.3**	**-0.3**
RJF				*e*Pg	**Pg**	**14 54 31.7**	**-0.8**
RJF				*e*Sn	**Sn**	**14 54 56.6**	**-1.5**
RJF				*e*Sg	**Sg**	**14 55 09.2**	**-0.2**
RJF	**Les Rejaudoux**	**2.85**	**34**	Pn	**Pn**	**14 54 23.3**	**-0.3**
RJF				Pg	**Pg**	**14 54 31.7**	**-0.8**
RJF				Sn	**Sn**	**14 54 56.6**	**-1.5**
RJF				Lg		14 55 09.2	
	3.1nm,0.3s						
RJF	**Les Rejaudoux**	**2.85**	**34**	*e*Pn	**Pn**	**14 54 23.3**	**-0.3**
RJF	**Les Rejaudoux**	**2.85**	**34**	*e*Pg	**Pg**	**14 54 31.7**	**-0.8**
RJF				*e*Sn	**Sn**	**14 54 56.6**	**-1.5**
RJF				*e*Sg	**Sg**	**14 55 09.2**	**-0.2**
	3.1nm,0.3s						
EARI	**Arriondas**	**3.30**	**278**	Pn	**Pn**	**14 54 29.9**	**+0.2**
EARI				Sn	**Sn**	**14 55 09.7**	**+0.6**
EARI	**Arriondas**	**3.30**	**278**	Pn	**Pn**	**14 54 29.9**	**+0.1**
	0.5nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**14 55 08.5**	**-0.6**
	2.0nm,0.3s,SNR=5.5						
EARI	**Arriondas**	**3.30**	**278**	Pn	**Pn**	**14 54 29.9**	**+0.2**
	0.5nm,0.3s,SNR=7.9						
EARI				Sn	**Sn**	**14 55 09.7**	**+0.6**
	2.0nm,0.3s,SNR=5.5						
GUD	**Guadarrama**	**3.45**	**229**	Pn	**Pn**	**14 54 33.7**	**+1.9**
	0.5nm,0.2s,SNR=7.9						
GUD				Sn	**Sn**	**14 55 12.1**	**-0.7**
	1.7nm,0.3s,SNR=7.9						
LASF	**Ste Croix**	**3.52**	**70**	*e*Pg	**Pg**	**14 54 43.7**	**-1.6**
LASF				*e*Sn	**Sn**	**14 55 12.5**	**-2.1**
LASF				*e*Sg	**Sg**	**14 55 29.8**	**-1.1**
	3.6nm,0.4s						
LASF	**Ste Croix**	**3.52**	**70**	*e*Pn	**Pn**	**14 54 32.2**	**-0.6**
LASF				*e*Pg	**Pg**	**14 54 43.7**	**-1.6**
LASF				*e*Sn	**Sn**	**14 55 12.5**	**-2.1**
LASF				*e*Sg	**Sg**	**14 55 29.8**	**-1.1**
LASF	**Ste Croix**	**3.52**	**70**	Pn	**Pn**	**14 54 32.2**	**-0.6**
LASF				Pg	**Pg**	**14 54 43.7**	**-1.6**
LASF				Sn	**Sn**	**14 55 12.5**	**-2.1**
LASF				Lg		14 55 29.8	
	1.8nm,0.4s						
LASF	**Ste Croix**	**3.52**	**70**	*e*Pn	**Pn**	**14 54 32.2**	**-0.6**
LASF	**Ste Croix**	**3.52**	**70**	*e*Pg	**Pg**	**14 54 43.7**	**-1.6**
LASF				*e*Sn	**Sn**	**14 55 12.5**	**-2.1**
LASF				*e*Sg	**Sg**	**14 55 29.8**	**-1.1**
	1.8nm,0.4s						
MFF	**Saint Martin d**	**3.67**	**6**	*e*P	**Pn**	**14 54 37.9**	**+3.1**
TCF	**Toulx Ste Croi**	**3.94**	**31**	*e*Pn	**Pn**	**14 54 38.3**	**-0.2**
TCF				*e*Sn	**Sn**	**14 55 22.9**	**-2.0**
VIVF	**Saint-Julien-l**	**4.34**	**62**	*e*P	**Pn**	**14 54 47.0**	**+2.9**
VIVF				*e*Sg	**Sg**	**14 55 55.6**	**-1.6**
	2.4nm,0.3s						
VIVF	**Saint-Julien-l**	**4.34**	**62**	Lg		14 55 55.6	
	1.2nm,0.3s						
VIVF	**Saint-Julien-l**	**4.34**	**62**	*e*P	**Pn**	**14 54 47.0**	**+2.9**
VIVF				*e*Sg	**Sg**	**14 55 55.6**	**-1.6**
	1.2n

4.9nm,0.3s,baz=286,slow=13,SNR=40
SIV S Sn 15 40 52.7 -3.8
1.1nm,0.3s,baz=222,slow=10,SNR=5.6
CFAA Coronel Fontan 17.89 168 P Pn 15 40 19.7 -0.2
0.1nm,0.3s,baz=338,slow=11,SNR=13
CFAA LR LR 15 47 31.1
comp=Z,12nm,18.2s,baz=295,slow=38
CPUP Villa Florida 18.74 133 *eP* Pn 15 40 30.1 0.0
45nm,0.7s
CPUP Villa Florida 18.74 133 P Pn 15 40 30.6 +0.4
1.3nm,0.3s,baz=291,slow=11,SNR=24
CPUP LR LR 15 48 35.5
comp=Z,178nm,18.9s,baz=302,slow=39
SDV Santo Domingo 22.88 5 P P 15 41 12.7 -1.2
1.7nm,0.4s,mb3.8,baz=248,slow=19,SNR=3.1
BDFB Brasilia 23.73 97 P P 15 41 21.5 -0.6
2.4nm,0.7s,mb3.7,baz=231,slow=18,SNR=6.5
BDFB LR LR 15 50 56.4
comp=Z,57nm,21.5s,MS3.0,baz=253,slow=37
PCRV Puerto La Cruz 25.32 18 LR LR 15 52 09.8
comp=Z,115nm,18.1s,MS3.4,baz=33,slow=38
TRQA Tornquist 25.66 161 *eP* P 15 41 38.4 -1.1
PLCA Paso Flores 26.62 177 *eP* P 15 41 46.9 -1.2
PLCA Paso Flores 26.62 177 P P 15 41 46.5 -1.6
3.8nm,0.8s,mb4.0,baz=352,slow=12,SNR=5.6
JTS JuntasAbangare 27.16 332 LR LR 15 52 36.4
comp=Z,46nm,18.8s,MS3.1,baz=135,slow=36
USHA Ushuaia 40.80 176 P P 15 43 50.2 -0.4
3.9nm,0.6s,mb4.2,baz=353,slow=8.1,SNR=4.1
SWET Sewanee 50.64 346 *eP* P 15 45 06.8 -1.6
PLAL Pickwick Lake 50.97 344 *eP* P 15 45 08.2 -2.7
6.3nm,0.8s,mb4.6
TXAR Lajitas Array 52.60 325 P P 15 45 22.5 -0.7
TXAR pP pP 15 45 44.4 +6.1
TXAR Lajitas Array 52.60 325 P P 15 45 22.5 -0.7
3.5nm,0.8s,mb4.4,baz=149,slow=9.0,SNR=27
TXAR pP pP 15 45 44.4 +6.1
1.7nm,0.8s,baz=156,slow=9.5,SNR=4.3
WMOK Wichita Mounta 54.57 333 P P 15 45 36.0 -1.5
3.3nm,1.0s,mb4.3
MNTX Cornudas Mount 55.36 326 *eP* P 15 45 41.3 -2.0
319A Douglas 57.33 323 ⇑P P 15 45 56.9 -0.4
baz=57
219A White Tail Can 57.77 323 ⇓P P 15 46 00.1 -0.3
baz=58
318A Bisbee 57.80 322 P P 15 46 00.7 +0.1
baz=58,SNR=8.4
218A Dragoon 58.21 322 ⇑P P 15 46 03.2 -0.3
baz=58
217A Green Valley 58.53 322 ⇑P P 15 46 05.0 -0.7
baz=59
118A Homack Ranch, 58.65 323 ⇑P P 15 46 05.8 -0.7
baz=59
117A Oracle 59.05 322 ⇑P P 15 46 08.8 -0.5
baz=59
216A Three Points, 59.08 321 ⇑P P 15 46 08.9 -0.6
baz=59
Y19A Nutrioso 59.20 325 ⇑P P 15 46 10.2 -0.1
baz=59
X19A St. Johns 59.56 325 ⇓P P 15 46 12.9 +0.1
baz=60
Y17A Roosevelt 59.91 323 ⇓P P 15 46 15.3 0.0
baz=60
X18A Snowflake 60.01 325 ⇓P P 15 46 15.6 -0.3
baz=60
SDCO Great Sand Dun 60.13 330 *eP* P 15 46 16.6 -0.1
8.9nm,0.9s,mb4.8
Y16A Circle Bar Ran 60.42 323 P P 15 46 19.2 +0.5
baz=60,SNR=5.5
X16A Lo Mia Camp, P 60.78 323 P P 15 46 21.7 +0.6
baz=61,SNR=9.2
Y15A Casa Rosa Ranc 60.97 322 ⇑P P 15 46 22.4 0.0
baz=61
X15A Humboldt 61.29 323 ⇓P P 15 46 24.2 -0.4
baz=61
Y14A Wickenburg 61.36 322 ⇑P P 15 46 25.0 -0.1
baz=62
X14A Yava 61.66 323 ⇓P P 15 46 26.8 -0.3
baz=62
Y13A Salome 61.77 321 ⇓P P 15 46 27.7 -0.1
baz=62
PV01 Paradox Valley 61.96 328 *eP* P 15 46 28.5 -0.5
SMCO Snowmass 61.97 330 *eP* P 15 46 29.3 +0.3
3.6nm,0.8s,mb4.5
W14A Seligman 62.29 323 ⇑P P 15 46 31.1 -0.2
baz=62
X13A Yucca 62.30 322 ⇑P P 15 46 31.1 -0.3
baz=62
V14A Boquillas Ranc 62.60 323 P P 15 46 34.2 +0.8
baz=63,SNR=5.5
BC3 Big Chuckw Mtn 62.66 320 ⇑P P 15 46 33.6 -0.2
baz=63
W13A Hualapai Mount 62.69 322 ⇑P P 15 46 33.9 0.0
baz=63
IRM Iron Mountain 62.81 321 ⇑P P 15 46 34.7 0.0
baz=63
T15A Red Dirt Ranch 63.17 325 ⇑P P 15 46 37.8 +0.6
baz=63
U14A Mt Trumbull 63.20 324 ⇓P P 15 46 37.6 +0.3
baz=63
BELC Belle Mtn. 63.22 320 ⇓P P 15 46 37.5 -0.1
baz=63
V13A Grand Canyon W 63.26 323 ⇓P P 15 46 37.9 +0.1
baz=63
GMRC Granite Mounta 63.53 321 ⇓P P 15 46 39.2 -0.4
baz=64
U13A Pakoon Wash 63.64 323 ⇓P P 15 46 40.3 0.0
baz=64
HEC Hector,Ludlow 63.98 321 ⇑P P 15 46 42.6 +0.1
baz=64
U12A Valley of Fire 63.99 323 ⇑P P 15 46 42.8 +0.3
baz=64
EYMN Ely 64.01 346 *eP* P 15 46 40.7 -1.7
3.0nm,0.8s,mb4.4
T13A Saint George 64.03 324 ⇑P P 15 46 42.9 +0.1
baz=64
CIS Catalina Islan 64.36 318 ⇑P P 15 46 45.0 0.0
baz=64
S13A Holt Ranch, En 64.40 324 P P 15 46 46.1 +0.9
baz=64,SNR=6.7
T11A Corn Creek, Al 64.94 323 ⇑P P 15 46 49.4 +0.6
baz=65
EDW2 Edwards Air Fo 65.04 320 ⇑P P 15 46 49.5 +0.1
baz=65
R12A Pony Springs, 65.34 325 P P 15 46 52.1 +0.8
baz=66,SNR=9.1
TPNV Topopah Spring 65.34 322 *eP* P 15 46 51.9 +0.5
5.6nm,0.9s,mb4.6
TPNV Topopah Spring 65.34 322 P P 15 46 52.2 +0.8
baz=66,SNR=7.1
FURC Furnace Creek, 65.39 322 ⇑P P 15 46 52.0 +0.3
baz=66
AGMN Agassiz Refuge 65.47 343 *eP* P 15 46 50.5 -1.4
9.6nm,0.7s,mb4.9
MPMC Manual Prospec 65.50 321 ⇓P P 15 46 52.6 +0.2
baz=66
DUG Dugway 65.69 327 *eP* P 15 46 53.4 -0.1
20nm,1.3s,mb5.0
DUG Dugway 65.69 327 P P 15 46 54.2 +0.7
baz=66,SNR=6.8
P13A Bates Ranch, G 65.81 326 P P 15 46 55.1 +0.8
baz=66,SNR=9.8
R11A Troy Canyon, C 65.91 324 P P 15 46 55.5 +0.5
baz=66,SNR=9.1
Q12A Willow Creek R 65.96 325 ⇓P P 15 46 55.9 +0.6
baz=66
S10A Tonopah Range, 66.20 323 P P 15 46 57.6 +0.7
baz=66,SNR=11
R10A Warm Springs 66.28 324 ⇓P P 15 46 58.0 +0.7
baz=66
P12A McGill 66.31 325 ⇑P P 15 46 57.8 +0.3
baz=66
N14A Grayback Hills 66.36 327 ⇓P P 15 46 58.2 +0.4
baz=66
S09A Goldfield 66.44 323 ⇑P P 15 46 58.9 +0.5
baz=67
R09A Tonopah 66.70 323 P P 15 47 00.5 +0.5
baz=67,SNR=5.1
Q10A Clear Creek Ra 66.70 324 P P 15 47 01.1 +1.0
baz=67,SNR=5.8
HELL Mitchell Peak 66.84 321 ⇓P P 15 47 00.2 -0.8
baz=67
S08C White Mtn Res 66.86 322 ⇑P P 15 47 01.0 -0.1
baz=67
M14A Sheep Mountain 66.92 328 P P 15 47 01.4 0.0
baz=67,SNR=6.2
O11A Cowboy Ranch, 67.18 325 ⇑P P 15 47 03.5 +0.4
baz=67

M13A Montello 67.24 327 ⇑P P 15 47 03.2 -0.2
baz=67
ULM Lac du Bonnet 67.25 344 *eP* P 15 47 01.5 -1.7
7.1nm,0.9s,mb4.7
ULM Lac du Bonnet 67.25 344 P P 15 47 01.9 -1.4
7.3nm,0.8s,mb4.7,baz=151,slow=4.8,SNR=11
IMW Indian Meadow 67.50 331 *eP* P 15 47 04.8 -0.2
8.8nm,1.1s,mb4.7
FLWY Flagg Ranch 67.53 331 *eP* P 15 47 05.5 +0.3
16nm,1.0s,mb5.0
NVAR Mina Array Bea 67.55 322 P P 15 47 05.9 +0.5
1.5nm,0.7s,mb4.1,baz=137,slow=7.8,SNR=10
NVAR pP pP 15 47 29.1 +8.0
1.3nm,0.8s,baz=134,slow=6.7,SNR=3.7
K14A Jones Ranch, D 67.59 329 ⇓P P 15 47 05.7 +0.1
baz=68
L13A Double Diamond 67.65 328 ⇑P P 15 47 06.5 +0.5
baz=68
U04C Hernandez Rese 67.74 319 ⇓P P 15 47 06.6 -0.1
baz=68
O10A Cortez Mining, 67.76 325 ⇑P P 15 47 07.1 +0.4
baz=68
VNA3 Neumayer Olymp 68.17 162 *eP* P 15 47 10.7 +1.8
HAST Hastings Reser 68.24 319 ⇑P P 15 47 09.7 -0.1
baz=68
L12A House Creek Ra 68.25 327 ⇓P P 15 47 10.2 +0.5
baz=68
P08A Dixie Valley 68.25 324 ⇑P P 15 47 10.2 +0.4
baz=68
R06C Coleville 68.29 322 ⇑P P 15 47 10.4 +0.3
baz=68
VNA1 Neumayer--Stat 68.39 161 *eP* P 15 47 10.9 +0.6
VNA1 *e* 15 47 18.0
VNA1 *e* 15 47 34.4
PACP Pacheco Peak 68.46 320 ⇑P P 15 47 11.1 -0.1
baz=68
K12A Draper Farm, C 68.54 328 ⇑P P 15 47 11.9 +0.4
baz=69
L11A Cat Creek Ranc 68.65 327 P P 15 47 12.6 +0.3
baz=69,SNR=6.5
J13A Cove Ranch, Pi 68.71 329 ⇑P P 15 47 13.0 +0.5
baz=69
VNA2 Neumayer--Watz 68.76 161 *eP* P 15 47 12.8 +0.3
VNA2 *e* 15 47 20.2
VNA2 *e* 15 47 36.3
R05C Kirkwood Meado 68.78 322 ⇓P P 15 47 13.5 +0.4
baz=69
SCHQ Schefferville 68.79 4 P P 15 47 12.5 -0.3
7.7nm,0.9s,mb4.6,baz=186,slow=4.8,SNR=8.3
SCHQ pP pP 15 47 35.6 +7.0
3.8nm,0.8s,baz=144,slow=2.7,SNR=3.6
HLID Hailey 68.95 329 ⇓P P 15 47 14.2 +0.1
baz=69
L10A Juniper Basin 68.97 326 P P 15 47 14.7 +0.4
baz=69,SNR=6.0
WCN Washoe City 68.97 322 ⇑P P 15 47 14.4 +0.1
baz=69
PAHR Pah Rah Range 69.02 323 *eP* P 15 47 15.2 +0.6
16nm,0.9s,mb5.0
I13A Wildhorse Cree 69.05 329 P P 15 47 15.3 +0.6
baz=69,SNR=7.8
J12A Stokes Ranch, 69.07 328 ⇓P P 15 47 14.9 0.0
baz=69
BOZ Bozeman (W) 69.14 332 ⇓P P 15 47 15.4 +0.1
baz=69
LAVA Lava Cap Winer 69.21 321 ⇓P P 15 47 15.1 -0.7
baz=69
K11A Parker Ranch, 69.22 327 ⇓P P 15 47 15.9 +0.1
baz=69
N07B Gerlach 69.48 324 ⇓P P 15 47 17.8 +0.4
baz=70
P05C Yuba Gap, Truc 69.48 322 ⇑P P 15 47 17.6 +0.2
baz=70
MFID Camas Ranch 69.57 328 P P 15 47 18.1 +0.2
baz=70,SNR=9.3
O06A Flanigan 69.57 323 ⇓P P 15 47 18.1 +0.1
baz=70
L09A Wilkinson Ranc 69.58 326 P P 15 47 18.4 +0.4
baz=70,SNR=5.2
M08A Happy Creek Ra 69.59 325 ⇓P P 15 47 18.2 +0.1
baz=70
H13A Challis 69.59 329 ⇑P P 15 47 18.2 +0.1
baz=70
K10A MacKenzie Ranc 69.67 327 ⇑P P 15 47 18.6 +0.1
baz=70
F15A Butte 69.69 331 ⇑P P 15 47 18.6 0.0
baz=70
BEKR Beckwourth 69.69 323 ⇓P P 15 47 18.8 +0.1
baz=70
H12A Diamond D Ranc 69.88 329 ⇓P P 15 47 19.9 +0.1
baz=70
N06A Buffalo Meadow 69.96 324 P P 15 47 20.4 0.0
baz=70,SNR=9.6
G13A Cobalt 69.97 330 ⇓P P 15 47 20.3 0.0
baz=70
I11A Placerville 69.98 328 P P 15 47 20.5 +0.1
baz=70,SNR=5.0
L08A Fields 70.07 325 ⇑P P 15 47 20.8 -0.2
baz=70
K09A Rome 70.08 326 P P 15 47 21.4 +0.3
baz=70,SNR=12
ORV Oroville 70.17 322 P P 15 47 22.4 +0.6
baz=70,SNR=8.9
DBIC Dimbokro 70.21 78 *eP* P 15 47 20.8 -1.7
12nm,1.1s,mb4.8
DBIC Dimbokro 70.21 78 P P 15 47 21.2 -1.3
6.2nm,1.0s,mb4.5,baz=204,slow=3.0,SNR=5.7
DBIC LR LR 16 15 03.3
comp=Z,55nm,18.0s,MS3.9,baz=179,slow=33
SNAA Sanae 70.38 162 *eP* P 15 47 22.5 0.0
SNAA *e* 15 47 29.3
SNAA *e* 15 47 46.4
J09A Fry Pan Ranch, 70.53 327 P P 15 47 23.8 0.0
baz=71,SNR=5.2
E14A Clinton 70.58 331 ⇓P P 15 47 24.5 +0.5
baz=71
D15A Lincoln 70.60 332 ⇑P P 15 47 24.7 +0.5
baz=71
E13A Victor 70.93 331 ⇑P P 15 47 26.3 +0.2
baz=71
F12A Elk City 70.94 330 ⇑P P 15 47 26.1 -0.1
baz=71
HATC Hat Creek Radi 70.95 323 ⇓P P 15 47 26.1 -0.3
baz=71
MOD Modoc 70.97 324 ⇓P P 15 47 26.6 0.0
baz=71
D14A Greenough 71.08 332 ⇓P P 15 47 27.3 +0.2
baz=71
M05C Lookout 71.11 323 P P 15 47 27.7 +0.4
baz=71,SNR=5.3
G11A Walters Elk Ra 71.19 329 P P 15 47 27.4 -0.3
baz=71,SNR=5.8
P01C Double 8 Ranch 71.24 321 ⇓P P 15 47 27.9 -0.3
baz=71
WDC Whiskeytown Da 71.44 322 ⇑P P 15 47 28.3 -1.1
baz=72
F11A Grangeville 71.48 329 ⇓P P 15 47 29.1 -0.4
baz=72
D13A Huson 71.53 331 ⇓P P 15 47 30.1 +0.3
baz=72
G10A Bishop Farm, J 71.54 328 P P 15 47 30.4 +0.5
baz=72,SNR=6.2
C14A Swan Lake 71.70 332 ⇑P P 15 47 31.0 +0.2
baz=72
J06A Christmas Vall 71.77 325 P P 15 47 31.6 +0.3
baz=72,SNR=8.3
M04C Macdoel 71.78 323 ⇓P P 15 47 31.5 +0.1
baz=72
H08A Prairie City 71.81 327 P P 15 47 32.1 +0.6
baz=72,SNR=5.3
E11A Bogner Ranch, 71.84 330 ⇑P P 15 47 31.1 -0.5
baz=72
G09A Cove 71.87 328 ⇑P P 15 47 32.1 +0.3
baz=72
D12A Red Ives Fores 71.92 331 ⇓P P 15 47 32.0 -0.1
baz=72
I07A Izee 71.96 326 ⇓P P 15 47 32.5 0.0
baz=72
C13A Hot Springs 72.01 332 ⇑P P 15 47 32.9 +0.2
baz=72
N02C Big Bar 72.05 322 P P 15 47 33.4 +0.4
baz=72,SNR=5.4
F10A Beach Ranch, E 72.07 329 ⇓P P 15 47 33.5 +0.4
baz=72
M02C Callahan 72.13 323 ⇓P P 15 47 32.9 -0.6
baz=72
YBH Yreka Blue Hor 72.25 323 ⇑P P 15 47 33.3 -0.9
baz=72

I06A Prineville 72.25 326 ⇓P P 15 47 34.5 +0.2
baz=72
H07A Lands Inn, Kim 72.34 327 ⇓P P 15 47 34.3 -0.3
baz=72
J05A Fort Rock 72.39 325 ⇓P P 15 47 34.7 -0.3
baz=72
G08A Pilot Rock 72.49 328 ⇑P P 15 47 35.5 0.0
baz=73
G07A Ruggs Ranch, H 72.84 327 ⇓P P 15 47 37.9 +0.2
baz=73
H06A Lindquist Farm 72.84 326 P P 15 47 38.3 +0.6
baz=73,SNR=6.0
A13A Flathead Natio 72.86 333 ⇓P P 15 47 37.9 +0.3
baz=73
G06A Carlson Farm, 73.33 327 ⇑P P 15 47 40.8 +0.3
baz=74
K02A Glendale 73.35 323 ⇑P P 15 47 40.7 0.0
baz=74
D09A Jones Farm, Ri 73.36 329 ⇑P P 15 47 40.9 +0.2
baz=74
I04A Tendick Farm, 73.38 325 ⇑P P 15 47 40.6 -0.2
baz=74
J02A Umpqua 73.77 324 ⇓P P 15 47 43.5 +0.4
baz=74
B09A Rice 74.22 330 ⇓P P 15 47 45.7 0.0
baz=74
D07A Quincy 74.29 329 ⇑P P 15 47 46.9 +0.7
baz=74
H03A Soap Creek Ran 74.42 325 ⇓P P 15 47 47.0 0.0
baz=74
C07A Waterville 74.66 329 ⇓P P 15 47 48.5 +0.3
baz=75
D06A Cle Elum 74.73 328 ⇓P P 15 47 49.1 +0.5
baz=75
F04A Amboy 74.74 326 ⇓P P 15 47 48.9 +0.1
baz=75
B08A Colville Reser 74.75 330 ⇓P P 15 47 49.0 +0.2
baz=75
A08A Turner Farm, O 75.13 330 ⇑P P 15 47 51.1 +0.2
baz=75
B07A Winthrop 75.21 329 ⇑P P 15 47 51.3 -0.1
baz=75
A07A Ashnola River, 75.73 330 ⇓P P 15 47 55.1 +0.7
baz=76
B06A Marblemount 75.93 329 ⇓P P 15 47 55.3 -0.3
baz=76
A05A Maple Falls 76.54 329 ⇓P P 15 47 59.4 +0.4
baz=77
YKA Yellowknife Ar 83.08 342 P P 15 48 32.8 -1.3
YKA pP pP 15 48 56.9 +6.7
YKA Yellowknife Ar 83.08 342 P P 15 48 32.8 -1.3
9.5nm,0.8s,mb4.9,baz=135,slow=5.3,SNR=175
YKA pP pP 15 48 56.9 +6.7
2.1nm,0.8s,baz=136,slow=5.5,SNR=3.5
ESDC Sonseca Array 83.09 46 P P 15 48 35.5 +0.8
5.1nm,0.8s,mb4.6,baz=253,slow=5.3,SNR=11
VNDA Vanda 83.53 190 P P 15 48 36.3 -0.1
3.1nm,0.9s,mb4.4,baz=115,slow=3.3,SNR=12
VNDA LR LR 16 21 28.4
comp=Z,92nm,18.4s,MS4.2,baz=29,slow=32
TSUM Tsumeb 85.56 109 *eP* P 15 48 47.9 +0.2
RES Resolute Bay 89.68 354 *eP* P 15 49 05.7 -0.5
141nm,1.3s
BOSA Boshof 90.02 119 P P 15 49 07.6 -1.3
4.3nm,0.8s,mb4.8,baz=192,slow=2.7,SNR=6.4
BOSA LR LR 16 29 52.8
comp=Z,112nm,18.5s,MS4.3,baz=152,slow=36
LBTB Lobatse 91.30 116 *eP* P 15 49 14.8 -0.1
2.9nm,0.9s,mb4.6
MAW Mawson 92.39 164 P P 15 49 18.2 -0.8
5.9nm,0.8s,mb5.0,baz=235,slow=8.8,SNR=3.6
INK Inuvik 92.83 341 *eP* P 15 49 19.7 -1.2
315nm,1.1s
DAWY Dawson 92.83 336 *eP* P 15 49 20.0 -1.0
NOA NORSAR Array B 99.17 29 LR LR 16 27 54.6
comp=Z,20nm,20.9s,MS3.6,baz=235,slow=31
MSL Mosul 118.76 56 *ex* x 15 56 26.0
MSL *ex* x 15 57 10.0
BHD Baghdad 119.97 60 *ex* x 15 55 50.0
BHD *i x* x 15 56 09.5
HNR Honiara 122.96 249 PKP PKPdf 15 55 03.3 -2.6
62nm,0.7s,baz=118,slow=2.1,SNR=3.2
STKA Stephens Creek 123.83 215 PKP PKPdf 15 55 05.6 -1.6
STKA Stephens Creek 123.83 215 PKP PKPdf 15 55 05.6 -1.6
0.9nm,0.6s,baz=144,slow=2.0,SNR=4.7
BVAR Borovoye Array 131.30 29 PKP PKPdf 15 55 21.1 +0.5
1.6nm,0.9s,baz=311,slow=1.9,SNR=7.5
ASAR Alice Springs 134.47 215 PKP PKPdf 15 55 25.8 -1.8
0.8nm,0.6s,baz=124,slow=1.6,SNR=19
ZAA0 Zalesovo Array 136.39 19 *e*PKPdf PKPdf 15 55 29.9 -0.3
ZALV Zalesovo Beam 136.39 19 PKhKP 15 55 23.4
0.8nm,0.4s,baz=1.4,slow=5.8,SNR=4.2
ZALV PKP PKPdf 15 55 29.6 -0.6
8.8nm,0.8s,baz=355,slow=1.8,SNR=11
ZALV pPKP pPKPdf 15 55 54.4 +7.4
5.8nm,0.8s,baz=314,slow=2.3,SNR=4.5
KURK Kurchatov 136.61 27 *e*PKPdf PKPdf 15 55 30.8 +0.2
WB2 Warramunga Arr 137.10 219 *eP* PKPdf 15 55 30.7 -1.9
WRA Warramunga Arr 137.11 219 PKP PKPdf 15 55 31.2 -1.4
2.4nm,0.5s,baz=141,slow=1.9,SNR=30
AAK Ala-Archa 139.78 38 PKP 15 55 28.5
AAK Ala-Archa 139.78 38 PKhKP 15 55 28.5
1.1nm,0.4s,baz=297,slow=2.3,SNR=3.2
UCH Uchtor 140.03 39 *e*PKPpre 15 55 36.5
MKAR Makanchi Array 141.15 28 PKP 15 55 32.6
MKAR PKP PKPdf 15 55 38.2 -0.9
MKAR Makanchi Array 141.15 28 PKhKP 15 55 32.6
1.4nm,0.7s,baz=328,slow=2.7,SNR=15
MKAR PKP PKPdf 15 55 38.2 -0.9
1.7nm,0.9s,baz=299,slow=3.8,SNR=7.9
FITZ Fitzroy Crossi 143.37 210 *eP* 15 55 37.6
4.6nm,0.7s
MJAR Matsushiro Arr 144.59 315 PKP PKPdf 15 55 42.6 -2.9
6.0nm,0.9s,baz=96,slow=1.3,SNR=20
MAT Matsushiro 144.59 315 PKP PKPdf 15 55 42.6 -2.9
THN Thein Dam 145.75 52 *eP* PKPdf 15 55 47.2 -0.4
WMQ Urumqi 145.85 26 PKP PKPdf 15 55 47.0 -0.5
WMQ PP PP 15 59 14.0 +5.2
WMQ SKS SKSdf 16 02 44.0 -7.7
WMQ SKKS SKKSac 16 05 53.0 -3.7
WMQ SS SS 16 17 59.0 +0.8
WMQ PP PP
comp=Z,214nm,8.0s
WMQ LR LR
comp=N,65nm,20.0s,MS4.6
WMQ LR LR
comp=E,81nm,22.0s,MS4.6
WMQ LR LR
comp=Z,68nm,20.0s,MS4.4
ULN Ulaanbaatar 146.30 1 *e*PKPbc PKPbc 15 55 49.6 +0.3
SONM Songino Array 146.32 1 PKPbc PKPbc 15 55 48.4 -1.0
comp=Z,12nm,0.8s,baz=331,slow=1.9,SNR=64
SONM pPKPbc pPKPbc 15 56 12.8 +6.7
comp=Z,6.2nm,0.9s,baz=348,slow=3.2,SNR=5.8
CN2 Changchun 146.61 336 *e*PKP PKPdf 15 55 45.0 -3.8
KSRS Korea Array 150.45 326 PKP PKPdf 15 55 55.0 -0.1
comp=Z,12nm,0.9s,baz=33,slow=1.4,SNR=18
KSRS PKPbc PKPbc 15 55 59.5 -1.1
comp=Z,12nm,0.8s,baz=12,slow=1.7,SNR=39
KSRS pPKPbc pPKPbc 15 56 24.2 +6.8
comp=Z,10nm,1.0s,baz=13,slow=1.4,SNR=7.6
JNU Nakatsue 151.49 316 PKPbc PKPbc 15 56 01.3 -1.8
comp=Z,11nm,0.9s,baz=340,slow=14,SNR=4.2
HYB Hyderabad 151.96 79 *eP* PKPbc 15 56 04.5 -0.1
HYB Hyderabad 151.96 79 *i* PKP PKPbc 15 56 04.5 -0.1
HHC Hu-ho-hao-te 153.08 353 *e*PKP PKPdf 15 55 55.6 -3.5
HHC APKP 15 56 22.5
HHC XPKP 15 56 33.1
HHC PKS 15 59 29.6
HHC PP PP 15 59 51.0 +0.8
HHC SKS SKSdf 16 02 51.9 -10
HHC SKKS SKKSac 16 06 31.5 -5.2
HHC SS SS 16 19 15.9 -2.3
HHC PP PP
comp=Z,180nm,6.7s
HHC LR LR
comp=N,156nm,20.4s,MS4.9
HHC LR LR
comp=E,121nm,19.6s,MS4.9
HHC LR LR
comp=Z,92nm,23.0s,MS4.5
GTA Gaotai 153.86 14 *e*PKP PKPdf 15 56 00.4 +0.2
GTA APKP 15 56 19.9
GTA PKS 15 59 35.4
GTA PP PP 15 59 57.2 +2.5
GTA SKS SKSdf 16 02 55.8 -6.6

GTA PP PP
comp=Z,29nm,10.7s
GTA LR LR
comp=N,131nm,14.5s,MS5.0
GTA LR LR
comp=E,162nm,19.1s,MS5.0
GTA LR LR
comp=Z,51nm,14.5s,MS4.5
LZH Lanzhou 157.83 8 *e*PKP PKPdf 15 56 01.8 -3.8
LZH APKP 15 56 27.0
LZH XPKP 15 56 39.2
LZH LR LR
comp=E,176nm,18.6s
LZH LR LR
comp=Z,213nm,20.3s,MS5.0
GYA Guiyang 167.65 3 *e*PKP PKPdf 15 56 12.2 -3.3
GYA APKP 15 56 36.7
GYA XPKP 15 56 45.5
GYA PKP2 PKPab 15 57 21.7 +0.2
GYA PKS 15 59 44.3
GYA PP PP
comp=Z,110nm,7.8s

IDC 02 15:37:41.3±29.0, 2153S×17371W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/16, mbtmp3.9/4, Error ellipse: s-maj=541.9km s-min=163.6km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.38**	**265**	P	P	15 44 56.4	+0.3
	1.3nm,0.4s,baz=84,slow=10,SNR=4.2						
STKA	**Stephens Creek**	**40.99**	**246**	P	P	15 45 26.4	+0.3
	2.1nm,0.6s,baz=108,slow=9.6,SNR=3.8						
ASAR	**Alice Springs**	**48.19**	**257**	P	P	15 46 23.7	-0.1
	0.8nm,0.8s,baz=104,slow=7.7,SNR=11						
WRA	**Warramunga Arr**	**48.43**	**262**	P	P	15 46 25.3	-0.4
	0.7nm,0.6s,baz=101,slow=8.3,SNR=26						

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*MOS **02** 16:04:13.7±1.7, 5552N×10930E, h12km, mb4.2/1, Error ellipse: s-maj=36.7km s-min=13.5km az=68.6*

BYKL 02 16:04:12.2±0.3, 5551N×10929E, 3C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.30**	**28**	*e*PG	Pg	16 04 18.1	+0.1
NIZ				*e*		16 04 22.2	
NIZ				pmax	pmax		
	comp=Z,325nm,0.2s						
NIZ				smax			
	comp=N,2μm,0.4s						
NIZ	**Nizh Angarsk**	**0.30**	**28**	⇓*i*Pg	Pg	16 04 18.2	+0.2
NIZ				*e*Sg	Sg	16 04 22.2	+0.3
NIZ				Pmax			
	comp=N,238nm,0.2s						
NIZ				Smax			
	comp=N,2μm,0.2s						
KMO	**Kumora**	**1.15**	**70**	⇑*i*Pg	Pg	16 04 32.6	-1.5
	comp=N,6.0nm,0.2s						
KMO				⇑*i*Pg	Pg	16 04 32.6	-1.5
	comp=N,20nm,0.2s						
KMO				⇑*i*Pg	Pg	16 04 32.6	-1.5
	comp=N,136nm,0.2s						
KMO				*e*Sg	Sg	16 04 47.6	-1.4
KMO				Pmax			
	comp=N,143nm,0.2s						
KMO				Smax			
	comp=N,157nm,0.4s						
YOA	**Uoyan**	**1.51**	**65**	*e*PG	Pg	16 04 39.5	-1.6
YOA				*i*		16 05 01.2	
YOA				pmax	pmax		
	comp=Z,172nm,0.3s						
YOA				smax			
	comp=N,786nm,0.6s						
YOA	**Uoyan**	**1.51**	**65**	*e*Pg	Pg	16 04 39.4	-1.7
YOA				*e*		16 04 41.4	
YOA				*e*Sg	Sg	16 05 01.0	+0.4
YOA				max			
	comp=N,254nm,0.2s						
YOA				Smax			
	comp=N,871nm,0.4s						
SYVR	**Suvo**	**1.90**	**167**	*e*PN	Pn	16 04 47.1	+1.3
SYVR				*e*		16 05 13.2	
SYVR				pmax	pmax		
	comp=Z,82nm,0.4s						
SYVR				smax			
	comp=E,419nm,0.8s						
SYVR	**Suvo**	**1.90**	**167**	*e*Pg	Pg	16 04 47.3	-1.3
SYVR				*e*Sg	Sg	16 05 12.4	-0.8
SYVR				Pmax			
	comp=E,81nm,0.5s						
SYVR				Smax			
	comp=E,407nm,0.8s						
OGRR	**Ongureny**	**2.12**	**209**	*e*PN	Pn	16 04 49.2	+0.4
OGRR				*e*		16 04 51.3	
OGRR				*e*		16 05 18.5	
OGRR				pmax	pmax		
	comp=Z,20nm,0.3s						
OGRR				smax			
	comp=E,278nm,0.8s						
OGRR	**Ongureny**	**2.12**	**209**	*e*Pn	Pn	16 04 49.1	+0.3
OGRR				*e*Pg	Pg	16 04 51.4	-1.3
OGRR				*e*Sg	Sg	16 05 18.5	-1.6
OGRR				Pmax			
	comp=E,12nm,0.1s						
OGRR				Smax			
	comp=E,183nm,0.2s						
MXMB	**Maximikha**	**2.27**	**188**	*e*Pn	Pn	16 04 51.7	+0.8
MXMB				*e*Pg	Pg	16 04 53.9	-1.8
MXMB				*e*Sg	Sg	16 05 22.7	-2.5
MXMB				Pmax			
	comp=E,10.0nm,0.1s						
MXMB				Smax			
	comp=E,151nm,0.5s						
SVKR	**Severomuysk**	**2.48**	**74**	*e*Pg	Pg	16 04 56.5	-3.3
SVKR				*e*Sg	Sg	16 05 30.3	-1.7
SVKR				Pmax			
	comp=E,95nm,0.4s						
SVKR				Smax			
	comp=E,273nm,0.5s						
ZRHB	**Zarechye**	**3.22**	**204**	*e*	Pn	16 05 15.5	+12
ZRHB				*e*Sg	Sg	16 05 52.6	-2.9
ZRHB				Smax			
	comp=E,128nm,1.0s						
TRG	**Tyrgan**	**3.25**	**213**	⇓*i*Pn	Pn	16 05 05.1	+0.7
TRG				*e*Pg	Pg	16 05 11.2	-3.3
TRG				*e*Sn	Sn	16 05 43.4	-0.4
TRG				*e*Sg	Sg	16 05 53.6	-3.0
TRG				Pmax			
	comp=E,7.0nm,0.3s						
TRG				Smax			
	comp=E,70nm,0.4s						
TRTB	**Turuntaevo**	**3.43**	**197**	*e*Pn	Pn	16 05 07.6	+0.8
TRTB				*e*Pg	Pg	16 05 14.6	-3.3
TRTB				*e*Sg	Sg	16 05 57.8	-4.5
TRTB				Pmax			
	comp=E,5.0nm,0.3s						
TRTB				Smax			
	comp=E,20nm,0.5s						
BOD	**Bodaibo**	**3.48**	**46**	*e*Pn	Pn	16 05 08.0	+0.5
BOD				*e*Pg	Pg	16 05 13.8	-5.1
BOD				*e*Sn	Sn	16 05 49.2	-0.2
BOD				*e*Sg	Sg	16 05 58.5	-5.5
BOD				Smax			
	comp=E,29nm,0.3s						
NLYR	**Nelyaty**	**3.73**	**72**	*e*Pn	Pn	16 05 12.0	+1.0
NLYR				*e*Pg	Pg	16 05 19.6	-4.1
NLYR				*e*Sg	Sg	16 06 07.8	-4.2
NLYR				Pmax			
	comp=E,16nm,0.7s						
NLYR				Smax			
	comp=E,47nm,0.9s						
UUDB	**Ulan-Yde**	**3.78**	**196**	*e*Sg	Sg	16 06 08.8	-4.6
UUDB				Smax			
	comp=E,25nm,1.0s						
KAB	**Kabansk**	**3.80**	**205**	*e*PN	Pn	16 05 22.0	+10
KAB				*e*		16 06 10.7	
KAB				pmax	pmax		
	comp=Z,34nm,0.3s						
KAB				smax			
	comp=N,173nm,0.7s						
KAB	**Kabansk**	**3.80**	**205**	*e*Sg	Sg	16 06 10.6	-3.7
KAB				Smax			
	comp=N,163nm,0.8s						
LSTR	**Listvyanka**	**4.51**	**218**	*e*	Pn	16 05 19.4	-2.2
LSTR				*e*Sn	Sn	16 06 11.7	-3.0
LSTR				*e*Sg	Sg	16 06 30.1	-6.8
LSTR				Smax			
	comp=N,50nm,0.7s						
TLY	**Talaya**	**5.10**	**224**	*e*Sn	Sn	16 06 26.4	-2.9
TLY				*e*Sg	Sg	16 06 48.5	-7.4
TLY				Smax			
	comp=N,25nm,0.3s						
CRS	**Chara**	**5.20**	**71**	*e*PN	Pn	16 05 31.9	+0.7
CRS				*e*		16 05 45.2	
CRS				*e*		16 06 51.8	
CRS				pmax	pmax		
	comp=Z,21nm,1.1s						
CRS				smax			
	comp=E,39nm,1.6s						
CRS	**Chara**	**5.20**	**71**	*e*Pg	Pg	16 05 44.8	-7.0
CRS				*e*Sg	Sg	16 06 52.5	-6.7
CRS				Pmax			
	comp=E,21nm,1.1s						
CRS				Smax			
	comp=E,39nm,1.6s						
ARS	**Arshan**	**5.44**	**231**	*e*PN	Pn	16 05 34.9	+0.5
ARS				*e*S	Sn	16 06 34.7	-2.9
ARS				*e*S	Sn	16 07 01.4	+24
ARS				smax			
	comp=N,98nm,0.5s						
ARS	**Arshan**	**5.44**	**231**	*e*Pn	Pn	16 05 35.0	+0.6
ARS				*e*		16 05 56.7	
ARS				*e*Sn	Sn	16 06 34.3	-3.2
ARS				*e*Sg	Sg	16 07 01.3	-5.4
ARS				Smax			
	comp=N,109nm,0.6s						
KPC	**Khapcheranga**	**6.11**	**161**	*e*Pn	Pn	16 05 42.8	-0.9
KPC				*e*Pg	Pg	16 06 02.2	-7.0
KPC				*e*Sg	Sg	16 07 20.9	-7.5
KPC				Pmax			
	comp=N,1.0nm,0.6s						
KPC				Smax			
	comp=N,30nm,0.7s						
TUP	**Tupik**	**6.24**	**96**	*e*Pn	Pn	16 05 44.5	-0.9
TUP				*e*Pg	Pg	16 06 03.1	-8.5
TUP				*e*Sg	Sg	16 07 25.0	-7.4
TUP				Pmax			
	comp=N,6.0nm,0.4s						
TUP				Smax			
	comp=N,28nm,0.9s						
MOY	**Mondy**	**6.26**	**235**	*e*Pn	Pn	16 05 47.8	+2.1
MOY				*e*Sn	Sn	16 06 56.0	-1.9
MOY				*e*Sg	Sg	16 07 24.9	-8.3
MOY				Smax			
	comp=N,29nm,1.4s						
ZAK	**Zakamensk**	**6.29**	**218**	*e*Sg	Sg	16 07 26.5	-7.5
ZAK				Smax			
	comp=N,24nm,0.9s						
ORL	**Orlik**	**6.33**	**246**	*e*PN	Pn	16 05 48.2	+1.6
ORL				*e*		16 06 08.2	
ORL				*e*S	Sn	16 06 56.8	-2.7
ORL				*e*		16 07 30.8	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ORL				smax			
	comp=N,42nm,0.8s						
ORL	**Orlik**	**6.33**	**246**	*e*Pn	Pn	16 05 48.6	+2.0
ORL				*e*Sn	Sn	16 06 57.9	-1.6
ORL				*e*Sg	Sg	16 07 28.6	-6.7
ORL				Smax			
	comp=N,42nm,0.7s						

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*IDC **02** 16:27:38.7±5.3, 3707N×7162E, h46km±46km, mb3.2/6, mb1 3.5/11, mb1mx3.3/24, mbtmp3.4/11, ML3.3/5, Error ellipse: s-maj=41.7km s-min=24.4km az=33.0*
*ISCJB **02** 16:27:39.4±0.6, 3715N±003×7194E±006, h80km±9km, mb3.7/10, Error ellipse: s-maj=7.4km s-min=5.2km az=175.7*
*NEIC **02** 16:27:41.6±0.9, 3729N×7173E, h68km±9km, Error ellipse: s-maj=13.4km s-min=8.8km az=120.0*
*NNC **02** 16:27:49.0±4.1, 3843N×7140E, h0km, mb3.5, mpv3.4, Error ellipse: s-maj=42.4km s-min=37.3km az=50.0*

ISC 02 16:27:40.7±0.5, 3717N±003×7188E±006, h74km±9km, n48, σ1§20/55, mb3.7/10, 5C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.49**	**222**	*e*Pn	**Pn**	**16 28 34.1**	**+1.4**
KBL				Sn	**Sn**	**16 29 15.2**	**+2.5**
CHCP	**Chirah Chowk**	**3.68**	**162**	P	**Pn**	**16 28 36.6**	**+1.3**
THW	**Thamme Wali**	**4.37**	**181**	P	**Pn**	**16 28 44.3**	**-0.3**
AML	**Almayashu**	**5.15**	**15**	*e*Pn	**Pn**	**16 28 54.6**	**-0.6**
	24nm,0.5s						
AML	**Almayashu**	**5.15**	**15**	P	**Pn**	**16 28 56.0**	**+0.8**
	SNR=12						
UCH	**Uchtor**	**5.44**	**21**	*e*Pn	**Pn**	**16 28 59.8**	**+0.5**
	9.0nm,0.6s						
UCH	**Uchtor**	**5.44**	**21**	P	**Pn**	**16 29 00.9**	**+1.7**
	SNR=8.9						
EKS2	**Erkin-Say**	**5.67**	**14**	*e*Pn	**Pn**	**16 29 03.1**	**+0.7**
	7.2nm,0.7s						
EKS2	**Erkin-Say**	**5.67**	**14**	P	**Pn**	**16 29 03.6**	**+1.2**
	SNR=9.5						
THN	**Thein Dam**	**5.69**	**145**	*e*P	**Pn**	**16 29 01.9**	**-0.7**
THN				*e*S	**Sn**	**16 30 09.8**	**+3.3**
AAK	**Ala-Archa**	**5.81**	**19**	P	**Pn**	**16 29 05.5**	**+1.2**
	1.1nm,0.3s,baz=188,slow=8.1,SNR=19						
AAK				S	**Sn**	**16 30 13.3**	**+3.8**
	0.9nm,0.3s,baz=328,slow=19,SNR=3.2						
AAK	**Ala-Archa**	**5.81**	**19**	P	**Pn**	**16 29 08.4**	**+4.1**
	SNR=7.3						
KK31	**Karatay Array**	**6.02**	**350**	⇑Pn	**Pn**	**16 29 05.9**	**-1.2**
	1.3nm,0.3s,baz=176,slow=13,SNR=26						
KK31				⇑Lg		16 30 15.8	
	6.4nm,0.5s,baz=41,slow=68,SNR=4.1						
TKM2	**Tokmak 2**	**6.41**	**25**	⇓Pn	**Pn**	**16 29 12.2**	**-0.3**
	4.9nm,0.6s						
TKM2	**Tokmak 2**	**6.41**	**25**	*e*P	**Pn**	**16 29 11.8**	**-0.7**
	5.7nm,0.6s						
TKM2	**Tokmak 2**	**6.41**	**25**	P	**Pn**	**16 29 17.4**	**+4.9**
	SNR=6.3						
SDNR	**Sundarnagar**	**7.05**	**142**	*ex*	x	16 29 47.0	
KLP	**Kalpa**	**7.71**	**135**	*e*P	**Pn**	**16 29 29.4**	**-0.8**
KLP				AMb	AMB	16 29 34.5	
	comp=Z,6.1nm,0.4s						
KLP				*e*S	**Sn**	**16 30 56.8**	**+0.9**
DDI	**Dehra Dun**	**8.55**	**141**	*e*P	**Pn**	**16 29 39.0**	**-2.7**
JOSI	**Joshimath**	**9.18**	**134**	*e*P	**Pn**	**16 29 50.1**	**-0.2**
JOSI				AMb	AMB	16 29 51.5	
	comp=Z,22nm,0.7s						
JOSI				*e*S	**Sn**	**16 31 30.6**	**-1.4**
KHET	**Khetri**	**9.66**	**159**	*e*P	**Pn**	**16 29 55.6**	**-1.2**
KHET				*e*S	**Sn**	**16 31 38.9**	**-4.8**
MK31	**Makanchi Array**	**12.34**	**36**	P	**Pn**	**16 30 34.3**	**+1.0**
MKAR	**Makanchi Array**	**12.34**	**36**	P	**Pn**	**16 30 33.8**	**+0.6**
	comp=Z,0.0nm,0.3s,baz=215,slow=8.3,SNR=4.2						
DANN	**Dangsing**	**13.31**	**128**	*e*P	**Pn**	**16 30 39.8**	**-6.7**
	comp=Z,4.4nm,0.3s						
KOLN	**Koldanda**	**13.62**	**130**	*e*P	**Pn**	**16 30 44.9**	**-5.7**
	comp=Z,6.5nm,0.6s						
GKN	**Gorkha**	**14.11**	**127**	*e*P	**Pn**	**16 30 50.4**	**-6.6**
	comp=Z,8.1nm,0.5s						
KKN	**Kakani**	**14.66**	**126**	*e*P	**Pn**	**16 30 57.9**	**-6.3**
	comp=Z,5.0nm,0.4s						
DMN	**Daman**	**14.68**	**127**	*e*P	**Pn**	**16 30 58.0**	**-6.4**
	comp=Z,3.8nm,0.4s						
AB31	**Akbulak array**	**14.86**	**328**	⇑Pn	**Pn**	**16 31 01.2**	**-5.5**
	comp=Z,1.2nm,0.7s,baz=143,slow=13						
AB31				⇑Sn	**Sn**	**16 33 36.8**	**-13**
	comp=Z,1.2nm,0.5s,baz=149,slow=24						
GUN	**Gumba**	**14.98**	**124**	*e*P	**Pn**	**16 31 02.2**	**-6.1**
	comp=Z,3.9nm,0.4s						
JIRN	**Jiri**	**15.35**	**124**	*e*P	**Pn**	**16 31 07.8**	**-5.2**
	comp=Z,3.1nm,0.2s						
BVAR	**Borovoye Array**	**15.89**	**357**	P	**Pn**	**16 31 18.7**	**-0.9**
	comp=Z,0.1nm,0.3s,baz=175,slow=11,SNR=3.9						
AKTK	**Aktyubinsk**	**16.57**	**328**	P	**Pn**	**16 31 26.6**	**-1.6**
AKTO	**Aktyubinsk**	**16.57**	**328**	⇓Pn	**Pn**	**16 31 27.0**	**-1.2**
	comp=Z,0.1nm,0.8s						
AKTO				⇑Sn	**Sn**	**16 34 20.5**	**-11**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.57**	**328**	P	**Pn**	**16 31 26.6**	**-1.6**
	comp=Z,0.4nm,0.3s,baz=137,slow=8.2,SNR=14						
ZALV	**Zalesovo Beam**	**19.02**	**24**	P	**Pn**	**16 31 57.0**	**-0.9**
	comp=Z,0.4nm,0.3s,baz=213,slow=9.3,SNR=4.7						
MIB	**Mutribah**	**21.71**	**257**	*e*P	**P**	**16 32 25.6**	**-0.1**
MIB				AMb	AMB	16 32 28.4	
	comp=Z,8.8nm,0.6s,mb4.2						
RDF	**Al-Radifah**	**21.94**	**255**	*e*P	**P**	**16 32 28.0**	**-0.2**
RDF				AMb	AMB	16 32 29.8	
	comp=Z,8.9nm,0.6s,mb4.2						
NAY	**Al-Naaiem**	**22.03**	**256**	*e*P	**P**	**16 32 28.3**	**-0.8**
NAY				AMb	AMB	16 32 30.4	
	comp=Z,5.9nm,0.8s,mb4.0						
RST	**Umm Al-Ruwaisa**	**22.11**	**257**	*e*P	**P**	**16 32 29.2**	**-0.7**
RST				AMb	AMB	16 32 31.2	
	comp=Z,6.6nm,0.4s,mb4.3						
AKASG	**Malin Array Be**	**33.08**	**308**	P	**P**	**16 34 08.4**	**-0.8**
	comp=Z,0.2nm,0.3s,mb3.4,baz=77,slow=7.2,SNR=4.6						
ARCES	**ARCESS Array B**	**40.80**	**337**	P	**P**	**16 35 16.1**	**+1.8**
	comp=Z,0.6nm,0.6s,mb3.6,baz=111,slow=10.0,SNR=5.6						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**16 35 43.0**	**+0.4**
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**16 35 43.0**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.4,baz=96,slow=7.9,SNR=3.0						
YKA	**Yellowknife Ar**	**80.54**	**3**	P	**P**	**16 39 45.7**	**+1.3**
YKA	**Yellowknife Ar**	**80.54**	**3**	P	**P**	**16 39 45.7**	**+1.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=348,slow=5.3,SNR=5.5						
WRA	**Warramunga Arr**	**81.75**	**123**	P	**P**	**16 39 52.3**	**+0.8**
	comp=Z,0.3nm,0.8s,mb3.2,baz=320,slow=5.3,SNR=4.1						
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**16 40 06.7**	**+3.3**
	comp=Z,0.4nm,0.9s,mb3.2,baz=308,slow=5.7,SNR=2.8						

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*ISCJB **02** 16:45:23.7±0.3, 3854N±001×11203W±002, h10km, Error ellipse: s-maj=2.4km s-min=1.8km az=12.5*
*NEIC **02** 16:45:24.0, 3851N×11221W, h0km, ML2.8(SLC), After SLC.*

ISC 02 16:45:24.4±0.2, 3851N±001×11208W±002, h10km, n59, σ1§19/97, 28C-42D, Utah

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSU	**Marysvale**	**0.08**	**272**	*i*Pg	**Pg**	**16 45 25.5**	**-1.2**
R14A	**James Farms, M**	**0.77**	**254**	⇑P	**Pg**	**16 45 37.9**	**-1.3**
	baz=0.7,SNR=44						
R14A				⇑S	**Sg**	**16 45 48.0**	**-1.3**
	baz=0.7						
TMUT	**Trail Mountain**	**1.04**	**41**	*e*Pg	**Pg**	**16 45 44.9**	**+0.5**
S14A	**Cedar City**	**1.14**	**229**	⇓P	**Pb**	**16 45 44.9**	**-1.3**
	baz=1.1						
S14A				⇑S	**Sb**	**16 45 59.8**	**-1.2**
	baz=1.1						
ARUT	**Antelope Range**	**1.29**	**237**	*e*Pn	**Pg**	**16 45 48.0**	**-1.2**
ARUT				*e*Sn	**Sg**	**16 46 04.1**	**-1.9**
SRU	**San Rafael**	**1.35**	**63**	*e*Pg	**Pg**	**16 45 50.9**	**+0.5**
CCUT	**Cedar City**	**1.40**	**227**	*e*Pn	**Pn**	**16 45 49.6**	**-0.3**
NLU	**North Lily Min**	**1.44**	**0**	*e*Pn	**Pn**	**16 45 51.5**	**+0.9**
NLU				*e*Sn	**Sn**	**16 46 11.7**	**+2.2**
T15A	**Red Dirt Ranch**	**1.51**	**189**	⇓Pg	**Pg**	**16 45 52.4**	**-0.9**
	baz=1.5,SNR=134						
T15A				⇓S	**Sn**	**16 46 11.1**	**-0.1**
	baz=1.5						
MPU	**Maple Canyon**	**1.54**	**13**	*e*Pg	**Pg**	**16 45 54.5**	**+0.5**
MPU				*e*Sg	**Sg**	**16 46 15.0**	**+1.0**
Q13A	**Wheeler Ranch,**	**1.58**	**287**	⇑S	**Sn**	**16 46 12.4**	**-0.6**
	baz=1.6						
T16A	**Glen Canyon Da**	**1.59**	**163**	⇑Pg	**Pg**	**16 45 54.2**	**-0.7**
	baz=1.6,SNR=41						
T16A				⇑S	**Sn**	**16 46 15.0**	**+1.9**
	baz=1.6						
T14A	**Hurricane**	**1.65**	**209**	⇓Pg	**Pg**	**16 45 54.5**	**-1.6**
	baz=1.6,SNR=19						
T14A				⇑S	**Sn**	**16 46 15.7**	**+1.0**
	baz=1.6						
S13A	**Holt Ranch, En**	**1.69**	**237**	⇓Pb	**Pb**	**16 45 54.2**	**-1.2**
	baz=1.6,SNR=36						
S13A				⇑S	**Sn**	**16 46 15.8**	**+0.3**
	baz=1.6						
DUG	**Dugway**	**1.78**	**342**	*e*Pn	**Pn**	**16 45 54.7**	**-0.4**
DUG				*e*Sg	**Sg**	**16 46 20.2**	**-1.3**
DUG	**Dugway**	**1.78**	**342**	⇑P	**Pn**	**16 45 54.9**	**-0.3**
	baz=1.8						
DUG				⇑Sb	**Sb**	**16 46 20.9**	**+1.6**
	baz=1.8						
P13A	**Bates Ranch, G**	**1.78**	**303**	⇑P	**Pn**	**16 45 54.4**	**-0.8**
	baz=1.8						
P13A				⇓S	**Sn**	**16 46 17.4**	**-0.5**
	baz=1.8						
R12A	**Pony Springs,**	**2.00**	**266**	⇓Pb	**Pb**	**16 45 59.9**	**-0.9**
	baz=2.0,SNR=30						
R12A				⇓Sb	**Sb**	**16 46 26.2**	**+0.6**
	baz=2.0						
DAU	**Daniels Canyon**	**2.00**	**18**	*e*Pg	**Pg**	**16 46 03.2**	**+0.4**
T13A	**Saint George**	**2.08**	**225**	⇓Pg	**Pg**	**16 46 02.6**	**-1.6**
	baz=2.0						
T13A				⇓Sb	**Sb**	**16 46 28.3**	**+0.3**
	baz=2.0						
JLU	**Jordanelle**	**2.15**	**13**	*e*Pn	**Pn**	**16 46 01.0**	**+0.8**
JLU				*e*Sg	**Sg**	**16 46 34.7**	**+1.4**
O13A	**Hicks Ranch, I**	**2.19**	**318**	⇓Sg	**Sg**	**16 46 35.3**	**+0.5**
	baz=2.2						
CTU	**Camp Tracy**	**2.19**	**7**	Pg	**Pg**	**16 46 05.1**	**-1.4**
CTU				*e*Sg	**Sg**	**16 46 35.5**	**+0.6**
Q12A	**Willow Creek R**	**2.21**	**285**	⇓Pb	**Pb**	**16 46 03.2**	**-1.3**
	baz=2.2						
Q12A				⇑Sb	**Sb**	**16 46 32.9**	**+1.0**
	baz=2.2						
U14A	**Mt Trumbull**	**2.27**	**203**	⇑Pb	**Pb**	**16 46 05.1**	**-0.2**
	baz=2.2						
U14A				⇓Sb	**Sb**	**16 46 34.5**	**+1.1**
	baz=2.2						
S12A	**Delamar Landin**	**2.37**	**248**	⇓Pb	**Pb**	**16 46 06.1**	**-1.0**
	baz=2.3						
S12A				⇓Sb	**Sb**	**16 46 37.0**	**+0.7**
	baz=2.3						
PV10	**Paradox Valley**	**2.39**	**92**	*e*Pg	**Pg**	**16 46 09.8**	**-0.4**
PV10				*e*Sg	**Sg**	**16 46 41.8**	**+0.6**
N15A	**Stansbury Isla**	**2.40**	**352**	⇑P	**Pn**	**16 46 04.3**	**+0.6**
	baz=2.4						
N15A				⇑Sb	**Sg**	**16 46 40.2**	**-1.4**
	baz=2.4						
P12A	**McGill**	**2.41**	**294**	⇓Pb	**Pb**	**16 46 06.9**	**-0.9**
	baz=2.4						
P12A				⇑Sb	**Sb**	**16 46 38.4**	**+1.0**
	baz=2.4						
N14A	**Grayback Hills**	**2.49**	**340**	⇓P	**Pn**	**16 46 04.9**	**0.0**
	baz=2.5						
N14A				⇓Sb	**Sb**	**16 46 41.7**	**+1.8**
	baz=2.5						
BGU	**Big Grassy Mou**	**2.52**	**343**	Pn	**Pn**	**16 46 06.0**	**+0.6**
BGU				*e*S	**Sg**	**16 46 44.8**	**-0.6**
U13A	**Pakoon Wash**	**2.57**	**216**	⇑Sb	**Sb**	**16 46 42.8**	**+0.5**
	baz=2.5						
V15A	**Kaibab Nationa**	**2.69**	**182**	⇓Pb	**Pb**	**16 46 12.3**	**-0.3**
	baz=2.7						
V15A				⇑Sb	**Sb**	**16 46 46.8**	**+1.2**
	baz=2.7						
R11A	**Troy Canyon, C**	**2.76**	**268**	⇑Pb	**Pb**	**16 46 12.6**	**-1.2**
	baz=2.7						
R11A				⇓Sb	**Sb**	**16 46 48.7**	**+1.1**
	baz=2.7						
PV01	**Paradox Valley**	**2.79**	**97**	*e*Pn	**Pg**	**16 46 14.6**	**-3.1**
PV01				*e*Sg	**Sg**	**16 46 53.5**	**-0.3**
T11A	**Corn Creek, Al**	**2.79**	**244**	⇑Pb	**Pb**	**16 46 13.2**	**-1.1**
	baz=2.7						
T11A				⇓Sb	**Sb**	**16 46 50.4**	**+1.8**
	baz=2.7						
Q11A	**Duckwater**	**2.82**	**278**	⇓Pb	**Pb**	**16 46 13.7**	**-1.1**
	baz=2.8						
U12A	**Valley of Fire**	**2.85**	**224**	⇑Pb	**Pb**	**16 46 14.1**	**-1.3**
	baz=2.8						
U12A				⇓Sb	**Sb**	**16 46 51.7**	**+1.4**
	baz=2.8						
N13A	**Wendover, West**	**2.86**	**326**	⇓Sb	**Sg**	**16 46 53.7**	**-2.6**
	baz=2.9

baz=3.0
P11A Circle Ranch, 3.05 291 ⇓Pb **Pb 16 46 17.6 -1.1**
baz=3.0
V13A Grand Canyon W 3.06 210 ⇓Sb **Sb 16 46 57.4 +1.2**
baz=3.0
M14A Sheep Mountain 3.14 342 ⇓P **Pn 16 46 13.7 -0.2**
baz=3.2
M14A ⇑Sb **Sb 16 47 02.2 +3.4**
baz=3.2
O11A Cowboy Ranch, 3.21 301 ⇓Pb **Pb 16 46 21.1 -0.5**
baz=3.2
M13A Montello 3.27 331 ⇓Sb **Sb 16 47 05.4 +3.1**
baz=3.3
N12A Clover Valley, 3.27 317 ⇓Sb **Sb 16 47 05.1 +2.7**
baz=3.3
R10A Warm Springs 3.33 267 ⇓Pb **Pb 16 46 22.9 -0.5**
baz=3.3
R10A ⇓Sb **Sb 16 47 05.9 +2.0**
baz=3.3
W15A Williams 3.33 183 ⇑Pb **Pb 16 46 23.4 -0.1**
baz=3.3
W15A ⇑Sb **Sb 16 47 06.0 +1.9**
baz=3.3
W14A Seligman 3.39 194 ⇑Pb **Pb 16 46 24.3 -0.2**
baz=3.4
W14A ⇓Sb **Sb 16 47 07.8 +2.1**
baz=3.4
Q10A Clear Creek Ra 3.40 277 ⇑Sb **Sb 16 47 08.0 +2.0**
baz=3.4
S10A Tonopah Range, 3.60 262 ⇑Sb **Sb 16 47 15.1 +3.1**
baz=3.6
M12A Wells 3.63 324 ⇓Sb **Sb 16 47 17.1 +4.4**
baz=3.6
TPNV Topopah Spring 3.66 246 *e*Pn **Pn 16 46 21.8 +0.8**
TPNV Topopah Spring 3.66 246 ⇓P **Pn 16 46 21.2 +0.2**
baz=3.6
TPNV ⇓Sb **Sb 16 47 16.9 +3.5**
baz=3.6
SMCO Snowmass 4.04 79 *e*Pg **Pg 16 46 40.2 -1.6**

IDC 02 16:52:08.9±2.4,459N×12375E,h0km,mb3.5/3,mb1 3.8/3, mb1mx3.5/19,mbtmp3.5/3,Error ellipse: s-maj=292.7km s-min=27.0km az=63.0,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.51**	**157**	P	P	16 57 48.3	+0.1
0.6nm,0.3s,baz=337,slow=9.6,SNR=35							
ASAR	**Alice Springs**	**29.78**	**161**	P	P	16 58 17.6	+0.1
0.3nm,0.4s,baz=336,slow=7.9,SNR=20							
MKAR	**Makanchi Array**	**55.18**	**326**	P	P	17 01 43.4	0.0
0.1nm,0.3s,baz=128,slow=8.9,SNR=4.0							

*NIED **02** 17:28:00,2570N×12630E,h11km,Mw3.6 Best double couple: M0=2.50000×10^14 NP1:φs=326.00000°,δ50.00000°, λ-70.00000°. NP2:φs=117.00000°,δ43.00000°, λ-112.00000°.*
*IDC **02** 17:28:16.4±1.1,2568N×126.13E,h0km,mb3.3/4, mb1 3.6/5,mb1mx3.5/18,mbtmp3.4/5,Error ellipse: s-maj=35.0km s-min=24.6km az=92.0*
*ISCJB **02** 17:28:17.6±0.3,2570N±006×12633E±005,h6km,mb3.2/5, Error ellipse: s-maj=10.4km s-min=2.4km az=142.4*
*JMA **02** 17:28:18.0±0.3,2569N×12635E,h6km±4km,M3.9*
*NEIC **02** 17:28:22.7±1.2,2560N×12646E,h36km±14km, MG3.9(JMA),Error ellipse: s-maj=18.2km s-min=11.2km az=147.0*

ISC 02 17:28:18.3±1.1,2566N±006×12637E±005,h8km±8km,n23, σ1§07/36,mb3.2/5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.76**	**30**	P	**Pg**	**17 28 32.3**	**-0.7**
JKE				*e*S	**Sg**	**17 28 43.2**	**+0.3**
JAGN	**Aguni-jima**	**1.21**	**40**	P	**Pb**	**17 28 40.2**	**-1.3**
JAGN				*e*S	**Sb**	**17 28 56.7**	**-0.6**
JOGS	**Gusukube**	**1.25**	**224**	P	**Pn**	**17 28 41.6**	**-0.5**
JOGS				*e*S	**Sb**	**17 28 58.8**	**+0.4**
JMJ	**Miyako jima 2**	**1.29**	**229**	P	**Pn**	**17 28 42.3**	**-0.3**
JMJ				S	**Sb**	**17 28 59.8**	**+0.4**
NAH1	**Naha**	**1.31**	**65**	P	**Pn**	**17 28 42.3**	**-0.6**
NAH1				*e*S	**Sb**	**17 28 59.8**	**-0.3**
JJT2	**Tamagusuku 2**	**1.33**	**69**	P	**Pn**	**17 28 43.0**	**-0.2**
JJT2				*e*S	**Sb**	**17 29 01.1**	**+0.3**
JTJ	**Tarama**	**1.82**	**236**	P	**Pn**	**17 28 49.7**	**-0.2**
JTJ				*e*S	**Sn**	**17 29 12.9**	**-0.2**
JIH	**Iheya**	**1.98**	**46**	P	**Pn**	**17 28 51.2**	**-1.0**
JIH				*e*S	**Sn**	**17 29 15.7**	**-1.5**
JOW	**Kunigami**	**2.07**	**55**	P	**Pn**	**17 28 54.5**	**+1.1**
JOW				*e*S	**Sn**	**17 29 20.9**	**+1.5**
JOW	**Kunigami**	**2.07**	**55**	Pn	**Pn**	**17 28 54.6**	**+1.2**
63nm,0.3s,baz=251,slow=14,SNR=46							
JIJ	**Ishigaki jima**	**2.40**	**238**	P	**Pn**	**17 28 57.1**	**-0.7**
JIJ				S	**Sn**	**17 29 25.6**	**-1.8**
JKRS	**Kuro-shima**	**2.57**	**237**	P	**Pn**	**17 28 59.8**	**-0.4**
JKRS				S	**Sn**	**17 29 32.8**	**+1.2**
IRIF	**Iriomote-Funau**	**2.73**	**242**	P	**Pn**	**17 29 01.9**	**-0.6**
IRIF				S	**Sn**	**17 29 34.2**	**-1.5**
JTK	**Tokunoshima**	**3.13**	**47**	P	**Pn**	**17 29 09.1**	**+1.1**
JTK				*e*S	**Sn**	**17 29 46.2**	**+0.6**
YOJ	**Yonaguni jima**	**3.27**	**249**	P	**Pn**	**17 29 11.4**	**+1.6**
JAM	**Amami Oshima**	**3.98**	**46**	P	**Pn**	**17 29 20.5**	**+0.9**
NACB	**Ninganchiao**	**4.58**	**252**	*e*Pn	**Pn**	**17 29 29.9**	**+2.1**
YHNB	**Yeheng**	**4.63**	**259**	*e*Pn	**Pn**	**17 29 31.5**	**+3.0**
SONM	**Songino Array**	**27.16**	**330**	P	**P**	**17 34 03.6**	**+1.7**
0.3nm,0.7s,mb2.9,baz=131,slow=8.0,SNR=2.7							
MKAR	**Makanchi Array**	**40.67**	**313**	P	**P**	**17 35 56.8**	**-2.3**
0.2nm,0.6s,mb2.9,baz=99,slow=11,SNR=4.4							
WRA	**Warramunga Arr**	**45.99**	**170**	P	**P**	**17 36 41.1**	**-1.1**
0.3nm,0.5s,mb3.5,baz=350,slow=9.0,SNR=8.0							
ASAR	**Alice Springs**	**49.58**	**171**	P	**P**	**17 37 10.8**	**+0.8**
0.5nm,0.9s,mb3.5,baz=358,slow=7.3,SNR=4.9							
YKA	**Yellowknife Ar**	**79.74**	**24**	P	**P**	**17 40 26.5**	**0.0**
0.2nm,0.7s,mb3.2,baz=294,slow=5.3,SNR=3.3							

*IDC **02** 17:43:28.0±1.0,660N×12679E,h0km,mb3.9/7,mb1 4.1/8, mb1mx3.9/20,mbtmp4.0/8,ML4.9/1,MS2.8/2,Ms1 2.8/2, ms1mx2.6/34,Error ellipse: s-maj=88.5km s-min=15.9km az=74.0*
*NEIC **02** 17:43:35.9±2.3,663N×12678E,h59km±20km,mb4.4/4, Error ellipse: s-maj=29.8km s-min=8.3km az=65.0*
*ISCJB **02** 17:43:36.2±0.7,641N±004×12644E±007,h74km±6km, mb4.0/9,Error ellipse: s-maj=11.7km s-min=7.4km az=173.0*
*MAN **02** 17:43:36,642N×12647E,h37km,mb5.1,ML4.0,MS4.1*

ISC 02 17:43:37.2±0.7,639N±004×12642E±007,h65km±7km,n27, σ1§12/33,mb4.0/9,1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.57**	**344**	*e*P	**Pn**	**17 43 49.1**	**-1.2**
MATI				*e*S	**Sn**	**17 43 59.0**	**-0.9**
DAV	**Davao City (W)**	**1.07**	**309**	*e*P	**Pn**	**17 43 57.0**	**+0.7**
DAV				*e*S	**Sn**	**17 44 11.0**	**+0.4**
KCP	**Kidapawan**	**1.46**	**295**	⇓*e*P	**Pn**	**17 44 01.0**	**-0.4**
KCP				*i* S	**Sn**	**17 44 19.5**	**-0.1**
GSPH	**General Santos**	**1.49**	**258**	*e*P	**Pn**	**17 44 01.6**	**-0.3**
GSPH				*i* S	**Sn**	**17 44 18.2**	**-2.3**
BIPH	**Bislig**	**1.78**	**358**	⇑*i*P	**Pn**	**17 44 04.4**	**-1.4**
BIPH				*i* S	**Sn**	**17 44 27.4**	**0.0**
BUKP	**Musuan**	**2.00**	**318**	*e*P	**Pn**	**17 44 08.8**	**+0.1**
BUKP				*e*S	**Sn**	**17 44 33.2**	**+0.4**
CGP	**Cagayan de Oro**	**2.67**	**320**	*e*P	**Pn**	**17 44 21.1**	**+3.3**
CGP				*e*S	**Sn**	**17 44 53.0**	**+4.0**
PAGZ	**Pagadian**	**3.34**	**296**	*e*P	**Pn**	**17 44 28.8**	**+1.8**
SCPH	**Surigao**	**3.49**	**345**	*e*P	**Pn**	**17 44 30.3**	**+1.3**
SCPH				*e*S	**Sn**	**17 45 10.6**	**+1.4**
BATI	**Kupang**	**16.72**	**189**	Pn	**Pn**	**17 47 29.2**	**+2.0**
4.4nm,0.3s,baz=4.1,slow=1.6,SNR=16							
KSM	**Kuching**	**16.80**	**254**	P	**Pn**	**17 47 33.0**	**+4.7**
KAKA	**Kakadu**	**19.90**	**163**	*e*P	**Pn**	**17 48 04.5**	**-1.2**
15nm,0.6s							
FITZ	**Fitzroy Crossi**	**24.35**	**182**	*e*P	**P**	**17 48 50.4**	**+1.2**
FITZ	**Fitzroy Crossi**	**24.35**	**182**	P	**P**	**17 48 49.3**	**+0.1**
2.1nm,0.6s,mb3.7,baz=28,slow=19,SNR=11							
JNU	**Nakatsue**	**26.92**	**8**	LR	LR	17 58 19.0	
comp=Z,18nm,18.9s,baz=235,slow=33							
WRAB	**Tennant Creek**	**27.30**	**164**	*e*P	**P**	**17 49 17.1**	**+1.3**
4.6nm,1.0s,mb4.0							
WRA	**Warramunga Arr**	**27.30**	**164**	P	**P**	**17 49 15.8**	**-0.1**

2007 MAY

0.8nm,0.5s,mb3.5,baz=345,slow=10,SNR=12
WB2 Warramunga Arr 27.31 164 *e*P **P 17 49 17.4 +1.5**
ASAR Alice Springs 30.76 166 P **P 17 49 46.6 +0.2**
0.5nm,0.4s,mb3.6,baz=345,slow=7.1,SNR=22
KSRS Korea Array 30.95 2 LR LR 17 59 37.0
comp=Z,18nm,21.7s,baz=220,slow=32
STKA Stephens Creek 40.72 160 P **P 17 51 10.3 -1.3**
2.4nm,0.8s,mb4.1,baz=2.1,slow=12,SNR=2.9
SONM Songino Array 44.69 341 P **P 17 51 44.0 +0.4**
0.4nm,0.7s,baz=156,slow=6.5,SNR=4.7
SONM PcP PcP 17 53 25.2 +0.1
0.2nm,0.7s,baz=173,slow=4.1,SNR=3.6
MK31 Makanchi Array 55.22 324 *e*P **P 17 53 02.4 -1.1**
MKAR Makanchi Array 55.22 324 P **P 17 53 02.4 -1.1**
2.3nm,0.6s,mb4.4,baz=123,slow=8.1,SNR=27
MKAR PcP PcP 17 54 04.2 +0.4
0.6nm,0.7s,baz=114,slow=3.6,SNR=3.8
KURK Kurchatov 59.35 327 *e*P **P 17 53 31.3 -1.2**
4.7nm,0.9s,mb4.5
BRVK Borovoye 65.01 326 *e*P **P 17 54 10.4 +0.1**
3.5nm,0.8s,mb4.2
ARCES ARCESS Array B 87.86 340 P **P 17 56 17.8 -1.4**
1.5nm,0.7s,mb4.1,baz=88,slow=6.2,SNR=10.0

*ISCJB **02** 17:44:19.0±0.8,281S±01×1787W±02,h270km±9km, mb3.8/12,Error ellipse: s-maj=21.9km s-min=18.9km az=22.3*
*NEIC **02** 17:44:19.2±1.0,2802S×17852W,h270km±10km,mb3.8/1, Error ellipse: s-maj=17.0km s-min=15.9km az=145.0*
*IDC **02** 17:44:20.6±1.2,2809S×17864W,h278km±12km,mb3.6/11, mb1 3.7/11,mb1mx3.6/17,mbtmp3.6/11,Error ellipse: s-maj=24.6km s-min=16.3km az=160.0*

ISC 02 17:44:19.9±0.8,281S±01×1787W±02,h264km±9km,n29, σ0§95/25,mb3.8/12,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**149**	*e*P	**Pn**	**17 44 58.8**	**+0.3**
RAO				*e*S	**S**	**17 45 27.2**	**-1.8**
RAO				S	**S**	**17 45 29.5**	**+0.5**
RAO	**Raoul Island**	**1.34**	**149**	P	**Pn**	**17 44 59.0**	**+0.5**
406nm,0.3s,baz=265,slow=3.5,SNR=37							
RAO				S	**S**	**17 45 29.5**	**+0.5**
504nm,0.3s,baz=91,slow=22,SNR=8.0							
URZ	**Urewera**	**10.72**	**198**	P	**Pn**	**17 46 45.8**	**-1.5**
0.9nm,0.3s,baz=303,slow=1.6,SNR=14							
URZ				S	**S**	**17 48 38.2**	**-9.2**
4.7nm,0.3s,baz=256,slow=19,SNR=13							
CTA	**Charters Tower**	**32.88**	**276**	P	**P**	**17 50 31.3**	**+1.7**
2.9nm,0.9s,mb3.8,baz=108,slow=11,SNR=4.0							
ASAR	**Alice Springs**	**42.66**	**265**	P	**P**	**17 51 51.4**	**+0.3**
0.6nm,0.5s,mb3.1,baz=97,slow=7.0,SNR=9.2							
WB2	**Warramunga Arr**	**43.43**	**270**	*e*P	**P**	**17 51 57.2**	**0.0**
WRAB	**Tennant Creek**	**43.43**	**270**	*e*P	**P**	**17 51 57.0**	**-0.3**
2.8nm,0.6s,mb3.7							
WRA	**Warramunga Arr**	**43.44**	**270**	P	**P**	**17 51 57.2**	**-0.1**
WRA				ScP	ScP	17 57 05.1	-1.3
WRA				S	**S**	**17 58 02.3**	**-3.1**
WRA	**Warramunga Arr**	**43.44**	**270**	P	**P**	**17 51 57.2**	**-0.1**
2.4nm,0.5s,mb3.7,baz=109,slow=7.6,SNR=19							
WRA				ScP	ScP	17 57 05.1	-1.2
0.8nm,0.8s,baz=114,slow=4.0,SNR=7.1							
WRA				S	**S**	**17 58 02.3**	**-3.1**
0.6nm,0.8s,baz=106,slow=14,SNR=3.6							
SBA Scott Base 50.28 184 *e*P **P 17 52 50.8 +1.5**
VNDA Vanda 50.32 185 P **P 17 52 49.8 +0.3**
1.2nm,1.1s,mb3.1,baz=320,slow=8.0,SNR=3.7
FITZ Fitzroy Crossi 51.78 268 *e*P **P 17 53 01.3 +0.1**
FITZ Fitzroy Crossi 51.78 268 P **P 17 53 01.2 +0.1**
0.6nm,0.4s,mb3.3,baz=92,slow=14,SNR=5.8
JOW Kunigami 74.66 312 P **P 17 55 30.5 -0.1**
5.0nm,0.8s,mb4.2,baz=130,slow=8.2,SNR=3.1
MJAR Matsushiro Arr 76.00 325 P **P 17 55 36.7 -1.3**
1.2nm,0.5s,mb3.8,baz=152,slow=5.2,SNR=9.9
JNU Nakatsue 77.43 318 P **P 17 55 45.4 -0.7**
3.9nm,0.6s,mb4.3,baz=252,slow=3.2,SNR=4.2
ASAJ Asahikawa 80.12 333 P **P 17 56 01.2 +0.9**
5.2nm,0.7s,mb4.3,baz=145,slow=5.6,SNR=3.5
KSRS Korea Array 82.19 320 P **P 17 56 12.4 +0.9**
1.4nm,0.8s,mb3.7,baz=134,slow=3.6,SNR=5.1
NVAR Mina Array Bea 86.97 43 P **P 17 56 34.1 -1.1**
0.9nm,0.4s,mb4.0,baz=193,slow=7.0,SNR=6.1
MKAR Makanchi Array 115.81 311 PKP PKPdf 18 02 28.5 -2.2
0.5nm,0.5s,baz=192,slow=1.2,SNR=10
ARCES ARCESS Array B 136.21 348 PKP PKPdf 18 03 06.6 -2.3
1.0nm,0.6s,baz=128,slow=1.4,SNR=8.2
FINES FINESS Array B 142.78 341 PKP 18 03 15.0
FINES FINESS Array B 142.78 341 PKhKP 18 03 15.0
0.9nm,0.5s,baz=78,slow=3.7,SNR=6.0
NB2 NORSAR Subarra146.39 351 PKP PKPdf 18 03 26.7 -0.6
comp=Z,2.9nm,0.5s,baz=11,slow=2.9
NOA NORSAR Array B 146.39 351 PKPbc PKPbc 18 03 27.3 -1.8
NOA NORSAR Array B 146.39 351 PKPbc PKPbc 18 03 27.3 -1.8
comp=Z,3.5nm,0.6s,baz=15,slow=4.6,SNR=11
NAO01 NORSAR Array S 146.62 351 *e*PKPbc PKPbc 18 03 27.2 -2.5
KONO Kongsberg 147.94 352 *e*PKPbc PKPbc 18 03 31.4 -1.9
AKASG Malin Array Be 149.09 325 *e*PKPbc PKPbc 18 03 34.9 -1.7
comp=Z,3.9nm,0.5s,baz=45,slow=3.2,SNR=42
AKASG PKPab PKPab 18 03 40.1 -1.6
comp=Z,3.5nm,0.5s,baz=46,slow=4.7,SNR=22

*IDC **02** 17:59:17.2±2.4,1606N×9036W,h0km,mb4.0/3,mb1 4.3/5, mb1mx3.9/19,mbtmp4.0/5,ML3.4/1,MS3.2/1,Ms1 3.2/1, ms1mx2.4/34,Error ellipse: s-maj=49.7km s-min=28.4km az=132.0*
*ISCJB **02** 17:59:18.1±1.8,162N±0.1×9049W±006,h14km±18km, mb4.0/3,Error ellipse: s-maj=18.5km s-min=7.0km az=159.0*
*MEX **02** 17:59:20.6±0.6,1615N×9047W,h95km±14km,MD4.3*
*NEIC **02** 17:59:27.3±0.9,1674N×9092W,h43km±17km, MD4.3(MEX),Error ellipse: s-maj=19.4km s-min=11.0km az=182.0*

ISC 02 17:59:19.6±2.0,1625N±010×9056W±006,h9km±19km,n17, σ1§13/22,mb4.0/3,Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.52**	**272**	*i* P	**Pn**	**17 59 47.1**	**+0.1**
CCIG				*i* S	**Sn**	**18 00 07.7**	**+0.8**
SCX	**San Cristobal**	**2.05**	**284**	*i* P	**Pn**	**17 59 54.4**	**+0.1**
SCX				*i* S	**Sn**	**18 00 20.0**	**0.0**
SCIG	**Sabancuy**	**2.77**	**348**	*i* P	**Pn**	**18 00 03.3**	**-0.9**
SCIG				*i* S	**Sn**	**18 00 37.9**	**+0.1**
TGUH	**Tegucigalpa,Un**	**3.84**	**124**	Pn	**Pg**	**18 00 32.6**	**-0.7**
TUIG	**Tuzandepetl**	**4.10**	**296**	*i* P	**Pn**	**18 00 21.9**	**-0.6**
CMIG	**Matias Romero**	**4.23**	**282**	*i* P	**Pn**	**18 00 22.7**	**-1.6**
CMIG				*i* S	**Sn**	**18 01 13.1**	**-0.7**
TEIG	**Tepich**	**4.51**	**28**	Pn	**Pn**	**18 00 29.2**	**+1.1**
TEIG				Lg		18 01 42.6	
TEIG	**Tepich**	**4.51**	**28**	Pn	**Pn**	**18 00 29.2**	**+1.1**
27nm,0.3s,baz=233,slow=3.2,SNR=126							
TEIG				Sn	**Sn**	**18 01 18.9**	**-1.8**
30nm,0.3s,baz=39,slow=23,SNR=12							
TEIG				Lg		18 01 42.6	
18nm,0.3s,baz=113,slow=22,SNR=9.7							
VHO	**Vista Hermosa**	**5.98**	**279**	*i* P	**Pn**	**18 00 48.5**	**+0.3**
VHO				*i* S	**Sn**	**18 01 55.2**	**-1.7**
TXAR	**Lajitas Array**	**17.75**	**319**	P	**Pn**	**18 03 29.7**	**+2.7**
TXAR	**Lajitas Array**	**17.75**	**319**	P	**Pn**	**18 03 29.7**	**+2.7**
0.0nm,0.3s,baz=146,slow=14,SNR=14							
MNTX	**Cornudas Mount**	**20.46**	**321**	*e*P	**P**	**18 03 59.4**	**+1.8**
NVAR	**Mina Array Bea**	**32.88**	**318**	P	**P**	**18 05 56.0**	**+2.0**
0.7nm,0.3s,mb4.1,baz=121,slow=10,SNR=8.0							
YKA	**Yellowknife Ar**	**49.19**	**346**	P	**P**	**18 08 07.6**	**-0.1**
YKA	**Yellowknife Ar**	**49.19**	**346**	P	**P**	**18 08 07.6**	**-0.1**
0.8nm,0.8s,mb3.8,baz=146,slow=7.6,SNR=16							
ARCES	**ARCESS Array B**	**83.58**	**19**	P	**P**	**18 11 47.9**	**+0.1**
1.2nm,0.7s,mb4.1,baz=298,slow=3.9,SNR=8.9							
WRA	**Warramunga Arr**	**137.26**	**258**	PKP	PKPdf	18 18 43.4	-0.9
0.4nm,0.8s,baz=89,slow=2.6,SNR=3.5							

IDC 02 18:09:05.9±2.6,1862S×17537W,h260km±30km,mb3.4/5, mb1 3.6/5,mb1mx3.3/16,mbtmp3.4/5,Error ellipse: s-maj=41.5km s-min=16.6km az=83.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.64**	**197**	P	P	18 13 25.5	-0.4
3.7nm,0.4s,baz=352,slow=10,SNR=8.3							
URZ				S	S	18 17 01.9	+1.4
3.0nm,0.6s,baz=108,slow=20,SNR=2.8							

CTA Charters Tower 36.19 261 P P 18 15 45.0 +0.8
1.1nm,0.4s,baz=84,slow=10,SNR=3.6
WRA Warramunga Arr 47.35 260 P P 18 17 14.1 -0.3
0.8nm,0.6s,baz=98,slow=6.1,SNR=19
ASAR Alice Springs 47.39 255 P P 18 17 14.6 0.0
2.1nm,0.6s,baz=95,slow=7.7,SNR=46
ASAR S S 18 23 48.6 0.0
0.7nm,0.8s,baz=98,slow=15,SNR=5.6
MJAR Matsushiro Arr 70.23 322 P P 18 19 50.9 0.0
0.9nm,0.7s,baz=143,slow=6.6,SNR=3.5

*ISCJB **02** 18:30:01.9±1.1,2170N±0.10×10340E±004,h10km,Error ellipse: s-maj=14.6km s-min=3.7km az=168.1*
*PLV **02** 18:30:02.3±6.6,2173N×10332E,h5km±159km,MD4.1*

ISC 02 18:30:02.3±1.0,2176N±009×10335E±004,h10km,n13, σ1§36/30,1C-2D,Vietnam

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**0.48**	**220**	*e*PG	**Pg**	**18 30 11.8**	**+0.2**
DBV				*e*Sg	**Sg**	**18 30 19.9**	**+2.0**
SLVN	**Son La**	**0.66**	**129**	*e*PN	**Pn**	**18 30 17.1**	**-0.6**
SLVN				*e*PG	**Pg**	**18 30 18.1**	**+3.0**
SLVN				*e*SG	**Sg**	**18 30 28.2**	**+4.4**
BVV	**Ba Vi**	**1.99**	**109**	*e*Pn	**Pn**	**18 30 35.8**	**-0.1**
BVV				*e*Pg	**Pg**	**18 30 39.9**	**-0.5**
BVV				*e*SG	**Sg**	**18 31 06.7**	**+0.5**
HNV	**Hanoi**	**2.38**	**107**	*e*Pn	**Pn**	**18 30 40.4**	**-1.0**
HNV				*e*Pg	**Pg**	**18 30 45.3**	**-2.7**
HNV				*e*Sg	**Sg**	**18 31 18.4**	**-0.5**
DSV	**Doi Son**	**2.71**	**115**	*e*Pn	**Pn**	**18 30 43.9**	**-2.0**
DSV				*e*Pg	**Pg**	**18 30 50.3**	**-3.9**
DSV				*e*Sg	**Sg**	**18 31 26.4**	**-3.0**
BGV	**Bac-Giang**	**2.72**	**99**	*e*Pn	**Pn**	**18 30 47.0**	**+1.1**
BGV				*e*Pg	**Pg**	**18 30 55.6**	**+1.3**
BGV				*e*Sg	**Sg**	**18 31 34.4**	**+4.8**
MTZV	**Met**	**2.79**	**94**	*e*Pn	**Pn**	**18 30 49.0**	**+2.0**
MTZV				*e*Pg	**Pg**	**18 30 58.5**	**+2.7**
MTZV				*e*Sg	**Sg**	**18 31 39.2**	**+7.4**
YTV	**Yen Tu**	**3.19**	**100**	*e*Pn	**Pn**	**18 30 52.6**	**+0.1**
YTV				*e*Pg	**Pg**	**18 31 03.9**	**+0.5**
YTV				*e*Sg	**Sg**	**18 31 47.9**	**+3.1**
PLV	**Phu-Lien**	**3.20**	**107**	*e*Pn	**Pn**	**18 30 52.1**	**-0.6**
PLV				*e*Pg	**Pg**	**18 31 02.2**	**-1.4**
PLV				*e*Sg	**Sg**	**18 31 44.5**	**-0.6**
CHRT	**Chiangrai**	**3.83**	**241**	⇑P	**Pn**	**18 31 00.0**	**-1.3**
210nm,0.6s							
NANT	**Nan**	**3.86**	**221**	⇓P	**Pn**	**18 30 53.0**	**-8.7**
472nm,0.8s							
CHG	**Chiang Mai**	**5.07**	**235**	⇓P	**Sb**	**18 32 31.7**	**-0.5**
18nm,0.8s							
KKTK	**Khon Kaen**	**5.42**	**185**	P	**Pn**	**18 31 23.0**	**-0.1**

*IDC **02** 18:41:34.2±2.1,4022N×6310E,h0km,mb3.7/6, mb1 3.8/10,mb1mx3.6/24,mbtmp3.7/10,ML3.4/4,MS3.0/2, Ms1 3.0/2,ms1mx2.5/34,Error ellipse: s-maj=37.6km s-min=15.8km az=5.0*
*NEIC **02** 18:41:35.7±1.5,4035N×6335E,h10km,Error ellipse: s-maj=25.8km s-min=11.9km az=180.0*
*MOS **02** 18:41:37.8±1.3,4052N×6334E,h33km,mb4.0/1,Error ellipse: s-maj=21.7km s-min=13.5km az=89.5*
*ISCJB **02** 18:41:38.9±3.6,409N±0.1×635E±0.1,h24km±29km, mb3.7/6,MS2.9/2,Error ellipse: s-maj=20.1km s-min=14.7km az=166.4*

ISC 02 18:41:41.7±2.1,408N±01×635E±01,h35km±19km,n16, σ0§86/15,mb3.7/6,MS2.9/2,Northwestern Uzbekistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**8.46**	**74**	Pn	**Pn**	**18 43 41.6**	**-0.1**
0.4nm,0.3s,baz=239,slow=6.5,SNR=4.2							
AKTK	**Aktyubinsk**	**10.41**	**340**	Pn	**Pn**	**18 44 08.1**	**-0.2**
AKTO	**Aktyubinsk**	**10.41**	**340**	Pn	**Pn**	**18 44 08.1**	**-0.2**
0.5nm,0.3s,baz=137,slow=7.8,SNR=6.8							
BVAR	**Borovoye Array**	**13.15**	**19**	Pn	**Pn**	**18 44 47.7**	**+2.0**
0.3nm,0.3s,baz=224,slow=10,SNR=7.2							
BVAR				Sn	**Sn**	**18 47 09.8**	**-0.8**
0.1nm,0.3s,baz=203,slow=18,SNR=2.8							
BRVK	**Borovoye**	**13.15**	**18**	*e*P	**Pn**	**18 44 49.9**	**+4.1**
BRVK				pmax	pmax		
comp=Z,2.0nm,0.7s							
BRVK	**Borovoye**	**13.15**	**18**	*e*P	**Pn**	**18 44 49.9**	**+4.1**
comp=Z,1.7nm,0.7s							
MKAR	**Makanchi Array**	**14.86**	**60**	Pn	**Pn**	**18 45 08.2**	**-0.9**
comp=Z,0.2nm,0.3s,baz=250,slow=15,SNR=8.8							
AKASG	**Malin Array Be**	**25.69**	**304**	P	**P**	**18 47 07.0**	**-1.1**
comp=Z,0.3nm,0.3s,mb3.3,baz=112,slow=8.5,SNR=6.4							
MLR	**Muntele Rosu**	**27.63**	**292**	LR	LR	19 00 58.2	
comp=Z,18nm,20.7s,MS2.6,baz=238,slow=42							
FINES	**FINESS Array B**	**30.65**	**325**	P	**P**	**18 47 52.8**	**+0.4**
comp=Z,2.0nm,0.9s,mb4.0,baz=120,slow=11,SNR=5.3							
ARCES	**ARCESS Array B**	**34.98**	**338**	P	**P**	**18 48 31.1**	**+1.1**
comp=Z,2.0nm,0.9s,mb4.0,baz=129,slow=8.3,SNR=6.4							
HFS	**Hagfors**	**36.05**	**320**	P	**P**	**18 48 38.7**	**-0.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=92,slow=16,SNR=2.6							
NOA	**NORSAR Array B**	**37.40**	**321**	P	**P**	**18 48 50.7**	**-0.1**
NOA				pmax	pmax		
comp=Z,1.0nm,0.5s							
NOA	**NORSAR Array B**	**37.40**	**321**	P	**P**	**18 48 50.7**	**-0.2**
comp=Z,0.4nm,0.4s,mb3.6,baz=99,slow=8.5,SNR=2.8							
JMIC	**Jan Mayen**	**46.27**	**334**	LR	LR	19 12 51.1	
comp=Z,27nm,18.6s,MS3.2,baz=317,slow=40							
YKA	**Yellowknife Ar**	**77.09**	**359**	P	**P**	**18 53 31.4**	**+0.6**
comp=Z,0.2nm,0.6s,mb3.2,baz=352,slow=7.0,SNR=3.6							

*IDC **02** 18:44:16.1±1.3,3997N×5002E,h0km,mb4.2/13, mb1 4.3/17,mb1mx4.2/24,mbtmp4.2/17,ML4.4/4,MS3.3/4, Ms1 3.3/4,ms1mx2.8/35,Error ellipse: s-maj=29.4km s-min=15.3km az=12.0*
*CSEM **02** 18:44:20.9±0.1,4023

MALT Malatya 9.26 262 *eP* **Pn 18 46 37.2 +3.9**
comp=Z,2.9nm,0.8s
MALT Malatya 9.26 262 *eP* **Pn 18 46 37.2 +3.9**
comp=Z,2.9nm,0.8s
ANN Anapa 10.41 300 *eP* **Pn 18 46 39.8 -9.2**
ANN pmax pmax
comp=Z,22nm,1.0s
MIB Mutribah 10.64 193 *eP* **Pn 18 46 50.3 -1.9**
MIB AMb AMB 18 46 53.0
comp=Z,18nm,0.8s
NAY Al-Naaiem 11.20 193 *eP* **Pn 18 46 57.7 -2.2**
NAY AMb AMB 18 47 02.0
comp=Z,3.0nm,0.7s
RDF Al-Radifah 11.47 191 *eP* **Pn 18 47 01.6 -1.9**
RDF AMb AMB 18 47 05.7
comp=Z,12nm,0.6s
QRN Al-Qurain 11.60 190 *eP* **Pn 18 47 03.2 -2.1**
QRN AMb AMB 18 47 05.0
comp=Z,24nm,0.8s
AKTK Aktyubinsk 11.62 26 Pn **Pn 18 47 05.0 -0.5**
AKTK Sn **Sn 18 49 06.6 -7.8**
AKTK LR LR 18 53 27.8
AKTK Aktyubinsk 11.62 26 Pn **Pn 18 47 05.0 -0.5**
AKTK Sn **Sn 18 49 06.6 -7.7**
AKTO Aktyubinsk 11.62 26 P **Pn 18 47 05.0 -0.5**
AKTO 18 49 06.6
AKTO Aktyubinsk 11.62 26 Pn **Pn 18 47 05.0 -0.5**
comp=Z,2.3nm,0.3s,baz=190,slow=11,SNR=11
AKTO Sn **Sn 18 49 06.6 -7.8**
comp=Z,2.7nm,0.3s,baz=46,slow=18,SNR=11
AKTO LR LR 18 53 27.8
comp=Z,144nm,18.9s,baz=70,slow=46
EIL Elat 16.27 234 LR LR 18 54 57.3
comp=Z,59nm,21.0s,baz=134,slow=40
ARU Arti 17.14 16 *d iP* **Pn 18 48 18.1 -0.9**
ARU *eS* **Sn 18 51 32.2 +3.5**
ARU pmax pmax
comp=Z,13nm,1.0s
ARU Arti 17.14 16 *eP* **Pn 18 48 16.4 -2.6**
comp=Z,8.5nm,0.6s
ARU Arti 17.14 16 *i P* **Pn 18 48 18.1 -0.9**
comp=Z,13nm,1.0s
OBN Obninsk 17.41 333 *eP* **Pn 18 48 17.7 -4.7**
OBN pmax pmax
comp=Z,8.0nm,0.9s
OBN Obninsk 17.41 333 *eP* **Pn 18 48 19.1 -3.3**
MOS Moscow 17.58 336 *eP* **Pn 18 48 24.2 -0.3**
MOS pmax pmax
comp=Z,45nm,1.2s
MOS Moscow 17.58 336 *eP* **Pn 18 48 24.2 -0.3**
comp=Z,45nm,1.2s
AML Almayashu 17.85 76 *eP* **Pn 18 48 30.2 +2.3**
comp=Z,8.2nm,0.7s
AML Almayashu 17.85 76 *eP* **Pn 18 48 30.2 +2.3**
comp=Z,8.2nm,0.7s
EKS2 Erkin-Say 17.90 74 *P* **Pn 18 48 29.1 +0.6**
SNR=12
EKS2 Erkin-Say 17.90 74 *eP* **Pn 18 48 28.8 +0.3**
comp=Z,14nm,0.6s
AKASG Malin Array Be 17.95 313 P **Pn 18 48 27.5 -1.6**
comp=Z,1.5nm,0.3s,baz=121,slow=11,SNR=15
AKBB Malin Array Si 17.95 313 *eP* **Pn 18 48 29.3 +0.3**
SVE Sverdlovsk 17.98 19 *eP* **Pn 18 48 26.9 -2.5**
SVE *eS* **Sn 18 51 36.7 -12**
SVE pmax pmax
comp=Z,18nm,1.1s
AAK Ala-Archa 18.43 75 *eP* **Pn 18 48 34.5 -0.5**
AAK pmax pmax
comp=Z,14nm,0.9s
AAK Ala-Archa 18.43 75 *eP* **Pn 18 48 34.5 -0.6**
comp=Z,14nm,0.9s
AAK Ala-Archa 18.43 75 P **Pn 18 48 33.9 -1.1**
comp=Z,1.3nm,0.3s,baz=234,slow=4.0,SNR=11
AAK Ala-Archa 18.43 75 P **Pn 18 48 35.5 +0.5**
SNR=11
AAK Ala-Archa 18.43 75 *eP* **Pn 18 48 34.5 -0.5**
comp=Z,14nm,0.9s
USP Ospenovka 18.44 73 P **Pn 18 48 34.9 -0.2**
SNR=5.7
UCH Uchtor 18.45 76 *eP* **Pn 18 48 35.6 +0.3**
comp=Z,10nm,1.0s
UCH Uchtor 18.45 76 P **Pn 18 48 35.6 +0.3**
SNR=6.7
UCH Uchtor 18.45 76 *eP* **Pn 18 48 35.6 +0.3**
comp=Z,10nm,1.0s
FRU Bishkek 18.52 74 *eP* **Pn 18 48 36.0 -0.1**
FRU pmax pmax
comp=Z,60nm,2.0s
FRU Bishkek 18.52 74 *eP* **Pn 18 48 36.0 -0.1**
comp=Z,60nm,2.0s
CHMS Chumysh 18.62 73 P **Pn 18 48 37.6 +0.3**
SNR=15
KBK Karagaybulak 18.76 74 P **Pn 18 48 39.6 +0.5**
SNR=13
BRVK Borovoye 18.80 40 *eP* **Pn 18 48 39.8 +0.4**
BRVK pmax pmax
comp=Z,15nm,0.5s
BRVK Borovoye 18.80 40 *eP* **Pn 18 48 39.8 +0.4**
comp=Z,15nm,0.5s
BRVK Borovoye 18.80 40 *eP* **Pn 18 48 39.8 +0.4**
comp=Z,15nm,0.5s
BVAR Borovoye Array 18.83 40 P **Pn 18 48 40.2 +0.4**
comp=Z,2.7nm,0.3s,baz=224,slow=10,SNR=33
BVAR S **Sn 18 51 56.3 -13**
comp=Z,0.2nm,0.3s,baz=235,slow=23,SNR=5.7
KZA Kyzart 19.01 76 P **Pn 18 48 42.6 +0.6**
SNR=5.4
TKM2 Tokmak 2 19.24 74 *eP* **Pn 18 48 44.2 -0.6**
TKM2 pmax pmax
comp=Z,53nm,1.1s
TKM2 Tokmak 2 19.24 74 *eP* **Pn 18 48 44.1 -0.6**
comp=Z,53nm,1.1s
TKM2 Tokmak 2 19.24 74 P **Pn 18 48 44.8 0.0**
SNR=22
TKM2 Tokmak 2 19.24 74 *eP* **Pn 18 48 44.2 -0.6**
comp=Z,53nm,1.1s
KURK Kurchatov 22.44 53 *eP* **P 18 49 18.8 +0.5**
KURK pmax pmax
comp=Z,17nm,0.8s,mb4.5
KURK Kurchatov 22.44 53 *eP* **P 18 49 18.8 +0.6**
comp=Z,17nm,0.8s,mb4.5
KURK Kurchatov 22.44 53 *eP* **P 18 49 18.8 +0.5**
comp=Z,17nm,0.8s,mb4.5
OJC Ojcow 23.42 305 *eP* **P 18 49 29.1 +0.5**
MKAR Makanchi Array 24.13 64 P **P 18 49 35.7 +0.6**
comp=Z,6.2nm,0.5s,mb4.3,baz=259,slow=9.5,SNR=79
MORC Moravsky Berou 24.76 304 *eP* **P 18 49 42.1 +1.3**
JOF Joensuu 25.35 340 *ep* **P 18 49 44.9 -1.2**
FINES FINESS Array B 25.82 333 P **P 18 49 50.4 0.0**
comp=Z,3.1nm,0.6s,mb4.0,baz=148,slow=12,SNR=13
ZAL Zalesovo 27.00 48 P **P 18 50 01.0 -0.1**
ZALV Zalesovo Beam 27.01 48 P **P 18 50 00.9 -0.3**
comp=Z,1.6nm,0.4s,mb3.9,baz=268,slow=10,SNR=7.4
ZALV LR LR 19 03 05.6
comp=Z,54nm,19.0s,MS3.1,baz=123,slow=42
WMQ Urumqi 27.99 70 *eP* **P 18 50 08.7 -1.4**
WMQ AMB AMB
comp=Z,25nm,1.0s,mb4.8
DANN Dangsing 30.05 103 *eP* **P 18 50 29.6 +1.1**
comp=Z,35nm,0.6s,mb5.3
HFS Hagfors 30.09 324 P **P 18 50 28.6 +0.1**
comp=Z,4.8nm,0.8s,mb4.2,baz=127,slow=9.5,SNR=5.6
KOLN Koldanda 30.24 104 *eP* **P 18 50 30.8 +0.6**
comp=Z,7.1nm,0.6s,mb4.5
GKN Gorkha 30.89 102 *eP* **P 18 50 36.3 +0.4**
DMN Daman 31.45 103 *eP* **P 18 50 40.8 0.0**
comp=Z,8.3nm,0.8s,mb4.6
KKN Kakani 31.48 102 *eP* **P 18 50 41.2 +0.1**
NB2 NORSAR Subarra 31.57 324 P **P 18 50 41.2 -0.4**
comp=Z,3.5nm,1.0s,mb4.1,baz=114,slow=9.3
NOA NORSAR Array B 31.57 324 P **P 18 50 41.3 -0.3**
comp=Z,3.6nm,0.9s,mb4.2,baz=118,slow=8.3,SNR=9.5
PKI Pulchoki 31.69 102 *eP* **P 18 50 43.4 +0.4**
KONO Kongsberg 31.82 321 *eP* **P 18 50 37.2 -6.5**
GUN Gumba 31.87 102 *eP* **P 18 50 44.9 +0.4**
comp=Z,35nm,1.1s,mb5.1
KEV Kevo 31.99 345 *ep* **P 18 50 44.1 -1.0**
comp=Z,1.3nm,0.4s,mb4.1
KEV Kevo 31.99 345 *eP* **P 18 50 44.1 -1.0**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
ARCES ARCESS Array B 32.11 344 P **P 18 50 46.6 +0.4**
comp=Z,1.0nm,0.5s,mb3.9,baz=144,slow=11,SNR=11
JIRN Jiri 32.23 102 *eP* **P 18 50 48.5 +0.8**
LSA Lhasa 34.96 94 *eP* **P 18 51 13.0 +1.5**
LSA pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
LSA Lhasa 34.96 94 *eP* **P 18 51 13.0 +1.5**
comp=Z,1.7nm,0.5s,mb4.2
GTA Gaotai 37.78 75 *eP* **P 18 51 36.8 +1.3**
EKA Eskdalemuir Ar 37.86 312 P **P 18 51 36.0 +0.1**
comp=Z,2.1nm,0.7s,mb4.0,baz=98,slow=8.3,SNR=12
ZAK Zakamensk 38.00 56 *eP* **P 18 51 38.0 +0.8**
ZAK *e* 18 53 52.1
ZAK pmax pmax
comp=Z,1.0nm,1.6s,mb3.3
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.6
ZAK Zakamensk 38.00 56 *eP* **P 18 51 38.0 +0.8**
comp=Z,1.0nm,1.6s,mb3.3
TLY Talaya 38.12 54 *eP* **P 18 51 39.7 +1.5**
SONM Songino Array 40.39 60 P **P 18 51 57.3 +0.2**
SONM 18 53 58.9
SONM Songino Array 40.39 60 P **P 18 51 57.3 +0.2**
comp=Z,0.5nm,0.6s,mb3.4,baz=272,slow=10,SNR=5.3
SONM PcP PcP 18 53 58.9 -1.0
comp=Z,0.5nm,0.7s,baz=245,slow=3.9,SNR=3.3
SONM LR LR 19 10 20.2
comp=Z,54nm,19.5s,MS3.4,baz=68,slow=38
ULN Ulaanbaatar 40.82 60 ⇑*eP* **P 18 52 00.6 -0.1**
ULN Ulaanbaatar 40.82 60 *eP* **P 18 52 00.3 -0.4**
comp=Z,4.9nm,1.0s,mb4.1
BOD Bodaibo 43.64 44 *eP* **P 18 52 23.0 -0.5**
BOD pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
BOD Bodaibo 43.64 44 *eP* **P 18 52 23.0 -0.5**
comp=Z,8.0nm,0.9s,mb4.5
KMI Kunming 46.14 92 P **P 18 52 44.7 +0.8**
KMI AMB AMB
comp=Z,14nm,0.8s,mb4.9
XAN Xi'an 46.56 78 P **P 18 52 47.2 +0.2**
XAN AMB AMB
comp=Z,9.0nm,1.0s,mb4.7
GYA Guiyang 48.45 88 *eP* **P 18 53 01.9 +0.1**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
HIA Hailar 48.66 55 *eP* **P 18 53 02.7 -0.4**
TIXI Tiksi 48.90 24 *eP* **P 18 53 04.1 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TIXI Tiksi 48.90 24 *eP* **P 18 53 05.2 +0.5**
comp=Z,4.8nm,0.8s,mb4.6
TIXI Tiksi 48.90 24 *eP* **P 18 53 05.2 +0.5**
comp=Z,4.8nm,0.8s,mb4.6
YAK Yakutsk 50.76 37 ⇑*eP* **P 18 53 17.3 -1.6**
YAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
YAK Yakutsk 50.76 37 *eP* **P 18 53 17.3 -1.6**
comp=Z,4.0nm,1.0s,mb4.3
KSRS Korea Array 58.79 65 P **P 18 54 17.4 -0.1**
comp=Z,4.2nm,0.7s,mb4.6,baz=290,slow=6.8,SNR=17
SEY Seymchan 60.16 31 ⇑*eP* **P 18 54 22.5 -4.0**
BILL Biilibino 62.03 22 *eP* **P 18 54 37.4 -1.7**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.8
BILL Biilibino 62.03 22 *eP* **P 18 54 37.4 -1.7**
comp=Z,9.0nm,1.2s,mb4.8
MJAR Matsushiro Arr 66.31 62 P **P 18 55 07.7 0.0**
comp=Z,0.4nm,0.3s,mb3.9,baz=310,slow=8.0,SNR=5.7
SCHQ Schefferville 71.10 327 P **P 18 55 37.1 -0.1**
comp=Z,2.3nm,0.8s,mb4.2,baz=11,slow=5.2,SNR=3.8
YKA Yellowknife Ar 76.89 353 P **P 18 56 10.5 -0.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=8.6,slow=6.2,SNR=21
WRA Warramunga Arr 98.38 109 P **P 18 57 55.8 -1.5**
comp=Z,0.6nm,1.0s,mb4.1,baz=317,slow=4.4,SNR=4.4

ISCJB ***02*** *18:51:08.2±1.7, 3673N±008×714E±02, h110km±30km, Error ellipse: s-maj=29.0km s-min=7.5km az=155.5*
NNC ***02*** *18:51:22.9±4.0, 3790N×7181E, h226km±40km, mb2.5, mpv3.7, Error ellipse: s-maj=51.9km s-min=18.3km az=25.0*

ISC 02 18:51:09.8±1.3, 3675N±008×714E±02, h118km±20km, n18, σ0°70/23, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	**Thein Dam**	**5.59**	**139**	*eP*	**Pn**	**18 52 35.9**	**+5.2**
THN				*eS*	**Sn**	**18 53 34.1**	**+0.3**
DLH	**Dalhousie**	**5.65**	**137**	*eP*	**Pn**	**18 52 36.0**	**+4.6**
DLH				*ex*	x	18 53 37.0	
KK31	**Karatay Array**	**6.38**	**354**	P	**Pn**	**18 52 41.4**	**+0.2**
	3.9nm,0.3s,baz=170,slow=11,SNR=151						
KK31				⇑*S*	**Sn**	**18 53 45.1**	**-7.5**
	7.5nm,0.3s,baz=178,slow=15,SNR=36						
TKM2	**Tokmak 2**	**6.96**	**26**	⇑P	**Pn**	**18 52 48.0**	**-1.1**
	2.7nm,0.5s						
KLP	**Kalpa**	**7.71**	**130**	*eP*	**Pn**	**18 53 01.9**	**+2.6**
KLP				*eS*	**Sn**	**18 54 19.9**	**-5.1**
KLP				AML	AML	18 54 28.9	
	comp=E,93nm,0.6s						
KLP				AML	AML	18 54 30.6	
	comp=N,91nm,0.6s						
JOSI	**Joshimath**	**9.20**	**130**	*eP*	**Pn**	**18 53 19.1**	**-0.3**
JOSI				*eS*	**Sn**	**18 54 53.7**	**-7.3**
JOSI				AML	AML	18 55 06.0	
	comp=E,28nm,0.6s						
JOSI				AML	AML	18 55 07.5	
	comp=N,46nm,0.5s						
KHET	**Khetri**	**9.42**	**155**	*eS*	**Sn**	**18 55 05.8**	**-0.7**
KHET				AML	AML	18 55 07.5	
	comp=N,9.1nm,0.2s						
KHET				AML	AML	18 55 08.0	
	comp=E,5.5nm,0.2s						
KUDL	**Kundal**	**9.60**	**152**	*eS*	**Sn**	**18 55 10.3**	**-0.6**
DANN	**Dangsing**	**13.37**	**125**	*eP*	**Pn**	**18 54 15.5**	**+0.6**
	comp=E,13nm,0.3s						
KOLN	**Koldanda**	**13.66**	**127**	*eP*	**Pn**	**18 54 18.8**	**+0.2**
	comp=E,7.4nm,0.4s						
GKN	**Gorkha**	**14.18**	**124**	*eP*	**Pn**	**18 54 25.4**	**+0.1**
	comp=E,21nm,0.5s						
KKN	**Kakani**	**14.75**	**123**	*eP*	**Pn**	**18 54 31.7**	**-0.8**
	comp=E,10nm,0.8s						
DMN	**Daman**	**14.75**	**124**	*eP*	**Pn**	**18 54 32.7**	**+0.2**
	comp=E,5.1nm,0.3s						
PKIN	**Phulchoki**	**14.97**	**124**	*eP*	**Pn**	**18 54 35.3**	**+0.1**
	comp=E,6.7nm,0.5s						
PKI	**Pulchoki**	**14.98**	**124**	*eP*	**Pn**	**18 54 35.8**	**+0.4**
	comp=E,10nm,0.6s						
AB31	**Akbulak array**	**15.02**	**330**	⇑P	**Pn**	**18 54 35.9**	**+0.2**
	comp=E,0.3nm,0.3s						
AB31				⇑*S*	**S**	**18 57 11.8**	**-19**
	comp=E,1.6nm,0.5s						
GUN	**Gumba**	**15.08**	**122**	*eP*	**Pn**	**18 54 36.2**	**-0.4**
	comp=E,6.1nm,0.3s						
JIRN	**Jiri**	**15.45**	**122**	*eP*	**Pn**	**18 54 41.3**	**0.0**
	comp=E,4.5nm,0.2s						

IDC ***02*** *18:54:36.9±0.9, 2188N×143.16E, h0km, mb3.8/8, mb1 4.0/9, mb1mx3.9/20, mbtmp3.9/9, ML3.7/1, Error ellipse: s-maj=35.4km s-min=18.1km az=84.0*
ISCJB ***02*** *18:54:40.4±0.8, 2191N±007×1430E±02, h33km, mb3.8/8, Error ellipse: s-maj=30.4km s-min=10.2km az=175.2*

ISC 02 18:54:41.9±6.5, 2189N±008×1431E±02, h31km±46km, n10, σ0°45/11, mb3.8/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CBIJ	**Chichi jima**	**5.25**	**351**	Pn	**Pn**	**18 55 58.3**	**0.0**
	6.4nm,0.3s,baz=270,slow=20,SNR=4.6						
CBIJ				*S*	**Sn**	**18 56 57.4**	**-0.4**
	2.7nm,0.3s,baz=287,slow=19,SNR=2.7						
KSRS	**Korea Array**	**20.32**	**323**	P	**P**	**18 59 19.4**	**+4.0**
	3.2nm,1.0s,baz=139,slow=9.9,SNR=7.5						
SONM	**Songino Array**	**39.15**	**320**	P	**P**	**19 02 07.0**	**+0.5**
	1.0nm,0.8s,mb3.6,baz=123,slow=6.6,SNR=7.7						
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**19 02 33.6**	**-0.4**
	0.8nm,0.7s,mb3.5,baz=18,slow=9.0,SNR=9.0						
ASAR	**Alice Springs**	**46.15**	**192**	P	**P**	**19 03 03.4**	**-0.2**
	0.6nm,0.7s,mb3.6,baz=13,slow=9.4,SNR=11						
ZALV	**Zalesovo Beam**	**54.02**	**322**	P	**P**	**19 04 02.6**	**-0.3**
	0.8nm,0.3s,mb4.1,baz=74,slow=6.5,SNR=3.8						
MKAR	**Makanchi Array**	**54.52**	**313**	P	**P**	**19 04 07.2**	**+0.5**
	0.3nm,0.6s,mb3.5,baz=89,slow=9.2,SNR=4.0						
BVAR	**Borovoye Array**	**62.48**	**319**	P	**P**	**19 05 02.1**	**-0.1**
	2.0nm,0.6s,mb4.3,baz=94,slow=9.2,SNR=13						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**19 06 27.3**	**-0.2**
	0.7nm,0.6s,mb3.8,baz=292,slow=5.7,SNR=9.4						
NVAR	**Mina Array Bea**	**83.08**	**51**	P	**P**	**19 07 05.2**	**+0.5**
	0.5nm,0.3s,mb4.0,baz=262,slow=6.3,SNR=2.5						

IDC 02 18:59:24.7±12.0, 285N×9541E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=281.9km s-min=38.3km az=28.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**3.51**	**91**	Pn	Pn	19 00 20.8	+0.2
	1.2nm,0.3s,baz=309,slow=13,SNR=7.0						
MKAR	**Makanchi Array**	**45.23**	**347**	P	P	19 07 44.1	+0.3
	0.5nm,0.6s,baz=164,slow=8.3,SNR=7.6						
SONM	**Songino Array**	**45.81**	**10**	P	P	19 07 48.3	+0.1
	0.5nm,0.8s,baz=190,slow=6.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**51.67**	**352**	P	P	19 08 32.7	-0.5
	1.1nm,0.4s,baz=134,slow=4.3,SNR=3.7						

NIED ***02*** *19:06:00, 2570N×12530E, h5km, Mw4.1 Best double couple: M0:1.48000×10^15 NP1:φ=64.00000°, δ76.00000°, λ-107.00000°. NP2:φ=296.00000°, δ22.00000°, λ-40.00000°.*
IDC ***02*** *19:06:10.1±0.9, 2565N×12531E, h0km, mb3.8/7, mb1 3.9/8, mb1mx3.8/21, mbtmp3.8/8, ML3.4/1, MS3.1/3, Ms1 3.1/3, ms1mx2.6/36, Error ellipse: s-maj=26.4km s-min=17.7km az=63.0*
JMA ***02*** *19:06:11.2±0.2, 2571N×12527E, h24km±3km, M3.8*
BJI ***02*** *19:06:11.5, 2560N×12540E, h37km, mB4.5, mb4.2*
ISCJB ***02*** *19:06:13.4±0.5, 2562N±004×12532E±005, h35km±8km, mb3.8/10, MS3.0/2, Error ellipse: s-maj=9.3km s-min=4.7km az=135.7*
NEIC ***02*** *19:06:15.6±1.1, 2563N×12536E, h37km±12km, mb3.9/1, Error ellipse: s-maj=13.1km s-min=11.0km az=163.0*

ISC 02 19:06:13.7±1.1, 2559N±005×12533E±005, h26km±10km, n32, σ0°97/35, mb3.8/10, MS3.0/2, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JMJ	**Miyako jima 2**	**0.77**	**182**	P	**Pb**	**19 06 27.6**	**-0.9**
JMJ				S	**Sb**	**19 06 39.6**	**+1.1**
JOGS	**Gusukube**	**0.83**	**175**	P	**Pn**	**19 06 28.7**	**-1.0**
JOGS				S	**Sb**	**19 06 40.8**	**+0.6**
JTJ	**Tarama**	**1.10**	**211**	P	**Pn**	**19 06 32.1**	**-1.4**
JTJ				S	**Sn**	**19 06 47.5**	**-0.3**
JKE	**Kume jima 2**	**1.51**	**60**	P	**Pn**	**19 06 37.0**	**-2.1**
JIJ	**Ishigaki jima**	**1.62**	**222**	P	**Pn**	**19 06 39.8**	**-0.9**
JIJ				S	**Sn**	**19 07 00.6**	**-0.2**
JKRS	**Kuro-shima**	**1.80**	**222**	P	**Pn**	**19 06 42.8**	**-0.3**
IRIF	**Iriomote-Funau**	**1.91**	**230**	P	**Pn**	**19 06 44.2**	**-0.4**
JAGN	**Aguni-jima**	**1.99**	**59**	P	**Pn**	**19 06 44.5**	**-1.2**
HATJ	**Hateruma jima**	**2.06**	**223**	P	**Pn**	**19 06 46.3**	**-0.3**
JJT2	**Tamagusuku 2**	**2.25**	**75**	P	**Pn**	**19 06 49.4**	**+0.1**
YOJ	**Yonaguni jima**	**2.38**	**242**	P	**Pn**	**19 06 51.4**	**+0.3**
JIH	**Iheya**	**2.77**	**58**	P	**Pn**	**19 06 56.2**	**-0.3**
JOW	**Kunigami**	**2.92**	**64**	P	**Pn**	**19 06 58.4**	**-0.2**
JOW	**Kunigami**	**2.92**	**64**	Pn	**Pn**	**19 06 58.8**	**+0.2**
	10.0nm,0.3s,baz=218,slow=9.8,SNR=6.0						
JOW				Sn	**Sn**	**19 07 34.5**	**+1.7**
	20nm,0.3s,baz=97,slow=28,SNR=6.0						
NACB	**Ninganchiao**	**3.67**	**248**	*eP*	**Pn**	**19 07 10.5**	**+1.7**
YHNB	**Yeheng**	**3.69**	**257**	*eP*	**Pn**	**19 07 10.7**	**+1.5**
JTK	**Tokunoshima**	**3.91**	**55**	P	**Pn**	**19 07 12.2**	**0.0**
JAM	**Amami Oshima**	**4.74**	**53**	P	**Pn**	**19 07 24.2**	**+0.6**
JNU	**Nakatsue**	**8.93**	**32**	LR	LR	19 11 58.4	
	comp=Z,86nm,20.8s,baz=211,slow=39						
LZH	**Lanzhou**	**21.16**	**305**	*eP*	**P**	**19 10 55.5**	**-1.5**
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.2						
LZH				AMB	AMB		
	comp=Z,91nm,5.1s						
ASAJ	**Asahikawa**	**23.21**	**33**	LR	LR	19 20 37.2	
	comp=Z,39nm,20.5s,MS2.9,baz=58,slow=37						
GTA	**Gaotai**	**25.45**	**309**	*eP*	**P**	**19 11 40.9**	**+1.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb3.9						
ULN	**Ulaanbaatar**	**26.50**	**332**	*eP*	**P**	**19 11 51.6**	**+2.7**
	comp=Z,3.3nm,1.0s,mb3.8						
SONM	**Songino Array**	**26.76**	**331**	P	**P**	**19 11 51.2**	**0.0**
	comp=Z,1.3nm,0.8s,mb3.5,baz=139,slow=9.2,SNR=12						
SONM				LR	LR	19 23 50.8	
	comp=Z,50nm,18.4s,MS3.1,baz=81,slow=40						
MKAR	**Makanchi Array**	**40.04**	**313**	P	**P**	**19 13 46.7**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.5,baz=99,slow=10,SNR=7.8						
ZALV	**Zalesovo Beam**	**41.21**	**324**	P	**P**	**19 13 55.9**	**-0.3**
	comp=Z,0.9nm,0.5s,mb3.7,baz=103,slow=10,SNR=2.6						
KURK	**Kurchatov**	**43.51**	**318**	*eP*	**P**	**19 14 14.1**	**-0.8**
WRA	**Warramunga Arr**	**46.09**	**168**	P	**P**	**19 14 36.3**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.0,baz=350,slow=8.8,SNR=22						
BVAR	**Borovoye Array**	**49.03**	**319**	P	**P**	**19 14 58.0**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=107,slow=9.2,SNR=3.7						
ASAR	**Alice Springs**	**49.66**	**170**	P	**P**	**19 15 04.5**	**+1.1**
	comp=Z,0.7nm,0.6s,mb3.9,baz=357,slow=13,SNR=14						
YKA	**Yellowknife Ar**	**80.19**	**24**	P	**P**	**19 18 21.4**	**-0.1**
YKA	**Yellowknife Ar**	**80.19**	**24**	P	**P**	**19 18 21.4**	**-0.1**
	comp=Z,1.1nm,0.8s,mb3.8,baz=306,slow=5.1,SNR=12						

IDC ***02*** *19:14:20.9±3.3, 3981N×4989E, h0km, mb3.5/4, mb1 3.7/6, mb1mx3.4/20, mbtmp3.6/6, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.1/32, Error ellipse: s-maj=58.3km s-min=33.3km az=1.0*
CSEM ***02*** *19:14:23.9±0.5, 4023N×4995E, h15km, mb3.9, Error ellipse: s-maj=20.0km s-min=10.4km az=175.0*
NEIC ***02*** *19:14:24.2±1.9, 4008N×4996E, h10km, Error ellipse: s-maj=34.7km s-min=16.9km az=182.0*
MOS ***02*** *19:14:24.0±2.8, 4009N×5006E, h39km, mb3.9/1, Error ellipse: s-maj=42.3km s-min=19.3km az=79.6*
ISCJB ***02*** *19:14:34.4±2.7, 409N±0.1×50.1E±0.1, h62km±22km, mb3.4/5, Error ellipse: s-maj=26.5km s-min=8.6km az=156.5*

ISC 02 19:14:34.6±2.4, 407N±02×5016E±010, h61km±17km, n15, σ0°93/20, mb3.4/5, 2C, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DGRG	**David-gareji**	**3.69**	**283**	P	**Sn**	**19 16 12.6**	**+1.2**
MTA	**Mtatsminda**	**4.17**	**285**	P	**Sn**	**19 16 21.1**	**-1.9**
AB31	**Akbulak array**	**10.99**	**36**	⇑Pn	**Pn**	**19 17 05.5**	**-3.4**
	0.8nm,0.9s,baz=227,slow=12						
AB31				⇑Sn	**Sn**	**19 19 05.5**	**-4.6**
	0.7nm,0.4s,baz=220,slow=26						
AB31	**Akbulak array**	**10.99**	**36**	Pn	**Pn**	**19 17 05.5**	**-3.4**
	0.8nm,0.9s						
AB31				Sn	**Sn**	**19 19 05.5**	**-4.7**
AKTK	**Aktyubinsk**	**11.17**	**27**	Pn	**Pn**	**19 17 12.4**	**+1.1**
AKTK				Sn	**Sn**	**19 19 14.2**	**-0.3**
AKTK	**Aktyubinsk**	**11.17**	**27**	P	**Pn**	**19 17 12.4**	**+1.1**
AKTK				S	**Sn**	**19 19 14.2**	**-0.2**
AKTO	**Aktyubinsk**	**11.17**	**27**	Pn	**Pn**	**19 17 12.4**	**+1.1**
	0.3nm,0.3s,baz=191,slow=12,SNR=3.4						
AKTO				Sn	**Sn**	**19 19 14.2**	**-0.3**
	0.6nm,0.3s,baz=269,slow=20,SNR=7.8						
AKTO	**Aktyubinsk**	**11.17**	**27**	Pn	**Pn**	**19 17 11.5**	**+0.2**
	0.2nm,1.6s						
AKTO				Sn	**Sn**	**19 19 14.1**	**-0.3**
BVAR	**Borovoye Array**	**18.44**	**41**	P	**Pn**	**19 18 46.0**	**+0.4**
	0.2nm,0.3s,baz=213,slow=10,SNR=6.6						
MKAR	**Makanchi Array**	**23.89**	**64**	P	**P**	**19 19 41.7**	**-0.7**
	0.4nm,0.5s,mb3.1,baz=259,slow=9.1,SNR=11						
JOF	**Joensuu**	**24.91**	**339**	*ep*	**P**	**19 19 51.6**	**0.0**
	0.6nm,0.3s,mb3.6						
VRAC	**Vranov**	**25.07**	**301**	LR	LR	19 29 45.5	
	comp=Z,20nm,19.3s,baz=262,slow=36						
FINES	**FINESS Array B**	**25.41**	**333**	P	**P**	**19 19 56.3**	**+0.2**
	0.8nm,0.6s,mb3.5,baz=125,slow=9.6,SNR=4.6						
ARCES	**

s-min=22.7km az=98.0

ISC 02 19:30:32.9±3.7, 4706N±009×1542E±01, h15km±23km, n37, σ1°00/39, mb4.1/20, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.84**	**18**	*e*PN	**Pn**	**19 31 32.0**	**+0.6**
SKR				*e*S	**Sn**	**19 32 15.5**	**-0.7**
SKR				pmax	pmax		
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=N,60nm,0.5s						
SKR				smax			
	comp=Z,60nm,0.5s						
KUR	**Kuril'sk**	**4.77**	**250**	PN	**Pn**	**19 31 34.0**	**-10**
KUR				S	**Sn**	**19 32 39.8**	**+0.6**
KUR				smax			
	comp=N,220nm,0.7s						
KUR				smax			
	comp=E,90nm,0.7s						
PET	**Petropavlovsk**	**6.62**	**24**	PN	**Pn**	**19 31 59.1**	**-10**
YSS	**Yuzh-Sakhalins**	**7.83**	**273**	*e*PN	**Pn**	**19 32 26.8**	**+0.6**
ASAJ	**Asahikawa**	**8.66**	**254**	P	**Pn**	**19 32 38.1**	**+0.6**
	comp=E,0.4nm,0.3s,baz=83,slow=13,SNR=4.3						
MJAR	**Matsushiro Arr**	**15.87**	**234**	P	**Pn**	**19 34 14.5**	**-1.1**
	comp=E,0.1nm,0.3s,baz=24,slow=13,SNR=4.1						
KSRS	**Korea Array**	**21.61**	**253**	P	**P**	**19 35 21.5**	**-0.7**
	comp=E,0.9nm,0.8s,mb3.2,baz=58,slow=11,SNR=2.9						
SONM	**Songino Array**	**31.94**	**289**	P	**P**	**19 36 56.0**	**-1.7**
	comp=E,0.2nm,0.6s,mb3.1,baz=66,slow=8.1,SNR=2.4						
MKAR	**Makanchi Array**	**47.47**	**298**	P	**P**	**19 39 05.1**	**-1.7**
MKAR	**Makanchi Array**	**47.47**	**298**	P	**P**	**19 39 05.0**	**-1.8**
	comp=E,0.3nm,0.5s,mb3.5,baz=68,slow=6.9,SNR=12						
KURK	**Kurchatov**	**47.82**	**304**	*e*P	**P**	**19 39 07.2**	**-2.3**
YKA	**Yellowknife Ar**	**50.23**	**37**	P	**P**	**19 39 27.9**	**+0.2**
	comp=E,0.1nm,0.4s,mb3.2,baz=292,slow=7.4,SNR=3.5						
JIRN	**Jiri**	**55.67**	**275**	*e*P	**P**	**19 40 08.9**	**+0.5**
	comp=E,2.5nm,0.2s,mb4.9						
GUN	**Gumba**	**55.72**	**276**	*e*P	**P**	**19 40 09.1**	**+0.3**
	comp=E,4.0nm,0.3s,mb4.9						
KKN	**Kakani**	**56.20**	**276**	*e*P	**P**	**19 40 12.8**	**+0.6**
	comp=E,5.1nm,0.5s,mb4.8						
DMN	**Daman**	**56.44**	**276**	*e*P	**P**	**19 40 14.8**	**+0.9**
GKN	**Gorkha**	**56.51**	**276**	*e*P	**P**	**19 40 14.9**	**+0.5**
	comp=E,5.7nm,0.3s,mb5.0						
DANN	**Dangsing**	**56.88**	**277**	*e*P	**P**	**19 40 17.7**	**+0.7**
	comp=E,15nm,0.6s,mb5.2						
KOLN	**Koldanda**	**57.36**	**277**	*e*P	**P**	**19 40 21.3**	**+0.9**
	comp=E,5.0nm,0.5s,mb4.8						
JOF	**Joensuu**	**61.39**	**334**	*e*p	**P**	**19 40 42.8**	**-4.9**
	comp=E,0.5nm,0.3s,mb4.1						
JOF	**Joensuu**	**61.39**	**334**	*e*P	**P**	**19 40 42.8**	**-4.9**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**19 41 05.7**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.08**	**335**	P	**P**	**19 41 05.3**	**-0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=32,slow=7.7,SNR=9.9						
NOA	**NORSAR Array B**	**68.18**	**342**	P	**P**	**19 41 32.3**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**68.18**	**342**	P	**P**	**19 41 32.3**	**+0.3**
	comp=Z,0.6nm,0.8s,mb3.7,baz=32,slow=6.8,SNR=3.2						
HFS	**Hagfors**	**68.43**	**340**	P	**P**	**19 41 33.8**	**+0.2**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HFS	**Hagfors**	**68.43**	**340**	P	**P**	**19 41 33.8**	**+0.3**
	comp=Z,2.6nm,0.4s,mb4.7,baz=57,slow=5.5,SNR=44						
WRA	**Warramunga Arr**	**69.05**	**200**	P	**P**	**19 41 35.6**	**-2.2**
	comp=Z,0.3nm,1.1s,mb3.1,baz=12,slow=6.9,SNR=2.3						
AKASG	**Malin Array Be**	**71.70**	**327**	P	**P**	**19 41 52.9**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=37,slow=6.3,SNR=6.2						
ASAR	**Alice Springs**	**72.74**	**199**	P	**P**	**19 42 00.1**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ASAR	**Alice Springs**	**72.74**	**199**	P	**P**	**19 42 00.1**	**-0.2**
	comp=Z,0.5nm,1.0s,mb3.4,baz=16,slow=5.3,SNR=3.3						
SOC	**Sochi**	**72.82**	**316**	*e*P	**P**	**19 41 56.9**	**-3.7**
SOC				pmax	pmax		
	comp=Z,64nm,1.2s						
TXAR	**Lajitas Array**	**76.69**	**61**	P	**P**	**19 42 24.9**	**+1.6**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
TXAR	**Lajitas Array**	**76.69**	**61**	P	**P**	**19 42 24.9**	**+1.6**
	comp=Z,0.6nm,0.6s,mb3.7,baz=304,slow=4.6,SNR=7.4						
MLR	**Muntele Rosu**	**77.24**	**326**	P	**P**	**19 42 27.1**	**+1.0**
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	**Muntele Rosu**	**77.24**	**326**	P	**P**	**19 42 27.1**	**+1.0**
	comp=Z,1.1nm,0.5s,mb4.0,baz=121,slow=12,SNR=4.7						
MMAI	**Mount Meron Ar**	**83.17**	**312**	P	**P**	**19 42 59.0**	**+0.7**
	comp=Z,0.4nm,0.4s,mb3.8,baz=56,slow=5.4,SNR=3.6						

*CSEM **02** 19:33:23.2±0.7, 4342N×1450E, h10km, MD2.5/8, ML2.0/3, Error ellipse: s-maj=7.3km s-min=5.9km az=27.0, After ROM*

*ROM **02** 19:33:23.2±0.7, 4342N×1450E, h10km, Md2.5/8, Ml2.1/5, Error ellipse: s-maj=7.3km s-min=5.9km az=27.0*

*ISCJB **02** 19:33:26.1±1.1, 4323N±005×1426E±007, h10km, Error ellipse: s-maj=9.1km s-min=5.4km az=141.2*

ISC 02 19:33:25.6±1.5, 4327N±007×1435E±009, h10km, n9, σ1°21/15, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.61**	**297**	Pg	**Pg**	**19 33 36.6**	**-0.8**
	51nm,0.5s						
CING	**Cingoli**	**0.85**	**277**	Pg	**Pg**	**19 33 41.8**	**-0.1**
CING				Sg	**Sg**	**19 33 53.4**	**+0.5**
	24nm,0.3s						
TERO	**Teramo**	**0.85**	**220**	Pg	**Pg**	**19 33 42.9**	**+1.0**
NRCA	**Norcia**	**1.00**	**245**	Pg	**Pg**	**19 33 44.1**	**-0.8**
NRCA				Sg	**Sg**	**19 34 01.7**	**+3.8**
	39nm,0.1s						
SNTG	**Esanatoglia**	**1.03**	**270**	Pg	**Pg**	**19 33 43.7**	**-1.6**
SNTG				Sg	**Sg**	**19 33 59.5**	**+0.8**
	24nm,0.3s						
CESI	**CESI - Serrava**	**1.09**	**256**	Pg	**Pg**	**19 33 45.1**	**-1.4**
CESI				Sg	**Sg**	**19 34 02.7**	**+2.1**
	28nm,0.4s						
LNSS	**Leonessa**	**1.17**	**236**	Pg	**Pg**	**19 33 47.8**	**-0.2**
	73nm,0.3s						
PIEI	**Pieia**	**1.34**	**282**	Pg	**Pg**	**19 33 49.8**	**-1.6**
PIEI				Sg	**Sg**	**19 34 09.0**	**+0.1**
	18nm,0.3s						
NVLJ	**Novalja**	**1.35**	**16**	*e*Pn	**Pn**	**19 33 53.7**	**+3.3**
NVLJ				Sg	**Sg**	**19 34 13.4**	**+4.6**

*ISCJB **02** 19:38:41.3±0.6, 5027N±004×19.16E±003, h0km, Error ellipse: s-maj=6.1km s-min=2.6km az=18.1*

*WAR **02** 19:38:42.8, 50.17N×1930E, ML2.6, Mining Induced*

*PRU **02** 19:38:44.1, 50.19N×19.18E, h0km*

ISC 02 19:38:42.9±0.5, 5021N±004×1920E±003, h0km, n20, σ1°32/33, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.39**	**88**	*e*Pg	**Pg**	**19 38 49.6**	**-0.7**
OJC				*e*Sg	**Sg**	**19 38 54.2**	**-1.1**
OKC	**Ostrava-Krasne**	**0.77**	**242**	*e*PG	**Pg**	**19 38 58.7**	**+1.1**
OKC				*e*SG	**Sg**	**19 39 09.6**	**+2.0**
	comp=Z,24nm,0.3s						
NIE	**Niedzica**	**1.07**	**137**	*e*Pg	**Pg**	**19 39 02.1**	**-1.3**
NIE				*e*Sg	**Sg**	**19 39 16.5**	**-0.8**
LIKS	**Likavka**	**1.16**	**183**	*e*PN	**Pn**	**19 39 06.8**	**+0.5**
LIKS				*e*SN	**Sn**	**19 39 21.9**	**-1.0**
STHS	**Stebnicka Huta**	**1.55**	**120**	*e*PN	**Pn**	**19 39 11.4**	**-0.2**
STHS				*e*SN	**Sn**	**19 39 33.1**	**+0.7**
KOLL	**Kolacno**	**1.71**	**198**	*e*PN	**Pn**	**19 39 14.7**	**+0.8**
KOLL				*e*SN	**Sn**	**19 39 37.8**	**+1.3**
VYHS	**Vyhne**	**1.73**	**188**	*i* PN	**Pn**	**19 39 13.0**	**-1.2**
VYHS				*e*SN	**Sn**	**19 39 35.5**	**-1.5**
DPC	**Dobruska-Polom**	**1.85**	**275**	*e*PG	**Pg**	**19 39 17.6**	**-0.7**
DPC				*e*SG	**Sg**	**19 39 41.4**	**-0.8**
	comp=Z,16nm,0.3s						
KECS	**Kecovo**	**1.92**	**153**	*e*PN	**Pn**	**19 39 18.7**	**+1.9**
KECS				*e*SN	**Sn**	**19 39 42.6**	**+0.9**
KSP	**Ksiaz**	**1.96**	**290**	*e*Pn	**Pn**	**19 39 21.1**	**+3.8**
KSP				*e*Sg	**Sg**	**19 39 48.4**	**+2.6**
CRVS	**Cervenica-Dubn**	**1.97**	**131**	*e*PN	**Pn**	**19 39 18.8**	**+1.3**
CRVS				*e*SN	**Sn**	**19 39 44.9**	**+2.0**
UPC	**Upice**	**2.06**	**280**	*e*PG	**Pg**	**19 39 22.0**	**-0.3**
MODS	**Modra-Piesok**	**2.23**	**215**	*e*SN	**Sn**	**19 39 48.8**	**-0.3**
KOLS	**Kolonicke sedl**	**2.38**	**121**	*e*SN	**Sn**	**19 39 52.4**	**-0.4**
PRU	**Pruhonice**	**3.00**	**268**	*e*PG	**Pg**	**19 39 39.2**	**-1.2**
PRU				*e*SG	**Sg**	**19 40 17.9**	**-1.4**
	comp=Z,12nm,1.0s						
BRG	**Berggiesshubel**	**3.42**	**283**	SG	**Sg**	**19 40 32.6**	**+0.1**
	comp=Z,4.0nm,0.7s						
KHC	**Kasperske Hory**	**3.81**	**256**	*e*PG	**Pg**	**19 39 52.3**	**-3.5**
KHC				*e*SG	**Sg**	**19 40 43.5**	**-1.5**
	comp=Z,5.4nm,0.5s						
CLL	**Collm**	**4.08**	**288**	*e*Sg	**Sg**	**19 40 57.0**	**+3.0**
	comp=Z,4.0nm,0.6s						
NKC	**Novy Kostel**	**4.33**	**273**	*e*SG	**Sg**	**19 40 59.9**	**-2.1**
	comp=Z,4.9nm,0.5s						
MOX	**Moxa**	**4.87**	**278**	*e*SG	**Sg**	**19 41 21.1**	**+2.0**

*ISCJB **02** 19:45:58.9±1.4, 199S±02×178.1W±02, h500km, mb3.4/5, Error ellipse: s-maj=34.3km s-min=19.3km az=139.8*

*NEIC **02** 19:45:59.2±1.0, 1985S×17797W, h500km, mb3.7/1, Error ellipse: s-maj=26.1km s-min=21.0km az=81.0*

*IDC **02** 19:45:59.7±10.0, 1986S×17803W, h500km±106km, mb3.0/4, mb1 3.3/5, mb1mx3.1/14, mbtmp3.2/5, Error ellipse: s-maj=57.0km s-min=24.4km az=51.0*

ISC 02 19:46:00.0±1.5, 199S±02×1781W±02, h500km, n14, σ0°62/9, mb3.4/5, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.73**	**192**	P	**P**	**19 49 46.4**	**-0.4**
	2.8nm,0.3s,baz=339,slow=2.8,SNR=13						
CTAO	**Charters Tower**	**33.49**	**264**	*e*P	**P**	**19 51 58.2**	**+0.8**
ASAR	**Alice Springs**	**44.59**	**256**	P	**P**	**19 53 27.3**	**0.0**
	1.0nm,0.5s,mb3.5,baz=87,slow=8.5,SNR=16						
WRAB	**Tennant Creek**	**44.61**	**262**	*e*P	**P**	**19 53 26.7**	**-0.8**
	1.6nm,0.6s,mb3.6						
WRA	**Warramunga Arr**	**44.62**	**261**	P	**P**	**19 53 27.3**	**-0.2**
	1.0nm,0.3s,mb3.7,baz=97,slow=7.2,SNR=94						
VNDA	**Vanda**	**58.46**	**185**	P	**P**	**19 55 08.1**	**+1.2**
	0.3nm,0.5s,mb2.9,baz=7.9,slow=6.4,SNR=5.7						
MJAR	**Matsushiro Arr**	**69.72**	**324**	P	**P**	**19 56 19.3**	**+0.1**
	0.6nm,0.5s,mb3.4,baz=159,slow=6.4,SNR=5.6						
VNA3	**Neumayer Olymp**	**88.70**	**176**	*e*	**P**	**19 57 58.6**	**-0.6**
VNA2	**Neumayer--Watz**	**89.14**	**177**	*e*	**P**	**19 58 01.2**	**-0.1**
	baz=228,slow=2.8						
ARCES	**ARCESS Array B**	**128.36**	**350**	PKP	PKPdf	20 04 06.7	-1.9
ARCES	**ARCESS Array B**	**128.36**	**350**	PKP	PKPdf	20 04 06.7	-1.9
	1.6nm,0.9s,baz=352,slow=2.6,SNR=4.8						
AKASG	**Malin Array Be**	**142.50**	**331**	PKhKP		20 04 30.7	
	0.8nm,0.4s,baz=42,slow=4.7,SNR=8.4						
CLL	**Collm**	**147.51**	**347**	*e*PKPbc	PKPbc	20 04 47.0	-0.3
CLL				*e*PKPab	PKPab	20 04 51.0	0.0
GERES	**GERESS Array B**	**149.65**	**345**	PKPbc	PKPbc	20 04 51.7	-0.9
	0.5nm,0.7s,baz=42,slow=2.2,SNR=4.9						

*NIED **02** 20:12:00, 3330N×13800E, h360km, Mw4.0 Best double couple: M0=9.52000×10^14 NP1:φs=36.00000°, δ81.00000°, λ-73.00000°. NP2:φs=153.00000°, δ19.00000°, λ-151.00000°.*

*JMA **02** 20:12:32.9±0.2, 3329N×13804E, h362km, M3.9*

*ISCJB **02** 20:12:33.6±0.4, 3322N±006×13801E±006, h350km±3km, mb3.6/15, Error ellipse: s-maj=9.2km s-min=7.4km az=157.6*

*NEIC **02** 20:12:34.5±0.6, 3321N×13798E, h343km±5km, mb3.6/3, Error ellipse: s-maj=12.6km s-min=8.3km az=89.0*

*BJI **02** 20:12:34.4, 3320N×13800E, h342km, mB4.6, mb3.9*

*IDC **02** 20:12:34.9±0.5, 3321N×13791E, h343km±6km, mb3.4/10, mb1 3.4/14, mb1mx3.3/26, mbtmp3.3/14, Error ellipse: s-maj=16.4km s-min=9.1km az=74.0*

ISC 02 20:12:34.6±0.4, 3324N±006×13799E±006, h343km±3km, n43, σ0°92/56, mb3.6/15, 6C, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.51**	**94**	P	**Pn**	**20 13 22.3**	**+0.2**
	25nm,0.3s,baz=218,slow=20,SNR=35						
JHJ				S	**S**	**20 14 02.2**	**+2.0**
	17nm,0.3s,baz=253,slow=19,SNR=3.3						
JHJ2	**Mitsune**	**1.54**	**94**	P	**Pn**	**20 13 23.3**	**+1.0**
JIE	**Ise**	**1.56**	**317**	⇑P	**Pn**	**20 13 23.0**	**+0.6**
JIE				S	**S**	**20 14 00.3**	**-0.4**
JWZ	**Kozaga**	**1.92**	**279**	⇑P	**Pn**	**20 13 24.7**	**0.0**
JWZ				S	**S**	**20 14 03.7**	**-1.2**
JOD2	**Odawara 2**	**2.21**	**24**	P	**Pn**	**20 13 27.2**	**+0.4**
JOD2				S	**S**	**20 14 09.2**	**+0.6**
JWY	**Kouya**	**2.22**	**297**	⇑P	**Pn**	**20 13 27.7**	**+0.8**
JYN	**Shimob**	**2.29**	**11**	P	**Pn**	**20 13 28.3**	**+0.9**
JGM	**Miyama**	**2.67**	**337**	⇑P	**Pn**	**20 13 30.6**	**+0.2**
JGM				S	**S**	**20 14 17.5**	**+2.2**
BSO1	**Boso 1**	**2.85**	**60**	P	**Pn**	**20 13 30.5**	**-1.6**
BSO1				S	**S**	**20 14 17.2**	**-1.1**
JRY	**Ryogami san**	**2.87**	**15**	P	**Pn**	**20 13 32.6**	**+0.4**
JRY				S	**S**	**20 14 17.1**	**-1.4**
JWT	**Wachi**	**2.95**	**314**	⇑P	**Pn**	**20 13 32.6**	**-0.4**
JAI	**Aioi**	**3.00**	**281**	⇑P	**Pn**	**20 13 33.0**	**-0.5**
JAI				S	**S**	**20 14 21.4**	**+0.6**
MJAR	**Matsushiro Arr**	**3.29**	**3**	P	**Pn**	**20 13 36.1**	**0.0**
	4.7nm,0.3s,baz=178,slow=10,SNR=99						
MJAR				S	**S**	**20 14 24.8**	**-0.8**
	0.9nm,0.3s,baz=87,slow=35,SNR=4.9						
MAJO	**Matsushiro**	**3.30**	**3**	*e*P	**Pn**	**20 13 35.9**	**-0.2**
MAT	**Matsushiro**	**3.30**	**3**	P	**Pn**	**20 13 36.3**	**+0.2**
MAT				*e*S	**S**	**20 14 24.4**	**-1.2**
MAT	**Matsushiro**	**3.30**	**3**	P	**Pn**	**20 13 36.3**	**+0.2**
MAT				S	**S**	**20 14 23.1**	**-2.5**
JKG	**Kaga**	**3.32**	**336**	P	**Pn**	**20 13 36.5**	**+0.2**
JAG	**Ashikaga**	**3.40**	**20**	P	**Pn**	**20 13 35.4**	**-1.7**
JAG				S	**S**	**20 14 23.4**	**-4.0**
JHS	**Saijyo**	**4.40**	**295**	P	**Pn**	**20 13 46.5**	**-0.9**
JNU	**Nakatsue**	**5.96**	**271**	P	**Pn**	**20 14 05.2**	**+0.4**
	1.0nm,0.3s,baz=163,slow=28,SNR=11						
CBIJ	**Chichi jima**	**7.12**	**148**	P	**Pn**	**20 14 12.8**	**-5.5**
	4.9nm,0.3s,baz=30,slow=20,SNR=5.8						
CBIJ				S	**S**	**20 15 33.0**	**-10**
	73nm,0.3s,baz=286,slow=21,SNR=27						
KSRS	**Korea Array**	**9.23**	**300**	P	**Pn**	**20 14 44.9**	**+1.6**
	0.5nm,0.3s,baz=122,slow=10,SNR=13						
ASAJ	**Asahikawa**	**11.44**	**17**	P	**Pn**	**20 15 11.2**	**+1.6**
	0.7nm,0.3s,baz=186,slow=10,SNR=6.9						
WHN	**Wuhan**	**20.24**	**269**	*e*P	**P**	**20 16 44.1**	**-1.2**
XAN	**Xi'an**	**24.18**	**280**	P	**P**	**20 17 19.8**	**-1.2**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.7s,mb3.5						
XAN				LR	LR		
	comp=E,166nm,13.6s						
XAN				LR	LR		
	comp=Z,235nm,11.3s						
ULN	**Ulaanbaatar**	**27.45**	**311**	*e*P	**P**	**20 17 50.4**	**+0.5**
	comp=Z,1.9nm,0.6s,mb3.5						
SONM	**Songino Array**	**27.86**	**311**	P	**P**	**20 17 54.9**	**+1.4**
	comp=Z,2.1nm,0.6s,mb3.5,baz=114,slow=9.5,SNR=14						
TIXI	**Tiksi**	**38.77**	**355**	*e*P	**P**	**20 19 26.4**	**-0.2**
	comp=Z,1.1nm,0.4s,mb3.4						
MK31	**Makanchi Array**	**43.87**	**305**	*e*P	**P**	**20 20 07.5**	**-0.5**
MKAR	**Makanchi Array**	**43.87**	**305**	P	**P**	**20 20 08.1**	**+0.1**
MKAR	**Makanchi Array**	**43.87**	**305**	P	**P**	**20 20 08.1**	**+0.1**
	comp=Z,0.8nm,0.3s,mb3.3,baz=86,slow=9.4,SNR=23						
KDAK	**Kodiak Island**	**51.80**	**40**	P	**P**	**20 21 09.6**	**+1.6**
	comp=Z,4.3nm,0.7s,mb3.9,baz=304,slow=15,SNR=3.7						
FITZ	**Fitzroy Crossi**	**52.40**	**195**	P	**P**	**20 21 12.5**	**-0.3**
	comp=Z,1.7nm,1.1s,mb3.3,baz=4.8,slow=12,SNR=3.1						
WRAB	**Tennant Creek**	**52.99**	**184**	*e*P	**P**	**20 21 16.6**	**-0.5**
WRA	**Warramunga Arr**	**53.00**	**184**	P	**P**	**20 21 16.7**	**-0.5**
	comp=Z,2.0nm,0.4s,mb3.8,baz=0.2,slow=7.8,SNR=96						
ASAR	**Alice Springs**	**56.73**	**184**	P	**P**	**20 21 43.4**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.3,baz=19,slow=11,SNR=27						
KEV	**Kevo**	**65.98**	**339**	*e*p	**P**	**20 22 44.3**	**-0.1**
	comp=Z,0.9nm,0.4s,mb3.9						
ARCES	**ARCESS Array B**	**66.54**	**339**	P	**P**	**20 22 48.6**	**+0.6**
	comp=Z,1.5nm,0.5s,mb4.0,baz=69,slow=8.8,SNR=24						
JOF	**Joensuu**	**67.97**	**332**	*e*p	**P**	**20 22 56.4**	**-0.6**
	comp=Z,1.0nm,0.3s,mb4.0						
FINES	**FINESS Array B**	**70.84**	**332**	P	**P**	**20 23 14.6**	**+0.2**
	comp=Z,1.1nm,0.5s,mb3.9,baz=70,slow=6.9,SNR=8.2						
AKASG	**Malin Array Be**	**75.54**	**322**	P	**P**	**20 23 41.5**	**-0.4**
	comp=Z,0.7nm,0.4s,mb3.8,baz=51,slow=6.0,SNR=6.9						
NB2	**NORSAR Subarra**	**76.56**	**336**	P	**P**	**20 23 47.5**	**+0.1**
	comp=Z,0.6nm,0.4s,mb3.7,baz=44,slow=5.6						
NOA	**NORSAR Array B**	**76.56**	**336**	P	**P**	**20 23 47.4**	**0.0**
	comp=Z,1.2nm,0.7s,mb3.7,baz=44,slow=5.6,SNR=5.1						

*IDC **02** 20:20:57.5±1.9, 1101N×12642E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, Error ellipse: s-maj=166.9km s-min=21.8km az=69.0*

*MAN **02** 20:20:58, 1143N×12681E, h41km, mb4.7, ML3.6, MS3.5*

*ISCJB **02** 20:20:59.2±3.4, 1130N±007×12677E±009, h33km±27km, mb3.5/4, Error ellipse: s-maj=14.4km s-min=10.8km az=173.2*

ISC 02 20:20:59.7±3.6, 1128N±007×12671E±009, h20km±28km, n11, σ1°43/14, mb3.5/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**1.29**	**285**	*e*P	**Pn**	**20 21 21.8**	**-0.7**
SCPH	**Surigao**	**1.91**	**219**	*e*P	**Pn**	**20 21 30.6**	**-0.5**
SCPH				*e*S	**Sn**	**20 21 52.8**	**-1.8**
OCLP	**Ormoc**	**2.08**	**264**	*e*P	**Pn**	**20 21 34.5**	**+1.2**
MSLP	**Maasin**	**2.15**	**238**	*e*P	**Pn**	**20 21 35.9**	**+1.5**
MSLP				*e*S	**Sn**	**20 22 02.9**	**+2.5**
CNP	**Catarman**	**2.35**	**302**	*e*P	**Pn**	**20 21 35.4**	**-1.7**
CNP				*e*S	**Sn**	**20 22 03.6**	**-1.8**
PVCP	**Virac**	**3.40**	**313**	*e*P	**Pn**	**20 21 43.5**	**-8.0**
OTRP	**Odiongan**	**4.72**	**284**	*e*P	**Pn**	**20 22 10.2**	**+0.5**
WRA	**Warramunga Arr**	**31.92**	**166**	P	**P**	**20 27 22.9**	**-1.2**
	0.2nm,0.4s,mb3.3,baz=347,slow=9.4,SNR=5.7						
ASAR	**Alice Springs**	**35.44**	**169**	P	**P**	**20 27 54.0**	**-0.6**
	0.3nm,0.5s,mb3.5,baz=352,slow=7.4,SNR=12						
SONM	**Songino Array**	**40.23**	**339**	P	**P**	**20 28 37.1**	**+2.1**
	0.3nm,0.6s,mb3.2,baz=153,slow=9.7,SNR=3.7						
MKAR	**Makanchi Array**	**51.50**	**322**	P	**P**	**20 30 05.2**	**+1.4**
	1.4nm,1.0s,mb3.9,baz=114,slow=9.0,SNR=7.2						

*NIED **02** 20:31:00, 2380N×12540E, h17km, Mw4.3 Best double couple: M0=3.67000×10^15 NP1:φs=282.00000°, δ82.00000°, λ-23.00000°. NP2:φs=16.00000°, δ67.00000°, λ-171.00000°.*

*BJI **02** 20:31:35.9, 2334N×12597E, h22km, mB4.5, mb4.1, Ms3.7, Msz3.6*

*IDC **02** 20:31:42.8±0.7, 2401N×125.13E, h0km, mb3.9/13, mb1 4.0/16, mb1mx3.9/24, mbtmp3.9/16, ML3.4/3, MS3.6/7, Ms1 3.6/7, ms1mx3.2/29, Error ellipse: s-maj=25.8km s-min=14.6km az=76.0*

*JMA **02** 20:31:43.5±0.3, 2381N×12536E, h9km, M4.7*

*ISCJB **02** 20:31:45.6±0.7, 2393N±005×12541E±004, h37km±6km, mb4.0/22, MS3.6/6, Error ellipse: s-maj=8.9km s-min=5.5km az=163.4*

*NEIC **02** 20:31:46.1±2.8, 2404N×12531E, h23km±20km, mb4.5/7, MW4.3(NIED), Error ellipse: s-maj=10.8km s-min=10.3km az=174.0*

ISC 02 20:31:46.2±1.3, 2395N±006×12536E±004, h26km±8km, n59, σ1°18/62, mb4.0/22, MS3.6/6, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOGS	**Gusukube**	**0.81**	**3**	P	**Pb**	**20 32 01.8**	**+0.2**
JOGS				S	**Sb**	**20 32 14.6**	**+2.5**
JMJ	**Miyako jima 2**	**0.86**	**356**	P	**Pb**	**20 32 02.2**	**-0.3**
JMJ				S	**Sb**	**20 32 15.9**	**+2.3**
JTJ	**Tarama**	**0.91**	**319**	P	**Pb**	**20 32 02.4**	**-1.0**
JTJ				S	**Sb**	**20 32 16.3**	**+1.2**
JIJ	**Ishigaki jima**	**1.19**	**290**	P	**Pn**	**20 32 06.7**	**-0.4**
JIJ				*e*S	**Sn**	**20 32 23.4**	**+1.0**
JKRS	**Kuro-shima**	**1.27**	**283**	P	**Pn**	**20 32 08.0**	**-0.2**
JKRS				S	**Sn**	**20 32 24.4**	**0.0**
HATJ	**Hateruma jima**	**1.43**	**275**	P	**Pn**	**20 32 09.7**	**-0.7**
IRIF	**Iriomote-Funau**	**1.54**	**285**	P	**Pn**	**20 32 11.6**	**-0.3**
YOJ	**Yonaguni jima**	**2.20**	**284**	P	**Pn**	**20 32 20.6**	**-0.5**
JKE	**Kume jima 2**	**2.69**	**28**	P	**Pn**	**20 32 28.0**	**+0.1**
JJT2	**Tamagusuku 2**	**3.07**	**44**	P	**Pn**	**20 32 33.4**	**+0.3**
JAGN	**Aguni-jima**	**3.13**	**33**	P	**Pn**	**20 32 34.6**	**+0.7**
NACB	**Ninganchiao**	**3.45**	**274**	*e*P	**Pn**	**20 32 36.8**	**-1.5**
TATO	**Taipei**	**3.67**	**287**	*e*P	**Pn**	**20 32 41.8**	**+0.5**
YHNB	**Yeheng**	**3.71**	**282**	*e*P	**Pn**	**20 32 40.9**	**-0.8**
JIH	**Iheya**	**3.87**	**37**	P	**Pn**	**20 32 43.4**	**-0.6**
JOW	**Kunigami**	**3.90**	**42**	P	**Pn**	**20 32 44.0**	**-0.4**
**JO

DAWY	Dawson	70.99	28	P	P	20 42 59.0	-2.2
ARCES	ARCESS Array B	71.17	339	LR	LR	21 19 04.6	
	comp=Z,51nm,18.7s,MS3.8,baz=261,slow=40						
INK	Inuvik	71.99	23	P	P	20 43 08.3	+1.1
INK	Inuvik	71.99	23	P	P	20 43 08.3	+1.1
	comp=Z,0.6nm,0.9s,mb3.5,baz=288,slow=3.2,SNR=2.8						
MALT	Malatya	73.28	305	*e*P	P	20 43 12.7	-2.8
	comp=Z,3.6nm,1.1s,mb4.2						
FINES	FINESS Array B	73.55	330	P	P	20 43 16.8	+0.2
	comp=Z,1.6nm,0.9s,mb4.0,baz=66,slow=4.8,SNR=4.1						
AKASG	Malin Array Be	75.56	319	P	P	20 43 28.2	-0.2
	comp=Z,0.2nm,0.3s,mb3.5,baz=60,slow=6.2,SNR=3.2						
NB2	NORSAR Subarra	80.18	333	P	P	20 43 53.8	-0.2
	comp=Z,0.8nm,0.7s,mb3.8,baz=59,slow=5.6						
NOA	NORSAR Array B	80.18	333	P	P	20 43 53.3	-0.7
	comp=Z,1.5nm,0.8s,mb4.0,baz=57,slow=5.4,SNR=5.9						
NOA				LR	LR	21 23 49.9	
	comp=Z,48nm,19.1s,MS3.9,baz=50,slow=39						
YKA	Yellowknife Ar	81.67	24	P	P	20 44 03.5	+1.6
YKA	Yellowknife Ar	81.67	24	P	P	20 44 03.5	+1.6
	comp=Z,0.5nm,0.8s,mb3.5,baz=302,slow=5.3,SNR=6.5						

MOS ***02*** *20:49:21.3±1.7, 5506N×11168E, h12km, mb4.6/1, Error ellipse: s-maj=16.4km s-min=8.2km az=66.5*
IDC ***02*** *20:49:25.5±8.2, 5478N×11161E, h0km, mb2.9/2, mb1 3.2/4, mb1mx3.1/23, mbtmp3.2/4, ML3.3/2, Error ellipse: s-maj=119.5km s-min=33.5km az=91.0*

BYKL 02 20:49:21.8±0.2, 5505N×11170E, h8km±6km, 3C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.89**	**341**	*e*PG	Pg	20 49 37.6	-1.2
KMO				*e*		20 49 48.2	
KMO				pmax	pmax		
	comp=Z,301nm,0.5s						
KMO				smax			
	comp=E,1μm,1.1s						
KMO	**Kumora**	**0.89**	**341**	⇑*i*Pg	Pg	20 49 37.7	-1.1
	comp=E,76nm,0.6s						
KMO				⇓*i*Pg	Pg	20 49 37.7	-1.1
	comp=E,35nm,0.6s						
KMO				⇑*i*Pg	Pg	20 49 37.7	-1.1
	comp=E,242nm,0.6s						
KMO				*e*Sg	Sg	20 49 49.5	-0.8
KMO				Pmax			
	comp=E,320nm,0.4s						
KMO				Smax			
	comp=E,1μm,1.1s						
YOA	**Uoyan**	**1.08**	**1**	*e*PG	Pg	20 49 41.5	-1.1
YOA				*e*		20 49 57.0	
YOA				pmax	pmax		
	comp=Z,214nm,0.2s						
YOA				smax			
	comp=E,4μm,0.4s						
YOA	**Uoyan**	**1.08**	**1**	*e*Pg	Pg	20 49 42.3	-0.3
YOA				*e*Sg	Sg	20 49 57.1	+0.4
YOA				*e*		20 50 02.0	
YOA				Pmax			
	comp=E,220nm,0.3s						
YOA				max			
	comp=E,4μm,0.4s						
NIZ	**Nizh Angarsk**	**1.43**	**301**	*e*PG	Pg	20 49 47.8	-1.4
NIZ				*e*		20 50 07.0	
NIZ				pmax	pmax		
	comp=Z,202nm,1.0s						
NIZ				smax			
	comp=N,675nm,0.8s						
NIZ	**Nizh Angarsk**	**1.43**	**301**	*e*Pg	Pg	20 49 47.4	-1.8
NIZ				*e*Sg	Sg	20 50 07.0	-0.7
NIZ				Pmax			
	comp=N,202nm,0.5s						
NIZ				Smax			
	comp=N,670nm,0.8s						
SVKR	**Severomuysk**	**1.50**	**44**	*e*PG	Pg	20 49 49.6	-1.0
SVKR				*e*		20 50 10.3	
SVKR				pmax	pmax		
	comp=Z,453nm,0.8s						
SVKR				smax			
	comp=N,6μm,0.8s						
SVKR	**Severomuysk**	**1.50**	**44**	⇑*i*Pg	Pg	20 49 49.7	-0.9
SVKR				*e*Sg	Sg	20 50 10.5	+0.4
SVKR				Pmax			
	comp=N,450nm,0.3s						
SVKR				Smax			
	comp=N,3μm,0.3s						
SYVR	**Suvo**	**1.71**	**216**	*e*PN	Pn	20 49 52.8	+0.9
SYVR				*e*		20 49 53.5	
SYVR				*e*		20 50 16.3	
SYVR				pmax	pmax		
	comp=Z,184nm,1.3s						
SYVR				smax			
	comp=E,545nm,1.7s						
SYVR	**Suvo**	**1.71**	**216**	*e*Pg	Pg	20 49 52.0	-2.6
SYVR				*e*		20 49 56.3	
SYVR				*e*Sg	Sg	20 50 15.8	-1.0
SYVR				max			
	comp=E,143nm,0.8s						
SYVR				Smax			
	comp=E,475nm,0.7s						
MXMB	**Maximikha**	**2.50**	**225**	*e*Pn	Pn	20 50 03.0	+0.4
MXMB				*e*Pg	Pg	20 50 06.8	-2.8
MXMB				*e*Sg	Sg	20 50 39.9	-2.0
MXMB				Pmax			
	comp=E,54nm,0.7s						
MXMB				Smax			
	comp=E,805nm,0.9s						
NLYR	**Nelyaty**	**2.68**	**56**	*e*Pn	Pn	20 50 05.9	+0.7
NLYR				*e*Pg	Pg	20 50 09.8	-3.4
NLYR				*e*Sg	Sg	20 50 45.5	-2.4
NLYR				Pmax			
	comp=E,107nm,0.6s						
NLYR				Smax			
	comp=E,623nm,1.0s						
OGRR	**Ongureny**	**2.79**	**241**	*e*PN	Pn	20 50 07.1	+0.5
OGRR				*e*		20 50 12.0	
OGRR				*e*S	Sn	20 50 40.5	+0.1
OGRR				*e*		20 50 47.7	
OGRR				pmax	pmax		
	comp=Z,37nm,0.9s						
OGRR				smax			
	comp=N,190nm,1.0s						
OGRR	**Ongureny**	**2.79**	**241**	*e*Pn	Pn	20 50 07.0	+0.4
OGRR				*e*Pg	Pg	20 50 10.8	-4.3
OGRR				*e*Sn	Sn	20 50 40.0	-0.4
OGRR				*e*Sg	Sg	20 50 48.0	-3.2
OGRR				Pmax			
	comp=N,16nm,0.2s						
OGRR				Smax			
	comp=N,193nm,0.8s						
BOD	**Bodaibo**	**3.06**	**24**	*e*PN	Pn	20 50 09.6	-0.7
BOD				*e*		20 50 15.4	
BOD				*e*		20 50 53.8	
BOD				pmax	pmax		
	comp=Z,34nm,0.3s						
BOD				smax			
	comp=E,375nm,1.0s						
BOD	**Bodaibo**	**3.06**	**24**	*e*Pn	Pn	20 50 10.5	+0.2
BOD				*e*Pg	Pg	20 50 15.5	-4.8
BOD				*e*Sn	Sn	20 50 47.3	+0.3
BOD				*e*Sg	Sg	20 50 55.4	-4.5
BOD				Pmax			
	comp=E,31nm,0.3s						
BOD				Smax			
	comp=E,286nm,0.5s						
ZRHB	**Zarechye**	**3.68**	**229**	*e*Pg	Pg	20 50 27.9	-4.3
ZRHB				*e*Sg	Sg	20 51 14.6	-5.2
ZRHB				Pmax			
	comp=E,45nm,0.9s						
ZRHB				Smax			
	comp=E,383nm,1.4s						
TRTB	**Turuntaevo**	**3.72**	**222**	*e*Pn	Pn	20 50 19.8	+0.3
TRTB				*e*Pg	Pg	20 50 29.3	-3.7
TRTB				*e*Sg	Sg	20 51 17.5	-3.7
TRTB				Pmax			
	comp=E,29nm,1.1s						
TRTB				Smax			
	comp=E,156nm,1.5s						
TRG	**Tyrgan**	**3.91**	**236**	*e*Pn	Pn	20 50 22.6	+0.6
TRG				*e*Pg	Pg	20 50 32.0	-4.6
TRG				*e*Sg	Sg	20 51 23.1	-4.1
TRG				Pmax			
	comp=E,14nm,1.0s						
TRG				Smax			
	comp=E,84nm,1.3s						
UUDB	**Ulan-Yde**	**4.00**	**219**	*e*Pg	Pg	20 50 34.5	-3.8
UUDB				*e*Sg	Sg	20 51 26.4	-3.7
UUDB				Pmax			
	comp=E,41nm,0.8s						
UUDB				Smax			
	comp=E,168nm,1.1s						
CRS	**Chara**	**4.13**	**61**	*e*PN	Pn	20 50 26.1	+1.0
CRS				*e*S	Sn	20 51 29.1	+16
CRS				smax			
	comp=E,368nm,1.2s						
CRS	**Chara**	**4.13**	**61**	*e*Pn	Pn	20 50 25.9	+0.8
CRS				*e*Pg	Pg	20 50 36.2	-4.6
CRS				*e*Sg	Sg	20 51 29.3	-5.0
CRS				Pmax			
	comp=E,62nm,0.8s						
CRS				Smax			
	comp=E,335nm,1.0s						
KAB	**Kabansk**	**4.25**	**227**	*e*PN	Pg	20 50 38.4	-4.8
KAB				*e*		20 51 33.4	
KAB				pmax	pmax		
	comp=Z,62nm,0.6s						
KAB				smax			
	comp=E,660nm,1.7s						
TUP	**Tupik**	**4.83**	**94**	*e*PN	Pn	20 50 47.8	+13
TUP				*e*		20 51 50.3	
TUP				pmax	pmax		
	comp=Z,33nm,0.4s						
TUP				smax			
	comp=N,347nm,0.8s						
TUP	**Tupik**	**4.83**	**94**	*e*Pn	Pn	20 50 34.8	+0.2
TUP				*e*Pg	Pg	20 50 47.8	-6.3
TUP				*e*Sg	Sg	20 51 50.2	-6.4
TUP				Pmax			
	comp=N,33nm,0.4s						
TUP				Smax			
	comp=N,350nm,0.8s						
KHNR	**Khani**	**5.01**	**65**	*e*Sg	Sg	20 51 56.5	-6.1
IRK	**Irkutsk**	**5.24**	**241**	*e*PN	Pg	20 50 55.3	-6.7
IRK				*e*S	Sn	20 51 38.9	-1.9
IRK				*e*		20 52 02.9	
IRK				pmax	pmax		
	comp=Z,33nm,0.2s						
IRK				smax			
	comp=N,185nm,0.8s						
KPC	**Khapcheranga**	**5.37**	**175**	*e*Pn	Pn	20 50 43.3	+1.2
KPC				*e*		20 51 01.8	
KPC				*e*Sg	Sg	20 52 07.6	-6.5
KPC				Smax			
	comp=N,171nm,1.0s						
TLY	**Talaya**	**5.88**	**238**	*e*PN	Pn	20 50 51.2	+2.0
TLY				*e*		20 51 08.5	
TLY				*e*S	Sn	20 51 55.6	-1.1
TLY	**Talaya**	**5.88**	**238**	*e*Pg	Pg	20 51 07.7	-6.7
TLY				*e*Sg	Sg	20 52 22.6	-8.0
TLY				Pmax			
	comp=N,8.0nm,0.6s						
TLY				Smax			
	comp=N,90nm,1.4s						
ARS	**Arshan**	**6.36**	**244**	*e*PG	Pg	20 51 18.5	-5.0
ARS				*e*		20 52 39.2	
ARS				pmax	pmax		
	comp=Z,14nm,0.4s						
ARS				smax			
	comp=E,239nm,0.8s						
ARS	**Arshan**	**6.36**	**244**	*e*	Pn	20 50 59.2	+3.5
ARS				*e*Pg	Pg	20 51 16.2	-7.3
ARS				*e*Sg	Sg	20 52 38.1	-7.8
ARS				Pmax			
	comp=E,20nm,0.7s						
ARS				Smax			
	comp=E,242nm,1.0s						
ZAK	**Zakamensk**	**6.93**	**231**	*e*PG	Pg	20 51 26.8	-7.5
ZAK				*e*		20 52 54.6	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s						
ZAK				smax			
	comp=N,39nm,1.6s						
MOY	**Mondy**	**7.25**	**247**	*e*Pn	Pn	20 51 09.4	+1.5
MOY				*e*Sg	Sg	20 53 05.8	-8.4
MOY				Smax			
	comp=N,120nm,1.4s						
ORL	**Orlik**	**7.48**	**255**	*e*PN	Pn	20 51 12.5	+1.5
ORL				*e*		20 51 36.4	
ORL				*e*		20 53 12.5	
ORL				pmax	pmax		
	comp=Z,18nm,1.1s						
ORL				smax			
	comp=N,117nm,1.7s						
ORL	**Orlik**	**7.48**	**255**	*e*Pn	Pn	20 51 12.1	+1.1
ORL				*e*Sn	Sn	20 52 32.7	-3.2
ORL				*e*Sg	Sg	20 53 12.9	-8.7
ORL				Smax			
	comp=N,118nm,1.6s						
SONM	**Songino Array**	**7.95**	**207**	Pn	Pn	20 51 18.8	+1.4
	comp=N,0.2nm,0.3s,baz=27,slow=17,SNR=6.1						
SONM				Lg		20 53 29.6	
	comp=N,0.4nm,0.3s,baz=12,slow=26,SNR=5.9						
ZALV	**Zalesovo Beam**	**15.62**	**277**	Pn	Pn	20 53 06.5	+4.5
	comp=N,0.2nm,0.3s,baz=74,slow=11,SNR=6.4						
MKAR	**Makanchi Array**	**20.17**	**258**	P	P	20 54 00.1	+3.7
	comp=N,0.1nm,0.6s,baz=60,slow=8.6,SNR=3.0						
BVAR	**Borovoye Array**	**24.10**	**282**	P	P	20 54 42.6	+5.2
	comp=N,0.4nm,0.6s,baz=81,slow=8.9,SNR=3.3						

ISCJB ***02*** *21:05:08.9±3.2, 383N±0.1×768E±0.1, h5km±19km, mb3.2/2, Error ellipse: s-maj=21.9km s-min=14.9km az=40.4*
IDC ***02*** *21:05:08.8±3.4, 3831N×7665E, h0km, mb3.3/2, mb1 3.3/4, mb1mx3.2/21, mbtmp3.2/4, ML2.6/2, Error ellipse: s-maj=51.5km s-min=25.7km az=41.0*
NEIC ***02*** *21:05:11.2±1.4, 3824N×7686E, h10km, Error ellipse: s-maj=20.9km s-min=14.7km az=135.0*
BJI ***02*** *21:05:15.0, 3856N×7691E, h15km, ML3.2*
NNC ***02*** *21:05:30.6±8.2, 3899N×7428E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=94.6km s-min=59.7km az=131.0*

ISC 02 21:05:12.0±3.3, 384N±01×767E±01, h8km±19km, n12, σ1$27/14, mb3.2/2, 3C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.31**	**333**	PG	**Pg**	**21 05 37.6**	**+0.4**
KSH				SG	**Sg**	**21 05 52.6**	**-1.6**
KSH				Smax			
	comp=N,326nm,0.3s						
KSH				Smax			
	comp=E,745nm,0.5s						
UCH	**Uchtor**	**4.23**	**337**	*e*P	**Pn**	**21 06 18.6**	**+1.8**
AML	**Almayashu**	**4.44**	**329**	*e*P	**Pn**	**21 06 19.2**	**-0.4**
AAK	**Ala-Archa**	**4.61**	**339**	Pn	**Pn**	**21 06 23.6**	**+1.6**
	comp=E,0.4nm,0.3s,baz=131,slow=19,SNR=3.4						
AAK				Pg	**Pb**	**21 06 33.5**	**+0.4**
	comp=E,0.7nm,0.3s,baz=134,slow=12,SNR=4.9						
AAK				Lg		21 07 36.1	
	comp=E,1.8nm,0.3s,baz=289,slow=20,SNR=8.4						
TKM2	**Tokmak 2**	**4.65**	**350**	⇑Pn	**Pb**	**21 06 34.5**	**+0.7**
	comp=E,2.3nm,0.5s						
TKM2				⇓Lg		21 07 39.2	
	comp=E,11nm,0.8s						
TKM2	**Tokmak 2**	**4.65**	**350**	*e*P	**Pn**	**21 06 24.5**	**+2.0**
KK31	**Karatay Array**	**6.70**	**317**	⇓Pn	**Pn**	**21 06 48.7**	**-2.0**
	comp=E,0.2nm,0.3s,baz=129,slow=12,SNR=11						
KK31				⇑Lg		21 08 11.1	
	comp=E,2.2nm,0.8s,baz=131,slow=28						
KBL	**Kabul**	**7.27**	**241**	*e*P	**Pn**	**21 06 58.9**	**+0.4**
	comp=E,4.0nm,0.4s						
MK31	**Makanchi Array**	**9.38**	**24**	⇑Pn	**Pn**	**21 07 26.9**	**-0.5**
	comp=E,0.1nm,0.3s,baz=198,slow=12,SNR=11						
MKAR	**Makanchi Array**	**9.38**	**24**	Pn	**Pn**	**21 07 27.7**	**+0.3**
	comp=E,0.2nm,0.3s,baz=212,slow=14,SNR=12						
SONM	**Songino Array**	**23.52**	**57**	P	**P**	**21 10 21.1**	**-1.4**
	comp=E,0.3nm,0.4s,mb3.0,baz=252,slow=10.0,SNR=2.6						
ARCES	**ARCESS Array B**	**41.28**	**335**	P	**P**	**21 12 55.4**	**-1.9**
	comp=E,0.5nm,0.6s,mb3.3,baz=110,slow=9.4,SNR=5.6						

NEIC ***02*** *21:10:02.1±0.8, 2053S×17764W, h600km, mb3.6/1, Error ellipse: s-maj=32.5km s-min=23.1km az=133.0*

IDC 02 21:09:59.1±7.6, 2037S×17756W, h561km±87km, mb3.1/4, mb1 3.4/5, mb1mx3.2/14, mbtmp3.2/5, Error ellipse: s-maj=48.5km s-min=31.3km az=23.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.42**	**193**	P	P	21 13 38.9	-1.2
	1.3nm,0.3s,baz=143,slow=22,SNR=5.7						
ASAR	**Alice Springs**	**44.95**	**257**	P	P	21 17 25.6	+0.7
	4.1nm,0.8s,baz=94,slow=7.8,SNR=49						
WRA	**Warramunga Arr**	**45.03**	**262**	P	P	21 17 25.6	0.0
	2.2nm,0.6s,baz=97,slow=7.9,SNR=93						
MBWA	**Marble Bar**	**58.29**	**257**	*e*P	P	21 19 00.9	-0.1
	2.4nm,0.5s						
MJAR	**Matsushiro Arr**	**70.35**	**323**	P	P	21 20 15.6	-1.3
	0.9nm,0.8s,baz=158,slow=7.3,SNR=5.0						
TXAR	**Lajitas Array**	**86.64**	**57**	P	P	21 21 45.4	+1.6
	0.2nm,0.7s,baz=223,slow=6.8,SNR=3.9						
MKAR	**Makanchi Array**	**111.41**	**313**	PKiKP	PKiKP	21 27 29.2	-0.5
	0.2nm,0.6s,baz=229,slow=2.5,SNR=3.8						
ARCES	**ARCESS Array B**	**128.87**	**350**	PKP	PKPdf	21 28 02.5	-0.1
ARCES	**ARCESS Array B**	**128.87**	**350**	PKP	PKPdf	21 28 02.5	-0.1
	0.7nm,0.7s,baz=116,slow=2.8,SNR=3.5						
AKASG	**Malin Array Be**	**143.10**	**331**	PKP	PKPdf	21 28 26.6	-2.7
	1.2nm,0.5s,baz=42,slow=4.2,SNR=12						
CLL	**Collm**	**148.03**	**347**	*i* PKPbc	PKPbc	21 28 42.1	+0.5
GERES	**GERESS Array B**	**150.18**	**345**	PKPbc	PKPbc	21 28 47.6	+0.6
	1.0nm,0.8s,baz=48,slow=2.0,SNR=8.1						

IDC 02 21:30:54.2±3.4, 2827S×17896W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/12, mbtmp3.9/3, Error ellipse: s-maj=98.6km s-min=19.1km az=31.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.34**	**137**	Pn	Pn	21 31 19.8	-0.4
	65nm,0.3s,baz=88,slow=23,SNR=6.0						
RAO				Sn	Sn	21 31 41.7	+2.9
	157nm,0.3s,baz=85,slow=22,SNR=5.9						
STKA	**Stephens Creek**	**34.20**	**254**	P	P	21 37 41.1	-0.4
	3.4nm,1.1s,baz=131,slow=11,SNR=2.7						
ASAR	**Alice Springs**	**42.42**	**265**	P	P	21 38 50.3	-0.5
	0.9nm,0.6s,baz=107,slow=7.3,SNR=9.8						
WRA	**Warramunga Arr**	**43.21**	**270**	P	P	21 38 58.3	+1.0
	0.6nm,0.3s,baz=111,slow=8.1,SNR=29						
FINES	**FINESS Array B**	**142.86**	**340**	PKP	PKPdf	21 50 26.2	-2.8
	0.6nm,0.5s,baz=64,slow=4.4,SNR=8.2						

ISCJB ***02*** *21:44:26.6±0.9, 5867N±007×49E±01, h0km, Error ellipse: s-maj=9.7km s-min=8.3km az=164.1*
IDC ***02*** *21:44:29.4±2.1, 5895N×451E, h0km, mb1 3.3/5, mb1mx3.1/24, mbtmp3.2/5, ML2.7/5, Error ellipse: s-maj=41.2km s-min=17.2km az=146.0*
BER ***02*** *21:44:30.0±2.2, 5872N×487E, h0km, MD1.8, ML2.1, Explosion*

ISC 02 21:44:28.1±0.9, 5872N±006×48E±01, h0km, n15, σ0$76/20, 1C, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STAV	**Stavanger**	**0.50**	**64**	*e*P	**Pg**	**21 44 38.3**	**+0.7**
KMY	**Karmoy**	**0.54**	**23**	⇑*i*P	**Pg**	**21 44 38.2**	**-0.1**
BLS5	**Blasjo**	**1.09**	**49**	*e*P	**Pg**	**21 44 49.8**	**+0.8**
SNART	**Snartemo**	**1.30**	**106**	*e*P	**Pg**	**21 44 53.5**	**+0.5**
SNART				AML	AML	21 45 17.0	
	comp=Z,72nm,0.2s						
ODD1	**Odda**	**1.51**	**37**	*e*P	**Pn**	**21 44 55.2**	**-1.1**
ODD1				AML	AML	21 45 16.0	
	comp=Z,51nm,0.4s						
EGD	**Espegrend**	**1.57**	**7**	*e*P	**Pn**	**21 44 56.5**	**-0.6**
RUND	**Rundenannen**	**1.72**	**9**	*e*P	**Pn**	**21 45 01.8**	**+2.5**
RUND				AML	AML	21 45 26.5	
	comp=Z,25nm,0.6s						
ASK	**Askoy**	**1.78**	**6**	*e*P	**Pn**	**21 45 00.5**	**+0.4**
ASK				*e*S	**Sn**	**21 45 23.3**	**0.0**
ASK				AML	AML	21 45 26.2	
	comp=Z,40nm,0.4s						
KONO	**Kongsberg**	**2.62**	**67**	*e*P	**Pn**	**21 45 12.0**	**+0.4**
FOO	**Floro**	**2.89**	**2**	*e*P	**Pn**	**21 45 15.2**	**0.0**
FOO				AML	AML	21 46 00.9	
	comp=Z,12nm,0.5s						
NOA	**NORSAR Array B**	**3.97**	**51**	Pn	**Pn**	**21 45 30.0**	**-0.1**
	comp=Z,0.3nm,0.3s,baz=62,slow=22,SNR=3.5						
NOA				Pg	**Pg**	**21 45 39.5**	**-4.5**
	comp=Z,0.7nm,0.3s,baz=242,slow=15,SNR=5.6						
NOA				Sn	**Sn**	**21 46 16.9**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=45,slow=23,SNR=3.6						
NOA				Lg		21 46 32.2	
	comp=Z,1.6nm,0.3s,baz=205,slow=20,SNR=6.0						
HFS	**Hagfors**	**4.74**	**69**	Pn	**Pn**	**21 45 40.5**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=237,slow=14,SNR=11						
HFS				Pg	**Pg**	**21 45 52.2**	**-6.6**
	comp=Z,0.3nm,0.3s,baz=241,slow=18,SNR=7.5						
HFS				Sn	**Sn**	**21 46 35.1**	**-1.2**
	comp=Z,0.4nm,0.3s,baz=258,slow=21,SNR=5.1						
HFS				Lg		21 46 58.8	
	comp=Z,0.7nm,0.3s,baz=254,slow=26,SNR=6.3						
EKA	**Eskdalemuir Ar**	**5.53**	**236**	Pn	**Pn**	**21 45 51.1**	**-0.5**
	comp=Z,0.3nm,0.3s,baz=48,slow=12,SNR=8.3						
FINES	**FINESS Array B**	**10.94**	**67**	Pn	**Pn**	**21 47 05.9**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=269,slow=12,SNR=5.6						
ARCES	**ARCESS Array B**	**14.00**	**31**	Pn	**Pn**	**21 47 46.7**	**-0.7**
	comp=Z,0.1nm,0.3s,baz=219,slow=14,SNR=1.5						

ISCJB ***02*** *21:49:49.2±0.6, 5870N±005×470E±008, h0km, Error ellipse: s-maj=7.4km s-min=5.6km az=148.7*
IDC ***02*** *21:49:51.2±1.9, 5873N×463E, h0km, mb1 3.1/5, mb1mx3.0/23, mbtmp3.0/5, ML2.6/5, Error ellipse: s-maj=42.4km s-min=16.1km az=152.0*
BER ***02*** *21:49:51.7±3.6, 5870N×474E, h0km, MD1.9, ML2.1, ML2.0(NAO), Explosion*
NAO ***02*** *21:49:55.3±3.8, 5878N×5.18E, ML2.0*

ISC 02 21:49:50.6±0.6, 5873N±005×479E±008, h0km, n19, σ1$23/28, North Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STAV	**Stavanger**	**0.52**	**67**	*e*P	**Pg**	**21 50 01.1**	**+0.7**
KMY	**Karmoy**	**0.54**	**26**	*e*P	**Pg**	**21 50 01.0**	**+0.2**
BLS5	**Blasjo**	**1.10**	**51**	*e*P	**Pg**	**21 50 11.8**	**+0.1**
BLS5				AML	AML	21 50 32.8	
	comp=Z,39nm,0.5s						
SNART	**Snartemo**	**1.33**	**106**	*e*P	**Pg**	**21 50 15.9**	**-0.1**
SNART				*e*S	**Sg**	**21 50 34.0**	**+0.8**
SNART				AML	AML	21 50 37.8	
	comp=Z,86nm,0.5s						
ODD1	**Odda**	**1.51**	**38**	*e*P	**Pn**	**21 50 17.9**	**-1.0**
ODD1				AML	AML	21 50 42.9	
	comp=Z,48nm,0.5s						
EGD	**Espegrend**	**1.56**	**8**	*e*P	**Pn**	**21 50 18.7**	**-0.8**
EGD				AML	AML	21 50 45.8	
	comp=Z,23nm,0.5s						
RUND	**Rundenannen**	**1.71**	**10**	*e*P	**Pn**	**21 50 24.9**	**+3.3**
RUND				*e*S	**Sn**	**21 50 46.4**	**+2.3**
RUND				AML	AML	21 50 51.4	
	comp=Z,29nm,0.4s						
ASK	**Askoy**	**1.77**	**7**	*e*P	**Pn**	**21 50 22.0**	**-0.4**
ASK				AML	AML	21 50 50.3	
	comp=Z,38nm,0.5s						
HYA	**Hoyanger**	**2.54**	**16**	*e*P	**Pn**	**21 50 34.0**	**+1.1**
KONO	**Kongsberg**	**2.64**	**68**	*e*P	**Pn**	**21 50 34.6**	**+0.2**
FOO	**Floro**	**2.88**	**2**	*e*P	**Pn**	**21 50 36.0**	**-1.6**
NB2	**NORSAR Subarra**	**3.98**	**52**	Pn	**Pn**	**21 50 54.0**	**+1.3**
	baz=236,slow=14						
NB2				Sn	**Sn**	**21 51 41.7**	**+1.7**
NB2				Lg		21 51 54.1	
	baz=222,slow=28						
NOA	**NORSAR Array B**	**3.98**	**52**	Pn	**Pn**	**21 50 53.0**	**+0.3**
	comp=Z,0.2nm,0.3s,baz=43,slow=15,SNR=3.5						
NOA				Pg	**Pg**	**21 51 02.3**	**-4.5**
	comp=Z,1.1nm,0.3s,baz=241,slow=15,SNR=8.6						
NOA				Sn	**Sn**	**21 51 42.8**	**+2.8**
	com

comp=Z,0.3nm,0.3s,baz=238,slow=16,SNR=6.5
HFS Sn **Sn** **21 51 56.4 -2.8**
comp=Z,0.2nm,0.3s,baz=259,slow=23,SNR=3.9
HFS Lg 21 52 24.8
comp=Z,0.6nm,0.3s,baz=237,slow=21,SNR=5.8
EKA Eskdalemuir Ar 5.52 235 Pn **Pn** **21 51 14.7 +0.8**
comp=Z,0.2nm,0.3s,baz=49,slow=12,SNR=5.2
EKA Sn **Sn** **21 52 17.9 +0.1**
comp=Z,0.3nm,0.3s,baz=53,slow=24,SNR=5.2
FIA0 FINESS Array S 10.96 67 Pn **Pn** **21 52 27.7 -0.7**
baz=259,slow=14
FINES FINESS Array B 10.96 67 Pn **Pn** **21 52 28.5 +0.2**
comp=Z,0.2nm,0.3s,baz=264,slow=12,SNR=6.8
ARCES ARCESS Array B 14.01 31 Pn **Pn** **21 53 07.5 -2.4**
comp=Z,0.0nm,0.3s,baz=219,slow=14,SNR=2.3

IDC 02 21:58:24.1±1.5,754S×15594E,h0km,mb3.7/3,mb1 4.0/4, mb1mx3.6/14,mbtmp3.9/4,ML4.5/1,Error ellipse: s-maj=38.2km s-min=34.6km az=20.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.39**	**116**	Pn	Pn	21 59 31.6	-0.4
	22nm,0.3s,baz=273,slow=6.7,SNR=6.3						
WRA	**Warramunga Arr**	**24.30**	**237**	P	P	22 03 43.7	+0.3
	2.4nm,0.6s,baz=63,slow=9.4,SNR=35						
SONM	**Songino Array**	**70.30**	**327**	P	P	22 09 39.8	+0.4
	0.6nm,0.6s,baz=139,slow=6.8,SNR=5.2						
MKAR	**Makanchi Array**	**84.43**	**319**	P	P	22 10 58.5	-0.1
	0.1nm,0.5s,baz=110,slow=6.9,SNR=3.0						

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*IDC **02** 22:14:00.7±1.2,3642N×7084E,h0km,mb3.8/8, mb1 4.0/11,mb1mx3.8/23,mbtmp3.9/11,ML3.8/3,Error ellipse: s-maj=27.6km s-min=20.2km az=54.0*
*MOS **02** 22:14:10.8±1.5,3675N×7088E,h87km,mb4.0/3,Error ellipse: s-maj=19.6km s-min=7.6km az=78.7*
*ISCJB **02** 22:14:10.5±0.7,3670N±003×7088E±008,h90km±8km, mb3.6/11,Error ellipse: s-maj=11.4km s-min=4.1km az=163.5*
*BJI **02** 22:14:13.8,3670N×7110E,h95km,mb3.5*
*NEIC **02** 22:14:13.8±2.2,3674N×7113E,h96km±17km,mb4.0/2, Error ellipse: s-maj=22.0km s-min=13.1km az=215.0*
*NNC **02** 22:14:17.7±7.0,3722N×7069E,h163km±67km,mb2.9, mpv4.0,Error ellipse: s-maj=79.7km s-min=21.2km az=18.0*
*DMN **02** 22:16:03.3±37.0,3161N×7950E,h10km,Mb4.6/8,Error ellipse: s-maj=888.2km s-min=39.6km az=129.0*

ISC 02 22:14:12.1±0.6,3673N±003×7090E±008,h90km±7km,n72, σ1°51/87,mb3.6/11,7C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHCP	**Chirah Chowk**	**3.62**	**147**	P	**Pn**	**22 15 08.4**	**+2.4**
THW	**Thamme Wali**	**3.99**	**170**	⇓P	**Pn**	**22 15 12.0**	**+1.0**
THW				S	**Sn**	**22 15 55.0**	**-1.6**
KSH	**Kashi**	**4.87**	**54**	P	**Pn**	**22 15 27.9**	**+5.1**
KSH				Smax			
	comp=N,396nm,1.1s						
KSH				Smax			
	comp=E,332nm,1.0s						
AML	**Almayashu**	**5.81**	**21**	*e*Pn	**Pn**	**22 15 36.9**	**+1.3**
	comp=E,48nm,0.5s						
AML				*e*Sn	**Sn**	**22 16 36.2**	**-4.5**
AML	**Almayashu**	**5.81**	**21**	P	**Pn**	**22 15 37.0**	**+1.4**
	SNR=50						
THN	**Thein Dam**	**5.84**	**136**	*e*P	**Pn**	**22 15 37.1**	**+0.9**
THN				*ex*	x	22 16 32.0	
DLH	**Dalhousie**	**5.91**	**134**	*e*P	**Pn**	**22 15 45.0**	**+8.0**
DLH				*e*S	**Sn**	**22 16 45.0**	**+1.7**
UCH	**Uchtor**	**6.16**	**26**	*e*Pn	**Pn**	**22 15 42.0**	**+1.7**
	comp=E,28nm,0.4s						
UCH				*e*Sn	**Sn**	**22 16 41.1**	**-8.2**
UCH	**Uchtor**	**6.16**	**26**	P	**Pn**	**22 15 41.6**	**+1.3**
	SNR=65						
KZA	**Kyzart**	**6.31**	**31**	P	**Pn**	**22 15 43.8**	**+1.4**
	SNR=68						
EKS2	**Erkin-Say**	**6.32**	**20**	*e*Pn	**Pn**	**22 15 43.8**	**+1.2**
	comp=E,15nm,0.5s						
EKS2				*e*Sn	**Sn**	**22 16 48.9**	**-4.4**
EKS2	**Erkin-Say**	**6.32**	**20**	P	**Pn**	**22 15 43.9**	**+1.2**
	SNR=37						
KK31	**Karatay Array**	**6.37**	**357**	⇑P	**Pn**	**22 15 42.0**	**-1.3**
	comp=E,1.1nm,0.2s,baz=178,slow=12,SNR=61						
KK31				⇓S	**Sn**	**22 16 50.3**	**-4.2**
	comp=E,12nm,0.4s,baz=14,slow=75,SNR=11						
AAK	**Ala-Archa**	**6.51**	**24**	Pn	**Pn**	**22 15 45.6**	**+0.5**
	comp=E,9.7nm,0.3s,baz=183,slow=5.9,SNR=89						
AAK				Sn	**Sn**	**22 16 54.9**	**-3.0**
	comp=E,3.1nm,0.3s,baz=188,slow=23,SNR=4.0						
AAK	**Ala-Archa**	**6.51**	**24**	P	**Pn**	**22 15 46.8**	**+1.6**
	SNR=34						
KBK	**Karagaybulak**	**6.69**	**27**	P	**Pn**	**22 15 49.5**	**+1.9**
	SNR=37						
FRU	**Bishkek**	**6.73**	**24**	⇑*e*PN	**Pn**	**22 15 49.5**	**+1.3**
FRU				pmax	pmax		
	comp=Z,40nm,1.2s						
FRU				pmax	pmax		
	comp=E,170nm,1.7s						
ULHL	**Ulahol**	**6.88**	**35**	P	**Pn**	**22 15 51.7**	**+1.5**
	SNR=11						
CHMS	**Chumysh**	**6.92**	**24**	P	**Pn**	**22 15 52.1**	**+1.3**
	SNR=42						
USP	**Ospenovka**	**7.08**	**22**	P	**Pn**	**22 15 53.6**	**+0.6**
	SNR=17						
TKM2	**Tokmak 2**	**7.16**	**29**	⇑P	**Pn**	**22 15 55.6**	**+1.6**
	comp=E,20nm,0.5s						
TKM2	**Tokmak 2**	**7.16**	**29**	*e*PN	**Pn**	**22 15 55.5**	**+1.5**
TKM2				pmax	pmax		
	comp=Z,26nm,0.6s						
TKM2	**Tokmak 2**	**7.16**	**29**	*e*Pn	**Pn**	**22 15 55.5**	**+1.6**
	comp=Z,26nm,0.6s						
TKM2				Sn	**Sn**	**22 17 05.0**	**-8.7**
TKM2	**Tokmak 2**	**7.16**	**29**	P	**Pn**	**22 15 55.5**	**+1.5**
	SNR=46						
SDNR	**Sundarnagar**	**7.25**	**134**	*e*P	**Pn**	**22 15 56.4**	**+1.1**
SDNR				*ex*	x	22 17 13.0	
KLP	**Kalpa**	**8.00**	**128**	*e*P	**Pn**	**22 16 04.5**	**-1.0**
KLP				*e*S	**Sn**	**22 17 27.6**	**-6.7**
KLP				AML	AML	22 17 39.8	
	comp=E,250nm,0.9s						
KLP				AML	AML	22 17 41.6	
	comp=N,260nm,0.5s						
DDI	**Dehra Dun**	**8.74**	**135**	*e*P	**Pn**	**22 16 16.8**	**+1.1**
DDI				*e*S	**Sn**	**22 17 53.5**	**+1.0**
JOSI	**Joshimath**	**9.48**	**128**	*e*P	**Pn**	**22 16 24.9**	**-0.9**
JOSI				*ex*	x	22 17 57.7	
JOSI				AML	AML	22 18 11.7	
	comp=N,161nm,0.6s						
JOSI				AML	AML	22 18 15.0	
	comp=E,130nm,0.6s						
KHET	**Khetri**	**9.57**	**153**	*e*S	**Sn**	**22 18 03.0**	**-10**
KHET				AML	AML	22 19 10.6	
	comp=N,6.9nm,0.1s						
KHET				AML	AML	22 19 10.7	
	comp=E,6.7nm,0.1s						
KUDL	**Kundal**	**9.77**	**150**	*e*P	**Pn**	**22 16 28.1**	**-1.7**
KUDL				*e*S	**Sn**	**22 18 08.5**	**-9.2**
KUDL				AML	AML	22 19 40.8	
	comp=E,6.1nm,0.6s						
KUDL				AML	AML	22 19 42.4	
	comp=N,5.0nm,0.6s						
SONA	**Sohna**	**9.93**	**147**	*e*P	**Pn**	**22 16 31.0**	**-1.0**
SONA				*e*S	**Sn**	**22 18 12.9**	**-8.7**
SONA				AML	AML	22 19 27.9	
	comp=N,7.0nm,0.7s						
SONA				AML	AML	22 19 31.9	
	comp=E,12nm,0.7s						
MK31	**Makanchi Array**	**13.15**	**37**	⇑P	**Pn**	**22 17 14.5**	**-0.6**
	comp=E,1.6nm,0.6s,baz=223,slow=15,SNR=15						
MK31	**Makanchi Array**	**13.15**	**37**	*e*Pn	**Pn**	**22 17 13.6**	**-1.5**
MK31				Sn	**Sn**	**22 19 30.1**	**-9.4**
MKAR	**Makanchi Array**	**13.15**	**37**	*e*P	**Pn**	**22 17 15.0**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**13.15**	**37**	Pn	**Pn**	**22 17 14.5**	**-0.6**
MKAR	**Makanchi Array**	**13.15**	**37**	Pn	**Pn**	**22 17 14.5**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=224,slow=16,SNR=17						
DANN	**Dangsing**	**13.68**	**124**	*e*P	**Pn**	**22 17 20.1**	**-2.1**
	comp=Z,8.6nm,0.5s						
KOLN	**Koldanda**	**13.96**	**126**	*e*P	**Pn**	**22 17 23.8**	**-2.1**
	comp=Z,5.5nm,0.4s						
GKN	**Gorkha**	**14.49**	**123**	*e*P	**Pn**	**22 17 30.5**	**-2.3**
	comp=Z,11nm,0.5s						
AB31	**Akbulak array**	**14.84**	**331**	⇑P	**Pn**	**22 17 33.0**	**-4.1**
	comp=Z,0.7nm,0.3s,baz=167,slow=11						
AB31				⇓S	**Sn**	**22 20 10.3**	**-10**
	comp=Z,1.5nm,0.5s,baz=170,slow=22						
KURK	**Kurchatov**	**15.04**	**19**	*e*P	**Pn**	**22 17 40.1**	**+0.6**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KURK	**Kurchatov**	**15.04**	**19**	*e*Pn	**Pn**	**22 17 40.1**	**+0.6**
	comp=Z,3.7nm,0.8s						
DMN	**Daman**	**15.06**	**123**	*e*P	**Pn**	**22 17 39.1**	**-1.0**
	comp=Z,5.3nm,0.4s						
KKN	**Kakani**	**15.07**	**122**	*e*P	**Pn**	**22 17 39.1**	**-1.0**
	comp=Z,8.9nm,0.5s						
PKIN	**Phulchoki**	**15.28**	**123**	*e*P	**Pn**	**22 17 41.7**	**-1.1**
	comp=Z,9.0nm,0.5s						
PKI	**Pulchoki**	**15.29**	**123**	*e*P	**Pn**	**22 17 42.5**	**-0.5**
	comp=Z,8.8nm,0.5s						
GUN	**Gumba**	**15.40**	**121**	*e*P	**Pn**	**22 17 43.9**	**-0.4**
	comp=Z,9.1nm,0.4s						
JIRN	**Jiri**	**15.77**	**121**	*e*P	**Pn**	**22 17 49.8**	**+0.8**
	comp=Z,3.5nm,0.3s						
BVAR	**Borovoye Array**	**16.30**	**359**	Pn	**Pn**	**22 17 53.1**	**-2.2**
	comp=Z,0.2nm,0.3s,baz=173,slow=13,SNR=6.6						
BRVK	**Borovoye**	**16.33**	**359**	P	**Pn**	**22 17 57.8**	**+2.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BRVK	**Borovoye**	**16.33**	**359**	Pn	**Pn**	**22 17 57.8**	**+2.1**
	comp=Z,2.1nm,0.5s						
AKTK	**Aktyubinsk**	**16.54**	**330**	Pn	**Pn**	**22 17 55.5**	**-2.9**
AKTO	**Aktyubinsk**	**16.54**	**330**	⇑P	**Pn**	**22 17 55.7**	**-2.7**
	comp=Z,0.1nm,0.7s						
AKTO				⇑S	**S**	**22 20 54.6**	**-13**
	comp=Z,0.2nm,1.4s						
AKTO	**Aktyubinsk**	**16.54**	**330**	Pn	**Pn**	**22 17 55.5**	**-2.9**
	comp=Z,0.4nm,0.3s,baz=131,slow=14,SNR=13						
ZAL	**Zalesovo**	**19.72**	**25**	P	**Pn**	**22 18 34.0**	**-2.5**
ZAA0	**Zalesovo Array**	**19.74**	**25**	*e*P	**Pn**	**22 18 34.6**	**-2.1**
ZALV	**Zalesovo Beam**	**19.74**	**25**	P	**Pn**	**22 18 34.0**	**-2.7**
	comp=Z,5.5nm,0.4s,baz=216,slow=11,SNR=24						
NVS	**Novosibirsk**	**19.99**	**21**	*e*P	**Pn**	**22 18 36.7**	**-3.0**
GTA	**Gaotai**	**22.88**	**74**	*e*P	**P**	**22 19 10.2**	**+2.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb3.5						
ZAK	**Zakamensk**	**26.90**	**49**	*e*P	**P**	**22 19 50.7**	**+6.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.3						
SONM	**Songino Array**	**28.27**	**56**	P	**P**	**22 19 58.8**	**+2.1**
	comp=Z,0.7nm,0.4s,mb3.5,baz=260,slow=8.6,SNR=6.3						
FINES	**FINESS Array B**	**37.25**	**326**	P	**P**	**22 21 16.5**	**+1.9**
	comp=Z,1.1nm,0.7s,mb3.9,baz=218,slow=24,SNR=2.3						
ARCES	**ARCESS Array B**	**40.90**	**338**	P	**P**	**22 21 46.5**	**+1.5**
	comp=Z,1.4nm,0.9s,mb3.8,baz=104,slow=7.6,SNR=6.2						
NOA	**NORSAR Array B**	**44.15**	**323**	P	**P**	**22 22 12.2**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.1,baz=76,slow=6.0,SNR=3.4						
WLF	**Walferdange**	**47.52**	**307**	P	**P**	**22 22 40.0**	**+1.9**
WLF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.3						
WLF	**Walferdange**	**47.52**	**307**	P	**P**	**22 22 40.0**	**+2.0**
	comp=Z,3.1nm,0.6s,mb4.3						
BILL	**Bilibino**	**58.43**	**26**	*e*P	**P**	**22 23 58.5**	**+0.6**
BILL				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.7						
YKA	**Yellowknife Ar**	**81.02**	**3**	P	**P**	**22 26 18.4**	**+1.9**
YKA	**Yellowknife Ar**	**81.02**	**3**	P	**P**	**22 26 17.6**	**+1.1**
	comp=Z,0.4nm,0.5s,mb3.5,baz=350,slow=5.5,SNR=7.8						
WRA	**Warramunga Arr**	**82.18**	**122**	P	**P**	**22 26 23.4**	**+0.1**
	comp=Z,0.7nm,1.1s,mb3.4,baz=324,slow=5.1,SNR=4.1						
WB2	**Warramunga Arr**	**82.19**	**122**	P	**P**	**22 26 23.9**	**+0.7**
ASAR	**Alice Springs**	**84.45**	**125**	P	**P**	**22 26 34.6**	**-0.3**
	comp=Z,0.3nm,0.7s,mb3.2,baz=326,slow=4.8,SNR=2.9						

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*ISCJB **02** 22:39:35.8±6.1,2182N±008×1432E±03,h32km±44km, mb3.9/7,Error ellipse: s-maj=50.9km s-min=13.2km az=175.5*
*IDC **02** 22:39:37.9±6.9,2182N×14323E,h35km±55km,mb3.7/7, mb1 3.9/8,mb1mx3.8/19,mbtmp3.8/8,ML3.5/1,MS2.7/2, Ms1 2.7/2,ms1mx2.5/28,Error ellipse: s-maj=41.3km s-min=17.5km az=86.0*

ISC 02 22:39:38.0±2.7,218N±01×1432E±03,h36km±24km,n11, σ0°38/10,mb3.9/7,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.35**	**350**	Pn	**Pn**	**22 40 55.2**	**-0.2**
	3.6nm,0.3s,baz=292,slow=19,SNR=4.2						
CBIJ				Sn	**Sn**	**22 41 56.0**	**+0.1**
	6.6nm,0.3s,baz=287,slow=19,SNR=3.3						
JOW	**Kunigami**	**14.52**	**293**	LR	LR	22 47 06.9	
	comp=Z,40nm,21.4s,baz=86,slow=31						
JNU	**Nakatsue**	**15.71**	**318**	LR	LR	22 48 52.3	
	comp=Z,24nm,19.2s,baz=57,slow=35						
KSRS	**Korea Array**	**20.46**	**323**	P	**P**	**22 44 16.9**	**+4.5**
	2.6nm,0.6s,baz=141,slow=8.6,SNR=11						
SONM	**Songino Array**	**39.29**	**320**	P	**P**	**22 47 03.3**	**0.0**
	1.1nm,0.5s,mb3.9,baz=132,slow=7.7,SNR=15						
WRA	**Warramunga Arr**	**42.39**	**192**	P	**P**	**22 47 28.8**	**-0.3**
	1.0nm,0.9s,mb3.4,baz=18,slow=9.3,SNR=9.8						
ASAR	**Alice Springs**	**46.10**	**192**	P	**P**	**22 47 59.0**	**+0.3**
	0.8nm,0.6s,mb3.8,baz=15,slow=9.5,SNR=17						
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**22 48 59.1**	**-0.4**
	1.4nm,0.3s,mb4.4,baz=101,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**54.66**	**313**	P	**P**	**22 49 03.9**	**+0.6**
	0.9nm,0.6s,mb4.0,baz=90,slow=9.5,SNR=12						
YKA	**Yellowknife Ar**	**76.34**	**28**	P	**P**	**22 51 23.3**	**+0.3**
	0.9nm,0.6s,mb3.9,baz=292,slow=5.5,SNR=12						
FINES	**FINESS Array B**	**83.11**	**334**	P	**P**	**22 51 59.2**	**-0.6**
	1.0nm,0.8s,mb3.9,baz=66,slow=4.8,SNR=5.4						

IDC 02 23:12:05.4±11.0,1814S×17779W,h409km±126km, mb3.4/7,mb1 3.6/7,mb1mx3.4/16,mbtmp3.4/7,Error ellipse: s-maj=45.2km s-min=22.3km az=29.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.53**	**192**	P	P	23 16 13.8	-0.2
	5.2nm,0.4s,baz=172,slow=15,SNR=7.1						
STKA	**Stephens Creek**	**39.04**	**242**	*e*P	P	23 18 55.1	+0.1
	4.0nm,1.0s						
STKA	**Stephens Creek**	**39.04**	**242**	P	P	23 18 55.6	+0.7
	2.5nm,0.4s,baz=87,slow=10,SNR=6.3						
WB2	**Warramunga Arr**	**45.16**	**260**	*e*P	P	23 19 43.7	-0.2
WRA	**Warramunga Arr**	**45.17**	**260**	P	P	23 19 43.8	-0.1
	2.7nm,0.4s,baz=97,slow=7.6,SNR=118						
ASAR	**Alice Springs**	**45.30**	**254**	P	P	23 19 44.9	0.0
	4.4nm,0.5s,baz=92,slow=7.7,SNR=54						
FITZ	**Fitzroy Crossi**	**53.58**	**261**	*e*P	P	23 20 46.0	-0.6
	4.1nm,1.1s						
FITZ	**Fitzroy Crossi**	**53.58**	**261**	P	P	23 20 46.1	-0.5
	0.5nm,0.3s,baz=90,slow=7.1,SNR=7.0						
VNDA	**Vanda**	**60.26**	**185**	P	P	23 21 32.0	+0.1
	0.4nm,0.8s,baz=2.8,slow=5.2,SNR=4.1						
TXAR	**Lajitas Array**	**85.62**	**57**	P	P	23 23 59.7	+0.2
	0.8nm,0.7s,baz=223,slow=5.7,SNR=8.8						

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*IDC **02** 23:22:13.3±1.2,1576S×17401W,h0km,mb4.6/5, mb1 4.7/5,mb1mx4.2/15,mbtmp4.6/5,MS3.3/1,Ms1 3.3/1, ms1mx2.8/18,Error ellipse: s-maj=37.8km s-min=29.0km az=112.0*
*ISCJB **02** 23:22:23.8±1.7,159S±01×1742W±01,h92km±20km, mb4.5/10,Error ellipse: s-maj=23.8km s-min=17.1km az=11.6*
*NEIC **02** 23:22:24.9±1.1,1591S×1741.6W,h88km±11km,mb4.5/4, Error ellipse: s-maj=14.7km s-min=9.7km az=119.0*

ISC 02 23:22:24.8±1.6,159S±01×1742W±01,h84km±19km,n23, σ0°63/17,mb4.5/10,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.06**	**49**	*e*Pn	**Pn**	**23 23 11.2**	**+0.1**
AFI				*e*Sn	**Sn**	**23 23 40.3**	**-6.5**
RAO	**Raoul Island**	**13.70**	**194**	Pn	**Pn**	**23 25 35.3**	**-0.1**
RAO	**Raoul Island**	**13.70**	**194**	LR	LR	23 29 22.3	
	comp=Z,130nm,19.7s,baz=295,slow=31						
URZ	**Urewera**	**23.54**	**197**	P	**P**	**23 27 26.8**	**-0.6**
	6.4nm,0.3s,mb4.4,baz=342,slow=5.5,SNR=12						
HNR	**Honiara**	**26.05**	**281**	P	**P**	**23 27 50.6**	**+0.1**
STKA	**Stephens Creek**	**43.13**	**240**	*e*P	**P**	**23 30 17.2**	**+0.1**
	6.1nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**43.13**	**240**	P	**P**	**23 30 17.4**	**+0.2**
	8.3nm,0.9s,mb4.5,baz=70,slow=12,SNR=7.8						
WB2	**Warramunga Arr**	**48.99**	**257**	*e*P	**P**	**23 31 03.4**	**+0.1**
WRAB	**Tennant Creek**	**48.99**	**257**	*e*P	**P**	**23 31 03.6**	**+0.3**
	1.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**49.00**	**257**	P	**P**	**23 31 03.8**	**+0.4**
	1.5nm,0.5s,mb4.1,baz=98,slow=6.0,SNR=32						
ASAR	**Alice Springs**	**49.24**	**252**	P	**P**	**23 31 05.4**	**+0.2**
	9.4nm,0.7s,mb4.9,baz=88,slow=8.1,SNR=97						
FITZ	**Fitzroy Crossi**	**57.38**	**258**	*e*P	**P**	**23 32 02.0**	**-2.9**
	5.0nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**62.50**	**254**	*e*P	**P**	**23 32 40.5**	**+0.5**
	7.1nm,0.6s,mb4.8						
SBA	**Scott Base**	**62.67**	**184**	*e*P	**P**	**23 32 39.9**	**-0.3**
	8.2nm,0.8s,mb4.7						
VNDA	**Vanda**	**62.78**	**186**	P	**P**	**23 32 41.6**	**+0.7**
	6.2nm,0.8s,mb4.6,baz=8.3,slow=6.4,SNR=35						
QSPA	**South Pole Qui**	**74.12**	**180**	*e*P	**P**	**23 33 51.8**	**+0.3**
	13nm,1.1s,mb4.6						
BILL	**Bilibino**	**84.93**	**353**	P	**P**	**23 34 49.6**	**-0.5**
ARCES	**ARCESS Array B**	**125.02**	**352**	PKP	PKPdf	23 41 14.2	-0.5
	1.0nm,0.5s,baz=6.4,slow=1.3,SNR=12						
FINES	**FINESS Array B**	**132.29**	**347**	PKP	PKPdf	23 41 28.2	-0.5
	1.8nm,1.0s,baz=50,slow=3.0,SNR=5.1						
CLL	**Collm**	**144.24**	**352**	*e*PKPdf	PKPdf	23 41 49.0	-1.9
KMBO	**Kilima Mbogo**	**144.64**	**244**	PKP	PKPdf	23 41 52.9	+0.1
KMBO	**Kilima Mbogo**	**144.64**	**244**	PKP	PKPdf	23 41 52.9	+0.2
	3.7nm,0.9s,baz=54,slow=4.3,SNR=8.2						
GERES	**GERESS Array B**	**146.54**	**351**	PKPbc	PKPbc	23 41 55.8	-0.7
	0.5nm,0.7s,baz=46,slow=3.9,SNR=7.3						

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*IDC **02** 23:35:57.4±1.2,2181N×143.17E,h0km,mb3.8/6, mb1 3.9/6,mb1mx3.8/18,mbtmp3.8/6,Error ellipse: s-maj=44.5km s-min=21.8km az=83.0*
*ISCJB **02** 23:36:02.9±5.0,218N±01×143.1E±03,h53km±45km, mb3.7/6,Error ellipse: s-maj=53.4km s-min=22.0km az=175.5*

ISC 02 23:36:05.5±3.9,218N±01×1431E±03,h61km±36km,n8, σ0°89/8,mb3.7/6,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.36**	**351**	Sn	**Sn**	**23 38 23.2**	**-0.1**
	4.8nm,0.3s,baz=287,slow=18,SNR=3.7						
KSRS	**Korea Array**	**20.42**	**323**	P	**P**	**23 40 41.4**	**+3.8**
	1.4nm,0.6s,baz=140,slow=12,SNR=5.3						
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**23 43 28.6**	**+0.7**
	0.7nm,0.5s,mb3.6,baz=122,slow=6.8,SNR=7.7						
WRA	**Warramunga Arr**	**42.34**	**192**	P	**P**	**23 43 53.2**	**-0.5**
	1.7nm,1.1s,mb3.6,baz=11,slow=8.6,SNR=5.6						
ASAR	**Alice Springs**	**46.05**	**192**	P	**P**	**23 44 23.7**	**+0.4**
	0.5nm,0.7s,mb3.6,baz=17,slow=9.1,SNR=8.0						
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	**P**	**23 45 23.2**	**-0.8**
	1.3nm,0.6s,mb4.1,baz=99,slow=7.7,SNR=5.4						
MKAR	**Makanchi Array**	**54.60**	**313**	P	**P**	**23 45 27.4**	**-0.3**
	0.5nm,0.6s,mb3.7,baz=90,slow=9.7,SNR=9.1						
YKA	**Yellowknife Ar**	**76.41**	**28**	P	**P**	**23 47 48.3**	**+0.2**
	0.5nm,0.6s,mb3.6,baz=292,slow=5.8,SNR=9.6						

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*NEIC **02** 23:44:12.5,3790S×17674E,h2km,ML4.2(WEL),After WEL.*
NEIC Felt in the Bay of Plenty area.

WEL 02 23:44:12.9±0.1,3791S×17674E,h5km±1km,ML4.1/17, 13C-14D,Error ellipse: s-maj=0.7km s-min=0.7km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.09**	**212**	⇓P	Pg	23 44 15.3	+0.3
MARZ				S	Sg	23 44 17.1	+0.8
MARZ	**Manawahe**	**0.09**	**212**	⇓PG	Pg	23 44 15.3	+0.3
MARZ				SG	Sg	23 44 17.3	+1.0
OPRZ	**Ohinepanea**	**0.16**	**293**	⇑PG	Pg	23 44 16.3	+0.3
OPRZ				SG	Sg	23 44 18.9	+0.8
LIRZ	**Lichensteins R**	**0.30**	**250**	⇓P	Pg	23 44 19.3	+0.6
LIRZ				S	Sg	23 44 23.3	+0.7
LIRZ	**Lichensteins R**	**0.30**	**250**	⇓PG	Pg	23 44 19.3	+0.6
LIRZ				SG	Sg	23 44 23.3	+0.8
MKRZ	**Makatiti**	**0.32**	**222**	⇓P	Pg	23 44 19.9	+0.8
MKRZ	**Makatiti**	**0.32**	**222**	⇓PG	Pg	23 44 19.9	+0.9
OMRZ	**Omania**	**0.35**	**235**	⇓PG	Pg	23 44 20.1	+0.4
TAZ	**Tarawera**	**0.37**	**209**	P	Pg	23 44 21.1	+1.0
TAZ	**Tarawera**	**0.37**	**209**	PG	Pg	23 44 21.1	+0.9
KARZ	**Kaharoa**	**0.41**	**253**	⇓P	Pg	23 44 21.2	+0.4
KARZ	**Kaharoa**	**0.41**	**253**	⇓PG	Pg	23 44 21.2	+0.5
TGRZ	**Tauranga**	**0.42**	**295**	⇑P	Pg	23 44 21.3	+0.4
TGRZ	**Tauranga**	**0.42**	**295**	⇑PG	Pg	23 44 21.3	+0.4
URZ	**Urewera**	**0.46**	**140**	⇑P	Pg	23 44 22.0	+0.2
URZ	**Urewera**	**0.46**	**140**	⇑PG	Pg	23 44 22.0	+0.2
UTU	**Utuhina**	**0.51**	**238**	⇓P	Pg	23 44 23.3	+0.6
UTU	**Utuhina**	**0.51**	**238**	⇓PG	Pg

EMUR S **Sn** **23 58 00.6 +0.1**
0.3nm,0.3s,SNR=4.0
EIBI Ibiza 2.77 357 P **Pn** **23 57 28.8 +0.2**
0.7nm,0.1s,SNR=7.9
EIBI S **Sn** **23 57 59.6 -2.3**
0.9nm,0.1s,SNR=7.9
EIBI Ibiza 2.77 357 P **Pn** **23 57 28.8 +0.2**
0.7nm,0.1s,SNR=7.9
EBEN Beniarda 2.81 331 P **Pn** **23 57 29.4 +0.3**
0.2nm,0.1s,SNR=4.0
EBEN S **Sn** **23 58 02.6 -0.3**
0.2nm,0.2s,SNR=4.0
EBEN Beniarda 2.81 331 P **Pn** **23 57 29.4 +0.2**
0.2nm,0.1s,SNR=4.0
EBEN S **Sn** **23 58 02.6 -0.2**
0.2nm,0.2s,SNR=4.0
ETOB Tobarra 3.41 315 P **Pn** **23 57 38.1 +0.7**
1.1nm,0.2s,SNR=8.3
ETOB S **Sn** **23 58 17.7 +0.1**
0.8nm,0.2s,SNR=7.9
ETOB Tobarra 3.41 315 P **Pn** **23 57 38.1 +0.7**
1.1nm,0.2s,SNR=8.3
ETOB S **Sn** **23 58 17.8 +0.1**
EQES Quesada 3.98 294 P **Pn** **23 57 46.1 +0.8**
0.1nm,0.1s,SNR=7.9
EQES S **Sn** **23 58 31.9 +0.1**
0.3nm,0.2s,SNR=7.9
EQES Quesada 3.98 294 P **Pn** **23 57 46.1 +0.8**
0.1nm,0.1s,SNR=7.9
EQES S **Sn** **23 58 31.9 +0.1**
0.3nm,0.2s,SNR=7.9
EMOS Mosqueruela 4.39 340 P **Pn** **23 57 52.4 +1.5**
0.6nm,0.2s,SNR=7.9
EMOS Mosqueruela 4.39 340 P **Pn** **23 57 52.4 +1.5**
0.6nm,0.2s,SNR=7.9

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*IDC **03** 00:00:40.6±2.4, 4280S×17275E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/12, mbtmp3.5/3, ML3.2/1, MS3.4/2, Ms1 3.4/2, ms1mx2.9/14, Error ellipse: s-maj=60.6km s-min=20.3km az=136.0*
*ISCJB **03** 00:00:43.7±0.5, 4277S±004×17252E±006, h19km±5km, mb3.4/2, MS3.4/2, Error ellipse: s-maj=8.7km s-min=3.6km az=41.5*
*NEIC **03** 00:00:44.0, 4273S×17251E, h6km, ML4.4(WEL), After WEL.*
*WEL **03** 00:00:44.0±0.1, 4273S×17253E, h5km, ML4.3/41, Error ellipse: s-maj=1.2km s-min=1.0km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 4.

ISC 03 00:00:44.0±0.6,**4276S**±003×**17253E**±005,**h13**km±4km, **n86**,σ0°**84**/91,**mb3.4**/2,**MS3.4**/2,**1C**,**South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTZ	**Lake Taylor**	**0.19**	**264**	P	**Pg**	**00 00 48.0**	**-0.3**
LTZ				S	**Sg**	**00 00 51.1**	**-0.3**
LTZ				S	**Sg**	**00 00 51.2**	**-0.2**
LTZ	**Lake Taylor**	**0.19**	**264**	PG	**Pg**	**00 00 48.0**	**-0.4**
LTZ				PG	**Pg**	**00 00 48.0**	**-0.4**
LTZ				SG	**Sg**	**00 00 51.1**	**-0.2**
LTZ				SG	**Sg**	**00 00 51.2**	**-0.1**
CRLZ	**Canterbury Las**	**0.81**	**175**	P	**Pg**	**00 01 00.8**	**+1.0**
CRLZ	**Canterbury Las**	**0.81**	**175**	P*	**Pb**	**00 01 00.8**	**+0.9**
KHZ	**Kahutara**	**0.82**	**65**	P	**Pg**	**00 00 59.8**	**-0.1**
KHZ	**Kahutara**	**0.82**	**65**	P*	**Pb**	**00 00 59.8**	**-0.2**
MQZ	**McQueen's Vall**	**0.95**	**175**	P	**Pb**	**00 01 02.2**	**0.0**
MQZ	**McQueen's Vall**	**0.95**	**175**	P*	**Pb**	**00 01 02.2**	**-0.1**
THZ	**Tophouse**	**1.04**	**16**	P	**Pb**	**00 01 02.1**	**-1.6**
THZ	**Tophouse**	**1.04**	**16**	P*	**Pb**	**00 01 02.1**	**-1.7**
DSZ	**Denniston Nort**	**1.15**	**332**	P	**Pb**	**00 01 05.1**	**-0.6**
DSZ	**Denniston Nort**	**1.15**	**332**	⇑P*	**Pb**	**00 01 05.1**	**-0.6**
RPZ	**Rata Peaks**	**1.44**	**228**	P	**Pn**	**00 01 09.6**	**-0.1**
RPZ	**Rata Peaks**	**1.44**	**228**	Pn	**Pn**	**00 01 09.6**	**-0.1**
RPZ	150nm,0.3s,baz=42,slow=2.7,SNR=226			Sn	**Sn**	**00 01 29.1**	**+0.7**
RPZ	**Rata Peaks**	**1.44**	**228**	PN	**Pn**	**00 01 09.6**	**-0.1**
BSWZ	**Blackbirch Sta**	**1.45**	**44**	P	**Pn**	**00 01 10.2**	**+0.4**
BSWZ	**Blackbirch Sta**	**1.45**	**44**	PN	**Pn**	**00 01 10.0**	**+0.2**
NNZ	**Nelson**	**1.67**	**23**	P	**Pn**	**00 01 13.0**	**+0.2**
NNZ	**Nelson**	**1.67**	**23**	PN	**Pn**	**00 01 12.9**	**+0.1**
TUWZ	**Tuamarina**	**1.70**	**39**	PN	**Pn**	**00 01 13.9**	**+0.7**
QRZ	**Quartz Range**	**1.94**	**360**	P	**Pn**	**00 01 16.6**	**+0.1**
QRZ	**Quartz Range**	**1.94**	**360**	PN	**Pn**	**00 01 16.6**	**+0.1**
TCW	**Tory Channel**	**2.02**	**41**	P	**Pn**	**00 01 18.2**	**+0.5**
TCW	**Tory Channel**	**2.02**	**41**	PN	**Pn**	**00 01 18.1**	**+0.4**
SNZO	**South Karori**	**2.18**	**49**	P	**Pn**	**00 01 19.6**	**-0.2**
SNZO	**South Karori**	**2.18**	**49**	PN	**Pn**	**00 01 19.6**	**-0.2**
DUWZ	**D'Urville Isla**	**2.22**	**28**	PN	**Pn**	**00 01 21.6**	**+1.2**
FOZ	**Fox Glacier**	**2.23**	**248**	P	**Pn**	**00 01 20.4**	**-0.1**
FOZ	**Fox Glacier**	**2.23**	**248**	PN	**Pn**	**00 01 20.4**	**-0.1**
MRW	**Makara Radio**	**2.23**	**47**	P	**Pn**	**00 01 20.5**	**0.0**
MRW	**Makara Radio**	**2.23**	**47**	PN	**Pn**	**00 01 20.5**	**0.0**
PLWZ	**Palliser**	**2.35**	**60**	PN	**Pn**	**00 01 21.5**	**-0.7**
LBZ	**Lake Benmore**	**2.35**	**226**	*e*P	**Pn**	**00 01 22.4**	**+0.2**
LBZ	**Lake Benmore**	**2.35**	**226**	PN	**Pn**	**00 01 22.4**	**+0.1**
MSWZ	**Moikau Station**	**2.43**	**57**	P	**Pn**	**00 01 22.4**	**-0.9**
MSWZ	**Moikau Station**	**2.43**	**57**	PN	**Pn**	**00 01 22.4**	**-0.9**
CAW	**Cannon Point**	**2.51**	**50**	P	**Pn**	**00 01 24.0**	**-0.4**
CAW	**Cannon Point**	**2.51**	**50**	PN	**Pn**	**00 01 24.0**	**-0.4**
KIW	**Kapiti Island**	**2.60**	**44**	P	**Pn**	**00 01 25.9**	**+0.2**
KIW	**Kapiti Island**	**2.60**	**44**	PN	**Pn**	**00 01 25.9**	**+0.2**
ODZ	**Otahua Downs**	**2.66**	**210**	P	**Pn**	**00 01 26.1**	**-0.3**
ODZ	**Otahua Downs**	**2.66**	**210**	PN	**Pn**	**00 01 26.1**	**-0.3**
MTW	**Mount Morrison**	**2.73**	**55**	P	**Pn**	**00 01 26.4**	**-1.1**
MTW	**Mount Morrison**	**2.73**	**55**	PN	**Pn**	**00 01 26.4**	**-1.1**
JCZ	**Jackson Bay**	**3.04**	**243**	*e*P	**Pn**	**00 01 32.0**	**+0.3**
JCZ	**Jackson Bay**	**3.04**	**243**	PN	**Pn**	**00 01 32.0**	**+0.3**
MRZ	**Mangatainoka R**	**3.10**	**48**	*e*P	**Pn**	**00 01 31.5**	**-1.0**
MRZ	**Mangatainoka R**	**3.10**	**48**	PN	**Pn**	**00 01 31.5**	**-1.0**
WKZ	**Wanaka**	**3.27**	**230**	*e*P	**Pn**	**00 01 34.4**	**-0.5**
WKZ	**Wanaka**	**3.27**	**230**	PN	**Pn**	**00 01 34.4**	**-0.5**
EAZ	**Earnscleugh**	**3.39**	**222**	*e*P	**Pn**	**00 01 35.9**	**-0.6**
EAZ	**Earnscleugh**	**3.39**	**222**	PN	**Pn**	**00 01 35.9**	**-0.6**
HHSZ	**Highcliff Hill**	**3.42**	**203**	PN	**Pn**	**00 01 36.3**	**-0.5**
PKE	**Pukeiti**	**3.73**	**18**	P	**Pn**	**00 01 43.5**	**+2.3**
PKE	**Pukeiti**	**3.73**	**18**	PN	**Pn**	**00 01 43.5**	**+2.3**
TSZ	**Takapari Road**	**3.73**	**45**	*e*P	**Pn**	**00 01 40.1**	**-1.1**
TSZ	**Takapari Road**	**3.73**	**45**	PN	**Pn**	**00 01 40.1**	**-1.2**
RAEZ	**Rainy Point**	**3.75**	**23**	P	**Pn**	**00 01 45.2**	**+3.8**
RAEZ	**Rainy Point**	**3.75**	**23**	PN	**Pn**	**00 01 45.2**	**+3.8**
TUZ	**Tuapeka**	**3.81**	**212**	*e*P	**Pn**	**00 01 42.1**	**-0.1**
TUZ	**Tuapeka**	**3.81**	**212**	PN	**Pn**	**00 01 42.1**	**-0.1**
VRZ	**Vera Road**	**4.01**	**26**	*e*P	**Pn**	**00 01 46.8**	**+1.8**
VRZ	**Vera Road**	**4.01**	**26**	PN	**Pn**	**00 01 46.8**	**+1.8**
MLZ	**Mavora Lakes**	**4.07**	**229**	*e*P	**Pn**	**00 01 45.6**	**-0.2**
MLZ	**Mavora Lakes**	**4.07**	**229**	PN	**Pn**	**00 01 45.6**	**-0.2**
WNVZ	**Wahianoa**	**4.14**	**35**	P	**Pn**	**00 01 47.6**	**+0.8**
WNVZ	**Wahianoa**	**4.14**	**35**	PN	**Pn**	**00 01 47.6**	**+0.8**
MOVZ	**Moawhango**	**4.14**	**37**	P	**Pn**	**00 01 47.1**	**+0.2**
MOVZ	**Moawhango**	**4.14**	**37**	PN	**Pn**	**00 01 47.1**	**+0.3**
FWVZ	**Far West T-bar**	**4.18**	**34**	*e*P	**Pn**	**00 01 47.2**	**-0.2**
FWVZ	**Far West T-bar**	**4.18**	**34**	PN	**Pn**	**00 01 47.2**	**-0.2**
TUVZ	**Tukino**	**4.22**	**35**	P	**Pn**	**00 01 48.5**	**+0.7**
TUVZ	**Tukino**	**4.22**	**35**	PN	**Pn**	**00 01 48.5**	**+0.6**
TWVZ	**Taurewa**	**4.29**	**32**	P	**Pn**	**00 01 49.4**	**+0.5**
TWVZ	**Taurewa**	**4.29**	**32**	PN	**Pn**	**00 01 49.4**	**+0.5**
OTVZ	**Oturere**	**4.31**	**34**	PN	**Pn**	**00 01 49.7**	**+0.6**
SYZ	**Scrubby Hill**	**4.48**	**212**	PN	**Pn**	**00 01 51.3**	**-0.2**
HIZ	**Hauiti**	**4.60**	**23**	*e*P	**Pn**	**00 01 54.8**	**+1.7**
HIZ	**Hauiti**	**4.60**	**23**	PN	**Pn**	**00 01 54.8**	**+1.7**
DCZ	**Deep Cove**	**4.73**	**233**	PN	**Pn**	**00 01 51.5**	**-3.4**
URZ	**Urewera**	**5.69**	**39**	Pn	**Pn**	**00 02 04.3**	**-3.9**
URZ	0.6nm,0.3s,baz=138,slow=17,SNR=3.2			Sn	**Sn**	**00 03 11.0**	**-2.3**
STKA	**Stephens Creek 26.75 284** LR			LR	LR	00 15 40.8	
	comp=Z,92nm,19.4s,MS3.4,baz=204,slow=33						
ASAR	**Alice Springs 37.10 288** P			**P**	**P**	**00 07 54.0**	**0.0**
	0.4nm,0.4s,mb3.6,baz=127,slow=7.1,SNR=14						
WRA	**Warramunga Arr 39.30 293** P			**P**	**P**	**00 08 12.8**	**+0.2**
WRA				LR	LR	00 24 03.7	
WRA	**Warramunga Arr 39.30 293** P			**P**	**P**	**00 08 12.8**	**+0.2**
	0.3nm,0.5s,mb3.3,baz=137,slow=7.2,SNR=13						
WRA				LR	LR	00 24 03.7	
	comp=Z,50nm,19.8s,MS3.4,baz=315,slow=36						
ARCES	**ARCESS Array B 148.28 339** PKPbc			PKPbc	PKPbc	00 20 27.6	-0.9
	1.2nm,0.8s,baz=35,slow=3.3,SNR=3.4						

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*TEH **03** 00:02:19.1, 32.16N×5557E, h4km, ML3.7*
*ISCJB **03** 00:03:22.1±0.9, 3224N±004×5563E±004, h10km±7km, Error ellipse: s-maj=6.0km s-min=5.1km az=4.6*
*CSEM **03** 00:03:23.0±0.1, 3229N×5562E, h20km, ML3.7, Error ellipse: s-maj=4.9km s-min=2.6km az=10.0*
*THR **03** 00:03:23.1±0.3, 3221N×5552E, h14km±8km, ML3.4*

ISC 03 00:03:24.0±0.9,**3218N**±004×**5562E**±004,**h19**km±7km,**n29**, σ0°**94**/34,**1D**,**Northern and central Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.58**	**184**	*e*	**Sg**	**00 03 43.0**	**-0.5**
	comp=Z,44μm,0.0s						
ICHK	**Chekchek**	**1.03**	**274**	*e*	**Sn**	**00 03 55.6**	**-1.6**
	comp=Z,17μm,0.1s						
IMEH	**Mehriz**	**1.16**	**228**	*e*Pg	**Pn**	**00 03 43.5**	**-1.7**
IMEH				*e*	**Sn**	**00 04 01.2**	**+0.7**
	comp=Z,20μm,0.1s						
KRBR	**Kerman**	**2.40**	**155**	*e*Pn	**Pn**	**00 04 05.1**	**+2.8**
KRBR				AML	AML	00 04 43.3	
	comp=N,196nm,1.0s						
NASN	**Na'in**	**2.45**	**285**	*e*Pn	**Pn**	**00 04 03.8**	**+0.8**
NASN				*e*Sg	**Sb**	**00 04 37.5**	**+0.2**
NASN				AML	AML	00 04 39.7	
	comp=E,134nm,0.2s						
NASN				AML	AML	00 04 41.4	
	comp=N,228nm,0.6s						
NASN	**Na'in**	**2.45**	**285**	*e*Pn	**Pn**	**00 04 03.8**	**+0.8**
	SNR=52						
NASN				*e*Sg	**Sb**	**00 04 37.5**	**+0.2**
	SNR=90						
ITEG	**Tejag**	**2.74**	**74**	*e*Pn	**Pn**	**00 04 07.2**	**+0.2**
IZEF	**Zefreh**	**2.87**	**285**	*e*	**Sg**	**00 04 57.2**	**+1.0**
	comp=Z,1μm,0.1s						
IKOO	**Kooshah**	**2.88**	**84**	*e*Pn	**Pn**	**00 04 08.6**	**-0.3**
IGAR	**Gharneh**	**3.04**	**275**	*e*Pn	**Pb**	**00 04 16.0**	**-1.4**
IGAR				*e*	**Sg**	**00 05 05.4**	**+3.8**
	comp=Z,1μm,0.1s						
IPAR	**Pars**	**3.20**	**224**	*e*Pn	**Pn**	**00 04 17.7**	**+4.3**
IPAR				*e*		00 05 13.7	
	comp=Z,1μm,0.4s						
ISFB	**Sefidab**	**3.56**	**308**	*e*Pn	**Pn**	**00 04 17.9**	**-0.4**
ISFB				*e*		00 05 13.3	
	comp=Z,1μm,0.2s						
IANJ	**Anjilo**	**3.58**	**337**	⇓*e*Pn	**Pn**	**00 04 17.4**	**-1.1**
IANJ				*e*		00 05 19.6	
	comp=Z,568nm,0.3s						
IKLH	**Kolahrood**	**3.59**	**290**	*e*Pn	**Pn**	**00 04 17.9**	**-0.7**
IKLH				*e*		00 05 17.2	
	comp=Z,695nm,0.3s						
IDAH	**Dahanechah**	**3.64**	**80**	*e*Pn	**Pn**	**00 04 19.5**	**+0.2**
ILAS	**Lasjerd**	**3.89**	**326**	*e*Pn	**Pn**	**00 04 18.3**	**-4.5**
ILAS				*e*		00 05 44.0	
	comp=Z,601nm,0.2s						
IPIR	**Pirpir**	**4.03**	**279**	*e*Pn	**Pn**	**00 04 25.3**	**+0.6**
IPIR				*e*		00 05 34.6	
	comp=Z,459nm,0.2s						
ISHM	**Shahmirzad**	**4.10**	**333**	*e*Pn	**Pn**	**00 04 25.1**	**-0.6**
ISHM				*e*		00 05 42.4	
	comp=Z,629nm,0.2s						
IFIR	**Firoozkooh**	**4.20**	**326**	*e*Pn	**Pn**	**00 04 26.0**	**-1.0**
IFIR				*e*	**Pg**	**00 04 43.8**	**-0.6**
	comp=Z,430nm,0.1s						
GHVR	**GHOM**	**4.29**	**304**	*e*Pn	**Pn**	**00 04 29.2**	**+1.0**
GHVR				AML	AML	00 05 44.1	
	comp=E,40nm,0.2s						
GHVR	**GHOM**	**4.29**	**304**	*e*Pn	**Pn**	**00 04 29.2**	**+1.0**
	SNR=52						
IGLO	**Ghaloghah**	**4.56**	**342**	*e*Pn	**Pn**	**00 04 32.4**	**+0.4**
IGLO				*e*		00 05 57.6	
	comp=Z,383nm,0.2s						
DAMV	**Damavand**	**4.59**	**320**	*e*PN5	**Pn**	**00 04 33.4**	**+1.0**
IPRN	**Peran**	**4.88**	**327**	*e*Pn	**Pn**	**00 04 36.7**	**+0.3**
IPRN				*e*		00 06 09.3	
	comp=Z,482nm,0.3s						
IAKL	**Akhelmad**	**5.12**	**30**	*e*Pn	**Pn**	**00 04 39.7**	**0.0**
IAKL				*e*		00 04 41.7	
	comp=Z,170nm,0.1s						
ASAO	**Ashtian**	**5.24**	**298**	*e*Pn	**Pn**	**00 04 42.1**	**+0.7**
CHTH	**Charan**	**5.27**	**316**	*e*PN5	**Pn**	**00 04 42.7**	**+1.0**
ISHV	**Shirvan**	**5.62**	**17**	*e*Pn	**Pn**	**00 04 46.3**	**-0.2**
ISHV				*e*		00 04 47.4	
	comp=Z,325nm,0.1s						
IRAZ	**Razeghan**	**5.72**	**306**	*e*Pn	**Pn**	**00 04 40.3**	**-7.7**
IRAZ				*e*		00 05 40.3	
	comp=Z,163nm,0.2s						

MEX 03 00:07:46.3±1.1,**1708N**×**9445W**,**h144**km±11km,**MD4.1**, **Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.42**	**272**	*i* P	Pn	00 08 05.4	-1.1
CMIG				*i* S	Sn	00 08 19.6	-2.2
HUIG	**Huatulco**	**2.06**	**231**	*i* P	Pn	00 08 19.6	-2.1
HUIG				*i* S	Sn	00 08 47.8	-1.1
OXX	**Oaxaca**	**2.18**	**270**	*i* P	Pn	00 08 22.0	-1.2
OXX				*i* S	Sn	00 08 51.0	-0.5
VHO	**Vista Hermosa**	**2.19**	**270**	*i* P	Pn	00 08 22.6	-0.7
VHO				*i* S	Sn	00 08 49.8	-1.9
CCIG	**Comitan**	**2.35**	**109**	*e*P	Pn	00 08 24.7	-0.6
CCIG				*i* S	Sn	00 08 53.1	-2.1
TPIG	**Tehuac#an**	**3.08**	**296**	*i* S	Sn	00 09 08.0	-3.6
PPM	**Popocatepetl**	**4.44**	**297**	*i* P	Pn	00 08 51.8	-0.4
PPM				*i* S	Sn	00 09 44.1	+0.7

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*IDC **03** 00:10:04.9±2.2, 3669N×14150E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/20, mbtmp3.2/3, ML3.1/1, Error ellipse: s-maj=37.0km s-min=21.6km az=15.0*
*ISCJB **03** 00:10:08.6±1.2, 3663N±004×14138E±007, h28km±5km, mb3.1/2, Error ellipse: s-maj=10.2km s-min=6.7km az=24.9*
*JMA **03** 00:10:11.3±0.1, 3666N×141.18E, h44km±1km, M3.3*
*NEIC **03** 00:10:11.4, 3666N×141.18E, h44km, MG3.3(JMA), After JMA.*

ISC 03 00:10:09.2±1.3,**3665N**±004×**14135E**±007,**h22**km±6km, **n14**,σ0°**85**/26,**mb3.1**/2,**1C**-**4D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.63**	**267**	⇓P	**Pb**	**00 10 22.1**	**+0.6**
JHO				S	**Sb**	**00 10 29.8**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.63**	**316**	⇓P	**Pb**	**00 10 22.3**	**+0.7**
ONAJ				S	**Sb**	**00 10 30.1**	**+0.1**
JFK	**Kawauchi**	**0.81**	**332**	⇓P	**Pb**	**00 10 25.0**	**+0.4**
JFK				S	**Sb**	**00 10 34.5**	**-0.6**
JYT	**Yasato**	**1.02**	**246**	P	**Pn**	**00 10 27.8**	**-0.4**
JYT				S	**Sb**	**00 10 39.5**	**-1.7**
JFT	**Otama**	**1.19**	**317**	⇓P	**Pn**	**00 10 31.1**	**+0.6**
JFT				S	**Sn**	**00 10 45.2**	**-0.8**
JSB	**Shiboa**	**1.19**	**286**	P	**Pn**	**00 10 30.9**	**+0.4**
JSB				S	**Sn**	**00 10 45.1**	**-1.0**
JMM	**Marumori**	**1.29**	**340**	P	**Pn**	**00 10 32.0**	**+0.1**
JMM				S	**Sn**	**00 10 47.5**	**-1.1**
JFY	**Yanaizu**	**1.52**	**300**	P	**Pn**	**00 10 35.7**	**+0.7**
JFY				S	**Sn**	**00 10 54.0**	**-0.1**
JAG	**Ashikaga**	**1.55**	**262**	⇑P	**Pn**	**00 10 35.3**	**-0.1**
JAG				S	**Sn**	**00 10 52.7**	**-2.1**
MJAR	**Matsushiro Arr**	**2.53**	**269**	Pn	**Pn**	**00 10 48.8**	**-0.1**
	3.6nm,0.3s,baz=90,slow=15,SNR=22						
MJAR				Sn	**Sn**	**00 11 20.7**	**+1.6**
	4.9nm,0.3s,baz=62,slow=22,SNR=9.5						
MJAR				Lg		00 11 28.3	
	5.2nm,0.3s,baz=81,slow=32,SNR=8.6						
MAJO	**Matsushiro**	**2.53**	**269**	*e*Pn	**Pn**	**00 10 49.0**	**0.0**
MAJO				*e*Sn	**Sn**	**00 11 20.4**	**+1.3**
MAT	**Matsushiro**	**2.53**	**269**	P	**Pn**	**00 10 49.2**	**+0.2**
MAT				S	**Sn**	**00 11 20.6**	**+1.5**
MKAR	**Makanchi Array**	**44.28**	**302**	P	**P**	**00 18 17.4**	**+0.3**
	0.1nm,0.7s,mb2.7,baz=83,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**56.67**	**188**	P	**P**	**00 19 50.0**	**-0.8**
	0.2nm,0.5s,mb3.5,baz=5.9,slow=7.3,SNR=6.4						

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*ISCJB **03** 00:22:10.8±0.8, 3247S±006×17972E±010, h235km±7km, mb4.2/10, Error ellipse: s-maj=13.6km s-min=8.8km az=18.6*
*IDC **03** 00:22:12.6±1.3, 3240S×17988E, h250km±12km, mb3.9/6, mb1 4.1/9, mb1mx3.9/16, mbtmp3.9/9, Error ellipse: s-maj=18.9km s-min=12.4km az=154.0*
*NEIC **03** 00:22:14.6±1.5, 3283S×17985W, h286km±14km, mb4.2/6, Error ellipse: s-maj=18.2km s-min=18.1km az=98.0*

ISC 03 00:22:11.6±0.8,**3247S**±006×**17977E**±010,**h232**km±7km, **n113**,σ1°**42**/121,**mb4.2**/10,**South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.77**	**32**	P	**Pn**	**00 23 10.8**	**-1.2**
RAO				S	**S**	**00 23 52.9**	**-6.8**
RAO	**Raoul Island**	**3.77**	**32**	P	**Pn**	**00 23 10.8**	**-1.2**
	31nm,0.3s,baz=104,slow=20,SNR=3.2						
RAO				S	**S**	**00 23 52.9**	**-6.8**
	147nm,0.3s,baz=86,slow=23,SNR=8.7						
MXZ	**Matakaoa Point**	**5.22**	**193**	*e*P	**Pn**	**00 23 31.1**	**+1.6**
MXZ				S	**S**	**00 24 33.4**	**+1.9**
MXZ	**Matakaoa Point**	**5.22**	**193**	PN	**Pn**	**00 23 31.0**	**+1.5**
MXZ				SN	**S**	**00 24 33.6**	**+2.1**
PUZ	**Puketiti**	**5.72**	**192**	*e*P	**Pn**	**00 23 37.1**	**+1.3**
PUZ				S	**S**	**00 24 44.5**	**+1.5**
PUZ	**Puketiti**	**5.72**	**192**	PN	**Pn**	**00 23 36.8**	**+0.9**
PUZ				SN	**S**	**00 24 44.6**	**+1.7**
MWZ	**Matawai**	**6.13**	**197**	*e*P	**Pn**	**00 23 42.5**	**+1.5**
MWZ				S	**S**	**00 24 53.9**	**+1.6**
MWZ	**Matawai**	**6.13**	**197**	PN	**Pn**	**00 23 42.4**	**+1.4**
MWZ				SN	**S**	**00 24 54.6**	**+2.3**
URZ	**Urewera**	**6.17**	**200**	*e*P	**Pn**	**00 23 44.0**	**+2.5**
URZ	**Urewera**	**6.17**	**200**	P	**Pn**	**00 23 42.6**	**+1.1**
	5.0nm,0.3s,baz=133,slow=1.6,SNR=30						
URZ				S	**S**	**00 24 56.7**	**+3.5**
	110nm,0.3s,baz=272,slow=22,SNR=39						
URZ	**Urewera**	**6.17**	**200**	PN	**Pn**	**00 23 42.4**	**+0.9**
KNZ	**Kokohu**	**6.75**	**194**	P	**Pn**	**00 23 51.1**	**+2.2**
KNZ	**Kokohu**	**6.75**	**194**	PN	**Pn**	**00 23 48.9**	**0.0**
KNZ				SN	**S**	**00 25 05.2**	**-1.5**
BKZ	**Black Stump Fm**	**7.19**	**201**	*e*P	**Pn**	**00 23 55.8**	**+1.4**
BKZ	**Black Stump Fm**	**7.19**	**201**	PN	**Pn**	**00 23 54.7**	**+0.2**
KRVZ	**Karewarewa**	**7.41**	**206**	PN	**Pn**	**00 24 01.5**	**+4.2**
WTVZ	**West Tongariro**	**7.45**	**206**	P	**Pn**	**00 24 02.7**	**+5.0**
WTVZ	**West Tongariro**	**7.45**	**206**	PN	**Pn**	**00 24 02.5**	**+4.8**
OTVZ	**Oturere**	**7.46**	**205**	PN	**Pn**	**00 23 59.0**	**+1.1**
TWVZ	**Taurewa**	**7.47**	**207**	P	**Pn**	**00 24 02.5**	**+4.5**
TWVZ	**Taurewa**	**7.47**	**207**	PN	**Pn**	**00 24 02.5**	**+4.5**
NGZ	**Ngauruhoe**	**7.50**	**206**	P	**Pn**	**00 24 02.5**	**+4.1**
NGZ	**Ngauruhoe**	**7.50**	**206**	PN	**Pn**	**00 24 02.4**	**+4.0**
TUVZ	**Tukino**	**7.56**	**205**	P	**Pn**	**00 24 03.0**	**+3.8**
TUVZ	**Tukino**	**7.56**	**205**	PN	**Pn**	**00 24 02.8**	**+3.6**
FWVZ	**Far West T-bar**	**7.59**	**206**	*e*P	**Pn**	**00 24 03.0**	**+3.5**
FWVZ	**Far West T-bar**	**7.59**	**206**	PN	**Pn**	**00 24 02.7**	**+3.2**
WNVZ	**Wahianoa**	**7.63**	**205**	P	**Pn**	**00 24 02.0**	**+1.9**
WNVZ	**Wahianoa**	**7.63**	**205**	PN	**Pn**	**00 24 00.8**	**+0.7**
MOVZ	**Moawhango**	**7.65**	**204**	P	**Pn**	**00 24 01.9**	**+1.6**
PKVZ	**Pokaka**	**7.69**	**207**	PN	**Pn**	**00 24 04.1**	**+3.2**
MTVZ	**Mangateitei**	**7.73**	**206**	PN	**Pn**	**00 24 05.0**	**+3.7**
PXZ	**Pawanui**	**7.90**	**196**	PN	**Pn**	**00 24 02.0**	**-1.5**
TSZ	**Takapari Road**	**8.17**	**201**	*e*P	**Pn**	**00 24 05.8**	**-1.2**
TSZ	**Takapari Road**	**8.17**	**201**	*e*PN	**Pn**	**00 24 05.3**	**-1.7**
WAZ	**Wanganui**	**8.24**	**207**	*e*P	**Pn**	**00 24 10.5**	**+2.7**
BFZ	**Birch Farm**	**8.67**	**198**	*e*P	**Pn**	**00 24 12.5**	**-0.8**
MRZ	**Mangatainoka R**	**8.84**	**201**	*e*P	**Pn**	**00 24 13.7**	**-1.8**
MRZ	**Mangatainoka R**	**8.84**	**201**	PN	**Pn**	**00 24 13.1**	**-2.4**
KIW	**Kapiti Island**	**9.24**	**204**	P	**Pn**	**00 24 18.9**	**-1.7**
KIW	**Kapiti Island**	**9.24**	**204**	PN	**Pn**	**00 24 18.5**	**-2.1**
MTW	**Mount Morrison**	**9.32**	**200**	P	**Pn**	**00 24 20.2**	**-1.4**
MTW	**Mount Morrison**	**9.32**	**200**	PN	**Pn**	**00 24 19.3**	**-2.4**
CAW	**Cannon Point**	**9.41**	**202**	P	**Pn**	**00 24 20.5**	**-2.2**
CAW	**Cannon Point**	**9.41**	**202**	*e*PN	**Pn**	**00 24 20.0**	**-2.8**
TRWZ	**Traveller**	**9.49**	**199**	*e*PN	**Pn**	**00 24 21.8**	**-2.0**
TRWZ				SN	**S**	**00 26 06.1**	**-4.4**
PAWZ	**Paruwai Farm**	**9.55**	**200**	P	**Pn**	**00 24 24.3**	**-0.2**
PAWZ	**Paruwai Farm**	**9.55**	**200**	PN	**Pn**	**00 24 24

1.8nm,0.9s,baz=352,slow=2.5,SNR=6.1
JOF Joensuu 143.59 336 *e*pkp PKPdf 00 41 10.4 -7.4
FINES FINESS Array B 146.38 337 PKPbc PKPbc 00 41 21.9 -2.4
4.0nm,0.5s,baz=51,slow=5.0,SNR=53
NB2 NORSAR Subarra150.46 349 PKP PKPdf 00 41 32.6 +3.4
comp=Z,8.9nm,1.2s,baz=17,slow=2.6
NOA NORSAR Array B150.46 349 PKPbc PKPbc 00 41 32.9 -1.9
comp=Z,1.7nm,0.5s,baz=15,slow=4.1,SNR=10
AKASG Malin Array Be 151.69 319 PKPbc PKPbc 00 41 36.2 -1.7
comp=Z,1.3nm,0.6s,baz=62,slow=1.1,SNR=6.3

*IDC **03** 00:29:59.6±1.3,2399N×12288E,h0km,mb3.4/4,*
mb1 3.6/5,mb1mx3.5/19,mbtmp3.5/5,ML3.2/1,Error
ellipse: s-maj=31.5km s-min=26.1km az=64.0
*ISCJB **03** 00:30:03.6±0.8,2389N±009×12281E±003,h43km±10km,*
mb3.3/4,Error ellipse: s-maj=14.7km s-min=4.7km az=4.7
*JMA **03** 00:30:04.4±0.3,2385N×12287E,h34km,M3.4*
*NEIC **03** 00:30:04.5±0.8,2401N×12282E,h35km,MG3.4(JMA),*
Error ellipse: s-maj=16.9km s-min=9.9km az=189.0
ISC 03 00:30:04.0±1.6,**2389N**±008×**12282E**±003,**h33**km±9km,
n15,σ0§**74**/25,**mb3.3**/4,**Taiwan region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.59**	**17**	P	**Pn**	**00 30 16.6**	**+0.5**
YOJ				S	**Sb**	**00 30 24.8**	**+0.4**
HATJ	**Hateruma jima**	**0.92**	**79**	P	**Pn**	**00 30 20.3**	**-0.3**
HATJ				*e*S	**Sn**	**00 30 32.0**	**-0.7**
IRIF	**Iriomote-Funau**	**0.94**	**62**	P	**Pn**	**00 30 20.9**	**0.0**
IRIF				S	**Sn**	**00 30 33.7**	**+0.4**
JKRS	**Kuro-shima**	**1.14**	**72**	P	**Pn**	**00 30 24.0**	**+0.3**
JKRS				S	**Sn**	**00 30 38.9**	**+0.7**
NACB	**Ninganchiao**	**1.15**	**284**	*e*P	**Pn**	**00 30 24.1**	**+0.4**
NACB				*e*S	**Sn**	**00 30 37.0**	**-1.4**
JIJ	**Ishigaki jima**	**1.30**	**69**	P	**Pn**	**00 30 25.7**	**-0.1**
JIJ				S	**Sn**	**00 30 41.9**	**-0.2**
YHNB	**Yeheng**	**1.53**	**301**	*e*Pn	**Pn**	**00 30 27.8**	**-1.1**
YHNB				*e*Sn	**Sn**	**00 30 49.4**	**+1.7**
TATO	**Taipei**	**1.62**	**312**	*e*Pn	**Pn**	**00 30 29.1**	**-1.1**
TATO				*e*Sn	**Sn**	**00 30 50.3**	**+0.3**
JTJ	**Tarama**	**1.88**	**66**	P	**Pn**	**00 30 34.3**	**+0.5**
JTJ				*e*S	**Sn**	**00 30 56.7**	**+0.4**
JOW	**Kunigami**	**5.74**	**58**	Pn	**Pn**	**00 31 25.9**	**-1.0**
	1.5nm,0.3s,baz=136,slow=17,SNR=9.8						
JOW				Sn	**Sn**	**00 32 30.4**	**-1.2**
	0.3nm,0.3s,baz=111,slow=24,SNR=1.8						
SONM	**Songino Array**	**27.23**	**335**	P	**P**	**00 35 44.9**	**0.0**
	0.3nm,0.6s,mb3.0,baz=159,slow=8.2,SNR=3.7						
MKAR	**Makanchi Array**	**39.59**	**316**	P	**P**	**00 37 32.5**	**+0.4**
	0.2nm,0.5s,mb3.1,baz=109,slow=7.9,SNR=3.4						
WRA	**Warramunga Arr**	**44.99**	**165**	P	**P**	**00 38 17.4**	**+1.1**
	0.5nm,0.9s,mb3.3,baz=344,slow=7.6,SNR=3.2						
YKA	**Yellowknife Ar**	**82.66**	**23**	P	**P**	**00 42 23.9**	**+0.1**
YKA	**Yellowknife Ar**	**82.66**	**23**	P	**P**	**00 42 23.9**	**+0.1**
	0.7nm,0.8s,mb3.7,baz=311,slow=4.8,SNR=9.9						

*IDC **03** 00:52:27.6±1.1,2507N×10962W,h0km,mb3.6/2,*
mb1 3.9/5,mb1mx3.7/21,mbtmp3.5/5,ML3.5/3,MS3.8/15,
Ms1 3.8/15,ms1mx3.7/25,Error ellipse: s-maj=26.1km
s-min=9.8km az=120.0
*ISCJB **03** 00:52:29.4±0.9,25.19N±007×10953W±006,h10km,*
mb3.9/7,MS3.9/14,Error ellipse: s-maj=9.9km
s-min=7.7km az=171.5
*NEIC **03** 00:52:29.5±0.6,2502N×10962W,h10km,mb4.1/17,Error*
ellipse: s-maj=8.3km s-min=7.1km az=129.0
ISC 03 00:52:29.6±0.6,**2503N**±005×**10958W**±006,**h10**km,**n53**,
σ1§**01**/46,**mb3.9**/8,**MS3.9**/14,**Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.14**	**216**	Pg	**Pg**	**00 52 50.2**	**-1.4**
	24nm,0.3s,baz=30,slow=18,SNR=31						
LPIG				Lg		00 53 03.9	
	232nm,0.3s,baz=230,slow=16,SNR=20						
TXAR	**Lajitas Array**	**6.79**	**50**	Pn	**Pn**	**00 54 08.6**	**-0.7**
	0.9nm,0.3s,baz=228,slow=14,SNR=34						
TXAR				Pg	**Pg**	**00 54 37.6**	**-2.0**
	0.8nm,0.3s,baz=218,slow=17,SNR=13						
TXAR				Sn	**Sn**	**00 55 25.8**	**-0.8**
	4.0nm,0.3s,baz=225,slow=20,SNR=18						
TXAR				Lg		00 56 00.3	
	1.7nm,0.3s,baz=225,slow=28,SNR=5.5						
TUC	**Tucson**	**7.33**	**352**	*e*Pn	**Pn**	**00 54 15.5**	**-1.2**
	6.1nm,0.8s						
TUC				*e*Sn	**Sn**	**00 55 47.6**	**+7.6**
MNTX	**Cornudas Mount**	**7.60**	**28**	*e*Pn	**Pn**	**00 54 19.6**	**-0.8**
	10nm,0.8s						
MNTX				*e*Sn	**Sn**	**00 55 46.1**	**-0.6**
BNM	**Barren Site**	**9.44**	**15**	*e*Pn	**Pn**	**00 54 45.3**	**-0.4**
BNM				Sn	**Sn**	**00 56 31.0**	**-0.9**
LAZ	**Ladron**	**9.57**	**12**	*e*Pn	**Pn**	**00 54 47.0**	**-0.6**
LAZ				*e*Sn	**Sn**	**00 56 35.2**	**0.0**
ANMO	**Albuquerque**	**10.25**	**15**	Pn	**Pn**	**00 54 58.6**	**+1.9**
	0.1nm,0.3s,baz=241,slow=14,SNR=8.7						
ANMO				Lg		00 57 47.9	
	0.1nm,0.3s,baz=358,slow=20,SNR=3.5						
ANMO				LR	LR	00 59 13.6	
	comp=Z,223nm,20.4s,baz=197,slow=40						
PFO	**Pinyon Flat Ob**	**10.44**	**327**	Pn	**Pn**	**00 55 00.7**	**+1.3**
	0.1nm,0.3s,baz=181,slow=13,SNR=2.8						
MVCO	**Mesa Verde**	**12.18**	**4**	*e*Pn	**Pn**	**00 55 23.7**	**+0.5**
	49nm,1.4s						
CCUT	**Cedar City**	**12.89**	**346**	Pn	**Pn**	**00 55 34.9**	**+2.0**
SDCO	**Great Sand Dun**	**13.14**	**14**	*e*Pn	**Pn**	**00 55 37.6**	**+1.3**
	15nm,2.0s						
WMOK	**Wichita Mounta**	**13.45**	**42**	*e*Pn	**Pn**	**00 55 39.9**	**-0.7**
	6.6nm,1.1s						
SMCO	**Snowmass**	**14.28**	**8**	*e*Pn	**Pn**	**00 55 52.8**	**+1.0**
	13nm,1.1s						
ISCO	**Idaho Springs**	**15.10**	**12**	*e*Pn	**Pn**	**00 56 04.0**	**+1.0**
	7.9nm,1.1s						
NVAR	**Mina Array Bea**	**15.27**	**333**	Pn	**Pn**	**00 56 05.6**	**+0.4**
	0.1nm,0.3s,baz=139,slow=11,SNR=6.0						
DUG	**Dugway**	**15.36**	**351**	*e*Pn	**Pn**	**00 56 06.3**	**-0.1**
	13nm,1.2s						
CMB	**Columbia Colle**	**15.89**	**327**	*e*Pn	**Pn**	**00 56 12.1**	**-1.2**
	10nm,1.4s						
CBKS	**Cedar Bluff**	**16.07**	**29**	Pn	**Pn**	**00 56 14.8**	**-0.8**
	26nm,0.9s						
HWUT	**Hardware Ranch**	**16.61**	**355**	Pn	**Pn**	**00 56 22.9**	**+0.3**
	13nm,1.1s						
MIAR	**Mount Ida**	**16.80**	**52**	Pn	**Pn**	**00 56 26.4**	**+1.4**
	9.0nm,1.1s						
TPAW	**Teton Pass**	**18.45**	**357**	*e*P	**Pn**	**00 56 45.0**	**-0.4**
	13nm,1.2s						
MOOW	**Moose Ponds**	**18.70**	**357**	*e*P	**Pn**	**00 56 48.0**	**-0.4**
	30nm,1.9s						
IMW	**Indian Meadow**	**18.85**	**357**	Pn	**Pn**	**00 56 48.2**	**-2.0**
	6.6nm,1.0s						
FLWY	**Flagg Ranch**	**19.03**	**358**	*e*P	**Pn**	**00 56 52.4**	**0.0**
	9.5nm,1.0s						
MCMT	**McKenzie Canyo**	**19.93**	**353**	P	**Pn**	**00 57 02.8**	**-0.4**
TEIG	**Tepich**	**20.23**	**99**	LR	LR	01 07 04.9	
	comp=Z,230nm,18.9s,MS3.5,baz=284,slow=43						
CCM	**Cathedral Cave**	**20.27**	**46**	*e*P	**P**	**00 57 07.0**	**+1.7**
	141nm,2.4s						
BOZ	**Bozeman (W)**	**20.64**	**356**	*e*P	**P**	**00 57 09.6**	**+0.4**
	6.9nm,1.2s						
PLAL	**Pickwick Lake**	**21.06**	**57**	*e*P	**P**	**00 57 14.9**	**+1.0**
	18nm,1.1s,mb4.3						
LRAL	**Lakeview Retre**	**21.26**	**63**	P	**P**	**00 57 16.0**	**-0.1**
	9.8nm,1.0s,mb4.1						
ECSD	**EROS,Sioux Fal**	**21.46**	**26**	*e*P	**P**	**00 57 19.4**	**+1.3**
	9.2nm,1.1s,mb4.0						
WVT	**Waverly**	**21.70**	**54**	*e*P	**P**	**00 57 21.2**	**+0.5**
	12nm,1.0s,mb4.3						
CHMT	**Chamberlain Mo**	**22.03**	**353**	*e*P	**P**	**00 57 25.0**	**+0.7**
NEW	**Newport**	**23.94**	**348**	P	**P**	**00 57 42.8**	**-1.0**
	2.1nm,0.6s,mb3.7,baz=190,slow=9.5,SNR=4.7						
NEW				LR	LR	01 09 01.2	
	comp=Z,198nm,18.0s,MS3.6,baz=171,slow=42						
CPCT	**Cooper Cave**	**23.95**	**58**	*e*P	**P**	**00 57 45.2**	**+1.2**
WALA	**Waterton Lakes**	**24.22**	**353**	*e*P	**P**	**00 57 46.1**	**-0.3**
	9.4nm,1.0s,mb4.2						
JTS	**JuntasAbangare**	**27.59**	**118**	LR	LR	01 08 12.0	
	comp=Z,118nm,21.5s,MS3.4,baz=299,slow=34						
YKA	**Yellowknife Ar**	**37.60**	**356**	P	**P**	**00 59 43.0**	**-1.2**
YKA				LR	LR	01 15 41.1	
YKA	**Yellowknife Ar**	**37.60**	**356**	P	**P**	**00 59 43.0**	**-1.2**
	0.4nm,0.9s,mb3.2,baz=180,slow=7.5,SNR=5.9						
YKA				LR	LR	01 15 41.1	
	comp=Z,164nm,20.3s,MS3.8,baz=160,slow=37						

ROSC	**El Rosal**	**39.32**	**115**	LR	LR	01 18 17.4	
	comp=Z,64nm,18.3s,MS3.5,baz=43,slow=39						
SCHQ	**Schefferville**	**43.23**	**35**	LR	LR	01 19 26.1	
	comp=Z,308nm,18.1s,MS4.2,baz=263,slow=38						
PPT	**Papeete**	**57.54**	**227**	LR	LR	01 20 42.6	
	comp=Z,114nm,18.5s,MS4.0,baz=50,slow=30						
BDFB	**Brasilia**	**72.33**	**117**	LR	LR	01 39 41.0	
	comp=Z,38nm,18.6s,MS3.7,baz=73,slow=39						
ARCES	**ARCESS Array B**	**80.33**	**15**	LR	LR	01 40 39.5	
	comp=Z,53nm,18.4s,MS3.9,baz=339,slow=36						
NB2	**NORSAR Subarra**	**81.86**	**25**	P	**P**	**01 04 56.9**	**+8.0**
	comp=Z,0.9nm,0.8s,mb3.8,baz=308,slow=5.3						
NOA	**NORSAR Array B**	**81.86**	**25**	P	**P**	**01 04 53.1**	**+4.2**
NOA				LR	LR	01 38 35.4	
NOA	**NORSAR Array B**	**81.86**	**25**	P	**P**	**01 04 53.1**	**+4.2**
	comp=Z,0.9nm,0.8s,mb3.8,baz=310,slow=4.9,SNR=3.9						
NOA				LR	LR	01 38 35.4	
	comp=Z,75nm,20.7s,MS4.0,baz=0.0,slow=34						
ESDC	**Sonseca Array**	**85.46**	**48**	LR	LR	01 39 57.5	
	comp=Z,60nm,18.2s,MS4.0,baz=125,slow=33						
FINES	**FINESS Array B**	**86.72**	**20**	LR	LR	01 44 18.7	
	comp=Z,44nm,18.1s,MS3.9,baz=287,slow=36						
DAVOX	**Davos/Dischmat**	**90.05**	**37**	LR	LR	01 42 33.0	
	comp=Z,126nm,20.3s,MS4.3,baz=268,slow=33						
GERES	**GERESS Array B**	**90.74**	**34**	LR	LR	01 44 57.2	
	comp=Z,89nm,19.9s,MS4.2,baz=288,slow=35						
WRA	**Warramunga Arr**	**121.19**	**261**	PKP	PKPdf	01 11 23.5	+0.1
	comp=Z,0.3nm,0.8s,baz=7,slow=2.5,SNR=2.5						
ASAR	**Alice Springs**	**122.64**	**257**	PKP	PKPdf	01 11 27.1	+1.0
	comp=Z,0.3nm,0.8s,baz=96,slow=1.9,SNR=3.0						

IDC 03 01:11:49.8±1.2,**2185N**×**14334E**,**h0**km,**mb3.4**/4,
mb1 3.7/4,**mb1mx3.5**/18,**mbtmp3.4**/4,**Error ellipse:**
s-maj=57.1km s-min=25.1km az=95.0,**Mariana Islands**
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.32**	**320**	P	P	01 19 20.1	-0.4
	0.2nm,0.5s,baz=126,slow=7.5,SNR=4.2						
WRA	**Warramunga Arr**	**42.45**	**193**	P	P	01 19 47.0	+0.4
	1.0nm,1.1s,baz=17,slow=9.1,SNR=5.0						
ASAR	**Alice Springs**	**46.16**	**192**	P	P	01 20 15.8	-0.4
	0.3nm,0.6s,baz=14,slow=12,SNR=3.7						
YKA	**Yellowknife Ar**	**76.26**	**28**	P	P	01 23 40.3	+0.4
	0.2nm,0.4s,baz=293,slow=5.8,SNR=8.5						

*IDC **03** 01:14:57.9±1.1,2190N×143.18E,h0km,mb3.6/6,*
mb1 3.8/7,mb1mx3.7/20,mbtmp3.7/7,ML3.6/1,Error
ellipse: s-maj=43.7km s-min=19.1km az=86.0
*ISCJB **03** 01:15:00.4±6.6,2187N±009×143.1E±03,h29km±48km,*
mb3.6/6,Error ellipse: s-maj=53.6km s-min=14.0km
az=176.0
ISC 03 01:15:00.5±7.1,**2184N**±008×**1431E**±03,**h16**km±45km,**n7**,
σ1§**28**/8,**mb3.6**/6,**Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**351**	Pn	**Pn**	**01 16 19.1**	**+0.1**
	4.3nm,0.3s,baz=126,slow=19,SNR=5.9						
CBIJ				Sn	**Sn**	**01 17 20.2**	**+0.5**
	4.7nm,0.3s,baz=6.3,slow=18,SNR=3.0						
SONM	**Songino Array**	**39.20**	**320**	P	**P**	**01 22 28.1**	**+0.4**
	0.5nm,0.5s,mb3.5,baz=132,slow=7.0,SNR=6.5						
WRA	**Warramunga Arr**	**42.41**	**192**	P	**P**	**01 22 56.2**	**+1.8**
	0.5nm,0.7s,mb3.3,baz=17,slow=9.4,SNR=7.9						
ASAR	**Alice Springs**	**46.12**	**192**	P	**P**	**01 23 23.2**	**-0.8**
	0.3nm,0.5s,mb3.5,baz=14,slow=9.6,SNR=6.1						
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	**P**	**01 24 22.5**	**-1.6**
	0.6nm,0.3s,mb4.0,baz=92,slow=10,SNR=3.7						
MKAR	**Makanchi Array**	**54.57**	**313**	P	**P**	**01 24 28.0**	**+0.1**
	0.5nm,0.6s,mb3.7,baz=92,slow=9.7,SNR=4.9						
YKA	**Yellowknife Ar**	**76.34**	**28**	P	**P**	**01 26 48.2**	**-0.3**
	0.5nm,0.6s,mb3.6,baz=293,slow=5.8,SNR=14						

*BJI **03** 01:27:11.8,3578N×13605E,h353km,mB4.4,mb4.5*
*ISCJB **03** 01:27:13.7±0.4,3581N±006×13583E±007,h355km±4km,*
mb3.4/8,Error ellipse: s-maj=10.8km s-min=8.7km
az=147.7
*NEIC **03** 01:27:14.9±0.5,3582N×13585E,h354km±6km,Error*
ellipse: s-maj=14.6km s-min=11.0km az=84.0
*IDC **03** 01:27:14.3±0.6,3585N×13595E,h349km±8km,mb3.1/8,*
mb1 3.3/11,mb1mx3.1/23,mbtmp3.2/11,Error ellipse:
s-maj=18.3km s-min=11.5km az=71.0
*JMA **03** 01:27:15.2±0.1,3586N×13576E,h343km±2km,M2.9*
ISC 03 01:27:14.7±0.4,**3582N**±006×**13583E**±007,**h347**km±4km,
n28,σ0§**75**/38,**mb3.4**/8,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFM	**Mihama**	**0.32**	**156**	P	**Pn**	**01 27 58.8**	**+0.4**
JFM				S	**S**	**01 28 32.4**	**-1.0**
JWT	**Wachi**	**0.64**	**213**	P	**Pn**	**01 27 59.1**	**+0.1**
JWT				S	**S**	**01 28 32.9**	**-1.6**
JGM	**Miyama**	**0.74**	**99**	P	**Pn**	**01 27 59.5**	**+0.3**
JIE	**Ise**	**1.59**	**153**	P	**Pn**	**01 28 03.8**	**+0.6**
JIE				S	**S**	**01 28 41.7**	**-0.3**
JWY	**Kouya**	**1.61**	**187**	P	**Pn**	**01 28 03.5**	**+0.2**
JWY				S	**S**	**01 28 41.2**	**-1.0**
MAJO	**Matsushiro**	**2.06**	**69**	*e*P	**Pn**	**01 28 06.8**	**+0.7**
MAJO				*e*S	**S**	**01 28 48.5**	**+1.1**
MAT	**Matsushiro**	**2.06**	**69**	P	**Pn**	**01 28 06.0**	**-0.1**
MAT				S	**S**	**01 28 47.1**	**-0.3**
MAT	**Matsushiro**	**2.06**	**69**	P	**Pn**	**01 28 06.5**	**+0.4**
MJAR	**Matsushiro Arr**	**2.06**	**69**	P	**Pn**	**01 28 06.9**	**+0.8**
	2.7nm,0.3s,baz=252,slow=7.4,SNR=48						
MJAR				S	**S**	**01 28 46.5**	**-0.8**
	0.5nm,0.3s,baz=293,slow=22,SNR=2.8						
JHS	**Saijyo**	**2.36**	**251**	P	**Pn**	**01 28 08.3**	**-0.1**
JRY	**Ryogami san**	**2.50**	**85**	P	**Pn**	**01 28 09.3**	**-0.2**
JOD2	**Odawara 2**	**2.72**	**101**	P	**Pn**	**01 28 12.0**	**+0.7**
JOD2				*e*S	**S**	**01 28 58.0**	**+1.1**
JNU	**Nakatsue**	**4.89**	**238**	P	**Pn**	**01 28 33.5**	**+0.5**
	7.2nm,0.3s,baz=207,slow=9.1,SNR=43						
KSRS	**Korea Array**	**6.56**	**287**	P	**Pn**	**01 28 52.3**	**+0.5**
	0.8nm,0.3s,baz=105,slow=12,SNR=37						
ASAJ	**Asahikawa**	**9.78**	**30**	P	**Pn**	**01 29 27.7**	**-2.1**
	5.0nm,0.3s,baz=225,slow=4.1,SNR=23						
ASAJ				S	**S**	**01 31 11.7**	**-8.9**
	0.5nm,0.3s,baz=105,slow=30,SNR=5.8						
MDJ	**Mudanjiang**	**9.99**	**333**	P	**Pn**	**01 29 32.8**	**+0.4**
MDJ				AMB	AMB		
	comp=Z,20nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,36nm,4.0s						
CBIJ	**Chichi jima**	**10.25**	**146**	P	**Pn**	**01 29 30.4**	**-5.2**
	comp=Z,5.8nm,0.3s,baz=82,slow=16,SNR=10						
CBIJ				S	**S**	**01 31 18.7**	**-13**
	comp=Z,21nm,0.3s,baz=286,slow=23,SNR=11						
CN2	**Changchun**	**11.27**	**318**	*e*P	**Pn**	**01 29 48.3**	**+0.6**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s						
SSE	**Sheshan**	**13.10**	**253**	P	**Pn**	**01 30 10.5**	**+1.1**
SSE				AMB	AMB		
	comp=Z,41nm,0.8s						
SSE				AMB	AMB		
	comp=Z,45nm,4.8s						
SSE				LR	LR		
	comp=N,170nm,12.7s						
SSE				LR	LR		
	comp=E,81nm,12.9s						
SSE				LR	LR		
	comp=Z,30nm,14.4s						
SONM	**Songino Array**	**24.84**	**308**	P	**P**	**01 32 06.3**	**-0.3**
	comp=Z,1.0nm,0.7s,mb3.2,baz=100,slow=8.2,SNR=10.0						
ZALV	**Zalesovo Beam**	**39.45**	**314**	P	**P**	**01 34 12.9**	**+0.8**
	comp=Z,0.6nm,0.4s,mb3.2,baz=76,slow=14,SNR=2.7						
MKAR	**Makanchi Array**	**40.96**	**303**	P	**P**	**01 34 24.6**	**+0.1**
	comp=Z,0.5nm,0.4s,mb3.1,baz=78,slow=12,SNR=6.9						
FITZ	**Fitzroy Crossi**	**54.48**	**192**	P	**P**	**01 36 07.4**	**-0.1**
	baz=9.5,slow=12						
WRA	**Warramunga Arr**	**55.47**	**182**	P	**P**	**01 36 14.1**	**-0.4**
	comp=Z,1.1nm,0.5s,mb3.5,baz=0.2,slow=7.6,SNR=26						
ASAR	**Alice Springs**	**59.19**	**182**	P	**P**	**01 36 40.0**	**-0.2**
	comp=Z,0.7nm,0.6s,mb3.3,baz=17,slow=13,SNR=8.5						
ARCES	**ARCESS Array B**	**63.51**	**338**	P	**P**	**01 37 08.1**	**-0.2**
	comp=Z,0.6nm,0.6s,mb3.4,baz=66,slow=9.4,SNR=4.6						
FINES	**FINESS Array B**	**67.73**	**331**	P	**P**	**01 37 34.5**	**-0.7**
	comp=Z,4.3nm,1.2s,mb4.0,baz=79,slow=2.9,SNR=8.6						
NOA	**NORSAR Array B**	**73.49**	**335**	P	**P**	**01 38 08.3**	**-1.3**
	comp=Z,0.7nm,0.8s,mb3.5,baz=59,slow=8.2,SNR=3.3						

*IDC **03** 01:42:24.9±1.7,3492N×2517E,h0km,mb3.6/10,*
mb1 3.7/14,mb1mx3.6/27,mbtmp3.6/14,ML3.7/4,Error
ellipse: s-maj=36.8km s-min=18.8km az=20.0
*CSEM **03** 01:42:25.9±0.1,3457N×2508E,h25km,ML4.1,Error*
ellipse: s-maj=2.7km s-min=1.4km az=58.0
*ISCJB **03** 01:42:25.4±0.5,3460N±003×2508E±003,h26km±4km,*
mb3.5/11,Error ellipse: s-maj=5.4km s-min=3.4km
az=141.3
*THE **03** 01:42:26.6,3472N×2497E,h3km,ML4.1*
*ATH **03** 01:42:27.0,3486N×2493E,h9km±2km,MD3.9/13,ML4.0*
*NEIC **03** 01:42:27.0,3486N×2493E,h9km,ML4.1(THE),*
ML4.0(ATH),After ATH.
*HLW **03** 01:42:33.7,3434N×2547E,h23km,Mb3.4*
ISC 03 01:42:26.0±0.5,**3467N**±003×**2504E**±003,**h12**km±4km,**n70**,
σ1§**11**/83,**mb3.6**/11,**10C-7D**,**Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIVA	**Sivas**	**0.40**	**332**	*e*Pg	**Pg**	**01 42 33.1**	**-0.8**
XRY	**Khrisi**	**0.58**	**69**	*e*PG	**Pg**	**01 42 39.0**	**+1.7**
LAST	**Lasithi**	**0.61**	**36**	*e*Pg	**Pg**	**01 42 38.5**	**+0.5**
LAST				*e*Sg	**Sg**	**01 42 47.7**	**+1.6**
IDI	**Anoyia**	**0.63**	**349**	P	**Pg**	**01 42 36.9**	**-1.4**
NPS	**Neapolis**	**0.76**	**38**	↓*i*PG	**Pg**	**01 42 40.7**	**-0.1**
NPS				*e*SB	**Sb**	**01 42 49.4**	**-2.1**
GVD	**Gavdhos**	**0.80**	**283**	*e*Pg	**Pg**	**01 42 40.6**	**-0.9**
GVD				*e*Sg	**Sg**	**01 42 52.7**	**+0.7**
GVD	**Gavdhos**	**0.80**	**283**	*e*Pb	**Pb**	**01 42 40.2**	**-1.7**
GVD	**Gavdhos**	**0.80**	**283**	*e*Pg	**Pg**	**01 42 40.6**	**-0.9**
GVD				*e*Sg	**Sg**	**01 42 52.7**	**+0.7**
VAM	**Vamos**	**1.01**	**317**	*e*PB	**Pb**	**01 42 43.5**	**-1.9**
VAM				*e*SB	**Sb**	**01 42 53.4**	**-5.3**
ZKR	**Zakros**	**1.07**	**65**	*e*Pg	**Pg**	**01 42 47.0**	**+0.4**
KARN	**Karanos**	**1.18**	**309**	*e*Pg	**Pg**	**01 42 46.5**	**-2.1**
KARN				*e*Sg	**Sg**	**01 43 03.1**	**-0.8**
SANT	**Santorini**	**1.74**	**11**	*e*Pb	**Pn**	**01 42 56.2**	**+0.2**
SANT	**Santorini**	**1.74**	**11**	P	**Pn**	**01 42 56.2**	**+0.2**
SANT				P		01 43 00.4	
THR1	**Thera Island**	**1.74**	**11**	*e*Pb	**Pb**	**01 42 56.4**	**-1.4**
KARP	**Karpathos**	**1.95**	**63**	*e*PG	**Pg**	**01 43 03.3**	**-0.1**
KYTH	**Kithira**	**2.29**	**315**	*e*PG	**Pg**	**01 43 06.0**	**-4.0**
APE	**Apeiranthos**	**2.43**	**9**	*e*Pn	**Pn**	**01 43 05.9**	**+0.4**
APE	**Apeiranthos**	**2.43**	**9**	↓*i*PN	**Pn**	**01 43 06.2**	**+0.7**
VLI	**Veliai**	**2.67**	**321**	*e*PN	**Pn**	**01 43 10.0**	**+1.2**
ARG	**Arkhangelos**	**2.96**	**58**	*e*PN	**Pn**	**01 43 16.1**	**+3.3**
SLUM		**3.17**	**177**	↑*i*P	**Pn**	**01 43 17.0**	**+1.3**
SLUM				S	**Sn**	**01 43 48.2**	**-5.2**
DID	**Didima**	**3.19**	**333**	*e*Pn	**Pn**	**01 43 16.2**	**+0.3**
DID				*e*Sn	**Sn**	**01 43 54.4**	**+0.5**
SMG	**Samos**	**3.37**	**25**	↓*i*PN	**Pn**	**01 43 20.2**	**+1.8**
ATH	**Athens Observa**	**3.47**	**342**	*e*PN	**Pn**	**01 43 21.1**	**+1.3**
PTL	**Penteli**	**3.51**	**345**	*e*PN	**Pn**	**01 43 21.0**	**+0.7**
ITM	**Ithomi**	**3.56**	**316**	*e*PN	**Pn**	**01 43 21.6**	**+0.6**
LTK	**Loutraki**	**3.74**	**334**	*e*Pn	**Pn**	**01 43 24.1**	**+0.5**
LTK	**Loutraki**	**3.74**	**334**	*e*Pn	**Pn**	**01 43 24.0**	**+0.4**
CHOS	**Chios island**	**3.80**	**12**	*e*Pn	**Pn**	**01 43 25.4**	**+1.0**
HMAT	**Matruh**	**3.96**	**153**	P	**Pn**	**01 43 25.8**	**-0.7**
BLCB	**Balcova**	**4.05**	**23**	*e*Pn	**Pn**	**01 43 28.9**	**+1.2**
LKR	**Lokris**	**4.30**	**338**	*e*Pn	**Pn**	**01 43 31.8**	**+0.5**
RLS	**Riolos of Patr**	**4.45**	**321**	*e*PN	**Pn**	**01 43 35.1**	**+1.9**
LKD	**Levkas**	**5.36**	**320**	*e*Pn	**Pn**	**01 43 46.0**	**+0.3**
SWA1		**5.42**	**174**	↑P	**Pn**	**01 43 47.5**	**+1.0**
SWA1				S	**Sn**	**01 44 41.8**	**-7.1**
SWA1		**5.42**	**174**	P	**Pn**	**01 43 47.5**	**+0.9**
SWA2		**5.42**	**176**	↑*e*P	**Pn**	**01 43 47.2**	**+0.6**
THL	**Klokotos Trika**	**5.45**	**335**	*e*Pn	**Pn**	**01 43 47.6**	**+0.5**
PLG	**Polyg

*NEIC **03** 02:19:15.2, 3063S×71.14W, h44km, MD4.1(GUC), After GUC.*

GUC 03 02:19:15.2±0.8, 3063S×7114W, h44km±2km, MD4.1, ML3.4, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.05**	**288**	⇑*i*P	Pn	02 19 22.0	-0.1
OVCH				*i* S	Sn	02 19 27.8	+0.8
OVCH				AML	AML	02 19 28.0	
	comp=N,7μm,0.1s						
TLL	**Tololo Astrono**	**0.54**	**33**	*e*P	Pn	02 19 27.4	+0.8
TLL				*e*S	Sn	02 19 36.6	+1.8
TLL	**Tololo Astrono**	**0.54**	**33**	*e*P	Pn	02 19 27.4	+0.8
TLL				*e*S	Sn	02 19 36.6	+1.8
TLL				AML	AML	02 19 37.8	
	comp=N,876nm,0.4s						
CMCH	**Combarbala**	**0.56**	**168**	⇑*i*P	Pn	02 19 26.9	0.0
CMCH				*i* S	Sn	02 19 36.4	+1.2
CMCH	**Combarbala**	**0.56**	**168**	⇑*i*P	Pn	02 19 26.9	0.0
CMCH				*i* S	Sn	02 19 36.4	+1.2
CMCH				AML	AML	02 19 37.2	
	comp=N,8μm,0.6s						
LSCH	**La Serena**	**0.72**	**353**	*e*P	Pn	02 19 27.8	-1.2
LSCH				*i* S	Sn	02 19 37.9	-1.0
LCO	**Las Campanas**	**1.65**	**14**	*e*Pn	Pn	02 19 41.2	-0.5
LCO				*e*Sn	Sn	02 20 01.6	-0.1
VACH	**Vallenar**	**2.07**	**9**	⇑*i*P	Pn	02 19 49.2	+1.7
JACH	**Jahuel**	**2.10**	**167**	*e*P	Pn	02 19 49.0	+1.1
JACH				*i* S	Sn	02 20 14.8	+1.9
PEL	**Peldehue**	**2.54**	**171**	*e*P	Pn	02 19 55.1	+1.2
PEL				*i* S	Sn	02 20 24.5	+0.9
PEL				AML	AML	02 20 38.9	
	comp=E,324nm,0.5s						
FCH	**Farellones**	**2.79**	**165**	*e*P	Pn	02 19 59.0	+1.6
FCH				*i* S	Sn	02 20 32.2	+2.4
FCH				AML	AML	02 20 48.8	
	comp=E,110nm,0.1s						
CLCH	**Cerro Calan**	**2.81**	**170**	⇑*e*P	Pn	02 19 58.8	+1.1
CLCH				*i* S	Sn	02 20 31.3	+1.1
CLCH				AML	AML	02 20 44.2	
	comp=N,148nm,0.6s						
RCDM	**Rinconada Maip**	**2.87**	**174**	*e*P	Pn	02 19 59.1	+0.7
RCDM				*i* S	Sn	02 20 32.8	+1.1
RCDM	**Rinconada Maip**	**2.87**	**174**	*e*P	Pn	02 19 59.1	+0.7
RCDM				*i* S	Sn	02 20 32.8	+1.1
RCDM				AML	AML	02 20 37.1	
	comp=E,168nm,0.1s						
TACH	**Talagante**	**3.02**	**177**	*e*P	Pn	02 20 00.8	+0.3
PCH	**Pirque**	**3.03**	**170**	*e*P	Pn	02 20 02.6	+1.9
LMEL	**Las Melosas**	**3.31**	**166**	*e*P	Pn	02 20 05.9	+1.4

*DDA **03** 02:37:16.5, 3804N×3912E, h26km±2km, Md2.9*
*CSEM **03** 02:37:19.9±0.1, 3845N×3927E, h2km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.6km az=110.0*
*ISCJB **03** 02:37:20.4±0.6, 3842N±003×3937E±004, h6km±5km, Error ellipse: s-maj=5.9km s-min=5.2km az=0.3*
*ISK **03** 02:37:20.1, 3845N×3927E, h2km, MD2.9*

ISC 03 02:37:20.8±0.6, 3842N±003×3935E±005, h8km±5km, n14, σ0§87/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	**Sivrice-ELAZID**	**0.06**	**223**	PG	**Pg**	**02 37 22.1**	**-0.3**
SVRC				SG	**Sg**	**02 37 23.6**	**-0.1**
ELZG	**Elazig**	**0.30**	**285**	*i* P	**Pg**	**02 37 26.4**	**-0.3**
ELZG				*i* S	**Sg**	**02 37 32.1**	**+1.4**
PTK	**Pertek**	**0.47**	**4**	*e*PG	**Pg**	**02 37 29.5**	**-0.5**
PTK				*e*SG	**Sg**	**02 37 37.1**	**+0.9**
MALT	**Malatya**	**0.74**	**262**	*e*PG	**Pg**	**02 37 33.8**	**-1.2**
MYA	**Malataya**	**0.74**	**263**	*e*PG	**Pg**	**02 37 34.1**	**-0.8**
BINT	**Bingol**	**1.00**	**62**	*e*PG	**Pg**	**02 37 41.0**	**+1.1**
URFA	**Urfa**	**1.06**	**203**	*e*PG	**Pg**	**02 37 41.2**	**0.0**
KEMA	**Kemaliye**	**1.08**	**322**	*i* P	**Pg**	**02 37 39.4**	**-2.1**
KEMA				*i* S	**Sg**	**02 37 56.0**	**+0.4**
ATAB	**Bozova**	**1.27**	**222**	*i* P	**Pn**	**02 37 44.1**	**-0.7**
ATAB				*i* S	**Sg**	**02 38 02.8**	**+1.4**
EZC	**Erzincan**	**1.38**	**15**	*e*PN	**Pn**	**02 37 46.0**	**-0.4**
MARD	**Mardin**	**1.58**	**134**	*i* P	**Pn**	**02 37 48.1**	**-1.0**
MARD				*i* S	**Sn**	**02 38 10.1**	**+0.4**
BTMT	**Batman**	**1.69**	**97**	*e*PN	**Pn**	**02 37 50.9**	**+0.2**
GAZ	**Gaziantep**	**2.10**	**234**	*e*PN	**Pn**	**02 37 57.3**	**+0.9**
SVSK	**Karacayir**	**2.37**	**310**	*e*PN	**Pn**	**02 38 00.4**	**+0.5**

*ISCJB **03** 03:02:26.0±1.4, 36.1S±0.1×720W±02, h136km±13km, Error ellipse: s-maj=28.9km s-min=8.4km az=35.3*
*GUC **03** 03:02:26.0±0.7, 36.16S×7190W, h137km±6km, ML3.8*
*NEIC **03** 03:02:26.0, 36.16S×7190W, h137km, MG3.8(GUC), After GUC.*

ISC 03 03:02:26.5±1.4, 362S±01×719W±02, h137km±14km, n17, σ0§45/30, 5C, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COCH	**Cobquecura**	**0.70**	**272**	*e*P	**Pn**	**03 02 47.6**	**0.0**
COCH				*i* S	**Sn**	**03 03 03.4**	**-0.1**
SFDO	**San Fernando**	**1.71**	**26**	⇑*i*P	**Pn**	**03 02 56.8**	**-0.7**
SFDO				*i* S	**Sn**	**03 03 20.7**	**-0.4**
CICH	**Cipreses**	**2.21**	**34**	*e*P	**Pn**	**03 03 03.3**	**-0.1**
CICH				*i* S	**Sn**	**03 03 31.8**	**+0.1**
LNV	**Longovilo**	**2.24**	**11**	*e*P	**Pn**	**03 03 04.6**	**+0.8**
LNV				*i* S	**Sn**	**03 03 33.5**	**+1.1**
CACH	**El Canelo**	**2.31**	**28**	⇑*i*P	**Pn**	**03 03 04.7**	**0.0**
CACH				*i* S	**Sn**	**03 03 34.6**	**+0.7**
CHCH	**Chadas Angostu**	**2.46**	**26**	*i* S	**Sn**	**03 03 37.1**	**-0.1**
TACH	**Talagante**	**2.63**	**18**	⇑*i*P	**Pn**	**03 03 08.5**	**-0.2**
TACH				*i* S	**Sn**	**03 03 40.1**	**-1.0**
LMEL	**Las Melosas**	**2.71**	**32**	*e*P	**Pn**	**03 03 09.8**	**+0.1**
LMEL				*i* S	**Sn**	**03 03 43.4**	**+0.6**
LMEL	**Las Melosas**	**2.71**	**32**	*e*P	**Pn**	**03 03 09.8**	**+0.1**
LMEL				*i* S	**Sn**	**03 03 43.4**	**+0.6**
LMEL				AML	AML	03 03 46.5	
	comp=N,124nm,0.4s						
PCH	**Pirque**	**2.79**	**25**	*e*P	**Pn**	**03 03 10.9**	**+0.3**
PCH				*i* S	**Sn**	**03 03 44.9**	**+0.3**
ANTU	**Antumapu**	**2.80**	**23**	*i* S	**Sn**	**03 03 44.8**	**-0.1**
ANTU				AML	AML	03 03 49.6	
	comp=E,135nm,0.2s						
RCDM	**Rinconada Maip**	**2.82**	**19**	⇑*i*P	**Pn**	**03 03 11.0**	**-0.1**
RCDM				*i* S	**Sn**	**03 03 44.6**	**-0.7**
RCDM	**Rinconada Maip**	**2.82**	**19**	⇑*i*P	**Pn**	**03 03 11.0**	**-0.1**
RCDM				*i* S	**Sn**	**03 03 44.6**	**-0.7**
RCDM				AML	AML	03 03 47.2	
	comp=E,402nm,0.1s						
CLCH	**Cerro Calan**	**2.99**	**23**	*e*P	**Pn**	**03 03 13.3**	**+0.1**
CLCH				*i* S	**Sn**	**03 03 48.9**	**-0.3**
CLCH				AML	AML	03 03 51.5	
	comp=E,188nm,0.3s						
FCH	**Farellones**	**3.13**	**26**	*e*P	**Pn**	**03 03 14.7**	**-0.3**
FCH				*i* S	**Sn**	**03 03 52.4**	**-0.2**
FCH				AML	AML	03 03 55.4	
	comp=N,158nm,0.4s						
PEL	**Peldehue**	**3.18**	**19**	*i* S	**Sn**	**03 03 53.7**	**0.0**
PEL				AML	AML	03 03 57.3	
	comp=N,435nm,0.1s						
JACH	**Jahuel**	**3.64**	**18**	*i* S	**Sn**	**03 04 04.5**	**0.0**

MAN 03 03:03:28, 1200N×12406E, h61km, mb4.2, ML3.0, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.78**	**49**	*e*P	Pn	03 03 45.1	+1.8
CNP				*e*S	Sn	03 03 57.9	+3.4
RCP	**Roxas**	**1.36**	**252**	⇑*e*P	Pn	03 03 52.6	+1.8
RCP				*e*S	Sn	03 04 10.1	+2.1
PVCP	**Virac**	**1.59**	**3**	*e*P	Pn	03 03 55.6	+1.6
OTRP	**Odiongan**	**2.03**	**281**	*e*P	Pn	03 04 01.2	+1.3

IDC 03 03:22:01.5±1.4, 081N×12736E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/15, mbtmp3.6/4, 1D, Error ellipse: s-maj=136.5km s-min=20.7km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**0.02**	**146**	‖*e*P	Pg	03 22 04.4	+2.4
TNE				*e*S	Sg	03 22 08.0	+5.7
WRA	**Warramunga Arr**	**21.73**	**162**	P	P	03 26 53.4	-1.1
	0.7nm,0.5s,baz=342,slow=11,SNR=14						
ASAR	**Alice Springs**	**25.14**	**166**	P	P	03 27 29.4	+1.0
	0.9nm,0.6s,baz=333,slow=9.2,SNR=11						
SONM	**Songino Array**	**50.25**	**342**	P	P	03 31 00.2	+0.7
	0.4nm,0.6s,baz=141,slow=9.3,SNR=2.0						
MKAR	**Makanchi Array**	**60.30**	**326**	P	P	03 32 11.5	-0.5
	1.6nm,0.6s,baz=128,slow=8.2,SNR=11						

IDC 03 03:27:09.4±2.9, 3253S×17869W, h0km, mb3.9/2, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, ML3.7/1, Error ellipse: s-maj=67.4km s-min=44.5km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.67**	**210**	Pn	Pn	03 28 47.3	-1.2
	1.5nm,0.3s,baz=217,slow=14,SNR=15						
URZ				Sn	Sn	03 29 58.9	-6.4
	2.9nm,0.3s,baz=272,slow=23,SNR=8.5						
ASAR	**Alice Springs**	**42.46**	**270**	P	P	03 35 06.4	+0.2
	1.3nm,0.8s,baz=108,slow=7.8,SNR=9.8						
WRA	**Warramunga Arr**	**43.64**	**275**	P	P	03 35 15.7	-0.1
	0.8nm,0.4s,baz=114,slow=8.0,SNR=24						
FINES	**FINESS Array B**	**146.92**	**338**	PKPbc	PKPbc	03 46 52.4	-0.6
	0.4nm,0.4s,baz=62,slow=3.4,SNR=7.5						

*CASC **03** 03:30:44.3±3.0, 12.15N×8844W, h26km±23km, MD4.0, ML3.0*
*ISCJB **03** 03:30:45.2±1.5, 12.19N±009×8844W±0.1, h67km±15km, mb3.9/8, Error ellipse: s-maj=21.1km s-min=10.6km az=145.7*
*IDC **03** 03:30:47.9±4.5, 1253N×8801W, h59km±77km, mb3.6/5, mb1 3.8/6, mb1mx3.4/20, mbtmp3.6/6, ML3.0/1, Error ellipse: s-maj=107.5km s-min=40.2km az=25.0*
*NEIC **03** 03:30:48.7±1.5, 1234N×8806W, h81km±14km, mb4.1/4, Error ellipse: s-maj=26.7km s-min=12.7km az=57.0*

ISC 03 03:30:46.6±1.4, 1227N±009×883W±01, h57km±16km, n40, σ1§04/32, mb4.0/8, 3D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**1.11**	**26**	*e*P	x	03 31 29.4	
CNCH				*e*S	x	03 31 47.8	
VSM	**San Miguel**	**1.15**	**3**	*e*P	x	03 31 29.3	
VSM				*e*S	x	03 31 49.0	
BLLM	**Bellamira**	**1.17**	**5**	*e*P	x	03 31 29.8	
BLLM				*e*S	x	03 31 48.0	
TEL3	**Telica 3**	**1.49**	**78**	*e*P	**Pn**	**03 31 10.5**	**-0.6**
CAHU	**Cacacuatique**	**1.50**	**5**	*e*P	x	03 31 34.9	
TELN	**Telica**	**1.51**	**77**	*e*P	**Pn**	**03 31 07.8**	**-3.6**
TELN				*e*S	**Sn**	**03 31 36.8**	**+6.8**
LCBS	**La Ceiba**	**1.51**	**336**	*e*P	x	03 31 33.3	
LCBS				*e*S	x	03 31 54.1	
LFRS	**El Faro**	**1.52**	**332**	*e*P	x	03 31 33.0	
LFRS				*e*S	x	03 31 54.0	
LBRS	**Las Brisas**	**1.61**	**335**	*e*P	x	03 31 35.0	
COPN	**Copaltepe**	**1.71**	**93**	‖*e*P	**Pn**	**03 31 12.9**	**-1.2**
BOQS	**Boqueron**	**1.72**	**328**	*e*P	x	03 31 36.1	
BOQS				*e*S	x	03 31 59.0	
MOMJ	**Momotombo**	**1.76**	**85**	‖*e*P	**Pn**	**03 31 13.9**	**-0.9**
CSAN		**1.87**	**92**	*e*P	**Pn**	**03 31 16.3**	**0.0**
CSAN				*e*S	**Sn**	**03 31 41.6**	**+2.7**
SBLS	**San Blas**	**2.00**	**321**	*e*P	x	03 31 39.3	
SBLS				*e*S	x	03 32 05.0	
SNJE	**San Jose**	**2.01**	**322**	*e*P	x	03 31 40.0	
SNJE				*e*S	x	03 32 05.9	
TISN	**Laguna Tiscapa**	**2.02**	**93**	*e*P	**Pn**	**03 31 18.5**	**+0.2**
MGAN	**Managua**	**2.05**	**93**	*e*P	**Pn**	**03 31 17.8**	**-0.8**
MGAN				*e*S	**Sn**	**03 31 44.0**	**+0.9**
MGAN				*i*		03 31 45.6	
	comp=N,129nm,0.4s						
TGUH	**Tegucigalpa,Un**	**2.06**	**30**	*e*Pn	**Pn**	**03 31 19.2**	**+0.4**
RTR	**El Retiro**	**2.06**	**322**	*e*P	x	03 31 40.9	
RTR				*e*S	x	03 32 06.1	
TICN	**Ticuantepe**	**2.07**	**96**	*e*P	**Pn**	**03 31 18.8**	**-0.2**
HUEN		**2.12**	**88**	*e*P	**Pn**	**03 31 19.4**	**-0.3**
JTS	**JuntasAbangare**	**3.86**	**120**	P	**Pn**	**03 31 43.0**	**-0.4**
	comp=N,1.1nm,0.3s,baz=315,slow=20,SNR=7.7						
PRS1	**Puriscal**	**4.56**	**120**	*e*P	**Pn**	**03 31 54.9**	**+1.8**
LAJ	**Bijagual**	**4.78**	**120**	*e*P	**Pn**	**03 31 53.6**	**-2.5**
LCR2	**La Lucha 2**	**4.94**	**120**	*e*P	**Pn**	**03 31 58.3**	**-0.1**
LCR2				*e*S	**Sn**	**03 32 54.5**	**+0.3**
URSC	**Urasca**	**5.09**	**118**	‖*e*P	**Pn**	**03 32 01.7**	**+1.4**
BAR1		**5.78**	**121**	*e*P	**Pn**	**03 32 09.4**	**-0.5**
CHI2		**16.30**	**116**	*e*P	Px	03 31 06.8	
JCT	**Junction City**	**21.00**	**331**	*e*P	**P**	**03 35 25.8**	**+0.4**
TXAR	**Lajitas Array**	**22.17**	**322**	**P**	**P**	**03 35 39.5**	**+1.6**
	comp=N,1.7nm,0.7s,mb3.6,baz=147,slow=11,SNR=7.2						
WMOK	**Wichita Mounta**	**24.30**	**339**	*e*P	**P**	**03 35 58.4**	**-0.3**
	comp=N,2.0nm,0.9s,mb3.5						
MNTX	**Cornudas Mount**	**24.91**	**324**	*e*P	**P**	**03 36 05.9**	**+1.5**
AMTX	**Amarillo**	**25.56**	**334**	*e*P	**P**	**03 36 11.2**	**+1.0**
	comp=N,2.3nm,0.5s,mb4.0						
AGMN	**Agassiz Refuge**	**36.46**	**352**	*e*P	**P**	**03 37 45.3**	**-0.7**
	comp=N,3.0nm,0.4s,mb4.6						
ULM	**Lac du Bonnet**	**38.37**	**352**	*e*P	**P**	**03 38 00.6**	**-1.5**
	comp=N,2.2nm,0.6s,mb4.1						
ULM	**Lac du Bonnet**	**38.37**	**352**	**P**	**P**	**03 38 00.7**	**-1.4**
	comp=N,2.8nm,0.5s,mb4.2,baz=171,slow=10,SNR=8.1						
SCHQ	**Schefferville**	**45.70**	**17**	**P**	**P**	**03 39 00.7**	**-1.1**
	comp=N,2.5nm,0.7s,mb4.2,baz=221,slow=9.3,SNR=6.7						
YKA	**Yellowknife Ar**	**53.56**	**345**	P	**P**	**03 40 01.0**	**-0.4**
YKA	**Yellowknife Ar**	**53.56**	**345**	P	**P**	**03 40 01.0**	**-0.4**
	comp=N,0.5nm,0.7s,mb3.6,baz=141,slow=7.5,SNR=11						
INK	**Inuvik**	**63.12**	**343**	P	**P**	**03 41 08.1**	**+0.2**
	comp=N,1.7nm,1.2s,mb4.1,baz=136,slow=5.4,SNR=4.1						

MEX 03 03:57:37.8±0.8, 1695N×9497W, h122km±9km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.16**	**29**	*i* P	Pn	03 57 53.5	-1.1
CMIG				*i* S	Sn	03 58 05.1	-2.2
HUIG	**Huatulco**	**1.61**	**223**	*i* P	Pn	03 58 04.8	-1.8
HUIG				*i* S	Sn	03 58 27.3	-1.3
VHO	**Vista Hermosa**	**1.70**	**274**	*i* P	Pn	03 58 06.9	-0.7
VHO				*i* S	Sn	03 58 28.9	-1.5
PPM	**Popocatepetl**	**4.07**	**302**	*i* S	Sn	03 59 22.9	-2.4

WEL 03 04:43:08.4±0.3, 4497S×16751E, h79km±2km, ML3.5/12, Error ellipse: s-maj=2.3km s-min=1.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.42**	**45**	PN	Pn	04 43 21.3	-0.1
MSZ				SN	Sn	04 43 30.4	-0.5
DCZ	**Deep Cove**	**0.57**	**206**	PN	Pn	04 43 22.3	-0.3
DCZ				SN	Sn	04 43 34.0	+0.9
MLZ	**Mavora Lakes**	**0.60**	**129**	PN	Pn	04 43 22.5	-0.5
MLZ				SN	Sn	04 43 32.8	-1.0
WHZ	**Wether Hill Ro**	**0.97**	**162**	PN	Pn	04 43 26.9	-0.1
WKZ	**Wanaka**	**1.08**	**83**	PN	Pn	04 43 28.3	+0.1
JCZ	**Jackson Bay**	**1.26**	**45**	PN	Pn	04 43 30.6	0.0
EAZ	**Earnscleugh**	**1.30**	**102**	PN	Pn	04 43 30.9	-0.1
TUZ	**Tuapeka**	**1.79**	**124**	PN	Pn	04 43 37.2	-0.1
LBZ	**Lake Benmore**	**1.99**	**74**	PN	Pn	04 43 38.9	-1.1
FOZ	**Fox Glacier**	**2.10**	**49**	PN	Pn	04 43 41.6	0.0
ODZ	**Otahua Downs**	**2.22**	**93**	PN	Pn	04 43 42.1	-1.0
HHSZ	**Highcliff Hill**	**2.36**	**114**	PN	Pn	04 43 44.8	-0.2
RPZ	**Rata Peaks**	**2.83**	**65**	PN	Pn	04 43 49.5	-1.9
WVZ	**Waitaha Valley**	**3.00**	**52**	PN	Pn	04 43 52.7	-0.9
LTZ	**Lake Taylor**	**4.08**	**59**	PN	Pn	04 44 05.4	-2.8
QRZ	**Quartz Range**	**5.54**	**43**	PN	Pn	04 44 27.8	-0.4

*ISCJB **03** 04:50:21.9±1.1, 21.17S±005×680W±0.1, h114km±14km, mb3.8/4, Error ellipse: s-maj=17.6km s-min=8.3km az=13.1*
*IDC **03** 04:50:23.1±1.8, 21.11S×68.12W, h112km±18km, mb3.6/4, mb1 3.5/9, mb1mx3.4/19, mbtmp3.4/9, Error ellipse: s-maj=25.4km s-min=13.5km az=98.0*

ISC 03 04:50:23.2±1.0, 2117S±005×681W±01, h110km±12km, n10, σ1§04/12, mb3.8/4, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.85**	**359**	P	**Pn**	**04 51 35.1**	**+1.0**
	1.6nm,0.3s,baz=188,slow=4.5,SNR=91						
LPAZ				S	**Sn**	**04 52 28.8**	**-0.4**
	0.1nm,0.3s,baz=140,slow=5.7,SNR=1.8						
SIV	**San Ignacio**	**8.38**	**53**	P	**Pn**	**04 52 22.4**	**+0.5**
	6.1nm,0.3s,baz=249,slow=14,SNR=96						
SIV				S	**Sn**	**04 53 53.9**	**-1.0**
	baz=144,slow=15,SNR=4.4						
CFAA	**Coronel Fontan**	**10.40**	**181**	P	**Pn**	**04 52 48.6**	**-0.6**
	0.0nm,0.3s,baz=0.0,slow=16,SNR=7.4						
CFAA				S	**Sn**	**04 54 42.9**	**-0.8**
	0.1nm,0.3s,baz=3.3,slow=21,SNR=3.7						
PLCA	**Paso Flores**	**19.62**	**186**	P	**P**	**04 54 45.0**	**+2.1**
	0.1nm,0.3s,baz=7.6,slow=13,SNR=6.4						
BDFB	**Brasilia**	**19.79**	**77**	P	**P**	**04 54 46.7**	**+1.7**
	0.2nm,0.3s,baz=241,slow=17,SNR=8.1						
SNAA	**Sanae**	**62.33**	**161**	P	**P**	**05 00 33.8**	**+0.2**
	1.9nm,1.1s,mb4.0,baz=280,slow=14,SNR=7.9						
DBIC	**Dimbokro**	**67.87**	**73**	P	**P**	**05 01 10.4**	**+0.1**
	1.2nm,0.4s,mb4.1,baz=221,slow=5.6,SNR=4.3						
BOSA	**Boshof**	**82.90**	**118**	P	**P**	**05 02 35.3**	**-0.8**
	2.3nm,0.8s,mb4.1,baz=333,slow=4.5,SNR=3.2						
YKA	**Yellowknife Ar**	**91.14**	**340**	P	**P**	**05 03 13.7**	**-1.5**
	0.1nm,0.5s,mb3.2,baz=131,slow=4.8,SNR=4.4						
MKAR	**Makanchi Array**	**144.89**	**36**	PKP	PKPdf	05 09 46.4	-0.9
	0.2nm,0.2s,baz=297,slow=4.5,SNR=2.1						

*IDC **03** 04:52:59.8±1.9, 095S×12791E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.5/16, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=106.5km s-min=24.1km az=70.0*
*ISCJB **03** 04:53:02.7±1.4, 09S±02×128.1E±05, h33km, mb3.5/2, Error ellipse: s-maj=77.3km s-min=13.6km az=164.5*

ISC 03 04:53:03.9±1.5, 09S±02×1282E±05, h35km, n5, σ0§49/5, mb3.5/2, 1D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.87**	**334**	‖*e*P	**Pn**	**04 53 33.0**	**-0.4**
FITZ	**Fitzroy Crossi**	**17.27**	**188**	P	**Pn**	**04 57 02.4**	**-0.1**
	0.1nm,0.3s,baz=27,slow=14,SNR=3.5						
WRA	**Warramunga Arr**	**19.86**	**163**	P	**Pn**	**04 57 33.6**	**-0.3**
	0.1nm,0.3s,baz=340,slow=11,SNR=15						
ASAR	**Alice Springs**	**23.30**	**167**	P	**P**	**04 58 09.1**	**+0.2**
	0.5nm,0.5s,mb3.2,baz=344,slow=11,SNR=8.4						
MKAR	**Makanchi Array**	**62.18**	**326**	P	**P**	**05 03 22.3**	**+0.6**
	0.2nm,0.3s,mb3.7,baz=124,slow=7.5,SNR=3.9						

*IDC **03** 04:55:34.3±1.2, 245S×12779E, h0km, mb3.7/4, mb1 4.0/6, mb1mx3.8/17, mbtmp3.8/6, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.5/22, Error ellipse: s-maj=89.3km s-min=12.5km az=70.0*
*ISCJB **03** 04:55:40.3±0.8, 26S±01×1277E±03, h60km, mb3.9/6, Error ellipse: s-maj=46.2km s-min=11.4km az=160.1*
*NEIC **03** 04:55:42.4±4.9, 261S×12758E, h60km±48km, mb4.0/4, Error ellipse: s-maj=47.9km s-min=16.4km az=59.0*

ISC 03 04:55:41.1±2.7, 26S±01×1276E±03, h46km±25km, n13, σ0§65/14, mb3.9/6, 1D, Ceram Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.56**	**187**	Pn	**Pn**	**04 59 17.4**	**0.0**
	0.1nm,0.3s,baz=354,slow=9.2,SNR=3.1						
WRAB	**Tennant Creek**	**18.46**	**160**	*e*P	**Pn**	**04 59 53.4**	**-0.1**
	9.6nm,0.9s						
WRA	**Warramunga Arr**	**18.46**	**160**	P	**Pn**	**04 59 53.6**	**+0.1**
	0.6nm,0.3s,baz=339,slow=12,SNR=24						
WRA				S	**S**	**05 03 21.6**	**+0.1**
	0.1nm,0.3s,baz=335,slow=22,SNR=3.8						
WB2	**Warramunga Arr**	**18.46**	**160**	‖*i*P	**Pn**	**04 59 53.3**	**-0.3**
WB2	**Warramunga Arr**	**18.46**	**160**	*e*P	**Pn**	**04 59 53.3**	**-0.3**
QIS	**Mount Isa**	**21.35**	**148**	*e*P	**P**	**05 00 25.2**	**+0.7**
	8.1nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**21.83**	**164**	P	**P**	**05 00 29.4**	**-0.1**
	1.7nm,0.6s,mb3.7,baz=341,slow=11,SNR=14						
SONM	**Songino Array**	**53.53**	**342**	P	**P**	**05 04 55.6**	**-1.4**
	0.8nm,0.8s,mb3.7,baz=145,slow=5.3,SNR=4.0						
MKAR	**Makanchi Array**	**63.26**	**327**	P	**P**	**05 06 05.8**	**+1.0**
MKAR	**Makanchi Array**	**63.26**	**327**	P	**P**	**05 06 05.8**	**+1.0**
	0.5nm,0.6s,mb3.6,baz=120,slow=7.2,SNR=5.5						
KURK	**Kurchatov**	**67.54**	**329**	*e*P	**P**	**05 06 33.2**	**+0.7**
	1.0nm,0.5s,mb4.1						
VNDA	**Vanda**	**77.10**	**173**	*e*P	**P**	**05 07 28.1**	**-0.9**
	0.7nm,0.7s,mb3.7						
VNDA	**Vanda**	**77.10**	**173**	P	**P**	**05 07 28.4**	**-0.7**
	0.7nm,0.8s,mb3.6,baz=322,slow=6.4,SNR=4.2						

JMA 03 05:00:09.5±0.3, 3694N×14194E, h34km±5km, M2.6, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.95**	**297**	P	Pn	05 00 26.8	+0.4
JFK				*e*S	Sn	05 00 38.5	-0.3
JHO	**Hitachi**	**1.15**	**254**	P	Pn	05 00 29.1	0.0
JMM	**Marumori**	**1.30**	**316**	P	Pn	05 00 31.8	+0.6
JMM				*e*S	Sn	05 00 48.0	+0.6
JFT	**Otama**	**1.40**	**295**	P	Pn	05 00 34.3	+1.6
JFT				*e*S	S

mb3.9/9, MS3.2/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.42**	**212**	LR	LR	05 42 10.4	
	comp=Z,170nm,20.2s,baz=48,slow=33						
WRAB	**Tennant Creek**	**23.71**	**235**	*e*P	**P**	**05 38 52.7**	**+0.1**
	4.6nm,0.9s,mb3.9						
WB2	**Warramunga Arr**	**23.71**	**235**	*e*P	**P**	**05 38 52.1**	**-0.5**
WRA	**Warramunga Arr**	**23.73**	**235**	P	**P**	**05 38 52.5**	**-0.1**
	2.3nm,0.9s,mb3.6,baz=63,slow=9.5,SNR=11						
WRA				LR	LR	05 45 56.3	
	comp=Z,48nm,19.8s,MS3.0,baz=220,slow=31						
ASAR	**Alice Springs**	**26.07**	**229**	P	**P**	**05 39 13.3**	**-0.7**
	0.4nm,0.8s,mb3.0,baz=56,slow=9.1,SNR=5.7						
STKA	**Stephens Creek**	**27.62**	**205**	P	**P**	**05 39 28.7**	**+0.8**
STKA				LR	LR	05 49 41.5	
STKA	**Stephens Creek**	**27.62**	**205**	P	**P**	**05 39 28.7**	**+0.8**
	3.0nm,0.9s,mb3.9,baz=21,slow=14,SNR=3.1						
STKA				LR	LR	05 49 41.5	
	comp=Z,111nm,19.6s,MS3.5,baz=26,slow=35						
MCK	**McKinley**	**82.17**	**22**	*e*P	**P**	**05 45 59.8**	**-0.7**
	5.4nm,0.9s,mb4.5						
COLA	**College**	**83.19**	**21**	*e*P	**P**	**05 46 05.1**	**-0.7**
	3.1nm,0.8s,mb4.4						
MKAR	**Makanchi Array**	**83.46**	**319**	P	**P**	**05 46 08.7**	**+1.1**
	0.5nm,0.9s,mb3.5,baz=93,slow=7.7,SNR=2.9						
EGAK	**Eagle**	**85.63**	**23**	*e*P	**P**	**05 46 18.7**	**+0.6**
	2.5nm,0.9s,mb4.4						
YKA	**Yellowknife Ar**	**96.45**	**28**	P	**P**	**05 47 08.9**	**+0.1**
	0.3nm,0.8s,mb3.8,baz=268,slow=3.9,SNR=5.1						

*SOF **03** 05:41:13.6, 4027N×2522E, h4km, MD3.7*
*ATH **03** 05:41:14.6, 4024N×2513E, h24km±1km, MD4.1/16*
*NEIC **03** 05:41:14.6, 4024N×2512E, h24km, ML4.3(THE), ML4.0(ATH), ML3.9(PDG), After ATH.*
*ISK **03** 05:41:14.8, 4024N×2519E, h12km, ML3.8*
*THE **03** 05:41:16.0, 4020N×2518E, h16km, ML4.3*
*ISCJB **03** 05:41:15.3±0.3, 4024N±001×25.13E±001, h19km±3km, Error ellipse: s-maj=2.5km s-min=1.8km az=17.5*
*CSEM **03** 05:41:15.5±0.0, 4024N×2518E, h20km, ML4.3, Error ellipse: s-maj=1.1km s-min=0.9km az=13.0*
*SKO **03** 05:41:15.7, 3996N×2489E, h6km*
*DDA **03** 05:41:15.7, 4030N×2515E, h15km±4km, Md3.7*
*PDG **03** 05:41:15.5±0.5, 4027N×2518E, h18km±1km, ML3.9/10, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0*
*MOS **03** 05:41:16.7±0.7, 4023N×2518E, h37km, mb3.9/1, Error ellipse: s-maj=6.1km s-min=4.6km az=113.2*

ISC 03 05:41:14.9±0.3, 4024N±001×2513E±001, h6km±2km, n194, σ1°06/231, 10C-20D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.30**	**188**	*e*Pg	**Pg**	**05 41 20.9**	**+0.1**
LIA	**Limnos Island**	**0.34**	**174**	*e*PB	**Pg**	**05 41 22.5**	**+1.0**
LIA				*e*SB	**Sg**	**05 41 27.7**	**+1.8**
GADA	**Gvkgeada**	**0.59**	**94**	PG	**Pg**	**05 41 26.5**	**+0.3**
BOZC	**Bozcaada**	**0.81**	**119**	*i* P	**Pg**	**05 41 30.6**	**+0.1**
BOZC				*i* S	**Sg**	**05 41 41.8**	**+0.9**
OUR	**Ouranopolis**	**0.89**	**277**	*e*Pg	**Pg**	**05 41 33.1**	**+1.2**
ENEZ	**Enez**	**0.93**	**57**	PG	**Pg**	**05 41 32.3**	**-0.3**
ENEZ				*e*SG	**Sg**	**05 41 44.7**	**+0.1**
ALN	**Alexandroupoli**	**0.96**	**46**	*e*Pg	**Pg**	**05 41 32.9**	**-0.4**
ALN				*e*Sg	**Sg**	**05 41 46.8**	**+1.0**
RDO	**Rodhopi**	**0.96**	**19**	⇑*i*PN	**Pn**	**05 41 32.8**	**-2.2**
RDO				*e*SN	**Sn**	**05 41 46.6**	**-2.4**
EZN	**Ezine**	**1.00**	**114**	*e*PG	**Pg**	**05 41 33.8**	**-0.3**
EZN				*e*SG	**Sg**	**05 41 47.1**	**0.0**
PAIG	**Paliouri**	**1.16**	**255**	*e*Pg	**Pg**	**05 41 36.6**	**-0.5**
PAIG				*e*Sg	**Sg**	**05 41 52.7**	**+0.6**
LPK	**Lapseki**	**1.25**	**83**	*e*PN	**Pn**	**05 41 38.0**	**-0.9**
PLG	**Polygyros**	**1.30**	**277**	*e*Pg	**Pn**	**05 41 39.2**	**-0.4**
PLG				*e*Sg	**Sg**	**05 41 56.6**	**-0.1**
PLG	**Polygyros**	**1.30**	**277**	⇓*i*PN	**Pn**	**05 41 39.2**	**-0.4**
PLG				*e*Sn	**Sn**	**05 41 56.3**	**-1.0**
PRK	**Paraskevi**	**1.32**	**138**	*e*PN	**Pn**	**05 41 39.9**	**0.0**
KDZ	**Kurdzhali**	**1.43**	**9**	Pg	**Pg**	**05 41 40.2**	**-2.1**
AOS	**Alonnisos**	**1.44**	**223**	*e*Pg	**Pg**	**05 41 39.9**	**-2.5**
NVR	**Nevrokopi**	**1.47**	**319**	⇓*i*PN	**Pn**	**05 41 41.8**	**-0.2**
NVR				*e*SN	**Sn**	**05 42 00.5**	**-1.1**
NVR	**Nevrokopi**	**1.47**	**319**	⇓*i*Pn	**Pn**	**05 41 41.8**	**-0.2**
NVR				*e*Sn	**Sn**	**05 42 00.3**	**-1.3**
SOH	**Sokhos**	**1.48**	**294**	*e*Pg	**Pg**	**05 41 41.9**	**-1.4**
SOH				*e*Sg	**Sg**	**05 42 01.3**	**-1.1**
RZN	**Rozhen**	**1.49**	**348**	P	**Pn**	**05 41 42.5**	**+0.3**
AYVA	**Ayvalik**	**1.52**	**127**	*i* P	**Pn**	**05 41 42.1**	**-0.5**
AYVA				*i* S	**Sn**	**05 42 02.0**	**-0.6**
HORT	**Hortiatis**	**1.59**	**284**	*e*Pb	**Pb**	**05 41 43.4**	**-1.4**
HORT				*e*Sb	**Sb**	**05 42 04.3**	**-0.8**
HORT	**Hortiatis**	**1.59**	**284**	*e*Pb	**Pb**	**05 41 43.4**	**-1.4**
HORT				*e*Sb	**Sb**	**05 42 04.3**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.62**	**73**	*e*PN	**Pn**	**05 41 43.2**	**-0.9**
THE	**Thessaloniki**	**1.70**	**284**	*e*Pb	**Pb**	**05 41 44.8**	**-1.9**
THE				*e*Sb	**Sb**	**05 42 07.0**	**-1.3**
MMB	**Musomiste**	**1.72**	**322**	P	**Pn**	**05 41 45.5**	**+0.1**
XOR	**Xorichti**	**1.73**	**240**	*e*Pb	**Pb**	**05 41 43.9**	**-3.1**
NEO	**Neokhori**	**1.74**	**238**	*e*PB	**Pb**	**05 41 44.7**	**-2.5**
NEO				*e*SN	**Sn**	**05 42 07.6**	**-0.6**
DIM	**Dimitrovgrad**	**1.84**	**9**	P	**Pn**	**05 41 47.1**	**+0.1**
DIM				Pg	**Pg**	**05 41 49.4**	**-0.7**
DIM	**Dimitrovgrad**	**1.84**	**9**	Pg	**Pg**	**05 41 49.4**	**-0.7**
PLD	**Plovdiv**	**1.90**	**350**	*e*Pb	**Pb**	**05 41 47.7**	**-2.2**
PLD	**Plovdiv**	**1.90**	**350**	P	**Pn**	**05 41 51.7**	**+3.9**
KNT	**Kendrikon**	**1.94**	**299**	*e*Pb	**Pb**	**05 41 48.6**	**-2.0**
KNT				*e*Sb	**Sb**	**05 42 13.0**	**-2.0**
CHOS	**Chios island**	**1.98**	**159**	*e*Pb	**Pb**	**05 41 48.2**	**-3.1**
CHOS				*e*Sb	**Sb**	**05 42 12.3**	**-3.9**
EDRB	**Edirne**	**2.02**	**37**	*e*PN	**Pn**	**05 41 48.7**	**-0.8**
LIT	**Litokhoron**	**2.03**	**267**	*e*Pn	**Pn**	**05 41 49.3**	**-0.4**
EDC	**Edincik**	**2.09**	**86**	*e*PN	**Pn**	**05 41 50.0**	**-0.5**
BNT	**Bandirma**	**2.13**	**86**	*e*PN	**Pn**	**05 41 50.4**	**-0.7**
URLA	**Izmir**	**2.19**	**148**	*i* P	**Pn**	**05 41 51.9**	**0.0**
URLA				*i* S	**Sn**	**05 42 17.8**	**-1.5**
BALB	**Balikesir**	**2.19**	**105**	*e*PN	**Pn**	**05 41 52.1**	**+0.2**
GRG	**Griva**	**2.20**	**290**	*e*Pn	**Pn**	**05 41 52.1**	**+0.1**
GRG				*e*Sn	**Sn**	**05 42 19.7**	**+0.1**
VAY	**Valandovo**	**2.23**	**300**	*e*Pn	**Pn**	**05 41 52.5**	**+0.1**
VAY	**Valandovo**	**2.23**	**300**	*e*Pn	**Pn**	**05 41 52.3**	**-0.1**
VAY				*e*Sg	**Sg**	**05 42 27.7**	**+1.2**
VAY	**Valandovo**	**2.23**	**300**	*e*Pn	**Pn**	**05 41 52.5**	**+0.1**
VAY				*e*Sg	**Sg**	**05 42 27.7**	**+1.2**
KKB	**Krupnik**	**2.25**	**317**	P	**Pn**	**05 41 52.8**	**+0.1**
KKB				Pg	**Pg**	**05 42 00.5**	**+2.5**
KKB	**Krupnik**	**2.25**	**317**	Pg	**Pg**	**05 42 00.5**	**+2.5**
BTOK	**Tokmak**	**2.27**	**101**	*i* P	**Pn**	**05 41 53.1**	**0.0**
LKR	**Lokris**	**2.29**	**227**	*e*Pn	**Pn**	**05 41 52.3**	**-0.9**
LKR	**Lokris**	**2.29**	**227**	*e*Pn	**Pn**	**05 41 52.4**	**-0.8**
BLCB	**Balcova**	**2.37**	**141**	*e*PN	**Pn**	**05 41 54.5**	**+0.2**
PTL	**Penteli**	**2.40**	**205**	*e*PN	**Pn**	**05 41 54.0**	**-0.7**
PGB	**Panagyurishte**	**2.42**	**343**	P	**Pn**	**05 41 54.9**	**-0.2**
KDAG	**Bornova**	**2.47**	**137**	*i* P	**Pn**	**05 41 55.6**	**0.0**
AKHS	**Akhisar**	**2.48**	**122**	*i* P	**Pn**	**05 41 56.0**	**+0.2**
AKHS				*i* S	**Sg**	**05 42 34.1**	**-0.3**
AKS	**Akhisar**	**2.48**	**122**	*e*PN	**Pn**	**05 41 55.4**	**-0.3**
AGG	**Agios Georgios**	**2.48**	**242**	*e*Pn	**Pn**	**05 41 55.3**	**-0.6**
JMB	**Yambol**	**2.48**	**26**	*e*Pn	**Pn**	**05 41 55.4**	**-0.5**
JMB				*e*Sn	**Sn**	**05 42 25.5**	**-1.0**
JMB	**Yambol**	**2.48**	**26**	P	**Pn**	**05 41 55.5**	**-0.4**
JMB				Pg	**Pg**	**05 42 02.5**	**0.0**
JMB	**Yambol**	**2.48**	**26**	Pg	**Pg**	**05 42 02.5**	**0.0**
JMB				*e*Sn	**Sn**	**05 42 25.5**	**-1.0**
THL	**Klokotos Trika**	**2.49**	**255**	*e*PN	**Pn**	**05 41 55.7**	**-0.3**
ATH	**Athens Observa**	**2.51**	**206**	*e*Pn	**Pn**	**05 41 55.7**	**-0.6**
KZN	**Kozani**	**2.57**	**273**	*e*PN	**Pn**	**05 41 57.3**	**+0.2**
KVR	**Kavouri**	**2.63**	**204**	*e*PN	**Pn**	**05 41 58.0**	**+0.1**
KVR	**Kavouri**	**2.63**	**204**	*e*Pn	**Pn**	**05 41 56.7**	**-1.2**
STIP	**Stip**	**2.67**	**304**	*e*Pn	**Pn**	**05 42 00.0**	**+1.6**
CTT	**Catalca**	**2.67**	**69**	*e*PN	**Pn**	**05 41 57.2**	**-1.2**
ELBA	**Catalca**	**2.67**	**69**	*i* P	**Pn**	**05 41 56.8**	**-1.7**
DST	**Dursunbey**	**2.76**	**102**	*e*PN	**Pn**	**05 41 59.5**	**-0.2**
VTS	**Vitosha**	**2.76**	**329**	⇓*i*P	**Pn**	**05 42 00.8**	**+1.1**
VTS	**Vitosha**	**2.76**	**329**	P	**Pn**	**05 42 01.0**	**+1.3**
LTK	**Loutraki**	**2.78**	**218**	*e*Pn	**Pn**	**05 41 59.2**	**-0.7**
NAIG	**Nisos Aigina**	**2.79**	**208**	*e*PN	**Pn**	**05 42 00.0**	**0.0**
SMG	**Samos**	**2.85**	**152**	*e*PN	**Pn**	**05 42 01.0**	**+0.1**
EVR	**Evrytania**	**2.89**	**244**	*e*PN	**Pn**	**05 42 01.5**	**+0.1**
FNA	**Florina**	**2.92**	**282**	*e*Pn	**Pn**	**05 42 02.7**	**+0.9**
PVL	**Pavlikeni**	**2.98**	**3**	P	**Pn**	**05 42 02.4**	**-0.4**
BIA	**Bitola**	**3.00**	**286**	*e*Pn	**Pn**	**05 42 03.2**	**+0.2**
SZH	**Strazhica**	**3.09**	**11**	P	**Pn**	**05 42 04.6**	**+0.4**
BADT	**Buyukada**	**3.10**	**77**	*e*PN	**Pn**	**05 42 04.9**	**+0.6**
ISK	**Istanbul-Kandi**	**3.10**	**73**	*e*PN	**Pn**	**05 42 04.2**	**-0.1**
DID	**Didima**	**3.10**	**209**	*e*Pn	**Pn**	**05 42 03.3**	**-1.1**
GEMT	**Gemlik**	**3.11**	**85**	*e*PN	**Pn**	**05 42 04.6**	**+0.1**
KLYT	**Kilyos**	**3.14**	**70**	*e*PN	**Pn**	**05 42 05.0**	**+0.1**
APE	**Apeiranthos**	**3.18**	**174**	*e*Pn	**Pn**	**05 42 04.4**	**-1.0**
APE	**Apeiranthos**	**3.18**	**174**	*e*P	**Pn**	**05 42 04.3**	**-1.1**
APE	**Apeiranthos**	**3.18**	**174**	*e*P	**Pn**	**05 42 05.6**	**+0.2**
APE	**Apeiranthos**	**3.18**	**174**	*e*PN	**Pn**	**05 42 05.6**	**+0.2**
APE	**Apeiranthos**	**3.18**	**174**	⇓*i*P	**Pn**	**05 42 05.6**	**+0.2**
KULA	**Kula-Manisa**	**3.23**	**121**	*e*PN	**Pn**	**05 42 05.6**	**-0.5**
YLV	**Yalova**	**3.25**	**83**	*e*PN	**Pn**	**05 42 07.2**	**+0.7**
SKO	**Skopje**	**3.29**	**303**	*e*Pn	**Pn**	**05 42 07.9**	**+1.0**
IZI	**Iznik**	**3.32**	**87**	*e*PN	**Pn**	**05 42 06.4**	**-1.0**
KBN	**Korca**	**3.34**	**278**	*i* PN	**Pn**	**05 42 09.1**	**+1.4**
AYDN	**Tasoluk**	**3.34**	**139**	*i* P	**Pn**	**05 42 08.0**	**+0.3**
AYDN				*e*S	**Sg**	**05 42 59.4**	**-3.0**
OHR	**Ohrid**	**3.41**	**286**	*e*Pn	**Pn**	**05 42 08.1**	**-0.6**
OHR	**Ohrid**	**3.41**	**286**	*e*Pn	**Pn**	**05 42 08.0**	**-0.6**
PRD	**Provadia**	**3.41**	**29**	P	**Pn**	**05 42 08.0**	**-0.7**
ZIMR		**3.42**	**3**	P	**Pn**	**05 42 09.3**	**+0.5**
HRT	**Hereke**	**3.50**	**79**	*e*PN	**Pn**	**05 42 10.8**	**+0.9**
ADVT	**Abdulvahap**	**3.52**	**85**	*e*PN	**Pn**	**05 42 10.8**	**+0.6**
GDZ	**Gediz**	**3.54**	**107**	*i* P	**Pn**	**05 42 10.1**	**-0.4**
GDZ				*i* S	**Sb**	**05 43 01.4**	**0.0**
VLX	**Vlachokerasia**	**3.58**	**218**	*e*Pn	**Pn**	**05 42 10.9**	**0.0**
RLS	**Riolos of Patr**	**3.58**	**234**	*e*PN	**Pn**	**05 42 12.4**	**+1.4**
BDRM	**Kayabasi**	**3.65**	**150**	*i* P	**Pn**	**05 42 12.2**	**+0.3**
VLI	**Veliai**	**3.91**	**207**	*e*PN	**Pn**	**05 42 15.0**	**-0.5**
VLI	**Veliai**	**3.91**	**207**	*e*Pn	**Pn**	**05 42 14.9**	**-0.6**
ITM	**Ithomi**	**3.95**	**220**	*e*PN	**Pn**	**05 42 16.8**	**+0.8**
YER	**Yerkesik**	**3.96**	**140**	*e*PN	**Pn**	**05 42 16.8**	**+0.6**
DAT	**Datca**	**3.99**	**151**	*e*PN	**Pn**	**05 42 16.9**	**+0.3**
VLS	**Valsamata**	**4.08**	**241**	*e*PN	**Pn**	**05 42 19.5**	**+1.6**
BORA	**Eskisehir**	**4.10**	**93**	*i* P	**Pn**	**05 42 17.7**	**-0.3**
BORA				*i* S	**Sg**	**05 43 25.0**	**-1.5**
GULT	**Gulveren**	**4.12**	**86**	*e*PN	**Pn**	**05 42 18.4**	**0.0**
KEK	**Kerkira**	**4.13**	**264**	*e*PN	**Pn**	**05 42 19.2**	**+0.7**
TIR	**Tirane**	**4.15**	**287**	P	**Pn**	**05 42 23.1**	**+4.3**
TIR	**Tirane**	**4.15**	**287**	*i* PN	**Pn**	**05 42 22.6**	**+3.8**
QSH	**Qafa e Shtames**	**4.17**	**290**	*i* PN	**Pb**	**05 42 27.5**	**-1.1**
KYTH	**Kithira**	**4.28**	**203**	*e*PN	**Pn**	**05 42 20.5**	**-0.1**
PUK	**Puka**	**4.35**	**296**	*i* PN	**Pn**	**05 42 23.6**	**+2.1**
ESKT	**Eskisehir**	**4.46**	**97**	*e*PN	**Pn**	**05 42 23.5**	**+0.5**
ESKT	**Eskisehir**	**4.46**	**97**	*i* P	**Pn**	**05 42 23.0**	**0.0**
SEYT	**Eskypehyr**	**4.46**	**97**	*i* P	**Pn**	**05 42 23.0**	**0.0**
SHUT	**Suhut-Afyon**	**4.52**	**110**	*e*PN	**Pn**	**05 42 25.3**	**+1.4**
PVY	**Plav**	**4.54**	**303**	⇑*i*Pn	**Pn**	**05 42 25.5**	**+1.4**
PVY				*e*Sn	**Sn**	**05 43 18.1**	**+0.9**
IVA	**Berane**	**4.73**	**306**	⇑*i*Pn	**Pn**	**05 42 28.2**	**+1.5**
IVA				*e*Sn	**Sn**	**05 43 21.2**	**-0.7**
FETY	**Fethiye**	**4.75**	**138**	*e*PN	**Pn**	**05 42 27.9**	**+0.9**
ULC	**Ulcinj**	**4.77**	**293**	⇓*i*Pn	**Pn**	**05 42 28.8**	**+1.5**
ULC				*e*Sn	**Sn**	**05 43 23.4**	**+0.5**
ISP	**Isparta**	**4.82**	**118**	*e*PN	**Pn**	**05 42 29.3**	**+1.4**
ISP	**Isparta**	**4.82**	**118**	*e*Pn	**Pn**	**05 42 28.6**	**+0.6**
ISP	**Isparta**	**4.82**	**118**	⇑*i*P	**Pn**	**05 42 28.4**	**+0.4**
TIRR	**Tirgusor**	**4.87**	**29**	⇓P	**Pn**	**05 42 28.4**	**-0.2**
TIRR	**Tirgusor**	**4.87**	**29**	⇓*i*P	**Pn**	**05 42 28.4**	**-0.3**
TIRR	**Tirgusor**	**4.87**	**29**	P	**Pn**	**05 42 28.5**	**-0.2**
HARR	**Harsova**	**4.91**	**24**	⇓P	**Pn**	**05 42 29.2**	**0.0**
HARR	**Harsova**	**4.91**	**24**	⇓*i*P	**Pn**	**05 42 29.2**	**0.0**
HARR	**Harsova**	**4.91**	**24**	P	**Pn**	**05 42 29.3**	**+0.1**
TTG	**Podgorica**	**4.94**	**298**	⇑*i*Pn	**Pn**	**05 42 31.4**	**+1.8**
TTG				*e*Sn	**Sn**	**05 43 27.4**	**+0.4**
BUM	**Brajici-Budva**	**5.13**	**296**	⇓*i*Pn	**Pn**	**05 42 32.9**	**+0.6**
BUM				*e*Sn	**Sn**	**05 43 31.1**	**-0.7**
VOIR		**5.20**	**359**	⇓*i*P	**Pn**	**05 42 34.1**	**+0.9**
NKY	**Niksic**	**5.28**	**301**	⇑*i*Pn	**Pn**	**05 42 35.9**	**+1.6**
NKY				*e*Sn	**Sn**	**05 43 35.0**	**-0.4**
MLR	**Muntele Rosu**	**5.29**	**6**	⇓P	**Pn**	**05 42 35.2**	**+0.8**
MLR	**Muntele Rosu**	**5.29**	**6**	⇓*i*P	**Pn**	**05 42 35.2**	**+0.8**
MLR	**Muntele Rosu**	**5.29**	**6**	P	**Pn**	**05 42 35.8**	**+1.4**
PLE	**Pljevlja**	**5.29**	**308**	⇑*i*Pn	**Pn**	**05 42 35.5**	**+1.1**
PLE				*e*Sn	**Sn**	**05 43 35.8**	**+0.1**
KIZT	**Kizilcal**	**5.39**	**102**	*e*PN	**Pn**	**05 42 36.9**	**+1.1**
GZR	**Gura Zlata**	**5.44**	**342**	⇓*i*P	**Pn**	**05 42 36.7**	**+0.2**
HCY	**Herceg Novi**	**5.46**	**296**	⇓*i*Pn	**Pn**	**05 42 38.1**	**+1.3**
HCY				*e*Sn	**Sn**	**05 43 39.9**	**0.0**
UPM	**Unac-Piva**	**5.52**	**305**	⇑*i*Pn	**Pn**	**05 42 38.7**	**+1.1**
UPM				*e*Sn	**Sn**	**05 43 41.1**	**-0.3**
BRY	**Bratogost**	**5.61**	**300**	⇓*i*Pn	**Pn**	**05 42 40.7**	**+1.8**
BRY				*e*Sn	**Sn**	**05 43 42.3**	**-0.5**
KDHN	**Kadinhani**	**5.67**	**105**	*i* P	**Pn**	**05 42 40.7**	**+1.0**
PLOR	**Plostina**	**5.72**	**11**	⇑*i*P	**Pn**	**05 42 41.8**	**+1.4**
PLOR	**Plostina**	**5.72**	**11**	P	**Pn**	**05 42 42.0**	**+1.6**
VRI	**Vrincioaia**	**5.75**	**11**	P	**Pn**	**05 42 42.4**	**+1.7**
VRI	**Vrincioaia**	**5.75**	**11**	⇓*i*P	**Pn**	**05 42 42.1**	**+1.4**
ANTO	**Ankara**	**5.89**	**91**	*e*PN	**Pn**	**05 42 44.8**	**+2.1**
BZS	**Buzias**	**5.96**	**336**	⇓*i*P	**Pn**	**05 42 44.0**	**+0.3**
KONT	**Konya--Tatoy**	**6.07**	**110**	*e*PN	**Pn**	**05 42 46.6**	**+1.4**
TIP	**Timpagrande**	**6.54**	**263**	*e*Pn	**Pn**	**05 42 52.9**	**+1.2**
	11nm,0.6s						
TIP	**Timpagrande**	**6.54**	**263**	*e*Pn	**Pn**	**05 42 52.9**	**+1.2**
	11nm,0.6s						
DRGR		**6.79**	**346**	⇑*i*P	**Pn**	**05 42 54.9**	**-0.1**
KIS	**Kishinev**	**7.27**	**20**	*e*P	**Sb**	**05 44 48.0**	**-0.3**
MGR	**Morigerati**	**7.34**	**272**	Pn	**Pn**	**05 43 04.3**	**+1.7**
BURAR	**Bucovina Array**	**7.38**	**0**	P	**Pn**	**05 43 04.3**	**+1.2**
BURAR	**Bucovina Array**	**7.38**	**0**	⇓*i*P	**Pn**	**05 43 04.2**	**+1.1**
SGO	**Sicignano**	**7.51**	**276**	P	**Pn**	**05 43 07.1**	**+2.2**
KECS	**Kecovo**	**8.89**	**340**	*e*	**Pn**	**05 43 27.0**	**+3.2**
KECS				*e*Sg	Sn	05 46 01.6	+57
KECS	**Kecovo**	**8.89**	**340**	*e*	**Pn**	**05 43 27.0**	**+3.2**
KECS	**Kecovo**	**8.89**	**340**	*e*SG	Sx	05 46 01.6	
CRVS	**Cervenica-Dubn**	**9.05**	**344**	*e*P		05 43 36.2	
CRVS				*e*Sg	Sx	05 46 12.2	
CRVS	**Cervenica-Dubn**	**9.05**	**344**	*e*		05 43 36.2	
CRVS	**Cervenica-Dubn**	**9.05**	**344**	*e*SG	Sx	05 46 12.2	
VYHS	**Vyhne**	**9.40**	**333**	*e*Pn	**Pn**	**05 43 22.4**	**-8.5**
VYHS				*e*		05 43 35.9	
VYHS				*e*Sg	Sn	05 46 19.2	+62
VYHS	**Vyhne**	**9.40**	**333**	*e*PN	**Pn**	**05 43 22.4**	**-8.5**
VYHS				*e*		05 43 35.9	
VYHS	**Vyhne**	**9.40**	**333**	*e*SG	Sx	05 46 19.2	
PGF	**Pioggiola**	**12.34**	**286**	*e*P	**Pn**	**05 44 07.8**	**-3.2**
	44nm,1.3s						
PGF	**Pioggiola**	**12.34**	**286**	*e*P	**Pn**	**05 44 07.8**	**-3.2**
PGF				pmax	pmax		
	comp=Z,22nm,1.3s						
PGF	**Pioggiola**	**12.34**	**286**	*e*P	**Pn**	**05 44 07.8**	**-3.2**
	comp=Z,22nm,1.3s						
MBDF	**Montbardon**	**14.27**	**294**	*e*P	**Pn**	**05 44 34.9**	**-2.5**
LPG	**La Plagne**	**14.46**	**297**	*e*P	**Pn**	**05 44 36.8**	**-3.2**
	comp=Z,16nm,1.0s						
LPG	**La Plagne**	**14.46**	**297**	*e*P	**Pn**	**05 44 36.8**	**-3.2**
LPG				pmax	pmax		
	comp=Z,8.0nm,1.0s						
LPG	**La Plagne**	**14.46**	**297**	*e*P	**Pn**	**05 44 36.8**	**-3.2**
	comp=Z,8.1nm,1.0s						
LPL	**La Plagne**	**14.48**	**297**	*e*P	**Pn**	**05 44 37.7**	**-2.6**
	comp=Z,14nm,1.0s						
LPL	**La Plagne**	**14.48**	**297**	*e*P	**Pn**	**05 44 37.7**	**-2.6**
LPL				pmax	pmax		
	comp=Z,7.0nm,1.0s						
LPL	**La Plagne**	**14.48**	**297**	*e*P	**Pn**	**05 44 37.7**	**-2.6**
	comp=Z,6.8nm,1.0s						
SMF	**Signal de Mont**	**16.71**	**300**	*e*P	**Pn**	**05 45 11.1**	**+1.5**
	comp=Z,5.5nm,0.5s						
SMF	**Signal de Mont**	**16.71**	**300**	*e*P	**Pn**	**05 45 11.1**	**+1.5**
SMF				pmax	pmax		
	comp=Z,3.0nm,0.5s						
SMF	**Signal de Mont**	**16.71**	**300**	*e*P	**Pn**	**05 45 11.1**	**+1.5**
	comp=Z,2.8nm,0.5s						
OBN	**Obninsk**	**16.72**	**23**	*e*P	**Pn**	**05 45 08.5**	**-1.1**
OBN				pmax	pmax		
	comp=Z,23nm,1.6s						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s						
OBN	**Obninsk**	**16.72**	**23**	*e*P	**Pn**	**05 45 08.5**	**-1.1**
	comp=Z,100nm,17.0s						
AVF	**Avril sur Loir**	**17.08**	**300**	*e*P	**Pn**	**05 45 13.5**	**-0.6**
	comp=Z,3.4nm,0.5s						
AVF	**Avril sur Loir**	**17.08**	**300**	*e*P	**Pn**	**05 45 13.5**	**-0.6**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AVF	**Avril sur Loir**	**17.08**	**300**	*e*P	**Pn**	**05 45 13.5**	**-0.6**
	comp=Z,1.7nm,0.4s						
TCF	**Toulx Ste Croi**	**17.73**	**298**	*e*P	**Pn**	**05 45 20.5**	**-1.8**
MK31	**Makanchi Array**	**41.17**	**61**	*e*P	**P**	**05 49 00.7**	**+0.7**
MKAR	**Makanchi Array**	**41.17**	**61**	*i* P	**P**	**05 49 00.5**	**+0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						

*CSEM **03** 05:52:07.5±0.1, 3731N×2829E, h15km, MD2.9, Error ellipse: s-maj=2.7km s-min=2.1km az=15.0*
*ISK **03** 05:52:07.6, 3730N×2831E, h16km, MD2.9*
*ISCJB **03** 05:52:08.4±0.5, 3733N±003×2829E±004, h7km±6km, Error ellipse: s-maj=6.3km s-min=4.3km az=136.0*
*DDA **03** 05:52:08.2, 3735N×2829E, h6km±4km, Md3.0*

ISC 03 05:52:08.6±0.5, 3731N±004×2831E±004, h12km±6km, n14, σ0°78/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.17**	**187**	*e*PG	**Pg**	**05 52 12.1**	**-0.3**
YER				*e*SG	**Sg**	**05 52 14.9**	**-0.2**
MLSB	**Milas**	**0.43**	**268**	*e*PG	**Pg**	**05 52 16.5**	**-0.4**
MLSB				*e*SG	**Sg**	**05 52 23.3**	**+0.7**
AYDN	**Tasoluk**	**0.49**	**316**	*i* P	**Pg**	**05 52 18.0**	**-0.2**
AYDN				*i* S	**Sg**	**05 52 24.5**	**-0.2**
DENT	**Denizli**	**0.73**	**52**	*e*PG	**Pg**	**05 52 22.5**	**-0.1**
BDRM	**Kayabasi**	**0.73**	**251**	*i* P	**Pg**	**05 52 22.2**	**-0.5**
BDRM				*i* S	**Sg**	**05 52 32.7**	**+0.3**
BDRM	**Kayabasi**	**0.73**	**251**	*i* P	**Pg**	**05 52 22.2**	**-0.5**

LTK	Loutraki	1.80	199	*e*Pb	Pb	06 10 44.8	-1.9
VAY	Valandovo	1.82	331	*e*Pn	Pn	06 10 47.0	+1.9
VAY				*e*Sg	Sg	06 11 11.0	-1.1
VAY	Valandovo	1.82	331	*e*Pn	Pn	06 10 47.0	+1.9
VAY				*e*Sg	Sg	06 11 10.9	-1.2
MMB	Musomiste	1.86	0	P	Pn	06 10 45.4	-0.3
KVR	Kavouri	1.89	179	*e*PN	Pn	06 10 46.2	+0.1
NAIG	Nisos Aigina	1.97	185	*e*PB	Pb	06 10 47.5	-2.1
RDO	Rodhopi	1.98	44	ǁ*i*PN	Pn	06 10 46.3	-1.0
SELA	Sela	2.03	225	*e*Pn	Pn	06 10 48.4	+0.4
FNA	Florina	2.09	301	*e*Pn	Pn	06 10 48.5	-0.3
RZN	Rozhen	2.10	21	P	Pn	06 10 49.0	+0.1
ALN	Alexandroupoli	2.12	56	*e*Pn	Pn	06 10 48.4	-0.9
ALN				*e*Sn	Sn	06 11 16.7	+0.9
KKB	Krupnik	2.19	347	P	Pn	06 10 49.9	-0.3
BIA	Bitola	2.25	306	*e*Pn	Pn	06 10 52.4	+1.5
DID	Didima	2.25	190	*e*Pn	Pn	06 10 51.1	+0.1
DID				*e*Sn	Sn	06 11 19.6	+0.8
CHOS	Chios island	2.25	126	*e*Pn	Pn	06 10 51.5	+0.5
CHOS				*e*Sn	Sn	06 11 19.2	+0.3
STIP	Stip	2.29	330	*e*Pn	Pn	06 10 54.1	+2.6
KDZ	Kurdzhali	2.31	33	P	Pn	06 10 50.6	-1.3
OHR	Ohrid	2.63	303	*e*Pn	Pn	06 10 56.7	+0.5
OHR	Ohrid	2.63	303	*e*Pn	Pn	06 10 56.6	+0.4
VTS	Vitosha	2.89	352	ǁ*i*P	Pn	06 11 00.6	+0.8
ITM	Ithomi	2.91	210	*e*PN	Pn	06 11 00.8	+0.8
APE	Apeiranthos	3.01	151	*e*Pn	Pn	06 11 01.8	+0.4
APE	Apeiranthos	3.01	151	*e*PN	Pn	06 11 01.9	+0.5
APE	Apeiranthos	3.01	151	S	Sn	06 11 33.5	-4.0
APE	Apeiranthos	3.01	151	*e*Pn	Pn	06 11 01.8	+0.4
KEK	Kerkira	3.03	271	*e*PN	Pn	06 11 01.0	-0.7
VLI	Veliai	3.06	192	*e*PN	Pn	06 11 02.4	+0.2
PVL	Pavlikeni	3.69	19	P	Pn	06 11 09.0	-1.8
VOIR		5.79	9	ǁ*i*P	Pn	06 11 40.4	+0.8
TIRR	Tirgusor	5.88	35	ǁ*i*P	Pn	06 11 43.9	+3.1
MLR	Muntele Rosu	5.99	15	ǁ*i*P	Pn	06 11 45.3	+2.9
PLOR	Plostina	6.49	18	ǁ*i*P	Pn	06 11 51.8	+2.6
VRI	Vrincioaia	6.52	19	ǁ*i*P	Pn	06 11 51.4	+1.7

IDC 03 06:11:09.9±1.5,078N×12234E,h0km,mb3.7/3,mb1 3.8/4, mb1mx3.6/17,mbtmp3.7/4,ML3.3/1,Error ellipse: s-maj=136.0km s-min=22.0km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.04	170	P	Pn	06 15 34.7	+0.4
	0.1nm,0.3s,baz=0.0,slow=11,SNR=3.7						
WRA	Warramunga Arr	23.71	151	P	P	06 16 23.4	-0.5
	1.4nm,0.5s,baz=325,slow=11,SNR=14						
ASAR	Alice Springs	26.77	156	P	P	06 16 51.5	-0.1
	0.4nm,0.7s,baz=343,slow=12,SNR=5.0						
MKAR	Makanchi Array	57.61	328	P	P	06 21 01.8	0.0
	0.7nm,0.3s,baz=129,slow=8.4,SNR=18						

*IDC **03** 06:30:51.3±1.6, 1462S×17754W, h0km, mb4.1/5, mb1 4.4/5, mb1mx4.1/14, mbtmp4.1/5, MS4.1/19, Ms1 4.1/19, ms1mx4.0/22, Error ellipse: s-maj=154.8km s-min=21.8km az=150.0*
*ISCJB **03** 06:30:54.5±0.7, 150S±02×1774W±01, h33km, mb4.3/8, MS4.1/17, Error ellipse: s-maj=31.9km s-min=13.5km az=159.2*
*NEIC **03** 06:30:59.5±6.8, 1491S×17742W, h63km±60km, mb4.5/4, Error ellipse: s-maj=57.4km s-min=14.8km az=149.0*
*GCMT **03** 06:30:59.5±0.3, 1479S×177.12W, h23km±1km, MW5.0/66, Moment Tensor Solution. s19,c24; s66,c87; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr0.28±.14; Mθθ2.29±.15; Mφφ-2.56±.13; Mrθ0.51±.20; Mrφ2.17±.10; Mθφ0.11±.17; Best double couple: M0 3.30100×10^16 NP1:φ=24.00000°, δ=82.00000°, λ=174.00000°. NP2: φ=115.00000°, δ=84.00000°, λ=8.00000°. Principal axes: T 3.2110, Plg10.0000°, Azm339.0000°; N 0.1850, Plg80.0000°, Azm152.0000°; P -3.3910, Plg1.0000°, Azm249.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 06:30:56.2±0.7,151S±02×1773W±01,h35km,n46, σ0°52/12,mb4.3/8,MS4.1/17,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	14.12	182	LR	LR	06 38 43.1	
	comp=Z,653nm,19.7s,baz=18,slow=32						
RAR	Rarotonga	17.74	113	LR	LR	06 40 05.0	
	comp=Z,394nm,19.4s,baz=260,slow=31						
HNR	Honiara	22.91	282	LR	LR	06 43 18.8	
	comp=Z,354nm,21.0s,MS3.8,baz=169,slow=33						
URZ	Urewera	23.62	191	LR	LR	06 43 45.0	
	comp=Z,452nm,20.4s,MS3.9,baz=269,slow=32						
PPT	Papeete	26.72	99	*e*S	S	06 41 05.6	-0.4
	67nm,26.2s						
PPT				*e*LQ		06 41 53.5	
	1μm,26.8s						
PPT				*e*LR	LR	06 43 12.0	
	621nm,26.2s						
PPT	Papeete	26.72	99	LR	LR	06 44 00.6	
	comp=Z,280nm,21.4s,MS3.8,baz=269,slow=29						
TBI	Tubuai	27.52	112	*e*LQ		06 42 20.5	
	1μm,29.5s						
TBI				*e*LR	LR	06 43 43.5	
	332nm,25.5s,baz=283						
RPZ	Rata Peaks	30.23	197	LR	LR	06 46 42.3	
	comp=Z,179nm,18.6s,MS3.7,baz=13,slow=31						
CTA	Charters Tower	35.05	256	LR	LR	06 49 19.3	
	comp=Z,310nm,21.3s,MS4.0,baz=68,slow=32						
TAOE	Nuku Hiva Isla	36.84	85	*e*LR	LR	06 47 43.2	
	24μm,27.8s						
RKT	Rikitea	40.68	108	*e*LR	LR	06 49 53.2	
	483nm,28.5s						
STKA	Stephens Creek	40.96	239	*e*P	P	06 38 36.7	+1.0
	7.3nm,0.9s,mb4.3						
STKA	Stephens Creek	40.96	239	P	P	06 38 36.1	+0.4
	7.9nm,0.9s,mb4.4,baz=67,slow=9.1,SNR=5.6						
STKA				LR	LR	06 53 29.5	
	comp=Z,492nm,21.2s,MS4.3,baz=37,slow=33						
WRA	Warramunga Arr	46.25	257	P	P	06 39 18.3	-0.2
	2.2nm,1.0s,mb4.0,baz=89,slow=7.8,SNR=10						
WRA				LR	LR	06 56 37.9	
	comp=Z,238nm,20.9s,MS4.1,baz=90,slow=34						
ASAR	Alice Springs	46.63	252	P	P	06 39 20.9	-0.6
	3.1nm,0.8s,mb4.3,baz=84,slow=8.3,SNR=31						
GUMO	Guam	47.03	305	LR	LR	06 56 15.4	
	comp=Z,106nm,19.2s,MS3.8,baz=92,slow=33						
MJAR	Matsushiro Arr	66.30	322	LR	LR	07 02 58.9	
	comp=Z,133nm,21.8s,MS4.1,baz=165,slow=29						
JOW	Kunigami	67.28	308	LR	LR	07 04 59.5	
	comp=Z,118nm,21.3s,MS4.1,baz=122,slow=31						
ASAJ	Asahikawa	69.33	330	LR	LR	07 05 58.2	
	comp=Z,214nm,20.9s,MS4.4,baz=0.9,slow=31						
KSRS	Korea Array	73.32	317	LR	LR	07 12 09.1	
	comp=Z,64nm,19.2s,MS3.9,baz=302,slow=34						
NVAR	Mina Array Bea	76.66	44	P	P	06 42 43.5	-0.1
	1.5nm,0.8s,mb4.0,baz=224,slow=7.0,SNR=7.8						
TTA	Tatalina	79.51	10	*e*P	P	06 42 58.9	0.0
	26nm,1.6s,mb4.9						
MCMT	McKenzie Canyo	83.40	40	*e*P	P	06 43 20.4	+0.5
TXAR	Lajitas Array	83.59	57	P	P	06 43 22.1	+0.8
	0.9nm,0.9s,mb3.9,baz=235,slow=5.9,SNR=5.8						
TXAR				LR	LR	07 12 58.6	
	comp=Z,220nm,18.9s,MS4.6,baz=345,slow=30						
DLMT	Dillon	83.82	40	*e*P	P	06 43 21.8	-0.2
	7.1nm,1.2s,mb4.7						
CHMT	Chamberlain Mo	84.17	38	*e*P	P	06 43 22.9	-0.9
IMW	Indian Meadow	84.18	42	*e*P	P	06 43 24.1	+0.2
	5.7nm,1.1s,mb4.6						
MAW	Mawson	86.87	199	LR	LR	07 20 46.2	
	comp=Z,182nm,18.2s,MS4.5,baz=250,slow=34						
YKA	Yellowknife Ar	91.33	24	LR	LR	07 18 20.8	
	comp=Z,69nm,18.7s,MS4.1,baz=250,slow=31						
PLCA	Paso Flores	92.50	133	LR	LR	07 15 15.6	
	comp=Z,93nm,21.6s,MS4.2,baz=76,slow=29						
ULM	Lac du Bonnet	96.07	40	LR	LR	07 21 19.1	
	comp=Z,143nm,20.4s,MS4.4,baz=5.6,slow=32						
ARCES	ARCESS Array B	123.72	351	PKP	PKPdf	06 49 49.0	-0.6
	1.2nm,0.6s,baz=336,slow=2.7,SNR=8.0						
GRA1	Grafenberg Arr	144.78	350	*e*PKP	PKPdf	06 50 28.1	-1.3
GRF	Grafenberg Arr	144.78	350	*e*PKP	PKPdf	06 50 28.1	-1.3
KHC	Kasperske Hory	144.88	348	*e*PKP	PKPdf	06 50 29.2	-0.4
KHC				*ex*	x	06 50 32.8	
GERES	GERESS Array B	145.13	347	PKP	PKPdf	06 50 29.5	-0.5
	0.6nm,0.2s,baz=33,slow=3.2,SNR=6.0						
CDF	Champ du Feu	146.54	354	*e*PKP1	PKPbc	06 50 33.5	-0.4
	9.6nm,0.7s						
LOR	Lormes	147.88	359	*e*PKP1	PKPbc	06 50 37.2	-0.5
SSF	Saint Saulge	148.10	359	*e*PKP1	PKPbc	06 50 37.9	-0.3
AVF	Avril sur Loir	148.37	359	*e*PKP1	PKPbc	06 50 38.2	-0.8
CABF	La Chapelle	148.43	356	*e*PKP1	PKPbc	06 50 39.3	+0.2
	32nm,1.1s						
SMF	Signal de Mont	148.51	358	*e*PKP1	PKPbc	06 50 38.7	-0.6
BGF	Bois d'Agland	148.61	360	*e*PKP1	PKPbc	06 50 39.1	-0.5
LPL	La Plagne	149.46	354	*e*PKP1	PKPbc	06 50 42.3	+0.5
LPG	La Plagne	149.48	354	*e*PKP1	PKPbc	06 50 42.5	+0.7
	7.9nm,0.6s						
CAF	Calviac	150.24	1	*e*PKP1	PKPbc	06 50 43.3	-0.4

IDC 03 06:33:48.2±1.3,2197N×14323E,h0km,mb3.4/4, mb1 3.7/4,mb1mx3.5/19,mbtmp3.4/4,Error ellipse: s-maj=54.0km s-min=27.1km az=94.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.55	192	P	P	06 41 46.7	+0.9
	0.5nm,0.8s,baz=6.7,slow=9.0,SNR=3.0						
ASAR	Alice Springs	46.26	192	P	P	06 42 14.7	-0.8
	0.4nm,0.7s,baz=14,slow=10,SNR=4.7						
MKAR	Makanchi Array	54.54	312	P	P	06 43 18.1	0.0
	0.2nm,0.5s,baz=93,slow=8.7,SNR=3.3						
YKA	Yellowknife Ar	76.20	28	P	P	06 45 38.1	0.0
	0.4nm,0.6s,baz=292,slow=5.7,SNR=7.8						

*ISCJB **03** 06:38:18.9±0.5, 3770N±002×2298E±003, h12km±8km, Error ellipse: s-maj=4.2km s-min=3.8km az=12.5*
*CSEM **03** 06:38:19.6±0.1, 3770N×2299E, h12km, ML3.0, Error ellipse: s-maj=1.6km s-min=1.6km az=100.0*
*ATH **03** 06:38:19.0, 3771N×2297E, h4km, MD3.0/6*
*NEIC **03** 06:38:19.0, 3771N×2297E, h4km, MD3.0(ATH), After ATH.*
*THE **03** 06:38:19.9, 3770N×2298E, h2km, ML3.0*

ISC 03 06:38:19.3±0.5,3769N±002×2299E±003,h17km±7km,n16, σ0°64/29,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	Didima	0.27	134	*e*Pg	Pg	06 38 25.0	-0.2
DID				*e*Sg	Sg	06 38 29.8	+0.6
LTK	Loutraki	0.33	356	*e*Pg	Pg	06 38 26.1	-0.1
LTK				*e*Sg	Sg	06 38 30.1	-0.9
NAIG	Nisos Aigina	0.40	80	*e*Pg	Pg	06 38 27.0	-0.4
NAIG				*e*Sg	Sg	06 38 32.8	-0.1
NAIG	Nisos Aigina	0.40	80	*e*PG	Pg	06 38 27.0	-0.4
NAIG				*e*SG	Sg	06 38 32.8	-0.1
VLX	Vlachokerasia	0.59	237	*e*Pg	Pg	06 38 30.9	+0.1
VLX				*e*Sg	Sg	06 38 39.0	+0.3
VLX	Vlachokerasia	0.59	237	*e*Pg	Pg	06 38 30.9	0.0
VLX				*e*Sg	Sg	06 38 39.0	+0.3
KVR	Kavouri	0.63	77	*e*PG	Pg	06 38 31.5	-0.2
KVR				*e*SG	Sg	06 38 40.5	+0.4
LKR	Lokris	0.95	0	*e*Pg	Pg	06 38 37.7	-0.2
LKR				*e*Sg	Sg	06 38 52.2	+1.8
LKR	Lokris	0.95	0	*e*Pb	Pb	06 38 36.6	-0.8
LKR	Lokris	0.95	0	*e*Pg	Pg	06 38 37.7	-0.2
LKR				*e*Sg	Sg	06 38 52.2	+1.8
VLI	Veliai	0.97	183	*e*PB	Pb	06 38 37.6	-0.1
VLI				*e*SG	Sg	06 38 51.5	+0.5
ITM	Ithomi	0.99	239	*e*PG	Pg	06 38 38.0	-0.5
ITM				*e*SG	Sg	06 38 50.8	-0.8
SELA	Sela	1.05	304	*e*Pg	Pg	06 38 39.1	-0.4
SELA				*e*Sg	Sg	06 38 54.3	+1.0
RLS	Riolos of Patr	1.26	287	*e*PN	Pn	06 38 42.9	+0.8
PYL	PYLOS	1.28	232	*e*Pg	Pg	06 38 44.1	+0.2
AGG	Agios Georgios	1.43	339	*e*Pg	Pg	06 38 45.7	-1.1
AGG				*e*Sg	Sg	06 39 05.7	+0.3

IDC 03 06:42:18.3±3.0,2225N×14232E,h0km,mb3.3/3, mb1 3.6/3,mb1mx3.4/17,mbtmp3.3/3,Error ellipse: s-maj=387.3km s-min=30.3km az=108.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.66	191	P	P	06 50 17.0	+0.3
	0.5nm,0.9s,baz=9.7,slow=9.0,SNR=2.8						
ASAR	Alice Springs	46.37	191	P	P	06 50 45.9	-0.5
	0.2nm,0.5s,baz=17,slow=13,SNR=4.1						
YKA	Yellowknife Ar	76.34	28	P	P	06 54 09.0	+0.1
	0.2nm,0.6s,baz=292,slow=6.0,SNR=4.9						

*CSEM **03** 06:42:59.1±0.1, 3792N×3098E, h2km, MD3.0, Error ellipse: s-maj=1.8km s-min=1.4km az=132.0*
*ISCJB **03** 06:43:00.6±0.5, 3796N±003×3095E±003, h2km, Error ellipse: s-maj=4.5km s-min=3.8km az=169.9*
*ISK **03** 06:43:00.2, 3792N×3095E, h8km, MD3.0*
*DDA **03** 06:43:02.0, 3794N×3091E, h17km±6km, Md3.3*

ISC 03 06:43:01.2±0.7,3797N±003×3095E±004,h5km±6km,n17, σ1°13/28,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	Isparta	0.37	250	PG	Pg	06 43 07.4	-0.9
ISP				*e*SG	Sg	06 43 13.4	+0.3
TKTP	Tekketepe	0.50	278	*i* P	Pg	06 43 09.4	-1.4
TKTP				*i* S	Sg	06 43 18.0	+0.7
BCK	Bucak	0.58	209	*e*PG	Pg	06 43 11.2	-1.2
SHUT	Suhut-Afyon	0.66	332	*e*PG	Pg	06 43 14.1	+0.2
SHUT				*e*SG	Sg	06 43 24.8	+2.3
KDHN	Kadinhani	1.07	59	*i* P	Pg	06 43 20.7	-1.1
KDHN				*i* S	Sg	06 43 36.8	+1.1
KONT	Konya--Tatoy	1.12	91	*e*PN	Pn	06 43 22.0	-1.5
KIZT	Kizilcal	1.17	39	*e*PN	Pn	06 43 23.8	-0.3
KHL	Karahalli	1.18	288	*e*PN	Pn	06 43 23.0	-1.2
GOLH	Golhisar	1.32	237	*i* P	Pn	06 43 24.9	-1.3
GOLH				*i* S	Sg	06 43 45.8	+2.1
ESKT	Eskisehir	1.55	357	*i* P	Pn	06 43 28.8	-0.6
ESKT				*i* S	Sn	06 43 50.6	+0.7
ESKT	Eskisehir	1.55	357	*e*Pn	Pn	06 43 28.5	-0.9
SEYT	Eskypehyr	1.55	357	*i* P	Pn	06 43 28.8	-0.6
SEYT				*i* S	Sn	06 43 50.6	+0.8
GDZ	Gediz	1.60	315	*i* P	Pn	06 43 29.6	-0.5
GDZ				*i* S	Sn	06 43 51.0	-0.1
GDZ	Gediz	1.60	315	*i* P	Pn	06 43 29.6	-0.5
GDZ				*i* S	Sn	06 43 51.0	-0.1
AKAS	Kas	2.04	212	*i* P	Pn	06 43 37.3	+1.2
AKAS				*i* S	Sn	06 44 06.9	+5.0
ERMK	Ermenek	2.05	130	*i* P	Pn	06 43 37.2	+0.9
ERMK				*i* S	Sn	06 44 05.6	+3.3
IKL	Isikli	2.79	127	*e*PN	Pn	06 43 46.4	-0.1

IDC 03 07:20:29.3±22.0,2278S×17636W,h310km±158km, mb3.4/6,mb1 3.5/7,mb1mx3.3/18,mbtmp3.5/7,MS3.4/2, Ms1 3.4/2,ms1mx2.6/20,Error ellipse: s-maj=236.4km s-min=42.9km az=57.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	16.42	198	P	P	07 24 00.9	-0.4
	3.0nm,0.3s,baz=134,slow=0.7,SNR=23						
RPZ	Rata Peaks	23.33	204	P	P	07 25 10.8	+0.3
	5.6nm,0.8s,baz=354,slow=9.2,SNR=4.5						
PPT	Papeete	25.65	83	LR	LR	07 33 51.7	
	comp=Z,79nm,21.8s,baz=271,slow=31						
CTA	Charters Tower	34.84	267	P	P	07 26 52.7	+0.7
	4.9nm,0.5s,baz=96,slow=12,SNR=12						
CTA				LR	LR	07 39 24.8	
	comp=Z,71nm,18.3s,baz=232,slow=33						
STKA	Stephens Creek	38.24	247	P	P	07 27 19.3	-1.1
	1.5nm,0.5s,baz=101,slow=16.4,SNR=2.4						
ASAR	Alice Springs	45.52	259	P	P	07 28 18.8	-0.3
	0.5nm,0.6s,baz=102,slow=8.2,SNR=8.8						
WRA	Warramunga Arr	45.83	264	P	P	07 28 21.6	+0.1
	0.7nm,0.3s,baz=94,slow=8.4,SNR=35						
FITZ	Fitzroy Crossi	54.26	264	P	P	07 29 24.1	-0.2
	0.8nm,0.6s,baz=117,slow=4.8,SNR=5.1						

IDC 03 07:24:26.8±3.3,729S×10759E,h0km,mb3.7/4,mb1 3.9/4, mb1mx3.6/18,mbtmp3.7/4,Error ellipse: s-maj=215.0km s-min=26.0km az=50.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.82	119	P	P	07 30 27.2	+0.2
	0.3nm,0.5s,baz=292,slow=10,SNR=6.9						
ASAR	Alice Springs	30.05	126	P	P	07 30 37.4	-0.4
	0.3nm,0.7s,baz=299,slow=9.3,SNR=3.8						
STKA	Stephens Creek	40.02	132	P	P	07 32 04.1	+0.5
	6.9nm,0.7s,baz=309,slow=5.2,SNR=15						
MKAR	Makanchi Array	58.36	340	P	P	07 34 24.4	+0.7
	0.2nm,0.2s,baz=154,slow=8.8,SNR=3.6						
YKA	Yellowknife Ar	116.93	20	PKP	PKPdf	07 43 12.2	-0.9
	0.1nm,0.5s,baz=299,slow=1.1,SNR=5.1						
TXAR	Lajitas Array	143.32	49	PKP	PKPdf	07 44 02.0	-1.9
	0.3nm,0.5s,baz=248,slow=2.1,SNR=7.2						

*IDC **03** 07:36:34.4±0.6, 5324N×160.13E, h0km, mb4.0/16, mb1 4.2/16, mb1mx4.1/24, mbtmp4.0/16, Error ellipse: s-maj=20.8km s-min=15.1km az=144.0*
*ISCJB **03** 07:36:41.3±0.5, 5314N±004×16037E±008, h74km±4km, mb3.9/21, Error ellipse: s-maj=9.4km s-min=4.4km az=36.9*
*MOS **03** 07:36:41.3±3.0, 5319N×15989E, h38km, mb4.5/4, Error ellipse: s-maj=13.1km s-min=6.8km az=79.0*
*NEIC **03** 07:36:42.2±1.4, 5325N×16023E, h61km±14km, mb4.1/3, Error ellipse: s-maj=17.8km s-min=10.8km az=151.0*
*KRSC **03** 07:36:42.0±0.2, 5321N×16040E, h41km±31km, ML4.4*

ISC 03 07:36:42.4±0.5,5313N±004×16034E±008,h67km±4km, n57,σ1°28/73,mb3.9/21,2C,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.19	260	*i* P	Pn	07 36 50.0	-2.5
SPN				*e*S	Sn	07 36 55.4	-4.5
NLC	Nalytchevo	0.60	274	*i* P	Pn	07 36 55.0	-0.9
NLC				*i* S	Sn	07 37 03.5	-2.3
AVH	Avacha	0.97	279	*i* P	Pn	07 37 00.9	+0.6
AVH				*i* S	Sn	07 37 14.5	+0.9
PET	Petropavlovsk	1.02	265	ǁ*i*PN	Pn	07 37 00.9	0.0
PET				pmax	pmax		
	comp=Z,200nm,0.4s						
PET				pmax	pmax		
	comp=Z,294nm,0.4s						
PET	Petropavlovsk	1.02	265	*e*Pg	Pn	07 37 00.7	-0.2
PET				*e*Sg	Sn	07 37 12.2	-2.6
PET	Petropavlovsk	1.02	265	*i* P	Pn	07 37 01.0	+0.1
PET				*i* S	Sn	07 37 15.1	+0.4
KII	Karymskiy	1.05	330	*i* P	Pn	07 37 00.7	-0.6
RUS	Russkaya	1.31	238	*i* P	Pn	07 37 04.6	-0.1
RUS				*i* S	Sn	07 37 21.1	-0.3
GRL	Gorelyy	1.49	248	*i* P	Pn	07 37 08.2	+1.2
GRL				*i* S	Sn	07 37 28.0	+2.4
GNL	Ganaly	1.54	292	*i* P	Pn	07 37 08.9	+1.2
GNL				*i* S	Sn	07 37 29.2	+2.4
MKZ	Mys Kozlova	1.65	29	*i* P	Pn	07 37 06.8	-2.4
MKZ				*i* S	Sn	07 37 24.9	-4.5
TUMR	Tumrok	2.16	357	*i* P	Pn	07 37 16.7	+0.7
TUMR				*i* S	Sn	07 37 41.6	-0.1
MIPR	Malaya Ipel'ka	2.34	250	*e*P	Pn	07 37 20.9	+2.4
MIPR				*e*S	Sn	07 37 49.2	+3.1
KMNR	Kamenistaya	2.63	359	*e*P	Pn	07 37 23.7	+1.3
KMNR				*i* S	Sn	07 37 53.4	+0.2
KOZ	Kozyrevsk	2.95	355	*i* P	Pn	07 37 27.9	+1.2
KOZR	Kozyr	2.95	355	PN	Pn	07 37 27.9	+1.1
KLY	Klyuchi	3.19	3	P	Pn	07 37 31.0	+0.9
SRDR	Sredinnyy	3.21	354	*i* P	Pn	07 37 31.0	+0.6
KBTR	Krutoberegovo	3.40	24	*e*P	Pn	07 37 31.7	-1.2
KBTR				*i* S	Sn	07 38 08.7	-3.4
SRKR	Sorokina	3.56	7	*e*P	Pn	07 37 35.3	+0.2
SRKR				*i* S	Sn	07 38 15.2	-0.8
SKR	Severo-Kuril's	3.58	229	*e*PN	Pn	07 37 36.2	+0.8
SKR				*e*S	Sn	07 38 13.5	-3.0
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,60nm,0.5s						
SKR				smax			
	comp=Z,60nm,0.5s						
SKR				smax			
	comp=E,130nm,0.4s						
YSS	Yuzh-Sakhalins	12.87	248	*e*PN	Pn	07 39 40.6	-1.5
BILL	Bilibino	15.23	9	*e*P	Pn	07 40 15.9	+2.8
BILL				pmax	pmax		
	comp=Z,10.0nm,2.4s						
ERM	Erimo	16.02	233	*e*P	Pn	07 40 22.0	-1.3
YAK	Yakutsk	18.52	311	*e*P	Pn	07 40 53.1	-0.8
VLA	Vladivostok	21.33	253	*e*P	P	07 41 22.6	-1.0
MJAR	Matsushiro Arr	22.68	232	P	P	07 41 36.9	-1.2
	comp=Z,1.8nm,0.6s,mb3.6,baz=6.8,slow=14,SNR=4.9						
TIXI	Tiksi	23.11	335	*e*P	P	07 41 40.6	-1.6
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.3						
TTA	Tatalina	24.62	49	P	P	07 41 53.5	-2.5
TTA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.2						
TTA	Tatalina	24.62	49	P	P	07 41 53.5	-2.5
	comp=Z,10nm,0.9s,mb4.2						
KDAK	Kodiak Island	26.66	61	P	P	07 42 13.3	-1.2
KDAK	Kodiak Island	26.66	61	P	P	07 42 13.3	-1.2
	comp=Z,2.9nm,0.8s,mb3.9,baz=294,slow=10.0,SNR=4.4						
COLA	College	28.27	45	*e*P	P	07 42 30.3	+1.5
EGAK	Eagle	31.13	45	*e*P	P	07 42 53.9	-0.3
	comp=Z,1.5nm,0.6s,mb3.9						
INK	Inuvik	33.75	38	P	P	07 43 17.5	+0.5
	comp=Z,0.7nm,0.5s,mb3.8,baz=283,slow=8.2,SN

*IDC **03** 07:46:03.0±3.7, 335S×13953E, h128km±34km, mb4.0/5, mb1 4.1/9, mb1mx3.9/15, mbtmp4.0/9, MS3.2/4, Ms1 3.2/4, ms1mx2.9/18, Error ellipse: s-maj=23.1km s-min=12.0km az=111.0*

ISC 03 07:46:00.9±2.1, 35S±01×1395E±01, h94km±18km, n20, σ0°96/23, mb4.0/6, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.51**	**217**	*e*P	**Pn**	**07 48 42.5**	**+0.3**
	220nm,0.4s						
KAKA				*e*S	**Sn**	**07 50 47.6**	**-1.2**
BATI	**Kupang**	**17.06**	**246**	P	**Pn**	**07 49 55.9**	**+2.2**
	9.8nm,0.3s,baz=12,slow=2.5,SNR=6.1						
WRAB	**Tennant Creek**	**17.09**	**197**	*e*P	**Pn**	**07 49 53.8**	**-0.1**
	46nm,0.8s						
WRAB				*e*S	**Sn**	**07 52 53.5**	**-10**
WB2	**Warramunga Arr**	**17.10**	**197**	*e*P	**Pn**	**07 49 53.7**	**-0.3**
WB2				*e*S	**Sn**	**07 52 55.7**	**-8.4**
WRA	**Warramunga Arr**	**17.10**	**197**	P	**Pn**	**07 49 54.1**	**0.0**
	7.2nm,0.3s,baz=17,slow=13,SNR=157						
WRA				S	**S**	**07 52 60.0**	**-7.7**
	1.0nm,0.3s,baz=19,slow=22,SNR=4.6						
WRA				LR	LR	07 57 16.8	
	comp=Z,66nm,18.4s,baz=45,slow=39						
CTA	**Charters Tower**	**17.76**	**159**	P	**Pn**	**07 50 01.9**	**-0.2**
	0.3nm,0.3s,baz=311,slow=13,SNR=3.8						
CTA				LR	LR	07 57 35.1	
	comp=Z,72nm,20.0s,baz=253,slow=39						
GUMO	**Guam**	**17.79**	**17**	LR	LR	07 56 45.4	
	comp=Z,21nm,18.4s,baz=210,slow=36						
FITZ	**Fitzroy Crossi**	**19.87**	**222**	*e*P	**Pn**	**07 50 26.4**	**-0.7**
	29nm,0.6s						
FITZ				*e*S	**S**	**07 54 03.5**	**+0.1**
FITZ	**Fitzroy Crossi**	**19.87**	**222**	P	**Pn**	**07 50 26.5**	**-0.6**
	1.5nm,0.3s,baz=49,slow=11,SNR=47						
FITZ				S	**S**	**07 54 02.9**	**-0.5**
	1.7nm,0.3s,baz=200,slow=14,SNR=8.0						
ASAR	**Alice Springs**	**20.77**	**195**	P	**P**	**07 50 35.2**	**+1.0**
	38nm,0.7s,baz=28,slow=10,SNR=344						
ASAR				S	**S**	**07 54 23.6**	**+2.6**
	4.0nm,0.7s,baz=14,slow=28,SNR=4.7						
EIDS	**Eidsvold**	**24.44**	**154**	*e*P	**P**	**07 51 11.2**	**+3.0**
	8.6nm,0.6s,mb4.3						
MBWA	**Marble Bar**	**26.03**	**226**	*e*P	**P**	**07 51 29.4**	**+4.0**
	7.4nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**28.30**	**176**	P	**P**	**07 51 45.5**	**0.0**
	2.1nm,0.7s,mb3.8,baz=335,slow=14,SNR=4.1						
STKA				LR	LR	08 04 04.1	
	comp=Z,149nm,18.2s,baz=26,slow=38						
MKAR	**Makanchi Array**	**70.88**	**322**	P	**P**	**07 57 06.3**	**-1.4**
	0.8nm,0.4s,mb3.9,baz=100,slow=8.5,SNR=12						
VNDA	**Vanda**	**74.93**	**175**	P	**P**	**07 57 30.8**	**-0.3**
	1.8nm,0.8s,mb3.9,baz=323,slow=7.7,SNR=13						
KDAK	**Kodiak Island**	**81.39**	**30**	P	**P**	**07 58 03.2**	**-3.9**
KDAK	**Kodiak Island**	**81.39**	**30**	P	**P**	**07 58 03.2**	**-3.8**
	3.2nm,0.8s,mb4.2,baz=124,slow=23,SNR=4.3						
YKA	**Yellowknife Ar**	**100.41**	**27**	P	Pdif	07 59 33.1	-4.1
	0.1nm,0.7s,baz=279,slow=5.1,SNR=3.2						
LPAZ	**La Paz**	**146.35**	**127**	PKPbc	PKPbc	08 05 30.7	-1.1
LPAZ	**La Paz**	**146.35**	**127**	PKPbc	PKPbc	08 05 30.7	-1.1
	0.6nm,0.5s,baz=293,slow=2.9,SNR=6.9						

*ISCJB **03** 07:49:59.1±1.6, 697N±0.1×1446W±0.2, h10km, Error ellipse: s-maj=16.6km s-min=8.9km az=166.4*
*NEIC **03** 07:49:59.8, 6970N×14468W, h10km, ML2.9(AEIC), After AEIC.*
*PGC **03** 07:50:04.1±2.0, 6958N×14454W, h10km, ML3.1/1, 162km east of Prudhoe Bay, Ak Alaska*

ISC 03 07:50:01.5±1.5, 696N±01×1447W±02, h10km, n12, σ0°82/17, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.21**	**179**	P	**Pn**	**07 50 38.0**	**-0.2**
BM3				S	**Sn**	**07 51 06.5**	**+0.9**
COLD	**Coldfoot**	**3.16**	**223**	P	**Pn**	**07 50 50.6**	**-0.5**
INK	**Inuvik**	**4.23**	**103**	*e*Pn	**Pn**	**07 51 07.5**	**+1.6**
INK				*e*Sn	**Sn**	**07 51 54.6**	**-0.6**
INK	**Inuvik**	**4.23**	**103**	Pn	**Pn**	**07 51 07.1**	**+1.2**
INK				Sn	**Sn**	**07 51 53.7**	**-1.6**
IL1	**Eielson Array**	**4.95**	**191**	P	**Pn**	**07 51 16.3**	**+0.6**
IM3	**Indian Mountai**	**5.02**	**228**	P	**Pn**	**07 51 15.7**	**-0.9**
EGAK	**Eagle**	**5.05**	**163**	P	**Pn**	**07 51 16.9**	**-0.3**
DAWY	**Dawson**	**5.95**	**157**	*e*Pn	**Pn**	**07 51 29.5**	**0.0**
DAWY				*e*Sn	**Sn**	**07 52 37.0**	**-0.6**
DAWY	**Dawson**	**5.95**	**157**	Pn	**Pn**	**07 51 30.3**	**+0.7**
DAWY				Sn	**Sn**	**07 52 35.0**	**-2.7**
BCA3	**Beaver Creek A**	**6.69**	**169**	P	**Pn**	**07 51 40.0**	**+0.4**
HYT	**Haines Junctio**	**9.32**	**158**	Pn	**Pn**	**07 52 15.8**	**+0.1**
WHY	**Whitehorse**	**9.88**	**151**	Pn	**Pn**	**07 52 23.7**	**+0.4**

IDC 03 08:01:45.4±45.0, 392S×10509E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=807.2km s-min=232.5km az=144.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.65**	**122**	P	P	08 08 19.8	+0.4
	0.1nm,0.3s,baz=309,slow=9.0,SNR=8.7						
ASAR	**Alice Springs**	**34.04**	**128**	P	P	08 08 31.0	-0.5
	0.8nm,0.4s,baz=298,slow=7.7,SNR=18						
STKA	**Stephens Creek**	**44.11**	**133**	P	P	08 09 56.0	+0.2
	1.9nm,0.4s,baz=313,slow=10,SNR=5.1						

*ISCJB **03** 08:07:57.8±1.0, 5352N×005×876E±0.1, h10km, Error ellipse: s-maj=9.8km s-min=6.7km az=152.1*
*MOS **03** 08:07:58.5±1.6, 5348N×8773E, h12km, mb3.9/1, Error ellipse: s-maj=44.1km s-min=31.5km az=35.9*
*IDC **03** 08:07:58.8±2.4, 5350N×8766E, h0km, mb1 3.5/3, mb1mx3.3/23, mbtmp3.5/3, ML3.5/3, Error ellipse: s-maj=22.5km s-min=12.4km az=52.0*
*NNC **03** 08:08:01.9±4.1, 5325N×8724E, h0km, mb3.6, mpv3.4, Error ellipse: s-maj=34.1km s-min=17.9km az=65.0*

ISC 03 08:08:00.1±1.0, 5363N±005×8747E±010, h10km, n14, σ1°19/22, 10C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.60**	**283**	Pg	**Pg**	**08 08 29.3**	**-1.5**
	16nm,0.3s,baz=105,slow=16,SNR=140						
ZALV				Lg		08 08 54.6	
	23nm,0.3s,baz=102,slow=25,SNR=21						
ZAL	**Zalesovo**	**1.61**	**282**	PN	**Pn**	**08 08 29.3**	**+0.8**
NVS	**Novosibirsk**	**2.77**	**298**	⇓*i*PN	**Pb**	**08 08 48.7**	**-0.8**
NVS				*i*	**Sb**	**08 09 24.1**	**+0.7**
KURK	**Kurchatov**	**6.17**	**245**	⇑Pn	**Pn**	**08 09 31.9**	**+0.7**
KURK				⇑Lg		08 11 13.6	
	21nm,0.8s						
KURBB	**Kurchatov Arra**	**6.27**	**245**	⇓Pn	**Pn**	**08 09 33.4**	**+0.9**
	1.3nm,0.5s,baz=60,slow=13						
KURBB				⇑Sn	**Sn**	**08 10 45.2**	**+1.0**
	1.6nm,0.5s						
KURBB				⇑Lg		08 11 16.9	
	8.4nm,0.7s,baz=64,slow=32						
MK31	**Makanchi Array**	**7.60**	**208**	⇑Pn	**Pn**	**08 09 51.0**	**+0.2**
	1.5nm,0.5s,baz=29,slow=12,SNR=15						
MK31				⇑Sn	**Sn**	**08 11 16.9**	**0.0**
	2.5nm,0.6s,baz=28,slow=26,SNR=7.1						
MK31				⇑Lg		08 11 53.9	
	4.5nm,0.6s,baz=24,slow=31,SNR=6.3						
MKAR	**Makanchi Array**	**7.60**	**208**	P	**Pn**	**08 09 51.1**	**+0.3**
MKAR						08 11 15.8	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=N,1.0nm,0.3s						
MKAR	**Makanchi Array**	**7.60**	**208**	Pn	**Pn**	**08 09 51.1**	**+0.3**
	comp=N,0.9nm,0.3s,baz=27,slow=12,SNR=23						
MKAR				Sn	**Sn**	**08 11 15.8**	**-1.1**
	comp=N,0.6nm,0.3s,baz=26,slow=24,SNR=11						
MKAR				Lg		08 11 59.9	
	comp=N,0.9nm,0.3s,baz=31,slow=31,SNR=9.8						
VOSK	**Vostochnaya**	**9.95**	**271**	⇓Pn	**Pn**	**08 10 22.8**	**-0.1**
	comp=N,0.8nm,0.5s						
VOSK				⇓Sn	**Sn**	**08 12 10.8**	**-3.6**
	comp=N,5.4nm,0.6s						
BVA0	**Borovoye Array**	**10.24**	**274**	⇓Pn	**Pn**	**08 10 29.1**	**+2.3**
	comp=N,0.3nm,0.6s,baz=69,slow=14,SNR=4.1						
BVA0				⇑Sn	**Sn**	**08 12 20.2**	**-1.4**
	comp=N,0.8nm,0.8s,baz=79,slow=21,SNR=5.4						
BVAR	**Borovoye Array**	**10.24**	**274**	P	**Pn**	**08 10 27.9**	**+1.0**
BVAR						08 12 20.1	
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR	**Borovoye Array**	**10.24**	**274**	Pn	**Pn**	**08 10 27.9**	**+1.0**
	comp=N,0.4nm,0.3s,baz=66,slow=14,SNR=4.7						
BVAR				Sn	**Sn**	**08 12 20.1**	**-1.5**
	comp=N,0.7nm,0.3s,baz=70,slow=26,SNR=8.9						
ZRNK	**Zerenda**	**11.07**	**274**	⇑Pn	**Pn**	**08 10 41.5**	**+3.2**
	comp=N,0.6nm,0.5s						
ZRNK				⇑Sn	**Sn**	**08 12 38.1**	**-3.9**
	comp=N,2.0nm,0.8s						
SONM	**Songino Array**	**13.30**	**108**	Pn	**Pn**	**08 11 07.3**	**-1.4**
	comp=N,0.2nm,0.3s,baz=304,slow=16,SNR=2.7						

*ISCJB **03** 08:08:25.8±1.5, 263N±0.1×1002E±0.1, h10km, mb3.7/3, Error ellipse: s-maj=20.1km s-min=11.0km az=136.8*
*BJI **03** 08:08:26.3, 2646N×100.10E, h16km, ML3.4*
*IDC **03** 08:08:30.2±8.8, 26.16N×100.92E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.4/20, mbtmp3.6/3, Error ellipse: s-maj=368.1km s-min=31.6km az=82.0*

ISC 03 08:08:27.6±1.5, 2642N±006×1003E±01, h10km, n5, σ0°51/7, mb3.7/3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**2.59**	**119**	PG	**Pg**	**08 09 16.2**	**-1.1**
KMI				SG	**Sg**	**08 09 51.4**	**+0.5**
KMI				Smax			
	comp=N,199nm,1.1s						
KMI				Smax			
	comp=E,134nm,0.8s						
KMI				LR	LR		
	comp=N,761nm,6.2s						
KMI				LR	LR		
	comp=E,511nm,6.0s						
KMI				LR	LR		
	comp=Z,229nm,5.8s						
CD2	**Chengdu**	**5.43**	**34**	PG	**Pb**	**08 10 02.7**	**+0.1**
CD2				SG	**Sg**	**08 11 22.0**	**0.0**
CD2				Smax			
	comp=N,30nm,1.2s						
CD2				Smax			
	comp=E,84nm,1.6s						
SONM	**Songino Array**	**21.91**	**11**	P	**P**	**08 13 26.7**	**+5.8**
	comp=E,0.8nm,0.4s,mb3.5,baz=184,slow=12,SNR=4.0						
WRA	**Warramunga Arr**	**56.73**	**141**	P	**P**	**08 18 11.8**	**+0.1**
	comp=E,0.7nm,0.7s,mb3.8,baz=329,slow=7.7,SNR=9.6						
ASAR	**Alice Springs**	**59.48**	**144**	P	**P**	**08 18 31.4**	**+0.3**
	comp=E,0.5nm,0.6s,mb3.8,baz=324,slow=6.4,SNR=7.1						

*NIED **03** 08:34:00, 3730N×14160E, h47km, Mw3.8 Best double couple: M0=5.99000×10^14 NP1:φ=29.00000°, δ=76.00000°, λ=95.00000°. NP2:φ=189.00000°, δ=15.00000°, λ=70.00000°.*
*IDC **03** 08:34:45.3±1.9, 3751N×14226E, h0km, mb3.8/4, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML3.2/2, MS2.6/2, Ms1 2.6/2, ms1mx2.3/33, Error ellipse: s-maj=40.7km s-min=26.6km az=60.0*
*ISCJB **03** 08:34:51.6±1.0, 3733N±004×14171E±009, h45km±9km, mb3.8/5, Error ellipse: s-maj=12.9km s-min=5.1km az=26.9*
*NEIC **03** 08:34:53.1, 3734N×14159E, h45km, MG3.6(JMA), After JMA.*
*JMA **03** 08:34:53.0±0.1, 3734N×14159E, h45km±2km, M3.6*

ISC 03 08:34:52.9±1.0, 3732N±004×14164E±008, h38km±9km, n24, σ0°83/35, mb3.8/5, 8D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.61**	**275**	⇓P	**Pn**	**08 35 05.0**	**-0.1**
JFK				S	**Sn**	**08 35 13.0**	**-0.8**
ONAJ	**Iwakimizuishiy**	**0.71**	**253**	⇓P	**Pn**	**08 35 06.3**	**-0.1**
ONAJ				S	**Sn**	**08 35 15.2**	**-0.9**
JMM	**Marumori**	**0.87**	**309**	⇓P	**Pn**	**08 35 08.3**	**-0.4**
JMM				*e*S	**Sn**	**08 35 20.1**	**0.0**
JFT	**Otama**	**1.06**	**281**	⇓P	**Pn**	**08 35 11.9**	**+0.7**
JFT				*e*S	**Sn**	**08 35 25.0**	**+0.2**
JHO	**Hitachi**	**1.11**	**231**	⇓P	**Pn**	**08 35 11.5**	**-0.5**
JHO				*e*S	**Sn**	**08 35 25.1**	**-0.9**
JIO	**Ouri**	**1.16**	**348**	⇓P	**Pn**	**08 35 12.6**	**0.0**
JIO				S	**Sn**	**08 35 26.0**	**-1.3**
JOU	**Okura**	**1.30**	**324**	P	**Pn**	**08 35 14.7**	**+0.1**
JOU				*e*S	**Sn**	**08 35 31.0**	**+0.2**
JYS	**Shirataka**	**1.54**	**306**	P	**Pn**	**08 35 18.8**	**+0.9**
JFY	**Yanaizu**	**1.55**	**274**	⇓P	**Pn**	**08 35 18.4**	**+0.5**
JMK	**Ichinoseki**	**1.67**	**349**	⇓P	**Pn**	**08 35 19.7**	**+0.1**
JMK				*e*S	**Sn**	**08 35 40.0**	**+0.2**
MJAR	**Matsushiro Arr**	**2.86**	**255**	Pn	**Pn**	**08 35 37.7**	**+1.7**
	3.8nm,0.3s,baz=65,slow=11,SNR=27						
MJAR				Sn	**Sn**	**08 36 21.4**	**+12**
	3.7nm,0.3s,baz=313,slow=33,SNR=5.8						
MAJO	**Matsushiro**	**2.86**	**255**	*e*Pn	**Pn**	**08 35 37.9**	**+1.9**
MAT	**Matsushiro**	**2.86**	**255**	P	**Pn**	**08 35 37.4**	**+1.4**
MAT				S	**Sn**	**08 36 07.9**	**-1.3**
ERM	**Erimo**	**4.84**	**14**	*e*Pn	**Pn**	**08 36 00.3**	**-2.8**
ERM				*e*Sn	**Sn**	**08 36 57.6**	**-0.2**
ASAJ	**Asahikawa**	**6.83**	**6**	Pn	**Pn**	**08 36 30.9**	**+0.3**
	0.8nm,0.3s,baz=232,slow=12,SNR=4.7						
ASAJ				Sn	**Sn**	**08 37 47.8**	**+0.8**
	0.5nm,0.3s,baz=298,slow=34,SNR=3.0						
JNU	**Nakatsue**	**9.75**	**248**	LR	LR	08 41 19.8	
	comp=Z,34nm,20.9s,baz=228,slow=38						
KSRS	**Korea Array**	**10.92**	**275**	Pn	**Pn**	**08 37 31.1**	**+4.5**
	0.1nm,0.3s,baz=89,slow=13,SNR=5.5						
KSRS				LR	LR	08 41 30.6	
	comp=Z,34nm,18.4s,baz=60,slow=36						
SONM	**Songino Array**	**27.78**	**303**	P	**P**	**08 40 38.8**	**+0.8**
	0.7nm,0.5s,mb3.5,baz=100,slow=9.4,SNR=5.6						
ZALV	**Zalesovo Beam**	**41.86**	**312**	P	**P**	**08 42 38.3**	**-0.7**
	0.6nm,0.3s,mb3.6,baz=91,slow=8.0,SNR=4.6						
MK31	**Makanchi Array**	**44.13**	**302**	*e*P	**P**	**08 42 57.8**	**+0.3**
MKAR	**Makanchi Array**	**44.13**	**302**	P	**P**	**08 42 57.7**	**+0.2**
	0.7nm,0.4s,mb3.7,baz=87,slow=10,SNR=15						
KURK	**Kurchatov**	**45.90**	**308**	*e*P	**P**	**08 43 11.1**	**-0.4**
	3.0nm,0.8s,mb4.3						
KURK				*e*pP	pP	08 43 22.7	+0.2
SML	**Sawmill**	**48.66**	**36**	*e*P	**P**	**08 43 32.0**	**-0.8**
WRA	**Warramunga Arr**	**57.36**	**188**	P	**P**	**08 44 37.2**	**-0.1**
	0.4nm,0.5s,mb3.7,baz=6.4,slow=7.4,SNR=16						

*BJI **03** 08:45:57.9, 001S×128.15E, h82km, mB4.8, mb4.8, Ms4.1, Msz3.9*
*ISCJB **03** 08:45:58.1±2.2, 076N±009×128.1E±02, h36km±22km, mb4.4/17, MS3.6/4, Error ellipse: s-maj=37.9km s-min=12.0km az=164.6*
*NEIC **03** 08:46:03.9±3.5, 074N×128.15E, h82km±36km, mb4.4/8, Error ellipse: s-maj=30.9km s-min=13.1km az=74.0*
NEIC Felt [III] on Ternate.
*IDC **03** 08:46:04.3±15.0, 067N×12794E, h85km±156km, mb3.7/6, mb1 3.8/7, mb1mx3.6/16, mbtmp3.6/7, ML3.5/1, MS2.6/1, Ms1 2.6/1, ms1mx2.4/30, Error ellipse: s-maj=64.2km s-min=28.6km az=92.0*

ISC 03 08:46:01.8±2.2, 072N±009×1281E±02, h55km±23km, n24, σ1°02/26, mb4.4/17, MS3.6/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.02**	**162**	*e*Pn	**Pn**	**08 49 18.0**	**+0.2**
FITZ	**Fitzroy Crossi**	**18.86**	**187**	*e*P	**Pn**	**08 50 18.4**	**-0.3**
	3.5nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.86**	**187**	P	**Pn**	**08 50 17.3**	**-1.3**
	0.1nm,0.3s,baz=14,slow=16,SNR=3.5						
WRAB	**Tennant Creek**	**21.42**	**164**	*e*P	**P**	**08 50 46.5**	**+1.1**
	7.3nm,1.0s,mb4.0						
WRA	**Warramunga Arr**	**21.43**	**164**	P	**P**	**08 50 45.5**	**0.0**
	2.7nm,0.8s,mb3.6,baz=342,slow=11,SNR=16						
WB2	**Warramunga Arr**	**21.43**	**164**	*e*P	**P**	**08 50 45.7**	**+0.3**
ASAR	**Alice Springs**	**24.89**	**167**	P	**P**	**08 51 19.3**	**-0.4**
	3.5nm,1.0s,mb3.9,baz=343,slow=11,SNR=15						
GYA	**Guiyang**	**32.87**	**323**	*e*P	**P**	**08 52 31.4**	**+0.7**
GYA				AP	pP	08 52 48.8	+4.2
GYA				XP	sP	08 52 57.9	+6.9
GYA				PP	PP	08 53 44.7	-1.2
GYA				PCP	PcP	08 55 15.0	+0.5
GYA				S	**S**	**08 57 44.9**	**+0.4**
GYA				SCP	ScP	08 58 51.7	-2.5
GYA				PCS	PcS	08 58 59.4	-0.6
GYA				SCS	ScS	09 02 50.6	-3.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
KSRS	**Korea Array**	**36.55**	**360**	LR	LR	09 09 49.6	
	comp=Z,7.8nm,18.7s,MS2.5,baz=245,slow=39						
MJAR	**Matsushiro Arr**	**36.86**	**14**	P	**P**	**08 53 05.0**	**0.0**
	comp=Z,0.5nm,0.3s,mb3.8,baz=193,slow=9.7,SNR=5.5						
CD2	**Chengdu**	**37.87**	**325**	*e*P	**P**	**08 53 14.7**	**+1.1**
CD2				XP	sP	08 53 39.2	+5.1
CD2				PP	PP	08 54 46.2	+5.2
CD2				S	**S**	**08 59 01.7**	**+0.5**
CD2				SS	SS	09 01 42.0	-6.9
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,120nm,11.2s						
CD2				LR	LR		
	comp=Z,100nm,10.2s,MS3.9						
HHC	**Hu-ho-hao-te**	**42.67**	**341**	*e*P	**P**	**08 53 53.8**	**+0.7**
HHC				AP	pP	08 54 12.3	+4.9
HHC				XP	sP	08 54 21.3	+7.5
HHC				PP	PP	08 55 36.1	+3.1
HHC				S	**S**	**09 00 12.5**	**0.0**
HHC				SS	SS	09 03 28.8	+4.1
HHC				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.7						
HHC				AMB	AMB		
	comp=Z,88nm,6.4s						
HHC				LR	LR		
	comp=N,228nm,14.9s,MS4.5						
HHC				LR	LR		
	comp=E,431nm,17.6s,MS4.5						
HHC				LR	LR		
	comp=Z,142nm,17.6s,MS3.9						
ULN	**Ulaanbaatar**	**50.38**	**342**	*e*P	**P**	**08 54 53.0**	**-0.5**
	comp=Z,8.9nm,1.3s,mb4.6						
SONM	**Songino Array**	**50.57**	**341**	P	**P**	**08 54 54.9**	**0.0**
	comp=Z,0.5nm,0.6s,mb3.6,baz=134,slow=4.2,SNR=3.7						
WMQ	**Urumqi**	**55.96**	**326**	*e*P	**P**	**08 55 37.0**	**+2.4**
WMQ				XP	sP	08 56 00.0	+4.4
WMQ				PP	PP	08 57 44.0	+4.1
WMQ				S	**S**	**09 03 19.0**	**+0.4**
WMQ				SS	SS	09 07 05.0	-0.4
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.2						
WMQ				LR	LR		
	comp=N,72nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=E,65nm,18.0s,MS3.9						
WMQ				LR	LR		
	comp=Z,84nm,18.0s,MS3.9						
MK31	**Makanchi Array**	**60.79**	**326**	*e*P	**P**	**08 56 06.3**	**-1.9**
MKAR	**Makanchi Array**	**60.79**	**326**	P	**P**	**08 56 06.7**	**-1.5**
	comp=Z,2.3nm,0.6s,mb4.5,baz=122,slow=8.9,SNR=16						
TKM2	**Tokmak 2**	**62.89**	**319**	P	**P**	**08 56 23.4**	**+1.0**
	comp=Z,3.4nm,0.8s,mb4.5						
UCH	**Uchtor**	**63.30**	**318**	P	**P**	**08 56 23.7**	**-1.5**
	comp=Z,3.8nm,0.9s,mb4.5						
AML	**Almayashu**	**63.81**	**318**	*e*P	**P**	**08 56 29.8**	**+1.3**
	comp=Z,5.1nm,0.9s,mb4.5						
ZALV	**Zalesovo Beam**	**63.87**	**333**	P	**P**	**08 56 27.9**	**-0.7**
	comp=Z,0.5nm,0.3s,mb4.0,baz=111,slow=7.9,SNR=3.4						
EKS2	**Erkin-Say**	**63.98**	**318**	*e*P	**P**	**08 56 29.6**	**0.0**
	comp=Z,3.8nm,0.9s,mb4.4						
KURK	**Kurchatov**	**65.00**	**328**	*e*P	**P**	**08 56 34.0**	**-2.1**
	comp=Z,12nm,0.8s,mb5.0						
ARUT	**Antelope Range**	**111.72**	**49**	*e*PKPdf	PKiKP	09 04 28.9	-2.0

*ISCJB **03** 09:12:42.6±1.0, 2895S±004×695W±0.1, h124km±16km, Error ellipse: s-maj=14.7km s-min=7.2km az=3.1*
*GUC **03** 09:12:43.9±0.9, 2891S×6964W, h121km±24km, MD3.6, ML4.1*
*NEIC **03** 09:12:43.9, 2891S×6964W, h121km, MG4.1(GUC), After GUC.*
*IDC **03** 09:12:45.8±7.5, 2899S×6927W, h112km±60km, mb1 2.8/2, mb1mx2.8/16, mbtmp2.6/2, Error ellipse: s-maj=94.8km s-min=30.4km az=115.0*

ISC 03 09:12:43.1±1.1, 2893S±004×695W±01, h127km±18km, n19, σ0°70/28, 4C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.03**	**265**	⇑*i*Pn	**Pn**	**09 13 06.9**	**+0.9**
LCO				*e*Sn	**Sn**	**09 13 23.8**	**+0.4**
VACH	**Vallenar**	**1.14**	**288**	⇑*i*P	**Pn**	**09 13 07.7**	**+0.6**
VACH				*i* S	**Sn**	**09 13 25.2**	**0.0**
VACH	**Vallenar**	**1.14**	**288**	⇑*i*P	**Pn**	**09 13 07.7**	**+0.6**
VACH				*i* S	**Sn**	**09 13 25.2**	**0.0**
VACH				AML	AML	09 13 28.0	
	comp=E,10μm,0.1s						
TLL	**Tololo Astrono**	**1.66**	**222**	*e*P	**Pn**	**09 13 13.8**	**+1.0**
TLL				*i* S	**Sn**	**09 13 36.2**	**+0.8**
TLL	**Tololo Astrono**	**1.66**	**222**	*e*P	**Pn**	**09 13 13.8**	**+1.0**
TLL				*i* S	**Sn**	**09 13 36.2**	**+0.8**
TLL				AML	AML	09 13 41.0	
	comp=N,532nm,0.8s						
CPCH	**Copiapo**	**1.73**	**335**	*e*P	**Pn**	**09 13 13.3**	**-0.3**
CPCH				*i* S	**Sn**	**09 13 36.3**	**-0.7**
CPCH	**Copiapo**	**1.73**	**335**	*e*P	**Pn**	**09 13 13.3**	**-0.3**
CPCH				*i* S	**Sn**	**09 13 36.3**	**-0.7**
CPCH				AML	AML	09 13 40.0	
	comp=E,8μm,0.1s						
LSCH	**La Serena**	**1.79**	**237**	⇑*i*P	**Pn**	**09 13 14.4**	**+0.1**
LSCH				*i* S	**Sn**	**09 13 36.9**	**-1.2**
OVCH	**Ovalle**	**2.21**	**221**	⇓*i*P	**Pn**	**09 13 19.8**	**+0.3**
OVCH				S	**Sn**	**09 13 46.1**	**-1.3**
OVCH	**Ovalle**	**2.21**	**221**	⇓*i*P	**Pn**	**09 13 19.8**	**+0.3**
OVCH				*i* S	**Sn**	**09 13 46.1**	**-1.3**
OVCH				AML	AML	09 13 48.9	
	comp=N,688nm,0.3s						
CMCH	**Combarbala**	**2.

KUR				smax			
	comp=N,300nm,0.8s						
KUR				smax			
	comp=E,270nm,0.8s						
SKR	**Severo-Kuril's**	**5.17**	**22**	*e*PN	**Pn**	**09 32 29.1**	**-7.1**
SKR				pmax	pmax		
	comp=Z,80nm,0.4s						
SKR				pmax	pmax		
	comp=N,90nm,0.3s						
SKR				pmax	pmax		
	comp=E,90nm,0.3s						
YUK	**Yuzh-Kuril'sk**	**5.46**	**252**	PN	**Pn**	**09 32 39.5**	**-0.7**
YUK				S	**Sn**	**09 33 42.2**	**+0.6**
YUK				smax			
	comp=N,210nm,0.5s						
YUK				smax			
	comp=E,120nm,0.5s						
NEM2	**Nemuro 2**	**5.83**	**247**	P	**Pn**	**09 32 44.3**	**-0.9**
NEM2				*e*S	**Sn**	**09 33 48.7**	**-2.0**
JRA	**Rausu**	**5.99**	**253**	P	**Pn**	**09 32 48.6**	**+1.1**
JNK	**Nakash**	**6.40**	**251**	P	**Pn**	**09 32 53.7**	**+0.7**
JAK	**Akkeshi**	**6.67**	**247**	*e*S	**Sn**	**09 34 08.7**	**-2.8**
JTKR	**Abashiri--Toko**	**6.79**	**257**	P	**Pn**	**09 32 59.8**	**+1.3**
JAR	**Ashorobuto**	**7.14**	**252**	P	**Pn**	**09 33 04.1**	**+0.8**
JAR				*e*S	**Sn**	**09 34 24.9**	**+1.8**
JMP	**Maruseppu**	**7.16**	**258**	P	**Pn**	**09 33 04.9**	**+1.4**
JKK2	**Kamakawa 2**	**7.62**	**258**	P	**Pn**	**09 33 11.5**	**+1.7**
ASAJ	**Asahikawa**	**7.64**	**260**	PN	**Pn**	**09 33 12.3**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,114nm,20.7s						
ASAJ	**Asahikawa**	**7.64**	**260**	P	**Pn**	**09 33 11.8**	**+1.7**
ASAJ	**Asahikawa**	**7.64**	**260**	P	**Pn**	**09 33 12.2**	**+2.1**
	comp=Z,1.3nm,0.3s,baz=90,slow=22,SNR=8.1						
ASAJ				LR	LR	09 35 54.4	
	comp=Z,114nm,20.7s,baz=182,slow=36						
JCH	**Churui**	**7.72**	**248**	P	**Pn**	**09 33 11.0**	**-0.2**
JCH				*e*S	**Sn**	**09 34 34.8**	**-2.4**
ERM	**Erimo**	**8.15**	**245**	*e*PN	**Pn**	**09 33 17.7**	**+0.6**
JKB	**Kayabe**	**9.59**	**249**	P	**Pn**	**09 33 35.7**	**-1.0**
JKB				*e*S	**Sn**	**09 35 18.1**	**-4.8**
JANG	**Nango**	**10.11**	**241**	P	**Pn**	**09 33 42.4**	**-1.4**
JANG				*e*S	**Sn**	**09 35 27.4**	**-8.3**
JRG	**Rokugo**	**11.24**	**239**	*e*S	**Sn**	**09 35 58.0**	**-5.5**
JIO	**Ouri**	**11.46**	**233**	*e*S	**Sn**	**09 36 01.1**	**-7.7**
HABR	**Khabarovsk**	**12.52**	**288**	*e*PN	**Pn**	**09 34 17.8**	**+1.0**
HABR				*e*S	**Sn**	**09 36 34.6**	**0.0**
MAJO	**Matsushiro**	**14.58**	**235**	*e*P	**Pn**	**09 34 43.8**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MAJO	**Matsushiro**	**14.58**	**235**	*e*Pn	**Pn**	**09 34 43.8**	**-0.9**
	comp=Z,4.8nm,0.7s						
MAT	**Matsushiro**	**14.58**	**235**	P	**Pn**	**09 34 42.0**	**-2.6**
MJAR	**Matsushiro Arr**	**14.58**	**235**	P	**Pn**	**09 34 46.1**	**+1.5**
	comp=Z,0.1nm,0.3s,baz=24,slow=10,SNR=5.4						
KSRS	**Korea Array**	**20.54**	**255**	P	**P**	**09 35 58.0**	**+2.4**
	comp=Z,2.4nm,0.7s,baz=60,slow=11,SNR=10.0						
KSRS				pP		09 36 08.3	
	comp=Z,1.5nm,0.6s,baz=54,slow=10,SNR=4.0						
KSRS				LR	LR	09 42 42.8	
	comp=Z,44nm,20.8s,MS2.8,baz=60,slow=33						
JNU	**Nakatsue**	**21.29**	**241**	LR	LR	09 44 14.0	
	comp=Z,27nm,18.7s,MS2.7,baz=46,slow=36						
BILL	**Bilibino**	**23.20**	**13**	*e*P	**P**	**09 36 26.8**	**+3.2**
BILL				pmax	pmax		
	comp=Z,14nm,2.7s,mb3.9						
BOD	**Bodaibo**	**26.50**	**311**	*e*P	**P**	**09 36 49.7**	**-4.0**
SONM	**Songino Array**	**31.59**	**291**	P	**P**	**09 37 39.0**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.5,baz=106,slow=11,SNR=2.2						
IMA2	**Indian Mountai**	**34.49**	**35**	*e*P	**P**	**09 37 55.9**	**-8.2**
LZH	**Lanzhou**	**37.90**	**273**	*e*P	**P**	**09 38 33.5**	**-0.1**
LZH				AP	pP	09 38 38.2	-8.6
LZH				XP	sP	09 38 40.5	-12
LZH				AMB	AMB		
	comp=Z,20nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,116nm,5.1s						
GTA	**Gaotai**	**39.08**	**280**	*e*P	**P**	**09 38 45.5**	**+2.0**
GTA				AP	pP	09 38 49.8	-7.0
GTA				XP	sP	09 38 53.0	-10
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
INK	**Inuvik**	**42.36**	**32**	P	**P**	**09 39 08.2**	**-1.9**
	comp=Z,0.6nm,0.6s,mb3.4,baz=276,slow=4.2,SNR=3.0						
ZALV	**Zalesovo Beam**	**43.08**	**306**	LR	LR	09 58 25.0	
	comp=Z,73nm,19.3s,MS3.6,baz=59,slow=38						
MKAR	**Makanchi Array**	**47.30**	**298**	*i* P	**P**	**09 39 48.8**	**-0.9**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**47.30**	**298**	P	**P**	**09 39 48.9**	**-0.8**
	comp=Z,1.9nm,0.7s,mb4.1,baz=67,slow=9.3,SNR=12						
MKAR				LR	LR	10 00 56.4	
	comp=Z,67nm,18.5s,MS3.6,baz=358,slow=38						
KURK	**Kurchatov**	**47.80**	**304**	⇓*i* P	**P**	**09 39 51.9**	**-1.6**
YKA	**Yellowknife Ar**	**51.60**	**36**	P	**P**	**09 40 21.7**	**-0.4**
	comp=Z,0.3nm,0.7s,mb3.4,baz=295,slow=7.1,SNR=8.0						
YKA				pP	pP	09 40 34.1	-1.8
	comp=Z,0.9nm,0.8s,baz=299,slow=7.4,SNR=12						
YKA				PP	PP	09 42 12.6	-6.9
	comp=Z,0.3nm,0.9s,baz=277,slow=7.8,SNR=4.1						
AAK	**Ala-Archa**	**54.18**	**297**	*e*P	**P**	**09 40 39.3**	**-2.2**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**54.18**	**297**	*e*P	**P**	**09 40 39.9**	**-1.6**
	comp=Z,2.3nm,0.8s,mb4.2						
EKS2	**Erkin-Say**	**54.61**	**297**	*e*P	**P**	**09 40 45.0**	**+0.4**
	comp=Z,1.7nm,0.6s,mb4.2						
GUN	**Gumba**	**55.05**	**276**	*e*P	**P**	**09 40 52.0**	**+4.0**
DMN	**Daman**	**55.77**	**276**	*e*P	**P**	**09 40 55.7**	**+2.5**
	comp=Z,14nm,0.8s,mb5.0						
GKN	**Gorkha**	**55.86**	**276**	*e*P	**P**	**09 40 55.9**	**+2.1**
	comp=Z,13nm,0.7s,mb5.1						
DANN	**Dangsing**	**56.25**	**277**	*e*P	**P**	**09 40 58.8**	**+2.2**
	comp=Z,15nm,0.6s,mb5.2						
KOLN	**Koldanda**	**56.72**	**277**	*e*P	**P**	**09 41 02.1**	**+2.2**
	comp=Z,12nm,0.7s,mb5.0						
ARCES	**ARCESS Array B**	**58.62**	**341**	P	**P**	**09 41 10.4**	**-2.2**
	comp=Z,0.7nm,0.6s,mb3.9,baz=33,slow=8.9,SNR=3.2						
NVAR	**Mina Array Bea**	**62.84**	**62**	P	**P**	**09 41 42.6**	**+0.7**
NVAR				pP	pP	09 41 55.0	-1.0
NVAR	**Mina Array Bea**	**62.84**	**62**	P	**P**	**09 41 42.6**	**+0.7**
	comp=Z,0.9nm,0.7s,mb4.0,baz=292,slow=8.8,SNR=7.5						
NVAR				pP	pP	09 41 55.0	-1.0
	comp=Z,1.1nm,0.7s,baz=295,slow=8.4,SNR=5.3						
FINES	**FINESS Array B**	**64.77**	**335**	*i* P	**P**	**09 41 52.9**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.77**	**335**	P	**P**	**09 41 53.0**	**-1.2**
	comp=Z,1.9nm,0.6s,mb4.3,baz=46,slow=8.2,SNR=8.8						
FINES				pP	pP	09 42 06.2	-2.2
	comp=Z,0.7nm,0.4s,baz=38,slow=9.2,SNR=3.0						
FITZ	**Fitzroy Crossi**	**68.41**	**208**	⇑*i* P	**P**	**09 42 09.6**	**-8.2**
	comp=Z,11nm,0.6s,mb5.0						
NB2	**NORSAR Subarra**	**69.00**	**341**	P	**P**	**09 42 19.8**	**-1.2**
	comp=Z,0.8nm,0.7s,mb3.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**69.00**	**341**	P	**P**	**09 42 20.4**	**-0.7**
	comp=Z,0.9nm,0.7s,mb3.8,baz=28,slow=6.3,SNR=5.4						
AKASG	**Malin Array Be**	**72.22**	**326**	P	**P**	**09 42 39.8**	**-0.9**
	comp=Z,4.6nm,0.6s,mb4.6,baz=33,slow=6.2,SNR=12						
TXAR	**Lajitas Array**	**77.92**	**60**	*i* P	**P**	**09 43 14.2**	**+0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.92**	**60**	P	**P**	**09 43 14.2**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.7,baz=304,slow=4.7,SNR=9.5						
TXAR				pP	pP	09 43 27.0	-1.6
	comp=Z,0.8nm,0.5s,baz=303,slow=4.2,SNR=8.6						

HLW 03 09:35:43.2, 2978N×3681E, h18km, Mb3.7, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HBST	**Basata**	**1.90**	**253**	P	Pn	09 36 13.5	-1.2
HBST				S	Sn	09 36 35.5	-2.6
HDHB	**Dhahab**	**2.19**	**242**	P	Pn	09 36 17.7	-0.9
HKAT	**Jabal Katrina**	**2.76**	**244**	P	Pn	09 36 25.3	-1.3

IDC 03 09:40:30.9±16.0, 2178N×14305E, h151km±161km, mb3.1/5, mb1 3.3/5, mb1mx3.2/19, mbtmp3.1/5, Error ellipse: s-maj=74.7km s-min=17.4km az=89.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.37**	**323**	P	P	09 44 56.2	+0.5
	1.9nm,0.9s,baz=145,slow=8.1,SNR=5.9						
SONM	**Songino Array**	**39.19**	**320**	P	P	09 47 43.9	-0.2
	0.5nm,0.5s,baz=128,slow=7.9,SNR=3.2						
WRA	**Warramunga Arr**	**42.33**	**192**	P	P	09 48 10.1	0.0
	0.9nm,0.9s,baz=17,slow=8.8,SNR=3.2						
ASAR	**Alice Springs**	**46.04**	**192**	P	P	09 48 39.5	-0.1
	0.4nm,0.8s,baz=12,slow=8.4,SNR=3.9						
YKA	**Yellowknife Ar**	**76.44**	**28**	P	P	09 52 03.8	+0.2
	0.6nm,0.7s,baz=292,slow=5.9,SNR=13						

*NNC **03** 09:44:06.7±5.2, 3684N×6913E, h0km±29km, mb4.3, mpv4.3, Error ellipse: s-maj=41.4km s-min=24.6km az=25.0*
*BJI **03** 09:44:09.5, 3768N×6828E, h8km, mB4.7, mb4.7, ML4.5, Ms3.9, Msz3.9*
*IDC **03** 09:44:13.0±1.0, 3718N×6909E, h0km, mb3.9/11, mb1 4.1/16, mb1mx4.0/27, mbtmp4.0/16, ML3.9/4, MS3.4/11, Ms1 3.4/11, ms1mx3.2/31, Error ellipse: s-maj=16.9km s-min=14.3km az=171.0*
*ISCJB **03** 09:44:12.7±1.4, 3743N±003×6893E±005, h1km±9km, mb4.1/16, MS3.5/13, Error ellipse: s-maj=7.0km s-min=4.9km az=152.9*
*NEIC **03** 09:44:16.6±0.6, 3751N×6892E, h10km, mb4.4/3, Error ellipse: s-maj=10.3km s-min=8.9km az=147.0*
*MOS **03** 09:44:17.3±1.5, 3747N×6899E, h33km, mb4.4/6, Error ellipse: s-maj=12.6km s-min=7.0km az=75.7*
ISC 03 09:44:14.7±1.2, 3746N±003×6885E±005, h2km±7km, n90, σ1§45/108, mb4.0/16, MS3.5/13, 16C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.92**	**177**	*e*Pn	**Pn**	**09 45 03.4**	**+1.4**
KBL				*e*Sn	**Sg**	**09 45 43.4**	**-4.9**
THW	**Thamme Wali**	**5.22**	**152**	P	**Pn**	**09 45 35.8**	**+2.1**
THW				S	**Sn**	**09 46 41.0**	**+6.5**
CHCP	**Chirah Chowk**	**5.23**	**135**	P	**Pn**	**09 45 37.8**	**+4.0**
KK31	**Karatay Array**	**5.78**	**12**	Pn	**Pn**	**09 45 43.2**	**+1.8**
	3.5nm,0.5s,baz=196,slow=29,SNR=12						
KK31				⇑Pg	**Pg**	**09 46 04.4**	**-1.0**
	31nm,0.7s,baz=181,slow=17,SNR=8.7						
KK31				⇑Lg		09 47 21.2	
	494nm,0.9s,baz=190,slow=28,SNR=18						
DRP	**Derazinda**	**5.81**	**169**	P	**Pn**	**09 45 43.4**	**+1.6**
KSH	**Kashi**	**5.95**	**68**	*e*PG	Px	09 46 05.0	
KSH				Smax			
	comp=N,715nm,1.0s						
KSH				Smax			
	comp=E,729nm,0.8s						
AML	**Almayashu**	**5.97**	**37**	*e*Pn	**Pn**	**09 45 44.0**	**-0.1**
	comp=E,100nm,0.9s						
AML				*e*Sg	**Sg**	**09 47 26.9**	**+0.4**
EKS2	**Erkin-Say**	**6.42**	**34**	*e*Pn	**Pn**	**09 45 52.8**	**+2.6**
	comp=E,33nm,0.7s						
UCH	**Uchtor**	**6.46**	**41**	*e*Pn	**Pn**	**09 45 52.5**	**+1.9**
	comp=E,62nm,0.8s						
UCH				*e*Sg	**Sg**	**09 47 42.5**	**+0.6**
AAK	**Ala-Archa**	**6.74**	**38**	PN	**Pn**	**09 45 56.0**	**+1.4**
AAK						09 47 13.7	
AAK				pmax	pmax		
	comp=Z,14nm,0.3s						
AAK				smax			
	comp=N,3.0nm,0.3s						
AAK	**Ala-Archa**	**6.74**	**38**	*e*Pn	**Pn**	**09 45 55.8**	**+1.2**
	comp=N,38nm,0.5s						
AAK	**Ala-Archa**	**6.74**	**38**	Pn	**Pn**	**09 45 56.0**	**+1.4**
	comp=N,14nm,0.3s,baz=210,slow=6.9,SNR=104						
AAK				Sn	**Sn**	**09 47 13.7**	**+1.8**
	comp=N,2.7nm,0.3s,baz=332,slow=21,SNR=3.7						
AAK				Lg		09 47 48.5	
	comp=N,4.6nm,0.3s,baz=284,slow=20,SNR=3.8						
FRU	**Bishkek**	**6.95**	**38**	*e*PN	**Pn**	**09 46 00.0**	**+2.6**
FRU				*e*S	**Sg**	**09 47 46.0**	**-12**
FRU				pmax	pmax		
	comp=Z,90nm,1.6s						
FRU				smax			
	comp=E,720nm,1.9s						
TKM2	**Tokmak 2**	**7.51**	**41**	⇓Pn	**Pn**	**09 46 06.9**	**+1.8**
	comp=E,23nm,0.6s						
TKM2				⇓Lg		09 48 17.4	
	comp=E,65nm,0.9s						
TKM2	**Tokmak 2**	**7.51**	**41**	*e*P	**Pn**	**09 46 07.0**	**+1.9**
TKM2				pmax	pmax		
	comp=Z,44nm,0.8s						
TKM2	**Tokmak 2**	**7.51**	**41**	*e*Pn	**Pn**	**09 46 07.0**	**+1.9**
	comp=Z,44nm,0.8s						
TKM2				*e*Sg	**Sg**	**09 48 15.2**	**-0.5**
THN	**Thein Dam**	**7.54**	**130**	*e*S	**Sn**	**09 47 27.6**	**-4.1**
DLH	**Dalhousie**	**7.62**	**128**	*e*S	**Sn**	**09 47 30.0**	**-3.7**
BHK	**Bhakra**	**8.68**	**132**	*e*x	x	09 48 08.5	
SDNR	**Sundarnagar**	**8.96**	**129**	*e*P	**Pn**	**09 46 24.0**	**-1.0**
SDNR				*e*x	x	09 48 41.0	
KLP	**Kalpa**	**9.75**	**125**	*e*P	**Pn**	**09 46 35.7**	**-0.1**
KLP				AMb	AMB	09 46 43.8	
	comp=Z,16nm,1.0s						
KLP				*e*S	**Sn**	**09 48 18.4**	**-7.5**
DDI	**Dehra Dun**	**10.44**	**130**	*e*P	**Pn**	**09 46 43.5**	**-1.9**
DDI				*e*S	**Sn**	**09 48 35.0**	**-8.0**
KHET	**Khetri**	**11.03**	**146**	*e*P	**Pn**	**09 46 50.1**	**-3.4**
KHET				AMb	AMB	09 46 58.1	
	comp=Z,5.2nm,0.8s						
KHET				*e*S	**Sn**	**09 48 48.5**	**-8.9**
NDI	**New Delhi**	**11.21**	**139**	*e*P	**Pn**	**09 46 53.0**	**-2.9**
JOSI	**Joshimath**	**11.23**	**125**	*e*P	**Pn**	**09 46 54.8**	**-1.4**
JOSI				*e*x	x	09 48 57.8	
SONA	**Sohna**	**11.49**	**141**	*e*P	**Pn**	**09 46 57.6**	**-2.2**
SONA				*e*S	**Sn**	**09 48 58.4**	**-10**
AB31	**Akbulak array**	**13.44**	**334**	⇑Pn	**Pn**	**09 47 25.3**	**-1.0**
	comp=Z,9.9nm,0.8s,baz=154,slow=12,SNR=71						
AB31				⇑Sn	**Sn**	**09 50 07.9**	**+12**
	comp=Z,9.7nm,0.7s,baz=158,slow=22,SNR=6.4						
MK31	**Makanchi Array**	**13.64**	**43**	⇑Pn	**Pn**	**09 47 28.6**	**-0.4**
	comp=Z,16nm,1.2s,baz=225,slow=12,SNR=47						
MK31				⇑Lg		09 51 17.0	
	comp=Z,12nm,1.1s						
MK31	**Makanchi Array**	**13.64**	**43**	*i* P	**Pn**	**09 47 28.5**	**-0.5**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MK31	**Makanchi Array**	**13.64**	**43**	*e*Pn	**Pn**	**09 47 28.6**	**-0.4**
MKAR	**Makanchi Array**	**13.64**	**43**	*i* P	**Pn**	**09 47 28.7**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
MKAR	**Makanchi Array**	**13.64**	**43**	Pn	**Pn**	**09 47 28.8**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=230,slow=14,SNR=29						
KURBB	**Kurchatov Arra**	**14.87**	**25**	⇑Pn	**Pn**	**09 47 44.2**	**-1.5**
	comp=Z,1.0nm,0.7s						
KURBB				⇑Lg		09 52 12.1	
	comp=Z,16nm,1.5s						
KURK	**Kurchatov**	**14.98**	**25**	⇑Pn	**Pn**	**09 47 45.4**	**-1.9**
KURK				⇓Lg		09 52 11.9	
	comp=Z,58nm,1.9s						
KURK	**Kurchatov**	**14.98**	**25**	*i* P	**Pn**	**09 47 45.8**	**-1.4**
KURK	**Kurchatov**	**14.98**	**25**	*e*Pn	**Pn**	**09 47 45.3**	**-1.9**
	comp=Z,4.5nm,0.8s						
AKTK	**Aktyubinsk**	**15.12**	**333**	Pn	**Pn**	**09 47 48.9**	**-0.2**
AKTK				Sn	**Sn**	**09 50 34.2**	**-2.7**
AKTK				LR	LR	09 53 41.4	
AKTO	**Aktyubinsk**	**15.12**	**333**	⇓Pn	**Pn**	**09 47 48.6**	**-0.5**
	comp=Z,0.8nm,1.2s						
AKTO				⇓Sn	**Sn**	**09 50 52.8**	**+16**
	comp=Z,0.6nm,0.9s						
AKTO				⇓Lg		09 52 26.0	
	comp=Z,2.2nm,1.8s						
AKTO	**Aktyubinsk**	**15.12**	**333**	*i* P	**Pn**	**09 47 48.5**	**-0.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,1.2s						
AKTO	**Aktyubinsk**	**15.12**	**333**	Pn	**Pn**	**09 47 48.9**	**-0.2**
	comp=Z,0.3nm,0.3s,baz=147,slow=14,SNR=15						
AKTO				Sn	**Sn**	**09 50 34.2**	**-2.7**
	comp=Z,0.8nm,0.3s,baz=215,slow=19,SNR=4.5						
AKTO				LR	LR	09 53 41.4	
	comp=Z,128nm,20.9s,baz=153,slow=37						
VOSK	**Vostochnaya**	**15.34**	**5**	⇑Pn	**Pn**	**09 47 50.2**	**-1.8**
	comp=Z,7.9nm,1.1s						
VOSK				⇑Sn	**Sn**	**09 50 48.9**	**+6.6**
	comp=Z,17nm,1.4s						
VOSK				⇑Lg		09 52 31.3	
	comp=Z,60nm,1.4s						
DANN	**Dangsing**	**15.45**	**122**	*e*P	**Pn**	**09 47 57.9**	**+4.2**
	comp=Z,191nm,1.1s						
ZRNK	**Zerenda**	**15.49**	**0**	⇑Pn	**Pn**	**09 47 52.9**	**-1.2**
	comp=Z,24nm,1.4s						
ZRNK				⇑Sn	**Sn**	**09 50 54.4**	**+8.3**
	comp=Z,15nm,0.8s						
ZRNK				⇑Lg		09 52 32.4	
	comp=Z,61nm,1.6s						
BVA0	**Borovoye Array**	**15.61**	**3**	⇓Pn	**Pn**	**09 47 54.3**	**-1.1**
	comp=Z,1.5nm,0.8s,baz=178,slow=14,SNR=17						
BVA0				⇓Sn	**Sn**	**09 51 02.1**	**+13**
	comp=Z,2.1nm,0.9s,baz=190,slow=25,SNR=4.0						
BVAR	**Borovoye Array**	**15.61**	**3**	Pn	**Pn**	**09 47 54.7**	**-0.8**
	comp=Z,0.5nm,0.3s,baz=178,slow=12,SNR=12						
BVAR				LR	LR	09 53 59.3	
	comp=Z,91nm,21.9s,baz=26,slow=37						
BRVK	**Borovoye**	**15.63**	**3**	*e*P	**Pn**	**09 47 54.8**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,31nm,1.2s						
BRVK	**Borovoye**	**15.63**	**3**	*e*Pn	**Pn**	**09 47 54.8**	**-1.0**
	comp=Z,31nm,1.2s						
WMQ	**Urumqi**	**15.64**	**60**	P	**Pn**	**09 47 58.0**	**+2.0**
WMQ				XP	sP	09 48 05.0	+3.8
WMQ				PP		09 48 11.0	
WMQ				S	**Sn**	**09 50 50.0**	**+0.2**
WMQ				SS		09 51 08.0	
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s						
WMQ				LR	LR		
	comp=N,187nm,9.0s						
WMQ				LR	LR		
	comp=E,102nm,8.0s						
WMQ				LR	LR		
	comp=Z,98nm,7.0s						
KOLN	**Koldanda**	**15.72**	**124**	*e*P	**Pn**	**09 48 00.5**	**+3.3**
	comp=Z,9.1nm,0.3s						
GKN	**Gorkha**	**16.27**	**121**	*e*P	**Pn**	**09 48 06.3**	**+2.0**
	comp=Z,157nm,0.8s						
DMN	**Daman**	**16.84**	**121**	*e*P	**Pn**	**09 48 12.4**	**+0.9**
	comp=Z,61nm,1.0s						
KKN	**Kakani**	**16.85**	**120**	*e*P	**Pn**	**09 48 12.9**	**+1.3**
	comp=Z,52nm,0.6s						
PKI	**Pulchoki**	**17.07**	**120**	*e*P	**Pn**	**09 48 14.6**	**+0.1**
	comp=Z,70nm,0.8s						
GUN	**Gumba**	**17.19**	**119**	*e*P	**Pn**	**09 48 16.6**	**+0.7**
	comp=Z,77nm,0.8s						
ZAL	**Zalesovo**	**19.81**	**29**	P	**Pn**	**09 48 45.7**	**-2.0**
ZAA0	**Zalesovo Array**	**19.83**	**29**	*e*P	**Pn**	**09 48 45.5**	**-2.5**
ZALV	**Zalesovo Beam**	**19.83**	**29**	P	**Pn**	**09 48 45.7**	**-2.2**
	comp=Z,1.8nm,0.3s,baz=218,slow=11,SNR=28						
NVS	**Novosibirsk**	**19.97**	**25**	*i* P	**Pn**	**09 48 47.7**	**-1.9**
NVS				pmax	pmax		
	comp=N,10.0nm,0.6s						
NVS				pmax	pmax		
	comp=Z,8.0nm,0.6s						
NVS				pmax	pmax		
	comp=E,8.0nm,0.5s						
LSA	**Lhasa**	**20.10**	**106**	*e*P	**P**	**09 48 50.2**	**+0.7**
ARU	**Arti**	**20.20**	**343**	*c i* P	**P**	**09 48 50.5**	**+0.1**
ARU				*e*		09 49 05.7	
ARU				*e*PPP		09 49 12.8	
ARU				*e*S	**S**	**09 52 29.7**	**-7.8**
ARU				*e*SS		09 52 46.3	
ARU				pmax	pmax		
	comp=Z,11nm,1.2s						
ARU				MLR	MLR		
	comp=Z,246nm,20.0s,MS3.6						
ARU	**Arti**	**20.20**	**343**	*e*P	**P**	**09 48 52.0**	**+1.6**
	comp=Z,6.6nm,0.6s						
KIV	**Kislovodsk**	**20.82**	**296**	*e*P	**P**	**09 49 01.1**	**+3.8**
KIV				*e*S	**S**	**09 52 48.7**	**-1.4**
KIV				pmax	pmax		
	comp=Z,11nm,1.0s						
KIV				MLR	MLR		
	comp=Z,83nm,12.0s,MS3.3						
HYB	**Hyderabad**	**21.71**	**154**	*i* P	**P**	**09 49 05.0**	**-2.1**
GTA	**Gaotai**	**24.28**	**76**	*e*P	**P**	**09 49 32.9**	**-0.2**
GTA				AP		09 49 37.5	
GTA				XP	sP	09 49 40.8	+6.7
GTA				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.1						
GTA				AMB	AMB		
	comp=Z,82nm,5.7s						
GTA				LR	LR		
	comp=N,107nm,11.5s,MS3.8						
GTA				LR	LR		
	comp=E,136nm,12.2s,MS3.8						
GTA				LR	LR		
	comp=Z,155nm,12.6s,MS3.7						
MOY	**Mondy**	**26.69**	**48**	*e*P	**P**	**09 49 56.9**	**+2.0**
ZAK	**Zakamensk**	**27.70**	**51**	*e*P	**P**	**09 50 03.9**	**-0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.6s,mb3.5						
EIL	**Elat**	**29.18**	**265**	LR	LR	10 04 21.0	
	comp=Z,64nm,19.2s,MS3.3,baz=108,slow=41						
SONM	**Songino Array**	**29.24**	**57**	P	**P**	**09 50 17.8**	**+0.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=235,slow=12,SNR=3.9						
SONM				LR	LR	10 02 57.7	
	comp=Z,65nm,21.6s,MS3.2,baz=229,slow=38						
CD2	**Chengdu**	**29.49**	**92**	*e*P	**P**	**09 50 21.5**	**+1.4**
CD2				XP	sP	09 50 28.8	+7.7
CD2				PP	PP	09 51 16.1	-10
CD2				S	**S**	**09 55 12.2**	**-3.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	com

IDC 03 09:48:15.2±2.1, 038N×12719E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/14, mbtmp3.4/3, 1D, Error ellipse: s-maj=174.0km s-min=26.1km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**0.45**	**24**	‖*eP*	Pg	09 48 15.0	-8.8
WRA	**Warrumunga Arr**	**21.37**	**161**	P	P	09 53 05.1	+0.7
	0.5nm,0.9s,baz=340,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.77**	**165**	P	P	09 53 38.5	-0.3
	0.6nm,0.9s,baz=346,slow=11,SNR=3.8						
MKAR	**Makanchi Array**	**60.57**	**326**	P	P	09 58 27.6	+0.1
	0.9nm,0.6s,baz=123,slow=8.3,SNR=6.5						

*ISCJB **03** 09:53:49.6±0.7, 5141N±003×16.10E±003, h0km, Error ellipse: s-maj=4.9km s-min=2.7km az=18.9*
*IPEC **03** 09:53:50.5±0.3, 5150N×1657E, h0km, ML2.1/4, Error ellipse: s-maj=3.0km s-min=1.9km az=97.0*
*WAR **03** 09:53:50.8, 5152N×1611E, ML2.6, Mining Induced*
*CSEM **03** 09:53:51.4±0.3, 5145N×1609E, h1km, ML3.2/9, Error ellipse: s-maj=4.3km s-min=2.7km az=10.0*
*VIE **03** 09:53:51.9±0.3, 5130N×1610E, h0km, mb2.3/2, ML2.8/4, Error ellipse: s-maj=2.4km s-min=2.0km az=95.0 67 km WNW of Wroclaw Suspected Mining induced.*
*PRU **03** 09:53:51.8, 5144N×1608E, h0km*

ISC 03 09:53:50.3±0.7, 5148N±003×1608E±003, h0km, n26, σ1§06/49, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.65**	**168**	*e*Pg	**Pg**	**09 54 03.3**	**+0.5**
KSP				*e*Sg	**Sg**	**09 54 12.5**	**+1.3**
KSP	**Ksiaz**	**0.65**	**168**	*e*Pg	**Pg**	**09 54 03.2**	**+0.4**
KSP				*e*Sg	**Sg**	**09 54 12.4**	**+1.2**
UPC	**Upice**	**0.97**	**183**	*e*Pg	**Pg**	**09 54 09.5**	**+0.5**
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*Pg	**Pg**	**09 54 12.1**	**-0.1**
DPC				*e*Sg	**Sg**	**09 54 27.3**	**+0.4**
DPC	**Dobruska-Polom**	**1.14**	**172**	*e*PG	**Pg**	**09 54 12.2**	**0.0**
DPC				*e*SG	**Sg**	**09 54 27.3**	**+0.4**
	comp=Z,31nm,0.4s						
PVCC	**Panska Ves**	**1.35**	**226**	*e*Pg	**Pg**	**09 54 16.5**	**+0.3**
BRG	**Berggiesshubel**	**1.48**	**247**	PN	**Pn**	**09 54 18.4**	**+0.3**
BRG				PG	**Pg**	**09 54 18.9**	**+0.3**
BRG				SG	**Sg**	**09 54 39.0**	**+1.3**
	comp=Z,58nm,0.3s						
PRU	**Pruhonice**	**1.79**	**214**	*e*Pg	**Pg**	**09 54 23.6**	**-0.9**
PRU				*e*Sg	**Sg**	**09 54 47.3**	**-0.3**
	comp=Z,33nm,0.5s						
CLL	**Collm**	**1.94**	**266**	*e*Pn	**Pn**	**09 54 23.0**	**-1.5**
CLL				*i* Pg	**Pg**	**09 54 26.9**	**-0.5**
CLL				*i* x	x	09 54 29.5	
CLL				*e*Sg	**Sg**	**09 54 52.0**	**-0.5**
	comp=Z,17nm,0.6s						
CLL				*e*x	x	09 55 00.0	
MORC	**Moravsky Berou**	**1.94**	**151**	*e*Pn	**Pn**	**09 54 23.5**	**-1.0**
MORC				*e*Sg	**Sn**	**09 54 48.1**	**-1.5**
OKC	**Ostrava-Krasne**	**2.10**	**141**	*e*Pg	**Pg**	**09 54 29.9**	**-0.7**
OKC				*e*Sg	**Sg**	**09 54 57.6**	**-0.3**
	comp=Z,25nm,0.6s						
VRAC	**Vranov**	**2.20**	**171**	*e*Pn	**Pn**	**09 54 28.5**	**+0.5**
VRAC				*e*Sg	**Sg**	**09 54 59.0**	**-1.9**
	comp=Z,14nm,0.3s						
KRUC	**Moravsky**	**2.43**	**175**	*e*Pn	**Pn**	**09 54 31.8**	**+0.6**
KRUC				*e*Sg	**Sg**	**09 55 06.3**	**-2.0**
	comp=Z,5.7nm,0.2s						
NKC	**Novy Kostel**	**2.62**	**243**	*e*PN	**Pn**	**09 54 35.5**	**+1.7**
NKC				*e*PG	**Pg**	**09 54 40.8**	**+0.3**
NKC				*e*SG	**Sg**	**09 55 16.6**	**+2.2**
	comp=Z,32nm,0.4s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**09 54 40.3**	**-1.2**
OJC				*e*Sg	**Sg**	**09 55 15.7**	**-0.4**
JAVC	**Velka Javorina**	**2.81**	**158**	*e*Sg	**Sg**	**09 55 20.2**	**-0.5**
	comp=Z,9.1nm,0.5s						
KHC	**Kasperske Hory**	**2.85**	**215**	*e*PN	**Pn**	**09 54 38.2**	**+1.2**
KHC				*e*PG	**Pg**	**09 54 43.2**	**-1.7**
KHC				*e*SN	**Sn**	**09 55 11.9**	**0.0**
KHC				*e*SG	**Sg**	**09 55 20.9**	**-0.8**
	comp=Z,13nm,0.7s						
MODS	**Modra-Piesok**	**3.20**	**166**	*e*Sg	**Sg**	**09 55 33.2**	**0.0**
MODS	**Modra-Piesok**	**3.20**	**166**	*e*SG	**Sg**	**09 55 33.2**	**0.0**
KOLL	**Kolacno**	**3.27**	**152**	*e*SG	**Sg**	**09 55 36.8**	**+1.6**
ZST	**Bratislava**	**3.35**	**168**	*e*Sg	**Sg**	**09 55 40.1**	**+2.1**
VYHS	**Vyhne**	**3.48**	**148**	*e*Sg	**Sg**	**09 55 44.3**	**+2.3**
	comp=Z,1.9nm,0.9s						
CONA	**Conrad Observa**	**3.56**	**182**	‖*i*Pn	**Pn**	**09 54 46.1**	**-0.7**
CONA				⇑*i*Sg	**Sg**	**09 55 43.8**	**-0.8**
	comp=Z,19nm,0.6s						
MOA	**Molln**	**3.82**	**199**	⇑*i*Pn	**Pn**	**09 54 49.6**	**-0.7**
MOA				⇑*i*Sg	**Sg**	**09 55 52.6**	**-0.4**
	comp=Z,16nm,0.8s						
MOA	**Molln**	**3.82**	**199**	Pn	**Pn**	**09 54 49.6**	**-0.7**
MOA				Sg	**Sg**	**09 55 52.6**	**-0.4**
	comp=Z,16nm,0.8s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PG	**Pg**	**09 55 05.9**	**+1.0**
STHS				*e*SG	**Sg**	**09 55 56.3**	**+1.0**

IDC 03 09:54:40.0±5.7, 786S×15783E, h0km, mb4.0/4, mb1 4.2/5, mb1mx3.8/14, mbtmp4.0/5, ML4.0/1, MS3.4/2, Ms1 3.3/2, ms1mx2.6/15, Error ellipse: s-maj=121.1km s-min=25.0km az=14.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.61**	**127**	Pn	Pn	09 55 22.0	-1.5
	30nm,0.3s,baz=269,slow=2.6,SNR=8.7						
HNR				Sn	Sn	09 55 55.8	-0.2
	399nm,0.3s,baz=276,slow=21,SNR=14						
WRA	**Warramunga Arr**	**25.73**	**240**	P	P	10 00 11.8	-0.6
	2.6nm,0.6s,baz=66,slow=9.3,SNR=40						
WRA				LR	LR	10 09 50.4	
	comp=Z,62nm,19.9s,baz=35,slow=35						
ASAR	**Alice Springs**	**27.80**	**233**	P	P	10 00 30.2	-0.8
	0.7nm,1.0s,baz=59,slow=11,SNR=4.9						
STKA	**Stephens Creek**	**28.28**	**210**	P	P	10 00 35.8	+0.6
	4.6nm,0.9s,baz=17,slow=14,SNR=3.4						
STKA				LR	LR	10 11 18.3	
	comp=Z,80nm,18.3s,baz=47,slow=35						
VNDA	**Vanda**	**69.66**	**179**	P	P	10 05 52.2	+1.3
	0.4nm,0.4s,baz=18,slow=6.4,SNR=6.5						

*ISK **03** 10:04:56.9, 4154N×3377E, h5km, MD2.8*
*CSEM **03** 10:04:57.7±0.1, 4154N×3376E, h5km, MD2.8, Error ellipse: s-maj=2.0km s-min=1.7km az=146.0*
*ISCJB **03** 10:04:58.6±0.6, 4153N±004×3379E±004, h5km, Error ellipse: s-maj=6.3km s-min=4.8km az=172.5*
*DDA **03** 10:04:58.0, 4173N×3379E, h7km±3km, Md2.6*

ISC 03 10:04:59.0±0.7, 4153N±005×3379E±005, h8km±13km, n9, σ0§80/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALT	**Daday**	**0.30**	**272**	*i* P	**Pg**	**10 05 04.5**	**-0.4**
BALT				*i* S	**Sg**	**10 05 10.4**	**+1.5**
BZK	**Bozkurt**	**0.47**	**21**	*e*PG	**Pg**	**10 05 07.0**	**-1.1**
BZK				*e*SG	**Sg**	**10 05 14.7**	**+0.6**
TOS	**Tosya**	**0.52**	**160**	*e*PG	**Pg**	**10 05 08.7**	**-0.3**
BYBT	**Boyabat**	**0.74**	**94**	*e*PG	**Pg**	**10 05 12.6**	**-0.6**
BYBT				*e*SG	**Sg**	**10 05 24.0**	**+1.2**
BOYT	**Boyabat**	**0.85**	**97**	*e*P	**Pg**	**10 05 14.7**	**-0.6**
SAFT	**Safranbolu**	**0.87**	**251**	*e*PG	**Pg**	**10 05 14.6**	**-1.2**
ELDT	**Eldivan**	**1.07**	**195**	*e*P	**Pg**	**10 05 19.7**	**+0.2**
CTKT	**Corum**	**1.18**	**140**	*i* P	**Pb**	**10 05 21.9**	**+0.3**
CORM	**Corum**	**1.49**	**154**	*e*PN	**Pn**	**10 05 26.4**	**+0.4**

*CSEM **03** 10:19:48.5±0.1, 3795N×3102E, h2km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.0km az=132.0*
*ISK **03** 10:19:49.6, 3794N×3098E, h12km, MD3.0*
*ISCJB **03** 10:19:50.1±0.6, 3796N±004×3099E±005, h7km, Error ellipse: s-maj=6.4km s-min=4.6km az=41.1*
*DDA **03** 10:19:51.3, 3804N×3094E, h7km±3km, Md3.1*

ISC 03 10:19:50.1±0.8, 3796N±004×3101E±006, h6km±8km, n12, σ0§91/16, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.41**	**255**	*e*PG	**Pg**	**10 19 57.0**	**-1.1**
ISP				*e*SG	**Sg**	**10 20 03.5**	**+0.1**
TKTP	**Tekketepe**	**0.56**	**279**	‖*i*P	**Pg**	**10 19 59.5**	**-1.2**
BCK	**Bucak**	**0.60**	**214**	*e*PG	**Pg**	**10 20 00.9**	**-0.7**
BCK				*e*SG	**Sg**	**10 20 10.4**	**+1.1**
SHUT	**Suhut-Afyon**	**0.70**	**329**	*e*PG	**Pg**	**10 20 03.9**	**+0.4**
SHUT				*e*SG	**Sg**	**10 20 14.1**	**+1.5**
KDHN	**Kadinhani**	**1.04**	**57**	*i* P	**Pg**	**10 20 09.8**	**-0.1**
KONT	**Konya--Tatoy**	**1.06**	**90**	*e*PN	**Pn**	**10 20 11.1**	**-0.4**
KIZT	**Kizilcal**	**1.15**	**36**	*e*PN	**Pn**	**10 20 12.4**	**-0.3**
GOLH	**Golhisar**	**1.36**	**239**	*e*P	**Pn**	**10 20 15.0**	**-0.5**
GOLH				*i* S	**Sb**	**10 20 34.2**	**+0.7**
ESKT	**Eskisehir**	**1.57**	**355**	*e*PN	**Pn**	**10 20 18.2**	**-0.2**
SEYT	**Eskypehyr**	**1.57**	**355**	*e*P	**Pn**	**10 20 18.2**	**-0.2**
GDZ	**Gediz**	**1.65**	**314**	*e*P	**Pn**	**10 20 19.1**	**-0.5**
ERMK	**Ermenek**	**2.00**	**130**	*e*P	**Pn**	**10 20 27.3**	**+2.9**

*SKO **03** 10:30:34.7, 4040N×1950E, h2km*
*TIR **03** 10:30:36.2±1.7, 4065N×1979E, h0km±999km, ML3.4*
*ISCJB **03** 10:30:38.8±0.6, 4067N±003×1966E±004, h3km±5km, Error ellipse: s-maj=5.5km s-min=4.1km az=39.5*
*CSEM **03** 10:30:39.1±0.2, 4070N×1967E, h5km, ML3.6, Error ellipse: s-maj=4.2km s-min=3.8km az=116.0*
*THE **03** 10:30:39.1, 4066N×1967E, h3km, ML3.6*
*ATH **03** 10:30:43.4, 4040N×1973E, h27km±6km, MD3.4/5*

ISC 03 10:30:39.4±0.6, 4068N±003×1962E±004, h5km±5km, n26, σ1§38/43, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLO	**Vlora**	**0.23**	**205**	*i* PG	**Pg**	**10 30 43.1**	**-0.8**
VLO				*i* SG	**Sg**	**10 30 48.4**	**+1.5**
TIR	**Tirane**	**0.69**	**15**	*e*Pg	**Pg**	**10 30 52.4**	**-0.3**
TIR				*e*Sg	**Sg**	**10 31 03.3**	**+1.6**
TIR	**Tirane**	**0.69**	**15**	*i* PG	**Pg**	**10 30 52.5**	**-0.2**
TIR				*i* SG	**Sg**	**10 31 06.3**	**+4.6**
SRN	**Sarande**	**0.85**	**160**	*i* PG	**Pg**	**10 30 56.3**	**+0.7**
SRN				*i* SG	**Sg**	**10 31 09.6**	**+3.0**
QSH	**Qafa e Shtames**	**0.87**	**14**	*i* PN	**Pn**	**10 30 59.6**	**+1.4**
QSH				*i* SN	**Sn**	**10 31 18.6**	**+7.3**
KBN	**Korca**	**0.89**	**93**	*i* Pg	**Pg**	**10 30 54.2**	**-2.2**
KBN				*i* Sg	**Sg**	**10 31 07.9**	**0.0**
KEK	**Kerkira**	**0.97**	**172**	*e*PN	**Pn**	**10 30 57.2**	**-2.5**
OHR	**Ohrid**	**0.99**	**64**	*e*Pg	**Pg**	**10 30 56.9**	**-1.5**
OHR				*e*Sg	**Sg**	**10 31 11.9**	**+0.6**
OHR	**Ohrid**	**0.99**	**64**	*e*Pg	**Pg**	**10 30 56.4**	**-2.0**
OHR				*e*Sg	**Sg**	**10 31 13.7**	**+2.5**
IGT	**Igoumenitsa**	**1.27**	**154**	*e*Pg	**Pg**	**10 31 01.7**	**-1.9**
IGT				*e*Sg	**Sg**	**10 31 20.8**	**+0.7**
BIA	**Bitola**	**1.33**	**75**	*e*Pg	**Pg**	**10 31 03.2**	**-1.8**
BIA				*e*Sg	**Sg**	**10 31 22.9**	**+0.7**
BIA	**Bitola**	**1.33**	**75**	*e*Pn	**Pn**	**10 31 02.2**	**-2.4**
BIA				*e*Sg	**Sg**	**10 31 23.2**	**+1.0**
BIA	**Bitola**	**1.33**	**75**	*e*Pg	**Pg**	**10 31 03.2**	**-1.7**
BIA				*e*Sg	**Sg**	**10 31 23.2**	**+1.0**
FNA	**Florina**	**1.33**	**85**	*e*Pg	**Pg**	**10 31 03.0**	**-2.0**
FNA				*e*Sg	**Sg**	**10 31 22.9**	**+0.6**
PUK	**Puka**	**1.38**	**8**	*i* PN	**Pn**	**10 31 05.6**	**+0.4**
PUK				*i* SN	**Sn**	**10 31 29.4**	**+5.6**
JAN	**Janina**	**1.39**	**137**	*e*PN	**Pn**	**10 31 05.5**	**+0.2**
KRUS	**Krusevo**	**1.41**	**60**	*e*Pn	**Pn**	**10 31 04.4**	**-1.2**
KRUS				*e*Sg	**Sg**	**10 31 26.6**	**+2.0**
KRUS	**Krusevo**	**1.41**	**60**	*e*Pn	**Pn**	**10 31 04.4**	**-1.3**
KRUS				*e*Sg	**Sg**	**10 31 26.6**	**+1.9**
PE1	**Pezze di Greco**	**1.68**	**275**	*e*Pn	**Pn**	**10 31 08.2**	**-1.1**
KZN	**Kozani**	**1.68**	**102**	*e*PN	**Pn**	**10 31 11.5**	**+2.1**
GRG	**Griva**	**2.13**	**82**	*e*Pn	**Pn**	**10 31 15.3**	**-0.3**
THL	**Klokotos Trika**	**2.14**	**120**	*e*Pn	**Pn**	**10 31 15.5**	**-0.3**
THL	**Klokotos Trika**	**2.14**	**120**	*e*PN	**Pn**	**10 31 16.5**	**+0.7**
SG1	**Sgolgore (BA)**	**2.24**	**275**	*e*Pn	**Pn**	**10 31 19.2**	**+2.1**
EVR	**Evrytania**	**2.43**	**136**	*e*PN	**Pn**	**10 31 20.0**	**+0.2**
AGG	**Agios Georgios**	**2.66**	**128**	*e*Pn	**Pn**	**10 31 22.8**	**-0.1**
AGG				*e*Sn	**Sn**	**10 31 55.9**	**+0.5**

NNC 03 10:36:41.9±7.1, 3752N×7080E, h0km, mb3.7, mpv3.5, 5C-2D, Error ellipse: s-maj=51.4km s-min=43.9km az=13.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**5.58**	**358**	⇑Pn	Pn	10 38 09.2	+3.1
	2.9nm,0.5s,baz=179,slow=14						
KK31				⇑Sn	Sn	10 39 16.8	+5.9
	4.2nm,0.7s,baz=173,slow=23						
KK31				‖Lg		10 39 38.8	
	7.1nm,0.6s,baz=180,slow=31						
TKM2	**Tokmak 2**	**6.52**	**33**	‖Pn	Pn	10 38 15.4	-3.6
	1.8nm,0.5s						
TKM2				⇑Sn	Sn	10 39 39.1	+5.1
	11nm,1.7s						
AB31	**Akbulak array**	**14.12**	**330**	⇑Pn	Pn	10 40 07.1	+4.1
	0.2nm,0.3s						
AB31				⇑Sn	Sn	10 42 44.3	+4.0
	1.1nm,0.6s,baz=145,slow=24,SNR=7.3						

*IDC **03** 10:45:08.6±5.7, 2531N×9482E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.2/21, mbtmp3.3/3, Error ellipse: s-maj=549.3km s-min=28.9km az=60.0*
*ISCJB **03** 10:45:09.5±1.1, 256N±02×956E±01, h10km, mb3.4/3, Error ellipse: s-maj=24.5km s-min=17.1km az=10.3*

ISC 03 10:45:11.1±1.1, 257N±02×955E±01, h10km, n5, σ0§52/6, mb3.4/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.67**	**238**	*e*P	**Pn**	**10 45 40.0**	**-0.5**
SHL	**Shillong**	**3.27**	**269**	*e*PN	**Pn**	**10 46 03.0**	**+0.6**
SHL				*e*SN	**Sn**	**10 46 32.0**	**-9.4**
MKAR	**Makanchi Array**	**23.56**	**337**	P	**P**	**10 50 21.6**	**-0.3**
	0.4nm,0.4s,mb3.2,baz=161,slow=8.3,SNR=5.2						
WRA	**Warramunga Arr**	**58.99**	**136**	P	**P**	**10 55 11.1**	**0.0**
	0.2nm,0.7s,mb3.3,baz=324,slow=7.1,SNR=6.1						
ASAR	**Alice Springs**	**61.54**	**140**	P	**P**	**10 55 28.9**	**+0.2**
	0.3nm,0.6s,mb3.6,baz=324,slow=6.3,SNR=5.2						

*ISCJB **03** 10:52:38.9±3.1, 256N±02×909E±01, h9km±16km, mb3.4/4, Error ellipse: s-maj=33.0km s-min=13.1km az=28.6*
*IDC **03** 10:52:40.4±2.5, 2569N×9145E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, Error ellipse: s-maj=94.8km s-min=25.0km az=73.0*

ISC 03 10:52:41.6±3.3, 256N±02×910E±02, h12km±16km, n6, σ1§17/8, mb3.4/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**0.78**	**93**	*i* PG	**Pg**	**10 52 57.0**	**+0.4**
SHL				*e*SG	**Sg**	**10 53 06.0**	**-0.8**
IMP	**Imphal**	**2.76**	**107**	*e*P	**Pn**	**10 53 27.0**	**+1.4**
IMP				*e*S	**Sb**	**10 54 05.0**	**+0.4**
MKAR	**Makanchi Array**	**22.25**	**344**	P	**P**	**10 57 39.0**	**+0.9**
	0.3nm,0.4s,mb3.0,baz=162,slow=8.8,SNR=4.4						
SONM	**Songino Array**	**25.27**	**25**	P	**P**	**10 58 06.6**	**-0.9**
	0.4nm,0.5s,mb3.2,baz=204,slow=9.5,SNR=4.9						
WRA	**Warramunga Arr**	**61.82**	**133**	P	**P**	**11 02 59.7**	**-0.9**
	0.7nm,1.0s,mb3.8,baz=325,slow=6.9,SNR=7.0						
ASAR	**Alice Springs**	**64.21**	**136**	P	**P**	**11 03 15.9**	**-0.5**
	0.3nm,0.4s,mb3.7,baz=312,slow=6.3,SNR=5.4						

*HLW **03** 11:11:07.3, 2984N×3676E, h18km, Mb2.9*
*CSEM **03** 11:11:08.8±0.8, 2977N×3632E, h2km, ML2.8, Error ellipse: s-maj=17.8km s-min=10.8km az=59.0*
*ISCJB **03** 11:11:09.5±0.8, 2987N±003×3620E±005, h0km, Error ellipse: s-maj=6.4km s-min=4.2km az=2.7*
*SGS **03** 11:11:09.5, 2998N×3628E, h6km*
*GII **03** 11:11:11.1±0.0, 2992N×3615E, h0km, ML2.3/8*

ISC 03 11:11:09.4±0.9, 2986N±003×3625E±005, h0km, n18, σ0§77/31, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.07**	**280**	Pg	**Pg**	**11 11 29.1**	**-0.8**
HRFI				Sg	**Sg**	**11 11 43.8**	**0.0**
EIL	**Elat**	**1.15**	**261**	Pg	**Pg**	**11 11 31.7**	**+0.3**
EIL				Sg	**Sg**	**11 11 46.4**	**+0.2**
ZFRI	**Zfri**	**1.16**	**307**	Pg	**Pg**	**11 11 30.7**	**-0.9**
ZFRI				Sg	**Sg**	**11 11 45.6**	**-1.0**
MBH	**Mount Berech**	**1.16**	**267**	Pg	**Pg**	**11 11 31.5**	**-0.2**
MBH				Sg	**Sg**	**11 11 46.6**	**-0.2**
HQLS		**1.18**	**242**	P	**Pg**	**11 11 31.5**	**-0.4**
HQLS		**1.18**	**242**	P	**Pg**	**11 11 31.5**	**-0.5**
HQLS				S	**Sg**	**11 11 48.2**	**+1.0**
PRNI	**Paran**	**1.19**	**295**	Pg	**Pg**	**11 11 31.7**	**-0.4**
PRNI				Sg	**Sg**	**11 11 46.0**	**-1.5**
JLOS		**1.30**	**211**	P	**Pg**	**11 11 33.9**	**-0.5**
JLOS				S	**Sg**	**11 11 52.1**	**+0.8**
KRMI	**Paran Flat**	**1.35**	**281**	Pn	**Pn**	**11 11 34.8**	**-0.7**
KRMI				Sn	**Sn**	**11 11 54.4**	**+0.3**
HBST	**Basata**	**1.47**	**244**	P	**Pn**	**11 11 37.5**	**+0.3**
MZDA	**Masada**	**1.63**	**332**	Pn	**Pn**	**11 11 39.5**	**+0.1**
MZDA				Sn	**Sn**	**11 12 01.1**	**0.0**
YTIR	**Yattir**	**1.79**	**327**	Pn	**Pn**	**11 11 41.6**	**+0.1**
YTIR				Sn	**Sn**	**11 12 05.5**	**+0.6**
HDHB	**Dhahab**	**1.82**	**232**	P	**Pn**	**11 11 41.3**	**-0.7**
DSI	**Dead Sea**	**1.86**	**336**	Pn	**Pn**	**11 11 42.5**	**0.0**
DSI				Sn	**Sn**	**11 12 08.3**	**+1.6**
KZIT	**Kziot**	**1.91**	**303**	Pn	**Pn**	**11 11 44.1**	**+0.9**
KZIT				Sn	**Sn**	**11 12 08.4**	**+0.4**
HNKL	**Nakhl**	**1.97**	**273**	P	**Pn**	**11 11 44.6**	**+0.6**
HNKL				S	**Sn**	**11 12 12.1**	**+2.6**
RSHS		**2.01**	**220**	P	**Pn**	**11 11 43.5**	**-1.1**
HKAT	**Jabal Katrina**	**2.38**	**236**	P	**Pn**	**11 11 49.4**	**-0.3**

*IDC **03** 11:15:20.0±1.1, 109S×13360E, h0km, mb4.0/6, mb1 4.3/9, mb1mx4.1/18, mbtmp4.2/9, ML4.4/3, MS3.5/3, Ms1 3.5/3, ms1mx2.9/25, Error ellipse: s-maj=47.4km s-min=10.4km az=81.0*
*ISCJB **03** 11:15:22.5±0.8, 116S±006×1336E±02, h30km, mb4.1/8, Error ellipse: s-maj=22.2km s-min=8.0km az=173.0*
*NEIC **03** 11:15:24.6±0.7, 114S×13368E, h30km, mb4.2/7, Error ellipse: s-maj=25.7km s-min=9.9km az=76.0*

ISC 03 11:15:20.8±3.3, 112S±006×1337E±02, h4km±21km, n23, σ1§23/27, mb4.1/8, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.59**	**186**	*e*P	**Pn**	**11 18 08.3**	**+1.2**
	26nm,0.6s						
KAKA	**Kakadu**	**11.59**	**186**	*e*Pn	**Pn**	**11 18 07.4**	**+0.3**
KAKA				*e*Sn	**Sn**	**11 20 14.9**	**-2.2**
BATI	**Kupang**	**13.46**	**228**	Pn	**Pn**	**11 18 33.2**	**+0.5**
	2.0nm,0.3s,baz=37,slow=18,SNR=2.9						
BATI				LR	LR	11 24 06.6	
	comp=Z,204nm,21.1s,baz=105,slow=39						
FITZ	**Fitzroy Crossi**	**18.64**	**205**	*e*P	**Pn**	**11 19 39.8**	**-0.2**
	7.6nm,0.6s						
FITZ				*e*S	Sx	11 22 57.8	
FITZ	**Fitzroy Crossi**	**18.64**	**205**	P	**Pn**	**11 19 39.7**	**-0.3**
	0.6nm,0.3s,baz=54,slow=12,SNR=19						
FITZ				S	Sx	11 22 59.3	
	0.3nm,0.3s,baz=212,slow=17,SNR=6.1						
WRAB	**Tennant Creek**	**18.71**	**178**	*e*P	**Pn**	**11 19 39.6**	**-1.1**
	22nm,0.8s						
WRAB				*e*S	**Sn**	**11 23 06.7**	**-3.8**
WRA	**Warramunga Arr**	**18.72**	**178**	P	**Pn**	**11 19 40.1**	**-0.8**
WRA				S	**Sn**	**11 23 13.6**	**+2.8**
WRA	**Warramunga Arr**	**18.72**	**178**	P	**Pn**	**11 19 40.1**	**-0.8**
	1.5nm,0.3s,baz=356,slow=12,SNR=99						
WRA				S	**Sn**	**11 23 13.5**	**+2.8**
	0.2nm,0.3s,baz=7.6,slow=20,SNR=5.9						
WRA				LR	LR	11 27 12.7	
	comp=Z,121nm,19.7s,baz=10.0,slow=38						
WB2	**Warramunga Arr**	**18.72**	**178**	*e*P	**Pn**	**11 19 40.4**	**-0.5**
WB2	**Warramunga Arr**	**18.72**	**178**	*e*P	**Pn**	**11 19 40.4**	**-0.5**
ASAR	**Alice Springs**	**22.41**	**180**	P	**P**	**11 20 21.1**	**+0.5**
	12nm,0.7s,mb4.4,baz=1.8,slow=11,SNR=59						
ASAR				S	**S**	**11 24 28.6**	**+0.9**
	3.6nm,0.9s,baz=7.7,slow=24,SNR=6.5						
CTA	**Charters Tower**	**22.50**	**148**	*e*P	**P**	**11 20 23.0**	**+1.5**
	6.3nm,0.9s,mb4.0						
CTA	**Charters Tower**	**22.50**	**148**	P	**P**	**11 20 23.4**	**+1.9**
	4.7nm,1.0s,mb3.9,baz=319,slow=10,SNR=3.8						
CTAO	**Charters Tower**	**22.50**	**148**	*e*P	**P**	**11 20 22.6**	**+1.2**
	5.0nm,0.8s,mb4.0						
MBWA	**Marble Bar**	**24.14**	**213**	*e*P	**P**	**11 20 40.0**	**+2.0**
	7.8nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**31.49**	**167**	*e*P	**P**	**11 21 42.2**	**-1.6**
	4.5nm,1.0s,mb4.2						
STKA	**Stephens Creek**	**31.49**	**167**	*e*P	**P**	**11 21 42.0**	**-1.8**
	8.8nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**31.49**	**167**	P	**P**	**11 21 42.8**	**-1.0**
	4.0nm,0.9s,mb4.2,baz=344,slow=8.6,SNR=3.7						
SONM	**Songino Array**	**54.25**	**338**	P	**P**	**11 24 48.5**	**+0.6**
	0.3nm,0.3s,mb3.7,baz=139,slow=6.8,SNR=3.9						
URZ	**Urewera**	**54.28**	**138**	LR	LR	11 45 33.9	
	comp=Z,70nm,21.1s,baz=100,slow=33						
MKAR	**Makanchi Array**	**65.52**	**324**	P	**P**	**11 26 04.0**	**-1.4**
	1.0nm,0.6s,mb4.0,baz=115,slow=7.1,SNR=8.0						
ZALV	**Zalesovo

KKM Kota Kinabalu 11.14 294 *e*Pn Pn **11 30 04.8 +3.7**
BATP Bataraza 11.24 311 *e*P Pn **11 30 04.2 +1.8**
OTRP Odiongan 11.65 338 *e*P Pn **11 30 06.6 -1.4**
BATI Kupang 11.94 193 P Pn **11 30 15.4 +3.4**
11nm,0.3s,baz=278,slow=1.0,SNR=16
PVCP Virac 12.24 350 *e*P Pn **11 30 16.3 +0.3**
LUBP Lubang 13.61 334 *e*P Pn **11 30 34.6 0.0**
SBUM Sibu 14.22 274 ⇓P Pn **11 30 44.6 +2.0**
KHKI Kahang-Kahang 14.56 228 P Pn **11 30 54.1 +7.2**
387nm,1.1s
BALP Baler 14.95 342 *e*P Pn **11 30 53.6 +1.7**
KMMI Kalianget 15.04 236 P Pn **11 30 58.4 +5.2**
284nm,1.1s
DNP Denpasar 15.06 228 P Pn **11 31 00.1 +6.7**
1μm,1.4s
KAKA Kakadu 15.32 157 *e*P Pn **11 30 53.7 -3.1**
631nm,0.8s
CAUP Cauayan 16.01 344 *e*P Pn **11 31 05.7 +0.2**
KSM Kuching 16.10 270 *e*P Pn **11 31 10.8 +4.1**
KSM Kuching 16.10 270 ⇑P Pn **11 31 07.1 +0.4**
KRKI Karangkates 16.90 235 P Pn **11 31 22.4 +5.7**
434nm,1.0s
BJII Banjamegara 18.83 242 P Pn **11 31 40.2 +0.1**
124nm,1.6s
FITZ Fitzroy Crossi 19.48 182 ⇑*i*P Pn **11 31 45.4 -2.3**
84nm,1.1s
FITZ *e*S **S** **11 35 22.6 +0.3**
FITZ Fitzroy Crossi 19.48 182 P Pn **11 31 45.4 -2.3**
3.0nm,0.3s,baz=18,slow=9.7,SNR=90
FITZ S **S** **11 35 20.3 -2.0**
baz=237,slow=16,SNR=4.0
GUMO Guam 21.86 56 P **P** **11 32 11.9 +0.3**
41nm,0.5s,mb5.0,baz=28,slow=22,SNR=3.7
GUMO LR LR 11 40 19.0
comp=Z,161nm,19.4s,baz=228,slow=35
MYKOM Kota Tinggi 22.56 271 ⇑P **P** **11 32 18.3 -0.8**
WRAB Tennant Creek 22.66 160 P **P** **11 32 19.0 -1.0**
5μm,0.6s
WRAB Tennant Creek 22.66 160*c i*P **P** **11 32 19.4 -0.6**
WRAB Tennant Creek 22.66 160 *e*P **P** **11 32 19.5 -0.5**
683nm,0.8s,mb6.0
WRAB *e*S **S** **11 36 21.6 -1.5**
WRA Warramunga Arr 22.67 160 P **P** **11 32 19.4 -0.7**
WRA S **S** **11 36 21.3 -1.9**
WRA Warramunga Arr 22.67 160 P **P** **11 32 19.4 -0.7**
617nm,0.8s,mb6.0,baz=340,slow=11,SNR=477
WRA S **S** **11 36 21.3 -1.9**
43nm,1.0s,baz=340,slow=17,SNR=15
WRA ScP ScP 11 39 43.4 +1.3
2.4nm,0.9s,baz=350,slow=4.2,SNR=5.1
WB2 Warramunga Arr 22.67 160 ⇑*i*P **P** **11 32 19.4 -0.7**
WB2 *e*S **S** **11 36 20.9 -2.4**
WB2 *e*SCS ScS 11 43 25.6 -2.2
MBWA Marble Bar 23.44 196 *e*P **P** **11 32 27.4 -0.2**
45nm,0.8s,mb4.8
YHNB Yeheng 23.56 348 *e*P **P** **11 32 23.4 -5.2**
QIZ Qiongzhong 23.83 318 P **P** **11 32 30.1 -1.1**
QIZ S **S** **11 36 45.6 +3.6**
QIZ XS sS 11 36 52.2 -19
QIZ AMB AMB
comp=Z,53nm,2.0s,mb4.5
QIZ LR LR
comp=N,606nm,18.1s
QIZ LR LR
comp=E,502nm,19.4s
QIZ LR LR
comp=Z,1μm,29.2s
QIZ Qiongzhong 23.83 318 *e*P **P** **11 32 29.9 -1.3**
comp=Z,160nm,1.6s,mb5.1
KSI Kapahiang 24.35 258 P **P** **11 32 43.4 +7.3**
comp=Z,122nm,0.9s,mb5.2
QZH Quanzhou 24.51 343 P **P** **11 32 36.1 -1.3**
QZH S **S** **11 36 50.9 -2.1**
QZH AMB AMB
comp=Z,500nm,5.6s
GZH Guangzhou 24.94 330 P **P** **11 32 43.5 +2.2**
GZH S **S** **11 37 07.7 +7.9**
GZH LR LR
comp=N,461nm,21.0s
GZH LR LR
comp=E,297nm,17.3s
GZH LR LR
comp=Z,544nm,28.4s
JOW Kunigami 25.26 4 P **P** **11 32 44.8 +0.6**
comp=Z,99nm,0.9s,mb5.2,baz=188,slow=7.9,SNR=22
ASAR Alice Springs 26.04 164 P **P** **11 32 51.4 +0.1**
ASAR S **S** **11 37 16.2 -1.0**
ASAR Alice Springs 26.04 164 P **P** **11 32 51.4 +0.1**
comp=Z,75nm,0.7s,mb5.2,baz=345,slow=9.2,SNR=319
ASAR S **S** **11 37 16.2 -1.0**
comp=Z,21nm,1.0s,baz=350,slow=18,SNR=9.6
ASAR ScP ScP 11 39 53.4 +2.0
comp=Z,2.0nm,0.9s,baz=2.5,slow=2.1,SNR=3.7
PSI Prapat 27.50 273 P **P** **11 33 04.8 +0.2**
comp=Z,9.8nm,0.5s,mb4.6,baz=97,slow=5.7,SNR=4.6
PSI Prapat 27.50 273 ⇑*e*P **P** **11 33 03.6 -1.0**
KKTK Khon Kaen 27.53 304 P **P** **11 33 04.4 -0.3**
CTA Charters Tower 28.95 139 *e*P **P** **11 33 18.6 +1.2**
comp=Z,28nm,0.9s,mb4.9
CTA *e*SCP ScP 11 40 02.7 +2.4
CTA Charters Tower 28.95 139 *e*P **P** **11 33 18.6 +1.2**
CTA *e* 11 40 02.7
CTA pmax pmax
comp=Z,28nm,0.9s
CTA Charters Tower 28.95 139 P **P** **11 33 18.7 +1.3**
comp=Z,40nm,0.9s,mb5.0,baz=320,slow=11,SNR=28
CTA ScP ScP 11 40 02.1 +1.9
comp=Z,11nm,0.9s,baz=310,slow=2.9,SNR=5.0
CTAO Charters Tower 28.95 139 *e*P **P** **11 33 18.4 +1.0**
CTAO pmax pmax
comp=Z,50nm,1.0s,mb5.1
CTAO Charters Tower 28.95 139 *e*P **P** **11 33 18.4 +1.0**
comp=Z,50nm,1.0s,mb5.1
CBIJ Chichi jima 29.62 29 P **P** **11 33 22.2 -1.0**
comp=Z,39nm,0.4s,mb5.4,baz=210,slow=7.9,SNR=6.2
SSE Sheshan 29.86 351 P **P** **11 33 25.6 +0.3**
SSE AP pP 11 33 29.6 -13
SSE S **S** **11 38 25.0 +7.8**
SSE AMB AMB
comp=Z,28nm,0.9s,mb4.9
SSE LR LR
comp=N,411nm,26.6s
SSE LR LR
comp=E,100nm,26.6s
SSE LR LR
comp=Z,512nm,29.8s
NANT Nan 30.52 306 ⇑P **P** **11 33 30.5 -0.8**
comp=Z,88nm,0.7s,mb5.6
WHN Wuhan 31.08 340 *e*P **P** **11 33 35.7 -0.4**
NJ2 Nanjing 31.23 348 *e*P **P** **11 33 38.7 +1.4**
NJ2 AP pP 11 33 42.5 -12
NJ2 XP sP 11 33 45.7 -17
NJ2 PP PP 11 34 40.5 -8.6
NJ2 PPP 11 34 56.2
NJ2 S **S** **11 38 43.5 +4.9**
NJ2 XS sS 11 38 52.0 -16
NJ2 AMB AMB
comp=Z,60nm,1.3s,mb5.2
NJ2 AMB AMB
comp=Z,120nm,8.5s
NJ2 LR LR
comp=N,1μm,17.6s
NJ2 LR LR
comp=E,1μm,20.5s
NJ2 LR LR
comp=Z,1μm,20.5s
GYA Guiyang 31.26 324 ⇓*i*P **P** **11 33 37.1 -0.6**
GYA AP pP 11 33 41.8 -13
GYA XP sP 11 33 44.6 -19
GYA PP PP 11 34 42.4 -7.1
GYA PCP PcP 11 36 33.6 +2.8
GYA S **S** **11 38 45.2 +6.0**
GYA SS SS 11 40 31.8 -24
GYA SCS ScS 11 44 11.5 +6.3
GYA AMB AMB
comp=Z,20nm,1.1s,mb4.8
GYA AMB AMB
comp=Z,140nm,6.1s
GYA LR LR
comp=N,1μm,18.6s
GYA LR LR
comp=E,3μm,17.9s
GYA LR LR
comp=Z,2μm,18.4s
JNU Nakatsue 31.75 7 P **P** **11 33 40.2 -1.7**
comp=Z,29nm,1.0s,mb5.0,baz=182,slow=8.2,SNR=8.7
CHG Chiang Mai 31.96 304 ⇓P **P** **11 33 43.3 -0.7**
CHTO Chiang Mai 31.96 304 *e*P **P** **11 33 43.8 -0.2**
CHTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
CHTO Chiang Mai 31.96 304 *e*P **P** **11 33 43.8 -0.2**
comp=Z,6.2nm,0.6s,mb4.5
FORT Forrest 32.12 177 ⇑*i*P **P** **11 33 45.8 +0.6**
comp=Z,183nm,0.6s,mb6.0
FORT *e*S **S** **11 38 51.5 -1.1**
KMI Kunming 32.77 318 P **P** **11 33 51.5 +0.5**
KMI AP pP 11 33 58.5 -10
KMI XP sP 11 34 01.7 -15
KMI PP PP 11 35 06.1 -0.3
KMI S **S** **11 39 08.9 +6.0**
KMI SSS 11 41 23.4
KMI AMB AMB
comp=Z,22nm,1.2s,mb4.9
KMI AMB AMB
comp=Z,151nm,6.3s
KMI LR LR
comp=N,271nm,19.3s
KMI LR LR
comp=E,451nm,20.2s
KMI LR LR
comp=Z,528nm,28.1s
JHJ Hachijo jima 2 33.88 20 LR LR 11 45 51.8
comp=Z,284nm,21.9s,baz=292,slow=33
KLBR Kellerberrin 33.91 193 *e*P **P** **11 34 01.3 +0.5**
comp=Z,68nm,1.0s,mb5.4
MUN Mundaring 34.66 195 *e*P **P** **11 34 07.8 +0.5**
HNR Honiara 35.12 109 *e*P **P** **11 34 10.6 -0.9**
HNR pmax pmax
comp=Z,411nm,0.8s,mb6.3
HNR Honiara 35.12 109 *e*P **P** **11 34 10.6 -0.9**
comp=Z,411nm,0.8s,mb6.3
HNR Honiara 35.12 109 P **P** **11 34 11.4 0.0**
comp=Z,59nm,0.3s,mb5.8,baz=253,slow=5.2,SNR=5.4
NWAO Narrogin (SRO) 35.31 193 *e*P **P** **11 34 13.5 +0.6**
NWAO pmax pmax
comp=Z,52nm,1.1s
NWAO Narrogin (SRO) 35.31 193 *e*P **P** **11 34 13.5 +0.6**
comp=Z,52nm,1.1s,mb5.3
NWAO Narrogin (SRO) 35.31 193 P **P** **11 34 13.1 +0.2**
comp=Z,28nm,0.9s,mb5.1,baz=28,slow=9.5,SNR=23
NWAO LR LR 11 48 40.8
comp=Z,225nm,20.0s,baz=22,slow=36
KS15 Wonju Array Si 35.80 2 *e*P **P** **11 34 18.5 +1.5**
EIDS Eidsvold 35.82 140 *e*P **P** **11 34 16.9 -0.4**
comp=Z,31nm,1.0s,mb5.2
KSRS Korea Array 35.82 2 P **P** **11 34 16.6 -0.6**
comp=Z,3.5nm,0.5s,mb4.5,baz=179,slow=9.9,SNR=22
KSRS PcP PcP 11 36 45.0 +1.6
comp=Z,2.4nm,0.9s,baz=184,slow=3.2,SNR=5.5
KSRS ScP ScP 11 40 24.0 +0.6
comp=Z,0.6nm,0.4s,baz=194,slow=4.6,SNR=5.4
STKA Stephens Creek 36.17 158 ⇑*i*P **P** **11 34 20.5 +0.3**
comp=Z,54nm,0.9s,mb5.5
STKA *e* 11 35 40.1
STKA *e*S **S** **11 39 54.1 -1.0**
STKA Stephens Creek 36.17 158 P **P** **11 34 20.6 +0.4**
comp=Z,49nm,0.7s,mb5.5,baz=332,slow=9.0,SNR=55
STKA PP PP 11 35 44.1 +0.3
comp=Z,30nm,0.8s,baz=306,slow=11,SNR=4.6
STKA LR LR 11 49 31.3
comp=Z,442nm,21.0s,baz=338,slow=37
XAN Xi'an 36.28 335 P **P** **11 34 19.5 -1.7**
XAN AP pP 11 34 26.5 -12
XAN XP sP 11 34 29.4 -18
XAN AMB AMB
comp=Z,14nm,1.4s,mb4.7
XAN LR LR
comp=E,294nm,27.6s
XAN LR LR
comp=Z,518nm,28.3s
CD2 Chengdu 36.29 326 P **P** **11 34 20.1 -1.2**
CD2 AP pP 11 34 24.5 -14
CD2 XP sP 11 34 27.9 -19
CD2 PP PP 11 35 42.7 -2.4
CD2 PCP PcP 11 36 44.6 -0.4
CD2 S **S** **11 40 00.3 +3.4**
CD2 PCS PcS 11 40 31.2 -1.6
CD2 SS SS 11 42 25.4 -13
CD2 SCS ScS 11 44 34.2 +2.7
CD2 AMB AMB
comp=Z,40nm,1.4s,mb5.2
CD2 AMB AMB
comp=Z,100nm,5.2s
CD2 LR LR
comp=N,360nm,19.2s
CD2 LR LR
comp=E,760nm,19.2s
CD2 LR LR
comp=Z,470nm,20.0s
MAJO Matsushiro 36.55 16 *e*P **P** **11 34 22.1 -1.3**
MAJO pmax pmax
comp=Z,43nm,1.0s,mb5.3
MAJO Matsushiro 36.55 16 *e*P **P** **11 34 22.1 -1.3**
comp=Z,43nm,1.0s,mb5.3
MAT Matsushiro 36.55 16 P **P** **11 34 21.8 -1.6**
MAT S **S** **11 40 08.6 +7.9**
MJAR Matsushiro Arr 36.55 16 P **P** **11 34 21.9 -1.5**
MJAR 11 36 45.8
MJAR Matsushiro Arr 36.55 16 P **P** **11 34 21.9 -1.5**
MJAR PcP PcP 11 36 45.8 +0.2
MJAR ScP ScP 11 40 27.3 +1.1
MJAR LR LR 11 46 59.6
MJAR Matsushiro Arr 36.55 16 P **P** **11 34 21.9 -1.5**
comp=Z,24nm,0.9s,mb5.1,baz=184,slow=8.9,SNR=56
MJAR PcP PcP 11 36 45.8 +0.2
comp=Z,3.8nm,0.9s,baz=196,slow=2.9,SNR=6.8
MJAR ScP ScP 11 40 27.3 +1.1
comp=Z,3.1nm,1.1s,baz=200,slow=4.0,SNR=6.8
MJAR LR LR 11 46 59.6
comp=Z,205nm,19.7s,baz=190,slow=32
DL2 Dalian 37.50 354 *i*P **P** **11 34 31.7 +0.3**
DL2 *e*S **S** **11 40 20.4 +5.3**
DL2 AMB AMB
comp=Z,40nm,1.2s,mb5.2
DL2 AMB AMB
comp=Z,100nm,4.2s
DL2 LR LR
comp=N,240nm,15.4s
DL2 LR LR
comp=E,200nm,15.2s
DL2 LR LR
comp=Z,360nm,17.3s
IMP Imphal 38.99 309 *e*P **P** **11 34 43.0 -1.2**
BJT Baijiatuau 39.47 348 *e*P **P** **11 34 47.3 -0.6**
BJT pmax pmax
comp=Z,46nm,1.0s
BJT Baijiatuau 39.47 348 *e*P **P** **11 34 47.3 -0.6**
comp=Z,46nm,1.0s,mb5.3
BJI Beijing 39.49 348 P **P** **11 34 47.3 -0.8**
BJI S **S** **11 40 41.7 -3.4**
BJI SS SS 11 43 34.3 -8.0
BJI AMB AMB
comp=Z,29nm,1.1s,mb5.0
BJI LR LR
comp=N,280nm,34.6s
BJI LR LR
comp=E,195nm,26.6s
BJI LR LR
comp=Z,529nm,37.0s
ARMA Armidale 39.80 145 *e*P **P** **11 34 52.3 +1.5**
SNY Shenyang 40.24 357 ⇓P **P** **11 34 54.4 +0.1**
SNY AMB AMB
comp=Z,30nm,1.4s,mb4.9
SNY AMB AMB
comp=Z,142nm,9.0s
SNY LR LR
comp=N,303nm,26.0s
SNY LR LR
comp=E,370nm,24.5s
SNY LR LR
comp=Z,376nm,32.6s
LZH Lanzhou 40.29 331 ⇓P **P** **11 34 54.5 -0.3**
LZH AP pP 11 34 59.2 -13
LZH XP sP 11 35 01.6 -19
LZH PP PP 11 36 31.5 +2.7
LZH *e*S **S** **11 41 02.3 +5.2**
LZH SS SS 11 43 55.8 -2.5
LZH AMB AMB
comp=Z,81nm,1.5s,mb5.3
LZH AMB AMB
comp=Z,175nm,4.8s
LZH LR LR
comp=N,675nm,12.8s
LZH LR LR
comp=Z,905nm,17.6s
HHC Hu-ho-hao-te 41.43 343 *e*P **P** **11 35 04.8 +0.7**
HHC AP pP 11 35 09.1 -13
HHC XP sP 11 35 11.8 -18
HHC PP PP 11 36 43.9 +2.8
HHC PCP PcP 11 37 02.0 +1.1
HHC SCP ScP 11 40 50.4 +5.6
HHC S **S** **11 41 19.2 +5.3**
HHC XS sS 11 41 30.2 -14
HHC SS SS 11 44 19.0 -1.7
HHC AMB AMB
comp=Z,52nm,1.3s,mb5.2
HHC AMB AMB
comp=Z,237nm,5.4s
HHC LR LR
comp=N,571nm,19.6s
HHC LR LR
comp=E,505nm,17.1s
HHC LR LR
comp=Z,1μm,24.0s
VLA Vladivostok 41.74 6 *i*P **P** **11 35 06.8 +0.2**
VLA Vladivostok 41.74 6 *i*P **P** **11 35 06.8 +0.2**
CN2 Changchun 42.14 359 *e*P **P** **11 35 09.2 -0.7**
CN2 PP PP 11 36 47.7 -1.1
CN2 PCP PcP 11 37 03.4 +0.2
CN2 *e*S **S** **11 41 30.2 +5.8**
CN2 SS SS 11 44 37.2 +2.5
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,19.0s
CN2 LR LR
comp=E,400nm,19.0s
CN2 LR LR
comp=Z,300nm,19.0s
CNB Canberra Magne 42.44 152 *e*P **P** **11 35 13.4 +1.0**
comp=Z,37nm,1.1s,mb5.0
MDJ Mudanjiang 43.04 3 P **P** **11 35 17.5 +0.4**
MDJ AP pP 11 35 20.7 -14
MDJ PP PP 11 36 59.6 +1.2
MDJ PCP PcP 11 37 04.4 -1.7
MDJ SCP ScP 11 40 55.7 +4.5
MDJ PCS PcS 11 40 57.4 -1.0
MDJ S **S** **11 41 46.4 +8.8**
MDJ SCS ScS 11 45 17.0 +6.3
MDJ AMB AMB
comp=Z,31nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,148nm,5.6s
MDJ LR LR
comp=N,457nm,27.9s
MDJ LR LR
comp=E,196nm,23.7s
MDJ LR LR
comp=Z,597nm,29.2s
MDJ Mudanjiang 43.04 3 *e*P **P** **11 35 17.3 +0.2**
comp=Z,33nm,0.9s,mb5.1
LSA Lhasa 43.71 313 P **P** **11 35 23.0 +0.2**
LSA Lhasa 43.71 313 *e*P **P** **11 35 23.4 +0.6**
LSA pmax pmax
comp=Z,21nm,0.7s,mb5.0
LSA Lhasa 43.71 313 *e*P **P** **11 35 23.4 +0.6**
comp=Z,21nm,0.7s,mb5.0
ASAJ Asahikawa 44.81 17 P **P** **11 35 31.8 +0.4**
comp=Z,37nm,0.9s,mb5.1,baz=242,slow=17,SNR=14
ASAJ LR LR 11 52 15.2
comp=Z,152nm,21.2s,baz=68,slow=33
GTA Gaotai 44.87 331 *e*P **P** **11 35 31.5 -0.4**
GTA AP pP 11 35 36.0 -14
GTA XP sP 11 35 39.1 -19
GTA PCP PcP 11 37 14.6 +2.1
GTA PP PP 11 37 16.0 -2.0
GTA SCP ScP 11 41 06.5 +7.7
GTA S **S** **11 42 06.1 +1.8**
GTA SCS ScS 11 45 23.1 +0.6
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.2
GTA AMB AMB
comp=Z,160nm,6.9s
GTA LR LR
comp=N,323nm,21.0s
GTA LR LR
comp=E,337nm,20.6s
GTA LR LR
comp=Z,583nm,26.4s
VIS Vishakhapatnam 45.28 294 *e*P **P** **11 35 34.4 -1.1**
JIRN Jiri 46.46 308 *e*P **P** **11 35 44.3 -0.3**
comp=Z,16nm,0.3s,mb5.2
GUN Gumba 46.81 308 *e*P **P** **11 35 46.8 -0.6**
comp=Z,46nm,0.5s,mb5.5
KKN Kakani 47.23 307 *e*P **P** **11 35 49.6 -1.1**
comp=Z,42nm,0.9s,mb5.2
DMN Daman 47.29 307 *e*P **P** **11 35 50.1 -1.1**
comp=Z,92nm,1.3s,mb5.4
HABR Khabarovsk 47.39 8 *e*P **P** **11 35 52.1 +0.5**
HABR *e* 11 36 00.5
HABR *e* pP 11 36 04.8 -4.7
HABR *e* 11 37 21.1
HABR *e* 11 37 42.1
HABR *e*S **S** **11 42 45.0 +4.7**
HABR *e* 11 43 03.8
HABR pmax pmax
comp=Z,144nm,1.8s,mb5.4
YSS Yuzh-Sakhalins 47.47 15*d i*P **P** **11 35 52.0 -0.2**
YSS pmax pmax
comp=Z,74nm,1.2s,mb5.3
YSS Yuzh-Sakhalins 47.47 15 *e*P **P** **11 35 52.1 -0.1**
comp=Z,72nm,1.2s,mb5.3
BLSP Bilaspur 47.68 299 *e*P **P** **11 35 53.7 -0.6**
BLSP AMb AMB 11 35 57.5
comp=Z,39nm,0.9s,mb5.2
KLR Kul'dur 47.78 5⇑*e*P **P** **11 35 50.5 -4.0**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.3
GKN Gorkha 47.84 307 *e*P **P** **11 35 54.4 -1.0**
comp=Z,60nm,1.1s,mb5.3
HIA Hailar 47.94 354 *e*P **P** **11 35 56.5 +0.7**
HIA pmax pmax
comp=Z,71nm,1.4s
HIA Hailar 47.94 354 *e*P **P** **11 35 56.5 +0.7**
comp=Z,71nm,1.4s,mb5.3
KOLN Koldanda 48.57 307 *e*P **P** **11 36 00.3 -0.7**
comp=Z,61nm,0.5s,mb5.8
DANN Dangsing 48.69 307 *e*P **P** **11 36 01.6 -0.3**
comp=Z,63nm,0.6s,mb5.7
ULN Ulaanbaatar 49.15 343 *i*P **P** **11 36 05.2 +0.1**
ULN Ulaanbaatar 49.15 343 *e*P **P** **11 36 05.3 +0.2**
comp=Z,10nm,0.8s,mb4.8
SONM Songino Array 49.32 342 P **P** **11 36 06.3 -0.1**
comp=Z,5.0nm,0.7s,mb4.6,baz=162,slow=8.6,SNR=23
HYB Hyderabad 49.61 292 *i*P **P** **11 36 09.0 -0.1**
comp=Z,45nm,1.0s,mb5.3
NGP Nagpur 50.11 296 *e*P **P** **11 36 12.7 -0.2**
LATR Latur 51.69 292 *e*P **P** **11 36 24.3 -0.5**
LATR AMb AMB 11 36 27.4
comp=Z,45nm,0.6s,mb5.7
AKL Akola 51.82 295 *e*P **P** **11 36 25.3 -0.4**
AKL AMb AMB 11 36 28.6
comp=Z,58nm,0.3s,mb6.2
BHPL Bhopal 52.16 298 *e*P **P** **11 36 27.3 -0.9**
ZAK Zakamensk 52.53 342 *e*P **P** **11 36 29.7 -0.7**
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
TLY Talaya 53.55 343 P **P** **11 36 38.1 +0.1**
comp=Z,78nm,0.7s,mb5.8,SNR=5.9
TLY Talaya 53.55 343⇓*i*P **P** **11 36 38.3 +0.3**
TLY *e* 11 38 34.4
TLY *e*S **S** **11 44 07.8 +2.2**
TLY *e* 11 46 16.8
TLY pmax pmax
comp=Z,32nm,1.8s,mb5.0
TLY MLR MLR
comp=Z,435nm,23.0s
TLY Talaya 53.55 343 *e*P **P** **11 36 38.7 +0.7**
comp=Z,6.3nm,0.6s,mb4.8
KAD Karad 53.66 290 *e*P **P** **11 36 38.0 -1.4**

KAD AMb AMB 11 36 40.6
comp=Z,16nm,0.6s,mb5.2
IRK Irkutsk 53.87 343 *e*P **P 11 36 40.8 +0.6**
IRK *e* 11 47 54.2
IRK pmax pmax
comp=Z,76nm,1.9s,mb5.4
MOY Mondy 54.38 341 *e*P **P 11 36 45.6 +1.7**
WMQ Urumqi 54.38 326 *e*P **P 11 36 44.0 -0.2**
WMQ XP sP 11 36 51.0 -20
WMQ PP PP 11 38 48.0 +1.1
WMQ S **S 11 44 20.0 +2.9**
WMQ SS SS 11 48 01.0 +0.6
WMQ AMB AMB
comp=Z,41nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,125nm,6.0s
WMQ LR LR
comp=N,354nm,15.0s
WMQ LR LR
comp=E,386nm,15.0s
WMQ LR LR
comp=Z,375nm,16.0s
SMLA Simla 55.05 308 *e*P **P 11 36 48.3 -0.9**
SMLA AMb AMB 11 36 53.0
comp=Z,62nm,2.4s,mb5.2
CLNS Chul'man 55.20 359 *d i*P **P 11 36 50.4 +0.6**
CLNS *e**PP pP 11 36 57.2 -11
CLNS *e*PPP 11 40 09.7
CLNS *e*S **S 11 44 23.4 -4.1**
CLNS *e**SS sS 11 44 52.6 -6.2
CLNS pmax pmax
comp=N,28nm,1.1s
CLNS pmax pmax
comp=Z,48nm,1.1s,mb5.4
CLNS pmax pmax
comp=E,18nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.8s,mb5.0
CLNS pmax pmax
comp=N,12nm,1.1s
CLNS pmax pmax
comp=E,9.0nm,0.7s
CLNS smax
comp=N,10.0nm,0.9s
CLNS smax
comp=Z,11nm,0.7s
CLNS smax
comp=E,11nm,0.9s
AJM Ajmer 55.54 301 *e*P **P 11 36 51.3 -1.5**
AJM AMb AMB 11 36 55.4
comp=Z,14nm,0.5s,mb5.3
BOD Bodaibo 57.03 352 *e*P **P 11 37 02.1 -0.7**
BOD pmax pmax
comp=Z,39nm,1.2s,mb5.3
PET Petropavlovsk 57.91 22 *e*P **P 11 37 10.7 +1.6**
PET *e*S **S 11 45 07.8 +4.3**
PET pmax pmax
comp=Z,100nm,14.9s
PET MLR MLR
comp=Z,100nm,19.0s
MK31 Makanchi Array 59.22 326 *i*P **P 11 37 17.8 -0.5**
MK31 pmax pmax
comp=Z,7.0nm,0.3s,mb5.2
MK31 Makanchi Array 59.22 326 *i*P **P 11 37 17.9 -0.4**
MKAR Makanchi Array 59.22 326 *i*P **P 11 37 17.8 -0.5**
MKAR pmax pmax
comp=Z,10.0nm,0.4s
MKAR Makanchi Array 59.22 326 P **P 11 37 17.9 -0.4**
comp=Z,9.5nm,0.4s,mb5.2,baz=119,slow=7.5,SNR=26
MKAR LR LR 12 04 01.2
comp=Z,262nm,21.4s,baz=258,slow=37
KSH Kashi 59.42 316 *e*P **P 11 37 21.8 +1.9**
KSH *e*AP pP 11 37 25.8 -13
KSH *e*XP sP 11 37 28.6 -18
KSH *e*PCP PcP 11 38 08.6 +1.6
KSH *e*PP PP 11 39 34.7 +2.9
KSH *e*PPP 11 40 59.8
KSH *e*SCP ScP 11 42 07.1 +5.5
KSH *e*PCS PcS 11 42 09.7 +0.7
KSH *e*S **S 11 45 28.6 +5.0**
KSH *e*SCS ScS 11 47 07.8 +4.1
KSH *e*SS SS 11 49 24.7 +4.9
KSH AMB AMB
comp=Z,189nm,1.6s,mb5.9
KSH LR LR
comp=N,354nm,5.6s
KSH LR LR
comp=E,368nm,5.5s
KSH LR LR
comp=Z,512nm,5.3s
RPZ Rata Peaks 60.13 144 P **P 11 37 25.6 +1.0**
comp=Z,17nm,0.9s,mb5.1,baz=349,slow=14,SNR=4.9
YAK Yakutsk 60.44 2 *e*P **P 11 37 26.4 0.0**
YAK *e* 11 38 07.9
YAK *e* 11 39 37.1
YAK *e*S **S 11 45 35.8 -0.2**
YAK *e* 11 47 08.0
YAK *e*SS SS 11 49 40.6 +5.6
YAK pmax pmax
comp=Z,70nm,1.0s,mb5.7
YAK pmax pmax
comp=N,38nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.1s
YAK pmax pmax
comp=Z,200nm,6.0s
YAK pmax pmax
comp=N,144nm,4.9s
YAK pmax pmax
comp=E,78nm,4.3s
YAK smax
comp=N,140nm,3.3s
YAK smax
comp=E,207nm,5.1s
YAK Yakutsk 60.44 2 *e*P **P 11 37 26.9 +0.5**
comp=E,83nm,1.1s,mb5.7
ULHL Ulahol 60.48 319 P **P 11 37 27.6 +0.5**
SNR=11
MA2 Magadan 60.94 14 *c i*P **P 11 37 30.4 +0.5**
MA2 *e*S **S 11 45 44.2 +1.8**
MA2 *e*SSS 11 52 19.1
MA2 pmax pmax
comp=Z,100nm,1.1s,mb5.8
MA2 pmax pmax
comp=N,70nm,1.2s
MA2 pmax pmax
comp=E,70nm,1.3s
MA2 MLR MLR
comp=Z,500nm,25.5s
MA2 Magadan 60.94 14 *e*P **P 11 37 31.3 +1.4**
comp=Z,74nm,1.1s,mb5.6
KZA Kyzart 61.06 318 P **P 11 37 31.8 +0.8**
SNR=23
URZ Urewera 61.14 136 P **P 11 37 31.0 -0.6**
comp=Z,10nm,0.8s,mb4.9,baz=270,slow=9.1,SNR=4.8
TKM2 Tokmak 2 61.22 319 *e*P **P 11 37 32.1 0.0**
TKM2 pmax pmax
comp=Z,12nm,0.7s,mb5.0
TKM2 Tokmak 2 61.22 319 *e*P **P 11 37 32.1 0.0**
comp=Z,12nm,0.7s,mb5.0
TKM2 Tokmak 2 61.22 319 P **P 11 37 32.2 +0.1**
SNR=18
UCH Uchtor 61.62 318 *e*P **P 11 37 35.5 +0.7**
comp=Z,472nm,0.6s
UCH Uchtor 61.62 318 P **P 11 37 35.5 +0.7**
SNR=26
AAK Ala-Archa 61.81 319⇑ *e*P **P 11 37 35.6 -0.5**
AAK pmax pmax
comp=Z,19nm,2.0s,mb4.8
AAK Ala-Archa 61.81 319 *e*P **P 11 37 34.8 -1.3**
comp=Z,19nm,1.5s,mb4.9
AAK Ala-Archa 61.81 319 P **P 11 37 34.3 -1.8**
comp=Z,3.5nm,0.6s,mb4.6,baz=92,slow=6.6,SNR=8.3
FRU Bishkek 61.82 319 *e*P **P 11 37 39.0 +2.8**
FRU *e* pP 11 37 55.0 +0.1
USP Ospenovka 62.09 319 P **P 11 37 37.7 -0.3**
SNR=15
AML Almayashu 62.12 318 *e*P **P 11 37 38.5 +0.3**
comp=Z,17nm,0.7s,mb5.2
AML Almayashu 62.12 318 P **P 11 37 38.7 +0.5**
SNR=20
EKS2 Erkin-Say 62.30 319 *e*P **P 11 37 39.6 +0.3**
comp=Z,9.8nm,0.6s,mb5.0
EKS2 Erkin-Say 62.30 319 P **P 11 37 39.8 +0.5**
SNR=14
ZAA0 Zalesovo Array 62.44 334 *e*P **P 11 37 39.5 -0.5**
ZALV Zalesovo Beam 62.44 334 P **P 11 37 39.0 -1.1**
ZALV LR LR 12 09 27.4
ZALV Zalesovo Beam 62.44 334 P **P 11 37 39.0 -1.1**
comp=Z,3.6nm,0.4s,mb4.8,baz=115,slow=7.0,SNR=6.9
ZALV LR LR 12 09 27.4
comp=Z,68nm,19.5s,baz=128,slow=40
ZAL Zalesovo 62.44 334 P **P 11 37 39.0 -1.1**
KBL Kabul 62.65 308 *e*P **P 11 37 42.0 +0.1**
comp=Z,19nm,0.7s,mb5.1
KURK Kurchatov 63.46 328 P **P 11 37 46.5 -0.4**
comp=Z,411nm,0.6s,SNR=15
KURK Kurchatov 63.46 328 ‖ *i*P **P 11 37 46.4 -0.5**
KURK Kurchatov 63.46 328 *e*P **P 11 37 46.5 -0.4**
comp=Z,40nm,0.6s,mb5.5
NVS Novosibirsk 63.72 334 *e*P **P 11 37 48.5 -0.1**
NVS pmax pmax
comp=Z,33nm,1.2s,mb5.0
NVS pmax pmax
comp=N,19nm,1.0s
NVS pmax pmax
comp=E,7.0nm,0.4s
SEY Seymchan 64.27 13 *i*P **P 11 37 52.6 +0.6**
KK31 Karatay Array 64.66 318 *i*P **P 11 37 54.1 -0.8**
CASY Casey 68.57 187 *e*P **P 11 38 20.5 +1.2**
BVAR Borovoye Array 69.02 328 P **P 11 38 22.2 -0.3**
comp=E,22nm,1.0s,mb5.0,baz=137,slow=7.1,SNR=28
BRVK Borovoye 69.10 328 P **P 11 38 23.9 +1.0**
comp=E,155nm,1.0s,mb5.8,SNR=8.3
BRVK Borovoye 69.10 328 *e*P **P 11 38 23.3 +0.4**
BRVK pmax pmax
comp=Z,28nm,1.0s,mb5.0
BRVK Borovoye 69.10 328 *e*P **P 11 38 23.3 +0.4**
comp=Z,28nm,1.0s,mb5.0
TIXI Tiksi 70.07 1 *e*P **P 11 38 27.5 -1.1**
TIXI pmax pmax
comp=Z,39nm,1.4s,mb5.0
TIXI Tiksi 70.07 1 *e*P **P 11 38 28.4 -0.2**
comp=Z,48nm,1.4s,mb5.1
BILL Bilibino 71.79 15⇑ *i*P **P 11 38 39.0 0.0**
BILL *e* 11 38 49.5
BILL *e* pP 11 38 57.2 -1.0
BILL pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
BILL Bilibino 71.79 15 *e*P **P 11 38 39.1 +0.1**
comp=Z,15nm,1.2s,mb4.7
AB31 Akbulak array 73.68 321 *i*P **P 11 38 50.5 -0.1**
AKTK Aktyubinsk 75.22 322 P **P 11 38 59.5 0.0**
AKTO Aktyubinsk 75.22 322 P **P 11 38 59.5 0.0**
comp=Z,18nm,0.6s,mb4.9,baz=106,slow=7.0,SNR=35
UNV Unalaska Valle 75.44 34 *e*P **P 11 39 01.1 +0.4**
comp=Z,37nm,1.0s,mb5.1
SVE Sverdlovsk 75.70 329 *e*P **P 11 39 02.3 +0.2**
SVE pmax pmax
comp=Z,113nm,1.2s,mb5.5
GAMB Gambell 76.56 24 *e*P **P 11 39 08.0 +1.1**
comp=Z,27nm,1.0s,mb4.9
ARU Arti 76.66 328 P **P 11 39 07.9 +0.3**
comp=Z,301nm,0.9s,mb6.0,SNR=14
ARU Arti 76.66 328 *c i*P **P 11 39 06.7 -0.9**
ARU *e* 11 39 17.6
ARU *e* 11 41 57.3
ARU *e*PPP 11 43 48.1
ARU *e*S S 11 48 51.6 +3.2
ARU *e*SS SS 11 53 43.3 -1.9
ARU pmax pmax
comp=Z,80nm,1.2s,mb5.3
ARU Arti 76.66 328 *e*P **P 11 39 06.6 -1.0**
comp=Z,95nm,1.3s,mb5.4
SDPT Sand Point 79.22 34 *e*P **P 11 39 22.1 +0.3**
comp=Z,115nm,1.0s,mb5.7
SDPT LR LR
comp=Z,100nm,23.0s
KBD Kabd 79.43 299 *e*P **P 11 39 23.0 -0.5**
KBD AMb AMB 11 39 25.9
comp=Z,78nm,0.8s,mb5.6
UMR Umm Al-Rimmam 79.44 300 *e*P **P 11 39 23.6 0.0**
UMR AMb AMB 11 39 27.2
comp=Z,47nm,0.7s,mb5.4
RDF Al-Radifah 79.54 299 *e*P **P 11 39 23.5 -0.6**
RDF AMb AMB 11 39 26.4
comp=Z,32nm,0.7s,mb5.2
MIB Mutribah 79.78 300 *e*P **P 11 39 24.2 -1.2**
MIB AMb AMB 11 39 28.1
comp=Z,52nm,0.7s,mb5.5
NAY Al-Naaiem 79.83 299 *e*P **P 11 39 24.9 -0.7**
NAY AMb AMB 11 39 28.2
comp=Z,17nm,0.8s,mb4.9
CHGN Chignik 80.56 33 *e*P **P 11 39 29.8 +0.8**
VNDA Vanda 81.26 173 P **P 11 39 33.5 +1.1**
comp=Z,15nm,0.8s,mb4.9,baz=318,slow=6.1,SNR=49
MAW Mawson 81.56 200 *e*P **P 11 39 35.4 +1.3**
comp=Z,10nm,0.9s,mb4.7
MAW Mawson 81.56 200 *e*P **P 11 39 35.4 +1.3**
MAW pmax pmax
comp=Z,10.0nm,0.9s
MAW Mawson 81.56 200 P **P 11 39 34.1 +0.1**
comp=Z,15nm,1.0s,mb4.8,baz=68,slow=6.1,SNR=11
SBA Scott Base 82.17 172 *e*P **P 11 39 39.6 +2.4**
SBA pmax pmax
comp=Z,29nm,1.2s,mb5.0
SBA Scott Base 82.17 172 *e*P **P 11 39 39.6 +2.4**
comp=Z,29nm,1.2s,mb5.0
BHD Baghdad 82.52 303 *ex* x 11 39 38.0
MTA Mtatsminda 82.75 312 S S 11 49 47.3 -6.0
SVW2 Sparrevohn 82.91 29 *e*P **P 11 39 43.1 +1.8**
TTA Tatalina 83.03 27 *e*P **P 11 39 43.6 +1.7**
MSL Mosul 83.74 306 *ex* x 11 39 46.0
KDAK Kodiak Island 83.94 32 *e*P **P 11 39 48.0 +1.4**
comp=Z,30nm,1.0s,mb5.1
KDAK Kodiak Island 83.94 32 P **P 11 39 47.2 +0.6**
comp=Z,17nm,0.8s,mb4.9,baz=260,slow=4.8,SNR=9.6
KIV Kislovodsk 84.45 314 P **P 11 39 49.0 -0.6**
comp=Z,113nm,0.5s,mb6.0,SNR=5.3
KIV Kislovodsk 84.45 314 *e*P **P 11 39 49.8 +0.2**
KIV *e* 11 50 09.8
KIV pmax pmax
comp=Z,22nm,1.2s,mb4.9
KIV MLR MLR
comp=Z,107nm,21.0s
KIV Kislovodsk 84.45 314 *e*P **P 11 39 49.9 +0.4**
comp=Z,11nm,0.6s,mb4.9
IMA2 Indian Mountai 84.55 24 *e*P **P 11 39 51.4 +1.9**
PPT Papeete 84.73 108 *e*LR LR 12 06 44.9
comp=Z,124nm,25.8s
TBI Tubuai 85.19 113 *e*LR LR 12 06 42.9
comp=Z,232nm,30.2s
SLKM Skilak Lake 85.44 30 *e*P **P 11 39 54.5 +0.4**
VRHR Novokhopersk 85.57 321 *e*P **P 11 39 55.0 0.0**
VRHR pmax pmax
comp=Z,40nm,0.5s,mb5.6
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.5s
PMR Palmer 86.05 28 *e*P **P 11 39 57.8 +0.7**
PMR pmax pmax
comp=Z,33nm,1.2s,mb5.1
PMR MLR MLR
comp=Z,100nm,22.0s
PMR Palmer 86.05 28 *e*P **P 11 39 57.8 +0.7**
comp=Z,32nm,1.2s,mb5.1
PMR LR LR
comp=Z,100nm,22.0s
MCK McKinley 86.30 26 *e*P **P 11 39 57.6 -0.7**
MCK pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MCK McKinley 86.30 26 *e*P **P 11 39 57.6 -0.7**
comp=Z,10nm,1.0s,mb4.7
SML Sawmill 86.45 28 *e*P **P 11 40 00.6 +1.5**
COLA College 86.84 25 *e*P **P 11 40 00.6 -0.4**
VORD Divnogorie 87.04 321 *e*P **P 11 40 01.0 -1.2**
VORD pmax pmax
comp=Z,20nm,1.0s,mb5.0
VORD pmax pmax
comp=N,20nm,0.4s
VORD pmax pmax
comp=E,30nm,1.0s
VRSR Storozhevoye 87.11 321 *e*P **P 11 40 02.6 +0.1**
VRSR pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,3.0nm,0.7s
MALT Malatya 87.51 308 *e*P **P 11 40 06.0 +1.2**
MALT pmax pmax
comp=Z,36nm,1.4s,mb5.2
MALT Malatya 87.51 308 ⇑ *i*P **P 11 40 06.0 +1.2**
comp=Z,36nm,1.4s,mb5.2
MALT Malatya 87.51 308 *e*P **P 11 40 06.0 +1.2**
TMCR Tamitsa 87.96 334 *e*P **P 11 40 05.4 -1.0**
TMCR pmax pmax
comp=Z,44nm,0.4s,mb5.8
MOS Moscow 88.10 326 *e*P **P 11 40 06.3 -0.9**
MOS pmax pmax
comp=Z,75nm,0.6s,mb5.9
ANN Anapa 88.24 315 *e*P **P 11 40 08.2 +0.1**
ANN *e* 11 50 33.8
ANN *e* 11 50 44.3
ANN pmax pmax
comp=Z,81nm,1.3s,mb5.6
MENT Mentasta 88.62 27 *e*P **P 11 40 10.0 +0.5**
OBN Obninsk 88.70 325 ⇑ *i*P **P 11 40 09.5 -0.5**
OBN *i* 11 40 15.0
OBN pmax pmax
comp=Z,41nm,1.2s,mb5.3
OBN MLR MLR
comp=Z,100nm,17.0s
OBN Obninsk 88.70 325 *e*P **P 11 40 09.6 -0.4**
ASF Jabal al Asfar 88.81 302 P **P 11 40 12.3 +1.2**
comp=Z,16nm,1.0s,mb5.0,baz=90,slow=4.8,SNR=15
KMBO Kilima Mbogo 89.19 269 *e*P **P 11 40 15.9 +2.6**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 89.19 269 *e*P **P 11 40 15.9 +2.6**
comp=Z,7.5nm,0.9s,mb4.7
KMBO Kilima Mbogo 89.19 269 P **P 11 40 14.1 +0.8**
comp=Z,2.1nm,0.7s,mb4.3,baz=64,slow=20,SNR=5.2
APA Apatity 89.79 337 ⇑ *e*P **P 11 40 15.0 +0.1**
APA pmax pmax
comp=Z,16nm,1.0s,mb5.1
MMAI Mount Meron Ar 90.05 303 P **P 11 40 16.1 -0.7**
comp=Z,1.5nm,0.3s,mb4.6,baz=120,slow=8.7,SNR=2.8
SYO Syowa Base 90.23 201 ⇑ *e*P **P 11 40 17.1 +0.2**
SYO Syowa Base 90.23 201 ‖ *e*pP pP 11 40 21.2 -15
DAWY Dawson 90.52 26 *e*P **P 11 40 19.0 +0.7**
EIL Elat 90.55 300 P **P 11 40 18.6 -0.7**
comp=Z,4.3nm,0.6s,mb4.8,baz=112,slow=5.4,SNR=4.1
QSPA South Pole Qui 91.41 180 *e*P **P 11 40 23.7 +1.5**
comp=Z,12nm,0.9s,mb5.0
QSPA South Pole Qui 91.41 180 P **P 11 40 22.4 +0.2**
comp=Z,2.8nm,0.6s,mb4.5,baz=314,slow=2.6,SNR=7.8
INK Inuvik 92.35 21 *e*P **P 11 40 26.3 -0.5**
comp=Z,609nm,1.3s
INK Inuvik 92.35 21 P **P 11 40 26.6 -0.2**
comp=Z,9.5nm,1.1s,mb4.9,baz=280,slow=5.7,SNR=18
ARCES ARCESS Array B 92.43 340 P **P 11 40 26.4 -0.7**
ARCES LR LR 12 26 52.5
ARCES ARCESS Array B 92.43 340 P **P 11 40 26.4 -0.7**
comp=Z,10nm,1.0s,mb5.0,baz=72,slow=7.8,SNR=13
ARCES LR LR 12 26 52.5
comp=Z,66nm,19.8s,baz=82,slow=39
SKAG Skagway 92.93 30 *e*P **P 11 40 30.7 +1.1**
comp=Z,17nm,1.1s,mb5.3
AKASG Malin Array Be 93.42 321 P **P 11 40 31.5 -0.6**
comp=Z,0.6nm,0.4s,mb4.3,baz=69,slow=4.1,SNR=13
AKASG LR LR 12 27 24.9
comp=Z,54nm,20.2s,baz=85,slow=39
TAOE Nuku Hiva Isla 93.62 99 *e*LR LR 12 10 47.0
comp=Z,3μm,23.7s
FINES FINESS Array B 93.65 332 P **P 11 40 30.9 -1.9**
FINES LR LR 12 23 56.2
FINES FINESS Array B 93.65 332 P **P 11 40 30.9 -2.0**
comp=Z,2.4nm,0.3s,mb5.0,baz=91,slow=28,SNR=15
FINES LR LR 12 23 56.2
comp=Z,66nm,21.4s,baz=36,slow=36
VRI Vrincioaia 95.69 316 ‖ *i*P **P 11 40 43.0 +0.4**
MLR Muntele Rosu 96.28 316 P **P 11 40 44.3 -1.0**
comp=Z,3.9nm,0.8s,mb4.9,baz=79,slow=4.6,SNR=6.4
BURAR Bucovina Array 96.45 318 ⇑ *i*P **P 11 40 46.7 +0.7**
LVV L'vov 96.85 320 *e*P **P 11 40 50.8 +3.1**
KOLS Kolonicke sedl 98.15 320 *i*P **P 11 40 55.0 +1.4**
CRVS Cervenica-Dubn 98.68 320 *i*P **P 11 40 56.2 +0.2**
CRVS Cervenica-Dubn 98.68 320 PDIF **P 11 40 56.2 +0.2**
STHS Stebnicka Huta 98.70 320 *e*P **P 11 40 59.5 +3.4**
STHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.8
STHS Stebnicka Huta 98.70 320 *e*P **P 11 40 59.5 +3.4**
comp=Z,3.1nm,1.0s,mb4.8
STHS Stebnicka Huta 98.70 320 PDIF **P 11 40 59.5 +3.4**
KECS Kecovo 99.40 320 *e*P **P 11 40 59.6 +0.4**
KECS pmax pmax
comp=Z,2.0nm,1.0s,mb4.6
KECS Kecovo 99.40 320 *e*P **P 11 40 59.6 +0.4**
comp=Z,2.3nm,1.0s,mb4.7
KECS Kecovo 99.40 320 PDIF **P 11 40 59.6 +0.4**
RES Resolute Bay 100.06 10 *e*Pdif Pdif 11 41 01.6 -0.4
comp=Z,241nm,1.1s
NB2 NORSAR Subarra 100.64 333 Pdif Pdif 11 41 03.0 -1.6
comp=Z,3.9nm,1.0s,baz=67,slow=4.4
NOA NORSAR Array B 100.64 333 P Pdif 11 41 02.7 -1.9
comp=Z,2.0nm,0.9s,baz=68,slow=4.6,SNR=3.9
YKA Yellowknife Ar 101.66 25 P Pdif 11 41 08.7 -0.4
YKA 11 45 22.3
YKA Yellowknife Ar 101.66 25 P Pdif 11 41 08.7 -0.4
YKA PP PP 11 45 22.3 +2.6
YKA PKKPbc PKKPbc 11 57 17.1 -1.1
YKA Yellowknife Ar 101.66 25 P Pdif 11 41 08.6 -0.5
comp=Z,1.8nm,1.1s,baz=300,slow=4.9,SNR=10
YKA PP PP 11 45 22.3 +2.7
comp=Z,0.9nm,1.1s,baz=306,slow=7.2,SNR=5.2
YKA PKKPbc PKKPbc 11 57 17.0 -1.1
comp=Z,0.3nm,0.7s,baz=117,slow=2.7,SNR=9.6
BRG Berggiesshubel 102.84 323 *e*P Pdif 11 41 19.5 +5.2
BRG pmax pmax
comp=Z,2.0nm,0.7s
BRG Berggiesshubel 102.84 323 *e*P Pdif 11 41 19.5 +5.2
comp=Z,3.3nm,0.7s
CLL Collm 103.25 324 *e*P Pdif 11 41 11.0 -5.2
CLL Collm 103.25 324 *e*PS PS 11 54 40.0 -2.6
CLL *e*PPS 11 55 33.0
CLL *ex* x 12 08 46.0
GERES GERESS Array B 103.63 321 Pdiff Pdif 11 41 16.0 -1.9
comp=Z,0.2nm,0.3s,baz=23,slow=18,SNR=2.3
NVAR Mina Array Bea 108.62 49 PP PP 11 46 11.9 -0.1
comp=Z,1.1nm,0.9s,baz=262,slow=6.3,SNR=6.1
ULM Lac du Bonnet 117.06 29 PKP PKPdf 11 46 01.0 -0.4
comp=Z,1.3nm,0.5s,baz=270,slow=1.0,SNR=3.1
SCHQ Schefferville 122.82 9 PKP PKPdf 11 46 13.2 +0.8
comp=Z,1.7nm,0.4s,baz=344,slow=1.9,SNR=11
TXAR Lajitas Array 123.20 53 PKP PKPdf 11 46 15.4 +1.6
comp=Z,0.9nm,0.8s,baz=220,slow=1.3,SNR=13
FCH Farellones 144.66 155 *e*P PKPdf 11 46 54.9 +1.2
MGV Manicaragua 145.16 46 *e*P PKPdf 11 46 56.9 +2.1
LCO Las Campanas 148.13 151 *e*PKPbc PKPab 11 47 05.6 -0.2
CPUP Villa Florida 155.04 172 *e*PKIKP PKPdf 11 47 21.9 +12
CPUP *e* PKPab 11 47 37.7 +3.2
CPUP Villa Florida 155.04 172 PKPab PKPab 11 47 36.4 +1.8
comp=Z,9.5nm,1.0s,baz=178,slow=4.4,SNR=6.8
LPAZ La Paz 159.47 137 PKP PKPdf 11 47 18.2 +2.3
comp=Z,1.5nm,0.7s,baz=222,slow=3.5,SNR=5.4
LPAZ PKPab PKPab 11 47 56.8 +2.8
comp=Z,3.3nm,1.0s,baz=239,slow=5.9,SNR=4.8
SIV San Ignacio 163.81 153 PKP PKPdf 11 47 21.8 +1.3
comp=Z,0.9nm,0.9s,baz=335,slow=3.3,SNR=5.4
SIV PKPab PKPab 11 48 14.6 +1.7
comp=Z,11nm,1.0s,baz=227,slow=3.8,SNR=18
BDFB Brasilia 164.90 201 PKPab PKPab 11 48 19.3 +1.7
comp=Z,1.5nm,0.7s,baz=183,slow=25,SNR=3.5

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*NEIC **03** 11:29:59.4, 3285S×6921W, h4km, ML2.6(GUC), After GUC.*

GUC 03 11:29:59.4±0.9, 3285S×6921W, h4km±7km, MD3.9, ML2.6, 4D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**1.02**	**242**	*e*P	Pg	11 30 18.1	-0.9
FCH				*i*S	Sg	11 30 32.7	+0.4
FCH				AML	AML	11 30 34.3	
comp=N,238nm,0.2s							
JACH	**Jahuel**	**1.18**	**278**	*i*P	Pg	11 30 21.1	-0.9
JACH				*i*S	Sg	11 30 38.1	+0.8
CLCH	**Cerro Calan**	**1.24**	**244** ‖	*e*P	Pg	11 30 22.4	-0.8
CLCH				*i*S	Sg	11 30 39.6	+0.4
CLCH				AML	AML	11 30 42.1	
comp=N,240nm,0.5s							
PEL	**Peldehue**	**1.27**	**256** ‖	*e*P	Pg	11 30 22.9	-0.9
PEL				*i*S	Sg	11 30 40.4	0.0
PEL				AML	AML	11 30 41.0	

comp=N,260nm,0.7s
LMEL **Las Melosas** **1.30 220** *e*P Pg 11 30 24.2 0.0
LMEL *i* S Sg 11 30 42.4 +1.3
LMEL **Las Melosas** **1.30 220** *e*P Pg 11 30 24.2 0.0
LMEL *i* S Sg 11 30 42.4 +1.3
LMEL AML AML 11 30 44.1
comp=N,141nm,0.2s
PCH **Pirque** **1.34 235** ⇓*i*P Pn 11 30 24.0 -0.8
PCH *i* S Sg 11 30 42.5 +0.2
ROCH **El Roble** **1.52 265** *i* S Sn 11 30 48.4 +0.9
CHCH **Chadas Angostu** **1.62 228** ⇓*i*P Pn 11 30 29.0 +0.3
CHCH *i* S Sn 11 30 51.5 +1.5
TACH **Talagante** **1.65 241** *i* P Pn 11 30 30.1 +0.9
TACH *i* S Sn 11 30 52.9 +2.0
TLL **Tololo Astrono** **3.00 333** *e*P Pn 11 30 49.2 +1.4
TLL *i* S Sn 11 31 27.5 +3.4
TLL **Tololo Astrono** **3.00 333** *e*P Pn 11 30 49.2 +1.4
TLL *i* S Sn 11 31 27.5 +3.4
TLL AML AML 11 31 37.2
comp=N,44nm,0.5s

NNC 03 11:31:57.9±5.0, 5409N×8660E, h0km, mb4.0, mpv3.5, 9C-5D, Error ellipse: s-maj=39.4km s-min=23.8km az=57.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.93**	**239**	⇑Pn	Pn	11 33 28.9	+2.0
KURK				⇑Sn	Sn	11 34 39.3	+3.8
	6.6nm,0.6s						
KURK				⇑Lg		11 35 11.3	
	40nm,1.0s						
KURBB	**Kurchatov Arra**	**6.04**	**238**	⇑Pn	Pn	11 33 30.5	+2.2
	3.2nm,0.6s,baz=54,slow=13						
KURBB				⇑Sn	Sn	11 34 42.8	+4.8
	4.2nm,0.6s,baz=49,slow=22						
KURBB				⇑Lg		11 35 18.8	
	8.4nm,0.8s,baz=52,slow=30						
MK31	**Makanchi Array**	**7.80**	**202**	⇑Pn	Pn	11 33 55.6	+3.1
	1.1nm,0.5s,baz=26,slow=12,SNR=18						
MK31				⇑Sn	Sn	11 35 25.8	+4.4
	3.0nm,0.6s,baz=25,slow=25,SNR=8.6						
MK31				⇓Lg		11 36 10.4	
	16nm,0.9s,baz=27,slow=29,SNR=7.2						
VOSK	**Vostochnaya**	**9.43**	**268**	⇓Pn	Pn	11 34 14.3	-0.6
	6.4nm,0.5s						
VOSK				⇑Sn	Sn	11 35 57.4	-4.1
	8.0nm,0.7s						
BVA0	**Borovoye Array**	**9.71**	**270**	Pn	Pn	11 34 19.9	+1.3
	0.3nm,0.6s,baz=70,slow=15,SNR=11						
BVA0				⇓Sn	Sn	11 36 02.2	-6.0
	0.6nm,0.6s,baz=290,slow=29,SNR=3.9						
ZRNK	**Zerenda**	**10.54**	**271**	⇓Pn	Pn	11 34 31.0	+1.0
	3.4nm,0.5s						
ZRNK				⇓Sn	Sn	11 36 25.5	-3.1
	4.3nm,0.7s						

NNC 03 11:45:33.0±0.4, 5307N×7112E, h0km, mb1.6, mpv3.7, 19C-5D, Error ellipse: s-maj=2.3km s-min=0.8km az=50.0, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VOSK	**Vostochnaya**	**0.36**	**193**	⇑P	Pg	11 45 40.0	+0.2
	1μm,0.1s						
VOSK				⇑S	Sg	11 45 45.2	+0.7
	16nm,0.8s						
BVB8	**Borovoye Array**	**0.43**	**263**	⇑P	Pg	11 45 41.7	+0.5
BVB8				⇑S	Sg	11 45 47.8	+1.1
BVA4	**Borovoye Array**	**0.44**	**264**	⇓P	Pg	11 45 41.8	+0.5
BVA4				⇑S	Sg	11 45 47.9	+0.9
BVB7	**Borovoye Array**	**0.44**	**266**	⇑P	Pg	11 45 41.8	+0.5
BVB7				⇑S	Sg	11 45 47.6	+0.6
BVA2	**Borovoye Array**	**0.44**	**263**	⇑P	Pg	11 45 41.9	+0.5
BVA2				⇑S	Sg	11 45 48.1	+1.0
BVA0	**Borovoye Array**	**0.44**	**264**	⇑P	Pg	11 45 41.7	+0.3
	baz=82,slow=18,SNR=4.4						
BVA0				⇑S	Sg	11 45 48.0	+0.8
	8.8nm,0.9s,baz=76,slow=37,SNR=81						
BVA1	**Borovoye Array**	**0.44**	**264**	⇑P	Pg	11 45 41.9	+0.5
BVA1				⇑S	Sg	11 45 47.8	+0.6
BVB9	**Borovoye Array**	**0.45**	**262**	⇑P	Pg	11 45 41.8	+0.3
BVB9				⇑S	Sg	11 45 48.0	+0.8
BVA3	**Borovoye Array**	**0.45**	**264**	⇑P	Pg	11 45 42.1	+0.5
BVA3				⇑S	Sg	11 45 48.0	+0.7
BVB6	**Borovoye Array**	**0.45**	**265**	⇑P	Pg	11 45 42.0	+0.5
BVB6				⇑S	Sg	11 45 48.1	+0.7
BVB5	**Borovoye Array**	**0.46**	**264**	⇓P	Pg	11 45 42.1	+0.5
BVB5				⇓S	Sg	11 45 48.3	+0.7
ZRNK	**Zerenda**	**1.28**	**265**	⇓P	Pg	11 45 56.6	-0.9
	0.9nm,0.8s						
ZRNK				⇓S	Sg	11 46 13.9	-0.2
	7.3nm,1.3s						

CSEM 03 11:46:58.8±0.4, 3866N×414W, h0km, ML3.8/1, Error ellipse: s-maj=3.6km s-min=3.3km az=87.0, After MDD, Spain

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EBAN	**Banos Encina**	**0.57**	**150**	Pg	Pg	11 47 09.3	-0.4
	4.0nm,0.4s,SNR=9.4						
EBAN				Lg		11 47 16.1	
	7.1nm,0.2s,SNR=9.2						
EADA	**Adamuz**	**0.60**	**215**	Pg	Pg	11 47 09.5	-0.8
	4.7nm,0.3s,SNR=4.6						
EADA				Lg		11 47 18.2	
	5.3nm,0.2s,SNR=6.2						
ESDC	**Sonseca Array**	**1.02**	**8**	Pg	Pg	11 47 17.7	-0.7
	2.8nm,0.3s,SNR=18						
ESDC				Lg		11 47 30.8	
	1.1nm,0.3s,SNR=43						
ECAB	**El Cabril**	**1.16**	**240**	Pg	Pg	11 47 20.6	-0.5
	19nm,0.6s,SNR=8.9						
ECAB				Lg		11 47 37.3	
	26nm,0.4s,SNR=5.0						
EQES	**Quesada**	**1.20**	**135**	Pg	Pg	11 47 21.1	-0.7
	9.7nm,0.8s,SNR=5.7						
EQES				Lg		11 47 37.9	
	4.3nm,0.1s,SNR=6.3						
EVIA	**Vianos**	**1.28**	**90**	Pg	Pg	11 47 22.3	-1.1
	14nm,0.5s,SNR=7.8						
EVIA				Lg		11 47 40.1	
	4.7nm,0.2s,SNR=25						
EQUE	**Quentar**	**1.55**	**159**	Pg	Pg	11 47 27.3	-1.3
	9.3nm,0.5s,SNR=8.7						
EQUE				Lg		11 47 48.1	
	13nm,0.4s,SNR=7.9						
GUD	**Guadarrama**	**1.98**	**360**	Pg	Pg	11 47 34.9	-1.9
	10nm,0.6s,SNR=6.7						
GUD				Lg		11 48 00.3	
	7.1nm,0.3s,SNR=12						
EBER	**Berja**	**2.02**	**150**	Pg	Pg	11 47 35.6	-1.9
	13nm,1.1s,SNR=5.4						
EBER				Lg		11 48 04.5	
	4.1nm,0.4s,SNR=7.9						
ETOB	**Tobarra**	**2.03**	**90**	Pn	Pn	11 47 32.4	-1.8
	16nm,0.6s,SNR=5.5						
ETOB				Lg		11 48 02.5	
	3.8nm,0.4s,SNR=5.0						
EMIN	**Mina Concepcio**	**2.18**	**247**	Pg	Pg	11 47 39.1	-1.6
	3.2nm,0.4s,SNR=8.5						
EMIN				Lg		11 48 08.2	
	2.2nm,0.3s,SNR=5.6						
EBAD	**Badajoz**	**2.25**	**273**	Pg	Pg	11 47 38.8	-3.1
	10nm,1.0s						
EBAD				Lg		11 48 09.4	
	5.6nm,0.2s,SNR=9.2						
ECHE	**Chera**	**2.64**	**68**	Pg	Pg	11 47 49.5	+0.2
	SNR=7.9						
ECHE				Lg		11 48 24.1	
	2.0nm,0.4s,SNR=7.9						
ETOR	**Torete**	**2.69**	**36**	Pg	Pg	11 47 49.4	-1.0
	7.9nm,0.4s,SNR=5.0						
ETOR				Lg		11 48 25.4	
	6.0nm,0.3s,SNR=5.5						

ISCJB ***03*** *12:04:32.6±1.6, 3393N±006×3602E±008, h0km, Error ellipse: s-maj=10.6km s-min=7.8km az=150.9*
GII ***03*** *12:04:32.7±0.0, 3397N×3591E, h0km, ML2.3/5*
GRAL ***03*** *12:04:34.4±0.3, 3375N×3548E, h19km±4km, MD2.9*

CSEM ***03*** *12:04:34.4, 3375N×3548E, h19km, ML2.9, After GRAL*
ISC 03 12:04:32.6±1.7, 3395N±007×3604E±009, h0km, n10, σ0°68/17, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.32**	**262**	*i* Pg	**Pg**	**12 04 39.4**	**+0.5**
BHL				*i* Sg	**Sg**	**12 04 43.0**	**0.0**
HWQ	**Hawqa**	**0.34**	**347**	*e*Pg	**Pg**	**12 04 46.2**	**+7.1**
RCY	**Rachaya**	**0.50**	**202**	*i* Pg	**Pg**	**12 04 42.0**	**-0.2**
RCY				*i* Sg	**Sg**	**12 04 47.6**	**-1.0**
KSDI	**Kefar Szold**	**0.82**	**203**	Pg	**Pg**	**12 04 48.1**	**-0.3**
KSDI				Sg	**Sg**	**12 04 58.7**	**-0.3**
MMA1	**Mount Meron ar**	**1.07**	**210**	Pg	**Pg**	**12 04 52.7**	**-0.4**
MMA2	**Mount Meron ar**	**1.07**	**210**	Pg	**Pg**	**12 04 52.2**	**-1.0**
MMC6	**Mount Meron ar**	**1.08**	**210**	Pg	**Pg**	**12 04 52.4**	**-0.9**
MMC6				Sg	**Sg**	**12 05 08.1**	**+0.7**
HNTI	**Hanita**	**1.13**	**220**	Pg	**Pg**	**12 04 53.9**	**-0.4**
HNTI				Sg	**Sg**	**12 05 09.0**	**+0.2**
MMLI	**Mount Malkishu**	**1.59**	**199**	Pn	**Pn**	**12 05 02.6**	**+0.5**
MMLI				Sn	**Sn**	**12 05 24.6**	**+1.3**
HMDT	**Nahal Hemdat**	**1.75**	**194**	Pn	**Pn**	**12 05 04.2**	**+0.1**
HMDT				Sn	**Sn**	**12 05 28.2**	**+1.1**

CSEM ***03*** *12:05:33.5, 3757N×2168E, h14km, MD3.5/5, After ATH*
NEIC ***03*** *12:05:33.5, 3757N×2168E, h14km, MD3.4(ATH), After ATH.*
ATH 03 12:05:33.5, 3757N×2168E, h14km±6km, MD3.4/5, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.44**	**153**	*e*PG	Pg	12 05 41.8	-0.4
ITM				*e*SB	Sg	12 05 48.7	+0.7
RLS	**Riolos of Patr**	**0.52**	**341**	*e*PB	Pb	12 05 43.0	-1.3
RLS				*e*SB	Sb	12 05 51.1	-0.6
VLS	**Valsamata**	**1.05**	**305**	*e*PB	Pb	12 05 53.7	+0.2
VLI	**Veliai**	**1.32**	**130**	*e*PB	Pb	12 05 58.5	+0.5
EVR	**Evrytania**	**1.35**	**4**	*e*PB	Pb	12 05 59.0	+0.5

NIED ***03*** *12:11:00, 4330N×14520E, h80km, Mw3.9 Best double couple: M0:8.62000×10^14 NP1:φ0×71.00000°, δ72.00000°, λ-132.00000°. NP2:φ0×322.00000°, δ45.00000°, λ-26.00000°.*
ISCJB ***03*** *12:11:33.5±0.4, 4330N±004×14525E±005, h85km±2km, mb4.1/20, Error ellipse: s-maj=7.2km s-min=4.8km az=143.6*
BJI ***03*** *12:11:33.0, 4362N×14532E, h92km, mB4.8, mb4.7*
IDC ***03*** *12:11:34.9±2.5, 4333N×145.19E, h81km±21km, mb3.4/10, mb1 3.7/14, mb1mx3.6/23, mbtmp3.6/14, Error ellipse: s-maj=25.0km s-min=14.8km az=70.0*
MOS ***03*** *12:11:34.1±1.4, 4333N×145.15E, h93km, mb4.5/3, Error ellipse: s-maj=14.6km s-min=9.5km az=81.5*
NEIC ***03*** *12:11:35.2±1.1, 4333N×14520E, h85km±9km, mb4.6/3, MW3.9(NIED), Error ellipse: s-maj=14.4km s-min=8.8km az=100.0*
NEIC Recorded [2 JMA] in eastern Hokkaido.
JMA ***03*** *12:11:35.2±0.1, 4333N×14521E, h76km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φs:254.00000°, δ25.00000°, λ10.00000°. NP2: φs:254.00000°, δ86.00000°, λ114.00000°. Principal axes: T Plg44.0000°, Azm188.0000°; N Plg24.0000°, Azm72.0000°; P Plg36.0000°, Azm323.0000°;*
JMA Felt II J1.
ISC 03 12:11:34.8±0.4, 4332N±004×14522E±005, h80km±2km, h96km±2.4km: pP-P, n53, σ0°81/70, mb4.1/20, 6C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.39**	**82**	⇓P	**Pn**	**12 11 47.7**	**+0.2**
NEM2				*e*S	**Sn**	**12 11 56.7**	**-0.3**
JNK	**Nakash**	**0.45**	**307**	⇑P	**Pn**	**12 11 47.7**	**-0.3**
JNK				*e*S	**Sn**	**12 11 57.2**	**-0.7**
JAK	**Akkeshi**	**0.50**	**230**	⇓P	**Pn**	**12 11 48.7**	**+0.3**
JAK				*e*S	**Sn**	**12 11 58.5**	**0.0**
JRA	**Rausu**	**0.63**	**354**	⇑P	**Pn**	**12 11 49.7**	**+0.1**
JRA				*e*S	**Sn**	**12 12 00.7**	**+0.1**
YUK	**Yuzh-Kuril'sk**	**0.86**	**33**	⇑/PN	**Pn**	**12 11 51.7**	**-0.4**
YUK				*i* S	**Sn**	**12 12 03.8**	**-1.2**
YUK				pmax	pmax		
	comp=Z,220nm,0.3s						
YUK				pmax	pmax		
	comp=N,3μm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				smax			
	comp=N,10μm,0.5s						
YUK				smax			
	comp=E,1μm,0.5s						
YUK				smax			
	comp=N,18μm,0.8s						
YUK				smax			
	comp=E,20μm,0.8s						
JAR	**Ashorobuto**	**1.06**	**269**	⇑P	**Pn**	**12 11 54.8**	**+0.4**
JOB	**Onbets**	**1.09**	**248**	⇑P	**Pn**	**12 11 55.4**	**+0.5**
JTKR	**Abashiri--Toko**	**1.15**	**305**	⇑P	**Pn**	**12 11 55.9**	**+0.3**
JTKR				*e*S	**Sn**	**12 12 11.2**	**-0.1**
JMP	**Maruseppu**	**1.51**	**298**	⇓P	**Pn**	**12 12 00.7**	**+0.5**
JMP				*e*S	**Sn**	**12 12 19.4**	**0.0**
JCH	**Churui**	**1.53**	**243**	P	**Pn**	**12 12 00.5**	**+0.1**
JCH				*e*S	**Sn**	**12 12 19.0**	**-0.8**
ERM	**Erimo**	**2.00**	**230**	*e*Pn	**Pn**	**12 12 08.2**	**+1.7**
ERM				*e*Sn	**Sn**	**12 12 36.3**	**+5.5**
ASAJ	**Asahikawa**	**2.06**	**294**	PN	**Pn**	**12 12 08.8**	**+1.4**
ASAJ				S	**Sn**	**12 12 32.4**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,41nm,0.3s						
ASAJ				smax			
	comp=N,20nm,0.3s						
ASAJ	**Asahikawa**	**2.06**	**294**	P	**Pn**	**12 12 08.8**	**+1.4**
	comp=N,41nm,0.3s,baz=110,slow=11,SNR=272						
ASAJ				S	**Sn**	**12 12 32.4**	**0.0**
	comp=N,20nm,0.3s,baz=145,slow=16,SNR=18						
KUR	**Kuril'sk**	**2.70**	**44**	PN	**Pn**	**12 12 18.0**	**+2.0**
KUR				*e*S	**Sn**	**12 12 48.0**	**+0.3**
KUR				pmax	pmax		
	comp=Z,150nm,0.7s						
KUR				smax			
	comp=N,380nm,0.6s						
KUR				smax			
	comp=E,290nm,0.6s						
YSS	**Yuzh-Sakhalins**	**4.03**	**335**	*i* PN	**Pn**	**12 12 34.6**	**+0.6**
YSS	**Yuzh-Sakhalins**	**4.03**	**335**	*e*Pn	**Pn**	**12 12 34.5**	**+0.4**
MAJO	**Matsushiro**	**8.64**	**221**	*e*PN	**Pn**	**12 13 36.5**	**-0.5**
MAJO				pmax	pmax		
	comp=Z,11nm,0.6s						
MAJO	**Matsushiro**	**8.64**	**221**	*e*Pn	**Pn**	**12 13 36.5**	**-0.4**
	comp=Z,11nm,0.6s						
MAT	**Matsushiro**	**8.64**	**221**	P	**Pn**	**12 13 36.4**	**-0.6**
MJAR	**Matsushiro Arr**	**8.64**	**221**	P	**Pn**	**12 13 36.5**	**-0.4**
	comp=Z,1.9nm,0.3s,baz=32,slow=15,SNR=40						
JHJ	**Hachijo jima 2**	**11.04**	**205**	P	**Pn**	**12 14 07.7**	**-1.9**
	comp=Z,6.1nm,0.3s,baz=60,slow=20,SNR=4.3						
JHJ				S	**Sn**	**12 16 03.1**	**-8.1**
	comp=Z,6.7nm,0.3s,baz=51,slow=18,SNR=4.7						
KSRS	**Korea Array**	**14.41**	**252**	P	**Pn**	**12 14 55.4**	**+0.7**
	comp=Z,0.1nm,0.3s,baz=57,slow=14,SNR=3.0						
YAK	**Yakutsk**	**20.87**	**339**	*e*P	**P**	**12 16 07.6**	**-2.4**
YAK				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NJ2	**Nanjing**	**23.60**	**250**	*e*P	**P**	**12 16 38.7**	**+0.4**
NJ2				AP		12 16 55.2	
NJ2				PP		12 17 12.7	
NJ2				PPP		12 17 22.7	
NJ2				S	**S**	**12 20 42.0**	**-4.7**
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.4						
NJ2				AMB	AMB		
	comp=Z,100nm,5.5s						
NJ2				LR	LR		
	comp=N,110nm,14.1s						
NJ2				LR	LR		
	comp=E,90nm,14.1s						
NJ2				LR	LR		
	comp=Z,80nm,17.6s						
HHC	**Hu-ho-hao-te**	**25.00**	**276**	*e*P	**P**	**12 16 51.2**	**+0.2**

HHC				AP	pP	12 17 12.6	+3.4
HHC				XP	sP	12 17 24.3	+5.7
HHC				PP		12 17 32.3	
HHC				PCP	PcP	12 20 24.9	+1.0
HHC				S	**S**	**12 21 08.2**	**-0.8**
HHC				XS	sS	12 21 43.1	+2.5
HHC				SS		12 22 12.0	
HHC				AMB	AMB		
	comp=Z,44nm,0.9s,mb4.9						
HHC				AMB	AMB		
	comp=Z,127nm,5.7s						
HHC				LR	LR		
	comp=N,285nm,14.4s						
HHC				LR	LR		
	comp=E,245nm,14.5s						
HHC				LR	LR		
	comp=Z,155nm,15.1s						
SONM	**Songino Array**	**27.34**	**293**	P	**P**	**12 17 13.0**	**+1.0**
	comp=Z,2.1nm,0.6s,mb3.9,baz=84,slow=8.6,SNR=20						
LZH	**Lanzhou**	**32.38**	**271**	⇓P	**P**	**12 17 55.0**	**-1.6**
LZH				AP	pP	12 18 16.2	+1.0
LZH				XP	sP	12 18 27.1	+2.6
LZH				PP	PP	12 19 06.3	-4.7
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.8						
LZH				AMB	AMB		
	comp=Z,105nm,4.9s						
LZH				LR	LR		
	comp=N,358nm,12.9s						
LZH				LR	LR		
	comp=Z,512nm,17.2s						
CD2	**Chengdu**	**34.96**	**263**	*e*P	**P**	**12 18 19.5**	**+0.4**
CD2				AP	pP	12 18 39.7	+1.9
CD2				XP	sP	12 18 49.5	+2.4
CD2				PP	PP	12 19 40.0	+0.3
CD2				S	**S**	**12 23 45.0**	**0.0**
CD2				XS	sS	12 24 18.4	+1.2
CD2				SS	SS	12 26 04.3	-15
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,130nm,13.4s						
CD2				LR	LR		
	comp=Z,120nm,12.8s						
GYA	**Guiyang**	**35.45**	**254**	*e*P	**P**	**12 18 23.0**	**-0.3**
GYA				AP	pP	12 18 45.8	+3.7
GYA				XP	sP	12 18 55.6	+4.3
GYA				PP	PP	12 19 46.9	+1.8
GYA				PCP	PcP	12 20 52.4	+1.1
GYA				S	**S**	**12 23 52.0**	**-0.6**
GYA				XS	sS	12 24 27.1	+2.3
GYA				SCP	ScP	12 24 29.0	-0.9
GYA				PCS	PcS	12 24 38.6	0.0
GYA				SCS	ScS	12 28 32.3	-2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
KMI	**Kunming**	**39.05**	**256**	P	**P**	**12 18 55.2**	**+1.4**
KMI				AMB	AMB		
	comp=Z,14nm,1.1s,mb4.7						
ZALV	**Zalesovo Beam**	**40.14**	**307**	P	**P**	**12 19 02.7**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.7,baz=76,slow=9.3,SNR=3.5						
ZAL	**Zalesovo**	**40.15**	**307**	P	**P**	**12 19 02.7**	**+0.1**
WMQ	**Urumqi**	**40.95**	**291**	*e*P	**P**	**12 19 10.0**	**+0.7**
WMQ				AP	pP	12 19 33.0	+4.6
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.1						
COLA	**College**	**42.25**	**36**	*e*P	**P**	**12 19 20.0**	**+0.4**
MK31	**Makanchi Array**	**43.54**	**297**	*e*P	**P**	**12 19 30.1**	**-0.2**
MKAR	**Makanchi Array**	**43.54**	**297**	P	**P**	**12 19 30.2**	**-0.1**
	comp=Z,2.1nm,0.7s,mb4.0,baz=79,slow=9.1,SNR=14						
KURK	**Kurchatov**	**44.60**	**304**	*e*P	**P**	**12 19 38.8**	**0.0**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
KURK	**Kurchatov**	**44.60**	**304**	*e*P	**P**	**12 19 38.8**	**0.0**
	comp=Z,1.9nm,0.7s,mb3.9						
INK	**Inuvik**	**47.49**	**30**	*e*P	**P**	**12 20 01.1**	**0.0**
INK				pmax	pmax		
	comp=Z,7.0nm,0.4s						
INK	**Inuvik**	**47.49**	**30**	*e*P	**P**	**12 20 01.1**	**-0.1**
	comp=Z,7.1nm,0.4s,mb4.8						
RES	**Resolute Bay**	**55.78**	**16**	*e*P	**P**	**12 21 02.0**	**-0.8**
RES				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
RES	**Resolute Bay**	**55.78**	**16**	*e*P	**P**	**12 21 02.0**	**-0.8**
	comp=Z,3.4nm,0.4s,mb4.7						
YKA	**Yellowknife Ar**	**56.94**	**33**	*i* P	**P**	**12 21 11.5**	**+0.3**
YKA	**Yellowknife Ar**	**56.94**	**33**	P	**P**	**12 21 11.6**	**+0.4**
	comp=Z,0.3nm,0.8s,mb3.4,baz=306,slow=7.0,SNR=8.4						
WRA	**Warramunga Arr**	**63.73**	**191**	P	**P**	**12 21 57.5**	**-0.5**
	comp=Z,0.5nm,0.8s,mb3.4,baz=8.7,slow=6.7,SNR=4.0						
FINES	**FINESS Array B**	**64.61**	**332**	P	**P**	**12 22 02.0**	**-1.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=56,slow=10,SNR=4.7						
ASAR	**Alice Springs**	**67.46**	**191**	*i* P	**P**	**12 22 23.0**	**+1.2**
ASAR	**Alice Springs**	**67.46**	**191**	P	**P**	**12 22 23.1**	**+1.2**
	comp=Z,0.3nm,0.6s,mb3.3,baz=1.6,slow=5.6,SNR=5.5						
NB2	**NORSAR Subarra**	**69.49**	**338**	P	**P**	**12 22 33.7**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.8,baz=33,slow=6.5						
NOA	**NORSAR Array B**	**69.49**	**338**	P	**P**	**12 22 33.7**	**-0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=34,slow=6.2,SNR=6.6						
AKASG	**Malin Array Be**	**71.09**	**323**	P	**P**	**12 22 42.7**	**-1.4**
	comp=Z,0.2nm,0.3s,mb3.5,baz=38,slow=6.0,SNR=3.9						
TXAR	**Lajitas Array**	**84.06**	**55**	*i* P	**P**	**12 23 58.6**	**+1.9**
TXAR	**Lajitas Array**	**84.06**	**55**	P	**P**	**12 23 56.9**	**+0.3**
	comp=Z,0.2nm,0.6s,mb3.2,baz=260,slow=3.4,SNR=3.4						

MAN 03 12:12:15, 1051N×12282E, h19km, mb3.9, ML2.6, MS2.3, 1D, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	**Jordan**	**0.26**	**298**	*e*P	Pg	12 12 22.4	+1.5
GUIM				*e*S	Sg	12 12 30.7	+5.7
RCP	**Roxas**	**1.05**	**356**	⇓*e*P	Pb	12 12 32.9	-1.7
RCP				*e*S	Sb	12 12 49.4	+1.4
OTRP	**Odiongan**	**2.01**	**337**	*e*P	Pn	12 12 52.4	+4.5
OTRP				*e*S	Sn	12 13 20.2	+7.8
MSLP	**Maasin**	**2.04**	**100**	*e*P	Pn	12 12 44.5	-3.8
MSLP				*e*S	Sn	12 13 09.8	-3.4

ISCJB ***03*** *12:29:53.6±1.1, 736S±007×12935E±008, h190km±15km, mb3.5/2, Error ellipse: s-maj=12.9km s-min=11.1km az=29.0*
IDC ***03*** *12:29:54.6±6.8, 724S×12924E, h172km±74km, mb3.2/2, mb1 3.7/6, mb1mx3.5/15, mbtmp3.6/6, Error ellipse: s-maj=64.4km s-min=24.0km az=40.0*
ISC 03 12:29:54.3±1.0, 733S±008×12933E±008, h175km±13km, n7, σ1°04/11, mb3.5/2, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**3.78**	**64**	⇑*e*P	**Pn**	**12 30 52.0**	**-0.5**
BATI	**Kupang**	**6.29**	**243**	P	**Pn**	**12 31 26.8**	**+1.8**
	9.9nm,0.3s,baz=103,slow=6.6,SNR=11						
BATI				S	**Sn**	**12 32 35.5**	**-1.0**
	13nm,0.3s,baz=162,slow=20,SNR=11						
FITZ	**Fitzroy Crossi**	**11.29**	**198**	P	**Pn**	**12 32 31.2**	**+0.3**
	0.5nm,0.3s,baz=29,slow=12,SNR=33						
FITZ				S	**Sn**	**12 34 32.1**	**-4.1**
	1.5nm,0.3s,baz=81,slow=19,SNR=5.4

MWZ	**Matawai**	**1.13 108**	*e*PN	Pn	12 31 23.7	+0.3
MWZ			SN	Sn	12 31 46.3	+1.0
BKZ	**Black Stump Fm**	**1.21 168**	PN	Pn	12 31 24.2	+0.2
BKZ			SN	Sn	12 31 45.0	-1.5
TUVZ	**Tukino**	**1.34 197**	PN	Pn	12 31 25.6	+0.4
FWVZ	**Far West T-bar**	**1.35 200**	PN	Pn	12 31 26.1	+0.7
WNVZ	**Wahianoa**	**1.41 198**	PN	Pn	12 31 26.1	+0.2
MTVZ	**Mangateitei**	**1.50 201**	PN	Pn	12 31 26.9	+0.2
KNZ	**Kokohu**	**1.57 131**	PN	Pn	12 31 27.8	+0.3
PUZ	**Puketiti**	**1.66 94**	PN	Pn	12 31 26.6	-1.7
MXZ	**Matakaoa Point**	**1.75 77**	PN	Pn	12 31 29.4	+0.1
TSZ	**Takapari Road**	**2.08 184**	PN	Pn	12 31 31.8	-0.9
WPHZ	**Waipukurau**	**2.09 174**	PN	Pn	12 31 32.4	-0.5
PXZ	**Pawanui**	**2.11 165**	PN	Pn	12 31 32.7	-0.4
BFZ	**Birch Farm**	**2.69 179**	PN	Pn	12 31 38.1	-1.7
MRZ	**Mangatainoka R**	**2.71 189**	PN	Pn	12 31 37.8	-2.2
KIW	**Kapiti Island**	**3.03 198**	PN	Pn	12 31 41.0	-2.8
MTW	**Mount Morrison**	**3.21 189**	PN	Pn	12 31 43.1	-3.0
CAW	**Cannon Point**	**3.23 195**	PN	Pn	12 31 43.5	-2.9
DUWZ	**D'Urville Isla**	**3.31 211**	PN	Pn	12 31 44.2	-3.1
MRW	**Makara Radio**	**3.43 199**	PN	Pn	12 31 45.7	-3.1
WEL	**Wellington**	**3.47 198**	PN	Pn	12 31 46.2	-3.1
MSWZ	**Moikau Station**	**3.50 191**	PN	Pn	12 31 46.3	-3.3
TCW	**Tory Channel**	**3.54 204**	PN	Pn	12 31 47.1	-3.0
TUWZ	**Tuamarina**	**3.84 206**	PN	Pn	12 31 50.5	-3.5
QRZ	**Quartz Range**	**4.00 224**	PN	Pn	12 31 52.2	-3.7
THZ	**Tophouse**	**4.53 213**	PN	Pn	12 31 59.1	-3.7
KHZ	**Kahutara**	**4.86 204**	PN	Pn	12 32 03.0	-4.0
LTZ	**Lake Taylor**	**5.64 211**	PN	Pn	12 32 11.6	-5.5

*ISCJB **03** 12:33:38.3±0.4, 3474N±003×3341E±004, h39km±12km, Error ellipse: s-maj=5.7km s-min=4.5km az=140.3*
*CSEM **03** 12:33:38.5±0.2, 3482N×3337E, h30km, Mw3.0, Error ellipse: s-maj=5.2km s-min=2.6km az=161.0*
*GII **03** 12:33:38.9±1.3, 3465N×3347E, h9km±1km, ML3.1/7*
*NIC **03** 12:33:39.1±0.2, 3477N×3348E, h25km, ML3.0, MW3.0*
*ISK **03** 12:33:39.1, 3486N×3328E, h38km, MD3.1*
ISC 03 12:33:39.0±0.4, 3478N±003×3341E±004, h34km±4km, n24, σ0§62/41, 1D, Cyprus region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSS	**Prodhromos** 26nm,0.2s	**0.20**	**342**	P	**Pb**	**12 33 45.1**	**-0.6**
CSS				S	**Sb**	**12 33 49.8**	**-0.4**
MAMC	**Mammari**	**0.42**	**339**	P	**Pb**	**12 33 48.3**	**-0.2**
SZAC	**Souni-Zanaja** 33nm,0.2s	**0.43**	**268**	⇓*i*P	**Pb**	**12 33 48.4**	**-0.2**
SZAC				S	**Sb**	**12 33 56.4**	**+1.2**
LFK	**Lefkose**	**0.51**	**12**	*e*PG	**Pb**	**12 33 49.7**	**-0.1**
LFK				*e*SG	**Sb**	**12 33 57.6**	**+0.3**
LEF	**Lefka**	**0.55**	**309**	*e*PG	**Pb**	**12 33 49.8**	**-0.6**
LEF				*e*SG	**Sb**	**12 33 56.6**	**-1.6**
PHNC	**Paralimni**	**0.56**	**66**	P	**Pn**	**12 33 51.4**	**+0.8**
PHNC				S	**Sb**	**12 33 59.6**	**+1.0**
ALFC	**Alevga** 34nm,0.2s	**0.76**	**300**	P	**Pn**	**12 33 53.2**	**-0.2**
ALFC				S	**Sn**	**12 34 04.1**	**+0.4**
PPCY	**Paphos**	**0.88**	**277**	P	**Pn**	**12 33 54.8**	**-0.1**
AKMC	**Akamas**	**0.92**	**286**	P	**Pn**	**12 33 55.9**	**+0.4**
EREN	**Erenkoy**	**0.98**	**40**	*e*PG	**Pn**	**12 33 57.0**	**+0.7**
IKL	**Isikli**	**1.48**	**9**	*e*PN	**Pn**	**12 34 02.4**	**-0.8**
IKL				*e*SN	**Sn**	**12 34 20.9**	**-0.4**
HWQ	**Hawqa**	**2.16**	**103**	*e*P	**Pn**	**12 34 19.7**	**+7.2**
HWQ				*e*S	**Sn**	**12 34 37.6**	**-0.5**
MERS	**Mersin**	**2.28**	**23**	*e*PN	**Pn**	**12 34 14.7**	**+0.6**
RCY	**Rachaya**	**2.38**	**122**	*e*S	**Sn**	**12 34 41.9**	**-1.7**
MMA2	**Mount Meron ar**	**2.42**	**136**	Pn	**Pn**	**12 34 16.6**	**+0.4**
MMA2				Sn	**Sn**	**12 34 44.2**	**-0.4**
MMC5	**Mount Meron ar**	**2.43**	**136**	Pn	**Pn**	**12 34 16.6**	**+0.4**
MMC5				Sn	**Sn**	**12 34 44.3**	**-0.5**
KSDI	**Kefar Szold**	**2.45**	**129**	Pn	**Pn**	**12 34 17.2**	**+0.6**
KSDI				Sn	**Sn**	**12 34 45.2**	**-0.1**
SLTI	**Sal'it**	**2.87**	**151**	Sn	**Sn**	**12 34 55.0**	**-0.7**
MMLI	**Mount Malkishu**	**2.88**	**144**	Pn	**Pn**	**12 34 22.7**	**+0.3**
MMLI				Sn	**Sn**	**12 34 55.4**	**-0.4**
HMDT	**Nahal Hemdat**	**3.08**	**144**	Pn	**Pn**	**12 34 26.0**	**+0.8**
HMDT				Sn	**Sn**	**12 35 01.0**	**+0.2**
DSI	**Dead Sea**	**3.60**	**152**	Pn	**Pn**	**12 34 33.0**	**+0.7**
DSI				Sn	**Sn**	**12 35 13.6**	**-0.1**
MZDA	**Masada**	**3.83**	**154**	Pn	**Pn**	**12 34 35.7**	**+0.2**
MZDA				Sn	**Sn**	**12 35 18.9**	**-0.4**
KZIT	**Kziot**	**3.95**	**168**	Pn	**Pn**	**12 34 37.5**	**+0.3**
KZIT				Sn	**Sn**	**12 35 21.7**	**-0.6**
MBH	**Mount Berech**	**5.13**	**165**	Pn	**Pn**	**12 34 54.0**	**+0.6**
MBH				Sn	**Sn**	**12 35 51.7**	**+0.2**

*ISCJB **03** 13:27:00.5±0.6, 3717N±002×2304E±003, h9km±5km, Error ellipse: s-maj=4.2km s-min=3.6km az=172.0*
*ATH **03** 13:27:00.7, 3716N×2306E, h22km±1km, MD3.6/14, ML3.3*
*NEIC **03** 13:27:00.7, 3716N×2306E, h22km, ML3.3(ATH), After ATH.*
*CSEM **03** 13:27:01.0±0.1, 3717N×2310E, h2km, ML4.0, Error ellipse: s-maj=1.5km s-min=1.2km az=61.0*
*THE **03** 13:27:01.1, 3717N×2306E, h3km, ML4.0*
ISC 03 13:27:01.2±0.5, 3718N±002×2305E±003, h12km±4km, n41, σ1§19/54, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.36**	**25**	*e*Pg	**Pg**	**13 27 08.6**	**+0.2**
DID				*e*Sg	**Sg**	**13 27 14.2**	**+0.8**
VLI	**Veliai**	**0.47**	**191**	*e*PB	**Pg**	**13 27 10.2**	**-0.1**
VLI				*e*SB	**Sg**	**13 27 16.6**	**+0.1**
VLX	**Vlachokerasia**	**0.56**	**290**	*e*Pg	**Pg**	**13 27 12.3**	**+0.1**
VLX				*e*Sg	**Sg**	**13 27 20.4**	**+0.7**
NAIG	**Nisos Aigina**	**0.68**	**31**	*e*PN	**Pn**	**13 27 14.3**	**-2.3**
LTK	**Loutraki**	**0.85**	**356**	*e*Pg	**Pg**	**13 27 17.1**	**-0.5**
LTK				*e*Sg	**Sg**	**13 27 30.4**	**+1.7**
LTK	**Loutraki**	**0.85**	**356**	*e*Pg	**Pg**	**13 27 17.0**	**-0.6**
LTK				*e*Sg	**Sg**	**13 27 30.4**	**+1.7**
KVR	**Kavouri**	**0.87**	**41**	*e*PB	**Pb**	**13 27 16.8**	**-1.4**
ITM	**Ithomi**	**0.89**	**271**	⇑*i*PN	**Pn**	**13 27 18.3**	**-1.2**
ITM				*e*SN	**Sn**	**13 27 30.5**	**-1.8**
KYTH	**Kithira**	**0.89**	**180**	*e*PN	**Pn**	**13 27 18.0**	**-1.5**
ATH	**Athens Observa**	**0.96**	**34**	*e*PN	**Pn**	**13 27 19.0**	**-1.4**
ATH				*e*SN	**Sn**	**13 27 33.2**	**-0.7**
PYL	**PYLOS**	**1.08**	**255**	*e*Pg	**Pg**	**13 27 21.4**	**-0.5**
PTL	**Penteli**	**1.09**	**37**	*e*PN	**Pn**	**13 27 21.5**	**-0.7**
SELA	**Sela**	**1.43**	**321**	*e*Pg	**Pg**	**13 27 28.1**	**-0.6**
SELA				*e*Sg	**Sg**	**13 27 48.7**	**+1.5**
LKR	**Lokris**	**1.47**	**359**	*e*Pg	**Pg**	**13 27 27.7**	**-1.8**
LKR	**Lokris**	**1.47**	**359**	*e*Pn	**Pn**	**13 27 28.1**	**+0.6**
RLS	**Riolos of Patr**	**1.53**	**306**	*e*PN	**Pn**	**13 27 29.2**	**+0.9**
RLS	**Riolos of Patr**	**1.53**	**306**	P	**Pn**	**13 27 30.4**	**+2.1**
KARN	**Karanos**	**1.91**	**158**	*e*Pb	**Pb**	**13 27 34.4**	**-1.4**
KARN				*e*Sb	**Sb**	**13 27 59.8**	**+0.2**
AGG	**Agios Georgios**	**1.93**	**343**	*e*Pb	**Pb**	**13 27 35.0**	**-1.2**
AGG				*e*Sb	**Sb**	**13 28 00.1**	**-0.1**
APE	**Apeiranthos**	**1.99**	**92**	*e*Pb	**Pb**	**13 27 34.5**	**-2.7**
APE				*e*Sb	**Sb**	**13 28 01.2**	**-0.8**
APE	**Apeiranthos**	**1.99**	**92**	*e*PB	**Pb**	**13 27 34.4**	**-2.9**
EVR	**Evrytania**	**1.99**	**331**	*e*PN	**Pn**	**13 27 36.3**	**+1.7**
VAM	**Vamos**	**2.00**	**152**	*e*PN	**Pn**	**13 27 35.5**	**+0.8**
AOS	**Alonnisos**	**2.10**	**18**	*e*Pn	**Pn**	**13 27 36.1**	**0.0**
SANT	**Santorini**	**2.10**	**112**	*e*Pn	**Pn**	**13 27 36.5**	**+0.5**
SANT	**Santorini**	**2.10**	**112**	*e*Pn	**Pn**	**13 27 36.5**	**+0.4**
NEO	**Neokhori**	**2.13**	**4**	*e*PB	**Pb**	**13 27 37.0**	**-2.7**
XOR	**Xorichti**	**2.19**	**3**	*e*Pn	**Pn**	**13 27 37.5**	**+0.1**
GVD	**Gavdhos**	**2.48**	**160**	*e*PN	**Pn**	**13 27 42.0**	**+0.7**
THL	**Klokotos Trika**	**2.52**	**342**	*e*Pn	**Pn**	**13 27 43.3**	**+1.4**
CHOS	**Chios island**	**2.67**	**62**	*e*Pn	**Pn**	**13 27 44.0**	**+0.1**
CHOS				*e*Sn	**Sn**	**13 28 19.3**	**+3.1**
CHOS	**Chios island**	**2.67**	**62**	*e*Pn	**Pn**	**13 27 44.0**	**0.0**
LAST	**Lasithi**	**2.81**	**135**	*e*Pn	**Pn**	**13 27 46.8**	**+0.9**
LAST				*e*Sn	**Sn**	**13 28 21.9**	**+2.2**
LAST	**Lasithi**	**2.81**	**135**	P	**Pn**	**13 27 47.3**	**+1.4**
NPS	**Neapolis**	**2.82**	**132**	*e*PN	**Pn**	**13 27 47.0**	**+1.0**
LIT	**Litokhoron**	**2.95**	**352**	*e*PN	**Pn**	**13 27 48.9**	**+1.1**
SMG	**Samos**	**3.06**	**79**	*e*PN	**Pn**	**13 27 49.5**	**+0.1**
XRY	**Khrisi**	**3.14**	**136**	*e*PN	**Pn**	**13 27 50.5**	**+0.1**
PLG	**Polygyros**	**3.21**	**5**	*e*PN	**Pn**	**13 27 51.8**	**+0.5**
KARP	**Karpathos**	**3.70**	**115**	P	**Pn**	**13 28 01.4**	**+3.3**
TIP	**Timpagrande**	**5.34**	**294**	P	**Pn**	**13 28 24.7**	**+4.1**

*ISCJB **03** 13:30:24.8±0.7, 4025N±004×3137E±005, h2km, Error ellipse: s-maj=5.6km s-min=5.3km az=169.3*
*DDA **03** 13:30:24.6, 4018N×3142E, h7km±3km, Md3.2*
*CSEM **03** 13:30:24.4±0.1, 4022N×3134E, h2km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.5km az=39.0*
*ISK **03** 13:30:25.7, 4021N×3133E, h8km, MD3.1*
ISC 03 13:30:25.0±0.8, 4020N±004×3136E±006, h1km±8km, n15, σ0§82/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.71**	**330**	*i*P	**Pg**	**13 30 39.2**	**+0.5**
BORA	**Eskisehir**	**0.77**	**246**	*i*P	**Pg**	**13 30 39.6**	**-0.1**
BORA				*i*S	**Sg**	**13 30 54.1**	**+4.4**
ESKT	**Eskisehir**	**0.79**	**210**	*e*PG	**Pg**	**13 30 40.9**	**+0.8**
ESKT				*e*SG	**Sg**	**13 30 52.8**	**+2.5**
ESKT	**Eskisehir**	**0.79**	**210**	*i*P	**Pg**	**13 30 40.1**	**0.0**
ESKT				*i*S	**Sg**	**13 30 51.2**	**+0.9**
SEYT	**Eskypehyr**	**0.79**	**210**	*i*P	**Pg**	**13 30 40.1**	**0.0**
GPA	**Golpazari**	**0.81**	**277**	*e*PG	**Pg**	**13 30 40.5**	**-0.1**
ANTO	**Ankara**	**1.15**	**106**	*e*PN	**Pn**	**13 30 48.5**	**+0.3**
ADVT	**Abdulvahap**	**1.26**	**281**	*e*PN	**Pn**	**13 30 49.7**	**-0.1**
ADVT				*e*SN	**Sn**	**13 31 07.7**	**+0.2**
KIZT	**Kizilcal**	**1.38**	**163**	*e*PN	**Pg**	**13 30 51.7**	**+0.3**
HRT	**Hereke**	**1.43**	**296**	*e*PN	**Pn**	**13 30 51.8**	**-0.4**
SAFT	**Safranbolu**	**1.45**	**44**	*e*PN	**Pg**	**13 30 53.5**	**+0.7**
IZI	**Iznik**	**1.45**	**276**	*e*PN	**Pn**	**13 30 52.3**	**-0.1**
YLV	**Yalova**	**1.56**	**284**	*e*PN	**Pg**	**13 30 54.6**	**-0.4**
KDHN	**Kadinhani**	**1.78**	**161**	*i*P	**Pg**	**13 30 57.3**	**-1.7**
KDHN				*i*S	**Sg**	**13 31 27.3**	**+5.2**
GDZ	**Gediz**	**1.83**	**233**	*i*P	**Pg**	**13 30 58.5**	**-1.6**
GDZ				*i*S	**Sg**	**13 31 28.0**	**+4.2**

*NNC **03** 13:43:48.3±4.0, 3700N×6897E, h0km, mb3.9, mpv3.8, Error ellipse: s-maj=38.1km s-min=26.7km az=21.0*
*ISCJB **03** 13:43:59.3±0.8, 3747N±005×6898E±009, h33km, Error ellipse: s-maj=11.6km s-min=6.0km az=154.4*
*IDC **03** 13:44:13.2±14.0, 3855N×6931E, h78km±73km, mb3.0/1, mb1 3.4/6, mb1mx3.2/24, mbtmp3.4/6, ML3.4/5, MS2.9/3, Ms1 2.9/3, ms1mx2.7/12, Error ellipse: s-maj=155.4km s-min=51.8km az=10.0*
ISC 03 13:44:00.6±0.8, 3738N±005×6886E±009, h35km, n31, σ1§13/35, 13C-8D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array** 2.0nm,0.6s,baz=192,slow=12,SNR=16	**5.85**	**12**	⇑Pn	**Pn**	**13 45 24.1**	**-0.6**
KK31				⇑Pg	**Pn**	**13 45 42.5**	**+18**
KK31	5.1nm,0.5s			Lg		13 47 00.6	
UCH	140nm,0.8s,baz=192,slow=24,SNR=25 **Uchtor** SNR=24	**6.51**	**40**	P	**Pn**	**13 45 33.2**	**-0.6**
AAK	**Ala-Archa** 2.6nm,0.3s,baz=193,slow=6.8,SNR=14	**6.80**	**38**	P	**Pn**	**13 45 35.9**	**-1.9**
AAK	**Ala-Archa** SNR=8.5	**6.80**	**38**	P	**Pn**	**13 45 37.6**	**-0.1**
KZA	**Kyzart** SNR=14	**6.80**	**44**	P	**Pn**	**13 45 37.3**	**-0.5**
KBK	**Karagaybulak** SNR=15	**7.04**	**40**	P	**Pn**	**13 45 40.8**	**-0.3**
ULHL	**Ulahol** SNR=5.5	**7.47**	**47**	P	**Pn**	**13 45 50.1**	**+3.0**
TKM2	**Tokmak 2** 7.5nm,0.7s	**7.56**	**41**	⇑Pn	**Pn**	**13 45 46.3**	**-2.0**
TKM2				⇑Sn	**Sn**	**13 47 13.3**	**+0.6**
TKM2	12nm,0.8s			⇓Lg		13 47 55.1	
TKM2	**Tokmak 2** SNR=9.4	**7.56**	**41**	P	**Pn**	**13 45 46.7**	**-1.6**
DDI	**Dehra Dun**	**10.39**	**130**	*ex*	x	13 47 48.5	
AB31	**Akbulak array** 2.0nm,0.6s,baz=159,slow=13,SNR=27	**13.51**	**334**	⇓Pn	**Pn**	**13 47 05.6**	**-4.0**
AB31	1.3nm,0.5s,baz=355,slow=58,SNR=4.4			⇑Sn	**Sn**	**13 49 35.1**	**-3.3**
MK31	**Makanchi Array** 2.9nm,0.8s,baz=228,slow=8.8,SNR=6.8	**13.69**	**42**	⇑Pn	**Pn**	**13 47 07.8**	**-4.2**
MKAR	**Makanchi Array** 0.1nm,0.3s,baz=228,slow=13,SNR=8.6	**13.69**	**42**	P	**Pn**	**13 47 08.4**	**-3.6**
KURBB	**Kurchatov Arra** 0.8nm,1.6s	**14.93**	**25**	⇓Pn	**Pn**	**13 47 29.9**	**+0.9**
KURBB	4.0nm,1.4s			⇓Lg		13 51 50.4	
KURK	**Kurchatov**	**15.04**	**25**	Lg		13 51 51.8	
AKTO	**Aktyubinsk**	**15.19**	**333**	⇓Pn	**Pn**	**13 47 31.2**	**-1.0**
AKTO	0.7nm,1.8s			⇓Sn	**Sn**	**13 50 19.3**	**+0.2**
AKTO	0.7nm,1.6s			⇑Lg		13 51 57.4	
AKTO	**Aktyubinsk** 0.3nm,0.3s,baz=136,slow=14,SNR=9.8	**15.19**	**333**	P	**Pn**	**13 47 31.6**	**-0.6**
AKTO	comp=Z,62nm,20.3s,baz=334,slow=38			LR	LR	13 53 21.4	
VOSK	**Vostochnaya** 2.9nm,1.5s	**15.41**	**5**	⇓Pn	**Pn**	**13 47 26.8**	**-8.4**
VOSK	4.2nm,1.1s			⇑Sn	**Sn**	**13 50 31.0**	**+6.4**
VOSK	40nm,2.6s			⇑Lg		13 52 03.3	
ZRNK	**Zerenda** 5.8nm,1.1s	**15.57**	**0**	⇑Pn	**Pn**	**13 47 38.2**	**+1.0**
ZRNK	2.9nm,0.8s			⇓Sn	**Sn**	**13 50 38.2**	**+10**
ZRNK	18nm,1.4s			⇑Lg		13 52 11.8	
BVA0	**Borovoye Array** 0.5nm,0.9s,baz=175,slow=10,SNR=9.1	**15.68**	**3**	⇑Pn	**Pn**	**13 47 41.5**	**+2.9**
BVA0	0.7nm,1.2s,baz=195,slow=18,SNR=3.8			⇑Sn	**Sn**	**13 50 40.6**	**+9.5**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=178,slow=12,SNR=4.9	**15.68**	**3**	P	**Pn**	**13 47 34.4**	**-4.2**
BVAR	comp=Z,35nm,18.8s,baz=323,slow=40			LR	LR	13 53 46.9	
GKN	**Gorkha** 42nm,0.9s	**16.23**	**121**	*e*P	**Pn**	**13 47 46.7**	**+0.9**
DMN	**Daman** 15nm,1.0s	**16.80**	**121**	*e*P	**Pn**	**13 47 53.1**	**+0.1**
KKN	**Kakani** 12nm,0.7s	**16.80**	**120**	*e*P	**Pn**	**13 47 53.3**	**+0.2**
PKIN	**Phulchoki**	**17.01**	**120**	*e*P	**Pn**	**13 47 55.2**	**-0.6**
PKI	**Pulchoki**	**17.03**	**120**	*e*P	**Pn**	**13 47 55.6**	**-0.3**
GUN	**Gumba** 15nm,0.8s	**17.14**	**119**	*e*P	**Pn**	**13 47 56.9**	**-0.5**
JIRN	**Jiri** 4.5nm,0.4s	**17.51**	**119**	*e*P	**Pn**	**13 48 01.9**	**-0.1**
ZALV	**Zalesovo Beam** 0.3nm,0.3s,baz=210,slow=10,SNR=6.6	**19.89**	**29**	P	**Pn**	**13 48 25.2**	**-5.4**
SONM	**Songino Array** comp=Z,35nm,20.4s,baz=54,slow=39	**29.27**	**57**	LR	LR	14 02 26.8	
YKA	**Yellowknife Ar** 0.2nm,0.6s,baz=348,slow=5.2,SNR=3.8	**80.43**	**2**	P	**P**	**13 56 09.6**	**+1.4**

*NIED **03** 13:46:00, 4510N×15060E, h38km, Mw3.8 Best double couple: M0=6.53000×10^14 NP1:φs=58.00000°, δ76.00000°, λ104.00000°. NP2:φs=192.00000°, δ19.00000°, λ46.00000°.*
*JMA **03** 13:46:01.3±0.7, 4514N×15059E, h30km, M4.3*
*MOS **03** 13:46:01.4±1.3, 4530N×15037E, h48km, mb4.2/5, Error ellipse: s-maj=22.8km s-min=18.5km az=151.2*
*ISCJB **03** 13:46:03.7±1.5, 4514N±0.1×1503E±0.1, h72km±14km, mb3.5/10, Error ellipse: s-maj=19.2km s-min=12.2km az=141.3*
*IDC **03** 13:46:05.7±4.1, 4524N×15041E, h70km±36km, mb3.4/10, mb1 3.6/11, mb1mx3.5/21, mbtmp3.5/11, ML3.8/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=24.4km s-min=18.7km az=114.0*
ISC 03 13:46:05.0±1.4, 4514N±01×1503E±01, h66km±13km, n34, σ1§28/41, mb3.5/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.73**	**275**	⇑*i*PN	**Pn**	**13 46 28.0**	**-4.9**
KUR				*e*S	**Sn**	**13 46 51.0**	**-3.0**
KUR	comp=Z,210nm,0.5s			pmax	pmax		
KUR	comp=N,340nm,0.7s			smax			
KUR	comp=E,690nm,0.7s			smax			
YUK	**Yuzh-Kuril'sk**	**3.35**	**253**	*e*PN	**Pn**	**13 46 55.0**	**+0.1**
YUK				*i*S	**Sn**	**13 47 34.6**	**+1.2**
YUK	comp=Z,540nm,0.3s			pmax	pmax		
YUK	comp=N,420nm,0.5s			smax			
YUK	comp=E,390nm,0.5s			smax			
YUK	comp=N,2μm,0.4s			smax			
YUK	comp=E,5μm,1.0s			smax			
NEM2	**Nemuro 2**	**3.71**	**244**	P	**Pn**	**13 46 58.3**	**-1.5**
NEM2				*e*S	**Sn**	**13 47 40.7**	**-1.5**
JRA	**Rausu**	**3.89**	**254**	P	**Pn**	**13 47 03.4**	**+1.2**
JNK	**Nakash**	**4.29**	**251**	P	**Pn**	**13 47 07.9**	**+0.3**
JNK				*e*S	**Sn**	**13 47 57.8**	**+1.5**
JAK	**Akkeshi**	**4.56**	**245**	P	**Pn**	**13 47 10.2**	**-1.1**
JTKR	**Abashiri--Toko**	**4.71**	**258**	P	**Pn**	**13 47 14.7**	**+1.2**
JAR	**Ashorobuto**	**5.04**	**251**	P	**Pn**	**13 47 18.7**	**+0.8**
JMP	**Maruseppu**	**5.08**	**260**	P	**Pn**	**13 47 20.3**	**+1.8**
JKK2	**Kamakawa 2**	**5.55**	**260**	P	**Pn**	**13 47 27.4**	**+2.5**
ASAJ	**Asahikawa**	**5.59**	**263**	PN	**Pn**	**13 47 27.7**	**+2.2**
ASAJ	comp=Z,2.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,62nm,22.0s			MLR	MLR		
ASAJ	**Asahikawa**	**5.59**	**263**	P	**Pn**	**13 47 28.3**	**+2.8**
ASAJ	**Asahikawa** comp=Z,2.2nm,0.3s,baz=78,slow=19,SNR=16	**5.59**	**263**	P	**Pn**	**13 47 27.6**	**+2.2**
ASAJ	comp=Z,62nm,21.9s,baz=330,slow=36			LR	LR	13 49 32.6	
JCH	**Churui**	**5.60**	**246**	P	**Pn**	**13 47 25.2**	**-0.4**
JCH				*e*S	**Sn**	**13 48 27.4**	**-1.2**
JNBK	**Urakawa-nobuka**	**6.16**	**245**	*e*S	**Sn**	**13 48 40.8**	**-1.4**
JBT2	**Biratori 2**	**6.19**	**251**	P	**Pn**	**13 47 33.8**	**+0.2**
JKB	**Kayabe**	**7.47**	**248**	P	**Pn**	**13 47 50.4**	**-0.7**
JKB				*e*S	**Sn**	**13 49 10.2**	**-4.1**
JANG	**Nango**	**8.01**	**237**	P	**Pn**	**13 47 56.1**	**-2.4**
JANG				*e*S	**Sn**	**13 49 20.8**	**-6.8**
YAK	**Yakutsk**	**20.76**	**332**	*e*P	**P**	**13 50 44.4**	**+4.4**
YAK	comp=Z,14nm,0.8s			pmax	pmax		
YAK	comp=N,5.0nm,1.1s			pmax	pmax		
YAK	comp=E,6.0nm,1.2s			pmax	pmax		
KDAK	**Kodiak Island** comp=E,4.4nm,1.0s,mb4.3,baz=294,slow=16,SNR=5.5	**36.66**	**49**	P	**P**	**13 53 03.4**	**-1.5**
MKAR	**Makanchi Array** comp=E,0.3nm,0.6s,mb3.2,baz=72,slow=9.5,SNR=4.8	**45.97**	**298**	P	**P**	**13 54 22.2**	**+1.0**
MKAR	comp=E,0.3nm,0.6s,baz=68,slow=3.5,SNR=4.6			PcP	PcP	13 55 57.8	+0.9
YKA	**Yellowknife Ar** comp=Z,1.0nm,0.6s	**53.41**	**35**	P	**P**	**13 55 17.2**	**-0.3**
YKA				pmax	pmax		
YKA	**Yellowknife Ar** comp=Z,0.5nm,0.6s,mb3.7,baz=297,slow=7.2,SNR=7.1	**53.41**	**35**	P	**P**	**13 55 17.2**	**-0.3**
FINES	**FINESS Array B**	**64.68**	**334**	P	**P**	**13 56 34.1**	**-1.3**
FINES	comp=Z,1.0nm,0.9s			pmax	pmax		
FINES	**FINESS Array B** comp=Z,1.1nm,0.9s,mb3.7,baz=48,slow=6.6,SNR=2.7	**64.68**	**334**	P	**P**	**13 56 34.1**	**-1.3**
WRA	**Warramunga Arr** comp=Z,0.3nm,0.7s,mb3.2,baz=15,slow=5.9,SNR=3.9	**66.34**	**196**	P	**P**	**13 56 47.1**	**+0.6**
NB2	**NORSAR Subarra** comp=Z,0.4nm,0.6s,mb3.4,baz=21,slow=6.2	**69.14**	**340**	P	**P**	**13 57 03.4**	**-0.3**
NOA	**NORSAR Array B**	**69.14**	**340**	P	**P**	**13 57 03.0**	**-0.7**
NOA	comp=Z,1.0nm,0.5s			pmax	pmax		
NOA	**NORSAR Array B** comp=Z,0.8nm,0.5s,mb3.8,baz=30,slow=6.3,SNR=3.5	**69.14**	**340**	P	**P**	**13 57 03.0**	**-0.7**
ASAR	**Alice Springs** comp=Z,0.4nm,0.8s,mb3.3,baz=8.4,slow=6.4,SNR=4.1	**70.05**	**196**	P	**P**	**13 57 11.5**	**+1.9**
AKASG	**Malin Array Be** comp=Z,0.2nm,0.3s,mb3.4,baz=36,slow=6.3,SNR=4.5	**71.81**	**325**	P	**P**	**13 57 19.5**	**-0.7**
GERES	**GERESS Array B**	**79.05**	**332**	P	**P**	**13 58 02.1**	**+0.4**
GERES	comp=Z,1.0nm,0.4s			pmax	pmax		
GERES	**GERESS Array B** comp=Z,0.5nm,0.4s,mb3.7,baz=29,slow=6.1,SNR=4.5	**79.05**	**332**	P	**P**	**13 58 02.1**	**+0.4**
TXAR	**Lajitas Array** comp=Z,0.2nm,0.5s,mb3.2,baz=292,slow=4.3,SNR=3.7	**80.02**	**58**	P	**P**	**13 58 07.4**	**+0.1**

*NEIC **03** 13:51:23.4, 4536S×167.12E, h83km, ML3.7(WEL), After WEL.*
WEL 03 13:51:23.4±0.2, 4537S×16712E, h83km±1km, ML3.7/12, Error ellipse: s-maj=2.0km s-min=1.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.11**	**168**	P	Pn	13 51 35.0	-0.3
DCZ				S	Sn	13 51 43.5	-0.5
DCZ	**Deep Cove**	**0.11**	**168**	PN	Pn	13 51 35.0	-0.2
DCZ				SN	Sn	13 51 43.5	-0.5
MLZ	**Mavora Lakes**	**0.74**	**89**	P	Pn	13 51 39.2	-0.5
MLZ				S	Sn	13 51 51.4	-0.5
MLZ	**Mavora Lakes**	**0.74**	**89**	PN	Pn	13 51 39.2	-0.5

Moment Tensor Solution. s82,c161; s95,c215; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.50±.03; $M_{\theta\theta}$-0.07±.02; $M_{\phi\phi}$-1.43±.02; $M_{r\theta}$-0.07±.05; $M_{\theta\phi}$-0.34±.01; $M_{\phi r}$2.08±.07; Best double couple: $M_0$2.56700×10^{17} NP1:ϕ_s204.00000°,δ19.00000°, λ112.00000°. NP2:ϕ_s1.00000°,δ72.00000°,λ83.00000°. Principal axes: T 2.5970, Plg62.0000°, Azm260.0000°; N -0.0550, Plg7.0000°, Azm3.0000°; P -2.5380, Plg27.0000°, Azm97.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

*MOS **03** 13:56:33.4±1.0,3393S×179.18W,h33km,mb5.8/27, MS5.2/38 Error ellipse: s-maj=12.5km s-min=10.8km az=107.4*

ISC 03 13:56:29.0±1.5,3404S±004×17909W±005,h1km±8km, n575,σ1$40/231,mb5.3/62,MS5.3/165,41C-26D,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**4.88**	**12**	*e*Pn	**Pn**	**13 57 39.3**	**-4.1**
RAO				*e*Sn	**Sn**	**13 58 27.9**	**-13**
RAO	**Raoul Island**	**4.88**	**12**	Pn	**Pn**	**13 57 38.9**	**-4.5**
	92nm,0.3s,baz=256,slow=19,SNR=4.5						
RAO				Sn	**Sn**	**13 58 30.5**	**-10**
	200nm,0.3s,baz=86,slow=22,SNR=5.7						
KUZ	**Kuaotunu**	**5.03**	**236**	*e*P	**Pn**	**13 57 50.2**	**+4.8**
KUZ	**Kuaotunu**	**5.03**	**236**	PN	**Pn**	**13 57 50.2**	**+4.8**
OPRZ	**Ohinepanea**	**5.18**	**222**	PN	**Pn**	**13 57 50.3**	**+2.7**
OPRZ				SN	**Sn**	**13 58 53.9**	**+5.8**
URZ	**Urewera**	**5.21**	**215**	*e*P	**Pn**	**13 57 50.7**	**+2.7**
URZ	**Urewera**	**5.21**	**215**	Pn	**Pn**	**13 57 51.2**	**+3.2**
	96nm,0.3s,baz=48,slow=5.7,SNR=46						
URZ				Sn	**Sn**	**13 58 52.0**	**+3.3**
	95nm,0.3s,baz=170,slow=18,SNR=5.5						
URZ	**Urewera**	**5.21**	**215**	PN	**Pn**	**13 57 50.1**	**+2.2**
OMRZ	**Omania**	**5.47**	**221**	PN	**Pn**	**13 57 54.4**	**+2.9**
TAZ	**Tarawera**	**5.49**	**219**	*e*P	**Pn**	**13 57 55.4**	**+3.6**
TAZ	**Tarawera**	**5.49**	**219**	PN	**Pn**	**13 57 54.9**	**+3.1**
KNZ	**Kokohu**	**5.61**	**207**	*e*P	**Pn**	**13 57 53.3**	**-0.1**
KNZ	**Kokohu**	**5.61**	**207**	PN	**Pn**	**13 57 53.3**	**-0.1**
OUZ	**Omahuta**	**6.14**	**257**	*e*P	**Pn**	**13 58 07.0**	**+6.2**
OUZ	**Omahuta**	**6.14**	**257**	PN	**Pn**	**13 58 07.6**	**+6.8**
BKZ	**Black Stump Fm**	**6.23**	**214**	*e*P	**Pn**	**13 58 02.7**	**+0.8**
BKZ				S	**Sn**	**13 59 16.2**	**+2.5**
BKZ	**Black Stump Fm**	**6.23**	**214**	PN	**Pn**	**13 58 03.6**	**+1.7**
BKZ				SN	**Sn**	**13 59 16.2**	**+2.5**
RATZ	**Rangitukua**	**6.35**	**219**	*e*P	**Pn**	**13 58 06.6**	**+3.0**
RATZ	**Rangitukua**	**6.35**	**219**	PN	**Pn**	**13 58 06.1**	**+2.5**
KATZ	**Kakaramea**	**6.47**	**219**	P	**Pn**	**13 58 09.0**	**+3.7**
KATZ	**Kakaramea**	**6.47**	**219**	PN	**Pn**	**13 58 08.6**	**+3.3**
OTVZ	**Oturere**	**6.63**	**218**	PN	**Pn**	**13 58 09.6**	**+2.2**
OTVZ				SN	**Sn**	**13 59 29.0**	**+5.5**
NGZ	**Ngauruhoe**	**6.67**	**218**	*e*P	**Pn**	**13 58 10.0**	**+2.0**
NGZ	**Ngauruhoe**	**6.67**	**218**	PN	**Pn**	**13 58 09.7**	**+1.8**
TUVZ	**Tukino**	**6.71**	**217**	P	**Pn**	**13 58 10.6**	**+2.0**
TUVZ	**Tukino**	**6.71**	**217**	PN	**Pn**	**13 58 10.3**	**+1.7**
FWVZ	**Far West T-bar**	**6.75**	**218**	*e*P	**Pn**	**13 58 11.2**	**+2.1**
FWVZ	**Far West T-bar**	**6.75**	**218**	PN	**Pn**	**13 58 11.3**	**+2.2**
MOVZ	**Moawhango**	**6.77**	**216**	P	**Pn**	**13 58 10.6**	**+1.3**
MOVZ	**Moawhango**	**6.77**	**216**	PN	**Pn**	**13 58 09.9**	**+0.5**
WNVZ	**Wahianoa**	**6.79**	**217**	P	**Pn**	**13 58 11.4**	**+1.8**
WNVZ	**Wahianoa**	**6.79**	**217**	PN	**Pn**	**13 58 11.1**	**+1.5**
PXZ	**Pawanui**	**6.80**	**207**	*e*PN	**Pn**	**13 58 09.0**	**-0.7**
WPHZ	**Waipukurau**	**6.99**	**209**	PN	**Pn**	**13 58 11.7**	**-0.7**
TSZ	**Takapari Road**	**7.19**	**212**	*e*P	**Pn**	**13 58 14.9**	**-0.2**
TSZ	**Takapari Road**	**7.19**	**212**	PN	**Pn**	**13 58 14.4**	**-0.8**
WAZ	**Wanganui**	**7.42**	**218**	*e*P	**Pn**	**13 58 20.8**	**+2.5**
WAZ	**Wanganui**	**7.42**	**218**	PN	**Pn**	**13 58 19.7**	**+1.4**
BFZ	**Birch Farm**	**7.59**	**208**	*e*P	**Pn**	**13 58 18.5**	**-2.2**
BFZ	**Birch Farm**	**7.59**	**208**	PN	**Pn**	**13 58 18.2**	**-2.5**
MRZ	**Mangatainoka R**	**7.85**	**211**	*e*P	**Pn**	**13 58 23.2**	**-1.0**
MRZ	**Mangatainoka R**	**7.85**	**211**	PN	**Pn**	**13 58 22.6**	**-1.6**
MTW	**Mount Morrison**	**8.30**	**210**	P	**Pn**	**13 58 28.4**	**-1.9**
MTW	**Mount Morrison**	**8.30**	**210**	*e*PN	**Pn**	**13 58 28.4**	**-2.0**
MTW				SN	**Sn**	**13 59 59.8**	**-4.8**
KIW	**Kapiti Island**	**8.31**	**213**	P	**Pn**	**13 58 29.7**	**-0.8**
KIW	**Kapiti Island**	**8.31**	**213**	*e*PN	**Pn**	**13 58 29.3**	**-1.2**
CAW	**Cannon Point**	**8.44**	**212**	P	**Pn**	**13 58 30.8**	**-1.5**
CAW	**Cannon Point**	**8.44**	**212**	*e*PN	**Pn**	**13 58 30.4**	**-1.8**
PAWZ	**Paruwai Farm**	**8.52**	**209**	P	**Pn**	**13 58 31.9**	**-1.4**
PAWZ	**Paruwai Farm**	**8.52**	**209**	PN	**Pn**	**13 58 31.9**	**-1.4**
SNZO	**South Karori**	**8.76**	**212**	*e*Pn	**Pn**	**13 58 34.8**	**-1.9**
	274nm,1.0s						
SNZO				*e*Sn	**Sn**	**14 00 09.5**	**-6.5**
TCW	**Tory Channel**	**8.88**	**214**	P	**Pn**	**13 58 36.5**	**-1.8**
TCW	**Tory Channel**	**8.88**	**214**	PN	**Pn**	**13 58 36.1**	**-2.2**
TCW				SN	**Sn**	**14 00 15.9**	**-3.1**
TUWZ	**Tuamarina**	**9.21**	**215**	PN	**Pn**	**13 58 40.9**	**-1.9**
NNZ	**Nelson**	**9.32**	**218**	*e*P	**Pn**	**13 58 43.7**	**-0.7**
NNZ	**Nelson**	**9.32**	**218**	PN	**Pn**	**13 58 43.4**	**-1.0**
BSWZ	**Blackbirch Sta**	**9.46**	**214**	P	**Pn**	**13 58 45.1**	**-1.2**
BSWZ	**Blackbirch Sta**	**9.46**	**214**	PN	**Pn**	**13 58 45.0**	**-1.2**
QRZ	**Quartz Range**	**9.50**	**222**	*e*P	**Pn**	**13 58 45.6**	**-1.2**
QRZ	**Quartz Range**	**9.50**	**222**	PN	**Pn**	**13 58 45.1**	**-1.7**
THZ	**Tophouse**	**9.97**	**217**	*e*P	**Pn**	**13 58 51.0**	**-2.2**
THZ	**Tophouse**	**9.97**	**217**	PN	**Pn**	**13 58 50.7**	**-2.5**
KHZ	**Kahutara**	**10.17**	**213**	*e*P	**Pn**	**13 58 55.5**	**-0.5**
KHZ	**Kahutara**	**10.17**	**213**	*e*PN	**Pn**	**13 58 53.9**	**-2.1**
LTZ	**Lake Taylor**	**11.04**	**215**	*e*P	**Pn**	**13 59 06.4**	**-1.5**
LTZ	**Lake Taylor**	**11.04**	**215**	PN	**Pn**	**13 59 05.9**	**-2.0**
MQZ	**McQueen's Vall**	**11.59**	**211**	*e*P	**Pn**	**13 59 12.4**	**-3.0**
MQZ	**McQueen's Vall**	**11.59**	**211**	PN	**Pn**	**13 59 12.3**	**-3.1**
RPZ	**Rata Peaks**	**12.33**	**216**	*e*P	**Pn**	**13 59 23.3**	**-2.2**
RPZ	**Rata Peaks**	**12.33**	**216**	Pn	**Pn**	**13 59 24.7**	**-0.8**
	4.7nm,0.3s,baz=150,slow=2.7,SNR=17						
RPZ				Sn	**Sn**	**14 01 34.7**	**-8.8**
	4.9nm,0.3s,baz=322,slow=16,SNR=12						
RPZ	**Rata Peaks**	**12.33**	**216**	PN	**Pn**	**13 59 22.4**	**-3.1**
FOZ	**Fox Glacier**	**12.91**	**219**	*e*P	**Pn**	**13 59 32.2**	**-1.3**
FOZ	**Fox Glacier**	**12.91**	**219**	PN	**Pn**	**13 59 31.8**	**-1.6**
ODZ	**Otahua Downs**	**13.53**	**213**	*e*P	**Pn**	**13 59 37.6**	**-4.3**
ODZ	**Otahua Downs**	**13.53**	**213**	*e*PN	**Pn**	**13 59 37.4**	**-4.6**
JCZ	**Jackson Bay**	**13.75**	**220**	*e*P	**Pn**	**13 59 43.1**	**-1.8**
JCZ	**Jackson Bay**	**13.75**	**220**	*e*PN	**Pn**	**13 59 43.0**	**-1.9**
EAZ	**Earnscleugh**	**14.29**	**215**	*e*PN	**Pn**	**13 59 48.8**	**-3.5**
WHZ	**Wether Hill Ro**	**15.43**	**216**	P	**Pn**	**14 00 12.6**	**+4.9**
AFI	**Afiamalu**	**21.11**	**20**	*e*P	**P**	**14 01 12.2**	**-2.8**
AFI				pmax	pmax		
	comp=Z,142nm,0.9s,mb5.3						
AFI	**Afiamalu**	**21.11**	**20**	*e*P	**P**	**14 01 12.2**	**-2.9**
	comp=Z,142nm,0.9s,mb5.3						
RAR	**Rarotonga**	**21.31**	**58**	P	**P**	**14 01 12.8**	**-4.4**
	comp=Z,128nm,1.2s,mb5.1,baz=249,slow=7.4,SNR=11						
RAR				LR	LR	14 06 54.9	
	comp=Z,2μm,20.8s,MS4.5,baz=237,slow=30						
RIV	**Riverview**	**24.65**	**262**	*e*P	**P**	**14 01 55.6**	**+4.6**
ARMA	**Armidale**	**24.99**	**270**	*e*P	**P**	**14 01 59.4**	**+5.2**
CNB	**Canberra Magne**	**25.92**	**258**	*e*P	**P**	**14 02 07.1**	**+4.5**
	comp=Z,91nm,1.2s,mb5.2						
EIDS	**Eidsvold**	**27.24**	**281**	*e*P	**P**	**14 02 17.5**	**+3.0**
	comp=Z,65nm,1.3s,mb5.0						
TAU	**Tasmania Unive**	**27.60**	**241**	*e*P	**P**	**14 02 19.3**	**+1.7**
TAU				pmax	pmax		
	comp=Z,194nm,1.5s,mb5.5						
TAU				MLR	MLR		
	comp=Z,5μm,20.0s,MS5.1						
TAU	**Tasmania Unive**	**27.60**	**241**	*e*P	**P**	**14 02 19.3**	**+1.7**
	comp=Z,194nm,1.5s,mb5.5						
TAU				LR	LR		
	comp=Z,5μm,20.0s,MS5.1						
TBI	**Tubuai**	**28.00**	**75**	*e*LR	LR	14 09 10.4	
	comp=Z,4μm,31.5s,baz=241						
PPT	**Papeete**	**31.07**	**66**	*e*S	**S**	**14 07 51.5**	**-3.4**
	comp=Z,472nm,24.5s						
PPT				*e*LR	LR	14 10 33.2	
	comp=Z,3μm,20.8s,baz=233						
PPT	**Papeete**	**31.07**	**66**	LR	LR	14 13 43.7	
	comp=Z,4μm,18.1s,MS5.1,baz=244,slow=33						
HNR	**Honiara**	**31.16**	**317**	*e*P	**P**	**14 02 49.9**	**+0.5**
HNR				pmax	pmax		
	comp=Z,152nm,0.8s,mb5.9						
HNR				MLR	MLR		
	comp=Z,2μm,19.0s,MS4.7						
HNR	**Honiara**	**31.16**	**317**	*e*P	**P**	**14 02 49.9**	**+0.5**
	comp=Z,152nm,0.8s,mb5.9						
HNR				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
HNR	**Honiara**	**31.16**	**317**	P	**P**	**14 02 49.3**	**-0.1**
	comp=Z,91nm,1.0s,mb5.6,baz=246,slow=2.6,SNR=12						
HNR				LR	LR	14 13 37.7	
	comp=Z,2μm,18.6s,MS4.8,baz=177,slow=33						
STKA	**Stephens Creek**	**32.92**	**263**	*e*P	**P**	**14 03 07.5**	**+2.7**
	comp=Z,36nm,1.1s,mb5.2						
STKA				*e*PCP	PcP	14 05 49.0	-0.3
STKA	**Stephens Creek**	**32.92**	**263**	P	**P**	**14 03 06.6**	**+1.7**
	comp=Z,36nm,1.0s,mb5.2,baz=106,slow=9.0,SNR=18						
STKA				PcP	PcP	14 05 49.2	0.0
	comp=Z,26nm,1.1s,baz=105,slow=3.0,SNR=5.9						
STKA				LR	LR	14 16 19.4	
	comp=Z,11μm,18.0s,MS5.6,baz=78,slow=36						
CTA	**Charters Tower**	**33.67**	**285**	⇑*i*P	**P**	**14 03 14.4**	**+2.9**
	comp=Z,100nm,1.5s,mb5.5						
CTA				*e*S	**S**	**14 08 37.2**	**+1.9**
CTA	**Charters Tower**	**33.67**	**285**	⇑*i*P	**P**	**14 03 14.4**	**+2.9**
CTA				*e*S	**S**	**14 08 37.2**	**+1.9**
CTA				pmax	pmax		
	comp=Z,100nm,1.5s						
CTA	**Charters Tower**	**33.67**	**285**	P	**P**	**14 03 13.6**	**+2.1**
	comp=Z,71nm,0.9s,mb5.6,baz=108,slow=9.6,SNR=59						
CTA				S	**S**	**14 08 37.7**	**+2.3**
	comp=Z,7.6nm,0.9s,baz=26,slow=23,SNR=13						
CTA				LR	LR	14 15 09.7	
	comp=Z,3μm,18.6s,MS5.0,baz=106,slow=33						
CTAO	**Charters Tower**	**33.67**	**285**	*e*P	**P**	**14 03 14.6**	**+3.1**
CTAO				*e*S	**S**	**14 08 38.7**	**+3.4**
CTAO				pmax	pmax		
	comp=Z,141nm,1.0s,mb5.8						
CTAO				MLR	MLR		
	comp=Z,2μm,20.0s,MS4.9						
CTAO	**Charters Tower**	**33.67**	**285**	*e*P	**P**	**14 03 14.6**	**+3.2**
	comp=Z,141nm,1.0s,mb5.8						
CTAO				*e*S	**S**	**14 08 38.7**	**+3.4**
CTAO				*e*ScP	ScP	14 09 36.2	-1.0
CTAO				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
RKT	**Rikitea**	**39.97**	**86**	*e*LR	LR	14 14 44.5	
	comp=Z,4μm,29.5s,baz=246						
DRV	**Dumont d'Urvil**	**40.44**	**204**	P	**P**	**14 04 11.0**	**+2.6**
DRV	**Dumont d'Urvil**	**40.44**	**204**	PP	PP	14 05 59.0	+18
DRV				S	**S**	**14 10 16.0**	**-1.4**
DRV				L		14 13 00.0	
DRV				R		14 17 00.0	
ASAR	**Alice Springs**	**42.13**	**271**	P	**P**	**14 04 24.5**	**+1.6**
	comp=Z,78nm,0.8s,mb5.4,baz=113,slow=6.9,SNR=398						
ASAR				PcP	PcP	14 06 16.6	-0.9
	comp=Z,14nm,1.0s,baz=123,slow=4.2,SNR=5.5						
ASAR				S	**S**	**14 10 42.0**	**-1.6**
	comp=Z,14nm,1.0s,baz=114,slow=15,SNR=17						
PTCN	**Pitcairn Islan**	**43.20**	**92**	PFAKE		14 04 40.0	+8.4
PTCN				LR	LR		
	comp=Z,6μm,19.0s,MS5.5						
WB2	**Warramunga Arr**	**43.44**	**277**	⇑*i*P	**P**	**14 04 34.5**	**+0.9**
WB2				*e*S	**S**	**14 10 59.5**	**-3.4**
WRAB	**Tennant Creek**	**43.45**	**277**	P	**P**	**14 04 34.9**	**+1.3**
	comp=Z,901nm,0.9s,mb6.5,SNR=31						
WRAB	**Tennant Creek**	**43.45**	**277**	*e*P	**P**	**14 04 34.0**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,129nm,0.9s,mb5.7						
WRAB				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.2						
WRAB	**Tennant Creek**	**43.45**	**277**	*e*P	**P**	**14 04 34.0**	**+0.4**
	comp=Z,129nm,0.9s,mb5.7						
WRAB				LR	LR		
	comp=Z,3μm,20.0s,MS5.2						
WRA	**Warramunga Arr**	**43.45**	**277**	P	**P**	**14 04 34.6**	**+0.9**
WRA						14 06 21.7	
WRA				S	**S**	**14 11 00.7**	**-2.4**
WRA	**Warramunga Arr**	**43.45**	**277**	P	**P**	**14 04 34.6**	**+0.9**
	comp=Z,112nm,0.9s,mb5.6,baz=120,slow=7.3,SNR=325						
WRA				PcP	PcP	14 06 21.7	-0.3
	comp=Z,6.1nm,1.0s,baz=115,slow=3.7,SNR=2.8						
WRA				ScP	ScP	14 10 12.8	-1.7
	comp=Z,7.7nm,1.2s,baz=123,slow=3.9,SNR=5.7						
WRA				S	**S**	**14 11 00.7**	**-2.4**
	comp=Z,9.6nm,1.1s,baz=116,slow=14,SNR=8.1						
WRA				LR	LR	14 23 06.4	
	comp=Z,4μm,18.2s,MS5.4,baz=110,slow=37						
TAOE	**Nuku Hiva Isla**	**43.66**	**64**	*e*S	**S**	**14 11 02.8**	**-3.3**
	comp=Z,23μm,24.6s						
TAOE				*e*LR	LR	14 16 24.5	
	comp=Z,42μm,20.9s,baz=232						
FORT	**Forrest**	**44.33**	**259**	*e*P	**P**	**14 04 40.9**	**+0.3**
	comp=Z,86nm,0.8s,mb5.5						
SBA	**Scott Base**	**44.35**	**184**	*e*P	**P**	**14 04 43.2**	**+3.1**
SBA				pmax	pmax		
	comp=Z,109nm,1.3s,mb5.4						
SBA				MLR	MLR		
	comp=Z,2μm,19.0s,MS5.1						
SBA	**Scott Base**	**44.35**	**184**	*e*P	**P**	**14 04 43.2**	**+3.1**
	comp=Z,109nm,1.3s,mb5.4						
SBA				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
VNDA	**Vanda**	**44.39**	**186**	P	**P**	**14 04 42.2**	**+1.7**
	comp=Z,7.5nm,1.2s,mb4.3,baz=17,slow=8.1,SNR=12						
KAKA	**Kakadu**	**48.77**	**284**	⇑*i*P	**P**	**14 05 15.7**	**0.0**
	comp=Z,51nm,0.8s,mb5.6						
CASY	**Casey**	**51.51**	**209**	*e*P	**P**	**14 05 34.5**	**-1.2**
CASY	**Casey**	**51.51**	**209**	*e*P	**P**	**14 05 38.0**	**+2.3**
	comp=Z,249nm,1.4s,mb6.0						
CASY				*e*		14 05 49.3	
CASY				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
FITZ	**Fitzroy Crossi**	**51.54**	**273**	⇑*i*P	**P**	**14 05 37.3**	**+0.7**
	comp=Z,102nm,0.9s,mb5.8						
FITZ	**Fitzroy Crossi**	**51.54**	**273**	P	**P**	**14 05 37.4**	**+0.8**
	comp=Z,59nm,0.9s,mb5.5,baz=128,slow=8.0,SNR=101						
FITZ				S	**S**	**14 12 58.3**	**+0.1**
	comp=Z,0.8nm,0.8s,baz=143,slow=20,SNR=2.7						
FITZ				LR	LR	14 28 03.7	
	comp=Z,6μm,18.1s,MS5.7,baz=303,slow=37						
NWAO	**Narrogin (SRO)**	**52.33**	**252**	*e*P	**P**	**14 05 42.9**	**+0.5**
NWAO	**Narrogin (SRO)**	**52.33**	**252**	*e*P	**P**	**14 05 42.4**	**+0.1**
	comp=Z,53nm,1.1s,mb5.4						
NWAO				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
NWAO	**Narrogin (SRO)**	**52.33**	**252**	P	**P**	**14 05 42.6**	**+0.2**
	comp=Z,26nm,0.8s,mb5.2,baz=138,slow=12						
NWAO				LR	LR	14 27 46.3	
	comp=Z,2μm,18.0s,MS5.2,baz=102,slow=36						
KLBR	**Kellerberrin**	**52.38**	**254**	*e*P	**P**	**14 05 42.5**	**-0.2**
	comp=Z,185nm,1.0s,mb6.0						
MUN	**Mundaring**	**53.47**	**253**	*e*P	**P**	**14 05 50.3**	**-0.5**
MBWA	**Maple Bar**	**55.00**	**267**	*e*P	**P**	**14 06 02.3**	**+0.2**
	comp=Z,113nm,1.3s,mb5.7						
MBWA				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
QSPA	**South Pole Qui**	**56.08**	**180**	P	**P**	**14 06 11.3**	**+2.3**
	comp=Z,15nm,0.8s,mb5.1,baz=41,slow=1.9,SNR=16						
QSPA				LR	LR	14 27 34.9	
	comp=Z,3μm,18.6s,MS5.4,baz=40,slow=33						
MIR	**Mirnyy**	**58.48**	**208**	⇓*i*P	**P**	**14 06 28.0**	**+1.9**
MIR				*i*		14 06 43.0	
MIR				pmax	pmax		
	comp=Z,400nm,1.5s,mb6.2						
RPN	**Rapa Nui**	**59.42**	**104**	PFAKE		14 06 40.0	+6.7
RPN				LR	LR		
	comp=Z,4μm,19.0s,MS5.5						
DAV	**Davao City (W)**	**66.38**	**297**	PFAKE		14 07 30.0	+10
DAV				LR	LR		
	comp=Z,1μm,22.0s,MS5.0						
MAW	**Mawson**	**68.59**	**201**	*e*P	**P**	**14 07 33.9**	**+1.0**
	comp=Z,54nm,1.1s,mb5.4						
MAW	**Mawson**	**68.59**	**201**	P	**P**	**14 07 35.0**	**+2.1**
	comp=Z,80nm,1.1s,mb5.6,baz=116,slow=7.0,SNR=28						
MAW				LR	LR	14 36 51.5	
	comp=Z,3μm,18.9s,MS5.5,baz=114,slow=35						
PMSA	**Palmer Station**	**69.34**	**155**	PFAKE		14 07 50.0	+12
PMSA				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
PMSA	**Palmer Station**	**69.34**	**155**	LR	LR	14 34 30.6	
	comp=Z,2μm,18.5s,MS5.4,baz=246,slow=33						
TSM	**Tawau**	**70.49**	**289**	⇓P	**P**	**14 07 46.1**	**+0.6**
MYLDM	**Lahad Datu**	**70.55**	**291**	⇑P	**P**	**14 07 49.4**	**+3.6**
SDKM	**Sandakan**	**71.85**	**290**	⇑P	**P**	**14 07 53.1**	**-0.6**
KKM	**Kota Kinabalu**	**72.86**	**290**	⇑P	**P**	**14 07 58.2**	**-1.6**
SYO	**Syowa Base**	**73.37**	**194**	⇓*i*P	**P**	**14 08 00.4**	**-1.5**
SYO	**Syowa Base**	**73.37**	**194**	⇓*i*PcP	PcP	14 08 16.0	-2.2
USHA	**Ushuaia**	**73.44**	**146**	LR	LR	14 35 41.7	
	comp=Z,2μm,18.3s,MS5.5,baz=188,slow=32						
BTM	**Bintulu**	**73.62**	**285**	⇑P	**P**	**14 08 04.7**	**+0.4**
SBUM	**Sibu**	**73.87**	**284**	⇓P	**P**	**14 08 05.4**	**-0.4**
SNAA	**Sanae**	**74.55**	**179**	*e*P	**P**	**14 08 08.6**	**-0.2**
SNAA				*e*		14 08 12.3	
SNAA				*e*		14 08 20.3	
SNAA				*e*		14 08 27.2	
SNAA	**Sanae**	**74.55**	**179**	*c i*P	**P**	**14 08 08.8**	**0.0**
VNA3	**Neumayer Olymp**	**74.74**	**176**	*e*P	**P**	**14 08 09.7**	**-0.2**
VNA3				*e*		14 08 11.9	
VNA3				*e*		14 08 17.9	
VNA3				*e*		14 08 21.7	
VNA3				*e*		14 08 32.3	
KSM	**Kuching**	**74.84**	**282**	*e*P	**P**	**14 08 10.1**	**-1.4**
KSM	**Kuching**	**74.84**	**282**	⇑P	**P**	**14 08 09.9**	**-1.5**
VNA2	**Neumayer--Watz**	**75.16**	**177**	*e*P	**P**	**14 08 12.3**	**-0.1**
VNA2				*e*		14 08 15.0	
VNA2				*e*		14 08 20.4	
VNA2				*e*		14 08 24.3	
VNA2				*e*		14 08 33.0	
NVL	**N'lazarevskaya**	**75.19**	**184**	*c i*P	**P**	**14 08 13.5**	**+0.9**
NVL				*e*PP		14 08 23.9	
NVL				S	S	14 17 54.3	+2.4
NVL				pmax	pmax		
	comp=Z,90nm,1.8s,mb5.4						
VNA1	**Neumayer--Stat**	**75.40**	**177**	*e*P	**P**	**14 08 14.0**	**+0.3**
VNA1				*e*		14 08 16.8	
VNA1				*e*		14 08 22.7	
VNA1				*e*		14 08 26.0	
VNA1				*e*		14 08 35.1	
COCO	**West Island**	**78.42**	**263**	PFAKE		14 08 40.0	+8.3
COCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.5						
EFI	**East Falkland**	**80.24**	**147**	PFAKE		14 08 50.0	+9.0
EFI				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
MYKOM	**Kota Tinggi**	**80.30**	**279**	⇓P	**P**	**14 08 40.8**	**-1.2**
PLCA	**Paso Flores**	**80.70**	**133**	*e*P	**P**	**14 08 43.3**	**-0.4**
PLCA				pmax	pmax		
	comp=Z,107nm,1.9s						
PLCA				MLR	MLR		
	comp=Z,1μm,20.0s						
PLCA	**Paso Flores**	**80.70**	**133**	*e*P	**P**	**14 08 43.3**	**-0.4**
	comp=Z,107nm,1.9s,mb5.5						
PLCA				LR	LR		
	comp=Z,1μm,20.0s,MS5.3						
MJAR	**Matsushiro Arr**	**80.73**	**326**	P	**P**	**14 08 41.9**	**-1.8**
	comp=Z,6.9nm,1.1s,mb4.5,baz=167,slow=5.2,SNR=9.3						
MJAR				LR	LR	14 38 40.4	
	comp=Z,432nm,21.0s,MS4.8,baz=70,slow=32						
MAJO	**Matsushiro**	**80.73**	**326**	*e*P	**P**	**14 08 42.4**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
MAJO				MLR	MLR		
	comp=Z,470nm,20.0s,MS4.8						
MAJO	**Matsushiro**	**80.73**	**326**	*e*P	**P**	**14 08 42.4**	**-1.2**
	comp=Z,11nm,1.0s,mb4.7						
MAJO				LR	LR		
	comp=Z,470nm,20.0s,MS4.8						
MAT	**Matsushiro**	**80.73**	**326**	P	**P**	**14 08 41.4**	**-2.3**
MAT				S	S	14 18 45.0	-7.2
KGM	**Kluang**	**80.86**	**279**	⇑P	**P**	**14 08 44.6**	**-0.4**
TATO	**Taipei**	**81.41**	**308**	PFAKE		14 09 00.0	+12
TATO				LR	LR		
	comp=Z,964nm,20.0s,MS5.2						
ERM	**Erimo**	**83.24**	**333**	PFAKE		14 09 10.0	+13
ERM				LR	LR		
	comp=Z,1μm,19.0s,MS5.3						
QZH	**Quanzhou**	**83.31**	**306**	⇑*i*P	**P**	**14 08 56.8**	**-0.7**
QZH				S	S	14 19 15.3	-4.0
QZH				AMB	AMB		
	comp=Z,670nm,8.5s						
QZH				LR	LR		
	comp=N,360nm,11.6s,MS5.3						
QZH				LR	LR		
	comp=E,880nm,16.4s,MS5.3				

PET	**Petropavlovsk**	**88.84 347**	*e*P	**P**	**14 09 23.1 -1.0**
PET			*e*		14 19 50.2
PET			*e*S	S	14 20 08.2 -4.0
PET			*e*PS		14 21 13.9
PET			*e*SS	SS	14 26 05.8 +0.6
PET			*e*SSS		14 29 34.4
PET			pmax	pmax	
	comp=Z,74nm,1.4s,mb5.8				
PET			pmax	pmax	
	comp=Z,200nm,12.3s				
PET			MLR	MLR	
	comp=Z,600nm,18.0s,MS5.1				
PET	**Petropavlovsk**	**88.84 347**	PFAKE		14 09 40.0 +16
PET			LR	LR	
	comp=Z,1μm,20.0s,MS5.3				
VLA	**Vladivostok**	**88.90 326**	*d i*P	**P**	**14 09 22.9 -1.7**
VLA			pmax	pmax	
	comp=Z,77nm,2.6s,mb5.6				
VLA			MLR	MLR	
	comp=Z,500nm,19.0s,MS5.0				
VLA	**Vladivostok**	**88.90 326**	*i* P	**P**	**14 09 22.0 -2.6**
HOPS	**Hopland**	**89.28 40**	PFAKE		14 09 40.0 +13
HOPS			LR	LR	
	comp=Z,3μm,19.0s,MS5.7				
PFO	**Pinyon Flat Ob**	**89.34 48**	*e*P	**P**	**14 09 28.8 +1.8**
PFO			pmax	pmax	
	comp=Z,65nm,1.8s,mb5.7				
PFO			MLR	MLR	
	comp=Z,2μm,20.0s,MS5.6				
PFO	**Pinyon Flat Ob**	**89.34 48**	*e*P	**P**	**14 09 28.8 +1.8**
	comp=Z,65nm,1.8s,mb5.7				
PFO			LR	LR	
	comp=Z,2μm,20.0s,MS5.6				
WHN	**Wuhan**	**89.82 308**	*e*P	**P**	**14 09 29.8 +0.5**
GLA	**Glamis**	**89.98 49**	*e*P	**P**	**14 09 31.8 +1.8**
GLA			pmax	pmax	
	comp=Z,68nm,1.6s,mb5.7				
GLA			MLR	MLR	
	comp=Z,2μm,20.0s,MS5.4				
GLA	**Glamis**	**89.98 49**	*e*P	**P**	**14 09 31.8 +1.9**
	comp=Z,68nm,1.6s,mb5.7				
GLA			LR	LR	
	comp=Z,2μm,20.0s,MS5.4				
CMB	**Columbia Colle**	**90.07 42**	*e*P	**P**	**14 09 30.1 -0.2**
CMB			pmax	pmax	
	comp=Z,18nm,1.3s,mb5.2				
CMB			MLR	MLR	
	comp=Z,1μm,19.0s,MS5.4				
CMB	**Columbia Colle**	**90.07 42**	*e*P	**P**	**14 09 30.1 -0.2**
	comp=Z,18nm,1.3s,mb5.2				
CMB			LR	LR	
	comp=Z,1μm,19.0s,MS5.4				
GSC	**Goldstone**	**90.27 46**	*e*P	**P**	**14 09 32.6 +1.3**
GSC			pmax	pmax	
	comp=Z,26nm,1.2s,mb5.4				
GSC			MLR	MLR	
	comp=Z,2μm,20.0s,MS5.5				
GSC	**Goldstone**	**90.27 46**	*e*P	**P**	**14 09 32.6 +1.4**
	comp=Z,26nm,1.2s,mb5.4				
GSC			LR	LR	
	comp=Z,2μm,20.0s,MS5.5				
OHCM	**Honcut**	**90.39 41**	*e*P	**P**	**14 09 32.3 +0.6**
SDPT	**Sand Point**	**90.45 11**	*e*P	**P**	**14 09 31.0 -0.6**
	comp=Z,75nm,1.0s,mb6.0				
MTUM	**Tungsten Hills**	**90.63 44**	*e*P	**P**	**14 09 33.2 +0.3**
WDC	**Whiskeytown Da**	**90.71 39**	PFAKE		14 09 40.0 +6.8
WDC			LR	LR	
	comp=Z,2μm,19.0s,MS5.6				
DL2	**Dalian**	**91.01 318**	⇑P	**P**	**14 09 34.5 -0.1**
DL2			*e*S	S	14 20 32.2 -0.7
DL2			AMB	AMB	
	comp=Z,20nm,1.1s,mb5.4				
DL2			AMB	AMB	
	comp=Z,160nm,6.7s				
DL2			LR	LR	
	comp=N,180nm,18.8s,MS4.7				
DL2			LR	LR	
	comp=E,160nm,17.2s,MS4.7				
DL2			LR	LR	
	comp=Z,240nm,17.9s,MS4.7				
MDJ	**Mudanjiang**	**91.11 326**	P	**P**	**14 09 35.5 +0.6**
MDJ			AP		14 09 38.7
MDJ			XP	sP	14 09 40.3 +4.7
MDJ			SKS	SKSac	14 20 04.6 -3.2
MDJ			S	S	14 20 34.2 +0.6
MDJ			SP	SP	14 21 44.8 +2.9
MDJ			SS	SS	14 26 38.4 0.0
MDJ			AMB	AMB	
	comp=Z,23nm,1.5s,mb5.3				
MDJ			AMB	AMB	
	comp=Z,242nm,5.1s				
MDJ			LR	LR	
	comp=N,383nm,17.2s,MS5.0				
MDJ			LR	LR	
	comp=E,332nm,20.7s,MS5.0				
MDJ			LR	LR	
	comp=Z,686nm,13.8s				
MDJ	**Mudanjiang**	**91.11 326**	PFAKE		14 09 50.0 +15
MDJ			LR	LR	
	comp=Z,745nm,20.0s,MS5.1				
YBH	**Yreka Blue Hor**	**91.45 39**	PFAKE		14 09 50.0 +13
YBH			LR	LR	
	comp=Z,2μm,19.0s,MS5.5				
NVAR	**Mina Array Bea**	**91.52 43**	P	**P**	**14 09 37.2 +0.2**
	comp=Z,3.8nm,1.0s,mb4.7,baz=235,slow=9.4,SNR=11				
CHGN	**Chignik**	**91.69 11**	*e*P	**P**	**14 09 37.9 +0.6**
TPNV	**Topopah Spring**	**91.71 45**	*e*P	**P**	**14 09 38.6 +0.7**
TPNV			pmax	pmax	
	comp=Z,76nm,2.3s,mb5.6				
TPNV			MLR	MLR	
	comp=Z,2μm,19.0s,MS5.5				
TPNV	**Topopah Spring**	**91.71 45**	*e*P	**P**	**14 09 38.6 +0.7**
	comp=Z,76nm,2.3s,mb5.6				
TPNV			LR	LR	
	comp=Z,2μm,19.0s,MS5.5				
HABR	**Khabarovsk**	**91.78 331**	⇑*e*P	**P**	**14 09 36.0 -1.9**
HABR			*e*		14 13 14.1
HABR			*e*S	SKSac	14 20 08.3 -3.1
HABR			*e*		14 20 41.1
HABR			*e*		14 26 45.7
HABR			*e*		14 30 23.4
HABR			pmax	pmax	
	comp=Z,97nm,1.9s,mb5.8				
HABR			pmax	pmax	
	comp=Z,211nm,2.0s,mb6.1				
HUMO	**Hull Mountain**	**91.96 38**	*e*P	**P**	**14 09 39.9 +1.0**
	comp=Z,66nm,1.8s,mb5.7				
HUMO			LR	LR	
	comp=Z,1μm,20.0s,MS5.4				
SNY	**Shenyang**	**92.02 321**	⇓P	**P**	**14 09 39.4 +0.2**
SNY			SKS	SKSac	14 20 07.9 -5.2
SNY			AMB	AMB	
	comp=Z,20nm,1.3s,mb5.3				
SNY			AMB	AMB	
	comp=Z,177nm,12.0s				
SNY			LR	LR	
	comp=N,292nm,19.7s,MS5.0				
SNY			LR	LR	
	comp=E,505nm,18.9s,MS5.0				
SNY			LR	LR	
	comp=Z,418nm,19.2s,MS4.9				
SHPR	**Sheep Range**	**92.06 46**	*e*P	**P**	**14 09 41.8 +2.2**
TUC	**Tucson**	**92.09 52**	*e*P	**P**	**14 09 42.9 +3.1**
TUC			pmax	pmax	
	comp=Z,63nm,2.0s,mb5.6				
TUC			MLR	MLR	
	comp=Z,772nm,19.0s,MS5.2				
TUC	**Tucson**	**92.09 52**	*e*P	**P**	**14 09 42.9 +3.1**
	comp=Z,63nm,2.0s,mb5.6				
TUC			LR	LR	
	comp=Z,772nm,19.0s,MS5.2				
CN2	**Changchun**	**92.49 323**	⇓P	**P**	**14 09 41.1 -0.2**
CN2			*e*AP		14 09 45.1
CN2			PP	PP	14 13 27.5 +4.5
CN2			*e*S	S	14 20 43.3 -2.8
CN2			AMB	AMB	
	comp=Z,40nm,1.3s,mb5.6				
CN2			AMB	AMB	
	comp=Z,300nm,8.0s				
CN2			LR	LR	
	comp=N,400nm,19.0s,MS5.0				
CN2			LR	LR	
	comp=E,300nm,19.0s,MS5.0				
CN2			LR	LR	
	comp=Z,700nm,19.0s,MS5.1				
GYA	**Guiyang**	**92.57 300**	P	**P**	**14 09 41.8 -0.4**
GYA			PP	PP	14 13 28.4 +4.5
GYA			PPP		14 15 30.8
GYA			SKS	SKSac	14 20 16.2 -0.7
GYA			S	S	14 20 46.8 -0.8
GYA			PS	PS	14 22 03.2 +4.4
GYA			SS	SS	14 27 02.8 +2.8
GYA			SSS		14 30 40.6
GYA			AMB	AMB	
	comp=Z,20nm,1.0s,mb5.5				
GYA			AMB	AMB	
	comp=Z,180nm,6.4s				
GYA			LR	LR	
	comp=N,790nm,23.6s,MS5.2				
GYA			LR	LR	
	comp=E,740nm,21.9s,MS5.2				
GYA			LR	LR	
	comp=Z,810nm,20.4s,MS5.2				
MOD	**Modoc**	**92.84 40**	*e*P	**P**	**14 09 43.5 +0.5**
	comp=Z,15nm,1.2s,mb5.3				
MOD			LR	LR	
	comp=Z,2μm,19.0s,MS5.6				
COR	**Corvallis**	**93.22 36**	PFAKE		14 10 00.0 +15
COR			LR	LR	
	comp=Z,3μm,19.0s,MS5.8				
NNA	**Nana**	**93.29 107**	PFAKE		14 10 00.0 +14
NNA			LR	LR	
	comp=Z,2μm,19.0s,MS5.7				
KLR	**Kul'dur**	**93.72 330**	*e*P	**P**	**14 09 42.0 -4.9**
KLR			*e*S	SKSac	14 20 12.5 -10
KLR			*e*		14 21 00.0
KLR			pmax	pmax	
	comp=Z,64nm,1.8s,mb5.8				
CM31	**Chiang Mai Arr**	**93.74 290**	PFAKE		14 10 00.0 +12
CM31			LR	LR	
	comp=Z,449nm,19.0s,MS5.0				
CHTO	**Chiang Mai**	**93.94 290**	PFAKE		14 10 00.0 +11
CHTO			LR	LR	
	comp=Z,574nm,20.0s,MS5.0				
KDAK	**Kodiak Island**	**94.15 14**	P	**P**	**14 09 50.1 +1.5**
KDAK			LR	LR	
	comp=Z,299nm,21.0s,MS4.7				
KDAK	**Kodiak Island**	**94.15 14**	P	**P**	**14 09 50.1 +1.5**
	comp=Z,4.1nm,0.2s,mb5.5,baz=37,slow=3.3,SNR=49				
KMI	**Kunming**	**94.64 297**	P	**P**	**14 09 52.3 +0.5**
KMI			AP		14 09 55.4
KMI			PP	PP	14 13 42.7 +2.5
KMI			PPP		14 15 45.3
KMI			SKS	SKSac	14 20 25.1 -3.2
KMI			S	S	14 21 02.3 -3.6
KMI			PS	PS	14 22 23.8 +2.0
KMI			SSS		14 30 46.2
KMI			AMB	AMB	
	comp=Z,189nm,8.9s				
KMI			LR	LR	
	comp=N,491nm,16.8s,MS5.2				
KMI			LR	LR	
	comp=E,401nm,17.3s,MS5.2				
KMI			LR	LR	
	comp=Z,503nm,18.3s,MS5.0				
BJT	**Baijiatuau**	**94.86 316**	PFAKE		14 10 00.0 +7.6
BJT			LR	LR	
	comp=Z,591nm,20.0s,MS5.0				
BJI	**Beijing**	**94.88 316**	P	**P**	**14 09 52.8 +0.4**
BJI			PP	PP	14 13 42.4 +0.7
BJI			SKS	SKSac	14 20 27.8 -1.1
BJI			S	S	14 21 04.3 -2.9
BJI			PS	PS	14 22 26.4 +2.5
BJI			SS	SS	14 27 31.6 -1.0
BJI			AMB	AMB	
	comp=Z,6.0nm,1.7s,mb4.8				
BJI			LR	LR	
	comp=N,377nm,19.9s,MS5.0				
BJI			LR	LR	
	comp=E,407nm,21.1s,MS5.0				
BJI			LR	LR	
	comp=Z,610nm,25.6s,MS5.0				
TXAR	**Lajitas Array**	**95.11 58**	P	**P**	**14 09 53.6 -0.2**
	comp=Z,1.3nm,1.1s,mb4.3,baz=204,slow=2.7,SNR=10.0				
TXAR			LR	LR	14 47 41.8
	comp=Z,1μm,18.0s,MS5.5,baz=265,slow=32				
MNTX	**Cornudas Mount**	**95.32 55**	*e*P	**P**	**14 09 54.2 -0.5**
	comp=Z,13nm,1.8s,mb5.1				
MNTX			LR	LR	
	comp=Z,653nm,20.0s,MS5.1				
XAN	**Xi'an**	**95.58 307**	P	**P**	**14 09 55.8 0.0**
XAN			AP		14 10 03.3
XAN			XP	sP	14 10 07.1 +11
XAN			SS	SS	14 27 36.9 -5.9
XAN			AMB	AMB	
	comp=Z,6.0nm,1.8s,mb4.7				
XAN			AMB	AMB	
	comp=Z,156nm,10.6s				
XAN			LR	LR	
	comp=N,211nm,18.3s,MS4.8				
XAN			LR	LR	
	comp=E,202nm,18.3s,MS4.8				
XAN			LR	LR	
	comp=Z,362nm,21.2s,MS4.8				
MPU	**Maple Canyon**	**96.45 46**	PFAKE		14 10 10.0 +10
MPU			LR	LR	
	comp=Z,3μm,19.0s,MS5.8				
BMO	**Blue Mountains**	**96.45 39**	PFAKE		14 10 10.0 +10
BMO			LR	LR	
	comp=Z,3μm,19.0s,MS5.7				
ANMO	**Albuquerque**	**96.55 52**	P	**P**	**14 10 01.0 +0.8**
ANMO			pmax	pmax	
	comp=Z,7.0nm,1.4s				
ANMO			MLR	MLR	
	comp=Z,2μm,19.0s				
ANMO	**Albuquerque**	**96.55 52**	P	**P**	**14 10 01.0 +0.7**
	comp=Z,6.6nm,1.4s,mb4.9				
ANMO			LR	LR	
	comp=Z,2μm,19.0s,MS5.5				
MA2	**Magadan**	**96.56 345**	PFAKE		14 10 10.0 +10
MA2			LR	LR	
	comp=Z,954nm,20.0s,MS5.3				
CD2	**Chengdu**	**97.25 302**	P	**P**	**14 10 04.0 +0.5**
CD2			AP		14 10 09.5
CD2			PP	PP	14 14 04.4 +4.1
CD2			SKS	SKSac	14 20 40.3 -1.5
CD2			S	S	14 21 25.0 -3.2
CD2			XS	sS	14 21 33.2 +4.2
CD2			PS	PS	14 22 54.5 +4.3
CD2			SS	SS	14 28 07.5 +1.0
CD2			AMB	AMB	
	comp=Z,10.0nm,0.6s,mb5.4				
CD2			AMB	AMB	
	comp=Z,470nm,10.2s				
CD2			LR	LR	
	comp=N,450nm,17.4s,MS5.2				
CD2			LR	LR	
	comp=E,450nm,18.0s,MS5.2				
CD2			LR	LR	
	comp=Z,470nm,16.2s,MS5.1				
LPAZ	**La Paz**	**97.47 115**	*e*P	**P**	**14 10 04.2 -0.7**
LPAZ			pmax	pmax	
	comp=Z,17nm,1.8s				
LPAZ			MLR	MLR	
	comp=Z,492nm,20.0s				
LPAZ	**La Paz**	**97.47 115**	*e*P	**P**	**14 10 04.2 -0.7**
	comp=Z,17nm,1.8s,mb5.2				
LPAZ			LR	LR	
	comp=Z,492nm,20.0s,MS5.0				
LPAZ	**La Paz**	**97.47 115**	P	**P**	**14 10 04.7 -0.2**
	comp=Z,1.6nm,0.8s,mb4.5,baz=223,slow=2.7,SNR=5.9				
LPAZ			LR	LR	14 48 13.2
	comp=Z,352nm,18.4s,MS4.9,baz=184,slow=32				
HWUT	**Hardware Ranch**	**97.50 44**	PFAKE		14 10 10.0 +5.7
HWUT			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
SIT	**Sitka**	**97.99 22**	PFAKE		14 10 20.0 +14
SIT			LR	LR	
	comp=Z,2μm,19.0s,MS5.7				
HHC	**Hu-ho-hao-te**	**98.10 314**	*e*P	**P**	**14 10 06.8 -0.2**
HHC			AP		14 10 11.7
HHC			PP	PP	14 14 09.4 +2.8
HHC			SKS	SKSac	14 20 43.5 -2.1
HHC			S	S	14 21 33.3 -1.7
HHC			XS	sS	14 21 40.1 +4.3
HHC			SS	SS	14 28 17.7 -0.5
HHC			AMB	AMB	
	comp=Z,46nm,1.0s,mb6.0				
HHC			AMB	AMB	
	comp=Z,304nm,6.1s				
HHC			LR	LR	
	comp=N,563nm,18.2s,MS5.3				
HHC			LR	LR	
	comp=E,645nm,19.6s,MS5.3				
HHC			LR	LR	
	comp=Z,1μm,20.1s,MS5.3				
PMR	**Palmer**	**98.36 14**	PFAKE		14 10 20.0 +12
PMR			LR	LR	
	comp=Z,618nm,20.0s,MS5.1				
CPUP	**Villa Florida**	**98.42 130**	PFAKE		14 10 20.0 +11
CPUP			LR	LR	
	comp=Z,292nm,20.0s,MS4.8				
CPUP	**Villa Florida**	**98.42 130**	LR	LR	14 51 04.9
	comp=Z,1μm,18.3s,MS5.5,baz=219,slow=33				
AHID	**Auburn Hatcher**	**98.50 44**	PFAKE		14 10 20.0 +11
AHID			LR	LR	
	comp=Z,1μm,20.0s,MS5.4				
DIV	**Divide**	**98.65 16**	PFAKE		14 10 20.0 +11
DIV			LR	LR	
	comp=Z,2μm,20.0s,MS5.7				
SDCO	**Great Sand Dun**	**98.84 50**	*e*P	**P**	**14 10 07.4 -3.1**
	comp=Z,3.7nm,1.5s,mb4.7				
SDCO			LR	LR	
	comp=Z,1μm,19.0s,MS5.3				
JTS	**JuntasAbangare**	**99.08 84**	PFAKE		14 10 20.0 +7.9
JTS			LR	LR	
	comp=Z,2μm,19.0s,MS5.5				
HIA	**Hailar**	**99.13 324**	PFAKE		14 10 20.0 +8.6
HIA			LR	LR	
	comp=Z,807nm,20.0s,MS5.2				
SEY	**Seymchan**	**99.31 347**	⇑*e*P	**P**	**14 10 08.7 -3.2**
BW06	**Boulder Array**	**99.39 44**	PFAKE		14 10 20.0 +7.2
BW06			LR	LR	
	comp=Z,2μm,19.0s,MS5.5				
TNA	**Tin City**	**99.66 5**	PFAKE		14 10 20.0 +5.8
TNA			LR	LR	
	comp=Z,703nm,20.0s,MS5.2				
AMTX	**Amarillo**	**99.70 54**	PFAKE		14 10 20.0 +5.6
AMTX			LR	LR	
	comp=Z,728nm,20.0s,MS5.2				
YMR	**Madison River**	**99.77 42**	PFAKE		14 10 30.0 +15
YMR			LR	LR	
	comp=Z,2μm,21.0s,MS5.6				
BOZ	**Bozeman (W)**	**100.01 41**	PFAKE		14 10 30.0 +14
BOZ			LR	LR	
	comp=Z,842nm,19.0s,MS5.3				
LKWY	**Lake**	**100.02 43**	PFAKE		14 10 30.0 +14
LKWY			LR	LR	
	comp=Z,600nm,21.0s,MS5.1				
LZH	**Lanzhou**	**100.15 307**	*e*P	Pdif	14 10 19.0 +2.6
LZH			*e*PP	PP	14 14 28.2 +5.8
LZH			SKS	SKSac	14 20 56.3 +0.2
LZH			*e*S	Sdif	14 21 51.4 -1.3
LZH			XS		14 21 59.2
LZH			PS	PS	14 23 26.7 +5.2
LZH			*e*SS	SS	14 28 51.5 +4.4
LZH			AMB	AMB	
	comp=Z,29nm,1.5s				
LZH			AMB	AMB	
	comp=Z,178nm,8.7s				
LZH			LR	LR	
	comp=E,758nm,18.3s				
LZH			LR	LR	
	comp=Z,945nm,19.7s,MS5.3				
MCK	**McKinley**	**100.34 13**	PFAKE		14 10 30.0 +13
MCK			LR	LR	
	comp=Z,542nm,20.0s,MS5.1				
DGAR	**Diego Garcia**	**100.91 253**	PFAKE		14 10 30.0 +10
DGAR			LR	LR	
	comp=Z,1μm,20.0s,MS5.5				
RLMT	**Red Lodge**	**101.00 43**	PFAKE		14 10 30.0 +10
RLMT			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
COLA	**College**	**101.58 13**	PFAKE		14 10 30.0 +7.2
COLA			LR	LR	
	comp=Z,1μm,20.0s,MS5.3				
TEIG	**Tepich**	**101.69 74**	PFAKE		14 10 30.0 +6.7
TEIG			LR	LR	
	comp=Z,859nm,19.0s,MS5.3				
BILL	**Bilibino**	**102.36 354**	*e*	SKSac	14 21 06.2 +0.9
BILL	**Bilibino**	**102.36 354**	PFAKE		14 10 40.0 +14
BILL			LR	LR	
	comp=Z,471nm,20.0s,MS5.0				
PALK	**Pallekele**	**102.48 270**	PFAKE		14 10 40.0 +13
PALK			LR	LR	
	comp=Z,2μm,19.0s,MS5.6				
NATX	**Nacogdoches**	**102.90 60**	PFAKE		14 10 40.0 +11
NATX			LR	LR	
	comp=Z,989nm,19.0s,MS5.4				
CBKS	**Cedar Bluff**	**103.18 52**	PFAKE		14 10 40.0 +10
CBKS			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
LAO	**LASA Array**	**103.64 43**	PFAKE		14 10 40.0 +8.1
LAO			LR	LR	
	comp=Z,839nm,20.0s,MS5.3				
YAK	**Yakutsk**	**104.26 338**	PFAKE		14 10 50.0 +15
YAK			LR	LR	
	comp=Z,537nm,19.0s,MS5.1				
ULN	**Ulaanbaatar**	**104.86 318**	PFAKE		14 10 50.0 +13
ULN			LR	LR	
	comp=Z,411nm,20.0s,MS5.0				
SONM	**Songino Array**	**105.21 318**	Pdiff	Pdif	14 10 36.0 -3.0
	comp=Z,0.1nm,0.3s,baz=76,slow=6.1,SNR=2.7				
SONM			PKiKP	PKiKP	14 14 53.2 +0.5
	comp=Z,1.1nm,1.1s,baz=111,slow=3.3,SNR=3.8				
SONM			PKKPbc	PKKPdf	14 26 21.0 -10
	comp=Z,0.5nm,0.8s,baz=262,slow=2.9,SNR=3.2				
SONM			PKKP	PKKPbc	14 26 29.7 +10
	comp=Z,0.6nm,0.8s,baz=321,slow=3.9,SNR=3.2				
LSA	**Lhasa**	**105.76 295**	PFAKE		14 15 10.0 +16
LSA			LR	LR	
	comp=Z,484nm,21.0s,MS5.0				
OXF	**Oxford**	**108.08 60**	PFAKE		14 15 10.0 +11
OXF			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
CCM	**Cathedral Cave**	**108.50 56**	PFAKE		14 15 10.0 +11
CCM			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
TLY	**Talaya**	**108.79 320**	PFAKE		14 15 10.0 +11
TLY			LR	LR	
	comp=Z,467nm,19.0s,MS5.1				
YKA	**Yellowknife Ar**	**109.11 26**	Pdiff	Pdif	14 10 51.7 -4.6
	comp=Z,0.1nm,0.3s,baz=315,slow=12,SNR=4.2				
YKA			PKiKP	PKiKP	14 14 58.1 -1.4
	comp=Z,1.0nm,1.0s,baz=222,slow=2.4,SNR=4.9				
YKA			PP	PP	14 15 26.4 -2.0
	comp=Z,0.4nm,0.9s,baz=223,slow=7.9,SNR=5.0				
YKA			PKKPbc	PKKPbc	14 26 05.4 -2.4
	comp=Z,1.2nm,0.9s,baz=43,slow=3.5,SNR=16				
PLAL	**Pickwick Lake**	**109.27 60**	PFAKE		14 15 10.0 +9.3
PLAL			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
WVT	**Waverly**	**109.99 59**	PFAKE		14 15 10.0 +8.0
WVT			LR	LR	
	comp=Z,724nm,19.0s,MS5.3				
SDV	**Santo Domingo**	**110.20 93**	PFAKE		14 15 10.0 +6.9
SDV			LR	LR	
	comp=Z,329nm,20.0s,MS4.9				
FFC	**Flin Flon**	**110.27 37**	PFAKE		14 15 10.0 +8.1
FFC			LR	LR	
	comp=Z,2μm,20.0s,MS5.6				
DWPF	**Disney**	**111.03 70**	PFAKE		14 15 20.0 +16
DWPF			LR	LR	
	comp=Z,362nm,19.0s,MS5.0				
ABPO	**Ambohimpanom**	**111.23 227**	PFAKE		14 15 20.0 +15
ABPO			LR	LR	
	comp=Z,2μm,20.0s,MS5.6				
SUR	**Sutherland**	**111.33 198**	PFAKE		14 15 20.0 +15
SUR			LR	LR	
	comp=Z,1μm,20.0s,MS5.5				
ULM	**Lac du Bonnet**	**111.36 43**	PFAKE		14 15 20.0 +16
ULM			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
TIXI	**Tiksi**	**111.52 344**	*i* PKIKP	PKiKP	14 15 02.3 -1.5
TIXI			*e*		14 21 43.1
TIXI			*e*SP	SP	14 25 14.9 -1.3
TIXI			pmax	pmax	
	comp=Z,4.0nm,1.1s				
TIXI	**Tiksi**	**111.52 344**	*e*PKP	PKiKP	14 15 02.4 -1.4
TZTN	**Tazewell**	**113.26 61**	PFAKE		14 15 20.0 +12
TZTN			LR	LR	
	comp=Z,1μm,19.0s,MS5.5				
BOSA	**Boshof**	**113.56 203**	PFAKE		14 15 20.0 +11
BOSA			LR	LR	
	comp=Z,1μm,20.0s,MS5.4				
NHSC	**New Hope**	**114.26 65**	PFAKE		14 15 20.0 +10

NHSC LR LR
comp=Z,567nm,19.0s,MS5.2
LBTB Lobatse 116.76 205 PFAKE 14 15 30.0 +15
LBTB LR LR
comp=Z,1µm,19.0s,MS5.6
MCWV Mont Chateau 117.20 59 PFAKE 14 15 30.0 +14
MCWV LR LR
comp=Z,2µm,19.0s,MS5.7
ERPA Erie 118.04 56 PFAKE 14 15 30.0 +13
ERPA LR LR
comp=Z,1µm,19.0s,MS5.5
CBN Corbin 118.43 61 PFAKE 14 15 30.0 +12
CBN LR LR
comp=Z,1µm,19.0s,MS5.6
SJG San Juan 118.68 87 PFAKE 14 15 30.0 +11
SJG LR LR
comp=Z,628nm,19.0s,MS5.3
SSPA Standing Stone 118.96 59 PFAKE 14 15 30.0 +11
SSPA LR LR
comp=Z,826nm,20.0s,MS5.4
MK31 Makanchi Array 119.37 309 *e*PKIKP PKPdf 14 15 19.0 -0.6
MKAR Makanchi Array 119.37 309 PKP PKPdf 14 15 18.8 -0.8
comp=Z,6.8nm,0.9s,baz=85,slow=1.5,SNR=36
MKAR SKP 14 18 54.5
comp=Z,2.1nm,0.9s,baz=79,slow=1.9,SNR=4.7
ZAA0 Zalesovo Array 120.10 317 *e*PKPdf PKPdf 14 15 18.9 -1.9
ZALV Zalesovo Beam 120.10 317 PKP PKPdf 14 15 19.6 -1.2
ZALV Zalesovo Beam 120.10 317 PKhKP 14 15 14.2
comp=Z,0.4nm,0.4s,baz=162,slow=3.4,SNR=4.2
ZALV PKP PKPdf 14 15 19.6 -1.2
comp=Z,3.2nm,0.7s,baz=144,slow=1.9,SNR=18
ZAL Zalesovo 120.11 317 PKIKP PKPdf 14 15 19.6 -1.2
BINY Binghamton 120.85 57 PFAKE 14 15 30.0 +7.4
BINY LR LR
comp=Z,1µm,20.0s,MS5.6
RES Resolute Bay 120.99 18 *e*PKIKP PKPdf 14 15 20.3 -1.7
NVS Novosibirsk 121.25 318 *i* PKIKP PKPdf 14 15 22.0 -1.0
NVS pmax pmax
comp=Z,19nm,1.4s
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=E,18nm,1.8s
KSH Kashi 121.25 299 *e*PKP PKPdf 14 15 23.2 -0.3
KSH *e*PP PP 14 16 53.1 -1.4
KSH *e*PKS 14 19 00.3
KSH *e*PPP 14 19 51.1
KSH *e*SKS SKSdf 14 22 31.2 -5.2
KSH PP PP
comp=Z,609nm,4.4s
KSH LR LR
comp=N,568nm,6.8s
KSH LR LR
comp=E,386nm,4.5s
KSH LR LR
comp=Z,1µm,21.1s,MS5.6
ULHL Ulahol 121.96 302 P PKPdf 14 15 24.6 -0.1
SNR=26
LONY Lake Ozonia 122.59 55 PFAKE 14 15 40.0 +14
LONY LR LR
comp=Z,932nm,19.0s,MS5.5
KZA Kyzart 122.61 302 P PKPdf 14 15 26.6 +0.5
SNR=24
TKM2 Tokmak 2 122.63 303 *e*PKIKP PKPdf 14 15 25.2 -0.8
TKM2 MLR MLR
comp=Z,371nm,20.0s,MS5.0
TKM2 Tokmak 2 122.63 303 P PKPdf 14 15 25.8 -0.2
SNR=16
NCB Newcomb 122.64 56 PFAKE 14 15 40.0 +14
NCB LR LR
comp=Z,1µm,19.0s,MS5.5
KURK Kurchatov 122.85 312 PKIKP PKPdf 14 15 25.0 -1.2
KURK Kurchatov 122.85 312 *e*PKPdf PKPdf 14 15 24.9 -1.3
KURK LR LR
comp=Z,405nm,19.0s,MS5.1
KBK Karagaybulak 123.00 302 P PKPdf 14 15 26.7 0.0
SNR=11
UCH Uchtor 123.18 302 *e*PKPdf PKPdf 14 15 27.6 +0.5
UCH LR LR
comp=Z,418nm,19.0s,MS5.1
UCH Uchtor 123.18 302 P PKPdf 14 15 28.0 +0.9
SNR=32
CHMS Chumysh 123.24 303 P PKPdf 14 15 26.9 -0.3
SNR=8.0
FRU Bishkek 123.29 302 ⇓*i*PKIKP PKPdf 14 15 27.0 -0.3
FRU *e* 14 17 08.0
FRU pmax pmax
comp=Z,60nm,1.9s
AAK Ala-Archa 123.31 302 *c i*PKIKP PKPdf 14 15 25.8 -1.6
AAK Ala-Archa 123.31 302 *e*PKPdf PKPdf 14 15 26.2 -1.2
AAK LR LR
comp=Z,491nm,20.0s,MS5.2
AAK Ala-Archa 123.31 302 P PKPdf 14 15 26.5 -0.9
SNR=7.1
USP Ospenovka 123.50 303 P PKPdf 14 15 27.4 -0.2
SNR=16
AML Almayashu 123.73 301 *e*PKPdf PKPdf 14 15 28.5 +0.3
AML LR LR
comp=Z,636nm,19.0s,MS5.3
AML Almayashu 123.73 301 P PKPdf 14 15 28.4 +0.2
SNR=25
EKS2 Erkin-Say 123.83 302 *e*PKPdf PKPdf 14 15 28.2 -0.2
EKS2 LR LR
comp=Z,479nm,19.0s,MS5.2
EKS2 Erkin-Say 123.83 302 P PKPdf 14 15 28.6 +0.2
SNR=13
HRV Adam Dziewonsk 124.06 58 PFAKE 14 15 40.0 +11
HRV LR LR
comp=Z,1µm,20.0s,MS5.5
WES Weston 124.19 59 PFAKE 14 15 40.0 +11
WES LR LR
comp=Z,2µm,22.0s,MS5.7
LBNH Lisbon 124.30 56 PFAKE 14 15 40.0 +11
LBNH LR LR
comp=Z,1µm,20.0s,MS5.5
LSZ Lusaka 124.50 212 *e*PKIKP PKPdf 14 15 30.6 +0.1
LSZ MLR MLR
comp=Z,1µm,19.0s,MS5.6
TSUM Tsumeb 124.72 199 PFAKE 14 15 40.0 +9.1
TSUM LR LR
comp=Z,1µm,19.0s,MS5.5
KBL Kabul 124.74 291 *e*PKPdf PKPdf 14 15 30.8 +0.4
BBSR BB Station 125.95 72 PFAKE 14 15 40.0 +7.3
BBSR LR LR
comp=Z,496nm,19.0s,MS5.2
BRVK Borovoye 128.38 314 *e*PKIKP PKPdf 14 15 35.8 -0.9
BRVK MLR MLR
comp=Z,535nm,20.0s,MS5.2
SCHQ Schefferville 129.53 44 PFAKE 14 15 50.0 +11
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.7
SCHQ Schefferville 129.53 44 PKKP 14 25 43.9
comp=Z,5.0nm,1.0s,baz=236,slow=3.6,SNR=3.5
KMBO Kilima Mbogo 131.14 232 PKIKP PKPdf 14 15 44.6 +1.3
KMBO Kilima Mbogo 131.14 232 *e*PKPdf PKPdf 14 15 44.5 +1.2
KMBO LR LR
comp=Z,617nm,19.0s,MS5.3
KMBO Kilima Mbogo 131.14 232 PKP PKPdf 14 15 43.5 +0.2
comp=Z,0.7nm,0.4s,baz=137,slow=1.9,SNR=3.2
KMBO SKPbc SKPbc 14 19 08.0 -1.0
comp=Z,15nm,1.0s,baz=140,slow=3.7,SNR=17
SVE Sverdlovsk 134.07 319 *i* PKIKP PKPdf 14 15 46.5 -0.9
SVE pmax pmax
comp=Z,44nm,2.0s
SVE MLR MLR
comp=Z,733nm,22.0s,MS5.3
KBS Kingsbay 134.77 357 *e*PP PP 14 18 19.6 -2.6
KBS AMS AMS 15 22 48.4
comp=Z,329nm,19.2s,MS5.1
KBS Kingsbay 134.77 357 PFAKE 14 16 00.0 +12
KBS LR LR
comp=Z,313nm,20.0s,MS5.0
ARU Arti 135.25 318 *i* PKIKP PKPdf 14 15 48.1 -1.5
ARU 14 18 23.0
ARU SS SS 14 36 12.7 -9.3
ARU Arti 135.25 318 *i* PKP PKPdf 14 15 48.4 -1.2
ARU LR LR
comp=Z,566nm,19.0s,MS5.3
SFJD Kangerlussuaq 135.68 26 PFAKE 14 16 00.0 +10
SFJD LR LR
comp=Z,943nm,19.0s,MS5.5
DAG Danmarks Havn 136.26 6⇑*e*PKIKP PKPdf 14 15 49.0 -1.9
DAG pmax pmax
comp=Z,3.0nm,1.0s
DAG Danmarks Havn 136.26 6⇑*i*P PKPdf 14 15 49.0 -1.9
comp=Z,3.0nm,1.0s

RDF Al-Radifah 140.17 276 *e*P PKPdf 14 15 59.8 +0.3
RDF AMb AMB 14 16 04.7
comp=Z,153nm,1.3s
NAY Al-Naaiem 140.53 276 *e*P PKPdf 14 15 59.8 -0.4
NAY AMb AMB 14 16 04.4
comp=Z,30nm,1.5s
MIB Mutribah 140.62 277 *e*P PKPdf 14 16 00.4 +0.1
MIB AMb AMB 14 16 02.8
comp=Z,42nm,1.3s
KEV Kevo 141.44 346 PFAKE 14 16 10.0 +9.4
KEV LR LR
comp=Z,426nm,21.0s,MS5.2
APA Apatity 141.57 341⇑*i*PKHKP 14 15 50.0
APA pmax pmax
comp=Z,29nm,1.2s
ARCES ARCESS Array B 141.92 346 PKHKP 14 15 55.1
ARCES 14 16 00.8
ARCES pmax pmax
comp=Z,16nm,1.2s
ARCES pmax pmax
comp=Z,6.0nm,0.8s
ARCES pmax pmax
comp=N,15nm,1.0s
ARCES ARCESS Array B 141.92 346 PKP PKPdf 14 16 00.8 -0.7
ARCES SKPbc SKPbc 14 19 40.6 +0.8
ARCES ARCESS Array B 141.92 346 PKhKP 14 15 55.0
comp=N,16nm,1.2s,baz=3.8,slow=3.6,SNR=7.8
ARCES PKP PKPdf 14 16 00.8 -0.7
comp=N,5.8nm,0.8s,baz=45,slow=4.2,SNR=9.9
ARCES SKPbc SKPbc 14 19 40.6 +0.8
comp=N,15nm,1.0s,baz=45,slow=0.7,SNR=11
TMCR Tamitsa 142.28 334 *e*PKIKP PKPdf 14 16 00.8 -1.4
JMIC Jan Mayen 142.65 5 *e*P PKPdf 14 16 01.6 -1.1
MAK Makhachkala 142.87 298 *e*PKHKP 14 15 56.4
MAK *e* 14 19 10.2
MAK *i* 14 23 13.5
MAK pmax pmax
comp=Z,296µm,1.4s
TRO Tromso 142.98 350 *e*PP PP 14 19 16.4 +3.5
TRO AMS AMS 15 18 48.1
comp=Z,244nm,21.2s,MS4.9
BHD Baghdad 144.01 281 *ex* x 14 16 01.0
BHD *ex* x 14 19 35.0
DGRG David-gareji 144.39 295 P PKPdf 14 16 05.0 -1.7
MTA Mtatsminda 144.83 296 P PKPdf 14 16 06.0 -1.4
TBLG Delisi 144.88 296 P 14 15 56.7
HAKT HAKKARI 145.33 288 *i* P PKPbc 14 16 07.2 -1.0
CLDR Caldiran 145.34 291 *e*P PKPbc 14 16 07.8 -0.4
GOR Gori 145.35 296 P PKPbc 14 16 08.7 +0.5
JOF Joensuu 145.41 336 *e*pkp PKPdf 14 16 06.1 -1.6
DYDN Diyadin 145.55 292 *i* P PKPdf 14 16 08.9 +0.2
MSL Mosul 145.64 286 *ex* x 14 16 09.0
MSL *ex* x 14 19 48.0
TVAN Van 145.68 290 *i* P PKPdf 14 16 06.7 -2.3
VANB Van 145.70 290 *e*P PKPdf 14 16 08.8 -0.2
ONI Oni 145.85 297 P PKPdf 14 16 09.0 -0.1
VRHR Novokhopersk 146.03 313 *i* PKP2 PKPab 14 16 09.2 -1.4
VRHR pmax pmax
comp=Z,360nm,0.9s
VRHR pmax pmax
comp=N,60nm,0.6s
VRHR pmax pmax
comp=E,210nm,1.3s
KARS Kars 146.07 294 *e*P PKPdf 14 16 10.0 +0.4
AGRB Hanur-Agry 146.09 292 *e*P PKPdf 14 16 09.5 -0.2
KIV Kislovodsk 146.37 300 *e*PKHKP 14 16 04.3
KIV *i* 14 16 08.3
KIV *e*SS SS 14 38 26.8 -6.0
KIV *e*SSS 14 43 56.7
KIV pmax pmax
comp=Z,37nm,1.1s
KIV Kislovodsk 146.37 300 *e*PKPdf PKPdf 14 16 09.8 -0.2
KIV LR LR
comp=Z,408nm,19.0s,MS5.2
KIV Kislovodsk 146.37 300⇑*i*P PKPdf 14 16 09.0 -1.0
BORG Borgarnes 146.41 17 PFAKE 14 16 20.0 +11
BORG LR LR
comp=Z,799nm,20.0s,MS5.5
MOS Moscow 146.72 322 *e*PKHKP 14 16 07.6
MOS pmax pmax
comp=Z,1µm,2.0s
MOS pmax pmax
comp=Z,578nm,1.6s
MOR8 Moi Rana 146.84 350 *e*P PKPdf 14 16 10.1 0.0
MOR8 AMb AMB 14 16 15.0
comp=Z,183nm,1.7s
ARTV Artvin 146.97 295 *i* P PKPdf 14 16 10.3 -0.8
BCA Borcka 147.21 295 *e*P PKPdf 14 16 09.2 -2.3
VOR Voronezh 147.32 314 *e*PKIKP PKPdf 14 16 11.2 -0.1
VOR pmax pmax
comp=Z,600nm,2.0s
ERZM Erzurum 147.36 292 *i* P PKPbc 14 16 15.2 +1.0
VRSR Storozhevoye 147.48 314 *i* PKP2 PKPdf 14 16 13.1 +1.5
VRSR pmax pmax
comp=Z,60nm,1.2s
VRSR pmax pmax
comp=N,10.0nm,1.0s
VRSR pmax pmax
comp=E,20nm,0.9s
VORD Divnogorie 147.49 313 *e*PKP2 PKPdf 14 16 13.1 +1.5
VORD *e* 14 19 36.1
VORD pmax pmax
comp=Z,140nm,1.1s
VORD pmax pmax
comp=N,30nm,0.8s
VORD pmax pmax
comp=E,120nm,1.4s
VORD pmax pmax
comp=N,110nm,0.8s
VORD pmax pmax
comp=Z,170nm,0.8s
VORD pmax pmax
comp=E,310nm,0.9s
OBN Obninsk 147.53 321⇑*i*PKIKP PKPdf 14 16 10.7 -0.8
OBN *i* 14 16 13.6
OBN *i* 14 16 20.6
OBN *e* 14 19 39.2
OBN pmax pmax
comp=Z,43nm,1.7s
OBN pmax pmax
comp=Z,463nm,1.4s
OBN Obninsk 147.53 321 *e*PKPdf PKPdf 14 16 11.3 -0.3
OBN *e*PKPbc PKPbc 14 16 14.1 -0.1
OBN LR LR
comp=Z,452nm,20.0s,MS5.2
MARD Mardin 147.62 287 *i* P PKPdf 14 16 11.6 -0.7
KOPT Kop Dagi 148.03 292 *i* P PKPdf 14 16 12.5 -0.4
FIA1 FINESS Array S 148.19 337 *e*PKPdf PKPdf 14 16 11.3 -1.1
FIA1 *e*PKPbc PKPbc 14 16 15.9 +0.2
FINES FINESS Array B 148.19 337 PKIKP PKPdf 14 16 12.8 +0.4
FINES 14 19 54.5
FINES pmax pmax
comp=Z,34nm,0.8s
FINES pmax pmax
comp=N,6.0nm,1.0s
FINES FINESS Array B 148.19 337 PKPbc PKPdf 14 16 12.8 +0.4
comp=N,34nm,0.8s,baz=82,slow=4.0,SNR=43
FINES SKPbc SKPbc 14 19 54.5 -0.1
comp=N,6.3nm,1.0s,baz=90,slow=1.4,SNR=4.2
SOC Sochi 148.54 299 *c i*PKP2 PKPbc 14 16 16.1 -1.1
SOC *e* 14 19 42.6
SOC *e*SS SS 14 38 52.9 -4.4
SOC *e*SSS 14 44 30.6
SOC pmax pmax
comp=Z,75nm,1.4s
KTUT Trabzon 148.60 294 *e*P PKPdf 14 16 17.1 +3.3
PTK Pertek 148.84 290 *e*P PKPdf 14 16 15.0 +0.7
ELZG Elazig 149.13 289 *i* P PKPbc 14 16 18.6 -0.3
URFA Urfa 149.18 287 *e*P PKPdf 14 16 15.1 +0.3
KEMA Kemaliye 149.55 291 *i* P PKPdf 14 16 14.3 -1.1
MALT Malatya 149.56 289 *e*P PKPdf 14 16 14.5 -0.9
MALT Malatya 149.56 289 *e*PKPdf PKPdf 14 16 15.4 0.0
MALT *e*PKPbc PKPbc 14 16 20.5 +0.5
MALT Malatya 149.56 289⇑*i*P PKPbc 14 16 20.6 +0.6
ATAB Bozova 149.60 287 *i* P PKPbc 14 16 21.0 +0.9
GRSN GIRESUNGRSN 149.74 294 *i* P PKPdf 14 16 15.2 -0.5
ANN Anapa 150.04 302 *i* PKHKP 14 16 19.8
ANN *e* 14 16 23.8
ANN *e* 14 19 53.0
ANN *e*SS SS 14 39 16.5 +2.6
ANN pmax pmax
comp=Z,199nm,1.2s
VSU Vasula 150.10 333 *c i*PKIKP PKPdf 14 16 14.2 -1.4
VSU *i* 14 16 19.9

GZT Gaziantep 150.17 287 *i* P PKPbc 14 16 20.9 -0.6
GAZ Gaziantep 150.43 287 *e*P PKPbc 14 16 21.8 -0.3
KMRS Kahramanmaras 150.71 287 *e*P PKPbc 14 16 21.8 -0.9
RCY Rachaya 151.06 279 *e*P PKPbc 14 16 24.6 +0.9
ANDN Andirin 151.15 287 *i* P PKPbc 14 16 24.2 +0.4
BHL Bhannes 151.27 280 *e*P PKPbc 14 16 24.3 +0.1
KVT Kavak 151.42 295 *e*P PKPdf 14 16 17.9 -0.3
KOZT Kozan 151.56 287 *e*P PKPdf 14 16 20.0 +1.4
CEYT Ceyhan 151.59 286 *e*P PKPbc 14 16 23.7 -1.1
BNN Bunyan 151.60 290 *e*P PKPdf 14 16 17.2 -1.4
DIKM Dikmen 151.97 296 *e*P PKPdf 14 16 18.6 -0.4
KARA Karaisali 152.16 286 *e*P PKPdf 14 16 17.9 -1.6
NB2 NORSAR Subarra 152.18 349 PKP PKPbc 14 16 24.4 -1.0
comp=Z,52nm,1.0s,baz=18,slow=2.6
NB2 NORSAR Subarra 152.18 349 PKP PKPbc 14 16 24.4 -1.0
baz=18,slow=2.6
NOA NORSAR Array B 152.18 349 PKP PKPdf 14 16 18.4 -0.3
comp=Z,2.0nm,0.9s,baz=18,slow=1.7,SNR=3.5
NOA PKPbc PKPbc 14 16 25.7 +0.3
comp=Z,40nm,1.1s,baz=15,slow=3.7,SNR=44
MNK Minsk 152.19 326 *e*PKIKP PKPbc 14 16 25.0 -0.6
MNK pmax pmax
comp=Z,710nm,1.8s
DBIC Dimbokro 152.24 168 *e*PKIKP PKPdf 14 16 20.9 +0.6
DBIC *e* 14 16 26.8
DBIC *e* 14 16 36.4
DBIC MLR MLR
comp=Z,1µm,19.0s
DBIC Dimbokro 152.24 168 PKP PKPdf 14 16 20.6 +0.3
comp=Z,14nm,1.3s,baz=130,slow=4.2,SNR=4.6
DBIC PKPbc PKPbc 14 16 26.4 -0.6
comp=Z,11nm,0.9s,baz=132,slow=3.9,SNR=10.0
BOYT Boyabat 152.25 295 *i* P PKPbc 14 16 26.4 +0.2
SIM Simferopol' 152.34 303 *c i*PKIKP PKPbc 14 16 27.4 +1.1
SIM PPP 14 23 35.0
SIM pmax pmax
comp=Z,49nm,1.2s
AVNT Avonos 152.37 290 *i* P PKPbc 14 16 25.1 -1.4
CTKT Corum 152.39 294 *i* P PKPbc 14 16 26.8 +0.2
NAO01 NORSAR Array S 152.41 349 *e*PKPdf PKPdf 14 16 20.6 +1.6
NAO01 *e*PKPbc PKPbc 14 16 25.7 -0.2
NAO01 *e*PKPab PKPab 14 16 35.7 -0.4
NAO01 LR LR
comp=Z,454nm,19.0s,MS5.3
EREN Erenkoy 152.71 283 *e*P PKPdf 14 16 19.4 -0.9
CDAG Cicekdag 152.75 292 *i* P PKPdf 14 16 23.8 +3.5
IKL Isikli 153.18 284 *e*P PKPdf 14 16 19.8 -1.2
KAMT Kaman 153.26 291 *e*P PKPdf 14 16 20.2 -0.8
CANT Cankiri 153.28 294 *e*P PKPdf 14 16 21.6 +0.6
BALT Daday 153.38 296 *i* P PKPdf 14 16 22.4 +1.3
BER Bergen 153.49 355 *e*P PKPdf 14 16 23.0 +2.4
BER *e*SS SS 14 39 46.5 -3.2
BER AMS AMS 15 25 30.7
comp=Z,261nm,17.8s,MS5.1
AKASG Malin Array Be 153.50 317 PKP PKPdf 14 16 19.9 -1.1
AKASG PKPbc PKPbc 14 16 28.5 -0.1
AKASG Malin Array Be 153.50 317 PKP PKPdf 14 16 19.9 -1.1
comp=Z,0.2nm,0.2s,baz=63,slow=1.2,SNR=7.8
AKASG PKPbc PKPbc 14 16 28.5 -0.1
comp=Z,16nm,0.8s,baz=58,slow=1.9,SNR=63
AKBB Malin Array Si 153.50 317 PKIKP PKPbc 14 16 27.8 -0.8
AKBB Malin Array Si 153.50 317 *e*PKPbc PKPbc 14 16 27.7 -1.0
LEF Lefka 153.70 281 *e*P PKPbc 14 16 28.7 -0.9
KONO Kongsberg 153.75 350 *e*P PKPdf 14 16 22.4 +1.3
KONO *e*PP PP 14 20 10.2 -5.6
KONO *e*SS SS 14 39 55.4 +2.8
KONO Kongsberg 153.75 350 *e*P PKPdf 14 16 22.4 +1.3
KONO *e*PKPbc PKPbc 14 16 27.5 -1.4
KONO *e*PKPab PKPab 14 16 40.7 -1.0
KONO LR LR
comp=Z,632nm,21.0s,MS5.4
ERMK Ermenek 153.83 285 *i* P PKPbc 14 16 31.1 +1.3
ANTO Ankara 153.95 292 *e*P PKPdf 14 16 19.7 -2.2
ANTO Ankara 153.95 292 *e*PKPbc PKPbc 14 16 29.6 -0.4
ANTO LR LR
comp=Z,498nm,19.0s,MS5.3
ANTO Ankara 153.95 292⇑*i*P PKPbc 14 16 29.2 -0.8
KDHN Kadinhani 154.52 289 *i* P 14 16 12.0
SUW Suwalki 154.60 329 *e*PKP PKPbc 14 16 30.6 -0.2
SUW *e* 14 16 43.3
SUW Suwalki 154.60 329 *e*PKIKP PKPbc 14 16 30.6 -0.3
SUW *e* 14 16 43.3
KIZT Kizilcal 154.70 290 *e*P PKPdf 14 16 23.5 +0.5
KIS Kishinev 155.30 310 *e*PKIKP PKPdf 14 16 30.0 +6.4
KIS *e* 14 16 48.0
KIS Kishinev 155.30 310 *e*PKP PKPdf 14 16 30.0 +6.4
KIS LRM 15 28 58.0
comp=Z,800nm,20.0s
HENT Hendek 155.32 295 *i* P PKPdf 14 16 33.0 +9.1
ESKT Eskisehir 155.47 292 *i* P PKPdf 14 16 32.6 +8.5
TKTP Tekketepe 155.94 288 *i* P PKPdf 14 16 22.3 -2.4
GOLH Golhisar 156.54 286 *i* P 14 16 09.8
GDZ Gediz 156.56 291 *i* P PKPdf 14 16 22.8 -2.7
GEMT Gemlik 156.66 294 *e*P PKPdf 14 16 24.2 -1.4
BSD Bornholm Skovb 156.78 339 *i* PKIKP PKPdf 14 16 25.1 -0.2
BSD pmax pmax
comp=Z,56nm,1.2s
BSD MLR MLR
comp=Z,500nm,18.0s,MS5.4
BSD Bornholm Skovb 156.78 339 *i* P PKPdf 14 16 25.1 -0.2
comp=Z,56nm,1.2s
BSD *i* 14 20 23.6
BSD *i* 14 33 26.0
BSD *i* 14 36 38.4
BSD
comp=Z,500nm,18.0s
MUD Monsted U'grnd 156.88 348 *i* PKIKP PKPdf 14 16 24.4 -1.0
MUD *e* 14 20 33.3
MUD pmax pmax
comp=Z,60nm,1.6s
MUD MLR MLR
comp=Z,830nm,19.0s,MS5.6
MUD Monsted U'grnd 156.88 348 *i* P PKPdf 14 16 24.4 -1.0
comp=Z,60nm,1.6s
MUD *i* 14 16 53.8
MUD *e* 14 20 33.3
MUD
comp=Z,830nm,19.0s
COP Copenhagen 156.93 343 *i* PKIKP PKPdf 14 16 23.8 -1.7
COP *i* 14 20 31.3
COP pmax pmax
comp=Z,29nm,1.0s
COP MLR MLR
comp=Z,420nm,18.0s,MS5.3
COP Copenhagen 156.93 343 *i* P PKPdf 14 16 23.8 -1.7
comp=Z,29nm,1.0s
COP *i* 14 20 31.3
COP
comp=Z,410nm,18.0s
KULA Kula-Manisa 157.23 289 *e*P PKPdf 14 16 23.5 -2.9
BURAR Bucovina Array 157.27 314⇓*i*P PKPdf 14 16 33.5 +7.3
GKP Gorka Klasztor 157.54 334 *e*PKP PKPdf 14 16 26.1 -0.2
GKP *e* 14 16 57.3
GKP Gorka Klasztor 157.54 334 *e*PKP PKPdf 14 16 26.1 -0.2
GKP *e* 14 16 57.3
KWP Kalwaria 157.62 321 *e*PKIKP PKPdf 14 16 25.9 -0.6
KWP *e* 14 16 38.8
KWP Kalwaria 157.62 321 *e*PKPdf PKPdf 14 16 25.9 -0.7
KWP *e*PKPdif 14 16 38.8
KWP *e*PKPab PKPab 14 16 58.3 -0.4
KWP Kalwaria 157.62 321⇓*i*P PKPab 14 16 58.7 0.0
KWP Kalwaria 157.62 321 *e* PKPab 14 16 58.6 0.0
KOLS Kolonicke sedl 158.26 320 *i* PKP PKPdf 14 16 26.7 -0.6
KOLS *i* PKPab 14 16 59.2 -2.2
STHS Stebnicka Huta 158.51 322 *i* PKP PKPab 14 17 03.6 +1.1
ESK Eskdalemuir 158.54 6 PFAKE 14 16 40.0 +13
ESK LR LR
comp=Z,671nm,20.0s,MS5.5
OJC Ojcow 158.71 325 *e*PKPdf PKPdf 14 16 26.6 -1.2
OJC *e*PKPab PKPab 14 17 02.8 -0.5
OJC *e*SKKSac SKKSac 14 27 32.9 -0.8
OJC L 15 29 17.5
comp=Z,0.6nm,20.3s
OJC Ojcow 158.71 325 *e*PKIKP PKPdf 14 16 26.6 -1.2
OJC *e* 14 17 02.8
OJC MLR MLR
comp=Z,600nm,20.3s,MS5.4
CRVS Cervenica-Dubn 158.71 320 *e*PKP PKPdf 14 16 26.6 -1.3
CRVS *i* 14 17 03.1
NIE Niedzica 158.98 323 *e*PKP PKPdf 14 16 28.2 0.0
BSEG Bad Segeberg 159.03 344 *e*PKPdf PKPdf 14 16 27.1 -1.0
BSEG *e*PKPab PKPab 14 17 03.7 -0.9
DRGR 159.16 314⇑*i*P PKPab 14 17 07.1 +1.6

KECS	**Kecovo**	**159.48 321**	*i* PKP	PKPab	14 17 07.1	+0.4	
OKC	**Ostrava-Krasne**	**159.74 326**	*e*PKPAB	PKPab	14 17 07.6	-0.2	
OKC			*e*SKKS	SKKSac	14 27 36.1	-3.0	
OKC			*ex*	x	14 31 41.1		
OKC			AMS	AMS	15 38 40.0		
	comp=Z,500nm,19.0s						
KSP	**Ksiaz**	**159.80 331**	*e*PKP	PKPdf	14 16 29.2	+0.1	
KSP			*e*		14 17 08.1		
KSP	**Ksiaz**	**159.80 331**	*e*PKPdf	PKPdf	14 16 28.9	-0.2	
KSP			*e*PKPab	PKPab	14 17 07.6	-0.5	
KSP			*e*PP	PP	14 20 46.5	-3.1	
KSP			*e*SS	SS	14 40 56.0	-2.2	
KSP			LR	LR			
	comp=Z,900nm,20.2s,MS5.6						
MORC	**Moravsky Berou**	**160.06 327**	PKIKP	PKPdf	14 16 28.8	-0.6	
MORC	**Moravsky Berou**	**160.06 327**	*e*PKPdf	PKPdf	14 16 28.1	-1.3	
MORC			*e*PKPab	PKPab	14 17 08.9	-0.4	
PSZ	**Piszkesteto**	**160.13 320**	⇓*e*PKP	PKPab	14 17 09.5	-0.1	
DPC	**Dobruska-Polom**	**160.17 330**	*e*PKPDF	PKPdf	14 16 29.2	-0.3	
DPC			*ex*	x	14 16 56.3		
DPC			*e*PKPAB	PKPab	14 17 09.5	-0.2	
DPC			AMS	AMS	15 38 10.0		
	comp=Z,600nm,21.0s						
UPC	**Upice**	**160.18 331**	*e*PKPDF	PKPdf	14 16 29.0	-0.5	
UPC			⇑*e*PKP	x	14 16 57.9		
UPC			*e*PKPAB	PKPab	14 17 09.8	+0.1	
VYHS	**Vyhne**	**160.32 323**	*i* PKP	PKPdf	14 16 27.9	-1.9	
VYHS			*i*		14 17 10.4		
BZS	**Buzias**	**160.40 312**	PKIKP	PKPdf	14 16 29.4	-0.5	
CLL	**Collm**	**160.64 337**	*e*PKPdf	PKPdf	14 16 28.2	-1.8	
CLL			*e*PKPab	PKPab	14 17 10.7	-0.9	
CLL	**Collm**	**160.64 337**	*e*PKPdf	PKPdf	14 16 29.0	-1.0	
	comp=Z,15nm,1.6s						
CLL			⇓*i*PKPab	PKPab	14 17 10.7	-0.9	
	comp=Z,95nm,1.4s						
CLL			*ex*	x	14 17 16.0		
CLL			*i* x	x	14 17 22.1		
CLL			*e*PP	PP	14 20 47.0	-6.9	
CLL			*ex*	x	14 36 12.0		
CLL			*e*SS	SS	14 40 54.0	-13	
CLL			*e*SSS		14 47 00.0		
CLL			Lm		15 47 00.0		
	comp=N,400nm,18.2s						
CLL			Lm		15 47 00.0		
	comp=E,400nm,20.3s						
CLL			Lm		15 47 00.0		
	comp=Z,600nm,18.8s						
BRG	**Berggiesshubel**	**160.68 334**	*e*PKIKP	PKPdf	14 16 28.8	-1.3	
BRG			*i*		14 17 11.3		
BRG					14 20 51.0		
BRG			SS	SS	14 41 02.0	-5.3	
BRG			MLR	MLR			
	comp=Z,450nm,19.9s						
BRG	**Berggiesshubel**	**160.68 334**	*e*PKP	PKPdf	14 16 28.8	-1.3	
BRG			*i*		14 17 11.3		
BRG			PP	PP	14 20 51.0	-3.2	
BRG			*i*		14 27 45.0		
BRG			SS	SS	14 41 02.0	-5.3	
BRG			LR	LR			
	comp=Z,450nm,19.9s						
BRG	**Berggiesshubel**	**160.68 334**	*e*PKPdf	PKPdf	14 16 28.6	-1.5	
BRG			*e*PKPab	PKPab	14 17 11.2	-0.6	
BRG	**Berggiesshubel**	**160.68 334**	*e*PKP	PKPdf	14 16 28.8	-1.3	
	comp=Z,15nm,1.4s						
BRG			*i*		14 17 11.3		
	comp=Z,66nm,1.4s						
BRG			PP	PP	14 20 51.0	-3.2	
BRG			*i*		14 27 45.0		
BRG			SS	SS	14 41 02.0	-5.3	
BRG							
	comp=N,342nm,17.9s						
BRG							
	comp=E,135nm,17.9s						
BRG							
	comp=Z,751nm,19.9s						
PVCC	**Panska Ves**	**160.73 333**	*e*PKIKP	PKPdf	14 16 29.4	-0.7	
PVCC			*e*		14 17 11.9		
PVCC			MLR	MLR			
	comp=Z,600nm,19.2s						
PVCC	**Panska Ves**	**160.73 333**	*e*PKPDF	PKPdf	14 16 29.4	-0.7	
PVCC			*e*PKPAB	PKPab	14 17 11.9	-0.2	
PVCC			*ex*	x	14 30 54.6		
PVCC			AMS	AMS	15 41 30.0		
	comp=Z,600nm,19.2s						
VRAC	**Vranov**	**160.83 327**	PKIKP	PKPdf	14 16 30.1	-0.2	
VRAC	**Vranov**	**160.83 327**	⇓*i*P	PKPab	14 17 13.2	+0.6	
FBE	**Freiberg**	**160.84 335**	*e*PKPdf	PKPdf	14 16 29.9	-0.3	
FBE			*e*PKPab	PKPab	14 17 12.2	-0.4	
CLZ	**Clausthal**	**160.94 342**	*e*PKPdf	PKPdf	14 16 29.6	-0.7	
CLZ			*e*PKPab	PKPab	14 17 12.3	-0.6	
IBBN	**Ibbenburen**	**161.09 347**	*e*PKPdf	PKPdf	14 16 29.9	-0.6	
IBBN			*e*PKPab	PKPab	14 17 13.1	-0.5	
PRU	**Pruhonice**	**161.17 332**	*e*PKIKP	PKPdf	14 16 30.7	+0.1	
PRU			*e*		14 17 13.9		
PRU			*e*SS	SS	14 41 09.1	-3.5	
PRU			MLR	MLR			
	comp=Z,600nm,16.4s						
PRU	**Pruhonice**	**161.17 332**	*e*PKPDF	PKPdf	14 16 30.7	+0.1	
PRU			⇑*e*PKP	x	14 16 57.5		
PRU			*e*PKPAB	PKPab	14 17 13.9	-0.1	
PRU			*e*SKKS	SKKSac	14 27 46.1	-0.3	
PRU			*ex*	x	14 30 49.4		
PRU			*e*SS	SS	14 41 09.1	-3.5	
PRU			AMS	AMS	15 44 10.0		
	comp=Z,600nm,16.4s						
MODS	**Modra-Piesok**	**161.17 324**	*i* PKP	PKPdf	14 16 29.8	-0.9	
MODS			*i*		14 17 13.9		
TREC	**Trest**	**161.32 329**	*e*PKPDF	PKPdf	14 16 32.8	+2.0	
TREC			⇑*e*PKP	x	14 16 58.1		
TREC			*e*PKPAB	PKPab	14 17 14.4	-0.3	
TREC			AMS	AMS	15 43 40.0		
	comp=Z,700nm,18.6s						
ZST	**Bratislava**	**161.38 324**	*i* PKP	PKPdf	14 16 30.5	-0.4	
ZST			*i*		14 17 14.4		
TANN	**Tannenbergstha**	**161.58 336**	*e*PKPdf	PKPdf	14 16 28.8	-2.2	
TANN			*e*PKPab	PKPab	14 17 15.4	-0.4	
WERD	**Werda**	**161.60 336**	*e*PKPdf	PKPdf	14 16 29.1	-2.0	
WERD			*e*PKPab	PKPab	14 17 15.5	-0.4	
MOX	**Moxa**	**161.65 338**	*e*PKP	PKPdf	14 16 31.3	+0.2	
MOX			*e*		14 17 15.7		
	comp=Z,84nm,1.6s						
MOX							
	comp=Z,600nm,20.0s						
MOX	**Moxa**	**161.65 338**	*e*PKPdf	PKPdf	14 16 29.6	-1.5	
MOX			*e*PKPab	PKPab	14 17 15.6	-0.5	
GUNZ	**Gunzen**	**161.66 336**	*e*PKPdf	PKPdf	14 16 30.5	-0.6	
WERN	**Wernitzgruen**	**161.71 336**	*e*PKPdf	PKPdf	14 16 30.7	-0.5	
WERN			*e*PKPab	PKPab	14 17 16.1	-0.3	
NKC	**Novy Kostel**	**161.74 336**	*e*PKP	PKPdf	14 16 34.4	+3.2	
NKC			*e*		14 16 57.9		
NKC			*e*		14 17 16.8		
NKC	**Novy Kostel**	**161.74 336**	*e*PKPDF	PKPdf	14 16 34.4	+3.2	
NKC			⇑*e*PKP	x	14 16 57.9		
NKC			*e*PKPAB	PKPab	14 17 16.8	+0.3	
NKC			AMS	AMS	15 41 00.0		
	comp=Z,600nm,16.8s						
PKSM	**Moragy**	**161.84 317**	⇓PKIKP	PKPdf	14 16 30.7	-0.8	
PKSM	**Moragy**	**161.84 317**	P	PKPdf	14 16 30.9	-0.6	
PKSM	**Moragy**	**161.84 317**	⇓*i*P	PKPdf	14 16 30.6	-0.9	
UBBA	**Unterbreizbach**	**161.97 341**	*e*PKPdf	PKPdf	14 16 30.4	-1.0	
UBBA			*e*PKPab	PKPab	14 17 16.6	-0.9	
SOP	**Sopron**	**162.00 324**	⇓*e*PKP	PKPdf	14 16 30.8	-0.8	
BUG	**Bochum--Univer**	**162.01 347**	*e*PKPdf	PKPdf	14 16 30.8	-0.7	
BUG			*e*PKPab	PKPab	14 17 16.5	-1.1	
MANZ	**Manzenberg**	**162.06 336**	*e*PKPdf	PKPdf	14 16 30.2	-1.4	
MANZ			*e*PKPab	PKPab	14 17 17.6	-0.3	
CONA	**Conrad Observa**	**162.16 325**	⇑*i*PKPdf	PKPdf	14 16 30.0	-1.7	
	comp=Z,7.4nm,1.5s						
CONA			⇑*i*PKPab	PKPab	14 17 19.1	+0.7	
	comp=Z,56nm,1.4s						
ROTZ	**Rotzenmuhle**	**162.21 335**	*e*PKPdf	PKPdf	14 16 30.1	-1.6	
ROTZ			*e*PKPab	PKPab	14 17 18.5	-0.1	
KHC	**Kasperske Hory**	**162.23 332**	*e*PKIKP	PKPdf	14 16 31.1	-0.7	
KHC			*e*		14 17 18.8		
KHC			*e*SS	SS	14 41 23.2	-0.5	
KHC			MLR	MLR			
	comp=Z,700nm,18.7s						
KHC	**Kasperske Hory**	**162.23 332**	*e*PKPDF	PKPdf	14 16 31.1	-0.7	
KHC			⇑*e*PKP	x	14 16 59.3		
KHC			*e*PKPAB	PKPab	14 17 18.8	+0.1	
KHC			*ex*	x	14 17 29.0		
KHC			*e*SKKS	SKKSac	14 27 54.3	+2.4	
KHC			*ex*	x	14 31 33.4		
KHC			*e*SS	SS	14 41 23.2	-0.5	
KHC			AMS	AMS	15 40 30.0		
	comp=Z,700nm,18.7s						
GEC2	**GERESS Array S**	**162.41 331**	*e*PKPdf	PKPdf	14 16 30.5	-1.4	
GEC2			*e*PKPab	PKPab	14 17 18.7	-0.8	
GERES	**GERESS Array B**	**162.41 331**	PKP	PKPdf	14 16 31.1	-0.8	
	comp=Z,0.3nm,0.2s,baz=329,slow=4.7,SNR=6.4						
GERES			PKPab	PKPab	14 17 19.3	-0.2	
	comp=Z,3.1nm,0.8s,baz=45,slow=4.0,SNR=12						
WET	**Wettzell**	**162.49 333**	*e*PKPdf	PKPdf	14 16 30.7	-1.3	
WET			*e*PKPab	PKPab	14 17 19.4	-0.4	
GRA3	**Grafenberg Arr**	**162.51 337**	*e*PP	PP	14 21 01.0	-3.0	
GRA1	**Grafenberg Arr**	**162.61 337**	*e*PKPdf	PKPdf	14 16 30.9	-1.2	
GRA1			*e*PKPab	PKPab	14 17 20.2	-0.1	
GRA1			*e*PP	PP	14 21 10.1	+5.6	
GRA1			LR	LR			
	comp=Z,600nm,18.1s						
GRF	**Grafenberg Arr**	**162.61 337**	*e*PKPdf	PKPdf	14 16 30.9	-1.2	
GRF			*e*PKPab	PKPab	14 17 20.2	-0.1	
GRF			*e*PP	PP	14 21 10.1	+5.6	
GRF			*e*L		15 48 23.8		
	comp=Z,634nm,18.1s						
GRFO	**Grafenberg**	**162.61 337**	PFAKE		14 16 40.0	+7.9	
GRFO			LR	LR			
	comp=Z,465nm,19.0s						
HGN	**Heimansgroeve**	**162.89 349**	*e*P	PKPab	14 17 19.4	-2.1	
	comp=Z,58nm,1.4s						
MOA	**Molln**	**162.95 328**	⇑*i*	PKPab	14 17 22.3	+0.4	
	comp=Z,36nm,1.4s						
UCC	**Uccle**	**163.07 352**	PKPbc	PKPab	14 17 22.1	-0.2	
BCLA	**Clavier**	**163.32 350**	PKPbc	PKPab	14 17 22.4	-1.0	
GROS	**Grobnik**	**163.36 323**	*e*PKPdf	PKPdf	14 16 31.2	-1.7	
DOBS	**Dobrina**	**163.59 322**	*e*PKPdf	PKPdf	14 16 31.5	-1.7	
DOU	**Dourbes**	**163.73 352**	PKPbc	PKPab	14 17 22.2	-3.0	
FUR	**Furstenfeldbru**	**163.90 334**	*e*PKPdf	PKPdf	14 16 32.4	-1.0	
FUR			*e*PKPab	PKPab	14 17 26.3	+0.3	
WLF	**Walferdange**	**163.92 348**	PKPbc	PKPab	14 17 25.5	-0.5	
WLF	**Walferdange**	**163.92 348**	*e*PKPab	PKPab	14 17 25.4	-0.6	
LJU	**Ljubljana**	**164.14 323**	*e*PKPdf	PKPdf	14 16 31.7	-2.0	
CEY	**Cerknica**	**164.40 322**	*e*PKPdf	PKPdf	14 16 32.3	-1.6	
WTTA	**Wattenberg**	**164.51 332**	⇓*i*	PKPab	14 17 29.5	+0.7	
	comp=Z,36nm,1.8s						
WTTA	**Wattenberg**	**164.51 332**	⇑*i*PKPdf	PKPdf	14 16 33.8	-0.2	
	comp=Z,18nm,1.4s						
WTTA			⇓*i*PKPab	PKPab	14 17 29.5	+0.7	
	comp=Z,36nm,1.8s						
MOTA	**Moosalm**	**164.65 333**	⇑*i*	PKPab	14 17 28.8	-0.5	
	comp=Z,49nm,1.4s						
MOTA	**Moosalm**	**164.65 333**	⇑*i*PKPdf	PKPdf	14 16 32.5	-1.6	
	comp=Z,15nm,1.4s						
MOTA			⇑*i*PKPab	PKPab	14 17 28.8	-0.5	
	comp=Z,49nm,1.4s						
BFO	**Black Forest**	**164.69 341**	*e*PKIKP	PKPdf	14 16 32.6	-1.5	
BFO			*e*		14 17 28.7		
BFO			MLR	MLR			
	comp=Z,633nm,20.0s						
BFO	**Black Forest**	**164.69 341**	*e*PKPdf	PKPdf	14 16 32.6	-1.5	
BFO			*e*PKPab	PKPab	14 17 28.7	-0.8	
FETA	**Feichten**	**165.06 333**	⇓*i*PKPdf	PKPdf	14 16 33.7	-0.8	
	comp=Z,9.7nm,1.2s						
FETA			⇓*i*PKPab	PKPab	14 17 31.1	-0.1	
	comp=Z,32nm,1.3s						
DAVA	**Damuels**	**165.14 336**	⇓*i*	PKPab	14 17 31.3	-0.2	
	comp=Z,58nm,1.4s						
DAVA	**Damuels**	**165.14 336**	⇓*i*PKPdf	PKPdf	14 16 34.9	+0.4	
	comp=Z,9.5nm,1.4s						
DAVA			⇓*i*PKPab	PKPab	14 17 31.3	-0.2	
	comp=Z,58nm,1.4s						
LOR	**Lormes**	**166.60 351**	*e*PKIKP	PKPdf	14 16 32.9	-2.8	
SSF	**Saint Saulge**	**166.85 352**	*e*PKIKP	PKPdf	14 16 34.2	-1.7	
MFF	**Saint Martin d**	**167.43 3**	*e*PKIKP	PKPdf	14 16 34.7	-1.6	
	comp=Z,56nm,1.4s						
TCF	**Toulx Ste Croi**	**167.73 356**	*e*PKIKP	PKPdf	14 16 34.9	-1.7	
	comp=Z,88nm,1.8s						
RJF	**Les Rejaudoux**	**168.74 358**	*e*PKIKP	PKPdf	14 16 36.0	-1.3	
	comp=Z,43nm,1.3s						
LFF	**La Frestale**	**169.12 1**	*e*PKIKP	PKPdf	14 16 36.2	-1.3	
SJPF	**Ste Jean**	**170.79 10**	*e*PKIKP	PKPdf	14 16 38.3	-0.3	
	comp=Z,153nm,1.7s						
EPF	**Esparros**	**171.01 3**	*e*PKIKP	PKPdf	14 16 38.0	-0.7	
	comp=Z,121nm,1.7s						
EVO	**Evora**	**171.52 56**	*e*PKIKP	PKPdf	14 16 37.5	-1.6	
	comp=Z,147nm,1.7s						
KEST	**Kesra**	**172.87 286**	PKP	PKPdf	14 16 40.9	+1.1	
	comp=Z,1.0nm,0.6s,baz=45,slow=0.3,SNR=4.0						
PAB	**San Pablo**	**173.08 36**	PFAKE		14 16 50.0	+10	
PAB			LR	LR			
	comp=Z,786nm,19.0s						
ESDC	**Sonseca Array**	**173.16 33**	PKP	PKPdf	14 16 40.2	+0.4	
	comp=Z,0.9nm,0.6s,baz=336,slow=3.3,SNR=8.4						

MAN 03 13:58:56,1761N×11984E,h2km,mb4.6,ML3.5,MS3.5, 1C,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.84**	**87**	*e*P		Pg	13 59 12.9	+0.9
ABRA				*e*S		Sg	13 59 23.2	+0.3
BOLP	**Bolinao**	**1.22**	**177**	*e*P		Pg	13 59 18.9	-0.6
BOLP				*e*S		Sg	13 59 35.3	+0.1
APYP	**Conner**	**1.36**	**79**	*e*P		Pn	13 59 21.2	-0.8
APYP				*e*S		Sg	13 59 38.8	-1.1
CVP	**Callao Caves**	**1.90**	**87**	⇑*e*P		Pn	13 59 29.7	+0.3
CVP				*i* S		Sn	13 59 52.9	-0.9
CAUP	**Cauayan**	**2.01**	**109**	*e*P		Pn	13 59 33.1	+2.2
CAUP				*e*S		Sn	13 59 59.0	+2.4
BALP	**Baler**	**2.49**	**138**	*e*P		Pn	13 59 38.8	+1.2
BALP				*e*S		Sn	14 00 10.3	+1.7
PALP	**Palanan**	**2.53**	**102**	*e*P		Pn	13 59 39.6	+1.5
PALP				*e*S		Sn	14 00 10.0	+0.5

IDC 03 14:03:48.3±8.0,603S×14973E,h0km,mb4.2/4,mb1 4.4/4, mb1mx4.0/13,mbtmp4.2/4,Error ellipse: s-maj=124.0km s-min=62.3km az=37.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.36**	**226**	P		P	14 08 25.7	-1.0
	3.3nm,0.5s,baz=52,slow=11,SNR=11							
ASAR	**Alice Springs**	**23.22**	**219**	P		P	14 08 56.6	-0.6
	1.8nm,0.6s,baz=56,slow=9.5,SNR=11							
FITZ	**Fitzroy Crossi**	**26.39**	**241**	P		P	14 09 26.9	+0.2
	2.1nm,0.4s,baz=56,slow=12,SNR=8.7							
STKA	**Stephens Creek**	**26.81**	**195**	P		P	14 09 31.2	+0.9
	15nm,1.0s,baz=5.3,slow=7.3,SNR=6.3							
STKA	**Stephens Creek**	**26.81**	**195**	*e*SCP		P	14 09 31.4	+1.1

*NEIC **03** 14:11:39.5±2.1,3408S×178.19W,h10km,ML4.3(WEL), Error ellipse: s-maj=45.6km s-min=14.8km az=101.0*
*IDC **03** 14:11:41.9±2.1,3396S×17876W,h0km,mb4.1/2, mb1 4.4/3,mb1mx3.9/13,mbtmp4.2/3,ML4.4/1,Error ellipse: s-maj=59.4km s-min=32.8km az=130.0*

ISC 03 14:11:42.8±2.0,342S±01×1782W±03,h35km,n15, σ1°00/14,mb4.0/2,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.46**	**219**	*e*P		**Pn**	**14 12 49.0**	**+1.2**
MXZ				S		**Sn**	**14 13 37.5**	**-0.9**
PUZ	**Puketiti**	**4.88**	**216**	*e*P		**Pn**	**14 12 54.5**	**+0.9**
PUZ				S		**Sn**	**14 13 49.8**	**+1.0**
MWZ	**Matawai**	**5.44**	**219**	*e*P		**Pn**	**14 13 02.3**	**+0.9**
URZ	**Urewera**	**5.61**	**222**	*e*P		**Pn**	**14 13 04.4**	**+0.7**
URZ	**Urewera**	**5.61**	**222**	Pn		**Pn**	**14 13 05.1**	**+1.5**
	12nm,0.3s,baz=349,slow=1.6,SNR=86							
URZ				Sn		**Sn**	**14 14 06.5**	**-0.3**
	7.1nm,0.3s,baz=266,slow=20,SNR=7.4							
TSZ	**Takapari Road**	**7.54**	**217**	*e*P		**Pn**	**14 13 29.6**	**-0.6**
BFZ	**Birch Farm**	**7.89**	**213**	*e*P		**Pn**	**14 13 32.8**	**-2.2**
MRZ	**Mangatainoka R**	**8.19**	**216**	*e*P		**Pn**	**14 13 37.8**	**-1.3**
ASAR	**Alice Springs**	**42.91**	**271**	P		**P**	**14 19 38.5**	**+0.3**
	1.6nm,0.6s,mb3.9,baz=115,slow=7.7,SNR=32							
WB2	**Warramunga Arr**	**44.22**	**276**	*e*P		**P**	**14 19 48.3**	**-0.4**
WRA	**Warramunga Arr**	**44.23**	**276**	P		**P**	**14 19 48.7**	**-0.1**
	2.0nm,0.5s,mb4.1,baz=118,slow=7.6,SNR=63							
MKAR	**Makanchi Array**	**120.03**	**308**	PKP		PKPdf	14 30 32.5	+3.3
	0.2nm,0.2s,baz=260,slow=0.9,SNR=2.4							
ARCES	**ARCESS Array B**	**142.20**	**347**	PKP		PKPdf	14 31 14.3	+4.0
	2.2nm,0.9s,baz=331,slow=5.2,SNR=3.2							
JOF	**Joensuu**	**145.82**	**336**	*ep*		PKPdf	14 31 17.9	+1.1
	1.3nm,0.5s							
FINES	**FINESS Array B**	**148.58**	**338**	PKPbc		PKPbc	14 31 28.7	+3.5
	1.3nm,0.5s,baz=43,slow=4.3,SNR=11							

*IDC **03** 14:30:52.4±2.3,532N×9488E,h0km,mb3.7/6,mb1 3.9/6, mb1mx3.6/20,mbtmp3.7/6,Error ellipse: s-maj=107.4km s-min=20.2km az=58.0*
*NEIC **03** 14:30:56.2±0.9,5.15N×9462E,h30km,mb3.7/2,Error ellipse: s-maj=27.8km s-min=10.0km az=222.0*
*ISCJB **03** 14:31:01.9±6.7,54N±03×95.1E±04,h88km±53km,mb3.7/8, Error ellipse: s-maj=89.4km s-min=18.1km az=144.8*

ISC 03 14:31:02.7±6.2,54N±03×950E±05,h80km±49km,n13, σ0°27/13,mb3.7/8,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KULM	**Kulim**	**5.62**	**91**	*e*Pn		**Pn**	**14 32 23.8**	**+0.1**
UCH	**Uchtor**	**40.96**	**337**	*e*P		**P**	**14 38 37.7**	**+0.1**
	1.2nm,0.6s,mb3.9							
TKM2	**Tokmak 2**	**41.14**	**338**	*e*P		**P**	**14 38 38.9**	**-0.1**
EKS2	**Erkin-Say**	**41.62**	**336**	P		**P**	**14 38 43.1**	**+0.2**
	0.8nm,0.6s,mb3.6							
MK31	**Makanchi Array**	**42.69**	**347**	*e*P		**P**	**14 38 51.1**	**-0.4**
MKAR	**Makanchi Array**	**42.69**	**347**	P		**P**	**14 38 51.2**	**-0.4**
MKAR	**Makanchi Array**	**42.69**	**347**	P		**P**	**14 38 51.2**	**-0.4**
	0.4nm,0.4s,mb3.5,baz=175,slow=7.6,SNR=6.2							
SONM	**Songino Array**	**43.40**	**11**	P		**P**	**14 38 57.5**	**+0.2**
	0.5nm,0.8s,mb3.3,baz=191,slow=9.4,SNR=4.4							
WRA	**Warramunga Arr**	**46.14**	**124**	P		**P**	**14 39 19.6**	**+0.1**
	0.8nm,0.6s,mb3.6,baz=304,slow=9.3,SNR=11							
ASAR	**Alice Springs**	**47.68**	**129**	P		**P**	**14 39 31.2**	**-0.2**
	0.2nm,0.4s,mb3.3,baz=299,slow=7.9,SNR=16							
ZALV	**Zalesovo Beam**	**49.12**	**352**	P		**P**	**14 39 41.9**	**-0.1**
ZALV	**Zalesovo Beam**	**49.12**	**352**	P		**P**	**14 39 41.9**	**-0.1**
	1.9nm,0.5s,mb4.3,baz=178,slow=7.4,SNR=14							
ARCES	**ARCESS Array B**	**77.88**	**340**	P		**P**	**14 42 51.9**	**+0.6**
	2.1nm,0.9s,mb3.9,baz=88,slow=7.5,SNR=2.7							

*CSEM **03** 14:44:35.9±0.1,3841N×3909E,h10km,MD2.7,Error ellipse: s-maj=2.4km s-min=1.7km az=169.0*
*ISCJB **03** 14:44:36.7±0.6,3839N±004×3909E±004,h7km±5km, Error ellipse: s-maj=6.9km s-min=4.7km az=15.9*
*DDA **03** 14:44:36.7,3848N×3919E,h2km±4km,Md2.7*
*ISK **03** 14:44:36.2,3839N×3909E,h7km,MD2.7*

ISC 03 14:44:37.0±0.6,3840N±004×3910E±004,h3km±7km,n10, σ0°84/17,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.13**	**315**	*i* P		**Pg**	**14 44 40.0**	**+0.3**
ELZG				*i* S		**Sg**	**14 44 41.9**	**+0.5**
SVRC	**Sivrice-ELAZID**	**0.16**	**99**	PG		**Pg**	**14 44 40.3**	**+0.1**
SVRC				*e*SG		**Sg**	**14 44 43.3**	**+1.0**
PTK	**Pertek**	**0.54**	**25**	*e*PG		**Pg**	**14 44 47.3**	**0.0**
MALT	**Malatya**	**0.54**	**261**	PG		**Pg**	**14 44 46.8**	**-0.6**
MALT				*e*SG		**Sg**	**14 44 54.1**	**-0.2**
MYA	**Malataya**	**0.54**	**262**	PG		**Pg**	**14 44 47.1**	**-0.2**
MYA				*e*SG		**Sg**	**14 44 54.9**	**+0.6**
URFA	**Urfa**	**0.99**	**193**	*e*PG		**Pg**	**14 44 55.4**	**-0.5**
KEMA	**Kemaliye**	**0.99**	**331**	*i* P		**Pg**	**14 44 54.8**	**-1.2**
KEMA				*i* S		**Sg**	**14 45 09.2**	**+0.5**
GZT	**Gaziantep**	**1.60**	**230**	*i* P		**Pn**	**14 45 06.0**	**-0.2**
GZT				*i* S		**Sn**	**14 45 30.3**	**+2.8**
MARD	**Mardin**	**1.71**	**129**	*i* P		**Pn**	**14 45 05.9**	**-1.8**
MARD				*i* S		**Sn**	**14 45 30.7**	**+0.5**
SVSK	**Karacayir**	**2.23**	**313**	*e*PN		**Pn**	**14 45 14.6**	**-0.2**

*ISCJB **03** 16:01:40.3±1.0,1670N±006×9462W±004,h110km±9km, Error ellipse: s-maj=10.1km s-min=6.5km az=7.3*
*MEX **03** 16:01:42.2±1.1,1662N×9458W,h104km±12km,MD4.2*
*NEIC **03** 16:01:42.2,1662N×9457W,h104km,MD4.2(MEX),After MEX.*

ISC 03 16:01:41.1±1.0,1668N±006×9462W±004,h105km±11km, n11,σ1°18/22,Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.48**	**328**	*i* P		**Pn**	**16 01 57.9**	**+0.5**
CMIG				*i* S		**Sn**	**16 02 09.4**	**-0.1**
TUIG	**Tuzandepetl**	**1.36**	**8**	*e*P		**Pn**	**16 02 06.1**	**+0.1**
TUIG				*i* S		**Sn**	**16 02 25.0**	**+0.2**
HUIG	**Huatulco**	**1.70**	**238**	*i* P		**Pn**	**16 02 09.2**	**-0.9**
HUIG				*i* S		**Sn**	**16 02 31.6**	**-0.6**
OXX	**Oaxaca**	**2.05**	**281**	*i* P		**Pn**	**16 02 16.4**	**+1.8**
OXX				*i* P			16 02 17.5	
OXX				*i* S		**S

44nm,0.3s
ERTA Horta de San J 0.82 325 Pg **Pg 16 14 42.7 +1.2**
13nm,0.1s,SNR=42
ERTA Lg 16 14 52.7
90nm,0.3s,SNR=6.1
ERTA Horta de San J 0.82 325 Pg **Pg 16 14 42.7 +1.2**
13nm,0.1s,SNR=42
EPOB Poblet 1.07 5 Pg **Pg 16 14 46.8 +0.7**
12nm,0.2s,SNR=39
EPOB Lg 16 15 00.1
11nm,0.2s,SNR=5.0
EPOB Poblet 1.07 5 Pg **Pg 16 14 46.8 +0.6**
12nm,0.2s,SNR=39
EMOS Mosqueruela 1.10 275 Pg **Pg 16 14 47.6 +0.9**
8.9nm,0.2s,SNR=59
EMOS Lg 16 15 01.2
18nm,0.2s,SNR=6.8
EMOS Mosqueruela 1.10 275 Pg **Pg 16 14 47.6 +0.9**
8.9nm,0.2s,SNR=59
EIBI Ibiza 1.29 167 Pg **Pg 16 14 50.6 +0.3**
1.7nm,0.2s,SNR=8.8
EIBI Lg 16 15 05.9
5.1nm,0.1s,SNR=5.0
EIBI Ibiza 1.29 167 Pg **Pg 16 14 50.6 +0.2**
1.7nm,0.2s,SNR=8.8
ETOS Mallorca 1.51 109 Pn **Pn 16 14 54.2 +0.7**
0.4nm,0.2s,SNR=7.0
ETOS Sn **Sn 16 15 11.6 -1.9**
1.7nm,0.1s,SNR=7.9
ETOS Mallorca 1.51 109 Pn **Pn 16 14 54.2 +0.8**
0.4nm,0.2s,SNR=7.0
CAVN Les Avellanes 1.60 354 P **Pn 16 14 55.8 +1.1**
CAVN S **Sn 16 15 17.9 +2.1**
14nm,0.4s
ECHE Chera 1.64 246 Pg **Pg 16 14 55.7 -1.3**
1.0nm,0.2s,SNR=6.1
ECHE Sn **Sn 16 15 17.3 +0.7**
2.8nm,0.3s,SNR=7.9
EMIR Miracle 1.68 14 Pn **Pn 16 14 56.8 +1.0**
EMIR Pg **Pg 16 14 59.1 +1.2**
EMIR Sn **Sn 16 15 18.1 +0.4**
EMIR Miracle 1.68 14 Pn **Pn 16 14 56.8 +1.0**
0.8nm,0.1s,SNR=7.9
EMIR Pg **Pg 16 14 59.1 +1.2**
2.5nm,0.1s,SNR=9.3
EMIR Sn **Sn 16 15 18.1 +0.4**
9.9nm,0.3s,SNR=5.0
EMIR Miracle 1.68 14 Pn **Pn 16 14 56.8 +1.0**
0.8nm,0.1s,SNR=7.9
EMIR Miracle 1.68 14 Pg **Pg 16 14 59.1 +1.2**
2.5nm,0.1s,SNR=9.3
EMIR Sn **Sn 16 15 18.1 +0.3**
9.9nm,0.3s,SNR=5.0
ESAC San Caprasio 1.80 323 Pg **Pg 16 14 59.8 -0.3**
16nm,0.3s,SNR=7.4
ESAC Lg 16 15 23.3
51nm,0.2s,SNR=5.0
ESAC San Caprasio 1.80 323 Pg **Pg 16 14 59.8 -0.3**
16nm,0.3s,SNR=7.4
EBEN Beniarda 1.83 211 Pn **Pn 16 14 58.5 +0.7**
0.7nm,0.2s,SNR=7.9
EBEN Sn **Sn 16 15 20.6 -0.7**
5.9nm,0.5s,SNR=7.9
EBEN Beniarda 1.83 211 Pn **Pn 16 14 58.5 +0.7**
0.7nm,0.2s,SNR=7.9
EBEN Sn **Sn 16 15 20.6 -0.7**
5.9nm,0.5s,SNR=7.9
CORI Orista 1.88 26 P **Pn 16 14 59.5 +1.1**
CORI S **Sn 16 15 21.8 -0.7**
4.9nm,0.2s
CTRE Tremp 2.04 356 P **Pn 16 15 01.7 +1.0**
ETOR Torete 2.36 284 Pg **Pg 16 15 10.8 0.0**
7.7nm,0.2s,SNR=12
ETOR Lg 16 15 40.7
18nm,0.3s,SNR=7.9
EBIE Bielsa 2.48 346 Pg **Pg 16 15 12.9 -0.2**
EBIE Lg 16 15 44.4
EBIE Bielsa 2.48 346 Pg **Pg 16 15 12.9 -0.2**
0.5nm,0.2s,SNR=7.9
EBIE Lg 16 15 45.6
1.8nm,0.3s,SNR=7.9
EBIE Bielsa 2.48 346 Pg **Pg 16 15 12.9 -0.2**
ETOB Tobarra 2.54 231 Pn **Pn 16 15 09.9 +2.4**
ETOB Pg **Pg 16 15 12.6 -1.7**
ETOB Tobarra 2.54 231 Pn **Pn 16 15 09.9 +2.3**
ETOB Tobarra 2.54 231 Pg **Pg 16 15 12.6 -1.7**
EPF Esparros 2.78 351 *e*Pg **Pg 16 15 18.7 -0.3**
EPF *e*Sg **Sg 16 15 54.5 -0.5**
5.2nm,0.2s
EPF Esparros 2.78 351 *e*Pn **Pn 16 15 10.5 -0.4**
EPF *e*Pg **Pg 16 15 18.7 -0.3**
EPF *e*Sg **Sg 16 15 54.5 -0.5**
EPF Esparros 2.78 351 Pn **Pn 16 15 10.5 -0.4**
EPF Pg **Pg 16 15 18.7 -0.3**
EPF Lg 16 15 54.5
2.6nm,0.2s
EPF Esparros 2.78 351 *e*Pg **Pg 16 15 18.7 -0.3**
EPF *e*Sg **Sg 16 15 54.5 -0.5**
2.6nm,0.2s
ETSF Etsaut 2.85 337 *e*Pg **Pg 16 15 19.7 -0.5**
ETSF *e*Sn **Sn 16 15 43.9 -2.6**
ETSF *e*Sg **Sg 16 15 56.2 -1.0**
8.2nm,0.4s
ETSF Etsaut 2.85 337 *e*Pn **Pn 16 15 10.3 -1.5**
ETSF *e*Pg **Pg 16 15 19.7 -0.5**
ETSF *e*Sn **Sn 16 15 43.9 -2.6**
ETSF *e*Sg **Sg 16 15 56.2 -1.0**
ETSF Etsaut 2.85 337 Pn **Pn 16 15 10.3 -1.5**
ETSF Pg **Pg 16 15 19.7 -0.5**
ETSF Sn **Sn 16 15 43.9 -2.6**
ETSF Lg 16 15 56.2
4.1nm,0.4s
ETSF Etsaut 2.85 337 *e*Pn **Pn 16 15 10.3 -1.5**
ETSF Etsaut 2.85 337 *e*Pg **Pg 16 15 19.7 -0.5**
ETSF *e*Sn **Sn 16 15 43.9 -2.6**
ETSF *e*Sg **Sg 16 15 56.2 -1.0**
4.1nm,0.4s
MTLF Montolieu 3.19 17 *e*Pg **Pg 16 15 26.8 0.0**
MTLF *e*Sg **Sg 16 16 08.4 +0.2**
3.4nm,0.4s
MTLF Montolieu 3.19 17 *e*Pn **Pn 16 15 15.9 -0.7**
MTLF *e*Pg **Pg 16 15 26.8 0.0**
MTLF *e*Sg **Sg 16 16 08.4 +0.2**
MTLF Montolieu 3.19 17 *e*Pg **Pg 16 15 26.8 0.0**
MTLF *e*Sg **Sg 16 16 08.4 +0.2**
1.7nm,0.4s
SJPF Ste Jean 3.27 331 *e*Pg **Pg 16 15 27.5 -0.7**
SJPF *e*Sg **Sg 16 16 09.6 -0.9**
5.5nm,0.3s
SJPF Ste Jean 3.27 331 *e*Pn **Pn 16 15 17.0 -0.5**
SJPF *e*Pg **Pg 16 15 27.5 -0.7**
SJPF *e*Sg **Sg 16 16 09.6 -0.9**
SJPF Ste Jean 3.27 331 Pn **Pn 16 15 17.0 -0.5**
SJPF Pg **Pg 16 15 27.5 -0.7**
SJPF Lg 16 16 09.6
2.8nm,0.3s
SJPF Ste Jean 3.27 331 *e*Pg **Pg 16 15 27.5 -0.7**
SJPF *e*Sg **Sg 16 16 09.6 -0.9**
2.8nm,0.3s
LASF Ste Croix 4.36 29 *e*Pn **Pn 16 15 32.5 0.0**
SMRF Simiane la Rot 5.04 41 *e*Pn **Pn 16 15 41.2 -0.7**
LMR La Mourre 5.14 52 *e*Pn **Pn 16 15 43.1 -0.2**
PGF Pioggiola 6.45 67 *e*Pn **Pn 16 16 01.4 +0.1**

MAN 03 16:46:50, 1531N×12055E, h23km, mb4.7, ML3.6, MS3.6, 3C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.58**	**64**	⇓*i*P	Pb	16 46 59.4	-2.2
PCPH				*i* S	Sb	16 47 06.4	-3.1
SCZP	**Santa Cruz**	**0.77**	**307**	*e*P	Pb	16 47 04.9	+0.1
SCZP				*e*S	Sb	16 47 15.9	+1.0
QVPH	**Quezon City--P**	**0.81**	**143**	⇑*i*P	Pb	16 47 05.8	+0.4
QVPH				*e*S	Sb	16 47 17.3	+1.3
BCPH	**Baguio City Da**	**1.07**	**2**	⇑*i*P	Pn	16 47 07.0	-2.7
BCPH				*i* S	Sb	16 47 21.1	-2.4
BALP	**Baler**	**1.08**	**66**	*e*P	Pn	16 47 07.1	-2.6
BALP				*e*S	Sb	16 47 21.3	-2.4
BOLP	**Bolinao**	**1.23**	**330**	*e*P	Pn	16 47 11.0	-0.9
BOLP				*e*S	Sn	16 47 29.1	+1.3
TGY	**Tagaytay City**	**1.25**	**163**	⇑*i*P	Pn	16 47 14.2	+2.0
POLP	**Polillo Island**	**1.46**	**113**	*e*P	Pn	16 47 15.3	+0.3
POLP				*e*S	Sn	16 47 32.9	-0.5
LUBP	**Lubang**	**1.59**	**191**	*e*P	Pn	16 47 17.2	+0.5
CAUP	**Cauayan**	**2.04**	**37**	*e*P	Pn	16 47 23.1	+0.2
CAUP				*e*S	Sn	16 47 49.9	+2.3
ABRA	**Dolores**	**2.34**	**4**	*e*P	Pn	16 47 25.1	-1.9
PALP	**Palanan**	**2.51**	**46**	⇓*e*P	Pn	16 47 30.5	+1.1
PALP				*e*S	Sn	16 48 02.7	+3.4
PALP	**Palanan**	**2.51**	**46**	*e*P	Pn	16 47 30.5	+1.1
PALP				*e*S	Sn	16 48 04.2	+4.9
APYP	**Conner**	**2.63**	**15**	*e*P	Pn	16 47 31.6	+0.5
APYP				*e*S	Sn	16 48 04.9	+2.7
PVCP	**Virac**	**3.88**	**115**	*e*P	Pn	16 47 49.4	+1.1
PVCP				*e*S	Sn	16 48 36.4	+3.2

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*ISCJB **03** 16:56:54.7±0.4, 4175N±002×2289E±004, h5km±7km, Error ellipse: s-maj=5.3km s-min=2.9km az=156.9*
*THE **03** 16:56:55.8, 4175N×2291E, h1km, ML2.9*
*CSEM **03** 16:56:55.4±0.2, 4178N×2286E, h8km, ML2.0, Error ellipse: s-maj=3.7km s-min=2.8km az=29.0*
*SKO **03** 16:56:55.4, 4174N×2289E, h15km, M1.7, ML2.0*
*BEO **03** 16:56:56.1±0.5, 4171N×2290E, h8km±4km, ML2.2/6*
ISC 03 16:56:55.9±0.4, 4173N±002×2290E±004, h11km±6km, n23, σ0.94/41, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAY	**Valandovo**	**0.48**	**211**	*e*Pg	**Pg**	**16 57 05.6**	**+0.3**
VAY				*e*Sg	**Sg**	**16 57 12.6**	**+1.0**
VAY	**Valandovo**	**0.48**	**211**	*e*Pg	**Pg**	**16 57 05.2**	**0.0**
VAY				*e*Sg	**Sg**	**16 57 11.2**	**-0.4**
VAY	**Valandovo**	**0.48**	**211**	*e*Pg	**Pg**	**16 57 05.5**	**+0.3**
VAY				*e*Sg	**Sg**	**16 57 11.4**	**-0.2**
VAY				*e*Lg		16 57 11.6	
	comp=N,76nm,0.3s						
VAY				*e*Lg		16 57 11.8	
	comp=E,67nm,0.2s						
VAY	**Valandovo**	**0.48**	**211**	*e*Pg	**Pg**	**16 57 05.5**	**+0.3**
VAY				*e*Sg	**Sg**	**16 57 12.6**	**+1.0**
STIP	**Stip**	**0.53**	**266**	*e*Pg	**Pg**	**16 57 06.1**	**-0.2**
STIP				*e*Sg	**Sg**	**16 57 13.4**	**+0.1**
STIP	**Stip**	**0.53**	**266**	*e*Pg	**Pg**	**16 57 06.0**	**-0.2**
STIP				*e*Sg	**Sg**	**16 57 13.3**	**0.0**
STIP				*e*Lg		16 57 13.5	
	comp=E,70nm,0.4s						
STIP				*e*Lg		16 57 13.5	
	comp=N,50nm,0.4s						
STIP	**Stip**	**0.53**	**266**	*e*Pg	**Pg**	**16 57 05.9**	**-0.4**
STIP				*e*Sg	**Sg**	**16 57 13.8**	**+0.5**
KNT	**Kendrikon**	**0.57**	**180**	*e*Pg	**Pg**	**16 57 06.8**	**-0.2**
SRS	**Serrai**	**0.81**	**139**	*e*Pg	**Pg**	**16 57 10.9**	**-0.5**
SRS				*e*Sg	**Sg**	**16 57 23.0**	**+1.0**
SRS	**Serrai**	**0.81**	**139**	*e*Pg	**Pg**	**16 57 10.9**	**-0.6**
SRS				*e*Sg	**Sg**	**16 57 23.0**	**+1.0**
VTS	**Vitosha**	**0.89**	**15**	*i* Pg	**Pg**	**16 57 12.5**	**-0.5**
VTS				*e*Sg	**Sg**	**16 57 24.5**	**-0.1**
SOH	**Sokhos**	**0.97**	**159**	*e*Pg	**Pg**	**16 57 14.2**	**-0.4**
SOH				*e*Sg	**Sg**	**16 57 27.5**	**+0.2**
THE	**Thessaloniki**	**1.10**	**177**	*e*Pg	**Pg**	**16 57 16.7**	**-0.4**
THE				*e*Sg	**Sg**	**16 57 32.9**	**+1.5**
HORT	**Hortiatis**	**1.15**	**172**	*e*Pg	**Pg**	**16 57 17.4**	**-0.4**
HORT				*e*Sg	**Sg**	**16 57 34.0**	**+1.2**
KRUS	**Krusevo**	**1.29**	**254**	*e*Pn	**Pn**	**16 57 20.7**	**+0.8**
KRUS				*e*Sg	**Sg**	**16 57 36.4**	**-1.0**
BARS	**Barje**	**1.35**	**324**	*i* Pg	**Pg**	**16 57 20.8**	**-1.0**
BARS				*e*Sg	**Sg**	**16 57 38.6**	**-0.7**
PLG	**Polygyros**	**1.42**	**163**	*e*Pg	**Pg**	**16 57 22.5**	**-0.6**
OUR	**Ouranopolis**	**1.62**	**149**	*e*Pb	**Pb**	**16 57 24.5**	**-1.4**
PAIG	**Paliouri**	**1.90**	**162**	*e*Pb	**Pb**	**16 57 28.5**	**-2.0**
BOLS	**Boljevac**	**2.21**	**342**	*e*Pn	**Pn**	**16 57 34.6**	**+2.1**
BOLS				*e*Sg	**Sg**	**16 58 08.5**	**+1.7**
ALN	**Alexandroupoli**	**2.52**	**108**	*e*Pn	**Pn**	**16 57 37.2**	**+0.4**
GRUS	**Gruza**	**2.69**	**324**	*e*Pn	**Pn**	**16 57 38.6**	**-0.5**
GRUS				*e*Sg	**Sg**	**16 58 21.4**	**-0.8**
DIVS	**Divibare**	**3.18**	**319**	*e*Pn	**Pn**	**16 57 45.8**	**-0.1**
DIVS				*e*Sg	**Sg**	**16 58 39.6**	**+1.5**

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*NEIC **03** 17:05:29.6±1.1, 1994S×16839E, h10km, mb4.5/9, Error ellipse: s-maj=28.0km s-min=20.8km az=123.0*
*ISCJB **03** 17:05:34.1±1.0, 2001S±009×1680E±02, h44km, mb4.2/12, MS3.4/2, Error ellipse: s-maj=25.6km s-min=9.5km az=21.7*
*IDC **03** 17:05:35.6±1.5, 1993S×168.13E, h43km±6km, mb3.8/7, mb1 4.0/7, mb1mx3.9/11, mbtmp3.8/7, MS3.3/3, Ms1 3.3/3, ms1mx3.1/22, Error ellipse: s-maj=40.5km s-min=20.3km az=119.0*
ISC 03 17:05:36.1±1.0, 2006S±009×1680E±02, h46km, h46km±1.5km: pP-P, n25, σ0.95/24, mb4.2/12, MS3.4/2, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.50**	**216**	*e*P	**Pn**	**17 06 12.5**	**-1.7**
DZM				*e*S	**Sn**	**17 06 43.0**	**-0.4**
HNR	**Honiara**	**13.14**	**322**	LR	LR	17 12 56.9	
	comp=Z,46nm,18.2s,baz=360,slow=34						
CTA	**Charters Tower**	**20.46**	**266**	*e*P	**P**	**17 10 15.7**	**+5.6**
	7.4nm,1.0s						
CTA	**Charters Tower**	**20.46**	**266**	P	**P**	**17 10 16.0**	**+5.9**
	8.8nm,0.9s,baz=86,slow=13,SNR=8.2						
CTA				LR	LR	17 17 11.3	
	comp=Z,115nm,21.7s,MS3.2,baz=74,slow=34						
CTAO	**Charters Tower**	**20.46**	**266**	*e*P	**P**	**17 10 15.5**	**+5.5**
	6.8nm,0.8s						
CMSA	**Cobar Meteorol**	**23.09**	**236**	*e*P	**P**	**17 10 39.5**	**+1.5**
	15nm,1.2s,mb4.3						
STKA	**Stephens Creek**	**26.45**	**238**	*e*P	**P**	**17 11 10.5**	**+1.6**
	5.4nm,1.2s,mb4.0						
STKA	**Stephens Creek**	**26.45**	**238**	*e*P	**P**	**17 11 09.7**	**+0.8**
	14nm,1.2s,mb4.4						
STKA	**Stephens Creek**	**26.45**	**238**	P	**P**	**17 11 10.0**	**+1.1**
	4.9nm,0.9s,mb4.0,baz=83,slow=12,SNR=3.6						
STKA				pP	pP	17 11 22.2	+1.4
	2.9nm,0.7s,baz=327,slow=19,SNR=2.3						
STKA				LR	LR	17 21 08.9	
	comp=Z,153nm,18.8s,MS3.6,baz=26,slow=35						
WRAB	**Tennant Creek**	**31.63**	**264**	P	**P**	**17 11 54.4**	**-0.6**
WRA	**Warramunga Arr**	**31.64**	**264**	P	**P**	**17 11 54.9**	**-0.3**
	1.1nm,0.9s,mb3.7,baz=89,slow=8.4,SNR=11						
WRA				pP	pP	17 12 08.2	+1.0
	1.1nm,0.9s,baz=89,slow=8.4,SNR=3.8						
WRA				PcP	PcP	17 14 46.6	0.0
	0.8nm,0.9s,baz=91,slow=3.3,SNR=3.9						
WRA				pPcP		17 14 58.6	
	1.4nm,0.8s,baz=95,slow=2.5,SNR=8.9						
ASAR	**Alice Springs**	**31.84**	**257**	P	**P**	**17 11 57.2**	**+0.4**
	4.6nm,0.8s,mb4.4,baz=86,slow=8.7,SNR=49						
ASAR				pP	pP	17 12 09.2	+0.2
	4.6nm,0.6s,baz=83,slow=8.4,SNR=12						
ASAR				PcP	PcP	17 14 45.6	-1.4
	0.6nm,1.0s,baz=104,slow=3.9,SNR=3.0						
ASAR				pPcP		17 14 58.8	
	1.3nm,1.0s,baz=107,slow=3.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**40.04**	**265**	*e*P	**P**	**17 13 07.6**	**+0.5**
	12nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.04**	**265**	*e*P	**P**	**17 13 07.2**	**+0.1**
	26nm,1.1s,mb4.9						
MBWA	**Marble Bar**	**45.09**	**260**	*e*P	**P**	**17 13 48.2**	**+0.1**
	10.0nm,0.9s,mb4.7						
KSM	**Kuching**	**60.46**	**284**	*e*P	**P**	**17 15 41.8**	**0.0**
MJAR	**Matsushiro Arr**	**62.96**	**333**	P	**P**	**17 15 57.1**	**-0.9**
	0.7nm,0.7s,mb3.9,baz=156,slow=6.1,SNR=3.4						
MJAR				pP	pP	17 16 09.1	-1.9
	2.9nm,1.0s,baz=161,slow=7.8,SNR=5.7						
KSRS	**Korea Array**	**68.55**	**327**	P	**P**	**17 16 35.3**	**+1.3**
	0.4nm,0.7s,mb3.5,baz=99,slow=5.7,SNR=3.4						
KSRS				pP	pP	17 16 47.5	+0.3
	1.5nm,0.9s,baz=146,slow=7.6,SNR=4.5						
QSPA	**South Pole Qui**	**70.00**	**180**	*e*P	**P**	**17 16 42.2**	**-0.3**
	7.7nm,1.3s,mb4.5						
MDJ	**Mudanjiang**	**73.31**	**332**	P	**P**	**17 17 01.7**	**-1.1**
MDJ				*e*	pP	17 17 15.0	-1.1
MAW	**Mawson**	**77.25**	**202**	*e*P	**P**	**17 17 26.1**	**+0.9**
	16nm,1.2s,mb4.8						
MAW	**Mawson**	**77.25**	**202**	P	**P**	**17 17 26.9**	**+1.7**
	3.5nm,0.8s,mb4.4,baz=279,slow=5.3,SNR=3.8						
ULN	**Ulaanbaatar**	**86.85**	**324**	P	**P**	**17 18 16.4**	**+0.7**
	2.1nm,0.9s,mb4.4						
ULN				*e*	pP	17 18 28.1	-1.2
SONM	**Songino Array**	**87.20**	**324**	P	**P**	**17 18 15.9**	**-1.5**
	0.5nm,1.0s,mb3.7,baz=131,slow=4.4,SNR=4.0						
SONM				pP	pP	17 18 28.8	-2.1
	1.2nm,0.8s,baz=136,slow=4.2,SNR=6.7						
GERES	**GERESS Array B**	**144.66**	**330**	PKP	PKPdf	17 25 06.5	-1.2
	0.1nm,0.3s,baz=72,slow=5.7,SNR=3.5						
GERES				pPKP	pPKPdf	17 25 19.9	-1.8
	1.5nm,0.8s,baz=66,slow=1.6,SNR=7.5						

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*ISCJB **03** 17:08:33.3±4.0, 2076N±009×1450E±02, h123km±36km, mb4.1/15, Error ellipse: s-maj=33.8km s-min=14.1km az=175.0*
*NEIC **03** 17:08:33.9±3.5, 2078N×1448E, h110km±31km, mb4.3/3, Error ellipse: s-maj=24.3km s-min=10.8km az=86.0*
*IDC **03** 17:08:33.9±6.4, 2080N×1448E, h107km±58km, mb3.7/11, mb1 3.8/12, mb1mx3.7/21, mbtmp3.6/12, Error ellipse: s-maj=28.9km s-min=13.4km az=85.0*
ISC 03 17:08:34.5±4.0, 2078N±009×1450E±02, h118km±36km, n17, σ0.87/16, mb4.1/15, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**16.78**	**341**	P	**Pn**	**17 12 21.8**	**-0.6**
	0.1nm,0.3s,baz=166,slow=11,SNR=2.9						
KSRS	**Korea Array**	**22.24**	**322**	P	**P**	**17 13 22.5**	**+0.8**
	1.5nm,0.5s,mb3.6,baz=144,slow=8.9,SNR=12						
SONM	**Songino Array**	**41.10**	**320**	P	**P**	**17 16 06.4**	**-0.2**
	0.4nm,0.4s,mb3.6,baz=122,slow=8.0,SNR=9.3						
WRAB	**Tennant Creek**	**41.77**	**195**	*e*P	**P**	**17 16 11.5**	**-0.8**
	6.6nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**41.78**	**195**	P	**P**	**17 16 13.3**	**+0.9**
	1.5nm,0.6s,mb3.9,baz=18,slow=8.8,SNR=24						
ASAR	**Alice Springs**	**45.47**	**194**	P	**P**	**17 16 43.0**	**+1.0**
	0.7nm,0.4s,mb3.7,baz=13,slow=7.2,SNR=26						
STKA	**Stephens Creek**	**52.45**	**184**	P	**P**	**17 17 33.9**	**-1.2**
	2.4nm,0.9s,mb4.2,baz=326,slow=10,SNR=4.3						
ZALV	**Zalesovo Beam**	**55.95**	**322**	P	**P**	**17 17 59.8**	**-0.5**
	0.9nm,0.3s,mb4.2,baz=102,slow=7.7,SNR=5.0						
MKAR	**Makanchi Array**	**56.53**	**313**	P	**P**	**17 18 05.2**	**+0.6**
	0.8nm,0.4s,mb4.1,baz=88,slow=8.6,SNR=14						
KDAK	**Kodiak Island**	**58.03**	**34**	P	**P**	**17 18 15.0**	**+0.1**
	2.3nm,0.7s,mb4.3,baz=76,slow=8.3,SNR=3.7						
TKM2	**Tokmak 2**	**61.21**	**308**	P	**P**	**17 18 37.8**	**+0.8**
	1.1nm,0.4s,mb4.2						
BRVK	**Borovoye**	**64.50**	**320**	*e*P	**P**	**17 18 58.5**	**0.0**
	2.5nm,0.7s,mb4.2						
YKA	**Yellowknife Ar**	**76.49**	**28**	P	**P**	**17 20 12.3**	**+1.1**
	0.8nm,0.7s,mb3.6,baz=291,slow=5.5,SNR=9.9						
ARCES	**ARCESS Array B**	**80.31**	**342**	P	**P**	**17 20 32.9**	**+0.8**
	2.2nm,0.5s,mb4.3,baz=74,slow=8.4,SNR=27						
JOF	**Joensuu**	**81.85**	**335**	*e*p	**P**	**17 20 38.5**	**-1.9**
	2.4nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**84.71**	**335**	P	**P**	**17 20 54.1**	**-1.0**
	1.5nm,0.4s,mb4.2,baz=71,slow=5.1,SNR=20						
LPAZ	**La Paz**	**148.35**	**87**	PKPbc	PKPbc	17 28 10.1	+2.2
	0.8nm,0.6s,baz=238,slow=6.2,SNR=4.2						

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*ISCJB **03** 17:15:13.7±0.9, 5296N±006×16008E±008, h45km±9km, Error ellipse: s-maj=11.2km s-min=5.6km az=140.3*
*KRSC **03** 17:15:14.3±0.1, 5300N×16000E, h40km±14km, ML4.0*
ISC 03 17:15:14.5±0.9, 5295N±006×16005E±008, h39km±9km, n12, σ0.75/22, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.15**	**354**	*i* P	**Pn**	**17 15 21.5**	**+0.2**
SPN				*i* S	**Sn**	**17 15 26.2**	**+0.2**
NLC	**Nalytchevo**	**0.48**	**298**	*i* P	**Pn**	**17 15 24.5**	**-0.4**
NLC				*i* S	**Sn**	**17 15 31.9**	**-0.3**
PET	**Petropavlovsk**	**0.85**	**276**	*i* P	**Pn**	**17 15 29.3**	**-0.6**
PET				*i* S	**Sn**	**17 15 40.0**	**-1.1**
AVH	**Avacha**	**0.85**	**292**	*i* P	**Pn**	**17 15 29.9**	**0.0**
AVH				*i* S	**Sn**	**17 15 42.0**	**+0.8**
RUS	**Russkaya**	**1.07**	**242**	*i* P	**Pn**	**17 15 32.6**	**-0.3**
RUS				*i* S	**Sn**	**17 15 45.9**	**-0.6**
KII	**Karymskiy**	**1.15**	**342**	*e*P	**Pn**	**17 15 33.6**	**-0.4**
KII				*i* S	**Sn**	**17 15 47.7**	**-0.8**
GRL	**Gorelyy**	**1.26**	**252**	*i* P	**Pn**	**17 15 36.1**	**+0.5**
GNL	**Ganaly**	**1.47**	**301**	*e*P	**Pn**	**17 15 38.7**	**+0.3**
GNL				*i* S	**Sn**	**17 15 57.0**	**+0.6**
MKZ	**Mys Kozlova**	**1.90**	**31**	*e*P	**Pn**	**17 15 43.8**	**-0.5**
MKZ				*i* S	**Sn**	**17 16 04.6**	**-2.3**
MIPR	**Malaya Ipel'ka**	**2.12**	**253**	*e*P	**Pn**	**17 15 48.5**	**+1.2**
TUMR	**Tumrok**	**2.34**	**1**	*i* P	**Pn**	**17 15 51.1**	**+0.7**
TUMR				*i* S	**Sn**	**17 16 18.3**	**+0.5**
KBTR	**Krutoberegovo**	**3.64**	**25**	*e*P	**Pn**	**17 16 09.1**	**+0.8**
KBTR				*i* S	**Sn**	**17 16 50.7**	**+0.8**

IDC 03 17:15:36.9±51.0, 1670S×17911W, h0km, mb4.1/3, mb1 4.3/3, mb1mx3.7/13, mbtmp4.1/3, Error ellipse: s-maj=936.3km s-min=151.7km az=77.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.64**	**240**	P	P	17 23 02.2	0.0
	1.0nm,0.4s,baz=76,slow=9.8,SNR=5.4						
WRA	**Warramunga Arr**	**44.20**	**258**	P	P	17 23 48.1	0.0
	0.6nm,0.4s,baz=93,slow=7.8,SNR=23						
ASAR	**Alice Springs**	**44.48**	**253**	P	P	17 23 50.0	-0.2
	5.2nm,0.6s,baz=88,slow=8.2,SNR=187						

FUNV 03 17:21:10.1, 656N×7334W, h156km, MW3.7, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.65**	**38**	⇑*i*P	Pn	17 21 41.9	+0.2
CAPV				*e*S	Sn	17 22 03.5	-2.5
VIGV	**El Vigia**	**3.00**	**41**	*e*P	Pn	17 21 56.5	-1.1
VIGV				*e*S	Sn	17 22 31.6	-2.9
SOCV	**Socops**	**3.00**	**55**	⇓*e*P	Pn	17 21 56.9	-0.9
SOCV				*e*S	Sn	17 22 30.6	-4.0
ELOV	**Elorza**	**3.85**	**83**	*e*P	Pn	17 22 07.7	-0.9
VIRV	**Villa del Rosa**	**4.03**	**13**	*e*P	Pn	17 22 08.8	-2.1
VIRV				*e*S	Sn	17 22 53.6	-4.6
QARV	**Quebrada Arrib**	**4.57**	**37**	*e*P	Pn	17 22 16.3	-1.7
QARV				*e*S	Sn	17 23 05.2	-5.7
SANV	**Sanarito**	**4.77**	**52**	*e*P	Pn	17 22 19.2	-1.4
CURV	**Curarigua**	**4.79**	**44**	*e*P	Pn	17 22 19.1	-1.8
CURV				*e*S	Sn	17 23 10.9	-5.3
DABV	**Dabajuro**	**5.09**	**31**	*e*P	Pn	17 22 23.3	-1.6
TEPV	**Terepaima**	**5.32**	**50**	*e*P	Pn	17 22 25.9	-2.0
BAUV	**El Baul**	**5.76**	**65**	*e*P	Pn	17 22 31.0	-2.7
CAOV	**Caicara del Or**	**7.01**	**83**	*e*P

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.70**	**176**	*e*P	**Pn**	**17 26 05.9**	**+2.4**
RAO	**Raoul Island**	**1.70**	**176**	P	**Pn**	**17 26 06.1**	**+2.6**
	8μm,0.3s,baz=272,slow=2.3,SNR=282						
RAO				S	**S**	**17 26 36.1**	**+3.4**
	4μm,0.3s,baz=95,slow=21,SNR=10						
RAO				LR	LR	17 26 53.8	
	comp=Z,5μm,19.6s,baz=31,slow=41						
URZ	**Urewera**	**11.43**	**200**	P	**Pn**	**17 28 05.1**	**+1.6**
	3.4nm,0.3s,baz=25,slow=3.6,SNR=27						
URZ				S	**S**	**17 30 10.3**	**-0.8**
	78nm,0.3s,baz=158,slow=20,SNR=11						
KNZ	**Kokohu**	**11.98**	**196**	SN	**S**	**17 30 20.7**	**-3.5**
KIW	**Kapiti Island**	**14.49**	**202**	P	**Pn**	**17 28 38.4**	**-3.2**
KIW				S	**S**	**17 31 13.5**	**-8.8**
KIW	**Kapiti Island**	**14.49**	**202**	*e*PN	**Pn**	**17 28 36.4**	**-5.2**
KIW				SN	**S**	**17 31 13.2**	**-9.1**
MTW	**Mount Morrison**	**14.57**	**200**	P	**Pn**	**17 28 39.8**	**-2.8**
MTW				S	**S**	**17 31 15.0**	**-9.2**
MTW	**Mount Morrison**	**14.57**	**200**	PN	**Pn**	**17 28 38.1**	**-4.5**
MTW				SN	**S**	**17 31 14.9**	**-9.3**
CAW	**Cannon Point**	**14.66**	**201**	P	**Pn**	**17 28 38.6**	**-5.1**
CAW	**Cannon Point**	**14.66**	**201**	PN	**Pn**	**17 28 38.3**	**-5.3**
CAW				SN	**S**	**17 31 18.3**	**-7.9**
TRWZ	**Traveller**	**14.74**	**199**	SN	**S**	**17 31 20.9**	**-7.1**
AFI	**Afiamalu**	**14.78**	**25**	*e*Pn	**Pn**	**17 28 33.8**	**-12**
AFI				*e*S	S	17 30 57.5	-32
MRW	**Makara Radio**	**14.89**	**202**	P	**Pn**	**17 28 44.7**	**-1.7**
MRW				S	**S**	**17 31 22.7**	**-8.7**
MRW	**Makara Radio**	**14.89**	**202**	PN	**Pn**	**17 28 44.2**	**-2.2**
MRW				SN	**S**	**17 31 22.9**	**-8.4**
TCW	**Tory Channel**	**15.02**	**203**	P	**Pn**	**17 28 45.1**	**-2.9**
TCW	**Tory Channel**	**15.02**	**203**	PN	**Pn**	**17 28 44.8**	**-3.2**
TUWZ	**Tuamarina**	**15.33**	**203**	PN	**Pn**	**17 28 46.2**	**-5.5**
NNZ	**Nelson**	**15.35**	**205**	*e*P	**Pn**	**17 28 50.2**	**-1.8**
NNZ	**Nelson**	**15.35**	**205**	PN	**Pn**	**17 28 49.2**	**-2.8**
QRZ	**Quartz Range**	**15.35**	**208**	*e*P	**Pn**	**17 28 50.3**	**-1.7**
QRZ	**Quartz Range**	**15.35**	**208**	PN	**Pn**	**17 28 49.7**	**-2.3**
THZ	**Tophouse**	**16.00**	**205**	*e*P	**Pn**	**17 28 56.0**	**-3.8**
THZ	**Tophouse**	**16.00**	**205**	PN	**Pn**	**17 28 55.7**	**-4.1**
KHZ	**Kahutara**	**16.34**	**203**	P	**P**	**17 29 01.6**	**-1.2**
KHZ	**Kahutara**	**16.34**	**203**	*e*PN	**Pn**	**17 29 01.2**	**-2.6**
DSZ	**Denniston Nort**	**16.42**	**208**	*e*P	**P**	**17 29 02.4**	**-1.3**
DSZ	**Denniston Nort**	**16.42**	**208**	PN	**Pn**	**17 29 01.2**	**-3.6**
DSZ				SN	**S**	**17 31 58.2**	**-6.0**
LTZ	**Lake Taylor**	**17.11**	**205**	*e*P	**P**	**17 29 09.3**	**-2.0**
LTZ	**Lake Taylor**	**17.11**	**205**	PN	**Pn**	**17 29 10.0**	**-3.0**
RAR	**Rarotonga**	**17.81**	**73**	P	**P**	**17 29 18.5**	**-0.6**
	7.0nm,0.3s,baz=244,slow=8.7,SNR=13						
RPZ	**Rata Peaks**	**18.37**	**206**	P	**P**	**17 29 25.1**	**+0.2**
	3.0nm,0.3s,baz=93,slow=6.4,SNR=18						
RPZ				S	**S**	**17 32 38.6**	**-4.5**
	9.7nm,0.3s,baz=78,slow=7.0,SNR=15						
FOZ	**Fox Glacier**	**18.80**	**209**	*e*P	**P**	**17 29 28.7**	**-0.9**
FOZ	**Fox Glacier**	**18.80**	**209**	PN	**P**	**17 29 28.6**	**-1.0**
JCZ	**Jackson Bay**	**19.61**	**209**	*e*P	**P**	**17 29 39.0**	**+0.7**
JCZ	**Jackson Bay**	**19.61**	**209**	*e*PN	**P**	**17 29 38.6**	**+0.4**
TUZ	**Tuapeka**	**20.81**	**205**	*e*P	**P**	**17 29 55.5**	**+4.6**
TUZ	**Tuapeka**	**20.81**	**205**	PN	**P**	**17 29 55.4**	**+4.5**
MLZ	**Mavora Lakes**	**20.88**	**208**	*e*P	**P**	**17 29 52.9**	**+1.2**
MLZ	**Mavora Lakes**	**20.88**	**208**	*e*PN	**P**	**17 29 52.7**	**+1.0**
TBI	**Tubuai**	**26.14**	**87**	*e*LR	LR	17 36 57.8	
	922nm,29.2s						
HNR	**Honiara**	**27.47**	**307**	⇓*e*P	**P**	**17 30 50.0**	**-2.6**
HNR				pmax	pmax		
	comp=Z,118nm,0.6s,mb5.7						
HNR	**Honiara**	**27.47**	**307**	⇓*e*P	**P**	**17 30 50.0**	**-2.6**
	comp=Z,118nm,0.6s,mb5.7						
HNR	**Honiara**	**27.47**	**307**	P	**P**	**17 30 50.3**	**-2.4**
	comp=Z,81nm,0.5s,mb5.6,baz=245,slow=0.3,SNR=21						
EIDS	**Eidsvold**	**27.67**	**267**	*e*P	**P**	**17 30 55.5**	**+1.2**
	comp=Z,12nm,0.8s,mb4.6						
EIDS				*e*pP	pP	17 31 41.1	+3.1
PPT	**Papeete**	**28.06**	**75**	*e*LR	LR	17 37 41.2	
	comp=Z,893nm,23.5s						
PPT	**Papeete**	**28.06**	**75**	LR	LR	17 39 05.8	
	comp=Z,525nm,19.7s,baz=58,slow=29						
CTA	**Charters Tower**	**33.39**	**275**	*e*P	**P**	**17 31 44.9**	**+0.4**
	comp=Z,27nm,0.6s,mb5.0						
CTA				*e*PCP	PcP	17 34 22.2	+1.4
CTA				*e*S	**S**	**17 36 51.4**	**+2.1**
CTA	**Charters Tower**	**33.39**	**275**	*e*P	**P**	**17 31 44.9**	**+0.4**
CTA				*e*		17 34 22.2	
CTA				*e*S	**S**	**17 36 51.4**	**+2.1**
CTA				pmax	pmax		
	comp=Z,27nm,0.6s						
CTA	**Charters Tower**	**33.39**	**275**	P	**P**	**17 31 46.4**	**+1.8**
	comp=Z,29nm,0.5s,mb5.0,baz=103,slow=10,SNR=74						
CTAO	**Charters Tower**	**33.39**	**275**	*e*P	**P**	**17 31 46.1**	**+1.6**
CTAO				*e*		17 34 22.1	
CTAO				pmax	pmax		
	comp=Z,29nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**33.39**	**275**	*e*P	**P**	**17 31 46.1**	**+1.6**
	comp=Z,28nm,0.6s,mb5.0						
CTAO				*e*		17 31 58.3	
CTAO				*e*PP	PP	17 33 12.1	+7.3
CTAO				*e*PcP	PcP	17 34 22.1	+1.3
STKA	**Stephens Creek**	**35.16**	**253**	*e*P	**P**	**17 32 01.9**	**+2.3**
	comp=Z,4.9nm,0.6s,mb4.2						
STKA				*e*PCP	PcP	17 34 28.5	+2.7
STKA	**Stephens Creek**	**35.16**	**253**	*e*P	**P**	**17 32 01.0**	**+1.4**
STKA	**Stephens Creek**	**35.16**	**253**	P	**P**	**17 32 02.0**	**+2.4**
	comp=Z,6.5nm,0.6s,mb4.3,baz=98,slow=11,SNR=10						
STKA				PcP	PcP	17 34 28.0	+2.2
	comp=Z,23nm,0.7s,baz=79,slow=4.4,SNR=8.1						
TAOE	**Nuku Hiva Isla**	**40.31**	**70**	*e*LR	LR	17 43 50.0	
	comp=Z,14μm,24.0s						
ASAR	**Alice Springs**	**43.28**	**264**	P	**P**	**17 33 07.6**	**+0.8**
	comp=Z,5.2nm,0.4s,mb4.3,baz=97,slow=6.7,SNR=153						
ASAR				PcP	PcP	17 34 53.4	+1.7
	comp=Z,3.7nm,0.6s,baz=109,slow=5.5,SNR=4.1						
ASAR				S	**S**	**17 39 21.2**	**+3.7**
	comp=Z,3.0nm,0.7s,baz=98,slow=16,SNR=7.0						
WB2	**Warramunga Arr**	**43.99**	**269**	⇓*i*P	**P**	**17 33 12.9**	**+0.4**
WB2				*e*PCP	PcP	17 34 56.0	+1.8
WB2				*e*S	**S**	**17 39 26.3**	**-1.6**
WB2	**Warramunga Arr**	**43.99**	**269**	*e*P	**P**	**17 33 12.7**	**+0.1**
WRAB	**Tennant Creek**	**44.00**	**269**	P	**P**	**17 33 13.0**	**+0.4**
	comp=Z,183nm,0.6s,mb5.6,SNR=29						
WRAB	**Tennant Creek**	**44.00**	**269**	⇓*e*P	**P**	**17 33 12.4**	**-0.2**
WRAB				*e**PP	pP	17 34 03.5	+4.4
WRAB				*e*		17 34 55.4	
WRAB				*e*S	**S**	**17 39 29.0**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**44.00**	**269**	⇓*e*P	**P**	**17 33 12.3**	**-0.2**
	comp=Z,24nm,0.8s,mb4.6						
WRAB				*e*pP	pP	17 34 03.5	+4.4
WRAB				*e*PcP	PcP	17 34 55.4	+1.2
WRAB				*e*S	**S**	**17 39 29.0**	**+1.0**
WRA	**Warramunga Arr**	**44.01**	**269**	P	**P**	**17 33 13.0**	**+0.4**
	comp=Z,21nm,0.7s,mb4.6,baz=107,slow=7.6,SNR=148						
WRA				S	**S**	**17 39 27.1**	**-1.0**
	comp=Z,1.0nm,0.9s,baz=109,slow=20,SNR=12						
FORT	**Forrest**	**46.78**	**253**	*e*P	**P**	**17 33 34.3**	**0.0**
	comp=Z,42nm,0.6s,mb4.9						
KAKA	**Kakadu**	**48.45**	**277**	*e*P	**P**	**17 33 46.6**	**-0.6**
	comp=Z,25nm,0.5s,mb4.8						
KAKA	**Kakadu**	**48.45**	**277**	*e*P	**P**	**17 33 45.9**	**-1.3**
	comp=Z,66nm,0.6s,mb5.1						
SBA	**Scott Base**	**50.87**	**184**	⇓*e*P	**P**	**17 34 11.2**	**+6.6**
SBA				pmax	pmax		
	comp=Z,49nm,0.8s,mb5.0						
SBA	**Scott Base**	**50.87**	**184**	⇓*e*P	**P**	**17 34 11.2**	**+6.6**
	comp=Z,49nm,0.8s,mb5.0						
SBA				*e*pP	pP	17 34 56.2	+3.8
VNDA	**Vanda**	**50.92**	**186**	*e*P	**P**	**17 34 09.8**	**+4.8**
VNDA				pmax	pmax		
	comp=Z,9.0nm,0.5s						
VNDA	**Vanda**	**50.92**	**186**	*e*P	**P**	**17 34 09.8**	**+4.8**
	comp=Z,8.6nm,0.5s,mb4.4						
VNDA	**Vanda**	**50.92**	**186**	P	**P**	**17 34 10.5**	**+5.5**
	comp=Z,10nm,0.6s,mb4.5,baz=4.5,slow=7.3,SNR=5.9						
FITZ	**Fitzroy Crossi**	**52.36**	**268**	*e*P	**P**	**17 34 17.7**	**+1.2**
	comp=Z,9.7nm,0.6s,mb4.4						
KIP	**Kipapa**	**52.40**	**24**	*e*P	**P**	**17 34 14.7**	**-1.9**
KIP				pmax	pmax		
	comp=Z,215nm,1.2s,mb5.5						
KIP	**Kipapa**	**52.40**	**24**	*e*P	**P**	**17 34 14.7**	**-1.9**
	comp=Z,215nm,1.2s,mb5.5						
GUMO	**Guam**	**54.44**	**314**	P	**P**	**17 34 29.1**	**-2.5**
	comp=Z,56nm,0.6s,mb5.3,baz=131,slow=1.1,SNR=4.2						
KLBR	**Kellerberrin**	**55.26**	**249**	*e*P	**P**	**17 34 37.5**	**+0.2**
	comp=Z,14nm,0.7s,mb4.6						
MUN	**Mundaring**	**56.45**	**248**	*e*P	**P**	**17 34 46.5**	**+0.8**
MBWA	**Marble Bar**	**56.53**	**262**	*e*P	**P**	**17 34 47.3**	**+0.9**
	comp=Z,8.0nm,0.6s,mb4.5						
MBWA				*e*pP	pP	17 35 34.2	-1.0
CASY	**Casey**	**57.64**	**207**	*e*P	**P**	**17 34 55.1**	**+1.7**
QSPA	**South Pole Qui**	**62.55**	**180**	*e*P	**P**	**17 35 30.8**	**+4.2**
	comp=Z,50nm,0.6s,mb5.3						
QSPA	**South Pole Qui**	**62.55**	**180**	P	**P**	**17 35 31.6**	**+5.1**
	comp=Z,30nm,0.6s,mb5.1,baz=35,slow=1.6,SNR=377						
MYLDM	**Lahad Datu**	**69.25**	**288**	⇑P	**P**	**17 36 11.0**	**+0.7**
TSM	**Tawau**	**69.32**	**287**	⇓P	**P**	**17 36 11.3**	**+0.5**
SDKM	**Sandakan**	**70.60**	**287**	⇑P	**P**	**17 36 18.4**	**-0.1**
KKM	**Kota Kinabalu**	**71.64**	**287**	*e*P	**P**	**17 36 24.2**	**-0.6**
KKM	**Kota Kinabalu**	**71.64**	**287**	⇓P	**P**	**17 36 24.8**	**0.0**
BTM	**Bintulu**	**72.88**	**283**	⇑P	**P**	**17 36 32.9**	**+0.8**
SBUM	**Sibu**	**73.26**	**282**	⇓P	**P**	**17 36 35.3**	**+1.0**
KSM	**Kuching**	**74.45**	**280**	⇓*i*P	**P**	**17 36 41.4**	**+0.1**
KSM				*e*pP	pP	17 37 32.8	-0.1
KSM	**Kuching**	**74.45**	**280**	⇑P	**P**	**17 36 41.7**	**+0.5**
PMSA	**Palmer Station**	**74.89**	**156**	P	**P**	**17 36 45.8**	**+3.0**
	comp=Z,21nm,0.9s,mb4.8,baz=129,slow=6.5,SNR=3.2						
MAW	**Mawson**	**74.95**	**200**	*e*P	**P**	**17 36 46.6**	**+3.4**
	comp=Z,18nm,0.6s,mb4.9						
MAW	**Mawson**	**74.95**	**200**	*e*P	**P**	**17 36 46.6**	**+3.4**
MAW				pmax	pmax		
	comp=Z,19nm,0.6s						
MAW	**Mawson**	**74.95**	**200**	P	**P**	**17 36 46.8**	**+3.6**
	comp=Z,22nm,0.5s,mb5.0,baz=133,slow=6.9,SNR=67						
MJAR	**Matsushiro Arr**	**75.87**	**325**	P	**P**	**17 36 47.4**	**-1.4**
	comp=Z,71nm,0.8s,mb5.3,baz=160,slow=5.7,SNR=235						
MAJO	**Matsushiro**	**75.88**	**325**	*e*P	**P**	**17 36 47.2**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,107nm,0.8s,mb5.5						
MAJO	**Matsushiro**	**75.88**	**325**	*e*P	**P**	**17 36 47.2**	**-1.6**
	comp=Z,107nm,0.8s,mb5.5						
MAT	**Matsushiro**	**75.88**	**325**	P	**P**	**17 36 47.3**	**-1.5**
MAT				S	S	17 46 09.0	-3.9
NACB	**Ninganchiao**	**77.64**	**306**	⇓*e*P	**P**	**17 36 57.0**	**-1.9**
ERM	**Erimo**	**77.93**	**331**	P	**P**	**17 37 01.5**	**+1.4**
	comp=Z,338nm,1.8s,mb5.7,SNR=7.2						
ERM	**Erimo**	**77.93**	**331**	*i* P	**P**	**17 37 00.6**	**+0.5**
ERM	**Erimo**	**77.93**	**331**	*e*P	**P**	**17 37 00.4**	**+0.3**
	comp=Z,80nm,1.1s,mb5.3						
YHNB	**Yeheng**	**78.11**	**306**	*e*P	**P**	**17 37 00.9**	**-0.6**
TATO	**Taipei**	**78.21**	**306**	*e*P	**P**	**17 37 00.2**	**-1.8**
	comp=Z,33nm,0.6s,mb5.2						
SYO	**Syowa Base**	**79.87**	**193**	⇑*e*P	**P**	**17 37 12.0**	**+1.6**
MYKOM	**Kota Tinggi**	**80.27**	**277**	⇑P	**P**	**17 37 14.5**	**+1.0**
QZH	**Quanzhou**	**80.29**	**305**	*i* P	**P**	**17 37 13.0**	**-0.3**
QZH				AP	pP	17 38 06.3	+0.6
QZH				S	S	17 46 57.8	-2.6
QZH				AMB	AMB		
	comp=Z,110nm,1.2s,mb5.4						
KGM	**Kluang**	**80.85**	**277**	⇓P	**P**	**17 37 17.9**	**+1.4**
SNAA	**Sanae**	**81.00**	**178**	*e*P	**P**	**17 37 19.0**	**+2.7**
SNAA				*e*		17 37 23.1	
SNAA				*e*		17 37 29.7	
SNAA				*e*	pP	17 38 10.4	+1.6
SNAA				*e*	pP	17 38 15.4	+6.6
SNAA				*e*		17 38 27.1	
SNAA	**Sanae**	**81.00**	**178**	*d* *i*P	**P**	**17 37 17.1**	**+0.8**
VNA3	**Neumayer Olymp**	**81.15**	**176**	*e*P	**P**	**17 37 19.7**	**+2.6**
VNA3				*e*		17 37 22.9	
VNA3				*e*		17 37 30.4	
VNA3				*e*	pP	17 38 09.9	+0.3
VNA3				*e*	pP	17 38 14.8	+5.2
VNA2	**Neumayer--Watz**	**81.58**	**177**	*e*P	**P**	**17 37 22.5**	**+3.1**
	baz=193,slow=5.2						
VNA2				*e*		17 37 26.6	
VNA2				*e*		17 37 33.1	
VNA2				*e*	pP	17 38 13.3	+1.4
VNA2				*e*	pP	17 38 18.5	+6.6
VNA2				*e*		17 38 31.6	
VNA2				*e*		17 38 35.4	
VNA1	**Neumayer--Stat**	**81.81**	**177**	*e*P	**P**	**17 37 24.0**	**+3.4**
VNA1				*e*		17 37 28.1	
VNA1				*e*		17 37 34.5	
VNA1				*e*	pP	17 38 14.7	+1.5
VNA1				*e*	pP	17 38 19.1	+5.9
KSRS	**Korea Array**	**82.14**	**319**	P	**P**	**17 37 23.1**	**+0.4**
	comp=Z,30nm,0.7s,mb5.0,baz=134,slow=5.8,SNR=117						
KSRS				LR	LR	18 11 05.6	
	comp=Z,100nm,18.8s,baz=301,slow=34						
YSS	**Yuzh-Sakhalins**	**82.16**	**334**	⇓*i*P	**P**	**17 37 22.3**	**-0.3**
YSS				pmax	pmax		
	comp=Z,107nm,0.8s,mb5.5						
YSS	**Yuzh-Sakhalins**	**82.16**	**334**	*e*P	**P**	**17 37 22.4**	**-0.2**
	comp=Z,100nm,0.7s,mb5.6						
YSS				*e*pP	pP	17 38 16.0	+0.8
SSE	**Sheshan**	**82.20**	**311**	P	**P**	**17 37 22.8**	**-0.4**
SSE				AP	pP	17 38 16.2	+0.4
SSE				XP	sP	17 38 36.7	-2.1
SSE				S	S	17 47 17.3	-2.5
SSE				AMB	AMB		
	comp=Z,51nm,0.6s,mb5.3						
SSE				AMB	AMB		
	comp=Z,112nm,5.4s						
SSE				LR	LR		
	comp=N,53nm,25.9s						
SSE				LR	LR		
	comp=E,69nm,26.1s						
SSE				LR	LR		
	comp=Z,86nm,22.3s						
BSC	**Santa Cruz Isl**	**82.52**	**46**	⇓P	**P**	**17 37 24.7**	**-0.1**
	baz=83						
KTGM	**Kuala Trenggan**	**82.57**	**280**	⇑P	**P**	**17 37 27.1**	**+1.6**
PET	**Petropavlovsk**	**82.76**	**346**	*e*P	**P**	**17 37 24.3**	**-1.2**
PET				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.3						
PET				pmax	pmax		
	comp=Z,200nm,15.8s						
PET				MLR	MLR		
	comp=Z,100nm,15.0s						
V04C	**Ramage Ranch,**	**82.82**	**44**	⇓P	**P**	**17 37 26.3**	**0.0**
	baz=83						
V03C	**Hunter Liggett**	**82.85**	**43**	⇑P	**P**	**17 37 26.7**	**+0.3**
	baz=83						
HAST	**Hastings Reser**	**82.90**	**43**	⇑P	**P**	**17 37 27.1**	**+0.4**
	baz=83,SNR=8.2						
FRIM	**Kepong**	**82.91**	**277**	⇓P	**P**	**17 37 28.6**	**+1.3**
INCN	**Inchon**	**82.92**	**319**	P	**P**	**17 37 26.9**	**+0.1**
	comp=Z,26nm,0.6s,mb5.1						
FARB	**Farallon Islan**	**82.92**	**41**	⇓P	**P**	**17 37 27.0**	**+0.3**
	baz=83						
CIS	**Catalina Islan**	**82.93**	**47**	⇑P	**P**	**17 37 27.9**	**+1.0**
	baz=83						
PKM	**Peak Mountain**	**82.98**	**45**	⇓P	**P**	**17 37 27.6**	**+0.4**
	baz=83,SNR=6.8						
BNLO	**Ben Lomond (Sa**	**83.03**	**42**	⇓P	**P**	**17 37 27.2**	**-0.1**
	baz=83						
LPIG	**La Paz**	**83.09**	**58**	P	**P**	**17 37 28.4**	**+0.5**
	comp=Z,14nm,0.3s,mb5.2,baz=236,slow=5.7,SNR=4.9						
SMMC	**Simmler**	**83.14**	**44**	⇓P	**P**	**17 37 28.3**	**+0.4**
	baz=83						
PKD	**Parkfield**	**83.22**	**44**	⇑P	**P**	**17 37 28.2**	**-0.1**
	baz=83,SNR=7.2						
U04C	**Hernandez Rese**	**83.35**	**43**	⇑P	**P**	**17 37 29.8**	**+0.8**
	baz=83,SNR=10						
PACP	**Pacheco Peak**	**83.47**	**42**	⇓P	**P**	**17 37 30.0**	**+0.4**
	baz=84,SNR=9.2						
WENL	**Wente Brothers**	**83.60**	**42**	⇓P	**P**	**17 37 30.0**	**-0.2**
	baz=84						
CVS	**Carmenet Viney**	**83.67**	**41**	⇓P	**P**	**17 37 30.2**	**-0.4**
	baz=84,SNR=5.3						
NSHM	**Saint Helena R**	**83.71**	**41**	*e*P	**P**	**17 37 30.2**	**-0.6**
QIZ	**Qiongzhong**	**83.73**	**295**	P	**P**	**17 37 32.1**	**+0.8**
QIZ				AP	pP	17 38 23.0	-1.1
QIZ				S	S	17 47 36.8	+1.1
QIZ				XS	sS	17 49 06.7	-1.5
QIZ				SS	SS	17 53 07.9	-0.6
QIZ				AMB	AMB		
	comp=Z,17nm,0.8s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,118nm,9.0s						
ARVC	**Arvin**	**83.75**	**45**	⇑P	**P**	**17 37 31.3**	**+0.2**
	baz=84						
BDM	**Black Diamond**	**83.76**	**41**	⇑P	**P**	**17 37 30.9**	**-0.1**
	baz=84						
HOPS	**Hopland**	**83.76**	**40**	*e*P	**P**	**17 37 30.9**	**0.0**
	comp=Z,61nm,1.2s,mb5.2						
HOPS	**Hopland**	**83.76**	**40**	⇑P	**P**	**17 37 31.3**	**+0.3**
	baz=84						
T05C	**Eagle Field, D**	**83.76**	**43**	⇑P	**P**	**17 37 31.6**	**+0.5**
	baz=84						
S04C	**Ingram Canyon,**	**83.78**	**42**	⇑P	**P**	**17 37 31.2**	**+0.1**
	baz=84,SNR=9.8						
MURC	**Murrieta**	**83.83**	**47**	⇓P	**P**	**17 37 31.7**	**+0.2**
	baz=84,SNR=5.1						
MONP	**Monument Peak**	**83.90**	**48**	⇑P	**P**	**17 37 32.1**	**+0.2**
	baz=84,SNR=10						
SDPT	**Sand Point**	**83.92**	**10**	*e*P	**P**	**17 37 30.0**	**-1.4**
	comp=Z,88nm,0.6s,mb5.7						
P01C	**Double 8 Ranch**	**83.94**	**39**	⇑P	**P**	**17 37 32.0**	**+0.1**
	baz=84						
BFSC	**Mount Baldy St**	**83.94**	**46**	P	**P**	**17 37 32.0**	**0.0**
	baz=84,SNR=8.9						
DVTC	**Desert V Tower**	**83.97**	**48**	⇓P	**P**	**17 37 32.4**	**+0.2**
	baz=84,SNR=9.0						
IPM	**Ipoh**	**84.02**	**278**	⇑P	**P**	**17 37 34.0**	**+1.0**
MNRC	**McLaughlin Nat**	**84.04**	**40**	⇑P	**P**	**17 37 32.7**	**+0.3**
	baz=84,SNR=10						
VES	**Vestal, Richgr**	**84.06**	**44**	⇓P	**P**	**17 37 31.9**	**-0.6**
	baz=84,SNR=9.8						
KIPM	**Iron Peak**	**84.09**	**39**	*e*P	**P**	**17 37 32.5**	**-0.2**
O01C	**Eel River Cons**	**84.12**	**39**	P	**P**	**17 37 33.5**	**+0.7**
	baz=84,SNR=5.6						
Q03C	**Winters**	**84.13**	**41**	⇑P	**P**	**17 37 33.8**	**+0.9**
	baz=84						
EDW2	**Edwards Air Fo**	**84.13**	**46**	P	**P**	**17 37 33.1**	**+0.1**
	baz=84,SNR=12						
S05C	**Merced**	**84.27**	**43**	⇑P	**P**	**17 37 33.1**	**-0.5**
	baz=84,SNR=6.2						
PFO	**Pinyon Flat Ob**	**84.33**	**48**	*e*P	**P**	**17 37 34.1**	**+0.1**
PFO				pmax	pmax		
	comp=Z,194nm,2.0s,mb5.5						
PFO	**Pinyon Flat Ob**	**84.33**	**48**	*e*P	**P**	**17 37 34.1**	**+0.1**
	comp=Z,194nm,2.0s,mb5.5						
PFO	**Pinyon Flat Ob**	**84.33**	**48**	P	**P**	**17 37 34.0**	**0.0**
	comp=Z,19nm,0.9s,mb4.8,baz=244,slow=2.6,SNR=15						
PFO	**Pinyon Flat Ob**	**84.33**	**48**	⇓P	**P**	**17 37 34.2**	**+0.2**
	baz=84						
SWSC	**Sam W. Stewart**	**84.35**	**48**	⇑P	**P**	**17 37 33.9**	**-0.3**
	baz=84,SNR=6.2						
GASB	**Alder Springs**	**84.41**	**40**	P	**P**	**17 37 35.3**	**+1.0**
	baz=84,SNR=21						
T06C	**Millerton Lake**	**84.42**	**43**	P	**P**	**17 37 34.4**	**0.0**
	baz=84,SNR=14						
BBRC	**Big Bear Sol-O**	**84.43**	**47**	⇓P	**P**	**17 37 34.8**	**+0.4**
	baz=84						
JCC	**Jacoby Creek**	**84.48**	**38**	⇓P	**P**	**17 37 34.9**	**+0.3**
	baz=84						
PLCA	**Paso Flores**	**84.49**	**133**	*e*P	**P**	**17 37 37.4**	**+2.5**
PLCA				pmax	pmax		
	comp=Z,42nm,0.9s						
PLCA	**Paso Flores**	**84.49**	**133**	*e*P	**P**	**17 37 37.4**	**+2.5**
	comp=Z,42nm,0.9s,mb5.2						
R04C	**Big Horse Ranc**	**84.51**	**42**	⇓P	**P**	**17 37 33.9**	**-0.9**
	baz=84						
HELL	**Mitchell Peak**	**84.63**	**44**	P	**P**	**17 37 34.9**	**-0.5**
	baz=85,SNR=11						
Q04C	**Lincoln**	**84.63**	**41**	⇑P	**P**	**17 37 34.5**	**-0.9**
	baz=85						
SUTB	**Sutter Butte**	**84.66**	**40**	⇓P	**P**	**17 37 35.0**	**-0.5**
	baz=85						
CMB	**Columbia Colle**	**84.69**	**42**	⇓*i*P	**P**	**17 37 35.4**	**-0.3**
CMB				*e**PP	pP	17 38 28.3	-0.3
CMB				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.2						
CMB	**Columbia Colle**	**84.69**	**42**	⇓*i*P	**P**	**17 37 35.4**	**-0.3**
	comp=Z,42nm,0.9s,mb5.2						
CMB				*e*pP	pP	17 38 28.3	-0.3
CMB	**Columbia Colle**	**84.69**	**42**	⇑P	**P**	**17 37 35.4**	**-0.3**
	baz=85,SNR=33						
LRMC	**Laurel Mountai**	**84.70**	**45**	⇓P	**P**	**17 37 35.8**	**0.0**
	baz=85,SNR=8.0						
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BEKR Beckwourth 85.91 41 P P 17 37 41.3 -0.4
baz=86,SNR=10
LHEM Herd Peak 86.03 38 P P 17 37 42.4 +0.2
K02A Glendale 86.11 37 ⇑P P 17 37 42.7 +0.1
baz=86,SNR=5.5
Y13A Salome 86.19 49 P P 17 37 43.7 +0.5
baz=86,SNR=17
NVAR Mina Array Bea 86.19 43 P P 17 37 42.6 -0.4
comp=Z,24nm,0.7s,mb5.0,baz=210,slow=6.2,SNR=126
NVAR PKKPbc PKKPbc 17 55 44.1 +2.5
comp=Z,0.5nm,0.5s,baz=103,slow=4.0,SNR=4.7
Q07A Schurz 86.21 42 ⇑P P 17 37 43.0 -0.1
baz=86
NEE2 Needles Airpor 86.24 48 ⇓P P 17 37 44.1 +0.7
baz=86
MDJ Mudanjiang 86.25 325 P P 17 37 43.5 +0.3
MDJ AP pP 17 38 34.2 -2.1
MDJ XP sP 17 38 58.5 -0.7
MDJ PP PP 17 41 06.5 -1.2
MDJ S S 17 48 00.4 +1.0
MDJ SCS ScS 17 48 07.1 +0.1
MDJ AMB AMB
comp=Z,38nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,196nm,5.0s
MDJ Mudanjiang 86.25 325 ⇓*i*P P 17 37 43.2 0.0
comp=Z,46nm,1.2s,mb5.1
R08A Mina 86.26 43 ⇑P P 17 37 43.5 0.0
baz=86
PDMCI Parker Dam,Lak 86.27 48 ⇑P P 17 37 43.9 +0.3
baz=86,SNR=9.2
HUMO Hull Mountain 86.29 37⇓*e*P P 17 37 42.6 -0.9
comp=Z,71nm,1.4s,mb5.2
HUMO Hull Mountain 86.29 37 ⇑P P 17 37 43.4 0.0
baz=86,SNR=8.2
M04C Macdoel 86.34 39 ⇓P P 17 37 43.6 -0.2
baz=86,SNR=5.8
V11A Goodsprings 86.36 46 ⇓P P 17 37 44.1 +0.2
baz=86
LASM Arnica Sink 86.36 39 P P 17 37 44.1 +0.2
PAHR Pah Rah Range 86.37 41⇓*e*P P 17 37 43.2 -0.7
comp=Z,89nm,1.6s,mb5.2
W12A Cal Nev Ari 86.39 47 ⇑P P 17 37 44.6 +0.5
baz=86
S09A Goldfield 86.40 44 ⇓P P 17 37 43.9 -0.2
baz=86
O06A Flanigan 86.41 41 P P 17 37 43.9 -0.2
baz=86,SNR=13
M05C Lookout 86.44 39 ⇓P P 17 37 43.7 -0.5
baz=86,SNR=10.0
Z14A Wintersburg 86.51 50 ⇓P P 17 37 45.7 +1.0
baz=87,SNR=17
TPNV Topopah Spring 86.52 45 *e*P P 17 37 44.4 -0.3
TPNV *e**PP pP 17 38 38.7 +0.8
TPNV pmax pmax
comp=Z,45nm,1.0s,mb5.2
TPNV Topopah Spring 86.52 45 *e*P P 17 37 44.4 -0.4
comp=Z,45nm,1.0s,mb5.2
TPNV *e*pP pP 17 38 38.7 +0.8
TPNV Topopah Spring 86.52 45 P P 17 37 44.8 +0.1
baz=87,SNR=28
HABR Khabarovsk 86.53 331 *e*P P 17 37 42.6 -1.9
HABR *e* 17 41 05.0
HABR *e* 17 42 57.4
HABR *e*S S 17 48 05.9 +4.0
HABR pmax pmax
comp=Z,598nm,2.7s,mb5.8
HABR pmax pmax
comp=Z,165nm,1.7s,mb5.5
P07A Fallon 86.55 42 ⇓P P 17 37 44.7 -0.2
baz=87
L04A Klamath Falls 86.58 38 ⇑P P 17 37 44.3 -0.5
baz=87,SNR=11
WHN Wuhan 86.59 307 *i*P P 17 37 46.0 +0.8
WHN S S 17 48 06.2 +2.9
115A Sonoran Desert 86.61 50 ⇓P P 17 37 45.9 +0.6
baz=87,SNR=11
X13A Yucca 86.65 48 ⇓P P 17 37 45.8 +0.4
baz=87,SNR=22
V12A Nelson 86.67 47 P P 17 37 46.1 +0.7
baz=87,SNR=9.8
Q08A Gabbs 86.69 43 P P 17 37 45.0 -0.4
baz=87,SNR=15
M06C Likely Place G 86.72 40 P P 17 37 45.5 -0.1
baz=87,SNR=12
216A Three Points, 86.74 51 ⇑P P 17 37 46.8 +0.9
baz=87,SNR=8.5
N06A Buffalo Meadow 86.79 40 P P 17 37 45.3 -0.6
baz=87,SNR=14
Y14A Wickenburg 86.81 49 ⇑P P 17 37 46.9 +0.7
baz=87,SNR=31
R09A Tonopah 86.82 44 P P 17 37 46.1 0.0
baz=87,SNR=15
DL2 Dalian 86.82 317 *i*P P 17 37 46.0 -0.1
DL2 AP pP 17 38 38.2 -1.1
DL2 S S 17 48 06.8 +1.6
DL2 AMB AMB
comp=Z,20nm,0.7s,mb5.0
DL2 AMB AMB
comp=Z,150nm,4.1s
116A Eloy 86.89 51 ⇑P P 17 37 47.5 +0.9
baz=87,SNR=6.5
S10A Tonopah Range, 86.91 44 P P 17 37 46.4 -0.2
baz=87,SNR=51
W13A Hualapai Mount 86.92 48 P P 17 37 47.1 +0.4
baz=87,SNR=22
Z15A Gila River Ind 87.00 50 ⇓P P 17 37 48.0 +0.8
baz=87
217A Green Valley 87.05 52 P P 17 37 48.2 +0.8
baz=87,SNR=28
L05A Lakeview 87.08 39 ⇑P P 17 37 47.2 -0.1
baz=87,SNR=11
Q09A Carvers 87.12 43 ⇑P P 17 37 47.4 -0.2
baz=87
P08A Dixie Valley 87.13 42 ⇓P P 17 37 47.5 -0.1
baz=87
J04A Umpqua Nationa 87.18 37 P P 17 37 48.2 +0.5
baz=87,SNR=10
X14A Yava 87.20 49 P P 17 37 48.6 +0.6
baz=87,SNR=32
S11A Rachel 87.27 45 ⇓P P 17 37 48.5 +0.2
baz=87,SNR=5.5
Y15A Casa Rosa Ranc 87.27 49 P P 17 37 48.8 +0.4
baz=87,SNR=33
MOD Modoc 87.28 39⇑*e*P P 17 37 47.6 -0.7
comp=Z,28nm,0.7s,mb5.1
MOD Modoc 87.28 39 ⇑P P 17 37 47.2 -1.1
baz=87,SNR=20
U12A Valley of Fire 87.29 46 P P 17 37 49.0 +0.5
baz=87,SNR=12
V13A Grand Canyon W 87.30 47 P P 17 37 49.2 +0.7
baz=87,SNR=7.8
N07B Gerlach 87.30 41 P P 17 37 48.4 0.0
baz=87,SNR=6.7
R10A Warm Springs 87.32 44 P P 17 37 49.1 +0.6
baz=87,SNR=21
T11A Corn Creek, Al 87.35 45 P P 17 37 49.0 +0.3
baz=87,SNR=30
T12A Moapa 87.36 46 ⇑P P 17 37 49.1 +0.3
baz=87
TUC Tucson 87.38 51⇓*i*P P 17 37 50.7 +1.7
TUC *e**PP pP 17 38 42.6 +0.3
TUC pmax pmax
comp=Z,59nm,1.1s,mb5.2
TUC Tucson 87.38 51⇓*i*P P 17 37 50.7 +1.7
comp=Z,59nm,1.1s,mb5.2
TUC *e*pP pP 17 38 42.6 +0.3
I04A Tendick Farm, 87.39 37 ⇓P P 17 37 47.8 -0.9
baz=87
318A Bisbee 87.44 53 P P 17 37 50.0 +0.8
baz=88,SNR=36
K05A Summer Lake 87.49 38 ⇓P P 17 37 49.6 +0.4
baz=88
W14A Seligman 87.51 48 ⇑P P 17 37 50.5 +0.9
baz=88,SNR=16
Z16A Peralta Trail, 87.53 50 P P 17 37 50.6 +1.0
baz=88,SNR=12
H03A Soap Creek Ran 87.53 36 ⇓P P 17 37 49.1 -0.3
baz=88
117A Oracle 87.56 51 ⇑P P 17 37 50.8 +1.0
baz=88,SNR=29
M07A Soldier Meadow 87.58 40 P P 17 37 49.7 0.0
baz=88,SNR=9.0
Q10A Clear Creek Ra 87.59 43 P P 17 37 50.0 +0.2
baz=88,SNR=16
P09A Austin 87.60 43 ⇑P P 17 37 49.4 -0.5
baz=88

X15A Humboldt 87.65 49 P P 17 37 50.9 +0.7
baz=88,SNR=27
U13A Pakoon Wash 87.65 47 P P 17 37 50.4 +0.3
baz=88,SNR=19
KDAK Kodiak Island 87.65 13 P P 17 37 48.5 -1.1
comp=Z,143nm,2.1s,mb5.4,SNR=6.5
KDAK Kodiak Island 87.65 13 *e*P P 17 37 48.8 -0.8
comp=Z,111nm,1.7s,mb5.4
KDAK Kodiak Island 87.65 13 P P 17 37 48.6 -0.9
comp=Z,14nm,1.0s,mb4.7,baz=208,slow=8.7,SNR=14
J05A Fort Rock 87.68 38 ⇓P P 17 37 50.1 0.0
baz=88,SNR=14
218A Dragoon 87.70 52 P P 17 37 51.5 +1.0
baz=88,SNR=9.8
V14A Boquillas Ranc 87.75 48 P P 17 37 51.2 +0.6
baz=88,SNR=29
N08A GE Springer Mi 87.79 41 P P 17 37 50.3 -0.4
baz=88,SNR=20
R11A Troy Canyon, C 87.80 44 P P 17 37 50.8 -0.1
baz=88,SNR=9.4
Y16A Circle Bar Ran 87.81 50 P P 17 37 51.8 +0.9
baz=88,SNR=51
S12A Delamar Landin 87.81 45 ⇑P P 17 37 51.7 +0.8
baz=88,SNR=19
CN2 Changchun 87.84 323 ⇓P P 17 37 50.7 -0.1
CN2 *e*AP pP 17 38 41.1 -3.1
CN2 *e*XP sP 17 39 01.7 -5.3
CN2 *e*S S 17 48 14.9 +0.3
CN2 AMB AMB
comp=Z,60nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,500nm,3.0s
L07A Adell 87.90 40 ⇓P P 17 37 51.5 +0.3
baz=88,SNR=20
319A Douglas 87.91 53 ⇓P P 17 37 52.4 +0.9
baz=88,SNR=23
O09A Fish Creek Ran 87.96 42 P P 17 37 51.5 0.0
baz=88,SNR=10
G03A Yamhill 87.98 35 ⇓P P 17 37 51.4 -0.1
baz=88
TIA Tai'an 87.99 313 *e*P P 17 37 52.4 +0.6
W15A Williams 88.03 48 ⇑P P 17 37 53.2 +1.2
baz=88
T13A Saint George 88.05 46 ⇑P P 17 37 52.8 +0.8
baz=88
Q11A Duckwater 88.06 44 P P 17 37 51.8 -0.3
baz=88,SNR=16
M08A Happy Creek Ra 88.08 40 ⇑P P 17 37 52.1 +0.1
baz=88,SNR=9.7
H04A Detroit Lake 88.11 36 ⇑P P 17 37 51.6 -0.5
baz=88,SNR=12
Y17A Roosevelt 88.13 50 ⇑P P 17 37 53.3 +0.8
baz=88,SNR=25
118A Homack Ranch, 88.13 52 ⇓P P 17 37 53.8 +1.2
baz=88,SNR=50
KKTK Khon Kaen 88.14 289 ⇑P P 17 37 55.0 +2.1
comp=Z,494nm,0.9s,mb6.3
X16A Lo Mia Camp, P 88.14 49 ⇓P P 17 37 53.3 +0.8
baz=88,SNR=32
Z17A San Carlos Hig 88.16 51 ⇑P P 17 37 53.3 +0.7
baz=88,SNR=8.2
U14A Mt Trumbull 88.16 47 ⇑P P 17 37 53.4 +0.9
baz=88,SNR=10
N09A Rock Creek Ran 88.19 41 ⇑P P 17 37 52.3 -0.3
baz=88
I05A Bend 88.25 37 ⇑P P 17 37 53.0 +0.2
baz=88
J06A Christmas Vall 88.25 38 ⇑P P 17 37 52.3 -0.5
baz=88,SNR=13
F03A Seaside 88.26 35 ⇑P P 17 37 52.3 -0.5
baz=88
219A White Tail Can 88.27 52 P P 17 37 53.9 +0.7
baz=88,SNR=32
G04A Mulino 88.31 36 ⇑P P 17 37 53.0 -0.1
baz=88
Z18A Geronimo 88.34 51 P P 17 37 54.6 +1.1
baz=88,SNR=6.6
K07A Rock Creek Ran 88.39 39 P P 17 37 53.5 +0.1
baz=88,SNR=18
R12A Pony Springs, 88.40 45 ⇑P P 17 37 54.1 +0.5
baz=88,SNR=15
S13A Holt Ranch, En 88.42 46 P P 17 37 54.6 +0.9
baz=88,SNR=18
P11A Circle Ranch, 88.44 43 ⇓P P 17 37 53.5 -0.2
baz=88
O10A Cortez Mining, 88.45 42 ⇑P P 17 37 53.8 0.0
baz=88,SNR=5.8
X17A Forest Lakes 88.53 50 ⇓P P 17 37 55.4 +1.1
baz=89,SNR=10
KLR Kul'dur 88.55 330 *e*P P 17 37 50.5 -3.5
WVOR Wild Horse Val 88.56 40⇓*i*P P 17 37 53.6 -0.7
WVOR pmax pmax
comp=Z,124nm,2.0s,mb5.4
WVOR Wild Horse Val 88.56 40⇓*i*P P 17 37 53.6 -0.7
comp=Z,124nm,2.0s,mb5.4
L08A Fields 88.57 40 ⇓P P 17 37 54.1 -0.2
baz=89,SNR=6.6
H05A Madras 88.59 37 ⇑P P 17 37 54.2 -0.2
baz=89,SNR=7.3
M09A Marrel Ranch, 88.60 41 ⇑P P 17 37 54.5 0.0
baz=89
T14A Hurricane 88.61 46 ⇑P P 17 37 55.1 +0.5
baz=89,SNR=5.9
119A Ashpeak Ranch, 88.67 52 ⇓P P 17 37 56.1 +1.0
baz=89,SNR=26
I06A Prineville 88.67 38 P P 17 37 55.4 +0.6
baz=89,SNR=16
E03A Lebam 88.68 34 ⇑P P 17 37 55.0 +0.3
baz=89,SNR=5.5
Q12A Willow Creek R 88.69 44 ⇑P P 17 37 55.0 0.0
baz=89,SNR=8.7
N10A Dunphy 88.71 42 ⇓P P 17 37 54.7 -0.3
baz=89
CCUT Cedar City 88.72 46⇓*i*P P 17 37 55.7 +0.6
Y18A Canyon Day Jun 88.73 51 ⇓P P 17 37 56.4 +1.1
baz=89,SNR=18
J07A Hines 88.79 39 ⇓P P 17 37 55.3 -0.1
baz=89,SNR=9.9
ARUT Antelope Range 88.81 46 *e*P P 17 37 55.9 +0.3
WUAZ Wupatki 88.82 49⇓*e*P P 17 37 56.2 +0.5
comp=Z,107nm,1.5s,mb5.5
WUAZ Wupatki 88.82 49 ⇑P P 17 37 56.3 +0.6
baz=89
F04A Amboy 88.84 35 P P 17 37 55.3 -0.2
baz=89,SNR=11
L09A Wilkinson Ranc 88.85 40 ⇑P P 17 37 55.6 -0.1
baz=89
O11A Cowboy Ranch, 88.86 43 ⇓P P 17 37 55.6 -0.1
baz=89,SNR=12
P12A McGill 88.91 44 ⇓P P 17 37 55.9 0.0
baz=89,SNR=10
VFP Flag Point 88.92 36 P P 17 37 56.0 +0.1
LVP Lakeview Peak 88.94 35 P P 17 37 56.1 +0.2
G05A Wamic 88.94 36 ⇓P P 17 37 55.8 -0.2
baz=89,SNR=5.0
S14A Cedar City 88.97 46 ⇑P P 17 37 57.0 +0.7
baz=89
D03A Wishkah Elem. 88.97 34 ⇑P P 17 37 56.3 +0.2
baz=89
Z19A T-Link Ranch, 88.99 51 P P 17 37 58.1 +1.5
baz=89,SNR=14
T15A Red Dirt Ranch 89.03 47 P P 17 37 57.3 +0.6
baz=89,SNR=6.4
NLWA Neilton Lookou 89.12 33⇓*i*P P 17 37 56.7 -0.1
comp=Z,121nm,1.3s,mb5.6
NLWA Neilton Lookou 89.12 33 ⇑P P 17 37 56.9 +0.2
baz=89,SNR=7.5
H06A Lindquist Farm 89.13 37 P P 17 37 56.6 -0.3
baz=89,SNR=26
ERK Elk Rock 89.13 35 P P 17 37 57.4 +0.5
E04A Onalaska 89.14 35 ⇓P P 17 37 56.6 -0.3
baz=89
Q13A Wheeler Ranch, 89.14 45 ⇑P P 17 37 57.0 -0.1
baz=89
STD Studebaker Rid 89.15 35 P P 17 37 57.5 +0.6
I07A Izee 89.15 38 ⇑P P 17 37 56.8 -0.2
baz=89,SNR=12
M10A I.L. Ranch, Tu 89.19 41 ⇑P P 17 37 57.1 -0.2
baz=89,SNR=14
X18A Snowflake 89.22 50 ⇑P P 17 37 58.2 +0.7
baz=89
N11A Elko Archery C 89.23 42 ⇑P P 17 37 57.2 -0.3
baz=89
J08A Circle Bar Ran 89.25 39 ⇑P P 17 37 57.1 -0.3
baz=89,SNR=5.5
K09A Rome 89.25 40 ⇑P P 17 37 57.4 -0.1
baz=89,SNR=24
G06A Carlson Farm, 89.30 37 P P 17 37 57.3 -0.3
baz=89,SNR=18
F05A White Salmon 89.30 36 ⇓P P 17 37 57.2 -0.5
baz=89
Y19A Nutrioso 89.37 51 P P 17 37 59.8 +1.5
baz=89,SNR=23
R14A James Farms, M 89.38 46 ⇓P P 17 37 58.6 +0.4
baz=89
P13A Bates Ranch, G 89.45 44 ⇓P P 17 37 58.5 0.0
baz=90,SNR=22
O12A Currie 89.49 43 ⇓P P 17 37 58.8 +0.1
baz=90
OSD Olympics--Snow 89.50 33 P P 17 37 59.3 +0.8
I08A Drewsey 89.55 39 P P 17 37 58.6 -0.3
baz=90,SNR=21
F06A Goldendale 89.58 36 ⇑P P 17 37 59.1 +0.1
baz=90,SNR=12
M11A Holland Ranch, 89.58 42 ⇑P P 17 37 59.1 +0.1
baz=90,SNR=7.5
L10A Juniper Basin 89.58 41 P P 17 37 58.8 -0.3
baz=90,SNR=22
T16A Glen Canyon Da 89.58 47 ⇑P P 17 37 59.9 +0.7
baz=90
E05A Randle 89.60 35 P P 17 37 58.8 -0.3
baz=90,SNR=14
X19A St. Johns 89.61 50 ⇓P P 17 38 00.1 +0.7
baz=90
J09A Fry Pan Ranch, 89.64 39 P P 17 37 58.9 -0.4
baz=90,SNR=24
GLK Glacier Lake 89.68 35 P P 17 37 59.3 -0.1
HDW Hoodsport 89.69 34 P P 17 38 00.1 +0.6
STW Striped Peak 89.74 33 P P 17 38 00.3 +0.7
B04A Port Angeles 89.76 33 ⇓P P 17 37 59.7 0.0
baz=90,SNR=8.1
C04A Brinnon 89.78 34 P P 17 38 00.0 +0.2
baz=90,SNR=22
K10A MacKenzie Ranc 89.79 40 ⇓P P 17 37 60.0 0.0
baz=90,SNR=13
G07A Ruggs Ranch, H 89.83 37 P P 17 37 59.8 -0.3
baz=90,SNR=29
O13A Hicks Ranch, I 89.87 44 ⇑P P 17 38 00.3 -0.1
baz=90
H08A Prairie City 89.89 38 P P 17 38 00.2 -0.2
baz=90,SNR=14
FMW Mount Fremont 89.90 35 P P 17 38 00.7 +0.3
D05A Enumclaw 89.91 34 ⇓P P 17 38 00.4 0.0
baz=90,SNR=21
E06A Yakima 89.99 35 P P 17 38 00.4 -0.4
baz=90,SNR=20
MSU Marysvale 90.04 46 *e*P P 17 38 02.0 +0.7
I09A Lost Marbles R 90.05 39 ⇓P P 17 38 00.4 -0.8
baz=90,SNR=5.5
L11A Cat Creek Ranc 90.05 41 ⇓P P 17 38 01.1 -0.2
baz=90,SNR=23
GYA Guiyang 90.08 300⇓*i*P P 17 38 03.0 +1.2
GYA AP pP 17 38 56.4 +1.1
GYA PP PP 17 41 41.7 +3.0
GYA SKS 17 48 11.3
GYA S S 17 48 34.9 -1.4
GYA AMB AMB
comp=Z,30nm,0.7s,mb5.2
GYA AMB AMB
comp=Z,120nm,6.2s
M12A Wells 90.09 42 ⇓P P 17 38 01.5 +0.1
baz=90
NST Nakhon Sawan 90.09 288 P P 17 38 04.0 +2.0
comp=Z,50nm,0.5s,mb5.6
F07A Phinny Hill Vi 90.11 36 ⇓P P 17 38 01.3 -0.1
baz=90
N13A Wendover, West 90.17 43 ⇑P P 17 38 01.9 0.0
baz=90,SNR=6.7
RMW Rattlesnake Mo 90.19 34 P P 17 38 01.9 +0.2
PGC Sidney 90.19 33⇓*i*P P 17 38 01.6 -0.1
comp=Z,266nm,1.3s,mb5.9
SVW2 Sparrevohn 90.20 11 *e*P P 17 38 00.4 -1.1
G08A Pilot Rock 90.23 37 P P 17 38 01.8 -0.2
baz=90,SNR=63
J10A Berg Farm, Mel 90.25 40 ⇓P P 17 38 01.6 -0.5
baz=90
K11A Parker Ranch, 90.27 41 ⇑P P 17 38 02.1 -0.1
baz=90,SNR=16
C05A Tolt Reservoir 90.40 34 ⇑P P 17 38 02.4 -0.3
baz=90
L12A House Creek Ra 90.47 42 ⇑P P 17 38 03.5 +0.3
baz=90
D06A Cle Elum 90.49 35 P P 17 38 03.3 +0.1
baz=90,SNR=9.1
M13A Montello 90.50 43 ⇑P P 17 38 03.5 +0.1
baz=90,SNR=5.1
H09A Durkee 90.53 38 P P 17 38 03.1 -0.3
baz=91,SNR=18
MA2 Magadan 90.53 345 *e*P P 17 38 01.8 -1.2
E07A Sunnyside 90.58 36 ⇑P P 17 38 03.5 -0.1
baz=91
B05A Bryant 90.58 34 P P 17 38 03.7 +0.1
baz=91,SNR=17
A04A Legoe Bay, Lum 90.60 33 ⇓P P 17 38 03.5 -0.1
baz=91,SNR=5.4
TBM Table Mountain 90.60 35 P P 17 38 03.8 +0.1
RSW Rattlesnake Hi 90.61 36 P P 17 38 04.0 +0.3
DUG Dugway 90.63 44⇓*e*P P 17 38 03.5 -0.5
DUG pmax pmax
comp=Z,30nm,1.6s,mb5.0
DUG Dugway 90.63 44⇓*e*P P 17 38 03.5 -0.5
comp=Z,30nm,1.6s,mb5.0
DUG Dugway 90.63 44 ⇑P P 17 38 03.6 -0.4
baz=91
HAWA Hanford 90.64 36⇓*e*P P 17 38 03.3 -0.5
comp=Z,131nm,1.5s,mb5.6
SLKM Skilak Lake 90.64 13 *e*P P 17 38 02.3 -1.2
I10A Payette 90.65 39 ⇓P P 17 38 03.6 -0.3
baz=91
F08A Pendleton 90.66 37 ⇑P P 17 38 03.4 -0.6
baz=91,SNR=9.7
MDW Midway 90.67 36 P P 17 38 04.2 +0.2
MFID Camas Ranch 90.78 40 ⇓P P 17 38 04.1 -0.5
baz=91,SNR=5.9
N14A Grayback Hills 90.79 43 ⇓P P 17 38 04.5 -0.2
baz=91
GBL Gable Mountain 90.81 36 P P 17 38 04.9 +0.2
K12A Draper Farm, C 90.84 41 ⇑P P 17 38 04.5 -0.4
baz=91,SNR=6.4
BJT Baijiatuau 90.84 316 *e*P P 17 38 04.9 -0.1
BJT pmax pmax
comp=Z,17nm,0.8s
BJT Baijiatuau 90.84 316 *e*P P 17 38 04.9 -0.1
comp=Z,17nm,0.8s,mb5.0
BMO Blue Mountains 90.85 38⇓*e*P P 17 38 04.3 -0.6
BMO pmax pmax
comp=Z,15nm,0.7s,mb5.0
BMO Blue Mountains 90.85 38⇓*e*P P 17 38 04.3 -0.6
comp=Z,15nm,0.7s,mb5.0
BJI Beijing 90.85 316 P P 17 38 05.6 +0.6
BJI AP pP 17 38 56.4 -2.2
BJI PP PP 17 41 44.3 -0.2
BJI SKS 17 48 14.8
BJI S S 17 48 46.7 +4.0
BJI SS SS 17 54 46.5 -5.2
BJI AMB AMB
comp=Z,34nm,1.0s,mb5.2
G09A Cove 90.86 38 ⇓P P 17 38 04.8 -0.1
baz=91
MNTX Cornudas Mount 90.87 54⇓*i*P P 17 38 05.1 -0.3
comp=Z,29nm,0.9s,mb5.2
MNTX *e*pP pP 17 38 58.1 -0.8
TXAR Lajitas Array 90.90 57 P P 17 38 06.0 +0.5
comp=Z,11nm,0.8s,mb4.8,baz=208,slow=6.5,SNR=83
TXAR PKKPbc PKKPbc 17 55 32.1 +2.6
comp=Z,0.6nm,0.6s,baz=91,slow=3.1,SNR=8.0
TXAR LR LR 18 08 57.3
comp=Z,127nm,20.0s,baz=130,slow=29
BGU Big Grassy Mou 90.93 43 *e*P P 17 38 05.0 -0.4
D07A Quincy 90.94 35 ⇑P P 17 38 05.0 -0.3
baz=91,SNR=6.3
NLU North Lily Min 90.95 45 *e*P P 17 38 05.6 +0.1
E08A Dider Farm, El 90.95 36 ⇓P P 17 38 05.2 -0.1
baz=91
H10A Noah's Angus R 90.99 39 P P 17 38 04.7 -0.9
baz=91,SNR=29
I11A Placerville 91.02 40 ⇑P P 17 38 05.2 -0.5
baz=91,SNR=11
B06A Marblemount 91.06 34 ⇓P P 17 38 05.2 -0.6
baz=91,SNR=5.2
F09A S2 Ranch, Elgi 91.06 37 ⇓P P 17 38 05.2 -0.7
baz=91,SNR=6.6
L13A Double Diamond 91.07 42 ⇓P P 17 38 05.9 -0.1
baz=91
M14A Sheep Mountain 91.08 43 ⇓P P 17 38 06.0 0.0

baz=91,SNR=19
A05A Maple Falls 91.09 33 ⇓P P 17 38 05.5 -0.4
baz=91
J12A Stokes Ranch, 91.10 41 ⇑P P 17 38 06.1 +0.1
baz=91,SNR=14
TMUT Trail Mountain 91.11 46 eP P 17 38 06.9 +0.7
C07A Waterville 91.22 35 P P 17 38 06.0 -0.5
baz=91,SNR=11
G10A Bishop Farm, J 91.23 38 P P 17 38 05.9 -0.8
baz=91,SNR=27
MPU Maple Canyon 91.26 45 eP P 17 38 07.0 +0.1
comp=Z,19nm,1.0s,mb5.0
K13A Stover Farm, H 91.33 42 ⇑P P 17 38 07.3 +0.1
baz=91,SNR=7.4
D08A Wollman Farm, 91.39 36 P P 17 38 07.1 -0.2
baz=91,SNR=18
SRU San Rafael 91.44 46 eP P 17 38 07.0 -0.8
SRU pmax pmax
comp=Z,36nm,1.2s,mb5.2
SRU San Rafael 91.44 46 eP P 17 38 07.0 -0.7
comp=Z,36nm,1.2s,mb5.2
A06A Chilliwack 91.45 33 ⇓P P 17 38 07.2 -0.4
baz=92
E09A Wood Farm, Sta 91.45 37 ⇓P P 17 38 07.1 -0.5
baz=92,SNR=9.0
H11A Donnelly 91.47 39 P P 17 38 07.3 -0.4
baz=92,SNR=43
CTU Camp Tracy 91.58 44⇓eP P 17 38 08.2 -0.2
comp=Z,30nm,1.2s,mb5.1
HVU Hansel Valley 91.59 43⇓iP P 17 38 08.4 0.0
HVU pmax pmax
comp=Z,79nm,1.3s,mb5.5
HVU Hansel Valley 91.59 43⇓iP P 17 38 08.4 0.0
comp=Z,79nm,1.3s,mb5.5
F10A Beach Ranch, E 91.60 38 ⇑P P 17 38 07.7 -0.7
baz=92,SNR=19
M15A Larsen Ranch, 91.60 43 ⇑P P 17 38 08.3 -0.2
baz=92,SNR=5.0
HLID Hailey 91.69 41 ⇑P P 17 38 09.0 +0.2
baz=92,SNR=21
MVCO Mesa Verde 91.69 48 eP P 17 38 08.9 -0.1
comp=Z,7.7nm,0.6s,mb4.8
MVCO Mesa Verde 91.69 48 ⇑P P 17 38 09.1 +0.2
baz=92
B07A Winthrop 91.70 34 P P 17 38 08.5 -0.2
baz=92,SNR=8.8
JLU Jordanelle 91.71 44 eP P 17 38 09.5 +0.5
D09A Jones Farm, Ri 91.72 36 ⇓P P 17 38 08.5 -0.3
baz=92,SNR=7.8
DAU Daniels Canyon 91.72 45 eP P 17 38 09.7 +0.7
J13A Cove Ranch, Pi 91.72 41 ⇓P P 17 38 08.9 -0.1
baz=92,SNR=16
G11A Walters Elk Ra 91.77 38 P P 17 38 08.4 -0.7
baz=92,SNR=51
C08A Higginbotham F 91.80 35 ⇑P P 17 38 08.6 -0.6
baz=92,SNR=5.2
K14A Jones Ranch, D 91.80 42 ⇓P P 17 38 09.3 0.0
baz=92,SNR=6.2
ANMO Albuquerque 91.84 51⇓iP P 17 38 09.5 -0.2
ANMO e*PP pP 17 39 01.9 -1.4
ANMO pmax pmax
comp=Z,36nm,1.2s
ANMO Albuquerque 91.84 51⇓iP P 17 38 09.5 -0.2
comp=Z,36nm,1.2s,mb5.2
ANMO epP pP 17 39 01.9 -1.4
PMR Palmer 91.86 13 eP P 17 38 07.2 -1.9
PMR pmax pmax
comp=Z,15nm,0.6s,mb5.1
PMR Palmer 91.86 13 eP P 17 38 07.2 -1.9
comp=Z,15nm,0.6s,mb5.1
TTA Tatalina 91.86 10 eP P 17 38 08.1 -1.0
TTA pmax pmax
comp=Z,90nm,1.6s,mb5.5
TTA Tatalina 91.86 10 eP P 17 38 08.1 -1.0
comp=Z,90nm,1.6s,mb5.5
A07A Ashnola River, 91.95 34 ⇓P P 17 38 09.6 -0.3
baz=92,SNR=9.8
E10A Myers Farm, Un 91.99 37 ⇑P P 17 38 09.7 -0.4
baz=92
B08A Colville Reser 92.03 35 P P 17 38 08.9 -1.3
baz=92,SNR=12
H12A Diamond D Ranc 92.03 40 P P 17 38 09.9 -0.4
baz=92,SNR=52
I13A Wildhorse Cree 92.07 41 ⇓P P 17 38 10.4 -0.1
baz=92,SNR=7.5
F11A Grangeville 92.13 38 P P 17 38 09.3 -1.5
baz=92,SNR=9.0
PV01 Paradox Valley 92.16 48 eP P 17 38 11.2 +0.1
WRAK Wrangell Islan 92.17 23 eP P 17 38 10.7 0.0
comp=Z,29nm,0.2s,mb5.9
C09A Chrisman Ranch 92.21 36 ⇓P P 17 38 10.6 -0.5
baz=92,SNR=5.5
SML Sawmill 92.22 14 eP P 17 38 09.1 -1.7
HWUT Hardware Ranch 92.22 43⇓iP P 17 38 10.7 -0.7
comp=Z,18nm,0.7s,mb5.1
XAN Xi'an 92.34 307 P P 17 38 12.7 +0.6
XAN SKS 17 48 24.7
XAN S S 17 48 52.9 -3.4
XAN AMB AMB
comp=Z,23nm,1.3s,mb5.0
XAN LR LR
comp=E,82nm,22.6s
XAN LR LR
comp=Z,91nm,14.3s
CHRT Chiangrai 92.37 291 ⇓P P 17 38 14.5 +2.0
comp=Z,187nm,0.9s,mb6.0
H13A Challis 92.38 40 ⇓P P 17 38 11.9 -0.1
baz=92,SNR=7.7
E11A Bogner Ranch, 92.39 38 P P 17 38 10.4 -1.5
baz=92,SNR=7.6
CM31 Chiang Mai Arr 92.40 289 eP P 17 38 14.5 +1.8
comp=Z,5.5nm,0.6s,mb4.7
A08A Turner Farm, O 92.44 34 ⇓P P 17 38 11.6 -0.5
baz=92,SNR=7.5
KMI Kunming 92.48 297 P P 17 38 15.0 +2.1
KMI AP pP 17 39 09.0 +2.5
KMI SKS 17 48 25.0
KMI S S 17 48 56.6 -1.3
KMI AMB AMB
comp=Z,36nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,165nm,4.1s
F12A Elk City 92.55 39 ⇑P P 17 38 11.9 -0.8
baz=93,SNR=41
CHG Chiang Mai 92.57 290 ⇓P P 17 38 15.5 +2.0
comp=Z,46nm,0.7s,mb5.6
CHTO Chiang Mai 92.57 290⇓iP P 17 38 14.7 +1.2
CHTO e*PP pP 17 39 08.8 +1.8
CHTO pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
CHTO Chiang Mai 92.57 290⇓iP P 17 38 14.7 +1.2
comp=Z,9.0nm,0.6s,mb5.0
CHTO epP pP 17 39 08.8 +1.8
B09A Rice 92.67 35 P P 17 38 12.5 -0.7
baz=93,SNR=8.1
G13A Cobalt 92.71 40 P P 17 38 13.2 -0.2
baz=93,SNR=18
A09A Danville 92.80 35 ⇑P P 17 38 13.5 -0.3
baz=93
F13A Darby 93.08 39 ⇑P P 17 38 14.5 -0.6
baz=93
AHID Auburn Hatcher 93.17 43⇓eP P 17 38 15.1 -0.6
comp=Z,6.9nm,0.6s,mb4.9
SEY Seymchan 93.19 347 iP P 17 38 14.4 -0.9
SEY Seymchan 93.19 347 iP P 17 38 14.4 -0.9
A10A Northport 93.33 35 ⇑P P 17 38 15.2 -1.0
baz=93
E13A Victor 93.55 38 ⇓P P 17 38 15.9 -1.4
baz=94
SKAG Skagway 93.58 20 eP P 17 38 17.8 +0.7
comp=Z,50nm,1.6s,mb5.3
B11A Sandpoint 93.60 36 ⇓P P 17 38 16.4 -1.1
baz=94
F14A Wisdom 93.63 39 ⇓P P 17 38 17.2 -0.5
baz=94
REDW Red Top Meadow 93.66 42⇓eP P 17 38 17.0 -0.9
comp=Z,39nm,1.0s,mb5.4
TPAW Teton Pass 93.68 42⇓iP P 17 38 18.1 +0.2
comp=Z,14nm,0.8s,mb5.0
SMCO Snowmass 93.77 47⇓iP P 17 38 18.6 +0.1
comp=Z,38nm,1.3s,mb5.3
SNOW Snow King Moun 93.78 42 eP P 17 38 18.6 +0.1
comp=Z,25nm,0.7s,mb5.3
D13A Huson 93.80 38 ⇓P P 17 38 19.1 +0.6
baz=94
DLMT Dillon 93.80 40 eP P 17 38 17.2 -1.3
comp=Z,40nm,1.4s,mb5.2

MCK McKinley 93.83 13 eP P 17 38 16.3 -1.9
MCK e 17 42 03.2
MCK pmax pmax
comp=Z,13nm,0.9s,mb5.0
MCK McKinley 93.83 13 eP P 17 38 16.2 -1.9
comp=Z,13nm,0.9s,mb5.0
MCK ePP PP 17 42 03.2 -4.1
IMW Indian Meadow 93.92 42 eP P 17 38 19.4 +0.3
comp=Z,49nm,1.4s,mb5.3
E14A Clinton 93.92 39 ⇓P P 17 38 18.4 -0.6
baz=94
A11A Hall Mountain, 93.93 36 P P 17 38 18.8 -0.2
baz=94,SNR=5.4
MOOW Moose Ponds 93.95 42 eP P 17 38 18.2 -1.0
comp=Z,46nm,1.6s,mb5.3
SDCO Great Sand Dun 93.98 49 eP P 17 38 19.6 0.0
comp=Z,5.7nm,0.7s,mb4.7
B12A Libby 94.03 36 ⇓P P 17 38 18.4 -1.1
baz=94
C13A Hot Springs 94.09 37 ⇓P P 17 38 19.2 -0.5
baz=94
F15A Butte 94.14 40 P P 17 38 19.8 -0.2
baz=94,SNR=7.1
FLWY Flagg Ranch 94.17 42 eP P 17 38 20.8 +0.6
comp=Z,31nm,0.9s,mb5.3
QLMT Earthquake Lak 94.17 41 eP P 17 38 20.4 +0.2
HHC Hu-ho-hao-te 94.21 314 eP P 17 38 19.7 -0.8
HHC AP pP 17 39 15.0 +0.9
HHC XP sP 17 39 38.0 +1.1
HHC PP PP 17 42 11.7 +0.9
HHC SKS 17 48 31.0
HHC S S 17 49 08.2 -4.2
HHC AMB AMB
comp=Z,35nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,334nm,4.0s
HHC LR LR
comp=N,202nm,18.9s
HHC LR LR
comp=E,260nm,21.4s
HHC LR LR
comp=Z,307nm,19.6s
A12A Yaak River Ran 94.28 36 ⇑P P 17 38 20.1 -0.5
baz=94
YFT Old Faithful 94.30 41 eP P 17 38 22.2 +1.4
D14A Greenough 94.31 38 ⇓P P 17 38 19.8 -1.0
baz=94
YMR Madison River 94.34 41 eP P 17 38 21.9 +0.9
comp=Z,9.5nm,0.7s,mb4.9
CHMT Chamberlain Mo 94.35 38 eP P 17 38 20.2 -0.8
JCT Junction City 94.37 58 eP P 17 38 20.7 -0.8
JCT pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
JCT Junction City 94.37 58 eP P 17 38 20.7 -0.8
comp=Z,5.4nm,0.6s,mb4.8
E15A Deer Lodge 94.40 39 ⇑P P 17 38 20.8 -0.5
baz=94,SNR=6.5
CD2 Chengdu 94.52 302 P P 17 38 24.0 +1.8
CD2 AP pP 17 39 16.8 +1.0
CD2 XP sP 17 39 39.5 +1.0
CD2 PP PP 17 42 17.0 +3.6
CD2 SKS 17 48 37.0
CD2 S S 17 49 14.9 -0.6
CD2 AMB AMB
comp=Z,60nm,0.8s,mb5.8
CD2 AMB AMB
comp=Z,190nm,6.6s
CD2 LR LR
comp=N,210nm,11.2s
CD2 LR LR
comp=E,230nm,12.2s
CD2 LR LR
comp=Z,140nm,8.8s
BOZ Bozeman (W) 94.52 40 eP P 17 38 21.3 -0.5
BOZ pmax pmax
comp=Z,28nm,1.3s,mb5.2
BOZ Bozeman (W) 94.52 40 eP P 17 38 21.3 -0.5
comp=Z,28nm,1.3s,mb5.2
BOZ Bozeman (W) 94.52 40 P P 17 38 21.8 0.0
baz=94,SNR=17
YNR Norris Junctio 94.54 41 eP P 17 38 22.8 +0.9
B13A Whitefish 94.56 37 ⇑P P 17 38 20.6 -1.3
baz=95
D15A Lincoln 94.83 39 ⇑P P 17 38 22.7 -0.4
baz=95
ISCO Idaho Springs 94.99 48 eP P 17 38 23.7 -0.4
ISCO pmax pmax
comp=Z,9.0nm,1.3s,mb4.7
ISCO Idaho Springs 94.99 48 eP P 17 38 23.7 -0.4
comp=Z,9.2nm,1.3s,mb4.8
HRY Holter Researc 95.02 39 eP P 17 38 23.9 -0.1
COLA College 95.07 12 iP P 17 38 21.5 -2.3
AMTX Amarillo 95.17 53 eP P 17 38 24.6 -0.4
comp=Z,7.8nm,0.6s,mb5.0
IMA2 Indian Mountai 95.17 10 eP P 17 38 23.0 -1.2
PHWY Pilot Hill 95.88 46 eP P 17 38 27.1 -1.0
BILL Bilibino 96.01 354 eP P 17 38 26.5 -1.5
BILL pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
BILL Bilibino 96.01 354 eP P 17 38 26.5 -1.5
comp=Z,7.3nm,0.7s,mb5.0
EGAK Eagle 96.40 15 eP P 17 38 28.9 -0.9
comp=Z,7.1nm,1.0s,mb4.8
LZH Lanzhou 96.97 307 eP P 17 38 33.5 +0.3
LZH AP pP 17 39 28.7 +1.8
LZH XP sP 17 39 51.6 +2.0
LZH ePP PP 17 42 34.8 +2.6
LZH SKS 17 48 48.5
LZH eS S 17 49 34.7 -1.7
LZH AMB AMB
comp=Z,21nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,103nm,9.2s
EDM Edmonton 98.02 33 eP P 17 38 36.0 -1.4
GTA
YAK Yakutsk 98.59 338⇑iP P 17 38 38.4 -1.4
YAK pmax pmax
comp=Z,17nm,1.5s,mb5.2
YAK Yakutsk 98.59 338⇑iP P 17 38 38.5 -1.3
LPAZ La Paz 99.35 114 P Pdif 17 38 48.1 +4.3
LPAZ PKKPbc PKKPbc 17 55 07.5 +1.3
LPAZ La Paz 99.35 114 P Pdif 17 38 48.1 +4.3
comp=Z,2.1nm,0.6s,baz=227,slow=3.8,SNR=11
LPAZ PKKPbc PKKPbc 17 55 07.5 +1.3
comp=Z,0.6nm,0.7s,baz=309,slow=1.8,SNR=4.0
ULN Ulaanbaatar 100.61 319 eP Pdif 17 38 48.9 -0.5
ULN pmax pmax
comp=Z,3.0nm,0.6s
ULN Ulaanbaatar 100.61 319 ePdif Pdif 17 38 48.9 -0.5
comp=Z,2.8nm,0.6s
SONM Songino Array 100.98 318 P Pdif 17 38 50.5 -0.5
comp=Z,0.7nm,0.7s,baz=121,slow=5.3,SNR=7.9
SONM PKiKP PKiKP 17 43 14.4 -0.5
comp=Z,0.2nm,0.4s,baz=104,slow=4.6,SNR=4.7
SONM PKKPbc PKKPbc 17 55 04.4 +1.5
comp=Z,1.6nm,0.6s,baz=277,slow=3.2,SNR=14
GTA Gaotai 101.34 308 eP Pdif 17 38 52.8 +0.2
GTA AP 17 39 44.5
GTA XP 17 40 05.9
GTA PP PP 17 43 07.1 +1.9
GTA SKS 17 49 07.9
GTA S Sdif 17 50 11.5 -1.4
GTA XS 17 51 39.8
GTA SS SS 17 57 16.6 -3.0
GTA AMB AMB
comp=Z,3.0nm,1.5s
GTA AMB AMB
comp=Z,67nm,7.3s
GTA LR LR
comp=N,65nm,16.8s
GTA LR LR
comp=E,104nm,16.8s
GTA LR LR
comp=Z,78nm,18.3s
CPUP Villa Florida 101.79 128 PKKPbc PKKPbc 17 54 58.0 -1.5
comp=Z,1.4nm,0.6s,baz=57,slow=3.7,SNR=5.3
YKA Yellowknife Ar 102.90 25 P Pdif 17 38 58.0 -1.5
comp=Z,1.0nm,0.7s,baz=238,slow=4.4,SNR=22
YKA PKiKP PKiKP 17 43 16.7 -1.2
comp=Z,0.5nm,0.5s,baz=231,slow=1.3,SNR=8.2
YKA PKKPbc PKKPbc 17 54 55.9 -2.0
comp=Z,1.3nm,0.7s,baz=42,slow=2.8,SNR=13
YKA PKKPab 17 55 18.8
comp=Z,1.9nm,0.9s,baz=47,slow=4.9,SNR=13
TIXI Tiksi 105.51 345 ePKPdf PKiKP 17 43 20.9 -1.6
JIRN Jiri 106.93 293 eP Pdif 17 39 20.2 +2.7
KKN Kakani 107.73 293 eP Pdif 17 39 22.1 +1.1
comp=Z,7.6nm,0.8s
DMN Daman 107.80 292 eP Pdif 17 39 24.5 +3.2
comp=Z,4.7nm,0.6s
GKN Gorkha 108.34 292 eP Pdif 17 39 22.9 -0.8
comp=Z,3.4nm,0.6s
DANN Dangsing 109.18 293 eP Pdif 17 39 24.8 -2.7
comp=Z,5.0nm,0.8s
RES Resolute Bay 114.54 17 ePKIKP PKiKP 17 43 37.8 -1.7
BDFB Brasilia 115.29 125 PKP PKPdf 17 43 43.1 +0.4
comp=Z,1.2nm,0.6s,baz=187,slow=19,SNR=4.4
ZAA0 Zalesovo Array 115.85 319 ePKPdf PKPdf 17 43 40.9 -1.6
ZALV Zalesovo Beam 115.85 319 PKP PKPdf 17 43 41.6 -0.9
comp=Z,5.7nm,0.6s,baz=139,slow=0.9,SNR=30
ZAL Zalesovo 115.86 319 PKIKP PKPdf 17 43 41.6 -0.9
MK31 Makanchi Array 115.88 311 ePKIKP PKPdf 17 43 41.5 -1.3
MKAR Makanchi Array 115.88 311 iPKIKP PKPdf 17 43 47.2 +4.4
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 115.88 311 Pdiff Pdif 17 40 02.0 +4.7
comp=Z,0.8nm,0.6s,baz=105,slow=5.3,SNR=6.0
MKAR PKP PKPdf 17 43 41.9 -0.9
comp=Z,6.5nm,0.6s,baz=133,slow=0.5,SNR=47
MKAR PKKPbc PKKPbc 17 54 17.2 +1.6
comp=Z,1.1nm,0.5s,baz=274,slow=4.1,SNR=6.8
NVS Novosibirsk 116.93 320 iPKIKP PKPdf 17 43 43.7 -0.9
THN Thein Dam 117.08 294 eP PKPdf 17 43 44.1 -1.5
KSH Kashi 118.71 302 ePKP PKPdf 17 43 54.0 +5.5
KSH ePPP 17 46 52.1
KSH ePKS 17 47 29.0
KSH PP PP
comp=Z,329nm,4.4s
KSH LR LR
comp=N,452nm,5.0s
KSH LR LR
comp=E,363nm,6.5s
KSH LR LR
comp=Z,310nm,5.6s
KURK Kurchatov 119.02 315 iPKIKP PKPdf 17 43 47.9 -0.8
KURK Kurchatov 119.02 315 ePKPdf PKPdf 17 43 47.5 -1.2
TKM2 Tokmak 2 119.71 306 ePKIKP PKPdf 17 43 49.8 -0.5
TKM2 Tokmak 2 119.71 306 P PKPdf 17 43 50.1 -0.2
SNR=17
KZA Kyzart 119.80 305 P PKPdf 17 43 51.3 +0.8
SNR=14
BOSA Boshof 119.85 204 PKP PKPdf 17 43 52.5 +1.3
BOSA PKKPbc PKKPbc 17 53 59.4 -2.0
BOSA Boshof 119.85 204 PKP PKPdf 17 43 52.5 +1.3
comp=Z,5.6nm,0.7s,baz=95,slow=2.6,SNR=14
BOSA PKKPbc PKKPbc 17 53 59.4 -2.0
comp=Z,2.1nm,0.6s,baz=339,slow=2.0,SNR=7.8
KBK Karagaybulak 120.13 305 P PKPdf 17 43 51.2 +0.1
SNR=7.3
CHMS Chumysh 120.33 306 P PKPdf 17 43 51.3 -0.2
SNR=10
UCH Uchtor 120.36 305 ePKPdf PKPdf 17 43 52.1 +0.5
UCH Uchtor 120.36 305 P PKPdf 17 43 52.4 +0.8
SNR=22
AAK Ala-Archa 120.45 305 iPKIKP PKPdf 17 43 50.6 -1.1
AAK Ala-Archa 120.45 305 ePKPdf PKPdf 17 43 50.4 -1.4
AAK Ala-Archa 120.45 305 P PKPdf 17 43 52.1 +0.3
SNR=8.5
USP Ospenovka 120.56 306 P PKPdf 17 43 51.7 -0.2
SNR=11
AML Almayashu 120.94 305 ePKPdf PKPdf 17 43 53.1 +0.4
AML Almayashu 120.94 305 P PKPdf 17 43 53.2 +0.5
SNR=26
EKS2 Erkin-Say 120.98 305 ePKPdf PKPdf 17 43 52.5 -0.2
EKS2 Erkin-Say 120.98 305 P PKPdf 17 43 53.0 +0.3
SNR=14
KBL Kabul 123.01 295 ePKPdf PKPdf 17 43 57.4 +0.5
SCHQ Schefferville 124.14 41 PKP PKPdf 17 43 57.4 -1.0
SCHQ Schefferville 124.14 41 PKP PKPdf 17 43 57.4 -1.0
comp=Z,3.2nm,0.5s,baz=309,slow=2.8,SNR=6.0
BRVK Borovoye 124.37 317 iPKIKP PKPdf 17 43 58.4 -0.5
BRVK Borovoye 124.37 317 iPKP PKPdf 17 43 58.4 -0.5
KBS Kingsbay 128.34 358 eP PKPdf 17 44 05.6 -0.3
SPB4 Spitsbergen Ar 128.86 356 ePKPdf PKPdf 17 44 06.2 -0.7
SVE Sverdlovsk 129.63 322 ePKIKP PKPdf 17 44 09.0 +0.2
SVE pmax pmax
comp=Z,18nm,0.6s
LSZ Lusaka 130.40 214 ePKPdf PKPdf 17 44 13.8 +2.1
LSZ eSKP 17 47 17.2
ARU Arti 130.83 322 iPKIKP PKPdf 17 44 10.7 -0.4
ARU 17 46 27.2
ARU SS SS 18 03 49.2 +6.9
ARU Arti 130.83 322 ePKPdf PKPdf 17 44 10.8 -0.3
KEV Kevo 135.33 348 ePKP PKPdf 17 44 08.9 -10
KEV ePKPpre 17 44 12.9
KMBO Kilima Mbogo 135.67 236 ePKIKP PKPdf 17 44 23.6 +2.0
KMBO Kilima Mbogo 135.67 236 PKP PKPdf 17 44 24.0 +2.4
comp=Z,3.5nm,0.7s,baz=238,slow=2.1,SNR=8.0
APA Apatity 135.68 343⇓ePKIKP PKPdf 17 44 20.0 +0.1
APA pmax pmax
comp=Z,18nm,0.6s
ARCES ARCESS Array B 135.79 348 PKhKP 17 44 14.9
comp=Z,4.9nm,0.5s,baz=124,slow=0.8,SNR=13
ARCES PKP PKPdf 17 44 20.2 +0.1
comp=Z,23nm,0.6s,baz=5.7,slow=1.8,SNR=29
ARCES SKPbc SKPbc 17 47 32.1 +1.2
comp=Z,4.9nm,0.7s,baz=15,slow=5.0,SNR=7.0
ARE0 ARCESS Array S 135.79 348 ePKPpre 17 44 14.3
ARE0 ePKPdf PKPdf 17 44 19.8 -0.4
JMIC Jan Mayen 136.12 5 PKP PKPdf 17 44 20.7 0.0
comp=Z,23nm,0.4s,baz=236,slow=18,SNR=3.8
KTK1 Kautokeino 136.65 349 eP PKPdf 17 44 18.8 -3.0
TRO Tromso 136.74 351 eP PKPdf 17 44 20.0 -1.9
TRO ePP PP 17 47 04.6 -2.3
QRN Al-Qurain 139.63 283 eP PKPdf 17 44 21.5 -7.0
QRN AMb AMB 17 44 32.7
comp=Z,81nm,0.6s
JOF Joensuu 139.74 340 epkp 17 44 17.5
UMR Umm Al-Rimmam139.93 284 eP PKPdf 17 44 21.5 -7.5
UMR AMb AMB 17 44 33.8
comp=Z,52nm,0.8s
MIB Mutribah 140.29 284 eP PKPdf 17 44 21.9 -7.7
MIB AMb AMB 17 44 27.9
comp=Z,34nm,0.6s
NAY Al-Naaiem 140.29 283 eP PKPdf 17 44 21.9 -7.8
NAY AMb AMB 17 44 33.4
comp=Z,13nm,0.7s
MBAR Mbarara 140.64 229 iPKHKP 17 44 25.7
MBAR Mbarara 140.64 229 iPKP PKPdf 17 44 25.8 -5.0
VRHR Novokhopersk 141.99 319 iPKHKP 17 44 26.3
VRHR pmax pmax
comp=Z,10.0nm,0.5s
VRHR pmax pmax
comp=N,20nm,0.7s
VRHR pmax pmax
comp=E,20nm,0.9s
DGRG David-gareji 142.00 303 P PKPdf 17 44 29.4 -2.9
MTA Mtatsminda 142.40 303 P PKPdf 17 44 30.2 -2.8
TBLG Delisi 142.44 303 P 17 44 20.2
FIA1 FINESS Array S 142.44 341 ePKPpre 17 44 26.2
FINES FINESS Array B 142.44 341 PKhKP 17 44 26.7
comp=E,8.9nm,0.6s,baz=49,slow=4.4,SNR=58
FINES SKPbc SKPbc 17 47 50.0 +0.6
comp=E,3.2nm,0.6s,baz=13,slow=2.5,SNR=4.2
OBN Obninsk 142.77 327⇑ePKHKP 17 44 29.0
OBN i 17 44 35.9
OBN e 17 45 31.2
OBN e 17 47 40.1
OBN eSS SS 18 06 06.0 +2.6
OBN pmax pmax
comp=Z,29nm,0.6s
OBN pmax pmax
comp=Z,22nm,0.5s
OBN Obninsk 142.77 327 iP PKPdf 17 44 29.1 -4.1
GOR Gori 142.86 304 P PKPdf 17 44 32.4 -1.4
BHD Baghdad 143.14 290 ex x 17 44 29.0
BHD ex x 17 48 13.0
ONI Oni 143.24 305 P PKPdf 17 44 33.0 -1.5
VRSR Storozhevoye 143.34 320 iPKHKP 17 44 30.0
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,1.0nm,0.5s
VRSR pmax pmax
comp=Z,8.0nm,0.5s
CLDR Caldiran 143.37 299 eP PKPdf 17 44 33.8 -1.0
VORD Divnogorie 143.38 320 PKHKP 17 44 30.8
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s
VORD pmax pmax

comp=E,10.0nm,0.5s
KIV Kislovodsk 143.51 308 *i* PKHKP 17 44 32.1
KIV pmax pmax
comp=Z,16nm,0.7s
KIV Kislovodsk 143.51 308 ⇓P PKPdf 17 44 32.4 -2.4
KIV Kislovodsk 143.51 308 ⇓*i*P PKPdf 17 44 32.4 -2.5
HKR Hakkari 143.63 297 *e*P PKPdf 17 44 34.8 -0.5
HAKT HAKKARI 143.66 297 ⇓*i*P PKPdf 17 44 33.7 -1.6
CUKT Cukurca 143.75 296 *e*P PKPdf 17 44 34.3 -1.3
KARS Kars 143.82 302 *e*P PKPdf 17 44 34.9 -0.7
VANB Van 143.83 298 *e*P PKPdf 17 44 34.7 -1.0
AGRB Hanur-Agry 144.03 300 *e*P PKPdf 17 44 34.1 -1.8
MSL Mosul 144.21 295 *ex* x 17 44 36.0
MSL *ex* x 17 48 17.0
VSU Vasula 144.59 338 *i* PKIKP PKPdf 17 44 34.3 -2.0
ARTV Artvin 144.61 303 ⇓*i*P PKPdf 17 44 36.6 -0.3
SIRT Sirnak 144.67 297 *e*P PKPdf 17 44 37.6 +0.5
BCA Borcka 144.79 304 *e*P PKPdf 17 44 37.3 +0.1
HOMI Horasan 144.80 301 ⇓*i*P PKPdf 17 44 37.4 +0.1
ERZM Erzurum 145.23 301 ⇑*i*P PKPdf 17 44 39.6 +1.6
EZM Erzurum 145.24 301 *e*P PKPdf 17 44 39.7 +1.7
BTMT Batman 145.35 298 *e*P PKPdf 17 44 39.8 +1.6
BNGL BINGOL 145.53 299 ⇓*i*P PKPab 17 44 41.1 +1.4
SOC Sochi 145.69 308 *d i*PKP2 PKPab 17 44 39.3 -0.9
SOC *e*PPP 17 51 36.8
KOPT Kop Dagi 145.88 301 ⇓*i*P PKPab 17 44 41.7 +0.7
NB2 NORSAR Subarra 145.93 352 PKP PKPdf 17 44 38.1 -0.4
comp=Z,72nm,0.8s,baz=15,slow=3.2
NB2 NORSAR Subarra 145.93 352 PKP PKPdf 17 44 38.1 -0.4
baz=15,slow=3.2
NOA NORSAR Array B 145.93 352 PKPbc PKPbc 17 44 38.2 -1.4
comp=Z,40nm,0.6s,baz=16,slow=2.8,SNR=187
MARD Mardin 146.00 297 ⇓*i*P PKPdf 17 44 39.6 +0.2
BINT Bingol 146.05 299 *e*P PKPab 17 44 42.4 +0.6
NAO01 NORSAR Array S 146.16 352 *e*PKPdf PKPdf 17 44 38.9 0.0
NAO01 *ep*PKPdf pPKPdf 17 45 32.6 -2.6
KTUT Trabzon 146.25 303 *e*P PKPab 17 44 41.9 -0.5
HYA Hoyanger 146.26 356 *e*P PKPdf 17 44 40.2 +1.2
HYA AMb AMB 17 44 43.9
comp=Z,73nm,1.4s
EZC Erzincan 146.44 301 *e*P PKPab 17 44 44.5 +1.3
GUMT Gumushane 146.56 302 *e*P PKPab 17 44 43.7 +0.1
ANN Anapa 146.90 311 *i* PKP2 PKPdf 17 44 42.4 +1.7
ANN pmax pmax
comp=Z,136nm,0.7s
PTK Pertek 146.90 300 *e*P PKPab 17 44 44.7 -0.4
ASK Askoy 147.00 357 *e*P PKPdf 17 44 41.7 +1.4
ASK AMb AMB 17 44 43.8
comp=Z,193nm,1.4s
ASK Askoy 147.00 357 *e*P PKPdf 17 44 42.2 +1.9
SVRC Sivrice-ELAZID 147.04 299 *e*P PKPab 17 44 45.3 -0.3
BER Bergen 147.09 357 *e*P PKPdf 17 44 42.3 +1.9
BER *e*P 17 44 42.6
BER AMb AMB 17 44 45.3
comp=Z,123nm,1.6s
BER AMb AMB 17 44 46.0
comp=Z,133nm,1.6s
BER Bergen 147.09 357 *e*P PKPbc 17 44 42.6 -0.4
MNK Minsk 147.09 332 *e*PKIKP PKPdf 17 44 41.0 +0.3
EGD Espegrend 147.21 357 *e*P PKPdf 17 44 42.0 +1.3
EGD AMb AMB 17 44 45.8
comp=Z,122nm,1.4s
ELZG Elazig 147.27 299 ⇓*i*P PKPab 17 44 46.2 -0.4
GRSN GIRESUNGRSN 147.37 304 ⇓*i*P PKPbc 17 44 44.6 +0.3
KONO Kongsberg 147.48 353 *e*P PKPdf 17 44 42.2 +1.1
KONO AMb AMB 17 44 44.8
comp=Z,98nm,1.9s
KONO Kongsberg 147.48 353 *d i*PKP2 PKPdf 17 44 43.2 +2.1
KONO Kongsberg 147.48 353 *e*PKPdf PKPdf 17 44 42.4 +1.3
KONO *ep*PKPdf pPKPdf 17 45 36.8 -0.7
ODD1 Odda 147.48 356 *e*P PKPdf 17 44 42.6 +1.5
ODD1 AMb AMB 17 44 45.8
comp=Z,119nm,1.5s
KEMA Kemaliye 147.53 301 ⇓*i*P PKPab 17 44 45.7 -1.8
URFA Urfa 147.54 297 *e*P PKPdf 17 44 42.3 +0.4
MALT Malatya 147.73 299 *e*P PKPab 17 44 45.3 -3.1
MALT Malatya 147.73 299 *e*PKPdf PKPdf 17 44 39.8 -2.4
MALT ⇓P 17 44 46.7
MALT *e*PKPab PKPab 17 44 47.2 -1.2
MALT Malatya 147.73 299 ⇓*i*P PKPab 17 44 46.7 -1.7
ATAB Bozova 147.95 297 ⇓*i*P PKPbc 17 44 47.1 +1.1
BLS5 Blasjo 147.98 356 *e*P PKPbc 17 44 45.9 +0.5
BLS5 AMb AMB 17 44 51.0
comp=Z,34nm,1.1s
KMY Karmoy 148.26 357 *e*P PKPbc 17 44 45.2 -0.8
KMY AMb AMB 17 44 46.9
comp=Z,156nm,0.6s
SVSK Karacayir 148.54 302 *e*P PKPdf 17 44 44.2 +0.7
RTO Tolsta 148.66 8⇑*e*P PKPbc 17 44 46.2 -1.0
GAZ Gaziantep 148.84 297 *e*P PKPbc 17 44 49.4 +1.1
AKASG Malin Array Be 148.96 326 PKPbc PKPbc 17 44 47.2 -0.9
comp=Z,63nm,0.6s,baz=43,slow=3.4,SNR=89
AKBB Malin Array Si 148.96 326 *e*PKPdf PKPdf 17 44 43.3 -0.5
AKBB *e*PKPbc PKPbc 17 44 47.1 -1.1
KVT Kavak 148.97 305 *e*P PKPbc 17 44 49.5 +1.0
SIM Simferopol' 149.04 313 *d i*PKP2 PKPbc 17 44 50.3 +1.8
SIM *e*PPP 17 51 31.0
SIM pmax pmax
comp=Z,81nm,0.7s
SIM MLR MLR
comp=Z,60nm,19.4s
KMRS Kahramanmaras 149.04 298 *e*P PKPbc 17 44 49.2 +0.4
SUW Suwalki 149.29 335 *e*PKP PKPbc 17 44 46.5 -2.4
SUW *e* 17 44 48.8
SUW *e* 17 44 53.5
SUW Suwalki 149.29 335 *e*PKP PKPbc 17 44 46.5 -2.3
SUW *e* 17 44 48.8
SUW *e* 17 44 53.5
DIKM Dikmen 149.38 306 *e*P PKPbc 17 44 50.4 +0.9
ANDN Andirin 149.47 298 ⇓*i*P PKPbc 17 44 51.1 +1.3
BNN Bunyan 149.63 301 *e*P PKPbc 17 44 50.4 +0.2
MCD Coleburn Disti 149.76 6⇑*e*P PKPbc 17 44 48.8 -1.0
BYBT Boyabat 149.79 306 *e*P PKPbc 17 44 51.5 +1.0
KOZT Kozan 149.89 298 *e*P PKPbc 17 44 54.2 +3.4
CTKT Corum 150.01 304 *i* P PKPbc 17 44 50.1 -0.9
CEYT Ceyhan 150.03 297 *e*P PKPbc 17 44 52.0 +0.8
HWQ Hawqa 150.15 291 *e*P PKPbc 17 44 52.6 +1.0
BZK Bozkurt 150.18 307 *e*P PKPbc 17 44 52.2 +0.9
CORM Corum 150.24 304 *e*P PKPbc 17 44 52.7 +1.1
RCY Rachaya 150.30 290 *e*P PKPbc 17 44 53.6 +1.6
AVNT Avonos 150.40 301 ⇓*i*P PKPbc 17 44 52.2 +0.2
BHL Bhannes 150.42 291 *e*P PKPbc 17 44 53.2 +1.0
TOS Tosya 150.45 305 *e*P PKPbc 17 44 52.8 +0.7
KARA Karaisali 150.53 298 *e*P PKPbc 17 44 53.1 +0.7
CDAG Cicekdag 150.57 303 ⇓*i*P PKPbc 17 44 49.4 -3.0
MUD Monsted U'grnd 150.65 352 ⇓*i*PKIKP PKPbc 17 44 51.9 -0.1
MUD *i* 17 44 58.6
MUD *e* 17 45 43.1
MUD pmax pmax
comp=Z,70nm,0.8s
MUD Monsted U'grnd 150.65 352 ⇓*i*P PKPbc 17 44 51.9 -0.1
comp=Z,70nm,0.8s
MUD *i* 17 44 58.6
MUD *e* 17 45 43.1
NIG Nigde 150.73 299 *e*P PKPbc 17 44 52.5 -0.3
CANT Cankiri 150.87 305 *e*P PKPdf 17 44 46.6 -0.6
COP Copenhagen 150.88 348 ⇓*i*PKIKP PKPbc 17 44 52.5 -0.1
COP *i* 17 44 59.6
COP pmax pmax
comp=Z,55nm,0.6s
COP Copenhagen 150.88 348 ⇓*i*P PKPbc 17 44 52.5 -0.1
comp=Z,55nm,0.6s
COP *i* 17 44 59.6
BSD Bornholm Skovb 150.88 345 ⇓*i*PKIKP PKPbc 17 44 51.8 -0.8
BSD *i* 17 45 45.4
BSD pmax pmax
comp=Z,94nm,0.7s
BSD Bornholm Skovb 150.88 345 ⇓*i*P PKPbc 17 44 51.8 -0.8
comp=Z,94nm,0.7s
BSD *i* 17 45 45.4
MERS Mersin 151.02 297 *e*P PKPbc 17 44 53.8 +0.2
KAMT Kaman 151.13 302 *e*P PKPbc 17 44 53.5 -0.2
SAFT Safranbolu 151.35 306 *e*P PKPbc 17 44 54.4 +0.3
EREN Erenkoy 151.49 294 *e*P PKPbc 17 44 55.7 +1.0
PHNC Paralimni 151.66 293 P PKPbc 17 44 55.4 +0.3
ANTO Ankara 151.68 304 *e*P PKPbc 17 44 55.0 +0.1
ANTO Ankara 151.68 304 *e*PKPbc PKPbc 17 44 55.2 +0.2
ANTO *e*PKPab PKPab 17 45 04.8 +0.2
ANTO *ep*PKPdf pPKPdf 17 45 47.0 +2.1
ANTO Ankara 151.68 304 ⇓*i*P PKPbc 17 44 55.1 +0.1
LOD Lodumlu 151.70 304 *e*P PKPbc 17 44 55.5 +0.5
IKL Isikli 151.78 296 *e*P PKPbc 17 44 55.3 0.0

GKP Gorka Klasztor 151.91 340 *e*PKP PKPdf 17 44 49.7 +1.4
GKP *e* 17 44 55.3
GKP *e* 17 45 04.7
GKP Gorka Klasztor 151.91 340 *e*PKP PKPdf 17 44 49.7 +1.4
GKP *e* 17 44 55.3
GKP *e* 17 45 04.7
ESK Eskdalemuir 152.00 6 *e*PKIKP PKPdf 17 44 47.7 -0.7
ESK *e* 17 44 53.6
ESK *e* 17 45 04.0
LFK Lefkose 152.04 294 *e*P PKPbc 17 44 56.7 +0.8
LVV L'vov 152.05 329 *e*PKIKP PKPbc 17 44 55.4 0.0
CSS Prodhromos 152.24 293 P PKPbc 17 44 56.6 +0.2
comp=Z,1.1nm,0.6s
CSS Prodhromos 152.24 293 *e*PKPbc PKPbc 17 44 56.4 +0.1
CSS *e*PKPab PKPab 17 45 07.5 +0.3
CSS *ep*PKPdf pPKPdf 17 45 51.5 +5.7
GAL1 Galloway 152.28 8⇑*e*P PKPbc 17 44 54.9 -0.9
MAMC Mammari 152.31 294 P PKPbc 17 44 57.2 +0.7
KDHN Kadinhani 152.55 301 ⇓*i*P PKPbc 17 44 57.0 +0.1
LEF Lefka 152.58 294 *e*P PKPbc 17 44 57.3 +0.2
SZAC Souni-Zanaja 152.63 293 P PKPbc 17 44 57.5 +0.3
KIZT Kizilcal 152.63 302 *e*P PKPbc 17 44 56.9 -0.2
KWP Kalwaria 152.79 330 *e*PKP PKPbc 17 44 50.5 -6.6
KWP *e* 17 44 58.1
KWP *e* 17 45 08.9
KWP Kalwaria 152.79 330 *e*PKP PKPbc 17 44 50.5 -6.6
KWP *e* 17 44 58.1
KWP *e* 17 45 08.9
ALFC Alevga 152.81 294 P PKPbc 17 44 57.4 -0.2
comp=Z,1.7nm,0.7s
DMUB Kingscourt 152.88 12 *e*P PKPbc 17 44 56.2 -0.9
DMUB Kingscourt 152.88 12 *e*P PKPab 17 45 07.5 -1.6
TIRR Tirgusor 152.90 315 ⇑*i*P PKPbc 17 44 57.8 +0.3
BSEG Bad Segeberg 152.92 349 *e*PKPbc PKPbc 17 44 57.3 +0.1
BURAR Bucovina Array 152.94 324 ⇑*i*P PKPbc 17 44 58.8 +1.3
PPCY Paphos 153.05 293 P PKPbc 17 44 58.1 -0.1
HARR Harsova 153.08 316 PKIKP PKPbc 17 44 59.1 +1.2
VRI Vrincioaia 153.17 320 ⇑P PKPbc 17 44 58.6 +0.5
VRI P 17 45 11.3
VRI Vrincioaia 153.17 320 ⇑*i*P PKPbc 17 44 58.6 +0.6
PLOR Plostina 153.22 320 ⇓*i*P PKPbc 17 44 58.4 +0.2
DCN Croghan 153.34 12 *e*P PKPbc 17 44 57.3 -0.9
KOLS Kolonicke sedl 153.49 329 *i* PKP PKPdf 17 44 51.0 +0.2
KOLS *i* 17 44 59.7
KOLS *e* 17 45 09.6
DLF Lyons Farm 153.52 11 *e*P PKPbc 17 44 58.2 -0.4
DLF Lyons Farm 153.52 11 *e*P PKPab 17 45 10.0 -1.8
OJC Ojcow 153.56 334 *e*PKPdf PKPdf 17 44 50.9 0.0
OJC *e*PKPbc PKPbc 17 44 58.5 -0.2
STHS Stebnicka Huta 153.59 331 *i* PKP PKPdf 17 44 51.7 +0.8
STHS *e* 17 44 59.3
STHS *i* 17 45 11.7
UZH Uzhgorod 153.70 329 *e*PKIKP PKPbc 17 44 57.0 -2.1
UZH *i* 17 45 11.7
MLR Muntele Rosu 153.83 320 ⇑*i*P PKPdf 17 44 52.4 +1.0
CRVS Cervenica-Dubn 153.88 330 *i* PKP PKPdf 17 44 51.5 +0.2
CRVS *e* 17 45 00.2
CRVS *i* 17 45 12.8
NIE Niedzica 153.98 332 *e*PKPdf PKPdf 17 44 52.5 +1.0
KSP Ksiaz 154.30 339 *e*PKP PKPdf 17 44 52.8 +0.9
KSP *e* 17 45 00.9
KSP *e* 17 45 14.9
KSP Ksiaz 154.30 339 *e*PKIKP PKPdf 17 44 52.1 +0.2
KSP *e* 17 45 14.7
KSP *e* 17 48 45.5
KSP Ksiaz 154.30 339 *i* PKIKP PKPbc 17 45 00.3 0.0
KSP Ksiaz 154.30 339 *e*PKPdf PKPdf 17 44 52.1 +0.2
KSP *e*PKPdf PKPbc 17 45 00.3 0.0
KSP *e*PKPab PKPab 17 45 14.7 -0.6
KSP *ep*PKP pPKPdf 17 45 53.1 +4.8
KSP *e*PP PP 17 48 45.5 -5.4
OKC Ostrava-Krasne 154.50 335 *e*PKPDF PKPdf 17 44 52.6 +0.4
OKC ⇑*e*PKP PKPbc 17 45 01.4 +0.6
OKC *e*PKPAB PKPab 17 45 15.4 -0.8
KECS Kecovo 154.62 330 *i* PKP PKPdf 17 44 52.6 +0.2
KECS *e* 17 45 00.6
KECS *i* 17 45 16.2
KECS Kecovo 154.62 330 *i* PKP PKPdf 17 44 52.5 +0.1
KECS *e* 17 45 00.6
KECS *i* 17 45 16.1
KECS *e* 00 33 14.0
UPC Upice 154.68 339 *e*PKPDF PKPdf 17 44 53.0 +0.6
UPC ⇑*e*PKP PKPbc 17 45 01.4 +0.3
UPC *e*PKPAB PKPab 17 45 16.4 -0.5
DPC Dobruska-Polom 154.72 338 *e*PKPDF PKPdf 17 44 53.0 +0.5
DPC ⇑*e*PKP PKPbc 17 45 01.9 +0.7
DPC *e*PKPAB PKPab 17 45 17.2 +0.2
DRGR 154.78 325 PKIKP PKPbc 17 45 02.2 +0.8
MORC Moravsky Berou 154.78 336 *e*PKPdf PKPdf 17 44 52.8 +0.2
MORC *e*PKPbc PKPbc 17 45 01.5 +0.1
MORC *e*PKPab PKPab 17 45 16.3 -1.0
MORC Moravsky Berou 154.78 336 ⇓*i*P PKPdf 17 44 51.2 -1.4
CLL Collm 154.83 344 *i* PKIKP PKPdf 17 44 52.4 -0.2
CLL *i* 17 45 16.2
CLL Collm 154.83 344 *i* PKP PKPdf 17 44 52.4 -0.2
CLL *i* P 17 45 01.2
CLL ⇓*i*PKP PKPab 17 45 16.2 -1.3
CLL *ep*PKP pPKPdf 17 45 55.0 +6.0
CLL Collm 154.83 344 *e*PKPdf PKPdf 17 44 52.5 -0.1
CLL *e*PKPbc PKPbc 17 45 01.6 +0.2
CLL *e*PKPab PKPab 17 45 16.6 -0.9
CLL *ep*PKPbc pPKPbc 17 45 55.7 -1.8
CLL *ep*PKPab pPKPab 17 46 12.4 +0.8
CLL *e*PP PP 17 48 47.4 -6.3
CLL *es*PP 17 50 00.0
CLL *e*SKKSdf SKKSdf 18 00 21.3 +4.1
CLL *e*PPS 18 02 03.6
CLL Collm 154.83 344 *i* PKPdf PKPdf 17 44 52.4 -0.2
comp=Z,38nm,1.8s
CLL *i* PKiKP PKiKP 17 45 01.2 -0.2
comp=Z,39nm,0.8s
CLL ⇓*i*PKPab PKPab 17 45 16.2 -1.3
comp=Z,33nm,0.7s
CLL *ep*PKiKP 17 45 55.0
CLL *ep*PKPab pPKPab 17 46 13.0 +1.4
CLL *e*PP PP 17 48 51.0 -2.7
CLL *ep*PP 17 49 56.0
CLL *e*PPP 17 52 18.0
CLL *e*PPS 18 01 59.0
CLL LmV 18 56 00.0
comp=Z,100nm,18.7s
IBBN Ibbenburen 154.88 352 *e*PKPdf PKPdf 17 44 52.8 +0.2
IBBN *e*PKPbc PKPbc 17 45 01.5 0.0
IBBN *e*PKPab PKPab 17 45 16.8 -0.9
CLZ Clausthal 154.92 348 *e*PKPdf PKPdf 17 44 53.1 +0.4
CLZ *e*PKPbc PKPbc 17 45 01.8 +0.2
CLZ *e*PKPab PKPab 17 45 16.8 -1.0
BRG Berggiesshubel 154.98 342 *i* PKIKP PKPdf 17 44 52.9 +0.1
BRG *i* 17 45 17.5
BRG *e* 17 45 46.9
BRG Berggiesshubel 154.98 342 *e*PKPdf PKPdf 17 44 53.1 +0.3
BRG *e*PKPbc PKPbc 17 45 02.0 +0.3
BRG *e*PKPab PKPab 17 45 17.4 -0.7
BRG Berggiesshubel 154.98 342 *i* PKP PKPdf 17 44 52.9 +0.1
comp=Z,19nm,1.2s
BRG *i* 17 45 01.8
comp=Z,27nm,0.7s
BRG *i* 17 45 17.5
comp=Z,52nm,1.4s
BRG *ep*PKP pPKPdf 17 45 46.9 -2.4
comp=Z,22nm,1.6s
BRG *i* 17 45 57.5
comp=Z,8.7nm,0.9s
SZH Strazhica 155.05 315 P PKPab 17 45 19.1 +0.3
FBE Freiberg 155.10 343 *e*PKPdf PKPdf 17 44 53.4 +0.4
FBE *e*PKPbc PKPdf 17 45 02.2 +9.2
FBE *e*PKPab PKPab 17 45 17.9 -0.7
PVCC Panska Ves 155.11 341 *e*PKPDF PKPdf 17 44 53.3 +0.3
PVCC ⇑*e*PKP PKPdf 17 45 02.5 +10
PVCC *e*PKPAB PKPab 17 45 18.4 -0.3
PSZ Piszkesteto 155.31 330 *e*PKIKP PKPdf 17 44 52.4 -0.9
PSZ *e* 17 45 18.5
PSZ *e* 17 48 57.1
PSZ Piszkesteto 155.31 330⇑*e*PKP PKPab 17 45 19.7 0.0
VYHS Vyhne 155.31 332 *i* PKP PKPdf 17 44 53.0 -0.3
VYHS *i* 17 45 02.5
VYHS *i* 17 45 19.2
WTSB Winterswijk 155.34 353⇑*e*P PKPab 17 45 18.3 -1.3
comp=Z,36nm,1.8s
KOLL Kolacno 155.42 333 *i* PKP PKPdf 17 45 03.5 +10

KOLL *i* PKPab 17 45 20.3 +0.2
PVL Pavlikeni 155.45 316 P PKPab 17 45 22.0 +1.5
VRAC Vranov 155.51 336 P PKPab 17 45 20.4 -0.1
PRU Pruhonice 155.60 340 *e*PKPDF PKPdf 17 44 53.6 -0.1
PRU ⇑*e*PKP PKPdf 17 45 03.5 +10
PRU *e*PKPAB PKPab 17 45 20.5 -0.3
MOX Moxa 155.78 345 *e*PKP PKPdf 17 44 53.8 -0.1
MOX *e* 17 45 20.1
comp=Z,34nm,1.1s
MOX Moxa 155.78 345 *e*PKPdf PKPdf 17 44 54.0 +0.1
MOX *e*PKPbc PKPdf 17 45 03.6 +10
TANN Tannenbergstha 155.79 343 *e*PKPdf PKPdf 17 44 54.2 +0.3
TANN *e*PKPbc PKPdf 17 45 03.9 +10
TANN *e*PKPab PKPab 17 45 20.8 -0.8
BUG Bochum--Univer 155.80 352 *e*PKPab PKPab 17 45 20.5 -1.1
WERD Werda 155.80 344 *e*PKPdf PKPdf 17 44 54.1 +0.2
WERD *e*PKPbc PKPdf 17 45 03.8 +10
WERD *e*PKPab PKPab 17 45 20.9 -0.8
GUNZ Gunzen 155.87 344 *e*PKPdf PKPdf 17 44 54.4 +0.4
GUNZ *e*PKPbc PKPdf 17 45 04.0 +10
GUNZ *e*PKPab PKPab 17 45 21.2 -0.8
TREC Trest 155.90 338 *e*PKPDF PKPdf 17 44 54.2 +0.1
TREC ⇑*e*PKP PKPdf 17 45 03.9 +10
TREC *e*PKPAB PKPab 17 45 21.8 -0.3
WERN Wernitzgruen 155.93 343 *e*PKPdf PKPdf 17 44 54.2 +0.1
WERN *e*PKPbc PKPdf 17 45 04.2 +10
WERN *e*PKPab PKPab 17 45 21.7 -0.5
NKC Novy Kostel 155.96 343 *e*PKPDF PKPdf 17 44 53.4 -0.7
NKC ⇑*e*PKP PKPdf 17 45 04.5 +10
NKC *e*PKPAB PKPab 17 45 21.5 -0.9
UBBA Unterbreizbach 155.96 347 *e*PKPdf PKPdf 17 44 54.0 -0.1
UBBA *e*PKPab PKPab 17 45 21.1 -1.2
MODS Modra-Piesok 156.03 334 *i* PKP PKPab 17 45 23.0 +0.3
BZS Buzias 156.13 324 PKIKP PKPdf 17 44 54.7 +0.2
ZST Bratislava 156.24 334 *i* PKP PKPab 17 45 23.3 -0.4
MANZ Manzenberg 156.27 344 *e*PKPdf PKPdf 17 44 54.6 0.0
MANZ *e*PKPbc PKPdf 17 45 04.9 +10
MANZ *e*PKPab PKPab 17 45 22.8 -0.9
ROTZ Rotzenmuhle 156.45 343 *e*PKPdf PKPdf 17 44 54.8 0.0
ROTZ *e*PKPab PKPab 17 45 23.8 -0.7
PGB Panagyurishte 156.53 315 P PKPab 17 45 26.3 +1.1
BEBN Eben Emael 156.61 354 PKPab PKPab 17 45 23.9 -1.2
HGN Heimansgroeve 156.62 354 *e*P PKPab 17 45 23.9 -1.3
comp=Z,3.8nm,0.2s
RZN Rozhen 156.63 313 P PKPab 17 45 25.8 +0.2
KHC Kasperske Hory 156.65 340 *e*PKPDF PKPdf 17 44 55.2 +0.1
KHC ⇑*e*PKP PKPdf 17 45 05.3 +10
KHC *e*PKPAB PKPab 17 45 25.0 -0.4
KHC *ex* x 17 45 31.5
UCC Uccle 156.71 356 PKPab PKPab 17 45 23.8 -1.7
MEM Membach 156.76 353 PKPab PKPab 17 45 24.5 -1.3
GRA1 Grafenberg Arr 156.76 345 *e*PKPdf PKPdf 17 44 55.4 +0.2
GRA1 *e*PKPab PKPab 17 45 25.4 -0.4
GRF Grafenberg Arr 156.76 345 *e*PKPdf PKPdf 17 44 55.4 +0.2
GRF *e*PKPab PKPab 17 45 25.4 -0.4
WET Wettzell 156.84 342 *e*PKPdf PKPdf 17 44 55.5 +0.2
WET *e*PKPab PKPab 17 45 26.0 -0.2
GEC2 GERESS Array S 156.87 340 *e*PKPdf PKPdf 17 44 55.3 -0.1
GEC2 *e*PKPbc PKPdf 17 45 05.9 +11
GEC2 *e*PKPab PKPab 17 45 25.7 -0.6
GERES GERESS Array B 156.87 340 PKP PKPdf 17 44 55.0 -0.4
comp=Z,1.6nm,0.8s,baz=90,slow=1.3,SNR=16
GERES PKPbc PKPdf 17 45 05.8 +10
comp=Z,3.0nm,0.7s,baz=90,slow=4.0,SNR=3.9
GERES PKPab PKPab 17 45 25.5 -0.8
comp=Z,4.3nm,0.6s,baz=55,slow=5.1,SNR=12
CONA Conrad Observa 156.93 336 ⇓*i*PKPdf PKPdf 17 44 55.2 -0.3
comp=Z,36nm,2.1s
CONA ⇓*i*PKPab PKPab 17 45 25.4 -1.2
comp=Z,115nm,2.0s
BCLA Clavier 157.01 354 PKPab PKPab 17 45 25.4 -1.5
VTS Vitosha 157.10 316 P PKPab 17 45 28.7 +1.1
PKSM Moragy 157.16 329 PKIKP PKPdf 17 44 56.0 +0.2
PKSM Moragy 157.16 329 ⇑*i*P PKPdf 17 44 55.0 -0.8
ABH Alteburg 157.28 351 PKP PKPdf 17 44 54.7 -1.2
MMB Musomiste 157.32 314 P PKPab 17 45 29.5 +0.9
GIVF Givet 157.37 355 *e*PKIKP PKPdf 17 44 55.7 -0.2
DOU Dourbes 157.39 356 PKPab PKPab 17 45 27.3 -1.2
BAIF Baives 157.45 356 *e*PKIKP PKPdf 17 44 55.8 -0.3
RUP Ruppelstein 157.53 351 PKIKP PKPdf 17 44 56.2 0.0
MOA Molln 157.56 338 ⇑*i* PKPab 17 45 28.6 -0.7
comp=Z,72nm,1.8s
KKB Krupnik 157.58 315 P PKPab 17 45 29.8 +0.1
ARSA Arzberg 157.62 335 ⇓*i* PKPab 17 45 29.3 -0.4
comp=Z,88nm,2.8s
ARSA Arzberg 157.62 335 ⇓*i*PKPdf PKPdf 17 44 55.4 -0.9
comp=Z,66nm,2.9s
ARSA ⇓*i*PKPab PKPab 17 45 29.3 -0.4
comp=Z,88nm,2.8s
WLF Walferdange 157.68 353 PKPab PKPab 17 45 29.3 -0.4
WLF Walferdange 157.68 353 *e*PKPab PKPab 17 45 29.0 -0.8
LIC Lamto 157.79 161 *e*PKIKP PKPdf 17 44 58.2 +0.6
comp=Z,90nm,1.3s
KOGS Kog 158.00 333 *e*PKPdf PKPdf 17 44 56.0 -0.8
KOGS *e*PKPab PKPab 17 45 30.6 -0.7
STU Stuttgart 158.07 347 *e*PKPdf PKPdf 17 44 57.0 +0.1
STU *e*PKPab PKPab 17 45 30.4 -1.1
LANF Langenberg 158.12 350 PKP PKPdf 17 44 56.8 -0.1
FUR Furstenfeldbru 158.17 343 *e*PKPdf PKPdf 17 44 57.0 0.0
DBIC Dimbokro 158.26 162 PKP PKPdf 17 44 59.4 +1.2
comp=Z,10nm,0.7s,baz=174,slow=0.7,SNR=14
DBIC PKPab PKPab 17 45 36.0 +2.8
comp=Z,14nm,0.7s,baz=178,slow=5.2,SNR=9.9
GROS Grobnik 158.29 334 *e*PKPdf PKPdf 17 44 56.3 -0.9
GROS *e*PKPab PKPab 17 45 31.1 -1.4
PERS Pernice 158.29 335 *e*PKPab PKPab 17 45 31.9 -0.6
KBA Koelnbreinsper 158.54 338 ⇑*i* PKPab 17 45 32.5 -1.1
comp=Z,76nm,2.2s
KBA Koelnbreinsper 158.54 338 ⇑*i*PKPdf PKPdf 17 44 56.3 -1.2
comp=Z,72nm,3.2s
KBA ⇑*i*PKPab PKPab 17 45 32.5 -1.1
comp=Z,76nm,2.2s
KBA Koelnbreinsper 158.54 338 ⇑*i*P PKPdf 17 44 56.3 -1.2
KBA *i* 17 45 32.5
BFO Black Forest 158.66 348 *e*PKPdf PKPdf 17 44 56.9 -0.7
BFO *e*PKPab PKPab 17 45 32.5 -1.6
FLN La Foliniere 158.73 4 *e*PKIKP PKPdf 17 44 58.1 +0.4
FLN *e*MLR MLR
comp=Z,108nm,21.0s
FLN La Foliniere 158.73 4 *e*PKPdf PKPdf 17 44 58.1 +0.4
FLN LR LR
comp=Z,110nm,21.0s
WTTA Wattenberg 158.90 341 ⇓*i* PKPab 17 45 34.7 -0.5
comp=Z,214nm,3.5s
WTTA Wattenberg 158.90 341 ⇓*i*PKPdf PKPdf 17 44 57.5 -0.4
comp=Z,89nm,2.7s
WTTA ⇓*i*PKPab PKPab 17 45 34.7 -0.5
comp=Z,214nm,3.5s
MEZF Maizieres J'vi 158.94 354 *e*PKIKP PKPdf 17 44 57.8 -0.1
ECH Echery 158.97 350 PKP PKPdf 17 44 57.0 -0.9
MOTA Moosalm 158.97 342 ⇑*i* PKPab 17 45 34.5 -0.9
comp=Z,33nm,1.3s
MOTA Moosalm 158.97 342 ⇑*i*PKPdf PKPdf 17 44 57.6 -0.4
comp=Z,44nm,2.3s
MOTA ⇑*i*PKPab PKPab 17 45 34.5 -0.9
comp=Z,33nm,1.3s
LJU Ljubljana 159.01 335 *e*PKPdf PKPdf 17 44 57.8 -0.3
THEF They Montfort 159.11 352 PKP PKPdf 17 44 57.2 -0.9
FELD Feldberg im Sc 159.16 348 PKP PKPdf 17 44 57.7 -0.5
VOY Vojsko 159.26 336 *e*PKPdf PKPdf 17 44 58.2 -0.2
VOY *e*PKPab PKPab 17 45 35.4 -1.4
CEY Cerknica 159.31 335 *e*PKPdf PKPdf 17 44 57.8 -0.6
CEY *e*PKPab PKPab 17 45 35.8 -1.2
MOF Molkenrain 159.33 350 PKP PKPdf 17 44 57.7 -0.7
DAVA Damuels 159.33 345 ⇑*i* PKPab 17 45 32.9 -4.1
comp=Z,90nm,3.2s
DAVA Damuels 159.33 345 ⇓*i*PKPdf PKPdf 17 44 57.7 -0.7
comp=Z,87nm,2.6s
DAVA ⇑*i*PKPab PKPab 17 45 35.1 -1.9
comp=Z,90nm,3.2s
DAVA Damuels 159.33 345 ⇓*i*P PKPdf 17 44 57.7 -0.7
DAVA *i* 17 45 32.9
FETA Feichten 159.37 343 ⇑*i*PKPdf PKPdf 17 44 57.8 -0.6
comp=Z,100nm,2.8s
FETA ⇓*i*PKPab PKPab 17 45 36.5 -0.7
comp=Z,79nm,2.6s
HINF Hinteralfeld 159.40 351 *e*PKIKP PKPdf 17 44 59.5 +1.0
LOMF Lomont 159.86 350 PKP PKPdf 17 44 57.9 -1.1
LOR Lormes 160.25 356 *e*PKIKP PKPdf 17 44 59.2 -0.2
comp=Z,22nm,1.1s
LOR *e*MLR MLR
comp=Z,88nm,22.2s
LOR Lormes 160.25 356 *e*PKPdf PKPdf 17 44 59.2 -0.2

LOR					LR	LR			
	comp=Z,90nm,22.3s								
SSF	**Saint Saulge**	**160.48**	**357**	*e*PKIKP	PKPdf	17 44 59.4	-0.3		
CABF	**La Chapelle**	**160.69**	**351**	*e*PKIKP	PKPdf	17 45 00.3	+0.4		
AVF	**Avril sur Loir**	**160.76**	**357**	*e*PKIKP	PKPdf	17 44 59.4	-0.6		
	comp=Z,16nm,1.1s								
MFF	**Saint Martin d**	**160.91**	**4**	*e*PKIKP	PKPdf	17 44 59.9	-0.3		
	comp=Z,22nm,1.1s								
TCF	**Toulx Ste Croi**	**161.29**	**359**	*e*PKIKP	PKPdf	17 45 00.2	-0.4		
LPL	**La Plagne**	**161.66**	**349**	*e*PKIKP	PKPdf	17 45 01.2	+0.2		
LPG	**La Plagne**	**161.68**	**349**	*e*PKIKP	PKPdf	17 45 01.2	+0.2		
	comp=Z,24nm,1.2s								
RJF	**Les Rejaudoux**	**162.27**	**1**	*e*PKIKP	PKPdf	17 45 01.5	-0.1		
RJF				*e*MLR	MLR				
	comp=Z,97nm,22.5s								
RJF	**Les Rejaudoux**	**162.27**	**1**	*e*PKPdf	PKPdf	17 45 01.5	-0.1		
RJF				LR	LR				
	comp=Z,100nm,22.5s								
ORIF	**Oris-en-Rattie**	**162.38**	**351**	*e*PKIKP	PKPdf	17 45 02.5	+0.8		
ORIF				*e*MLR	MLR				
	comp=Z,76nm,20.8s								
MBDF	**Montbardon**	**162.42**	**349**	*e*PKIKP	PKPdf	17 45 01.7	-0.1		
VIVF	**Saint-Julien-l**	**162.59**	**353**	*e*PKIKP	PKPdf	17 45 02.0	0.0		
PCAB	**Cabril**	**163.68**	**27**	*e*PKPdf	PKPdf	17 45 05.2	+2.1		
PTO	**Porto**	**163.91**	**30**	*e*PKPab	PKPab	17 45 56.4	-0.9		
PVRL	**Vila Real**	**164.17**	**28**	*e*PKPdf	PKPdf	17 45 05.0	+1.4		
PVRL	**Vila Real**	**164.17**	**28**	*e*PKPab	PKPab	17 45 57.5	-0.9		
EPF	**Esparros**	**164.50**	**4**	*e*PKIKP	PKPdf	17 45 05.2	+1.4		
MVO	**Moncorvo**	**164.54**	**26**	*e*PKPab	PKPab	17 45 59.3	-0.8		
ETSF	**Etsaut**	**164.55**	**7**	*e*PKIKP	PKPdf	17 45 04.6	+0.8		
PVIS	**Viseu**	**164.56**	**29**	*e*PKPab	PKPab	17 45 59.3	-0.9		
MTE	**Manteigas**	**164.97**	**29**	*e*PKPab	PKPab	17 46 00.9	-1.1		
PTOM	**Tomar**	**165.21**	**33**	*e*PKPab	PKPab	17 46 02.1	-1.0		
PCBR	**Castelo Branco**	**165.46**	**30**	*e*PKPdf	PKPdf	17 45 06.0	+1.3		
GUD	**Guadarrama**	**166.00**	**19**	PKIKP	PKPdf	17 45 07.1	+2.0		
EVO	**Evora**	**166.24**	**35**	*e*PKIKP	PKPdf	17 45 06.2	+0.8		
	comp=Z,27nm,0.9s								
EVO				*e*MLR	MLR				
	comp=Z,74nm,18.8s								
EBAD	**Badajoz**	**166.55**	**32**	PKP	PKPdf	17 45 04.9	-0.7		
PBEJ	**Beja**	**166.70**	**36**	*e*PKPdf	PKPdf	17 45 07.3	+1.5		
ESDC	**Sonseca Array**	**166.95**	**21**	PKP	PKPdf	17 45 06.2	+0.3		
ESDC	**Sonseca Array**	**166.95**	**21**	PKP	PKPdf	17 45 06.4	+0.5		
	comp=Z,1.6nm,0.7s,baz=327,slow=1.8,SNR=8.1								
ESDC				PKPab	PKPab	17 46 10.1	-0.6		
	comp=Z,3.9nm,0.7s,baz=324,slow=3.8,SNR=18								
ESDC				PP	PP	17 49 55.5	-3.1		
	comp=Z,0.1nm,0.3s,baz=351,slow=6.9,SNR=4.3								
EMIN	**Mina Concepcio**	**167.50**	**33**	PKP	PKPdf	17 45 07.1	+0.7		
EADA	**Adamuz**	**168.08**	**26**	PKP	PKPdf	17 45 06.3	-0.4		
EVIA	**Vianos**	**168.33**	**17**	PKIKP	PKPdf	17 45 08.0	+1.1		
EBAN	**Banos Encina**	**168.37**	**23**	PKIKP	PKPdf	17 45 07.6	+0.7		
ESPR	**Espera**	**168.61**	**33**	PKP	PKPdf	17 45 08.2	+1.1		
ELUQ	**Luque**	**168.73**	**26**	PKIKP	PKPdf	17 45 07.6	+0.4		
EQES	**Quesada**	**168.94**	**21**	PKP	PKPdf	17 45 08.0	+0.7		
ECOG	**Cogollos-Vega**	**169.24**	**24**	PKIKP	PKPdf	17 45 07.1	-0.4		

*ISCJB **03** 17:34:46.6±1.0, 3832N±003×2037E±007, h10km, Error ellipse: s-maj=9.1km s-min=3.7km az=156.0*
*CSEM **03** 17:34:47.8±0.2, 3834N×2045E, h2km, MD3.5, Error ellipse: s-maj=4.8km s-min=1.8km az=64.0*
*ATH **03** 17:34:47.0, 3830N×2040E, h10km±4km, MD3.5/6*
*NEIC **03** 17:34:47.5, 3833N×2045E, h4km, MD3.5(ATH), After ATH.*
*THE **03** 17:34:47.4, 3832N×2041E, h3km, ML3.7*

ISC 03 17:34:46.7±1.1, 3830N±004×2036E±008, h5km±6km, n22, σ1§03/30, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**125**	*e*Pg	**Pg**	**17 34 51.4**	**+0.4**
VLS				*e*Sg	**Sg**	**17 34 54.6**	**+0.8**
VLS	**Valsamata**	**0.22**	**125**	*e*Pg	**Pg**	**17 34 51.4**	**+0.4**
VLS				*e*Sg	**Sg**	**17 34 54.5**	**+0.6**
KFL	**Anninata**	**0.39**	**120**	*e*Pg	**Pg**	**17 34 54.4**	**+0.2**
LKD	**Levkas**	**0.46**	**29**	*e*Pg	**Pg**	**17 34 55.6**	**-0.1**
LKD				*e*Sg	**Sg**	**17 35 02.2**	**+0.6**
RLS	**Riolos of Patr**	**0.90**	**105**	*e*PG	**Pg**	**17 35 03.5**	**-0.5**
RLS				*e*SB	**Sb**	**17 35 15.9**	**-1.2**
RLS	**Riolos of Patr**	**0.90**	**105**	*e*Pg	**Pg**	**17 35 03.3**	**-0.7**
SELA	**Sela**	**1.20**	**91**	*e*Pg	**Pg**	**17 35 08.6**	**-1.2**
SELA				*e*Sg	**Sg**	**17 35 26.8**	**+1.4**
IGT	**Igoumenitsa**	**1.23**	**359**	*e*Pg	**Pg**	**17 35 10.2**	**0.0**
IGT				*e*Sg	**Sg**	**17 35 27.9**	**+1.7**
EVR	**Evrytania**	**1.29**	**61**	*e*PN	**Pn**	**17 35 10.0**	**-1.3**
EVR	**Evrytania**	**1.29**	**61**	*e*Pb	**Pb**	**17 35 09.8**	**-1.6**
JAN	**Janina**	**1.40**	**16**	*e*PB	**Pb**	**17 35 14.0**	**+0.6**
JAN				*e*SB	**Sb**	**17 35 32.6**	**+1.1**
KEK	**Kerkira**	**1.48**	**343**	*e*PG	**Pg**	**17 35 14.5**	**-0.5**
MEV	**Metsovon**	**1.63**	**24**	*e*Pg	**Pg**	**17 35 16.1**	**-1.8**
ITM	**Ithomi**	**1.67**	**132**	*e*PB	**Pb**	**17 35 18.5**	**+0.6**
ITM				*e*SB	**Sb**	**17 35 40.6**	**+1.4**
ITM	**Ithomi**	**1.67**	**132**	*e*Pb	**Pb**	**17 35 18.9**	**+1.0**
PYL	**PYLOS**	**1.78**	**142**	*e*Pb	**Pb**	**17 35 19.3**	**-0.5**
THL	**Klokotos Trika**	**1.80**	**45**	*e*PG	**Pg**	**17 35 20.4**	**-0.8**
LTK	**Loutraki**	**2.07**	**97**	*e*Pn	**Pn**	**17 35 22.5**	**+0.4**
LKR	**Lokris**	**2.10**	**80**	*e*Pn	**Pn**	**17 35 22.3**	**-0.1**
LKR	**Lokris**	**2.10**	**80**	*e*Pb	**Pb**	**17 35 23.7**	**-1.5**
NEO	**Neokhori**	**2.45**	**65**	*e*PN	**Pn**	**17 35 28.7**	**+1.5**
VLI	**Veliai**	**2.59**	**127**	*e*Pn	**Pn**	**17 35 33.1**	**+4.0**

*IDC **03** 17:41:34.4±1.1, 333S×1308E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.8/14, mbtmp3.7/8, ML3.8/2, Error ellipse: s-maj=47.5km s-min=20.1km az=75.0*
*ISCJB **03** 17:41:35.5±2.2, 335S±004×13073E±009, h15km±16km, mb4.4/25, MS4.4/2, Error ellipse: s-maj=15.3km s-min=6.4km az=166.0*
*NEIC **03** 17:41:36.7±0.6, 327S×1308E, h10km, mb4.3/8, Error ellipse: s-maj=19.7km s-min=7.7km az=70.0*
*BJI **03** 17:41:36.8, 372S×13096E, h39km, mB4.6, mb4.6, Ms4.3, Msz4.1*

ISC 03 17:41:39.0±2.2, 338S±004×13080E±009, h27km±16km, n44, σ1§24/53, mb4.4/25, MS4.5/2, 1D, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	**Tual**	**2.96**	**139**	‖*e*P	**Pn**	**17 42 23.5**	**-0.8**
KAKA	**Kakadu**	**9.42**	**170**	*e*P	**Pn**	**17 43 55.2**	**+2.2**
	12nm,0.6s						
KAKA				*e*S	**Sn**	**17 45 38.4**	**+0.4**
KAKA	**Kakadu**	**9.42**	**170**	*e*Pn	**Pn**	**17 43 54.5**	**+1.6**
	22nm,0.6s						
KAKA				*e*Sn	**Sn**	**17 45 37.0**	**-1.0**
FITZ	**Fitzroy Crossi**	**15.48**	**199**	*e*P	**Pn**	**17 45 14.7**	**-0.9**
	2.6nm,0.4s						
FITZ	**Fitzroy Crossi**	**15.48**	**199**	Pn	**Pn**	**17 45 14.8**	**-0.8**
	0.2nm,0.3s,baz=72,slow=9.5,SNR=8.2						
FITZ				Sn	**Sn**	**17 48 06.5**	**+0.1**
	0.1nm,0.3s,baz=193,slow=18,SNR=3.1						
WRAB	**Tennant Creek**	**16.82**	**168**	*e*Pn	**Pn**	**17 45 33.6**	**+1.0**
	9.5nm,0.6s						
WRAB				*e*Sn	**Sn**	**17 48 25.3**	**-14**
WRA	**Warramunga Arr**	**16.82**	**168**	Pn	**Pn**	**17 45 31.3**	**-1.5**
	0.5nm,0.3s,baz=351,slow=13,SNR=30						
WRA				Sn	**Sn**	**17 48 30.9**	**-8.1**
	0.3nm,0.3s,baz=349,slow=21,SNR=4.1						
WB2	**Warramunga Arr**	**16.83**	**168**	*e*P	**Pn**	**17 45 32.9**	**+0.1**
WB2	**Warramunga Arr**	**16.83**	**168**	*e*Pn	**Pn**	**17 45 34.4**	**+1.6**
WB2				*e*Sn	**Sn**	**17 48 30.9**	**-8.2**
KKM	**Kota Kinabalu**	**17.31**	**303**	Pn	**Pn**	**17 45 39.3**	**+0.4**
ASAR	**Alice Springs**	**20.39**	**172**	P	**P**	**17 46 17.2**	**+3.3**
	21nm,0.5s,baz=352,slow=11,SNR=540						
ASAR				S	**S**	**17 49 58.8**	**-2.3**
	0.5nm,0.7s,baz=351,slow=20,SNR=3.6						
MBWA	**Marble Bar**	**20.70**	**210**	*e*P	**P**	**17 46 16.7**	**-0.4**
KSM	**Kuching**	**21.04**	**283**	*e*P	**P**	**17 46 20.8**	**-0.2**
CTA	**Charters Tower**	**22.43**	**139**	P	**P**	**17 46 35.8**	**-0.1**
	2.4nm,0.8s,mb3.6,baz=315,slow=8.6,SNR=3.0						
STKA	**Stephens Creek**	**30.12**	**161**	*e*P	**P**	**17 47 49.7**	**+3.3**
STKA	**Stephens Creek**	**30.12**	**161**	P	**P**	**17 47 49.6**	**+3.2**
	0.8nm,0.4s,mb3.8,baz=342,slow=12,SNR=5.5						
GYA	**Guiyang**	**37.74**	**323**	P	**P**	**17 48 54.2**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
KMI	**Kunming**	**39.30**	**318**	P	**P**	**17 49 09.2**	**+3.4**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.7s,mb4.3						
MJAR	**Matsushiro Arr**	**40.31**	**9**	P	**P**	**17 49 11.8**	**-2.2**
	comp=Z,0.8nm,0.8s,mb3.5,baz=186,slow=10,SNR=4.0						
KSRS	**Korea Array**	**40.71**	**356**	P	**P**	**17 49 16.3**	**-1.0**
	comp=Z,1.6nm,1.0s,mb3.6,baz=176,slow=9.7,SNR=4.4						
CD2	**Chengdu**	**42.75**	**325**	*e*P	**P**	**17 49 35.6**	**+1.5**
CD2				PP	PP	17 51 17.6	+3.9
CD2				S	**S**	**17 55 59.0**	**+2.6**
CD2				SS	SS	17 59 03.7	-4.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
LZH	**Lanzhou**	**46.65**	**330**	*e*P	**P**	**17 50 07.5**	**+2.4**
LZH				PP	PP	17 51 57.2	+2.1
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,104nm,5.7s						
LZH				LR	LR		
	comp=N,437nm,14.5s						
LZH				LR	LR		
	comp=Z,672nm,18.2s,MS4.6						
HHC	**Hu-ho-hao-te**	**47.40**	**340**	*e*P	**P**	**17 50 12.0**	**+1.1**
HHC				PCP	PcP	17 51 42.1	+0.8
HHC				PP	PP	17 52 02.5	+0.1
HHC				S	**S**	**17 57 04.2**	**+0.8**
HHC				SS	SS	18 00 28.8	-2.7
HHC				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
HHC				LR	LR		
	comp=N,138nm,18.9s,MS4.2						
HHC				LR	LR		
	comp=E,200nm,18.5s,MS4.2						
HHC				LR	LR		
	comp=Z,284nm,16.7s,MS4.3						
JIRN	**Jiri**	**52.89**	**309**	*e*P	**P**	**17 50 52.5**	**-0.3**
	comp=Z,5.7nm,0.8s,mb4.6						
GUN	**Gumba**	**53.25**	**309**	*e*P	**P**	**17 50 54.8**	**-0.7**
	comp=Z,12nm,0.7s,mb4.9						
KKN	**Kakani**	**53.66**	**308**	*e*P	**P**	**17 50 57.5**	**-1.0**
DMN	**Daman**	**53.71**	**308**	*e*P	**P**	**17 50 57.8**	**-1.1**
	comp=Z,4.3nm,0.6s,mb4.5						
GKN	**Gorkha**	**54.26**	**308**	*e*P	**P**	**17 51 02.4**	**-0.5**
	comp=Z,6.8nm,0.7s,mb4.7						
KOLN	**Koldanda**	**54.97**	**307**	*e*P	**P**	**17 51 07.2**	**-0.9**
	comp=Z,9.9nm,0.7s,mb4.9						
DANN	**Dangsing**	**55.11**	**308**	*e*P	**P**	**17 51 08.1**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0						
SONM	**Songino Array**	**55.30**	**340**	P	**P**	**17 51 10.3**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.7,baz=131,slow=7.9,SNR=3.7						
WMQ	**Urumqi**	**60.84**	**326**	*e*P	**P**	**17 51 50.0**	**+1.1**
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.3						
MK31	**Makanchi Array**	**65.67**	**326**	P	**P**	**17 52 20.8**	**-0.1**
MKAR	**Makanchi Array**	**65.67**	**326**	P	**P**	**17 52 20.7**	**-0.2**
	comp=Z,0.9nm,0.5s,mb4.1,baz=122,slow=6.8,SNR=8.8						
TKM2	**Tokmak 2**	**67.74**	**319**	P	**P**	**17 52 33.7**	**-0.5**
UCH	**Uchtor**	**68.14**	**318**	P	**P**	**17 52 37.8**	**+1.1**
	comp=Z,1.5nm,0.8s,mb4.1						
AAK	**Ala-Archa**	**68.33**	**319**	P	**P**	**17 52 37.6**	**-0.3**
	comp=Z,1.1nm,0.8s,mb3.9						
ZALV	**Zalesovo Beam**	**68.72**	**333**	P	**P**	**17 52 39.6**	**-0.5**
	comp=Z,0.6nm,0.5s,mb3.8,baz=120,slow=5.7,SNR=3.2						
KURK	**Kurchatov**	**69.88**	**328**	*e*P	**P**	**17 52 47.1**	**-0.2**
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**75.53**	**327**	P	**P**	**17 53 17.5**	**-3.4**
	comp=Z,4.0nm,0.9s,mb4.3						
MAW	**Mawson**	**78.59**	**201**	*e*P	**P**	**17 53 40.3**	**+2.5**
	comp=Z,4.8nm,0.6s,mb4.6						
MIB	**Mutribah**	**85.99**	**300**	*e*P	**P**	**17 54 15.7**	**-1.7**
NAY	**Al-Naaiem**	**86.02**	**299**	*e*P	**P**	**17 54 16.3**	**-1.2**
QSPA	**South Pole Qui**	**86.58**	**180**	P	**P**	**17 54 21.7**	**+2.5**
	comp=Z,2.0nm,0.8s,mb4.4						

*IDC **03** 18:18:49.5±1.3, 1045N×6204W, h0km, mb3.5/4, mb1 3.8/6, mb1mx3.6/22, mbtmp3.7/6, ML3.7/2, MS3.4/2, Ms1 3.4/2, ms1mx2.7/31, Error ellipse: s-maj=25.7km s-min=19.7km az=140.0*
*ISCJB **03** 18:18:51.4±0.6, 1032N±002×6219W±002, h12km±4km, mb3.7/5, Error ellipse: s-maj=4.6km s-min=3.1km az=144.4*
*NEIC **03** 18:18:52.8, 1042N×6216W, h7km, MD3.9(TRN), After TRN.*
*FUNV **03** 18:18:52.8, 1036N×6218W, h10km, MW3.6*
*TRN **03** 18:18:53.4, 1037N×6209W, h13km, MD3.9, M3.7(FDF)*

ISC 03 18:18:52.0±0.5, 1034N±002×6220W±002, h9km±3km, n44, σ0§99/66, mb3.7/5, 4C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.31**	**356**	*e*P	**Pg**	**18 18 58.6**	**+0.5**
GUIV				*e*S	**Sg**	**18 19 02.6**	**+0.4**
ALNG	**Atlantic LNG**	**0.53**	**107**	*e*P	**Pg**	**18 19 01.2**	**-0.9**
ALNG				*e*S	**Sg**	**18 19 11.8**	**+2.7**
TCE	**Chacachacare**	**0.57**	**51**	*e*P	**Pg**	**18 19 02.3**	**-0.7**
TCE				*e*S	**Sg**	**18 19 09.8**	**-0.5**
TPP	**Pointe-a-Pierr**	**0.74**	**91**	*e*P	**Pg**	**18 19 06.8**	**+0.6**
GUNV	**Guanoco**	**0.75**	**257**	*e*P	**Pg**	**18 19 06.7**	**+0.2**
GUNV				*e*S	**Sg**	**18 19 18.1**	**+1.8**
TRN	**Trinidad (W)**	**0.84**	**68**	↑*e*P	**Pg**	**18 19 06.9**	**-1.3**
TRN				*e*S	**Sg**	**18 19 18.5**	**-0.6**
CRUV	**Carupano**	**1.07**	**288**	↓*e*P	**Pg**	**18 19 11.5**	**-1.1**
CRUV				*e*S	**Sg**	**18 19 24.9**	**-1.8**
TBH	**Brigand Hill**	**1.12**	**82**	↑*e*P	**Pg**	**18 19 13.4**	**-0.2**
TBH				*e*S	**Sg**	**18 19 32.2**	**+4.0**
TBH				*e*S	**Sn**	**18 19 34.6**	**+5.1**
ITEV	**Isla Los Testi**	**1.37**	**318**	↑*e*P	**Pn**	**18 19 16.9**	**-0.3**
ITEV				*e*S	**Sb**	**18 19 35.0**	**-0.3**
TPR	**Prospect**	**1.63**	**59**	*e*P	**Pn**	**18 19 20.7**	**-0.2**
TPR				*e*S	**Sg**	**18 19 44.8**	**+0.3**
TPR	**Prospect**	**1.63**	**59**	*e*P	**Pn**	**18 19 20.7**	**-0.2**
TPR				*e*S	**Sg**	**18 19 44.5**	**0.0**
TPR				*e*S	**Sg**	**18 19 44.8**	**+0.3**
ORIV	**Oritupano**	**1.73**	**224**	*e*P	**Pn**	**18 19 23.4**	**+1.1**
ORIV				*e*S	**Sn**	**18 19 45.1**	**+0.5**
GRW	**Mount Saint Ca**	**1.89**	**16**	*e*P	**Pn**	**18 19 25.3**	**+0.9**
GRW				*e*S	**Sn**	**18 19 47.5**	**-0.9**
GRW	**Mount Saint Ca**	**1.89**	**16**	*e*P	**Pn**	**18 19 25.3**	**+0.9**
GRW				*e*S	**Sn**	**18 19 47.5**	**-0.9**
GRW				*e*S	**Sn**	**18 19 48.8**	**+0.4**
GRHS	**Sauteurs**	**1.95**	**16**	*e*P	**Pn**	**18 19 26.7**	**+1.4**
GRHS				*e*S	**Sn**	**18 19 48.7**	**-1.3**
GRIC	**Isle de Caille**	**2.03**	**17**	*e*P	**Pn**	**18 19 26.7**	**+0.3**
GRIC				*e*S	**Sn**	**18 19 51.5**	**-0.4**
GRIC				*e*S	**Sn**	**18 19 51.5**	**-0.3**
GRSS	**Sisters**	**2.03**	**16**	*e*P	**Pn**	**18 19 26.7**	**+0.3**
GRSS				*e*S	**Sn**	**18 19 53.1**	**+1.2**
RIOV	**Rio Grande**	**2.29**	**170**	*e*P	**Pn**	**18 19 29.9**	**0.0**
PCRV	**Puerto La Cruz**	**2.41**	**266**	*e*P	**Pn**	**18 19 31.0**	**-0.5**
PCRV	**Puerto La Cruz**	**2.41**	**266**	Pn	**Pn**	**18 19 32.3**	**+0.8**
	9.1nm,0.3s,baz=103,slow=4.8,SNR=22						
PCRV				Sn	**Sn**	**18 20 03.6**	**+2.4**
	10nm,0.3s,baz=122,slow=7.8,SNR=4.5						
PCRV				LR	LR	18 20 41.6	
	comp=Z,214nm,18.1s,baz=74,slow=44						
GURV	**El Guri**	**2.71**	**199**	*e*P	**Pn**	**18 19 35.6**	**0.0**
IBAV	**Isla La Blanqu**	**2.76**	**303**	*e*P	**Pn**	**18 19 37.2**	**+0.7**
PRGV	**PARIAGUAN**	**2.88**	**237**	*e*P	**Pn**	**18 19 38.4**	**+0.3**
PRGV				*e*S	**Sn**	**18 20 11.2**	**-1.7**
CUPV	**Cœpira**	**3.54**	**266**	*e*P	**Pn**	**18 19 47.8**	**+0.6**
BIRV	**Birongo**	**4.01**	**272**	*e*P	**Pn**	**18 19 53.5**	**-0.1**
MERV	**Las Mercedes**	**4.18**	**255**	*e*P	**Pn**	**18 19 56.3**	**+0.3**
MVM	**Montagne Vaucl**	**4.38**	**17**	*e*P	**Pn**	**18 19 59.7**	**+1.0**
FDF	**Fort de France**	**4.49**	**13**	*e*P	**Pn**	**18 20 00.4**	**+0.2**
LUEV	**Luepa**	**4.52**	**171**	*e*P	**Pn**	**18 19 59.6**	**-1.1**
FUNV	**FUNVISIS**	**4.54**	**272**	*e*P	**Pn**	**18 20 00.6**	**-0.3**
CAOV	**Caicara del Or**	**5.05**	**234**	↑*e*P	**Pn**	**18 20 07.5**	**-0.5**
CAOV				*e*S	**Sn**	**18 21 02.9**	**-3.7**
TURV	**Turiamo**	**5.55**	**272**	*e*P	**Pn**	**18 20 14.8**	**-0.1**
MGG	**Marie-Galante**	**5.61**	**9**	*e*P	**Pn**	**18 20 17.7**	**+2.0**
BCG	**Bois Riant Cap**	**5.74**	**6**	*e*P	**Pn**	**18 20 23.1**	**+5.7**
BAUV	**El Baul**	**5.92**	**257**	‖↓*e*P	**Pn**	**18 20 18.7**	**-1.3**
SDV	**Santo Domingo**	**8.44**	**261**	Pn	**Pn**	**18 20 54.7**	**+0.1**
	1.6nm,0.3s,baz=102,slow=6.8,SNR=16						
SDV				Lg		18 23 25.7	
	0.5nm,0.3s,baz=48,slow=24,SNR=3.8						
SIV	**San Ignacio**	**26.18**	**178**	P	**P**	**18 24 26.9**	**-0.2**
	0.9nm,0.7s,mb3.4,baz=25,slow=11,SNR=6.6						
TZTN	**Tazewell**	**32.47**	**327**	*e*P	**P**	**18 25 21.1**	**-1.6**
	15nm,0.9s,mb4.8						
TXAR	**Lajitas Array**	**43.05**	**302**	P	**P**	**18 26 53.4**	**+1.0**
	0.3nm,0.7s,mb3.1,baz=130,slow=9.3,SNR=4.4						
YKA	**Yellowknife Ar**	**64.11**	**336**	P	**P**	**18 29 23.1**	**-3.2**
	0.2nm,0.5s,mb3.4,baz=112,slow=7.2,SNR=6.7						
DAVOX	**Davos/Dischmat**	**70.27**	**44**	LR	LR	18 54 09.1	
	comp=Z,77nm,18.8s,baz=151,slow=30						
FINES	**FINESS Array B**	**80.18**	**29**	P	**P**	**18 31 01.5**	**-1.0**
FINES	**FINESS Array B**	**80.18**	**29**	P	**P**	**18 31 01.5**	**-1.0**
	0.3nm,0.4s,mb3.6,baz=251,slow=4.3,SNR=5.2						

NEIC 03 18:23:27.4, 3837S×17592E, h204km, MG3.9(WEL), After WEL., North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.51**	**193**	P	Pn	18 23 54.8	-0.1
WTVZ	**West Tongariro**	**0.79**	**199**	P	Pn	18 23 56.2	0.0
TWVZ	**Taurewa**	**0.80**	**208**	P	Pn	18 23 56.2	-0.1
NGZ	**Ngauruhoe**	**0.84**	**197**	P	Pn	18 23 56.7	+0.2
WPVZ	**Whakapapa**	**0.88**	**199**	P	Pn	18 23 56.9	+0.1
BKZ	**Black Stump Fm**	**0.91**	**151**	P	Pn	18 23 56.9	0.0
TUVZ	**Tukino**	**0.92**	**193**	P	Pn	18 23 57.2	+0.2
FWVZ	**Far West T-bar**	**0.93**	**198**	P	Pn	18 23 57.2	+0.2
WNVZ	**Wahianoa**	**0.99**	**195**	P	Pn	18 23 57.5	+0.1
MOVZ	**Moawhango**	**1.04**	**187**	P	Pn	18 23 57.5	-0.3
VRZ	**Vera Road**	**1.18**	**230**	P	Pn	18 23 58.7	-0.1
WAZ	**Wanganui**	**1.56**	**207**	*e*P	Pn	18 24 01.9	0.0
NEZ	**North Egmont**	**1.69**	**237**	P	Pn	18 24 03.5	+0.4
TSZ	**Takapari Road**	**1.69**	**179**	P	Pn	18 24 03.0	-0.1
PKE	**Pukeiti**	**1.72**	**241**	P	Pn	18 24 03.5	+0.1
MRZ	**Mangatainoka R**	**2.31**	**186**	P	Pn	18 24 08.5	-0.8
KIW	**Kapiti Island**	**2.61**	**197**	P	Pn	18 24 11.5	-1.1
MTW	**Mount Morrison**	**2.80**	**186**	P	Pn	18 24 13.5	-1.4
CAW	**Cannon Point**	**2.81**	**193**	P	Pn	18 24 13.8	-1.2
MRW	**Makara Radio**	**3.01**	**198**	P	Pn	18 24 16.0	-1.2
WEL	**Wellington**	**3.04**	**197**	P	Pn	18 24 16.5	-1.2
SNZO	**South Karori**	**3.08**	**197**	P	Pn	18 24 16.6	-1.5
MSWZ	**Moikau Station**	**3.08**	**189**	P	Pn	18 24 16.6	-1.5
TCW	**Tory Channel**	**3.11**	**204**	P	Pn	18 24 17.1	-1.3
BHW	**Baring Head**	**3.14**	**195**	P	Pn	18 24 17.3	-1.5
NNZ	**Nelson**	**3.45**	**214**	P	Pn	18 24 20.7	-1.8
QRZ	**Quartz Range**	**3.59**	**226**	*e*P	Pn	18 24 21.6	-2.6
CMWZ	**Cape Campbell**	**3.62**	**201**	P	Pn	18 24 23.9	-0.6
BSWZ	**Blackbirch Sta**	**3.69**	**205**	P	Pn	18 24 24.0	-1.4
THZ	**Tophouse**	**4.10**	**213**	*e*P	Pn	18 24 28.6	-1.9
KHZ	**Kahutara**	**4.43**	**203**	*e*P	Pn	18 24 33.0	-1.6
DSZ	**Denniston Nort**	**4.62**	**222**	*e*P	Pn	18 24 34.1	-2.9
LTZ	**Lake Taylor**	**5.21**	**211**	*e*P	Pn	18 24 41.6	-2.9
MQZ	**McQueen's Vall**	**5.88**	**204**	P	Pn	18 24 50.0	-3.0
RPZ	**Rata Peaks**	**6.48**	**213**	*e*P	Pn	18 24 58.5	-2.3
FOZ	**Fox Glacier**	**7.01**	**220**	*e*P	Pn	18 25 04.0	-3.6
LBZ	**Lake Benmore**	**7.40**	**214**	*e*P	Pn	18 25 10.0	-2.6
ODZ	**Otahua Downs**	**7.75**

*IDC **03** 18:38:28.2±3.4, 11.31N×124.25E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.7/4, MS2.9/1, Ms1 2.9/1, ms1mx2.6/22, Error ellipse: s-maj=336.4km s-min=25.5km az=63.0*

ISC 03 18:38:27.9±0.8, 1152N±003×12440E±003, h3km±6km, n22, σ0§95/33, mb3.8/4, 3C-2D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	0.51	156	*eP*	**Pg**	18 38 38.2	+0.5
OCLP				*eS*	**Sg**	18 38 46.8	+2.6
BESP	**Borongan**	1.02	85	*eP*	**Pg**	18 38 46.9	-0.5
BESP				*eS*	**Sg**	18 39 00.2	-0.5
CNP	**Catarman**	1.02	14	*eP*	**Pg**	18 38 47.5	+0.1
CNP				*eS*	**Sn**	18 39 04.5	+0.6
LLP	**Lapu-Lapu**	1.27	200	↓*iP*	**Pg**	18 38 51.0	-1.2
LLP				*eS*	**Sg**	18 39 08.0	-0.7
MSLP	**Maasin**	1.45	162	*eP*	**Pn**	18 38 54.4	-0.6
MSLP				*eS*	**Sg**	18 39 17.6	+3.1
RCP	**Roxas**	1.62	272	↓*eP*	**Pn**	18 38 56.9	-0.6
RCP				*eS*	**Sn**	18 39 20.4	+1.4
TBP	**Tagbilaran**	1.89	196	*eP*	**Pn**	18 39 00.1	-1.0
TBP				*eS*	**Sn**	18 39 24.4	-1.2
GUIM	**Jordan**	1.99	244	*eP*	**Pn**	18 39 02.8	+0.3
GUIM				*eS*	**Sn**	18 39 28.9	+0.9
KALP	**Kalibo**	2.03	275	↑*eP*	**Pn**	18 38 55.2	-7.9
SCPH	**Surigao**	2.03	148	*eP*	**Pn**	18 39 03.2	+0.2
SCPH				*eS*	**Sn**	18 39 29.5	+0.5
PVCP	**Virac**	2.08	353	↑*eP*	**Pn**	18 39 03.3	-0.4
SNPH	**Sibulan**	2.45	208	↑*iP*	**Pn**	18 39 09.0	+0.2
OTRP	**Odiongan**	2.48	290	*eP*	**Pn**	18 39 08.9	-0.3
CUYO	**Cuyo Island**	3.39	259	*eP*	**Pn**	18 39 22.0	+0.3
BUKP	**Musuan**	3.67	170	*eP*	**Pn**	18 39 24.3	-1.4
PAGZ	**Pagadian**	3.78	196	*eP*	**Pn**	18 39 28.3	+1.1
PAGZ				*eS*	**Sn**	18 40 12.7	+0.4
BUSP	**Coron**	4.14	277	*eP*	**Pn**	18 39 32.4	+0.2
ENPP	**El Nido**	4.89	267	*eP*	**Pn**	18 39 43.5	+1.0
ENPP				*eS*	**Sn**	18 40 37.9	-1.7
WRA	**Warramunga Arr**	32.76	163	P	**P**	18 45 00.8	-1.5
	0.5nm,0.8s,mb3.5,baz=343,slow=9.3,SNR=3.7						
ASAR	**Alice Springs**	36.18	165	P	**P**	18 45 31.4	-0.6
	0.5nm,0.6s,mb3.7,baz=348,slow=9.8,SNR=12						
STKA	**Stephens Creek**	46.18	160	P	**P**	18 46 54.6	+0.4
	2.4nm,0.7s,mb4.3,baz=334,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	49.93	323	P	**P**	18 47 24.2	+1.2
	0.9nm,0.7s,mb3.9,baz=119,slow=7.2,SNR=6.0						

*ROM **03** 18:43:55.9±0.2, 3902N×1763E, h10km, Md3.3/23, Ml3.1/24, Error ellipse: s-maj=4.6km s-min=2.5km az=46.0*
*NEIC **03** 18:43:55.9, 3902N×1763E, h10km, ML3.6(PDG), ML3.1(ROM), After ROM.*
*PDG **03** 18:43:56.5±0.7, 3901N×1761E, h27km±2km, ML3.6/10, Error ellipse: s-maj=2.7km s-min=4.0km az=0.0*
*IDC **03** 18:43:56.3±1.8, 3926N×1775E, h0km, mb3.2/3, mb1 3.5/5, mb1mx3.3/22, mbtmp3.2/5, ML3.4/2, Error ellipse: s-maj=33.5km s-min=22.4km az=82.0*
*ISCJB **03** 18:43:58.0±0.2, 3908N±002×1760E±002, h33km, mb3.1/3, Error ellipse: s-maj=2.9km s-min=2.6km az=166.4*
*THE **03** 18:43:58.3, 3902N×1753E, h11km, ML3.9*
*CSEM **03** 18:43:58.5±0.1, 3902N×1757E, h40km, MD3.3/23, Error ellipse: s-maj=1.6km s-min=1.1km az=3.0*

ISC 03 18:43:58.5±0.7, 3907N±002×1755E±003, h27km±8km, n92, σ0§75/119, mb3.1/3, 11C-10D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIP	**Timpagrande**	0.63	281	*eP*	**Pb**	18 44 09.2	-1.7
TIP				Pg	**Pb**	18 44 10.4	-0.5
TIP	**Timpagrande**	0.63	281	Pg	**Pb**	18 44 10.4	-0.5
	410nm,0.5s						
SERS	**Sersale**	0.67	268	Pg	**Pb**	18 44 10.6	-1.1
SERS				Sg	**Sb**	18 44 22.5	+1.9
	881nm,0.8s						
CARO	**Carolei**	1.05	281	Pg	**Pn**	18 44 17.0	-0.4
	733nm,0.8s						
PLAC	**Placanica**	1.07	235	Pg	**Pn**	18 44 16.7	-0.9
	139nm,0.9s						
SCTE	**Santa Cesarea**	1.23	35	Pg	**Pn**	18 44 19.7	-0.2
	2μm,0.8s						
ORI	**Oriolo Calabro**	1.31	320	Pg	**Pn**	18 44 21.1	+0.1
	722nm,0.5s						
LCI	**Lecce**	1.34	19	Pg	**Pn**	18 44 21.3	-0.1
	174nm,0.3s						
JOPP	**Joppolo**	1.38	251	Pg	**Pn**	18 44 21.7	-0.2
JOPP				Sg	**Sn**	18 44 40.6	+1.4
	367nm,1.2s						
SOI	**Samo**	1.54	230	Pg	**Pn**	18 44 24.0	-0.1
	116nm,0.7s						
CRAC	**Craco**	1.56	327	Pg	**Pn**	18 44 25.0	+0.6
	564nm,0.5s						
SCHR	**S. Chirico Rap**	1.60	315	Pg	**Pn**	18 44 25.6	+0.6
	117nm,0.8s						
MPAZ	**Palizzi**	1.64	228	Pg	**Pn**	18 44 25.0	-0.6
	103nm,0.6s						
SIRI	**Monte Sirino -**	1.71	311	Pg	**Pn**	18 44 27.2	+0.7
	329nm,1.3s						
PE1	**Pezze di Greco**	1.74	357	*eP*	**Pn**	18 44 26.4	-0.5
MIGL	**Miglionico**	1.76	331	Pg	**Pn**	18 44 28.0	+0.9
	1μm,0.8s						
NOCI	**Noci**	1.76	348	Pg	**Pn**	18 44 26.7	-0.5
	696nm,0.8s						
MTTG	**Motta San Giov**	1.80	234	Pg	**Pn**	18 44 27.2	-0.5
	118nm,0.6s						
MTSN	**Montesano sull**	1.83	311	Pg	**Pn**	18 44 28.7	+0.5
	343nm,1.2s						
MCEL	**Monticello**	1.84	314	Pg	**Pn**	18 44 28.8	+0.5
	204nm,1.0s						
KEK	**Kerkira**	1.86	69	↓*iP*	**Pn**	18 44 27.9	-0.6
KEK	**Kerkira**	1.86	69	Pg	**Pn**	18 44 28.0	-0.5
	311nm,0.7s						
MGR	**Morigerati**	1.88	305	Pg	**Pn**	18 44 28.6	-0.2
	163nm,0.6s						
SG1	**Sgolgore (BA)**	1.89	340	*e*Pn	**Pn**	18 44 29.3	+0.3
AMUR	**Altamura**	1.98	339	Pg	**Pn**	18 44 29.8	-0.3
	279nm,0.4s						
SRN	**Sarande**	2.06	66	*i* PN	**Pn**	18 44 36.5	+5.2
SRN				*i* SN	**Sn**	18 44 55.8	-0.3
BAI	**Bari**	2.10	346	*e*Pn	**Pn**	18 44 31.6	-0.3
MMME	**Mongiuffi-Meli**	2.13	239	Pg	**Pn**	18 44 31.9	-0.3
	159nm,1.2s						
IGT	**Igoumenitsa**	2.21	77	*e*Pn	**Pn**	18 44 33.2	-0.1
CDT	**Castel del Mon**	2.24	334	*e*Pn	**Pn**	18 44 34.5	+0.8
MRVN	**Minervino Murg**	2.25	333	Pg	**Pn**	18 44 33.5	-0.3
	139nm,0.6s						
MRLC	**Muro Lucano**	2.32	317	Pg	**Pn**	18 44 36.8	+2.0
	39nm,0.5s						
LKD	**Levkas**	2.45	97	*e*Pn	**Pn**	18 44 36.4	-0.2
MCRV	**Calabrutti - M**	2.51	314	Pg	**Pn**	18 44 38.1	+0.7
	61nm,0.5s						
VLS	**Valsamata**	2.54	110	*e*Pn	**Pn**	18 44 37.1	-0.8
VLS	**Valsamata**	2.54	110	*e*P	**Pn**	18 44 36.9	-1.0
JAN	**Janina**	2.62	76	*e*P	**Pn**	18 44 39.0	-0.1
KFL	**Anninata**	2.71	110	*e*Pn	**Pn**	18 44 39.3	-0.9
TIR	**Tirane**	2.89	37	Pg	**Pn**	18 44 43.0	+0.4
	141nm,0.7s						
TIR	**Tirane**	2.89	37	*i* PN	**Pn**	18 44 42.9	+0.3
TIR	**Tirane**	2.89	37	*e*Pn	**Pn**	18 44 43.0	+0.4
TIR				*e*Sn	**Sn**	18 45 17.4	+1.0
VAE	**Valguarnera**	2.94	238	Pn	**Pn**	18 44 48.3	+5.0
	1.7nm,0.3s,baz=214,slow=13,SNR=3.7						
VAE				Sn	**Sn**	18 45 32.1	+14
	1.5nm,0.3s,baz=334,slow=12,SNR=2.2						
QSH	**Qafa e Shtames**	3.04	36	*i* PN	**Pn**	18 44 45.0	+0.2
QSH				*i* SN	**Sn**	18 45 18.6	-1.7
ULC	**Ulcinj**	3.17	24	↑*iPn*	**Pn**	18 44 45.8	-0.7
ULC				*e*Sn	**Sn**	18 45 23.7	+0.3
RLS	**Riolos of Patr**	3.23	107	*e*P	**Pn**	18 44 47.4	0.0
EVR	**Evrytania**	3.32	91	*e*P	**Pn**	18 44 49.7	+1.1
BUM	**Brajici-Budva**	3.39	17	↓*iPn*	**Pn**	18 44 48.9	-0.7
BUM				*e*Sn	**Sn**	18 45 29.1	+0.3
FNA	**Florina**	3.41	59	*e*Pn	**Pn**	18 44 50.6	+0.8
HCY	**Herceg Novi**	3.45	12	↓*iPn*	**Pn**	18 44 50.2	-0.2
HCY				*e*Sn	**Sn**	18 45 30.8	+0.4
PUK	**Puka**	3.47	30	*i* Pn	**Pn**	18 44 50.6	0.0
PUK				*i* Sn	**Sn**	18 45 31.5	+0.8
KZN	**Kozani**	3.48	68	*e*P	**Pn**	18 44 52.2	+1.4
SELA	**Sela**	3.49	102	*e*Pn	**Pn**	18 44 50.3	-0.6
THL	**Klokotos Trika**	3.50	80	*e*P	**Pn**	18 44 52.1	+1.1
TTG	**Podgorica**	3.60	21	↓*iPn*	**Pn**	18 44 51.6	-0.9
TTG				*e*Sn	**Sn**	18 45 33.8	-0.3
KRUS	**Krusevo**	3.65	50	*e*Pn	**Pn**	18 44 54.0	+1.0
KRUS	**Krusevo**	3.65	50	*e*Pn	**Pn**	18 44 54.0	+0.9
STON	**Ston**	3.80	2	*e*Pn	**Pn**	18 44 54.3	-1.0
STON				Sn	**Sn**	18 45 36.1	-2.9
STON	**Ston**	3.80	2	*e*Pn	**Pn**	18 44 54.3	-0.9
STON				Sn	**Sn**	18 45 36.1	-2.9
NKY	**Niksic**	3.90	16	↓*iPn*	**Pn**	18 44 55.9	-0.7
NKY				*e*Sn	**Sn**	18 45 41.6	+0.2
BRY	**Bratogost**	3.90	11	↑*iPn*	**Pn**	18 44 56.1	-0.5
BRY				*e*Sn	**Sn**	18 45 41.7	+0.2
ITM	**Ithomi**	3.93	117	*e*P	**Pn**	18 44 56.0	-1.0
LIT	**Litokhoron**	3.95	73	*e*Pn	**Pn**	18 44 57.3	0.0
PYL	**PYLOS**	3.96	122	*e*Pn	**Pn**	18 44 56.6	-0.8
PYL				*e*Sn	**Sn**	18 45 42.8	-0.1
PVY	**Plav**	3.98	27	↑*iPn*	**Pn**	18 44 57.6	0.0
PVY				*e*Sn	**Sn**	18 45 43.8	+0.5
GRG	**Griva**	4.18	62	*e*Pn	**Pn**	18 45 01.1	+0.8
IVA	**Berane**	4.20	24	↑*iPn*	**Pn**	18 45 01.1	+0.5
IVA				*e*Sn	**Sn**	18 45 49.7	+1.0
UPM	**Unac-Piva**	4.26	14	↓*iPn*	**Pn**	18 45 02.1	+0.6
UPM				*e*Sn	**Sn**	18 45 50.6	+0.4
LKR	**Lokris**	4.27	94	*e*Pn	**Pn**	18 45 02.4	+0.7
LTK	**Loutraki**	4.37	102	*e*Pn	**Pn**	18 45 03.0	0.0
LTK	**Loutraki**	4.37	102	*e*Pn	**Pn**	18 45 03.0	-0.1
XOR	**Xorichti**	4.39	84	*e*Pn	**Pn**	18 45 03.8	+0.5
PLE	**Pljevlja**	4.48	17	↓*iPn*	**Pn**	18 45 04.6	+0.1
PLE				*e*Sn	**Sn**	18 45 56.2	+0.5
HORT	**Hortiatis**	4.54	69	*e*Pn	**Pn**	18 45 05.4	+0.1
KNT	**Kendrikon**	4.60	61	*e*Pn	**Pn**	18 45 06.3	+0.1
PLG	**Polygyros**	4.73	72	*e*Pn	**Pn**	18 45 07.9	-0.1
DID	**Didima**	4.74	107	*e*Pn	**Pn**	18 45 08.6	+0.5
PAIG	**Paliouri**	4.82	78	*e*Pn	**Pn**	18 45 09.2	0.0
VLI	**Veliai**	4.86	117	*e*P	**Pn**	18 45 09.1	-0.7
SRS	**Serrai**	5.07	64	*e*Pn	**Pn**	18 45 13.1	+0.5
OUR	**Ouranopolis**	5.12	74	*e*Pn	**Pn**	18 45 13.0	-0.3
OBKA	**Obir**	7.76	344	↓*iSn*	**Sn**	18 47 13.1	-3.3
OBKA	**Obir**	7.76	344	↑*iPn*	**Pn**	18 45 49.4	-0.1
OBKA				⇑*iSn*	**Sn**	18 47 16.4	0.0
OBKA	**Obir**	7.76	344	⇑*iPn*	**Pn**	18 45 49.4	-0.1
OBKA				*i* Sn	**Sn**	18 47 13.1	-3.2
ARSA	**Arzberg**	8.31	350	↓*iPn*	**Pn**	18 45 56.5	-0.6
ARSA				⇑*iSn*	**Sn**	18 47 26.4	-3.6
CONA	**Conrad Observa**	8.94	353	↓*iPn*	**Pn**	18 46 05.5	-0.3
CONA				⇑*iSn*	**Sn**	18 47 44.6	-0.8
MOA	**Molln**	9.10	346	↑*iPn*	**Pn**	18 46 07.7	-0.2
MOA				⇑*iSn*	**Sn**	18 47 46.2	-3.1
GERES	**GERESS Array B**	10.16	345	Pn	**Pn**	18 46 22.8	+0.4
	0.2nm,0.3s,baz=163,slow=14,SNR=5.7						
GERES				Sn	**Sn**	18 48 13.3	-2.0
	0.2nm,0.3s,baz=157,slow=22,SNR=4.4						
NOA	**NORSAR Array B**	22.35	352	P	**P**	18 48 53.9	0.0
	0.2nm,0.5s,mb2.8,baz=159,slow=9.6,SNR=2.6						
MKAR	**Makanchi Array**	46.82	58	P	**P**	18 52 26.2	+0.5
	0.1nm,0.3s,mb3.2,baz=277,slow=7.8,SNR=4.1						
YKA	**Yellowknife Ar**	71.74	339	P	**P**	18 55 18.3	+0.6
YKA	**Yellowknife Ar**	71.74	339	P	**P**	18 55 18.3	+0.6
	0.2nm,0.5s,mb3.3,baz=36,slow=4.3,SNR=4.7						
YKA	**Yellowknife Ar**	71.74	339	P	**P**	18 55 18.3	+0.6

IDC 03 18:45:07.6±76.0, 1429S×17845E, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/13, mbtmp4.1/3, MS3.8/1, Ms1 3.8/1, ms1mx2.9/24, Error ellipse: s-maj=1371.0km s-min=155.3km az=72.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	37.92	236	P	P	18 52 26.8	-0.1
	2.1nm,0.6s,baz=70,slow=12,SNR=5.7						
WB2	**Warramunga Arr**	42.43	256	*e*P	P	18 53 04.8	+0.3
WRA	**Warramunga Arr**	42.44	256	P	P	18 53 04.8	+0.3
	0.6nm,0.4s,baz=81,slow=6.2,SNR=18						
ASAR	**Alice Springs**	43.00	251	P	P	18 53 08.7	-0.3
	3.2nm,0.7s,baz=80,slow=8.6,SNR=54						
FITZ	**Fitzroy Crossi**	50.73	258	*e*P	P	18 54 16.7	+7.1
	6.2nm,0.7s						
BATI	**Kupang**	53.60	268	LR	LR	19 13 42.7	
	comp=Z,100nm,20.3s,baz=279,slow=32						

*IDC **03** 18:57:45.8±1.7, 689S×154.99E, h0km, mb4.0/4, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML4.0/1, MS3.4/1, Ms1 3.4/1, ms1mx2.8/25, Error ellipse: s-maj=39.6km s-min=25.0km az=164.0*
*NEIC **03** 18:57:47.5±0.9, 690S×155.04E, h10km, mb4.2/3, Error ellipse: s-maj=23.5km s-min=11.8km az=174.0*
*ISCJB **03** 18:57:49.6±1.2, 69.5S±02×154.96E±007, h33km, mb3.9/6, Error ellipse: s-maj=25.8km s-min=9.6km az=8.9*

ISC 03 18:57:51.4±1.2, 68S±02×15491E±008, h35km, n11, σ0§80/13, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	5.62	118	Pn	**Pn**	18 59 09.2	-3.2
HNR				Sn	**Sn**	19 00 16.4	+0.7
HNR				LR	LR	19 01 07.4	
HNR	**Honiara**	5.62	118	Pn	**Pn**	18 59 09.2	-3.2
	4.4nm,0.3s,baz=293,slow=13,SNR=3.0						
HNR				Sn	**Sn**	19 00 16.4	+0.7
	2.2nm,0.3s,baz=86,slow=22,SNR=3.7						
HNR				LR	LR	19 01 07.4	
	comp=Z,353nm,20.0s,baz=182,slow=36						
WRAB	**Tennant Creek**	23.84	235	*e*P	**P**	19 03 01.7	+0.2
	6.5nm,1.0s,mb4.0						
WB2	**Warramunga Arr**	23.84	235	*e*P	**P**	19 03 01.9	+0.4
WRA	**Warramunga Arr**	23.85	235	P	**P**	19 03 01.7	+0.1
	5.1nm,0.8s,mb4.0,baz=61,slow=9.6,SNR=30						
ASAR	**Alice Springs**	26.23	228	P	**P**	19 03 22.1	-1.0
	0.7nm,0.7s,mb3.3,baz=60,slow=9.0,SNR=11						
STKA	**Stephens Creek**	27.86	205	*e*P	**P**	19 03 37.6	-0.1
	3.7nm,0.9s,mb4.0						
STKA	**Stephens Creek**	27.86	205	P	**P**	19 03 37.4	-0.4
	3.2nm,0.8s,mb4.0,baz=44,slow=13,SNR=4.7						
FITZ	**Fitzroy Crossi**	30.65	246	*e*P	**P**	19 04 03.4	+0.7
	3.8nm,0.7s,mb4.3						
YKA	**Yellowknife Ar**	96.22	28	P	**P**	19 11 15.7	+0.1
YKA	**Yellowknife Ar**	96.22	28	P	**P**	19 11 15.7	+0.1
	0.2nm,0.6s,mb3.7,baz=268,slow=4.5,SNR=4.6						

*ISCJB **03** 19:00:18.1±0.4, 1592N±004×147.17E±008, h33km, mb4.6/57, MS3.8/14, Error ellipse: s-maj=10.7km s-min=5.3km az=12.4*
*MOS **03** 19:00:18.2±1.0, 1597N×147.14E, h33km, mb4.9/17, Error ellipse: s-maj=14.2km s-min=7.5km az=103.2*
*BJI **03** 19:00:18.5, 16.12N×147.41E, h40km, mB4.9, mb4.7, Ms4.2, Msz3.9*
*NEIC **03** 19:00:20.6±1.6, 1593N×147.14E, h38km±14km, mb4.7/21, Error ellipse: s-maj=13.2km s-min=5.7km az=91.0*
*IDC **03** 19:00:21.4±2.9, 1590N×147.00E, h44km±26km, mb4.1/17, mb1 4.2/20, mb1mx4.1/26, mbtmp4.2/20, ML4.5/2, MS3.7/11, Ms1 3.7/11, ms1mx3.4/27, Error ellipse: s-maj=28.3km s-min=11.0km az=92.0*

ISC 03 19:00:20.4±0.4, 1591N±004×14716E±008, h35km, (h31km±3.9km:pP-P), n106, σ0§97/106, mb4.6/57, MS3.8/14, 1C-1D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	3.20	224	P	**Pn**	19 01 07.7	-0.5
GUMO				S	**Sn**	19 01 43.5	-1.7
GUMO	**Guam**	3.20	224	P	**Pn**	19 01 07.7	-0.5
GUMO				S	**Sn**	19 01 43.5	-1.7
GUMO				LR	LR	19 02 26.6	
GUMO	**Guam**	3.20	224	P	**Pn**	19 01 07.7	-0.5
	95nm,0.3s,baz=147,slow=1.9,SNR=77						
GUMO				S	**Sn**	19 01 43.5	-1.7
	212nm,0.3s,baz=157,slow=22,SNR=11						
GUMO				LR	LR	19 02 26.6	
	comp=Z,616nm,18.7s,baz=57,slow=40						
CBIJ	**Chichi jima**	12.05	338	P	**Pn**	19 03 08.2	-1.4
	8.3nm,0.3s,baz=252,slow=19,SNR=4.8						
JHJ	**Hachijo jima 2**	18.39	340	P	**Pn**	19 04 33.9	+1.4
	13nm,0.3s,baz=169,slow=19,SNR=5.9						
JOW	**Kunigami**	20.64	305	P	**P**	19 04 57.4	+0.4
	21nm,0.6s,baz=140,slow=9.3,SNR=17						
JOW				LR	LR	19 11 27.1	
	comp=Z,348nm,20.0s,MS3.7,baz=234,slow=32						
MJAR	**Matsushiro Arr**	22.03	340	P	**P**	19 05 10.7	-1.2
	10nm,0.7s,mb4.4,baz=170,slow=10,SNR=40						
MAJO	**Matsushiro**	22.04	340	*e*P	**P**	19 05 11.3	-0.6
MAJO				pmax	pmax		
	comp=Z,23nm,0.7s,mb4.7						
MAJO	**Matsushiro**	22.04	340	*e*P	**P**	19 05 11.3	-0.6
	comp=Z,23nm,0.7s,mb4.7						
MAT	**Matsushiro**	22.04	340	P	**P**	19 05 11.0	-0.9
MAT				S		19 06 20.1	
JNU	**Nakatsue**	22.60	322	P	**P**	19 05 18.6	+0.8
	comp=Z,8.7nm,0.8s,mb4.2,baz=80,slow=11,SNR=7.2						
JNU				LR	LR	19 13 02.6	
	comp=Z,113nm,19.0s,MS3.3,baz=76,slow=34						
KSRS	**Korea Array**	27.38	325	P	**P**	19 06 01.1	-1.3
	comp=Z,3.8nm,0.6s,mb4.1,baz=144,slow=8.6,SNR=12						
KSRS				LR	LR	19 16 02.5	
	comp=Z,172nm,20.5s,MS3.6,baz=52,slow=34						
HNR	**Honiara**	28.19	152	LR	LR	19 15 58.3	
	comp=Z,90nm,19.6s,MS3.4,baz=0.9,slow=33						
ASAJ	**Asahikawa**	28.38	353	P	**P**	19 06 12.8	+1.6
	comp=Z,16nm,0.7s,mb4.7,baz=208,slow=12,SNR=18						
ASAJ				LR	LR	19 16 32.5	
	comp=Z,114nm,19.9s,MS3.5,baz=330,slow=34						
NJ2	**Nanjing**	30.32	307	*e*P	**P**	19 06 28.2	-0.4
NJ2				AP	pP	19 06 37.2	-1.5
NJ2				XP	sP	19 06 41.6	-1.3
NJ2				PP	PP	19 07 28.0	-9.4
NJ2				PPP		19 07 42.3	
NJ2				S	**S**	19 11 26.5	0.0
NJ2				XS	sS	19 11 44.0	+0.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,130nm,6.2s						
NJ2				LR	LR		
	comp=N,340nm,21.7s,MS4.1						
NJ2				LR	LR		
	comp=E,280nm,19.8s,MS4.1						
NJ2				LR	LR		
	comp=Z,280nm,19.7s,MS3.9						
YSS	**Yuzh-Sakhalins**	31.16	354	⇑*eP*	**P**	19 06 36.9	+1.0
YSS				pmax	pmax		
	comp=Z,21nm,0.9s,mb5.0						
YSS	**Yuzh-Sakhalins**	31.16	354	*eP*	**P**	19 06 37.0	+1.2
	comp=Z,22nm,0.9s,mb5.0						
KAKA	**Kakadu**	31.95	208	*eP*	**P**	19 06 43.0	-0.1
	comp=Z,6.5nm,0.6s,mb4.6						
HABR	**Khabarovsk**	33.96	346	P	**P**	19 06 58.8	-1.5
HABR				*e*		19 07 12.6	
HABR				*e*		19 08 13.4	
HABR				*e*		19 08 25.2	
HABR				*e*S	**S**	19 12 20.2	-2.6
HABR				*e*		19 12 40.4	
HABR				*e*		19 14 33.3	
HABR				*e*		19 14 53.9	
HABR				*e*		19 17 16.9	
WRAB	**Tennant Creek**	37.78	200	*eP*	**P**	19 07 34.4	+1.1
WRAB				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
WRAB	**Tennant Creek**	37.78	200	*eP*	**P**	19 07 34.4	+1.0
	comp=Z,12nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	37.79	200	*eP*	**P**	19 07 34.4	+1.0
WRA	**Warramunga Arr**	37.80	200	P	**P**	19 07 34.3	+0.8
	comp=Z,1.3nm,0.4s,mb4.1,baz=31,slow=9.0,SNR=32						
XAN	**Xi'an**	38.80	305	P	**P**	19 07 42.6	+0.8
XAN				AP	pP	19 07 49.7	-2.4
XAN				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
XAN				LR	LR		
	comp=N,81nm,21.0s,MS3.7						
XAN				LR	LR		
	comp=E,75nm,19.8s,MS3.7						
XAN				LR	LR		
	comp=Z,139nm,17.4s,MS3.8						
FITZ	**Fitzroy Crossi**	39.90	213	*eP*	**P**	19 07 50.1	-1.0
	comp=Z,6.0nm,1.0s,mb4.3						
ASAR	**Alice Springs**	41.42	199	P	**P**	19 08 03.5	-0.1
	comp=Z,0.6nm,0.3s,mb3.7,baz=20,slow=6.9,SNR=17						
LZH	**Lanzhou**	43.38	306	*eP*	**P**	19 08 19.7	+0.2
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,69nm,4.1s						
LZH				LR	LR		
	comp=E,367nm,14.3s						
LZH				LR	LR		
	comp=Z,501nm,18.5s,MS4.5						
CLNS	**Chul'man**	44.19	343	*eP*	**P**	19 08 27.0	+1.3
CLNS				pmax	pmax		
	comp=Z,15nm,0.9s,mb4.7						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.8s						
ULN	**Ulaanbaatar**	45.81	323	*eP*	**P**	19 08 38.7	-0.1

comp=Z,13nm,0.7s,mb5.0
DMN Daman 58.28 293 *e*P **P 19 10 11.9 0.0**
comp=Z,14nm,0.5s,mb5.3
GKN Gorkha 58.68 293 *e*P **P 19 10 15.2 +0.5**
comp=Z,15nm,0.4s,mb5.4
DANN Dangsing 59.44 294 *e*P **P 19 10 20.4 +0.5**
comp=Z,25nm,0.6s,mb5.4
KOLN Koldanda 59.61 293 *e*P **P 19 10 21.5 +0.4**
comp=Z,11nm,0.7s,mb5.0
SVW2 Sparrevohn 60.59 28 *e*P **P 19 10 27.8 +0.5**
ZAA0 Zalesovo Array 61.07 323 *e*P **P 19 10 29.4 -1.1**
ZALV Zalesovo Beam 61.07 323 P **P 19 10 29.8 -0.8**
comp=Z,0.9nm,0.4s,mb4.3,baz=111,slow=8.1,SNR=7.0
ZALV LR LR 19 37 41.9
comp=Z,42nm,18.7s,MS3.6,baz=76,slow=37
ZAL Zalesovo 61.08 323 P **P 19 10 29.8 -0.8**
MKAR Makanchi Array 61.40 315 *i* P **P 19 10 33.7 +0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 61.40 315 P **P 19 10 32.9 0.0**
MKAR Makanchi Array 61.40 315 P **P 19 10 32.9 0.0**
comp=Z,2.5nm,0.6s,mb4.5,baz=90,slow=7.4,SNR=12
SML Sawmill 64.12 28 *e*P **P 19 10 49.3 -1.5**
KURK Kurchatov 64.27 319 *d* iP **P 19 10 51.3 -0.7**
KURK Kurchatov 64.27 319 *e*P **P 19 10 51.4 -0.6**
comp=Z,20nm,1.0s,mb5.1
TKM2 Tokmak 2 65.90 310 *e*P **P 19 11 03.1 +0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TKM2 Tokmak 2 65.90 310 *e*P **P 19 11 03.1 +0.4**
comp=Z,4.5nm,0.6s,mb4.7
TKM2 Tokmak 2 65.90 310 P **P 19 11 03.7 +1.0**
SNR=6.3
KZA Kyzart 66.15 309 P **P 19 11 06.0 +1.7**
SNR=11
KBK Karagaybulak 66.37 310 P **P 19 11 06.6 +0.8**
SNR=7.2
UCH Uchtor 66.70 309 *e*P **P 19 11 08.7 +0.8**
comp=Z,6.0nm,0.9s,mb4.6
UCH Uchtor 66.70 309 P **P 19 11 09.4 +1.5**
SNR=7.0
USP Ospenovka 66.70 311 P **P 19 11 08.3 +0.4**
SNR=6.7
AAK Ala-Archa 66.71 310 *e*P **P 19 11 07.3 -0.6**
AAK pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
AAK Ala-Archa 66.71 310 *e*P **P 19 11 07.3 -0.7**
comp=Z,4.9nm,1.1s,mb4.5
AML Almayashu 67.31 309 *e*P **P 19 11 12.5 +0.7**
comp=Z,7.1nm,0.9s,mb4.7
AML Almayashu 67.31 309 P **P 19 11 13.3 +1.6**
SNR=7.0
BRVK Borovoye 69.57 321 *e*P **P 19 11 25.0 -0.7**
BRVK pmax pmax
comp=Z,11nm,0.8s,mb4.8
BRVK Borovoye 69.57 321 *e*P **P 19 11 24.9 -0.7**
comp=Z,11nm,0.8s,mb4.8
KK31 Karatay Array 69.62 311 *i* P **P 19 11 26.2 0.0**
KK31 pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
ZRNK Zerenda 70.34 321 *i* P **P 19 11 29.7 -0.7**
INK Inuvik 71.38 23 P **P 19 11 35.9 -0.6**
comp=Z,2.4nm,0.6s,mb4.3,baz=215,slow=12,SNR=7.5
KBL Kabul 71.50 302 *e*P **P 19 11 38.8 +1.0**
KBL pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KBL Kabul 71.50 302 *e*P **P 19 11 38.8 +1.0**
comp=Z,3.1nm,0.6s,mb4.4
SVE Sverdlovsk 74.95 325 *e*P **P 19 11 58.0 +0.3**
SVE pmax pmax
comp=Z,11nm,0.9s,mb4.8
ARU Arti 76.13 325 *e*P **P 19 12 04.1 -0.4**
ARU *e* pP 19 12 15.0 -0.5
ARU *e* 19 14 55.1
ARU *e*PPP 19 16 46.2
ARU *e*S S 19 21 48.1 +2.3
ARU SS SS 19 26 37.5 -1.6
ARU Arti 76.13 325 *e*P **P 19 12 04.2 -0.3**
comp=Z,4.1nm,0.6s,mb4.5
AKTK Aktyubinsk 77.37 319 P **P 19 12 10.6 -1.1**
AKTO Aktyubinsk 77.37 319 P **P 19 12 10.6 -1.1**
comp=Z,1.1nm,0.6s,mb4.0,baz=65,slow=8.9,SNR=4.8
YKA Yellowknife Ar 79.78 28 P **P 19 12 25.0 +0.3**
comp=Z,0.8nm,0.5s,mb3.9,baz=282,slow=5.3,SNR=13
RES Resolute Bay 81.78 14 *e*P **P 19 12 35.5 +0.3**
comp=Z,80nm,0.8s,mb5.7
ARCES ARCESS Array B 85.56 343 P **P 19 12 54.4 -0.2**
comp=Z,2.3nm,0.5s,mb4.6,baz=68,slow=7.0,SNR=26
JOF Joensuu 87.12 336 *e*p **P 19 12 59.0 -3.4**
comp=Z,0.7nm,0.4s,mb4.2
KIV Kislovodsk 89.15 316 *e*P **P 19 13 13.5 +1.0**
KIV pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,35nm,19.0s,MS3.8
FINES FINESS Array B 89.98 336 *i* P **P 19 13 14.1 -1.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 89.98 336 P **P 19 13 14.2 -1.7**
comp=Z,0.6nm,0.4s,mb4.2,baz=77,slow=6.3,SNR=9.6
ANN Anapa 92.28 318 *e*P **P 19 13 22.9 -4.1**
ANN pmax pmax
comp=Z,109nm,1.2s
NOA NORSAR Array B 95.65 340 P **P 19 13 40.7 -1.4**
comp=Z,0.5nm,0.6s,mb4.1,baz=44,slow=4.6,SNR=3.2
NOA LR LR 20 01 47.4
comp=Z,26nm,19.8s,MS3.7,baz=130,slow=39
TXAR Lajitas Array 98.23 56 LR LR 19 54 23.1
comp=Z,60nm,20.8s,MS4.1,baz=5.0,slow=33
MLR Muntele Rosu 99.04 322 LR LR 20 02 59.5
comp=Z,50nm,18.7s,MS4.0,baz=90,slow=38
LUPA Lehigh Univers 111.30 34 *e*PKiKP PKiKP 19 18 50.8 0.0
DBIC Dimbokro 144.35 307 PKP PKPdf 19 19 51.9 -1.9
comp=Z,3.4nm,0.6s,baz=52,slow=5.8,SNR=8.5
LPAZ La Paz 146.12 96 PKPbc PKPbc 19 19 59.7 +2.0
comp=Z,0.5nm,0.4s,baz=31,slow=9.3,SNR=4.8

IDC 03 19:34:31.2±2.0, 114S×12738E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/15, mbtmp3.1/3, ML3.2/1, Error ellipse: s-maj=155.0km s-min=25.7km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.89**	**160**	P	Pn	19 39 04.2	-1.7
	0.1nm,0.3s,baz=339,slow=11,SNR=5.3						
ASAR	**Alice Springs**	**23.27**	**165**	P	P	19 39 40.8	+0.1
	0.2nm,0.5s,baz=348,slow=13,SNR=3.2						
MKAR	**Makanchi Array**	**61.93**	**327**	P	P	19 44 52.8	+0.1
	0.5nm,0.9s,baz=119,slow=8.6,SNR=2.8						

SKHL 03 20:01:04.8±0.8, 5256N×13947E, h11km±1km, mb4.1/3, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.94**	**51**	*e*Pg	Pg	20 01 21.1	-1.8
NKL				AMB	AMB	20 01 21.8	
	400nm,0.2s						
NKL				*e*Sg	Sg	20 01 33.5	-1.7
NKL				A		20 01 39.0	
	760nm,0.3s						
OKH	**Okha**	**2.31**	**63**	*e*Sg	Sg	20 02 20.0	+0.9
OKH				A		20 02 27.5	
	690nm,1.0s						
GRNR	**Gornyy**	**2.61**	**228**	*e*Pn	Pn	20 01 45.9	-1.0
GRNR				*e*Pg	Pg	20 01 52.0	-2.8
GRNR				AMB	AMB	20 01 53.0	
	34nm,0.5s						
GRNR				sPg		20 01 55.9	
GRNR				*e*Sg	Sg	20 02 26.5	-2.1
GRNR				A		20 02 31.2	
	310nm,0.5s						
TYV	**Tymovskoe**	**2.61**	**129**	*e*Pg	Pg	20 01 52.8	-2.0
TYV				sPg		20 01 58.4	
TYV				*e*Sg	Sg	20 02 27.2	-1.4
TYV				A		20 02 35.6	
	66nm,0.9s						
UGL	**Uglegorsk**	**3.85**	**154**	*e*Sg	Sg	20 03 04.0	-4.5
EKMR	**Ekimchan**	**3.99**	**280**	*e*Pn	Pn	20 02 06.6	+0.8
EKMR				*e*Pg	Pg	20 02 19.6	-1.5
EKMR				AMB	AMB	20 02 21.0	
	9.0nm,0.5s						
EKMR				pPg		20 02 24.5	
EKMR				*e*Sg	Sg	20 03 11.0	-1.8
EKMR				A		20 03 16.9	
	56nm,0.5s						
HABR	**Khabarovsk**	**4.97**	**216**	*e*Sg	Sg	20 03 38.2	-6.0
YASR	**Yasnyy**	**6.99**	**281**	*e*Pn	Pn	20 02 47.7	+0.8
KROS	**Kirovskiy**	**7.69**	**289**	*e*Pn	Pn	20 02 58.2	+1.6

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*SKHL **03** 20:02:03.5±0.9, 5256N×13948E, h10km±2km, mb4.7/6*
SKHL Felt (III) at Susanino, Tir, Takhta; (II) at Mago, Nikolaevsk-na-Amure.
*BJI **03** 20:02:05.7, 53.19N×139.40E, h26km, mb4.6, ML4.5*
*ISCJB **03** 20:02:06.3±0.3, 5266N±003×139.27E±005, h10km, mb4.2/20, MS3.0/4, Error ellipse: s-maj=4.9km s-min=4.3km az=178.9*
*MOS **03** 20:02:06.4±1.1, 52.67N×139.26E, h10km, mb4.2/6, Error ellipse: s-maj=22.3km s-min=10.1km az=90.7*
MOS Felt (III) at Tyr, Susanino, Tykhta; (II) at Mago, Nikolaevsk-na-Amure.
*IDC **03** 20:02:07.1±0.8, 5269N×139.53E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.8/24, mbtmp3.8/12, ML3.2/3, MS2.9/6, Ms1 3.0/6, ms1mx2.7/31, Error ellipse: s-maj=28.7km s-min=16.9km az=84.0*
*NEIC **03** 20:02:08.9±0.4, 5271N×139.51E, h10km, mb4.1/5, Error ellipse: s-maj=12.3km s-min=8.9km az=110.0*
NEIC Felt [III] at Susanino and Tyr; [II] at Mago and Nikolayevsk-na-Amure.

ISC 03 20:02:08.4±0.3, 5274N±004×13938E±006, h10km, n57, σ1§28/63, mb4.2/20, MS3.0/4, 2D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.89**	**62**	‖ *i*Pg	**Pg**	**20 02 19.5**	**-5.9**
NKL				AMB	AMB	20 02 20.8	
	800nm,0.3s						
NKL				AMB	AMB	20 02 20.8	
	2μm,0.3s						
NKL				sPg		20 02 25.0	
NKL				*e*Sg	**Sg**	**20 02 31.9**	**-5.1**
OKH	**Okha**	**2.29**	**68**	*e*rx	**Pb**	**20 02 49.0**	**-0.7**
OKH				*e*Sg	**Sb**	**20 03 17.0**	**-1.0**
OKH				A		20 03 23.8	
	8μm,1.0s						
OKH				A		20 03 24.2	
	7μm,1.0s						
OKH				A		20 03 24.2	
	5μm,1.0s						
GRNR	**Gornyy**	**2.70**	**224**	*e*Pn	**Pn**	**20 02 44.0**	**-7.7**
GRNR				*e*Pg	**Pb**	**20 02 50.5**	**-6.1**
GRNR				AMB	AMB	20 02 54.0	
	396nm,0.5s						
GRNR				*e*Sg	**Sb**	**20 03 24.0**	**-5.7**
GRNR				A		20 03 34.0	
	960nm,0.5s						
TYV	**Tymovskoe**	**2.77**	**131**	*e*Pg	**Pn**	**20 02 50.8**	**-1.9**
TYV				sPg		20 02 56.2	
TYV				*e*Sg	**Sn**	**20 03 25.5**	**-0.6**
TYV				A		20 03 31.9	
	949nm,0.9s						
TYV				AMS	AMS	20 03 59.5	
	1μm,10.0s						
TYV				AMS	AMS	20 03 59.5	
	1μm,10.0s						
EKMR	**Ekimchan**	**3.91**	**277**	*e*Pn	**Pn**	**20 03 05.5**	**-2.9**
EKMR				*e*Pg	**Pb**	**20 03 12.0**	**-5.3**
EKMR				AMB	AMB	20 03 14.1	
	51nm,0.5s						
EKMR				*e*Sn	**Sn**	**20 03 49.9**	**-4.4**
EKMR				*e*Sg	**Sg**	**20 04 09.4**	**-4.4**
EKMR				A		20 04 16.5	
	290nm,0.5s						
EKMR				A		20 04 16.5	
	370nm,0.5s						
UGL	**Uglegorsk**	**4.04**	**154**	S	**Sb**	**20 04 03.0**	**-5.3**
UGL				smax			
	comp=N,350nm,0.5s						
UGL				smax			
	comp=E,340nm,0.5s						
UGL				MLR	MLR		
	comp=N,500nm,8.0s						
UGL				MLR	MLR		
	comp=E,1μm,8.0s						
UGL				MLR	MLR		
	comp=Z,800nm,8.0s						
UGL	**Uglegorsk**	**4.04**	**154**	*e*Pg	**Pn**	**20 03 12.7**	**+2.6**
UGL				sPg		20 03 18.0	
UGL				*e*Sg	**Sb**	**20 04 03.1**	**-5.2**
UGL				A		20 04 10.0	
	comp=Z,1μm,1.0s						
UGL				AMS	AMS	20 04 52.0	
	comp=Z,500nm,8.0s						
UGL				AMS	AMS	20 04 52.0	
	comp=Z,1μm,8.0s						
UGL				AMS	AMS	20 04 52.0	
	comp=Z,800nm,8.0s						
HABR	**Khabarovsk**	**5.08**	**215**	*e*P	**Pn**	**20 03 22.4**	**-2.1**
HABR				*e*		20 04 21.5	
HABR				pmax	pmax		
	comp=Z,38nm,0.3s						
HABR				pmax	pmax		
	comp=E,1μm,1.0s						
KLR	**Kul'dur**	**5.96**	**237**	AMS	AMS	20 05 21.5	
	comp=E,2μm,6.0s						
YSS	**Yuzh-Sakhalins**	**6.18**	**158**	*e*P	**Pb**	**20 03 57.0**	**+0.9**
YSS				*e*SN	Sx	20 04 42.1	
YSS	**Yuzh-Sakhalins**	**6.18**	**158**	*e*Pg	**Pb**	**20 03 51.4**	**-4.7**
YSS				*e*rx	rx	20 04 16.0	
YSS				*e*Sn	Sx	20 04 41.0	
YSS				*e*Sg	Sx	20 05 10.0	
BMKR	**Bomnak**	**6.56**	**292**	*e*Pn	**Pn**	**20 03 41.9**	**-2.9**
BMKR				AMB	AMB	20 03 50.4	
	comp=E,20nm,0.5s						
BMKR				*e*Sg	Sx	20 05 31.0	
BMKR				A		20 05 36.8	
	comp=E,83nm,0.7s						
YASR	**Yasnyy**	**6.91**	**279**	*e*Pn	**Pn**	**20 03 45.9**	**-3.6**
YASR				*e*Sg	Sx	20 05 40.2	
YASR				A		20 05 59.8	
	comp=E,210nm,0.9s						
YASR				A		20 05 59.8	
	comp=E,32nm,0.9s						
YASR				A		20 05 59.8	
	comp=E,140nm,0.9s						
ZEA	**Zeya**	**7.35**	**283**	*e*Pn	**Pn**	**20 03 51.5**	**-4.1**
ZEA				AMB	AMB	20 04 08.0	
	comp=E,30nm,0.7s						
ZEA				*e*Sn	Sx	20 05 13.5	
ZEA				*e*Sg	Sx	20 05 53.8	
ZEA				A		20 06 02.5	
	comp=E,500nm,2.0s						
ZEA				A		20 06 02.5	
	comp=E,300nm,2.0s						
ZEA				A		20 06 03.8	
	comp=E,220nm,1.0s						
ZEA				A		20 06 03.8	
	comp=E,130nm,1.0s						
ZEA				A		20 06 03.8	
	comp=E,61nm,1.0s						
KROS	**Kirovskiy**	**7.58**	**288**	*e*Pn	**Pn**	**20 03 55.9**	**-2.9**
KROS				AMB	AMB	20 04 00.6	
	comp=E,10.0nm,0.6s						
KROS				*e*Sg	Sx	20 06 04.0	
KROS				A		20 06 13.5	
	comp=E,58nm,0.7s						
KROS				A		20 06 13.5	
	comp=E,32nm,0.7s						
KROS				A		20 06 13.5	
	comp=E,19nm,0.7s						
TEY	**Ternei**	**7.92**	**194**	*e*Sn	Sx	20 05 22.0	
TEY				*e*Sg	Sx	20 06 09.0	
TEY				AMS	AMS	20 06 49.0	
	comp=E,2μm,8.0s						
ASAJ	**Asahikawa**	**8.88**	**165**	Pn	**Pn**	**20 04 16.1**	**-0.6**
	comp=E,0.2nm,0.3s,baz=336,slow=18,SNR=2.4						
ASAJ				LR	LR	20 07 58.4	
	comp=E,65nm,20.8s,baz=289,slow=40						
YAK	**Yakutsk**	**10.67**	**335**	*e*P	**Pn**	**20 04 38.4**	**-2.7**
YAK				*e*S	**Sn**	**20 06 47.6**	**+7.1**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YAK				pmax	pmax		
	comp=N,3.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.9s						
YAK				smax			
	comp=N,88nm,3.9s						
YAK				smax			
	comp=Z,78nm,5.2s						
YAK				smax			
	comp=E,113nm,4.6s						
YAK				pmax	pmax		
	comp=N,63nm,1.6s						
YAK				pmax	pmax		
	comp=Z,48nm,1.8s						
YAK				pmax	pmax		
	comp=E,38nm,1.2s						
YAK				MLR	MLR		
	comp=Z,165nm,8.0s						
YAK	**Yakutsk**	**10.67**	**335**	*e*P	**Pn**	**20 04 41.9**	**+0.8**
MJAR	**Matsushiro Arr**	**16.21**	**183**	Pn	**Pn**	**20 05 56.6**	**+0.5**
	comp=Z,0.1nm,0.3s,baz=4.8,slow=11,SNR=4.1						
KSRS	**Korea Array**	**17.25**	**212**	P	**Pn**	**20 06 10.3**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=30,slow=10,SNR=4.7						
KSRS				LR	LR	20 12 08.0	
	comp=Z,18nm,19.3s,baz=15,slow=35						
TIXI	**Tiksi**	**19.55**	**350**	*e*P	**Pn**	**20 06 37.0**	**0.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s						
TIXI				MLR	MLR		
	comp=Z,176nm,9.0s						
TIXI	**Tiksi**	**19.55**	**350**	*e*P	**Pn**	**20 06 36.8**	**-0.2**
	comp=Z,12nm,1.1s						
BILL	**Bilibino**	**20.02**	**30**	*e*P	**P**	**20 06 42.5**	**+1.6**
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s						
BILL	**Bilibino**	**20.02**	**30**	*e*P	**P**	**20 06 42.0**	**+1.1**
	comp=Z,5.8nm,0.9s						
JNU	**Nakatsue**	**20.54**	**201**	LR	LR	20 14 40.5	
	comp=Z,47nm,18.9s,MS2.9,baz=69,slow=37						
ULN	**Ulaanbaatar**	**21.11**	**270**	*e*P	**P**	**20 06 52.3**	**-0.5**
NJ2	**Nanjing**	**25.47**	**224**	*e*P	**P**	**20 07 36.3**	**-0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
CBIJ	**Chichi jima**	**25.70**	**174**	LR	LR	20 16 01.3	
	comp=Z,27nm,22.0s,MS2.7,baz=108,slow=32						
JOW	**Kunigami**	**27.18**	**202**	LR	LR	20 18 22.1	
	comp=Z,43nm,21.6s,MS3.0,baz=175,slow=36						
MKAR	**Makanchi Array**	**36.51**	**284**	P	**P**	**20 09 14.5**	**+1.0**
	comp=Z,0.3nm,0.3s,mb3.6,baz=77,slow=10,SNR=3.8						
KURK	**Kurchatov**	**36.72**	**292**	*e*P	**P**	**20 09 15.5**	**+0.3**
KURK	**Kurchatov**	**36.72**	**292**	*e*P	**P**	**20 09 15.6**	**+0.3**
MCK	**McKinley**	**37.25**	**44**	*e*P	**P**	**20 09 20.4**	**+0.8**
MCK				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.4						
MCK	**McKinley**	**37.25**	**44**	*e*P	**P**	**20 09 20.4**	**+0.7**
	comp=Z,5.9nm,1.0s,mb4.4						
EGAK	**Eagle**	**40.10**	**41**	*e*P	**P**	**20 09 43.1**	**-0.4**
	comp=Z,6.2nm,0.9s,mb4.3						
INK	**Inuvik**	**41.55**	**34**	P	**P**	**20 09 55.0**	**-0.4**
	comp=Z,1.9nm,0.8s,mb3.8,baz=298,slow=5.8,SNR=7.1						
LSA	**Lhasa**	**41.95**	**256**	*e*P	**P**	**20 10 02.0**	**+2.8**
LSA				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.6						
LSA	**Lhasa**	**41.95**	**256**	*e*P	**P**	**20 10 02.0**	**+2.8**
	comp=Z,1.5nm,0.6s,mb3.8						
AAK	**Ala-Archa**	**43.43**	**284**	*i* P	**P**	**20 10 09.4**	**-1.7**
AAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
ARU	**Arti**	**44.44**	**308**	*d* iP	**P**	**20 10 19.3**	**+0.3**
ARU				*e*		20 12 01.9	
ARU				*e*PPP		20 12 38.1	
ARU				*e*S	**S**	**20 16 53.0**	**-0.4**
ARU				*e*SS	SS	20 20 12.8	+0.9
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.1						
JIRN	**Jiri**	**46.39**	**259**	*e*P	**P**	**20 10 37.0**	**+2.2**
	comp=Z,5.6nm,0.6s,mb4.6						
GUN	**Gumba**	**46.39**	**259**	*e*P	**P**	**20 10 36.8**	**+2.0**
KKN	**Kakani**	**46.84**	**260**	*e*P	**P**	**20 10 38.9**	**+0.6**
	comp=Z,8.2nm,0.8s,mb4.7						
GKN	**Gorkha**	**47.07**	**260**	*e*P	**P**	**20 10 40.2**	**+0.1**
	comp=Z,13nm,0.9s,mb4.9						
DMN	**Daman**	**47.08**	**260**	*e*P	**P**	**20 10 41.0**	**+0.8**
	comp=Z,7.7nm,0.9s,mb4.7						
DANN	**Dangsing**	**47.34**	**262**	*e*P	**P**	**20 10 42.0**	**-0.2**
	comp=Z,14nm,0.7s,mb5.0						
KOLN	**Koldanda**	**47.86**	**261**	*e*P	**P**	**20 10 45.1**	**-1.2**
ARCES	**ARCESS Array B**	**48.96**	**335**	P	**P**	**20 10 56.8**	**+2.6**
	comp=Z,2.6nm,0.9s,mb4.3,baz=52,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**54.51**	**327**	P	**P**	**20 11 36.4**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.2,baz=45,slow=8.4,SNR=9.2						
NOA	**NORSAR Array B**	**59.30**	**334**	P	**P**	**20 12 10.2**	**+0.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA				MLR	MLR		
	comp=Z,18nm,19.1s						
NOA	**NORSAR Array B**	**59.30**	**334**	P	**P**	**20 12 10.2**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.9,baz=34,slow=6.6,SNR=2.9						
NOA				LR	LR	20 42 17.6	
	comp=Z,18nm,19.1s,MS3.2,baz=285,slow=41						
AKASG	**Malin Array Be**	**61.35**	**317**	P	**P**	**20 12 24.1**	**+0.2**
	comp=Z,0.4nm,0.4s,mb3.9,baz=38,slow=7.7,SNR=4.7						
WRA	**Warramunga Arr**	**72.50**	**185**	P	**P**	**20 13 34.5**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=1.5,slow=6.8,SNR=16						
ASAR	**Alice Springs**	**76.22**	**185**	*e*P	**P**	**20 13 57.3**	**+0.7**
ASAR	**Alice Springs**	**76.22**	**185**	P	**P**	**20 13 57.4**	**+0.7**
	comp=Z,1.2nm,0.6s,mb4.0,baz=2.1,slow=6.0,SNR=22						
TXAR	**Lajitas Array**	**81.59**	**52**	P	**P**	**20 14 27.1**	**+0.8**
	comp=Z,0.1nm,0.3s,mb3.2,baz=305,slow=5.4,SNR=5.4						

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*ISCJB **03** 20:07:11.4±0.5, 4573N±003×2662E±005, h96km±5km, Error ellipse: s-maj=5.7km s-min=5.1km az=13.9*
*CSEM **03** 20:07:11.8±0.1, 4572N×2659E, h86km±1km, MD4.0/3, Error ellipse: s-maj=1.8km s-min=1.4km az=115.0*
*BUC **03** 20:07:11.8±0.6, 4573N×2661E, h94km±7km, MD4.0/3, Error ellipse: s-maj=5.2km s-min=4.2km az=44.0*
*NEIC **03** 20:07:12.6, 4572N×2664E, h85km, MG3.0(BUC), After BUC.*
*SOF **03** 20:07:15.4, 4568N×2654E, h55km, MD2.8*

ISC 03 20:07:12.5±0.5, 4574N±003×2665E±005, h88km±6km, n51, σ0§65/65, 10C-9D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.14**	**23**	P	**Pn**	**20 07 25.4**	**+0.3**
VRI	**Vrincioaia**	**0.14**	**23**	⇑ *i*P	**Pn**	**20 07 25.2**	**+0.1**
VRI				*i* S	**Sn**	**20 07 34.5**	**0.0**
BRD	**Bordesti**	**0.32**	**124**	⇑ *i*P	**Pn**	**20 07 27.3**	**+1.4**
MLR	**Muntele Rosu**	**0.55**	**244**	P	**Pn**	**20 07 28.0**	**+0.4**
MLR	**Muntele Rosu**	**0.55**	**244**	‖ *i*P	**Pn**	**20 07 27.7**	**+0.2**
MLR				*i* S	**Sn**	**20 07 38.4**	**-0.3**
MLR	**Muntele Rosu**	**0.55**	**244**	P	**Pn**	**20 07 28.0**	**+0.5**
MLR				*i* S	**Sn**	**20 07 38.4**	**-0.3**
ISR	**Istrita**	**0.62**	**187**	‖ P	**Pn**	**20 07 28.8**	**+0.7**
ISR	**Istrita**	**0.62**	**187**	‖ *i*P	**Pn**	**20 07 28.8**	**+0.6**
VOIR		**1.16**	**256**	P	**Pn**	**20 07 33.8**	**-0.2**
VOIR				S	**Sn**	**20 07 49.6**	**-0.5**
VOIR		**1.16**	**256**	⇑ *i*P	**Pn**	**20 07 33.7**	**-0.3**
VOIR				*i* S	**Sn**	**20 07 48.7**	**-1.5**
VOIR		**1.16**	**256**	⇑ *i*P	**Pn**	**20 07 33.7**	**-0.3**
VOIR				*i* S	**Sn**	**20 07 49.6**	**-0.6**
HARR	**Harsova**	**1.38**	**139**	⇑ P	**Pn**	**20 07 37.0**	**+0.3**
HARR	**Harsova**	**1.38**	**139**	‖ *i*P	**Pn**	**20 07 37.0**	**+0.3**
BUC1	**Bucharest**	**1.46**	**198**	⇑ P	**Pn**	**20 07 37.8**	**+0.1**
BUC1				S	**Sn**	**20 07 56.2**	**-0.4**
BUC1	**Bucharest**	**1.46**	**198**	⇑ *i*P	**Pn**	**20 07 37.8**	**+0.2**
BUC1				*i* S	**Sn**	**20 07 56.2**	**-0.4**
IAS	**Iasi**	**1.59**	**23**	P	**Pn**	**20 07 39.6**	**+0.3**
IAS				S	**Sn**	**20 07 58.5**	**-1.1**
IAS	**Iasi**	**1.59**	**23**	⇑ *i*P	**Pn**	**20 07 39.6**	**+0.3**
IAS				*i* S	**Sn**	**20 07 59.0**	**-0.5**
TIRR	**Tirgusor**	**1.79**	**135**	‖ P	**Pn**	**20 07 42.2**	**+0.3**
TIRR				S	**Sn**	**20 08 02.9**	**-1.2**
TIRR	**Tirgusor**	**1.79**	**135**	‖ *i*P	**Pn**	**20 07 42.2**	**+0.3**
TIRR				*i* S	**Sn**	**20 08 02.9**	**-1.2**
KIS	**Kishinev**	**1.96**	**49**	*e*P	**Pn**	**20 07 44.5**	**+0.4**
	400nm,0.7s						
KIS				*i* S	**Sn**	**20 08 07.0**	**-1.2**
	600nm,0.4s						
BURAR	**Bucovina Array**	**2.12**	**333**	‖ *i*P	**Pn**	**20 07 46.9**	**+0.7**
PSN	**Preselentsi**	**2.33**	**151**	P	**Pn**	**20 07 49.7**	**+0.7**
SZH	**Strazhica**	**2.52**	**192**	P	**Pn**	**

DRGR		**2.93 293**	P	**Pn**	**20 07 56.9**	**-0.1**
DRGR		**2.93 293** ⇓	*i* P	**Pn**	**20 07 56.4**	**-0.6**
DRGR		**2.93 293**	P	**Pn**	**20 07 56.9**	**-0.1**
JMB	**Yambol**	**3.27 181**	*e*P	**Pn**	**20 08 01.2**	**-0.4**
JMB	**Yambol**	**3.27 181**	P	**Pn**	**20 08 01.1**	**-0.5**
BZS	**Buzias**	**3.53 270** ⇑	P	**Pn**	**20 08 03.9**	**-1.2**
BZS	**Buzias**	**3.53 270** ⇓	*i* P	**Pn**	**20 08 03.9**	**-1.2**
PGB	**Panagyurishte**	**3.65 210**	P	**Pn**	**20 08 07.1**	**+0.3**
VTS	**Vitosha**	**4.00 219**	P	**Pn**	**20 08 10.7**	**-0.8**
RZN	**Rozhen**	**4.28 200**	P	**Pn**	**20 08 15.3**	**-0.1**
KOLS	**Kolonicke sedl**	**4.37 319**	*i* PN	**Pn**	**20 08 17.1**	**+0.7**
KKB	**Krupnik**	**4.65 215**	P	**Pn**	**20 08 20.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.74 314**	*i* PN	**Pn**	**20 08 21.5**	**0.0**
ALN	**Alexandroupoli**	**4.86 185**	*e*P	**Pn**	**20 08 22.9**	**-0.3**
DIVS	**Divibare**	**5.00 253**	*e*P	**Pn**	**20 08 24.1**	**-1.0**
SRS	**Serrai**	**5.13 207**	*e*P	**Pn**	**20 08 27.1**	**+0.3**
STHS	**Stebnicka Huta**	**5.19 317**	*i* PN	**Pn**	**20 08 28.1**	**+0.5**
KNT	**Kendrikon**	**5.33 212**	*e*P	**Pn**	**20 08 29.9**	**+0.4**
OUR	**Ouranopolis**	**5.74 201**	*e*P	**Pn**	**20 08 35.0**	**-0.2**
HORT	**Hortiatis**	**5.75 208**	*e*P	**Pn**	**20 08 35.8**	**+0.4**
PLG	**Polygyros**	**5.85 205**	*e*P	**Pn**	**20 08 37.2**	**+0.5**
LOS	**Limnos**	**5.91 192**	*e*P	**Pn**	**20 08 36.4**	**-1.2**
LOS	**Limnos**	**5.91 192**	*e*P	**Pn**	**20 08 36.3**	**-1.2**
PAIG	**Paliouri**	**6.20 202**	*e*P	**Pn**	**20 08 41.0**	**-0.5**

SKHL 03 20:23:28.6±1.9, 5250N×13960E, h10km, mb4.0/2, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.92**	**45**	*e*Pg	Pg	20 23 45.0	-1.4
NKL				AMB	AMB	20 23 45.3	
	220nm,0.3s						
NKL				*e*Sg	Sg	20 23 57.0	-1.4
NKL				A		20 24 03.0	
	650nm,0.3s						
OKH	**Okha**	**2.27**	**61**	*e*Sg	Sg	20 24 41.0	-0.5
OKH				A		20 24 50.0	
	330nm,1.0s						
TYV	**Tymovskoe**	**2.51**	**130**	*e*Sg	Sg	20 24 47.5	-1.7
TYV				A		20 24 56.0	
	40nm,0.9s						
GRNR	**Gornyy**	**2.63**	**230**	*e*Pg	Pg	20 24 15.5	-3.5
GRNR				*e*rx	rx	20 24 47.5	
UGL	**Uglegorsk**	**3.77**	**154**	*e*Sg	Sg	20 25 26.5	-3.0
EKMR	**Ekimchan**	**4.08**	**281**	*e*Pn	Pn	20 24 30.0	-0.9
EKMR				*e*Pg	Pg	20 24 42.4	-4.3
EKMR				AMB	AMB	20 24 48.4	
	5.0nm,0.5s						
EKMR				*e*Sg	Sg	20 25 35.0	-4.4
EKMR				A		20 25 41.0	
	35nm,0.6s						
EKMR				A		20 25 41.0	
	51nm,0.6s						
BMKR	**Bomnak**	**6.78**	**293**	*e*Sg	Sg	20 26 59.0	-6.9
BMKR				A		20 27 14.2	
	10.0nm,0.8s						
YASR	**Yasnyy**	**7.08**	**281**	*e*Sg	Sg	20 27 09.7	-5.8
YASR				A		20 27 14.2	
	8.0nm,0.6s						
YASR				A		20 27 14.2	
	3.0nm,0.6s						
YASR				A		20 27 14.2	
	4.0nm,0.6s						
ZEA	**Zeya**	**7.54**	**284**	*e*Sg	Sg	20 27 24.5	-5.8
KROS	**Kirovskiy**	**7.78**	**289**	*e*Sg	Sn	20 27 31.5	+42
KROS				A		20 27 37.8	
	5.0nm,0.8s						

*NEIC **03** 20:33:08.0, 3143S×6961W, h2km, ML3.7(GUC), After GUC.*

GUC 03 20:33:08.0±0.6, 3143S×6961W, h2km±3km, MD3.8, ML3.7, 7C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.22**	**282** ⇑	*i* P	Pg	20 33 30.4	-0.9
CMCH				*i* S	Sg	20 33 48.1	+1.0
CMCH	**Combarbala**	**1.22**	**282** ⇑	*i* P	Pg	20 33 30.4	-0.9
CMCH				*i* S	Sg	20 33 48.1	+1.0
CMCH				AML	AML	20 33 48.5	
	comp=E,7μm,0.1s						
JACH	**Jahuel**	**1.50**	**213**	*i* P	Pn	20 33 35.6	-0.3
JACH				*i* S	Sn	20 33 55.7	-0.4
OVCH	**Ovalle**	**1.59**	**300** ⇓	*i* P	Pn	20 33 36.6	-0.5
OVCH				*i* S	Sn	20 33 58.4	+0.2
OVCH	**Ovalle**	**1.59**	**300** ⇓	*i* P	Pn	20 33 36.6	-0.5
OVCH				*i* S	Sn	20 33 58.4	+0.2
OVCH				AML	AML	20 34 01.6	
	comp=N,4μm,0.3s						
TLL	**Tololo Astrono**	**1.62**	**320** ⇓	*i* P	Pn	20 33 37.4	-0.2
TLL				*i* S	Sn	20 33 59.6	+0.6
TLL	**Tololo Astrono**	**1.62**	**320** ⇓	*i* P	Pn	20 33 37.4	-0.2
TLL				*i* S	Sn	20 33 59.6	+0.6
TLL				AML	AML	20 34 03.2	
	comp=N,1μm,0.5s						
PEL	**Peldehue**	**1.94**	**208**	*e*P	Pn	20 33 42.8	+0.9
PEL				*e*S	Sn	20 34 08.9	+2.1
PEL				AML	AML	20 34 14.2	
	comp=N,972nm,0.4s						
ROCH	**El Roble**	**1.94**	**217**	*i* P	Pn	20 33 42.6	+0.6
ROCH				*i* S	Sn	20 34 08.9	+1.9
FCH	**Farellones**	**1.98**	**197** ⇑	*i* P	Pn	20 33 43.1	+0.6
FCH				*i* S	Sn	20 34 10.2	+2.3
FCH				AML	AML	20 34 16.1	
	comp=E,460nm,0.3s						
CLCH	**Cerro Calan**	**2.11**	**201**	*i* P	Pn	20 33 46.6	+2.3
CLCH				*i* S	Sn	20 34 14.7	+3.5
CLCH				AML	AML	20 34 25.5	
	comp=E,675nm,0.6s						
RCDM	**Rinconada Maip**	**2.29**	**206**	AML	AML	20 34 22.5	
	comp=E,555nm,0.3s						
ANTU	**Antumapu**	**2.30**	**202**	AML	AML	20 34 25.9	
	comp=N,509nm,0.3s						
LMEL	**Las Melosas**	**2.47**	**191** ⇑	*i* P	Pn	20 33 50.8	+1.6
LMEL				*i* S	Sn	20 34 23.1	+3.2
LMEL	**Las Melosas**	**2.47**	**191** ⇑	*i* P	Pn	20 33 50.8	+1.6
LMEL				*i* S	Sn	20 34 23.1	+3.2
LMEL				AML	AML	20 34 30.7	
	comp=N,234nm,0.3s						
TACH	**Talagante**	**2.49**	**206** ⇑	*i* P	Pn	20 33 50.4	+0.9
TACH				*i* S	Sn	20 34 22.9	+2.6
LCO	**Las Campanas**	**2.58**	**338**	*e*P	Pn	20 33 52.0	+1.2
LCO				*e*S	Sn	20 34 26.2	+3.4
LCCH	**Las Cruces**	**2.63**	**218**	*i* P	Pn	20 33 52.3	+0.9
LCCH				*i* S	Sn	20 34 26.0	+2.1
CHCH	**Chadas Angostu**	**2.65**	**199**	*i* P	Pn	20 33 53.1	+1.4
CHCH				*i* S	Sn	20 34 26.8	+2.4
CACH	**El Canelo**	**2.81**	**197** ⇑	*i* P	Pn	20 33 55.6	+1.7
CACH				*i* S	Sn	20 34 31.8	+3.5
LNV	**Longovilo**	**2.94**	**211** ⇓	*i* P	Pn	20 33 56.6	+0.8
LNV				*i* S	Sn	20 34 33.9	+2.3
CICH	**Cipreses**	**2.96**	**193**	*i* P	Pn	20 33 57.5	+1.5
CICH				*i* S	Sn	20 34 35.1	+3.0

IDC 03 20:34:32.3±3.0, 3379S×17891W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, ML4.4/1, Error ellipse: s-maj=68.6km s-min=35.6km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.50**	**215**	Pn	Pn	20 35 55.9	+0.4
	12nm,0.3s,baz=266,slow=2.0,SNR=49						
URZ				Sn	Sn	20 36 59.0	-0.5
	4.5nm,0.3s,baz=150,slow=18,SNR=8.5						
ASAR	**Alice Springs**	**42.28**	**271**	P	P	20 42 27.4	-0.2
	1.0nm,0.7s,baz=113,slow=7.6,SNR=13						
WRA	**Warramunga Arr**	**43.57**	**276**	P	P	20 42 38.5	+0.3
	0.9nm,0.3s,baz=117,slow=8.0,SNR=31						
FINES	**FINESS Array B**	**148.01**	**337**	PKPbc	PKPbc	20 54 18.0	-0.9
	1.1nm,0.7s,baz=46,slow=5.5,SNR=7.0						

*ISCJB **03** 20:38:10.7±0.6, 1034N±005×62.18W±003, h22km±7km, Error ellipse: s-maj=9.2km s-min=5.3km az=166.6*
*FUNV **03** 20:38:10.6, 1035N×62.12W, h14km, MW3.0*

ISC 03 20:38:10.7±0.7, 1035N±005×6218W±003, h16km±5km, n13, σ0°78/21, 1C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.30**	**351** ⇑	*e*P	Pg	20 38 16.9	-0.3
GUIV				*e*S	Sg	20 38 21.6	+0.1
TCE	**Chacachacare**	**0.54**	**50**	*e*P	Pg	20 38 21.6	0.0
TCE				*e*S	Sg	20 38 28.9	+0.1
GUNV	**Guanoco**	**0.78**	**256** ⇓	*e*P	Pg	20 38 25.2	-0.7
GUNV				*e*S	Sg	20 38 37.8	+1.6
TRN	**Trinidad (W)**	**0.82**	**69**	*e*P	Pb	20 38 24.9	-1.6
TRN				*e*S	Sb	20 38 37.9	+0.6
CRUV	**Carupano**	**1.09**	**287** ⇓	*i* P	Pb	20 38 30.3	-0.9
CRUV				*e*S	Sb	20 38 45.3	+0.1
TBH	**Brigand Hill**	**1.10**	**83**	*e*P	Pb	20 38 32.8	+1.5
ITEV	**Isla Los Testi**	**1.37**	**317**	*e*P	Pn	20 38 35.4	+0.2
ITEV				*e*S	Sn	20 38 53.8	+0.8
ORIV	**Oritupano**	**1.76**	**224**	*e*P	Pn	20 38 40.5	0.0
ORIV				*e*S	Sn	20 39 03.1	+0.6
PCRV	**Puerto La Cruz**	**2.43**	**266**	*e*P	Pn	20 38 49.1	-0.6
CUPV	**Cœpira**	**3.57**	**266**	*e*P	Pn	20 39 06.1	+0.7
BIRV	**Birongo**	**4.03**	**272**	*e*P	Pn	20 39 11.2	-0.5
CAOV	**Caicara del Or**	**5.08**	**234**	*e*P	Pn	20 39 25.9	-0.3
CAOV				*e*S	Sn	20 40 20.5	-4.1
BAUV	**El Baul**	**5.95**	**257**	*e*P	Pn	20 39 37.2	-0.9

*ISCJB **03** 20:43:38.3±0.5, 3053N±004×142.1E±0.1, h33km, mb3.7/6, MS4.3/2, Error ellipse: s-maj=15.9km s-min=3.4km az=165.2*
*JMA **03** 20:43:38.1±0.2, 3060N×142.44E, h50km, M3.8*
*NEIC **03** 20:43:40.7±0.7, 3041N×142.10E, h35km, mb4.1/1, Error ellipse: s-maj=30.0km s-min=14.0km az=81.0*
*IDC **03** 20:43:40.8±4.4, 3042N×142.18E, h34km±37km, mb3.4/5, mb1 3.7/9, mb1mx3.5/21, mbtmp3.6/9, ML3.4/4, MS4.3/2, Ms1 4.3/2, ms1mx2.9/25, Error ellipse: s-maj=42.6km s-min=16.6km az=86.0*

ISC 03 20:43:40.6±0.6, 3052N±004×1421E±01, h35km, n25, σ1°15/34, mb3.7/6, MS4.3/2, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**3.24**	**324**	P	**Pn**	**20 44 31.3**	**+2.4**
JHJ2				*e*S	**Sn**	**20 45 06.1**	**-0.1**
JHJ	**Hachijo jima 2**	**3.26**	**323**	Pn	**Pn**	**20 44 31.1**	**+1.9**
	4.2nm,0.3s,baz=73,slow=21,SNR=3.5						
JHJ				Sn	**Sn**	**20 45 06.1**	**-0.7**
	14nm,0.3s,baz=232,slow=23,SNR=4.4						
CBIJ	**Chichi jima**	**3.41**	**179**	P	**Pn**	**20 44 31.5**	**+0.3**
CBIJ				*e*S	**Sn**	**20 45 10.5**	**+0.1**
CBIJ	**Chichi jima**	**3.41**	**179**	Pn	**Pn**	**20 44 31.9**	**+0.7**
	7.9nm,0.3s,baz=266,slow=23,SNR=4.6						
CBIJ				Sn	**Sn**	**20 45 09.1**	**-1.4**
	7.0nm,0.3s,baz=266,slow=21,SNR=3.5						
BSO1	**Boso 1**	**4.24**	**347**	P	**Pn**	**20 44 41.4**	**-1.2**
BSO2	**Boso 2**	**4.38**	**345**	*e*S	**Sn**	**20 45 34.9**	**+0.7**
BSO3	**Boso 3**	**4.48**	**343**	*e*S	**Sn**	**20 45 35.9**	**-0.9**
BSO4	**Boso 4**	**4.70**	**342**	*e*S	**Sn**	**20 45 44.0**	**+1.7**
JOD2	**Odawara 2**	**5.37**	**333**	P	**Pn**	**20 44 58.7**	**+0.5**
JOD2				*e*S	**Sn**	**20 45 58.8**	**0.0**
JHU	**Hanno**	**5.82**	**337**	P	**Pn**	**20 45 04.2**	**-0.2**
JHU				*e*S	**Sn**	**20 46 09.5**	**-0.4**
JRY	**Ryogami san**	**6.11**	**335**	P	**Pn**	**20 45 08.7**	**+0.4**
JRY				*e*S	**Sn**	**20 46 16.2**	**-0.7**
JHO	**Hitachi**	**6.21**	**349**	P	**Pn**	**20 45 07.6**	**-2.2**
JHO				*e*S	**Sn**	**20 46 13.9**	**-5.6**
JAG	**Ashikaga**	**6.30**	**340**	P	**Pn**	**20 45 10.2**	**-0.7**
JAG				*e*S	**Sn**	**20 46 19.4**	**-2.2**
MJAR	**Matsushiro Arr**	**6.83**	**333**	Pn	**Pn**	**20 45 18.7**	**+0.4**
	1.0nm,0.3s,baz=161,slow=11,SNR=13						
MJAR				Sn	**Sn**	**20 46 36.5**	**+1.7**
	0.4nm,0.3s,baz=151,slow=7.5,SNR=4.2						
MAT	**Matsushiro**	**6.83**	**333**	P	**Pn**	**20 45 18.9**	**+0.6**
MAT				S	**Sn**	**20 46 33.2**	**-1.6**
JMK	**Ichinoseki**	**8.45**	**355**	*e*S	**Sn**	**20 47 05.1**	**-9.4**
ASAJ	**Asahikawa**	**13.58**	**2**	Pn	**Pn**	**20 46 50.8**	**+0.2**
	0.2nm,0.3s,baz=231,slow=17,SNR=2.8						
ASAJ				LR	LR	20 51 24.9	
	comp=Z,18nm,20.0s,baz=344,slow=34						
MKAR	**Makanchi Array**	**48.30**	**307**	P	**P**	**20 52 20.5**	**+2.2**
	0.3nm,0.2s,mb3.9,baz=90,slow=9.8,SNR=3.2						
PSI	**Prapat**	**49.23**	**244**	LR	LR	21 11 47.1	
	comp=Z,256nm,18.6s,MS4.2,baz=228,slow=34						
CTA	**Charters Tower**	**50.47**	**175**	LR	LR	21 12 03.4	
	comp=Z,386nm,20.1s,MS4.4,baz=328,slow=34						
WRAB	**Tennant Creek**	**50.71**	**189**	P	**P**	**20 52 36.0**	**-0.8**
	2.1nm,0.9s,mb4.1						
WRA	**Warramunga Arr**	**50.72**	**189**	P	**P**	**20 52 35.8**	**-1.1**
	0.8nm,0.6s,mb3.8,baz=6.9,slow=7.8,SNR=12						
ASAR	**Alice Springs**	**54.44**	**189**	P	**P**	**20 53 03.8**	**-0.6**
	0.4nm,0.7s,mb3.4,baz=4.7,slow=7.6,SNR=6.6						
YKA	**Yellowknife Ar**	**69.19**	**29**	P	**P**	**20 54 43.4**	**+0.2**
	0.2nm,0.6s,mb3.2,baz=291,slow=6.6,SNR=3.1						
TXAR	**Lajitas Array**	**93.61**	**53**	P	**P**	**20 56 55.0**	**+1.5**
	0.4nm,0.7s,mb3.9,baz=255,slow=2.5,SNR=4.6						

*IDC **03** 20:52:04.7±0.5, 359N×12743E, h0km, mb4.7/26, mb1 4.7/26, mb1mx4.7/29, mbtmp4.7/26, MS4.2/16, Ms1 4.2/16, ms1mx4.1/23, Error ellipse: s-maj=27.8km s-min=10.4km az=79.0*
*MOS **03** 20:52:08.1±0.9, 363N×12742E, h33km, mb5.3/27, MS4.1/8, Error ellipse: s-maj=15.6km s-min=6.1km az=108.6*
*ISCJB **03** 20:52:09.0±0.6, 356N±003×12743E±005, h42km±4km, mb5.0/90, MS4.2/43, Error ellipse: s-maj=8.1km s-min=4.2km az=167.5*
*BJI **03** 20:52:08.3, 334N×12733E, h52km, mB5.1, mb5.0, Ms4.4, Msz4.3*
*NEIC **03** 20:52:10.4±0.9, 359N×12751E, h42km±8km, mb5.1/22, Error ellipse: s-maj=8.6km s-min=4.0km az=76.0*
*GCMT **03** 20:52:10.4±0.3, 377N×12749E, h21km±1km, MW5.0/69, Moment Tensor Solution. s38,c47; s69,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-1.73±.15; $M_{\theta\theta}$2.22±.10; $M_{\phi\phi}$-0.49±.14; $M_{r\theta}$-2.79±.25; $M_{\theta\phi}$-2.34±.09; $M_{\phi r}$-1.86±.27; Best double couple: M_0=4.50300×10^{16} NP1:ϕ_s=33.00000°, δ43.00000°, λ-24.00000°. NP2: ϕ_s=81.00000°, δ74.00000°, λ-131.00000°. Principal axes: T 4.0850, Plg19.0000°, Azm200.0000°; N 0.8330, Plg39.0000°, Azm94.0000°; P -4.9220, Plg45.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 03 20:52:11.3±0.5, 355N±003×12744E±005, h47km±4km, h39km±2.0km: pP-P, n196, σ0°98/215, mb5.0/90, MS4.2/43, 14C-9D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**2.75**	**181** ⇓	*e*P	**Pn**	**20 52 53.0**	**+0.1**
GSPH	**General Santos**	**3.54**	**315**	*e*P	**Pn**	**20 53 02.1**	**-1.6**
MATI	**Mati**	**3.57**	**341**	*e*P	**Pn**	**20 53 04.7**	**+0.5**
MATI				*e*S	**Sn**	**20 53 55.4**	**+10**
DAV	**Davao City (W)**	**3.95**	**332**	*e*Pn	**Pn**	**20 53 10.8**	**+1.3**
BUKP	**Musuan**	**4.91**	**331**	*e*P	**Pn**	**20 53 22.6**	**+0.1**
BUKP				*e*S	**Sn**	**20 54 28.7**	**+11**
PAGZ	**Pagadian**	**5.87**	**317**	*e*P	**Pn**	**20 53 35.1**	**-0.7**
SCPH	**Surigao**	**6.48**	**343**	*e*P	**Pn**	**20 53 46.5**	**+2.3**
SCPH				*e*S	**Sn**	**20 54 57.1**	**+0.2**
MSLP	**Maasin**	**7.02**	**339**	*e*P	**Pn**	**20 53 53.2**	**+1.7**
TBP	**Tagbilaran**	**7.06**	**330**	*e*P	**Pn**	**20 53 51.1**	**-0.9**
AAI	**Ambon**	**7.23**	**174**	P	**Pn**	**20 53 59.0**	**+4.6**
	130nm,1.6s						
PCI	**Palu**	**8.80**	**240**	P	**Pn**	**20 54 17.0**	**+1.1**
	147nm,1.0s						
KDI	**Kendari**	**8.88**	**213**	P	**Pn**	**20 54 16.5**	**-0.6**
	333nm,1.2s						
MYLDM	**Lahad Datu**	**9.06**	**281** ⇑	P	**Pn**	**20 54 24.7**	**+5.2**
CUYO	**Cuyo Island**	**9.65**	**319**	*e*P	**Pn**	**20 54 26.7**	**-0.9**
BAKI	**Biak**	**9.86**	**118**	P	**Pn**	**20 54 37.3**	**+6.8**
	111nm,1.6s						
OTRP	**Odiongan**	**10.26**	**329**	*e*P	**Pn**	**20 54 41.1**	**+5.1**
SDKM	**Sandakan**	**10.42**	**282** ⇑	P	**Pn**	**20 54 43.3**	**+5.1**
TLE	**Tual**	**10.55**	**150**	P	**Pn**	**20 54 47.4**	**+7.4**
	2μm,1.1s						
BATP	**Bataraza**	**10.90**	**299**	*e*P	**Pn**	**20 54 47.8**	**+3.0**
ENPP	**El Nido**	**10.99**	**314**	*e*P	**Pn**	**20 54 51.6**	**+5.6**
KKM	**Kota Kinabalu**	**11.46**	**283**	*e*Pn	**Pn**	**20 54 51.6**	**-0.7**
KKM	**Kota Kinabalu**	**11.46**	**283** ⇑	P	**Pn**	**20 54 56.7**	**+4.3**
KAPI	**Kappang**	**11.46**	**222**	Pn	**Pn**	**20 54 52.5**	**+0.1**
	353nm,0.7s,SNR=8.6						
BTM	**Bintulu**	**14.34**	**269** ⇓	P	**Pn**	**20 55 39.1**	**+7.5**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WSI	**Waingapu**	**14.94**	**208**	P	**Pn**	**20 55 40.9**	**+1.4**
	551nm,1.4s						
SBUM	**Sibu**	**15.24**	**266** ⇑	P	**Pn**	**20 55 47.6**	**+4.1**
KAKA	**Kakadu**	**16.91**	**163**	*e*P	**Pn**	**20 56 03.6**	**-1.0**
	68nm,1.2s						
KSM	**Kuching**	**17.24**	**264**	*e*Pn	**Pn**	**20 56 09.9**	**+1.1**
KSM	**Kuching**	**17.24**	**264** ⇓	P	**Pn**	**20 56 12.3**	**+3.5**
GUMO	**Guam**	**19.89**	**59**	LR	LR	21 03 08.3	
	comp=Z,383nm,21.9s,baz=240,slow=33						
FITZ	**Fitzroy Crossi**	**21.59**	**185**	*e*P	**P**	**20 56 56.2**	**-1.0**
	21nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**21.59**	**185**	P	**P**	**20 56 56.2**	**-1.0**
	6.9nm,0.5s,mb4.3,baz=5.5,slow=10,SNR=34						
YHNB	**Yeheng**	**21.79**	**345**	*e*P	**P**	**20 56 57.5**	**-1.8**
TATO	**Taipei**	**22.06**	**345**	*e*P	**P**	**20 57 00.0**	**-2.1**
	98nm,1.3s,mb5.1						
QZH	**Quanzhou**	**22.91**	**339**	*i* P	**P**	**20 57 09.2**	**-2.0**
QZH				S	**S**	**21 01 13.9**	**-3.9**
QZH				AMB	AMB		
	comp=Z,110nm,0.8s,mb5.3						
QZH				LR	LR		
	comp=N,540nm,12.8s,MS4.4						
QZH				LR	LR		
	comp=E,800nm,16.8s,MS4.4						
QZH				LR	LR		
	comp=Z,1μm,17.6s,MS4.4						
QIZ	**Qiongzhong**	**23.07**	**313**	P	**P**	**20 57 12.0**	**-1.0**
QIZ				AP		20 57 21.6	
QIZ				XP	sP	20 57 25.8	-4.4
QIZ				S	**S**	**21 01 17.0**	**-3.6**
QIZ				XS	sS	21 01 34.4	-6.7
QIZ				AMB	AMB		
	comp=Z,23nm,1.2s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,102nm,4.0s						
QIZ				LR	LR		
	comp=N,368nm,17.4s,MS4.0						
QIZ				LR	LR		
	comp=E,240nm,16.5s,MS4.0						
QIZ				LR	LR		
	comp=Z,399nm,19.1s,MS3.9						
QIZ	**Qiongzhong**	**23.07**	**313**	*e*P	**P**	**20 57 11.7**	**-1.3**
JOW	**Kunigami**	**23.16**	**2**	P	**P**	**20 57 13.1**	**-0.7**
	comp=Z,14nm,0.8s,mb4.5,baz=158,slow=14,SNR=4.5						
JOW				LR	LR	21 04 47.4	
	comp=Z,871nm,21.9s,MS4.2,baz=8.8,slow=33						
GZH	**Guangzhou**	**23.73**	**326**	P	**P**	**20 57 20.2**	**+1.0**
GZH				LR	LR		
	comp=N,561nm,18.5s,MS4.1						
GZH				LR	LR		
	comp=E,264nm,18.5s,MS4.1						
GZH				LR	LR		
	comp=Z,1μm,19.1s,MS4.3						
WRAB	**Tennant Creek**	**24.31**	**164**	P	**P**	**20 57 24.0**	**-0.5**
	comp=Z,201nm,0.8s,mb5.6,SNR=19						
WRAB	**Tennant Creek**	**24.31**	**164**	*e*P	**P**	**20 57 23.2**	**-1.3**
WRAB				pmax	pmax		
	comp=Z,92nm,1.2s,mb5.1						
WRAB	**Tennant Creek**	**24.31**	**164**	*e*P	**P**	**20 57 23.2**	**-1.3**
	comp=Z,92nm,1.2s,mb5.1						
WRA	**Warramunga Arr**	**24.31**	**164**	P	**P**	**20 57 24.1**	**-0.5**
	comp=Z,22nm,0.9s,mb4.6,baz=343,slow=10,SNR=78						
WB2	**Warramunga Arr**	**24.32**	**164**	*e*P	**P**	**20 57 23.9**	**-0.7**
MBWA	**Marble Bar**	**25.70**	**197**	*e*P	**P**	**20 57 37.6**	**+0.5**
	comp=Z,50nm,1.1s,mb5.0						
KKTK	**Khon Kaen**	**27.32**	**299**	P	**P**	**20 57 51.0**	**-0.9**
	comp=Z,247nm,0.9s,mb5.7						
CBIJ	**Chichi jima**	**27.33**	**30**	LR	LR	21 06 05.5	
	comp=Z,463nm,21.4s,MS4.0,baz=108,slow=31						
ASAR	**Alice Springs**	**27.78**	**167**	P	**P**	**20 57 55.7**	**-0.1**
	comp=Z,1.8nm,0.5s,mb4.0,baz=342,slow=6.9,SNR=27						
SSE	**Sheshan**	**28.02**	**349**	P	**P**	**20 57 58.3**	**+0.3**
SSE				AP	pP	20 58 09.3	-1.0
SSE				XP	sP	20 58 12.8	-3.2
SSE				S	**S**	**21 02 39.6**	**+0.4**
SSE				XS	sS	21 02 58.8	-1.3
SSE				AMB	AMB		
	comp=Z,23nm,0.6s,mb5.0						
SSE				AMB	AMB		
	comp=Z,159nm,4.7s						
SSE				LR	LR		
	comp=N,281nm,17.8s,MS4.0						
SSE				LR	LR		
	comp=E,261nm,17.7s,MS4.0						
SSE				LR	LR		
	comp=Z,96nm,18.1s						
NST	**Nakhon Sawan**	**29.44**	**296**	P	**P**	**20 58 11.0**	**+0.2**
NJ2	**Nanjing**	**29.47**	**345**	*e*P	**P**	**20 58 11.4**	**+0.6**
NJ2				AP	pP	20 58 20.4	-2.9
NJ2				PP	PP	20 59 05.6	-13
NJ2				PPP		20 59 21.0	
NJ2				S	**S**	**21 03 07.5**	**+5.5**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,250nm,6.7s						
NJ2				LR	LR		
	comp=N,300nm,12.7s						
NJ2				LR	LR		
	comp=E,380nm,18.9s						
NJ2				LR	LR		
	comp=Z,380nm,19.0s						
WHN	**Wuhan**	**29.56**	**337** ⇑	P	**P**	**20 58 12.7**	**+1.1**
WHN				S	**S**	**21 02 58.9**	**-4.5**
**J

XAN				S	**S**	**21 04 15.5**	**-11**
XAN				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
XAN				AMB	AMB		
	comp=Z,112nm,9.1s						
XAN				LR	LR		
	comp=E,368nm,28.9s						
XAN				LR	LR		
	comp=Z,525nm,27.3s,MS4.1						
CD2	**Chengdu**	**35.20**	**323**⇑	*i*P	**P**	**20 59 00.2**	**-0.9**
CD2				AP	pP	20 59 12.4	-1.2
CD2				XP	sP	20 59 17.8	-1.4
CD2				PP	PP	21 00 20.9	-0.8
CD2				PCP	PcP	21 01 29.8	-1.6
CD2				S	**S**	**21 04 31.0**	**-0.3**
CD2				XS	sS	21 04 51.3	-1.1
CD2				SS	SS	21 06 50.7	-15
CD2				SCS	ScS	21 09 14.1	-3.5
CD2				AMB	AMB		
	comp=Z,50nm,1.3s,mb5.3						
CD2				AMB	AMB		
	comp=Z,100nm,8.4s						
CD2				LR	LR		
	comp=N,400nm,16.8s,MS4.4						
CD2				LR	LR		
	comp=E,390nm,19.2s,MS4.4						
CD2				LR	LR		
	comp=Z,480nm,16.8s,MS4.3						
DL2	**Dalian**	**35.58**	**352**	P	**P**	**20 59 07.8**	**+3.6**
DL2				*e*S	**S**	**21 04 44.1**	**+7.2**
DL2				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.3						
DL2				AMB	AMB		
	comp=Z,130nm,4.1s						
DL2				LR	LR		
	comp=N,210nm,15.5s,MS4.1						
DL2				LR	LR		
	comp=E,190nm,15.4s,MS4.1						
DL2				LR	LR		
	comp=Z,120nm,16.7s						
KLBR	**Kellerberrin**	**36.15**	**194**	*e*P	**P**	**20 59 09.3**	**+0.2**
	comp=Z,28nm,0.7s,mb5.3						
TIY	**Taiyuan**	**36.67**	**340**	P	**P**	**20 59 13.9**	**+0.4**
TIY				S	**S**	**21 05 00.2**	**+6.7**
TIY				LR	LR		
	comp=N,383nm,15.3s,MS4.4						
TIY				LR	LR		
	comp=E,351nm,17.1s,MS4.4						
TIY				LR	LR		
	comp=Z,516nm,20.2s,MS4.3						
EIDS	**Eidsvold**	**36.78**	**143**	*e*P	**P**	**20 59 14.4**	**-0.2**
	comp=Z,14nm,1.6s,mb4.5						
MUN	**Mundaring**	**36.91**	**196**	*e*P	**P**	**20 59 16.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**37.55**	**194**	*e*P	**P**	**20 59 21.9**	**+0.9**
NWAO	**Narrogin (SRO)**	**37.55**	**194**	P	**P**	**20 59 22.0**	**+1.0**
	comp=Z,15nm,0.6s,mb4.9,baz=15,slow=7.0,SNR=21						
BJT	**Baijiatuau**	**37.71**	**346**	*e*P	**P**	**20 59 21.9**	**-0.3**
BJT				pmax	pmax		
	comp=Z,81nm,0.9s						
BJT	**Baijiatuau**	**37.71**	**346**	*e*P	**P**	**20 59 21.9**	**-0.4**
	comp=Z,81nm,0.9s,mb5.5						
STKA	**Stephens Creek**	**37.72**	**160**	*e*P	**P**	**20 59 22.9**	**+0.5**
	comp=Z,12nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**37.72**	**160**	P	**P**	**20 59 22.6**	**+0.2**
	comp=Z,12nm,0.6s,mb4.8,baz=336,slow=8.0,SNR=51						
STKA				LR	LR	21 15 00.4	
	comp=Z,578nm,20.9s,MS4.4,baz=352,slow=36						
BJI	**Beijing**	**37.73**	**346**	P	**P**	**20 59 22.6**	**+0.2**
BJI				PP	PP	21 00 54.5	+5.2
BJI				AMB	AMB		
	comp=Z,94nm,0.9s,mb5.5						
BJI				LR	LR		
	comp=N,159nm,30.6s,MS3.8						
BJI				LR	LR		
	comp=E,143nm,27.9s,MS3.8						
BJI				LR	LR		
	comp=Z,151nm,27.1s						
SNY	**Shenyang**	**38.26**	**355**	⇑P	**P**	**20 59 27.6**	**+0.7**
SNY				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.1						
SNY				AMB	AMB		
	comp=Z,97nm,7.4s						
SNY				LR	LR		
	comp=E,240nm,24.0s						
SNY				LR	LR		
	comp=Z,213nm,21.2s,MS3.9						
LZH	**Lanzhou**	**39.02**	**329**	⇓P	**P**	**20 59 33.5**	**+0.2**
LZH				AP	pP	20 59 44.1	-1.9
LZH				XP	sP	20 59 48.3	-3.3
LZH				PP	PP	21 01 07.6	+4.1
LZH				*e*S	**S**	**21 05 30.2**	**+1.1**
LZH				XS	sS	21 05 47.5	-2.8
LZH				SS	SS	21 08 15.4	-7.3
LZH				AMB	AMB		
	comp=Z,69nm,1.1s,mb5.3						
LZH				AMB	AMB		
	comp=Z,356nm,5.1s						
LZH				LR	LR		
	comp=N,1μm,13.2s						
LZH				LR	LR		
	comp=Z,2μm,17.5s,MS5.0						
HHC	**Hu-ho-hao-te**	**39.79**	**341**	⇓P	**P**	**20 59 40.3**	**+0.6**
HHC				AP	pP	20 59 49.6	-2.8
HHC				XP	sP	20 59 53.9	-4.1
HHC				PP	PP	21 01 16.3	+4.4
HHC				PCP	PcP	21 01 45.4	+0.2
HHC				SCP	ScP	21 05 30.4	0.0
HHC				S	**S**	**21 05 44.5**	**+3.9**
HHC				XS	sS	21 06 01.2	-0.7
HHC				SS	SS	21 08 33.3	-4.8
HHC				SCS	ScS	21 09 43.0	-0.2
HHC				AMB	AMB		
	comp=Z,105nm,1.3s,mb5.4						
HHC				AMB	AMB		
	comp=Z,518nm,4.4s						
HHC				LR	LR		
	comp=N,490nm,17.1s,MS4.5						
HHC				LR	LR		
	comp=E,314nm,16.9s,MS4.5						
HHC				LR	LR		
	comp=Z,556nm,17.6s,MS4.5						
BTO	**Baotou**	**40.09**	**339**	*e*P	**P**	**20 59 42.5**	**+0.3**
CN2	**Changchun**	**40.12**	**358**	*e*P	**P**	**20 59 42.4**	**0.0**
CN2				*e*XP	sP	20 59 56.7	-3.9
CN2				*e*S	**S**	**21 05 47.3**	**+1.9**
CN2				SS	SS	21 08 39.7	-4.9
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.1						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.1						
CN2				LR	LR		
	comp=Z,300nm,19.0s,MS4.2						
SHL	**Shillong**	**40.55**	**306**	⇓*i*P	**P**	**20 59 47.0**	**+0.7**
SHL				*e*S	**S**	**21 05 50.0**	**-2.4**
MDJ	**Mudanjiang**	**40.94**	**2**	P	**P**	**20 59 50.3**	**+1.2**
MDJ				AP	pP	20 59 59.0	-2.8
MDJ				PP	PP	21 01 24.5	+0.2
MDJ				PCP	PcP	21 01 50.7	+1.9
MDJ				SCP	ScP	21 05 36.4	+1.6
MDJ				PCS	PcS	21 05 41.0	+1.4
MDJ				S	**S**	**21 06 00.1**	**+2.5**
MDJ				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,92nm,5.2s						
MDJ				LR	LR		
	comp=N,189nm,24.3s						
MDJ				LR	LR		
	comp=E,38nm,17.8s						
MDJ				LR	LR		
	comp=Z,213nm,24.7s,MS3.9						
MDJ	**Mudanjiang**	**40.94**	**2**	*e*P	**P**	**20 59 49.4**	**+0.3**
ASAJ	**Asahikawa**	**42.56**	**16**	P	**P**	**21 00 03.4**	**+1.0**
	comp=Z,7.8nm,0.7s,mb4.5,baz=242,slow=10,SNR=8.6						
LSA	**Lhasa**	**43.09**	**311**	P	**P**	**21 00 07.2**	**+0.3**
LSA	**Lhasa**	**43.09**	**311**	*e*P	**P**	**21 00 06.5**	**-0.4**
LSA				LR	LR		
	comp=Z,176nm,20.0s,MS4.0						
GTA	**Gaotai**	**43.61**	**329**	*e*P	**P**	**21 00 11.1**	**+0.1**
GTA				AP	pP	21 00 20.0	-3.8
GTA				XP	sP	21 00 24.8	-4.6
GTA				PP	PP	21 01 55.8	+2.6
GTA				PCP	PcP	21 01 59.7	+1.9
GTA				S	**S**	**21 06 38.0**	**+0.8**
GTA				XS	sS	21 06 57.1	-1.6
GTA				SS	SS	21 09 48.0	-5.7
GTA				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.3						
GTA				AMB	AMB		
	comp=Z,112nm,7.3s						
GTA				LR	LR		
	comp=N,318nm,22.9s,MS4.3						
GTA				LR	LR		
	comp=E,249nm,22.6s,MS4.3						
GTA				LR	LR		
	comp=Z,469nm,23.3s,MS4.3						
HABR	**Khabarovsk**	**45.23**	**7**	*e*P	**P**	**21 00 22.9**	**-0.8**
HABR				*e*	pP	21 00 30.9	-5.7
HABR				*e*	pP	21 00 35.0	-1.6
HABR				*e*		21 02 01.0	
HABR				*e*S	**S**	**21 07 02.3**	**+1.9**
HABR				*e*		21 07 19.2	
HABR				*e*		21 10 15.6	
HABR				*e*		21 11 08.3	
HABR				pmax	pmax		
	comp=Z,87nm,1.9s,mb5.3						
YSS	**Yuzh-Sakhalins**	**45.23**	**15**⇑	*i*P	**P**	**21 00 24.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.7						
HIA	**Hailar**	**46.02**	**353**	*e*P	**P**	**21 00 29.8**	**-0.2**
HIA				pmax	pmax		
	comp=Z,69nm,1.7s						
HIA				MLR	MLR		
	comp=Z,286nm,20.0s						
HIA	**Hailar**	**46.02**	**353**	*e*P	**P**	**21 00 29.8**	**-0.2**
	comp=Z,69nm,1.7s,mb5.3						
HIA				LR	LR		
	comp=Z,286nm,20.0s,MS4.2						
JIRN	**Jiri**	**46.05**	**306**	*e*P	**P**	**21 00 29.7**	**-0.9**
	comp=Z,72nm,0.9s,mb5.6						
GUN	**Gumba**	**46.40**	**306**	*e*P	**P**	**21 00 32.6**	**-0.8**
	comp=Z,76nm,0.8s,mb5.7						
KKN	**Kakani**	**46.84**	**305**	*e*P	**P**	**21 00 35.3**	**-1.5**
	comp=Z,42nm,1.0s,mb5.3						
DMN	**Daman**	**46.91**	**305**	*e*P	**P**	**21 00 36.4**	**-1.0**
	comp=Z,53nm,0.9s,mb5.5						
GKN	**Gorkha**	**47.45**	**305**	*e*P	**P**	**21 00 40.3**	**-1.2**
	comp=Z,34nm,1.0s,mb5.2						
ULN	**Ulaanbaatar**	**47.51**	**341**	*e*P	**P**	**21 00 42.4**	**+0.8**
ULN				pmax	pmax		
	comp=Z,74nm,1.5s,mb5.5						
ULN				MLR	MLR		
	comp=Z,254nm,19.0s,MS4.2						
ULN	**Ulaanbaatar**	**47.51**	**341**	*e*P	**P**	**21 00 42.4**	**+0.7**
	comp=Z,74nm,1.5s,mb5.5						
ULN				LR	LR		
	comp=Z,254nm,19.0s,MS4.2						
SONM	**Songino Array**	**47.69**	**341**	P	**P**	**21 00 43.5**	**+0.4**
	comp=Z,6.1nm,0.6s,mb4.8,baz=154,slow=7.2,SNR=3.5						
SONM				LR	LR	21 24 02.6	
	comp=Z,211nm,20.2s,MS4.1,baz=252,slow=40						
KOLN	**Koldanda**	**48.21**	**305**	*e*P	**P**	**21 00 46.8**	**-0.6**
	comp=Z,101nm,0.7s,mb6.0						
DANN	**Dangsing**	**48.29**	**305**	*e*P	**P**	**21 00 47.0**	**-1.1**
	comp=Z,101nm,0.6s,mb6.0						
HYB	**Hyderabad**	**49.84**	**290**	*i*P	**P**	**21 00 59.0**	**-1.1**
ZAK	**Zakamensk**	**50.93**	**340**	*e*P	**P**	**21 01 06.6**	**-1.1**
TLY	**Talaya**	**51.92**	**341**	*e*P	**P**	**21 01 16.6**	**+1.5**
TLY				*e*		21 03 20.5	
TLY				*e*S	**S**	**21 08 42.8**	**+8.2**
TLY				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
TLY				MLR	MLR		
	comp=Z,183nm,19.0s,MS4.1						
IRK	**Irkutsk**	**52.21**	**342**	*e*P	**P**	**21 01 18.0**	**+0.7**
IRK				*e*		21 03 16.4	
IRK				pmax	pmax		
	comp=Z,61nm,1.2s,mb5.4						
MOY	**Mondy**	**52.79**	**340**	*e*P	**P**	**21 01 22.2**	**+0.6**
MOY				pmax	pmax		
	comp=Z,71nm,1.9s,mb5.3						
WMQ	**Urumqi**	**53.27**	**325**	P	**P**	**21 01 27.0**	**+1.7**
WMQ				XP	sP	21 01 41.0	-2.9
WMQ				PP	PP	21 03 29.0	+3.1
WMQ				S	**S**	**21 08 55.0**	**+1.6**
WMQ				SS	SS	21 12 34.0	+0.3
WMQ				AMB	AMB		
	comp=Z,42nm,1.0s,mb5.3						
WMQ				LR	LR		
	comp=N,457nm,15.0s,MS4.7						
WMQ				LR	LR		
	comp=E,329nm,15.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,389nm,15.0s,MS4.6						
DDI	**Dehra Dun**	**53.65**	**305**	*ex*	x	21 01 27.0	
BOD	**Bodaibo**	**55.14**	**351**	*e*P	**P**	**21 01 38.6**	**0.0**
BOD				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.0						
MK31	**Makanchi Array**	**58.10**	**325**	*i*P	**P**	**21 02 00.0**	**+0.1**
MK31				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
MK31	**Makanchi Array**	**58.10**	**325**	*e*P	**P**	**21 01 59.8**	**-0.1**
MKAR	**Makanchi Array**	**58.10**	**325**⇑	*e*P	**P**	**21 02 00.6**	**+0.7**
MKAR	**Makanchi Array**	**58.10**	**325**	P	**P**	**21 01 59.7**	**-0.2**
MKAR				ScP	ScP	21 06 59.1	+11
MKAR				LR	LR	21 27 59.8	
MKAR	**Makanchi Array**	**58.10**	**325**	P	**P**	**21 01 59.7**	**-0.2**
	comp=Z,8.5nm,0.7s,mb4.9,baz=122,slow=8.2,SNR=63						
MKAR				ScP	ScP	21 06 59.1	+11
	comp=Z,0.4nm,0.4s,baz=124,slow=4.2,SNR=4.6						
MKAR				LR	LR	21 27 59.8	
	comp=Z,197nm,21.1s,MS4.2,baz=137,slow=37						
YAK	**Yakutsk**	**58.37**	**1**	*e*P	**P**	**21 02 01.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.5						
YAK				pmax	pmax		
	comp=N,26nm,1.2s						
YAK				pmax	pmax		
	comp=E,9.0nm,1.2s						
YAK	**Yakutsk**	**58.37**	**1**	*e*P	**P**	**21 02 01.7**	**+0.3**
KSH	**Kashi**	**58.67**	**315**	*e*P	**P**	**21 02 05.2**	**+1.2**
KSH				*e*AP	pP	21 02 15.1	-2.2
KSH				*e*XP	sP	21 02 19.4	-3.3
KSH				*e*PCP	PcP	21 02 54.3	+0.7
KSH				*e*PP	PP	21 04 16.5	+2.3
KSH				*e*PPP		21 05 40.5	
KSH				*e*SCP	ScP	21 06 51.3	+0.9
KSH				*e*PCS	PcS	21 06 54.1	-1.2
KSH				*e*S	**S**	**21 10 03.8**	**-1.5**
KSH				*e*SCS	ScS	21 11 48.1	-2.0
KSH				*e*SS	SS	21 13 59.1	+0.2
KSH				AMB	AMB		
	comp=Z,305nm,4.0s						
KSH				LR	LR		
	comp=N,384nm,4.8s						
KSH				LR	LR		
	comp=E,311nm,5.0s						
KSH				LR	LR		
	comp=Z,322nm,4.8s						
TKM2	**Tokmak 2**	**60.35**	**318**	*e*P	**P**	**21 02 16.1**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**60.35**	**318**	*e*P	**P**	**21 02 16.1**	**+0.6**
	comp=Z,6.5nm,0.8s,mb4.7						
UCH	**Uchtor**	**60.78**	**317**	*e*P	**P**	**21 02 19.8**	**+1.3**
	comp=Z,17nm,1.0s,mb5.1						
AAK	**Ala-Archa**	**60.96**	**318**	*e*P	**P**	**21 02 20.5**	**+0.8**
AAK	**Ala-Archa**	**60.96**	**318**	P	**P**	**21 02 20.8**	**+1.1**
	comp=Z,1.6nm,0.5s,mb4.4,baz=133,slow=10,SNR=6.5						
FRU	**Bishkek**	**60.96**	**318**	*e*P	**P**	**21 02 20.0**	**+0.3**
FRU				*e*	pP	21 02 33.0	0.0
ZAA0	**Zalesovo Array**	**61.07**	**333**	*e*P	**P**	**21 02 19.4**	**-0.7**
ZALV	**Zalesovo Beam**	**61.07**	**333**	P	**P**	**21 02 19.8**	**-0.3**
	comp=Z,6.2nm,0.5s,mb5.0,baz=121,slow=6.9,SNR=39						
ZALV				LR	LR	21 30 02.5	
	comp=Z,124nm,21.3s,MS4.0,baz=323,slow=37						
ZAL	**Zalesovo**	**61.07**	**333**	P	**P**	**21 02 19.8**	**-0.4**
AML	**Almayashu**	**61.30**	**317**	*e*P	**P**	**21 02 22.9**	**+0.9**
	comp=Z,15nm,0.8s,mb5.2						
EKS2	**Erkin-Say**	**61.46**	**317**	*e*P	**P**	**21 02 23.4**	**+0.4**
	comp=Z,15nm,0.5s,mb5.4						
SEY	**Seymchan**	**62.05**	**13**	*i*P	**P**	**21 02 26.3**	**-0.3**
KBL	**Kabul**	**62.19**	**307**	*e*P	**P**	**21 02 27.9**	**-0.2**
KURK	**Kurchatov**	**62.27**	**327**	P	**P**	**21 02 28.6**	**+0.3**
	comp=Z,460nm,0.9s,SNR=59						
KURK	**Kurchatov**	**62.27**	**327**	*d*i P	**P**	**21 02 28.7**	**+0.4**
KURK	**Kurchatov**	**62.27**	**327**	*e*P	**P**	**21 02 28.0**	**-0.3**
NVS	**Novosibirsk**	**62.35**	**333**	*i*P	**P**	**21 02 28.9**	**+0.1**
NVS				*e*S	**S**	**21 10 53.6**	**+1.8**
NVS				pmax	pmax		
	comp=N,54nm,1.6s						
NVS				pmax	pmax		
	comp=Z,56nm,1.6s,mb5.4						
NVS				pmax	pmax		
	comp=E,26nm,1.4s						
NVS				smax			
	comp=N,6.0nm,1.3s						
NVS				smax			
	comp=E,3.0nm,0.7s						
KK31	**Karatay Array**	**63.84**	**317**	*i*P	**P**	**21 02 38.6**	**-0.3**
KK31				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**67.85**	**327**	P	**P**	**21 03 05.0**	**+0.5**
	comp=Z,44nm,0.8s,mb5.5,baz=123,slow=7.6,SNR=222						
BRVK	**Borovoye**	**67.92**	**327**	P	**P**	**21 03 05.3**	**+0.3**
	comp=Z,564nm,0.7s,SNR=44						
BRVK	**Borovoye**	**67.92**	**327**	*e*P	**P**	**21 03 05.6**	**+0.6**
TIXI	**Tiksi**	**68.01**	**0**	*e*P	**P**	**21 03 04.0**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.2						
TIXI				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.4						
TIXI	**Tiksi**	**68.01**	**0**	*e*P	**P**	**21 03 04.2**	**-1.0**
	comp=Z,15nm,0.7s,mb5.1						
TIXI				LR	LR		
	comp=Z,338nm,22.0s,MS4.5						
BILL	**Bilibino**	**69.54**	**15**	*e*P	**P**	**21 03 14.8**	**0.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.1						
AKTK	**Aktyubinsk**	**74.24**	**322**	P	**P**	**21 03 43.9**	**+0.6**
AKTO	**Aktyubinsk**	**74.24**	**322**	*i*P	**P**	**21 03 43.3**	**0.0**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
AKTO	**Aktyubinsk**	**74.24**	**322**	P	**P**	**21 03 43.9**	**+0.6**
	comp=Z,41nm,0.8s,mb5.4,baz=100,slow=7.2,SNR=126						
SVE	**Sverdlovsk**	**74.48**	**328**⇑	*e*P	**P**	**21 03 45.0**	**+0.5**
SVE				pmax	pmax		
	comp=Z,48nm,1.3s,mb5.3						
SVE				MLR	MLR		
	comp=Z,158nm,22.0s,MS4.3						
ARU	**Arti**	**75.46**	**328**	P	**P**	**21 03 50.0**	**-0.2**
	comp=Z,129nm,0.8s,mb5.9,SNR=6.5						
ARU	**Arti**	**75.46**	**328***d*	*i*P	**P**	**21 03 49.2**	**-1.0**
ARU				*e*	pP	21 04 02.3	-1.6
ARU				*e*		21 06 35.6	
ARU				*e*PPP		21 08 22.1	
ARU				*e*S	S	21 13 27.3	+0.4
ARU				*e*SS	SS	21 18 14.4	-3.7
ARU				pmax	pmax		
	comp=Z,41nm,1.7s,mb5.1						
ARU	**Arti**	**75.46**	**328**	*e*P	**P**	**21 03 50.2**	**-0.1**
ARU				LR	LR		
	comp=Z,97nm,19.0s,MS4.1						
DGRG	**David-gareji**	**81.71**	**311**	P	**P**	**21 04 26.8**	**+1.8**
MTA	**Mtatsminda**	**82.16**	**311**	P	**P**	**21 04 28.2**	**+0.9**
TBLG	**Delisi**	**82.20**	**311**	P	**P**	**21 04 18.9**	**-8.6**
IMA2	**Indian Mountai**	**82.25**	**24**	P	**P**	**21 04 26.9**	**-0.4**
BHD	**Baghdad**	**82.26**	**303**	*ex*	x	21 04 26.0	
GOR	**Gori**	**82.68**	**312**	P	**P**	**21 04 31.7**	**+1.7**
VNDA	**Vanda**	**83.16**	**173**	*e*P	**P**	**21 04 32.8**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,7.0nm,1.1s						
VNDA	**Vanda**	**83.16**	**173**	*e*P	**P**	**21 04 32.8**	**+1.0**
	comp=Z,6.8nm,1.1s,mb4.6						
VNDA	**Vanda**	**83.16**	**173**	P	**P**	**21 04 32.4**	**+0.6**
	comp=Z,2.2nm,0.8s,mb4.2,baz=310,slow=4.7,SNR=9.9						
VNDA				LR	LR	21 37 15.4	
	comp=Z,157nm,18.8s,MS4.4,baz=352,slow=33						
ONI	**Oni**	**83.18**	**312**	P	**P**	**21 04 34.2**	**+1.6**
KIV	**Kislovodsk**	**83.77**	**314**	*e*P	**P**	**21 04 36.3**	**+0.7**
KIV				*e*		21 14 56.1	
KIV				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
KIV	**Kislovodsk**	**83.77**	**314**	*e*P	**P**	**21 04 36.7**	**+1.1**
	comp=Z,33nm,1.4s,mb5.3						
KIV				LR	LR		
	comp=Z,100nm,20.0s,MS4.2						
MCK	**McKinley**	**84.00**	**26**	*e*P	**P**	**21 04 36.9**	**+0.5**
MCK				pmax	pmax		
	comp=Z,60nm,1.8s,mb5.4						
MCK				MLR	MLR		
	comp=Z,55nm,22.0s,MS3.9						
MCK	**McKinley**	**84.00**	**26**	*e*P	**P**	**21 04 36.9**	**+0.5**
	comp=Z,60nm,1.8s,mb5.4						
MCK				LR	LR		
	comp=Z,55nm,22.0s,MS3.9						
SML	**Sawmill**	**84.15**	**28**	*e*P	**P**	**21 04 38.1**	**+0.9**
PPT	**Papeete**	**84.39**	**108**	LR	LR	21 35 36.3	
	comp=Z,183nm,18.9s,MS4.5,baz=278,slow=31						
VRHR	**Novokhopersk**	**84.62**	**321**	*e*P	**P**	**21 04 39.7**	**-0.1**
VRHR				*e**SP	sP	21 04 52.6	-6.4
VRHR				pmax	pmax		
	comp=Z,70nm,1.7s,mb5.5						
VRHR				pmax	pmax		
	comp=N,10.0nm,1.1s						
VRHR				pmax	pmax		
	comp=E,40nm,1.2s						
SOC	**Sochi**	**85.92**	**313**	*e*P	**P**	**21 04 44.5**	**-1.9**
SOC				*e*		21 08 09.9	
SOC				*e*S	S	21 15 05.3	-11
SOC				*e*SS	SS	21 20 49.0	-5.8
SOC				pmax	pmax		
	comp=Z,18nm,1.2s,mb5.2						
SOC				MLR	MLR		
	comp=Z,118nm,18.0s,MS4.3						
VORD	**Divnogorie**	**86.09**	**321**	*e*P	**P**	**21 04 46.2**	**-0.9**
VORD				*e**SP	sP	21 04 59.5	-6.8
VORD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
VORD				pmax	pmax		
	comp=N,20nm,0.9s						
VORD				pmax	pmax		
	comp=E,40nm,0.6s						
VRSR	**Storozhevoye**	**86.16**	**321**	*e*P	**P**	**21 04 47.3**	**-0.1**
VRSR				*e**SP	sP	21 04 59.7	-6.9
VRSR				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.6s						
VRSR				pmax	pmax		
	comp=E,3.0nm,0.8s						
TMCR	**Tamitsa**	**86.57**	**334**	*e*P	**P**	**21 04 48.3**	**-0.8**
MOS	**Moscow**	**86.98**	**326**	*e*P	**P**	**21 04 52.5**	**+1.1**
MOS				*e*	pP	21 05 04.5	-0.8
MALT	**Malatya**	**87.05**	**308**	*e*P	**P**	**21 04 53.1**	**+1.0**
MALT				pmax	pmax		
	comp=Z,46nm,1.9s,mb5.4						
MALT	**Malatya**	**87.05**	**308**	*e*P	**P**	**21 04 53.1**	**+1.1**
	comp=Z,46nm,1.9s,mb5.4						
OBN	**Obninsk**	**87.61**	**325**	*e*P	**P**	**21 04 54.3**	**-0.1**
OBN				*e*	pP	21 05 07.7	-0.7
OBN				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.2						
JOF	**Joensuu**	**89.66**	**333**	*e*p	**P**	**21 05 02.6**	**-1.3**
	comp=Z,6.0nm,0.7s,mb5.0						
INK	**Inuvik**	**90.07**	**22**	P	**P**	**21 05 05.7**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.4,baz=286,slow=7.4,SNR=3.3						
KMBO	**Kilima Mbogo**	**90.26**	**269**⇑	*e*P	**P**	**21 05 17.7**	**+10**
ARCES	**ARCESS Array B**	**90.86**	**340**	P	**P**	**21 05 08.4**	**-0.9**
	comp=Z,6.1nm,0.8s,mb5.0,baz=79,slow=6.3,SNR=12						
ARCES				LR	LR	21 51 46.8	
	comp=Z,90nm,20.4s

NB2 NORSAR Subarra 99.26 334 P **P 21 05 46.8 -1.0**
comp=Z,0.8nm,0.7s,mb4.4,baz=66,slow=4.6
NOA NORSAR Array B 99.26 334 P **P 21 05 46.4 -1.5**
comp=Z,1.5nm,0.7s,mb4.6,baz=66,slow=4.6,SNR=5.6
NOA LR LR 21 56 50.8
comp=Z,179nm,21.1s,MS4.5,baz=45,slow=39
YKA Yellowknife Ar 99.36 25 *i P* **P 21 05 48.5 +0.2**
YKA Yellowknife Ar 99.36 25 P **P 21 05 46.9 -1.4**
comp=Z,0.4nm,0.9s,mb3.9,baz=296,slow=4.3,SNR=4.5

MAN 03 21:29:43,717N×12373E,h21km,mb4.6,ML3.5,MS3.4, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.51**	**85**	⇓*i*P	Pb	21 29 52.8	-0.5
CTBH				*i* S	Sb	21 30 00.5	+0.2
PAGZ	**Pagadian**	**0.76**	**333**	*e*P	Pb	21 29 57.9	+0.4
PAGZ				*e*S	Sb	21 30 09.2	+1.9
BUKP	**Musuan**	**1.49**	**62**	*e*P	Pn	21 30 08.7	+0.1

IDC 03 21:44:19.2±19.0,1930S×17274W,h0km,mb4.1/4, mb1 4.3/4,mb1mx3.9/16,mbtmp4.1/4,Error ellipse: s-maj=479.5km s-min=39.8km az=38.0,Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.55**	**262**	P	P	21 51 44.6	+0.8
1.3nm,0.3s,baz=112,slow=13,SNR=3.6							
ASAR	**Alice Springs**	**49.61**	**255**	P	P	21 53 11.6	-1.0
0.3nm,0.3s,baz=94,slow=7.6,SNR=7.6							
WB2	**Warramunga Arr**	**49.67**	**260**	*e*P	P	21 53 13.3	+0.2
WRA	**Warramunga Arr**	**49.68**	**260**	P	P	21 53 13.5	+0.3
0.5nm,0.2s,baz=96,slow=8.2,SNR=72							
FITZ	**Fitzroy Crossi**	**58.10**	**260**	*e*P	P	21 54 18.0	+3.1
3.7nm,1.6s							
VNDA	**Vanda**	**59.59**	**186**	P	P	21 54 24.2	0.0
0.8nm,0.3s,baz=36,slow=6.3,SNR=12							

SZGRF ***03*** *22:01:45.9,52.17N×37.12W,h33km,mb4.5,MS3.5,North Atlantic Ocean*
ISCJB ***03*** *22:01:56.0±1.7,5265N±004×3454W±004,h9km±11km, mb4.5/108,MS3.8/36,Error ellipse: s-maj=7.2km s-min=3.8km az=2.5*
MOS ***03*** *22:01:56.2±0.7,5268N×3450W,h10km,mb4.6/46,Error ellipse: s-maj=8.8km s-min=5.8km az=151.2*
BJI ***03*** *22:01:56.4,53.13N×3483W,h10km,mB5.0,mb4.9,Ms4.4, Msz4.4*
IDC ***03*** *22:01:56.3±0.6,5273N×3452W,h0km,mb4.3/19, mb1 4.4/21,mb1mx4.3/27,mbtmp4.3/21,ML3.6/2,MS3.8/23, Ms1 3.8/23,ms1mx3.7/28,Error ellipse: s-maj=18.2km s-min=11.5km az=173.0*
GCMT ***03*** *22:01:57.9±0.3,5263N×3442W,h20km±1km,MW4.9/59, Moment Tensor Solution. s24,c27; s59,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.20±.12; Mθθ-0.16±.09; Mφφ0.36±.09; Mrθ1.23±.21; Mφφ-2.26±.07; Mφr0.99±.20; Best double couple: M0=2.71400×10^16 NP1:φs179.00000°,δ68.00000°,λ-20.00000°. NP2: φs277.00000°,δ72.00000°,λ-157.00000°. Principal axes: T 2.3800, Plg2.0000°, Azm48.0000°; N 0.6680, Plg61.0000°, Azm313.0000°; P -3.0470, Plg29.0000°, Azm139.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***03*** *22:01:57.9±0.2,5261N×3454W,h10km,mb4.6/61 Error ellipse: s-maj=5.0km s-min=2.3km az=192.0*
BGS ***03*** *22:01:57.7±1.5,5264N×3458W,h10km,mb4.8*
CSEM ***03*** *22:01:58.6±0.1,5269N×3450W,h30km,mb4.7/55,Ms3.5, Mw4.9,Error ellipse: s-maj=3.2km s-min=1.4km az=8.0*
OTT ***03*** *22:02:02.6±5.1,5330N×3519W,h18km,ML5.5/2,Atlantic Ocean.*

ISC 03 22:01:57.1±1.7,5264N±004×3452W±004,h4km±11km, h17km±6.9km:pP-P,n364,σ0.985/359,mb4.5/108,MS3.8/36, 30C-2D,Reykjanes Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJNN	**Saint John's**	**12.69**	**254**	PN	**Pn**	**22 04 57.3**	**-0.8**
SJNN				SN	**Sn**	**22 07 04.0**	**-16**
SJNN				Trac		22 07 16.2	
comp=Z,412nm,1.4s							
BORG	**Borgarnes**	**13.90**	**24**	Pn	**Pn**	**22 05 16.5**	**+1.9**
1.2nm,0.3s,baz=254,slow=10,SNR=3.2							
DRLN	**Deer Lake**	**14.86**	**266**	PN	**Pn**	**22 05 24.2**	**-3.6**
DRLN				SN	**Sn**	**22 07 56.8**	**-16**
DRLN				Trac		22 08 04.6	
comp=Z,122nm,1.3s							
VAL	**Valentia**	**14.86**	**83**	*e*P	**Pn**	**22 05 22.1**	**-5.7**
DCN	**Croghan**	**16.39**	**77**	⇑*i*P	**Pn**	**22 05 49.2**	**+1.5**
SFJD	**Kangerlussuaq**	**16.43**	**337**	*e*P	**Pn**	**22 05 49.6**	**+1.4**
SFJD				pmax	pmax		
comp=Z,17nm,1.0s							
SFJD	**Kangerlussuaq**	**16.43**	**337**	*e*Pn	**Pn**	**22 05 49.6**	**+1.4**
comp=Z,17nm,1.0s							
SFJD	**Kangerlussuaq**	**16.43**	**337**	*e*P	**Pn**	**22 05 49.6**	**+1.4**
comp=Z,17nm,1.0s							
DMUB	**Kingscourt**	**16.53**	**75**	⇑*i*P	**Pn**	**22 05 50.9**	**+1.3**
DLF	**Lyons Farm**	**16.84**	**77**	⇑*i*P	**Pn**	**22 05 54.4**	**+1.0**
DSB	**Dublin**	**16.94**	**77**	*e*Pn	**Pn**	**22 05 56.1**	**+1.4**
DSB	**Dublin**	**16.94**	**77**	*e*Pn	**Pn**	**22 05 56.1**	**+1.4**
KAR1	**Arisaig**	**17.03**	**64**	*e*P	**Pn**	**22 05 56.2**	**+0.4**
KPL	**Plockton**	**17.15**	**63**	*e*P	**Pn**	**22 05 57.0**	**-0.3**
KPL				AMb	AMB	22 06 02.8	
comp=Z,83nm,1.6s							
KAC	**Achnashellach**	**17.35**	**62**	*e*P	**Pn**	**22 06 00.5**	**+0.7**
GAL1	**Galloway**	**17.71**	**71**	*e*P	**Pn**	**22 06 04.5**	**+0.2**
GAL1				AMb	AMB	22 06 06.2	
comp=Z,82nm,1.2s							
NATG	**Natashquan Que**	**17.73**	**274**	PN	**Pn**	**22 06 02.6**	**-2.0**
NATG				SN	**Sn**	**22 09 05.7**	**-17**
PGBU	**Glenifferbraes**	**17.78**	**68**	*e*P	**Pn**	**22 06 05.8**	**+0.7**
PGBU				AMb	AMB	22 06 07.1	
comp=Z,141nm,1.2s							
CHEG	**Cheticamp, Nov**	**17.83**	**261**	PN	**Pn**	**22 06 05.1**	**-0.8**
CHEG				SN	**Sn**	**22 09 10.0**	**-15**
EAB	**Aberfoyle**	**17.85**	**67**	*e*P	**Pn**	**22 06 06.3**	**+0.3**
MDO	**Dochfour**	**17.85**	**62**	*e*P	**Pn**	**22 06 07.0**	**+0.9**
GIM	**North Isle of**	**17.91**	**73**	*e*P	**Pn**	**22 06 08.1**	**+1.3**
MVH1	**Achvaich**	**17.98**	**61**	*e*P	**Pn**	**22 06 07.8**	**+0.2**
ELO	**Logie Almond**	**18.19**	**66**	*e*P	**Pn**	**22 06 10.8**	**+0.6**
ORE	**Reay**	**18.25**	**59**	*e*P	**Pn**	**22 06 12.1**	**+1.1**
EBH	**Black Hill**	**18.31**	**66**	*e*P	**Pn**	**22 06 11.8**	**+0.1**
EAU	**Auchinoon**	**18.36**	**68**	*e*P	**Pn**	**22 06 13.4**	**+1.1**
MCD	**Coleburn Disti**	**18.45**	**62**	*e*P	**Pn**	**22 06 13.6**	**+0.2**
EDI	**Edinburgh**	**18.50**	**67**	*e*P	**Pn**	**22 06 14.1**	**0.0**
EDI				AMb	AMB	22 06 19.0	
comp=Z,99nm,2.1s							
ESK	**Eskdalemuir**	**18.53**	**69**	*e*P	**Pn**	**22 06 14.8**	**+0.4**
ESK				AMb	AMB	22 06 19.3	
comp=Z,56nm,2.0s							
ESK	**Eskdalemuir**	**18.53**	**69**	*e*P	**Pn**	**22 06 15.0**	**+0.6**
ESK				pmax	pmax		
comp=Z,35nm,0.9s							
ESK	**Eskdalemuir**	**18.53**	**69**	*e*Pn	**Pn**	**22 06 15.0**	**+0.6**
comp=Z,35nm,0.9s							
ESK	**Eskdalemuir**	**18.53**	**69**	*e*P	**Pn**	**22 06 15.0**	**+0.6**
comp=Z,35nm,0.9s							
EKA	**Eskdalemuir Ar**	**18.56**	**69**	P	**Pn**	**22 06 14.7**	**0.0**
comp=Z,0.7nm,0.3s,baz=276,slow=9.5,SNR=61							
EKA	**Eskdalemuir Ar**	**18.56**	**69**	P	**Pn**	**22 06 14.7**	**0.0**
HTL	**Hartland**	**18.58**	**83**	*e*P	**Pn**	**22 06 15.1**	**+0.1**
HTL				AMb	AMB	22 06 17.7	
comp=Z,44nm,0.9s							
ECK	**Cauldkaine Hil**	**18.59**	**70**	*e*P	**Pn**	**22 06 14.9**	**-0.2**
EBL	**Broad Law**	**18.59**	**68**	*e*P	**Pn**	**22 06 14.8**	**-0.4**
MME1	**Meikle Cairn**	**18.60**	**63**	*e*P	**Pn**	**22 06 14.9**	**-0.4**
CKE	**Keswick**	**18.66**	**71**	*e*P	**Pn**	**22 06 16.6**	**+0.5**
ESY	**Stoneypath**	**18.83**	**67**	*e*P	**Pn**	**22 06 17.5**	**-0.5**
SBD1	**Bryn Du**	**18.85**	**77**	*e*P	**Pn**	**22 06 17.8**	**-0.5**
HEX	**Exmoor**	**18.98**	**82**	*e*P	**Pn**	**22 06 20.0**	**+0.2**
HTR	**Trewern Hill**	**19.03**	**79**	*e*P	**Pn**	**22 06 19.7**	**-0.7**
GBN	**Guysborough**	**19.04**	**258**	PN	**Pn**	**22 06 22.6**	**+1.9**
GBN				SN	Sn	22 09 33.2	-21
XSO	**Sourhope Farm**	**19.06**	**69**	*e*P	**Pn**	**22 06 21.1**	**+0.3**
XAL	**Allendale**	**19.14**	**70**	*e*P	**Pn**	**22 06 21.0**	**-0.8**
SCHQ	**Schefferville**	**19.15**	**289**	P	**Pn**	**22 06 19.1**	**-2.7**
SCHQ				*e*P		22 06 19.8	
SCHQ				LR	LR	22 12 34.0	
SCHQ	**Schefferville**	**19.15**	**289**	P	**Pn**	**22 06 19.1**	**-2.7**
comp=Z,0.4nm,0.3s,baz=86,slow=8.0,SNR=8.3							
SCHQ				LR	LR	22 12 34.0	
comp=Z,452nm,20.3s,baz=262,slow=33							
SCHQ	**Schefferville**	**19.15**	**289**	*e*P	**Pn**	**22 06 19.8**	**-2.1**
MCH1	**Michaelchurch**	**19.21**	**79**	*e*P	**Pn**	**22 06 21.9**	**-0.8**
MCH1				*e*P		22 06 21.9	
MCH1				AMb	AMB	22 06 31.0	
comp=Z,62nm,1.4s							
HAE	**Alders End**	**19.47**	**79**	*e*P	**Pn**	**22 06 24.6**	**-1.1**
LHO	**Holmfirth**	**19.55**	**74**	*e*P	**Pn**	**22 06 25.2**	**-1.5**
EMAZ	**Mazaricos**	**19.61**	**109**	P	**Pn**	**22 06 26.1**	**-1.5**
comp=Z,134nm,2.0s							
EMAZ	**Mazaricos**	**19.61**	**109**	P	**Pn**	**22 06 26.1**	**-1.5**
comp=Z,134nm,2.0s							
HPK	**Haverah Park**	**19.61**	**73**	*e*P	**Pn**	**22 06 26.7**	**-0.8**
HPK				AMb	AMB	22 06 27.9	
comp=Z,102nm,1.1s							
KWE	**Weaver Farm**	**19.66**	**76**	*e*P	**Pn**	**22 06 26.5**	**-1.6**
LRW	**Lerwick**	**19.75**	**55**	*e*P	**Pn**	**22 06 27.3**	**-1.7**
LRW				AMb	AMB	22 06 33.8	
comp=Z,46nm,1.1s							
KBI1	**Birley Grange**	**19.80**	**75**	*e*P	**Pn**	**22 06 28.1**	**-1.6**
STS	**Santiago**	**19.90**	**109**	P	**Pn**	**22 06 29.2**	**-1.8**
STS				pmax	pmax		
comp=Z,5.0nm,1.7s							
STS	**Santiago**	**19.90**	**109**	P	**Pn**	**22 06 29.2**	**-1.8**
comp=Z,5.1nm,1.7s							
STS	**Santiago**	**19.90**	**109**	P	**Pn**	**22 06 29.2**	**-1.8**
comp=Z,5.1nm,1.7s							
CWF	**Charnwood Fore**	**20.04**	**76**	*e*P	**P**	**22 06 31.1**	**+0.3**
CWF				AMb	AMB	22 06 35.2	
comp=Z,42nm,1.5s							
ROSF	**Rostrenen**	**20.25**	**90**	*e*P	**P**	**22 06 35.2**	**+2.0**
EPON	**Pontenova**	**20.45**	**106**	P	**P**	**22 06 35.2**	**-0.1**
comp=Z,85nm,1.9s							
EPON	**Pontenova**	**20.45**	**106**	P	**P**	**22 06 35.2**	**-0.1**
comp=Z,85nm,1.9s							
QUIF	**Quistinic**	**20.49**	**91**	*e*P	**P**	**22 06 36.7**	**+0.9**
comp=Z,26nm,0.9s							
QUIF	**Quistinic**	**20.49**	**91**	*e*P	**P**	**22 06 36.7**	**+0.9**
QUIF				pmax	pmax		
comp=Z,13nm,0.9s							
QUIF	**Quistinic**	**20.49**	**91**	*e*P	**P**	**22 06 36.7**	**+0.9**
comp=Z,13nm,0.9s							
SKP1	**Kophill**	**20.59**	**79**	*e*P	**P**	**22 06 37.1**	**+0.3**
SGMF	**Saint Gilles**	**20.72**	**89**	*e*P	**P**	**22 06 39.3**	**+1.0**
comp=Z,50nm,1.1s							
SGMF	**Saint Gilles**	**20.72**	**89**	*e*P	**P**	**22 06 39.3**	**+1.0**
SGMF				pmax	pmax		
comp=Z,25nm,1.1s							
SGMF	**Saint Gilles**	**20.72**	**89**	*e*P	**P**	**22 06 39.3**	**+1.0**
comp=Z,25nm,1.1s							
ELOB	**Lobios**	**20.82**	**111**	P	**P**	**22 06 39.4**	**-0.1**
comp=Z,125nm,2.4s							
ELOB	**Lobios**	**20.82**	**111**	P	**P**	**22 06 39.4**	**0.0**
comp=Z,125nm,2.4s							
ERUA	**La Rua**	**21.02**	**108**	P	**P**	**22 06 40.7**	**-0.8**
ERUA				pmax	pmax		
comp=Z,39nm,1.5s,mb4.5							
ERUA	**La Rua**	**21.02**	**108**	P	**P**	**22 06 40.7**	**-0.8**
comp=Z,39nm,1.5s,mb4.5							
ERUA	**La Rua**	**21.02**	**108**	P	**P**	**22 06 40.7**	**-0.8**
comp=Z,39nm,1.5s,mb4.5							
ECAL	**Calabor**	**21.54**	**109**	P	**P**	**22 06 46.4**	**-0.7**
comp=Z,64nm,1.9s,mb4.7							
EARI	**Arriondas**	**21.60**	**104**	P	**P**	**22 06 47.7**	**-0.1**
comp=Z,68nm,1.3s,mb4.9							
EARI	**Arriondas**	**21.60**	**104**	P	**P**	**22 06 47.7**	**-0.1**
comp=Z,68nm,1.3s,mb4.9							
PVIS	**Viseu**	**21.68**	**113**	*e*P	**P**	**22 06 49.5**	**+0.9**
comp=Z,44nm,1.1s,mb4.8							
GRR	**Gorron**	**21.70**	**88**	*e*P	**P**	**22 06 49.0**	**+0.2**
comp=Z,36nm,1.1s,mb4.4							
GRR	**Gorron**	**21.70**	**88**	*e*P	**P**	**22 06 49.0**	**+0.2**
GRR				pmax	pmax		
comp=Z,18nm,1.1s,mb4.4							
GRR	**Gorron**	**21.70**	**88**	*e*P	**P**	**22 06 49.0**	**+0.2**
comp=Z,18nm,1.1s,mb4.4							
FLN	**La Foliniere**	**21.78**	**87**	*e*P	**P**	**22 06 50.8**	**+1.1**
comp=Z,38nm,0.8s,mb4.6							
FLN				*e*MLR	MLR		
comp=Z,157nm,19.6s,MS3.1							
FLN	**La Foliniere**	**21.78**	**87**	*e*P	**P**	**22 06 50.8**	**+1.1**
FLN				pmax	pmax		
comp=Z,19nm,0.8s,mb4.6							
FLN				MLR	MLR		
comp=Z,160nm,19.6s,MS3.4							
FLN	**La Foliniere**	**21.78**	**87**	*e*P	**P**	**22 06 50.8**	**+1.1**
comp=Z,19nm,0.8s,mb4.6							
FLN				LR	LR		
comp=Z,160nm,19.6s,MS3.4							
JMIC	**Jan Mayen**	**21.79**	**23**	LR	LR	22 13 01.7	
comp=Z,416nm,21.4s,MS3.8,baz=73,slow=31							
MVO	**Moncorvo**	**21.87**	**111**	*e*P	**P**	**22 06 53.8**	**+3.1**
comp=Z,32nm,1.5s,mb4.5							
LDF	**La Druitiere**	**22.07**	**87**	*e*P	**P**	**22 06 52.9**	**+0.2**
comp=Z,39nm,0.8s,mb4.6							
LDF	**La Druitiere**	**22.07**	**87**	*e*P	**P**	**22 06 52.9**	**+0.2**
LDF				pmax	pmax		
comp=Z,20nm,0.8s,mb4.6							
LDF	**La Druitiere**	**22.07**	**87**	*e*P	**P**	**22 06 52.9**	**+0.2**
comp=Z,20nm,0.8s,mb4.6							
MTE	**Manteigas**	**22.09**	**113**	*e*P	**P**	**22 06 56.5**	**+3.5**
comp=Z,52nm,1.5s,mb4.7							
PCBR	**Castelo Branco**	**22.51**	**114**	*e*P	**P**	**22 07 00.0**	**+2.5**
comp=Z,46nm,1.0s,mb4.9							
ELAN	**Lanestosa**	**22.70**	**102**	P	**P**	**22 06 58.8**	**-0.7**
comp=Z,50nm,1.4s,mb4.8							
ELAN	**Lanestosa**	**22.70**	**102**	P	**P**	**22 06 58.8**	**-0.7**
comp=Z,50nm,1.4s,mb4.8							
MFF	**Saint Martin d**	**22.92**	**91**	*e*P	**P**	**22 07 01.4**	**-0.4**
comp=Z,24nm,1.0s,mb4.3							
MFF	**Saint Martin d**	**22.92**	**91**	*e*P	**P**	**22 07 01.4**	**-0.4**
MFF				pmax	pmax		
comp=Z,12nm,1.0s,mb4.3							
MFF	**Saint Martin d**	**22.92**	**91**	*e*P	**P**	**22 07 01.4**	**-0.4**
comp=Z,12nm,1.0s,mb4.3							
EVOP	**Sao Brissos**	**23.08**	**117**	*e*P	**P**	**22 07 02.4**	**-1.1**
comp=Z,28nm,1.2s,mb4.6							
PESTR	**Estremoz**	**23.13**	**116**	*e*P	**P**	**22 07 07.6**	**+3.6**
comp=Z,35nm,1.5s,mb4.6							
EVO	**Evora**	**23.14**	**117**	*e*P	**P**	**22 07 02.4**	**-1.7**
comp=Z,57nm,1.2s,mb4.6							
EVO				*e*MLR	MLR		
comp=Z,173nm,20.5s,MS3.2							
EBAD	**Badajoz**	**23.52**	**115**	P	**P**	**22 07 08.1**	**-0.1**
comp=Z,120nm,2.6s,mb4.9							
EBAD	**Badajoz**	**23.52**	**115**	P	**P**	**22 07 08.1**	**-0.1**
comp=Z,120nm,2.6s,mb4.9							
PBEJ	**Beja**	**23.58**	**118**	*e*P	**P**	**22 07 10.6**	**+1.8**
comp=Z,37nm,1.5s,mb4.6							
GUD	**Guadarrama**	**23.86**	**108**	P	**P**	**22 07 12.1**	**+0.7**
GUD				pmax	pmax		
comp=Z,15nm,1.4s,mb4.2							
GUD	**Guadarrama**	**23.86**	**108**	P	**P**	**22 07 12.1**	**+0.7**
comp=Z,15nm,1.4s,mb4.2							
GUD	**Guadarrama**	**23.86**	**108**	P	**P**	**22 07 12.1**	**+0.7**
comp=Z,15nm,1.4s,mb4.2							
PBAR	**Barrancos**	**23.92**	**116**	*e*P	**P**	**22 07 12.1**	**+0.1**
comp=Z,27nm,1.3s,mb4.5							
BAIF	**Baives**	**24.13**	**81**	*e*P	**P**	**22 07 13.5**	**-0.3**
comp=Z,20nm,0.8s,mb4.3							
BAIF	**Baives**	**24.13**	**81**	*e*P	**P**	**22 07 13.5**	**-0.3**
BAIF				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.3							
BAIF	**Baives**	**24.13**	**81**	*e*P	**P**	**22 07 13.5**	**-0.3**
comp=Z,9.8nm,0.8s,mb4.3							
DOU	**Dourbes**	**24.35**	**80**	P	**P**	**22 07 15.5**	**-0.3**
GIVF	**Givet**	**24.49**	**80**	*e*P	**P**	**22 07 16.5**	**-0.5**
TCF	**Toulx Ste Croi**	**24.50**	**90**	*e*P	**P**	**22 07 16.9**	**-0.3**
comp=Z,23nm,1.0s,mb4.4							
TCF	**Toulx Ste Croi**	**24.50**	**90**	*e*P	**P**	**22 07 16.9**	**-0.3**
TCF				pmax	pmax		
comp=Z,12nm,1.0s,mb4.4							
TCF	**Toulx Ste Croi**	**24.50**	**90**	*e*P	**P**	**22 07 16.9**	**-0.3**
comp=Z,12nm,1.0s,mb4.4							
ESDC	**Sonseca Array**	**24.61**	**110**	P	**P**	**22 07 18.4**	**+0.2**
comp=Z,2.7nm,0.8s,mb3.9,baz=314,slow=8.8,SNR=18							
ESDC				LR	LR	22 14 38.1	
comp=Z,266nm,18.6s,MS3.8,baz=310,slow=31							
ETSF	**Etsaut**	**24.61**	**100**	*e*P	**P**	**22 07 18.7**	**+0.5**
comp=Z,20nm,0.9s,mb4.3							
ETSF	**Etsaut**	**24.61**	**100**	*e*P	**P**	**22 07 18.7**	**+0.5**
ETSF				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.3							
ETSF	**Etsaut**	**24.61**	**100**	*e*P	**P**	**22 07 18.7**	**+0.5**
comp=Z,9.8nm,0.9s,mb4.3							
BGF	**Bois d'Agland**	**24.77**	**89**	⇑*i*P	**P**	**22 07 18.9**	**-0.7**
comp=Z,25nm,0.7s,mb4.6							
BGF	**Bois d'Agland**	**24.77**	**89**	⇑*i*P	**P**	**22 07 18.9**	**-0.7**
BGF				pmax	pmax		
comp=Z,13nm,0.7s,mb4.6							
BGF	**Bois d'Agland**	**24.77**	**89**	⇑*i*P	**P**	**22 07 18.9**	**-0.7**
comp=Z,13nm,0.7s,mb4.6							
SSF	**Saint Saulge**	**24.93**	**88**	⇑*i*P	**P**	**22 07 20.7**	**-0.4**
comp=Z,38nm,1.2s,mb4.5							
SSF	**Saint Saulge**	**24.93**	**88**	⇑*i*P	**P**	**22 07 20.7**	**-0.4**
SSF				pmax	pmax		
comp=Z,19nm,1.2s,mb4.5							
SSF	**Saint Saulge**	**24.93**	**88**	⇑*i*P	**P**	**22 07 20.7**	**-0.4**
comp=Z,19nm,1.2s,mb4.5							
AVF	**Avril sur Loir**	**24.96**	**88**	⇑*i*P	**P**	**22 07 20.9**	**-0.5**
comp=Z,32nm,1.1s,mb4.5							
AVF	**Avril sur Loir**	**24.96**	**88**	⇑*i*P	**P**	**22 07 20.9**	**-0.5**
AVF				pmax	pmax		
comp=Z,16nm,1.1s,mb4.5							
AVF	**Avril sur Loir**	**24.96**	**88**	⇑*i*P	**P**	**22 07 20.9**	**-0.5**
comp=Z,16nm,1.1s,mb4.5							
ETOR	**Torete**	**24.98**	**105**	P	**P**	**22 07 20.9**	**-0.6**
ETOR				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.2							
ETOR	**Torete**	**24.98**	**105**	P	**P**	**22 07 20.9**	**-0.6**
comp=Z,5.1nm,0.7s,mb4.2							
ETOR	**Torete**	**24.98**	**105**	P	**P**	**22 07 20.9**	**-0.6**
comp=Z,5.1nm,0.7s,mb4.2							
WTSB	**Winterswijk**	**25.04**	**75**	*e*P	**P**	**22 07 23.1**	**+1.1**
comp=Z,24nm,1.0s,mb4.7							
LOR	**Lormes**	**25.05**	**87**	⇑*i*P	**P**	**22 07 21.7**	**-0.5**
comp=Z,17nm,0.6s,mb4.4							
LOR				*e*MLR	MLR		
comp=Z,181nm,17.7s,MS3.3							
LOR	**Lormes**	**25.05**	**87**	⇑*i*P	**P**	**22 07 21.7**	**-0.5**
LOR				pmax	pmax		
comp=Z,8.0nm,0.6s,mb4.4							
LOR				MLR	MLR		
comp=Z,180nm,17.7s,MS3.6							
LOR	**Lormes**	**25.05**	**87**	⇑*i*P	**P**	**22 07 21.7**	**-0.5**
comp=Z,8.4nm,0.6s,mb4.5							
LOR				LR	LR		
comp=Z,180nm,17.7s,MS3.6							
CAF	**Calviac**	**25.09**	**93**	*e*P	**P**	**22 07 22.4**	**-0.2**
comp=Z,11nm,0.8s,mb4.1							
CAF	**Calviac**	**25.09**	**93**	*e*P	**P**	**22 07 22.4**	**-0.2**
CAF				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.2							
CAF	**Calviac**	**25.09**	**93**	*e*P	**P**	**22 07 22.4**	**-0.2**
comp=Z,5.6nm,0.8s,mb4.1							
EBIE	**Bielsa**	**25.16**	**99**	P	**P**	**22 07 22.8**	**-0.4**
comp=Z,24nm,1.2s,mb4.6							
EBIE	**Bielsa**	**25.16**	**99**	P	**P**	**22 07 22.8**	**-0.3**
comp=Z,24nm,1.2s,mb4.6							
MEZF	**Maizieres J'vi**	**25.25**	**83**	⇑*i*P	**P**	**22 07 23.5**	**-0.4**
comp=Z,50nm,0.8s,mb4.8							
MEZF	**Maizieres J'vi**	**25.25**	**83**	⇑*i*P	**P**	**22 07 23.5**	**-0.4**
comp=Z,25nm,0.8s,mb4.8							
MUD	**Monsted U'grnd**	**25.30**	**64**	⇑*i*P	**P**	**22 07 24.3**	**-0.1**
MUD				pmax	pmax		
comp=Z,30nm,0.7s,mb4.9							
MUD	**Monsted U'grnd**	**25.30**	**64**	⇑*i*P	**P**	**22 07 24.3**	**-0.1**
comp=Z,30nm,0.7s,mb4.9							
SMF	**Signal de Mont**	**25.33**	**88**	*e*P	**P**	**22 07 24.3**	**-0.4**
comp=Z,18nm,0.9s,mb4.3							
SMF	**Signal de Mont**	**25.33**	**88**	*e*P	**P**	**22 07 24.3**	**-0.4**
SMF				pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.3							
SMF	**Signal de Mont**	**25.33**	**88**	*e*P	**P**	**22 07 24.3**	**-0.4**
comp=Z,9.2nm,0.9s,mb4.3							
WLF	**Walferdange**	**25.45**	**80**	P	**P**	**22 07 25.0**	**-0.7**
ESPR	**Espera**	**25.52**	**117**	P	**P**	**22 07 27.2**	**+0.7**
comp=Z,60nm,1.7s,mb4.8							
NAO01	**NORSAR Array S**	**25.74**	**53**	*e*P	**P**	**22 07 28.1**	**-0.2**
NAO01	**NORSAR Array S**	**25.74**	**53**	*e*P	**P**	**22 07 28.0**	**-0.3**
NB2	**NORSAR Subarra**	**25.89**	**53**	P	**P**	**22 07 29.0**	**-0.7**
comp=Z,1.0nm,0.8s,mb3.4,baz=273,slow=10							
NOA	**NORSAR Array B**	**25.89**	**53**	P	**P**	**22 07 29.4**	**-0.3**
comp=Z,9.8nm,1.0s,mb4.3,baz=273,slow=9.6,SNR=14							
NOA				LR	LR	22 16 19.2	
comp=Z,142nm,18.3s,MS3.5,baz=290,slow=33							
EJIF	**Jimena Fronter**	**26.03**	**117**	P	**P**	**22 07 32.0**	**+0.8**
EJIF				pmax	pmax		
comp=

comp=Z,3.7nm,0.7s,mb4.2,baz=271,slow=13,SNR=3.9
NKC Novy Kostel 28.98 76 *e*P **P 22 07 57.4 0.0**
NKC AMS AMS 22 19 20.0
comp=Z,300nm,12.5s
ROTZ Rotzenmuhle 29.02 77 *e*P **P 22 07 57.6 -0.2**
MDT Midelt 29.25 121 LR LR 22 16 32.3
comp=Z,138nm,18.5s,MS3.6,baz=146,slow=30
BRG Berggiesshubel 29.61 74 *e*P **P 22 08 02.9 -0.1**
BRG *e* 22 08 09.2
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
BRG MLR MLR
comp=Z,200nm,13.0s,MS3.9
BRG Berggiesshubel 29.61 74 *e*P **P 22 08 02.9 -0.2**
comp=Z,3.2nm,1.1s,mb4.0
BRG *e* 22 08 09.2
BRG LR LR
comp=Z,200nm,13.0s,MS3.9
BRG Berggiesshubel 29.61 74 *e*P **P 22 08 02.6 -0.4**
comp=Z,5.0nm,1.1s,mb4.2
BRG Berggiesshubel 29.61 74 *e*P **P 22 08 02.8 -0.2**
BRG Berggiesshubel 29.61 74 *e*P **P 22 08 02.9 -0.2**
comp=Z,5.3nm,1.1s,mb4.2
BRG *e* 22 08 09.2
comp=Z,7.3nm,0.9s
BRG
comp=N,184nm,10.5s
BRG
comp=E,297nm,14.4s
BRG
comp=Z,339nm,13.0s
KHC Kasperske Hory 30.10 77*c i*P **P 22 08 06.7 -0.7**
KHC Kasperske Hory 30.10 77 *e*P **P 22 08 07.2 -0.2**
KHC AMS AMS 22 19 40.0
comp=Z,200nm,13.9s
PVCC Panska Ves 30.11 74 *e*P **P 22 08 07.1 -0.4**
PVCC AMS AMS 22 20 10.0
comp=Z,300nm,13.2s
GEC2 GERESS Array S 30.30 78 *e*P **P 22 08 09.2 +0.1**
GEC2 pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
GEC2 GERESS Array S 30.30 78 *e*P **P 22 08 08.9 -0.2**
GEC2 *e*P pP 22 08 09.2 -1.0
GEC2 GERESS Array S 30.30 78 *e*P **P 22 08 09.2 +0.1**
comp=Z,4.0nm,0.8s,mb4.2
GERES GERESS Array B 30.30 78 P **P 22 08 09.3 +0.2**
comp=Z,3.7nm,0.7s,mb4.2,baz=300,slow=8.9,SNR=30
GERES LR LR 22 18 40.7
comp=Z,78nm,19.1s,MS3.4,baz=110,slow=33
PRU Pruhonice 30.31 75 *e*P **P 22 08 10.5 +1.3**
PRU AMS AMS 22 20 20.0
comp=Z,300nm,12.9s
GKP Gorka Klasztor 30.63 68 *e*P **P 22 08 12.7 +0.7**
GKP LMZ 22 19 25.2
comp=Z,300nm,19.9s
GKP Gorka Klasztor 30.63 68 *e*P **P 22 08 12.7 +0.7**
GKP LR LR
comp=Z,300nm,19.9s,MS4.0
KBA Koelnbreinsper 30.89 81⇑ *i*P **P 22 08 14.0 -0.4**
comp=Z,4.0nm,0.8s,mb4.3
KBA Koelnbreinsper 30.89 81⇑ *i*P **P 22 08 14.0 -0.4**
KBA pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
UPC Upice 30.96 73 *e*P **P 22 08 15.2 +0.2**
TREC Trest 31.16 76 *e*P **P 22 08 17.3 +0.5**
TREC AMS AMS 22 20 30.0
comp=Z,300nm,12.9s
ARCES ARCESS Array B 31.87 35 P **P 22 08 21.9 -0.9**
comp=Z,9.3nm,0.6s,mb4.8,baz=258,slow=7.5,SNR=68
ARE0 ARCESS Array S 31.87 35 *e*P **P 22 08 22.2 -0.5**
ARE0 ARCESS Array S 31.87 35 *e*P **P 22 08 22.2 -0.6**
OBKA Obir 31.89 81⇓ *i*P **P 22 08 22.8 -0.3**
comp=Z,6.4nm,0.8s,mb4.5
JAVS Javornik 31.90 82 *e*P **P 22 08 23.5 +0.2**
MOZS Mozjanca 31.93 81 *e*P **P 22 08 22.8 -0.7**
ARSA Arzberg 32.11 79⇑ *i*P **P 22 08 25.3 +0.1**
comp=Z,3.4nm,0.6s,mb4.3
MORC Moravsky Berou 32.16 74 *e*P **P 22 08 26.0 +0.5**
PERS Pernice 32.17 80 *e*P **P 22 08 24.9 -0.7**
RES Resolute Bay 32.40 334 *e*P **P 22 08 27.4 +0.1**
VISS Visnje 32.41 82 *e*P **P 22 08 27.5 -0.3**
OKC Ostrava-Krasne 32.49 73 *e*P **P 22 08 28.6 +0.2**
OKC AMS AMS 22 21 50.0
comp=Z,300nm,11.0s
FINES FINESS Array B 32.96 50 P **P 22 08 31.7 -0.7**
FINES LR LR 22 20 23.2
FINES FINESS Array B 32.96 50 P **P 22 08 31.7 -0.7**
comp=Z,6.3nm,0.8s,mb4.6,baz=286,slow=6.8,SNR=31
FINES LR LR 22 20 23.2
comp=Z,153nm,20.2s,MS3.7,baz=116,slow=34
KOLL Kolacno 33.20 75 *i*P **P 22 08 35.5 +0.8**
OJC Ojcow 33.29 72 *e*P **P 22 08 35.2 -0.2**
VYHS Vyhne 33.50 75 *i*P **P 22 08 37.4 +0.2**
VYHS pmax pmax
comp=Z,15nm,2.4s,mb4.5
VYHS Vyhne 33.50 75 *i*P **P 22 08 37.4 +0.2**
comp=Z,15nm,2.4s,mb4.5
SUW Suwalki 33.67 64 *e*P **P 22 08 38.1 -0.6**
SUW LMZ 22 18 55.3
comp=Z,200nm,29.5s
NIE Niedzica 33.94 73 *e*P **P 22 08 41.9 +0.8**
STHS Stebnicka Huta 34.48 72 *i*P **P 22 08 46.5 +0.7**
STHS *e* 00 33 06.9
CRVS Cervenica-Dubn 34.85 73 *i*P **P 22 08 49.2 +0.3**
CRVS pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
CRVS Cervenica-Dubn 34.85 73 *i*P **P 22 08 49.2 +0.3**
comp=Z,4.9nm,1.3s,mb4.3
APA Apatity 34.91 38⇑ *i*P **P 22 08 49.2 -0.1**
APA pmax pmax
comp=Z,24nm,0.9s,mb5.1
JOF Joensuu 35.01 47 *e*p **P 22 08 41.1 -9.0**
comp=Z,8.6nm,0.7s,mb4.8
KEST Kesra 35.07 101 P **P 22 08 51.1 +0.1**
comp=Z,2.0nm,0.8s,mb4.1,baz=356,slow=10,SNR=7.0
KEST LR LR 22 21 01.1
comp=Z,68nm,19.4s,MS3.4,baz=312,slow=33
KWP Kalwaria 35.23 71 *e*P **P 22 08 53.3 +1.0**
KWP LMZ 22 22 59.1
comp=Z,100nm,17.0s
KWP Kalwaria 35.23 71 *e*P **P 22 08 52.7 +0.5**
KWP *e* pP 22 08 53.3 0.0
KWP pmax pmax
comp=Z,11nm,0.9s,mb4.8
KWP Kalwaria 35.23 71 *e*P **P 22 08 52.7 +0.4**
comp=Z,11nm,0.9s,mb4.8
KWP *e*P pP 22 08 53.3 0.0
KWP Kalwaria 35.23 71 *e*P **P 22 08 52.7 +0.5**
comp=Z,11nm,0.9s,mb4.8
KOLS Kolonicke sedl 35.30 73 *i*P **P 22 08 53.2 +0.3**
UZH Uzhgorod 35.46 73 *e*P **P 22 08 52.3 -1.9**
UZH *e* 22 10 11.7
UZH *e*S **S 22 14 24.4 -5.2**
UZH *e* 22 16 44.0
UZH MLR MLR
comp=Z,240nm,11.0s,MS4.2
LVV L'vov 35.91 70 *e*P **P 22 08 54.4 -3.6**
ULM Lac du Bonnet 37.30 292 P **P 22 09 10.9 +1.0**
comp=Z,4.5nm,1.0s,mb4.3,baz=32,slow=5.9,SNR=3.2
ULM LR LR 22 23 02.9
comp=Z,125nm,22.0s,MS3.7,baz=95,slow=34
TMCR Tamitsa 37.56 43 *e*P **P 22 09 10.3 -1.7**
TMCR pmax pmax
comp=Z,26nm,0.7s,mb5.1
AKASG Malin Array Be 38.44 67 *i*P **P 22 09 18.5 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 38.44 67 P **P 22 09 18.0 -1.5**
comp=Z,2.7nm,0.6s,mb4.2,baz=302,slow=8.4,SNR=24
AKASG PP PP 22 10 43.8 -3.3
comp=Z,0.2nm,0.3s,baz=292,slow=11,SNR=6.4
AKASG Malin Array Be 38.44 67 PP PP 22 10 43.8 -3.3
OBN Obninsk 40.33 57⇓ *i*P **P 22 09 34.5 -0.7**
OBN *e* 22 09 41.6
OBN pmax pmax
comp=Z,67nm,1.8s,mb5.1
OBN Obninsk 40.33 57 *e*P **P 22 09 34.4 -0.8**
BBTS Babate 40.50 153 LR LR 22 22 21.3
comp=Z,159nm,19.5s,MS3.9,baz=88,slow=30
ECSD EROS,Sioux Fal 41.15 283 *e*P **P 22 09 42.0 -0.2**
comp=Z,3.0nm,0.8s,mb4.0
ECSD EROS,Sioux Fal 41.15 283 *e*P **P 22 09 42.0 -0.2**
comp=Z,3.0nm,0.8s,mb4.0
YKA Yellowknife Ar 41.33 316 P **P 22 09 42.4 -1.0**
YKA 22 11 41.2

YKA Yellowknife Ar 41.33 316 P **P 22 09 42.4 -0.9**
YKA PcP PcP 22 11 41.1 -0.5
YKA LR LR 22 23 49.9
YKA Yellowknife Ar 41.33 316 P **P 22 09 42.4 -0.9**
comp=Z,1.2nm,0.8s,mb3.6,baz=63,slow=8.8,SNR=16
YKA PcP PcP 22 11 41.1 -0.5
comp=Z,0.1nm,0.3s,baz=54,slow=3.6,SNR=3.1
YKA LR LR 22 23 49.9
comp=Z,50nm,21.2s,MS3.4,baz=100,slow=32
YKA Yellowknife Ar 41.33 316 PcP PcP 22 11 41.2 -0.4
CCM Cathedral Cave 41.35 273 *e*P **P 22 09 43.9 0.0**
VRSR Storozhevoye 43.62 61 *e*P **P 22 10 01.2 -1.0**
VRSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
VRSR pmax pmax
comp=N,5.0nm,0.8s
VRSR pmax pmax
comp=E,7.0nm,0.9s
VORD Divnogorie 43.81 61 *e*P **P 22 10 02.7 -1.0**
VORD pmax pmax
comp=Z,30nm,0.7s,mb5.1
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,40nm,0.8s
KSU1 Kansas State U 43.95 278 *e*P **P 22 10 04.6 -0.4**
comp=E,12nm,0.6s,mb4.8
KSU1 Kansas State U 43.95 278 *e*P **P 22 10 04.6 -0.3**
comp=E,12nm,0.6s,mb4.8
MIAR Mount Ida 45.07 271 *e*P **P 22 10 13.9 -0.1**
MIAR pmax pmax
comp=Z,11nm,1.0s,mb4.6
MIAR Mount Ida 45.07 271 *e*P **P 22 10 13.9 -0.1**
comp=Z,11nm,1.0s,mb4.6
MIAR Mount Ida 45.07 271 *e*P **P 22 10 13.9 -0.1**
comp=Z,11nm,1.0s,mb4.6
INK Inuvik 45.53 329 P **P 22 10 16.0 -1.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=50,slow=8.4,SNR=11
INK Inuvik 45.53 329 *e*P **P 22 10 16.1 -1.1**
ANN Anapa 46.28 69 *e*P **P 22 10 20.9 -2.5**
ANN MLR MLR
comp=Z,256nm,17.0s,MS4.2
WMOK Wichita Mounta 48.11 275 *e*P **P 22 10 37.5 -0.3**
WMOK *e**PP pP 22 10 45.9 +7.0
WMOK pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
WMOK Wichita Mounta 48.11 275 *e*P **P 22 10 37.5 -0.3**
comp=Z,10nm,1.4s,mb4.7
WMOK *e*pP pP 22 10 45.9 +7.0
WMOK Wichita Mounta 48.11 275 *e*P **P 22 10 37.5 -0.3**
comp=Z,10nm,1.4s,mb4.7
WMOK *e*pP pP 22 10 45.9 +7.0
BOZ Bozeman (W) 48.67 294 *e*P **P 22 10 42.9 +0.9**
BOZ pmax pmax
comp=Z,9.0nm,1.4s,mb4.6
BOZ Bozeman (W) 48.67 294 *e*P **P 22 10 42.9 +0.9**
comp=Z,8.5nm,1.4s,mb4.6
BOZ Bozeman (W) 48.67 294 *e*P **P 22 10 42.9 +0.9**
comp=Z,8.5nm,1.4s,mb4.6
PCRV Puerto La Cruz 48.84 221 LR LR 22 27 32.6
comp=Z,109nm,20.1s,MS3.8,baz=13,slow=31
BW06 Boulder Array 49.29 290 *e*P **P 22 10 46.5 -0.3**
comp=Z,12nm,1.5s,mb4.7
BW06 Boulder Array 49.29 290 *e*P **P 22 10 46.5 -0.3**
comp=Z,12nm,1.5s,mb4.7
DLMT Dillon 49.38 295 *e*P **P 22 10 48.3 +0.9**
comp=Z,6.6nm,1.0s,mb4.6
DLMT Dillon 49.38 295 *e*P **P 22 10 48.3 +0.9**
comp=Z,6.6nm,1.0s,mb4.6
AMTX Amarillo 49.77 277 *e*P **P 22 10 51.2 +0.7**
AMTX Amarillo 49.77 277 *e*P **P 22 10 51.2 +0.7**
KIV Kislovodsk 49.77 67 *e*P **P 22 10 54.6 +4.1**
KIV *e*S **S 22 18 00.3 +0.2**
KIV pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KIV MLR MLR
comp=Z,98nm,18.0s,MS3.9
DAWY Dawson 49.96 326 *e*P **P 22 10 52.0 +0.3**
DAWY Dawson 49.96 326 *e*P **P 22 10 52.0 +0.4**
ARU Arti 50.13 46 *e*P **P 22 10 52.4 -0.6**
ARU pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
ARU Arti 50.13 46 *e*P **P 22 10 52.4 -0.6**
comp=Z,8.3nm,0.8s,mb4.8
ARU Arti 50.13 46 *e*P **P 22 10 52.4 -0.6**
comp=Z,8.3nm,0.8s,mb4.8
SVE Sverdlovsk 50.79 45 *e*P **P 22 10 58.0 0.0**
MALT Malatya 50.95 76 *e*P **P 22 11 00.4 +1.0**
MALT pmax pmax
comp=Z,17nm,1.9s,mb4.7
MALT Malatya 50.95 76 *e*P **P 22 11 00.4 +1.0**
comp=Z,17nm,1.9s,mb4.7
MALT Malatya 50.95 76 *e*P **P 22 11 00.4 +1.0**
comp=Z,17nm,1.9s,mb4.7
HWUT Hardware Ranch 51.17 290 *e*P **P 22 11 00.8 -0.3**
comp=Z,11nm,0.8s,mb4.8
HWUT Hardware Ranch 51.17 290 *e*P **P 22 11 00.8 -0.3**
comp=Z,11nm,0.8s,mb4.8
PV10 Paradox Valley 51.83 286 P **P 22 11 06.6 +0.6**
PV10 Paradox Valley 51.83 286 P **P 22 11 06.6 +0.6**
DBIC Dimbokro 51.87 141 P **P 22 11 06.2 -0.3**
DBIC LR LR 22 30 46.5
DBIC Dimbokro 51.87 141 P **P 22 11 06.2 -0.3**
comp=Z,6.5nm,1.1s,mb4.5,baz=305,slow=5.5,SNR=4.4
DBIC LR LR 22 30 46.5
comp=Z,134nm,19.3s,MS4.0,baz=327,slow=33
ANMO Albuquerque 52.60 281 *e*P **P 22 11 12.8 +1.0**
DUG Dugway 52.81 290 *e*P **P 22 11 14.3 +1.0**
DUG pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
DUG Dugway 52.81 290 *e*P **P 22 11 14.3 +1.0**
comp=Z,7.3nm,1.0s,mb4.6
DUG Dugway 52.81 290 *e*P **P 22 11 14.3 +1.0**
comp=Z,7.3nm,1.0s,mb4.6
IMA2 Indian Mountai 52.94 333 *e*P **P 22 11 14.0 +0.2**
IMA2 *e*pP pP 22 11 23.4 +8.5
IMA2 Indian Mountai 52.94 333 *e*P **P 22 11 14.0 +0.2**
IMA2 *e*pP pP 22 11 23.4 +8.4
MCK McKinley 53.28 330 *e*P **P 22 11 16.8 +0.4**
AKTO Aktyubinsk 53.68 52 *i*P **P 22 11 19.1 -0.5**
SML Sawmill 54.49 328 *e*P **P 22 11 25.9 +0.6**
TXAR Lajitas Array 54.84 274 P **P 22 11 27.9 -0.4**
comp=Z,0.9nm,0.8s,mb3.9,baz=64,slow=8.7,SNR=11
TXAR LR LR 22 34 46.1
comp=Z,129nm,18.7s,MS4.0,baz=0.0,slow=36
TIXI Tiksi 55.46 6 *e*P **P 22 11 32.7 +0.5**
TIXI pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TIXI Tiksi 55.46 6 *e*P **P 22 11 33.1 +1.0**
comp=Z,5.1nm,0.8s,mb4.6
TIXI Tiksi 55.46 6 *e*P **P 22 11 33.1 +0.9**
comp=Z,5.1nm,0.8s,mb4.6
TPNV Topopah Spring 56.99 289 *e*P **P 22 11 44.0 +0.4**
NVAR Mina Array Bea 57.14 292 P **P 22 11 44.2 -0.4**
comp=Z,0.4nm,0.5s,mb3.7,baz=55,slow=7.8,SNR=4.0
BRVK Borovoye 57.45 44 *e*P **P 22 11 46.4 -0.2**
ROSC El Rosal 57.78 229 P **P 22 11 51.0 +1.7**
comp=Z,29nm,0.6s,mb5.5,baz=95,slow=6.1,SNR=15
ROSC LR LR 22 32 12.1
comp=Z,78nm,18.2s,MS3.9,baz=20,slow=31
NVS Novosibirsk 61.15 36 *i*P **P 22 12 12.5 +0.3**
MIB Mutribah 62.16 77 *e*P **P 22 12 19.4 0.0**
MIB AMb AMB 22 12 20.7
comp=Z,15nm,0.8s,mb5.2
ZAA0 Zalesovo Array 62.42 36 *e*P **P 22 12 20.2 -0.6**
ZAA0 Zalesovo Array 62.42 36 *e*P **P 22 12 20.2 -0.5**
ZALV Zalesovo Beam 62.42 36 P **P 22 12 20.1 -0.6**
comp=Z,1.2nm,0.6s,mb4.2,baz=318,slow=8.6,SNR=7.1
ZALV LR LR 22 39 41.7
comp=Z,49nm,18.9s,MS3.7,baz=9.8,slow=36
ZAL Zalesovo 62.42 36 P **P 22 12 20.1 -0.7**
NAY Al-Naaiem 62.51 77 *e*P **P 22 12 21.4 -0.2**
NAY AMb AMB 22 12 21.9
comp=Z,5.5nm,0.8s,mb4.7
KURK Kurchatov 62.63 41*c i*P **P 22 12 21.7 -0.5**
KURK Kurchatov 62.63 41 *e*P **P 22 12 21.9 -0.3**
KURK Kurchatov 62.63 41 *e*P **P 22 12 21.9 -0.3**
KURK Kurchatov 62.63 41 *e*P **P 22 12 21.9 -0.3**
KBD Kabd 62.83 77 *e*P **P 22 12 23.4 -0.4**
KBD AMb AMB 22 12 26.5
comp=Z,11nm,0.7s,mb5.1
RDF Al-Radifah 62.92 77 *e*P **P 22 12 24.2 -0.2**
RDF AMb AMB 22 12 25.1
comp=Z,11nm,0.8s,mb5.0
SEY Seymchan 64.64 357⇑ *e*P **P 22 12 41.2 +5.9**

KK31 Karatay Array 64.91 51 *i*P **P 22 12 37.2 -0.2**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
EKS2 Erkin-Say 66.79 50 *e*P **P 22 12 50.5 +1.1**
comp=Z,30nm,1.3s,mb5.2
EKS2 Erkin-Say 66.79 50 P **P 22 12 50.6 +1.1**
SNR=12
EKS2 Erkin-Say 66.79 50 *e*P **P 22 12 50.5 +1.1**
comp=Z,30nm,1.3s,mb5.2
BOD Bodaibo 66.95 18 *e*P **P 22 12 48.1 -2.1**
BOD pmax pmax
comp=Z,3.0nm,1.5s,mb4.1
AAK Ala-Archa 67.14 49 *e*P **P 22 12 51.6 -0.1**
AML Almayashu 67.16 50 *e*P **P 22 12 53.2 +1.4**
comp=Z,5.2nm,0.7s,mb4.7
AML Almayashu 67.16 50 P **P 22 12 53.3 +1.5**
SNR=6.4
AML Almayashu 67.16 50 *e*P **P 22 12 53.2 +1.4**
comp=Z,5.2nm,0.7s,mb4.7
MK31 Makanchi Array 67.22 42 *e*P **P 22 12 52.0 -0.1**
MKAR Makanchi Array 67.22 42 P **P 22 12 51.9 -0.2**
comp=Z,4.4nm,0.5s,mb4.8,baz=333,slow=5.2,SNR=34
MKAR LR LR 22 43 47.6
comp=Z,50nm,20.0s,MS3.7,baz=356,slow=37
TKM2 Tokmak 2 67.42 48 *e*P **P 22 12 54.2 +0.7**
TKM2 pmax pmax
comp=Z,12nm,1.1s,mb4.8
TKM2 Tokmak 2 67.42 48 *e*P **P 22 12 54.2 +0.8**
comp=Z,12nm,1.1s,mb4.8
TKM2 Tokmak 2 67.42 48 P **P 22 12 54.6 +1.2**
SNR=9.5
TKM2 Tokmak 2 67.42 48 *e*P **P 22 12 54.2 +0.7**
comp=Z,12nm,1.1s,mb4.8
UCH Uchtor 67.47 49 *e*P **P 22 12 55.3 +1.5**
comp=Z,7.7nm,1.0s,mb4.7
UCH Uchtor 67.47 49 P **P 22 12 55.8 +2.0**
SNR=12
UCH Uchtor 67.47 49 *e*P **P 22 12 55.3 +1.5**
comp=Z,7.7nm,1.0s,mb4.7
KZA Kyzart 67.92 49 P **P 22 12 58.3 +1.6**
SNR=6.0
BDFB Brasilia 68.99 194 LR LR 22 37 17.5
comp=Z,56nm,21.7s,MS3.8,baz=175,slow=31
TLY Talaya 70.26 26 *e*P **P 22 13 23.6 +13**
TLY pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KBL Kabul 70.77 58 *e*P **P 22 13 14.7 +0.3**
WMQ Urumqi 71.83 40 *e*P **P 22 13 22.0 +1.3**
WMQ XP sP 22 13 33.0 +11
WMQ PP PP 22 16 03.0 +3.6
WMQ S S 22 22 40.0 -1.6
WMQ SS SS 22 27 17.0 +0.5
WMQ AMB AMB
comp=Z,25nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,98nm,6.0s
WMQ LR LR
comp=N,59nm,20.0s,MS4.1
WMQ LR LR
comp=E,75nm,20.0s,MS4.1
WMQ LR LR
comp=Z,66nm,20.0s,MS3.9
SONM Songino Array 74.51 26 P **P 22 13 35.9 -0.5**
SONM LR LR 22 48 05.3
SONM Songino Array 74.51 26 P **P 22 13 35.9 -0.5**
comp=Z,2.9nm,0.9s,mb4.2,baz=320,slow=3.9,SNR=3.6
SONM LR LR 22 48 05.3
comp=Z,49nm,19.1s,MS3.8,baz=244,slow=37
LPAZ La Paz 74.55 213 P **P 22 13 37.5 +0.7**
comp=Z,1.5nm,0.9s,mb3.9,baz=42,slow=2.7,SNR=6.0
LPAZ LR LR 22 41 45.3
comp=Z,62nm,20.0s,MS3.9,baz=206,slow=32
ULN Ulaanbaatar 74.65 26 *e*P **P 22 13 38.0 +0.7**
GTA Gaotai 80.13 34 *e*P **P 22 14 03.5 -4.6**
GTA AP pP 22 14 08.9 -0.4
GTA XP sP 22 14 12.6 +2.9
HHC Hu-ho-hao-te 82.36 25 *e*P **P 22 14 19.3 -0.6**
HHC AP pP 22 14 26.7 +5.6
HHC XP sP 22 14 31.0 +9.5
HHC PP PP 22 17 28.6 +0.8
HHC S S 22 24 30.7 -5.7
HHC SKS 22 24 34.6
HHC XS sS 22 24 43.9 +5.6
HHC SS SS 22 29 54.9 -0.3
HHC AMB AMB
comp=Z,20nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,115nm,5.0s
HHC LR LR
comp=N,198nm,20.8s,MS4.6
HHC LR LR
comp=E,165nm,19.0s,MS4.6
HHC LR LR
comp=Z,233nm,19.1s,MS4.6
BJI Beijing 84.26 22 P **P 22 14 29.3 -0.4**
BJI PP PP 22 17 43.5 +0.2
BJI S S 22 24 47.3 -8.3
BJI SS SS 22 30 23.8 +0.5
BJI AMB AMB
comp=Z,5.0nm,1.4s,mb4.5
BJI LR LR
comp=Z,106nm,43.6s,MS3.9
KSRS Korea Array 88.99 14 LR LR 22 53 12.9
comp=Z,28nm,18.2s,MS3.7,baz=332,slow=35
CD2 Chengdu 89.18 35 *e*P **P 22 14 52.7 -1.2**
CD2 AP pP 22 15 00.7 +5.6
CD2 XP sP 22 15 03.9 +8.4
CD2 PP PP 22 18 24.3 +1.0
CD2 SKS 22 25 18.3
CD2 S S 22 25 36.4 -7.2
CD2 XS sS 22 25 49.7 +4.1
CD2 SS SS 22 31 31.8 -4.0
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,20nm,8.4s
CD2 LR LR
comp=N,120nm,12.8s,MS4.8
CD2 LR LR
comp=E,160nm,11.8s,MS4.8
CD2 LR LR
comp=Z,100nm,13.2s,MS4.4
NJ2 Nanjing 92.52 22 *e*P **P 22 15 11.3 +1.9**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
KMI Kunming 94.07 38 P **P 22 15 16.7 0.0**
KMI AMB AMB
comp=Z,5.0nm,1.3s,mb4.8
GYA Guiyang 94.27 34 P **P 22 15 17.2 -0.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.2
BOSA Boshof 96.20 130 LR LR 22 55 21.4
comp=Z,107nm,20.3s,MS4.3,baz=333,slow=33
WRA Warramunga Arr 146.24 19 PKPbc PKPbc 22 21 37.8 -0.9
comp=Z,1.6nm,0.6s,baz=342,slow=3.1,SNR=20
ASAR Alice Springs 149.76 21 PKPbc PKPbc 22 21 46.9 -1.2
comp=Z,1.0nm,0.5s,baz=351,slow=2.1,SNR=14
ASAR Alice Springs 149.76 21 PKPbc PKPbc 22 21 46.8 -1.2

IDC 03 22:08:32.4±2.7, 545S×13118E, h0km, mb3.8/1, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, ML3.5/3, Error ellipse: s-maj=120.5km s-min=28.9km az=78.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**13.69**	**203**	Pn	Pn	Pn	22 11 46.9	-1.0
	0.1nm,0.3s,baz=172,slow=13,SNR=6.6							
FITZ				Sn	Sn	Sn	22 14 07.4	-13
	0.4nm,0.3s,baz=175,slow=20,SNR=6.8							
WRA	**Warramunga Arr**	**14.73**	**168**	Pn	Pn	Pn	22 12 01.1	-1.0
	0.2nm,0.3s,baz=351,slow=13,SNR=22							
WRA				Sn	Sn	Sn	22 14 34.0	-12
	0.4nm,0.3s,baz=354,slow=24,SNR=8.8							
ASAR	**Alice Springs**	**18.30**	**172**	P	Pn	Pn	22 12 48.7	+0.9
	0.1nm,0.3s,baz=355,slow=10,SNR=4.8							
ASAR				S	Sn	Sn	22 15 59.7	-13
	0.1nm,0.3s,baz=2.1,slow=28,SNR=3.2							
MKAR	**Makanchi Array**	**67.59**	**326**	P	P	P	22 19 31.0	+0.1
	0.3nm,0.3s,baz=116,slow=7.0,SNR=5.7							

*IDC **03** 22:09:51.1±1.4, 3395S×17863W, h0km, mb4.3/5, mb1 4.4/7, mb1mx4.1/16, mbtmp4.3/7, ML4.1/2, MS3.4/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=44.8km*

s-min=22.9km az=139.0

NEIC 03 22:09:56.4±4.4, 3413S×17857W, h40km±39km, mb4.5/4, Error ellipse: s-maj=44.0km s-min=21.4km az=191.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.40**	**219**	Pn	Pn	22 11 15.8	+1.3
	7.5nm,0.3s,baz=54,slow=5.0,SNR=28						
URZ				Sn	Sn	22 12 17.9	+2.6
	8.8nm,0.3s,baz=142,slow=20,SNR=9.4						
RPZ	**Rata Peaks**	**12.52**	**217**	Pn	Pn	22 12 50.3	-1.5
	0.9nm,0.3s,baz=347,slow=16,SNR=5.2						
RPZ				Sn	Sn	22 14 58.9	-11
	0.4nm,0.3s,baz=180,slow=20,SNR=4.5						
TAU	**Tasmania Unive**	**27.94**	**242**	P	P	22 15 43.6	+0.8
STKA	**Stephens Creek**	**33.34**	**263**	P	P	22 16 31.6	+1.0
	0.6nm,0.3s,baz=126,slow=14,SNR=2.3						
STKA				LR	LR	22 27 49.7	
	comp=Z,62nm,19.4s,baz=207,slow=32						
CTA	**Charters Tower**	**34.11**	**285**	P	P	22 16 37.5	+0.1
	3.1nm,0.6s,baz=123,slow=10,SNR=3.8						
CTAO	**Charters Tower**	**34.11**	**285**	*eP*	P	22 16 38.2	+0.8
	3.2nm,0.6s						
ASAR	**Alice Springs**	**42.56**	**271**	P	P	22 17 48.2	-0.3
	5.1nm,0.7s,baz=112,slow=7.4,SNR=42						
WB2	**Warramunga Arr**	**43.88**	**276**	*eP*	P	22 17 58.5	-0.6
WRAB	**Tennant Creek**	**43.88**	**276**	*eP*	P	22 17 58.8	-0.4
	4.4nm,0.8s						
WRA	**Warramunga Arr**	**43.89**	**276**	P	P	22 17 58.5	-0.7
	4.5nm,0.7s,baz=119,slow=7.4,SNR=34						
FORT	**Forrest**	**44.74**	**259**	*eP*	P	22 18 05.8	-0.1
	11nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.97**	**273**	*eP*	P	22 19 01.8	0.0
	3.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**51.97**	**273**	P	P	22 19 01.5	-0.3
	1.7nm,0.6s,baz=160,slow=8.8,SNR=7.4						
JOF	**Joensuu**	**145.66**	**336**	*ep*	PKPdf	22 29 27.7	-1.8
	3.4nm,0.7s						
FINES	**FINESS Array B**	**148.43**	**337**	PKPbc	PKPab	22 29 37.9	-3.3
	4.4nm,0.8s,baz=103,slow=4.1,SNR=18						
NB2	**NORSAR Subarra**	**152.34**	**350**	PKP	PKPbc	22 29 48.7	+1.5
	comp=Z,1.7nm,0.8s,baz=18,slow=4.1						
NOA	**NORSAR Array B**	**152.34**	**350**	PKPbc	PKPbc	22 29 47.8	+0.6
	comp=Z,1.1nm,0.7s,baz=14,slow=4.1,SNR=5.8						
HFS	**Hagfors**	**152.77**	**347**	PKPbc	PKPbc	22 29 49.0	+0.8
	comp=Z,1.4nm,0.7s,baz=5.7,slow=1.5,SNR=4.3						
HFS				PKPab	PKPab	22 29 58.8	-0.3
	comp=Z,1.2nm,0.8s,baz=57,slow=5.6,SNR=3.1						
AKASG	**Malin Array Be**	**153.85**	**318**	PKPbc	PKPbc	22 29 51.5	+0.7
	comp=Z,1.3nm,0.7s,baz=68,slow=2.4,SNR=10.0						
AKASG				PKPab	PKPab	22 30 02.6	-1.4
	comp=Z,0.6nm,0.7s,baz=54,slow=2.6,SNR=3.5						

*NEIC **03** 23:04:00.7, 35.13S×71.61W, h61km, MD3.5(GUC), After GUC.*
NEIC Felt [II] at Curico, Licanten, Pencahue, Romeral and Talca.

GUC 03 23:04:00.7±0.6, 3513S×7161W, h61km±4km, MD3.5, ML3.6, 2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.34**	**68**	⇓*iP*	Pn	23 04 11.6	+0.4
NICH				*i* S	Sn	23 04 19.5	+0.7
SFDO	**San Fernando**	**0.71**	**44**	⇓*iP*	Pn	23 04 15.5	+0.4
SFDO				*i* S	Sn	23 04 26.4	+0.7
LNV	**Longovilo**	**1.18**	**8**	*i* P	Pn	23 04 21.5	+0.3
LNV				*i* S	Sn	23 04 37.6	+1.2
CACH	**El Canelo**	**1.31**	**40**	*eP*	Pn	23 04 23.4	+0.6
CACH				*i* S	Sn	23 04 41.4	+2.0
COCH	**Cobquecura**	**1.39**	**224**	*i* P	Pn	23 04 24.1	+0.3
COCH				*eS*	Sn	23 04 42.0	+0.8
CHCH	**Chadas Angostu**	**1.43**	**34**	*i* P	Pn	23 04 24.9	+0.4
CHCH				*i* S	Sn	23 04 43.6	+1.2
TACH	**Talagante**	**1.57**	**21**	*eP*	Pn	23 04 26.9	+0.5
TACH				*i* S	Sn	23 04 46.4	+0.6
LMEL	**Las Melosas**	**1.73**	**43**	AML	AML	23 04 56.6	
	comp=N,1μm,0.2s						
ANTU	**Antumapu**	**1.75**	**28**	*i* P	Pn	23 04 29.7	+0.8
ANTU				*i* S	Sn	23 04 51.3	+1.1
ANTU	**Antumapu**	**1.75**	**28**	*i* P	Pn	23 04 29.7	+0.8
ANTU				*i* S	Sn	23 04 51.3	+1.1
ANTU				AML	AML	23 04 55.1	
	comp=E,649nm,0.4s						
PCH	**Pirque**	**1.76**	**31**	*i* P	Pn	23 04 29.4	+0.6
PCH				*i* S	Sn	23 04 51.6	+1.4
RCDM	**Rinconada Maip**	**1.77**	**22**	*eP*	Pn	23 04 29.1	+0.1
RCDM				*i* S	Sn	23 04 51.0	+0.6
RCDM	**Rinconada Maip**	**1.77**	**22**	*eP*	Pn	23 04 29.1	+0.1
RCDM				*i* S	Sn	23 04 51.0	+0.6
RCDM				AML	AML	23 04 57.1	
	comp=E,672nm,0.1s						
CLCH	**Cerro Calan**	**1.94**	**27**	AML	AML	23 05 06.9	
	comp=E,638nm,0.5s						
CLCH				AML	AML	23 05 07.5	
	comp=E,708nm,0.3s						
FCH	**Farellones**	**2.10**	**32**	*eP*	Pn	23 04 34.9	+1.3
FCH				*i* S	Sn	23 05 00.8	+2.1
FCH				AML	AML	23 05 10.2	
	comp=N,664nm,0.2s						
PEL	**Peldehue**	**2.12**	**21**	AML	AML	23 05 11.5	
	comp=E,690nm,0.3s						

MOS 03 23:18:53.0±2.5, 4265N×4560E, h11km, mb3.6/1, 5C-3D, Error ellipse: s-maj=32.2km s-min=10.7km az=36.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LACR	**Lac**	**0.98**	**281**	⇑*iPG*	Pg	23 19 14.3	+2.5
LACR				*i* S	Sg	23 19 29.7	+5.2
BTKR	**Batakoyurt**	**1.06**	**313**	⇓*iPG*	Pg	23 19 14.7	+1.3
BTKR				*i* S	Sg	23 19 30.8	+3.6
ARNR	**Ardon**	**1.11**	**300**	⇑*iPG*	Pg	23 19 16.2	+1.9
ARNR				*eS*	Sb	23 19 33.8	+5.2
KMSR	**Komsomolskaya**	**1.20**	**307**	⇑*iPG*	Pg	23 19 18.2	+2.1
KMSR				*i* S	Sb	23 19 36.4	+5.2
KORR	**Kora**	**1.21**	**292**	⇑*iPG*	Pg	23 19 18.3	+2.1
KORR				*i* S	Sb	23 19 36.6	+5.1
TRKR	**Terskaya**	**1.25**	**330**	⇓*iPG*	Pg	23 19 14.9	-2.0
TRKR				*i* S	Sb	23 19 33.0	+0.4
ZEI	**Tsey**	**1.26**	**276**	⇓*iPG*	Pg	23 19 19.3	+2.1
ZEI				*i* S	Sb	23 19 37.6	+4.7
LSNR	**Lesken**	**1.45**	**296**	*ePG*	Pg	23 19 22.1	+1.3
LSNR				*eS*	Sn	23 19 43.2	+5.1
DIGR	**Digorskoe uzhe**	**1.51**	**280**	⇑*iPG*	Pg	23 19 23.0	+1.1
DIGR				*i* S	Sn	23 19 44.3	+4.8

*IDC **04** 00:00:33.4±2.9, 3380S×17889W, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=62.7km s-min=44.4km az=124.0*
*ISCJB **04** 00:00:37.4±1.2, 3399S±0.10×179.1W±02, h33km, mb4.3/6, Error ellipse: s-maj=23.0km s-min=12.9km az=18.1*
*NEIC **04** 00:00:37.9±0.9, 3377S×17881W, h35km, mb4.3/2, Error ellipse: s-maj=20.6km s-min=16.2km az=101.0*

ISC 04 00:00:39.1±1.2, 3405S±01×1790W±02, h35km, n12, σ0§76/12, mb4.3/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.34**	**215**	Pn	**Pn**	**00 01 56.4**	**+0.1**
	3.9nm,0.3s,baz=308,slow=2.3,SNR=19						
URZ				Sn	**Sn**	**00 02 55.8**	**-0.6**
	2.8nm,0.3s,baz=139,slow=20,SNR=8.1						
FUNA	**Funafuti**	**25.36**	**356**	*eP*	**P**	**00 05 58.3**	**-4.6**
	53nm,0.4s,mb5.4						
CTA	**Charters Tower**	**33.73**	**285**	P	**P**	**00 07 18.3**	**+1.0**
	7.9nm,1.2s,mb4.5,baz=102,slow=9.3,SNR=3.8						
CTAO	**Charters Tower**	**33.73**	**285**	*eP*	**P**	**00 07 17.3**	**0.0**
	9.9nm,1.2s,mb4.6						
ASAR	**Alice Springs**	**42.22**	**271**	P	**P**	**00 08 28.9**	**0.0**
	1.3nm,0.7s,mb3.7,baz=115,slow=7.3,SNR=13						
WRAB	**Tennant Creek**	**43.52**	**276**	*eP*	**P**	**00 08 39.5**	**+0.1**
	1.7nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**43.53**	**276**	P	**P**	**00 08 38.6**	**-0.9**
	1.1nm,0.5s,mb3.9,baz=116,slow=8.1,SNR=25						
FITZ	**Fitzroy Crossi**	**51.62**	**273**	*eP*	**P**	**00 09 42.2**	**-0.1**
	8.3nm,1.2s,mb4.5						
CASY	**Casey**	**51.63**	**209**	P	**P**	**00 09 43.6**	**+1.9**
NWAO	**Narrogin (SRO)**	**52.44**	**252**	P	**P**	**00 09 48.6**	**+0.3**
PLCA	**Paso Flores**	**80.70**	**133**	P	**P**	**00 12 47.9**	**-0.8**
FINES	**FINESS Array B**	**148.14**	**337**	PKPbc	PKPbc	00 20 19.5	-0.8
	1.2nm,0.7s,baz=46,slow=4.0,SNR=7.5						

*MOS **04** 00:06:40.2±1.3, 5504N×112.10E, h14km, mb4.4/1, Error ellipse: s-maj=20.1km s-min=12.5km az=74.8*

BYKL 04 00:06:39.8±0.2, 5506N×11213E, h15km±8km, 3C-1D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.98**	**328**	*ePG*	Pg	00 06 57.6	-1.2
KMO				*e*		00 07 09.7	
KMO				pmax	pmax		
	comp=Z,248nm,0.4s						
KMO				smax			
	comp=N,678nm,0.4s						
KMO	**Kumora**	**0.98**	**328**	⇑*iPg*	Pg	00 06 57.7	-1.1
KMO				*eSg*	Sg	00 07 10.9	-0.8
KMO				Pmax			
	comp=N,247nm,0.5s						
KMO				Smax			
	comp=N,720nm,0.3s						
YOA	**Uoyan**	**1.10**	**348**	*ePG*	Pg	00 07 00.1	-0.9
YOA				*i*		00 07 15.6	
YOA				pmax	pmax		
	comp=Z,480nm,0.2s						
YOA				smax			
	comp=N,4μm,0.4s						
YOA	**Uoyan**	**1.10**	**348**	*ePg*	Pg	00 07 00.1	-0.9
YOA				*eSg*	Sg	00 07 15.1	-0.3
YOA				Pmax			
	comp=N,497nm,0.2s						
YOA				Smax			
	comp=N,4μm,0.4s						
SVKR	**Severomuysk**	**1.33**	**37**	*ePG*	Pg	00 07 04.6	-0.9
SVKR				*e*		00 07 22.7	
SVKR				pmax	pmax		
	comp=Z,519nm,0.5s						
SVKR				smax			
	comp=E,4μm,0.5s						
SVKR	**Severomuysk**	**1.33**	**37**	*ePg*	Pg	00 07 04.6	-0.9
SVKR				*e*		00 07 09.2	
SVKR				*eSg*	Sg	00 07 22.9	+0.1
SVKR				Pmax			
	comp=E,519nm,0.3s						
SVKR				Smax			
	comp=E,4μm,0.3s						
NIZ	**Nizh Angarsk**	**1.64**	**297**	⇑*iPN*	Pn	00 07 09.2	+1.2
NIZ				*e*		00 07 29.0	
NIZ				pmax	pmax		
	comp=Z,118nm,0.5s						
NIZ				smax			
	comp=E,299nm,0.9s						
NIZ	**Nizh Angarsk**	**1.64**	**297**	⇑*iPg*	Pg	00 07 09.2	-2.1
NIZ				*eSg*	Sg	00 07 31.3	-1.3
NIZ				Pmax			
	comp=E,88nm,0.2s						
NIZ				Smax			
	comp=E,283nm,0.3s						
SYVR	**Suvo**	**1.88**	**222**	*ePN*	Pn	00 07 12.7	+1.4
SYVR				*e*		00 07 13.5	
SYVR				*eS*	Sn	00 07 37.0	+2.3
SYVR				*e*		00 07 39.9	
SYVR				pmax	pmax		
	comp=Z,67nm,0.7s						
SYVR				smax			
	comp=E,323nm,0.9s						
SYVR	**Suvo**	**1.88**	**222**	*ePn*	Pn	00 07 12.0	+0.7
SYVR				*ePg*	Pg	00 07 13.4	-2.4
SYVR				*eSg*	Sg	00 07 37.6	-2.6
SYVR				Pmax			
	comp=E,38nm,0.2s						
SYVR				Smax			
	comp=E,231nm,0.5s						
NLYR	**Nelyaty**	**2.48**	**53**	*ePn*	Pn	00 07 19.9	+0.4
NLYR				*ePg*	Pg	00 07 23.6	-3.6
NLYR				*e*		00 07 29.0	
NLYR				*eSg*	Sg	00 07 55.8	-3.5
NLYR				max			
	comp=E,129nm,0.5s						
NLYR				Smax			
	comp=E,400nm,0.7s						
MXMB	**Maximikha**	**2.68**	**229**	*ePn*	Pn	00 07 23.3	+0.9
MXMB				*ePg*	Pg	00 07 27.5	-3.7
MXMB				*ePgPg*		00 07 29.9	
MXMB				*e*		00 07 59.4	
MXMB				*eSg*	Sg	00 08 03.9	-2.1
MXMB				*eSgSg*		00 08 09.3	
MXMB				max			
	comp=E,28nm,0.4s						
MXMB				max			
	comp=E,422nm,0.6s						
BOD	**Bodaibo**	**2.96**	**20**	⇓*iPn*	Pn	00 07 26.0	-0.1
BOD				*ePg*	Pg	00 07 33.4	-3.0
BOD				*eSn*	Sn	00 08 00.5	-0.7
BOD				*eSg*	Sg	00 08 09.5	-5.1
BOD				Pmax			
	comp=E,21nm,0.3s						
BOD				Smax			
	comp=E,152nm,0.2s						
OGRR	**Ongureny**	**3.01**	**244**	*ePg*	Pg	00 07 35.6	-1.8
OGRR				*eSn*	Sn	00 08 02.5	-0.1
OGRR				*eSg*	Sg	00 08 13.3	-3.1
OGRR				Pmax			
	comp=E,28nm,0.5s						
OGRR				Smax			
	comp=E,119nm,0.5s						
TRTB	**Turuntaevo**	**3.90**	**225**	*ePg*	Pg	00 07 50.2	-4.2
TRTB				*eSg*	Sg	00 08 41.3	-3.6
TRTB				Pmax			
	comp=E,17nm,0.7s						
TRTB				Smax			
	comp=E,151nm,0.8s						
CRS	**Chara**	**3.91**	**59**	*ePn*	Pn	00 07 40.0	+0.8
CRS				*ePg*	Pg	00 07 50.4	-4.2
CRS				*e*		00 07 55.9	
CRS				*eSg*	Sg	00 08 40.7	-4.5
CRS				max			
	comp=E,52nm,0.8s						
CRS				Smax			
	comp=E,174nm,0.8s						
TRG	**Tyrgan**	**4.12**	**238**	*ePn*	Pn	00 07 43.2	+1.1
TRG				*ePg*	Pg	00 07 53.2	-5.5
TRG				*eSn*	Sn	00 08 29.4	-0.6
TRG				*eSg*	Sg	00 08 46.5	-5.6
TRG				Pmax			
	comp=E,8.0nm,0.5s						
TRG				Smax			
	comp=E,33nm,0.5s						
UUDB	**Ulan-Yde**	**4.17**	**222**	*ePg*	Pg	00 07 55.5	-4.0
UUDB				*e*		00 08 01.6	
UUDB				*eSg*	Sg	00 08 49.6	-3.8
UUDB				Pmax			
	comp=E,30nm,0.5s						
UUDB				Smax			
	comp=E,159nm,0.9s						
KAB	**Kabansk**	**4.44**	**230**	*ePN*	Pn	00 08 02.1	+16
TUP	**Tupik**	**4.58**	**95**	*ePN*	Pn	00 07 48.7	+0.3
TUP				*e*		00 08 01.8	
TUP				*e*		00 09 01.3	
TUP				pmax	pmax		
	comp=Z,22nm,0.6s						
TUP				smax			
	comp=N,98nm,1.1s						
TUP	**Tupik**	**4.58**	**95**	*ePn*	Pn	00 07 48.7	+0.3
TUP				*ePg*	Pg	00 08 01.6	-5.8
TUP				*eSn*	Sn	00 08 38.8	-2.5
TUP				*eSg*	Sg	00 09 01.0	-5.7
TUP				Pmax			
	comp=N,24nm,0.6s						
TUP				Smax			
	comp=N,152nm,0.8s						
HRMR	**Khuramsha**	**4.63**	**224**	*ePg*	Pg	00 08 03.0	-5.4
HRMR				*eSg*	Sg	00 09 02.5	-5.8
HRMR				Pmax			
	comp=N,32nm,0.4s						
HRMR				Smax			
	comp=N,251nm,0.7s						
KHNR	**Khani**	**4.79**	**64**	*eSg*	Sg	00 09 06.7	-6.6
TLY	**Talaya**	**6.10**	**240**	*ePN*	Pn	00 08 10.7	+1.4
TLY				*e*		00 08 29.2	
TLY				*e*		00 09 47.1	
TLY				pmax	pmax		
	comp=Z,5.0nm,0.6s						
TLY				smax			
	comp=N,27nm,1.8s						
TLY	**Talaya**	**6.10**	**240**	*eSg*	Sg	00 09 48.0	-7.5
TLY				Smax			
	comp=N,27nm,1.8s						
ARS	**Arshan**	**6.59**	**245**	*ePg*	Pg	00 08 38.0	-7.9
ARS				*eSg*	Sg	00 10 02.2	-8.9
ARS				Pmax			
	comp=N,16nm,0.6s						
ARS				Smax			
	comp=N,101nm,0.8s						
MOY	**Mondy**	**7.48**	**248**	*ePN*	Pn	00 08 29.4	+1.2
MOY				*e*		00 08 53.0	
MOY				*eS*	Sn	00 09 51.7	-1.0
MOY				*e*		00 10 28.3	
MOY				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MOY				smax			
	comp=N,44nm,1.4s						
ORL	**Orlik**	**7.72**	**256**	*ePN*	Pn	00 08 33.5	+2.0
ORL				*e*		00 08 59.6	
ORL				*e*		00 10 40.7	
ORL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
ORL				smax			
	comp=N,25nm,1.3s						
ORL	**Orlik**	**7.72**	**256**	*ePn*	Pn	00 08 33.1	+1.6
ORL				*eSn*	Sn	00 09 57.9	-0.7
ORL				*eSg*	Sn	00 10 39.0	+40
ORL				Smax			
	comp=N,31nm,0.8s						

IDC 04 00:15:22.9±3.3, 3374S×17902W, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.6/14, mbtmp3.6/3, ML3.5/1, Error ellipse: s-maj=74.1km s-min=37.4km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.49**	**214**	Pn	Pn	00 16 46.0	+0.1
	1.5nm,0.3s,baz=236,slow=21,SNR=6.3						
URZ				Sn	Sn	00 17 49.2	-0.6
	1.5nm,0.3s,baz=147,slow=21,SNR=3.7						
ASAR	**Alice Springs**	**42.18**	**271**	P	P	00 23 16.9	-0.6
	0.4nm,0.6s,baz=106,slow=6.9,SNR=3.9						
WRA	**Warramunga Arr**	**43.48**	**276**	P	P	00 23 28.6	+0.6
	0.5nm,0.5s,baz=116,slow=8.0,SNR=8.1						
FINES	**FINESS Array B**	**147.94**	**337**	PKPbc	PKPbc	00 35 08.6	-0.7
	0.7nm,0.8s,baz=66,slow=5.2,SNR=3.3						

*ISCJB **04** 00:27:29.3±3.3, 1198S±006×7820W±007, h22km±24km, mb4.0/15, MS3.7/8, Error ellipse: s-maj=13.0km s-min=8.2km az=147.0*
*IDC **04** 00:27:33.5±3.3, 1197S×7804W, h39km±28km, mb3.7/8, mb1 3.8/11, mb1mx3.7/20, mbtmp3.7/11, ML3.5/3, MS3.7/9, Ms1 3.7/9, ms1mx3.4/23, Error ellipse: s-maj=32.0km s-min=14.9km az=65.0*
*NEIC **04** 00:27:33.2±0.4, 1192S×7804W, h35km, mb4.3/3, Error ellipse: s-maj=12.7km s-min=5.9km az=47.0*
NEIC Felt at Lima.

ISC 04 00:27:32.5±3.4, 1198S±005×7812W±007, h31km±25km, n37, σ0§89/33, mb4.0/15, MS3.7/8, Off coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**1.25**	**91**	Pn	**Pn**	**00 27 52.4**	**-1.5**
NNA				Sn	**Sn**	**00 28 10.5**	**+0.8**
NNA	**Nana**	**1.25**	**91**	Pn	**Pn**	**00 27 52.4**	**-1.5**
	542nm,0.3s,baz=274,slow=12,SNR=215						
NNA				Sn	**Sn**	**00 28 10.5**	**+0.8**
	796nm,0.3s,baz=151,slow=19,SNR=36						
ATAH	**Atahualpa**	**4.95**	**357**	Pn	**Pn**	**00 28 45.6**	**+0.7**
	6.1nm,0.3s,baz=183,slow=5.4,SNR=33						
ATAH				Sn	**Sn**	**00 29 39.8**	**-1.3**
	32nm,0.3s,baz=331,slow=18,SNR=10						
LPAZ	**La Paz**	**10.59**	**115**	Pn	**Pn**	**00 30 01.5**	**-0.8**
	0.1nm,0.3s,baz=309,slow=17,SNR=3.1						
LPAZ				LR	LR	00 34 23.8	
	comp=Z,197nm,18.1s,baz=298,slow=39						
SIV	**San Ignacio**	**17.02**	**106**	Pn	**Pn**	**00 31 28.7**	**+0.3**
	0.1nm,0.3s,baz=272,slow=12,SNR=8.1						
ROSC	**El Rosal**	**17.14**	**13**	*ePn*	**Pn**	**00 31 33.1**	**+3.2**
ROSC				*eSn*	**Sn**	**00 34 40.8**	**+1.0**
CFAA	**Coronel Fontan**	**21.56**	**157**	P	**P**	**00 32 20.1**	**+0.6**
	0.2nm,0.6s,mb2.7,baz=338,slow=8.7,SNR=5.2						
SDV	**Santo Domingo**	**22.02**	**20**	P	**P**	**00 32 24.7**	**+0.1**
	1.4nm,0.4s,mb3.7,baz=234,slow=16,SNR=5.0						
SDV				LR	LR	00 42 27.0	
	comp=Z,353nm,19.5s,MS3.8,baz=69,slow=41						
JTS	**JuntasAbangare**	**23.14**	**343**	P	**P**	**00 32 37.2**	**+0.7**
JTS	**JuntasAbangare**	**23.14**	**343**	LR	LR	00 40 19.9	
	comp=Z,100nm,20.5s,MS3.2,baz=61,slow=33						
CPUP	**Villa Florida**	**24.23**	**129**	P	**P**	**00 32 48.0**	**+1.2**
CPUP	**Villa Florida**	**24.23**	**129**	P	**P**	**00 32 44.7**	**-2.1**
	0.3nm,0.4s,mb3.1,baz=282,slow=5.5,SNR=2.9						
PCRV	**Puerto La Cruz**	**25.77**	**32**	LR	LR	00 43 51.9	
	comp=Z,146nm,21.1s,MS3.5,baz=51,slow=38						
BDFB	**Brasilia**	**29.45**	**101**	LR	LR	00 46 09.8	
	comp=Z,228nm,18.4s,MS3.8,baz=90,slow=38						
TRQA	**Tornquist**	**29.71**	**154**	*eP*	**P**	**00 33 40.3**	**+4.4**
	10nm,1.2s,mb4.4						
SJG	**San Juan**	**32.15**	**22**	LR	LR	00 49 20.4	
	comp=Z,83nm,18.3s,MS3.5,baz=271,slow=41						
TEIG	**Tepich**	**33.52**	**343**	LR	LR	00 46 45.5	
	comp=Z,74nm,20.7s,MS3.4,baz=256,slow=34						
TXAR	**Lajitas Array**	**47.90**	**330**	P	**P**	**00 36 08.6**	**+0.6**
	0.5nm,0.8s,mb3.6,baz=140,slow=8.0,SNR=5.6						
WMOK	**Wichita Mounta**	**50.42**	**338**	P	**P**	**00 36 27.3**	**0.0**
MNTX	**Cornudas Mount**	**50.68**	**330**	*eP*	**P**	**00 36 29.6**	**+0.3**
	1.3nm,0.8s,mb3.9						
ACSO	**Alum Creek Sta**	**52.14**	**355**	*eP*	**P**	**00 36 38.9**	**-1.1**
	12nm,0.8s,mb4.9						
LAZ	**Ladron**	**53.73**	**330**	*eP*	**P**	**00 36 52.8**	**+0.9**
ANMO	**Albuquerque**	**53.85**	**331**	*eP*	**P**	**00 36 52.7**	**-0.1**
	3.6nm,1.1s,mb4.2						
BINY	**Binghamton**	**53.94**	**2**	*eP*	**P**	**00 36 53.1**	**-0.2**
	7.2nm,0.7s,mb4.7						
SDCO	**Great Sand Dun**	**55.73**	**334**	*eP*	**P**	**00 37 06.1**	**-0.2**
	5.7nm,1.1s,mb4.5						
ULM	**Lac du Bonnet**	**63.88**	**347**	P	**P**	**00 38 01.2**	**-1.0**
ULM	**Lac du Bonnet**	**63.88**	**347**	P	**P**	**00 38 01.2**	**-1.0**
	5.1nm,0.8s,mb4.6,baz=157,slow=5.3,SNR=5.9						
SCHQ	**Schefferville**	**67.23**	**7**	P	**P**	**00 38 23.7**	**0.0**
SCHQ	**Schefferville**	**67.23**	**7**	P	**P**	**00 38 23.7**	**0.0**
	3.7nm,0.9s,mb4.4,baz=180,slow=8.1,SNR=3.2						
FCC	**Fort Churchill**	**71.68**	**351**	*eP*	**P**	**00 38 50.0**	**-1.1**
DBIC	**Dimbokro**	**75.16**	**80**	P	**P**	**00 39 12.7**	**+0.1**
	3.8nm,0.9s,mb4.3,baz=252,slow=7.6,SNR=6.0						
DBIC				LR	LR	01 10 07.9	
	comp=Z,129nm,18.2s,MS4.3,baz=242,slow=34						
QSPA	**South Pole Qui**	**78.15**	**180**	P	**P**	**00 39 29.3**	**+1.0**
QSPA	**South Pole Qui**	**78.15**	**180**	P	**P**	**00 39 29.3**	**+1.0**
	1.4nm,0.9s,mb3.9,baz=156,slow=0.7,SNR=4.8						
YKA	**Yellowknife Ar**	**79.47**	**344**	P	**P**	**00 39 34.9**	**-0.8**
	0.7nm,1.0s,mb3.6,baz=140,slow=5.7,SNR=8.0						
**ESDC

0.2nm,0.1s,SNR=9.3
ETOS Sn **Sn** **00 42 14.2 -0.6**
2.0nm,0.1s,SNR=10
ETOS Mallorca 2.16 273 Pn **Pn** **00 41 47.0 -1.0**
0.2nm,0.1s,SNR=9.3
ETOS Sn **Sn** **00 42 13.2 -1.6**
2.0nm,0.1s,SNR=10
EIBI Ibiza 3.37 260 Pn **Pn** **00 42 02.9 -1.8**
8.0nm,0.9s,SNR=7.8
EIBI Sn **Sn** **00 42 39.7 -5.1**
2.6nm,0.2s,SNR=7.9
EIBI Ibiza 3.37 260 Pn **Pn** **00 42 02.9 -1.8**
8.0nm,0.9s,SNR=7.8
EIBI Sn **Sn** **00 42 39.7 -5.1**
2.6nm,0.2s,SNR=7.9
LMR La Mourre 3.71 10 *e*Pn **Pn** **00 42 08.8 -0.5**
SNR=1.0
LMR *e*Sn **Sn** **00 42 50.5 -2.5**
2.2nm,0.2s,SNR=1.0
LMR La Mourre 3.71 10 *e*Pn **Pn** **00 42 08.8 -0.5**
SNR=1.0
LMR *e*Sn **Sn** **00 42 50.5 -2.5**
1.1nm,0.2s,SNR=1.0
EMIR Miracle 3.82 307 Pn **Pn** **00 42 11.6 +0.8**
1.6nm,0.1s,SNR=12
EMIR Sn **Sn** **00 42 57.1 +1.4**
4.0nm,0.1s,SNR=7.9
EMIR Miracle 3.82 307 Pn **Pn** **00 42 11.6 +0.8**
1.6nm,0.1s,SNR=12
EMIR Sn **Sn** **00 42 57.1 +1.4**
4.0nm,0.1s,SNR=7.9
EPOB Poblet 3.83 297 Pn **Pn** **00 42 08.5 -2.6**
EPOB Sn **Sn** **00 42 56.6 +0.4**
EPOB Poblet 3.83 297 Pn **Pn** **00 42 10.7 -0.3**
0.0nm,0.1s,SNR=7.9
EPOB Sn **Sn** **00 42 56.6 +0.4**
SNR=7.9
PGF Pioggiola 3.84 41 *e*Pn **Pn** **00 42 08.0 -3.1**
PGF *e*Sn **Sn** **00 42 49.0 -7.2**
9.1nm,0.3s
PGF Pioggiola 3.84 41 *e*Pn **Pn** **00 42 08.0 -3.1**
PGF *e*Sn **Sn** **00 42 49.0 -7.2**
4.6nm,0.3s
FRF La Foret Royal 3.95 11 *e*Pn **Pn** **00 42 12.3 -0.3**
SNR=1.0
FRF *e*Sn **Sn** **00 42 57.0 -2.0**
2.5nm,0.2s,SNR=1.0
FRF La Foret Royal 3.95 11 *e*Pn **Pn** **00 42 12.3 -0.3**
SNR=1.0
FRF *e*Sn **Sn** **00 42 57.0 -2.0**
1.2nm,0.2s,SNR=1.0
ERTA Horta de San J 4.23 289 Pn **Pn** **00 42 15.8 -0.7**
ERTA Sn **Sn** **00 43 05.0 -0.9**
ERTA Horta de San J 4.23 289 Pn **Pn** **00 42 15.8 -0.7**
SNR=7.9
ERTA Sn **Sn** **00 43 05.0 -0.9**
SNR=7.9
SMRF Simiane la Rot 4.29 360 *e*Pn **Pn** **00 42 17.8 +0.5**
SNR=1.0
SMRF *e*Sn **Sn** **00 43 06.6 -0.7**
0.9nm,0.3s
SMRF Simiane la Rot 4.29 360 *e*Pn **Pn** **00 42 17.8 +0.5**
SNR=1.0
SMRF *e*Sn **Sn** **00 43 06.6 -0.7**
0.4nm,0.3s
SBF Sospel 4.39 18 *e*Pn **Pn** **00 42 17.9 -0.8**
SNR=1.0
SBF *e*Sn **Sn** **00 43 05.1 -4.8**
13nm,0.5s,SNR=1.0
SBF Sospel 4.39 18 *e*Pn **Pn** **00 42 17.9 -0.8**
SNR=1.0
SBF *e*Sn **Sn** **00 43 05.1 -4.8**
6.6nm,0.5s,SNR=1.0
MTLF Montolieu 4.45 326 *e*Pn **Pn** **00 42 19.1 -0.4**
SNR=1.0
MTLF *e*Sn **Sn** **00 43 11.1 -0.3**
1.5nm,0.3s,SNR=1.0
MTLF Montolieu 4.45 326 *e*Pn **Pn** **00 42 19.1 -0.4**
SNR=1.0
MTLF *e*Sn **Sn** **00 43 11.1 -0.3**
0.8nm,0.3s,SNR=1.0
LASF Ste Croix 4.58 344 *e*Pn **Pn** **00 42 21.2 -0.1**
SNR=1.0
LASF *e*Sn **Sn** **00 43 13.4 -1.1**
1.4nm,0.3s
LASF Ste Croix 4.58 344 *e*Pn **Pn** **00 42 21.2 -0.1**
SNR=1.0
LASF *e*Sn **Sn** **00 43 13.4 -1.1**
0.7nm,0.3s
EMOS Mosqueruela 4.72 280 Pn **Pn** **00 42 23.7 +0.5**
SNR=4.0
EMOS Sn **Sn** **00 43 16.9 -1.0**
0.4nm,0.1s,SNR=7.9
EMOS Mosqueruela 4.72 280 Pn **Pn** **00 42 23.7 +0.5**
SNR=4.0
EMOS Sn **Sn** **00 43 16.9 -1.0**
0.4nm,0.1s,SNR=7.9
ESAC San Caprasio 5.05 296 Pn **Pn** **00 42 28.4 +0.7**
ESAC San Caprasio 5.05 296 Pn **Pn** **00 42 28.4 +0.7**
1.2nm,0.1s,SNR=7.9
ESAC Sn **Sn** **00 43 23.7 -2.4**
2.5nm,0.1s,SNR=7.9
ESAC San Caprasio 5.05 296 Pn **Pn** **00 42 28.4 +0.7**
1.2nm,0.1s,SNR=7.9
EBIE Bielsa 5.10 308 Pn **Pn** **00 42 29.8 +1.4**
EBIE Sn **Sn** **00 43 28.7 +1.4**
EBIE Bielsa 5.10 308 Pn **Pn** **00 42 29.8 +1.4**
0.6nm,0.1s,SNR=4.4
EBIE Sn **Sn** **00 43 28.7 +1.4**
SNR=7.9
EBIE Bielsa 5.10 308 Pn **Pn** **00 42 29.8 +1.4**
0.6nm,0.1s,SNR=4.4
EBIE Sn **Sn** **00 43 28.7 +1.4**
SNR=7.9
MBDF Montbardon 5.11 9 *e*Pn **Pn** **00 42 28.4 -0.2**
SNR=1.0
EPF Esparros 5.18 312 *e*Pn **Pn** **00 42 30.9 +1.3**
SNR=1.0
EPF *e*Sn **Sn** **00 43 29.7 +0.3**
0.8nm,0.2s
EPF Esparros 5.18 312 *e*Pn **Pn** **00 42 30.9 +1.3**
SNR=1.0
EPF *e*Sn **Sn** **00 43 29.7 +0.3**
0.4nm,0.2s
VIVF Saint-Julien-l 5.21 353 *e*Pn **Pn** **00 42 30.4 +0.4**
SNR=1.0
ORIF Oris-en-Rattie 5.23 2 *e*Pn **Pn** **00 42 29.6 -0.7**
ETSF Etsaut 5.65 307 *e*Pn **Pn** **00 42 36.4 +0.5**
ETOB Tobarra 5.66 262 Pn **Pn** **00 42 35.8 -0.4**
ETOB Sn **Sn** **00 43 37.0 -4.2**
ETOB Tobarra 5.66 262 Pn **Pn** **00 42 35.8 -0.3**
ETOB Sn **Sn** **00 43 37.0 -4.1**
SNR=4.0
CAF Calviac 5.86 335 *e*Pn **Pn** **00 42 39.9 +1.1**
SNR=1.0
LPG La Plagne 5.87 8 *e*Pn **Pn** **00 42 41.3 +2.3**
SNR=1.0
LPL La Plagne 5.88 8 *e*Pn **Pn** **00 42 41.2 +2.0**
SNR=1.0
LFF La Frestale 6.37 327 *e*Pn **Pn** **00 42 45.9 0.0**
SNR=1.0
RJF Les Rejaudoux 6.38 333 *e*Pn **Pn** **00 42 46.6 +0.6**
SNR=1.0
ELIZ Elizondo 6.39 305 Pn **Pn** **00 42 47.6 +1.4**
SNR=7.9
EALK Alkurruntz 6.41 306 Pn **Pn** **00 42 47.4 +1.0**
6.3nm,0.7s,SNR=16
TCF Toulx Ste Croi 7.05 340 *e*Pn **Pn** **00 42 56.5 +1.3**
SNR=1.0
SMF Signal de Mont 7.08 350 *e*Pn **Pn** **00 42 57.0 +1.5**
BGF Bois d'Agland 7.16 345 *e*Pn **Pn** **00 42 55.0 -1.7**
SNR=1.0
AVF Avril sur Loir 7.29 348 *e*Pn **Pn** **00 42 59.1 +0.6**
LOR Lormes 7.69 351 *e*Pn **Pn** **00 43 04.0 +0.1**
HINF Hinteralfeld 8.18 6 *e*Pn **Pn** **00 43 11.1 +0.4**
SNR=1.0
HAU Haudompre 8.33 3 *e*Pn **Pn** **00 43 12.6 -0.2**
SNR=1.0
CDF Champ du Feu 8.80 7 *e*Pn **Pn** **00 43 19.7 +0.4**
SNR=1.0

ISCJB ***04*** *00:43:07.7±1.5, 1326N±010×89.1W±02, h98km±20km, Error ellipse: s-maj=28.3km s-min=8.6km az=150.5*
CASC ***04*** *00:43:08.2±3.3, 1322N×8902W, h105km±28km, MD4.1, ML4.0*
NEIC ***04*** *00:43:08.9±2.7, 1321N×8898W, h93km±30km, Error ellipse: s-maj=50.7km s-min=14.3km az=64.0*
IDC ***04*** *00:43:09.2±3.8, 1325N×8891W, h100km±39km, mb3.1/2, mb1 3.5/4, mb1mx3.3/20, mbtmp3.2/4, MS2.9/1, Ms1 2.9/1, ms1mx2.3/14, Error ellipse: s-maj=77.3km s-min=28.2km az=60.0*

ISC 04 00:43:09.0±1.2, 1329N±008×890W±01, h88km±20km, n34, σ0°86/30, 2C-8D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNVI	**San Vicente**	**0.37**	**30**	⇓*e*P	x	00 43 51.9	
SNVI				*e*S	x	00 44 03.5	
LBRS	**Las Brisas**	**0.45**	**358**	⇓*i*P	x	00 43 52.4	
LBRS				*e*S	x	00 44 06.6	
BOQS	**Boqueron**	**0.51**	**331**	⇑*i*P	x	00 43 52.0	
BOQS				*e*S	x	00 44 07.3	
VSM	**San Miguel**	**0.75**	**79**	⇓*e*P	x	00 43 57.5	
VSM				*e*S	x	00 44 12.7	
BLLM	**Bellamira**	**0.78**	**79**	⇓*e*P	x	00 43 57.7	
BLLM				*e*S	x	00 44 12.5	
SBLS	**San Blas**	**0.80**	**313**	⇓*i*P	x	00 43 54.1	
SBLS				*e*S	x	00 44 10.6	
CAHU	**Cacacuatique**	**0.93**	**59**	⇑*e*P	x	00 43 59.8	
CAHU				*e*S	x	00 44 17.0	
RBDL	**Robledal**	**1.04**	**322**	⇓*e*P	x	00 43 57.9	
RBDL				*e*S	x	00 44 15.7	
MTO2	**Montecristo 2**	**1.15**	**344**	⇓*e*P	x	00 44 00.6	
MTO2				*e*S	x	00 44 17.1	
CNCH	**Conchagua**	**1.16**	**90**	*e*P	x	00 44 02.5	
CNCH				*e*S	x	00 44 21.5	
TGUH	**Tegucigalpa,Un**	**1.87**	**66**	*e*Pn	**Pn**	**00 43 39.5**	**0.0**
TGUH				Sn	**Sn**	**00 44 01.9**	**-0.7**
CRIN	**San Cristobal**	**2.01**	**107**	*e*P	**Pn**	**00 43 40.7**	**-0.7**
TEL3	**Telica 3**	**2.24**	**108**	*e*P	**Pn**	**00 43 44.0**	**-0.4**
TELN	**Telica**	**2.25**	**107**	*e*P	**Pn**	**00 43 44.0**	**-0.4**
TELN				*e*S	**Sn**	**00 44 11.8**	**+0.3**
MOMJ	**Momotombo**	**2.58**	**110**	*e*P	**Pn**	**00 43 48.5**	**-0.4**
MOMJ				*e*S	**Sn**	**00 44 20.5**	**+1.1**
COPN	**Copaltepe**	**2.62**	**115**	*e*P	**Pn**	**00 43 49.7**	**+0.3**
CSAN		**2.77**	**113**	*e*P	**Pn**	**00 43 51.0**	**-0.4**
CSAN				*e*S	**Sn**	**00 44 24.0**	**-0.1**
XAVN	**Gruta Xavier**	**2.87**	**113**	*e*P	**Pn**	**00 43 55.0**	**+2.3**
XAVN				*e*S	**Sn**	**00 44 26.8**	**+0.4**
TISN	**Laguna Tiscapa**	**2.92**	**113**	*e*P	**Pn**	**00 43 52.5**	**-1.0**
MGAN	**Managua**	**2.94**	**112**	*e*S	**Sn**	**00 44 27.7**	**-0.4**
MGAN				*i*		00 44 38.5	
	comp=N,794nm,0.5s						
HUEN		**2.94**	**108**	*e*P	**Pn**	**00 43 53.6**	**-0.2**
CRUN	**El Crucero**	**2.96**	**116**	*e*P	**Pn**	**00 43 53.5**	**-0.5**
TICN	**Ticuantepe**	**3.00**	**114**	*e*P	**Pn**	**00 43 55.7**	**+1.2**
TICN				*e*S	**Sn**	**00 44 29.5**	**-0.1**
SSNN	**San Juan del S**	**3.69**	**122**	*e*P	**Pn**	**00 44 03.5**	**-0.3**
SSNN				*e*S	**Sn**	**00 44 45.0**	**-1.3**
JTS	**JuntasAbangare**	**4.98**	**126**	P	**Pn**	**00 44 19.9**	**-1.5**
	comp=N,2.7nm,0.3s,baz=311,slow=21,SNR=14						
JTS				S	**Sn**	**00 45 22.7**	**+5.0**
	comp=N,3.7nm,0.3s,baz=158,slow=19,SNR=2.2						
BAR1		**6.90**	**125**	*e*P	**Pn**	**00 44 48.5**	**+1.0**
BAR1				*e*S	**Sn**	**00 46 06.3**	**+1.7**
TEIG	**Tepich**	**6.94**	**6**	P	**Pn**	**00 44 49.3**	**+1.3**
TEIG	**Tepich**	**6.94**	**6**	P	**Pn**	**00 44 49.3**	**+1.3**
	comp=N,1.9nm,0.3s,baz=209,slow=13,SNR=5.8						
ROSC	**El Rosal**	**16.75**	**119**	LR	LR	00 53 11.2	
	comp=N,36nm,19.4s,baz=32,slow=36						
CHI2		**17.36**	**118**	⇓*e*P	Px	00 43 41.2	
TXAR	**Lajitas Array**	**20.96**	**322**	P	**P**	**00 47 45.3**	**+0.3**
	comp=N,0.5nm,0.5s,baz=144,slow=11,SNR=17						
YKA	**Yellowknife Ar**	**52.41**	**345**	P	**P**	**00 52 11.2**	**-0.8**
YKA	**Yellowknife Ar**	**52.41**	**345**	P	**P**	**00 52 11.2**	**-0.8**
	comp=N,0.4nm,0.4s,baz=148,slow=6.6,SNR=19						
WRA	**Warramunga Arr**	**138.01**	**255**	PKP	PKPdf	01 02 24.6	+0.2
	comp=N,0.3nm,0.8s,baz=89,slow=2.7,SNR=8.1						
WRA				pPKP	pPKPdf	01 02 42.8	-6.2
	comp=N,0.4nm,0.8s,baz=88,slow=2.7,SNR=5.3						

IDC 04 00:44:43.3±2.5, 371N×9649E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, ML2.5/1, Error ellipse: s-maj=89.8km s-min=25.3km az=47.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.59**	**110**	Pn	Pn	00 45 26.8	+0.2
	1.0nm,0.3s,baz=304,slow=16,SNR=4.2						
PSI				Sn	Sn	00 46 02.0	+3.2
	21nm,0.3s,baz=223,slow=23,SNR=15						
WRA	**Warramunga Arr**	**43.98**	**124**	P	P	00 52 52.2	-0.6
	0.4nm,0.8s,baz=303,slow=9.1,SNR=5.5						
ASAR	**Alice Springs**	**45.48**	**129**	P	P	00 53 05.2	+0.5
	0.4nm,0.6s,baz=300,slow=8.0,SNR=5.6						
ZALV	**Zalesovo Beam**	**50.99**	**351**	P	P	00 53 46.7	0.0
	1.0nm,0.6s,baz=168,slow=6.8,SNR=5.4						

ISCJB ***04*** *00:54:32.3±0.7, 6706N±007×189W±02, h10km, mb3.6/6, MS3.1/3, Error ellipse: s-maj=12.2km s-min=8.4km az=38.4*
IDC ***04*** *00:54:32.3±1.2, 6703N×1901W, h0km, mb3.4/4, mb1 3.6/6, mb1mx3.5/22, mbtmp3.5/6, ML3.3/1, MS2.9/7, Ms1 2.9/7, ms1mx2.7/24, Error ellipse: s-maj=26.0km s-min=23.0km az=165.0*
NEIC ***04*** *00:54:33.7±0.6, 6696N×1902W, h10km, mb4.2/1, Error ellipse: s-maj=11.0km s-min=10.5km az=157.0*
CSEM ***04*** *00:54:33.7, 6696N×1902W, h10km, mb4.3/1, After NEIC*

ISC 04 00:54:33.9±0.7, 6703N±007×189W±02, h10km, n23, σ1°08/21, mb3.6/6, MS3.1/3, Iceland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BORG	**Borgarnes**	**2.50**	**205**	Pn	**Pn**	**00 55 13.8**	**-0.9**
BORG				LR	LR	00 55 45.1	
BORG				Sn	**Sn**	**00 55 47.0**	**+1.8**
BORG	**Borgarnes**	**2.50**	**205**	Pn	**Pn**	**00 55 13.8**	**-0.9**
	6.9nm,0.3s,baz=27,slow=6.6,SNR=21						
BORG				LR	LR	00 55 45.1	
	comp=Z,240nm,19.1s,baz=174,slow=29						
BORG				Sn	**Sn**	**00 55 47.0**	**+1.8**
	2.5nm,0.3s,baz=234,slow=23,SNR=12						
BORG	**Borgarnes**	**2.50**	**205**	Pn	**Pn**	**00 55 13.8**	**-0.8**
BORG				LR	LR	00 55 45.1	
ESK	**Eskdalemuir**	**13.91**	**140**	*e*P	**Pn**	**00 57 50.5**	**-0.4**
	5.4nm,0.9s						
ESK	**Eskdalemuir**	**13.91**	**140**	*e*P	**Pn**	**00 57 50.5**	**-0.4**
	5.4nm,0.9s						
NOA	**NORSAR Array B**	**14.37**	**100**	LR	LR	01 03 20.1	
	comp=Z,14nm,20.8s,baz=330,slow=37						
SPB4	**Spitsbergen Ar**	**14.96**	**27**	*e*P	**Pn**	**00 58 06.7**	**+1.7**
HFS	**Hagfors**	**15.89**	**100**	LR	LR	01 03 13.8	
	comp=Z,28nm,21.3s,baz=130,slow=33						
FINES	**FINESS Array B**	**19.94**	**85**	P	**Pn**	**00 59 06.1**	**-1.1**
	3.0nm,0.9s,baz=313,slow=15,SNR=6.2						
FINES				LR	LR	01 06 21.3	
	comp=Z,40nm,18.1s,baz=290,slow=36						
FINES	**FINESS Array B**	**19.94**	**85**	P	**Pn**	**00 59 06.1**	**-1.1**
FINES				LR	LR	01 06 21.2	
CLL	**Collm**	**22.31**	**119**	*e*P	**P**	**00 59 32.0**	**+0.9**
	comp=Z,7.0nm,1.3s,mb3.9						
CLL				*e*(sP)	sP	00 59 37.0	+1.7
GERES	**GERESS Array B**	**24.64**	**121**	P	**P**	**00 59 55.0**	**+0.8**
	comp=Z,0.2nm,0.5s,mb3.0,baz=325,slow=10,SNR=3.7						
MORC	**Moravsky Berou**	**25.18**	**115**	P	**P**	**00 59 57.9**	**-1.2**
MORC	**Moravsky Berou**	**25.18**	**115**	P	**P**	**00 59 57.9**	**-1.2**
DAVOX	**Davos/Dischmat**	**25.24**	**129**	LR	LR	01 08 43.1	
	comp=Z,23nm,18.6s,MS2.7,baz=269,slow=34						
SCHQ	**Scheerville**	**25.54**	**265**	*e*P	**P**	**01 00 01.4**	**-0.9**
	comp=Z,6.4nm,1.0s,mb4.1						
AKASG	**Malin Array Be**	**28.78**	**100**	P	**P**	**01 00 30.5**	**-0.9**
AKASG	**Malin Array Be**	**28.78**	**100**	P	**P**	**01 00 30.5**	**-0.9**
	comp=Z,0.2nm,0.2s,mb3.4,baz=326,slow=9.1,SNR=4.2						
YKA	**Yellowknife Ar**	**37.20**	**310**	P	**P**	**01 01 44.0**	**-0.6**
YKA				LR	LR	01 16 57.5	
YKA	**Yellowknife Ar**	**37.20**	**310**	P	**P**	**01 01 44.0**	**-0.6**
	comp=Z,0.5nm,1.0s,mb3.3,baz=38,slow=8.9,SNR=7.9						
YKA				LR	LR	01 16 57.5	
	comp=Z,28nm,18.4s,MS3.1,baz=250,slow=36						
YKA	**Yellowknife Ar**	**37.20**	**310**	P	**P**	**01 01 44.0**	**-0.7**
YKA				LR	LR	01 16 57.5	
MKAR	**Makanchi Array**	**51.98**	**59**	P	**P**	**01 03 43.8**	**+1.2**
	comp=Z,0.9nm,1.0s,mb3.7,baz=346,slow=8.7,SNR=3.9						
TXAR	**Lajitas Array**	**61.35**	**278**	LR	LR	01 31 18.5	
	comp=Z,44nm,21.8s,MS3.6,baz=75,slow=36						

IDC ***04*** *01:15:57.7±0.8, 106N×9707E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML3.5/1, MS3.8/6, Ms1 3.8/6, ms1mx3.5/26, Error ellipse: s-maj=27.9km s-min=14.3km az=52.0*
BJI ***04*** *01:15:59.7, 103N×9736E, h27km, mB5.1, mb4.8, Ms4.5, Msz4.3*
MOS ***04*** *01:16:01.4±0.8, 1.14N×97.12E, h33km, mb4.6/15, Error ellipse: s-maj=13.6km s-min=7.7km az=96.9*
NEIC ***04*** *01:16:01.9±1.9, 107N×97.13E, h25km±13km, mb4.5/16, Error ellipse: s-maj=6.7km s-min=4.8km az=59.0*
ISCJB ***04*** *01:16:02.2±0.9, 109N±004×97.13E±005, h42km±8km, mb4.6/51, MS4.2/14, Error ellipse: s-maj=8.3km s-min=6.6km az=137.6*

ISC 04 01:16:04.4±0.8, 108N±004×9713E±004, h44km±7km, h31km±4.6km: pP-P, n111, σ0°97/116, mb4.6/51, MS4.2/14, 7C-6D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.48**	**46**	Pn	**Pn**	**01 16 39.8**	**-2.5**
	9.3nm,0.3s,baz=219,slow=7.5,SNR=51						
PSI				LR	LR	01 17 30.4	
	comp=Z,1μm,20.2s,baz=309,slow=38						
IPM	**Ipoh**	**5.15**	**49**	⇑P	**Pn**	**01 17 19.4**	**+0.4**
KULM	**Kulim**	**5.46**	**40**	*e*Pn	**Pn**	**01 17 21.3**	**-2.0**
KULM				Sn	**Sn**	**01 18 25.6**	**+0.8**
KULM	**Kulim**	**5.46**	**40**	⇑P	**Pn**	**01 17 22.5**	**-0.8**
KGM	**Kluang**	**6.25**	**81**	⇑P	**Pn**	**01 17 35.4**	**+1.2**
MYKOM	**Kota Tinggi**	**6.75**	**84**	⇑P	**Pn**	**01 17 41.7**	**+0.7**
SNG	**Songkhla**	**6.98**	**30**	P	**Pn**	**01 17 42.0**	**-2.2**
	126nm,0.9s						
KTGM	**Kuala Trenggan**	**7.33**	**55**	⇓P	**Pn**	**01 17 48.7**	**-0.2**
KSM	**Kuching**	**13.18**	**88**	Pn	**Pn**	**01 19 07.6**	**-1.4**
KSM	**Kuching**	**13.18**	**88**	⇓P	**Pn**	**01 19 11.3**	**+2.2**
COCO	**West Island**	**13.19**	**181**	P	**Pn**	**01 19 07.4**	**-1.8**
SBUM	**Sibu**	**15.14**	**85**	⇑P	**Pn**	**01 19 36.8**	**+1.3**
BTM	**Bintulu**	**16.08**	**82**	⇑P	**Pn**	**01 19 49.6**	**+2.0**
PALK	**Pallekele**	**17.50**	**291**	Pn	**Pn**	**01 20 04.1**	**-1.2**
NANT	**Nan**	**17.95**	**11**	⇓P	**Pn**	**01 20 11.0**	**+0.1**
	151nm,1.0s						
SDKM	**Sandakan**	**20.53**	**77**	⇑P	**P**	**01 20 40.2**	**+0.9**
TSM	**Tawau**	**20.96**	**81**	⇓P	**P**	**01 20 44.3**	**+0.3**
MYLDM	**Lahad Datu**	**21.72**	**79**	⇓P	**P**	**01 20 53.3**	**+1.2**
QIZ	**Qiongzhong**	**21.76**	**34**	P	**P**	**01 20 49.1**	**-3.3**
QIZ				AP		01 20 57.4	
QIZ				XP	sP	01 21 01.8	-6.9
QIZ				S	**S**	**01 24 50.5**	**-0.3**
QIZ				XS	sS	01 25 03.2	-4.9
QIZ				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.3						
QIZ				LR	LR		
	comp=E,565nm,15.0s						
QIZ				LR	LR		
	comp=Z,559nm,12.3s,MS4.2						
QIZ	**Qiongzhong**	**21.76**	**34**	*e*P	**P**	**01 20 51.1**	**-1.3**
	comp=Z,14nm,1.0s,mb4.3						
KMI	**Kunming**	**24.51**	**12**	P	**P**	**01 21 20.7**	**+0.9**
KMI				AP		01 21 25.0	
KMI				XP	sP	01 21 26.9	-10
KMI				PP		01 21 57.4	
KMI				S	**S**	**01 25 41.6**	**+4.2**
KMI				XS	sS	01 25 48.6	-8.3
KMI				SSS		01 26 56.2	
KMI				AMB	AMB		
	comp=Z,52nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,214nm,4.3s						
KMI				LR	LR		
	comp=N,1μm,15.7s,MS4.5						
KMI				LR	LR		
	comp=E,501nm,14.0s,MS4.5						
KMI				LR	LR		
	comp=Z,1μm,15.2s,MS4.5						
SHL	**Shillong**	**24.86**	**349**	*e*P	**P**	**01 21 24.0**	**+1.0**
GYA	**Guiyang**	**26.85**	**19**	P	**P**	**01 21 40.0**	**-0.9**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,260nm,4.1s						
GYA				LR	LR		
	comp=N,750nm,13.8s,MS4.4						
GYA				LR	LR		
	comp=E,230nm,12.9s,MS4.4						
GYA				LR	LR		
	comp=Z,900nm,13.5s,MS4.5						
JIRN	**Jiri**	**28.43**	**339**	*e*P	**P**	**01 21 56.3**	**+1.2**
	comp=Z,71nm,1.3s,mb5.1						
PKI	**Pulchoki**	**28.64**	**338**	*e*P	**P**	**01 21 57.9**	**+1.0**
GUN	**Gumba**	**28.77**	**339**	*e*P	**P**	**01 21 59.3**	**+1.2**
	comp=Z,104nm,1.3s,mb5.4						
DMN	**Daman**	**28.79**	**337**	*e*P	**P**	**01 22 00.1**	**+1.8**
KKN	**Kakani**	**28.88**	**338**	*e*P	**P**	**01 21 59.8**	**+0.7**
LSA	**Lhasa**	**29.02**	**349**	*e*P	**P**	**01 22 01.5**	**+1.1**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.5						
LSA	**Lhasa**	**29.02**	**349**	*e*P	**P**	**01 22 01.5**	**+1.1**
	comp=Z,5.4nm,0.5s,mb4.5						
GKN	**Gorkha**	**29.32**	**337**	*e*P	**P**	**01 22 03.7**	**+0.7**
KOLN	**Koldanda**	**29.54**	**335**	*e*P	**P**	**01 22 06.0**	**+1.1**
	comp=Z,16nm,0.8s,mb4.8						
DANN	**Dangsing**	**29.98**	**336**	*e*P	**P**	**01 22 09.4**	**+0.6**
	comp=Z,10nm,0.7s,mb4.7						
CD2	**Chengdu**	**30.32**	**11**	P	**P**	**01 22 11.0**	**-0.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
MBWA	**Marble Bar**	**31.26**	**136**	*e*P	**P**	**01 22 20.2**	**-0.1**
NACB	**Ninganchiao**	**32.98**	**44**	*e*P	**P**	**01 22 36.6**	**+1.3**
FITZ	**Fitzroy Crossi**	**33.91**	**126**	*e*P	**P**	**01 22 43.1**	**-0.4**
	comp=Z,4.9nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**33.91**	**126**	P	**P**	**01 22 42.8**	**-0.7**
	comp=Z,2.3nm,0.8s,mb4.2,baz=349,slow=3.3,SNR=5.9						
XAN	**Xi'an**	**34.59**	**17**	P	**P**	**01 22 47.8**	**-1.4**
XAN				AP	pP	01 22 53.8	-7.3
XAN				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.8						
LZH	**Lanzhou**	**35.38**	**9**	*e*P	**P**	**01 22 54.5**	**-1.5**
LZH				AP	pP	01 23 03.0	-4.9
LZH				XP	sP	01 23 08.0	-5.1
LZH				AMB	AMB		
	comp=Z,28nm,1.5s,mb5.0						
LZH				AMB	AMB		
	comp=Z,158nm,5.0s						
LZH				LR	LR		
	comp=N,503nm,14.9s						
LZH				LR	LR		
	comp=Z,452nm,16.5s,MS4.3						
NJ2	**Nanjing**	**37.00**	**31**	*e*P	**P**	**01 23 08.3**	**-1.6**
NJ2				AP	pP	01 23 18.0	-3.8
NJ2				XP	sP	01 23 22.4	-4.6
NJ2				PP	PP	01 24 33.2	-1.7
NJ2				PPP		01 24 52.7	
NJ2				S	**S**	**01 28 50.5**	**-2.0**
NJ2				XS	sS	01 29 05.5	-6.9
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,100nm,6.1s						
NJ2				LR	LR		
	comp=N,470nm,16.3s,MS4.5						
NJ2				LR	LR		
	comp=E,420nm,18.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,420nm,18.2s,MS4.3						
GTA	**Gaotai**	**38.23**	**3**	*e*P	**P**	**01 23 19.9**	**-0.2**
GTA				AP	pP	01 23 30.8	-1.3
GTA				XP	sP	01 23 35.4	-1.9
GTA				PP	PP	01 24 54.7	+6.5
GTA				PPP		01 25 17.9	
GTA				S	**S**	**01 29 17.0**	**+6.2**
GTA				AMB	AMB		

WRAB pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
WRAB Tennant Creek 42.04 122 *eP* **P 01 23 52.0 0.0**
comp=Z,6.8nm,0.9s,mb4.3
WB2 Warramunga Arr 42.04 122 *eP* **P 01 23 51.6 -0.4**
BJT Baijiatuau 42.45 22 *eP* **P 01 23 56.2 +1.1**
BJT pmax pmax
comp=Z,10.0nm,0.6s
BJT Baijiatuau 42.45 22 *eP* **P 01 23 56.2 +1.1**
comp=Z,10.0nm,0.6s,mb4.6
BJI Beijing 42.47 22 P **P 01 23 55.6 +0.4**
BJI S **S 01 30 09.4 -4.8**
BJI AMB AMB
comp=Z,15nm,0.8s,mb4.7
BJI AMB AMB
comp=Z,146nm,4.3s
BJI LR LR
comp=N,234nm,15.4s,MS4.3
BJI LR LR
comp=E,190nm,15.0s,MS4.3
BJI LR LR
comp=Z,139nm,22.4s
WMQ Urumqi 43.38 350 P **P 01 24 03.5 +1.0**
WMQ AMB AMB
comp=Z,25nm,1.0s,mb4.9
ASAR Alice Springs 43.38 127 P **P 01 24 03.4 +0.5**
comp=Z,3.4nm,0.9s,mb4.1,baz=302,slow=7.8,SNR=22
ASAR ScP ScP 01 29 42.2 +3.2
comp=Z,0.5nm,0.7s,baz=338,slow=5.8,SNR=4.2
UCH Uchtor 45.73 336 *eP* **P 01 24 22.0 +0.6**
comp=Z,5.7nm,0.9s,mb4.5
UCH *e*PcP PcP 01 25 58.4 -0.2
TKM2 Tokmak 2 45.90 338 *eP* **P 01 24 23.1 +0.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
TKM2 Tokmak 2 45.90 338 *eP* **P 01 24 23.1 +0.4**
comp=Z,2.5nm,0.6s,mb4.3
AML Almayashu 45.98 336 *eP* **P 01 24 24.4 +1.1**
comp=Z,12nm,1.2s,mb4.7
KSRS Korea Array 45.98 35 P **P 01 24 22.3 -1.1**
comp=Z,16nm,0.9s,mb4.9,baz=222,slow=9.1,SNR=22
KSRS LR LR 01 43 57.8
comp=Z,91nm,21.6s,MS3.7,baz=101,slow=36
AAK Ala-Archa 46.08 337 *eP* **P 01 24 24.5 +0.4**
AAK pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
AAK Ala-Archa 46.08 337 *eP* **P 01 24 24.5 +0.5**
comp=Z,1.1nm,0.4s,mb4.1
AAK Ala-Archa 46.08 337 P **P 01 24 23.2 -0.9**
comp=Z,1.0nm,0.5s,mb4.0,baz=174,slow=10,SNR=3.2
EKS2 Erkin-Say 46.39 336 *eP* **P 01 24 26.8 +0.3**
comp=Z,5.5nm,0.8s,mb4.5
SONM Songino Array 47.26 8 P **P 01 24 33.4 +0.2**
comp=Z,4.4nm,0.8s,mb4.4,baz=188,slow=9.2,SNR=10
MK31 Makanchi Array 47.34 346 *eP* **P 01 24 34.2 +0.4**
MKAR Makanchi Array 47.34 346 P **P 01 24 34.0 +0.2**
comp=Z,4.4nm,0.6s,mb4.5,baz=161,slow=9.1,SNR=48
ULN Ulaanbaatar 47.39 9 *eP* **P 01 24 33.5 -0.7**
KK31 Karatay Array 48.13 334 *i P* **P 01 24 40.2 +0.1**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ZAK Zakamensk 49.40 5 *eP* **P 01 24 48.6 -1.0**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.1
CN2 Changchun 49.44 27 *eP* **P 01 24 49.9 -0.2**
CN2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
TLY Talaya 50.72 5 *eP* **P 01 25 00.3 +0.7**
TLY *e*S **S 01 32 30.5 +19**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
TLY MLR MLR
comp=Z,194nm,17.0s,MS4.2
HIA Hailar 51.77 19 P **P 01 25 07.7 +0.1**
MJAR Matsushiro Arr 51.82 42 P **P 01 25 07.8 -0.4**
comp=Z,1.6nm,0.8s,mb4.0,baz=219,slow=5.5,SNR=7.1
KURK Kurchatov 51.89 345 *eP* **P 01 25 08.4 0.0**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KURK Kurchatov 51.89 345 *eP* **P 01 25 08.4 0.0**
comp=Z,5.3nm,0.8s,mb4.5
MDJ Mudanjiang 52.00 29 P **P 01 25 09.0 -0.4**
STKA Stephens Creek 53.33 132 *eP* **P 01 25 18.6 -0.8**
comp=Z,4.7nm,0.9s,mb4.4
STKA Stephens Creek 53.33 132 P **P 01 25 19.2 -0.2**
comp=Z,3.8nm,0.8s,mb4.4,baz=252,slow=9.0,SNR=4.7
ZAL Zalesovo 53.66 351 P **P 01 25 21.5 +0.1**
ZAA0 Zalesovo Array 53.66 351 *eP* **P 01 25 21.2 -0.3**
ZALV Zalesovo Beam 53.66 351 P **P 01 25 21.5 0.0**
comp=Z,12nm,0.8s,mb4.9,baz=165,slow=6.2,SNR=26
ZALV LR LR 01 53 43.1
comp=Z,56nm,18.9s,MS3.6,baz=237,slow=42
NVS Novosibirsk 54.78 350 *i P* **P 01 25 28.9 -0.7**
BRVK Borovoye 56.40 341 *eP* **P 01 25 40.2 -1.0**
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
BRVK Borovoye 56.40 341 *eP* **P 01 25 40.2 -1.0**
comp=Z,5.8nm,1.0s,mb4.6
HABR Khabarovsk 57.39 29 *eP* **P 01 25 45.4 -3.0**
HABR *e* 01 26 39.9
HABR *e* 01 27 52.9
HABR *e*S **S 01 33 40.2 -1.8**
HABR *e* 01 33 57.7
HABR *e* 01 35 32.0
HABR *e* 01 37 31.8
HABR *e* 01 39 55.3
BOD Bodaibo 58.14 11 *eP* **P 01 25 52.9 -0.5**
BOD *e* 01 26 40.4
BOD pmax pmax
comp=Z,20nm,1.1s,mb5.1
EIDS Eidsvold 58.38 121 *eP* **P 01 25 56.7 +1.0**
comp=Z,7.9nm,1.3s,mb4.6
AKTO Aktyubinsk 59.30 332 *i P* **P 01 26 00.5 -1.2**
YSS Yuzh-Sakhalins 60.48 34 *eP* **P 01 26 09.7 -0.1**
YSS pmax pmax
comp=Z,14nm,1.3s,mb4.8
SVE Sverdlovsk 62.77 338 *eP* **P 01 26 24.6 -0.5**
SVE pmax pmax
comp=Z,12nm,1.2s,mb4.9
ARU Arti 63.27 337 *d iP* **P 01 26 28.1 -0.2**
ARU *e* 01 28 49.9
ARU *e*PPP 01 30 14.2
ARU *e*S **S 01 34 59.9 +2.9**
ARU SS SS 01 39 06.5 +2.5
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
KIV Kislovodsk 64.35 319 P **P 01 26 36.6 +0.8**
KIV Kislovodsk 64.35 319 P **P 01 26 36.6 +0.8**
MALT Malatya 65.16 312 *eP* **P 01 26 41.6 +0.5**
MALT pmax pmax
comp=Z,5.0nm,1.5s,mb4.3
MALT Malatya 65.16 312 *eP* **P 01 26 41.5 +0.4**
comp=Z,5.1nm,1.5s,mb4.3
YAK Yakutsk 65.55 16 *eP* **P 01 26 42.3 -0.9**
YAK pmax pmax
comp=Z,27nm,1.1s,mb5.2
ANN Anapa 68.14 319 *eP* **P 01 26 58.0 -2.0**
ANN pmax pmax
comp=Z,66nm,1.0s,mb5.6
TIXI Tiksi 73.31 10 *eP* **P 01 27 29.8 -1.2**
TIXI pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
TIXI MLR MLR
comp=Z,258nm,16.0s,MS4.6
TIXI Tiksi 73.31 10 *eP* **P 01 27 29.7 -1.3**
comp=Z,6.7nm,1.1s,mb4.5
LBTB Lobatse 73.77 244 P **P 01 27 34.8 +0.2**
SEY Seymchan 73.90 23 *eP* **P 01 27 34.5 0.0**
SANT Santorini 74.64 307 P **P 01 27 40.0 +0.5**
BOSA Boshof 74.66 240 LR LR 01 59 06.0
comp=Z,136nm,18.7s,MS4.3,baz=285,slow=35
AKASG Malin Array Be 75.31 322 *i P* **P 01 27 42.7 -0.3**
AKASG Malin Array Be 75.31 322 P **P 01 27 42.1 -0.9**
comp=Z,0.2nm,0.3s,mb3.5,baz=89,slow=4.7,SNR=5.0
FINES FINESS Array B 80.07 333 *i P* **P 01 28 10.1 +0.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 80.07 333 P **P 01 28 08.7 -0.6**
comp=Z,0.8nm,0.5s,mb3.9,baz=108,slow=6.2,SNR=7.7
ARCES ARCESS Array B 82.62 340 P **P 01 28 22.9 +0.2**
ARCES LR LR 02 09 38.5
ARCES ARCESS Array B 82.62 340 P **P 01 28 22.9 +0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=93,slow=6.1,SNR=5.7
ARCES LR LR 02 09 38.5
comp=Z,62nm,18.8s,MS4.0,baz=279,slow=39
GERES GERESS Array B 84.86 319 P **P 01 28 35.4 +0.9**
comp=Z,1.7nm,1.1s,mb4.1,baz=141,slow=2.8,SNR=6.4
NOA NORSAR Array B 87.08 331 P **P 01 28 44.7 -0.5**
comp=Z,0.9nm,0.8s,mb4.0,baz=95,slow=5.4,SNR=2.7
NOA LR LR 02 13 24.0
comp=Z,43nm,20.6s,MS3.8,baz=110,slow=40
YKA Yellowknife Ar 112.22 15 PP PP 01 35 16.5 -3.1
comp=Z,0.3nm,0.8s,baz=328,slow=7.9,SNR=3.3
TXAR Lajitas Array 143.80 32 PKP PKPdf 01 35 33.9 -1.7
comp=Z,0.6nm,0.9s,baz=53,slow=2.6,SNR=6.0
CPUP Villa Florida 144.87 222 PKP PKPdf 01 35 37.2 -0.3
comp=Z,1.2nm,0.5s,baz=52,slow=6.4,SNR=2.9

*ISCJB **04** 01:22:54.2±3.3, 3392S×009×1792W±0.1, h19km±22km, mb4.5/9, MS3.7/2, Error ellipse: s-maj=17.7km s-min=13.8km az=19.4*
*NEIC **04** 01:22:57.4±0.6, 3380S×17908W, h35km, mb4.7/5, Error ellipse: s-maj=15.9km s-min=12.3km az=107.0*
*IDC **04** 01:23:00.1±3.7, 3363S×17904W, h57km±32km, mb4.1/7, mb1 4.2/7, mb1mx3.9/16, mbtmp4.1/7, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=31.1km s-min=20.9km az=11.0*
ISC 04 01:22:56.5±3.3, 3388S±009×1792W±01, h23km±22km, n36, σ1°13/25, mb4.5/9, MS3.7/2, 2C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.31**	**214**	P	**Pn**	**Pn**	**01 24 13.4**	**-1.0**
	29nm,0.3s,baz=24,slow=3.5,SNR=69							
URZ				S		**Sn**	**01 25 14.7**	**-0.1**
	15nm,0.3s,baz=128,slow=20,SNR=9.6							
SNZO	**South Karori**	**8.87**	**211**	Pn	**Pn**	**Pn**	**01 25 04.0**	**+0.8**
RPZ	**Rata Peaks**	**12.43**	**215**	P	**Pn**	**Pn**	**01 25 48.7**	**-3.2**
	1.1nm,0.3s,baz=66,slow=4.2,SNR=4.3							
RPZ				S		**Sn**	**01 27 57.4**	**-12**
	1.6nm,0.3s,baz=343,slow=19,SNR=7.7							
TBI	**Tubuai**	**28.02**	**76**	*e*LR	LR		01 35 58.7	
	149nm,25.0s							
PPT	**Papeete**	**31.06**	**66**	*e*LR	LR		01 37 16.7	
	119nm,24.0s,baz=229							
STKA	**Stephens Creek**	**32.88**	**262**	P	**P**	**P**	**01 29 29.9**	**+1.1**
	2.6nm,0.9s,mb4.1,baz=128,slow=17,SNR=3.3							
CTA	**Charters Tower**	**33.57**	**285**	P	**P**	**P**	**01 29 35.2**	**+0.3**
CTA	**Charters Tower**	**33.57**	**285**	P	**P**	**P**	**01 29 35.2**	**+0.3**
	4.7nm,0.6s,mb4.6,baz=89,slow=11,SNR=7.1							
CTAO	**Charters Tower**	**33.57**	**285**	*e*P	**P**	**P**	**01 29 34.8**	**-0.1**
	8.7nm,0.9s,mb4.7							
RKT	**Rikitea**	**40.02**	**86**	*e*LR	LR		01 41 32.3	
	162nm,26.8s							
ASAR	**Alice Springs**	**42.07**	**271**	P	**P**	**P**	**01 30 47.4**	**+0.7**
	5.7nm,0.9s,mb4.2,baz=113,slow=7.6,SNR=40							
ASAR				PcP	PcP		01 32 39.2	-2.1
	0.8nm,0.5s,baz=134,slow=3.6,SNR=4.1							
ASAR				S		**S**	**01 37 03.9**	**-0.9**
	0.9nm,0.9s,baz=112,slow=15,SNR=5.8							
WB2	**Warramunga Arr**	**43.36**	**276**	*e*P	**P**	**P**	**01 30 57.3**	**+0.1**
WRAB	**Tennant Creek**	**43.37**	**276**	*e*P	**P**	**P**	**01 30 56.0**	**-1.3**
	7.5nm,0.9s,mb4.4							
WRA	**Warramunga Arr**	**43.37**	**276**	P	**P**	**P**	**01 30 57.4**	**+0.1**
	7.1nm,0.8s,mb4.4,baz=117,slow=7.7,SNR=59							
FITZ	**Fitzroy Crossi**	**51.47**	**273**	*e*P	**P**	**P**	**01 31 59.8**	**-0.5**
	8.2nm,0.7s,mb4.8							
FITZ	**Fitzroy Crossi**	**51.47**	**273**	P	**P**	**P**	**01 32 00.5**	**+0.2**
	4.8nm,0.7s,mb4.5,baz=164,slow=8.7,SNR=16							
CASY	**Casey**	**51.62**	**209**	P	**P**	**P**	**01 32 01.6**	**+0.8**
QSPA	**South Pole Qui**	**56.24**	**180**	*e*P	**P**	**P**	**01 32 35.3**	**+1.0**
	3.8nm,0.8s,mb4.5							
QSPA				LR	LR		01 53 10.1	
QSPA	**South Pole Qui**	**56.24**	**180**	P	**P**	**P**	**01 32 35.8**	**+1.4**
	2.6nm,0.9s,mb4.3,baz=131,slow=2.1,SNR=5.6							
QSPA				LR	LR		01 53 10.1	
	comp=Z,90nm,19.0s,MS3.9,baz=276,slow=32							
MAW	**Mawson**	**68.71**	**201**	P	**P**	**P**	**01 33 59.5**	**+1.7**
	1.6nm,0.7s,mb4.0,baz=194,slow=2.8,SNR=4.1							
SYO	**Syowa Base**	**73.51**	**194**	*e*P	**P**	**P**	**01 34 28.5**	**+1.6**
SYO	**Syowa Base**	**73.51**	**194**	*e*P	**P**	**P**	**01 34 30.3**	**+3.4**
VNA3	**Neumayer Olymp**	**74.91**	**176**	*e*	**P**	**P**	**01 34 33.8**	**-1.2**
VNA3				*e*		pP	01 34 42.0	-0.4
VNA3				*e*			01 34 46.1	
VNA3				*e*			01 35 00.2	
VNA3				*e*			01 35 08.6	
VNA2	**Neumayer--Watz**	**75.33**	**177**	*e*	**P**	**P**	**01 34 34.9**	**-2.5**
	baz=182,slow=4.2							
VNA2				*e*		pP	01 34 43.6	-1.2
VNA2				*e*			01 34 48.7	
VNA2				*e*			01 35 02.3	
VNA2				*e*			01 35 11.1	
KSRS	**Korea Array**	**86.38**	**320**	LR	LR		02 12 00.2	
	comp=Z,22nm,19.3s,MS3.6,baz=145,slow=34							
SDCO	**Great Sand Dun**	**98.78**	**50**	*e*P	**P**	**P**	**01 36 33.6**	**-0.6**
	17nm,1.1s,mb5.5							
MKAR	**Makanchi Array**	**119.22**	**309**	PKP	PKPdf		01 41 41.4	-1.9
MKAR	**Makanchi Array**	**119.22**	**309**	PKP	PKPdf		01 41 41.4	-1.9
	0.6nm,0.6s,baz=132,slow=1.8,SNR=5.2							
ARCES	**ARCESS Array B**	**141.75**	**346**	PKhKP			01 42 19.6	
	2.0nm,0.9s,baz=59,slow=8.8,SNR=2.9							
ARCES				PKP	PKPdf		01 42 25.0	-0.1
	1.6nm,0.8s,baz=357,slow=7.3,SNR=4.5							
JOF	**Joensuu**	**145.24**	**336**	*e*p	PKPbc		01 42 28.8	-2.3
	5.5nm,0.5s							
FINES	**FINESS Array B**	**148.02**	**337**	PKPbc	PKPbc		01 42 37.5	-1.7
	11nm,0.9s,baz=64,slow=4.4,SNR=17							
NB2	**NORSAR Subarra**	**152.01**	**349**	PKP	PKPdf		01 42 45.9	+3.5
	comp=Z,4.1nm,0.9s,baz=19,slow=4.3							
NOA	**NORSAR Array B**	**152.01**	**349**	PKPbc	PKPbc		01 42 47.6	-1.4
	comp=Z,1.7nm,0.9s,baz=15,slow=4.6,SNR=8.8							
AKASG	**Malin Array Be**	**153.34**	**318**	PKPbc	PKPbc		01 42 51.0	-1.2
	comp=Z,0.9nm,0.5s,baz=53,slow=2.5,SNR=10.0							
CLL	**Collm**	**160.46**	**337**	*i* PKPab	PKPab		01 43 33.8	-1.1
	comp=Z,4.0nm,0.9s							
CLL				*ex*	x		01 43 55.0	
BRG	**Berggiesshubel**	**160.50**	**334**	*e*(P)	PKPab		01 43 34.6	-0.5
	comp=Z,4.0nm,1.0s							

*ISCJB **04** 01:29:50.1±0.9, 3835N±003×2034E±007, h0km, Error ellipse: s-maj=8.1km s-min=3.6km az=161.7*
*NEIC **04** 01:29:50.9, 3836N×2038E, h0km, MD3.5(ATH), ML3.2(THE), After THE.*
*THE **04** 01:29:50.9, 3836N×2038E, h3km, ML3.2*
*ATH **04** 01:29:50.9, 3831N×2036E, h3km, MD3.5/8*
*CSEM **04** 01:29:51.6±0.4, 3835N×2042E, h2km, MD3.5, Error ellipse: s-maj=10.4km s-min=3.9km az=68.0*
ISC 04 01:29:50.1±1.1, 3833N±003×2031E±008, h3km±5km, n19, σ0°89/29, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.27**	**124**	*e*Pg	**Pg**	**Pg**	**01 29 55.7**	**+0.4**
VLS				*e*Sg	**Sg**	**Sg**	**01 29 59.7**	**+1.0**
VLS	**Valsamata**	**0.27**	**124**	*e*PG	**Pg**	**Pg**	**01 29 55.4**	**+0.1**
VLS				*e*SG	**Sg**	**Sg**	**01 29 59.5**	**+0.8**
VLS	**Valsamata**	**0.27**	**124**	*e*Pg	**Pg**	**Pg**	**01 29 55.7**	**+0.4**
VLS				*e*Sg	**Sg**	**Sg**	**01 29 59.5**	**+0.8**
KFL	**Anninata**	**0.43**	**120**	*e*Pg	**Pg**	**Pg**	**01 29 58.5**	**0.0**
LKD	**Levkas**	**0.47**	**35**	*e*Pg	**Pg**	**Pg**	**01 29 58.3**	**-0.8**
LKD				*e*Sg	**Sg**	**Sg**	**01 30 04.6**	**-0.6**
RLS	**Riolos of Patr**	**0.95**	**106**	*e*PG	**Pg**	**Pg**	**01 30 07.3**	**-1.1**
RLS				*e*SG	**Sg**	**Sg**	**01 30 21.0**	**+0.3**
IGT	**Igoumenitsa**	**1.21**	**1**	*e*Pg	**Pg**	**Pg**	**01 30 12.9**	**-0.4**
IGT				*e*Sg	**Sn**	**Sn**	**01 30 30.2**	**-0.6**
SELA	**Sela**	**1.25**	**92**	*e*Sg	**Sn**	**Sn**	**01 30 31.1**	**-0.7**
EVR	**Evrytania**	**1.31**	**63**	*e*PN	**Pn**	**Pn**	**01 30 16.0**	**+0.6**
EVR	**Evrytania**	**1.31**	**63**	*e*Pn	**Pg**	**Pn**	**01 30 13.6**	**-1.8**
JAN	**Janina**	**1.40**	**17**	*e*PN	**Pg**	**Pn**	**01 30 17.6**	**+0.7**
JAN				*e*SB	**Sn**	**Sn**	**01 30 35.6**	**+0.1**
KEK	**Kerkira**	**1.44**	**344**	*e*PN	**Pg**	**Pn**	**01 30 18.4**	**+0.6**
ITM	**Ithomi**	**1.72**	**131**	*e*PB	**Pb**	**Pn**	**01 30 22.3**	**-0.1**
THL	**Klokotos Trika**	**1.82**	**47**	*e*PB	**Pb**	**Pn**	**01 30 24.6**	**+0.6**
THL				*e*SB	**Sg**	**Sn**	**01 30 49.5**	**+1.0**
PYL	**PYLOS**	**1.83**	**141**	*e*Pb	**Pb**	**Pb**	**01 30 23.1**	**-1.1**
PYL				*e*Sb	**Sb**	**Sb**	**01 30 47.4**	**0.0**
PYL	**PYLOS**	**1.83**	**141**	*e*Pb	**Pb**	**Pb**	**01 30 23.0**	**-1.2**
PYL				*e*Sb	**Sb**	**Sb**	**01 30 47.4**	**-0.1**
LKR	**Lokris**	**2.14**	**80**	*e*Pn	**Pn**	**Pn**	**01 30 26.3**	**-0.4**
NEO	**Neokhori**	**2.48**	**66**	*e*PN	**Pn**	**Pn**	**01 30 34.2**	**+2.8**
VLI	**Veliai**	**2.63**	**127**	*e*PN	**Pn**	**Pn**	**01 30 37.0**	**+3.4**

IDC 04 01:34:10.0±3.0, 3397S×17882W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/14, mbtmp4.0/3, ML4.2/1, Error ellipse: s-maj=69.8km s-min=35.7km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.40**	**216**	P	Pn	Pn	01 35 32.5	+0.7
	8.4nm,0.3s,baz=239,slow=2.5,SNR=32							
URZ				Sn	Sn		01 36 33.1	-1.6
	5.7nm,0.3s,baz=152,slow=19,SNR=7.9							
ASAR	**Alice Springs**	**42.36**	**271**	P	P		01 42 06.0	0.0
	1.4nm,0.7s,baz=111,slow=7.3,SNR=21							
WRA	**Warramunga Arr**	**43.67**	**276**	P	P		01 42 16.6	0.0
	1.4nm,0.7s,baz=118,slow=7.6,SNR=22							
FINES	**FINESS Array B**	**148.21**	**337**	PKPbc	PKPbc		01 53 56.3	-0.8
	1.4nm,0.7s,baz=60,slow=5.5,SNR=6.9							

*ATH **04** 01:43:37.7, 3658N×21.19E, h17km±3km, MD3.7/12, ML3.8*
*NEIC **04** 01:43:38.0, 3661N×2120E, h18km, ML3.8(ATH), ML3.6(THE), After ATH.*
*CSEM **04** 01:43:38.5±0.2, 3662N×2121E, h2km, ML3.6, Error ellipse: s-maj=3.8km s-min=2.0km az=34.0*
*ISCJB **04** 01:43:40.0±0.9, 3675N±006×2130E±005, h10km, Error ellipse: s-maj=9.0km s-min=4.6km az=30.2*
*THE **04** 01:43:41.0, 3668N×2133E, h12km, ML3.6*
ISC 04 01:43:39.7±0.9, 3666N±005×2124E±005, h10km, n34, σ1°18/41, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.46**	**59**	*e*Sg	**Sg**	**Sg**	**01 43 54.5**	**-0.4**
ITM	**Ithomi**	**0.75**	**46**	*e*PN	**Pn**	**Pn**	**01 43 53.5**	**-2.9**
ITM				*e*SN	**Sg**	**Sg**	**01 44 04.9**	**+0.8**
VLI	**Veliai**	**1.36**	**87**	*e*PN	**Pn**	**Pn**	**01 44 04.3**	**-0.5**
VLI				*e*SN	**Sn**	**Sn**	**01 44 24.6**	**+1.7**
RLS	**Riolos of Patr**	**1.41**	**7**	*e*PN	**Pn**	**Pn**	**01 44 06.6**	**+1.2**
RLS				*e*SN	**Sn**	**Sn**	**01 44 27.0**	**+3.0**
RLS	**Riolos of Patr**	**1.41**	**7**	*e*Pn	**Pn**	**Pn**	**01 44 06.0**	**+0.6**
KFL	**Anninata**	**1.49**	**346**	*e*Pg	**Pg**	**Pn**	**01 44 06.6**	**-1.7**
KYTH	**Kithira**	**1.49**	**104**	*e*PN	**Pn**	**Pn**	**01 44 07.0**	**+0.4**
VLS	**Valsamata**	**1.60**	**341**	*e*Pg	**Pg**	**Pn**	**01 44 08.0**	**-2.4**
VLS				*e*Sg	**Sg**	**Sg**	**01 44 30.1**	**-1.1**
VLS	**Valsamata**	**1.60**	**341**	*e*Pn	**Pn**	**Pn**	**01 44 08.3**	**+0.2**
VLS				*e*Sg	**Sg**	**Sg**	**01 44 30.1**	**-1.1**
SELA	**Sela**	**1.69**	**18**	*e*Pb	**Pb**	**Pn**	**01 44 08.8**	**-2.2**
DID	**Didima**	**1.80**	**61**	*e*Pb	**Pb**	**Pn**	**01 44 10.8**	**-2.0**
LTK	**Loutraki**	**1.93**	**45**	*e*Pb	**Pb**	**Pn**	**01 44 12.9**	**-2.1**
LTK				*e*Sb	**Sb**	**Sb**	**01 44 34.5**	**-4.7**
LKD	**Levkas**	**2.10**	**347**	*e*Pn	**Pn**	**Pn**	**01 44 15.7**	**+0.8**
LKD				*e*Sn	**Sn**	**Sn**	**01 44 42.7**	**+1.7**
NAIG	**Nisos Aigina**	**2.10**	**58**	*e*PN	**Pn**	**Pn**	**01 44 15.5**	**+0.6**
EVR	**Evrytania**	**2.30**	**11**	*e*PN	**Pn**	**Pn**	**01 44 20.0**	**+2.4**
EVR	**Evrytania**	**2.30**	**11**	*e*Pn	**Pn**	**Pn**	**01 44 19.8**	**+2.2**
KVR	**Kavouri**	**2.33**	**59**	*e*PB	**Pb**	**Pn**	**01 44 18.5**	**-3.3**
ATH	**Athens Observa**	**2.37**	**56**	*e*PN	**Pn**	**Pn**	**01 44 19.0**	**+0.4**
LKR	**Lokris**	**2.43**	**35**	*e*PN	**Pn**	**Pn**	**01 44 20.0**	**+0.6**
PTL	**Penteli**	**2.51**	**56**	*e*PN	**Pn**	**Pn**	**01 44 20.0**	**-0.5**
AGG	**Agios Georgios**	**2.51**	**20**	*e*Pn	**Pn**	**Pn**	**01 44 20.7**	**+0.2**
VAM	**Vamos**	**2.70**	**117**	*e*PN	**Pn**	**Pn**	**01 44 22.7**	**-0.5**
IGT	**Igoumenitsa**	**2.96**	**346**	*e*Pn	**Pn**	**Pn**	**01 44 26.6**	**-0.1**
THL	**Klokotos Trika**	**2.96**	**12**	*e*Pn	**Pn**	**Pn**	**01 44 27.7**	**+0.9**
JAN	**Janina**	**3.01**	**354**	*e*PN	**Pn**	**Pn**	**01 44 28.2**	**+0.8**
NEO	**Neokhori**	**3.07**	**30**	*e*PN	**Pn**	**Pn**	**01 44 28.5**	**+0.2**
XOR	**Xorichti**	**3.11**	**29**	*e*Pn	**Pn**	**Pn**	**01 44 28.9**	**+0.1**
MEV	**Metsovon**	**3.12**	**360**	*e*Pn	**Pn**	**Pn**	**01 44 29.0**	**0.0**
KEK	**Kerkira**	**3.25**	**340**	*e*PN	**Pn**	**Pn**	**01 44 30.8**	**0.0**
AOS	**Alonnisos**	**3.26**	**39**	*e*Pn	**Pn**	**Pn**	**01 44 31.0**	**+0.1**
PAIG	**Paliouri**	**3.78**	**30**	*e*Pn	**Pn**	**Pn**	**01 44 38.0**	**0.0**
FNA	**Florina**	**4.12**	**1**	*e*Pn	**Pn**	**Pn**	**01 44 42.9**	**+0.2**
FNA	**Florina**	**4.12**	**1**	*e*Pn	**Pn**	**Pn**	**01 44 42.8**	**+0.1**
SOH	**Sokhos**	**4.47**	**21**	*e*Pn	**Pn**	**Pn**	**01 44 48.5**	**+1.0**

IDC 04 01:44:17.1±5.5, 489S×15013E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.5/13, mbtmp3.5/4, Error ellipse: s-maj=180.0km s-min=28.9km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.45**	**224**	P	P		01 49 07.4	+0.3
	0.4nm,0.7s,baz=47,slow=11,SNR=3.9							
ASAR	**Alice Springs**	**24.35**	**218**	P	P		01 49 36.6	-0.2
	0.3nm,0.6s,baz=59,slow=9.6,SNR=3.0							
MKAR	**Makanchi Array**	**78.66**	**320**	P	P		01 56 23.0	+1.9
	1.1nm,0.6s,baz=100,slow=5.9,SNR=11							
ZALV	**Zalesovo Beam**	**79.76**	**327**	P	P		01 56 25.0	-1.9
	0.8nm,0.6s,baz=115,slow=6.5,SNR=3.2							

IDC 04 02:15:02.3±2.0, 324N×12723E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/17, mbtmp3.3/3, Error ellipse: s-maj=149.4km s-min=24.7km az=67.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.07**	**163**	P	P		02 20 18.9	-0.6
	0.5nm,0.3s,baz=344,slow=11,SNR=16							
ASAR	**Alice Springs**	**27.52**	**167**	P	P		02 20 51.9	+1.1
	0.2nm,0.3s,baz=339,slow=10,SNR=3.3							
MKAR	**Makanchi Array**	**58.24**	**325**	P	P		02 24 58.4	-0.2
	0.1nm,0.4s,baz=131,slow=7.3,SNR=3.7							

MAN 04 02:17:52, 780N×12678E, h35km, mb4.3, ML3.2, MS3.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MATI	**Mati**	**0.99**	**211**	*e*P	Pn		02 18 10.1	+0.6
MATI				*e*S	Sn		02 18 22.6	+0.3
BUKP	**Musuan**	**1.70**	**273**	*e*P	Pn		02 18 20.4	+1.2
PAGZ	**Pagadian**	**3.36**	**271**	*e*P	Pn		02 18 43.6	+1.5
TBP	**Tagbilaran**	**3.44**	**303**	*e*P	Pn		02 18 44.4	+1.3
TBP				*e*S	Sn		02 19 16.9	-5.7

ellipse: s-maj=29.8km s-min=11.8km az=73.0
*MAN **04** 03:12:20, 1021N×12532E, h169km, mb4.3, ML3.2, MS3.0*
*IDC **04** 03:12:21.3±8.6, 1012N×12537E, h222km±81km, mb3.4/6, mb1 3.5/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=90.5km s-min=17.0km az=66.0*

ISC 04 03:12:19.0±0.7, 1018N±006×1253E±01, h197km±6km, n19, σ0§78/21, mb3.7/8, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.47**	**264**	*e*P	**Pn**	03 12 46.1	+0.4
TBP	**Tagbilaran**	**1.53**	**252**	*e*P	**Pn**	03 12 52.4	-0.3
TBP				*e*S	**Sn**	03 13 17.4	-1.4
BUKP	**Musuan**	**2.30**	**187**	*e*P	**Pn**	03 13 00.8	+0.3
CNP	**Catarman**	**2.41**	**344**	*e*P	**Pn**	03 13 02.2	+0.5
CNP				*e*S	**Sn**	03 13 33.8	-1.3
PAGZ	**Pagadian**	**3.01**	**220**	*e*P	**Pn**	03 13 10.3	+1.6
PVCP	**Virac**	**3.58**	**341**	*e*P	**Pn**	03 13 16.1	+0.5
PVCP	**Virac**	**3.58**	**341**	↑*e*P	**Pn**	03 13 18.1	+2.6
OTRP	**Odiongan**	**3.90**	**304**	*e*P	**Pn**	03 13 20.3	+0.8
CAUP	**Cauayan**	**7.54**	**333**	*e*P	**Pn**	03 14 06.2	-0.1
WRA	**Warramunga Arr**	**31.22**	**163**	P	**P**	03 18 19.0	-1.0
	0.3nm,0.6s,mb3.1,baz=339,slow=7.6,SNR=11						
WRA				PcP	PcP	03 21 09.2	-0.7
	0.3nm,0.9s,baz=342,slow=2.7,SNR=7.2						
ASAR	**Alice Springs**	**34.67**	**166**	P	**P**	03 18 49.7	-0.2
	0.8nm,0.3s,mb3.7,baz=341,slow=7.4,SNR=22						
ASAR				PcP	PcP	03 21 18.6	-0.9
	0.2nm,0.3s,baz=337,slow=2.8,SNR=5.1						
MK31	**Makanchi Array**	**51.54**	**323**	*e*P	**P**	03 21 04.8	+0.2
MKAR	**Makanchi Array**	**51.54**	**323**	P	**P**	03 21 05.5	+0.8
	0.6nm,0.5s,mb3.3,baz=123,slow=8.7,SNR=8.0						
MCK	**McKinley**	**79.06**	**27**	*e*P	**P**	03 24 01.1	+0.1
	1.3nm,0.5s,mb3.8						
ARCES	**ARCESS Array B**	**83.96**	**340**	P	**P**	03 24 26.0	-0.6
	2.0nm,0.7s,mb3.9,baz=72,slow=7.8,SNR=8.1						
INK	**Inuvik**	**84.71**	**21**	*e*P	**P**	03 24 30.2	-0.2
	18nm,0.5s,mb5.1						
FINES	**FINESS Array B**	**85.53**	**332**	P	**P**	03 24 33.9	-0.7
	0.8nm,0.4s,mb3.8,baz=91,slow=4.8,SNR=9.3						
RES	**Resolute Bay**	**91.75**	**10**	*e*P	**P**	03 25 03.7	-0.1
YKA	**Yellowknife Ar**	**94.21**	**24**	P	**P**	03 25 15.4	+0.2
	0.1nm,0.5s,mb3.1,baz=305,slow=4.9,SNR=3.9						

*ISCJB **04** 03:14:30.2±0.5, 3944N±002×2078E±004, h9km±5km, Error ellipse: s-maj=4.8km s-min=3.6km az=19.3*
*ATH **04** 03:14:30.1, 3943N×2072E, h17km±5km, MD3.2/6*
*NEIC **04** 03:14:30.1, 3943N×2072E, h17km, MD3.2(ATH), After ATH.*
*CSEM **04** 03:14:30.9±0.1, 3944N×2076E, h1km, MD3.2, Error ellipse: s-maj=1.8km s-min=1.3km az=107.0*
*THE **04** 03:14:31.1, 3944N×2077E, h1km, ML2.9*

ISC 04 03:14:31.0±0.4, 3945N±002×2076E±004, h14km±5km, n21, σ1§14/33, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAN	**Janina**	**0.22**	**18**	*e*PB	**Pg**	03 14 35.4	-0.5
JAN				*e*SB	**Sg**	03 14 39.7	+0.5
IGT	**Igoumenitsa**	**0.34**	**285**	*e*Pg	**Pg**	03 14 37.3	-0.7
IGT				*e*Sg	**Sg**	03 14 43.1	+0.5
MEV	**Metsovon**	**0.49**	**47**	*e*Pg	**Pg**	03 14 40.6	-0.2
LKD	**Levkas**	**0.74**	**187**	*e*Pg	**Pg**	03 14 44.9	-0.5
LKD				*e*Sg	**Sg**	03 14 55.4	+0.3
KEK	**Kerkira**	**0.79**	**290**	*e*PN	**Pn**	03 14 44.9	-2.8
EVR	**Evrytania**	**0.97**	**123**	*e*PN	**Pn**	03 14 49.0	-1.1
THL	**Klokotos Trika**	**0.98**	**83**	*e*Pg	**Pg**	03 14 49.1	-0.7
THL				*e*Sg	**Sg**	03 15 03.0	+0.5
THL	**Klokotos Trika**	**0.98**	**83**	*e*PN	**Pn**	03 14 49.3	-0.9
THL				*e*Sg	**Sg**	03 15 03.0	+0.4
VLS	**Valsamata**	**1.27**	**186**	*e*Pg	**Pg**	03 14 55.1	-0.3
VLS				*e*Sg	**Sg**	03 15 13.7	+1.7
VLS	**Valsamata**	**1.27**	**186**	*e*PN	**Pn**	03 14 53.8	-0.5
VLS	**Valsamata**	**1.27**	**186**	*e*Pg	**Pg**	03 14 55.2	-0.3
VLS				*e*Sg	**Sg**	03 15 13.7	+1.7
AGG	**Agios Georgios**	**1.29**	**109**	*e*Pg	**Pg**	03 14 54.6	-1.2
AGG				*e*Sg	**Sg**	03 15 14.1	+1.6
FNA	**Florina**	**1.42**	**19**	*e*Pg	**Pg**	03 14 57.3	-1.0
FNA				*e*Sg	**Sg**	03 15 17.6	+0.9
SELA	**Sela**	**1.46**	**143**	*e*Pg	**Pg**	03 14 57.8	-1.3
LIT	**Litokhoron**	**1.48**	**63**	*e*Pg	**Pg**	03 14 58.3	-1.2
LIT				*e*Sg	**Sg**	03 15 18.4	-0.3
RLS	**Riolos of Patr**	**1.49**	**158**	*e*PN	**Pn**	03 14 58.7	+1.4
BIA	**Bitola**	**1.63**	**15**	*i* Pn	**Pn**	03 15 01.3	+2.0
BIA				*i* Sg	**Sg**	03 15 26.3	+2.8
BIA	**Bitola**	**1.63**	**15**	*i* Pn	**Pn**	03 15 01.2	+2.0
BIA				*i* Sg	**Sg**	03 15 26.2	+2.7
GRG	**Griva**	**1.96**	**39**	*e*Pb	**Pb**	03 15 05.0	-1.5
OUR	**Ouranopolis**	**2.63**	**69**	*e*Pn	**Pn**	03 15 14.1	+1.1
PYL	**PYLOS**	**2.66**	**163**	*e*Pn	**Pn**	03 15 14.7	+1.3

MAN 04 03:34:26, 914N×12601E, h134km, mb4.4, ML3.3, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**1.57**	**217**	*e*P	Pn	03 34 56.4	+1.2
TBP	**Tagbilaran**	**2.19**	**285**	*e*P	Pn	03 35 03.2	+0.7
TBP				*e*S	Sn	03 35 32.1	+1.6

*ISCJB **04** 03:43:29.8±0.6, 3060S±005×17928W±009, h172km±6km, mb4.5/15, Error ellipse: s-maj=14.3km s-min=5.9km az=22.9*
*IDC **04** 03:43:33.0±0.6, 3002S×17889W, h208km±5km, mb4.0/10, mb1 4.3/11, mb1mx4.2/15, mbtmp4.0/11, Error ellipse: s-maj=14.2km s-min=12.2km az=168.0*
*NEIC **04** 03:43:32.0±0.9, 3024S×17901W, h198km±8km, mb4.6/8, Error ellipse: s-maj=13.2km s-min=10.3km az=114.0*

ISC 04 03:43:30.7±0.6, 3067S±005×17921W±010, h166km±6km, n125, σ1§47/123, mb4.5/15, 1C-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.80**	**39**	P	**Pn**	03 44 05.3	+0.6
RAO				S	**Sn**	03 44 28.7	+4.3
RAO	**Raoul Island**	**1.80**	**39**	P	**Pn**	03 44 05.3	+0.7
	1μm,0.3s,baz=83,slow=23,SNR=48						
RAO				S	**Sn**	03 44 28.7	+4.3
	531nm,0.3s,baz=325,slow=22,SNR=5.4						
MXZ	**Matakaoa Point**	**7.18**	**196**	P	**Pn**	03 45 16.7	+3.6
MXZ	**Matakaoa Point**	**7.18**	**196**	*e*PN	**Pn**	03 45 15.9	+2.8
PUZ	**Puketiti**	**7.68**	**195**	P	**Pn**	03 45 27.5	+7.8
PUZ	**Puketiti**	**7.68**	**195**	PN	**Pn**	03 45 25.9	+6.3
MWZ	**Matawai**	**8.11**	**199**	*e*P	**Pn**	03 45 28.1	+2.7
MWZ	**Matawai**	**8.11**	**199**	PN	**Pn**	03 45 27.6	+2.2
URZ	**Urewera**	**8.16**	**201**	*e*P	**Pn**	03 45 28.4	+2.3
URZ	**Urewera**	**8.16**	**201**	P	**Pn**	03 45 29.6	+3.5
	2.1nm,0.3s,baz=236,slow=2.8,SNR=17						
URZ				S	**Sn**	03 47 05.0	+7.9
	40nm,0.3s,baz=152,slow=22,SNR=16						
URZ	**Urewera**	**8.16**	**201**	PN	**Pn**	03 45 27.6	+1.5
KNZ	**Kokohu**	**8.72**	**196**	*e*PN	**Pn**	03 45 35.7	+2.2
BKZ	**Black Stump Fm**	**9.19**	**201**	*e*P	**Pn**	03 45 42.8	+3.2
BKZ	**Black Stump Fm**	**9.19**	**201**	*e*PN	**Pn**	03 45 41.0	+1.5
RITZ	**Rihia Road**	**9.23**	**205**	P	**Pn**	03 45 49.9	+10
OTVZ	**Oturere**	**9.46**	**205**	*e*PN	**Pn**	03 45 45.8	+2.5
NGZ	**Ngauruhoe**	**9.50**	**205**	P	**Pn**	03 45 48.8	+5.1
NGZ	**Ngauruhoe**	**9.50**	**205**	*e*PN	**Pn**	03 45 47.9	+4.2
WPVZ	**Whakapapa**	**9.54**	**205**	P	**Pn**	03 45 50.9	+6.6
WPVZ	**Whakapapa**	**9.54**	**205**	*e*PN	**Pn**	03 45 50.2	+5.9
TUVZ	**Tukino**	**9.56**	**205**	P	**Pn**	03 45 50.3	+5.8
TUVZ	**Tukino**	**9.56**	**205**	*e*PN	**Pn**	03 45 48.4	+3.9
FWVZ	**Far West T-bar**	**9.59**	**205**	*e*P	**Pn**	03 45 48.9	+4.0
FWVZ	**Far West T-bar**	**9.59**	**205**	*e*PN	**Pn**	03 45 47.6	+2.8
WNVZ	**Wahianoa**	**9.63**	**205**	P	**Pn**	03 45 49.1	+3.6
WNVZ	**Wahianoa**	**9.63**	**205**	*e*PN	**Pn**	03 45 47.5	+2.0
MOVZ	**Moawhango**	**9.65**	**204**	P	**Pn**	03 45 48.0	+2.3
MOVZ	**Moawhango**	**9.65**	**204**	*e*PN	**Pn**	03 45 48.5	+2.8
PKVZ	**Pokaka**	**9.69**	**206**	*e*PN	**Pn**	03 45 50.3	+4.1
TSZ	**Takapari Road**	**10.17**	**201**	P	**Pn**	03 45 55.6	+3.1
WAZ	**Wanganui**	**10.24**	**206**	P	**Pn**	03 45 57.3	+3.9
BFZ	**Birch Farm**	**10.65**	**199**	*e*P	**Pn**	03 45 57.8	-1.1
BFZ	**Birch Farm**	**10.65**	**199**	*e*PN	**Pn**	03 45 58.1	-0.8
BFZ				SN	**Sn**	03 47 56.2	-0.7
MRZ	**Mangatainoka R**	**10.84**	**202**	P	**Pn**	03 45 59.5	-1.8
MRZ	**Mangatainoka R**	**10.84**	**202**	PN	**Pn**	03 45 59.4	-1.8
MRZ				SN	**Sn**	03 47 57.2	-4.0
KIW	**Kapiti Island**	**11.24**	**204**	P	**Pn**	03 46 05.0	-1.5
KIW	**Kapiti Island**	**11.24**	**204**	PN	**Pn**	03 46 04.8	-1.7
MTW	**Mount Morrison**	**11.31**	**201**	P	**Pn**	03 46 05.4	-2.1
MTW	**Mount Morrison**	**11.31**	**201**	*e*PN	**Pn**	03 46 05.2	-2.3
CAW	**Cannon Point**	**11.40**	**202**	P	**Pn**	03 46 07.5	-1.2
CAW	**Cannon Point**	**11.40**	**202**	PN	**Pn**	03 46 07.1	-1.6
TRWZ	**Traveller**	**11.48**	**200**	PN	**Pn**	03 46 07.9	-1.7
PAWZ	**Paruwai Farm**	**11.54**	**201**	P	**Pn**	03 46 11.3	+0.9
PAWZ	**Paruwai Farm**	**11.54**	**201**	PN	**Pn**	03 46 09.6	-0.8
PAWZ				SN	**Sn**	03 48 17.8	-0.4
DUWZ	**D'Urville Isla**	**11.55**	**207**	*e*PN	**Pn**	03 46 11.8	+1.3
MSWZ	**Moikau Station**	**11.62**	**201**	P	**Pn**	03 46 11.0	-0.5
MSWZ	**Moikau Station**	**11.62**	**201**	*e*PN	**Pn**	03 46 09.8	-1.7
MRW	**Makara Radio**	**11.64**	**203**	P	**Pn**	03 46 12.2	+0.5
MRW	**Makara Radio**	**11.64**	**203**	PN	**Pn**	03 46 10.7	-1.0
SNZO	**South Karori**	**11.71**	**203**	P	**Pn**	03 46 10.9	-1.7
SNZO	**South Karori**	**11.71**	**203**	*e*PN	**Pn**	03 46 10.2	-2.4
BHW	**Baring Head**	**11.74**	**202**	P	**Pn**	03 46 11.1	-1.9
TCW	**Tory Channel**	**11.77**	**205**	P	**Pn**	03 46 12.4	-1.0
TCW	**Tory Channel**	**11.77**	**205**	PN	**Pn**	03 46 11.3	-2.1
TUWZ	**Tuamarina**	**12.08**	**205**	*e*PN	**Pn**	03 46 16.5	-0.9
NNZ	**Nelson**	**12.12**	**208**	*e*P	**Pn**	03 46 18.9	+1.0
NNZ	**Nelson**	**12.12**	**208**	*e*PN	**Pn**	03 46 17.8	-0.1
NNZ				SN	**Sn**	03 48 33.1	+1.1
QRZ	**Quartz Range**	**12.15**	**211**	*e*P	**Pn**	03 46 19.6	+1.2
QRZ	**Quartz Range**	**12.15**	**211**	*e*PN	**Pn**	03 46 18.8	+0.5
BSWZ	**Blackbirch Sta**	**12.36**	**205**	P	**Pn**	03 46 23.3	+2.4
BSWZ	**Blackbirch Sta**	**12.36**	**205**	*e*PN	**Pn**	03 46 21.9	+0.9
THZ	**Tophouse**	**12.77**	**208**	*e*P	**Pn**	03 46 25.6	-0.6
THZ	**Tophouse**	**12.77**	**208**	PN	**Pn**	03 46 24.7	-1.5
KHZ	**Kahutara**	**13.09**	**204**	*e*P	**Pn**	03 46 28.7	-1.6
KHZ	**Kahutara**	**13.09**	**204**	PN	**Pn**	03 46 28.5	-1.8
KHZ				SN	**Sn**	03 48 53.3	-2.1
DSZ	**Denniston Nort**	**13.22**	**211**	*e*P	**Pn**	03 46 31.2	-0.8
LTZ	**Lake Taylor**	**13.88**	**207**	*e*P	**Pn**	03 46 39.7	-0.6
LTZ	**Lake Taylor**	**13.88**	**207**	PN	**Pn**	03 46 39.5	-0.8
LTZ				SN	**Sn**	03 49 09.7	-4.6
MQZ	**McQueen's Vall**	**14.53**	**204**	*e*P	**Pn**	03 46 49.0	+0.5
MQZ	**McQueen's Vall**	**14.53**	**204**	PN	**Pn**	03 46 47.8	-0.6
WVZ	**Waitaha Valley**	**14.76**	**210**	*e*P	**Pn**	03 46 51.3	+0.1
WVZ	**Waitaha Valley**	**14.76**	**210**	PN	**Pn**	03 46 51.1	-0.2
RPZ	**Rata Peaks**	**15.15**	**208**	P	**Pn**	03 47 02.5	+6.4
	3.2nm,0.3s,baz=359,slow=6.4,SNR=3.8						
RPZ				S	**S**	03 49 39.8	-4.8
	4.6nm,0.3s,baz=198,slow=21,SNR=16						
FOZ	**Fox Glacier**	**15.61**	**211**	P	**Pn**	03 47 01.0	-0.7
FOZ	**Fox Glacier**	**15.61**	**211**	PN	**Pn**	03 46 59.8	-1.9
FOZ				SN	**Sn**	03 49 46.9	-8.8
ODZ	**Otahua Downs**	**16.42**	**206**	*e*P	**Pn**	03 47 12.1	+0.5
ODZ	**Otahua Downs**	**16.42**	**206**	PN	**Pn**	03 47 11.6	0.0
JCZ	**Jackson Bay**	**16.43**	**212**	*e*P	**Pn**	03 47 12.2	+0.5
JCZ	**Jackson Bay**	**16.43**	**212**	*e*PN	**Pn**	03 47 11.3	-0.3
JCZ				SN	**Sn**	03 50 07.1	-8.1
WKZ	**Wanaka**	**16.90**	**210**	*e*P	**Pn**	03 47 18.4	+1.0
WKZ	**Wanaka**	**16.90**	**210**	*e*PN	**Pn**	03 47 16.3	-1.1
ARMA	**Armidale**	**25.09**	**263**	*e*P	**P**	03 48 44.1	+4.1
CTA	**Charters Tower**	**32.82**	**280**	↑*i*P	**P**	03 49 49.6	+1.1
	11nm,0.4s,mb5.0						
CTA	**Charters Tower**	**32.82**	**280**	P	**P**	03 49 49.6	+1.1
	17nm,0.5s,mb5.0,baz=103,slow=10,SNR=28						
CTAO	**Charters Tower**	**32.82**	**280**	*e*P	**P**	03 49 49.4	+0.9
	19nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**33.40**	**258**	*e*P	**P**	03 49 55.7	+2.2
	8.9nm,0.4s,mb4.8						
STKA	**Stephens Creek**	**33.40**	**258**	*e*P	**P**	03 49 55.9	+2.3
	20nm,1.0s,mb4.8						
STKA	**Stephens Creek**	**33.40**	**258**	P	**P**	03 49 56.1	+2.6
	13nm,0.5s,mb4.9,baz=100,slow=11,SNR=36						
ASAR	**Alice Springs**	**42.06**	**268**	P	**P**	03 51 06.4	+0.2
	8.7nm,0.6s,mb4.6,baz=104,slow=7.3,SNR=82						
ASAR				ScP	ScP	03 56 24.3	-8.4
	2.8nm,0.8s,baz=113,slow=4.5,SNR=15						
WB2	**Warramunga Arr**	**43.06**	**273**	*e*P	**P**	03 51 13.3	-1.0
WRAB	**Tennant Creek**	**43.06**	**273**	*e*P	**P**	03 51 13.7	-0.6
	11nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**43.07**	**273**	P	**P**	03 51 13.4	-0.9
	11nm,0.3s,mb4.9,baz=110,slow=8.1,SNR=83						
WRA				ScP	ScP	03 56 28.6	-8.3
	2.9nm,1.0s,baz=116,slow=4.1,SNR=11						
SBA	**Scott Base**	**47.70**	**184**	*e*P	**P**	03 51 53.4	+3.4
	30nm,1.0s,mb4.9						
VNDA	**Vanda**	**47.73**	**185**	*e*P	**P**	03 51 53.6	+3.4
	1.3nm,0.5s,mb3.8						
VNDA	**Vanda**	**47.73**	**185**	P	**P**	03 51 53.0	+2.7
	1.4nm,0.6s,mb3.8,baz=347,slow=6.2,SNR=11						
FITZ	**Fitzroy Crossi**	**51.32**	**271**	*e*P	**P**	03 52 18.2	0.0
	7.1nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**51.32**	**271**	P	**P**	03 52 18.4	+0.2
	3.8nm,0.6s,mb4.2,baz=158,slow=11,SNR=13						
CASY	**Casey**	**54.42**	**208**	*e*P	**P**	03 52 40.6	+0.4
	11nm,0.6s,mb4.8						
MBWA	**Marble Bar**	**55.16**	**264**	*e*P	**P**	03 52 45.7	-0.6
	1.6nm,0.5s,mb4.0						
QSPA	**South Pole Qui**	**59.45**	**180**	P	**P**	03 53 18.3	+3.0
QSPA	**South Pole Qui**	**59.45**	**180**	P	**P**	03 53 18.3	+3.0
	46nm,0.7s,mb5.5,baz=33,slow=1.7,SNR=222						
SYO	**Syowa Base**	**76.62**	**193**	‖*e*P	**P**	03 55 00.5	-2.0
MJAR	**Matsushiro Arr**	**77.87**	**326**	P	**P**	03 55 05.3	-4.5
	2.9nm,0.9s,mb3.9,baz=162,slow=4.5,SNR=6.5						
SNAA	**Sanae**	**77.92**	**179**	*e*	**P**	03 55 10.1	+0.4
SNAA				*e*		03 55 16.5	
VNA2	**Neumayer--Watz**	**78.53**	**177**	*e*	**P**	03 55 13.7	+0.7
	baz=187,slow=4.4						
VNA2				*e*		03 55 20.9	
VNA1	**Neumayer--Stat**	**78.77**	**177**	*e*	**P**	03 55 15.3	+1.0
VNA1				*e*		03 55 22.2	
PLCA	**Paso Flores**	**83.08**	**134**	P	**P**	03 55 37.5	-0.2
	2.3nm,1.0s,mb3.9,baz=226,slow=11,SNR=3.2						
NVAR	**Mina Array Bea**	**89.14**	**43**	P	**P**	03 56 02.5	-4.7
	2.3nm,0.8s,mb4.2,baz=220,slow=6.9,SNR=14						
CFAA	**Coronel Fontan**	**89.91**	**127**	P	**P**	03 56 09.6	-1.6
CFAA	**Coronel Fontan**	**89.91**	**127**	P	**P**	03 56 09.6	-1.6
	0.2nm,0.9s,baz=296,slow=4.6,SNR=5.2						
TXAR	**Lajitas Array**	**93.41**	**58**	P	**P**	03 56 22.8	-4.4
	0.7nm,0.9s,mb3.8,baz=210,slow=5.6,SNR=6.8						
YKA	**Yellowknife Ar**	**106.13**	**26**	PKKPbc	PKKPbc	04 12 54.1	-4.1
	0.2nm,0.6s,baz=43,slow=3.1,SNR=9.6						
LSZ	**Lusaka**	**127.26**	**214**	*e*PKPdf	PKPdf	04 02 14.6	-1.5
ARCES	**ARCESS Array B**	**138.62**	**347**	PKP		04 02 23.5	
ARCES				PKP	PKPdf	04 02 32.2	-3.5
ARCES				SKPbc	SKPbc	04 05 44.9	-10
ARCES	**ARCESS Array B**	**138.62**	**347**	PKhKP		04 02 23.5	
	2.6nm,1.0s,baz=26,slow=2.3,SNR=7.7						
ARCES				PKP	PKPdf	04 02 32.2	-3.5
	1.7nm,0.8s,baz=90,slow=3.4,SNR=6.8						
ARCES				SKPbc	SKPbc	04 05 44.9	-10
	1.3nm,0.6s,baz=219,slow=0.8,SNR=5.8						
JOF	**Joensuu**	**142.28**	**338**	*ep*	PKPdf	04 02 35.9	-6.6
	0.8nm,0.4s						
FINES	**FINESS Array B**	**145.03**	**339**	PKP	PKPdf	04 02 42.0	-5.4
	5.6nm,0.6s,baz=58,slow=4.4,SNR=56						
NB2	**NORSAR Subarra**	**148.85**	**350**	PKP	PKPdf	04 02 52.9	-0.9
	comp=Z,1.6nm,0.5s,baz=17,slow=2.7						
NOA	**NORSAR Array B**	**148.85**	**350**	PKPbc	PKPdf	04 02 53.0	-0.7
	comp=Z,1.5nm,0.6s,baz=17,slow=4.2,SNR=9.5						
EIL	**Elat**	**150.51**	**277**	PKPbc	PKPbc	04 03 00.7	-2.3
	comp=Z,3.8nm,0.6s,baz=339,slow=8.9,SNR=5.4						
MMAI	**Mount Meron Ar**	**150.58**	**284**	PKPbc	PKPbc	04 03 00.8	-2.3
	comp=Z,0.8nm,0.3s,baz=74,slow=7.0,SNR=3.9						
AKASG	**Malin Array Be**	**150.87**	**322**	PKPbc	PKPdf	04 02 58.9	+1.6
	comp=Z,2.3nm,0.5s,baz=50,slow=2.7,SNR=18						
AKASG				PKPab	PKPbc	04 03 06.8	+3.7
	comp=Z,1.1nm,0.4s,baz=47,slow=3.9,SNR=9.7						
DBIC	**Dimbokro**	**155.55**	**166**	PKPab	PKPab	04 03 31.0	-0.7
	comp=Z,2.4nm,0.8s,baz=184,slow=11,SNR=3.7						
CLL	**Collm**	**157.47**	**340**	*e*PKPab	PKPab	04 03 34.0	-5.0
GERES	**GERESS Array B**	**159.36**	**335**	PKPab	PKPab	04 03 43.0	-4.2
	comp=Z,0.2nm,0.4s,baz=329,slow=1.6,SNR=5.1						

*ISCJB **04** 03:56:26.6±0.8, 3782N±004×728E±0.1, h138km±12km, Error ellipse: s-maj=16.5km s-min=5.4km az=163.4*
*IDC **04** 03:56:30.9±7.8, 3809N×7280E, h141km±50km, mb3.1/1, mb1 3.3/6, mb1mx3.0/24, mbtmp3.2/6, Error ellipse: s-maj=68.9km s-min=52.3km az=169.0*
*NEIC **04** 03:56:36.7±8.2, 3856N×7275E, h164km±21km, mb3.5/1, Error ellipse: s-maj=101.6km s-min=19.6km az=182.0*

ISC 04 03:56:27.6±0.8, 3781N±004×728E±01, h135km±11km, n31, σ1§10/37, 1C, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.37**	**8**	*e*Pg	**Pn**	03 57 32.6	+0.3
AML				*e*Sg	**Sn**	03 58 19.4	-3.1
AML	**Almayashu**	**4.37**	**8**	P	**Pn**	03 57 32.9	+0.7
	SNR=24						
UCH	**Uchtor**	**4.60**	**16**	*e*Pn	**Pn**	03 57 36.1	+0.8
UCH				*e*S	**Sn**	03 58 27.4	-0.5
UCH	**Uchtor**	**4.60**	**16**	P	**Pn**	03 57 36.6	+1.4
	SNR=15						
KZA	**Kyzart**	**4.65**	**23**	P	**Pn**	03 57 37.1	+1.1
	SNR=7.0						
EKS2	**Erkin-Say**	**4.90**	**8**	*e*Pn	**Pn**	03 57 40.1	+0.8
EKS2				*e*Sn	**Sn**	03 58 34.0	-1.1
EKS2	**Erkin-Say**	**4.90**	**8**	P	**Pn**	03 57 40.4	+1.1
	SNR=11						
AAK	**Ala-Archa**	**4.98**	**14**	P	**Pn**	03 57 41.0	+0.6
	6.2nm,0.3s,baz=181,slow=10.0,SNR=32						
AAK				S	**Sn**	03 58 35.4	-1.8
	1.6nm,0.3s,baz=326,slow=24,SNR=14						
AAK	**Ala-Archa**	**4.98**	**14**	P	**Pn**	03 57 41.9	+1.4
	SNR=17						
CHMS	**Chumysh**	**5.38**	**15**	P	**Pn**	03 57 46.9	+1.1
	SNR=6.2						
TKM2	**Tokmak 2**	**5.52**	**22**	*e*Pn	**Pn**	03 57 49.8	+2.1
TKM2	**Tokmak 2**	**5.52**	**22**	P	**Pn**	03 57 50.4	+2.7
	SNR=5.3						
KK31	**Karatay Array**	**5.58**	**342**	P	**Pn**	03 57 47.6	-0.8
	3.4nm,0.3s,baz=164,slow=13,SNR=80						
KK31				↑‖S	**Sn**	03 58 45.1	-6.3
	18nm,0.3s,baz=170,slow=21						
USP	**Ospenovka**	**5.60**	**13**	P	**Pn**	03 57 49.2	+0.5
	SNR=5.8						
THN	**Thein Dam**	**5.86**	**155**	*e*P	**Pn**	03 57 53.8	+1.5
THN				*e*S	**Sn**	03 58 57.5	-0.9
MK31	**Makanchi Array**	**11.38**	**35**	*e*Pn	**Pn**	03 59 07.3	+1.4
MKAR	**Makanchi Array**	**11.38**	**35**	P	**Pn**	03 59 05.8	-0.1
	0.1nm,0.3s,baz=216,slow=14,SNR=5.3						
DANN	**Dangsing**	**13.14**	**133**	*e*P	**Pn**	03 59 27.4	-1.7
	12nm,0.4s						
KOLN	**Koldanda**	**13.49**	**135**	*e*P	**Pn**	03 59 33.0	-0.6
KURK	**Kurchatov**	**13.55**	**16**	*e*P	**Pn**	03 59 31.7	-2.3
	1.0nm,0.5s						
GKN	**Gorkha**	**13.92**	**131**	*e*P	**Pn**	03 59 38.3	-0.7
KKN	**Kakani**	**14.46**	**130**	*e*P	**Pn**	03 59 45.9	0.0
DMN	**Daman**	**14.49**	**131**	*e*P	**Pn**	03 59 46.1	-0.1
	6.7nm,0.4s						
GUN	**Gumba**	**14.74**	**128**	*e*P	**Pn**	03 59 49.1	-0.3
JIRN	**

1.5nm,0.6s,mb3.9
MK31 Makanchi Array 46.92 305 *e*P **P 05 11 28.9 -1.0**
MKAR Makanchi Array 46.92 305 P **P 05 11 30.7 +0.8**
MKAR Makanchi Array 46.92 305 P **P 05 11 30.7 +0.8**
0.3nm,0.3s,mb3.8,baz=92,slow=10,SNR=4.5
WRA Warramunga Arr 53.48 190 P **P 05 12 20.1 +0.3**
0.3nm,0.5s,mb3.5,baz=6.6,slow=7.6,SNR=4.6
YKA Yellowknife Ar 66.64 30 P **P 05 13 55.0 +5.4**
0.3nm,0.9s,mb3.3,baz=294,slow=5.7,SNR=3.4
TXAR Lajitas Array 91.71 53 P **P 05 16 08.8 +1.7**
0.3nm,1.0s,mb3.6,baz=7.6,slow=15,SNR=3.0

IDC 04 05:15:52.4±3.3,3387S×17899W,h0km,mb3.9/2, mb1 4.1/3,mb1mx3.8/14,mbtmp3.9/3,ML3.8/1,Error ellipse: s-maj=72.6km s-min=36.8km az=114.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.40**	**215**	Pn	Pn	05 17 14.2	0.0
	3.0nm,0.3s,baz=32,slow=4.4,SNR=16						
URZ				Sn	Sn	05 18 17.0	0.0
	4.3nm,0.3s,baz=151,slow=20,SNR=8.0						
ASAR	**Alice Springs**	**42.21**	**271**	P	P	05 23 47.5	+0.3
	1.1nm,0.7s,baz=112,slow=8.0,SNR=11						
WRA	**Warramunga Arr**	**43.52**	**276**	P	P	05 23 57.6	-0.3
	1.2nm,0.6s,baz=117,slow=7.7,SNR=22						
FINES	**FINESS Array B**	**148.06**	**337**	PKPbc	PKPbc	05 35 38.3	-0.8
	0.6nm,0.7s,baz=45,slow=4.3,SNR=3.5						

*ISK **04** 05:38:17.9,3559N×2685E,h8km,MD3.3*
*ISCJB **04** 05:38:21.2±0.7,3563N±007×2708E±004,h6km±8km, Error ellipse: s-maj=12.4km s-min=5.4km az=7.3*
*CSEM **04** 05:38:21.4±0.2,3562N×27.14E,h10km,MD3.3,Error ellipse: s-maj=9.2km s-min=1.8km az=106.0*
*ATH **04** 05:38:21.4,3556N×27.14E,h12km±5km,MD2.8/3*
*NEIC **04** 05:38:21.4,3556N×27.14E,h12km,MD2.8(ATH),After ATH.*

ISC 04 05:38:21.3±0.9,3555N±009×2711E±004,h13km±5km,n10,σ0°86/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.04**	**91**	*e*PG	**Pg**	**05 38 23.7**	**+0.1**
KARP				*e*SG	**Sg**	**05 38 25.3**	**0.0**
ARG	**Arkhangelos**	**1.06**	**51**	*e*PN	**Pn**	**05 38 41.5**	**-0.4**
ARG				*e*SB	**Sb**	**05 38 55.2**	**-0.1**
DAT	**Datca**	**1.24**	**18**	*e*PN	**Pn**	**05 38 42.6**	**-1.7**
DAT				*e*SN	**Sn**	**05 39 01.0**	**+0.1**
NPS	**Neapolis**	**1.25**	**257**	*e*PB	**Pb**	**05 38 45.1**	**+0.3**
SANT	**Santorini**	**1.57**	**302**	*e*Pn	**Pn**	**05 38 48.6**	**-0.2**
SANT				*e*Pg	**Pg**	**05 38 52.4**	**+1.0**
SANT				*e*Sn	**Sn**	**05 39 09.3**	**+0.3**
SANT				*e*Sg	**Sg**	**05 39 11.8**	**0.0**
SANT	**Santorini**	**1.57**	**302**	*e*Pn	**Pn**	**05 38 48.6**	**-0.3**
SANT	**Santorini**	**1.57**	**302**	*e*Pg	**Pg**	**05 38 52.4**	**+1.0**
MLSB	**Milas**	**1.82**	**17**	*e*PN	**Pn**	**05 38 51.0**	**-1.4**
YER	**Yerkesik**	**1.85**	**31**	*e*PN	**Pn**	**05 38 52.0**	**-0.7**
YER				*e*SN	**Sn**	**05 39 16.6**	**+0.7**
FETY	**Fethiye**	**1.93**	**55**	*e*PN	**Pn**	**05 38 54.3**	**+0.4**
FETY				*e*SN	**Sn**	**05 39 20.7**	**+2.7**

*IDC **04** 05:43:33.6±16.0,1971S×17826W,h617km±161km, mb3.4/6,mb1 3.5/6,mb1mx3.2/15,mbtmp3.4/6,Error ellipse: s-maj=122.7km s-min=46.4km az=101.0*

NEIC 04 05:43:26.1±1.9,1978S×17783W,h550km,mb4.0/3,1D, Error ellipse: s-maj=61.0km s-min=22.8km az=136.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.72**	**263**	P	P	05 49 22.9	+0.5
	8.5nm,0.5s,baz=93,slow=9.6,SNR=14						
CTAO	**Charters Tower**	**33.72**	**263**	*e*P	P	05 49 22.9	+0.6
	2.9nm,0.4s						
STKA	**Stephens Creek**	**38.25**	**243**	P	P	05 50 00.5	+0.9
	1.5nm,0.7s,baz=104,slow=20,SNR=4.3						
ASAR	**Alice Springs**	**44.84**	**256**	P	P	05 50 52.0	+0.2
	5.1nm,0.4s,baz=89,slow=8.3,SNR=80						
WB2	**Warramunga Arr**	**44.85**	**261**	||*i*P	P	05 50 51.4	-0.5
WRA	**Warramunga Arr**	**44.86**	**261**	P	P	05 50 51.5	-0.5
	2.9nm,0.4s,baz=98,slow=7.1,SNR=129						
FITZ	**Fitzroy Crossi**	**53.28**	**262**	*e*P	P	05 51 54.1	-0.1
	3.2nm,0.4s						
FITZ	**Fitzroy Crossi**	**53.28**	**262**	P	P	05 51 54.3	+0.1
	1.8nm,0.5s,baz=85,slow=6.3,SNR=17						
MBWA	**Marble Bar**	**58.16**	**257**	*e*P	P	05 52 27.1	-0.9
	2.0nm,0.6s						
MJAR	**Matsushiro Arr**	**69.72**	**323**	P	P	05 53 41.4	+0.3
	1.4nm,0.5s,baz=161,slow=6.8,SNR=7.5						
GERES	**GERESS Array B**	**149.55**	**345**	PKPbc	PKPbc	06 02 13.8	+0.3
	0.4nm,0.3s,baz=45,slow=5.7,SNR=4.7						

*IDC **04** 06:24:42.4±0.4,399N×9596E,h0km,mb4.4/25, mb1 4.4/25,mb1mx4.4/26,mbtmp4.4/25,MS3.6/6, Ms1 3.6/6,ms1mx3.2/26,Error ellipse: s-maj=15.9km s-min=11.4km az=64.0*
*MOS **04** 06:24:45.7±1.1,398N×9603E,h33km,mb4.6/7,Error ellipse: s-maj=13.5km s-min=7.2km az=112.7*
*BJI **04** 06:24:45.3,355N×9607E,h52km,mB4.8,mb4.7,Ms3.7, Msz3.6*
*NEIC **04** 06:24:47.2±0.3,394N×9592E,h30km,mb4.3/10,Error ellipse: s-maj=11.1km s-min=7.0km az=47.0*
NEIC Felt [II] at Meulaboh and Takengon.
*ISCJB **04** 06:24:50.3±0.9,404N±005×9601E±005,h70km±8km, mb4.5/57,Error ellipse: s-maj=10.1km s-min=5.9km az=43.3*

ISC 04 06:24:51.6±0.8,401N±005×9597E±005,h67km±7km, h51km±3.3km:pP-P,n135,σ0°89/129,mb4.5/57,17C-11D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.63**	**335**	P	**Pn**	**06 25 16.7**	**-1.5**
	6μm,0.9s						
TSI	**Tuntungan**	**2.63**	**101**	||*e*P	**Pn**	**06 25 32.5**	**+0.7**
PSI	**Prapat**	**3.18**	**112**	Pn	**Pn**	**06 25 39.8**	**+0.5**
	11nm,0.3s,baz=298,slow=9.1,SNR=33						
PSI				Sn	**Sn**	**06 26 18.1**	**+2.2**
	28nm,0.3s,baz=282,slow=13,SNR=7.0						
KULM	**Kulim**	**4.83**	**75**	*e*P	**Pn**	**06 26 01.6**	**-0.2**
KULM	**Kulim**	**4.83**	**75**	||P	**Pn**	**06 26 01.9**	**0.0**
IPM	**Ipoh**	**5.06**	**84**	||P	**Pn**	**06 26 04.3**	**-0.6**
SNG	**Songkhla**	**5.59**	**56**	P	**Pn**	**06 26 13.0**	**+0.8**
	280nm,0.9s						
FRIM	**Kepong**	**5.69**	**98**	||P	**Pn**	**06 26 12.2**	**-1.4**
KTGM	**Kuala Trenggan**	**7.26**	**79**	||P	**Pn**	**06 26 34.6**	**-0.5**
KGM	**Kluang**	**7.60**	**105**	||P	**Pn**	**06 26 40.2**	**+0.6**
MYKOM	**Kota Tinggi**	**8.17**	**105**	||P	**Pn**	**06 26 47.2**	**-0.3**
KSM	**Kuching**	**14.54**	**100**	||P	**Pn**	**06 28 17.4**	**+3.5**
CHG	**Chiang Mai**	**15.00**	**11**	||P	**Pn**	**06 28 23.7**	**+3.8**
	31nm,0.9s						
CHTO	**Chiang Mai**	**15.00**	**11**	*e*P	**Pn**	**06 28 18.0**	**-1.9**
SBUM	**Sibu**	**16.29**	**95**	||P	**Pn**	**06 28 36.8**	**+0.5**
QIZ	**Qiongzhong**	**20.16**	**41**	P	**P**	**06 29 19.6**	**-1.1**
QIZ				AP		06 29 30.1	
QIZ				XP	sP	06 29 35.0	-8.1
QIZ				S	**S**	**06 33 07.7**	**+4.2**
QIZ				XS	sS	06 33 23.7	-2.8
QIZ				AMB	AMB		
	comp=Z,9.0nm,0.9s						
QIZ				AMB	AMB		
	comp=Z,66nm,6.1s						
QIZ				LR	LR		
	comp=E,142nm,16.3s						
QIZ				LR	LR		
	comp=Z,194nm,16.9s						
KKM	**Kota Kinabalu**	**20.26**	**83**	||P	**P**	**06 29 23.8**	**+1.9**
SDKM	**Sandakan**	**21.21**	**85**	||P	**P**	**06 29 34.9**	**+2.9**
HYB	**Hyderabad**	**21.66**	**309**	*e*P	**P**	**06 29 38.0**	**+1.2**
HYB	**Hyderabad**	**21.66**	**309**	*i* P	**P**	**06 29 38.0**	**+1.2**
HYB				*e*S	**S**	**06 33 45.0**	**+12**
TSM	**Tawau**	**21.84**	**88**	||P	**P**	**06 29 39.2**	**+0.4**
MYLDM	**Lahad Datu**	**22.48**	**86**	||P	**P**	**06 29 46.4**	**+0.7**
JIRN	**Jiri**	**25.31**	**339**	*e*P	**P**	**06 30 12.0**	**-0.1**
	comp=Z,12nm,0.6s,mb4.5						
GUN	**Gumba**	**25.64**	**339**	*e*P	**P**	**06 30 15.0**	**-0.1**
	comp=Z,22nm,0.5s,mb4.8						
DMN	**Daman**	**25.66**	**337**	*e*P	**P**	**06 30 14.9**	**-0.4**
	comp=Z,15nm,0.7s,mb4.5						
KKN	**Kakani**	**25.76**	**338**	*e*P	**P**	**06 30 16.4**	**+0.3**
	comp=Z,30nm,0.9s,mb4.7						
GKN	**Gorkha**	**26.20**	**337**	*e*P	**P**	**06 30 20.0**	**-0.1**
KOLN	**Koldanda**	**26.41**	**335**	*e*P	**P**	**06 30 22.0**	**-0.1**
DANN	**Dangsing**	**26.86**	**336**	*e*P	**P**	**06 30 26.0**	**-0.1**
	comp=Z,19nm,0.5s,mb4.9						
CD2	**Chengdu**	**27.75**	**14**	P	**P**	**06 30 33.8**	**-0.2**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.8						
BATI	**Kupang**	**30.98**	**117**	LR	LR	06 47 47.3	
	comp=Z,144nm,18.1s,baz=134,slow=45						
XAN	**Xi'an**	**32.22**	**20**	P	**P**	**06 31 12.4**	**-1.1**
XAN				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.6						
NJ2	**Nanjing**	**35.20**	**35**	*e*P	**P**	**06 31 39.7**	**+0.2**
NJ2				PP	PP	06 32 56.6	-3.9
NJ2				PPP		06 33 13.2	
NJ2				S	**S**	**06 37 11.5**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,100nm,5.4s						
NJ2				LR	LR		
	comp=N,230nm,28.1s						
NJ2				LR	LR		
	comp=E,390nm,31.8s						
NJ2				LR	LR		
	comp=Z,390nm,31.9s						
GTA	**Gaotai**	**35.41**	**5**	*e*P	**P**	**06 31 40.5**	**-0.7**
GTA				AP	pP	06 31 52.8	-4.7
GTA				XP	sP	06 31 57.4	-7.9
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**36.58**	**128**	||*i*P	**P**	**06 31 49.2**	**-2.2**
	comp=Z,6.0nm,0.6s,mb4.7						
JOW	**Kunigami**	**38.31**	**50**	P	**P**	**06 32 06.1**	**+0.1**
	comp=Z,6.9nm,0.6s,mb4.7,baz=217,slow=5.7,SNR=2.7						
NWAO	**Narrogin (SRO)**	**41.90**	**153**	P	**P**	**06 32 34.8**	**-0.7**
	comp=Z,9.1nm,0.8s,mb4.5,baz=317,slow=15,SNR=3.8						
UCH	**Uchtor**	**42.60**	**336**	*e*P	**P**	**06 32 42.0**	**+0.8**
	comp=Z,2.7nm,0.7s,mb4.1						
AML	**Almayashu**	**42.86**	**336**	*e*P	**P**	**06 32 42.6**	**-0.6**
	comp=Z,5.6nm,0.8s,mb4.3						
AAK	**Ala-Archa**	**42.95**	**337**	||*e*P	**P**	**06 32 44.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
AAK	**Ala-Archa**	**42.95**	**337**	P	**P**	**06 32 44.2**	**+0.2**
	comp=Z,1.6nm,0.3s,mb4.2,baz=180,slow=7.1,SNR=4.8						
EKS2	**Erkin-Say**	**43.27**	**336**	*e*P	**P**	**06 32 47.6**	**+1.0**
	comp=Z,2.4nm,0.7s,mb4.0						
JNU	**Nakatsue**	**43.59**	**44**	LR	LR	06 51 30.1	
	comp=Z,52nm,19.6s,baz=231,slow=37						
MK31	**Makanchi Array**	**44.24**	**347**	*e*P	**P**	**06 32 53.4**	**-0.9**
MKAR	**Makanchi Array**	**44.24**	**347**	*i* P	**P**	**06 32 53.5**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.6s						
MKAR	**Makanchi Array**	**44.24**	**347**	P	**P**	**06 32 53.1**	**-1.1**
	comp=Z,3.6nm,0.6s,mb4.3,baz=159,slow=8.3,SNR=53						
MKAR				LR	LR	06 53 20.3	
	comp=Z,38nm,21.9s,baz=163,slow=39						
KSRS	**Korea Array**	**44.30**	**37**	P	**P**	**06 32 55.2**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.0,baz=223,slow=9.7,SNR=5.3						
KSRS				LR	LR	06 54 22.7	
	comp=Z,58nm,18.3s,baz=211,slow=40						
WRA	**Warramunga Arr**	**44.58**	**124**	P	**P**	**06 32 55.9**	**-1.5**
	comp=Z,3.2nm,0.5s,mb4.3,baz=301,slow=9.3,SNR=51						
WRA				ScP	ScP	06 38 33.5	+7.4
	comp=Z,0.7nm,1.0s,baz=316,slow=3.3,SNR=4.5						
SONM	**Songino Array**	**44.58**	**10**	P	**P**	**06 32 56.6**	**-0.3**
SONM						06 34 39.5	
SONM	**Songino Array**	**44.58**	**10**	P	**P**	**06 32 56.5**	**-0.4**
	comp=Z,5.4nm,0.6s,mb4.5,baz=190,slow=8.5,SNR=29						
SONM				PcP	PcP	06 34 39.5	+0.6
	comp=Z,2.6nm,0.6s,baz=208,slow=2.1,SNR=6.8						
SONM				LR	LR	06 53 43.3	
	comp=Z,90nm,19.5s,baz=29,slow=39						
WRAB	**Tennant Creek**	**44.58**	**124**	||*i*P	**P**	**06 32 56.3**	**-1.1**
WRAB	**Tennant Creek**	**44.58**	**124**	*e*P	**P**	**06 32 56.4**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,34nm,1.0s,mb5.0						
WRAB	**Tennant Creek**	**44.58**	**124**	*e*P	**P**	**06 32 56.4**	**-1.0**
	comp=Z,34nm,1.0s,mb5.0						
WB2	**Warramunga Arr**	**44.59**	**124**	*e*P	**P**	**06 32 56.1**	**-1.4**
ULN	**Ulaanbaatar**	**44.72**	**11**	*i* P	**P**	**06 32 57.9**	**-0.2**
KK31	**Karatay Array**	**45.02**	**334**	*i* P	**P**	**06 33 01.1**	**+0.6**
ASAR	**Alice Springs**	**46.07**	**129**	P	**P**	**06 33 07.7**	**-1.5**
	comp=Z,1.7nm,0.4s,mb4.1,baz=298,slow=7.6,SNR=27						
ASAR				PcP	PcP	06 34 44.6	0.0
	comp=Z,1.0nm,0.6s,baz=295,slow=4.1,SNR=4.8						
TLY	**Talaya**	**47.94**	**6**	*e*P	**P**	**06 33 24.1**	**+0.8**
TLY				*e*S	**S**	**06 40 20.3**	**+4.4**
TLY				*e*SS	SS	06 43 08.7	-37
TLY				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
TLY				MLR	MLR		
	comp=Z,60nm,20.0s						
KURK	**Kurchatov**	**48.78**	**345**	||*e*P	**P**	**06 33 29.4**	**-0.4**
KURK	**Kurchatov**	**48.78**	**345**	*e*P	**P**	**06 33 28.9**	**-0.8**
	comp=Z,1.9nm,0.4s,mb4.4						
MJAR	**Matsushiro Arr**	**50.51**	**45**	P	**P**	**06 33 44.8**	**+1.6**
	comp=Z,0.9nm,0.7s,mb3.9,baz=236,slow=9.3,SNR=4.3						
MJAR				PcP	PcP	06 35 01.1	+0.7
	comp=Z,0.5nm,0.6s,baz=255,slow=4.9,SNR=4.6						
ZAL	**Zalesovo**	**50.61**	**351**	P	**P**	**06 33 42.7**	**-0.9**
ZAL						06 34 59.5	
ZAA0	**Zalesovo Array**	**50.62**	**351**	*e*P	**P**	**06 33 43.1**	**-0.6**
ZALV	**Zalesovo Beam**	**50.62**	**351**	P	**P**	**06 33 42.7**	**-1.0**
ZALV				PcP	PcP	06 34 59.5	-0.8
ZALV	**Zalesovo Beam**	**50.62**	**351**	P	**P**	**06 33 42.7**	**-1.0**
	comp=Z,8.8nm,0.6s,mb5.0,baz=176,slow=7.2,SNR=27						
ZALV				PcP	PcP	06 34 59.5	-0.8
	comp=Z,1.5nm,0.4s,baz=184,slow=5.8,SNR=1.6						
KBD	**Kabd**	**52.10**	**304**	*e*P	**P**	**06 33 55.5**	**+0.3**
KBD				AMb	AMB	06 33 56.9	
	comp=Z,93nm,0.7s						
RDF	**Al-Radifah**	**52.14**	**304**	*e*P	**P**	**06 33 56.1**	**+0.6**
RDF				AMb	AMB	06 33 57.1	
	comp=Z,43nm,0.6s						
NAY	**Al-Naaiem**	**52.50**	**304**	*e*P	**P**	**06 33 58.2**	**0.0**
NAY				AMb	AMB	06 34 00.0	
	comp=Z,34nm,0.8s,mb5.5						
MIB	**Mutribah**	**52.60**	**305**	*e*P	**P**	**06 33 59.2**	**+0.3**
MIB				AMb	AMB	06 34 01.1	
	comp=Z,54nm,0.9s						
OPO	**Ambohidratompo**	**53.02**	**243**	P	**P**	**06 34 02.5**	**+0.3**
	comp=Z,2.6nm,0.7s,mb4.4,baz=69,slow=13,SNR=5.1						
BVAR	**Borovoye Array**	**53.22**	**341**	P	**P**	**06 34 02.0**	**-1.0**
	comp=Z,4.4nm,0.8s,mb4.6,baz=140,slow=8.4,SNR=23						
ZRNK	**Zerenda**	**53.61**	**340**	*i* P	**P**	**06 34 04.7**	**-1.2**
ZRNK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
CTA	**Charters Tower**	**54.87**	**118**	P	**P**	**06 34 14.6**	**-1.0**
	comp=Z,4.9nm,1.0s,mb4.5,baz=102,slow=23,SNR=2.3						
STKA	**Stephens Creek**	**56.14**	**133**	*e*P	**P**	**06 34 23.6**	**-1.0**
	comp=Z,4.3nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**56.14**	**133**	P	**P**	**06 34 23.9**	**-0.7**
	comp=Z,3.8nm,0.7s,mb4.5,baz=320,slow=8.4,SNR=5.9						
AKTK	**Aktyubinsk**	**56.20**	**332**	P	**P**	**06 34 24.1**	**-0.5**
AKTO	**Aktyubinsk**	**56.20**	**332**	P	**P**	**06 34 24.1**	**-0.5**
	comp=Z,2.0nm,0.4s,mb4.5,baz=113,slow=8.0,SNR=11						
YSS	**Yuzh-Sakhalins**	**58.77**	**36**	||*e*P	**P**	**06 34 44.5**	**+1.7**
YSS				pmax	pmax		
	comp=Z,26nm,1.6s,mb5.0						
KMBO	**Kilima Mbogo**	**58.90**	**266**	P	**P**	**06 34 45.5**	**+1.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=60,slow=11,SNR=7.7						
KIV	**Kislovodsk**	**61.40**	**319**	P	**P**	**06 35 00.0**	**-0.9**
YAK	**Yakutsk**	**63.10**	**17**	*i* P	**P**	**06 35 11.7**	**-0.2**
YAK				pmax	pmax		
	comp=Z,15nm,0.7s,mb5.0						
OBN	**Obninsk**	**69.60**	**328**	P	**P**	**06 35 53.0**	**-0.6**
OBN				*e*		06 36 01.1	
OBN				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
TIXI	**Tiksi**	**70.66**	**11**	||*e*P	**P**	**06 35 59.0**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
TIRR	**Tirgusor**	**71.27**	**316**	||P	**P**	**06 36 03.9**	**-0.1**
TIRR	**Tirgusor**	**71.27**	**316**	||*i*P	**P**	**06 36 03.8**	**-0.2**
SEY	**Seymchan**	**71.69**	**24**	||*e*P	**P**	**06 36 05.7**	**-0.4**
AKASG	**Malin Array Be**	**72.30**	**322**	P	**P**	**06 36 08.5**	**-1.6**
	comp=Z,1.0nm,0.6s,mb3.8,baz=93,slow=4.8,SNR=6.6						
PLOR	**Plostina**	**72.79**	**317**	||*i*P	**P**	**06 36 14.5**	**+1.4**
MLR	**Muntele Rosu**	**73.20**	**316**	||*i*P	**P**	**06 36 16.2**	**+0.7**
BURAR	**Bucovina Array**	**74.12**	**318**	||*i*P	**P**	**06 36 22.0**	**+1.2**
BOSA	**Boshof**	**75.13**	**239**	P	**P**	**06 36 26.8**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.1,baz=88,slow=13,SNR=4.6						
MAW	**Mawson**	**75.16**	**193**	P	**P**	**06 36 26.4**	**+0.1**
	comp=Z,5.7nm,0.7s,mb4.4,baz=9.7,slow=5.2,SNR=11						
KWP	**Kalwaria**	**76.14**	**320**	||*i*P	**P**	**06 36 33.5**	**+1.1**
KOLS	**Kolonicke sedl**	**76.30**	**319**	*e*P	**P**	**06 36 34.3**	**+1.0**
CRVS	**Cervenica-Dubn**	**76.83**	**319**	*e*P	**P**	**06 36 37.1**	**+0.8**
FINES	**FINESS Array B**	**76.96**	**332**	*i* P	**P**	**06 36 36.5**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**76.96**	**332**	P	**P**	**06 36 35.8**	**-0.9**
	comp=Z,2.3nm,0.7s,mb4.0,baz=102,slow=8.0,SNR=9.8						
STHS	**Stebnicka Huta**	**77.05**	**320**	*e*P	**P**	**06 36 39.6**	**+2.1**
STHS				*e*	pP	06 36 55.1	-0.6
STHS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
STHS	**Stebnicka Huta**	**77.05**	**320**	*e*P	**P**	**06 36 39.6**	**+2.1**
	comp=Z,2.6nm,0.8s,mb4.0						
STHS				*e*	pP	06 36 55.1	-0.6
KECS	**Kecovo**	**77.40**	**319**	*e*P	**P**	**06 36 42.7**	**+3.2**
KECS				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.5						
KECS	**Kecovo**	**77.40**	**319**	*e*P	**P**	**06 36 42.7**	**+3.2**
	comp=Z,1.3nm,0.9s,mb3.7						
PKSM	**Moragy**	**78.36**	**316**	||*i*P	**P**	**06 36 44.7**	**-0.2**
VYHS	**Vyhne**	**78.49**	**319**	*e*P	**P**	**06 36 46.2**	**+0.6**
VYHS				*e*	pP	06 36 59.9	-3.9
VYHS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
VYHS	**Vyhne**	**78.49**	**319**	*e*P	**P**	**06 36 46.2**	**+0.6**
	comp=Z,0.9nm,0.7s,mb3.6						
VYHS				*e*	pP	06 36 59.9	-3.9
ARCES	**ARCESS Array B**	**79.50**	**340**	P	**P**	**06 36 50.1**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=101,slow=3.8,SNR=15						
ARCES				LR	LR	07 14 55.3	
	comp=Z,36nm,20.2s,baz=287,slow=38						
NB2	**NORSAR Subarra**	**83.97**	**331**	P	**P**	**06 37 14.1**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.6,baz=91,slow=5.1						
NOA	**NORSAR Array B**	**83.97**	**331**	P	**P**	**06 37 13.6**	**-0.8**
	comp=Z,1.0nm,0.7s,mb3.7,baz=92,slow=5.2,SNR=4.6						
KEST	**Kesra**	**84.95**	**305**	P	**P**	**06 37 21.1**	**+1.2**
	comp=Z,4.5nm,0.7s,mb4.5,baz=237,slow=2.7,SNR=7.4						
CDF	**Champ du Feu**	**86.17**	**318**	*e*P	**P**	**06 37 25.8**	**+0.2**
SBF	**Sospel**	**86.20**	**314**	*e*P	**P**	**06 37 26.4**	**+0.5**
LPG	**La Plagne**	**86.63**	**315**	*e*P	**P**	**06 37 28.2**	**+0.3**
	comp=Z,11nm,0.7s,mb4.6						
LPL	**La Plagne**	**86.64**	**315**	*e*P	**P**	**06 37 28.3**	**+0.3**
	comp=Z,15nm,0.8s,mb4.7						
FRF	**La Foret Royal**	**86.78**	**313**	*e*P	**P**	**06 37 29.5**	**+0.8**
HAU	**Haudompre**	**86.80**	**318**	*e*P	**P**	**06 37 28.3**	**-0.4**
CABF	**La Chapelle**	**87.04**	**316**	*e*P	**P**	**06 37 30.0**	**+0.1**
ORIF	**Oris-en-Rattie**	**87.27**	**315**	*e*P	**P**	**06 37 31.3**	**+0.2**
BAIF	**Baives**	**88.09**	**320**	*e*P	**P**	**06 37 35.0**	**+0.1**
VIVF	**Saint-Julien-l**	**88.13**	**315**	*e*P	**P**	**06 37 35.2**	**0.0**
LOR	**Lormes**	**88.53**	**317**	*e*P	**P**	**06 37 36.9**	**-0.1**
	comp=Z,14nm,0.8s,mb4.7						
SMF	**Signal de Mont**	**88.58**	**316**	*e*P	**P**	**06 37 37.1**	**-0.2**
	comp=Z,15nm,0.8s,mb4.8						
SSF	**Saint Saulge**	**88.78**	**317**	*e*P	**P**	**06 37 38.6**	**+0.4**
	comp=Z,5.6nm,0.7s,mb4.4						
VNDA	**Vanda**	**88.80**	**169**	P	**P**	**06 37 36.9**	**-0.8**
	comp=Z,0.7nm,0.6s,mb3.9,baz=293,slow=5.5,SNR=5.6						
LDF	**La Druitiere**	**91.06**	**319**	*e*P	**P**	**06 37 49.0**	**+0.2**
	comp=Z,35nm,1.1s,mb5.1						
MFF	**Saint Martin d**	**91.32**	**317**	*e*P	**P**	**06 37 50.4**	**+0.3**
	comp=Z,6.7nm,0.6s,mb4.6						
GRR	**Gorron**	**91.57**	**319**	*e*P	**P**	**06 37 50.7**	**-0.5**
ESDC	**Sonseca Array**	**95.09**	**310**	P	**P**	**06 38 08.0**	**+0.4**
	comp=Z,0.3nm,0.3s,mb4.2,baz=38,slow=8.3,SNR=3.6						
MCMT	**McKenzie Canyo**	**124.97**	**25**	*e*PKPdf	PKPdf	06 43 43.0	-1.4
ULM	**Lac du Bonnet**	**125.00**	**9**	PKP	PKPdf	06 43 43.9	-0.4
ULM	**Lac du Bonnet**	**125.00**	**9**	PKP	PKPdf	06 43 43.9	-0.4
	comp=Z,3.0nm,0.6s,baz=3.7,slow=4.8,SNR=5.2						
NVAR	**Mina Array Bea**	**127.19**	**34**	PKP	PKPdf	06 43

JNU	Nakatsue	42.94	333	P		P	06 43 35.4	0.0
	12nm,0.7s,mb4.7,baz=46,slow=6.5,SNR=7.7							
KSRS	Korea Array	47.88	333	P		P	06 44 15.8	+1.3
	0.8nm,0.5s,mb4.0,baz=153,slow=7.7,SNR=3.2							
KSRS				LR	LR		07 03 10.2	
	comp=Z,14nm,20.8s,MS2.9,baz=235,slow=35							
SONM	Songino Array	66.20	328	P		P	06 46 25.8	+1.9
	0.8nm,0.5s,mb4.0,baz=125,slow=7.4,SNR=2.9							
VNDA	Vanda	72.93	178	P		P	06 47 05.5	+0.5
	1.2nm,0.7s,mb4.0,baz=327,slow=6.7,SNR=11							
MKAR	Makanchi Array	80.20	319	P		P	06 47 45.2	-1.4
	0.4nm,0.4s,mb3.7,baz=99,slow=7.1,SNR=12							
MKAR				LR	LR		07 21 12.6	
	comp=Z,19nm,20.3s,MS3.4,baz=341,slow=34							
ZALV	Zalesovo Beam	81.03	326	P		P	06 47 49.4	-1.6
	1.0nm,0.5s,mb4.0,baz=90,slow=3.5,SNR=2.9							
YKA	Yellowknife Ar	95.38	28	P		P	06 48 59.7	-0.5
YKA	Yellowknife Ar	95.38	28	P		P	06 48 59.7	-0.5
	0.2nm,0.6s,mb3.8,baz=274,slow=5.0,SNR=9.1							
SDV	Santo Domingo	136.78	82	ePKPdf	PKPdf		06 55 00.0	+0.3
BDFB	Brasilia	151.19	135	PKPbc	PKPbc		06 55 30.2	-0.3
	3.0nm,0.8s,baz=167,slow=15,SNR=8.9							

*IDC **04** 06:57:35.5±0.7,2055S×17557W,h0km,mb4.3/9, mb1 4.5/9,mb1mx4.3/17,mbtmp4.3/9,MS3.9/13, Ms1 3.9/13,ms1mx3.8/19,Error ellipse: s-maj=32.7km s-min=18.0km az=143.0*

*ISCJB **04** 06:57:36.1±0.3,2075S±009×17565W±0.10,h10km, mb4.6/24,MS4.0/11,Error ellipse: s-maj=17.0km s-min=7.6km az=43.8*

*NEIC **04** 06:57:39.5±3.4,2078S×17558W,h24km±24km,mb4.8/17, Error ellipse: s-maj=15.0km s-min=6.6km az=139.0*

ISC 04 06:57:37.0±5.5,2078S±009×1756W±01,h7km±34km,n78, σ0§80/48,mb4.6/24,MS4.0/11,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.75	29	ePn	Pn	06 59 30.4	+0.1
RAO	Raoul Island	8.69	194	LR	LR	07 02 39.0	
	comp=Z,315nm,20.9s,baz=15,slow=34						
RAR	Rarotonga	14.79	94	LR	LR	07 04 56.5	
	comp=Z,692nm,20.9s,baz=258,slow=30						
URZ	Urewera	18.53	198	P	Pn	07 01 53.3	-0.9
	1.2nm,0.3s,baz=11,slow=5.3,SNR=12						
TBI	Tubuai	24.35	101	eLQ		07 07 39.9	
	255nm,29.2s						
TBI				eLR	LR	07 08 46.3	
	790nm,28.0s,baz=272						
TBI	Tubuai	24.35	101	eT		07 27 08.9	
	20nm,0.3s						
PAE	Paea	24.75	87	eT		07 27 55.1	
	118nm,0.3s						
PPT	Papeete	24.77	87	eLQ		07 07 38.0	
	434nm,24.8s						
PPT				eLR	LR	07 08 51.0	
	926nm,26.8s,baz=258						
PPT	Papeete	24.77	87	eT		07 27 57.2	
	18nm,0.3s						
PPT	Papeete	24.77	87	LR	LR	07 09 17.5	
	comp=Z,450nm,20.8s,MS4.0,baz=348,slow=28						
TVO	Taravao	25.04	88	eT		07 28 16.2	
	22nm,0.4s						
RPZ	Rata Peaks	25.44	203	P	P	07 03 06.7	+1.3
	14nm,0.6s,mb4.7,baz=11,slow=7.5,SNR=12						
RPZ				LR	LR	07 13 12.5	
	comp=Z,577nm,18.2s,MS4.1,baz=16,slow=36						
HNR	Honiara	26.12	292	LR	LR	07 11 46.8	
	comp=Z,215nm,21.8s,MS3.6,baz=177,slow=33						
PMOR	Pomariorio Ree	26.96	82	eT		07 30 17.6	
	4.6nm,0.3s						
CTA	Charters Tower	35.70	264	eP	P	07 04 37.7	+1.3
	6.2nm,0.8s,mb4.6						
CTA	Charters Tower	35.70	264	P	P	07 04 37.8	+1.3
	9.7nm,0.9s,mb4.7,baz=107,slow=9.4,SNR=9.4						
CTAO	Charters Tower	35.70	264	eP	P	07 04 37.6	+1.2
	10nm,0.9s,mb4.8						
TAOE	Nuku Hiva Isla	36.17	76	eLR	LR	07 14 02.4	
	14µm,28.3s						
TAOE	Nuku Hiva Isla	36.17	76	eT		07 42 04.2	
	1µm,0.3s						
RKT	Rikitea	37.67	101	eLR	LR	07 14 41.3	
	860nm,33.5s						
RKT	Rikitea	37.67	101	eT		07 43 53.3	
	21nm,0.3s						
STKA	Stephens Creek	39.70	245	P	P	07 05 11.5	+1.3
	4.2nm,1.1s,mb4.1,baz=146,slow=8.7,SNR=2.6						
STKA				LR	LR	07 19 23.4	
	comp=Z,241nm,19.9s,MS4.0,baz=32,slow=33						
ASAR	Alice Springs	46.64	257	P	P	07 06 06.2	-0.3
	4.7nm,0.8s,mb4.5,baz=90,slow=8.4,SNR=39						
ASAR				PcP	PcP	07 07 40.1	-0.3
	1.2nm,0.6s,baz=108,slow=4.1,SNR=5.0						
WB2	Warramunga Arr	46.78	262	eP	P	07 06 06.7	-0.8
WRAB	Tennant Creek	46.78	262	eP	P	07 06 07.1	-0.4
	20nm,1.4s,mb4.8						
WRA	Warramunga Arr	46.79	262	P	P	07 06 06.8	-0.9
	3.5nm,0.8s,mb4.3,baz=92,slow=5.7,SNR=36						
WRA				PcP	PcP	07 07 40.6	-0.3
	1.1nm,0.9s,baz=92,slow=3.7,SNR=2.4						
WRA				LR	LR	07 25 27.4	
	comp=Z,183nm,18.5s,MS4.1,baz=80,slow=36						
VNDA	Vanda	57.84	186	P	P	07 07 30.1	+1.1
	1.0nm,0.9s,mb3.9,baz=17,slow=6.9,SNR=3.3						
VNDA				LR	LR	07 26 18.2	
	comp=Z,107nm,20.4s,MS4.0,baz=269,slow=30						
CASY	Casey	64.68	205	eP	P	07 08 13.0	-2.3
	8.6nm,0.5s,mb5.0						
KSRS	Korea Array	78.60	317	LR	LR	07 44 06.0	
	comp=Z,49nm,18.6s,MS3.9,baz=156,slow=36						
NVAR	Mina Array Bea	79.70	42	P	P	07 09 44.7	-0.9
NVAR	Mina Array Bea	79.70	42	P	P	07 09 44.7	-0.9
	3.3nm,0.7s,mb4.4,baz=232,slow=9.4,SNR=10						
TPNV	Topopah Spring	80.15	44	eP	P	07 09 48.4	+0.4
SHPR	Sheep Range	80.61	45	eP	P	07 09 50.9	+0.3
TUC	Tucson	81.40	51	eP	P	07 09 55.0	+0.1
WVOR	Wild Horse Val	81.92	39	eP	P	07 09 56.5	-0.8
	8.2nm,1.0s,mb4.6						
MSU	Marysvale	83.70	45	eP	P	07 10 07.2	+0.5
HAWA	Hanford	83.86	35	eP	P	07 10 07.1	-0.2
	7.7nm,0.9s,mb4.8						
BMO	Blue Mountains	84.15	37	eP	P	07 10 08.2	-0.6
	2.8nm,0.7s,mb4.5						
DUG	Dugway	84.20	43	eP	P	07 10 08.4	-0.8
	5.0nm,1.2s,mb4.5						
TMUT	Trail Mountain	84.76	45	eP	P	07 10 12.7	+0.6
LAZ	Ladron	85.08	51	eP	P	07 10 13.7	-0.1
LENM	Lemitar	85.09	51	eP	P	07 10 14.1	+0.2
MNTX	Cornudas Mount	85.09	54	eP	P	07 10 14.4	+0.5
	8.5nm,1.4s,mb4.7						
SRU	San Rafael	85.11	45	eP	P	07 10 13.9	+0.1
	7.3nm,0.9s,mb4.8						
CTU	Camp Tracy	85.15	43	eP	P	07 10 14.3	+0.3
JLU	Jordanelle	85.29	43	eP	P	07 10 15.7	+0.9
TXAR	Lajitas Array	85.32	56	P	P	07 10 15.2	+0.1
	1.6nm,0.9s,mb4.1,baz=218,slow=7.2,SNR=8.1						
TXAR				LR	LR	07 43 51.9	
	comp=Z,40nm,18.5s,MS3.8,baz=185,slow=33						
BNM	Barren Site	85.33	51	eP	P	07 10 14.8	-0.3
LPM	Los Pinos Moun	85.41	51	eP	P	07 10 15.9	+0.5
HWUT	Hardware Ranch	85.76	43	eP	P	07 10 16.3	-0.8
	2.5nm,0.8s,mb4.5						
ANMO	Albuquerque	85.84	50	eP	P	07 10 18.0	+0.4
	9.4nm,1.3s,mb4.9						
PV01	Paradox Valley	85.92	47	eP	P	07 10 18.2	+0.3
GDL2	Guadalupe Moun	86.09	54	eP	P	07 10 18.3	-0.6
MCK	McKinley	86.78	12	eP	P	07 10 22.9	+1.4
	8.3nm,0.8s,mb5.0						
PLCA	Paso Flores	87.44	133	LR	LR	07 42 03.2	
	comp=Z,76nm,19.3s,MS4.1,baz=209,slow=30						
SMCO	Snowmass	87.52	46	eP	P	07 10 25.8	0.0
	4.8nm,0.8s,mb4.8						
SNAA	Sanae	87.66	178	e	P	07 10 26.4	+0.5
SNAA				e		07 10 32.7	
SNAA				e		07 10 35.9	
VNA3	Neumayer Olymp	87.70	175	e	P	07 10 26.6	+0.5
VNA3				e		07 10 32.2	
VNA3				e		07 10 36.5	
VNA3				e		07 10 44.2	
VNA3				e		07 10 48.6	
SDCO	Great Sand Dun	87.85	48	eP	P	07 10 27.4	0.0
	1.8nm,1.2s,mb4.2						
VNA2	Neumayer--Watz	88.17	176	e	P	07 10 27.7	-0.7
	baz=193,slow=3.2						
VNA2				e		07 10 33.6	
VNA2				e		07 10 38.7	
VNA2				e		07 10 44.8	
VNA2				e		07 10 51.0	
VNA1	Neumayer--Stat	88.38	176	e	P	07 10 37.1	+7.7
VNA1				e		07 10 42.2	
VNA1				e		07 10 48.7	
WALA	Waterton Lakes	88.49	35	eP	P	07 10 30.3	+0.2
	11nm,0.7s,mb5.2						
INK	Inuvik	93.97	14	eP	P	07 10 56.2	+1.1
	167nm,1.2s						
YKA	Yellowknife Ar	95.84	24	P	P	07 11 01.8	-1.9
	0.6nm,0.8s,mb4.1,baz=243,slow=4.4,SNR=5.0						
YKA				LR	LR	07 47 40.7	
	comp=Z,39nm,19.4s,MS3.9,baz=215,slow=31						
ECSD	EROS,Sioux Fal	96.51	46	eP	P	07 11 06.0	-1.3
	8.1nm,1.3s,mb5.0						
LPAZ	La Paz	99.87	112	LR	LR	07 48 09.6	
	comp=Z,49nm,19.6s,MS4.0,baz=320,slow=30						
ARCES	ARCESS Array B	129.58	351	PKP	PKPdf	07 16 45.7	-0.4
ARCES	ARCESS Array B	129.58	351	PKP	PKPdf	07 16 45.7	-0.4
	2.0nm,1.0s,baz=80,slow=5.4,SNR=3.1						
AKASG	Malin Array Be	144.32	333	PKP	PKPdf	07 17 10.2	-3.5
	0.6nm,0.6s,baz=36,slow=4.2,SNR=6.8						
MALT	Malatya	145.88	308	ePKPab	PKPab	07 17 17.6	-0.4
CLL	Collm	148.79	350	ePKPbc	PKPbc	07 17 24.0	-1.2
CLL				epPKPbc	pPKPab	07 17 32.0	+0.9
CLL				e(pPKPab)		07 17 38.0	
UPC	Upice	148.95	346	ePKP	PKPab	07 17 34.5	+4.9
DPC	Dobruska-Polom	149.02	345	ePKP	PKPab	07 17 29.2	-0.7
BRG	Berggiesshubel	149.04	348	eP	PKPab	07 17 32.4	+2.5
	9.0nm,1.2s						
PVCC	Panska Ves	149.25	347	ePKP	PKPab	07 17 34.2	+3.4
PRU	Pruhonice	149.76	347	ePKP	PKPab	07 17 34.3	+1.4
KHC	Kasperske Hory	150.78	348	ePKP	PKPbc	07 17 29.3	-0.8
KHC				ex	x	07 19 36.0	
GERES	GERESS Array B	151.02	347	PKPbc	PKPbc	07 17 28.2	-2.5
	0.6nm,0.2s,baz=224,slow=2.7,SNR=4.6						

KRSC 04 07:39:28.3±0.9,5154N×15917E,h11km±10km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	0.98	336	i P	Pg	07 39 47.9	+0.7
RUS				eS	Sg	07 40 02.4	+2.4
GRL	Gorelyy	1.22	327	P	Pn	07 39 52.1	+0.9
GRL				S	Sb	07 40 09.1	+2.0
PET	Petropavlovsk	1.52	348	P	Pn	07 39 56.1	+0.7
PET				S	Sn	07 40 16.1	+1.0
NLC	Nalytchevo	1.64	4	eP	Pn	07 39 57.4	+0.4
NLC				S	Sn	07 40 18.8	+0.8
SPN	Mys Shipunski	1.65	18	eP	Pn	07 39 57.9	+0.8
SPN				eS	Sn	07 40 19.6	+1.4
MIPR	Malaya Ipel'ka	1.67	297	eP	Pn	07 39 56.9	-0.5
AVH	Avacha	1.75	351	P	Pn	07 39 59.5	+1.0
AVH				S	Sn	07 40 22.1	+1.3
GNL	Ganaly	2.29	341	P	Pn	07 40 07.9	+2.0
GNL				S	Sn	07 40 37.1	+3.1
KII	Karymskiy	2.51	4	P	Pn	07 40 10.8	+1.9
KBTR	Krutoberegovo	5.15	23	P	Pn	07 40 46.2	+1.0

*BUC **04** 07:45:01.9±0.4,4566N×2662E,h135km±4km,MD3.9/2, Error ellipse: s-maj=4.0km s-min=1.9km az=13.0*

*ISCJB **04** 07:45:02.4±1.2,4561N±008×2661E±006,h129km±9km, Error ellipse: s-maj=12.9km s-min=6.4km az=9.7*

*CSEM **04** 07:45:02.4±0.2,4562N×2659E,h121km±2km,MD3.9/2, Error ellipse: s-maj=3.9km s-min=2.3km az=14.0*

*NEIC **04** 07:45:02.9,4558N×2658E,h127km,MG2.8(BUC),After BUC.*

*SOF **04** 07:45:04.2,4526N×2664E,h2km,MD3.1*

ISC 04 07:45:02.7±1.3,4564N±008×2662E±006,h130km±9km, n18,σ0§47/28,5C-5D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	Vrincioaia	0.24	18	P	Pn	07 45 20.6	0.0
VRI	Vrincioaia	0.24	18	↑iP	Pn	07 45 20.6	0.0
VRI				i S	Sn	07 45 34.2	0.0
MLR	Muntele Rosu	0.50	253	P	Pn	07 45 22.3	+0.6
MLR	Muntele Rosu	0.50	253	↑iP	Pn	07 45 22.0	+0.3
MLR				i S	Sn	07 45 36.7	+0.7
GHRR		0.69	52	↓iP	Pn	07 45 22.9	-0.1
GHRR				i S	Sn	07 45 38.8	+0.5
VARR		0.90	74	↑iP	Pn	07 45 24.5	-0.1
VARR				i S	Sn	07 45 41.0	-0.2
VOIR		1.12	260	P	Pn	07 45 26.5	-0.3
VOIR		1.12	260	↓iP	Pn	07 45 26.4	-0.4
VOIR				i S	Sn	07 45 44.5	-0.5
CFR	Carcaliu	1.16	113	P	Pn	07 45 22.2	-5.0
CFR	Carcaliu	1.16	113	↑iP	Pn	07 45 26.9	-0.2
CFR				i S	Sn	07 45 45.5	-0.1
HARR	Harsova	1.32	135	↓iP	Pn	07 45 29.1	+0.3
HARR				i S	Sn	07 45 48.6	-0.1
TIRR	Tirgusor	1.73	132	P	Pn	07 45 33.5	0.0
TIRR	Tirgusor	1.73	132	↑iP	Pn	07 45 33.5	+0.1
TIRR				i S	Sn	07 45 56.0	-0.9
PSN	Preselentsi	2.25	150	i P	Pn	07 45 40.0	+0.3
SZH	Strazhica	2.42	192	i P	Pn	07 45 41.6	-0.3
PVL	Pavlikeni	2.59	201	i P	Pn	07 45 45.4	+1.4
GZR	Gura Zlata	2.71	266	↓iP	Pn	07 45 45.6	0.0
GZR				S	Sn	07 46 17.9	-0.7
GZR	Gura Zlata	2.71	266	↓iP	Pn	07 45 45.6	0.0
GZR				i S	Sn	07 46 17.9	-0.7

*ISCJB **04** 08:10:32.4±0.3,4188N±002×2058E±002,h5km,Error ellipse: s-maj=2.9km s-min=1.9km az=33.7*

*TIR **04** 08:10:32.4±2.6,4191N×2048E,h6km±205km,ML3.1*

*THE **04** 08:10:32.9,4182N×2045E,h5km,ML3.6*

*NEIC **04** 08:10:33.9,4186N×2049E,h3km,ML3.0(PDG),After PDG.*

*SKO **04** 08:10:33.1,4179N×2058E,h15km,M2.4,ML2.6*

*CSEM **04** 08:10:33.0±0.2,4185N×2056E,h5km,ML2.6,Error ellipse: s-maj=4.5km s-min=2.8km az=33.0*

*PDG **04** 08:10:33.9±0.2,4186N×2049E,h3km,MD2.9/1,ML3.0/9, Error ellipse: s-maj=0.6km s-min=0.7km az=0.0*

*BEO **04** 08:10:34.5±0.3,4185N×2058E,h3km±5km,ML2.7/8*

ISC 04 08:10:33.4±0.3,4187N±002×2057E±002,h5km±4km,n46, σ1§19/84,7C-3D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	Puka	0.54	289	i PG	Pg	08 10 42.5	-1.2
PUK				i SG	Sg	08 10 50.7	0.0
QSH	Qafa e Shtames	0.61	236	i PG	Pg	08 10 45.0	0.0
QSH				i SG	Sg	08 10 53.2	+0.3
SKO	Skopje	0.66	80	ePg	Pg	08 10 48.6	+2.6
SKO	Skopje	0.66	80	ePg	Pg	08 10 46.2	+0.3
SKO				i Sg	Sg	08 10 56.0	+1.5
SKO				eLg		08 10 56.6	
	comp=N,413nm,0.3s						
SKO				eLg		08 10 56.7	
	comp=E,422nm,0.3s						
SKO	Skopje	0.66	80	ePg	Pg	08 10 46.2	+0.3
SKO				i Sg	Sg	08 10 55.9	+1.4
TIR	Tirane	0.74	226	ePg	Pg	08 10 47.1	-0.5
TIR				eSg	Sg	08 10 59.4	+2.2
TIR	Tirane	0.74	226	i PG	Pg	08 10 47.4	-0.2
TIR				i SG	Sg	08 10 59.4	+2.2
OHR	Ohrid	0.77	167	ePg	Pg	08 10 47.2	-1.0
OHR				eSg	Sg	08 10 58.4	+0.2
OHR	Ohrid	0.77	167	i Pg	Pg	08 10 47.0	-1.2
OHR				eSg	Sg	08 10 58.7	+0.5
OHR	Ohrid	0.77	167	i Pg	Pg	08 10 47.0	-1.1
OHR				i Sg	Sg	08 10 58.8	+0.6
OHR				eLg		08 10 59.1	
	comp=E,439nm,0.6s						
OHR				eLg		08 10 59.1	
	comp=N,527nm,0.8s						
OHR	Ohrid	0.77	167	i Pg	Pg	08 10 47.0	-1.2
OHR				i Sg	Sg	08 10 58.7	+0.5
PVY	Plav	0.85	329	↑iPg	Pg	08 10 48.7	-1.0
PVY				eSg	Sg	08 11 02.5	+1.7
PVY	Plav	0.85	329	i PG	Pg	08 10 48.7	-1.0
PVY				i SG	Sg	08 11 02.5	+1.7
ULC	Ulcinj	0.99	276	↓iPg	Pg	08 10 51.3	-1.1
ULC				eSg	Sg	08 11 06.3	+1.0
ULC	Ulcinj	0.99	276	i PG	Pg	08 10 51.8	-0.6
ULC				i SG	Sg	08 11 06.4	+1.1
BIA	Bitola	1.02	146	ePg	Pg	08 10 52.3	-0.5
BIA				eSg	Sg	08 11 07.0	+0.9
BIA	Bitola	1.02	146	ePg	Pg	08 10 51.6	-1.3
BIA				eSg	Sg	08 11 07.1	+1.1
BIA	Bitola	1.02	146	ePg	Pg	08 10 52.3	-0.6
BIA				eSg	Sg	08 11 07.1	+1.1
BIA				eLg		08 11 08.2	
	comp=E,134nm,0.5s						
BIA				eLg		08 11 08.5	
	comp=N,97nm,0.3s						
BIA	Bitola	1.02	146	ePg	Pg	08 10 52.3	-0.6
BIA				eSg	Sg	08 11 07.1	+1.1
BEY	Berane	1.12	334	i PG	Pn	08 10 54.0	-1.7
BEY				i SG	Sn	08 11 11.4	-0.2
IVA	Berane	1.12	334	↑iPg	Pn	08 10 54.0	-1.7
IVA				eSg	Sn	08 11 11.4	-0.2
PDG	Podgorica	1.13	300	i PG	Pg	08 10 53.6	-1.4
PDG				i SG	Sg	08 11 10.8	+1.2
TTG	Podgorica	1.13	300	↓iPg	Pg	08 10 53.6	-1.4
TTG				eSg	Sg	08 11 10.8	+1.2
STIP	Stip	1.22	98	ePg	Pg	08 10 56.8	+0.1
STIP				eSg	Sg	08 11 12.3	-0.2
STIP				eLg		08 11 12.6	
	comp=N,35nm,0.3s						
STIP				eLg		08 11 14.3	
	comp=E,35nm,0.8s						
STIP	Stip	1.22	98	ePg	Pg	08 10 56.8	+0.1
STIP				eSg	Sg	08 11 12.3	-0.2
FNA	Florina	1.24	151	ePg	Pg	08 10 55.6	-1.5
FNA				eSg	Sg	08 11 14.1	+0.9
KBN	Korca	1.25	173	i PG	Pg	08 11 01.5	+4.1
BUM	Brajici-Budva	1.32	290	↑iPg	Pg	08 10 57.2	-1.5
BUM				eSg	Sn	08 11 17.2	+0.8
BUM	Brajici-Budva	1.32	290	i PG	Pg	08 10 57.2	-1.5
BUM				i SG	Sn	08 11 17.1	+0.7
BARS	Barje	1.32	44	i Pg	Pg	08 10 58.2	-0.5
BARS				eSg	Sg	08 11 17.2	+1.3
SJES	Sjenica	1.46	343	ePg	Pg	08 11 00.2	-1.2
SJES				eSg	Sg	08 11 22.4	+2.0
NKY	Niksic	1.50	310	↑iPg	Pg	08 11 01.0	-1.2
NKY				eSg	Sg	08 11 24.2	+2.6
NKY	Niksic	1.50	310	i PG	Pg	08 11 01.0	-1.2
NKY				i SG	Sg	08 11 24.2	+2.6
VAY	Valandovo	1.59	109	eSb	Sb	08 11 24.8	+1.1
VAY	Valandovo	1.59	109	i Pn	Pn	08 11 02.3	+0.1
VAY				eSg	Sg	08 11 24.8	+0.2
VAY	Valandovo	1.59	109	ePn	Pn	08 11 02.4	+0.2
VAY				eSg	Sn	08 11 23.5	+0.3
VAY				eLg		08 11 24.8	
	comp=N,58nm,0.7s						
VAY				eLg		08 11 24.9	
	comp=E,70nm,0.6s						
VAY	Valandovo	1.59	109	ePn	Pn	08 11 02.3	+0.1
HCY	Herceg Novi	1.65	291	↑iPn	Pg	08 11 03.3	-1.6
HCY				eSn	Sg	08 11 28.2	+1.9
HCY	Herceg Novi	1.65	291	i PG	Pg	08 11 03.3	-1.6
HCY				i SG	Sg	08 11 28.2	+1.9
PLE	Pljevlja	1.70	330	↑iPn	Pg	08 11 04.9	-1.1
PLE				eSn	Sg	08 11 29.9	+1.9
UPM	Unac-Piva	1.81	318	↓iPn	Pg	08 11 06.3	-1.8
UPM				eSn	Sg	08 11 32.9	+1.2
BRY	Bratogost	1.82	305	↑iPn	Pg	08 11 06.5	-1.8
BRY				eSn	Sg	08 11 32.7	+0.7
KNT	Kendrikon	1.88	111	ePb	Pn	08 11 05.9	-0.3
GRUS	Gruza	2.02	3	i Pn	Pg	08 11 10.9	-1.2
BOLS	Boljevac	2.21	27	i Pn	Pg	08 11 14.5	-1.2
DIVS	Divibare	2.27	349	ePn	Pn	08 11 11.4	-0.1

*ISCJB **04** 08:19:53.0±1.1,1075N±007×6235W±004,h89km±8km, Error ellipse: s-maj=11.3km s-min=6.4km az=18.6*

*FUNV **04** 08:19:54.6,1081N×6229W,h79km,MW2.5*

ISC 04 08:19:53.9±1.1,1071N±006×6236W±004,h85km±9km,n12, σ1§13/21,1C-2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.15	115	↑iP	Pn	08 20 06.5	+0.4
GUIV				eS	Sn	08 20 14.7	-0.5
GUNV	Guanoco	0.79	226	eP	Pn	08 20 12.8	+1.9
GUNV				eS	Sn	08 20 25.1	+1.5
CRUV	Carupano	0.86	268	↓iP	Pn	08 20 12.2	+0.6
CRUV				eS	Sn	08 20 24.4	-0.5
TRN	Trinidad (W)	0.95	94	eP	Pn	08 20 12.9	+0.3
TRN				eS	Sn	08 20 25.7	-1.0
ITEV	Isla Los Testi	0.99	310	↓iP	Pn	08 20 13.0	-0.1
ITEV				eS	Sn	08 20 26.2	-1.3
PCRV	Puerto La Cruz	2.30	257	eP	Pn	08 20 30.1	+0.2
PCRV				eS	Sn	08 20 57.3	-0.2
RIOV	Rio Grande	2.68	168	eP	Pn	08 20 36.1	+1.0
RIOV				eS	Sn	08 21 07.0	+0.3
CUPV	Cœpira	3.43	259	eP	Pn	08 20 46.0	+0.9
CUPV				eS	Sn	08 21 25.0	+0.2
BIRV	Birongo	3.85	267	eP	Pn	08 20 51.9	+1.1
LUEV	Luepa	4.92	169	eP	Pn	08 21 05.3	-0.2
LUEV				eS	Sn	08 21 58.4	-2.7
CAOV	Caicara del Or	5.16	230	eS	Sn	08 22 04.4	-2.5
BAUV	El Baul	5.87	253	eS	Sn	08 22 21.2	-3.0

*NEIC **04** 08:21:28.1±0.7,634S×12973E,h30km,mb3.9/1,Error ellipse: s-maj=39.2km s-min=9.6km az=66.0*

*ISCJB **04** 08:21:34.3±3.3,636S±009×1305E±03,h127km±39km, mb4.1/2,Error ellipse: s-maj=53.6km s-min=13.6km az=4.2*

*IDC **04** 08:21:34.3±11.0,644S×130.15E,h103km±109km,mb4.0/2, mb1 4.0/4,mb1mx3.6/13,mbtmp3.9/4,ML4.1/2,Error ellipse: s-maj=141.7km s-min=35.0km az=61.0*

ISC 04 08:21:33.4±3.3,638S±009×1303E±03,h94km±38km,n10, σ0§35/12,mb4.1/2,1D,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TLE	Tual	2.54	73	↓eP	Pn	08 22 13.0	+0.2
TLE				eS	Sn	08 22 43.0

0.5nm,0.5s,baz=338,slow=10,SNR=8.3
ASAR Alice Springs 35.29 163 P P 08 50 30.6 +0.9
0.2nm,0.5s,baz=342,slow=7.5,SNR=3.9
NWAO Narrogin (SRO) 43.26 187 LR LR 09 08 41.9
comp=Z,46nm,21.9s,baz=63,slow=35

PRE ***04*** *08:49:59.1±1.4, 15.19S×33.51E, h5km, ML6.6*
ISCJB ***04*** *08:50:14.4±0.6, 1703S±005×3448E±007, h10km, mb4.0/6, MS3.4/4, Error ellipse: s-maj=11.1km s-min=5.2km az=31.1*
NEIC ***04*** *08:50:14.9±0.8, 1708S×34.66E, h10km, mb3.8/1, Error ellipse: s-maj=15.9km s-min=11.7km az=145.0*
IDC ***04*** *08:50:16.3±1.3, 16.76S×34.58E, h0km, mb4.1/6, mb1 4.3/9, mb1mx4.0/24, mbtmp4.3/9, ML4.5/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/35, Error ellipse: s-maj=35.0km s-min=21.6km az=156.0*
ISC 04 08:50:16.2±0.6, 1701S±004×3451E±006, h10km, n28, σ1§35/38, mb4.0/6, MS3.4/4, Mozambique

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	**Lusaka**	**6.31**	**285**	Pn	**Pn**	**08 51 50.8**	**+1.4**
	20nm,0.3s,baz=121,slow=12,SNR=138						
LSZ				Sn	**Sn**	**08 53 00.2**	**-1.4**
	66nm,0.3s,baz=84,slow=12,SNR=7.0						
LSZ				Lg		08 53 35.8	
	57nm,0.3s,baz=30,slow=22,SNR=6.1						
SLR	**Silverton**	**10.44**	**213**	*e*S	**Sn**	**08 54 49.5**	**+6.5**
SLR				AML	AML	08 55 54.4	
	comp=Z,358nm,0.6s						
KSR	**Koster**	**11.29**	**218**	*e*S	**Sn**	**08 55 05.1**	**+1.1**
KSR				AML	AML	08 56 16.3	
	comp=Z,391nm,0.6s						
LBTB	**Lobatse**	**11.52**	**225**	*e*P	**Pn**	**08 52 57.0**	**-3.7**
LBTB				*e*S	**Sn**	**08 55 05.5**	**-4.0**
LBTB				AML	AML	08 56 25.0	
	comp=Z,239nm,0.6s						
LBTB	**Lobatse**	**11.52**	**225**	Pn	**Pn**	**08 53 01.1**	**+0.4**
	comp=Z,4.8nm,0.3s,baz=55,slow=13,SNR=35						
LBTB				Sn	**Sn**	**08 55 07.0**	**-2.5**
	comp=Z,7.4nm,0.3s,baz=357,slow=8.6,SNR=5.1						
LBTB				Lg		08 56 11.3	
	comp=Z,22nm,0.3s,baz=325,slow=17,SNR=4.3						
LBTB				LR	LR	08 57 40.1	
	comp=Z,300nm,18.1s,baz=57,slow=38						
PRYS	**Parys**	**11.88**	**213**	*e*P	**Pn**	**08 53 06.1**	**+0.3**
PRYS				*e*S	**Sn**	**08 55 23.9**	**+5.4**
PRYS				AML	AML	08 56 38.4	
	comp=Z,168nm,0.7s						
OPO	**Ambohidratompo**	**12.18**	**99**	Pn	**Pn**	**08 53 06.5**	**-3.3**
	comp=Z,1.3nm,0.3s,baz=270,slow=14,SNR=11						
OPO				Sn	**Sn**	**08 55 13.7**	**-12**
	comp=Z,1.6nm,0.3s,baz=282,slow=13,SNR=2.7						
BOSA	**Boshof**	**14.35**	**215**	*e*P	**Pn**	**08 53 39.2**	**-0.2**
BOSA				*e*S	**Sn**	**08 56 20.8**	**+2.1**
BOSA				AML	AML	08 58 06.2	
	comp=Z,122nm,0.6s						
BOSA	**Boshof**	**14.35**	**215**	Pn	**Pn**	**08 53 37.9**	**-1.6**
	comp=Z,0.5nm,0.3s,baz=32,slow=12,SNR=9.6						
BOSA				Sn	**Sn**	**08 56 15.3**	**-3.4**
	comp=Z,2.3nm,0.3s,baz=355,slow=9.1,SNR=4.5						
BOSA				Lg		08 57 41.0	
	comp=Z,8.0nm,0.3s,baz=313,slow=21,SNR=5.6						
BOSA				LR	LR	08 59 30.6	
	comp=Z,182nm,20.0s,baz=41,slow=38						
HVD	**Gariep Dam**	**15.84**	**210**	*e*P	**Pn**	**08 54 02.4**	**+3.2**
HVD				*e*S	**Sn**	**08 56 59.0**	**+4.1**
HVD				AML	AML	08 58 51.3	
	comp=Z,58nm,0.7s						
KMBO	**Kilima Mbogo**	**16.01**	**10**	*e*Pn	**Pn**	**08 53 59.7**	**-1.9**
	comp=Z,4.8nm,0.6s						
KMBO				Sn	**Sn**	**08 57 00.1**	**+0.8**
KMBO				Lg		08 58 22.7	
KMBO	**Kilima Mbogo**	**16.01**	**10**	Pn	**Pn**	**08 53 58.1**	**-3.6**
	comp=Z,0.8nm,0.3s,baz=207,slow=20,SNR=5.4						
KMBO				Sn	**Sn**	**08 57 00.1**	**+0.8**
	comp=Z,0.3nm,0.3s,baz=231,slow=22,SNR=3.7						
KMBO				Lg		08 58 22.7	
	comp=Z,0.5nm,0.3s,baz=66,slow=22,SNR=4.3						
TSUM	**Tsumeb**	**16.24**	**260**	Pn	**Pn**	**08 54 03.5**	**-1.0**
TSUM				Sn	**Sn**	**08 57 03.9**	**-0.9**
TSUM				Lg		08 58 46.3	
TSUM				LR	LR	09 00 23.8	
TSUM	**Tsumeb**	**16.24**	**260**	Pn	**Pn**	**08 54 03.5**	**-1.0**
	comp=Z,2.5nm,0.3s,baz=57,slow=9.2,SNR=22						
TSUM				Sn	**Sn**	**08 57 03.9**	**-0.9**
	comp=Z,0.6nm,0.3s,baz=325,slow=23,SNR=2.8						
TSUM				Lg		08 58 46.3	
	comp=Z,2.0nm,0.3s,baz=188,slow=12,SNR=3.4						
TSUM				LR	LR	09 00 23.8	
	comp=Z,211nm,19.4s,baz=136,slow=37						
PKA	**Prieska**	**16.57**	**218**	*e*P	**Pn**	**08 54 08.3**	**-0.4**
PKA				*e*S	**Sn**	**08 57 11.1**	**-1.8**
PKA				AML	AML	08 58 52.9	
	comp=Z,54nm,0.8s						
SUR	**Sutherland**	**19.69**	**216**	P	**Pn**	**08 54 49.6**	**+2.6**
SUR				S	**Sn**	**08 58 29.4**	**+1.1**
SUR				Lg		09 00 26.4	
SUR				LR	LR	09 02 14.3	
SUR	**Sutherland**	**19.69**	**216**	P	**Pn**	**08 54 49.6**	**+2.6**
	comp=Z,1.6nm,0.3s,baz=50,slow=11,SNR=31						
SUR				S	**Sn**	**08 58 29.4**	**+1.1**
	comp=Z,1.1nm,0.3s,baz=9.0,slow=22,SNR=3.5						
SUR				Lg		09 00 26.4	
	comp=Z,2.5nm,0.3s,baz=310,slow=22,SNR=5.3						
SUR				LR	LR	09 02 14.4	
	comp=Z,336nm,19.2s,baz=11,slow=36						
ATD	**Arta Tunnel**	**29.53**	**17**	LR	LR	09 09 00.3	
	comp=Z,52nm,18.7s,MS3.2,baz=214,slow=38						
DBIC	**Dimbokro**	**45.47**	**298**	P	**P**	**08 58 36.8**	**+0.9**
	comp=Z,2.4nm,0.7s,mb4.1,baz=226,slow=14,SNR=3.3						
ASF	**Jabal al Asfar**	**48.95**	**3**	P	**P**	**08 59 03.7**	**+1.0**
	comp=Z,1.2nm,0.5s,mb4.2,baz=351,slow=5.6,SNR=4.5						
MDT	**Midelt**	**62.08**	**323**	LR	LR	09 26 13.8	
	comp=Z,32nm,20.0s,MS3.5,baz=344,slow=35						
AKTO	**Aktyubinsk**	**70.27**	**16**	P	**P**	**09 01 29.4**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=146,slow=3.5,SNR=4.1						
BVAR	**Borovoye Array**	**76.31**	**21**	P	**P**	**09 02 05.5**	**+0.5**
	comp=Z,1.4nm,0.6s,mb4.1,baz=217,slow=7.2,SNR=7.1						
MKAR	**Makanchi Array**	**76.67**	**32**	P	**P**	**09 02 06.4**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.6,baz=197,slow=3.8,SNR=5.0						
NOA	**NORSAR Array B**	**79.99**	**349**	LR	LR	09 42 44.6	
	comp=Z,8.6nm,20.0s,MS3.1,baz=265,slow=40						
CPUP	**Villa Florida**	**84.22**	**244**	LR	LR	09 35 08.2	
	comp=Z,57nm,19.8s,MS4.0,baz=173,slow=32						
ARCES	**ARCESS Array B**	**86.55**	**357**	P	**P**	**09 02 59.8**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.4,baz=154,slow=6.7,SNR=4.8						
NVAR	**Mina Array Bea**	**148.04**	**317**	PKPbc	PKPab	09 10 04.9	-0.1
	comp=Z,0.6nm,0.7s,baz=65,slow=5.1,SNR=4.5						

ISCJB ***04*** *08:59:15.8±0.7, 24.02S±006×66.78W±008, h205km±10km, mb3.8/6, Error ellipse: s-maj=11.6km s-min=10.2km az=172.6*
NEIC ***04*** *08:59:16.2±0.6, 23.89S×66.69W, h190km±9km, mb4.4/1, Error ellipse: s-maj=11.4km s-min=10.2km az=136.0*
IDC ***04*** *08:59:16.1±1.9, 23.85S×66.72W, h186km±18km, mb3.6/5, mb1 3.5/10, mb1mx3.4/18, mbtmp3.4/10, Error ellipse: s-maj=23.3km s-min=20.6km az=69.0*
GUC ***04*** *08:59:18.5±0.7, 24.06S×66.97W, h200km, ML4.4*
ISC 04 08:59:16.8±0.7, 2404S±006×6678W±008, h199km±10km, n22, σ0§95/27, mb3.8/6, 2C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.20**	**281**	⇓*i*P	**Pn**	**09 00 10.6**	**+1.8**
CEN1				*i*S	**Sn**	**09 00 49.9**	**+0.6**
CEN1				AML	AML	09 00 52.0	
	comp=E,224nm,0.6s						
ANCH	**Antofagasta**	**3.34**	**275**	⇑*i*P	**Pn**	**09 00 11.5**	**+1.0**
ANCH				*i*S	**Sn**	**09 00 50.9**	**-1.5**
ANCH	**Antofagasta**	**3.34**	**275**	⇑*i*P	**Pn**	**09 00 11.5**	**+1.0**
ANCH				*i*S	**Sn**	**09 00 50.9**	**-1.5**
ANCH				AML	AML	09 00 52.9	
	comp=N,556nm,0.6s						
CPN1	**Cerro Paranal**	**3.36**	**259**	*e*P	**Pn**	**09 00 11.7**	**+1.1**
CPN1				*i*S	**Sn**	**09 00 52.4**	**-0.3**
CPN1				AML	AML	09 00 55.7	
	comp=E,691nm,0.6s						
CPCH	**Copiapo**	**4.62**	**224**	*e*P	**Pn**	**09 00 26.2**	**0.0**
CPCH				*i*S	**Sn**	**09 01 19.4**	**-1.6**
CPCH	**Copiapo**	**4.62**	**224**	*e*P	**Pn**	**09 00 26.2**	**0.0**
CPCH				*i*S	**Sn**	**09 01 19.3**	**-1.7**
VACH	**Vallenar**	**5.76**	**217**	*i*S	**Sn**	**09 01 46.9**	**-0.5**
CFAA	**Coronel Fontan**	**7.65**	**189**	P	**Pn**	**09 01 07.0**	**+1.6**
	comp=E,0.3nm,0.3s,baz=28,slow=12,SNR=36						
LPAZ	**La Paz**	**7.81**	**350**	P	**Pn**	**09 01 06.7**	**-1.0**
	comp=E,0.5nm,0.3s,baz=176,slow=12,SNR=18						
CPUP	**Villa Florida**	**8.86**	**107**	P	**Pn**	**09 01 21.1**	**-0.2**
	comp=E,0.2nm,0.3s,baz=274,slow=12,SNR=7.5						
SIV	**San Ignacio**	**9.63**	**35**	P	**Pn**	**09 01 27.2**	**-4.1**
	comp=E,0.2nm,0.3s,baz=243,slow=13,SNR=8.1						
BDFB	**Brasilia**	**19.51**	**68**	P	**P**	**09 03 28.4**	**-0.8**
	comp=E,0.2nm,0.3s,baz=222,slow=18,SNR=7.3						
WVT	**Waverly**	**63.06**	**341**	*e*P	**P**	**09 09 14.6**	**-8.2**
	comp=E,3.1nm,0.5s,mb4.2						
TXAR	**Lajitas Array**	**63.82**	**324**	P	**P**	**09 09 28.4**	**+0.4**
	comp=E,0.2nm,0.4s,mb3.1,baz=158,slow=6.3,SNR=6.4						
ULM	**Lac du Bonnet**	**78.33**	**341**	P	**P**	**09 10 54.2**	**-0.4**
ULM	**Lac du Bonnet**	**78.33**	**341**	P	**P**	**09 10 54.2**	**-0.3**
	comp=E,0.9nm,0.4s,mb3.8,baz=149,slow=5.9,SNR=3.4						
SCHQ	**Schefferville**	**78.54**	**360**	P	**P**	**09 10 55.0**	**-0.6**
SCHQ	**Schefferville**	**78.54**	**360**	P	**P**	**09 10 55.0**	**-0.6**
	comp=E,3.1nm,0.8s,mb4.0,baz=311,slow=11,SNR=3.2						
KEST	**Kesra**	**93.27**	**52**	P	**P**	**09 12 09.4**	**+0.5**
	comp=E,1.3nm,0.8s,mb4.0,baz=253,slow=14,SNR=2.9						
YKA	**Yellowknife Ar**	**94.23**	**340**	P	**P**	**09 12 12.7**	**+0.1**
YKA	**Yellowknife Ar**	**94.23**	**340**	P	**P**	**09 12 12.7**	**+0.1**
	comp=E,0.4nm,0.6s,mb3.7,baz=136,slow=4.6,SNR=16						
MKAR	**Makanchi Array**	**146.43**	**40**	PKPbc	PKPbc	09 18 34.9	+0.7
	comp=E,0.6nm,0.4s,baz=303,slow=3.2,SNR=6.9						

CSEM ***04*** *09:02:26.6±0.4, 37.29N×28.19E, h20km, MD2.8, Error ellipse: s-maj=7.8km s-min=5.9km az=25.0*
ISK ***04*** *09:02:26.7, 37.30N×28.22E, h10km, MD2.8*
ISCJB ***04*** *09:02:27.9±0.7, 37.25N±004×28.20E±004, h10km, Error ellipse: s-maj=6.0km s-min=4.4km az=21.5*
DDA ***04*** *09:02:28.2, 37.24N×28.18E, h7km±1km, Md2.8*
ISC 04 09:02:28.4±0.9, 3726N±004×2821E±004, h5km±39km, n8, σ0§80/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**155**	*e*PG	**Pg**	**09 02 30.6**	**-0.5**
YER				*e*SG	**Sg**	**09 02 34.1**	**+1.1**
MLSB	**Milas**	**0.35**	**276**	*e*PG	**Pg**	**09 02 33.6**	**-1.5**
MLSB				*e*SG	**Sg**	**09 02 39.5**	**-0.2**
AYDN	**Tasoluk**	**0.48**	**327**	*i*P	**Pg**	**09 02 37.8**	**+0.1**
AYDN				*i*S	**Sg**	**09 02 45.1**	**+1.2**
BDRM	**Kayabasi**	**0.64**	**253**	*i*P	**Pg**	**09 02 40.1**	**-0.7**
BDRM				*i*S	**Sg**	**09 02 49.4**	**+0.3**
DAT	**Datca**	**0.73**	**224**	*e*PG	**Pg**	**09 02 42.6**	**+0.1**
DAT				*e*SG	**Sg**	**09 02 52.4**	**+0.4**
BODT	**Bodrum**	**0.75**	**255**	*e*PG	**Pg**	**09 02 41.6**	**-1.1**
BODT				*e*SG	**Sg**	**09 02 53.5**	**+1.1**
FETY	**Fethiye**	**0.94**	**131**	*e*PG	**Pg**	**09 02 45.8**	**-0.6**
GOLH	**Golhisar**	**1.08**	**91**	*i*P	**Pg**	**09 02 49.3**	**+0.2**
GOLH				*i*S	**Sn**	**09 03 10.1**	**+4.6**

IDC ***04*** *09:25:04.7±0.4, 9.22N×126.28E, h0km, mb4.7/26, mb1 4.8/27, mb1mx4.8/28, mbtmp4.7/27, MS3.6/16, Ms1 3.6/16, ms1mx3.5/33, Error ellipse: s-maj=21.6km s-min=10.2km az=76.0*
MOS ***04*** *09:25:08.1±1.0, 9.23N×126.27E, h33km, mb5.2/20, Error ellipse: s-maj=13.5km s-min=6.9km az=104.4*
BJI ***04*** *09:25:09.1, 9.17N×126.33E, h41km, mB4.8, mb4.9, Ms4.4, Msz4.0*
NEIC ***04*** *09:25:10.6±1.5, 9.19N×126.27E, h38km±14km, mb4.9/23, Error ellipse: s-maj=8.8km s-min=4.5km az=82.0*
NEIC Felt [II PIVS] at Butuan.
MAN ***04*** *09:25:10, 924N×126.45E, h51km, mb5.4, ML4.4, MS4.8*
MAN INTENSITY II - BUTUAN CITY.
ISCJB ***04*** *09:25:11.4±0.5, 9.21N±003×126.42E±004, h64km±4km, mb4.9/79, Error ellipse: s-maj=6.3km s-min=4.1km az=163.1*
ISC 04 09:25:13.6±0.5, 921N±003×12637E±004, h67km±4km, h43km±4.8km: pP-P, n189, σ1§04/197, mb4.8/79, 10C-5D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**1.02**	**180**	⇓*i*P	**Pn**	**09 25 28.1**	**-4.1**
BIPH				*i*S	**Sn**	**09 25 40.4**	**-5.6**
MSLP	**Maasin**	**1.75**	**302**	*e*P	**Pn**	**09 25 41.5**	**-0.3**
MSLP				*e*S	**Sn**	**09 26 05.5**	**+2.3**
CGP	**Cagayan de Oro**	**1.81**	**246**	*e*P	**Pn**	**09 25 40.8**	**-1.9**
CGP				*i*S	**Sn**	**09 26 07.1**	**+2.3**
BUKP	**Musuan**	**1.85**	**224**	*e*P	**Pn**	**09 25 42.6**	**-0.5**
MATI	**Mati**	**2.25**	**183**	*e*P	**Pn**	**09 25 47.6**	**-1.0**
TBP	**Tagbilaran**	**2.52**	**281**	*e*P	**Pn**	**09 25 51.6**	**-0.6**
TBP				*e*S	**Sn**	**09 26 22.3**	**+0.5**
OCLP	**Ormoc**	**2.52**	**317**	*e*P	**Pn**	**09 25 53.5**	**+1.3**
LLP	**Lapu-Lapu**	**2.61**	**295**	⇓*i*P	**Pn**	**09 25 54.3**	**+0.8**
LLP				*e*S	**Sn**	**09 26 25.3**	**+1.2**
CTBH	**Cotabato--PC H**	**2.88**	**227**	⇑*e*P	**Pn**	**09 25 56.4**	**-0.7**
CTBH				*i*S	**Sn**	**09 26 19.9**	**-11**
DCPH	**Dipolog City**	**3.04**	**258**	⇑*e*P	**Pn**	**09 25 58.7**	**-0.6**
DCPH				*e*S	**Sn**	**09 26 33.6**	**-1.1**
SNPH	**Sibulan**	**3.09**	**273**	*i*P	**Pn**	**09 26 00.5**	**+0.5**
PAGZ	**Pagadian**	**3.25**	**246**	*e*P	**Pn**	**09 26 02.6**	**+0.5**
GSPH	**General Santos**	**3.40**	**204**	*e*P	**Pn**	**09 26 06.2**	**+1.9**
GSPH				*e*S	**Sn**	**09 26 45.4**	**+1.9**
CNP	**Catarman**	**3.68**	**333**	*e*P	**Pn**	**09 26 07.1**	**-1.0**
GUIM	**Jordan**	**3.98**	**291**	*e*P	**Pn**	**09 26 11.8**	**-0.3**
RCP	**Roxas**	**4.26**	**304**	⇑*e*P	**Pn**	**09 26 17.1**	**+1.1**
PVCP	**Virac**	**4.87**	**334**	*e*P	**Pn**	**09 26 23.4**	**-1.0**
OTRP	**Odiongan**	**5.30**	**307**	*e*P	**Pn**	**09 26 30.4**	**+0.2**
CUYO	**Cuyo Island**	**5.51**	**288**	*e*P	**Pn**	**09 26 33.6**	**+0.5**
BOAC	**Boac**	**6.12**	**314**	*e*P	**Pn**	**09 26 40.8**	**-0.7**
BUSP	**Coron**	**6.67**	**295**	*e*P	**Pn**	**09 26 50.3**	**+1.4**
ENPP	**El Nido**	**7.12**	**287**	*e*P	**Pn**	**09 26 55.2**	**+0.2**
LUBP	**Lubang**	**7.50**	**307**	*e*P	**Pn**	**09 27 03.2**	**+3.0**
BALP	**Baler**	**8.00**	**325**	*e*P	**Pn**	**09 27 04.2**	**-3.0**
PALP	**Palanan**	**8.70**	**334**	*e*P	**Pn**	**09 27 15.1**	**-1.6**
CAUP	**Cauayan**	**8.87**	**331**	*e*P	**Pn**	**09 27 18.2**	**-0.9**
APYP	**Conner**	**9.94**	**330**	*e*P	**Pn**	**09 27 33.8**	**+0.1**
YHNB	**Yeheng**	**16.10**	**343**	*e*Pn	**Pn**	**09 28 55.5**	**-0.3**
JOW	**Kunigami**	**17.62**	**6**	P	**Pn**	**09 29 12.7**	**-2.0**
	baz=84,slow=18,SNR=2.1						
JOW				LR	LR	09 34 50.6	
	comp=Z,146nm,21.7s,baz=139,slow=33						
GUMO	**Guam**	**18.65**	**75**	LR	LR	09 35 00.6	
	comp=Z,216nm,19.4s,baz=228,slow=32						
QIZ	**Qiongzhong**	**18.75**	**303**	P	**Pn**	**09 29 26.6**	**-1.7**
QIZ				XP	sP	09 29 39.3	-10
QIZ				S	**S**	**09 32 55.5**	**-1.7**
QIZ				XS	sS	09 33 10.7	-9.2
QIZ				AMB	AMB		
	comp=Z,26nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,116nm,7.0s						
QIZ				LR	LR		
	comp=N,139nm,18.9s						
QIZ				LR	LR		
	comp=E,186nm,19.3s						
QIZ				LR	LR		
	comp=Z,303nm,24.9s						
KAKA	**Kakadu**	**22.60**	**164**	*e*P	**P**	**09 30 07.3**	**-1.4**
	comp=Z,36nm,0.6s,mb4.9						
CBIJ	**Chichi jima**	**23.24**	**38**	LR	LR	09 37 31.9	
	comp=Z,92nm,18.9s,baz=283,slow=32						
NJ2	**Nanjing**	**23.78**	**344**	*e*P	**P**	**09 30 20.0**	**0.0**
NJ2				AP		09 30 29.6	
NJ2				XP	sP	09 30 34.1	-10
NJ2				PP		09 30 53.7	
NJ2				PPP		09 31 03.6	
NJ2				S	**S**	**09 34 29.0**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,70nm,7.4s						
NJ2				LR	LR		
	comp=N,220nm,19.8s						
NJ2				LR	LR		
	comp=E,150nm,18.7s						
NJ2				LR	LR		
	comp=Z,150nm,18.7s						
JNU	**Nakatsue**	**24.16**	**9**	P	**P**	**09 30 23.4**	**-0.1**
	comp=Z,12nm,0.9s,mb4.2,baz=135,slow=6.7,SNR=6.1						
JNU				LR	LR	09 38 45.2	
	comp=Z,80nm,20.3s,baz=67,slow=34						
GYA	**Guiyang**	**25.35**	**315**	*e*P	**P**	**09 30 36.5**	**+2.0**
GYA				AP	pP	09 30 46.8	-3.7
GYA				XP	sP	09 30 50.6	-7.8
GYA				PP		09 31 15.6	
GYA				PCP	PcP	09 34 09.2	+3.5
GYA				S	**S**	**09 34 57.1**	**+1.0**
GYA				XS	sS	09 35 14.7	-9.0
GYA				SS		09 35 59.4	
GYA				SCP	ScP	09 37 43.7	+4.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,420nm,17.3s						
GYA				LR	LR		
	comp=E,450nm,17.8s						
GYA				LR	LR		
	comp=Z,440nm,18.0s						
NST	**Nakhon Sawan**	**26.39**	**287**	P	**P**	**09 30 44.0**	**0.0**
NANT	**Nan**	**26.63**	**294**	⇑P	**P**	**09 30 46.5**	**+0.4**
	comp=Z,102nm,0.9s,mb5.4						
FITZ	**Fitzroy Crossi**	**27.14**	**182**	⇑*i*P	**P**	**09 30 50.3**	**-0.3**
	comp=Z,18nm,0.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**27.14**	**182**	P	**P**	**09 30 50.7**	**+0.1**
	comp=Z,11nm,0.8s,mb4.5,baz=16,slow=9.8,SNR=27						
KMI	**Kunming**	**27.49**	**308**	P	**P**	**09 30 53.1**	**-0.7**
KMI				PP		09 31 40.2	
KMI				PPP		09 31 52.6	
KMI				S	**S**	**09 35 28.2**	**-1.8**
KMI				SS		09 36 44.0	
KMI				SSS		09 37 03.4	
KMI				AMB	AMB		
	comp=Z,11nm,0.5s,mb4.6						
KMI				LR	LR		
	comp=N,95nm,16.5s						
KMI				LR	LR		
	comp=E,217nm,18.3s						
KMI				LR	LR		
	comp=Z,223nm,22.1s						
PSI	**Prapat**	**28.01**	**259**	P	**P**	**09 30 59.2**	**+0.7**
	comp=Z,11nm,0.6s,mb4.6,baz=65,slow=9.0,SNR=7.7						
KS15	**Wonju Array Si**	**28.14**	**3**	*e*P	**P**	**09 31 00.3**	**+0.9**
KSRS	**Korea Array**	**28.16**	**3**	P	**P**	**09 31 00.5**	**+1.0**
	comp=Z,17nm,0.8s,mb4.6,baz=180,slow=11,SNR=46						
KSRS				LR	LR	09 42 28.7	
	comp=Z,52nm,19.6s,baz=180,slow=37						
MAJO	**Matsushiro**	**29.26**	**20**	*e*P	**P**	**09 31 09.0**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.3						
MAJO	**Matsushiro**	**29.26**	**20**	*e*P	**P**	**09 31 09.0**	**-0.3**
	comp=Z,4.0nm,0.5s,mb4.3						
MAT	**Matsushiro**	**29.26**	**20**	P	**P**	**09 31 08.0**	**-1.3**
MJAR	**Matsushiro Arr**	**29.26**	**20**	P	**P**	**09 31 08.8**	**-0.6**
	comp=Z,5.6nm,0.7s,mb4.3,baz=194,slow=9.3,SNR=23						
MJAR				LR	LR	09 41 37.1	
	comp=Z,80nm,18.7s,baz=210,slow=34						
WRAB	**Tennant Creek**	**30.00**	**165**	*e*P	**P**	**09 31 14.9**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,107nm,2.3s,mb5.1						
WRAB	**Tennant Creek**	**30.00**	**165**	*e*P	**P**	**09 31 14.9**	**-1.2**
	comp=Z,107nm,2.3s,mb5.1						
WRA	**Warramunga Arr**	**30.01**	**165**	P	**P**	**09 31 14.5**	**-1.6**
	comp=Z,5.8nm,0.6s,mb4.4,baz=344,slow=9.4,SNR=8.1						
WB2	**Warramunga Arr**	**30.01**	**165**	*e*P	**P**	**09 31 13.6**	**-2.5**
WB2				*e*S	**S**	**09 36 15.0**	**+5.4**
CD2	**Chengdu**	**30.16**	**319**	*e*P	**P**	**09 31 17.6**	**+0.2**
CD2				AP	pP	09 31 29.1	-4.5
CD2				XP	sP	09 31 33.0	-8.5
CD2				PP	PP	09 32 17.4	-9.2
CD2				S	**S**	**09 36 12.6**	**+0.8**
CD2				XS	sS	09 36 31.4	-8.1
CD2				SS	SS	09 37 52.7	-30
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=N,220nm,20.4s						
CD2				LR	LR		
	comp=E,640nm,20.4s						
CD2				LR	LR		
	comp=Z,340nm,15.6s						
MBWA	**Marble Bar**	**30.87**	**192**	*e*P	**P**	**09 31 23.1**	**-0.6**
	comp=Z,7.9nm,0.6s,mb4.6						
BJI	**Beijing**	**32.02**	**345**	P	**P**	**09 31 32.9**	**-0.7**
BJI				S	**S**	**09 36 46.4**	**+5.8**
BJI				AMB	AMB		
	comp=Z,7.0nm,0.5s,mb4.7						
BJI				LR	LR		
	comp=N,104nm,11.7s						
BJI				LR	LR		
	comp=E,123nm,16.2s						
BJI				LR	LR		
	comp=Z,88nm,26.2s						
ASAR	**Alice Springs**	**33.49**	**167**	P	**P**	**09 31 46.0**	**-0.6**
ASAR						09 34 26.7	
ASAR	**Alice Springs**	**33.49**	**167**	P	**P**	**09 31 46.0**	**-0.6**
	comp=Z,3.1nm,0.6s,mb4.3,baz=359,slow=7.6,SNR=57						
ASAR				PcP	PcP	09 34 26.7	+0.3
	comp=Z,1.2nm,0.7s,baz=352,slow=2.7,SNR=4.8						
ASAR				ScP	ScP	09 38 12.3	+7.0
	comp=Z,3.2nm,1.0s,baz=349,slow=3.0,SNR=12						
LZH	**Lanzhou**	**33.70**	**326**	*e*P	**P**	**09 31 52.0**

comp=Z,77nm,0.7s,mb5.6
HABR Khabarovsk 39.81 9 *eP* **P 09 32 40.6 +0.5**
HABR *e* 09 32 49.9
HABR *e* 09 34 13.0
HABR *e* 09 34 46.8
HABR *eS* **S 09 38 41.9 +2.4**
HABR *e* 09 38 59.0
HABR *e* 09 41 36.8
HABR *e* 09 42 46.7
YSS Yuzh-Sakhalins 40.12 17⇑ *eP* **P 09 32 43.5 +0.8**
YSS pmax pmax
comp=Z,18nm,1.3s,mb4.7
YSS Yuzh-Sakhalins 40.12 17 *eP* **P 09 32 43.0 +0.3**
comp=Z,137nm,2.3s,mb5.4
KLBR Kellerberrin 41.40 191 *eP* **P 09 32 55.5 +2.1**
comp=Z,14nm,0.6s,mb5.0
ULN Ulaanbaatar 41.85 340 *eP* **P 09 32 56.6 -0.3**
SONM Songino Array 42.04 340 P **P 09 32 57.7 -0.8**
comp=Z,2.0nm,0.7s,mb3.9,baz=156,slow=9.0,SNR=8.1
SONM LR LR 09 52 00.5
comp=Z,76nm,20.7s,baz=40,slow=38
JIRN Jiri 42.05 301 *eP* **P 09 32 59.1 +0.2**
comp=Z,44nm,0.7s,mb5.3
MUN Mundaring 42.09 193 *eP* **P 09 32 59.8 +0.8**
GUN Gumba 42.39 302 *eP* **P 09 33 01.8 +0.1**
comp=Z,74nm,0.9s,mb5.4
PKI Pulchoki 42.69 301 *eP* **P 09 33 03.5 -0.5**
comp=Z,18nm,0.7s,mb4.9
PKIN Phulchoki 42.70 301 *eP* **P 09 33 03.3 -0.8**
NWAO Narrogin (SRO) 42.79 191 P **P 09 33 04.7 0.0**
comp=Z,8.3nm,0.7s,mb4.6,baz=16,slow=9.5,SNR=4.6
KKN Kakani 42.86 301 *eP* **P 09 33 05.0 -0.5**
comp=Z,37nm,0.9s,mb5.1
DMN Daman 42.96 301 *eP* **P 09 33 05.8 -0.4**
comp=Z,30nm,1.0s,mb5.0
STKA Stephens Creek 43.37 161 *eP* **P 09 33 09.2 -0.2**
comp=Z,6.8nm,0.7s,mb4.5
STKA Stephens Creek 43.37 161 P **P 09 33 09.4 0.0**
comp=Z,7.0nm,0.5s,mb4.6,baz=333,slow=7.7,SNR=18
GKN Gorkha 43.47 301 *eP* **P 09 33 09.7 -0.7**
comp=Z,18nm,0.7s,mb4.9
KOLN Koldanda 44.28 300 *eP* **P 09 33 16.8 -0.1**
comp=Z,66nm,0.8s,mb5.4
DANN Dangsing 44.31 301 *eP* **P 09 33 16.6 -0.5**
comp=Z,42nm,0.8s,mb5.2
TLY Talaya 46.26 341 *eP* **P 09 33 31.8 -0.3**
TLY pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
TLY MLR MLR
comp=Z,55nm,18.0s
TLY Talaya 46.26 341 *eP* **P 09 33 31.6 -0.5**
HYB Hyderabad 47.13 285 *eP* **P 09 33 40.0 +0.5**
HYB pmax pmax
comp=Z,25nm,1.0s,mb4.9
HYB Hyderabad 47.13 285 *eP* **P 09 33 40.0 +0.5**
comp=Z,25nm,1.0s,mb4.9
HYB Hyderabad 47.13 285⇑ *iP* **P 09 33 40.0 +0.5**
comp=Z,25nm,1.0s,mb4.9
CLNS Chul'man 47.53 359 *eP* **P 09 33 40.5 -1.4**
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=Z,20nm,0.7s,mb5.1
CLNS pmax pmax
comp=E,11nm,0.8s
SKR Severo-Kuril's 48.09 25 *eP* **P 09 33 53.0 +6.6**
WMQ Urumqi 48.12 323 *eP* **P 09 33 48.0 +1.3**
WMQ XP sP 09 34 02.0 -9.5
WMQ PP PP 09 35 39.0 -0.5
WMQ S **S 09 40 43.0 +2.4**
WMQ SS SS 09 44 08.0 -2.5
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,124nm,5.0s
WMQ LR LR
comp=N,137nm,15.0s
WMQ LR LR
comp=E,158nm,16.0s
WMQ LR LR
comp=Z,102nm,14.0s
BOD Bodaibo 49.43 351 *eP* **P 09 33 56.0 -0.5**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
YAK Yakutsk 52.78 2 *eP* **P 09 34 20.7 -0.9**
YAK *e* pP 09 34 36.9 -1.9
YAK pmax pmax
comp=Z,21nm,1.0s,mb5.1
YAK pmax pmax
comp=N,11nm,1.3s
YAK pmax pmax
comp=E,4.0nm,1.2s
YAK pmax pmax
comp=Z,26nm,1.2s,mb5.1
YAK pmax pmax
comp=N,14nm,1.5s
YAK pmax pmax
comp=E,7.0nm,1.5s
MK31 Makanchi Array 52.93 323 *eP* **P 09 34 22.5 -0.4**
MKAR Makanchi Array 52.93 323 P **P 09 34 22.8 -0.1**
MKAR 09 35 31.2
MKAR Makanchi Array 52.93 323 P **P 09 34 22.8 -0.1**
comp=E,15nm,0.6s,mb5.2,baz=123,slow=8.1,SNR=174
MKAR PcP PcP 09 35 31.1 0.0
comp=E,5.2nm,0.8s,baz=116,slow=4.4,SNR=6.4
MKAR LR LR 09 58 04.5
comp=E,110nm,21.5s,baz=278,slow=38
ULHL Ulahol 54.80 316 P **P 09 34 37.0 +0.3**
SNR=5.8
KZA Kyzart 55.42 315 P **P 09 34 42.1 +0.9**
SNR=12
TKM2 Tokmak 2 55.49 316 *eP* **P 09 34 41.7 0.0**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TKM2 Tokmak 2 55.49 316 *eP* **P 09 34 41.7 0.0**
comp=Z,4.5nm,0.6s,mb4.7
TKM2 Tokmak 2 55.49 316 P **P 09 34 41.7 0.0**
SNR=6.7
KBK Karagaybulak 55.84 316 P **P 09 34 44.5 +0.4**
SNR=6.6
UCH Uchtor 55.99 315 *eP* **P 09 34 46.0 +0.8**
comp=Z,16nm,0.8s,mb5.1
UCH Uchtor 55.99 315 P **P 09 34 46.2 +1.0**
SNR=25
AAK Ala-Archa 56.14 316 *eP* **P 09 34 45.4 -0.9**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AAK Ala-Archa 56.14 316 *eP* **P 09 34 45.4 -0.9**
comp=Z,2.6nm,0.8s,mb4.3
USP Ospenovka 56.37 316 P **P 09 34 47.6 -0.3**
SNR=9.0
AML Almayashu 56.53 315 *eP* **P 09 34 49.3 +0.3**
comp=Z,13nm,0.8s,mb5.0
AML Almayashu 56.53 315 P **P 09 34 49.6 +0.6**
SNR=15
EKS2 Erkin-Say 56.65 315 *eP* **P 09 34 50.1 +0.2**
comp=Z,9.0nm,0.8s,mb4.8
EKS2 Erkin-Say 56.65 315 P **P 09 34 50.3 +0.3**
SNR=11
SEY Seymchan 56.82 14⇑ *eP* **P 09 34 52.3 +1.5**
NVS Novosibirsk 56.88 332 *eP* **P 09 34 50.1 -1.2**
KURK Kurchatov 56.99 326 *eP* **P 09 34 51.6 -0.6**
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.3
KURK Kurchatov 56.99 326 *eP* **P 09 34 51.6 -0.6**
comp=Z,23nm,0.8s,mb5.2
KBL Kabul 58.01 305 *eP* **P 09 34 59.5 -0.2**
TIXI Tiksi 62.41 1 *eP* **P 09 35 28.7 -0.3**
TIXI pmax pmax
comp=Z,27nm,0.9s,mb5.3
TIXI Tiksi 62.41 1 *eP* **P 09 35 28.9 -0.1**
BVAR Borovoye Array 62.59 326 LR LR 10 04 19.2
comp=Z,40nm,21.2s,baz=80,slow=38
BRVK Borovoye 62.66 326 *eP* **P 09 35 30.8 -0.3**
BILL Bilibino 64.39 16 *eP* **P 09 35 43.2 +1.0**
BILL pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
BILL Bilibino 64.39 16 *eP* **P 09 35 43.2 +1.0**
comp=Z,4.1nm,0.6s,mb4.4
RPZ Rata Peaks 66.45 146 P **P 09 35 56.0 +0.1**
comp=Z,12nm,0.5s,mb5.0,baz=52,slow=13,SNR=7.9
AKTK Aktyubinsk 69.20 321 P **P 09 36 11.6 -1.5**
AKTK LR LR 10 08 44.5
AKTO Aktyubinsk 69.20 321 P **P 09 36 11.6 -1.5**
comp=Z,3.2nm,0.6s,mb4.3,baz=94,slow=8.5,SNR=12
AKTO LR LR 10 08 44.5

comp=Z,90nm,20.4s,baz=336,slow=38
ARU Arti 70.16 327 *c iP* **P 09 36 19.0 +0.1**
ARU *e* 09 38 51.1
ARU *eS* S 09 45 26.3 +1.4
ARU pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
CHGN Chignik 74.19 34 *eP* **P 09 36 43.8 +0.8**
QRN Al-Qurain 75.54 297 *eP* **P 09 36 49.9 -1.5**
QRN AMb AMB 09 36 51.7
comp=Z,29nm,0.6s,mb5.2
KBD Kabd 75.72 298 *eP* **P 09 36 51.5 -0.8**
KBD AMb AMB 09 36 52.5
comp=Z,66nm,0.7s,mb5.5
RDF Al-Radifah 75.86 298 *eP* **P 09 36 52.0 -1.1**
RDF AMb AMB 09 36 53.1
comp=Z,25nm,0.6s,mb5.2
MIB Mutribah 76.00 298 *eP* **P 09 36 52.8 -1.1**
MIB AMb AMB 09 36 54.3
comp=Z,46nm,0.7s,mb5.3
NAY Al-Naaiem 76.11 298 *eP* **P 09 36 53.3 -1.2**
NAY AMb AMB 09 36 54.9
comp=Z,17nm,0.6s,mb5.0
CASY Casey 76.18 187 *eP* **P 09 36 54.7 +0.6**
SVW2 Sparrevohn 76.22 29 *eP* **P 09 36 57.1 +2.6**
KDAK Kodiak Island 77.50 33 *eP* **P 09 37 03.6 +1.8**
IMA2 Indian Mountai 77.56 24 *eP* **P 09 37 03.9 +2.0**
KIV Kislovodsk 79.14 313 *κeP* **P 09 37 11.6 +0.5**
KIV *e* 09 48 13.9
KIV pmax pmax
comp=Z,15nm,0.7s,mb4.9
PMR Palmer 79.35 29 *eP* **P 09 37 12.7 +0.8**
PMR pmax pmax
comp=Z,14nm,0.8s,mb4.8
PMR Palmer 79.35 29 *eP* **P 09 37 12.7 +0.8**
comp=Z,14nm,0.8s,mb4.8
MCK McKinley 79.46 27 *eP* **P 09 37 13.6 +1.1**
SML Sawmill 79.73 29 *eP* **P 09 37 15.7 +1.7**
MARD Mardin 81.00 306 *i P* **P 09 37 20.6 -0.7**
TMCR Tamitsa 81.06 334 *eP* **P 09 37 19.3 -1.7**
TMCR pmax pmax
comp=Z,12nm,0.4s,mb5.1
ELZG Elazig 82.30 308 *i P* **P 09 37 29.4 +1.2**
OBN Obninsk 82.41 325⇓ *eP* **P 09 37 27.7 -0.6**
OBN pmax pmax
comp=Z,14nm,1.0s,mb4.8
APA Apatity 82.69 337⇓ *iP* **P 09 37 29.0 -0.6**
APA pmax pmax
comp=Z,24nm,1.0s,mb5.0
MALT Malatya 82.76 308 *eP* **P 09 37 31.1 +0.6**
MALT pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
MALT Malatya 82.76 308 *eP* **P 09 37 31.1 +0.5**
comp=Z,6.9nm,0.7s,mb4.6
EGAK Eagle 82.80 26 *eP* **P 09 37 32.0 +1.9**
GZT Gaziantep 83.54 307 *i P* **P 09 37 35.5 +0.8**
DAWY Dawson 83.65 26 *eP* **P 09 37 35.9 +1.4**
ASF Jabal al Asfar 84.72 302 P **P 09 37 41.2 +0.5**
comp=Z,2.2nm,0.6s,mb4.3,baz=14,slow=4.2,SNR=6.4
BOYT Boyabat 85.08 311 *i P* **P 09 37 42.2 -0.1**
ARCES ARCESS Array B 85.22 340 P **P 09 37 42.4 0.0**
comp=Z,20nm,0.6s,mb5.2,baz=81,slow=6.8,SNR=96
ARE0 ARCESS Array S 85.22 340 *eP* **P 09 37 42.1 -0.2**
CTKT Corum 85.27 310 *i P* **P 09 37 43.2 -0.1**
MMAI Mount Meron Ar 85.86 303 P **P 09 37 47.3 +0.9**
comp=Z,4.0nm,0.5s,mb4.6,baz=67,slow=8.5,SNR=6.9
BALT Daday 86.19 311 *i P* **P 09 37 48.0 +0.2**
EIL Elat 86.73 299 P **P 09 37 51.1 +0.4**
comp=Z,9.0nm,0.7s,mb4.8,baz=25,slow=6.6,SNR=8.5
EIL LR LR 10 22 57.5
comp=Z,35nm,19.1s,baz=49,slow=40
FINES FINESS Array B 86.87 332 P **P 09 37 50.1 -0.6**
comp=Z,7.9nm,0.9s,mb4.7,baz=98,slow=5.8,SNR=17
FINES LR LR 10 20 32.2
comp=Z,36nm,19.2s,baz=267,slow=38
AKASG Malin Array Be 87.44 321 P **P 09 37 52.3 -1.4**
comp=Z,3.3nm,0.6s,mb4.5,baz=63,slow=5.3,SNR=13
AKBB Malin Array Si 87.44 321 *eP* **P 09 37 52.3 -1.4**
MAW Mawson 88.74 200 P **P 09 37 59.4 0.0**
comp=Z,8.2nm,1.1s,mb4.7,baz=48,slow=5.3,SNR=6.3
VNDA Vanda 88.87 173 *eP* **P 09 38 00.4 +0.6**
VNDA pmax pmax
comp=Z,2.0nm,0.6s
VNDA Vanda 88.87 173 *eP* **P 09 38 00.4 +0.6**
comp=Z,2.5nm,0.6s,mb4.4
VNDA Vanda 88.87 173 P **P 09 38 00.5 +0.6**
comp=Z,3.6nm,0.7s,mb4.5,baz=310,slow=5.7,SNR=16
KMBO Kilima Mbogo 89.30 269 *eP* **P 09 38 03.8 +0.5**
KMBO pmax pmax
comp=Z,6.0nm,1.1s
KMBO Kilima Mbogo 89.30 269 *eP* **P 09 38 03.8 +0.5**
comp=Z,5.5nm,1.1s,mb4.5
KMBO Kilima Mbogo 89.30 269 P **P 09 38 03.1 -0.2**
comp=Z,4.3nm,0.9s,mb4.5,baz=36,slow=7.4,SNR=9.7
LVV L'vov 90.89 321 *eP* **P 09 38 13.8 +3.9**
KWP Kalwaria 91.77 321 *eP* **P 09 38 14.2 +0.2**
KWP pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
KWP Kalwaria 91.77 321 *eP* **P 09 38 14.2 +0.2**
comp=Z,8.0nm,0.7s,mb5.1
RES Resolute Bay 92.52 10 *eP* **P 09 38 18.2 +1.2**
comp=Z,130nm,0.7s
NB2 NORSAR Subarra 93.75 334 P **P 09 38 21.2 -1.7**
comp=Z,0.8nm,0.6s,mb4.2,baz=64,slow=4.8
NOA NORSAR Array B 93.75 334 P **P 09 38 21.2 -1.6**
NOA LR LR 10 27 07.9
NOA NORSAR Array B 93.75 334 P **P 09 38 21.2 -1.6**
comp=Z,2.1nm,0.9s,mb4.5,baz=66,slow=4.6,SNR=5.5
NOA LR LR 10 27 07.9
comp=Z,33nm,18.6s,baz=250,slow=40
JMIC Jan Mayen 94.48 347 LR LR 10 21 24.4
comp=Z,48nm,20.4s,baz=277,slow=36
YKA Yellowknife Ar 94.68 24 P **P 09 38 28.0 +0.9**
comp=Z,1.4nm,0.7s,mb4.5,baz=300,slow=4.5,SNR=28
YKA PKiKP PKiKP 09 43 09.8 +0.6
comp=Z,0.2nm,0.7s,baz=303,slow=1.6,SNR=4.7
GERES GERESS Array B 97.58 322 P **P 09 38 40.7 +0.1**
comp=Z,0.7nm,0.3s,mb4.6,baz=67,slow=4.5,SNR=7.1
NVAR Mina Array Bea 103.50 47 Pdiff Pdif 09 39 08.9 +2.1
comp=Z,0.3nm,0.7s,baz=290,slow=6.6,SNR=3.8
TXAR Lajitas Array 118.44 50 PKP PKPdf 09 43 55.1 +0.9
comp=Z,0.3nm,0.6s,baz=357,slow=1.3,SNR=6.5
DBIC Dimbokro 128.90 286 PKP PKPdf 09 44 14.9 +0.3
comp=Z,3.7nm,0.7s,baz=108,slow=3.8,SNR=6.5
PLCA Paso Flores 145.20 157 PKPbc PKPbc 09 44 44.8 +1.3
comp=Z,7.7nm,0.8s,baz=224,slow=2.9,SNR=21
CPUP Villa Florida 162.61 169 PKP PKPdf 09 45 07.4 -1.2
comp=Z,0.2nm,0.3s,baz=0.0,slow=14,SNR=2.7
CPUP PKPab PKPab 09 45 57.8 +1.0
comp=Z,1.9nm,0.7s,baz=213,slow=5.0,SNR=3.6
LPAZ La Paz 164.21 118 PKP PKPdf 09 45 11.6 +1.2
comp=Z,1.0nm,0.7s,baz=283,slow=4.9,SNR=6.0

*ISCJB **04** 09:28:48.0±0.4,4185N±002×2061E±002,h8km±4km, Error ellipse: s-maj=4.2km s-min=2.7km az=30.3*
*TIR **04** 09:28:47.7±1.9,4187N×2064E,h6km±999km,ML2.5*
*SKO **04** 09:28:49.1,4178N×2062E,h27km,M2.2,ML2.4*
*CSEM **04** 09:28:49.0±0.2,4184N×2065E,h0km±1km,ML2.8,Error ellipse: s-maj=2.9km s-min=2.0km az=5.0*
*NEIC **04** 09:28:50.1,4189N×2056E,h1km,ML2.6(PDG),After PDG.*
*BEO **04** 09:28:50.9±0.3,4183N×2061E,h14km±4km,ML2.2/8*
*PDG **04** 09:28:50.1±0.3,4189N×2056E,h1km±1km,ML2.6/10, Error ellipse: s-maj=1.1km s-min=1.5km az=0.0*
*THE **04** 09:28:51.0,4182N×2072E,h3km,ML2.8*
ISC 04 09:28:49.0±0.3,4183N±002×2061E±003,h15km±3km,n41,
σ1§17/76,8C-2D,Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUK	**Puka**	**0.57**	**292**	*i* PG	**Pg**	**09 28 59.0**	**-1.3**
PUK				*i* SG	**Sg**	**09 29 06.6**	**-1.3**
QSH	**Qafa e Shtames**	**0.61**	**240**	*i* PG	**Pg**	**09 29 02.0**	**+1.1**
QSH				*i* SG	**Sg**	**09 29 10.0**	**+1.0**
SKO	**Skopje**	**0.64**	**77**	*e*Pg	**Pn**	**09 29 03.5**	**-0.1**
SKO				*e*Sg	**Sg**	**09 29 12.1**	**+2.1**
SKO	**Skopje**	**0.64**	**77**	*e*Sg	**Sg**	**09 29 12.0**	**+2.0**
SKO	**Skopje**	**0.64**	**77**	*e*Pg	**Pn**	**09 29 02.4**	**-1.2**
SKO				*i* Sg	**Sg**	**09 29 11.3**	**+1.3**
SKO				*e*Lg		09 29 11.9	
SKO	comp=E,204nm,0.3s			*e*Lg		09 29 12.3	
SKO	comp=N,189nm,0.3s						
SKO	**Skopje**	**0.64**	**77**	*e*Pg	**Pn**	**09 29 02.3**	**-1.3**
SKO				*i* Sg	**Sg**	**09 29 11.2**	**+1.2**
OHR	**Ohrid**	**0.73**	**168**	*e*Pg	**Pn**	**09 29 03.5**	**-1.4**
OHR				*e*Sg	**Sn**	**09 29 15.3**	**-0.4**
OHR	**Ohrid**	**0.73**	**168**	*i* Pg	**Pg**	**09 29 03.3**	**+0.1**
OHR				*i* Sg	**Sn**	**09 29 15.3**	**-0.4**
OHR				*e*Lg		09 29 15.5	
OHR	comp=E,178nm,0.7s			*e*Lg		09 29 15.7	
OHR	comp=N,196nm,0.8s						
OHR	**Ohrid**	**0.73**	**168**	*e*Pg	**Pn**	**09 29 03.5**	**-1.3**
OHR				*i* Sg	**Sn**	**09 29 15.3**	**-0.4**
TIR	**Tirane**	**0.73**	**229**	*e*Pg	**Pn**	**09 29 03.9**	**-1.0**
TIR				*e*Sg	**Sn**	**09 29 16.4**	**+0.6**
TIR	**Tirane**	**0.73**	**229**	*i* PG	**Pg**	**09 29 03.7**	**+0.4**
PVY	**Plav**	**0.90**	**329⇑**	*i*Pg	**Pg**	**09 29 05.4**	**-1.0**
PVY				*e*Sg	**Sn**	**09 29 18.4**	**-1.5**
PVY	**Plav**	**0.90**	**329**	*i* PG	**Pg**	**09 29 05.4**	**-1.0**
PVY				*i* SG	**Sn**	**09 29 18.5**	**-1.4**
BIA	**Bitola**	**0.97**	**146**	*e*Pg	**Pn**	**09 29 08.3**	**+0.1**
BIA				*e*Sg	**Sn**	**09 29 21.8**	**+0.2**
BIA	**Bitola**	**0.97**	**146**	*e*Pg	**Pg**	**09 29 07.4**	**-0.4**
BIA				*e*Sg	**Sn**	**09 29 23.9**	**+2.2**
BIA	**Bitola**	**0.97**	**146**	*i* Pg	**Pg**	**09 29 07.6**	**-0.2**
BIA				*i* Sg	**Sn**	**09 29 23.4**	**+1.8**
BIA				*e*Lg		09 29 25.4	
BIA	comp=N,43nm,0.4s			*e*Lg		09 29 25.9	
BIA	comp=E,50nm,0.5s						
BIA	**Bitola**	**0.97**	**146**	*i* Pg	**Pg**	**09 29 07.6**	**-0.2**
BIA				*i* Sg	**Sn**	**09 29 23.4**	**+1.7**
ULC	**Ulcinj**	**1.02**	**278⇑**	*i*Pg	**Pg**	**09 29 08.0**	**-0.7**
ULC				*e*Sg	**Sn**	**09 29 23.6**	**+0.7**
ULC	**Ulcinj**	**1.02**	**278**	*i* PG	**Pg**	**09 29 08.0**	**-0.7**
ULC				*i* SG	**Sn**	**09 29 23.6**	**+0.7**
BEY	**Berane**	**1.17**	**334**	*i* PG	**Pg**	**09 29 10.4**	**-1.1**
BEY				*i* SG	**Sg**	**09 29 26.8**	**+0.1**
IVA	**Berane**	**1.17**	**334⇑**	*i*Pg	**Pg**	**09 29 10.4**	**-1.1**
IVA				*e*Sg	**Sg**	**09 29 26.9**	**+0.2**
PDG	**Podgorica**	**1.17**	**301**	*i* PG	**Pg**	**09 29 09.7**	**-1.8**
PDG				*i* SG	**Sg**	**09 29 27.4**	**+0.7**
TTG	**Podgorica**	**1.17**	**301⇑**	*i*Pg	**Pg**	**09 29 09.8**	**-1.7**
TTG				*e*Sg	**Sg**	**09 29 27.4**	**+0.7**
BARS	**Barje**	**1.33**	**42**	*i* Pg	**Pg**	**09 29 14.4**	**-0.3**
BARS				*e*Sg	**Sg**	**09 29 33.8**	**+1.8**
BUM	**Brajici-Budva**	**1.35**	**291⇓**	*i*Pg	**Pg**	**09 29 14.8**	**-0.3**
BUM				*e*Sg	**Sg**	**09 29 34.7**	**+2.0**
BUM	**Brajici-Budva**	**1.35**	**291**	*i* PG	**Pg**	**09 29 14.8**	**-0.3**
BUM				*i* SG	**Sg**	**09 29 34.7**	**+2.0**
NKY	**Niksic**	**1.54**	**310⇑**	*i*Pg	**Pg**	**09 29 18.2**	**-0.5**
NKY				*e*Sg	**Sg**	**09 29 40.4**	**+1.6**
NKY	**Niksic**	**1.54**	**310**	*i* PG	**Pg**	**09 29 18.2**	**-0.5**
NKY				*i* SG	**Sg**	**09 29 40.4**	**+1.6**
VAY	**Valandovo**	**1.56**	**108**	*e*Pn	**Pn**	**09 29 16.7**	**+0.5**
VAY				*e*Sg	**Sg**	**09 29 40.9**	**+1.7**
GRG	**Griva**	**1.61**	**122**	*e*Pg	**Pg**	**09 29 18.8**	**-1.1**
GRG				*e*Sg	**Sg**	**09 29 40.0**	**-0.7**
GRG	**Griva**	**1.61**	**122**	*e*Pg	**Pg**	**09 29 18.8**	**-1.1**
GRG				*e*Sg	**Sg**	**09 29 40.0**	**-0.8**
HCY	**Herceg Novi**	**1.68**	**292⇑**	*i*Pn	**Pn**	**09 29 19.5**	**+1.6**
HCY				*e*Sn	**Sg**	**09 29 45.6**	**+2.4**
HCY	**Herceg Novi**	**1.68**	**292**	*i* PG	**Pg**	**09 29 19.6**	**-1.8**
HCY				*i* SG	**Sg**	**09 29 45.7**	**+2.5**
PLE	**Pljevlja**	**1.75**	**330⇓**	*i*Pn	**Pg**	**09 29 21.2**	**-1.3**
PLE				*e*Sn	**Sg**	**09 29 46.8**	**+1.6**
KNT	**Kendrikon**	**1.85**	**110**	*e*Pb	**Pb**	**09 29 22.6**	**+0.1**
KNT	**Kendrikon**	**1.85**	**110**	*e*Pb	**Pb**	**09 29 22.5**	**0.0**
UPM	**Unac-Piva**	**1.86**	**318⇑**	*i*Pn	**Pg**	**09 29 23.2**	**-1.5**
UPM				*e*Sn	**Sg**	**09 29 49.4**	**+0.6**
BRY	**Bratogost**	**1.87**	**306⇑**	*i*Pn	**Pg**	**09 29 22.9**	**-1.9**
BRY				*e*Sn	**Sg**	**09 29 50.4**	**+1.4**
BRY	**Bratogost**	**1.87**	**306**	*i* PG	**Pg**	**09 29 22.9**	**-1.9**
BRY				*i* SG	**Sg**	**09 29 50.4**	**+1.4**
GRUS	**Gruza**	**2.06**	**2**	*e*Pn	**Pg**	**09 29 27.4**	**-1.1**
DIVS	**Divibare**	**2.31**	**349**	*e*Pn	**Pn**	**09 29 27.4**	**+0.8**

*GII **04** 09:46:53.9±0.0,3589N×3762E,h5km±1km,ML3.2/3*
*ISCJB **04** 09:46:54.3±0.4,3592N±002×3738E±005,h10km,Error ellipse: s-maj=6.2km s-min=3.1km az=19.0*
*GRAL **04** 09:46:55.2±4.3,3585N×3729E,h33km±999km,MD3.7*
ISC 04 09:46:55.3±0.4,3594N±003×3738E±005,h10km,n41,
σ1§16/47,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	**Hatay**	**1.02**	**280**	*e*PG	**Pg**	**09 47 14.2**	**-0.7**
HTY				*e*SG	**Sg**	**09 47 28.1**	**-0.2**
GAZ	**Gaziantep**	**1.23**	**354**	*e*PN	**Pn**	**09 47 17.6**	**-1.0**
KMRS	**Kahramanmaras**	**1.61**	**346**	*e*PN	**Pn**	**09 47 24.0**	**+0.3**
CEYT	**Ceyhan**	**1.69**	**309**	*e*PN	**Pn**	**09 47 26.1**	**+1.2**
ATAB	**Bozova**	**1.69**	**26**	*i* P	**Pn**	**09 47 25.4**	**+0.5**
ANDN	**Andirin**	**1.83**	**333**	*i* P	**Pn**	**09 47 26.8**	**0.0**
FKH	**Fakeheh**	**1.88**	**205**	*e*P	**Pn**	**09 47 20.8**	**-6.7**
FKH				*e*S	**Sn**	**09 47 43.3**	**-8.0**
URFA	**Urfa**	**1.89**	**37**	*e*PN	**Pn**	**09 47 22.9**	**-4.7**
KOZT	**Kozan**	**1.98**	**321**	*e*PN	**Pn**	**09 47 29.2**	**+0.4**
HWQ	**Hawqa**	**2.03**	**216**	*e*P	**Pn**	**09 47 23.4**	**-6.2**
KARA	**Karaisali**	**2.29**	**306**	*e*PN	**Pn**	**09 47 34.5**	**+1.5**
BHL	**Bhannes**	**2.48**	**215**	*e*P	**Pn**	**09 47 31.7**	**-4.0**
MERS	**Mersin**	**2.48**	**293**	*e*PN	**Pn**	**09 47 35.3**	**-0.5**
MALT	**Malatya**	**2.51**	**19**	*e*PN	**Pn**	**09 47 33.9**	**-2.3**
MALT	**Malatya**	**2.51**	**19**	Pn	**Pn**	**09 47 34.5**	**-1.6**
MYA	**Malataya**	**2.52**	**19**	*e*PN	**Pn**	**09 47 33.8**	**-2.5**
EREN	**Erenkoy**	**2.64**	**262**	*e*PN	**Pn**	**09 47 40.5**	**+2.5**
RCY	**Rachaya**	**2.77**	**208**	*e*P	**Pn**	**09 47 38.0**	**-1.7**
SVRC	**Sivrice-ELAZID**	**2.88**	**32**	*e*PN	**Pn**	**09 47 44.3**	**+3.2**
HRI	**Mount Hermon**	**3.00**	**207**	Sn	**Sn**	**09 48 19.3**	**+0.5**
DIY	**Diyarbakir**	**3.00**	**49**	*e*PN	**Pn**	**09 47 47.3**	**+4.4**
IKL	**Isikli**	**3.01**	**277**	*e*PN	**Pn**	**09 47 40.1**	**-2.8**
MARD	**Mardin**	**3.06**	**62**	*i* P	**Pn**	**09 47 39.1**	**-4.5**
KSDI	**Kefar Szold**	**3.09**	**208**	Pn	**Pn**	**09 47 43.1**	**-1.0**
KSDI				Sn	**Sn**	**09 48 21.6**	**+0.5**
NIG	**Nigde**	**3.10**	**315**	*e*PN	**Pn**	**09 47 43.6**	**-0.6**
BNN	**Bunyan**	**3.15**	**338**	*e*PN	**Pn**	**09 47 46.2**	**+1.3**
KSHT	**Keshet**	**3.23**	**204**	Pn	**Pn**	**09 47 45.6**	**-0.4**
MMA1	**Mount Meron ar**	**3.34**	**210**	Pn	**Pn**	**09 47 47.2**	**-0.4**
MMA0	**Mount Meron ar**	**3.34**	**210**	Pn	**Pn**	**09 47 47.5**	**-0.1**
MMA0				Sn	**Sn**	**09 48 28.6**	**+1.2**
MMC5	**Mount Meron ar**	**3.35**	**210**	Pn	**Pn**	**09 47 47.0**	**-0.6**
PTK	**Pertek**	**3.35**	**28**	*e*PN	**Pn**	**09 47 49.4**	**+1.7**
MMC6	**Mount Meron ar**	**3.35**	**210**	Pn	**Pn**	**09 47 46.7**	**-1.1**
HNTI	**Hanita**	**3.38**	**213**	Sn	**Sn**	**09 48 29.5**	**+1.2**
KEMA	**Kemaliye**	**3.44**	**15**	*i* P	**Pn**	**09 47 47.8**	**-1.0**
BINT	**Bingol**	**3.83**	**39**	*e*PN	**Pn**	**09 47 57.9**	**+3.5**
MMLI	**Mount Malkishu**	**3.85**	**205**	Pn	**Pn**	**09 47 53.6**	**-1.0**
MMLI				Sn	**Sn**	**09 48 40.8**	**+0.9**
SVSK	**Karacayir**	**3.98**	**356**	*e*PN	**Pn**	**09 47 56.2**	**-0.1**
BTMT	**Batman**	**3.98**	**54**	*e*PN	**Pn**	**09 47 57.5**	**+1.1**
HMDT	**Nahal Hemdat**	**3.99**	**203**	Pn	**Pn**	**09 47 55.3**	**-1.2**
SLTI	**Sal'it**	**4.17**	**208**	Pn	**Pn**	**09 47 58.6**	**-0.4**
SLTI				Sn	**Sn**	**09 48 48.8**	**+1.0**
EZC	**Erzincan**	**4.26**	**26**	*e*P	**Pn**	**09 48 01.0**	**+0.9**

*ISCJB **04** 10:21:09.5±0.3,1746N±003×9653W±002,h52km±2km, mb5.0/113,MS4.0/24,Error ellipse: s-maj=4.6km s-min=2.5km az=25.4*
*MOS **04** 10:21:09.0±0.8,1746N×9638W,h52km,mb5.3/41,Error ellipse: s-maj=9.7km s-min=5.2km az=106.7*
*GCMT **04** 10:21:10.7±0.4,1750N×9668W,h60km±1km,MW5.0/68, Moment Tensor Solution. s48,c61; s68,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.16±.17; $M_{\theta\theta}$0.10±.14; $M_{\phi\phi}$3.06±.14; $M_{r\theta}$1.67±.09; $M_{\theta\phi}$-3.04±.12; $M_{\phi r}$-0.20±.11; Best double couple: M=4.57400×10^{16} NP1:ϕ_s176.00000°,δ46.00000°,λ-46.00000°. NP2: ϕ_s302.00000°,δ59.00000°,λ-125.00000°. Principal axes: T 5.1000, Plg8.0000°, Azm57.0000°

NEIC Felt at Cuernavaca, Mitla and Oaxaca.
*BJI **04** 10:21:10.7, 1720N×9680W, h70km, mB5.2, Ms5.2, Msz4.8*
*SZGRF **04** 10:21:29.2, 1745N×96.14W, h35km, mb5.4, Oaxaca, Mexico*
ISC 04 10:21:10.8±0.3, 1744N±002×9656W±002, h45km±2km, h63km±2.1km:pP-P, n648, σ1§20/632, mb5.0/113, MS4.0/24, 88C-71D, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	0.39	204	eP	Pn	10 21 18.6	-1.8
OXX				i S	Sn	10 21 26.7	-0.5
VHO	Vista Hermosa	0.40	205	i P	Pn	10 21 20.3	-0.3
VHO				i S	Sn	10 21 27.7	+0.3
TPIG	Tehuac#an	1.24	322	i P	Pn	10 21 32.8	+1.1
TPIG				i S	Sn	10 21 47.8	+0.6
CMIG	Matias Romero	1.64	102	i P	Pn	10 21 39.0	+1.9
CMIG				i S	Sn	10 22 01.1	+4.1
HUIG	Huatulco	1.71	165	eP	Pn	10 21 36.2	-1.9
HUIG				eS	Sn	10 21 54.0	-4.9
PNIG	Pinotepa	1.83	236	i P	Pn	10 21 33.6	-6.1
PNIG				i S	Sn	10 21 51.6	-10
TUIG	Tuzandepetl	2.12	73	i P	Pn	10 21 47.0	+3.3
TUIG				i S	Sn	10 22 15.4	+6.5
LVIG	Laguna Verde	2.28	3	i P	Pn	10 21 46.1	+0.2
LVIG				i S	Sn	10 22 13.9	+1.1
PPM	Popocatepetl	2.55	310	eP	Pn	10 21 51.2	+1.6
PPM				i S	Sn	10 22 20.2	+0.8
PPM	Popocatepetl	2.55	310	eP	Pn	10 21 50.2	+0.6
PPM				eP		10 21 51.1	
PPM				i S	Sn	10 22 14.5	-4.9
PPM				i S	Sn	10 22 20.2	+0.8
YAIG	Yautepec	2.77	301	i P	Pn	10 21 52.6	-0.1
YAIG				i S	Sn	10 22 21.7	-3.3
MEIG	Mezcala	2.96	280	i P	Pn	10 21 52.8	-2.5
MEIG				i S	Sn	10 22 22.3	-7.2
PLIG	Platanillo	2.96	289	i P	Pn	10 21 53.8	-1.5
PLIG				i S	Sn	10 22 24.0	-5.6
IIO	Organos	2.97	317	eP	Pn	10 21 57.2	+1.9
MZVM		3.08	305	eP	Pn	10 21 58.0	+1.1
PBVM	Pinon	3.12	310	eP	Pn	10 21 58.6	+1.2
PBVM				i S	Sn	10 22 28.4	-5.0
UNM	Universidad Na	3.12	308	i P	Pn	10 21 57.1	-0.3
UNM				i P		10 21 59.5	
UNM				i S	Sn	10 22 34.0	+0.5
PTVM	Pico Tres Padr	3.24	312	eP	Pn	10 22 00.1	+1.0
ACX	Acapulco	3.26	260	i P	Pn	10 21 52.5	-6.9
ACX				i S	Sn	10 22 24.7	-12
ACX	Acapulco	3.26	260	i P	Pn	10 21 52.5	-6.9
ACX				i S	Sn	10 22 25.0	-12
SZVM	Salazar	3.27	305	i P	Pn	10 22 01.3	+1.8
SZVM				i S	Sn	10 22 35.6	-1.6
CAIG	El Cayaco	3.56	264	i P	Pn	10 21 58.4	-5.2
CAIG				i S	Sn	10 22 35.8	-8.7
DEIG	Demacu	3.69	321	eP	Pn	10 22 05.8	+0.5
DEIG				i S	Sn	10 22 51.4	+3.8
SCX	San Cristobal	3.82	100	eP	Pn	10 22 08.8	+1.7
SCX				i S	Sn	10 22 55.9	+5.1
CCIG	Comitan	4.39	105	i P	Pn	10 22 16.4	+1.5
CCIG				i S	Sn	10 23 07.8	+3.1
ZIIG	Zihuatanejo	4.68	273	i P	Pn	10 22 15.1	-3.8
ZIIG				i S	Sn	10 23 02.9	-9.1
MOIG	Morelia	4.92	298	i P	Pn	10 22 22.9	+0.7
SCIG	Sabancuy	5.33	73	i P	Pn	10 22 28.6	+0.8
SCIG				i S	Sn	10 23 30.3	+2.4
MMIG	Aquila	6.52	278	i P	Pn	10 22 40.6	-3.5
MMIG				i S	Sn	10 23 49.3	-8.0
SFJM	Santa Fe	6.84	297	i P	Pn	10 22 48.6	+0.1
LNIG	Linares	7.90	340	i P	Pn	10 23 04.6	+1.5
LNIG				i S	Sn	10 24 33.1	+1.9
CJM	Chamela	8.31	286	i P	Pn	10 23 06.8	-1.9
TEIG	Tepich	8.32	69	ePn	Pn	10 23 07.9	-0.9
TEIG	Tepich	8.32	69	P	Pn	10 23 09.3	+0.5
	65nm,0.3s,baz=266,slow=7.8,SNR=77						
TEIG				S	Sn	10 24 40.0	-1.5
	115nm,0.3s,baz=344,slow=23,SNR=14						
TEIG	Tepich	8.32	69	eP	Pn	10 23 07.5	-1.4
ANIG	Ahuacatlan	8.34	297	i P	Pn	10 23 09.4	+0.3
ANIG				i S	Sn	10 24 35.8	-6.1
TGUH	Tegucigalpa,Un	9.55	109	ePn	Pn	10 23 26.9	+1.2
MAIG	Mazatlaan	10.88	303	i P	Pn	10 23 44.6	+0.7
MAIG	Mazatlaan	10.88	303	i P	Pn	10 23 44.5	+0.6
MAIG				i P		10 23 44.6	
HPIG		12.66	320	i P	Pn	10 24 11.1	+2.8
JCT	Junction City	13.32	348	eP	Pn	10 24 18.7	+1.5
JTS	JuntasAbangare	13.32	121	Pn	Pn	10 24 17.4	+0.1
	848nm,1.1s,SNR=60						
JTS	JuntasAbangare	13.32	121	ePn	Pn	10 24 16.8	-0.5
JTS	JuntasAbangare	13.32	121	P	Pn	10 24 17.2	-0.1
	13nm,0.3s,baz=321,slow=14,SNR=53						
TXAR	Lajitas Array	13.51	332	P	Pn	10 24 20.8	+0.9
	0.1nm,0.3s,baz=141,slow=13,SNR=25						
TXAR				LR	LR	10 30 55.1	
	comp=Z,68nm,18.6s,baz=0.0,slow=43						
SOR	Soroa	13.79	65	eP	Pn	10 24 23.1	-0.6
SOR				eS	Sn	10 26 49.3	-6.2
	comp=N,7.3nm,0.7s						
SOR				e			
	comp=E,8.6nm,0.5s						
NATX	Nacogdoches	14.36	7	ePn	Pn	10 24 31.4	0.0
LPIG	La Paz	14.46	300	P	Pn	10 24 32.7	-0.1
	comp=E,0.2nm,0.3s,baz=180,slow=2.9,SNR=3.9						
LPIG				LR	LR	10 29 58.0	
	comp=E,796nm,21.7s,baz=128,slow=36						
VBMS	Vicksburg	15.70	19	ePn	Pn	10 24 48.8	-0.1
	comp=E,314nm,1.0s						
MGV	Manicaragua	16.28	71	eP	Pn	10 24 56.4	+0.1
MGV				eS	Sn	10 27 52.2	-3.8
	comp=N,56nm,1.0s						
MGV				e			
	comp=E,4.3nm,0.6s						
MNTX	Cornudas Mount	16.30	332	ePn	Pn	10 24 58.4	+1.9
GDL2	Guadalupe Moun	16.31	336	eP	Pn	10 24 59.4	+2.8
CGIG		16.55	323	i P	Pn	10 24 59.3	-0.4
MIAR	Mount Ida	17.25	8	eP	Pn	10 25 07.5	-0.8
WMOK	Wichita Mounta	17.34	354	eP	Pn	10 25 08.5	-1.0
WMOK				pmax	pmax		
	comp=Z,43nm,0.6s						
WMOK	Wichita Mounta	17.34	354	ePn	Pn	10 25 08.5	-1.0
	comp=Z,43nm,0.6s						
DWPF	Disney	17.51	50	eP	Pn	10 25 11.5	-0.2
UALR	University of	17.67	11	eP	Pn	10 25 13.5	-0.1
	comp=Z,164nm,0.8s						
AMTX	Amarillo	17.97	346	eP	Pn	10 25 17.0	-0.2
319A	Douglas	18.05	323	⇑P	Pn	10 25 19.6	+1.3
	baz=18						
CCCC	Cccc	18.12	75	eP	Pn	10 25 24.6	+5.3
OXF	Oxford	18.17	19	eP	Pn	10 25 18.7	-0.9
BCIP	Isla Barro Col	18.22	115	ePn	Pn	10 25 21.1	+0.6
219A	White Tail Can	18.50	324	⇑P	Pn	10 25 24.8	+1.1
	baz=19,SNR=11						
318A	Bisbee	18.52	321	⇑P	Pn	10 25 24.4	+0.5
	baz=19,SNR=17						
MET	Memphis--Engin	18.58	17	ePn	Pn	10 25 31.4	+6.8
LMGC	Las Mercedes	18.70	79	eP	Pn	10 25 33.6	+7.4
BNM	Barren Site	18.93	333	eP	Pn	10 25 29.0	+0.1
218A	Dragoon	18.93	322	⇑P	Pn	10 25 29.0	0.0
	baz=19						
PLAL	Pickwick Lake	19.04	22	eP	Pn	10 25 28.2	-2.0
	comp=Z,120nm,0.6s						
LPM	Los Pinos Moun	19.07	334	ePn	Pn	10 25 30.8	+0.2
LENM	Lemitar	19.09	333	ePn	Pn	10 25 32.0	+1.1
119A	Ashpeak Ranch,	19.11	325	⇑P	Pn	10 25 31.2	+0.2
	baz=19,SNR=6.9						
217A	Green Valley	19.25	320	P	Pn	10 25 32.4	-0.4
	baz=19,SNR=18						
GNAR	Gosnell	19.35	16	ePn	Pn	10 25 33.0	-0.9
LAZ	Ladron	19.37	333	eP	Pn	10 25 34.0	-0.1
118A	Homack Ranch,	19.38	324	⇓P	Pn	10 25 33.8	-0.5
	baz=20,SNR=22						
HALT	Halls	19.48	18	eP	Pn	10 25 33.7	-1.8
Z19A	T-Link Ranch,	19.49	326	⇓P	Pn	10 25 35.1	-0.5
	baz=20						
ANMO	Albuquerque	19.55	335	eP	Pn	10 25 35.5	-0.8
ANMO	Albuquerque	19.55	335	P	Pn	10 25 34.1	-2.2
	comp=Z,0.5nm,0.3s,baz=149,slow=12,SNR=12						
ANMO				LR	LR	10 34 09.4	
	comp=Z,146nm,18.4s,baz=60,slow=40						
TUC	Tucson	19.61	322	eP	Pn	10 25 36.3	-0.7
117A	Oracle	19.77	322	⇓P	Pn	10 25 37.6	-1.3
	baz=20,SNR=13						
216A	Three Points,	19.80	320	P	Pn	10 25 38.3	-1.0
	baz=20,SNR=11						
GLAT	Glass	19.83	18	eP	Pn	10 25 37.2	-2.4
PVMO	Portageville	19.85	16	eP	Pn	10 25 38.2	-1.6
	comp=Z,900nm,1.1s						
Y19A	Nutrioso	20.00	328	⇑P	P	10 25 40.6	+0.9
	baz=20						
UTMT	University of	20.03	18	eP	P	10 25 39.4	-0.5
PARMO	Parma	20.07	16	eP	P	10 25 40.0	-0.4
SWET	Sewanee	20.08	26	eP	P	10 25 39.3	-1.2
Z17A	San Carlos Hig	20.15	324	⇓P	P	10 25 41.8	+0.6
	baz=20,SNR=24						
WVT	Waverly	20.16	21	eP	P	10 25 40.0	-1.3
Y18A	Canyon Day Jun	20.27	326	⇑P	P	10 25 43.1	+0.6
	baz=20,SNR=27						
116A	Eloy	20.34	321	⇑P	P	10 25 43.4	+0.1
	baz=20						
X19A	St. Johns	20.39	328	⇑P	P	10 25 44.8	+0.9
	baz=20,SNR=22						
Y17A	Roosevelt	20.65	324	P	P	10 25 46.8	+0.2
	baz=21,SNR=30						
115A	Sonoran Desert	20.75	320	P	P	10 25 48.3	+0.5
	baz=21,SNR=14						
X18A	Snowflake	20.81	327	⇑P	P	10 25 49.1	+0.8
	baz=21,SNR=36						
CPCT	Cooper Cave	20.89	29	eP	P	10 25 47.5	-1.8
CCM	Cathedral Cave	21.06	12	eP	P	10 25 49.4	-1.6
X17A	Forest Lakes	21.11	326	⇑P	P	10 25 52.4	+0.8
	baz=21						
Y16A	Circle Bar Ran	21.14	324	P	P	10 25 52.5	+0.5
	baz=21,SNR=16						
FVM	French Village	21.16	14	eP	P	10 25 50.4	-1.7
FVM				pmax	pmax		
	comp=Z,55nm,0.8s,mb4.9						
FVM	French Village	21.16	14	eP	P	10 25 50.4	-1.8
	comp=Z,55nm,0.8s,mb4.9						
SIUC	Southern Illin	21.21	16	eP	P	10 25 51.5	-1.0
	comp=Z,98nm,0.8s,mb5.2						
MASC	Masc	21.31	79	eP	pP	10 26 08.8	+4.1
COW	Cow Castle Cre	21.34	39	eP	P	10 25 52.1	-2.0
NHSC	New Hope	21.47	40	eP	P	10 25 53.5	-2.0
CBKS	Cedar Bluff	21.48	353	eP	P	10 25 55.7	+0.2
CBKS				pmax	pmax		
	comp=Z,71nm,0.8s,mb5.0						
CBKS	Cedar Bluff	21.48	353	eP	P	10 25 55.7	+0.2
	comp=Z,71nm,0.8s,mb5.0						
X16A	Lo Mia Camp, P	21.52	325	P	P	10 25 56.6	+0.6
	baz=22,SNR=33						
KSU1	Kansas State U	21.59	360	eP	P	10 25 55.0	-1.6
	comp=Z,72nm,0.8s,mb5.2						
Z14A	Wintersburg	21.64	320	⇓P	P	10 25 57.8	+0.4
	baz=22						
JSC	Jenkinsville	21.65	36	eP	P	10 25 54.8	-2.6
Y15A	Casa Rosa Ranc	21.69	322	⇑P	P	10 25 58.4	+0.5
	baz=22,SNR=15						
SDCO	Great Sand Dun	21.70	341	eP	P	10 25 58.5	+0.6
SLM	Saint Louis	21.83	13	eP	P	10 25 58.3	-1.0
SLM				pmax	pmax		
	comp=Z,65nm,0.9s,mb5.1						
SLM	Saint Louis	21.83	13	eP	P	10 25 58.3	-1.0
	comp=Z,65nm,0.9s,mb5.1						
USIN	University of	21.89	19	eP	P	10 25 58.4	-1.5
	comp=Z,90nm,0.8s,mb5.2						
X15A	Humboldt	22.02	323	P	P	10 26 01.9	+0.5
	baz=22,SNR=19						
LHS	Liberty Hill	22.05	37	eP	P	10 26 00.1	-1.6
LHS				e*PP		10 26 14.9	
Y14A	Wickenburg	22.08	321	⇑P	P	10 26 02.2	+0.3
	baz=22,SNR=9.3						
TZTN	Tazewell	22.24	29	eP	P	10 26 01.8	-1.9
	comp=Z,131nm,1.0s,mb5.3						
WUAZ	Wupatki	22.31	327	eP	P	10 26 05.2	+0.7
	comp=Z,110nm,0.9s,mb5.3						
WUAZ	Wupatki	22.31	327	⇑P	P	10 26 04.8	+0.4
	baz=22						
MVCO	Mesa Verde	22.33	334	eP	P	10 26 06.2	+1.6
MVCO	Mesa Verde	22.33	334	⇑P	P	10 26 04.8	+0.2
	baz=22						
X14A	Yava	22.38	322	⇑P	P	10 26 05.9	+0.8
	baz=22,SNR=9.9						
Y13A	Salome	22.49	320	⇑P	P	10 26 06.7	+0.4
	baz=23						
W15A	Williams	22.54	325	⇓P	P	10 26 07.2	+0.4
	baz=23,SNR=16						
GLA	Glamis	22.63	317	eP	P	10 26 07.8	-0.1
GLA	Glamis	22.63	317	⇓P	P	10 26 08.4	+0.5
	baz=23,SNR=11						
Y12C	Blythe	22.88	319	⇓P	P	10 26 10.7	+0.2
	baz=23,SNR=6.0						
PDMCI	Parker Dam,Lak	23.01	320	⇑P	P	10 26 11.8	-0.1
	baz=23,SNR=8.2						
W14A	Seligman	23.02	323	P	P	10 26 12.1	+0.2
	baz=23,SNR=13						
X13A	Yucca	23.02	321	P	P	10 26 12.1	+0.1
	baz=23,SNR=12						
PV01	Paradox Valley	23.15	335	eP	P	10 26 13.8	+0.5
V14A	Boquillas Ranc	23.34	324	P	P	10 26 15.4	+0.2
	baz=24,SNR=24						
BLO	Bloomington	23.36	20	eP	P	10 26 13.6	-1.7
W13A	Hualapai Mount	23.41	322	P	P	10 26 16.1	+0.3
	baz=24,SNR=6.9						
BC3	Big Chuckw Mtn	23.42	317	⇑P	P	10 26 16.1	+0.2
	baz=24,SNR=5.9						
SMCO	Snowmass	23.49	339	eP	P	10 26 18.0	+1.5
	comp=Z,100nm,1.5s,mb5.0						
T16A	Glen Canyon Da	23.52	329	⇓P	P	10 26 16.6	-0.2
	baz=24,SNR=8.1						
IRM	Iron Mountain	23.55	319	⇓P	P	10 26 17.1	0.0
	baz=24						
PV10	Paradox Valley	23.55	335	eP	P	10 26 16.2	-0.9
ISCO	Idaho Springs	23.63	342	eP	P	10 26 18.0	+0.2
ISCO				pmax	pmax		
	comp=Z,26nm,0.7s,mb4.8						
ISCO	Idaho Springs	23.63	342	eP	P	10 26 18.0	+0.1
	comp=Z,26nm,0.7s,mb4.8						
HDIL	Hopedale	23.88	14	eP	P	10 26 18.1	-2.0
U14A	Mt Trumbull	23.95	325	P	P	10 26 21.0	+0.1
	baz=24,SNR=18						
T15A	Red Dirt Ranch	23.98	328	P	P	10 26 21.3	+0.2
	baz=24,SNR=23						
BELC	Belle Mtn.	23.99	317	⇑P	P	10 26 21.6	+0.4
	baz=24						
V13A	Grand Canyon W	23.99	323	⇓P	P	10 26 21.2	0.0
	baz=24						
PFO	Pinyon Flat Ob	24.05	316	eP	P	10 26 21.8	+0.1
PFO				e*PP		10 26 37.1	
PFO	Pinyon Flat Ob	24.05	316	P	P	10 26 20.9	-0.9
	comp=Z,6.8nm,1.0s,mb4.0,baz=203,slow=1.5,SNR=4.7						
PFO				LR	LR	10 36 34.1	
	comp=Z,362nm,20.6s,MS3.8,baz=316,slow=38						
SDDR	Presa de Saban	24.05	82	eP	P	10 26 21.8	-0.1
LDFC	Landfair	24.12	320	eP	P	10 26 23.3	+0.9
LDFC				epP		10 26 38.9	
W12A	Cal Nev Ari	24.13	321	⇑P	P	10 26 22.0	-0.5
	baz=24						
ELN	Prospectdale	24.14	32	eP	P	10 26 20.6	-1.9
GMRC	Granite Mounta	24.27	319	⇑P	P	10 26 23.5	-0.2
	baz=24						
BLA	Blacksburg	24.29	33	eP	P	10 26 21.8	-2.1
BLA				pmax	pmax		
	comp=Z,91nm,0.7s,mb5.3						
BLA	Blacksburg	24.29	33	eP	P	10 26 21.8	-2.2
	comp=Z,91nm,0.7s,mb5.3						
T14A	Hurricane	24.38	327	⇑P	P	10 26 24.4	-0.4
	baz=24,SNR=12						
U13A	Pakoon Wash	24.38	324	P	P	10 26 24.9	+0.2
	baz=24,SNR=12						
V12A	Nelson	24.41	322	P	P	10 26 25.1	+0.1
	baz=24,SNR=10.0						
MURC	Murrieta	24.54	315	⇑P	P	10 26 26.0	-0.3
	baz=25						
SCIA	State Center	24.55	6	eP	P	10 26 25.2	-1.1
U12A	Valley of Fire	24.72	323	⇑P	P	10 26 27.4	-0.4
	baz=25						
SRU	San Rafael	24.79	333	eP	P	10 26 28.6	+0.2
T13A	Saint George	24.79	325	P	P	10 26 28.8	+0.4
	baz=25,SNR=16						
V11A	Goodsprings	24.83	321	P	P	10 26 28.6	-0.2
	baz=25,SNR=7.5						
TUQ	Turquoise Mtn.	24.86	320	⇓P	P	10 26 28.7	-0.4
	baz=25						
CCUT	Cedar City	24.90	327	eP	P	10 26 29.6	+0.2
S14A	Cedar City	24.95	328	⇑P	P	10 26 29.8	-0.1
	baz=25,SNR=19						
PHWY	Pilot Hill	24.98	344	eP	P	10 26 30.9	+0.8
PHWY				epP		10 26 47.3	
MSU	Marysvale	25.05	330	eP	P	10 26 31.7	+0.9
ROSC	El Rosal	25.10	117	P	P	10 26 30.5	-1.0
	comp=Z,3.6nm,0.4s,mb4.2,baz=98,slow=20,SNR=2.2						
ARUT	Antelope Range	25.11	327	eP	P	10 26 32.1	+0.7
SHPR	Sheep Range	25.13	323	eP	P	10 26 31.3	-0.2
S13A	Holt Ranch, En	25.18	326	⇑P	P	10 26 32.0	0.0
	baz=25,SNR=21						
U11A	Corn Creek	25.20	322	⇓P	P	10 26 32.2	0.0
	baz=25						
BFSC	Mount Baldy St	25.23	316	⇑P	P	10 26 32.4	0.0
	baz=25						
TMUT	Trail Mountain	25.24	333	eP	P	10 26 33.7	+1.2
R14A	James Farms, M	25.29	329	⇑P	P	10 26 32.9	-0.1
	baz=25						
GSC	Goldstone	25.32	319	eP	P	10 26 33.4	+0.1
GSC				e*PP	pP	10 26 49.4	+4.2
GSC	Goldstone	25.32	319	⇓P	P	10 26 32.8	-0.5
	baz=25						
SHOC	Shoshone	25.38	320	⇑P	P	10 26 34.3	+0.5
	baz=26						
MWC	Mount Wilson	25.48	315	eP	P	10 26 35.0	+0.2
MWC				e*PP	pP	10 26 51.1	+4.4
ACSO	Alum Creek Sta	25.57	25	eP	P	10 26 34.0	-1.5
T11A	Corn Creek, Al	25.68	324	P	P	10 26 36.5	0.0
	baz=26,SNR=8.9						
S12A	Delamar Landin	25.73	325	⇑P	P	10 26 37.1	+0.1
	baz=26,SNR=10						
RWWY	Rawlins	25.84	341	eP	P	10 26 40.3	+2.4
	comp=Z,100nm,1.0s,mb5.3						
JFWS	Jewell Farm	25.96	11	eP	P	10 26 37.5	-1.4
MPU	Maple Canyon	26.02	333	eP	P	10 26 42.3	+2.7
TPNV	Topopah Spring	26.07	322	eP	P	10 26 40.4	+0.4
TPNV	Topopah Spring	26.07	322	⇓P	P	10 26 40.4	+0.4
	baz=26						
FURC	Furnace Creek,	26.11	321	⇓P	P	10 26 40.5	+0.1
	baz=26						
URVA	University of	26.11	36	eP	P	10 26 38.4	-2.0
R12A	Pony Springs,	26.13	326	⇓P	P	10 26 40.6	0.0
	baz=26,SNR=14						
NLU	North Lily Min	26.16	332	eP	P	10 26 37.4	-3.4
NLU				epP	pP	10 26 57.3	+4.6
DAU	Daniels Canyon	26.18	334	eP	P	10 26 41.5	+0.4
ECSD	EROS,Sioux Fal	26.21	360	eP	P	10 26 39.8	-1.5
MPMC	Manual Prospec	26.23	319	⇑P	P	10 26 41.3	-0.3
	baz=26						
S11A	Rachel	26.26	324	P	P	10 26 42.2	+0.4
	baz=26,SNR=17						
Q13A	Wheeler Ranch,	26.30	328	P	P	10 26 42.4	+0.3
	baz=26,SNR=26						
JLU	Jordanelle	26.42	334	eP	P	10 26 44.0	+0.8
MCWV	Mont Chateau	26.48	30	eP	P	10 26 42.4	-1.3
	comp=Z,83nm,0.8s,mb5.3						
ARVC	Arvin	26.53	316	⇓P	P	10 26 44.2	0.0
	baz=27						
SDV	Santo Domingo	26.61	105	eP	P	10 26 45.0	-0.2
SDV	Santo Domingo	26.61	105	P	P	10 26 45.3	+0.2
	comp=Z,144nm,0.8s,mb5.6,baz=320,slow=5.2,SNR=201						
CTU	Camp Tracy	26.63	334	eP	P	10 26 44.8	-0.2
CTU				epP	pP	10 27 01.9	+4.9
R11A	Troy Canyon, C	26.67	325	P	P	10 26 45.8	+0.4
	baz=27,SNR=11						
DUG	Dugway	26.69	331	eP	P	10 26 46.1	+0.5
DUG	Dugway	26.69	331	⇑P	P	10 26 46.0	+0.3
	baz=27						
Q12A	Willow Creek R	26.77	327	⇑P	P	10 26 46.3	-0.1
	baz=27						
CWC	Cottonwood Cre	26.84	319	⇓P	P	10 26 46.5	-0.5
	baz=27						
S10A	Tonopah Range,	26.93	323	P	P	10 26 48.0	+0.2
	baz=27,SNR=13						
R10A	Warm Springs	27.02	324	⇑P	P	10 26 48.7	+0.1
	baz=27,SNR=7.2						
Q11A	Duckwater	27.07	326	⇓P	P	10 26 49.0	0.0
	baz=27,SNR=11						
VES	Vestal, Richgr	27.11	317	P	P	10 26 49.8	+0.3
	baz=27,SNR=7.2						
P12A	McGill	27.14	328	⇑P	P	10 26 49.8	+0.1
	baz=27						
S09A	Goldfield	27.16	322	P	P	10 26 49.6	-0.3
	baz=27,SNR=8.6						
O13A	Hicks Ranch, I	27.18	330	⇑P	P	10 26 49.9	-0.2
	baz=27						
HWUT	Hardware Ranch	27.31	335	eP	P	10 26 52.3	+1.1
BGU	Big Grassy Mou	27.37	332	eP	P	10 26 55.3	+3.6
N14A	Grayback Hills	27.39	332	⇓P	P	10 26 51.6	-0.3
	baz=28						
SMMC	Simmler	27.42	315	⇑P	P	10 26 52.1	-0.1
	baz=28						
R09A	Tonopah	27.42	323	P	P	10 26 52.2	0.0
	baz=28,SNR=9.9						
Q10A	Clear Creek Ra	27.45	325	⇑P	P	10 26 53.2	+0.7
	baz=28,SNR=12						
RCTC	Rector, Farmer	27.50	318	P	P	10 26 53.2	+0.2
	baz=28,SNR=5.4						
M15A	Larsen Ranch,	27.56	334	⇑P	P	10 26 53.4	0.0
	baz=28						
BW06	Boulder Array	27.57	339	eP	P	10 26 54.6	+1.2
S08C	White Mtn Res	27.57	321	⇓P	P	10 26 53.8	+0.2
	baz=28						
HELL	Mitchell Peak	27.58	318	P	P	10 26 54.0	+0.3
	baz=28,SNR=10						
O12A	Currie	27.66	329	P	P	10 26 54.6	+0.3
	baz=28,SNR=11						
SDMD	Soldier's Deli	27.81	34	eP	P	10 26 54.4	-1.2
N13A	Wendover, West	27.86	331	⇑P	P	10 26 56.3	+0.2
	baz=28						
ALLY	Alegheny Colle	27.94	27	eP	P	10 26 55.1	-1.7
HVU	Hansel Valley	27.96	334	eP	P	10 26 57.9	+0.9
M14A	Sheep Mountain	27.98	332	⇓P	P	10 26 56.9	-0.3

MTP Monte Pirata 29.52 84 eP P 10 27 09.7 -1.4
K12A Draper Farm, C 29.58 332 ⇓P P 10 27 11.3 -0.1
baz=30
RLMT Red Lodge 29.58 342 eP P 10 27 11.2 -0.1
L11A Cat Creek Ranc 29.61 330 P P 10 27 11.9 +0.3
baz=30,SNR=13
PAHR Pah Rah Range 29.74 323 eP P 10 27 13.4 +0.5
N08A GE Springer Mi 29.78 326 ⇑P P 10 27 13.3 +0.1
baz=30
J13A Cove Ranch, Pi 29.88 334 ⇓P P 10 27 13.8 -0.2
baz=30,SNR=5.1
L10A Juniper Basin 29.88 329 P P 10 27 14.4 +0.4
baz=30,SNR=14
M09A Marrel Ranch, 29.89 327 P P 10 27 14.5 +0.4
baz=30,SNR=13
LAVA Lava Cap Winer 29.94 320 P P 10 27 14.9 +0.3
baz=30,SNR=5.8
BRNJ Basking Ridge 29.94 35 eP P 10 27 12.7 -1.9
HLID Hailey 30.11 334 P P 10 27 16.6 +0.6
baz=30,SNR=5.8
J12A Stokes Ranch, 30.16 332 ⇓P P 10 27 16.8 +0.3
baz=30
ATAH Atahualpa 30.20 142 P P 10 27 17.6 +0.5
comp=Z,23nm,0.8s,mb5.0,baz=332,slow=5.7,SNR=12
P05C Yuba Gap, Truc 30.20 321 ⇓P P 10 27 17.3 +0.4
baz=30
K11A Parker Ranch, 30.20 331 ⇓P P 10 27 17.2 +0.3
baz=30
N07B Gerlach 30.24 325 ⇑P P 10 27 17.4 +0.2
baz=30
I13A Wildhorse Cree 30.27 334 ⇑P P 10 27 17.9 +0.4
baz=30
BINY Binghamton 30.30 31 eP P 10 27 16.3 -1.5
M08A Happy Creek Ra 30.39 326 ⇑P P 10 27 18.8 +0.3
baz=30
BEKR Beckwourth 30.41 322 P P 10 27 19.1 +0.4
baz=30,SNR=6.0
L09A Wilkinson Ranc 30.43 328 P P 10 27 18.8 -0.1
baz=30,SNR=6.6
MCMT McKenzie Canyo 30.54 337 eP P 10 27 20.4 +0.6
K10A MacKenzie Ranc 30.61 330 ⇑P P 10 27 20.6 +0.2
baz=31
MFID Camas Ranch 30.61 332 ⇑P P 10 27 20.3 -0.2
baz=31
G15A Dillon 30.69 338 ⇑P P 10 27 21.2 0.0
baz=31,SNR=8.8
N06A Buffalo Meadow 30.70 324 P P 10 27 21.6 +0.4
baz=31,SNR=8.7
EYMN Ely 30.71 7 eP P 10 27 20.4 -0.8
comp=Z,15nm,0.9s,mb4.8
OHCM Honcut 30.75 320 eP P 10 27 21.6 -0.2
M07A Soldier Meadow 30.77 326 ⇑P P 10 27 21.6 -0.3
baz=31
AGMN Agassiz Refuge 30.78 1 eP P 10 27 20.4 -1.5
O05C Quincy 30.80 322 ⇑P P 10 27 22.1 -0.1
baz=31
BOZ Bozeman (W) 30.81 339 eP P 10 27 23.9 +1.7
BOZ pmax pmax
comp=Z,54nm,2.8s,mb4.9
BOZ Bozeman (W) 30.81 339 eP P 10 27 23.9 +1.7
comp=Z,54nm,2.8s,mb4.9
BOZ Bozeman (W) 30.81 339 ⇓P P 10 27 22.4 +0.3
baz=31
H13A Challis 30.87 335 ⇑P P 10 27 23.2 +0.5
baz=31,SNR=7.2
SUTB Sutter Butte 30.87 320 ⇑P P 10 27 22.8 0.0
baz=31
ORV Oroville 30.89 321 P P 10 27 23.1 +0.1
baz=31,SNR=5.9
L08A Fields 30.90 328 P P 10 27 23.1 0.0
baz=31,SNR=8.6
DLMT Dillon 30.90 338 eP P 10 27 23.3 +0.3
comp=Z,15nm,0.8s,mb4.9
K09A Rome 30.96 329 P P 10 27 23.6 0.0
baz=31,SNR=17
I11A Placerville 31.06 332 P P 10 27 24.6 +0.2
baz=31,SNR=6.6
H12A Diamond D Ranc 31.10 334 ⇑P P 10 27 25.0 +0.3
baz=31,SNR=8.9
G14A Jackson 31.12 337 ⇑P P 10 27 25.8 +0.9
baz=31
O04C Chester 31.13 322 P P 10 27 25.5 +0.4
baz=31,SNR=7.0
WVOR Wild Horse Val 31.23 328 eP P 10 27 24.9 -1.0
WVOR pmax pmax
comp=Z,26nm,1.1s,mb5.0
WVOR Wild Horse Val 31.23 328 eP P 10 27 24.9 -1.0
comp=Z,26nm,1.1s,mb5.0
LRM Limekiln Ridge 31.25 338 eP P 10 27 26.2 +0.2
F15A Butte 31.28 338 P P 10 27 26.2 -0.1
baz=31,SNR=7.7
G13A Cobalt 31.30 336 ⇓P P 10 27 26.9 +0.4
baz=31
L07A Adell 31.30 326 ⇓P P 10 27 26.0 -0.6
baz=31
M06C Likely Place G 31.36 324 P P 10 27 27.2 +0.1
baz=32,SNR=6.2
J09A Fry Pan Ranch, 31.46 330 P P 10 27 28.1 +0.1
baz=32,SNR=5.1
HATC Hat Creek Radi 31.67 323 ⇑P P 10 27 29.7 -0.1
baz=32
GASB Alder Springs 31.70 320 ⇓P P 10 27 30.7 +0.6
baz=32
H11A Donnelly 31.71 333 ⇑P P 10 27 30.4 +0.3
baz=32
K07A Rock Creek Ran 31.73 327 P P 10 27 30.1 -0.2
baz=32,SNR=12
MOD Modoc 31.74 325 eP P 10 27 29.8 -0.6
MOD Modoc 31.74 325 ⇓P P 10 27 29.7 -0.7
baz=32
J08A Circle Bar Ran 31.82 329 P P 10 27 30.9 -0.2
baz=32,SNR=12
E15A Deer Lodge 31.83 339 P P 10 27 30.9 -0.3
baz=32,SNR=6.4
M05C Lookout 31.84 324 ⇑P P 10 27 30.8 -0.5
baz=32
F13A Darby 31.91 336 ⇓P P 10 27 31.8 -0.1
baz=32,SNR=5.4
I09A Lost Marbles R 31.93 330 ⇓P P 10 27 31.4 -0.6
baz=32
H10A Noah's Angus R 31.95 332 ⇑P P 10 27 31.6 -0.6
baz=32
L05A Lakeview 32.12 325 ⇓P P 10 27 33.2 -0.6
baz=32
E14A Clinton 32.13 338 ⇓P P 10 27 33.1 -0.6
baz=32
QUA2 Belchertown 32.24 35 eP P 10 27 32.3 -2.5
comp=Z,70nm,0.8s,mb5.5
J07A Hines 32.25 328 ⇑P P 10 27 34.5 -0.4
baz=32
F12A Elk City 32.25 335 ⇓P P 10 27 34.5 -0.4
baz=32,SNR=9.2
I08A Drewsey 32.27 330 ⇓P P 10 27 34.7 -0.4
baz=32
ACCN Adirondack Com 32.33 32 eP P 10 27 34.0 -1.6
D15A Lincoln 32.33 339 ⇓P P 10 27 35.4 -0.2
baz=32
BBSR BB Station 32.35 57 eP P 10 27 34.8 -1.2
EGMT Eagleton 32.36 343 eP P 10 27 37.0 +1.2
comp=Z,18nm,1.0s,mb4.8
EGMT Eagleton 32.36 343 ⇓P P 10 27 35.0 -0.8
baz=32
G11A Walters Elk Ra 32.38 334 P P 10 27 35.5 -0.5
baz=32,SNR=9.2
BMO Blue Mountains 32.40 332 eP P 10 27 33.1 -3.1
E13A Victor 32.41 337 ⇑P P 10 27 35.4 -0.8
baz=32
H09A Durkee 32.42 331 ⇑P P 10 27 35.8 -0.5
baz=32
CHMT Chamberlain Mo 32.47 338 eP P 10 27 36.5 -0.3
NCB Newcomb 32.48 31 eP P 10 27 35.2 -1.7
comp=Z,38nm,0.8s,mb5.3
M04C Macdoel 32.51 324 ⇑P P 10 27 36.7 -0.5
baz=33
MSO Missoula 32.64 338 eP P 10 27 37.7 -0.6
comp=Z,38nm,2.3s,mb4.9
MSO epP pP 10 27 53.3 +3.0
G10A Bishop Farm, J 32.66 333 P P 10 27 37.2 -1.2
baz=33,SNR=8.3
D14A Greenough 32.70 338 ⇓P P 10 27 38.4 -0.4
baz=33
F11A Grangeville 32.72 334 ⇑P P 10 27 38.6 -0.4
baz=33
ULM Lac du Bonnet 32.74 1 P P 10 27 36.7 -2.3
ULM pP pP 10 27 55.2 +4.1
ULM LR LR 10 42 43.1
ULM Lac du Bonnet 32.74 1 P P 10 27 36.7 -2.3
comp=Z,16nm,0.7s,mb5.0,baz=177,slow=9.3,SNR=22
ULM pP pP 10 27 55.2 +4.1
comp=Z,10nm,0.6s,baz=188,slow=11,SNR=5.0
ULM LR LR 10 42 43.1
comp=Z,102nm,18.3s,MS3.6,baz=116,slow=39
N02C Big Bar 32.76 321 ⇓P P 10 27 38.8 -0.7
baz=33
H08A Prairie City 32.78 330 ⇓P P 10 27 38.7 -0.8
baz=33
LONY Lake Ozonia 32.79 30 eP P 10 27 38.5 -1.1
HRV Adam Dziewonsk 32.83 35 eP P 10 27 38.4 -1.6
I07A Izee 32.86 329 ⇓P P 10 27 39.4 -0.8
baz=33
WES Weston 32.88 36 eP P 10 27 39.5 -0.9
WES pmax pmax
comp=Z,103nm,1.3s,mb5.6
WES Weston 32.88 36 eP P 10 27 39.5 -0.9
comp=Z,103nm,1.3s,mb5.6
YBH Yreka Blue Hor 32.98 323 ⇓P P 10 27 39.6 -1.7
baz=33
D13A Huson 33.05 337 ⇓P P 10 27 41.3 -0.5
baz=33
I06A Prineville 33.11 328 ⇓P P 10 27 41.8 -0.7
baz=33
E11A Bogner Ranch, 33.12 335 ⇓P P 10 27 41.7 -0.8
baz=33
J05A Fort Rock 33.18 326 ⇓P P 10 27 43.3 +0.2
baz=33
F10A Beach Ranch, E 33.24 333 P P 10 27 43.6 +0.1
baz=33,SNR=11
H07A Lands Inn, Kim 33.26 329 ⇓P P 10 27 42.8 -0.9
baz=33
HNH Hanover 33.26 33 eP P 10 27 43.2 -0.6
F09A S2 Ranch, Elgi 33.33 332 ⇑P P 10 27 43.3 -1.0
baz=33
D12A Red Ives Fores 33.36 336 ⇓P P 10 27 43.7 -0.8
baz=34
C14A Swan Lake 33.38 339 ⇓P P 10 27 43.9 -0.8
baz=34
FRNY Flat Rock 33.42 30 eP P 10 27 43.9 -1.2
FFD Franklin Falls 33.43 34 eP P 10 27 44.4 -0.8
comp=Z,78nm,0.8s,mb5.7
C13A Hot Springs 33.59 338 ⇑P P 10 27 45.7 -0.8
baz=34
J04A Umpqua Nationa 33.62 325 ⇓P P 10 27 46.8 -0.1
baz=34
B13A Whitefish 34.14 339 P P 10 27 50.7 -0.7
baz=34,SNR=6.2
J02A Umpqua 34.51 324 ⇑P P 10 27 53.9 -0.7
baz=35
A13A Flathead Natio 34.60 339 ⇑P P 10 27 55.7 +0.4
baz=35
B12A Libby 34.62 338 ⇑P P 10 27 55.5 0.0
baz=35
KEBM Edson Butte 34.63 323 epP pP 10 28 21.3 +14
H04A Detroit Lake 34.64 327 P P 10 27 55.1 -0.6
baz=35,SNR=5.5
C10A Spilker Farm, 34.75 335 ⇓P P 10 27 56.8 +0.3
baz=35
B11A Sandpoint 34.89 337 ⇓P P 10 27 57.5 -0.2
baz=35
F05A White Salmon 35.12 329 ⇓P P 10 27 59.9 +0.1
baz=35
NNA Nana 35.13 145 P P 10 27 57.5 -2.7
comp=Z,12nm,0.9s,mb4.8,baz=293,slow=6.7,SNR=4.9
H03A Soap Creek Ran 35.22 326 ⇓P P 10 28 00.6 -0.1
baz=35
WVL Waterville 35.23 34 eP P 10 27 60.0 -0.8
E06A Yakima 35.37 330 ⇑P P 10 28 02.3 +0.4
baz=36
B09A Rice 35.57 335 P P 10 28 03.5 -0.1
baz=36,SNR=6.2
E05A Randle 35.75 330 ⇑P P 10 28 05.3 +0.1
baz=36
PKME Peaks-Kenny Pk 35.89 33 eP P 10 28 05.7 -0.8
B08A Colville Reser 36.01 334 ⇓P P 10 28 07.0 -0.4
baz=36
D05A Enumclaw 36.31 330 ⇓P P 10 28 09.7 -0.3
baz=36
A08A Turner Farm, O 36.44 335 ⇑P P 10 28 11.2 +0.1
baz=36
EMMW East Machias 36.53 36 eP P 10 28 10.8 -1.1
GNW Green Mountain 36.98 330 eP P 10 28 14.8 -0.9
FFC Flin Flon 37.45 355 P P 10 28 18.1 -1.5
comp=Z,93nm,0.7s,mb5.7,SNR=9.7
FFC Flin Flon 37.45 355 eP P 10 28 18.3 -1.3
FFC pmax pmax
comp=Z,16nm,0.8s,mb4.9
FFC Flin Flon 37.45 355 eP P 10 28 18.3 -1.3
comp=Z,16nm,0.8s,mb4.9
EDM Edmonton 38.05 344 eP P 10 28 23.6 -1.0
LPAZ La Paz 43.68 139 P P 10 29 09.7 -1.8
comp=Z,8.3nm,0.6s,mb4.6,baz=328,slow=7.5,SNR=45
LPAZ pP pP 10 29 27.8 +4.0
comp=Z,2.4nm,0.6s,baz=294,slow=11,SNR=2.6
SCHQ Schefferville 43.73 25 P P 10 29 09.4 -2.0
comp=Z,34nm,0.7s,mb5.2,baz=231,slow=6.4,SNR=78
SCHQ LR LR 10 49 12.5
comp=Z,84nm,22.0s,MS3.6,baz=282,slow=38
YKA Yellowknife Ar 46.75 349 P P 10 29 33.2 -2.0
comp=Z,4.9nm,0.7s,mb4.5,baz=154,slow=7.2,SNR=33
YKA pP pP 10 29 50.7 +3.0
comp=Z,5.3nm,0.7s,baz=154,slow=7.2,SNR=12
YKA PcP PcP 10 31 05.0 -2.9
comp=Z,2.4nm,0.9s,baz=151,slow=3.6,SNR=5.0
YKW3 Yellowknife Ar 46.81 349 eP P 10 29 34.1 -1.6
SIV San Ignacio 48.24 132 P P 10 29 44.5 -2.9
comp=Z,27nm,0.9s,mb5.3,baz=306,slow=8.1,SNR=103
SIV pP pP 10 30 04.2 +4.3
comp=Z,8.2nm,0.8s,baz=294,slow=9.1,SNR=4.3
LCO Las Campanas 52.50 151 eP P 10 30 17.5 -1.9
comp=Z,34nm,1.1s,mb5.2
DAWY Dawson 54.88 339 eP P 10 30 34.6 -1.7
RKT Rikitea 55.09 224 eLR LR 10 46 30.3
comp=Z,382nm,30.0s,baz=40
RKT Rikitea 55.09 224 eT 11 28 16.4
comp=Z,3.2nm,0.3s
MENT Mentasta 55.82 336 eP P 10 30 42.0 -1.2
EGAK Eagle 55.92 339 eP P 10 30 40.2 -3.6
comp=Z,26nm,1.1s,mb5.2
INK Inuvik 55.94 344 eP P 10 30 42.1 -1.8
comp=Z,652nm,1.0s
RES Resolute Bay 57.27 1 eP P 10 30 51.1 -2.2
comp=Z,191nm,0.8s,mb6.2
PMR Palmer 57.38 333 eP P 10 30 53.0 -1.3
PMR pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
PMR Palmer 57.38 333 eP P 10 30 53.0 -1.3
comp=Z,8.4nm,0.8s,mb4.8
KDAK Kodiak Island 57.50 328 LR LR 10 55 59.9
comp=Z,108nm,18.9s,MS4.0,baz=124,slow=36
CPUP Villa Florida 57.84 138 P P 10 30 54.2 -3.8
CPUP sP sP 10 31 19.6 +3.6
CPUP LR LR 10 55 05.1
CPUP Villa Florida 57.84 138 P P 10 30 54.2 -3.8
comp=Z,13nm,0.8s,mb5.0,baz=308,slow=7.1,SNR=20
CPUP sP sP 10 31 19.6 +3.6
comp=Z,3.7nm,0.7s,baz=261,slow=3.3,SNR=3.1
CPUP LR LR 10 55 05.1
comp=Z,92nm,21.4s,MS3.9,baz=307,slow=35
BDFB Brasilia 58.06 122 P P 10 30 57.2 -2.5
comp=Z,6.0nm,0.8s,mb4.7,baz=287,slow=16,SNR=14
BDFB LR LR 10 56 33.5
comp=Z,61nm,19.9s,MS3.7,baz=134,slow=37
MCK McKinley 58.26 336 eP P 10 30 59.0 -1.4
MCK e 10 31 17.7
MCK pmax pmax
comp=Z,27nm,1.2s,mb5.2
MCK McKinley 58.26 336 eP P 10 30 59.0 -1.4
comp=Z,27nm,1.2s,mb5.2
MCK e 10 31 17.7
COLA College 58.38 337 ⇑eP P 10 30 59.7 -1.6
COLA College 58.38 337 eP P 10 30 59.3 -2.0
comp=Z,12nm,0.8s,mb5.0
SVW2 Sparrevohn 60.06 331 eP P 10 31 10.9 -2.0
TTA Tatalina 60.87 333 eP P 10 31 16.5 -1.9
PPT Papeete 62.71 239 eLR LR 10 49 55.8
comp=Z,373nm,28.8s,baz=53
PPT Papeete 62.71 239 LR LR 10 51 46.3
comp=Z,6.0nm,19.5s,baz=71,slow=29
PLCA Paso Flores 62.72 158 P P 10 31 28.3 -2.7
comp=Z,36nm,0.9s,mb5.5,baz=325,slow=7.9,SNR=72
PLCA LR LR 10 54 45.2
comp=Z,116nm,19.6s,MS4.1,baz=9.6,slow=32
TRQA Tornquist 64.05 150 eP P 10 31 36.3 -3.6
comp=Z,48nm,1.1s,mb5.4
TBI Tubuai 65.68 234 eLR LR 10 51 27.5
comp=Z,360nm,29.0s,baz=56
TNA Tin City 66.56 335 eP P 10 31 56.0 +0.2
comp=Z,18nm,1.0s,mb5.0
DAG Danmarks Havn 70.37 14 eP P 10 32 18.0 -1.5
DAG i 10 32 35.9
DAG pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
DAG Danmarks Havn 70.37 14 i P P 10 32 18.0 -1.5
comp=Z,2.7nm,0.6s,mb4.3
DAG i 10 32 35.9
EBAJ Bajamar 73.48 65 P P 10 32 30.4 -8.6
comp=Z,284nm,1.8s,mb5.9
DCN Croghan 75.79 38 eP P 10 32 53.0 +1.1
DCN Croghan 75.79 38 eP pP 10 33 09.0 +3.9
USHA Ushuaia 75.87 164 P P 10 32 48.9 -3.1
comp=Z,13nm,0.8s,mb4.9,baz=296,slow=3.2,SNR=5.9
DMUB Kingscourt 75.91 38 eP P 10 32 53.7 +1.2
DMUB Kingscourt 75.91 38 eP pP 10 33 09.9 +4.1
DLF Lyons Farm 76.24 38 eP pP 10 33 11.2 +3.5
BILL Bilibino 76.64 337 ⇑iP P 10 32 54.3 -2.1
BILL i 10 33 13.2
BILL pmax pmax
comp=Z,13nm,1.3s,mb4.7
BILL Bilibino 76.64 337 eP P 10 32 54.8 -1.6
comp=Z,28nm,1.7s,mb4.9
PTOM Tomar 77.70 52 eP P 10 33 05.6 +2.6
ESK Eskdalemuir 77.73 36 eP P 10 33 01.4 -1.4
ESK e*PP pP 10 33 19.8 +3.7
ESK pmax pmax
comp=Z,15nm,0.9s,mb4.9
ESK Eskdalemuir 77.73 36 eP P 10 33 01.4 -1.4
comp=Z,15nm,0.9s,mb4.9
ESK epP pP 10 33 19.8 +3.7
EPON Pontenova 77.83 48 P P 10 33 04.8 +1.2
comp=Z,14nm,0.6s,mb5.1
PVIS Viseu 77.85 51 eP P 10 33 05.9 +2.1
MORF Marmelete 78.02 55 eP P 10 33 07.5 +2.7
MTE Manteigas 78.18 51 eP P 10 33 07.8 +2.2
EVO Evora 78.24 53 eP P 10 33 07.5 +1.5
comp=Z,29nm,0.8s,mb5.0
EVO epP pP 10 33 23.2 +3.9
EVO eMLR MLR
comp=Z,126nm,19.5s,MS4.0
PCBR Castelo Branco 78.36 52 eP P 10 33 09.1 +2.5
MVO Moncorvo 78.39 50 eP P 10 33 09.0 +2.2
PBEJ Beja 78.47 54 eP P 10 33 09.5 +2.2
EGRO El Granado 78.88 54 P P 10 33 08.6 -0.9
comp=Z,14nm,0.8s,mb5.0
EBAD Badajoz 78.95 53 P P 10 33 09.7 -0.3
comp=Z,17nm,1.6s,mb4.7
EARI Arriondas 79.22 48 P P 10 33 13.3 +2.1
comp=Z,29nm,1.2s,mb5.1
ROSF Rostrenen 79.32 43 eP P 10 33 13.3 +1.6
comp=Z,24nm,0.9s,mb4.8
ROSF epP pP 10 33 28.7 +3.7
ROSF Rostrenen 79.32 43 eP P 10 33 13.3 +1.6
ROSF e*PP pP 10 33 28.7 +3.7
ROSF pmax pmax
comp=Z,12nm,0.9s,mb4.8
ROSF Rostrenen 79.32 43 eP P 10 33 13.3 +1.6
comp=Z,12nm,0.9s,mb4.8
ROSF epP pP 10 33 28.7 +3.7
EMIN Mina Concepcio 79.45 54 P P 10 33 12.2 -0.5
comp=Z,8.6nm,0.6s,mb4.9
QUIF Quistinic 79.49 43 eP P 10 33 14.9 +2.2
comp=Z,8.7nm,0.6s,mb4.6
QUIF Quistinic 79.49 43 eP P 10 33 14.9 +2.2
QUIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
QUIF Quistinic 79.49 43 eP P 10 33 14.9 +2.2
comp=Z,4.3nm,0.6s,mb4.6
SGMF Saint Gilles 79.80 43 eP P 10 33 16.5 +2.2
ESPR Espera 80.30 54 P P 10 33 16.8 -0.5
comp=Z,31nm,1.8s,mb4.9
ECAB El Cabril 80.33 53 P P 10 33 17.9 +0.5
comp=Z,9.7nm,0.6s,mb4.9
ELAN Lanestosa 80.49 48 P P 10 33 20.9 +2.8
comp=Z,30nm,1.2s,mb5.1
GUD Guadarrama 80.63 50 P P 10 33 20.8 +1.8
GUD pmax pmax
comp=Z,15nm,0.7s,mb5.0
GUD Guadarrama 80.63 50 P P 10 33 20.8 +1.8
comp=Z,15nm,0.7s,mb5.0
EJIF Jimena Fronter 80.70 55 P P 10 33 18.1 -1.3
EJIF pmax pmax
comp=Z,17nm,1.0s,mb4.9
EJIF Jimena Fronter 80.70 55 P P 10 33 18.1 -1.3
comp=Z,17nm,1.0s,mb4.9
PAB San Pablo 80.77 52 eP P 10 33 17.8 -1.9
PAB e*PP pP 10 33 37.9 +4.8
PAB pmax pmax
comp=Z,54nm,1.3s,mb5.3
PAB San Pablo 80.77 52 eP P 10 33 17.8 -1.9
comp=Z,54nm,1.3s,mb5.3
PAB epP pP 10 33 37.9 +4.9
GRR Gorron 80.86 42 eP P 10 33 22.0 +2.0
comp=Z,48nm,1.0s,mb5.1
GRR Gorron 80.86 42 eP P 10 33 22.0 +2.0
GRR pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRR Gorron 80.86 42 eP P 10 33 22.0 +2.0
comp=Z,24nm,1.0s,mb5.1
EADA Adamuz 80.95 53 P P 10 33 21.0 +0.3
comp=Z,9.7nm,0.9s,mb4.7
FLN La Foliniere 81.00 42 eP P 10 33 22.9 +2.1
FLN epP pP 10 33 38.4 +4.3
FLN eMLR MLR
comp=Z,79nm,20.0s,MS3.8
FLN La Foliniere 81.00 42 eP P 10 33 22.9 +2.1
FLN epP pP 10 33 38.4 +4.3
FLN LR LR
comp=Z,80nm,20.0s,MS4.1
ESDC Sonseca Array 81.03 51 P P 10 33 22.6 +1.5
comp=Z,2.4nm,0.6s,mb4.3
ESDC Sonseca Array 81.03 51 P P 10 33 19.8 -1.3
comp=Z,2.5nm,0.6s,mb4.3,baz=298,slow=3.3,SNR=12
ESDC pP pP 10 33 38.1 +3.7
comp=Z,6.6nm,0.9s,baz=297,slow=4.8,SNR=4.9
ESDC LR LR 11 07 09.7
comp=Z,62nm,19.4s,MS4.0,baz=10.0,slow=34
ESLA Sonseca Array 81.03 51 eP P 10 33 19.7 -1.4
comp=Z,14nm,1.5s,mb4.7
ESLA epP pP 10 33 38.0 +3.5
LDF La Druitiere 81.28 42 eP P 10 33 24.3 +2.1
comp=Z,20nm,0.8s,mb4.8
LDF La Druitiere 81.28 42 eP P 10 33 24.3 +2.1
LDF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LDF La Druitiere 81.28 42 eP P 10 33 24.3 +2.1
comp=Z,9.9nm,0.8s,mb4.8
ELOJ Sierra Loja 81.54 54 P P 10 33 23.9 0.0
ELOJ pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
ELOJ Sierra Loja 81.54 54 P P 10 33 23.9 0.0
comp=Z,4.3nm,0.5s,mb4.6
EBAN Banos Encina 81.56 53 P P 10 33 24.6 +0.7
EBAN pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
EBAN Banos Encina 81.56 53 P P 10 33 24.6 +0.7
comp=Z,3.3nm,0.4s,mb4.6
MFF Saint Martin d 81.83 44 eP P 10 33 27.1 +1.9
ERON Agron 81.85 54 P P 10 33 25.8 +0.3
comp=Z,7.3nm,0.4s,mb5.0
ECOG Cogollos-Vega 81.96 54 P P 10 33 26.1 0.0
ECOG pmax pmax
comp=Z,17nm,0.7s,mb5.1
ECOG Cogollos-Vega 81.96 54 P P 10 33 26.1 0.0
comp=Z,17nm,0.7s,mb5.1
SJPF Ste Jean 82.08 47 eP P 10 33 28.9 +2.3
ETOR Torete 82.12 50 P P 10 33 28.4 +1.5
ETOR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ETOR Torete 82.12 50 P P 10 33 28.4 +1.5
comp=Z,10nm,0.6s,mb4.9
EQES Quesada 82.20 53 P P 10 33 27.2 -0.1
comp=Z,12nm,0.9s,mb4.8
EVIA Vianos 82.40 52 P P 10 33 27.9 -0.4
EVIA pmax pmax
comp=Z,12nm,0.7s,mb4.9
EVIA Vianos 82.40 52 P P 10 33 27.9 -0.4
comp=Z,12nm,0.7s,mb4.9
EBER Berja 82.58 54 P P 10 33 28.6 -0.8
comp=Z,20nm,0.8s,mb5.2
ETSF Etsaut 82.61 47 eP P 10 33 31.8 +2.5
comp=Z,26nm,0.8s,mb5.0
ETSF epP pP 10 33 47.2 +4.5

ETSF Etsaut 82.61 47 *eP* **P 10 33 31.8 +2.5**
ETSF *e**PP pP 10 33 47.2 +4.5
ETSF pmax pmax
comp=Z,13nm,0.8s,mb5.0
ETSF Etsaut 82.61 47 *eP* **P 10 33 31.8 +2.5**
comp=Z,13nm,0.8s,mb5.0
ETSF *e*pP pP 10 33 47.2 +4.5
LFF La Frestale 82.91 45 *eP* **P 10 33 32.9 +2.1**
comp=Z,33nm,0.8s,mb5.1
LFF *e*pP pP 10 33 48.2 +4.0
LFF La Frestale 82.91 45 *eP* **P 10 33 32.9 +2.1**
LFF *e**PP pP 10 33 48.2 +4.0
LFF pmax pmax
comp=Z,16nm,0.8s,mb5.1
LFF La Frestale 82.91 45 *eP* **P 10 33 32.9 +2.1**
comp=Z,16nm,0.8s,mb5.1
LFF *e*pP pP 10 33 48.2 +4.0
KONO Kongsberg 83.01 29⇑ *eP* **P 10 33 31.6 +0.5**
ETOB Tobarra 83.11 52 P **P 10 33 34.1 +2.0**
comp=Z,14nm,1.0s,mb4.9
EBIE Bielsa 83.16 48 P **P 10 33 36.2 +4.0**
comp=Z,6.1nm,0.6s,mb4.8
EPF Esparros 83.20 47 *eP* **P 10 33 34.6 +2.2**
NOA NORSAR Array B 83.20 28 P **P 10 33 32.0 0.0**
NOA *PP pP 10 33 50.1 +4.7
NOA NORSAR Array B 83.20 28 P **P 10 33 32.0 0.0**
comp=Z,3.8nm,0.8s,mb4.5,baz=296,slow=5.2,SNR=11
NOA pP pP 10 33 50.1 +4.6
comp=Z,20nm,1.0s,baz=295,slow=5.3,SNR=15
NOA LR LR 11 10 31.9
comp=Z,29nm,19.9s,MS3.6,baz=275,slow=36
RJF Les Rejaudoux 83.32 45 *eP* **P 10 33 35.0 +2.0**
comp=Z,18nm,0.7s,mb4.9
RJF *e*pP pP 10 33 50.2 +3.8
RJF *e*MLR MLR
comp=Z,118nm,22.0s,MS3.9
RJF Les Rejaudoux 83.32 45 *eP* **P 10 33 35.0 +2.0**
RJF *e**PP pP 10 33 50.2 +3.8
RJF pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
RJF MLR MLR
comp=Z,120nm,22.0s,MS4.2
RJF Les Rejaudoux 83.32 45 *eP* **P 10 33 35.0 +2.0**
comp=Z,9.1nm,0.7s,mb4.9
RJF *e*pP pP 10 33 50.2 +3.8
RJF LR LR
comp=Z,120nm,22.0s,MS4.2
EMOS Mosqueruela 83.41 50 P **P 10 33 36.7 +3.2**
comp=Z,22nm,0.8s,mb5.2
HYF Humbligny 83.44 43 *eP* **P 10 33 35.9 +2.3**
TCF Toulx Ste Croi 83.47 44 *eP* **P 10 33 35.8 +2.1**
comp=Z,16nm,0.7s,mb4.8
TCF *e*pP pP 10 33 50.9 +3.8
TCF Toulx Ste Croi 83.47 44 *eP* **P 10 33 35.8 +2.1**
TCF *e**PP pP 10 33 50.9 +3.8
TCF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
TCF Toulx Ste Croi 83.47 44 *eP* **P 10 33 35.8 +2.1**
comp=Z,7.9nm,0.7s,mb4.8
TCF *e*pP pP 10 33 50.9 +3.8
BAIF Baives 83.53 40 *eP* **P 10 33 36.3 +2.4**
comp=Z,20nm,0.8s,mb5.0
BAIF Baives 83.53 40 *eP* **P 10 33 36.3 +2.4**
BAIF pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
BAIF Baives 83.53 40 *eP* **P 10 33 36.3 +2.4**
comp=Z,9.8nm,0.8s,mb5.0
DOU Dourbes 83.75 39 P **P 10 33 36.5 +1.4**
DOU AP pP 10 33 54.0 +5.5
DOU E 10 33 56.2
CAF Calviac 83.80 45 *eP* **P 10 33 37.5 +2.0**
SEY Seymchan 83.81 335‖ *eP* **P 10 33 30.4 -4.7**
BGF Bois d'Agland 83.81 43 *eP* **P 10 33 37.4 +2.0**
comp=Z,21nm,0.6s,mb5.1
BGF *e*pP pP 10 33 52.7 +3.9
BGF Bois d'Agland 83.81 43 *eP* **P 10 33 37.4 +2.0**
BGF *e**PP pP 10 33 52.7 +3.9
BGF pmax pmax
comp=Z,10.0nm,0.6s,mb5.1
BGF Bois d'Agland 83.81 43 *eP* **P 10 33 37.4 +2.0**
comp=Z,10nm,0.6s,mb5.1
BGF *e*pP pP 10 33 52.7 +3.9
GIVF Givet 83.88 39 *eP* **P 10 33 38.2 +2.4**
GIVF *e*pP pP 10 33 53.9 +4.7
AVF Avril sur Loir 84.06 43 *eP* **P 10 33 38.5 +1.8**
comp=Z,9.1nm,0.7s,mb4.8
AVF Avril sur Loir 84.06 43 *eP* **P 10 33 38.5 +1.8**
AVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
AVF Avril sur Loir 84.06 43 *eP* **P 10 33 38.5 +1.8**
comp=Z,4.6nm,0.6s,mb4.8
BCLA Clavier 84.07 39 P **P 10 33 35.5 -1.2**
BCLA AP pP 10 33 54.3 +4.2
SSF Saint Saulge 84.07 43 *eP* **P 10 33 38.7 +1.9**
comp=Z,13nm,0.8s,mb4.8
SSF Saint Saulge 84.07 43 *eP* **P 10 33 38.7 +1.9**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
SSF Saint Saulge 84.07 43 *eP* **P 10 33 38.7 +1.9**
comp=Z,6.6nm,0.8s,mb4.8
EBEN Beniarda 84.08 51 P **P 10 33 39.6 +2.5**
comp=Z,82nm,1.9s,mb5.5
PYM Petit Puy Mans 84.17 44 *eP* **P 10 33 39.8 +2.5**
ARCES ARCESS Array B 84.23 17 P **P 10 33 35.8 -1.3**
comp=Z,3.3nm,0.6s,mb4.6,baz=316,slow=5.1,SNR=10.0
ARCES pP pP 10 33 54.2 +3.6
comp=Z,16nm,0.9s,baz=305,slow=4.3,SNR=14
ARE0 ARCESS Array S 84.23 17 *eP* **P 10 33 35.1 -2.1**
LOR Lormes 84.23 42 *eP* **P 10 33 39.8 +2.2**
comp=Z,28nm,0.9s,mb5.1
LOR *e*pP pP 10 33 54.5 +3.5
LOR *e*MLR MLR
comp=Z,63nm,20.0s,MS3.7
LOR Lormes 84.23 42 *eP* **P 10 33 39.8 +2.2**
LOR *e**PP pP 10 33 54.5 +3.5
LOR pmax pmax
comp=Z,14nm,0.9s,mb5.1
LOR MLR MLR
comp=Z,60nm,20.0s,MS4.0
LOR Lormes 84.23 42 *eP* **P 10 33 39.8 +2.2**
comp=Z,14nm,0.9s,mb5.1
LOR *e*pP pP 10 33 54.5 +3.5
LOR LR LR
comp=Z,60nm,20.0s,MS4.0
HGN Heimansgroeve 84.32 39⇑ *eP* pP 10 33 55.8 +4.4
comp=Z,35nm,1.1s
WTSB Winterswijk 84.40 37⇑ *eP* pP 10 33 56.5 +4.7
comp=Z,48nm,1.0s
MTLF Montolieu 84.41 46 *eP* **P 10 33 40.8 +2.2**
MEM Membach 84.42 39 P **P 10 33 36.8 -1.6**
MEM AP pP 10 33 56.2 +4.3
MEM XP sP 10 34 03.8 +6.8
SMF Signal de Mont 84.43 43 *eP* **P 10 33 40.4 +1.8**
comp=Z,5.7nm,0.6s,mb4.5
SMF Signal de Mont 84.43 43 *eP* **P 10 33 40.4 +1.8**
SMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
SMF Signal de Mont 84.43 43 *eP* **P 10 33 40.4 +1.8**
comp=Z,2.8nm,0.6s,mb4.6
LBL Lubilhac 84.50 44 *eP* **P 10 33 41.9 +2.9**
PLDF La Plantade 84.50 44 *eP* **P 10 33 41.2 +2.2**
MEZF Maizieres J'vi 84.57 41 *eP* **P 10 33 41.8 +2.5**
comp=Z,37nm,0.9s,mb5.2
MEZF Maizieres J'vi 84.57 41 *eP* **P 10 33 41.8 +2.5**
comp=Z,37nm,0.9s,mb5.5
WLF Walferdange 84.84 40 AP pP 10 33 59.1 +5.1
WLF XP sP 10 34 08.5 +9.4
THEF They Montfort 85.25 41 *eP* **P 10 33 45.8 +3.1**
RUP Ruppelstein 85.38 39 *eP* **P 10 33 47.1 +3.8**
HAU Haudompre 85.56 41 *eP* **P 10 33 46.8 +2.6**
comp=Z,15nm,0.5s,mb5.1
HAU *e*pP pP 10 34 01.8 +4.1
HAU *e*MLR MLR
comp=Z,71nm,23.0s,MS3.7
HAU Haudompre 85.56 41 *eP* **P 10 33 46.8 +2.6**
HAU *e**PP pP 10 34 01.8 +4.1
HAU pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
HAU MLR MLR
comp=Z,70nm,23.0s,MS4.0
HAU Haudompre 85.56 41 *eP* **P 10 33 46.8 +2.6**
comp=Z,7.3nm,0.5s,mb5.2
HAU *e*pP pP 10 34 01.8 +4.1
HAU LR LR
comp=Z,70nm,23.0s,MS4.0

VIVF Saint-Julien-l 85.58 44 *eP* **P 10 33 47.2 +2.8**
VIVF *e*pP pP 10 34 02.3 +4.4
ABH Alteburg 85.61 39 *eP* **P 10 33 50.6 +6.2**
CABF La Chapelle 85.89 42 *eP* **P 10 33 48.6 +2.7**
HINF Hinteralfeld 85.94 41 *eP* **P 10 33 48.2 +2.1**
TIXI Tiksi 85.97 347‖ *eP* **P 10 33 42.9 -2.9**
TIXI pmax pmax
comp=Z,11nm,1.4s,mb4.9
TIXI Tiksi 85.97 347 *eP* **P 10 33 42.6 -3.2**
comp=Z,9.7nm,0.7s,mb5.1
TIXI *e*pP pP 10 34 02.1 +2.9
ECH Echery 85.98 41 *eP* **P 10 33 49.7 +3.3**
CDF Champ du Feu 85.99 40 *eP* **P 10 33 48.9 +2.5**
comp=Z,10nm,0.8s,mb4.8
CDF *e*pP pP 10 34 03.9 +4.1
CDF Champ du Feu 85.99 40 *eP* **P 10 33 48.9 +2.5**
CDF *e**PP pP 10 34 03.9 +4.1
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
CDF Champ du Feu 85.99 40 *eP* **P 10 33 48.9 +2.5**
comp=Z,5.2nm,0.8s,mb4.8
CDF *e*pP pP 10 34 03.9 +4.1
ETOS Mallorca 85.99 50 P **P 10 33 49.9 +3.3**
comp=Z,124nm,2.5s,mb5.7
LOMF Lomont 86.09 42 *eP* **P 10 33 49.9 +3.0**
MOF Molkenrain 86.10 41 *eP* **P 10 33 50.1 +3.1**
ORIF Oris-en-Rattie 86.36 44 *eP* **P 10 33 51.2 +2.9**
ORIF *e*MLR MLR
comp=Z,81nm,21.2s,MS3.8
TOD Tromm 86.47 39 *eP* **P 10 33 51.6 +2.9**
FELD Feldberg im Sc 86.64 41 *eP* **P 10 33 52.7 +3.1**
LPL La Plagne 86.70 43 *eP* **P 10 33 53.4 +3.4**
comp=Z,3.9nm,0.6s,mb4.5
LPL La Plagne 86.70 43 *eP* **P 10 33 53.4 +3.4**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
LPL La Plagne 86.70 43 *eP* **P 10 33 53.4 +3.4**
comp=Z,2.0nm,0.6s,mb4.5
LPG La Plagne 86.72 43 *eP* **P 10 33 53.8 +3.7**
LPG *e*pP pP 10 34 08.6 +5.1
MBDF Montbardon 87.02 44 *eP* **P 10 33 54.8 +3.3**
comp=Z,20nm,1.0s,mb5.0
MBDF Montbardon 87.02 44 *eP* **P 10 33 54.8 +3.3**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
MBDF Montbardon 87.02 44 *eP* **P 10 33 54.8 +3.3**
comp=Z,10.0nm,1.0s,mb5.0
LMR La Mourre 87.36 45 *eP* **P 10 33 56.0 +2.8**
comp=Z,14nm,0.7s,mb5.0
LMR La Mourre 87.36 45 *eP* **P 10 33 56.0 +2.8**
LMR pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
LMR La Mourre 87.36 45 *eP* **P 10 33 56.0 +2.8**
comp=Z,6.8nm,0.7s,mb5.0
GRA1 Grafenberg Arr 87.87 38 *eP* pP 10 34 13.7 +4.7
GRA1 *e*pP sP 10 34 23.9 +10
GRF Grafenberg Arr 87.87 38 *eP* pP 10 34 13.7 +4.7
comp=Z,43nm,2.3s
GRF *e*pP sP 10 34 23.9 +10
DAVA Damuels 88.04 41⇑ *i*P **P 10 33 55.6 -0.7**
comp=Z,11nm,1.0s,mb5.0
DAVA Damuels 88.04 41⇑ *i*PcP PcP 10 33 55.6 -2.5
comp=Z,11nm,1.0s
CLL Collm 88.21 36 *i* pP pP 10 34 13.9 +3.3
comp=Z,8.0nm,1.0s
CLL *e*PP PP 10 37 22.0 -2.1
CLL *e*S S 10 44 40.0 +1.8
CLL *e*SP 10 45 38.0
CLL *e*SSSS 10 56 54.0
BRG Berggiesshubel 88.94 36 *eP* **P 10 34 04.0 +3.5**
BRG *e**PP pP 10 34 18.0 +4.0
BRG *e* 10 37 26.7
BRG pmax pmax
comp=Z,2.0nm,0.7s,mb4.6
BRG Berggiesshubel 88.94 36 *eP* **P 10 34 04.0 +3.5**
comp=Z,2.8nm,0.7s,mb4.7
BRG *e*pP pP 10 34 18.0 +4.0
comp=Z,15nm,1.1s
BRG *e*PP PP 10 37 26.6 -3.3
comp=Z,16nm,1.8s
FINES FINES Array B 89.21 24 P **P 10 33 58.2 -3.3**
comp=Z,2.6nm,0.9s,mb4.5,baz=276,slow=7.1,SNR=4.7
FINES pP pP 10 34 17.5 +2.4
comp=Z,4.4nm,0.9s,baz=248,slow=3.5,SNR=5.5
KHC Kasperske Hory 89.50 38 *eP* pP 10 34 21.0 +4.3
KHC Kasperske Hory 89.50 38 *e*pP pP 10 34 21.0 +4.3
DBIC Dimbokro 89.64 83 P **P 10 34 01.9 -2.6**
comp=Z,9.9nm,0.9s,mb4.6,baz=152,slow=0.6,SNR=3.9
DBIC LR LR 11 09 50.9
comp=Z,42nm,18.1s,MS3.9,baz=268,slow=32
GERES GERESS Array B 89.70 38 LR LR 11 18 36.5
comp=Z,56nm,18.0s,MS4.0,baz=309,slow=38
KBA Koelnbreinsper 90.27 40⇑ *i*P **P 10 34 02.5 -4.3**
comp=Z,5.1nm,1.0s,mb4.8
KBA Koelnbreinsper 90.27 40⇑ *i*P **P 10 34 02.5 -4.3**
KBA pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
MOA Molln 90.48 39⇑ *i*P **P 10 34 00.2 -7.6**
comp=Z,5.3nm,1.2s,mb4.7
MOA Molln 90.48 39 ⇑PcP PcP 10 34 06.7 -2.2
comp=Z,5.3nm,1.2s
ZST Bratislava 92.00 38 *eP* **P 10 34 16.0 +1.1**
ZST *e* pP 10 34 33.5 +5.1
ZST Bratislava 92.00 38 *eP* **P 10 34 16.0 +1.1**
ZST *e*pP pP 10 34 33.5 +5.1
MODS Modra-Piesok 92.02 38 *eP* **P 10 34 09.2 -5.7**
MODS *e* pP 10 34 22.1 -6.3
MODS *e*pP pP 10 34 32.9 +4.5
KEST Kesra 92.28 52 P **P 10 34 13.5 -2.9**
comp=Z,0.7nm,0.7s,mb4.1,baz=287,slow=11,SNR=2.0
KEST LR LR 11 14 11.4
comp=Z,18nm,18.8s,MS3.5,baz=232,slow=34
KOLL Kolacno 92.57 37 *eP* **P 10 34 09.9 -7.6**
KOLL *e*pP pP 10 34 37.1 +6.1
YAK Yakutsk 92.79 340 *eP* **P 10 34 14.4 -3.8**
YAK pmax pmax
comp=Z,12nm,0.8s,mb5.4
VYHS Vyhne 92.86 37 *e* **P 10 34 25.8 +7.0**
VYHS *e*pP pP 10 34 36.8 +4.5
KECS Kecovo 93.81 36 *eP* **P 10 34 21.9 -1.3**
KECS *e*pP pP 10 34 39.7 +3.0
KECS *e* 11 21 32.6
KECS *e* 11 29 42.3
KECS *e* 11 29 54.4
KECS *e* 11 57 16.5
KECS *e* 11 57 25.8
CRVS Cervenica-Dubn 94.14 36 *eP* **P 10 34 28.9 +4.2**
KOLS Kolonicke sedl 94.57 35 *eP* **P 10 34 28.8 +2.1**
AKASG Malin Array Be 97.19 31 P **P 10 34 37.2 -1.3**
AKASG *PP pP 10 34 54.6 +2.5
AKASG Malin Array Be 97.19 31 P **P 10 34 37.2 -1.3**
comp=Z,0.2nm,0.2s,mb4.1,baz=289,slow=2.9,SNR=2.9
AKASG pP pP 10 34 54.6 +2.6
comp=Z,1.1nm,0.7s,baz=291,slow=3.9,SNR=2.1
AKASG LR LR 11 16 52.8
comp=Z,42nm,21.8s,MS3.9,baz=285,slow=34
MKAR Makanchi Array 116.06 1 PKP PKPdf 10 39 45.0 -3.9
comp=Z,0.6nm,0.4s,baz=2.9,slow=2.4,SNR=6.9
MKAR pPKP pPKPdf 10 40 04.2 +1.2
comp=Z,0.2nm,0.3s,baz=8.5,slow=2.5,SNR=1.6
HHC Hu-ho-hao-te 116.40 336 *e*PKP PKPdf 10 39 44.0 -5.8
HHC PP PP 10 40 55.9 +0.5
HHC PKS 10 43 19.6
HHC SKS SKSdf 10 46 45.5 -13
HHC SS SS 10 56 53.9 -2.0
HHC PP PP
comp=Z,147nm,8.2s
HHC LR LR
comp=N,396nm,25.0s
HHC LR LR
comp=E,594nm,22.1s
HHC LR LR
comp=Z,397nm,19.5s,MS5.0
WMQ Urumqi 118.92 356 PKP PKPdf 10 39 49.0 -5.6
WMQ PP PP 10 41 14.0 +1.5
WMQ PP PP
comp=Z,142nm,8.0s
WMQ LR LR
comp=N,113nm,20.0s,MS4.6
WMQ LR LR
comp=E,78nm,20.0s,MS4.6
WMQ LR LR
comp=Z,85nm,20.0s,MS4.4
AAK Ala-Archa 119.67 8 *i* PKIKP PKPdf 10 39 50.6 -5.4
GTA Gaotai 121.42 345 PKP PKPdf 10 39 56.3 -3.2

GTA PP PP 10 41 31.1 +1.3
GTA PPP 10 44 05.8
GTA SKS SKSdf 10 46 55.4 -13
GTA SKKS SKKSac 10 48 18.3 -8.6
GTA SS SS 10 58 00.8 +0.5
GTA PP PP
comp=Z,67nm,7.6s
GTA LR LR
comp=N,42nm,17.1s,MS4.3
GTA LR LR
comp=E,45nm,14.4s,MS4.3
GTA LR LR
comp=Z,75nm,14.4s,MS4.5
SYO Syowa Base 121.73 163‖ *e*PP PP 10 41 30.5 -1.8
LZH Lanzhou 123.37 340 *e*PKP PKPdf 10 39 55.0 -8.3
LZH XPKP 10 40 29.0
LZH PP PP
comp=Z,72nm,5.1s
BOSA Boshof 125.76 113 PKP PKPdf 10 40 05.0 -3.0
comp=Z,8.7nm,0.8s,baz=282,slow=1.7,SNR=14
STKA Stephens Creek 125.81 243 *e*PKP PKPdf 10 40 04.2 -3.8
comp=Z,2.5nm,0.3s
STKA Stephens Creek 125.81 243 *e*PKPdf PKPdf 10 40 03.6 -4.4
STKA *e*PKP PKPdf 10 40 04.2 -3.8
STKA Stephens Creek 125.81 243 PKP PKPdf 10 40 03.5 -4.5
comp=Z,3.3nm,0.3s,baz=311,slow=22,SNR=13
CD2 Chengdu 128.11 338 *e*PKP PKPdf 10 40 10.2 -2.4
CD2 XPKP 10 40 36.2
CD2 PP PP 10 42 17.4 +2.6
CD2 PKS 10 43 45.4
CD2 SKS SKSdf 10 47 16.7 -4.2
CD2 SKKS SKKSac 10 49 05.4 -4.6
CD2 SS SS 10 59 25.4 +0.4
CD2 PP PP
comp=Z,100nm,10.2s
CD2 LR LR
comp=N,180nm,22.8s,MS4.9
CD2 LR LR
comp=E,210nm,24.4s,MS4.9
CD2 LR LR
comp=Z,160nm,22.8s,MS4.6
MAW Mawson 128.14 170 PKP PKPdf 10 40 07.4 -4.0
comp=Z,5.7nm,0.9s,baz=177,slow=4.7,SNR=5.6
WB2 Warramunga Arr 131.85 259 *e*PKP PKPdf 10 40 16.0 -3.9
WRA Warramunga Arr 131.87 259 PKhKP 10 40 05.1
comp=Z,0.5nm,0.7s,baz=112,slow=1.7,SNR=6.2
WRA PKP PKPdf 10 40 16.9 -3.0
comp=Z,3.0nm,0.8s,baz=83,slow=2.8,SNR=20
WRA pPKP pPKPdf 10 40 36.5 +2.6
comp=Z,1.6nm,1.0s,baz=68,slow=1.1,SNR=3.4
ASAR Alice Springs 132.54 254 PKhKP 10 40 08.8
comp=Z,0.8nm,1.0s,baz=91,slow=2.0,SNR=4.3
ASAR PKP PKPdf 10 40 16.9 -4.1
comp=Z,2.0nm,0.9s,baz=81,slow=1.9,SNR=10
KMI Kunming 133.71 336 PKP PKPdf 10 40 21.6 -1.7
FITZ Fitzroy Crossi 139.87 262 *e*PKP 10 40 23.0
comp=Z,5.4nm,1.1s
HYB Hyderabad 145.03 8 *e*PKIKP PKPdf 10 40 40.5 -3.5
HYB *e* 10 41 00.0
HYB Hyderabad 145.03 8‖ *i*PKP PKPdf 10 40 40.5 -3.5
HYB *e* 10 41 00.0
MBWA Marble Bar 145.60 258 *e*PKPdf PKPdf 10 40 40.5 -4.3
ABPO Ambohimpanom 145.60 98 *e*PKPdf PKPdf 10 40 42.6 -2.4
ABPO *e*pPKPdf pPKPdf 10 41 02.9 +4.0
KLBR Kellerberrin 145.91 239 *e*PKP PKPdf 10 40 41.5 -3.6
comp=Z,33nm,1.2s
MUN Mundaring 147.05 238 *e*PKP PKPdf 10 40 45.7 -1.3
KSM Kuching 147.53 303 *e*PKPdf PKPdf 10 40 47.6 -0.8

IDC ***04*** *10:37:32.7±1.3,5586N×16260E,h0km,mb3.6/4, mb1 4.0/5,mb1mx3.6/20,mbtmp3.7/5,ML3.2/1,MS2.9/2, Ms1 2.9/2,ms1mx2.6/23,Error ellipse: s-maj=109.5km s-min=22.1km az=141.0*
KRSC ***04*** *10:37:33.9±0.4,5579N×16281E,h50km±59km,ML4.4*
NEIC ***04*** *10:37:33.3±9.2,5587N×16272E,h1km±61km,mb3.7/1, Error ellipse: s-maj=88.3km s-min=12.6km az=135.0*
ISCJB ***04*** *10:37:35.3±0.8,5575N±003×16280E±007,h30km±7km, mb3.4/4,Error ellipse: s-maj=6.2km s-min=5.0km az=13.7*
MOS ***04*** *10:37:36.0±1.5,5580N×16268E,h43km,mb4.5/1,Error ellipse: s-maj=33.5km s-min=9.2km az=65.9*
ISC 04 10:37:36.1±0.9,5578N±003×16274E±007,h23km±8km, n32,o0s88/48,mb3.4/4,Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.43**	**6**	*i* P	**Pb**	**10 37 44.6**	**-0.6**
KBTR				*i* S	**Sb**	**10 37 52.8**	**+1.5**
ZLN	**Zelenaya**	**1.11**	**283**	P	**Pn**	**10 37 54.8**	**-1.4**
SRKR	**Sorokina**	**1.24**	**316**	*i* P	**Pn**	**10 37 56.9**	**-1.0**
SRKR				*i* S	**Sn**	**10 38 13.2**	**-0.7**
MKZ	**Mys Kozlova**	**1.35**	**206**	*e*P	**Pn**	**10 37 58.1**	**-1.4**
MKZ				*i* S	**Sn**	**10 38 16.6**	**-0.1**
KMNR	**Kamenistaya**	**1.41**	**270**	*e*P	**Pn**	**10 37 59.6**	**-0.7**
KMNR				*i* S	**Sn**	**10 38 18.1**	**0.0**
KPT	**Kopyto**	**1.43**	**279**	*e*P	**Pn**	**10 37 59.7**	**-0.8**
KPT				*i* S	**Sn**	**10 38 18.1**	**-0.4**
TUMR	**Tumrok**	**1.55**	**252**	*i* P	**Pn**	**10 38 01.9**	**-0.3**
TUMR				*i* S	**Sn**	**10 38 22.3**	**+0.7**
KOZR	**Kozyr**	**1.62**	**281**	PN	**Pn**	**10 38 03.2**	**0.0**
KOZR				S	**Sn**	**10 38 24.1**	**+0.7**
KOZ	**Kozyrevsk**	**1.64**	**281**	*i* P	**Pn**	**10 38 03.2**	**-0.2**
KOZ				*i* S	**Sn**	**10 38 24.1**	**+0.5**
SRDR	**Sredinnyy**	**1.78**	**289**	*i* P	**Pn**	**10 38 05.1**	**-0.2**
SRDR				*i* S	**Sn**	**10 38 27.2**	**+0.1**
KII	**Karymskiy**	**2.58**	**229**	*i* P	**Pn**	**10 38 16.5**	**+0.2**
KII				*i* S	**Sn**	**10 38 47.5**	**+0.6**
SPN	**Mys Shipunski**	**3.12**	**212**	*e*P	**Pn**	**10 38 22.7**	**-1.0**
SPN				*i* S	**Sn**	**10 38 57.7**	**-2.5**
NLC	**Nalytchevo**	**3.28**	**219**	*e*P	**Pn**	**10 38 25.3**	**-0.6**
NLC				*i* S	**Sn**	**10 39 03.6**	**-0.5**
AVH	**Avacha**	**3.43**	**224**	*e*P	**Pn**	**10 38 28.6**	**+0.6**
AVH				*e*S	**Sn**	**10 39 09.2**	**+1.3**
GNL	**Ganaly**	**3.48**	**235**	*e*P	**Pn**	**10 38 29.1**	**+0.5**
GNL				*e*S	**Sn**	**10 39 10.0**	**+1.0**
PET	**Petropavlovsk**	**3.65**	**223**	*e*PN	**Pn**	**10 38 31.5**	**+0.5**
PET				*e*S	**Sn**	**10 39 14.0**	**+0.8**
PET				pmax	pmax		
comp=Z,101nm,1.2s							
PET				smax			
comp=E,371nm,1.0s							
PET				MLR	MLR		
comp=Z,200nm,17.0s							
PET	**Petropavlovsk**	**3.65**	**223**	*e*P	**Pn**	**10 38 31.3**	**+0.3**
PET	**Petropavlovsk**	**3.65**	**223**	*e*P	**Pn**	**10 38 31.1**	**+0.1**
PET				*i* S	**Sn**	**10 39 13.2**	**0.0**
RUS	**Russkaya**	**4.17**	**218**	*e*P	**Pn**	**10 38 37.9**	**-0.3**
RUS				*i* S	**Sn**	**10 39 25.3**	**-0.8**
GRL	**Gorelyy**	**4.24**	**222**	P	**Pn**	**10 38 40.4**	**+1.3**
MIPR	**Malaya Ipel'ka**	**4.97**	**228**	P	**Pn**	**10 38 50.3**	**+1.1**
ASAJ	**Asahikawa**	**17.36**	**236**	P	**Pn**	**10 41 35.7**	**-0.9**
comp=Z,0.2nm,0.3s,baz=100,slow=32,SNR=2.4							
ASAJ				LR	LR	10 48 33.4	
comp=Z,56nm,19.2s,baz=327,slow=38							
ERM	**Erimo**	**18.76**	**231**	*e*P	**Pn**	**10 41 55.7**	**+2.0**
ERM				pmax	pmax		
comp=Z,3.0nm,0.5s							
ERM	**Erimo**	**18.76**	**231**	*e*P	**Pn**	**10 41 55.7**	**+2.0**
comp=Z,2.8nm,0.5s							
IMA2	**Indian Mountai**	**23.03**	**46**	*e*P	**P**	**10 42 38.8**	**-0.2**
MJAR	**Matsushiro Arr**	**25.43**	**231**	P	**P**	**10 43 00.9**	**-0.8**
comp=Z,0.7nm,0.6s,mb3.4,baz=30,slow=7.7,SNR=4.3							
KSRS	**Korea Array**	**29.68**	**247**	LR	LR	10 54 42.2	
comp=Z,16nm,20.9s,baz=250,slow=35							
INK	**Inuvik**	**30.81**	**41**	*e*P	**P**	**10 43 49.5**	**0.0**
YKA	**Yellowknife Ar**	**40.16**	**46**	P	**P**	**10 45 09.7**	**0.0**
YKA	**Yellowknife Ar**	**40.16**	**46**	P	**P**	**10 45 09.7**	**0.0**
comp=Z,0.3nm,0.5s,mb3.3,baz=300,slow=8.1,SNR=8.6							
TXAR	**Lajitas Array**	**68.21**	**70**	P	**P**	**10 48 35.0**	**+0.5**
comp=Z,0.4nm,0.6s,mb3.6,baz=298,slow=4.7,SNR=7.7							
WRA	**Warramunga Arr**	**79.17**	**207**	P	**P**	**10 49 40.5**	**+1.9**
comp=Z,0.4nm,0.8s,mb3.4,baz=13,slow=5.7,SNR=3.6							

THE ***04*** *10:54:49.5,3893N×2284E,h1km,ML3.0*
ISCJB ***04*** *10:54:52.9±0.8,3889N±005×2261E±007,h10km±11km, Error ellipse: s-maj=9.3km s-min=8.1km az=150.1*
CSEM ***04*** *10:54:53.5±0.1,3890N×2259E,h12km,MD2.8,Error ellipse: s-maj=4.4km s-min=2.8km az=33.0*
ATH ***04*** *10:54:53.6,3891N×2260E,h5km,MD2.8/4*

ISC 04 10:54:53.0±0.8, 3891N±005×2260E±006, h18km±9km, n8, σ0°59/12, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.24**	**299**	*e*Pg	**Pg**	**10 54 58.1**	**-0.4**
AGG				*e*Sg	**Sg**	**10 55 02.6**	**+0.4**
LKR	**Lokris**	**0.41**	**129**	*e*PG	**Pg**	**10 55 01.3**	**-0.1**
LKR				*e*SB	**Sg**	**10 55 07.3**	**+0.3**
EVR	**Evrytania**	**0.61**	**271**	*e*PB	**Pb**	**10 55 05.7**	**+0.4**
NEO	**Neokhori**	**0.63**	**51**	*e*PB	**Pb**	**10 55 05.7**	**+0.1**
XOR	**Xorichti**	**0.65**	**45**	*e*Sg	**Sg**	**10 55 06.7**	**-7.9**
THL	**Klokotos Trika**	**0.80**	**326**	*e*PG	**Pg**	**10 55 08.5**	**-0.1**
SELA	**Sela**	**0.84**	**221**	*e*Pg	**Pg**	**10 55 07.9**	**-1.4**
SELA				*e*Sg	**Sg**	**10 55 21.1**	**+0.7**
SELA	**Sela**	**0.84**	**221**	*e*Pg	**Pg**	**10 55 07.9**	**-1.5**
SELA				*e*Sg	**Sg**	**10 55 21.1**	**+0.7**

IDC 04 11:08:03.8±1.2, 1426N×12135E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.7/19, mbtmp3.9/4, Error ellipse: s-maj=86.8km s-min=23.6km az=69.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**36.31**	**159**	P	P	11 15 09.6	+0.1
	2.1nm,0.4s,baz=340,slow=9.0,SNR=62						
WB2	**Warramunga Arr**	**36.32**	**159**	*e*P	P	11 15 09.3	-0.2
ASAR	**Alice Springs**	**39.65**	**162**	P	P	11 15 37.4	-0.2
	1.9nm,0.4s,baz=337,slow=7.5,SNR=114						
MKAR	**Makanchi Array**	**45.96**	**323**	P	P	11 16 28.4	-0.2
	0.4nm,0.5s,baz=123,slow=9.0,SNR=6.0						
YKA	**Yellowknife Ar**	**92.02**	**23**	P	P	11 21 14.6	+0.1
	0.2nm,0.6s,baz=306,slow=4.4,SNR=6.1						

MAN 04 11:17:18, 951N×12569E, h32km, mb3.8, ML2.6, MS2.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**1.03**	**307**	*e*P	Pn	11 17 38.1	+1.9
BUKP	**Musuan**	**1.74**	**201**	*e*P	Pn	11 17 46.4	+0.4

MAN 04 11:27:59, 1396N×12341E, h17km, mb4.3, ML3.1, MS2.9, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.81**	**117**	*e*P	Pb	11 28 14.9	+0.3
PVCP				*e*S	Sb	11 28 27.9	+2.7
GQP	**Guinayangan**	**0.94**	**267⇓**	*e*P	Pb	11 28 16.5	-0.4
GQP				*e*S	Sb	11 28 29.0	0.0
POLP	**Polilio Island**	**1.62**	**298**	*e*P	Pn	11 28 27.4	+0.6
POLP				*e*S	Sn	11 28 51.9	+4.7
CNP	**Catarman**	**1.89**	**140**	*e*P	Pn	11 28 32.6	+2.2
OTRP	**Odiongan**	**2.09**	**221**	*e*P	Pn	11 28 34.1	+0.8
BALP	**Baler**	**2.51**	**315**	*e*P	Pn	11 28 40.1	+1.1
CAUP	**Cauayan**	**3.34**	**333**	*e*P	Pn	11 28 51.5	+1.1

*ISCJB **04** 11:28:14.9±0.5, 3197S×005×17964W±009, h184km±5km, mb4.5/14, Error ellipse: s-maj=13.6km s-min=6.3km az=24.7*
*NEIC **04** 11:28:16.1±1.1, 3205S×17954W, h184km±10km, mb4.5/7, Error ellipse: s-maj=16.5km s-min=11.5km az=116.0*
*IDC **04** 11:28:16.8±1.0, 3188S×17955W, h186km±10km, mb4.2/9, mb1 4.3/12, mb1mx4.1/17, mbtmp4.2/12, Error ellipse: s-maj=15.3km s-min=10.7km az=124.0*

ISC 04 11:28:15.9±0.5, 3199S±005×17959W±009, h180km±5km, n59, σ1°39/57, mb4.5/14, 1C, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.09**	**28**	P	**Pn**	**11 29 06.0**	**+0.4**
RAO				S	**Sn**	**11 29 44.0**	**+2.8**
RAO	**Raoul Island**	**3.09**	**28**	P	**Pn**	**11 29 06.0**	**+0.4**
	189nm,0.3s,baz=84,slow=13,SNR=10						
RAO				S	**Sn**	**11 29 44.0**	**+2.8**
	498nm,0.3s,baz=47,slow=22,SNR=6.5						
MXZ	**Matakaoa Point**	**5.82**	**197**	*e*P	**Pn**	**11 29 41.6**	**+1.1**
PUZ	**Puketiti**	**6.32**	**196**	P	**Pn**	**11 29 48.1**	**+1.1**
MWZ	**Matawai**	**6.75**	**200**	P	**Pn**	**11 29 53.6**	**+0.9**
URZ	**Urewera**	**6.81**	**202**	*e*P	**Pn**	**11 29 54.3**	**+0.9**
URZ	**Urewera**	**6.81**	**202**	P	**Pn**	**11 29 55.0**	**+1.5**
	1.6nm,0.3s,baz=303,slow=4.6,SNR=21						
URZ				S	**Sn**	**11 31 12.4**	**+2.1**
	12nm,0.3s,baz=336,slow=3.0,SNR=4.1						
BKZ	**Black Stump Fm**	**7.84**	**203**	*e*P	**Pn**	**11 30 07.0**	**+0.1**
HIZ	**Hauiti**	**7.94**	**213**	P	**Pn**	**11 30 11.8**	**+3.6**
FWVZ	**Far West T-bar**	**8.26**	**207**	P	**Pn**	**11 30 14.0**	**+1.6**
WNVZ	**Wahianoa**	**8.30**	**207**	P	**Pn**	**11 30 15.0**	**+2.0**
TSZ	**Takapari Road**	**8.82**	**203**	P	**Pn**	**11 30 19.1**	**-0.7**
WAZ	**Wanganui**	**8.91**	**208**	P	**Pn**	**11 30 23.4**	**+2.4**
BFZ	**Birch Farm**	**9.30**	**200**	*e*P	**Pn**	**11 30 23.8**	**-2.3**
MRZ	**Mangatainoka R**	**9.49**	**203**	*e*P	**Pn**	**11 30 25.7**	**-2.9**
KIW	**Kapiti Island**	**9.90**	**205**	P	**Pn**	**11 30 31.0**	**-2.9**
CAW	**Cannon Point**	**10.06**	**204**	P	**Pn**	**11 30 32.5**	**-3.5**
MSWZ	**Moikau Station**	**10.27**	**202**	P	**Pn**	**11 30 36.9**	**-1.9**
NNZ	**Nelson**	**10.80**	**210**	*e*P	**Pn**	**11 30 46.5**	**+0.8**
QRZ	**Quartz Range**	**10.86**	**214**	P	**Pn**	**11 30 46.3**	**-0.2**
BSWZ	**Blackbirch Sta**	**11.02**	**206**	P	**Pn**	**11 30 48.8**	**+0.3**
THZ	**Tophouse**	**11.45**	**210**	*e*P	**Pn**	**11 30 52.4**	**-1.7**
KHZ	**Kahutara**	**11.75**	**206**	*e*P	**Pn**	**11 30 54.4**	**-3.6**
DSZ	**Denniston Nort**	**11.92**	**213**	P	**Pn**	**11 30 58.7**	**-1.5**
LTZ	**Lake Taylor**	**12.56**	**209**	*e*P	**Pn**	**11 31 06.4**	**-1.9**
WVZ	**Waitaha Valley**	**13.45**	**212**	*e*P	**Pn**	**11 31 17.9**	**-1.7**
RPZ	**Rata Peaks**	**13.83**	**210**	P	**Pn**	**11 31 24.4**	**+0.1**
	2.5nm,0.3s,baz=134,slow=12,SNR=9.4						
RPZ				S	**Sn**	**11 33 46.5**	**-12**
	2.2nm,0.3s,baz=173,slow=22,SNR=12						
ODZ	**Otahua Downs**	**15.09**	**208**	*e*P	**Pn**	**11 31 38.0**	**-1.9**
CTA	**Charters Tower**	**32.77**	**283**	*e*P	**P**	**11 34 33.6**	**+1.6**
	4.2nm,0.6s,mb4.3						
CTA	**Charters Tower**	**32.77**	**283**	P	**P**	**11 34 32.8**	**+0.9**
	4.6nm,0.5s,mb4.5,baz=109,slow=13,SNR=7.2						
CTAO	**Charters Tower**	**32.77**	**283**	*e*P	**P**	**11 34 32.9**	**+0.9**
STKA	**Stephens Creek**	**32.83**	**260**	*e*P	**P**	**11 34 34.4**	**+2.0**
	5.3nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**32.83**	**260**	P	**P**	**11 34 34.7**	**+2.4**
	7.6nm,0.6s,mb4.6,baz=100,slow=10.0,SNR=34						
ASAR	**Alice Springs**	**41.70**	**269**	P	**P**	**11 35 47.5**	**+0.4**
	13nm,0.6s,mb4.8,baz=105,slow=7.6,SNR=284						
ASAR				ScP	ScP	11 41 06.6	-6.7
	0.8nm,0.8s,baz=117,slow=4.0,SNR=6.2						
WB2	**Warramunga Arr**	**42.83**	**275**	*e*P	**P**	**11 35 56.3**	**+0.1**
WRAB	**Tennant Creek**	**42.83**	**275**	*e*P	**P**	**11 35 56.0**	**-0.2**
	28nm,0.6s,mb5.1						
WRA	**Warramunga Arr**	**42.84**	**275**	P	**P**	**11 35 56.5**	**+0.2**
	28nm,0.5s,mb5.1,baz=114,slow=7.9,SNR=534						
WRA				ScP	ScP	11 41 11.0	-7.0
	0.5nm,0.7s,baz=119,slow=3.3,SNR=4.6						
KAKA	**Kakadu**	**47.91**	**282**	*e*P	**P**	**11 36 35.3**	**-0.9**
	9.1nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.03**	**272**	*e*P	**P**	**11 37 00.3**	**+0.5**
	3.9nm,0.6s,mb4.2						
KLBR	**Kellerberrin**	**52.56**	**253**	*e*P	**P**	**11 37 09.8**	**-1.2**
	9.0nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**52.58**	**251**	*e*P	**P**	**11 37 10.9**	**-0.2**
MUN	**Mundaring**	**53.69**	**252**	*e*P	**P**	**11 37 19.2**	**0.0**
QSPA	**South Pole Qui**	**58.12**	**180**	P	**P**	**11 37 52.7**	**+2.8**
	27nm,0.7s,mb5.2,baz=32,slow=1.7,SNR=187						
MAW	**Mawson**	**70.34**	**201**	P	**P**	**11 39 09.7**	**+0.2**
	4.5nm,0.8s,mb4.3,baz=148,slow=7.9,SNR=6.0						
PMSA	**Palmer Station**	**71.37**	**156**	*e*P	**P**	**11 39 14.3**	**-1.5**
SYO	**Syowa Base**	**75.26**	**194⇑**	*e*P	**P**	**11 39 35.2**	**-3.2**
SNAA	**Sanae**	**76.60**	**179**	*e*	**P**	**11 39 46.5**	**+0.6**
SNAA				*e*		11 39 50.0	
VNA2	**Neumayer--Watz**	**77.22**	**177**	*e*	**P**	**11 39 50.3**	**+0.9**
	baz=184,slow=4.5						
VNA2				*e*		11 39 54.1	
VNA1	**Neumayer--Stat**	**77.46**	**177**	*e*	**P**	**11 39 52.7**	**+2.0**
VNA1				*e*		11 39 55.7	
PLCA	**Paso Flores**	**82.41**	**134**	P	**P**	**11 40 18.6**	**+0.8**
	1.1nm,0.6s,mb3.7,baz=8.9,slow=23,SNR=6.2						
GLA	**Glamis**	**88.96**	**49**	*e*P	**P**	**11 40 50.8**	**+0.7**
	4.0nm,0.7s,mb4.5						
NVAR	**Mina Array Bea**	**90.33**	**44**	P	**P**	**11 40 56.0**	**-0.2**
	1.7nm,0.8s,mb4.1,baz=206,slow=6.8,SNR=7.1						
TXAR	**Lajitas Array**	**94.39**	**58**	P	**P**	**11 41 13.7**	**-1.5**
	0.6nm,1.0s,mb3.7,baz=222,slow=5.0,SNR=5.2						
ARCES	**ARCESS Array B 139.84 347**			PKP	PKPdf	11 47 12.6	-8.8
ARCES				PKP	PKPdf	11 47 20.8	-0.6
ARCES	**ARCESS Array B 139.84 347**			PKhKP		11 47 12.6	
	3.0nm,1.0s,baz=47,slow=2.3,SNR=5.5						
ARCES				PKP	PKPdf	11 47 20.8	-0.6
	1.9nm,0.8s,baz=38,slow=2.2,SNR=6.4						
FIA1	**FINESS Array S**	**146.14**	**338**	*e*PKPdf	PKPdf	11 47 31.6	-1.1
NB2	**NORSAR Subarra150.09**	**349**		PKP	PKPdf	11 47 42.0	+2.8
	comp=Z,1.5nm,0.5s,baz=15,slow=2.5						
NOA	**NORSAR Array B150.09**	**349**		PKPbc	PKPbc	11 47 42.3	-2.1
	comp=Z,1.7nm,0.5s,baz=16,slow=4.2,SNR=8.1						
DBIC	**Dimbokro**	**154.33**	**168**	PKPab	PKPab	11 48 11.7	+1.8
	comp=Z,2.5nm,0.5s,baz=188,slow=4.8,SNR=5.6						

*ISCJB **04** 11:43:41.5±1.0, 3382N±003×3589E±008, h0km, Error ellipse: s-maj=9.7km s-min=4.5km az=169.8*
*GII **04** 11:43:41.6±1.1, 3377N×3587E, h0km, ML2.5/4*
*GRAL **04** 11:43:41.6±0.3, 3376N×3564E, h20km±2km, MD2.7*

ISC 04 11:43:41.7±1.0, 3383N±003×3589E±008, h0km, n10, σ0°75/19, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.21**	**291**	*i* Pg	**Pg**	**11 43 45.6**	**-0.2**
BHL				*e*Sg	**Sg**	**11 43 48.6**	**+0.1**
RCY	**Rachaya**	**0.35**	**190**	*i* Pg	**Pg**	**11 43 48.0**	**-0.4**
RCY				*e*Sg	**Sg**	**11 43 52.7**	**-0.2**
HWQ	**Hawqa**	**0.45**	**6**	*e*Pg	**Pg**	**11 43 52.0**	**+1.6**
KSDI	**Kefar Szold**	**0.66**	**197**	Pg	**Pg**	**11 43 54.1**	**-0.3**
KSDI				Sg	**Sg**	**11 44 03.9**	**+0.9**
KSHT	**Keshet**	**0.85**	**185**	Pg	**Pg**	**11 43 58.0**	**+0.1**
KSHT				Sg	**Sg**	**11 44 10.0**	**+1.1**
MMA0B	**Mount Meron ar**	**0.91**	**207**	Pg	**Pg**	**11 43 58.8**	**-0.3**
MMA0B				Sg	**Sg**	**11 44 12.4**	**+1.5**
OFRI	**'Ofer**	**1.42**	**212**	Pn	**Pn**	**11 44 07.4**	**-1.5**
OFRI				Sn	**Sn**	**11 44 28.1**	**-0.2**
MMLI	**Mount Malkishu**	**1.44**	**196**	Pn	**Pn**	**11 44 08.4**	**-0.7**
MMLI				Sn	**Sn**	**11 44 29.1**	**+0.4**
HMDT	**Nahal Hemdat**	**1.60**	**191**	Pn	**Pn**	**11 44 10.8**	**-0.4**
HMDT				Sn	**Sn**	**11 44 31.7**	**-0.9**
SLTI	**Sal'it**	**1.74**	**205**	Pn	**Pn**	**11 44 12.8**	**-0.4**
SLTI				Sn	**Sn**	**11 44 36.1**	**+0.1**

JMA 04 11:47:34.1±0.2, 4395N×14799E, h0km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.73**	**251**	P	Pn	11 48 05.9	+0.5
NEM2				*e*S	Sn	11 48 28.7	+0.5
JRA	**Rausu**	**2.07**	**271**	P	Pn	11 48 10.9	+0.8
JRA				*e*S	Sn	11 48 37.8	+1.2
JNK	**Nakash**	**2.40**	**262**	P	Pn	11 48 15.6	+1.0
JNK				*e*S	Sn	11 48 45.7	+1.1
JAK	**Akkeshi**	**2.58**	**249**	P	Pn	11 48 18.0	+0.9
JAK				*e*S	Sn	11 48 51.3	+2.2
JTKR	**Abashiri--Toko**	**2.95**	**272**	P	Pn	11 48 23.8	+1.7
JAR	**Ashorobuto**	**3.13**	**259**	P	Pn	11 48 26.5	+1.8
JAR				*e*S	Sn	11 49 05.0	+2.2
JOB	**Onbets**	**3.20**	**252**	P	Pn	11 48 27.5	+1.9
JMP	**Maruseppu**	**3.34**	**273**	P	Pn	11 48 29.0	+1.4
JCH	**Churui**	**3.63**	**250**	P	Pn	11 48 32.8	+1.2
JNBK	**Urakawa-nobuka**	**4.18**	**248**	P	Pn	11 48 40.7	+1.6
JKB	**Kayabe**	**5.51**	**250**	P	Pn	11 48 59.3	+2.0
JKB				*e*S	Sn	11 50 02.1	+0.8

*HLW **04** 12:03:22.8, 3004N×3723E, h15km, Mb3.6*
*GII **04** 12:03:31.8±1.2, 2987N×3620E, h0km, ML2.4/2*

ISC 04 12:03:31.1±1.1, 2986N±005×3632E±006, h0km, n15, σ0°66/22, 1C, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.12**	**279**	Pg	**Pg**	**12 03 51.9**	**-0.7**
HRFI				Sg	**Sg**	**12 04 07.5**	**+0.3**
EIL	**Elat**	**1.20**	**261**	Pg	**Pg**	**12 03 53.5**	**-0.7**
EIL				Sg	**Sg**	**12 04 10.9**	**+1.2**
ZFRI	**Zfri**	**1.20**	**305**	Pg	**Pg**	**12 03 53.1**	**-1.1**
ZFRI				Sg	**Sg**	**12 04 09.4**	**-0.4**
MBH	**Mount Berech**	**1.22**	**267**	Pg	**Pg**	**12 03 53.9**	**-0.6**
MBH				Sg	**Sg**	**12 04 10.3**	**+0.1**
PRNI	**Paran**	**1.24**	**294**	Pg	**Pg**	**12 03 54.1**	**-0.7**
KRMI	**Paran Flat**	**1.40**	**281**	Pg	**Pg**	**12 03 57.0**	**-1.0**
HBST	**Basata**	**1.52**	**245**	P	**Pn**	**12 04 00.3**	**+0.7**
MZDA	**Masada**	**1.66**	**331**	Pn	**Pn**	**12 04 01.5**	**0.0**
MZDA				Sn	**Sn**	**12 04 24.8**	**+1.2**
YTIR	**Yattir**	**1.82**	**326**	Pn	**Pn**	**12 04 03.7**	**0.0**
RTMI	**Retamim**	**1.84**	**311**	Pn	**Pn**	**12 04 03.6**	**-0.3**
HDHB	**Dhahab**	**1.87**	**233**	P	**Pn**	**12 04 04.4**	**+0.1**
DSI	**Dead Sea**	**1.89**	**335**	Pn	**Pn**	**12 04 05.0**	**+0.5**
KZIT	**Kziot**	**1.96**	**303**	Pn	**Pn**	**12 04 05.6**	**0.0**
KZIT				Sn	**Sn**	**12 04 31.5**	**+0.7**
HKAT	**Jabal Katrina**	**2.43**	**237 ⇑**	P	**Pn**	**12 04 12.0**	**-0.1**
HKAT				S	**Sn**	**12 04 48.6**	**+6.2**
SUZ		**3.03**	**271**	P	**Pn**	**12 04 21.0**	**+0.8**

*SZGRF **04** 12:06:47.1, 234S×1440W, h33km, mb5.7, MS5.9, North of Ascension Island*
*IDC **04** 12:06:49.9±0.3, 135S×1505W, h0km, mb5.0/41, mb1 5.1/42, mb1mx5.1/43, mbtmp5.1/42, ML5.3/1, MS5.9/29, Ms1 5.8/29, ms1mx5.8/30, Error ellipse: s-maj=11.1km s-min=9.4km az=142.0*
*ISCJB **04** 12:06:51.0±0.2, 133S±003×1500W±003, h10km, mb5.4/250, MS5.9/247, Error ellipse: s-maj=4.6km s-min=3.2km az=143.4*
*CRAAG **04** 12:06:51.4, 144S×1484W, Mw6.0*
*NEIC **04** 12:06:51.8±0.3, 141S×1492W, h7km, mb5.5/144, ME6.1, MS5.9/183, MW6.2, Error ellipse: s-maj=8.1km s-min=5.1km az=142.0 Broadband fault plane solution: P waves. NP1:ϕ_s170.00000°, δ85.00000°, λ-10.00000°. NP2:ϕ_s261.00000°, δ80.00000°, λ-175.00000°. Principal axes: T Plg3.0000°, Azm216.0000°; N Plg0.0000°, Azm0.0000°; P Plg11.0000°, Azm125.0000°; Moment Tensor Solution. s60 Moment tensor: Scale 10^{18} Nm; M_{rr}-0.24; $M_{\theta\theta}$0.59; $M_{\phi\phi}$-0.35; $M_{r\theta}$0.72; $M_{\phi\phi}$-2.47; $M_{\phi r}$-0.67; Best double couple: $M_0$2.70000×10^{18} NP1:ϕ_s83.00000°, δ77.00000°, λ169.00000°. NP2:ϕ_s176.00000°, δ79.00000°, λ14.00000°. Principal axes: T 2.9300, Plg17.0000°, Azm40.0000°; N -0.5400, Plg73.0000°, Azm214.0000°; P -2.3900, Plg2.0000°, Azm309.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
*BJI **04** 12:06:52.2, 140S×1490W, h10km, mB6.2, mb5.8, Ms6.3, Msz6.0*
*GCMT **04** 12:06:52.2±0.1, 1.12S×1492W, h13km, MW6.2/114, Moment Tensor Solution. s109,c243; s114,c448; Duration: 3s1 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.04±.01; $M_{\theta\theta}$0.94±.01; $M_{\phi\phi}$-0.89±.02; $M_{r\theta}$0.06±.03; $M_{\theta\phi}$-2.35±.01; $M_{\phi r}$0.84±.05; Best double couple: $M_0$2.65800×10^{18} NP1:ϕ_s260.00000°, δ72.00000°, λ-176.00000°. NP2:ϕ_s169.00000°, δ86.00000°, λ-18.00000°. Principal axes: T 2.6170, Plg9.0000°, Azm216.0000°; N 0.0840, Plg72.0000°, Azm336.0000°; P -2.7000, Plg15.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IGIL **04** 12:06:52.5, 152S×1487W, h10km, MS6.0*
*BGS **04** 12:06:52.2±1.9, 141S×1491W, h10km, mb5.5*
*MOS **04** 12:06:53.1±1.6, 087S×1503W, h10km, mb5.8/91, MS6.0/72, Error ellipse: s-maj=9.2km s-min=3.8km az=67.4*

ISC 04 12:06:52.8±0.2, 135S±003×1505W±003, h10km, (h12km±7km:pP-P), n1043, σ1°46/953, mb5.4/250, MS5.9/247, 41C-24D, North of Ascension Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**6.58**	**174**	*e*Pn	**Pn**	**12 08 25.8**	**-3.9**
	639nm,0.8s						
ASCN				*e*Sn	**Sn**	**12 09 38.0**	**-6.8**
LIC	**Lamto**	**12.52**	**53 ⇑**	*i*Pn	**Pn**	**12 09 46.8**	**-4.3**
	baz=258						
LIC				*e*Sn	**Sn**	**12 11 59.6**	**-11**
	956nm,0.8s						
LIC				*e*MLR	MLR		
	comp=Z,150μm,19.0s						
DBIC	**Dimbokro**	**12.92**	**52**	*e*Pn	**Pn**	**12 09 51.3**	**-5.4**
	comp=Z,24nm,0.7s						
DBIC				*e*Sn	**Sn**	**12 12 06.4**	**-14**
DBIC	**Dimbokro**	**12.92**	**52**	Pn	**Pn**	**12 09 52.0**	**-4.7**
	comp=Z,27nm,0.3s,baz=218,slow=15,SNR=330						
DBIC				Sn	**Sn**	**12 12 06.5**	**-14**
	comp=Z,43nm,0.3s,baz=314,slow=22,SNR=4.1						
DBIC				LR	LR	12 13 56.7	
	comp=Z,118μm,19.2s,baz=211,slow=33						
BBTS	**Babate**	**15.97**	**355**	Pn	**Pn**	**12 10 36.0**	**-1.8**
	comp=Z,12nm,0.3s,baz=185,slow=1.4,SNR=18						
BBTS				Sn	**Sn**	**12 13 20.9**	**-14**
	comp=Z,13nm,0.3s,baz=343,slow=19,SNR=6.3						
BBTS				LR	LR	12 16 15.6	
	comp=Z,66μm,18.8s,baz=17,slow=35						
RCBR	**Riachuelo**	**21.28**	**257**	*e*P	**P**	**12 11 37.8**	**-1.9**
RCBR				LR	LR		
	comp=Z,13μm,20.0s,MS5.3						
CAM3	**Guarapari**	**31.46**	**230**	(P)	**P**	**12 13 13.6**	**-1.2**
CAM3				*i*	pP	12 13 16.6	-1.2
CAM3				*i*		12 13 29.2	
CAM4	**Nova Friburgo**	**33.94**	**230 ⇑**	*i*P	**P**	**12 13 34.9**	**-1.6**
CAM4				*i*	pP	12 13 37.4	-2.1
CAM4				*i*	pP	12 13 38.6	-1.0
CAM4				*i*		12 13 41.4	
CAM4				*i*		12 13 43.8	
MDT	**Midelt**	**35.38**	**15**	P	**P**	**12 13 48.4**	**-0.4**
	comp=Z,19nm,0.8s,mb5.1,baz=207,slow=8.1,SNR=18						
MDT				LR	LR	12 28 22.5	
	comp=Z,18μm,18.6s,MS5.8,baz=202,slow=36						
BDFB	**Brasília**	**35.48**	**245**	P	**P**	**12 13 47.5**	**-2.4**
	comp=Z,27nm,0.9s,mb5.2,baz=45,slow=14,SNR=22						
BDFB				LR	LR	12 25 31.7	
	comp=Z,5μm,19.7s,MS5.3,baz=243,slow=32						
TSUM	**Tsumeb**	**36.55**	**121**	*e*P	**P**	**12 13 58.4**	**-0.6**
TSUM				LR	LR		
	comp=Z,26μm,20.0s,MS6.0						
TSUM	**Tsumeb**	**36.55**	**121**	P	**P**	**12 13 57.8**	**-1.2**
	comp=Z,14nm,1.0s,mb4.8,baz=268,slow=8.0,SNR=14						
EJIF	**Jimena Fronter**	**38.65**	**12**	P	**P**	**12 14 16.6**	**+0.1**
EJIF				pmax	pmax		
	comp=Z,131nm,1.2s,mb5.5						
EJIF	**Jimena Fronter**	**38.65**	**12**	P	**P**	**12 14 16.6**	**+0.1**
	comp=Z,131nm,1.2s,mb5.5						
PFVI	**Vila Bisbo**	**38.72**	**8**	*e*PP	PP	12 15 49.5	+3.6
PFVI				*e*S	**S**	**12 20 18.6**	**+4.4**
PFVI				*e*SS	SS	12 22 45.3	-20
PFVI				*e*LR	LR	12 25 39.7	
	comp=Z,15μm,20.0s						
EMIJ	**Mijas**	**38.91**	**13**	P	**P**	**12 14 19.2**	**+0.5**
	comp=Z,13nm,0.7s,mb4.8						
MORF	**Marmelete**	**38.91**	**8**	*e*P	**P**	**12 14 18.3**	**-0.5**
	comp=Z,120nm,2.2s,mb5.2						
MORF	**Marmelete**	**38.91**	**8**	*e*PP	PP	12 15 51.2	+3.2
MORF				*e*S	**S**	**12 20 20.0**	**+2.9**
MORF				*e*SS	SS	12 22 51.1	-18
MORF				*e*LR	LR	12 26 02.0	
	comp=Z,21μm,20.0s						
PBDV	**Barranco-do-Ve**	**38.96**	**9**	*e*P	**P**	**12 14 21.4**	**+2.3**
	comp=Z,253nm,1.6s,mb5.7						
PBDV	**Barranco-do-Ve**	**38.96**	**9**	*e*PP	PP	12 15 52.0	+3.5
PBDV				*e*S	**S**	**12 20 21.3**	**+3.5**
PBDV				*e*SS	SS	12 22 48.2	-22
PBDV				*e*LR	LR	12 26 41.8	
	comp=Z,16μm,20.0s						
ESPR	**Espera**	**38.97**	**12**	P	**P**	**12 14 19.1**	**-0.2**
	comp=Z,164nm,0.9s,mb5.8						
PTEO	**Sao Teotonio**	**39.14**	**8**	*e*P	**P**	**12 14 22.5**	**+1.9**
	comp=Z,322nm,1.4s,mb5.9						
PTEO	**Sao Teotonio**	**39.14**	**8**	*e*PP	PP	12 15 53.1	+2.6
PVAQ	**Vaqueiros**	**39.15**	**9**	*e*P	**P**	**12 14 22.9**	**+2.2**
	comp=Z,191nm,1.7s,mb5.5						
PVAQ	**Vaqueiros**	**39.15**	**9**	*e*PP	PP	12 15 54.1	+3.5
PVAQ				*e*S	**S**	**12 20 27.8**	**+7.1**
PVAQ				*e*SS	SS	12 22 54.0	-20
PVAQ				*e*LR	LR	12 26 08.1	
	comp=Z,21μm,20.0s						
EGRO	**El Granado**	**39.32**	**10**	P	**P**	**12 14 23.6**	**+1.5**
	comp=Z,16nm,0.8s,mb4.8						
EGUA	**Guajares**	**39.46**	**15**	P	**P**	**12 14 24.3**	**+1.0**
EGUA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
EGUA	**Guajares**	**39.46**	**15**	P	**P**	**12 14 24.3**	**+1.0**
	comp=Z,0.5nm,1.0s						
ERON	**Agron**	**39.57**	**14**	P	**P**	**12 14 23.9**	**-0.4**
	comp=Z,33nm,0.7s,mb5.2						
ELOJ	**Sierra Loja**	**39.61**	**14**	P	**P**	**12 14 24.1**	**-0.5**
ELOJ				pmax	pmax		
	comp=Z,46nm,0.8s,mb5.3						
ELOJ	**Sierra Loja**	**39.61**	**14**	P	**P**	**12 14 24.1**	**-0.6**
	comp=Z,46nm,0.8s,mb5.3

comp=N,24µm,18.0s
EBAN Banos Encina 40.67 14 P **P 12 14 32.1 -1.3**
EBAN pmax pmax
comp=Z,214nm,0.8s,mb5.8
EBAN Banos Encina 40.67 14 P **P 12 14 32.1 -1.3**
comp=Z,214nm,0.8s,mb5.8
CART Cartagena 40.87 17 *e*P **P 12 14 33.1 -1.8**
comp=Z,122nm,0.9s,mb5.5
EMHD Djebel Mahouad 40.95 22 P **P 12 14 36.0 +0.3**
EMUR La Murta 41.03 17 P **P 12 14 37.9 +1.5**
comp=Z,32nm,0.8s,mb5.0
ADJB Djebel Djouab 41.10 23 P **P 12 14 37.0 +0.1**
AKET Djebel Ketaf 41.18 24 P **P 12 14 39.2 +1.6**
ATAF Djebel Tarf 41.19 24 P **P 12 14 38.4 +0.7**
PTOM Tomar 41.22 8 A 12 14 55.8
comp=Z,197nm,1.7s
PTOM Tomar 41.22 8 *e*PP PP 12 16 17.5 +4.4
EVIA Vianos 41.44 15 P **P 12 14 38.3 -1.4**
EVIA pmax pmax
comp=Z,44nm,0.9s,mb5.1
EVIA Vianos 41.44 15 P **P 12 14 38.3 -1.3**
comp=Z,44nm,0.9s,mb5.1
ABA Alger-Bouzarea 41.51 22 P **P 12 14 33.1 -7.2**
PCBR Castelo Branco 41.57 9 *e*P **P 12 14 40.7 -0.1**
comp=Z,47nm,1.5s,mb4.9
PCBR Castelo Branco 41.57 9 *e*PP PP 12 16 16.9 -0.1
CMER Merouana 41.66 26 P **P 12 14 45.0 +3.5**
ETOB Tobarra 41.70 16 P **P 12 14 41.7 -0.1**
comp=Z,87nm,0.8s,mb5.4
CKHR Kef el Ahmar 41.83 25 P **P 12 14 45.0 +2.1**
PAB San Pablo 41.86 12 *e*P **P 12 14 42.6 -0.6**
PAB pmax pmax
comp=Z,60nm,0.9s,mb5.2
PAB MLR MLR
comp=Z,21µm,19.0s,MS6.0
PAB San Pablo 41.86 12 *e*P **P 12 14 42.5 -0.6**
comp=Z,60nm,0.9s,mb5.2
PAB LR LR
comp=Z,21µm,19.0s,MS6.0
SET Setif 41.93 25 P **P 12 14 43.0 -0.8**
ESDC Sonseca Array 42.07 13 P **P 12 14 44.0 -0.8**
comp=Z,14nm,0.9s,mb4.6,baz=206,slow=8.1,SNR=22
ESDC PP PP 12 16 18.3 -4.1
comp=Z,10nm,0.9s,baz=195,slow=11,SNR=2.8
ESDC LR LR 12 32 03.8
comp=Z,20µm,19.5s,MS6.0,baz=195,slow=36
ESLA Sonseca Array 42.07 13 *e*P **P 12 14 44.5 -0.4**
ESLA LR LR
comp=Z,132µm,19.0s,MS6.8
MTE Manteigas 42.11 9 *e*P **P 12 14 44.0 -1.2**
comp=Z,87nm,0.8s,mb5.4
MTE Manteigas 42.11 9 *e*P **P 12 14 44.5 -0.7**
comp=Z,162nm,1.6s,mb5.4
MTE Manteigas 42.11 9 *e*PP PP 12 16 30.8 +8.0
MTE *e*S **S 12 21 05.7 +0.9**
MTE *e*SS SS 12 23 51.1 -21
MTE *e*LR LR 12 27 09.6
comp=Z,15µm,20.0s
EBEN Beniarda 42.13 17 P **P 12 14 46.4 +1.0**
comp=Z,872nm,4.4s
CTEI Djebel Teioual 42.25 26 P **P 12 14 46.5 +0.1**
PVIS Viseu 42.37 8 *e*P **P 12 14 49.0 +1.7**
comp=Z,109nm,1.4s,mb5.3
PVIS Viseu 42.37 8 *e*PP PP 12 16 25.5 -0.1
DFRA Djebel Bou Aff 42.43 25 P **P 12 14 51.8 +4.0**
CASM Ain Smara 42.45 26 P **P 12 14 49.0 +1.0**
CKFL Kef-Lekhel 42.67 26 P **P 12 14 50.0 +0.2**
PTO Porto 42.69 7 *e*P **P 12 14 50.6 +0.7**
ECHE Chera 42.74 16 P **P 12 14 48.6 -1.7**
ECHE pmax pmax
comp=Z,62nm,0.8s,mb5.4
ECHE Chera 42.74 16 P **P 12 14 48.6 -1.7**
comp=Z,62nm,0.8s,mb5.4
ABSA Djebel Ababsia 42.91 27 P **P 12 14 55.0 +3.3**
MVO Moncorvo 42.94 9 *e*P **P 12 14 51.6 -0.3**
comp=Z,181nm,1.4s,mb5.6
MVO Moncorvo 42.94 9 *e*PP PP 12 16 33.6 +1.9
MVO *e*S **S 12 21 18.6 +1.7**
MVO *e*SS SS 12 24 09.5 -19
MVO *e*LR LR 12 27 40.8
comp=Z,13µm,20.0s
PVRL Vila Real 42.95 8 *e*P **P 12 14 51.3 -0.6**
comp=Z,170nm,1.6s,mb5.5
PVRL Vila Real 42.95 8 *e*PP PP 12 16 32.8 +1.1
GUD Guadarrama 42.96 12 P **P 12 14 51.5 -0.5**
GUD pmax pmax
comp=Z,29nm,0.8s,mb5.1
GUD Guadarrama 42.96 12 P **P 12 14 51.5 -0.6**
comp=Z,29nm,0.8s,mb5.1
CAEH 'Ain El Ouahch 43.05 26 P **P 12 14 56.0 +3.2**
CMAH Djebel Manchou 43.17 27 P **P 12 14 57.0 +3.2**
PCAB Cabril 43.33 8 *e*P **P 12 14 53.8 -1.2**
comp=Z,89nm,1.3s,mb5.3
KEST Kesra 43.35 29 P **P 12 14 54.8 -0.5**
comp=Z,23nm,0.9s,mb4.9,baz=205,slow=2.1,SNR=12
KEST LR LR 12 35 21.6
comp=Z,10µm,18.1s,MS5.8,baz=340,slow=40
ELOB Lobios 43.48 8 P **P 12 14 57.8 +1.6**
comp=Z,66nm,0.9s,mb5.4
EMOS Mosqueruela 43.60 16 P **P 12 14 56.3 -0.9**
comp=Z,46nm,0.9s,mb5.2
ETOR Torete 43.61 14 P **P 12 14 56.4 -0.9**
ETOR pmax pmax
comp=Z,30nm,0.8s,mb5.1
ETOR Torete 43.61 14 P **P 12 14 56.4 -0.9**
comp=Z,30nm,0.8s,mb5.1
ECAL Calabor 43.74 9 P **P 12 15 00.9 +2.6**
comp=Z,39nm,0.8s,mb5.2
ETOS Mallorca 44.07 20 P **P 12 15 03.1 +2.1**
comp=Z,34nm,0.9s,mb5.1
ERUA La Rua 44.12 8 P **P 12 15 01.7 +0.3**
ERUA pmax pmax
comp=Z,18nm,0.8s,mb4.8
ERUA La Rua 44.12 8 P **P 12 15 01.7 +0.3**
comp=Z,18nm,0.8s,mb4.8
ERTA Horta de San J 44.37 17 P **P 12 15 03.4 -0.1**
comp=Z,79nm,0.8s,mb5.5
STS Santiago 44.42 7 P **P 12 15 06.4 +2.6**
STS pmax pmax
comp=Z,17nm,0.9s,mb4.8
STS Santiago 44.42 7 P **P 12 15 06.4 +2.6**
comp=Z,17nm,0.9s,mb4.8
EMAZ Mazaricos 44.43 6 P **P 12 15 05.7 +1.8**
comp=Z,24nm,0.9s,mb4.9
LSZ Lusaka 44.84 110 *e*P **P 12 15 06.7 -0.9**
LSZ MLR MLR
comp=Z,19µm,22.0s,MS6.0
LSZ Lusaka 44.84 110 P **P 12 15 06.6 -1.0**
comp=Z,50nm,0.8s,mb5.4,baz=292,slow=5.8,SNR=85
ESAC San Caprasio 44.86 15 P **P 12 15 06.5 -0.8**
comp=Z,151nm,0.7s,mb5.9
EPOB Poblet 44.96 17 P **P 12 15 06.6 -1.5**
comp=Z,79nm,0.9s,mb5.5
EPON Pontenova 45.04 8 P **P 12 15 10.9 +2.2**
comp=Z,25nm,0.9s,mb5.0
EARI Arriondas 45.32 10 P **P 12 15 13.5 +2.5**
comp=Z,119nm,0.9s,mb5.7
ELAN Lanestosa 45.59 12 P **P 12 15 13.1 0.0**
comp=Z,120nm,0.8s,mb5.9
EMIR Miracle 45.60 17 P **P 12 15 15.0 +1.7**
comp=Z,94nm,0.8s,mb5.8
LBTB Lobatse 45.73 124 P **P 12 15 12.6 -1.9**
LBTB pmax pmax
comp=Z,46nm,0.7s,mb5.5
LBTB Lobatse 45.73 124 *e*P **P 12 15 11.1 -3.4**
comp=Z,98nm,1.0s,mb5.7
LBTB LR LR
comp=Z,16µm,21.0s,MS5.9
LBTB Lobatse 45.73 124 P **P 12 15 12.6 -1.9**
comp=Z,46nm,0.7s,mb5.5,baz=301,slow=8.0,SNR=71
SUR Sutherland 45.73 136 *e*P **P 12 15 13.8 -0.6**
comp=Z,222nm,1.1s,mb6.0
SUR LR LR
comp=Z,15µm,19.0s,MS6.0
SUR Sutherland 45.73 136 P **P 12 15 13.4 -1.0**
comp=Z,27nm,0.8s,mb5.2,baz=288,slow=4.6,SNR=20
MBAR Mbarara 45.78 90 *i* P **P 12 15 14.5 -0.7**
EBIE Bielsa 45.92 16 P **P 12 15 16.6 +0.9**
comp=Z,50nm,0.8s,mb5.5
ETSF Etsaut 45.94 15 *e*P **P 12 15 13.9 -2.0**
comp=Z,163nm,0.9s,mb5.7
ETSF Etsaut 45.94 15 *e*P **P 12 15 13.9 -2.0**
ETSF pmax pmax
comp=Z,82nm,0.9s,mb5.7
ETSF Etsaut 45.94 15 *e*P **P 12 15 13.9 -2.0**
comp=Z,82nm,0.9s,mb5.7
ELIZ Elizondo 45.95 14 P **P 12 15 16.8 +0.9**
ELIZ pmax pmax
comp=Z,87nm,1.0s,mb5.6
ELIZ Elizondo 45.95 14 P **P 12 15 16.8 +0.9**
comp=Z,87nm,1.0s,mb5.6
SJPF Ste Jean 45.98 14 *e*P **P 12 15 14.1 -2.0**
comp=Z,174nm,0.9s,mb5.7
SJPF Ste Jean 45.98 14 *e*P **P 12 15 14.1 -2.0**
SJPF pmax pmax
comp=Z,87nm,0.9s,mb5.7
SJPF Ste Jean 45.98 14 *e*P **P 12 15 14.1 -2.0**
comp=Z,87nm,0.9s,mb5.7
EALK Alkurruntz 46.01 14 P **P 12 15 18.2 +1.8**
comp=Z,19nm,0.6s,mb5.2
VIEF Viey 46.08 15 *e*P **P 12 15 16.1 -0.9**
ATE Arette 46.08 15 *e*P **P 12 15 16.2 -0.8**
RESF Ens 46.09 16 *e*P **P 12 15 16.1 -1.0**
OSSF Osses 46.10 14 *e*P **P 12 15 16.1 -1.0**
REYF Montagne du Re 46.14 15 *e*P **P 12 15 16.6 -0.9**
VALF Valcebollere 46.20 18 *e*P **P 12 15 17.2 -0.7**
LABF Labassere 46.24 15 *e*P **P 12 15 17.7 -0.6**
SALF Salau 46.28 17 *e*P **P 12 15 18.4 -0.2**
EPF Esparros 46.30 16 *e*P **P 12 15 16.7 -2.0**
comp=Z,260nm,1.3s,mb5.7
EPF Esparros 46.30 16 *e*P **P 12 15 16.7 -2.0**
EPF pmax pmax
comp=Z,130nm,1.3s,mb5.7
EPF Esparros 46.30 16 *e*P **P 12 15 16.7 -2.0**
comp=Z,130nm,1.3s,mb5.7
VSL Villasalto 46.41 26 *e*P **P 12 15 19.7 0.0**
BBGH Gun Hill 46.43 290 PFAKE 12 15 30.0 +10
BBGH LR LR
comp=Z,8µm,19.0s,MS5.7
MLS Moulis 46.44 16 *e*P **P 12 15 19.4 -0.4**
CARF Carcanieres 46.51 17 *e*P **P 12 15 19.8 -0.6**
LRDF Laroque-de-Fa 46.84 18 *e*P **P 12 15 21.8 -1.2**
BOSA Boshof 47.04 129 *e*P **P 12 15 22.8 -2.0**
comp=Z,118nm,1.0s,mb5.8
BOSA LR LR
comp=Z,11µm,20.0s,MS5.8
BOSA Boshof 47.04 129 P **P 12 15 23.0 -1.8**
comp=Z,75nm,0.8s,mb5.7,baz=301,slow=7.6,SNR=87
BOSA LR LR 12 32 40.8
comp=Z,11µm,18.4s,MS5.8,baz=296,slow=33
MTLF Montolieu 47.12 17 *e*P **P 12 15 22.3 -2.8**
comp=Z,108nm,1.1s,mb5.4
MTLF Montolieu 47.12 17 *e*P **P 12 15 22.3 -2.8**
MTLF pmax pmax
comp=Z,54nm,1.1s,mb5.4
MTLF Montolieu 47.12 17 *e*P **P 12 15 22.3 -2.8**
comp=Z,54nm,1.1s,mb5.4
DGI Dorgali Grotta 47.18 26 P **P 12 15 27.4 +1.7**
VAE Valguarnera 47.29 32 P **P 12 15 26.8 +0.2**
comp=Z,41nm,0.8s,mb5.4,baz=317,slow=17,SNR=3.3
CPUP Villa Florida 47.62 235 *e*P **P 12 15 27.2 -2.1**
comp=Z,155nm,1.2s,mb5.9
CPUP LR LR
comp=Z,2µm,20.0s,MS5.1
CPUP Villa Florida 47.62 235 P **P 12 15 27.5 -1.8**
comp=Z,26nm,1.0s,mb5.2,baz=59,slow=7.4,SNR=19
CPUP LR LR 12 32 52.2
comp=Z,15µm,21.7s,MS5.9,baz=54,slow=33
GRGR Grenville 48.18 288 PFAKE 12 15 40.0 +6.1
GRGR LR LR
comp=Z,2µm,20.0s,MS5.2
LFF La Frestale 48.18 15 *e*P **P 12 15 31.1 -2.2**
comp=Z,145nm,0.9s,mb5.7
LFF La Frestale 48.18 15 *e*P **P 12 15 31.1 -2.2**
LFF pmax pmax
comp=Z,73nm,0.9s,mb5.7
LFF La Frestale 48.18 15 *e*P **P 12 15 31.1 -2.2**
comp=Z,72nm,0.9s,mb5.7
BERF Bertagne 48.21 20 *e*P **P 12 15 36.3 +2.7**
LASF Ste Croix 48.28 18 *e*P **P 12 15 31.8 -2.3**
comp=Z,126nm,1.0s,mb5.6
PUYF Puyloubier 48.40 20 *e*P **P 12 15 37.4 +2.3**
PRAF Pradon 48.46 20 *e*P **P 12 15 36.9 +1.4**
LMR La Mourre 48.51 21 *e*P **P 12 15 33.6 -2.3**
comp=Z,167nm,0.9s,mb5.8
LMR La Mourre 48.51 21 *e*P **P 12 15 33.6 -2.3**
LMR pmax pmax
comp=Z,84nm,0.9s,mb5.8
LMR La Mourre 48.51 21 *e*P **P 12 15 33.6 -2.3**
comp=Z,84nm,0.9s,mb5.8
CAF Calviac 48.52 16 *e*P **P 12 15 33.4 -2.6**
comp=Z,139nm,1.0s,mb5.7
CAF Calviac 48.52 16 *e*P **P 12 15 33.4 -2.6**
CAF pmax pmax
comp=Z,69nm,1.0s,mb5.6
CAF Calviac 48.52 16 *e*P **P 12 15 33.4 -2.6**
comp=Z,69nm,1.0s,mb5.6
SOI Samo 48.60 33 P **P 12 15 37.3 +0.5**
SOI pmax pmax
comp=Z,148nm,1.1s,mb5.9
SOI Samo 48.60 33 P **P 12 15 37.3 +0.5**
comp=Z,148nm,1.1s,mb5.9
RJF Les Rejaudoux 48.72 16 *e*P **P 12 15 35.0 -2.5**
comp=Z,122nm,1.1s,mb5.5
RJF *e*MLR MLR
comp=Z,23µm,17.8s,MS5.9
RJF Les Rejaudoux 48.72 16 *e*P **P 12 15 35.0 -2.5**
RJF pmax pmax
comp=Z,61nm,1.1s,mb5.5
RJF MLR MLR
comp=Z,23µm,17.8s,MS6.2
RJF Les Rejaudoux 48.72 16 *e*P **P 12 15 35.0 -2.5**
comp=Z,61nm,1.1s,mb5.5
RJF LR LR
comp=Z,23µm,17.8s,MS6.2
SMRF Simiane la Rot 48.75 20 *e*P **P 12 15 36.1 -1.7**
comp=Z,44nm,0.9s,mb5.2
SMRF Simiane la Rot 48.75 20 *e*P **P 12 15 36.1 -1.7**
comp=Z,44nm,0.9s,mb5.5
FRF La Foret Royal 48.76 21 *e*P **P 12 15 35.3 -2.5**
comp=Z,80nm,0.9s,mb5.5
FRF La Foret Royal 48.76 21 *e*P **P 12 15 35.3 -2.5**
FRF pmax pmax
comp=Z,40nm,0.9s,mb5.5
FRF La Foret Royal 48.76 21 *e*P **P 12 15 35.3 -2.5**
comp=Z,40nm,0.9s,mb5.5
PGF Pioggiola 48.78 24 *e*P **P 12 15 35.7 -2.3**
comp=Z,97nm,1.0s,mb5.5
PGF Pioggiola 48.78 24 *e*P **P 12 15 35.7 -2.3**
PGF pmax pmax
comp=Z,49nm,1.0s,mb5.5
PGF Pioggiola 48.78 24 *e*P **P 12 15 35.7 -2.3**
comp=Z,49nm,1.0s,mb5.5
CALN Calern 49.01 21 *e*P **P 12 15 42.0 +2.2**
FRNF Fournols 49.09 16 *e*P **P 12 15 39.9 -0.4**
LBL Lubilhac 49.14 17 *e*P **P 12 15 39.6 -1.1**
REVF Revere 49.17 21 *e*P **P 12 15 42.3 +1.3**
OCF Saint Nazaire 49.19 19 *e*P **P 12 15 42.1 +1.0**
OG26 St.-Nazaire-De 49.19 19 *e*P **P 12 15 42.1 +1.0**
MVIF Mont Vial 49.23 21 *e*P **P 12 15 42.3 +0.8**
VIVF Saint-Julien-l 49.24 18 *e*P **P 12 15 39.3 -2.2**
comp=Z,155nm,1.1s,mb5.7
VIVF Saint-Julien-l 49.24 18 *e*P **P 12 15 39.3 -2.2**
VIVF pmax pmax
comp=Z,77nm,1.1s,mb5.7
VIVF Saint-Julien-l 49.24 18 *e*P **P 12 15 39.3 -2.2**
comp=Z,77nm,1.1s,mb5.7
LUCF Luceram 49.30 21 *e*P **P 12 15 42.1 +0.1**
SBF Sospel 49.31 21 *e*P **P 12 15 39.7 -2.3**
comp=Z,240nm,1.0s,mb5.9
SBF Sospel 49.31 21 *e*P **P 12 15 39.7 -2.3**
SBF pmax pmax
comp=Z,120nm,1.0s,mb5.9
SBF Sospel 49.31 21 *e*P **P 12 15 39.7 -2.3**
comp=Z,120nm,1.0s,mb5.9
TOUF Mont Tournerai 49.37 21 *e*P **P 12 15 42.9 +0.4**
AUTN L'Aution 49.42 21 *e*P **P 12 15 42.5 -0.4**
SAOF Saorge 49.46 21 *e*P **P 12 15 42.9 -0.3**
MFF Saint Martin d 49.52 13 *e*P **P 12 15 40.9 -2.7**
comp=Z,102nm,1.0s,mb5.5
MFF Saint Martin d 49.52 13 *e*P **P 12 15 40.9 -2.7**
MFF pmax pmax
comp=Z,51nm,1.0s,mb5.5
MFF Saint Martin d 49.52 13 *e*P **P 12 15 40.9 -2.7**
comp=Z,51nm,1.0s,mb5.5
COLF Collangettes 49.53 17 *e*P **P 12 15 43.0 -0.7**
STV Sta Anna Valdi 49.59 21 P **P 12 15 47.0 +2.8**
SURF Saint Ours 49.62 20 *e*P **P 12 15 45.5 +1.1**
TOLF Tolfa 49.65 26 P **P 12 15 45.8 +1.1**
ORIF Oris-en-Rattie 49.69 19 *e*P **P 12 15 43.3 -1.6**
comp=Z,244nm,1.4s,mb5.7
ORIF *e*MLR MLR
comp=Z,39µm,20.2s,MS6.1
ORIF Oris-en-Rattie 49.69 19 *e*P **P 12 15 43.3 -1.6**
ORIF pmax pmax
comp=Z,122nm,1.4s,mb5.7
ORIF Oris-en-Rattie 49.69 19 *e*P **P 12 15 43.3 -1.6**
comp=Z,122nm,1.4s,mb5.7
TIP Timpagrande 49.78 32 *e*P **P 12 15 44.8 -1.0**
TCF Toulx Ste Croi 49.82 16 *e*P **P 12 15 43.9 -2.0**
comp=Z,108nm,1.0s,mb5.5
TCF Toulx Ste Croi 49.82 16 *e*P **P 12 15 43.9 -2.0**
TCF pmax pmax
comp=Z,54nm,1.0s,mb5.5
TCF Toulx Ste Croi 49.82 16 *e*P **P 12 15 43.9 -2.0**
comp=Z,54nm,1.0s,mb5.5
MBDF Montbardon 49.82 20 *e*P **P 12 15 44.4 -1.5**
comp=Z,227nm,1.0s,mb5.8
MBDF Montbardon 49.82 20 *e*P **P 12 15 44.4 -1.5**
MBDF pmax pmax
comp=Z,114nm,1.0s,mb5.9
MBDF Montbardon 49.82 20 *e*P **P 12 15 44.4 -1.5**
comp=Z,114nm,1.0s,mb5.9
AGO Saint Agoulin 49.86 17 *e*P **P 12 15 45.1 -1.1**
PLDF La Plantade 49.92 17 *e*P **P 12 15 45.8 -0.9**
GRN Grenoble 49.93 19 *e*P **P 12 15 48.8 +2.1**
CERT Cerreto 50.01 27 P **P 12 15 48.9 +1.5**
GDM Grand'Maison 50.02 19 *e*P **P 12 15 50.4 +3.0**
QLNO Quiliano 50.04 22 P **P 12 15 49.5 +1.9**
BNI Bardonecchia 50.07 20 *e*P **P 12 15 50.7 +2.9**
BNI pmax pmax
comp=Z,103nm,1.1s,mb5.8
BNI Bardonecchia 50.07 20 *e*P **P 12 15 50.6 +2.8**
comp=Z,104nm,1.1s,mb5.8
SLAT Slait 50.15 68 *i* P **P 12 15 47.0 -1.9**
SLAT AMb AMB 12 15 56.6
comp=Z,28µm,6.5s
SLAT ⇑*e* 12 16 06.7
baz=254,slow=7.9
SLAT *i* S **S 12 22 59.2 -1.8**
QUIF Quistinic 50.15 10 *e*P **P 12 15 45.5 -2.9**
comp=Z,39nm,0.8s,mb5.2
QUIF Quistinic 50.15 10 *e*P **P 12 15 45.5 -2.9**
QUIF pmax pmax
comp=Z,19nm,0.8s,mb5.2
QUIF Quistinic 50.15 10 *e*P **P 12 15 45.5 -2.9**
comp=Z,20nm,0.8s,mb5.2
BGF Bois d'Agland 50.24 16 *e*P **P 12 15 47.0 -2.1**
comp=Z,81nm,0.9s,mb5.4
BGF Bois d'Agland 50.24 16 *e*P **P 12 15 47.0 -2.1**
BGF pmax pmax
comp=Z,40nm,0.9s,mb5.5
BGF Bois d'Agland 50.24 16 *e*P **P 12 15 47.0 -2.1**
comp=Z,40nm,0.9s,mb5.5
PSB1 Pescosannita 50.31 29 P **P 12 15 52.3 +2.6**
RNI2 Rionero Sannit 50.36 28 P **P 12 15 52.2 +2.1**
LPG La Plagne 50.49 20 *e*P **P 12 15 49.5 -1.5**
comp=Z,125nm,0.9s,mb5.6
LPG La Plagne 50.49 20 *e*P **P 12 15 49.5 -1.5**
LPG pmax pmax
comp=Z,63nm,0.9s,mb5.7
LPG La Plagne 50.49 20 *e*P **P 12 15 49.5 -1.5**
comp=Z,63nm,0.9s,mb5.6
CSNT Castellina Chi 50.49 25 P **P 12 15 52.8 +1.8**
LPL La Plagne 50.50 20 *e*P **P 12 15 49.5 -1.6**
comp=Z,160nm,1.0s,mb5.7
LPL La Plagne 50.50 20 *e*P **P 12 15 49.5 -1.6**
LPL pmax pmax
comp=Z,80nm,1.0s,mb5.7
LPL La Plagne 50.50 20 *e*P **P 12 15 49.5 -1.6**
comp=Z,80nm,1.0s,mb5.7
AQU L'Aquila 50.52 27 *e*P **P 12 15 53.2 +1.9**
AQU L'Aquila 50.52 27 ⇑*i* P **P 12 15 53.8 +2.5**
ROSF Rostrenen 50.53 10 *e*P **P 12 15 48.4 -2.9**
comp=Z,95nm,1.0s,mb5.4
ROSF Rostrenen 50.53 10 *e*P **P 12 15 48.4 -2.9**
ROSF pmax pmax
comp=Z,47nm,1.0s,mb5.4
ROSF Rostrenen 50.53 10 *e*P **P 12 15 48.4 -2.9**
comp=Z,47nm,1.0s,mb5.4
SGMF Saint Gilles 50.59 11 *e*P **P 12 15 49.0 -2.7**
comp=Z,100nm,0.9s,mb5.4
SGMF Saint Gilles 50.59 11 *e*P **P 12 15 49.0 -2.7**
SGMF pmax pmax
comp=Z,50nm,0.9s,mb5.4
SGMF Saint Gilles 50.59 11 *e*P **P 12 15 49.0 -2.7**
comp=Z,50nm,0.9s,mb5.4
AVF Avril sur Loir 50.59 16 *e*P **P 12 15 49.5 -2.2**
comp=Z,92nm,1.1s,mb5.3
AVF Avril sur Loir 50.59 16 *e*P **P 12 15 49.5 -2.2**
AVF pmax pmax
comp=Z,46nm,1.1s,mb5.3
AVF Avril sur Loir 50.59 16 *e*P **P 12 15 49.5 -2.2**
comp=Z,46nm,1.1s,mb5.3
SMF Signal de Mont 50.60 17 *e*P **P 12 15 49.4 -2.4**
comp=Z,42nm,0.9s,mb5.0
SMF Signal de Mont 50.60 17 *e*P **P 12 15 49.4 -2.4**
SMF pmax pmax
comp=Z,21nm,0.9s,mb5.1
SMF Signal de Mont 50.60 17 *e*P **P 12 15 49.4 -2.4**
comp=Z,21nm,0.9s,mb5.1
PCRV Puerto La Cruz 50.66 284 P **P 12 15 51.1 -1.8**
comp=Z,6.7nm,0.7s,mb4.7,baz=131,slow=12,SNR=3.1
VLC Villacollemand 50.69 24 *e*P **P 12 15 52.4 -0.1**
BDI Bagni Di Lucca 50.69 24 P **P 12 15 52.7 +0.2**
BOB Bobbio (Coli) 50.83 22 P **P 12 15 55.6 +2.0**
HYF Humbligny 50.84 15 *e*P **P 12 15 51.4 -2.2**
MURB Monte Urbino 50.85 26 P **P 12 15 55.3 +1.6**
SSF Saint Saulge 50.88 16 *e*P **P 12 15 51.6 -2.3**
comp=Z,72nm,0.9s,mb5.3
SSF Saint Saulge 50.88 16 *e*P **P 12 15 51.6 -2.3**
SSF pmax pmax
comp=Z,36nm,0.9s,mb5.3
SSF Saint Saulge 50.88 16 *e*P **P 12 15 51.6 -2.3**
comp=Z,36nm,0.9s,mb5.3
BADI Badiali 50.92 25 P **P 12 15 55.6 +1.3**
GRR Gorron 51.05 12 *e*P **P 12 15 52.5 -2.7**
comp=Z,159nm,0.9s,mb5.6
GRR Gorron 51.05 12 *e*P **P 12 15 52.5 -2.7**
GRR pmax pmax
comp=Z,80nm,0.9s,mb5.7
GRR Gorron 51.05 12 *e*P **P 12 15 52.5 -2.7**
comp=Z,80nm,0.9s,mb5.7
ZCCA Zocca 51.08 24 P **P 12 15 57.8 +2.3**
LOR Lormes 51.17 16 *e*P **P 12 15 53.6 -2.5**
comp=Z,125nm,1.0s,mb5.5
LOR *e*MLR MLR
comp=Z,29µm,22.2s,MS6.0
LOR Lormes 51.17 16 *e*P **P 12 15 53.6 -2.5**
LOR pmax pmax
comp=Z,62nm,1.0s,mb5.5
LOR MLR MLR
comp=Z,29µm,22.3s,MS6.2
LOR Lormes 51.17 16 *e*P **P 12 15 53.6 -2.5**
comp=Z,62nm,1.0s,mb5.5
LOR LR LR
comp=Z,29µm,22.3s,MS6.2
VLS Valsamata 51.25 36 *e*P **P 12 15 54.5 -2.4**
CABF La Chapelle 51.25 19 *e*P **P 12 15 54.2 -2.5**
comp=Z,90nm,1.0s,mb5.4
CABF La Chapelle 51.25 19 *e*P **P 12 15 54.2 -2.5**
CABF pmax pmax
comp=Z,45nm,1.0s,mb5.3
CABF La Chapelle 51.25 19 *e*P **P 12 15 54.2 -2.5**
comp=Z,45nm,1.0s,mb5.3
GVD Gavdhos 51.35 42 *e*P **P 12 15 57.8 +0.1**
ITM Ithomi 51.40 38 *e*P **P 12 15 57.0 -1.0**
LDF La Druitiere 51.40 13 *e*P **P 12 15 55.1 -2.7**
comp=Z,215nm,1.3s,mb5.6
LDF La Druitiere 51.40 13 *e*P **P 12 15 55.1 -2.7**
LDF pmax pmax
comp=Z,108nm,1.3s,mb5.6
LDF La Druitiere 51.40 13 *e*P **P 12 15 55.1 -2.7**
comp=Z,108nm,1.3s,mb5.6
FLN La Foliniere 51.48 12 *e*P **P 12 15 55.5 -2.9**
comp=Z,105nm,1.0s,mb5.4
FLN *e*MLR MLR
comp=Z,29µm,21.5s,MS6.0
FLN La Foliniere 51.48 12 *e*P **P 12 15 55.5 -2.9**
FLN pmax pmax
comp=Z,53nm,1.0s,mb5.4
FLN MLR MLR
comp=Z,29µm,21.5s,MS6.3
FLN La Foliniere 51.48 12 *e*P **P 12 15 55.5 -2.9**
comp=Z,52nm,1.0s,mb5.4
FLN LR LR
comp=Z,29µm,21.5s,MS6.3
RLS Riolos of Patr 51.69 37 *e*P **P 12 16 00.0 -0.2**

VLI	**Veliai**	51.74	39	*e*P	P	12 16 00.0	-0.6
VAM	**Vamos**	51.76	41	*e*P	P	12 16 02.0	+1.3
KEK	**Kerkira**	51.83	34	*e*P	P	12 16 00.0	-1.2
CPZ	**Penzance**	51.95	8	*e*P	P	12 16 01.3	-0.5
CCA1	**Carnmenellis**	52.02	8	*e*P	P	12 16 01.7	-0.7
LOMF	**Lomont**	52.14	19	*e*P	P	12 16 02.5	-0.9
CSA1	**St Austell**	52.23	8	*e*P	P	12 16 03.5	-0.5
TUE	**Stuetta**	52.24	21	P	P	12 16 03.0	-1.1
KMBO	**Kilima Mbogo**	52.29	90	*e*P	P	12 16 05.9	+0.8
KMBO				pmax	pmax		
	comp=Z,81nm,1.4s						
KMBO				MLR	MLR		
	comp=Z,24µm,20.0s						
KMBO	**Kilima Mbogo**	52.29	90	*e*P	P	12 16 05.9	+0.8
	comp=Z,81nm,1.4s,mb5.5						
KMBO				LR	LR		
	comp=Z,24µm,20.0s,MS6.2						
KMBO	**Kilima Mbogo**	52.29	90	P	P	12 16 04.3	-0.8
	comp=Z,14nm,0.9s,mb4.9,baz=255,slow=7.8,SNR=25						
KMBO				LR	LR	12 36 33.5	
	comp=Z,28µm,18.5s,MS6.3,baz=255,slow=34						
JAN	**Janina**	52.39	35	*e*P	P	12 16 09.0	+3.7
EVR	**Evrytania**	52.45	36	*e*P	P	12 16 06.0	+0.2
BBS	**Basel-Blauen**	52.46	19	*e*P	P	12 16 04.2	-1.5
HINF	**Hinteralfeld**	52.56	18	*e*P	P	12 16 03.3	-3.2
HAU	**Haudompre**	52.57	18	*e*P	P	12 16 03.7	-2.8
	comp=Z,123nm,1.0s,mb5.5						
HAU				*e*MLR	MLR		
	comp=Z,18µm,22.8s,MS5.8						
HAU	**Haudompre**	52.57	18	*e*P	P	12 16 03.7	-2.8
HAU				pmax	pmax		
	comp=Z,61nm,1.0s,mb5.5						
HAU				MLR	MLR		
	comp=Z,18µm,22.8s,MS6.0						
HAU	**Haudompre**	52.57	18	*e*P	P	12 16 03.7	-2.8
	comp=Z,61nm,1.0s,mb5.5						
HAU				LR	LR		
	comp=Z,18µm,22.8s,MS6.0						
NPS	**Neapolis**	52.61	42	*e*P	P	12 16 10.0	+2.9
MEZF	**Maizieres J'vi**	52.63	17	*e*P	P	12 16 04.5	-2.5
	comp=Z,267nm,1.4s,mb5.7						
MEZF	**Maizieres J'vi**	52.63	17	*e*P	P	12 16 04.5	-2.5
	comp=Z,267nm,1.4s,mb6.0						
THEF	**They Montfort**	52.66	18	*e*P	P	12 16 05.5	-1.7
MOF	**Molkenrain**	52.68	19	*e*P	P	12 16 07.9	+0.6
DAVOX	**Davos/Dischmat**	52.69	21	P	P	12 16 05.6	-1.8
	comp=Z,127nm,0.9s,mb5.8,baz=228,slow=6.6,SNR=20						
DAVOS	**Davos**	52.71	21	P	P	12 16 05.6	-2.0
NVLJ	**Novalja**	52.91	27	P	P	12 16 10.6	+1.5
NVLJ	**Novalja**	52.91	27	*i* P	P	12 16 10.6	+1.5
HTL	**Hartland**	52.92	8	*e*P	P	12 16 08.6	-0.4
HTL				AMb	AMB	12 16 16.8	
	comp=Z,70nm,1.2s,mb5.5						
STON	**Ston**	52.97	30	*i* P	P	12 16 10.6	+1.1
FELD	**Feldberg im Sc**	52.99	19	*e*P	P	12 16 07.6	-2.0
LKR	**Lokris**	52.99	37	*e*P	P	12 16 10.5	+0.7
THL	**Klokotos Trika**	53.00	36	*e*P	P	12 16 11.0	+1.1
KBN	**Korca**	53.01	34	*i* PN	P	12 16 14.5	+4.6
ATH	**Athens Observa**	53.01	38	*e*P	P	12 16 10.5	+0.6
ECH	**Echery**	53.01	18	*e*P	P	12 16 06.6	-3.2
HEX	**Exmoor**	53.09	9	*e*P	P	12 16 09.6	-0.7
DAVA	**Damuels**	53.12	21⇑	*i*P	P	12 16 08.6	-2.0
	comp=Z,183nm,0.9s,mb6.0,SNR=15						
QSH	**Qafa e Shtames**	53.14	33	*i* PN	P	12 16 16.0	+5.1
SANT	**Santorini**	53.15	41	*e*P	P	12 16 10.3	-0.8
	comp=Z,91nm,0.9s,mb5.7						
FETA	**Feichten**	53.21	22⇓	*i*P	P	12 16 08.9	-2.4
	comp=Z,94nm,1.0s,mb5.7,SNR=46						
CDF	**Champ du Feu**	53.22	18	*e*P	P	12 16 08.3	-3.0
	comp=Z,84nm,0.9s,mb5.4						
CDF	**Champ du Feu**	53.22	18	*e*P	P	12 16 08.3	-3.0
CDF				pmax	pmax		
	comp=Z,42nm,0.9s,mb5.4						
CDF	**Champ du Feu**	53.22	18	*e*P	P	12 16 08.3	-3.0
	comp=Z,42nm,0.9s,mb5.4						
VAL	**Valentia**	53.25	4	*e*P	P	12 16 13.3	+1.9
VAL				*i* S	S	12 23 49.1	+6.5
MTP	**Monte Pirata**	53.30	294	*e*P	P	12 16 16.0	+3.5
OHR	**Ohrid**	53.34	33	*i* P	P	12 16 14.4	+2.0
KZN	**Kozani**	53.35	35	*e*P	P	12 16 13.5	+1.1
SPAK	**Spaichingen-Ko**	53.44	20	*e*P	P	12 16 10.7	-2.3
BFO	**Black Forest**	53.49	19	P	P	12 16 12.0	-1.3
BFO				pmax	pmax		
	comp=Z,120nm,1.3s,mb5.7						
BFO	**Black Forest**	53.49	19	*e*P	P	12 16 11.2	-2.1
	comp=Z,130nm,1.3s,mb5.7						
BFO				LR	LR		
	comp=Z,13µm,19.0s,MS6.0						
PUK	**Puka**	53.50	32	*i* PN	P	12 16 18.1	+4.6
PUK				*i* SN	PcP	12 17 18.6	-1.8
NEO	**Neokhori**	53.55	37	*e*P	P	12 16 14.0	+0.1
SEST	**Monte Rota**	53.55	23	P	P	12 16 13.8	0.0
SQTA	**Sankt Quirin**	53.56	22⇓	*i*P	P	12 16 12.0	-1.8
	comp=Z,110nm,1.0s,mb5.8,SNR=45						
SQTA	**Sankt Quirin**	53.56	22⇓	*i*P	P	12 16 12.0	-1.8
SQTA				pmax	pmax		
	comp=Z,110nm,1.0s,mb5.7						
HUMP	**Col San Antoni**	53.59	294	*e*P	P	12 16 19.1	+4.5
APE	**Apeiranthos**	53.61	40	*e*P	P	12 16 16.0	+1.6
APE	**Apeiranthos**	53.61	40⇓	*i*P	P	12 16 14.9	+0.5
JAVS	**Javornik**	53.61	25	*i* P	P	12 16 14.6	+0.4
JAVS				*i*	pP	12 16 19.1	+1.6
JAVS				*e*S	S	12 23 46.3	-1.4
RETA	**Reutte**	53.61	22⇑	*i*P	P	12 16 11.8	-2.4
	comp=Z,52nm,0.9s,mb5.5,SNR=9.1						
CPD	**Cerro la Pandu**	53.62	294	*e*P	P	12 16 18.7	+3.9
MOTA	**Moosalm**	53.62	22⇓	*i*P	P	12 16 12.4	-1.9
	comp=Z,172nm,1.6s,mb5.7,SNR=14						
MOTA	**Moosalm**	53.62	22⇓	*i*P	P	12 16 12.4	-1.9
MOTA				pmax	pmax		
	comp=Z,172nm,1.6s,mb5.7						
VOY	**Vojsko**	53.65	25	*e*P	P	12 16 13.4	-1.1
VOY				*e*	pP	12 16 16.6	-1.1
VOY				*e*		12 16 25.3	
ABTA	**Abfaltersbach**	53.67	23⇑	*i*P	P	12 16 13.4	-1.2
	comp=Z,108nm,1.8s,mb5.5,SNR=14						
MENF	**Mencas**	53.76	14	*e*P	P	12 16 15.5	+0.2
KRUS	**Krusevo**	53.77	34	*e*P	P	12 16 15.4	-0.1
WATA	**Walderalm**	53.79	22⇓	*i*P	P	12 16 13.9	-1.6
	comp=Z,134nm,1.5s,mb5.7,SNR=7.4						
WATA	**Walderalm**	53.79	22⇓	*i*P	P	12 16 13.9	-1.6
WATA				pmax	pmax		
	comp=Z,134nm,1.5s,mb5.7						
HGH	**Gray Hill**	53.80	9	*e*P	P	12 16 14.8	-0.7
BAIF	**Baives**	53.81	15	*e*P	P	12 16 12.6	-3.0
	comp=Z,166nm,1.0s,mb5.6						
BAIF	**Baives**	53.81	15	*e*P	P	12 16 12.6	-3.0
BAIF				pmax	pmax		
	comp=Z,83nm,1.0s,mb5.6						
BAIF	**Baives**	53.81	15	*e*P	P	12 16 12.6	-3.0
	comp=Z,83nm,1.0s,mb5.6						
BOJS	**Bojanci**	53.81	26	*i* P	P	12 16 16.8	+1.1
BOJS				*e*	pP	12 16 20.8	+1.8
BOJS				*e*S	S	12 23 46.2	-4.3
KAP	**Karpathos**	53.83	43	*e*P	P	12 16 18.5	+2.4
SWN1	**Swindon**	53.85	10	*e*P	P	12 16 15.2	-0.6
SWN1				AMb	AMB	12 16 23.5	
	comp=Z,270nm,1.2s,mb6.0						
LANF	**Langenberg**	53.89	18	*e*P	P	12 16 14.3	-1.9
LJU	**Ljubljana**	53.93	25	*i* P	P	12 16 16.2	-0.3
LJU				*i*		12 16 21.7	
LJU				*e*S	S	12 23 52.1	+0.1
DOU	**Dourbes**	53.95	16	P	P	12 16 17.4	+0.8
	comp=Z,14nm,1.0s,mb4.8						
DOU				AP	pP	12 16 20.7	+0.8
DOU				XP	sP	12 16 21.5	+0.5
DOU				E		12 16 28.1	
DOU				E		12 16 44.8	
WLF	**Walferdange**	53.99	17	*e*P	P	12 16 18.1	+1.1
WLF				pmax	pmax		
	comp=Z,94nm,1.3s,mb5.6						
WLF	**Walferdange**	53.99	17	*e*P	P	12 16 18.1	+1.1
	comp=Z,94nm,1.3s,mb5.6						
WLF	**Walferdange**	53.99	17	P	P	12 16 17.9	+0.9
WLF				E		12 16 35.9	
WLF	**Walferdange**	53.99	17	*e*P	P	12 16 17.0	0.0
	comp=Z,190nm,1.7s,mb5.8						
GIVF	**Givet**	54.02	16	*e*P	P	12 16 14.1	-3.0
	comp=Z,129nm,1.0s,mb5.5						
GIVF	**Givet**	54.02	16	*e*P	P	12 16 14.1	-3.0
GIVF				pmax	pmax		
	comp=Z,65nm,1.0s,mb5.5						
GIVF	**Givet**	54.02	16	*e*P	P	12 16 14.1	-3.0
	comp=Z,65nm,1.0s,mb5.5						
MCH1	**Michaelchurch**	54.12	9	*e*P	P	12 16 16.7	-1.1
MCH1				*e*P		12 16 16.7	
MCH1				AMb	AMB	12 16 24.8	
	comp=Z,82nm,1.3s,mb5.5						
MCH1				AMb	AMB	12 16 24.8	
	comp=Z,82nm,1.3s,mb5.5						
HTR	**Trewern Hill**	54.16	9	*e*P	P	12 16 17.0	-1.1
STU	**Stuttgart**	54.16	20	*e*P	P	12 16 17.2	-1.0
	comp=Z,61nm,1.0s,mb5.5						
HAE	**Alders End**	54.23	9	*e*P	P	12 16 17.3	-1.3
SKP1	**Kophill**	54.23	11	*e*P	P	12 16 16.6	-2.1
KBA	**Koelnbreinsper**	54.27	24⇑	*i*P	P	12 16 17.5	-1.5
	comp=Z,50nm,1.2s,mb5.3,SNR=15						
KBA	**Koelnbreinsper**	54.27	24⇑	*i*P	P	12 16 17.5	-1.5
KBA				pmax	pmax		
	comp=Z,50nm,1.3s,mb5.3						
SKO	**Skopje**	54.28	33	*i* P	P	12 16 20.4	+1.1
SISC	**Sisak**	54.29	27	P	P	12 16 19.6	+0.4
SISC	**Sisak**	54.29	27	*i* P	P	12 16 19.6	+0.4
RUP	**Ruppelstein**	54.30	18	*e*P	P	12 16 17.2	-2.0
LPAZ	**La Paz**	54.32	251	P	P	12 16 18.6	-1.4
	comp=Z,14nm,0.7s,mb5.0,baz=95,slow=3.6,SNR=28						
LPAZ				LR	LR	12 38 39.0	
	comp=Z,17µm,18.2s,MS6.2,baz=312,slow=35						
PLG	**Polygyros**	54.36	36	*e*P	P	12 16 20.5	+0.7
FUR	**Furstenfeldbru**	54.37	21	*e*P	P	12 16 18.6	-1.2
FUR				pmax	pmax		
	comp=Z,193nm,1.0s,mb6.0						
FUR	**Furstenfeldbru**	54.37	21	*e*P	P	12 16 18.6	-1.2
	comp=Z,193nm,1.0s,mb6.0						
BCLA	**Clavier**	54.43	16	P	P	12 16 21.3	+1.1
BCLA				E		12 16 31.4	
VAY	**Valandovo**	54.47	34	*i* P	P	12 16 22.1	+1.5
FURI	**Furi**	54.49	78	*e*P	P	12 16 22.2	+0.9
FURI				*e*P	pP	12 16 24.2	-0.2
UCC	**Uccle**	54.53	15	P	P	12 16 21.9	+1.1
UCC				AP	pP	12 16 24.5	+0.5
UCC				E		12 19 40.0	
ABH	**Alteburg**	54.60	18	*e*P	P	12 16 20.6	-0.8
TOD	**Tromm**	54.75	19	*e*P	P	12 16 20.6	-1.9
DAT	**Datca**	54.76	42	*e*P	P	12 16 24.6	+1.8
BODT	**Bodrum**	54.77	41	*e*P	P	12 16 20.8	-2.0
MEM	**Membach**	54.80	16	P	P	12 16 24.5	+1.7
MEM				E		12 16 37.3	
MEM				E		12 16 45.2	
SMG	**Samos**	54.83	40	*e*P	P	12 16 24.5	+1.2
BDRM	**Kayabasi**	54.86	41	*i* P	P	12 16 25.1	+1.6
BEBN	**Eben Emael**	54.88	16	P	P	12 16 24.2	+0.8
BEBN				XP	sP	12 16 28.1	+0.4
DSB	**Dublin**	54.88	6	*e*P	P	12 16 23.7	+0.3
	comp=Z,22nm,1.0s,mb5.2						
DCN	**Croghan**	54.88	6	*e*P	P	12 16 22.1	-1.3
DLF	**Lyons Farm**	54.91	6	*e*P	P	12 16 22.6	-1.0
HGN	**Heimansgroeve**	54.92	16	*e*P	P	12 16 22.2	-1.5
	comp=Z,163nm,2.0s,mb5.7						
HGN	**Heimansgroeve**	54.92	16	*e*PP	PP	12 18 25.7	-1.0
HGN	**Heimansgroeve**	54.92	16	*i* S	S	12 24 04.6	-0.6
SBD1	**Bryn Du**	54.96	9	*e*P	P	12 16 22.7	-1.2
LIA	**Limnos Island**	55.09	37	*e*P	P	12 16 27.0	+1.8
CWF	**Charnwood Fore**	55.12	10	*e*P	P	12 16 23.3	-1.8
CWF				AMb	AMB	12 16 29.0	
	comp=Z,68nm,1.1s,mb5.6						
KKB	**Krupnik**	55.12	34	*e*P	P	12 16 25.0	-0.3
MLSB	**Milas**	55.20	41	*e*P	P	12 16 29.3	+3.3
NVR	**Nevrokopi**	55.23	35	*e*P	P	12 16 28.5	+2.4
MOA	**Molln**	55.26	24⇑	*i*P	P	12 16 23.7	-2.5
	comp=Z,79nm,1.1s,mb5.6,SNR=18						
ARSA	**Arzberg**	55.30	25⇓	*i*P	P	12 16 25.3	-1.2
	comp=Z,56nm,1.4s,mb5.4,SNR=13						
MMB	**Musomiste**	55.31	35	*e*P	P	12 16 30.9	+4.2
BLCB	**Balcova**	55.35	40	*e*P	P	12 16 30.0	+3.0
YER	**Yerkesik**	55.45	42	*e*P	P	12 16 28.8	+1.0
RHK3	**Tenkes**	55.47	28	*e*P	P	12 16 31.7	+4.0
KDAG	**Bornova**	55.50	40	*i* P	P	12 16 28.8	+0.7
KBI1	**Birley Grange**	55.57	10	*e*P	P	12 16 26.6	-1.8
BOZC	**Bozcaada**	55.59	38	*i* P	P	12 16 29.4	+0.7
GRFO	**Grafenberg**	55.64	20	P	P	12 16 30.1	+1.2
GRFO				pmax	pmax		
	comp=Z,73nm,1.0s,mb5.7						
GRFO	**Grafenberg**	55.64	20	*e*P	P	12 16 29.8	+0.9
	comp=Z,73nm,1.0s,mb5.7						
GRFO				LR	LR		
	comp=Z,9µm,19.0s,MS5.9						
GRA1	**Grafenberg Arr**	55.64	20	*e*P	P	12 16 26.4	-2.5
	comp=Z,166nm,1.5s,mb5.8						
GRA1				*e*PP	PP	12 18 32.7	-0.5
GRA1				*e*S	S	12 24 17.8	+2.9
GRA1				LR	LR		
	comp=Z,10µm,19.3s,MS5.9						
GRF	**Grafenberg Arr**	55.64	20	*e*P	P	12 16 26.4	-2.5
GRF				*e*		12 18 32.7	
GRF				*e*S	S	12 24 17.8	+2.9
GRF				pmax	pmax		
	comp=Z,166nm,1.5s,mb5.8						
GRF				MLR	MLR		
	comp=Z,10µm,19.3s,MS5.9						
GRF	**Grafenberg Arr**	55.64	20	*e*P	P	12 16 26.4	-2.5
	comp=Z,166nm,1.5s,mb5.8						
GRF				*e*PP	PP	12 18 32.7	-0.5
GRF				*e*S	S	12 24 17.8	+2.9
GRF				*e*L		12 41 03.6	
	comp=Z,9µm,19.3s						
AYVA	**Ayvalik**	55.67	39	*i* P	P	12 16 29.3	0.0
VTS	**Vitosha**	55.67	34⇑	*i*P	P	12 16 30.0	+0.7
VTS	**Vitosha**	55.67	34	*e*P	P	12 16 28.8	-0.5
GADA	**Gvkgeada**	55.71	37	*e*P	P	12 16 32.8	+3.2
FETY	**Fethiye**	55.72	43	*e*P	P	12 16 30.0	+0.3
EZN	**Ezine**	55.75	38	*e*P	P	12 16 32.9	+3.0
DESE	**Dese**	55.75	76	*e*P	P	12 16 33.5	+3.1
DESE				S	S	12 24 33.6	+16
WET	**Wettzell**	55.78	22	*e*P	P	12 16 27.8	-2.1
WET				pmax	pmax		
	comp=Z,181nm,1.4s,mb5.9						
WET	**Wettzell**	55.78	22	*e*P	P	12 16 27.8	-2.1
	comp=Z,181nm,1.4s,mb5.9						
LHO	**Holmfirth**	55.80	9	*e*P	P	12 16 28.8	-1.2
GEC2	**GERESS Array S**	55.84	23	P	P	12 16 28.9	-1.5
GEC2	**GERESS Array S**	55.84	23	*e*P	P	12 16 28.4	-2.0
	comp=Z,103nm,1.3s,mb5.7						
GERES	**GERESS Array B**	55.84	23	P	P	12 16 28.1	-2.2
	comp=Z,46nm,1.0s,mb5.5,baz=132,slow=2.0,SNR=22						
GERES				LR	LR	12 40 40.8	
	comp=Z,17µm,18.6s,MS6.2,baz=231,slow=36						
AKAS	**Kas**	55.86	43	*i* P	P	12 16 33.6	+2.8
PKSM	**Moragy**	55.89	28	P	P	12 16 32.8	+2.0
PKSM	**Moragy**	55.89	28⇑	*e*P	P	12 16 32.5	+1.7
PKSM	**Moragy**	55.89	28⇑	*i*P	P	12 16 31.7	+0.9
BUG	**Bochum--Univer**	55.90	17	*e*P	P	12 16 31.0	+0.3
	comp=Z,327nm,2.7s,mb5.9						
RZN	**Rozhen**	55.94	35	*e*P	P	12 16 34.0	+2.8
CONA	**Conrad Observa**	55.97	25⇑	*i*P	P	12 16 29.8	-1.6
	comp=Z,77nm,1.4s,mb5.5,SNR=14						
KHC	**Kasperske Hory**	56.03	22⇑	*e*P	P	12 16 31.3	-0.4
KHC	**Kasperske Hory**	56.03	22	*e*P	P	12 16 30.0	-1.7
KHC				*e*pP	pP	12 16 33.6	-1.3
KHC				*e*x	x	12 16 43.5	
KHC				*e*x	x	12 18 15.9	
KHC				*e*S	S	12 24 20.5	+0.4
KHC				AMS	AMS	12 43 00.0	
	comp=Z,13µm,13.5s						
ROTZ	**Rotzenmuhle**	56.05	21	*e*P	P	12 16 29.6	-2.2
	comp=Z,241nm,2.1s,mb5.9						
SOP	**Sopron**	56.08	25⇑	*e*P	P	12 16 33.2	+1.1
RDO	**Rodhopi**	56.08	36	*e*P	P	12 16 34.0	+1.8
UBBA	**Unterbreizbach**	56.19	19	*e*P	P	12 16 31.1	-1.7
	comp=Z,232nm,2.2s,mb5.8						
ENEZ	**Enez**	56.19	37	*e*P	P	12 16 34.4	+1.3
PLD	**Plovdiv**	56.20	35	*e*P	P	12 16 36.8	+3.8
MANZ	**Manzenberg**	56.20	21	*e*P	P	12 16 30.7	-2.2
	comp=Z,186nm,1.6s,mb5.9						
WTSB	**Winterswijk**	56.24	16	*e*P	P	12 16 32.0	-1.1
	comp=Z,121nm,3.2s						
SDV	**Santo Domingo**	56.31	282	*e*P	P	12 16 34.4	0.0
SDV				LR	LR		
	comp=Z,1µm,20.0s,MS5.0						
SDV	**Santo Domingo**	56.31	282	P	P	12 16 33.0	-1.4
	comp=Z,22nm,0.8s,mb5.2,baz=94,slow=3.5,SNR=14						
ELL	**Elmali**	56.34	43	*e*P	P	12 16 38.0	+3.8
GOLH	**Golhisar**	56.36	42	*i* P	P	12 16 34.8	+0.5
TRQA	**Tornquist**	56.41	224	*e*P	P	12 16 34.0	-0.7
TRQA				LR	LR		
	comp=Z,16µm,20.0s,MS6.1						
KULA	**Kula-Manisa**	56.47	41	*e*P	P	12 16 35.8	+0.8
NKC	**Novy Kostel**	56.52	21	*e*P	P	12 16 35.9	+0.7
NKC				*e*S	S	12 24 29.1	+2.5
NKC	**Novy Kostel**	56.52	21	*e*P	P	12 16 35.9	+0.7
NKC				*e*S	S	12 24 29.1	+2.5
NKC				AMS	AMS	12 40 10.0	
	comp=Z,12µm,16.9s						
WERN	**Wernitzgruen**	56.54	21	*e*P	P	12 16 33.3	-2.1
	comp=Z,88nm,1.3s,mb5.6						
MOX	**Moxa**	56.58	20	*e*P	P	12 16 33.7	-1.9
	comp=Z,202nm,1.8s,mb5.8						
MOX				*e*		12 18 19.9	
MOX							
	comp=Z,17µm,19.0s						
MOX	**Moxa**	56.58	20	*e*P	P	12 16 33.7	-1.9
MOX				pmax	pmax		
	comp=Z,202nm,1.8s,mb5.8						
MOX				MLR	MLR		
	comp=Z,17µm,19.0s,MS6.2						
MOX	**Moxa**	56.58	20	*e*P	P	12 16 33.5	-2.1
	comp=Z,167nm,1.7s,mb5.8						
GUNZ	**Gunzen**	56.59	21	*e*P	P	12 16 33.6	-2.1
	comp=Z,144nm,1.7s,mb5.7						
PKS6	**Bocsa**	56.60	28	*e*P	P	12 16 38.6	+2.7
BALB	**Balikesir**	56.61	39	*e*P	P	12 16 38.0	+2.0
CKE	**Keswick**	56.61	8	*e*P	P	12 16 34.6	-1.2
WERD	**Werda**	56.65	21	*e*P	P	12 16 33.9	-2.2
	comp=Z,100nm,1.5s,mb5.6						
PKSG		56.66	27⇑	*e*P	P	12 16 38.1	+1.9
GAL1	**Galloway**	56.67	7	*e*P	P	12 16 34.6	-1.6
GAL1				AMb	AMB	12 16 43.2	
	comp=Z,90nm,1.3s,mb5.6						
TANN	**Tannenbergstha**	56.68	21	*e*P	P	12 16 34.2	-2.1
	comp=Z,150nm,1.6s,mb5.8						
ZST	**Bratislava**	56.70	25	*e*P	P	12 16 38.7	+2.2
ZST				*e*S	S	12 24 30.6	+1.5
ZST				MLR	MLR		
	comp=Z,9µm,17.3s,MS5.9						
ZST				*e*S	S	12 24 30.6	+1.5
ZST	**Bratislava**	56.70	25	*e*pP	pP	12 16 38.7	-1.1
RKY	**Sarkoy-Tekirda**	56.78	38	*e*P	P	12 16 36.5	-0.7
BZS	**Buzias**	56.89	30	P	P	12 16 38.9	+1.0
BZS	**Buzias**	56.89	30	⇓P	P	12 16 38.8	+0.9
BZS	**Buzias**	56.89	30	⇓*i*P	P	12 16 38.8	+0.9
TREC	**Trest**	56.90	23	*e*P	P	12 16 38.4	+0.5
TREC				*e*S	S	12 24 32.8	+1.1
TREC				AMS	AMS	12 42 30.0	
	comp=Z,12µm,16.2s						
MODS	**Modra-Piesok**	56.92	25	*e*P	P	12 16 38.1	+0.1
MODS				*e*	pP	12 16 39.7	-1.6
MODS				*e*S	S	12 24 32.7	+0.8
MODS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
MODS				MLR	MLR		
	comp=Z,6µm,34.4s,MS5.5						
MODS	**Modra-Piesok**	56.92	25	*e*P	P	12 16 38.1	+0.1
	comp=Z,3.0nm,0.7s,mb4.4						
MODS				*e*	pP	12 16 39.7	-1.6
MODS				*e*S	S	12 24 32.7	+0.8
MODS				LR	LR		
	comp=Z,6µm,34.4s,MS5.5						
MODS	**Modra-Piesok**	56.92	25	*e*P	P	12 16 38.0	0.0
MODS				*e*pP	pP	12 16 39.7	-1.6
MODS				*e*S	S	12 24 32.7	+0.8
ANTB	**Antalya**	56.93	43	*e*P	P	12 16 42.4	+4.0
BUD	**Budapest**	57.01	27⇑	*e*P	P	12 16 40.1	+1.4
BNT	**Bandirma**	57.05	38	*e*P	P	12 16 41.8	+2.6
PRU	**Pruhonice**	57.09	22	*e*P	P	12 16 37.2	-2.1
PRU				*e*pP	pP	12 16 41.7	-0.8
PRU				*e*S	S	12 24 35.0	+0.8
PRU				AMS	AMS	12 41 00.0	
	comp=Z,11µm,19.4s						
PRA	**Prague**	57.12	22	P	P	12 16 40.0	+0.6
BCK	**Bucak**	57.17	43	*e*P	P	12 16 40.1	0.0
ECK	**Cauldkaine Hil**	57.19	8	*e*P	P	12 16 38.2	-1.6
CLZ	**Clausthal**	57.19	18	*e*P	P	12 16 38.1	-1.8
CLZ				pmax	pmax		
	comp=Z,192nm,2.2s,mb5.7						
CLZ	**Clausthal**	57.19	18	*e*P	P	12 16 38.1	-1.8
	comp=Z,192nm,2.2s,mb5.7						
EDRB	**Edirne**	57.22	36	*e*P	P	12 16 39.4	-0.9
TKTP	**Tekketepe**	57.30	42	*i* P	P	12 16 41.3	+0.4
ESK	**Eskdalemuir**	57.31	8	*e*P	P	12 16 39.1	-1.6
ESK				pmax	pmax		
	com

CLL	**Collm**	**57.61**	**20**	*e*P	**P**	**12 16 44.0 +1.1**
CLL				*e*S	**S**	**12 24 47.0 +6.0**
CLL				pmax	pmax	
	comp=Z,68nm,1.4s,mb5.5					
CLL				MLR	MLR	
	comp=Z,12µm,16.8s,MS6.1					
CLL	**Collm**	**57.61**	**20**	*e*P	**P**	**12 16 44.0 +1.1**
	comp=Z,68nm,1.4s,mb5.5					
CLL				*i*		12 16 54.3
CLL				*i*		12 17 10.3
CLL				*e*S	**S**	**12 24 47.0 +6.0**
CLL				LR	LR	
	comp=Z,12µm,16.8s,MS6.1					
CLL	**Collm**	**57.61**	**20**	*e*P	**P**	**12 16 43.8 +0.9**
	comp=Z,68nm,1.4s,mb5.5					
CLL				*e*PP	PP	12 18 51.8 +1.0
CLL				*e*PPP		12 20 07.4
CLL				*e*S	**S**	**12 24 42.9 +1.9**
CLL				*e*SS	SS	12 28 41.4 +10
CLL				*e*SSS		12 31 02.7
CLL				*e*LR	LR	12 34 10.2
CLL	**Collm**	**57.61**	**20**	*e*P	**P**	**12 16 44.0 +1.1**
CLL				*i* Pmax	pP	12 16 45.9 -0.2
	comp=Z,68nm,1.4s					
CLL				*i* x	x	12 16 54.3
CLL				*i* x	x	12 17 10.3
	comp=Z,107nm,1.6s					
CLL				*e*PP	PP	12 18 58.0 +7.2
CLL				*e*PPP		12 20 15.0
CLL				*e*S	**S**	**12 24 47.0 +6.0**
	comp=N,8µm,26.0s					
CLL				*e*S	**S**	**12 24 47.0 +6.0**
	comp=E,5µm,23.1s					
CLL				*e*SSS		12 30 58.0
CLL				LmH		12 39 00.0
	comp=N,9µm,20.2s					
CLL				LmH		12 39 00.0
	comp=E,7µm,19.0s					
XSO	**Sourhope Farm**	**57.62**	**9**	*e*P	**P**	**12 16 40.8 -2.0**
PGBU	**Glenifferbraes**	**57.62**	**7**	*e*P	**P**	**12 16 41.9 -1.0**
PGBU				AMb	AMB	12 16 53.1
	comp=Z,116nm,1.2s,mb5.8					
BBSR	**BB Station**	**57.64**	**310**	PFAKE		12 16 50.0 +6.5
BBSR				LR	LR	
	comp=Z,7µm,22.0s,MS5.7					
NRDL	**Niedersach Rie**	**57.67**	**18**	*e*P	**P**	**12 16 43.6 +0.3**
	comp=Z,194nm,2.2s,mb5.8					
VYHS	**Vyhne**	**57.68**	**26**	*e*P	**P**	**12 16 41.9 -1.6**
VYHS				*e*	pP	12 16 46.3 -0.4
VYHS				*e*S	**S**	**12 24 40.6 -1.4**
VYHS				pmax	pmax	
	comp=Z,4.0nm,1.1s,mb4.4					
VYHS				MLR	MLR	
	comp=Z,9µm,19.2s,MS5.9					
VYHS	**Vyhne**	**57.68**	**26**	*e*P	**P**	**12 16 41.9 -1.6**
	comp=Z,3.5nm,1.1s,mb4.3					
VYHS				*e*	pP	12 16 46.3 -0.4
VYHS				*e*S	**S**	**12 24 40.6 -1.4**
VYHS				LR	LR	
	comp=Z,9µm,19.2s,MS5.9					
VYHS	**Vyhne**	**57.68**	**26**	*e*P	**P**	**12 16 41.9 -1.6**
VYHS				*e*pP	pP	12 16 46.3 -0.4
VYHS				*e*S	**S**	**12 24 40.6 -1.4**
ALT	**Altintas**	**57.71**	**41**	*e*P	**P**	**12 16 46.7 +2.8**
PSZ	**Piszkesteto**	**57.73**	**27**	P	**P**	**12 16 45.8 +2.0**
PSZ	**Piszkesteto**	**57.73**	**27⇑**	*e*P	**P**	**12 16 42.4 -1.4**
PSZ	**Piszkesteto**	**57.73**	**27⇑**	*i*P	**P**	**12 16 44.3 +0.5**
SHUT	**Suhut-Afyon**	**57.73**	**41**	*e*P	**P**	**12 16 47.4 +3.4**
EAU	**Auchinoon**	**57.79**	**8**	*e*P	**P**	**12 16 43.7 -0.4**
CSS	**Prodihromos**	**57.86**	**46**	*e*P	**P**	**12 16 46.3 +1.3**
	comp=Z,28nm,1.0s,mb5.2					
GEMT	**Gemlik**	**57.88**	**39**	*e*P	**P**	**12 16 45.9 +0.9**
EDI	**Edinburgh**	**57.90**	**8**	*e*P	**P**	**12 16 43.9 -1.0**
EDI				AMb	AMB	12 16 51.7
	comp=Z,72nm,1.3s,mb5.5					
EAB	**Aberfoyle**	**58.01**	**7**	*e*P	**P**	**12 16 44.0 -1.5**
DPC	**Dobruska-Polom**	**58.07**	**23**	*e*P	**P**	**12 16 44.2 -1.9**
DPC				*e*pP	pP	12 16 49.0 -0.3
DPC				*e*x	x	12 20 13.2
DPC				*e*S	**S**	**12 24 47.3 +0.3**
DPC				AMS	AMS	12 41 40.0
	comp=Z,8µm,14.6s					
UPC	**Upice**	**58.07**	**23**	*e*P	**P**	**12 16 45.4 -0.8**
UPC				*e*pP	pP	12 16 48.9 -0.5
YLV	**Yalova**	**58.08**	**39**	*e*P	**P**	**12 16 43.0 -3.4**
MORC	**Moravsky Berou**	**58.11**	**24**	*e*P	**P**	**12 16 46.1 -0.3**
	comp=Z,91nm,1.3s,mb5.7					
MORC	**Moravsky Berou**	**58.11**	**24⇓**	*i*P	**P**	**12 16 46.7 +0.3**
LFK	**Lefkose**	**58.15**	**46**	*e*P	**P**	**12 16 48.1 +1.1**
ISK	**Istanbul-Kandi**	**58.16**	**38**	*e*P	**P**	**12 16 49.5 +2.5**
ADVT	**Abdulvahap**	**58.23**	**39**	*e*P	**P**	**12 16 48.8 +1.4**
DRGR		**58.26**	**30⇓**	*i*P	**P**	**12 16 48.8 +1.3**
KLYT	**Kilyos**	**58.26**	**38**	*e*P	**P**	**12 16 49.4 +1.7**
ERMK	**Ermenek**	**58.36**	**45**	*i* P	**P**	**12 16 52.1 +3.6**
ELO	**Logie Almond**	**58.36**	**7**	*e*P	**P**	**12 16 47.9 -0.2**
BUC1	**Bucharest**	**58.37**	**34**	P	**P**	**12 16 52.1 +3.7**
HRT	**Hereke**	**58.40**	**39**	*e*P	**P**	**12 16 49.2 +0.5**
OKC	**Ostrava-Krasne**	**58.41**	**25**	*e*P	**P**	**12 16 47.0 -1.5**
OKC				*e*	pP	12 16 51.6 -0.1
OKC				*e*S	**S**	**12 24 51.5 +0.1**
OKC	**Ostrava-Krasne**	**58.41**	**25**	*e*P	**P**	**12 16 47.0 -1.5**
OKC				*e*pP	pP	12 16 51.6 -0.1
OKC				*e*S	**S**	**12 24 51.5 +0.1**
OKC				AMS	AMS	12 44 50.0
	comp=Z,9µm,14.1s					
KECS	**Kecovo**	**58.41**	**27**	*e*P	**P**	**12 16 48.2 -0.4**
KECS				*e*	pP	12 16 52.3 +0.5
KECS				pmax	pmax	
	comp=Z,2.0nm,1.1s					
KECS	**Kecovo**	**58.41**	**27**	*e*P	**P**	**12 16 48.2 -0.4**
	comp=Z,2.2nm,1.1s					
KECS				*e*	pP	12 16 52.3 +0.5
PRD	**Provadia**	**58.43**	**35**	*e*P	**P**	**12 16 50.5 +1.7**
ESKT	**Eskisehir**	**58.44**	**41**	*e*P	**P**	**12 16 48.1 -0.9**
ESKT	**Eskisehir**	**58.44**	**41**	*i* P	**P**	**12 16 48.3 -0.7**
KSP	**Ksiaz**	**58.45**	**23**	*e*P	**P**	**12 16 48.7 -0.1**
KSP				*e*pP	pP	12 16 51.7 -0.3
KSP				*e*S	**S**	**12 24 55.9 +4.0**
KSP				LMZ		12 43 38.7
	comp=Z,21µm,18.6s					
KSP	**Ksiaz**	**58.45**	**23**	*e*P	**P**	**12 16 49.8 +1.0**
KSP				*e**PP	pP	12 16 51.5 -0.5
KSP				*e*		12 18 52.0
KSP				*e*S	**S**	**12 24 54.0 +2.1**
KSP				MLR	MLR	
	comp=Z,24µm,18.6s,MS6.3					
KSP	**Ksiaz**	**58.45**	**23**	*e*P	**P**	**12 16 49.8 +1.0**
KSP				*e*pP	pP	12 16 51.5 -0.5
KSP				*e*PP	PP	12 18 52.0 -6.2
KSP				*e*PPP		12 20 13.0
KSP				*e*S	**S**	**12 24 54.0 +2.1**
KSP				LR	LR	
	comp=Z,24µm,18.6s,MS6.3					
MMAI	**Mount Meron Ar**	**58.52**	**49**	P	**P**	**12 16 52.4 +2.8**
	comp=Z,2.9nm,0.7s,mb4.4,baz=224,slow=6.0,SNR=5.5					
VOIR		**58.54**	**32**	P	**P**	**12 16 51.5 +1.9**
VOIR		**58.54**	**32⇓**	P	**P**	**12 16 51.2 +1.6**
VOIR		**58.54**	**32⇓**	*i*P	**P**	**12 16 51.2 +1.6**
KAR1	**Arisaig**	**58.56**	**6**	*e*P	**P**	**12 16 49.0 -0.4**
RAC	**Raciborz**	**58.62**	**24**	*e*P	**P**	**12 16 51.6 +1.6**
RAC				*e*S	**S**	**12 24 56.4 +2.3**
RAC				MLR	MLR	
	comp=Z,11µm,19.5s,MS6.0					
KONT	**Konya--Tatoy**	**58.63**	**43**	*e*P	**P**	**12 16 53.9 +3.6**
IKL	**Isikli**	**58.71**	**45**	*e*P	**P**	**12 16 50.3 -0.6**
EREN	**Erenkoy**	**58.73**	**46**	*e*P	**P**	**12 16 51.7 +0.7**
KDHN	**Kadinhani**	**58.76**	**42**	*i* P	**P**	**12 16 47.4 -3.8**
KIZT	**Kizilcal**	**58.78**	**42**	*e*P	**P**	**12 16 49.6 -1.8**
SDDR	**Presa de Saban**	**58.79**	**293**	*e*P	**P**	**12 16 54.5 +2.7**
SDDR				LR	LR	
	comp=Z,9µm,22.0s,MS5.8					
RUE	**Ruedersdorf**	**58.86**	**20**	*e*P	**P**	**12 16 52.3 +0.7**
RUE	**Ruedersdorf**	**58.86**	**20**	*e*P	**P**	**12 16 54.0 +2.4**
BSEG	**Bad Segeberg**	**58.98**	**17**	*e*P	**P**	**12 16 51.7 -0.7**
	comp=Z,54nm,0.9s,mb5.6					
KPL	**Plockton**	**58.99**	**6**	*e*P	**P**	**12 16 51.9 -0.6**
KPL				AMb	AMB	12 16 59.3
	comp=Z,133nm,1.3s,mb5.8					
NIE	**Niedzica**	**59.02**	**26**	*e*P	**P**	**12 16 52.6 -0.2**
MLR	**Muntele Rosu**	**59.06**	**33**	P	**P**	**12 16 51.5 -1.6**
MLR				LR	LR	12 41 41.5
MLR	**Muntele Rosu**	**59.06**	**33**	P	**P**	**12 16 51.5 -1.6**
	comp=Z,40nm,1.0s,mb5.4,baz=185,slow=2.7,SNR=14					
MLR				LR	LR	12 41 41.5
	comp=Z,7µm,20.6s,MS5.8,baz=227,slow=35					
MLR	**Muntele Rosu**	**59.06**	**33⇑**	*i*P	**P**	**12 16 54.7 +1.6**
ISR	**Istrita**	**59.14**	**33⇑**	*i*P	**P**	**12 16 56.3 +2.6**
CRVS	**Cervenica-Dubn**	**59.16**	**27**	*e*P	**P**	**12 16 52.6 -1.2**
CRVS				*e*		12 16 57.9
CRVS				*e*S	**S**	**12 25 02.3 +1.1**
CRVS				MLR	MLR	
	comp=Z,7µm,23.6s,MS5.7					
CRVS	**Cervenica-Dubn**	**59.16**	**27**	*e*P	**P**	**12 16 52.6 -1.2**
CRVS				*e*pP	pP	12 16 57.9 +0.9
CRVS				*e*S	**S**	**12 25 02.3 +1.1**
KAC	**Achnashellach**	**59.19**	**6**	*e*P	**P**	**12 16 52.7 -1.1**
MDO	**Dochfour**	**59.23**	**7**	*e*P	**P**	**12 16 52.4 -1.7**
MME1	**Meikle Cairn**	**59.28**	**8**	*e*P	**P**	**12 16 52.4 -2.0**
ASF	**Jabal al Asfar**	**59.32**	**51**	P	**P**	**12 16 54.9 -0.3**
	comp=Z,18nm,1.0s,mb5.1,baz=123,slow=3.3,SNR=17					
UZH	**Uzhgorod**	**59.35**	**28**	*e*P	**P**	**12 16 56.0 +0.9**
UZH				*i*	pP	12 17 00.0 +1.7
UZH				*e*		12 19 12.0
UZH				*i*		12 20 31.0
UZH				*i* S	**S**	**12 25 02.0 -1.7**
UZH				*i*		12 31 13.0
UZH				MLR	MLR	
	comp=Z,9µm,16.0s,MS6.0					
OJC	**Ojcow**	**59.39**	**25**	*e*P	**P**	**12 16 56.7 +1.3**
OJC				*e*pP	pP	12 16 59.8 +1.2
OJC				*e*S	**S**	**12 25 07.2 +3.0**
OJC				*e*ScS	ScS	12 26 46.8 +1.2
OJC				L		12 41 57.5
	comp=Z,9.5nm,21.2s					
STHS	**Stebnicka Huta**	**59.43**	**27**	*e*P	**P**	**12 16 56.1 +0.4**
STHS				*e*	pP	12 16 59.5 +0.6
STHS				pmax	pmax	
	comp=Z,1.0nm,0.9s					
STHS	**Stebnicka Huta**	**59.43**	**27**	*e*P	**P**	**12 16 56.1 +0.4**
	comp=Z,1.3nm,0.9s					
STHS				*e*	pP	12 16 59.5 +0.6
MCD	**Coleburn Disti**	**59.51**	**7**	*e*P	**P**	**12 16 55.2 -0.8**
ROSC	**El Rosal**	**59.54**	**276**	P	**P**	**12 16 57.3 +0.2**
	comp=Z,35nm,0.7s,mb5.5,baz=105,slow=15,SNR=6.6					
ROSC				LR	LR	12 40 43.5
	comp=Z,7µm,19.6s,MS5.8,baz=166,slow=34					
KOLS	**Kolonicke sedl**	**59.55**	**28**	*e*P	**P**	**12 16 55.1 -1.4**
KOLS				*e*		12 17 00.5
KOLS				*e*S	**S**	**12 25 07.5 +1.1**
KOLS				MLR	MLR	
	comp=Z,9µm,24.0s,MS5.8					
KOLS	**Kolonicke sedl**	**59.55**	**28**	*e*P	**P**	**12 16 55.1 -1.4**
KOLS				*e*pP	pP	12 17 00.5 +0.8
KOLS				*e*S	**S**	**12 25 07.5 +1.1**
MERS	**Mersin**	**59.60**	**45**	*e*P	**P**	**12 16 56.8 -0.3**
LCO	**Las Campanas**	**59.65**	**237**	*e*P	**P**	**12 16 55.7 -1.9**
	comp=Z,21nm,0.7s,mb5.3					
LCO				LR	LR	
	comp=Z,8µm,22.0s,MS5.8					
HARR	**Harsova**	**59.65**	**34⇑**	*i*P	**P**	**12 16 58.9 +1.7**
PLOR	**Plostina**	**59.67**	**33**	P	**P**	**12 16 58.8 +1.5**
PLOR	**Plostina**	**59.67**	**33⇑**	*i*P	**P**	**12 16 58.7 +1.4**
VRI	**Vrincioaia**	**59.72**	**33⇓**	*i*P	**P**	**12 16 58.9 +1.2**
MVH1	**Achvaich**	**59.73**	**7**	*e*P	**P**	**12 16 56.7 -0.8**
LOD	**Lodumlu**	**59.89**	**41**	*e*P	**P**	**12 16 59.7 +0.7**
ANTO	**Ankara**	**59.90**	**41**	*e*P	**P**	**12 16 59.8 +0.7**
ANTO	**Ankara**	**59.90**	**41**	⇓P	**P**	**12 17 00.2 +1.1**
ANTO				MLR	MLR	
	comp=Z,9µm,20.0s,MS5.9					
BURAR	**Bucovina Array**	**60.07**	**30**	P	**P**	**12 17 02.2 +2.1**
BURAR	**Bucovina Array**	**60.07**	**30⇑**	*i*P	**P**	**12 17 00.6 +0.5**
KARA	**Karaisali**	**60.16**	**45**	*e*P	**P**	**12 16 59.0 -2.0**
KWP	**Kalwaria**	**60.25**	**27**	*e*P	**P**	**12 17 00.0 -1.3**
KWP				*e*pP	pP	12 17 03.9 -0.6
KWP				*e*PcP	PcP	12 17 47.0 +0.4
KWP				*e*PP	PP	12 19 26.8 +13
KWP				*e*S	**S**	**12 25 20.0 +4.7**
KWP				LMZ		12 43 30.1
	comp=Z,23µm,22.4s					
KWP	**Kalwaria**	**60.25**	**27**	*e*P	**P**	**12 17 00.0 -1.3**
KWP				*e*pP	pP	12 17 03.9 -0.6
KWP				*e*PcP	PcP	12 17 47.0 +0.4
KWP				*e*PP	PP	12 19 26.8 +13
KWP				*e*S	**S**	**12 25 20.0 +4.7**
KWP	**Kalwaria**	**60.25**	**27⇑**	*i*P	**P**	**12 17 06.3 +5.0**
KAMT	**Kaman**	**60.26**	**42**	*e*P	**P**	**12 17 01.9 +0.3**
ORE	**Reay**	**60.39**	**7**	*e*P	**P**	**12 17 00.1 -1.9**
RGN	**Rugen**	**60.43**	**19**	*e*P	**P**	**12 17 05.7 +3.3**
CEYT	**Ceyhan**	**60.54**	**45**	*e*P	**P**	**12 17 01.9 -1.6**
GKP	**Gorka Klasztor**	**60.73**	**22**	*e*P	**P**	**12 17 03.4 -1.1**
GKP				*e*pP	pP	12 17 06.3 -1.4
GKP				*e*S	**S**	**12 25 24.3 +3.0**
GKP				LMZ		12 45 31.1
	comp=Z,13µm,18.2s					
GKP	**Gorka Klasztor**	**60.73**	**22**	*e*P	**P**	**12 17 03.4 -1.1**
GKP				*e*pP	pP	12 17 06.3 -1.4
GKP				*e*S	**S**	**12 25 24.3 +3.0**
GKP				LR	LR	
	comp=Z,13µm,18.2s,MS6.1					
AVNT	**Avonos**	**60.74**	**43**	*i* P	**P**	**12 17 04.1 -0.8**
KOZT	**Kozan**	**60.81**	**45**	*e*P	**P**	**12 17 02.6 -2.8**
CANT	**Cankiri**	**60.82**	**41**	*e*P	**P**	**12 17 05.5 +0.1**
CDAG	**Cicekdag**	**60.83**	**42**	*i* P	**P**	**12 17 02.7 -2.7**
MUD	**Monsted U'grnd**	**60.88**	**15**	*i* P	**P**	**12 17 06.7 +1.3**
MUD				*e*		12 25 27.4
MUD				pmax	pmax	
	comp=Z,99nm,1.1s,mb5.8					
MUD				MLR	MLR	
	comp=Z,10µm,20.0s,MS6.0					
MUD	**Monsted U'grnd**	**60.88**	**15**	*i* P	**P**	**12 17 06.7 +1.3**
	comp=Z,99nm,1.1s,mb5.9					
MUD				*i*		12 20 52.6
MUD				*e*		12 25 27.4
MUD						
	comp=Z,10µm,20.0s					
LVV	**L'vov**	**61.00**	**28**	*e*P	**P**	**12 17 08.8 +2.4**
LVV				*e*		12 17 56.6
LVV				*e*		12 19 19.8
LVV				*e*PPP		12 20 54.0
LVV				*i* S	**S**	**12 25 27.8 +3.0**
LVV				MLR	MLR	
	comp=N,4µm,16.0s,MS5.9					
LVV				MLR	MLR	
	comp=E,6µm,16.0s,MS5.9					
LVV				MLR	MLR	
	comp=Z,6µm,16.0s,MS5.8					
COP	**Copenhagen**	**61.12**	**17⇑**	*i*P	**P**	**12 17 09.6 +2.5**
COP				*i*		12 20 57.2
COP				*i* S	**S**	**12 25 29.2 +3.0**
COP				pmax	pmax	
	comp=Z,28nm,1.1s,mb5.3					
COP				MLR	MLR	
	comp=Z,4µm,17.0s,MS5.7					
COP	**Copenhagen**	**61.12**	**17⇑**	*i*P	**P**	**12 17 09.6 +2.5**
	comp=Z,28nm,1.1s,mb5.3					
COP				*i*		12 20 57.2
COP				*i* S	**S**	**12 25 29.2 +3.0**
COP						
	comp=Z,4µm,17.0s					
BALT	**Daday**	**61.15**	**40**	*i* P	**P**	**12 17 05.5 -2.1**
ANDN	**Andirin**	**61.22**	**45**	*i* P	**P**	**12 17 10.7 +2.5**
CORM	**Corum**	**61.27**	**42**	*e*P	**P**	**12 17 10.6 +2.1**
BSD	**Bornholm Skovb**	**61.41**	**19**	*e*P	**P**	**12 17 08.8 -0.3**
BSD				*e*		12 20 48.0
BSD				*i*		12 25 26.1
BSD				*i*		12 32 05.3
BSD				pmax	pmax	
	comp=Z,26nm,1.2s,mb5.2					
BSD				MLR	MLR	
	comp=Z,11µm,18.0s,MS6.0					
BSD	**Bornholm Skovb**	**61.41**	**19**	*i* P	**P**	**12 17 08.8 -0.3**
	comp=Z,26nm,1.2s,mb5.2					
BSD				*e*		12 20 48.0
BSD				*i*		12 25 26.1
BSD				*i*		12 32 05.3
BSD						
	comp=Z,11µm,18.0s					
WAR	**Warsaw**	**61.42**	**24**	*e*P	**P**	**12 17 11.9 +2.7**
WAR				*e*S	**S**	**12 25 33.8 +3.7**
WAR				LMZ		12 46 29.2
	comp=Z,10µm,18.3s					
WAR	**Warsaw**	**61.42**	**24**	*e*P	**P**	**12 17 11.9 +2.7**
WAR				*e*S	**S**	**12 25 33.8 +3.7**
WAR				LR	LR	
	comp=Z,10µm,18.3s,MS6.0					
BNN	**Bunyan**	**61.46**	**44**	*e*P	**P**	**12 17 11.6 +1.9**
KIS	**Kishinev**	**61.56**	**33**	*e*P	**P**	**12 17 09.0 -1.2**
KIS				*e*S	**S**	**12 25 28.0 -4.1**
KIS				*e*PS		12 25 51.0
KIS				*e*SSS		12 32 14.0
KIS				pmax	pmax	
	comp=Z,600nm,2.3s,mb6.3					
KIS				pmax	pmax	
	comp=Z,1µm,7.5s					
KIS				pmax	pmax	
	comp=Z,2µm,8.0s					
KIS				MLR	MLR	
	comp=N,4µm,16.0s,MS6.0					
KIS				MLR	MLR	
	comp=Z,12µm,16.0s,MS6.2					
KIS				MLR	MLR	
	comp=E,8µm,17.0s,MS6.0					
KIS				MLR	MLR	
	comp=Z,13µm,17.0s					
KIS	**Kishinev**	**61.56**	**33**	*e*P	**P**	**12 17 04.0 -6.2**
	comp=Z,600nm,2.3s,mb6.3					
KIS	**Kishinev**	**61.56**	**33**	*e*PcP	PcP	12 17 43.0 -8.9
KIS	**Kishinev**	**61.56**	**33**	*e*PP	PP	12 19 40.0 +14
KIS	**Kishinev**	**61.56**	**33**	*e*PPP		12 20 46.0
KIS				*e*ScP	ScP	12 21 50.0 -4.0
KIS				*e*S	**S**	**12 25 28.0 -4.1**
KMRS	**Kahramanmaras**	**61.58**	**45**	*e*P	**P**	**12 17 13.5 +2.9**
CTKT	**Corum**	**61.60**	**41**	*i* P	**P**	**12 17 09.9 -0.7**
GAZ	**Gaziantep**	**61.66**	**46**	*e*P	**P**	**12 17 12.7 +1.6**
EFI	**East Falkland**	**61.74**	**209**	PFAKE		12 17 20.0 +8.6
EFI				LR	LR	
	comp=Z,18µm,21.0s,MS6.2					
BZK	**Bozkurt**	**61.76**	**40**	*e*P	**P**	**12 17 08.4 -3.3**
GZT	**Gaziantep**	**61.99**	**46**	*i* P	**P**	**12 17 12.4 -0.9**
BOYT	**Boyabat**	**62.07**	**41**	*i* P	**P**	**12 17 12.9 -0.9**
NNA	**Nana**	**62.15**	**257**	*e*P	**P**	**12 17 13.1 -1.8**
	comp=Z,70nm,1.4s,mb5.6					
NNA				LR	LR	
	comp=Z,5µm,21.0s,MS5.7					
NNA	**Nana**	**62.15**	**257**	P	**P**	**12 17 12.5 -2.4**
	comp=Z,19nm,0.8s,mb5.2,baz=28,slow=6.2,SNR=3.1					
LRW	**Lerwick**	**62.26**	**8**	*e*P	**P**	**12 17 12.7 -2.0**
LRW				AMb	AMB	12 17 21.3
	comp=Z,51nm,1.3s,mb5.5					
WAL1	**Walls**	**62.31**	**8**	*e*P	**P**	**12 17 14.0 -1.0**
DIKM	**Dikmen**	**62.42**	**41**	*e*P	**P**	**12 17 17.1 +1.0**
ATAB	**Bozova**	**62.57**	**46**	*i* P	**P**	**12 17 20.6 +3.3**
KVT	**Kavak**	**62.66**	**41**	*e*P	**P**	**12 17 15.6 -2.1**
SVSK	**Karacayir**	**62.74**	**43**	*e*P	**P**	**12 17 20.8 +2.4**
URFA	**Urfa**	**62.93**	**46**	*e*P	**P**	**12 17 23.2 +3.6**
MALT	**Malatya**	**63.02**	**45**	*e*P	**P**	**12 17 23.8 +3.6**
MALT	**Malatya**	**63.02**	**45**	P	**P**	**12 17 22.4 +2.2**
MALT	**Malatya**	**63.02**	**45**	⇑P	**P**	**12 17 23.4 +3.2**
MALT	**Malatya**	**63.02**	**45⇑**	*i*P	**P**	**12 17 23.4 +3.2**
ATAH	**Atahualpa**	**63.38**	**263**	P	**P**	**12 17 23.8 +0.7**
	comp=Z,37nm,0.9s,mb5.5,baz=71,slow=5.8,SNR=16					
ATAH				LR	LR	12 43 06.3
	comp=Z,8µm,19.0s,MS5.9,baz=273,slow=34					
ABPO	**Ambohimpanom**	**63.41**	**111**	*e*P	**P**	**12 17 23.5 +0.4**
	comp=Z,9.3nm,0.8s,mb5.0					
ABPO				LR	LR	
	comp=Z,4µm,20.0s,MS5.6					
KEMA	**Kemaliye**	**63.48**	**44**	*i* P	**P**	**12 17 24.4 +1.1**
ELZG	**Elazig**	**63.50**	**45**	*i* P	**P**	**12 17 25.5 +2.1**
PLCA	**Paso Flores**	**63.55**	**224**	P	**P**	**12 17 22.0 -1.7**
	comp=Z,5.4nm,1.0s,mb4.5,baz=74,slow=10,SNR=8.0					
PLCA				LR	LR	12 40 34.2
	comp=Z,13µm,21.7s,MS6.1,baz=63,slow=32					
BER	**Bergen**	**63.56**	**11**	*e*P	**P**	**12 17 25.0 +1.7**
BER				*e*S	**S**	**12 25 44.0 -13**
BER				AMS	AMS	12 46 12.6
	comp=Z,11µm,22.7s,MS6.0					
SUW	**Suwalki**	**63.60**	**24**	*e*P	**P**	**12 17 22.5 -1.2**
SUW				*e*pP	pP	12 17 25.0 -2.0
SUW				*e*PcP	PcP	12 17 57.6 -2.4
SUW				*e*S	**S**	**12 25 57.9 +0.4**
SUW				LMZ		12 40 20.9
	comp=Z,9µm,33.2s					
SUW	**Suwalki**	**63.60**	**24**	*e*P	**P**	**12 17 22.5 -1.2**
SUW				*e*pP	pP	12 17 25.0 -2.0
SUW				*e*PcP	PcP	12 17 57.6 -2.5
SUW				*e*S	**S**	**12 25 57.9 +0.4**
SVRC	**Sivrice-ELAZID**	**63.67**	**45**	*e*P	**P**	**12 17 24.3 -0.2**
KONO	**Kongsberg**	**63.81**	**14**	*e*P	**P**	**12 17 25.5 +0.5**
KONO				AMb	AMB	12 17 55.7
	comp=Z,145nm,1.2s,mb5.9					
KONO				*e*S	**S**	**12 25 53.2 -6.8**
KONO				AMS	AMS	12 48 06.6
	comp=Z,10µm,16.8s,MS6.0					
KONO	**Kongsberg**	**63.81**	**14**	*e*P	**P**	**12 17 26.0 +1.0**
KONO				pmax	pmax	
	comp=Z,64nm,1.1s,mb5.6					
KONO				MLR	MLR	
	comp=Z,12µm,20.0s,MS6.1					
KONO	**Kongsberg**	**63.81**	**14**	*e*P	**P**	**12 17 26.0 +1.0**
	comp=Z,64nm,1.1s,mb5.6					
KONO				LR	LR	
	comp=Z,12µm,20.0s,MS6.1					
PTK	**Pertek**	**63.95**	**45**	*e*P	**P**	**12 17 27.0 +0.7**
KIEV	**Kiev**	**64.06**	**30**	*e*P	**P**	**12 17 23.7 -3.2**
KIEV				pmax	pmax	
	comp=Z,58nm,0.8s,mb5.7					
KIEV				MLR	MLR	
	comp=Z,20µm,19.0s,MS6.3					
KIEV	**Kiev**	**64.06**	**30**	*e*P	**P**	**12 17 23.7 -3.2**
	comp=Z,58nm,0.8s,mb5.7					
KIEV				LR	LR	
	comp=Z,20µm,19.0s,MS6.3					
GRSN	**GIRESUNGRSN**	**64.07**	**43**	*i* P	**P**	**12 17 26.2 -0.9**
AKASG	**Malin Array Be**	**64.08**	**30**	P	**P**	**12 17 24.5 -2.5**
	comp=Z,15nm,0.8s,mb5.1,baz=230,slow=6.6,SNR=25					
AKASG				LR	LR	12 47 28.0
	comp=Z,20µm,18.7s,MS6.3,baz=245,slow=38					
AKBB	**Malin Array

comp=Z,14µm,22.8s,MS6.1
BORG Borgarnes 66.10 357 *e*P **P 12 17 39.8 0.0**
BORG LR LR
comp=Z,5µm,20.0s,MS5.7
BORG Borgarnes 66.10 357 P **P 12 17 39.8 0.0**
comp=Z,16nm,1.0s,mb5.0,baz=170,slow=5.6,SNR=4.5
HOMI Horasan 66.20 45 *i* P **P 12 17 44.6 +3.6**
SOC Sochi 66.23 40*c i*P **P 12 17 41.1 0.0**
SOC *e**SP sP 12 17 43.1 -2.4
SOC *e* 12 18 07.5
SOC *e* 12 20 03.6
SOC *e*PPP 12 21 41.0
SOC *e*S S 12 26 33.9 +3.6
SOC *e* 12 27 27.3
SOC *e*SS SS 12 30 46.3 -0.2
SOC pmax pmax
comp=Z,31nm,0.8s,mb5.4
SOC pmax pmax
comp=Z,210nm,2.0s,mb5.8
SOC MLR MLR
comp=Z,4µm,17.0s,MS5.7
SOC Sochi 66.23 40 *i* P **P 12 17 42.6 +1.5**
CUKT Cukurca 66.37 48 *e*P **P 12 17 41.7 -0.4**
HAKT HAKKARI 66.55 48 *i* P **P 12 17 42.5 -0.8**
BCA Borcka 66.58 43 *e*P **P 12 17 43.1 -0.2**
PKME Peaks-Kenny Pk 66.67 321 PFAKE 12 17 50.0 +6.1
PKME LR LR
comp=Z,7µm,20.0s,MS5.8
ARTV Artvin 66.68 44 *i* P **P 12 17 47.1 +3.1**
VANB Van 66.70 47 *e*P **P 12 17 43.9 -0.3**
WES Weston 66.70 318 PFAKE 12 17 50.0 +5.9
WES LR LR
comp=Z,6µm,21.0s,MS5.8
NAY Al-Naaiem 66.74 57 *e*P **P 12 17 44.2 -0.5**
NAY AMb AMB 12 17 58.9
comp=Z,124nm,0.8s,mb6.0
AGRB Hanur-Agry 66.79 46 *e*P **P 12 17 46.0 +1.3**
HRV Adam Dziewonsk 66.91 318 *e*P **P 12 17 46.0 +0.5**
HRV MLR MLR
comp=Z,8µm,21.0s,MS5.9
RDF Al-Radifah 66.92 58 *e*P **P 12 17 45.4 -0.4**
RDF AMb AMB 12 17 51.7
comp=Z,131nm,1.3s,mb5.8
MIB Mutribah 66.97 57 *e*P **P 12 17 45.2 -0.9**
MIB AMb AMB 12 17 58.9
comp=Z,70nm,1.1s,mb5.6
KBD Kabd 67.10 58 *e*P **P 12 17 46.0 -0.9**
KBD AMb AMB 12 17 53.5
comp=Z,351nm,1.4s,mb6.2
QRN Al-Qurain 67.18 58 *e*P **P 12 17 47.3 -0.2**
QRN AMb AMB 12 18 01.9
comp=Z,128nm,0.7s,mb6.0
KARS Kars 67.26 45 *e*P **P 12 17 46.0 -1.7**
DYDN Diyadin 67.27 46 *i* P **P 12 17 51.0 +3.2**
CLDR Caldiran 67.29 46 *e*P **P 12 17 47.8 -0.1**
LBNH Lisbon 67.89 319 *e*P **P 12 17 56.2 +4.6**
LBNH *e* 12 18 03.7
LBNH pmax pmax
comp=Z,64nm,1.4s,mb5.5
LBNH Lisbon 67.89 319 *e*P **P 12 17 51.9 +0.2**
comp=Z,64nm,1.4s,mb5.5
LBNH LR LR
comp=Z,8µm,20.0s,MS6.0
HNH Hanover 67.90 319 *e*P **P 12 17 51.7 0.0**
VSU Vasula 68.16 22⇑*i*P **P 12 17 52.6 -0.4**
ONI Oni 68.28 43 P **P 12 17 54.8 +0.7**
ONI S S 12 26 56.1 +1.1
KIV Kislovodsk 68.33 41 P **P 12 17 54.0 -0.4**
KIV *i* pP 12 17 56.7 -1.0
KIV *e* 12 18 02.8
KIV 12 18 28.0
KIV *e* 12 20 28.0
KIV *e*S S 12 26 59.2 +3.6
KIV *e*PS 12 27 18.6
KIV pmax pmax
comp=Z,100nm,2.1s,mb5.5
KIV MLR MLR
comp=Z,4µm,19.0s,MS5.6
KIV Kislovodsk 68.33 41 *e*P **P 12 17 53.9 -0.5**
KIV LR LR
comp=Z,4µm,22.0s,MS5.6
KIV Kislovodsk 68.33 41⇑*i*P **P 12 17 56.8 +2.4**
ACCN Adirondack Com 68.68 318 *e*P **P 12 17 58.4 +1.8**
TBLG Delisi 68.83 44 P **P 12 17 49.0 -8.6**
MTA Mtatsminda 68.86 44 P **P 12 17 59.9 +2.1**
MTA S S 12 27 01.3 -0.6
CNNC Cliffs of the 68.89 309 PFAKE 12 18 10.0 +12
CNNC LR LR
comp=Z,8µm,20.0s,MS6.0
DGRG David-gareji 69.17 44 P **P 12 18 02.6 +2.9**
DGRG S S 12 27 08.5 +2.8
FRNY Flat Rock 69.22 320 *e*P **P 12 18 01.1 +1.2**
MVL Millersville 69.28 314 *e*P **P 12 18 02.2 +1.8**
NCB Newcomb 69.29 318 *e*P **P 12 18 01.2 +0.9**
comp=Z,259nm,2.5s,mb5.7
NCB LR LR
comp=Z,8µm,21.0s,MS5.9
VNA1 Neumayer--Stat 69.33 178 *e*P **P 12 18 00.5 +0.4**
VNA1 *e* pP 12 18 04.6 +1.2
VNA1 *e* 12 18 11.3
VNA1 *e* 12 18 22.5
VNA1 *e* 12 18 29.0
URVA University of 69.34 311 *e*P **P 12 18 02.6 +1.7**
CBN Corbin 69.43 312 PFAKE 12 18 10.0 +8.6
CBN LR LR
comp=Z,5µm,20.0s,MS5.7
SDMD Soldier's Deli 69.43 313 *e*P **P 12 18 02.4 +1.0**
comp=Z,48nm,1.5s,mb5.2
VORD Divnogorie 69.49 33 *e*P **P 12 18 01.5 +0.1**
VORD *e**PP pP 12 18 06.0 +1.3
VORD *e* 12 18 20.9
VORD *e* 12 20 34.6
VORD *e*PPP 12 22 14.6
VORD *e*S S 12 27 02.7 -6.3
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.2
VORD pmax pmax
comp=N,20nm,1.3s
VORD pmax pmax
comp=E,30nm,1.0s
VORD pmax pmax
comp=Z,60nm,2.2s,mb5.1
VORD pmax pmax
comp=N,20nm,1.4s
VORD pmax pmax
comp=E,30nm,2.0s
VORD smax
comp=E,2µm,8.6s
VORD smax
comp=Z,630nm,12.7s
VORD smax
comp=N,1µm,11.4s
VORD MLR MLR
comp=Z,9µm,20.0s,MS6.0
VORD MLR MLR
comp=N,2µm,18.0s,MS5.8
VORD MLR MLR
comp=E,5µm,18.0s,MS5.8
VRSR Storozhevoye 69.56 33 *e*P **P 12 18 02.1 +0.2**
VRSR *e**PP pP 12 18 05.6 +0.5
VRSR *e* 12 20 38.4
VRSR *e*PPP 12 22 10.4
VRSR *e*S S 12 27 05.9 -3.9
VRSR *e*SP 12 27 31.6
VRSR *e*SS SS 12 31 32.9 -4.8
VRSR *e*SSS 12 34 37.5
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VRSR pmax pmax
comp=N,5.0nm,1.2s
VRSR pmax pmax
comp=E,7.0nm,0.6s
VRSR pmax pmax
comp=Z,60nm,5.8s
VRSR pmax pmax
comp=N,10.0nm,6.4s
VRSR pmax pmax
comp=E,40nm,5.7s
VRSR smax
comp=E,270nm,10.9s
VRSR smax
comp=Z,60nm,9.6s
VRSR smax
comp=N,200nm,14.6s
VRSR MLR MLR
comp=Z,1µm,20.0s,MS5.2
VRSR MLR MLR
comp=N,810nm,24.0s,MS5.2
VRSR MLR MLR
comp=E,1µm,19.0s,MS5.2
VNA2 Neumayer--Watz 69.64 177 *e*P **P 12 18 01.8 -0.3**
VNA2 *e* pP 12 18 04.2 -1.1
VNA2 *e* 12 18 11.4
VNA2 *e* 12 18 23.0
VNA2 *e* 12 18 31.7
LONY Lake Ozonia 69.78 319 *e*P **P 12 18 05.5 +2.1**
comp=E,120nm,2.3s,mb5.4
LONY LR LR
comp=Z,7µm,19.0s,MS5.9
BINY Binghamton 69.81 316 P **P 12 18 03.1 -0.6**
comp=Z,63nm,1.1s,mb5.5
BINY LR LR
comp=Z,5µm,20.0s,MS5.8
VOR Voronezh 69.82 33 *e*P **P 12 18 05.0 +1.5**
VOR pmax pmax
comp=Z,200nm,2.2s,mb5.7
VNA3 Neumayer Olymp 69.87 178 *e*P **P 12 18 03.1 -0.3**
VNA3 *e* pP 12 18 06.0 -0.7
VNA3 *e* 12 18 13.0
VNA3 *e* 12 18 25.1
VNA3 *e* 12 18 31.9
DWPF Disney 69.95 301 PFAKE 12 18 20.0 +15
DWPF LR LR
comp=Z,6µm,21.0s,MS5.8
FINES FINESS Array B 70.04 20 P **P 12 18 01.5 -3.1**
comp=Z,14nm,0.7s,mb5.0,baz=204,slow=4.2,SNR=26
FINES LR LR 12 48 26.7
comp=Z,7µm,21.9s,MS5.9,baz=69,slow=36
FIA1 FINESS Array S 70.04 20 *e*P **P 12 18 01.5 -3.1**
NHSC New Hope 70.11 306 *e*P **P 12 18 07.8 +2.1**
NHSC LR LR
comp=Z,8µm,20.0s,MS6.0
SCHQ Schefferville 70.20 331 P **P 12 18 04.6 -1.1**
comp=Z,9.9nm,1.0s,mb4.7,baz=127,slow=12,SNR=3.9
SCHQ LR LR 12 44 45.2
comp=Z,4µm,20.2s,MS5.7,baz=128,slow=32
OBN Obninsk 70.28 29 P **P 12 18 06.0 -0.2**
OBN *e* 12 18 11.0
OBN 12 18 26.0
OBN 12 20 42.0
OBN *e*S S 12 27 17.7 -0.4
OBN *e* 12 28 10.3
OBN pmax pmax
comp=Z,35nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,10µm,14.0s,MS6.2
OBN Obninsk 70.28 29⇓*i*P **P 12 18 05.8 -0.4**
OBN LR LR
comp=Z,10µm,14.0s,MS6.2
JTS JuntasAbangare 70.50 281 *i* P **P 12 18 08.2 -0.2**
JTS JuntasAbangare 70.50 281 *e*P **P 12 18 08.1 -0.3**
JTS LR LR
comp=Z,5µm,20.0s,MS5.8
JTS JuntasAbangare 70.50 281 P **P 12 18 06.7 -1.7**
comp=Z,6.5nm,0.8s,mb4.6,baz=260,slow=22,SNR=7.9
SSPA Standing Stone 70.60 314 *e*P **P 12 18 09.8 +1.2**
SSPA LR LR
comp=Z,5µm,22.0s,MS5.7
SNAA Sanae 70.65 176 *e*P **P 12 18 07.7 -0.5**
SNAA *e* pP 12 18 11.1 -0.4
SNAA *e* 12 18 18.2
SNAA *e* 12 18 29.0
SNAA *e* 12 18 35.7
SNAA Sanae 70.65 176⇑*e*P **P 12 18 07.9 -0.3**
VRHR Novokhopersk 70.84 34 *e*P **P 12 18 10.5 +0.8**
VRHR *e**SP sP 12 18 13.6 -0.6
VRHR *e*PPP 12 22 29.0
VRHR *e*S S 12 27 23.3 -1.5
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=Z,50nm,0.8s,mb5.5
VRHR pmax pmax
comp=E,30nm,0.7s
VRHR smax
comp=N,590nm,10.7s
VRHR smax
comp=Z,130nm,12.6s
VRHR smax
comp=E,1µm,10.1s
VRHR MLR MLR
comp=N,3µm,15.0s,MS5.8
VRHR MLR MLR
comp=Z,4µm,15.0s,MS5.7
VRHR MLR MLR
comp=E,2µm,14.0s,MS5.8
LHS Liberty Hill 70.98 307 *e*P **P 12 18 13.2 +2.2**
MOS Moscow 71.12 28 *e*P **P 12 18 07.3 -4.0**
MOS *e* 12 20 45.7
MOS *e*PPP 12 22 26.4
MOS *e*S S 12 27 20.6 -7.3
MOS *e*PS 12 27 53.1
MOS pmax pmax
comp=Z,138nm,1.3s,mb5.7
MOS pmax pmax
comp=Z,400nm,2.0s,mb6.0
MOS MLR MLR
comp=E,5µm,14.5s
MOS MLR MLR
comp=Z,10µm,14.5s,MS6.2
MOS Moscow 71.12 28 *e*P **P 12 18 08.6 -2.7**
MAK Makhachkala 71.19 43*c i*P **P 12 18 12.1 0.0**
MAK *i* 12 18 35.1
MAK *e*PPP 12 22 38.6
MAK *i* S S 12 27 32.1 +2.8
MAK pmax pmax
comp=Z,286nm,1.5s,mb6.0
MAK pmax pmax
comp=N,174nm,1.0s
MAK pmax pmax
comp=E,203nm,1.5s
MAK pmax pmax
comp=Z,1221µm,2.8s
MAK pmax pmax
comp=N,598µm,2.4s
MAK pmax pmax
comp=E,567µm,2.2s
MAK smax
comp=N,3035µm,8.3s
BLA Blacksburg 71.43 310 *e*P **P 12 18 15.9 +2.3**
BLA pmax pmax
comp=Z,45nm,1.1s,mb5.3
BLA MLR MLR
comp=Z,11µm,21.0s,MS6.1
BLA Blacksburg 71.43 310 *e*P **P 12 18 15.9 +2.3**
comp=Z,45nm,1.1s,mb5.3
BLA LR LR
comp=Z,11µm,21.0s,MS6.1
MAIT Maitri 71.48 171 *e*P **P 12 18 15.0 +1.8**
NVL N'lazarevskaya 71.48 171 *e*P **P 12 18 16.1 +2.8**
NVL S S 12 27 33.9 +2.2
NVL pmax pmax
comp=Z,33nm,1.0s,mb5.2
ELN Prospectdale 71.69 310 *e*P **P 12 18 15.7 +0.6**
MCWV Mont Chateau 71.71 313 PFAKE 12 18 30.0 +15
MCWV LR LR
comp=Z,5µm,20.0s,MS5.8
JMIC Jan Mayen 72.34 2 *e*P **P 12 18 24.1 +5.7**
JMIC AMS AMS 12 46 44.3
comp=Z,5µm,22.3s,MS5.7
JMIC Jan Mayen 72.34 2 *e*P **P 12 18 13.7 -4.7**
JMIC LR LR
comp=Z,5µm,22.3s,MS5.7
PMSA Palmer Station 72.41 200 PFAKE 12 18 30.0 +11
PMSA LR LR
comp=Z,12µm,22.0s,MS6.1
ALLY Alegheny Colle 72.54 315 *e*P **P 12 18 22.0 +1.8**
ERPA Erie 72.58 315 *e*P **P 12 18 21.9 +1.4**
ERPA *e*pP pP 12 18 32.5 +8.8
ERPA LR LR
comp=Z,5µm,22.0s,MS5.8
SFJD Kangerlussuaq 72.66 346 P **P 12 18 21.3 +0.9**
SFJD pmax pmax
comp=Z,32nm,1.0s,mb5.2
SFJD Kangerlussuaq 72.66 346 *e*P **P 12 18 21.1 +0.7**
comp=Z,32nm,0.9s,mb5.3
SFJD LR LR
comp=Z,4µm,19.0s,MS5.7
JOF Joensuu 72.84 20 *e*p **P 12 18 18.4 -3.1**
comp=Z,22nm,0.8s,mb5.1
GOGA Godfrey 72.86 306 *e*P **P 12 18 24.9 +2.6**
GOGA Godfrey 72.86 306 *e*P **P 12 18 23.5 +1.2**
GOGA LR LR
comp=Z,9µm,22.0s,MS6.0
SADO Sadowa 72.86 318 P **P 12 18 21.9 -0.1**
baz=63,slow=4.5
TGUH Tegucigalpa,Un 73.11 285 *e*P **P 12 18 25.8 +1.7**
TGUH LR LR
comp=Z,5µm,21.0s,MS5.8
TZTN Tazewell 73.67 309 *e*P **P 12 18 28.5 +1.5**
TZTN LR LR
comp=Z,9µm,20.0s,MS6.0
CPCT Cooper Cave 74.17 307 *e*P **P 12 18 31.7 +1.8**
ACSO Alum Creek Sta 74.19 312 *e*P **P 12 18 31.8 +1.9**
comp=Z,92nm,1.3s,mb5.5
ACSO LR LR
comp=Z,5µm,22.0s,MS5.8
TRO Tromso 74.43 12 *e*P **P 12 18 32.1 +1.3**
TRO *e*S S 12 27 58.6 -6.6
TRO AMS AMS 12 54 41.3
comp=Z,7µm,16.4s,MS6.0
TRO Tromso 74.43 12 *e*P **P 12 18 35.2 +4.5**
TRO LR LR
comp=Z,7µm,16.4s,MS6.0
TEIG Tepich 74.76 291 PFAKE 12 18 40.0 +6.3
TEIG LR LR
comp=Z,4µm,22.0s,MS5.7
TEIG Tepich 74.76 291 LR LR 12 44 44.9
comp=Z,4µm,21.6s,MS5.6,baz=125,slow=30
AAM Ann Arbor 75.24 314 *e*P **P 12 18 37.7 +1.7**
AAM MLR MLR
comp=Z,5µm,22.0s,MS5.8
SWET Sewanee 75.25 307 *e*P **P 12 18 36.1 -0.1**
BRAL Brewton 75.34 302 *e*P **P 12 18 38.3 +1.5**
BRAL LR LR
comp=Z,4µm,21.0s,MS5.7
ARCES ARCESS Array B 75.80 14 P **P 12 18 38.4 -0.3**
comp=Z,11nm,0.6s,mb5.0,baz=223,slow=4.8,SNR=40
ARCES LR LR 12 52 20.4
comp=Z,13µm,21.5s,MS6.2,baz=228,slow=36
ARE0 ARCESS Array S 75.80 14 *e*P **P 12 18 40.2 +1.5**
TMCR Tamitsa 75.99 21 *e*P **P 12 18 37.9 -1.9**
TMCR pmax pmax
comp=Z,80nm,1.3s,mb5.5
KEV Kevo 76.32 14 P **P 12 18 43.3 +1.7**
KEV pmax pmax
comp=Z,71nm,1.2s,mb5.5
KEV Kevo 76.32 14 *e*P **P 12 18 42.6 +1.0**
comp=Z,34nm,1.0s,mb5.2
KEV LR LR
comp=Z,13µm,22.0s,MS6.2
APA Apatity 76.53 17⇑*i*P **P 12 18 44.0 +1.1**
APA *e*PPP 12 23 16.0
APA *i* S S 12 28 32.0 +3.4
APA *i* SP 12 29 11.0
APA *e*SS SS 12 33 18.0 -5.6
APA pmax pmax
comp=Z,130nm,1.8s,mb5.6
APA MLR MLR
comp=Z,13µm,17.0s,MS6.3
BLO Bloomington 76.57 311 *e*P **P 12 18 43.5 -0.2**
SYO Syowa Base 76.69 162⇑*e*P **P 12 18 41.8 -1.9**
SYO Syowa Base 76.69 162⇑*e*P **P 12 18 45.0 +1.3**
PLAL Pickwick Lake 76.92 306 *e*P **P 12 18 44.3 -1.5**
PLAL LR LR
comp=Z,6µm,22.0s,MS5.9
WVT Waverly 76.95 307 *e*P **P 12 18 43.7 -2.2**
WVT MLR MLR
comp=Z,4µm,20.0s,MS5.7
ABKT Ailbek 77.61 51 P **P 12 18 51.4 +1.9**
comp=Z,142nm,1.1s,mb5.8,SNR=7.7
OXF Oxford 77.92 306 *e*P **P 12 18 51.8 +0.5**
OXF pmax pmax
comp=Z,51nm,1.0s,mb5.4
OXF MLR MLR
comp=Z,9µm,22.0s,MS6.0
OXF Oxford 77.92 306 *e*P **P 12 18 51.8 +0.4**
comp=Z,51nm,1.0s,mb5.4
OXF LR LR
comp=Z,9µm,22.0s,MS6.0
DAG Danmarks Havn 78.05 359⇑*i*P **P 12 18 52.8 +1.6**
DAG pmax pmax
comp=Z,23nm,1.2s,mb5.0
DAG MLR MLR
comp=N,3µm,19.0s,MS5.7
DAG MLR MLR
comp=Z,5µm,19.0s,MS5.9
DAG MLR MLR
comp=E,2µm,18.0s,MS5.7
DAG Danmarks Havn 78.05 359⇑*i*P **P 12 18 52.8 +1.6**
comp=E,23nm,1.2s,mb5.0
DAG
comp=Z,5µm,19.0s
HALT Halls 78.11 307 *e*P **P 12 18 50.5 -1.9**
SIUC Southern Illin 78.34 309 *e*P **P 12 18 54.2 +0.5**
comp=Z,64nm,1.0s,mb5.5
SIUC *e*pP pP 12 19 04.7 +7.7
BJO1 Bjornoya 78.45 9 *e*P **P 12 18 48.5 -5.0**
VBMS Vicksburg 78.45 303 PFAKE 12 19 00.0 +5.6
VBMS LR LR
comp=Z,3µm,19.0s,MS5.6
BJO Bjornoya 78.48 9 *e*P **P 12 18 48.5 -5.2**
BJO *e*SKS 12 29 02.2
GNAR Gosnell 78.66 307 *e*P **P 12 18 57.0 +1.6**
HDIL Hopedale 78.95 312 *e*P **P 12 18 56.9 0.0**
comp=Z,23nm,0.7s,mb5.2
HDIL LR LR
comp=Z,6µm,22.0s,MS5.9
FVM French Village 79.33 309 *e*P **P 12 18 57.2 -1.9**
FVM pmax pmax
comp=Z,105nm,1.4s,mb5.6
FVM French Village 79.33 309 *e*P **P 12 18 57.2 -1.9**
comp=Z,138nm,1.4s,mb5.7
CCM Cathedral Cave 79.98 309 *e*P **P 12 19 01.3 -1.3**
CCM MLR MLR
comp=Z,6µm,20.0s,MS5.9
COWI Conover 79.98 317 *e*P **P 12 19 03.1 +0.7**
COWI LR LR
comp=Z,5µm,20.0s,MS5.8
JFWS Jewell Farm 80.11 314 *e*P **P 12 19 04.4 +1.2**
JFWS MLR MLR
comp=Z,5µm,20.0s,MS5.9
AKTK Aktyubinsk 80.31 38 P **P 12 19 03.2 -0.9**
AKTO Aktyubinsk 80.31 38 P **P 12 19 03.2 -0.9**
comp=Z,8.9nm,0.8s,mb4.8,baz=244,slow=4.0,SNR=27
UALR University of 80.34 305 *e*P **P 12 19 05.5 +0.9**
SPB4 Spitsbergen Ar 81.19 6 *e*P **P 12 19 09.0 +0.7**
MIAR Mount Ida 81.32 305 *e*P **P 12 19 11.3 +1.5**
MIAR MLR MLR
comp=Z,7µm,21.0s,MS6.0
KBS Kingsbay 81.41 5 *e*P **P 12 19 14.0 +4.5**
KBS *e*PP PP 12 22 10.5 -4.9
KBS *e*SKS 12 29 23.6
KBS AMS AMS 12 59 00.7
comp=Z,2µm,13.6s,MS5.7
NATX Nacogdoches 81.88 302 PFAKE 12 19 20.0 +7.1
NATX LR LR
comp=Z,4µm,21.0s,MS5.7
EYMN Ely 81.94 319 *e*P **P 12 19 13.2 +0.4**
EYMN LR LR
comp=Z,8µm,20.0s,MS6.1
SCIA State Center 82.10 312 PFAKE 12 19 20.0 +6.2
SCIA LR LR
comp=Z,6µm,22.0s,MS5.9
ARU Arti 82.11 33*d i*P **P 12 19 12.1 -1.4**
ARU *e*PPP 12 24 13.9
ARU *e*S S 12 29 26.9 -1.3
ARU *e*PS 12 30 09.9
ARU pmax pmax
comp=Z,43nm,1.0s,mb5.3
ARU MLR MLR
comp=Z,9µm,22.0s,MS6.1
ARU Arti 82.11 33 *e*P **P 12 19 11.9 -1.6**
comp=Z,61nm,1.0s,mb5.5
ARU LR LR
comp=Z,8µm,20.0s,MS6.1
SVE Sverdlovsk 83.32 32⇓*e*P **P 12 19 21.0 +1.2**
SVE *e* 12 22 31.5
SVE *e*S S 12 29 42.0 +1.5
SVE *e*SS SS 12 35 00.3 -5.2
SVE pmax pmax
comp=Z,42nm,1.2s,mb5.3
SVE MLR MLR
comp=Z,10µm,21.0s,MS6.2

MAW Mawson 84.16 158 P **P** **12 19 22.1 -1.8**
comp=Z,4.5nm,0.7s,mb4.7,baz=316,slow=12,SNR=3.4
MAW LR LR 12 50 10.3
comp=Z,4μm,18.9s,MS5.8,baz=290,slow=31
KVTX Kingsville 84.27 298 PFAKE 12 19 40.0 +15
KVTX LR LR
comp=Z,3μm,19.0s,MS5.6
KSU1 Kansas State U 84.29 309 *e*P **P** **12 19 25.3 +0.1**
comp=Z,30nm,0.9s,mb5.4
KSU1 LR LR
comp=Z,6μm,20.0s,MS6.0
ECSD EROS,Sioux Fal 84.83 314 *e*P **P** **12 19 25.3 -2.5**
comp=Z,19nm,0.8s,mb5.3
ECSD LR LR
comp=Z,5μm,21.0s,MS5.9
AGMN Agassiz Refuge 84.89 319 *e*P **P** **12 19 27.4 -0.6**
AGMN LR LR
comp=Z,8μm,19.0s,MS6.1
ULM Lac du Bonnet 85.16 321 P **P** **12 19 28.8 -0.5**
comp=Z,9.0nm,0.9s,mb4.9,baz=120,slow=5.9,SNR=7.4
ULM LR LR 12 51 21.5
comp=Z,5μm,21.9s,MS5.9,baz=94,slow=31
FCC Fort Churchill 85.46 329 *e*P **P** **12 19 32.8 +2.2**
WMOK Wichita Mounta 85.61 305 *e*P **P** **12 19 30.7 -1.2**
WMOK pmax pmax
comp=Z,60nm,1.3s,mb5.7
WMOK MLR MLR
comp=Z,9μm,21.0s,MS6.1
WMOK Wichita Mounta 85.61 305 *e*P **P** **12 19 30.7 -1.2**
comp=Z,60nm,1.3s,mb5.7
WMOK LR LR
comp=Z,9μm,21.0s,MS6.1
KBL Kabul 85.89 55 *e*P **P** **12 19 33.8 +0.5**
JCT Junction City 86.15 300 *e*P **P** **12 19 34.1 -0.6**
JCT MLR MLR
comp=Z,3μm,22.0s,MS5.6
CBKS Cedar Bluff 86.69 309 *e*P **P** **12 19 37.1 -0.1**
CBKS MLR MLR
comp=Z,5μm,22.0s,MS5.9
DGAR Diego Garcia 87.35 97 PFAKE 12 19 50.0 +9.1
DGAR LR LR
comp=Z,8μm,20.0s,MS6.1
AMTX Amarillo 88.00 305 *e*P **P** **12 19 43.9 +0.3**
AMTX LR LR
comp=Z,9μm,22.0s,MS6.2
BRVK Borovoye 88.25 37 *e*P **P** **12 19 43.9 -0.5**
BRVK MLR MLR
comp=Z,10μm,19.0s,MS6.2
BVAR Borovoye Array 88.31 37 LR LR 13 02 29.7
comp=Z,9μm,19.1s,MS6.2,baz=100,slow=38
RES Resolute Bay 88.61 345 *e*P **P** **12 19 46.6 +1.0**
QSPA South Pole Qui 88.73 180 P **P** **12 19 46.8 +0.6**
comp=Z,38nm,1.1s,mb5.6,baz=197,slow=3.0,SNR=27
FFC Flin Flon 89.31 325 *e*P **P** **12 19 49.9 +0.6**
FFC MLR MLR
comp=Z,6μm,21.0s,MS6.0
TXAR Lajitas Array 89.45 299 P **P** **12 19 49.1 -1.5**
comp=Z,1.8nm,0.6s,mb4.6,baz=122,slow=5.1,SNR=21
TXAR LR LR 12 53 51.7
comp=Z,2μm,21.7s,MS5.5,baz=355,slow=32
KAD Karad 89.66 73 *ex* x 12 19 51.2
AML Almayashu 89.96 48 PFAKE 12 20 00.0 +7.3
AML LR LR
comp=Z,5μm,19.0s,MS5.9
EKS2 Erkin-Say 90.04 48 *e*P **P** **12 19 53.4 +0.4**
comp=Z,12nm,0.9s,mb5.2
EKS2 LR LR
comp=Z,5μm,20.0s,MS6.0
GDL2 Guadalupe Moun 90.13 302 *e*P **P** **12 19 54.9 +1.2**
AJM Ajmer 90.32 64 *e*P **P** **12 19 54.0 -0.7**
AJM *ex* x 12 19 54.0
DGMT Dagmar 90.43 318 PFAKE 12 20 00.0 +5.3
DGMT LR LR
comp=Z,6μm,20.0s,MS6.0
AAK Ala-Archa 90.57 48 *e*P **P** **12 19 54.5 -1.0**
AAK MLR MLR
comp=Z,7μm,19.0s,MS6.1
AAK Ala-Archa 90.57 48 P **P** **12 19 54.3 -1.1**
comp=Z,5.5nm,0.7s,mb5.0,baz=209,slow=6.6,SNR=10
UCH Uchtor 90.57 48 *e*P **P** **12 19 53.1 -2.4**
comp=Z,15nm,1.2s,mb5.2
UCH LR LR
comp=Z,7μm,20.0s,MS6.1
FRU Bishkek 90.66 47 *e*P **P** **12 19 56.0 +0.1**
FRU *e* 12 30 52.0
FRU *e* 12 32 00.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.8
MNTX Cornudas Mount 90.99 302 *e*P **P** **12 19 58.7 +1.0**
comp=Z,44nm,2.0s,mb5.5
MNTX LR LR
comp=Z,4μm,22.0s,MS5.9
SDCO Great Sand Dun 91.18 308 *e*P **P** **12 19 58.5 0.0**
comp=Z,73nm,1.5s,mb5.8
SDCO LR LR
comp=Z,4μm,20.0s,MS5.9
ISCO Idaho Springs 91.29 310 *e*P **P** **12 19 59.3 +0.4**
ISCO MLR MLR
comp=Z,5μm,19.0s,MS6.0
TKM2 Tokmak 2 91.38 47 *e*P **P** **12 20 00.5 +1.2**
TKM2 pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
TKM2 MLR MLR
comp=Z,7μm,19.0s,MS6.1
TKM2 Tokmak 2 91.38 47 *e*P **P** **12 20 00.5 +1.3**
comp=Z,9.6nm,1.0s,mb5.1
TKM2 LR LR
comp=Z,7μm,19.0s,MS6.1
LAO LASA Array 91.78 316 *e*P **P** **12 20 02.4 +1.4**
comp=Z,15nm,0.8s,mb5.4
LAO LR LR
comp=Z,4μm,21.0s,MS5.8
ANMO Albuquerque 91.92 305 *e*P **P** **12 20 03.8 +1.8**
ANMO pmax pmax
comp=Z,31nm,1.4s
ANMO Albuquerque 91.92 305 *e*P **P** **12 20 02.1 +0.2**
comp=Z,31nm,1.4s,mb5.4
ANMO LR LR
comp=Z,9μm,21.0s,MS6.2
BNM Barren Site 92.06 304 *e*P **P** **12 20 01.6 -1.0**
comp=Z,50nm,1.6s,mb5.6
LPM Los Pinos Moun 92.06 304 *e*P **P** **12 20 03.9 +1.3**
SMCO Snowmass 92.34 309 *e*P **P** **12 20 03.8 0.0**
LENM Lemitar 92.35 304 *e*P **P** **12 20 06.0 +2.1**
AAA Alma-Ata 92.37 47 P **P** **12 19 56.2 -7.6**
AAA pmax pmax
comp=Z,2μm,22.4s
LAZ Ladron 92.48 304 *e*P **P** **12 20 04.4 -0.1**
comp=Z,20nm,1.5s,mb5.2
RWWY Rawlins 92.51 311 *e*P **P** **12 20 05.7 +1.2**
comp=Z,23nm,1.1s,mb5.5
NDI New Delhi 92.63 62 *e*P **P** **12 20 06.0 +0.6**
RPN Rapa Nui 93.21 243 PFAKE 12 20 20.0 +12
RPN LR LR
comp=Z,6μm,19.0s,MS6.0
KURK Kurchatov 93.37 39 *i* P **P** **12 20 08.6 +0.4**
KURK MLR MLR
comp=Z,8μm,20.0s,MS6.2
MVCO Mesa Verde 93.56 307 *e*P **P** **12 20 11.6 +2.1**
PV01 Paradox Valley 93.60 308 *e*P **P** **12 20 09.8 +0.2**
comp=Z,1μm,1.6s
HYB Hyderabad 93.84 73 *e*P **P** **12 20 13.0 +1.9**
HYB *e* 12 30 48.0
HYB *e* 12 31 20.0
HYB Hyderabad 93.84 73 *i* P **P** **12 20 13.0 +1.9**
HYB *e*SKS 12 30 48.0
HYB *e*S S 12 31 20.0 -1.5
HYB LR LR 13 03 32.0
comp=Z,6.7nm,16.0s
RLMT Red Lodge 93.93 315 *e*P **P** **12 20 09.9 -1.0**
RLMT LR LR
comp=Z,3μm,22.0s,MS5.8
PV10 Paradox Valley 93.97 308 *e*P **P** **12 20 13.4 +2.1**
comp=Z,4μm,1.1s
EGMT Eagleton 94.15 318 *e*P **P** **12 20 12.1 +0.2**
EGMT LR LR
comp=Z,7μm,22.0s,MS6.1
BW06 Boulder Array 94.23 313 *e*P **P** **12 20 14.3 +1.9**
comp=Z,84nm,3.0s
BW06 LR LR
comp=Z,6μm,22.0s,MS6.0
LOHW Long Hollow 94.96 313 *e*P **P** **12 20 16.6 +0.9**
comp=Z,28nm,1.8s,mb5.4
SRU San Rafael 95.10 309 *e*P **P** **12 20 16.1 -0.4**
YMR Madison River 95.16 315 PFAKE 12 20 30.0 +13
YMR LR LR
comp=Z,2μm,19.0s,MS5.7
IMW Indian Meadow 95.18 314 *e*P **P** **12 20 18.7 +2.0**
LPIG La Paz 95.35 294 LR LR 12 58 17.7
comp=Z,1μm,21.5s,MS5.3,baz=262,slow=32
AHID Auburn Hatcher 95.36 313 PFAKE 12 20 30.0 +12
AHID LR LR
comp=Z,7μm,22.0s,MS6.1
QLMT Earthquake Lak 95.48 315 *e*P **P** **12 20 19.2 +1.1**
comp=Z,2.6nm,0.3s,mb5.1
BOZ Bozeman (W) 95.57 316 P **P** **12 20 19.9 +1.4**
BOZ pmax pmax
comp=Z,2.0nm,1.0s,mb4.5
BOZ MLR MLR
comp=Z,3μm,22.0s,MS5.7
BOZ Bozeman (W) 95.57 316 P **P** **12 20 19.9 +1.5**
comp=Z,1.8nm,1.0s,mb4.5
BOZ LR LR
comp=Z,3μm,22.0s,MS5.7
TUC Tucson 95.57 302 *e*P **P** **12 20 20.8 +2.0**
TUC MLR MLR
comp=Z,2μm,20.0s,MS5.7
DAU Daniels Canyon 95.60 310 *e*P **P** **12 20 20.9 +2.1**
YKW3 Yellowknife Ar 95.61 333 *e*P **P** **12 20 18.9 +0.7**
YKA Yellowknife Ar 95.61 333 P **P** **12 20 17.6 -0.7**
YKA PKKP PKKPbc 12 37 08.2 -3.5
YKA LR LR 13 01 35.2
YKA Yellowknife Ar 95.61 333 P **P** **12 20 17.5 -0.7**
comp=Z,1.7nm,0.8s,mb4.5,baz=82,slow=5.3,SNR=27
YKA PKKP PKKPbc 12 37 08.2 -3.5
comp=Z,0.5nm,0.7s,baz=270,slow=2.7,SNR=7.4
YKA LR LR 13 01 35.2
comp=Z,2μm,19.5s,MS5.7,baz=145,slow=34
JLU Jordanelle 95.74 310 *e*P **P** **12 20 20.6 +1.3**
HWUT Hardware Ranch 95.77 312 *e*P **P** **12 20 20.0 +0.5**
HWUT LR LR
comp=Z,10μm,21.0s,MS6.3
PALK Pallekele 95.87 83 PFAKE 12 20 30.0 +9.4
PALK LR LR
comp=Z,5μm,20.0s,MS6.0
NVS Novosibirsk 95.88 35 *e*P **P** **12 20 17.3 -2.3**
NVS *e* 12 24 08.8
NVS *e* 12 32 49.8
NVS pmax pmax
comp=Z,18nm,1.5s,mb5.3
MPU Maple Canyon 95.91 310 PFAKE 12 20 30.0 +10
MPU LR LR
comp=Z,8μm,19.0s,MS6.2
WUAZ Wupatki 95.94 305 PFAKE 12 20 30.0 +10
WUAZ LR LR
comp=Z,4μm,21.0s,MS5.9
MK31 Makanchi Array 96.01 43 *e*P **P** **12 20 21.4 +0.9**
MKAR Makanchi Array 96.01 43 P **P** **12 20 20.6 +0.2**
comp=Z,2.4nm,0.8s,mb4.7,baz=267,slow=4.2,SNR=17
MKAR LR LR 13 08 59.0
comp=Z,4μm,19.0s,MS5.9,baz=279,slow=39
EDM Edmonton 96.06 323 *e*P **P** **12 20 21.8 +1.3**
DUG Dugway 96.81 310 PFAKE 12 20 30.0 +5.8
DUG LR LR
comp=Z,6μm,20.0s,MS6.1
ZALV Zalesovo Beam 96.90 36 LR LR 13 08 33.8
comp=Z,4μm,19.4s,MS6.0,baz=109,slow=38
MSO Missoula 97.07 317 *e*P **P** **12 20 25.4 +0.2**
MSO LR LR
comp=Z,3μm,19.0s,MS5.7
ARUT Antelope Range 97.46 308 P **P** **12 20 20.0 -7.3**
GLA Glamis 98.94 303 PFAKE 12 20 40.0 +6.0
GLA LR LR
comp=Z,4μm,22.0s,MS5.8
NEW Newport 99.04 319 PFAKE 12 20 40.0 +5.9
NEW LR LR
comp=Z,8μm,22.0s,MS6.2
BMO Blue Mountains 99.64 315 *e*P Pdif 12 20 37.2 +0.6
BMO MLR MLR
comp=Z,3μm,22.0s,MS5.7
TPNV Topopah Spring 99.76 307 PFAKE 12 20 50.0 +13
TPNV LR LR
comp=Z,5μm,22.0s,MS6.0
WMQ Urumqi 100.12 46 *e*P Pdif 12 20 38.0 -0.7
WMQ AP 12 20 43.0
WMQ PP PP 12 24 46.0 +1.5
WMQ SKS 12 31 15.0
WMQ S Sdif 12 32 09.0 -4.9
WMQ SS SS 12 39 05.0 -3.0
WMQ AMB AMB
comp=Z,42nm,1.2s
WMQ AMB AMB
comp=Z,153nm,8.0s
WMQ LR LR
comp=N,7μm,20.0s,MS6.2
WMQ LR LR
comp=E,5μm,20.0s,MS6.2
WMQ LR LR
comp=Z,4μm,20.0s,MS5.9
PFO Pinyon Flat Ob 100.25 304 PFAKE 12 20 50.0 +11
PFO LR LR
comp=Z,4μm,20.0s,MS5.9
GSC Goldstone 100.38 306 PFAKE 12 20 50.0 +10
GSC LR LR
comp=Z,5μm,21.0s,MS6.0
SBA Scott Base 100.88 180 PFAKE 12 20 50.0 +7.9
SBA LR LR
comp=Z,3μm,22.0s,MS5.7
WVOR Wild Horse Val 100.93 313 *e*P Pdif 12 20 44.3 +2.0
WVOR pmax pmax
comp=Z,8.0nm,1.2s
WVOR MLR MLR
comp=Z,6μm,21.0s,MS6.0
WVOR Wild Horse Val 100.93 313 *e*Pdif Pdif 12 20 44.3 +2.0
comp=Z,8.5nm,1.2s
WVOR LR LR
comp=Z,6μm,21.0s,MS6.0
HAWA Hanford 100.95 317 PFAKE 12 20 50.0 +7.6
HAWA LR LR
comp=Z,5μm,19.0s,MS6.1
VNDA Vanda 101.21 179 PFAKE 12 20 50.0 +6.5
VNDA LR LR
comp=Z,6μm,19.0s,MS6.1
INK Inuvik 101.47 341 *e*P Pdif 12 20 45.1 +0.4
MOD Modoc 102.24 313 PFAKE 12 21 00.0 +12
MOD LR LR
comp=Z,7μm,21.0s,MS6.2
CASY Casey 102.36 160 PFAKE 12 21 00.0 +11
CASY LR LR
comp=Z,4μm,20.0s,MS5.9
HOOD Mount Hood Mea 102.60 316 *e*Pdif Pdif 12 20 49.7 0.0
SNCC San Nicolas Is 102.84 304 PFAKE 12 21 00.0 +9.2
SNCC LR LR
comp=Z,4μm,22.0s,MS5.8
CMB Columbia Colle 102.90 309 PFAKE 12 21 00.0 +8.9
CMB LR LR
comp=Z,5μm,22.0s,MS6.0
NLWA Neilton Lookou 103.67 319 PFAKE 12 21 00.0 +5.5
NLWA LR LR
comp=Z,8μm,20.0s,MS6.2
COR Corvallis 103.89 316 PFAKE 12 21 10.0 +15
COR LR LR
comp=Z,3μm,21.0s,MS5.8
SAO San Andreas Ge 103.92 307 PFAKE 12 21 10.0 +14
SAO LR LR
comp=Z,5μm,22.0s,MS6.0
YBH Yreka Blue Hor 104.04 313 PFAKE 12 21 10.0 +14
YBH LR LR
comp=Z,5μm,21.0s,MS6.0
HUMO Hull Mountain 104.05 314 PFAKE 12 21 10.0 +14
HUMO LR LR
comp=Z,4μm,22.0s,MS5.9
WDC Whiskeytown Da 104.12 311 PFAKE 12 21 10.0 +13
WDC LR LR
comp=Z,4μm,20.0s,MS6.0
LSA Lhasa 104.72 60 PFAKE 12 21 10.0 +11
LSA LR LR
comp=Z,3μm,19.0s,MS5.8
HOPS Hopland 104.82 310 PFAKE 12 21 10.0 +10
HOPS LR LR
comp=Z,5μm,20.0s,MS6.0
MCCM Marconi Confer 104.82 309 PFAKE 12 21 10.0 +10
MCCM LR LR
comp=Z,5μm,21.0s,MS6.1
EGAK Eagle 105.88 339 PFAKE 12 25 30.0 +13
EGAK LR LR
comp=Z,3μm,21.0s,MS5.8
WRAK Wrangell Islan 105.92 329 PFAKE 12 25 30.0 +13
WRAK LR LR
comp=Z,5μm,19.0s,MS6.1
TIXI Tiksi 106.15 11 PFAKE 12 25 30.0 +13
TIXI LR LR
comp=Z,4μm,22.0s,MS5.9
SIT Sitka 107.16 330 PFAKE 12 25 30.0 +11
SIT LR LR
comp=Z,6μm,19.0s,MS6.2
COLA College 108.13 341 PFAKE 12 25 30.0 +9.3
COLA LR LR
comp=Z,3μm,20.0s,MS5.8
TLY Talaya 108.49 35 PFAKE 12 25 30.0 +8.2
TLY LR LR
comp=Z,6μm,19.0s,MS6.2
MCK McKinley 109.23 340 PFAKE 12 25 30.0 +7.2
MCK LR LR
comp=Z,1μm,20.0s,MS5.5
DIV Divide 109.69 337 PFAKE 12 25 30.0 +6.2
DIV LR LR
comp=Z,9μm,20.0s,MS6.3
DRV SS SS 12 41 46.0 +27
DRV L 12 52 00.0
DRV R 13 00 00.0
DRV Dumont d'Urvil 109.86 170 SP SP 12 35 39.0 +17
PMR Palmer 110.68 338 PFAKE 12 25 40.0 +14
PMR LR LR
comp=Z,2μm,19.0s,MS5.8
COCO West Island 111.06 104 PFAKE 12 25 40.0 +12
COCO LR LR
comp=Z,7μm,20.0s,MS6.3
SONM Songino Array 111.63 38 PKiKP PKiKP 12 25 27.4 -0.4
comp=Z,0.7nm,0.8s,baz=298,slow=3.1,SNR=2.7
PTCN Pitcairn Islan 111.96 242 PFAKE 12 25 40.0 +11
PTCN LR LR
comp=Z,4μm,19.0s,MS6.0
ULN Ulaanbaatar 112.03 38 PFAKE 12 25 40.0 +11
ULN LR LR
comp=Z,8μm,21.0s,MS6.3
TNA Tin City 113.05 348 PFAKE 12 25 40.0 +10
TNA LR LR
comp=Z,1μm,19.0s,MS5.5
CHTO Chiang Mai 113.11 70 PFAKE 12 25 40.0 +8.5
CHTO LR LR
comp=Z,1μm,19.0s,MS5.5
CM31 Chiang Mai Arr 113.15 71 PFAKE 12 25 40.0 +8.4
CM31 LR LR
comp=Z,2μm,21.0s,MS5.6
BILL Bilibino 113.43 359 PFAKE 12 25 40.0 +9.3
BILL LR LR
comp=Z,3μm,20.0s,MS5.9
LZH Lanzhou 113.89 51 *e*PKP PKiKP 12 25 32.3 -0.2
LZH PP PP 12 26 26.0 +0.3
LZH SKS SKSdf 12 32 42.0 -3.0
LZH SKKS SKKSac 12 33 23.0 -5.3
LZH PP PP
comp=Z,479nm,8.5s
LZH LR LR
comp=E,4μm,19.8s
LZH LR LR
comp=Z,4μm,20.3s,MS6.0
YAK Yakutsk 113.92 17 PFAKE 12 25 40.0 +8.2
YAK LR LR
comp=Z,9μm,21.0s,MS6.3
KDAK Kodiak Island 114.51 337 PFAKE 12 25 40.0 +7.0
KDAK LR LR
comp=Z,997nm,19.0s,MS5.4
CD2 Chengdu 115.21 56 *e*PKP PKiKP 12 25 33.0 -2.2
CD2 PP PP 12 26 37.6 +2.3
CD2 PKS 12 29 08.4
CD2 SKS SKSdf 12 32 40.2 -7.6
CD2 SKKS SKKSac 12 33 26.4 -11
CD2 PP PP
comp=Z,440nm,9.6s
CD2 LR LR
comp=N,2μm,21.6s,MS5.9
CD2 LR LR
comp=E,2μm,22.2s,MS5.9
CD2 LR LR
comp=Z,3μm,26.4s,MS5.8
KMI Kunming 115.62 63 PKP PKPdf 12 25 34.9 -1.2
KMI PP PP 12 26 40.3 +1.9
KMI PKS 12 29 10.4
KMI SKKS SKKSac 12 33 32.2 -8.2
KMI PS PS 12 36 16.1 -3.4
KMI PP PP
comp=Z,442nm,6.9s
KMI LR LR
comp=N,2μm,23.5s,MS5.7
KMI LR LR
comp=E,2μm,21.2s,MS5.7
KMI LR LR
comp=Z,2μm,24.1s,MS5.7
RKT Rikitea 116.75 243 *e*PS PS 12 36 31.1 +1.3
comp=Z,2μm,27.8s
RKT *e*SS SS 12 42 57.6 +4.1
comp=Z,5μm,31.0s
RKT Rikitea 116.75 243 *e*LR LR 13 01 08.5
comp=Z,5μm,38.2s
HHC Hu-ho-hao-te 117.88 44 *e*PKP PKPdf 12 25 40.6 +0.6
HHC PP PP 12 26 58.8 +5.4
HHC PKS 12 29 16.7
HHC SKS SKSdf 12 32 52.6 +0.2
HHC SKKS SKKSac 12 33 53.4 -1.3
HHC PP PP
comp=Z,1μm,8.8s
HHC LR LR
comp=N,2μm,23.5s,MS6.0
HHC LR LR
comp=E,4μm,22.2s,MS6.0
HHC LR LR
comp=Z,4μm,23.9s,MS6.0
XAN Xi'an 118.48 52 PKP PKPdf 12 25 40.1 -1.3
HIA Hailar 118.62 32 PFAKE 12 25 50.0 +8.8
HIA LR LR
comp=Z,9μm,21.0s,MS6.4
GYA Guiyang 118.78 60 *i* PKP PKPdf 12 25 42.0 -0.2
GYA PP PP 12 27 03.8 +3.4
GYA PKS 12 29 17.0
GYA PPP 12 29 34.8
GYA SKS SKSdf 12 32 51.3 -3.5
GYA SKKS SKKSac 12 33 55.0 -6.4
GYA S Sdif 12 34 46.2 -3.3
GYA PS PS 12 36 46.7 -1.4
GYA PP PP
comp=Z,3μm,8.4s
GYA LR LR
comp=N,4μm,21.3s,MS6.2
GYA LR LR
comp=E,5μm,20.8s,MS6.2
GYA LR LR
comp=Z,3μm,22.0s,MS5.8
MA2 Magadan 120.89 8 PFAKE 12 25 50.0 +4.7
MA2 LR LR
comp=Z,3μm,22.0s,MS5.9
BJI Beijing 121.38 43 PKP PKPdf 12 25 46.2 -0.6
BJI PP PP 12 27 16.5 -1.0
BJI SKS SKSdf 12 32 58.7 -0.4
BJI LR LR
comp=N,4μm,21.2s
BJI LR LR
comp=E,4μm,28.6s
BJI LR LR
comp=Z,7μm,20.3s,MS6.3
BJT Baijiatuau 121.39 43 PFAKE 12 26 00.0 +13
BJT LR LR
comp=Z,9μm,21.0s,MS6.4
UNV Unalaska Valle 122.63 340 PFAKE 12 26 00.0 +11
UNV LR LR
comp=Z,6μm,20.0s,MS6.3
QIZ Qiongzhong 123.27 68 PKP PKPdf 12 25 47.0 -4.0
QIZ PP PP 12 27 28.1 -3.2
QIZ LR LR
comp=E,2μm,21.2s
QIZ LR LR
comp=Z,2μm,21.2s,MS5.8
QIZ Qiongzhong 123.27 68 PFAKE 12 26 00.0 +9.0
QIZ LR LR
comp=Z,3μm,22.0s,MS5.9
NWAO Narrogin (SRO) 123.57 132 PFAKE 12 26 00.0 +8.8
NWAO LR LR
comp=Z,4μm,21.0s,MS6.0
WHN Wuhan 124.00 54 PKP PKPdf 12 25 56.5 +4.4
WHN PP PP 12 27 40.0 +4.3
WHN PPP 12 30 08.6
WHN LR LR
comp=N,8μm,15.7s,MS6.7
WHN LR LR
comp=E,8μm,15.7s,MS6.7

WHN				LR	LR		
	comp=Z,14μm,21.8s						
TAOE	**Nuku Hiva Isla**	**124.37**	**258**	*e*PP	PP	12 27 38.3	-0.6
	comp=Z,5μm,25.3s						
TAOE	**Nuku Hiva Isla**	**124.37**	**258**	*e*SS	SS	12 44 36.7	+4.6
	comp=Z,125μm,29.4s						
TAOE	**Nuku Hiva Isla**	**124.37**	**258**	*e*LR	LR	13 04 46.4	
	comp=Z,72μm,23.2s						
KLR	**Kul'dur**	**124.47**	**26**	*e*PKIKP	PKPdf	12 25 51.0	-1.4
CN2	**Changchun**	**125.08**	**34**	*e*PKP	PKPdf	12 25 55.9	+2.1
CN2				PP	PP	12 27 43.5	+1.4
CN2				PP	PP		
	comp=Z,700nm,7.0s						
CN2				LR	LR		
	comp=N,3μm,19.0s,MS6.2						
CN2				LR	LR		
	comp=E,4μm,19.0s,MS6.2						
CN2				LR	LR		
	comp=Z,5μm,21.0s,MS6.2						
HABR	**Khabarovsk**	**126.45**	**24**	*e*P	Pdif	12 22 33.1	-2.7
HABR				*e*		12 25 32.0	
HABR				*e*		12 27 48.3	
HABR				*e*		12 33 05.0	
HABR				*e*		12 44 55.7	
HABR				*e*		12 49 33.0	
MDJ	**Mudanjiang**	**126.77**	**31**	PKP	PKPdf	12 25 56.4	-0.6
MDJ				PP	PP	12 27 53.0	-0.3
MDJ				PKS		12 29 33.0	
MDJ				SKS	SKSdf	12 33 08.1	-0.9
MDJ				PS	PS	12 37 55.9	-2.0
MDJ				SS	SS	12 45 00.3	+1.0
MDJ				PP	PP		
	comp=Z,536nm,7.0s						
MDJ				LR	LR		
	comp=N,4μm,18.2s,MS6.3						
MDJ				LR	LR		
	comp=E,5μm,16.4s,MS6.3						
MDJ				LR	LR		
	comp=Z,7μm,18.2s,MS6.4						
MDJ	**Mudanjiang**	**126.77**	**31**	PFAKE		12 26 10.0	+13
MDJ				LR	LR		
	comp=Z,8μm,19.0s,MS6.4						
NJ2	**Nanjing**	**126.94**	**50**	*e*PKP	PKPdf	12 25 54.1	-3.6
NJ2				PP	PP	12 27 54.0	-1.2
NJ2				PPP		12 30 43.0	
NJ2				PP	PP		
	comp=Z,490nm,8.5s						
NJ2				LR	LR		
	comp=N,5μm,23.0s,MS6.2						
NJ2				LR	LR		
	comp=E,4μm,24.6s,MS6.2						
NJ2				LR	LR		
	comp=Z,5μm,22.7s,MS6.1						
ADK	**Adak**	**127.33**	**346**	PFAKE		12 26 10.0	+12
ADK				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
SMY	**Shemya**	**128.23**	**353**	PFAKE		12 26 10.0	+10
SMY				LR	LR		
	comp=Z,1μm,19.0s,MS5.6						
PET	**Petropavlovsk**	**128.24**	**5**	*e*PKIKP	PKPdf	12 25 59.6	+0.1
PET				*e*		12 28 07.0	
PET				*e*SS	SS	12 45 17.8	+1.5
PET				pmax	pmax		
	comp=Z,200nm,21.3s						
PET				pmax	pmax		
	comp=E,1μm,26.2s						
PET				pmax	pmax		
	comp=N,900nm,44.6s						
PET	**Petropavlovsk**	**128.24**	**5**	PFAKE		12 26 10.0	+10
PET				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
SSE	**Sheshan**	**129.15**	**50**	PKP	PKPdf	12 25 56.6	-5.4
SSE				PP	PP	12 28 09.9	+0.2
SSE				PPP		12 31 03.9	
SSE				PP	PP		
	comp=Z,615nm,9.8s						
SSE				LR	LR		
	comp=N,3μm,22.8s,MS6.0						
SSE				LR	LR		
	comp=E,2μm,22.8s,MS6.0						
SSE				LR	LR		
	comp=Z,2μm,18.8s,MS5.7						
TBI	**Tubuai**	**129.33**	**238**	*e*SS	SS	12 45 36.5	+3.5
	comp=Z,2μm,26.2s						
TBI	**Tubuai**	**129.33**	**238**	*e*LR	LR	13 07 04.1	
	comp=Z,8μm,28.2s						
INCN	**Inchon**	**129.65**	**40**	PFAKE		12 26 10.0	+7.3
INCN				LR	LR		
	comp=Z,5μm,21.0s,MS6.2						
MBWA	**Marble Bar**	**130.46**	**119**	PFAKE		12 26 10.0	+5.3
MBWA				LR	LR		
	comp=Z,8μm,20.0s,MS6.4						
YSS	**Yuzh-Sakhalins**	**130.63**	**20**	PFAKE		12 26 10.0	+5.7
YSS				LR	LR		
	comp=Z,10μm,22.0s,MS6.5						
PPT	**Papeete**	**131.44**	**245**	*e*SS	SS	12 45 58.7	-0.6
	comp=Z,5μm,27.5s						
PPT	**Papeete**	**131.44**	**245**	*e*LQ		13 01 43.9	
	comp=Z,6μm,28.0s						
PPT				*e*LR	LR	13 07 56.9	
	comp=Z,4μm,22.2s						
TATO	**Taipei**	**131.94**	**57**	PFAKE		12 26 20.0	+13
TATO				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
TAU	**Tasmania Unive**	**133.17**	**162**	PFAKE		12 26 20.0	+11
TAU				LR	LR		
	comp=Z,6μm,22.0s,MS6.3						
ERM	**Erimo**	**135.02**	**23**	PFAKE		12 26 20.0	+7.3
ERM				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
SNZO	**South Karori**	**136.62**	**191**	PFAKE		12 26 30.0	+14
SNZO				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
FITZ	**Fitzroy Crossi**	**136.76**	**118**	*e*P	PKPdf	12 26 08.0	-8.6
	comp=Z,10nm,1.2s						
FITZ	**Fitzroy Crossi**	**136.76**	**118**	*e*P	PKPdf	12 26 08.0	-8.6
FITZ				*e*PKPdf	PKPdf	12 26 15.1	-1.5
MAJO	**Matsushiro**	**137.12**	**32**	PFAKE		12 26 30.0	+13
MAJO				LR	LR		
	comp=Z,4μm,19.0s,MS6.1						
MAT	**Matsushiro**	**137.12**	**32**	PKP	PKPdf	12 26 18.8	+2.0
MJAR	**Matsushiro Arr**	**137.13**	**32**	PKhKP		12 26 19.0	
	comp=Z,3.1nm,1.0s,baz=351,slow=2.4,SNR=3.9						
POHA	**Pohakuloa**	**137.25**	**298**	PFAKE		12 26 30.0	+13
POHA				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
STKA	**Stephens Creek**	**140.22**	**148**	*e*P	PKPdf	12 26 20.4	-2.2
	comp=Z,7.2nm,1.4s						
STKA	**Stephens Creek**	**140.22**	**148**	PKP		12 26 14.3	
STKA				*e*P	PKPdf	12 26 20.4	-2.2
STKA	**Stephens Creek**	**140.22**	**148**	PKhKP		12 26 14.3	
	comp=Z,2.7nm,0.8s,baz=212,slow=8.1,SNR=3.6						
DAV	**Davao City (W)**	**140.34**	**81**	PFAKE		12 26 30.0	+6.7
DAV				LR	LR		
	comp=Z,1μm,21.0s,MS5.7						
ASAR	**Alice Springs**	**140.89**	**131**	PKhKP		12 26 14.5	
	comp=Z,2.3nm,0.6s,baz=228,slow=2.8,SNR=25						
ASAR				PP	PP	12 29 22.2	-1.8
	comp=Z,1.6nm,0.9s,baz=222,slow=5.0,SNR=3.7						
WRA	**Warramunga Arr**	**143.27**	**127**	PKhKP		12 26 21.0	
	comp=Z,4.7nm,0.6s,baz=235,slow=2.8,SNR=45						
WB2	**Warramunga Arr**	**143.28**	**127**	*e*P		12 26 22.6	
WRAB	**Tennant Creek**	**143.29**	**127**	*e*PKHKP		12 26 20.2	
WRAB				MLR	MLR		
	comp=Z,5μm,19.0s,MS6.3						
KAKA	**Kakadu**	**144.84**	**114**	*e*P	PKPdf	12 26 28.0	-3.2
	comp=Z,67nm,0.8s						
RAO	**Raoul Island**	**145.44**	**207**	PFAKE		12 26 40.0	+8.2
RAO				LR	LR		
	comp=Z,2μm,19.0s,MS6.0						
ARMA	**Armidale**	**145.95**	**159**	*e*P	PKPdf	12 26 34.7	+1.9
EIDS	**Eidsvold**	**150.24**	**154**	*e*PKPbc	PKPbc	12 26 42.6	-2.4
CTA	**Charters Tower**	**151.89**	**140**	*e*P	PKPbc	12 26 47.7	-1.3
	comp=Z,25nm,0.9s						
CTA	**Charters Tower**	**151.89**	**140**	PKPbc	PKPbc	12 26 47.5	-1.5
	comp=Z,30nm,0.8s,baz=258,slow=3.7,SNR=11						
CTAO	**Charters Tower**	**151.89**	**140**	*e*PKIKP	PKPbc	12 26 46.5	-2.5
CTAO				MLR	MLR		
	comp=Z,5μm,19.0s,MS6.3						
GUMO	**Guam**	**156.70**	**58**	PFAKE		12 27 00.0	+11
GUMO				LR	LR		
	comp=Z,2μm,21.0s,MS5.8						
FUNA	**Funafuti**	**162.74**	**235**	PFAKE		12 27 10.0	+14
FUNA				LR	LR		
	comp=Z,6μm,20.0s						
HNR	**Honiara**	**168.19**	**155**	PFAKE		12 27 10.0	+9.1
HNR				LR	LR		
	comp=Z,3μm,21.0s						

*CSEM **04** 12:15:17.4±0.1, 4251N×2259E, h40km, ML2.6, Error ellipse: s-maj=3.0km s-min=1.8km az=71.0*
*ISCJB **04** 12:15:23.4±0.6, 4194N±003×2322E±006, h10km, Error ellipse: s-maj=6.5km s-min=4.4km az=28.3*
*SKO **04** 12:15:23.9, 4195N×2316E, h24km, M1.3, ML1.7*
*THE **04** 12:15:25.0, 4198N×2300E, h1km, ML2.6*

ISC 04 12:15:24.6±0.6, 4195N±003×2319E±006, h10km, n14, σ0878/19, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.64**	**2**	*e*Pg	**Pg**	**12 15 37.2**	**+0.2**
VTS				*e*Sg	**Sg**	**12 15 45.8**	**+0.4**
VAY	**Valandovo**	**0.78**	**217**	*i* Pg	**Pg**	**12 15 39.8**	**+0.2**
VAY				*e*Lg		12 15 49.6	
	comp=N,17nm,0.5s						
VAY				*i* Sg	**Sg**	**12 15 49.7**	**0.0**
VAY				*e*Lg		12 15 49.9	
	comp=E,17nm,0.3s						
VAY	**Valandovo**	**0.78**	**217**	*i* Pg	**Pg**	**12 15 39.7**	**+0.2**
VAY				*i* Sg	**Sg**	**12 15 49.6**	**-0.1**
STIP	**Stip**	**0.79**	**252**	*i* Pg	**Pg**	**12 15 39.3**	**-0.4**
STIP				*e*Lg		12 15 49.7	
	comp=E,10nm,0.3s						
STIP				*i* Sg	**Sg**	**12 15 50.0**	**0.0**
STIP				*e*Lg		12 15 50.3	
	comp=N,21nm,0.2s						
KNT	**Kendrikon**	**0.81**	**195**	*e*Pg	**Pg**	**12 15 40.2**	**-0.1**
SRS	**Serrai**	**0.89**	**160**	*e*Pg	**Pg**	**12 15 43.2**	**+1.7**
SOH	**Sokhos**	**1.13**	**174**	*e*Pg	**Pg**	**12 15 47.0**	**+0.7**
GRG	**Griva**	**1.15**	**211**	*e*Pg	**Pg**	**12 15 46.4**	**-0.3**
GRG				*e*Sg	**Sg**	**12 16 01.7**	**0.0**
HORT	**Hortiatis**	**1.35**	**183**	*e*Pg	**Pg**	**12 15 50.4**	**-0.1**
SRN	**Sarande**	**3.18**	**230**	*i* PN	**Pn**	**12 16 07.7**	**-6.8**
URLA	**Izmir**	**4.43**	**143**	*i* P	**Pn**	**12 16 27.3**	**-4.5**
AKHS	**Akhisar**	**4.68**	**129**	*e*P	**Pn**	**12 16 32.5**	**-2.7**
BORA	**Eskisehir**	**5.88**	**108**	*i* P	**Pn**	**12 16 50.9**	**-0.8**
HENT	**Hendek**	**5.91**	**98**	*i* P	**Pn**	**12 16 52.5**	**+0.4**

THE 04 12:16:35.7, 3822N×2101E, h1km, ML2.6, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.21**	**238**	*e*Pg	Pg	12 16 39.4	-0.2
VLS	**Valsamata**	**0.33**	**263**	*e*Pg	Pg	12 16 42.5	+0.4
VLS				*e*Sg	Sg	12 16 46.9	+0.5
LKD	**Levkas**	**0.56**	**330**	*e*Pg	Pg	12 16 46.1	-0.3
LKD				*e*Sg	Sg	12 16 54.5	+0.7

*ISCJB **04** 12:16:37.1±0.3, 1093N±003×6231W±003, h110km±3km, mb4.0/5, Error ellipse: s-maj=5.3km s-min=3.7km az=44.5*
*FUNV **04** 12:16:38.5, 1102N×6218W, h90km, MW4.2*
*TRN **04** 12:16:40.0, 1089N×6226W, h83km, MD3.9*
*NEIC **04** 12:16:40.0, 1089N×6226W, h83km, MD3.9(TRN), MW4.2(CAR), After TRN.*
*IDC **04** 12:16:40.1±1.8, 1139N×6260W, h102km±14km, mb3.8/5, mb1 4.0/7, mb1mx3.6/22, mbtmp3.8/7, Error ellipse: s-maj=39.0km s-min=12.9km az=140.0*

ISC 04 12:16:38.1±0.3, 1093N±003×6230W±003, h103km±4km, n46, σ1904/66, mb4.0/5, 4C-8D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.29**	**165**	*e*P	**Pn**	**12 16 52.8**	**-0.1**
GUIV				*e*S	**Sn**	**12 17 02.0**	**-2.0**
TCE	**Chacachacare**	**0.58**	**113**	⇓*i*P	**Pn**	**12 16 54.7**	**-0.1**
TCE				*e*S	**Sn**	**12 17 04.6**	**-2.6**
TRN	**Trinidad (W)**	**0.92**	**107**	⇑*e*P	**Pn**	**12 16 58.1**	**+0.2**
TRN				*e*S	**Sn**	**12 17 11.4**	**-1.4**
ITEV	**Isla Los Testi**	**0.92**	**298**	⇓*i*P	**Pn**	**12 16 57.5**	**-0.4**
ITEV				*e*S	**Sn**	**12 17 11.5**	**-1.3**
CRUV	**Carupano**	**0.95**	**255**	⇓*i*P	**Pn**	**12 16 58.5**	**+0.3**
CRUV				*e*S	**Sn**	**12 17 12.9**	**-0.5**
GUNV	**Guanoco**	**0.99**	**220**	⇓*e*P	**Pn**	**12 16 59.6**	**+1.0**
GUNV				*e*S	**Sn**	**12 17 15.5**	**+1.5**
TPP	**Pointe-a-Pierr**	**1.03**	**126**	*e*P	**Pn**	**12 17 00.2**	**+1.2**
TBH	**Brigand Hill**	**1.29**	**110**	*e*P	**Pn**	**12 17 02.4**	**+0.5**
GRGR	**Grenville**	**1.35**	**28**	*e*P	**Pn**	**12 17 01.6**	**-1.1**
GRW	**Mount Saint Ca**	**1.38**	**27**	*e*P	**Pn**	**12 17 03.0**	**0.0**
GRHS	**Sauteurs**	**1.44**	**26**	*e*P	**Pn**	**12 17 05.4**	**+1.6**
GRHS				*e*S	**Sn**	**12 17 23.4**	**+0.2**
GRHS	**Sauteurs**	**1.44**	**26**	*e*P	**Pn**	**12 17 05.4**	**+1.6**
GRHS				*e*S	**Sn**	**12 17 23.4**	**+0.2**
TPR	**Prospect**	**1.52**	**80**	*e*P	**Pn**	**12 17 04.6**	**-0.1**
GRIC	**Isle de Caille**	**1.52**	**27**	*e*P	**Pn**	**12 17 05.9**	**+1.1**
GRIC				*e*S	**Sn**	**12 17 25.1**	**+0.1**
GRSS	**Sisters**	**1.52**	**26**	*e*P	**Pn**	**12 17 06.2**	**+1.5**
GRSS				*e*S	**Sn**	**12 17 26.3**	**+1.3**
ORIV	**Oritupano**	**2.14**	**211**	⇑*i*P	**Pn**	**12 17 13.9**	**+1.2**
ORIV				*e*S	**Sn**	**12 17 40.2**	**+1.1**
IBAV	**Isla La Blanqu**	**2.41**	**292**	⇓*i*P	**Pn**	**12 17 15.9**	**-0.2**
IBAV				*e*S	**Sn**	**12 17 43.8**	**-1.4**
PCRV	**Puerto La Cruz**	**2.42**	**252**	*e*P	**Pn**	**12 17 17.6**	**+1.4**
PCRV				*e*S	**Sn**	**12 17 45.6**	**+0.2**
PCRV	**Puerto La Cruz**	**2.42**	**252**	P	**Pn**	**12 17 17.7**	**+1.5**
	111nm,0.3s,baz=49,slow=5.1,SNR=679						
PCRV				S	**Sn**	**12 17 45.4**	**-0.1**
	89nm,0.3s,baz=44,slow=17,SNR=24						
RIOV	**Rio Grande**	**2.88**	**170**	⇓*e*P	**Pn**	**12 17 23.5**	**+1.2**
RIOV				*e*S	**Sn**	**12 17 55.1**	**-1.2**
PRGV	**PARIAGUAN**	**3.16**	**227**	*e*P	**Pn**	**12 17 26.8**	**+0.8**
PRGV				*e*S	**Sn**	**12 18 03.2**	**+0.2**
GURV	**El Guri**	**3.24**	**194**	⇑*i*P	**Pn**	**12 17 27.6**	**+0.5**
GURV				*e*S	**Sn**	**12 18 03.6**	**-1.4**
CUPV	**Cœpira**	**3.54**	**256**	⇓*i*P	**Pn**	**12 17 32.6**	**+1.4**
CUPV				*e*S	**Sn**	**12 18 12.3**	**+0.1**
MVM	**Montagne Vaucl**	**3.86**	**21**	*e*P	**Pn**	**12 17 35.0**	**-0.4**
ORCV	**Isla La Orchil**	**3.92**	**283**	⇑*i*P	**Pn**	**12 17 36.3**	**0.0**
BIRV	**Birongo**	**3.93**	**264**	*e*P	**Pn**	**12 17 37.8**	**+1.4**
FDF	**Fort de France**	**3.95**	**16**	*e*P	**Pn**	**12 17 36.1**	**-0.5**
MERV	**Las Mercedes**	**4.28**	**247**	⇓*i*P	**Pn**	**12 17 41.5**	**+0.4**
FUNV	**FUNVISIS**	**4.46**	**265**	*e*P	**Pn**	**12 17 43.8**	**+0.3**
LUEV	**Luepa**	**5.12**	**171**	*e*P	**Pn**	**12 17 51.7**	**-0.8**
CAOV	**Caicara del Or**	**5.35**	**228**	*e*P	**Pn**	**12 17 55.7**	**+0.2**
TURV	**Turiamo**	**5.47**	**266**	*e*P	**Pn**	**12 17 58.5**	**+1.3**
BAUV	**El Baul**	**5.99**	**251**	*e*P	**Pn**	**12 18 04.2**	**-0.2**
TEPV	**Terepaima**	**6.85**	**263**	*e*P	**Pn**	**12 18 15.5**	**-0.5**
CURV	**Curarigua**	**7.59**	**264**	*e*P	**Pn**	**12 18 26.3**	**+0.2**
MTP	**Monte Pirata**	**7.79**	**337**	*e*P	**Pn**	**12 18 29.3**	**+0.5**
ELOV	**Elorza**	**8.10**	**242**	*e*P	**Pn**	**12 18 32.6**	**-0.4**
SDV	**Santo Domingo**	**8.46**	**257**	*e*P	**Pn**	**12 18 36.6**	**-1.3**
SDV				S	**Sn**	**12 20 08.3**	**-3.4**
SDV	**Santo Domingo**	**8.46**	**257**	P	**Pn**	**12 18 36.8**	**-1.1**
	0.9nm,0.3s,baz=39,slow=13,SNR=16						
SDV				S	**Sn**	**12 20 08.3**	**-3.4**
	15nm,0.3s,baz=47,slow=11,SNR=13						
VIGV	**El Vigia**	**9.17**	**258**	*e*P	**Pn**	**12 18 46.0**	**-1.6**
TXAR	**Lajitas Array**	**42.66**	**302**	P	**P**	**12 24 24.8**	**-0.1**
	1.0nm,0.6s,mb3.8,baz=122,slow=9.1,SNR=15						
TXAR				PcP	PcP	12 26 15.0	-0.1
	0.7nm,0.5s,baz=119,slow=5.4,SNR=13						
SDCO	**Great Sand Dun**	**46.98**	**312**	*e*P	**P**	**12 24 57.7**	**-1.2**
ULM	**Lac du Bonnet**	**47.96**	**331**	P	**P**	**12 25 04.0**	**-2.3**
	2.1nm,0.3s,mb4.4,baz=143,slow=9.6,SNR=8.2						
YKA	**Yellowknife Ar**	**63.54**	**336**	P	**P**	**12 26 54.9**	**-2.5**
	0.5nm,0.5s,mb3.6,baz=108,slow=7.2,SNR=11						
ARCES	**ARCESS Array B**	**79.08**	**21**	P	**P**	**12 28 31.1**	**+0.4**
	1.9nm,0.7s,mb4.1,baz=270,slow=7.3,SNR=7.1						
FINES	**FINESS Array B**	**79.72**	**29**	P	**P**	**12 28 35.2**	**+0.9**
	1.0nm,0.4s,mb4.0,baz=276,slow=3.4,SNR=11						

MAN 04 12:27:48, 1410N×12350E, h14km, mb3.7, ML2.4, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.80**	**128**	⇑*i*P	Pg	12 28 03.9	+0.2
GQP	**Guinayangan**	**1.04**	**260**	*e*P	Pb	12 28 07.4	-0.5
GQP				*e*S	Sb	12 28 18.0	-3.4
POLP	**Polilio Island**	**1.64**	**293**	*e*P	Pn	12 28 20.3	+3.9
BALP	**Baler**	**2.48**	**311**	*e*P	Pn	12 28 29.1	+1.2

*ISCJB **04** 12:33:56.3±1.3, 338N±004×9435E±003, h26km±8km, mb5.0/75, MS4.7/8, Error ellipse: s-maj=6.7km s-min=4.8km az=36.0*
*MOS **04** 12:33:57.2±0.9, 343N×9433E, h33km, mb5.2/22, Error ellipse: s-maj=10.9km s-min=6.3km az=102.9*
*BJI **04** 12:33:58.8, 340N×9437E, h47km, mB5.1, mb5.0, Ms5.1, Msz4.9*
*IDC **04** 12:33:59.1±0.7, 338N×9431E, h32km±5km, mb4.5/20, mb1 4.5/21, mb1mx4.4/25, mbtmp4.5/21, ML4.9/1, MS3.8/1, Ms1 3.8/1, ms1mx3.6/37, Error ellipse: s-maj=14.8km s-min=11.9km az=72.0*
*NEIC **04** 12:34:00.7±1.2, 339N×9438E, h47km±11km, mb4.9/21, Error ellipse: s-maj=9.0km s-min=4.3km az=62.0*

ISC 04 12:33:59.6±0.8, 338N±004×9434E±004, h35km±6km, h32km±1.3km: pP-P, n163, σ0993/168, mb5.0/75, MS4.7/8, 13C-10D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**4.22**	**88**	*e*S	**Sn**	**12 35 48.0**	**-1.5**
PSI	**Prapat**	**4.61**	**97**	P	**Pn**	**12 35 08.0**	**+1.2**
PSI						12 35 58.7	
PSI	**Prapat**	**4.61**	**97**	Pn	**Pn**	**12 35 08.0**	**+1.1**
PSI				Sn	**Sn**	**12 35 58.7**	**-0.5**
PSI				LR	LR	12 36 32.7	
PSI	**Prapat**	**4.61**	**97**	Pn	**Pn**	**12 35 08.0**	**+1.1**
	57nm,0.3s,baz=298,slow=6.9,SNR=86						
PSI				Sn	**Sn**	**12 35 58.7**	**-0.5**
	28nm,0.3s,baz=35,slow=22,SNR=7.5						
PSI				LR	LR	12 36 32.7	
	comp=Z,896nm,18.5s,baz=100,slow=33						
KULM	**Kulim**	**6.57**	**73**	*e*Pn	**Pn**	**12 35 34.5**	**+0.7**
KULM				*e*Sn	**Sn**	**12 36 38.8**	**-8.8**
KULM	**Kulim**	**6.57**	**73**	⇑P	**Pn**	**12 35 34.1**	**+0.3**
IPM	**Ipoh**	**6.76**	**80**	⇓P	**Pn**	**12 35 37.2**	**+0.8**
FRIM	**Kepong**	**7.28**	**91**	⇓P	**Pn**	**12 35 43.6**	**+0.2**
SNG	**Songkhla**	**7.30**	**59**	P	**Pn**	**12 35 44.5**	**+0.7**
	300nm,0.8s						
KTGM	**Kuala Trenggan**	**8.98**	**77**	⇑P	**Pn**	**12 36 07.4**	**+0.5**
KGM	**Kluang**	**9.07**	**98**	⇓P	**Pn**	**12 36 08.8**	**+0.7**
MYKOM	**Kota Tinggi**	**9.63**	**99**	⇑P	**Pn**	**12 36 16.2**	**+0.5**
NST	**Nakhon Sawan**	**13.48**	**25**	P	**Pn**	**12 37 06.0**	**-2.5**
KKTK	**Khon Kaen**	**15.35**	**32**	P	**Pn**	**12 37 33.0**	**-0.6**
	679nm,0.5s						
CHG	**Chiang Mai**	**15.99**	**16**	⇑P	**Pn**	**12 37 40.3**	**-1.6**
	150nm,1.0s						
CHTO	**Chiang Mai**	**15.99**	**16**	*e*P	**Pn**	**12 37 40.2**	**-1.7**
KSM	**Kuching**	**16.07**	**96**	*e*P	**Pn**	**12 37 47.2**	**+4.2**
KSM	**Kuching**	**16.07**	**96**	⇑P	**Pn**	**12 37 47.1**	**+4.2**
NANT	**Nan**	**16.54**	**22**	⇑P	**Pn**	**12 37 49.3**	**+0.3**
	460nm,0.9s						
SBUM	**Sibu**	**17.88**	**92**	⇓P	**Pn**	**12 38 07.0**	**+1.3**
BTM	**Bintulu**	**18.71**	**90**	⇑P	**Pn**	**12 38 13.1**	**-2.8**
HYB	**Hyderabad**	**20.85**	**313**	*e*P	**P**	**12 38 39.0**	**+0.6**
HYB	**Hyderabad**	**20.85**	**313**	*i* P	**P**	**12 38 39.0**	**+0.6**
IMP	**Imphal**	**21.29**	**359**	*e*P	**P**	**12 38 41.0**	**-2.1**
IMP				*e*S		12 38 51.0	
QIZ	**Qiongzhong**	**21.72**	**43**	P	**P**	**12 38 48.6**	**+0.8**
QIZ	**Qiongzhong**	**21.72**	**43**	*e*P	**P**	**12 38 47.9**	**0.0**
	65nm,1.4s,mb4.9						
KKM	**Kota Kinabalu**	**21.96**	**82**	⇑P	**P**	**12 38 50.3**	**-0.2**
SHL	**Shillong**	**22.19**	**354**	*e*P	**P**	**12 38 50.5**	**-2.3**
KDM	**Kudat**	**22.67**	**80**	⇑P	**P**	**12 39 00.2**	**+2.1**
SDKM	**Sandakan**	**22.89**	**84**	⇓P	**P**	**12 39 00.6**	**+0.1**
KMI	**Kunming**	**23.09**	**20**	P	**P**	**12 39 03.5**	**+1.2**
KMI				AP		12 39 10.0	
KMI				LR	LR		
	comp=N,383nm,13.9s,MS4.2						
KMI				LR	LR		
	comp=E,454nm,14.0s,MS4.2						
KMI				LR	LR		
	comp=Z,360nm,12.6s,MS4.0						
TSM	**Tawau**	**23.50**	**87**	⇑P	**P**	**12 39 06.3**	**-0.3**
MYLDM	**Lahad Datu**	**24.16**	**85**	⇑P	**P**	**12 39 13.5**	**+0.9**
JIRN	**Jiri**	**25.37**	**343**	*e*P	**P**	**12 39 24.4**	**+0.9**
	comp=Z,115nm,0.7s,mb5.5						
PKI	**Pulchoki**	**25.53**	**341**	*e*P	**P**	**12 39 25.1**	**+0.1**
	comp=Z,29nm,0.5s,mb5.1						
DMN	**Daman**	**25.66**	**341**	*e*P	**P**	**12 39 26.5**	**+0.3**
	comp=Z,35nm,0.7s,mb5.0						
GUN	**Gumba**	**25.70**	**343**	*e*P	**P**	**12 39 27.2**	**+0.7**
	comp=Z,210nm,0.6s,mb5.8						
KKN	**Kakani**	**25.77**	**341**	*e*P	**P**	**12 39 27.5**	**+0.3**
	comp=Z,90nm,0.9s,mb5.3						
GYA	**Guiyang**	**25.82**	**26**	P	**P**	**12 39 27.9**	**+0.3**
GYA				AP	pP	12 39 36.8	-0.9
GYA				XP	sP	12 39 40.5	-1.5
GYA				PP		12 40 13.2	
GYA				PCP	PcP	12 42 58.8	+2.1
GYA				S	**S**	**12 43 57.6**	**+2.8**
GYA				XS	sS	12 44 12.4	+0.9
GYA				SCP	ScP	12 46 34.8	+1.1
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,4.9s						
GYA				LR	LR		
	comp=N,520nm,17.6s,MS4.2						
GYA				LR	LR		
	comp=E,450nm,17.4s,MS4.2						
GYA				LR	LR		
	comp=Z,540nm,16.9s,MS4.2						
GKN	**Gorkha**	**26.18**	**340**	*e*P	**P**

comp=Z,15nm,1.0s,mb4.9
GTA Gaotai 36.21 7 *e*P **P 12 40 58.8 -0.2**
GTA AP pP 12 41 06.7 -2.6
GTA PP PP 12 42 21.9 +0.1
GTA PPP 12 42 43.6
GTA S **S 12 46 37.5 +0.6**
GTA XS sS 12 46 53.5 -0.3
GTA SS SS 12 49 03.5 -12
GTA AMB AMB
comp=Z,63nm,0.7s,mb5.7
GTA AMB AMB
comp=Z,172nm,5.7s
GTA LR LR
comp=N,615nm,15.2s,MS4.5
GTA LR LR
comp=E,485nm,18.6s,MS4.5
GTA LR LR
comp=Z,599nm,20.9s,MS4.3
NJ2 Nanjing 36.66 36 *e*P **P 12 41 03.6 +0.6**
NJ2 AP pP 12 41 13.0 -0.2
NJ2 XP sP 12 41 17.4 -0.1
NJ2 PP PP 12 42 27.7 +0.8
NJ2 PPP 12 42 46.7
NJ2 S **S 12 46 45.5 +1.6**
NJ2 XS sS 12 47 00.5 -0.4
NJ2 AMB AMB
comp=Z,40nm,1.2s,mb5.1
NJ2 AMB AMB
comp=Z,290nm,10.8s
NJ2 LR LR
comp=N,5μm,34.7s
NJ2 LR LR
comp=E,4μm,29.4s
NJ2 LR LR
comp=Z,3μm,25.0s
FITZ Fitzroy Crossi 37.51 126 *e*P **P 12 41 09.0 -1.3**
comp=Z,15nm,0.8s,mb4.8
HHC Hu-ho-hao-te 40.41 20 *e*P **P 12 41 35.4 +1.1**
HHC AP pP 12 41 45.5 +0.9
HHC XP sP 12 41 49.9 +1.0
HHC PP PP 12 43 13.8 +6.0
HHC PCP PcP 12 43 32.9 -4.0
HHC SCP ScP 12 47 17.9 -5.9
HHC S **S 12 47 46.6 +6.3**
HHC AMB AMB
comp=Z,32nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,491nm,10.1s
HHC LR LR
comp=N,1μm,18.2s,MS4.9
HHC LR LR
comp=E,972nm,18.2s,MS4.9
HHC LR LR
comp=Z,2μm,17.8s,MS5.0
WMQ Urumqi 40.70 353 P **P 12 41 36.0 -0.7**
WMQ AP pP 12 41 46.0 -1.0
WMQ XP sP 12 41 50.0 -1.3
WMQ PP PP 12 43 14.0 +3.0
WMQ S **S 12 47 44.0 -0.6**
WMQ SS SS 12 50 39.0 -7.1
WMQ AMB AMB
comp=Z,45nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,127nm,5.0s
WMQ LR LR
comp=N,3μm,14.0s,MS5.5
WMQ LR LR
comp=E,3μm,14.0s,MS5.5
WMQ LR LR
comp=Z,3μm,14.0s,MS5.4
MUN Mundaring 40.84 151 *e*P **P 12 41 38.4 +0.4**
KAKA Kakadu 41.08 114 *e*P **P 12 41 38.8 -1.4**
comp=Z,9.7nm,0.6s,mb4.6
KLBR Kellerberrin 41.30 149 *e*P **P 12 41 41.8 0.0**
comp=Z,36nm,1.2s,mb4.9
BJT Baijiatuau 41.48 26 *e*P **P 12 41 44.2 +1.0**
BJT pmax pmax
comp=Z,11nm,0.8s
BJT Baijiatuau 41.48 26 *e*P **P 12 41 44.1 +1.0**
comp=Z,11nm,0.8s,mb4.5
BJI Beijing 41.51 26 P **P 12 41 44.2 +0.9**
BJI S **S 12 47 59.5 +2.9**
BJI AMB AMB
comp=Z,22nm,0.7s,mb4.9
BJI AMB AMB
comp=Z,377nm,11.7s
BJI LR LR
comp=N,4μm,23.3s
BJI LR LR
comp=E,4μm,28.8s
BJI LR LR
comp=Z,5μm,35.0s
NWAO Narrogin (SRO) 42.11 151 *e*P **P 12 41 48.0 -0.4**
NWAO Narrogin (SRO) 42.11 151 P **P 12 41 48.3 -0.1**
comp=Z,10nm,0.6s,mb4.6,baz=341,slow=6.8,SNR=10
KZA Kyzart 42.15 339 P **P 12 41 49.8 +1.2**
SNR=10
UCH Uchtor 42.55 338 *e*P **P 12 41 52.9 +1.1**
comp=Z,18nm,0.7s,mb4.9
UCH Uchtor 42.55 338 P **P 12 41 53.1 +1.3**
SNR=29
KBK Karagaybulak 42.77 339 P **P 12 41 55.0 +1.4**
SNR=19
TKM2 Tokmak 2 42.77 340 *e*P **P 12 41 54.3 +0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
TKM2 Tokmak 2 42.77 340 *e*P **P 12 41 54.3 +0.7**
comp=Z,6.1nm,0.6s,mb4.5
TKM2 Tokmak 2 42.77 340 P **P 12 41 54.5 +0.9**
SNR=12
AML Almayashu 42.78 337 *e*P **P 12 41 54.8 +1.1**
comp=Z,118nm,0.7s,mb5.7
AML Almayashu 42.78 337 P **P 12 41 55.0 +1.3**
SNR=40
AAK Ala-Archa 42.91 338 *e*P **P 12 41 54.8 0.0**
AAK Ala-Archa 42.91 338 P **P 12 41 56.3 +1.6**
SNR=7.5
EKS2 Erkin-Say 43.20 338 *e*P **P 12 41 58.0 +0.9**
comp=Z,11nm,0.7s,mb4.7
EKS2 Erkin-Say 43.20 338 P **P 12 41 58.3 +1.2**
SNR=13
USP Ospenovka 43.46 339 P **P 12 41 59.8 +0.6**
SNR=23
MK31 Makanchi Array 44.50 348 *e*P **P 12 42 07.7 +0.3**
MKAR Makanchi Array 44.50 348 P **P 12 42 07.8 +0.3**
comp=Z,20nm,0.6s,mb5.0,baz=164,slow=8.7,SNR=177
KK31 Karatay Array 44.87 335 *i*P **P 12 42 10.6 +0.1**
KK31 pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
SONM Songino Array 45.49 11 P **P 12 42 15.3 0.0**
comp=Z,16nm,0.7s,mb4.9,baz=191,slow=8.3,SNR=127
SONM PcP PcP 12 43 54.4 +0.6
comp=Z,1.3nm,0.7s,baz=190,slow=3.9,SNR=2.7
WRA Warramunga Arr 45.60 122 P **P 12 42 16.3 -0.4**
comp=Z,24nm,0.6s,mb5.3,baz=301,slow=9.1,SNR=193
WRAB Tennant Creek 45.61 122 P **P 12 42 16.3 -0.4**
comp=Z,231nm,0.8s,mb6.2,SNR=17
WRAB Tennant Creek 45.61 122 *e*P **P 12 42 16.6 -0.1**
WB2 Warramunga Arr 45.61 122 ⇓*i*P **P 12 42 16.3 -0.5**
WB2 *e* 12 44 04.9
WB2 Warramunga Arr 45.61 122 *e*P **P 12 42 15.8 -0.9**
ULN Ulaanbaatar 45.66 12 *e*P **P 12 42 16.1 -0.5**
KSRS Korea Array 45.79 38 P **P 12 42 17.0 -0.9**
comp=Z,1.8nm,0.7s,mb4.1,baz=226,slow=7.5,SNR=7.7
FORT Forrest 46.77 139 *e*P **P 12 42 26.1 +0.4**
comp=Z,12nm,0.7s,mb4.9
ASAR Alice Springs 46.98 127 P **P 12 42 27.1 -0.3**
comp=Z,16nm,0.5s,mb5.2,baz=294,slow=7.6,SNR=432
ASAR PcP PcP 12 43 59.6 +0.1
comp=Z,2.7nm,0.8s,baz=307,slow=3.4,SNR=5.7
ZAK Zakamensk 47.45 8 ⇓*i*P **P 12 42 30.4 -0.2**
ZAK *e* pP 12 42 37.8 -3.3
ZAK *e* 12 44 25.3
ZAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
MOY Mondy 48.45 6 *e*P **P 12 42 38.9 +0.5**
CN2 Changchun 48.76 30 *e*P **P 12 42 45.1 +4.2**
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,400nm,5.0s
CN2 LR LR
comp=N,1μm,18.0s,MS5.1
CN2 LR LR
comp=E,1μm,18.0s,MS5.1
CN2 LR LR
comp=Z,1μm,19.0s,MS5.0
TLY Talaya 48.77 8 P **P 12 42 41.8 +1.0**
comp=Z,194nm,0.7s,mb6.2,SNR=9.2
TLY Talaya 48.77 8 *e*P **P 12 42 41.6 +0.8**
TLY pmax pmax
comp=Z,26nm,0.8s,mb5.3
TLY Talaya 48.77 8 *e*P **P 12 42 41.8 +0.9**
KURK Kurchatov 49.00 347 P **P 12 42 43.1 +0.5**
comp=Z,72nm,0.9s,mb5.7,SNR=9.3
KURK Kurchatov 49.00 347 *e*P **P 12 42 43.0 +0.4**
KURK pmax pmax
comp=Z,12nm,0.9s,mb4.9
KURK Kurchatov 49.00 347 *e*P **P 12 42 43.0 +0.4**
comp=Z,12nm,0.9s,mb4.9
IRK Irkutsk 49.40 8 *e*P **P 12 42 44.9 -0.8**
IRK pmax pmax
comp=Z,34nm,0.7s,mb5.5
HIA Hailar 50.59 21 *e*P **P 12 42 54.6 -0.1**
HIA pmax pmax
comp=Z,9.0nm,0.7s
HIA Hailar 50.59 21 *e*P **P 12 42 54.6 -0.1**
comp=Z,8.8nm,0.7s,mb4.8
QRN Al-Qurain 50.78 305 *e*P **P 12 42 56.6 0.0**
QRN AMb AMB 12 43 08.5
comp=Z,38nm,0.8s,mb5.4
ZAL Zalesovo 51.01 353 P **P 12 42 57.9 +0.1**
ZALV Zalesovo Beam 51.01 353 P **P 12 42 57.9 +0.1**
ZALV Zalesovo Beam 51.01 353 P **P 12 42 57.9 +0.1**
comp=Z,14nm,0.5s,mb5.1,baz=184,slow=6.9,SNR=54
RDF Al-Radifah 51.15 305 *e*P **P 12 42 59.4 +0.1**
RDF AMb AMB 12 43 15.2
comp=Z,39nm,0.9s,mb5.3
NAY Al-Naaiem 51.51 305 *e*P **P 12 43 02.2 +0.2**
NAY AMb AMB 12 43 14.0
comp=Z,17nm,0.8s,mb5.0
MIB Mutribah 51.63 306 *e*P **P 12 43 03.2 +0.2**
MIB AMb AMB 12 43 13.7
comp=Z,53nm,0.9s,mb5.4
NVS Novosibirsk 52.09 352 *e*P **P 12 43 04.5 -1.4**
NVS pmax pmax
comp=Z,11nm,0.8s,mb4.8
NVS pmax pmax
comp=N,10.0nm,0.9s
NVS pmax pmax
comp=E,7.0nm,0.9s
MAT Matsushiro 52.10 45 P **P 12 43 06.8 +0.5**
MJAR Matsushiro Arr 52.10 45 P **P 12 43 07.0 +0.6**
comp=E,1.6nm,0.9s,mb4.0,baz=241,slow=5.5,SNR=7.9
MJAR pP pP 12 43 18.1 +1.2
comp=E,2.2nm,0.8s,baz=235,slow=5.7,SNR=5.1
BRVK Borovoye 53.35 342 *e*P **P 12 43 14.8 -0.5**
AKTO Aktyubinsk 55.99 333 *i*P **P 12 43 33.0 -1.4**
CTA Charters Tower 56.03 117 *e*P **P 12 43 35.1 -0.1**
comp=E,5.5nm,0.8s,mb4.6
CTA Charters Tower 56.03 117 *e*P **P 12 43 35.1 -0.1**
CTA pmax pmax
comp=Z,6.0nm,0.8s
CTAO Charters Tower 56.03 117 *e*P **P 12 43 35.4 +0.2**
CTAO pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
CTAO Charters Tower 56.03 117 *e*P **P 12 43 35.4 +0.2**
comp=Z,8.0nm,0.8s,mb4.8
BOD Bodaibo 56.46 12 *e*P **P 12 43 37.2 -0.4**
BOD pmax pmax
comp=Z,25nm,0.9s,mb5.2
HABR Khabarovsk 56.82 31 *e*P **P 12 43 38.8 -1.6**
HABR *e* pP 12 43 47.8 -3.3
HABR *e* 12 43 52.4
HABR *e* 12 44 32.8
HABR *e* 12 45 46.1
HABR S **S 12 51 31.4 +0.1**
HABR *e* 12 53 26.1
HABR *e* 12 55 22.3
STKA Stephens Creek 56.93 132 *e*P **P 12 43 41.1 -0.3**
comp=Z,7.5nm,0.6s,mb4.9
STKA Stephens Creek 56.93 132 P **P 12 43 41.4 -0.1**
comp=Z,8.7nm,0.6s,mb5.0,baz=301,slow=6.3,SNR=29
KMBO Kilima Mbogo 57.24 267 ⇑*i*P **P 12 43 53.7 +10**
KMBO pmax pmax
comp=Z,3.0nm,0.9s
ASAJ Asahikawa 58.72 39 P **P 12 43 54.6 +0.8**
comp=Z,4.6nm,0.7s,mb4.6,baz=243,slow=6.8,SNR=4.1
SVE Sverdlovsk 59.64 339 *e*P **P 12 44 00.0 +0.1**
SVE pmax pmax
comp=Z,27nm,0.7s,mb5.4
ARU Arti 60.09 338 *d i*P **P 12 44 01.8 -1.3**
ARU *e* 12 44 44.9
ARU *e*S **S 12 52 14.7 +1.1**
ARU *e*SS SS 12 56 08.2 -2.7
ARU pmax pmax
comp=Z,27nm,1.7s,mb5.0
ARU Arti 60.09 338 *e*P **P 12 44 01.0 -2.1**
comp=Z,13nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 60.23 36 ⇓*i*P **P 12 44 04.1 -0.1**
YSS pmax pmax
comp=Z,21nm,1.0s,mb5.1
YSS Yuzh-Sakhalins 60.23 36 *e*P **P 12 44 04.7 +0.5**
comp=Z,27nm,1.3s,mb5.1
KIV Kislovodsk 60.81 320 P **P 12 44 06.0 -2.2**
KIV *e* pP 12 44 16.2 -2.8
KIV pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
YAK Yakutsk 64.18 18 *e*P **P 12 44 29.0 -1.4**
YAK *e* pP 12 44 37.4 -3.8
YAK pmax pmax
comp=Z,50nm,1.2s,mb5.4
YAK pmax pmax
comp=N,10.0nm,1.0s
YAK pmax pmax
comp=E,14nm,1.5s
YAK pmax pmax
comp=Z,19nm,1.2s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.0s
YAK pmax pmax
comp=E,7.0nm,1.8s
YAK Yakutsk 64.18 18 *e*P **P 12 44 29.7 -0.7**
comp=E,44nm,0.9s,mb5.5
OBN Obninsk 69.28 329 P **P 12 44 57.0 -6.0**
OBN *e* 12 45 12.1
OBN pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI Tiksi 71.58 11 *i*P **P 12 45 15.8 -1.0**
TIXI pmax pmax
comp=Z,20nm,0.7s,mb5.2
TIXI Tiksi 71.58 11 *e*P **P 12 45 15.6 -1.1**
comp=Z,16nm,0.6s,mb5.1
AKASG Malin Array Be 71.80 323 P **P 12 45 17.0 -1.5**
AKASG Malin Array Be 71.80 323 P **P 12 45 17.0 -1.5**
comp=Z,1.6nm,0.5s,mb4.2,baz=93,slow=4.7,SNR=5.9
LBTB Lobatse 72.31 243 P **P 12 45 22.6 +0.5**
comp=Z,5.8nm,0.8s,mb4.5,baz=116,slow=5.8,SNR=8.3
TMCR Tamitsa 72.83 338 *e*P **P 12 45 22.3 -2.0**
TMCR pmax pmax
comp=Z,26nm,0.9s,mb5.2
BOSA Boshof 73.41 239 P **P 12 45 28.6 +0.1**
comp=Z,3.4nm,0.8s,mb4.3,baz=72,slow=5.7,SNR=4.0
MAW Mawson 74.20 192 P **P 12 45 33.8 +1.5**
comp=Z,3.1nm,0.8s,mb4.3,baz=340,slow=6.5,SNR=3.6
JOF Joensuu 74.97 335 *ep* **P 12 45 36.5 -0.4**
comp=Z,9.0nm,0.5s,mb5.0
APA Apatity 76.11 340 *e*P **P 12 45 43.2 -0.1**
FINES FINESS Array B 76.77 333 P **P 12 45 46.6 -0.6**
comp=Z,5.7nm,0.7s,mb4.6,baz=104,slow=8.0,SNR=22
SUR Sutherland 77.97 236 P **P 12 45 55.0 +0.5**
comp=Z,5.3nm,0.8s,mb4.5,baz=162,slow=3.2,SNR=2.9
KEV Kevo 79.12 341 *ep* **P 12 45 58.6 -1.5**
ARCES ARCESS Array B 79.54 341 P **P 12 46 02.5 +0.1**
comp=Z,3.1nm,0.4s,mb4.6,baz=95,slow=5.7,SNR=62
BOJS Bojanci 79.95 315 *e*P **P 12 46 05.1 0.0**
BOJS *i* pP 12 46 13.6 -2.7
PERS Pernice 80.15 317 *e*P **P 12 46 06.5 +0.3**
PERS *e* pP 12 46 14.9 -2.4
BILL Bilibino 80.17 21 ⇑*i*P **P 12 46 05.7 -0.2**
BILL pmax pmax
comp=Z,13nm,2.0s,mb4.5
BSD Bornholm Skovb 81.19 325 *i*P **P 12 46 10.3 -1.3**
BSD pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
BSD Bornholm Skovb 81.19 325 *i*P **P 12 46 10.3 -1.3**
comp=Z,5.9nm,0.5s,mb4.8
SYO Syowa Base 81.19 197 ⇓*e*P **P 12 46 11.0 -0.3**
GERES GERESS Array B 81.31 319 P **P 12 46 13.0 +0.7**
comp=Z,0.8nm,0.3s,mb4.1,baz=98,slow=5.5,SNR=3.9
CLL Collm 81.96 321 *ep*P pP 12 46 24.0 -2.8
NB2 NORSAR Subarra 83.73 331 P **P 12 46 23.5 -1.2**
comp=Z,2.6nm,0.8s,mb4.4,baz=98,slow=4.8
NOA NORSAR Array B 83.73 331 P **P 12 46 24.1 -0.6**
comp=Z,2.2nm,0.8s,mb4.3,baz=94,slow=5.4,SNR=7.7
VNDA Vanda 88.51 168 P **P 12 46 48.5 +0.6**
comp=Z,1.9nm,0.7s,mb4.5,baz=4.5,slow=7.3,SNR=5.6
YKA Yellowknife Ar 110.72 14 PKKPab PKKPab 13 03 36.8 -1.9
comp=Z,0.2nm,0.7s,baz=155,slow=4.5,SNR=5.6
NVAR Mina Array Bea 128.61 33 pPKP pPKPdf 12 53 15.8 +0.9
comp=Z,0.6nm,0.7s,baz=343,slow=1.3,SNR=4.1
TXAR Lajitas Array 143.18 27 PKhKP 12 53 27.9
comp=Z,0.4nm,0.9s,baz=230,slow=1.4,SNR=3.9
CPUP Villa Florida 144.53 227 PKP PKPdf 12 53 31.6 -1.5
comp=Z,5.2nm,0.7s,baz=95,slow=3.2,SNR=17
CPUP pPKP pPKPdf 12 53 41.2 -3.4
comp=Z,6.5nm,0.7s,baz=103,slow=4.5,SNR=8.8
CFAA Coronel Fontan 147.48 208 PKPbc PKPbc 12 53 40.4 -0.1
CFAA pPKPbc pPKPbc 12 53 50.2 -1.7
CFAA Coronel Fontan 147.48 208 PKPbc PKPbc 12 53 40.4 -0.1
comp=Z,1.0nm,0.5s,baz=154,slow=2.5,SNR=18
CFAA pPKPbc pPKPbc 12 53 50.2 -1.7
comp=Z,1.3nm,0.7s,baz=135,slow=3.0,SNR=9.8

IDC 04 13:01:47.6±1.3, 2190N×14344E, h0^{km}, mb3.3/5, mb1 3.5/5, mb1mx3.4/19, mbtmp3.3/5, Error ellipse: s-maj=51.2km s-min=24.7km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.34**	**320**	P	P		13 09 19.5	+1.0
	0.3nm,0.4s,baz=125,slow=6.3,SNR=2.8							
WRA	**Warramunga Arr**	**42.53**	**193**	P	P		13 09 45.5	+0.5
	0.5nm,0.9s,baz=18,slow=8.9,SNR=4.2							
ASAR	**Alice Springs**	**46.23**	**192**	P	P		13 10 14.2	-0.5
	0.6nm,1.0s,baz=12,slow=9.5,SNR=4.7							
MKAR	**Makanchi Array**	**54.74**	**313**	P	P		13 11 17.3	-1.5
	0.3nm,0.7s,baz=86,slow=10,SNR=2.5							
YKA	**Yellowknife Ar**	**76.16**	**28**	P	P		13 13 37.4	+0.2
	0.2nm,0.5s,baz=293,slow=5.9,SNR=5.0							

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*NEIC **04** 13:06:57.4, 3147S×6965W, h149^{km}, MD3.5(GUC), After GUC.*

GUC 04 13:06:57.4±0.7, 3147S×6965W, h149^{km}±10^{km}, MD3.5, ML3.5, 7C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.20**	**284**	⇓*i*P	P	Pn	13 07 24.3	+0.5
CMCH				*i* S	S	Sn	13 07 44.6	+0.6
CMCH	**Combarbala**	**1.20**	**284**	⇓*i*P	P	Pn	13 07 24.3	+0.5
CMCH				*i* S	S	Sn	13 07 44.6	+0.6
CMCH				AML	AML		13 07 45.8	
	comp=N,3μm,0.1s							
OVCH	**Ovalle**	**1.59**	**302**	*e*P	P	Pn	13 07 28.4	+0.6
OVCH				*i* S	S	Sn	13 07 51.5	+0.5
TLL	**Tololo Astrono**	**1.64**	**322**	⇑*i*P	P	Pn	13 07 29.4	+1.0
TLL				*i* S	S	Sn	13 07 53.1	+1.1
TLL	**Tololo Astrono**	**1.64**	**322**	⇑*i*P	P	Pn	13 07 29.4	+1.0
TLL				*i* S	S	Sn	13 07 53.1	+1.1
TLL				AML	AML		13 07 57.0	
	comp=N,321nm,0.3s							
PEL	**Peldehue**	**1.89**	**208**	⇑*i*P	P	Pn	13 07 31.4	+0.3
PEL				*i* S	S	Sn	13 07 57.4	+0.3
PEL				AML	AML		13 07 59.1	
	comp=E,294nm,0.6s							
FCH	**Farellones**	**1.93**	**196**	⇓*i*P	P	Pn	13 07 33.0	+1.4
FCH				*i* S	S	Sn	13 07 59.8	+1.8
FCH				AML	AML		13 08 05.5	
	comp=E,181nm,0.4s							
CLCH	**Cerro Calan**	**2.06**	**201**	⇓*i*P	P	Pn	13 07 33.9	+0.8
CLCH				*i* S	S	Sn	13 08 01.4	+0.7
CLCH				AML	AML		13 08 04.0	
	comp=E,321nm,0.6s							
LSCH	**La Serena**	**2.08**	**318**	⇓*i*P	P	Pn	13 07 34.1	+0.7
LSCH				*i* S	S	Sn	13 08 01.0	-0.1
RCDM	**Rinconada Maip**	**2.24**	**206**	*e*P	P	Pn	13 07 35.6	+0.4
RCDM				*i* S	S	Sn	13 08 05.4	+0.9
RCDM	**Rinconada Maip**	**2.24**	**206**	*e*P	P	Pn	13 07 35.6	+0.4
RCDM				*i* S	S	Sn	13 08 05.4	+0.9
RCDM				AML	AML		13 08 06.5	
	comp=E,430nm,0.2s							
ANTU	**Antumapu**	**2.25**	**201**	⇑*i*P	P	Pn	13 07 36.1	+0.7
ANTU				*i* S	S	Sn	13 08 05.6	+0.8
ANTU	**Antumapu**	**2.25**	**201**	⇑*i*P	P	Pn	13 07 36.1	+0.7
ANTU				*i* S	S	Sn	13 08 05.6	+0.8
ANTU				AML	AML		13 08 06.8	
	comp=E,246nm,0.4s							
PCH	**Pirque**	**2.27**	**199**	⇓*i*P	P	Pn	13 07 36.4	+0.8
PCH				*i* S	S	Sn	13 08 06.1	+1.0
LMEL	**Las Melosas**	**2.42**	**191**	⇓*i*P	P	Pn	13 07 38.0	+0.6
LMEL				*i* S	S	Sn	13 08 09.3	+0.9
LMEL	**Las Melosas**	**2.42**	**191**	⇓*i*P	P	Pn	13 07 38.0	+0.6
LMEL				*i* S	S	Sn	13 08 09.3	+0.9
LMEL				AML	AML		13 08 17.6	
	comp=N,141nm,0.3s							
TACH	**Talagante**	**2.44**	**206**	*e*P	P	Pn	13 07 37.8	+0.1
TACH				*i* S	S	Sn	13 08 09.0	+0.3
CHCH	**Chadas Angostu**	**2.60**	**199**	⇑*i*P	P	Pn	13 07 40.1	+0.5
CHCH				*i* S	S	Sn	13 08 12.9	+0.6
LCO	**Las Campanas**	**2.62**	**339**	*e*P	P	Pn	13 07 38.5	-1.4
CACH	**El Canelo**	**2.76**	**197**	*e*P	P	Pn	13 07 42.4	+0.8
CACH				*i* S	S	Sn	13 08 17.3	+1.4
CICH	**Cipreses**	**2.92**	**193**	⇑*i*P	P	Pn	13 07 44.6	+1.0
SFDO	**San Fernando**	**3.34**	**200**	*e*P	P	Pn	13 07 48.6	-0.4
SFDO				*i* S	S	Sn	13 08 28.4	-0.7
TRQA	**Tornquist**	**9.10**	**138**	*e*P	P	Pn	13 09 02.9	-2.5
	comp=N,5.0nm,0.6s							

IDC 04 13:22:42.4±4.3, 699S×15526E, h0^{km}, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, Error ellipse: s-maj=120.7km s-min=37.7km az=118.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.03**	**236**	P	P		13 27 59.6	+0.3
	0.3nm,0.5s,baz=61,slow=9.6,SNR=6.4							
SONM	**Songino Array**	**69.47**	**327**	P	P		13 33 53.4	+0.8
	0.3nm,0.8s,baz=129,slow=4.6,SNR=2.4							
MKAR	**Makanchi Array**	**83.57**	**319**	P	P		13 35 11.7	-0.9
	0.4nm,0.6s,baz=102,slow=5.3,SNR=5.1							

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*IDC **04** 13:34:01.3±1.0, 2150S×17524W, h0^{km}, mb4.0/6, mb1 4.2/6, mb1mx4.0/15, mbtmp4.0/6, Error ellipse: s-maj=57.7km s-min=22.9km az=151.0*

*NEIC **04** 13:34:03.6±0.6, 21.31S×175.32W, h15^{km}, mb4.2/2, Error ellipse: s-maj=30.5km s-min=10.8km az=137.0*

*ISCJB **04** 13:34:04.9±0.8, 215S±03×175.3W±02, h33^{km}, mb4.0/8, Error ellipse: s-maj=49.9km s-min=17.3km az=148.2*

ISC 04 13:34:06.8±0.8, 213S±03×1754W±02, h35^{km}, n12, σ0^{s}84/11, mb4.0/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.13**	**25**	*e*P	**Pn**		**13 35 59.9**	**-2.5**
RAR	**Rarotonga**	**14.52**	**92**	Pn	**Pn**		**13 37 16.1**	**-14**
	1.9nm,0.3s,baz=271,slow=14,SNR=11							
RAR				Sn	Sn		13 39 35.4	-34
	2.0nm,0.3s,baz=113,slow=15,SNR=6.2							
STKA	**Stephens Creek**	**39.68**	**245**	P	**P**		**13 41 35.1**	**-0.5**
	1.9nm,0.9s,mb3.8,baz=100,slow=12,SNR=3.3							
ASAR	**Alice Springs**	**46.75**	**257**	P	**P**		**13 42 33.0**	**+0.2**
	0.9nm,0.7s,mb3.8,baz=82,slow=7.9,SNR=19							
ASAR				PcP	PcP		13 44 06.7	+0.7
	0.7nm,0.8s,baz=107,slow=3.4,SNR=5.0							
WRA	**Warramunga Arr**	**46.94**	**262**	P	**P**		**13 42 34.5**	**+0.1**
	0.7nm,0.3s,mb4.1,baz=95,slow=8.1,SNR=52							
WRA				PcP	PcP		13 44 07.0	+0.3
	0.3nm,0.5s,baz=97,slow=3.1,SNR=4.3							
NVAR	**Mina Array Bea**	**79.96**	**42**	P	**P**		**13 46 13.2**	**+0.9**
	0.9nm,0.6s,mb3.9,baz=213,slow=6.5,SNR=6.6							
TPNV	**Topopah Spring**	**80.38**	**44**	*e*P	**P**		**13 46 14.5**	**-0.1**
	2.5nm,1.0s,mb4.1							
MAW	**Mawson**	**81.61**	**199**	P	**P**		**13 46 20.3**	**-0.4**
	2.7nm,0.6s,mb4.3,baz=110,slow=7.3,SNR=6.4							
TXAR	**Lajitas Array**	**85.44**	**56**	P	**P**		**13 46 40.7**	**-0.3**

TXAR Lajitas Array 85.44 56 P **P 13 46 40.7 -0.3**
0.4nm,0.8s,mb3.6,baz=223,slow=5.1,SNR=4.5
MCK McKinley 87.27 11 P **P 13 46 49.9 +0.8**
1.2nm,0.7s,mb4.2
AKASG Malin Array Be 144.92 333 PKPbc PKPdf 13 53 39.4 -0.5
0.7nm,0.4s,baz=42,slow=4.9,SNR=11

*ISCJB **04** 13:40:46.4±1.2, 129N±02×869W±03, h179km±12km, mb3.4/3, Error ellipse: s-maj=63.5km s-min=13.8km az=147.4*
*IDC **04** 13:40:46.4±2.8, 1290N×8697W, h160km±48km, mb3.1/3, mb1 3.4/4, mb1mx3.2/19, mbtmp3.2/4, MS3.0/1, Ms1 3.0/1, ms1mx2.6/16, Error ellipse: s-maj=55.9km s-min=38.2km az=37.0*
*NEIC **04** 13:40:47.5±0.9, 1288N×8701W, h171km±8km, Error ellipse: s-maj=37.7km s-min=13.6km az=64.0*
ISC 04 13:40:47.0±1.3, 128N±02×870W±03, h172km±12km, n8, σ0§83/8, mb3.4/3, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**1.27 349**		*eP*	**Pn**	**13 41 16.1**	**-0.1**
JTS	**JuntasAbangare**	**3.22 141**		*eP*	**Pn**	**13 41 38.8**	**+0.8**
JTS				P		13 41 39.1	
JTS				S	**Sn**	**13 42 17.1**	**-0.6**
JTS				LR	LR	13 43 20.5	
JTS	**JuntasAbangare**	**3.22 141**		P	**Pn**	**13 41 39.1**	**+1.1**
7.4nm,0.3s,baz=328,slow=17,SNR=44							
JTS				S	**Sn**	**13 42 17.1**	**-0.6**
5.4nm,0.3s,baz=283,slow=23,SNR=9.7							
JTS				LR	LR	13 43 20.5	
comp=Z,199nm,18.4s,baz=181,slow=47							
TXAR	**Lajitas Array**	**22.57 319**		P	**P**	**13 45 33.0**	**+0.1**
0.6nm,0.5s,mb3.2,baz=140,slow=9.0,SNR=11							
SCHQ	**Schefferville**	**44.83 16**		P	**P**	**13 48 44.0**	**+0.4**
3.0nm,1.0s,mb3.9,baz=210,slow=8.1,SNR=3.5							
YKA	**Yellowknife Ar**	**53.38 344**		P	**P**	**13 49 47.8**	**-0.7**
0.1nm,0.3s,mb3.0,baz=143,slow=6.7,SNR=3.5							
WRA	**Warramunga Arr**	**139.76 254**		PKP	PKPdf	13 59 56.4	+1.1
0.2nm,0.5s,baz=90,slow=2.7,SNR=8.7							
ASAR	**Alice Springs**	**139.78 248**		PKP	PKPdf	13 59 56.3	+1.1
0.2nm,0.6s,baz=98,slow=2.8,SNR=3.8							

IDC 04 14:20:25.5±5.2, 642S×15679E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, Error ellipse: s-maj=146.1km s-min=39.7km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.62 236**		P	P	14 25 57.7	+0.9
0.3nm,0.3s,baz=62,slow=8.8,SNR=4.5							
ASAR	**Alice Springs**	**27.90 230**		P	P	14 26 16.5	-0.9
0.7nm,1.1s,baz=59,slow=9.7,SNR=7.5							
FITZ	**Fitzroy Crossi**	**32.52 246**		P	P	14 26 58.8	+0.4
0.3nm,0.4s,baz=74,slow=15,SNR=3.1							
MKAR	**Makanchi Array**	**84.16 318**		P	P	14 32 58.7	+0.1
0.1nm,0.3s,baz=106,slow=5.7,SNR=2.3							

IDC 04 14:25:44.5±4.8, 226S×13974E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/12, mbtmp3.4/3, ML3.4/1, Error ellipse: s-maj=190.2km s-min=27.9km az=88.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.35 196**		P	Pn	14 30 00.8	-0.2
0.1nm,0.3s,baz=18,slow=12,SNR=9.2							
ASAR	**Alice Springs**	**22.02 194**		P	P	14 30 40.6	0.0
0.3nm,0.7s,baz=18,slow=10,SNR=8.6							
MKAR	**Makanchi Array**	**70.07 322**		P	P	14 36 58.6	+0.1
1.0nm,0.7s,baz=116,slow=8.2,SNR=9.9							

IDC 04 14:36:12.4±4.7, 738S×15576E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, MS3.1/1, Ms1 3.1/1, ms1mx2.8/17, Error ellipse: s-maj=133.8km s-min=38.8km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.62 116**		LR	LR	14 38 55.7	
comp=Z,217nm,19.9s,baz=359,slow=35							
WRA	**Warramunga Arr**	**24.23 237**		P	P	14 41 31.5	+0.4
0.2nm,0.5s,baz=63,slow=9.5,SNR=2.5							
SONM	**Songino Array**	**70.07 327**		P	P	14 47 26.7	+0.5
0.5nm,0.7s,baz=129,slow=5.7,SNR=2.3							
MKAR	**Makanchi Array**	**84.19 319**		P	P	14 48 45.4	-0.3
0.5nm,0.6s,baz=106,slow=6.1,SNR=7.0							

IDC 04 14:39:59.2±1.0, 2188N×14325E, h0km, mb3.6/5, mb1 3.9/5, mb1mx3.6/19, mbtmp3.6/5, MS3.0/2, Ms1 3.0/2, ms1mx2.8/35, Error ellipse: s-maj=43.7km s-min=23.7km az=102.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.28 350**		LR	LR	14 42 37.8	
comp=Z,92nm,18.8s,baz=47,slow=30							
KSRS	**Korea Array**	**20.41 323**		LR	LR	14 51 27.8	
comp=Z,77nm,18.7s,baz=65,slow=34							
WRA	**Warramunga Arr**	**42.47 192**		P	P	14 47 57.6	+1.4
0.5nm,0.7s,baz=18,slow=8.7,SNR=7.3							
ASAR	**Alice Springs**	**46.18 192**		P	P	14 48 24.6	-1.3
0.5nm,0.6s,baz=16,slow=8.8,SNR=12							
MKAR	**Makanchi Array**	**54.62 313**		P	P	14 49 29.4	-0.2
0.2nm,0.2s,baz=94,slow=8.5,SNR=2.4							
YKA	**Yellowknife Ar**	**76.26 28**		P	P	14 51 49.3	-0.2
0.5nm,0.6s,baz=291,slow=5.6,SNR=6.2							
NVAR	**Mina Array Bea**	**82.98 52**		P	P	14 52 27.4	+0.9
0.4nm,0.6s,baz=282,slow=5.4,SNR=2.9							

IDC 04 15:10:40.7±51.0, 1703S×17286W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/16, mbtmp3.9/3, Error ellipse: s-maj=988.6km s-min=169.3km az=80.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.70 242**		P	P	15 18 48.2	+0.6
3.1nm,1.0s,baz=90,slow=13,SNR=3.6							
WRA	**Warramunga Arr**	**50.00 258**		P	P	15 19 36.9	-0.2
0.4nm,0.4s,baz=97,slow=7.2,SNR=20							
ASAR	**Alice Springs**	**50.12 253**		P	P	15 19 37.7	-0.4
1.0nm,0.7s,baz=90,slow=7.6,SNR=26							

*SZGRF **04** 15:30:31.2, 3187N×2511E, h33km, mb3.9, Egypt*
*IDC **04** 15:31:25.6±0.8, 37.16N×2320E, h0km, mb4.0/12, mb1 4.0/16, mb1mx3.9/26, mbtmp3.9/16, ML3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.5/39, Error ellipse: s-maj=19.8km s-min=15.8km az=44.0*
*HLW **04** 15:31:25.5, 3736N×2266E, h33km, Mb3.9*
*ISCJB **04** 15:31:27.2±0.6, 37.14N±002×23.11E±003, h11km±4km, mb4.0/17, Error ellipse: s-maj=3.7km s-min=3.1km az=2.0*
*NEIC **04** 15:31:28.1, 37.16N×2305E, h21km, mb4.2/8, ML3.5(ATH), After ATH.*
*CSEM **04** 15:31:28.7±0.1, 37.15N×23.10E, h10km, MD4.0, Error ellipse: s-maj=1.5km s-min=1.4km az=105.0*
*ATH **04** 15:31:28.1, 37.16N×2305E, h21km, MD4.0/27*
*MOS **04** 15:31:28.6±1.0, 37.19N×2306E, h20km, mb4.4/6, Error ellipse: s-maj=9.7km s-min=6.3km az=93.7*
*THE **04** 15:31:28.7, 37.17N×2309E, h2km, ML4.6*
ISC 04 15:31:28.4±0.5, 3715N±002×2310E±003, h11km±3km, n132, σ1§26/144, mb4.0/17, 8C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLI	**Veliai**	**0.45 197**		*ePB*	**Pg**	**15 31 37.6**	**+0.3**
VLI				*eSB*	**Sg**	**15 31 44.1**	**+0.9**
VLX	**Vlachokerasia**	**0.61 291**		*ePg*	**Pg**	**15 31 40.0**	**-0.4**
VLX				*eSg*	**Sg**	**15 31 48.2**	**-0.2**
NAIG	**Nisos Aigina**	**0.68 27**		*ePN*	**Pn**	**15 31 41.5**	**-2.5**
NAIG				*eSN*	**Sg**	**15 31 51.5**	**+1.0**
KVR	**Kavouri**	**0.86 38**		*ePB*	**Pb**	**15 31 44.5**	**-0.9**
KVR				*eSN*	**Sn**	**15 31 57.7**	**-1.4**
KYTH	**Kithira**	**0.87 183**		*ePN*	**Pn**	**15 31 45.2**	**-1.4**
LTK	**Loutraki**	**0.88 353**		*ePg*	**Pg**	**15 31 44.6**	**-0.7**
LTK				*eSg*	**Sg**	**15 31 56.7**	**0.0**
ITM	**Ithomi**	**0.94 272**		⇑*iPN*	**Pn**	**15 31 45.6**	**-2.0**
ITM				*eSN*	**Sn**	**15 31 57.6**	**-3.4**
ATH	**Athens Observa**	**0.95 31**		*ePN*	**Pn**	**15 31 46.3**	**-1.5**
ATH				*eSN*	**Sn**	**15 31 59.9**	**-1.5**
PTL	**Penteli**	**1.08 34**		*ePN*	**Pn**	**15 31 49.0**	**-0.6**
PTL				*eSN*	**Sn**	**15 32 04.0**	**-0.6**
PYL	**PYLOS**	**1.12 257**		*ePg*	**Pg**	**15 31 49.1**	**-0.8**
PYL				*eSg*	**Sg**	**15 32 05.3**	**+0.9**
SELA	**Sela**	**1.48 320**		*ePg*	**Pg**	**15 31 54.8**	**-1.9**
LKR	**Lokris**	**1.50 357**		*ePg*	**Pg**	**15 31 55.3**	**-1.9**
LKR				*eSg*	**Sg**	**15 32 16.1**	**-0.5**
LKR	**Lokris**	**1.50 357**		*ePN*	**Pn**	**15 31 55.5**	**+0.2**
LKR				*eSN*	**Sn**	**15 32 15.9**	**+1.0**
LKR	**Lokris**	**1.50 357**		*ePn*	**Pn**	**15 31 55.5**	**+0.2**
LKR				*eSn*	**Sn**	**15 32 15.9**	**+1.0**
LKR				*eSg*	**Sg**	**15 32 16.1**	**-0.6**
RLS	**Riolos of Patr**	**1.58 305**		*ePN*	**Pn**	**15 31 56.6**	**+0.2**
RLS				*eSN*	**Sn**	**15 32 17.4**	**+0.5**
KARN	**Karanos**	**1.87 159**		*ePb*	**Pb**	**15 32 01.2**	**-1.3**
APE	**Apeiranthos**	**1.94 92**		*ePb*	**Pb**	**15 32 02.2**	**-1.7**
APE	**Apeiranthos**	**1.94 92**		*ePb*	**Pb**	**15 32 02.1**	**-1.8**
VAM	**Vamos**	**1.96 153**		*ePN*	**Pn**	**15 32 02.6**	**+1.1**
AGG	**Agios Georgios**	**1.96 342**		*ePb*	**Pb**	**15 32 02.1**	**-2.1**
EVR	**Evrytania**	**2.04 330**		*ePN*	**Pn**	**15 32 03.0**	**+0.3**
SANT	**Santorini**	**2.05 112**		*ePn*	**Pn**	**15 32 03.6**	**+0.8**
SANT	**Santorini**	**2.05 112**		P	**Pn**	**15 32 05.6**	**+2.8**
KFL	**Anninata**	**2.07 298**		*ePn*	**Pn**	**15 32 03.8**	**+0.7**
NEO	**Neokhori**	**2.15 3**		*ePN*	**Pn**	**15 32 04.9**	**+0.6**
XOR	**Xorichti**	**2.21 2**		*ePn*	**Pn**	**15 32 04.9**	**-0.2**
VLS	**Valsamata**	**2.24 298**		*ePn*	**Pn**	**15 32 06.1**	**+0.7**
GVD	**Gavdhos**	**2.44 161**		*ePn*	**Pn**	**15 32 11.5**	**+3.2**
GVD	**Gavdhos**	**2.44 161**		*ePn*	**Pn**	**15 32 11.5**	**+3.2**
LKD	**Levkas**	**2.48 309**		*ePn*	**Pn**	**15 32 09.0**	**+0.2**
THL	**Klokotos Trika**	**2.56 341**		*ePn*	**Pn**	**15 32 10.5**	**+0.7**
THL	**Klokotos Trika**	**2.56 341**		*ePb*	**Pb**	**15 32 11.0**	**-3.3**
CHOS	**Chios island**	**2.65 61**		*ePn*	**Pn**	**15 32 11.3**	**+0.3**
CHOS				*eSn*	**Sn**	**15 32 45.2**	**+2.0**
NPS	**Neapolis**	**2.77 132**		*ePN*	**Pn**	**15 32 14.3**	**+1.5**
NPS				*eSN*	**Sn**	**15 32 47.6**	**+1.4**
PAIG	**Paliouri**	**2.81 9**		*ePn*	**Pn**	**15 32 13.3**	**0.0**
LIT	**Litokhoron**	**2.98 351**		*ePn*	**Pn**	**15 32 16.6**	**+0.9**
SMG	**Samos**	**3.03 78**		*ePN*	**Pn**	**15 32 17.7**	**+1.4**
JAN	**Janina**	**3.06 325**		*ePN*	**Pn**	**15 32 17.6**	**+0.8**
LIA	**Limnos Island**	**3.19 30**		*ePN*	**Pn**	**15 32 19.7**	**+1.1**
IGT	**Igoumenitsa**	**3.22 318**		*ePn*	**Pn**	**15 32 19.9**	**+0.9**
PLG	**Polygyros**	**3.23 5**		*ePn*	**Pn**	**15 32 19.4**	**+0.3**
PLG	**Polygyros**	**3.23 5**		⇑*iPn*	**Pn**	**15 32 19.3**	**+0.2**
OUR	**Ouranopolis**	**3.25 12**		*ePn*	**Pn**	**15 32 19.5**	**+0.1**
PRK	**Paraskevi**	**3.26 49**		*ePB*	**Pb**	**15 32 23.0**	**-3.3**
KZN	**Kozani**	**3.32 342**		*ePN*	**Pn**	**15 32 21.0**	**+0.7**
HORT	**Hortiatis**	**3.44 360**		*ePn*	**Pn**	**15 32 22.8**	**+0.8**
KEK	**Kerkira**	**3.64 316**		*ePN*	**Pn**	**15 32 25.9**	**+1.2**
KARP	**Karpathos**	**3.65 115**		*ePN*	**Pn**	**15 32 27.3**	**+2.5**
GRG	**Griva**	**3.84 352**		*ePn*	**Pn**	**15 32 28.7**	**+1.2**
SRS	**Serrai**	**3.98 5**		*ePn*	**Pn**	**15 32 29.9**	**+0.6**
KNT	**Kendrikon**	**4.01 358**		*ePn*	**Pn**	**15 32 30.4**	**+0.7**
ARG	**Arkhangelos**	**4.15 102**		*ePN*	**Pn**	**15 32 34.0**	**+2.3**
VAY	**Valandovo**	**4.18 355**		*i Pn*	**Pn**	**15 32 34.3**	**+2.1**
VAY	**Valandovo**	**4.18 355**		*i Pn*	**Pn**	**15 32 34.2**	**+2.0**
NVR	**Nevrokopi**	**4.23 8**		*ePN*	**Pn**	**15 32 34.0**	**+1.1**
RDO	**Rodhopi**	**4.42 25**		*ePN*	**Pn**	**15 32 36.8**	**+1.4**
KRUS	**Krusevo**	**4.45 342**		*i Pn*	**Pn**	**15 32 38.6**	**+2.7**
KRUS	**Krusevo**	**4.45 342**		*i Pn*	**Pn**	**15 32 38.5**	**+2.7**
MMB	**Musomiste**	**4.46 6**		*i P*	**Pn**	**15 32 38.9**	**+2.9**
RZN	**Rozhen**	**4.70 15**		*i P*	**Pn**	**15 32 40.4**	**+1.1**
KKB	**Krupnik**	**4.71 360**		*i P*	**Pn**	**15 32 40.1**	**+0.7**
KDZ	**Kurdzhali**	**4.84 21**		*i P*	**Pn**	**15 32 40.6**	**-0.6**
TIP	**Timpagrande**	**5.39 294**		*ePn*	**Pn**	**15 32 49.5**	**+0.7**
TIP	**Timpagrande**	**5.39 294**		*ePn*	**Pn**	**15 32 49.5**	**+0.7**
VTS	**Vitosha**	**5.43 1**		*i P*	**Pn**	**15 32 52.4**	**+3.0**
VTS	**Vitosha**	**5.43 1**		P	**Pn**	**15 32 53.3**	**+3.9**
ISP	**Isparta**	**5.93 81**		*i P*	**Pn**	**15 32 57.2**	**+1.0**
HMAT	**Matruh**	**6.89 150**		P	**Pn**	**15 33 09.6**	**+0.2**
SWA2		**8.13 165**		P	**Pn**	**15 33 25.7**	**-0.7**
SWA1		**8.16 164**		P	**Pn**	**15 33 26.8**	**-0.1**
SWA1				S	**Sn**	**15 34 55.1**	**-4.0**
MLR	**Muntele Rosu**	**8.60 14**		Pn	**Pn**	**15 33 34.1**	**+1.3**
0.3nm,0.3s,baz=189,slow=8.4,SNR=5.1							
MMAI	**Mount Meron Ar**	**10.89 109**		Pn	**Pn**	**15 34 02.4**	**-1.8**
1.2nm,0.3s,baz=292,slow=12,SNR=4.8							
MMAI				Sn	**Sn**	**15 36 06.1**	**0.0**
0.9nm,0.3s,baz=318,slow=21,SNR=4.3							
EIL	**Elat**	**12.39 124**		Pn	**Pn**	**15 34 23.8**	**-0.9**
0.5nm,0.3s,baz=357,slow=12,SNR=7.8							
EIL				Sn	**Sn**	**15 36 36.6**	**-6.2**
0.7nm,0.3s,baz=351,slow=19,SNR=5.2							
EIL	**Elat**	**12.39 124**		Sn	**Sn**	**15 36 36.6**	**-6.2**
GERES	**GERESS Array B**	**13.55 333**		Pn	**Pn**	**15 34 41.1**	**+0.7**
0.1nm,0.3s,baz=154,slow=14,SNR=2.4							
KHC	**Kasperske Hory**	**13.83 333**		⇑*eP*	**Pn**	**15 34 53.0**	**+8.7**
WET	**Wettzell**	**14.10 331**		*eP*	**Pn**	**15 34 56.3**	**+8.3**
comp=Z,4.0nm,0.8s							
AKASG	**Malin Array Be**	**14.24 16**		Pn	**Pn**	**15 34 51.8**	**+1.9**
comp=Z,0.2nm,0.3s,baz=203,slow=13,SNR=2.0							
ROTZ	**Rotzenmuhle**	**14.86 331**		*eP*	**Pn**	**15 35 05.1**	**+6.7**
comp=Z,10.0nm,1.5s							
MANZ	**Manzenberg**	**15.08 332**		*eP*	**Pn**	**15 35 06.9**	**+5.6**
comp=Z,3.0nm,0.7s							
GRA1	**Grafenberg Arr**	**15.19 329**		*eP*	**Pn**	**15 35 08.8**	**+6.0**
comp=Z,11nm,0.8s							
GRF	**Grafenberg Arr**	**15.19 329**		*eP*	**Pn**	**15 35 08.8**	**+6.0**
GRF				pmax	pmax		
comp=Z,11nm,0.8s							
GRF	**Grafenberg Arr**	**15.19 329**		*eP*	**Pn**	**15 35 08.8**	**+6.0**
GRF				pmax	pmax		
comp=Z,11nm,0.8s							
GRF	**Grafenberg Arr**	**15.19 329**		*eP*	**Pn**	**15 35 08.8**	**+6.0**
comp=Z,11nm,0.8s							
BRG	**Berggiesshubel**	**15.20 337**		*eP*	**Pn**	**15 35 09.2**	**+6.3**
comp=Z,8.0nm,1.1s							
WERD	**Werda**	**15.38 333**		*eP*	**Pn**	**15 35 10.7**	**+5.4**
comp=Z,6.0nm,1.0s							
FBE	**Freiberg**	**15.43 336**		*eP*	**Pn**	**15 35 12.0**	**+6.1**
comp=Z,15nm,1.1s							
MOX	**Moxa**	**15.80 332**		*eP*	**Pn**	**15 35 14.8**	**+4.1**
MOX	**Moxa**	**15.80 332**		*eP*	**Pn**	**15 35 14.8**	**+4.1**
comp=Z,4.0nm,0.9s							
CLL	**Collm**	**15.87 336**		⇑*iP*	sP	15 35 16.2	-3.6
CLL				pmax	pmax		
comp=Z,5.0nm,0.7s							
CLL	**Collm**	**15.87 336**		⇑*iP*	sP	15 35 16.2	-3.6
comp=Z,5.0nm,0.7s							
CLL				*i*		15 35 20.2	
CLL	**Collm**	**15.87 336**		*eP*	sP	15 35 16.2	-3.6
comp=Z,14nm,0.9s							
CLL	**Collm**	**15.87 336**		⇑*isP*	sP	15 35 16.2	-3.6
comp=Z,5.0nm,0.7s							
CLL				*i* PP		15 35 20.2	
comp=Z,14nm,1.0s							
CLL				*ex*	x	15 35 31.0	
KIV	**Kislovodsk**	**16.34 59**		⇑*eP*	**Pn**	**15 35 27.7**	**+10**
KIV				pmax	pmax		
comp=Z,6.0nm,1.2s							
KIV	**Kislovodsk**	**16.34 59**		*eP*	**Pn**	**15 35 25.2**	**+7.4**
comp=Z,16nm,1.1s							
OBN	**Obninsk**	**20.18 23**		⇑*eP*	**P**	**15 36 04.3**	**+1.5**
OBN				pmax	pmax		
comp=Z,8.0nm,0.5s							
OBN	**Obninsk**	**20.18 23**		*eP*	**P**	**15 36 04.3**	**+1.5**
comp=Z,8.0nm,0.5s							
HFS	**Hagfors**	**23.78 348**		P	**P**	**15 36 38.6**	**-2.2**
comp=Z,4.1nm,0.6s,mb4.1,baz=161,slow=9.4,SNR=21							
FINES	**FINESS Array B**	**24.39 3**		P	**P**	**15 36 45.0**	**-1.4**
comp=Z,0.7nm,0.4s,mb3.5,baz=164,slow=12,SNR=9.2							
FINES				LR	LR	15 47 19.0	
comp=Z,54nm,20.8s,baz=225,slow=39							
NAO01	**NORSAR Array S**	**24.95 346**		*eP*	**P**	**15 36 48.8**	**-2.6**
NAO01	**NORSAR Array S**	**24.95 346**		*eP*	**P**	**15 36 48.8**	**-2.7**
NB2	**NORSAR Subarra**	**25.06 346**		P	**P**	**15 36 52.0**	**-0.5**
comp=Z,1.6nm,0.5s,mb3.8,baz=158,slow=10							
NOA	**NORSAR Array B**	**25.06 346**		P	**P**	**15 36 50.9**	**-1.6**
comp=Z,1.2nm,0.6s,mb3.6,baz=149,slow=9.9,SNR=7.8							
EKA	**Eskdalemuir Ar**	**25.45 324**		P	**P**	**15 36 56.5**	**+0.3**
comp=Z,3.9nm,0.6s,mb4.1,baz=127,slow=9.1,SNR=20							
ESK	**Eskdalemuir**	**25.47 324**		*eP*	**P**	**15 36 56.3**	**0.0**
ESK				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.3							
ESK	**Eskdalemuir**	**25.47 324**		*eP*	**P**	**15 36 56.3**	**0.0**
comp=Z,9.9nm,0.9s,mb4.3							
ARCES	**ARCESS Array B**	**32.47 2**		P	**P**	**15 37 57.2**	**-1.2**
comp=Z,0.9nm,0.6s,mb3.8,baz=185,slow=9.7,SNR=5.1							
ARCES				PcP	PcP	15 40 44.0	-1.1
comp=Z,1.3nm,0.8s,baz=143,slow=2.6,SNR=3.8							
ARCES	**ARCESS Array B**	**32.47 2**		PcP	PcP	15 40 44.0	-1.1
DBIC	**Dimbokro**	**39.61 227**		P	**P**	**15 38 59.5**	**-0.6**
comp=Z,3.6nm,0.9s,mb4.1,baz=21,slow=12,SNR=3.7							
DBIC	**Dimbokro**	**39.61 227**		P	**P**	**15 38 59.5**	**-0.6**
KURK	**Kurchatov**	**41.26 53**		P	**P**	**15 39 13.1**	**-0.3**
KURK				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.9							
KURK	**Kurchatov**	**41.26 53**		P	**P**	**15 39 13.1**	**-0.4**
comp=Z,1.7nm,0.6s,mb3.9							
NVS	**Novosibirsk**	**43.89 46**		*eP*	**P**	**15 39 34.2**	**-0.5**
MK31	**Makanchi Array**	**44.10 58**		*eP*	**P**	**15 39 35.1**	**-1.5**
MKAR	**Makanchi Array**	**44.10 58**		P	**P**	**15 39 35.4**	**-1.2**
MKAR						15 41 20.3	
MKAR	**Makanchi Array**	**44.10 58**		P	**P**	**15 39 35.4**	**-1.2**
MKAR				PcP	PcP	15 41 20.3	-1.3
MKAR				ScP	ScP	15 45 12.0	-1.4
MKAR	**Makanchi Array**	**44.10 58**		P	**P**	**15 39 35.4**	**-1.2**
comp=Z,0.8nm,0.5s,mb3.8,baz=284,slow=6.9,SNR=15							
MKAR				PcP	PcP	15 41 20.3	-1.3
comp=Z,0.2nm,0.2s,baz=316,slow=4.0,SNR=2.6							
MKAR				ScP	ScP	15 45 12.0	-1.4
comp=Z,0.1nm,0.2s,baz=298,slow=4.3,SNR=2.7							
ZAL	**Zalesovo**	**44.85 48**		P	**P**	**15 39 41.0**	**-1.4**
ZALV	**Zalesovo Beam**	**44.86 48**		P	**P**	**15 39 41.0**	**-1.5**
comp=Z,2.2nm,0.4s,mb4.4,baz=268,slow=9.3,SNR=12							
TLY	**Talaya**	**56.48 47**		P	**P**	**15 41 07.1**	**-3.1**
TLY				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
TLY	**Talaya**	**56.48 47**		P	**P**	**15 41 07.1**	**-3.1**
comp=Z,5.2nm,0.8s,mb4.6							
ZAK	**Zakamensk**	**56.69 49**		*eP*	**P**	**15 41 02.9**	**-8.8**
ZAK				pmax	pmax		
comp=Z,1.0nm,1.1s,mb3.8							
SONM	**Songino Array**	**59.52 51**		P	**P**	**15 41 29.8**	**-1.8**
comp=Z,0.3nm,0.5s,mb3.6,baz=283,slow=8.0,SNR=5.0							
ULN	**Ulaanbaatar**	**59.92 51**		P	**P**	**15 41 25.8**	**-8.5**
ULN				pmax	pmax		
comp=Z,2.0nm,0.9s,mb4.2							
ULN	**Ulaanbaatar**	**59.92 51**		P	**P**	**15 41 25.8**	**-8.5**
comp=Z,2.0nm,0.9s,mb4.2							
SCHQ	**Schefferville**	**60.59 318**		P	**P**	**15 41 38.2**	**-0.6**
SCHQ	**Schefferville**	**60.59 318**		P	**P**	**15 41 38.2**	**-0.6**
comp=Z,3.8nm,0.6s,mb4.7,baz=88,slow=6.8,SNR=10.0							
YKA	**Yellowknife Ar**	**75.04 341**		P	**P**	**15 43 08.7**	**-0.9**
comp=Z,0.3nm,0.5s,mb3.5,baz=31,slow=5.4,SNR=6.4							
YKA	**Yellowknife Ar**	**75.04 341**		P	**P**	**15 43 08.7**	**-1.0**
KSRS	**Korea Array**	**78.38 52**		P	**P**	**15 43 25.9**	**-3.2**
comp=Z,0.5nm,0.5s,mb3.7,baz=309,slow=4.9,SNR=4.7							
WRA	**Warramunga Arr**	**118.44 94**		PKP	PKPdf	15 50 15.3	-1.2
comp=Z,0.2nm,0.4s,baz=321,slow=1.5,SNR=7.2							
ASAR	**Alice Springs**	**120.01 98**		PKP	PKPdf	15 50 18.4	-0.9
comp=Z,0.4nm,0.3s,baz=311,slow=1.8,SNR=29							

*IDC **04** 15:41:57.5±3.6, 4961N×1967E, h0km, mb1 3.3/4, mb1mx3.1/19, mbtmp3.1/4, ML2.9/3, Error ellipse: s-maj=51.4km s-min=10.7km az=137.0*
*ISCJB **04** 15:41:59.2±0.3, 5015N±003×1905E±002, h0km, Error ellipse: s-maj=3.8km s-min=2.0km az=15.8*
*WAR **04** 15:42:00.3, 5010N×1922E, ML3.0, Mining Induced*
*IPEC **04** 15:42:00.3±0.1, 5012N×1918E, h5km±1km, ML2.4/4, Error ellipse: s-maj=1.8km s-min=0.8km az=170.0*
*NEIC **04** 15:42:00.3±0.5, 5018N×1911E, h5km, ML3.0(BUC), ML2.4(BRA), Error ellipse: s-maj=8.2km s-min=5.3km az=194.0*
*PRU **04** 15:42:01.4, 5013N×1910E, h0km*
*VIE **04** 15:42:02.6±0.5, 4988N×1900E, h0km, mb2.4/3, ML2.8/4, Error ellipse: s-maj=5.4km s-min=2.9km az=166.0, Suspected Mining induced.*
*CSEM **04** 15:42:02.0±0.1, 5013N×1909E, h1km, ML3.4/7, Error ellipse: s-maj=3.0km s-min=1.7km az=11.0*
ISC 04 15:42:00.5±0.3, 5012N±002×1910E±002, h0km, n65, σ1§25/111, 6C-8D, Poland

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s |

PSZ S Sn 15 43 11.3 +3.7
PSZ Piszkesteto 2.26 166 ⇓*e*PB Pb 15 42 43.1 +1.0
PSZ *e*Sn Sn 15 43 11.3 +3.7
PSZ Piszkesteto 2.26 166 ⇓*i*P Pn 15 42 39.1 +0.1
PSZ Piszkesteto 2.26 166 ⇓*e*Pn Pb 15 42 43.1 +1.0
PSZ S Sn 15 43 11.3 +3.7
ZST Bratislava 2.33 215 *e*SG Sg 15 43 12.3 -2.8
KOLS Kolonicke sedl 2.38 119 *e*PN Pn 15 42 42.6 +1.9
KOLS *e*SN Sn 15 43 13.2 +2.6
KWP Kalwaria 2.38 100 *e*Pn Pn 15 42 41.6 +0.8
KWP *e*Pg Pg 15 42 47.0 +0.9
KWP *e*Sn Sn 15 43 06.0 -4.6
KWP Kalwaria 2.38 100 *e*Pn Pn 15 42 41.6 +0.9
KWP *e*Pg Pg 15 42 47.0 +0.9
KWP *e*Sn Sn 15 43 06.0 -4.6
KWP Kalwaria 2.38 100 *e*Pg Pg 15 42 47.0 +0.9
KWP *e*Sn Sn 15 43 06.0 -4.6
PVCC Panska Ves 2.93 280 *e*Sg Sg 15 43 34.5 -0.2
comp=Z,53nm,0.6s
PRU Pruhonice 2.94 269 *e*Pg Pg 15 42 53.7 -3.1
PRU *e*Sg Sg 15 43 33.1 -1.8
comp=Z,27nm,0.7s
CONA Conrad Observa 3.06 225 ⇑*i*Pn Pn 15 42 49.4 -0.5
BRG Berggiesshubel 3.38 285 PG Pg 15 43 07.6 +2.4
BRG SG Sg 15 43 48.9 -0.1
comp=Z,19nm,0.5s
KHC Kasperske Hory 3.72 257 *e*Pg Pg 15 43 06.0 -5.8
KHC *e*Sg Sg 15 43 59.9 -0.1
comp=Z,21nm,0.5s
KHC Kasperske Hory 3.72 257 *e*PN Pn 15 42 59.4 +0.2
KHC *e*x x 15 43 06.0
KHC *e*SG Sg 15 43 59.9 -0.1
comp=Z,21nm,0.5s
GEC2 GERESS Array S 3.74 252 *e*Pn Pn 15 42 59.6 +0.2
GEC2 GERESS Array S 3.74 252 *e*Pn Pn 15 42 59.6 +0.2
GERES GERESS Array B 3.74 252 Pn Pn 15 42 60.0 +0.5
comp=Z,0.3nm,0.3s,baz=71,slow=14,SNR=5.4
GERES Pg Pg 15 43 09.2 -3.0
comp=Z,1.0nm,0.3s,baz=68,slow=17,SNR=11
GERES Lg 15 43 59.1
comp=Z,1.4nm,0.3s,baz=60,slow=26,SNR=4.0
GERES GERESS Array B 3.74 252 Pg Pg 15 43 09.2 -3.0
MOA Molln 3.91 236 ⇓*i*Pn Pn 15 43 01.1 -0.6
MOA ⇓*i*Sg Sg 15 44 05.5 -0.4
comp=Z,6.8nm,0.4s
CLL Collm 4.05 289 *e*Pg Pg 15 43 20.0 +1.8
CLL *e*x x 15 43 44.0
CLL *e*Sg Sg 15 44 11.0 +0.3
CLL *i*x x 15 44 25.3
BURAR Bucovina Array 4.75 119 ⇑*i*P Pn 15 43 12.7 -0.5
BZS Buzias 4.81 158 ⇑P Pn 15 43 15.4 +1.4
BZS Buzias 4.81 158 ⇑*i*P Pn 15 43 15.4 +1.3
MOX Moxa 4.82 279 *e*SG Sg 15 44 37.7 +2.5
NOA NORSAR Array B 11.81 341 Pn Pn 15 44 49.7 -0.3
comp=Z,0.1nm,0.3s,baz=147,slow=12,SNR=2.5
FINES FINESS Array B 12.01 16 Pn Pn 15 44 50.0 -2.6
comp=Z,0.2nm,0.3s,baz=186,slow=13,SNR=6.1
FINES Sn Sn 15 47 00.0 -7.0
comp=Z,0.2nm,0.3s,baz=195,slow=20,SNR=5.3
FINES FINESS Array B 12.01 16 Sn Sn 15 47 00.0 -7.1
ARCES ARCESS Array B 19.73 7 P Pn 15 46 27.7 -4.9
comp=Z,1.8nm,0.9s,baz=183,slow=14,SNR=5.0

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*ISCJB **04** 15:49:17.7±0.5, 3851N±002×2150E±003, h7km±4km, Error ellipse: s-maj=4.3km s-min=3.7km az=135.2*
*ATH **04** 15:49:18.1, 3851N×2151E, h22km±1km, MD3.1/7*
*NEIC **04** 15:49:18.1, 3851N×2151E, h22km, MD3.1(ATH), After ATH.*
*CSEM **04** 15:49:18.8±0.1, 3852N×2152E, h15km, ML3.0, Error ellipse: s-maj=1.9km s-min=1.7km az=142.0*
*THE **04** 15:49:18.6, 3848N×2150E, h15km, ML3.0*
ISC 04 15:49:18.5±0.4, 3851N±002×2150E±003, h12km±4km, n15, σ0$91/27, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.39**	**127**		*e*Pg	**Pg**	**15 49 25.4**	**-0.8**
SELA					*e*Sg	**Sg**	**15 49 32.1**	**+0.7**
RLS	**Riolos of Patr**	**0.45**	**183**		*e*PB	**Pg**	**15 49 27.7**	**+0.4**
RLS					*e*SB	**Sg**	**15 49 34.6**	**+1.3**
EVR	**Evrytania**	**0.47**	**31**	⇑	*i*PB	**Pg**	**15 49 27.6**	**-0.2**
EVR					*e*SB	**Sg**	**15 49 34.5**	**+0.3**
KFL	**Anninata**	**0.69**	**235**		*e*Pg	**Pg**	**15 49 31.7**	**-0.1**
LKD	**Levkas**	**0.69**	**287**		*e*Pg	**Pg**	**15 49 31.8**	**-0.1**
LKD					*e*Sg	**Sg**	**15 49 42.1**	**+1.0**
VLS	**Valsamata**	**0.79**	**246**		*e*Pg	**Pg**	**15 49 33.0**	**-0.8**
VLS					*e*Sg	**Sg**	**15 49 44.7**	**+0.7**
VLS	**Valsamata**	**0.79**	**246**		*e*Pb	**Pb**	**15 49 33.2**	**-0.9**
VLS					*e*Sg	**Sg**	**15 49 44.7**	**+0.7**
VLS					*e*Sn	**Sn**	**15 49 45.5**	**-1.5**
AGG	**Agios Georgios**	**0.83**	**51**		*e*Pg	**Pg**	**15 49 34.6**	**+0.1**
AGG					*e*Sg	**Sg**	**15 49 46.5**	**+1.2**
THL	**Klokotos Trika**	**1.13**	**21**		*e*Pg	**Pg**	**15 49 39.8**	**-0.4**
THL					*e*Sg	**Sg**	**15 49 55.6**	**+0.7**
THL	**Klokotos Trika**	**1.13**	**21**		*e*Pn	**Pn**	**15 49 39.7**	**-0.3**
THL					*e*Sn	**Sn**	**15 49 55.6**	**+0.1**
JAN	**Janina**	**1.25**	**336**		*e*PN	**Pn**	**15 49 42.0**	**+0.2**
LTK	**Loutraki**	**1.25**	**112**		*e*Pg	**Pg**	**15 49 40.8**	**-1.8**
LTK					*e*Sg	**Sg**	**15 49 57.2**	**-1.6**
ITM	**Ithomi**	**1.37**	**166**		*e*PN	**Pn**	**15 49 43.7**	**+0.4**
ITM					*e*SN	**Sn**	**15 50 03.0**	**+1.7**
IGT	**Igoumenitsa**	**1.37**	**319**		*e*Pg	**Pg**	**15 49 43.4**	**-1.4**
KEK	**Kerkira**	**1.79**	**313**		*e*PN	**Pn**	**15 49 50.1**	**+1.0**

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*ISCJB **04** 15:55:57.9±0.6, 3715N±003×2302E±004, h11km±5km, Error ellipse: s-maj=5.2km s-min=4.0km az=25.9*
*ATH **04** 15:55:58.2, 3716N×2303E, h21km±1km, MD3.5/13*
*NEIC **04** 15:55:58.2, 3716N×2303E, h21km, MD3.5(ATH), After ATH.*
*CSEM **04** 15:55:58.5±0.1, 3717N×2307E, h5km, ML3.6, Error ellipse: s-maj=2.0km s-min=1.5km az=92.0*
*THE **04** 15:55:58.8, 3717N×2307E, h2km, ML3.6*
ISC 04 15:55:58.5±0.5, 3716N±002×2303E±004, h15km±4km, n28, σ1$23/38, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.38**	**26**		*e*Pg	**Pg**	**15 56 05.7**	**-0.6**
DID					*e*Sg	**Sg**	**15 56 11.6**	**0.0**
VLI	**Veliai**	**0.45**	**189**		*e*PB	**Pg**	**15 56 07.5**	**+0.1**
VLI					*e*SB	**Sg**	**15 56 14.0**	**+0.6**
VLX	**Vlachokerasia**	**0.56**	**292**		*e*Pg	**Pg**	**15 56 10.2**	**+0.8**
VLX					*e*Sg	**Sg**	**15 56 18.5**	**+1.6**
NAIG	**Nisos Aigina**	**0.70**	**31**		*e*PN	**Pn**	**15 56 11.8**	**-2.1**
LTK	**Loutraki**	**0.86**	**357**		*e*Pg	**Pg**	**15 56 14.8**	**-0.4**
LTK					*e*Sg	**Sg**	**15 56 28.1**	**+1.5**
LTK	**Loutraki**	**0.86**	**357**		*e*Pg	**Pg**	**15 56 14.8**	**-0.4**
LTK					*e*Sg	**Sg**	**15 56 28.0**	**+1.4**
KYTH	**Kithira**	**0.88**	**180**		*e*PN	**Pn**	**15 56 15.4**	**-0.9**
KYTH					*e*SN	**Sn**	**15 56 27.5**	**-1.3**
ITM	**Ithomi**	**0.88**	**272**		*e*PN	**Pn**	**15 56 15.5**	**-0.8**
ITM					*e*SN	**Sn**	**15 56 27.0**	**-1.9**
KVR	**Kavouri**	**0.89**	**41**		*e*PB	**Pb**	**15 56 14.5**	**-1.1**
ATH	**Athens Observa**	**0.98**	**34**		*e*PN	**Pn**	**15 56 17.0**	**-0.7**
ATH					*e*SB	**Sb**	**15 56 30.8**	**+0.9**
PYL	**PYLOS**	**1.06**	**256**		*e*Pg	**Pg**	**15 56 19.1**	**+0.1**
PTL	**Penteli**	**1.11**	**37**		*e*PB	**Pb**	**15 56 18.0**	**-1.4**
PTL					*e*SB	**Sb**	**15 56 34.4**	**+0.8**
SELA	**Sela**	**1.43**	**321**		*e*Pg	**Pg**	**15 56 25.1**	**-1.0**
LKR	**Lokris**	**1.49**	**359**		*e*Pg	**Pg**	**15 56 25.8**	**-1.3**
LKR	**Lokris**	**1.49**	**359**		*e*Pn	**Pn**	**15 56 26.0**	**+1.3**
RLS	**Riolos of Patr**	**1.53**	**306**		*e*PN	**Pn**	**15 56 26.7**	**+1.4**
KARN	**Karanos**	**1.90**	**157**		*e*Pb	**Pb**	**15 56 31.8**	**-1.0**
AGG	**Agios Georgios**	**1.94**	**344**		*e*Pb	**Pb**	**15 56 32.3**	**-1.2**
VAM	**Vamos**	**1.99**	**151**		*e*PN	**Pn**	**15 56 33.4**	**+1.8**
EVR	**Evrytania**	**2.00**	**332**		*e*PN	**Pn**	**15 56 33.3**	**+1.6**
APE	**Apeiranthos**	**2.00**	**92**		*e*Pb	**Pb**	**15 56 32.1**	**-2.5**
APE	**Apeiranthos**	**2.00**	**92**		*e*Pn	**Pn**	**15 56 33.0**	**+1.2**
AOS	**Alonnisos**	**2.12**	**18**		*e*Pn	**Pn**	**15 56 33.6**	**+0.2**
THL	**Klokotos Trika**	**2.53**	**342**		*e*Pn	**Pn**	**15 56 40.3**	**+1.3**
THL	**Klokotos Trika**	**2.53**	**342**		*e*Pb	**Pb**	**15 56 41.3**	**-2.3**
CHOS	**Chios island**	**2.69**	**62**		*e*Pn	**Pn**	**15 56 41.4**	**+0.1**
PAIG	**Paliouri**	**2.81**	**10**		*e*Pn	**Pn**	**15 56 43.6**	**+0.8**
LAST	**Lasithi**	**2.81**	**134**		*e*Pn	**Pn**	**15 56 43.9**	**+1.0**
LAST					*e*Sn	**Sn**	**15 57 19.3**	**+2.7**

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*NIED **04** 16:11:00, 3710N×13640E, h5km, Mw4.0 Best double couple: M0 1.19000×10^15 NP1:φ0=33.00000°, δ47.00000°, λ108.00000°. NP2:φ0=188.00000°, δ46.00000°, λ72.00000°.*
*IDC **04** 16:11:11.8±0.7, 3704N×13640E, h0km, mb3.7/9, mb1 3.9/11, mb1mx3.8/22, mbtmp3.7/11, ML3.1/2, MS3.2/6, Ms1 3.2/6, ms1mx2.8/31, Error ellipse: s-maj=20.5km s-min=15.7km az=28.0*
*ISCJB **04** 16:11:12.3±1.0, 3710N±003×13638E±003, h6km±7km, mb3.9/16, MS3.5/3, Error ellipse: s-maj=5.1km s-min=4.1km az=30.4*
*JMA **04** 16:11:12.9, 3707N×13642E, h0km, M4.5*
JMA Felt II J1.
*MOS **04** 16:11:14.8±1.0, 3699N×13636E, h33km, mb4.3/3, Error ellipse: s-maj=15.2km s-min=9.6km az=108.7*
*BJI **04** 16:11:16.1, 3702N×13625E, h11km, mB4.6, mb4.4, Ms4.0, Msz3.7*
*NEIC **04** 16:11:17.0±0.3, 3700N×13642E, h35km, mb4.3/4, Error ellipse: s-maj=8.0km s-min=7.1km az=148.0*
NEIC Recorded [2 JMA] in Ishikawa and [1 JMA] Fukui, Gifu and Toyama Prefectures.
ISC 04 16:11:14.0±0.6, 3707N±003×13644E±004, h9km±4km, n46, σ0$99/52, mb3.9/16, MS3.5/3, 3C-3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.31**	**117**		⇓*e*P	**Pg**	**16 11 19.9**	**-0.2**
JJH					*e*S	**Sg**	**16 11 24.9**	**+0.6**
JKG	**Kaga**	**0.79**	**186**		⇑*e*P	**Pg**	**16 11 28.6**	**-0.6**
JKG					*e*S	**Sg**	**16 11 39.8**	**+0.2**
JSZ	**Suzu**	**0.83**	**62**		⇑*e*P	**Pg**	**16 11 29.2**	**-0.8**
JSZ					*e*S	**Sg**	**16 11 41.4**	**+0.5**
JTT	**Ttatey**	**0.85**	**122**		⇓*e*P	**Pg**	**16 11 30.0**	**-0.4**
JTT					*e*S	**Sg**	**16 11 42.3**	**+0.7**
JHG	**Hegura jima**	**0.87**	**26**		⇑*e*P	**Pg**	**16 11 29.7**	**-1.1**
JHG					*e*S	**Sg**	**16 11 42.1**	**0.0**
JGN	**Niukaw**	**1.10**	**140**		⇓*e*P	**Pg**	**16 11 33.8**	**-1.3**
JGN					*e*S	**Sg**	**16 11 50.7**	**+1.3**
MAJO	**Matsushiro**	**1.52**	**110**		*e*P	**Pn**	**16 11 40.3**	**-1.0**
MAT	**Matsushiro**	**1.52**	**110**		P	**Pn**	**16 11 40.3**	**-1.0**
MAT					S	**Sn**	**16 12 01.2**	**0.0**
MJAR	**Matsushiro Arr**	**1.52**	**110**		Pn	**Pn**	**16 11 41.0**	**-0.4**
	106nm,0.3s,baz=286,slow=15,SNR=731							
MJAR					Sn	**Sn**	**16 12 04.0**	**+2.8**
	119nm,0.3s,baz=287,slow=25,SNR=17							
JNU	**Nakatsue**	**6.02**	**231**		Pn	**Pn**	**16 12 43.6**	**+0.4**
	0.6nm,0.3s,baz=322,slow=7.0,SNR=9.3							
JNU					LR	LR	16 15 12.8	
	comp=Z,94nm,19.5s,baz=39,slow=40							
KSRS	**Korea Array**	**6.80**	**276**		Pn	**Pn**	**16 12 55.0**	**+1.0**
	0.4nm,0.3s,baz=95,slow=14,SNR=5.3							
KSRS					LR	LR	16 15 20.4	
	comp=Z,236nm,19.0s,baz=160,slow=36							
ASAJ	**Asahikawa**	**8.46**	**32**		LR	LR	16 16 01.0	
	comp=Z,64nm,20.9s,baz=340,slow=34							
MDJ	**Mudanjiang**	**9.15**	**328**		P	**Pn**	**16 13 27.9**	**+1.7**
MDJ					AMB	AMB		
	comp=Z,8.0nm,2.1s							
MDJ					AMB	AMB		
	comp=Z,52nm,3.7s							
YSS	**Yuzh-Sakhalins**	**10.94**	**23**		*e*P	**Pn**	**16 13 52.5**	**+1.9**
YSS					pmax	pmax		
	comp=Z,27nm,1.3s							
YSS	**Yuzh-Sakhalins**	**10.94**	**23**		*e*Pn	**Pn**	**16 13 52.5**	**+1.9**
	comp=Z,27nm,1.3s							
CBIJ	**Chichi jima**	**11.07**	**152**		LR	LR	16 17 33.5	
	comp=Z,73nm,21.1s,baz=81,slow=34							
KLR	**Kul'dur**	**12.63**	**346**		*e*P	**Pn**	**16 14 14.8**	**+1.1**
YHNB	**Yeheng**	**17.85**	**230**		Pn	**Pn**	**16 15 23.0**	**+0.3**
HHC	**Hu-ho-hao-te**	**19.69**	**289**		*e*P	**Pn**	**16 15 45.3**	**+0.5**
HHC					AP	pP	16 15 53.7	+7.9
HHC					XP	sP	16 15 58.4	+11
HHC					PP		16 16 04.2	
HHC					S	**Sn**	**16 19 21.6**	**-4.4**
HHC					XS	sS	16 19 34.0	+4.7
HHC					SS		16 19 48.8	
HHC					AMB	AMB		
	comp=Z,20nm,1.1s							
HHC					AMB	AMB		
	comp=Z,101nm,3.7s							
HHC					LR	LR		
	comp=N,196nm,10.0s							
HHC					LR	LR		
	comp=E,283nm,11.0s							
HHC					LR	LR		
	comp=Z,204nm,11.6s							
ULN	**Ulaanbaatar**	**24.07**	**306**		*e*P	**P**	**16 16 29.9**	**+0.3**
MA2	**Magadan**	**24.35**	**18**		P	**P**	**16 16 32.6**	**+0.6**
MA2					pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2							
MA2	**Magadan**	**24.35**	**18**		P	**P**	**16 16 32.6**	**+0.6**
	comp=Z,8.9nm,0.8s,mb4.2							
SONM	**Songino Array**	**24.49**	**306**		P	**P**	**16 16 33.0**	**-0.4**
	comp=Z,0.9nm,0.8s,mb3.3,baz=112,slow=8.6,SNR=6.4							
SONM					LR	LR	16 26 21.3	
	comp=Z,134nm,19.1s,MS3.5,baz=68,slow=37							
YAK	**Yakutsk**	**25.34**	**353**		P	**P**	**16 16 39.7**	**-1.3**
LZH	**Lanzhou**	**26.12**	**278**		*e*P	**P**	**16 16 49.5**	**+1.2**
LZH					AP	pP	16 16 58.0	+7.1
LZH					XP	sP	16 17 03.5	+11
LZH					AMB	AMB		
	comp=Z,13nm,1.0s,mb4.4							
ZAK	**Zakamensk**	**27.16**	**310**		*e*P	**P**	**16 16 57.6**	**+0.1**
GYA	**Guiyang**	**27.33**	**256**		P	**P**	**16 17 00.8**	**+1.5**
GYA					AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
TLY	**Talaya**	**27.34**	**313**		*e*P	**P**	**16 17 00.0**	**+0.9**
TLY					pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.8							
TLY					MLR	MLR		
	comp=Z,76nm,15.0s,MS3.4							
CD2	**Chengdu**	**27.69**	**267**		*e*P	**P**	**16 17 03.6**	**+1.1**
CD2					AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6							
CD2					AMB	AMB		
	comp=Z,20nm,3.8s							
BILL	**Bilibino**	**35.21**	**19**		*e*P	**P**	**16 18 08.7**	**+0.6**
BILL					pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0							
BILL	**Bilibino**	**35.21**	**19**		*e*P	**P**	**16 18 08.2**	**+0.1**
	comp=Z,3.1nm,0.9s,mb4.2							
WMQ	**Urumqi**	**37.26**	**296**		*e*P	**P**	**16 18 26.0**	**0.0**
MKAR	**Makanchi Array**	**40.71**	**301**		P	**P**	**16 18 53.2**	**-1.7**
	comp=Z,0.2nm,0.2s,mb3.3,baz=89,slow=8.2,SNR=3.5							
MKAR					LR	LR	16 36 22.8	
	comp=Z,68nm,19.0s,MS3.5,baz=357,slow=37							
KURK	**Kurchatov**	**42.77**	**308**		*e*P	**P**	**16 19 09.7**	**-1.9**
KURK					pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.0							
KURK	**Kurchatov**	**42.77**	**308**		*e*P	**P**	**16 19 09.7**	**-2.0**
	comp=Z,2.9nm,1.0s,mb4.0							
IMA2	**Indian Mountai**	**48.69**	**31**		*e*P	**P**	**16 19 58.7**	**+0.5**
INK	**Inuvik**	**56.16**	**27**		P	**P**	**16 20 53.7**	**+0.1**
	comp=Z,154nm,1.0s							
WRA	**Warramunga Arr**	**56.73**	**182**		P	**P**	**16 20 56.8**	**-1.4**
	comp=Z,1.4nm,1.0s,mb4.0,baz=357,slow=7.6,SNR=16							
ASAR	**Alice Springs**	**60.45**	**183**		P	**P**	**16 21 22.4**	**-1.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=359,slow=4.3,SNR=7.2							
RES	**Resolute Bay**	**63.53**	**13**		P	**P**	**16 21 43.7**	**-0.5**
	comp=Z,60nm,0.8s							
YKA	**Yellowknife Ar**	**65.74**	**29**		P	**P**	**16 21 57.7**	**-1.1**
	comp=Z,0.6nm,0.8s,mb3.7,baz=306,slow=6.7,SNR=7.9							
FINES	**FINESS Array B**	**66.88**	**331**		P	**P**	**16 22 05.0**	**-1.1**
	comp=Z,1.6nm,0.7s,mb4.1,baz=144,slow=7.1,SNR=4.9							
AKASG	**Malin Array Be**	**71.78**	**320**		P	**P**	**16 22 35.5**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=51,slow=6.5,SNR=4.6							
NVAR	**Mina Array Bea**	**78.11**	**51**		P	**P**	**16 23 14.1**	**+0.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=261,slow=8.7,SNR=4.5							
TXAR	**Lajitas Array**	**93.19**	**49**		P	**P**	**16 24 28.9**	**-0.1**
	comp=Z,0.3nm,0.5s,mb4.0,baz=299,slow=4.5,SNR=4.5							
LPAZ	**La Paz**	**149.99**	**53**		PKPbc	PKPbc	16 31 06.2	+0.8
	comp=Z,0.6nm,0.7s,baz=30,slow=13,SNR=3.7							

IDC 04 16:16:09.0±65.0, 1522S×17965E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=1176.0km s-min=153.1km az=74.0, Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.39**	**238**		P	P	16 23 32.4	+0.2
	4.1nm,1.1s,baz=84,slow=9.2,SNR=3.2							
WRA	**Warramunga Arr**	**43.35**	**257**		P	P	16 24 13.2	-0.1
	0.2nm,0.3s,baz=86,slow=7.6,SNR=20							
ASAR	**Alice Springs**	**43.80**	**252**		P	P	16 24 16.6	-0.2
	1.3nm,0.4s,baz=85,slow=8.7,SNR=54							

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*ISCJB **04** 16:23:22.6±0.6, 3815N±002×2363E±004, h7km±5km, Error ellipse: s-maj=4.8km s-min=3.1km az=167.3*
*ATH **04** 16:23:22.9, 3815N×2367E, h25km, MD3.3/14*
*NEIC **04** 16:23:22.9, 3815N×2367E, h25km, MD3.3(ATH), After ATH.*
*THE **04** 16:23:23.6, 3813N×2365E, h4km, ML3.7*
*CSEM **04** 16:23:24.0±0.1, 3814N×2365E, h15km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.4km az=73.0*
ISC 04 16:23:23.7±0.4, 3815N±002×2362E±003, h12km±4km, n33, σ0$89/48, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ATH	**Athens Observa**	**0.20**	**158**		*e*PB	**Pg**	**16 23 28.5**	**+0.5**
ATH					*e*SB	**Sg**	**16 23 32.1**	**+1.2**
PTL	**Penteli**	**0.22**	**119**		*e*PB	**Pg**	**16 23 28.2**	**-0.2**
KVR	**Kavouri**	**0.34**	**161**		*e*PB	**Pg**	**16 23 30.8**	**+0.2**
KVR					*e*SB	**Sg**	**16 23 35.8**	**+0.5**
NAIG	**Nisos Aigina**	**0.41**	**195**		*e*PB	**Pg**	**16 23 31.7**	**-0.1**
NAIG					*e*SB	**Sg**	**16 23 38.0**	**+0.7**
LTK	**Loutraki**	**0.54**	**256**		*e*Pg	**Pg**	**16 23 34.1**	**0.0**
LTK					*e*Sg	**Sg**	**16 23 42.3**	**+1.1**
LKR	**Lokris**	**0.70**	**315**		*e*Pg	**Pg**	**16 23 37.2**	**-0.1**
LKR					*e*Sg	**Sg**	**16 23 47.9**	**+1.4**
LKR	**Lokris**	**0.70**	**315**		*e*PN	**Pn**	**16 23 37.5**	**-1.8**
LKR					*e*SN	**Sg**	**16 23 47.7**	**+1.3**
LKR	**Lokris**	**0.70**	**315**		*e*Pg	**Pg**	**16 23 37.2**	**-0.1**
LKR					*e*Sg	**Sg**	**16 23 47.8**	**+1.4**
DID	**Didima**	**0.71**	**206**		*e*Pg	**Pg**	**16 23 36.7**	**-0.9**
DID					*e*Sg	**Sg**	**16 23 47.0**	**+0.1**
AOS	**Alonnisos**	**1.03**	**11**		*e*Pg	**Pg**	**16 23 43.2**	**-0.5**
NEO	**Neokhori**	**1.19**	**345**		*e*PN	**Pn**	**16 23 46.1**	**-0.1**
NEO					*e*SN	**Sn**	**16 24 02.5**	**+0.2**
XOR	**Xorichti**	**1.26**	**345**		*e*Pg	**Pg**	**16 23 46.7**	**-1.2**
VLX	**Vlachokerasia**	**1.26**	**232**		*e*Pg	**Pg**	**16 23 46.7**	**-1.2**
VLX					*e*Sg	**Sg**	**16 24 05.0**	**+0.7**
AGG	**Agios Georgios**	**1.33**	**311**		*e*Pg	**Pg**	**16 23 48.5**	**-0.9**
SELA	**Sela**	**1.37**	**276**		*e*Pg	**Pg**	**16 23 48.8**	**-1.3**
SELA					*e*Sg	**Sg**	**16 24 08.2**	**+0.4**
VLI	**Veliai**	**1.53**	**201**		*e*PB	**Pb**	**16 23 50.0**	**-2.0**
EVR	**Evrytania**	**1.61**	**299**		*e*PN	**Pn**	**16 23 52.4**	**+0.5**
ITM	**Ithomi**	**1.66**	**235**		*e*PN	**Pn**	**16 23 53.2**	**+0.6**
RLS	**Riolos of Patr**	**1.71**	**267**		*e*PN	**Pn**	**16 23 53.9**	**+0.7**
PAIG	**Paliouri**	**1.77**	**1**		*e*Pb	**Pb**	**16 23 54.2**	**-1.9**
APE	**Apeiranthos**	**1.86**	**125**		*e*Sb	**Sb**	**16 24 19.6**	**-1.2**
APE					*e*Sb	**Sb**	**16 24 21.4**	**+0.6**
APE	**Apeiranthos**	**1.86**	**125**		*e*Pn	**Pn**	**16 23 55.5**	**+0.2**
APE					*e*Sb	**Sb**	**16 24 19.6**	**-1.2**
THL	**Klokotos Trika**	**1.89**	**319**		*e*PN	**Pn**	**16 23 56.3**	**+0.6**
THL					*e*SN	**Sn**	**16 24 20.0**	**+0.6**
KYTH	**Kithira**	**1.93**	**194**		*e*PN	**Pn**	**16 23 56.5**	**+0.3**
PYL	**PYLOS**	**1.95**	**231**		*e*Pb	**Pb**	**16 23 57.1**	**-2.1**
LIA	**Limnos Island**	**2.12**	**34**		*e*Pn	**Pn**	**16 23 58.9**	**-0.1**
LIA					*e*Sn	**Sn**	**16 24 27.3**	**+2.1**
LIA	**Limnos Island**	**2.12**	**34**		*e*Pn	**Pn**	**16 23 58.7**	**-0.2**
LIT	**Litokhoron**	**2.13**	**336**		*e*Pn	**Pn**	**16 23 59.3**	**+0.2**
OUR	**Ouranopolis**	**2.19**	**7**		*e*Pn	**Pn**	**16 24 00.2**	**+0.3**
PLG	**Polygyros**	**2.22**	**356**		*e*Pn	**Pn**	**16 24 01.0**	**+0.7**
KFL	**Anninata**	**2.24**	**270**		*e*Pn	**Pn**	**16 24 00.9**	**+0.4**
ALN	**Alexandroupoli**	**3.32**	**34**		*e*Pn	**Pn**	**16 24 15.6**	**+0.2**
LAST	**Lasithi**	**3.34**	**153**		*e*Pn	**Pn**	**16 24 15.5**	**-0.1**

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*IDC **04** 16:30:50.8±9.3, 4543N×15534E, h0km, mb3.3/2, mb1 3.6/4, mb1mx3.3/22, mbtmp3.6/4, ML3.7/2, Error ellipse: s-maj=212.9km s-min=47.0km az=20.0*
*ISCJB **04** 16:30:52.5±1.4, 459N±0.1×1548E±02, h33km, mb3.2/2, Error ellipse: s-maj=22.1km s-min=11.8km az=148.8*
*MOS **04** 16:30:52.8±2.2, 4595N×15475E, h35km, mb3.9/1, Error ellipse: s-maj=47.3km s-min=29.4km az=47.9*
ISC 04 16:30:54.7±1.4, 459N±01×1549E±02, h35km, n8, σ1$06/9, mb3.2/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.85**	**9**		*e*P	**Pn**	**16 32 05.0**	**0.0**
KUR	**Kuril'sk**	**4.97**	**265**		*e*P	**Pn**	**16 32 03.5**	**-3.2**
KUR					*e*S	**Sn**	**16 33 02.5**	**-0.5**
KUR					pmax	pmax		
	comp=N,80nm,0.4s							
KUR					pmax	pmax		
	comp=Z,160nm,0.4s							
KUR					smax			
	comp=N,90nm,0.5s							
KUR	

CPUP	**Villa Florida**	**37.47**	**310**	*e*P	**P**	**16 46 22.0**	**+0.4**
	44nm,1.0s,mb5.2						
CPUP	**Villa Florida**	**37.47**	**310**	P	**P**	**16 46 22.8**	**+1.2**
	9.6nm,0.9s,mb4.6,baz=139,slow=7.8,SNR=12						
CPUP				LR	LR	16 59 00.2	
	comp=Z,90nm,21.4s,MS3.5,baz=155,slow=32						
CFAA	**Coronel Fontan**	**38.31**	**292**	P	**P**	**16 46 27.6**	**-1.0**
	1.2nm,0.5s,mb3.9,baz=143,slow=8.2,SNR=11						
MAW	**Mawson**	**39.60**	**143**	P	**P**	**16 46 38.8**	**-0.2**
	8.9nm,0.6s,mb4.7,baz=292,slow=5.4,SNR=9.4						
SUR	**Sutherland**	**39.95**	**73**	LR	LR	16 59 13.8	
	comp=Z,198nm,18.1s,MS4.0,baz=138,slow=30						
BOSA	**Boshof**	**45.27**	**74**	LR	LR	17 03 24.7	
	comp=Z,203nm,18.1s,MS4.1,baz=205,slow=32						
SBA	**Scott Base**	**46.01**	**184**	*e*P	**P**	**16 47 31.5**	**+0.6**
	6.4nm,0.8s,mb4.6						
VNDA	**Vanda**	**46.48**	**182**	*e*P	**P**	**16 47 34.3**	**-0.3**
	5.9nm,0.7s,mb4.6						
VNDA	**Vanda**	**46.48**	**182**	P	**P**	**16 47 34.8**	**+0.1**
	6.1nm,0.7s,mb4.6,baz=187,slow=6.5,SNR=14						
VNDA				LR	LR	17 05 01.2	
	comp=Z,74nm,18.1s,MS3.7,baz=86,slow=34						
LBTB	**Lobatse**	**48.32**	**72**	P	**P**	**16 47 49.1**	**-0.5**
	8.1nm,1.0s,mb4.7						
LBTB	**Lobatse**	**48.32**	**72**	P	**P**	**16 47 50.5**	**+0.9**
	1.1nm,0.6s,mb4.1,baz=204,slow=10.0,SNR=2.8						
LBTB				LR	LR	17 05 04.6	
	comp=Z,110nm,18.8s,MS3.9,baz=39,slow=32						
LPAZ	**La Paz**	**51.07**	**304**	*e*P	**P**	**16 48 13.0**	**+2.5**
	14nm,0.8s,mb5.0						
LPAZ	**La Paz**	**51.07**	**304**	P	**P**	**16 48 12.6**	**+2.1**
	8.8nm,0.4s,mb5.0,baz=134,slow=6.1,SNR=56						
NNA	**Nana**	**58.97**	**297**	*e*P	**P**	**16 49 05.0**	**-2.7**
	30nm,0.9s,mb5.3						
DBIC	**Dimbokro**	**64.97**	**23**	P	**P**	**16 49 48.3**	**+0.3**
	3.4nm,0.9s,mb4.4,baz=189,slow=8.3,SNR=3.6						
DBIC				LR	LR	17 12 31.3	
	comp=Z,120nm,18.8s,MS4.1,baz=108,slow=31						
SDV	**Santo Domingo**	**74.63**	**314**	*e*P	**P**	**16 50 47.9**	**+0.5**
	7.0nm,0.8s,mb4.6						
KEST	**Kesra**	**96.32**	**28**	LR	LR	17 32 28.1	
	comp=Z,20nm,18.0s,MS3.6,baz=232,slow=33						
ASAR	**Alice Springs**	**98.64**	**161**	P	**P**	**16 52 46.2**	**-1.1**
	0.7nm,0.7s,mb4.3,baz=190,slow=4.3,SNR=10						
ARCES	**ARCESS Array B**	**130.78**	**21**	PKP	PKPdf	16 58 17.7	0.0
ARCES	**ARCESS Array B**	**130.78**	**21**	PKP	PKPdf	16 58 17.7	0.0
	2.4nm,1.0s,baz=95,slow=1.3,SNR=5.2						
YKA	**Yellowknife Ar**	**136.77**	**317**	PKP	PKPdf	16 58 29.4	+0.3
YKA	**Yellowknife Ar**	**136.77**	**317**	PKP	PKPdf	16 58 29.4	+0.3
	1.6nm,0.6s,baz=125,slow=2.2,SNR=16						
CD2	**Chengdu**	**136.90**	**104**	*e*PKP	PKPdf	16 58 30.3	-0.1
WMQ	**Urumqi**	**137.19**	**78**	*e*PKP	PKPdf	16 58 32.0	+1.5
LZH	**Lanzhou**	**140.84**	**99**	*e*PKP	PKPdf	16 58 44.0	+6.5
LZH				PP	PP		
	comp=Z,72nm,5.1s						
ZALV	**Zalesovo Beam**	**141.75**	**63**	PKP	PKPdf	16 58 38.7	+0.2
	comp=Z,0.4nm,0.4s,baz=259,slow=1.5,SNR=2.6						
NJ2	**Nanjing**	**145.63**	**120**	*e*PKP	PKPdf	16 58 46.5	+0.5
INK	**Inuvik**	**146.38**	**320**	*e*PKPdf	PKPdf	16 58 47.6	+1.5
DAWY	**Dawson**	**147.44**	**312**	*e*PKPbc	PKPbc	16 58 50.4	-0.2
EGAK	**Eagle**	**148.38**	**312**	*e*PKPdf	PKPdf	16 58 49.5	0.0
EGAK				*e*PKPbc	PKPbc	16 58 52.8	-0.3
HHC	**Hu-ho-hao-te**	**148.48**	**101**	*e*PKP	PKPdf	16 58 50.2	-0.3
HHC				PKS		17 02 23.7	
HHC				PP	PP		
	comp=Z,160nm,7.6s						
HHC				LR	LR		
	comp=N,107nm,18.7s,MS4.9						
HHC				LR	LR		
	comp=E,154nm,18.8s,MS4.9						
HHC				LR	LR		
	comp=Z,137nm,20.1s,MS4.7						
SONM	**Songino Array**	**149.98**	**86**	PKPbc	PKPbc	16 58 57.6	0.0
	comp=Z,2.2nm,0.6s,baz=231,slow=3.1,SNR=19						
ULN	**Ulaanbaatar**	**150.37**	**86**	*e*PKPbc	PKPbc	16 58 58.0	-0.5
SML	**Sawmill**	**150.72**	**305**	*e*PKPbc	PKPbc	16 58 59.1	+0.1
COLA	**College**	**151.19**	**311**	*e*PKPbc	PKPbc	16 58 59.7	-0.3
COLA				*e*PKPab	PKPab	16 59 07.7	-0.3
MCK	**McKinley**	**151.44**	**309**	*e*PKPbc	PKPbc	16 59 00.6	+0.1
KDAK	**Kodiak Island**	**151.55**	**296**	*e*PKPbc	PKPbc	16 59 00.9	0.0
JNU	**Nakatsue**	**151.88**	**135**	PKPbc	PKPbc	16 59 02.6	0.0
	comp=Z,7.7nm,0.9s,baz=22,slow=16,SNR=5.3						
MJAR	**Matsushiro Arr**	**157.59**	**145**	PKPab	PKPab	16 59 35.5	-0.5
	comp=Z,0.9nm,0.8s,baz=180,slow=5.3,SNR=5.9						

*ISCJB **04** 16:44:14.8±3.4,222N±02×143.1E±03,h67km±30km, mb3.5/5, Error ellipse: s-maj=53.0km s-min=29.1km az=172.2*
*IDC **04** 16:44:16.6±4.6,2222N×143.21E,h68km±40km,mb3.2/5, mb1 3.3/6,mb1mx3.2/19,mbtmp3.3/6,ML3.3/1,MS2.8/3, Ms1 2.8/3,ms1mx2.6/13,Error ellipse: s-maj=47.4km s-min=27.2km az=82.0*

ISC 04 16:44:16.5±3.1,222N±02×1432E±03,h67km±27km,n9, σ0.72/6,mb3.5/5,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**4.94**	**349**	P	**Pn**	**16 45 28.2**	**-0.1**
	2.4nm,0.3s,baz=252,slow=20,SNR=3.8						
GUMO	**Guam**	**8.73**	**169**	LR	LR	16 48 50.2	
	comp=Z,66nm,19.1s,baz=40,slow=31						
JNU	**Nakatsue**	**15.38**	**318**	LR	LR	16 53 32.2	
	comp=Z,27nm,20.9s,baz=202,slow=36						
KSRS	**Korea Array**	**20.11**	**322**	LR	LR	16 55 43.0	
	comp=Z,26nm,20.9s,baz=150,slow=34						
SONM	**Songino Array**	**38.95**	**320**	P	**P**	**16 51 36.8**	**+0.8**
	0.3nm,0.4s,mb3.5,baz=118,slow=5.8,SNR=3.6						
ASAR	**Alice Springs**	**46.49**	**192**	P	**P**	**16 52 37.2**	**0.0**
	0.2nm,0.7s,mb3.0,baz=17,slow=9.4,SNR=5.0						
ZALV	**Zalesovo Beam**	**53.81**	**321**	P	**P**	**16 53 31.9**	**-0.4**
	0.6nm,0.4s,mb4.0,baz=99,slow=7.7,SNR=4.2						
MKAR	**Makanchi Array**	**54.36**	**312**	P	**P**	**16 53 35.9**	**-0.5**
	0.2nm,0.2s,mb3.7,baz=92,slow=7.2,SNR=2.8						
YKA	**Yellowknife Ar**	**75.99**	**28**	P	**P**	**16 55 56.2**	**0.0**
	0.2nm,0.4s,mb3.2,baz=288,slow=5.8,SNR=4.1						

*BER **04** 16:50:27.6±6.8, 7596N×869E, h0km±147km, MD2.7, ML2.5(NAO)*
*ISCJB **04** 16:50:27.9±0.5, 7595N±005×96E±03, h10km, mb3.4/4, MS3.2/8, Error ellipse: s-maj=9.9km s-min=6.4km az=9.1*
*NAO **04** 16:50:27.8±3.4, 7598N×890E, ML2.5*
*CSEM **04** 16:50:28.6±0.1, 7600N×824E, h10km, mb4.0/4, Error ellipse: s-maj=3.2km s-min=2.5km az=54.0*
*NEIC **04** 16:50:28.6±0.6, 7607N×935E, h10km, mb4.0/4, Error ellipse: s-maj=11.7km s-min=8.5km az=77.0*
*IDC **04** 16:50:29.4±1.1, 7594N×913E, h0km, mb3.5/3, mb1 3.7/7, mb1mx3.5/22, mbtmp3.6/7, ML2.8/4, MS3.1/13, Ms1 3.2/13, ms1mx2.9/25, Error ellipse: s-maj=36.3km s-min=13.1km az=47.0*

ISC 04 16:50:29.7±0.5,7594N±004×98E±02,h10km,n40, σ1.18/39,mb3.4/4,MS3.2/8,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPB4	**Spitsbergen Ar**	**2.69**	**30**	*e*Pn	**Pn**	**16 51 12.2**	**-0.7**
SPB4	**Spitsbergen Ar**	**2.69**	**30**	*e*Pn	**Pn**	**16 51 12.2**	**-0.7**
SPA0	**Spitsbergen Ar**	**2.69**	**30**	Pn	**Pn**	**16 51 12.4**	**-0.5**
	baz=210,slow=16						
SPA0				Sn	**Sn**	**16 51 45.4**	**-0.1**
	baz=186,slow=18						
KBS	**Kingsbay**	**3.04**	**8**	*e*P	**Pn**	**16 51 13.4**	**-4.3**
KBS	**Kingsbay**	**3.04**	**8**	*e*Pn	**Pn**	**16 51 13.3**	**-4.4**
KBS	**Kingsbay**	**3.04**	**8**	Pn	**Pn**	**16 51 13.3**	**-4.4**
JMIC	**Jan Mayen**	**7.17**	**236**	LR	LR	16 53 57.9	
	comp=Z,145nm,20.7s,baz=194,slow=30						
ARA0	**ARCESS Array S**	**7.91**	**136**	Pn	**Pn**	**16 52 25.3**	**+0.8**
	baz=337,slow=11						
ARA0				Sn	**Sn**	**16 53 52.4**	**-1.6**
	baz=332,slow=22						
ARCES	**ARCESS Array B**	**7.91**	**136**	Pn	**Pn**	**16 52 26.0**	**+1.4**
	0.4nm,0.3s,baz=322,slow=9.2,SNR=12						
ARCES				Sn	**Sn**	**16 53 52.6**	**-1.3**
	2.5nm,0.3s,baz=331,slow=21,SNR=15						
ARCES				LR	LR	16 55 45.8	
	comp=Z,108nm,20.4s,baz=301,slow=39						
ARCES	**ARCESS Array B**	**7.91**	**136**	Pn	**Pn**	**16 52 26.0**	**+1.5**
ARCES				Sn	**Sn**	**16 53 52.7**	**-1.3**
KEV	**Kevo**	**7.99**	**132**	*e*Pn	**Pn**	**16 52 27.4**	**+1.9**
KEV				*e*Sn	**Sn**	**16 53 52.2**	**-3.5**
KEV	**Kevo**	**7.99**	**132**	*e*Pn	**Pn**	**16 52 27.4**	**+1.9**
KEV				*e*Sn	**Sn**	**16 53 52.2**	**-3.5**
NB2	**NORSAR Subarra**	**14.98**	**177**	P	**Pn**	**16 54 05.9**	**+4.9**
	comp=Z,1.4nm,0.8s,baz=1.3,slow=11						
NOA	**NORSAR Array B**	**14.98**	**177**	Pn	**Pn**	**16 54 04.8**	**+3.7**
	comp=Z,0.1nm,0.3s,baz=353,slow=12,SNR=3.0						
NOA				LR	LR	16 58 58.4	
	comp=Z,46nm,21.7s,baz=260,slow=34						
BORG	**Borgarnes**	**15.05**	**239**	Pn	**Pn**	**16 54 02.2**	**+0.2**
	comp=Z,20nm,1.2s						
BORG	**Borgarnes**	**15.05**	**239**	Pn	**Pn**	**16 54 02.2**	**+0.2**
	comp=Z,20nm,1.2s						
FINES	**FINESS Array B**	**15.61**	**150**	Pn	**Pn**	**16 54 10.0**	**+0.7**
	comp=Z,0.0nm,0.3s,baz=309,slow=12,SNR=2.8						
FINES				LR	LR	17 00 13.2	
	comp=Z,83nm,21.9s,baz=5.8,slow=37						
HFS	**Hagfors**	**15.94**	**173**	Pn	**Pn**	**16 54 13.3**	**-0.3**
HFS				LR	LR	17 00 26.9	
HFS	**Hagfors**	**15.94**	**173**	Pn	**Pn**	**16 54 13.3**	**-0.3**
	comp=Z,0.0nm,0.3s,baz=18,slow=5.3,SNR=4.0						
HFS				LR	LR	17 00 27.0	
	comp=Z,28nm,20.9s,baz=4.3,slow=37						
KONO	**Kongsberg**	**16.37**	**180**	Pn	**Pn**	**16 54 19.0**	**-0.1**
	comp=Z,13nm,1.0s						
KONO	**Kongsberg**	**16.37**	**180**	Pn	**Pn**	**16 54 19.0**	**-0.1**
SFJD	**Kangerlussuaq**	**20.11**	**276**	P	**P**	**16 55 01.0**	**-2.0**
	comp=Z,8.3nm,0.8s						
SFJD	**Kangerlussuaq**	**20.11**	**276**	P	**P**	**16 55 01.0**	**-2.0**
RES	**Resolute Bay**	**23.32**	**320**	*e*Pn	**P**	**16 55 31.8**	**-5.5**
RES	**Resolute Bay**	**23.32**	**320**	*e*Pn	**P**	**16 55 31.8**	**-5.5**
CLL	**Collm**	**24.76**	**175**	*e*P	**P**	**16 55 50.0**	**-0.9**
MORC	**Moravsky Berou**	**26.45**	**169**	P	**P**	**16 56 07.0**	**+0.8**
	comp=Z,2.0nm,0.7s,mb3.8						
MORC	**Moravsky Berou**	**26.45**	**169**	P	**P**	**16 56 07.0**	**+0.8**
VRAC	**Vranov**	**26.87**	**170**	LR	LR	17 06 21.1	
	comp=Z,30nm,19.5s,MS2.9,baz=183,slow=35						
GERES	**GERESS Array B**	**27.24**	**174**	LR	LR	17 05 40.8	
	comp=Z,41nm,21.6s,MS3.0,baz=90,slow=33						
SCHQ	**Schefferville**	**34.55**	**277**	LR	LR	17 10 59.4	
	comp=Z,58nm,18.1s,MS3.4,baz=55,slow=36						
ZALV	**Zalesovo Beam**	**34.97**	**85**	LR	LR	17 16 28.6	
	comp=Z,32nm,19.3s,MS3.1,baz=124,slow=44						
YKA	**Yellowknife Ar**	**37.38**	**321**	P	**P**	**16 57 42.7**	**+0.9**
YKA				LR	LR	17 13 04.0	
YKA	**Yellowknife Ar**	**37.38**	**321**	P	**P**	**16 57 42.7**	**+1.0**
	comp=Z,0.1nm,0.3s,mb3.1,baz=14,slow=8.7,SNR=4.4						
YKA				LR	LR	17 13 04.0	
	comp=Z,21nm,18.5s,MS3.0,baz=350,slow=36						
YKA	**Yellowknife Ar**	**37.38**	**321**	P	**P**	**16 57 42.7**	**+0.9**
MKAR	**Makanchi Array**	**40.97**	**92**	P	**P**	**16 58 14.7**	**+2.7**
	comp=Z,0.2nm,0.3s,mb3.2,baz=353,slow=7.3,SNR=4.3						
ULM	**Lac du Bonnet**	**45.49**	**300**	LR	LR	17 18 06.5	
	comp=Z,80nm,19.5s,MS3.7,baz=34,slow=36						
KSRS	**Korea Array**	**60.30**	**54**	LR	LR	17 31 43.4	
	comp=Z,19nm,18.3s,MS3.3,baz=205,slow=41						
TXAR	**Lajitas Array**	**67.19**	**300**	P	**P**	**17 01 23.1**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=2.2,slow=6.4,SNR=4.7						
TXAR				LR	LR	17 31 31.5	
	comp=Z,49nm,21.4s,MS3.7,baz=305,slow=37						
TXAR	**Lajitas Array**	**67.19**	**300**	P	**P**	**17 01 23.1**	**-0.3**

*CSEM **04** 17:10:41.1, 4255N×4622E, h16km, mb3.7, After OBN*

MOS 04 17:10:41.8±0.3,4255N×4622E,h16km,mb3.7/1,Error ellipse: s-maj=45.3km s-min=17.8km az=13.3,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRNR	**Karanay**	**0.57**	**61**	PG	Pg	17 10 54.0	+0.9
KRNR				*i* S	Sg	17 11 03.5	+2.7
LACR	**Lac**	**1.45**	**281**	*i* Pg	Pg	17 11 07.1	-2.5
LACR				*i* Sg	Sg	17 11 25.5	-3.0
ARNR	**Ardon**	**1.56**	**295**	*e*Pg	Pg	17 11 09.3	-2.6
ARNR				*e*Sg	Sg	17 11 29.5	-2.7
KORR	**Kora**	**1.67**	**289**	*e*Pn	Pn	17 11 11.2	+0.8
KORR				*e*Sg	Sg	17 11 32.6	-3.1
ZEI	**Tsey**	**1.73**	**278**	*i* Pn	Pn	17 11 12.0	+0.8
DIGR	**Digorskoe uzhe**	**1.98**	**281**	*e*Pn	Pn	17 11 16.0	+1.4

*NEIC **04** 17:21:41.8, 965N×6222W, h4km, MD3.3(TRN), After TRN.*
*TRN **04** 17:21:48.0, 1000N×6166W, h102km, MD3.3*
*ISCJB **04** 17:21:49.0±0.7, 1045N±004×6264W±003, h13km±5km, Error ellipse: s-maj=6.8km s-min=4.2km az=164.4*
*FUNV **04** 17:21:49.5, 1046N×6263W, h1km, MW2.5*

ISC 04 17:21:49.3±0.5,1048N±004×6263W±003,h11km±5km,n14, σ0.72/23,3C,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.43**	**67**	⇑*e*P	**Pg**	**17 21 58.3**	**+0.5**
GUIV				*e*S	**Sg**	**17 22 04.7**	**+1.0**
GUNV	**Guanoco**	**0.44**	**224**	⇑*i*P	**Pg**	**17 21 57.2**	**-0.8**
GUNV				*e*S	**Sg**	**17 22 04.3**	**+0.4**
CRUV	**Carupano**	**0.63**	**288**	*e*P	**Pg**	**17 22 00.5**	**-1.0**
CRUV				*e*S	**Sg**	**17 22 09.3**	**-0.5**
TCE	**Chacachacare**	**0.89**	**76**	*e*P	**Pg**	**17 22 05.2**	**-1.3**
TCE				*e*S	**Sg**	**17 22 18.5**	**+0.4**
ITEV	**Isla Los Testi**	**1.00**	**331**	⇑*e*P	**Pg**	**17 22 08.4**	**-0.2**
ITEV				*e*S	**Sg**	**17 22 22.6**	**+0.9**
TPP	**Pointe-a-Pierr**	**1.17**	**98**	*e*P	**Pb**	**17 22 02.5**	**-9.0**
TPP				*e*S	**Sb**	**17 22 15.2**	**-12**
TRN	**Trinidad (W)**	**1.22**	**82**	*e*P	**Pn**	**17 22 07.2**	**-5.0**
TRN				*e*S	**Sb**	**17 22 26.6**	**-1.4**
TBH	**Brigand Hill**	**1.54**	**90**	*e*P	**Pn**	**17 22 06.2**	**-10**
TBH				*e*P		17 22 06.4	
TBH				*e*S	**Sn**	**17 22 19.1**	**-17**
PCRV	**Puerto La Cruz**	**2.00**	**261**	*e*P	**Pn**	**17 22 23.2**	**+0.3**
PCRV				*e*S	**Sn**	**17 22 47.3**	**-0.6**
RIOV	**Rio Grande**	**2.53**	**161**	*e*S	**Sn**	**17 23 01.4**	**+0.4**
PRGV	**PARIAGUAN**	**2.62**	**229**	*e*P	**Pn**	**17 22 32.4**	**+0.8**
BIRV	**Birongo**	**3.58**	**270**	*e*P	**Pn**	**17 22 45.1**	**+0.4**
CAOV	**Caicara del Or**	**4.81**	**230**	*e*P	**Pn**	**17 23 02.1**	**+0.4**
BAUV	**El Baul**	**5.55**	**254**	*e*P	**Pn**	**17 23 12.0**	**+0.2**

*ISCJB **04** 17:25:05.4±2.9, 57S±0.1×1542E±01, h111km±31km, mb4.1/15, Error ellipse: s-maj=27.5km s-min=15.3km az=136.5*
*NEIC **04** 17:25:06.6±1.7, 574S×154.13E, h107km±18km, mb4.3/10, Error ellipse: s-maj=16.5km s-min=9.0km az=132.0*
*IDC **04** 17:25:06.7±3.7, 579S×154.14E, h106km±36km, mb3.9/8, mb1 3.9/10, mb1mx3.8/17, mbtmp3.9/10, MS3.8/1, Ms1 3.8/1, ms1mx2.8/24, Error ellipse: s-maj=28.8km s-min=20.2km az=110.0*

ISC 04 17:25:06.3±2.5,57S±01×1541E±01,h102km±27km,n26, σ0.70/26,mb4.1/15,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.85**	**123**	P	**Pn**	**17 26 44.0**	**-0.2**
HNR				*e*Sn	**Sn**	**17 28 08.8**	**+8.1**
HNR	**Honiara**	**6.85**	**123**	P	**Pn**	**17 26 44.0**	**-0.2**
	2.9nm,0.3s,baz=126,slow=6.2,SNR=2.8						
CTA	**Charters Tower**	**16.18**	**207**	P	**Pn**	**17 28 47.6**	**-0.1**
	0.5nm,0.3s,baz=34,slow=12,SNR=7.3						
CTAO	**Charters Tower**	**16.18**	**207**	*e*Pn	**Pn**	**17 28 49.1**	**+1.4**
	4.7nm,0.6s						
KAKA	**Kakadu**	**22.47**	**251**	*e*P	**P**	**17 29 56.9**	**-0.5**
	9.5nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**23.83**	**232**	*e*P	**P**	**17 30 10.7**	**+0.5**
	8.4nm,0.9s,mb4.1						
WRAB				*e*		17 30 33.0	
WB2	**Warramunga Arr**	**23.84**	**232**	⇑*i*P	**P**	**17 30 11.0**	**+0.8**
WRA	**Warramunga Arr**	**23.85**	**232**	P	**P**	**17 30 10.9**	**+0.6**
	8.2nm,0.7s,mb4.2,baz=53,slow=10.0,SNR=85						
ASAR	**Alice Springs**	**26.38**	**225**	P	**P**	**17 30 33.5**	**+0.2**
	3.1nm,0.8s,mb3.8,baz=56,slow=9.3,SNR=45						
ASAR				PcP	PcP	17 33 56.3	-0.3
	0.4nm,0.5s,baz=61,slow=2.2,SNR=6.0						
STKA	**Stephens Creek**	**28.52**	**203**	*e*P	**P**	**17 30 51.6**	**-0.6**
	5.3nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**28.52**	**203**	*e*P	**P**	**17 30 51.6**	**-0.6**
	28nm,1.2s,mb4.8						
STKA	**Stephens Creek**	**28.52**	**203**	P	**P**	**17 30 51.6**	**-0.6**
	6.6nm,0.7s,mb4.4,baz=37,slow=11,SNR=14						
FITZ	**Fitzroy Crossi**	**30.38**	**244**	*e*P	**P**	**17 31 08.8**	**-0.1**
	3.4nm,0.5s,mb4.2						
FITZ	**Fitzroy Crossi**	**30.38**	**244**	P	**P**	**17 31 08.6**	**-0.3**
	2.7nm,0.7s,mb4.0,baz=89,slow=8.8,SNR=13						
FORT	**Forrest**	**34.91**	**221**	*e*P	**P**	**17 31 47.9**	**-0.4**
	12nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**36.66**	**242**	P	**P**	**17 31 59.5**	**-3.8**
	5.6nm,1.1s,mb4.4						
NWAO	**Narrogin (SRO)**	**43.68**	**227**	LR	LR	17 51 23.3	
	comp=Z,112nm,19.7s,baz=358,slow=36						
COCO	**West Island**	**56.85**	**259**	*e*P	**P**	**17 34 39.3**	**-1.6**
	118nm,1.0s						
CM31	**Chiang Mai Arr**	**59.46**	**295**	*e*P	**P**	**17 34 58.1**	**-0.8**
	1.6nm,0.6s,mb4.2						
SONM	**Songino Array**	**67.81**	**327**	P	**P**	**17 35 54.0**	**+0.6**
	0.8nm,0.4s,mb3.9,baz=139,slow=5.3,SNR=8.7						
LSA	**Lhasa**	**69.84**	**304**	P	**P**	**17 36 07.5**	**+1.2**
	4.0nm,0.8s,mb4.3						
BILL	**Bilibino**	**74.11**	**5**	*e*P	**P**	**17 36 30.8**	**-0.2**
	2.5nm,0.8s,mb4.0						
MK31	**Makanchi Array**	**81.89**	**319**	*e*P	**P**	**17 37 14.3**	**-0.1**
MKAR	**Makanchi Array**	**81.89**	**319**	P	**P**	**17 37 14.9**	**+0.4**
	0.2nm,0.3s,mb3.5,baz=107,slow=6.5,SNR=5.7						
ZALV	**Zalesovo Beam**	**82.66**	**326**	P	**P**	**17 37 18.1**	**-0.2**
	0.5nm,0.4s,mb3.7,baz=113,slow=4.8,SNR=3.2						
QSPA	**South Pole Qui**	**84.22**	**180**	P	**P**	**17 37 26.1**	**+0.2**
	1.9nm,0.7s,mb4.1,baz=327,slow=0.6,SNR=19						

*ISCJB **04** 17:37:44.9±1.4, 5646S±006×273W±01, h130km±13km, mb4.9/38, Error ellipse: s-maj=11.8km s-min=6.8km az=43.7*
*MOS **04** 17:37:45.4±1.0, 5641S×2722W, h133km, mb5.0/9, Error ellipse: s-maj=26.8km s-min=13.0km az=104.2*
*GCMT **04** 17:37:47.8±0.2, 5665S×2702W, h137km±2km, MW5.0/83, Moment Tensor Solution. s46,c56; s83,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.30±.13; $M_{\theta\theta}$-2.85±.22; $M_{\phi\phi}$-1.45±.22; $M_{r\theta}$-1.80±.14; $M_{\phi\phi}$-1.22±.16; $M_{\theta\phi}$2.08±.13; Best double couple: $M_0$4.55300×10^{16} NP1:ϕ_s42.00000°,δ44.00000°,λ56.00000°. NP2: ϕ_s265.00000°,δ55.00000°,λ119.00000°. Principal axes: T 5.4990, Plg66.0000°, Azm232.0000°; N -1.8930, Plg23.0000°, Azm67.0000°; P -3.6060, Plg5.0000°, Azm335.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **04** 17:37:47.8, 5650S×2730W, h148km, mB5.1*
*IDC **04** 17:37:47.8±0.5, 5648S×2744W, h143km±4km, mb4.6/23, mb1 4.7/24, mb1mx4.6/26, mbtmp4.6/24, MS4.0/6, Ms1 4.0/6, ms1mx3.5/24, Error ellipse: s-maj=11.2km s-min=8.4km az=34.0*
*NEIC **04** 17:37:47.9±0.1, 5646S×2732W, mb5.1/22, Error ellipse: s-maj=8.6km s-min=5.9km az=218.0*

ISC 04 17:37:46.6±1.2,5647S±005×273W±01,h132km±11km, h148km±2.9km;pP-P,n457,σ0.96/90,mb4.9/38,109C-96D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**5.66**	**289**	Pn	**Pn**	**17 39 09.5**	**+1.0**
	498nm,1.0s,SNR=15						
VNA1	**Neumayer--Stat**	**16.44**	**157**	*e*Pn	**Pn**	**17 41 28.8**	**-0.3**
VNA1				*e*		17 41 31.1	
VNA1				*e*		17 41 36.3	
VNA1				*e*		17 41 39.1	
VNA1				*e*		17 41 45.7	
VNA1				*e*		17 42 32.1	
VNA1				*e*		17 44 25.8	
VNA1				*e*		17 44 29.6	
VNA1				*e*S	**S**	**17 44 37.4**	**+5.4**
VNA1				*e*		17 46 13.5	
VNA1				*e*		17 46 16.2	
VNA1				*e*		17 49 33.5	
VNA3	**Neumayer Olymp**	**16.62**	**160**	*e*Pn	**Pn**	**17 41 30.9**	**-0.5**
VNA3				*e*		17 41 32.8	
VNA3				*e*		17 41 37.6	
VNA3				*e*		17 41 40.1	
VNA3				*e*		17 41 47.6	
VNA3				*e*		17 41 58.0	
VNA3				*e*		17 42 34.9	
VNA3				*e*		17 44 26.8	
VNA3				*e*		17 44 30.4	
VNA3				*e*S	**S**	**17 44 38.0**	**+1.7**
VNA3				*e*S	**S**	**17 44 52.6**	**+16**
VNA3				*e*		17 46 12.9	
VNA3				*e*		17 46 15.9	
VNA3				*e*		17 49 33.4	
VNA2	**Neumayer--Watz**	**16.83**	**157**	*e*Pn	**Pn**	**17 41 33.5**	**-0.5**
VNA2				*e*		17 41 35.2	
VNA2		

comp=Z,30nm,0.7s
MAW Mawson 39.86 143 P **P 17 45 06.9 +0.3**
comp=Z,30nm,0.7s,mb5.0
MAW Mawson 39.86 143 P **P 17 45 07.1 +0.5**
comp=Z,9.3nm,0.7s,mb4.5,baz=240,slow=8.9,SNR=12
MAW PcP PcP 17 47 09.9 +0.4
comp=Z,9.3nm,0.7s,baz=245,slow=3.3,SNR=5.3
MAW ScP ScP 17 50 44.3 -1.5
comp=Z,3.5nm,0.7s,baz=267,slow=6.8,SNR=4.5
SUR Sutherland 40.83 75 P **P 17 45 15.7 +0.7**
SUR pP pP 17 45 48.4 +4.0
SUR PcP PcP 17 47 14.3 +1.0
SUR LR LR 17 57 38.6
SUR Sutherland 40.83 75 P **P 17 45 15.7 +0.7**
comp=Z,4.0nm,0.6s,mb4.2,baz=290,slow=23,SNR=5.7
SUR pP pP 17 45 48.4 +4.0
comp=Z,7.5nm,0.8s,baz=217,slow=9.6,SNR=3.8
SUR PcP PcP 17 47 14.3 +1.0
comp=Z,6.9nm,0.9s,baz=233,slow=23,SNR=2.7
SUR LR LR 17 57 38.6
comp=Z,245nm,18.7s,baz=171,slow=29
LCO Las Campanas 40.99 294 *e*P **P 17 45 15.4 -1.0**
comp=Z,13nm,0.5s,mb4.8
LCO *e*PcP PcP 17 47 13.5 -0.4
BDFB Brasilia 43.69 331 P **P 17 45 39.4 +1.1**
comp=Z,7.5nm,0.6s,mb4.5,baz=142,slow=8.8,SNR=21
VNDA Vanda 46.15 183⇑*e*P **P 17 45 57.9 +0.9**
VNDA *e* 17 47 31.0
VNDA pmax pmax
comp=Z,26nm,0.9s
VNDA Vanda 46.15 183⇑*e*P **P 17 45 57.9 +0.9**
comp=Z,26nm,0.9s,mb4.9
VNDA *e*PcP PcP 17 47 31.0 +0.4
VNDA *e*ScP ScP 17 51 09.2 -2.0
VNDA Vanda 46.15 183 P **P 17 45 57.9 +0.8**
comp=Z,21nm,0.8s,mb4.8,baz=183,slow=6.4,SNR=46
VNDA LR LR 18 02 49.3
comp=Z,99nm,20.6s,baz=186,slow=32
BOSA Boshof 46.16 76 *e*P **P 17 45 57.0 -0.7**
BOSA *e**PP pP 17 46 30.4 +2.7
BOSA pmax pmax
comp=Z,22nm,1.2s,mb4.7
BOSA Boshof 46.16 76 *e*P **P 17 45 57.0 -0.7**
comp=Z,22nm,1.2s,mb4.7
BOSA *e*pP pP 17 46 30.4 +2.7
BOSA Boshof 46.16 76 P **P 17 45 57.2 -0.5**
comp=Z,7.8nm,0.7s,mb4.5,baz=222,slow=8.0,SNR=18
BOSA pP pP 17 46 30.9 +3.2
comp=Z,5.6nm,0.8s,baz=217,slow=8.7,SNR=3.8
BOSA LR LR 18 02 07.0
comp=Z,233nm,18.1s,baz=200,slow=32
SIV San Ignacio 47.81 314 P **P 17 46 10.2 -0.4**
comp=Z,14nm,0.6s,mb4.8,baz=160,slow=8.0,SNR=83
SIV PcP PcP 17 47 37.0 -0.4
comp=Z,11nm,0.7s,baz=158,slow=7.0,SNR=7.6
LBTB Lobatse 49.21 73⇓*e*P **P 17 46 20.3 -1.0**
LBTB *e**PP pP 17 46 54.5 +2.9
LBTB pmax pmax
comp=Z,27nm,0.8s,mb4.9
LBTB Lobatse 49.21 73⇓*e*P **P 17 46 20.3 -1.0**
comp=Z,27nm,0.8s,mb4.9
LBTB *e*pP pP 17 46 54.5 +2.9
LBTB Lobatse 49.21 73 P **P 17 46 20.9 -0.4**
comp=Z,29nm,0.8s,mb5.0,baz=227,slow=8.3,SNR=62
LBTB pP pP 17 46 55.0 +3.4
comp=Z,9.7nm,0.7s,baz=228,slow=9.0,SNR=4.3
LBTB LR LR 18 04 24.9
comp=Z,137nm,19.3s,baz=61,slow=32
TSUM Tsumeb 49.96 61⇑*i*P **P 17 46 26.8 -0.2**
comp=Z,14nm,0.9s,mb4.6
TSUM *e*pP pP 17 47 00.9 +3.4
TSUM Tsumeb 49.96 61 LR LR 18 04 23.6
comp=Z,129nm,19.6s,baz=120,slow=32
LPAZ La Paz 50.55 306 P **P 17 46 32.9 +1.5**
comp=Z,134nm,0.5s,mb5.9,baz=143,slow=6.0,SNR=728
ARE Arequipa 51.95 302 *e*P **P 17 46 41.0 -0.9**
LSZ Lusaka 58.60 69⇑*i*P **P 17 47 28.7 -0.9**
LSZ pmax pmax
comp=Z,47nm,0.8s,mb5.4
LSZ Lusaka 58.60 69⇑*i*P **P 17 47 28.7 -0.8**
comp=Z,47nm,0.8s,mb5.4
LSZ ⇓*i*pP pP 17 48 03.4 +2.6
DBIC Dimbokro 65.59 25⇑*i*P **P 17 48 15.7 -0.4**
DBIC pmax pmax
comp=Z,33nm,1.1s
DBIC Dimbokro 65.59 25⇑*i*P **P 17 48 15.7 -0.4**
comp=Z,33nm,1.1s,mb5.1
DBIC Dimbokro 65.59 25 P **P 17 48 15.9 -0.2**
comp=Z,18nm,0.6s,mb5.1,baz=171,slow=8.2,SNR=39
DBIC LR LR 18 11 10.0
comp=Z,111nm,20.1s,baz=329,slow=30
BBTS Babate 71.44 11 P **P 17 48 52.8 +0.4**
comp=Z,18nm,0.6s,mb5.0,baz=190,slow=2.9,SNR=4.9
ROSC El Rosal 72.11 310⇑*i*P **P 17 48 56.8 +0.3**
ROSC El Rosal 72.11 310 P **P 17 48 57.2 +0.8**
comp=Z,21nm,0.7s,mb5.0,baz=150,slow=2.3,SNR=17
GRGR Grenville 74.07 325⇑*e*P **P 17 49 08.0 +0.1**
comp=Z,95nm,0.6s,mb5.7
SDV Santo Domingo 74.25 315⇑*i*P **P 17 49 09.0 0.0**
comp=Z,46nm,0.8s,mb5.3
SDV Santo Domingo 74.25 315 P **P 17 49 09.2 +0.2**
comp=Z,42nm,0.7s,mb5.3,baz=186,slow=5.3,SNR=87
KMBO Kilima Mbogo 75.27 69 P **P 17 49 16.7 +1.7**
comp=Z,2.8nm,0.8s,mb3.9,baz=221,slow=7.4,SNR=7.6
MGG Marie-Galante 77.53 327 *e*P **P 17 49 28.6 +1.1**
TBG Guadaloupe-3 77.56 326 *e*P **P 17 49 29.2 +1.5**
SCG Saint Claude 77.74 326 *e*P **P 17 49 30.1 +1.5**
DEG La Desirade 77.82 327 *e*P **P 17 49 29.7 +0.6**
BCIP Isla Barro Col 78.35 307⇑*e*P **P 17 49 32.0 -0.1**
comp=Z,35nm,0.7s,mb5.1
RPZ Rata Peaks 78.98 193 P **P 17 49 34.6 -0.7**
comp=Z,23nm,0.9s,mb4.8,baz=0.6,slow=22,SNR=5.7
TAU Tasmania Unive 80.89 176 P **P 17 49 45.3 -0.3**
comp=Z,538nm,0.8s,SNR=7.1
MTP Monte Pirata 80.92 323⇑*i*P **P 17 49 44.7 -1.2**
CPD Cerro la Pandu 80.98 323 *e*P **P 17 49 45.0 -1.2**
CPD pmax pmax
comp=Z,10.0nm,0.6s,mb4.6
CPD Cerro la Pandu 80.98 323 *e*P **P 17 49 45.0 -1.2**
comp=Z,10nm,0.6s,mb4.6
SJG San Juan 81.13 323 P **P 17 49 45.9 -1.1**
comp=Z,15nm,0.6s,mb4.8,baz=350,slow=21,SNR=5.3
JTS JuntasAbangare 81.67 303 P **P 17 49 49.7 -0.3**
comp=Z,292nm,1.4s,mb5.7,SNR=7.5
JTS JuntasAbangare 81.67 303 *e*P **P 17 49 49.3 -0.7**
JTS pmax pmax
comp=Z,104nm,1.4s
JTS JuntasAbangare 81.67 303 *e*P **P 17 49 49.3 -0.7**
comp=Z,104nm,1.4s,mb5.3
SDDR Presa de Saban 83.74 319 *e*P **P 17 49 59.7 -0.8**
comp=Z,24nm,0.8s,mb5.0
TGUH Tegucigalpa,Un 86.04 303 P **P 17 50 11.4 -0.7**
comp=Z,50nm,1.0s,mb5.2
MUN Mundaring 86.61 150 *e*P **P 17 50 14.3 -0.6**
LMGC Las Mercedes 86.91 314 *e*P **P 17 50 17.7 +1.4**
KLBR Kellerberrin 87.40 151 *e*P **P 17 50 18.1 -0.6**
comp=Z,19nm,0.8s,mb5.0
CCCC Cccc 88.23 314 *e*P **P 17 50 24.1 +1.6**
CNB Canberra Magne 88.53 177 *e*P **P 17 50 24.0 0.0**
comp=Z,21nm,1.2s,mb4.9
FORT Forrest 90.61 159 *e*P **P 17 50 33.0 -0.8**
comp=Z,18nm,0.8s,mb5.2
MDT Midelt 91.02 19 P **P 17 50 37.0 +1.8**
comp=Z,19nm,0.8s,mb5.2,baz=189,slow=3.5,SNR=29
MDT pP pP 17 51 11.5 +2.5
comp=Z,4.1nm,0.7s,baz=183,slow=5.8,SNR=2.9
STKA Stephens Creek 91.50 171 *e*P **P 17 50 36.6 -1.3**
comp=Z,8.4nm,0.9s,mb4.8
STKA Stephens Creek 91.50 171 P **P 17 50 37.4 -0.5**
comp=Z,7.4nm,0.6s,mb4.9,baz=160,slow=4.8,SNR=24
TEIG Tepich 91.88 305 P **P 17 50 39.9 +0.3**
comp=Z,70nm,0.6s,mb5.9,baz=146,slow=0.9,SNR=52
ESDC Sonseca Array 97.81 18 P **P 17 51 07.4 +1.2**
comp=Z,0.8nm,0.6s,mb4.4,baz=188,slow=4.6,SNR=7.0
ASAR Alice Springs 98.61 163 P **P 17 51 09.6 -0.9**
comp=Z,8.1nm,0.9s,mb5.2,baz=189,slow=4.4,SNR=50
ASAR PKKPbc PKKPbc 18 07 36.6 +0.6
comp=Z,0.8nm,0.7s,baz=22,slow=1.9,SNR=13
WRA Warramunga Arr 102.33 162 P Pdif 17 51 25.7 -1.4
comp=Z,2.4nm,0.8s,baz=194,slow=4.5,SNR=19
WRA PKKPbc PKKPbc 18 07 26.3 +0.9
comp=Z,1.2nm,0.6s,baz=354,slow=2.8,SNR=24
WB2 Warramunga Arr 102.33 162 *e*P Pdif 17 51 26.4 -0.7
SSPA Standing Stone 105.74 322 *e*PKPdf PKiKP 17 55 53.2 -0.3
319A Douglas 111.37 295 ⇓P PKiKP 17 56 04.3 0.0
baz=112,SNR=6.3
318A Bisbee 111.78 294 ⇓P PKiKP 17 56 05.0 -0.1
baz=112
219A White Tail Can 111.86 295 ⇓P PKiKP 17 56 05.3 0.0
baz=112
218A Dragoon 112.24 294 P PKiKP 17 56 05.9 -0.1
baz=112,SNR=7.1
CLL Collm 112.46 26 *e*PS PS 18 06 27.0 -2.3
217A Green Valley 112.47 294 ⇑P PKiKP 17 56 06.5 +0.1
baz=113
119A Ashpeak Ranch, 112.50 295 ⇑P PKiKP 17 56 06.5 0.0
baz=113
118A Homack Ranch, 112.74 295 ⇑P PKiKP 17 56 07.0 +0.1
baz=113
Z19A T-Link Ranch, 112.90 296 ⇓P PKiKP 17 56 07.2 0.0
baz=113
Y18A Canyon Day Jun 113.68 296 ⇓P PKiKP 17 56 08.8 +0.1
baz=114
115A Sonoran Desert 113.93 293 ⇑P PKiKP 17 56 09.2 0.0
baz=114
Y17A Roosevelt 114.02 295 ⇓P PKiKP 17 56 09.5 +0.2
baz=114
Z16A Peralta Trail, 114.03 294 ⇓P PKiKP 17 56 09.4 0.0
baz=114
Y16A Circle Bar Ran 114.48 295 ⇑P PKiKP 17 56 10.2 0.0
baz=115
ANN Anapa 114.57 45 *i*PKIKP PKiKP 17 56 05.8 -4.2
ANN pmax pmax
comp=Z,34nm,1.7s
Z14A Wintersburg 114.82 293 ⇓P PKiKP 17 56 10.9 0.0
baz=115
Y15A Casa Rosa Ranc 114.97 294 ⇑P PKiKP 17 56 11.3 +0.1
baz=115
Y14A Wickenburg 115.30 294 ⇑P PKPdf 17 56 11.6 -0.2
baz=116
X15A Humboldt 115.35 294 ⇓P PKPdf 17 56 12.0 +0.1
baz=116
SCHQ Schefferville 115.52 336 PKP PKPdf 17 56 09.8 -1.7
SCHQ Schefferville 115.52 336 PKP PKPdf 17 56 09.8 -1.6
comp=Z,1.4nm,0.5s,baz=222,slow=6.9,SNR=5.5
GLA Glamis 115.54 292 ⇓P PKPdf 17 56 12.3 +0.1
baz=116
X14A Yava 115.66 294 ⇓P PKPdf 17 56 12.4 -0.1
baz=116
Y12C Blythe 115.93 292 ⇓P PKPdf 17 56 13.1 +0.1
baz=116
KIV Kislovodsk 116.01 49 *i*PKIKP PKPdf 17 56 10.5 -2.3
KIV Kislovodsk 116.01 49 *e*PKP PKPdf 17 56 10.6 -2.2
PDMCI Parker Dam,Lak 116.17 293 ⇓P PKPdf 17 56 13.5 +0.1
baz=116
X13A Yucca 116.24 293 ⇓P PKPdf 17 56 13.7 +0.1
baz=116
BC3 Big Chuckw Mtn 116.34 292 ⇓P PKPdf 17 56 13.9 +0.2
baz=116
W14A Seligman 116.35 294 P PKPdf 17 56 14.2 +0.5
baz=117,SNR=5.0
IRM Iron Mountain 116.58 292 ⇑P PKPdf 17 56 14.5 +0.2
baz=117
AKASG Malin Array Be 116.59 36 PKP PKPdf 17 56 12.2 -1.5
comp=Z,1.7nm,0.5s,baz=236,slow=1.9,SNR=10
W13A Hualapai Mount 116.66 294 ⇓P PKPdf 17 56 14.7 +0.4
baz=117
V14A Boquillas Ranc 116.69 295 ⇓P PKPdf 17 56 14.8 +0.4
baz=117,SNR=5.8
BELC Belle Mtn. 116.89 291 ⇑P PKPdf 17 56 15.3 +0.5
baz=117
T16A Glen Canyon Da 116.94 297 ⇓P PKPdf 17 56 15.3 +0.5
baz=117
V13A Grand Canyon W 117.30 294 ⇑P PKPdf 17 56 15.6 +0.1
baz=118
GMRC Granite Mounta 117.32 292 P PKPdf 17 56 16.0 +0.4
baz=118,SNR=6.1
T15A Red Dirt Ranch 117.41 296 ⇑P PKPdf 17 56 15.6 -0.1
baz=118,SNR=5.7
V12A Nelson 117.64 293 ⇓P PKPdf 17 56 16.4 +0.2
baz=118
U13A Pakoon Wash 117.73 295 P PKPdf 17 56 16.8 +0.4
baz=118,SNR=6.9
SRU San Rafael 118.13 299 *e*PKIKP PKPdf 17 56 16.3 -0.7
T13A Saint George 118.17 295 ⇓P PKPdf 17 56 17.5 +0.3
baz=118
CCUT Cedar City 118.31 296 *e*PKPdf PKPdf 17 56 18.0 +0.5
GSC Goldstone 118.32 292 ⇓P PKPdf 17 56 17.8 +0.3
baz=118
U11A Corn Creek 118.46 294 ⇑P PKPdf 17 56 18.2 +0.4
baz=119
MSU Marysvale 118.47 297 *e*PKIKP PKPdf 17 56 18.1 +0.4
SHOC Shoshone 118.51 293 ⇓P PKPdf 17 56 18.2 +0.3
baz=119
S13A Holt Ranch, En 118.58 295 ⇑P PKPdf 17 56 18.3 +0.4
baz=119
EDW2 Edwards Air Fo 118.60 291 ⇓P PKPdf 17 56 18.2 +0.1
baz=119,SNR=8.8
TMUT Trail Mountain 118.60 299 *e*PKPdf PKPdf 17 56 17.7 -0.3
AGMN Agassiz Refuge 118.92 315 PKPdf PKPdf 17 56 16.1 -2.1
T11A Corn Creek, Al 119.01 294 ⇓P PKPdf 17 56 19.3 +0.5
baz=119,SNR=7.4
S12A Delamar Landin 119.10 295 ⇑P PKPdf 17 56 19.6 +0.6
baz=119
FURC Furnace Creek, 119.25 293 ⇑P PKPdf 17 56 19.8 +0.5
baz=120
MPMC Manual Prospec 119.25 292 P PKPdf 17 56 19.5 +0.1
baz=120,SNR=5.5
TPNV Topopah Spring 119.30 293 *e*PKIKP PKPdf 17 56 19.7 +0.3
TPNV Topopah Spring 119.30 293 ⇓P PKPdf 17 56 19.8 +0.4
baz=120,SNR=11
DAU Daniels Canyon 119.49 299 *e*PKIKP PKPdf 17 56 19.6 0.0
R12A Pony Springs, 119.53 295 P PKPdf 17 56 20.6 +0.8
baz=120,SNR=5.7
NLU North Lily Min 119.54 298 *e*PKPdf PKPdf 17 56 19.4 -0.3
PKM Peak Mountain 119.57 289 ⇑P PKPdf 17 56 20.5 +0.5
baz=120
S11A Rachel 119.58 294 ⇓P PKPdf 17 56 20.5 +0.6
baz=120
Q13A Wheeler Ranch, 119.72 296 ⇑P PKPdf 17 56 20.6 +0.4
baz=120
GRAC Grapevine Rang 119.92 293 ⇓P PKPdf 17 56 21.0 +0.4
baz=120
R11A Troy Canyon, C 120.04 295 P PKPdf 17 56 21.4 +0.6
baz=120,SNR=5.8
DUG Dugway 120.08 298 ⇑*i*PKIKP PKPdf 17 56 20.7 -0.1
DUG Dugway 120.08 298 P PKPdf 17 56 21.0 +0.3
baz=120,SNR=6.2
P13A Bates Ranch, G 120.11 297 ⇑P PKPdf 17 56 21.4 +0.5
baz=120
Q12A Willow Creek R 120.19 296 P PKPdf 17 56 21.6 +0.6
baz=120,SNR=6.9
S10A Tonopah Range, 120.23 294 P PKPdf 17 56 21.6 +0.5
baz=120,SNR=5.7
R10A Warm Springs 120.36 294 ⇑P PKPdf 17 56 21.8 +0.4
baz=121,SNR=7.8
S09A Goldfield 120.40 293 ⇑P PKPdf 17 56 21.9 +0.4
baz=121,SNR=7.5
Q11A Duckwater 120.46 295 ⇓P PKPdf 17 56 21.7 +0.2
baz=121,SNR=8.3
N15A Stansbury Isla 120.47 299 ⇑P PKPdf 17 56 21.7 +0.2
baz=121
ULM Lac du Bonnet 120.50 316 PKP PKPdf 17 56 19.1 -2.2
comp=Z,4.8nm,0.5s,baz=185,slow=1.0,SNR=7.0
HELL Mitchell Peak 120.52 291 ⇑P PKPdf 17 56 21.5 -0.2
baz=121
HWUT Hardware Ranch 120.56 300 *e*PKPdf PKPdf 17 56 20.9 -0.8
HWUT *ep*PKPdf pPKPdf 17 56 58.9 +2.0
P12A McGill 120.56 296 ⇓P PKPdf 17 56 22.0 +0.3
baz=121
S08C White Mtn Res 120.71 292 ⇑P PKPdf 17 56 22.6 +0.5
baz=121,SNR=5.4
PKD Parkfield 120.75 289 ⇓P PKPdf 17 56 22.6 +0.4
baz=121
N14A Grayback Hills 120.77 298 ⇓P PKPdf 17 56 22.3 +0.3
baz=121,SNR=7.8
Q10A Clear Creek Ra 120.82 295 ⇓P PKPdf 17 56 22.7 +0.4
baz=121,SNR=8.7
M15A Larsen Ranch, 120.88 299 ⇑P PKPdf 17 56 21.9 -0.3
baz=121
NB2 NORSAR Subarra121.03 21 PKPdf PKPdf 17 56 21.1 -0.8
comp=Z,4.2nm,0.8s,baz=204,slow=4.2,SNR=2.0
NB2 NORSAR Subarra121.03 21 PKPdf PKPdf 17 56 21.1 -0.8
baz=204,slow=2.0
NOA NORSAR Array B121.03 21 PKIKP PKPdf 17 56 21.4 -0.5
NOA 17 56 57.2
NOA NORSAR Array B121.03 21 PKP PKPdf 17 56 21.4 -0.5
comp=Z,3.8nm,0.8s,baz=203,slow=1.9,SNR=15
NOA pPKP pPKPdf 17 56 57.1 0.0
comp=Z,1.1nm,0.7s,baz=204,slow=1.9,SNR=2.7
NOA PKKPbc PKKPbc 18 06 24.4 -0.5
comp=Z,0.9nm,0.7s,baz=8.6,slow=6.7,SNR=3.8
O12A Currie 121.09 297 ⇑P PKPdf 17 56 23.0 +0.3
baz=121
T06C Millerton Lake 121.13 291 ⇓P PKPdf 17 56 23.0 +0.1
baz=121,SNR=5.4
KCC Kaiser Creek 121.17 291 ⇓P PKPdf 17 56 23.3 +0.4
baz=121
U04C Hernandez Rese 121.20 290 ⇓P PKPdf 17 56 24.0 +1.0
baz=121
AHID Auburn Hatcher 121.22 301 *e*PKPdf PKPdf 17 56 22.5 -0.4
N13A Wendover, West 121.27 298 ⇓P PKPdf 17 56 23.2 +0.2
baz=122,SNR=5.5
M14A Sheep Mountain 121.34 299 ⇑P PKPdf 17 56 23.5 +0.3
baz=122,SNR=7.0
O11A Cowboy Ranch, 121.44 296 P PKPdf 17 56 23.8 +0.4
baz=122,SNR=14
NVAR Mina Array Bea 121.48 293 PKP PKPdf 17 56 24.2 +0.6
NVAR Mina Array Bea 121.48 293 PKP PKPdf 17 56 24.2 +0.7
comp=Z,5.1nm,0.6s,baz=118,slow=3.1,SNR=31
HAST Hastings Reser 121.62 289 ⇑P PKPdf 17 56 24.2 +0.3
baz=122
Q08A Gabbs 121.62 294 ⇓P PKPdf 17 56 24.4 +0.6
baz=122
M13A Montello 121.63 298 ⇑P PKPdf 17 56 24.3 +0.6
baz=122
LOHW Long Hollow 121.64 302 *e*PKPdf PKPdf 17 56 23.2 -0.5
N12A Clover Valley, 121.68 297 P PKPdf 17 56 24.4 +0.6
baz=122,SNR=7.8
S05C Merced 121.71 291 ⇓P PKPdf 17 56 24.5 +0.5
baz=122
TPAW Teton Pass 121.71 302 *e*PKPdf PKPdf 17 56 23.6 -0.2
P09A Austin 121.74 295 ⇓P PKPdf 17 56 24.5 +0.5
baz=122
MOOW Moose Ponds 121.81 302⇑*e*PKPdf PKPdf 17 56 23.1 -0.9
PACP Pacheco Peak 121.95 290 ⇓P PKPdf 17 56 25.1 +0.6
baz=122
O10A Cortez Mining, 121.98 296 ⇑P PKPdf 17 56 25.0 +0.6
baz=122
FLWY Flagg Ranch 122.04 302 *e*PKPdf PKPdf 17 56 24.3 -0.1
M12A Wells 122.04 298 P PKPdf 17 56 25.2 +0.7
baz=122,SNR=17
K14A Jones Ranch, D 122.05 300 P PKPdf 17 56 24.8 +0.3
baz=122,SNR=6.2
L13A Double Diamond 122.08 299 ⇓P PKPdf 17 56 25.3 +0.8
baz=122,SNR=13
R06C Coleville 122.14 292 ⇓P PKPdf 17 56 25.7 +0.9
baz=122
O09A Fish Creek Ran 122.23 295 ⇑P PKPdf 17 56 25.2 +0.3
baz=122
CMB Columbia Colle 122.26 291 *e*PKIKP PKPdf 17 56 25.0 0.0
CMB Columbia Colle 122.26 291 ⇓P PKPdf 17 56 25.3 +0.3
baz=122,SNR=8.3
YFT Old Faithful 122.38 303 *e*PKPdf PKPdf 17 56 26.2 +1.1
M11A Holland Ranch, 122.49 297 ⇓P PKPdf 17 56 25.9 +0.6
baz=123,SNR=10.0
BNLO Ben Lomond (Sa 122.50 289 ⇑P PKPdf 17 56 26.1 +0.6
baz=123
K13A Stover Farm, H 122.57 299 ⇑P PKPdf 17 56 26.2 +0.7
baz=123
R05C Kirkwood Meado 122.60 292 ⇑P PKPdf 17 56 26.6 +0.9
baz=123,SNR=5.4
L12A House Creek Ra 122.64 298 ⇑P PKPdf 17 56 26.2 +0.6
baz=123,SNR=11
WENL Wente Brothers 122.66 290 ⇑P PKPdf 17 56 26.5 +0.6
baz=123
OBN Obninsk 122.73 38⇓*i*PKIKP PKPdf 17 56 24.7 -0.6
OBN pmax pmax
comp=Z,8.0nm,0.5s
OBN Obninsk 122.73 38⇑*e*PKP PKPdf 17 56 24.4 -0.9
JRSC Jasper Ridge 122.75 289 ⇓P PKPdf 17 56 26.3 +0.3
baz=123
N09A Rock Creek Ran 122.92 295 ⇑P PKPdf 17 56 26.8 +0.6
baz=123,SNR=7.7
M10A I.L. Ranch, Tu 122.93 297 ⇓P PKPdf 17 56 26.8 +0.6
baz=123
QLMT Earthquake Lak 122.95 302 *e*PKPdf PKPdf 17 56 26.9 +0.8
K12A Draper Farm, C 122.96 299 ⇑P PKPdf 17 56 27.1 +0.8
baz=123,SNR=5.0
LAVA Lava Cap Winer 122.98 291 P PKPdf 17 56 27.1 +0.7
baz=123,SNR=5.3
L11A Cat Creek Ranc 123.02 298 P PKPdf 17 56 27.1 +0.7
baz=123,SNR=16
N08A GE Springer Mi 123.17 295 ⇑P PKPdf 17 56 27.1 +0.4
baz=123,SNR=16
J13A Cove Ranch, Pi 123.17 300 ⇑P PKPdf 17 56 27.1 +0.5
baz=123,SNR=7.2
P06A Stead Airport, 123.24 293 ⇓P PKPdf 17 56 27.8 +0.9
baz=124
M09A Marrel Ranch, 123.31 296 ⇑P PKPdf 17 56 27.6 +0.7
baz=124
L10A Juniper Basin 123.31 297 ⇓P PKPdf 17 56 27.4 +0.5
baz=124,SNR=13
P05C Yuba Gap, Truc 123.32 292 ⇓P PKPdf 17 56 27.7 +0.6
baz=124,SNR=9.6
HLID Hailey 123.41 300 P PKPdf 17 56 27.9 +0.8
baz=124,SNR=5.5
J12A Stokes Ranch, 123.51 299 P PKPdf 17 56 27.9 +0.6
baz=124,SNR=18
I13A Wildhorse Cree 123.53 300 P PKPdf 17 56 27.8 +0.5
baz=124,SNR=9.6
Q03C Winters 123.55 291 ⇑P PKPdf 17 56 28.3 +0.8
baz=124
CVS Carmenet Viney 123.56 290 ⇑P PKPdf 17 56 28.0 +0.4
baz=124
O06A Flanigan 123.57 293 ⇑P PKPdf 17 56 28.3 +0.8
baz=124
N07B Gerlach 123.59 294 P PKPdf 17 56 28.4 +1.0
baz=124,SNR=15
K11A Parker Ranch, 123.61 298 P PKPdf 17 56 27.9 +0.5
baz=124,SNR=13
MCMT McKenzie Canyo 123.61 302 P PKPdf 17 56 27.7 +0.3
BEKR Beckwourth 123.61 293 P PKPdf 17 56 28.2 +0.6
baz=124,SNR=17
BOZ Bozeman (W) 123.65 303 P PKPdf 17 56 27.7 +0.2
baz=124,SNR=5.6
G15A Dillon 123.69 302 P PKPdf 17 56 28.3 +0.7
baz=124,SNR=12
M08A Happy Creek Ra 123.79 295 P PKPdf 17 56 28.9 +1.1
baz=124,SNR=13
OHCM Honcut 123.80 291 *e*PKPdf PKPdf 17 56 28.1 +0.2
L09A Wilkinson Ranc 123.86 296 P PKPdf 17 56 28.8 +0.8
baz=124,SNR=8.7
SUTB Sutter Butte 123.88 291 ⇑P PKPdf 17 56 28.6 +0.5
baz=124
MNRC McLaughlin Nat 123.95 290 ⇑P PKPdf 17 56 29.0 +0.7
baz=124
ORV Oroville 123.97 292 ⇑P PKPdf 17 56 28.8 +0.6
baz=124
O05C Quincy 123.97 292 ⇓P PKPdf 17 56 28.9 +0.6
baz=124,SNR=9.8
MFID Camas Ranch 123.99 299 ⇑P PKPdf 17 56 28.6 +0.4
baz=124
N06A Buffalo Meadow 124.00 294 P PKPdf 17 56 28.9 +0.6
baz=124,SNR=21
K10A MacKenzie Ranc 124.03 297 P PKPdf 17 56 28.8 +0.5
baz=124,SNR=11
H13A Challis 124.08 300 ⇓P PKPdf 17 56 28.6 +0.3
baz=124,SNR=14
M07A Soldier Meadow 124.14 295 ⇑P PKPdf 17 56 29.2 +0.7
baz=124,SNR=8.6
KOLN Koldanda 124.15 90 *e*P PKPdf 17 56 27.8 -1.2
comp=Z,14nm,0.9s
F15A Butte 124.20 303 P PKPdf 17 56 29.3 +0.8
baz=124,SNR=9.2
G14A Jackson 124.21 302 P PKPdf 17 56 29.5 +1.0
baz=124,SNR=7.7
L08A Fields 124.32 296 P PKPdf 17 56 29.8 +0.9
baz=124,SNR=24
O04C Chester 124.33 293 P PKPdf 17 56 29.7 +0.8
baz=124,SNR=11
H12A Diamond D Ranc 124.36 300 P PKPdf 17 56 29.2 +0.4
baz=125,SNR=13
K09A Rome 124.39 297 P PKPdf 17 56 29.8 +0.8
baz=125,SNR=15
I11A Placerville 124.42 299 P PKPdf 17 56 29.2 +0.2
baz=125,SNR=5.2
G13A Cobalt 124.47 301 P PKPdf 17 56 29.1 +0.1
baz=125,SNR=9.8
EGMT Eagleton 124.57 306 ⇓P PKPdf 17 56 29.7 +0.6
baz=125
F14A Wisdom 124.59 302 ⇑P PKPdf 17 56 30.1 +0.9
baz=125
WVOR Wild Horse Val 124.65 296⇑*i*PKIKP PKPdf 17 56 29.9 +0.4
M06C Likely Place G 124.67 294 ⇑P PKPdf 17 56 30.2 +0.7
baz=125,SNR=6.6
GASB Alder Springs 124.67 291 ⇑P PKPdf 17 56 30.6 +1.0
baz=125,SNR=7.8
DANN Dangsing 124.68 90 *e*P PKPdf 17 56 28.4 -1.6
comp=Z,26nm,0.9s
L07A Adell 124.69 295 ⇓P PKPdf 17 56 30.5 +0.9
baz=125,SNR=11

E15A	Deer Lodge	124.70	303	⇓P		PKPdf	17 56 29.4	0.0
	baz=125							
FINES	FINESS Array B	124.80	28	PKP		PKPdf	17 56 28.1	-1.0
	comp=Z,11nm,0.5s,baz=152,slow=2.2,SNR=78							
FINES				pPKP		pPKPdf	17 57 03.6	-0.8
	comp=Z,3.5nm,0.8s,baz=202,slow=3.0,SNR=2.9							
LBCM	Butte Creek Ri	124.84	293	P		PKPdf	17 56 30.2	+0.4
DMN	Daman	124.86	92	eP		PKPdf	17 56 29.6	-0.8
	comp=Z,21nm,1.1s							
P01C	Double 8 Ranch	124.86	290	⇓P		PKPdf	17 56 30.5	+0.6
	baz=125							
HATC	Hat Creek Radi	124.88	293	P		PKPdf	17 56 30.5	+0.6
	baz=125,SNR=17							
J09A	Fry Pan Ranch,	124.88	297	⇑P		PKPdf	17 56 30.4	+0.5
	baz=125,SNR=12							
GKN	Gorkha	124.90	91	eP		PKPdf	17 56 29.0	-1.4
	comp=Z,32nm,1.2s							
PKI	Pulchoki	125.00	92	eP		PKPdf	17 56 29.3	-1.3
F13A	Darby	125.03	301	⇓P		PKPdf	17 56 30.2	+0.1
	baz=125							
H11A	Donnelly	125.03	299	P		PKPdf	17 56 30.3	+0.2
	baz=125,SNR=10							
E14A	Clinton	125.09	302	⇓P		PKPdf	17 56 30.6	+0.4
	baz=125							
KKN	Kakani	125.09	92	eP		PKPdf	17 56 29.7	-1.1
	comp=Z,14nm,0.9s							
MOD	Modoc	125.09	294	⇓	ePKPdf	PKPdf	17 56 30.4	+0.1
MOD	Modoc	125.09	294	⇓P		PKPdf	17 56 30.6	+0.2
	baz=125,SNR=6.6							
O02C	Red Bluff	125.10	291	⇓P		PKPdf	17 56 30.5	+0.1
	baz=125							
D15A	Lincoln	125.10	304	P		PKPdf	17 56 30.7	+0.5
	baz=125,SNR=8.5							
M05C	Lookout	125.12	293	P		PKPdf	17 56 30.9	+0.5
	baz=125,SNR=12							
K07A	Rock Creek Ran	125.14	296	P		PKPdf	17 56 31.1	+0.7
	baz=125,SNR=12							
LTIM	Timbered Crate	125.16	293	P		PKPdf	17 56 30.7	+0.2
J08A	Circle Bar Ran	125.25	297	⇓P		PKPdf	17 56 30.8	+0.3
	baz=126,SNR=13							
WDC	Whiskeytown Da	125.27	292	ePKIKP		PKPdf	17 56 30.0	-0.7
WDC	Whiskeytown Da	125.27	292	P		PKPdf	17 56 30.5	-0.2
	baz=126,SNR=9.8							
H10A	Noah's Angus R	125.30	299	P		PKPdf	17 56 30.4	-0.2
	baz=126,SNR=11							
I09A	Lost Marbles R	125.34	298	⇑P		PKPdf	17 56 31.1	+0.3
	baz=126							
CHMT	Chamberlain Mo	125.35	303	P		PKPdf	17 56 30.5	-0.2
E13A	Victor	125.44	302	P		PKPdf	17 56 32.0	+1.1
	baz=126,SNR=7.0							
F12A	Elk City	125.44	301	⇑P		PKPdf	17 56 30.7	-0.1
	baz=126							
L05A	Lakeview	125.47	294	⇑P		PKPdf	17 56 31.9	+0.9
	baz=126,SNR=9.3							
JIRN	Jiri	125.50	93	eP		PKPdf	17 56 30.9	-0.7
	comp=Z,22nm,0.8s							
LASM	Arnica Sink	125.52	293	P		PKPdf	17 56 31.4	+0.2
GUN	Gumba	125.52	92	eP		PKPdf	17 56 30.9	-0.7
	comp=Z,20nm,0.9s							
M03C	McCloud	125.56	293	P		PKPdf	17 56 31.4	+0.2
	baz=126,SNR=5.7							
D14A	Greenough	125.59	303	P		PKPdf	17 56 30.6	-0.4
	baz=126,SNR=6.9							
MSO	Missoula	125.61	303	ePKPdf		PKPdf	17 56 30.9	-0.2
G11A	Walters Elk Ra	125.67	300	P		PKPdf	17 56 31.5	+0.2
	baz=126,SNR=11							
J07A	Hines	125.67	296	P		PKPdf	17 56 32.2	+0.9
	baz=126,SNR=9.3							
BMO	Blue Mountains	125.77	299	⇑	ePKIKP	PKPdf	17 56 30.6	-0.9
M04C	Macdoel	125.79	293	P		PKPdf	17 56 32.2	+0.5
	baz=126,SNR=13							
H09A	Durkee	125.81	298	⇑P		PKPdf	17 56 32.0	+0.4
	baz=126							
LHEM	Herd Peak	125.87	293	P		PKPdf	17 56 32.1	+0.2
F11A	Grangeville	125.97	300	P		PKPdf	17 56 31.4	-0.4
	baz=126,SNR=7.4							
K05A	Summer Lake	126.00	295	⇑P		PKPdf	17 56 32.5	+0.5
	baz=126,SNR=12							
G10A	Bishop Farm, J	126.00	299	P		PKPdf	17 56 31.9	-0.1
	baz=126,SNR=44							
J06A	Christmas Vall	126.01	296	P		PKPdf	17 56 32.3	+0.3
	baz=126,SNR=12							
M02C	Callahan	126.02	292	⇓P		PKPdf	17 56 32.6	+0.4
	baz=126,SNR=10							
D13A	Huson	126.04	302	P		PKPdf	17 56 31.4	-0.6
	baz=126,SNR=14							
L04A	Klamath Falls	126.10	293	⇓P		PKPdf	17 56 32.5	+0.2
	baz=126							
H08A	Prairie City	126.19	298	⇑P		PKPdf	17 56 32.3	0.0
	baz=126							
YBH	Yreka Blue Hor	126.19	293	P		PKPdf	17 56 32.4	0.0
	baz=126,SNR=6.4							
C14A	Swan Lake	126.20	303	⇓P		PKPdf	17 56 32.2	0.0
	baz=126							
I07A	Izee	126.29	297	⇑P		PKPdf	17 56 33.0	+0.4
	baz=126,SNR=12							
G09A	Cove	126.31	299	⇓P		PKPdf	17 56 32.4	-0.1
	baz=126							
E11A	Bogner Ranch,	126.33	301	⇓P		PKPdf	17 56 32.0	-0.5
	baz=127							
D12A	Red Ives Fores	126.43	302	⇓P		PKPdf	17 56 32.3	-0.5
	baz=127							
C13A	Hot Springs	126.52	303	⇑P		PKPdf	17 56 32.5	-0.4
	baz=127							
I06A	Prineville	126.54	296	⇑P		PKPdf	17 56 33.5	+0.5
	baz=127,SNR=10							
F10A	Beach Ranch, E	126.54	300	P		PKPdf	17 56 32.5	-0.5
	baz=127,SNR=6.7							
J05A	Fort Rock	126.57	295	P		PKPdf	17 56 33.8	+0.7
	baz=127,SNR=14							
KTRM	Thompson Ridge	126.67	292	P		PKPdf	17 56 34.0	+0.6
E10A	Myers Farm, Un	126.86	300	⇓P		PKPdf	17 56 33.4	-0.1
	baz=127							
G08A	Pilot Rock	126.89	298	P		PKPdf	17 56 34.2	+0.6
	baz=127,SNR=26							
HUMO	Hull Mountain	126.96	293	ePKPdf		PKPdf	17 56 33.8	-0.1
HUMO	Hull Mountain	126.96	293	P		PKPdf	17 56 34.5	+0.6
	baz=127,SNR=12							
L02A	Cave Junction	126.96	292	⇓P		PKPdf	17 56 34.3	+0.5
	baz=127							
B13A	Whitefish	126.97	304	⇑P		PKPdf	17 56 33.2	-0.5
	baz=127,SNR=9.7							
J04A	Umpqua Nationa	126.98	294	⇓P		PKPdf	17 56 34.2	+0.3
	baz=127,SNR=9.3							
VIPM	Ingram Point	127.15	296	PKIKP		PKPdf	17 56 34.6	+0.4
H06A	Lindquist Farm	127.17	297	⇓P		PKPdf	17 56 34.7	+0.5
	baz=127,SNR=8.8							
G07A	Ruggs Ranch, H	127.22	298	P		PKPdf	17 56 34.6	+0.3
	baz=127,SNR=7.9							
K02A	Glendale	127.34	293	⇓P		PKPdf	17 56 34.9	+0.3
	baz=128,SNR=5.0							
A13A	Flathead Natio	127.35	304	⇑P		PKPdf	17 56 34.6	+0.2
	baz=128							
E09A	Wood Farm, Sta	127.38	300	⇓P		PKPdf	17 56 34.6	0.0
	baz=128							
J03A	Ideyld Park	127.51	294	⇓P		PKPdf	17 56 35.1	+0.2
	baz=128							
I04A	Tendick Farm,	127.53	295	⇑P		PKPdf	17 56 34.8	-0.1
	baz=128							
H05A	Madras	127.55	296	⇓P		PKPdf	17 56 35.2	+0.3
	baz=128							
G06A	Carlson Farm,	127.68	297	⇓P		PKPdf	17 56 35.5	+0.3
	baz=128,SNR=6.8							
AB31	Akbulak array	127.68	56	⇑	ePKIKP	PKPdf	17 56 33.6	-1.4
E08A	Dider Farm, El	127.80	299	⇓P		PKPdf	17 56 35.7	+0.3
	baz=128							
J02A	Umpqua	127.82	293	⇑P		PKPdf	17 56 35.8	+0.3
	baz=128							
D09A	Jones Farm, Ri	127.84	300	P		PKPdf	17 56 35.7	+0.3
	baz=128,SNR=5.8							
K01A	Sixes	127.88	292	⇓P		PKPdf	17 56 35.9	+0.3
	baz=128							
BROR	Big Rock Looko	127.89	295	P		PKPdf	17 56 35.1	-0.5
G05A	Wamic	128.02	297	⇑P		PKPdf	17 56 35.9	+0.1
	baz=128							
H04A	Detroit Lake	128.06	295	P		PKPdf	17 56 35.8	-0.1
	baz=128,SNR=5.1							
GBL	Gable Mountain	128.07	299	PKIKP		PKPdf	17 56 35.9	0.0
D08A	Wollman Farm,	128.14	300	⇑P		PKPdf	17 56 36.3	+0.3
	baz=128							
GBB	Gable Butte	128.16	299	P		PKPdf	17 56 36.0	0.0
A11A	Hall Mountain,	128.27	303	⇓P		PKPdf	17 56 36.3	+0.2
	baz=128							
OD2	Odessa Site #2	128.27	300	P		PKPdf	17 56 35.8	-0.4
I02A	Mapleton	128.40	294	⇓P		PKPdf	17 56 37.0	+0.4
	baz=129							
F05A	White Salmon	128.54	297	⇓P		PKPdf	17 56 37.3	+0.6
	baz=129							
G04A	Mulino	128.57	296	⇑P		PKPdf	17 56 37.6	+0.8
	baz=129							
H03A	Soap Creek Ran	128.61	295	⇓P		PKPdf	17 56 37.7	+0.7
	baz=129							
EPH	Ephrata	128.67	300	P		PKPdf	17 56 36.9	0.0
C08A	Higginbotham F	128.71	300	⇓P		PKPdf	17 56 37.3	+0.3
	baz=129							
B09A	Rice	128.73	301	⇓P		PKPdf	17 56 37.3	+0.3
	baz=129							
D07A	Quincy	128.74	299	⇓P		PKPdf	17 56 37.8	+0.7
	baz=129							
KSH	Kashi	128.76	75	ePKP		PKPdf	17 56 39.1	+1.7
KSH				eXPKP			17 57 38.1	
KSH				ePKS			18 00 14.0	
KSH				ePPP			18 01 47.1	
KSH				eSKS		SKSdf	18 03 32.0	-4.3
KSH				PP		PP		
	comp=Z,420nm,4.5s							
KSH				LR		LR		
	comp=N,287nm,4.0s							
KSH				LR		LR		
	comp=E,299nm,6.4s							
KSH				LR		LR		
	comp=Z,334nm,4.6s							
E06A	Yakima	128.77	298	P		PKPdf	17 56 37.5	+0.4
	baz=129,SNR=6.0							
A10A	Northport	128.85	302	⇓P		PKPdf	17 56 37.9	+0.7
	baz=129							
H02A	Toledo	128.96	294	⇓P		PKPdf	17 56 38.2	+0.6
	baz=129							
G03A	Yamhill	129.05	295	⇑P		PKPdf	17 56 38.2	+0.5
	baz=129							
F04A	Amboy	129.06	296	⇑P		PKPdf	17 56 38.2	+0.4
	baz=129							
D06A	Cle Elum	129.16	299	⇑P		PKPdf	17 56 38.3	+0.4
	baz=129							
E05A	Randle	129.17	297	⇑P		PKPdf	17 56 38.0	+0.1
	baz=129							
ETW	Entiat	129.20	299	P		PKPdf	17 56 38.2	+0.2
B08A	Colville Reser	129.25	301	P		PKPdf	17 56 38.0	0.0
	baz=130,SNR=9.7							
A09A	Danville	129.32	302	⇑P		PKPdf	17 56 38.5	+0.3
	baz=130							
FMW	Mount Fremont	129.39	298	P		PKPdf	17 56 38.1	-0.2
AML	Almayashu	129.42	71	ePKPdf		PKPdf	17 56 37.9	-0.7
AML	Almayashu	129.42	71	P		PKPdf	17 56 38.5	0.0
	SNR=14							
F03A	Seaside	129.62	296	⇑P		PKPdf	17 56 38.9	+0.1
	baz=130							
A08A	Turner Farm, O	129.63	301	P		PKPdf	17 56 39.1	+0.4
	baz=130,SNR=7.7							
B07A	Winthrop	129.70	300	⇓P		PKPdf	17 56 39.1	+0.2
	baz=130							
D05A	Enumclaw	129.72	298	⇑P		PKPdf	17 56 39.4	+0.4
	baz=130							
LSA	Lhasa	129.82	95	ePKIKP		PKPdf	17 56 40.4	+0.6
EKS2	Erkin-Say	129.84	70	ePKPdf		PKPdf	17 56 38.7	-0.7
EKS2				epPKPdf		pPKPdf	17 57 14.0	-0.6
EKS2	Erkin-Say	129.84	70	P		PKPdf	17 56 39.5	+0.1
	SNR=12							
UCH	Uchtor	129.92	71	ePKPdf		PKPdf	17 56 39.5	0.0
UCH	Uchtor	129.92	71	P		PKPdf	17 56 39.8	+0.2
	SNR=9.5							
C05A	Tolt Reservoir	129.93	299	⇑P		PKPdf	17 56 39.7	+0.3
	baz=130							
HTW	Haystack Looko	130.04	299	P		PKPdf	17 56 39.2	-0.4
E03A	Lebam	130.05	296	⇑P		PKPdf	17 56 39.9	+0.3
	baz=130							
AAK	Ala-Archa	130.19	71	⇑	/PKIKP	PKPdf	17 56 37.9	-2.1
AAK	Ala-Archa	130.19	71	P		PKPdf	17 56 40.0	0.0
	SNR=6.1							
KZA	Kyzart	130.20	72	P		PKPdf	17 56 40.7	+0.6
	SNR=7.5							
A07A	Ashnola River,	130.23	301	⇓P		PKPdf	17 56 40.5	+0.6
	baz=130							
TMCR	Tamitsa	130.28	31	ePKIKP		PKPdf	17 56 38.2	-1.3
TMCR				pmax		pmax		
	comp=Z,43nm,1.1s							
B06A	Marblemount	130.39	299	⇑P		PKPdf	17 56 40.4	+0.2
	baz=131							
KBK	Karagaybulak	130.45	71	P		PKPdf	17 56 40.2	-0.3
	SNR=7.0							
B05A	Bryant	130.52	299	P		PKPdf	17 56 40.8	+0.4
	baz=131,SNR=8.7							
C04A	Brinnon	130.57	298	⇑P		PKPdf	17 56 41.2	+0.7
	baz=131							
NLWA	Neilton Lookou	130.79	297	⇑P		PKPdf	17 56 41.9	+0.9
	baz=131							
A05A	Maple Falls	131.01	300	⇓P		PKPdf	17 56 41.9	+0.6
	baz=131							
A04A	Legoe Bay, Lum	131.12	299	⇓P		PKPdf	17 56 42.7	+1.1
	baz=131							
ARCES	ARCESS Array B	131.37	22	PKP		PKPdf	17 56 40.5	-0.9
	comp=Z,7.5nm,0.6s,baz=193,slow=1.7,SNR=64							
ARCES				pPKP		pPKPdf	17 57 16.1	-0.6
	comp=Z,2.1nm,0.7s,baz=224,slow=3.3,SNR=2.2							
ARE0	ARCESS Array S	131.37	22	ePKPdf		PKPdf	17 56 40.5	-1.0
ARU	Arti	132.04	48	/PKIKP		PKPdf	17 56 41.7	-1.4
ARU							17 59 03.1	
ARU				SS		SS	18 16 30.3	-3.1
ARU	Arti	132.04	48	ePKPdf		PKPdf	17 56 42.4	-0.6
BRVK	Borovoye	135.05	58	⇑	ePKIKP	PKPdf	17 56 47.9	-0.9
BVAR	Borovoye Array	135.08	58	PKP		PKPdf	17 56 48.3	-0.6
	comp=Z,6.6nm,0.7s,baz=250,slow=1.5,SNR=22							
BVAR				SKPbc		SKPbc	18 00 05.2	-1.9
	comp=Z,1.4nm,0.8s,baz=242,slow=3.2,SNR=4.3							
YKA	Yellowknife Ar	136.43	318	PKHKP			17 56 36.7	
YKA							17 56 50.1	
YKA							17 57 25.4	
YKA	Yellowknife Ar	136.43	318	PKP			17 56 36.6	
YKA				PKP		PKPdf	17 56 50.1	-1.0
YKA				pPKP		pPKPdf	17 57 25.4	-1.0
YKA				SKPbc		SKPbc	18 00 08.0	-2.9
YKA	Yellowknife Ar	136.43	318	PKhKP			17 56 36.6	
	comp=Z,0.8nm,0.6s,baz=122,slow=3.1,SNR=11							
YKA				PKP		PKPdf	17 56 50.1	-1.0
	comp=Z,6.8nm,0.6s,baz=126,slow=2.3,SNR=44							
YKA				pPKP		pPKPdf	17 57 25.4	-1.0
	comp=Z,2.9nm,0.9s,baz=128,slow=2.2,SNR=1.8							
YKA				SKPbc		SKPbc	18 00 08.0	-2.9
	comp=Z,1.4nm,0.6s,baz=131,slow=3.7,SNR=7.8							
MK31	Makanchi Array	137.10	72	ePKHKP			17 56 40.9	
MK31				e			17 56 51.3	
MK31	Makanchi Array	137.10	72	ePKPpre			17 56 40.9	
MK31				ePKPdf		PKPdf	17 56 51.3	-1.5
MK31				eSKP			18 00 09.9	
MKAR	Makanchi Array	137.10	72	PKhKP			17 56 41.5	
	comp=Z,0.9nm,0.6s,baz=233,slow=2.5,SNR=12							
MKAR				SKPbc		SKPbc	18 00 09.5	-3.9
	comp=Z,0.9nm,0.8s,baz=232,slow=1.4,SNR=7.1							
CD2	Chengdu	137.62	106	ePKP		PKPdf	17 56 53.7	-0.7
CD2				XPKP			17 57 48.7	
CD2				PP		PP	17 59 47.0	+4.4
CD2				PKS			18 00 28.4	
CD2				SKS		SKSdf	18 03 46.3	-6.2
CD2				SKKS		SKKSac	18 06 19.5	-4.1
CD2				SS		SS	18 17 40.2	-0.3
CD2				PP		PP		
	comp=Z,160nm,10.2s							
CD2				LR		LR		
	comp=N,210nm,18.2s							
CD2				LR		LR		
	comp=E,250nm,16.8s							
CD2				LR		LR		
	comp=Z,200nm,23.4s							
KURK	Kurchatov	137.66	65	ePKHKP			17 56 44.5	
KURK				e			17 56 52.6	
KURK	Kurchatov	137.66	65	ePKPpre			17 56 44.5	
KURK				⇑	ePKP	PKPdf	17 56 52.2	-1.5
KURK				ePKPdf		PKPdf	17 56 52.6	-1.1
KURK				eSKP			18 00 11.5	
WMQ	Urumqi	138.07	79	ePKP		PKPdf	17 56 53.0	-1.7
WMQ				PP		PP	17 59 47.0	+1.6
WMQ				SKS		SKSdf	18 03 45.0	-7.6
WMQ				SKKS		SKKSac	18 06 20.0	-5.7
WMQ				SS		SS	18 17 42.0	-3.9
WMQ				PP		PP		
	comp=Z,87nm,8.0s							
WMQ				LR		LR		
	comp=N,67nm,24.0s							
WMQ				LR		LR		
	comp=E,56nm,22.0s							
WMQ				LR		LR		
	comp=Z,47nm,20.0s							
RES	Resolute Bay	138.22	338	ePKHKP			17 56 42.9	
RES				e			17 56 53.7	
DLBC	Dease Lake	140.50	306	ePKPpre			17 56 50.4	
LZH	Lanzhou	141.61	101	ePKP		PKPdf	17 57 01.5	+0.1
LZH				XPKP			17 57 58.0	
LZH				PP		PP		
	comp=Z,58nm,4.1s							
GTA	Gaotai	141.78	94	PKP		PKPdf	17 56 56.1	-5.5
GTA				XPKP			17 57 57.1	
GTA				PPP			18 03 11.2	
GTA				PP		PP		
	comp=Z,68nm,9.9s							
GTA				LR		LR		
	comp=N,50nm,16.3s							
GTA				LR		LR		
	comp=E,180nm,14.8s							
GTA				LR		LR		
	comp=Z,51nm,14.8s							
NVS	Novosibirsk	142.32	62	ePKHKP			17 56 56.6	
NVS				e			18 00 09.1	
NVS				pmax		pmax		
	comp=Z,33nm,2.0s							
NVS				pmax		pmax		
	comp=N,7.0nm,1.6s							
NVS				pmax		pmax		
	comp=E,12nm,1.7s							
ZAL	Zalesovo	142.61	64	PKHKP			17 56 57.7	
ZALV	Zalesovo Beam	142.63	64	PKP		PKPdf	17 56 57.7	-5.0
ZALV	Zalesovo Beam	142.63	64	PKhKP			17 56 57.7	
	comp=E,2.4nm,0.5s,baz=242,slow=3.6,SNR=14							
XAN	Xi'an	142.79	108	PKP		PKPdf	17 56 59.7	-3.9
SKAG	Skagway	143.39	305	ePKPdf		PKPdf	17 57 00.7	-3.1
INK	Inuvik	146.07	320	ePKIKP		PKPdf	17 57 05.9	-2.3
INK				e			17 57 09.0	
INK				e			17 57 43.1	
INK				e			18 00 31.9	
INK	Inuvik	146.07	320	ePKPdf		PKPdf	17 57 05.9	-2.3
INK				ePKPbc		PKPbc	17 57 09.0	-0.4
INK				epPKPdf		pPKPdf	17 57 43.1	-0.5
INK				pPKPbc		pPKPbc	17 57 43.9	-0.3
INK				eSKP			18 00 31.9	
INK	Inuvik	146.07	320	PKPbc		PKPbc	17 57 09.0	-0.4
	baz=94,slow=1.4							
INK				pPKPbc		pPKPbc	17 57 43.9	-0.3
	comp=E,19nm,0.9s,baz=91,slow=2.6,SNR=2.3							
DAWY	Dawson	147.01	312	ePKPbc		PKPbc	17 57 11.4	-0.7
EGAK	Eagle	147.96	312	ePKPbc		PKPbc	17 57 13.8	-1.0
HHC	Hu-ho-hao-te	149.24	103	ePKP		PKPdf	17 57 12.2	-2.1
HHC				APKP			17 57 54.2	
HHC				XPKP			17 58 11.5	
HHC				PKS			18 00 45.7	
HHC				PP		PP	18 00 53.9	+1.7
HHC				SKS		SKSdf	18 04 03.4	-6.3
HHC				SKKS		SKKSac	18 07 26.1	-3.6
HHC				SS		SS	18 19 51.2	-2.7
HHC				PP		PP		
	comp=Z,72nm,5.8s							
HHC				LR		LR		
	comp=N,206nm,21.6s							
HHC				LR		LR		
	comp=E,213nm,21.4s							
HHC				LR		LR		
	comp=Z,157nm,21.0s							
MOY	Mondy	149.91	77	ePKP2		PKPab	17 57 19.7	-6.5
MOY				pmax		pmax		
	comp=Z,55nm,2.5s							
ZAK	Zakamensk	150.50	81	ePKIKP		PKPdf	17 57 14.8	-1.2
ZAK				e			17 57 50.5	
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ZAK				pmax		pmax		
	comp=Z,20nm,1.1s							
ZAK				pmax		pmax		
	comp=Z,6.0nm,1.3s							
PMR	Palmer	150.51	304	ePKPdf		PKPdf	17 57 12.4	-3.2
PMR				ePKPbc		PKPbc	17 57 20.7	-0.5
SLKM	Skilak Lake	150.69	302	ePKIKP		PKPbc	17 57 21.4	-0.2
SLKM				e			17 57 29.1	
COLA	College	150.76	311	ePKIKP		PKPbc	17 57 20.7	-0.9
COLA				e			17 57 29.2	
SONM	Songino Array	150.83	87	PKP		PKPdf	17 57 15.7	-0.9
	comp=Z,1.5nm,0.8s,baz=249,slow=2.1,SNR=13							
SONM				PKPbc		PKPbc	17 57 21.7	-0.6
	comp=Z,21nm,0.8s,baz=223,slow=3.6,SNR=108							
SONM				pPKP		pPKPdf	17 57 53.4	+1.5
	comp=Z,2.1nm,0.5s,baz=216,slow=3.0,SNR=1.3							
KDAK	Kodiak Island	150.93	296	PKPbc		PKPbc	17 57 22.1	-0.1
	comp=Z,139nm,0.7s,baz=161,slow=1.4,SNR=196							
KDAK				pPKPbc		pPKPbc	17 57 59.6	+2.3
	comp=Z,14nm,0.6s,baz=194,slow=4.2,SNR=1.7							
BJT	Baijiatuau	151.10	109	ePKIKP		PKPbc	17 57 22.4	-0.8
BJI	Beijing	151.12	109	PKP		PKPbc	17 57 22.6	-0.7
ULN	Ulaanbaatar	151.22	88	ePKPdf		PKPdf	17 57 15.5	-1.7
ULN				ePKPbc		PKPbc	17 57 21.9	-1.3
TLY	Talaya	151.35	79	ePKIKP		PKPdf	17 57 16.9	-0.3
TLY				e			17 57 56.2	
TLY				pmax		pmax		
	comp=Z,25nm,0.9s							
TLY	Talaya	151.35	79	ePKPdf		PKPbc	17 57 22.9	-0.5
IMA2	Indian Mountai	153.34	313	ePKPdf		PKPdf	17 57 16.5	-3.3
IMA2				ePKPbc		PKPbc	17 57 27.1	-0.3
IMA2				ePKPab		PKPab	17 57 39.7	-0.5
SVW2	Sparrevohn	153.38	302	ePKPbc		PKPbc	17 57 25.9	-1.7
SVW2				ePKPab		PKPab	17 57 39.9	-0.5
TTA	Tatalina	153.94	306	ePKPdf		PKPdf	17 57 17.5	-3.1
TTA				ePKPbc		PKPbc	17 57 28.5	-0.2
KSRS	Korea Array	154.80	129	PKP		PKPdf	17 57 21.1	-1.6
	comp=Z,1.1nm,0.8s,baz=204,slow=2.7,SNR=4.8							
KSRS				PKPbc		PKPbc	17 57 30.4	-1.1

VLS	Valsamata	1.60	341	*e*Pb	Pn	17 51 06.0	-0.3
VLS	Valsamata	1.60	341	*e*PN	Pn	17 51 06.5	+0.2
VLS				*e*SN	Sn	17 51 27.5	+0.1
SELA	Sela	1.70	18	*e*Pb	Pn	17 51 07.6	0.0
DID	Didima	1.81	61	*e*Pb	Pb	17 51 09.0	-1.9
LTK	Loutraki	1.94	45	*e*Pb	Pb	17 51 11.1	-2.0
LKD	Levkas	2.10	347	*e*Pn	Pn	17 51 13.3	+0.3
NAIG	Nisos Aigina	2.11	58	*e*PB	Pn	17 51 13.8	+0.6
EVR	Evrytania	2.30	11	*e*Pb	Pn	17 51 16.3	+0.5
EVR	Evrytania	2.30	11	*e*PN	Pn	17 51 17.0	+1.1
KVR	Kavouri	2.33	59	*e*Pn	Pn	17 51 16.5	+0.2
LKR	Lokris	2.43	35	*e*PN	Pn	17 51 18.5	+0.9
LKR				*e*SN	Sn	17 51 47.8	0.0
LKR	Lokris	2.43	35	*e*Pn	Pn	17 51 17.7	+0.1
AGG	Agios Georgios	2.51	20	*e*Pn	Pn	17 51 19.4	+0.6
VAM	Vamos	2.71	117	*e*PB	Pb	17 51 26.0	-0.1
VAM	Vamos	2.71	117	*e*Pb	Pb	17 51 27.0	+0.9
THL	Klokotos Trika	2.97	12	*e*Pn	Pn	17 51 25.5	+0.5
THL	Klokotos Trika	2.97	12	*e*Pn	Pn	17 51 25.3	+0.3
NEO	Neokhori	3.08	30	*e*PN	Pn	17 51 26.7	+0.2
NEO	Neokhori	3.08	30	*e*Pn	Pn	17 51 26.3	-0.2
MEV	Metsovon	3.12	360	*e*Pn	Pn	17 51 27.9	+0.7
TIP	Timpagrande	4.35	307	P	Pn	17 51 43.8	-0.2
GRAM		11.54	316	S	Sn	17 55 36.6	+4.7

IDC 04 17:51:26.0±1.7, 3041S×6049E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.6/23, mbtmp4.0/3, Error ellipse: s-maj=49.5km s-min=40.5km az=128.0, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	South Pole Qui	59.76	180	P	P	18 01 32.6	+0.5
	2.4nm,0.6s,baz=260,slow=2.4,SNR=16						
ASAR	Alice Springs	64.71	104	P	P	18 02 06.2	0.0
	0.6nm,0.6s,baz=238,slow=6.4,SNR=12						
WRA	Warramunga Arr	66.62	100	P	P	18 02 18.9	+0.2
	1.6nm,1.0s,baz=242,slow=5.9,SNR=9.1						
YKA	Yellowknife Ar	147.74	356	PKPbc	PKPbc	18 11 11.1	-0.8
	0.5nm,0.5s,baz=353,slow=3.0,SNR=11						

*NEIC **04** 17:55:18.9, 4482N×1046E, h5km, ML2.7(LDG), ML2.4(ROM), After ROM.*
*ROM **04** 17:55:18.9±0.4, 4482N×1046E, h5km±3km, Md2.5/16, Ml2.4/11, Error ellipse: s-maj=3.0km s-min=2.7km az=12.0*
*ISCJB **04** 17:55:18.3±0.3, 4486N±002×1039E±004, h5km±4km, Error ellipse: s-maj=4.7km s-min=2.7km az=19.7*
*GEN **04** 17:55:18.3, 4476N×1076E, h20km, ML2.0*
*CSEM **04** 17:55:19.3±0.1, 4481N×1046E, h12km, MD2.5/16, Error ellipse: s-maj=2.1km s-min=1.6km az=75.0*
*LDG **04** 17:55:20.3±0.1, 4487N×1064E, h10km, Ml2.7/14, Error ellipse: s-maj=3.3km s-min=2.4km az=58.0*

ISC 04 17:55:19.1±0.3, 4485N±002×1042E±004, h3km±4km, n66, σ1°§24/104, 5C-3D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NOVE	Novellara	0.22	104	Pg	Pg	17 55 22.6	-0.7
NOVE				Sg	Sg	17 55 26.6	+0.4
	5μm,0.4s						
SBPO	S.Benedetto Po	0.41	61	Pg	Pg	17 55 28.2	+1.3
SBPO				Sg	Sg	17 55 35.0	+2.8
ERBM	Eremo	0.43	180	Pg	Pg	17 55 27.9	+0.5
	59nm,0.6s						
GRAM		0.44	215	P	Pg	17 55 29.0	+1.5
RAVA	Ravarino	0.51	101	Pg	Pg	17 55 29.4	+0.6
RAVA				Sg	Sg	17 55 36.9	+1.5
GSCL	Gusciola	0.52	166	Pg	Pg	17 55 28.7	-0.3
	34nm,0.4s						
VALM		0.52	193	P	Pg	17 55 29.0	0.0
BACM		0.62	203	P	Pg	17 55 31.3	+0.3
BACM				S	Sg	17 55 40.1	+1.0
ZCCA	Zocca	0.64	141	Pg	Pg	17 55 31.7	+0.3
	7.0nm,0.7s						
SARO	Sassorosso	0.67	181	P	Pg	17 55 30.5	-1.3
BOB	Bobbio (Coli)	0.69	263	Pg	Pg	17 55 35.5	+3.2
VLC	Villacollemand	0.69	182	Pg	Pg	17 55 32.5	+0.2
VINC	Vinca	0.74	195	P	Pg	17 55 32.8	-0.3
VINC				S	Sg	17 55 42.2	-0.5
SALO	Salr	0.77	6	Pg	Pg	17 55 35.2	+1.4
	243nm,0.5s						
PZZT	Monte Pizzetto	0.79	156	Pg	Pg	17 55 33.0	-1.2
	73nm,0.6s						
FIU	Minerbio Fiu	0.80	105	Pg	Pg	17 55 35.7	+1.4
BDI	Bagni Di Lucca	0.80	171	Pg	Pg	17 55 34.6	+0.2
BDI				Sg	Sg	17 55 45.0	+0.2
FNVD	Fontana Vidola	0.85	143	Pg	Pg	17 55 34.3	-1.1
	53nm,0.3s						
MAGA	Magasa	0.93	9	Pg	Pg	17 55 37.3	+0.3
	683nm,0.3s						
TEOL	Teolo	1.02	60	⇑*i*Pg	Pg	17 55 37.4	-1.3
TEOL				*i* Sg	Sg	17 55 50.6	-1.3
TEOL	Teolo	1.02	60	*i* Pg	Pg	17 55 37.3	-1.4
TEOL				*i* Sg	Sg	17 55 50.6	-1.3
MABI	Malga Bissina	1.20	3	Pg	Pg	17 55 42.2	+0.1
MABI				Sg	Sg	17 55 59.2	+1.5
	46nm,0.1s						
VMG	Vicchio	1.20	137	Pg	Pg	17 55 41.7	-0.4
	25nm,0.4s						
SFI	Santa Sofia	1.40	132	Pg	Pg	17 55 44.5	-1.3
	113nm,1.7s						
CTI	Castel Tesino	1.48	36	Pg	Pg	17 55 44.8	-2.6
	133nm,0.2s						
BRMO	Bormio	1.62	359	Pg	Pg	17 55 50.0	-0.2
	11nm,0.4s						
CRE	Caprese Michel	1.66	138	Pg	Pg	17 55 48.3	-2.5
	7.0nm,0.4s						
APPI	Appiano	1.72	19	Pg	Pg	17 55 49.4	-2.7
APPI				Sg	Sg	17 56 11.7	-2.7
	58nm,0.4s						
TUE	Stuetta	1.78	336	Pg	Pg	17 55 51.6	-1.6
FETA	Feichten	2.18	6	⇑*i*Pn	Pn	17 55 57.1	+0.9
FETA				⇓*i*Sn	Sn	17 56 26.3	+2.6
SBF	Sospel	2.36	246	*e*Pn	Pn	17 55 59.5	+0.9
SBF				*e*Sn	Sn	17 56 29.1	+1.1
	16nm,0.5s						
SBF	Sospel	2.36	246	*e*Pn	Pn	17 55 59.5	+0.9
SBF				*e*Sn	Sn	17 56 29.1	+1.1
	8.1nm,0.5s						
SQTA	Sankt Quirin	2.43	13	⇑*i*Pn	Pn	17 56 00.5	+0.8
SQTA				⇑*i*Sn	Sn	17 56 31.6	+1.7
DAVA	Damuels	2.46	351	⇓*i*Pn	Pn	17 56 01.9	+1.8
DAVA				⇓*i*Sn	Sn	17 56 34.3	+3.6
PGF	Pioggiola	2.52	205	*e*Pn	Pn	17 56 00.0	-0.9
PGF				*e*Sn	Sn	17 56 30.0	-2.2
	7.2nm,0.3s						
PGF	Pioggiola	2.52	205	*e*Pn	Pn	17 56 00.0	-0.9
PGF				*e*Sn	Sn	17 56 30.0	-2.2
	3.6nm,0.3s						
MOTA	Moosalm	2.54	11	⇑*i*Pn	Pn	17 56 01.8	+0.7
MBDF	Montbardon	2.60	268	*e*Pn	Pn	17 56 04.3	+2.3
LPG	La Plagne	2.67	285	*e*Pn	Pn	17 56 02.9	-0.1
LPG				*e*Sn	Sn	17 56 35.8	0.0
	6.9nm,0.5s						
LPL	La Plagne	2.69	286	*e*Pn	Pn	17 56 03.7	+0.5
LPL				*e*Sn	Sn	17 56 37.3	+1.1
	5.2nm,0.4s						
VOY	Vojsko	2.72	63	*e*Pn	Pn	17 56 07.9	+4.3
VOY				*e*Sn	Sn	17 56 32.2	-4.8
FRF	La Foret Royal	3.00	246	*e*Pn	Pn	17 56 08.5	+1.0
FRF				*e*Sn	Sn	17 56 45.7	+1.7
	4.1nm,0.3s						
FRF	La Foret Royal	3.00	246	*e*Pn	Pn	17 56 08.5	+1.0
FRF				*e*Sn	Sn	17 56 45.7	+1.7
	2.0nm,0.3s						
LMR	La Mourre	3.20	243	*e*Pn	Pn	17 56 10.4	+0.2
LMR				*e*Sn	Sn	17 56 48.1	-0.7
	4.5nm,0.3s						
LMR	La Mourre	3.20	243	*e*Pn	Pn	17 56 10.4	+0.2
LMR				*e*Sn	Sn	17 56 48.1	-0.7
	2.2nm,0.3s						
ORIF	Oris-en-Rattie	3.22	273	*e*Pn	Pn	17 56 11.1	+0.5
ORIF				*e*Sn	Sn	17 56 50.7	+1.2
	4.4nm,0.4s						
ORIF	Oris-en-Rattie	3.22	273	*e*Pn	Pn	17 56 11.1	+0.5
ORIF				*e*Sn	Sn	17 56 50.7	+1.2
	2.2nm,0.4s						
CABF	La Chapelle	3.50	302	*e*Pn	Pn	17 56 15.4	+1.0
HINF	Hinteralfeld	3.86	321	*e*Pn	Pn	17 56 18.8	-0.5
HINF				*e*Sn	Sn	17 57 02.9	-2.2
	4.1nm,0.3s						
HINF	Hinteralfeld	3.86	321	*e*Pn	Pn	17 56 18.8	-0.5
HINF				*e*Sn	Sn	17 57 02.9	-2.2
	2.0nm,0.3s						
VIVF	Saint-Julien-I	4.08	272	*e*Pn	Pn	17 56 23.2	+0.8
VIVF				*e*Sn	Sn	17 57 10.6	-0.1
	1.9nm,0.3s						
VIVF	Saint-Julien-I	4.08	272	*e*Pn	Pn	17 56 23.2	+0.8
VIVF				*e*Sn	Sn	17 57 10.6	-0.1
	0.9nm,0.3s						
CDF	Champ du Feu	4.17	330	*e*Pn	Pn	17 56 23.1	-0.4
CDF				*e*Sn	Sn	17 57 11.0	-1.7
	1.4nm,0.2s						
CDF	Champ du Feu	4.17	330	*e*Pn	Pn	17 56 23.1	-0.4
CDF				*e*Sn	Sn	17 57 11.0	-1.7
	0.7nm,0.2s						
HAU	Haudompre	4.22	320	*e*Pn	Pn	17 56 22.7	-1.6
HAU				*e*Sn	Sn	17 57 10.6	-3.5
	6.1nm,0.3s						
HAU	Haudompre	4.22	320	*e*Pn	Pn	17 56 22.7	-1.6
HAU				*e*Sn	Sn	17 57 10.6	-3.5
	3.0nm,0.3s						
LASF	Ste Croix	4.76	263	*e*Pn	Pn	17 56 31.6	-0.1
LASF				*e*Sn	Sn	17 57 26.6	-0.7
	1.1nm,0.4s						
LASF	Ste Croix	4.76	263	*e*Pn	Pn	17 56 31.6	-0.1
LASF				*e*Sn	Sn	17 57 26.6	-0.7
	0.6nm,0.4s						
SMF	Signal de Mont	4.94	294	*e*Pn	Pn	17 56 34.6	+0.5
LOR	Lormes	5.16	300	*e*Pn	Pn	17 56 35.9	-1.3
LOR				*e*Sn	Sn	17 57 35.0	-2.3
	3.4nm,0.3s						
LOR	Lormes	5.16	300	*e*Pn	Pn	17 56 35.9	-1.3
LOR				*e*Sn	Sn	17 57 35.0	-2.3
	1.7nm,0.3s						
SSF	Saint Saulge	5.30	297	*e*Sn	Sn	17 57 38.6	-2.0
	2.7nm,0.4s						
SSF	Saint Saulge	5.30	297	*e*Sn	Sn	17 57 38.6	-2.0
	1.4nm,0.4s						
AVF	Avril sur Loir	5.30	294	*e*Pn	Pn	17 56 38.7	-0.4
TCF	Toulx Ste Croi	5.94	287	*e*Pn	Pn	17 56 47.7	-0.1
GIVF	Givet	6.47	326	*e*Pn	Pn	17 56 53.4	-1.8

*ISCJB **04** 18:01:24.1±0.4, 6095S±007×20.1W±02, h10km, mb4.4/16, MS4.2/18, Error ellipse: s-maj=12.8km s-min=7.5km az=139.2*
*IDC **04** 18:01:24.8±0.6, 6083S×2009W, h0km, mb4.4/13, mb1 4.5/14, mb1mx4.4/20, mbtmp4.4/14, ML5.0/1, MS4.0/17, Ms1 4.0/17, ms1mx3.9/23, Error ellipse: s-maj=20.9km s-min=14.7km az=31.0*
*GCMT **04** 18:01:26.0±0.3, 61.11S×1995W, h20km±1km, MW5.0/73, Moment Tensor Solution. s28,c30; s73,c106; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.51±.15; $M_{\theta\theta}$-0.60±.14; $M_{\phi\phi}$1.11±.13; $M_{r\theta}$0.97±.26; $M_{\theta\phi}$3.17±.11; $M_{\phi r}$-0.10±.25; Best double couple: $M_0$3.44400×10^{16} NP1:ϕ_s353.00000°, δ73.00000°, λ-173.00000°. NP2: ϕ_s261.00000°, δ83.00000°, λ-17.00000°. Principal axes: T 3.6030, Plg7.0000°, Azm308.0000°; N -0.3220, Plg71.0000°, Azm61.0000°; P -3.2850, Plg17.0000°, Azm216.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **04** 18:01:26.0, 6090S×2010W, h10km, mB5.2, Ms5.0, Msz4.7*
*NEIC **04** 18:01:26.0±0.3, 6087S×2012W, h10km, mb4.6/9, Error ellipse: s-maj=12.5km s-min=8.6km az=210.0*

ISC 04 18:01:26.1±0.4, 6091S±007×201W±02, h10km, n54, σ0°§81/33, mb4.4/16, MS4.2/18, 2D, East of South Sandwich Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	Neumayer--Stat	10.89	159	*e*P	Pn	18 04 02.0	+0.3
VNA1				*e*		18 04 02.8	
VNA1				*e*		18 04 05.2	
VNA1				*e*		18 04 08.7	
VNA1				*e*		18 04 12.3	
VNA1				*e*		18 05 56.1	
VNA1				*e*		18 05 59.0	
VNA3	Neumayer Olymp	11.18	162	*e*P	Pn	18 04 05.1	-0.6
VNA3				*e*		18 04 05.9	
VNA3				*e*		18 04 06.8	
VNA3				*e*		18 04 09.2	
VNA3				*e*		18 04 13.0	
VNA3				*e*		18 04 16.6	
VNA3				*e*		18 05 59.3	
VNA3				*e*		18 06 02.0	
VNA2	Neumayer--Watz	11.28	158	*e*P	Pn	18 04 06.2	-0.8
	baz=326,slow=17						
VNA2				*e*		18 04 06.9	
VNA2				*e*		18 04 07.7	
VNA2				*e*		18 04 09.9	
VNA2				*e*		18 04 13.7	
VNA2				*e*		18 04 16.9	
VNA2				*e*		18 06 02.1	
VNA2				*e*		18 06 05.4	
SNAA	Sanae	12.76	155	*e*P	Pn	18 04 26.5	-0.8
SNAA				*e*		18 04 27.5	
SNAA				*e*		18 04 29.8	
SNAA				*e*		18 04 33.1	
SNAA				*e*		18 04 37.2	
SNAA				*e*		18 06 37.8	
SNAA				*e*		18 06 41.3	
SNAA	Sanae	12.76	155	Pn	Pn	18 04 26.5	-0.8
	8.1nm,0.3s,baz=330,slow=13,SNR=282						
SNAA				Sn	Sn	18 06 37.6	-12
	1.5nm,0.3s,baz=320,slow=21,SNR=6.4						
SNAA				LR	LR	18 08 17.6	
	comp=Z,464nm,20.3s,baz=332,slow=32						
PMSA	Palmer Station	20.11	240	P	P	18 06 07.6	+8.1
	30nm,0.3s,baz=81,slow=9.0,SNR=31						
PMSA				LR	LR	18 11 21.9	
	comp=Z,386nm,18.8s,MS3.8,baz=296,slow=30						
EFI	East Falkland	22.70	277	*e*P	P	18 06 26.4	-1.0
SYO	Syowa Base	25.48	134	⇓*e*P	P	18 06 53.0	-0.8
SYO	Syowa Base	25.48	134	⇓*e*P	P	18 06 54.5	+0.7
USHA	Ushuaia	25.90	262	P	P	18 06 58.9	+1.2
	10nm,0.9s,mb4.4,baz=101,slow=4.4,SNR=3.9						
QSPA	South Pole Qui	29.33	180	P	P	18 07 30.4	+2.2
QSPA				LR	LR	18 19 23.9	
QSPA	South Pole Qui	29.33	180	P	P	18 07 30.4	+2.2
	5.1nm,0.9s,mb4.3,baz=210,slow=7.5,SNR=11						
QSPA				LR	LR	18 19 23.9	
	comp=Z,215nm,18.1s,MS3.8,baz=195,slow=37						
MAW	Mawson	34.03	137	*e*P	P	18 08 11.2	+1.6
	8.9nm,1.0s,mb4.7						
MAW	Mawson	34.03	137	P	P	18 08 10.8	+1.3
	4.4nm,0.8s,mb4.4,baz=240,slow=11,SNR=5.7						
MAW				LR	LR	18 19 56.0	
	comp=Z,499nm,21.6s,MS4.2,baz=243,slow=33						
TRQA	Tornquist	34.63	292	*e*P	P	18 08 14.7	-0.5
	5.9nm,0.7s,mb4.6						
PLCA	Paso Flores	36.53	280	*e*P	P	18 08 30.4	-0.9
	14nm,1.4s,mb4.6						
PLCA	Paso Flores	36.53	280	P	P	18 08 30.9	-0.5
	3.2nm,0.8s,mb4.2,baz=154,slow=8.0,SNR=7.8						
PLCA				LR	LR	18 22 20.9	
	comp=Z,183nm,21.5s,MS3.8,baz=138,slow=34						
VNDA	Vanda	41.82	181	LR	LR	18 25 00.4	
	comp=Z,199nm,19.1s,MS4.0,baz=179,slow=34						
CPUP	Villa Florida	42.77	307	*e*P	P	18 09 23.2	-0.2
	34nm,1.1s,mb5.0						
CPUP	Villa Florida	42.77	307	P	P	18 09 22.9	-0.6
	3.3nm,0.7s,mb4.2,baz=133,slow=7.4,SNR=8.0						
CPUP				LR	LR	18 25 13.1	
	comp=Z,134nm,21.6s,MS3.8,baz=145,slow=33						
CFAA	Coronel Fontan	42.84	291	P	P	18 09 23.4	-0.6
	0.8nm,0.6s,mb3.6,baz=169,slow=7.0,SNR=13						
BOSA	Boshof	44.14	64	*e*P	P	18 09 34.6	+0.1
	4.4nm,0.9s,mb4.2						
BOSA	Boshof	44.14	64	P	P	18 09 34.4	-0.1
	5.8nm,1.0s,mb4.2,baz=205,slow=8.2,SNR=5.7						
BOSA				LR	LR	18 24 01.6	
	comp=Z,189nm,19.1s,MS4.0,baz=206,slow=31						
LBTB	Lobatse	47.42	62	*e*P	P	18 10 00.6	+0.1
	17nm,1.3s,mb4.8						
LBTB	Lobatse	47.42	62	P	P	18 10 00.6	+0.2
	3.7nm,0.9s,mb4.3,baz=222,slow=7.8,SNR=6.6						
BDFB	Brasilia	49.47	324	P	P	18 10 16.7	+0.4
	2.9nm,0.7s,mb4.4,baz=166,slow=14,SNR=5.3						
BDFB				LR	LR	18 29 26.2	
	comp=Z,80nm,19.9s,MS3.7,baz=155,slow=34						
LPAZ	La Paz	56.15	301	*e*P	P	18 11 06.7	+1.1
	11nm,1.0s,mb4.8						
LPAZ	La Paz	56.15	301	P	P	18 11 07.3	+1.6
	6.2nm,0.8s,mb4.7,baz=148,slow=5.7,SNR=25						
LSZ	Lusaka	57.16	59	*e*P	P	18 11 12.3	-0.5
	3.1nm,0.8s,mb4.4						
DBIC	Dimbokro	68.42	16	P	P	18 12 27.8	-0.1
	5.3nm,0.8s,mb4.6,baz=154,slow=9.3,SNR=5.4						
DBIC				LR	LR	18 34 07.9	
	comp=Z,98nm,20.9s,MS4.0,baz=274,slow=29						
KMBO	Kilima Mbogo	73.70	61	LR	LR	18 42 21.2	
	comp=Z,117nm,19.5s,MS4.2,baz=93,slow=33						
ROSC	El Rosal	77.80	304	LR	LR	18 47 10.3	
	comp=Z,131nm,19.4s,MS4.3,baz=150,slow=35						
SDV	Santo Domingo	80.03	309	*e*P	P	18 13 36.0	+0.4
	4.8nm,0.8s,mb4.5						
STKA	Stephens Creek	86.34	164	LR	LR	18 50 59.2	
	comp=Z,388nm,20.7s,MS4.8,baz=205,slow=34						
PPT	Papeete	91.99	227	LR	LR	18 47 12.8	
	comp=Z,154nm,19.1s,MS4.5,baz=190,slow=30						
ASAR	Alice Springs	93.12	156	P	P	18 14 39.7	-0.4
	1.4nm,0.9s,mb4.4,baz=192,slow=4.1,SNR=12						
FITZ	Fitzroy Crossi	96.59	147	LR	LR	18 55 23.3	
	comp=Z,78nm,18.3s,MS4.2,baz=17,slow=34						
WRA	Warramunga Arr	96.83	156	P	P	18 14 56.6	-0.4
	0.8nm,0.9s,mb4.2,baz=194,slow=4.2,SNR=3.5						
WRA				LR	LR	18 56 04.0	
	comp=Z,121nm,20.7s,MS4.4,baz=200,slow=34						
KEST	Kesra	99.26	24	LR	LR	18 54 22.3	
	comp=Z,30nm,19.2s,MS3.8,baz=225,slow=32						
FINES	FINESS Array B	127.05	26	PKP	PKPdf	18 20 28.6	0.0
	1.5nm,0.8s,baz=259,slow=1.9,SNR=4.6						
CD2	Chengdu	132.84	103	*e*PKP	PKPdf	18 20 41.6	+0.9
CD2				XPKP		18 20 49.0	
CD2				PP	PP	18 23 11.3	+5.2
CD2				SKS	SKSdf	18 27 47.5	-4.2
CD2				SKKS	SKKSac	18 29 58.3	-3.2
CD2				SS	SS	18 40 49.0	+1.6
CD2				PP	PP		
	comp=Z,80nm,10.2s						
CD2				LR	LR		
	comp=N,100nm,22.4s						
CD2				LR	LR		
	comp=Z,110nm,24.6s,MS4.5						
ARCES	ARCESS Array B	134.14	20	PKP	PKPdf	18 20 42.3	+0.4
	comp=Z,0.8nm,0.8s,baz=320,slow=14,SNR=3.6						
MKAR	Makanchi Array	134.91	71	PKP	PKPdf	18 20 45.7	+1.7
	comp=Z,0.2nm,0.9s,baz=231,slow=23,SNR=2.2						
WMQ	Urumqi	135.24	78	*e*PKP	PKPdf	18 20 48.0	+3.3
LZH	Lanzhou	137.11	99	*e*PKP	PKPdf	18 20 50.5	+2.0
LZH				PP	PP		
	comp=Z,66nm,5.1s						
NJ2	Nanjing	140.69	118	*e*PKP	PKPdf	18 20 52.2	-3.0
YKA	Yellowknife Ar	142.24	311	PKP	PKPdf	18 20 55.9	-1.0
	comp=Z,1.0nm,0.7s,baz=127,slow=2.4,SNR=6.0						
RES	Resolute Bay	143.81	334	*e*PKPdf	PKPdf	18 20 56.7	-2.7
HHC	Hu-ho-hao-te	144.57	102	*e*PKP	PKPdf	18 21 04.8	+3.1
HHC				SKS	SKSdf	18 28 12.4	+1.8
HHC				PP	PP		
	comp=Z,124nm,5.0s						
HHC				LR	LR		
	comp=N,171nm,20.5s,MS4.9						
HHC				LR	LR		
	comp=E,120nm,19.2s,MS4.9						
HHC				LR	LR		
	comp=Z,157nm,19.4s,MS4.8						
SONM	Songino Array	147.19	89	PKPbc	PKPbc	18 21 07.1	-1.1
	comp=Z,1.6nm,0.7s,baz=220,slow=3.1,SNR=13						
ULN	Ulaanbaatar	147.54	89	*e*PKPbc	PKPbc	18 21 09.4	+0.2
KSRS	Korea Array	149.12	125	PKPbc	PKPbc	18 21 15.6	+1.9
	comp=Z,1.7nm,1.0s,baz=240,slow=27,SNR=3.6						
INK	Inuvik	151.90	314	*e*PKPbc	PKPbc	18 21 19.5	+0.2
INK	Inuvik	151.90	314	PKPbc	PKPbc	18 21 19.0	-0.3
	comp=Z,4.7nm,0.8s,baz=131,slow=3.0,SNR=12						
INK				PKPab	PKPab	18 21 29.2	+0.5
	comp=Z,3.4nm,0.7s,baz=86,slow=5.0,SNR=5.2						

*IDC **04** 18:18:23.7±1.2, 0.96N×12577E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, ML3.7/1, Error ellipse: s-maj=108.2km s-min=18.2km az=67.0*
*NEIC **04** 18:18:25.2±0.8, 1.13N×126.11E, h10km, mb4.5/4, Error ellipse: s-maj=65.7km s-min=9.7km az=67.0*
*ISCJB **04** 18:18:26.1±0.7, 1.21N±0.10×126.33E±0.09, h33km, mb4.2/7, Error ellipse: s-maj=16.6km s-min=8.7km az=40.1*

ISC 04 18:18:28.3±0.7, 118N±009×12641E±009, h35km, n16, σ0°§78/17, mb4.2/7, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.03	112	⇓*e*P	Pn	18 18 45.0	-1.4
TNE				*e*S	Sn	18 19 00.0	+0.4
KAKA	Kakadu	15.04	157	*e*P	Pn	18 22 03.0	+4.6
	18nm,1.1s						
KAKA	Kakadu	15.04	157	*e*P	Pn	18 22 01.5	+3.1
	34nm,0.9s						
FITZ	Fitzroy Crossi	19.17	182	*e*P	Pn	18 22 48.8	-1.3
	2.4nm,1.0s						
FITZ	Fitzroy Crossi	19.17	182	P	Pn	18 22 48.3	-1.8
	0.2nm,0.3s,baz=312,slow=8.0,SNR=6.2						
WRAB	Tennant Creek	22.38	160	*e*P	P	18 23 23.8	+0.2
	11nm,0.8s,mb4.3						
WRA	Warramunga Arr	22.38	160	P	P	18 23 23.9	+0.2
	7.2nm,0.6s,mb4.3,baz=334,slow=11,SNR=50						
WB2	Warramunga Arr	22.39	160	*e*P	P	18 23 24.7	+0.9
ASAR	Alice Springs	25.75	164	P	P	18 23 56.1	+0.3
	2.1nm,0.5s,mb4.0,baz=346,slow=11,SNR=18						
STKA	Stephens Creek	35.89	158	*e*P	P	18 25 25.1	-0.1
	6.3nm,1.3s,mb4.4						
STKA	Stephens Creek	35.89	158	*e*P	P	18 25

OTT 04 19:12:43.2±0.8, 6295N×6614W, h18km, MN4.3/7, 150km southeast from Iqaluit, Nu, Baffin Island region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FRB	**Frobisher Bay**	**1.35**	**308**	PG	Pg	19 13 08.7	-0.5
FRB				SG	Sg	19 13 24.9	-1.9
FRB				Trac		19 13 26.9	
	comp=Z,7μm,0.3s						
KUQ	**Kuujjuuaa**	**4.98**	**194**	PN	Pn	19 13 53.1	-3.9
KUQ				PG	Pg	19 14 07.7	-11
KUQ				SN	Sn	19 14 46.1	-7.9
KUQ				SG	Sg	19 15 10.2	-13
KUQ				Trac		19 15 14.5	
	comp=Z,143nm,0.2s						
IVKQ	**Ivujivik**	**5.45**	**270**	PN	Pn	19 14 02.9	-0.4
IVKQ				SN	Sn	19 15 00.3	-5.2
IVKQ				SG	Sg	19 15 27.6	-10
IVKQ				Trac		19 15 33.4	
	comp=Z,394nm,0.5s						
AKVQ	**Akulivik**	**6.09**	**255**	PN	Pn	19 14 12.4	+0.3
AKVQ				SN	Sn	19 15 17.9	-3.3
AKVQ				SG	Sn	19 15 46.7	+25
AKVQ				Trac		19 15 51.2	
	comp=Z,285nm,0.7s						
INUQ	**Inukjuak**	**7.40**	**238**	PN	Pn	19 14 28.9	-1.2
INUQ				SN	Sn	19 15 45.8	-7.7
INUQ				SG	Sn	19 16 28.1	+35
INUQ				Trac		19 16 29.7	
	comp=Z,108nm,0.4s						
SCHQ	**Schefferville**	**8.15**	**183**	PN	Pn	19 14 39.0	-1.4
SCHQ				SN	Sn	19 16 06.1	-5.8
SCHQ				LG		19 16 54.4	
SCHQ				Trac		19 16 56.5	
	comp=Z,120nm,0.7s						
SRLN	**Sarcpa Lake, N**	**9.01**	**316**	PN	Pn	19 14 50.5	-1.6
SRLN				SN	Sn	19 16 23.6	-9.3
SRLN				LG		19 17 18.0	
SRLN				Trac		19 17 25.2	
	comp=Z,124nm,0.4s						
ILON	**Igloolik, Nuna**	**9.02**	**322**	PN	Pn	19 14 51.6	-0.7
ILON				SN	Sn	19 16 26.7	-6.5
ILON				LG		19 17 17.9	
ILON				Trac		19 17 30.0	
	comp=Z,100nm,0.3s						
SNQN	**Sanikiluaq**	**9.20**	**232**	PN	Pn	19 14 51.8	-3.0
SNQN				SN	Sn	19 16 28.6	-9.1
SNQN				LG		19 17 23.3	
SNQN				Trac		19 17 38.8	
	comp=Z,132nm,0.7s						
GIFN	**Gifford Fjord,**	**9.37**	**326**	PN	Pn	19 14 56.1	-1.0
GIFN				SN	Sn	19 16 33.1	-8.6
GIFN				LG		19 17 30.7	
GIFN				Trac		19 17 37.5	
	comp=Z,304nm,0.6s						
QILN	**Qililugaq Expl**	**9.37**	**302**	PN	Pn	19 14 54.9	-2.2
QILN				SN	Sn	19 16 33.5	-8.4
QILN				LG		19 17 25.8	
QILN				Trac		19 17 37.9	
	comp=Z,58nm,0.3s						
LG4Q	**La Grande 4**	**10.23**	**208**	PN	Pn	19 15 06.1	-2.8
LG4Q				SN	Sn	19 16 53.4	-10
LG4Q				LG		19 17 56.7	
LG4Q				Trac		19 18 00.1	
	comp=Z,52nm,0.4s						
YOSQ	**Ashton Mining**	**10.60**	**200**	PN	Pn	19 15 09.5	-4.5
YOSQ				SN	Sn	19 17 00.3	-12
YOSQ				LG		19 18 10.1	
YOSQ				Trac		19 18 24.0	
	comp=Z,65nm,0.5s						
SEDN	**First Sedna Si**	**11.33**	**283**	PN	Pn	19 15 20.7	-3.3
SEDN				SN	Sn	19 17 18.6	-11
SEDN				LG		19 18 26.7	
SEDN				Trac		19 18 40.8	
	comp=Z,31nm,0.4s						
WEMQ	**Wemindji, Queb**	**11.71**	**218**	PN	Pn	19 15 26.4	-2.8
WEMQ				SN	Sn	19 17 27.6	-12
WEMQ				LG		19 18 37.4	
WEMQ				Trac		19 18 44.5	
	comp=Z,82nm,0.5s						
YRTN	**Rankin Inlet**	**11.82**	**281**	PN	Pn	19 15 28.2	-2.4
YRTN				SN	Sn	19 17 30.7	-11
YRTN				LG		19 18 43.0	
YRTN				Trac		19 18 59.3	
	comp=Z,38nm,0.4s						
BULN	**Bullion Camp,**	**12.01**	**299**	PN	Pn	19 15 29.5	-3.6
BULN				SN	Sn	19 17 34.5	-12
BULN				LG		19 18 46.9	
STLN	**Stellar Camp,**	**12.05**	**303**	PN	Pn	19 15 29.6	-4.2
STLN				SN	Sn	19 17 35.0	-12
STLN				LG		19 18 47.5	
STLN				Trac		19 19 01.6	
	comp=Z,77nm,0.7s						
MNQ	**Manicouagan**	**12.53**	**188**	PN	Pn	19 15 34.5	-5.8
MNQ				SN	Sn	19 17 41.4	-18
MNQ				LG		19 19 07.7	
MNQ				Trac		19 19 25.5	
	comp=Z,22nm,0.4s						
SMQ	**Clarke City**	**12.76**	**182**	PN	Pn	19 15 38.6	-4.9
SMQ				SN	Sn	19 17 49.8	-15
SMQ				LG		19 19 14.6	
SMQ				Trac		19 19 35.7	
	comp=Z,36nm,0.6s						
SILO	**Sutton Inlier**	**12.88**	**237**	PN	Pn	19 15 40.3	-4.8
SILO				SN	Sn	19 17 52.9	-15
SILO				LG		19 19 12.9	
SILO				Trac		19 19 19.0	
	comp=Z,94nm,0.8s						
ICQ	**Pointe Anglais**	**13.47**	**183**	PN	Pn	19 15 47.9	-5.4
ICQ				SN	Sn	19 18 09.5	-13
ICQ				LG		19 19 30.9	
ICQ				Trac		19 19 45.5	
	comp=Z,71nm,0.8s						
CNQ	**Baie Comeau**	**13.72**	**185**	PN	Pn	19 15 51.7	-4.9
CNQ				SN	Sn	19 18 12.4	-16
CNQ				LG		19 19 50.8	
CNQ				Trac		19 20 08.9	
	comp=Z,17nm,0.5s						
VIMO	**Victor Mine**	**13.75**	**231**	PN	Pn	19 15 53.9	-3.1
VIMO				SN	Sn	19 18 14.4	-15
VIMO				LG		19 19 41.6	
VIMO				Trac		19 19 47.8	
	comp=Z,34nm,0.4s						
FCC	**Fort Churchill**	**14.18**	**266**	PN	Pn	19 15 58.7	-4.1
FCC				SN	Sn	19 18 22.6	-17
FCC				LG		19 19 51.4	
FCC				Trac		19 20 17.9	
	comp=Z,32nm,0.8s						
DRLN	**Deer Lake**	**14.52**	**157**	PN	Pn	19 16 06.5	-1.0
DRLN				SN	Sn	19 18 39.0	-8.9
DRLN				LG		19 20 08.4	
MALO	**McAlpine Lake**	**14.93**	**216**	PN	Pn	19 16 07.5	-5.5
MALO				SN	Sn	19 18 40.7	-17
MALO				LG		19 20 15.8	
MALO				Trac		19 20 24.0	
	comp=Z,53nm,0.9s						
DAQ	**Lac Daran**	**15.28**	**193**	SN	Sn	19 18 50.7	-16
DAQ				LG		19 20 29.9	
DAQ				Trac		19 20 60.0	
	comp=Z,11nm,0.4s						
RES	**Resolute Bay**	**15.45**	**331**	PN	Pn	19 16 17.4	-2.3
RES				SN	Sn	19 18 54.8	-15
RES				LG		19 20 36.6	
RES				Trac		19 21 10.3	
	comp=Z,66nm,0.8s						
LMQ	**La Malbaie**	**15.61**	**191**	PN	Pn	19 16 17.2	-4.8
LMQ				SN	Sn	19 18 58.5	-16
VLDQ	**Val d'Or**	**16.14**	**208**	PN	Pn	19 16 23.5	-5.4
VLDQ				SN	Sn	19 19 09.1	-18
VLDQ				LG		19 20 58.7	
VLDQ				Trac		19 21 08.1	
	comp=Z,59nm,1.1s						
KAPO	**Kapuskasing**	**16.23**	**221**	PN	Pn	19 16 25.1	-4.9
KAPO				SN	Sn	19 19 13.5	-16
KAPO				LG		19 20 50.9	
KAPO				Trac		19 21 03.0	
	comp=Z,55nm,0.8s						
KILO	**Kirkland Lake**	**16.32**	**214**	PN	Pn	19 16 28.1	-3.0
KILO				SN	Sn	19 19 13.6	-18
KILO				LG		19 21 01.2	
NANO	**Nakina Ontario**	**16.93**	**231**	PN	Pn	19 16 38.2	-0.6
NANO				SN	Sn	19 19 29.1	-17
GRQ	**Grand Remous**	**17.27**	**203**	PN	Pn	19 16 39.4	-3.7
GRQ				SN	Sn	19 19 38.3	-16
GRQ				LG		19 21 32.9	
GRQ				Trac		19 21 54.5	
	comp=Z,7.4nm,0.4s						
EEO	**Eldee**	**17.90**	**210**	PN	Pn	19 16 41.9	-9.0
EEO				SN	Sn	19 19 56.3	-13
EEO				LG		19 21 49.5	
EEO				Trac		19 22 00.4	
	comp=Z,7.1nm,0.3s						
SOLO	**Sioux Lookout**	**19.12**	**239**	SN	Sn	19 20 21.6	-18
SOLO				LG		19 22 26.6	
SOLO				Trac		19 22 42.9	
	comp=Z,19nm,0.6s						
TBO	**Thunder Bay**	**19.23**	**233**	LG		19 22 28.5	
TBO				Trac		19 22 43.5	
	comp=Z,8.7nm,0.5s						
COWN	**Contwyoto Lake**	**19.49**	**297**	PN	Pn	19 17 07.6	-2.4
COWN				SN	Sn	19 20 26.1	-22
COWN				LG		19 22 36.2	
COWN				Trac		19 22 58.5	
	comp=Z,26nm,0.8s						
FFC	**Flin Flon**	**20.04**	**262**	SN	S	19 20 41.9	-17
FFC				LG		19 22 48.0	
FFC				Trac		19 23 12.4	
	comp=Z,18nm,0.7s						
ULM	**Lac du Bonnet**	**20.48**	**245**	PN	P	19 17 22.4	+2.8
ULM				SN	S	19 20 51.9	-16
ULM				LG		19 23 06.6	
ULM				Trac		19 23 12.1	
	comp=Z,70nm,1.7s						
YKW3	**Yellowknife Ar**	**21.79**	**291**	PN	P	19 17 23.7	-10
YKW3				SN	S	19 21 20.7	-13
YKW3				LG		19 23 48.0	
YKW3				Trac		19 24 15.7	
	comp=Z,6.2nm,0.5s						

IDC 04 19:16:53.9±4.8, 3016S×17780W, h62km±38km, mb3.9/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, MS4.5/1, Ms1 4.5/1, ms1mx3.0/21, Error ellipse: s-maj=63.8km s-min=46.4km az=143.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**0.91**	**353**	P	Pn	19 17 10.7	-0.2
	125nm,0.3s,baz=68,slow=23,SNR=8.5						
RAO				S	Sn	19 17 24.2	+0.8
	370nm,0.3s,baz=72,slow=18,SNR=8.6						
CTA	**Charters Tower**	**33.94**	**279**	P	P	19 23 31.8	+0.5
	1.7nm,0.8s,baz=112,slow=16,SNR=5.6						
STKA	**Stephens Creek**	**34.70**	**257**	P	P	19 23 38.7	+0.8
	2.2nm,0.5s,baz=76,slow=8.6,SNR=8.0						
ASAR	**Alice Springs**	**43.30**	**267**	P	P	19 24 49.6	-0.2
	0.7nm,0.5s,baz=105,slow=7.7,SNR=22						
WRA	**Warramunga Arr**	**44.27**	**272**	P	P	19 24 56.6	-1.0
	1.7nm,0.5s,baz=110,slow=8.2,SNR=49						
FITZ	**Fitzroy Crossi**	**52.54**	**270**	LR	LR	19 49 02.0	
	comp=Z,542nm,21.1s,baz=139,slow=37						
FINES	**FINESS Array B**	**144.98**	**340**	PKP	PKPdf	19 36 23.0	-0.3
	0.6nm,0.5s,baz=64,slow=4.3,SNR=9.1						

IDC 04 19:26:28.2±2.5, 688S×10425E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.8/21, mbtmp4.0/8, ML4.7/1, MS4.3/2, Ms1 4.3/2, ms1mx3.5/17, Error ellipse: s-maj=103.5km s-min=16.8km az=48.0, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Kupang**	**19.48**	**101**	P	Pn	19 30 57.5	-0.5
	2.3nm,0.3s,baz=315,slow=10.0,SNR=5.1						
FITZ	**Fitzroy Crossi**	**23.65**	**120**	P	P	19 31 41.7	+0.1
	1.1nm,0.7s,baz=307,slow=5.1,SNR=3.6						
WRA	**Warramunga Arr**	**31.95**	**117**	P	P	19 32 55.6	-0.4
	1.4nm,0.6s,baz=286,slow=13,SNR=20						
ASAR	**Alice Springs**	**33.01**	**124**	P	P	19 33 05.0	-0.2
	0.5nm,0.9s,baz=288,slow=7.8,SNR=5.8						
SONM	**Songino Array**	**54.51**	**2**	P	P	19 35 57.3	-0.4
	0.6nm,0.7s,baz=177,slow=9.4,SNR=8.4						
MKAR	**Makanchi Array**	**56.88**	**342**	P	P	19 36 15.5	+0.7
	2.4nm,0.7s,baz=145,slow=8.0,SNR=27						
ZALV	**Zalesovo Beam**	**62.77**	**347**	P	P	19 36 54.8	-0.3
	2.2nm,0.6s,baz=134,slow=4.3,SNR=11						
ZALV				LR	LR	20 10 05.1	
	comp=Z,217nm,18.7s,baz=184,slow=42						
BVAR	**Borovoye Array**	**66.22**	**338**	P	P	19 37 17.5	-0.2
	1.4nm,0.7s,baz=134,slow=8.5,SNR=8.9						
AKASG	**Malin Array Be**	**85.90**	**322**	LR	LR	20 25 27.2	
	comp=Z,140nm,18.9s,baz=90,slow=41						
TXAR	**Lajitas Array**	**145.50**	**46**	PKPbc	PKPbc	19 46 09.3	+0.2
	0.8nm,0.7s,baz=295,slow=1.5,SNR=7.8						

*IDC **04** 19:29:09.9±0.6, 240S×9980E, h0km, mb4.7/20, mb1 4.7/21, mb1mx4.6/25, mbtmp4.7/21, ML3.9/1, MS4.5/7, Ms1 4.4/7, ms1mx4.2/17, Error ellipse: s-maj=23.6km s-min=10.1km az=49.0*

*ISCJB **04** 19:29:13.7±0.3, 237S±004×9979E±004, h35km, mb4.8/84, MS4.7/33, Error ellipse: s-maj=6.2km s-min=4.8km az=25.0*

*BJI **04** 19:29:13.1, 271S×9987E, h49km, mB5.1, mb4.9, Ms5.0, Msz4.8*

*MOS **04** 19:29:14.2±1.0, 2.18S×9996E, h33km, mb5.1/30, MS4.6/8, Error ellipse: s-maj=13.0km s-min=6.1km az=111.2*

*NEIC **04** 19:29:15.1±0.2, 233S×9987E, h30km, mb4.8/32, Error ellipse: s-maj=8.4km s-min=4.8km az=49.0*

*GCMT **04** 19:29:15.1±0.4, 261S×9948E, h44km±1km, MW5.0/52, Moment Tensor Solution. s36,c56; s52,c75; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.49±.19; $M_{\theta\theta}$-1.77±.12; $M_{\phi\phi}$-0.71±.18; $M_{r\theta}$1.33±.10; $M_{\theta\phi}$2.36±.09; $M_{\phi r}$-0.98±.16; Best double couple: $M_0$3.49200×10^{16} NP1:ϕ_s311.00000°, δ31.00000°, λ94.00000°. NP2: ϕ_s127.00000°, δ59.00000°, λ88.00000°. Principal axes: T 2.9070, Plg76.0000°, Azm30.0000°; N 1.1720, Plg2.0000°, Azm128.0000°; P -4.0760, Plg14.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*SZGRF **04** 19:29:20.9, 231S×9826E, h30km, mb5.0, Southwest of Sumatera, Indonesia*

ISC 04 19:29:15.7±0.3, 241S±004×9979E±004, h36km, h36km±1.1km: pP-P, n190, σ1§02/197, mb4.8/84, MS4.7/33, 15C-16D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PSI	**Prapat**	**5.24**	**351**	Pn	**Pn**	**19 30 28.4**	**-3.2**
	3.8nm,0.3s,baz=156,slow=8.4,SNR=13						
KGM	**Kluang**	**5.63**	**39**	⇑P	**Pn**	**19 30 38.0**	**+1.0**
MYKOM	**Kota Tinggi**	**5.82**	**44**	⇓P	**Pn**	**19 30 40.3**	**+0.8**
FRIM	**Kepong**	**5.90**	**18**	⇓P	**Pn**	**19 30 41.1**	**+0.5**
TSI	**Tuntungan**	**5.99**	**348**	*eP*	**Pn**	**19 30 37.0**	**-4.9**
IPM	**Ipoh**	**6.95**	**10**	⇑P	**Pn**	**19 30 56.0**	**+1.0**
KULM	**Kulim**	**7.69**	**6**	*e*Pn	**Pn**	**19 31 03.9**	**-1.4**
CBJI	**Citeko**	**8.09**	**120**	P	**Pn**	**19 31 14.9**	**+4.1**
	261nm,0.8s						
KTGM	**Kuala Trenggan**	**8.38**	**24**	⇓P	**Pn**	**19 31 15.2**	**+0.5**
KSM	**Kuching**	**11.20**	**70**	⇑P	**Pn**	**19 31 54.3**	**+0.9**
SBUM	**Sibu**	**13.33**	**69**	⇑P	**Pn**	**19 32 24.9**	**+2.3**
BTM	**Bintulu**	**14.41**	**67**	⇑P	**Pn**	**19 32 40.2**	**+2.9**
KKM	**Kota Kinabalu**	**18.43**	**63**	*e*P	**Pn**	**19 33 28.9**	**+0.4**
KKM	**Kota Kinabalu**	**18.43**	**63**	⇓P	**Pn**	**19 33 29.8**	**+1.3**
SDKM	**Sandakan**	**19.14**	**65**	⇑P	**Pn**	**19 33 36.5**	**-0.5**
TSM	**Tawau**	**19.26**	**70**	⇑P	**Pn**	**19 33 36.5**	**-2.0**
TSM	**Tawau**	**19.26**	**70**	⇓P	**Pn**	**19 33 37.6**	**-0.9**
KDM	**Kudat**	**19.37**	**61**	⇑P	**Pn**	**19 33 39.3**	**-0.5**
PCI	**Palu**	**20.10**	**86**	P	**P**	**19 33 47.2**	**+0.7**
	94nm,1.3s						
MYLDM	**Lahad Datu**	**20.16**	**68**	⇑P	**P**	**19 33 39.3**	**-7.8**
MYLDM	**Lahad Datu**	**20.16**	**68**	⇓P	**P**	**19 33 48.4**	**+1.3**
CM31	**Chiang Mai Arr**	**20.75**	**358**	*e*P	**P**	**19 33 52.1**	**-1.3**
	13nm,0.8s						
NANT	**Nan**	**21.09**	**2**	⇑P	**P**	**19 33 57.6**	**+0.4**
	68nm,0.8s,mb5.0						
CHG	**Chiang Mai**	**21.10**	**358**	⇓P	**P**	**19 34 00.6**	**+3.3**
	28nm,1.0s,mb4.5						
CHTO	**Chiang Mai**	**21.10**	**358**	*e*P	**P**	**19 33 55.4**	**-1.9**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CHTO	**Chiang Mai**	**21.10**	**358**	*e*P	**P**	**19 33 55.4**	**-1.8**
	comp=Z,8.5nm,0.8s,mb4.1						
QIZ	**Qiongzhong**	**23.48**	**24**	P	**P**	**19 34 20.6**	**-1.9**
QIZ				XP	sP	19 34 34.2	-2.5
QIZ				S	**S**	**19 38 33.1**	**-0.5**
QIZ				XS	sS	19 38 48.6	-1.7
QIZ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,196nm,5.7s						
QIZ				LR	LR		
	comp=N,1μm,14.4s						
QIZ				LR	LR		
	comp=Z,2μm,17.6s,MS4.5						
BATI	**Kupang**	**24.95**	**109**	P	**P**	**19 34 35.1**	**-0.8**
	comp=Z,19nm,0.8s,mb4.7,baz=230,slow=3.8,SNR=3.8						
KMI	**Kunming**	**27.51**	**6**	P	**P**	**19 34 59.0**	**0.0**
KMI				PP		19 35 48.5	
KMI				PPP		19 36 01.2	
KMI				PCP	PcP	19 38 14.7	-2.0
KMI				S	**S**	**19 39 38.9**	**+1.2**
KMI				SS		19 40 57.3	
KMI				SSS		19 41 19.7	
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
KMI				AMB	AMB		
	comp=Z,101nm,7.9s						
KMI				LR	LR		
	comp=N,983nm,19.6s						
KMI				LR	LR		
	comp=E,1μm,13.7s						
KMI				LR	LR		
	comp=Z,1μm,21.4s,MS4.4						
SHL	**Shillong**	**28.84**	**345**	*e*P	**P**	**19 35 10.5**	**-0.3**
GYA	**Guiyang**	**29.45**	**13**	*e*P	**P**	**19 35 18.1**	**+1.9**
GYA				AP	pP	19 35 27.8	+1.3
GYA				XP	sP	19 35 31.4	+0.6
GYA				PP	PP	19 36 15.4	-7.8
GYA				PCP	PcP	19 38 23.9	+2.4
GYA				S	**S**	**19 40 10.4**	**+2.2**
GYA				XS	sS	19 40 25.3	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,110nm,4.8s						
GYA				LR	LR		
	comp=Z,2μm,16.3s,MS4.9						
FITZ	**Fitzroy Crossi**	**29.77**	**123**	*e*P	**P**	**19 35 17.9**	**-1.2**
	comp=Z,8.4nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**29.77**	**123**	P	**P**	**19 35 19.1**	**-0.1**
	comp=Z,3.8nm,0.9s,mb4.1,baz=265,slow=5.4,SNR=9.2						
JIRN	**Jiri**	**32.63**	**337**	*e*P	**P**	**19 35 45.3**	**+1.0**
	comp=Z,39nm,0.7s,mb5.5						
LSA	**Lhasa**	**32.98**	**346**	P	**P**	**19 35 48.2**	**+1.0**
GUN	**Gumba**	**32.98**	**337**	*e*P	**P**	**19 35 48.1**	**+0.8**
	comp=Z,45nm,0.6s,mb5.5						
DMN	**Daman**	**33.02**	**336**	*e*P	**P**	**19 35 47.9**	**+0.2**
	comp=Z,19nm,1.2s,mb4.9						
KKN	**Kakani**	**33.11**	**336**	*e*P	**P**	**19 35 48.7**	**+0.3**
	comp=Z,34nm,1.0s,mb5.2						
CD2	**Chengdu**	**33.34**	**6**	*e*P	**P**	**19 35 50.2**	**-0.2**
CD2				AP	pP	19 36 00.2	-0.5
CD2				XP	sP	19 36 04.2	-0.9
CD2				PP	PP	19 37 02.5	-3.9
CD2				PCP	PcP	19 38 31.4	-0.5
CD2				S	**S**	**19 41 08.1**	**-0.8**
CD2				PCS	PcS	19 42 16.0	-1.6
CD2				SS	SS	19 43 11.9	-22
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.2s						
CD2				LR	LR		
	comp=N,2μm,15.6s,MS5.0						
CD2				LR	LR		
	comp=E,2μm,16.8s,MS5.0						
CD2				LR	LR		
	comp=Z,1μm,16.8s,MS4.8						
GKN	**Gorkha**	**33.56**	**335**	*e*P	**P**	**19 35 52.6**	**+0.2**
	comp=Z,10.0nm,0.6s,mb4.9						
KOLN	**Koldanda**	**33.81**	**334**	*e*P	**P**	**19 35 55.1**	**+0.6**
	comp=Z,62nm,1.0s,mb5.5						
DANN	**Dangsing**	**34.24**	**334**	*e*P	**P**	**19 35 58.9**	**+0.6**
	comp=Z,36nm,1.0s,mb5.3						
WHN	**Wuhan**	**35.59**	**22**	P	**P**	**19 36 09.5**	**-0.4**
WHN				LR	LR		
	comp=N,10μm,16.2s,MS5.6						
WHN				LR	LR		
	comp=E,3μm,18.9s,MS5.6						
WHN				LR	LR		
	comp=Z,11μm,17.4s,MS5.7						
XAN	**Xi'an**	**37.26**	**13**	P	**P**	**19 36 22.3**	**-1.8**
XAN				AP	pP	19 36 34.6	+0.2
XAN				PP	PP	19 37 48.3	-1.2
XAN				PPP		19 38 49.4	
XAN				S	**S**	**19 42 12.2**	**+3.2**
XAN				AMB	AMB		
	comp=Z,27nm,0.8s,mb5.1						
XAN				AMB	AMB		
	comp=Z,79nm,14.5s						
XAN				LR	LR		
	comp=N,430nm,17.5s,MS4.8						
XAN				LR	LR		
	comp=E,1μm,17.1s,MS4.8						
XAN				LR	LR		
	comp=Z,2μm,15.2s,MS5.1						
WRA	**Warramunga Arr**	**37.97**	**120**	P	**P**	**19 36 29.5**	**-0.9**
	comp=Z,25nm,0.8s,mb5.0,baz=296,slow=9.6,SNR=71						
WRA				PcP	PcP	19 38 45.7	-0.1
	comp=Z,1.5nm,0.8s,baz=301,slow=2.9,SNR=4.1						
WRAB	**Tennant Creek**	**37.98**	**120**	*e*P	**P**	**19 36 29.9**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.0						
WRAB	**Tennant Creek**	**37.98**	**120**	*e*P	**P**	**19 36 29.9**	**-0.5**
	comp=Z,24nm,0.8s,mb5.0						
WB2	**Warramunga Arr**	**37.98**	**120**	*e*P	**P**	**19 36 29.5**	**-1.0**
LZH	**Lanzhou**	**38.48**	**5**	*e*P	**P**	**19 36 33.6**	**-0.8**
LZH				AP	pP	19 36 43.1	-1.7
LZH				XP	sP	19 36 47.8	-1.3
LZH				PP	PP	19 38 05.1	+2.2
LZH				PCP	PcP	19 38 46.6	-0.4
LZH				*e*S	**S**	**19 42 26.0**	**-1.4**
LZH				SS	SS	19 45 11.0	-6.9
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,170nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,14.7s						
LZH				LR	LR		
	comp=Z,1μm,16.3s,MS4.8						
NJ2	**Nanjing**	**38.75**	**26**	*e*P	**P**	**19 36 37.0**	**+0.3**
NJ2				AP	pP	19 36 46.7	-0.4
NJ2				XP	sP	19 36 50.5	-0.9
NJ2				PP	PP	19 38 10.6	+4.6
NJ2				S	**S**	**19 42 30.0**	**-1.7**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,110nm,5.1s						
NJ2				LR	LR		
	comp=N,2μm,17.0s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,14.8s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,14.8s,MS5.0						
SSE	**Sheshan**	**39.05**	**30**	P	**P**	**19 36 39.0**	**-0.2**
SSE				S	**S**	**19 42 38.7**	**+2.5**
SSE				XS	sS	19 42 54.9	+1.5
SSE				AMB	AMB		
	comp=Z,27nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,88nm,5.7s						
SSE				LR	LR		
	comp=N,487nm,16.7s,MS4.7						

JOW LR LR 19 53 13.3
comp=Z,318nm,20.8s,MS4.1,baz=103,slow=36
GTA Gaotai 41.61 0 *e*P **P 19 36 59.9 -0.4**
GTA AP pP 19 37 09.6 -1.2
GTA XP sP 19 37 13.8 -1.2
GTA PP PP 19 38 40.1 +3.1
GTA PPP 19 39 11.7
GTA S **S 19 43 13.1 -1.1**
GTA AMB AMB
comp=Z,5.0nm,1.2s,mb4.0
GTA AMB AMB
comp=Z,151nm,8.0s
GTA LR LR
comp=N,904nm,16.0s,MS4.9
GTA LR LR
comp=E,972nm,15.6s,MS4.9
GTA LR LR
comp=Z,1μm,16.0s,MS4.8
HHC Hu-ho-hao-te 44.37 13 *e*P **P 19 37 26.7 +4.1**
HHC AP pP 19 37 36.9 +3.8
HHC XP sP 19 37 40.6 +3.2
HHC PP PP 19 39 12.5 +5.9
HHC S **S 19 44 00.4 +5.8**
HHC XS sS 19 44 15.7 +3.7
HHC SS SS 19 47 10.3 -4.1
HHC AMB AMB
comp=Z,14nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,142nm,6.8s
HHC LR LR
comp=N,1μm,16.2s,MS5.1
HHC LR LR
comp=E,958nm,14.7s,MS5.1
HHC LR LR
comp=Z,1μm,15.5s,MS5.0
BJI Beijing 44.83 18 P **P 19 37 26.3 0.0**
BJI S **S 19 44 03.1 +1.7**
BJI AMB AMB
comp=Z,22nm,0.7s,mb5.1
BJI AMB AMB
comp=Z,249nm,3.6s
BJI LR LR
comp=N,1μm,17.3s,MS4.9
BJI LR LR
comp=E,543nm,15.9s,MS4.9
BJI LR LR
comp=Z,952nm,16.4s,MS4.8
DL2 Dalian 45.77 24 P **P 19 37 34.4 +0.6**
DL2 S **S 19 44 20.6 +5.6**
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
DL2 LR LR
comp=N,400nm,16.4s,MS4.6
DL2 LR LR
comp=E,360nm,16.9s,MS4.6
DL2 LR LR
comp=Z,350nm,17.8s,MS4.3
KBL Kabul 46.74 325 *e*P **P 19 37 41.4 -0.1**
KBL pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
KBL Kabul 46.74 325 *e*P **P 19 37 41.4 0.0**
comp=Z,5.7nm,1.4s,mb4.3
WMQ Urumqi 47.28 348 P **P 19 37 46.5 +1.0**
WMQ AP pP 19 37 56.5 +0.4
WMQ PP PP 19 39 36.5 -0.4
WMQ S **S 19 44 36.5 0.0**
WMQ SCS ScS 19 47 34.5 -2.3
WMQ SS SS 19 47 57.5 -6.9
WMQ AMB AMB
comp=Z,75nm,1.0s,mb5.6
WMQ LR LR
comp=N,375nm,13.0s,MS4.7
WMQ LR LR
comp=E,401nm,14.0s,MS4.7
WMQ LR LR
comp=Z,387nm,13.0s,MS4.5
KS15 Wonju Array Si 47.45 31 *e*P **P 19 37 47.0 +0.1**
KSRS Korea Array 47.47 31 P **P 19 37 46.5 -0.7**
comp=Z,8.9nm,0.7s,mb4.8,baz=224,slow=8.3,SNR=44
KSRS LR LR 20 01 28.9
comp=Z,336nm,18.4s,MS4.3,baz=226,slow=41
CTA Charters Tower 48.62 115 *e*P **P 19 37 56.1 -0.2**
comp=Z,16nm,0.9s,mb5.0
CTA Charters Tower 48.62 115 *e*P **P 19 37 56.1 -0.2**
CTA pmax pmax
comp=Z,16nm,0.9s
CTA Charters Tower 48.62 115 P **P 19 37 55.5 -0.9**
comp=Z,20nm,0.9s,mb5.2,baz=283,slow=9.3,SNR=16
CTAO Charters Tower 48.62 115 *e*P **P 19 37 56.3 0.0**
CTAO pmax pmax
comp=Z,25nm,1.0s,mb5.2
CTAO Charters Tower 48.62 115 *e*P **P 19 37 56.3 0.0**
comp=Z,25nm,1.0s,mb5.2
SNY Shenyang 49.04 24 ⇑P **P 19 37 57.6 -1.5**
SNY S **S 19 45 02.6 +1.2**
SNY AMB AMB
comp=Z,134nm,6.3s
SNY LR LR
comp=N,362nm,19.8s,MS4.5
SNY LR LR
comp=E,317nm,17.4s,MS4.5
SNY LR LR
comp=Z,385nm,22.2s,MS4.3
STKA Stephens Creek 49.04 131 *e*P **P 19 38 00.8 +1.4**
comp=Z,8.2nm,0.8s,mb4.8
STKA Stephens Creek 49.04 131 P **P 19 38 00.1 +0.7**
comp=Z,11nm,0.9s,mb4.9,baz=317,slow=7.9,SNR=11
STKA LR LR 20 00 23.5
comp=Z,828nm,19.1s,MS4.7,baz=261,slow=38
UCH Uchtor 49.97 336 *e*P **P 19 38 06.9 +0.6**
comp=Z,9.8nm,1.0s,mb4.8
UCH Uchtor 49.97 336 P **P 19 38 07.4 +1.1**
SNR=5.3
TKM2 Tokmak 2 50.12 337 *e*P **P 19 38 07.7 +0.3**
TKM2 pmax pmax
comp=Z,19nm,1.0s,mb5.1
TKM2 Tokmak 2 50.12 337 *e*P **P 19 38 07.7 +0.4**
comp=Z,19nm,1.0s,mb5.1
TKM2 Tokmak 2 50.12 337 P **P 19 38 08.0 +0.6**
SNR=14
KBK Karagaybulak 50.15 336 P **P 19 38 09.0 +1.4**
SNR=5.9
AML Almayashu 50.24 335 *e*P **P 19 38 08.8 +0.5**
comp=Z,6.9nm,0.7s,mb4.8
AML Almayashu 50.24 335 P **P 19 38 08.9 +0.6**
SNR=6.5
AAK Ala-Archa 50.32 336 *e*P **P 19 38 09.1 +0.2**
AAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
AAK Ala-Archa 50.32 336 *e*P **P 19 38 09.1 +0.2**
comp=Z,7.9nm,1.2s,mb4.6
AAK Ala-Archa 50.32 336 P **P 19 38 08.3 -0.6**
comp=Z,2.0nm,0.6s,mb4.3,baz=147,slow=7.4,SNR=4.5
SONM Songino Array 50.37 6 P **P 19 38 09.5 +0.4**
comp=Z,28nm,0.6s,mb5.4,baz=189,slow=8.9,SNR=261
SONM PcP PcP 19 39 27.7 +0.4
comp=Z,3.2nm,0.7s,baz=188,slow=3.5,SNR=2.9
FRU Bishkek 50.44 336 *e*P **P 19 38 10.0 +0.2**
FRU *e* 19 38 28.0
ULN Ulaanbaatar 50.46 6 *e*P **P 19 38 10.2 +0.3**
ULN pmax pmax
comp=Z,15nm,0.7s,mb5.1
ULN Ulaanbaatar 50.46 6 *e*P **P 19 38 10.2 +0.4**
comp=Z,15nm,0.7s,mb5.1
CHMS Chumysh 50.52 336 P **P 19 38 10.1 -0.2**
SNR=6.2
EKS2 Erkin-Say 50.64 335 *e*P **P 19 38 12.0 +0.7**
comp=Z,13nm,0.8s,mb4.9
EKS2 Erkin-Say 50.64 335 P **P 19 38 12.3 +1.0**
SNR=12
USP Ospenovka 50.84 336 P **P 19 38 12.9 +0.1**
SNR=13
MK31 Makanchi Array 51.36 345 *e*P **P 19 38 16.6 0.0**
MKAR Makanchi Array 51.36 345 P **P 19 38 16.7 0.0**
comp=Z,21nm,0.7s,mb5.2,baz=147,slow=7.8,SNR=158
CN2 Changchun 51.44 24 ⇓P **P 19 38 16.5 -0.8**
CN2 PCP PcP 19 39 30.7 -0.7
CN2 *e*S **S 19 45 32.9 -1.9**
CN2 SS SS 19 49 03.8 -7.4
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,300nm,19.0s,MS4.6
CN2 LR LR
comp=E,500nm,19.0s,MS4.6
CN2 LR LR
comp=Z,500nm,19.0s,MS4.6
ZAK Zakamensk 52.67 3 *e*P **P 19 38 25.4 -0.9**
ZAK *e* 19 39 30.0
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.8
MAJO Matsushiro 52.72 39 *e*P **P 19 38 25.7 -1.3**
MAJO pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MAJO Matsushiro 52.72 39 *e*P **P 19 38 25.7 -1.3**
comp=Z,8.5nm,0.8s,mb4.7
MAT Matsushiro 52.72 39 P **P 19 38 24.0 -3.0**
MAT *e*S **S 19 45 57.6 +5.0**
MJAR Matsushiro Arr 52.72 39 P **P 19 38 25.8 -1.2**
MJAR LR LR 20 02 31.8
MJAR Matsushiro Arr 52.72 39 P **P 19 38 25.8 -1.2**
comp=Z,5.8nm,0.9s,mb4.5,baz=226,slow=6.7,SNR=12
MJAR LR LR 20 02 31.8
comp=Z,305nm,19.1s,MS4.4,baz=235,slow=38
MDJ Mudanjiang 53.84 26 P **P 19 38 34.6 -0.5**
MDJ AMB AMB
comp=Z,5.0nm,0.7s,mb4.5
MDJ AMB AMB
comp=Z,96nm,6.6s
MOY Mondy 53.88 1 *e*P **P 19 38 35.4 +0.2**
TLY Talaya 53.98 3 *e*P **P 19 38 36.2 +0.3**
TLY *e*S **S 19 46 20.8 +12**
TLY pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TLY MLR MLR
comp=Z,500nm,15.0s,MS4.7
TLY Talaya 53.98 3 *e*P **P 19 38 36.4 +0.4**
comp=Z,3.6nm,0.6s,mb4.5
EIDS Eidsvold 54.34 120 *e*P **P 19 38 38.3 -0.8**
comp=Z,2.6nm,0.8s,mb4.2
KURK Kurchatov 55.93 344 *e*P **P 19 38 50.0 -0.1**
KURK pmax pmax
comp=Z,17nm,1.0s,mb5.0
KURK Kurchatov 55.93 344 *e*P **P 19 38 50.0 -0.1**
comp=Z,17nm,1.0s,mb5.0
ZAL Zalesovo 57.52 350 P **P 19 39 00.9 -0.4**
ZALV Zalesovo Beam 57.52 350 P **P 19 39 00.9 -0.4**
comp=Z,18nm,0.9s,mb5.1,baz=182,slow=5.3,SNR=43
KLR Kul'dur 58.38 24 *e*P **P 19 39 03.5 -3.9**
KLR *e*S **S 19 47 13.5 +5.8**
KLR pmax pmax
comp=E,28nm,1.4s
KLR pmax pmax
comp=Z,48nm,1.4s,mb5.3
KLR MLR MLR
comp=E,600nm,12.5s
KLR MLR MLR
comp=Z,3μm,12.5s,MS5.6
NVS Novosibirsk 58.67 349 *e*P **P 19 39 08.3 -1.0**
RDF Al-Radifah 58.91 306 *e*P **P 19 39 11.4 -0.1**
RDF AMb AMB 19 39 28.2
comp=Z,22nm,1.1s,mb5.1
HABR Khabarovsk 59.22 27 *e*P **P 19 39 12.9 -0.3**
HABR *e* pP 19 39 20.3 -3.8
HABR *e* 19 47 36.5
NAY Al-Naaiem 59.29 306 *e*P **P 19 39 13.4 -0.7**
NAY AMb AMB 19 39 33.6
comp=Z,4.7nm,0.6s,mb4.7
MIB Mutribah 59.42 307 *e*P **P 19 39 14.4 -0.6**
MIB AMb AMB 19 39 35.3
comp=Z,23nm,0.9s,mb5.2
RST Umm Al-Ruwaisa 59.58 306 *e*P **P 19 39 15.1 -1.0**
RST AMb AMB 19 39 35.0
comp=Z,10nm,0.7s,mb5.0
BVAR Borovoye Array 60.49 340 P **P 19 39 21.2 -0.7**
comp=Z,2.9nm,0.7s,mb4.4,baz=142,slow=8.3,SNR=18
BRVK Borovoye 60.55 340 *e*P **P 19 39 21.8 -0.5**
BRVK pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
BRVK Borovoye 60.55 340 *e*P **P 19 39 21.8 -0.6**
comp=Z,3.4nm,0.4s,mb4.8
BOD Bodaibo 61.11 9 *e*P **P 19 39 24.9 -1.1**
BOD *e* pP 19 39 35.4 -1.5
BOD pmax pmax
comp=Z,11nm,1.6s,mb4.7
BOD pmax pmax
comp=Z,14nm,1.4s,mb4.9
YSS Yuzh-Sakhalins 61.94 32 *e*P **P 19 39 31.8 0.0**
YSS pmax pmax
comp=Z,35nm,1.3s,mb5.3
YSS Yuzh-Sakhalins 61.94 32 *e*P **P 19 39 32.2 +0.4**
comp=Z,18nm,0.8s,mb5.2
AKTK Aktyubinsk 63.61 332 P **P 19 39 41.5 -1.4**
AKTO Aktyubinsk 63.61 332 P **P 19 39 41.5 -1.4**
comp=Z,4.5nm,1.0s,mb4.4,baz=148,slow=7.8,SNR=9.0
MAK Makhachkala 65.14 320 *e*P **P 19 39 52.8 -0.3**
MAK *e* 19 42 13.2
MAK *e*S S 19 48 32.7 -0.8
MAK *e* 19 49 44.6
MAK pmax pmax
comp=Z,64nm,1.5s,mb5.4
MAK MLR MLR
comp=Z,185nm,19.0s,MS4.3
SVE Sverdlovsk 66.97 338⇑*e*P **P 19 40 03.8 -0.8**
SVE *e*SS SS 19 53 07.9 -6.6
SVE pmax pmax
comp=Z,19nm,0.9s,mb5.1
SVE MLR MLR
comp=Z,492nm,21.0s,MS4.7
ARU Arti 67.49 337*c i*P **P 19 40 07.0 -0.8**
ARU *e* 19 40 36.3
ARU *e* 19 42 39.6
ARU *e*S S 19 49 01.7 +0.2
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
ARU MLR MLR
comp=Z,298nm,17.0s,MS4.6
ARU Arti 67.49 337 *e*P **P 19 40 07.3 -0.5**
comp=Z,3.6nm,0.6s,mb4.6
YAK Yakutsk 68.18 15 *e*P **P 19 40 10.6 -1.5**
YAK *e**PP pP 19 40 21.9 -1.2
YAK *e* 19 40 37.4
YAK *e* 19 42 36.2
YAK *e*S S 19 49 08.9 -0.7
YAK pmax pmax
comp=Z,23nm,0.9s,mb5.2
YAK pmax pmax
comp=N,6.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK pmax pmax
comp=N,115nm,4.8s
YAK pmax pmax
comp=Z,150nm,4.8s
YAK pmax pmax
comp=E,213nm,6.0s
YAK smax
comp=N,111nm,4.0s
YAK smax
comp=Z,21nm,2.1s
YAK smax
comp=E,63nm,3.5s
YAK MLR MLR
comp=Z,684nm,18.0s,MS4.9
YAK MLR MLR
comp=N,542nm,19.0s
YAK Yakutsk 68.18 15 *e*P **P 19 40 10.7 -1.4**
comp=N,25nm,0.6s,mb5.4
KIV Kislovodsk 68.71 319 ⇓P **P 19 40 15.0 -0.8**
KIV *i **PP pP 19 40 26.7 -0.1
KIV *i* 19 40 34.9
KIV S S 19 49 22.0 +5.5
KIV SS SS 19 53 39.0 -2.8
KIV pmax pmax
comp=Z,11nm,1.2s,mb4.7
KIV Kislovodsk 68.71 319 *e*P **P 19 40 15.7 -0.1**
comp=Z,19nm,1.0s,mb5.0
MALT Malatya 69.45 312 *e*P **P 19 40 21.5 +1.0**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MALT Malatya 69.45 312 *e*P **P 19 40 21.5 +1.0**
comp=Z,7.0nm,1.1s,mb4.5
MAW Mawson 69.84 194 LR LR 20 04 05.0
comp=Z,488nm,18.9s,MS4.8,baz=61,slow=30
SOC Sochi 70.51 318 *e*P **P 19 40 24.7 -2.2**
SOC *e*S S 19 49 34.9 -2.9
VRHR Novokhopersk 72.54 326 *e*P **P 19 40 38.8 -0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
VRHR pmax pmax
comp=N,20nm,0.9s
VRHR pmax pmax
comp=E,8.0nm,0.5s
PET Petropavlovsk 73.81 33 *e*P **P 19 40 47.6 +1.2**
PET *e*S S 19 50 09.2 -6.0
PET pmax pmax
comp=Z,100nm,4.2s
PET pmax pmax
comp=Z,37nm,1.6s,mb5.1
PET smax
comp=E,100nm,36.7s
PET smax
comp=N,100nm,28.5s
PET MLR MLR
comp=Z,200nm,19.0s,MS4.4
VRSR Storozhevoye 73.97 325 *e*P **P 19 40 46.1 -1.3**
VRSR pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
VRSR pmax pmax
comp=N,1.0nm,1.0s
VRSR pmax pmax
comp=E,3.0nm,0.8s
BOSA Boshof 75.28 241 P **P 19 40 56.6 +1.2**
comp=E,2.4nm,0.8s,mb4.2,baz=214,slow=15,SNR=4.2
SEY Seymchan 76.08 22⇑*e*P **P 19 40 58.7 -0.6**
TIXI Tiksi 76.29 9 *e*P **P 19 40 58.9 -1.4**
TIXI *e*S S 19 50 38.2 -3.9
TIXI pmax pmax
comp=Z,22nm,1.6s,mb4.8
TIXI MLR MLR
comp=Z,552nm,15.0s,MS5.0
TIXI Tiksi 76.29 9 *e*P **P 19 40 58.8 -1.5**
comp=Z,9.9nm,0.8s,mb4.8
MOS Moscow 76.73 329 *e*P **P 19 41 04.3 +1.1**
OBN Obninsk 77.02 328 ⇓P **P 19 41 05.0 +0.2**
OBN *PP pP 19 41 16.0 0.0
OBN *e* 19 41 21.7
OBN S S 19 50 51.0 +0.3
OBN pmax pmax
comp=Z,26nm,1.1s,mb5.1
OBN MLR MLR
comp=Z,200nm,20.0s,MS4.4
TIRR Tirgusor 78.50 316 ⇓*i*P **P 19 41 10.0 -3.3**
AKASG Malin Array Be 79.67 322 P **P 19 41 18.0 -1.6**
comp=Z,1.6nm,0.7s,mb4.0,baz=91,slow=4.5,SNR=10
VRI Vrincioaia 80.00 317⇑*i*P **P 19 41 22.6 +1.1**
PLOR Plostina 80.05 317⇓*i*P **P 19 41 23.5 +1.8**
TMCR Tamitsa 80.23 337 *e*P **P 19 41 21.1 -1.2**
MLR Muntele Rosu 80.45 317⇓*i*P **P 19 41 24.5 +0.6**
BURAR Bucovina Array 81.42 319⇑*i*P **P 19 41 30.1 +1.1**
VTS Vitosha 81.77 313⇓*i*P **P 19 41 31.3 +0.3**
VNDA Vanda 81.81 169 LR LR 20 16 42.4
comp=Z,306nm,18.3s,MS4.7,baz=309,slow=35
JOF Joensuu 82.49 335 *e*p **P 19 41 34.6 +0.3**
comp=Z,2.3nm,0.5s,mb4.4
BZS Buzias 83.45 316⇓*i*P **P 19 41 40.3 +0.6**
KWP Kalwaria 83.48 320⇓*i*P **P 19 41 32.1 -7.6**
BILL Bilibino 83.61 20 *e*P **P 19 41 42.2 +2.2**
BILL pmax pmax
comp=Z,1.0nm,1.1s,mb3.9
KOLS Kolonicke sedl 83.62 320 *e*P **P 19 41 41.3 +0.9**
CRVS Cervenica-Dubn 84.14 319 *e*P **P 19 41 46.5 +3.4**
FINES FINESS Array B 84.37 332 *i* P **P 19 41 44.0 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 84.37 332 P **P 19 41 44.1 +0.1**
comp=Z,3.1nm,0.6s,mb4.6,baz=104,slow=8.0,SNR=17
STHS Stebnicka Huta 84.37 320 *e*P **P 19 41 45.4 +1.1**
STHS pmax pmax
comp=Z,7.0nm,1.7s,mb4.5
STHS Stebnicka Huta 84.37 320 *e*P **P 19 41 45.4 +1.1**
comp=Z,7.2nm,1.7s,mb4.5
KECS Kecovo 84.70 319 *e*P **P 19 41 46.0 0.0**
KECS pmax pmax
comp=Z,1.0nm,0.8s,mb4.0
VYHS Vyhne 85.79 319 *e*P **P 19 41 51.4 0.0**
VYHS pmax pmax
comp=Z,3.0nm,1.3s,mb4.4
VYHS Vyhne 85.79 319 *e*P **P 19 41 51.4 0.0**
comp=Z,2.5nm,1.3s,mb4.3
ARCES ARCESS Array B 86.78 340 P **P 19 41 56.6 +0.8**
comp=Z,4.5nm,0.8s,mb4.8,baz=104,slow=5.1,SNR=12
MODS Modra-Piesok 86.80 319 *e*P **P 19 41 57.9 +1.5**
MODS pmax pmax
comp=Z,5.0nm,1.2s,mb4.6
MODS Modra-Piesok 86.80 319 *e*P **P 19 41 57.9 +1.5**
comp=Z,4.7nm,1.2s,mb4.6
GERES GERESS Array B 89.21 319 P **P 19 42 07.8 0.0**
comp=Z,1.1nm,0.6s,mb4.3,baz=111,slow=3.0,SNR=8.8
BRG Berggiesshubel 89.22 321 *e*P **P 19 42 08.5 +0.7**
BRG *e* pP 19 42 19.7 +0.5
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BRG MLR MLR
comp=Z,90nm,17.2s,MS4.3
BRG Berggiesshubel 89.22 321 *e*P **P 19 42 08.5 +0.7**
comp=Z,2.1nm,0.8s,mb4.5
BRG *e* pP 19 42 19.6 +0.5
BRG LR LR
comp=Z,90nm,17.2s,MS4.3
BRG Berggiesshubel 89.22 321 *e*P **P 19 42 08.5 +0.7**
comp=Z,3.5nm,0.8s,mb4.7
BRG *e* pP 19 42 19.6 +0.5
BRG
comp=Z,20nm,1.9s
BRG
comp=N,109nm,20.4s
BRG
comp=E,140nm,16.4s
BRG
comp=Z,157nm,17.2s
CLL Collm 89.84 321 *e*P **P 19 42 07.0 -3.8**
CLL *e*S S 19 53 01.0 +0.6
CLL Collm 89.84 321 *e*P **P 19 42 12.0 +1.2**
CLL LmV 19 31 00.0
comp=Z,100nm,18.5s
CLL *e*S S 19 53 01.0 +0.6
CLL *e*PS PS 19 54 24.0 +13
GRA1 Grafenberg Arr 90.89 320 *e*P **P 19 42 17.2 +1.5**
comp=Z,18nm,1.9s,mb5.1
GRA1 *e*pP pP 19 42 27.5 +0.5
GRF Grafenberg Arr 90.89 320 *e*P **P 19 42 17.2 +1.5**
GRF *e**PP pP 19 42 27.5 +0.5
GRF pmax pmax
comp=Z,18nm,1.9s,mb5.1
GRF Grafenberg Arr 90.89 320 *e*P **P 19 42 17.2 +1.5**
GRF *e**PP pP 19 42 27.5 +0.5
GRF pmax pmax
comp=Z,18nm,1.9s,mb5.1
GRF Grafenberg Arr 90.89 320 *e*P **P 19 42 17.2 +1.5**
comp=Z,18nm,1.9s,mb5.1
GRF *e*pP pP 19 42 27.5 +0.5
comp=Z,7.0nm,1.2s
NB2 NORSAR Subarra 91.39 331 P **P 19 42 18.7 +1.0**
comp=Z,1.9nm,1.0s,mb4.4,baz=92,slow=4.6
NOA NORSAR Array B 91.39 331 P **P 19 42 16.6 -1.1**
comp=Z,0.8nm,0.7s,mb4.1,baz=94,slow=4.4,SNR=2.7
RAR Rarotonga 98.86 112 LR LR 20 31 25.3
comp=Z,107nm,18.0s,MS4.4,baz=246,slow=38
YKA Yellowknife Ar 114.82 17 PKP PKiKP 19 47 51.2 -1.0
comp=Z,0.2nm,0.6s,baz=341,slow=2.9,SNR=3.7
TXAR Lajitas Array 145.15 37 PKPbc PKPbc 19 48 50.5 +0.8
comp=Z,25nm,0.6s,baz=291,slow=1.0,SNR=185
MIAR Mount Ida 145.68 20 *e*PKIKP PKPdf 19 48 51.3 +0.4
WVT Waverly 145.71 11 *e*PKIKP PKPdf 19 48 50.8 -0.1
TZTN Tazewell 145.89 5 *e*PKPdf PKPdf 19 48 51.5 +0.3
JCT Junction City 146.48 32 *e*PKP2 PKPab 19 48 53.8 -0.9
PLAL Pickwick Lake 146.77 12 *e*PKPdf PKPdf 19 48 53.1 +0.4
SWET Sewanee 146.92 9 *e*PKPdf PKPdf 19 48 54.1 +1.1
OXF Oxford 146.93 14 *e*PKP2 PKPab 19 48 54.0 -2.3

IDC 04 20:30:04.4±75.0, 1319S×16922E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx2.7/19, Error ellipse: s-maj=1278.0km s-min=119.1km az=64.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**19.96**	**145**	LR	LR	20 40 28.3	
	comp=Z,159nm,19.1s,baz=159,slow=31						
STKA	**Stephens Creek**	**31.43**	**229**	P	P	20 36 27.7	+0.2
	1.5nm,0.4s,baz=56,slow=10,SNR=15						

WRA	Warramunga Arr	34.05	254	P	P	20 36 50.8	+0.1
	0.3nm,0.7s,baz=85,slow=8.6,SNR=5.7						
ASAR	Alice Springs	35.00	248	P	P	20 36 58.6	-0.2
	0.8nm,0.4s,baz=78,slow=9.1,SNR=17						

*ISCJB **04** 20:37:09.5±0.7,38.17N±003×24.18E±005,h14km±5km, Error ellipse: s-maj=6.4km s-min=5.3km az=138.7*
*CSEM **04** 20:37:11.7±0.1,38.16N×24.12E,h15km,MD2.7,Error ellipse: s-maj=2.8km s-min=2.7km az=77.0*
*NEIC **04** 20:37:11.5,38.17N×2404E,h23km,MD2.7(ATH),After ATH.*
*ATH **04** 20:37:11.5,38.17N×2404E,h23km±1km,MD2.7/7*
*THE **04** 20:37:14.1,38.18N×2406E,h30km,ML2.8*

ISC 04 20:37:10.4±0.7,3816N±003×2415E±004,h18km±4km,n16, σ0986/27,1C,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	Penteli	0.25	243	*e*PB	Pg	20 37 16.0	-0.2
PTL				*e*SB	Sg	20 37 19.8	-0.4
ATH	Athens Observa	0.39	241	⇑*i*PB	Pb	20 37 18.5	-0.3
ATH				*e*SB		20 37 23.9	
KVR	Kavouri	0.45	222	*e*PB	Pb	20 37 20.0	+0.2
KVR				*e*SB	Sb	20 37 26.0	-0.2
NAIG	Nisos Aigina	0.66	233	*e*PN	Pn	20 37 23.2	-1.6
NAIG				*e*SN	Sb	20 37 32.3	+0.1
LTK	Loutraki	0.94	262	*e*Pg	Pg	20 37 29.0	+0.2
LTK				*e*Sg	Sg	20 37 41.8	+0.5
DID	Didima	0.98	228	*e*Pg	Pg	20 37 30.0	+0.6
DID				*e*Sg	Sg	20 37 43.3	+1.0
AOS	Alonnisos	1.03	348	*e*Pg	Pg	20 37 30.5	+0.2
LKR	Lokris	1.03	299	*e*Pg	Pg	20 37 30.9	+0.5
LKR				*e*Sg	Sg	20 37 43.7	-0.1
LKR	Lokris	1.03	299	*e*PN	Pn	20 37 30.0	+0.1
LKR				*e*SN	Sn	20 37 42.8	-1.0
LKR	Lokris	1.03	299	*e*Pg	Pg	20 37 30.9	+0.5
LKR				*e*Sn	Sn	20 37 42.8	-1.0
LKR				*e*Sg	Sg	20 37 43.7	-0.2
NEO	Neokhori	1.35	328	*e*PN	Pn	20 37 36.2	+1.9
XOR	Xorichti	1.42	328	*e*Pg	Pg	20 37 36.7	-1.1
APE	Apeiranthos	1.55	135	*e*Pg	Pg	20 37 40.0	-0.3
APE				*e*Sg	Sg	20 37 59.9	-0.4
VLX	Vlachokerasia	1.61	241	*e*Sg	Sg	20 37 58.4	-4.0
VLX				*e*Sg	Sg	20 37 59.3	-3.2
VLX	Vlachokerasia	1.61	241	*e*Sg	Sg	20 37 59.3	-3.2
VLI	Veliai	1.74	214	*e*PN	Pn	20 37 41.5	+1.9

IDC 04 21:08:22.3±1.3,467N×8257W,h0km,mb3.8/4,mb1 4.0/5, mb1mx3.7/21,mbtmp3.8/5,ML3.3/1,MS3.3/6,Ms1 3.3/6, ms1mx3.0/30,Error ellipse: s-maj=56.2km s-min=22.2km az=54.0,South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	6.07	337	Pn	Pn	21 09 50.2	-3.1
	24nm,0.3s,baz=99,slow=21,SNR=53						
JTS				Sn	Sn	21 10 57.6	-5.9
	9.2nm,0.3s,baz=334,slow=21,SNR=9.0						
JTS				LR	LR	21 11 30.0	
	comp=Z,208nm,21.6s,baz=14,slow=31						
SDV	Santo Domingo	12.57	70	Pn	Pn	21 11 23.6	+1.0
	0.2nm,0.3s,baz=260,slow=13,SNR=5.1						
TEIG	Tepich	16.43	341	LR	LR	21 17 57.4	
	comp=Z,134nm,20.9s,baz=294,slow=35						
SJG	San Juan	20.89	49	LR	LR	21 21 37.7	
	comp=Z,62nm,19.3s,baz=93,slow=38						
LPAZ	La Paz	25.25	146	P	P	21 13 51.3	+1.0
	2.5nm,0.6s,baz=307,slow=10,SNR=15						
SIV	San Ignacio	29.56	134	P	P	21 14 28.9	-0.1
	0.8nm,0.6s,baz=294,slow=13,SNR=4.6						
TXAR	Lajitas Array	31.64	323	LR	LR	21 29 06.0	
	comp=Z,57nm,20.8s,baz=0.0,slow=39						
CPUP	Villa Florida	39.34	143	LR	LR	21 33 27.8	
	comp=Z,72nm,20.4s,baz=300,slow=38						
BDFB	Brasilia	39.72	121	LR	LR	21 31 35.3	
	comp=Z,39nm,19.5s,baz=284,slow=35						
NVAR	Mina Array Bea	46.72	321	P	P	21 16 54.4	+1.2
	1.1nm,0.7s,baz=140,slow=7.1,SNR=4.4						
YKA	Yellowknife Ar	62.36	344	P	P	21 18 45.7	-0.7
	0.5nm,0.7s,baz=134,slow=6.6,SNR=4.9						
WRA	Warramunga Arr	141.00	244	PKP	PKPdf	21 27 53.1	-2.4
	0.3nm,0.7s,baz=113,slow=1.9,SNR=3.3						

IDC 04 21:17:07.0±1.1,2177N×14320E,h0km,mb3.7/7, mb1 3.9/8,mb1mx3.8/19,mbtmp3.8/8,ML3.4/1,MS3.2/7, Ms1 3.2/7,ms1mx2.9/28,Error ellipse: s-maj=45.4km s-min=20.1km az=84.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.38	350	Pn	Pn	21 18 29.7	+1.2
	2.6nm,0.3s,baz=270,slow=23,SNR=4.9						
CBIJ				Sn	Sn	21 19 27.3	-3.9
	1.9nm,0.3s,baz=296,slow=23,SNR=2.1						
MJAR	Matsushiro Arr	15.34	345	LR	LR	21 26 06.8	
	comp=Z,109nm,20.6s,baz=155,slow=35						
JNU	Nakatsue	15.71	319	LR	LR	21 25 47.6	
	comp=Z,38nm,19.5s,baz=225,slow=33						
KSRS	Korea Array	20.46	323	P	P	21 21 51.3	+5.1
	0.6nm,0.5s,baz=139,slow=7.9,SNR=6.4						
KSRS				LR	LR	21 28 44.9	
	comp=Z,48nm,18.6s,baz=150,slow=34						
ASAJ	Asahikawa	22.29	359	LR	LR	21 31 22.1	
	comp=Z,24nm,18.0s,baz=123,slow=38						
SONM	Songino Array	39.29	320	P	P	21 24 38.0	+0.5
	0.7nm,0.5s,baz=130,slow=7.2,SNR=10						
SONM				LR	LR	21 39 33.0	
	comp=Z,32nm,18.5s,baz=254,slow=34						
WRA	Warramunga Arr	42.35	192	P	P	21 25 02.7	-0.3
	0.5nm,0.7s,baz=16,slow=9.1,SNR=6.6						
ASAR	Alice Springs	46.06	192	P	P	21 25 33.2	+0.5
	0.4nm,0.7s,baz=14,slow=8.7,SNR=6.2						
ZALV	Zalesovo Beam	54.16	322	P	P	21 26 33.3	-0.6
	0.9nm,0.4s,baz=123,slow=5.5,SNR=5.0						
MKAR	Makanchi Array	54.66	313	P	P	21 26 38.0	+0.4
	0.3nm,0.2s,baz=88,slow=9.8,SNR=6.2						
YKA	Yellowknife Ar	76.38	28	P	P	21 28 58.1	+0.3
	0.7nm,0.5s,baz=294,slow=5.6,SNR=8.2						
YKA				LR	LR	22 00 07.7	
	comp=Z,19nm,19.9s,baz=200,slow=34						
PPT	Papeete	76.55	115	LR	LR	21 58 43.2	
	comp=Z,56nm,20.1s,baz=85,slow=33						
FINES	FINESS Array B	83.12	334	P	P	21 29 33.2	-1.3
	0.7nm,0.7s,baz=73,slow=32,SNR=4.2						

*ISCJB **04** 22:01:10.1±2.0,24.1S±0.1×1773W±.02,h114km±22km, mb3.8/5,Error ellipse: s-maj=28.0km s-min=19.2km az=23.1*
*NEIC **04** 22:01:11.1±1.5,24.11S×17726W,h113km±20km,mb3.6/1, Error ellipse: s-maj=34.2km s-min=13.8km az=116.0*
*IDC **04** 22:01:13.1±5.9,2392S×17728W,h130km±45km,mb3.5/4, mb1 3.8/5,mb1mx3.5/14,mbtmp3.7/5,Error ellipse: s-maj=49.1km s-min=33.1km az=39.0*

ISC 04 22:01:11.2±1.8,241S±01×1773W±02,h113km±20km,n13, σ0973/16,mb3.8/5,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	5.14	186	Pn	Pn	22 02 25.7	-0.2
RAO				*e*Sn	Sn	22 03 30.2	+6.2
RAO	Raoul Island	5.14	186	P	Pn	22 02 31.5	+5.6
	38nm,0.3s,baz=71,slow=23,SNR=2.8						
RAO				S	Sn	22 03 31.1	+7.0
	121nm,0.3s,baz=68,slow=22,SNR=6.3						
AFI	Afiamalu	11.40	28	*e*Pn	Pn	22 03 50.8	+0.1
	16nm,0.4s						
AFI				*e*Sn	Sn	22 05 48.6	-7.7
URZ	Urewera	14.88	198	P	Pn	22 04 31.2	-4.6
	0.5nm,0.3s,baz=8.5,slow=23,SNR=4.9						
URZ				S	Sn	22 07 03.4	-17
	1.0nm,0.3s,baz=339,slow=22,SNR=3.2						
STKA	Stephens Creek	36.97	249	P	P	22 08 10.7	+1.0
	1.0nm,0.4s,mb4.1,baz=85,slow=12,SNR=12						
ASAR	Alice Springs	44.47	260	P	P	22 09 12.3	+0.9
	0.4nm,0.3s,mb3.6,baz=93,slow=6.6,SNR=9.7						
WRAB	Tennant Creek	44.89	265	*e*P	P	22 09 13.8	-0.9
	0.7nm,0.5s,mb3.6						
WRA	Warramunga Arr	44.90	265	P	P	22 09 13.7	-1.0
	0.4nm,0.3s,mb3.6,baz=99,slow=8.2,SNR=22						
MAW	Mawson	78.40	200	P	P	22 12 59.5	+0.5
	1.9nm,0.6s,mb4.0,baz=133,slow=8.5,SNR=7.1						
SNAA	Sanae	84.38	178	*e*	P	22 13 29.9	-0.5
SNAA				*e*		22 13 38.7	
VNA2	Neumayer--Watz	84.94	177	*e*	P	22 13 33.3	0.0
	baz=201,slow=5.9						
VNA2				*e*		22 13 42.2	
VNA1	Neumayer--Stat	85.17	176	*e*	P	22 13 29.1	-5.3
VNA1				*e*		22 13 38.2	
AKASG	Malin Array Be	146.49	329	PKPbc	PKPbc	22 20 37.9	-1.1
	0.5nm,0.4s,baz=40,slow=3.5,SNR=7.8						

*IDC **04** 22:25:52.8±0.6,501N×9430E,h0km,mb4.4/16, mb1 4.5/17,mb1mx4.3/24,mbtmp4.4/17,ML4.2/1,MS3.6/5, Ms1 3.6/5,ms1mx3.3/24,Error ellipse: s-maj=23.6km s-min=13.2km az=52.0*
*SZGRF **04** 22:25:56.0,586N×9596E,h33km,mb4.7,Northern Sumatera, Indonesia*
*MOS **04** 22:25:56.8±1.0,514N×9445E,h33km,mb4.9/14,Error ellipse: s-maj=12.3km s-min=6.8km az=110.9*
*BJI **04** 22:25:56.0,496N×9424E,h32km,mB4.7,mb4.6,Ms4.1, Msz3.9*
*NEIC **04** 22:25:57.4±0.3,498N×9430E,h30km,mb4.7/15,Error ellipse: s-maj=10.4km s-min=6.5km az=215.0*
*ISCJB **04** 22:25:57.7±1.1,494N±005×9437E±005,h46km±10km, mb4.6/63,MS3.7/13,Error ellipse: s-maj=9.4km s-min=7.0km az=33.8*

ISC 04 22:25:59.8±0.9,493N±005×9435E±005,h49km±9km, h43km±3.1km;pP-P,n130,σ0992/126,mb4.6/62,MS3.7/13, 8C-9D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	5.03	115	Pn	Pn	22 27 13.5	+0.8
	8.9nm,0.3s,baz=306,slow=11,SNR=35						
PSI				Sn	Sn	22 28 09.3	-0.3
	5.1nm,0.3s,baz=348,slow=21,SNR=3.9						
KULM	Kulim	6.28	86	*e*Pn	Pn	22 27 29.5	-0.4
KULM				*e*Sn	Sn	22 28 39.5	-1.0
SNG	Songkhla	6.62	70	P	Pn	22 27 36.0	+1.5
	142nm,0.8s						
CM31	Chiang Mai Arr	14.17	18	*e*Pn	Pn	22 29 18.1	+0.3
	15nm,0.8s						
CHG	Chiang Mai	14.51	18	⇓P	Pn	22 29 27.5	+5.2
	58nm,1.0s						
CHTO	Chiang Mai	14.51	18	*e*P	Pn	22 29 24.6	+2.3
NANT	Nan	15.11	24	⇓P	Pn	22 29 35.7	+5.5
	64nm,1.0s						
KSM	Kuching	16.30	102	*e*P	Pn	22 29 46.0	+0.6
QIZ	Qiongzhong	20.61	46	P	P	22 30 36.0	+1.0
QIZ				AMB	AMB		
	comp=Z,13nm,1.2s						
QIZ				LR	LR		
	comp=N,194nm,16.4s						
QIZ				LR	LR		
	comp=Z,188nm,18.8s,MS3.5						
QIZ	Qiongzhong	20.61	46	*e*P	P	22 30 35.2	+0.1
	comp=Z,40nm,1.4s						
KMI	Kunming	21.63	21	P	P	22 30 46.9	+0.9
KMI				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.0						
KMI				LR	LR		
	comp=N,92nm,16.4s,MS3.4						
KMI				LR	LR		
	comp=E,122nm,19.8s,MS3.4						
KMI				LR	LR		
	comp=Z,109nm,17.0s,MS3.3						
JIRN	Jiri	23.90	342	*e*P	P	22 31 09.2	+0.1
	comp=Z,50nm,0.9s,mb4.9						
DMN	Daman	24.21	340	*e*P	P	22 31 11.8	-0.1
	comp=Z,27nm,0.9s,mb4.7						
GUN	Gumba	24.23	341	*e*P	P	22 31 12.4	+0.3
	comp=Z,23nm,0.6s,mb4.8						
KKN	Kakani	24.32	340	*e*P	P	22 31 12.6	-0.3
	comp=Z,22nm,0.9s,mb4.6						
GYA	Guiyang	24.43	28	P	P	22 31 14.7	+0.8
GYA				AP		22 31 25.8	
GYA				XP	sP	22 31 29.8	-2.6
GYA				PP		22 31 53.4	
GYA				PCP	PcP	22 34 53.9	+1.8
GYA				S	S	22 35 32.6	+2.0
GYA				XS	sS	22 35 49.2	-2.6
GYA				SCP	ScP	22 38 28.5	+1.6
GYA				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,3.4s						
GYA				LR	LR		
	comp=N,460nm,15.7s,MS4.2						
GYA				LR	LR		
	comp=E,400nm,16.9s,MS4.2						
GYA				LR	LR		
	comp=Z,480nm,16.3s,MS4.1						
GKN	Gorkha	24.73	339	*e*P	P	22 31 16.3	-0.4
	comp=Z,32nm,0.9s,mb4.8						
LSA	Lhasa	24.82	353	P	P	22 31 18.0	+0.6
LSA	Lhasa	24.82	353	*e*P	P	22 31 17.4	0.0
LSA				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
LSA	Lhasa	24.82	353	*e*P	P	22 31 17.4	0.0
	comp=Z,14nm,0.7s,mb4.6						
KOLN	Koldanda	24.91	337	*e*P	P	22 31 17.9	-0.4
	comp=Z,28nm,0.9s,mb4.8						
DANN	Dangsing	25.37	338	*e*P	P	22 31 22.5	0.0
	comp=Z,63nm,0.9s,mb5.2						
CD2	Chengdu	27.32	18	*e*P	P	22 31 42.1	+2.1
CD2				AP	pP	22 31 52.0	-0.7
CD2				XP	sP	22 31 55.4	-3.1
CD2				PP		22 32 30.5	
CD2				S	S	22 36 09.6	-6.7
CD2				XS	sS	22 36 35.4	-2.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
CD2				LR	LR		
	comp=N,130nm,12.6s						
CD2				LR	LR		
	comp=Z,120nm,12.8s,MS3.7						
XAN	Xi'an	31.97	23	P	P	22 32 19.2	-2.0
XAN				AP	pP	22 32 32.4	-1.6
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.0						
NACB	Ninganchiao	32.45	51	P	P	22 32 23.1	-2.5
GTA	Gaotai	34.68	7	*e*P	P	22 32 43.9	-0.8
GTA				PP	PP	22 34 02.9	-1.2
GTA				PPP		22 34 20.9	
GTA				S	S	22 38 12.1	+1.0
GTA				XS	sS	22 38 29.8	-3.0
GTA				SS	SS	22 40 28.8	-14
GTA				AMB	AMB		
	comp=Z,11nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,91nm,6.1s						
GTA				LR	LR		
	comp=N,58nm,15.6s						
GTA				LR	LR		
	comp=E,117nm,9.9s						
GTA				LR	LR		
	comp=Z,64nm,14.1s,MS3.5						
NJ2	Nanjing	35.41	37	*e*P	P	22 32 53.3	+2.1
NJ2				AP	pP	22 33 03.2	-0.9
NJ2				XP	sP	22 33 07.1	-2.8
NJ2				PP	PP	22 34 13.3	+1.0
NJ2				PPP		22 34 33.0	
NJ2				S	S	22 38 24.5	+1.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,90nm,8.1s						
NJ2				LR	LR		
	comp=N,330nm,13.3s,MS4.3						
NJ2				LR	LR		
	comp=E,200nm,14.4s,MS4.3						
NJ2				LR	LR		
	comp=Z,210nm,14.4s,MS4.0						
FITZ	Fitzroy Crossi	38.42	127	*e*P	P	22 33 16.0	-0.9
	comp=Z,9.5nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	38.42	127	P	P	22 33 16.1	-0.8
	comp=Z,6.4nm,0.6s,mb4.5,baz=297,slow=5.5,SNR=21						
FITZ				PcP	PcP	22 35 30.4	+0.7
	comp=Z,1.3nm,0.8s,baz=226,slow=12,SNR=3.3						
HHC	Hu-ho-hao-te	38.96	21	*e*P	P	22 33 22.7	+1.6
HHC				AP	pP	22 33 32.6	-1.5
HHC				XP	sP	22 33 36.6	-3.3
HHC				PP	PP	22 34 56.9	+5.8
HHC				PCP	PcP	22 35 33.1	+2.2
HHC				S	S	22 39 20.5	+4.2
HHC				XS	sS	22 39 37.6	-0.5
HHC				SS	SS	22 42 06.1	-3.6
HHC				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,94nm,5.2s						
HHC				LR	LR		
	comp=N,206nm,17.3s,MS4.3						
HHC				LR	LR		
	comp=E,313nm,15.1s,MS4.3						
HHC				LR	LR		
	comp=Z,172nm,17.7s,MS3.9						
JOW	Kunigami	39.01	52	P	P	22 33 21.8	0.0
	comp=Z,10nm,0.8s,mb4.6,baz=301,slow=11,SNR=3.6						
WMQ	Urumqi	39.17	352	P	P	22 33 24.0	+1.2
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.0						
WMQ				AMB	AMB		
	comp=Z,265nm,4.0s						
WMQ				LR	LR		
	comp=N,62nm,15.0s,MS3.7						
WMQ				LR	LR		
	comp=E,56nm,15.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,51nm,15.0s,MS3.5						
BJI	Beijing	40.11	26	P	P	22 33 31.1	+0.4
BJI				AMB	AMB		
	comp=Z,9.0nm,0.9s,mb4.5						
AML	Almayashu	41.36	337	*e*P	P	22 33 40.5	-0.5
	comp=Z,6.9nm,0.7s,mb4.4						
AAK	Ala-Archa	41.48	338⇑	*e*P	P	22 33 41.8	-0.1
AAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb3.9						
MK31	Makanchi Array	42.99	348	*e*P	P	22 33 54.4	+0.2
MKAR	Makanchi Array	42.99	348	P	P	22 33 53.6	-0.5
	comp=Z,7.9nm,0.7s,mb4.5,baz=168,slow=8.0,SNR=61						
MKAR				LR	LR	22 56 34.3	
	comp=Z,28nm,18.1s,MS3.2,baz=39,slow=43						
SONM	Songino Array	43.98	12	P	P	22 34 01.3	-0.8
	comp=Z,3.3nm,0.7s,mb4.2,baz=191,slow=8.4,SNR=36						
SONM				PcP	PcP	22 35 47.7	+0.5
	comp=Z,1.2nm,0.8s,baz=200,slow=2.6,SNR=5.3						
ULN	Ulaanbaatar	44.14	12⇑	*i*P	P	22 34 01.9	-1.5
ULN	Ulaanbaatar	44.14	12	*e*P	P	22 34 02.2	-1.2
KSRS	Korea Array	44.57	39	LR	LR	22 54 55.4	
	comp=Z,56nm,19.1s,MS3.5,baz=338,slow=39						
ZAK	Zakamensk	45.91	8	*e*P	P	22 34 16.2	-1.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
WRA	Warramunga Arr	46.43	123	P	P	22 34 22.2	+0.2
	comp=Z,25nm,0.8s,mb5.2,baz=300,slow=9.3,SNR=214						
WRAB	Tennant Creek	46.44	123	*c i*P	P	22 34 22.1	0.0
WRAB	Tennant Creek	46.44	123	*e*P	P	22 34 22.4	+0.3
WB2	Warramunga Arr	46.44	123	*e*P	P	22 34 22.2	+0.1
TLY	Talaya	47.23	8⇑	*e*P	P	22 34 26.3	-1.5
TLY				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
KURK	Kurchatov	47.50	346	*c i*P	P	22 34 29.7	-0.2
KURK	Kurchatov	47.50	346	*e*P	P	22 34 29.8	-0.1
	comp=Z,4.7nm,0.7s,mb4.5						
ASAR	Alice Springs	47.91	128	P	P	22 34 33.5	+0.1
	comp=Z,5.4nm,0.7s,mb4.7,baz=299,slow=7.8,SNR=91						
ASAR				PcP	PcP	22 36 02.4	+0.9
	comp=Z,1.6nm,0.7s,baz=315,slow=4.1,SNR=4.8						
HIA	Hailar	49.14	22⇑	*e*P	P	22 34 41.5	-1.1
ZAL	Zalesovo	49.47	353	P	P	22 34 44.9	-0.1
ZAA0	Zalesovo Array	49.48	353	*e*P	P	22 34 44.2	-0.9
ZALV	Zalesovo Beam	49.48	353	P	P	22 34 44.9	-0.2
	comp=Z,8.9nm,0.7s,mb4.9,baz=177,slow=5.9,SNR=50						
QRN	Al-Qurain	49.92	304	*e*P	P	22 34 49.3	+0.4
QRN				AMb	AMB	22 34 53.5	
	comp=Z,19nm,1.0s,mb5.1						
MDJ	Mudanjiang	50.14	32	P	P	22 34 50.8	+0.6
MDJ				AMB	AMB		
	comp=Z,12nm,2.4s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,65nm,3.4s						
NVS	Novosibirsk	50.57	352	*e*P	P	22 34 51.8	-1.5
NAY	Al-Naaiem	50.65	304	*e*P	P	22 34 54.8	+0.4
NAY				AMb	AMB	22 34 56.4	
	comp=Z,8.7nm,0.8s,mb4.7						
MIB	Mutribah	50.75	305	*e*P	P	22 34 55.8	+0.7
MIB				AMb	AMB	22 34 57.4	
	comp=Z,11nm,0.8s,mb4.8						
MJAR	Matsushiro Arr	51.01	46	P	P	22 34 57.0	0.0
MJAR				LR	LR	23 00 32.5	
MJAR	Matsushiro Arr	51.01	46	P	P	22 34 57.0	0.0
	comp=Z,0.8nm,0.6s,mb3.8,baz=214,slow=33,SNR=4.0						
MJAR				LR	LR	23 00 32.5	
	comp=Z,69nm,18.9s,MS3.7,baz=345,slow=41						
BOD	Bodaibo	54.95	13	*e*P	P	22 35 24.3	-1.3
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
HABR	Khabarovsk	55.50	32	*e*P	P	22 35 26.9	-2.8
HABR				*e*		22 37 31.5	
HABR				*e*S	S	22 43 10.6	-0.8
KMBO	Kilima Mbogo	57.35	266	LR	LR	22 55 58.6	
	comp=Z,71nm,21.2s,MS3.7,baz=96,slow=32						
STKA	Stephens Creek	57.95	133	*e*P	P	22 35 43.1	-4.3
	comp=Z,3.8nm,1.0s,mb4.4						
STKA	Stephens Creek	57.95	133	P	P	22 35 47.0	-0.4
	comp=Z,1.5nm,0.6s,mb4.2,baz=294,slow=10.0,SNR=4.2						
STKA				LR	LR	23 02 55.7	
	comp=Z,134nm,18.9s,MS4.1,baz=206,slow=38						
SVE	Sverdlovsk	58.20	339	*e*P	P	22 35 48.6	-0.1
SVE				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.0						
ARU	Arti	58.67	338	*c i*P	P	22 35 50.5	-1.5
ARU				*e*		22 36 39.1	
ARU				*e*		22 37 57.0	
ARU				*e*S	S	22 43 54.1	+1.3
ARU				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.7						
ARU	Arti	58.67	338	*e*P	P	22 35 50.7	-1.2
	comp=Z,6.0nm,0.9s,mb4.6						
KIV	Kislovodsk	59.64	319	P	P	22 35 58.0	-1.0
KIV				*e*	pP	22 36 11.9	-0.8
KIV				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.6						
KIV	Kislovodsk	59.64	319	*e*P	P	22 35 57.6	-1.3
	comp=Z,6.9nm,1.0s,mb4.6						
YAK	Yakutsk	62.71	18⇓	*e*P	P	22 36 18.3	-1.0
YAK				pmax	pmax		
	comp=Z,16nm,0.4s,mb5.5						
OBN	Obninsk	67.97	328	P	P	22 36 53.0	-0.5
OBN				*PP	pP	22 37 05.0	-2.5
OBN				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.9						
MA2	Magadan	69.27	27	*i* P	P	22 37 02.9	+1.4
TIXI	Tiksi	70.06	11	*e*P	P	22 37 04.6	-1.6
TIXI				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
TIXI	Tiksi	70.06	11	*e*P	P	22 37 04.3	-1.9
	comp=Z,12nm,0.8s,mb4.9						
AKASG	Malin Array Be	70.58

comp=Z,4.0nm,0.9s,mb4.3
GEC2 GERESS Array S 80.15 319 *e*P **P 22 38 05.1 +0.3**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 80.15 319 *e*P **P 22 38 05.1 +0.3**
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 80.15 319 P **P 22 38 05.2 +0.4**
comp=Z,2.7nm,0.8s,mb4.2,baz=93,slow=6.7,SNR=19
WET Wettzell 80.71 319 *e*P **P 22 38 08.3 +0.5**
WET pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
WET Wettzell 80.71 319 *e*P **P 22 38 08.3 +0.5**
comp=Z,6.0nm,1.3s,mb4.4
RGN Rugen 80.80 324 *e*P **P 22 38 08.1 0.0**
comp=Z,21nm,1.3s,mb4.9
GUNZ Gunzen 81.13 320 *e*P **P 22 38 10.4 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
ROTZ Rotzenmuhle 81.18 319 *e*P **P 22 38 10.9 +0.6**
comp=Z,2.0nm,0.9s,mb4.0
MANZ Manzenberg 81.25 320 *e*P **P 22 38 11.2 +0.5**
comp=Z,3.0nm,0.8s,mb4.3
GRA1 Grafenberg Arr 81.82 319 *e*P **P 22 38 14.3 +0.7**
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 81.82 319 *e*P **P 22 38 14.3 +0.7**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 81.82 319 *e*P **P 22 38 14.3 +0.7**
GRF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
GRF Grafenberg Arr 81.82 319 *e*P **P 22 38 14.3 +0.7**
comp=Z,9.0nm,1.0s,mb4.7
NB2 NORSAR Subarra 82.38 331 P **P 22 38 15.3 -1.1**
comp=Z,0.2nm,0.7s,baz=96,slow=6.2
NOA NORSAR Array B 82.38 331 P **P 22 38 15.8 -0.6**
comp=Z,1.8nm,0.8s,mb4.1,baz=94,slow=5.4,SNR=6.8
CLZ Clausthal 82.42 322 *e*P **P 22 38 16.4 -0.4**
CLZ pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CLZ Clausthal 82.42 322 *e*P **P 22 38 16.4 -0.4**
comp=Z,7.0nm,1.1s,mb4.5
BSEG Bad Segeberg 82.52 324 *e*P **P 22 38 16.7 -0.6**
comp=Z,8.0nm,0.9s,mb4.8
NRDL Niedersach Rie 82.61 322 *e*P **P 22 38 18.2 +0.5**
comp=Z,16nm,1.6s,mb4.8
KBS Kingsbay 83.73 349 *i* P **P 22 38 24.1 +1.1**
LPG La Plagne 84.83 315 *e*P **P 22 38 29.7 +0.4**
LPL La Plagne 84.85 315 *e*P **P 22 38 29.8 +0.5**
comp=Z,12nm,0.9s,mb4.7
FRF La Foret Royal 84.97 313 *e*P **P 22 38 30.3 +0.3**
LOR Lormes 86.75 317 *e*P **P 22 38 38.6 -0.1**
SMF Signal de Mont 86.80 316 *e*P **P 22 38 38.9 -0.1**
AVF Avril sur Loir 87.13 317 *e*P **P 22 38 41.3 +0.7**
comp=Z,6.9nm,1.0s,mb4.5
INK Inuvik 99.74 16 P Pdif 22 39 37.3 -1.1
comp=Z,0.7nm,0.8s,baz=324,slow=5.0,SNR=2.9
ULM Lac du Bonnet 124.33 8 PKP PKPdf 22 44 52.7 -0.7
ULM Lac du Bonnet 124.33 8 PKP PKPdf 22 44 52.7 -0.7
comp=Z,2.5nm,0.7s,baz=34,slow=3.6,SNR=3.6
NVAR Mina Array Bea 127.30 32 PKP PKPdf 22 45 01.0 +1.5
comp=Z,0.4nm,0.3s,baz=303,slow=4.2,SNR=3.3
NLU North Lily Min 129.14 26 *e*PKiKP PKiKP 22 45 03.1 -0.5
LDFC Landfair 131.50 33 *e*PKiKP PKiKP 22 45 06.7 -1.8
LENM Lemitar 136.21 26 *e*PKPdf PKPdf 22 45 19.2 +2.8
LPM Los Pinos Moun 136.23 25 *e*PKPdf PKPdf 22 45 13.3 -3.1
BDFB Brasilia 141.54 251 *e*PKIKP PKPdf 22 45 28.0 +1.4
TXAR Lajitas Array 141.79 26 PKhKP 22 45 24.6
comp=Z,0.4nm,0.6s,baz=202,slow=1.0,SNR=5.5
CPUP Villa Florida 145.57 229 PKPbc PKPbc 22 45 34.4 +0.8
comp=Z,2.4nm,0.6s,baz=106,slow=3.4,SNR=6.5

*ISK **04** 22:42:53.8, 3883N×2778E, h8km, MD3.0*
*CSEM **04** 22:42:53.6±0.1, 3884N×2776E, h8km, MD3.0, Error ellipse: s-maj=2.3km s-min=1.5km az=146.0*
*ISCJB **04** 22:42:54.1±0.5, 3888N±002×2778E±003, h1km±5km, Error ellipse: s-maj=4.0km s-min=3.6km az=151.7*
*DDA **04** 22:42:54.9, 3889N×2778E, h1km±1km, Md2.8*
ISC 04 22:42:54.8±0.4, 3887N±003×2779E±003, h5km±5km, n22, σ9°64/32, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKS	**Akhisar**	**0.02**	**71**	PG	**Pg**	**22 42 55.9**	**+0.1**
KDAG	**Bornova**	**0.62**	**221**	*e*P	**Pg**	**22 43 06.4**	**-0.3**
KDAG				*e*S	**Sg**	**22 43 15.2**	**+0.4**
MANT	**Manisa**	**0.71**	**122**	*i* P	**Pg**	**22 43 08.3**	**-0.2**
MANT				*i* S	**Sg**	**22 43 18.5**	**+0.8**
BLCB	**Balcova**	**0.76**	**230**	*e*PG	**Pg**	**22 43 07.8**	**-1.5**
BLCB				*e*SG	**Sg**	**22 43 19.4**	**+0.2**
BALB	**Balikesir**	**0.77**	**5**	*e*PG	**Pg**	**22 43 09.7**	**+0.2**
KULA	**Kula-Manisa**	**0.77**	**117**	*e*PG	**Pg**	**22 43 09.4**	**-0.2**
KULA				*e*SG	**Sg**	**22 43 19.6**	**0.0**
BTOK	**Tokmak**	**0.91**	**12**	*e*P	**Pg**	**22 43 11.1**	**-1.1**
BTOK				*e*S	**Sg**	**22 43 24.7**	**+0.7**
AYVA	**Ayvalik**	**0.96**	**297**	*i* P	**Pg**	**22 43 12.7**	**-0.4**
AYVA				*i* S	**Sg**	**22 43 26.7**	**+1.1**
DST	**Dursunbey**	**0.98**	**41**	*e*PG	**Pg**	**22 43 13.8**	**+0.2**
URLA	**Izmir**	**1.06**	**242**	*e*P	**Pg**	**22 43 14.3**	**-0.9**
URLA				*i* S	**Sg**	**22 43 29.3**	**+0.3**
AYDN	**Tasoluk**	**1.21**	**176**	*e*P	**Pg**	**22 43 18.0**	**0.0**
AYDN				*i* S	**Sg**	**22 43 34.5**	**+0.8**
GDZ	**Gediz**	**1.34**	**80**	*i* P	**Pn**	**22 43 19.9**	**-0.2**
GDZ				*i* S	**Sb**	**22 43 37.7**	**-0.1**
KCT	**Karacabey**	**1.46**	**17**	*e*PN	**Pn**	**22 43 20.9**	**-0.9**
EDC	**Edincik**	**1.47**	**2**	*e*PN	**Pn**	**22 43 21.4**	**-0.6**
BNT	**Bandirma**	**1.49**	**4**	*e*PN	**Pn**	**22 43 22.5**	**+0.4**
BOZC	**Bozcaada**	**1.66**	**306**	*e*P	**Pn**	**22 43 23.2**	**-1.3**
BOZC				*i* S	**Sn**	**22 43 47.3**	**+1.1**
MRMT	**Marmara Adasi**	**1.73**	**355**	*e*PN	**Pn**	**22 43 26.1**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.87**	**346**	*e*PN	**Pn**	**22 43 27.4**	**0.0**
IZI	**Iznik**	**1.96**	**41**	*e*PN	**Pn**	**22 43 28.5**	**-0.1**
YLV	**Yalova**	**2.09**	**35**	*e*PN	**Pn**	**22 43 31.2**	**+0.7**
ADVT	**Abdulvahap**	**2.17**	**43**	*e*PN	**Pn**	**22 43 31.8**	**+0.3**
GULT	**Gulveren**	**2.62**	**53**	*e*PN	**Pn**	**22 43 37.7**	**0.0**

IDC 04 23:05:09.3±10.0, 1785S×17855W, h582km±128km, mb3.3/7, mb1 3.5/7, mb1mx3.4/15, mbtmp3.3/7, Error ellipse: s-maj=53.0km s-min=43.0km az=172.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.54**	**241**	P	P	23 11 43.3	+0.2
	4.9nm,0.8s,baz=66,slow=9.2,SNR=6.4						
WRA	**Warramunga Arr**	**44.51**	**259**	P	P	23 12 30.0	-0.3
	1.5nm,0.5s,baz=96,slow=7.2,SNR=63						
ASAR	**Alice Springs**	**44.68**	**254**	P	P	23 12 31.4	-0.2
	7.8nm,0.6s,baz=87,slow=8.8,SNR=133						
MJAR	**Matsushiro Arr**	**67.78**	**323**	P	P	23 15 10.5	+0.6
	0.8nm,0.5s,baz=146,slow=6.0,SNR=5.2						
TXAR	**Lajitas Array**	**86.08**	**58**	P	P	23 16 50.1	+0.7
	0.9nm,0.7s,baz=210,slow=5.8,SNR=11						
INK	**Inuvik**	**91.86**	**15**	P	P	23 17 14.1	-1.3
	0.6nm,0.7s,baz=194,slow=3.1,SNR=3.1						
YKA	**Yellowknife Ar**	**94.33**	**25**	P	P	23 17 25.9	-0.9
	0.2nm,0.5s,baz=240,slow=4.6,SNR=3.4						
GERES	**GERESS Array B**	**147.52**	**345**	PKPbc	PKPbc	23 23 48.3	-0.2
	0.9nm,0.6s,baz=33,slow=3.2,SNR=8.7						

*NEIC **04** 23:15:35.9, 4506S×16740E, h114km, MG3.9(WEL), After WEL.*
WEL 04 23:15:35.8±0.3, 4506S×16739E, h115km±2km, ML3.7/7, Error ellipse: s-maj=3.3km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.45**	**202**	P	Pn	23 15 52.6	-0.3
DCZ				S	Sn	23 16 04.8	-0.9
DCZ	**Deep Cove**	**0.45**	**202**	PN	Pn	23 15 52.6	-0.3
DCZ				SN	Sn	23 16 04.8	-0.9
MSZ	**Milford Sound**	**0.54**	**45**	P	Pn	23 15 53.5	+0.1
MSZ				S	Sn	23 16 06.0	-0.6
MSZ	**Milford Sound**	**0.54**	**45**	PN	Pn	23 15 53.5	+0.1
MSZ				SN	Sn	23 16 06.0	-0.6
MLZ	**Mavora Lakes**	**0.62**	**118**	P	Pn	23 15 53.7	-0.3
MLZ	**Mavora Lakes**	**0.62**	**118**	PN	Pn	23 15 53.7	-0.3
WHZ	**Wether Hill Ro**	**0.92**	**155**	P	Pn	23 15 56.5	-0.1
WHZ	**Wether Hill Ro**	**0.92**	**155**	PN	Pn	23 15 56.5	-0.1
PYZ	**Puysegur Point**	**1.22**	**204**	PN	Pn	23 16 00.1	+0.5
JCZ	**Jackson Bay**	**1.38**	**45**	*e*P	Pn	23 16 01.3	-0.2
JCZ	**Jackson Bay**	**1.38**	**45**	PN	Pn	23 16 01.3	-0.2
TUZ	**Tuapeka**	**1.81**	**121**	P	Pn	23 16 06.3	-0.3
TUZ	**Tuapeka**	**1.81**	**121**	PN	Pn	23 16 06.3	-0.3
APZ	**The Paps**	**1.82**	**167**	PN	Pn	23 16 06.7	-0.1
APZ				SN	Sn	23 16 29.9	-0.5
SYZ	**Scrubby Hill**	**1.92**	**141**	PN	Pn	23 16 07.9	0.0
LBZ	**Lake Benmore**	**2.10**	**72**	*e*P	Pn	23 16 08.8	-1.4
LBZ	**Lake Benmore**	**2.10**	**72**	PN	Pn	23 16 08.8	-1.4
ODZ	**Otahua Downs**	**2.30**	**91**	P	Pn	23 16 11.7	-1.1
ODZ	**Otahua Downs**	**2.30**	**91**	PN	Pn	23 16 11.7	-1.1

*ISCJB **04** 23:24:26.5±0.5, 3583N±003×70.13E±005, h107km±7km, mb3.4/5, Error ellipse: s-maj=7.5km s-min=4.3km az=166.3*
*BJI **04** 23:24:27.1, 3600N×6965E, h121km, mb4.2*
*NEIC **04** 23:24:28.1±0.7, 3593N×6984E, h98km±11km, Error ellipse: s-maj=20.0km s-min=8.2km az=126.0*
*IDC **04** 23:24:28.3±6.6, 3592N×7004E, h107km±53km, mb3.3/5, mb1 3.5/9, mb1mx3.2/24, mbtmp3.4/9, Error ellipse: s-maj=51.4km s-min=25.7km az=51.0*
*NNC **04** 23:24:32.5±7.6, 3625N×6952E, h114km±89km, mb3.2, mpv4.1, Error ellipse: s-maj=59.0km s-min=46.0km az=33.0*
ISC 04 23:24:27.7±0.5, 3581N±003×7008E±005, h106km±6km, n49, σ1°30/67, mb3.4/5, 2C-6D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**1.52**	**214**	⇓*i*Pn	**Pn**	**23 24 54.8**	**+0.3**
KBL				*e*Sn	**Sn**	**23 25 15.5**	**+0.5**
THN	**Thein Dam**	**5.76**	**124**	*e*P	**Pn**	**23 25 52.3**	**+1.6**
THN				*e*S	**Sn**	**23 26 56.2**	**+0.8**
DLH	**Dalhousie**	**5.86**	**122**	*e*S	**Sn**	**23 26 57.0**	**-1.0**
KSH	**Kashi**	**5.96**	**50**	*e*P	**Pn**	**23 25 58.4**	**+5.0**
AML	**Almayashu**	**6.91**	**23**	⇓*i*Pn	**Pn**	**23 26 06.9**	**+0.7**
	62nm,0.5s						
AML				*e*Sn	**Sn**	**23 27 22.8**	**-0.5**
AML	**Almayashu**	**6.91**	**23**	P	**Pn**	**23 26 07.2**	**+0.9**
	SNR=89						
SDNR	**Sundarnagar**	**7.17**	**125**	*e*P	**Pn**	**23 26 11.0**	**+1.1**
SDNR				*e*S	**Sn**	**23 27 28.0**	**-1.8**
UCH	**Uchtor**	**7.28**	**27**	*e*Pn	**Pn**	**23 26 12.1**	**+0.8**
	20nm,0.6s						
UCH				*e*Sn	**Sn**	**23 27 31.0**	**-1.2**
UCH	**Uchtor**	**7.28**	**27**	P	**Pn**	**23 26 12.3**	**+1.0**
	SNR=36						
KK31	**Karatay Array**	**7.29**	**2**	⇓P	**Pn**	**23 26 10.6**	**-0.8**
	7.3nm,0.5s,baz=195,slow=14,SNR=108						
KK31				⇓S	**Sn**	**23 27 28.7**	**-3.9**
	40nm,0.8s						
EKS2	**Erkin-Say**	**7.42**	**22**	*e*Pn	**Pn**	**23 26 13.6**	**+0.5**
	8.6nm,0.5s						
EKS2				*e*Sn	**Sn**	**23 27 23.6**	**-12**
EKS2	**Erkin-Say**	**7.42**	**22**	P	**Pn**	**23 26 14.6**	**+1.4**
	SNR=42						
KZA	**Kyzart**	**7.44**	**31**	P	**Pn**	**23 26 14.9**	**+1.4**
	SNR=25						
AAK	**Ala-Archa**	**7.63**	**25**	⇓*i*Pn	**Pn**	**23 26 15.8**	**-0.2**
	31nm,0.5s						
AAK				*e*Sn	**Sn**	**23 27 39.0**	**-1.7**
AAK	**Ala-Archa**	**7.63**	**25**	P	**Pn**	**23 26 16.2**	**+0.3**
	13nm,0.3s,baz=193,slow=6.6,SNR=106						
AAK				S	**Sn**	**23 27 38.5**	**-2.2**
	4.5nm,0.3s,baz=118,slow=22,SNR=14						
AAK	**Ala-Archa**	**7.63**	**25**	P	**Pn**	**23 26 17.2**	**+1.2**
	SNR=47						
KBK	**Karagaybulak**	**7.81**	**27**	P	**Pn**	**23 26 19.7**	**+1.2**
	SNR=19						
ULHL	**Ulahol**	**8.02**	**35**	P	**Pn**	**23 26 24.0**	**+2.7**
	SNR=13						
KLP	**Kalpa**	**8.03**	**120**	*e*P	**Pn**	**23 26 23.7**	**+2.1**
KLP				*e*S	**Sn**	**23 27 48.2**	**-2.4**
KLP				AML	AML	23 27 59.8	
	comp=E,72nm,0.3s						
KLP				AML	AML	23 27 59.8	
	comp=N,90nm,0.6s						
CHMS	**Chumysh**	**8.04**	**25**	P	**Pn**	**23 26 22.4**	**+0.8**
	SNR=38						
USP	**Ospenovka**	**8.19**	**23**	P	**Pn**	**23 26 24.8**	**+1.2**
	SNR=56						
TKM2	**Tokmak 2**	**8.29**	**29**	*e*Pn	**Pn**	**23 26 25.5**	**+0.5**
	comp=N,8.2nm,0.4s						
TKM2				*e*Sn	**Sn**	**23 27 56.3**	**-0.4**
TKM2	**Tokmak 2**	**8.29**	**29**	P	**Pn**	**23 26 25.8**	**+0.8**
	SNR=13						
KHET	**Khetri**	**9.11**	**146**	*e*P	**Pn**	**23 26 34.7**	**-1.6**
KHET				*e*S	**Sn**	**23 28 10.6**	**-6.4**
KHET				AML	AML	23 28 13.6	
	comp=N,25nm,0.3s						
KHET				AML	AML	23 28 13.7	
	comp=E,29nm,0.2s						
NDI	**New Delhi**	**9.32**	**138**	*e*P	**Pn**	**23 26 38.0**	**-1.1**
NDI				*e*S	**Sn**	**23 28 17.0**	**-5.1**
KUDL	**Kundal**	**9.38**	**143**	*e*P	**Pn**	**23 26 38.8**	**-1.1**
KUDL				*e*S	**Sn**	**23 28 18.1**	**-5.3**
KUDL				AML	AML	23 28 22.6	
	comp=N,23nm,0.4s						
SONA	**Sohna**	**9.59**	**140**	*e*P	**Pn**	**23 26 41.6**	**-1.2**
SONA				*e*S	**Sn**	**23 28 21.0**	**-7.7**
SONA				AML	AML	23 28 27.2	
	comp=E,31nm,0.2s						
SONA				AML	AML	23 28 27.4	
	comp=N,20nm,0.2s						
DANN	**Dangsing**	**13.77**	**119**	*e*P	**Pn**	**23 27 37.8**	**-0.5**
KOLN	**Koldanda**	**14.00**	**121**	*e*P	**Pn**	**23 27 43.9**	**+2.5**
MK31	**Makanchi Array**	**14.29**	**36**	P	**Pn**	**23 27 49.9**	**+5.1**
	comp=N,3.7nm,0.7s,baz=210,slow=9.0,SNR=22						
MK31	**Makanchi Array**	**14.29**	**36**	*e*Pn	**Pn**	**23 27 49.9**	**+5.1**
MKAR	**Makanchi Array**	**14.29**	**36**	P	**Pn**	**23 27 45.3**	**+0.5**
	comp=N,0.1nm,0.3s,baz=226,slow=15,SNR=6.4						
GKN	**Gorkha**	**14.60**	**118**	*e*P	**Pn**	**23 27 47.3**	**-1.7**
	comp=N,9.4nm,0.5s						
KKN	**Kakani**	**15.18**	**118**	*e*P	**Pn**	**23 27 55.9**	**-0.5**
	comp=N,13nm,0.5s						
AB31	**Akbulak array**	**15.36**	**334**	⇑P	**Pn**	**23 27 55.8**	**-2.6**
	comp=N,4.1nm,0.5s,baz=155,slow=12,SNR=112						
AB31				S	**S**	**23 30 36.8**	**-20**
	comp=N,1.4nm,0.6s,baz=155,slow=22,SNR=6.0						
GUN	**Gumba**	**15.55**	**116**	*e*P	**Pn**	**23 28 01.8**	**+0.8**
JIRN	**Jiri**	**15.92**	**116**	*e*P	**Pn**	**23 28 07.3**	**+1.7**
	comp=N,12nm,0.3s						
KURBB	**Kurchatov Arra**	**16.02**	**20**	⇓P	**Pn**	**23 28 04.4**	**-2.2**
	comp=N,0.3nm,0.6s						
AKTK	**Aktyubinsk**	**17.03**	**333**	P	**Pn**	**23 28 17.5**	**-1.6**
AKTK				S	**S**	**23 31 13.8**	**-15**
AKTO	**Aktyubinsk**	**17.03**	**333**	⇑P	**Pn**	**23 28 18.0**	**-1.1**
	comp=N,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**17.03**	**333**	P	**Pn**	**23 28 17.5**	**-1.6**
	comp=N,0.9nm,0.3s,baz=136,slow=16,SNR=13						
AKTO				S	**S**	**23 31 13.8**	**-15**
	comp=N,0.1nm,0.3s,baz=184,slow=16,SNR=3.4						
BVAR	**Borovoye Array**	**17.22**	**1**	P	**Pn**	**23 28 20.3**	**-1.0**
	comp=N,0.4nm,0.3s,baz=166,slow=9.9,SNR=7.6						
ZAA0	**Zalesovo Array**	**20.85**	**25**	*e*P	**P**	**23 29 01.7**	**+0.9**
ZALV	**Zalesovo Beam**	**20.85**	**25**	P	**P**	**23 29 01.9**	**+1.2**
	comp=N,4.7nm,0.5s,baz=221,slow=12,SNR=20						
GTA	**Gaotai**	**23.77**	**72**	*e*P	**P**	**23 29 33.8**	**+3.5**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.7						
ARCES	**ARCESS Array B**	**41.51**	**338**	P	**P**	**23 32 03.8**	**-0.1**
	comp=Z,2.5nm,1.0s,mb3.9,baz=123,slow=9.9,SNR=3.7						
YKA	**Yellowknife Ar**	**81.97**	**2**	P	**P**	**23 36 34.9**	**-0.4**
	comp=Z,0.1nm,0.4s,mb3.0,baz=98,slow=16,SNR=3.1						
WRA	**Warramunga Arr**	**82.26**	**121**	P	**P**	**23 36 38.0**	**+0.6**
	comp=Z,0.2nm,0.4s,mb3.3,baz=324,slow=4.9,SNR=13						
ASAR	**Alice Springs**	**84.47**	**124**	P	**P**	**23 36 50.1**	**+1.5**
	comp=Z,0.2nm,0.6s,mb3.1,baz=303,slow=5.4,SNR=3.3						

WEL 04 23:37:43.4±0.1, 4195S×17288E, h58km, ML3.7/1, Error ellipse: s-maj=1.4km s-min=0.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THZ	**Tophouse**	**0.19**	**6**	PN	Pn	23 37 52.4	-0.1
THZ				SN	Sn	23 37 59.2	+0.1
KHZ	**Kahutara**	**0.68**	**133**	*e*PN	Pn	23 37 57.1	-0.2
NNZ	**Nelson**	**0.83**	**27**	PN	Pn	23 37 58.9	-0.2
TUWZ	**Tuamarina**	**0.95**	**57**	PN	Pn	23 38 00.7	-0.1
QRZ	**Quartz Range**	**1.16**	**347**	PN	Pn	23 38 03.2	-0.1

*NEIC **05** 00:01:43.8, 3209N×11577W, h3km, ML4.1(PAS), ML4.0(ECX), After ECX.*
NEIC Felt [III] at Lakeside and San Diego; [II] at La Jolla, California. Also felt at Calexico, Chula Vista, El Cajon, Escondido, Jamul, Mission Beach, Oceanside, Ocotillo and Salton City, California.
ECX 05 00:01:43.8±0.7, 3209N×11577W, h3km, MD3.9, ML4.0, 13C-9D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dowling**	**0.22**	**225**	⇑*i*P	Pg	00 01 47.5	-0.5
RDX				*e*S	Sg	00 01 49.9	-0.9
RDX	**Rancho Dowling**	**0.22**	**225**	⇑*i*P	Pg	00 01 47.0	-0.9
RDX				*e*S	Sg	00 01 49.9	-0.9
EMX	**El Mayor**	**0.46**	**102**	⇑*i*P	Pg	00 01 51.3	-1.3
EMX				*e*S	Sg	00 01 58.1	-0.4
EMX				⇓*e*		00 01 59.7	
	comp=E,8μm,0.7s						
EMX	**El Mayor**	**0.46**	**102**	⇑*i*P	Pg	00 01 51.3	-1.3
EMX				*e*S	Sg	00 01 58.1	-0.4
CPBX	**Cerro Prieto**	**0.51**	**50**	*e*P	Pg	00 01 53.0	-0.7
CPBX				*e*S	Sg	00 02 00.7	+0.3
YUH	**Yuha Desert**	**0.57**	**347**	⇓*i*P	Pg	00 01 53.4	-1.5
RMX	**La Rumorosa**	**0.58**	**333**	*e*P	Pg	00 01 53.8	-1.1
RMX				*e*S	Sg	00 02 01.3	-1.1
DVTC	**Desert V Tower**	**0.64**	**334**	⇓*e*P	Pg	00 01 54.8	-1.2
ERPC	**Ernies Place**	**0.66**	**8**	⇓*e*P	Pg	00 01 55.9	-0.6
WESC	**Westside Schoo**	**0.67**	**3**	⇓*i*P	Pg	00 01 55.8	-0.8
COK	**Cook Ranch**	**0.76**	**3**	⇓*e*P	Pg	00 01 57.6	-0.8
ENX	**Ensenada**	**0.79**	**255**	⇑*i*P	Pg	00 01 58.1	-0.8
ENX				*e*S	Sg	00 02 08.4	-0.7
ENX				⇑*e*		00 02 11.9	
	comp=E,9μm,0.5s						
ENX	**Ensenada**	**0.79**	**255**	⇑*i*P	Pg	00 01 58.1	-0.8
ENX				*e*S	Sg	00 02 08.4	-0.7
CBX	**Cerro Bola**	**0.79**	**287**	⇑*e*P	Pg	00 01 57.9	-1.1
CBX				*e*S	Sg	00 02 08.7	-0.5
CCX	**Cicese**	**0.79**	**254**	⇑*i*P	Pg	00 01 58.2	-0.8
CCX				*e*S	Sg	00 02 09.1	-0.2
CRR	**Carrizo Plain**	**0.81**	**348**	⇓*e*P	Pg	00 01 58.1	-1.3
ECNX	**Esteban Cantu**	**0.82**	**239**	⇑*e*P	Pg	00 01 58.7	-0.9
ECNX				⇑*i*P		00 01 58.2	
ECNX				*e*S	Sg	00 02 09.1	-1.3
ECNX				*e*S	Sg	00 02 09.8	-0.5
ECBX	**El Chinero**	**0.87**	**135**	⇑*e*P	Pg	00 01 58.6	-1.8
ECBX				*e*S	Sg	00 02 10.3	-1.3
PBX	**Punta Banda**	**0.88**	**247**	*e*P	Pg	00 01 59.6	-1.1
PBX				*e*S	Sg	00 02 11.6	-0.6
PBX				⇑*e*		00 02 13.2	
	comp=E,4μm,0.5s						
PBX	**Punta Banda**	**0.88**	**247**	*e*P	Pg	00 01 59.6	-1.1
PBX				*e*S	Sg	00 02 11.6	-0.6
BAR	**Barrett**	**0.97**	**308**	⇓*i*P	Pg	00 02 00.5	-1.8
SPX	**San Pedro Mart**	**1.07**	**166**	⇓*e*P	Pg	00 02 02.6	-1.7
SPX				*e*S	Sg	00 02 17.3	-0.9
GSC	**Goldstone**	**3.32**	**345**	*e*Pn	Pn	00 02 34.2	-2.4
GSC				*e*Pg	Pg	00 02 44.4	-3.1
GSC				*e*Sg	Sg	00 03 27.0	-3.5
CCUT	**Cedar City**	**5.80**	**19**	*e*Pn	Pn	00 03 10.4	-0.2
CCUT				*e*Sg	Sg	00 04 46.4	-3.6
PV01	**Paradox Valley**	**8.44**	**42**	*e*Pn	Pn	00 03 45.6	-1.3
PV01				*e*Sg	Sg	00 06 11.8	-2.8

*NEIC **05** 00:04:14.7, 1689N×10065W, h2km, MD3.5(MEX), After MEX.*
MEX 05 00:04:14.8±0.3, 1678N×10056W, h7km±8km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.39**	**46**	*i* P	Pg	00 04 22.1	-0.4
CAIG				*i* S	Sg	00 04 27.8	+0.2
ACX	**Acapulco**	**0.63**	**82**	*i* P	Pg	00 04 27.5	+0.6
ACX				*i* S	Sg	00 04 37.5	+2.4
MEIG	**Mezcala**	**1.46**	**38**	*e*P	Pn	00 04 37.9	-3.6
MEIG				*i* S	Sn	00 04 56.3	-4.6
MZVM		**2.71**	**28**	*i* P	Pn	00 04 55.7	-3.2
MZVM				*i* S	Sn	00 05 28.1	-4.0
PPM	**Popocatepetl**	**2.93**	**39**	*i* P	Pn	00 05 00.9	-1.0
PPM				*i* S	Sn	00 05 36.7	-0.7
PPM	**Popocatepetl**	**2.93**	**39**	*i* P	Pn	00 04 59.5	-2.4
PPM				*i* S	Sn	00 05 33.9	-3.4
IIO	**Organos**	**3.30**	**32**	*i* P	Pn	00 05 10.7	+3.7
IIO				*i* S	Sn	00 05 43.2	-3.3
IIO	**Organos**	**3.30**	**32**	*i* P	Pn	00 05 05.1	-1.8
IIO				*i* S	Sn	00 05 43.2	-3.3

*IDC **05** 00:38:51.4±4.0, 571S×10269E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=173.9km s-min=21.4km az=57.0*
*ISCJB **05** 00:38:55.2±3.5, 55S±06×1030E±08, h33km, mb4.0/6, Error ellipse: s-maj=142.5km s-min=18.9km az=146.6*
*NEIC **05** 00:38:57.0±3.0, 554S×10307E, h30km, mb3.9/1, Error ellipse: s-maj=126.0km s-min=16.4km az=56.0*
ISC 05 00:38:57.6±3.5, 56S±06×1030E±08, h35km, n8, σ0°90/7, mb4.0/6, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.62**	**118**	P	**P**

BOZC				*i* S		**Sg**	**00 43 35.0 +1.3**
PRK	**Paraskevi**	**1.16**	**235**	*e*Pg		**Pg**	**00 43 21.4 +1.1**
PRK				*e*Sg		**Sg**	**00 43 37.2 +1.9**
GADA	**Gvkgeada**	**1.25**	**283**	*e*PN		**Pn**	**00 43 22.7 +0.7**
ENEZ	**Enez**	**1.30**	**309**	*e*PN		**Pn**	**00 43 23.4 +0.6**
CTT	**Catalca**	**1.42**	**30**	*e*PN		**Pn**	**00 43 24.4 0.0**
ELBA	**Catalca**	**1.42**	**30**	*i* P		**Pn**	**00 43 23.0 -1.4**
ELBA				*i* S		**Sb**	**00 43 42.2 -1.1**
ALN	**Alexandroupoli**	**1.47**	**312**	*e*Pg		**Pg**	**00 43 25.0 -1.2**
ALN				*e*Sg		**Sg**	**00 43 45.2 -0.1**
KDAG	**Bornova**	**1.53**	**186**	*e*P		**Pn**	**00 43 23.5 -2.4**
KDAG				*e*S		**Sn**	**00 43 44.8 -1.3**
BLCB	**Balcova**	**1.57**	**193**	*e*PN		**Pn**	**00 43 27.0 +0.5**
BLCB	**Balcova**	**1.57**	**193**	*e*Pg		**Pg**	**00 43 26.8 -1.5**
BLCB				*e*Sg		**Sg**	**00 43 46.8 -1.9**
BLCB	**Balcova**	**1.57**	**193**	*e*Pn		**Pn**	**00 43 27.0 +0.5**
BLCB				*e*Sg		**Sg**	**00 43 46.8 -1.9**
IZI	**Iznik**	**1.58**	**74**	*e*PN		**Pn**	**00 43 25.7 -0.8**
YLV	**Yalova**	**1.58**	**65**	*e*PN		**Pn**	**00 43 26.3 -0.3**
KULA	**Kula-Manisa**	**1.68**	**147**	*e*PN		**Pn**	**00 43 27.6 -0.4**
URLA	**Izmir**	**1.71**	**204**	*e*P		**Pn**	**00 43 30.0 +1.7**
URLA				*i* S		**Sn**	**00 43 52.8 +2.3**
GDZ	**Gediz**	**1.75**	**118**	*i* P		**Pn**	**00 43 28.7 -0.3**
GDZ				*i* S		**Sn**	**00 43 52.6 +1.0**
LIA	**Limnos Island**	**1.77**	**270**	*e*Pb		**Pb**	**00 43 29.3 -1.6**
LIA				*e*Sb		**Sb**	**00 43 52.2 -1.2**
LIA	**Limnos Island**	**1.77**	**270**	*e*Pg		**Pg**	**00 43 29.5 -2.6**
LIA				*e*Sg		**Sg**	**00 43 52.3 -2.7**
KLYT	**Kilyos**	**1.78**	**41**	*e*PN		**Pn**	**00 43 29.6 +0.3**
ADVT	**Abdulvahap**	**1.80**	**73**	*e*PN		**Pn**	**00 43 29.8 +0.2**
LOS	**Limnos**	**1.85**	**271**	*e*Pb		**Pb**	**00 43 30.0 -2.2**
HRT	**Hereke**	**1.89**	**61**	*e*PN		**Pn**	**00 43 31.2 +0.3**
HRT	**Hereke**	**1.89**	**61**	Pn		**Pn**	**00 43 31.4 +0.5**
CHOS	**Chios island**	**1.90**	**216**	*e*Pb		**Pb**	**00 43 30.4 -2.7**
RDO	**Rodhopi**	**1.92**	**310**	*e*PN		**Pn**	**00 43 31.7 +0.4**
EDRB	**Edirne**	**2.00**	**344**	*e*PN		**Pn**	**00 43 33.1 +0.7**
GPA	**Golpazari**	**2.20**	**80**	*e*PN		**Pn**	**00 43 34.9 -0.1**
ALT	**Altintas**	**2.21**	**112**	*e*PN		**Pn**	**00 43 35.4 +0.1**
SMG	**Samos**	**2.27**	**193**	*e*PN		**Pn**	**00 43 41.2 +5.1**
ESKT	**Eskisehir**	**2.62**	**98**	*e*PN		**Pn**	**00 43 41.4 +0.4**
JMB	**Yambol**	**2.63**	**345**	*e*Pn		**Pn**	**00 43 41.1 0.0**
MLSB	**Milas**	**2.63**	**175**	*e*PN		**Pn**	**00 43 41.8 +0.7**
OUR	**Ouranopolis**	**2.72**	**280**	*e*Pn		**Pn**	**00 43 42.0 -0.3**
SHUT	**Suhut-Afyon**	**2.75**	**119**	*e*PN		**Pn**	**00 43 43.2 +0.6**
PLD	**Plovdiv**	**3.03**	**317**	*e*Pn		**Pn**	**00 43 47.0 +0.5**
NVR	**Nevrokopi**	**3.10**	**298**	*e*PN		**Pn**	**00 43 48.0 +0.4**
SRS	**Serrai**	**3.20**	**293**	*e*Pn		**Pn**	**00 43 49.1 +0.2**
KIZT	**Kizilcal**	**3.56**	**106**	*e*PN		**Pn**	**00 43 54.7 +0.9**
ANTO	**Ankara**	**4.08**	**89**	*e*Sg		**Sg**	**00 45 09.1 -0.1**
ANTO	**Ankara**	**4.08**	**89**	*e*Sg		**Sg**	**00 45 09.1 -0.1**

IDC 05 01:12:01.5±1.8, 334S×11923E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, Error ellipse: s-maj=162.7km s-min=22.4km az=60.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.12**	**139**	P	P	01 16 57.5	-1.3
	1.0nm,0.7s,baz=318,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**24.69**	**146**	P	P	01 17 25.4	+1.1
	0.6nm,0.7s,baz=317,slow=7.5,SNR=7.1						
SONM	**Songino Array**	**52.19**	**349**	P	P	01 21 14.1	+0.2
	0.7nm,0.8s,baz=154,slow=7.7,SNR=4.8						
MKAR	**Makanchi Array**	**59.59**	**331**	P	P	01 22 07.1	0.0
	0.4nm,0.6s,baz=134,slow=7.1,SNR=6.2						

*IDC **05** 01:19:29.9±3.3, 3301N×14074E, h55km±32km, mb3.3/3, mb1 3.6/5, mb1mx3.3/20, mbtmp3.4/5, ML3.3/2, Error ellipse: s-maj=47.3km s-min=15.2km az=92.0*
*ISCJB **05** 01:19:30.3±0.8, 3310N±004×14064E±007, h76km±7km, mb3.6/3, Error ellipse: s-maj=9.8km s-min=6.9km az=13.6*
*JMA **05** 01:19:31.8±0.1, 3315N×14061E, h66km±3km, M3.2*
JMA Felt I J1.

ISC 05 01:19:31.5±0.8, 3311N±004×14065E±007, h66km±8km, n19, σ0§97/32, mb3.6/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.70**	**270**	P	**Pn**	**01 19 46.2**	**+0.1**
JHJ2				S	**Sn**	**01 19 56.6**	**-0.2**
JHJ	**Hachijo jima 2**	**0.73**	**271**	P	**Pn**	**01 19 46.5**	**+0.1**
	416nm,0.3s,baz=61,slow=23,SNR=375						
JHJ				S	**Sn**	**01 19 56.5**	**-0.8**
	1μm,0.3s,baz=288,slow=20,SNR=45						
JMY	**Miyakejima3**	**1.35**	**316**	P	**Pn**	**01 19 54.4**	**+0.1**
JMY				*e*S	**Sn**	**01 20 10.3**	**-1.1**
BSO1	**Boso 1**	**1.56**	**10**	P	**Pn**	**01 19 57.1**	**-0.1**
BSO1				*e*S	**Sn**	**01 20 16.8**	**+0.3**
BSO2	**Boso 2**	**1.64**	**3**	*e*S	**Sn**	**01 20 18.0**	**-0.3**
JKO	**Kozu shima**	**1.66**	**311**	P	**Pn**	**01 19 58.7**	**+0.3**
JKO				*e*S	**Sn**	**01 20 18.0**	**-0.7**
BSO3	**Boso 3**	**1.69**	**356**	P	**Pn**	**01 19 59.3**	**+0.4**
BSO3				*e*S	**Sn**	**01 20 18.8**	**-0.8**
BSO4	**Boso 4**	**1.89**	**352**	P	**Pn**	**01 20 02.2**	**+0.6**
JIM2	**Oshima 3**	**1.90**	**328**	P	**Pn**	**01 20 01.0**	**-0.6**
JIM2				*e*S	**Sn**	**01 20 22.6**	**-1.9**
JIZS	**Izushimoda**	**2.18**	**318**	P	**Pn**	**01 20 06.0**	**+0.6**
JIZS				*e*S	**Sn**	**01 20 30.7**	**-0.6**
KTJJ	**Kamata 2**	**2.24**	**324**	P	**Pn**	**01 20 06.8**	**+0.6**
KTJJ				*e*S	**Sn**	**01 20 31.7**	**-1.1**
JOD2	**Odawara 2**	**2.51**	**329**	P	**Pn**	**01 20 10.2**	**+0.3**
JOD2				*e*S	**Sn**	**01 20 37.7**	**-1.6**
TK04	**Tokai 4**	**2.64**	**300**	P	**Pn**	**01 20 12.8**	**+1.1**
TK04				*e*S	**Sn**	**01 20 43.2**	**+0.7**
MJAR	**Matsushiro Arr**	**3.97**	**330**	P	**Pn**	**01 20 31.1**	**+1.3**
	0.8nm,0.3s,baz=155,slow=12,SNR=10						
MJAR				S	**Sn**	**01 21 17.1**	**+2.0**
	0.7nm,0.3s,baz=185,slow=21,SNR=4.8						
MAT	**Matsushiro**	**3.97**	**330**	P	**Pn**	**01 20 30.8**	**+1.0**
MAT				S	**Sn**	**01 21 17.6**	**+2.5**
JNU	**Nakatsue**	**8.20**	**273**	P	**Pn**	**01 21 29.2**	**+1.5**
	0.4nm,0.3s,baz=98,slow=14,SNR=5.3						
WRA	**Warramunga Arr**	**53.10**	**187**	P	**P**	**01 28 41.2**	**-1.0**
	0.7nm,0.4s,mb4.0,baz=4.7,slow=7.6,SNR=8.6						
ASAR	**Alice Springs**	**56.82**	**187**	P	**P**	**01 29 08.3**	**-0.8**
	0.5nm,0.6s,mb3.7,baz=3.9,slow=6.3,SNR=8.1						
YKA	**Yellowknife Ar**	**67.52**	**29**	P	**P**	**01 30 19.3**	**-1.0**
	0.2nm,0.7s,mb3.0,baz=288,slow=6.2,SNR=3.3						

*NIED **05** 01:25:00, 35.10N×13570E, h20km, Mw3.3 Best double couple: M0 1.01000×10^14 NP1:φs 51.00000°, δ86.00000°, λ-156.00000°. NP2:φs 319.00000°, δ66.00000°, λ-4.00000°.*

JMA 05 01:25:14.4, 3513N×13569E, h11km, M3.5, 1D Broadband fault plane solution: P waves. NP1: φs 226.00000°, δ74.00000°, λ-172.00000°. **NP2:** φs 134.00000°, δ82.00000°, λ-16.00000°. **Principal axes:** T Plg6.0000°, Azm181.0000°; N Plg72.0000°, Azm290.0000°; P Plg17.0000°, Azm89.0000°; **Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.28**	**303**	‖P	Pg	01 25 20.3	+0.2
JWT				S	Sg	01 25 23.9	-0.1
MAT	**Matsushiro**	**2.48**	**55**	P	Pn	01 25 55.6	+0.8
MAT				*e*S	Sn	01 26 27.1	+2.0

IDC 05 01:37:30.0±6.7, 1946S×17652W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/14, mbtmp3.8/2 Error ellipse: s-maj=295.1km s-min=105.8km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**46.12**	**256**	P	P	01 45 56.2	-0.1
	0.8nm,0.5s,baz=94,slow=7.6,SNR=18						
WRA	**Warramunga Arr**	**46.13**	**261**	P	P	01 45 56.5	+0.1
	0.4nm,0.3s,baz=97,slow=7.8,SNR=14						
AKASG	**Malin Array Be**	**142.75**	**333**	PKP	PKPdf	01 57 04.2	-0.9
	0.6nm,0.5s,baz=44,slow=3.8,SNR=7.1						

*ATH **05** 01:44:41.6, 3774N×2356E, h11km±1km, MD2.7/4*
*ISCJB **05** 01:44:42.5±0.6, 3778N±004×2358E±004, h4km±6km, Error ellipse: s-maj=6.3km s-min=4.8km az=161.0*
*THE **05** 01:44:43.2, 3778N×2355E, h3km, ML1.8*
*CSEM **05** 01:44:43.1±0.2, 3778N×2360E, h5km, MD2.7, Error ellipse: s-maj=3.4km s-min=2.8km az=162.0*

ISC 05 01:44:42.8±0.6, 3776N±004×2360E±004, h3km±7km, n13, σ0§78/20, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NAIG	**Nisos Aigina**	**0.09**	**268**	*e*PG	**Pg**	**01 44 44.0**	**-0.5**
KVR	**Kavouri**	**0.15**	**64**	*e*PG	**Pg**	**01 44 45.5**	**-0.3**
KVR				*e*SG	**Sg**	**01 44 49.0**	**+1.2**
ATH	**Athens Observa**	**0.23**	**24**	*e*PG	**Pg**	**01 44 47.0**	**-0.3**
ATH				*e*SG	**Sg**	**01 44 51.0**	**+0.7**
PTL	**Penteli**	**0.36**	**36**	*e*PG	**Pg**	**01 44 49.2**	**-0.5**
DID	**Didima**	**0.38**	**228**	*e*Pg	**Pg**	**01 44 50.4**	**+0.3**
DID				*e*Sg	**Sg**	**01 44 56.0**	**+0.9**
LTK	**Loutraki**	**0.56**	**298**	*e*Pg	**Pg**	**01 44 53.6**	**+0.1**
LTK				*e*Sg	**Sg**	**01 45 01.2**	**+0.4**
LKR	**Lokris**	**1.00**	**332**	*e*Pg	**Pg**	**01 45 01.4**	**-0.6**
LKR				*e*Sg	**Sg**	**01 45 16.1**	**+1.0**
AOS	**Alonnisos**	**1.43**	**9**	*e*Pg	**Pg**	**01 45 09.4**	**-0.7**
AGG	**Agios Georgios**	**1.60**	**322**	*e*Pg	**Pg**	**01 45 11.5**	**-2.0**
APE	**Apeiranthos**	**1.69**	**114**	*e*Pb	**Pb**	**01 45 13.6**	**-0.8**
CHOS	**Chios island**	**2.04**	**71**	*e*Pn	**Pn**	**01 45 18.6**	**+0.6**
THL	**Klokotos Trika**	**2.19**	**326**	*e*Pn	**Pn**	**01 45 19.5**	**-0.5**
THL				*e*Sn	**Sn**	**01 45 48.2**	**+0.7**
THL	**Klokotos Trika**	**2.19**	**326**	*e*Pn	**Pn**	**01 45 19.5**	**-0.5**
THL				*e*Sn	**Sn**	**01 45 48.2**	**+0.6**

*ISCJB **05** 02:16:20.6±1.2, 3836N±004×2036E±009, h1km, Error ellipse: s-maj=11.1km s-min=4.3km az=161.0*
*CSEM **05** 02:16:21.2±0.2, 3837N×2035E, h8km, MD3.5, Error ellipse: s-maj=4.5km s-min=1.9km az=71.0*
*THE **05** 02:16:21.5, 3839N×2039E, h1km, ML3.1*
*ATH **05** 02:16:22.9, 3833N×2053E, h12km±2km, MD3.5/7*
*NEIC **05** 02:16:22.9, 3833N×2053E, h12km, MD3.5(ATH), After ATH.*

ISC 05 02:16:20.6±1.5, 3834N±004×203E±01, h0km±7km, n17, σ0§88/23, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.27**	**128**	*e*Pg	**Pg**	**02 16 26.6**	**+0.7**
VLS				*e*Sg	**Sg**	**02 16 30.3**	**+1.0**
VLS	**Valsamata**	**0.27**	**128**	‖*i*Pg	**Pg**	**02 16 26.4**	**+0.6**
VLS				*e*Sg	**Sg**	**02 16 30.2**	**+0.9**
KFL	**Anninata**	**0.44**	**122**	*e*Pg	**Pg**	**02 16 29.3**	**+0.3**
LKD	**Levkas**	**0.45**	**35**	*e*Pg	**Pg**	**02 16 28.5**	**-0.7**
LKD				*e*Sg	**Sg**	**02 16 34.1**	**-0.9**
RLS	**Riolos of Patr**	**0.95**	**107**	*e*PB	**Pg**	**02 16 38.0**	**-0.8**
IGT	**Igoumenitsa**	**1.19**	**0**	*e*Pg	**Pg**	**02 16 42.9**	**-0.5**
IGT				*e*Sg	**Sg**	**02 16 59.6**	**+0.8**
SELA	**Sela**	**1.24**	**93**	*e*Pg	**Pg**	**02 16 43.9**	**-0.5**
SELA				*e*Sg	**Sg**	**02 17 01.1**	**+0.6**
EVR	**Evrytania**	**1.30**	**63**	*e*PG	**Pn**	**02 16 44.3**	**-1.7**
JAN	**Janina**	**1.38**	**17**	*e*PB	**Pb**	**02 16 48.4**	**+1.2**
JAN				*e*SB	**Sb**	**02 17 06.8**	**+1.5**
THL	**Klokotos Trika**	**1.80**	**47**	*e*Pb	**Pn**	**02 16 51.7**	**-1.2**
THL	**Klokotos Trika**	**1.80**	**47**	*e*Pg	**Pg**	**02 16 54.8**	**-0.3**
VLX	**Vlachokerasia**	**1.90**	**120**	*e*Pb	**Pn**	**02 16 54.0**	**-0.2**
LTK	**Loutraki**	**2.11**	**98**	*e*Pn	**Pn**	**02 16 57.0**	**-0.1**
LKR	**Lokris**	**2.12**	**81**	*e*Pn	**Pn**	**02 16 56.8**	**-0.5**
LKR	**Lokris**	**2.12**	**81**	*e*PN	**Pn**	**02 16 57.9**	**+0.5**
DID	**Didima**	**2.45**	**109**	*e*Pn	**Pn**	**02 17 01.5**	**-0.4**
NEO	**Neokhori**	**2.46**	**66**	*e*PN	**Pn**	**02 17 03.5**	**+1.5**

*SZGRF **05** 02:23:39.1, 2484S×17677W, h33km, South of Fiji Islands*
*ISCJB **05** 02:24:43.0±1.1, 2042S±009×1776W±0.1, h516km±19km, mb4.0/11, Error ellipse: s-maj=22.7km s-min=11.2km az=24.7*
*NEIC **05** 02:24:44.7±1.0, 2039S×17763W, h524km±11km, mb4.3/8, Error ellipse: s-maj=20.2km s-min=9.7km az=143.0*
*IDC **05** 02:24:47.5±5.0, 2058S×17768W, h554km±48km, mb3.3/7, mb1 3.5/8, mb1mx3.3/16, mbtmp3.4/8, Error ellipse: s-maj=35.9km s-min=15.1km az=90.0*

ISC 05 02:24:43.6±1.2, 203S±02×1777W±02, h505km±19km, n60, σ0§73/21, mb4.0/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.51**	**42**	*e*P	**P**	**02 26 47.4**	**+1.9**
	59nm,0.8s						
AFI				*e*S	**S**	**02 28 24.2**	**-1.2**
URZ	**Urewera**	**18.43**	**193**	P	**P**	**02 28 27.2**	**-0.3**
	2.5nm,0.3s,baz=326,slow=2.7,SNR=14						
URZ				S	**S**	**02 31 24.2**	**-5.7**
	0.1nm,0.3s,baz=72,slow=20,SNR=3.5						
CTA	**Charters Tower**	**33.83**	**264**	P	**P**	**02 30 43.8**	**+0.3**
	4.3nm,0.6s,mb4.1,baz=70,slow=12,SNR=4.9						
CTAO	**Charters Tower**	**33.83**	**264**	*e*P	**P**	**02 30 43.5**	**0.0**
	5.9nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**38.15**	**244**	*e*P	**P**	**02 31 19.3**	**+0.1**
	3.1nm,1.6s,mb3.5						
STKA	**Stephens Creek**	**38.15**	**244**	P	**P**	**02 31 18.4**	**-0.8**
	1.4nm,0.5s,mb3.6,baz=92,slow=15,SNR=5.3						
ASAR	**Alice Springs**	**44.87**	**257**	P	**P**	**02 32 12.8**	**+0.2**
	4.0nm,0.7s,mb3.9,baz=89,slow=8.4,SNR=38						
ASAR				PcP	PcP	02 33 43.6	-0.1
	1.4nm,0.7s,baz=102,slow=4.1,SNR=10						
WB2	**Warramunga Arr**	**44.93**	**262**	*e*P	**P**	**02 32 12.8**	**-0.3**
WB2	**Warramunga Arr**	**44.93**	**262**	*e*P	**P**	**02 32 12.5**	**-0.7**
WRA	**Warramunga Arr**	**44.95**	**262**	P	**P**	**02 32 12.8**	**-0.4**
	2.8nm,0.6s,mb3.9,baz=97,slow=8.0,SNR=54						
WRA				PcP	PcP	02 33 43.6	-0.5
	1.2nm,1.1s,baz=96,slow=2.9,SNR=4.7						
KAKA	**Kakadu**	**48.30**	**271**	*e*P	**P**	**02 32 38.4**	**-0.3**
	9.0nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**53.37**	**262**	*e*P	**P**	**02 33 15.9**	**+0.2**
	2.1nm,0.5s,mb3.7						
FITZ	**Fitzroy Crossi**	**53.37**	**262**	P	**P**	**02 33 15.8**	**+0.1**
	1.0nm,0.5s,mb3.4,baz=143,slow=12,SNR=12						
MJAR	**Matsushiro Arr**	**70.27**	**323**	P	**P**	**02 35 04.9**	**-0.7**
	3.0nm,0.5s,mb4.1,baz=157,slow=5.9,SNR=16						
MAJO	**Matsushiro**	**70.27**	**323**	*e*P	**P**	**02 35 05.2**	**-0.4**
	5.1nm,0.6s,mb4.2						
KSRS	**Korea Array**	**76.98**	**318**	P	**P**	**02 35 44.8**	**+1.0**
	1.2nm,0.6s,mb3.6,baz=132,slow=6.1,SNR=4.1						
COLA	**College**	**87.98**	**12**	*e*P	**P**	**02 36 38.7**	**-0.1**
	3.3nm,0.8s,mb4.1						
CHTO	**Chiang Mai**	**90.49**	**290**	*e*P	**P**	**02 36 52.7**	**+1.1**
	5.0nm,0.7s,mb4.5						
INK	**Inuvik**	**94.03**	**15**	*e*P	**P**	**02 37 06.5**	**-0.1**
ZALV	**Zalesovo Beam**	**110.57**	**321**	PKiKP	PKiKP	02 42 17.2	-0.8
	0.5nm,0.4s,baz=103,slow=1.9,SNR=2.5						
MK31	**Makanchi Array**	**111.32**	**313**	*e*PKP	PKiKP	02 42 18.9	-0.7
MKAR	**Makanchi Array**	**111.32**	**313**	PKiKP	PKiKP	02 42 18.9	-0.8
	0.5nm,0.6s,baz=96,slow=1.4,SNR=7.1						
KURK	**Kurchatov**	**114.09**	**317**	*e*PKP	PKiKP	02 42 24.3	-0.5
ARCES	**ARCESS Array B**	**128.82**	**350**	PKP	PKPdf	02 42 52.9	+0.3
	1.1nm,0.7s,baz=48,slow=1.8,SNR=6.5						
FINES	**FINESS Array B**	**135.70**	**344**	PKP	PKPdf	02 43 03.9	-1.8
FINES	**FINESS Array B**	**135.70**	**344**	PKP	PKPdf	02 43 03.9	-1.8
	1.2nm,0.8s,baz=100,slow=4.2,SNR=5.8						
AKASG	**Malin Array Be**	**143.03**	**331**	PKP	PKPdf	02 43 16.2	-3.1
	2.7nm,0.4s,baz=42,slow=4.3,SNR=22						
STHS	**Stebnicka Huta**	**147.29**	**337**	*e*PKP	PKPbc	02 43 30.7	+0.9
STHS				*e*		02 43 35.2	
KOLS	**Kolonicke sedl**	**147.30**	**335**	*e*P	PKPab	02 43 34.1	+0.8
KOLS	**Kolonicke sedl**	**147.30**	**335**	*i* PKP	PKPab	02 43 34.1	+0.8
NIE	**Niedzica**	**147.62**	**338**	*e*PX	PKPbc	02 43 31.8	+1.1
KSP	**Ksiaz**	**147.63**	**343**	*e*P	PKPbc	02 43 31.2	+0.6
CRVS	**Cervenica-Dubn**	**147.63**	**336**	*e*PKP	PKPbc	02 43 31.6	+0.9
CRVS				*e*		02 43 35.6	
CLL	**Collm**	**147.97**	**347**	*e*PKPbc	PKPbc	02 43 31.9	+0.4
CLL	**Collm**	**147.97**	**347**	*i* PKPbc	PKPbc	02 43 31.9	+0.4
	comp=Z,10.0nm,0.7s						
CLL				*i* PKPab	PKPab	02 43 36.1	+0.1
	comp=Z,5.0nm,0.8s						
UPC	**Upice**	**148.01**	**343**	*e*PKPbc	PKPbc	02 43 32.2	+0.6
UPC				*e*PKPab	PKPab	02 43 37.2	+1.1
DPC	**Dobruska-Polom**	**148.06**	**343**	*e*PKPbc	PKPbc	02 43 32.8	+1.0
DPC				*e*PKPab	PKPab	02 43 37.5	+1.1
BRG	**Berggiesshubel**	**148.18**	**346**	*e*PKPbc	PKPbc	02 43 32.5	+0.5
BRG	**Berggiesshubel**	**148.18**	**346**	*i* P	PKPbc	02 43 32.6	+0.6
	comp=Z,6.2nm,1.0s						
MORC	**Moravsky Berou**	**148.23**	**341**	*e*PKPbc	PKPbc	02 43 32.6	+0.4
FBE	**Freiberg**	**148.26**	**347**	*e*PKPbc	PKPbc	02 43 33.3	+1.0
KECS	**Kecovo**	**148.35**	**337**	*e*PKP	PKPbc	02 43 33.3	+0.8
PVCC	**Panska Ves**	**148.35**	**345**	*e*PKPbc	PKPbc	02 43 33.0	+0.5
PRU	**Pruhonice**	**148.86**	**345**	*e*PKP	PKPbc	02 43 34.1	+0.3
MOX	**Moxa**	**148.88**	**349**	*e*PKPbc	PKPbc	02 43 34.2	+0.4
VYHS	**Vyhne**	**148.93**	**339**	*e*PKP	PKPbc	02 43 34.7	+0.7
VYHS				*e*		02 43 41.0	
TANN	**Tannenbergstha**	**148.93**	**347**	*e*PKPbc	PKPbc	02 43 34.5	+0.6
WERD	**Werda**	**148.93**	**348**	*e*PKPbc	PKPbc	02 43 34.4	+0.5
GUNZ	**Gunzen**	**149.01**	**348**	*e*PKPbc	PKPbc	02 43 35.0	+0.9
WERN	**Wernitzgruen**	**149.07**	**347**	*e*PKPbc	PKPbc	02 43 34.8	+0.5
TREC	**Trest**	**149.25**	**343**	*e*PKPbc	PKPbc	02 43 35.0	+0.3
TREC				*e*PKPab	PKPab	02 43 41.8	+0.5
MANZ	**Manzenberg**	**149.41**	**348**	*e*PKPbc	PKPbc	02 43 35.9	+0.8
MODS	**Modra-Piesok**	**149.55**	**340**	*e*PKP	PKPbc	02 43 35.0	-0.5
ROTZ	**Rotzenmuhle**	**149.60**	**347**	*e*PKPbc	PKPbc	02 43 36.2	+0.6
GRA1	**Grafenberg Arr**	**149.86**	**348**	*e*PKPbc	PKPbc	02 43 35.8	-0.4
GRF	**Grafenberg Arr**	**149.86**	**348**	*e*PKPbc	PKPbc	02 43 35.8	-0.4
KHC	**Kasperske Hory**	**149.89**	**345**	*e*PKP	PKPbc	02 43 36.9	+0.6
KHC				*e*		02 43 44.8	
KHC	**Kasperske Hory**	**149.89**	**345**	*e*PKPbc	PKPbc	02 43 36.9	+0.6
KHC				*e*PKPab	PKPab	02 43 44.8	+0.8
GEC2	**GERESS Array S**	**150.13**	**345**	*e*PKPbc	PKPbc	02 43 36.8	0.0
GERES	**GERESS Array B**	**150.13**	**345**	PKPbc	PKPbc	02 43 37.3	+0.5
	comp=Z,2.0nm,0.8s,baz=48,slow=2.0,SNR=10						

*ISCJB **05** 02:42:24.3±1.0, 2406S±006×668W±02, h192km±21km, Error ellipse: s-maj=25.7km s-min=9.5km az=177.4*
*IDC **05** 02:42:24.6±1.6, 2402S×6685W, h179km±17km, mb3.2/1, mb1 3.3/3, mb1mx3.1/15, mbtmp3.0/3, Error ellipse: s-maj=34.5km s-min=14.9km az=87.0*

ISC 05 02:42:24.7±0.9, 2405S±006×669W±02, h182km±19km, n6, σ1§93/6, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**7.62**	**189**	P	**Pn**	**02 44 14.9**	**+2.0**
	0.0nm,0.3s,baz=13,slow=12,SNR=11						
CFAA				S	**Sn**	**02 45 37.4**	**-1.3**
	0.1nm,0.3s,baz=174,slow=15,SNR=8.9						
LPAZ	**La Paz**	**7.82**	**351**	P	**Pn**	**02 44 16.8**	**+1.1**
	0.3nm,0.3s,baz=166,slow=9.8,SNR=9.6						
LPAZ				S	**Sn**	**02 45 42.7**	**-0.9**
	0.0nm,0.3s,baz=160,slow=19,SNR=2.5						
CPUP	**Villa Florida**	**8.92**	**107**	P	**Pn**	**02 44 29.9**	**-0.2**
	0.2nm,0.3s,baz=238,slow=9.5,SNR=3.6						
YKA	**Yellowknife Ar**	**94.22**	**340**	P	**P**	**02 55 22.0**	**-0.4**
	0.1nm,0.5s,baz=135,slow=4.3,SNR=6.9						
WRA	**Warramunga Arr**	**131.64**	**207**	PKP	PKPdf	03 01 17.0	+0.5
	0.2nm,0.8s,baz=155,slow=1.9,SNR=5.6						
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc	PKPbc	03 01 43.5	-0.7
	0.4nm,0.5s,baz=292,slow=3.4,SNR=5.1						

IDC 05 03:05:29.8±9.2, 2218S×6602W, h275km±73km, mb1 2.8/2, mb1mx2.7/16, mbtmp2.7/2, Error ellipse: s-maj=116.3km s-min=37.8km az=20.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.19**	**341**	P	Pn	03 07 01.7	+0.9
	0.3nm,0.3s,baz=172,slow=13,SNR=10						
LPAZ				S	S	03 08 15.3	+1.3
	0.1nm,0.3s,baz=328,slow=18,SNR=4.7						
BDFB	**Brasilia**	**18.22**	**72**	P	P	03 09 23.5	+0.1
	0.1nm,0.3s,baz=238,slow=19,SNR=4.1						
MKAR	**Makanchi Array**	**144.55**	**38**	PKP	PKPdf	03 24 32.9	-0.4
	0.2nm,0.

AVNT	Avonos	2.21	33	*i* P	Pn	03 25 54.3	+0.9
KIZT	Kizilcal	2.25	330	*e*PN	Pn	03 25 53.5	-0.5
HTY	Hatay	2.42	109	*e*PN	Pn	03 25 56.0	-0.2
KAMT	Kaman	2.45	7	*e*PN	Pn	03 25 56.5	-0.3
ANDN	Andirin	2.50	74	*i* P	Pn	03 26 00.1	+2.6
ANDN				*i* S	Sn	03 26 30.0	+1.7
TKTP	Tekketepe	2.62	296	*i* P	Pb	03 26 03.1	-0.4
TKTP				*i* S	Sb	03 26 38.1	+2.0
BNN	Bunyan	2.77	46	*e*PN	Pn	03 26 01.4	+0.3
CDAG	Cicekdag	2.81	17	*i* P	Pn	03 25 58.0	-3.7
AKAS	Kas	3.06	258	*i* P	Pn	03 26 07.4	+2.2
AKAS				*i* S	Sn	03 26 42.1	-0.2

MAN 05 03:43:10, 1833N×12072E, h21km, mb4.1, ML2.8, MS2.5, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.68	181	*e*P	Pb	03 43 24.6	+1.4
ABRA				*e*S	Sb	03 43 35.0	+2.9
APYP	Conner	0.68	133	*e*P	Pb	03 43 23.6	+0.4
APYP				*e*S	Sb	03 43 33.7	+1.5
CVP	Callao Caves	1.22	121⇑	*e*P	Pn	03 43 32.0	+0.1
CVP				*i* S	Sb	03 43 48.6	+0.9
SGCP	Mt. Cagua	1.26	94	*e*P	Pn	03 43 32.2	-0.2
CAUP	Cauayan	1.73	143	*e*P	Pn	03 43 42.9	+3.9
BALP	Baler	2.70	162	*e*P	Pn	03 43 59.7	+7.4
PVCP	Virac	5.75	144⇑	*e*P	Pn	03 44 25.9	-8.2

*ISCJB **05** 03:46:26.5±1.2, 3660N×007×2125E×007, h2km, Error ellipse: s-maj=10.8km s-min=7.4km az=14.5*
*CSEM **05** 03:46:26.7±0.2, 3656N×2125E, h2km, ML3.4, Error ellipse: s-maj=3.8km s-min=3.1km az=62.0*
*ATH **05** 03:46:26.7, 3659N×2124E, h18km±1km, MD3.7/6*
*NEIC **05** 03:46:26.7, 3659N×2124E, h18km, MD3.7(ATH), After ATH.*
*THE **05** 03:46:27.9, 3660N×2132E, h3km, ML3.4*
ISC 05 03:46:26.7±2.0, 3661N±008×2126E±007, h0km±11km, n15, σ0§75/18, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.49	53	*e*Pg	Pg	03 46 36.2	+0.2
PYL				*e*Sg	Sg	03 46 42.6	+0.3
ITM	Ithomi	0.79	43	*e*PN	Pg	03 46 42.3	+0.5
ITM				*e*SN	Sb	03 46 53.5	-0.9
VLX	Vlachokerasia	1.18	49	*e*Pg	Pg	03 46 49.2	-0.1
VLI	Veliai	1.36	85	*e*PN	Pn	03 46 52.8	0.0
VLI				*e*SN	Sb	03 47 11.9	+1.1
RLS	Riolos of Patr	1.46	7	*e*PN	Pn	03 46 54.6	+0.3
KFL	Anninata	1.55	346	*e*Pg	Pn	03 46 55.0	-0.5
VLS	Valsamata	1.66	342	*e*Pb	Pb	03 46 57.9	-0.1
DID	Didima	1.82	60	*e*Pb	Pb	03 46 59.6	-1.2
LTK	Loutraki	1.96	43	*e*Pb	Pb	03 47 01.8	-1.5
EVR	Evrytania	2.35	11	*e*PN	Pn	03 47 06.7	+0.2
LKR	Lokris	2.47	34	*e*Pn	Pn	03 47 07.5	-0.6
LKR	Lokris	2.47	34	*e*Pn	Pn	03 47 08.4	+0.3
KARN	Karanos	2.47	118	*e*Pn	Pn	03 47 07.7	-0.5
AGG	Agios Georgios	2.56	19	*e*Pn	Pn	03 47 10.8	+1.4
THL	Klokotos Trika	3.01	11	*e*Pn	Pn	03 47 16.5	+0.9

*IDC **05** 03:55:51.7±3.1, 3398S×17868W, h0km, mb3.9/2, mb1 4.2/3, mb1mx3.9/14, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=72.4km s-min=36.2km az=121.0*
ISC 05 03:55:54.3±2.8, 341S±02×1783W±04, h35km, n8, σ0§33/9, mb3.8/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.44	217	*e*PN	Pn	03 56 59.3	+0.2
MXZ				SN	Sn	03 57 31.2	-18
PUZ	Puketiti	4.87	214	*e*PN	Pn	03 57 05.5	+0.6
MWZ	Matawai	5.42	217	PN	Pn	03 57 12.1	-0.5
URZ	Urewera	5.58	220	Pn	Pn	03 57 14.9	0.0
URZ	4.0nm,0.3s,baz=15,slow=3.4,SNR=12			Sn	Sn	03 58 17.8	+0.1
BKZ	1.2nm,0.3s,baz=78,slow=19,SNR=4.7 Black Stump Fm	6.58	218	PN	Pn	03 57 28.1	-0.4
ASAR	Alice Springs	42.77	271	P	P	04 03 48.7	+0.1
WRA	1.2nm,0.7s,mb3.7,baz=110,slow=7.4,SNR=14 Warramunga Arr	44.09	276	P	P	04 03 59.2	-0.1
FINES	1.6nm,0.8s,mb3.8,baz=119,slow=7.4,SNR=13 FINESS Array B	148.46	338	PKPbc	PKPbc	04 15 38.3	+2.0
	1.1nm,0.9s,baz=44,slow=6.6,SNR=5.9						

*ISCJB **05** 03:57:29.2±0.6, 1041N±003×6271W±002, h9km±4km, Error ellipse: s-maj=4.5km s-min=2.9km az=155.2*
*NEIC **05** 03:57:29.5, 1044N×6264W, h3km, MD3.8(TRN), MW4.0(CAR), After CAR.*
*FUNV **05** 03:57:29.5, 1044N×6264W, h3km, MW4.0*
*TRN **05** 03:57:30.7, 1045N×6258W, h3km, MD3.8*
ISC 05 03:57:29.5±0.5, 1041N±003×6269W±002, h6km±3km, n26, σ0§97/48, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	Guanoco	0.35	225⇑	*i*P	Pg	03 57 37.5	+1.2
GUNV				*e*S	Sg	03 57 42.9	+1.9
GUIV	Guiria	0.51	63⇑	*i*P	Pg	03 57 38.6	-0.8
GUIV				*i* S	Sg	03 57 45.1	-1.0
CRUV	Carupano	0.60	296	*e*P	Pg	03 57 40.8	-0.2
CRUV				*e*S	Sg	03 57 49.8	+0.7
TCE	Chacachacare	0.96	73	*e*P	Pg	03 57 46.8	-1.1
TCE				*e*S	Sg	03 57 59.1	-1.3
ITEV	Isla Los Testi	1.03	335	*e*P	Pg	03 57 48.6	-0.7
ITEV				*e*S	Sg	03 58 02.8	+0.1
TPP	Pointe-a-Pierr	1.22	94	*e*P	Pg	03 57 52.5	-0.5
TPP				*e*S	Sg	03 58 10.7	+1.9
TRN	Trinidad (W)	1.29	79	*e*P	Pn	03 57 52.6	-1.4
TRN				*e*S	Sg	03 58 10.4	-0.5
ORIV	Oritupano	1.51	208	*e*P	Pn	03 57 58.3	+1.2
ORIV				*e*S	Sn	03 58 18.3	+1.1
TBH	Brigand Hill	1.60	87	*e*P	Pn	03 57 59.3	+1.0
TBH				*e*S	Sn	03 58 19.1	-0.2
PCRV	Puerto La Cruz	1.93	263	*e*P	Pn	03 58 02.0	-0.9
PCRV				*e*S	Sn	03 58 27.5	0.0
GRGR	Grenville	1.99	31	*e*Pn	Pn	03 58 02.6	-1.1
GRGR				*e*Sg	Sg	03 58 28.4	-5.0
GRW	Mount Saint Ca	2.01	30	*e*P	Pn	03 58 04.9	+0.9
GRW				*e*S	Sn	03 58 30.4	+1.0
TPR	Prospect	2.03	68	*e*P	Pn	03 58 04.3	+0.1
TPR				*e*S	Sn	03 58 30.6	+0.6
GRHS	Sauteurs	2.07	30	*e*P	Pn	03 58 05.8	+1.0
GRHS				*e*S	Sn	03 58 30.7	-0.3
GRSS	Sisters	2.15	29	*e*P	Pn	03 58 07.3	+1.4
GRSS				*e*S	Sn	03 58 32.4	-0.5
GRIC	Isle de Caille	2.15	30	*e*P	Pn	03 58 06.2	+0.3
GRIC				*e*S	Sn	03 58 34.8	+1.8
RIOV	Rio Grande	2.48	160	*e*P	Pn	03 58 10.5	0.0
RIOV				*e*S	Sn	03 58 40.7	-0.5
GURV	El Guri	2.67	188	*e*P	Pn	03 58 12.9	-0.1
CUPV	Cœpira	3.07	264	*e*P	Pn	03 58 19.4	+0.8
CUPV				*e*S	Sn	03 58 55.1	-0.6
MERV	Las Mercedes	3.74	252	*e*P	Pn	03 58 27.8	0.0
MERV				*e*S	Sn	03 59 10.9	-1.3
CAOV	Caicara del Or	4.72	230	*e*P	Pn	03 58 41.1	-0.2
CAOV				*e*S	Sn	03 59 33.2	-3.2
TURV	Turiamo	5.07	271	*e*P	Pn	03 58 45.7	-0.4
TURV				*e*S	Sn	03 59 41.2	-3.8
BAUV	El Baul	5.47	255	*e*P	Pn	03 58 51.2	-0.5
BAUV				*e*S	Sn	03 59 51.5	-3.5
SCG	Saint Claude	5.67	10	*e*P	Pn	03 58 55.2	+0.9
PAYV	Puerto Ayacuch	6.99	225	*e*P	Pn	03 59 11.7	-0.7
SDV	Santo Domingo	7.98	260	*e*Pn	Pn	03 59 25.1	-1.0
	7.5nm,0.6s						

*IDC **05** 03:59:11.2±2.9, 3398S×17871W, h0km, mb4.1/2, mb1 4.4/3, mb1mx3.9/14, mbtmp4.1/3, ML4.1/1, Error ellipse: s-maj=69.5km s-min=35.4km az=122.0*
ISC 05 03:59:13.1±2.6, 341S±02×1782W±04, h35km, n7, σ0§57/8, mb4.0/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.47	218	PN	Pn	04 00 18.1	-0.2
MXZ				SN	Sn	04 01 10.3	+1.2
PUZ	Puketiti	4.90	214	PN	Pn	04 00 24.1	-0.1
MWZ	Matawai	5.46	218	PN	Pn	04 00 31.7	-0.2
URZ	Urewera	5.62	221	Pn	Pn	04 00 34.4	+0.3
URZ	5.5nm,0.3s,baz=28,slow=3.7,SNR=16			Sn	Sn	04 01 36.4	-1.0
ASAR	2.4nm,0.3s,baz=156,slow=23,SNR=8.0 Alice Springs	42.84	271	P	P	04 07 08.1	+0.2
WRA	2.0nm,0.7s,mb3.9,baz=112,slow=7.4,SNR=25 Warramunga Arr	44.16	276	P	P	04 07 18.4	-0.1
FINES	2.5nm,0.8s,mb4.0,baz=118,slow=7.4,SNR=19 FINESS Array B	148.49	338	PKPbc	PKPbc	04 18 57.7	+2.6
	2.0nm,0.8s,baz=38,slow=4.3,SNR=9.4						

IDC 05 04:01:35.3±5.1, 596S×15616E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, MS3.2/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=159.8km s-min=31.0km az=111.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	25.36	235	P	P	04 07 04.9	+0.6
WRA	0.6nm,0.4s,baz=61,slow=9.0,SNR=11			LR	LR	04 16 04.7	
ASAR	comp=Z,45nm,18.3s,baz=205,slow=34 Alice Springs	27.72	228	P	P	04 07 25.2	-0.4
MKAR	0.4nm,0.3s,baz=60,slow=9.6,SNR=12 Makanchi Array	83.41	318	P	P	04 14 04.7	+0.1
ZALV	2.8nm,0.6s,baz=102,slow=6.1,SNR=26 Zalesovo Beam	83.98	326	P	P	04 14 07.4	0.0
	0.4nm,0.3s,baz=104,slow=6.1,SNR=3.0						

*ISCJB **05** 04:05:01.8±2.3, 405N±02×792E±02, h10km, Error ellipse: s-maj=26.6km s-min=10.9km az=148.9*
*BJI **05** 04:05:04.7, 4107N×7844E, h13km, ML2.9*
*NNC **05** 04:05:07.1±4.0, 4108N×7902E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=45.3km s-min=18.3km az=164.0*
ISC 05 04:05:03.6±2.2, 405N±02×791E±02, h10km, n11, σ1§40/11, 3C-3D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	2.59	249	*e*PG	Pn	04 05 45.0	-0.5
KSH	comp=N,61nm,0.2s			Smax			
KSH	comp=E,51nm,0.2s			Smax			
ULHL	Ulahol	2.77	310	P	Pn	04 05 48.1	+0.2
KZA	SNR=66 Kyzart	3.30	300	P	Pn	04 05 56.8	+1.6
TKM2	SNR=31 Tokmak 2	3.56	314	P	Pn	04 06 01.9	+3.0
KBK	SNR=11 Karagaybulak	3.78	306	P	Pn	04 06 07.0	+5.1
UCH	SNR=10.0 Uchtor	3.85	298	P	Pb	04 06 08.7	-2.9
AML	SNR=8.1 Almayashu	4.38	294	P	Pb	04 06 20.1	-0.5
EKS2	SNR=7.2 Erkin-Say	4.53	300	P	Pb	04 06 21.8	-1.4
MK31	SNR=9.8 Makanchi Array	6.70	19	⇑Pn	Pn	04 06 42.6	+0.7
MK31	comp=E,0.2nm,0.3s,baz=200,slow=14,SNR=3.3			⇑Pg	Pb	04 06 58.8	-1.3
MK31	comp=E,0.5nm,0.5s			⇑Lg		04 08 20.7	
KK31	comp=E,5.8nm,0.9s,baz=195,slow=27,SNR=4.7 Karatay Array	6.92	295	⇓Pg	Pb	04 07 07.9	+4.1
KK31	comp=E,0.9nm,0.5s,baz=102,slow=17,SNR=18			⇓Lg		04 08 34.1	
KURBB	comp=E,2.8nm,0.7s Kurchatov Arra	10.13	358	⇓Lg		04 10 09.2	
	comp=E,1.7nm,1.2s						

*ISCJB **05** 04:26:00.4±1.4, 3709N±004×13639E±008, h6km±9km, Error ellipse: s-maj=10.4km s-min=6.5km az=7.0*
*JMA **05** 04:26:00.9, 3708N×13643E, h0km, M3.5*
JMA Felt I J1.
*NIED **05** 04:26:00, 37.10N×136.40E, h5km, Mw3.5 Best double couple: M0=2.12000×10^14 NP1:φ=12.00000°, δ=55.00000°, λ=95.00000°. NP2:φ=183.00000°, δ=35.00000°, λ=83.00000°.*
ISC 05 04:26:01.0±1.2, 3708N±003×13640E±008, h7km±8km, n7, σ0§41/14, 5D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	Hakui	0.34	117	⇓P	Pg	04 26 07.7	0.0
JJH				S	Sg	04 26 12.4	+0.2
JKG	Kaga	0.81	184	⇓P	Pg	04 26 16.7	+0.2
JKG				S	Sg	04 26 27.4	+0.5
JSZ	Suzu	0.85	64	P	Pg	04 26 17.2	-0.2
JSZ				S	Sg	04 26 28.4	-0.1
JHG	Hegura jima	0.87	28	⇓P	Pg	04 26 17.7	0.0
JHG				S	Sg	04 26 29.5	+0.4
JTT	Ttatey	0.89	122	⇓P	Pg	04 26 17.8	-0.3
JTT				S	Sg	04 26 30.0	+0.4
JGN	Niukaw	1.13	139	⇓P	Pg	04 26 21.6	-1.1
JGN				S	Sg	04 26 37.2	-0.2
MAT	Matsushiro	1.55	110	P	Pn	04 26 28.6	-0.4
MAT				S	Sn	04 26 49.8	+0.4

MAN 05 04:34:43, 1837N×12086E, h4km, mb4.3, ML3.2, MS3.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	0.62	144	*e*P	Pg	04 34 56.7	+1.7
APYP				*e*S	Sg	04 35 05.7	+2.6
ABRA	Dolores	0.73	191	*e*P	Pg	04 34 57.5	+0.5
ABRA				*e*S	Sg	04 35 09.1	+2.6
CVP	Callao Caves	1.13	126⇑	*e*P	Pg	04 35 05.1	+0.3
CVP				*i* S	Sg	04 35 21.6	+2.2
SGCP	Mt. Cagua	1.14	96	*e*P	Pg	04 35 05.1	+0.3
SGCP				*e*S	Sg	04 35 21.1	+1.5
CAUP	Cauayan	1.69	147	*e*P	Pn	04 35 15.9	+2.6
CAUP				*e*S	Sn	04 35 40.4	+5.0
PALP	Palanan	1.98	131	*e*P	Pn	04 35 20.9	+3.6
BOLP	Bolinao	2.17	205	*e*P	Pn	04 35 21.1	+1.1
BALP	Baler	2.70	165	*e*P	Pn	04 35 30.3	+3.1

*NEIC **05** 04:43:16.6, 3632N×2363E, h28km, MD3.2(ATH), After ATH.*
*ATH **05** 04:43:16.3, 3626N×2360E, h32km±2km, MD3.1/5*
*ISCJB **05** 04:43:17.4±1.0, 3627N±008×2357E±010, h29km±10km, Error ellipse: s-maj=17.2km s-min=6.5km az=44.0*
*CSEM **05** 04:43:17.7±0.1, 3631N×2364E, h20km, MD3.2, Error ellipse: s-maj=4.9km s-min=2.9km az=28.0*
ISC 05 04:43:17.7±1.0, 3626N±008×236E±01, h30km±9km, n11, σ1§17/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	0.41	273	*e*PB	Pb	04 43 27.0	+0.2
KYTH				*e*SB	Sb	04 43 33.5	+0.5
VLI	Veliai	0.67	313	*e*PN	Pn	04 43 30.6	-0.5
VLI				*e*SN	Sn	04 43 40.3	-0.2
KARN	Karanos	0.91	161	*e*P	Pn	04 43 33.6	-0.7
VAM	Vamos	1.01	148	*e*PN	Pn	04 43 35.0	-0.7
VAM				*e*SN	Sn	04 43 48.6	-0.2
VAM	Vamos	1.01	148	*e*Pb	Pb	04 43 35.3	-1.2
VAM				*e*Sn	Sn	04 43 51.8	+3.0
VLX	Vlachokerasia	1.45	320	*e*P	Pn	04 43 44.5	+2.7
GVD	Gavdhos	1.49	163	*e*PN	Pn	04 43 43.5	+1.2
GVD	Gavdhos	1.49	163	*e*Pn	Pn	04 43 44.5	+2.2
PYL	PYLOS	1.58	294	*e*P	Pn	04 43 41.3	-2.3
APE	Apeiranthos	1.79	63	*e*PN	Pn	04 43 46.4	0.0
LAST	Lasithi	1.92	124	*e*P	Pn	04 43 48.9	+0.7

*ISCJB **05** 04:49:14.5±1.9, 470N±01×1526E±02, h51km±16km, mb3.6/7, Error ellipse: s-maj=34.8km s-min=9.8km az=43.5*
*IDC **05** 04:49:20.6±4.8, 4677N×15248E, h100km±44km, mb3.3/8, mb1 3.4/10, mb1mx3.3/22, mbtmp3.3/10, Error ellipse: s-maj=30.8km s-min=26.5km az=104.0*
*MOS **05** 04:49:40.9±2.0, 4648N×14952E, h265km, mb3.8/4, Error ellipse: s-maj=40.6km s-min=18.3km az=64.1*
ISC 05 04:49:16.2±1.6, 469N±01×1527E±02, h55km±13km, n18, σ1§19/18, mb3.6/7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.74	245	PN	Pn	04 50 05.2	-6.2
SKR	Severo-Kuril's	4.41	30	*e*PN	Sn	04 51 10.2	-0.3
ASAJ	Asahikawa	7.61	252	PN	Pn	04 51 05.3	+1.0
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
ASAJ	Asahikawa	7.61	252	P	Pn	04 51 05.2	+0.9
ERM	comp=Z,0.8nm,0.3s,baz=90,slow=29,SNR=4.4 Erimo	8.38	238	*i* PN	Pn	04 51 12.3	-2.6
MJAR	Matsushiro Arr	14.94	231	P	Pn	04 52 45.3	+1.4
KSRS	comp=Z,0.2nm,0.3s,baz=41,slow=9.1,SNR=4.6 Korea Array	20.56	252	P	P	04 53 51.3	+1.1
ZALV	comp=Z,0.8nm,0.5s,baz=52,slow=12,SNR=3.2 Zalesovo Beam	42.27	306	P	P	04 57 02.7	-1.2
YKA	comp=Z,0.5nm,0.4s,mb3.5,baz=71,slow=6.2,SNR=2.9 Yellowknife Ar	50.98	37	P	P	04 58 12.7	+0.9
FINES	comp=Z,0.1nm,0.5s,mb3.0,baz=296,slow=7.0,SNR=3.5 FINESS Array B	63.77	335	P	P	04 59 42.1	+0.2
FINES	comp=Z,1.0nm,0.5s			pmax	pmax		
FINES	FINESS Array B	63.77	335	P	P	04 59 42.0	+0.2
NB2	comp=Z,0.8nm,0.5s,mb4.0,baz=45,slow=8.4,SNR=7.0 NORSAR Subarra	67.98	341	P	P	05 00 08.9	0.0
NOA	comp=Z,1.1nm,0.6s,mb4.1,baz=30,slow=6.5 NORSAR Array B	67.98	341	P	P	05 00 09.2	+0.3
NOA	comp=Z,1.0nm,0.6s			pmax	pmax		
NOA	NORSAR Array B	67.98	341	P	P	05 00 09.2	+0.2
AKASG	comp=Z,0.8nm,0.6s,mb4.0,baz=29,slow=6.2,SNR=5.1 Malin Array Be	71.25	326	P	P	05 00 28.7	-0.5
AKASG	comp=Z,1.0nm,0.4s			pmax	pmax		
AKASG	Malin Array Be	71.25	326	P	P	05 00 28.8	-0.5
ASAR	comp=Z,1.3nm,0.4s,mb4.2,baz=36,slow=6.3,SNR=4.9 Alice Springs	72.26	198	P	P	05 00 33.2	-2.3
TXAR	comp=Z,0.2nm,0.6s,mb3.2,baz=12,slow=6.0,SNR=4.2 Lajitas Array	77.68	60	P	P	05 01 07.8	+0.9
	comp=Z,0.2nm,0.7s,mb3.2,baz=319,slow=5.1,SNR=3.3						

*TEH **05** 04:52:04.0, 3790N×5533E, h28km, ML3.9*
*ISCJB **05** 04:52:11.1±1.3, 3818N±005×5612E±005, h2km±9km, Error ellipse: s-maj=8.3km s-min=5.2km az=149.3*
*CSEM **05** 04:52:11.7±0.1, 3821N×5620E, h10km, ML3.6, Error ellipse: s-maj=3.1km s-min=2.9km az=147.0*
*THR **05** 04:52:15.3±0.5, 3791N×5624E, h32km±4km, ML3.6*
*NNC **05** 04:52:23.0±5.2, 3878N×5672E, h0km, mb3.2, Error ellipse: s-maj=60.8km s-min=28.8km az=59.0*
ISC 05 04:52:13.5±1.3, 3815N±005×5612E±005, h8km±9km, n22, σ1§29/29, 5C-3D, Iran-Turkmenistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MRVT	Maraveh tapeh	0.49	183	*e*Pg	Pg	04 52 22.6	-0.4
MRVT				*e*Sg	Sg	04 52 27.9	-1.5
MRVT				AML	AML	04 52 28.4	
MRVT	comp=E,6μm,0.4s			AML	AML	04 52 29.1	
MRVT	comp=N,4μm,0.5s Maraveh tapeh	0.49	183	*e*Pg	Pg	04 52 22.6	-0.4
MRVT	SNR=134			*e*Sg	Sg	04 52 27.9	-1.5
IMIN	SNR=134 Minoodasht	1.23	215	*e*Pg	Pg	04 52 30.0	-7.0
ISHV	Shirvan	1.40	116	*e*Pn	Pn	04 52 36.6	-2.5
IKRD	Kardeh	2.35	125⇑	*e*Pn	Pg	04 53 01.9	+3.5
IKRD				*e*		04 53 58.1	
IPAY	comp=Z,3μm,0.4s Payeh	2.85	126	*e*Pn	Pn	04 52 59.1	-0.1
IPAY				*e*Sn	Sn	04 53 35.1	+1.4
IPAY				*e*		04 53 53.3	
IPAY	comp=Z,3μm,0.3s Payeh	2.85	126	*e*Pn	Pn	04 52 59.1	-0.1
IPAY				*e*Sn	Sn	04 53 35.1	+1.4
IANJ	Anjilo	3.21	214	*e*	Sg	04 53 58.3	+1.7
IMOG	comp=Z,2μm,0.3s Moghan	3.28	127	*e*Pn	Pn	04 53 05.4	+0.3
IMOG				*e*		04 53 16.6	
IPRN	comp=Z,2μm,0.3s Peran	3.57	239	*e*	Sb	04 53 59.4	-0.8
IMYA	comp=Z,5μm,0.2s Miami	3.65	118	*e*Pn	Pn	04 53 09.8	-0.4
IMYA				*e*		04 54 20.7	
IDMV	comp=Z,2μm,0.4s Damavand	4.16	233	*e*	Sb	04 54 16.8	-0.5
DAMV	comp=Z,1μm,0.4s Damavand	4.17	234	*e*Pn	Pn	04 53 18.6	+1.3
DAMV				AML	AML	04 54 26.9	
DAMV	comp=N,72nm,0.6s			AML	AML	04 54 27.6	
CHTH	comp=E,113nm,0.5s Charan	4.58	242	*e*Pn	Pn	04 53 24.2	+1.3
THKV	Tehran--Karaj	4.75	244	*e*Pn	Pn	04 53 26.8	+1.5
ISFB	Sefidab	4.92	221	*e*	Sb	04 54 37.5	-1.6
NASN	comp=Z,338nm,0.2s Na'in	5.98	208	*e*Pn	Pn	04 53 41.8	-0.4
AB31	Akbulak array	11.44	13	⇓P	Pn	04 54 56.9	-0.1
AB31	comp=Z,0.4nm,0.2s,baz=209,slow=13,SNR=19			⇑S	Sn	04 57 01.4	-3.4
KK31	comp=Z,2.5nm,0.4s,baz=207,slow=22 Karatay Array	12.00	61	⇑P	Pn	04 55 04.0	-0.6
KK31	comp=Z,0.6nm,0.5s,baz=266,slow=12,SNR=11			⇓S	Sn	04 57 12.8	-5.8
AKTO	comp=Z,1.9nm,0.6s,baz=246,slow=22,SNR=3.8 Aktyubinsk	12.36	6	⇑P	Pn	04 55 10.0	+0.5
AKTO	comp=Z,0.1nm,0.6s			⇓S	Sn	04 57 22.2	-5.0
KURBB	Kurchatov Arra	20.20	45	⇑P	P	04 56 52.1	+3.7
MK31	comp=Z,0.3nm,0.8s,baz=244,slow=9.1 Makanchi Array	21.07	57	P	P	04 57 01.1	+3.2
	comp=Z,1.0nm,0.6s,baz=247,slow=11,SNR=9.5						

*ISCJB **05** 04:59:27.6±0.4, 3744S±003×7208W±009, h81km±5km, mb4.2/8, Error ellipse: s-maj=12.5km s-min=4.0km az=9.9*
*GUC **05** 04:59:27.7±0.7, 3738S×7252W, h75km, MD4.1, ML4.3*
*NEIC **05** 04:59:27.7, 3738S×7252W, h75km, mb4.6/4, MD4.1(GUC), After GUC.*
NEIC Felt [III] at Los Angeles.
*IDC **05** 04:59:29.9±2.4, 3742S×7180W, h83km±20km, mb3.8/8, mb1 3.9/11, mb1mx3.7/20, mbtmp3.8/11, MS3.0/2, Ms1 3.0/2, ms1mx2.6/23, Error ellipse: s-maj=32.1km s-min=12.3km az=93.0*
ISC 05 04:59:28.8±0.4, 3745S±003×7213W±009, h76km±5km, n46, σ0§81/60, mb4.2/8, 8C-8D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TMU	Temuco	1.34	196	⇓*i*P	Pn	04 59 51.7	-0.1
TMU				*i* S	Sn	05 00 08.7	-0.5
COCH	Cobquecura	1.41	338	⇓*e*P	Pn	04 59 53.6	+0.7
COCH				*i* S	Sn	05 00 10.4	-0.6
COCH	Cobquecura	1.41	338	⇓*e*P	Pn	04 59 53.6	+0.7
COCH				*i* S	Sn	05 00 10.4	-0.6
COCH				AML	AML	05 00 15.1	
NICH	comp=N,3μm,0.8s Los Niches	2.55	17⇑	*i*P	Pn	05 00 08.0	+0.1
NICH				*i* S	Sn	05 00 38.7	+0.8
SFDO	San Fernando	2.97	18⇑	*i*P	Pn	05 00 14.0	+0.4
CICH	Cipreses	3.42	25	*e*P	Pn	05 00 21.0	+1.2
PLCA	Paso Flores	3.50	160	*e*Pn	Pn	05 00 21.2

ANTU				*i* S		**Sn**	**05 01 14.9 +0.2**
SJCH	**San Jose de Ma**	**4.07**	**21**	*e*P		**Pn**	**05 00 29.1 +0.5**
SJCH				*i* S		**Sn**	**05 01 15.7 +0.8**
RCDM	**Rinconada Maip**	**4.09**	**16**	*e*P		**Pn**	**05 00 28.3 -0.7**
RCDM				*i* S		**Sn**	**05 01 14.6 -1.1**
FSR	**Penalolen**	**4.17**	**19**⇑	*i*P		**Pn**	**05 00 30.0 0.0**
STL	**Santa Lucia**	**4.18**	**17**	*e*P		**Pn**	**05 00 29.2 -0.9**
CLCH	**Cerro Calan**	**4.25**	**18**⇓	*i*P		**Pn**	**05 00 30.8 -0.2**
CLCH				*i* S		**Sn**	**05 01 19.3 -0.1**
FCH	**Farellones**	**4.38**	**21**⇓	*i*P		**Pn**	**05 00 33.1 +0.3**
FCH				*i* S		**Sn**	**05 01 23.6 +1.1**
IHA	**Instituto Hidr**	**4.43**	**5**⇑	*i*P		**Pn**	**05 00 32.5 -1.0**
PEL	**Peldehue**	**4.45**	**16**⇑	*i*P		**Pn**	**05 00 33.5 -0.4**
PEL				*i* S		**Sn**	**05 01 24.1 -0.3**
CFAA	**Coronel Fontan**	**6.66**	**30**	P		**Pn**	**05 01 02.4 -1.5**
	comp=N,0.5nm,0.3s,baz=208,slow=13,SNR=112						
CFAA				S		**Sn**	**05 02 16.5 -1.8**
	comp=N,0.3nm,0.3s,baz=220,slow=17,SNR=2.3						
TRQA	**Tornquist**	**8.07**	**97**	*e*Pn		**Pn**	**05 01 23.2 +0.1**
	comp=N,27nm,0.6s						
CPUP	**Villa Florida**	**16.74**	**53**	LR		LR	05 10 45.7
	comp=N,56nm,20.8s,baz=12,slow=41						
USHA	**Ushuaia**	**17.57**	**173**	P		**Pn**	**05 03 28.6 +0.2**
	comp=N,1.4nm,0.3s,baz=339,slow=11,SNR=14						
LPAZ	**La Paz**	**21.37**	**11**	*e*P		**P**	**05 04 11.4 +1.4**
	comp=N,10nm,0.9s,mb4.2						
LPAZ	**La Paz**	**21.37**	**11**	P		**P**	**05 04 12.1 +2.1**
	comp=N,7.1nm,0.8s,mb4.0,baz=178,slow=8.5,SNR=18						
SIV	**San Ignacio**	**23.51**	**28**	P		**P**	**05 04 30.6 -1.3**
	comp=N,2.9nm,0.6s,mb3.8,baz=211,slow=9.4,SNR=23						
BDFB	**Brasilia**	**30.45**	**51**	LR		LR	05 17 31.1
	comp=N,34nm,20.6s,baz=198,slow=36						
SDV	**Santo Domingo**	**46.11**	**2**	P		**P**	**05 07 44.9 -0.5**
	comp=N,1.7nm,0.5s,mb4.0,baz=266,slow=5.2,SNR=4.4						
VNA3	**Neumayer Olymp**	**46.22**	**157**	*e*		**P**	**05 07 45.5 -0.1**
VNA3				*e*			05 07 48.9
VNA3				*e*			05 07 52.2
VNA1	**Neumayer--Stat**	**46.56**	**156**	*e*		**P**	**05 07 48.4 +0.1**
VNA1				*e*			05 07 52.0
VNA1				*e*			05 07 56.1
VNA2	**Neumayer--Watz**	**46.89**	**156**	*e*		**P**	**05 07 51.3 +0.4**
	baz=282,slow=8.5						
VNA2				*e*			05 07 54.5
VNA2				*e*			05 07 57.1
SNAA	**Sanae**	**48.44**	**157**	*e*		**P**	**05 08 03.0 +0.1**
SNAA				*e*			05 08 06.3
SNAA				*e*			05 08 09.3
SNAA	**Sanae**	**48.44**	**157**	P		**P**	**05 08 02.7 -0.2**
	comp=N,1.8nm,0.8s,mb4.0,baz=278,slow=5.5,SNR=18						
QSPA	**South Pole Qui**	**52.80**	**180**	P		**P**	**05 08 36.7 +1.1**
	comp=N,0.6nm,0.7s,mb3.8,baz=122,slow=2.6,SNR=5.3						
SYO	**Syowa Base**	**62.70**	**158**⇑	*e*X		**P**	**05 09 46.0 +0.9**
TXAR	**Lajitas Array**	**72.71**	**331**	P		**P**	**05 10 49.6 +1.2**
	comp=N,0.1nm,0.5s,baz=146,slow=12,SNR=3.3						
DBIC	**Dimbokro**	**76.38**	**71**	*e*P		**P**	**05 11 09.3 -0.7**
	comp=N,5.7nm,0.6s,mb4.5						
DBIC	**Dimbokro**	**76.38**	**71**	P		**P**	**05 11 09.6 -0.5**
	comp=N,5.2nm,0.6s,mb4.4,baz=186,slow=5.5,SNR=14						
BOSA	**Boshof**	**78.55**	**117**	*e*P		**P**	**05 11 20.9 -1.2**
	comp=N,3.4nm,0.5s,mb4.4						
BOSA	**Boshof**	**78.55**	**117**	P		**P**	**05 11 21.2 -0.9**
	comp=N,3.3nm,0.5s,mb4.5,baz=247,slow=10,SNR=8.6						
LBTB	**Lobatse**	**80.94**	**114**	*e*P		**P**	**05 11 33.6 -1.4**
	comp=N,7.9nm,0.7s,mb4.7						
MKAR	**Makanchi Array**	**158.93**	**56**	PKPab		PKPab	05 19 52.7 -1.3
	comp=N,0.2nm,0.3s,baz=324,slow=2.9,SNR=4.4						

IDC 05 05:07:03.8±1.4, 1655S×17839W, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/15, mbtmp4.0/4, Error ellipse: s-maj=47.1km s-min=30.4km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.98**	**190**	P		P	05 11 59.7	+0.4
	1.2nm,0.3s,baz=27,slow=2.3,SNR=3.5							
WRA	**Warramunga Arr**	**44.91**	**258**	P		P	05 15 20.6	0.0
	0.5nm,0.4s,baz=96,slow=7.0,SNR=6.5							
ASAR	**Alice Springs**	**45.19**	**253**	P		P	05 15 22.5	-0.3
	6.7nm,0.6s,baz=88,slow=8.1,SNR=142							
TXAR	**Lajitas Array**	**85.26**	**58**	P		P	05 19 42.9	+0.2
	0.5nm,0.7s,baz=218,slow=5.9,SNR=8.1							

IDC 05 05:22:42.7±2.4, 5411N×8640E, h0km, mb1 3.3/1, mb1mx3.0/21, mbtmp3.3/1, ML3.3/1, Error ellipse: s-maj=19.6km s-min=2.1km az=80.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.95**	**261**	Pg		Pg	05 22 59.5	-1.3
	1.8nm,0.3s,baz=83,slow=18,SNR=15							
ZALV				Lg			05 23 15.1	
	1.1nm,0.3s,baz=77,slow=33,SNR=5.3							
ZALV				Rg			05 23 19.6	
	20nm,0.9s,baz=73,slow=25,SNR=11							
MKAR	**Makanchi Array**	**7.78**	**201**	Pn		Pn	05 24 38.6	+1.6
	0.4nm,0.3s,baz=23,slow=15,SNR=10.0							
MKAR				Lg			05 26 50.3	
	0.1nm,0.3s,baz=18,slow=29,SNR=4.5							

ISCJB ***05*** *05:27:08.1±0.3, 5858S×006×227W±0.1, h10km, mb4.8/27, MS4.3/16, Error ellipse: s-maj=9.6km s-min=6.6km az=44.8*

IDC ***05*** *05:27:09.1±0.5, 5842S×2282W, h0km, mb4.8/16, mb1 4.8/16, mb1mx4.8/19, mbtmp4.8/16, MS4.3/16, Ms1 4.3/16, ms1mx4.2/19, Error ellipse: s-maj=16.6km s-min=13.7km az=36.0*

MOS ***05*** *05:27:13.6±2.1, 5840S×2279W, h33km, mb5.2/10, Error ellipse: s-maj=26.1km s-min=13.7km az=102.5*

NEIC ***05*** *05:27:14.4±0.2, 5835S×2290W, h35km, mb4.9/20, Error ellipse: s-maj=9.9km s-min=7.7km az=11.0*

GCMT ***05*** *05:27:14.4±0.2, 5873S×2238W, h23km±1km, MW5.2/69, Moment Tensor Solution. s38,c48; s69,c100; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.31±.25; Mθθ-3.22±.28; Mφφ3.53±.23; Mrθ-0.59±.35; Mθφ5.73±.19; Mφr1.14±.31; Best double couple: M0 6.77600×10^16 NP1:φs165.00000°, δ79.00000°, λ-3.00000°. NP2: φs165.00000°, δ87.00000°, λ-169.00000°. Principal axes: T 6.8730, Plg6.0000°, Azm299.0000°; N -0.1910, Plg79.0000°, Azm180.0000°; P -6.6790, Plg10.0000°, Azm30.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

BJI ***05*** *05:27:14.4, 5830S×2290W, h35km, mB5.3, Ms5.4, Msz5.0*

ISC 05 05:27:10.3±0.3, 5856S±006×227W±01, h10km, n130, σ1§32/66, mb4.8/27, MS4.3/16, 2C-2D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**8.76**	**293**	Pn		**Pn**	**05 29 18.6**	**+1.8**
	1μm,1.0s,SNR=8.4							
VNA1	**Neumayer--Stat**	**13.56**	**159**	*e*Pn		**Pn**	**05 30 21.1**	**-1.3**
VNA1				*e*			05 30 28.8	
VNA1				*e*			05 30 38.0	
VNA1				*e*			05 30 43.7	
VNA1				*e*			05 32 44.4	
VNA1				*e*			05 32 50.0	
VNA1				*e*			05 32 57.9	
VNA1				*e*			05 33 01.9	
VNA1				*e*			05 33 07.3	
VNA3	**Neumayer Olymp**	**13.82**	**162**	*e*Pn		**Pn**	**05 30 24.5**	**-1.4**
VNA3				*e*			05 30 32.1	
VNA3				*e*			05 30 41.7	
VNA3				*e*			05 30 47.7	
VNA3				*e*			05 32 45.7	
VNA3				*e*			05 32 50.8	
VNA3				*e*			05 32 56.6	
VNA3				*e*			05 33 00.7	
VNA3				*e*			05 33 06.4	
VNA2	**Neumayer--Watz**	**13.95**	**159**	*e*Pn		**Pn**	**05 30 25.9**	**-1.8**
VNA2				*e*			05 30 33.2	
VNA2				*e*			05 30 43.0	
VNA2				*e*			05 30 49.4	
VNA2				*e*			05 32 45.2	
VNA2				*e*			05 32 50.0	
VNA2				*e*			05 32 56.1	
VNA2				*e*			05 32 59.9	
VNA2				*e*			05 33 06.1	
SNAA	**Sanae**	**15.45**	**156**	*e*Pn		**Pn**	**05 30 46.0**	**-1.9**
SNAA				*e*			05 30 53.6	
SNAA				*e*			05 31 02.4	
SNAA				*e*			05 31 08.9	
SNAA				*e*			05 33 27.2	
SNAA				*e*			05 33 31.8	
SNAA				*e*			05 33 36.6	
SNAA				*e*			05 33 39.9	
SNAA				*e*			05 33 45.1	
SNAA	**Sanae**	**15.45**	**156**	Pn		**Pn**	**05 30 45.9**	**-2.0**
SNAA				Sn		**Sn**	**05 33 27.5**	**-11**
SNAA				LR		LR	05 35 35.8	
SNAA	**Sanae**	**15.45**	**156**	Pn		**Pn**	**05 30 45.9**	**-2.0**
	59nm,0.3s,baz=325,slow=13,SNR=585							
SNAA				Sn		**Sn**	**05 33 27.5**	**-11**
	0.6nm,0.3s,baz=349,slow=18,SNR=6.6							
SNAA				LR		LR	05 35 35.8	
	comp=Z,440nm,18.3s,baz=326,slow=32							
NVL	**N'lazarevskaya**	**18.81**	**144**	*e*P		**Pn**	**05 31 30.4**	**+0.4**
NVL				pmax		pmax		
	comp=Z,72nm,1.1s							
NVL				MLR		MLR		
	comp=Z,1μm,18.1s							
NVL				MLR		MLR		
	comp=N,361nm,9.1s							
NVL				MLR		MLR		
	comp=E,809nm,18.1s							
PMSA	**Palmer Station**	**20.27**	**235**	P		**P**	**05 31 46.5**	**+1.0**
	comp=E,18nm,0.5s,baz=88,slow=7.0,SNR=9.5							
PMSA				S		**S**	**05 35 19.0**	**-13**
	comp=E,13nm,0.8s,baz=350,slow=7.3,SNR=2.4							
PMSA				LR		LR	05 37 34.6	
	comp=E,1μm,20.9s,MS4.2,baz=171,slow=31							
EFI	**East Falkland**	**21.17**	**274**	P		**P**	**05 31 54.5**	**-0.8**
	comp=E,1μm,0.9s,SNR=17							
EFI	**East Falkland**	**21.17**	**274**	*d i*P		**P**	**05 31 54.9**	**-0.4**
EFI	**East Falkland**	**21.17**	**274**	*e*P		**P**	**05 31 54.1**	**-1.2**
	comp=E,319nm,1.1s,mb5.6							
USHA	**Ushuaia**	**25.01**	**259**	P		**P**	**05 32 33.2**	**-0.6**
	comp=E,23nm,0.8s,mb4.8,baz=81,slow=14,SNR=9.8							
USHA				LR		LR	05 39 59.1	
	comp=E,1μm,21.4s,MS4.5,baz=91,slow=31							
SYO	**Syowa Base**	**28.09**	**137**⇑	*e*P		**P**	**05 33 01.2**	**-0.3**
SYO	**Syowa Base**	**28.09**	**137**⇑	*e*PnPn			05 33 46.2	
QSPA	**South Pole Qui**	**31.68**	**180**	P		**P**	**05 33 34.4**	**+1.2**
	comp=E,19nm,0.8s,mb5.0,baz=204,slow=5.0,SNR=50							
TRQA	**Tornquist**	**32.54**	**292**	*e*P		**P**	**05 33 38.5**	**-2.6**
	comp=E,3.6nm,0.7s,mb4.4							
PLCA	**Paso Flores**	**34.83**	**279**	*e*P		**P**	**05 33 59.2**	**-1.9**
PLCA				pmax		pmax		
	comp=Z,12nm,1.0s							
PLCA	**Paso Flores**	**34.83**	**279**	*e*P		**P**	**05 33 59.2**	**-1.9**
	comp=Z,12nm,1.0s,mb4.8							
PLCA	**Paso Flores**	**34.83**	**279**	P		**P**	**05 33 59.4**	**-1.6**
	comp=Z,6.5nm,0.9s,mb4.6,baz=145,slow=8.1,SNR=16							
PLCA				LR		LR	05 46 37.3	
	comp=Z,459nm,21.2s,MS4.2,baz=134,slow=34							
MAW	**Mawson**	**36.66**	**140**	*e*P		**P**	**05 34 17.2**	**+0.7**
MAW				pmax		pmax		
	comp=Z,30nm,0.9s							
MAW	**Mawson**	**36.66**	**140**	*e*P		**P**	**05 34 17.2**	**+0.8**
	comp=Z,30nm,0.9s,mb5.1							
MAW	**Mawson**	**36.66**	**140**	P		**P**	**05 34 17.1**	**+0.7**
	comp=Z,21nm,0.8s,mb5.0,baz=239,slow=7.9,SNR=15							
MAW				LR		LR	05 47 01.0	
	comp=Z,555nm,20.9s,MS4.3,baz=255,slow=32							
SUR	**Sutherland**	**39.14**	**67**	*e*P		**P**	**05 34 38.7**	**+0.9**
	comp=Z,33nm,1.3s,mb4.9							
CPUP	**Villa Florida**	**40.30**	**308**	*e*P		**P**	**05 34 46.7**	**-0.7**
CPUP				pmax		pmax		
	comp=Z,81nm,1.1s							
CPUP	**Villa Florida**	**40.30**	**308**	*e*P		**P**	**05 34 46.6**	**-0.7**
	comp=Z,81nm,1.1s,mb5.4							
CPUP	**Villa Florida**	**40.30**	**308**	P		**P**	**05 34 45.3**	**-2.1**
	comp=Z,13nm,0.9s,mb4.7,baz=132,slow=6.4,SNR=12							
CPUP				LR		LR	05 49 39.6	
	comp=Z,355nm,18.8s,MS4.2,baz=141,slow=34							
CFAA	**Coronel Fontan**	**40.77**	**291**	P		**P**	**05 34 48.0**	**-3.2**
	comp=Z,0.9nm,0.8s,baz=148,slow=8.1,SNR=19							
SBA	**Scott Base**	**43.72**	**183**	*e*P		**P**	**05 35 19.6**	**+4.8**
SBA				pmax		pmax		
	comp=Z,18nm,1.0s,mb4.8							
SBA	**Scott Base**	**43.72**	**183**	*e*P		**P**	**05 35 19.6**	**+4.8**
	comp=Z,18nm,1.0s,mb4.8							
VNDA	**Vanda**	**44.15**	**181**	*e*P		**P**	**05 35 20.9**	**+2.7**
VNDA				pmax		pmax		
	comp=Z,12nm,0.8s							
VNDA	**Vanda**	**44.15**	**181**	*e*P		**P**	**05 35 20.9**	**+2.7**
	comp=Z,12nm,0.8s,mb4.7							
VNDA	**Vanda**	**44.15**	**181**	P		**P**	**05 35 19.6**	**+1.3**
	comp=Z,12nm,0.9s,mb4.6,baz=187,slow=8.7,SNR=36							
VNDA				LR		LR	05 53 23.6	
	comp=Z,416nm,18.3s,MS4.4,baz=181,slow=36							
BOSA	**Boshof**	**44.41**	**69**	*e*P		**P**	**05 35 20.2**	**-0.7**
BOSA				pmax		pmax		
	comp=Z,37nm,1.3s,mb5.0							
BOSA	**Boshof**	**44.41**	**69**	*e*P		**P**	**05 35 20.2**	**-0.7**
	comp=Z,37nm,1.3s,mb5.0							
BOSA	**Boshof**	**44.41**	**69**	P		**P**	**05 35 20.7**	**-0.2**
	comp=Z,19nm,1.0s,mb4.8,baz=207,slow=7.3,SNR=21							
BOSA				LR		LR	05 51 10.2	
	comp=Z,168nm,18.1s,MS4.0,baz=217,slow=32							
BDFB	**Brasilia**	**46.79**	**326**	P		**P**	**05 35 40.6**	**+0.8**
	comp=Z,3.0nm,0.7s,mb4.3,baz=193,slow=16,SNR=8.5							
BDFB				LR		LR	05 52 21.3	
	comp=Z,213nm,20.5s,MS4.1,baz=316,slow=32							
LBTB	**Lobatse**	**47.58**	**67**	*e*P		**P**	**05 35 45.4**	**-0.5**
LBTB				pmax		pmax		
	comp=Z,46nm,1.3s,mb5.3							
LBTB	**Lobatse**	**47.58**	**67**	*e*P		**P**	**05 35 45.4**	**-0.5**
	comp=Z,46nm,1.3s,mb5.3							
TSUM	**Tsumeb**	**48.98**	**54**	*e*P		**P**	**05 35 56.9**	**+0.1**
	comp=Z,11nm,0.9s,mb4.9							
CASY	**Casey**	**50.69**	**158**	*e*P		**P**	**05 36 12.8**	**+3.7**
	comp=Z,12nm,0.9s,mb4.8							
LPAZ	**La Paz**	**53.80**	**302**	*e*P		**P**	**05 36 32.8**	**-0.1**
LPAZ				pmax		pmax		
	comp=Z,12nm,0.8s							
LPAZ	**La Paz**	**53.80**	**302**	*e*P		**P**	**05 36 32.8**	**-0.1**
	comp=Z,12nm,0.8s,mb4.9							
LPAZ	**La Paz**	**53.80**	**302**	P		**P**	**05 36 33.0**	**0.0**
	comp=Z,9.1nm,0.6s,mb4.8,baz=140,slow=7.3,SNR=46							
LPAZ				LR		LR	05 59 22.4	
	comp=Z,57nm,18.9s,MS3.7,baz=341,slow=36							
LSZ	**Lusaka**	**57.17**	**63**	*e*P		**P**	**05 36 56.4**	**-0.7**
LSZ				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.9							
LSZ	**Lusaka**	**57.17**	**63**	*e*P		**P**	**05 36 56.4**	**-0.8**
	comp=Z,12nm,0.9s,mb4.9							
LSZ	**Lusaka**	**57.17**	**63**	P		**P**	**05 36 56.6**	**-0.5**
	comp=Z,6.8nm,0.8s,mb4.7,baz=216,slow=8.8,SNR=16							
LIC	**Lamto**	**66.12**	**19**	*e*P		**P**	**05 37 56.4**	**-1.1**
	comp=Z,14nm,0.7s,mb4.8							
LIC	**Lamto**	**66.12**	**19**	*e*P		**P**	**05 37 56.4**	**-1.1**
	comp=Z,7.3nm,0.7s,mb4.8							
DBIC	**Dimbokro**	**66.59**	**19**	*e*P		**P**	**05 38 00.0**	**-0.4**
DBIC				pmax		pmax		
	comp=Z,10.0nm,0.9s							
DBIC	**Dimbokro**	**66.59**	**19**	*e*P		**P**	**05 37 60.0**	**-0.5**
	comp=Z,9.9nm,0.9s,mb4.8							
DBIC	**Dimbokro**	**66.59**	**19**	P		**P**	**05 37 59.9**	**-0.5**
	comp=Z,6.4nm,0.9s,mb4.7,baz=187,slow=3.3,SNR=6.0							
DBIC				LR		LR	05 59 48.9	
	comp=Z,244nm,20.1s,MS4.4,baz=170,slow=30							
KMBO	**Kilima Mbogo**	**73.79**	**64**	LR		LR	06 08 04.0	
	comp=Z,158nm,18.4s,MS4.3,baz=118,slow=33							
ROSC	**El Rosal**	**75.37**	**306**	*e*P		**P**	**05 38 54.7**	**+0.8**
ROSC	**El Rosal**	**75.37**	**306**	P		**P**	**05 38 54.7**	**+0.8**
	comp=Z,11nm,0.7s,mb4.9,baz=167,slow=3.6,SNR=12							
ROSC				LR		LR	06 10 18.2	
	comp=Z,212nm,20.6s,MS4.4,baz=191,slow=34							
SDV	**Santo Domingo**	**77.51**	**311**	*e*P		**P**	**05 39 05.5**	**-0.4**
	comp=Z,13nm,1.0s,mb4.8							
RKT	**Rikitea**	**81.40**	**239**	*e*LR		LR	06 05 03.9	
	comp=Z,316nm,28.0s							
BCIP	**Isla Barro Col**	**81.60**	**303**	*e*P		**P**	**05 39 29.0**	**+0.8**
	comp=Z,73nm,1.5s,mb5.4							
JTS	**JuntasAbangare**	**84.90**	**299**⇓	*e*P		**P**	**05 39 45.4**	**+0.2**
JTS	**JuntasAbangare**	**84.90**	**299**	*e*P		**P**	**05 39 44.6**	**-0.6**
	comp=Z,68nm,1.7s,mb5.5							
TBI	**Tubuai**	**87.29**	**227**	*e*LR		LR	06 07 50.9	
	comp=Z,176nm,34.0s							
FORT	**Forrest**	**87.71**	**155**	*e*P		**P**	**05 40 01.4**	**+2.5**
	comp=Z,2.4nm,0.9s,mb4.4							
STKA	**Stephens Creek**	**88.95**	**167**	*e*P		**P**	**05 40 07.1**	**+2.2**
STKA	**Stephens Creek**	**88.95**	**167**	P		**P**	**05 40 07.0**	**+2.1**
	comp=Z,4.2nm,0.7s,mb4.9,baz=190,slow=2.3,SNR=9.3							
STKA				LR		LR	06 19 05.2	
	comp=Z,533nm,18.2s,MS5.0,baz=202,slow=35							
PPT	**Papeete**	**92.56**	**230**	*e*LR		LR	06 10 16.5	
	comp=Z,190nm,22.0s							
PPT	**Papeete**	**92.56**	**230**	LR		LR	06 15 33.6	
	comp=Z,221nm,18.3s,MS4.7,baz=255,slow=31							
ASAR	**Alice Springs**	**95.81**	**159**	P		**P**	**05 40 38.8**	**+2.2**
	comp=Z,1.5nm,0.8s,mb4.5,baz=191,slow=3.9,SNR=12							
ASAR				PP		PP	05 44 31.1	+3.7
	comp=Z,1.4nm,1.1s,baz=187,slow=8.5,SNR=4.2							
TAOE	**Nuku Hiva Isla**	**96.23**	**242**	*e*LR		LR	06 11 57.5	
	comp=Z,6μm,27.8s							
WRA	**Warramunga Arr**	**99.51**	**158**	P		**P**	**05 40 55.3**	**+1.9**
	comp=Z,0.7nm,0.8s,mb4.2,baz=196,slow=4.2,SNR=6.6							
WRA				LR		LR	06 24 56.1	
	comp=Z,137nm,19.7s,MS4.5,baz=220,slow=35							
WRAB	**Tennant Creek**	**99.53**	**158**	*i* P		**P**	**05 40 47.7**	**-5.7**
LASF	**Ste Croix**	**104.62**	**19**	*e*PKIKP		PKiKP	05 45 29.6	-1.2
	comp=Z,33nm,1.2s							
SMRF	**Simiane la Rot**	**104.83**	**21**	*e*PKIKP		PKiKP	05 45 30.9	-0.3
	comp=Z,48nm,1.3s							
LFF	**La Frestale**	**104.95**	**17**	*e*PKIKP		PKiKP	05 45 31.0	-0.4
	comp=Z,77nm,1.6s							
CAF	**Calviac**	**105.14**	**18**	*e*PKIKP		PKiKP	05 45 31.2	-0.5
	comp=Z,33nm,1.4s							
TCF	**Toulx Ste Croi**	**106.49**	**18**	*e*PKIKP		PKiKP	05 45 33.6	-0.6
	comp=Z,8.2nm,1.0s							
SMF	**Signal de Mont**	**107.11**	**19**	*e*PKIKP		PKiKP	05 45 35.1	-0.2
	comp=Z,18nm,1.2s							
ROSF	**Rostrenen**	**107.72**	**13**	*e*PKIKP		PKiKP	05 45 35.5	-0.9
	comp=Z,50nm,1.3s							
SGMF	**Saint Gilles**	**107.73**	**14**	*e*PKIKP		PKiKP	05 45 35.7	-0.7
	comp=Z,54nm,1.3s							
AKASG	**Malin Array Be**	**116.85**	**34**	PKP		PKPdf	05 45 53.3	-0.4
AKASG	**Malin Array Be**	**116.85**	**34**	PKP		PKPdf	05 45 53.3	-0.4
	comp=Z,0.2nm,0.3s,baz=224,slow=1.3,SNR=2.9							
MSU	**Marysvale**	**121.63**	**293**	*e*PKIKP		PKPdf	05 46 04.3	+1.0
CM31	**Chiang Mai Arr**	**121.94**	**108**	*e*PKPdf		PKPdf	05 46 05.3	+0.8
NB2	**NORSAR Subarra**	**122.16**	**19**	PKPdf		PKPdf	05 46 05.3	+1.8
	comp=Z,1.9nm,1.0s,baz=200,slow=2.0							
NOA	**NORSAR Array B**	**122.16**	**19**	PKP		PKPdf	05 46 04.3	+0.8
	comp=Z,1.8nm,1.0s,baz=199,slow=1.6,SNR=3.4							
ULM	**Lac du Bonnet**	**123.75**	**312**	PKP		PKPdf	05 46 07.4	+0.4
	comp=Z,0.8nm,0.5s,baz=57,slow=3.9,SNR=3.5							
NVAR	**Mina Array Bea**	**124.57**	**288**	PKP		PKPdf	05 46 09.6	+0.6
NVAR	**Mina Array Bea**	**124.57**	**288**	PKP		PKPdf	05 46 09.6	+0.6
	comp=Z,0.3nm,0.5s,baz=149,slow=3.7,SNR=3.0							
LOHW	**Long Hollow**	**124.85**	**298**	*e*PKPdf		PKPdf	05 46 08.6	-0.7
TPAW	**Teton Pass**	**124.92**	**297**	*e*PKPdf		PKPdf	05 46 10.0	+0.6
IMW	**Indian Meadow**	**125.23**	**298**	*e*PKPdf		PKPdf	05 46 10.2	+0.2
FINES	**FINESS Array B**	**125.51**	**26**	PKP		PKPdf	05 46 10.8	+0.8
	comp=Z,0.9nm,0.6s,baz=118,slow=3.6,SNR=9.0							
WVOR	**Wild Horse Val**	**127.78**	**291**	*e*PKIKP		PKPdf	05 46 15.9	+1.0
EGMT	**Eagleton**	**127.82**	**302**	*e*PKPdf		PKPdf	05 46 14.9	+0.1
JOF	**Joensuu**	**128.04**	**28**	*e*p		PKPdf	05 46 13.3	-1.4
	comp=Z,4.4nm,0.7s							
EKS2	**Erkin-Say**	**128.21**	**69**	*e*PKPdf		PKPdf	05 46 17.4	+1.7
EKS2				*e*			05 46 26.0	
UCH	**Uchtor**	**128.25**	**70**	*e*PKPdf		PKPdf	05 46 17.5	+1.7
AAK	**Ala-Archa**	**128.54**	**69**	*e*PKIKP		PKPdf	05 46 16.1	-0.3
MSO	**Missoula**	**128.83**	**298**	*e*PKPdf		PKPdf	05 46 17.6	+0.9
BMO	**Blue Mountains**	**128.95**	**294**	*e*PKIKP		PKPdf	05 46 17.7	+0.6
ARCES	**ARCESS Array B**	**132.40**	**21**	PKP		PKPdf	05 46 24.4	+1.5
	comp=Z,2.4nm,0.9s,baz=236,slow=1.0,SNR=7.1							
CD2	**Chengdu**	**134.66**	**104**	*e*PKP		PKPdf	05 46 30.1	+1.7
CD2				XPKP			05 46 44.5	
CD2				PP		PP	05 49 09.1	+7.0
CD2				PKS			05 50 05.0	
CD2				SKS		SKSdf	05 53 35.7	-3.5
CD2				SKKS		SKKSac	05 55 56.0	-0.9
CD2				S

CPUP	Villa Florida	45.98	232	LR	LR	06 04 22.4
	comp=Z,133nm,18.2s,MS3.9,baz=311,slow=34					
BOSA	Boshof	50.08	128	LR	LR	06 04 05.8
	comp=Z,96nm,19.0s,MS3.8,baz=179,slow=30					
GERES	GERESS Array B	55.91	25	P	P	05 48 10.0 +0.5
	2.4nm,0.4s,mb4.6,baz=89,slow=5.5,SNR=5.5					
BRG	Berggiesshubel	57.59	23	eP	P	05 48 26.2 +4.8
	1.5nm,0.3s,mb4.5					
BRG				e	pP	05 48 29.7 +5.0
BRG				i		05 56 29.0
BRG				LR	LR	
	comp=Z,60nm,22.3s,MS3.6					
BRG	Berggiesshubel	57.59	23	eP	P	05 48 26.2 +4.8
	comp=Z,2.5nm,0.3s,mb4.7					
BRG				e	pP	05 48 29.7 +5.0
	comp=Z,2.0nm,0.6s					
BRG				i		05 56 29.0
BRG						
	comp=N,48nm,17.7s					
BRG						
	comp=E,52nm,13.8s					
BRG						
	comp=Z,100nm,22.3s					
PLCA	Paso Flores	62.40	223	LR	LR	06 11 42.0
	comp=Z,178nm,20.6s,MS4.2,baz=139,slow=32					
MALT	Malatya	64.28	47	eP	P	05 49 08.4 +1.1
	comp=Z,0.9nm,0.4s,mb4.2					
AKASG	Malin Array Be	64.51	31	P	P	05 49 08.4 -0.1
	comp=Z,1.6nm,0.8s,mb4.1,baz=234,slow=7.4,SNR=9.1					
NB2	NORSAR Subarra	64.98	15	P	P	05 49 11.4 +0.1
	comp=Z,2.6nm,1.0s,mb4.2,baz=215,slow=6.5					
NOA	NORSAR Array B	64.98	15	P	P	05 49 10.3 -1.0
	comp=Z,1.5nm,0.9s,mb4.0,baz=210,slow=6.6,SNR=4.5					
JTS	JuntasAbangare	67.39	281	eP	P	05 49 29.2 +1.4
	comp=Z,3.7nm,0.9s,mb4.4					
FINES	FINESS Array B	69.92	21	P	P	05 49 43.2 +0.6
FINES				LR	LR	06 22 04.2
FINES	FINESS Array B	69.92	21	P	P	05 49 43.2 +0.6
	comp=Z,3.0nm,0.9s,mb4.2,baz=201,slow=7.3,SNR=6.2					
FINES				LR	LR	06 22 04.2
	comp=Z,58nm,18.9s,MS3.9,baz=191,slow=38					
TXAR	Lajitas Array	86.31	299	P	P	05 51 14.6 +0.4
TXAR	Lajitas Array	86.31	299	P	P	05 51 14.6 +0.4
	comp=Z,0.7nm,0.9s,mb3.9,baz=125,slow=4.5,SNR=5.9					
MAW	Mawson	86.38	158	LR	LR	06 24 18.6
	comp=Z,131nm,18.7s,MS4.4,baz=72,slow=32					
ASAR	Alice Springs	143.87	133	PKP	PKPdf	05 58 07.9 -0.1
	comp=Z,0.5nm,0.7s,baz=215,slow=2.6,SNR=6.0					
WRA	Warramunga Arr	146.33	128	PKPbc	PKPbc	05 58 15.6 +2.1
	comp=Z,0.5nm,0.8s,baz=236,slow=2.6,SNR=3.9					

MAN 05 05:43:18, 1867N×12057E, h29km, mb4.7, ML3.6, MS3.5, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	1.02	172	eP	Pn	05 43 37.1	+0.8
APYP	Conner	1.02	141	eP	Pn	05 43 36.2	-0.2
APYP				eS	Sn	05 43 50.5	+0.7
CVP	Callao Caves	1.53	129	eP	Pn	05 43 43.4	+0.1
CVP				i S	Sn	05 44 07.2	+5.0
CAUP	Cauayan	2.09	145	eP	Pn	05 43 55.5	+4.5

PGC ***05*** *06:15:40.6±2.6, 5055N×13038W, h10km, ML4.2/11, Mw4.8, 209km west of Pt. Hardy, Bc Vancouver Island Region*

ISCJB ***05*** *06:15:41.9±0.2, 5076N±003×13003W±004, h10km, mb4.6/52, MS4.1/29, Error ellipse: s-maj=5.2km s-min=2.3km az=42.9*

IDC ***05*** *06:15:41.7±0.6, 5061N×130.12W, h0km, mb4.2/14, mb1 4.4/20, mb1mx4.3/27, mbtmp4.2/20, ML4.0/5, MS4.0/24, Ms1 4.0/24, ms1mx3.9/29, Error ellipse: s-maj=11.7km s-min=10.1km az=44.0*

BJI ***05*** *06:15:41.1, 5126N×129.84W, h10km, mB5.0, mb4.8, Ms4.9, Msz4.6*

MOS ***05*** *06:15:42.3±1.6, 5069N×13009W, h10km, mb4.8/22, MS4.0/5, Error ellipse: s-maj=11.3km s-min=5.2km az=111.8*

GCMT ***05*** *06:15:43.7±0.3, 5040N×13045W, h19km±1km, MW5.0/84, Moment Tensor Solution. s30,c35; s84,c139; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr-0.45±.12; Mθθ-2.84±.10; Mφφ3.29±.12; Mrθ0.50±.21; Mrφ1.44±.08; Mθf-0.30±.21; Best double couple: M0 3.44500×10^16 NP1:φs237.00000°, δ80.00000°, λ-6.00000°. NP2: φs328.00000°, δ84.00000°, λ-170.00000°. Principal axes: T 3.6200, Plg3.0000°, Azm102.0000°; N -0.3540, Plg79.0000°, Azm359.0000°; P -3.2690, Plg11.0000°, Azm193.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***05*** *06:15:43.7±0.2, 5077N×13005W, h10km, mb4.7/39, MW4.9(PGC) Error ellipse: s-maj=5.9km s-min=2.4km az=47.0*

ISC 05 06:15:43.9±0.2, 5079N±003×13001W±004, h10km, n235, σ1§19/223, mb4.6/52, MS4.1/29, 3C-5D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	1.20	96	P	Pb	06 16 04.6	-2.2
BPBC	Brooks Peninsu	1.56	113	Pn	Pn	06 16 07.9	-3.8
PHC	Port Hardy	1.64	92	Pn	Pn	06 16 11.0	-1.8
PHC				Sn	Sn	06 16 32.1	-1.8
BBB	Bella Bella	1.84	39	Pn	Pn	06 16 15.3	-0.2
BBB				Sn	Sn	06 16 40.5	+1.7
BBB				LR	LR	06 17 08.9	
BBB	Bella Bella	1.84	39	Pn	Pn	06 16 15.3	-0.2
	89nm,0.3s,baz=231,slow=14,SNR=1616						
BBB				Sn	Sn	06 16 40.5	+1.7
	657nm,0.3s,baz=232,slow=17,SNR=14						
BBB				LR	LR	06 17 08.9	
	comp=Z,2μm,18.8s,baz=48,slow=43						
BBB	Bella Bella	1.84	39	Pn	Pn	06 16 15.3	-0.2
BBB				Sn	Sn	06 16 39.5	+0.8
MAYB	Maynard	1.85	101	Pn	Pn	06 16 13.3	-2.3
EDB	Eliza Dome	2.06	115	Pn	Pn	06 16 14.6	-4.0
BNB	Barry Inlet	2.10	330	Pn	Pn	06 16 15.9	-3.1
WOSB	Woss	2.29	105	Pn	Pn	06 16 19.6	-2.0
ETB	Estevan Point	2.64	121	Pn	Pn	06 16 22.5	-4.1
MOBC	Moresby Island	2.66	334	Pn	Pn	06 16 23.5	-3.2
GDR	Gold River	2.74	110	Pn	Pn	06 16 24.9	-3.0
DIB	Dawson Inlet,	2.86	329	Pn	Pn	06 16 25.9	-3.7
PGC	Sidney	4.76	114	ePn	Pn	06 16 53.8	-1.8
CRAG	Craig	5.05	339	eP	Pn	06 16 57.2	-2.4
NLWA	Neilton Lookou	5.27	128	ePn	Pn	06 17 00.5	-2.2
GNW	Green Mountain	5.71	122	ePn	Pn	06 17 07.8	-0.9
WRAK	Wrangell Islan	5.81	347	ePn	Pn	06 17 09.3	-0.8
	22nm,0.3s						
LON	Longmire	6.76	124	eP	Pn	06 17 22.4	-0.7
SIT	Sitka	7.02	336	eP	Pn	06 17 25.3	-1.4
DLBC	Dease Lake	7.67	360	ePn	Pn	06 17 37.4	+1.9
DLBC	Dease Lake	7.67	360	Pn	Pn	06 17 37.6	+2.1
DLBC				Lg		06 19 46.0	
HOOD	Mount Hood Mea	7.82	131	ePn	Pn	06 17 39.1	+1.4
HAWA	Hanford	8.22	118	ePn	Pn	06 17 42.2	-0.9
NEW	Newport	8.76	102	eP	Pn	06 17 50.5	0.0
NEW	Newport	8.76	102	Pn	Pn	06 17 49.7	-0.8
	3.4nm,0.3s,baz=299,slow=12,SNR=40						
NEW				Lg		06 20 16.4	
	baz=178,slow=5.5,SNR=4.0						
NEW				LR	LR	06 21 13.0	
	comp=Z,3μm,19.1s,baz=280,slow=38						
SKAG	Skagway	9.21	343	eP	Pn	06 17 56.3	-0.3
	5.1nm,0.3s						
HUMO	Hull Mountain	9.50	147	ePn	Pn	06 18 01.0	+0.3
YBH	Yreka Blue Hor	10.36	148	eP	Pn	06 18 13.9	+1.4
BMO	Blue Mountains	10.40	120	ePn	Pn	06 18 12.2	-0.7
WALA	Waterton Lakes	10.53	93	ePn	Pn	06 18 17.5	+2.8
MOD	Modoc	11.12	139	ePn	Pn	06 18 23.2	+0.3
	35nm,1.5s						
MSO	Missoula	11.31	104	ePn	Pn	06 18 25.2	-0.3
WDC	Whiskeytown Da	11.46	150	eP	Pn	06 18 28.4	+0.9
WDC				pmax	pmax		
	comp=Z,242nm,2.3s						
WDC	Whiskeytown Da	11.46	150	ePn	Pn	06 18 28.4	+0.9
	comp=Z,242nm,2.3s						
CHMT	Chamberlain Mo	11.70	103	ePn	Pn	06 18 30.9	+0.1
KIPM	Iron Peak	11.89	155	ePn	Pn	06 18 32.9	-0.6
KCPM	Cahto Peak	11.98	155	ePn	Pn	06 18 36.2	+1.6
LRM	Limekiln Ridge	12.69	106	ePn	Pn	06 18 44.6	+0.2
HOPS	Hopland	12.77	155	ePn	Pn	06 18 48.1	+2.7
DLMT	Dillon	12.84	108	ePn	Pn	06 18 45.1	-1.2
OHCM	Honcut	12.93	149	ePn	Pn	06 18 46.9	-0.7
MCMT	McKenzie Canyo	12.97	111	ePn	Pn	06 18 47.5	-0.6
BOZ	Bozeman (W)	13.28	106	eP	Pn	06 18 52.7	+0.3
PAHR	Pah Rah Range	13.35	142	ePn	Pn	06 18 54.8	+1.4
EGMT	Eagleton	13.47	94	ePn	Pn	06 18 55.1	+0.2
QLMT	Earthquake Lak	13.82	108	ePn	Pn	06 18 59.6	-0.1
YMR	Madison River	14.19	108	ePn	Pn	06 19 04.9	+0.2
	comp=Z,136nm,1.6s						
DAWY	Dawson	14.22	343	ePn	Pn	06 19 05.5	+0.4
YNR	Norris Junctio	14.33	108	ePn	Pn	06 19 07.7	+1.0
WAKR	Walker	14.38	145	ePn	Pn	06 19 10.6	+3.2
YFT	Old Faithful	14.38	109	ePn	Pn	06 19 07.1	-0.3
GCMT	Greycliff	14.42	102	ePn	Pn	06 19 08.3	+0.4
YKA	Yellowknife Ar	14.42	30	P	Pn	06 19 06.7	-1.1
YKA						06 21 42.1	
YKA	Yellowknife Ar	14.42	30	Pn	Pn	06 19 06.7	-1.1
	comp=Z,1.7nm,0.3s,baz=223,slow=12,SNR=189						
YKA				Sn	Sn	06 21 42.1	-5.5
	comp=Z,1.2nm,0.3s,baz=161,slow=4.0,SNR=10						
YKA				Lg		06 23 18.1	
	baz=214,slow=30,SNR=2.5						
YKA				LR	LR	06 25 01.5	
	comp=Z,508nm,18.1s,baz=205,slow=38						
CMB	Columbia Colle	14.47	148	P	Pn	06 19 14.0	+5.4
CMB				pmax	pmax		
	comp=Z,7.0nm,1.1s						
CMB	Columbia Colle	14.47	148	Pn	Pn	06 19 14.0	+5.4
	comp=Z,7.3nm,1.1s						
YKW3	Yellowknife Ar	14.47	29	ePn	Pn	06 19 07.9	-0.6
LKWY	Lake	14.58	108	eP	Pn	06 19 10.9	+0.8
IMW	Indian Meadow	14.63	111	ePn	Pn	06 19 11.0	+0.3
	comp=Z,20nm,0.7s						
DCID1	Drake Creek	14.66	112	ePn	Pn	06 19 11.5	+0.4
FLWY	Flagg Ranch	14.67	110	ePn	Pn	06 19 12.1	+0.8
MOOW	Moose Ponds	14.83	111	ePn	Pn	06 19 13.5	0.0
TPAW	Teton Pass	14.86	112	ePn	Pn	06 19 13.8	0.0
	comp=Z,61nm,0.9s						
NVAR	Mina Array Bea	14.88	142	Pn	Pn	06 19 15.0	+0.8
NVAR	Mina Array Bea	14.88	142	Pn	Pn	06 19 15.0	+0.9
	comp=Z,0.1nm,0.3s,baz=325,slow=11,SNR=7.8						
KDAK	Kodiak Island	14.88	307	ePn	Pn	06 19 12.3	-1.8
KDAK	Kodiak Island	14.88	307	Pn	Pn	06 19 13.6	-0.5
	comp=Z,0.3nm,0.3s,baz=120,slow=8.1,SNR=4.6						
KDAK				LR	LR	06 23 30.2	
	comp=Z,955nm,20.5s,baz=127,slow=31						
HVU	Hansel Valley	14.91	121	eP	Pn	06 19 16.2	+1.7
HVU				pmax	pmax		
	comp=Z,30nm,1.5s						
HVU	Hansel Valley	14.91	121	ePn	Pn	06 19 16.2	+1.7
	comp=Z,30nm,1.5s						
SLKM	Skilak Lake	14.93	318	eP	Pn	06 19 14.3	-0.5
RLMT	Red Lodge	14.99	104	ePn	Pn	06 19 15.5	-0.1
	comp=Z,48nm,1.4s						
SNOW	Snow King Moun	14.99	112	ePn	Pn	06 19 17.9	+2.2
	comp=Z,32nm,0.9s						
LOHW	Long Hollow	14.99	111	ePn	Pn	06 19 16.4	+0.7
	comp=Z,14nm,0.7s						
REDW	Red Top Meadow	14.99	112	ePn	Pn	06 19 17.5	+1.8
	comp=Z,40nm,0.8s						
PMR	Palmer	15.11	323	eP	Pn	06 19 18.0	+0.8
PMR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
PMR	Palmer	15.11	323	ePn	Pn	06 19 18.0	+0.8
	comp=Z,1.4nm,0.4s						
EGAK	Eagle	15.20	342	ePn	Pn	06 19 19.4	+1.1
	comp=Z,34nm,0.7s						
AHID	Auburn Hatcher	15.21	115	ePn	Pn	06 19 19.2	+0.7
	comp=Z,22nm,1.0s						
DUG	Dugway	16.01	125	eP	Pn	06 19 29.0	0.0
DUG				pmax	pmax		
	comp=Z,28nm,1.3s						
DUG	Dugway	16.01	125	ePn	Pn	06 19 29.0	0.0
	comp=Z,28nm,1.3s						
BW06	Boulder Array	16.11	112	ePn	Pn	06 19 31.9	+1.6
	comp=Z,76nm,1.4s						
LAO	LASA Array	16.20	95	ePn	Pn	06 19 31.3	0.0
	comp=Z,70nm,1.1s						
JLU	Jordanelle	16.44	121	ePn	Pn	06 19 35.0	+0.5
NLU	North Lily Min	16.57	124	ePn	Pn	06 19 34.5	-1.7
DGMT	Dagmar	16.86	88	eP	Pn	06 19 41.6	+1.8
	comp=Z,54nm,0.8s						
TPNV	Topopah Spring	16.98	139	eP	Pn	06 19 41.8	+0.4
TPNV				pmax	pmax		
	comp=Z,108nm,1.7s						
TPNV	Topopah Spring	16.98	139	ePn	Pn	06 19 41.8	+0.4
	comp=Z,108nm,1.7s						
FFC	Flin Flon	17.36	66	eP	Pn	06 19 45.1	-1.0
FFC				pmax	pmax		
	comp=Z,23nm,0.6s						
FFC	Flin Flon	17.36	66	ePn	Pn	06 19 45.1	-0.9
	comp=Z,23nm,0.6s						
SVW2	Sparrevohn	17.53	316	eP	Pn	06 19 46.5	-1.6
ARUT	Antelope Range	17.54	131	eP	Pn	06 19 47.3	-1.1
MSU	Marysvale	17.59	127	eP	Pn	06 19 49.3	+0.3
INK	Inuvik	17.66	356	eP	Pn	06 19 50.2	+0.5
INK				pmax	pmax		
	comp=Z,700nm,0.9s						
INK	Inuvik	17.66	356	ePn	Pn	06 19 50.1	+0.5
	comp=Z,700nm,0.9s						
INK	Inuvik	17.66	356	P	Pn	06 19 50.8	+1.1
	comp=Z,0.2nm,0.3s,baz=176,slow=10,SNR=31						
INK				Lg		06 24 59.8	
	comp=Z,0.0nm,0.0s,baz=220,slow=26,SNR=5.7						
INK				LR	LR	06 26 54.0	
	comp=Z,615nm,19.0s,baz=178,slow=38						
CHGN	Chignik	17.68	299	eP	Pn	06 19 47.1	-2.9
CCUT	Cedar City	17.77	132	ePn	Pn	06 19 50.7	-0.5
SHPR	Sheep Range	17.82	138	ePn	Pn	06 19 52.0	+0.1
RWWY	Rawlins	18.15	111	ePn	Pn	06 19 55.8	0.0
	comp=Z,104nm,1.9s						
GSC	Goldstone	18.19	143	P	Pn	06 19 53.6	-2.8
TTA	Tatalina	18.54	321	eP	Pn	06 20 00.4	-0.1
MWC	Mount Wilson	18.71	148	eP	Pn	06 20 04.0	+1.3
SDPT	Sand Point	18.78	296	eP	Pn	06 20 02.5	-1.0
	comp=Z,158nm,1.0s						
PV10	Paradox Valley	19.34	122	eP	Pn	06 20 09.1	-1.2
PHWY	Pilot Hill	19.42	110	eP	Pn	06 20 10.3	-1.0
IMA2	Indian Mountai	19.50	331	eP	Pn	06 20 11.8	-0.3
PV01	Paradox Valley	19.76	122	eP	Pn	06 20 14.0	-1.4
PFO	Pinyon Flat Ob	19.83	145	LR	LR	06 27 58.0	
	comp=Z,506nm,19.3s,baz=325,slow=37						
SMCO	Snowmass	19.91	117	eP	Pn	06 20 16.1	-1.1
	comp=Z,38nm,1.5s						
ISCO	Idaho Springs	20.28	113	eP	P	06 20 20.3	+0.8
WUAZ	Wupatki	20.35	131	eP	P	06 20 20.2	-0.1
MVCO	Mesa Verde	20.48	123	eP	P	06 20 21.9	+0.2
GLA	Glamis	20.94	142	eP	P	06 20 26.9	+0.2
GLA				pmax	pmax		
	comp=Z,45nm,1.2s						
GLA	Glamis	20.94	142	eP	P	06 20 26.9	+0.1
	comp=Z,45nm,1.2s						
ULM	Lac du Bonnet	21.61	78	eP	P	06 20 33.3	-0.5
	comp=Z,44nm,1.2s,mb4.8						
ULM	Lac du Bonnet	21.61	78	P	P	06 20 33.4	-0.4
	comp=Z,10nm,0.5s,mb4.5,baz=288,slow=10,SNR=24						
ULM				LR	LR	06 27 59.5	
	comp=Z,460nm,20.7s,MS3.9,baz=96,slow=34						
SDCO	Great Sand Dun	21.74	117	eP	P	06 20 35.3	0.0
	comp=Z,64nm,2.1s,mb4.7						
FCC	Fort Churchill	21.97	55	eP	P	06 20 38.8	+1.2
FCC				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
FCC	Fort Churchill	21.97	55	eP	P	06 20 38.8	+1.2
	comp=Z,30nm,1.0s,mb4.7						
AGMN	Agassiz Refuge	22.18	83	eP	P	06 20 40.4	+0.5
ANMO	Albuquerque	23.27	124	c iP	P	06 20 51.3	-0.2
ANMO	Albuquerque	23.27	124	P	P	06 20 51.0	-0.6
	comp=Z,4.6nm,0.9s,mb3.9,baz=322,slow=9.8,SNR=21						
ANMO				LR	LR	06 29 46.1	
	comp=Z,419nm,20.0s,MS3.9,baz=324,slow=36						
TUC	Tucson	23.28	135	eP	P	06 20 51.4	-0.3
LAZ	Ladron	23.34	126	eP	P	06 20 52.3	0.0
ECSD	EROS,Sioux Fal	23.59	94	eP	P	06 20 54.0	-0.7
LENM	Lemitar	23.61	126	eP	P	06 20 55.0	0.0
LPM	Los Pinos Moun	23.67	125	eP	P	06 20 55.6	0.0
BNM	Barren Site	23.80	125	eP	P	06 20 56.3	-0.4
EYMN	Ely	25.05	81	eP	P	06 21 09.2	+1.1
GAMB	Gambell	25.47	317	eP	P	06 21 12.5	+0.8
AMTX	Amarillo	25.94	117	eP	P	06 21 16.2	-0.1
	comp=Z,23nm,0.8s,mb4.8						
KSU1	Kansas State U	26.14	104	eP	P	06 21 18.6	+0.6
	comp=Z,38nm,1.4s,mb4.7						
MNTX	Cornudas Mount	26.38	127	eP	P	06 21 19.7	-0.5
	comp=Z,16nm,1.1s,mb4.5						
GDL2	Guadalupe Moun	26.50	125	eP	P	06 21 20.9	-0.4
COWI	Conover	27.26	84	eP	P	06 21 26.8	-1.2
RES	Resolute Bay	28.01	19	eP	P	06 21 35.4	+1.0
	comp=Z,256nm,1.1s,mb5.8						
TXAR	Lajitas Array	29.15	127	P	P	06 21 44.2	-0.9
TXAR						06 24 51.8	
TXAR	Lajitas Array	29.15	127	P	P	06 21 44.2	-0.8
	comp=Z,5.3nm,1.1s,mb4.2,baz=326,slow=6.5,SNR=29						
TXAR				PcP	PcP	06 24 51.8	-0.7
	comp=Z,0.1nm,0.5s,baz=28,slow=4.1,SNR=2.7						
TXAR				LR	LR	06 34 09.5	
	comp=Z,294nm,18.6s,MS3.9,baz=0.0,slow=38						
CCM	Cathedral Cave	30.11	100	eP	P	06 21 52.8	-0.7
OXF	Oxford	33.51	103	eP	P	06 22 22.8	-0.6
OXF				pmax	pmax		
	comp=Z,78nm,1.1s,mb5.5						
OXF	Oxford	33.51	103	eP	P	06 22 22.8	-0.6
	comp=Z,78nm,1.1s,mb5.5						
PLAL	Pickwick Lake	34.03	101	eP	P	06 22 27.0	-0.9
	comp=Z,12nm,1.1s,mb4.7						
BILL	Bilibino	34.75	324	eP	P	06 22 34.0	+0.2
BILL				pmax	pmax		
	comp=Z,9.0nm,1.9s,mb4.4						
BILL				MLR	MLR		
	comp=Z,100nm,11.0s,MS3.8						
SEY	Seymchan	41.46	318	eP	P	06 23 30.5	+0.1
PET	Petropavlovsk	42.40	302	eP	P	06 23 36.9	-1.2
PET				pmax	pmax		
	comp=Z,23nm,1.3s,mb4.7						
TIXI	Tiksi	46.04	334	eP	P	06 24 05.9	-1.2
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.5						
TIXI	Tiksi	46.04	334	eP	P	06 24 07.1	0.0
	comp=Z,4.9nm,0.9s,mb4.4						
YAK	Yakutsk	51.11	323	eP	P	06 24 46.9	+0.7
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0						
YAK				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
ARCES	ARCESS Array B	58.66	10	P	P	06 25 42.8	+2.1
	comp=Z,3.1nm,0.8s,mb4.4,baz=350,slow=6.3,SNR=10.0						
ARCES				LR	LR	06 50 50.8	
	comp=Z,178nm,20.8s,MS4.2,baz=303,slow=36						
TAOE	Nuku Hiva Isla	60.04	192	eT		07 30 29.6	
	comp=Z,6μm,0.3s						
MDJ	Mudanjiang	62.68	308	P	P	06 26 06.7	-1.7
MDJ				S	S	06 34 29.3	-7.3
MDJ				SS	SS	06 38 39.9	-0.4
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.6s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,53nm,4.6s						
MDJ				LR	LR		
	comp=N,110nm,33.2s,MS3.9						
MDJ				LR	LR		
	comp=E,65nm,34.0s,MS3.9						
MDJ				LR	LR		
	comp=Z,144nm,22.7s						
MJAR	Matsushiro Arr	63.76	296	P	P	06 26 16.2	+0.5
	comp=Z,0.6nm,0.6s,mb3.8,baz=169,slow=5.5,SNR=3.7						
MJAR				LR	LR	06 49 02.0	
	comp=Z,152nm,22.0s,MS4.1,baz=355,slow=31						
NB2	NORSAR Subarra	64.27	20	P	P	06 26 19.2	+0.5
	comp=Z,3.3nm,0.9s,mb4.4,baz=334,slow=6.9						
NOA	NORSAR Array B	64.27	20	P	P	06 26 19.4	+0.6
	comp=Z,2.3nm,0.9s,mb4.2,baz=335,slow=6.6,SNR=6.5						
NOA				LR	LR	06 54 35.3	
	comp=Z,137nm,20.1s,MS4.1,baz=335,slow=36						
ROSC	El Rosal	65.06	115	LR	LR	06 56 40.6	
	comp=Z,59nm,19.9s,MS3.8,baz=187,slow=38						
CN2	Changchun	65.32	310	eP	P	06 26 26.8	+0.9
CN2				eAP	pP	06 26 31.5	+2.4
JOF	Joensuu	65.69	9	ep	P	06 26 27.2	-0.7
	comp=Z,5.0nm,0.7s,mb4.7						
FINES	FINESS Array B	66.50	12	i P	P	06 26 36.7	+3.6
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	FINESS Array B	66.50	12	P	P	06 26 33.5	+0.4
	comp=Z,2.2nm,0.7s,mb4.3,baz=5.4,slow=8.0,SNR=11						
FINES				LR	LR	06 55 14.6	
	comp=Z,157nm,22.0s,MS4.2,baz=352,slow=36						
PMOR	Pomariorio Ree	67.35	199	eT		07 39 32.6	
	comp=Z,45nm,0.2s						
VAH	Vaihoa	67.53	198	eT		07 39 41.1	
	comp=Z,15nm,0.3s						
TLY	Talaya	68.26	327	eP	P	06 26 44.8	+0.4
TLY				e		06 29 25.4	
TLY				eS	S	06 35 52.9	+8.2
TLY				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
TLY				MLR	MLR		
	comp=Z,134nm,18.0s,MS4.2						
TLY	Talaya	68.26	327	P	P	06 26 44.2	-0.2
	comp=Z,2.9nm,0.8s,mb4.4						
KSRS	Korea Array	68.76	303	P	P	06 26 47.1	-0.7
	comp=Z,0.5nm,0.3s,mb3.9,baz=44,slow=8.9,SNR=4.6						
KSRS				LR	LR	06 56 32.9	
	comp=Z,35nm,21.9s,MS3.5,baz=55,slow=36						
MOY	Mondy	69.16	329	eP	P	06 26 56.4	+6.3
ZAK	Zakamensk	69.47	327	eP	P	06 26 54.8	+2.8
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.6						
ULN	Ulaanbaatar	70.19	323	eP	P	06 26 55.8	-0.7
PPT	Papeete	70.20	200	eLR	LR	06 48 02.4	
	comp=Z,171nm,26.8s						
PPT	Papeete	70.20	200	eT		07 43 05.2	
	comp=Z,20nm,0.2s						
PPT	Papeete	70.20	200	LR	LR	06 51 30.3	
	comp=

comp=Z,197nm,6.9s
HHC LR LR
comp=N,172nm,18.0s,MS4.9
HHC LR LR
comp=E,479nm,18.0s,MS4.9
HHC LR LR
comp=Z,311nm,15.6s,MS4.7
LOR Lormes 74.56 31 *eP* **P 06 27 26.1 +3.5**
comp=Z,12nm,0.9s,mb4.5
LOR Lormes 74.56 31 *eP* **P 06 27 26.1 +3.5**
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
LOR Lormes 74.56 31 *eP* **P 06 27 26.1 +3.5**
comp=Z,5.8nm,0.9s,mb4.5
CDF Champ du Feu 74.61 28 *eP* **P 06 27 26.4 +3.6**
comp=Z,6.7nm,0.8s,mb4.3
CDF Champ du Feu 74.61 28 *eP* **P 06 27 26.4 +3.6**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CDF Champ du Feu 74.61 28 *eP* **P 06 27 26.4 +3.6**
comp=Z,3.3nm,0.8s,mb4.3
SSF Saint Saulge 74.63 31 *eP* **P 06 27 26.5 +3.5**
comp=Z,8.7nm,0.9s,mb4.4
SSF Saint Saulge 74.63 31 *eP* **P 06 27 26.5 +3.5**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 74.63 31 *eP* **P 06 27 26.5 +3.5**
comp=Z,4.3nm,0.9s,mb4.4
BGF Bois d'Agland 74.85 32 *eP* **P 06 27 27.6 +3.3**
TCF Toulx Ste Croi 74.88 32 *eP* **P 06 27 27.7 +3.3**
comp=Z,11nm,1.0s,mb4.4
TCF Toulx Ste Croi 74.88 32 *eP* **P 06 27 27.7 +3.3**
TCF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TCF Toulx Ste Croi 74.88 32 *eP* **P 06 27 27.7 +3.3**
comp=Z,5.6nm,1.0s,mb4.5
SMF Signal de Mont 75.11 31 *eP* **P 06 27 29.0 +3.3**
BRVK Borovoye 75.13 347 *eP* **P 06 27 28.3 +2.6**
BRVK pmax pmax
comp=Z,14nm,1.3s,mb4.7
BRVK Borovoye 75.13 347 *eP* **P 06 27 28.3 +2.6**
comp=Z,14nm,1.3s,mb4.7
TBI Tubuai 75.78 198 *eT* 07 50 10.5
comp=Z,14nm,0.3s
KURK Kurchatov 75.98 342 *eP* **P 06 27 32.9 +2.2**
KURK pmax pmax
comp=Z,16nm,1.3s,mb4.8
KURK Kurchatov 75.98 342 *eP* **P 06 27 32.9 +2.3**
comp=Z,16nm,1.3s,mb4.8
GERES GERESS Array B 75.99 24 LR LR 07 03 14.0
comp=Z,82nm,18.5s,MS4.1,baz=101,slow=37
GUMO Guam 76.53 275 LR LR 06 54 06.0
comp=Z,102nm,19.9s,MS4.1,baz=91,slow=30
AKASG Malin Array Be 77.36 13 *i P* **P 06 27 40.9 +2.5**
AKASG pmax pmax
comp=Z,3.0nm,0.7s
AKASG Malin Array Be 77.36 13 P **P 06 27 38.2 -0.3**
comp=Z,3.0nm,0.7s,mb4.3,baz=347,slow=5.3,SNR=13
AKASG LR LR 07 02 33.8
comp=Z,115nm,20.2s,MS4.2,baz=320,slow=36
KIEV Kiev 77.36 13 *eP* **P 06 27 36.3 -2.2**
KIEV pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KIEV Kiev 77.36 13 *eP* **P 06 27 36.3 -2.2**
comp=Z,6.2nm,0.9s,mb4.5
NJ2 Nanjing 77.66 306 *eP* **P 06 27 42.3 +1.8**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.3
ESDC Sonseca Array 78.29 40 P **P 06 27 46.0 +2.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=317,slow=5.2,SNR=5.3
MK31 Makanchi Array 78.89 338 *eP* **P 06 27 46.5 -0.5**
MKAR Makanchi Array 78.89 338⇑ *eP* **P 06 27 48.9 +1.9**
MKAR Makanchi Array 78.89 338 P **P 06 27 46.8 -0.2**
comp=Z,1.5nm,0.6s,mb4.1,baz=22,slow=4.5,SNR=14
GTA Gaotai 80.14 323 *eP* **P 06 27 50.9 -3.0**
GTA PP PP 06 30 54.0 -1.4
GTA PPP 06 32 43.9
GTA S S 06 37 52.0 -6.4
GTA PS 06 38 40.0
GTA AMB AMB
comp=Z,3.0nm,0.7s,mb4.3
GTA AMB AMB
comp=Z,76nm,5.0s
GTA LR LR
comp=N,106nm,19.9s,MS4.3
GTA LR LR
comp=E,120nm,21.0s,MS4.3
GTA LR LR
comp=Z,196nm,18.3s,MS4.5
LZH Lanzhou 81.38 319 *eP* **P 06 27 59.7 -1.0**
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,62nm,4.3s
EKS2 Erkin-Say 84.65 343 *eP* **P 06 28 22.9 +5.5**
comp=Z,14nm,1.3s,mb4.9
HNR Honiara 84.95 249 LR LR 07 01 43.7
comp=Z,45nm,18.0s,MS3.9,baz=1.0,slow=33
AML Almayashu 85.18 343 *eP* **P 06 28 22.5 +2.4**
comp=Z,4.7nm,0.9s,mb4.6
KIV Kislovodsk 85.43 5 *i P* **P 06 28 21.7 +0.3**
KIV *e* 06 31 39.5
KIV *eS* S 06 38 43.3 -8.9
KIV pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
KIV MLR MLR
comp=Z,100nm,19.0s,MS4.2
CD2 Chengdu 85.84 316 *eP* **P 06 28 23.6 -0.1**
CD2 XP sP 06 28 30.8 +2.6
CD2 PP PP 06 31 44.0 +1.6
CD2 SKS 06 38 45.2
CD2 S S 06 38 53.6 -3.1
CD2 SS SS 06 44 32.9 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,30nm,9.2s
CD2 LR LR
comp=N,120nm,16.8s
CD2 LR LR
comp=Z,110nm,18.2s,MS4.3
LPAZ La Paz 85.87 122 P **P 06 28 22.4 -1.4**
comp=Z,1.8nm,1.1s,mb4.2,baz=8.5,slow=7.1,SNR=4.2
KEST Kesra 86.71 32 LR LR 07 08 13.3
comp=Z,50nm,18.7s,MS4.0,baz=206,slow=36
GYA Guiyang 88.29 311 *eP* **P 06 28 34.6 -1.0**
GYA PP PP 06 32 04.3 +2.0
GYA SKS 06 39 01.8
GYA S S 06 39 17.6 -2.9
GYA PS 06 40 22.3
GYA SS SS 06 45 08.7 +0.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,70nm,6.4s
GYA LR LR
comp=N,440nm,20.7s,MS5.0
GYA LR LR
comp=E,430nm,21.9s,MS5.0
GYA LR LR
comp=Z,460nm,20.3s,MS4.9
KMI Kunming 91.26 314 P **P 06 28 48.7 -0.8**
KMI AMB AMB
comp=Z,6.0nm,0.7s,mb5.0
KMI LR LR
comp=Z,58nm,21.6s,MS4.0
BDFB Brasilia 97.00 106 LR LR 07 17 30.7
comp=Z,53nm,19.1s,MS4.0,baz=328,slow=38
CPUP Villa Florida 99.86 120 LR LR 07 17 11.4
comp=Z,123nm,18.1s,MS4.5,baz=158,slow=37
BOSA Boshof 151.05 49 PKPbc PKPbc 06 35 37.4 +0.6
comp=Z,4.8nm,1.0s,baz=66,slow=3.9,SNR=4.5

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*ISCJB **05** 06:29:28.2±0.5, 2856N±008×1398E±02, h442km±6km, mb3.7/13, Error ellipse: s-maj=23.4km s-min=9.3km az=159.3*
*IDC **05** 06:29:28.4±0.7, 2855N×13965E, h424km±9km, mb3.3/10, mb1 3.4/12, mb1mx3.3/19, mbtmp3.3/12, Error ellipse: s-maj=19.8km s-min=11.2km az=74.0*
*JMA **05** 06:29:29.4±0.2, 2877N×14033E, h444km±4km, M3.6*
*NEIC **05** 06:29:29.5, 2877N×14033E, h444km, mb4.3/2, After JMA.*
ISC 05 06:29:29.2±0.5,**2854N**±008×**1398E**±02,**h436**km±6km,**n29,**
σ0°87/31,**mb3.7**/13,**Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.55**	**124**	P	**P**	**06 30 31.8**	**-0.1**
CBIJ				S	**S**	**06 31 16.5**	**-6.2**
CBIJ	**Chichi jima**	**2.55**	**124**	P	**P**	**06 30 31.9**	**+0.1**
	145nm,0.3s,baz=274,slow=21,SNR=142						
CBIJ				S	**S**	**06 31 21.6**	**-1.0**
	110nm,0.3s,baz=287,slow=22,SNR=25						
JHHJ	**Haha-jima-NKT**	**2.84**	**131**	P	**P**	**06 30 34.1**	**+0.2**
JHHJ				S	**S**	**06 31 26.1**	**-0.3**
JIE	**Ise**	**6.41**	**336**	P	**P**	**06 31 08.9**	**+1.8**
JKN2	**Miekihoku**	**6.43**	**333**	P	**P**	**06 31 09.1**	**+1.7**
HMMJ	**Hamamatsu 2**	**6.55**	**345**	P	**P**	**06 31 09.0**	**+0.5**
JNY	**Yasuok**	**7.00**	**347**	P	**P**	**06 31 13.8**	**+0.4**
JHU	**Hanno**	**7.31**	**357**	P	**P**	**06 31 15.3**	**-1.4**
JRY	**Ryogami san**	**7.50**	**354**	P	**P**	**06 31 18.2**	**-0.6**
JHO	**Hitachi**	**8.08**	**4**	P	**P**	**06 31 24.5**	**-0.6**
MJAR	**Matsushiro Arr**	**8.10**	**351**	P	**P**	**06 31 24.2**	**-1.1**
MJAR	**Matsushiro Arr**	**8.10**	**351**	P	**P**	**06 31 24.2**	**-1.1**
	0.5nm,0.3s,baz=169,slow=11,SNR=6.9						
JMK	**Ichinoseki**	**10.46**	**6**	P	**P**	**06 31 51.7**	**+0.6**
ULN	**Ulaanbaatar**	**31.83**	**316**	*eP*	**P**	**06 35 16.3**	**+0.3**
	3.3nm,0.8s,mb3.7						
SONM	**Songino Array**	**32.22**	**316**	P	**P**	**06 35 19.4**	**0.0**
	2.1nm,0.4s,mb3.8,baz=124,slow=7.8,SNR=14						
ZALV	**Zalesovo Beam**	**47.02**	**319**	P	**P**	**06 37 18.5**	**-0.7**
	0.8nm,0.3s,mb3.5,baz=107,slow=8.1,SNR=4.5						
MKAR	**Makanchi Array**	**47.93**	**309**	P	**P**	**06 37 25.6**	**-0.7**
	1.2nm,0.4s,mb3.5,baz=87,slow=10.0,SNR=22						
MKAR				PcP	PcP	06 38 45.5	-1.1
	0.3nm,0.5s,baz=75,slow=9.2,SNR=3.6						
WRA	**Warramunga Arr**	**48.48**	**187**	P	**P**	**06 37 30.9**	**+0.2**
	0.9nm,0.3s,mb3.5,baz=4.9,slow=7.7,SNR=20						
WRA				PcP	PcP	06 38 47.6	-1.2
	0.6nm,0.6s,baz=0.9,slow=4.0,SNR=5.6						
ASAR	**Alice Springs**	**52.21**	**187**	P	**P**	**06 37 58.5**	**+0.4**
	0.8nm,0.6s,mb3.1,baz=17,slow=14,SNR=18						
INK	**Inuvik**	**62.61**	**25**	*eP*	**P**	**06 39 09.3**	**+0.4**
	16nm,0.4s,mb4.9						
ARCES	**ARCESS Array B**	**71.49**	**340**	P	**P**	**06 40 04.0**	**+0.2**
	1.3nm,0.6s,mb3.7,baz=71,slow=8.5,SNR=11						
YKA	**Yellowknife Ar**	**71.88**	**28**	P	**P**	**06 40 06.6**	**+0.3**
YKA	**Yellowknife Ar**	**71.88**	**28**	P	**P**	**06 40 06.6**	**+0.3**
	0.5nm,0.5s,mb3.3,baz=299,slow=5.9,SNR=15						
JOF	**Joensuu**	**72.85**	**333**	*ep*	**P**	**06 40 10.8**	**-1.2**
	2.0nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**75.72**	**333**	P	**P**	**06 40 27.7**	**-0.6**
	1.3nm,0.3s,mb4.0,baz=75,slow=5.3,SNR=23						
NVAR	**Mina Array Bea**	**81.28**	**51**	P	**P**	**06 41 00.9**	**+2.2**
	0.7nm,0.6s,mb3.6,baz=277,slow=7.8,SNR=4.6						
NB2	**NORSAR Subarra**	**81.49**	**337**	P	**P**	**06 40 58.3**	**-1.0**
	comp=Z,0.6nm,0.5s,mb3.6,baz=46,slow=5.1						
NOA	**NORSAR Array B**	**81.49**	**337**	P	**P**	**06 40 58.1**	**-1.2**
	comp=Z,0.7nm,0.6s,mb3.6,baz=50,slow=4.8,SNR=3.6						
LPAZ	**La Paz**	**151.53**	**71**	PKPbc	PKPbc	06 48 35.8	+2.3
	comp=Z,0.4nm,0.5s,baz=270,slow=5.7,SNR=4.2						

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*NEIC **05** 06:47:34.9, 2977S×7138W, h50km, MD4.0(GUC), After GUC.*
GUC 05 06:47:34.9±0.7,**2977S**×**7138W**,**h50**km±4km,**MD4.0, ML3.5,3C-2D,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.18**	**138⇑**	*iP*	Pn	06 47 43.2	+0.1
LSCH				*i* S	Sn	06 47 49.5	+0.5
TLL	**Tololo Astrono**	**0.64**	**128⇓**	*iP*	Pn	06 47 48.9	+1.1
TLL				*i* S	Sn	06 47 59.2	+2.0
OVCH	**Ovalle**	**0.85**	**169⇓**	*iP*	Pn	06 47 51.2	+0.6
OVCH				*i* S	Sn	06 48 03.2	+1.1
LCO	**Las Campanas**	**0.96**	**38**	*ePn*	Pn	06 47 52.7	+0.6
LCO				*eSn*	Sn	06 48 05.3	+0.5
VACH	**Vallenar**	**1.31**	**25⇑**	*iP*	Pn	06 47 57.3	+0.5
VACH				*i* S	Sn	06 48 14.6	+1.4
VACH	**Vallenar**	**1.31**	**25⇑**	*iP*	Pn	06 47 57.3	+0.5
VACH				*i* S	Sn	06 48 14.6	+1.4
VACH				AML	AML	06 48 15.3	
	comp=N,2μm,0.2s						
CMCH	**Combarbala**	**1.44**	**167**	*eP*	Pn	06 47 58.9	+0.3
CMCH				*i* S	Sn	06 48 17.5	+1.3
CMCH	**Combarbala**	**1.44**	**167**	*eP*	Pn	06 47 58.9	+0.3
CMCH				*i* S	Sn	06 48 17.5	+1.3
CMCH				AML	AML	06 48 18.3	
	comp=E,1μm,0.4s						
LMEL	**Las Melosas**	**4.19**	**166**	*eP*	Pn	06 48 39.0	+2.8
LMEL				*eS*	Sn	06 49 26.9	+3.1

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*ISCJB **05** 07:06:15.3±1.0, 2984N±004×3624E±006, h0km, Error ellipse: s-maj=7.2km s-min=5.4km az=166.1*
*GII **05** 07:06:16.8±1.0, 2987N×36.14E, h0km, ML2.8/8*
*SGS **05** 07:06:17.3, 2995N×3609E, h5km*
ISC 05 07:06:15.3±1.1,**2983N**±004×**3629E**±006,**h0**km,**n15,**
σ0°66/22,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.11**	**281**	Pg	**Pg**	**07 06 35.9**	**-0.6**
HRFI				Sg	**Sg**	**07 06 51.0**	**+0.2**
EIL	**Elat**	**1.17**	**263**	Pg	**Pg**	**07 06 37.8**	**0.0**
EIL				Sg	**Sg**	**07 06 54.1**	**+1.1**
HQLS		**1.19**	**244**	S	**Sg**	**07 06 52.5**	**-1.1**
HQLS		**1.19**	**244**	P	**Pg**	**07 06 37.6**	**-0.5**
MBH	**Mount Berech**	**1.19**	**269**	Pg	**Pg**	**07 06 37.8**	**-0.4**
MBH				Sg	**Sg**	**07 06 54.6**	**+0.9**
ZFRI	**Zfri**	**1.20**	**307**	Pg	**Pg**	**07 06 38.0**	**-0.4**
ZFRI				Sg	**Sg**	**07 06 53.7**	**-0.2**
PRNI	**Paran**	**1.23**	**295**	Pg	**Pg**	**07 06 38.1**	**-0.7**
PRNI				Sg	**Sg**	**07 06 55.2**	**+0.4**
JLOS		**1.29**	**213**	S	**Sg**	**07 06 57.7**	**+0.9**
JLOS		**1.29**	**213**	P	**Pg**	**07 06 40.4**	**+0.3**
KRMI	**Paran Flat**	**1.39**	**282**	Pg	**Pg**	**07 06 41.3**	**-0.6**
KRMI				Sg	**Sg**	**07 06 58.8**	**-1.0**
RMNI	**Mount Ramon**	**1.53**	**300**	Pn	**Pn**	**07 06 44.0**	**+0.2**
RTMI	**Retamim**	**1.84**	**312**	Pn	**Pn**	**07 06 48.4**	**+0.3**
DSI	**Dead Sea**	**1.90**	**336**	Pn	**Pn**	**07 06 49.9**	**+0.9**
KZIT	**Kziot**	**1.96**	**304**	Pn	**Pn**	**07 06 49.9**	**+0.2**
KZIT				Sn	**Sn**	**07 07 15.8**	**+0.8**
RSHS		**2.01**	**221**	P	**Pn**	**07 06 49.5**	**-0.8**

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*BJI **05** 07:51:33.1, 2658N×14265E, h46km, mB5.0, mb4.6, Ms4.5, Msz3.9*
*SZGRF **05** 07:51:39.7, 2675N×14250E, h33km, mb5.0, Bonin Islands, Japan, region*
*MOS **05** 07:51:39.7±0.8, 2702N×14182E, h46km, mb5.0/39, Error ellipse: s-maj=12.9km s-min=5.0km az=105.8*
*ISCJB **05** 07:51:39.3±0.5, 27.11N±003×14187E±004, h40km±3km, mb4.8/101, MS3.7/17, Error ellipse: s-maj=6.6km s-min=3.7km az=158.5*
*NEIC **05** 07:51:41.1±0.1, 2700N×14187E, mb4.8/48, Error ellipse: s-maj=4.2km s-min=3.5km az=87.0*
NEIC Recorded [3 JMA] in the Chichijima-retto.
*IDC **05** 07:51:41.6±1.9, 2699N×14181E, h52km±16km, mb4.3/22, mb1 4.5/25, mb1mx4.4/28, mbtmp4.3/25, ML4.3/3, MS3.6/8, Ms1 3.6/8, ms1mx3.3/23, Error ellipse: s-maj=16.8km s-min=9.4km az=84.0*
*JMA **05** 07:51:41.6, 2703N×14220E, h48km±1km, M4.8*
JMA Felt III J1.
ISC 05 07:51:41.0±0.4,**2705N**±003×**14192E**±004,**h43**km±3km,
h47km±2.1km:**pP-P,n258,σ0°79**/278,**mb4.8**/102,**MS3.7**/17,
12C-7D,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.25**	**78**	P	**Pn**	**07 51 49.1**	**+0.2**
CBIJ				*eS*	**Sn**	**07 51 54.4**	**0.0**
CBIJ	**Chichi jima**	**0.25**	**78**	P	**Pn**	**07 51 49.1**	**+0.3**
	14μm,0.3s,baz=274,slow=21						
CBIJ				S	**Sn**	**07 51 54.4**	**-0.1**
JHHJ	**Haha-jima-NKT**	**0.48**	**150**	P	**Pn**	**07 51 51.6**	**+0.1**
JHHJ				*eS*	**Sn**	**07 51 58.8**	**-0.1**
JHJ2	**Mitsune**	**6.31**	**344**	P	**Pn**	**07 53 12.4**	**+0.9**
JHJ2				*eS*	**Sn**	**07 54 23.0**	**+0.7**
JHJ	**Hachijo jima 2**	**6.33**	**344**	P	**Pn**	**07 53 11.9**	**+0.3**
	11nm,0.3s,baz=66,slow=19,SNR=6.5						
JHJ				S	**Sn**	**07 54 23.3**	**+0.6**
	56nm,0.3s,baz=251,slow=23,SNR=6.5						
BSO1	**Boso 1**	**7.63**	**354**	P	**Pn**	**07 53 28.7**	**-0.8**
BSO1				*eS*	**Sn**	**07 54 52.4**	**-2.2**
BSO3	**Boso 3**	**7.83**	**351**	P	**Pn**	**07 53 31.7**	**-0.5**
BSO3				*eS*	**Sn**	**07 54 58.3**	**-1.2**
BSO4	**Boso 4**	**8.03**	**351**	P	**Pn**	**07 53 36.6**	**+1.5**
BSO4				*eS*	**Sn**	**07 55 04.5**	**-0.1**
JOD2	**Odawara 2**	**8.54**	**344**	P	**Pn**	**07 53 42.1**	**+0.1**
JOD2				*eS*	**Sn**	**07 55 14.1**	**-3.0**
JNY	**Yasuok**	**8.98**	**338**	P	**Pn**	**07 53 56.4**	**+8.3**
JHU	**Hanno**	**9.06**	**346**	P	**Pn**	**07 53 49.0**	**-0.2**
JHU				*eS*	**Sn**	**07 55 25.2**	**-4.6**
JYT	**Yasato**	**9.27**	**351**	P	**Pn**	**07 53 51.8**	**-0.2**
JYT				*eS*	**Sn**	**07 55 32.2**	**-2.8**
JRY	**Ryogami san**	**9.30**	**345**	P	**Pn**	**07 53 53.5**	**+1.0**
JRY				*eS*	**Sn**	**07 55 34.3**	**-1.5**
MJAR	**Matsushiro Arr**	**9.98**	**343**	P	**Pn**	**07 54 01.4**	**-0.3**
	1.6nm,0.3s,baz=146,slow=12,SNR=14						
MJAR				S	**Sn**	**07 55 52.0**	**-0.3**
	2.2nm,0.3s,baz=139,slow=19,SNR=4.8						
MAJO	**Matsushiro**	**9.98**	**343**	*ePn*	**Pn**	**07 54 02.9**	**+1.2**
MAJO				*eSn*	**Sn**	**07 55 51.4**	**-0.9**
MAT	**Matsushiro**	**9.98**	**343**	P	**Pn**	**07 54 03.2**	**+1.5**
MAT				S	**Sn**	**07 55 52.6**	**+0.3**
MAT	**Matsushiro**	**9.98**	**343**	P	**Pn**	**07 54 04.5**	**+2.8**
MAT				*eS*	**Sn**	**07 55 52.5**	**+0.2**
JFK	**Kawauchi**	**10.33**	**355**	P	**Pn**	**07 54 04.9**	**-1.6**
JFK				*eS*	**Sn**	**07 55 54.5**	**-6.4**
JAM	**Amami Oshima**	**10.99**	**280**	P	**Pn**	**07 54 24.0**	**+8.4**
JNU	**Nakatsue**	**11.31**	**305**	P	**Pn**	**07 54 26.4**	**+6.5**
	0.2nm,0.3s,baz=99,slow=19,SNR=3.2						
JMK	**Ichinoseki**	**11.89**	**357**	P	**Pn**	**07 54 26.5**	**-1.3**
JMK				*eS*	**Sn**	**07 56 30.4**	**-8.6**
JOW	**Kunigami**	**12.17**	**272**	LR	LR	07 58 54.2	
	comp=Z,211nm,21.0s,baz=137,slow=36						
ERM	**Erimo**	**14.97**	**4**	*i P*	**Pn**	**07 55 09.5**	**-0.1**
KSRS	**Korea Array**	**15.72**	**315**	P	**Pn**	**07 55 23.3**	**+3.9**
	0.1nm,0.3s,baz=123,slow=12,SNR=9.5						
KSRS				PcP	PcP	08 00 18.4	+0.7
	0.3nm,0.3s,baz=172,slow=0.9,SNR=5.5						
KSRS				LR	LR	08 00 59.0	
	comp=Z,229nm,20.4s,baz=166,slow=36						
ASAJ	**Asahikawa**	**17.04**	**2**	P	**Pn**	**07 55 37.3**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**17.04**	**2**	P	**Pn**	**07 55 37.3**	**+1.3**
	comp=Z,2.6nm,0.3s,baz=174,slow=15,SNR=11						
YSS	**Yuzh-Sakhalins**	**19.88**	**2⇑**	*eP*	**Pn**	**07 56 14.2**	**+3.8**
YSS	**Yuzh-Sakhalins**	**19.88**	**2**	P	**Pn**	**07 56 14.5**	**+4.1**
	comp=Z,18nm,0.7s						
MDJ	**Mudanjiang**	**20.14**	**334**	P	**P**	**07 56 12.3**	**+1.0**
MDJ				XP	sP	07 56 27.6	+0.5
MDJ				S	**S**	**07 59 57.5**	**+2.4**
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.0s						
MDJ				AMB	AMB		
	comp=Z,71nm,3.4s						
MDJ				LR	LR		
	comp=Z,99nm,28.6s,MS3.0						
NJ2	**Nanjing**	**20.66**	**289**	*eP*	**P**	**07 56 21.1**	**+4.0**
NJ2				AP		07 56 31.3	
NJ2				XP	sP	07 56 37.0	+4.1
NJ2				PP		07 56 43.9	
NJ2				PPP		07 56 52.4	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				LR	LR		
	comp=N,160nm,17.6s,MS3.6						
NJ2				LR	LR		
	comp=E,140nm,15.7s,MS3.6						
NJ2				LR	LR		
	comp=Z,140nm,15.7s,MS3.4						
SNY	**Shenyang**	**21.06**	**319**	⇑P	**P**	**07 56 24.0**	**+2.7**
SNY				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.3						
SNY				AMB	AMB		
	comp=Z,102nm,4.4s						
SNY				LR	LR		
	comp=E,152nm,21.6s						
SNY				LR	LR		
	comp=Z,129nm,26.4s,MS3.2						
CN2	**Changchun**	**21.37**	**326**	*eP*	**P**	**07 56 26.2**	**+1.5**
CN2				*eS*	**S**	**08 00 15.9**	**-3.6**
HABR	**Khabarovsk**	**22.05**	**348**	*eP*	**P**	**07 56 32.6**	**+0.7**
HABR				*e*		07 56 42.2	
HABR				*e*		07 56 54.3	
HABR				*e*		08 00 27.2	
HABR				*eS*	**S**	**08 00 33.3**	**+0.7**
HABR				*e*		08 00 54.5	
HABR				*e*		08 07 42.7	
HABR				pmax	pmax		
	comp=Z,52nm,1.5s,mb4.7						
KLR	**Kul'dur**	**23.50**	**343**	*eP*	**P**	**07 56 44.2**	**-2.8**
KLR				pmax	pmax		
	comp=E,34nm,1.6s						
KLR				pmax	pmax		
	comp=Z,74nm,1.6s,mb4.9						
HIA	**Hailar**	**28.02**	**328**	*eP*	**P**	**07 57 28.2**	**+0.3**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	**Hailar**	**28.02**	**328**	*eP*	**P**	**07 57 28.2**	**+0.3**
	comp=Z,4.8nm,0.4s,mb4.5						
HHC	**Hu-ho-hao-te**	**28.53**	**307**	*eP*	**P**	**07 57 34.2**	**+1.7**
HHC				AP	pP	07 57 45.4	+1.4
HHC				XP	sP	07 57 52.0	+2.9
HHC				PP	PP	07 58 28.1	-9.3
HHC				S	**S**	**08 02 17.2**	**-0.3**
HHC				XS	sS	08 02 40.2	+3.5
HHC				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,185nm,5.4s						
HHC				LR	LR		
	comp=N,243nm,12.6s,MS4.4						
HHC				LR	LR		
	comp=E,594nm,12.9s,MS4.4						
HHC				LR	LR		
	comp=Z,270nm,15.9s,MS4.0						
PET	**Petropavlovsk**	**28.79**	**21**	*eP*	**P**	**07 57 35.6**	**+1.0**
	comp=Z,7.4nm,0.6s,mb4.6						
XAN	**Xi'an**	**29.17**	**292**	P	**P**	**07 57 38.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
GYA	**Guiyang**	**31.42**	**277**	*eP*	**P**	**07 57 58.1**	**-0.1**
GYA				AP	pP	07 58 12.4	+2.6
GYA				XP	sP	07 58 17.6	+2.7
GYA				PP	PP	07 59 04.2	-5.5
GYA				S	**S**	**08 03 02.7**	**-0.4**
GYA				XS	sS	08 03 24.2	+1.8
GYA				SCP	ScP	08 04 30.3	-0.4
GYA				SCS	ScS	08 08 26.4	-2.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,4.6s						
GYA				LR	LR		
	comp=N,460nm,17.7s,MS4.4						
GYA				LR	LR		
	comp=E,470nm,16.9s,MS4.4						
GYA				LR	LR		
	comp=Z,450nm,18.3s,MS4.2						
MA2	**Magadan**	**33.09**	**8**	*eP*	**P**	**07 58 13.5**	**+1.1**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
MA2	**Magadan**	**33.09**	**8**	*eP*	**P**	**07 58 13.5**	**+1.1**
	comp=Z,4.6nm,0.7s,mb4.5						
LZH	**Lanzhou**	**33.49**	**295**	*eP*	**P**	**07 58 16.9**	**+0.6**
LZH				AP	pP	07 58 28.9	+1.1
LZH				XP	sP	07 58 33.4	+0.5
LZH				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.1						
LZH				AMB	AMB		
	comp=Z,108nm,5.1s						
CD2	**Chengdu**	**33.49**	**286**	P	**P**	**07 58 16.4**	**+0.1**
CD2				AP	pP	07 58 29.0	+1.1
CD2				XP	sP	07 58 35.0	+2.0
CD2				PP	PP	07 59 29.8	-2.8
CD2				S	**S**	**08 03 33.9**	**-1.4**
CD2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.5						
CD2				AMB	AMB		
	comp=Z,120nm,4.2s						
CD2				LR	LR		
	comp=N,230nm,12.3s,MS4.3						
CD2				LR	LR		
	comp=E,320nm,12.8s,MS4.3						

CD2 LR LR
comp=Z,160nm,14.4s,MS3.9
ULN Ulaanbaatar 34.19 317⇑ eP P 07 58 22.2 0.0
SONM Songino Array 34.58 316 P **P 07 58 25.4 -0.2**
SONM 08 00 59.9
SONM Songino Array 34.58 316 P **P 07 58 25.4 -0.2**
comp=Z,0.8nm,0.4s,mb4.0,baz=133,slow=12,SNR=3.4
SONM PcP PcP 08 00 59.9 +0.5
comp=Z,0.9nm,0.5s,baz=38,slow=2.6,SNR=4.0
SONM LR LR 08 12 28.2
comp=Z,78nm,21.8s,MS3.4,baz=119,slow=36
KMI Kunming 35.14 276 P **P 07 58 30.6 -0.1**
KMI AMB AMB
comp=Z,7.0nm,0.7s,mb4.7
KMI LR LR
comp=Z,59nm,21.5s,MS3.3
YAK Yakutsk 35.92 350⇑ eP P 07 58 36.5 -0.4
YAK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BOD Bodaibo 36.50 335 *e*P **P 07 58 42.1 +0.2**
BOD pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
SEY Seymchan 36.55 8⇓ eP P 07 58 43.2 +1.0
GTA Gaotai 37.00 300 *e*P **P 07 58 48.6 +2.2**
GTA AP pP 07 58 59.8 +1.7
GTA XP sP 07 59 05.4 +2.3
GTA PP PP 08 00 16.9 +5.7
GTA PPP 08 00 37.6
GTA PCP PcP 08 01 07.9 +1.2
GTA S **S 08 04 32.2 +3.2**
GTA XS sS 08 04 53.6 +5.2
GTA SS SS 08 07 08.4 -3.6
GTA AMB AMB
comp=Z,3.0nm,1.1s,mb4.0
GTA AMB AMB
comp=Z,43nm,9.9s
GTA LR LR
comp=N,73nm,16.1s,MS3.7
GTA LR LR
comp=E,82nm,16.1s,MS3.7
GTA LR LR
comp=Z,97nm,17.2s,MS3.6
ZAK Zakamensk 37.49 319 *e*P **P 07 58 49.1 -1.3**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.9
TLY Talaya 37.83 321 *c i*P **P 07 58 53.3 +0.1**
TLY pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
TLY Talaya 37.83 321 *e*P **P 07 58 53.4 +0.1**
comp=Z,3.0nm,0.6s,mb4.2
CM31 Chiang Mai Arr 40.38 267 *e*P **P 07 59 16.7 +1.7**
comp=Z,21nm,0.6s,mb5.0
BILL Bilibino 43.56 13 *d i*P **P 07 59 41.0 +0.8**
BILL *e**PP pP 07 59 53.8 +1.7
BILL *e* 08 01 28.2
BILL pmax pmax
comp=Z,20nm,2.3s,mb4.4
BILL Bilibino 43.56 13 *e*P **P 07 59 40.2 0.0**
comp=Z,8.7nm,0.9s,mb4.5
SHL Shillong 44.64 280 *e*P **P 07 59 50.5 +1.0**
SHL *e*S PP 08 01 33.5 -0.7
TIXI Tiksi 45.24 354⇓ eP P 07 59 53.7 +0.1
TIXI pmax pmax
comp=Z,4.0nm,0.5s,mb4.5
TIXI Tiksi 45.24 354 *e*P **P 07 59 53.9 +0.3**
comp=Z,6.6nm,0.6s,mb4.6
WMQ Urumqi 46.41 306 *e*P **P 08 00 05.0 +1.7**
WMQ XP sP 08 00 23.0 +2.8
WMQ PP PP 08 01 54.0 +1.4
WMQ S **S 08 06 49.0 +1.0**
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.2
WMQ LR LR
comp=N,154nm,14.0s,MS4.3
WMQ LR LR
comp=E,157nm,14.0s,MS4.3
WMQ LR LR
comp=Z,89nm,12.0s,MS3.9
CTA Charters Tower 47.04 174 *e*P **P 08 00 08.1 -0.2**
comp=Z,5.1nm,0.6s,mb4.6
CTA Charters Tower 47.04 174 *e*P **P 08 00 08.1 -0.2**
CTA pmax pmax
comp=Z,5.0nm,0.6s
CTA Charters Tower 47.04 174 P **P 08 00 07.8 -0.5**
comp=Z,3.1nm,0.7s,mb4.3,baz=328,slow=8.5,SNR=9.1
CTAO Charters Tower 47.04 174 *e*P **P 08 00 07.7 -0.6**
CTAO pmax pmax
comp=Z,15nm,1.2s,mb4.8
CTAO Charters Tower 47.04 174 *e*P **P 08 00 07.7 -0.6**
comp=Z,15nm,1.2s,mb4.8
WRAB Tennant Creek 47.27 190 *e*P **P 08 00 09.5 -0.6**
WRAB *e**PP pP 08 00 23.0 +0.9
WRAB *e**SP sP 08 00 29.6 +2.5
WRAB pmax pmax
comp=Z,31nm,0.6s,mb5.4
WRAB Tennant Creek 47.27 190 *e*P **P 08 00 09.5 -0.6**
comp=Z,31nm,0.6s,mb5.4
WRAB *e*pP pP 08 00 23.0 +0.9
WRAB *e*sP sP 08 00 29.6 +2.5
WB2 Warramunga Arr 47.28 190⇓ *i*P **P 08 00 09.7 -0.5**
WB2 *e*pP pP 08 00 22.9 +0.7
WB2 *e*S **S 08 06 56.9 -3.8**
WRA Warramunga Arr 47.28 190 P **P 08 00 09.6 -0.6**
comp=Z,28nm,0.6s,mb5.4,baz=11,slow=8.7,SNR=237
WRA S **S 08 06 55.9 -4.8**
comp=Z,5.7nm,0.9s,baz=9.5,slow=15,SNR=17
FITZ Fitzroy Crossi 47.58 201⇓ *i*P **P 08 00 12.1 -0.4**
comp=Z,7.7nm,0.9s,mb4.7
FITZ Fitzroy Crossi 47.58 201 P **P 08 00 12.3 -0.2**
comp=Z,2.4nm,0.6s,mb4.4,baz=25,slow=12,SNR=11
JIRN Jiri 49.13 284 *e*P **P 08 00 25.6 +1.0**
comp=Z,16nm,0.4s,mb5.4
GUN Gumba 49.34 285 *e*P **P 08 00 26.6 +0.4**
ZALV Zalesovo Beam 49.37 319 P **P 08 00 24.9 -1.1**
comp=Z,1.9nm,0.5s,mb4.3,baz=101,slow=7.2,SNR=3.8
ZALV PcP PcP 08 01 47.7 -0.3
comp=Z,8.4nm,0.6s,baz=106,slow=3.9,SNR=20
ZALV LR LR 08 22 09.4
comp=Z,45nm,18.8s,MS3.5,baz=72,slow=37
ZAL Zalesovo 49.38 319 P **P 08 00 24.9 -1.2**
ZAL 08 01 47.7
KKN Kakani 49.89 285 *e*P **P 08 00 30.7 +0.3**
DMN Daman 50.08 284 *e*P **P 08 00 32.1 +0.3**
comp=Z,9.0nm,0.6s,mb5.0
MKAR Makanchi Array 50.32 310 *i*P **P 08 00 35.2 +1.8**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 50.32 310 P **P 08 00 32.3 -1.0**
comp=Z,1.1nm,0.5s,mb4.1,baz=90,slow=9.5,SNR=4.6
MKAR PcP PcP 08 01 51.5 -0.1
comp=Z,6.9nm,0.7s,baz=77,slow=6.8,SNR=14
MKAR ScP ScP 08 05 43.4 -0.8
comp=Z,1.0nm,0.7s,baz=76,slow=5.1,SNR=5.3
MKAR LR LR 08 23 48.7
comp=Z,75nm,19.3s,MS3.7,baz=175,slow=38
GKN Gorkha 50.39 285 *e*P **P 08 00 34.6 +0.4**
ASAR Alice Springs 51.00 189 P **P 08 00 37.8 -0.8**
comp=Z,2.7nm,0.6s,mb4.3,baz=16,slow=10,SNR=36
ASAR PcP PcP 08 01 54.4 0.0
comp=Z,3.0nm,0.7s,baz=16,slow=3.9,SNR=10
ASAR S **S 08 07 52.2 -0.7**
comp=Z,0.4nm,0.6s,baz=14,slow=22,SNR=4.5
DANN Dangsing 51.07 286 *e*P **P 08 00 39.9 +0.6**
comp=Z,15nm,0.7s,mb5.1
KOLN Koldanda 51.34 285 *e*P **P 08 00 41.6 +0.3**
comp=Z,17nm,1.0s,mb4.9
KURK Kurchatov 52.85 315 *i*P **P 08 00 52.0 -0.2**
KURK Kurchatov 52.85 315 *e*P **P 08 00 51.4 -0.8**
comp=Z,29nm,1.1s,mb5.1
KURK *e*PcP PcP 08 02 00.7 -0.2
SVW2 Sparrevohn 53.46 32 *e*P **P 08 00 57.4 +0.9**
TTA Tatalina 53.61 30 *e*P **P 08 00 57.5 -0.1**
KDAK Kodiak Island 54.55 37 P **P 08 01 04.3 -0.2**
KDAK Kodiak Island 54.55 37 P **P 08 01 04.3 -0.2**
comp=Z,7.3nm,0.5s,mb5.0,baz=266,slow=3.9,SNR=12
IMA2 Indian Mountai 55.24 27 *e*P **P 08 01 10.2 +0.8**
IMA2 *e*PcP PcP 08 02 09.2 -0.6
AAK Ala-Archa 56.09 305 P **P 08 01 15.6 -0.3**
comp=Z,0.9nm,0.3s,mb4.2,baz=120,slow=5.0,SNR=4.2
AAK PcP PcP 08 02 12.3 -1.3
comp=Z,1.9nm,0.4s,baz=66,slow=3.6,SNR=5.8
UCH Uchtor 56.12 304 *e*P **P 08 01 16.0 -0.1**
comp=Z,2.5nm,0.6s,mb4.4
HKL Haleakala 56.41 82 *e*P **P 08 01 09.2 -9.3**
PMR Palmer 56.61 32 *e*P **P 08 01 18.9 -0.3**

PMR *e**PP pP 08 01 31.1 -0.3
PMR pmax pmax
comp=Z,20nm,1.3s,mb5.0
PMR Palmer 56.61 32 *e*P **P 08 01 18.9 -0.3**
comp=Z,20nm,1.3s,mb5.0
PMR *e*pP pP 08 01 31.1 -0.4
AML Almayashu 56.74 304 *e*P **P 08 01 21.1 +0.6**
comp=Z,3.6nm,0.6s,mb4.6
AML *e*PcP PcP 08 02 17.1 +1.0
COLA College 57.47 28 *i*P **P 08 01 26.8 +1.5**
BVAR Borovoye Array 57.92 317 P **P 08 01 27.7 -0.9**
BVAR 08 02 20.8
BVAR Borovoye Array 57.92 317 P **P 08 01 27.7 -0.9**
comp=Z,3.7nm,0.5s,mb4.7,baz=90,slow=6.8,SNR=16
BVAR PcP PcP 08 02 20.8 +0.3
comp=Z,5.9nm,0.6s,baz=94,slow=3.9,SNR=8.8
BVAR LR LR 08 27 27.2
comp=Z,70nm,18.4s,MS3.8,baz=94,slow=37
BRVK Borovoye 57.98 317 *e*P **P 08 01 28.5 -0.5**
BRVK *e* 08 02 20.6
BRVK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
BRVK Borovoye 57.98 317 *e*P **P 08 01 28.5 -0.5**
comp=Z,0.5nm,0.8s,mb3.6
BRVK *e*PcP PcP 08 02 20.6 -0.1
STKA Stephens Creek 58.59 180⇓ *i*P **P 08 01 32.7 -0.7**
comp=Z,6.0nm,0.6s,mb4.8
STKA Stephens Creek 58.59 180 P **P 08 01 33.1 -0.4**
comp=Z,11nm,0.7s,mb5.0,baz=343,slow=6.9,SNR=23
EGAK Eagle 60.33 29 *e*P **P 08 01 45.0 -0.1**
comp=Z,3.7nm,0.6s,mb4.6
DAWY Dawson 61.11 30 *e*P **P 08 01 51.3 +0.9**
INK Inuvik 63.18 25 P **P 08 02 04.3 +0.1**
INK pmax pmax
comp=Z,8.0nm,0.5s
INK Inuvik 63.18 25 *e*P **P 08 02 04.0 -0.2**
comp=Z,251nm,0.5s,mb6.6
INK Inuvik 63.18 25 P **P 08 02 04.3 +0.1**
comp=Z,7.8nm,0.5s,mb5.1,baz=293,slow=5.5,SNR=171
NWAO Narrogin (SRO) 64.09 203 *e*P **P 08 02 10.0 -0.6**
NWAO pmax pmax
comp=Z,17nm,1.3s
NWAO Narrogin (SRO) 64.09 203 *e*P **P 08 02 10.0 -0.6**
comp=Z,17nm,1.3s,mb4.9
ARU Arti 64.32 322 *c i*P **P 08 02 11.3 -0.6**
ARU *e* 08 04 30.7
ARU *e*S **S 08 10 46.7 0.0**
ARU *e*SS SS 08 14 54.3 -2.1
ARU pmax pmax
comp=Z,18nm,0.7s,mb5.2
ARU Arti 64.32 322 *e*P **P 08 02 11.6 -0.3**
comp=Z,20nm,0.5s,mb5.4
ARU *e*PcP PcP 08 02 45.8 -0.4
AKTK Aktyubinsk 65.90 316 P **P 08 02 20.9 -1.4**
AKTO Aktyubinsk 65.90 316 P **P 08 02 20.9 -1.4**
comp=Z,3.4nm,0.5s,mb4.6,baz=98,slow=6.4,SNR=13
DLBC Dease Lake 66.39 35 *e*P **P 08 02 25.9 +0.6**
SPB4 Spitsbergen Ar 70.39 350 *e*P **P 08 02 51.1 +1.1**
TMCR Tamitsa 71.77 333 *e*P **P 08 02 58.2 -0.3**
TMCR pmax pmax
comp=Z,35nm,1.1s,mb5.2
RES Resolute Bay 72.17 14 *e*P **P 08 03 00.7 -0.1**
YKW3 Yellowknife Ar 72.27 28 *e*P **P 08 03 01.1 -0.4**
YKA Yellowknife Ar 72.30 28 P **P 08 03 01.2 -0.5**
comp=Z,5.3nm,0.8s,mb4.5,baz=295,slow=6.3,SNR=66
YKA LR LR 08 33 32.6
comp=Z,25nm,18.6s,MS3.5,baz=170,slow=35
URZ Urewera 72.85 152 P **P 08 03 03.7 -1.5**
comp=Z,2.5nm,0.5s,mb4.4,baz=207,slow=2.3,SNR=3.6
KEV Kevo 72.95 341 *e*p **P 08 03 05.6 +0.1**
comp=Z,8.9nm,0.7s,mb4.8
KEV Kevo 72.95 341 *e*P **P 08 03 05.6 +0.1**
KEV pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ARCES ARCESS Array B 73.51 341 P **P 08 03 08.8 +0.1**
comp=Z,5.0nm,0.7s,mb4.5,baz=75,slow=8.1,SNR=33
ARCES LR LR 08 35 39.5
comp=Z,44nm,20.5s,MS3.7,baz=254,slow=36
ARE0 ARCESS Array S 73.51 341 P **P 08 03 09.7 +0.9**
JOF Joensuu 75.02 334 *e*p **P 08 03 16.6 -1.1**
comp=Z,45nm,0.7s,mb5.5
JOF Joensuu 75.02 334 *e*P **P 08 03 16.6 -1.1**
JOF pmax pmax
comp=Z,45nm,0.7s,mb5.5
VRHR Novokhopersk 75.49 320 *e*P **P 08 03 21.0 +0.4**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,20nm,0.5s
HOOD Mount Hood Mea 75.52 46 *e*P **P 08 03 15.3 -5.6**
MOS Moscow 75.61 326 *e*P **P 08 03 21.2 0.0**
OBN Obninsk 76.44 325⇑ *e*P **P 08 03 26.6 +0.7**
OBN *e* pP 08 03 36.1 -2.5
OBN *e*SS SS 08 18 02.4 0.0
OBN pmax pmax
comp=Z,26nm,0.9s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
VRSR Storozhevoye 76.82 321 *e*P **P 08 03 28.4 +0.2**
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
VRSR pmax pmax
comp=E,3.0nm,1.0s
NEW Newport 77.11 42 *e*P **P 08 03 29.9 +0.1**
NEW pmax pmax
comp=Z,6.0nm,1.0s
NEW Newport 77.11 42 *e*P **P 08 03 29.9 0.0**
comp=Z,6.3nm,1.0s,mb4.5
FIA1 FINESS Array S 77.89 334 *e*P **P 08 03 33.6 -0.3**
FINES FINESS Array B 77.89 334 P **P 08 03 34.2 +0.2**
comp=Z,19nm,0.6s,mb5.2,baz=72,slow=5.6,SNR=151
KIV Kislovodsk 77.91 313⇑ *e*P **P 08 03 34.7 +0.3**
KIV *e* 08 03 43.5
KIV *e*SS SS 08 18 23.6 -1.5
KIV pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,100nm,21.0s,MS4.1
BMO Blue Mountains 78.51 45 *e*P **P 08 03 38.0 +0.2**
comp=Z,10nm,1.2s,mb4.6
WALA Waterton Lakes 78.64 41 *e*P **P 08 03 39.2 +0.9**
comp=Z,9.9nm,1.1s,mb4.7
VSU Vasula 79.32 331 *d i*P **P 08 03 42.2 +0.3**
CMB Columbia Colle 79.45 53 *e*P **P 08 03 42.9 -0.1**
CMB pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CMB Columbia Colle 79.45 53 *e*P **P 08 03 42.9 -0.1**
comp=Z,5.2nm,1.0s,mb4.4
MIB Mutribah 80.69 299 *e*P **P 08 03 44.6 -5.3**
MIB AMb AMB 08 03 52.6
comp=Z,19nm,0.7s,mb5.1
NVAR Mina Array Bea 80.74 52 P **P 08 03 50.4 +0.4**
comp=Z,2.0nm,0.7s,mb4.1,baz=285,slow=7.2,SNR=14
RDF Al-Radifah 80.90 298 *e*P **P 08 03 46.1 -4.9**
RDF AMb AMB 08 03 56.1
comp=Z,4.8nm,0.5s,mb4.7
HRY Holter Researc 81.00 42 *e*P **P 08 03 51.8 +0.6**
NAY Al-Naaiem 81.00 298 *e*P **P 08 03 46.7 -4.9**
NAY AMb AMB 08 03 53.1
comp=Z,6.0nm,0.5s,mb4.8
LRM Limekiln Ridge 81.07 43 *e*P **P 08 03 52.0 +0.4**
DLMT Dillon 81.21 43 *e*P **P 08 03 52.3 0.0**
EGMT Eagleton 81.55 40 *e*P **P 08 03 53.6 -0.4**
BOZ Bozeman (W) 81.66 43 *e*P **P 08 03 54.9 +0.2**
FFC Flin Flon 81.91 32 *e*P **P 08 03 55.7 -0.1**
FFC *e**PP pP 08 04 08.2 -0.4
FFC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
FFC Flin Flon 81.91 32 *e*P **P 08 03 55.7 -0.1**
comp=Z,8.7nm,0.9s,mb4.7
FFC *e*pP pP 08 04 08.2 -0.4
QLMT Earthquake Lak 82.19 43 *e*P **P 08 03 58.4 +0.9**
AKASG Malin Array Be 82.52 324 P **P 08 03 58.7 -0.4**
AKASG Malin Array Be 82.52 324 P **P 08 03 58.7 -0.4**
comp=Z,5.2nm,0.5s,mb4.8,baz=50,slow=5.4,SNR=68
AKBB Malin Array Si 82.52 324 *e*P **P 08 03 58.7 -0.4**
AKBB *e*PcP PcP 08 04 03.9 -0.2
KIEV Kiev 82.53 324 *e*P **P 08 03 58.9 -0.2**
KIEV pmax pmax
comp=Z,23nm,0.9s,mb5.2
KIEV Kiev 82.53 324 *e*P **P 08 03 58.9 -0.3**

comp=Z,23nm,0.9s,mb5.2
LKWY Lake 82.96 43 *e*P **P 08 04 02.7 +1.2**
LKWY pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
LKWY Lake 82.96 43 *e*P **P 08 04 02.7 +1.2**
comp=Z,6.3nm,0.9s,mb4.7
IMW Indian Meadow 82.97 44 *e*P **P 08 04 01.4 -0.2**
comp=Z,5.6nm,0.8s,mb4.7
MALT Malatya 83.36 310 *e*P **P 08 04 02.8 -0.9**
MALT *e**PP pP 08 04 17.3 +0.8
MALT pmax pmax
comp=Z,14nm,1.4s,mb4.8
MALT Malatya 83.36 310 *e*P **P 08 04 02.8 -0.9**
comp=Z,14nm,1.4s,mb4.8
MALT *e*pP pP 08 04 17.3 +0.8
SUW Suwalki 83.57 329 *e*P **P 08 04 04.2 -0.2**
SUW Suwalki 83.57 329 *e*P **P 08 04 04.2 -0.2**
NB2 NORSAR Subarra 83.57 338 P **P 08 04 03.7 -0.6**
comp=Z,2.4nm,0.6s,mb4.5,baz=45,slow=4.8
NOA NORSAR Array B 83.57 338 P **P 08 04 04.0 -0.3**
comp=Z,2.6nm,0.5s,mb4.6,baz=45,slow=4.9,SNR=18
NOA PP PP 08 07 18.4 +2.0
comp=Z,0.5nm,0.8s,baz=38,slow=7.7,SNR=3.3
LAO LASA Array 84.30 40 *e*P **P 08 04 08.4 +0.1**
comp=Z,9.0nm,0.9s,mb4.9
BW06 Boulder Array 84.42 45 *e*P **P 08 04 08.9 -0.1**
KOLS Kolonicke sedl 87.19 325 *e*P **P 08 04 22.5 -0.1**
STHS Stebnicka Huta 87.40 326 *e*P **P 08 04 24.7 +1.1**
STHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.5
STHS Stebnicka Huta 87.40 326 *e*P **P 08 04 24.7 +1.1**
comp=Z,3.7nm,1.2s,mb4.5
CRVS Cervenica-Dubn 87.62 325 *e*P **P 08 04 25.0 +0.3**
KECS Kecovo 88.38 325 *e*P **P 08 04 28.2 -0.1**
KECS pmax pmax
comp=Z,1.0nm,0.8s,mb4.1
KECS Kecovo 88.38 325 *e*P **P 08 04 28.2 -0.1**
comp=Z,1.4nm,0.8s,mb4.2
OKC Ostrava-Krasne 88.64 327 *e*P **P 08 04 29.2 -0.3**
KSP Ksiaz 88.83 329 *e*P **P 08 04 30.5 +0.1**
KSP Ksiaz 88.83 329 *e*P **P 08 04 30.4 0.0**
MORC Moravsky Berou 88.97 328 *e*P **P 08 04 31.0 -0.1**
MORC pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
MORC Moravsky Berou 88.97 328 *e*P **P 08 04 31.0 -0.1**
comp=Z,4.4nm,0.7s,mb4.9
PSZ Piszkesteto 89.05 325 *e*P **P 08 04 31.8 +0.3**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
PSZ Piszkesteto 89.05 325 *e*P **P 08 04 31.8 +0.3**
comp=Z,7.2nm,0.9s,mb5.0
DPC Dobruska-Polom 89.16 329 *e*P **P 08 04 32.2 +0.3**
BSEG Bad Segeberg 89.16 334 *e*P **P 08 04 31.7 -0.2**
BSEG pmax pmax
comp=Z,12nm,1.1s,mb5.1
BSEG Bad Segeberg 89.16 334 *e*P **P 08 04 31.7 -0.2**
comp=Z,12nm,1.1s,mb5.1
UPC Upice 89.19 329 *e*P **P 08 04 32.2 +0.1**
VYHS Vyhne 89.20 326 *i*P **P 08 04 32.4 +0.2**
VYHS pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
VYHS Vyhne 89.20 326 *i*P **P 08 04 32.4 +0.2**
comp=Z,5.3nm,0.9s,mb4.9
KOLL Kolacno 89.36 326 *e*P **P 08 04 33.4 +0.5**
BRG Berggiesshubel 89.87 330 *e*P **P 08 04 34.5 -0.8**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BRG Berggiesshubel 89.87 330 *e*P **P 08 04 34.6 -0.7**
BRG pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
BRG Berggiesshubel 89.87 330 *e*P **P 08 04 35.0 -0.3**
comp=Z,5.0nm,0.8s,mb4.9
BRG Berggiesshubel 89.87 330 *e*P **P 08 04 34.5 -0.7**
comp=Z,5.0nm,0.8s,mb4.9
CLL Collm 89.98 331⇑ *i*P **P 08 04 35.4 -0.3**
CLL pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
CLL Collm 89.98 331 *e*P **P 08 04 35.2 -0.5**
comp=Z,8.0nm,0.8s,mb5.1
CLL Collm 89.98 331⇑ *i*P **P 08 04 35.4 -0.3**
comp=Z,8.0nm,0.8s,mb5.1
CLL *i* x x 08 04 39.2
MODS Modra-Piesok 90.06 327 *e*P **P 08 04 36.7 +0.5**
MODS pmax pmax
comp=Z,4.0nm,1.1s,mb4.7
MODS Modra-Piesok 90.06 327 *e*P **P 08 04 36.7 +0.5**
comp=Z,4.2nm,1.1s,mb4.7
FBE Freiberg 90.10 330 *e*P **P 08 04 36.2 -0.1**
comp=Z,12nm,0.9s,mb5.2
PRU Pruhonice 90.23 329 *e*P **P 08 04 36.6 -0.4**
TREC Trest 90.28 328 *e*P **P 08 04 36.8 -0.4**
NRDL Niedersach Rie 90.32 333 *e*P **P 08 04 36.6 -0.7**
comp=Z,6.0nm,1.1s,mb4.8
ANMO Albuquerque 90.69 50⇑ *e*P **P 08 04 39.9 +0.5**
CLZ Clausthal 90.70 332 *e*P **P 08 04 39.2 +0.1**
CLZ pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
CLZ Clausthal 90.70 332 *e*P **P 08 04 39.2 +0.1**
comp=Z,8.0nm,0.9s,mb5.0
TANN Tannenbergstha 90.86 330 *e*P **P 08 04 39.6 -0.3**
comp=Z,3.0nm,1.1s,mb4.5
WERD Werda 90.90 330 *e*P **P 08 04 39.4 -0.7**
GUNZ Gunzen 90.95 330 *e*P **P 08 04 40.3 0.0**
comp=Z,7.0nm,0.9s,mb5.0
WERN Wernitzgruen 90.99 330 *e*P **P 08 04 40.5 0.0**
comp=Z,7.0nm,0.8s,mb5.0
MOX Moxa 91.06 331 *e*P **P 08 04 40.7 -0.1**
comp=Z,4.0nm,1.0s,mb4.7
KHC Kasperske Hory 91.28 329⇑ *e*P **P 08 04 42.0 +0.1**
KHC Kasperske Hory 91.28 329 *e*P **P 08 04 41.8 -0.1**
MANZ Manzenberg 91.33 330 *e*P **P 08 04 41.9 -0.2**
comp=Z,4.0nm,0.9s,mb4.8
GEC2 GERESS Array S 91.43 329 *e*P **P 08 04 42.3 -0.3**
GEC2 pmax pmax
comp=Z,7.0nm,0.9s,mb5.0
GEC2 GERESS Array S 91.43 329 *e*P **P 08 04 42.3 -0.3**
comp=Z,7.0nm,0.9s,mb5.0
GERES GERESS Array B 91.43 329 P **P 08 04 42.3 -0.2**
comp=Z,5.0nm,0.8s,mb4.9,baz=42,slow=4.3,SNR=37
ROTZ Rotzenmuhle 91.44 330 *e*P **P 08 04 42.7 +0.1**
comp=Z,10.0nm,1.1s,mb5.1
WET Wettzell 91.59 329 *e*P **P 08 04 43.2 -0.1**
WET pmax pmax
comp=Z,5.0nm,1.1s,mb4.8
WET Wettzell 91.59 329 *e*P **P 08 04 43.2 -0.1**
comp=Z,5.0nm,1.1s,mb4.8
GRA1 Grafenberg Arr 91.93 330 *e*P **P 08 04 44.8 -0.1**
comp=Z,15nm,1.2s,mb5.2
GRF Grafenberg Arr 91.93 330 *e*P **P 08 04 44.8 -0.1**
GRF pmax pmax
comp=Z,15nm,1.2s,mb5.2
GRF Grafenberg Arr 91.93 330 *e*P **P 08 04 44.8 -0.1**
GRF pmax pmax
comp=Z,15nm,1.2s,mb5.2
GRF Grafenberg Arr 91.93 330 *e*P **P 08 04 44.8 -0.1**
comp=Z,15nm,1.2s,mb5.2
BUG Bochum-Univer 92.27 334 *e*P **P 08 04 46.4 0.0**
comp=Z,8.0nm,0.8s,mb5.1
PERS Pernice 92.31 326 *e*P **P 08 04 46.1 -0.6**
PDKS Podkum 92.78 326 *i*P **P 08 04 48.2 -0.6**
BOJS Bojanci 93.04 326 *e*P **P 08 04 49.5 -0.6**
MNTX Cornudas Mount 93.26 52 *e*P **P 08 04 51.7 +0.3**
comp=Z,3.3nm,0.8s,mb4.8
CEY Cerknica 93.29 326 *e*P **P 08 04 50.5 -0.7**
STU Stuttgart 93.51 331 *e*P **P 08 04 52.2 +0.1**
comp=Z,10.0nm,0.6s,mb5.4
BFO Black Forest 94.22 331 *e*P **P 08 04 54.4 -1.0**
BFO pmax pmax
comp=Z,7.0nm,0.9s,mb5.1
BFO Black Forest 94.22 331 *e*P **P 08 04 54.4 -1.0**
comp=Z,7.0nm,0.9s,mb5.1
CDF Champ du Feu 94.60 332 *e*P **P 08 04 57.0 -0.2**
HINF Hinteralfeld 95.25 331 *e*P **P 08 04 59.6 -0.5**
TXAR Lajitas Array 95.83 53 P **P 08 05 03.1 -0.1**
comp=Z,2.0nm,0.9s,mb4.5,baz=316,slow=2.4,SNR=18
CABF La Chapelle 96.51 331 *e*P **P 08 05 04.8 -1.1**
LOR Lormes 96.93 333 *e*P **P 08 05 06.8 -1.0**
LPL La Plagne 97.08 330 *e*P **P 08 05 08.4 -0.1**
comp=Z,4.7nm,0.7s,mb4.8
LPL La Plagne 97.08 330 *e*P **P 08 05 08.4 -0.1**
LPL pmax pmax
comp=Z,2.0nm,0.7s,mb4.7
LPL La Plagne 97.08 330 *e*P **P 08 05 08.4 -0.1**
comp=Z,2.3nm,0.7s,mb4.7
LPG La Plagne 97.08 330 *e*P **P 08 05 08.5 0.0**
comp=Z,4.2nm,0.6s,mb4.8

LPG La Plagne 97.08 330 eP P 08 05 08.5 0.0
LPG pmax pmax
comp=Z,2.0nm,0.6s,mb4.7
LPG La Plagne 97.08 330 eP P 08 05 08.5 0.0
comp=Z,2.1nm,0.6s,mb4.7
SSF Saint Saulge 97.24 333 eP P 08 05 08.9 -0.3
SMF Signal de Mont 97.43 332 eP P 08 05 09.8 -0.3
AVF Avril sur Loir 97.52 333 eP P 08 05 10.2 -0.3
SNAA Sanae 131.26 194 ePKPdf PKPdf 08 10 46.8 -0.7
SNAA e 08 10 51.6
VNA2 Neumayer--Watz 132.79 193 ePKPdf PKPdf 08 10 50.6 +0.2
baz=47,slow=0.5
VNA2 e 08 10 54.9
VNA3 Neumayer Olymp 132.98 192 ePKPdf PKPdf 08 10 50.1 -0.6
VNA3 e 08 10 54.5
VNA1 Neumayer--Stat 133.18 193 ePKPdf PKPdf 08 10 47.9 -3.2
VNA1 e 08 10 52.3
DBIC Dimbokro 133.54 311 PKP PKPdf 08 10 54.3 +0.8
comp=Z,2.7nm,0.7s,baz=224,slow=0.7,SNR=5.4
PLCA Paso Flores 149.98 125 PKIKP PKPbc 08 11 26.9 +0.2
PLCA pmax pmax
comp=Z,3.0nm,0.6s
PLCA Paso Flores 149.98 125 PKPbc PKPbc 08 11 26.9 +0.2
comp=Z,3.0nm,0.6s,baz=294,slow=1.3,SNR=9.1
LPAZ La Paz 150.17 75 ePKPdf PKPdf 08 11 23.8 +1.0
LPAZ ePKPbc PKPbc 08 11 28.7 +0.8
LPAZ La Paz 150.17 75 PKP PKPdf 08 11 23.2 +0.4
comp=Z,1.0nm,0.8s,baz=266,slow=5.0,SNR=4.6
LPAZ PKPbc PKPbc 08 11 28.6 +0.7
comp=Z,3.1nm,0.5s,baz=289,slow=2.1,SNR=20

*NEIC **05** 07:53:38.5, 38.87S×175.14E, h225km, MG3.7(WEL), After WEL.*
WEL 05 07:53:38.6±0.4, 3888S×17514E, h224km±3km, ML3.7/18, Error ellipse: s-maj=3.4km s-min=3.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKVZ	Pokaka	0.44	159	PN	Pn	07 54 08.1	-0.2
WPVZ	Whakapapa	0.46	136	P	Pn	07 54 08.3	0.0
WPVZ				S	S	07 54 31.0	-0.6
WPVZ	Whakapapa	0.46	136	PN	Pn	07 54 08.3	0.0
WPVZ				SN	S	07 54 31.0	-0.6
FWVZ	Far West T-bar	0.50	140	P	Pn	07 54 08.5	0.0
FWVZ				S	S	07 54 30.8	-1.1
FWVZ	Far West T-bar	0.50	140	PN	Pn	07 54 08.5	+0.1
FWVZ				SN	S	07 54 30.8	-1.1
TRVZ	Turoa	0.53	143	PN	Pn	07 54 08.7	+0.1
TUVZ	Tukino	0.56	135	PN	Pn	07 54 08.8	+0.1
MTVZ	Mangateitei	0.57	154	PN	Pn	07 54 08.8	0.0
MTVZ				SN	S	07 54 31.3	-1.0
WNVZ	Wahianoa	0.57	142	P	Pn	07 54 08.8	+0.1
WNVZ	Wahianoa	0.57	142	PN	Pn	07 54 08.8	+0.1
MOVZ	Moawhango	0.71	138	P	Pn	07 54 09.0	-0.3
MOVZ				S	S	07 54 31.0	-2.4
MOVZ	Moawhango	0.71	138	PN	Pn	07 54 09.0	-0.3
MOVZ				SN	S	07 54 31.0	-2.4
WAZ	Wanganui	0.89	188	P	Pn	07 54 10.4	+0.2
WAZ	Wanganui	0.89	188	PN	Pn	07 54 10.4	+0.2
PKE	Pukeiti	0.95	250	P	Pn	07 54 10.1	-0.5
PKE	Pukeiti	0.95	250	PN	Pn	07 54 10.1	-0.5
BKZ	Black Stump Fm	1.09	106	P	Pn	07 54 11.0	-0.4
BKZ	Black Stump Fm	1.09	106	PN	Pn	07 54 11.0	-0.4
TSZ	Takapari Road	1.34	152	P	Pn	07 54 13.4	+0.2
TSZ	Takapari Road	1.34	152	PN	Pn	07 54 13.4	+0.2
WPHZ	Waipukurau	1.56	140	PN	Pn	07 54 15.2	+0.3
URZ	Urewera	1.66	69	P	Pn	07 54 14.0	-1.9
URZ	Urewera	1.66	69	PN	Pn	07 54 14.0	-1.8
PXZ	Pawanui	1.76	131	PN	Pn	07 54 16.8	+0.1
MRZ	Mangatainoka R	1.82	169	P	Pn	07 54 16.9	-0.3
MRZ	Mangatainoka R	1.82	169	PN	Pn	07 54 16.9	-0.3
MWZ	Matawai	1.94	75	P	Pn	07 54 17.0	-1.4
MWZ	Matawai	1.94	75	PN	Pn	07 54 17.0	-1.5
KNZ	Kokohu	1.98	95	eP	Pn	07 54 18.3	-0.5
KNZ	Kokohu	1.98	95	PN	Pn	07 54 18.3	-0.5
KIW	Kapiti Island	1.99	185	P	Pn	07 54 18.3	-0.5
KIW	Kapiti Island	1.99	185	PN	Pn	07 54 18.3	-0.5
BFZ	Birch Farm	1.99	155	eP	Pn	07 54 18.6	-0.3
BFZ	Birch Farm	1.99	155	PN	Pn	07 54 18.6	-0.3
DUWZ	D'Urville Isla	2.14	206	PN	Pn	07 54 19.5	-0.8
CAW	Cannon Point	2.23	181	P	Pn	07 54 20.7	-0.5
CAW	Cannon Point	2.23	181	PN	Pn	07 54 20.7	-0.5
MTW	Mount Morrison	2.30	173	P	Pn	07 54 21.1	-0.8
MTW	Mount Morrison	2.30	173	PN	Pn	07 54 21.1	-0.8
MRW	Makara Radio	2.38	188	P	Pn	07 54 22.0	-0.7
MRW	Makara Radio	2.38	188	PN	Pn	07 54 22.0	-0.7
TCW	Tory Channel	2.43	196	PN	Pn	07 54 22.7	-0.5
SNZO	South Karori	2.46	188	P	Pn	07 54 22.6	-0.9
SNZO	South Karori	2.46	188	PN	Pn	07 54 22.6	-0.9
PAWZ	Paruwai Farm	2.51	175	P	Pn	07 54 23.4	-0.7
PAWZ	Paruwai Farm	2.51	175	PN	Pn	07 54 23.4	-0.8
BHW	Baring Head	2.54	185	P	Pn	07 54 23.5	-0.9
BHW	Baring Head	2.54	185	PN	Pn	07 54 23.5	-0.9
MSWZ	Moikau Station	2.54	178	P	Pn	07 54 23.6	-0.8
MSWZ	Moikau Station	2.54	178	PN	Pn	07 54 23.6	-0.8
PLWZ	Palliser	2.69	178	PN	Pn	07 54 25.1	-1.0
NNZ	Nelson	2.70	209	P	Pn	07 54 24.7	-1.5
NNZ	Nelson	2.70	209	PN	Pn	07 54 24.7	-1.5
TUWZ	Tuamarina	2.71	199	PN	Pn	07 54 25.5	-0.8
QRZ	Quartz Range	2.80	225	P	Pn	07 54 25.1	-2.2
QRZ	Quartz Range	2.80	225	PN	Pn	07 54 25.1	-2.2
MXZ	Matakaoa Point	2.81	63	eP	Pn	07 54 25.5	-2.0
MXZ	Matakaoa Point	2.81	63	PN	Pn	07 54 25.5	-2.0
BSWZ	Blackbirch Sta	3.00	198	P	Pn	07 54 28.9	-0.5
BSWZ	Blackbirch Sta	3.00	198	PN	Pn	07 54 28.9	-0.5
THZ	Tophouse	3.35	210	eP	Pn	07 54 31.7	-1.8
THZ	Tophouse	3.35	210	PN	Pn	07 54 31.7	-1.9
KHZ	Kahutara	3.74	198	P	Pn	07 54 37.0	-1.1
KHZ	Kahutara	3.74	198	PN	Pn	07 54 37.0	-1.1
LTZ	Lake Taylor	4.47	208	eP	Pn	07 54 44.9	-2.0
LTZ	Lake Taylor	4.47	208	PN	Pn	07 54 44.9	-2.0
MQZ	McQueen's Vall	5.18	200	eP	Pn	07 54 52.7	-3.1
MQZ	McQueen's Vall	5.18	200	PN	Pn	07 54 52.7	-3.0
ODZ	Otahua Downs	7.02	207	eP	Pn	07 55 16.9	-2.2
ODZ	Otahua Downs	7.02	207	PN	Pn	07 55 16.9	-2.2

MAN 05 07:57:00, 1383N×12249E, h10km, mb3.7, ML2.5, MS2.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GQP	Guinayangan	0.09	332	⇓eP	Pg	07 57 03.5	+1.0
GQP				i S	Sg	07 57 06.1	+1.9
POLP	Polilio Island	1.04	329	eP	Pg	07 57 20.0	-0.1
POLP				eS	Sg	07 57 35.6	+1.9
OTRP	Odiongan	1.52	197	eP	Pn	07 57 26.9	-0.4
PVCP	Virac	1.63	98	eP	Pn	07 57 29.6	+0.7
PVCP				eS	Sn	07 57 50.4	+0.5

*ISCJB **05** 08:09:29.4±0.5, 3694N±003×138.16E±007, h20km±5km, mb3.5/5, MS2.9/2, Error ellipse: s-maj=10.0km s-min=5.1km az=179.5*
*NEIC **05** 08:09:29.9, 3694N×138.18E, h0km, MG3.3(JMA), After JMA.*
*JMA **05** 08:09:29.8±0.3, 3694N×138.18E, h0km±3km, M3.3*
JMA Felt III J1.
*IDC **05** 08:09:30.6±2.3, 3687N×13822E, h18km±17km, mb3.5/5, mb1 3.7/6, mb1mx3.5/21, mbtmp3.4/6, ML3.2/1, MS2.8/4, Ms1 2.8/4, ms1mx2.6/18, Error ellipse: s-maj=33.9km s-min=27.2km az=84.0*
ISC 05 08:09:29.9±0.5, 3694N±003×13821E±007, h11km±4km, n20, σ0956/21, mb3.5/5, MS2.9/2, 2C-2D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJN	Nakama	0.17	348	⇓P	Pg	08 09 33.7	+0.1
JJN				eS	Sg	08 09 36.0	-0.2
MAJO	Matsushiro	0.40	180	eP	Pg	08 09 37.6	-0.2
MAJO				eS	Sg	08 09 43.7	+0.7
MAT	Matsushiro	0.40	180	P	Pg	08 09 37.4	-0.4
MAT				S	Sg	08 09 43.0	-0.1
MJAR	Matsushiro Arr	0.40	180	Pg	Pg	08 09 37.9	+0.1
MJAR				Lg		08 09 44.0	
MJAR	Matsushiro Arr	0.40	180	Pg	Pg	08 09 37.9	+0.2
MJAR	286nm,0.3s,baz=352,slow=17,SNR=2567			Lg		08 09 44.0	
	384nm,0.3s,baz=354,slow=26,SNR=33						
JGK	Kuni	0.52	137	P	Pg	08 09 40.2	+0.3
JNG	Nsakai	0.54	189	⇓P	Pg	08 09 40.0	-0.4
JNG				eS	Sg	08 09 47.6	0.0
JIZZ	Izumozaki	0.71	34	P	Pg	08 09 44.6	+0.9
JHK	Hiroka	0.72	64	⇑P	Pg	08 09 43.8	0.0
JSZ	Suzu	0.84	307	⇑P	Pg	08 09 45.4	-0.7
JKT	Katashina	0.85	101	P	Pg	08 09 46.0	-0.4
ASAJ	Asahikawa	7.91	24	LR	LR	08 14 22.0	
	comp=Z,44nm,20.7s,baz=182,slow=37						
KSRS	Korea Array	8.22	277	Pn	Pn	08 11 30.8	+1.7
	0.3nm,0.3s,baz=85,slow=14,SNR=3.2						
KSRS				LR	LR	08 14 20.3	
	comp=Z,39nm,20.8s,baz=85,slow=35						
GUMO	Guam	24.01	164	LR	LR	08 22 41.8	
	comp=Z,41nm,19.8s,MS2.9,baz=199,slow=33						
SONM	Songino Array	25.72	305	LR	LR	08 24 53.0	
	comp=Z,37nm,20.5s,MS2.9,baz=174,slow=36						
WRA	Warramunga Arr	56.69	184	P	P	08 19 12.4	-0.9
	0.8nm,0.6s,mb4.0,baz=360,slow=7.4,SNR=14						
YKA	Yellowknife Ar	65.16	29	P	P	08 20 10.7	+0.3
	0.1nm,0.6s,mb3.0,baz=304,slow=5.4,SNR=3.1						
AKASG	Malin Array Be	72.78	321	P	P	08 20 57.6	-0.4
	0.2nm,0.3s,mb3.5,baz=46,slow=5.7,SNR=4.1						
NOA	NORSAR Array B	73.25	336	P	P	08 21 00.5	-0.2
	0.5nm,0.6s,mb3.6,baz=40,slow=6.0,SNR=3.5						
TXAR	Lajitas Array	92.19	50	P	P	08 22 39.7	-0.1
	0.2nm,0.7s,mb3.6,baz=336,slow=4.2,SNR=2.4						

*NDI **05** 08:14:57.1±5.4, 3466N×8228E, h10km, mb4.5, mb4.4(NEIC)*
*ISCJB **05** 08:15:02.3±0.4, 3420N±004×8178E±006, h10km, mb3.9/11, Error ellipse: s-maj=8.2km s-min=4.1km az=31.3*
*NEIC **05** 08:15:04.0±0.5, 3415N×8193E, mb4.4/4, Error ellipse: s-maj=12.2km s-min=8.3km az=71.0*
*IDC **05** 08:15:03.6±1.0, 3421N×8205E, h11km±4km, mb3.7/8, mb1 4.0/10, mb1mx3.7/23, mbtmp3.8/10, ML3.8/2, Error ellipse: s-maj=40.5km s-min=15.5km az=53.0*
*BJI **05** 08:15:10.0, 3473N×8260E, h7km, mb4.0*
ISC 05 08:15:04.4±0.4, 3423N±004×8183E±006, h10km, n34, σ0993/37, mb3.9/11, 7C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	Kalpa	4.04	229	eP	Pb	08 16 19.2	+3.6
KLP				AMb	AMB	08 16 22.5	
	comp=Z,36nm,0.8s						
KLP				eS	Sg	08 17 14.7	+0.6
SMLA	Simla	5.00	233	eS	Sn	08 17 18.4	+1.0
THN	Thein Dam	5.42	252	eP	Pn	08 16 25.2	-0.1
NDI	New Delhi	6.79	217	ex	x	08 17 51.6	
SONA	Sohna	7.22	216	eP	Pn	08 16 50.7	+0.8
SONA				AMb	AMB	08 16 52.2	
	comp=Z,6.1nm,0.4s						
SONA				eS	Sn	08 18 11.5	-0.4
KUDL	Kundal	7.60	218	eP	Pn	08 16 55.9	+0.7
KUDL				eS	Sn	08 18 19.7	-1.7
KHET	Khetri	8.02	222	eP	Pn	08 17 01.8	+0.9
KHET				AMb	AMB	08 17 04.6	
	comp=Z,4.7nm,0.8s						
KHET				eS	Sn	08 18 30.1	-1.6
UCH	Uchtor	9.84	326	ePn	Pn	08 17 26.6	+0.8
	comp=Z,3.5nm,0.8s						
MK31	Makanchi Array	12.55	1	ePn	Pn	08 18 02.8	-0.1
MKAR	Makanchi Array	12.55	1	Pn	Pn	08 18 03.0	+0.1
	comp=Z,0.7nm,0.3s,baz=183,slow=13,SNR=51						
AKL	Akola	14.13	199	eP	Pn	08 18 25.5	+0.8
AKL				AMb	AMB	08 18 28.5	
	comp=Z,12nm,0.7s						
GTA	Gaotai	15.29	65	eP	Pn	08 18 40.4	+0.1
GTA				AMB	AMB		
	comp=Z,2.0nm,1.3s						
KURK	Kurchatov	16.64	353	Pn	Pn	08 18 58.7	+1.1
	comp=Z,6.5nm,1.0s						
ZALV	Zalesovo Beam	19.82	5	P	Pn	08 19 35.5	-1.0
	comp=Z,0.2nm,0.3s,baz=183,slow=8.8,SNR=4.9						
KMI	Kunming	20.28	111	P	P	08 19 42.5	+2.3
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s						
BVAR	Borovoye Array	20.48	340	P	P	08 19 41.8	-0.3
	comp=Z,7.0nm,0.8s,baz=111,slow=7.9,SNR=9.9						
BVAR				pP		08 19 46.4	
	comp=Z,7.7nm,0.8s,baz=144,slow=11,SNR=22						
BRVK	Borovoye	20.54	340	eP	P	08 19 43.4	+0.6
	comp=Z,9.9nm,0.9s						
GYA	Guiyang	22.75	103	P	P	08 20 07.5	+0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
AKTK	Aktyubinsk	23.77	320	P	P	08 20 16.6	-0.3
AKTK				pP		08 20 21.0	
AKTO	Aktyubinsk	23.77	320	P	P	08 20 16.6	-0.3
	comp=Z,1.5nm,0.7s,mb3.6,baz=114,slow=13,SNR=2.4						
AKTO				pP		08 20 21.0	
	comp=Z,1.4nm,0.6s,baz=106,slow=17,SNR=3.1						
AKASG	Malin Array Be	41.23	310	P	P	08 22 49.2	-0.1
	comp=Z,0.3nm,0.4s,mb3.2,baz=83,slow=7.1,SNR=3.4						
JOF	Joensuu	42.36	328	ep	P	08 22 58.1	-0.2
	comp=Z,2.4nm,0.6s,mb4.0						
FINES	FINESS Array B	44.35	325	P	P	08 23 14.4	0.0
	comp=Z,0.6nm,0.5s,mb3.6,baz=93,slow=7.8,SNR=5.0						
GERES	GERESS Array B	51.38	308	P	P	08 24 09.7	+0.6
	comp=Z,0.5nm,0.6s,mb3.6,baz=72,slow=4.3,SNR=4.5						
LPG	La Plagne	56.77	306	⇑iP	P	08 24 48.9	+0.4
	comp=Z,1.1nm,0.8s,mb4.6						
LPG	La Plagne	56.77	306	⇑iP	P	08 24 48.9	+0.4
	comp=Z,5.3nm,0.8s,mb4.6						
LPL	La Plagne	56.77	306	⇑iP	P	08 24 48.8	+0.3
	comp=Z,5.8nm,0.5s,mb4.5						
LPL	La Plagne	56.77	306	⇑iP	P	08 24 48.8	+0.3
	comp=Z,2.9nm,0.5s,mb4.6						
BAIF	Baives	57.14	311	⇑iP	P	08 24 51.4	+0.4
LOR	Lormes	58.16	308	⇑iP	P	08 24 57.3	-0.9
SSF	Saint Saulge	58.45	308	⇑iP	P	08 24 59.5	-0.8
WRA	Warramunga Arr	73.47	129	P	P	08 26 35.7	-1.5
	comp=Z,0.9nm,0.6s,mb3.9,baz=327,slow=5.7,SNR=8.5						
ASAR	Alice Springs	75.91	132	P	P	08 26 49.6	-1.6
	comp=Z,0.7nm,0.8s,mb3.7,baz=315,slow=6.2,SNR=6.1						
ASAR				pP	pP	08 26 53.5	-1.1
	comp=Z,0.8nm,0.6s,baz=318,slow=6.0,SNR=3.9						
YKA	Yellowknife Ar	82.71	8	P	P	08 27 26.0	-1.8
	comp=Z,0.9nm,0.6s,mb4.0,baz=342,slow=5.2,SNR=16						
YKA				pP	pP	08 27 30.0	-1.2
	comp=Z,0.9nm,0.6s,baz=340,slow=5.3,SNR=13						

*IGQ **05** 08:19:27.2, 005S×8037W, h10km±7km, Mb4.5, Ms4.3, Error ellipse: s-maj=7.1km s-min=1.7km az=41.1*
*ISCJB **05** 08:19:32.0±0.6, 0.17S±004×8041W±004, h44km±6km, mb4.6/39, MS3.7/3, Error ellipse: s-maj=6.7km s-min=6.2km az=173.9*
*NEIC **05** 08:19:35.0±1.1, 0.16S×8022W, h57km±10km, mb4.4/10, MD4.5(IGQ), Error ellipse: s-maj=11.1km s-min=6.0km az=69.0*
*IDC **05** 08:19:35.7±1.9, 0.11S×8016W, h61km±18km, mb4.0/13, mb1 4.2/20, mb1mx4.1/27, mbtmp4.2/20, MS3.8/7, Ms1 3.8/7, ms1mx3.4/29, Error ellipse: s-maj=20.0km s-min=9.9km az=72.0*
ISC 05 08:19:35.0±0.8, 013S±004×8026W±006, h53km±6km, n105, σ0995/94, mb4.6/38, MS3.7/3, 8C-14D, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHIS	Cerro-Chispas-	1.02	207	⇑P	Pn	08 19 47.4	-5.7
CHIS				⇑S	Sn	08 19 60.0	-6.5
JUA2	San Juan 2	1.66	93	⇓P	Pn	08 20 00.4	-1.3
YANA	Yana	1.69	90	⇓P	Pn	08 20 00.4	-1.7
VC1	Cotopaxi 1	1.93	105	⇓P	Pn	08 20 05.2	-0.1
COTA	Cotacachi	1.98	77	⇓P	Pn	08 20 04.8	-1.3
COTA	Cotacachi	1.98	77	⇓S	Sn	08 20 29.5	-0.2
IGUA	Igualata	2.11	130	⇓P	Pn	08 20 06.9	-1.0
IGUA	Igualata	2.11	130	⇓S	Sn	08 20 34.0	+1.0
ANTI	Antisana	2.12	99	⇓P	Pn	08 20 08.1	+0.1
JUIV	Juive	2.21	126	⇑P	Pn	08 20 08.4	-0.8
JUIV	Juive	2.21	126	⇑S	Sn	08 20 36.7	+1.3
RUN5	Runtun	2.24	125	⇓P	Pn	08 20 08.8	-0.8
RUN5	Runtun	2.24	125	⇓S	Sn	08 20 38.0	+1.9
RETU	Refugio	2.24	126	⇓P	Pn	08 20 09.4	-0.2
RETU	Refugio	2.24	126	⇓S	Sn	08 20 40.4	+4.3
CAYR	Refugio Cayamb	2.26	86	⇑P	Pn	08 20 10.8	+0.9
ARRY	Arrayan	2.27	127	⇓P	Pn	08 20 09.0	-1.0
PATA	Patacocha	2.28	127	⇓P	Pn	08 20 09.6	-0.6
CONE	Cono NE Rev Vo	2.62	89	⇑P	Pn	08 20 17.0	+2.2
LAV3	Lava3-Reventad	2.63	89	⇑P	Pn	08 20 17.1	+2.1
ATAH	Atahualpa	7.08	165	P	Pn	08 21 19.2	+3.2
	3.9nm,0.3s,baz=27,slow=6.3,SNR=21						
ATAH				S	Sn	08 22 41.2	+6.1
	1.9nm,0.3s,baz=270,slow=19,SNR=4.4						
ATAH				LR	LR	08 24 05.8	
	comp=Z,971nm,18.0s,baz=182,slow=38						
ROSC	El Rosal	7.72	50	ePn	Pn	08 21 24.7	-0.1
ROSC				eSn	Sn	08 23 03.4	+12
ROSC	El Rosal	7.72	50	P	Pn	08 21 24.4	-0.4
	2.6nm,0.3s,baz=304,slow=4.9,SNR=7.8						
ROSC				S	Sn	08 22 55.8	+4.8
	1.2nm,0.3s,baz=90,slow=20,SNR=2.6						
ROSC				LR	LR	08 24 49.3	
	comp=Z,258nm,21.5s,baz=208,slow=41						
JTS	JuntasAbangare	11.36	336	ePn	Pn	08 22 14.7	+0.1
	14nm,0.9s						
JTS	JuntasAbangare	11.36	336	P	Pn	08 22 14.9	+0.3
	0.3nm,0.3s,baz=214,slow=6.8,SNR=7.1						
JTS				LR	LR	08 25 45.8	
	comp=Z,441nm,18.5s,baz=359,slow=32						
NNA	Nana	12.26	164	ePn	Pn	08 22 25.6	-1.3
	35nm,0.8s						
NNA				eSn	Sn	08 24 33.0	-9.1
NNA	Nana	12.26	164	P	Pn	08 22 25.9	-1.0
	3.2nm,0.3s,baz=329,slow=10,SNR=9.6						
NNA				S	Sn	08 24 37.2	-4.9
	1.4nm,0.3s,baz=190,slow=18,SNR=4.0						
SDV	Santo Domingo	13.12	47	ePn	Pn	08 22 39.2	+0.5
	23nm,0.9s						
SDV	Santo Domingo	13.12	47	P	Pn	08 22 38.8	+0.1
	0.9nm,0.3s,baz=236,slow=11,SNR=10						
ARE	Arequipa	18.39	152	eP	Pn	08 23 49.0	+2.8
PCRV	Puerto La Cruz	18.61	56	P	Pn	08 23 46.7	-2.3
	0.9nm,0.3s,baz=202,slow=5.4,SNR=4.2						
PCRV				LR	LR	08 31 54.6	
	comp=Z,338nm,19.6s,baz=12,slow=40						
LPAZ	La Paz	20.02	144	eP	P	08 24 05.0	+1.4
	14nm,0.9s						
LPAZ	La Paz	20.02	144	P	P	08 24 04.9	+1.3
	0.4nm,0.3s,baz=329,slow=11,SNR=18						
LPAZ				LR	LR	08 33 12.0	
	comp=Z,234nm,21.5s,MS3.5,baz=251,slow=41						
SDDR	Presa de Saban	20.94	24	P	P	08 24 15.0	+1.6
	7.4nm,0.8s						
TEIG	Tepich	21.70	339	P	P	08 24 22.2	+0.6
	8.9nm,0.9s,mb4.2,baz=137,slow=8.9,SNR=3.8						
SJG	San Juan	22.83	37	P	P	08 24 34.9	+1.3
	20nm,0.7s,mb4.6,baz=336,slow=18,SNR=3.1						
MTP	Monte Pirata	23.18	38	P	P	08 24 36.9	-0.4
SIV	San Ignacio	24.64	131	P	P	08 24 50.4	-0.4
	4.2nm,0.7s,mb4.1,baz=302,slow=9.7,SNR=32						
CFAA	Coronel Fontan	33.31	161	P	P	08 26 07.3	-0.4
CFAA	Coronel Fontan	33.31	161	P	P	08 26 07.3	-0.4
	0.4nm,0.9s,baz=330,slow=8.6,SNR=9.1						
CPUP	Villa Florida	34.16	141	P	P	08 26 13.2	-2.0
	1.5nm,0.7s,mb4.1,baz=305,slow=17,SNR=4.0						
CPUP				LR	LR	08 42 31.4	
	comp=Z,202nm,20.7s,MS3.8,baz=319,slow=40						
BDFB	Brasilia	35.37	117	P	P	08 26 24.9	-0.9
	1.9nm,0.5s,mb4.2,baz=284,slow=19,SNR=7.0						
BDFB				LR	LR	08 41 35.8	
	comp=Z,173nm,19.3s,MS3.8,baz=137,slow=37						
CPCT	Cooper Cave	35.62	354	eP	P	08 26 27.3	-0.4
TXAR	Lajitas Array	36.85	325	P	P	08 26 39.0	+0.7
TXAR				PcP	PcP	08 29 00.1	+0.7
TXAR	Lajitas Array	36.85	325	P	P	08 26 39.0	+0.7
	0.5nm,0.7s,mb3.5,baz=146,slow=9.6,SNR=4.2						
TXAR				PcP	PcP	08 29 00.1	+0.7
	1.0nm,0.8s,baz=170,slow=6.0,SNR=8.6						
BLO	Bloomington	39.53	352	eP	P	08 26 58.4	-2.3
	7.7nm,0.6s,mb4.6						
PLCA	Paso Flores	41.37	169	P	P	08 27 15.4	-0.4
	8.6nm,0.9s,mb4.4,baz=337,slow=10.0,SNR=17						
KSU1	Kansas State U	41.82	341	eP	P	08 27 19.3	-0.3
	21nm,1.1s,mb4.7						
ERPA	Erie	42.05	0	eP	P	08 27 20.4	-1.0
	9.9nm,0.9s,mb4.4						
ANMO	Albuquerque	42.63	328	eP	P	08 27 27.6	+1.3
	2.9nm,0.8s,mb4.1						
SDCO	Great Sand Dun	44.30	331	eP	P	08 27 41.1	+1.4
	3.7nm,0.9s,mb4.1						
NVAR	Mina Array Bea	51.89	322	P	P	08 28 39.7	+1.4
NVAR	Mina Array Bea	51.89	322	P	P	08 28 39.7	+1.4
	2.5nm,0.8s,mb4.2,baz=130,slow=8.1,SNR=15						
ULM	Lac du Bonnet	51.93	347	eP	P	08 28 36.6	-1.8
	6.1nm,0.6s,mb4.7						
ULM	Lac du Bonnet	51.93	347	P	P	08 28 37.1	-1.2
	11nm,0.6s,mb4.9,baz=160,slow=7.8,SNR=17						
GCMT	Greycliff	52.56	334	eP	P	08 28 43.5	+0.4
BOZ	Bozeman (W)	53.32	333	eP	P	08 28 49.1	+0.4
	2.2nm,0.9s,mb4.1						
SCHQ	Schefferville	55.88	9	P	P	08 29 06.0	-1.1
	3.9nm,1.0s,mb4.4,baz=224,slow=12,SNR=3.7						
EDM	Edmonton	59.87	338	eP	P	08 29 34.8	-0.3
YKA	Yellowknife Ar	67.58	344	P	P	08 30 25.0	-0.7
	3.9nm,0.8s,mb4.5,baz=136,sl

2.6nm,0.8s,baz=113,slow=1.4,SNR=21
KAKA Kakadu 145.15 247 *e*P PKPbc 08 39 06.0 -1.3
20nm,0.7s
DANN Dangsing 148.04 27 *e*P PKPbc 08 39 15.7 +0.3
53nm,0.9s
KOLN Koldanda 148.46 28 *e*P PKPbc 08 39 16.1 -0.4
21nm,0.9s
GKN Gorkha 148.73 26 *e*P PKPbc 08 39 17.3 +0.1
18nm,0.6s
FITZ Fitzroy Crossi 148.75 233 *e*P PKPbc 08 39 16.8 -0.7
7.0nm,0.8s
KKN Kakani 149.20 26 *e*P PKPbc 08 39 18.5 +0.1
16nm,0.6s
DMN Daman 149.28 26 *e*P PKPbc 08 39 18.6 0.0
22nm,0.8s
GUN Gumba 149.35 25 *e*P PKPbc 08 39 19.5 +0.8
PKI Pulchoki 149.44 26 *e*P PKPbc 08 39 18.8 -0.2

ISCJB ***05*** *08:43:10.9±1.1, 1002S±005×7543W±007, h46km±11km, mb4.3/13, MS3.4/2, Error ellipse: s-maj=12.3km s-min=6.9km az=154.5*
NEIC ***05*** *08:43:11.7±0.3, 1001S×7546W, mb4.6/8, Error ellipse: s-maj=10.8km s-min=6.0km az=66.0*
IDC ***05*** *08:43:12.0±3.3, 998S×7546W, h38km±30km, mb3.8/9, mb1 4.0/12, mb1mx3.9/21, mbtmp3.8/12, ML4.4/4, MS3.2/5, Ms1 3.3/5, ms1mx2.8/32, Error ellipse: s-maj=21.9km s-min=15.8km az=56.0*
ISC 05 08:43:12.6±0.9, 1005S±005×7544W±007, h45km±10km, n37, σ0°84/34, mb4.3/13, MS3.4/2, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.37**	**215**	*e*Pn	**Pn**	**08 43 47.7**	**-1.4**
NNA				*e*Sn	**Sn**	**08 44 16.3**	**-0.7**
NNA	**Nana**	**2.37**	**215**	Pn	**Pn**	**08 43 48.1**	**-1.0**
	506nm,0.3s,baz=18,slow=18,SNR=493						
NNA				Sn	**Sn**	**08 44 16.2**	**-0.7**
	634nm,0.3s,baz=243,slow=9.4,SNR=38						
NNA				LR	LR	08 44 31.9	
	comp=Z,638nm,19.8s,baz=314,slow=33						
ATAH	**Atahualpa**	**4.21**	**316**	Pn	**Pn**	**08 44 14.5**	**+0.2**
	9.3nm,0.3s,baz=149,slow=3.6,SNR=58						
ATAH				Sn	**Sn**	**08 45 03.8**	**+1.5**
	14nm,0.3s,baz=14,slow=12,SNR=4.5						
LPAZ	**La Paz**	**9.44**	**132**	*e*Pn	**Pn**	**08 45 27.0**	**+0.9**
	6.0nm,0.6s						
LPAZ	**La Paz**	**9.44**	**132**	Pn	**Pn**	**08 45 28.3**	**+2.2**
	0.4nm,0.3s,baz=333,slow=5.7,SNR=16						
LPAZ				Lg		08 48 04.9	
	0.8nm,0.3s,baz=202,slow=19,SNR=2.9						
LPAZ				LR	LR	08 49 18.1	
	comp=Z,65nm,19.2s,baz=140,slow=39						
ROSC	**El Rosal**	**14.84**	**4**	Lg		08 50 57.9	
	0.3nm,0.3s,baz=90,slow=20,SNR=2.4						
ROSC				LR	LR	08 53 16.7	
	comp=Z,54nm,21.7s,baz=182,slow=41						
SIV	**San Ignacio**	**15.19**	**114**	Pn	**Pn**	**08 46 42.8**	**-1.4**
	1.0nm,0.3s,baz=305,slow=12,SNR=19						
SIV				Lg		08 50 57.1	
	1.2nm,0.3s,baz=221,slow=23,SNR=3.0						
LCO	**Las Campanas**	**19.38**	**167**	*e*P	**Pn**	**08 47 36.3**	**0.0**
	5.0nm,0.4s						
SDV	**Santo Domingo**	**19.40**	**14**	P	**Pn**	**08 47 35.6**	**-1.0**
	12nm,1.0s						
SDV	**Santo Domingo**	**19.40**	**14**	P	**Pn**	**08 47 35.5**	**-1.1**
	0.8nm,0.3s,baz=235,slow=11,SNR=11						
CFAA	**Coronel Fontan**	**22.47**	**164**	P	**P**	**08 48 09.4**	**+1.3**
	0.6nm,0.7s,baz=334,slow=8.3,SNR=17						
PCRV	**Puerto La Cruz**	**22.78**	**28**	LR	LR	08 58 16.0	
	comp=Z,193nm,18.3s,MS3.6,baz=208,slow=40						
CPUP	**Villa Florida**	**23.58**	**136**	*e*P	**P**	**08 48 20.1**	**+0.7**
	29nm,1.1s,mb4.6						
CPUP				*ep*P		08 48 30.2	
CPUP	**Villa Florida**	**23.58**	**136**	P	**P**	**08 48 20.4**	**+0.9**
	2.1nm,0.6s,mb3.7,baz=284,slow=12,SNR=6.8						
CPUP				LR	LR	08 59 15.7	
	comp=Z,76nm,21.0s,MS3.1,baz=152,slow=41						
BDFB	**Brasilia**	**27.29**	**105**	P	**P**	**08 48 53.7**	**+0.4**
	2.1nm,0.7s,mb3.8,baz=204,slow=24,SNR=4.2						
TRQA	**Tornquist**	**30.40**	**159**	*e*P	**P**	**08 49 19.6**	**-1.0**
	26nm,1.5s,mb4.7						
PLCA	**Paso Flores**	**30.87**	**173**	P	**P**	**08 49 25.4**	**+0.6**
	1.9nm,0.9s,mb3.9,baz=341,slow=13,SNR=3.9						
TXAR	**Lajitas Array**	**47.68**	**326**	P	**P**	**08 51 45.1**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=150,slow=8.5,SNR=14						
TXAR				PcP	PcP	08 53 14.2	+0.4
	0.4nm,0.6s,baz=160,slow=5.5,SNR=4.0						
BRYW	**Bryant College**	**51.83**	**4**	*e*P	**P**	**08 52 16.9**	**+0.7**
	36nm,0.7s,mb5.4						
SDCO	**Great Sand Dun**	**55.24**	**331**	*e*P	**P**	**08 52 41.5**	**+0.2**
	2.2nm,0.7s,mb4.3						
AGMN	**Agassiz Refuge**	**60.84**	**345**	*e*P	**P**	**08 53 19.2**	**-1.0**
	2.2nm,0.6s,mb4.5						
AGMN				*ep*P	pP	08 53 30.0	-3.1
NVAR	**Mina Array Bea**	**62.63**	**323**	P	**P**	**08 53 32.7**	**+0.1**
NVAR	**Mina Array Bea**	**62.63**	**323**	P	**P**	**08 53 32.7**	**+0.1**
	0.8nm,0.7s,mb4.0,baz=146,slow=7.6,SNR=7.2						
ULM	**Lac du Bonnet**	**62.64**	**345**	P	**P**	**08 53 31.3**	**-1.1**
ULM	**Lac du Bonnet**	**62.64**	**345**	P	**P**	**08 53 31.3**	**-1.1**
	4.0nm,0.6s,mb4.8,baz=165,slow=5.2,SNR=9.1						
RLMT	**Red Lodge**	**62.82**	**334**	*e*P	**P**	**08 53 33.4**	**-0.3**
RLMT				*ep*P	pP	08 53 43.9	-2.6
DBIC	**Dimbokro**	**72.23**	**80**	P	**P**	**08 54 33.0**	**-0.7**
	1.4nm,0.4s,mb4.3,baz=181,slow=5.8,SNR=6.9						
VNA1	**Neumayer--Stat**	**73.10**	**161**	*e*	**P**	**08 54 38.8**	**+0.9**
VNA1				*e*		08 54 43.4	
VNA2	**Neumayer--Watz**	**73.46**	**161**	*e*	**P**	**08 54 41.0**	**+1.0**
VNA2				*e*		08 54 45.2	
SNAA	**Sanae**	**75.07**	**162**	*e*	**P**	**08 54 49.4**	**0.0**
SNAA				*e*		08 54 54.2	
YKA	**Yellowknife Ar**	**78.40**	**343**	P	**P**	**08 55 07.7**	**-0.5**
	0.9nm,0.6s,mb3.9,baz=141,slow=5.8,SNR=30						
INK	**Inuvik**	**88.12**	**342**	*e*P	**P**	**08 55 58.1**	**-0.1**
	321nm,1.1s						
EGAK	**Eagle**	**89.03**	**337**	*e*P	**P**	**08 56 02.3**	**-0.1**
	2.4nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**125.30**	**219**	PKP	PKPdf	09 02 09.3	+0.2
	2.7nm,1.0s,baz=127,slow=5.1,SNR=5.3						
ASAR	**Alice Springs**	**135.89**	**220**	PKP	PKPdf	09 02 28.9	-0.5
	1.7nm,0.8s,baz=113,slow=2.2,SNR=17						
WRA	**Warramunga Arr**	**138.20**	**224**	PKP	PKPdf	09 02 33.9	+0.1
	1.9nm,0.6s,baz=129,slow=2.0,SNR=29						
KSRS	**Korea Array**	**145.53**	**326**	PKPbc	PKPbc	09 02 46.8	+0.2
	3.7nm,0.7s,baz=46,slow=4.1,SNR=7.0						

BGS ***05*** *08:51:36.1±1.1, 3380N×8204E, h10km, mb5.7, MS6.1*
LDG ***05*** *08:51:36.3±0.1, 3424N×8188E, h10km, Mb6.0/45, Ms5.8/10, Error ellipse: s-maj=5.5km s-min=3.6km az=69.0*
IDC ***05*** *08:51:37.1±0.4, 3422N×8197E, h0km, mb5.3/22, mb1 5.5/25, mb1mx5.5/25, mbtmp5.4/25, ML4.6/3, MS5.8/34, Ms1 5.8/34, ms1mx5.8/38, Error ellipse: s-maj=15.3km s-min=11.5km az=32.0*
CRAAG ***05*** *08:51:38.0, 3442N×8207E, Mb5.9*
NDI ***05*** *08:51:38.1±3.7, 3433N×8205E, h10km, mb5.9, mb5.8(NEIC)*
IGIL ***05*** *08:51:38.9, 3426N×8202E, h13km, MS6.2*
ISCJB ***05*** *08:51:38.3±0.1, 3431N±002×8199E±002, h13km, mb5.7/314, MS5.9/259, Error ellipse: s-maj=2.4km s-min=1.9km az=13.8*
BJI ***05*** *08:51:39.1, 3434N×8208E, h6km, mB5.9, mb5.3, ML6.1, Ms6.2, Msz6.0*
GCMT ***05*** *08:51:39.1±0.1, 3433N×8197E, h24km, MW6.1/117, Moment Tensor Solution. s97,c200; s117,c355; Duration: 2s6 Moment tensor: Scale 10^18 Nm; Mrr-0.53±.01; Mθθ-1.25±.01; Mφφ1.78±.01; Mrθ0.01±.02; Mθφ-0.24±.01; Mφr-0.10±.02; Best double couple: M0 1.53700×10^18 NP1:φs45.00000°, δ75.00000°, λ-90.00000°, λ2.00000°. NP2:φs130.00000°, δ88.00000°, λ178.00000°. Principal axes: T 1.8040, Plg3.0000°, Azm85.0000°; N -0.5390, Plg87.0000°, Azm270.0000°; P -1.2700, Plg0.0000°, Azm175.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
NEIC ***05*** *08:51:39.1±0.1, 3425N×8197E, h9km, mb5.8/216, ME5.6, MS6.0/179, MW5.8 Error ellipse: s-maj=4.8km s-min=3.1km az=31.0 Broadband fault plane solution: P waves. NP1:φs45.00000°, δ75.00000°, λ-90.00000°. NP2:φs225.00000°, δ15.00000°, λ-90.00000°. Principal axes: T Plg30.0000°, Azm135.0000°; N Plg0.0000°, Azm0.0000°; P Plg60.0000°, Azm315.0000°; Moment Tensor Solution. s42 Moment tensor: Scale 10^17 Nm; Mrr-4.87; Mθθ-1.51; Mφφ6.38; Mrθ-2.65; Mθφ-0.24; Mφr-1.15; Best double couple: M0 6.50000×10^17 NP1: φs152.00000°, δ46.00000°, λ-131.00000°. NP2: φs24.00000°, δ57.00000°, λ-56.00000°. Principal axes: T 6.4900, Plg6.0000°, Azm90.0000°; N -0.0600, Plg28.0000°, Azm183.0000°; P -6.4300, Plg61.0000°, Azm350.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Some buildings damaged in Dongru. Felt strongly in Gerze and Rutog.
MOS ***05*** *08:51:41.6±0.9, 3440N×8197E, h33km, mb6.0/109, MS6.0/84 Error ellipse: s-maj=7.4km s-min=3.5km az=125.3*
SZGRF ***05*** *08:51:42.4, 3439N×8150E, h16km, mb5.9, MS6.4, Xizang*
ISC 05 08:51:40.2±0.1, 3427N±002×8203E±002, h14km, h14km±.5km: pP-P, n1331, σ1°36/1263, mb5.7/313, MS5.9/259, 78C-170D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**4.95**	**199**	*e*P	**Pn**	**08 52 53.0**	**-1.1**
LGTI	**Lohaghat**	**5.04**	**198**	*ex*	x	08 53 00.7	
SDNR	**Sundarnagar**	**5.08**	**238**	*e*P	**Pn**	**08 52 55.6**	**-0.2**
SDNR				*ex*	x	08 54 29.6	
SMLA	**Simla**	**5.16**	**234**	*e*P	**Pn**	**08 52 57.4**	**+0.5**
DDI	**Dehra Dun**	**5.18**	**222**	*i* P	**Pn**	**08 52 59.2**	**+2.0**
DDI				*e*S	**Sn**	**08 53 57.2**	**+0.5**
DLH	**Dalhousie**	**5.36**	**253**	*e*P	**Pn**	**08 52 58.0**	**-1.7**
DLH				*ex*	x	08 54 10.0	
BHK	**Bhakra**	**5.52**	**241**	*e*P	**Pn**	**08 53 02.4**	**+0.6**
BHK				*ex*	x	08 53 32.6	
THN	**Thein Dam**	**5.59**	**253**	*e*P	**Pn**	**08 53 01.7**	**-1.2**
PONG	**Pong**	**5.60**	**247**	*ex*	x	08 54 00.0	
SRNI	**Srinagar**	**5.96**	**270**	*ex*	x	08 53 14.0	
SRNI				*ex*	x	08 53 33.5	
JMU	**Jammu**	**6.16**	**257**	*e*P	**Pn**	**08 53 10.0**	**-0.6**
JMU				*ex*	x	08 53 36.0	
NDI	**New Delhi**	**6.92**	**218**	*e*P	**Pn**	**08 53 20.0**	**-1.2**
NDI				AMb	AMB	08 53 30.0	
	comp=Z,666nm,0.9s						
NDI				*ex*	x	08 54 38.0	
KSH	**Kashi**	**7.14**	**319**	*i* P	**Pn**	**08 53 26.0**	**+1.9**
KSH				S	**Sn**	**08 54 47.2**	**+2.2**
KSH				LR	LR		
	comp=Z,933μm,11.2s						
CHCP	**Chirah Chowk**	**7.31**	**268**	P	**Pn**	**08 53 23.6**	**-2.9**
THW	**Thamme Wali**	**8.72**	**263**	P	**Pn**	**08 53 41.7**	**-4.1**
ALBI	**Allahabad**	**8.93**	**181**	*e*P	**Pn**	**08 53 45.5**	**-3.2**
ALBI				*ex*	x	08 54 08.0	
LSA	**Lhasa**	**8.98**	**118**	P	**Pn**	**08 53 52.0**	**+2.6**
LSA				S	**Sn**	**08 55 39.0**	**+8.7**
LSA				LR	LR		
	comp=N,200μm,17.5s						
LSA				LR	LR		
	comp=E,200μm,17.5s						
LSA				LR	LR		
	comp=Z,83μm,11.2s						
LSA	**Lhasa**	**8.98**	**118**	*e*P	**Pn**	**08 53 53.5**	**+4.1**
LSA				pmax	pmax		
	comp=Z,986nm,1.3s						
LSA	**Lhasa**	**8.98**	**118**	*e*Pn	**Pn**	**08 53 53.5**	**+4.1**
	comp=Z,986nm,1.3s						
ULHL	**Ulahol**	**9.17**	**332**	P	**Pn**	**08 53 56.1**	**+4.2**
	SNR=21						
KZA	**Kyzart**	**9.45**	**328**	P	**Pn**	**08 53 57.6**	**+1.9**
	SNR=514						
AAA	**Alma-Ata**	**9.82**	**338**	*i* P	**Pn**	**08 54 02.5**	**+1.6**
AAA				pmax	pmax		
	comp=Z,10μm,7.8s						
AAA				MLR	MLR		
	comp=Z,112μm,10.0s						
AAA	**Alma-Ata**	**9.82**	**338**	*i* P	**Pn**	**08 54 01.3**	**+0.4**
UCH	**Uchtor**	**9.90**	**326**	*e*Pn	**Pn**	**08 54 03.5**	**+1.5**
	comp=Z,16nm,0.9s						
UCH	**Uchtor**	**9.90**	**326**	P	**Pn**	**08 54 03.6**	**+1.6**
	SNR=561						
TKM2	**Tokmak 2**	**10.00**	**332**	*e*P	**Pn**	**08 54 05.5**	**+2.2**
TKM2				pmax	pmax		
	comp=Z,113nm,0.4s						
TKM2	**Tokmak 2**	**10.00**	**332**	*e*Pn	**Pn**	**08 54 05.5**	**+2.2**
	comp=Z,113nm,0.4s						
TKM2	**Tokmak 2**	**10.00**	**332**	P	**Pn**	**08 54 06.4**	**+3.1**
	SNR=272						
KBK	**Karagaybulak**	**10.04**	**329**	P	**Pn**	**08 54 06.2**	**+2.3**
	SNR=174						
AJM	**Ajmer**	**10.05**	**221**	*e*P	**Pn**	**08 54 02.8**	**-1.2**
AJM				AMb	AMB	08 54 08.0	
	comp=Z,305nm,0.8s						
AJM				*ex*	x	08 55 55.6	
AML	**Almayashu**	**10.22**	**323**	*e*Pn	**Pn**	**08 54 07.3**	**+0.9**
	comp=Z,60nm,1.2s						
AML	**Almayashu**	**10.22**	**323**	P	**Pn**	**08 54 08.1**	**+1.7**
	SNR=9.2						
AAK	**Ala-Archa**	**10.23**	**327**	Pn	**Pn**	**08 54 07.3**	**+0.9**
	comp=Z,1μm,1.2s,SNR=88						
AAK	**Ala-Archa**	**10.23**	**327**	*e*Pn	**Pn**	**08 54 07.3**	**+0.9**
AAK	**Ala-Archa**	**10.23**	**327**	P	**Pn**	**08 54 07.6**	**+1.2**
	SNR=251						
AAK	**Ala-Archa**	**10.23**	**327**	Pn	**Pn**	**08 54 07.6**	**+1.2**
	SNR=251						
AAK	**Ala-Archa**	**10.23**	**327**	Pn	**Pn**	**08 54 07.1**	**+0.7**
	comp=Z,2.7nm,0.3s,baz=144,slow=12,SNR=85						
AAK				Pg	Pn	08 54 46.2	+40
	comp=Z,12nm,0.3s,baz=150,slow=16,SNR=9.2						
AAK				Lg		08 56 56.9	
	comp=Z,3.3nm,0.3s,baz=53,slow=20,SNR=2.5						
AAK				LR	LR	08 58 28.0	
	comp=Z,105μm,21.1s,baz=125,slow=40						
AAK	**Ala-Archa**	**10.23**	**327**	P	**Pn**	**08 54 08.5**	**+2.1**
	SNR=77						
DRP	**Derazinda**	**10.25**	**259**	P	**Pn**	**08 54 01.7**	**-5.1**
SHBG	**Sahibganj**	**10.26**	**150**	*e*P	**Pn**	**08 54 06.5**	**-0.5**
FRU	**Bishkek**	**10.33**	**328**	⇓*i*P	**Pn**	**08 54 09.5**	**+1.7**
FRU				*i*		08 56 05.0	
FRU				pmax	pmax		
	comp=Z,820nm,1.8s						
FRU				pmax	pmax		
	comp=Z,7μm,7.5s						
FRU				MLR	MLR		
	comp=Z,153μm,14.0s						
CHMS	**Chumysh**	**10.41**	**329**	P	**Pn**	**08 54 10.7**	**+1.9**
	SNR=192						
WMQ	**Urumqi**	**10.50**	**23**	⇓*i*P	**Pn**	**08 54 12.0**	**+1.8**
WMQ				XP		08 54 18.0	
WMQ				S	**Sn**	**08 56 11.0**	**+3.5**
WMQ				SS		08 56 24.0	
WMQ				LR	LR		
	comp=N,96μm,8.0s						
WMQ				LR	LR		
	comp=E,180μm,8.0s						
WMQ				LR	LR		
	comp=Z,75μm,7.0s						
EKS2	**Erkin-Say**	**10.58**	**325**	*e*Pn	**Pn**	**08 54 12.8**	**+1.5**
	comp=Z,24nm,0.5s						
EKS2	**Erkin-Say**	**10.58**	**325**	P	**Pn**	**08 54 13.1**	**+1.8**
	SNR=62						
USP	**Ospenovka**	**10.73**	**329**	P	**Pn**	**08 54 14.6**	**+1.3**
	SNR=109						
KBL	**Kabul**	**10.74**	**275**	*e*Pn	**Pn**	**08 54 09.7**	**-3.8**
BOK	**Bokaro**	**10.97**	**161**	*e*P	**Pn**	**08 54 14.6**	**-2.0**
BOK				AMb	AMB	08 54 22.1	
	comp=Z,398nm,0.9s						
BOK				*ex*	x	08 56 11.4	
BHPL	**Bhopal**	**11.71**	**201**	*e*P	**Pn**	**08 54 25.1**	**-1.7**
BHPL				*ex*	x	08 56 31.6	
BLSP	**Bilaspur**	**12.10**	**180**	*e*P	**Pn**	**08 54 30.0**	**-2.1**
BLSP				*ex*	x	08 56 38.4	
SHL	**Shillong**	**12.17**	**133**	*e*P	**Pn**	**08 54 31.0**	**-2.0**
SHL				*e*S	**Sn**	**08 56 38.5**	**-10**
MK31	**Makanchi Array**	**12.51**	**1**	*e*P	**Pn**	**08 54 37.5**	**-0.2**
MKAR	**Makanchi Array**	**12.51**	**1**	Pn	**Pn**	**08 54 37.5**	**-0.1**
	comp=Z,27nm,0.3s,baz=182,slow=12,SNR=1007						
MKAR				P3KPbc		09 31 01.7	
	comp=Z,0.1nm,0.3s,baz=358,slow=4.3,SNR=6.1						
KK31	**Karatay Array**	**12.59**	**318**	*i* P	**Pn**	**08 54 38.0**	**-0.8**
NGP	**Nagpur**	**13.33**	**192**	*i* P	**Pn**	**08 54 46.4**	**-2.6**
NGP				*e*S	**Sn**	**08 57 05.2**	**-12**
QUE	**Quetta**	**13.40**	**256**	*e*P	**Pn**	**08 54 46.0**	**-3.9**
QUE				*e*S	**Sn**	**08 57 18.0**	**-0.6**
IMP	**Imphal**	**14.01**	**129**	*e*P	**Pn**	**08 54 57.0**	**-1.3**
IMP				*ex*	x	08 57 14.0	
AKL	**Akola**	**14.22**	**199**	*e*P	**Pn**	**08 54 59.1**	**-2.0**
GTA	**Gaotai**	**15.13**	**65**	*e*P	**Pn**	**08 55 13.7**	**+0.4**
GTA				AP	pP	08 55 16.1	-6.4
GTA				XP	sP	08 55 18.0	-6.3
GTA				S	**Sn**	**08 58 00.1**	**-0.5**
GTA				LG1		08 59 10.5	
GTA				LG2		08 59 53.3	
GTA				AMB	AMB		
	comp=Z,2μm,7.6s						
GTA				LR	LR		
	comp=N,261μm,15.7s						
GTA				LR	LR		
	comp=E,60μm,15.3s						
GTA				LR	LR		
	comp=Z,53μm,14.5s						
BHV	**Bhavnagar**	**15.21**	**217**	*ex*	x	08 55 10.0	
BHJ	**Bhuj**	**15.42**	**228**	*e*P	**Pn**	**08 55 16.3**	**-1.0**
VIS	**Vishakhapatnam**	**16.52**	**176**	*i* P	**Pn**	**08 55 30.6**	**-0.8**
VIS				AMb	AMB	08 55 42.0	
	comp=Z,566nm,1.4s						
VIS				*i* S	**Sn**	**08 58 36.4**	**+1.7**
LATR	**Latur**	**16.53**	**199**	*e*P	**Pn**	**08 55 29.4**	**-2.2**
KURK	**Kurchatov**	**16.62**	**352**	Pn	**Pn**	**08 55 30.9**	**-1.7**
	comp=Z,9μm,1.1s						
KURK	**Kurchatov**	**16.62**	**352**	*d* P	**Pn**	**08 55 30.2**	**-2.4**
KURK	**Kurchatov**	**16.62**	**352**	*e*Pn	**Pn**	**08 55 30.6**	**-2.0**
	comp=Z,1μm,1.1s						
KURK	**Kurchatov**	**16.62**	**352**	P	**Pn**	**08 55 30.4**	**-2.2**
	SNR=804						
KURK	**Kurchatov**	**16.62**	**352**	Pn	**Pn**	**08 55 30.4**	**-2.2**
	SNR=804						
HYB	**Hyderabad**	**17.07**	**191**	*e*P	**Pn**	**08 55 34.0**	**-4.4**
HYB				pmax	pmax		
	comp=Z,462nm,0.8s						
HYB	**Hyderabad**	**17.07**	**191**	*e*P	**Pn**	**08 55 34.0**	**-4.4**
	comp=Z,462nm,0.8s						
HYB				*e*		08 58 28.0	
HYB				*e*S	**Sn**	**08 59 02.0**	**+14**
HYB				*e*		09 02 34.0	
HYB	**Hyderabad**	**17.07**	**191**	*i* P	**Pn**	**08 55 34.0**	**-4.4**
	comp=Z,462nm,0.8s						
HYB				*e*S	**Sn**	**08 59 02.0**	**+14**
HYB				LR	LR	09 02 34.0	
	comp=Z,56nm,12.0s						
POO	**Poona**	**17.29**	**207**	*e*P	**Pn**	**08 55 39.0**	**-2.2**
POO				AMb	AMB	08 55 47.7	
	comp=Z,576nm,1.2s						
POO				*e*PP		08 55 51.0	
BOM	**Bombay**	**17.38**	**211**	*e*P	**Pn**	**08 55 40.5**	**-1.8**
BOM				*ex*	x	08 55 49.8	
	comp=Z,1μm,2.4s						
BOM				*ex*	x	08 58 42.6	
LZH	**Lanzhou**	**17.92**	**78**	*e*P	**Pn**	**08 55 49.5**	**+0.6**
LZH				AP	pP	08 55 57.9	+4.4
LZH				XP	sP	08 56 01.2	+5.9
LZH				PP		08 56 02.2	
LZH				*e*S	**Sn**	**08 59 04.0**	**-4.5**
LZH				SS		08 59 27.2	
LZH				AMB	AMB		
	comp=Z,831nm,1.1s						
LZH				AMB	AMB		
	comp=Z,4μm,6.4s						
LZH				LR	LR		
	comp=N,41μm,10.7s						
LZH				LR	LR		
	comp=Z,45μm,11.8s						
KAD	**Karad**	**18.30**	**205**	*e*P	**Pn**	**08 55 51.5**	**-2.1**
KAD				AMb	AMB	08 56 00.9	
	comp=Z,464nm,1.1s						
CD2	**Chengdu**	**18.61**	**94**	⇑*i*P	**Pn**	**08 55 58.5**	**+1.2**
CD2				XP	sP	08 56 05.8	+2.9
CD2				PP		08 56 14.6	
CD2				S	**Sn**	**08 59 23.6**	**-1.5**
CD2				XS	sS	08 59 30.6	-4.6
CD2				SS		08 59 46.0	
CD2				PCP	PcP	09 00 30.0	+4.2
CD2				AMB	AMB		
	comp=Z,8μm,6.9s						
CD2				LR	LR		
	comp=N,60μm,10.2s						
CD2				LR	LR		
	comp=E,60μm,10.8s						
CD2				LR	LR		
	comp=Z,61μm,10.3s						
ABKT	**Ailbek**	**19.65**	**288**	P	**Pn**	**08 56 06.9**	**-3.0**
	comp=Z,3μm,1.1s						
VAN	**Vannovskaya**	**19.66**	**288**	*e*P	**Pn**	**08 56 06.0**	**-4.0**
VAN				S	**Sn**	**08 59 40.5**	**-10**
ZAL	**Zalesovo**	**19.76**	**5**	P	**Pn**	**08 56 09.1**	**-1.9**
ZAA0	**Zalesovo Array**	**19.77**	**5**	*e*P	**Pn**	**08 56 09.2**	**-2.0**
ZALV	**Zalesovo Beam**	**19.77**	**5**	P	**Pn**	**08 56 09.1**	**-2.0**
	comp=Z,1.8nm,0.3s,baz=189,slow=8.8,SNR=130						
ZALV				P3KPbc		09 30 31.4	
	comp=Z,0.1nm,0.3s,baz=347,slow=4.6,SNR=5.3						
GOA	**Goa**	**20.11**	**204**	⇓*i*P	**P**	**08 56 12.8**	**-0.7**
GOA				*i* x	x	08 59 44.9	
KMI	**Kunming**	**20.14**	**111**	⇑P	**P**	**08 56 15.1**	**+1.3**
KMI				AP		08 56 19.0	
KMI				XP	sP	08 56 20.5	+0.8
KMI				PP		08 56 35.3	
KMI				PPP		08 56 44.3	
KMI				S	**S**	**08 59 56.1**	**-3.5**
KMI				XS	sS	09 00 02.3	-3.7
KMI				SS		09 00 25.2	
KMI				SSS		09 00 37.0	
KMI				AMB	AMB		
	comp=Z,148nm,0.8s						
KMI				AMB	AMB		
	comp=Z,1μm,3.1s						
KMI				LR	LR		
	comp=N,41μm,12.1s,MS6.1						
KMI				LR	LR		
	comp=E,22μm,11.5s,MS6.1						
KMI				LR	LR		
	comp=Z,24μm,14.9s,MS5.7						
BVAR	**Borovoye Array**	**20.51**	**340**	P	**P**	**08 56 17.7**	**+0.1**
BVAR				LR	LR	09 04 21.9	
BVAR	**Borovoye Array**	**20.51**	**340**	P	**P**	**08 56 17.7**	**+0.1**
	comp=Z,569nm,0.9s,baz=149,slow=10.0,SNR=210						
BVAR				LR	LR	09 04 21.9	
	comp=Z,22μm,19.7s,MS5.5,baz=152,slow=37						
BVAR				P3KPbc		09 30 30.7	
	comp=Z,1.8nm,0.8s,baz=11,slow=1.5,SNR=6.3						
BRVK	**Borovoye**	**20.57**	**340**	P	**P**	**08 56 18.5**	**+0.3**
	comp=Z,10μm,1.0s						
BRVK	**Borovoye**	**20.57**	**340**	*e*P	**P**	**08 56 18.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2μm,1.0s						
BRVK				MLR	MLR		
	comp=Z,45μm,20.0s,MS5.8				

SNR=102
CM31 Chiang Mai Arr 21.80 132 *e*P **P 08 56 32.8 +1.0**
comp=Z,830nm,0.8s,mb6.2
CM31 LR LR
comp=Z,21μm,21.0s,MS5.5
MOY Mondy 22.13 32 *e*P **P 08 56 36.1 +1.0**
MOY pmax pmax
comp=Z,794nm,2.2s,mb5.8
AB31 Akbulak array 22.15 319 *i*P **P 08 56 33.9 -1.4**
MNGI Mangalore 22.22 199 *i*P **P 08 56 37.2 +0.9**
MNGI *e*x x 08 56 49.8
comp=Z,534nm,2.1s
MNGI *e*x x 09 00 47.5
XAN Xi'an 22.23 83 P **P 08 56 36.1 -0.3**
XAN AP 08 56 46.6
XAN XP sP 08 56 51.4 +9.1
XAN S **S 09 00 33.9 -6.9**
XAN XS sS 09 00 45.7 -1.7
XAN AMB AMB
comp=Z,26nm,1.0s,mb4.6
XAN LR LR
comp=N,41μm,15.2s
XAN LR LR
comp=E,29μm,21.1s
XAN LR LR
comp=Z,23μm,15.2s,MS5.7
ZAK Zakamensk 22.37 38 *e*P **P 08 56 38.0 +0.3**
ZAK pmax pmax
comp=Z,96nm,1.3s,mb5.1
GYA Guiyang 22.60 104⇑*i*P **P 08 56 40.3 0.0**
GYA AP 08 56 44.8
GYA PP 08 57 09.7
GYA PPP 08 57 19.7
GYA PCP PcP 09 00 35.9 +2.6
GYA S **S 09 00 46.8 -1.1**
GYA SS 09 01 25.4
GYA SSS 09 01 40.4
GYA SCP ScP 09 04 11.7 +1.2
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.0
GYA AMB AMB
comp=Z,2μm,5.5s
GYA LR LR
comp=Z,18μm,10.8s,MS5.8
NANT Nan 22.66 128⇑P **P 08 56 38.5 -2.5**
comp=Z,1μm,1.0s,mb6.4
SONM Songino Array 22.71 46 P **P 08 56 42.2 +0.9**
SONM 09 00 33.0
SONM Songino Array 22.71 46 P **P 08 56 42.2 +0.9**
comp=Z,30nm,1.1s,mb4.6,baz=236,slow=9.0,SNR=42
SONM PcP PcP 09 00 33.0 -0.1
comp=Z,7.9nm,0.7s,baz=228,slow=3.3,SNR=4.6
SONM ScP ScP 09 04 11.6 +1.2
comp=Z,3.9nm,1.0s,baz=259,slow=1.5,SNR=3.3
SONM LR LR 09 06 17.8
comp=Z,43μm,20.5s,MS5.9,baz=344,slow=39
SALM Salem 22.79 190 *e*x x 08 56 45.0
BTO Baotou 23.05 66 *e*P **P 08 56 47.7 +2.8**
BTO S **S 09 00 55.7 +0.4**
BTO LR LR
comp=N,25μm,15.2s,MS5.8
BTO LR LR
comp=E,9μm,16.7s,MS5.8
ULN Ulaanbaatar 23.12 46*d i*P **P 08 56 46.1 +0.5**
ULN Ulaanbaatar 23.12 46 *e*P **P 08 56 46.6 +1.1**
comp=E,532nm,1.4s,mb5.8
ULN LR LR
comp=Z,39μm,20.0s,MS5.8
ULN Ulaanbaatar 23.12 46 P **P 08 56 46.8 +1.2**
SNR=268
WBK Wadi Bani Khal 23.31 246 P **P 08 56 48.1 +0.2**
SNR=24
WBK Wadi Bani Khal 23.31 246 P **P 08 56 48.1 +0.2**
SNR=24
TLY Talaya 23.37 35 P **P 08 56 49.2 +1.0**
comp=Z,367nm,1.2s,mb5.7,SNR=17
TLY Talaya 23.37 35*d i*P **P 08 56 48.3 +0.1**
TLY *e* 08 57 12.1
TLY *e*SS 09 01 42.1
TLY pmax pmax
comp=Z,193nm,2.2s,mb5.1
TLY MLR MLR
comp=Z,30μm,25.0s,MS5.7
TLY Talaya 23.37 35 *e*P **P 08 56 48.8 +0.6**
TLY LR LR
comp=Z,27μm,22.0s,MS5.7
TLY Talaya 23.37 35 P **P 08 56 49.1 +1.0**
SNR=91
TLY Talaya 23.37 35 P **P 08 56 49.1 +1.0**
SNR=91
BIDO Bidbid 23.46 249 P **P 08 56 51.5 +2.1**
SNR=16
BIDO Bidbid 23.46 249 P **P 08 56 51.5 +2.1**
SNR=16
BANOM Banah 23.72 256 P **P 08 56 51.1 -0.8**
SNR=95
BANOM Banah 23.72 256 P **P 08 56 51.1 -0.8**
SNR=95
SMDO Samad 23.77 248 P **P 08 56 54.0 +1.7**
SNR=28
SMDO Samad 23.77 248 P **P 08 56 54.0 +1.7**
SNR=28
AKTK Aktyubinsk 23.84 320 P **P 08 56 51.2 -1.6**
AKTK LR LR 09 07 10.7
AKTO Aktyubinsk 23.84 320 P **P 08 56 51.2 -1.6**
comp=Z,314nm,1.1s,mb5.6,baz=116,slow=9.8,SNR=74
AKTO LR LR 09 07 10.7
comp=Z,40μm,18.0s,MS5.9,baz=131,slow=39
AKTO P3KPbc 09 30 14.3
comp=Z,3.1nm,0.9s,baz=296,slow=5.1,SNR=5.8
IRK Irkutsk 24.02 35⇑*i*P **P 08 56 55.8 +1.4**
IRK *e* 08 57 33.5
IRK *e*S **S 09 01 01.8 -9.1**
IRK pmax pmax
comp=Z,648nm,2.3s,mb5.7
HOQ Hoqain 24.06 250 P **P 08 56 59.7 +4.7**
SNR=29
HOQ Hoqain 24.06 250 P **P 08 56 59.7 +4.7**
SNR=29
JMDO Jabal Madar 24.11 247 P **P 08 56 55.8 +0.4**
SNR=68
JMDO Jabal Madar 24.11 247 P **P 08 56 55.8 +0.4**
SNR=68
HHC Hu-ho-hao-te 24.24 66⇓P **P 08 56 58.9 +2.4**
HHC AP 08 57 03.2
HHC XP sP 08 57 05.8 +3.2
HHC PP 08 57 34.2
HHC PCP PcP 09 00 41.8 +5.3
HHC S **S 09 01 18.6 +4.0**
HHC SS 09 02 09.2
HHC AMB AMB
comp=Z,278nm,1.6s,mb5.4
HHC AMB AMB
comp=Z,8μm,6.0s
HHC LR LR
comp=N,8μm,14.7s,MS6.1
HHC LR LR
comp=E,47μm,12.7s,MS6.1
HHC LR LR
comp=Z,65μm,16.7s,MS6.2
KOD Kodaikanal 24.29 191 *e*P **P 08 56 57.2 +0.1**
KOD AMb AMB 08 57 05.9
comp=Z,642nm,1.8s,mb5.8
HATD Hatta, Dubai 24.36 254 P **P 08 57 02.4 +4.6**
SNR=29
HATD Hatta, Dubai 24.36 254 P **P 08 57 02.4 +4.6**
SNR=29
ASHO Ashiyiah 24.49 254 P **P 08 57 00.1 +1.2**
SNR=116
ASHO Ashiyiah 24.49 254 P **P 08 57 00.1 +1.2**
SNR=116
PBA Port Blair 24.54 154 *e*x x 08 57 17.8
PBA *e*x x 09 01 52.6
BSY Bisya 24.59 249 P **P 08 57 00.8 +1.0**
SNR=25
BSY Bisya 24.59 249 P **P 08 57 00.8 +1.0**
SNR=25
NST Nakhon Sawan 24.67 134⇑P **P 08 57 01.8 +1.3**
comp=Z,898nm,0.7s,mb6.4
TIY Taiyuan 24.78 73 *i*P **P 08 57 06.0 +4.5**
TIY PP 08 57 42.9
TIY S **S 09 01 21.7 -1.7**
TIY AMB AMB
comp=Z,3μm,2.8s,mb6.3
TIY LR LR
comp=N,22μm,9.9s
TIY LR LR
comp=E,55μm,12.1s
TIY LR LR
comp=Z,88μm,13.3s,MS6.4
KKTK Khon Kaen 25.84 129⇑P **P 08 57 11.5 +0.3**
comp=Z,7μm,0.4s
SVE Sverdlovsk 26.86 334⇓*e*P **P 08 57 20.3 +0.2**
SVE *e* 08 58 08.4
SVE *e*PPP 08 58 19.2
SVE pmax pmax
comp=Z,232nm,0.9s,mb5.7
SVE MLR MLR
comp=Z,26μm,14.0s,MS5.9
PALK Pallekele 26.89 183 P **P 08 57 22.5 +1.8**
comp=Z,862nm,1.5s,mb6.1,SNR=7.8
PALK Pallekele 26.89 183 *e*P **P 08 57 21.6 +0.9**
comp=Z,373nm,1.4s,mb5.7
PALK LR LR
comp=Z,13μm,21.0s,MS5.5
PALK Pallekele 26.89 183 P **P 08 57 22.7 +2.0**
SNR=17
PALK Pallekele 26.89 183 P **P 08 57 22.7 +2.0**
SNR=17
ARU Arti 27.37 331 P **P 08 57 24.9 +0.2**
comp=Z,738nm,0.9s,mb6.2,SNR=18
ARU Arti 27.37 331*d i*P **P 08 57 24.0 -0.7**
ARU *e*PPP 08 58 12.6
ARU *e* 09 00 45.7
ARU *e*S **S 09 02 03.9 -0.1**
ARU *e*SS 09 03 11.5
ARU *e*SSS 09 03 26.9
ARU pmax pmax
comp=Z,107nm,1.2s,mb5.2
ARU MLR MLR
comp=Z,20μm,16.0s,MS5.8
ARU Arti 27.37 331 *e*P **P 08 57 24.2 -0.5**
ARU LR LR
comp=Z,22μm,20.0s,MS5.7
WHN Wuhan 27.47 89⇑P **P 08 57 28.7 +2.8**
WHN S **S 09 02 08.9 +2.8**
WHN AMB AMB
comp=Z,2μm,2.8s,mb6.1
WHN AMB AMB
comp=Z,7μm,14.0s
WHN LR LR
comp=N,102μm,9.3s
WHN LR LR
comp=E,32μm,9.7s
WHN LR LR
comp=Z,111μm,11.2s,MS6.7
BJT Baijiatuau 27.70 68 *e*P **P 08 57 28.8 +1.0**
BJT pmax pmax
comp=Z,277nm,1.4s
BJT MLR MLR
comp=Z,44μm,19.0s
BJT Baijiatuau 27.70 68 *e*P **P 08 57 28.8 +1.0**
comp=Z,277nm,1.4s,mb5.7
BJT LR LR
comp=Z,44μm,19.0s,MS6.1
BJI Beijing 27.70 68 P **P 08 57 27.9 +0.1**
BJI XP sP 08 57 32.5 -1.4
BJI S **S 09 02 09.6 0.0**
BJI XS sS 09 02 15.9 -0.8
BJI AMB AMB
comp=Z,12nm,1.5s
BJI AMB AMB
comp=Z,2μm,12.2s
BJI LR LR
comp=N,80μm,18.4s,MS6.4
BJI LR LR
comp=E,10μm,16.5s,MS6.4
BJI LR LR
comp=Z,28μm,18.4s,MS5.9
MAK Makhachkala 28.18 298*c i*P **P 08 57 36.3 +4.2**
MAK *i* 08 58 26.3
MAK *e*SS 09 03 54.3
MAK pmax pmax
comp=Z,27nm,0.3s,mb5.3
MAK MLR MLR
comp=Z,62μm,19.0s,MS6.2
TIA Tai'an 28.63 76⇓P **P 08 57 38.6 +2.4**
TIA S **S 09 02 29.0 +4.7**
TIA AMB AMB
comp=Z,196nm,1.5s,mb5.6
QIZ Qiongzhong 29.00 114 P **P 08 57 39.9 +0.3**
QIZ S **S 09 02 32.1 +1.8**
QIZ XS sS 09 02 36.9 -0.6
QIZ AMB AMB
comp=Z,824nm,13.7s
QIZ LR LR
comp=N,23μm,24.5s,MS5.8
QIZ LR LR
comp=E,18μm,25.3s,MS5.8
QIZ LR LR
comp=Z,10μm,22.8s,MS5.3
QIZ Qiongzhong 29.00 114 *e*P **P 08 57 40.4 +0.8**
comp=Z,63nm,1.0s,mb5.3
QIZ *e*PcP PcP 09 00 52.3 +4.2
QIZ LR LR
comp=Z,10μm,20.0s,MS5.4
GZH Guangzhou 29.53 104 P **P 08 57 47.6 +3.3**
GZH S **S 09 02 43.3 +4.7**
GZH LR LR
comp=N,39μm,20.7s,MS6.0
GZH LR LR
comp=E,18μm,21.3s,MS6.0
GZH LR LR
comp=Z,20μm,12.3s
KBD Kabd 29.56 270 *e*P **P 08 57 43.2 -1.3**
KBD AMb AMB 08 57 56.7
comp=Z,2μm,0.9s,mb6.8
DGRG David-gareji 29.65 295 P **P 08 57 46.0 +0.9**
DGRG S **S 09 02 51.1 +11**
MIB Mutribah 29.66 271 *e*P **P 08 57 44.2 -1.1**
MIB AMb AMB 08 58 00.5
comp=Z,799nm,1.2s,mb6.3
RDF Al-Radifah 29.76 269 *e*P **P 08 57 45.2 -1.0**
RDF AMb AMB 08 58 00.2
comp=Z,397nm,0.9s,mb6.1
NAY Al-Naaiem 29.91 270 *e*P **P 08 57 46.2 -1.4**
NAY AMb AMB 08 57 58.0
comp=Z,204nm,1.0s,mb5.8
RBK Rabkut 29.95 243 P **P 08 57 52.5 +4.5**
SNR=6.1
RBK Rabkut 29.95 243 P **P 08 57 52.5 +4.5**
SNR=6.1
WHFO Wadi Hawf 30.02 244 P **P 08 57 48.2 -0.4**
SNR=20
WHFO Wadi Hawf 30.02 244 P **P 08 57 48.2 -0.4**
SNR=20
MTA Mtatsminda 30.10 295 P **P 08 57 55.3 +6.2**
MTA S **S 09 03 06.2 +19**
TBLG Delisi 30.14 295 P **P 08 57 48.3 -1.2**
HKC Hong Kong Obse 30.58 104 P **P 08 58 00.0 +6.4**
HKC S **S 09 03 02.0 +6.8**
GOR Gori 30.62 296 P **P 08 57 59.2 +5.5**
ABTO Aybut 30.72 244 P **P 08 57 59.1 +4.3**
SNR=11
ABTO Aybut 30.72 244 P **P 08 57 59.1 +4.3**
SNR=11
CLDR Caldiran 30.79 290 *e*P **P 08 57 59.2 +3.9**
NJ2 Nanjing 30.80 84 *e*P **P 08 58 00.0 +4.6**
NJ2 AP pP 08 58 04.8 +5.0
NJ2 XP sP 08 58 07.8 +6.3
NJ2 PP PP 08 59 00.5 -4.4
NJ2 PPP 08 59 14.1
NJ2 S **S 09 03 02.0 +3.6**
NJ2 XS sS 09 03 10.0 +4.4
NJ2 AMB AMB
comp=Z,40nm,0.5s,mb5.5
NJ2 AMB AMB
comp=Z,410nm,10.9s
NJ2 LR LR
comp=N,80μm,25.2s,MS6.3
NJ2 LR LR
comp=E,32μm,25.4s,MS6.3
NJ2 LR LR
comp=Z,32μm,25.4s,MS5.9
DYDN Diyadin 30.95 291 *i*P **P 08 57 59.2 +2.6**
HAKT HAKKARI 31.07 287 *i*P **P 08 57 59.2 +1.5**
ONI Oni 31.13 297 P **P 08 57 60.0 +1.8**
ONI S **S 09 03 10.9 +7.6**
CUKT Cukurca 31.18 287 *e*P **P 08 58 02.5 +3.8**
VANB Van 31.23 289 *e*P **P 08 58 00.8 +1.7**
KARS Kars 31.37 293 *e*P **P 08 58 06.4 +6.0**
AGRB Hanur-Agry 31.48 291 *e*P **P 08 58 04.2 +2.8**
HIA Hailar 31.50 50 *e*P **P 08 58 04.9 +3.6**
HIA pmax pmax
comp=Z,68nm,1.4s
HIA MLR MLR
comp=Z,40μm,20.0s
HIA Hailar 31.50 50 *e*P **P 08 58 04.9 +3.6**
comp=Z,68nm,1.4s,mb5.3
HIA LR LR
comp=Z,40μm,20.0s,MS6.1
KIV Kislovodsk 31.77 300 P **P 08 58 07.3 +3.5**
comp=Z,274nm,0.8s,mb6.1,SNR=9.4
KIV Kislovodsk 31.77 300*d i*P **P 08 58 05.8 +2.0**
KIV *e* 08 59 10.0
KIV *e*S **S 09 03 16.5 +3.2**
KIV pmax pmax
comp=Z,30nm,1.0s,mb5.1
KIV MLR MLR
comp=Z,13μm,15.0s,MS5.7
KIV Kislovodsk 31.77 300 *e*P **P 08 58 05.5 +1.7**
KIV LR LR
comp=Z,22μm,20.0s,MS5.8
KIV Kislovodsk 31.77 300 P **P 08 58 07.0 +3.2**
SNR=21
KIV Kislovodsk 31.77 300 P **P 08 58 07.0 +3.2**
SNR=21
BOD Bodaibo 31.85 32 *e*P **P 08 58 03.6 -0.7**
BOD pmax pmax
comp=Z,72nm,1.5s,mb5.3
DL2 Dalian 31.95 70 P **P 08 58 10.2 +4.7**
DL2 S **S 09 03 21.4 +5.1**
DL2 AMB AMB
comp=Z,130nm,1.4s,mb5.6
DL2 AMB AMB
comp=Z,660nm,7.5s
DL2 LR LR
comp=N,10μm,13.2s,MS5.8
DL2 LR LR
comp=E,11μm,16.4s,MS5.8
DL2 LR LR
comp=Z,14μm,15.3s,MS5.8
SNG Songkhla 31.95 143 P **P 08 58 07.0 +1.3**
comp=Z,256nm,1.0s,mb6.0
SIRT Sirnak 32.08 287 *e*P **P 08 58 10.2 +3.6**
ARTV Artvin 32.25 294 *i*P **P 08 58 09.5 +1.5**
HOMI Horasan 32.30 292 *i*P **P 08 58 12.3 +3.8**
BCA Borcka 32.47 295 *e*P **P 08 58 13.0 +3.0**
ERZM Erzurum 32.72 292 *i*P **P 08 58 15.5 +3.3**
EZM Erzurum 32.72 292 *e*P **P 08 58 15.3 +3.1**
BNGL BINGOL 32.95 290 *i*P **P 08 58 18.1 +3.8**
QZH Quanzhou 32.97 96 P **P 08 58 18.1 +3.6**
QZH S **S 09 03 34.0 +1.6**
QZH AMB AMB
comp=Z,80nm,1.0s,mb5.6
QZH AMB AMB
comp=Z,850nm,4.0s
QZH LR LR
comp=N,36μm,12.2s,MS6.4
QZH LR LR
comp=E,24μm,11.0s,MS6.4
QZH LR LR
comp=Z,24μm,20.9s
SSE Sheshan 32.97 84 *e*P **P 08 58 14.5 0.0**
SSE XP sP 08 58 19.5 -1.1
SSE S **S 09 03 31.2 -1.1**
SSE XS sS 09 03 38.0 -1.5
SSE SCS ScS 09 08 45.8 +3.4
SSE AMB AMB
comp=Z,35nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,87nm,4.6s
SSE LR LR
comp=N,24μm,21.3s,MS5.9
SSE LR LR
comp=E,11μm,21.3s,MS5.9
SSE LR LR
comp=Z,21μm,14.2s
SNY Shenyang 33.32 64⇓P **P 08 58 20.7 +3.3**
SNY S **S 09 03 32.0 -5.5**
SNY AMB AMB
comp=Z,75nm,2.3s,mb5.2
SNY AMB AMB
comp=Z,1μm,7.0s
SNY LR LR
comp=N,36μm,14.8s
SNY LR LR
comp=Z,16μm,14.5s,MS5.9
KOPT Kop Dagi 33.38 292 *i*P **P 08 58 21.5 +3.6**
KULM Kulim 33.61 145 *e*P **P 08 58 20.9 +0.8**
KULM *e*PcP PcP 09 01 02.3 +1.9
KULM Kulim 33.61 145⇓P **P 08 58 21.6 +1.4**
VRHR Novokhopersk 33.63 312 *e*P **P 08 58 22.1 +2.1**
VRHR *e* 08 59 35.6
VRHR *e*S **S 09 03 42.2 +0.1**
VRHR pmax pmax
comp=Z,440nm,1.1s,mb6.3
VRHR pmax pmax
comp=N,170nm,1.6s
VRHR pmax pmax
comp=E,250nm,1.2s
VRHR pmax pmax
comp=Z,2μm,8.6s
VRHR pmax pmax
comp=N,1μm,6.6s
VRHR pmax pmax
comp=E,440nm,1.9s
VRHR smax
comp=N,940nm,7.1s
VRHR smax
comp=Z,40nm,3.8s
VRHR smax
comp=E,380nm,6.2s
VRHR MLR MLR
comp=E,37μm,17.0s,MS6.2
VRHR MLR MLR
comp=Z,44μm,17.0s,MS6.2
VRHR MLR MLR
comp=N,11μm,13.0s,MS6.2
KTUT Trabzon 33.88 294 *e*P **P 08 58 26.3 +4.0**
SOC Sochi 33.90 299 *e*P **P 08 58 25.7 +3.3**
SOC *e**PP pP 08 58 31.1 +4.3
SOC *e*PPP 08 59 41.9
SOC *e*S **S 09 03 48.4 +2.0**
SOC pmax pmax
comp=Z,128nm,1.5s,mb5.6
SOC pmax pmax
comp=Z,1μm,5.2s
SOC MLR MLR
comp=Z,17μm,19.0s,MS5.8
GUMT Gumushane 34.13 293 *e*P **P 08 58 26.8 +2.3**
PTK Pertek 34.32 290 *e*P **P 08 58 29.6 +3.5**
SVRC Sivrice-ELAZID 34.44 289 *e*P **P 08 58 30.2 +3.0**
IPM Ipoh 34.49 145⇑P **P 08 58 31.4 +3.6**
ESPY Espiye-Giresun 34.67 294 *e*P **P 08 58 31.4 +2.2**
ELZG Elazig 34.68 290 *i*P **P 08 58 31.0 +1.7**
CN2 Changchun 34.70 61 *e*P **P 08 58 29.5 +0.1**
CN2 *e*XP sP 08 58 35.5 0.0
CN2 *e*PP PP 08 59 45.7 -2.3
CN2 *e*S **S 09 03 57.2 -1.6**
CN2 *e*SS SS 09 06 09.1 -20
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,370nm,4.0s
CN2 LR LR
comp=N,12μm,13.0s,MS6.0
CN2 LR LR
comp=E,16μm,13.0s,MS6.0
CN2 LR LR
comp=Z,23μm,13.0s,MS6.1
KTGM Kuala Trenggan 34.81 141⇓P **P 08 58 34.3 +3.7**
URFA Urfa 34.94 288 *e*P **P 08 58 36.3 +4.7**
GRSN GIRESUNGRSN 35.02 294 *i*P **P 08 58 36.4 +4.2**
VORD Divnogorie 35.03 312 *e*P **P 08 58 31.1 -1.1**
VORD *e*S **S 09 04 02.9 -0.9**
VORD pmax pmax
comp=Z,230nm,0.9s,mb6.1
VORD pmax pmax
comp=N,140nm,1.0s
VORD pmax pmax
comp=E,680nm,1.0s
VORD smax
comp=N,730nm,6.1s
VORD smax
comp=Z,20nm,4.3s

VORD smax
comp=E,110nm,6.7s
VORD MLR MLR
comp=E,30µm,17.0s,MS6.2
VORD MLR MLR
comp=Z,39µm,17.0s,MS6.2
VORD MLR MLR
comp=N,20µm,13.0s,MS6.2
PSI Prapat 35.04 150 LR LR 09 15 19.8
comp=N,6µm,20.1s,MS5.3,baz=321,slow=40
MALT Malatya 35.14 289 *e*P **P 08 58 38.1 +4.9**
MALT Malatya 35.14 289 *e*P **P 08 58 34.3 +1.1**
MALT pmax pmax
comp=Z,519nm,2.3s,mb6.0
MALT Malatya 35.14 289 *e*P **P 08 58 34.3 +1.1**
comp=Z,519nm,2.3s,mb6.0
MALT Malatya 35.14 289⇓*i*P **P 08 58 34.9 +1.7**
MYA Malataya 35.14 290 *e*P **P 08 58 36.9 +3.6**
VRSR Storozhevoye 35.15 312 *e*P **P 08 58 31.9 -1.3**
VRSR *e* 08 59 50.9
VRSR *e*S **S 09 04 04.1 -1.4**
VRSR pmax pmax
comp=Z,80nm,2.9s,mb5.1
VRSR pmax pmax
comp=N,30nm,1.1s
VRSR pmax pmax
comp=E,150nm,3.0s
VRSR smax
comp=N,410nm,5.5s
VRSR smax
comp=Z,30nm,3.1s
VRSR smax
comp=E,100nm,4.2s
VRSR MLR MLR
comp=E,6µm,16.0s,MS5.6
VRSR MLR MLR
comp=Z,6µm,16.0s,MS5.5
VRSR MLR MLR
comp=N,4µm,13.0s,MS5.6
VOR Voronezh 35.25 313 *e*P **P 08 58 32.0 -2.0**
VOR pmax pmax
comp=Z,700nm,2.0s,mb6.2
TATO Taipei 35.34 94 P **P 08 58 31.2 -4.0**
comp=Z,92nm,0.9s,mb5.7
TATO LR LR
comp=Z,4µm,19.0s,MS5.2
ATAB Bozova 35.35 288 *i* P **P 08 58 39.4 +4.3**
YHNB Yeheng 35.38 95 *e*P **P 08 58 37.2 +1.7**
ANN Anapa 35.57 301 *d i*P **P 08 58 39.5 +2.6**
ANN *i* 09 00 00.2
ANN *e* 09 01 07.1
ANN *e*S **S 09 04 17.5 +5.3**
ANN pmax pmax
comp=Z,272nm,1.4s,mb6.0
ANN pmax pmax
comp=N,71nm,1.5s
ANN pmax pmax
comp=E,66nm,1.5s
ANN MLR MLR
comp=Z,22µm,21.0s,MS5.9
ANN MLR MLR
comp=N,20µm,20.0s,MS6.1
ANN MLR MLR
comp=E,25µm,20.0s,MS6.1
ANN Anapa 35.57 301 *i* P **P 08 58 38.7 +1.8**
MUKL Al Mukalla 35.70 245 *e*P **P 08 58 39.0 +0.7**
NACB Ninganchiao 35.77 96 *e*P **P 08 58 44.8 +6.0**
FRIM Kepong 35.86 145⇑P **P 08 58 44.5 +4.9**
GZT Gaziantep 35.95 288 *i* P **P 08 58 41.3 +1.1**
INCN Inchon 36.03 72 *e*P **P 08 58 41.7 +0.8**
INCN LR LR
comp=Z,6µm,19.0s,MS5.4
INCN Inchon 36.03 72 P **P 08 58 44.6 +3.7**
SNR=36
INCN Inchon 36.03 72 P **P 08 58 44.6 +3.7**
SNR=36
SVSK Karacayir 36.07 292 *e*P **P 08 58 45.7 +4.5**
GAZ Gaziantep 36.25 288 *e*P **P 08 58 47.4 +4.6**
KMRS Kahramanmaras 36.45 288 *e*P **P 08 58 45.4 +1.0**
KVT Kavak 36.69 294 *e*P **P 08 58 51.3 +4.8**
CLNS Chul'man 36.69 39 *e*P **P 08 58 49.3 +3.0**
CLNS *e**PP pP 08 58 56.3 +5.6
CLNS *e* 09 00 05.9
CLNS *e* 09 01 12.1
CLNS *e*S **S 09 04 26.2 -2.8**
CLNS *e*SS SS 09 06 55.7 -14
CLNS *e* 09 08 55.6
CLNS pmax pmax
comp=Z,127nm,2.2s,mb5.4
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,29nm,0.8s
CLNS pmax pmax
comp=Z,14nm,0.8s,mb4.8
CLNS pmax pmax
comp=N,9.0nm,0.7s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS smax
comp=N,1µm,11.9s
CLNS smax
comp=Z,566nm,13.0s
CLNS smax
comp=E,939nm,12.9s
CLNS MLR MLR
comp=Z,25µm,14.0s,MS6.2
CLNS MLR MLR
comp=N,12µm,15.0s,MS6.2
CLNS MLR MLR
comp=E,22µm,13.0s,MS6.2
ANDN Andirin 36.87 289 *i* P **P 08 58 49.0 +1.0**
KS15 Wonju Array Si 37.02 72 *e*P **P 08 58 50.4 +1.1**
KSRS Korea Array 37.05 72 P **P 08 58 49.5 -0.1**
comp=E,25nm,1.0s,mb5.0,baz=271,slow=7.3,SNR=26
KSRS PcP PcP 09 01 09.4 -0.8
comp=E,6.5nm,0.8s,baz=295,slow=2.6,SNR=2.7
KSRS ScP ScP 09 04 57.1 +0.4
comp=E,9.1nm,0.9s,baz=284,slow=3.9,SNR=11
KSRS LR LR 09 15 13.1
comp=E,18µm,18.1s,MS5.9,baz=285,slow=38
BNN Bunyan 37.08 291 *e*P **P 08 58 51.8 +2.0**
MOS Moscow 37.17 319 *e*P **P 08 58 50.0 -0.4**
MOS *e* 09 00 14.2
MOS *e*PPP 09 00 35.1
MOS *e*S **S 09 04 36.2 -0.2**
MOS pmax pmax
comp=Z,1µm,1.5s,mb6.4
MOS pmax pmax
comp=Z,630nm,1.3s,mb6.3
MOS MLR MLR
comp=Z,30µm,16.0s,MS6.2
MOS Moscow 37.17 319 *e*P **P 08 58 50.2 -0.2**
DIKM Dikmen 37.24 296 *e*P **P 08 58 56.2 +5.1**
KOZT Kozan 37.29 289 *e*P **P 08 58 55.1 +3.5**
CEYT Ceyhan 37.43 288 *e*P **P 08 58 57.4 +4.5**
BOYT Boyabat 37.52 295 *i* P **P 08 58 53.8 +0.3**
OBN Obninsk 37.58 318 P **P 08 58 53.6 -0.3**
comp=Z,2µm,1.0s,mb6.8,SNR=11
OBN Obninsk 37.58 318 *d i*P **P 08 58 52.9 -1.0**
OBN *e* 09 00 19.4
OBN *e* 09 01 14.7
OBN *e*S **S 09 04 41.3 -1.4**
OBN pmax pmax
comp=Z,57nm,0.9s,mb5.3
OBN MLR MLR
comp=Z,17µm,23.0s,MS5.8
OBN Obninsk 37.58 318 *e*P **P 08 58 53.5 -0.4**
comp=Z,317nm,1.0s,mb6.0
OBN LR LR
comp=Z,14µm,20.0s,MS5.8
MDJ Mudanjiang 37.68 60 P **P 08 58 56.3 +1.5**
MDJ XP sP 08 59 00.8 -0.2
MDJ PP PP 09 00 28.2 +7.4
MDJ PCP PcP 09 01 15.0 +3.0
MDJ S **S 09 04 47.8 +3.5**
MDJ SCP ScP 09 04 59.8 +0.9
MDJ AMB AMB
comp=Z,76nm,1.9s,mb5.1
MDJ AMB AMB
comp=Z,1µm,8.8s
MDJ LR LR
comp=N,31µm,20.9s
MDJ LR LR
comp=Z,17µm,13.5s
MDJ Mudanjiang 37.68 60 *e*P **P 08 58 55.9 +1.1**
comp=Z,341nm,1.8s,mb5.8
MDJ LR LR
comp=Z,10µm,20.0s,MS5.6
CTKT Corum 37.68 294 *i* P **P 08 59 00.7 +5.8**
KGM Kluang 37.74 144⇑P **P 08 58 59.6 +3.9**
CORM Corum 37.85 293 *e*P **P 08 58 56.2 -0.1**
AVNT Avonos 37.85 291 *i* P **P 08 58 56.9 +0.5**
SIM Simferopol' 37.93 301 *d i*P **P 08 59 00.4 +3.4**
SIM *e* 09 00 24.0
SIM *e*S **S 09 04 52.0 +3.9**
SIM *e*SS SS 09 07 17.0 -18
SIM pmax pmax
comp=Z,157nm,1.1s,mb5.7
SIM MLR MLR
comp=Z,12µm,16.0s,MS5.8
KARA Karaisali 37.94 288 *e*P **P 08 59 00.7 +3.6**
CDAG Cicekdag 38.11 292 *i* P **P 08 58 56.1 -2.4**
BZK Bozkurt 38.15 296 *e*P **P 08 59 00.7 +1.8**
BHL Bhannes 38.15 283 *e*P **P 08 59 03.1 +4.1**
MYKOM Kota Tinggi 38.20 143⇑P **P 08 59 03.4 +3.9**
MERS Mersin 38.42 288 *e*P **P 08 59 05.1 +3.9**
CANT Cankiri 38.57 294 *e*P **P 08 59 04.6 +2.2**
BALT Daday 38.65 296 *i* P **P 08 59 03.8 +0.7**
KAMT Kaman 38.65 292 *e*P **P 08 59 03.8 +0.6**
LBOS 38.95 248⇑*e*P **P 08 59 06.4 +0.5**
EREN Erenkoy 38.97 286 *e*P **P 08 59 08.4 +2.6**
DHBB Dhamar BB 39.19 249 *e*P **P 08 59 09.0 +1.2**
DHBB AMb AMB 08 59 09.7
comp=Z,164nm,1.4s,mb5.5
SAFT Safranbolu 39.20 295 *e*P **P 08 59 06.2 -1.4**
IKL Isikli 39.21 287 *e*P **P 08 59 07.3 -0.5**
KLR Kul'dur 39.26 52 *e*P **P 08 59 06.0 -2.1**
KLR *e* 09 00 41.0
KLR *e*S **S 09 05 07.0 -1.1**
KLR pmax pmax
comp=E,800nm,8.5s
KLR pmax pmax
comp=Z,2µm,8.5s
KLR pmax pmax
comp=E,150nm,1.8s
KLR pmax pmax
comp=Z,180nm,1.8s,mb5.5
KLR MLR MLR
comp=E,18µm,10.0s
KLR MLR MLR
comp=Z,25µm,10.0s,MS6.3
ANTO Ankara 39.28 293 *e*P **P 08 59 10.5 +2.1**
ANTO Ankara 39.28 293 *e*P **P 08 59 08.9 +0.5**
ANTO pmax pmax
comp=Z,307nm,1.5s,mb5.8
ANTO MLR MLR
comp=Z,6µm,19.0s,MS5.5
ANTO Ankara 39.28 293 *e*P **P 08 59 08.9 +0.4**
comp=Z,307nm,1.5s,mb5.8
ANTO LR LR
comp=Z,6µm,19.0s,MS5.5
ANTO Ankara 39.28 293 P **P 08 59 13.3 +4.8**
SNR=56
ANTO Ankara 39.28 293 P **P 08 59 13.3 +4.8**
SNR=56
ANTO Ankara 39.28 293⇑*i*P **P 08 59 08.7 +0.3**
LOD Lodumlu 39.30 293 *e*P **P 08 59 09.0 +0.4**
VLA Vladivostok 39.41 62 *i* P **P 08 59 13.2 +3.8**
VLA MLR MLR
comp=Z,12µm,20.0s,MS5.7
LFK Lefkose 39.53 286 *e*P **P 08 59 12.9 +2.3**
ERMK Ermenek 39.74 288 *i* P **P 08 59 12.8 +0.6**
CSS Prodhromos 39.77 285 *e*P **P 08 59 15.1 +2.6**
comp=Z,29nm,0.8s,mb5.1
CSS *e*PcP PcP 09 01 21.8 +3.1
KONT Konya--Tatoy 39.92 290 *e*P **P 08 59 17.3 +3.6**
EIL Elat 39.93 277 P **P 08 59 12.6 -1.4**
comp=Z,11nm,0.7s,mb4.7,baz=44,slow=5.7
EIL PP PP 09 00 51.2 +5.5
comp=Z,17nm,1.0s,baz=59,slow=9.2,SNR=2.9
KDHN Kadinhani 40.01 291 *i* P **P 08 59 14.5 0.0**
LEF Lefka 40.08 286 *e*P **P 08 59 17.9 +2.7**
TMCR Tamitsa 40.10 332 *i*P **P 08 59 15.2 +0.3**
KIZT Kizilcal 40.13 292 *e*P **P 08 59 17.3 +1.8**
TRBA At Turbah 40.21 248 *e*P **P 08 59 17.5 +1.1**
TRBA AMb AMB 08 59 18.8
comp=Z,188nm,1.3s,mb5.7
JOW Kunigami 40.23 88 LR LR 09 18 19.3
comp=Z,8µm,20.1s,MS5.6,baz=112,slow=40
JNU Nakatsue 40.34 77 LR LR 09 17 52.8
comp=Z,15µm,18.0s,MS5.9,baz=287,slow=39
HENT Hendek 40.59 295 *i* P **P 08 59 20.3 +1.0**
YAK Yakutsk 40.77 32⇑*e*P **P 08 59 20.3 -0.1**
YAK pmax pmax
comp=Z,57nm,1.0s,mb5.2
YAK MLR MLR
comp=Z,16µm,20.0s,MS5.9
YAK Yakutsk 40.77 32 *e*P **P 08 59 20.6 +0.1**
comp=Z,110nm,0.8s,mb5.5
YAK LR LR
comp=Z,4µm,19.0s,MS5.3
BORA Eskisehir 41.06 293 *i* P **P 08 59 27.2 +4.0**
SHUT Suhut-Afyon 41.21 291 *e*P **P 08 59 25.6 +1.2**
AKASG Malin Array Be 41.33 310 P **P 08 59 23.6 -1.6**
AKASG 09 01 02.2
AKASG Malin Array Be 41.33 310 P **P 08 59 23.6 -1.6**
comp=Z,22nm,0.6s,mb4.9,baz=81,slow=7.4,SNR=64
AKASG PP PP 09 01 02.1 +1.6
comp=Z,39nm,0.9s,baz=86,slow=9.7,SNR=8.4
AKASG ScP ScP 09 05 11.6 -1.3
comp=Z,1.8nm,0.7s,baz=80,slow=3.5,SNR=4.9
AKASG LR LR 09 19 18.1
comp=Z,23µm,18.6s,MS6.1,baz=125,slow=40
AKBB Malin Array Si 41.33 310 *e*P **P 08 59 24.2 -1.0**
AKBB *e* 09 01 01.5
AKBB *e* 09 01 24.4
KIEV Kiev 41.34 310 *e*P **P 08 59 24.2 -1.1**
KIEV *e* 09 01 01.7
KIEV *e* 09 01 24.1
KIEV pmax pmax
comp=Z,159nm,1.3s,mb5.5
KIEV MLR MLR
comp=Z,24µm,21.0s,MS6.0
KIEV Kiev 41.34 310 *e*P **P 08 59 24.2 -1.1**
comp=Z,159nm,1.3s,mb5.5
KIEV *e*PP PP 09 01 01.7 +1.0
KIEV *e*PcP PcP 09 01 24.1 +0.7
KIEV *e*ScP ScP 09 05 09.4 -3.6
KIEV LR LR
comp=Z,24µm,21.0s,MS6.0
ISP Isparta 41.38 290 *e*P **P 08 59 26.6 +0.8**
ISP Isparta 41.38 290 *i* P **P 08 59 28.8 +3.0**
ISP Isparta 41.38 290 P **P 08 59 28.9 +3.1**
BCK Bucak 41.39 290 *e*P **P 08 59 21.2 -4.7**
HABR Khabarovsk 41.42 53⇑*e*P **P 08 59 25.3 -0.7**
HABR *e* pP 08 59 31.0 +0.6
HABR *e* 09 01 00.5
HABR *e* 09 01 22.6
HABR *e*S **S 09 05 39.6 -0.8**
HABR *e* 09 08 42.7
HABR *e* 09 09 11.4
HABR *e* 09 09 28.9
HABR pmax pmax
comp=Z,39nm,1.7s,mb4.8
HABR MLR MLR
comp=Z,8µm,11.6s,MS5.8
ANTB Antalya 41.46 289 *e*P **P 08 59 29.0 +2.5**
ALT Altintas 41.46 292 *e*P **P 08 59 29.5 +3.0**
TKTP Tekketepe 41.49 291 *i* P **P 08 59 26.3 -0.4**
HRT Hereke 41.52 295 *e*P **P 08 59 25.4 -1.4**
ADVT Abdulvahap 41.52 294 *e*P **P 08 59 27.3 +0.4**
KIS Kishinev 41.58 304 *e*P **P 08 59 26.0 -1.3**
KIS *e* 09 01 26.0
KIS *e*PPP 09 01 32.0
KIS *e*S **S 09 05 38.0 -4.8**
KIS *e*SS SS 09 08 38.0 -10
KIS *e*SSS 09 09 18.0
KIS pmax pmax
comp=E,460nm,2.0s
KIS pmax pmax
comp=Z,570nm,2.0s,mb5.8
KIS pmax pmax
comp=Z,2µm,6.0s
KIS pmax pmax
comp=E,1µm,5.2s
KIS smax
comp=N,3µm,13.0s
KIS smax
comp=E,2µm,12.0s
KIS MLR MLR
comp=Z,20µm,16.0s,MS6.1
KIS MLR MLR
comp=N,13µm,12.0s,MS6.2
KIS MLR MLR
comp=E,18µm,14.0s,MS6.2
KIS MLR MLR
comp=Z,21µm,16.0s
KIS Kishinev 41.58 304 *e*P **P 08 59 26.0 -1.3**
comp=Z,600nm,2.0s,mb5.9
KIS Kishinev 41.58 304 *e*PP PP 09 00 58.0 -5.3
comp=Z,3µm,11.0s
KIS Kishinev 41.58 304 *e*PcP PcP 09 01 26.0 +1.7
KIS Kishinev 41.58 304 *e*PPP 09 01 32.0
KIS Kishinev 41.58 304 *e*PcS PcS 09 05 16.0 +0.5
KIS *e*S **S 09 05 38.0 -4.8**
comp=Z,3µm,13.0s
KIS *e*SS SS 09 08 38.0 -10
KIS *e*SSS 09 09 18.0
KIS *e*LQ 09 15 42.0
KIS *e*LR LR 09 15 56.0
comp=Z,13µm,12.0s
IZI Iznik 41.74 294 *e*P **P 08 59 28.3 -0.4**
YLV Yalova 41.78 295 *e*P **P 08 59 32.4 +3.4**
KLYT Kilyos 41.92 296 *e*P **P 08 59 30.6 +0.4**
GDZ Gediz 41.94 292 *i* P **P 08 59 30.3 -0.1**
KSM Kuching 41.98 135 *e*P **P 08 59 31.9 +1.1**
KSM *e*PcP PcP 09 01 30.0 +3.9
KSM Kuching 41.98 135⇓P **P 08 59 35.3 +4.4**
TIRR Tirgusor 42.02 301 P **P 08 59 34.3 +3.4**
TIRR Tirgusor 42.02 301⇓*i*P **P 08 59 33.4 +2.5**
KHL Karahalli 42.05 291 *e*P **P 08 59 31.2 -0.1**
ELL Elmali 42.08 289 *e*P **P 08 59 33.9 +2.4**
KDM Kudat 42.08 122⇑P **P 08 59 33.2 +1.5**
CFR Carcaliu 42.15 302 P **P 08 59 35.2 +3.2**
GOLH Golhisar 42.24 290 *i* P **P 08 59 33.6 +0.8**
KKM Kota Kinabalu 42.27 124 *e*P **P 08 59 34.6 +1.3**
KKM Kota Kinabalu 42.27 124⇑P **P 08 59 38.6 +5.3**
BTM Bintulu 42.31 130⇑P **P 08 59 38.0 +4.4**
HARR Harsova 42.34 301 P **P 08 59 34.7 +1.2**
HARR Harsova 42.34 301⇓*i*P **P 08 59 33.8 +0.3**
SBUM Sibu 42.35 132⇓P **P 08 59 38.2 +4.2**
ELBA Catalca 42.40 296 *i* P **P 08 59 34.0 -0.1**
CTT Catalca 42.40 296 *e*P **P 08 59 36.2 +2.1**
JOF Joensuu 42.41 328 *e*p **P 08 59 32.3 -1.6**
comp=Z,63nm,0.6s,mb5.4
JOF Joensuu 42.41 328 *e*P **P 08 59 32.3 -1.6**
JOF pmax pmax
comp=Z,63nm,0.6s,mb5.4
AKAS Kas 42.43 288 *i* P **P 08 59 32.7 -1.7**
MNK Minsk 42.45 316 *e*P **P 08 59 32.0 -2.3**
MNK *e* 09 01 14.0
MNK *e*S **S 09 05 54.0 -1.5**
MNK *e*SS SS 09 08 54.0 -11
MNK *e*SSS 09 09 28.0
MNK MLR MLR
comp=Z,69µm,19.0s,MS6.6
MNK MLR MLR
comp=E,52µm,16.0s,MS6.6
MNK MLR MLR
comp=N,34µm,14.0s,MS6.6
KULA Kula-Manisa 42.68 292 *e*P **P 08 59 39.5 +3.1**
FETY Fethiye 42.75 289 *e*P **P 08 59 36.2 -0.8**
BNT Bandirma 42.91 295 *e*P **P 08 59 38.9 +0.7**
BTOK Tokmak 42.92 294 *i* P **P 08 59 41.8 +3.4**
LVZ Lovozero 43.03 336 P **P 08 59 38.3 -0.5**
comp=N,913nm,1.0s,mb6.5,SNR=11
BALB Balikesir 43.06 294 *e*P **P 08 59 42.8 +3.3**
DALT Dalyan (Mudla) 43.06 289 *e*P **P 08 59 39.5 -0.1**
VRI Vrincioaia 43.09 303 P **P 08 59 40.6 +1.0**
MRMT Marmara Adasi 43.11 295 *e*P **P 08 59 42.5 +2.7**
PLOR Plostina 43.14 303⇓*i*P **P 08 59 41.0 +1.0**
SDKM Sandakan 43.24 123⇑P **P 08 59 46.1 +4.9**
AKHS Akhisar 43.26 292 *i* P **P 08 59 40.4 -0.6**
AKS Akhisar 43.26 292 *e*P **P 08 59 42.3 +1.2**
YER Yerkesik 43.26 290 *e*P **P 08 59 41.7 +0.6**
ISR Istrita 43.28 302⇓P **P 08 59 42.9 +1.7**
ISR Istrita 43.28 302⇓*i*P **P 08 59 42.8 +1.6**
APA Apatity 43.31 335⇓*i*P **P 08 59 40.0 -1.1**
APA *i* 09 01 21.0
APA *i* 09 01 29.0
APA *i* S **S 09 06 07.0 -0.8**
APA *i* 09 06 23.0
APA pmax pmax
comp=Z,61nm,1.2s,mb5.2
APA pmax pmax
comp=Z,2µm,7.0s
APA MLR MLR
comp=Z,24µm,10.0s,MS6.4
MFT Murefte 43.31 295 *e*P **P 08 59 42.7 +1.2**
AYDN Tasoluk 43.46 291 *i* P **P 08 59 45.5 +2.7**
EDRB Edirne 43.54 297 *e*P **P 08 59 43.9 +0.6**
VSU Vasula 43.56 321 *d i*P **P 08 59 42.2 -1.0**
VSU Vasula 43.56 321 *i* P **P 08 59 42.3 -0.9**
JMB Yambol 43.57 298 *e*P **P 08 59 44.3 +0.8**
ARG Arkhangelos 43.59 289 *e*P **P 08 59 46.6 +2.8**
ARG Arkhangelos 43.59 289 *e*P **P 08 59 45.5 +1.7**
MLSB Milas 43.62 290 *e*P **P 08 59 46.1 +2.1**
MLR Muntele Rosu 43.66 302 P **P 08 59 45.6 +1.3**
MLR Muntele Rosu 43.66 302 ScP ScP 09 05 23.1 +0.7
comp=Z,4.4nm,0.8s,baz=166,slow=4.2,SNR=2.5
MLR LR LR 09 21 24.8
comp=Z,21µm,18.7s,MS6.1,baz=246,slow=41
MLR Muntele Rosu 43.66 302⇓*i*P **P 08 59 45.4 +1.1**
BUC1 Bucharest 43.73 301 P **P 08 59 49.8 +5.0**
KDAG Bornova 43.77 292 *i* P **P 08 59 48.4 +3.1**
DAT Datca 43.90 289 *e*P **P 08 59 47.2 +0.9**
BDRM Kayabasi 43.93 290 *i* P **P 08 59 49.3 +2.8**
BLCB Balcova 43.95 292 *e*P **P 08 59 49.4 +2.7**
BODT Bodrum 44.03 290 *e*P **P 08 59 43.4 -4.0**
ENEZ Enez 44.16 295 *e*P **P 08 59 51.7 +3.3**
EZN Ezine 44.20 294 *e*P **P 08 59 52.2 +3.5**
ALN Alexandroupoli 44.22 296 *e*P **P 08 59 49.8 +1.0**
SMG Samos 44.25 291 *e*P **P 08 59 52.1 +3.0**
SMG Samos 44.25 291 *e*P **P 08 59 50.5 +1.4**
ZIMR 44.29 300 P **P 08 59 50.3 +1.0**
URLA Izmir 44.30 292 *i* P **P 08 59 48.3 -1.1**
VOIR 44.30 302⇓*i*P **P 08 59 49.4 +0.1**
PRK Paraskevi 44.36 293 *e*P **P 08 59 53.5 +3.6**
BOZC Bozcaada 44.41 294 *i* P **P 08 59 51.2 +0.9**
FIA1 FINESS Array S 44.41 325 *e*P **P 08 59 49.2 -0.8**
FIA1 *e* 09 01 34.0
FINES FINESS Array B 44.41 325 P **P 08 59 49.7 -0.3**
FINES 09 01 34.5
FINES FINESS Array B 44.41 325 P **P 08 59 49.7 -0.3**
comp=Z,36nm,0.7s,mb5.2,baz=101,slow=9.9,SNR=138
FINES PcP PcP 09 01 34.5 +0.9
comp=Z,32nm,1.1s,baz=108,slow=4.5,SNR=3.2
FINES LR LR 09 19 08.7
comp=Z,27µm,19.9s,MS6.2,baz=102,slow=37
GADA Gvkgeada 44.46 295 *e*P **P 08 59 54.4 +3.7**
MYLDM Lahad Datu 44.47 122⇓P **P 08 59 56.3 +5.2**
KAP Karpathos 44.51 288 *e*P **P 08 59 50.8 -0.4**
KARP Karpathos 44.52 288 *e*P **P 08 59 50.5 -0.8**
RDO Rodhopi 44.55 296 *e*P **P 08 59 54.5 +3.0**
LVV L'vov 44.66 309 *e*P **P 08 59 51.8 -0.4**
LVV *e* 09 01 39.8
LVV *e*S **S 09 06 27.0 -0.9**
LVV MLR MLR
comp=N,6µm,14.0s,MS6.0
LVV MLR MLR
comp=E,10µm,14.0s,MS6.0
LVV MLR MLR
comp=Z,11µm,14.0s,MS6.0
TSM Tawau 44.67 124⇓P **P 08 59 57.3 +4.7**
TIXI Tiksi 44.68 19 *d i*P **P 08 59 51.2 -0.8**
TIXI pmax pmax
comp=Z,79nm,1.7s,mb5.3
TIXI MLR MLR
comp=Z,46µm,20.0s,MS6.4
TIXI Tiksi 44.68 19 *e*P **P 08 59 51.1 -0.9**
comp=Z,464nm,1.7s,mb6.0
CHOS Chios island 44.70 292 *e*P **P 08 59 52.8 +0.1**
LIA Limnos Island 45.05 294 *e*P **P 08 59 58.2 +2.8**
SUW Suwalki 45.15 315 *e*P **P 08 59 55.3 -0.7**
SUW *e*pP pP 08 59 58.6 -1.9
SUW *e*PP PP 09 01 40.0 -1.4
SUW LMZ 09 20 30.0
comp=Z,21µm,20.7s
SUW Suwalki 45.15 315 *e*P **P 08 59 55.3 -0.7**
SUW *e*pP pP 08 59 58.6 -1.9

SUW				*e*PP	PP	09 01 40.0	-1.4
MAT	**Matsushiro**	**45.29**	**70**	P	**P**	**08 59 56.6**	**-0.8**
MAT				S	**S**	**09 06 36.0**	**-1.4**
MAJO	**Matsushiro**	**45.29**	**70**	*e*P	**P**	**08 59 57.3**	**-0.1**
MAJO				*e*		09 01 39.7	
MAJO				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.3						
MAJO				MLR	MLR		
	comp=Z,11μm,20.0s,MS5.8						
MAJO	**Matsushiro**	**45.29**	**70**	*e*P	**P**	**08 59 57.3**	**-0.1**
	comp=Z,56nm,1.1s,mb5.3						
MAJO				*e*PcP	PcP	09 01 39.7	+2.7
MAJO				LR	LR		
	comp=Z,11μm,20.0s,MS5.8						
MJAR	**Matsushiro Arr**	**45.29**	**70**	P	**P**	**08 59 57.8**	**+0.4**
MJAR						09 01 41.0	
MJAR	**Matsushiro Arr**	**45.29**	**70**	P	**P**	**08 59 57.8**	**+0.4**
MJAR				PcP	PcP	09 01 41.0	+3.9
MJAR				ScP	ScP	09 05 30.2	+0.9
MJAR				LR	LR	09 19 29.8	
MJAR	**Matsushiro Arr**	**45.29**	**70**	P	**P**	**08 59 57.8**	**+0.4**
	comp=Z,16nm,0.8s,mb4.9,baz=287,slow=9.0,SNR=27						
MJAR				PcP	PcP	09 01 41.0	+3.9
	comp=Z,15nm,0.9s,baz=287,slow=4.2,SNR=5.6						
MJAR				ScP	ScP	09 05 30.2	+0.9
	comp=Z,4.3nm,0.9s,baz=288,slow=5.3,SNR=7.3						
MJAR				LR	LR	09 19 29.8	
	comp=Z,10μm,20.1s,MS5.7,baz=290,slow=37						
CRAR	**CRAIOVA**	**45.31**	**301**	P	**P**	**09 00 01.9**	**+4.4**
APE	**Apeiranthos**	**45.41**	**291**	*i* P	**P**	**09 00 01.3**	**+2.9**
APE	**Apeiranthos**	**45.41**	**291**	*e*P	**P**	**09 00 01.0**	**+2.7**
APE	**Apeiranthos**	**45.41**	**291**	⇓*i*P	**P**	**08 59 57.9**	**-0.5**
KWP	**Kalwaria**	**45.53**	**308**	*e*P	**P**	**08 59 59.3**	**+0.2**
KWP				*e*pP	pP	09 00 02.5	-1.1
KWP				*e*PP	PP	09 01 53.3	+7.7
KWP				*e*S	**S**	**09 06 42.5**	**+2.0**
KWP				LMZ		09 19 24.4	
	comp=Z,29μm,24.4s						
KWP	**Kalwaria**	**45.53**	**308**	*e*P	**P**	**08 59 59.3**	**+0.2**
KWP				*e*PP	PP	09 01 53.3	+7.8
KWP				*e*S	**S**	**09 06 42.5**	**+2.0**
SANT	**Santorini**	**45.64**	**290**	*e*P	**P**	**09 00 00.4**	**+0.2**
	comp=Z,141nm,1.2s,mb5.8						
NVR	**Nevrokopi**	**45.76**	**297**	*e*P	**P**	**09 00 00.7**	**-0.3**
DRGR		**45.77**	**304**	P	**P**	**09 00 01.6**	**+0.6**
DRGR		**45.77**	**304**	⇓*i*P	**P**	**09 00 01.5**	**+0.5**
NPS	**Neapolis**	**45.82**	**288**	*e*P	**P**	**09 00 05.2**	**+3.6**
NPS	**Neapolis**	**45.82**	**288**	*e*P	**P**	**09 00 04.0**	**+2.4**
KOLS	**Kolonicke sedl**	**45.86**	**307**	*e*P	**P**	**09 00 01.6**	**-0.1**
KOLS				*e*	pP	09 00 05.3	-0.9
KOLS				*e*PP	PP	09 01 43.0	-6.1
KOLS				*e*S	**S**	**09 06 47.4**	**+2.1**
KOLS				LR	LR		
	comp=Z,12μm,22.2s,MS5.8						
KOLS	**Kolonicke sedl**	**45.86**	**307**	*e*P	**P**	**09 00 01.6**	**-0.1**
KOLS				*e*pP	pP	09 00 05.3	-0.9
KOLS				*e*PP	PP	09 01 43.0	-6.1
KOLS				*e*S	**S**	**09 06 47.3**	**+2.0**
UZH	**Uzhgorod**	**45.87**	**307**	*e*P	**P**	**09 00 01.0**	**-0.8**
UZH				*i*		09 00 09.0	
UZH				*i*		09 00 15.6	
UZH				*e*		09 01 51.0	
UZH				*e*		09 02 29.0	
UZH				*i*		09 06 48.0	
UZH				*i*		09 09 54.0	
UZH				MLR	MLR		
	comp=Z,14μm,14.0s,MS6.1						
GZR	**Gura Zlata**	**45.89**	**302**	P	**P**	**09 00 02.4**	**+0.3**
GZR	**Gura Zlata**	**45.89**	**302**	⇓*i*P	**P**	**09 00 02.5**	**+0.5**
LAST	**Lasithi**	**45.95**	**288**	*e*P	**P**	**09 00 02.4**	**-0.2**
VTS	**Vitosha**	**46.01**	**299**	P	**P**	**09 00 03.7**	**+0.6**
VTS	**Vitosha**	**46.01**	**299**	⇑*i*P	**P**	**09 00 03.3**	**+0.3**
PLG	**Polygyros**	**46.26**	**296**	*e*P	**P**	**09 00 04.6**	**-0.4**
PLG	**Polygyros**	**46.26**	**296**	*e*P	**P**	**09 00 03.5**	**-1.5**
KEV	**Kevo**	**46.32**	**337**	*e*P	**P**	**09 00 03.2**	**-1.8**
	comp=Z,31nm,0.8s,mb5.3						
KEV				LR	LR		
	comp=Z,11μm,20.0s,MS5.8						
CRVS	**Cervenica-Dubn**	**46.40**	**307**	*e*P	**P**	**09 00 05.2**	**-0.8**
CRVS				*e*	pP	09 00 09.5	-0.9
CRVS				*e*S	**S**	**09 06 54.3**	**+1.3**
CRVS				LR	LR		
	comp=Z,12μm,23.9s,MS5.8						
CRVS	**Cervenica-Dubn**	**46.40**	**307**	*e*P	**P**	**09 00 05.2**	**-0.8**
CRVS				*e*pP	pP	09 00 09.5	-0.9
CRVS				*e*S	**S**	**09 06 54.3**	**+1.3**
WAR	**Warsaw**	**46.46**	**312**	*e*P	**P**	**09 00 05.4**	**-1.0**
WAR				*e*pP	pP	09 00 10.7	-0.2
WAR				LMZ		09 21 02.2	
	comp=Z,39μm,18.2s						
STHS	**Stebnicka Huta**	**46.50**	**308**	*e*P	**P**	**09 00 06.4**	**-0.3**
STHS				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
STHS	**Stebnicka Huta**	**46.50**	**308**	*e*P	**P**	**09 00 06.4**	**-0.3**
	comp=Z,14nm,0.7s,mb5.0						
STHS				*e*	pP	09 00 10.2	-1.0
KNT	**Kendrikon**	**46.51**	**297**	*e*P	**P**	**09 00 06.4**	**-0.6**
KVR	**Kavouri**	**46.59**	**292**	*e*P	**P**	**09 00 06.0**	**-1.6**
ATH	**Athens Observa**	**46.59**	**292**	*e*P	**P**	**09 00 09.4**	**+1.8**
NEO	**Neokhori**	**46.66**	**294**	*e*P	**P**	**09 00 07.3**	**-0.8**
NEO	**Neokhori**	**46.66**	**294**	*e*P	**P**	**09 00 07.5**	**-0.6**
XOR	**Xorichti**	**46.67**	**294**	*e*P	**P**	**09 00 06.8**	**-1.4**
BZS	**Buzias**	**46.67**	**303**	⇓*i*P	**P**	**09 00 08.7**	**+0.6**
YSS	**Yuzh-Sakhalins**	**46.70**	**55**	*oe*P	**P**	**09 00 13.0**	**+4.6**
YSS				*e**SP	sP	09 00 19.0	+4.4
YSS				*e*		09 01 44.2	
YSS				*e*		09 02 05.0	
YSS				*e*PPP		09 02 42.0	
YSS				*i* S	**S**	**09 07 00.0**	**+2.6**
YSS				*e*SS	SS	09 10 00.0	-23
YSS				pmax	pmax		
	comp=Z,330nm,2.0s,mb5.9						
YSS				smax			
	comp=N,1μm,15.0s						
YSS				smax			
	comp=E,2μm,16.0s						
YSS				MLR	MLR		
	comp=Z,6μm,17.0s,MS5.7						
YSS				MLR	MLR		
	comp=N,7μm,15.0s,MS5.8						
YSS				MLR	MLR		
	comp=E,4μm,16.0s,MS5.8						
YSS	**Yuzh-Sakhalins**	**46.70**	**55**	*e*P	**P**	**09 00 08.4**	**0.0**
	comp=E,74nm,1.1s,mb5.5						
VAY	**Valandovo**	**46.72**	**297**	⇓*i*P	**P**	**09 00 11.1**	**+2.5**
VAY				⇑*i*PP	PP	09 02 02.9	+4.6
ARCES	**ARCESS Array B**	**46.74**	**336**	P	**P**	**09 00 08.2**	**-0.1**
ARCES						09 01 40.7	
ARCES	**ARCESS Array B**	**46.74**	**336**	P	**P**	**09 00 08.2**	**-0.1**
	comp=E,68nm,0.9s,mb5.6,baz=104,slow=8.0,SNR=103						
ARCES				PcP	PcP	09 01 40.6	-0.9
	comp=E,31nm,0.9s,baz=90,slow=2.7,SNR=2.6						
ARCES				LR	LR	09 21 25.5	
	comp=E,12μm,18.1s,MS5.9,baz=113,slow=38						
ARE0	**ARCESS Array S**	**46.74**	**336**	*e*P	**P**	**09 00 08.4**	**+0.1**
NAIG	**Nisos Aigina**	**46.82**	**292**	*e*P	**P**	**09 00 08.0**	**-1.4**
VAM	**Vamos**	**46.89**	**289**	*e*P	**P**	**09 00 13.4**	**+3.4**
VAM	**Vamos**	**46.89**	**289**	*e*P	**P**	**09 00 10.0**	**0.0**
GRG	**Griva**	**46.91**	**297**	*e*P	**P**	**09 00 09.7**	**-0.4**
LKR	**Lokris**	**46.98**	**293**	*e*P	**P**	**09 00 09.4**	**-1.3**
ASAJ	**Asahikawa**	**47.00**	**59**	LR	LR	09 21 26.1	
	comp=E,5μm,21.6s,MS5.4,baz=187,slow=38						
LIT	**Litokhoron**	**47.03**	**295**	*e*P	**P**	**09 00 10.2**	**-0.9**
FURI	**Furi**	**47.07**	**248**	*e*P	**P**	**09 00 17.6**	**+6.0**
DID	**Didima**	**47.08**	**292**	*e*P	**P**	**09 00 09.6**	**-1.9**
KECS	**Kecovo**	**47.08**	**307**	*e*P	**P**	**09 00 11.2**	**-0.1**
KECS				*e*		09 02 00.4	
KECS				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.8						
KECS	**Kecovo**	**47.08**	**307**	*e*P	**P**	**09 00 11.2**	**-0.1**
	comp=Z,8.3nm,0.7s,mb4.8						
KECS				*e*	pP	09 00 15.3	-0.5
KECS				*e*PP	PP	09 02 00.4	-1.5
NIE	**Niedzica**	**47.10**	**308**	*e*P	**P**	**09 00 12.2**	**+0.7**
NIE				*e*pP	pP	09 00 15.8	-0.1
KARN	**Karanos**	**47.11**	**289**	*e*P	**P**	**09 00 11.8**	**+0.1**
GVD	**Gavdhos**	**47.13**	**288**	*e*P	**P**	**09 00 10.9**	**-1.1**
	comp=Z,139nm,0.9s,mb5.9						
GVD	**Gavdhos**	**47.13**	**288**	*e*P	**P**	**09 00 10.5**	**-1.4**
KTK1	**Kautokeino**	**47.36**	**335**	*e*P	**P**	**09 00 13.5**	**+0.3**
KTK1				AMb	AMB	09 00 18.6	
	comp=Z,118nm,1.2s,mb5.7						
KTK1	**Kautokeino**	**47.36**	**335**	*e*P	**P**	**09 00 13.5**	**+0.3**
	comp=Z,118nm,1.2s,mb5.7						
OJC	**Ojcow**	**47.36**	**309**	*e*P	**P**	**09 00 12.7**	**-0.8**
OJC				*e*pP	pP	09 00 16.1	-1.8
OJC				*e*S	**S**	**09 07 06.4**	**-0.3**
OJC				*e*SS	SS	09 10 36.3	+2.3
OJC				L		09 22 00.1	
	comp=Z,20nm,16.5s						
OJC	**Ojcow**	**47.36**	**309**	*e*P	**P**	**09 00 12.7**	**-0.8**
OJC				*e*S	**S**	**09 07 06.4**	**-0.3**
OJC				MLR	MLR		
	comp=Z,20μm,16.5s,MS6.2						
AGG	**Agios Georgios**	**47.40**	**294**	*e*P	**P**	**09 00 12.7**	**-1.3**
SKO	**Skopje**	**47.42**	**298**	⇓*i*P	**P**	**09 00 17.4**	**+3.4**
SKO				⇑*i*PP	PP	09 02 09.2	+4.1
JHJ	**Hachijo jima 2**	**47.49**	**74**	LR	LR	09 21 48.1	
	comp=Z,14μm,19.2s,MS6.0,baz=300,slow=38						
THL	**Klokotos Trika**	**47.51**	**295**	*e*P	**P**	**09 00 13.3**	**-1.5**
THL	**Klokotos Trika**	**47.51**	**295**	*e*P	**P**	**09 00 12.4**	**-2.4**
VLI	**Veliai**	**47.51**	**291**	*e*P	**P**	**09 00 12.0**	**-2.8**
VLI	**Veliai**	**47.51**	**291**	*e*P	**P**	**09 00 12.0**	**-2.9**
KZN	**Kozani**	**47.52**	**296**	*e*P	**P**	**09 00 18.4**	**+3.5**
PSZ	**Piszkesteto**	**47.54**	**306**	*e*P	**P**	**09 00 15.2**	**+0.3**
PSZ				pmax	pmax		
	comp=Z,148nm,1.2s,mb5.9						
PSZ	**Piszkesteto**	**47.54**	**306**	*e*P	**P**	**09 00 15.2**	**+0.3**
	comp=Z,148nm,1.2s,mb5.9						
PSZ	**Piszkesteto**	**47.54**	**306**	⇓*e*	**P**	**09 00 18.5**	**+3.6**
PSZ	**Piszkesteto**	**47.54**	**306**	⇓*i*P	**P**	**09 00 14.9**	**0.0**
KYTH	**Kithira**	**47.55**	**290**	*e*P	**P**	**09 00 13.0**	**-2.2**
KRUS	**Krusevo**	**47.68**	**297**	*i* P	**P**	**09 00 15.4**	**-0.7**
ERM	**Erimo**	**47.80**	**62**	PFAKE		09 00 30.0	+13
ERM				LR	LR		
	comp=Z,7μm,19.0s,MS5.6						
EVR	**Evrytania**	**47.82**	**294**	*e*P	**P**	**09 00 16.1**	**-1.1**
EVR	**Evrytania**	**47.82**	**294**	*e*P	**P**	**09 00 15.5**	**-1.7**
LIKS	**Likavka**	**47.93**	**308**	*e*P	**P**	**09 00 17.5**	**-0.4**
LIKS				pmax	pmax		
	comp=Z,29nm,0.4s,mb5.7						
LIKS	**Likavka**	**47.93**	**308**	*e*P	**P**	**09 00 17.5**	**-0.4**
LIKS				*e*pP	pP	09 00 21.1	-1.3
DIVS	**Divibare**	**48.05**	**301**	*e*P	**P**	**09 00 19.2**	**+0.2**
OHR	**Ohrid**	**48.07**	**297**	⇓*i*P	**P**	**09 00 19.1**	**+0.1**
OHR				⇑*i*PP	PP	09 02 14.6	+3.4
ITM	**Ithomi**	**48.17**	**292**	*e*P	**P**	**09 00 19.4**	**-0.5**
ITM	**Ithomi**	**48.17**	**292**	*e*P	**P**	**09 00 20.5**	**+0.6**
VYHS	**Vyhne**	**48.17**	**307**	*e*P	**P**	**09 00 19.4**	**-0.4**
	comp=Z,9.5nm,1.5s,mb4.6						
VYHS				*e*	pP	09 00 23.5	-0.8
VYHS				*e*PP	PP	09 02 11.5	-0.4
VYHS				*e*S	**S**	**09 07 18.8**	**+0.5**
VYHS				LR	LR		
	comp=Z,9μm,18.9s,MS5.8						
VYHS	**Vyhne**	**48.17**	**307**	*e*P	**P**	**09 00 19.4**	**-0.4**
VYHS				*e*pP	pP	09 00 23.5	-0.8
VYHS				*e*PP	PP	09 02 11.5	-0.4
VYHS				*e*S	**S**	**09 07 18.8**	**+0.5**
BUD	**Budapest**	**48.18**	**306**	⇓*e*	**P**	**09 00 23.4**	**+3.5**
RLS	**Riolos of Patr**	**48.29**	**293**	*e*P	**P**	**09 00 22.6**	**+1.7**
COCO	**West Island**	**48.30**	**160**	PFAKE		09 00 30.0	+9.0
COCO				LR	LR		
	comp=Z,5μm,19.0s,MS5.5						
IVA	**Berane**	**48.35**	**300**	⇑*i*P	**P**	**09 00 21.0**	**-0.3**
PVY	**Plav**	**48.36**	**299**	⇑*i*P	**P**	**09 00 20.9**	**-0.4**
DAV	**Davao City (W)**	**48.37**	**114**	P	**P**	**09 00 28.3**	**+6.5**
	SNR=13						
DAV	**Davao City (W)**	**48.37**	**114**	P	**P**	**09 00 28.3**	**+6.5**
	SNR=13						
PYL	**PYLOS**	**48.39**	**291**	*e*P	**P**	**09 00 19.2**	**-2.4**
RAC	**Raciborz**	**48.40**	**309**	*e*P	**P**	**09 00 20.9**	**-0.6**
RAC				*e*S	**S**	**09 07 23.5**	**+2.0**
RAC				MLR	MLR		
	comp=Z,22μm,17.1s,MS6.2						
KOLL	**Kolacno**	**48.45**	**307**	*e*P	**P**	**09 00 22.1**	**+0.2**
KOLL				*e*		09 00 29.1	
KOLL	**Kolacno**	**48.45**	**307**	*e*P	**P**	**09 00 22.0**	**+0.1**
KOLL				*e*pP	pP	09 00 29.1	+2.7
OKC	**Ostrava-Krasne**	**48.46**	**309**	*e*P	**P**	**09 00 21.6**	**-0.4**
OKC				*e*pP	pP	09 00 25.3	-1.2
OKC				*e*S	**S**	**09 07 24.1**	**+1.8**
OKC	**Ostrava-Krasne**	**48.46**	**309**	*e*P	**P**	**09 00 21.6**	**-0.4**
OKC				*e*pP	pP	09 00 25.3	-1.2
OKC				*e*S	**S**	**09 07 24.1**	**+1.8**
OKC				AMS	AMS	09 19 40.0	
	comp=Z,12μm,18.2s						
PLE	**Pljevlja**	**48.63**	**300**	⇑*i*P	**P**	**09 00 24.0**	**+0.6**
PKSM	**Moragy**	**48.63**	**304**	P	**P**	**09 00 23.1**	**-0.2**
PKSM	**Moragy**	**48.63**	**304**	⇓*i*P	**P**	**09 00 23.0**	**-0.4**
GKP	**Gorka Klasztor**	**48.70**	**314**	*e*P	**P**	**09 00 22.9**	**-1.0**
GKP				*e*pP	pP	09 00 27.3	-1.0
GKP				*e*PP	PP	09 02 19.7	+3.0
GKP				*e*S	**S**	**09 07 34.5**	**+8.8**
GKP				LMZ		09 23 21.4	
	comp=Z,22μm,19.0s						
GKP	**Gorka Klasztor**	**48.70**	**314**	*e*P	**P**	**09 00 22.9**	**-0.9**
GKP				*e*pP	pP	09 00 27.3	-1.0
GKP				*e*PP	PP	09 02 19.7	+3.0
GKP				*e*S	**S**	**09 07 34.5**	**+8.8**
GKP				LR	LR		
	comp=Z,22μm,19.0s,MS6.2						
MORC	**Moravsky Berou**	**48.85**	**309**	P	**P**	**09 00 25.0**	**0.0**
MORC	**Moravsky Berou**	**48.85**	**309**	*e*P	**P**	**09 00 24.6**	**-0.4**
	comp=Z,190nm,1.2s,mb6.0						
MORC	**Moravsky Berou**	**48.85**	**309**	⇓*i*P	**P**	**09 00 24.9**	**-0.1**
TTG	**Podgorica**	**48.91**	**299**	⇑*i*P	**P**	**09 00 23.8**	**-1.7**
VLS	**Valsamata**	**48.93**	**293**	*e*P	**P**	**09 00 23.5**	**-2.3**
TRO	**Tromso**	**48.99**	**336**	*e*P	**P**	**09 00 27.4**	**+1.6**
TRO				*e*PP	PP	09 02 18.6	-0.4
TRO				AMS	AMS	09 23 02.1	
	comp=Z,10μm,18.0s,MS5.9						
TRO	**Tromso**	**48.99**	**336**	*e*P	**P**	**09 00 27.4**	**+1.6**
TRO				*i*		09 02 18.9	
TRO				LR	LR		
	comp=Z,10μm,18.0s,MS5.9						
UPM	**Unac-Piva**	**49.00**	**300**	⇑*i*P	**P**	**09 00 26.5**	**+0.3**
NKY	**Niksic**	**49.02**	**300**	⇑*i*P	**P**	**09 00 24.4**	**-2.0**
ULC	**Ulcinj**	**49.02**	**299**	⇑*i*P	**P**	**09 00 24.9**	**-1.5**
KEK	**Kerkira**	**49.13**	**296**	*e*P	**P**	**09 00 25.0**	**-2.3**
BUM	**Brajici-Budva**	**49.20**	**299**	⇑*i*P	**P**	**09 00 26.5**	**-1.3**
MODS	**Modra-Piesok**	**49.22**	**307**	*e*P	**P**	**09 00 27.7**	**-0.1**
	comp=Z,4.2nm,0.9s,mb4.5						
MODS				*e*	pP	09 00 31.6	-0.7
MODS				*e*PP	PP	09 02 25.9	+4.5
MODS				*e*S	**S**	**09 07 27.8**	**-5.2**
MODS				LR	LR		
	comp=Z,8μm,22.6s,MS5.6						
MODS	**Modra-Piesok**	**49.22**	**307**	*e*P	**P**	**09 00 27.7**	**-0.1**
MODS				*e*pP	pP	09 00 31.6	-0.7
MODS				*e*PP	PP	09 02 25.9	+4.5
MODS				*e*S	**S**	**09 07 27.8**	**-5.2**
BRY	**Bratogost**	**49.32**	**300**	⇑*i*P	**P**	**09 00 27.0**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**49.33**	**59**	*e*P	**P**	**09 00 33.0**	**+4.2**
YUK				*e*		09 02 27.0	
YUK				S	**S**	**09 07 42.4**	**+7.3**
ZST	**Bratislava**	**49.36**	**307**	*e*P	**P**	**09 00 28.3**	**-0.6**
ZST				*e*		09 02 27.1	
ZST				*e*S	**S**	**09 07 38.0**	**+3.0**
ZST				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
ZST				MLR	MLR		
	comp=Z,11μm,17.0s,MS5.9						
ZST	**Bratislava**	**49.36**	**307**	*e*P	**P**	**09 00 28.3**	**-0.6**
	comp=Z,10nm,0.8s,mb4.9						
ZST				*e*	pP	09 00 32.4	-1.0
ZST				*e*PP	PP	09 02 27.1	+4.4
ZST				*e*S	**S**	**09 07 38.0**	**+3.0**
ZST				LR	LR		
	comp=Z,11μm,17.0s,MS5.9						
ZST	**Bratislava**	**49.36**	**307**	*e*P	**P**	**09 00 28.3**	**-0.6**
ZST				*e*pP	pP	09 00 32.4	-1.0
ZST				*e*PP	PP	09 02 27.1	+4.4
ZST				*e*S	**S**	**09 07 38.0**	**+3.0**
HCY	**Herceg Novi**	**49.45**	**299**	⇑*i*P	**P**	**09 00 29.4**	**-0.3**
KSP	**Ksiaz**	**49.52**	**311**	*e*P	**P**	**09 00 29.7**	**-0.4**
KSP				*e*pP	pP	09 00 33.5	-1.1
KSP				*e*S	**S**	**09 07 47.9**	**+11**
KSP				LMZ		09 23 20.9	
	comp=Z,59μm,18.4s						
KSP	**Ksiaz**	**49.52**	**311**	⇓*e*P	**P**	**09 00 29.7**	**-0.4**
KSP				*e*		09 02 25.0	
KSP				*e*S	**S**	**09 07 37.0**	**-0.2**
KSP				*e*SS	SS	09 11 08.0	-0.8
KSP	**Ksiaz**	**49.52**	**311**	⇓*e*P	**P**	**09 00 29.7**	**-0.4**
KSP				*e*pP	pP	09 00 33.3	-1.3
KSP				*e*PP	PP	09 02 25.0	+0.8
KSP				*e*S	**S**	**09 07 37.0**	**-0.2**
KSP				*e*SS	SS	09 11 08.0	-0.8
KSP				LR	LR		
	comp=Z,51μm,23.8s,MS6.4						
VRAC	**Vranov**	**49.53**	**309**	P	**P**	**09 00 30.5**	**+0.3**
VRAC	**Vranov**	**49.53**	**309**	LR	LR	09 23 39.7	
	comp=Z,17μm,18.2s,MS6.1,baz=78,slow=39						
VRAC	**Vranov**	**49.53**	**309**	⇓*i*P	**P**	**09 00 30.1**	**-0.1**
DPC	**Dobruska-Polom**	**49.56**	**310**	*e*P	**P**	**09 00 30.4**	**0.0**
DPC				*e*pP	pP	09 00 34.4	-0.5
DPC				*e*S	**S**	**09 07 40.6**	**+2.8**
DPC				AMS	AMS	09 23 20.0	
	comp=Z,22μm,15.2s						
UPC	**Upice**	**49.74**	**310**	*e*P	**P**	**09 00 31.9**	**+0.1**
SOP	**Sopron**	**49.80**	**306**	⇓*e*	**P**	**09 00 35.7**	**+3.4**
BSD	**Bornholm Skovb**	**49.93**	**316**	*i* P	**P**	**09 00 30.0**	**-3.1**
BSD				*i* S	**S**	**09 07 43.3**	**+0.5**
BSD				pmax	pmax		
	comp=Z,71nm,1.2s,mb5.6						
BSD				MLR	MLR		
	comp=Z,15μm,19.0s,MS6.0						
BSD	**Bornholm Skovb**	**49.93**	**316**	*i* P	**P**	**09 00 30.0**	**-3.1**
	comp=Z,71nm,1.2s,mb5.6						
BSD				*i*		09 02 19.1	
BSD				*i* S	**S**	**09 07 43.3**	**+0.5**
BSD							
	comp=Z,15μm,19.0s						
BJO	**Bjornoya**	**50.10**	**342**	*e*	**S**	**09 07 40.9**	**-3.8**
BJO				AMS	AMS	09 24 13.1	
	comp=Z,9μm,15.6s,MS5.9						
MOR8	**Moi Rana**	**50.18**	**331**	*e*P	**P**	**09 00 33.1**	**-1.7**
MOR8				*e*sP	sP	09 00 37.0	-4.1
MOR8				AMb	AMB	09 00 40.2	
	comp=Z,100nm,2.0s,mb5.5						
MOR8	**Moi Rana**	**50.18**	**331**	*e*P	**P**	**09 00 33.1**	**-1.7**
	comp=Z,100nm,2.0s,mb5.5						
CONA	**Conrad Observa**	**50.22**	**307**	⇓*i*P	**P**	**09 00 35.1**	**-0.4**
	comp=Z,296nm,1.2s,mb6.2,SNR=167						
KOGS	**Kog**	**50.22**	**305**	*e*P	**P**	**09 00 34.9**	**-0.6**
KOGS				*i* pP	pP	09 00 38.6	-1.4
KOGS				*e*PP	PP	09 02 32.9	+2.3
KOGS				*e*S	**S**	**09 07 48.5**	**+1.4**
TREC	**Trest**	**50.25**	**309**	*e*P	**P**	**09 00 35.5**	**-0.2**
TREC				*e*pP	pP	09 00 39.7	-0.5
TREC				*e*S	**S**	**09 07 49.4**	**+2.0**
TREC				AMS	AMS	09 23 20.0	
	comp=Z,20μm,22.6s						
MA2	**Magadan**	**50.55**	**38**	*d* iP	**P**	**09 00 38.4**	**+0.6**
MA2				*e*		09 00 52.5	
MA2				*e*		09 01 54.6	
MA2				*e*		09 02 42.0	
MA2				*e*S	**S**	**09 07 48.0**	**-3.4**
MA2				*e*		09 10 23.3	
MA2				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.8						
MA2				pmax	pmax		
	comp=E,40nm,0.7s						
MA2				MLR	MLR		
	comp=Z,11μm,24.0s,MS5.8						
MA2	**Magadan**	**50.55**	**38**	*e*P	**P**	**09 00 38.5**	**+0.7**
	comp=Z,231nm,1.2s,mb6.0						
MA2				LR	LR		
	comp=Z,21μm,20.0s,MS6.1						
ARSA	**Arzberg**	**50.57**	**306**	⇓*i*P	**P**	**09 00 37.6**	**-0.5**
	comp=Z,118nm,1.1s,mb5.7,SNR=44						
PVCC	**Panska Ves**	**50.65**	**310**	*e*P	**P**	**09 00 38.6**	**-0.1**
PVCC				*e*S	**S**	**09 07 54.8**	**+1.8**
PVCC				AMS	AMS	09 23 50.0	
	comp=Z,29μm,16.0s						
LOF	**Lofoten**	**50.70**	**333**	*e*P	**P**	**09 00 39.7**	**+0.9**
LOF				AMb	AMB	09 00 42.2	
	comp=Z,134nm,1.5s,mb5.7						
LOF	**Lofoten**	**50.70**	**333**	*e*P	**P**	**09 00 39.7**	**+0.9**
	comp=Z,134nm,1.5s,mb5.7						
PRU	**Pruhonice**	**50.75**	**310**	*e*P	**P**	**09 00 38.9**	**-0.5**
PRU				*e*pP	pP	09 00 42.6	-1.3
PRU				*e*PP	PP	09 02 38.3	+3.0
PRU				*e*S	**S**	**09 07 57.5**	**+3.2**
PRU				AMS	AMS	09 24 00.0	
	comp=Z,24μm,16.4s						
STOK	**Stokkvaagen**	**50.76**	**331**	*e*P	**P**	**09 00 38.1**	**-1.2**
STOK				*e*pP	pP	09 00 41.9	-1.9
STOK				AMb	AMB	09 00 50.2	
	comp=Z,82nm,1.1s,mb5.6						
STOK	**Stokkvaagen**	**50.76**	**331**	*e*P	**P**	**09 00 38.1**	**-1.2

comp=Z,6µm,19.0s
MOA Molln 51.29 307⇓iP P 09 00 42.6 -0.9
comp=Z,157nm,1.1s,mb5.8,SNR=68
FBE Freiberg 51.35 311 eP P 09 00 43.4 -0.6
comp=Z,211nm,1.2s,mb6.0
FBE ePcP PcP 09 02 02.2 +3.6
FBE ePP PP 09 02 45.1 +4.3
OBKA Obir 51.37 305⇓iP P 09 00 43.7 -0.4
comp=Z,154nm,1.1s,mb5.8,SNR=40
FGMS Monte Sant'Ang 51.47 299 P P 09 00 43.9 -1.1
comp=Z,326nm,1.0s,mb6.2
LJU Ljubljana 51.48 305 eP P 09 00 44.9 0.0
LJU e 09 02 47.7
LJU eS **S 09 08 05.3 +0.8**
LJU Ljubljana 51.48 305 eP P 09 00 44.9 0.0
LJU epP pP 09 00 48.6 -0.9
LJU ePP PP 09 02 47.7 +5.7
LJU eS **S 09 08 05.3 +0.8**
LJU eSS SS 09 11 56.1 +16
GEC2 GERESS Array S 51.48 308 eP P 09 00 44.5 -0.4
GEC2 e 09 02 02.4
GEC2 e 09 02 45.7
GEC2 pmax pmax
comp=Z,188nm,1.2s,mb5.9
GEC2 GERESS Array S 51.48 308 eP P 09 00 44.5 -0.4
comp=Z,188nm,1.2s,mb5.9
GEC2 ePcP PcP 09 02 02.4 +3.3
GEC2 ePP PP 09 02 45.7 +3.7
GERES GERESS Array B 51.48 308 P P 09 00 45.0 +0.1
GERES 09 02 44.1
GERES GERESS Array B 51.48 308 P P 09 00 45.0 +0.1
comp=Z,69nm,1.0s,mb5.5,baz=78,slow=7.0,SNR=138
GERES PP PP 09 02 44.1 +2.1
comp=Z,36nm,1.1s,baz=85,slow=7.4,SNR=6.2
GERES LR LR 09 24 49.3
comp=Z,11µm,19.0s,MS5.9,baz=76,slow=39
KHC Kasperske Hory 51.51 309d iP P 09 00 44.9 -0.3
KHC Kasperske Hory 51.51 309 eP P 09 00 44.6 -0.6
KHC epP pP 09 00 48.7 -1.0
KHC ex x 09 01 04.0
KHC ePP PP 09 02 46.6 +4.3
KHC eS **S 09 08 06.8 +1.9**
KHC AMS AMS 09 22 30.0
comp=Z,21µm,24.6s
CLL Collm 51.51 312⇓iP P 09 00 44.3 -0.8
CLL i pP pP 09 00 47.8 -1.9
CLL eS **S 09 08 08.0 +3.1**
CLL LR LR
comp=Z,33µm,18.7s,MS6.4
CLL Collm 51.51 312 eP P 09 00 44.0 -1.1
comp=Z,129nm,1.4s,mb5.7
CLL Collm 51.51 312⇓iP P 09 00 44.3 -0.8
CLL i pP pP 09 00 47.8 -1.9
CLL i x x 09 00 51.3
CLL ePP PP 09 02 49.0 +6.8
CLL eS **S 09 08 08.0 +3.1**
comp=N,2µm,30.0s
CLL eS **S 09 08 08.0 +3.1**
comp=E,1µm,19.1s
CLL e(SS) 09 12 12.0
CLL LmV 09 24 00.0
comp=Z,33µm,18.7s
NB2 NORSAR Subarra 51.53 324 P P 09 00 43.7 -1.4
comp=Z,150nm,1.2s,mb5.8,baz=86,slow=7.4
NOA NORSAR Array B 51.53 324 P P 09 00 43.7 -1.4
NOA 09 02 43.8
NOA NORSAR Array B 51.53 324 P P 09 00 43.6 -1.5
comp=Z,16nm,0.7s,mb5.0,baz=87,slow=7.4,SNR=60
NOA PP PP 09 02 43.8 +1.5
comp=Z,31nm,1.2s,baz=95,slow=9.6,SNR=3.3
NOA LR LR 09 23 49.1
comp=Z,19µm,18.2s,MS6.2,baz=70,slow=38
TIP Timpagrande 51.55 296 eP P 09 00 45.0 -0.6
CBIJ Chichi jima 51.58 81 LR LR 09 23 31.2
comp=Z,7µm,21.6s,MS5.7,baz=330,slow=37
CEY Cerknica 51.61 304 eP P 09 00 45.7 -0.2
CEY epP pP 09 00 49.4 -1.0
NAO01 NORSAR Array S 51.70 324 eP P 09 00 45.3 -1.2
comp=Z,15nm,0.7s,mb5.0
NAO01 LR LR
comp=Z,21µm,20.0s,MS6.2
TDS Terranova Siba 51.73 296 P P 09 00 46.8 -0.1
TDS pmax pmax
comp=Z,380nm,0.9s,mb6.3
TDS Terranova Siba 51.73 296 P P 09 00 46.8 -0.1
comp=Z,380nm,0.9s,mb6.3
SPB4 Spitsbergen Ar 51.77 346 eP P 09 00 47.0 +0.2
OSL Oslo 51.84 323 eP P 09 00 50.1 +2.7
OSL AMb AMB 09 00 52.8
comp=Z,130nm,1.3s,mb5.7
OSL Oslo 51.84 323 eP P 09 00 50.1 +2.7
comp=Z,130nm,1.3s,mb5.7
VOY Vojsko 51.91 305 eP P 09 00 47.5 -0.7
VOY e 09 00 58.7
WET Wettzell 51.96 309 eP P 09 00 48.0 -0.5
WET pmax pmax
comp=Z,160nm,1.4s,mb5.8
WET Wettzell 51.96 309 eP P 09 00 48.0 -0.5
comp=Z,160nm,1.4s,mb5.8
WET epP pP 09 00 52.4 -0.6
TANN Tannenbergstha 52.00 310 eP P 09 00 48.1 -0.7
comp=Z,101nm,1.3s,mb5.6
NKC Novy Kostel 52.04 310 eP P 09 00 48.9 -0.2
NKC AMS AMS 09 24 40.0
comp=Z,35µm,16.3s
KBA Koelnbreinsper 52.06 306⇓iP P 09 00 48.6 -0.7
comp=Z,89nm,1.1s,mb5.6,SNR=20
KBA Koelnbreinsper 52.06 306⇓iP P 09 00 48.6 -0.7
KBA pmax pmax
comp=Z,89nm,1.1s,mb5.6
WERN Wernitzgruen 52.07 310 eP P 09 00 48.9 -0.4
comp=Z,103nm,1.4s,mb5.6
WERN ePcP PcP 09 02 05.1 +3.8
FG5 Orsara di Pugl 52.08 299 P P 09 00 49.7 +0.2
FG5 pmax pmax
comp=Z,677nm,1.2s,mb6.5
FG5 Orsara di Pugl 52.08 299 P P 09 00 49.7 +0.2
comp=Z,676nm,1.2s,mb6.5
GUNZ Gunzen 52.09 310 eP P 09 00 48.9 -0.6
comp=Z,134nm,1.2s,mb5.8
WERD Werda 52.09 311 eP P 09 00 48.7 -0.8
comp=Z,97nm,1.2s,mb5.6
WERD ePcP PcP 09 02 05.0 +3.7
PTCC Patocco-Chiusa 52.20 305 P P 09 00 49.2 -1.1
comp=Z,82nm,1.3s,mb5.5
ROTZ Rotzenmuhle 52.27 310 eP P 09 00 50.7 -0.1
comp=Z,193nm,1.3s,mb5.9
MANZ Manzenberg 52.30 310 eP P 09 00 50.7 -0.3
comp=Z,103nm,1.3s,mb5.6
GMNA Gemona 52.30 305 P P 09 00 50.4 -0.7
comp=Z,445nm,1.0s,mb6.3
KONO Kongsberg 52.43 322 eP P 09 00 55.1 +3.3
MOX Moxa 52.49 311 eP P 09 00 51.7 -0.7
MOX e pP 09 00 55.5 -1.4
comp=Z,199nm,1.7s
MOX e 09 02 05.6
MOX
comp=Z,23µm,21.0s
MOX Moxa 52.49 311 eP P 09 00 51.7 -0.7
MOX e 09 02 05.6
MOX pmax pmax
comp=Z,199nm,1.7s,mb5.8
MOX MLR MLR
comp=Z,23µm,21.0s,MS6.2
MOX Moxa 52.49 311 eP P 09 00 51.7 -0.7
comp=Z,199nm,1.7s,mb5.8
MOX e pP 09 00 55.5 -1.4
MOX e 09 02 05.6
MOX LR LR
comp=Z,23µm,21.0s,MS6.2
MOX Moxa 52.49 311 eP P 09 00 51.7 -0.7
comp=Z,96nm,1.2s,mb5.6
MOX epP pP 09 00 56.0 -0.9
MOX ePcP PcP 09 02 06.2 +3.4
DOMB Dombas 52.51 325 eP P 09 00 51.2 -1.2
DOMB AMb AMB 09 01 00.6
comp=Z,127nm,2.1s,mb5.5
DOMB Dombas 52.51 325 eP P 09 00 51.2 -1.2
comp=Z,127nm,2.1s,mb5.5
SCLL Scilla 52.59 295 P P 09 00 55.8 +2.4
comp=Z,161nm,1.5s,mb5.7
ABTA Abfaltersbach 52.69 306⇓iP P 09 00 52.4 -1.6
comp=Z,59nm,1.0s,mb5.5,SNR=18
MIDA Miranda 52.72 299 P P 09 00 53.4 -0.9
BSEG Bad Segeberg 52.73 315 eP P 09 00 53.7 -0.4
BSEG pmax pmax
comp=Z,202nm,1.1s,mb6.0
BSEG Bad Segeberg 52.73 315 eP P 09 00 53.7 -0.4
comp=Z,202nm,1.1s,mb6.0
KBS Kingsbay 52.81 347 eP P 09 00 54.2 -0.2
KBS eS **S 09 08 24.7 +2.7**
KBS eSS SS 09 12 03.5 +3.3
KBS AMS AMS 09 28 17.8
comp=Z,6µm,14.6s,MS5.7
KBS Kingsbay 52.81 347 eP P 09 00 54.2 -0.2
KBS LR LR
comp=Z,8µm,20.0s,MS5.8
KAPI Kappang 52.85 130 P P 09 00 59.5 +4.0
comp=Z,567nm,0.9s,mb6.5,SNR=6.9
KAPI Kappang 52.85 130 P P 09 00 58.5 +3.0
SNR=6.0
KAPI Kappang 52.85 130 P P 09 00 58.5 +3.0
SNR=6.0
GRA1 Grafenberg Arr 52.92 310 eP P 09 00 55.6 0.0
comp=Z,234nm,1.2s,mb6.0
GRA1 ePP PP 09 02 58.2 +3.2
GRA1 eS **S 09 08 28.4 +4.2**
GRA1 LR LR
comp=Z,30µm,18.3s,MS6.4
GRF Grafenberg Arr 52.92 310 eP P 09 00 55.6 0.0
GRF e 09 02 58.2
GRF eS **S 09 08 28.4 +4.2**
GRF pmax pmax
comp=Z,234nm,1.2s,mb6.0
GRF MLR MLR
comp=Z,30µm,18.3s,MS6.4
GRF Grafenberg Arr 52.92 310 eP P 09 00 55.6 0.0
GRF e 09 02 58.2
GRF eS **S 09 08 28.4 +4.2**
GRF pmax pmax
comp=Z,234nm,1.2s,mb6.0
GRF MLR MLR
comp=Z,30µm,18.3s,MS6.4
GRF Grafenberg Arr 52.92 310 eP P 09 00 55.6 0.0
comp=Z,234nm,1.2s,mb6.0
GRF ePP PP 09 02 58.2 +3.2
GRF eS **S 09 08 28.4 +4.2**
GRF eL 09 25 34.7
comp=Z,30µm,18.3s
GRFO Grafenberg 52.92 310 eP P 09 00 56.3 +0.7
GRFO pmax pmax
comp=Z,205nm,1.3s,mb5.9
GRFO Grafenberg 52.92 310 eP P 09 00 56.2 +0.6
comp=Z,205nm,1.3s,mb5.9
MUD Monsted U'grnd 53.01 318 i P P 09 00 57.4 +1.2
MUD e 09 02 55.6
MUD i S **S 09 08 28.0 +2.8**
MUD pmax pmax
comp=Z,120nm,1.1s,mb5.7
MUD MLR MLR
comp=Z,13µm,17.0s,MS6.0
MUD Monsted U'grnd 53.01 318 i P P 09 00 57.4 +1.2
comp=Z,118nm,1.1s,mb5.7
MUD e 09 02 55.6
MUD i S **S 09 08 28.0 +2.8**
MUD
comp=Z,13µm,17.0s
CING Cingoli 53.02 302 P P 09 00 56.2 -0.3
CLZ Clausthal 53.04 313 eP P 09 00 55.9 -0.6
CLZ e 09 02 08.4
CLZ e 09 02 59.8
CLZ pmax pmax
comp=Z,222nm,1.2s,mb6.0
CLZ Clausthal 53.04 313 eP P 09 00 55.9 -0.6
comp=Z,222nm,1.2s,mb6.0
CLZ ePcP PcP 09 02 08.4 +3.5
CLZ ePP PP 09 02 59.8 +3.8
NRDL Niedersach Rie 53.09 313 eP P 09 00 56.4 -0.4
comp=Z,282nm,1.2s,mb6.1
NRDL ePP PP 09 03 01.5 +5.1
AQU L'Aquila 53.14 300 eP P 09 00 57.1 -0.3
AQU L'Aquila 53.14 300⇓iP P 09 00 57.5 +0.1
MOL Molde 53.18 326 eP P 09 00 57.3 0.0
MOL LR LR
comp=Z,28µm,19.5s,MS6.3
WATA Walderalm 53.18 307⇑iP P 09 00 56.3 -1.3
comp=Z,73nm,0.9s,mb5.6,SNR=15
WATA Walderalm 53.18 307⇑iP P 09 00 56.3 -1.3
WATA pmax pmax
comp=Z,73nm,0.9s,mb5.6
FUR Furstenfeldbru 53.20 308 eP P 09 00 57.2 -0.5
FUR pmax pmax
comp=Z,483nm,1.0s,mb6.4
FUR Furstenfeldbru 53.20 308 eP P 09 00 57.2 -0.5
comp=Z,483nm,1.0s,mb6.4
FUR epP pP 09 01 01.6 -0.6
CTI Castel Tesino 53.43 305 P P 09 00 58.4 -1.0
SQTA Sankt Quirin 53.45 307 i P P 09 00 58.5 -1.1
comp=Z,88nm,0.7s,mb5.8,SNR=41
SQTA Sankt Quirin 53.45 307 i P P 09 00 58.5 -1.1
SQTA pmax pmax
comp=Z,88nm,0.7s,mb5.8
UBBA Unterbreizbach 53.46 311 eP P 09 00 58.7 -0.9
comp=Z,118nm,1.6s,mb5.6
UBBA ePcP PcP 09 02 09.6 +3.1
ASS Assisi 53.48 301 P P 09 01 00.7 +0.8
ASS pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ASS Assisi 53.48 301 P P 09 01 00.7 +0.8
comp=Z,9.9nm,0.7s,mb4.8
MOTA Moosalm 53.49 307 i P P 09 00 58.8 -1.1
comp=Z,130nm,0.9s,mb5.9,SNR=45
MOTA Moosalm 53.49 307 i P P 09 00 58.8 -1.1
MOTA pmax pmax
comp=Z,130nm,0.9s,mb5.9
MURB Monte Urbino 53.52 302 P P 09 01 00.6 +0.4
VENT Ventotene 53.55 298 P P 09 01 02.6 +2.2
APPI Appiano 53.61 306 P P 09 00 58.6 -2.2
HVZN Vizzini 53.68 294 P P 09 01 04.6 +3.2
RETA Reutte 53.69 307⇓iP P 09 01 00.1 -1.2
comp=Z,133nm,1.1s,mb5.8,SNR=48
MTCE Montecelio 53.70 300 P P 09 01 02.0 +0.5
RDP Rocca di Papa 53.79 300 P P 09 01 04.3 +2.1
FETA Feichten 53.81 307⇓iP P 09 01 00.7 -1.6
comp=Z,140nm,1.0s,mb5.9,SNR=74
CRE Caprese Michel 53.83 302 P P 09 01 01.9 -0.5
TNE Ternate 53.86 118⇓eP P 09 01 05.0 +2.0
ODD1 Odda 53.89 323 eP P 09 01 01.1 -1.5
ODD1 AMb AMB 09 01 10.3
comp=Z,98nm,2.0s,mb5.4
ODD1 Odda 53.89 323 eP P 09 01 01.1 -1.5
comp=Z,98nm,2.0s,mb5.4
CSLB Castelbuono 53.94 295 P P 09 01 04.7 +1.4
comp=Z,121nm,1.2s,mb5.7
HYA Hoyanger 53.96 324 eP P 09 01 05.0 +2.0
HYA AMb AMB 09 01 12.8
comp=Z,90nm,1.5s,mb5.5
HYA Hoyanger 53.96 324 eP P 09 01 05.0 +2.0
comp=Z,90nm,1.5s,mb5.5
BLS5 Blasjo 54.04 322 eP P 09 01 05.9 +2.2
BLS5 AMb AMB 09 01 13.4
comp=Z,43nm,1.6s,mb5.1
BLS5 Blasjo 54.04 322 eP P 09 01 05.9 +2.2
comp=Z,43nm,1.6s,mb5.1
MABI Malga Bissina 54.19 305 P P 09 01 04.1 -0.9
DAVA Damuels 54.31 307⇑iP P 09 01 04.7 -1.2
comp=Z,314nm,1.0s,mb6.2,SNR=116
USI Ustica 54.35 296 P P 09 01 06.7 +0.4
comp=Z,289nm,1.0s,mb6.2
STU Stuttgart 54.41 309 eP P 09 01 05.8 -0.8
comp=Z,266nm,1.3s,mb6.0
STU ePcP PcP 09 02 13.7 +3.5
STU ePP PP 09 03 11.8 +3.4
DAVOX Davos/Dischmat 54.44 306 LR LR 09 26 57.3
comp=Z,15µm,19.1s,MS6.1,baz=56,slow=39
RUND Rundenannen 54.45 324 eP P 09 01 08.5 +1.8
RUND AMb AMB 09 01 17.1
comp=Z,175nm,1.7s,mb5.7
RUND Rundenannen 54.45 324 eP P 09 01 08.5 +1.8
comp=Z,175nm,1.7s,mb5.7
TOD Tromm 54.47 310 eP P 09 01 05.9 -1.1
BER Bergen 54.47 324 eP P 09 01 08.9 +2.1
BER AMb AMB 09 01 12.4
comp=Z,163nm,1.8s,mb5.7
BER AMS AMS 09 25 54.7
comp=Z,19µm,18.0s,MS6.2
BER Bergen 54.47 324 eP P 09 01 08.9 +2.1
comp=Z,163nm,1.8s,mb5.7
BER LR LR
comp=Z,19µm,18.0s,MS6.2
STAV Stavanger 54.50 322 eP P 09 01 05.8 -1.2
STAV AMb AMB 09 01 15.2
comp=Z,122nm,1.8s,mb5.5
STAV Stavanger 54.50 322 eP P 09 01 05.8 -1.2
comp=Z,122nm,1.8s,mb5.5
ASK Askoy 54.53 324 eP P 09 01 07.6 +0.4
ASK AMb AMB 09 01 14.2
comp=Z,211nm,2.0s,mb5.8
ASK Askoy 54.53 324 eP P 09 01 07.6 +0.4
comp=Z,211nm,2.0s,mb5.8
IBBN Ibbenburen 54.54 313 eP P 09 01 06.6 -0.8
comp=Z,175nm,1.3s,mb5.9
EGD Espegrend 54.54 323 eP P 09 01 08.1 +0.7
EGD AMb AMB 09 01 14.3
comp=Z,172nm,1.7s,mb5.8
EGD Espegrend 54.54 323 eP P 09 01 08.1 +0.7
comp=Z,172nm,1.7s,mb5.8
GSCL Gusciola 54.58 303 P P 09 01 08.2 +0.3
comp=Z,285nm,0.9s,mb6.3
BDI Bagni Di Lucca 54.66 303 P P 09 01 07.6 -0.8
VLC Villacollemand 54.77 303 eP P 09 01 08.8 -0.5
KMBO Kilima Mbogo 54.78 240 eP P 09 01 10.1 +0.4
KMBO LR LR
comp=Z,3µm,19.0s,MS5.3
KMBO Kilima Mbogo 54.78 240 P P 09 01 10.5 +0.9
SNR=22
KMBO Kilima Mbogo 54.78 240 P P 09 01 10.5 +0.9
SNR=22
KMBO Kilima Mbogo 54.78 240 P P 09 01 09.7 0.0
comp=Z,46nm,1.1s,mb5.4,baz=39,slow=10,SNR=12
KMBO LR LR 09 22 41.4
comp=Z,7µm,21.9s,MS5.7,baz=51,slow=34
SPAK Spaichingen-Ko 54.84 308 eP P 09 01 09.2 -0.5
TUE Stuetta 54.87 306 P P 09 01 08.6 -1.4
BUG Bochum--Univer 55.02 313 eP P 09 01 10.2 -0.7
comp=Z,167nm,1.3s,mb5.9
BUG epP pP 09 01 14.4 -1.1
BUG ePcP PcP 09 02 15.7 +3.3
BFO Black Forest 55.08 309 P P 09 01 10.5 -0.9
comp=Z,233nm,1.5s,mb6.0,SNR=6.1
BFO Black Forest 55.08 309 eP P 09 01 10.0 -1.4
comp=Z,64nm,1.2s,mb5.5
BFO ePP PP 09 03 17.0 +2.6
BFO LR LR
comp=Z,17µm,21.0s,MS6.1
BFO Black Forest 55.08 309 eP P 09 01 10.0 -1.4
comp=Z,64nm,1.2s,mb5.5
BFO ePP PP 09 03 17.0 +2.6
WTSB Winterswijk 55.19 313 eP P 09 01 15.0 +2.9
comp=Z,141nm,1.4s,mb5.8
ABH Alteburg 55.20 311 eP P 09 01 11.1 -1.2
LANF Langenberg 55.25 310 eP P 09 01 12.2 -0.5
BOB Bobbio (Coli) 55.26 304 P P 09 01 12.8 0.0
STR Strasbourg 55.38 309 eP P 09 01 13.1 -0.5
FELD Feldberg im Sc 55.40 308 eP P 09 01 11.8 -1.9
VAI Varese 55.42 306 P P 09 01 12.2 -1.7
VAI pmax pmax
comp=Z,280nm,1.2s,mb6.2
VAI Varese 55.42 306 P P 09 01 12.2 -1.7
comp=Z,280nm,1.2s,mb6.2
RUP Ruppelstein 55.55 310 eP P 09 01 14.3 -0.5
CDF Champ du Feu 55.73 309⇓iP P 09 01 15.1 -1.0
comp=Z,349nm,1.3s,mb5.9
CDF Champ du Feu 55.73 309⇓iP P 09 01 15.1 -1.0
CDF pmax pmax
comp=Z,174nm,1.3s,mb5.9
CDF Champ du Feu 55.73 309⇓iP P 09 01 15.1 -1.0
comp=Z,174nm,1.3s,mb5.9
PET Petropavlovsk 55.77 45 eP P 09 01 15.3 -1.1
PET e 09 02 17.4
PET e 09 03 26.6
PET ePPP 09 04 33.6
PET eS **S 09 08 57.1 -5.5**
PET eSS SS 09 12 51.3 +3.7
PET pmax pmax
comp=Z,800nm,5.1s
PET pmax pmax
comp=Z,52nm,1.3s,mb5.4
PET pmax pmax
comp=Z,700nm,7.3s
PET pmax pmax
comp=Z,29nm,1.2s,mb5.2
PET pmax pmax
comp=Z,300nm,12.3s
PET smax
comp=E,500nm,11.1s
PET MLR MLR
comp=Z,16µm,18.0s,MS6.2
PET MLR MLR
comp=Z,14µm,17.0s
PET Petropavlovsk 55.77 45 eP P 09 01 15.0 -1.3
PET LR LR
comp=Z,4µm,21.0s,MS5.5
ECH Echery 55.86 309 eP P 09 01 15.9 -1.2
MOF Molkenrain 55.97 308 eP P 09 01 16.7 -1.2
MEM Membach 55.99 312 P P 09 01 17.5 -0.4
MEM XP sP 09 01 21.2 -2.9
MEM E 09 01 34.8
HGN Heimansgroeve 55.99 312 eP P 09 01 20.4 +2.4
comp=Z,67nm,1.3s,mb5.5
HGN Heimansgroeve 55.99 312 ePP PP 09 03 32.4 +10
HGN Heimansgroeve 55.99 312 i S **S 09 09 10.7 +5.1**
HGN Heimansgroeve 55.99 312 eSS SS 09 13 00.9 +10
WLF Walferdange 56.13 311 eP P 09 01 19.0 0.0
WLF pmax pmax
comp=Z,115nm,1.0s,mb5.9
WLF Walferdange 56.13 311 eP P 09 01 18.9 0.0
comp=Z,115nm,1.0s,mb5.9
WLF Walferdange 56.13 311 P P 09 01 19.1 +0.1
WLF AP pP 09 01 22.1 -1.4
WLF XP sP 09 01 22.8 -2.5
WLF Walferdange 56.13 311 eP P 09 01 18.5 -0.5
comp=Z,141nm,1.1s,mb5.9
WLF epP pP 09 01 22.7 -0.8
QLNO Quiliano 56.14 304 P P 09 01 16.6 -2.5
BEBN Eben Emael 56.14 312 XP sP 09 01 22.6 -2.7
HINF Hinteralfeld 56.16 308⇓iP P 09 01 18.0 -1.2
comp=Z,550nm,1.3s,mb6.1
HINF Hinteralfeld 56.16 308⇓iP P 09 01 18.0 -1.2
HINF pmax pmax
comp=Z,275nm,1.3s,mb6.1
HINF Hinteralfeld 56.16 308⇓iP P 09 01 18.0 -1.2
comp=Z,275nm,1.3s,mb6.1
PGF Pioggiola 56.21 302⇓iP P 09 01 18.3 -1.3
comp=Z,355nm,1.0s,mb6.0
PGF Pioggiola 56.21 302⇓iP P 09 01 18.3 -1.3
PGF pmax pmax
comp=Z,178nm,1.0s,mb6.0
PGF Pioggiola 56.21 302⇓iP P 09 01 18.3 -1.3
comp=Z,178nm,1.0s,mb6.0
LOMF Lomont 56.31 308 eP P 09 01 18.9 -1.3
HAU Haudompre 56.44 309⇓iP P 09 01 20.1 -1.1
comp=Z,324nm,1.1s,mb6.0
HAU eMLR MLR
comp=Z,20µm,20.0s,MS5.9
HAU Haudompre 56.44 309⇓iP P 09 01 20.1 -1.1
HAU pmax pmax
comp=Z,162nm,1.1s,mb6.0
HAU MLR MLR
comp=Z,20µm,20.0s,MS6.2
HAU Haudompre 56.44 309⇓iP P 09 01 20.1 -1.1
comp=Z,162nm,1.1s,mb6.0
HAU LR LR
comp=Z,20µm,20.0s,MS6.2
DGI Dorgali Grotta 56.47 299 P P 09 01 20.7 -0.8
BCLA Clavier 56.47 312 P P 09 01 20.1 -1.2
BCLA AP pP 09 01 24.7 -1.2
BCLA E 09 01 35.6
BILL Bilibino 56.59 27d iP P 09 01 22.4 +0.4
BILL e 09 02 17.9
BILL e 09 03 27.3
BILL eS **S 09 09 14.6 +1.6**
BILL eSS SS 09 13 03.2 +3.3
BILL pmax pmax
comp=Z,20nm,0.9s,mb5.2
BILL MLR MLR
comp=Z,12µm,15.0s,MS6.1
BILL Bilibino 56.59 27 eP P 09 01 22.3 +0.3
comp=Z,63nm,1.1s,mb5.6
BILL LR LR
comp=Z,5µm,20.0s,MS5.6
THEF They Montfort 56.61 309 eP P 09 01 21.3 -1.1
OG01 Vacheresse 56.69 307 eP P 09 01 21.9 -1.1
SAOF Saorge 56.78 304 eP P 09 01 22.9 -0.8
GIVF Givet 56.85 311 eP P 09 01 23.5 -0.6

comp=Z,277nm,1.2s,mb5.9
GIVF Givet 56.85 311 *e*P **P 09 01 23.5 -0.6**
GIVF pmax pmax
comp=Z,139nm,1.2s,mb5.9
GIVF Givet 56.85 311 *e*P **P 09 01 23.5 -0.6**
comp=Z,139nm,1.2s,mb5.9
STV Sta Anna Valdi 56.86 304 P **P 09 01 22.1 -2.1**
AUTN L'Aution 56.87 304 *e*P **P 09 01 24.6 +0.3**
LPG La Plagne 56.88 306⇓*i*P **P 09 01 23.9 -0.5**
comp=Z,713nm,1.0s,mb6.3
LPG La Plagne 56.88 306⇓*i*P **P 09 01 23.9 -0.5**
LPG pmax pmax
comp=Z,356nm,1.0s,mb6.3
LPG La Plagne 56.88 306⇓*i*P **P 09 01 23.9 -0.5**
comp=Z,356nm,1.0s,mb6.3
LPL La Plagne 56.89 306⇓*i*P **P 09 01 24.0 -0.4**
comp=Z,897nm,1.0s,mb6.4
LPL La Plagne 56.89 306⇓*i*P **P 09 01 24.0 -0.4**
LPL pmax pmax
comp=Z,448nm,1.0s,mb6.5
LPL La Plagne 56.89 306⇓*i*P **P 09 01 24.0 -0.4**
comp=Z,448nm,1.0s,mb6.5
SBF Sospel 56.90 304⇓*i*P **P 09 01 23.6 -0.9**
comp=Z,853nm,1.0s,mb6.4
SBF Sospel 56.90 304⇓*i*P **P 09 01 23.6 -0.9**
SBF pmax pmax
comp=Z,426nm,1.0s,mb6.4
SBF Sospel 56.90 304⇓*i*P **P 09 01 23.6 -0.9**
comp=Z,426nm,1.0s,mb6.4
VSL Villasalto 56.90 298 *e*P **P 09 01 23.8 -0.8**
comp=Z,204nm,1.3s,mb6.0
RSL Roselend 56.91 306 *e*P **P 09 01 24.0 -0.6**
OG22 Abries 56.95 305 *e*P **P 09 01 24.0 -0.9**
UCC Uccle 56.95 312 P **P 09 01 23.9 -0.9**
UCC AP pP 09 01 26.3 -3.0
UCC XP sP 09 01 27.6 -3.4
UCC E 09 01 43.2
LUCF Luceram 56.95 304 *e*P **P 09 01 24.0 -0.9**
TOUF Mont Tournerai 56.98 304 *e*P **P 09 01 24.3 -0.8**
REVF Revere 56.98 304 *e*P **P 09 01 24.8 -0.3**
DOU Dourbes 56.99 311 P **P 09 01 24.7 -0.3**
DOU AP pP 09 01 28.2 -1.4
CABF La Chapelle 57.00 307⇓*i*P **P 09 01 24.0 -1.2**
comp=Z,282nm,1.2s,mb5.9
CABF La Chapelle 57.00 307⇓*i*P **P 09 01 24.0 -1.2**
CABF pmax pmax
comp=Z,141nm,1.2s,mb5.9
CABF La Chapelle 57.00 307⇓*i*P **P 09 01 24.0 -1.2**
comp=Z,141nm,1.2s,mb5.9
BNI Bardonecchia 57.06 305 *e*P **P 09 01 24.8 -0.8**
BNI pmax pmax
comp=Z,176nm,1.0s,mb6.0
BNI Bardonecchia 57.06 305 *e*P **P 09 01 24.8 -0.8**
comp=Z,176nm,1.0s,mb6.0
MVIF Mont Vial 57.08 304 *e*P **P 09 01 25.3 -0.5**
MBDF Montbardon 57.09 305⇓*i*P **P 09 01 24.4 -1.5**
comp=Z,240nm,0.9s,mb5.9
MBDF Montbardon 57.09 305⇓*i*P **P 09 01 24.4 -1.5**
MBDF pmax pmax
comp=Z,120nm,0.9s,mb5.9
MBDF Montbardon 57.09 305⇓*i*P **P 09 01 24.4 -1.5**
comp=Z,120nm,0.9s,mb5.9
MEZF Maizieres J'vi 57.14 310⇓*i*P **P 09 01 25.4 -0.7**
comp=Z,463nm,1.1s,mb6.1
MEZF Maizieres J'vi 57.14 310⇓*i*P **P 09 01 25.4 -0.7**
comp=Z,463nm,1.1s,mb6.4
SURF Saint Ours 57.14 305 *e*P **P 09 01 25.3 -0.9**
BAIF Baives 57.24 311⇓*i*P **P 09 01 26.2 -0.6**
comp=Z,346nm,1.5s,mb5.9
BAIF Baives 57.24 311⇓*i*P **P 09 01 26.2 -0.6**
BAIF pmax pmax
comp=Z,173nm,1.5s,mb5.9
BAIF Baives 57.24 311⇓*i*P **P 09 01 26.2 -0.6**
comp=Z,173nm,1.5s,mb5.9
CALN Calern 57.31 304 *e*P **P 09 01 26.1 -1.3**
GDM Grand'Maison 57.39 306 *e*P **P 09 01 26.9 -1.1**
FRF La Foret Royal 57.54 304⇓*i*P **P 09 01 27.7 -1.3**
comp=Z,351nm,1.1s,mb6.0
FRF La Foret Royal 57.54 304⇓*i*P **P 09 01 27.7 -1.3**
FRF pmax pmax
comp=Z,175nm,1.1s,mb6.0
FRF La Foret Royal 57.54 304⇓*i*P **P 09 01 27.7 -1.3**
comp=Z,175nm,1.1s,mb6.0
OG05 Jujurieux 57.58 307 *e*P **P 09 01 29.4 +0.1**
GRN Grenoble 57.63 306 *e*P **P 09 01 28.7 -1.0**
ORIF Oris-en-Rattie 57.64 305⇓*i*P **P 09 01 28.1 -1.6**
comp=Z,117nm,0.9s,mb5.6
ORIF *e*MLR MLR
comp=Z,28μm,23.0s,MS6.0
ORIF Oris-en-Rattie 57.64 305⇓*i*P **P 09 01 28.1 -1.6**
ORIF pmax pmax
comp=Z,58nm,0.9s,mb5.6
ORIF Oris-en-Rattie 57.64 305⇓*i*P **P 09 01 28.1 -1.6**
comp=Z,58nm,0.9s,mb5.6
OG25 Le Caire 57.68 305 *e*P **P 09 01 28.7 -1.3**
LMR La Mourre 57.70 303⇓*i*P **P 09 01 28.9 -1.3**
comp=Z,295nm,1.2s,mb5.9
LMR La Mourre 57.70 303⇓*i*P **P 09 01 28.9 -1.3**
LMR pmax pmax
comp=Z,147nm,1.2s,mb5.9
LMR La Mourre 57.70 303⇓*i*P **P 09 01 28.9 -1.3**
comp=Z,147nm,1.2s,mb5.9
LRW Lerwick 57.71 324 *e*P **P 09 01 29.3 -0.7**
LRW ⇑*e*P 09 01 29.3
LRW AMb AMB 09 01 37.8
comp=Z,145nm,1.5s,mb5.8
WAL1 Walls 57.89 324⇑*i*P **P 09 01 30.2 -1.0**
STOF St-Etienne Org 57.91 304 *e*P **P 09 01 31.2 -0.4**
TAVF Tavernes 57.92 304 *e*P **P 09 01 32.5 +0.7**
VILF Villemus 58.09 304 *e*P **P 09 01 33.0 +0.1**
OCF Saint Nazaire 58.14 305 *e*P **P 09 01 32.6 -0.6**
OG26 St.-Nazaire-De 58.14 305 *e*P **P 09 01 32.6 -0.6**
SMRF Simiane la Rot 58.14 304⇓*i*P **P 09 01 32.3 -1.0**
comp=Z,243nm,1.3s,mb5.8
SMRF Simiane la Rot 58.14 304⇓*i*P **P 09 01 32.3 -1.0**
comp=Z,243nm,1.3s,mb6.1
PUYF Puyloubier 58.20 304 *e*P **P 09 01 33.0 -0.7**
JMIC Jan Mayen 58.20 337 *e*P **P 09 01 34.5 +1.2**
JMIC Jan Mayen 58.20 337 LR LR 09 26 46.4
comp=Z,6μm,18.9s,MS5.7,baz=93,slow=36
KEST Kesra 58.24 294 P **P 09 01 33.5 -0.6**
comp=Z,20nm,0.9s,mb5.2,baz=277,slow=1.9,SNR=25
KEST LR LR 09 30 17.0
comp=Z,3μm,20.5s,MS5.4,baz=8.4,slow=40
LOR Lormes 58.26 308⇓*i*P **P 09 01 32.4 -1.7**
comp=Z,243nm,1.2s,mb5.8
LOR *e*MLR MLR
comp=Z,27μm,23.0s,MS6.0
LOR Lormes 58.26 308⇓*i*P **P 09 01 32.4 -1.7**
LOR pmax pmax
comp=Z,121nm,1.2s,mb5.8
LOR MLR MLR
comp=Z,27μm,23.0s,MS6.3
LOR Lormes 58.26 308⇓*i*P **P 09 01 32.4 -1.7**
comp=Z,121nm,1.2s,mb5.8
LOR LR LR
comp=Z,27μm,23.0s,MS6.3
BERF Bertagne 58.27 304 *e*P **P 09 01 33.8 -0.4**
TREF Trevaresse 58.39 304 *e*P **P 09 01 34.5 -0.5**
SMF Signal de Mont 58.47 308⇓*i*P **P 09 01 34.1 -1.4**
comp=Z,410nm,1.0s,mb6.1
SMF Signal de Mont 58.47 308⇓*i*P **P 09 01 34.1 -1.4**
SMF pmax pmax
comp=Z,205nm,1.0s,mb6.1
SMF Signal de Mont 58.47 308⇓*i*P **P 09 01 34.1 -1.4**
comp=Z,205nm,1.0s,mb6.1
PRAF Pradon 58.48 304 *e*P **P 09 01 35.3 -0.3**
VIVF Saint-Julien-I 58.48 305⇓*i*P **P 09 01 34.5 -1.1**
comp=Z,282nm,1.2s,mb5.9
VIVF Saint-Julien-I 58.48 305⇓*i*P **P 09 01 34.5 -1.1**
VIVF pmax pmax
comp=Z,141nm,1.2s,mb5.9
VIVF Saint-Julien-I 58.48 305⇓*i*P **P 09 01 34.5 -1.1**
comp=Z,141nm,1.2s,mb5.9
SSF Saint Saulge 58.56 308⇓*i*P **P 09 01 34.6 -1.5**
comp=Z,369nm,1.1s,mb6.0
SSF Saint Saulge 58.56 308⇓*i*P **P 09 01 34.6 -1.5**
SSF pmax pmax
comp=Z,184nm,1.1s,mb6.0
SSF Saint Saulge 58.56 308⇓*i*P **P 09 01 34.6 -1.5**
comp=Z,184nm,1.1s,mb6.0
AVF Avril sur Loir 58.74 308⇓*i*P **P 09 01 36.0 -1.4**
comp=Z,492nm,1.3s,mb6.1
AVF Avril sur Loir 58.74 308⇓*i*P **P 09 01 36.0 -1.4**
AVF pmax pmax
comp=Z,246nm,1.3s,mb6.1
AVF Avril sur Loir 58.74 308⇓*i*P **P 09 01 36.0 -1.4**
comp=Z,246nm,1.3s,mb6.1
PLDF La Plantade 58.82 307 *e*P **P 09 01 36.8 -1.2**
COLF Collangettes 58.92 306 *e*P **P 09 01 37.5 -1.2**
HYF Humbligny 59.05 309 *e*P **P 09 01 38.7 -0.9**
AGO Saint Agoulin 59.12 307 *e*P **P 09 01 38.9 -1.2**
BGF Bois d'Agland 59.15 308⇓*i*P **P 09 01 38.7 -1.5**
comp=Z,133nm,1.1s,mb5.6
BGF Bois d'Agland 59.15 308⇓*i*P **P 09 01 38.7 -1.5**
BGF pmax pmax
comp=Z,67nm,1.1s,mb5.6
BGF Bois d'Agland 59.15 308⇓*i*P **P 09 01 38.7 -1.5**
comp=Z,67nm,1.1s,mb5.6
MBAR Mbarara 59.20 245 P **P 09 01 44.8 +3.7**
comp=Z,263nm,1.1s,mb6.2,SNR=8.4
MLA1 Latheron 59.26 322⇑*e*P **P 09 01 40.3 -0.6**
LASF Ste Croix 59.28 305⇓*i*P **P 09 01 40.3 -0.9**
comp=Z,416nm,1.2s,mb6.0
PYM Petit Puy Mans 59.30 307 *e*P **P 09 01 40.1 -1.2**
LBL Lubilhac 59.31 306 *e*P **P 09 01 40.3 -1.1**
DAG Danmarks Havn 59.33 345*b i*P **P 09 01 40.5 -0.6**
DAG pmax pmax
comp=Z,15nm,1.0s,mb5.0
DAG Danmarks Havn 59.33 345*b i*P **P 09 01 40.5 -0.6**
comp=Z,15nm,1.0s,mb5.0
MME1 Meikle Cairn 59.34 321⇑*e*P **P 09 01 40.6 -0.8**
CMAH Djebel Manchou 59.36 296 P **P 09 01 44.0 +2.1**
ORE Reay 59.40 323 *e*P **P 09 01 40.7 -1.1**
MCD Coleburn Disti 59.41 321⇑*e*P **P 09 01 41.3 -0.6**
ABSA Djebel Ababsia 59.45 295 P **P 09 01 44.5 +2.0**
XSO Sourhope Farm 59.48 319⇑*e*P **P 09 01 41.5 -0.9**
ESY Stoneypath 59.55 319 *e*P **P 09 01 41.7 -1.2**
HPK Haverah Park 59.59 317 P **P 09 01 42.6 -0.5**
HPK AMb AMB 09 01 47.4
comp=Z,218nm,1.2s,mb6.1
HPK Haverah Park 59.59 317 *e*P **P 09 01 42.6 -0.5**
HPK AMb AMB 09 01 47.4
comp=Z,218nm,1.2s,mb6.1
HPK AMS AMS 09 29 46.6
comp=Z,11μm,19.2s,MS6.0
XAL Allendale 59.65 318⇑*e*P **P 09 01 42.5 -1.0**
TCF Toulx Ste Croi 59.65 308⇓*i*P **P 09 01 42.8 -0.9**
comp=Z,578nm,1.2s,mb6.2
TCF Toulx Ste Croi 59.65 308⇓*i*P **P 09 01 42.8 -0.9**
TCF pmax pmax
comp=Z,289nm,1.2s,mb6.2
TCF Toulx Ste Croi 59.65 308⇓*i*P **P 09 01 42.8 -0.9**
comp=Z,289nm,1.2s,mb6.2
FRNF Fournols 59.72 307 *e*P **P 09 01 43.3 -0.9**
CAEH 'Ain El Ouahch 59.72 296 P **P 09 01 46.0 +1.6**
KBI1 Birley Grange 59.75 316⇑*e*P **P 09 01 43.0 -1.3**
CWF Charnwood Fore 59.78 316 P **P 09 01 43.2 -1.2**
CWF AMb AMB 09 01 49.9
comp=Z,57nm,2.0s,mb5.3
CWF Charnwood Fore 59.78 316 *e*P **P 09 01 43.2 -1.2**
CWF AMb AMB 09 01 49.9
comp=Z,57nm,2.0s,mb5.3
CWF AMS AMS 09 30 07.2
comp=Z,12μm,19.8s,MS6.0
MVH1 Achvaich 59.79 322⇑*i*P **P 09 01 43.5 -0.9**
SKP1 Kophill 59.80 314⇑*e*P **P 09 01 43.5 -1.1**
EBL Broad Law 59.83 319 *e*P **P 09 01 43.8 -0.9**
LHO Holmfirth 59.84 317⇑*e*P **P 09 01 44.1 -0.9**
EDI Edinburgh 59.86 320 P **P 09 01 44.2 -0.8**
EDI AMb AMB 09 01 49.2
comp=Z,190nm,1.2s,mb6.0
EDI Edinburgh 59.86 320 *e*P **P 09 01 44.2 -0.8**
EDI AMb AMB 09 01 49.2
comp=Z,190nm,1.2s,mb6.0
EDI AMS AMS 09 30 25.7
comp=Z,7μm,18.0s,MS5.8
CKFL Kef-Lekhel 59.96 296 P **P 09 01 49.0 +3.0**
KWE Weaver Farm 60.00 316⇑*e*P **P 09 01 45.1 -0.9**
MDO Dochfour 60.02 321⇑*i*P **P 09 01 45.2 -0.9**
ECK Cauldkaine Hil 60.05 319⇑*e*P **P 09 01 45.0 -1.3**
ESK Eskdalemuir 60.05 319 P **P 09 01 45.8 -0.5**
comp=Z,691nm,1.1s,mb6.6,SNR=18
ESK Eskdalemuir 60.05 319 P **P 09 01 45.5 -0.8**
ESK AMb AMB 09 01 51.1
comp=Z,218nm,1.3s,mb6.0
ESK Eskdalemuir 60.05 319 *e*P **P 09 01 45.5 -0.8**
ESK AMb AMB 09 01 51.1
comp=Z,218nm,1.3s,mb6.0
ESK AMS AMS 09 29 57.0
comp=Z,10μm,17.4s,MS6.0
ESK Eskdalemuir 60.05 319 *e*P **P 09 01 45.3 -1.0**
ESK pmax pmax
comp=Z,122nm,1.0s,mb5.9
ESK MLR MLR
comp=Z,9μm,19.0s,MS5.9
ESK Eskdalemuir 60.05 319 *e*P **P 09 01 45.3 -1.0**
comp=Z,122nm,1.0s,mb5.9
ESK LR LR
comp=Z,9μm,19.0s,MS5.9
GUMO Guam 60.10 94 LR LR 09 27 54.3
comp=Z,2μm,22.0s,MS5.3,baz=109,slow=36
RSC Scourie 60.16 323 *e*P **P 09 01 46.5 -0.5**
WOL Wolverton 60.17 314 *e*P **P 09 01 46.5 -0.7**
STNC Stoke 60.19 316 *e*P **P 09 01 46.2 -1.1**
STNC AMb AMB 09 01 55.4
comp=Z,287nm,1.7s,mb6.0
CASM Ain Smara 60.19 296 P **P 09 01 50.0 +2.4**
CAF Calviac 60.20 306⇓*i*P **P 09 01 46.7 -0.8**
comp=Z,276nm,1.2s,mb5.9
CAF Calviac 60.20 306⇓*i*P **P 09 01 46.7 -0.8**
CAF pmax pmax
comp=Z,138nm,1.2s,mb5.9
CAF Calviac 60.20 306⇓*i*P **P 09 01 46.7 -0.8**
comp=Z,138nm,1.2s,mb5.9
CKE Keswick 60.22 318⇑*e*P **P 09 01 46.7 -0.8**
CTEI Djebel Teioual 60.33 295 P **P 09 01 50.5 +2.0**
SSW Stow on the Wo 60.34 315 *e*P **P 09 01 47.5 -0.8**
LDF La Druitiere 60.38 311⇓*i*P **P 09 01 47.3 -1.4**
comp=Z,370nm,1.1s,mb6.0
LDF La Druitiere 60.38 311⇓*i*P **P 09 01 47.3 -1.4**
LDF pmax pmax
comp=Z,185nm,1.1s,mb6.0
LDF La Druitiere 60.38 311⇓*i*P **P 09 01 47.3 -1.4**
comp=Z,185nm,1.1s,mb6.0
EAB Aberfoyle 60.40 320 *e*P **P 09 01 47.9 -0.8**
RJF Les Rejaudoux 60.44 307⇓*i*P **P 09 01 48.5 -0.6**
comp=Z,597nm,1.5s,mb6.1
RJF *e*MLR MLR
comp=Z,9μm,22.2s,MS5.6
RJF Les Rejaudoux 60.44 307⇓*i*P **P 09 01 48.5 -0.6**
RJF pmax pmax
comp=Z,299nm,1.5s,mb6.1
RJF MLR MLR
comp=Z,9μm,22.3s,MS5.9
RJF Les Rejaudoux 60.44 307⇓*i*P **P 09 01 48.5 -0.6**
comp=Z,299nm,1.5s,mb6.1
RJF LR LR
comp=Z,9μm,22.3s,MS5.9
KAC Achnashellach 60.49 322⇑*i*P **P 09 01 48.5 -0.8**
EJON La Jonquera 60.51 303 P **P 09 01 52.2 +2.5**
comp=Z,42nm,1.0s,mb5.5
DFRA Djebel Bou Aff 60.54 296 P **P 09 01 53.0 +3.0**
FLN La Foliniere 60.55 311⇓*i*P **P 09 01 48.2 -1.7**
comp=Z,220nm,1.2s,mb5.9
FLN *e*MLR MLR
comp=Z,16μm,20.0s,MS5.9
FLN La Foliniere 60.55 311⇓*i*P **P 09 01 48.2 -1.7**
FLN pmax pmax
comp=Z,110nm,1.2s,mb5.9
FLN MLR MLR
comp=Z,16μm,20.0s,MS6.2
FLN La Foliniere 60.55 311⇓*i*P **P 09 01 48.2 -1.7**
comp=Z,110nm,1.2s,mb5.9
FLN LR LR
comp=Z,16μm,20.0s,MS6.2
LRDF Laroque-de-Fa 60.57 304 *e*P **P 09 01 47.8 -2.3**
PGBU Glenifferbraes 60.59 320 *e*P **P 09 01 49.4 -0.6**
PGBU AMb AMB 09 01 56.1
comp=Z,208nm,2.0s,mb5.9
GCD Castle Douglas 60.60 319⇑*e*P **P 09 01 49.4 -0.7**
RRR Rubha Reidh 60.64 322⇑*e*P **P 09 01 49.5 -0.8**
KSB Sheil Bridge 60.64 321⇑*e*P **P 09 01 49.5 -0.9**
MTLF Montolieu 60.65 305⇓*i*P **P 09 01 49.5 -1.1**
comp=Z,180nm,1.1s,mb5.8
MTLF Montolieu 60.65 305⇓*i*P **P 09 01 49.5 -1.1**
MTLF pmax pmax
comp=Z,90nm,1.1s,mb5.8
MTLF Montolieu 60.65 305⇓*i*P **P 09 01 49.5 -1.1**
comp=Z,90nm,1.1s,mb5.8
RTO Tolsta 60.67 323⇑*e*P **P 09 01 49.8 -0.8**
KPL Plockton 60.72 322 P **P 09 01 49.8 -1.1**
KPL AMb AMB 09 01 57.6
comp=Z,100nm,2.0s,mb5.6
KPL Plockton 60.72 322 *e*P **P 09 01 49.8 -1.1**
KPL AMb AMB 09 01 57.6
comp=Z,100nm,2.0s,mb5.6
KPL AMS AMS 09 29 53.8
comp=Z,13μm,17.4s,MS6.1
HLM1 Long Mynd 60.76 316 *e*P **P 09 01 50.7 -0.5**
SBD1 Bryn Du 60.85 316⇑*i*P **P 09 01 51.3 -0.5**
CMER Merouana 60.88 295 P **P 09 01 59.0 +6.7**
GRR Gorron 60.91 311⇓*i*P **P 09 01 50.8 -1.5**
comp=Z,461nm,1.2s,mb6.2
GRR Gorron 60.91 311⇓*i*P **P 09 01 50.8 -1.5**
GRR pmax pmax
comp=Z,231nm,1.2s,mb6.2
GRR Gorron 60.91 311⇓*i*P **P 09 01 50.8 -1.5**
comp=Z,230nm,1.2s,mb6.2
KAR1 Arisaig 60.95 321⇑*i*P **P 09 01 51.9 -0.5**
CARF Carcanieres 60.95 304 *e*P **P 09 01 48.9 -3.8**
MCH1 Michaelchurch 61.00 315 *e*P **P 09 01 51.8 -1.1**
MCH1 ⇑*e*P 09 01 51.8
MCH1 AMb AMB 09 01 56.9
comp=Z,397nm,1.2s,mb6.4
HGH Gray Hill 61.00 315⇑*i*P **P 09 01 51.9 -1.0**
CKHR Kef el Ahmar 61.01 296 P **P 09 01 55.0 +1.8**
GAL1 Galloway 61.02 319 P **P 09 01 51.9 -1.0**
GAL1 AMb AMB 09 01 57.2
comp=Z,147nm,1.2s,mb6.0
GAL1 Galloway 61.02 319 *e*P **P 09 01 51.9 -1.0**
GAL1 AMb AMB 09 01 57.2
comp=Z,147nm,1.2s,mb6.0
GAL1 AMS AMS 09 30 35.3
comp=Z,16μm,17.2s,MS6.2
SET Setif 61.02 296 P **P 09 01 56.0 +2.7**
RRH Rhenigidale 61.06 322 *e*P **P 09 01 52.4 -0.7**
GIM North Isle of 61.07 318⇑*e*P **P 09 01 52.7 -0.6**
MFF Saint Martin d 61.08 309⇓*i*P **P 09 01 51.9 -1.6**
comp=Z,253nm,1.2s,mb5.9
MFF Saint Martin d 61.08 309⇓*i*P **P 09 01 51.9 -1.6**
MFF pmax pmax
comp=Z,126nm,1.2s,mb5.9
MFF Saint Martin d 61.08 309⇓*i*P **P 09 01 51.9 -1.6**
comp=Z,126nm,1.2s,mb5.9
LFF La Frestale 61.08 307⇓*i*P **P 09 01 52.7 -0.8**
comp=Z,376nm,1.3s,mb6.0
LFF La Frestale 61.08 307⇓*i*P **P 09 01 52.7 -0.8**
LFF pmax pmax
comp=Z,188nm,1.3s,mb6.1
LFF La Frestale 61.08 307⇓*i*P **P 09 01 52.7 -0.8**
comp=Z,188nm,1.3s,mb6.1
VALF Valcebollere 61.12 304 *e*P **P 09 01 53.2 -0.7**
HTR Trewern Hill 61.13 315⇑*i*P **P 09 01 52.8 -0.9**
GMK Mull of Kintyr 61.34 319⇑*e*P **P 09 01 54.5 -0.6**
LCHF La Chataignera 61.44 309 *e*P **P 09 01 54.8 -1.1**
ETOS Mallorca 61.54 301 P **P 09 01 59.0 +2.3**
comp=Z,323nm,0.8s,mb6.5
MLS Moulis 61.55 304 *e*P **P 09 01 55.7 -1.1**
SALF Salau 61.56 304 *e*P **P 09 01 55.1 -1.7**
EMIR Miracle 61.64 303 P **P 09 01 59.6 +2.2**
comp=Z,79nm,0.9s,mb5.8
HEX Exmoor 61.79 314 *e*P **P 09 01 56.8 -1.4**
MELF Melles 61.81 304 *e*P **P 09 01 57.6 -0.9**
GMM Mts of Mourne 61.91 318⇑*i*P **P 09 01 58.2 -0.7**
SGMF Saint Gilles 62.02 311⇓*i*P **P 09 01 58.7 -1.1**
comp=Z,399nm,1.2s,mb6.1
SGMF Saint Gilles 62.02 311⇓*i*P **P 09 01 58.7 -1.1**
SGMF pmax pmax
comp=Z,199nm,1.2s,mb6.1
SGMF Saint Gilles 62.02 311⇓*i*P **P 09 01 58.7 -1.1**
comp=Z,199nm,1.2s,mb6.1
EPF Esparros 62.04 305 *e*P **P 09 01 57.9 -2.2**
comp=Z,78nm,1.3s,mb5.4
EPF Esparros 62.04 305 *e*P **P 09 01 57.9 -2.2**
EPF pmax pmax
comp=Z,39nm,1.3s,mb5.4
EPF Esparros 62.04 305 *e*P **P 09 01 57.9 -2.2**
comp=Z,39nm,1.3s,mb5.4
DYA Yadsworthy 62.08 314 P **P 09 01 59.4 -0.8**
DYA AMb AMB 09 02 08.7
comp=Z,134nm,1.4s,mb5.9
DYA Yadsworthy 62.08 314 *e*P **P 09 01 59.4 -0.8**
DYA AMb AMB 09 02 08.7
comp=Z,134nm,1.4s,mb5.9
DYA AMS AMS 09 28 09.8
comp=Z,16μm,17.7s,MS6.2
OPO Ambohidratompo 62.14 218 P **P 09 02 03.1 +2.3**
comp=Z,26nm,0.7s,mb5.5,baz=33,slow=6.1,SNR=8.4
ALE Alert 62.15 355 P **P 09 01 59.9 -0.3**
comp=Z,89nm,1.0s,mb5.8,SNR=5.4
EPOB Poblet 62.16 303 P **P 09 02 03.3 +2.4**
comp=Z,64nm,0.9s,mb5.8
HTL Hartland 62.22 315 P **P 09 01 59.9 -1.2**
HTL AMb AMB 09 02 05.0
comp=Z,137nm,1.2s,mb5.9
HTL Hartland 62.22 315 *e*P **P 09 01 59.9 -1.2**
HTL AMb AMB 09 02 05.0
comp=Z,137nm,1.2s,mb5.9
HTL AMS AMS 09 32 58.0
comp=Z,17μm,19.1s,MS6.2
EBIE Bielsa 62.31 304 P **P 09 02 04.4 +2.6**
comp=Z,28nm,0.9s,mb5.4
VIEF Viey 62.31 305 *e*P **P 09 02 01.4 -0.5**
ROSF Rostrenen 62.44 311⇓*i*P **P 09 02 01.4 -1.2**
comp=Z,365nm,1.2s,mb6.1
ROSF Rostrenen 62.44 311⇓*i*P **P 09 02 01.4 -1.2**
ROSF pmax pmax
comp=Z,183nm,1.2s,mb6.1
ROSF Rostrenen 62.44 311⇓*i*P **P 09 02 01.4 -1.2**
comp=Z,183nm,1.2s,mb6.1
ABPO Ambohimpanom 62.50 218 *e*P **P 09 02 02.6 -0.6**
comp=Z,64nm,1.2s,mb5.6
ABPO LR LR
comp=Z,6μm,19.0s,MS5.8
QUIF Quistinic 62.53 311⇓*i*P **P 09 02 01.7 -1.5**
comp=Z,283nm,1.2s,mb6.0
QUIF Quistinic 62.53 311⇓*i*P **P 09 02 01.7 -1.5**
QUIF pmax pmax
comp=Z,142nm,1.2s,mb6.0
QUIF Quistinic 62.53 311⇓*i*P **P 09 02 01.7 -1.5**
comp=Z,142nm,1.2s,mb6.0
DMUB Kingscourt 62.56 318 *e*P **P 09 02 03.1 -0.2**
DMUB Kingscourt 62.56 318 *e*P **P 09 02 06.4 +3.1**
DLF Lyons Farm 62.57 317 *e*P **P 09 02 03.0 -0.4**
DLF Lyons Farm 62.57 317 *e*P **P 09 02 06.0 +2.6**
CSA1 St Austell 62.69 314⇑*e*P **P 09 02 02.5 -1.7**
ETSF Etsaut 62.70 305⇓*i*P **P 09 02 03.6 -0.9**
comp=Z,165nm,1.0s,mb5.8
ETSF Etsaut 62.70 305⇓*i*P **P 09 02 03.6 -0.9**
ETSF pmax pmax
comp=Z,83nm,1.0s,mb5.8
ETSF Etsaut 62.70 305⇓*i*P **P 09 02 03.6 -0.9**
comp=Z,82nm,1.0s,mb5.8
ERTA Horta de San J 62.84 303 P **P 09 02 08.3 +2.9**
comp=Z,60nm,0.9s,mb5.7
EIBI Ibiza 62.88 300 P **P 09 02 08.4 +2.7**
comp=Z,71nm,0.9s,mb5.8
CMA1 Manaccan 62.93 314⇑*e*P **P 09 02 04.5 -1.3**
CCA1 Carnmenellis 62.95 314⇑*e*P **P 09 02 04.7 -1.3**
DCN Croghan 62.97 318 *e*P **P 09 02 05.8 -0.2**
DCN Croghan 62.97 318 *e*P **P 09 02 09.0 +3.0**
SJPF Ste Jean 63.07 305 *e*P **P 09 02 06.1 -0.8**
comp=Z,90nm,0.9s,mb5.6
SJPF Ste Jean 63.07 305 *e*P **P 09 02 06.1 -0.8**
SJPF pmax pmax
comp=Z,45nm,0.9s,mb5.6
SJPF Ste Jean 63.07 305 *e*P **P 09 02 06.1 -0.8**
comp=Z,45nm,0.9s,mb5.6
ESAC San Caprasio 63.10 304 P **P 09 02 10.0 +2.9**
comp=Z,76nm,0.8s,mb5.9
CPZ Penzance 63.17 314⇑*e*P **P 09 02 06.3 -1.2**
EALK Alkurruntz 63.22 306 P **P 09 02 11.0 +3.0**
comp=Z,71nm,1.0s,mb5.8
ELIZ Elizondo 63.26 305 P **P 09 02 10.6 +2.4**
ELIZ pmax pmax
comp=Z,32nm,0.9s,mb5.5
ELIZ Elizondo 63.26 305 P **P 09 02 10.6 +2.5**
comp=Z,32nm,0.9s,mb5.5
EMOS Mosqueruela 63.63 302 P **P 09 02 14.3 +3.6**
comp=Z,59nm,0.9s,mb5.6
EBEN Beniarda 64.13 300 P **P 09 02 17.1 +3.1**
comp=Z,85nm,0.9s,mb5.8
ECHE Chera 64.30 302 P **P 09 02 18.5 +3.4**
ECHE pmax pmax
comp=Z,33nm,0.8s,mb5.4

ECHE Chera 64.30 302 P **P** **09 02 18.5 +3.4**
comp=Z,32nm,0.8s,mb5.4
ELAN Lanestosa 64.51 306 P **P** **09 02 19.4 +3.0**
comp=Z,150nm,0.9s,mb6.0
ETOR Torete 64.55 303 P **P** **09 02 19.6 +2.9**
ETOR pmax pmax
comp=Z,17nm,0.9s,mb5.1
ETOR Torete 64.55 303 P **P** **09 02 19.6 +2.9**
comp=Z,17nm,0.9s,mb5.1
SMY Shemya 64.74 42 *e*P **P** **09 02 17.6 -0.1**
SMY pmax pmax
comp=Z,98nm,1.2s,mb5.7
SMY MLR MLR
comp=Z,9μm,21.0s,MS5.9
SMY Shemya 64.74 42 *e*P **P** **09 02 17.6 -0.1**
comp=Z,98nm,1.2s,mb5.7
SMY LR LR
comp=Z,9μm,21.0s,MS5.9
BORG Borgarnes 64.90 333 PFAKE 09 02 30.0 +11
BORG LR LR
comp=Z,12μm,20.0s,MS6.1
BORG Borgarnes 64.90 333 LR LR 09 30 28.8
comp=Z,12μm,19.6s,MS6.1,baz=66,slow=36
ETOB Tobarra 65.10 301 P **P** **09 02 23.4 +3.1**
comp=Z,75nm,0.8s,mb5.8
CART Cartagena 65.15 300 *e*P **P** **09 02 20.9 +0.2**
comp=Z,290nm,1.0s,mb6.3
EMUR La Murta 65.22 300 P **P** **09 02 24.2 +3.1**
comp=Z,79nm,1.0s,mb5.7
EARI Arriondas 65.66 307 P **P** **09 02 26.1 +2.2**
comp=Z,88nm,1.0s,mb5.7
MBWA Marble Bar 65.76 141 *e*P **P** **09 02 23.9 -0.8**
comp=Z,137nm,0.8s,mb6.0
MBWA LR LR
comp=Z,3μm,19.0s,MS5.5
MBWA Marble Bar 65.76 141 P **P** **09 02 28.6 +3.9**
SNR=15
MBWA Marble Bar 65.76 141 P **P** **09 02 28.6 +3.9**
SNR=15
EVIA Vianos 65.78 301 P **P** **09 02 27.9 +3.2**
EVIA pmax pmax
comp=Z,38nm,0.9s,mb5.4
EVIA Vianos 65.78 301 P **P** **09 02 27.9 +3.2**
comp=Z,38nm,0.9s,mb5.4
GUD Guadarrama 66.07 304 P **P** **09 02 29.2 +2.6**
GUD pmax pmax
comp=Z,37nm,0.8s,mb5.5
GUD Guadarrama 66.07 304 P **P** **09 02 29.2 +2.6**
comp=Z,37nm,0.8s,mb5.5
ENIJ Nijar 66.28 300 P **P** **09 02 31.0 +3.0**
ENIJ pmax pmax
comp=Z,127nm,1.0s,mb5.9
ENIJ Nijar 66.28 300 P **P** **09 02 31.0 +3.0**
comp=Z,127nm,1.0s,mb5.9
ESDC Sonseca Array 66.36 303 P **P** **09 02 27.2 -1.2**
comp=Z,38nm,1.1s,mb5.3,baz=60,slow=6.7,SNR=35
ESDC LR LR 09 36 02.1
comp=Z,5μm,18.9s,MS5.8,baz=50,slow=40
ESLA Sonseca Array 66.36 303 *e*P **P** **09 02 27.2 -1.3**
comp=Z,19nm,1.2s,mb5.0
ESLA *e*PP PP 09 04 52.5 -1.7
ESLA LR LR
comp=Z,40μm,20.0s,MS6.6
GAMB Gambell 66.48 28 *e*P **P** **09 02 28.9 +0.1**
EQES Quesada 66.54 301 P **P** **09 02 32.7 +3.1**
comp=Z,128nm,0.9s,mb6.0
FITZ Fitzroy Crossi 66.59 134 *e*P **P** **09 02 29.6 -0.5**
comp=Z,63nm,0.8s,mb5.7
FITZ *i* S S 09 11 21.0 +0.1
PAB San Pablo 66.68 303 P **P** **09 02 29.2 -1.3**
PAB pmax pmax
comp=Z,86nm,1.3s,mb5.6
PAB San Pablo 66.68 303 P **P** **09 02 29.2 -1.3**
comp=Z,86nm,1.3s,mb5.6
EBER Berja 66.81 300 P **P** **09 02 34.1 +2.8**
comp=Z,62nm,0.9s,mb5.6
KAKA Kakadu 66.89 125 *e*P **P** **09 02 34.7 +2.7**
comp=Z,75nm,1.1s,mb5.6
EBAN Banos Encina 66.89 301 P **P** **09 02 34.8 +2.9**
EBAN pmax pmax
comp=Z,97nm,1.1s,mb5.8
EBAN Banos Encina 66.89 301 P **P** **09 02 34.8 +2.9**
comp=Z,97nm,1.1s,mb5.7
EPON Pontenova 66.93 308 P **P** **09 02 34.5 +2.4**
comp=Z,73nm,1.1s,mb5.6
ECOG Cogollos-Vega 67.13 300 P **P** **09 02 35.4 +2.0**
ECOG pmax pmax
comp=Z,21nm,0.8s,mb5.2
ECOG Cogollos-Vega 67.13 300 P **P** **09 02 35.4 +2.1**
comp=Z,21nm,0.8s,mb5.2
ECAL Calabor 67.27 306 P **P** **09 02 37.5 +3.4**
comp=Z,36nm,0.7s,mb5.5
EGUA Guajares 67.32 300 P **P** **09 02 36.0 +1.4**
EGUA pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
EGUA Guajares 67.32 300 P **P** **09 02 36.0 +1.4**
comp=Z,8.4nm,0.8s,mb4.8
ERUA La Rua 67.34 307 P **P** **09 02 36.7 +2.1**
ERUA pmax pmax
comp=Z,34nm,1.0s,mb5.3
ERUA La Rua 67.34 307 P **P** **09 02 36.7 +2.0**
comp=Z,34nm,1.0s,mb5.3
EALB Alboran 67.34 299 P **P** **09 02 36.2 +1.4**
comp=Z,298nm,1.3s,mb6.2
ERON Agron 67.41 300 P **P** **09 02 36.7 +1.5**
comp=Z,42nm,0.8s,mb5.5
EADA Adamuz 67.45 302 P **P** **09 02 38.2 +2.8**
comp=Z,48nm,1.0s,mb5.5
ELUQ Luque 67.50 301 P **P** **09 02 37.2 +1.5**
ELUQ pmax pmax
comp=Z,71nm,0.7s,mb5.8
ELUQ Luque 67.50 301 P **P** **09 02 37.2 +1.5**
comp=Z,71nm,0.7s,mb5.8
ELOJ Sierra Loja 67.60 300 P **P** **09 02 38.2 +1.8**
ELOJ pmax pmax
comp=Z,22nm,0.8s,mb5.2
ELOJ Sierra Loja 67.60 300 P **P** **09 02 38.2 +1.8**
comp=Z,22nm,0.8s,mb5.2
MVO Moncorvo 67.81 305 *e*P **P** **09 02 40.2 +2.6**
MVO *e*S S 09 11 42.1 +6.9
MVO *e*SS SS 09 16 02.7 +6.6
MVO *e*LQ 09 23 22.5
MVO *e*LR LR 09 28 49.9
comp=Z,7μm,20.0s
STS Santiago 68.05 308 P **P** **09 02 42.2 +3.1**
STS pmax pmax
comp=Z,25nm,0.9s,mb5.2
STS Santiago 68.05 308 P **P** **09 02 42.2 +3.1**
comp=Z,25nm,0.9s,mb5.2
ECAB El Cabril 68.08 302 P **P** **09 02 42.4 +3.0**
comp=Z,70nm,0.9s,mb5.7
ELOB Lobios 68.18 306 P **P** **09 02 43.3 +3.4**
comp=Z,37nm,0.9s,mb5.4
AMKA Amchitka 68.22 42 *e*P **P** **09 02 39.7 -0.3**
EMAZ Mazaricos 68.30 308 P **P** **09 02 43.8 +3.1**
comp=Z,70nm,1.2s,mb5.6
EMIJ Mijas 68.31 300 P **P** **09 02 42.0 +1.1**
comp=Z,35nm,0.8s,mb5.4
MTE Manteigas 68.50 305 *e*P **P** **09 02 42.0 0.0**
comp=Z,129nm,1.2s,mb5.7
MTE Manteigas 68.50 305 *e*P **P** **09 02 45.0 +3.0**
MTE *e*S S 09 11 45.9 +2.4
MTE *e*SS SS 09 16 11.6 +4.7
MTE *e*LQ 09 23 25.7
MTE *e*LR LR 09 30 20.8
comp=Z,8μm,22.0s
PVIS Viseu 68.59 305 *e*P **P** **09 02 45.5 +2.9**
PCBR Castelo Branco 68.71 304 *e*P **P** **09 02 46.1 +2.8**
EJIF Jimena Fronter 68.86 300 P **P** **09 02 46.0 +1.7**
EJIF pmax pmax
comp=Z,74nm,1.1s,mb5.5
EJIF Jimena Fronter 68.86 300 P **P** **09 02 46.0 +1.7**
comp=Z,74nm,1.1s,mb5.5
EBAD Badajoz 68.89 303 P **P** **09 02 45.7 +1.2**
comp=Z,69nm,0.9s,mb5.6
ESPR Espera 68.94 301 P **P** **09 02 47.0 +2.2**
comp=Z,40nm,0.9s,mb5.3
EMIN Mina Concepcio 69.11 302 P **P** **09 02 48.1 +2.3**
comp=Z,55nm,1.0s,mb5.4
PBAR Barrancos 69.17 303 *e*P **P** **09 02 49.0 +2.8**
PBAR *e*S S 09 11 51.1 -0.5
PBAR *e*SS SS 09 16 18.6 +1.2
PBAR *e*LQ 09 24 16.2
PBAR *e*LR LR 09 30 37.1
comp=Z,8μm,18.0s
PESTR Estremoz 69.24 303 *e*P **P** **09 02 48.9 +2.3**
PESTR *e*S S 09 11 52.1 -0.2
PESTR *e*SS SS 09 16 21.5 +3.2
PESTR *e*LQ 09 24 00.7
PESTR *e*LR LR 09 29 35.7
comp=Z,6μm,18.0s
PTOM Tomar 69.45 304 *e*P **P** **09 02 51.1 +3.2**
EVO Evora 69.69 303 *e*P **P** **09 02 49.1 -0.3**
comp=Z,205nm,1.3s,mb5.6
EVO *e*MLR MLR
comp=Z,11μm,20.5s,MS5.8
EGRO El Granado 69.78 302 P **P** **09 02 52.7 +2.7**
comp=Z,64nm,1.0s,mb5.5
PBEJ Beja 69.82 303 *e*P **P** **09 02 52.8 +2.6**
MOE Montemor 69.92 303 *e*P **P** **09 02 53.9 +3.1**
PVAQ Vaqueiros 70.01 302 *e*P **P** **09 02 53.9 +2.5**
PVAQ *e*S S 09 12 00.3 -1.2
PVAQ *e*SS SS 09 16 34.0 +3.7
PVAQ *e*LQ 09 24 30.1
PVAQ *e*LR LR 09 30 51.5
comp=Z,7μm,18.0s
ADK Adak 70.16 40 PFAKE 09 03 00.0 +8.0
ADK LR LR
comp=Z,5μm,22.0s,MS5.8
PBDV Barranco-do-Ve 70.23 302 *e*P **P** **09 02 55.9 +3.1**
PBDV *e*S S 09 12 03.0 -1.1
PBDV *e*SS SS 09 16 37.3 +3.5
PBDV *e*LQ 09 25 03.0
PBDV *e*LR LR 09 31 01.7
comp=Z,7μm,20.0s
PMAFR Mafra 70.36 304 *e*P **P** **09 02 56.4 +2.9**
PMAFR *e*S S 09 12 06.8 +1.3
PMAFR *e*SS SS 09 16 39.4 +3.8
PMAFR *e*LQ 09 24 02.0
PMAFR *e*LR LR 09 31 54.6
comp=Z,6μm,20.0s
LIS Lisbon 70.38 304 *e*P **P** **09 02 53.4 -0.3**
LIS *e*S S 09 12 04.1 -1.7
LIS *e*S S 09 12 04.2 -1.5
LIS AMS AMS 09 34 50.5
comp=Z,8μm,16.3s,MS6.1
MORF Marmelete 70.71 302 *e*P **P** **09 02 58.8 +3.1**
MORF *e*S S 09 12 14.2 +4.5
MORF *e*SS SS 09 16 47.5 +6.4
MORF *e*LQ 09 25 07.2
MORF *e*LR LR 09 31 12.8
comp=Z,7μm,18.0s
PFVI Vila Bisbo 70.92 302 *e*P **P** **09 02 59.8 +2.9**
PFVI *e*S S 09 12 12.5 +0.4
PFVI *e*SS SS 09 16 49.5 +5.3
PFVI *e*LQ 09 25 13.8
PFVI *e*LR LR 09 31 04.6
comp=Z,8μm,18.0s
LSZ Lusaka 71.05 235 *e*P **P** **09 02 56.9 -1.0**
LSZ MLR MLR
comp=Z,4μm,21.0s,MS5.7
LSZ Lusaka 71.05 235 P **P** **09 02 59.3 +1.4**
SNR=7.9
LSZ Lusaka 71.05 235 P **P** **09 02 59.3 +1.4**
SNR=7.9
IMA2 Indian Mountai 71.25 21 *e*P **P** **09 02 57.7 -0.7**
RES Resolute Bay 71.30 359 *e*P **P** **09 02 58.1 -0.5**
TTA Tatalina 72.67 24 *e*P **P** **09 03 07.5 +0.5**
TTA Tatalina 72.67 24 *e*P **P** **09 03 07.3 +0.3**
SFJD Kangerlussuaq 72.85 342 *e*P **P** **09 03 07.2 -0.8**
SFJD pmax pmax
comp=Z,106nm,1.0s,mb5.7
SFJD MLR MLR
comp=Z,7μm,21.0s,MS5.9
SFJD Kangerlussuaq 72.85 342 *e*P **P** **09 03 07.2 -0.8**
comp=Z,106nm,1.0s,mb5.7
SFJD LR LR
comp=Z,7μm,21.0s,MS5.9
MUN Mundaring 73.33 150 *e*P **P** **09 03 09.6 -1.6**
WRA Warramunga Arr 73.36 129 P **P** **09 03 10.9 -0.7**
comp=Z,49nm,1.0s,mb5.4,baz=326,slow=5.6,SNR=68
WRA PKPPKP 09 30 49.5
comp=Z,4.2nm,1.2s,baz=154,slow=1.9,SNR=6.4
WRAB Tennant Creek 73.36 129 P **P** **09 03 11.0 -0.6**
comp=Z,857nm,0.8s,mb6.7,SNR=13
WRAB Tennant Creek 73.36 129 *i* *e*P **P** **09 03 11.4 -0.2**
WRAB Tennant Creek 73.36 129 *e*P **P** **09 03 11.1 -0.5**
comp=Z,89nm,0.7s,mb5.8
WRAB LR LR
comp=Z,2μm,20.0s,MS5.4
WB2 Warramunga Arr 73.37 129 *e*P **P** **09 03 10.7 -1.0**
WB2 *e*S S 09 12 43.3 +2.9
KLBR Kellerberrin 73.64 149 *e*P **P** **09 03 12.0 -1.1**
comp=Z,98nm,0.8s,mb5.8
COLA College 73.80 20 *d* *i* P **P** **09 03 13.3 -0.3**
COLA College 73.80 20 *i* P **P** **09 03 13.4 -0.2**
COLA *e*PP PP 09 05 57.2 -0.5
COLA College 73.80 20 P **P** **09 03 13.3 -0.3**
SVW2 Sparrevohn 74.07 25 *e*P **P** **09 03 15.4 +0.1**
INK Inuvik 74.35 13 *e*P **P** **09 03 16.3 -0.5**
INK Inuvik 74.35 13 LR LR 09 40 07.3
comp=Z,6μm,20.1s,MS5.8,baz=194,slow=39
NWAO Narrogin (SRO) 74.58 150 *e*P **P** **09 03 17.3 -1.2**
NWAO pmax pmax
comp=Z,109nm,0.8s
NWAO MLR MLR
comp=Z,2μm,21.0s
NWAO Narrogin (SRO) 74.58 150 *e*P **P** **09 03 17.3 -1.2**
comp=Z,109nm,0.8s,mb5.8
NWAO LR LR
comp=Z,2μm,21.0s,MS5.5
NWAO Narrogin (SRO) 74.58 150 P **P** **09 03 22.1 +3.6**
SNR=7.4
NWAO Narrogin (SRO) 74.58 150 P **P** **09 03 22.1 +3.6**
SNR=7.4
EGAK Eagle 75.66 18 *e*P **P** **09 03 24.0 -0.4**
EGAK LR LR
comp=Z,8μm,20.0s,MS6.0
ASAR Alice Springs 75.81 132 P **P** **09 03 25.2 -0.6**
ASAR 09 06 15.9
ASAR Alice Springs 75.81 132 P **P** **09 03 25.1 -0.7**
comp=Z,25nm,1.0s,mb5.1,baz=316,slow=5.7,SNR=60
ASAR PP PP 09 06 15.9 -0.3
comp=Z,7.1nm,1.0s,baz=316,slow=7.8,SNR=4.0
ASAR PKP2ab 09 30 38.3
comp=Z,0.6nm,0.9s,baz=207,slow=1.1,SNR=4.5
PMR Palmer 75.88 23 *e*P **P** **09 03 24.6 -1.1**
PMR pmax pmax
comp=Z,128nm,1.3s,mb5.7
PMR MLR MLR
comp=Z,8μm,20.0s,MS6.0
PMR Palmer 75.88 23 *e*P **P** **09 03 24.6 -1.1**
comp=Z,128nm,1.3s,mb5.7
PMR LR LR
comp=Z,8μm,20.0s,MS6.0
SLKM Skilak Lake 76.34 24 *e*P **P** **09 03 27.7 -0.6**
DAWY Dawson 76.68 17 *e*P **P** **09 03 29.7 -0.5**
KDAK Kodiak Island 77.50 27 P **P** **09 03 35.9 +0.9**
comp=Z,506nm,0.9s,mb6.5,SNR=9.7
KDAK Kodiak Island 77.50 27 *e*P **P** **09 03 34.5 -0.5**
KDAK LR LR
comp=Z,2μm,21.0s,MS5.4
KDAK Kodiak Island 77.50 27 LR LR 09 38 45.7
comp=Z,8μm,21.8s,MS6.0,baz=318,slow=36
FORT Forrest 77.91 141 *e*P **P** **09 03 36.8 -0.7**
comp=Z,205nm,0.7s,mb6.2
LBTB Lobatse 79.65 230 *e*P **P** **09 03 46.7 -0.5**
LBTB pmax pmax
comp=Z,117nm,1.2s,mb5.7
LBTB MLR MLR
comp=Z,4μm,19.0s,MS5.8
LBTB Lobatse 79.65 230 *e*P **P** **09 03 46.7 -0.5**
comp=Z,117nm,1.2s,mb5.7
LBTB LR LR
comp=Z,4μm,19.0s,MS5.8
TSUM Tsumeb 81.12 240 *e*P **P** **09 03 55.8 +0.5**
comp=Z,38nm,1.1s,mb5.2
TSUM LR LR
comp=Z,3μm,20.0s,MS5.6
CTA Charters Tower 81.54 121 *e*P **P** **09 03 57.1 -0.3**
CTA *i* S S 09 14 11.1 +2.1
CTA pmax pmax
comp=Z,67nm,0.9s
CTA Charters Tower 81.54 121 *e*P **P** **09 03 57.1 -0.3**
comp=Z,67nm,0.9s,mb5.6
CTA *i* S S 09 14 11.1 +2.1
CTAO Charters Tower 81.54 121 *e*P **P** **09 03 57.3 -0.1**
CTAO Charters Tower 81.54 121 *e*P **P** **09 03 57.2 -0.3**
comp=Z,84nm,0.8s,mb5.7
CTAO LR LR
comp=Z,2μm,21.0s,MS5.4
SKAG Skagway 81.62 18 *e*P **P** **09 03 56.8 -0.5**
comp=Z,95nm,1.3s,mb5.6
SKAG LR LR
comp=Z,8μm,19.0s,MS6.1
CMLA Cha da Macela 81.73 310 PFAKE 09 04 10.0 +12
CMLA LR LR
comp=Z,6μm,19.0s,MS6.0
PDA Ponta Delgada 81.83 310 *e*P **P** **09 04 05.0 +6.1**
PDA Ponta Delgada 81.83 310 *e*S S 09 14 33.0 +21
PDA Ponta Delgada 81.83 310 *e*LQ 09 25 46.0
PDA *e*LR LR 09 33 19.6
BOSA Boshof 82.42 228 *e*P **P** **09 04 00.1 -1.8**
BOSA pmax pmax
comp=Z,50nm,0.8s,mb5.5
BOSA MLR MLR
comp=Z,4μm,20.0s,MS5.8
BOSA Boshof 82.42 228 *e*P **P** **09 04 00.1 -1.7**
comp=Z,50nm,0.8s,mb5.5
BOSA LR LR
comp=Z,4μm,20.0s,MS5.8
BOSA Boshof 82.42 228 P **P** **09 04 00.2 -1.7**
comp=Z,35nm,0.8s,mb5.4,baz=39,slow=5.5,SNR=35
BOSA LR LR 09 40 16.9
comp=Z,4μm,19.6s,MS5.7,baz=47,slow=36
MIDW Midway 82.58 61 PFAKE 09 04 10.0 +7.1
MIDW LR LR
comp=Z,4μm,22.0s,MS5.7
YKW3 Yellowknife Ar 82.58 8 *e*P **P** **09 04 00.8 -1.5**
YKA Yellowknife Ar 82.65 8 P **P** **09 04 01.2 -1.4**
YKA PKKP PKKPbc 09 22 21.6 -6.0
YKA P'P' 09 30 29.1
YKA LR LR 09 42 53.0
YKA Yellowknife Ar 82.65 8 P **P** **09 04 01.2 -1.5**
comp=Z,92nm,0.9s,mb5.8,baz=341,slow=5.2,SNR=468
YKA PKKP PKKPbc 09 22 21.6 -6.0
comp=Z,0.5nm,0.8s,baz=161,slow=2.7,SNR=4.0
YKA PKPPKP 09 30 29.1
comp=Z,0.7nm,1.0s,baz=141,slow=2.1,SNR=3.7
YKA LR LR 09 42 53.0
comp=Z,3μm,21.2s,MS5.6,baz=170,slow=37
SIT Sitka 83.70 19 *e*P **P** **09 04 13.4 +5.2**
SIT pmax pmax
comp=Z,130nm,1.2s,mb5.9
SIT Sitka 83.70 19 PFAKE 09 04 20.0 +12
SIT LR LR
comp=Z,11μm,20.0s,MS6.2
DBIC Dimbokro 83.72 274 *e*P **P** **09 04 07.4 -1.7**
DBIC pmax pmax
comp=Z,135nm,0.9s
DBIC MLR MLR
comp=Z,8μm,21.0s
DBIC Dimbokro 83.72 274 *e*P **P** **09 04 07.4 -1.7**
comp=Z,135nm,0.9s,mb6.1
DBIC *e*PKKPbc PKKPbc 09 22 21.5 -2.9
DBIC LR LR
comp=Z,8μm,21.0s,MS6.1
DBIC Dimbokro 83.72 274 P **P** **09 04 07.9 -1.2**
comp=Z,119nm,0.8s,mb6.0,baz=40,slow=5.9,SNR=39
DBIC LR LR 09 45 12.8
comp=Z,8μm,20.6s,MS6.1,baz=38,slow=38
DLBC Dease Lake 83.83 16 *e*P **P** **09 04 09.4 +0.6**
LIC Lamto 84.11 273 *e*P **P** **09 04 09.4 -1.7**
comp=Z,234nm,0.9s,mb6.0
LIC *e*MLR MLR
comp=Z,12μm,21.8s,MS5.9
LIC Lamto 84.11 273 *e*P **P** **09 04 09.4 -1.7**
comp=Z,117nm,0.9s,mb6.0
LIC LR LR
comp=Z,6μm,21.8s,MS5.9
WRAK Wrangell Islan 85.06 18 *e*P **P** **09 04 15.4 +0.3**
comp=Z,81nm,1.3s,mb5.7
WRAK LR LR
comp=Z,6μm,20.0s,MS6.0
HNR Honiara 85.42 105 PFAKE 09 04 30.0 +12
HNR LR LR
comp=Z,1μm,22.0s,MS5.3
STKA Stephens Creek 86.42 133 *e*P **P** **09 04 24.9 +2.8**
comp=Z,49nm,1.0s,mb5.7
STKA Stephens Creek 86.42 133 *e*P **P** **09 04 20.3 -1.8**
comp=Z,66nm,0.9s,mb5.9
STKA Stephens Creek 86.42 133 P **P** **09 04 20.7 -1.4**
comp=Z,56nm,1.0s,mb5.8,baz=313,slow=6.2,SNR=28
STKA LR LR 09 48 17.6
comp=Z,3μm,21.7s,MS5.6,baz=298,slow=39
FCC Fort Churchill 87.26 358 *e*P **P** **09 04 25.0 -0.9**
FCC pmax pmax
comp=Z,143nm,1.3s,mb6.0
FCC Fort Churchill 87.26 358 *e*P **P** **09 04 25.0 -0.9**
comp=Z,143nm,1.3s,mb6.0
SCHQ Schefferville 87.31 343 *e*P **P** **09 04 24.6 -1.6**
comp=Z,44nm,1.0s,mb5.6
SCHQ LR LR
comp=Z,6μm,21.0s,MS6.0
SCHQ Schefferville 87.31 343 P **P** **09 04 25.1 -1.1**
comp=Z,30nm,0.8s,mb5.5,baz=39,slow=6.2,SNR=19
SCHQ PKKPbc PKKPbc 09 22 15.6 -1.0
comp=Z,3.8nm,1.0s,baz=243,slow=9.0,SNR=3.6
SCHQ LR LR 09 44 00.9
comp=Z,4μm,21.5s,MS5.8,baz=23,slow=36
SUR Sutherland 87.79 228 P **P** **09 04 30.2 +1.5**
comp=Z,219nm,0.9s,mb6.4,SNR=6.7
SUR Sutherland 87.79 228 *e*P **P** **09 04 29.3 +0.6**
comp=Z,36nm,0.9s,mb5.6
SUR LR LR
comp=Z,5μm,20.0s,MS5.9
EIDS Eidsvold 88.33 122 P **P** **09 04 31.6 +0.1**
comp=Z,30nm,1.3s,mb5.4
FFC Flin Flon 91.30 2 P **P** **09 04 43.0 -2.0**
comp=Z,449nm,1.2s,mb6.7,SNR=21
FFC Flin Flon 91.30 2 *e*P **P** **09 04 43.6 -1.4**
FFC pmax pmax
comp=Z,120nm,1.2s,mb6.1
FFC MLR MLR
comp=Z,7μm,20.0s,MS6.1
FFC Flin Flon 91.30 2 *e*P **P** **09 04 43.6 -1.4**
comp=Z,120nm,1.2s,mb6.1
FFC LR LR
comp=Z,7μm,20.0s,MS6.1
ARMA Armidale 91.89 126 *e*P **P** **09 04 51.0 +3.0**
ARMA Armidale 91.89 126 *e*P **P** **09 04 47.2 -0.8**
comp=Z,0.8nm,0.9s
CNB Canberra Magne 93.53 131 *e*P **P** **09 04 57.0 +1.6**
comp=Z,26nm,1.1s,mb5.6
RIV Riverview 93.72 129 *e*P **P** **09 04 58.6 +2.2**
PNT Penticton 94.58 14 P **P** **09 05 03.8 +3.6**
NLWA Neilton Lookou 95.45 17 *e*P **P** **09 05 04.1 -0.1**
comp=Z,32nm,1.1s,mb5.7
NLWA LR LR
comp=Z,5μm,20.0s,MS6.0
GNW Green Mountain 95.54 17 P **P** **09 05 09.1 +4.5**
ULM Lac du Bonnet 95.83 359 *e*P **P** **09 05 03.8 -2.1**
comp=Z,25nm,1.1s,mb5.5
ULM *e*pP pP 09 05 08.0 -2.6
ULM LR LR
comp=Z,5μm,20.0s,MS6.0
ULM Lac du Bonnet 95.83 359 P **P** **09 05 03.7 -2.2**
comp=Z,15nm,1.0s,mb5.4,baz=316,slow=3.1,SNR=6.2
ULM PP PP 09 08 53.7 -3.0
comp=Z,3.5nm,0.8s,baz=5.7,slow=3.6,SNR=3.3
ULM PKKP PKKPbc 09 21 50.9 -4.2
comp=Z,3.8nm,0.8s,baz=199,slow=6.4,SNR=2.4
ULM LR LR 09 52 38.6
comp=Z,4μm,20.1s,MS5.9,baz=2.8,slow=38
WALA Waterton Lakes 95.83 10 *e*P **P** **09 05 06.6 +0.7**
comp=Z,35nm,1.6s,mb5.5
NEW Newport 96.07 13 *e*P **P** **09 05 07.1 +0.1**
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW MLR MLR
comp=Z,7μm,20.0s
NEW Newport 96.07 13 *e*P **P** **09 05 07.0 0.0**
comp=Z,8.0nm,0.8s,mb5.2
NEW *e*PKKPdf PKKPdf 09 21 54.0 +0.5
NEW LR LR
comp=Z,7μm,20.0s,MS6.2
PKME Peaks-Kenny Pk 96.68 340 *e*P **P** **09 05 09.7 -0.2**
comp=Z,41nm,1.4s,mb5.7
PKME LR LR
comp=Z,4μm,20.0s,MS5.9
TAU Tasmania Unive 97.23 138 PFAKE 09 05 20.0 +7.9
TAU LR LR
comp=Z,4μm,22.0s,MS5.8
HAWA Hanford 97.39 15 PFAKE 09 05 20.0 +7.0
HAWA LR LR
comp=Z,6μm,21.0s,MS6.1
EGMT Eagleton 97.40 8 *e*P **P** **09 05 12.0 -1.1**
comp=Z,46nm,1.1s,mb5.8

EGMT *e*pP pP 09 05 16.4 -1.5
EGMT LR LR
comp=Z,6μm,20.0s,MS6.0
DGMT Dagmar 97.44 4 *e*P **P** **09 05 13.2 -0.1**
comp=Z,70nm,1.1s,mb6.0
DGMT LR LR
comp=Z,4μm,19.0s,MS5.9
AGMN Agassiz Refuge 97.78 359 *e*P **P** **09 05 13.6 -1.2**
comp=Z,16nm,1.1s,mb5.5
AGMN *e*PKKPbc PKKPbc 09 21 49.0 -0.7
AGMN LR LR
comp=Z,5μm,20.0s,MS6.0
EYMN Ely 97.95 356 P **P** **09 05 12.2 -3.4**
comp=Z,30nm,1.1s,mb5.7
EYMN LR LR
comp=Z,9μm,21.0s,MS6.2
MSO Missoula 98.00 11 *e*P **P** **09 05 17.7 +1.9**
comp=Z,14nm,1.5s,mb5.3
MSO LR LR
comp=Z,3μm,20.0s,MS5.8
CHMT Chamberlain Mo 98.03 11 *e*P **P** **09 05 15.2 -0.7**
COR Corvallis 98.21 18 PFAKE 09 05 30.0 +13
COR LR LR
comp=Z,3μm,20.0s,MS5.8
LBNH Lisbon 98.35 341 *e*P **P** **09 05 17.2 -0.2**
LBNH pmax pmax
comp=Z,21nm,1.2s,mb5.5
LBNH MLR MLR
comp=Z,4μm,20.0s,MS5.9
LBNH Lisbon 98.35 341 *e*P **P** **09 05 17.2 -0.2**
comp=Z,21nm,1.2s,mb5.5
LBNH LR LR
comp=Z,4μm,20.0s,MS5.9
LONY Lake Ozonia 98.66 343 *e*P **P** **09 05 18.2 -0.6**
comp=Z,31nm,1.1s,mb5.8
LONY LR LR
comp=Z,6μm,21.0s,MS6.0
LAO LASA Array 99.07 6 *e*P **P** **09 05 21.2 +0.7**
comp=Z,26nm,1.3s,mb5.6
LAO *e*PKKPbc PKKPbc 09 21 46.5 +0.3
LAO LR LR
comp=Z,4μm,20.0s,MS5.9
NCB Newcomb 99.18 343 *e*PKKPbc PKKPbc 09 21 47.1 +1.4
comp=Z,7.5nm,0.8s
NCB LR LR
comp=Z,4μm,20.0s,MS5.9
BMO Blue Mountains 99.31 14 *e*P **P** **09 05 21.3 -0.5**
comp=Z,2.7nm,0.9s,mb4.8
BMO LR LR
comp=Z,5μm,22.0s,MS6.0
SADO Sadowa 99.50 347 PKKP PKKPbc 09 21 44.5 -0.4
baz=346,slow=4.2
BOZ Bozeman (W) 99.50 10 *e*P **P** **09 05 22.9 +0.4**
BOZ pmax pmax
comp=Z,12nm,1.3s,mb5.2
BOZ MLR MLR
comp=Z,5μm,22.0s,MS5.9
BOZ Bozeman (W) 99.50 10 *e*P **P** **09 05 22.9 +0.4**
comp=Z,12nm,1.3s,mb5.2
BOZ *e*pP pP 09 05 26.6 -0.7
BOZ *e*PKKPbc PKKPbc 09 21 44.8 -0.2
BOZ LR LR
comp=Z,5μm,22.0s,MS5.9
COWI Conover 99.61 354 *e*P **P** **09 05 23.0 0.0**
comp=Z,7.0nm,0.9s,mb5.1
COWI *e*PKKPbc PKKPbc 09 21 42.3 -2.4
COWI LR LR
comp=Z,5μm,19.0s,MS6.0
DLMT Dillon 99.64 10 *e*Pdif Pdif 09 05 23.4 +0.2
comp=Z,26nm,1.5s
ASCN Ascension 99.68 267 PFAKE 09 05 30.0 +6.6
ASCN LR LR
comp=Z,2μm,20.0s,MS5.7
HRV Adam Dziewonsk 99.86 340 PFAKE 09 05 40.0 +16
HRV LR LR
comp=Z,4μm,20.0s,MS6.0
WES Weston 99.90 340 PFAKE 09 05 40.0 +16
WES LR LR
comp=Z,3μm,19.0s,MS5.8
HUMO Hull Mountain 100.14 18 PFAKE 09 05 40.0 +15
HUMO LR LR
comp=Z,4μm,20.0s,MS5.9
RLMT Red Lodge 100.32 8 *e*Pdif Pdif 09 05 26.7 +0.5
comp=Z,19nm,1.4s
RLMT LR LR
comp=Z,5μm,19.0s,MS6.1
KIP Kipapa 100.47 55 PFAKE 09 05 40.0 +13
KIP LR LR
comp=Z,2μm,20.0s,MS5.6
YMR Madison River 100.55 9 PFAKE 09 05 40.0 +13
YMR LR LR
comp=Z,7μm,21.0s,MS6.2
FUNA Funafuti 100.64 93 PFAKE 09 05 40.0 +12
FUNA LR LR
comp=Z,4μm,20.0s,MS5.9
YBH Yreka Blue Hor 101.03 19 PFAKE 09 05 40.0 +11
YBH LR LR
comp=Z,7μm,22.0s,MS6.1
FLWY Flagg Ranch 101.16 9 *e*Pdif Pdif 09 05 27.7 -2.3
comp=Z,12nm,1.1s
BINY Binghamton 101.28 344 *e*PKKPbc PKKPbc 09 21 41.6 +1.8
comp=Z,13nm,0.8s
BINY LR LR
comp=Z,5μm,19.0s,MS6.1
IMW Indian Meadow 101.31 10 *e*Pdif Pdif 09 05 31.9 +1.3
comp=Z,8.4nm,1.1s
WVOR Wild Horse Val 101.35 15 PFAKE 09 05 40.0 +9.2
WVOR LR LR
comp=Z,4μm,19.0s,MS6.0
MOD Modoc 101.47 17 PFAKE 09 05 40.0 +8.6
MOD LR LR
comp=Z,4μm,20.0s,MS5.9
WDC Whiskeytown Da 102.15 19 PFAKE 09 05 50.0 +16
WDC LR LR
comp=Z,3μm,21.0s,MS5.8
ERPA Erie 102.22 346 PFAKE 09 05 50.0 +15
ERPA LR LR
comp=Z,5μm,20.0s,MS6.0
ECSD EROS,Sioux Fal 102.36 359 *e*Pdif Pdif 09 05 34.4 -1.0
comp=Z,8.9nm,1.1s
ECSD LR LR
comp=Z,5μm,19.0s,MS6.0
AHID Auburn Hatcher 102.40 10 PFAKE 09 05 50.0 +15
AHID LR LR
comp=Z,4μm,22.0s,MS5.9
MAW Mawson 102.59 187 PFAKE 09 05 50.0 +14
MAW LR LR
comp=Z,8μm,22.0s,MS6.2
CASY Casey 102.60 169 PFAKE 09 05 50.0 +14
CASY LR LR
comp=Z,2μm,19.0s,MS5.7
BW06 Boulder Array 102.61 9 PFAKE 09 05 50.0 +14
BW06 LR LR
comp=Z,3μm,20.0s,MS5.9
AAM Ann Arbor 102.68 349 PFAKE 09 05 50.0 +13
AAM LR LR
comp=Z,6μm,21.0s,MS6.1
JFWS Jewell Farm 102.86 354 *e*P Pdif 09 05 37.5 -0.1
JFWS pmax pmax
comp=Z,7.0nm,0.8s
JFWS MLR MLR
comp=Z,8μm,21.0s,MS6.2
JFWS Jewell Farm 102.86 354 *e*Pdif Pdif 09 05 37.5 -0.1
comp=Z,6.9nm,0.8s
JFWS LR LR
comp=Z,8μm,21.0s,MS6.2
SSPA Standing Stone 103.20 344 PFAKE 09 05 50.0 +11
SSPA LR LR
comp=Z,6μm,21.0s,MS6.1
POHA Pohakuloa 103.30 55 PFAKE 09 05 50.0 +11
POHA LR LR
comp=Z,2μm,21.0s,MS5.7
HWUT Hardware Ranch 103.47 10 PFAKE 09 05 50.0 +10
HWUT LR LR
comp=Z,5μm,22.0s,MS6.0
HOPS Hopland 103.48 20 PFAKE 09 05 50.0 +10
HOPS LR LR
comp=Z,3μm,20.0s,MS5.9
SCIA State Center 104.07 356 PFAKE 09 05 50.0 +7.1
SCIA LR LR
comp=Z,7μm,20.0s,MS6.2
MCCM Marconi Confer 104.33 20 PFAKE 09 06 00.0 +16
MCCM LR LR
comp=Z,4μm,20.0s,MS5.9
MCWV Mont Chateau 104.56 346 PFAKE 09 06 00.0 +15
MCWV LR LR
comp=Z,6μm,22.0s,MS6.1
ACSO Alum Creek Sta 104.59 348 PFAKE 09 06 00.0 +15
ACSO LR LR
comp=Z,5μm,21.0s,MS6.0
DUG Dugway 104.65 12 PFAKE 09 06 00.0 +15
DUG LR LR
comp=Z,4μm,20.0s,MS5.9
MPU Maple Canyon 105.01 11 PFAKE 09 10 10.0 +8.1
MPU LR LR
comp=Z,4μm,20.0s,MS6.0
CMB Columbia Colle 105.11 18 PFAKE 09 10 10.0 +7.9
CMB LR LR
comp=Z,3μm,20.0s,MS5.9
HDIL Hopedale 105.12 353 PFAKE 09 10 10.0 +8.0
HDIL LR LR
comp=Z,7μm,19.0s,MS6.2
NVAR Mina Array Bea 105.25 16 PKPdf PKiKP 09 10 03.0 +0.6
NVAR PKKPbc PKKPbc 09 21 28.2 +0.1
NVAR Mina Array Bea 105.25 16 PKiKP PKiKP 09 10 03.0 +0.6
comp=Z,1.5nm,0.7s,baz=330,slow=3.1,SNR=3.2
NVAR PKKPbc PKKPbc 09 21 28.2 +0.1
comp=Z,1.1nm,0.7s,baz=160,slow=5.0,SNR=6.1
CBN Corbin 105.40 343 PFAKE 09 10 10.0 +7.4
CBN LR LR
comp=Z,6μm,21.0s,MS6.1
ISCO Idaho Springs 105.96 6 PFAKE 09 10 20.0 +16
ISCO LR LR
comp=Z,6μm,21.0s,MS6.1
SAO San Andreas Ge 106.02 19 PFAKE 09 10 20.0 +16
SAO LR LR
comp=Z,3μm,20.0s,MS5.9
BLO Bloomington 106.16 351 *e*PKKPbc PKKPbc 09 21 25.0 -0.3
BBSR BB Station 106.70 331 PFAKE 09 10 20.0 +15
BBSR LR LR
comp=Z,2μm,20.0s,MS5.7
KSU1 Kansas State U 106.99 359 PFAKE 09 10 20.0 +14
KSU1 LR LR
comp=Z,5μm,19.0s,MS6.1
BLA Blacksburg 107.03 345 PFAKE 09 10 20.0 +14
BLA LR LR
comp=Z,4μm,20.0s,MS6.0
TPNV Topopah Spring 107.13 15 PFAKE 09 10 20.0 +14
TPNV LR LR
comp=Z,4μm,21.0s,MS6.0
CBKS Cedar Bluff 107.27 1 PFAKE 09 10 20.0 +14
CBKS LR LR
comp=Z,9μm,20.0s,MS6.3
SYO Syowa Base 107.61 195⇑ *e*PKiKP PKiKP 09 10 06.6 +1.0
SYO Syowa Base 107.61 195⇑ *e*X PP 09 10 24.0 -2.5
CCM Cathedral Cave 107.77 354 *e*PKKPbc PKKPbc 09 21 18.5 -1.8
CCM LR LR
comp=Z,6μm,20.0s,MS6.1
SDCO Great Sand Dun 108.01 6 PFAKE 09 10 20.0 +13
SDCO LR LR
comp=Z,4μm,20.0s,MS6.0
MVCO Mesa Verde 108.21 9 PFAKE 09 10 20.0 +12
MVCO LR LR
comp=Z,5μm,22.0s,MS6.0
TZTN Tazewell 108.28 348 *e*PKKPbc PKKPbc 09 21 20.4 +1.6
TZTN LR LR
comp=Z,5μm,19.0s,MS6.1
CNNC Cliffs of the 108.35 343 PFAKE 09 10 20.0 +12
CNNC LR LR
comp=Z,5μm,22.0s,MS6.0
GSC Goldstone 108.58 16 PFAKE 09 10 20.0 +11
GSC LR LR
comp=Z,4μm,21.0s,MS5.9
WVT Waverly 109.33 351 PFAKE 09 10 20.0 +10
WVT LR LR
comp=Z,5μm,19.0s,MS6.1
WUAZ Wupatki 109.45 12 PFAKE 09 10 20.0 +10
WUAZ LR LR
comp=Z,4μm,21.0s,MS6.0
SNCC San Nicolas Is 109.85 19 PFAKE 09 10 20.0 +8.9
SNCC LR LR
comp=Z,4μm,20.0s,MS6.0
PFO Pinyon Flat Ob 110.28 16 PFAKE 09 10 20.0 +8.1
PFO LR LR
comp=Z,4μm,19.0s,MS6.0
PLAL Pickwick Lake 110.49 351 *e*PKKPbc PKKPbc 09 21 10.8 -0.8
PLAL LR LR
comp=Z,5μm,19.0s,MS6.1
ANMO Albuquerque 110.68 7 PFAKE 09 10 20.0 +7.4
ANMO LR LR
comp=Z,6μm,22.0s,MS6.1
NHSC New Hope 110.93 344 PFAKE 09 10 20.0 +6.9
NHSC LR LR
comp=Z,4μm,19.0s,MS6.0
AFI Afiamalu 110.98 93 PFAKE 09 10 30.0 +16
AFI LR LR
comp=Z,1μm,20.0s,MS5.5
OXF Oxford 111.11 352 PFAKE 09 10 20.0 +6.6
OXF LR LR
comp=Z,6μm,19.0s,MS6.2
AMTX Amarillo 111.12 3 PFAKE 09 10 20.0 +6.6
AMTX LR LR
comp=Z,6μm,19.0s,MS6.2
GLA Glamis 111.19 15 PFAKE 09 10 30.0 +16
GLA LR LR
comp=Z,4μm,19.0s,MS6.0
WMOK Wichita Mounta 111.35 1 PFAKE 09 10 30.0 +16
WMOK LR LR
comp=Z,6μm,20.0s,MS6.2
MIAR Mount Ida 111.42 356 PFAKE 09 10 30.0 +16
MIAR LR LR
comp=Z,7μm,19.0s,MS6.2
TUC Tucson 112.69 12 PFAKE 09 10 30.0 +14
TUC LR LR
comp=Z,3μm,20.0s,MS5.9
SNZO South Karori 113.43 125 PFAKE 09 10 30.0 +13
SNZO LR LR
comp=Z,2μm,22.0s,MS5.7
VBMS Vicksburg 113.50 353 PFAKE 09 10 30.0 +12
VBMS LR LR
comp=Z,8μm,20.0s,MS6.3
RAO Raoul Island 113.50 110 PFAKE 09 10 30.0 +12
RAO LR LR
comp=Z,2μm,20.0s,MS5.6
MNTX Cornudas Mount 114.01 7 *e*PKPdf PKiKP 09 10 18.6 -0.4
MNTX LR LR
comp=Z,6μm,22.0s,MS6.2
NATX Nacogdoches 114.25 357 PFAKE 09 10 30.0 +11
NATX LR LR
comp=Z,6μm,22.0s,MS6.2
BRAL Brewton 114.26 350 PFAKE 09 10 30.0 +10
BRAL LR LR
comp=Z,6μm,20.0s,MS6.2
JCT Junction City 115.58 2 PKIKP PKPdf 09 10 24.9 +2.8
JCT Junction City 115.58 2 *e*PKPdf PKPdf 09 10 24.8 +2.7
JCT LR LR
comp=Z,8μm,20.0s,MS6.3
NVL N'lazarevskaya 115.84 200 PKIKP PKPdf 09 10 24.2 +3.1
NVL *e**PP 09 10 28.6
NVL pmax pmax
comp=Z,17nm,1.1s
MAIT Maitri 115.87 200 *e*PKPdf PKPdf 09 10 23.0 +1.8
DWPF Disney 116.02 344 PFAKE 09 10 30.0 +7.0
DWPF LR LR
comp=Z,4μm,20.0s,MS6.0
RCBR Riachuelo 116.27 281 PFAKE 09 10 40.0 +16
RCBR LR LR
comp=Z,4μm,22.0s,MS5.9
TXAR Lajitas Array 116.51 6 PKP PKPdf 09 10 23.1 -0.8
comp=Z,0.6nm,0.5s,baz=182,slow=1.1,SNR=20
TXAR PKKPab PKKPab 09 20 54.5 -4.6
comp=Z,2.4nm,1.0s,baz=176,slow=7.0,SNR=10.0
KVTX Kingsville 118.52 360 PFAKE 09 10 40.0 +12
KVTX LR LR
comp=Z,5μm,20.0s,MS6.1
SJG San Juan 119.74 325 PFAKE 09 10 40.0 +10
SJG LR LR
comp=Z,3μm,22.0s,MS5.9
BBGH Gun Hill 120.37 315 PFAKE 09 10 40.0 +8.4
BBGH LR LR
comp=Z,5μm,21.0s,MS6.1
SNAA Sanae 120.55 201 *e*PKPdf PKPdf 09 10 28.8 -1.4
SNAA *e* 09 10 32.6
SNAA *e* 09 10 36.3
SNAA *e* 09 10 41.0
VNDA Vanda 121.01 166 PKIKP PKPdf 09 10 29.7 -1.3
VNDA 09 12 01.9
VNDA pmax pmax
comp=Z,11nm,1.0s
VNDA pmax pmax
comp=Z,4.0nm,1.0s
VNDA Vanda 121.01 166 *e*PKPdf PKPdf 09 10 29.1 -1.9
VNDA LR LR
comp=Z,3μm,20.0s,MS5.9
VNDA Vanda 121.01 166 PKP PKPdf 09 10 29.7 -1.3
comp=Z,11nm,0.9s,baz=290,slow=4.7,SNR=20
VNDA PP PP 09 12 01.9 +0.8
comp=Z,4.3nm,1.0s,baz=326,slow=5.4,SNR=6.7
VNDA PKKPbc PKKPbc 09 20 34.3 -1.3
comp=Z,4.0nm,1.1s,baz=151,slow=1.6,SNR=4.6
SDDR Presa de Saban 121.27 330 PFAKE 09 10 40.0 +6.7
SDDR LR LR
comp=Z,4μm,20.0s,MS6.0
VNA2 Neumayer--Watz 121.78 203 *e*PKPdf PKPdf 09 10 31.4 -1.2
baz=32,slow=2.5
VNA2 *e* 09 10 35.3
VNA2 *e* 09 10 38.8
VNA2 *e* 09 10 43.8
VNA1 Neumayer--Stat 122.00 203 *e*PKPdf PKPdf 09 10 32.6 -0.4
VNA1 *e* 09 10 35.9
VNA1 *e* 09 10 39.5
VNA1 *e* 09 10 44.8
SBA Scott Base 122.12 166 PKIKP PKPdf 09 10 37.1 +4.0
SBA Scott Base 122.12 166 *e*PKPdf PKPdf 09 10 36.4 +3.3
SBA LR LR
comp=Z,2μm,20.0s,MS5.8
GRGR Grenville 122.38 317 PFAKE 09 10 50.0 +15
GRGR LR LR
comp=Z,2μm,20.0s,MS5.8
VNA3 Neumayer Olymp 122.57 203 *e*PKPdf PKPdf 09 10 32.4 -1.7
VNA3 *e* 09 10 36.4
VNA3 *e* 09 10 40.2
QSPA South Pole Qui 124.06 180 PFAKE 09 10 50.0 +13
QSPA LR LR
comp=Z,129μm,20.0s
TEIG Tepich 125.03 349 *e*PKPdf PKPdf 09 10 39.9 -0.5
TEIG LR LR
comp=Z,3μm,20.0s,MS6.0
TEIG Tepich 125.03 349 PKP PKPdf 09 10 40.0 -0.5
comp=Z,24nm,0.8s,baz=318,slow=3.8,SNR=6.5
PCRV Puerto La Cruz 125.65 318 PKP PKPdf 09 10 40.3 -1.4
comp=Z,7.6nm,0.4s,baz=68,slow=3.4,SNR=8.0
SDV Santo Domingo 129.86 324 PKP PKPdf 09 10 48.5 -1.3
SDV SKPbc 09 14 10.4
SDV LR LR
comp=Z,936nm,22.0s,MS5.4
SDV Santo Domingo 129.86 324 PKP PKPdf 09 10 48.5 -1.3
comp=Z,26nm,0.9s,baz=15,slow=2.0,SNR=18
SDV SKPbc 09 14 10.4
comp=Z,7.6nm,0.9s,baz=120,slow=4.8,SNR=5.1
CAM4 Nova Friburgo 130.34 269⇑ *i*P PKPdf 09 10 53.7 +3.3
CAM4 *i* 09 10 57.1
CAM4 *i* 09 11 08.5
CAM4 *i* 09 11 35.6
TGUH Tegucigalpa,Un 130.88 346 *e*PKPdf PKPdf 09 10 51.7 0.0
TGUH LR LR
comp=Z,3μm,19.0s,MS6.0
PPT Papeete 131.21 84 *e*PP PP 09 13 11.1 +1.1
comp=Z,299nm,26.0s
PPT Papeete 131.21 84 *e*SS SS 09 30 35.2 -7.0
comp=Z,3μm,32.8s
PPT Papeete 131.21 84 *e*LR LR 09 52 55.0
comp=Z,2μm,24.2s
BDFB Brasilia 131.57 280 PKIKP PKPdf 09 10 51.2 -1.7
BDFB MLR MLR
comp=Z,2μm,19.0s
BDFB Brasilia 131.57 280 PKP PKPdf 09 10 51.2 -1.7
comp=Z,3.1nm,0.5s,baz=31,slow=5.9,SNR=3.6
BCIP Isla Barro Col 133.51 335 *e*PKPdf PKPdf 09 10 57.0 +0.3
BCIP LR LR
comp=Z,2μm,21.0s,MS5.9
TAOE Nuku Hiva Isla 133.80 67 *e*SS SS 09 31 15.6 +2.3
comp=Z,48μm,29.4s
TAOE Nuku Hiva Isla 133.80 67 *e*LR LR 09 54 06.8
comp=Z,88μm,28.3s
JTS JuntasAbangare 134.00 342 PFAKE 09 11 10.0 +12
JTS LR LR
comp=Z,2μm,20.0s,MS5.9
TBI Tubuai 134.01 90 *e*SS SS 09 31 15.5 -0.9
comp=Z,1μm,26.8s
TBI Tubuai 134.01 90 *e*LR LR 09 54 03.0
comp=Z,3μm,31.8s
ROSC El Rosal 135.14 326 *e*PKPdf PKPdf 09 10 56.5 -3.3
ROSC El Rosal 135.14 326 PKhKP 09 10 56.7
comp=Z,14nm,0.7s,baz=93,slow=20,SNR=8.2
ROSC SKP 09 14 32.3
comp=Z,18nm,1.0s,baz=90,slow=19,SNR=4.4
SIV San Ignacio 142.23 289 PKP PKPdf 09 11 11.1 -1.5
SIV San Ignacio 142.23 289 PKhKP 09 11 06.7
comp=Z,5.6nm,0.8s,baz=79,slow=3.8,SNR=6.7
SIV PKP PKPdf 09 11 11.1 -1.5
comp=Z,13nm,0.7s,baz=67,slow=4.9,SNR=17
CPUP Villa Florida 144.22 272 *i* PKIKP PKPdf 09 11 11.9 -3.9
CPUP pmax pmax
comp=Z,38nm,0.8s
CPUP Villa Florida 144.22 272 *e*PKPdf PKPdf 09 11 11.7 -4.2
CPUP LR LR
comp=Z,640nm,21.0s,MS5.4
CPUP Villa Florida 144.22 272 PKhKP 09 11 11.9
comp=Z,38nm,0.8s,baz=55,slow=3.4,SNR=33
RKT Rikitea 145.86 81 *e*PP PP 09 14 35.0 -5.9
comp=Z,213nm,27.5s
RKT Rikitea 145.86 81 *e*SS SS 09 33 37.7 +2.3
comp=Z,2μm,30.2s
RKT Rikitea 145.86 81 *e*LR LR 09 59 21.9
comp=Z,3μm,30.0s
EFI East Falkland 146.53 226 *e*PKP2 PKPab 09 11 19.2 -2.3
EFI MLR MLR
comp=Z,2μm,20.0s,MS6.0
ATAH Atahualpa 147.40 322 PKPbc PKPbc 09 11 25.5 +1.4
comp=Z,102nm,0.9s,baz=55,slow=3.4,SNR=33
LPAZ La Paz 147.79 296 PKIKP PKPdf 09 11 22.1 -0.1
LPAZ 09 11 26.2
LPAZ MLR MLR
comp=Z,3μm,22.0s
LPAZ La Paz 147.79 296 PKP PKPdf 09 11 22.1 -0.1
comp=Z,17nm,0.8s,baz=52,slow=2.1,SNR=22
LPAZ PKPbc PKPbc 09 11 26.2 +1.1
comp=Z,47nm,0.9s,baz=25,slow=6.2,SNR=43
ARE Arequipa 150.36 300 *e*PKIKP PKPdf 09 11 30.0 +3.7
NNA Nana 150.64 314 PFAKE 09 11 40.0 +13
NNA LR LR
comp=Z,2μm,21.0s,MS5.8
NNA Nana 150.64 314 PKPbc PKPbc 09 11 33.2 +1.0
comp=Z,54nm,1.0s,baz=346,slow=5.4,SNR=8.0
TRQA Tornquist 150.82 252 PFAKE 09 11 40.0 +14
TRQA LR LR
comp=Z,3μm,21.0s,MS6.1
LCO Las Campanas 156.24 275 *e*PKPdf PKPdf 09 11 34.2 -0.3
LCO LR LR
comp=Z,3μm,22.0s,MS6.1
PLCA Paso Flores 157.37 245 PKIKP PKPdf 09 11 36.8 +1.3
PLCA MLR MLR
comp=Z,2μm,21.0s
PLCA Paso Flores 157.37 245 PKP PKPdf 09 11 36.8 +1.2
comp=Z,12nm,1.1s,baz=86,slow=1.4,SNR=10

SZGRF ***05*** *09:10:52.3,3200N×8475E,h33km,mb4.7,Xizang*
IDC ***05*** *09:11:09.5±0.5,3418N×8186E,h0km,mb4.4/21, mb1 4.5/24,mb1mx4.5/28,mbtmp4.4/24,ML3.7/3,Error ellipse: s-maj=17.9km s-min=11.6km az=40.0*
LDG ***05*** *09:11:09.8±0.1,3434N×8170E,h10km,Mb4.8/27,Error ellipse: s-maj=5.9km s-min=3.8km az=82.0*
NDI ***05*** *09:11:10.6±3.5,3476N×8201E,h10km,ML3.7*
NEIC ***05*** *09:11:11.4±0.2,3423N×8186E,h10km,mb4.8/33,Error ellipse: s-maj=5.8km s-min=4.3km az=224.0*
BJI ***05*** *09:11:12.2,3441N×8184E,h12km,mB4.6,mb4.7,Ms5.0, Msz4.9*
MOS ***05*** *09:11:13.3±0.9,3433N×8185E,h33km,mb4.9/33,Error ellipse: s-maj=10.1km s-min=4.6km az=121.9*
ISCJB ***05*** *09:11:15.2±0.6,3436N×003×8181E±003,h48km±5km, mb4.6/68,MS4.9/3,Error ellipse: s-maj=4.6km s-min=4.4km az=168.2*
ISC 05 09:11:17.4±0.4,3436N±003×8186E±003,h52km±4km, h6km±4,7km:pP-P,n224,σ1§00/232,mb4.6/68,MS4.9/3, 8C-9D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**4.14**	**228**	*e*P	**Pn**	**09 12 19.0**	**+0.9**
KLP				*e*S	**Sn**	**09 13 10.2**	**+4.9**
KLP				AML	AML	09 13 20.8	
	comp=E,262nm,0.8s						

KLP AML AML 09 13 21.3
comp=N,328nm,1.0s
JOSI Joshimath 4.26 208 *e*P **Pn 09 12 22.0 +2.2**
JOSI *e*S **Sn 09 13 13.0 +4.7**
JOSI AML AML 09 13 51.7
comp=N,317nm,0.9s
JOSI AML AML 09 13 52.1
comp=E,441nm,0.8s
PTH Pithoragarh 5.00 197 *e*P **Pn 09 12 32.0 +2.1**
SDNR Sundarnagar 5.01 237 *e*P **Pn 09 12 29.4 -0.6**
SDNR *e*S **Sn 09 13 29.4 +2.8**
LGTI Lohaghat 5.08 196 *e*P **Pn 09 12 34.5 +3.4**
DLH Dalhousie 5.25 251 *e*P **Pn 09 12 33.0 -0.4**
THN Thein Dam 5.49 251 *e*P **Pn 09 12 35.5 -1.1**
SONA Sohna 7.34 215 *e*P **Pn 09 13 01.3 -0.7**
SONA *e*S **Sn 09 14 23.8 -0.1**
SONA AML AML 09 14 28.7
comp=N,17nm,0.2s
SONA AML AML 09 14 28.8
comp=E,26nm,0.4s
KUDL Kundal 7.72 218 *e*P **Pn 09 13 06.3 -0.9**
KUDL *e*S **Sn 09 14 31.7 -1.5**
KUDL AML AML 09 14 42.0
comp=N,23nm,0.6s
ULHL Ulahol 9.03 332 P **Pn 09 13 26.8 +1.8**
SNR=6.4
LSA Lhasa 9.15 118 P **Pn 09 13 29.0 +2.2**
LSA Lhasa 9.15 118 Pn **Pn 09 13 24.6 -2.2**
KZA Kyzart 9.29 328 P **Pn 09 13 30.3 +1.6**
SNR=20
UCH Uchtor 9.74 326 *e*Pn **Pn 09 13 33.5 -1.4**
comp=N,22nm,0.8s
UCH Uchtor 9.74 326 P **Pn 09 13 35.4 +0.5**
SNR=24
TKM2 Tokmak 2 9.85 332 *e*P **Pn 09 13 37.5 +1.2**
TKM2 pmax pmax
comp=Z,23nm,0.9s
TKM2 Tokmak 2 9.85 332 *e*Pn **Pn 09 13 37.5 +1.2**
comp=Z,23nm,0.9s
TKM2 Tokmak 2 9.85 332 P **Pn 09 13 37.8 +1.5**
SNR=11
KBK Karagaybulak 9.89 329 P **Pn 09 13 38.5 +1.6**
SNR=7.9
AML Almayashu 10.07 323 *e*Pn **Pn 09 13 38.9 -0.4**
comp=Z,14nm,0.6s
AML Almayashu 10.07 323 P **Pn 09 13 39.7 +0.4**
SNR=14
AAK Ala-Archa 10.07 327 *e*P **Pn 09 13 38.8 -0.5**
AAK Ala-Archa 10.07 327 Pn **Pn 09 13 39.7 +0.4**
comp=Z,0.3nm,0.3s,baz=117,slow=4.8,SNR=8.4
CHMS Chumysh 10.26 329 P **Pn 09 13 43.0 +1.2**
SNR=8.7
EKS2 Erkin-Say 10.43 325 *e*Pn **Pn 09 13 41.5 -2.6**
comp=Z,14nm,0.8s
WMQ Urumqi 10.47 24 P **Pn 09 13 45.0 +0.2**
WMQ XP 09 13 51.0
WMQ S **Sn 09 15 44.0 +3.4**
WMQ SS 09 15 57.0
WMQ AMB AMB
comp=Z,42nm,1.0s
WMQ LR LR
comp=N,3μm,7.0s
WMQ LR LR
comp=E,2μm,7.0s
WMQ LR LR
comp=Z,2μm,7.0s
KBL Kabul 10.59 275 *e*Pn **Pn 09 13 45.7 -0.8**
MK31 Makanchi Array 12.42 1 *e*P **Pn 09 14 09.4 -2.0**
MKAR Makanchi Array 12.42 1 Pn **Pn 09 14 09.9 -1.5**
comp=Z,1.1nm,0.3s,baz=182,slow=13,SNR=76
IMP Imphal 14.18 129 *e*x **Pn 09 14 31.0 -4.4**
IMP *e*P 09 14 55.0
IMP *e*S Sn 09 16 29.0 -42
KURK Kurchatov 16.52 353↓ *e*P **Pn 09 15 03.0 -2.4**
KURK Kurchatov 16.52 353 *e*Pn **Pn 09 15 02.5 -2.8**
comp=Z,76nm,1.0s
HYB Hyderabad 17.13 191 *e*P **Pn 09 15 08.0 -5.3**
HYB *e*S **S 09 18 10.0 -20**
HYB Hyderabad 17.13 191 *i*P **Pn 09 15 10.0 -3.3**
HYB *e*S **S 09 18 10.0 -20**
LZH Lanzhou 18.04 78 *e*P **Pn 09 15 24.8 +0.5**
LZH AP pP 09 15 30.6 -5.3
LZH XP sP 09 15 34.2 -8.2
LZH AMB AMB
comp=Z,18nm,1.2s
LZH AMB AMB
comp=Z,76nm,4.3s
CD2 Chengdu 18.75 94 P **Pn 09 15 32.9 -0.1**
CD2 XP sP 09 15 40.0 -10
CD2 PP 09 15 48.9
CD2 S **S 09 18 57.4 -5.4**
CD2 XS sS 09 19 03.9 -18
CD2 SS 09 19 23.8
CD2 AMB AMB
comp=Z,10.0nm,0.7s
CD2 LR LR
comp=N,4μm,10.8s
CD2 LR LR
comp=Z,5μm,10.2s
ZAL Zalesovo 19.68 5 P **Pn 09 15 42.2 -1.6**
ZAA0 Zalesovo Array 19.69 5 *e*P **Pn 09 15 42.0 -1.9**
ZALV Zalesovo Beam 19.69 5 P **Pn 09 15 42.2 -1.8**
ZALV Zalesovo Beam 19.69 5 P **Pn 09 15 42.2 -1.8**
comp=Z,0.6nm,0.3s,baz=198,slow=9.3,SNR=25
KMI Kunming 20.30 111 P **P 09 15 49.6 +0.6**
KMI AP 09 15 53.7
KMI AMB AMB
comp=Z,15nm,0.8s
BVAR Borovoye Array 20.37 340 P **P 09 15 49.9 +0.4**
comp=Z,29nm,0.8s,baz=146,slow=11,SNR=98
BVAR PcP PcP 09 20 01.6 +1.2
comp=Z,0.8nm,0.7s,baz=142,slow=4.9,SNR=3.8
BRVK Borovoye 20.43 340 *e*P **P 09 15 50.2 0.0**
NVS Novosibirsk 20.50 2 *i*P **P 09 15 49.7 -1.2**
NVS pmax pmax
comp=Z,44nm,1.4s
NVS pmax pmax
comp=N,33nm,1.5s
NVS pmax pmax
comp=E,26nm,1.5s
CHG Chiang Mai 21.70 131↓ P **P 09 16 06.0 +1.9**
comp=E,70nm,0.6s,mb5.3
CHTO Chiang Mai 21.70 131 P **P 09 16 03.4 -0.7**
CHTO pmax pmax
comp=Z,25nm,0.6s,mb4.8
CHTO Chiang Mai 21.70 131 P **P 09 16 03.4 -0.7**
comp=Z,25nm,0.6s,mb4.8
XAN Xi'an 22.36 83 P **P 09 16 12.7 +1.6**
XAN AP 09 16 20.7
XAN AMB AMB
comp=Z,15nm,1.3s,mb4.3
ZAK Zakamensk 22.39 38 *e*P **P 09 16 11.0 -0.2**
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb3.6
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.2
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.2
SONM Songino Array 22.75 46 P **P 09 16 15.2 +0.2**
comp=Z,5.1nm,0.9s,mb3.9,baz=244,slow=7.8,SNR=10
SONM PcP PcP 09 20 05.9 +0.7
comp=Z,0.9nm,0.6s,baz=212,slow=4.1,SNR=4.4
GYA Guiyang 22.75 104 P **P 09 16 16.1 +0.8**
GYA AP 09 16 17.8
GYA PP 09 16 43.5
GYA PCP PcP 09 20 08.6 +3.0
GYA S **S 09 20 18.3 -2.2**
GYA SS 09 21 00.8
GYA SCP ScP 09 23 45.2 +6.2
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.7
GYA AMB AMB
comp=Z,170nm,5.8s
GYA LR LR
comp=N,730nm,9.8s
GYA LR LR
comp=E,400nm,8.9s
GYA LR LR
comp=Z,640nm,10.0s,MS4.4
AKTK Aktyubinsk 23.68 320 P **P 09 16 23.2 -1.0**
AKTO Aktyubinsk 23.68 320 P **P 09 16 23.2 -1.0**
comp=Z,13nm,0.9s,mb4.4,baz=116,slow=9.8,SNR=26
HHC Hu-ho-hao-te 24.33 66 *e*P **P 09 16 30.0 -0.2**
HHC PP 09 17 04.5
HHC S **S 09 20 47.4 +1.5**
HHC XS sS 09 20 56.3 -12
HHC SS 09 21 40.4
HHC AMB AMB
comp=Z,55nm,0.9s,mb5.0
HHC LR LR
comp=N,3μm,15.7s,MS5.2
HHC LR LR
comp=E,4μm,13.7s,MS5.2
HHC LR LR
comp=Z,3μm,15.5s,MS4.9
NST Nakhon Sawan 24.83 134↓ P **P 09 16 34.3 -0.6**
comp=Z,87nm,0.7s,mb5.4
KKTK Khon Kaen 26.00 128↓ P **P 09 16 49.5 +3.9**
SVE Sverdlovsk 26.72 334 *e*P **P 09 16 51.2 -0.5**
ARU Arti 27.22 331 *e*P **P 09 16 55.0 -1.2**
ARU *e*S **S 09 21 34.1 +2.8**
ARU *e*SS 09 22 41.4
BJI Beijing 27.80 68 P **P 09 17 00.6 -1.0**
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb4.5
NJ2 Nanjing 30.93 84 *e*P **P 09 17 30.8 +1.4**
NJ2 AP pP 09 17 34.8 -7.8
NJ2 XP sP 09 17 38.7 -10
NJ2 PP PP 09 18 31.2 -8.6
NJ2 PPP 09 18 45.0
NJ2 S **S 09 22 32.5 +2.4**
NJ2 XS sS 09 22 40.0 -12
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 LR LR
comp=N,4μm,13.4s,MS5.3
NJ2 LR LR
comp=E,4μm,16.4s,MS5.3
NJ2 LR LR
comp=Z,4μm,16.4s,MS5.1
KIV Kislovodsk 31.60 299↓ *e*P **P 09 17 40.4 +5.3**
KIV *e* 09 18 39.1
KIV *e*SS SS 09 24 32.8 -24
KIV pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KULM Kulim 33.76 145 P **P 09 17 50.2 -4.1**
CN2 Changchun 34.78 61 *e*P **P 09 18 02.7 -0.1**
VORD Divnogorie 34.87 312 *e*P **P 09 18 03.2 -0.3**
VORD pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,0.9s
MALT Malatya 34.97 289 *e*P **P 09 18 04.0 -0.6**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
MALT Malatya 34.97 289 *e*P **P 09 18 04.0 -0.6**
comp=Z,1.7nm,0.7s,mb4.1
ANN Anapa 35.40 301 *e*P **P 09 18 09.0 +0.8**
ANN *e* 09 19 29.4
ANN *e*S **S 09 23 47.0 +7.8**
ANN pmax pmax
comp=Z,12nm,0.9s,mb4.8
MOS Moscow 37.01 319 *e*P **P 09 18 20.3 -1.5**
MOS *e* 09 19 45.2
KSRS Korea Array 37.15 72 P **P 09 18 22.1 -1.1**
comp=Z,0.8nm,0.9s,mb3.5,baz=288,slow=8.7,SNR=3.7
OBN Obninsk 37.42 318↑ *e*P **P 09 18 25.6 +0.3**
OBN *e* 09 20 43.6
OBN *e*S **S 09 24 13.3 +3.5**
OBN *e*SS SS 09 26 50.9 -4.3
OBN pmax pmax
comp=Z,21nm,1.1s,mb4.9
YAK Yakutsk 40.77 32↑ *e*P **P 09 18 54.3 +1.2**
YAK pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
AKASG Malin Array Be 41.16 310 P **P 09 18 56.0 -0.5**
comp=Z,1.3nm,0.5s,mb3.8,baz=82,slow=6.5,SNR=9.3
AKASG PcP PcP 09 20 53.2 -1.7
comp=Z,0.2nm,0.3s,baz=76,slow=2.7,SNR=4.5
KIEV Kiev 41.17 310 *e*P **P 09 18 55.3 -1.3**
KIEV pmax pmax
comp=Z,205nm,2.6s,mb5.3
KIEV Kiev 41.17 310 *e*P **P 09 18 55.3 -1.3**
comp=Z,205nm,2.6s,mb5.3
JOF Joensuu 42.26 328 *e*p **P 09 19 04.8 -0.5**
comp=Z,5.4nm,0.5s,mb4.4
JOF Joensuu 42.26 328 *e*P **P 09 19 04.8 -0.5**
JOF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
VRI Vrincioaia 42.92 303↑ *i*P **P 09 19 13.1 +2.2**
PLOR Plostina 42.97 303↑ *i*P **P 09 19 13.2 +1.8**
MLR Muntele Rosu 43.50 302 P **P 09 19 17.0 +1.4**
comp=Z,17nm,0.9s,mb4.8,baz=54,slow=2.4,SNR=29
MLR Muntele Rosu 43.50 302↓ *i*P **P 09 19 18.1 +2.5**
FINES FINESS Array B 44.26 325 P **P 09 19 21.7 +0.3**
comp=Z,4.2nm,0.7s,mb4.3,baz=109,slow=10,SNR=21
FINES PcP PcP 09 21 03.4 -1.7
comp=Z,2.2nm,0.8s,baz=69,slow=6.9,SNR=5.8
FINES S **S 09 25 59.3 +8.2**
comp=Z,1.4nm,0.7s,baz=116,slow=28,SNR=5.3
TIXI Tiksi 44.64 19↓ *e*P **P 09 19 25.0 +0.7**
TIXI pmax pmax
comp=Z,10.0nm,1.5s,mb4.4
MJAR Matsushiro Arr 45.39 70 P **P 09 19 30.9 0.0**
comp=Z,2.6nm,0.8s,mb4.1,baz=290,slow=8.3,SNR=7.3
DRGR 45.60 304↑ *i*P **P 09 19 33.8 +1.5**
KEV Kevo 46.18 337 *e*p **P 09 19 29.7 -6.9**
comp=Z,1.3nm,0.4s,mb4.2
KEV Kevo 46.18 337 *e*P **P 09 19 29.7 -6.9**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
ARCES ARCESS Array B 46.60 336 P **P 09 19 40.3 +0.4**
comp=Z,3.9nm,0.8s,mb4.4,baz=99,slow=6.3,SNR=11
ARCES PcP PcP 09 21 11.5 -1.6
comp=Z,3.4nm,0.8s,baz=76,slow=5.1,SNR=5.6
VYHS Vyhne 48.00 307 *e*P **P 09 19 52.7 +1.6**
VYHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.4
VYHS Vyhne 48.00 307 *e*P **P 09 19 52.7 +1.6**
comp=Z,5.1nm,1.3s,mb4.4
VYHS Vyhne 48.00 307 *e*P **P 09 19 52.6 +1.5**
PKSM Moragy 48.47 304↓ *i*P **P 09 19 55.2 +0.5**
MORC Moravsky Berou 48.69 309 *e*P **P 09 19 55.1 -1.2**
MORC pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
MORC Moravsky Berou 48.69 309 *e*P **P 09 19 55.1 -1.2**
comp=Z,9.3nm,1.2s,mb4.7
MORC Moravsky Berou 48.69 309↑ *i*P **P 09 19 57.2 +0.9**
DPC Dobruska-Polom 49.40 310 *e*P **P 09 20 02.2 +0.5**
UPC Upice 49.57 310 *e* **P 09 20 03.8 +0.7**
UPC Upice 49.57 310 *e*P **P 09 20 03.8 +0.7**
TREC Trest 50.08 309 *e*P **P 09 20 07.3 +0.3**
GROS Grobnik 50.56 305 *i*P **P 09 20 11.0 +0.4**
PRU Pruhonice 50.58 310 *e*P **P 09 20 10.9 +0.2**
CRES Cresnjev 50.72 304 *e*P **P 09 20 12.6 +0.8**
PERS Pernice 50.79 305 *e*P **P 09 20 12.9 +0.5**
SEY Seymchan 51.26 34↓ *e*P **P 09 20 16.1 +0.5**
LJU Ljubljana 51.31 305 *e*P **P 09 20 17.3 +1.0**
GERES GERESS Array B 51.31 308 P **P 09 20 17.1 +0.9**
comp=Z,1.5nm,0.7s,mb4.0,baz=76,slow=5.6,SNR=15
GERES PcP PcP 09 21 31.0 +0.5
comp=Z,0.7nm,0.8s,baz=151,slow=3.0,SNR=3.6
KHC Kasperske Hory 51.34 309↑ *e*P **P 09 20 17.3 +0.8**
KHC Kasperske Hory 51.34 309 *e*P **P 09 20 17.0 +0.5**
CLL Collm 51.35 311 *e*P **P 09 20 17.0 +0.5**
NB2 NORSAR Subarra 51.38 324 P **P 09 20 15.9 -0.6**
comp=Z,1.2nm,0.6s,mb4.0,baz=87,slow=7.4
NOA NORSAR Array B 51.38 324 P **P 09 20 16.3 -0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=87,slow=7.4,SNR=12
GRA1 Grafenberg Arr 52.75 310 *e*P **P 09 20 27.7 +0.8**
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 52.75 310 *e*P **P 09 20 27.7 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 52.75 310 *e*P **P 09 20 27.7 +0.8**
GRF pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
GRF Grafenberg Arr 52.75 310 *e*P **P 09 20 27.7 +0.8**
comp=Z,10.0nm,1.4s,mb4.5
DAVOX Davos/Dischmat 54.27 306 P **P 09 20 38.2 +0.1**
comp=Z,5.4nm,0.8s,mb4.5,baz=109,slow=9.5,SNR=6.0
DAVOS Davos 54.31 306 P **P 09 20 38.2 -0.2**
CDF Champ du Feu 55.57 309 *e*P **P 09 20 47.2 -0.2**
comp=Z,17nm,1.2s,mb4.7
CDF Champ du Feu 55.57 309 *e*P **P 09 20 47.2 -0.2**
CDF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
CDF Champ du Feu 55.57 309 *e*P **P 09 20 47.2 -0.2**
comp=Z,8.7nm,1.2s,mb4.7
HINF Hinteralfeld 56.00 308 *e*P **P 09 20 50.3 -0.2**
comp=Z,16nm,0.8s,mb4.8
HINF Hinteralfeld 56.00 308 *e*P **P 09 20 50.3 -0.2**
HINF pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
HINF Hinteralfeld 56.00 308 *e*P **P 09 20 50.3 -0.2**
comp=Z,7.8nm,0.8s,mb4.8
PGF Pioggiola 56.04 302 *e*P **P 09 20 50.5 -0.4**
comp=Z,63nm,1.1s,mb5.3
PGF Pioggiola 56.04 302 *e*P **P 09 20 50.5 -0.4**
PGF pmax pmax
comp=Z,32nm,1.1s,mb5.3
PGF Pioggiola 56.04 302 *e*P **P 09 20 50.5 -0.4**
comp=Z,32nm,1.1s,mb5.3
HAU Haudompre 56.27 309 *e*P **P 09 20 52.4 -0.1**
comp=Z,6.3nm,0.5s,mb4.6
HAU Haudompre 56.27 309 *e*P **P 09 20 52.4 -0.1**
HAU pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
HAU Haudompre 56.27 309 *e*P **P 09 20 52.4 -0.1**
comp=Z,3.2nm,0.5s,mb4.6
BILL Bilibino 56.57 27↑ *e*P **P 09 20 55.4 +1.1**
BILL pmax pmax
comp=Z,12nm,1.6s,mb4.7
GIVF Givet 56.68 311 *e*P **P 09 20 55.8 +0.4**
LPG La Plagne 56.71 306 *e*P **P 09 20 56.2 +0.5**
comp=Z,37nm,0.8s,mb5.2
LPG La Plagne 56.71 306 *e*P **P 09 20 56.2 +0.5**
LPG pmax pmax
comp=Z,19nm,0.8s,mb5.2
LPG La Plagne 56.71 306 *e*P **P 09 20 56.2 +0.5**
comp=Z,18nm,0.8s,mb5.2
LPL La Plagne 56.72 306 *e*P **P 09 20 56.2 +0.5**
comp=Z,48nm,0.9s,mb5.2
LPL La Plagne 56.72 306 *e*P **P 09 20 56.2 +0.5**
LPL pmax pmax
comp=Z,24nm,0.9s,mb5.2
LPL La Plagne 56.72 306 *e*P **P 09 20 56.2 +0.5**
comp=Z,24nm,0.9s,mb5.2
SBF Sospel 56.73 304 *e*P **P 09 20 55.8 0.0**
comp=Z,64nm,0.9s,mb5.4
SBF Sospel 56.73 304 *e*P **P 09 20 55.8 0.0**
SBF pmax pmax
comp=Z,32nm,0.9s,mb5.3
SBF Sospel 56.73 304 *e*P **P 09 20 55.8 0.0**
comp=Z,32nm,0.9s,mb5.3
CABF La Chapelle 56.83 307 *e*P **P 09 20 57.0 +0.5**
comp=Z,38nm,1.4s,mb5.0
CABF La Chapelle 56.83 307 *e*P **P 09 20 57.0 +0.5**
CABF pmax pmax
comp=Z,19nm,1.4s,mb4.9
CABF La Chapelle 56.83 307 *e*P **P 09 20 57.0 +0.5**
comp=Z,19nm,1.4s,mb4.9
MBDF Montbardon 56.93 305 *e*P **P 09 20 56.5 -0.7**
comp=Z,18nm,0.8s,mb4.8
MBDF Montbardon 56.93 305 *e*P **P 09 20 56.5 -0.7**
MBDF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MBDF Montbardon 56.93 305 *e*P **P 09 20 56.5 -0.7**
comp=Z,8.9nm,0.8s,mb4.8
MEZF Maizieres J'vi 56.97 309 *e*P **P 09 20 57.7 +0.3**
BAIF Baives 57.08 311 *e*P **P 09 20 58.4 +0.2**
FRF La Foret Royal 57.37 303 *e*P **P 09 20 59.8 -0.5**
comp=Z,22nm,1.0s,mb4.8
FRF La Foret Royal 57.37 303 *e*P **P 09 20 59.8 -0.5**
FRF pmax pmax
comp=Z,11nm,1.0s,mb4.8
FRF La Foret Royal 57.37 303 *e*P **P 09 20 59.8 -0.5**
comp=Z,11nm,1.0s,mb4.8
ORIF Oris-en-Rattie 57.47 305 *e*P **P 09 21 00.3 -0.7**
comp=Z,14nm,0.9s,mb4.7
ORIF Oris-en-Rattie 57.47 305 *e*P **P 09 21 00.3 -0.7**
ORIF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ORIF Oris-en-Rattie 57.47 305 *e*P **P 09 21 00.3 -0.7**
comp=Z,6.8nm,0.9s,mb4.7
LOR Lormes 58.10 308 *e*P **P 09 21 04.6 -0.8**
comp=Z,14nm,0.9s,mb4.7
LOR Lormes 58.10 308 *e*P **P 09 21 04.6 -0.8**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LOR Lormes 58.10 308 *e*P **P 09 21 04.6 -0.8**
comp=Z,6.8nm,0.9s,mb4.7
SMF Signal de Mont 58.30 308 *e*P **P 09 21 06.3 -0.5**
comp=Z,27nm,1.0s,mb4.9
SMF Signal de Mont 58.30 308 *e*P **P 09 21 06.3 -0.5**
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.9
SMF Signal de Mont 58.30 308 *e*P **P 09 21 06.3 -0.5**
comp=Z,13nm,1.0s,mb4.9
VIVF Saint-Julien-l 58.31 305 *e*P **P 09 21 06.7 -0.2**
comp=Z,7.2nm,0.8s,mb4.4
VIVF Saint-Julien-l 58.31 305 *e*P **P 09 21 06.7 -0.2**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
VIVF Saint-Julien-l 58.31 305 *e*P **P 09 21 06.7 -0.2**
comp=Z,3.6nm,0.8s,mb4.5
SSF Saint Saulge 58.39 308 *e*P **P 09 21 06.9 -0.5**
comp=Z,15nm,0.9s,mb4.7
SSF Saint Saulge 58.39 308 *e*P **P 09 21 06.9 -0.5**
SSF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SSF Saint Saulge 58.39 308 *e*P **P 09 21 06.9 -0.5**
comp=Z,7.3nm,0.9s,mb4.7
AVF Avril sur Loir 58.57 308 *e*P **P 09 21 08.2 -0.5**
comp=Z,18nm,1.2s,mb4.7
AVF Avril sur Loir 58.57 308 *e*P **P 09 21 08.2 -0.5**
AVF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
AVF Avril sur Loir 58.57 308 *e*P **P 09 21 08.2 -0.5**
comp=Z,9.1nm,1.2s,mb4.7
LASF Ste Croix 59.11 305 *e*P **P 09 21 12.5 0.0**
comp=Z,14nm,0.9s,mb4.7
TCF Toulx Ste Croi 59.48 308 *e*P **P 09 21 14.9 -0.1**
comp=Z,14nm,0.8s,mb4.7
TCF Toulx Ste Croi 59.48 308 *e*P **P 09 21 14.9 -0.1**
TCF pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
TCF Toulx Ste Croi 59.48 308 *e*P **P 09 21 14.9 -0.1**
comp=Z,7.1nm,0.8s,mb4.8
EKA Eskdalemuir Ar 59.86 319 P **P 09 21 17.6 +0.1**
comp=Z,2.6nm,0.9s,mb4.3,baz=72,slow=8.9,SNR=6.9
CAF Calviac 60.03 306 *e*P **P 09 21 18.8 0.0**
comp=Z,6.5nm,0.7s,mb4.5
CAF Calviac 60.03 306 *e*P **P 09 21 18.8 0.0**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CAF Calviac 60.03 306 *e*P **P 09 21 18.8 0.0**
comp=Z,3.3nm,0.7s,mb4.5
LDF La Druitiere 60.22 311 *e*P **P 09 21 19.4 -0.6**
comp=Z,24nm,1.0s,mb4.9
LDF La Druitiere 60.22 311 *e*P **P 09 21 19.4 -0.6**
LDF pmax pmax
comp=Z,12nm,1.0s,mb4.9
LDF La Druitiere 60.22 311 *e*P **P 09 21 19.4 -0.6**
comp=Z,12nm,1.0s,mb4.9
RJF Les Rejaudoux 60.27 307 *e*P **P 09 21 20.6 +0.2**
FLN La Foliniere 60.39 311 *e*P **P 09 21 20.3 -0.9**
GRR Gorron 60.75 311 *e*P **P 09 21 23.0 -0.6**
comp=Z,36nm,1.1s,mb5.1
GRR Gorron 60.75 311 *e*P **P 09 21 23.0 -0.6**
GRR pmax pmax
comp=Z,18nm,1.1s,mb5.1
GRR Gorron 60.75 311 *e*P **P 09 21 23.0 -0.6**
comp=Z,18nm,1.1s,mb5.1
LFF La Frestale 60.91 307 *e*P **P 09 21 24.9 +0.1**
ROSF Rostrenen 62.27 311 *e*P **P 09 21 33.6 -0.3**
comp=Z,54nm,1.3s,mb5.2
ROSF Rostrenen 62.27 311 *e*P **P 09 21 33.6 -0.3**
ROSF pmax pmax
comp=Z,27nm,1.3s,mb5.2
ROSF Rostrenen 62.27 311 *e*P **P 09 21 33.6 -0.3**
comp=Z,27nm,1.3s,mb5.2
QUIF Quistinic 62.36 311 *e*P **P 09 21 34.0 -0.5**
ETSF Etsaut 62.53 305 *e*P **P 09 21 35.7 -0.1**
comp=Z,7.8nm,0.8s,mb4.6
ETSF Etsaut 62.53 305 *e*P **P 09 21 35.7 -0.1**
ETSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
ETSF Etsaut 62.53 305 *e*P **P 09 21 35.7 -0.1**
comp=Z,3.9nm,0.8s,mb4.6
SJPF Ste Jean 62.90 305 *e*P **P 09 21 38.1 -0.1**
IMA2 Indian Mountai 71.21 21 *e*P **P 09 22 30.7 +0.2**
WRA Warramunga Arr 73.53 129 P **P 09 22 44.4 -0.5**
comp=Z,5.9nm,0.7s,mb4.6,baz=326,slow=5.9,SNR=35
WRA pP pP 09 22 47.9 -12

comp=Z,6.0nm,0.7s,baz=325,slow=5.9,SNR=23
WB2 Warramunga Arr 73.53 129 *e*P **P 09 22 44.4 -0.6**
SVW2 Sparrevohn 74.05 25 *e*P **P 09 22 49.4 +2.0**
INK Inuvik 74.29 13 *e*P **P 09 22 48.8 +0.1**
comp=Z,151nm,0.8s,mb6.0
INK Inuvik 74.29 13 P **P 09 22 48.9 +0.1**
comp=Z,5.7nm,0.9s,mb4.5,baz=0.1,slow=7.8,SNR=26
EGAK Eagle 75.61 18 *e*P **P 09 22 56.5 +0.1**
comp=Z,7.5nm,1.0s,mb4.6
PMR Palmer 75.85 23 *e*P **P 09 22 57.7 -0.1**
PMR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PMR Palmer 75.85 23 *e*P **P 09 22 57.7 -0.2**
comp=Z,4.6nm,0.8s,mb4.5
ASAR Alice Springs 75.98 132 P **P 09 22 58.6 -0.4**
comp=Z,3.2nm,0.6s,mb4.4,baz=318,slow=5.5,SNR=30
ASAR pP pP 09 23 02.2 -12
comp=Z,3.3nm,0.6s,baz=315,slow=5.7,SNR=21
DAWY Dawson 76.64 17 *e*P **P 09 23 02.1 -0.1**
BOSA Boshof 82.38 228 P **P 09 23 32.9 -1.0**
comp=Z,4.0nm,0.7s,mb4.5,baz=44,slow=5.3,SNR=10
YKW3 Yellowknife Ar 82.51 8 *e*P **P 09 23 33.4 -0.7**
YKA Yellowknife Ar 82.58 8 P **P 09 23 33.9 -0.5**
YKA pP pP 09 23 37.4 -12
YKA Yellowknife Ar 82.58 8 P **P 09 23 33.9 -0.5**
comp=Z,7.8nm,0.7s,mb4.9,baz=339,slow=5.3,SNR=113
YKA pP pP 09 23 37.3 -12
comp=Z,4.7nm,0.6s,baz=339,slow=5.3,SNR=19
DBIC Dimbokro 83.58 274 P **P 09 23 40.5 -0.1**
comp=Z,13nm,0.8s,mb5.1,baz=39,slow=6.5,SNR=16
DLBC Dease Lake 83.78 16 P **P 09 23 41.7 +0.9**
DLBC Dease Lake 83.78 16 P **P 09 23 41.7 +0.9**
baz=301,slow=7.8
LIC Lamto 83.97 273 *e*P **P 09 23 41.4 -1.1**
comp=Z,27nm,0.9s,mb5.1
LIC Lamto 83.97 273 *e*P **P 09 23 41.4 -1.1**
comp=Z,14nm,0.9s,mb5.1
STKA Stephens Creek 86.59 133 P **P 09 23 53.9 -1.2**
comp=Z,2.7nm,0.8s,mb4.5,baz=328,slow=9.5,SNR=3.1
SCHQ Schefferville 87.18 342 P **P 09 23 56.9 -0.8**
SCHQ Schefferville 87.18 342 P **P 09 23 56.9 -0.8**
comp=Z,1.8nm,0.8s,mb4.4,baz=84,slow=9.2,SNR=4.0
TRCR Troy Canyon 105.87 14 *e*PKPdf PKiKP 09 29 35.3 -0.1
SIV San Ignacio 142.07 289 PKhKP 09 30 39.5
comp=Z,1.0nm,0.6s,baz=117,slow=2.3,SNR=2.4
CPUP Villa Florida 144.07 272 PKIKP PKPdf 09 30 44.6 -2.9
CPUP pmax pmax
comp=Z,4.0nm,0.8s
CPUP Villa Florida 144.07 272 *e*PKPdf PKPdf 09 30 44.4 -3.2
CPUP Villa Florida 144.07 272 PKP PKPdf 09 30 44.5 -3.0
comp=Z,4.1nm,0.8s,baz=45,slow=2.3,SNR=8.1
LPAZ La Paz 147.63 296 *e*PKIKP PKPdf 09 30 54.6 +0.8
LPAZ La Paz 147.63 296 PKPbc PKPbc 09 30 54.5 -2.0
comp=Z,1.9nm,0.6s,baz=71,slow=3.8,SNR=11
TRQA Tornquist 150.71 252 *e*PKPbc PKPbc 09 31 04.0 +0.2

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*NEIC **05** 09:19:13.4,3883S×17803E,h39km,ML3.8(WEL),After WEL.*
WEL 05 09:19:13.6±0.4,3884S×17804E,h40km±8km,ML3.8/10,
Error ellipse: s-maj=4.7km s-min=2.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.34**	**237**	P	Pn	09 19 21.8	-0.5
KNZ				S	Sn	09 19 28.6	+0.2
KNZ	**Kokohu**	**0.34**	**237**	PN	Pn	09 19 21.8	-0.5
KNZ				SN	Sn	09 19 28.6	+0.2
MWZ	**Matawai**	**0.64**	**321**	P	Pn	09 19 25.0	-1.2
MWZ				S	Sn	09 19 34.0	-1.2
MWZ	**Matawai**	**0.64**	**321**	PN	Pn	09 19 25.0	-1.2
MWZ				SN	Sn	09 19 34.0	-1.2
PUZ	**Puketiti**	**0.78**	**13**	*e*P	Pn	09 19 27.5	-0.6
PUZ				S	Sn	09 19 39.1	+0.5
PUZ	**Puketiti**	**0.78**	**13**	PN	Pn	09 19 27.5	-0.6
PUZ				SN	Sn	09 19 39.1	+0.5
URZ	**Urewera**	**0.93**	**308**	P	Pn	09 19 29.3	-0.8
URZ	**Urewera**	**0.93**	**308**	PN	Pn	09 19 29.3	-0.8
BKZ	**Black Stump Fm**	**1.25**	**254**	*e*P	Pn	09 19 34.5	0.0
BKZ	**Black Stump Fm**	**1.25**	**254**	PN	Pn	09 19 34.5	0.0
MXZ	**Matakaoa Point**	**1.29**	**9**	P	Pn	09 19 34.8	-0.2
MXZ	**Matakaoa Point**	**1.29**	**9**	PN	Pn	09 19 34.8	-0.2
TAZ	**Tarawera**	**1.34**	**296**	P	Pn	09 19 35.8	0.0
TAZ	**Tarawera**	**1.34**	**296**	PN	Pn	09 19 35.8	0.0
MKRZ	**Makatiti**	**1.42**	**299**	P	Pn	09 19 39.5	+2.7
MKRZ	**Makatiti**	**1.42**	**299**	PN	Pn	09 19 39.5	+2.7
HRRZ	**Handcock Road**	**1.45**	**287**	PN	Pn	09 19 37.2	0.0
OMRZ	**Omania**	**1.50**	**298**	PN	Pn	09 19 37.4	-0.5
PXZ	**Pawanui**	**1.50**	**217**	PN	Pn	09 19 37.1	-0.9
HATZ	**Hinemaiaia**	**1.52**	**267**	P	Pn	09 19 39.5	+1.2
HATZ	**Hinemaiaia**	**1.52**	**267**	PN	Pn	09 19 39.5	+1.2
OPRZ	**Ohinepanea**	**1.53**	**310**	PN	Pn	09 19 37.5	-0.8
KARZ	**Kaharoa**	**1.63**	**299**	P	Pn	09 19 39.1	-0.6
KARZ	**Kaharoa**	**1.63**	**299**	PN	Pn	09 19 39.1	-0.6
WHTZ	**Whakaora**	**1.64**	**275**	PN	Pn	09 19 43.9	+4.1
RITZ	**Rihia Road**	**1.71**	**265**	P	Pn	09 19 43.5	+2.7
RITZ	**Rihia Road**	**1.71**	**265**	PN	Pn	09 19 43.5	+2.7
WPHZ	**Waipukurau**	**1.75**	**225**	PN	Pn	09 19 40.7	-0.6
RATZ	**Rangitukua**	**1.77**	**268**	P	Pn	09 19 45.2	+3.5
RATZ	**Rangitukua**	**1.77**	**268**	PN	Pn	09 19 45.2	+3.5
WATZ	**Wairara**	**1.81**	**273**	P	Pn	09 19 46.2	+4.0
WATZ	**Wairara**	**1.81**	**273**	PN	Pn	09 19 46.2	+4.0
KATZ	**Kakaramea**	**1.84**	**265**	PN	Pn	09 19 43.5	+0.9
MOVZ	**Moawhango**	**1.87**	**252**	P	Pn	09 19 43.8	+0.8
MOVZ	**Moawhango**	**1.87**	**252**	PN	Pn	09 19 43.8	+0.8
KRVZ	**Karewarewa**	**1.89**	**261**	PN	Pn	09 19 43.5	+0.2
TUVZ	**Tukino**	**1.91**	**256**	P	Pn	09 19 44.6	+1.1
TUVZ	**Tukino**	**1.91**	**256**	PN	Pn	09 19 44.6	+1.0
NGZ	**Ngauruhoe**	**1.93**	**259**	P	Pn	09 19 44.7	+0.8
NGZ	**Ngauruhoe**	**1.93**	**259**	PN	Pn	09 19 44.7	+0.9
WTVZ	**West Tongariro**	**1.93**	**261**	P	Pn	09 19 47.0	+3.1
WTVZ	**West Tongariro**	**1.93**	**261**	PN	Pn	09 19 47.0	+3.2
WNVZ	**Wahianoa**	**1.96**	**255**	P	Pn	09 19 44.8	+0.5
WNVZ	**Wahianoa**	**1.96**	**255**	PN	Pn	09 19 44.8	+0.5
WPVZ	**Whakapapa**	**1.98**	**258**	P	Pn	09 19 45.1	+0.6
WPVZ	**Whakapapa**	**1.98**	**258**	PN	Pn	09 19 45.1	+0.5
FWVZ	**Far West T-bar**	**1.98**	**257**	P	Pn	09 19 46.3	+1.7
FWVZ	**Far West T-bar**	**1.98**	**257**	PN	Pn	09 19 46.3	+1.7
TRVZ	**Turoa**	**2.00**	**256**	PN	Pn	09 19 45.6	+0.9
TSZ	**Takapari Road**	**2.02**	**232**	PN	Pn	09 19 43.8	-1.3
TWVZ	**Taurewa**	**2.04**	**263**	P	Pn	09 19 46.4	+1.0
TWVZ	**Taurewa**	**2.04**	**263**	PN	Pn	09 19 46.4	+1.0
MTVZ	**Mangateitei**	**2.07**	**254**	PN	Pn	09 19 46.4	+0.6
PKVZ	**Pokaka**	**2.15**	**257**	PN	Pn	09 19 47.7	+0.8
WAZ	**Wanganui**	**2.54**	**248**	*e*P	Pn	09 19 53.9	+1.6
WAZ	**Wanganui**	**2.54**	**248**	PN	Pn	09 19 53.9	+1.6
VRZ	**Vera Road**	**2.58**	**263**	P	Pn	09 19 53.4	+0.7
VRZ	**Vera Road**	**2.58**	**263**	PN	Pn	09 19 53.4	+0.7
MRZ	**Mangatainoka R**	**2.63**	**225**	PN	Pn	09 19 52.2	-1.3
KUZ	**Kuaotunu**	**2.78**	**318**	*e*P	Pn	09 19 54.4	-1.1
KUZ	**Kuaotunu**	**2.78**	**318**	PN	Pn	09 19 54.4	-1.2
RAEZ	**Rainy Point**	**2.88**	**260**	PN	Pn	09 19 51.0	-5.9
MTW	**Mount Morrison**	**3.03**	**219**	PN	Pn	09 19 56.6	-2.4
NEZ	**North Egmont**	**3.10**	**261**	P	Pn	09 20 02.0	+2.0
NEZ	**North Egmont**	**3.10**	**261**	PN	Pn	09 20 02.0	+2.0
TRWZ	**Traveller**	**3.13**	**214**	PN	Pn	09 19 57.7	-2.7
KIW	**Kapiti Island**	**3.15**	**229**	P	Pn	09 19 59.1	-1.5
KIW	**Kapiti Island**	**3.15**	**229**	PN	Pn	09 19 59.1	-1.4
CAW	**Cannon Point**	**3.22**	**224**	P	Pn	09 19 59.9	-1.7
CAW	**Cannon Point**	**3.22**	**224**	PN	Pn	09 19 59.9	-1.6
PAWZ	**Paruwai Farm**	**3.24**	**217**	P	Pn	09 19 59.4	-2.4
PAWZ	**Paruwai Farm**	**3.24**	**217**	PN	Pn	09 19 59.4	-2.4
PLWZ	**Palliser**	**3.47**	**217**	PN	Pn	09 20 02.5	-2.5
TCW	**Tory Channel**	**3.74**	**229**	PN	Pn	09 20 06.6	-2.1
NNZ	**Nelson**	**4.30**	**235**	PN	Pn	09 20 14.4	-2.0
QRZ	**Quartz Range**	**4.69**	**243**	*e*P	Pn	09 20 19.2	-2.5
QRZ	**Quartz Range**	**4.69**	**243**	PN	Pn	09 20 19.2	-2.5
THZ	**Tophouse**	**4.90**	**232**	*e*P	Pn	09 20 22.8	-1.8
THZ	**Tophouse**	**4.90**	**232**	PN	Pn	09 20 22.8	-1.8
KHZ	**Kahutara**	**4.95**	**222**	*e*P	Pn	09 20 22.7	-2.6
KHZ	**Kahutara**	**4.95**	**222**	PN	Pn	09 20 22.7	-2.6

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*SZGRF **05** 09:25:32.9,4372N×140.19E,h33km,mb4.8,Hokkaido, Japan, region*
*BJI **05** 09:25:49.6,4395N×14052E,h213km,mB4.7,mb4.6*
*ISCJB **05** 09:25:50.7±0.2,4387N±003×14045E±003,h213km±2km, mb4.3/96,Error ellipse: s-maj=4.8km s-min=3.7km az=156.2*
*MOS **05** 09:25:50.4±0.9,4393N×14042E,h210km,mb4.5/41,Error ellipse: s-maj=9.9km s-min=4.8km az=112.4*
*JMA **05** 09:25:51.5±0.1,4386N×140.47E,h212km±1km,M4.3*
*IDC **05** 09:25:51.5±0.6,4388N×140.44E,h211km±5km,mb4.1/23, mb1 4.0/28,mb1mx4.0/32,mbtmp4.0/28,Error ellipse: s-maj=10.0km s-min=8.0km az=145.0*
*NEIC **05** 09:25:51.5,4386N×140.47E,h212km,mb4.4/47,After JMA.*
ISC 05 09:25:51.6±0.2,4386N±003×14046E±003,h209km±2km, h211km±7.2km;pP-P,n269,σ0=80/293,mb4.3/96,7C-31D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSK	**Shakotan**	**0.51**	**179**	⇓P	Pn	09 26 20.1	+0.3
JSK				S	Sn	09 26 41.7	+0.1
JYG	**Yagishiri**	**0.90**	**51**	⇓P	Pn	09 26 21.6	0.0
JYG				*e*S	Sn	09 26 44.7	-0.3
JHR	**Hokuryu**	**0.92**	**97**	⇓P	Pn	09 26 22.5	+0.7
JHR				*e*S	Sn	09 26 46.9	+1.7
JSS	**Shosan**	**1.14**	**61**	⇓P	Pn	09 26 23.8	+0.6
JEW	**Eniwo**	**1.25**	**144**	⇓P	Pn	09 26 24.6	+0.5
ASAJ	**Asahikawa**	**1.56**	**80**	PN	Pn	09 26 26.7	+0.1
ASAJ				S	Sn	09 26 54.6	+0.8
ASAJ				pmax	pmax		
ASAJ	comp=Z,158nm,0.3s			smax			
ASAJ	comp=N,16nm,0.3s **Asahikawa**	**1.56**	**80**	P	**Pn**	**09 26 26.7**	**+0.1**
ASAJ	comp=N,158nm,0.3s,baz=273,slow=3.6,SNR=1357			S	**Sn**	**09 26 54.6**	**+0.8**
JKK2	comp=N,16nm,0.3s,baz=77,slow=27,SNR=7.9 **Kamakawa 2**	**1.66**	**89**	⇓P	**Pn**	**09 26 27.6**	**+0.2**
JKK2				*e*S	**Sn**	**09 26 55.5**	**+0.2**
JFR	**Furan**	**1.70**	**113**	⇓P	**Pn**	**09 26 27.6**	**-0.3**
JWK2	**Keihoku**	**1.78**	**35**	⇓P	**Pn**	**09 26 29.5**	**+1.0**
JWK2				*e*S	**Sn**	**09 26 58.8**	**+1.3**
JSE	**Soyaes**	**1.88**	**54**	⇓P	**Pn**	**09 26 29.6**	**+0.1**
JSE				*e*S	**Sn**	**09 26 59.9**	**+0.8**
JOSM	**Okushiri--Mats**	**1.92**	**202**	⇓P	**Pn**	**09 26 30.4**	**+0.4**
JOSM				*e*S	**Sn**	**09 27 00.0**	**+0.1**
JKB	**Kayabe**	**2.02**	**168**	⇓P	**Pn**	**09 26 30.7**	**-0.3**
JNBK	**Urakawa-nobuka**	**2.31**	**132**	⇓P	**Pn**	**09 26 33.2**	**-0.8**
JCH	**Churui**	**2.46**	**119**	⇓P	**Pn**	**09 26 33.7**	**-1.9**
JCH				*e*S	**Sn**	**09 27 06.7**	**-3.2**
JAR	**Ashorobuto**	**2.47**	**102**	⇓P	**Pn**	**09 26 35.5**	**-0.2**
JAR				*e*S	**Sn**	**09 27 10.5**	**+0.4**
JTKR	**Abashiri--Toko**	**2.50**	**86**	⇓P	**Pn**	**09 26 35.8**	**-0.1**
JTKR				*e*S	**Sn**	**09 27 10.4**	**-0.2**
JOT	**Ohata**	**2.52**	**170**	P	**Pn**	**09 26 35.6**	**-0.6**
ERM	**Erimo**	**2.71**	**132**	*i* PN	**Pn**	**09 26 40.3**	**+2.0**
ERM	**Erimo**	**2.71**	**132**	*e*Pn	**Pn**	**09 26 37.1**	**-1.2**
ERM				*e*Sn	**Sn**	**09 27 11.1**	**-3.8**
JAK	**Akkeshi**	**3.21**	**104**	P	**Pn**	**09 26 42.8**	**-1.3**
JAK				*e*S	**Sn**	**09 27 21.8**	**-3.4**
JRA	**Rausu**	**3.37**	**87**	P	**Pn**	**09 26 46.2**	**+0.2**
JRA				*e*S	**Sn**	**09 27 30.2**	**+1.5**
YSS	**Yuzh-Sakhalins**	**3.49**	**27**	*i*PN	**Pn**	**09 26 47.0**	**-0.4**
YSS				*i* S	**Sn**	**09 27 29.2**	**-2.1**
YSS				pmax	pmax		
YSS	comp=N,190nm,0.2s			pmax	pmax		
YSS	comp=E,120nm,0.2s			pmax	pmax		
YSS	comp=Z,150nm,0.2s			smax			
YSS	comp=E,140nm,0.9s			smax			
YSS	comp=E,120nm,0.8s			smax			
YUK	**Yuzh-Kuril'sk**	**3.91**	**86**	*e*PN	**Pn**	**09 26 52.4**	**-0.1**
YUK				*e*S	**Sn**	**09 27 39.9**	**-0.4**
YUK				smax			
YUK	comp=N,3μm,1.0s			smax			
YUK	comp=E,3μm,1.6s			smax			
YUK	comp=N,700nm,0.7s			smax			
YUK	comp=E,1μm,0.9s			smax			
KUR	**Kuril'sk**	**5.47**	**73**	*e*PN	**Pn**	**09 27 08.0**	**-4.1**
KUR				*e*S	**Sn**	**09 28 11.0**	**-4.8**
KUR				pmax	pmax		
KUR	comp=Z,90nm,0.7s			smax			
KUR	comp=N,110nm,0.8s			smax			
KUR	comp=E,110nm,0.8s			smax			
HABR	**Khabarovsk**	**5.95**	**323**	*e*PN	**Pn**	**09 27 18.0**	**-0.1**
HABR				*e*S	**Sn**	**09 28 28.1**	**+1.3**
HABR				pmax	pmax		
HABR	comp=Z,29nm,1.1s						
VLA	**Vladivostok**	**6.28**	**266**	⇓*e*PN	**Pn**	**09 27 31.7**	**+9.3**
VLA				pmax	pmax		
VLA	comp=Z,43nm,1.2s						
MAJO	**Matsushiro**	**7.51**	**194**	*e*PN	**Pn**	**09 27 37.6**	**-0.9**
MAT	**Matsushiro**	**7.51**	**194**	P	**Pn**	**09 27 37.5**	**-1.0**
MAT				*e*S	**Sn**	**09 29 04.4**	**+0.7**
MJAR	**Matsushiro Arr**	**7.51**	**194**	P	**Pn**	**09 27 38.1**	**-0.4**
MJAR	comp=Z,2.7nm,0.3s,baz=1.8,slow=13,SNR=57						
MDJ	**Mudanjiang**	**7.84**	**279**	P	**Pn**	**09 27 40.8**	**-1.9**
MDJ				XP		09 28 26.0	
MDJ				PCP	PcP	09 34 00.4	+1.7
MDJ				AMB	AMB		
MDJ	comp=Z,12nm,0.9s			AMB	AMB		
MDJ	comp=Z,2μm,14.1s						
KLR	**Kul'dur**	**8.05**	**315**	*e*PN	**Pn**	**09 27 41.8**	**-3.5**
JHJ	**Hachijo jima 2**	**10.74**	**183**	P	**Pn**	**09 28 16.9**	**-3.3**
JHJ	comp=Z,14nm,0.3s,baz=56,slow=3.6,SNR=14			S	**S**	**09 30 07.9**	**-12**
CN2	comp=Z,7.6nm,0.3s,baz=60,slow=20,SNR=4.5 **Changchun**	**10.85**	**275**	*e*P	**Pn**	**09 28 21.4**	**-0.1**
CN2				AMB	AMB		
KSRS	comp=Z,10.0nm,0.8s **Korea Array**	**11.47**	**240**	P	**Pn**	**09 28 30.2**	**+0.8**
SKR	comp=Z,0.4nm,0.3s,baz=60,slow=12,SNR=19 **Severo-Kuril's**	**12.62**	**52**	*e*PN	**Pn**	**09 28 39.0**	**-4.8**
SKR				pmax	pmax		
JNU	comp=Z,80nm,0.5s **Nakatsue**	**13.08**	**218**	P	**Pn**	**09 28 49.8**	**+0.1**
HIA	comp=Z,0.5nm,0.3s,baz=170,slow=6.1,SNR=4.5 **Hailar**	**15.22**	**298**	⇑*e*P	**Pn**	**09 29 15.6**	**-0.3**
HIA	**Hailar**	**15.22**	**298**	*e*P	**Pn**	**09 29 15.2**	**-0.7**
CLNS	comp=Z,26nm,0.6s **Chul'man**	**16.30**	**328**	*e*P	**P**	**09 29 26.7**	**-1.2**
CLNS				*e*S	**S**	**09 32 29.3**	**+1.7**
CLNS				pmax	pmax		
CLNS	comp=Z,12nm,0.6s			pmax	pmax		
CLNS	comp=N,14nm,0.9s			pmax	pmax		
CLNS	comp=E,5.0nm,0.7s			smax			
CLNS	comp=E,1μm,12.3s			smax			
CLNS	comp=Z,2μm,12.7s			smax			
CLNS	comp=N,2μm,14.8s						
CBIJ	**Chichi jima**	**16.79**	**175**	P	**P**	**09 29 34.3**	**+0.7**
BJI	comp=N,4.2nm,0.3s,baz=259,slow=19,SNR=6.8 **Beijing**	**18.44**	**266**	P	**P**	**09 29 51.0**	**-0.5**
BJI				AMB	AMB		
YAK	comp=Z,16nm,1.0s **Yakutsk**	**19.27**	**345**	*e*P	**P**	**09 29 57.9**	**-2.3**
YAK				pmax	pmax		
YAK	comp=Z,21nm,0.9s **Yakutsk**	**19.27**	**345**	*e*P	**P**	**09 29 57.6**	**-2.5**
JOW	comp=Z,18nm,0.5s **Kunigami**	**19.65**	**214**	P	**P**	**09 30 04.1**	**-0.4**
SEY	comp=Z,0.9nm,0.3s,baz=125,slow=18,SNR=2.7 **Seymchan**	**20.32**	**16**	⇑*e*P	**P**	**09 30 09.7**	**-1.6**
HHC	**Hu-ho-hao-te**	**21.52**	**272**	*e*P	**P**	**09 30 23.3**	**-0.9**
HHC				PP		09 30 58.0	
HHC				S	**S**	**09 34 04.7**	**-3.7**
HHC				AMB	AMB		
HHC	comp=Z,21nm,1.0s,mb4.6			LR	LR		
HHC	comp=N,2μm,11.6s			LR	LR		
HHC	comp=E,2μm,11.8s			LR	LR		
HHC	comp=Z,2μm,14.7s						
BOD	**Bodaibo**	**21.59**	**320**	*e*P	**P**	**09 30 21.0**	**-3.7**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**23.50**	**292**	⇑*e*P	**P**	**09 30 42.2**	**-0.2**
ULN	**Ulaanbaatar**	**23.50**	**292**	*e*P	**P**	**09 30 41.9**	**-0.5**
SONM	comp=Z,6.4nm,0.6s,mb4.3 **Songino Array**	**23.94**	**292**	P	**P**	**09 30 46.1**	**-0.3**
TLY	comp=Z,14nm,0.6s,mb4.8,baz=86,slow=8.2,SNR=70 **Talaya**	**25.73**	**301**	*e*P	**P**	**09 31 02.2**	**-0.3**
TLY				pmax	pmax		
TLY	comp=Z,9.0nm,0.8s,mb4.5 **Talaya**	**25.73**	**301**	*e*P	**P**	**09 31 02.3**	**-0.2**
ZAK	**Zakamensk**	**25.92**	**298**	*e*P	**P**	**09 31 04.3**	**0.0**
ZAK				pmax	pmax		
BILL	comp=Z,6.0nm,1.0s,mb4.2 **Bilibino**	**27.78**	**21**	*i* P	**P**	**09 31 14.8**	**-5.8**
BILL				*e**PP	pP	09 32 00.0	-2.6
BILL				pmax	pmax		
TIXI	comp=Z,2.0nm,0.9s,mb3.8 **Tiksi**	**28.43**	**352**	*i* P	**P**	**09 31 22.9**	**-3.4**
TIXI				pmax	pmax		
TIXI	comp=Z,3.0nm,1.1s,mb3.8 **Tiksi**	**28.43**	**352**	*e*P	**P**	**09 31 23.2**	**-3.2**
LZH	comp=Z,44nm,2.7s,mb4.6 **Lanzhou**	**28.93**	**267**	*e*P	**P**	**09 31 32.9**	**+1.7**
LZH				AP	pP	09 32 09.7	-3.7
LZH				AMB	AMB		
LZH	comp=Z,16nm,1.0s,mb4.6			AMB	AMB		
GTA	comp=Z,82nm,5.1s **Gaotai**	**30.48**	**276**	⇑*i* P	**P**	**09 31 45.6**	**+0.8**
GTA				PP	PP	09 32 53.7	-4.2
GTA				S	**S**	**09 36 32.5**	**+2.2**
GTA				SCP	ScP	09 38 01.3	+0.4
GTA				AMB	AMB		
GTA	comp=Z,15nm,1.0s,mb4.6			LR	LR		
GTA	comp=N,1μm,13.4s			LR	LR		
GTA	comp=E,884nm,14.1s			LR	LR		
CD2	comp=Z,793nm,10.7s **Chengdu**	**31.64**	**258**	*e*P	**P**	**09 31 54.8**	**-0.2**
CD2				PP	PP	09 33 07.0	-3.8
CD2				S	**S**	**09 36 48.7**	**+0.3**
CD2				AMB	AMB		
CD2	comp=Z,10.0nm,0.6s,mb4.5			AMB	AMB		
GYA	comp=Z,20nm,5.8s **Guiyang**	**32.34**	**249**	P	**P**	**09 32 02.8**	**+1.6**
GYA				AMB	AMB		
ZAA0	comp=Z,10.0nm,0.8s,mb4.4 **Zalesovo Array**	**37.04**	**306**	*e*P	**P**	**09 32 40.6**	**-0.4**
ZALV	**Zalesovo Beam**	**37.04**	**306**	P	**P**	**09 32 40.6**	**-0.4**
ZALV	comp=Z,12nm,0.3s,mb4.9,baz=100,slow=9.7,SNR=45			PcP	PcP	09 34 56.8	-0.1
ZALV	comp=Z,1.6nm,0.5s,baz=56,slow=2.6,SNR=3.7			ScP	ScP	09 38 23.7	0.0
ZAL	comp=Z,5.8nm,0.8s,baz=82,slow=3.3,SNR=18 **Zalesovo**	**37.05**	**306**	P	**P**	**09 32 40.7**	**-0.4**
ZAL						09 34 56.8	
WMQ	**Urumqi**	**37.51**	**289**	P	**P**	**09 32 46.0**	**+0.8**
WMQ				PP	PP	09 34 19.0	+3.8
WMQ				S	**S**	**09 38 21.0**	**+2.9**
WMQ				SS	SS	09 41 04.0	-7.7
WMQ				AMB	AMB		
WMQ	comp=Z,35nm,1.0s,mb4.8			LR	LR		
WMQ	comp=N,1μm,14.0s			LR	LR		
WMQ	comp=E,1μm,13.0s			LR	LR		
MK31	comp=Z,1μm,14.0s **Makanchi Array**	**40.20**	**295**	*e*P	**P**	**09 33 07.5**	**+0.1**
MKAR	**Makanchi Array**	**40.20**	**295**	P	**P**	**09 33 07.3**	**0.0**
MKAR	comp=Z,6.0nm,0.4s,mb4.4,baz=82,slow=12,SNR=41			ScP	ScP	09 38 36.0	-0.1
IMA2	comp=Z,1.7nm,0.5s,baz=67,slow=4.7,SNR=11 **Indian Mountai**	**41.31**	**34**	*e*P	**P**	**09 33 15.1**	**-1.1**
KURK	**Kurchatov**	**41.41**	**302**	*e*P	**P**	**09 33 16.8**	**-0.4**
KURK				pmax	pmax		
KURK	comp=Z,39nm,0.7s,mb5.0 **Kurchatov**	**41.41**	**302**	*e*P	**P**	**09 33 16.8**	**-0.4**
KDAK	comp=Z,40nm,0.7s,mb5.0 **Kodiak Island**	**42.72**	**47**	P	**P**	**09 33 26.8**	**-0.8**
CHTO	comp=Z,6.0nm,0.7s,mb4.2,baz=294,slow=5.7,SNR=9.2 **Chiang Mai**	**42.74**	**248**	*e*P	**P**	**09 33 29.3**	**+0.9**
COLA	**College**	**43.83**	**36**	*e*P	**P**	**09 33 35.1**	**-1.3**
COLA				pmax	pmax		
COLA	comp=Z,7.0nm,1.0s,mb4.0 **College**	**43.83**	**36**	*e*P	**P**	**09 33 35.1**	**-1.4**
BVAR	comp=Z,7.2nm,1.0s,mb4.0 **Borovoye Array**	**45.64**	**307**	P	**P**	**09 33 51.2**	**+0.4**
BVAR	comp=Z,23nm,0.4s,mb4.9,baz=82,slow=9.9,SNR=114			ScP	ScP	09 38 57.9	0.0
BRVK	comp=Z,1.2nm,0.7s,baz=15,slow=6.2,SNR=4.7 **Borovoye**	**45.69**	**307**	*e*P	**P**	**09 33 51.4**	**+0.2**
BRVK				pmax	pmax		
BRVK	comp=Z,13nm,0.4s,mb4.6 **Borovoye**	**45.69**	**307**	*e*P	**P**	**09 33 51.4**	**+0.1**
TKM2	comp=Z,13nm,0.4s,mb4.6 **Tokmak 2**	**46.03**	**292**	*e*P	**P**	**09 33 54.8**	**+0.7**
TKM2				pmax	pmax		
TKM2	comp=Z,26nm,0.6s,mb4.7 **Tokmak 2**	**46.03**	**292**	*e*P	**P**	**09 33 54.8**	**+0.7**
TKM2	comp=Z,26nm,0.6s,mb4.7 **Tokmak 2**	**46.03**	**292**	P	**P**	**09 33 55.0**	**+0.8**
KBK	SNR=30 **Karagaybulak**	**46.58**	**292**	P	**P**	**09 33 59.1**	**+0.8**
USP	SNR=18 **Ospenovka**	**46.62**	**293**	P	**P**	**09 33 59.1**	**+0.4**
KZA	SNR=10 **Kyzart**	**46.62**	**292**	P	**P**	**09 34 00.3**	**+1.6**
EGAK	SNR=8.8 **Eagle**	**46.66**	**35**	*e*P	**P**	**09 33 57.1**	**-1.6**
AAK	comp=Z,5.5nm,0.8s,mb3.9 **Ala-Archa**	**46.89**	**293**	P	**P**	**09 34 00.2**	**-0.6**
AAK				pmax	pmax		
AAK	comp=Z,4.0nm,0.3s,mb4.2 **Ala-Archa**	**46.89**	**293**	*e*P	**P**	**09 33 59.7**	**-1.1**
AAK	comp=Z,3.9nm,0.5s,mb4.0 **Ala-Archa**	**46.89**	**293**	P	**P**	**09 34 00.2**	**-0.6**
EKS2	comp=Z,3.8nm,0.3s,mb4

JOF pmax pmax
comp=Z,8.0nm,0.4s,mb4.7
OBN Obninsk 62.27 321 *i* P **P 09 35 50.6 -0.3**
OBN *e* 09 36 25.7
OBN *e**PP pP 09 36 38.2 -0.6
OBN pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
FIA1 FINESS Array S 62.48 330 *e*P **P 09 35 51.2 -1.1**
FINES FINESS Array B 62.48 330 P **P 09 35 51.2 -1.0**
comp=Z,6.5nm,0.5s,mb4.5,baz=53,slow=7.5,SNR=73
WRA Warramunga Arr 63.74 186 P **P 09 36 00.5 -0.5**
comp=Z,0.9nm,0.5s,mb3.6,baz=4.4,slow=7.1,SNR=23
VSU Vasula 64.25 328⇑ *e*P **P 09 36 03.6 -0.3**
HOOD Mount Hood Mea 65.21 50 *e*P **P 09 36 10.9 +0.6**
NEW Newport 65.81 46 *e*P **P 09 36 13.7 -0.4**
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 65.81 46 *e*P **P 09 36 13.7 -0.4**
comp=Z,3.2nm,0.7s,mb4.1
KIV Kislovodsk 65.99 308⇑ *e*P **P 09 36 16.6 +1.3**
KIV *e**PP pP 09 37 05.6 +1.9
KIV pmax pmax
comp=Z,27nm,1.0s,mb4.8
KIV Kislovodsk 65.99 308 *e*P **P 09 36 16.5 +1.2**
comp=Z,19nm,0.8s,mb4.8
ASAR Alice Springs 67.46 187 P **P 09 36 25.1 +0.4**
comp=Z,1.0nm,0.6s,mb3.6,baz=5.7,slow=5.2,SNR=17
NB2 NORSAR Subarra 67.64 336 P **P 09 36 24.3 -1.1**
comp=Z,5.4nm,0.8s,mb4.2,baz=36,slow=6.5
NOA NORSAR Array B 67.64 336 P **P 09 36 24.9 -0.5**
comp=Z,1.7nm,0.3s,mb4.1,baz=36,slow=6.5,SNR=15
BMO Blue Mountains 67.89 49 *e*P **P 09 36 27.1 -0.2**
comp=Z,3.7nm,0.8s,mb4.1
MSO Missoula 68.38 45 *e*P **P 09 36 30.0 -0.3**
comp=Z,5.6nm,1.3s,mb4.0
FFC Flin Flon 68.39 34 *e*P **P 09 36 29.5 -0.7**
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
FFC Flin Flon 68.39 34 *e*P **P 09 36 29.5 -0.7**
comp=Z,4.0nm,0.8s,mb4.1
AKASG Malin Array Be 68.51 320 *i* P **P 09 36 30.3 -0.7**
AKASG pmax pmax
comp=Z,5.0nm,0.4s
AKASG Malin Array Be 68.51 320 P **P 09 36 30.2 -0.8**
comp=Z,4.9nm,0.4s,mb4.5,baz=44,slow=6.6,SNR=34
AKBB Malin Array Si 68.51 320 *e*P **P 09 36 30.5 -0.5**
KIEV Kiev 68.53 320 *e*P **P 09 36 30.6 -0.5**
KIEV pmax pmax
comp=Z,16nm,0.9s,mb4.7
KIEV Kiev 68.53 320 *e*P **P 09 36 30.6 -0.5**
comp=Z,16nm,0.9s,mb4.6
CHMT Chamberlain Mo 68.68 45 *e*P **P 09 36 32.4 +0.2**
EGMT Eagleton 69.67 42 *e*P **P 09 36 38.4 +0.2**
comp=Z,7.5nm,0.9s,mb4.3
LRM Limekiln Ridge 69.82 45 *e*P **P 09 36 39.9 +0.8**
DLMT Dillon 70.06 46 *e*P **P 09 36 41.2 +0.6**
comp=Z,11nm,0.6s,mb4.7
PAHR Pah Rah Range 70.06 54 *e*P **P 09 36 41.0 +0.3**
comp=Z,9.8nm,1.0s,mb4.4
BOZ Bozeman (W) 70.36 45 *e*P **P 09 36 43.0 +0.6**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
BOZ Bozeman (W) 70.36 45 *e*P **P 09 36 43.0 +0.6**
comp=Z,2.2nm,0.6s,mb4.0
NVAR Mina Array Bea 71.54 54 P **P 09 36 50.4 +0.8**
NVAR Mina Array Bea 71.54 54 P **P 09 36 50.4 +0.8**
comp=Z,4.7nm,0.6s,mb4.3,baz=317,slow=4.7,SNR=33
IMW Indian Meadow 71.92 46 *e*P **P 09 36 52.1 +0.2**
comp=Z,4.7nm,0.7s,mb4.2
RLMT Red Lodge 71.93 44 *e*P **P 09 36 52.9 +1.0**
UMR Umm Al-Rimmam 72.02 294 *e*P **P 09 36 51.7 -1.0**
UMR AMb AMB 09 36 52.4
comp=Z,42nm,0.4s,mb5.4
MIB Mutribah 72.11 294 *e*P **P 09 36 52.1 -1.0**
MIB AMb AMB 09 36 53.0
comp=Z,28nm,0.5s,mb5.1
NAY Al-Naaiem 72.53 294 *e*P **P 09 36 54.6 -1.1**
NAY AMb AMB 09 36 55.5
comp=Z,12nm,0.6s,mb4.7
RDF Al-Radifah 72.54 293 *e*P **P 09 36 54.8 -0.9**
RDF AMb AMB 09 36 55.9
comp=Z,23nm,0.7s,mb4.9
BURAR Bucovina Array 72.56 320 ⇓*i*P **P 09 36 55.8 +0.3**
KOLS Kolonicke sedl 72.92 323 *e*P **P 09 36 57.9 +0.3**
STHS Stebnicka Huta 73.00 323 *e*P **P 09 36 59.1 +1.0**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
OJC Ojcow 73.01 325 *e*P **P 09 36 58.3 +0.2**
CRVS Cervenica-Dubn 73.30 323 *e*P **P 09 37 00.4 +0.6**
NIE Niedzica 73.40 324 *e*P **P 09 37 01.3 +0.9**
BW06 Boulder Array 73.44 46 *e*P **P 09 37 01.1 +0.3**
comp=Z,8.5nm,0.8s,mb4.4
BSEG Bad Segeberg 73.67 332 *e*P **P 09 37 02.2 +0.3**
BSEG pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
BSEG Bad Segeberg 73.67 332 *e*P **P 09 37 02.2 +0.3**
comp=Z,9.0nm,0.9s,mb4.4
TPNV Topopah Spring 73.74 54 *e*P **P 09 37 03.2 +0.6**
TPNV pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
TPNV Topopah Spring 73.74 54 *e*P **P 09 37 03.2 +0.5**
comp=Z,8.1nm,0.7s,mb4.5
KECS Kecovo 74.04 323 *e*P **P 09 37 04.4 +0.3**
KECS pmax pmax
comp=Z,1.0nm,0.7s,mb3.5
ULM Lac du Bonnet 74.22 34 P **P 09 37 04.6 -0.6**
ULM Lac du Bonnet 74.22 34 P **P 09 37 04.6 -0.6**
comp=Z,4.2nm,0.6s,mb4.3,baz=309,slow=5.8,SNR=8.4
MORC Moravsky Berou 74.28 326 *e*P **P 09 37 05.5 0.0**
MORC pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
MORC Moravsky Berou 74.28 326 *e*P **P 09 37 05.5 -0.1**
comp=Z,5.8nm,0.6s,mb4.4
MORC Moravsky Berou 74.28 326 ⇓*i*P **P 09 37 05.9 +0.4**
DRGR 74.32 321 ⇓*i*P **P 09 37 06.1 +0.3**
UPC Upice 74.33 327⇓*e*P **P 09 37 06.3 +0.5**
DPC Dobruska-Polom 74.33 327 ⇓*i*P **P 09 37 06.4 +0.6**
SHPR Sheep Range 74.68 54 *e*P **P 09 37 09.2 +1.1**
PSZ Piszkesteto 74.72 323 ⇓*i*P **P 09 37 08.8 +0.7**
VYHS Vyhne 74.73 324 *e*P **P 09 37 08.6 +0.4**
VYHS pmax pmax
comp=Z,2.0nm,0.9s,mb3.8
VYHS Vyhne 74.73 324 *e*P **P 09 37 08.6 +0.4**
comp=Z,2.4nm,0.9s,mb3.8
ARUT Antelope Range 74.79 52 *e*P **P 09 37 08.7 0.0**
BRG Berggiesshubel 74.84 328 *e*P **P 09 37 08.4 -0.3**
comp=Z,3.0nm,0.7s,mb4.0
CLL Collm 74.85 329 ⇓*i*P **P 09 37 08.3 -0.4**
CLL pmax pmax
comp=Z,14nm,0.6s,mb4.8
CLL Collm 74.85 329 *e*P **P 09 37 08.4 -0.3**
comp=Z,14nm,0.6s,mb4.8
CLL Collm 74.85 329 ⇓*i*P **P 09 37 08.3 -0.4**
comp=Z,14nm,0.6s,mb4.8
PVCC Panska Ves 74.88 328 ⇓*i*P **P 09 37 09.3 +0.4**
NRDL Niedersach Rie 74.93 331 *e*P **P 09 37 09.0 -0.2**
comp=Z,14nm,1.5s,mb4.4
CCUT Cedar City 75.00 52 *e*P **P 09 37 10.6 +0.7**
MSU Marysvale 75.00 51 *e*P **P 09 37 11.0 +1.1**
FBE Freiberg 75.03 328 *e*P **P 09 37 09.6 -0.2**
comp=Z,8.0nm,0.6s,mb4.5
PRU Pruhonice 75.32 327 ⇓*i*P **P 09 37 11.7 +0.3**
GZR Gura Zlata 75.33 320⇑ *i*P **P 09 37 12.1 +0.5**
CLZ Clausthal 75.37 331 *e*P **P 09 37 11.6 -0.1**
CLZ pmax pmax
comp=Z,12nm,0.8s,mb4.6
CLZ Clausthal 75.37 331 *e*P **P 09 37 11.6 -0.1**
comp=Z,12nm,0.8s,mb4.6
RWWY Rawlins 75.42 46 *e*P **P 09 37 12.4 +0.1**
comp=Z,7.0nm,0.8s,mb4.3
TREC Trest 75.49 326⇓*e*P **P 09 37 12.8 +0.3**
GUNZ Gunzen 75.86 329 *e*P **P 09 37 14.9 +0.4**
comp=Z,5.0nm,0.9s,mb4.1
PFO Pinyon Flat Ob 75.89 57 P **P 09 37 15.2 +0.1**
comp=Z,3.0nm,0.5s,mb4.2,baz=263,slow=2.5,SNR=8.8
MOX Moxa 75.90 329 *e*P **P 09 37 14.4 -0.3**
comp=Z,4.0nm,0.6s,mb4.2
WERN Wernitzgruen 75.91 329 *e*P **P 09 37 14.9 +0.1**
comp=Z,6.0nm,0.6s,mb4.4
NKC Novy Kostel 75.92 329⇓*e*P **P 09 37 15.8 +0.9**
MANZ Manzenberg 76.25 329 *e*P **P 09 37 16.7 0.0**
comp=Z,4.0nm,1.1s,mb4.0
KHC Kasperske Hory 76.38 327 ⇓*i*P **P 09 37 17.7 +0.2**
ROTZ Rotzenmuhle 76.39 328 *e*P **P 09 37 18.3 +0.8**
comp=Z,6.0nm,1.0s,mb4.2
GEC2 GERESS Array S 76.56 327 *e*P **P 09 37 18.2 -0.3**
GEC2 pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
GEC2 GERESS Array S 76.56 327 *e*P **P 09 37 18.2 -0.3**
comp=Z,2.0nm,0.5s,mb4.0
GERES GERESS Array B 76.56 327 P **P 09 37 18.7 +0.2**
GERES pmax pmax
comp=Z,1.0nm,0.4s
GERES GERESS Array B 76.56 327 P **P 09 37 18.7 +0.2**
comp=Z,1.4nm,0.4s,mb4.0,baz=39,slow=5.9,SNR=13
WET Wettzell 76.64 328 *e*P **P 09 37 18.5 -0.4**
WET pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
WET Wettzell 76.64 328 *e*P **P 09 37 18.5 -0.4**
comp=Z,6.0nm,1.1s,mb4.1
GRA1 Grafenberg Arr 76.83 329 *e*P **P 09 37 20.2 +0.2**
comp=Z,19nm,1.2s,mb4.6
GRF Grafenberg Arr 76.83 329 *e*P **P 09 37 20.2 +0.2**
GRF pmax pmax
comp=Z,19nm,1.2s,mb4.6
GRF Grafenberg Arr 76.83 329 *e*P **P 09 37 20.2 +0.2**
GRF pmax pmax
comp=Z,19nm,1.2s,mb4.6
GRF Grafenberg Arr 76.83 329 *e*P **P 09 37 20.2 +0.2**
comp=Z,19nm,1.2s,mb4.6
PV10 Paradox Valley 76.83 49 *e*P **P 09 37 21.1 +0.9**
ASF Jabal al Asfar 77.17 302 P **P 09 37 22.6 +0.4**
comp=Z,2.1nm,0.6s,mb3.9,baz=133,slow=10,SNR=4.0
PV01 Paradox Valley 77.26 49 *e*P **P 09 37 23.2 +0.5**
SMCO Snowmass 77.37 47 *e*P **P 09 37 24.0 +0.8**
comp=Z,4.4nm,0.6s,mb4.3
ISCO Idaho Springs 77.63 46 *e*P **P 09 37 25.6 +1.0**
MVCO Mesa Verde 77.97 50 *e*P **P 09 37 27.2 +0.7**
SCHQ Schefferville 78.97 16 P **P 09 37 31.3 -0.4**
comp=Z,2.5nm,0.8s,mb3.9,baz=297,slow=14,SNR=5.4
ECSD EROS,Sioux Fal 79.01 38 *e*P **P 09 37 31.6 -0.5**
comp=Z,2.9nm,0.5s,mb4.2
ECSD *e*PcP PcP 09 37 39.5 -0.4
BFO Black Forest 79.02 330 *e*P **P 09 37 32.1 0.0**
BFO pmax pmax
comp=Z,5.0nm,1.1s,mb4.1
BFO Black Forest 79.02 330 *e*P **P 09 37 32.1 0.0**
comp=Z,5.0nm,1.1s,mb4.1
CDF Champ du Feu 79.33 330 *e*P **P 09 37 34.0 +0.2**
DAVOS Davos 79.72 328 P **P 09 37 35.7 -0.2**
DAVOX Davos/Dischmat 79.73 328 P **P 09 37 35.7 -0.3**
comp=Z,1.9nm,0.5s,mb4.0,baz=129,slow=6.5,SNR=3.1
ANMO Albuquerque 80.75 50 *e*P **P 09 37 42.5 +0.9**
BNM Barren Site 81.24 51 *e*P **P 09 37 44.6 +0.4**
CABF La Chapelle 81.29 330 *e*P **P 09 37 44.1 -0.1**
comp=Z,5.4nm,0.8s,mb3.9
CABF La Chapelle 81.29 330 *e*P **P 09 37 44.1 -0.1**
CABF pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
CABF La Chapelle 81.29 330 *e*P **P 09 37 44.1 -0.1**
comp=Z,2.7nm,0.8s,mb3.9
LOR Lormes 81.51 332 *e*P **P 09 37 44.3 -1.0**
comp=Z,12nm,0.8s,mb4.3
LOR Lormes 81.51 332 *e*P **P 09 37 44.3 -1.0**
LOR pmax pmax
comp=Z,6.0nm,0.8s,mb4.3
LOR Lormes 81.51 332 *e*P **P 09 37 44.3 -1.0**
comp=Z,6.1nm,0.8s,mb4.3
FLN La Foliniere 81.60 335 *e*P **P 09 37 45.5 -0.3**
LDF La Druitiere 81.64 335 *e*P **P 09 37 45.5 -0.5**
SSF Saint Saulge 81.81 332 *e*P **P 09 37 46.0 -0.9**
comp=Z,13nm,1.0s,mb4.2
SSF Saint Saulge 81.81 332 *e*P **P 09 37 46.0 -0.9**
SSF pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
SSF Saint Saulge 81.81 332 *e*P **P 09 37 46.0 -0.9**
comp=Z,6.4nm,1.0s,mb4.2
LPL La Plagne 81.98 329 *e*P **P 09 37 48.6 +0.7**
comp=Z,9.7nm,0.8s,mb4.2
LPL La Plagne 81.98 329 *e*P **P 09 37 48.6 +0.7**
LPL pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
LPL La Plagne 81.98 329 *e*P **P 09 37 48.6 +0.7**
comp=Z,4.8nm,0.8s,mb4.2
LPG La Plagne 81.99 329 *e*P **P 09 37 48.7 +0.8**
comp=Z,12nm,0.9s,mb4.2
LPG La Plagne 81.99 329 *e*P **P 09 37 48.7 +0.8**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
LPG La Plagne 81.99 329 *e*P **P 09 37 48.7 +0.8**
comp=Z,6.0nm,0.9s,mb4.2
GRR Gorron 82.05 335 *e*P **P 09 37 47.3 -0.8**
SMF Signal de Mont 82.05 331 *e*P **P 09 37 48.1 -0.1**
AVF Avril sur Loir 82.09 332 *e*P **P 09 37 47.7 -0.7**
comp=Z,7.2nm,0.6s,mb4.2
AVF Avril sur Loir 82.09 332 *e*P **P 09 37 47.7 -0.7**
AVF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
AVF Avril sur Loir 82.09 332 *e*P **P 09 37 47.7 -0.7**
comp=Z,3.6nm,0.6s,mb4.2
BGF Bois d'Agland 82.47 332 *e*P **P 09 37 50.2 -0.2**
MBDF Montbardon 82.64 329 *e*P **P 09 37 51.1 -0.2**
SGMF Saint Gilles 82.68 336 *e*P **P 09 37 50.9 -0.5**
comp=Z,13nm,0.8s,mb4.4
SGMF Saint Gilles 82.68 336 *e*P **P 09 37 50.9 -0.5**
SGMF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SGMF Saint Gilles 82.68 336 *e*P **P 09 37 50.9 -0.5**
comp=Z,6.6nm,0.8s,mb4.4
ORIF Oris-en-Rattie 82.81 329 *e*P **P 09 37 52.4 +0.3**
ROSF Rostrenen 82.81 337 *e*P **P 09 37 52.4 +0.3**
VIVF Saint-Julien-l 83.30 330 *e*P **P 09 37 55.3 +0.6**
comp=Z,6.8nm,0.7s,mb4.2
VIVF Saint-Julien-l 83.30 330 *e*P **P 09 37 55.3 +0.6**
VIVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
VIVF Saint-Julien-l 83.30 330 *e*P **P 09 37 55.3 +0.6**
comp=Z,3.4nm,0.7s,mb4.2
MFF Saint Martin d 83.41 334 *e*P **P 09 37 54.8 -0.4**
comp=Z,7.7nm,0.6s,mb4.3
MFF Saint Martin d 83.41 334 *e*P **P 09 37 54.8 -0.4**
MFF pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
MFF Saint Martin d 83.41 334 *e*P **P 09 37 54.8 -0.4**
comp=Z,3.8nm,0.6s,mb4.3
MNTX Cornudas Mount 83.76 51 *e*P **P 09 37 57.5 +0.3**
LMR La Mourre 83.92 328 *e*P **P 09 37 57.6 -0.3**
GDL2 Guadalupe Moun 83.96 50 *e*P **P 09 37 59.1 +0.8**
RJF Les Rejaudoux 84.02 332 *e*P **P 09 37 58.6 +0.3**
CAF Calviac 84.16 332 *e*P **P 09 37 58.7 -0.3**
comp=Z,13nm,1.1s,mb4.3
CAF Calviac 84.16 332 *e*P **P 09 37 58.7 -0.3**
CAF pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
CAF Calviac 84.16 332 *e*P **P 09 37 58.7 -0.3**
comp=Z,6.3nm,1.1s,mb4.3
MTLF Montolieu 85.50 331 *e*P **P 09 38 05.2 -0.5**
EPF Esparros 86.42 332 *e*P **P 09 38 10.4 +0.2**
TXAR Lajitas Array 86.51 52 P **P 09 38 10.6 -0.3**
comp=Z,0.8nm,0.7s,mb3.6,baz=285,slow=2.8,SNR=12
ETSF Etsaut 86.84 332 *e*P **P 09 38 12.6 +0.3**
comp=Z,4.4nm,0.5s,mb4.1
ETSF Etsaut 86.84 332 *e*P **P 09 38 12.6 +0.3**
ETSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ETSF Etsaut 86.84 332 *e*P **P 09 38 12.6 +0.3**
comp=Z,2.2nm,0.5s,mb4.1
LPAZ La Paz 143.36 50 *e*PKHKP 09 44 56.0
SNAA Sanae 146.98 200 *e*PKPdf PKPdf 09 45 07.1 +1.4
SNAA *e* 09 45 10.7
SNAA *e* 09 45 13.3
SNAA *e* 09 45 18.1
VNA2 Neumayer--Watz 148.59 200 *e*PKPdf PKPdf 09 45 10.8 +2.4
VNA2 *e* 09 45 14.2
VNA2 *e* 09 45 18.6
VNA2 *e* 09 45 23.5

ISCJB ***05*** *09:27:24.3±0.6, 964N±002×6298W±003, h27km±5km, Error ellipse: s-maj=4.9km s-min=3.2km az=43.3*
FUNV ***05*** *09:27:24.4, 964N×6291W, h14km, MW3.8*
TRN ***05*** *09:27:25.5, 967N×6270W, h3km, MD4.0*
NEIC ***05*** *09:27:25.5, 967N×6270W, h3km, MD4.0(TRN), After TRN.*
ISC 05 09:27:24.6±0.7, 964N±002×6298W±002, h22km±6km, n24, σ1°07/47, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.52**	**4**	⇓*i*P	**Pb**	**09 27 33.8**	**-1.4**
GUNV				*e*S	**Sb**	**09 27 41.3**	**-0.9**
ORIV	**Oritupano**	**0.71**	**217**	*e*P	**Pb**	**09 27 38.3**	**+0.1**
ORIV				*e*S	**Sb**	**09 27 49.1**	**+1.6**
CRUV	**Carupano**	**1.06**	**346**	*e*P	**Pn**	**09 27 42.9**	**-1.3**
CRUV				*e*S	**Sb**	**09 27 56.4**	**-1.4**
GUIV	**Guiria**	**1.25**	**36**⇑	*i*P	**Pn**	**09 27 46.1**	**-0.6**
GUIV				*e*S	**Sn**	**09 28 02.9**	**0.0**
TCE	**Chacachacare**	**1.60**	**49**	*e*P	**Pn**	**09 27 51.7**	**+0.1**
TCE				*e*S	**Sn**	**09 28 11.1**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.65**	**66**	*e*P	**Pn**	**09 27 53.0**	**+0.7**
TPP				*e*S	**Sn**	**09 28 11.4**	**-1.4**
ITEV	**Isla Los Testi**	**1.71**	**355**	*e*P	**Pn**	**09 27 52.7**	**-0.5**
ITEV				*e*S	**Sn**	**09 28 15.0**	**+0.6**
PCRV	**Puerto La Cruz**	**1.72**	**288**	*e*P	**Pn**	**09 27 54.5**	**+1.3**
PCRV				*e*S	**Sn**	**09 28 15.9**	**+1.4**
TRN	**Trinidad (W)**	**1.85**	**57**	*e*P	**Pn**	**09 27 54.9**	**-0.1**
TRN				*e*S	**Sn**	**09 28 16.0**	**-1.7**
PRGV	**PARIAGUAN**	**1.86**	**242**	*e*P	**Pn**	**09 27 55.9**	**+0.7**
GURV	**El Guri**	**1.87**	**183**	*e*P	**Pn**	**09 27 55.1**	**-0.2**
GURV				*e*S	**Sn**	**09 28 18.2**	**0.0**
RIOV	**Rio Grande**	**1.94**	**143**	*e*P	**Pn**	**09 27 56.5**	**+0.3**
RIOV				*e*S	**Sn**	**09 28 19.9**	**0.0**
TBH	**Brigand Hill**	**2.06**	**66**	*e*P	**Pn**	**09 27 58.2**	**+0.2**
TBH				*e*S	**Sn**	**09 28 21.9**	**-1.0**
TPR	**Prospect**	**2.66**	**54**	*e*P	**Pn**	**09 28 05.9**	**-0.3**
TPR				*e*S	**Sn**	**09 28 36.2**	**-1.5**
TPR	**Prospect**	**2.66**	**54**	*e*P	**Pn**	**09 28 05.9**	**-0.3**
TPR				*e*S	**Sn**	**09 28 36.2**	**-1.5**
CUPV	**Cœpira**	**2.80**	**279**	*e*P	**Pn**	**09 28 09.4**	**+1.3**
CUPV				*e*S	**Sn**	**09 28 41.6**	**+0.3**
GRW	**Mount Saint Ca**	**2.82**	**27**	*e*P	**Pn**	**09 28 10.6**	**+2.2**
GRW				*e*S	**Sn**	**09 28 42.9**	**+1.2**
GRHS	**Sauteurs**	**2.89**	**27**	*e*P	**Pn**	**09 28 10.1**	**+0.8**
GRHS				*e*S	**Sn**	**09 28 44.4**	**+1.0**
GRIC	**Isle de Caille**	**2.97**	**27**	*e*P	**Pn**	**09 28 12.2**	**+1.8**
GRIC				*e*S	**Sn**	**09 28 46.0**	**+0.7**
GRSS	**Sisters**	**2.97**	**27**	*e*P	**Pn**	**09 28 11.8**	**+1.4**
GRSS				*e*S	**Sn**	**09 28 46.9**	**+1.6**
MERV	**Las Mercedes**	**3.30**	**264**	*e*P	**Pn**	**09 28 15.8**	**+0.9**
MERV				*e*S	**Sn**	**09 28 52.8**	**-0.7**
CAOV	**Caicara del Or**	**4.03**	**235**	*e*P	**Pn**	**09 28 24.6**	**-0.4**
CAOV				*e*S	**Sn**	**09 29 10.2**	**-1.3**
BAUV	**El Baul**	**5.04**	**263**	*e*Pn	**Pn**	**09 28 38.9**	**-0.1**
BAUV				*e*S	**Sn**	**09 29 34.3**	**-2.4**
SDV	**Santo Domingo**	**7.59**	**265**	*e*Pn	**Pn**	**09 29 13.3**	**-0.7**
	9.7nm,0.4s						
SDV				*e*Sn	**Sn**	**09 30 37.1**	**-2.3**

IDC ***05*** *09:29:25.4±1.2, 3424N×8230E, h0km, mb3.7/6, mb1 4.0/7, mb1mx3.7/21, mbtmp3.8/7, ML3.6/1, MS4.6/1, Ms1 4.6/1, ms1mx4.0/27, Error ellipse: s-maj=54.2km s-min=22.5km az=54.0*
ISCJB ***05*** *09:29:26.8±1.0, 344N±0.1×828E±0.3, h10km, mb3.6/7, Error ellipse: s-maj=32.6km s-min=15.1km az=153.3*
NEIC ***05*** *09:29:27.0±0.9, 3419N×8224E, h10km, Error ellipse: s-maj=31.0km s-min=14.9km az=70.0*
ISC 05 09:29:32.5±4.3, 344N±03×825E±03, h45km±35km, n12, σ0°88/11, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**12.42**	**359**	*e*Pn	**Pn**	**09 32 26.3**	**-0.2**
MKAR	**Makanchi Array**	**12.42**	**359**	Pn	**Pn**	**09 32 26.5**	**0.0**
	0.3nm,0.3s,baz=184,slow=13,SNR=19						
AKTK	**Aktyubinsk**	**24.01**	**319**	P	**P**	**09 34 43.5**	**+0.7**
AKTO	**Aktyubinsk**	**24.01**	**319**	P	**P**	**09 34 43.5**	**+0.7**
	2.9nm,1.0s,mb3.6,baz=130,slow=8.9,SNR=6.0						
FINES	**FINESS Array B**	**44.54**	**325**	P	**P**	**09 37 43.1**	**+3.7**
	0.7nm,0.6s,mb3.7,baz=112,slow=6.2,SNR=2.3						
GERES	**GERESS Array B**	**51.71**	**308**	P	**P**	**09 38 32.8**	**-2.1**
	0.3nm,0.6s,mb3.4,baz=94,slow=5.4,SNR=4.8						
JMIC	**Jan Mayen**	**58.26**	**337**	LR	LR	10 04 26.2	
	comp=Z,524nm,18.8s,baz=62,slow=36						
WRA	**Warramunga Arr**	**73.14**	**129**	P	**P**	**09 40 58.7**	**+0.2**
	0.5nm,0.7s,mb3.6,baz=323,slow=6.0,SNR=5.6						
INK	**Inuvik**	**74.18**	**13**	P	**P**	**09 41 04.3**	**+0.4**
	0.5nm,0.8s,mb3.5,baz=321,slow=6.5,SNR=3.7						
ASAR	**Alice Springs**	**75.61**	**132**	P	**P**	**09 41 12.8**	**0.0**
	0.3nm,0.6s,mb3.4,baz=330,slow=6.5,SNR=5.4						
YKA	**Yellowknife Ar**	**82.51**	**8**	P	**P**	**09 41 49.2**	**-0.7**
YKA	**Yellowknife Ar**	**82.51**	**8**	P	**P**	**09 41 49.2**	**-0.7**
	0.7nm,0.7s,mb3.8,baz=341,slow=4.8,SNR=7.5						

IDC 05 09:32:00.5±1.4, 3426N×8187E, h11km±4km, mb3.7/6, mb1 3.9/7, mb1mx3.5/22, mbtmp3.7/7, Error ellipse: s-maj=74.4km s-min=17.4km az=61.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.53**	**1**	Pn	Pn	09 34 59.1	+0.5
	baz=177,slow=12,SNR=3.7						
BVAR	**Borovoye Array**	**20.47**	**340**	P	P	09 36 39.4	+1.4
	2.0nm,0.6s,baz=153,slow=10.0,SNR=5.1						
BVAR				pP	pP	09 36 42.8	+1.6
	2.0nm,0.6s,baz=142,slow=7.9,SNR=5.2						
FINES	**FINESS Array B**	**44.34**	**325**	P	P	09 40 09.0	-1.3
	0.6nm,0.5s,baz=108,slow=11,SNR=4.5						
WRA	**Warramunga Arr**	**73.46**	**129**	P	P	09 43 33.4	+0.3
	0.4nm,0.5s,baz=328,slow=5.4,SNR=8.5						
WRA				pP	pP	09 43 36.9	+0.1
	0.4nm,0.5s,baz=327,slow=5.6,SNR=3.4						
INK	**Inuvik**	**74.39**	**13**	P	P	09 43 38.2	+0.4
	1.0nm,1.1s,baz=270,slow=6.1,SNR=4.0						
ASAR	**Alice Springs**	**75.91**	**132**	P	P	09 43 47.7	+0.5
	0.1nm,0.3s,baz=326,slow=5.7,SNR=5.1						
ASAR				pP	pP	09 43 51.0	+0.1
	0.4nm,0.6s,baz=331,slow=5.6,SNR=4.0						
YKA	**Yellowknife Ar**	**82.67**	**8**	P	P	09 44 23.2	-0.5
	0.5nm,0.5s,baz=338,slow=5.4,SNR=14						
YKA				pP	pP	09 44 27.0	-0.4
	0.4nm,0.6s,baz=341,slow=5.2,SNR=8.6						

IDC 05 09:38:42.3±2.9, 3465N×8357E, h0km, mb3.5/4, mb1 3.8/5, mb1mx3.5/21, mbtmp3.6/5, ML3.2/1, Error ellipse: s-maj=164.5km s-min=24.2km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.17**	**356**	Pn	Pn	09 41 39.4	+2.6
	0.2nm,0.3s,baz=183,slow=13,SNR=12						
BVAR	**Borovoye Array**	**20.62**	**337**	P	P	09 43 23.3	+0.4
	2.3nm,0.6s,baz=142,slow=12,SNR=6.3						
WRA	**Warramunga Arr**	**72.63**	**130**	P	P	09 50 12.4	+0.7
	1.2nm,1.2s,baz=327,slow=5.6,SNR=5.8						
ASAR	**Alice Springs**	**75.14**	**133**	P	P	09 50 26.4	+0.1
	0.2nm,0.7s,baz=322,slow=5.9,SNR=3.2						
YKA	**Yellowknife Ar**	**82.09**	**8**	P	P	09 51 03.0	-1.2
	0.3nm,0.6s,baz=338,slow=5.6,SNR=5.4						

NDI ***05*** *09:45:33.9±2.6, 3493N×8183E, h10km, mb4.7, mb4.7(NEIC)*
ISCJB ***05*** *09:45:38.9±2.4, 3429N±005×8190E±0.10, h17km±21km, mb3.6/5, Error ellipse: s-maj=14.9km s-min=6.4km az=25.9*
IDC ***05*** *09:45:38.1±1.7, 3424N×8199E, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/22, mbtmp3.6/7, ML3.8/2, Error ellipse: s-maj=61.1km s-min=21.8km az=72.0*
NEIC ***05*** *09:45:39.9±1.1, 3425N×8204E, h10km, mb4.7/1, Error ellipse: s-maj=32.6km s-min=12.5km az=72.0*
BJI ***05*** *09:45:49.8, 3494N×8253E, h12km, mb4.8*
ISC 05 09:45:43.5±0.8, 3430N±005×819E±01, h38km±13km, n19, σ0°82/21, mb3.6/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**4.14**	**229**	*e*P	**Pn**	**09 46 44.3**	**+0.1**
KLP				AMb	AMB	09 47 00.8	
	comp=Z,33nm,1.4s						
KLP				*e*S	**Sn**	**09 47 32.2**	**+0.9**
JOSI	**Joshimath**

KHET	Khetri	8.12	222	eP	Pn	09 47 36.8	-2.1
KHET				ex	x	09 49 01.8	
WMQ	Urumqi	10.51	24	P	Pn	09 48 13.2	+1.6
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s						
BOK	Bokaro	11.03	161	eP	Pn	09 48 19.2	+0.4
BOK				AMb	AMB	09 48 29.4	
	comp=Z,6.7nm,0.5s						
BHPL	Bhopal	11.70	201	eP	Pn	09 48 27.6	-0.3
BHPL				AMb	AMB	09 48 29.4	
	comp=Z,19nm,0.6s						
BHPL				eS	Sn	09 50 33.5	-3.8
BLSP	Bilaspur	12.13	179	eP	Pn	09 48 34.1	+0.3
BLSP				AMb	AMB	09 48 34.8	
	comp=Z,7.1nm,0.7s						
MK31	Makanchi Array	12.48	1	ePn	Pn	09 48 38.0	-0.5
MKAR	Makanchi Array	12.48	1	Pn	Pn	09 48 38.0	-0.5
	comp=Z,0.7nm,0.3s,baz=181,slow=13,SNR=40						
ZALV	Zalesovo Beam	19.75	5	P	Pn	09 50 11.4	-0.2
	comp=Z,0.2nm,0.3s,baz=190,slow=14,SNR=5.2						
BVAR	Borovoye Array	20.44	340	P	P	09 50 18.3	+0.9
	comp=Z,2.2nm,0.7s,baz=149,slow=12,SNR=10						
SONM	Songino Array	22.76	46	P	P	09 50 41.7	-0.6
	comp=Z,0.6nm,0.7s,mb3.1,baz=218,slow=14,SNR=3.8						
MAJO	Matsushiro	45.37	70	eP	P	09 53 52.1	-6.0
	comp=Z,3.6nm,0.4s,mb4.5						
WRA	Warramunga Arr	73.46	129	P	P	09 57 12.4	+0.3
	comp=Z,0.3nm,0.6s,mb3.4,baz=326,slow=5.6,SNR=4.7						
ASAR	Alice Springs	75.91	132	P	P	09 57 26.3	0.0
	comp=Z,0.3nm,0.7s,mb3.3,baz=312,slow=5.4,SNR=3.9						
YKA	Yellowknife Ar	82.63	8	P	P	09 58 02.0	-0.4
	comp=Z,0.5nm,0.7s,mb3.7,baz=338,slow=5.5,SNR=10						

*ISCJB **05** 10:04:31.2±1.5, 6758N±004×337E±02, h0km, Error ellipse: s-maj=12.6km s-min=5.6km az=5.5*
*HEL **05** 10:04:32.8±0.4, 6767N×3391E, h0km, ML2.4, ML2.2(NAO), Explosion*
*NAO **05** 10:04:32.6±1.2, 6762N×3385E, ML2.2*
*IDC **05** 10:04:35.7±2.8, 6769N×3342E, h0km, mb1 3.2/4, mb1mx3.0/21, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=31.7km s-min=9.6km az=73.0*

ISC 05 10:04:32.9±1.0, 6766N±004×337E±02, h0km, n20, σ1°35/35, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	Apatity Array	0.27	258	iP	Pg	10 04 38.4	+0.4
APA0				iS	Sg	10 04 43.9	+2.3
APA0				eRG		10 04 45.7	
APA0	Apatity Array	0.27	258	Pg	Pg	10 04 38.4	+0.4
	baz=96,slow=16						
APA0				Lg		10 04 43.9	
	baz=88,slow=37						
APA0				Rg		10 04 45.7	
	baz=83,slow=37						
KU6	Riekki	2.23	224	eP	Pn	10 05 12.1	+1.1
	baz=42						
KU6				eSG	Sg	10 05 42.7	-1.6
MSF	Maaselka	2.55	228	eP	Pn	10 05 16.9	+1.5
MSF				eSG	Sg	10 05 54.1	-0.5
SGF	Sodankyl	2.76	269	eP	Pn	10 05 18.5	+0.3
SGF				eSB	Sb	10 05 58.5	+1.3
SGF				MSG		10 05 58.5	
	comp=Z,14nm,0.4s						
KEV	Kevo	3.22	314	eP	Pn	10 05 25.8	+1.3
KEV				eS	Sn	10 06 04.6	+1.1
KEV				MSG		10 06 04.6	
	comp=Z,11nm,0.2s						
ARA0	ARCESS Array S	3.54	306	eP	Pn	10 05 29.5	+0.5
ARA0				ePG	Pg	10 05 38.1	-2.5
ARA0				eS	Sn	10 06 11.1	-0.4
ARA0				eSG		10 06 23.2	
ARA0	ARCESS Array S	3.54	306	Pn	Pn	10 05 29.5	+0.5
	baz=122,slow=16						
ARA0				Pg	Pg	10 05 38.1	-2.5
	baz=112,slow=16						
ARA0				Sn	Sn	10 06 11.1	-0.4
	baz=123,slow=28						
ARA0				Lg		10 06 23.2	
	baz=130,slow=37						
ARCES	ARCESS Array B	3.54	306	Pn	Pn	10 05 29.6	+0.7
	comp=Z,6.7nm,0.3s,baz=122,slow=15,SNR=370						
ARCES				Pg	Pg	10 05 37.4	-3.2
	comp=Z,2.3nm,0.3s,baz=121,slow=14,SNR=11						
ARCES				Sn	Sn	10 06 11.5	+0.1
	comp=Z,3.8nm,0.3s,baz=121,slow=26,SNR=12						
ARCES				Lg		10 06 21.8	
	comp=Z,8.9nm,0.3s,baz=108,slow=27,SNR=19						
HEF	Hetta	3.84	286	eP	Pn	10 05 33.6	+0.5
	baz=92						
HEF				eSG	Sg	10 06 34.2	-1.9
OUL	Oulu	4.07	234	eP	Pn	10 05 37.7	+1.5
	baz=43						
FIA0	FINESS Array S	7.05	211	Pn	Pn	10 06 16.6	-0.6
	baz=27,slow=14						
FIA0				Sn	Sn	10 07 32.5	-5.3
	baz=34,slow=16						
FIA0				Lg		10 08 07.8	
	baz=11,slow=28						
FIA0	FINESS Array S	7.05	211	eP	Pn	10 06 16.6	-0.6
FIA0				eS	Sn	10 07 32.5	-5.3
FIA0				eSG		10 08 07.8	
FINES	FINESS Array B	7.05	211	Pn	Pn	10 06 15.9	-1.2
	comp=Z,0.1nm,0.3s,baz=30,slow=13,SNR=5.6						
FINES				Sn	Sn	10 07 36.4	-1.4
	comp=Z,0.3nm,0.3s,baz=34,slow=20,SNR=3.5						
FINES				Lg		10 08 08.9	
	comp=Z,0.6nm,0.3s,baz=30,slow=25,SNR=9.7						
HFS	Hagfors	11.54	239	Pn	Pn	10 07 13.5	-5.1
	baz=40,slow=12						
HFS	Hagfors	11.54	239	eP	Pn	10 07 13.5	-5.1
HFS	Hagfors	11.54	239	Pn	Pn	10 07 16.6	-2.0
	comp=Z,0.1nm,0.3s,baz=25,slow=12,SNR=1.9						
SPA0	Spitsbergen Ar	11.63	342	Pn	Pn	10 07 17.3	-2.5
	baz=144,slow=16						
SPA0	Spitsbergen Ar	11.63	342	eP	Pn	10 07 17.3	-2.5
NOA	NORSAR Array B	11.72	246	Pn	Pn	10 07 19.7	-1.4
	comp=Z,0.2nm,0.3s,baz=51,slow=20,SNR=2.3						

*ISCJB **05** 10:20:06.9±0.5, 4512N±002×2230E±004, h10km, Error ellipse: s-maj=4.5km s-min=3.2km az=17.1*
*BUC **05** 10:20:06.8±0.5, 4516N×2229E, h6km±1km, MD2.6/3, Error ellipse: s-maj=4.7km s-min=0.7km az=8.0*
*BEO **05** 10:20:08.2±0.4, 4514N×2231E, ML1.8/5*

ISC 05 10:20:07.8±0.5, 4513N±003×2231E±004, h10km, n11, σ1°00/21, 3C, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GZR	Gura Zlata	0.42	51	⇑iP	Pg	10 20 15.5	-0.4
GZR				iS	Sg	10 20 20.4	-1.1
DJES	Djerdap	0.49	162	iPg	Pg	10 20 17.2	-0.1
DJES				eSg	Sg	10 20 24.4	+0.7
BZS	Buzias	0.69	315	iPg	Pg	10 20 20.2	-0.9
BZS				eSg	Sg	10 20 29.9	-0.2
BZS	Buzias	0.69	315	⇑iP	Pg	10 20 20.3	-0.8
BZS				iS	Sg	10 20 30.0	-0.1
SVIS	Svilajnac	1.17	222	ePg	Pg	10 20 29.2	-1.0
SVIS				eSg	Sg	10 20 44.9	-0.5
BOLS	Boljevac	1.33	191	ePg	Pg	10 20 32.6	-0.7
BOLS				eSg	Sg	10 20 51.7	+1.2
DRGR		1.68	9	⇑iP	Pn	10 20 37.6	+0.4
DRGR				iS	Sn	10 21 00.3	+1.5
GRUS	Gruza	1.69	223	iPn	Pn	10 20 39.4	+2.1
GRUS				eSg	Sg	10 21 01.9	-0.1
DIVS	Divibare	1.95	239	ePn	Pn	10 20 41.3	+0.4
DIVS				eSg	Sg	10 21 10.1	-0.4
BARS	Barje	2.34	189	iPn	Pn	10 20 49.3	+3.0
BARS				eSg	Sg	10 21 21.4	-1.6
MLR	Muntele Rosu	2.59	81	eSg	Sg	10 21 30.5	-0.3

*SKHL **05** 10:46:21.6±2.9, 4681N×15349E, h96km±14km, mb4.7/3, msh5.9/2*
*JMA **05** 10:46:22.4±0.7, 4694N×15332E, h30km, M4.3*
*BJI **05** 10:46:26.3, 4690N×15270E, h51km, mB4.6, mb4.3*
*ISCJB **05** 10:46:26.4±0.9, 4670N±007×15289E±009, h74km±8km, mb4.1/24, Error ellipse: s-maj=13.8km s-min=6.5km az=139.7*
*NEIC **05** 10:46:26.4±0.5, 4692N×15274E, mb4.5/3, Error ellipse: s-maj=13.9km s-min=7.8km az=147.0*
*IDC **05** 10:46:26.4±0.7, 4696N×15279E, h51km±6km, mb3.7/15, mb1 4.0/16, mb1mx3.9/23, mbtmp3.7/16, Error ellipse: s-maj=18.4km s-min=13.6km az=133.0*
*MOS **05** 10:46:28.7±1.2, 4671N×15291E, h100km, mb4.1/4, Error ellipse: s-maj=12.4km s-min=9.6km az=70.3*

ISC 05 10:46:28.4±0.8, 4672N±007×15289E±009, h76km±7km, h53km±1.5km: pP-P, n76, σ1°37/85, mb4.1/24, 4C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.80	249	ePN	Pn	10 47 22.0	-2.5
KUR				eS	Sn	10 48 07.0	-1.0
KUR				pmax	pmax		
	comp=Z,160nm,0.8s						
KUR				smax			
	comp=N,320nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
SKR	Severo-Kuril's	4.51	27	eP	Pn	10 47 26.1	-8.0
SKR				AMB	AMB	10 47 28.5	
	comp=E,80nm,0.5s						
SKR				eS	Sn	10 48 12.5	-13
SKR				A		10 48 20.0	
	comp=E,90nm,0.4s						
SKR				A		10 48 20.0	
	comp=E,150nm,0.4s						
SKR				A		10 48 20.0	
	comp=E,80nm,0.4s						
YUK	Yuzh-Kuril'sk	5.63	244	eP	Pn	10 47 50.4	+0.9
YUK				eS	Sn	10 48 59.3	+6.6
YUK				A		10 49 14.8	
	comp=E,790nm,0.8s						
YUK				A		10 49 14.8	
	comp=E,440nm,0.8s						
NEM2	Nemuro 2	6.07	239	⇑P	Pn	10 47 54.3	-1.2
NEM2				eS	Sn	10 49 01.6	-1.9
JRA	Rausu	6.14	246	P	Pn	10 47 58.7	+2.3
JNK	Nakash	6.57	244	P	Pn	10 48 02.9	+0.6
JTKR	Abashiri--Toko	6.90	250	P	Pn	10 48 08.4	+1.6
JAK	Akkeshi	6.91	240	P	Pn	10 48 05.8	-1.1
JAK				eS	Sn	10 49 22.6	-1.4
YSS	Yuzh-Sakhalins	6.96	276	ePn	Pn	10 48 04.8	-2.8
	comp=E,21nm,1.0s						
YSS	Yuzh-Sakhalins	6.96	276	⇑iP	Pn	10 48 09.7	+2.1
JMP	Maruseppu	7.24	251	P	Pn	10 48 14.6	+3.2
JAR	Ashorobuto	7.31	245	P	Pn	10 48 13.4	+1.0
JAR				eS	Sn	10 49 35.8	+2.0
PET	Petropavlovsk	7.33	28	ePN	Pn	10 48 14.4	+1.8
PET				pmax	pmax		
	comp=Z,18nm,0.6s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
PET	Petropavlovsk	7.33	28	ePn	Pn	10 48 11.8	-0.8
	comp=Z,20nm,0.9s						
JOB	Onbets	7.48	243	eS	Sn	10 49 37.4	-0.6
UGL	Uglegorsk	7.65	292	eP	Pn	10 48 17.0	0.0
UGL				AMB	AMB	10 48 19.5	
	comp=Z,43nm,0.6s						
ASAJ	Asahikawa	7.69	254	PN	Pn	10 48 21.2	+3.6
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	7.69	254	P	Pn	10 48 20.5	+2.9
ASAJ	Asahikawa	7.69	254	P	Pn	10 48 21.2	+3.6
	comp=Z,1.2nm,0.3s,baz=50,slow=8.5,SNR=13						
JKK2	Kamakawa 2	7.70	252	P	Pn	10 48 19.9	+2.2
TYV	Tymovskoe	7.93	305	eP	Pn	10 48 20.8	0.0
TYV				AMB	AMB	10 48 22.0	
	comp=Z,7.0nm,0.8s						
TYV				AMB	AMB	10 48 22.0	
	comp=Z,22nm,0.8s						
TYV				AMB	AMB	10 48 22.0	
	comp=Z,13nm,0.8s						
JCH	Churui	7.93	242	P	Pn	10 48 20.2	-0.7
JCH				eS	Sn	10 49 46.9	-2.1
ERM	Erimo	8.40	240	iPN	Pn	10 48 29.0	+1.6
ERM	Erimo	8.40	240	eP	Pn	10 48 29.0	+1.6
JNBK	Urakawa-nobuka	8.49	242	eS	Sn	10 50 00.0	-2.7
JKB	Kayabe	9.77	245	P	Pn	10 48 44.7	-1.3
JKB				eS	Sn	10 50 29.8	-4.2
JYM2	Yakumo 2	10.06	247	P	Pn	10 48 49.5	-0.5
JANG	Nango	10.40	237	P	Pn	10 48 51.2	-3.4
JANG				eS	Sn	10 50 41.7	-7.7
JTH	Tanohata	10.50	234	eS	Sn	10 50 43.7	-8.1
KLR	Kul'dur	14.38	288	eP	Pn	10 49 48.6	+0.7
MAT	Matsushiro	14.94	232	P	Pn	10 50 00.6	+5.3
MJAR	Matsushiro Arr	14.94	232	P	Pn	10 49 54.8	-0.5
	comp=Z,0.1nm,0.3s,baz=21,slow=14,SNR=5.0						
YAK	Yakutsk	20.27	328	iP	P	10 51 00.3	+2.9
KSRS	Korea Array	20.64	252	P	P	10 51 03.5	+1.8
	comp=Z,2.2nm,0.8s,baz=57,slow=11,SNR=9.1						
BILL	Bilibino	22.46	13	iP	P	10 51 21.4	+0.6
BILL				e*PP		10 51 41.3	
BILL				e		10 55 07.9	
BILL				eS	S	10 55 22.0	+0.2
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
NJ2	Nanjing	29.84	253	eP	P	10 52 26.6	-1.7
ULN	Ulaanbaatar	30.76	289	⇓eP	P	10 52 42.6	+6.3
SONM	Songino Array	31.20	289	P	P	10 52 39.6	-0.6
	comp=Z,0.3nm,0.5s,mb3.3,baz=55,slow=7.6,SNR=2.6						
TTA	Tatalina	32.55	41	eP	P	10 52 50.9	-0.9
TTA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
TTA	Tatalina	32.55	41	eP	P	10 52 50.9	-0.9
	comp=Z,2.1nm,0.8s,mb4.0						
IMA2	Indian Mountai	33.92	36	eP	P	10 53 02.9	-0.9
COLA	College	36.26	38	eiP	P	10 53 23.3	-0.5
COLA	College	36.26	38	eP	P	10 53 23.1	-0.7
	comp=Z,5.9nm,0.6s,mb4.7						
COLA				epP	pP	10 53 36.9	-5.0
CD2	Chengdu	40.72	265	P	P	10 54 03.0	+1.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
INK	Inuvik	41.76	32	P	P	10 54 09.3	-0.3
	comp=Z,3.9nm,0.8s,mb4.2,baz=281,slow=7.0,SNR=18						
ZALV	Zalesovo Beam	42.51	306	PcP	PcP	10 56 08.0	+0.8
	comp=Z,0.8nm,0.6s,baz=43,slow=2.8,SNR=4.9						
MKAR	Makanchi Array	46.82	297	P	P	10 54 51.6	+1.3
MKAR	Makanchi Array	46.82	297	P	P	10 54 49.2	-1.1
MKAR				PcP	PcP	10 56 21.3	-0.9
MKAR	Makanchi Array	46.82	297	P	P	10 54 49.2	-1.1
	comp=Z,0.2nm,0.3s,mb3.4,baz=64,slow=6.1,SNR=5.7						
MKAR				PcP	PcP	10 56 21.3	-0.9
	comp=Z,0.3nm,0.2s,baz=52,slow=7.9,SNR=3.8						
KURK	Kurchatov	47.26	304	iP	P	10 54 53.5	-0.1
BVAR	Borovoye Array	50.76	309	P	P	10 55 19.7	-0.7
	comp=Z,0.4nm,0.4s,mb3.8,baz=58,slow=11,SNR=3.8						
BVAR				PcP	PcP	10 56 36.5	+0.2
	comp=Z,0.7nm,0.6s,baz=7.1,slow=6.0,SNR=4.0						
YKA	Yellowknife Ar	51.04	37	P	P	10 55 21.8	-0.5
YKA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
YKA	Yellowknife Ar	51.04	37	P	P	10 55 21.6	-0.8
YKA				pP	pP	10 55 35.9	-5.3
YKA				PcP	PcP	10 56 36.7	-0.4
YKA	Yellowknife Ar	51.04	37	P	P	10 55 21.5	-0.8
	comp=Z,2.1nm,0.8s,mb4.2,baz=296,slow=7.1,SNR=19						
YKA				pP	pP	10 55 35.9	-5.3
	comp=Z,1.6nm,0.6s,baz=298,slow=7.2,SNR=13						
YKA				PcP	PcP	10 56 36.7	-0.4
	comp=Z,0.5nm,0.7s,baz=302,slow=4.1,SNR=4.4						
AAK	Ala-Archa	53.71	296	⇓eP	P	10 55 42.0	-0.4
AAK				pmax	pmax		
	comp=Z,3.0nm,1.8s,mb4.0						
JIRN	Jiri	54.80	274	eP	P	10 55 51.9	+1.5
	comp=Z,11nm,0.7s,mb5.0						
DMN	Daman	55.57	275	eP	P	10 55 57.7	+1.7
GKN	Gorkha	55.64	276	eP	P	10 55 58.0	+1.5
DANN	Dangsing	56.02	277	eP	P	10 56 00.8	+1.5
	comp=Z,11nm,0.8s,mb5.0						
KOLN	Koldanda	56.50	276	eP	P	10 56 03.9	+1.2
	comp=Z,13nm,1.0s,mb4.9						
JOF	Joensuu	61.30	334	ep	P	10 56 32.7	-2.6
	comp=Z,3.2nm,0.7s,mb4.5						
JOF	Joensuu	61.30	334	eP	P	10 56 32.7	-2.6
JOF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
NVAR	Mina Array Bea	62.59	62	P	P	10 56 45.3	+0.9
	comp=Z,1.1nm,0.8s,mb3.9,baz=300,slow=5.7,SNR=5.3						
FINES	FINESS Array B	64.01	335	P	P	10 56 52.2	-1.1
	comp=Z,4.0nm,0.8s,mb4.3,baz=38,slow=9.6,SNR=15						
NB2	NORSAR Subarra	68.21	341	P	P	10 57 19.0	-1.3
	comp=Z,5.4nm,0.8s,mb4.4,baz=27,slow=6.5						
NOA	NORSAR Array B	68.21	341	P	P	10 57 19.3	-1.0
	comp=Z,4.6nm,0.8s,mb4.4,baz=27,slow=6.4,SNR=19						
WRA	Warramunga Arr	68.43	199	P	P	10 57 23.6	+1.6
	comp=Z,0.2nm,0.5s,mb3.2,baz=12,slow=6.1,SNR=3.9						
WRA				pP	pP	10 57 37.5	-4.3
	comp=Z,0.6nm,0.5s,baz=21,slow=6.9,SNR=5.2						
AKASG	Malin Array Be	71.49	326	P	P	10 57 39.4	-1.2
	comp=Z,2.9nm,0.5s,mb4.4,baz=33,slow=6.2,SNR=15						
ANMO	Albuquerque	71.98	58	iP	P	10 57 41.8	-2.0
ASAR	Alice Springs	72.13	198	P	P	10 57 47.5	+3.0
	comp=Z,0.9nm,0.8s,mb3.7,baz=11,slow=5.6,SNR=12						
ASAR				pP	pP	10 58 01.6	-2.9
	comp=Z,1.1nm,0.5s,baz=12,slow=5.4,SNR=7.9						
CLL	Collm	76.43	335	⇑iP	P	10 58 08.2	-1.2
CLL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
CLL	Collm	76.43	335	⇑iP	P	10 58 08.2	-1.2
	comp=Z,6.0nm,1.0s,mb4.3						
MLR	Muntele Rosu	77.00	325	P	P	10 58 13.0	+0.3
	comp=Z,2.5nm,0.6s,mb4.1,baz=18,slow=3.2,SNR=4.2						
TXAR	Lajitas Array	77.64	60	P	P	10 58 16.9	+0.3
	comp=Z,1.4nm,0.5s,mb3.9,baz=298,slow=4.6,SNR=30						
KHC	Kasperske Hory	78.20	334	eP	P	10 58 19.0	-0.3
GERES	GERESS Array B	78.42	334	P	P	10 58 20.2	-0.3
	comp=Z,0.9nm,0.7s,mb3.6,baz=298,slow=2.9,SNR=4.3						

GII 05 10:52:52.7±0.0, 3190N×3621E, h0km, ML2.0/3, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	Nahal Hemdat	0.68	302	Pg	Pg	10 53 06.0	+0.3
HMDT				Sg	Sg	10 53 14.9	+0.4
HMDT	Nahal Hemdat	0.68	302	Pg	Pg	10 53 06.2	+0.5
HMDT				Sg	Sg	10 53 15.1	+0.6
DSI	Dead Sea	0.78	245	Pg	Pg	10 53 07.0	-0.6
MMLI	Mount Malkishu	0.86	309	Pg	Pg	10 53 10.1	+0.9
MMLI				Sg	Sg	10 53 21.6	+1.3
MMLI	Mount Malkishu	0.86	309	Pg	Pg	10 53 09.4	+0.3
MMLI				Sg	Sg	10 53 21.6	+1.3
MZDA	Masada	0.93	231	Pg	Pg	10 53 13.2	+2.7
MMA4	Mount Meron ar	1.31	329	Pg	Pg	10 53 17.9	+0.1
MMC6	Mount Meron ar	1.31	328	Pg	Pg	10 53 17.8	0.0
MMC2	Mount Meron ar	1.31	329	Pn	Pn	10 53 17.4	-0.8
MMC7	Mount Meron ar	1.32	329	Pn	Pn	10 53 17.9	-0.4
MMC7				Sn	Sn	10 53 35.9	-0.7
KSDI	Kefar Szold	1.37	340	Pn	Pn	10 53 18.7	-0.4
KSDI				Sn	Sn	10 53 38.0	0.0
KSDI	Kefar Szold	1.37	340	Pg	Pg	10 53 19.2	+0.2
KSDI				Sg	Sg	10 53 37.9	+1.1

KRSC 05 11:07:20.7±0.5, 5442N×16175E, h30km±29km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.14	355	iP	Pb	11 07 27.2	+0.9
MKZ				iS	Sb	11 07 31.6	+1.5
TUMR	Tumrok	1.27	314	P	Pn	11 07 43.3	+1.0
TUMR				iS	Sn	11 07 59.4	+1.1
KII	Karymskiy	1.41	255	eP	Pn	11 07 44.5	+0.3
KII				eS	Sn	11 08 01.9	+0.2
KMNR	Kamenistaya	1.60	328	eP	Pn	11 07 48.5	+1.7
KMNR				eS	Sn	11 08 08.5	+2.1
SPN	Mys Shipunski	1.68	218	eP	Pn	11 07 47.9	0.0
SPN				iS	Sn	11 08 07.2	-1.1
KBTR	Krutoberegovo	1.89	18	eP	Pn	11 07 51.4	+0.5
KBTR				iS	Sn	11 08 13.5	-0.2
NLC	Nalytchevo	1.90	230	eP	Pn	11 07 51.7	+0.7
NLC				iS	Sn	11 08 13.8	0.0
AVH	Avacha	2.13	238	iP	Pn	11 07 56.7	+2.6
AVH				iS	Sn	11 08 23.1	+3.6
PET	Petropavlovsk	2.31	234	P	Pn	11 07 58.6	+1.9
PET				iS	Sn	11 08 27.0	+3.0
GNL	Ganaly	2.36	254	eP	Pn	11 08 00.1	+2.8
GNL				eS	Sn	11 08 28.3	+3.1
RUS	Russkaya	2.78	226	P	Pn	11 08 05.3	+2.2
RUS				iS	Sn	11 08 38.5	+3.0
GRL	Gorelyy	2.89	231	P	Pn	11 08 07.6	+3.1
MIPR	Malaya Ipel'ka	3.68	236	P	Pn	11 08 19.7	+4.2

*ISCJB **05** 11:08:27.0±0.8, 2983N±003×3624E±005, h0km, Error ellipse: s-maj=5.9km s-min=4.1km az=19.2*
*SGS **05** 11:08:27.5, 2998N×3627E, h6km*
*GII **05** 11:08:27.4±1.0, 2987N×3615E, h0km, ML2.5/10*

ISC 05 11:08:27.1±0.8, 2982N±003×3629E±005, h0km, n19, σ0°81/30, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.10	281	Pg	Pg	11 08 47.4	-0.9
HRFI				Sg	Sg	11 09 03.4	+0.8
EIL	Elat	1.17	263	Pg	Pg	11 08 49.3	-0.2
EIL				Sg	Sg	11 09 05.0	+0.3
HQLS		1.19	244	S	Sg	11 09 06.0	+0.8
HQLS		1.19	244	P	Pg	11 08 49.5	-0.3
MBH	Mount Berech	1.19	269	Pg	Pg	11 08 49.5	-0.4
MBH				Sg	Sg	11 09 05.2	-0.2
ZFRI	Zfri	1.20	308	Pg	Pg	11 08 48.7	-1.4
ZFRI				Sg	Sg	11 09 05.6	-0.2
PRNI	Paran	1.23	296	Pg	Pg	11 08 49.5	-1.1
PRNI				Sg	Sg	11 09 07.1	+0.5
JLOS		1.29	213	S	Sg	11 09 10.0	+1.6
JLOS		1.29	213	P	Pg	11 08 51.8	+0.1
KRMI	Paran Flat	1.39	283	Pg	Pg	11 08 52.6	-1.1
KRMI				Sg	Sg	11 09 11.3	-0.3
RMNI	Mount Ramon	1.53	301	Pn	Pn	11 08 54.7	-0.9
MZDA	Masada	1.68	332	Pn	Pn	11 08 57.2	-0.6
MZDA				Sn	Sn	11 09 19.3	-0.7
YTIR	Yattir	1.84	327	Pn	Pn	11 08 59.4	-0.5
YTIR				Sn	Sn	11 09 25.1	+1.3
RTMI	Retamim	1.84	312	Pn	Pn	11 08 60.0	0.0
DSI	Dead Sea	1.91	336	Pn	Pn	11 09 00.8	0.0
DSI				Sn	Sn

VACH					AML	AML	11 13 02.7	
	comp=E,5μm,0.6s							
PEL	**Peldehue**	**3.50**	**160**	*e*P		**Pn**	**11 12 57.7**	**-0.1**
PEL				*e*S		**Sn**	**11 13 38.5**	**-0.9**
PEL					AML	AML	11 13 57.3	
	comp=N,1μm,0.8s							
CFAA	**Coronel Fontan**	**3.77**	**119**	Pn		**Pn**	**11 13 04.1**	**+2.6**
CFAA				Sn		**Sn**	**11 13 54.3**	**+8.3**
CFAA	**Coronel Fontan**	**3.77**	**119**	Pn		**Pn**	**11 13 04.1**	**+2.6**
	comp=N,0.9nm,0.3s,baz=303,slow=12,SNR=35							
CFAA				Sn		**Sn**	**11 13 54.3**	**+8.3**
	comp=N,1.3nm,0.3s,baz=60,slow=23,SNR=3.9							
CLCH	**Cerro Calan**	**3.78**	**160**	*e*P		**Pn**	**11 13 01.8**	**+0.1**
CLCH				*i* S		**Sn**	**11 13 45.9**	**-0.5**
FCH	**Farellones**	**3.80**	**156**	*e*P		**Pn**	**11 13 02.6**	**+0.6**
FCH				*i* S		**Sn**	**11 13 47.7**	**+0.9**
TACH	**Talagante**	**3.92**	**165**	*e*P		**Pn**	**11 13 03.5**	**-0.1**
PCH	**Pirque**	**4.00**	**160**	*e*P		**Pn**	**11 13 04.6**	**0.0**
PCH				*e*S		**Sn**	**11 13 51.0**	**-0.7**
CHCH	**Chadas Angostu**	**4.25**	**163**	*e*P		**Pn**	**11 13 08.3**	**+0.1**
LMEL	**Las Melosas**	**4.30**	**158**	*e*P		**Pn**	**11 13 09.7**	**+0.8**
LMEL				*e*S		**Sn**	**11 13 59.1**	**-0.1**
CACH	**El Canelo**	**4.44**	**164**	*e*P		**Pn**	**11 13 11.2**	**+0.4**
CICH	**Cipreses**	**4.68**	**163**	*i* P		**Pn**	**11 13 14.5**	**+0.4**
SFDO	**San Fernando**	**4.84**	**169**	⇑*i*P		**Pn**	**11 13 15.9**	**-0.3**
PLCA	**Paso Flores**	**10.93**	**174**	Pn		**Pn**	**11 14 39.0**	**-0.8**
	comp=N,0.5nm,0.3s,baz=339,slow=10,SNR=13							
TRQA	**Tornquist**	**11.73**	**137**	*e*Pn		**Pn**	**11 14 50.6**	**-0.1**
	comp=N,14nm,1.0s							
CPUP	**Villa Florida**	**13.51**	**79**	Pn		**Pn**	**11 15 16.8**	**+1.6**
	comp=N,0.4nm,0.3s,baz=225,slow=8.8,SNR=3.4							
LPAZ	**La Paz**	**13.99**	**16**	*e*Pn		**Pn**	**11 15 19.3**	**-2.3**
	comp=N,2.0nm,0.8s							
LPAZ	**La Paz**	**13.99**	**16**	Pn		**Pn**	**11 15 23.5**	**+1.8**
	comp=N,0.1nm,0.3s,baz=167,slow=11,SNR=4.6							
SIV	**San Ignacio**	**17.12**	**39**	P		**Pn**	**11 16 02.3**	**-0.5**
	comp=N,0.2nm,0.3s,baz=218,slow=10.0,SNR=15							
TXAR	**Lajitas Array**	**66.10**	**330**	P		**P**	**11 22 52.2**	**+1.4**
	comp=N,0.2nm,0.6s,mb3.3,baz=155,slow=6.6,SNR=3.2							
YKA	**Yellowknife Ar**	**98.11**	**342**	P		**P**	**11 25 39.7**	**0.0**
	comp=N,0.1nm,0.5s,mb3.6,baz=143,slow=4.3,SNR=4.8							
ZALV	**Zalesovo Beam**	**150.68**	**28**	PKPbc		PKPbc	11 31 55.9	+0.6
	comp=N,3.0nm,0.6s,baz=302,slow=3.4,SNR=15							

IDC 05 11:14:10.8±7.5, 3509N×8292E, h98km±59km, mb3.1/4, mb1 3.4/5, mb1mx3.0/21, mbtmp3.2/5, ML3.6/1, Error ellipse: s-maj=146.1km s-min=31.6km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**11.70**	**358**	P	Pn	11 16 54.7	+0.4
	0.4nm,0.3s,baz=184,slow=14,SNR=19						
BVAR	**Borovoye Array**	**20.01**	**337**	P	P	11 18 35.2	-0.3
	1.5nm,0.6s,baz=144,slow=11,SNR=9.6						
WRA	**Warramunga Arr**	**73.31**	**130**	P	P	11 25 31.8	0.0
	0.6nm,1.0s,baz=329,slow=5.7,SNR=4.7						
ASAR	**Alice Springs**	**75.82**	**133**	P	P	11 25 46.5	+0.3
	0.2nm,0.8s,baz=324,slow=5.8,SNR=3.0						
YKA	**Yellowknife Ar**	**81.74**	**8**	P	P	11 26 18.2	+0.2
	0.2nm,0.4s,baz=337,slow=5.4,SNR=6.4						

*ATH **05** 11:18:16.3, 4177N×2170E, h19km, MD3.3/3*
*SKO **05** 11:18:18.4, 4136N×2090E, h15km, M2.2, ML2.5*
*THE **05** 11:18:18.7, 4138N×2090E, h3km, ML3.5*
*ISCJB **05** 11:18:19.2±0.3, 4136N±002×2093E±002, h10km, Error ellipse: s-maj=2.6km s-min=1.9km az=42.3*
*TIR **05** 11:18:19.1±3.2, 4136N×2086E, h32km±66km, ML2.8*
*PDG **05** 11:18:19.7±0.1, 4128N×2078E, h8km, ML2.9/8, Error ellipse: s-maj=1.0km s-min=1.0km az=0.0*
*NEIC **05** 11:18:20.7±0.7, 4139N×2088E, h10km, MD3.3(ATH), ML2.9(PDG), Error ellipse: s-maj=15.9km s-min=6.9km az=48.0*
*CSEM **05** 11:18:20.3±0.1, 4129N×2099E, h2km, ML2.5, Error ellipse: s-maj=1.9km s-min=1.4km az=29.0*
*BEO **05** 11:18:20.0±0.3, 4136N×2092E, h3km±2km, ML2.4/8*

ISC 05 11:18:19.8±0.2, 4134N±002×2093E±002, h10km, n62, σ1§17/105, 11C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRUS	**Krusevo**	**0.24**	**84**	⇑*i*Pg	**Pg**	**11 18 24.8**	**0.0**
KRUS				*i* Sg	**Sg**	**11 18 28.9**	**+0.7**
KRUS	**Krusevo**	**0.24**	**84**	⇑*i*Pg	**Pg**	**11 18 24.8**	**0.0**
KRUS				*i* Sg	**Sg**	**11 18 28.8**	**+0.6**
OHR	**Ohrid**	**0.25**	**202**	*e*Pg	**Pg**	**11 18 23.9**	**-1.0**
OHR				*e*Sg	**Sg**	**11 18 28.7**	**+0.3**
OHR	**Ohrid**	**0.25**	**202**	*i* Pg	**Pg**	**11 18 23.9**	**-1.0**
OHR				*e*Sg	**Sg**	**11 18 28.8**	**+0.4**
OHR	**Ohrid**	**0.25**	**202**	⇑*i*Pg	**Pg**	**11 18 23.9**	**-1.0**
OHR				*i* Sg	**Sg**	**11 18 28.8**	**+0.4**
OHR				*e*Lg		11 18 28.9	
OHR				*i* Lg		11 18 28.9	
	comp=N,718nm,0.3s						
OHR	**Ohrid**	**0.25**	**202**	⇑*i*Pg	**Pg**	**11 18 23.9**	**-1.0**
OHR				*i* Sg	**Sg**	**11 18 28.7**	**+0.3**
OHR				*e*Lg		11 18 28.8	
BIA	**Bitola**	**0.44**	**137**	*e*Pg	**Pg**	**11 18 27.6**	**-0.8**
BIA				*e*Sg	**Sg**	**11 18 35.7**	**+1.4**
BIA	**Bitola**	**0.44**	**137**	*i* Pg	**Pg**	**11 18 27.7**	**-0.8**
BIA				*e*Sg	**Sg**	**11 18 36.8**	**+2.5**
BIA	**Bitola**	**0.44**	**137**	⇑*i*Pg	**Pg**	**11 18 27.7**	**-0.8**
BIA				*i* Sg	**Sg**	**11 18 36.5**	**+2.2**
BIA				*e*Lg		11 18 36.8	
	comp=E,306nm,0.3s						
BIA				*e*Lg		11 18 37.3	
	comp=N,246nm,0.3s						
BIA	**Bitola**	**0.44**	**137**	⇑*i*Pg	**Pg**	**11 18 27.6**	**-0.9**
BIA				*e*Sg	**Sg**	**11 18 35.7**	**+1.4**
FNA	**Florina**	**0.66**	**149**	*e*Pg	**Pg**	**11 18 31.9**	**-0.5**
FNA				*e*Sg	**Sg**	**11 18 42.0**	**+0.9**
KBN	**Korca**	**0.73**	**188**	*i* PG	**Pg**	**11 18 33.8**	**-0.1**
KBN				*i* SG	**Sg**	**11 18 45.4**	**+2.0**
SKO	**Skopje**	**0.74**	**31**	*e*Pg	**Pg**	**11 18 33.4**	**-0.7**
SKO				*e*Sg	**Sg**	**11 18 44.4**	**+0.7**
SKO	**Skopje**	**0.74**	**31**	*e*Pg	**Pg**	**11 18 33.3**	**-0.7**
SKO				*e*Sg	**Sg**	**11 18 42.2**	**-1.5**
SKO	**Skopje**	**0.74**	**31**	*i* Pg	**Pg**	**11 18 33.2**	**-0.8**
SKO				*e*Lg		11 18 42.4	
	comp=E,96nm,0.3s						
SKO				*e*Lg		11 18 43.1	
	comp=N,202nm,0.2s						
SKO	**Skopje**	**0.74**	**31**	*e*Pg	**Pg**	**11 18 33.4**	**-0.6**
SKO				*e*Sg	**Sg**	**11 18 44.3**	**+0.6**
QSH	**Qafa e Shtames**	**0.79**	**283**	*i* Sg	**Sg**	**11 18 45.0**	**-0.3**
TIR	**Tirane**	**0.80**	**271**	*e*Sg	**Sg**	**11 18 45.0**	**-0.7**
TIR	**Tirane**	**0.80**	**271**	*i* PG	**Pg**	**11 18 33.0**	**-2.2**
TIR				*i* SG	**Sg**	**11 18 45.1**	**-0.5**
TIR	**Tirane**	**0.80**	**271**	*i* Pg	**Pg**	**11 18 33.0**	**-2.2**
TIR				*e*Sg	**Sg**	**11 18 45.0**	**-0.6**
STIP	**Stip**	**1.01**	**69**	*e*Pg	**Pg**	**11 18 37.8**	**-1.4**
STIP				*e*Sg	**Sg**	**11 18 51.7**	**-0.6**
PUK	**Puka**	**1.04**	**312**	*i* PG	**Pg**	**11 18 37.0**	**-2.9**
PUK				*i* SG	**Sg**	**11 18 51.8**	**-1.6**
GRG	**Griva**	**1.18**	**109**	*e*Pg	**Pg**	**11 18 41.6**	**-0.9**
BCI	**Bajram Curri**	**1.21**	**328**	*i* PG	**Pg**	**11 18 42.1**	**-0.9**
BCI				*i* SG	**Sg**	**11 18 57.8**	**-0.9**
KZN	**Kozani**	**1.22**	**148**	*e*PN	**Pn**	**11 18 43.5**	**+0.6**
KZN				*e*SN	**Sn**	**11 19 04.5**	**+5.1**
VAY	**Valandovo**	**1.24**	**91**	*e*Pg	**Pg**	**11 18 42.0**	**-1.6**
VAY	**Valandovo**	**1.24**	**91**	*i* Pg	**Pg**	**11 18 41.7**	**-1.9**
VAY				*e*Sg	**Sg**	**11 18 58.7**	**-1.0**
VAY	**Valandovo**	**1.24**	**91**	⇑*i*Pg	**Pg**	**11 18 41.7**	**-1.9**
VAY				*i* Sg	**Sg**	**11 18 58.5**	**-1.2**
VAY				*e*Lg		11 18 59.2	
	comp=N,50nm,0.4s						
VAY				*e*Lg		11 18 59.3	
	comp=E,36nm,0.5s						
VAY	**Valandovo**	**1.24**	**91**	*e*Pg	**Pg**	**11 18 42.0**	**-1.6**
VAY				*i* Sg	**Sg**	**11 18 58.4**	**-1.3**
ULC	**Ulcinj**	**1.40**	**297**	⇓*i*Pg	**Pn**	**11 18 44.5**	**-0.9**
ULC				*e*Sg	**Sg**	**11 19 05.3**	**+0.4**
ULC	**Ulcinj**	**1.40**	**297**	*i* PG	**Pn**	**11 18 44.5**	**-0.9**
ULC				*i* SG	**Sg**	**11 19 05.5**	**+0.6**
PVY	**Plav**	**1.44**	**331**	⇑*i*Pg	**Pg**	**11 18 46.4**	**-1.0**
PVY				*e*Sg	**Sg**	**11 19 08.5**	**+2.4**
KNT	**Kendrikon**	**1.50**	**96**	*e*Pg	**Pg**	**11 18 46.9**	**-1.7**
KNT	**Kendrikon**	**1.50**	**96**	*e*Pg	**Pg**	**11 18 46.8**	**-1.8**
MEV	**Metsovon**	**1.57**	**171**	*e*Pg	**Pn**	**11 18 47.7**	**-0.1**
BARS	**Barje**	**1.61**	**24**	*e*Pn	**Pn**	**11 18 49.2**	**+0.9**
BARS				*e*Sg	**Sg**	**11 19 11.8**	**+0.1**
PDG	**Podgorica**	**1.65**	**312**	*i* PG	**Pn**	**11 18 49.4**	**+0.6**
TTG	**Podgorica**	**1.65**	**312**	⇓*i*Pn	**Pn**	**11 18 49.4**	**+0.6**
TTG				*e*Sn	**Sg**	**11 19 13.2**	**+0.3**
JAN	**Janina**	**1.69**	**182**	*e*PN	**Pg**	**11 18 54.0**	**+1.8**
JAN	**Janina**	**1.69**	**182**	*e*Pn	**Pg**	**11 18 52.5**	**+0.3**
BEY	**Berane**	**1.71**	**334**	*i* PG	**Pn**	**11 18 50.4**	**+0.8**
BEY				*i* SG	**Sg**	**11 19 15.7**	**+1.0**
IVA	**Berane**	**1.71**	**334**	⇓*i*Pn	**Pn**	**11 18 50.4**	**+0.8**
IVA				*e*Sn	**Sg**	**11 19 15.7**	**+1.0**
LIT	**Litokhoron**	**1.72**	**136**	*e*Pb	**Pn**	**11 18 49.8**	**0.0**
BUM	**Brajici-Budva**	**1.79**	**303**	⇓*i*Pn	**Pn**	**11 18 50.6**	**-0.2**
BUM				*e*Sn	**Sg**	**11 19 16.3**	**-1.1**
BUM	**Brajici-Budva**	**1.79**	**303**	*i* PG	**Pn**	**11 18 50.8**	**0.0**
BUM				*i* SG	**Sg**	**11 19 16.3**	**-1.1**
HORT	**Hortiatis**	**1.81**	**114**	*e*Pb	**Pn**	**11 18 50.9**	**-0.1**
SOH	**Sokhos**	**1.91**	**105**	*e*Pb	**Pn**	**11 18 52.8**	**+0.4**
THL	**Klokotos Trika**	**1.96**	**155**	*e*PN	**Pb**	**11 18 54.8**	**-0.8**
THL				*e*SN	**Sg**	**11 19 21.4**	**-1.5**
THL	**Klokotos Trika**	**1.96**	**155**	*e*Pn	**Pn**	**11 18 52.8**	**-0.3**
THL	**Klokotos Trika**	**1.96**	**155**	*e*Pb	**Pb**	**11 18 54.8**	**-0.8**
SRS	**Serrai**	**2.02**	**96**	*e*Pn	**Pn**	**11 18 53.9**	**0.0**
NKY	**Niksic**	**2.05**	**316**	⇓*i*Pn	**Pn**	**11 18 55.2**	**+0.8**
NKY				*e*Sn	**Sg**	**11 19 23.1**	**-2.7**
NKY	**Niksic**	**2.05**	**316**	*i* PG	**Pn**	**11 18 55.2**	**+0.8**
NKY				*i* SG	**Sg**	**11 19 23.1**	**-2.7**
VTS	**Vitosha**	**2.11**	**53**	*e*Pn	**Pn**	**11 18 56.8**	**+1.7**
VTS				*e*Sn	**Sn**	**11 19 23.2**	**+1.8**
HCY	**Herceg Novi**	**2.12**	**302**	⇑*i*Pn	**Pn**	**11 18 55.7**	**+0.4**
HCY				*e*Sn	**Sn**	**11 19 24.1**	**+2.4**
HCY	**Herceg Novi**	**2.12**	**302**	*i* PG	**Pn**	**11 18 55.7**	**+0.4**
HCY				*i* SG	**Sn**	**11 19 24.1**	**+2.4**
NVR	**Nevrokopi**	**2.21**	**89**	*e*Pn	**Pn**	**11 18 57.7**	**+1.2**
BRY	**Bratogost**	**2.36**	**312**	⇑*i*Pn	**Pn**	**11 18 59.5**	**+0.9**
BRY				*e*Sn	**Sn**	**11 19 30.5**	**+3.0**
BRY	**Bratogost**	**2.36**	**312**	*i* PG	**Pn**	**11 18 59.5**	**+0.9**
BRY				*i* SG	**Sb**	**11 19 30.4**	**-1.1**
UPM	**Unac-Piva**	**2.38**	**322**	⇑*i*Pn	**Pn**	**11 19 00.3**	**+1.4**
UPM				*e*Sn	**Sn**	**11 19 31.6**	**+3.4**
BOLS	**Boljevac**	**2.60**	**17**	*e*Sg	**Sg**	**11 19 43.0**	**-0.2**
DIVS	**Divibare**	**2.84**	**346**	*e*Pn	**Pn**	**11 19 07.4**	**+2.2**
DIVS				*e*Sn	**Sn**	**11 19 39.4**	**0.0**

*ISCJB **05** 11:27:51.8±1.0, 3279S±008×1782W±02, h10km, mb4.5/7, Error ellipse: s-maj=22.3km s-min=9.3km az=16.3*
*NEIC **05** 11:27:53.0±0.8, 3274S×178.11W, h10km, mb4.4/1, Error ellipse: s-maj=22.7km s-min=11.9km az=110.0*
*IDC **05** 11:27:52.3±1.1, 3265S×178.15W, h0km, mb4.3/5, mb1 4.5/7, mb1mx4.1/18, mbtmp4.3/7, ML4.2/2, Error ellipse: s-maj=30.9km s-min=26.0km az=107.0*

ISC 05 11:27:53.4±1.0, 3274S±008×1782W±02, h10km, n20, σ1§09/14, mb4.5/7, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.49**	**4**	*e*Pn	**Pn**	**11 28 46.3**	**-1.4**
RAO	**Raoul Island**	**3.49**	**4**	Pn	**Pn**	**11 28 45.6**	**-2.1**
	48nm,0.3s,baz=51,slow=22,SNR=3.6						
URZ	**Urewera**	**6.71**	**214**	Pn	**Pn**	**11 29 31.8**	**-0.2**
	2.5nm,0.3s,baz=264,slow=1.0,SNR=20						
URZ				Sn	**Sn**	**11 30 47.7**	**-0.7**
	7.7nm,0.3s,baz=156,slow=20,SNR=15						
RPZ	**Rata Peaks**	**13.82**	**214**	Pn	**Pn**	**11 31 07.4**	**-2.0**
	0.7nm,0.3s,baz=11,slow=16,SNR=2.6						
CTA	**Charters Tower**	**34.08**	**283**	P	**P**	**11 34 40.3**	**+2.1**
	5.1nm,0.5s,mb4.7,baz=225,slow=6.2,SNR=3.6						
ASAR	**Alice Springs**	**42.87**	**270**	P	**P**	**11 35 52.8**	**+0.7**
	3.9nm,0.6s,mb4.3,baz=108,slow=7.8,SNR=88						
ASAR				PcP	PcP	11 37 43.0	0.0
	0.4nm,0.5s,baz=113,slow=4.2,SNR=4.6						
WB2	**Warramunga Arr**	**44.06**	**275**	*e*P	**P**	**11 36 01.5**	**-0.2**
WRAB	**Tennant Creek**	**44.07**	**275**	*e*P	**P**	**11 36 02.1**	**+0.3**
	3.3nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**44.07**	**275**	P	**P**	**11 36 02.2**	**+0.4**
	4.7nm,0.6s,mb4.4,baz=116,slow=7.5,SNR=34						
FITZ	**Fitzroy Crossi**	**52.23**	**272**	P	**P**	**11 37 05.0**	**+0.1**
	1.4nm,0.7s,mb4.0,baz=157,slow=10,SNR=4.9						
QSPA	**South Pole Qui**	**57.38**	**180**	P	**P**	**11 37 43.2**	**+1.9**
	1.0nm,0.7s,mb4.0,baz=299,slow=5.6,SNR=6.4						
VNA2	**Neumayer--Watz**	**76.42**	**177**	*e*	**P**	**11 39 42.9**	**+0.3**
	baz=181,slow=4.5						
VNA2				*e*		11 39 55.6	
VNA2				*e*		11 40 00.8	
VNA2				*e*		11 40 06.2	
VNA2				*e*		11 40 11.8	
MAJO	**Matsushiro**	**80.07**	**326**	*e*P	**P**	**11 40 02.4**	**-0.8**
	75nm,0.3s,mb6.1						
ARCES	**ARCESS Array B**	**140.83**	**347**	PKP	PKPdf	11 47 22.6	+0.1
	1.5nm,0.8s,baz=336,slow=2.7,SNR=3.8						
JOF	**Joensuu**	**144.52**	**337**	*e*p	PKPdf	11 47 26.6	-2.6
	1.7nm,0.5s						
FINES	**FINESS Array B**	**147.27**	**339**	PKPbc	PKPbc	11 47 36.1	-0.2
	3.5nm,0.6s,baz=46,slow=4.8,SNR=17						
NB2	**NORSAR Subarra**	**151.03**	**351**	PKP	PKPab	11 47 53.0	-0.3
	comp=Z,1.1nm,0.7s,baz=22,slow=2.9						
NOA	**NORSAR Array B**	**151.03**	**351**	PKPbc	PKPbc	11 47 45.9	+0.1
NOA	**NORSAR Array B**	**151.03**	**351**	PKPbc	PKPbc	11 47 45.9	+0.1
	comp=Z,0.4nm,0.5s,baz=13,slow=4.1,SNR=4.1						
AKASG	**Malin Array Be**	**153.02**	**320**	PKPbc	PKPbc	11 47 51.1	+0.5
	comp=Z,0.5nm,0.5s,baz=51,slow=1.5,SNR=4.1						

*ISCJB **05** 11:35:12.3±0.5, 3803N±003×2295E±004, h6km±4km, Error ellipse: s-maj=5.9km s-min=4.3km az=171.4*
*ATH **05** 11:35:12.5, 3805N×2286E, h5km, MD2.8/6*
*NEIC **05** 11:35:12.3, 3803N×2292E, h17km, ML2.5(ATH), After ATH.*
*THE **05** 11:35:12.7, 3802N×2297E, h4km, ML2.6*
*CSEM **05** 11:35:13.0±0.1, 3801N×2297E, h2km, ML2.6, Error ellipse: s-maj=3.2km s-min=2.5km az=69.0*

ISC 05 11:35:12.8±0.5, 3803N±003×2295E±004, h7km±4km, n19, σ0§98/31, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.01**	**116**	*e*Pg	**Pg**	**11 35 13.1**	**-1.0**
LTK				*e*Sg	**Sg**	**11 35 14.1**	**-0.9**
NAIG	**Nisos Aigina**	**0.51**	**122**	*e*PB	**Pg**	**11 35 23.0**	**+0.4**
NAIG				*e*SB	**Sg**	**11 35 31.0**	**+1.8**
NAIG	**Nisos Aigina**	**0.51**	**122**	*e*Pn	**Pg**	**11 35 22.0**	**-0.6**
DID	**Didima**	**0.57**	**156**	*e*Pg	**Pg**	**11 35 23.4**	**-0.4**
DID				*e*Sg	**Sg**	**11 35 31.7**	**+0.5**
ATH	**Athens Observa**	**0.61**	**95**	*e*PB	**Pb**	**11 35 24.5**	**-1.3**
ATH				*e*SB	**Sb**	**11 35 34.5**	**0.0**
ATH	**Athens Observa**	**0.61**	**95**	*e*Pb	**Pb**	**11 35 24.3**	**-1.5**
ATH				*e*Sn	**Sg**	**11 35 33.3**	**+0.8**
LKR	**Lokris**	**0.62**	**4**	*e*Pg	**Pg**	**11 35 24.3**	**-0.5**
LKR				*e*Sg	**Sg**	**11 35 34.2**	**+1.3**
LKR	**Lokris**	**0.62**	**4**	Pb	**Pg**	**11 35 24.0**	**-0.8**
LKR				*e*Sn	**Sg**	**11 35 33.6**	**+0.7**
LKR	**Lokris**	**0.62**	**4**	*e*PG	**Pg**	**11 35 24.0**	**-0.8**
LKR	**Lokris**	**0.62**	**4**	*e*Pg	**Pg**	**11 35 24.3**	**-0.5**
LKR				*e*Sn	**Sg**	**11 35 33.6**	**+0.7**
LKR				*e*Sg	**Sg**	**11 35 34.2**	**+1.3**
KVR	**Kavouri**	**0.68**	**107**	*e*PB	**Pb**	**11 35 27.5**	**+0.5**
PTL	**Penteli**	**0.72**	**88**	*e*PG	**Pg**	**11 35 28.0**	**+1.3**
PTL	**Penteli**	**0.72**	**88**	*e*Pn	**Pn**	**11 35 26.5**	**-2.9**
VLX	**Vlachokerasia**	**0.80**	**215**	*e*Pg	**Pg**	**11 35 27.9**	**-0.2**
VLX				*e*Sg	**Sg**	**11 35 39.0**	**+0.4**
SELA	**Sela**	**0.87**	**287**	*e*Pg	**Pg**	**11 35 30.0**	**+0.4**
AGG	**Agios Georgios**	**1.10**	**334**	*e*Pg	**Pg**	**11 35 34.2**	**+0.1**
AGG				*e*Sg	**Sg**	**11 35 49.8**	**+1.4**
VLI	**Veliai**	**1.31**	**180**	*e*PB	**Pb**	**11 35 37.5**	**-0.2**
VLI	**Veliai**	**1.31**	**180**	*e*Pn	**Pn**	**11 35 37.3**	**-0.2**
VLI				*e*Sn	**Sn**	**11 35 55.2**	**0.0**
AOS	**Alonnisos**	**1.35**	**32**	*e*Pg	**Pg**	**11 35 36.6**	**-2.1**

*MOS **05** 11:41:44.5±0.8, 5542N×16378E, h19km, mb4.2/1, Error ellipse: s-maj=30.3km s-min=22.3km az=86.3*

KRSC 05 11:41:47.4±0.4, 5545N×16327E, h21km±21km, ML4.0, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.80**	**342**	*e*P	Pb	11 42 02.6	0.0
KBTR				*e*S	Sb	11 42 14.1	+1.1
SRKR	**Sorokina**	**1.69**	**317**	*e*P	Pn	11 42 16.9	+1.3
SRKR				*e*S	Sn	11 42 38.2	+1.7
KLY	**Klyuchi**	**1.71**	**301**	P	Pn	11 42 16.5	+0.6
KMNR	**Kamenistaya**	**1.75**	**281**	*e*P	Pn	11 42 17.6	+1.2
KMNR				*e*S	Sn	11 42 39.9	+1.9
TUMR	**Tumrok**	**1.79**	**266**	*e*P	Pn	11 42 18.4	+1.4
TUMR				*e*S	Sn	11 42 41.0	+1.9
KOZR	**Kozyr**	**2.00**	**289**	PN	Pn	11 42 22.4	+2.5
KOZR				S	Sn	11 42 47.7	+3.3
KOZ	**Kozyrevsk**	**2.02**	**289**	P	Pn	11 42 22.4	+2.3
KOZ				S	Sn	11 42 47.7	+3.1
SRDR	**Sredinnyy**	**2.18**	**295**	*e*P	Pn	11 42 24.1	+1.7
SRDR				*e*S	Sn	11 42 50.1	+1.4
NLC	**Nalytchevo**	**3.24**	**227**	P	Pn	11 42 38.1	+1.2
NLC				S	Sn	11 43 16.4	+1.6
AVH	**Avacha**	**3.44**	**232**	*e*P	Pn	11 42 42.0	+2.3
AVH				S	Sn	11 43 22.6	+2.9
GNL	**Ganaly**	**3.56**	**243**	*e*P	Pn	11 42 43.7	+2.3
PET	**Petropavlovsk**	**3.64**	**230**	*e*PN	Pn	11 42 45.6	+3.2
PET	**Petropavlovsk**	**3.64**	**230**	S	Sn	11 43 26.4	+1.7
RUS	**Russkaya**	**4.13**	**225**	P	Pn	11 42 50.8	+1.7

GUC 05 11:42:47.4±0.7, 3168S×7212W, h20km±7km, MD3.6, ML2.5, 1D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.07**	**63**	⇓*i*P	Pb	11 43 06.4	-0.9
CMCH				*i* S	Sb	11 43 20.8	-0.1
CMCH				AML	AML	11 43 23.0	
	comp=N,301nm,0.5s						
TLL	**Tololo Astrono**	**1.88**	**37**	*e*P	Pn	11 43 20.0	+1.6
TLL				*e*S	Sn	11 43 44.0	+2.5
TLL				AML	AML	11 44 00.1	
	comp=E,36nm,0.4s						
PEL	**Peldehue**	**1.90**	**141**	*i* S	Sn	11 43 43.9	+1.9
PEL				AML	AML	11 43 54.0	
	comp=E,115nm,0.7s						
FCH	**Farellones**	**2.26**	**137**	*e*P	Pn	11 43 25.1	+1.5
FCH				*i* S	Sn	11 43 54.7	+3.8
FCH				AML	AML	11 44 03.3	
	comp=E,28nm,0.8s						

IDC 05 11:52:20.5±7.4, 3474N×8336E, h71km±59km, mb3.1/4, mb1 3.4/5, mb1mx3.1/21, mbtmp3.2/5, ML3.1/1, Error ellipse: s-maj=152.9km s-min=30.4km az=62.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.07**	**356**	P	Pn	11 55 09.7	+0.4
	0.1nm,0.3s,baz=183,slow=14,SNR=5.6						
BVAR	**Borovoye Array**	**20.47**	**337**	P	P	11 56 51.9	-0.3
	1.2nm,0.8s,baz=146,slow=11,SNR=7.2						
WRA	**Warramunga Arr**	**72.82**	**130**	P	P	12 03 41.7	+0.1
	0.3nm,0.6s,baz=325,slow=5.6,SNR=6.4						
ASAR	**Alice Springs**	**75.32**	**133**	P	P	12 03 56.3	+0.1
	0.2nm,0.8s,baz=320,slow=6.5,SNR=4.3						
YKA	**Yellowknife Ar**	**82.03**	**8**	P	P	12 04 32.6	+0.2
	0.2nm,0.5s,baz=338,slow=5.5,SNR=6.9						

IDC 05 12:01:58.8±7.6, 3467N×8281E, h60km±58km, mb3.3/4, mb1 3.6/5, mb1mx3.2/21, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=159.2km s-min=30.8km az=63.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.11**	**358**	P	Pn	12 04 48.9	+0.4
	0.2nm,0.3s,baz=182,slow=13,SNR=

WMQ				LR	LR		
	comp=E,152nm,7.0s						
WMQ				LR	LR		
	comp=Z,134nm,7.0s						
KBL	**Kabul**	**10.60**	**275**	*e*Pn	**Pn**	**13 06 06.1**	**+1.8**
MK31	**Makanchi Array**	**12.45**	**1**	*i* P	**Pn**	**13 06 27.6**	**-2.0**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.7s						
MK31	**Makanchi Array**	**12.45**	**1**	*e*Pn	**Pn**	**13 06 27.4**	**-2.2**
MKAR	**Makanchi Array**	**12.45**	**1**	P	**Pn**	**13 06 27.6**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=181,slow=13,SNR=45						
GTA	**Gaotai**	**15.22**	**65**	*e*P	**Pn**	**13 07 08.9**	**+2.2**
GTA				S	**S**	**13 09 58.5**	**-10**
GTA				AMB	AMB		
	comp=Z,2.0nm,1.5s						
GTA				AMB	AMB		
	comp=Z,91nm,5.0s						
GTA				LR	LR		
	comp=N,415nm,15.2s						
GTA				LR	LR		
	comp=E,118nm,12.6s						
GTA				LR	LR		
	comp=Z,131nm,11.0s						
KURK	**Kurchatov**	**16.55**	**353**	*e*P	**Pn**	**13 07 25.2**	**+1.8**
KURK				pmax	pmax		
	comp=Z,20nm,1.0s						
KURK	**Kurchatov**	**16.55**	**353**	*e*P	**Pn**	**13 07 25.2**	**+1.8**
	comp=Z,20nm,1.0s						
LZH	**Lanzhou**	**18.04**	**78**	*e*P	**Pn**	**13 07 44.5**	**+2.5**
LZH				AMB	AMB		
	comp=Z,19nm,1.2s						
LZH				AMB	AMB		
	comp=Z,86nm,5.1s						
CD2	**Chengdu**	**18.75**	**94**	*e*P	**Pn**	**13 07 50.2**	**-0.4**
CD2				XP	sP	13 08 04.0	-4.4
CD2				PP		13 08 05.6	
CD2				S	**S**	**13 11 13.2**	**-7.0**
CD2				XS	sS	13 11 27.0	-12
CD2				SS		13 11 38.2	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,200nm,9.6s						
CD2				LR	LR		
	comp=E,810nm,9.6s						
CD2				LR	LR		
	comp=Z,260nm,9.6s						
ZAL	**Zalesovo**	**19.71**	**5**	P	**Pn**	**13 08 00.3**	**-1.5**
ZALV	**Zalesovo Beam**	**19.72**	**5**	P	**Pn**	**13 08 00.3**	**-1.7**
	comp=Z,0.9nm,0.3s,baz=198,slow=9.3,SNR=10						
ZALV				LR	LR	13 15 38.8	
	comp=Z,14nm,20.5s,baz=10.0,slow=37						
KMI	**Kunming**	**20.28**	**111**	P	**P**	**13 08 06.5**	**0.0**
KMI				AP		13 08 16.2	
KMI				XP	sP	13 08 21.6	-3.6
KMI				S	**S**	**13 11 47.4**	**-3.6**
KMI				SS		13 12 15.9	
KMI				AMB	AMB		
	comp=Z,12nm,1.3s						
KMI				AMB	AMB		
	comp=Z,103nm,3.6s						
KMI				LR	LR		
	comp=N,104nm,14.3s						
KMI				LR	LR		
	comp=E,117nm,7.7s						
KMI				LR	LR		
	comp=Z,83nm,9.3s						
BVAR	**Borovoye Array**	**20.40**	**340**	P	**P**	**13 08 08.0**	**+0.5**
	comp=Z,9.0nm,0.8s,baz=142,slow=10,SNR=24						
BRVK	**Borovoye**	**20.46**	**340**	*e*P	**P**	**13 08 08.8**	**+0.7**
BRVK				pmax	pmax		
	comp=Z,26nm,1.2s						
BRVK	**Borovoye**	**20.46**	**340**	*e*P	**P**	**13 08 08.8**	**+0.6**
	comp=Z,26nm,1.2s						
NVS	**Novosibirsk**	**20.53**	**2**	*e*P	**P**	**13 08 06.9**	**-1.9**
NVS				pmax	pmax		
	comp=Z,24nm,1.9s						
CHTO	**Chiang Mai**	**21.68**	**131**	*e*P	**P**	**13 08 23.3**	**+1.8**
CHTO				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
CHTO	**Chiang Mai**	**21.68**	**131**	*e*P	**P**	**13 08 23.3**	**+1.9**
	comp=Z,13nm,1.2s,mb4.2						
CM31	**Chiang Mai Arr**	**21.94**	**132**	*e*P	**P**	**13 08 24.8**	**+0.5**
	comp=Z,21nm,0.9s,mb4.6						
ZAK	**Zakamensk**	**22.41**	**38**	*i*P	**P**	**13 08 30.0**	**+1.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
GYA	**Guiyang**	**22.74**	**103**	P	**P**	**13 08 32.1**	**-0.7**
GYA				AP		13 08 44.2	
GYA				PP		13 09 03.4	
GYA				PCP	PcP	13 12 26.9	+3.8
GYA				S	**S**	**13 12 34.3**	**-3.5**
GYA				XS	sS	13 12 51.6	-7.5
GYA				SCP	ScP	13 15 59.8	+3.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
GYA				AMB	AMB		
	comp=Z,60nm,5.4s						
GYA				LR	LR		
	comp=N,330nm,10.2s						
GYA				LR	LR		
	comp=E,200nm,8.7s						
GYA				LR	LR		
	comp=Z,340nm,10.6s,MS4.1						
SONM	**Songino Array**	**22.76**	**46**	P	**P**	**13 08 32.7**	**-0.1**
	comp=Z,2.1nm,1.1s,mb3.5,baz=242,slow=9.1,SNR=11						
ULN	**Ulaanbaatar**	**23.17**	**47**	*i*P	**P**	**13 08 37.6**	**+0.5**
ULN	**Ulaanbaatar**	**23.17**	**47**	*e*P	**P**	**13 08 37.9**	**+0.8**
	comp=Z,4.5nm,1.2s,mb3.8						
AKTK	**Aktyubinsk**	**23.71**	**320**	P	**P**	**13 08 40.1**	**-1.9**
AKTO	**Aktyubinsk**	**23.71**	**320**	P	**P**	**13 08 40.1**	**-1.9**
	comp=Z,2.7nm,1.0s,mb3.6,baz=117,slow=7.4,SNR=5.6						
HHC	**Hu-ho-hao-te**	**24.34**	**66**	*e*P	**P**	**13 08 48.2**	**+0.3**
HHC				AP		13 08 57.7	
HHC				XP	sP	13 09 01.7	-6.0
HHC				PP		13 09 23.8	
HHC				S	**S**	**13 13 01.3**	**-2.1**
HHC				XS	sS	13 13 18.7	-7.4
HHC				SS		13 13 58.1	
HHC				AMB	AMB		
	comp=Z,25nm,0.9s,mb4.6						
HHC				AMB	AMB		
	comp=Z,74nm,6.2s						
HHC				LR	LR		
	comp=N,221nm,13.5s,MS3.9						
HHC				LR	LR		
	comp=E,195nm,14.5s,MS3.9						
HHC				LR	LR		
	comp=Z,409nm,16.5s,MS4.0						
NJ2	**Nanjing**	**30.93**	**84**	*e*P	**P**	**13 09 47.2**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
CN2	**Changchun**	**34.78**	**61**	*e*P	**P**	**13 10 20.6**	**+0.1**
ANN	**Anapa**	**35.42**	**301**	*e*P	**P**	**13 10 24.3**	**-1.7**
ANN				*e*		13 11 42.5	
ANN				*e*		13 12 54.3	
ANN				*e*S	**S**	**13 15 58.7**	**+1.8**
ANN				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
OBN	**Obninsk**	**37.45**	**318**	*e*P	**P**	**13 10 45.2**	**+2.1**
OBN				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
MDJ	**Mudanjiang**	**37.76**	**60**	P	**P**	**13 10 46.3**	**+0.4**
MDJ				AP	pP	13 10 54.6	-5.1
MDJ				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,42nm,4.3s						
MDJ				LR	LR		
	comp=N,25nm,26.4s,MS3.0						
MDJ				LR	LR		
	comp=E,14nm,26.4s,MS3.0						
MDJ				LR	LR		
	comp=Z,16nm,21.7s,MS2.8						
AKASG	**Malin Array Be**	**41.19**	**310**	P	**P**	**13 11 14.3**	**0.0**
AKASG	**Malin Array Be**	**41.19**	**310**	P	**P**	**13 11 14.3**	**0.0**
	comp=Z,0.3nm,0.3s,mb3.3,baz=80,slow=8.0,SNR=4.5						
FINES	**FINESS Array B**	**44.28**	**325**	P	**P**	**13 11 39.2**	**0.0**
	comp=Z,1.3nm,0.7s,mb3.8,baz=134,slow=25,SNR=5.3						
MJAR	**Matsushiro Arr**	**45.40**	**70**	P	**P**	**13 11 47.8**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.7,baz=285,slow=10.0,SNR=4.7						
MJAR				LR	LR	13 33 32.6	
	comp=Z,32nm,19.0s,MS3.3,baz=190,slow=40						
GERES	**GERESS Array B**	**51.34**	**308**	P	**P**	**13 12 34.2**	**+0.2**
	comp=Z,0.2nm,0.3s,mb3.5,baz=64,slow=9.2,SNR=3.6						
NOA	**NORSAR Array B**	**51.41**	**324**	P	**P**	**13 12 34.0**	**-0.3**
NOA				LR	LR	13 34 31.2	
NOA	**NORSAR Array B**	**51.41**	**324**	P	**P**	**13 12 34.0**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.5,baz=92,slow=8.4,SNR=2.6						
NOA				LR	LR	13 34 31.2	
	comp=Z,23nm,21.3s,MS3.2,baz=65,slow=36						
BILL	**Bilibino**	**56.60**	**27**	*e*P	**P**	**13 13 13.1**	**+1.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.3						
LPG	**La Plagne**	**56.73**	**306**	*i*P	**P**	**13 13 14.3**	**+0.9**
	comp=Z,8.3nm,0.9s,mb4.5						
LPG	**La Plagne**	**56.73**	**306**	*i*P	**P**	**13 13 14.3**	**+0.9**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
LPG	**La Plagne**	**56.73**	**306**	*i*P	**P**	**13 13 14.3**	**+0.9**
	comp=Z,4.2nm,0.9s,mb4.5						
LPL	**La Plagne**	**56.74**	**306**	*i*P	**P**	**13 13 14.3**	**+0.9**
	comp=Z,29nm,1.2s,mb4.9						
LPL	**La Plagne**	**56.74**	**306**	*i*P	**P**	**13 13 14.3**	**+0.9**
LPL				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
LPL	**La Plagne**	**56.74**	**306**	*i*P	**P**	**13 13 14.3**	**+0.9**
	comp=Z,14nm,1.2s,mb4.9						
IMA2	**Indian Mountai**	**71.24**	**21**	*e*P	**P**	**13 14 48.6**	**+0.4**
WRA	**Warramunga Arr**	**73.50**	**129**	*i* P	**P**	**13 15 02.0**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**73.50**	**129**	P	**P**	**13 15 02.1**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**73.50**	**129**	P	**P**	**13 15 02.1**	**-0.3**
	comp=Z,1.1nm,0.7s,mb3.9,baz=325,slow=5.8,SNR=8.6						
COLA	**College**	**73.79**	**20**	*e*P	**P**	**13 15 03.2**	**-0.2**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
COLA	**College**	**73.79**	**20**	*e*P	**P**	**13 15 03.2**	**-0.2**
	comp=Z,3.3nm,0.9s,mb4.3						
ASAR	**Alice Springs**	**75.95**	**132**	P	**P**	**13 15 16.0**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**75.95**	**132**	P	**P**	**13 15 15.9**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=317,slow=6.0,SNR=10.0						
YKA	**Yellowknife Ar**	**82.60**	**8**	P	**P**	**13 15 51.8**	**-0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**82.60**	**8**	P	**P**	**13 15 51.8**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.3,baz=340,slow=5.2,SNR=46						
DBIC	**Dimbokro**	**83.59**	**274**	P	**P**	**13 15 58.1**	**0.0**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC	**Dimbokro**	**83.59**	**274**	P	**P**	**13 15 58.0**	**-0.1**
	comp=Z,4.5nm,0.9s,mb4.6,baz=11,slow=8.8,SNR=4.5						
CPUP	**Villa Florida**	**144.08**	**272**	PKP	PKPdf	13 23 06.0	+0.9
	comp=Z,0.4nm,0.3s,baz=288,slow=3.2,SNR=2.9						

FUNV ***05*** *13:18:09.7, 679N×73.12W, h174km, MW3.5*
IDC ***05*** *13:18:09.5±0.6, 676N×7302W, h159km±5km, mb3.7/4, mb1 3.9/6, mb1mx3.5/19, mbtmp3.8/6, Error ellipse: s-maj=22.4km s-min=7.5km az=128.0*
ISCJB ***05*** *13:18:10.1±0.7, 694N±006×7291W±006, h177km±6km, mb3.9/4, Error ellipse: s-maj=10.7km s-min=8.8km az=152.5*
ISC 05 13:18:11.2±0.8, 694N±006×7290W±006, h172km±6km, n25, σ1§00/31, mb3.9/4, 6C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.09**	**32**	*i*P	**Pn**	**13 18 39.0**	**+0.3**
CAPV				*e*S	**Sn**	**13 19 00.4**	**+0.4**
VIGV	**El Vigia**	**2.42**	**39**	*e*P	**Pn**	**13 18 53.4**	**+0.9**
VIGV				*e*S	**Sn**	**13 19 24.6**	**0.0**
SOCV	**Socops**	**2.42**	**56**	*i*P	**Pn**	**13 18 53.7**	**+1.2**
SOCV				*e*S	**Sn**	**13 19 25.3**	**+0.8**
ROSC	**El Rosal**	**2.51**	**215**	P	**Pn**	**13 18 51.1**	**-2.5**
	139nm,0.3s,baz=5.8,slow=2.2,SNR=148						
ROSC				S	**Sn**	**13 19 19.6**	**-6.9**
	81nm,0.3s,baz=102,slow=18,SNR=9.8						
SDV	**Santo Domingo**	**2.96**	**49**	P	**Pn**	**13 19 00.5**	**+1.6**
	37nm,0.3s,baz=263,slow=5.4,SNR=169						
SDV				S	**Sn**	**13 19 38.4**	**+2.3**
	54nm,0.3s,baz=74,slow=18,SNR=43						
ELOV	**Elorza**	**3.39**	**89**	*i*P	**Pn**	**13 19 05.0**	**+0.7**
ELOV				*e*S	**Sn**	**13 19 45.9**	**+0.3**
VIRV	**Villa del Rosa**	**3.57**	**8**	*e*P	**Pn**	**13 19 05.7**	**-0.9**
VIRV				*e*S	**Sn**	**13 19 48.9**	**-1.0**
SANV	**Sanarito**	**4.19**	**52**	*e*P	**Pn**	**13 19 15.1**	**+0.6**
SANV				*e*S	**Sn**	**13 20 03.0**	**-0.9**
CURV	**Curarigua**	**4.21**	**43**	*e*P	**Pn**	**13 19 16.1**	**+1.3**
CURV				*e*S	**Sn**	**13 20 03.6**	**-0.9**
TEPV	**Terepaima**	**4.74**	**50**	*e*P	**Pn**	**13 19 22.1**	**+0.5**
TEPV				*e*S	**Sn**	**13 20 16.0**	**-0.7**
SIQV	**Siquisique**	**4.79**	**39**	*e*P	**Pn**	**13 19 22.3**	**+0.1**
SIQV				*e*S	**Sn**	**13 20 16.3**	**-1.5**
BAUV	**El Baul**	**5.21**	**67**	*i*P	**Pn**	**13 19 26.9**	**-0.7**
BAUV				*e*S	**Sn**	**13 20 26.0**	**-1.6**
CAOV	**Caicara del Or**	**6.54**	**86**	*i*P	**Pn**	**13 19 43.9**	**-1.3**
BIRV	**Birongo**	**7.43**	**61**	*e*P	**Pn**	**13 19 56.6**	**-0.4**
CUPV	**Cœpira**	**7.68**	**66**	*i*P	**Pn**	**13 19 59.9**	**-0.4**
LPAZ	**La Paz**	**23.55**	**168**	pP	pP	13 23 37.5	-1.3
	2.1nm,0.8s,baz=346,slow=14,SNR=5.5						
SIV	**San Ignacio**	**25.61**	**153**	pP	pP	13 23 58.1	-1.9
	0.8nm,0.4s,baz=338,slow=11,SNR=3.7						
TXAR	**Lajitas Array**	**36.55**	**311**	P	**P**	**13 25 00.6**	**+0.1**
	0.9nm,0.6s,mb3.5,baz=125,slow=9.1,SNR=13						
ULM	**Lac du Bonnet**	**47.25**	**340**	P	**P**	**13 26 26.8**	**-0.1**
	2.4nm,0.4s,mb4.2,baz=155,slow=8.4,SNR=8.0						
YKA	**Yellowknife Ar**	**63.23**	**340**	P	**P**	**13 28 21.2**	**+0.3**
	1.8nm,0.6s,mb4.1,baz=132,slow=6.7,SNR=54						
YKA				pP	pP	13 29 00.1	-1.1
	0.3nm,0.5s,baz=131,slow=6.4,SNR=2.7						
YKA				sP	sP	13 29 15.9	-4.0
	0.4nm,0.7s,baz=132,slow=6.6,SNR=2.0						
ARCES	**ARCESS Array B**	**86.48**	**20**	P	**P**	**13 30 35.2**	**+1.1**
	0.9nm,0.9s,mb3.5,baz=258,slow=4.8,SNR=3.6						
MKAR	**Makanchi Array**	**122.14**	**20**	PKP	PKPdf	13 36 45.4	-0.2
	0.2nm,0.3s,baz=285,slow=3.4,SNR=4.2						
SONM	**Songino Array**	**125.46**	**1**	PKP	PKPdf	13 36 53.3	+1.4
	0.3nm,0.4s,baz=307,slow=1.0,SNR=4.1						
ASAR	**Alice Springs**	**149.36**	**234**	PKPbc	PKPbc	13 37 39.4	-1.2
	0.3nm,0.5s,baz=113,slow=3.8,SNR=6.0						
WRA	**Warramunga Arr**	**150.59**	**241**	PKPbc	PKPbc	13 37 42.7	-0.9
	0.5nm,0.4s,baz=108,slow=2.6,SNR=24						
WRA				pPKPbc	pPKPbc	13 38 24.8	-3.7
	0.3nm,0.4s,baz=106,slow=3.0,SNR=2.0						

ISCJB ***05*** *13:31:56.0±2.4, 238N±01×122.79E±006, h32km±13km, mb3.1/3, Error ellipse: s-maj=24.1km s-min=9.7km az=177.1*
JMA ***05*** *13:31:56.9±0.3, 2386N×12283E, h41km, M3.0*
IDC ***05*** *13:32:21.8±5.5, 2505N×12288E, h199km±55km, mb2.8/4, mb1 3.0/5, mb1mx2.8/19, mbtmp2.8/5, Error ellipse: s-maj=39.4km s-min=19.8km az=69.0*
ISC 05 13:31:56.9±2.0, 239N±01×12283E±006, h29km±10km, n11, σ0§65/15, mb3.1/3, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.63**	**15**	P	**Pb**	**13 32 09.5**	**+0.1**
YOJ				S	**Sb**	**13 32 17.7**	**-0.2**
HATJ	**Hateruma jima**	**0.91**	**77**	P	**Pn**	**13 32 13.3**	**-0.4**
HATJ				S	**Sb**	**13 32 26.3**	**+0.4**
IRIF	**Iriomote-Funau**	**0.95**	**59**	P	**Pn**	**13 32 13.9**	**-0.4**
IRIF				S	**Sn**	**13 32 26.8**	**-0.1**
JKRS	**Kuro-shima**	**1.14**	**70**	P	**Pn**	**13 32 16.9**	**0.0**
JKRS				*e*S	**Sn**	**13 32 31.9**	**+0.3**
JIJ	**Ishigaki jima**	**1.30**	**67**	P	**Pn**	**13 32 18.9**	**-0.2**
JIJ				S	**Sn**	**13 32 35.8**	**+0.3**
JTJ	**Tarama**	**1.88**	**65**	P	**Pn**	**13 32 26.7**	**-0.3**
KSRS	**Korea Array**	**14.25**	**17**	P	**Pn**	**13 35 20.2**	**+3.6**
	0.2nm,0.3s,baz=200,slow=12,SNR=6.8						
SONM	**Songino Array**	**27.28**	**335**	P	**P**	**13 37 37.7**	**-0.9**
	0.6nm,0.8s,mb3.2,baz=132,slow=8.6,SNR=3.9						
MKAR	**Makanchi Array**	**39.63**	**316**	P	**P**	**13 39 27.5**	**+1.6**
	0.1nm,0.6s,mb2.7,baz=110,slow=7.8,SNR=2.1						
WRA	**Warramunga Arr**	**44.95**	**165**	P	sP	13 40 25.9	+4.3
	0.2nm,0.7s,baz=344,slow=8.1,SNR=2.6						
YKA	**Yellowknife Ar**	**82.69**	**23**	P	**P**	**13 44 17.0**	**-0.5**
	0.4nm,0.7s,mb3.5,baz=316,slow=4.8,SNR=7.2						

ISCJB ***05*** *13:40:54.8±0.9, 4139N±006×3485E±006, h1km±11km, Error ellipse: s-maj=10.3km s-min=8.1km az=169.8*
CSEM ***05*** *13:40:54.1±0.1, 4139N×3483E, h2km, MD2.7, Error ellipse: s-maj=3.2km s-min=2.8km az=61.0*
ISK ***05*** *13:40:54.2, 4140N×3482E, h5km, MD2.7*
ISC 05 13:40:55.0±0.9, 4141N±008×3486E±007, h6km±9km, n8, σ0§83/11, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOYT	**Boyabat**	**0.03**	**74**	*i* P	**Pg**	**13 40 56.2**	**0.0**
BOYT	**Boyabat**	**0.09**	**308**	PG	**Pg**	**13 40 56.4**	**-0.7**
BYBT				*e*SG	**Sg**	**13 40 57.7**	**-0.7**
DIKM	**Dikmen**	**0.38**	**51**	*e*PG	**Pg**	**13 41 03.2**	**+0.9**
TOS	**Tosya**	**0.74**	**240**	*e*PG	**Pg**	**13 41 09.0**	**-0.1**
TOS				*e*SG	**Sg**	**13 41 19.3**	**+0.6**
BZK	**Bozkurt**	**0.84**	**311**	*e*PG	**Pg**	**13 41 11.6**	**+0.4**
BALT	**Daday**	**1.12**	**277**	*i* P	**Pg**	**13 41 15.7**	**-0.7**
BALT				*i* S	**Sg**	**13 41 33.9**	**+3.0**
CANT	**Cankiri**	**1.24**	**230**	*e*PN	**Pn**	**13 41 17.9**	**-0.9**
CORM	**Corum**	**1.24**	**188**	*e*PN	**Pn**	**13 41 18.8**	**-0.1**

IDC 05 13:53:26.2±2.5, 3407N×8157E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.4/1, Error ellipse: s-maj=74.9km s-min=35.1km az=84.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.73**	**2**	Pn	Pn	13 56 29.1	+0.8
	0.2nm,0.3s,baz=183,slow=14,SNR=16						
SONM	**Songino Array**	**23.12**	**46**	P	P	13 58 33.9	+0.1
	0.9nm,1.1s,baz=254,slow=5.2,SNR=3.0						
ASAR	**Alice Springs**	**75.96**	**132**	P	P	14 05 15.3	+0.3
	0.3nm,0.8s,baz=317,slow=3.9,SNR=4.4						
YKA	**Yellowknife Ar**	**82.90**	**7**	P	P	14 05 52.1	-0.2
	0.3nm,0.6s,baz=340,slow=5.5,SNR=4.5						

NEIC ***05*** *14:12:32.4, 1560N×9600W, h7km, MD4.0(MEX), After MEX.*
MEX 05 14:12:32.0±0.4, 1559N×9598W, h5km, MD4.0, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.22**	**325**	*i* P	Pg	14 12 36.0	-0.4
HUIG				*i* S	Sg	14 12 39.3	0.0
VHO	**Vista Hermosa**	**1.65**	**334**	*i* P	Pn	14 12 58.7	-2.9
VHO				*i* S	Sn	14 13 16.4	-6.8
VHO	**Vista Hermosa**	**1.65**	**334**	*i* P	Pn	14 12 58.7	-2.9
VHO				*i* S	Sn	14 13 18.9	-4.2
OXX	**Oaxaca**	**1.65**	**334**	*e*P	Pn	14 13 00.0	-1.7
OXX				*e*S	Sn	14 13 16.0	-7.3
CMIG	**Matias Romero**	**1.83**	**35**	*e*P	Pn	14 13 01.9	-2.2
CMIG				*i* S	Sn	14 13 22.7	-4.9
CMIG	**Matias Romero**	**1.83**	**35**	*e*P	Pn	14 13 00.1	-3.9
CMIG				*i* S	Sn	14 13 22.7	-4.9
PPM	**Popocatepetl**	**4.29**	**324**	*i* P	Pn	14 13 46.3	+8.4
PPM				*i* S	Sn	14 14 26.4	-2.0
PPM	**Popocatepetl**	**4.29**	**324**	*i* P	Pn	14 13 37.9	0.0
PPM				*i* S	Sn	14 14 26.4	-2.0

STR ***05*** *14:29:35.3±0.3, 5149N×1641E, h5km, Ml4.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISCJB ***05*** *14:29:35.9±0.2, 5151N±001×1607E±002, h0km, mb4.3/19, Error ellipse: s-maj=2.0km s-min=1.5km az=8.6*
BJI ***05*** *14:29:36.4, 5140N×1610E, h11km, mB4.9, mb4.8, Ms4.5, Msz4.2*
IPEC ***05*** *14:29:36.2±0.3, 5163N×1616E, h0km±1km, ML3.7/4, Error ellipse: s-maj=2.2km s-min=1.6km az=30.0*
LDG ***05*** *14:29:36.5±0.1, 5153N×1622E, h1km, Ml4.3/13, Error ellipse: s-maj=4.5km s-min=3.0km az=167.0, Suspected Mining induced.*
MOS ***05*** *14:29:36.3±1.1, 5162N×1602E, h10km, mb4.4/6, Error ellipse: s-maj=5.4km s-min=3.2km az=78.4*
CSEM ***05*** *14:29:37.6±0.1, 5157N×1614E, h1km, mb4.2/7, ML4.4/21, Ms4.2, Error ellipse: s-maj=1.4km s-min=1.2km az=2.0*
IDC ***05*** *14:29:38.2±0.5, 5151N×1599E, h0km, mb4.0/9, mb1 4.1/17, mb1mx4.0/27, mbtmp4.0/17, ML3.8/8, Error ellipse: s-maj=9.4km s-min=6.3km az=94.0*
PRU ***05*** *14:29:38.5, 5154N×1610E, h0km, M4.2*
WAR ***05*** *14:29:38.2, 5153N×1608E, ML3.5, Mining Induced*
NEIC ***05*** *14:29:39.4, 5143N×1607E, h1km, mb4.2/9, ML4.0(SZGRF), After SZGRF.*
BGR ***05*** *14:29:39.4±0.4, 5143N×1607E, h1km, ML4.0, Error ellipse: s-maj=7.8km s-min=3.3km az=5.0*
VIE ***05*** *14:29:41.4±0.5, 5125N×1610E, h0km, mb3.5/15, ML3.7/14, Ms4.2/4, Error ellipse: s-maj=3.1km s-min=2.8km az=172.0, Suspected Mining induced.*
ISC 05 14:29:37.1±0.2, 5158N±001×1610E±002, h0km, n279, σ1§17/411, mb4.3/19, 19C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg	**Pg**	**14 29 51.8**	**+0.4**
KSP				*e*Sg	**Sg**	**14 30 01.8**	**+0.7**
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg	**Pg**	**14 29 51.8**	**+0.4**
KSP	**Ksiaz**	**0.75**	**171**	*e*P	**Pg**	**14 29 51.0**	**-0.4**
KSP				*e*		14 29 59.9	
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg	**Pg**	**14 29 51.0**	**-0.4**
KSP				*i*		14 29 51.7	
KSP				*e*Sg	**Sg**	**14 29 59.9**	**-1.1**
KSP				*e*		14 30 04.5	
KSP	**Ksiaz**	**0.75**	**171**	*e*Pg	**Pg**	**14 29 51.4**	**0.0**
KSP				*e*Sg	**Sg**	**14 29 59.9**	**-1.1**
UPC	**Upice**	**1.07**	**183**	*e*Pg	**Pg**	**14 29 57.7**	**+0.1**
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*P	**Pg**	**14 30 00.5**	**-0.3**
DPC				*e*		14 30 16.0	
DPC				smax			
	comp=N,718nm,0.7s						
DPC				MLR	MLR		
	comp=Z,2μm,5.0s						
DPC	**Dobruska-Polom**	**1.24**	**173**	*e*Pg

GKP eSg Sg 14 30 42.5 +6.7
PRA Prague 1.84 216 PG Pg 14 30 10.0 -2.4
PRA SG Sg 14 30 36.0 -0.3
FBE Freiberg 1.85 250 ePn Pn 14 30 10.2 +0.2
FBE eSg Sg 14 30 36.8 +0.4
PRU Pruhonice 1.88 212 eP Pn 14 30 09.7 -0.6
PRU e 14 30 36.0
PRU smax
comp=N,396nm,0.4s
PRU MLR MLR
comp=Z,2µm,4.8s
PRU Pruhonice 1.88 212 ePn Pn 14 30 09.7 -0.6
PRU ePg Pg 14 30 12.7 -0.3
PRU eSg Sg 14 30 36.0 -1.3
PRU Pruhonice 1.88 212 ePg Pg 14 30 12.7 -0.3
PRU eSg Sg 14 30 36.0 -1.3
comp=Z,396nm,0.4s
PRU Pruhonice 1.88 212 ePN Pn 14 30 09.7 -0.6
PRU ePG Pg 14 30 12.7 -0.3
PRU eSG Sg 14 30 36.0 -1.3
comp=Z,396nm,0.4s
PRU AMS AMS 14 30 50.0
comp=Z,2µm,4.8s
CLL Collm 1.96 263 ePn Pn 14 30 11.0 -0.4
CLL eSg Sg 14 30 41.2 +1.3
CLL Collm 1.96 263 i P Pn 14 30 11.0 -0.5
CLL i 14 30 41.1
CLL pmax pmax
comp=Z,180nm,0.5s
CLL MLR MLR
comp=Z,1µm,5.8s
CLL Collm 1.96 263 i Pn Pn 14 30 11.0 -0.5
CLL ePg Pg 14 30 15.0 +0.4
CLL i Sg Sg 14 30 41.1 +1.2
CLL Collm 1.96 263 i Pn Pn 14 30 11.0 -0.5
comp=Z,180nm,0.5s
CLL ePg Pg 14 30 15.0 +0.4
CLL i x x 14 30 18.2
CLL i Sg Sg 14 30 41.1 +1.2
comp=Z,455nm,0.6s
RAC Raciborz 2.00 138 ePn Pn 14 30 11.2 -0.9
RAC ePg Pg 14 30 15.5 +0.1
RAC eSg Sg 14 30 41.4 +0.1
MORC Moravsky Berou 2.02 153 ePn Pn 14 30 12.2 -0.2
MORC Moravsky Berou 2.02 153 ⇓iP Pn 14 30 12.0 -0.4
MORC Moravsky Berou 2.02 153 Pn Pn 14 30 12.2 -0.2
MORC eSg Sg 14 30 40.5 -1.6
comp=Z,364nm,0.6s
OKC Ostrava-Krasne 2.18 142 ePn Pn 14 30 13.8 -0.6
OKC Ostrava-Krasne 2.18 142 eP Pg 14 30 18.6 -0.1
OKC e 14 30 45.2
OKC smax
comp=N,1µm,0.8s
OKC MLR MLR
comp=Z,900nm,3.4s
OKC Ostrava-Krasne 2.18 142 Pn Pn 14 30 13.8 -0.7
OKC Ostrava-Krasne 2.18 142 ePg Pg 14 30 18.6 -0.1
OKC eSg Sg 14 30 45.2 -1.7
comp=Z,1µm,0.8s
OKC Ostrava-Krasne 2.18 142 ePG Pg 14 30 18.6 -0.1
OKC eSG Sg 14 30 45.2 -1.7
comp=Z,1µm,0.8s
OKC AMS AMS 14 31 00.0
comp=Z,900nm,3.4s
VRAC Vranov 2.30 172 Pn Pn 14 30 16.4 +0.2
comp=Z,10.0nm,0.3s,baz=345,slow=14,SNR=61
VRAC Lg 14 30 49.5
comp=Z,31nm,0.3s,baz=218,slow=12,SNR=13
VRAC Vranov 2.30 172 ⇑iP Pn 14 30 16.2 +0.1
VRAC Vranov 2.30 172 ePn Pn 14 30 15.9 -0.2
VRAC eSg Sg 14 30 49.4 -1.4
comp=Z,525nm,0.7s
TREC Trest 2.32 190 ePn Pn 14 30 16.5 0.0
KRUC Moravsky 2.53 176 ePn Pn 14 30 19.0 -0.3
KRUC eSg Sg 14 30 57.0 -1.2
comp=Z,328nm,0.7s
TANN Tannenbergstha 2.58 245 ePn Pn 14 30 20.4 +0.4
TANN eSg Sg 14 30 58.9 -0.9
WERD Werda 2.65 246 ePn Pn 14 30 21.0 0.0
NKC Novy Kostel 2.68 241 ePn Pn 14 30 21.6 +0.2
NKC ePg Pg 14 30 28.5 +0.2
NKC eSg Sg 14 31 03.4 +0.4
NKC Novy Kostel 2.68 241 ePg Pg 14 30 28.5 +0.2
NKC eSg Sg 14 31 03.4 +0.4
comp=Z,893nm,0.3s
NKC Novy Kostel 2.68 241 ePN Pn 14 30 21.6 +0.2
NKC ePG Pg 14 30 28.5 +0.2
NKC eSG Sg 14 31 03.4 +0.4
comp=Z,893nm,0.3s
NKC AMS AMS 14 31 20.0
comp=Z,1µm,5.2s
OJC Ojcow 2.71 119 ePn Pn 14 30 19.8 -2.0
OJC ePg Pg 14 30 29.1 +0.2
OJC eSg Sg 14 31 04.5 +0.5
OJC Ojcow 2.71 119 ePn Pn 14 30 20.2 -1.6
OJC eSg Sg 14 31 05.0 +1.0
JAVC Velka Javorina 2.90 159 ePn Pn 14 30 25.6 +1.1
KHC Kasperske Hory 2.94 214 ePn Pn 14 30 24.5 -0.4
KHC ePg Pg 14 30 31.8 -1.5
KHC eSn Sn 14 31 01.2 +0.4
KHC eSg Sg 14 31 10.6 -0.7
KHC Kasperske Hory 2.94 214 ePg Pg 14 30 31.8 -1.5
KHC eSn Sn 14 31 01.2 +0.4
KHC eSg Sg 14 31 10.6 -0.7
comp=Z,193nm,0.6s
KHC Kasperske Hory 2.94 214 ePN Pn 14 30 24.5 -0.4
KHC ePG Pg 14 30 31.8 -1.5
KHC eSN Sn 14 31 01.2 +0.4
KHC eSG Sg 14 31 10.6 -0.7
comp=Z,193nm,0.6s
KHC AMS AMS 14 31 20.0
comp=Z,700nm,5.5s
MOX Moxa 2.98 253 ePn Pn 14 30 25.9 +0.4
MOX eSg Sg 14 31 12.1 -0.6
MOX Moxa 2.98 253 ePN Pn 14 30 25.4 -0.1
MOX ePG Pg 14 30 34.2 +0.1
MOX eSG Sg 14 31 13.6 +0.9
MOX Moxa 2.98 253 ePg Pg 14 30 34.2 +0.1
MOX Sg Sg 14 31 12.1 -0.6
MANZ Manzenberg 3.00 239 ePn Pn 14 30 25.3 -0.5
ROTZ Rotzenmuhle 3.07 235 ePn Pn 14 30 27.0 +0.2
GEC2 GERESS Array S 3.14 210 ePn Pn 14 30 28.6 +0.8
GEC2 eSg Sg 14 31 13.4 -4.6
GEC2 GERESS Array S 3.14 210 ePn Pn 14 30 28.6 +0.9
GEC2 eSg Sg 14 31 13.4 -4.5
GERES GERESS Array B 3.14 210 Pn Pn 14 30 27.7 0.0
comp=Z,16nm,0.3s,baz=28,slow=13,SNR=302
GERES Pg Pg 14 30 36.5 -0.7
comp=Z,27nm,0.3s,baz=23,slow=15,SNR=47
GERES Lg 14 31 15.6
comp=Z,46nm,0.3s,baz=26,slow=28,SNR=13
GERES GERESS Array B 3.14 210 Pg Pg 14 30 36.5 -0.7
LIKS Likavka 3.18 142 eP Pn 14 30 29.7 +1.4
LIKS pmax pmax
comp=N,465nm,0.6s
LIKS Likavka 3.18 142 ePN Pn 14 30 29.7 +1.4
LIKS ePG Pg 14 30 37.6 -0.4
LIKS eSG Sg 14 31 19.7 +0.5
WET Wettzell 3.19 221 ePn Pn 14 30 28.8 +0.4
WET Wettzell 3.19 221 ePn Pn 14 30 28.8 +0.3
MODS Modra-Piesok 3.30 166 eP Pn 14 30 31.6 +1.7
MODS pmax pmax
comp=N,98nm,0.6s
MODS Modra-Piesok 3.30 166 ePN Pn 14 30 31.6 +1.7
MODS ePG Pg 14 30 39.7 -0.5
MODS eSG Sg 14 31 22.9 -0.1
KOLL Kolacno 3.35 153 ePN Pn 14 30 31.7 +1.1
KOLL ePG Pg 14 30 42.4 +1.2
KOLL eSG Sg 14 31 25.3 +0.7
RGN Rugen 3.41 332 ePn Pn 14 30 31.2 -0.3
RGN ePg Pg 14 30 39.3 -3.1
RGN eS Sn 14 31 10.3 -2.3
RGN Rugen 3.41 332 ePn Pn 14 30 31.2 -0.3
RGN Rugen 3.41 332 ePg Pg 14 30 39.3 -3.1
ZST Bratislava 3.45 169 eP Pn 14 30 33.0 +1.0
ZST pmax pmax
comp=N,168nm,0.6s
ZST Bratislava 3.45 169 ePN Pn 14 30 33.0 +1.0
ZST ePG Pg 14 30 42.4 -0.7
ZST eSG Sg 14 31 26.0 -1.8
NIE Niedzica 3.45 127 Pn Pn 14 30 32.4 +0.4
NIE ePg Pg 14 30 43.5 +0.3
NIE eSg Sg 14 31 28.8 +0.9
NIE Niedzica 3.45 127 ePn Pn 14 30 32.4 +0.4
NIE ePg Pg 14 30 43.5 +0.3
NIE eSg Sg 14 31 28.8 +0.9
VYHS Vyhne 3.56 149 eP Pn 14 30 33.6 +0.2
VYHS pmax pmax
comp=N,31nm,0.6s
VYHS Vyhne 3.56 149 ePn Pn 14 30 33.6 +0.2
VYHS ePg Pg 14 30 42.3 -2.9
VYHS eSg Sg 14 31 31.3 0.0
VYHS Vyhne 3.56 149 ePN Pn 14 30 33.5 +0.1
VYHS ePG Pg 14 30 42.3 -2.9
VYHS eSG Sg 14 31 31.3 0.0
CLZ Clausthal 3.57 276 ePn Pn 14 30 34.6 +1.0
CLZ Clausthal 3.57 276 ePn Pn 14 30 34.6 +0.9
BSD Bornholm Skovb 3.61 349 i P Pn 14 30 34.0 -0.2
BSD i S Sn 14 31 14.7 -2.8
GRA1 Grafenberg Arr 3.64 241 ePn Pn 14 30 35.2 +0.7
GRA1 eSg Sg 14 31 33.9 +0.1
GRA1 Grafenberg Arr 3.64 241 Pn Pn 14 30 35.2 +0.7
GRA1 Sg Sg 14 31 33.9 +0.1
GRF Grafenberg Arr 3.64 241 ePn Pn 14 30 35.2 +0.7
GRF eSg Sg 14 31 33.9 +0.1
GRF Grafenberg Arr 3.64 241 ePn Pn 14 30 35.2 +0.7
GRF eSg Sg 14 31 33.9 +0.1
GRFO Grafenberg 3.64 241 ePn Pn 14 30 34.7 +0.1
GRFO ePg Pg 14 30 47.7 +0.9
GRFO eS Sg 14 31 33.9 +0.1
CONA Conrad Observa 3.66 183 ⇓iPn Pn 14 30 34.9 0.0
SNR=38
CONA ⇑iSg Sg 14 31 31.9 -2.7
comp=N,184nm,0.5s
HROE Hohe Rhon--Fla 3.89 257 ⇓iPn Pn 14 30 38.3 +0.2
SOP Sopron 3.91 175 ePn Pn 14 30 37.8 -0.5
SOP eSB Sb 14 31 39.4 +4.7
MOA Molln 3.92 198 i Pn Pn 14 30 38.8 +0.4
SNR=60
MOA ⇑iSg Sg 14 31 42.3 -0.6
comp=N,203nm,0.6s
MOA Molln 3.92 198 Pn Pn 14 30 38.8 +0.4
comp=N,59nm,6.0s
MOA Sg Sg 14 31 42.3 -0.6
comp=N,203nm,0.6s
STHS Stebnicka Huta 3.93 121 eP Pn 14 30 39.5 +0.9
STHS pmax pmax
comp=N,178nm,0.8s
STHS Stebnicka Huta 3.93 121 ePN Pn 14 30 39.5 +0.9
STHS ePG Pg 14 30 53.0 +0.6
STHS eSG Sg 14 31 42.5 -0.8
ARSA Arzberg 4.35 185 ⇑iPn Pn 14 30 45.3 +0.9
SNR=20
ARSA ⇑iSg Sg 14 31 53.7 -3.0
comp=N,160nm,0.6s
ARSA Arzberg 4.35 185 Pn Pn 14 30 45.3 +1.0
comp=N,20nm,2.0s
ARSA Sg Sg 14 31 53.7 -3.0
comp=N,160nm,0.6s
CRVS Cervenica-Dubn 4.36 126 eP Pn 14 30 45.4 +0.9
CRVS pmax pmax
comp=N,61nm,0.9s
CRVS Cervenica-Dubn 4.36 126 ePN Pn 14 30 45.4 +0.9
CRVS ePG Pg 14 31 00.7 +0.1
CRVS eSG Sg 14 31 57.7 +0.6
PSZ Piszkesteto 4.41 145 ePn Pn 14 30 45.9 +0.6
PSZ Piszkesteto 4.41 145 ⇑ePn Pn 14 30 45.9 +0.7
PSZ eSg Sg 14 32 02.3 +3.5
PSZ Piszkesteto 4.41 145 ⇑iP Pn 14 30 46.1 +0.9
PKSG 4.45 160 ⇑eP Pn 14 30 45.9 +0.2
KWP Kalwaria 4.64 112 ePn Pn 14 30 47.1 -1.1
KWP ePg Pg 14 31 03.1 -2.7
KWP eSg Sg 14 32 11.0 +5.0
KWP Kalwaria 4.64 112 ⇑iP Pn 14 30 46.3 -2.0
KWP Kalwaria 4.64 112 ePn Pn 14 30 47.2 -1.1
COP Copenhagen 4.66 333 i P Pg 14 31 11.0 +4.8
COP eS Sg 14 32 08.1 +1.6
KOLS Kolonicke sedl 4.76 121 eP Pn 14 30 50.3 +0.3
KOLS pmax pmax
comp=N,160nm,1.4s
KOLS Kolonicke sedl 4.76 121 ePN Pn 14 30 50.3 +0.3
KOLS ePG Pg 14 31 11.5 +3.2
KOLS eSG Sg 14 32 08.7 -1.3
KBA Koelnbreinsper 4.85 203 ⇑iPn Pn 14 30 52.1 +0.9
SNR=14
KBA ⇓iSg Sg 14 32 11.6 -1.3
comp=N,80nm,0.5s
KBA Koelnbreinsper 4.85 203 Pn Pn 14 30 52.1 +0.9
comp=N,14nm,5.0s
KBA Sg Sg 14 32 11.6 -1.2
comp=N,80nm,0.5s
UZH Uzhgorod 4.96 124 eP Pn 14 30 50.6 -2.1
UZH eS Sn 14 31 47.2 -3.5
UZH smax
comp=N,73nm,0.8s
UZH smax
comp=E,70nm,0.8s
TOD Tromm 5.05 250 S Sn 14 31 58.4 +5.4
GROS Grobnik 5.14 185 ePn Pn 14 30 56.2 +1.0
WATA Walderalm 5.17 217 ⇓iPn Pn 14 30 56.4 +0.8
SNR=28
WATA Walderalm 5.17 217 Pn Pn 14 30 56.4 +0.8
comp=E,28nm,2.0s
LVV L'vov 5.34 106 eP Pn 14 30 58.0 +0.1
MOTA Moosalm 5.35 219 ⇑iPn Pn 14 30 58.8 +0.8
SNR=34
MOTA ⇓iSg Sg 14 32 28.9 +0.2
comp=E,113nm,0.6s
MOTA Moosalm 5.35 219 Pn Pn 14 30 58.8 +0.8
comp=E,33nm,9.0s
MOTA Sg Sg 14 32 28.9 +0.2
comp=E,113nm,0.6s
RETA Reutte 5.37 222 i Pn Pn 14 30 58.5 +0.2
SNR=13
ABTA Abfaltersbach 5.38 207 ⇑iPn Pn 14 30 59.3 +0.8
SNR=22
SQTA Sankt Quirin 5.41 218 ⇑iPn Pn 14 31 00.0 +1.2
SNR=21
SQTA ⇑iSg Sg 14 32 32.7 +2.0
comp=E,50nm,0.5s
FVI Forni Avoltri 5.44 205 P Pn 14 31 00.3 +0.9
FVI pmax pmax
comp=Z,44nm,0.4s
FVI Forni Avoltri 5.44 205 Pn Pn 14 31 00.3 +0.9
comp=Z,44nm,0.4s
SEST Monte Rota 5.46 209 Pn Pn 14 31 00.8 +1.1
comp=Z,180nm,0.7s
PTCC Patocco-Chiusa 5.49 200 Pn Pn 14 31 00.1 +0.2
PDKS Podkum 5.57 188 ePn Pn 14 31 02.1 +0.9
PKSM Moragy 5.63 162 ⇓iP Pn 14 31 02.4 +0.5
PKSM Moragy 5.63 162 ⇓ePn Pn 14 31 02.7 +0.8
LJU Ljubljana 5.64 191 ePn Pn 14 31 04.0 +2.0
ABH Alteburg 5.69 256 P Pn 14 31 02.7 -0.1
VOY Vojsko 5.74 196 ePn Pn 14 31 03.8 +0.4
VOY e 14 31 29.2
VOY eSn Sg 14 32 41.4 0.0
FETA Feichten 5.76 220 i Pn Pn 14 31 04.4 +0.7
SNR=14
WTSB Winterswijk 5.79 277 ⇑eP Pn 14 31 05.1 +1.0
comp=Z,24nm,0.5s
WTSB Winterswijk 5.79 277 eS Sg 14 32 45.7 +2.8
RHK3 Tenkes 5.87 165 eP Pn 14 31 06.0 +0.8
DAVA Damuels 5.91 226 ⇓iPn Pn 14 31 05.5 -0.3
SNR=10
DAVA ⇑iSg Sg 14 32 49.2 +2.5
comp=Z,106nm,0.7s
LANF Langenberg 5.92 247 P Pn 14 31 05.1 -0.8
BFO Black Forest 5.98 240 eP Pn 14 31 05.4 -1.3
BFO pmax pmax
comp=Z,22nm,0.6s
BFO Black Forest 5.98 240 ePn Pn 14 31 05.4 -1.3
comp=Z,22nm,0.6s
BFO eSg Sg 14 32 45.4 -3.5
BFO Black Forest 5.98 240 ePn Pn 14 31 05.4 -1.3
comp=Z,22nm,0.6s
RUP Ruppelstein 6.05 255 P Pn 14 31 08.1 +0.4
BOJS Bojanci 6.11 186 ePn Pn 14 31 09.3 +0.8
CTI Castel Tesino 6.27 210 P Pn 14 31 12.3 +1.6
CTI pmax pmax
comp=Z,37nm,0.4s
CTI Castel Tesino 6.27 210 Pn Pn 14 31 12.3 +1.6
comp=Z,37nm,0.4s
DAVOS Davos 6.29 224 P Pn 14 31 11.2 +0.2
DAVOX Davos/Dischmat 6.30 223 Pn Pn 14 31 11.1 0.0
comp=Z,1.6nm,0.3s,baz=26,slow=12,SNR=21
DAVOX Lg 14 32 56.4
comp=Z,1.7nm,0.3s,baz=309,slow=21,SNR=5.2
DAVOX Davos/Dischmat 6.30 223 Pn Pn 14 31 11.1 0.0
MUD Monsted U'grnd 6.36 323 eP Pn 14 31 17.7 +5.7
MUD Monsted U'grnd 6.36 323 i P Pn 14 31 17.7 +5.7
MUD eS Sn 14 31 52.8 -32
FELD Feldberg im Sc 6.42 238 P Pn 14 31 17.8 +5.0
MEM Membach 6.43 265 P Pn 14 31 13.1 +0.2
comp=Z,18nm,0.6s
MEM AP 14 31 13.3
MEM XP 14 31 13.8
HGN Heimansgroeve 6.45 267 eP Pn 14 31 13.9 +0.7
comp=Z,2.9nm,0.2s
HGN Heimansgroeve 6.45 267 eS Sg 14 32 56.5 -7.6
DRGR 6.46 135 ⇑iP Pn 14 31 13.1 -0.2
CDF Champ du Feu 6.51 244 ePg Pg 14 31 38.2 -3.6
CDF eSg Sg 14 33 00.0 -6.1
comp=Z,147nm,1.0s
CDF Champ du Feu 6.51 244 ePn Pn 14 31 12.5 -1.5
CDF ePg Pg 14 31 38.2 -3.6
CDF eSg Sg 14 33 00.0 -6.1
CDF Champ du Feu 6.51 244 ePg Pg 14 31 38.2 -3.6
CDF eSg Sg 14 33 00.0 -6.1
comp=Z,73nm,1.0s
WLF Walferdange 6.62 257 eP Pn 14 31 16.1 +0.7
WLF pmax pmax
comp=Z,12nm,0.6s
WLF Walferdange 6.62 257 ePn Pn 14 31 16.1 +0.6
comp=Z,12nm,0.6s
WLF Walferdange 6.62 257 P Pn 14 31 15.9 +0.5
comp=Z,6.7nm,0.4s
WLF Walferdange 6.62 257 ePn Pn 14 31 16.1 +0.7
comp=Z,12nm,0.6s
ECH Echery 6.69 243 P Pn 14 31 15.9 -0.5
TUE Stuetta 6.77 224 Pn Pn 14 31 19.8 +2.2
comp=Z,13nm,0.5s
MOF Molkenrain 6.91 241 P Pn 14 31 20.1 +0.6
BCLA Clavier 6.92 265 P Pn 14 31 19.9 +0.4
comp=Z,10nm,0.6s
BZS Buzias 7.00 146 ⇑iP Pn 14 31 21.8 +1.1
HINF Hinteralfeld 7.08 241 ePg Pg 14 31 48.8 -3.8
HINF eSg Sg 14 33 19.1 -5.2
comp=Z,81nm,0.7s
HINF Hinteralfeld 7.08 241 ePn Pn 14 31 21.4 -0.4
HINF ePg Pg 14 31 48.8 -3.8
HINF eSg Sg 14 33 19.1 -5.2
HINF Hinteralfeld 7.08 241 ePn Pn 14 31 21.4 -0.4
HINF eSg Sg 14 33 19.1 -5.2
comp=Z,40nm,0.7s
BURAR Bucovina Array 7.13 120 ⇓iP Pn 14 31 23.1 +0.6
HAU Haudompre 7.25 244 ePg Pg 14 31 54.4 -1.6
HAU eSg Sg 14 33 24.1 -5.8
comp=Z,84nm,0.6s
HAU Haudompre 7.25 244 ePn Pn 14 31 22.9 -1.3
HAU ePg Pg 14 31 54.4 -1.6
HAU eSg Sg 14 33 24.1 -5.8
HAU Haudompre 7.25 244 ePn Pn 14 31 22.9 -1.3
HAU eSg Sg 14 33 24.1 -5.8
comp=Z,42nm,0.6s
DOU Dourbes 7.44 263 P Pn 14 31 28.0 +1.3
comp=Z,9.7nm,0.3s
RFYF Reffroy 7.45 251 ePn Pn 14 31 26.9 +0.1
RFYF eSg Sg 14 31 55.4 -4.2
VAI Varese 7.49 223 P Pn 14 31 28.8 +1.3
VAI pmax pmax
comp=Z,12nm,0.4s
VAI Varese 7.49 223 Pn Pn 14 31 28.8 +1.3
comp=Z,12nm,0.4s
GZR Gura Zlata 7.61 142 ⇓iP Pn 14 31 30.5 +1.4
BAIF Baives 7.69 263 ePn Pn 14 31 30.1 0.0
BAIF eSg Sg 14 33 38.2 -5.6
comp=Z,16nm,0.6s
BAIF Baives 7.69 263 ePn Pn 14 31 30.1 0.0
BAIF eSg Sg 14 33 38.2 -5.6
comp=Z,8.1nm,0.6s
SFTF Sexfontaines 7.90 249 ePn Pn 14 31 32.5 -0.6
CABF La Chapelle 8.24 237 ePg Pg 14 32 09.9 -4.9
CABF eSg Sg 14 33 57.2 -4.2
comp=Z,346nm,1.5s
CABF La Chapelle 8.24 237 ePg Pg 14 32 09.9 -4.9
CABF eSg Sg 14 33 57.2 -4.2
comp=Z,173nm,1.5s
KIEV Kiev 8.29 91 eP Pn 14 31 37.4 -1.1
KIEV pmax pmax
comp=Z,27nm,0.6s
KIEV Kiev 8.29 91 ePn Pn 14 31 37.4 -1.1
comp=Z,27nm,0.6s
KIEV Kiev 8.29 91 ePn Pn 14 31 37.3 -1.2
comp=Z,27nm,0.6s
AKASG Malin Array Be 8.30 91 P Pn 14 31 37.5 -1.1
AKASG 14 33 08.3
AKASG Malin Array Be 8.30 91 Pn Pn 14 31 37.5 -1.0
AKASG Sn Sn 14 33 08.3 -4.7
AKASG Lg 14 34 09.5
AKASG Malin Array Be 8.30 91 Pn Pn 14 31 37.5 -1.1
comp=Z,6.6nm,0.3s,baz=280,slow=12,SNR=22
AKASG Sn Sn 14 33 08.3 -4.7
comp=Z,2.7nm,0.3s,baz=267,slow=24,SNR=6.3
AKASG Lg 14 34 09.5
comp=Z,0.8nm,0.3s,baz=267,slow=25,SNR=4.6
AKBB Malin Array Si 8.30 91 ePn Pn 14 31 37.2 -1.4
PCP Pian Castagno 8.67 219 P Pn 14 31 44.0 +0.4
PCP pmax pmax
comp=Z,18nm,0.6s
PCP Pian Castagno 8.67 219 Pn Pn 14 31 44.0 +0.4
comp=Z,18nm,0.6s
HFS Hagfors 8.68 352 Pn Pn 14 31 43.8 +0.1
comp=Z,0.7nm,0.3s,baz=167,slow=14,SNR=23
HFS Sn Sn 14 33 20.7 -1.5
comp=Z,0.8nm,0.3s,baz=161,slow=24,SNR=3.4
LPL La Plagne 8.68 229 ePn Pn 14 31 43.9 +0.1
LPG La Plagne 8.69 229 ePn Pn 14 31 45.1 +1.3
LPG eSg Sg 14 34 08.6 -7.2
comp=Z,73nm,1.4s
MLR Muntele Rosu 8.93 129 Pn Pn 14 31 45.6 -1.5
comp=Z,0.2nm,0.3s,baz=179,slow=19,SNR=2.0
MLR Pg Pg 14 32 07.9 -20
comp=Z,0.1nm,0.3s,baz=309,slow=13,SNR=3.1
LOR Lormes 9.07 246 ePn Pn 14 31 47.7 -1.4
LOR eSg Sg 14 34 20.4 -7.6
comp=Z,32nm,0.8s
LOR Lormes 9.07 246 ePn Pn 14 31 47.7 -1.4
LOR eSg Sg 14 34 20.4 -7.6
comp=Z,16nm,0.8s
VSU Vasula 9.20 37 eP Pn 14 31 53.0 +2.1
MBDF Montbardon 9.26 226 ePn Pn 14 31 52.7 +0.9
SSF Saint Saulge 9.38 246 ePg Px 14 32 30.1
SSF eSg Sx 14 34 35.1
comp=Z,20nm,0.6s
SSF Saint Saulge 9.38 246 ePn Pn 14 31 52.1 -1.3
SSF ePg Pn 14 32 30.1 +37
SSF eSg Sn 14 34 35.1 +56
SMF Signal de Mont 9.43 243 ePg Px 14 32 30.3
SMF eSg Sx 14 34 31.6
comp=Z,49nm,0.8s
SMF Signal de Mont 9.43 243 ePn Pn 14 31 51.1 -3.0
SMF ePg Pn 14 32 30.3 +36
SMF eSg Sn 14 34 31.6 +51
SMF Signal de Mont 9.43 243 ePg Px 14 32 30.3
SMF eSg Sx 14 34 31.6
comp=Z,24nm,0.8s
ORIF Oris-en-Rattie 9.53 230 ePn Pn 14 31 53.0 -2.4
AVF Avril sur Loir 9.62 245 ePg Px 14 32 34.7
AVF eSg Sx 14 34 33.8
comp=Z,34nm,1.0s
AVF Avril sur Loir 9.62 245 ePn Pn 14 31 52.8 -3.9
AVF ePg Pn 14 32 34.7 +38
AVF eSg Sn 14 34 33.8 +48
SBF Sospel 9.67 220 ePn Pn 14 31 57.6 +0.2
NAO01 NORSAR Array S 9.73 345 ePn Pn 14 31 55.7 -2.4
NAO01 NORSAR Array S 9.73 345 ePn Pn 14 31 55.7 -2.3
NOA NORSAR Array B 9.86 346 Pn Pn 14 31 58.4 -1.5
comp=Z,0.6nm,0.3s,baz=165,slow=12,SNR=8.9
NOA Sn Sn 14 33 48.5 -2.6
comp=Z,0.4nm,0.3s,baz=298,slow=18,SNR=3.0
VIVF Saint-Julien-l 10.16 233 ePn Pn 14 32 03.1 -1.0
PGF Pioggiola 10.25 211 ePn Pn 14 32 04.9 -0.3
FRF La Foret Royal 10.25 222 ePn Pn 14 32 04.9 -0.3
LMR La Mourre 10.49 222 ePn Pn 14 32 08.5 -0.1
TCF Toulx Ste Croi 10.56 245 eSg Sx 14 35 09.6
comp=Z,18nm,0.8s
TCF Toulx Ste Croi 10.56 245 eSg Sx 14 35 09.6
comp=Z,9.2nm,0.8s
LDF La Druitiere 10.84 260 ePn Pn 14 32 10.7 -2.7
LASF Ste Croix 11.13 232 ePn Pn 14 32 15.7 -1.6

FINES FINESS Array B 11.30 25 Pn **Pn 14 32 18.3 -1.3**
comp=Z,1.2nm,0.3s,baz=202,slow=11,SNR=43
FINES Sn **Sn 14 34 18.2 -8.3**
comp=Z,1.2nm,0.3s,baz=209,slow=22,SNR=6.8
FIA1 FINESS Array S 11.30 25 *e*Pn **Pn 14 32 18.0 -1.6**
FIA1 FINESS Array S 11.30 25 *e*Pn **Pn 14 32 18.0 -1.6**
EKA Eskdalemuir Ar 12.07 296 Pn **Pn 14 32 27.0 -3.1**
comp=Z,0.7nm,0.3s,baz=102,slow=13,SNR=17
ESK Eskdalemuir 12.09 296 *e*Pn **Pn 14 32 27.3 -3.2**
ESK *e*Sn **Sn 14 34 37.9 -8.0**
SGMF Saint Gilles 12.47 262 *e*Pn **Pn 14 32 34.4 -1.3**
OBN Obninsk 12.72 66 *e*P **Pn 14 32 44.0 +5.0**
OBN pmax pmax
comp=Z,4.0nm,0.6s
JOF Joensuu 13.98 30 *e*p **Pn 14 32 53.2 -3.0**
comp=Z,2.5nm,0.3s
JOF Joensuu 13.98 30 *e*P **Pn 14 32 53.2 -3.0**
JOF pmax pmax
comp=Z,3.0nm,0.3s
ARCES ARCESS Array B 18.55 10 Pn **Pn 14 33 52.0 -3.1**
comp=Z,0.8nm,0.3s,baz=191,slow=14,SNR=30
ARE0 ARCESS Array S 18.55 10 *e*Pn **Pn 14 33 52.6 -2.5**
KEV Kevo 18.94 12 *e*p **Pn 14 33 56.6 -3.2**
comp=Z,6.4nm,0.6s
KEV Kevo 18.94 12 *e*P **Pn 14 33 56.6 -3.2**
KEV pmax pmax
comp=Z,6.0nm,0.6s
KIV Kislovodsk 19.35 103 *e*P **Pn 14 34 06.8 +1.9**
KIV pmax pmax
comp=Z,2.0nm,1.0s
KIV Kislovodsk 19.35 103 *e*P **Pn 14 34 06.8 +1.9**
comp=Z,2.0nm,1.0s
ARU Arti 25.11 62 *d i*P **P 14 35 03.7 +0.5**
ARU *e* 14 35 36.5
ARU *e*S **S 14 39 30.2 +1.7**
ARU *e*SS 14 40 18.3
ARU pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
ARU Arti 25.11 62 *e*P **P 14 35 03.1 -0.1**
comp=Z,4.5nm,0.6s,mb4.4
ARU Arti 25.11 62 *i*P **P 14 35 03.7 +0.5**
comp=Z,4.0nm,0.8s,mb4.2
AKTK Aktyubinsk 26.14 76 P **P 14 35 13.4 +0.8**
AKTO Aktyubinsk 26.14 76 P **P 14 35 13.4 +0.8**
comp=Z,2.8nm,0.6s,mb4.1,baz=284,slow=8.5,SNR=15
BRVK Borovoye 32.49 66 *e*P **P 14 36 10.0 +1.0**
BRVK pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BRVK Borovoye 32.49 66 *e*P **P 14 36 10.0 +1.0**
comp=Z,2.6nm,0.6s,mb4.3
BRVK Borovoye 32.49 66 *e*P **P 14 36 10.0 +1.0**
comp=Z,2.5nm,0.6s,mb4.3
BVAR Borovoye Array 32.57 66 P **P 14 36 11.4 +1.8**
comp=Z,2.1nm,0.6s,mb4.3,baz=291,slow=7.5,SNR=20
KURK Kurchatov 38.16 66 *e*P **P 14 36 57.5 -0.3**
KURK pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
KURK Kurchatov 38.16 66 *e*P **P 14 36 57.5 -0.2**
comp=Z,1.5nm,0.6s,mb3.9
KURK Kurchatov 38.16 66 *e*P **P 14 36 57.5 -0.3**
comp=Z,1.5nm,0.6s,mb3.9
EKS2 Erkin-Say 39.31 80 *e*P **P 14 37 09.4 +1.9**
comp=Z,2.6nm,0.9s,mb3.9
EKS2 Erkin-Say 39.31 80 *e*P **P 14 37 09.4 +1.9**
comp=Z,2.6nm,0.9s,mb3.9
AML Almayashu 39.55 80 *e*P **P 14 37 05.0 -4.6**
comp=Z,4.0nm,0.5s,mb4.3
AAK Ala-Archa 39.77 79 *i*P **P 14 37 13.6 +2.3**
AAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.0
AAK Ala-Archa 39.77 79 *e*P **P 14 37 12.7 +1.4**
comp=Z,2.7nm,0.8s,mb3.9
AAK Ala-Archa 39.77 79 P **P 14 37 12.5 +1.2**
comp=Z,1.4nm,0.3s,mb4.1,baz=209,slow=11,SNR=6.1
AAK Ala-Archa 39.77 79 *e*P **P 14 37 12.7 +1.4**
comp=Z,2.7nm,0.8s,mb3.9
MKAR Makanchi Array 42.20 69 P **P 14 37 32.9 +1.7**
comp=Z,0.5nm,0.4s,mb3.6,baz=305,slow=6.8,SNR=12
WMQ Urumqi 47.02 70 *e*P **P 14 38 12.0 +2.2**
SCHQ Schefferville 47.02 308 P **P 14 38 08.8 -0.8**
comp=Z,2.3nm,0.6s,mb4.5,baz=284,slow=2.4,SNR=4.8
SONM Songino Array 54.88 55 P **P 14 39 11.7 +2.8**
comp=Z,0.8nm,0.7s,mb3.9,baz=297,slow=9.5,SNR=6.4
YAK Yakutsk 55.15 32⇓ *e*P **P 14 39 11.0 +0.4**
YAK pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
YAK Yakutsk 55.15 32 *e*P **P 14 39 10.6 -0.1**
comp=Z,10nm,0.6s,mb5.0
YAK Yakutsk 55.15 32 *e*P **P 14 39 11.0 +0.4**
comp=Z,9.0nm,0.6s,mb5.0
YKA Yellowknife Ar 59.79 336 *i*P **P 14 39 44.5 +1.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 59.79 336 P **P 14 39 44.4 +1.1**
comp=Z,2.3nm,0.6s,mb4.4,baz=29,slow=6.7,SNR=43
YKA Yellowknife Ar 59.79 336 *i*P **P 14 39 44.5 +1.1**
comp=Z,2.0nm,0.6s,mb4.3
LZH Lanzhou 61.44 67 *e*P **P 14 39 52.1 -2.9**
LZH AMB AMB
comp=Z,15nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,86nm,5.1s
HHC Hu-ho-hao-te 62.35 58 *e*P **P 14 39 59.8 -1.3**
HHC PCP PcP 14 40 40.4 -0.3
HHC S **S 14 48 23.8 -4.6**
HHC AMB AMB
comp=Z,163nm,6.4s
HHC LR LR
comp=N,188nm,22.8s
HHC LR LR
comp=E,164nm,19.8s
HHC LR LR
comp=Z,163nm,20.9s
CD2 Chengdu 65.08 71 *e*P **P 14 40 19.5 +0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
CD2 AMB AMB
comp=Z,20nm,5.2s
GYA Guiyang 70.08 72 P **P 14 40 50.0 -0.9**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb5.0
BMO Blue Mountains 75.86 328 *e*P **P 14 41 26.5 +1.6**
comp=Z,2.4nm,0.7s,mb4.4
PV10 Paradox Valley 78.42 319 *e*P **P 14 41 41.3 +2.0**
BOSA Boshof 80.25 172 P **P 14 41 50.6 +1.4**
BOSA pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
BOSA Boshof 80.25 172 P **P 14 41 50.6 +1.4**
comp=Z,1.3nm,0.6s,mb4.1,baz=25,slow=2.8,SNR=5.2
TXAR Lajitas Array 83.67 310 P **P 14 42 09.2 +1.8**
comp=Z,0.2nm,0.5s,mb3.6,baz=20,slow=4.0,SNR=3.6
ASAR Alice Springs 125.36 84 PKP PKPdf 14 48 39.9 +0.2
comp=Z,0.3nm,0.7s,baz=0.2,slow=1.4,SNR=7.3

MAN 05 14:32:24,1776N×12029E,h21km,mb4.4,ML3.2,MS3.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.41**	**105**	*e*P	Pb	14 32 34.9	+2.2
ABRA				*e*S	Sb	14 32 43.5	+5.0
APYP	**Conner**	**0.91**	**83**	*e*P	Pb	14 32 41.3	+0.1
APYP				*e*S	Sb	14 32 54.9	+2.1
BOLP	**Bolinao**	**1.42**	**195**	*e*P	Pn	14 32 48.6	+0.1
BOLP				*e*S	Sn	14 33 10.8	+4.3
SGCP	**Mt. Cagua**	**1.74**	**74**	*e*P	Pn	14 32 54.8	+1.9
PALP	**Palanan**	**2.15**	**108**	*e*P	Pn	14 33 03.9	+5.3

IDC 05 15:10:21.9±2.1,099S×12745E,h0km,mb2.9/3,mb1 3.1/3, mb1mx3.0/15,mbtmp3.0/3,Error ellipse: s-maj=158.7km s-min=27.7km az=66.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.00**	**161**	P	P	15 14 56.4	+0.1
	0.2nm,0.8s,baz=340,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**23.39**	**165**	P	P	15 15 32.6	0.0
	0.2nm,0.7s,baz=338,slow=11,SNR=4.7						
MKAR	**Makanchi Array**	**61.84**	**326**	P	P	15 20 43.0	+0.1
	0.1nm,0.4s,baz=115,slow=5.8,SNR=4.6						

IDC 05 15:11:33.0±1.2,5526S×2898W,h0km,mb3.7/3, mb1 4.0/3,mb1mx3.7/14,mbtmp3.7/3,Error ellipse: s-maj=58.6km s-min=28.9km az=59.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**35.53**	**313**	P	P	15 18 30.4	-1.0
	0.4nm,0.3s,baz=136,slow=14,SNR=3.1						
VNDA	**Vanda**	**47.31**	**183**	P	P	15 20 07.4	-0.1
	0.6nm,0.8s,baz=224,slow=7.8,SNR=3.5						
LPAZ	**La Paz**	**49.09**	**307**	P	P	15 20 23.1	+1.2
	1.5nm,0.7s,baz=202,slow=7.7,SNR=10						
FINES	**FINESS Array B**	**124.16**	**28**	PKP	PKPdf	15 30 32.5	+0.6
	0.6nm,0.8s,baz=146,slow=2.7,SNR=4.5						
YKA	**Yellowknife Ar**	**134.90**	**319**	PKP	PKPdf	15 30 51.2	-1.1
	0.2nm,0.5s,baz=131,slow=2.3,SNR=3.8						
SONM	**Songino Array**	**151.69**	**86**	PKPbc	PKPbc	15 31 27.9	-0.4
	0.8nm,0.5s,baz=230,slow=3.1,SNR=6.6						

MAN 05 15:22:01,1165N×12520E,h33km,mb4.1,ML2.9,MS2.7, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.24**	**101**	*e*P	Pb	15 22 09.3	+1.2
BESP				*e*S	Sb	15 22 15.6	+2.8
PLP	**Palo**	**0.53**	**204**	*e*P	Pb	15 22 13.3	+1.3
PLP				*e*S	Sb	15 22 21.4	+1.8
CNP	**Catarman**	**1.00**	**329**	*e*P	Pn	15 22 18.7	-0.1
CNP				*e*S	Sn	15 22 31.9	+0.2

ISCJB ***05*** *15:30:24.9±0.3,5143N±002×16.14E±002,h0km,mb3.8/4, Error ellipse: s-maj=2.6km s-min=1.6km az=7.1*
MOS ***05*** *15:30:24.3±0.9,5163N×1610E,h10km,mb4.0/2,Error ellipse: s-maj=6.8km s-min=4.0km az=82.6*
LDG ***05*** *15:30:25.9±0.4,5150N×1608E,h1km,Ml3.9/8,Error ellipse: s-maj=9.8km s-min=5.2km az=6.0,Suspected Mining induced.*
IPEC ***05*** *15:30:25.4±0.3,5157N×1625E,h0km,ML3.2/4,Error ellipse: s-maj=1.9km s-min=1.5km az=41.0*
PRU ***05*** *15:30:27.5,5145N×1611E,h0km,M3.9,Felt In Harrachov*
WAR ***05*** *15:30:27.8,5148N×1611E,ML3.2,Mining Induced*
IDC ***05*** *15:30:27.2±0.6,5148N×1598E,h0km,mb3.7/3, mb1 3.7/12,mb1mx3.5/27,mbtmp3.6/12,ML3.5/9,Error ellipse: s-maj=10.1km s-min=6.4km az=96.0*
CSEM ***05*** *15:30:28.1±0.1,5145N×1607E,h1km,ML3.9/15,Error ellipse: s-maj=2.3km s-min=1.4km az=10.0*
NEIC ***05*** *15:30:28.2,5139N×1610E,h1km,mb3.9/1, ML3.4(SZGRF),After SZGRF.*
BGR ***05*** *15:30:28.2±0.4,5139N×1610E,h1km,ML3.4/15,Error ellipse: s-maj=6.7km s-min=3.3km az=18.0*
ISC 05 15:30:25.9±0.2,5150N±002×1613E±002,h0km,n151, σ1§17/253,mb3.8/4,9C-12D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**15 30 39.6**	**+0.9**
KSP				*e*Sg	**Sg**	**15 30 48.3**	**+0.9**
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**15 30 39.6**	**+0.9**
KSP				*e*Sg	**Sg**	**15 30 48.0**	**+0.7**
KSP	**Ksiaz**	**0.67**	**171**	⇓*i*P	**Pg**	**15 30 39.6**	**+0.9**
KSP				*e*		15 30 48.1	
KSP	**Ksiaz**	**0.67**	**171**	⇓*i*Pg	**Pg**	**15 30 39.6**	**+0.9**
KSP				*e*Sg	**Sg**	**15 30 48.1**	**+0.7**
KSP				*e*		15 30 51.5	
KSP	**Ksiaz**	**0.67**	**171**	*e*Pg	**Pg**	**15 30 39.5**	**+0.8**
KSP				Sg	**Sg**	**15 30 48.0**	**+0.6**
UPC	**Upice**	**1.00**	**184**	*e*Pg	**Pg**	**15 30 45.6**	**+0.6**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pn	**Pn**	**15 30 48.4**	**-0.9**
DPC				*e*Sg	**Sg**	**15 31 03.0**	**-0.1**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*P	**Pg**	**15 30 48.4**	**+0.3**
DPC				*e*		15 31 03.0	
DPC				smax			
	comp=N,190nm,0.4s						
DPC				MLR	MLR		
	comp=Z,300nm,4.1s						
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*Pg	**Pg**	**15 30 48.4**	**+0.3**
DPC				*e*Sg	**Sg**	**15 31 03.0**	**-0.2**
DPC	**Dobruska-Polom**	**1.16**	**174**	*e*PG	**Pg**	**15 30 48.4**	**+0.3**
DPC				*e*SG	**Sg**	**15 31 03.0**	**-0.2**
DPC				AMS	AMS	15 31 10.0	
	comp=Z,190nm,0.4s						
	comp=Z,300nm,4.1s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*P	**Pg**	**15 30 52.8**	**+0.3**
PVCC				*e*		15 31 11.0	
PVCC				smax			
	comp=N,481nm,0.4s						
PVCC				MLR	MLR		
	comp=Z,300nm,3.9s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pg	**Pg**	**15 30 52.8**	**+0.3**
PVCC				*e*Sg	**Sg**	**15 31 11.0**	**+0.6**
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pg	**Pg**	**15 30 52.4**	**-0.1**
PVCC				*e*Sg	**Sg**	**15 31 11.0**	**+0.6**
	comp=Z,481nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pg**	**15 30 52.8**	**+0.3**
PVCC				*e*SG	**Sg**	**15 31 11.0**	**+0.6**
	comp=Z,481nm,0.4s						
PVCC				AMS	AMS	15 31 20.0	
	comp=Z,300nm,3.9s						
BRG	**Berggiesshubel**	**1.52**	**246**	*e*Pn	**Pn**	**15 30 53.9**	**-0.3**
BRG				*e*Sg	**Sg**	**15 31 15.6**	**+1.1**
BRG	**Berggiesshubel**	**1.52**	**246**	P	**Pn**	**15 30 53.9**	**-0.3**
BRG						15 31 15.7	
BRG				smax			
	comp=N,156nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pn**	**15 30 53.9**	**-0.3**
BRG				PG	**Pg**	**15 30 55.8**	**+0.9**
BRG				SG	**Sg**	**15 31 15.7**	**+1.2**
	comp=N,261nm,0.4s						
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**15 30 57.1**	**-0.3**
RUE				*e*S	**Sn**	**15 31 24.2**	**+3.7**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**15 30 57.2**	**-0.3**
RUE				*e*S	**Sn**	**15 31 24.2**	**+3.7**
PRA	**Prague**	**1.79**	**218**	PG	**Pg**	**15 30 57.0**	**-3.3**
PRA				SG	**Sg**	**15 31 23.0**	**-0.5**
PRU	**Pruhonice**	**1.82**	**214**	*e*P	**Pn**	**15 30 58.3**	**-0.1**
PRU				*e*		15 31 23.1	
PRU				smax			
	comp=N,114nm,0.6s						
PRU				MLR	MLR		
	comp=Z,300nm,3.9s						
PRU	**Pruhonice**	**1.82**	**214**	*e*Pn	**Pn**	**15 30 58.3**	**-0.1**
PRU				*e*Pg	**Pg**	**15 31 00.0**	**-0.8**
PRU				*e*Sg	**Sg**	**15 31 23.1**	**-1.3**
PRU	**Pruhonice**	**1.82**	**214**	*e*Pg	**Pg**	**15 31 00.0**	**-0.8**
PRU				*e*Sg	**Sg**	**15 31 23.1**	**-1.3**
	comp=Z,114nm,0.6s						
PRU	**Pruhonice**	**1.82**	**214**	*e*PN	**Pn**	**15 30 58.3**	**-0.1**
PRU				*e*PG	**Pg**	**15 31 00.0**	**-0.8**
PRU				*e*SG	**Sg**	**15 31 23.1**	**-1.3**
	comp=Z,114nm,0.6s						
PRU				AMS	AMS	15 31 30.0	
	comp=Z,300nm,3.9s						
FBE	**Freiberg**	**1.84**	**253**	*e*Pn	**Pn**	**15 30 58.5**	**-0.2**
FBE				*e*Sg	**Sg**	**15 31 25.8**	**+0.8**
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pn	**Pn**	**15 31 06.8**	**+7.3**
GKP				*e*Sn	**Sn**	**15 31 31.8**	**+7.8**
GKP	**Gorka Klasztor**	**1.89**	**21**	*e*Pn	**Pn**	**15 31 06.8**	**+7.4**
GKP				*e*Sn	**Sn**	**15 31 31.7**	**+7.7**
RAC	**Raciborz**	**1.93**	**137**	*e*Pg	**Pg**	**15 31 02.7**	**-0.2**
RAC				*e*Sg	**Sg**	**15 31 27.3**	**-0.7**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**15 31 00.4**	**+0.2**
MORC				*e*Sg	**Sg**	**15 31 26.0**	**-2.5**
MORC	**Moravsky Berou**	**1.95**	**152**	⇓P	**Pn**	**15 31 00.3**	**+0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**15 31 00.1**	**-0.1**
MORC				*e*S	**Sn**	**15 31 28.6**	**+3.2**
MORC	**Moravsky Berou**	**1.95**	**152**	⇓*i*P	**Pn**	**15 31 00.3**	**+0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**15 31 00.1**	**-0.1**
MORC				*e*Sg	**Sg**	**15 31 27.4**	**-1.1**
	comp=Z,120nm,0.5s						
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**15 31 00.1**	**-0.4**
CLL	**Collm**	**1.97**	**265**	*i*Pn	**Pn**	**15 31 00.1**	**-0.3**
CLL				*i*Pg	**Pg**	**15 31 04.1**	**+0.5**
CLL				*i*Sg	**Sg**	**15 31 28.8**	**-0.3**
CLL	**Collm**	**1.97**	**265**	*i*Pn	**Pn**	**15 31 00.1**	**-0.3**
CLL				*i*Pg	**Pg**	**15 31 04.1**	**+0.5**
CLL				*i*x	x	15 31 07.6	
CLL				*i*x	x	15 31 18.2	
CLL				*i*Sg	**Sg**	**15 31 28.8**	**-0.3**
	comp=Z,95nm,0.6s						
CLL				*i*x	x	15 31 38.6	
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*Pn	**Pn**	**15 31 01.9**	**-0.4**
OKC				*e*Sg	**Sg**	**15 31 32.4**	**-1.0**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*SG	**Sg**	**15 31 32.4**	**-1.1**
	comp=Z,137nm,0.6s						
VRAC	**Vranov**	**2.22**	**172**	Pn	**Pn**	**15 31 05.1**	**+1.3**
	comp=Z,4.9nm,0.3s,baz=337,slow=15,SNR=20						
VRAC				Lg		15 31 36.4	
	comp=Z,5.5nm,0.3s,baz=197,slow=22,SNR=4.2						
VRAC	**Vranov**	**2.22**	**172**	⇑*i*P	**Pn**	**15 31 05.3**	**+1.4**
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**15 31 04.1**	**+0.2**
VRAC				*e*Sg	**Sg**	**15 31 36.5**	**-0.6**
	comp=Z,97nm,0.4s						
TREC	**Trest**	**2.25**	**191**	*e*PN	**Pn**	**15 31 05.0**	**+0.7**
TREC				*e*PG	**Pg**	**15 31 08.3**	**-0.7**
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**15 31 07.4**	**+0.3**
KRUC				*e*Sg	**Sg**	**15 31 44.2**	**-0.4**
	comp=Z,147nm,0.9s						
TANN	**Tannenbergstha**	**2.56**	**246**	*e*Pn	**Pn**	**15 31 08.9**	**+0.3**
TANN				*e*Sg	**Sg**	**15 31 46.8**	**-1.4**
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**15 31 10.3**	**+0.6**
WERD				*e*Sg	**Sg**	**15 31 50.0**	**-0.6**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn	**Pn**	**15 31 08.8**	**-1.1**
OJC				*e*Pg	**Pg**	**15 31 17.5**	**+0.7**
OJC				*e*Sn	**Sn**	**15 31 39.5**	**-3.3**
OJC				*e*Sg	**Sg**	**15 31 52.6**	**+1.4**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn	**Pn**	**15 31 10.3**	**+0.4**
OJC				*e*Sg	**Sg**	**15 31 53.7**	**+2.5**
OJC	**Ojcow**	**2.66**	**118**	*e*P	**Pn**	**15 31 08.8**	**-1.1**
OJC				*e*		15 31 39.5	
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**15 31 17.5**	**+0.7**
OJC				*e*Sn	**Sn**	**15 31 39.5**	**-3.3**
OJC				Sg	**Sg**	**15 31 53.7**	**+2.5**
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**15 31 16.9**	**+0.1**
NKC				*e*Sg	**Sg**	**15 31 52.1**	**+0.9**
	comp=Z,115nm,0.3s						
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**15 31 10.4**	**+0.5**
NKC				*e*PG	**Pg**	**15 31 16.9**	**+0.1**
NKC				*e*SG	**Sg**	**15 31 52.1**	**+0.9**
	comp=Z,115nm,0.3s						
JAVC	**Velka Javorina**	**2.83**	**159**	*e*Pn	**Pn**	**15 31 13.6**	**+1.4**
JAVC				*e*Sg	**Sg**	**15 31 56.3**	**-0.3**
	comp=Z,98nm,0.7s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pg	**Pg**	**15 31 19.4**	**-1.7**
KHC				*e*Sn	**Sn**	**15 31 48.5**	**+0.1**
KHC				*e*Sg	**Sg**	**15 31 57.4**	**-1.1**
	comp=Z,57nm,0.5s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**15 31 12.9**	**-0.1**
KHC				*e*PG	**Pg**	**15 31 19.4**	**-1.7**
KHC				*e*SN	**Sn**	**15 31 48.5**	**+0.1**
KHC				*e*SG	**Sg**	**15 31 57.4**	**-1.1**
	comp=Z,57nm,0.5s						
MANZ	**Manzenberg**	**2.97**	**241**	*e*Pn	**Pn**	**15 31 14.9**	**+0.7**
MOX	**Moxa**	**2.98**	**255**	*e*Pn	**Pn**	**15 31 14.6**	**+0.3**
MOX				*e*Sg	**Sg**	**15 32 02.8**	**+1.4**
MOX	**Moxa**	**2.98**	**255**	*e*PN	**Pn**	**15 31 14.5**	**+0.2**
MOX				*e*PG	**Pg**	**15 31 22.4**	**-0.5**
MOX				*e*SG	**Sg**	**15 32 02.7**	**+1.3**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn	**Pn**	**15 31 15.9**	**+0.7**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**15 31 16.6**	**+0.8**
GEC2				*e*Sg	**Sg**	**15 32 05.1**	**+0.2**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**15 31 16.6**	**+0.8**
GEC2				*e*Sg	**Sg**	**15 32 05.1**	**+0.1**
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**15 31 16.4**	**+0.6**
	comp=Z,4.1nm,0.3s,baz=29,slow=12,SNR=92						
GERES				Sn	**Sn**	**15 31 55.4**	**+2.1**
	comp=Z,6.8nm,0.3s,baz=39,slow=26,SNR=7.4						
GERES				Lg		15 32 02.5	
	comp=Z,12nm,0.3s,baz=26,slow=31,SNR=4.9						
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**15 31 16.4**	**+0.6**
GERES				S	**Sn**	**15 31 55.4**	**+2.0**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**15 31 17.4**	**+0.7**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**15 31 17.4**	**+0.7**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*P	**Pn**	**15 31 19.4**	**+1.8**
MODS				*e*		15 32 07.9	
MODS				pmax	pmax		
	comp=N,38nm,0.8s						
MODS	**Modra-Piesok**	**3.22**	**166**	*e*PN	**Pn**	**15 31 19.4**	**+1.8**
MODS				*e*PG	**Pg**	**15 31 27.7**	**+0.1**
MODS				*e*SG	**Sg**	**15 32 07.9**	**-1.4**
KOLL	**Kolacno**	**3.27**	**153**	*e*PN	**Pn**	**15 31 19.5**	**+1.1**
KOLL				*e*PG	**Pg**	**15 31 29.0**	**+0.4**
KOLL				*e*SG	**Sg**	**15 32 11.0**	**0.0**
ZST	**Bratislava**	**3.37**	**169**	*e*SG	**Sg**	**15 32 13.4**	**-0.7**
NIE	**Niedzica**	**3.39**	**126**	*e*Pn	**Pn**	**15 31 20.4**	**+0.4**
NIE				*e*Pg	**Pg**	**15 31 29.5**	**-1.3**
NIE				*e*Sg	**Sg**	**15 32 14.5**	**-0.3**
VYHS	**Vyhne**	**3.48**	**149**	*e*P	**Pn**	**15 31 21.3**	**+0.1**
VYHS				pmax	pmax		
	comp=N,10.0nm,0.7s						
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**15 31 21.3**	**+0.1**
VYHS				*e*PG	**Pg**	**15 31 32.2**	**-0.4**
VYHS				*e*SG	**Sg**	**15 32 17.3**	**-0.4**
CONA	**Conrad Observa**	**3.58**	**183**	⇓*i*Pn	**Pn**	**15 31 23.2**	**+0.6**
CONA				⇑*i*Sg	**Sg**	**15 32 18.5**	**-2.4**
	comp=N,79nm,0.7s						
GRA1	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**15 31 23.7**	**+0.6**
GRA1	**Grafenberg Arr**	**3.62**	**242**	Pn	**Pn**	**15 31 23.7**	**+0.6**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**15 31 23.7**	**+0.6**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**15 31 23.5**	**+0.4**
GRFO				*e*Pg	**Pg**	**15 31 37.2**	**+2.1**
GRFO				*e*S	**Sg**	**15 32 19.9**	**-2.1**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**15 31 23.5**	**+0.4**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pg	**Pg**	**15 31 37.2**	**+2.0**
SOP	**Sopron**	**3.83**	**176**	⇓*e*Pn	**Pg**	**15 31 38.8**	**-0.5**
SOP				*e*SB	**Sb**	**15 32 23.1**	**+1.8**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**15 31 27.0**	**+0.6**
MOA				⇓*i*Sg	**Sg**	**15 32 29.4**	**-0.2**
	comp=N,55nm,0.6s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*P	**Pn**	**15 31 27.4**	**+0.7**
STHS				pmax	pmax		
	comp=N,33nm,0.6s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PN	**Pn**	**15 31 27.4**	**+0.7**
STHS				*e*PG	**Pg**	**15 31 41.3**	**+1.1**
STHS				*e*SG	**Sg**	**15 32 33.5**	**+3.1**
ARSA	**Arzberg**	**4.28**	**186**	⇑*i*Pn	**Pn**	**15 31 32.5**	**+0.3**
ARSA				⇓*i*Sg	**Sg**	**15 32 41.3**	**-1.9**
	comp=N,61nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.30**	**125**	*e*P	**Pn**	**15 31 33.3**	**+0.8**

BFO *eS* **Sg** **15 33 33.0 -4.1**
DAVOS Davos **6.25 224** P **Pn** **15 31 59.8 +0.6**
DAVOX Davos/Dischmat **6.26 223** Pn **Pn** **15 31 59.8 +0.5**
comp=Z,0.9nm,0.3s,baz=33,slow=13,SNR=8.7
DAVOX Lg 15 33 44.2
comp=Z,0.8nm,0.3s,baz=179,slow=23,SNR=3.3
DRGR **6.39 135⇑** *i P* **Pn** **15 32 01.8 +0.6**
HGN Heimansgroeve **6.46 267** *eS* **Sb** **15 33 36.2 -0.6**
CDF Champ du Feu **6.50 245** *e*Pn **Pn** **15 32 01.7 -0.9**
CDF *eSg* **Sg** **15 33 48.5 -5.9**
comp=Z,47nm,0.8s
CDF Champ du Feu **6.50 245** *e*Pn **Pn** **15 32 01.7 -0.9**
CDF *eSg* **Sg** **15 33 48.5 -5.9**
comp=Z,24nm,0.8s
HINF Hinteralfeld **7.06 242** *e*Pn **Pn** **15 32 09.0 -1.4**
HINF *eSg* **Sg** **15 34 05.5 -7.0**
comp=Z,31nm,0.8s
HINF Hinteralfeld **7.06 242** *e*Pn **Pn** **15 32 09.0 -1.4**
HINF *eSg* **Sg** **15 34 05.5 -7.0**
comp=Z,15nm,0.8s
BURAR Bucovina Array **7.08 120⇑** *i P* **Pn** **15 32 11.6 +1.0**
HAU Haudompre **7.24 245** *e*Pn **Pn** **15 32 10.5 -2.3**
HAU *eSg* **Sg** **15 34 11.9 -6.3**
comp=Z,27nm,0.8s
HAU Haudompre **7.24 245** *e*Pn **Pn** **15 32 10.5 -2.3**
HAU *eSg* **Sg** **15 34 11.9 -6.3**
comp=Z,14nm,0.8s
BAIF Baives **7.70 264** *e*Sg **Sg** **15 34 25.5 -7.4**
comp=Z,19nm,0.9s
BAIF Baives **7.70 264** *e*Sg **Sg** **15 34 25.5 -7.4**
comp=Z,9.4nm,0.9s
SFTF Sexfontaines **7.89 250** *e*Sg **Sg** **15 34 32.1 -7.0**
comp=Z,54nm,1.2s
SFTF Sexfontaines **7.89 250** *e*Sg **Sg** **15 34 32.1 -7.0**
comp=Z,27nm,1.2s
CABF La Chapelle **8.21 237** *e*Sg **Sg** **15 34 39.5 -10**
comp=Z,41nm,1.0s
KIEV Kiev **8.28 91** *e*P **Pn** **15 32 26.2 -0.8**
KIEV *e* 15 33 57.5
KIEV pmax pmax
comp=Z,8.0nm,0.6s
KIEV Kiev **8.28 91** *e*Pn **Pn** **15 32 26.2 -0.8**
comp=Z,8.1nm,0.6s
KIEV *e*Pg **Pg** **15 33 02.4 -1.9**
KIEV *e*Sn **Sn** **15 33 57.5 -3.6**
AKASG Malin Array Be **8.28 90** *i* P **Pn** **15 32 28.0 +0.9**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be **8.28 90** Pn **Pn** **15 32 26.1 -1.0**
comp=Z,2.4nm,0.3s,baz=281,slow=12,SNR=17
AKASG Sn **Sn** **15 33 56.3 -5.0**
comp=Z,1.1nm,0.3s,baz=273,slow=23,SNR=3.8
AKASG Lg 15 34 56.8
comp=Z,0.3nm,0.3s,baz=280,slow=27,SNR=4.9
AKASG Malin Array Be **8.28 90** Sn **Sn** **15 33 56.3 -5.0**
AKBB Malin Array Si **8.28 90** *e*Pn **Pn** **15 32 28.2 +1.1**
AKBB *e*Pg **Pg** **15 33 01.5 -3.0**
LPL La Plagne **8.64 230** *e*Pn **Pn** **15 32 32.4 +0.3**
LPG La Plagne **8.65 230** *e*Pn **Pn** **15 32 32.8 +0.6**
HFS Hagfors **8.76 352** Pn **Pn** **15 32 32.9 -0.7**
comp=Z,0.3nm,0.3s,baz=153,slow=13,SNR=7.6
HFS Sn **Sn** **15 34 09.0 -3.9**
comp=Z,0.3nm,0.3s,baz=167,slow=27,SNR=3.6
MBDF Montbardon **9.22 226** *e*Pn **Pn** **15 32 37.9 -2.1**
VSU Vasula **9.25 37⇓** *e*P **Pn** **15 32 41.4 +1.0**
SBF Sospel **9.63 221** *e*Pn **Pn** **15 32 46.2 +0.6**
NOA NORSAR Array B **9.94 346** Pn **Pn** **15 32 47.3 -2.5**
comp=Z,0.3nm,0.3s,baz=170,slow=12,SNR=4.0
NOA Sn **Sn** **15 34 36.8 -5.1**
comp=Z,0.2nm,0.3s,baz=190,slow=10.0,SNR=2.6
NOA NORSAR Array B **9.94 346** Sn **Sn** **15 34 36.8 -5.1**
FRF La Foret Royal **10.20 223** *e*Pn **Pn** **15 32 53.1 -0.4**
LMR La Mourre **10.45 222** *e*Pn **Pn** **15 32 56.9 +0.1**
FINES FINESS Array B **11.36 25** Pn **Pn** **15 33 07.3 -2.0**
comp=Z,0.3nm,0.3s,baz=204,slow=10,SNR=13
FINES Sn **Sn** **15 35 09.2 -7.6**
comp=Z,0.4nm,0.3s,baz=212,slow=19,SNR=5.9
EKA Eskdalemuir Ar **12.12 296** Pn **Pn** **15 33 16.5 -3.1**
comp=Z,0.3nm,0.3s,baz=103,slow=14,SNR=5.9
OBN Obninsk **12.73 66⇓** *e*P **Pn** **15 33 26.5 -1.5**
OBN *eS* **Sn** **15 35 49.2 -1.2**
OBN pmax pmax
comp=Z,5.0nm,0.8s
ESDC Sonseca Array **18.31 238** Pn **Pn** **15 34 39.7 -1.4**
comp=Z,0.1nm,0.3s,baz=42,slow=14,SNR=2.6
ARCES ARCESS Array B **18.63 10** Pn **Pn** **15 34 41.7 -3.1**
comp=Z,0.6nm,0.3s,baz=135,slow=13,SNR=17
ARU Arti **25.13 62⇑** *e*P **P** **15 35 53.6 +1.4**
ARU pmax pmax
comp=Z,6.0nm,1.4s,mb4.1
ARU Arti **25.13 62** *e*P **P** **15 35 52.3 +0.2**
comp=Z,1.0nm,0.4s,mb3.9
ARU Arti **25.13 62** *e*P **P** **15 35 53.6 +1.4**
comp=Z,6.0nm,1.4s,mb4.1
AKTK Aktyubinsk **26.14 76** P **P** **15 36 04.3 +2.9**
AKTK Aktyubinsk **26.14 76** P **P** **15 36 04.3 +2.9**
AKTO Aktyubinsk **26.14 76** P **P** **15 36 04.3 +2.9**
comp=Z,1.0nm,0.6s,mb3.6,baz=272,slow=12,SNR=4.2
KBS Kingsbay **27.58 358** *i* P **P** **15 36 07.3 -6.8**
BVAR Borovoye Array **32.58 66** P **P** **15 37 00.4 +1.9**
comp=Z,0.6nm,0.6s,mb3.7,baz=281,slow=8.5,SNR=5.8
MKAR Makanchi Array **42.20 69** *i* P **P** **15 38 16.7 -3.5**
YKA Yellowknife Ar **59.87 336** P **P** **15 40 34.0 +1.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar **59.87 336** P **P** **15 40 34.0 +1.3**
comp=Z,0.5nm,0.6s,mb3.7,baz=29,slow=6.8,SNR=10

IDC ***05*** *15:35:16.0±1.0,3744N×7481E,h0km,mb3.7/11, mb1 3.9/15,mb1mx3.8/25,mbtmp3.8/15,ML3.5/4,Error ellipse: s-maj=21.9km s-min=15.3km az=50.0*
ISCJB ***05*** *15:35:21.1±0.6,3739N±003×7480E±009,h53km±8km, mb3.6/12,Error ellipse: s-maj=12.6km s-min=4.7km az=166.9*
NNC ***05*** *15:35:21.3±3.8,3777N×7393E,h0km,mb3.9,mpv4.0, Error ellipse: s-maj=31.0km s-min=25.2km az=11.0*
BJI ***05*** *15:35:23.6,3767N×7482E,h78km,mb4.1*
NEIC ***05*** *15:35:25.3±2.6,3765N×7493E,h69km±19km,mb3.6/1, Error ellipse: s-maj=25.1km s-min=11.9km az=198.0*
ISC 05 15:35:23.1±0.5,3740N±003×7478E±009,h55km±7km,n49, σ1⁹05/59,mb3.6/12,9C-3D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.31**	**24**	*i* P	**Pn**	**15 35 59.5**	**+0.9**
KZA	**Kyzart** SNR=50	**4.68**	**4**	P	**Pn**	**15 36 30.7**	**-0.4**
AML	**Almayashu**	**4.80**	**350**	*e*Pn	**Pn**	**15 36 31.2**	**-1.5**
AML	**Almayashu** SNR=5.1	**4.80**	**350**	P	**Pn**	**15 36 35.4**	**+2.7**
UCH	**Uchtor** SNR=13	**4.82**	**358**	P	**Pn**	**15 36 33.2**	**+0.1**
DLH	**Dalhousie**	**4.95**	**168**	*ex*	x	15 36 42.0	
DLH				*eS*	**Sn**	**15 37 33.0**	**+2.3**
ULHL	**Ulahol** SNR=8.2	**4.97**	**13**	P	**Pn**	**15 36 36.3**	**+1.3**
THN	**Thein Dam**	**5.02**	**171**	*e*P	**Pn**	**15 36 36.8**	**+1.0**
THN				*ex*	x	15 37 46.9	
AAK	**Ala-Archa**	**5.23**	**358**	Pn	**Pn**	**15 36 38.6**	**0.0**
AAK				Pg	**Pn**	**15 36 51.0**	**+12**
AAK				Lg		15 37 58.4	
AAK	**Ala-Archa** 1.7nm,0.3s,baz=159,slow=8.8,SNR=21	**5.23**	**358**	Pn	**Pn**	**15 36 38.6**	**0.0**
AAK	3.6nm,0.3s,baz=152,slow=12,SNR=12			Pg	**Pn**	**15 36 51.0**	**+12**
AAK	2.3nm,0.3s,baz=335,slow=9.9,SNR=3.7			Lg		15 37 58.4	
AAK	**Ala-Archa** SNR=13	**5.23**	**358**	P	**Pn**	**15 36 39.6**	**+1.0**
KBK	**Karagaybulak** SNR=13	**5.25**	**1**	P	**Pn**	**15 36 40.3**	**+1.4**
EKS2	**Erkin-Say** SNR=19	**5.31**	**352**	P	**Pn**	**15 36 40.4**	**+0.7**
TKM2	**Tokmak 2** 23nm,0.5s	**5.55**	**6**	⇑P	**Pn**	**15 36 42.9**	**0.0**
TKM2	37nm,0.7s			⇑S	**Sn**	**15 37 45.9**	**+0.5**
TKM2	**Tokmak 2**	**5.55**	**6**	*e*Pn	**Pn**	**15 36 42.5**	**-0.4**
TKM2	**Tokmak 2** SNR=74	**5.55**	**6**	P	**Pn**	**15 36 42.9**	**-0.1**
CHMS	**Chumysh** SNR=7.0	**5.59**	**360**	P	**Pn**	**15 36 43.3**	**-0.3**
KLP	**Kalpa**	**6.52**	**153**	*e*P	**Pn**	**15 36 57.0**	**+0.7**
KLP				*eS*	**Sn**	**15 38 08.5**	**-0.8**
KLP				AML	AML	15 38 51.4	
KLP	comp=N,39nm,1.0s			AML	AML	15 38 51.5	
	comp=E,74nm,0.5s						
KK31	**Karatay Array** comp=E,2.3nm,0.3s,baz=139,slow=13,SNR=54	**6.56**	**332**	⇑Pn	**Pn**	**15 36 53.8**	**-3.1**
KK31	comp=E,11nm,0.5s			⇑Sn	**Sn**	**15 38 06.1**	**-4.2**
JOSI	**Joshimath**	**7.90**	**148**	*e*P	**Pn**	**15 37 15.3**	**+0.1**
JOSI				*eS*	**Sn**	**15 38 40.5**	**-2.7**
JOSI				AML	AML	15 38 55.5	
JOSI	comp=N,69nm,0.5s			AML	AML	15 38 55.8	
	comp=E,125nm,0.5s						
SONA	**Sohna**	**9.33**	**167**	*e*P	**Pn**	**15 37 33.6**	**-1.2**
SONA				*eS*	**Sn**	**15 39 12.1**	**-6.2**
SONA				AML	AML	15 39 22.5	
SONA	comp=E,15nm,0.5s			AML	AML	15 39 23.6	
	comp=N,11nm,0.2s						
KUDL	**Kundal**	**9.34**	**171**	*e*P	**Pn**	**15 37 34.4**	**-0.7**
KUDL				*eS*	**Sn**	**15 39 13.8**	**-4.8**
KUDL				AML	AML	15 39 19.8	
	comp=N,4.2nm,0.3s						
MKAR	**Makanchi Array** comp=N,0.1nm,0.3s,baz=223,slow=12,SNR=8.7	**10.91**	**28**	Pn	**Pn**	**15 37 55.4**	**-1.0**
KURBB	**Kurchatov Arra** comp=N,0.9nm,1.6s	**13.49**	**10**	⇑Pn	**Pn**	**15 38 26.7**	**-4.7**
KURBB	comp=N,2.0nm,1.6s			⇓Lg		15 42 17.5	
KURK	**Kurchatov**	**13.59**	**10**	⇑Pn	**Pn**	**15 38 27.6**	**-5.3**
KURK				⇓Lg		15 42 16.1	
	comp=N,14nm,1.7s						
BVA0	**Borovoye Array** comp=N,0.3nm,0.6s,baz=159,slow=8.2,SNR=16	**15.92**	**350**	Pn	**Pn**	**15 39 04.3**	**+1.0**
BVAR	**Borovoye Array** comp=N,0.9nm,0.3s,baz=164,slow=9.5,SNR=15	**15.92**	**350**	Pn	**Pn**	**15 39 04.0**	**+0.7**
BRVK	**Borovoye** comp=N,4.3nm,1.0s	**15.97**	**350**	*e*P	**Pn**	**15 39 02.6**	**-1.3**
AB31	**Akbulak array** comp=N,1.2nm,0.6s,baz=132,slow=13,SNR=17	**15.99**	**322**	⇑Pn	**Pn**	**15 38 57.4**	**-6.9**
AB31	comp=N,0.4nm,0.5s,baz=128,slow=24,SNR=4.8			⇑Sn	**Sn**	**15 41 47.5**	**-13**
AKTK	**Aktyubinsk**	**17.71**	**323**	P	**Pn**	**15 39 25.4**	**-0.2**
AKTO	**Aktyubinsk**	**17.71**	**323**	⇑Pn	**Pn**	**15 39 21.7**	**-3.9**
AKTO	comp=N,0.3nm,2.0s			⇓Sn	**Sn**	**15 42 29.1**	**-13**
AKTO	**Aktyubinsk** comp=N,0.5nm,0.3s,baz=127,slow=18,SNR=7.3	**17.71**	**323**	P	**Pn**	**15 39 25.4**	**-0.2**
ZAA0	**Zalesovo Array**	**17.94**	**20**	*e*P	**Pn**	**15 39 24.3**	**-4.1**
ZALV	**Zalesovo Beam**	**17.94**	**20**	P	**Pn**	**15 39 25.4**	**-3.0**
ZALV	**Zalesovo Beam** comp=N,0.5nm,0.3s,baz=209,slow=11,SNR=14	**17.94**	**20**	P	**Pn**	**15 39 25.4**	**-3.0**
GTA	**Gaotai**	**19.71**	**76**	*e*P	**Pn**	**15 39 48.9**	**-0.8**
GTA	comp=Z,3.0nm,1.0s			AMB	AMB		
SONM	**Songino Array** comp=Z,2.1nm,0.9s,mb3.7,baz=260,slow=10,SNR=9.5	**25.33**	**56**	P	**P**	**15 40 45.5**	**+0.9**
JOF	**Joensuu** comp=Z,0.7nm,0.3s,mb4.0	**36.65**	**328**	*ep*	**P**	**15 42 23.7**	**-0.2**
MLR	**Muntele Rosu** comp=Z,1.5nm,0.6s,mb4.0,baz=196,slow=12,SNR=3.4	**37.00**	**298**	P	**P**	**15 42 28.4**	**+1.3**
FINES	**FINESS Array B** comp=Z,0.7nm,0.4s,mb3.7,baz=115,slow=10,SNR=11	**38.47**	**325**	P	**P**	**15 42 39.0**	**-0.3**
ARCES	**ARCESS Array B** comp=Z,1.6nm,0.5s,mb3.9,baz=106,slow=8.9,SNR=15	**41.50**	**336**	P	**P**	**15 43 03.2**	**-1.1**
KSRS	**Korea Array** comp=Z,0.6nm,0.8s,mb3.3,baz=296,slow=10,SNR=3.7	**41.72**	**73**	P	**P**	**15 43 07.1**	**+0.5**
HFS	**Hagfors** comp=Z,1.1nm,0.5s,mb3.8,baz=96,slow=14,SNR=6.4	**44.25**	**321**	P	**P**	**15 43 27.2**	**+0.5**
NB2	**NORSAR Subarra** comp=Z,0.7nm,0.6s,mb3.8,baz=92,slow=7.9	**45.50**	**322**	P	**P**	**15 43 37.4**	**+0.8**
NOA	**NORSAR Array B** comp=Z,0.5nm,0.6s,mb3.6,baz=92,slow=7.5,SNR=3.0	**45.50**	**322**	P	**P**	**15 43 36.8**	**+0.2**
MJAR	**Matsushiro Arr** comp=Z,1.0nm,0.8s,mb3.9,baz=296,slow=9.6,SNR=5.3	**49.80**	**71**	P	**P**	**15 44 10.3**	**0.0**
WRA	**Warramunga Arr** comp=Z,0.2nm,0.5s,mb3.3,baz=316,slow=4.4,SNR=6.5	**79.95**	**125**	P	**P**	**15 47 26.3**	**-0.1**
YKA	**Yellowknife Ar** comp=Z,0.2nm,0.5s,mb3.4,baz=346,slow=4.9,SNR=4.8	**80.16**	**4**	P	**P**	**15 47 26.1**	**-0.8**
ASAR	**Alice Springs** comp=Z,0.2nm,0.7s,mb3.2,baz=313,slow=5.7,SNR=4.3	**82.34**	**127**	P	**P**	**15 47 39.9**	**+0.9**

ISCJB ***05*** *15:43:05.3±1.2,3628N±005×703E±0.1,h142km±13km, mb3.5/7,Error ellipse: s-maj=16.1km s-min=5.7km az=155.9*
NNC ***05*** *15:43:08.1±11.0,3656N×6962E,h130km±133km,mb2.8, mpv4.4,Error ellipse: s-maj=86.0km s-min=53.6km az=17.0*
IDC ***05*** *15:43:08.2±5.1,3626N×7072E,h153km±44km,mb3.3/7, mb1 3.4/9,mb1mx3.2/22,mbtmp3.3/9,Error ellipse: s-maj=36.4km s-min=19.0km az=33.0*
ISC 05 15:43:06.0±1.2,3625N±005×702E±01,h139km±12km,n34, σ1⁹09/43,mb3.5/7,4C-3D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.92**	**128**	*e*P	**Pn**	**15 44 32.5**	**+1.1**
THN				*eS*	**Sn**	**15 45 37.6**	**-0.6**
AML	**Almayashu** SNR=69	**6.46**	**23**	P	**Pn**	**15 44 39.3**	**+0.7**
UCH	**Uchtor** SNR=14	**6.83**	**28**	P	**Pn**	**15 44 44.4**	**+0.8**
KK31	**Karatay Array** 14nm,0.5s,baz=190,slow=13,SNR=132	**6.85**	**2**	⇑P	**Pn**	**15 44 43.4**	**-0.4**
KK31	12nm,0.4s,baz=194,slow=22			⇑S	**Sn**	**15 45 58.4**	**-2.0**
EKS2	**Erkin-Say** SNR=15	**6.96**	**22**	P	**Pn**	**15 44 46.0**	**+0.7**
KZA	**Kyzart** SNR=11	**7.00**	**32**	P	**Pn**	**15 44 46.5**	**+0.7**
AAK	**Ala-Archa** 2.3nm,0.3s,baz=199,slow=7.3,SNR=28	**7.17**	**26**	P	**Pn**	**15 44 48.5**	**+0.3**
AAK	1.9nm,0.3s,baz=124,slow=24,SNR=8.4			S	**Sn**	**15 46 06.4**	**-1.9**
AAK	**Ala-Archa** SNR=10	**7.17**	**26**	P	**Pn**	**15 44 49.3**	**+1.1**
CHMS	**Chumysh** SNR=14	**7.58**	**26**	P	**Pn**	**15 44 53.7**	**0.0**
USP	**Ospenovka** SNR=18	**7.74**	**24**	P	**Pn**	**15 44 56.0**	**+0.3**
TKM2	**Tokmak 2**	**7.84**	**30**	P	**Pn**	**15 44 57.4**	**+0.2**
TKM2				S	**Sn**	**15 46 25.2**	**+0.9**
TKM2	**Tokmak 2** SNR=7.3	**7.84**	**30**	P	**Pn**	**15 44 57.8**	**+0.6**
MKAR	**Makanchi Array** 0.2nm,0.3s,baz=212,slow=11,SNR=8.0	**13.86**	**37**	P	**Pn**	**15 46 17.8**	**+1.5**
KOLN	**Koldanda**	**14.13**	**123**	*e*P	**Pn**	**15 46 16.9**	**-3.0**
KOLN				*eS*	**Sn**	**15 48 44.8**	**-12**
GKN	**Gorkha**	**14.70**	**120**	*e*P	**Pn**	**15 46 25.4**	**-1.7**
GKN				*eS*	**Sn**	**15 48 59.3**	**-11**
AB31	**Akbulak array** 1.7nm,0.4s,baz=144,slow=12,SNR=53	**15.02**	**333**	⇓P	**Pn**	**15 46 30.0**	**-0.9**
AB31	1.5nm,0.5s,baz=157,slow=24,SNR=6.3			S	**S**	**15 49 06.3**	**-18**
KKN	**Kakani**	**15.28**	**119**	*e*P	**Pn**	**15 46 34.8**	**+0.4**
PKIN	**Phulchoki** 4.4nm,0.4s	**15.49**	**120**	*e*P	**Pn**	**15 46 36.6**	**-0.4**
PKI	**Pulchoki**	**15.50**	**120**	*e*P	**Pn**	**15 46 36.6**	**-0.5**
KURBB	**Kurchatov Arra** 0.3nm,0.7s	**15.56**	**20**	⇓P	**Pn**	**15 46 36.0**	**-1.6**
GUN	**Gumba** 4.1nm,0.3s	**15.63**	**118**	*e*P	**Pn**	**15 46 39.7**	**+1.0**
JIRN	**Jiri** 6.2nm,0.4s	**16.00**	**118**	*e*P	**Pn**	**15 46 44.3**	**+1.0**
AKTO	**Aktyubinsk** 0.1nm,0.9s	**16.70**	**332**	⇓P	**Pn**	**15 46 50.7**	**-0.8**
AKTO	0.1nm,0.8s			⇑S	**S**	**15 49 45.8**	**-12**
AKTO	**Aktyubinsk** 0.2nm,0.3s,baz=153,slow=16,SNR=5.3	**16.70**	**332**	P	**Pn**	**15 46 51.7**	**+0.1**
AKTO	0.2nm,0.3s,baz=90,slow=20,SNR=3.7			S	**S**	**15 49 47.2**	**-10**
BVA0	**Borovoye Array** 0.4nm,0.9s,baz=188,slow=13,SNR=14	**16.77**	**0**	⇑P	**Pn**	**15 46 51.6**	**-0.8**
BVAR	**Borovoye Array** 0.2nm,0.3s,baz=181,slow=13,SNR=10	**16.77**	**0**	P	**Pn**	**15 46 52.3**	**-0.1**
ZALV	**Zalesovo Beam** 2.7nm,0.4s,baz=219,slow=11,SNR=15	**20.40**	**25**	P	**P**	**15 47 32.8**	**+1.1**
ARCES	**ARCESS Array B** 1.2nm,0.9s,mb3.5,baz=116,slow=8.4,SNR=5.9	**41.14**	**338**	P	**P**	**15 50 37.0**	**+1.1**
NOA	**NORSAR Array B** 0.3nm,0.7s,mb3.1,baz=70,slow=9.0,SNR=2.5	**44.21**	**323**	P	**P**	**15 51 03.9**	**+3.1**
MDT	**Midelt** 1.3nm,0.3s,mb4.2,baz=226,slow=6.9,SNR=12	**60.30**	**291**	P	**P**	**15 53 03.4**	**+3.4**
YKA	**Yellowknife Ar** 0.1nm,0.5s,mb2.7,baz=346,slow=5.5,SNR=3.5	**81.52**	**2**	P	**P**	**15 55 07.7**	**+0.2**
WRA	**Warramunga Arr** 0.3nm,0.4s,mb3.3,baz=324,slow=5.0,SNR=16	**82.38**	**121**	P	**P**	**15 55 11.3**	**-1.3**
ASAR	**Alice Springs** 0.3nm,0.6s,mb3.2,baz=312,slow=4.9,SNR=7.1	**84.62**	**124**	P	**P**	**15 55 23.2**	**-0.7**
STKA	**Stephens Creek** 1.5nm,0.5s,mb4.5,baz=315,slow=4.3,SNR=5.0	**95.14**	**126**	P	**P**	**15 56 17.8**	**+4.5**

IDC ***05*** *15:52:39.1±1.4,3416N×8188E,h0km,mb3.6/6,mb1 3.8/8, mb1mx3.5/23,mbtmp3.6/8,ML3.4/2,Error ellipse: s-maj=62.0km s-min=20.5km az=60.0*
ISCJB ***05*** *15:52:42.9±1.1,3433N±023×8211E±013,h33km,mb3.4/5, Error ellipse: s-maj=38.7km s-min=16.3km az=154.6*
ISC 05 15:52:45.4±5.7,3433N±033×8206E±04,h41km±48km,n8, σ0⁹61/8,mb3.4/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array** 0.3nm,0.3s,baz=181,slow=13,SNR=26	**12.46**	**1**	Pn	**Pn**	**15 55 39.9**	**-0.1**
ZALV	**Zalesovo Beam** 0.1nm,0.3s,baz=195,slow=11,SNR=4.8	**19.72**	**5**	P	**Pn**	**15 57 12.8**	**-0.1**
BVAR	**Borovoye Array** 2.7nm,0.6s,baz=141,slow=9.4,SNR=14	**20.46**	**340**	P	**P**	**15 57 19.8**	**+0.6**
AKTO	**Aktyubinsk** 0.9nm,0.7s,mb3.3,baz=117,slow=8.3,SNR=3.9	**23.80**	**320**	P	**P**	**15 57 54.6**	**+0.3**
FINES	**FINESS Array B** 0.5nm,0.6s,mb3.4,baz=114,slow=13,SNR=3.3	**44.37**	**325**	P	**P**	**16 00 50.5**	**-0.8**
WRA	**Warramunga Arr** 0.2nm,0.5s,mb3.3,baz=326,slow=5.6,SNR=5.7	**73.39**	**129**	P	**P**	**16 04 13.7**	**+0.4**
ASAR	**Alice Springs** 0.2nm,0.7s,mb3.2,baz=321,slow=6.0,SNR=4.8	**75.84**	**132**	P	**P**	**16 04 27.1**	**-0.4**
YKA	**Yellowknife Ar** 0.7nm,0.7s,mb3.8,baz=339,slow=5.0,SNR=8.4	**82.59**	**8**	P	**P**	**16 05 03.9**	**+0.1**

ISCJB ***05*** *15:55:49.0±0.4,5372N±007×16706W±006,h10km, mb4.1/13,MS3.5/3,Error ellipse: s-maj=10.3km s-min=3.2km az=155.4*
BJI ***05*** *15:55:48.5,5370N×16710W,h6km,mB4.7,mb4.7,Ms4.5, Msz4.3*
IDC ***05*** *15:55:48.2±0.9,5390N×16734W,h0km,mb3.8/8, mb1 4.1/9,mb1mx3.8/24,mbtmp3.8/9,ML3.9/1,MS3.1/2, Ms1 3.2/2,ms1mx2.6/31,Error ellipse: s-maj=31.4km s-min=17.9km az=171.0*
NEIC ***05*** *15:55:48.6,5371N×16707W,h7km,mb4.1/4, ML3.9(AEIC),After AEIC.*
NEIC Felt at Unalaska.
ISC 05 15:55:50.5±0.4,5370N±007×16698W±007,h10km,n36, σ1⁹24/41,mb4.1/13,MS3.5/3,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.32**	**62**	P	**Pg**	**15 55 56.2**	**-0.7**
UNV				S	**Sg**	**15 56 01.3**	**+0.1**
AKLV	**Akutan Long Va**	**0.76**	**52**	P	**Pg**	**15 56 04.1**	**-1.2**
AKLV				S	**Sg**	**15 56 14.6**	**-0.6**
AKGG	**Akutan Green G**	**0.77**	**49**	P	**Pg**	**15 56 04.4**	**-1.0**
AKGG				S	**Sg**	**15 56 15.8**	**+0.3**
AKUT	**Akutan**	**0.84**	**58**	P	**Pg**	**15 56 05.6**	**-1.1**
AKUT				S	**Sg**	**15 56 17.6**	**0.0**
NIKO	**Nikolski**	**1.34**	**238**	P	**Pn**	**15 56 12.7**	**-2.5**
NIKO				S	**Sb**	**15 56 30.0**	**-2.8**
FALS	**False Pass**	**2.39**	**59**	P	**Pn**	**15 56 30.2**	**+0.5**
SPIA	**Saint Paul Isl**	**3.95**	**333**	P	**Pn**	**15 56 49.7**	**-1.5**
SDPT	**Sand Point**	**4.13**	**64**	P	**Pn**	**15 56 54.1**	**+0.4**
ADK	**Adak** 42nm,0.8s	**6.16**	**257**	*e*Pn	**Pn**	**15 57 22.8**	**+1.3**
ADK				*e*Sn	**Sn**	**15 58 31.8**	**-0.1**
KDAK	**Kodiak Island** 1.2nm,0.3s,baz=252,slow=7.2,SNR=13	**9.09**	**57**	Pn	**Pn**	**15 58 01.3**	**-0.3**
SVW2	**Sparrevohn**	**9.62**	**35**	*e*Pn	**Pn**	**15 58 09.1**	**+0.2**
TTA	**Tatalina** 3.9nm,0.6s	**10.89**	**27**	*e*Pn	**Pn**	**15 58 26.4**	**+0.2**
COLA	**College**	**14.78**	**33**	*e*Pn	**Pn**	**15 59 19.9**	**+0.5**
BILL	**Bilibino** 4.8nm,1.2s	**19.15**	**329**	*e*P	**Pn**	**16 00 15.2**	**+0.9**
DLBC	**Dease Lake** baz=274,slow=9.8	**20.98**	**62**	P	**P**	**16 00 38.2**	**+4.7**
INK	**Inuvik** 2.5nm,0.3s,mb4.0	**21.44**	**34**	*e*P	**P**	**16 00 37.2**	**-1.2**
INK	**Inuvik** 2.3nm,0.5s,mb3.8,baz=230,slow=7.4,SNR=12	**21.44**	**34**	P	**P**	**16 00 37.2**	**-1.2**
YKA	**Yellowknife Ar** 0.5nm,0.6s,mb3.3,baz=274,slow=8.5,SNR=6.8	**28.28**	**51**	P	**P**	**16 01 42.8**	**-0.8**
NEW	**Newport** 1.9nm,0.5s,mb4.2	**31.32**	**79**	*e*P	**P**	**16 02 11.4**	**+0.8**
RES	**Resolute Bay** 45nm,0.6s	**34.54**	**26**	*e*P	**P**	**16 02 39.2**	**+0.6**
MCMT	**McKenzie Canyo**	**35.63**	**82**	*e*P	**P**	**16 02 48.6**	**+0.4**
BOZ	**Bozeman (W)** 2.2nm,0.5s,mb4.3	**35.89**	**80**	*e*P	**P**	**16 02 51.2**	**+0.8**
NVAR	**Mina Array Bea** 1.0nm,0.7s,mb3.8,baz=305,slow=9.8,SNR=3.4	**36.29**	**95**	P	**P**	**16 02 56.8**	**+2.9**
CN2	**Changchun**	**44.04**	**286**	*e*P	**P**	**16 03 57.7**	**-0.4**
TXAR	**Lajitas Array** 0.7nm,0.5s,mb3.8,baz=305,slow=5.7,SNR=14	**51.31**	**92**	P	**P**	**16 04 55.8**	**+1.0**
SONM	**Songino Array** 0.4nm,0.7s,mb3.4,baz=38,slow=7.3,SNR=2.4	**51.85**	**301**	P	**P**	**16 04 56.8**	**-1.7**
HHC	**Hu-ho-hao-te**	**53.78**	**292**	*e*P	**P**	**16 05 14.7**	**+1.8**
HHC				AP	pP	16 05 19.4	+3.3
HHC				PCP	PcP	16 06 21.6	+2.9
HHC				PP	PP	16 07 17.7	+4.1
HHC				SCP	ScP	16 10 17.7	+1.3
HHC				S	**S**	**16 12 47.7**	**+0.6**
HHC				XS	sS	16 12 53.0	+0.6
HHC				SS	SS	16 16 26.2	-1.2
HHC	comp=Z,104nm,6.1s			AMB	AMB		
HHC	comp=N,163nm,18.7s,MS4.3			LR	LR		
HHC	comp=E,193nm,17.9s,MS4.3			LR	LR		
HHC	comp=Z,151nm,16.5s,MS4.1			LR	LR		
ZALV	**Zalesovo Beam** comp=Z,15nm,20.1s,MS3.1,baz=55,slow=39	**57.41**	**318**	LR	LR	16 33 09.1	
LZH	**Lanzhou**	**61.42**	**293**	*e*P	**P**	**16 06 09.1**	**+2.4**
LZH				AP	pP	16 06 11.3	+1.4
LZH				XP	sP	16 06 12.8	+1.7
LZH	comp=Z,16nm

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.63**	**218**	*e*Pn	**Pn**	**16 11 34.5**	**-0.6**
KBL				*e*Sn	**Sn**	**16 11 58.6**	**-10**
THN	**Thein Dam**	**5.74**	**136**	*e*PM	**Pn**	**16 12 13.7**	**-0.8**
THN				*e*S	**Sn**	**16 13 16.7**	**-3.4**
AML	**Almayashu**	**5.87**	**20**	*e*P	**Pn**	**16 12 16.9**	**+0.8**
	50nm,0.4s						
AML				*e*Sn	**Sn**	**16 13 21.6**	**-1.5**
AML	**Almayashu**	**5.87**	**20**	P	**Pn**	**16 12 17.2**	**+1.1**
	SNR=100						
UCH	**Uchtor**	**6.21**	**25**	*e*Pn	**Pn**	**16 12 21.4**	**+0.8**
	11nm,0.8s						
UCH				*e*Sn	**Sn**	**16 13 30.8**	**-0.3**
UCH	**Uchtor**	**6.21**	**25**	P	**Pn**	**16 12 21.9**	**+1.4**
	SNR=18						
KZA	**Kyzart**	**6.35**	**30**	P	**Pn**	**16 12 23.1**	**+0.6**
	SNR=10.0						
EKS2	**Erkin-Say**	**6.38**	**19**	*e*Pn	**Pn**	**16 12 23.9**	**+1.0**
	15nm,0.3s						
EKS2				*e*Sn	**Sn**	**16 13 28.6**	**-6.6**
EKS2	**Erkin-Say**	**6.38**	**19**	P	**Pn**	**16 12 24.1**	**+1.2**
	SNR=21						
KK31	**Karatay Array**	**6.46**	**357**	⇓P	**Pn**	**16 12 24.2**	**+0.3**
	1.8nm,0.2s,baz=186,slow=12,SNR=85						
KK31				⇑S	**Sn**	**16 13 34.4**	**-2.7**
	22nm,0.5s,baz=183,slow=21						
AAK	**Ala-Archa**	**6.56**	**23**	*e*Pn	**Pn**	**16 12 25.4**	**+0.1**
	8.6nm,0.3s						
AAK				*e*Sn	**Sn**	**16 13 39.0**	**-0.6**
AAK	**Ala-Archa**	**6.56**	**23**	P	**Pn**	**16 12 25.8**	**+0.5**
	6.4nm,0.3s,baz=179,slow=4.4,SNR=31						
AAK				S	**Sn**	**16 13 38.6**	**-1.0**
	1.6nm,0.3s,baz=329,slow=22,SNR=14						
AAK	**Ala-Archa**	**6.56**	**23**	P	**Pn**	**16 12 26.7**	**+1.4**
	SNR=12						
KBK	**Karagaybulak**	**6.74**	**26**	P	**Pn**	**16 12 29.0**	**+1.4**
	SNR=9.6						
CHMS	**Chumysh**	**6.98**	**23**	P	**Pn**	**16 12 31.7**	**+1.1**
	SNR=6.0						
USP	**Ospenovka**	**7.14**	**21**	P	**Pn**	**16 12 33.1**	**+0.2**
	SNR=17						
TKM2	**Tokmak 2**	**7.20**	**28**	⇑P	**Pn**	**16 12 34.8**	**+1.1**
	13nm,0.6s						
TKM2				⇓S	**Sn**	**16 13 54.3**	**-0.5**
	2.3nm,0.7s						
TKM2	**Tokmak 2**	**7.20**	**28**	*e*Pn	**Pn**	**16 12 34.3**	**+0.6**
	15nm,0.6s						
TKM2	**Tokmak 2**	**7.20**	**28**	P	**Pn**	**16 12 34.6**	**+0.9**
	SNR=20						
MKAR	**Makanchi Array**	**13.18**	**36**	P	**Pn**	**16 13 49.4**	**-2.1**
	0.1nm,0.3s,baz=214,slow=13,SNR=4.9						
GKN	**Gorkha**	**14.39**	**123**	*e*P	**Pn**	**16 14 06.3**	**-0.5**
	8.8nm,0.4s						
AB31	**Akbulak array**	**14.95**	**331**	⇓P	**Pn**	**16 14 13.3**	**-0.2**
	0.7nm,0.5s						
AB31				S	**Sn**	**16 16 55.4**	**-4.6**
	0.7nm,0.3s,baz=156,slow=24,SNR=3.8						
DMN	**Daman**	**14.96**	**123**	*e*P	**Pn**	**16 14 13.7**	**-0.1**
KKN	**Kakani**	**14.96**	**122**	*e*P	**Pn**	**16 14 13.9**	**+0.1**
PKIN	**Phulchoki**	**15.18**	**122**	*e*P	**Pn**	**16 14 17.2**	**+0.7**
	2.7nm,0.2s						
PKI	**Pulchoki**	**15.19**	**122**	*e*P	**Pn**	**16 14 17.2**	**+0.6**
	3.8nm,0.2s						
GUN	**Gumba**	**15.30**	**120**	*e*P	**Pn**	**16 14 18.9**	**+0.9**
JIRN	**Jiri**	**15.67**	**121**	*e*P	**Pn**	**16 14 23.1**	**+0.6**
	7.5nm,0.4s						
BVA0	**Borovoye Array**	**16.38**	**359**	P	**Pn**	**16 14 31.6**	**+0.7**
	0.3nm,0.9s,baz=227,slow=44,SNR=8.2						
BVAR	**Borovoye Array**	**16.38**	**359**	P	**Pn**	**16 14 31.5**	**+0.7**
	0.4nm,0.3s,baz=177,slow=12,SNR=9.0						
BRVK	**Borovoye**	**16.42**	**359**	*e*P	**Pn**	**16 14 29.0**	**-2.2**
	1.7nm,0.4s						
AKTK	**Aktyubinsk**	**16.65**	**330**	P	**Pn**	**16 14 34.4**	**+0.3**
AKTK				S	**S**	**16 17 38.4**	**+0.2**
AKTO	**Aktyubinsk**	**16.65**	**330**	⇓P	**Pn**	**16 14 34.0**	**-0.1**
	0.1nm,0.7s						
AKTO				⇑S	**S**	**16 17 32.7**	**-5.5**
AKTO	**Aktyubinsk**	**16.65**	**330**	P	**Pn**	**16 14 34.4**	**+0.3**
	0.7nm,0.3s,baz=147,slow=11,SNR=15						
AKTO				S	**S**	**16 17 38.4**	**+0.2**
	0.2nm,0.3s,baz=73,slow=23,SNR=3.8						
ZALV	**Zalesovo Beam**	**19.79**	**25**	P	**P**	**16 15 08.2**	**+0.7**
	0.3nm,0.3s,baz=217,slow=12,SNR=6.7						
YKA	**Yellowknife Ar**	**81.10**	**3**	P	**P**	**16 22 45.5**	**-0.6**
	0.2nm,0.3s,mb3.2,baz=353,slow=5.7,SNR=4.9						
WRA	**Warramunga Arr**	**82.08**	**122**	P	**P**	**16 22 48.5**	**-3.3**
	0.4nm,0.4s,mb3.4,baz=325,slow=4.9,SNR=15						
ASAR	**Alice Springs**	**84.35**	**125**	P	**P**	**16 23 00.5**	**-2.9**
	0.5nm,0.5s,mb3.5,baz=312,slow=4.9,SNR=21						

*ISCJB **05** 16:33:31.2±0.2, 4649N±002×1061E±002, h10km, Error ellipse: s-maj=2.3km s-min=1.9km az=7.8*
*CSEM **05** 16:33:31.0±0.1, 4646N×1060E, h12km, ML2.8/10, Error ellipse: s-maj=1.3km s-min=1.2km az=69.0*
*ROM **05** 16:33:31.3±0.2, 4647N×1054E, h12km±4km, Md2.5/10, Ml2.3/7, Error ellipse: s-maj=2.5km s-min=1.8km az=137.0*
*VIE **05** 16:33:31.7±0.2, 4652N×1062E, h13km±2km, mb2.0/7, ML2.6/10, Error ellipse: s-maj=1.6km s-min=1.1km az=22.0*
*SZGRF **05** 16:33:33.4, 4645N×1038E, h10km, mb2.3, Northern Italy*
*PRU **05** 16:33:36.5, 4743N×969E, h0km*
*LDG **05** 16:33:38.0±0.1, 4662N×1044E, h10km, Ml2.3/4, Error ellipse: s-maj=3.0km s-min=2.2km az=86.0*

ISC 05 16:33:32.1±0.2, 4649N±002×1060E±002, h10km, n45, σ1§25/77, 11C-8D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRMO	**Bormio**	**0.16**	**264**	Pg	**Pg**	**16 33 35.0**	**-0.5**
BRMO				Sg	**Sg**	**16 33 36.9**	**-1.0**
	1μm,0.3s						
FUORN	**Ofenpass-Fuorn**	**0.26**	**299**	Pg	**Pg**	**16 33 36.9**	**-0.5**
FUORN				Sg	**Sg**	**16 33 40.4**	**-0.6**
APPI	**Appiano**	**0.43**	**92**	Pg	**Pg**	**16 33 40.7**	**+0.1**
APPI				Sg	**Sg**	**16 33 46.8**	**+0.5**
	269nm,0.1s						
MABI	**Malga Bissina**	**0.44**	**188**	Pg	**Pg**	**16 33 40.0**	**-0.7**
MABI				Sg	**Sg**	**16 33 45.2**	**-1.3**
	109nm,0.3s						
FETA	**Feichten**	**0.54**	**10**	⇑*e*Pg	**Pg**	**16 33 42.3**	**-0.2**
	2.7nm,0.1s,SNR=29						
FETA				⇑*i*Sg	**Sg**	**16 33 49.4**	**-0.2**
	30nm,0.2s						
DAVOX	**Davos/Dischmat**	**0.57**	**300**	Pg	**Pg**	**16 33 42.5**	**-0.7**
DAVOX				Sg	**Sg**	**16 33 49.8**	**-0.9**
MAGA	**Magasa**	**0.72**	**178**	Pg	**Pg**	**16 33 45.1**	**-0.8**
MAGA				Sg	**Sg**	**16 33 54.4**	**-0.9**
	185nm,0.3s						
SQTA	**Sankt Quirin**	**0.84**	**30**	⇓*e*Pg	**Pg**	**16 33 47.4**	**-0.9**
	17nm,0.2s,SNR=15						
SQTA				⇓*i*Sg	**Sg**	**16 33 58.9**	**-0.3**
	18nm,0.1s						
CTI	**Castel Tesino**	**0.85**	**121**	Pg	**Pg**	**16 33 48.2**	**-0.3**
CTI				Sg	**Sg**	**16 33 59.8**	**+0.2**
	63nm,0.2s						
TUE	**Stuetta**	**0.86**	**269**	Pg	**Pg**	**16 33 46.9**	**-1.8**
TUE				Sg	**Sg**	**16 33 58.6**	**-1.4**
	42nm,0.3s						
SALO	**Salr**	**0.88**	**183**	Pg	**Pg**	**16 33 48.1**	**-0.8**
MOTA	**Moosalm**	**0.92**	**22**	⇓*i*Pg	**Pg**	**16 33 49.4**	**-0.4**
	6.3nm,0.2s,SNR=30						
MOTA				⇑*i*Sg	**Sg**	**16 34 01.8**	**0.0**
	7.3nm,0.1s						
DAVA	**Damuels**	**0.94**	**328**	⇓*i*Pg	**Pg**	**16 33 49.6**	**-0.5**
	0.7nm,0.1s						
DAVA				⇑*i*Sg	**Sg**	**16 34 02.8**	**+0.5**
	60nm,0.3s						
DAVA	**Damuels**	**0.94**	**328**	*e*Pn	**Pn**	**16 33 49.9**	**-1.4**
DAVA				*e*Sn	**Sn**	**16 34 05.4**	**+0.7**
FAU	**Forcella Aurin**	**0.99**	**105**	⇑*i*Pg	**Pg**	**16 33 50.8**	**-0.3**
CGRP	**Cima Grappa**	**1.03**	**126**	⇑*i*Pg	**Pg**	**16 33 52.0**	**+0.1**
CGRP				*i* Sg	**Sg**	**16 34 05.2**	**-0.2**
AFL	**Alpe Faloria**	**1.09**	**87**	⇑*i*Pg	**Pg**	**16 33 52.7**	**-0.3**
SEST	**Monte Rota**	**1.14**	**76**	Pg	**Pg**	**16 33 53.6**	**-0.5**
	49nm,0.2s						
ABTA	**Abfaltersbach**	**1.34**	**78**	⇑*i*Pg	**Pg**	**16 33 57.0**	**-0.8**
	5.1nm,0.1s,SNR=10.0						
ABTA				⇓*i*Sg	**Sg**	**16 34 15.6**	**+0.3**
	4.2nm,0.1s						
TEOL	**Teolo**	**1.36**	**146**	⇓*i*Pg	**Pg**	**16 33 58.7**	**+0.6**
TEOL				*i* Sg	**Sg**	**16 34 16.3**	**+0.6**
CAE	**Caneva**	**1.36**	**110**	⇑*e*Pg	**Pg**	**16 33 58.4**	**+0.1**
CAE				*e*Sg	**Sg**	**16 34 17.0**	**+1.0**
KBA	**Koelnbreinsper**	**1.98**	**72**	⇓*i*Pg	**Pb**	**16 34 08.4**	**+0.3**
	7.9nm,0.2s						
KBA				⇓*i*Sg	**Sg**	**16 34 36.3**	**+0.7**
	4.9nm,0.3s						
KBA	**Koelnbreinsper**	**1.98**	**72**	*e*Pn	**Pb**	**16 34 08.2**	**+0.1**
VOY	**Vojsko**	**2.33**	**100**	*e*Pn	**Pg**	**16 34 15.3**	**-1.4**
VOY				*e*Sn	**Sg**	**16 34 46.3**	**-0.7**
MOA	**Molln**	**2.85**	**60**	⇑*i*Pg	**Pg**	**16 34 24.8**	**-1.8**
	1.0nm,0.2s						
MOA				⇑*i*Sg	**Sg**	**16 35 04.0**	**+0.5**
	2.1nm,0.2s						
LPG	**La Plagne**	**2.86**	**251**	*e*Pn	**Pb**	**16 34 21.7**	**-1.5**
LPG				*e*Sn	**Sn**	**16 34 53.6**	**+1.4**
LPG				*e*Sg	**Sg**	**16 35 06.3**	**+2.4**
	3.8nm,0.4s						
LPL	**La Plagne**	**2.87**	**251**	*e*Pn	**Pn**	**16 34 21.5**	**+3.7**
HINF	**Hinteralfeld**	**2.88**	**299**	*e*Pn	**Pn**	**16 34 20.3**	**+2.3**
HINF				*e*Sg	**Sg**	**16 35 04.0**	**-0.5**
	1.9nm,0.2s						
CDF	**Champ du Feu**	**2.96**	**312**	*e*Pn	**Pn**	**16 34 21.2**	**+2.1**
WET	**Wettzell**	**3.07**	**29**	*e*Pn	**Pn**	**16 34 21.9**	**+1.4**
WET				*e*Sn	**Sn**	**16 34 58.4**	**+1.2**
CABF	**La Chapelle**	**3.12**	**274**	*e*Pn	**Pn**	**16 34 24.0**	**+2.8**
CABF				*e*Sg	**Sg**	**16 35 11.9**	**-0.2**
	3.2nm,0.4s						
GEC2	**GERESS Array S**	**3.15**	**41**	*e*Pn	**Pn**	**16 34 23.6**	**+1.9**
GEC2				*e*Sn	**Sn**	**16 35 01.7**	**+2.3**
MBDF	**Montbardon**	**3.21**	**238**	*e*Pn	**Pn**	**16 34 26.5**	**+3.9**
HAU	**Haudompre**	**3.27**	**299**	*e*Pn	**Pn**	**16 34 25.0**	**+1.7**
HAU				*e*Sg	**Sg**	**16 35 15.8**	**-1.2**
	3.5nm,0.3s						
HAU	**Haudompre**	**3.27**	**299**	*e*Pn	**Pn**	**16 34 25.0**	**+1.7**
HAU				*e*Sg	**Sg**	**16 35 15.8**	**-1.2**
	1.8nm,0.3s						
KHC	**Kasperske Hory**	**3.32**	**36**	*e*Pg	**Pg**	**16 34 33.2**	**-2.4**
KHC				*e*Sg	**Sg**	**16 35 16.1**	**-2.4**
	7.8nm,0.9s						
KHC	**Kasperske Hory**	**3.32**	**36**	*e*PN	**Pn**	**16 34 26.6**	**+2.6**
KHC				*e*PG	**Pg**	**16 34 33.2**	**-2.4**
KHC				*e*SN	**Sn**	**16 35 05.0**	**+1.6**
KHC				*e*SG	**Sg**	**16 35 16.1**	**-2.4**
	comp=Z,7.8nm,0.9s						
ROTZ	**Rotzenmuhle**	**3.45**	**18**	*e*Sn	**Sn**	**16 35 06.0**	**-0.7**
MANZ	**Manzenberg**	**3.64**	**16**	*e*Sn	**Sn**	**16 35 09.0**	**-2.4**
ORIF	**Oris-en-Rattie**	**3.66**	**246**	*e*Pn	**Pn**	**16 34 32.1**	**+3.4**
PRU	**Pruhonice**	**4.38**	**36**	*e*Sg	**Sg**	**16 35 47.9**	**-4.7**
VIVF	**Saint-Julien-l**	**4.46**	**251**	*e*Pn	**Pn**	**16 34 42.2**	**+2.5**
LOR	**Lormes**	**4.69**	**282**	*e*Pn	**Pn**	**16 34 45.0**	**+2.2**
AVF	**Avril sur Loir**	**5.00**	**276**	*e*Pn	**Pn**	**16 34 49.3**	**+2.2**
DPC	**Dobruska-Polom**	**5.42**	**43**	*e*Sg	**Sg**	**16 36 22.6**	**-3.5**

*CSEM **05** 16:35:43.8±0.1, 3984N×3905E, h5km, MD3.2, Error ellipse: s-maj=2.3km s-min=1.7km az=88.0*
*ISCJB **05** 16:35:44.5±0.4, 3984N±002×3906E±004, h5km, Error ellipse: s-maj=4.5km s-min=3.0km az=3.3*
*ISK **05** 16:35:44.0, 3984N×3904E, h5km, MD3.2*
*DDA **05** 16:35:46.0, 3984N×3905E, h6km±2km, Ml3.5*

ISC 05 16:35:44.9±0.7, 3985N±002×3903E±005, h8km±6km, n21, σ0§91/33, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.61**	**99**	PG	**Pg**	**16 35 49.9**	**-6.8**
EZC				SG	**Sg**	**16 35 53.8**	**-11**
GUMT	**Gumushane**	**0.70**	**29**	PG	**Pg**	**16 35 58.4**	**0.0**
GUMT				SG	**Sg**	**16 36 07.8**	**+0.3**
PTK	**Pertek**	**1.00**	**164**	PG	**Pg**	**16 36 03.1**	**-0.9**
PTK				SG	**Sg**	**16 36 16.7**	**-0.3**
ESPY	**Espiye-Giresun**	**1.09**	**348**	PN	**Pn**	**16 36 06.1**	**-0.4**
ESPY				SN	**Sn**	**16 36 20.5**	**-1.3**
KOPT	**Kop Dagi**	**1.14**	**81**	*e*P	**Pg**	**16 36 06.0**	**-0.8**
KOPT				*i* S	**Sg**	**16 36 25.5**	**+4.0**
KOPT	**Kop Dagi**	**1.14**	**81**	*e*P	**Pg**	**16 36 05.9**	**-0.9**
KOPT				*i* S	**Sg**	**16 36 25.5**	**+4.0**
GRSN	**GIRESUNGRSN**	**1.22**	**332**	*i* P	**Pb**	**16 36 08.2**	**0.0**
GRSN				*i* S	**Sb**	**16 36 24.8**	**+0.6**
MACK	**Trabzon**	**1.23**	**27**	*i* P	**Pb**	**16 36 07.9**	**-0.5**
MACK				*i* S	**Sb**	**16 36 24.3**	**-0.1**
KTUT	**Trabzon**	**1.27**	**26**	*e*PN	**Pn**	**16 36 08.7**	**-0.2**
ELZG	**Elazig**	**1.35**	**182**	*i* P	**Pn**	**16 36 09.6**	**-0.5**
ELZG				*i* S	**Sb**	**16 36 27.9**	**0.0**
SVRC	**Sivrice-ELAZID**	**1.49**	**172**	*e*PN	**Pn**	**16 36 12.6**	**+0.6**
BINT	**Bingol**	**1.49**	**130**	*e*PN	**Pn**	**16 36 12.1**	**+0.1**
SVSK	**Karacayir**	**1.57**	**273**	*e*PN	**Pn**	**16 36 13.6**	**+0.5**
MYA	**Malataya**	**1.59**	**197**	*e*PN	**Pn**	**16 36 13.1**	**-0.3**
MALT	**Malatya**	**1.61**	**197**	*e*PN	**Pn**	**16 36 13.2**	**-0.4**
EZM	**Erzurum**	**1.79**	**88**	*e*PN	**Pn**	**16 36 17.0**	**+0.8**
ERZM	**Erzurum**	**1.80**	**88**	*i* P	**Pn**	**16 36 17.8**	**+1.6**
BNGL	**BINGOL**	**1.87**	**118**	*i* P	**Pg**	**16 36 19.8**	**-1.0**
BNGL				*i* S	**Sg**	**16 36 46.6**	**+1.6**
HOMI	**Horasan**	**2.22**	**84**	*i* P	**Pn**	**16 36 24.7**	**+2.7**
HOMI				*i* S	**Sn**	**16 36 47.7**	**-1.9**
GZT	**Gaziantep**	**2.75**	**205**	*e*P	**Pg**	**16 36 37.0**	**-0.4**
GZT				*i* S	**Sg**	**16 37 17.8**	**+4.7**
YOZ	**Yozgat**	**2.87**	**267**	*e*PN	**Pn**	**16 36 32.3**	**+1.3**

*CSEM **05** 16:44:13.3±0.1, 4004N×4261E, h5km, ML3.5, Error ellipse: s-maj=2.4km s-min=1.8km az=64.0*
*ISCJB **05** 16:44:14.5±0.8, 4008N±006×4263E±004, h8km±7km, Error ellipse: s-maj=10.2km s-min=4.6km az=20.1*
*ISK **05** 16:44:14.1, 4004N×4265E, h6km, MD2.9*
*DDA **05** 16:44:16.8, 3981N×4249E, h7km±7km, Md3.1, Ml3.5*

ISC 05 16:44:14.9±0.8, 4005N±006×4263E±004, h6km±8km, n10, σ1§04/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.55**	**150**	*e*PG	**Pg**	**16 44 24.7**	**-0.7**
AGRB				SG	**Sg**	**16 44 33.0**	**+0.3**
HOMI	**Horasan**	**0.56**	**270**	*i* P	**Pg**	**16 44 24.5**	**-1.1**
HOMI				*i* S	**Sg**	**16 44 34.1**	**+1.2**
KARS	**Kars**	**0.66**	**32**	*e*PG	**Pg**	**16 44 27.4**	**-0.3**
DYDN	**Diyadin**	**0.96**	**122**	*i* P	**Pg**	**16 44 33.3**	**0.0**
DYDN				*i* S	**Sg**	**16 44 46.7**	**+0.9**
ERZM	**Erzurum**	**0.98**	**262**	*i* P	**Pg**	**16 44 33.6**	**-0.1**
ERZM				*i* S	**Sg**	**16 44 43.9**	**-2.6**
EZM	**Erzurum**	**0.98**	**262**	*e*PG	**Pg**	**16 44 33.7**	**-0.1**
CLDR	**Caldiran**	**1.35**	**132**	*e*PN	**Pn**	**16 44 39.8**	**-0.5**
BNGL	**BINGOL**	**1.59**	**227**	*e*P	**Pn**	**16 44 42.5**	**-1.0**
BNGL				*i* S	**Sn**	**16 44 56.5**	**-7.9**
TVAN	**Van**	**1.64**	**158**	*i* P	**Pn**	**16 44 44.7**	**+0.5**
TVAN				*i* S	**Sg**	**16 45 12.4**	**+5.0**
KOPT	**Kop Dagi**	**1.64**	**270**	*i* P	**Pn**	**16 44 45.4**	**+1.1**
KOPT				*i* S	**Sg**	**16 45 10.0**	**+2.4**

*ISCJB **05** 16:46:22.4±2.8, 153S±01×1677E±02, h207km±25km, mb3.9/12, Error ellipse: s-maj=25.5km s-min=15.0km az=159.7*
*IDC **05** 16:46:22.9±3.8, 1527S×16759E, h189km±33km, mb3.5/9, mb1 3.7/10, mb1mx3.5/18, mbtmp3.6/10, Error ellipse: s-maj=25.0km s-min=16.0km az=72.0*
*NEIC **05** 16:46:23.1±2.5, 1523S×16764E, h195km±21km, mb4.2/7, Error ellipse: s-maj=18.7km s-min=12.2km az=83.0*

ISC 05 16:46:23.1±2.7, 1524S±010×1676E±02, h195km±23km, n25, σ0§88/27, mb3.9/12, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.46**	**307**	P	**Pn**	**16 48 34.8**	**-0.7**
HNR				*e*Sn	**Sn**	**16 50 21.3**	**-0.1**
HNR				S	**Sn**	**16 50 21.5**	**+0.2**
HNR	**Honiara**	**9.46**	**307**	P	**Pn**	**16 48 34.8**	**-0.7**
	1.5nm,0.3s,baz=264,slow=3.6,SNR=3.8						
HNR				S	**Sn**	**16 50 21.5**	**+0.2**
	4.9nm,0.3s,baz=85,slow=19,SNR=6.5						
CTA	**Charters Tower**	**20.92**	**254**	P	**P**	**16 50 52.2**	**+1.4**
CTA	**Charters Tower**	**20.92**	**254**	P	**P**	**16 50 52.2**	**+1.4**
	1.9nm,0.5s,baz=334,slow=23,SNR=7.2						
CTAO	**Charters Tower**	**20.92**	**254**	*e*P	**P**	**16 50 52.1**	**+1.3**
	9.9nm,1.1s						
ARMA	**Armidale**	**21.07**	**221**	*e*P	**P**	**16 50 54.2**	**+1.9**
URZ	**Urewera**	**24.42**	**162**	P	**P**	**16 51 23.6**	**-0.1**
	1.7nm,0.3s,mb4.1,baz=239,slow=2.4,SNR=6.8						
STKA	**Stephens Creek**	**28.93**	**231**	*e*P	**P**	**16 52 05.3**	**+1.1**
	5.6nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**28.93**	**231**	*e*P	**P**	**16 52 04.7**	**+0.5**
	6.8nm,0.7s,mb4.4						
STKA	**Stephens Creek**	**28.93**	**231**	P	**P**	**16 52 04.8**	**+0.5**
	4.9nm,0.6s,mb4.3,baz=15,slow=7.0,SNR=8.5						
WRAB	**Tennant Creek**	**32.03**	**257**	*e*P	**P**	**16 52 29.6**	**-2.0**
	3.2nm,1.0s,mb3.8						
WRA	**Warramunga Arr**	**32.04**	**257**	P	**P**	**16 52 30.7**	**-1.0**
	1.2nm,0.6s,mb3.6,baz=84,slow=8.5,SNR=14						
ASAR	**Alice Springs**	**32.82**	**250**	P	**P**	**16 52 37.8**	**-0.6**
	3.0nm,0.7s,mb3.9,baz=77,slow=9.1,SNR=53						
ASAR				PcP	PcP	16 55 18.7	-0.1
	0.5nm,0.6s,baz=84,slow=2.2,SNR=5.6						
FORT	**Forrest**	**39.34**	**240**	*e*P	**P**	**16 53 33.3**	**-0.3**
	6.0nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**40.26**	**260**	*e*P	**P**	**16 53 41.5**	**+0.1**
	4.8nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**40.26**	**260**	P	**P**	**16 53 41.2**	**-0.2**
	3.1nm,0.8s,mb3.8,baz=73,slow=5.9,SNR=9.1						
MBWA	**Marble Bar**	**45.74**	**255**	*e*P	**P**	**16 54 25.4**	**0.0**
	3.9nm,0.7s,mb3.9						
MJAR	**Matsushiro Arr**	**58.51**	**332**	P	**P**	**16 55 59.4**	**+0.3**
	0.5nm,0.5s,mb3.4,baz=173,slow=7.1,SNR=5.4						
MAJO	**Matsushiro**	**58.51**	**332**	P	**P**	**16 55 59.2**	**+0.2**
VNDA	**Vanda**	**62.37**	**181**	P	**P**	**16 56 24.7**	**+0.1**
VNDA	**Vanda**	**62.37**	**181**	P	**P**	**16 56 24.7**	**+0.1**
	0.9nm,0.6s,mb3.6,baz=349,slow=6.1,SNR=8.2						
SBA	**Scott Base**	**62.63**	**180**	*e*P	**P**	**16 56 25.3**	**-1.1**
	4.3nm,1.0s,mb4.0						
CASY	**Casey**	**63.19**	**202**	*e*P	**P**	**16 56 30.0**	**-0.2**
SONM	**Songino Array**	**83.10**	**323**	P	**P**	**16 58 28.1**	**+1.2**
	0.2nm,0.3s,mb3.3,baz=135,slow=7.5,SNR=3.6						
ARCES	**ARCESS Array B**	**120.83**	**345**	PKP	PKPdf	17 04 51.9	+0.4
	3.9nm,1.1s,baz=62,slow=2.9,SNR=9.3						

*ISCJB **05** 16:53:29.5±9.1, 219S±02×1694E±02, h10km±53km, mb4.0/7, Error ellipse: s-maj=46.2km s-min=16.8km az=39.1*
*IDC **05** 16:53:29.9±1.5, 2189S×16928E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, ML3.3/1, Error ellipse: s-maj=39.9km s-min=34.8km az=150.0*
*NEIC **05** 16:53:45.1±7.7, 2252S×169.15E, h122km±67km, mb4.2/2, Error ellipse: s-maj=54.2km s-min=14.3km az=205.0*

ISC 05 16:53:31.7±9.7, 220S±02×1694E±02, h14km±56km, h17km±.5km: pP-P, n16, σ0§89/12, mb4.0/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.70**	**267**	*e*P	**Pn**	**16 54 14.1**	**-0.6**
URZ	**Urewera**	**17.58**	**159**	P	**Pn**	**16 57 36.4**	**+0.1**
	0.1nm,0.3s,baz=11,slow=12,SNR=3.5						
CTAO	**Charters Tower**	**21.64**	**271**	P	**P**	**16 58 24.3**	**+2.5**
	11nm,1.0s,mb4.2						
ASAR	**Alice Springs**	**32.67**	**260**	P	**P**	**17 00 03.6**	**0.0**
	0.6nm,0.6s,mb3.7,baz=95,slow=9.4,SNR=17						
WRA	**Warramunga Arr**	**32.72**	**267**	P	**P**	**17 00 03.4**	**-0.7**
	0.2nm,0.3s,mb3.5,baz=98,slow=8.4,SNR=6.9						
FITZ	**Fitzroy Crossi**	**41.15**	**267**	P	**P**	**17 01 16.3**	**+0.4**
	4.1nm,0.8s,mb4.1,baz=124,slow=6.8,SNR=5.1						
MBWA	**Marble Bar**	**45.99**	**261**	*e*P	**P**	**17 01 54.2**	**-0.7**
	3.1nm,0.7s,mb4.3						
KSRS	**Korea Array**	**70.79**	**326**	P	**P**	**17 04 46.5**	**-1.2**
	1.1nm,0.8s,mb3.8,baz=134,slow=6.1,SNR=5.7						
SNAA	**Sanae**	**86.48**	**182**	*e*	**P**	**17 06 13.7**	**+0.1**
SNAA				*e*	pP	17 06 18.7	+0.4
SNAA				*e*		17 06 28.9	
VNA3	**Neumayer Olymp**	**87.06**	**180**	*e*	**P**	**17 06 16.2**	**-0.3**
VNA3				*e*	pP	17 06 21.8	+0.6
VNA3				*e*		17 06 30.4	
VNA2	**Neumayer--Watz**	**87.35**	**181**	*e*	**P**	**17 06 17.9**	**0.0**
	baz=181,slow=4.8						
VNA2				*e*	pP	17 06 23.1	+0.5
VNA2				*e*		17 06 32.0	
SONM	**Songino Array**	**89.44**	**323**	P	**P**	**17 06 29.3**	**+1.3**
	1.0nm,0.9s,mb4.1,baz=127,slow=

FITZ			S	Sn	17 21 35.7	-7.4
	0.3nm,0.3s,baz=132,slow=21,SNR=4.6					
WRA	**Warramunga Arr**	**13.74 162**	P	Pn	17 19 52.6	-1.5
	0.3nm,0.3s,baz=341,slow=13,SNR=17					
WRA			S	Sn	17 22 22.0	-5.0
	0.5nm,0.3s,baz=329,slow=24,SNR=6.7					
ASAR	**Alice Springs**	**17.18 167**	P	Pn	17 20 36.9	+0.7
	0.5nm,0.3s,baz=342,slow=9.2,SNR=45					
MKAR	**Makanchi Array**	**68.00 327**	P	P	17 27 26.4	0.0
	1.7nm,0.4s,baz=118,slow=8.2,SNR=30					

*ISCJB **05** 17:30:08.7±0.6,4572N±003×2663E±004,h99km±5km, Error ellipse: s-maj=5.2km s-min=4.2km az=139.7*
*BUC **05** 17:30:08.7±0.7,4572N×2661E,h103km±8km,MD4.0/3, Error ellipse: s-maj=6.0km s-min=5.0km az=2.0*
*CSEM **05** 17:30:09.2±0.1,4571N×2660E,h88km±1km,MD4.1/3, Error ellipse: s-maj=2.0km s-min=1.9km az=87.0*
*NEIC **05** 17:30:09.8,4573N×2661E,h90km,MG3.4(BUC),After BUC.*

ISC 05 17:30:09.5±0.6,4571N±003×2666E±004,h97km±5km,n43, σ0§84/69,17C-9D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.17**	**17**	**P**	**Pn**	**17 30 23.3**	**+0.1**
VRI	**Vrincioaia**	**0.17**	**17**	⇑*iP*	**Pn**	**17 30 23.1**	**-0.1**
VRI				*i* S	**Sn**	**17 30 33.2**	**-0.2**
PETR		**0.40**	**88**	⇑*iP*	**Pn**	**17 30 25.0**	**+0.8**
PETR				*i* S	**Sn**	**17 30 36.2**	**+0.9**
MLR	**Muntele Rosu**	**0.55**	**247**	P	**Pn**	**17 30 25.4**	**+0.1**
MLR	**Muntele Rosu**	**0.55**	**247**	⇓*iP*	**Pn**	**17 30 25.3**	**+0.1**
MLR				*i* S	**Sn**	**17 30 36.3**	**-0.7**
MLR	**Muntele Rosu**	**0.55**	**247**	P	**Pn**	**17 30 25.4**	**+0.2**
MLR				*i* S	**Sn**	**17 30 36.3**	**-0.7**
ISR	**Istrita**	**0.59**	**188**	⇓P	**Pn**	**17 30 26.2**	**+0.5**
ISR	**Istrita**	**0.59**	**188**	⇓*iP*	**Pn**	**17 30 26.2**	**+0.5**
GHRR		**0.63**	**56**	⇑*iP*	**Pn**	**17 30 26.6**	**+0.7**
GHRR				*i* S	**Sn**	**17 30 38.5**	**+0.2**
TUDR		**0.72**	**99**	⇑*iP*	**Pn**	**17 30 26.8**	**+0.1**
TUDR				*i* S	**Sn**	**17 30 39.5**	**-0.2**
TESR		**0.80**	**360**	⇑*iP*	**Pn**	**17 30 27.3**	**-0.3**
TESR				*i* S	**Sn**	**17 30 39.7**	**-1.4**
VARR		**0.86**	**78**	⇑*iP*	**Pn**	**17 30 29.0**	**+0.9**
VARR				*i* S	**Sn**	**17 30 42.5**	**+0.4**
SNX	**Sinaia**	**0.88**	**247**	⇑P	**Pn**	**17 30 28.8**	**+0.4**
SNX	**Sinaia**	**0.88**	**247**	⇑*iP*	**Pn**	**17 30 28.8**	**+0.5**
SNX				*i* S	**Sn**	**17 30 43.2**	**+0.7**
SULR		**1.07**	**196**	⇓*iP*	**Pn**	**17 30 30.9**	**+0.5**
SULR				*i* S	**Sn**	**17 30 46.8**	**+0.7**
VOIR		**1.16**	**257**	P	**Pn**	**17 30 31.1**	**-0.4**
VOIR				S	**Sn**	**17 30 46.4**	**-1.6**
VOIR		**1.16**	**257**	⇓*iP*	**Pn**	**17 30 31.0**	**-0.4**
VOIR				*i* S	**Sn**	**17 30 46.2**	**-1.8**
VOIR		**1.16**	**257**	⇑*iP*	**Pn**	**17 30 31.0**	**-0.4**
VOIR				S	**Sn**	**17 30 46.4**	**-1.6**
CFR	**Carcaliu**	**1.17**	**116**	⇑*iP*	**Pn**	**17 30 31.7**	**+0.2**
CFR				*i* S	**Sn**	**17 30 47.3**	**-0.8**
BGMR	**Bucharest-Geol**	**1.32**	**198**	⇑*iP*	**Pn**	**17 30 34.8**	**+1.5**
BGMR				*i* S	**Sn**	**17 30 53.2**	**+1.9**
HARR	**Harsova**	**1.36**	**138**	P	**Pn**	**17 30 34.2**	**+0.4**
HARR	**Harsova**	**1.36**	**138**	⇓*iP*	**Pn**	**17 30 34.3**	**+0.5**
BUC1	**Bucharest**	**1.43**	**198**	P	**Pn**	**17 30 34.8**	**+0.1**
BUC1	**Bucharest**	**1.43**	**198**	P	**Pn**	**17 30 34.8**	**+0.1**
BUC1				*i* S	**Sn**	**17 30 53.2**	**-0.6**
IAS	**Iasi**	**1.61**	**22**	P	**Pn**	**17 30 37.1**	**+0.3**
IAS				S	**Sn**	**17 30 56.6**	**-1.1**
IAS	**Iasi**	**1.61**	**22**	⇑*iP*	**Pn**	**17 30 37.2**	**+0.3**
IAS				*i* S	**Sn**	**17 30 56.8**	**-0.9**
TIRR	**Tirgusor**	**1.76**	**135**	P	**Pn**	**17 30 39.3**	**+0.5**
TIRR				S	**Sn**	**17 31 00.5**	**-0.7**
TIRR	**Tirgusor**	**1.76**	**135**	⇓*iP*	**Pn**	**17 30 39.3**	**+0.5**
TIRR				*i* S	**Sn**	**17 31 00.2**	**-1.0**
TIRR	**Tirgusor**	**1.76**	**135**	⇓*iP*	**Pn**	**17 30 39.3**	**+0.5**
TIRR				S	**Sn**	**17 31 00.5**	**-0.7**
KIS	**Kishinev**	**1.98**	**48**	⇑*iP*	**Pn**	**17 30 41.5**	**0.0**
	400nm,0.6s						
KIS				*i* S	**Sn**	**17 31 04.8**	**-1.2**
	800nm,0.3s						
ZIMR		**2.25**	**205**	⇑*iP*	**Pn**	**17 30 44.8**	**-0.3**
ZIMR				*i* S	**Sn**	**17 31 10.4**	**-2.0**
GZR	**Gura Zlata**	**2.75**	**265**	P	**Pn**	**17 30 51.6**	**-0.1**
GZR	**Gura Zlata**	**2.75**	**265**	⇓*iP*	**Pn**	**17 30 51.8**	**+0.1**
GZR				*i* S	**Sn**	**17 31 24.2**	**+0.1**
DRGR		**2.94**	**293**	P	**Pn**	**17 30 53.8**	**-0.5**
DRGR		**2.94**	**293**	⇑*iP*	**Pn**	**17 30 53.5**	**-0.8**
DRGR		**2.94**	**293**	P	**Pn**	**17 30 53.8**	**-0.5**
BZS	**Buzias**	**3.54**	**270**	⇑P	**Pn**	**17 31 01.5**	**-0.7**
BZS	**Buzias**	**3.54**	**270**	⇑*iP*	**Pn**	**17 31 01.5**	**-0.8**
KOLS	**Kolonicke sedl**	**4.39**	**319**	*e*PN	**Pn**	**17 31 14.7**	**+0.9**
ELBA	**Catalca**	**4.74**	**164**	*i* P	**Pn**	**17 31 18.6**	**+0.1**
ELBA				*i* S	**Sn**	**17 32 10.0**	**-2.2**
ELBA	**Catalca**	**4.74**	**164**	*i* P	**Pn**	**17 31 18.6**	**+0.1**
ELBA				*i* S	**Sn**	**17 32 10.0**	**-2.3**
CRVS	**Cervenica-Dubn**	**4.76**	**314**	*e*PN	**Pn**	**17 31 19.5**	**+0.7**
STHS	**Stebnicka Huta**	**5.21**	**317**	*e*PN	**Pn**	**17 31 25.9**	**+1.0**

IDC 05 17:30:16.3±2.5,4869S×12393E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.6/12,mbtmp3.5/4,MS3.4/2,Ms1 3.4/2, ms1mx3.1/17,Error ellipse: s-maj=107.5km s-min=26.1km az=98.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**16.53**	**340**	LR	LR	17 38 57.4	
	comp=Z,87nm,19.6s,baz=127,slow=32						
STKA	**Stephens Creek**	**21.45**	**45**	P	P	17 35 06.0	0.0
	1.2nm,0.7s,baz=144,slow=20,SNR=3.6						
STKA				LR	LR	17 42 21.7	
	comp=Z,144nm,19.8s,baz=202,slow=34						
ASAR	**Alice Springs**	**26.19**	**21**	P	P	17 35 52.8	+0.2
	0.5nm,0.8s,baz=202,slow=8.3,SNR=18						
WRA	**Warramunga Arr**	**29.88**	**20**	P	P	17 36 25.0	-0.5
	0.6nm,1.0s,baz=195,slow=10,SNR=2.7						
VNDA	**Vanda**	**32.36**	**166**	P	P	17 36 46.6	-0.2
	0.9nm,0.8s,baz=299,slow=9.1,SNR=5.5						
SNAA	**Sanae**	**54.20**	**198**	*e*	P	17 39 50.5	+7.6
SNAA				*e*		17 39 56.4	
VNA2	**Neumayer--Watz**	**55.70**	**197**	*e*	P	17 40 01.5	+7.7
	baz=152,slow=3.4						
VNA2				*e*		17 40 06.7	
YKA	**Yellowknife Ar**	**145.48**	**44**	PKPbc	PKPbc	17 49 54.6	-0.5
	0.8nm,0.6s,baz=267,slow=3.5,SNR=14						

*IDC **05** 17:34:12.1±1.2,1437S×16772E,h0km,mb4.2/6, mb1 4.3/6,mb1mx4.0/15,mbtmp4.1/6,Error ellipse: s-maj=37.8km s-min=30.1km az=145.0*
*NEIC **05** 17:34:13.8±0.5,1472S×16779E,h10km,mb4.5/4,Error ellipse: s-maj=25.4km s-min=15.2km az=142.0*
*ISCJB **05** 17:34:15.5±1.3,147S±02×1677E±02,h33km,mb4.2/8, Error ellipse: s-maj=36.3km s-min=20.8km az=19.5*
*LDG **05** 17:34:16.0±0.8,1362S×16840E,h10km,Error ellipse: s-maj=205.3km s-min=15.1km az=97.0*

ISC 05 17:34:16.8±1.3,146S±02×1678E±02,h35km,n31, σ1§03/13,mb4.2/8,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.50**	**230**	*e*P	**P**	**17 40 18.9**	**+1.1**
	12nm,1.1s,mb4.5						
STKA	**Stephens Creek**	**29.50**	**230**	P	**P**	**17 40 19.7**	**+1.9**
	2.7nm,0.4s,mb4.3,baz=59,slow=6.7,SNR=20						
WRAB	**Tennant Creek**	**32.37**	**256**	*e*P	**P**	**17 40 42.9**	**-0.4**
	12nm,1.4s,mb4.5						
WRA	**Warramunga Arr**	**32.38**	**256**	P	**P**	**17 40 42.5**	**-0.9**
	0.6nm,0.5s,mb3.7,baz=84,slow=8.7,SNR=28						
ASAR	**Alice Springs**	**33.23**	**249**	P	**P**	**17 40 50.2**	**-0.6**
	2.6nm,0.4s,mb4.5,baz=79,slow=9.1,SNR=143						
ASAR				PcP	PcP	17 43 32.4	-0.6
	0.3nm,0.6s,baz=77,slow=2.3,SNR=6.3						
FITZ	**Fitzroy Crossi**	**40.57**	**259**	P	**P**	**17 41 53.6**	**+0.4**
	1.4nm,0.5s,mb3.9,baz=90,slow=13,SNR=15						
MBWA	**Marble Bar**	**46.10**	**255**	*e*P	**P**	**17 42 37.6**	**-0.3**
	2.3nm,0.6s,mb4.3						
VNDA	**Vanda**	**63.03**	**181**	*e*P	**P**	**17 44 41.1**	**+1.2**
	0.7nm,0.5s,mb4.0						
VNDA	**Vanda**	**63.03**	**181**	P	**P**	**17 44 41.9**	**+2.0**
	0.6nm,0.4s,mb4.1,baz=359,slow=9.0,SNR=9.4						
PMSA	**Palmer Station**	**91.74**	**160**	*e*P	**P**	**17 47 18.4**	**-2.2**
VNA3	**Neumayer Olymp**	**94.38**	**181**	*e*	**P**	**17 47 32.3**	**-0.3**
VNA3				*e*		17 47 36.0	
VNA3				*e*	pP	17 47 41.8	-1.9
VNA2	**Neumayer--Watz**	**94.65**	**182**	*e*	**P**	**17 47 33.8**	**0.0**
	baz=181,slow=4.4						
VNA2				*e*		17 47 37.1	
VNA2				*e*	pP	17 47 43.5	-1.5
MKAR	**Makanchi Array**	**97.46**	**316**	P	**P**	**17 47 48.1**	**+1.1**
	0.2nm,0.3s,mb4.0,baz=92,slow=6.7,SNR=3.9						
ARCES	**ARCESS Array B**	**120.23**	**346**	PKP	PKPdf	17 53 04.0	+0.5
	2.0nm,0.9s,baz=65,slow=1.8,SNR=14						
FINES	**FINESS Array B**	**125.78**	**338**	PKP	PKPdf	17 53 14.4	0.0
	0.7nm,0.7s,baz=281,slow=19,SNR=2.9						
FLN	**La Foliniere**	**144.57**	**347**	*e*PKP1	PKPdf	17 53 49.7	+0.1
CABF	**La Chapelle**	**144.58**	**338**	*e*PKP1	PKPdf	17 53 50.5	+0.8
	5.2nm,0.6s						
LDF	**La Druitiere**	**144.65**	**346**	*e*PKP1	PKPdf	17 53 49.8	0.0
GRR	**Gorron**	**145.01**	**347**	*e*PKP1	PKPbc	17 53 51.4	+1.7
	11nm,0.6s						
SSF	**Saint Saulge**	**145.06**	**341**	*e*PKP1	PKPdf	17 53 51.9	+1.4
	7.8nm,0.5s						
LPL	**La Plagne**	**145.27**	**336**	*e*PKP1	PKPdf	17 53 52.8	+1.9
	3.7nm,0.5s						
LPG	**La Plagne**	**145.28**	**336**	*e*PKP1	PKPdf	17 53 53.0	+2.0
	5.7nm,0.6s						
SMF	**Signal de Mont**	**145.32**	**340**	*e*PKP1	PKPbc	17 53 52.5	+1.7
BGF	**Bois d'Agland**	**145.72**	**341**	*e*PKP1	PKPbc	17 53 53.8	+1.7
	4.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**146.10**	**337**	*e*PKP1	PKPbc	17 53 55.1	+1.8
	8.6nm,0.6s						
TCF	**Toulx Ste Croi**	**146.15**	**342**	*e*PKP1	PKPbc	17 53 55.2	+1.8
MFF	**Saint Martin d**	**146.51**	**345**	*e*PKP1	PKPbc	17 53 56.0	+1.5
RJF	**Les Rejaudoux**	**147.25**	**342**	*e*PKP1	PKPbc	17 53 58.2	+1.6
	5.1nm,0.6s						
LFF	**La Frestale**	**147.81**	**343**	*e*PKP1	PKPbc	17 53 59.4	+1.2
MTLF	**Montolieu**	**148.78**	**340**	*e*PKP1	PKPbc	17 54 02.4	+1.6
ETSF	**Etsaut**	**150.05**	**343**	*e*PKP1	PKPbc	17 54 05.4	+1.5

*IDC **05** 17:34:22.2±0.6,3418N×8186E,h0km,mb4.2/20, mb1 4.3/23,mb1mx4.2/29,mbtmp4.2/23,ML3.6/3,MS4.1/6, Ms1 4.1/6,ms1mx3.6/26,Error ellipse: s-maj=18.6km s-min=13.8km az=43.0*
*LDG **05** 17:34:22.5±0.2,3437N×8168E,h10km,Mb4.7/15,Error ellipse: s-maj=7.7km s-min=4.9km az=99.0*
*NEIC **05** 17:34:23.8±0.3,3418N×8184E,h10km,mb4.7/20,Error ellipse: s-maj=8.0km s-min=6.2km az=64.0*
*BJI **05** 17:34:25.8,3448N×8188E,h13km,mB4.7,mb4.5,ML4.3, Ms5.0,Msz4.7*
*NDI **05** 17:34:26.9±3.2,3404N×8214E,h10km,mb4.9, mb4.7(NEIC)*
*MOS **05** 17:34:26.0±1.1,3427N×8172E,h33km,mb4.8/22,Error ellipse: s-maj=9.3km s-min=5.1km az=114.2*
*ISCJB **05** 17:34:27.5±0.4,3428N±002×8173E±003,h46km±4km, mb4.4/52,MS4.3/13,Error ellipse: s-maj=4.5km s-min=3.0km az=144.0*

ISC 05 17:34:30.3±0.3,3429N±002×8176E±003,h54km±3km, h21km±5.0km:pP-P,n191,σ1§20/194,mb4.4/52,MS4.3/13, 4C-4D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**4.04**	**228**	*e*P	**Pn**	**17 35 30.3**	**+0.8**
KLP				*e*S	**Sn**	**17 36 18.1**	**+2.6**
SDNR	**Sundarnagar**	**4.90**	**237**	*e*P	**Pn**	**17 35 42.6**	**+1.3**
PTH	**Pithoragarh**	**4.91**	**196**	*ex*	x	17 35 45.0	
SMLA	**Simla**	**4.99**	**232**	*e*P	**Pn**	**17 35 42.6**	**-0.1**
SMLA				AMb	AMB	17 36 09.2	
	comp=Z,169nm,2.1s						
LGTI	**Lohaghat**	**5.00**	**195**	*ex*	x	17 35 47.0	
DDI	**Dehra Dun**	**5.05**	**219**	*e*P	**Pn**	**17 35 44.1**	**+0.7**
DDI				*ex*	x	17 37 13.1	
DLH	**Dalhousie**	**5.15**	**252**	*e*P	**Pn**	**17 35 46.0**	**+1.2**
DLH				*ex*	x	17 35 55.0	
BHK	**Bhakra**	**5.33**	**239**	*e*P	**Pn**	**17 35 50.0**	**+2.7**
THN	**Thein Dam**	**5.39**	**252**	*e*P	**Pn**	**17 35 49.1**	**+1.1**
DANN	**Dangsing**	**6.17**	**163**	*e*Pn	**Pn**	**17 35 57.4**	**-1.3**
KOLN	**Koldanda**	**6.69**	**166**	*e*Pn	**Pn**	**17 36 04.4**	**-1.5**
KOLN				*e*Sn	**Sn**	**17 37 19.7**	**-1.1**
	comp=Z,93nm,0.5s						
GKN	**Gorkha**	**6.74**	**158**	*e*Pn	**Pn**	**17 36 05.2**	**-1.4**
NDI	**New Delhi**	**6.80**	**216**	*e*P	**Pn**	**17 36 07.9**	**+0.4**
NDI				AMb	AMB	17 36 10.2	
	comp=Z,33nm,0.2s						
KSH	**Kashi**	**6.98**	**320**	*e*P	**Pn**	**17 36 11.6**	**+1.8**
KSH				*e*S	**Sn**	**17 37 29.7**	**+2.0**
KSH				LR	LR		
	comp=N,6μm,6.1s						
KSH				LR	LR		
	comp=E,15μm,10.3s						
KSH				LR	LR		
	comp=Z,5μm,11.6s						
AYAN	**Aya Nagar**	**7.01**	**216**	*e*P	**Pn**	**17 36 09.1**	**-1.2**
CHCP	**Chirah Chowk**	**7.09**	**267**	P	**Pn**	**17 36 08.9**	**-2.4**
KKN	**Kakani**	**7.15**	**154**	*e*Pn	**Pn**	**17 36 12.0**	**-0.2**
KKN				*e*Sn	**Sn**	**17 37 34.2**	**+2.1**
	comp=Z,187nm,1.0s						
SONA	**Sohna**	**7.23**	**215**	*e*P	**Pn**	**17 36 12.7**	**-0.7**
SONA				*ex*	x	17 37 35.1	
DMN	**Daman**	**7.25**	**156**	*e*Pn	**Pn**	**17 36 13.9**	**+0.2**
DMN				*e*Sn	**Sn**	**17 37 36.3**	**+1.7**
	comp=Z,261nm,1.1s						
GUN	**Gumba**	**7.28**	**150**	*e*Pn	**Pn**	**17 36 14.1**	**+0.2**
GUN				*e*Sn	**Sn**	**17 37 37.4**	**+2.3**
	comp=Z,138nm,0.9s						
PKIN	**Phulchoki**	**7.38**	**154**	*e*Pn	**Pn**	**17 36 14.9**	**-0.6**
PKI	**Pulchoki**	**7.39**	**154**	*e*Pn	**Pn**	**17 36 15.2**	**-0.4**
PKI				*e*Sn	**Sn**	**17 37 39.8**	**+1.7**
	comp=Z,91nm,0.9s						
KUDL	**Kundal**	**7.61**	**218**	*e*P	**Pn**	**17 36 17.5**	**-1.1**
JIRN	**Jiri**	**7.62**	**149**	*e*Pn	**Pn**	**17 36 18.8**	**+0.1**
JIRN				*e*Sn	**Sn**	**17 37 46.0**	**+2.3**
	comp=Z,87nm,0.7s						
AGRA	**Agra**	**7.77**	**206**	*e*P	**Pn**	**17 36 17.0**	**-3.7**
KHET	**Khetri**	**8.03**	**221**	*e*P	**Pn**	**17 36 22.2**	**-2.0**
KHET				AMb	AMB	17 36 26.1	
	comp=Z,28nm,0.8s						
THW	**Thamme Wali**	**8.49**	**263**	P	**Pn**	**17 36 28.8**	**-1.8**
ULHL	**Ulahol**	**9.05**	**333**	P	**Pn**	**17 36 40.1**	**+2.0**
	SNR=25						
LSA	**Lhasa**	**9.19**	**117**	P	**Pn**	**17 36 42.0**	**+1.8**
LSA				LR	LR		
	comp=N,2μm,10.9s						
LSA				LR	LR		
	comp=E,18μm,9.9s						
LSA				LR	LR		
	comp=Z,3μm,8.9s						
LSA	**Lhasa**	**9.19**	**117**	*e*P	**Pn**	**17 36 41.3**	**+1.1**
LSA				pmax	pmax		
	comp=Z,24nm,0.9s						
LSA	**Lhasa**	**9.19**	**117**	*e*Pn	**Pn**	**17 36 41.3**	**+1.1**
	comp=Z,24nm,0.9s						
KZA	**Kyzart**	**9.31**	**329**	P	**Pn**	**17 36 42.5**	**+0.8**
	SNR=14						
UCH	**Uchtor**	**9.76**	**326**	*e*Pn	**Pn**	**17 36 48.2**	**+0.4**
	comp=Z,27nm,0.9s						
UCH	**Uchtor**	**9.76**	**326**	P	**Pn**	**17 36 48.4**	**+0.6**
	SNR=21						
TKM2	**Tokmak 2**	**9.87**	**333**	*e*P	**Pn**	**17 36 49.6**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	**9.87**	**333**	*e*Pn	**Pn**	**17 36 49.6**	**+0.2**
	comp=Z,11nm,0.8s						
TKM2	**Tokmak 2**	**9.87**	**333**	P	**Pn**	**17 36 50.9**	**+1.6**
	SNR=16						
KBK	**Karagaybulak**	**9.91**	**329**	P	**Pn**	**17 36 52.2**	**+2.3**
	SNR=10						
AJM	**Ajmer**	**9.92**	**220**	*e*P	**Pn**	**17 36 47.9**	**-2.2**
AJM				AMb	AMB	17 36 55.0	
	comp=Z,20nm,1.1s						
AML	**Almayashu**	**10.07**	**323**	*e*Pn	**Pn**	**17 36 52.1**	**-0.1**
	comp=Z,30nm,0.9s						
AML	**Almayashu**	**10.07**	**323**	P	**Pn**	**17 36 52.6**	**+0.5**
	SNR=5.9						
AAK	**Ala-Archa**	**10.09**	**328**	*e*P	**Pn**	**17 36 51.8**	**-0.5**
AAK				pmax	pmax		
	comp=Z,15nm,0.8s						
AAK	**Ala-Archa**	**10.09**	**328**	*e*Pn	**Pn**	**17 36 51.8**	**-0.6**
	comp=Z,15nm,0.8s						
AAK	**Ala-Archa**	**10.09**	**328**	Pn	**Pn**	**17 36 52.1**	**-0.3**
	comp=Z,0.2nm,0.3s,baz=183,slow=14,SNR=12						
CHMS	**Chumysh**	**10.27**	**330**	P	**Pn**	**17 36 56.1**	**+1.3**
	SNR=9.7						
EKS2	**Erkin-Say**	**10.43**	**326**	*e*Pn	**Pn**	**17 36 57.3**	**+0.2**
	comp=Z,16nm,1.0s						
KBL	**Kabul**	**10.51**	**275**	*e*P	**Pn**	**17 36 55.2**	**-3.0**
KBL				pmax	pmax		
	comp=Z,19nm,0.7s						
KBL	**Kabul**	**10.51**	**275**	*e*Pn	**Pn**	**17 36 55.2**	**-3.0**
	comp=Z,19nm,0.7s						
WMQ	**Urumqi**	**10.57**	**24**	⇓*iP*	**Pn**	**17 36 58.0**	**-1.0**
WMQ				S	**Sn**	**17 38 55.0**	**-0.8**
WMQ				SS		17 39 09.0	
WMQ				AMB	AMB		
	comp=Z,124nm,1.0s						
WMQ				LR	LR		
	comp=N,2μm,7.0s						
WMQ				LR	LR		
	comp=E,5μm,7.0s						
WMQ				LR	LR		
	comp=Z,1μm,7.0s						
USP	**Ospenovka**	**10.60**	**330**	P	**Pn**	**17 36 59.9**	**+0.6**
	SNR=6.0						
BOK	**Bokaro**	**11.06**	**160**	*e*P	**Pn**	**17 37 00.6**	**-5.2**
BOK				AMb	AMB	17 37 07.8	
	comp=Z,15nm,0.5s						
BHPL	**Bhopal**	**11.65**	**200**	*e*P	**Pn**	**17 37 10.5**	**-3.3**
BHPL				*ex*	x	17 39 16.3	
JASL	**Jaisalmer**	**11.88**	**235**	*ex*	x	17 37 12.9	
BLSP	**Bilaspur**	**12.12**	**178**	*e*P	**Pn**	**17 37 16.1**	**-4.2**
BLSP				*ex*	x	17 39 25.9	
SHL	**Shillong**	**12.35**	**132**	*ex*	x	17 37 20.0	
SHL				*ex*	x	17 39 35.0	
KK31	**Karatay Array**	**12.42**	**318**	*i* P	**Pn**	**17 37 23.7**	**-0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**12.49**	**2**	*e*Pn	**Pn**	**17 37 22.5**	**-2.7**
MK31				*e*		17 37 28.4	
MK31				*e*		17 37 36.3	
MKAR	**Makanchi Array**	**12.49**	**2**	Pn	**Pn**	**17 37 22.7**	**-2.5**
	comp=Z,1.9nm,0.3s,baz=182,slow=13,SNR=216						
NGP	**Nagpur**	**13.31**	**191**	*e*P	**Pn**	**17 37 32.5**	**-4.0**
NGP				*e*S	**Sn**	**17 39 47.3**	**-16**
AKL	**Akola**	**14.17**	**198**	*e*P	**Pn**	**17 37 45.5**	**-2.6**
GTA	**Gaotai**	**15.32**	**65**	*e*P	**Pn**	**17 38 02.8**	**-0.2**
GTA				AP	pP	17 38 11.1	-7.6
GTA				XP	sP	17 38 14.6	-11
GTA				AMB	AMB		
	comp=Z,6.0nm,1.3s						
GTA				AMB	AMB		
	comp=Z,84nm,6.5s						
GTA				LR	LR		
	comp=N,4μm,14.8s						
GTA				LR	LR		
	comp=E,3μm,14.8s						
GTA				LR	LR		
	comp=Z,3μm,12.5s						
LATR	**Latur**	**16.48**	**198**	*ex*	x	17 38 09.8	
KURK	**Kurchatov**	**16.57**	**353**	*d*P	**Pn**	**17 38 15.2**	**-3.6**
KURK	**Kurchatov**	**16.57**	**353**	*e*Pn	**Pn**	**17 38 15.1**	**-3.7**
	comp=Z,84nm,1.1s						
KURK				*e*		17 38 20.7	
HYB	**Hyderabad**	**17.05**	**190**	*e*P	**Pn**	**17 38 22.0**	**-2.9**
HYB				*e*S	**S**	**17 41 24.0**	**-17**
HYB	**Hyderabad**	**17.05**	**190**	*i* P	**Pn**	**17 38 22.0**	**-2.9**
HYB				*e*S	**S**	**17 41 39.0**	**-1.9**
POO	**Poona**	**17.21**	**206**	*ex*	x	17 38 23.5	
POO				*e*SS		17 41 52.0	
LZH	**Lanzhou**	**18.14**	**78**	*e*P	**Pn**	**17 38 40.4**	**+2.2**
LZH				AP	pP	17 38 47.6	-2.4
LZH				XP	sP	17 38 51.3	-5.5
LZH				AMB	AMB		
	comp=Z,27nm,1.4s						
LZH				AMB	AMB		
	comp=Z,146nm,5.1s						
CD2	**Chengdu**	**18.83**	**94**	*e*P	**Pn**	**17 38 46.8**	**+0.2**
CD2				PP		17 39 04.5	
CD2				AMB	AMB		
	comp=Z,30nm,0.6s						
CD2				AMB	AMB		
	comp=Z,40nm,3.8s						
CD2				LR	LR		
	comp=N,4μm,9.6s						
CD2				LR	LR		
	comp=E,3μm,8.4s						
CD2				LR	LR		
	comp=Z,4μm,9.0s						
ZAL	**Zalesovo**	**19.76**	**5**	P	**Pn**	**17 38 55.9**	**-1.5**
ZAA0	**Zalesovo Array**	**19.77**	**5**	*e*P	**Pn**	**17 38 54.7**	**-2.8**
ZAA0				*e*		17 39 00.2	
ZALV	**Zalesovo Beam**	**19.77**	**5**	P	**Pn**	**17 38 55.9**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=194,slow=11,SNR=36						
KMI	**Kunming**	**20.36**	**111**	P	**P**	**17 39 02.8**	**+0.6**
KMI				AP		17 39 15.0	
KMI				PP		17 39 25.5	
KMI				S	**S**	**17 42 45.3**	**-2.1**
KMI				SS		17 43 15.5	
KMI				AMB	AMB		
	comp=Z,27nm,1.3s						
KMI				AMB	AMB		
	comp=Z,69nm,3.1s						
KMI				LR	LR		
	comp=N,3μm,8.0s						

comp=Z,39nm,0.9s,mb4.8
HHC AMB AMB
comp=Z,293nm,5.4s
HHC LR LR
comp=N,1μm,10.5s,MS4.9
HHC LR LR
comp=E,2μm,10.8s,MS4.9
HHC LR LR
comp=Z,2μm,11.4s,MS4.8
NST Nakhon Sawan 24.84 134 P **P 17 39 47.6 -0.1**
comp=Z,51nm,0.6s,mb5.2
TIY Taiyuan 24.99 73 P **P 17 39 52.0 +3.1**
TIY LR LR
comp=N,1μm,7.6s
TIY LR LR
comp=E,2μm,9.0s
TIY LR LR
comp=Z,2μm,8.6s
SVE Sverdlovsk 26.74 334 *e*P **P 17 40 07.3 +2.8**
ARU Arti 27.24 331 *e*P **P 17 40 11.0 +2.0**
ARU *e* 17 40 52.4
ARU *e*S **S 17 44 50.1 +6.1**
ARU *e*SS 17 45 54.6
ARU Arti 27.24 331 P **P 17 40 10.9 +1.9**
QIZ Qiongzhong 29.21 114 P **P 17 40 26.9 0.0**
QIZ S **S 17 45 17.7 +1.9**
QIZ LR LR
comp=N,615nm,10.8s,MS4.8
QIZ LR LR
comp=E,966nm,10.0s,MS4.8
QIZ LR LR
comp=Z,1μm,12.0s,MS4.8
MIB Mutribah 29.43 271 *e*S **S 17 45 19.3 +0.3**
MIB *e*P 17 45 23.7
MIB AMb AMB 17 45 26.3
comp=Z,31nm,1.1s,mb5.0
RDF Al-Radifah 29.53 269 *e*S **S 17 45 21.9 +1.2**
RDF *e*P 17 45 25.2
RDF AMb AMB 17 45 29.2
comp=Z,37nm,1.2s,mb5.0
NAY Al-Naaiem 29.68 270 *e*S **S 17 45 23.9 +0.9**
NAY *e*P 17 45 26.0
NAY AMb AMB 17 45 28.5
comp=Z,14nm,0.9s,mb4.7
NJ2 Nanjing 31.02 84 *e*P **P 17 40 44.6 +1.8**
NJ2 AP pP 17 40 54.6 -1.9
NJ2 PP PP 17 41 46.4 -7.1
NJ2 PPP 17 42 02.1
NJ2 S **S 17 45 44.0 +0.1**
NJ2 XS sS 17 46 01.0 -6.2
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,160nm,4.4s
NJ2 LR LR
comp=N,5μm,17.1s
NJ2 LR LR
comp=E,2μm,10.8s
NJ2 LR LR
comp=Z,2μm,10.8s
BOD Bodaibo 31.95 33 *e*P **P 17 40 47.7 -2.9**
CN2 Changchun 34.88 61 *e*P **P 17 41 16.2 -0.2**
ANN Anapa 35.36 301 *e*P **P 17 41 18.6 -1.9**
ANN *e**PP pP 17 41 24.5 -10
ANN *e* 17 42 36.2
ANN *e*S **S 17 46 50.5 -0.5**
ANN *e*SS SS 17 49 08.4 -18
ANN pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ANN MLR MLR
comp=Z,182nm,16.0s,MS3.9
OBN Obninsk 37.42 318 *e*P **P 17 41 38.9 +1.1**
OBN *e**PP pP 17 41 45.6 -6.2
OBN *e* 17 43 58.0
OBN pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
MDJ Mudanjiang 37.86 60 P **P 17 41 41.0 -0.7**
MDJ AMB AMB
comp=Z,7.0nm,1.9s,mb4.1
MDJ AMB AMB
comp=Z,62nm,3.7s
MDJ LR LR
comp=N,547nm,23.7s
MDJ LR LR
comp=Z,607nm,18.9s,MS4.4
YAK Yakutsk 40.87 32⇑ *e*P **P 17 42 07.3 +0.7**
YAK pmax pmax
comp=Z,10.0nm,1.0s,mb4.4
AKASG Malin Array Be 41.14 310 P **P 17 42 08.4 -0.6**
comp=Z,1.0nm,0.5s,mb3.7,baz=81,slow=7.6,SNR=5.6
ATD Arta Tunnel 42.03 247 LR LR 17 58 54.8
comp=Z,66nm,21.6s,MS3.5,baz=313,slow=35
JOF Joensuu 42.27 328 *e*p **P 17 42 18.2 +0.2**
comp=Z,1.9nm,0.5s,mb4.0
MLR Muntele Rosu 43.46 302 P **P 17 42 29.6 +1.7**
comp=Z,6.6nm,0.8s,mb4.4,baz=222,slow=4.9,SNR=7.2
FINES FINESS Array B 44.27 325 P **P 17 42 34.6 +0.6**
comp=Z,1.5nm,0.8s,mb3.8,baz=111,slow=10,SNR=6.5
TIXI Tiksi 44.73 19 *e*P **P 17 42 33.0 -4.7**
TIXI pmax pmax
comp=Z,9.0nm,1.6s,mb4.3
TIXI MLR MLR
comp=Z,396nm,17.0s,MS4.4
TIXI Tiksi 44.73 19 *e*P **P 17 42 36.7 -1.0**
comp=Z,6.4nm,1.3s,mb4.3
MJAR Matsushiro Arr 45.49 70 P **P 17 42 43.6 -0.7**
comp=Z,2.4nm,0.9s,mb4.0,baz=287,slow=8.6,SNR=9.2
ARCES ARCESS Array B 46.63 336 P **P 17 42 53.0 +0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=72,slow=8.0,SNR=5.3
MORC Moravsky Berou 48.66 309 P **P 17 43 08.8 +0.1**
MORC pmax pmax
comp=Z,5.0nm,1.2s,mb4.4
MORC Moravsky Berou 48.66 309 P **P 17 43 08.8 +0.1**
comp=Z,5.3nm,1.2s,mb4.5
VRAC Vranov 49.34 308 P **P 17 43 14.3 +0.4**
comp=Z,2.2nm,0.4s,mb4.6,baz=27,slow=1.5,SNR=3.4
HFS Hagfors 49.17 323 P **P 17 43 20.5 +0.3**
comp=Z,1.4nm,0.6s,mb4.2,baz=150,slow=12,SNR=4.2
BRG Berggiesshubel 50.81 311 *e*P **P 17 43 26.0 +1.0**
comp=Z,3.8nm,1.0s,mb4.3
BRG *e* 17 47 55.3
comp=Z,2.7nm,1.0s
GERES GERESS Array B 51.29 308 P **P 17 43 29.3 +0.7**
comp=Z,1.3nm,0.8s,mb3.9,baz=74,slow=4.9,SNR=6.3
KHC Kasperske Hory 51.32 309⇓ *e*P **P 17 43 30.0 +1.1**
SEY Seymchan 51.37 34⇓ *e*P **P 17 43 29.2 +0.2**
NB2 NORSAR Subarra 51.38 324 P **P 17 43 29.1 0.0**
comp=Z,2.1nm,0.9s,mb4.1,baz=87,slow=7.4
NOA NORSAR Array B 51.38 324 P **P 17 43 29.4 +0.3**
comp=Z,0.6nm,0.7s,mb3.6,baz=88,slow=7.5,SNR=4.3
DAVOX Davos/Dischmat 54.24 306 P **P 17 43 50.2 -0.2**
comp=Z,2.6nm,0.6s,mb4.3,baz=128,slow=14,SNR=6.5
DAVOS Davos 54.29 306 P **P 17 43 50.2 -0.6**
KMBO Kilima Mbogo 54.59 239 P **P 17 43 54.6 +1.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=60,slow=20,SNR=2.6
CDF Champ du Feu 55.54 309 *e*P **P 17 43 59.9 +0.1**
HINF Hinteralfeld 55.97 308 *e*P **P 17 44 02.8 -0.1**
comp=Z,11nm,0.8s,mb4.6
HINF Hinteralfeld 55.97 308 *e*P **P 17 44 02.8 -0.1**
HINF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
HINF Hinteralfeld 55.97 308 *e*P **P 17 44 02.8 -0.1**
comp=Z,5.7nm,0.8s,mb4.7
BILL Bilibino 56.67 27⇑ *e*P **P 17 44 08.4 +0.8**
BILL *e**PP pP 17 44 14.6 -7.7
BILL pmax pmax
comp=Z,7.0nm,1.4s,mb4.5
LPG La Plagne 56.68 306 *e*P **P 17 44 08.7 +0.7**
comp=Z,19nm,0.8s,mb4.9
LPG La Plagne 56.68 306 *e*P **P 17 44 08.7 +0.7**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 56.68 306 *e*P **P 17 44 08.7 +0.7**
comp=Z,9.3nm,0.8s,mb4.9
LPL La Plagne 56.69 306 *e*P **P 17 44 08.6 +0.5**
comp=Z,25nm,0.7s,mb5.0
LPL La Plagne 56.69 306 *e*P **P 17 44 08.6 +0.5**
LPL pmax pmax
comp=Z,13nm,0.7s,mb5.1
LPL La Plagne 56.69 306 *e*P **P 17 44 08.6 +0.5**
comp=Z,13nm,0.7s,mb5.1
MBDF Montbardon 56.90 305 *e*P **P 17 44 09.1 -0.4**
comp=Z,12nm,0.8s,mb4.8
MBDF Montbardon 56.90 305 *e*P **P 17 44 09.1 -0.4**
MBDF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
MBDF Montbardon 56.90 305 *e*P **P 17 44 09.1 -0.4**
comp=Z,6.2nm,0.8s,mb4.7
MEZF Maizieres J'vi 56.95 309 *e*P **P 17 44 10.1 +0.3**
FRF La Foret Royal 57.34 303 *e*P **P 17 44 12.3 -0.4**
comp=Z,15nm,0.9s,mb4.7
FRF La Foret Royal 57.34 303 *e*P **P 17 44 12.3 -0.4**
FRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
FRF La Foret Royal 57.34 303 *e*P **P 17 44 12.3 -0.4**
comp=Z,7.6nm,0.9s,mb4.7
ORIF Oris-en-Rattie 57.44 305 *e*P **P 17 44 12.9 -0.5**
LOR Lormes 58.07 308 *e*P **P 17 44 17.1 -0.7**
comp=Z,5.1nm,0.8s,mb4.3
LOR Lormes 58.07 308 *e*P **P 17 44 17.1 -0.7**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
LOR Lormes 58.07 308 *e*P **P 17 44 17.1 -0.7**
comp=Z,2.5nm,0.8s,mb4.3
SMF Signal de Mont 58.27 308 *e*P **P 17 44 18.8 -0.4**
comp=Z,12nm,0.9s,mb4.7
SMF Signal de Mont 58.27 308 *e*P **P 17 44 18.8 -0.4**
SMF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SMF Signal de Mont 58.27 308 *e*P **P 17 44 18.8 -0.4**
comp=Z,6.2nm,0.9s,mb4.6
SSF Saint Saulge 58.37 308 *e*P **P 17 44 19.3 -0.5**
comp=Z,14nm,1.0s,mb4.6
SSF Saint Saulge 58.37 308 *e*P **P 17 44 19.3 -0.5**
SSF pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SSF Saint Saulge 58.37 308 *e*P **P 17 44 19.3 -0.5**
comp=Z,7.3nm,1.0s,mb4.7
AVF Avril sur Loir 58.55 308 *e*P **P 17 44 20.7 -0.4**
LASF Ste Croix 59.08 305 *e*P **P 17 44 25.1 +0.2**
TCF Toulx Ste Croi 59.46 308 *e*P **P 17 44 27.4 0.0**
comp=Z,16nm,1.1s,mb4.7
TCF Toulx Ste Croi 59.46 308 *e*P **P 17 44 27.4 0.0**
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TCF Toulx Ste Croi 59.46 308 *e*P **P 17 44 27.4 0.0**
comp=Z,8.1nm,1.1s,mb4.7
EKA Eskdalemuir Ar 59.86 319 P **P 17 44 30.5 +0.5**
comp=Z,3.5nm,1.1s,mb4.3,baz=76,slow=11,SNR=3.5
CAF Calviac 60.01 306 *e*P **P 17 44 31.4 +0.2**
comp=Z,10nm,0.9s,mb4.5
CAF Calviac 60.01 306 *e*P **P 17 44 31.4 +0.2**
CAF pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CAF Calviac 60.01 306 *e*P **P 17 44 31.4 +0.2**
comp=Z,5.3nm,0.9s,mb4.6
LDF La Druitiere 60.20 311 *e*P **P 17 44 32.0 -0.4**
comp=Z,22nm,1.1s,mb4.8
LDF La Druitiere 60.20 311 *e*P **P 17 44 32.0 -0.4**
LDF pmax pmax
comp=Z,11nm,1.1s,mb4.8
LDF La Druitiere 60.20 311 *e*P **P 17 44 32.0 -0.4**
comp=Z,11nm,1.1s,mb4.8
GRR Gorron 60.73 311 *e*P **P 17 44 35.5 -0.6**
ROSF Rostrenen 62.26 311 *e*P **P 17 44 46.4 0.0**
comp=Z,16nm,0.9s,mb4.8
ROSF Rostrenen 62.26 311 *e*P **P 17 44 46.4 0.0**
ROSF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ROSF Rostrenen 62.26 311 *e*P **P 17 44 46.4 0.0**
comp=Z,7.9nm,0.9s,mb4.8
FITZ Fitzroy Crossi 66.77 134 LR LR 18 20 14.8
comp=Z,96nm,21.0s,MS4.0,baz=314,slow=41
WRA Warramunga Arr 73.55 129 P **P 17 45 56.2 -1.4**
comp=Z,1.4nm,0.5s,mb4.1,baz=326,slow=5.8,SNR=13
WRAB Tennant Creek 73.55 129 P **P 17 45 59.0 +1.4**
WRAB pmax pmax
comp=Z,17nm,1.4s,mb4.8
WRAB Tennant Creek 73.55 129 P **P 17 45 59.0 +1.3**
comp=Z,17nm,1.4s,mb4.8
COLA College 73.86 20 *i*P **P 17 45 59.3 +0.5**
COLA College 73.86 20 *e*P **P 17 45 59.2 +0.4**
comp=Z,7.9nm,1.0s,mb4.6
INK Inuvik 74.38 13 *e*P **P 17 46 01.1 -0.7**
comp=Z,186nm,1.2s
ASAR Alice Springs 75.99 132 P **P 17 46 11.0 -0.7**
comp=Z,1.2nm,0.5s,mb4.0,baz=314,slow=5.6,SNR=19
CTA Charters Tower 81.74 121 LR LR 18 21 44.4
comp=Z,146nm,20.6s,MS4.3,baz=297,slow=35
BOSA Boshof 82.27 228 P **P 17 46 45.1 -0.7**
comp=Z,2.3nm,0.8s,mb4.2,baz=145,slow=13,SNR=4.2
YKA Yellowknife Ar 82.65 8 P **P 17 46 46.7 -0.7**
YKA Yellowknife Ar 82.65 8 P **P 17 46 46.7 -0.7**
comp=Z,3.6nm,0.8s,mb4.5,baz=342,slow=5.0,SNR=41
DBIC Dimbokro 83.50 274 P **P 17 46 53.1 +0.4**
comp=Z,3.0nm,0.7s,mb4.5,baz=85,slow=7.1,SNR=4.2
HNR Honiara 85.64 104 LR LR 18 21 32.6
comp=Z,108nm,21.3s,MS4.2,baz=359,slow=33
STKA Stephens Creek 86.60 133 LR LR 18 27 32.5
comp=Z,168nm,20.6s,MS4.4,baz=293,slow=37
SCHQ Schefferville 87.22 342 LR LR 18 33 07.6
comp=Z,196nm,19.9s,MS4.5,baz=94,slow=40
VNA2 Neumayer--Watz 121.71 203 *e*PKPdf PKPdf 17 53 20.0 +3.1
baz=35,slow=2.1
VNA2 *e* 17 53 26.4
VNA3 Neumayer Olymp 122.50 203 *e*PKPdf PKPdf 17 53 17.9 -0.5
VNA3 *e* 17 53 24.0
CPUP Villa Florida 143.99 271 PKP PKPdf 17 53 57.3 -2.6
comp=Z,0.4nm,0.3s,baz=138,slow=4.0,SNR=3.0
LPAZ La Paz 147.58 296 PKPbc PKPbc 17 54 07.3 -1.6
comp=Z,1.0nm,0.6s,baz=54,slow=5.5,SNR=3.0

ISCJB ***05*** *17:38:20.9±0.7, 3467N±004×9002E±004, h40km±8km, mb4.2/30, MS4.2/14, Error ellipse: s-maj=6.6km s-min=5.4km az=171.8*
MOS ***05*** *17:38:20.5±1.6, 3467N×8999E, h33km, mb4.7/14, Error ellipse: s-maj=12.1km s-min=6.5km az=104.8*
NEIC ***05*** *17:38:23.6±1.2, 3467N×8998E, h49km±12km, mb4.4/19, MS4.2/2, Error ellipse: s-maj=12.2km s-min=8.7km az=46.0*
GCMT ***05*** *17:38:23.6±0.3, 3467N×9003E, h24km±1km, MW5.0/74, Moment Tensor Solution. s21,c23; s74,c120; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.18±.17; $M_{\theta\theta}$-1.59±.12; $M_{\phi\phi}$1.42±.12; $M_{r\theta}$0.96±.19; $M_{\theta\phi}$3.12±.11; $M_{r\phi}$0.19±.16; Best double couple: $M_0$3.60000×10^{16} NP1:ϕ_s347.00000°, δ74.00000°, λ179.00000°. NP2: ϕ_s77.00000°, δ89.00000°, λ16.00000°. Principal axes: T 3.5160, Plg12.0000°, Azm303.0000°; N 0.1730, Plg74.0000°, Azm80.0000°; P -3.6830, Plg11.0000°, Azm211.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
BJI ***05*** *17:38:25.3, 3462N×9069E, h30km, mB4.9, mb4.4, Ms4.8, Msz4.6*
IDC ***05*** *17:38:27.2±6.6, 3478N×9027E, h92km±59km, mb3.4/11, mb1 3.6/14, mb1mx3.5/24, mbtmp3.4/14, ML3.4/3, MS4.1/12, Ms1 4.1/12, ms1mx4.0/19, Error ellipse: s-maj=35.8km s-min=16.9km az=35.0*
SZGRF ***05*** *17:39:01.7, 3464N×8175E, h33km, mb4.4, MS4.1, Xizang*
ISC 05 17:38:23.3±0.5, 3472N±004×8998E±004, h41km±6km, n105, σ1§35/102, mb4.2/30, MS4.2/14, 2C, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**5.10**	**168**	*e*P		**Pn**	**17 39 38.7**	**+1.5**
LSA				pmax	pmax			
comp=Z,54nm,0.9s								
LSA	**Lhasa**	**5.10**	**168**	*e*Pn		**Pn**	**17 39 38.7**	**+1.4**
comp=Z,54nm,0.9s								
GUN	**Gumba**	**7.64**	**208**	*e*P		**Pn**	**17 40 12.6**	**+0.5**
comp=Z,56nm,0.6s								
JIRN	**Jiri**	**7.75**	**206**	*e*P		**Pn**	**17 40 14.2**	**+0.6**
comp=Z,106nm,0.7s								
KKN	**Kakani**	**7.99**	**211**	*e*P		**Pn**	**17 40 17.9**	**+1.0**
GKN	**Gorkha**	**8.10**	**216**	*e*P		**Pn**	**17 40 19.2**	**+0.8**
PKI	**Pulchoki**	**8.13**	**210**	*e*P		**Pn**	**17 40 18.0**	**-0.8**
comp=Z,34nm,0.6s								
PKIN	**Phulchoki**	**8.13**	**210**	*e*P		**Pn**	**17 40 17.6**	**-1.2**
DMN	**Daman**	**8.23**	**212**	*e*P		**Pn**	**17 40 18.9**	**-1.2**
DANN	**Dangsing**	**8.28**	**222**	*e*P		**Pn**	**17 40 21.6**	**+0.8**
GTA	**Gaotai**	**9.15**	**56**	*e*P		**Pn**	**17 40 32.5**	**-0.1**
GTA					AP		17 40 35.4	
GTA					AMB	AMB		
comp=Z,6.0nm,1.0s								
LZH	**Lanzhou**	**11.40**	**79**	*e*P		**Pn**	**17 41 02.7**	**-0.8**
LZH					AP		17 41 11.4	
LZH					XP		17 41 14.7	
LZH				*e*S		**Sn**	**17 43 10.3**	**+0.8**
LZH					AMB	AMB		
comp=Z,36nm,1.0s								
LZH					AMB	AMB		
comp=Z,157nm,4.0s								
LZH					LR	LR		
comp=E,3μm,9.0s								
LZH					LR	LR		
comp=Z,3μm,10.2s								
CD2 Chengdu 12.20 104 P **Pn 17 41 11.7 -2.7**								
CD2					PP		17 41 25.9	
CD2					AMB	AMB		
comp=Z,60nm,4.5s								
CD2					LR	LR		
comp=N,5μm,9.0s								
CD2					LR	LR		
comp=Z,4μm,9.0s								
MKAR Makanchi Array 13.38 337 P **Pn 17 41 34.4 +3.8**								
comp=Z,0.1nm,0.3s,baz=149,slow=12,SNR=2.5								
TKM2 Tokmak 2 13.87 310 P **Pn 17 41 37.1 -0.1**								
UCH Uchtor 14.23 306 Pn **Pn 17 41 43.3 +1.2**								
comp=Z,9.3nm,1.1s								
AAK Ala-Archa 14.43 308 *e*P **Pn 17 41 45.9 +1.0**								
AAK					pmax	pmax		
comp=Z,26nm,1.3s								
AAK Ala-Archa 14.43 308 *e*P **Pn 17 41 45.9 +1.0**								
comp=Z,26nm,1.3s								
AAK				*e*			17 41 52.4	
EKS2 Erkin-Say 14.92 307 *e*P **Pn 17 41 50.9 -0.3**								
comp=Z,51nm,1.7s								
XAN Xi'an 15.66 87 P **Pn 17 42 01.8 +0.8**								
XAN					AP	pP	17 42 07.8	-6.7
XAN					XP	sP	17 42 11.0	-8.7
XAN					AMB	AMB		
comp=Z,8.0nm,1.3s								
XAN					LR	LR		
comp=N,456nm,14.8s								
XAN					LR	LR		
comp=Z,213nm,13.0s								
GYA Guiyang 16.54 115 P **Pn 17 42 05.5 -6.8**								
GYA					AMB	AMB		
comp=Z,20nm,1.0s								
GYA					LR	LR		
comp=N,2μm,9.0s								
GYA					LR	LR		
comp=E,230nm,10.2s								
GYA					LR	LR		
comp=Z,3μm,10.5s								
KBL Kabul 17.23 275 *e*P **Pn 17 42 20.0 -0.9**								
comp=Z,32nm,1.2s								
CHTO Chiang Mai 17.73 151 *e*P **Pn 17 42 25.0 -2.2**								
CHTO					pmax	pmax		
comp=Z,11nm,1.2s								
CHTO Chiang Mai 17.73 151 *e*P **Pn 17 42 25.0 -2.1**								
comp=Z,11nm,1.2s								
SONM Songino Array 17.95 38 P **Pn 17 42 29.2 -0.4**								
comp=Z,0.1nm,0.3s,baz=230,slow=9.2,SNR=11								
KURK Kurchatov 18.00 336⇑ *e*P **Pn 17 42 29.7 -0.5**								
KURK Kurchatov 18.00 336 *e*P **Pn 17 42 28.1 -2.1**								
comp=Z,26nm,1.4s								
ULN Ulaanbaatar 18.30 39 *i*P **Pn 17 42 33.0 -0.9**								
ULN Ulaanbaatar 18.30 39 *e*P **Pn 17 42 32.9 -1.1**								
comp=Z,19nm,1.2s								
TIY Taiyuan 18.36 74 P **Pn 17 42 36.5 +1.8**								
TIY					S	**S**	**17 45 50.2**	**-12**
TIY					SS		17 46 10.9	
TIY					LR	LR		
comp=Z,1μm,5.6s								
MOY Mondy 18.71 22 *e*P **Pn 17 42 41.6 +2.8**								
ZAL Zalesovo 19.56 351 P **Pn 17 42 46.9 -2.0**								
ZAA0 Zalesovo Array 19.57 351 *e*P **Pn 17 42 47.2 -1.8**								
ZALV Zalesovo Beam 19.57 351 P **Pn 17 42 46.9 -2.1**								
ZALV					LR	LR		17 50 31.9
ZALV Zalesovo Beam 19.57 351 P **Pn 17 42 46.9 -2.1**								
comp=Z,0.3nm,0.3s,baz=168,slow=11,SNR=8.1								
ZALV					LR	LR		17 50 31.9
comp=Z,546nm,20.7s,baz=167,slow=37								
WHN Wuhan 20.93 95 P **P 17 43 03.0 +0.5**								
BJT Baijiatuau 21.44 68 *e*P **P 17 43 08.9 +1.0**								
BJT					pmax	pmax		
comp=Z,11nm,0.8s								
BJT Baijiatuau 21.44 68 *e*P **P 17 43 08.9 +1.0**								
comp=Z,11nm,0.8s,mb4.2								
BJI Beijing 21.45 68 P **P 17 43 08.9 +0.9**								
BJI					AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.2								
BJI					LR	LR		
comp=Z,848nm,20.4s,MS4.1								
KKTK Khon Kaen 21.63 145 P **P 17 43 07.0 -3.1**								
BVAR Borovoye Array 22.98 329 P **P 17 43 24.8 +0.7**								
comp=Z,1.3nm,0.7s,mb3.5,baz=127,slow=9.3,SNR=4.2								
BVAR					LR	LR		17 53 33.8
comp=Z,998nm,20.0s,MS4.3,baz=132,slow=39								
BRVK Borovoye 23.05 329 *e*P **P 17 43 25.2 +0.3**								
BRVK					pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.0								
BRVK Borovoye 23.05 329 *e*P **P 17 43 25.2 +0.3**								
comp=Z,5.3nm,0.7s,mb4.1								
GZH Guangzhou 23.45 113 P **P 17 43 31.0 +1.8**								
GZH					LR	LR		
comp=Z,2μm,12.3s,MS4.7								
HIA Hailar 26.26 47 *i*P **P 17 43 59.6 +5.1**								
QZH Quanzhou 26.59 104 *e*P **P 17 43 56.6 -1.1**								
AKTO Aktyubinsk 28.02 314 LR LR 17 57 01.3								
comp=Z,197nm,22.0s,MS3.6,baz=318,slow=40								
BOD Bodaibo 28.16 27 *e*P **P 17 44 10.1 -1.4**								
ARU Arti 30.46 325 *e*P **P 17 44 35.4 +3.5**								
ARU					pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.1								
ARU Arti 30.46 325 *e*P **P 17 44 35.4 +3.5**								
comp=Z,2.8nm,0.7s,mb4.1								
KSRS Korea Array 30.65 74 P **P 17 44 29.7 -4.1**								
comp=Z,0.7nm,0.8s,mb3.5,baz=16,slow=18,SNR=2.8								
PSI Prapat 32.83 163 LR LR 17 59 38.6								
comp=Z,257nm,19.7s,MS3.9,baz=330,slow=39								
YAK Yakutsk 36.98 30 *i*P **P 17 45 29.1 +0.7**								
YAK					pmax	pmax		
comp=Z,14nm,1.9s,mb4.5								
YAK Yakutsk 36.98 30 P **P 17 45 27.7 -0.7**								
comp=Z,5.9nm,0.8s,mb4.5								
MALT Malatya 41.15 291 *e*P **P 17 46 07.7 +4.1**								
MALT					pmax	pmax		
comp=Z,19nm,1.7s,mb4.5								
MALT Malatya 41.15 291 *e*P **P 17 46 07.7 +4.1**								
comp=Z,19nm,1.7s,mb4.4								
TIXI Tiksi 42.19 17 *i*P **P 17 46 09.6 -2.1**								
ASF Jabal al Asfar 43.94 282 LR LR 18 08 34.2								
comp=Z,239nm,21.0s,MS4.1,baz=117,slow=41								
AKASG Malin Array Be 46.09 310 P **P 17 46 42.2 -0.9**								
comp=Z,0.3nm,0.4s,mb3.6,baz=76,slow=8.0,SNR=4.0								
AKASG					LR	LR		18 09 50.6
comp=Z,257nm,19.5s,MS4.2,baz=100,slow=41								
EIL Elat 46.36 280 LR LR 18 08 07.5								
comp=Z,350nm,20.7s,MS4.3,baz=288,slow=38								
SEY Seymchan 47.25 34 *i*P **P 17 46 52.5 +0.4**								
FINES FINESS Array B 47.83 324 LR LR 18 08 50.7								
comp=Z,367nm,19.5s,MS4.4,baz=114,slow=38								
GVD Gavdhos 53.19 290 *e*P **P 17 47 36.9 -0.5**								
comp=Z,12nm,0.9s,mb4.8								
BILL Bilibino 53.22 27 *e*P **P 17 47 39.1 +2.0**								
BILL				*e*			17 48 53.0	
BILL					pmax	pmax		
comp=Z,13nm,2.3s,mb4.5								
MORC Moravsky Berou 53.64 310 P **P 17 47 39.7 -0.8**								
MORC					pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.1								
MORC Moravsky Berou 53.64 310 P **P 17 47 39.7 -0.8**								
comp=Z,1.9nm,0.8s,mb4.1								
NB2 NORSAR Subarra 55.01 324 P **P 17 47 52.1 +1.8**								
comp=Z,1.9nm,0.8s,mb4.2,baz=82,slow=7.4								
NOA NORSAR Array B 55.01 324 P **P 17 47 49.9 -0.3**								
NOA					LR	LR		18 13 11.3
NOA NORSAR Array B 55.01 324 P **P 17 47 49.9 -0.3**								
comp=Z,0.7nm,0.6s,mb3.8,baz=80,slow=7.3,SNR=3.7								
NOA					LR	LR		18 13 11.3
comp=Z,297nm,19.2s,MS4.4,baz=75,slow=38								
BRG Berggiesshubel 55.63 312 *e*P **P 17 47 55.7 +0.8**								
comp=Z,4.0nm,1.3s,mb4.3								
CLL Collm 56.09 313 *e*P **P 17 48 01.4 +3.2**								
comp=Z,5.0nm,1.1s,mb4.5								
CLL Collm 56.09 313 *e*P **P 17 47 58.0 -0.2**								
CLL					LmH		17 09 00.0	
comp=N,400nm,20.7s								
CLL					LmH		17 09 00.0	
comp=E,200nm,21.1s								
CLL					LmV		17 15 00.0	
comp=Z,300nm,18.3s								

CLL				ex	x	17 48 01.0	
GEC2	**GERESS Array S**	**56.31**	**310**	*eP*	**P**	**17 48 00.7**	**+0.9**
GEC2				pmax	pmax		
	comp=Z,5.0nm,1.4s,mb4.3						
GEC2	**GERESS Array S**	**56.31**	**310**	*eP*	**P**	**17 48 00.7**	**+0.9**
	comp=Z,5.0nm,1.4s,mb4.3						
GERES	**GERESS Array B**	**56.31**	**310**	P	**P**	**17 48 00.1**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.8,baz=73,slow=4.5,SNR=5.2						
GERES				LR	LR	18 14 50.8	
	comp=Z,142nm,21.5s,MS4.0,baz=270,slow=39						
GUNZ	**Gunzen**	**56.75**	**312**	*eP*	**P**	**17 48 04.6**	**+1.7**
	comp=Z,5.0nm,0.9s,mb4.5						
ROTZ	**Rotzenmuhle**	**56.99**	**311**	*eP*	**P**	**17 48 06.0**	**+1.4**
	comp=Z,8.0nm,1.5s,mb4.5						
GRA1	**Grafenberg Arr**	**57.63**	**311**	*eP*	**P**	**17 48 10.7**	**+1.6**
	comp=Z,7.0nm,1.4s,mb4.5						
GRA1				LR	LR		
	comp=Z,200nm,19.7s,MS4.2						
GRF	**Grafenberg Arr**	**57.63**	**311**	*eP*	**P**	**17 48 10.7**	**+1.6**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
GRF				MLR	MLR		
	comp=Z,200nm,19.7s,MS4.2						
GRF	**Grafenberg Arr**	**57.63**	**311**	*eP*	**P**	**17 48 10.7**	**+1.6**
GRF				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.5						
GRF				MLR	MLR		
	comp=Z,200nm,19.7s,MS4.2						
GRF	**Grafenberg Arr**	**57.63**	**311**	*eP*	**P**	**17 48 10.7**	**+1.6**
	comp=Z,7.0nm,1.4s,mb4.5						
GRF				*eL*		18 14 31.9	
	comp=Z,155nm,19.7s						
CDF	**Champ du Feu**	**60.49**	**311**	*eP*	**P**	**17 48 28.0**	**-1.0**
LPG	**La Plagne**	**61.88**	**308**	*eP*	**P**	**17 48 38.4**	**0.0**
	comp=Z,39nm,1.4s,mb5.0						
LPG	**La Plagne**	**61.88**	**308**	*eP*	**P**	**17 48 38.4**	**0.0**
LPG				pmax	pmax		
	comp=Z,19nm,1.4s,mb5.0						
LPG	**La Plagne**	**61.88**	**308**	*eP*	**P**	**17 48 38.4**	**0.0**
	comp=Z,19nm,1.4s,mb5.0						
LPL	**La Plagne**	**61.88**	**308**	*eP*	**P**	**17 48 38.5**	**+0.1**
	comp=Z,32nm,1.3s,mb5.0						
LPL	**La Plagne**	**61.88**	**308**	*eP*	**P**	**17 48 38.5**	**+0.1**
LPL				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
LPL	**La Plagne**	**61.88**	**308**	*eP*	**P**	**17 48 38.5**	**+0.1**
	comp=Z,16nm,1.3s,mb5.0						
EKA	**Eskdalemuir Ar**	**63.93**	**321**	P	**P**	**17 48 50.0**	**-1.8**
	comp=Z,4.4nm,1.1s,mb4.4,baz=54,slow=7.3,SNR=4.2						
IMA2	**Indian Mountai**	**68.37**	**23**	*eP*	**P**	**17 49 22.8**	**+2.6**
WRAB	**Tennant Creek**	**68.79**	**135**	P	**P**	**17 49 24.4**	**+1.1**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
WRAB	**Tennant Creek**	**68.79**	**135**	P	**P**	**17 49 24.4**	**+1.0**
	comp=Z,5.0nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**68.79**	**135**	P	**P**	**17 49 20.5**	**-2.9**
	comp=Z,1.2nm,1.0s,mb3.8,baz=347,slow=5.4,SNR=6.3						
COLA	**College**	**71.01**	**22⇑**	*eP*	**P**	**17 49 39.2**	**+2.8**
COLA	**College**	**71.01**	**22**	P	**P**	**17 49 38.8**	**+2.4**
ASAR	**Alice Springs**	**71.48**	**138**	P	**P**	**17 49 38.2**	**-1.5**
	comp=Z,0.8nm,0.9s,mb3.6,baz=330,slow=5.4,SNR=5.7						
ESDC	**Sonseca Array**	**71.53**	**306**	P	**P**	**17 49 39.3**	**-0.7**
	comp=Z,0.7nm,0.6s,mb3.7,baz=70,slow=11,SNR=3.8						
ESDC				LR	LR	18 24 43.8	
	comp=Z,94nm,20.2s,MS4.0,baz=35,slow=39						
INK	**Inuvik**	**72.29**	**16**	*eP*	**P**	**17 49 45.6**	**+1.6**
	comp=Z,253nm,1.4s						
KDAK	**Kodiak Island**	**74.01**	**30**	P	**P**	**17 49 51.4**	**-3.0**
KDAK	**Kodiak Island**	**74.01**	**30**	P	**P**	**17 49 51.4**	**-3.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=331,slow=19,SNR=3.2						
YKA	**Yellowknife Ar**	**81.12**	**11**	P	**P**	**17 50 32.1**	**-1.9**
	comp=Z,0.4nm,0.6s,mb3.5,baz=345,slow=5.1,SNR=3.8						
YKA				LR	LR	18 28 28.0	
	comp=Z,58nm,19.4s,MS3.9,baz=195,slow=37						
LBTB	**Lobatse**	**85.14**	**235**	*eP*	**P**	**17 50 55.8**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
LBTB	**Lobatse**	**85.14**	**235**	*eP*	**P**	**17 50 55.8**	**+0.5**
	comp=Z,5.8nm,1.0s,mb4.7						
BOSA	**Boshof**	**87.76**	**233**	P	**P**	**17 51 13.2**	**+5.2**
BOSA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.5						
BOSA	**Boshof**	**87.76**	**233**	P	**P**	**17 51 13.2**	**+5.2**
	comp=Z,3.1nm,0.9s,mb4.5						

IDC 05 17:41:14.3±2.4, 205N×9664E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/20, mbtmp3.5/4, ML2.6/1, Error ellipse: s-maj=63.5km s-min=28.1km az=44.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.40**	**72**	Pn	Pn	17 41 54.8	-0.1
	1.3nm,0.3s,baz=243,slow=9.8,SNR=6.7						
PSI				Sn	Sn	17 42 19.2	-5.9
	2.1nm,0.3s,baz=255,slow=5.5,SNR=8.2						
WRA	**Warramunga Arr**	**42.96**	**122**	P	P	17 49 15.3	-0.1
	0.2nm,0.4s,baz=308,slow=9.3,SNR=5.8						
MKAR	**Makanchi Array**	**46.29**	**346**	P	P	17 49 42.0	+0.4
	0.3nm,0.4s,baz=152,slow=8.6,SNR=4.1						
ZALV	**Zalesovo Beam**	**52.64**	**351**	P	P	17 50 29.6	-0.4
	1.1nm,0.4s,baz=170,slow=6.3,SNR=6.2						

*IDC **05** 17:59:16.5±7.2, 3746N×7121E, h53km±68km, mb3.3/1, mb1 3.3/6, mb1mx3.1/23, mbtmp3.2/6, ML3.1/5, Error ellipse: s-maj=52.0km s-min=48.4km az=152.0*
*ISCJB **05** 17:59:23.0±0.7, 3785N±006×715E±0.1, h128km±11km, mb4.1/2, Error ellipse: s-maj=19.2km s-min=7.4km az=25.1.*
*NEIC **05** 17:59:24.3±0.9, 3797N×7149E, h129km±13km, mb3.8/1, Error ellipse: s-maj=22.6km s-min=10.9km az=117.0*
ISC 05 17:59:24.2±0.7, 3787N±006×715E±01, h124km±10km, n21, σ1§44/26, mb4.1/2, 2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.85**	**211**	*e*Pn	**Pn**	**18 00 23.4**	**+1.6**
KBL				*e*Sn	**Sn**	**18 01 06.1**	**-0.4**
AML	**Almayashu**	**4.59**	**21**	*e*Pn	**Pn**	**18 00 31.4**	**-0.2**
AML				*e*Sn	**Sn**	**18 01 27.7**	**+3.6**
UCH	**Uchtor**	**4.95**	**27**	*e*Pn	**Pn**	**18 00 35.7**	**-0.7**
EKS2	**Erkin-Say**	**5.11**	**20**	*e*P	**Pn**	**18 00 38.5**	**0.0**
KK31	**Karatay Array**	**5.28**	**352**	Pn	**Pn**	**18 00 43.4**	**+2.5**
	1.5nm,0.3s,baz=173,slow=13,SNR=50						
KK31				⇓Pg	**Pn**	**18 00 57.9**	**+17**
	3.8nm,0.5s,baz=172,slow=13,SNR=5.3						
KK31				⇓Lg		18 02 13.7	
	4.6nm,0.7s,baz=175,slow=32,SNR=2.7						
AAK	**Ala-Archa**	**5.30**	**25**	*e*Pn	**Pn**	**18 00 39.5**	**-1.6**
AAK				S	**Sn**	**18 01 45.0**	**+4.0**
AAK	**Ala-Archa**	**5.30**	**25**	P	**Pn**	**18 00 40.1**	**-1.0**
	0.9nm,0.3s,baz=176,slow=5.0,SNR=6.0						
AAK				S	**Sn**	**18 01 45.0**	**+4.0**
	0.9nm,0.3s,baz=331,slow=19,SNR=6.2						
TKM2	**Tokmak 2**	**5.95**	**31**	*e*Pn	**Pn**	**18 00 48.5**	**-1.5**
	2.4nm,0.4s						
MKAR	**Makanchi Array**	**11.98**	**38**	P	**Pn**	**18 02 09.0**	**-1.8**
	0.0nm,0.3s,baz=224,slow=12,SNR=3.8						
BVAR	**Borovoye Array**	**15.18**	**358**	P	**Pn**	**18 02 53.4**	**+1.6**
BVAR	**Borovoye Array**	**15.18**	**358**	P	**Pn**	**18 02 53.4**	**+1.6**
	0.1nm,0.3s,baz=177,slow=8.5,SNR=2.6						
AKTK	**Aktyubinsk**	**15.81**	**327**	P	**Pn**	**18 02 58.5**	**-1.2**
AKTO	**Aktyubinsk**	**15.81**	**327**	P	**Pn**	**18 02 58.5**	**-1.2**
	0.1nm,0.3s,baz=152,slow=6.1,SNR=2.6						
ZALV	**Zalesovo Beam**	**18.52**	**25**	P	**P**	**18 03 33.0**	**+2.2**
ZALV	**Zalesovo Beam**	**18.52**	**25**	P	**P**	**18 03 33.0**	**+2.2**
	0.2nm,0.3s,baz=217,slow=9.1,SNR=5.0						
KIV	**Kislovodsk**	**22.51**	**295**	P	**P**	**18 04 07.0**	**-6.6**
CSS	**Prodhromos**	**30.68**	**276**	P	**P**	**18 05 17.6**	**-10**
KEV	**Kevo**	**39.68**	**338**	P	**P**	**18 06 49.0**	**+5.4**
WRA	**Warramunga Arr**	**82.40**	**122**	P	**P**	**18 11 34.2**	**+1.6**
	0.5nm,0.9s,mb3.4,baz=321,slow=4.2,SNR=4.8						
STKA	**Stephens Creek**	**95.30**	**127**	P	**P**	**18 12 32.2**	**-1.9**
STKA	**Stephens Creek**	**95.30**	**127**	P	**P**	**18 12 32.2**	**-1.9**
	5.4nm,1.1s,mb4.9,baz=349,slow=8.7,SNR=3.5						

JMA 05 18:05:29.2±0.7, 3179N×14282E, h0km, M3.7, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.86**	**298**	P	Pn	18 06 17.5	+1.4
JOD2	**Odawara 2**	**4.66**	**319**	P	Pn	18 06 42.1	+1.3
JYT	**Yasato**	**4.93**	**334**	P	Pn	18 06 46.6	+2.0
JHU	**Hanno**	**5.01**	**325**	P	Pn	18 06 46.3	+0.7
JHO	**Hitachi**	**5.16**	**339**	P	Pn	18 06 50.4	+2.8
JHO				*e*S	Sn	18 07 51.6	+3.7
JRY	**Ryogami san**	**5.33**	**323**	P	Pn	18 06 51.0	+1.0
JAG	**Ashikaga**	**5.40**	**330**	P	Pn	18 06 52.4	+1.4
JFK	**Kawauchi**	**5.79**	**344**	P	Pn	18 07 00.0	+3.7
JFK				S	Sn	18 08 08.9	+5.5
JMK	**Ichinoseki**	**7.26**	**350**	P	Pn	18 07 20.1	+3.5
JMK				S	Sn	18 08 45.4	+5.7

*ISCJB **05** 18:12:02.8±0.3, 4934N±001×680E±003, h0km, Error ellipse: s-maj=2.8km s-min=2.1km az=5.7*
*CSEM **05** 18:12:04.7±0.1, 4937N×684E, h1km, ML2.6/13, Error ellipse: s-maj=1.3km s-min=0.8km az=99.0*
*NEIC **05** 18:12:04.4, 4936N×689E, h1km, ML2.6(LDG), ML2.4(STR), After STR.*
*LDG **05** 18:12:04.5±0.1, 4938N×685E, h1km, Md2.3/2, Ml2.6/11, Error ellipse: s-maj=1.4km s-min=1.2km az=28.0, Suspected Mining induced.*
*BNS **05** 18:12:06.9±0.6, 4946N×691E, h1km, ML1.4*
ISC 05 18:12:04.0±0.3, 4935N±001×682E±003, h0km, n43, σ0§78/80, Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUP	**Ruppelstein**	**0.38**	**24**	Pg	**Pg**	**18 12 11.3**	**0.0**
RUP				Sg	**Sg**	**18 12 16.4**	**+0.2**
WLF	**Walferdange**	**0.54**	**306**	*e*Pg	**Pg**	**18 12 15.4**	**+1.2**
	SNR=2.2						
WLF				*e*Sg	**Sg**	**18 12 22.2**	**+1.1**
	SNR=5.0						
WLF	**Walferdange**	**0.54**	**306**	P	**Pg**	**18 12 15.2**	**+1.0**
WLF				S	**Sg**	**18 12 23.2**	**+2.0**
	comp=N,12nm,0.0s						
LANF	**Langenberg**	**0.74**	**120**	Pg	**Pg**	**18 12 18.0**	**-0.2**
BGG	**Burgeitz**	**0.92**	**21**	*e*Pg	**Pg**	**18 12 22.1**	**+0.5**
BGG				*e*Sg	**Sg**	**18 12 33.2**	**-0.2**
	comp=N,8.5nm,0.3s						
BGG	**Burgeitz**	**0.92**	**21**	Pg	**Pg**	**18 12 22.0**	**+0.5**
BGG				Sg	**Sg**	**18 12 33.2**	**-0.2**
	comp=N,8.5nm,0.3s						
HILG	**Hillesheim**	**0.94**	**354**	*e*Pg	**Pg**	**18 12 22.6**	**+0.6**
CDF	**Champ du Feu**	**0.99**	**162**	*e*Pg	**Pg**	**18 12 23.4**	**+0.5**
CDF				*e*Sg	**Sg**	**18 12 36.8**	**+1.1**
	comp=N,31nm,0.3s						
CDF	**Champ du Feu**	**0.99**	**162**	*e*Pg	**Pg**	**18 12 23.4**	**+0.5**
CDF				*e*Sg	**Sg**	**18 12 36.8**	**+1.1**
	comp=N,16nm,0.3s						
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**18 12 27.4**	**+1.5**
RFYF				*e*Sg	**Sg**	**18 12 41.5**	**+0.7**
	comp=N,22nm,0.2s						
RFYF	**Reffroy**	**1.15**	**231**	*e*Pg	**Pg**	**18 12 27.4**	**+1.5**
RFYF				*e*Sg	**Sg**	**18 12 41.5**	**+0.7**
	comp=N,11nm,0.2s						
ECH	**Echery**	**1.16**	**169**	Pg	**Pg**	**18 12 26.7**	**+0.5**
ECH				Sg	**Sg**	**18 12 42.0**	**+0.8**
STB	**Steinbach**	**1.24**	**0**	*e*Pg	**Pg**	**18 12 28.4**	**+0.7**
STB				*e*Sg	**Sg**	**18 12 43.9**	**+0.1**
	comp=N,11nm,0.4s						
THEF	**They Montfort**	**1.26**	**206**	Pg	**Pg**	**18 12 28.3**	**+0.3**
THEF				Sg	**Sg**	**18 12 45.5**	**+1.2**
TOD	**Tromm**	**1.32**	**78**	Pg	**Pg**	**18 12 28.4**	**-0.8**
TOD				Sg	**Sg**	**18 12 45.5**	**-0.7**
KLL	**Kalltalsperre**	**1.33**	**346**	*e*Pg	**Pg**	**18 12 29.7**	**+0.2**
DREG	**Dreilaegerbach**	**1.36**	**344**	*e*Pg	**Pg**	**18 12 30.4**	**+0.3**
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**18 12 30.9**	**+0.4**
HAU				*e*Sg	**Sg**	**18 12 49.6**	**+1.2**
	comp=N,16nm,0.2s						
HAU	**Haudompre**	**1.39**	**193**	*e*Pg	**Pg**	**18 12 30.9**	**+0.4**
HAU				*e*Sg	**Sg**	**18 12 49.6**	**+1.2**
	comp=N,7.9nm,0.2s						
BFO	**Black Forest**	**1.43**	**135**	*e*Pg	**Pg**	**18 12 31.6**	**+0.3**
	SNR=3.0						
BFO				*e*Sg	**Sg**	**18 12 49.7**	**-0.1**
	SNR=9.7						
BFO	**Black Forest**	**1.43**	**135**	*e*Pn	**Pn**	**18 12 30.3**	**-0.8**
BFO				*e*Sg	**Sg**	**18 12 49.9**	**+0.1**
MEZF	**Maizieres J'vi**	**1.45**	**235**	*e*Pg	**Pg**	**18 12 32.1**	**+0.4**
MEZF				*e*Sg	**Sg**	**18 12 50.9**	**+0.5**
	comp=N,12nm,0.4s						
MEZF	**Maizieres J'vi**	**1.45**	**235**	*e*Pg	**Pg**	**18 12 32.1**	**+0.4**
MEZF				*e*Sg	**Sg**	**18 12 50.9**	**+0.5**
	comp=N,5.8nm,0.4s						
GIVF	**Givet**	**1.50**	**301**	*e*Pg	**Pg**	**18 12 31.8**	**-0.9**
GIVF				*e*Sg	**Sg**	**18 12 51.8**	**-0.3**
	comp=N,13nm,0.3s						
GIVF	**Givet**	**1.50**	**301**	*e*Pg	**Pg**	**18 12 31.8**	**-0.9**
GIVF				*e*Sg	**Sg**	**18 12 51.8**	**-0.3**
	comp=N,6.7nm,0.3s						
MOF	**Molkenrain**	**1.52**	**172**	Pg	**Pg**	**18 12 33.5**	**+0.5**
HINF	**Hinteralfeld**	**1.54**	**179**	*e*Pg	**Pg**	**18 12 33.5**	**+0.1**
HINF				*e*Sg	**Sg**	**18 12 53.4**	**0.0**
	comp=N,17nm,0.3s						
HINF	**Hinteralfeld**	**1.54**	**179**	*e*Pg	**Pg**	**18 12 33.5**	**+0.1**
HINF				*e*Sg	**Sg**	**18 12 53.4**	**0.0**
	comp=N,8.6nm,0.3s						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pg	**Pg**	**18 12 33.9**	**-1.6**
SFTF				*e*Sg	**Sg**	**18 12 56.5**	**-0.4**
	comp=N,7.7nm,0.3s						
SFTF	**Sexfontaines**	**1.65**	**226**	*e*Pg	**Pg**	**18 12 33.9**	**-1.6**
SFTF				*e*Sg	**Sg**	**18 12 56.5**	**-0.4**
	comp=N,3.8nm,0.3s						
BAIF	**Baives**	**1.84**	**294**	*e*Pg	**Pg**	**18 12 39.2**	**0.0**
BAIF				*e*Sg	**Sg**	**18 13 02.5**	**-0.5**
	comp=N,4.9nm,0.3s						
BAIF	**Baives**	**1.84**	**294**	*e*Pn	**Pn**	**18 12 37.4**	**+0.7**
BAIF				*e*Pg	**Pg**	**18 12 39.2**	**0.0**
BAIF				*e*Sg	**Sg**	**18 13 02.5**	**-0.5**
BAIF	**Baives**	**1.84**	**294**	*e*Pg	**Pg**	**18 12 39.2**	**0.0**
BAIF				*e*Sg	**Sg**	**18 13 02.5**	**-0.5**
	comp=N,2.5nm,0.3s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**18 12 57.1**	**-0.3**
CABF				*e*Sg	**Sg**	**18 13 33.0**	**-0.5**
	comp=N,2.6nm,0.3s						
CABF	**La Chapelle**	**2.79**	**190**	*e*Pn	**Pn**	**18 12 49.0**	**-0.8**
CABF				*e*Pg	**Pg**	**18 12 57.1**	**-0.3**
CABF				*e*Sg	**Sg**	**18 13 33.0**	**-0.5**
CABF	**La Chapelle**	**2.79**	**190**	*e*Pg	**Pg**	**18 12 57.1**	**-0.3**
CABF				*e*Sg	**Sg**	**18 13 33.0**	**-0.5**
	comp=N,1.3nm,0.3s						
LOR	**Lormes**	**2.88**	**225**	*e*Pn	**Pn**	**18 12 50.0**	**-1.0**
LOR				*e*Sg	**Sg**	**18 13 36.1**	**-0.2**
	comp=N,4.7nm,0.3s						
LOR	**Lormes**	**2.88**	**225**	*e*Pn	**Pn**	**18 12 50.0**	**-1.0**
LOR				*e*Sg	**Sg**	**18 13 36.1**	**-0.2**
	comp=N,2.3nm,0.3s						
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**18 12 54.2**	**-1.1**
SSF				*e*Sg	**Sg**	**18 13 44.9**	**-1.5**
	comp=N,4.7nm,0.5s						
SSF	**Saint Saulge**	**3.19**	**225**	*e*Pn	**Pn**	**18 12 54.2**	**-1.1**
SSF				*e*Sg	**Sg**	**18 13 44.9**	**-1.5**
	comp=N,2.3nm,0.5s						
SMF	**Signal de Mont**	**3.37**	**218**	*e*Pn	**Pn**	**18 12 56.6**	**-1.2**
AVF	**Avril sur Loir**	**3.46**	**224**	*e*Pn	**Pn**	**18 12 57.6**	**-1.5**
FLN	**La Foliniere**	**4.84**	**266**	*e*Pn	**Pn**	**18 13 16.6**	**-1.4**

*IGQ **05** 18:18:41.8, 204S×7793W, h180km±3km, Mb4.4, Ms4.2, Error ellipse: s-maj=4.5km s-min=1.3km az=55.4*
*ISCJB **05** 18:18:44.7±0.4, 187S±005×7795W±008, h170km±3km, mb4.3/24, Error ellipse: s-maj=13.4km s-min=7.1km az=163.6*
*NEIC **05** 18:18:45.2±1.4, 188S×7784W, h163km±15km, mb4.4/23, MD4.2(IGQ), Error ellipse: s-maj=19.7km s-min=8.4km az=68.0*
*BJI **05** 18:18:45.2, 190S×7780W, h163km, mB5.0*
*IDC **05** 18:18:46.0±1.7, 191S×7783W, h170km±18km, mb3.6/6, mb1 3.9/12, mb1mx3.7/25, mbtmp3.7/12, Error ellipse: s-maj=26.6km s-min=13.6km az=71.0*
ISC 05 18:18:45.5±0.4, 186S±005×7788W±008, h161km±3km, n78, σ1§14/62, mb4.3/24, 6C-5D, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PATA	**Patacocha**	**0.66**	**303**	P	**Pn**	**18 19 08.7**	**-0.3**
ARRY	**Arrayan**	**0.68**	**301**	P	**Pn**	**18 19 08.4**	**-0.7**
RETU	**Refugio**	**0.70**	**306**	⇑P	**Pn**	**18 19 08.6**	**-0.6**
RUN5	**Runtun**	**0.71**	**309**	⇓P	**Pn**	**18 19 08.8**	**-0.5**
JUIV	**Juive**	**0.73**	**306**	⇓P	**Pn**	**18 19 08.7**	**-0.7**
IGUA	**Igualata**	**0.85**	**296**	P	**Pn**	**18 19 09.8**	**-0.4**
VC1	**Cotopaxi 1**	**1.32**	**336**	⇓P	**Pn**	**18 19 15.0**	**+0.7**
ANTI	**Antisana**	**1.43**	**348**	⇑P	**Pn**	**18 19 15.9**	**+0.6**
LAV3	**Lava3-Reventad**	**1.77**	**8**	⇑P	**Pn**	**18 19 19.1**	**+0.3**
JUA2	**San Juan 2**	**1.79**	**336**	⇓P	**Pn**	**18 19 19.4**	**+0.4**
CONE	**Cono NE Rev Vo**	**1.79**	**7**	⇑P	**Pn**	**18 19 19.5**	**+0.4**
PINO	**Pino**	**1.84**	**337**	⇑P	**Pn**	**18 19 20.1**	**+0.5**
YANA	**Yana**	**1.87**	**338**	⇓P	**Pn**	**18 19 20.2**	**+0.3**
CAYR	**Refugio Cayamb**	**1.87**	**356**	P	**Pn**	**18 19 21.2**	**+1.3**
CAYA	**Cayambe**	**1.92**	**357**	⇑P	**Pn**	**18 19 21.5**	**+1.0**
CHIS	**Cerro-Chispas-**	**2.96**	**286**	P	**Pn**	**18 19 30.4**	**-2.5**
ATAH	**Atahualpa**	**5.13**	**186**	P	**Pn**	**18 20 02.1**	**+1.2**
	18nm,0.3s,baz=6.6,slow=7.3,SNR=63						
ROSC	**El Rosal**	**7.55**	**28**	*e*Pn	**Pn**	**18 20 35.3**	**+2.3**
ROSC				*e*Sn	**Sn**	**18 21 54.2**	**-3.5**
ROSC	**El Rosal**	**7.55**	**28**	P	**Pn**	**18 20 35.8**	**+2.8**
	1.4nm,0.3s,baz=108,slow=20,SNR=4.9						
NNA	**Nana**	**10.11**	**174**	*e*Pn	**Pn**	**18 21 04.5**	**-2.4**
	22nm,0.4s						
NNA				*e*Sn	**Sn**	**18 22 47.3**	**-12**
NNA	**Nana**	**10.11**	**174**	P	**Pn**	**18 21 06.2**	**-0.7**
	8.6nm,0.3s,baz=331,slow=9.3,SNR=10						
SDV	**Santo Domingo**	**12.89**	**34**	*e*Pn	**Pn**	**18 21 41.7**	**-1.3**
	44nm,1.6s						
SDV	**Santo Domingo**	**12.89**	**34**	P	**Pn**	**18 21 42.0**	**-1.0**
	1.0nm,0.3s,baz=228,slow=14,SNR=9.7						
JTS	**JuntasAbangare**	**13.98**	**330**	*e*Pn	**Pn**	**18 21 57.6**	**+0.8**
	13nm,1.1s						
JTS	**JuntasAbangare**	**13.98**	**330**	P	**Pn**	**18 21 57.3**	**+0.5**
	0.5nm,0.3s,baz=137,slow=19,SNR=2.8						
LPAZ	**La Paz**	**17.25**	**147**	*e*P	**Pn**	**18 22 36.8**	**-0.1**
	5.1nm,0.7s						
LPAZ	**La Paz**	**17.25**	**147**	P	**Pn**	**18 22 37.6**	**+0.8**
	0.4nm,0.3s,baz=329,slow=13,SNR=12						
TGUH	**Tegucigalpa,Un**	**18.36**	**330**	*e*P	**P**	**18 22 45.8**	**-2.2**
	48nm,1.4s						
SIV	**San Ignacio**	**21.71**	**131**	P	**P**	**18 23 23.4**	**-0.5**
	1.4nm,0.4s,mb3.7,baz=306,slow=12,SNR=9.5						
TEIG	**Tepich**	**24.20**	**336**	P	**P**	**18 23 43.4**	**-3.9**
	91nm,1.7s,mb5.0						
TEIG	**Tepich**	**24.20**	**336**	P	**P**	**18 23 47.6**	**+0.3**
	6.4nm,0.7s,mb4.2,baz=114,slow=18,SNR=3.9						
CPUP	**Villa Florida**	**31.33**	**143**	*e*P	**P**	**18 24 49.4**	**-1.5**
	9.5nm,0.7s,mb4.6						
WVT	**Waverly**	**38.92**	**347**	*e*P	**P**	**18 25 53.8**	**-1.8**
	3.4nm,0.7s,mb4.1						
MIAR	**Mount Ida**	**39.10**	**339**	P	**P**	**18 25 54.6**	**-2.5**
	2.0nm,0.7s,mb3.9						
PLCA	**Paso Flores**	**39.26**	**171**	*e*P	**P**	**18 25 59.3**	**+1.0**
	1.3nm,0.7s,mb3.7						
TXAR	**Lajitas Array**	**39.64**	**323**	P	**P**	**18 26 02.7**	**+1.0**
TXAR	**Lajitas Array**	**39.64**	**323**	P	**P**	**18 26 02.7**	**+1.0**
	1.2nm,0.6s,mb3.7,baz=146,slow=8.2,SNR=11						
SIUC	**Southern Illin**	**40.76**	**346**	*e*P	**P**	**18 26 08.7**	**-2.0**
WMOK	**Wichita Mounta**	**41.35**	**334**	*e*P	**P**	**18 26 15.6**	**-0.1**
	6.8nm,0.8s,mb4.3						
KSU1	**Kansas State U**	**44.26**	**339**	*e*P	**P**	**18 26 37.6**	**-1.3**
	11nm,0.5s,mb4.8						
ANMO	**Albuquerque**	**45.37**	**326**	*e*P	**P**	**18 26 49.3**	**+1.5**
	15nm,1.0s,mb4.6						
TUC	**Tucson**	**46.10**	**320**	*e*P	**P**	**18 26 54.8**	**+1.2**
	5.8nm,0.8s,mb4.3						
SDCO	**Great Sand Dun**	**46.98**	**330**	*e*P	**P**	**18 27 02.2**	**+1.9**
	11nm,1.0s,mb4.5						
PV01	**Paradox Valley**	**48.86**	**328**	*e*P	**P**	**18 27 16.1**	**+1.3**
HWUT	**Hardware Ranch**	**52.96**	**329**	*e*P	**P**	**18 27 45.9**	**+0.5**
ULM	**Lac du Bonnet**	**54.16**	**346**	P	**P**	**18 27 52.8**	**-1.1**
	1.9nm,0.4s,mb4.2,baz=162,slow=10.0,SNR=6.4						
NVAR	**Mina Array Bea**	**54.72**	**321**	P	**P**	**18 27 59.5**	**+1.3**
	1.6nm,0.6s,mb4.0,baz=126,slow=7.4,SNR=6.5						
CMB	**Columbia Colle**	**55.81**	**320**	P	**P**	**18 28 05.0**	**-1.0**
	11nm,1.4s,mb4.5						
BOZ	**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JYZW	Yoshizawa	0.08	288	P	Pb	18 56 50.5	0.0
JYZW				eS	Sb	18 56 53.2	0.0
HMMJ	Hamamatsu 2	0.14	218	P	Pb	18 56 51.2	+0.1
HMMJ				S	Sb	18 56 54.3	+0.1
JHMK	Hamakita	0.16	201	P	Pb	18 56 51.2	-0.2
JHMK				eS	Sb	18 56 54.3	-0.3
SHZ3	Shizuoka 3	0.33	73	P	Pb	18 56 53.4	-0.4
SHZ3				eS	Sb	18 56 58.1	-0.5
JNY	Yasuok	0.39	4	P	Pb	18 56 54.6	-0.2
JNY				eS	Sb	18 57 00.3	-0.1
JYN	Shimob	0.79	48	P	Pb	18 57 01.1	-0.5
JIE	Ise	1.09	238	P	Pn	18 57 06.3	-0.3
JIE				eS	Sb	18 57 19.7	-0.8
MJAR	Matsushiro Arr	1.60	11	Pg	Pn	18 57 14.9	+1.3
	1.0nm,0.3s,baz=154,slow=14,SNR=25						
MJAR				Lg		18 57 35.7	
	0.5nm,0.3s,baz=192,slow=19,SNR=7.5						
MAT	Matsushiro	1.60	11	P	Pn	18 57 14.3	+0.7
MAT				eS	Sn	18 57 35.5	+1.9

NDI ***05*** *18:56:50.1±2.6, 34.59N×82.44E, h10km, mb4.6, mb4.4(NEIC)*
IDC ***05*** *18:56:51.5±0.7, 34.12N×81.90E, h0km, mb4.0/15, mb1 4.2/17, mb1mx4.1/23, mbtmp4.0/17, ML3.9/2, MS2.3/1, Ms1 2.3/1, ms1mx2.2/30, Error ellipse: s-maj=20.8km s-min=14.6km az=39.0*
LDG ***05*** *18:56:51.7±0.1, 34.32N×81.66E, h10km, Mb4.5/12, Error ellipse: s-maj=5.5km s-min=3.5km az=79.0*
BJI ***05*** *18:56:52.9, 34.23N×81.91E, h9km, mB4.7, mb4.0, Ms3.8, Msz4.0*
NEIC ***05*** *18:56:53.1±0.5, 34.18N×81.95E, h10km, mb4.4/15, Error ellipse: s-maj=9.5km s-min=7.3km az=48.0*
MOS ***05*** *18:56:54.6±1.1, 34.21N×81.91E, h33km, mb4.5/16, Error ellipse: s-maj=11.4km s-min=6.0km az=106.0*
ISCJB ***05*** *18:56:56.2±0.6, 34.24N±0.003×81.95E±0.004, h49km±6km, mb4.2/33, Error ellipse: s-maj=6.2km s-min=5.0km az=2.6*
ISC 05 18:56:58.6±0.5, 34.23N±0.003×81.97E±0.004, h53km±5km, n120, σ1§13/120, mb4.2/33, 4C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	Kalpa	4.12	230	eP	Pn	18 58 01.6	+2.6
KLP				AMb	AMB	18 58 13.0	
	comp=Z,45nm,1.2s						
PTH	Pithoragarh	4.89	198	ex	x	18 58 15.9	
LGTI	Lohaghat	4.98	198	ex	x	18 57 18.5	
SDNR	Sundarnagar	5.01	239	eP	Pn	18 58 12.0	+0.9
SDNR				eS	Sn	18 59 13.0	+5.3
SMLA	Simla	5.09	234	eP	Pn	18 58 12.6	+0.3
DLH	Dalhousie	5.29	253	eP	Pn	18 58 16.0	+1.0
THN	Thein Dam	5.53	253	eP	Pn	18 58 18.6	+0.3
NDI	New Delhi	6.85	218	ex	x	18 58 32.0	
NDI				ex	x	18 59 53.0	
AYAN	Aya Nagar	7.06	217	eP	Pn	18 58 39.8	+0.4
AYAN				AMb	AMB	18 58 47.5	
	comp=Z,12nm,0.5s						
KSH	Kashi	7.14	319	eP	Pn	18 58 42.3	+2.0
KSH				S	Sn	19 00 01.1	+1.1
SONA	Sohna	7.28	216	eP	Pn	18 58 42.5	+0.3
SONA				AMb	AMB	18 58 49.7	
	comp=Z,13nm,0.7s						
SONA				ex	x	19 00 00.9	
KUDL	Kundal	7.66	219	eP	Pn	18 58 49.2	+1.6
AGRA	Agra	7.78	207	eP	Pn	18 58 50.2	+1.0
KHET	Khetri	8.09	222	eP	Pn	18 58 54.7	+1.3
THW	Thamme Wali	8.66	263	P	Pn	18 58 59.5	-1.6
LSA	Lhasa	9.01	118	P	Pn	18 59 05.4	-0.6
LSA	Lhasa	9.01	118	eP	Pn	18 59 05.3	-0.7
LSA				pmax	pmax		
	comp=Z,11nm,1.0s						
LSA	Lhasa	9.01	118	ePn	Pn	18 59 05.3	-0.7
	comp=Z,12nm,1.0s						
UCH	Uchtor	9.91	326	ePn	Pn	18 59 18.7	+0.6
	comp=Z,6.9nm,0.8s						
TKM2	Tokmak 2	10.01	332	eP	Pn	18 59 20.0	+0.4
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.7s						
TKM2	Tokmak 2	10.01	332	ePn	Pn	18 59 20.0	+0.5
	comp=Z,5.7nm,0.7s						
DRP	Derazinda	10.19	259	P	Pn	18 59 20.5	-1.6
AML	Almayashu	10.23	323	ePn	Pn	18 59 22.9	+0.3
	comp=Z,4.4nm,0.7s						
AAK	Ala-Archa	10.23	327	Pn	Pn	18 59 17.5	-5.1
	comp=Z,0.2nm,0.3s,baz=252,slow=17,SNR=1.9						
FRU	Bishkek	10.34	328	eP	Pn	18 59 25.0	+0.9
WMQ	Urumqi	10.56	23	⇑P	Pn	18 59 28.0	+0.9
WMQ				S	Sn	19 01 25.0	+1.1
WMQ				SS		19 01 39.0	
WMQ				AMB	AMB		
	comp=Z,41nm,1.0s						
WMQ				LR	LR		
	comp=N,114nm,7.0s						
WMQ				LR	LR		
	comp=E,107nm,7.0s						
WMQ				LR	LR		
	comp=Z,108nm,7.0s						
EKS2	Erkin-Say	10.59	325	ePn	Pn	18 59 27.2	-0.3
	comp=Z,1.7nm,0.8s						
KBL	Kabul	10.69	275	ePn	Pn	18 59 27.5	-1.4
	comp=Z,5.0nm,0.6s						
KBL				eSn	Sn	19 01 17.2	-10
BOK	Bokaro	10.94	161	eP	Pn	18 59 30.5	-1.9
BOK				AMb	AMB	18 59 34.9	
	comp=Z,12nm,1.2s						
BHPL	Bhopal	11.64	201	eP	Pn	18 59 40.1	-2.0
BHPL				eS	Sn	19 01 46.9	-3.7
BLSP	Bilaspur	12.05	179	eP	Pn	18 59 44.4	-3.2
BLSP				eS	Sn	19 01 54.3	-6.2
MKAR	Makanchi Array	12.56	1	Pn	Pn	18 59 53.0	-1.3
	comp=Z,1.5nm,0.3s,baz=183,slow=13,SNR=160						
MK31	Makanchi Array	12.56	1	eP	Pn	18 59 52.7	-1.6
GTA	Gaotai	15.20	65	eP	Pn	19 00 34.1	+4.4
GTA				AP	pP	19 00 38.5	-7.0
GTA				XP	sP	19 00 40.6	-12
GTA				AMB	AMB		
	comp=Z,2.0nm,1.4s						
KURK	Kurchatov	16.66	353	⇑eP	Pn	19 00 45.8	-2.4
KURK	Kurchatov	16.66	353	ePn	Pn	19 00 45.4	-2.8
	comp=Z,14nm,0.9s						
HYB	Hyderabad	17.02	191	eP	Pn	19 00 51.0	-1.9
HYB	Hyderabad	17.02	191	i P	Pn	19 00 51.0	-1.9
ZAL	Zalesovo	19.81	5	P	Pn	19 01 24.6	-1.7
ZAA0	Zalesovo Array	19.82	5	ePn	Pn	19 01 24.5	-2.0
ZALV	Zalesovo Beam	19.82	5	P	Pn	19 01 24.6	-1.9
	comp=Z,0.2nm,0.3s,baz=195,slow=11,SNR=12						
KMI	Kunming	20.17	111	P	P	19 01 29.3	+0.7
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s						
BVAR	Borovoye Array	20.53	340	P	P	19 01 32.9	+0.7
	comp=Z,14nm,0.8s,baz=154,slow=11,SNR=18						
BVAR				LR	LR	19 11 16.7	
	comp=Z,9.1nm,21.0s,baz=165,slow=42						
BRVK	Borovoye	20.59	340	eP	P	19 01 33.5	+0.6
BRVK				pmax	pmax		
	comp=Z,21nm,0.9s						
BRVK	Borovoye	20.59	340	ePn	P	19 01 33.5	+0.6
	comp=Z,21nm,0.9s						
NVS	Novosibirsk	20.63	2	eP	P	19 01 31.6	-1.7
NVS				pmax	pmax		
	comp=Z,7.0nm,1.0s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
CHTO	Chiang Mai	21.55	131	eP	P	19 01 43.3	-0.1
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
CHTO	Chiang Mai	21.55	131	ePn	P	19 01 43.3	-0.1
	comp=Z,7.3nm,0.6s,mb4.3						
ZAK	Zakamensk	22.44	38	eP	P	19 01 53.7	+1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.4						
GYA	Guiyang	22.64	103	P	P	19 01 57.4	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
SONM	Songino Array	22.78	46	P	P	19 01 57.3	+1.0
	comp=Z,1.2nm,0.9s,mb3.3,baz=237,slow=10.0,SNR=8.6						
ULN	Ulaanbaatar	23.19	46	eP	P	19 01 58.3	-2.3
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
ULN	Ulaanbaatar	23.19	46	ePn	P	19 01 58.3	-2.3
	comp=Z,4.0nm,1.1s,mb3.8						
AKTK	Aktyubinsk	23.84	320	P	P	19 02 07.5	+0.9
AKTO	Aktyubinsk	23.84	320	P	P	19 02 07.5	+0.9
	comp=Z,2.8nm,0.7s,mb3.8,baz=124,slow=11,SNR=7.0						
MALT	Malatya	35.10	290	P	P	19 03 45.1	-1.6
KSRS	Korea Array	37.11	71	P	P	19 04 03.9	0.0
	comp=Z,0.5nm,0.7s,mb3.4,baz=285,slow=6.2,SNR=3.1						
AKASG	Malin Array Be	41.32	310	P	P	19 04 37.7	-1.0
AKASG	Malin Array Be	41.32	310	P	P	19 04 37.7	-1.0
	comp=Z,0.9nm,0.5s,mb3.6,baz=78,slow=8.1,SNR=6.1						
JOF	Joensuu	42.42	328	ep	P	19 04 47.5	-0.1
	comp=Z,3.6nm,0.5s,mb4.3						
FINES	FINESS Array B	44.42	325	P	P	19 05 04.5	+0.8
	comp=Z,0.9nm,0.6s,mb3.7,baz=107,slow=9.5,SNR=11						
TIXI	Tiksi	44.74	19	⇑eP	P	19 05 07.2	+1.1
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.1						
TIXI	Tiksi	44.74	19	eP	P	19 05 06.3	+0.2
	comp=Z,0.9nm,0.5s,mb3.9						
MAJO	Matsushiro	45.35	70	P	P	19 05 12.0	+0.5
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
MAJO	Matsushiro	45.35	70	P	P	19 05 12.0	+0.5
	comp=Z,3.7nm,0.8s,mb4.3						
MJAR	Matsushiro Arr	45.36	70	P	P	19 05 11.9	+0.4
	comp=Z,1.9nm,0.9s,mb3.9,baz=293,slow=9.8,SNR=7.3						
ARCES	ARCESS Array B	46.76	336	P	P	19 05 22.6	+0.6
	comp=Z,2.8nm,0.9s,mb4.2,baz=91,slow=6.1,SNR=6.8						
VYHS	Vyhne	48.15	307	eP	P	19 05 26.5	-6.7
MORC	Moravsky Berou	48.84	309	eP	P	19 05 37.5	-0.9
GERES	GERESS Array B	51.47	308	P	P	19 05 59.2	+0.9
	comp=Z,1.4nm,0.7s,mb4.0,baz=72,slow=8.8,SNR=11						
KHC	Kasperske Hory	51.49	309	⇑eP	P	19 06 00.1	+1.6
NB2	NORSAR Subarra	51.54	324	P	P	19 05 58.5	-0.2
	comp=Z,0.5nm,0.6s,mb3.6,baz=86,slow=7.4						
NOA	NORSAR Array B	51.54	324	P	P	19 05 58.5	-0.1
	comp=Z,0.9nm,0.7s,mb3.8,baz=87,slow=7.4,SNR=4.5						
AQU	L'Aquila	53.11	300	P	P	19 06 15.0	+4.3
AQU				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.8						
AQU	L'Aquila	53.11	300	P	P	19 06 15.0	+4.3
	comp=Z,11nm,0.8s,mb4.8						
HINF	Hinterlalfeld	56.15	308	eP	P	19 06 32.3	-0.2
	comp=Z,5.3nm,0.6s,mb4.5						
HINF	Hinteralfeld	56.15	308	eP	P	19 06 32.3	-0.2
HINF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
HINF	Hinteralfeld	56.15	308	eP	P	19 06 32.3	-0.2
	comp=Z,2.7nm,0.6s,mb4.5						
BILL	Bilibino	56.66	27	i P	P	19 06 34.1	-1.7
BILL				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8						
GIVF	Givet	56.84	311	eP	P	19 06 37.6	+0.2
LPG	La Plagne	56.86	306	eP	P	19 06 38.2	+0.6
	comp=Z,11nm,0.7s,mb4.7						
LPL	La Plagne	56.87	306	eP	P	19 06 38.1	+0.4
	comp=Z,15nm,0.6s,mb4.9						
SBF	Sospel	56.88	304	eP	P	19 06 37.7	-0.1
	comp=Z,23nm,0.8s,mb4.9						
CABF	La Chapelle	56.98	307	eP	P	19 06 38.3	-0.2
MBDF	Montbardon	57.07	305	eP	P	19 06 38.5	-0.7
	comp=Z,12nm,0.9s,mb4.6						
FRF	La Foret Royal	57.52	304	eP	P	19 06 41.9	-0.4
LOR	Lormes	58.25	308	eP	P	19 06 46.6	-0.8
	comp=Z,5.9nm,0.8s,mb4.4						
LOR	Lormes	58.25	308	eP	P	19 06 46.6	-0.8
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
LOR	Lormes	58.25	308	eP	P	19 06 46.6	-0.8
	comp=Z,3.0nm,0.8s,mb4.4						
SMF	Signal de Mont	58.45	308	eP	P	19 06 48.3	-0.5
	comp=Z,6.4nm,0.7s,mb4.5						
SMF	Signal de Mont	58.45	308	eP	P	19 06 48.3	-0.5
SMF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
SMF	Signal de Mont	58.45	308	eP	P	19 06 48.3	-0.5
	comp=Z,3.2nm,0.7s,mb4.5						
SSF	Saint Saulge	58.54	308	eP	P	19 06 48.9	-0.5
	comp=Z,4.8nm,0.6s,mb4.4						
SSF	Saint Saulge	58.54	308	eP	P	19 06 48.9	-0.5
SSF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
SSF	Saint Saulge	58.54	308	eP	P	19 06 48.9	-0.5
	comp=Z,2.4nm,0.6s,mb4.4						
AVF	Avril sur Loir	58.73	308	eP	P	19 06 50.2	-0.5
	comp=Z,4.2nm,0.8s,mb4.2						
AVF	Avril sur Loir	58.73	308	eP	P	19 06 50.2	-0.5
AVF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
AVF	Avril sur Loir	58.73	308	eP	P	19 06 50.2	-0.5
	comp=Z,2.1nm,0.8s,mb4.2						
LDF	La Druitiere	60.37	311	eP	P	19 07 01.4	-0.6
GRR	Gorron	60.90	311	eP	P	19 07 05.0	-0.6
MFF	Saint Martin d	61.06	309	eP	P	19 07 05.9	-0.8
WRA	Warramunga Arr	73.38	129	P	P	19 08 25.7	+0.7
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	Warramunga Arr	73.38	129	P	P	19 08 25.7	+0.8
	comp=Z,1.6nm,0.6s,mb4.1,baz=327,slow=5.6,SNR=32						
WRAB	Tennant Creek	73.38	129	eP	P	19 08 26.0	+1.0
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
WRAB	Tennant Creek	73.38	129	eP	P	19 08 25.9	+1.0
	comp=Z,3.8nm,0.8s,mb4.4						
COLA	College	73.86	20	i P	P	19 08 28.7	+1.5
INK	Inuvik	74.40	13	eP	P	19 08 31.4	+1.1
	comp=Z,72nm,0.8s						
ASAR	Alice Springs	75.82	132	P	P	19 08 40.0	+0.9
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	Alice Springs	75.82	132	P	P	19 08 40.0	+0.9
	comp=Z,1.0nm,0.6s,mb3.9,baz=316,slow=5.8,SNR=33						
BOSA	Boshof	82.35	228	eP	P	19 09 14.7	0.0
BOSA				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BOSA	Boshof	82.35	228	eP	P	19 09 14.7	0.0
	comp=Z,4.5nm,1.0s,mb4.3						
BOSA	Boshof	82.35	228	P	P	19 09 14.6	0.0
	comp=Z,1.5nm,0.5s,mb4.1,baz=303,slow=9.1,SNR=4.2						
YKA	Yellowknife Ar	82.70	8	i P	P	19 09 16.3	+0.3
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	Yellowknife Ar	82.70	8	P	P	19 09 16.4	+0.4
	comp=Z,1.6nm,0.5s,mb4.3,baz=342,slow=5.2,SNR=19						
DBIC	Dimbokro	83.67	274	P	P	19 09 22.4	+0.5
DBIC				pmax	pmax		
	comp=Z,2.0nm,0.5s						
DBIC	Dimbokro	83.67	274	eP	P	19 09 25.9	+3.9
	comp=Z,3.3nm,0.7s,mb4.6						
DBIC	Dimbokro	83.67	274	P	P	19 09 22.4	+0.4
	comp=Z,2.0nm,0.5s,mb4.5,baz=16,slow=6.2,SNR=5.7						
CPUP	Villa Florida	144.16	272	PKP	PKPdf	19 16 26.4	-2.2
	comp=Z,0.4nm,0.3s,baz=16,slow=2.4,SNR=2.9						
LPAZ	La Paz	147.76	296	PKP2	PKPbc	19 16 38.6	+0.7
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.5s						
LPAZ	La Paz	147.76	296	PKPbc	PKPbc	19 16 38.5	+0.7
	comp=Z,0.6nm,0.5s,baz=317,slow=2.5,SNR=4.7						

BJI ***05*** *19:06:32.9, 79.25N×128.97E, h119km, mB5.4, mb5.7*
MOS ***05*** *19:06:37.8±1.7, 73.25N×128.40E, h113km, mb5.9/48, MS4.3/13, Error ellipse: s-maj=14.1km s-min=9.5km az=115.2*
ISCJB ***05*** *19:06:37.9±0.1, 74.35N±0.02×128.49E±0.03, h116km, mb5.7/143, Error ellipse: s-maj=3.9km s-min=3.0km az=163.7*
CRAAG ***05*** *19:06:38.4, 73.35N×128.39E, Mb5.6*
NEIC ***05*** *19:06:39.9±0.1, 73.55N×128.40E, mb5.6/64, MW5.3, Error ellipse: s-maj=4.7km s-min=3.2km az=66.0, Moment Tensor Solution. s14 Moment tensor: Scale 10^{17}Nm; M_{rr}1.36; $M_{\theta\theta}$-0.95; $M_{\phi\phi}$-0.41; $M_{r\theta}$0.10; $M_{\theta\phi}$-0.14; $M_{r\phi}$0.08; Best double couple: $M_0$1.20000×10^{17} NP1:ϕ_s258.00000°, δ42.00000°, λ93.00000°. NP2:ϕ_s74.00000°, δ48.00000°, λ88.00000°. Principal axes: T 1.3700, Plg87.0000°, Azm316.0000°; N -0.3700, Plg2.0000°, Azm76.0000°; P -0.9900, Plg3.0000°, Azm166.0000°;*
GCMT ***05*** *19:06:39.9±0.1, 74.95N×128.48E, h138km, MW5.4/107, Moment Tensor Solution. s89,c143; s107,c210; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.45±.02; $M_{\theta\theta}$-1.34±.02; $M_{\phi\phi}$-0.11±.02; $M_{r\theta}$-0.05±.02; $M_{\theta\phi}$-0.29±.02; $M_{\theta r}$-0.27±.02; Best double couple: $M_0$1.45200×10^{17} NP1:ϕ_s87.00000°, δ44.00000°, λ104.00000°. NP2:ϕ_s248.00000°, δ48.00000°, λ77.00000°.*

Principal axes: T 1.4950, Plg80.0000°, Azm90.0000°; N -0.0920, Plg9.0000°, Azm257.0000°; P -1.4080, Plg2.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
IDC ***05*** *19:06:41.4±1.0, 73.55S×128.42E, h129km±7km, mb5.1/24, mb1 5.1/26, mb1mx5.0/27, mbtmp5.1/26, MS4.4/15, Ms1 4.4/15, ms1mx4.2/26 Error ellipse: s-maj=9.9km s-min=7.6km az=74.0*
ISC 05 19:06:39.7±0.1, 746S±002×128.50E±003, h118km, h118km±1.6km: pP-P, n772, σ1§20/418, mb5.7/141, 127C-32D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	3.76	355	P	Pn	19 07 38.3	+2.3
	10μm,1.3s						
TLE	Tual	4.58	67	⇓eP	Pn	19 07 47.0	0.0
TLE				eS	Sn	19 08 38.0	-1.3
BATI	Kupang	5.51	240	P	Pn	19 08 02.8	+3.3
	979nm,0.3s,baz=117,slow=2.0,SNR=1530						
BATI				S	Sn	19 09 01.5	-0.2
	2μm,0.3s,baz=66,slow=18,SNR=16						
KAKA	Kakadu	6.50	144	⇓iP	Pn	19 08 14.3	+1.4
	426nm,0.1s						
KAKA				eS	Sn	19 09 24.6	-1.1
KDI	Kendari	6.81	300	P	Pn	19 08 19.0	+1.9
	1μm,1.0s						
WSI	Waingapu	8.41	254	P	Pn	19 08 38.4	-0.4
	4μm,1.0s						
KAPI	Kappang	9.03	285	Pn	Pn	19 08 48.0	+0.7
	2μm,1.2s,SNR=42						
KAPI	Kappang	9.03	285	Pn	Pn	19 08 48.9	+1.7
	SNR=37						
KAPI	Kappang	9.03	285	P	Pn	19 08 48.9	+1.7
	SNR=37						
PCI	Palu	10.82	307	P	Pn	19 09 16.8	+5.5
	859nm,1.1s						
FITZ	Fitzroy Crossi	10.94	195	eP	Pn	19 09 10.6	-2.3
	1μm,0.9s						
FITZ				eS	Sn	19 11 05.8	-7.6
FITZ	Fitzroy Crossi	10.94	195	P	Pn	19 09 11.3	-1.6
	54nm,0.3s,baz=23,slow=14,SNR=326						
FITZ				S	Sn	19 11 07.7	-5.8
	48nm,0.3s,baz=102,slow=21,SNR=7.9						
FITZ				LR	LR	19 14 15.3	
	comp=Z,2μm,19.4s,baz=5.3,slow=41						
KHKI	Kahang-Kahang	12.81	265	P	Pn	19 09 36.2	-1.4
	72nm,1.1s						
JAY	Jayapura	13.11	69	P	Pn	19 09 43.4	+1.9
	148nm,1.0s						
WRAB	Tennant Creek	13.64	156	Pn	Pn	19 09 46.8	-1.5
	6μm,0.9s						
WRAB	Tennant Creek	13.64	156	d iP	Pn	19 09 45.7	-2.6
WRAB	Tennant Creek	13.64	156	ePn	Pn	19 09 43.6	-4.7
	871nm,0.9s						
WRAB				eSn	Sn	19 12 09.3	-9.4
WRA	Warramunga Arr	13.64	156	P	Pn	19 09 47.2	-1.1
	41nm,0.3s,baz=345,slow=12,SNR=380						
WRA				S	Sn	19 12 10.1	-8.6
	44nm,0.3s,baz=331,slow=22,SNR=6.8						
WRA				LR	LR	19 15 24.7	
	comp=Z,914nm,18.3s,baz=330,slow=38						
WB2	Warramunga Arr	13.64	156	⇓iP	Pn	19 09 45.5	-2.9
WB2				eS	Sn	19 12 10.9	-8.0
WB2				eSCS	ScS	19 21 58.8	-5.9
MATI	Mati	14.48	351	eP	Pn	19 10 00.9	+1.8
DAV	Davao City (W)	14.72	349	ePn	Pn	19 10 03.1	+0.9
	779nm,0.8s						
DAV				eS	Sn	19 12 52.5	+7.5
DAV	Davao City (W)	14.72	349	Pn	Pn	19 10 04.1	+1.9
	SNR=38						
DAV	Davao City (W)	14.72	349	P	Pn	19 10 04.1	+1.9
	SNR=38						
DAV	Davao City (W)	14.72	349	⇓eP	Pn	19 10 01.2	-1.1
KCP	Kidapawan	14.77	347	⇑eP	Pn	19 10 08.1	+5.3
KCP				eS	Sn	19 12 58.5	+12
BUKP	Musuan	15.62	347	eP	Pn	19 10 14.3	+0.9
BIPH	Bislig	15.68	352	⇓iP	Pn	19 10 14.0	-0.3
TSM	Tawau	15.77	317	⇓P	Pn	19 10 18.9	+3.5
KRKI	Karangkates	15.92	266	P	Pn	19 10 20.8	+3.6
	287nm,0.6s						
MYLDM	Lahad Datu	16.04	321	⇑P	Pn	19 10 22.8	+4.1
PAGZ	Pagadian	16.04	341	eP	Pn	19 10 20.4	+1.8
MBWA	Marble Bar	16.05	211	ePn	Pn	19 10 17.4	-1.2
	1.8nm,0.3s						
MBWA				eSn	Sn	19 13 06.1	-11
MBWA	Marble Bar	16.05	211	Pn	Pn	19 10 18.2	-0.4
	SNR=30						
MBWA	Marble Bar	16.05	211	P	Pn	19 10 18.2	-0.4
	SNR=30						
DCPH	Dipolog City	16.74	342	⇓eP	Pn	19 10 31.1	+3.8
ASAR	Alice Springs	16.93	163	P	Pn	19 10 30.2	+0.7
ASAR				S	S	19 13 36.3	-2.0
ASAR	Alice Springs	16.93	163	P	Pn	19 10 30.1	+0.7
	9.7nm,0.3s,baz=334,slow=9.0,SNR=388						
ASAR				S	S	19 13 36.3	-2.0
	14nm,0.3s,baz=336,slow=23,SNR=5.5						
ASAR				ScP	ScP	19 18 31.9	-1.6
	baz=336,slow=2.4,SNR=4.4						
SDKM	Sandakan	17.22	319	⇑P	Pn	19 10 36.1	+2.9
SCPH	Surigao	17.39	350	eP	Pn	19 10 37.3	+2.2
TBP	Tagbilaran	17.65	345	eP	Pn	19 10 40.1	+1.9
MSLP	Maasin	17.85	348	eP	Pn	19 10 41.9	+1.2
KKM	Kota Kinabalu	18.17	317	eP	P	19 10 44.8	+1.6
KKM				eS	S	19 14 06.0	+0.6
KKM				eScP	ScP	19 18 30.7	-5.6
KKM	Kota Kinabalu	18.17	317	⇓P	P	19 10 47.0	+3.7
LLP	Lapu-Lapu	18.23	346	eP	P	19 10 45.9	+2.1
KDM	Kudat	18.42	321	⇑P	P	19 10 49.1	+3.0
BJII	Ban

comp=Z,118nm,1.1s,mb5.2
KLBR eS S 19 16 56.8 +33
KSI Kapahiang 26.06 277 P **P 19 12 01.6 -0.8**
comp=Z,92nm,0.8s,mb5.3
ABRA Dolores 26.11 343 eP **P 19 12 03.0 +0.4**
APYP Conner 26.16 344 eP **P 19 12 01.1 -2.0**
MYKOM Kota Tinggi 26.26 290 ⇓P **P 19 12 05.0 +0.8**
GUMO Guam 26.48 38 P **P 19 12 06.2 +0.1**
comp=Z,127nm,0.9s,mb5.3,baz=200,slow=4.5,SNR=5.5
KGM Kluang 26.83 290 ⇓P **P 19 12 10.3 +1.0**
MUN Mundaring 26.95 204 eP **P 19 12 11.2 +1.0**
MUN e pP 19 12 38.0 +2.2
MUN eS S 19 17 17.8 +39
MUN Mundaring 26.95 204 eP **P 19 12 11.2 +1.0**
MUN e pP 19 12 38.0 +2.2
STKA Stephens Creek 27.19 155 eP **P 19 12 14.1 +1.8**
comp=Z,47nm,0.6s,mb5.2
STKA Stephens Creek 27.19 155 P **P 19 12 14.1 +1.9**
comp=Z,67nm,0.7s,mb5.3,baz=327,slow=8.6,SNR=140
STKA LR LR 19 22 16.5
comp=Z,381nm,22.0s,baz=285,slow=34
NWAO Narrogin (SRO) 27.42 201 P **P 19 12 15.9 +1.6**
NWAO pmax pmax
comp=Z,44nm,0.8s
NWAO MLR MLR
comp=Z,894nm,18.6s
NWAO Narrogin (SRO) 27.42 201⇑eP **P 19 12 15.3 +1.1**
comp=Z,257nm,1.1s,mb5.7
NWAO epP pP 19 12 39.6 -0.3
NWAO eS S 19 17 21.7 +36
NWAO Narrogin (SRO) 27.42 201 P **P 19 12 15.9 +1.6**
comp=Z,44nm,0.8s,mb5.1,baz=31,slow=7.4,SNR=44
NWAO LR LR 19 24 32.5
comp=Z,894nm,18.6s,baz=20,slow=39
EIDS Eidsvold 27.96 132 eP **P 19 12 19.8 +0.6**
comp=Z,37nm,1.1s,mb4.8
EIDS pP pP 19 12 44.0 -0.9
EIDS esP sP 19 12 58.3 -0.3
KTGM Kuala Trenggan 28.32 296 ⇑P **P 19 12 23.3 +0.7**
FRIM Kepong 28.85 291 ⇓P **P 19 12 28.1 +0.9**
PPI Padang Panjang 28.87 283 P **P 19 12 24.9 -2.6**
comp=Z,94nm,0.9s,mb5.4
IPM Ipoh 29.87 293 ⇓P **P 19 12 36.8 +0.5**
KULM Kulim 30.54 294⇑iP **P 19 12 41.3 -1.0**
KULM epP pP 19 13 05.0 -3.1
KULM esP sP 19 13 16.5 -5.3
KULM ePcP PcP 19 15 38.4 -0.1
KULM Kulim 30.54 294 ⇑P **P 19 12 42.8 +0.5**
HNR Honiara 31.16 96 P **P 19 12 48.9 +1.2**
HNR S **S 19 17 48.0 +2.8**
HNR pmax pmax
comp=Z,53nm,0.8s,mb5.3
HNR smax
comp=N,19nm,0.4s
HNR pmax pmax
comp=N,56nm,0.7s
HNR Honiara 31.16 96⇑iP **P 19 12 48.6 +0.9**
comp=N,416nm,1.5s,mb5.9
HNR Honiara 31.16 96 P **P 19 12 48.9 +1.2**
comp=N,53nm,0.8s,mb5.3,baz=213,slow=2.0,SNR=15
HNR S **S 19 17 48.0 +2.8**
comp=N,19nm,0.4s,baz=268,slow=11,SNR=3.8
HNR ScP ScP 19 19 12.0 -0.5
comp=N,56nm,0.7s,baz=254,slow=2.6,SNR=6.0
PSI Prapat 31.23 288 P **P 19 12 47.5 -0.8**
PSI 19 15 40.0
PSI Prapat 31.23 288 P **P 19 12 47.5 -0.8**
comp=N,93nm,0.8s,mb5.6,baz=118,slow=5.7,SNR=54
PSI PcP PcP 19 15 40.0 -0.4
comp=N,18nm,0.8s,baz=153,slow=2.5,SNR=4.6
PSI LR LR 19 24 31.9
comp=N,512nm,21.4s,baz=212,slow=34
ARMA Armidale 31.49 139 eP **P 19 12 54.7 +4.3**
ARMA Armidale 31.49 139⇑eP **P 19 12 50.1 -0.3**
comp=N,1.3nm,1.0s
ARMA eP 19 12 54.7
QIZ Qiongzhong 32.11 325 P **P 19 12 56.1 +0.2**
QIZ AP pP 19 13 21.2 -0.7
QIZ XP sP 19 13 34.5 -1.0
QIZ PP PP 19 14 11.8 +1.0
QIZ AMB AMB
comp=Z,150nm,6.0s
QIZ LR LR
comp=E,465nm,19.8s
QIZ LR LR
comp=Z,715nm,18.4s
QIZ Qiongzhong 32.11 325 eP **P 19 12 55.6 -0.3**
comp=Z,26nm,0.9s,mb5.0
QIZ esP sP 19 13 32.6 -2.9
NACB Ninganchiao 32.15 348 eP **P 19 12 54.8 -1.4**
NACB e 19 13 07.6
YHNB Yeheng 32.68 348 eP **P 19 12 59.4 -1.4**
QZH Quanzhou 33.62 344⇑iP **P 19 13 08.2 -0.8**
QZH XP sP 19 13 48.9 +0.2
QZH S **S 19 18 16.4 -6.7**
QZH AMB AMB
comp=Z,160nm,0.9s,mb5.8
CNB Canberra Magne 33.69 148 eP **P 19 13 12.2 +2.7**
comp=Z,20nm,1.0s,mb4.9
CNB e 19 13 43.6
JOW Kunigami 34.09 360 P **P 19 13 12.3 -0.6**
comp=Z,76nm,0.8s,mb5.6,baz=191,slow=8.4,SNR=9.0
BSI Banda Aceh 35.54 290 P **P 19 13 22.7 -3.1**
comp=Z,100nm,0.9s,mb5.8
NST Nakhon Sawan 36.30 309 P **P 19 13 31.5 -0.7**
comp=Z,38nm,0.9s,mb5.3
CBIJ Chichi jima 36.82 21 P **P 19 13 36.0 -0.3**
comp=Z,79nm,0.6s,mb5.8,baz=296,slow=19,SNR=11
NANT Nan 37.85 314 ⇑P **P 19 13 43.5 -1.7**
comp=Z,1μm,0.8s,mb6.8
CM31 Chiang Mai Arr 38.91 312⇑iP **P 19 13 54.2 +0.2**
CM31 ePcP PcP 19 16 03.5 +0.8
SSE Sheshan 38.97 350 ⇑P **P 19 13 54.7 +0.3**
SSE AP pP 19 14 21.2 +0.2
SSE XP sP 19 14 34.7 +0.3
SSE S **S 19 19 39.4 -5.0**
SSE AMB AMB
comp=Z,113nm,0.9s,mb5.7
SSE AMB AMB
comp=Z,137nm,6.9s
SSE LR LR
comp=N,36nm,21.4s
SSE LR LR
comp=E,178nm,21.4s
SSE LR LR
comp=Z,249nm,28.8s
CHG Chiang Mai 39.13 312 ⇑P **P 19 13 51.3 -4.6**
comp=Z,150nm,0.6s,mb6.0
CHTO Chiang Mai 39.13 312 P **P 19 13 56.3 +0.4**
CHTO pmax pmax
comp=Z,130nm,1.2s,mb5.6
CHTO Chiang Mai 39.13 312⇑iP **P 19 13 56.1 +0.2**
comp=Z,134nm,1.2s,mb5.7
CHTO epP pP 19 14 24.8 +2.2
CHTO ePcP PcP 19 16 03.6 +0.2
CHTO Chiang Mai 39.13 312 P **P 19 13 56.6 +0.7**
SNR=22
CHTO Chiang Mai 39.13 312 P **P 19 13 56.6 +0.7**
SNR=22
CHRT Chiangrai 39.20 314 ⇑P **P 19 13 57.5 +1.0**
comp=Z,842nm,1.0s,mb6.5
GYA Guiyang 39.82 329⇑iP **P 19 14 01.4 -0.2**
GYA AP pP 19 14 28.1 -0.2
GYA XP sP 19 14 40.2 -1.5
GYA PP PP 19 15 40.1 +4.5
GYA PCP PcP 19 16 06.5 +1.1
GYA SCP ScP 19 19 42.2 -1.4
GYA S **S 19 19 53.5 -3.9**
GYA XS sS 19 20 47.4 +3.8
GYA SCS ScS 19 23 56.0 -0.9
GYA AMB AMB
comp=Z,50nm,0.8s,mb5.4
GYA AMB AMB
comp=Z,220nm,3.8s
GYA LR LR
comp=N,490nm,19.8s
GYA LR LR
comp=E,430nm,17.6s
GYA LR LR
comp=Z,540nm,18.2s
WHN Wuhan 40.15 341 ⇑P **P 19 14 04.7 +0.5**
WHN XP sP 19 14 45.0 +0.7
WHN SCP ScP 19 19 43.0 -1.8
WHN S **S 19 19 55.1 -7.0**
WHN AMB AMB
comp=Z,691nm,1.0s,mb6.4
WHN AMB AMB
comp=Z,1μm,5.5s
WHN LR LR
comp=Z,926nm,13.8s
NJ2 Nanjing 40.35 347 eP **P 19 14 06.5 +0.7**
NJ2 AP pP 19 14 35.4 +2.8
NJ2 XP sP 19 14 47.5 +1.5
NJ2 PP PP 19 15 44.4 +3.2
NJ2 S **S 19 20 03.0 -2.1**
NJ2 XS sS 19 20 53.0 +1.6
NJ2 AMB AMB
comp=Z,190nm,1.0s,mb5.9
NJ2 AMB AMB
comp=Z,230nm,10.5s
NJ2 LR LR
comp=N,3μm,18.4s
NJ2 LR LR
comp=E,2μm,18.8s
NJ2 LR LR
comp=Z,2μm,22.2s
JNU Nakatsue 40.42 3 P **P 19 14 06.0 -0.4**
comp=Z,40nm,0.9s,mb5.3,baz=172,slow=5.1,SNR=17
KMI Kunming 40.96 323 ⇑P **P 19 14 12.7 +1.7**
KMI AP pP 19 14 39.2 +1.4
KMI XP sP 19 14 54.2 +3.0
KMI PP PP 19 15 52.8 +4.9
KMI PCP PcP 19 16 11.0 +1.8
KMI PPP 19 16 24.6
KMI SCP ScP 19 19 48.6 +0.4
KMI PCS PcS 19 20 01.2 +0.8
KMI S **S 19 20 16.4 +2.0**
KMI XS sS 19 21 04.1 +3.3
KMI AMB AMB
comp=Z,88nm,1.0s,mb5.5
KMI AMB AMB
comp=Z,261nm,3.1s
KMI LR LR
comp=N,342nm,16.0s
KMI LR LR
comp=E,400nm,14.5s
KMI LR LR
comp=Z,472nm,17.1s
KSRS Korea Array 44.68 359 P **P 19 14 41.0 +0.2**
comp=Z,24nm,0.6s,mb5.1,baz=178,slow=9.4,SNR=94
KSRS PcP PcP 19 16 21.7 +0.4
comp=Z,15nm,0.9s,baz=182,slow=4.4,SNR=9.2
KSRS ScP ScP 19 20 00.9 -2.0
comp=Z,4.5nm,0.9s,baz=178,slow=4.8,SNR=7.3
KSRS PKiKP PKiKP 19 23 21.3 +0.6
comp=Z,1.3nm,0.9s,baz=118,slow=1.1,SNR=4.6
MJAR Matsushiro Arr 44.70 11 P **P 19 14 39.2 -1.8**
MJAR 19 16 21.7
MJAR Matsushiro Arr 44.70 11 P **P 19 14 39.2 -1.8**
comp=Z,42nm,0.9s,mb5.2,baz=183,slow=8.7,SNR=151
MJAR PcP PcP 19 16 21.7 +0.3
comp=Z,23nm,1.0s,baz=195,slow=3.9,SNR=8.2
MJAR ScP ScP 19 20 00.7 -2.3
comp=Z,13nm,1.0s,baz=195,slow=5.1,SNR=15
MAJO Matsushiro 44.70 11 P **P 19 14 39.6 -1.4**
MAJO pmax pmax
comp=Z,56nm,0.9s,mb5.3
MAJO Matsushiro 44.70 11⇑iP **P 19 14 39.3 -1.7**
comp=Z,56nm,0.8s,mb5.3
MAJO ePcP PcP 19 16 21.9 +0.5
MAJO eScP ScP 19 19 59.5 -3.5
MAT Matsushiro 44.70 11 P **P 19 14 39.2 -1.8**
MAT S **S 19 21 08.0 -0.8**
TIA Tai'an 44.73 347 eP **P 19 14 40.1 -1.1**
TIA AMB AMB
comp=Z,41nm,0.9s,mb5.2
INCN Inchon 44.74 358 eP **P 19 14 42.3 +1.1**
comp=Z,82nm,1.4s,mb5.3
INCN Inchon 44.74 358 P **P 19 14 42.3 +1.1**
SNR=5.1
INCN Inchon 44.74 358 P **P 19 14 42.3 +1.1**
SNR=5.1
CD2 Chengdu 44.92 329 P **P 19 14 42.7 -0.1**
CD2 AP pP 19 15 08.3 -1.7
CD2 XP sP 19 15 22.1 -1.2
CD2 PCP PcP 19 16 22.4 +0.1
CD2 PP PP 19 16 30.4 +0.3
CD2 PCS PcS 19 20 14.9 -1.3
CD2 S **S 19 21 06.7 -5.3**
CD2 SS SS 19 24 28.0 -8.6
CD2 AMB AMB
comp=Z,140nm,0.9s,mb5.7
CD2 AMB AMB
comp=Z,240nm,3.7s
CD2 LR LR
comp=N,460nm,13.8s
CD2 LR LR
comp=E,850nm,13.2s
CD2 LR LR
comp=Z,750nm,24.5s
XAN Xi'an 45.25 337 P **P 19 14 44.5 -0.9**
XAN S **S 19 21 09.0 -7.8**
XAN AMB AMB
comp=Z,116nm,1.1s,mb5.5
XAN AMB AMB
comp=Z,168nm,4.6s
XAN LR LR
comp=N,217nm,18.9s
XAN LR LR
comp=E,266nm,15.8s
XAN LR LR
comp=Z,374nm,26.6s
IMP Imphal 46.49 315 eP **P 19 14 55.0 -0.3**
IMP ex x 19 16 29.0
DL2 Dalian 46.57 353 ⇑P **P 19 14 53.0 -2.6**
DL2 XP sP 19 15 34.7 -1.5
DL2 PP PP 19 16 48.2 +1.3
DL2 PPP 19 17 24.4
DL2 S **S 19 21 28.9 -6.5**
DL2 AMB AMB
comp=Z,60nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,110nm,6.2s
TIY Taiyuan 47.38 343 P **P 19 15 01.3 -0.6**
TIY XP sP 19 15 43.7 +1.1
TIY PP PP 19 16 54.3 0.0
TIY PPP 19 17 36.5
TIY AMB AMB
comp=Z,318nm,1.8s,mb5.8
TIY LR LR
comp=N,405nm,15.3s
TIY LR LR
comp=E,306nm,13.0s
TIY LR LR
comp=Z,255nm,19.5s
SHL Shillong 48.43 314 iP **P 19 15 11.0 +0.7**
SHL ex x 19 21 52.0
BJT Baijiatuau 48.59 347⇑iP **P 19 15 10.7 -0.5**
BJT e*SP sP 19 15 47.2 -4.8
BJT 19 16 36.0
BJT pmax pmax
comp=Z,353nm,1.1s
BJT Baijiatuau 48.59 347⇑iP **P 19 15 10.7 -0.6**
comp=Z,353nm,1.1s,mb6.2
BJT esP sP 19 15 47.2 -4.8
BJT PcP PcP 19 16 36.0 +0.9
BJT eScP ScP 19 20 17.6 -1.6
BJI Beijing 48.61 347 P **P 19 15 11.1 -0.3**
BJI AP pP 19 15 39.1 +0.1
BJI XP sP 19 15 53.8 +1.6
BJI PCP PcP 19 16 35.9 +0.7
BJI S **S 19 21 58.6 -5.8**
BJI XS sS 19 22 49.6 -2.3
BJI SCS ScS 19 24 49.9 -2.2
BJI AMB AMB
comp=Z,230nm,1.0s,mb6.1
LZH Lanzhou 49.13 333⇑iP **P 19 15 16.2 +0.8**
LZH AP pP 19 15 38.4 -4.6
LZH PCP PcP 19 16 37.4 +0.2
LZH PP PP 19 17 07.0 -3.3
LZH eS **S 19 22 10.1 -1.6**
LZH SS SS 19 25 40.0 -4.7
LZH AMB AMB
comp=Z,69nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,328nm,5.6s
LZH LR LR
comp=E,2μm,15.2s
LZH LR LR
comp=Z,2μm,16.3s
SNY Shenyang 49.25 355 ⇑P **P 19 15 15.8 -0.4**
SNY AMB AMB
comp=Z,58nm,1.2s,mb5.4
SNY AMB AMB
comp=Z,364nm,3.5s
PALK Pallekele 49.87 286 eP **P 19 15 19.8 -1.6**
comp=Z,20nm,1.0s,mb5.0
PALK ePcP PcP 19 16 40.3 0.0
VLA Vladivostok 50.43 3⇑iP **P 19 15 25.5 +0.4**
HHC Hu-ho-hao-te 50.53 343 ⇑P **P 19 15 26.0 +0.1**
HHC AP pP 19 15 52.1 -1.6
HHC XP sP 19 16 04.8 -2.0
HHC PCP PcP 19 16 42.1 -0.1
HHC PP PP 19 17 24.5 +1.5
HHC SCP ScP 19 20 26.5 -1.0
HHC PCS PcS 19 20 39.0 -0.5
HHC S **S 19 22 28.8 -2.3**
HHC SCS ScS 19 25 02.1 -3.0
HHC SS SS 19 26 03.0 -3.9
HHC AMB AMB
comp=Z,181nm,1.3s,mb5.9
HHC LR LR
comp=N,309nm,13.1s
HHC LR LR
comp=E,474nm,15.5s
HHC LR LR
comp=Z,473nm,15.5s
BTO Baotou 50.77 342 eP **P 19 15 27.3 -0.4**
CN2 Changchun 51.09 357 eP **P 19 15 29.6 -0.5**
CN2 PCP PcP 19 16 44.0 -0.2
CN2 eS **S 19 22 38.3 -0.4**
CN2 SCS ScS 19 25 05.8 -3.0
CN2 eSS SS 19 26 12.6 -3.1
CN2 AMB AMB
comp=Z,20nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,280nm,5.0s
CN2 LR LR
comp=N,170nm,12.0s
CN2 LR LR
comp=E,160nm,12.0s
CN2 LR LR
comp=Z,150nm,14.0s
VIS Vishakhapatnam 51.15 300 eP **P 19 15 29.9 -1.1**
VIS AMb AMB 19 15 33.7
comp=Z,147nm,1.4s,mb5.8
LSA Lhasa 51.52 318 P **P 19 15 35.0 +1.5**
LSA Lhasa 51.52 318⇑iP **P 19 15 34.2 +0.7**
LSA pmax pmax
comp=Z,114nm,0.9s,mb5.9
LSA Lhasa 51.52 318⇑iP **P 19 15 34.2 +0.7**
comp=Z,114nm,0.9s,mb5.9
RPZ Rata Peaks 51.79 141 LR LR 19 35 54.3
comp=Z,493nm,19.1s,baz=303,slow=34
MDJ Mudanjiang 51.84 1 P **P 19 15 35.8 +0.2**
MDJ XP sP 19 16 14.4 -2.2
MDJ PCP PcP 19 16 48.7 +1.7
MDJ PP PP 19 17 37.3 +2.5
MDJ SCP ScP 19 20 31.7 -1.3
MDJ PCS PcS 19 20 44.5 -0.5
MDJ S **S 19 22 52.2 +3.2**
MDJ AMB AMB
comp=Z,72nm,1.6s,mb5.5
MDJ AMB AMB
comp=Z,305nm,6.6s
MDJ LR LR
comp=N,205nm,45.0s
MDJ LR LR
comp=Z,317nm,43.3s
MDJ Mudanjiang 51.84 1⇑iP **P 19 15 35.5 -0.1**
comp=Z,158nm,1.4s,mb5.8
BOK Bokaro 51.92 308 eP **P 19 15 36.5 -0.2**
URZ Urewera 53.44 133 P **P 19 15 49.0 +1.3**
comp=Z,4.4nm,0.4s,mb4.9,baz=226,slow=7.4,SNR=9.7
URZ LR LR 19 37 19.6
comp=Z,384nm,18.0s,baz=224,slow=34
GTA Gaotai 53.67 333⇑iP **P 19 15 49.9 +0.7**
GTA PCP PcP 19 16 55.0 +1.0
GTA PP PP 19 17 53.5 +2.1
GTA PPP 19 19 00.1
GTA SCP ScP 19 20 39.7 -1.4
GTA PCS PcS 19 20 52.2 -1.0
GTA S **S 19 23 09.5 -4.6**
GTA SCS ScS 19 25 23.5 -3.6
GTA AMB AMB
comp=Z,160nm,1.2s,mb5.9
GTA AMB AMB
comp=Z,491nm,5.3s
GTA LR LR
comp=N,267nm,14.8s
GTA LR LR
comp=E,297nm,15.2s
GTA LR LR
comp=Z,292nm,14.8s
KOD Kodaikanal 53.77 288 eP **P 19 15 50.3 -0.1**
KOD AMb AMB 19 15 50.9
comp=Z,77nm,0.9s,mb5.8
JIRN Jiri 53.78 312 eP **P 19 15 50.3 +0.1**
comp=Z,387nm,1.0s,mb6.4
BLSP Bilaspur 54.12 304 eP **P 19 15 51.6 -1.2**
BLSP AMb AMB 19 15 54.6
comp=Z,311nm,1.3s,mb6.2
GUN Gumba 54.15 312 eP **P 19 15 52.9 0.0**
comp=Z,514nm,0.9s,mb6.6
PKI Pulchoki 54.31 312 eP **P 19 15 53.7 -0.4**
comp=Z,256nm,0.9s,mb6.2
PKIN Phulchoki 54.32 312 eP **P 19 15 53.6 -0.6**
comp=Z,152nm,0.8s,mb6.1
KKN Kakani 54.52 312 eP **P 19 15 55.3 -0.3**
comp=Z,353nm,1.0s,mb6.3
DMN Daman 54.55 312 eP **P 19 15 55.6 -0.2**
comp=Z,438nm,1.0s,mb6.4
RAO Raoul Island 54.75 121 LR LR 19 36 28.3
comp=Z,297nm,19.9s,baz=110,slow=33
GKN Gorkha 55.11 312 eP **P 19 15 59.5 -0.4**
comp=Z,424nm,0.9s,mb6.5
HYB Hyderabad 55.19 297 eP **P 19 15 59.0 -1.6**
HYB pmax pmax
comp=Z,150nm,1.0s,mb6.0
HYB Hyderabad 55.19 297 eP **P 19 15 59.0 -1.6**
comp=Z,150nm,1.0s,mb6.0
HYB Hyderabad 55.19 297⇑iP **P 19 15 59.0 -1.6**
comp=Z,150nm,1.0s,mb6.0
YSS Yuzh-Sakhalins 55.63 12⇑iP **P 19 16 03.2 0.0**
YSS e 19 17 02.0
YSS pmax pmax
comp=N,40nm,0.9s
YSS pmax pmax
comp=Z,70nm,0.9s,mb5.7
YSS Yuzh-Sakhalins 55.63 12⇑iP **P 19 16 02.6 -0.6**
comp=Z,59nm,0.6s,mb5.8
YSS ePcP PcP 19 17 02.3 +0.9
KOLN Koldanda 55.76 311 eP **P 19 16 04.5 0.0**
comp=Z,612nm,0.9s,mb6.6
DANN Dangsing 55.95 312 eP **P 19 16 05.6 -0.3**
comp=Z,379nm,1.0s,mb6.4
HABR Khabarovsk 55.99 5⇑iP **P 19 16 05.4 -0.3**
HABR e pP 19 16 29.1 -4.9
HABR e 19 16 41.6
HABR e 19 17 01.8
HABR e 19 18 08.5
HABR eS **S 19 23 47.4 +2.7**
HABR e 19 25 41.7
HABR e 19 27 29.5
HABR pmax pmax
comp=Z,138nm,1.2s,mb5.9
NGP Nagpur 56.26 301 eP **P 19 16 07.3 -0.9**
KLR Kul'dur 56.52 3⇓eP **P 19 16 05.0 -4.5**
KLR eS **S 19 23 45.5 -6.2**
KLR pmax pmax
comp=Z,160nm,1.4s,mb5.9
HIA Hailar 57.00 353 eP **P 19 16 12.8 -0.1**
HIA e 19 17 06.6
HIA pmax pmax
comp=Z,75nm,1.3s
HIA Hailar 57.00 353 eP **P 19 16 12.8 -0.1**
comp=Z,75nm,1.3s,mb5.6
HIA ePcP PcP 19 17 06.6 0.0
LATR Latur 57.33 297 eP **P 19 16 14.3 -1.4**
AKL Akola 57.81 300 eP **P 19 16 17.8 -1.4**
AKL AMb AMB 19 16 19.0
comp=Z,115nm,1.3s,mb5.8
ULN Ulaanbaatar 58.25 343 eP **P 19 16 22.3 +0.6**
ULN e*SP sP 19 17 00.9 -2.2
ULN pmax pmax

comp=Z,260nm,1.2s,mb6.1
ULN Ulaanbaatar 58.25 343 *e*P P **19 16 22.3 +0.6**
comp=Z,260nm,1.2s,mb6.1
ULN *es*P sP 19 17 00.9 -2.2
ULN *e*ScP ScP 19 20 58.8 -2.3
ULN Ulaanbaatar 58.25 343 P P **19 16 22.8 +1.2**
SNR=126
ULN Ulaanbaatar 58.25 343 P P **19 16 22.8 +1.2**
SNR=126
SONM Songino Array 58.42 343 P P **19 16 23.4 +0.6**
SONM ScP ScP 19 20 59.6 -2.2
SONM P'P'
SONM ⇑*e* 19 45 53.9
SONM 19 46 10.9
SONM Songino Array 58.42 343 P P **19 16 23.4 +0.6**
comp=Z,85nm,0.9s,mb5.8,baz=162,slow=7.1,SNR=354
SONM ScP ScP 19 20 59.6 -2.2
comp=Z,6.5nm,1.0s,baz=173,slow=5.9,SNR=5.3
SONM PKPPKP 19 45 53.9
comp=Z,0.7nm,0.9s,baz=356,slow=1.0,SNR=3.8
SONM PKP2bc 19 46 10.9
comp=Z,4.6nm,0.9s,baz=315,slow=1.4,SNR=13
BHPL Bhopal 58.50 303 *e*P P **19 16 21.9 -2.0**
KAD Karad 59.04 295 *e*P P **19 16 26.0 -1.8**
PTH Pithoragarh 59.22 311 *e*P P **19 16 27.9 -0.9**
PTH *e*P 19 16 28.0
DRV Dumont d'Urvil 59.64 175 P P **19 16 32.0 +1.0**
DRV S S **19 24 43.0 +11**
DRV R 19 35 00.0
POO Poona 59.76 296 *e*P P **19 16 29.7 -3.0**
CASY Casey 60.03 188 *e*P P **19 16 35.0 +1.4**
comp=Z,20nm,0.5s,mb5.4
NDI New Delhi 61.09 308 *e*P P **19 16 39.7 -1.9**
NDI AMb AMB 19 16 40.6
comp=Z,137nm,0.6s,mb6.2
NDI *ex* x 19 24 42.0
ZAK Zakamensk 61.62 342 *e*P P **19 16 45.2 +0.5**
ZAK pmax pmax
comp=Z,42nm,1.2s,mb5.3
AJM Ajmer 62.16 305 *e*P P **19 16 47.0 -1.7**
AJM AMb AMB 19 16 48.5
comp=Z,80nm,1.0s,mb5.7
SMLA Simla 62.29 311 *e*P P **19 16 49.5 -0.1**
SMLA AMb AMB 19 16 50.3
comp=Z,325nm,1.4s,mb6.2
TLY Talaya 62.66 343 P P **19 16 52.4 +0.9**
comp=Z,457nm,1.2s,mb6.3,SNR=25
TLY Talaya 62.66 343⇑*i*P P **19 16 52.3 +0.8**
TLY *e* 19 17 30.5
TLY *e*S S **19 25 08.2 -2.3**
TLY pmax pmax
comp=Z,106nm,1.1s,mb5.7
TLY Talaya 62.66 343 *e*P P **19 16 51.9 +0.4**
comp=Z,116nm,1.2s,mb5.7
TLY *e* 19 17 01.0
TLY Talaya 62.66 343 P P **19 16 52.8 +1.3**
SNR=21
TLY Talaya 62.66 343 P P **19 16 52.8 +1.3**
SNR=21
IRK Irkutsk 62.98 344⇑*i*P P **19 16 54.1 +0.5**
IRK *e*S S **19 25 14.0 -0.4**
IRK pmax pmax
comp=Z,296nm,2.4s,mb5.8
WMQ Urumqi 62.98 328⇑*i*P P **19 16 54.0 +0.2**
WMQ AP pP 19 17 21.0 -1.7
WMQ XP sP 19 17 34.0 -1.6
WMQ PP PP 19 19 15.0 +1.1
WMQ SCP ScP 19 21 21.0 -1.2
WMQ S S **19 25 13.0 -1.8**
WMQ SCS ScS 19 26 32.0 -3.4
WMQ SS SS 19 29 23.0 +0.3
WMQ AMB AMB
comp=Z,188nm,1.0s,mb6.0
WMQ AMB AMB
comp=Z,514nm,5.0s
WMQ LR LR
comp=N,289nm,16.0s
WMQ LR LR
comp=E,208nm,16.0s
WMQ LR LR
comp=Z,184nm,16.0s
MOY Mondy 63.45 341 *e*P P **19 16 58.0 +1.2**
MOY *e* 19 25 20.0
MOY pmax pmax
comp=Z,329nm,1.3s,mb6.1
MIR Mirnyy 63.81 195 *e*P P **19 17 00.0 +1.0**
MIR *i* pP 19 17 33.0 +5.1
MIR *i* 19 17 38.0
MIR pmax pmax
comp=Z,100nm,1.2s,mb5.5
NRGR Nerungri 63.96 358 *e*P P **19 17 00.9 +0.9**
CLNS Chul'man 64.14 358 *e*P P **19 17 00.6 -0.6**
CLNS pmax pmax
comp=Z,66nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,37nm,1.0s
CLNS pmax pmax
comp=E,19nm,0.8s
PET Petropavlovsk 65.47 19⇑*i*P P **19 17 09.9 0.0**
PET *e* pP 19 17 39.9 +1.0
PET *e*S S 19 25 45.6 +0.5
PET *e**SS sS 19 26 52.1 +17
PET *e*SS SS 19 30 07.7 +6.6
PET *e*SSS 19 33 02.4
PET pmax pmax
comp=Z,173nm,1.0s,mb5.8
PET pmax pmax
comp=Z,100nm,16.0s
PET MLR MLR
comp=Z,100nm,21.0s
PET Petropavlovsk 65.47 19 *e*P P **19 17 09.8 -0.1**
comp=Z,186nm,1.1s,mb5.8
PET *e*pP pP 19 17 36.0 -2.9
PET *e*PcP PcP 19 17 40.5 -0.3
BOD Bodaibo 66.12 352 *e*P P **19 17 13.6 -0.3**
BOD pmax pmax
comp=Z,93nm,1.0s,mb5.6
KSH Kashi 67.36 318⇑*i*P P **19 17 23.5 +1.2**
KSH AP pP 19 17 50.5 -0.9
KSH XP sP 19 18 03.3 -0.9
KSH PP PP 19 19 54.0 +1.6
KSH PPP 19 21 31.1
KSH SCP 19 21 42.5
KSH PCS 19 21 54.1
KSH S S 19 26 04.3 -4.2
KSH SCS ScS 19 27 06.5 -2.9
KSH AMB AMB
comp=Z,658nm,1.7s,mb6.2
KSH LR LR
comp=N,462nm,5.7s
KSH LR LR
comp=E,498nm,4.6s
KSH LR LR
comp=Z,377nm,6.6s
MK31 Makanchi Array 67.80 328⇑*i*P P **19 17 24.8 -0.1**
MKAR Makanchi Array 67.80 328 P P **19 17 24.9 0.0**
MKAR P'P'
MKAR P'P'ab 19 45 49.5
MKAR Makanchi Array 67.80 328 P P **19 17 24.9 0.0**
comp=Z,211nm,1.0s,mb5.9,baz=123,slow=7.4,SNR=530
MKAR PKPPKP 19 45 36.9
comp=Z,0.8nm,0.8s,baz=308,slow=4.5,SNR=7.7
MKAR PKP2ab 19 45 49.5
comp=Z,1.1nm,0.9s,baz=318,slow=3.3,SNR=5.7
ULHL Ulahol 68.64 321 P P **19 17 30.5 +0.3**
SNR=33
MA2 Magadan 69.14 12 *e*P P **19 17 39.0 +6.1**
MA2 *e*PS 19 27 01.4
MA2 *e*SS SS 19 31 04.0 +6.3
MA2 MLR MLR
comp=Z,100nm,18.3s
KZA Kyzart 69.17 320 P P **19 17 34.6 +1.1**
SNR=72
YAK Yakutsk 69.28 1*c i*P P **19 17 33.3 -0.5**
YAK *e* 19 17 56.1
YAK *e**PP pP 19 18 04.8 +1.7
YAK *e* 19 20 06.3
YAK *e*PPP 19 21 48.1
YAK *i* S S 19 26 25.9 -4.6
YAK *e* 19 27 17.0
YAK *e**SS sS 19 27 21.0 +0.1
YAK *e*SS SS 19 30 52.0 -7.8
YAK *e*SSS 19 34 03.7
YAK pmax pmax
comp=Z,366nm,1.0s,mb6.2
YAK pmax pmax
comp=N,106nm,1.1s
YAK pmax pmax
comp=E,46nm,1.1s
YAK pmax pmax
comp=N,37nm,1.7s
YAK pmax pmax
comp=Z,29nm,1.7s,mb4.8
YAK smax
comp=E,302nm,2.2s
YAK smax
comp=Z,16nm,1.2s
YAK smax
comp=N,203nm,3.4s
YAK Yakutsk 69.28 1⇑*i*P P **19 17 33.1 -0.6**
comp=N,328nm,0.8s,mb6.2
TKM2 Tokmak 2 69.40 321⇑*i*P P **19 17 35.1 +0.2**
TKM2 pmax pmax
comp=Z,51nm,0.9s,mb5.3
TKM2 Tokmak 2 69.40 321⇑*i*P P **19 17 35.1 +0.2**
comp=Z,51nm,0.9s,mb5.3
TKM2 Tokmak 2 69.40 321 P P **19 17 35.4 +0.5**
SNR=51
KBK Karagaybulak 69.67 321 P P **19 17 37.3 +0.8**
SNR=49
UCH Uchtor 69.72 320⇑*i*P P **19 17 37.6 +0.8**
comp=Z,55nm,1.1s,mb5.3
UCH *ep*P pP 19 18 06.5 +0.4
UCH Uchtor 69.72 320 P P **19 17 37.9 +1.1**
SNR=48
KBL Kabul 69.93 311 *e*P P **19 17 37.6 -0.8**
comp=Z,34nm,0.9s,mb5.2
AAK Ala-Archa 69.94 321 P P **19 17 38.7 +0.5**
comp=Z,402nm,1.2s,mb6.1,SNR=60
AAK Ala-Archa 69.94 321 P P **19 17 38.0 -0.2**
AAK pmax pmax
comp=Z,48nm,0.9s,mb5.3
AAK pmax pmax
comp=Z,23nm,1.1s,mb4.9
AAK Ala-Archa 69.94 321⇑*i*P P **19 17 37.7 -0.5**
comp=Z,112nm,1.2s,mb5.6
AAK Ala-Archa 69.94 321 P P **19 17 38.3 +0.1**
SNR=42
AAK Ala-Archa 69.94 321 P P **19 17 38.3 +0.1**
SNR=42
AAK Ala-Archa 69.94 321 P P **19 17 38.0 -0.2**
comp=Z,48nm,0.9s,mb5.3,baz=130,slow=4.6,SNR=120
AAK PKP2bc 19 45 41.8
comp=Z,23nm,1.1s,baz=237,slow=2.6,SNR=42
AAK Ala-Archa 69.94 321 P P **19 17 39.2 +1.0**
SNR=56
FRU Bishkek 69.97 321⇑*i*P P **19 17 38.0 -0.4**
FRU pmax pmax
comp=Z,106nm,1.8s,mb5.4
CHMS Chumysh 69.97 321 P P **19 17 38.2 -0.2**
SNR=19
AML Almayashu 70.19 320⇑*i*P P **19 17 40.4 +0.7**
comp=Z,112nm,1.2s,mb5.6
AML Almayashu 70.19 320 P P **19 17 40.4 +0.7**
SNR=65
USP Ospenovka 70.27 321 P P **19 17 40.4 +0.2**
SNR=147
RAR Rarotonga 70.33 110 LR LR 19 41 45.8
comp=Z,199nm,21.7s,baz=239,slow=30
EKS2 Erkin-Say 70.41 320⇑*i*P P **19 17 41.3 +0.3**
comp=Z,91nm,1.0s,mb5.6
EKS2 Erkin-Say 70.41 320 P P **19 17 41.9 +0.8**
SNR=133
ZALV Zalesovo Beam 71.34 334 P P **19 17 45.6 -0.8**
comp=Z,234nm,1.0s,mb6.0,baz=113,slow=3.9,SNR=450
ZALV S S 19 26 53.4 -1.3
comp=Z,1.8nm,0.7s,baz=147,slow=12,SNR=7.9
ZAL Zalesovo 71.34 334 P P **19 17 45.7 -0.8**
ZAL S S 19 26 53.4 -1.3
SMY Shemya 71.36 27 *e*P P **19 17 46.8 +0.2**
SMY pmax pmax
comp=Z,352nm,1.5s,mb6.0
SMY MLR MLR
comp=Z,100nm,22.0s
SMY Shemya 71.36 27 *e*P P **19 17 46.8 +0.2**
comp=Z,352nm,1.5s,mb6.0
SMY LR LR
comp=Z,100nm,22.0s
KURK Kurchatov 72.14 329 P P **19 17 51.5 +0.2**
comp=Z,3μm,1.0s
KURK Kurchatov 72.14 329⇑*i*P P **19 17 51.0 -0.3**
KURK *e**PP pP 19 18 21.7 +0.9
KURK *e*S S 19 26 57.5 -6.5
KURK pmax pmax
comp=Z,534nm,1.0s,mb6.3
KURK Kurchatov 72.14 329⇑*i*P P **19 17 51.0 -0.3**
comp=Z,534nm,1.0s,mb6.3
KURK *ep*P pP 19 18 21.6 +0.8
KURK *e*S S 19 26 57.5 -6.5
KURK Kurchatov 72.14 329 P P **19 17 51.4 +0.1**
SNR=263
KURK Kurchatov 72.14 329 P P **19 17 51.4 +0.1**
SNR=263
VNDA Vanda 72.18 173 P P **19 17 52.3 +1.1**
VNDA pmax pmax
comp=Z,5.0nm,0.4s
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA MLR MLR
comp=Z,345nm,19.3s
VNDA Vanda 72.18 173⇑*e*P P **19 17 52.0 +0.9**
comp=Z,9.1nm,0.7s,mb4.7
VNDA *ep*P pP 19 18 23.2 +2.6
VNDA Vanda 72.18 173 P P **19 17 52.3 +1.1**
comp=Z,5.2nm,0.4s,mb4.7,baz=316,slow=6.6,SNR=77
VNDA PKP2ab 19 45 33.1
comp=Z,0.8nm,0.9s,baz=353,slow=1.3,SNR=3.6
VNDA LR LR 19 49 54.5
comp=Z,345nm,19.3s,baz=35,slow=36
SEY Seymchan 72.53 11⇑*i*P P **19 17 53.7 +0.3**
NVS Novosibirsk 72.63 334⇑*i*P P **19 17 53.3 -0.8**
NVS *e*S S 19 27 00.0 -9.4
NVS pmax pmax
comp=Z,280nm,1.2s,mb6.0
NVS pmax pmax
comp=N,185nm,1.4s
NVS pmax pmax
comp=E,183nm,1.3s
NVS smax
comp=E,190nm,1.6s
NVS smax
comp=N,174nm,2.0s
SBA Scott Base 73.08 172 P P **19 17 58.7 +2.2**
SBA pmax pmax
comp=Z,14nm,0.9s,mb4.8
SBA Scott Base 73.08 172⇑*e*P P **19 17 58.2 +1.7**
comp=Z,14nm,0.9s,mb4.8
SBA *ep*P pP 19 18 28.6 +2.6
MAW Mawson 73.99 201 *e*P P **19 18 03.9 +2.0**
comp=Z,8.6nm,0.4s,mb4.8
MAW Mawson 73.99 201 *e*P P **19 18 04.0 +2.1**
MAW *e* 19 18 20.8
MAW pmax pmax
comp=Z,92nm,0.9s
MAW Mawson 73.99 201 P P **19 18 03.5 +1.6**
comp=Z,28nm,1.0s,mb5.0,baz=77,slow=6.6,SNR=19
MAW LR LR 19 50 28.3
comp=Z,225nm,19.4s,baz=64,slow=36
WBK Wadi Bani Khal 74.27 296 P P **19 18 04.4 0.0**
SNR=6.6
WBK Wadi Bani Khal 74.27 296 P P **19 18 04.4 0.0**
SNR=6.6
SMDO Samad 75.21 296 P P **19 18 09.5 -0.3**
SNR=14
SMDO Samad 75.21 296 P P **19 18 09.5 -0.3**
SNR=14
BIDO Bidbid 75.25 297 P P **19 18 09.3 -0.8**
SNR=23
BIDO Bidbid 75.25 297 P P **19 18 09.3 -0.8**
SNR=23
ADK Adak 75.34 32 P P **19 18 10.7 +0.7**
ADK pmax pmax
comp=Z,200nm,1.5s,mb5.6
ADK Adak 75.34 32 *e*P P **19 18 10.1 +0.1**
comp=Z,200nm,1.5s,mb5.6
BSY Bisya 75.89 296 P P **19 18 12.9 -0.8**
SNR=9.9
BSY Bisya 75.89 296 P P **19 18 12.9 -0.8**
SNR=9.9
HOQ Hoqain 76.00 296 P P **19 18 14.3 0.0**
SNR=7.7
HOQ Hoqain 76.00 296 P P **19 18 14.3 0.0**
SNR=7.7
HATD Hatta, Dubai 77.35 297 P P **19 18 21.4 -0.5**
SNR=12
HATD Hatta, Dubai 77.35 297 P P **19 18 21.4 -0.5**
SNR=12
ASHO Ashiyiah 77.38 297 P P **19 18 21.7 -0.4**
SNR=11
ASHO Ashiyiah 77.38 297 P P **19 18 21.7 -0.4**
SNR=11
BANOM Banah 77.47 299 P P **19 18 23.0 +0.4**
SNR=18
BANOM Banah 77.47 299 P P **19 18 23.0 +0.4**
SNR=18
BVAR Borovoye Array 77.66 328 P P **19 18 22.8 -0.3**
comp=Z,119nm,0.9s,mb5.6,baz=132,slow=6.2,SNR=479
BVAR PKKPbc PKKPbc 19 37 25.8 -2.2
comp=Z,0.4nm,0.8s,baz=246,slow=6.3,SNR=3.7
BRVK Borovoye 77.74 328 P P **19 18 23.9 +0.5**
comp=Z,1μm,1.0s,mb6.6,SNR=94
BRVK Borovoye 77.74 328⇑*i*P P **19 18 22.9 -0.5**
BRVK pmax pmax
comp=Z,250nm,1.0s,mb5.9
BRVK Borovoye 77.74 328⇑*i*P P **19 18 22.9 -0.6**
comp=Z,250nm,1.0s,mb5.9
BRVK Borovoye 77.74 328 P P **19 18 23.5 +0.1**
SNR=124
BRVK Borovoye 77.74 328 P P **19 18 23.5 +0.1**
SNR=124
WHFO Wadi Hawf 77.93 290 P P **19 18 24.4 -0.9**
SNR=5.6
WHFO Wadi Hawf 77.93 290 P P **19 18 24.4 -0.9**
SNR=5.6
TIXI Tiksi 78.94 0*c i*P P **19 18 28.1 -1.6**
TIXI *e**PP pP 19 18 56.6 -3.1
TIXI *e*S S 19 28 10.6 -7.6
TIXI *e**SS sS 19 29 07.2 -2.6
TIXI pmax pmax
comp=Z,62nm,1.0s,mb5.4
TIXI Tiksi 78.94 0⇑*i*P P **19 18 27.9 -1.8**
comp=Z,63nm,0.9s,mb5.4
TIXI *e*S S 19 28 11.6 -6.6
HKL Haleakala 78.97 67 P P **19 18 39.9 +8.9**
ABKT Ailbek 79.38 311 P P **19 18 32.3 -0.5**
comp=Z,183nm,1.5s,mb5.7,SNR=22
BILL Bilibino 79.90 14*c i*P P **19 18 34.4 -0.6**
BILL *e* 19 18 41.1
BILL *e**PP pP 19 19 06.4 +1.4
BILL *e* 19 21 38.5
BILL *e*SS SS 19 33 41.7 +1.1
BILL pmax pmax
comp=Z,40nm,2.9s,mb4.7
BILL Bilibino 79.90 14⇑*i*P P **19 18 33.9 -1.1**
comp=Z,22nm,1.1s,mb4.9
PAE Paea 80.11 107 *e*P P **19 18 39.8 +2.6**
comp=Z,106nm,1.1s,mb5.6
PAE Paea 80.11 107 *e*P P **19 18 39.8 +2.6**
PAE pmax pmax
comp=Z,106nm,1.1s,mb5.6
UNV Unalaska Valle 81.69 33 *e*P P **19 18 44.2 -0.6**
comp=Z,101nm,1.2s,mb5.5
PMOR Pomariorio Ree 81.95 104 *e*P P **19 18 49.7 +2.7**
comp=Z,136nm,1.1s,mb5.7
VAH Vaihoa 82.19 104 *e*P P **19 18 50.7 +2.5**
comp=Z,147nm,1.4s,mb5.6
QSPA South Pole Qui 82.52 180 P P **19 18 49.6 +0.9**
QSPA PKKPbc PKKPbc 19 37 14.6 -2.7
QSPA P'P' 19 45 19.6
QSPA LR LR 19 57 42.0
QSPA South Pole Qui 82.52 180 P P **19 18 49.6 +0.9**
comp=Z,21nm,0.6s,mb5.1,baz=329,slow=1.3,SNR=232
QSPA PKKPbc PKKPbc 19 37 14.6 -2.7
comp=Z,8.2nm,1.1s,baz=167,slow=2.7,SNR=7.3
QSPA PKPPKP 19 45 19.6
comp=Z,5.0nm,1.0s,baz=160,slow=0.7,SNR=5.4
QSPA LR LR 19 57 42.0
comp=Z,341nm,18.8s,baz=184,slow=37
SYO Syowa Base 82.70 201⇓*i*P P **19 18 49.5 -0.3**
SYO Syowa Base 82.70 201⇓*i*PcP PcP 19 18 55.0 +0.5
SYO Syowa Base 82.70 201⇓*ep*P pP 19 19 19.4 -0.6
AKTK Aktyubinsk 83.53 323 P P **19 18 54.1 -0.3**
AKTK S S 19 29 03.0 -3.4
AKTK PKKPbc PKKPbc 19 37 13.7 -0.7
AKTO Aktyubinsk 83.53 323 P P **19 18 54.1 -0.3**
AKTO S S 19 29 03.0 -3.4
AKTO Aktyubinsk 83.53 323 P P **19 18 54.1 -0.3**
comp=Z,100nm,0.9s,mb5.7,baz=107,slow=6.1,SNR=189
AKTO S S 19 29 03.0 -3.4
comp=Z,0.6nm,0.3s,baz=9.4,slow=23,SNR=23
AKTO PKKPbc PKKPbc 19 37 13.7 -0.7
comp=Z,1.5nm,0.8s,baz=304,slow=5.8,SNR=5.5
GAMB Gambell 83.91 23⇑*i*P P **19 18 56.0 -0.1**
comp=Z,157nm,1.0s,mb5.8
SVE Sverdlovsk 84.39 329*de*P P **19 18 58.1 -0.5**
SVE *e*S S 19 29 09.6 -5.2
SVE pmax pmax
comp=Z,311nm,1.3s,mb6.0
ARU Arti 85.31 328 P P **19 19 02.2 -1.0**
comp=Z,1μm,1.3s,mb6.6,SNR=17
ARU Arti 85.31 328*c i*P P **19 19 02.6 -0.6**
ARU *e**PP pP 19 19 31.3 -2.3
ARU *e* 19 22 19.0
ARU *e*S S 19 29 16.8 -7.1
ARU *e*SS SS 19 35 00.2 -1.1
ARU pmax pmax
comp=Z,248nm,1.2s,mb6.0
ARU Arti 85.31 328⇑*e*P P **19 19 02.2 -1.0**
comp=Z,198nm,1.1s,mb6.0
SDPT Sand Point 85.50 33 *e*P P **19 19 03.2 -1.0**
comp=Z,274nm,1.0s,mb6.1
SDPT LR LR
comp=Z,100nm,21.0s
UMR Umm Al-Rimmam 85.70 300 *e*P P **19 19 04.4 -1.4**
UMR AMb AMB 19 19 08.0
comp=Z,37nm,0.5s,mb5.6
RDF Al-Radifah 85.72 300 *e*P P **19 19 04.2 -1.7**
RDF AMb AMB 19 19 10.3
comp=Z,44nm,0.8s,mb5.5
NAY Al-Naaiem 86.05 300 *e*P P **19 19 05.5 -2.0**
NAY AMb AMB 19 19 09.5
comp=Z,60nm,0.9s,mb5.5
MIB Mutribah 86.06 301 *e*P P **19 19 05.7 -1.9**
MIB AMb AMB 19 19 09.8
comp=Z,113nm,1.0s,mb5.8
TNA Tin City 86.19 22⇑*i*P P **19 19 06.7 -0.7**
comp=Z,15nm,0.8s,mb5.0
CHGN Chignik 86.92 32 *e*P P **19 19 10.1 -1.0**
SVW2 Sparrevohn 89.74 28 *e*P P **19 19 23.8 -0.6**
DGRG David-gareji 89.76 312 P P **19 19 25.8 +0.9**
TTA Tatalina 90.05 26 *e*P P **19 19 25.1 -0.7**
MTA Mtatsminda 90.23 312 P P **19 19 27.0 -0.1**
TBLG Delisi 90.28 312 P P **19 19 17.5 -10**
KDAK Kodiak Island 90.39 32 P P **19 19 27.0 -0.4**
comp=Z,221nm,0.9s,mb6.3,SNR=12
KDAK Kodiak Island 90.39 32⇑*e*P P **19 19 26.8 -0.6**
comp=Z,33nm,0.9s,mb5.5
KMBO Kilima Mbogo 91.10 269 *e*P P **19 19 31.9 +0.1**
KMBO pP pP 19 20 07.0 +4.6
KMBO *es*P sP 19 20 19.0 +4.1
KMBO Kilima Mbogo 91.10 269 P P **19 19 32.3 +0.5**
comp=Z,4.7nm,0.9s,mb4.6,baz=44,slow=4.6,SNR=7.6
ONI Oni 91.36 313 P P **19 19 32.3 -0.1**
NVL N'lazarevskaya 91.48 197 *e*P P **19 19 34.7 +2.3**
NVL pmax pmax
comp=Z,58nm,1.5s,mb5.5
MAIT Maitri 91.51 197 *e*P P **19 19 34.0 +1.5**
IMA2 Indian Mountai 91.85 24 *e*P P **19 19 33.2 -0.9**
KIV Kislovodsk 92.12 314 P P **19 19 35.6 -0.2**
comp=Z,92nm,1.0s,mb6.0,SNR=5.6
KIV Kislovodsk 92.12 314*c i*P P **19 19 34.9 -0.9**
KIV *e**PP pP 19 20 06.1 -0.4
KIV *e* 19 23 18.7
KIV *e* 19 29 55.9
KIV pmax pmax
comp=Z,12nm,0.9s,mb5.1
KIV Kislovodsk 92.12 314⇑*i*P P **19 19 34.2 -1.6**
comp=Z,20nm,1.1s,mb5.2
KIV *ep*P PP 19 23 15.8 -1.6
KIV Kislovodsk 92.12 314 P P **19 19 35.8 -0.1**
SNR=7.7
KIV Kislovodsk 92.12 314 P P **19 19 35.8 -0.1**
SNR=7.7
SLKM Skilak Lake 92.16 29 P P **19 19 34.9 -0.7**
SLKM Skilak Lake 92.16 29 P P **19 19 34.2 -1.4**
PMR Palmer 92.88 28 *e*P P **19 19 37.4 -1.5**
PMR pmax pmax

comp=Z,55nm,1.0s,mb5.8
PMR MLR MLR
PMR Palmer 92.88 28 *e*P **P 19 19 37.4 -1.5**
comp=Z,100nm,20.0s
PMR *e*P 19 19 37.7
comp=Z,55nm,1.0s,mb5.8
PMR LR LR
comp=Z,100nm,20.0s
MCK McKinley 93.34 26⇑*i*P **P 19 19 39.5 -1.5**
MCK pmax pmax
comp=Z,115nm,1.2s,mb6.1
MCK McKinley 93.34 26⇑*i*P **P 19 19 39.5 -1.5**
comp=Z,115nm,1.2s,mb6.1
VRHR Novokhopersk 93.79 321 *e*P **P 19 19 41.4 -1.9**
VRHR pmax pmax
comp=Z,50nm,0.9s,mb5.8
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,50nm,1.1s
COLA College 94.00 25 P **P 19 19 42.5 -1.5**
COLA pmax pmax
comp=Z,22nm,1.0s,mb5.4
COLA College 94.00 25⇑*e*P **P 19 19 41.9 -2.1**
comp=Z,22nm,1.0s,mb5.4
SOC Sochi 94.20 313 *e*P **P 19 19 42.9 -2.5**
SOC *e*S SKSac 19 29 59.4 -10
SOC *e* 19 30 33.5
SOC pmax pmax
comp=Z,15nm,1.0s,mb5.3
DIV Divide 94.41 29⇑*i*P **P 19 19 45.3 -0.6**
comp=Z,125nm,1.1s,mb6.2
MALT Malatya 94.63 308⇑*i*P **P 19 19 47.0 -0.5**
MALT pmax pmax
comp=Z,19nm,1.1s,mb5.4
MALT Malatya 94.63 308⇑*i*P **P 19 19 47.0 -0.5**
comp=Z,19nm,1.1s,mb5.5
SNAA Sanae 94.87 194 *e*P **P 19 19 49.3 +1.3**
SNAA *e* 19 19 55.3
SNAA *e* 19 20 11.2
SNAA *e* pP 19 20 19.6 +1.0
SNAA *e* 19 20 30.9
SNAA Sanae 94.87 194 P **P 19 19 49.3 +1.3**
comp=Z,11nm,1.0s,mb5.2,baz=105,slow=3.8,SNR=37
SNAA PKKP PKKPbc 19 36 43.3 -3.3
comp=Z,2.3nm,0.9s,baz=0.9,slow=1.7,SNR=10.0
VORD Divnogorie 95.24 321 *e*P **P 19 19 48.0 -2.0**
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,50nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.7
VRSR Storozhevoye 95.32 321 *e*P **P 19 19 48.5 -1.9**
VRSR pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
VRSR pmax pmax
comp=N,2.0nm,2.0s
VRSR pmax pmax
comp=E,8.0nm,1.0s
MENT Mentasta 95.57 27 *e*P **P 19 19 50.9 -0.3**
ANN Anapa 95.95 314 *e*P **P 19 19 50.5 -2.9**
ANN *e**PP pP 19 20 19.4 -4.7
ANN *e* 19 23 43.1
ANN *e*S SKSac 19 30 16.1 -2.8
ANN *e*SS SS 19 37 31.4 -3.9
ANN pmax pmax
comp=Z,39nm,1.0s,mb5.8
VNA2 Neumayer--Watz 96.45 193 *e*P **P 19 19 56.7 +1.5**
VNA2 *e* 19 20 01.8
VNA2 *e* 19 20 16.5
VNA2 *e* pP 19 20 27.6 +1.7
VNA2 *e* 19 20 41.3
MOS Moscow 96.60 325 *e*P **P 19 19 53.9 -2.2**
MOS pmax pmax
comp=Z,77nm,1.0s,mb6.1
VNA3 Neumayer Olymp 96.72 193 *e*P **P 19 19 57.4 +1.0**
VNA3 *e* 19 20 03.9
VNA3 *e* pP 19 20 27.3 +0.2
VNA3 *e* 19 20 42.0
EGAK Eagle 96.83 26 *e*P **P 19 19 56.8 -0.1**
comp=Z,6.7nm,0.3s,mb5.5
VNA1 Neumayer--Stat 96.85 193 *e*P **P 19 19 58.8 +1.8**
VNA1 *e* 19 20 06.1
VNA1 *e* 19 20 17.3
VNA1 *e* pP 19 20 28.8 +1.1
TMCR Tamitsa 96.86 334 *e*P **P 19 19 51.1 -6.0**
TMCR pmax pmax
comp=Z,61nm,1.3s,mb5.9
OBN Obninsk 97.17 325*c i*P **P 19 19 56.7 -1.9**
OBN *e* 19 23 55.0
OBN *e* 19 30 22.7
OBN pmax pmax
comp=Z,61nm,1.0s,mb6.0
OBN Obninsk 97.17 325⇑*i*P **P 19 19 56.4 -2.3**
comp=Z,67nm,1.1s,mb6.0
DAWY Dawson 97.58 26 *e*P **P 19 20 00.2 -0.1**
LSZ Lusaka 97.91 253 P **P 19 20 02.7 -0.2**
LSZ pmax pmax
comp=Z,15nm,0.8s,mb5.6
LSZ Lusaka 97.91 253⇑*e*P **P 19 20 02.4 -0.5**
comp=Z,15nm,0.8s,mb5.6
LSZ *e*PKPdf PKiKP 19 24 36.5 +0.4
BOSA Boshof 97.95 240 P **P 19 20 03.1 +0.2**
BOSA pmax pmax
comp=Z,18nm,1.0s,mb5.6
BOSA MLR MLR
comp=Z,101nm,20.4s
BOSA Boshof 97.95 240⇑*i*P **P 19 20 02.9 +0.1**
comp=Z,13nm,0.8s,mb5.5
BOSA Boshof 97.95 240 P **P 19 20 03.0 +0.2**
comp=Z,18nm,1.0s,mb5.5,baz=116,slow=4.8,SNR=20
BOSA LR LR 20 00 22.4
comp=Z,101nm,20.4s,baz=104,slow=33
LBTB Lobatse 98.44 243 P **P 19 20 05.8 +0.7**
LBTB pmax pmax
comp=Z,27nm,1.0s,mb5.7
LBTB Lobatse 98.44 243⇑*e*P **P 19 20 05.3 +0.2**
comp=Z,27nm,1.0s,mb5.7
INK Inuvik 99.84 22 P Pdif 19 20 08.8 -1.9
INK Inuvik 99.84 22 *e*Pdif Pdif 19 20 08.5 -2.2
comp=Z,905nm,1.2s
INK Inuvik 99.84 22 PKiKP PKiKP 19 24 37.8 -0.2
comp=Z,7.2nm,1.0s,baz=319,slow=1.9,SNR=13
INK PKKPbc PKKPbc 19 36 30.7 -2.4
comp=Z,2.2nm,0.4s,baz=94,slow=2.4,SNR=27
INK LR LR 20 00 09.3
comp=Z,76nm,21.4s,baz=288,slow=32
JOF Joensuu 99.87 333 *e*p Pdif 19 20 07.3 -3.5
comp=Z,15nm,0.8s
SUR Sutherland 100.74 235 *e*Pdif Pdif 19 20 16.3 +1.7
comp=Z,26nm,1.1s
KEV Kevo 100.93 340 *e*p Pdif 19 20 13.8 -1.7
ARCES ARCESS Array B 101.49 340 P Pdif 19 20 16.3 -1.7
comp=Z,2.9nm,0.6s,baz=84,slow=6.2,SNR=23
ARCES PKiKP PKiKP 19 24 41.6 +0.7
comp=Z,1.4nm,0.7s,baz=81,slow=1.6,SNR=16
ARCES PKKPbc PKKPbc 19 36 25.5 -2.9
comp=Z,1.5nm,0.8s,baz=263,slow=3.6,SNR=11
AKASG Malin Array Be 101.61 320 P Pdif 19 20 17.2 -1.4
AKASG Malin Array Be 101.61 320 P Pdif 19 20 17.2 -1.4
comp=Z,4.2nm,0.8s,baz=76,slow=4.3,SNR=30
AKASG PKiKP PKiKP 19 24 42.1 +0.4
comp=Z,0.3nm,0.3s,baz=81,slow=2.1,SNR=5.9
AKBB Malin Array Si 101.61 320 P Pdif 19 20 17.2 -1.3
AKBB Malin Array Si 101.61 320 *e*Pdif Pdif 19 20 16.4 -2.1
KIEV Kiev 101.62 320⇑*i*P Pdif 19 20 16.5 -2.1
KIEV pmax pmax
comp=Z,6.0nm,0.9s
KIEV Kiev 101.62 320⇑*i*Pdif Pdif 19 20 16.4 -2.1
comp=Z,5.6nm,0.9s
SPB4 Spitsbergen Ar 101.73 349⇑*e*Pdif Pdif 19 20 16.8 -2.3
FINES FINESS Array B 102.45 331 P Pdif 19 20 21.0 -1.3
comp=Z,3.3nm,0.8s,baz=81,slow=6.0,SNR=13
FINES PKiKP PKiKP 19 24 43.6 +0.7
comp=Z,2.3nm,0.5s,baz=113,slow=3.2,SNR=12
VSU Vasula 102.47 328⇑*e*P Pdif 19 20 21.1 -1.3
PLOR Plostina 103.57 315⇓*i*P PKiKP 19 24 48.5 +3.1
KOLS Kolonicke sedl 106.24 319 *e*PKP PKiKP 19 24 51.2 +1.0
VTS Vitosha 106.27 312 ⇑P PKiKP 19 24 50.3 -0.2
VTS Vitosha 106.27 312⇑*i*P PKiKP 19 24 50.3 -0.2
UZH Uzhgorod 106.27 318 *e*P Pdif 19 20 40.0 +0.7
CRVS Cervenica-Dubn 106.78 319 *e*PKP PKiKP 19 24 48.1 -3.1
CRVS *e* 19 36 27.2
STHS Stebnicka Huta 106.85 319 *e*PKP PKiKP 19 24 52.4 +1.1

TSUM Tsumeb 107.01 247 *e*PKPdf PKiKP 19 24 49.9 -2.6
BZS Buzias 107.10 315 ⇓P PKiKP 19 24 51.9 -0.1
BZS Buzias 107.10 315 ⇓*i*P PKiKP 19 24 51.9 0.0
PSZ Piszkesteto 107.95 318⇑*i*P PKiKP 19 24 54.4 +0.9
RES Resolute Bay 108.41 11 *e*PKPdf PKiKP 19 24 52.7 -0.9
DAG Danmarks Havn 108.50 352⇑*i*P PKiKP 19 24 53.9 +0.2
comp=Z,2.1nm,0.7s
VYHS Vyhne 108.56 319 *e*PKP PKiKP 19 24 54.8 +0.2
VYHS *e* 19 36 06.0
VYHS *e* 19 36 20.1
HUMO Hull Mountain 108.65 48⇑*i*PKPdf PKiKP 19 24 55.1 +0.2
HFS Hagfors 108.66 331 Pdiff Pdif 19 20 49.0 -0.9
comp=Z,3.3nm,0.7s,baz=117,slow=5.2,SNR=11
HFS PKiKP PKiKP 19 24 53.7 -0.7
comp=Z,3.6nm,0.7s,baz=11,slow=1.5,SNR=6.3
OKC Ostrava-Krasne 108.76 320 *e*PKP PKiKP 19 24 54.1 -0.8
OKC *e*PP PP 19 25 26.9 +3.9
YKA Yellowknife Ar 108.81 26 Pdif Pdif 19 20 50.5 -0.1
YKA PKPdf PKiKP 19 24 54.4 -0.3
YKA PKKPbc PKKPbc 19 36 03.5 -2.4
YKA PKKPab PKKPab 19 36 16.1 -0.3
YKA Yellowknife Ar 108.81 26 Pdiff Pdif 19 20 50.5 -0.1
comp=Z,2.4nm,0.9s,baz=292,slow=4.9,SNR=17
YKA PKiKP PKiKP 19 24 54.3 -0.3
comp=Z,12nm,0.7s,baz=296,slow=1.7,SNR=125
YKA PKKPbc PKKPbc 19 36 03.5 -2.4
comp=Z,1.9nm,0.4s,baz=105,slow=3.1,SNR=35
YKA PKKPab PKKPab 19 36 16.1 -0.3
comp=Z,1.9nm,0.8s,baz=106,slow=5.1,SNR=10
PKSM Moragy 109.07 316 ⇓P PKiKP 19 24 55.2 -0.4
PKSM Moragy 109.07 316 ⇓*i*P PKiKP 19 24 55.2 -0.4
MORC Moravsky Berou 109.16 320 *e*PKPdf PKiKP 19 24 55.9 +0.3
MORC *e*PP PP 19 25 22.1 -3.8
MORC Moravsky Berou 109.16 320 ⇓*i*P PKiKP 19 24 55.5 -0.2
WDC Whiskeytown Da 109.20 50 *e*PKPdf PKiKP 19 24 56.0 0.0
NB2 NORSAR Subarra109.51 333 Pdif Pdif 19 20 51.6 -2.1
comp=Z,2.8nm,0.9s,baz=69,slow=4.4
NOA NORSAR Array B 109.51 333 Pdiff Pdif 19 20 51.8 -1.8
comp=Z,1.5nm,0.8s,baz=69,slow=4.6,SNR=6.2
NOA PKiKP PKiKP 19 24 55.5 -0.4
comp=Z,5.9nm,0.8s,baz=263,slow=3.1,SNR=19
NOA PKKPbc PKKPbc 19 36 02.6 -1.0
comp=Z,0.8nm,0.7s,baz=67,slow=3.2,SNR=4.7
MODS Modra-Piesok 109.60 319 *e*PKP PKiKP 19 24 57.5 +1.0
MODS *e* 19 36 03.1
MODS *e* 19 36 15.1
KSP Ksiaz 109.72 321 *e*Pdif Pdif 19 20 55.0 +0.4
KSP *e*PKPdif PKiKP 19 24 56.5 -0.2
DPC Dobruska-Polom 109.81 321 *e*PKP PKiKP 19 24 57.4 +0.5
VRAC Vranov 109.86 320 ⇓*i*P PKiKP 19 24 57.1 +0.1
UPC Upice 109.97 321 *e*PKP PKiKP 19 24 57.0 -0.2
HAWA Hanford 110.47 43 *e*PKPdif PKiKP 19 24 58.9 +0.6
TREC Trest 110.57 320 *e*PKP PKiKP 19 24 58.4 +0.1
TREC *e*PP PP 19 25 39.6 +3.6
KOGS Kog 110.66 317 *i* PKiKP PKiKP 19 24 58.7 +0.1
MOD Modoc 110.70 48 *e*PKPdif PKiKP 19 24 59.9 +1.1
RUE Ruedersdorf 110.83 324 *e*PKPdif PKiKP 19 24 59.1 +0.4
PVCC Panska Ves 110.86 321 *e*PKP PKiKP 19 24 58.8 0.0
PRU Pruhonice 111.00 321 *e*PKIKP PKiKP 19 24 58.8 -0.3
PRU *e* 19 25 41.9
PRU Pruhonice 111.00 321 *e*PKP PKiKP 19 24 58.8 -0.3
PRU *e*PP PP 19 25 41.9 +2.8
PRU *ex* x 19 34 45.0
BRG Berggiesshubel 111.16 322 *e*PKIKP PKiKP 19 24 59.5 +0.1
BRG *e* 19 25 28.0
BRG *e* 19 34 50.0
BRG pmax pmax
comp=Z,7.0nm,0.9s
BRG pmax pmax
comp=Z,5.0nm,1.2s
BRG pmax pmax
comp=Z,6.0nm,1.6s
BRG MLR MLR
comp=N,89nm,22.8s
BRG MLR MLR
comp=E,65nm,25.1s
BRG MLR MLR
comp=Z,59nm,22.6s
BRG smax
comp=N,1.0nm,0.3s
BRG Berggiesshubel 111.16 322 *e*P Pdif 19 21 00.4 -0.5
BRG *e*P 19 24 59.5
BRG *i* 19 25 02.9
BRG *e* 19 25 28.0
BRG *e* 19 34 50.0
BRG *i* 19 35 52.0
BRG *e* 19 35 57.4
BRG LR LR
comp=Z,60nm,22.6s
BRG Berggiesshubel 111.16 322 *e*PKPdf PKiKP 19 24 59.2 -0.2
BRG *e*SKPdf SKPdf 19 28 23.1 -1.0
BRG Berggiesshubel 111.16 322 *e*P Pdif 19 21 00.4 -0.5
comp=Z,5.7nm,1.4s
BRG Berggiesshubel 111.16 322 *e*P PKiKP 19 24 59.5 +0.1
comp=Z,11nm,0.9s
BRG *i* 19 25 02.9
comp=Z,9.0nm,1.2s
BRG *e* 19 25 28.0
BRG *e* 19 34 50.0
BRG *i* 19 35 52.0
BRG *e* 19 35 57.4
comp=Z,9.5nm,1.6s
BRG
comp=N,149nm,22.8s
BRG
comp=E,109nm,25.1s
BRG
comp=Z,99nm,22.6s
PERS Pernice 111.39 317 *e*PKiKP PKiKP 19 24 59.9 -0.1
PERS *e*PP PP 19 25 38.9 -3.1
FBE Freiberg 111.50 322 *e*PKPdif PKiKP 19 24 59.8 -0.3
BOJS Bojanci 111.53 316 *e*PKiKP PKiKP 19 25 00.3 +0.1
CLL Collm 111.61 322 *i* PKIKP PKiKP 19 25 00.0 -0.2
CLL *e* 19 25 45.0
CLL Collm 111.61 322 *e*PKPdif PKiKP 19 24 59.8 -0.5
CLL *e*PKKPab PKKPab 19 36 06.4 +2.3
CLL Collm 111.61 322 *i* PKiKP PKiKP 19 25 00.0 -0.2
comp=Z,14nm,0.9s
CLL *e*PP PP 19 25 45.0 +1.6
comp=Z,7.0nm,1.0s
CLL *e*SP SP 19 35 00.0 -2.9
CLL *e*SP 19 35 57.0
CLL *e*(SS) 19 40 54.0
NEW Newport 111.68 41 *i* PKIKP PKiKP 19 25 01.0 +0.5
NEW pmax pmax
comp=Z,8.0nm,0.8s
NEW Newport 111.68 41 *e*PKPdif PKiKP 19 25 00.1 -0.4
NEW Newport 111.68 41 PKiKP PKiKP 19 25 00.9 +0.5
comp=Z,7.9nm,0.8s,baz=212,slow=1.1,SNR=17
PAHR Pah Rah Range 111.72 50 ⇓*i*PKPdif PKiKP 19 25 01.8 +1.0
PAHR PP PP 19 25 44.1 -0.5
GEC2 GERESS Array S 111.81 320 *e*PKPdif PKiKP 19 25 00.2 -0.5
GEC2 *e*SKPdif SKPdif 19 28 22.8 -2.7
GEC2 *e*PKKPab PKKPab 19 36 04.4 +1.2
GERES GERESS Array B 111.81 320 PKiKP PKiKP 19 25 00.6 -0.1
comp=Z,8.4nm,0.7s,baz=50,slow=1.5,SNR=40
GERES SKiKP 19 28 22.9
comp=Z,1.4nm,0.7s,baz=90,slow=2.7,SNR=5.5
GERES PKKPbc PKKPbc 19 35 56.1 +0.4
comp=Z,1.4nm,0.8s,baz=235,slow=4.2,SNR=7.3
GERES PKKPab PKKPab 19 36 05.3 +2.1
comp=Z,1.7nm,0.9s,baz=245,slow=2.8,SNR=6.3
KHC Kasperske Hory 111.82 320 *e*PKP PKiKP 19 25 00.3 -0.4
KHC *e*PP PP 19 25 43.9 -1.1
KHC *e*SP SP 19 35 02.5 -2.5
WVOR Wild Horse Val 111.83 47 PKIKP PKiKP 19 25 02.2 +1.3
WVOR Wild Horse Val 111.83 47⇑*i*PKPdif PKiKP 19 25 01.6 +0.6
TANN Tannenbergstha 112.19 322 *e*PKKPab PKKPab 19 36 03.9 +2.3
NKC Novy Kostel 112.25 321 *e*PKP PKiKP 19 25 01.3 -0.2
WET Wettzell 112.26 320 *e*PKPdif PKiKP 19 25 01.2 -0.4
WET *e*SKPdif SKPdif 19 28 23.8 -2.5
WET *e*PKKPab PKKPab 19 36 03.2 +2.0
WERD Werda 112.27 322 *e*PKPdif PKiKP 19 25 01.4 -0.1
WERN Wernitzgruen 112.28 322 *e*PKPdif PKiKP 19 25 01.3 -0.2
WERN *e*SKPdif SKPdif 19 28 25.1 -1.2
GUNZ Gunzen 112.28 322 *e*PKPdif PKiKP 19 25 01.5 0.0
BMO Blue Mountains 112.31 45 PKIKP PKiKP 19 25 01.9 +0.1
BMO Blue Mountains 112.31 45⇑*i*PKPdif PKiKP 19 25 00.8 -1.0
BSEG Bad Segeberg 112.39 326 *e*PKPdif PKiKP 19 25 01.8 +0.2
BSEG *e*SKPdif SKPdif 19 28 25.2 -1.2
BSEG *e*PKKPab PKKPab 19 36 02.5 +1.9
ROTZ Rotzenmuhle 112.52 321 *e*PKPdif PKiKP 19 25 02.0 0.0
MANZ Manzenberg 112.52 321 *e*PKPdif PKiKP 19 25 01.8 -0.2

MANZ *e*PKKPab PKKPab 19 36 01.5 +1.4
EDM Edmonton 112.60 35 PKIKP PKiKP 19 25 02.2 +0.1
EDM Edmonton 112.60 35 *e*PKPdif PKiKP 19 25 01.9 -0.1
MOX Moxa 112.64 322 *e*PKP PKiKP 19 25 02.0 -0.2
comp=Z,10.0nm,1.1s
MOX
comp=Z,100nm,21.0s
MOX Moxa 112.64 322 *e*PKPdf PKiKP 19 25 01.7 -0.5
NVAR Mina Array Bea 112.74 52 Pdiff Pdif 19 21 14.0 +6.0
comp=Z,2.1nm,0.8s,baz=257,slow=3.7,SNR=6.8
NVAR PKiKP PKiKP 19 25 04.5 +1.7
comp=Z,10nm,1.0s,baz=266,slow=2.4,SNR=27
NVAR PKKPbc PKKPbc 19 35 53.2 +1.0
comp=Z,4.2nm,0.9s,baz=115,slow=4.6,SNR=11
NVAR PKKPab PKKPab 19 36 01.2 +1.9
comp=Z,3.9nm,0.9s,baz=99,slow=6.2,SNR=9.0
NRDL Niedersach Rie 112.98 324 *e*PKPdf PKiKP 19 25 03.0 +0.2
NRDL *e*SKPdf SKPdf 19 28 25.7 -1.9
NRDL *e*PKKPab PKKPab 19 36 00.4 +2.4
CLZ Clausthal 113.03 324 *e*PKIKP PKiKP 19 25 03.0 +0.1
CLZ *e* 19 28 25.3
CLZ Clausthal 113.03 324 *e*PKPdif PKiKP 19 25 03.0 +0.1
CLZ *e*SKPdif SKPdif 19 28 25.3 -2.4
CLZ *e*PKKPab PKKPab 19 36 00.1 +2.3
GRA1 Grafenberg Arr 113.16 321 *e*PKPdif PKiKP 19 25 03.0 -0.2
GRA1 *e*SKPdif SKPdif 19 28 25.0 -3.0
GRF Grafenberg Arr 113.16 321 *e*PKPdif PKiKP 19 25 03.0 -0.2
GRF *e*SKPdif SKPdif 19 28 25.0 -3.0
WALA Waterton Lakes 113.53 39 *e*PKPdif PKiKP 19 25 03.9 -0.1
UBBA Unterbreizbach 113.57 323 *e*PKKPab PKKPab 19 35 57.6 +2.2
WATA Walderalm 113.58 319⇑*i*P PKiKP 19 25 03.7 -0.4
comp=Z,15nm,1.0s,SNR=12
NRCA Norcia 113.59 314 PKP PKiKP 19 25 04.0 -0.3
FSSB Fossombrone 113.64 314 PKP PKiKP 19 25 04.2 -0.2
SQTA Sankt Quirin 113.85 319⇑*i*P PKiKP 19 25 04.4 -0.3
comp=Z,16nm,1.1s,SNR=9.6
MOTA Moosalm 113.88 319⇑*i*P PKiKP 19 25 04.0 -0.7
comp=Z,16nm,1.0s,SNR=18
MSO Missoula 114.12 42⇑*i*PKPdif PKiKP 19 25 04.8 -0.4
MSO *e*PP PP 19 26 08.2 +6.8
MSO *e*SKP 19 28 27.4
GSC Goldstone 114.39 55 *e*PKIKP PKiKP 19 25 07.2 +1.1
IBBN Ibbenburen 114.40 325 *e*SKPdif SKPdif 19 28 29.3 -1.0
IBBN *e*PKKPab PKKPab 19 35 54.0 +2.3
CHMT Chamberlain Mo 114.56 42 *e*P PKiKP 19 25 06.0 -0.1
TPNV Topopah Spring 114.58 53 PKIKP PKiKP 19 25 07.6 +1.2
TPNV Topopah Spring 114.58 53 *e*PKPdif PKiKP 19 25 06.9 +0.5
BRMO Bormio 114.60 318 PKP PKiKP 19 25 05.9 -0.2
TOD Tromm 114.68 322 *e*PKIKP PKiKP 19 25 05.8 -0.4
STU Stuttgart 114.70 321 *e*PKPdif PKiKP 19 25 06.1 -0.1
DAVA Damuels 114.70 319⇑*i*P PKiKP 19 25 06.1 -0.1
comp=Z,25nm,0.6s,SNR=25
DAVOX Davos/Dischmat 114.84 318 PKP PKiKP 19 25 06.5 0.0
comp=Z,13nm,0.8s,baz=107,slow=1.7,SNR=16
DAVOX PKKPbc PKKPbc 19 35 46.6 +1.2
comp=Z,4.6nm,0.8s,baz=284,slow=4.5,SNR=6.1
DAVOS Davos 114.88 318 PKIKP PKiKP 19 25 06.5 -0.1
DAVOS 19 35 46.6
PFO Pinyon Flat Ob 114.92 56 PKIKP PKiKP 19 25 08.8 +1.7
PFO pmax pmax
comp=Z,24nm,0.9s
PFO Pinyon Flat Ob 114.92 56 *e*PKPdif PKiKP 19 25 08.3 +1.2
PFO Pinyon Flat Ob 114.92 56 PKP PKiKP 19 25 08.8 +1.7
comp=Z,24nm,0.9s,baz=264,slow=0.6,SNR=19
BUG Bochum--Univer 114.99 324 *e*PKPdif PKiKP 19 25 06.3 -0.4
BUG *e*PKKPab PKKPab 19 35 51.4 +2.3
SPAK Spaichingen-Ko 115.16 320 *e*P PKiKP 19 25 06.9 -0.2
ABH Alteburg 115.36 322 *e*P PKiKP 19 25 07.7 +0.2
BFO Black Forest 115.38 320 *e*PKPdif PKPdif 19 25 06.6 -1.0
MCMT McKenzie Canyo 115.40 44 *e*PKPdif PKPdif 19 25 08.7 +1.0
DLMT Dillon 115.42 43 *e*PKPdif PKPdif 19 25 08.7 +1.0
LANF Langenberg 115.50 321 *e*P PKiKP 19 25 08.2 +0.4
HRY Holter Researc 115.55 42 *e*PKPdif PKPdif 19 25 08.3 +0.3
RUP Ruppelstein 115.72 322 *e*PKIKP PKPdif 19 25 08.2 0.0
FELD Feldberg im Sc 115.73 320 *e*P PKiKP 19 25 07.7 -0.5
VAI Varese 115.84 318 PKIKP PKPdif 19 25 07.1 -1.4
BOZ Bozeman (W) 116.00 43 *e*PKIKP PKPdif 19 25 09.7 +0.9
BOZ Bozeman (W) 116.00 43 *e*PKPdif PKPdif 19 25 09.5 +0.7
CDF Champ du Feu 116.02 321 *e*PKIKP PKPdif 19 25 07.7 -1.1
comp=Z,23nm,1.1s
MEM Membach 116.03 323 PKP PKPdif 19 25 09.1 +0.3
ECH Echery 116.16 320 *e*P PKPdif 19 25 08.4 -0.7
BBS Basel-Blauen 116.18 320 *e*PKIKP PKPdif 19 25 08.2 -0.9
BGU Big Grassy Mou 116.25 48 *e*PKPdif PKPdif 19 25 09.7 +0.2
WLF Walferdange 116.28 322 PKP PKPdif 19 25 10.0 +0.7
WLF Walferdange 116.28 322 *e*PKPdif PKPdif 19 25 09.6 +0.4
WLF *e*SKPdif SKPdif 19 28 31.9 -2.1
WLF *e*PKKPab PKKPab 19 35 44.8 +1.4
MOF Molkenrain 116.30 320 *e*P PKPdif 19 25 08.8 -0.5
QLMT Earthquake Lak 116.37 43 *e*PKPdif PKPdif 19 25 10.3 +0.7
EGMT Eagleton 116.47 40 *e*PKPdif PKPdif 19 25 09.8 +0.2
HINF Hinteralfeld 116.49 320 *e*PKIKP PKPdif 19 25 08.7 -1.0
comp=Z,36nm,0.7s
BCLA Clavier 116.52 323 PKP PKPdif 19 25 09.2 -0.4
DUG Dugway 116.58 49⇑*e*PKIKP PKPdif 19 25 10.8 +0.7
PGF Pioggiola 116.60 314 *e*PKIKP PKPdif 19 25 09.5 -0.6
comp=Z,141nm,1.4s
YMR Madison River 116.73 43 *e*PKPdif PKPdif 19 25 12.0 +1.8
HAU Haudompre 116.74 320⇑*i*PKIKP PKPdif 19 25 09.4 -0.8
comp=Z,63nm,1.0s
HAU *e*MLR MLR
comp=Z,82nm,20.0s
HAU Haudompre 116.74 320⇑*i*PKPdif PKPdif 19 25 09.4 -0.8
HAU LR LR
comp=Z,80nm,20.0s
YFT Old Faithful 116.88 44 *e*PKPdif PKPdif 19 25 13.0 +2.4
DCID1 Drake Creek 116.89 45 *e*PKPdif PKPdif 19 25 12.0 +1.4
THEF They Montfort 116.89 321 *e*P PKPdif 19 25 09.5 -1.0
YNR Norris Junctio 116.91 43 *e*PKPdif PKPdif 19 25 12.6 +2.0
GIVF Givet 116.92 323 *e*PKIKP PKPdif 19 25 10.2 -0.3
comp=Z,48nm,1.0s
IMW Indian Meadow 116.97 44⇑*i*PKPdif PKPdif 19 25 10.8 0.0
NOQ North Oquirrh 116.99 48 *e*PKPdif PKPdif 19 25 11.3 +0.4
DOU Dourbes 117.06 323 PKP PKPdif 19 25 10.4 -0.3
TPAW Teton Pass 117.08 45⇑*i*PKPdif PKPdif 19 25 12.1 +1.1
OG01 Vacheresse 117.08 319 *e*P PKPdif 19 25 11.0 +0.1
FLWY Flagg Ranch 117.08 44 *e*PKPdif PKPdif 19 25 12.4 +1.5
LKWY Lake 117.15 43 *e*PKIKP PKPdif 19 25 12.8 +1.7
MOOW Moose Ponds 117.15 44 *e*PKPdif PKPdif 19 25 11.8 +0.7
HWUT Hardware Ranch 117.15 47⇑*i*PKPdif PKPdif 19 25 11.4 +0.2
AHID Auburn Hatcher 117.18 46 *e*PKPdif PKPdif 19 25 11.7 +0.5
REDW Red Top Meadow 117.18 45 *e*PKPdif PKPdif 19 25 12.2 +1.0
REDW *e*SKP 19 28 34.2
NLU North Lily Min 117.19 49 *e*PKPdif PKPdif 19 25 12.1 +0.8
SNOW Snow King Moun 117.22 45⇑*e*PKPdif PKPdif 19 25 12.6 +1.3
SNOW *e*SKP 19 28 34.5
CTU Camp Tracy 117.25 48 *e*PKPdif PKPdif 19 25 12.0 +0.6
LOHW Long Hollow 117.29 45 *e*PKPdif PKPdif 19 25 12.3 +1.0
LOHW *e*SKP 19 28 33.4
LPG La Plagne 117.30 318⇑*i*PKIKP PKPdif 19 25 11.2 -0.1
comp=Z,35nm,0.9s
BAIF Baives 117.31 323⇑*i*PKIKP PKPdif 19 25 10.9 -0.3
comp=Z,34nm,0.9s
LPL La Plagne 117.31 318⇑*i*PKIKP PKPdif 19 25 11.1 -0.3
comp=Z,36nm,0.8s
SBF Sospel 117.34 316 *e*PKIKP PKPdif 19 25 10.8 -0.7
comp=Z,49nm,0.9s
MEZF Maizieres J'vi 117.38 321 *e*PKIKP PKPdif 19 25 11.0 -0.4
comp=Z,15nm,0.9s
CABF La Chapelle 117.38 319⇑*i*PKIKP PKPdif 19 25 11.2 -0.3
comp=Z,50nm,0.6s
MSU Marysvale 117.44 50 *e*PKIKP PKPdif 19 25 13.6 +1.8
BNI Bardonecchia 117.49 317 PKIKP PKPdif 19 25 12.0 +0.3
BNI Bardonecchia 117.49 317⇑*e*PKPdif PKPdif 19 25 10.9 -0.8
JLU Jordanelle 117.49 48 *e*PKPdif PKPdif 19 25 11.9 +0.1
MPU Maple Canyon 117.50 49 *e*PKPdif PKPdif 19 25 12.8 +0.9
MBDF Montbardon 117.53 317 *e*PKIKP PKPdif 19 25 11.3 -0.5
comp=Z,21nm,0.7s
SURF Saint Ours 117.58 317 *e*P PKPdif 19 25 12.6 +0.7
RLMT Red Lodge 117.74 43 *e*PKPdif PKPdif 19 25 12.9 +0.7
KEST Kesra 117.91 306 PKP PKPdif 19 25 13.5 +0.7
comp=Z,7.1nm,0.9s,baz=268,slow=1.9,SNR=13
FRF La Foret Royal 117.97 316 *e*PKIKP PKPdif 19 25 12.1 -0.6
comp=Z,32nm,0.8s
OG05 Jujurieux 117.98 319 *e*P PKPdif 19 25 12.6 0.0
GRN Grenoble 118.06 318 *e*P PKPdif 19 25 13.2 +0.4
ORIF Oris-en-Rattie 118.07 317 *e*PKIKP PKPdif 19 25 12.3 -0.5
comp=Z,27nm,0.8s
ORIF *e*MLR MLR
comp=Z,89nm,19.5s
FFC Flin Flon 118.10 30 PKIKP PKPdif 19 25 12.8 +0.2
FFC Flin Flon 118.10 30 *e*PKPdif PKPdif 19 25 12.3 -0.3
LMR La Mourre 118.14 315⇑*i*PKIKP PKPdif 19 25 12.4 -0.6

comp=Z,33nm,1.1s
LOR Lormes 118.58 320⇑ *i*PKIKP PKPdf 19 25 13.2 -0.5
comp=Z,41nm,1.0s
LOR *e*MLR MLR
comp=Z,80nm,20.0s
LOR Lormes 118.58 320⇑ *i*PKPdf PKPdf 19 25 13.2 -0.5
LOR LR LR
comp=Z,80nm,20.0s
SMRF Simiane la Rot 118.58 316 *e*PKIKP PKPdf 19 25 13.7 -0.2
comp=Z,118nm,1.1s
WUAZ Wupatki 118.72 54 *e*PKPdf PKPdf 19 25 15.4 +1.0
SMF Signal de Mont 118.82 320⇑ *i*PKIKP PKPdf 19 25 13.5 -0.7
comp=Z,38nm,1.1s
SSF Saint Saulge 118.88 320 *e*PKIKP PKPdf 19 25 13.8 -0.5
comp=Z,90nm,1.0s
VIVF Saint-Julien-l 118.90 318⇑ *i*PKIKP PKPdf 19 25 14.0 -0.4
comp=Z,53nm,1.1s
AVF Avril sur Loir 119.08 320⇑ *i*PKIKP PKPdf 19 25 13.9 -0.8
comp=Z,36nm,0.9s
LAO LASA Array 119.19 40 *e*PKPdf PKPdf 19 25 15.8 +0.9
PLDF La Plantade 119.21 319 *e*P PKPdf 19 25 15.0 0.0
CMAH Djebel Manchou 119.24 308 P PKPdf 19 25 15.0 -0.4
ABSA Djebel Ababsia 119.27 307 P PKPdf 19 25 16.0 +0.6
FCC Fort Churchill 119.38 24 PKIKP PKPdf 19 25 14.4 -0.5
FCC Fort Churchill 119.38 24 *e*PKPdf PKPdf 19 25 13.8 -1.2
BGF Bois d'Agland 119.49 320⇑ *i*PKIKP PKPdf 19 25 15.2 -0.3
comp=Z,113nm,0.9s
AGO Saint Agoulin 119.49 319 *e*P PKPdf 19 25 15.4 -0.1
CAEH 'Ain El Ouahch 119.65 308 P PKPdf 19 25 16.5 +0.4
PYM Petit Puy Mans 119.69 319 *e*P PKPdf 19 25 15.9 0.0
LASF Ste Croix 119.72 317⇑ *i*PKIKP PKPdf 19 25 15.6 -0.4
comp=Z,58nm,1.1s
LBL Lubilhac 119.72 318 *e*P PKPdf 19 25 16.6 +0.6
DGMT Dagmar 119.75 38 *e*PKPdf PKPdf 19 25 16.1 +0.1
TUC Tucson 119.83 57 PKIKP PKPdf 19 25 17.9 +1.3
TUC Tucson 119.83 57 *e*PKPdf PKPdf 19 25 17.6 +1.0
CKFL Kef-Lekhel 119.84 308 P PKPdf 19 25 17.0 +0.5
PV10 Paradox Valley 119.87 50 *e*PKPdf PKPdf 19 25 17.6 +1.1
TCF Toulx Ste Croi 120.00 320 *e*PKIKP PKPdf 19 25 16.1 -0.4
comp=Z,73nm,1.0s
CASM Ain Smara 120.05 308 P PKPdf 19 25 17.5 +0.6
CTEI Djebel Teioual 120.17 307 P PKPdf 19 25 17.5 +0.3
RWWY Rawlins 120.25 46 *e*PKPdf PKPdf 19 25 17.7 +0.6
PV01 Paradox Valley 120.29 50 *e*PKPdf PKPdf 19 25 18.5 +1.2
DFRA Djebel Bou Aff 120.47 308 P PKPdf 19 25 19.0 +1.3
LDF La Druitiere 120.49 323⇑ *i*PKIKP PKPdf 19 25 16.8 -0.6
comp=Z,38nm,0.9s
MVCO Mesa Verde 120.58 51 *e*PKPdf PKPdf 19 25 19.2 +1.3
CAF Calviac 120.61 318⇑ *i*PKIKP PKPdf 19 25 17.7 0.0
comp=Z,71nm,1.0s
FLN La Foliniere 120.63 323 *e*PKIKP PKPdf 19 25 17.1 -0.5
comp=Z,24nm,0.9s
FLN *e*MLR MLR
comp=Z,121nm,20.0s
FLN La Foliniere 120.63 323 *e*PKPdf PKPdf 19 25 17.1 -0.5
FLN LR LR
comp=Z,120nm,20.0s
CMER Merouana 120.67 307 P PKPdf 19 25 18.0 -0.1
RJF Les Rejaudoux 120.82 319 *e*PKIKP PKPdf 19 25 17.9 -0.2
comp=Z,52nm,1.2s
RJF *e*MLR MLR
comp=Z,88nm,20.2s
RJF Les Rejaudoux 120.82 319 *e*PKPdf PKPdf 19 25 17.9 -0.2
RJF LR LR
comp=Z,90nm,20.3s
CKHR Kef el Ahmar 120.88 308 P PKPdf 19 25 19.0 +0.5
SET Setif 120.92 308 P PKPdf 19 25 19.0 +0.4
GRR Gorron 121.02 323 *e*PKIKP PKPdf 19 25 17.9 -0.5
comp=Z,52nm,1.1s
MTLF Montolieu 121.09 317⇑ *i*PKIKP PKPdf 19 25 18.2 -0.5
comp=Z,59nm,0.9s
SMCO Snowmass 121.19 48 *e*PKPdf PKPdf 19 25 20.4 +1.3
MFF Saint Martin d 121.36 321⇑ *i*PKIKP PKPdf 19 25 18.5 -0.6
comp=Z,86nm,0.9s
LFF La Frestale 121.47 319 *e*PKIKP PKPdf 19 25 19.4 0.0
comp=Z,57nm,0.9s
VALF Valcebollere 121.56 316 *e*P PKPdf 19 25 20.3 +0.7
PHWY Pilot Hill 121.62 46 *e*PKPdf PKPdf 19 25 19.7 -0.1
LCHF La Chataignera 121.70 321 *e*P PKPdf 19 25 19.7 -0.1
ISCO Idaho Springs 122.00 47 PKIKP PKPdf 19 25 22.1 +1.5
ISCO Idaho Springs 122.00 47 *e*PKPdf PKPdf 19 25 21.3 +0.8
SGMF Saint Gilles 122.09 324 *e*PKIKP PKPdf 19 25 19.7 -0.8
comp=Z,69nm,0.9s
LAZ Ladron 122.36 54 *e*PKPdf PKPdf 19 25 22.7 +1.3
ROSF Rostrenen 122.47 324 *e*PKIKP PKPdf 19 25 20.6 -0.6
comp=Z,19nm,0.8s
EPF Esparros 122.48 317 *e*PKIKP PKPdf 19 25 20.9 -0.5
comp=Z,53nm,1.1s
LENM Lemitar 122.55 54 *e*PKPdf PKPdf 19 25 23.1 +1.3
QUIF Quistinic 122.61 323 *e*PKIKP PKPdf 19 25 20.8 -0.7
comp=Z,37nm,1.0s
SDCO Great Sand Dun 122.72 50 *e*PKPdf PKPdf 19 25 23.3 +1.2
VIEF Viey 122.75 317 *e*P PKPdf 19 25 22.6 +0.7
ANMO Albuquerque 122.76 53 PKIKP PKPdf 19 25 23.4 +1.2
ANMO Albuquerque 122.76 53 *e*PKPdf PKPdf 19 25 23.3 +1.1
ANMO *e*SKP 19 28 47.4
LPM Los Pinos Moun 122.79 54 *e*PKPdf PKPdf 19 25 23.5 +1.2
LPM *ep*PKPdf pPKPdf 19 25 56.5 +2.3
LPM *es*PKPdf 19 26 10.9
LPM *e*SKP 19 28 46.7
BNM Barren Site 122.83 54 *e*PKPdf PKPdf 19 25 23.4 +1.0
REYF Montagne du Re 122.96 317 *e*P PKPdf 19 25 23.1 +0.8
ETSF Etsaut 123.14 317⇑ *i*PKIKP PKPdf 19 25 23.0 +0.3
comp=Z,62nm,1.0s
SJPF Ste Jean 123.50 318 *e*PKIKP PKPdf 19 25 23.5 +0.2
comp=Z,59nm,1.1s
ULM Lac du Bonnet 123.63 33 *e*PKPdf PKPdf 19 25 22.6 -0.7
ULM Lac du Bonnet 123.63 33 PKP PKPdf 19 25 23.0 -0.4
comp=Z,37nm,0.7s,baz=312,slow=2.0,SNR=34
ULM PKKPab PKKPab 19 35 11.1 -0.3
comp=Z,3.3nm,0.8s,baz=57,slow=2.4,SNR=3.1
MNTX Cornudas Mount 124.45 57 *e*PKPdf PKPdf 19 25 26.4 +0.8
AGMN Agassiz Refuge 124.71 35 *e*PKPdf PKPdf 19 25 24.1 -1.3
TXAR Lajitas Array 126.44 59 PKP PKPdf 19 25 30.7 +1.3
TXAR PKKPab 19 35 01.9
TXAR Lajitas Array 126.44 59 PKP PKPdf 19 25 30.7 +1.3
comp=Z,7.3nm,0.5s,baz=242,slow=2.7,SNR=18
TXAR PKKPab 19 35 01.9
comp=Z,1.1nm,0.9s,baz=121,slow=5.5,SNR=7.8
ECSD EROS,Sioux Fal 126.59 40 *e*PKPdf PKPdf 19 25 29.0 -0.3
CBKS Cedar Bluff 126.62 47 PKIKP PKPdf 19 25 30.1 +0.7
CBKS Cedar Bluff 126.62 47 *e*PKPdf PKPdf 19 25 29.4 0.0
ESDC Sonseca Array 126.78 315 PKP PKPdf 19 25 30.1 +0.4
comp=Z,12nm,0.9s,baz=21,slow=3.5,SNR=33
ESDC PP PP 19 27 28.0 -0.1
comp=Z,3.9nm,1.0s,baz=65,slow=7.5,SNR=5.7
ESLA Sonseca Array 126.78 315 *e*PKPdf PKPdf 19 25 28.2 -1.5
PAB San Pablo 127.10 315 PKIKP PKPdf 19 25 30.9 +0.5
PAB San Pablo 127.10 315 *e*PKPdf PKPdf 19 25 30.2 -0.1
EYMN Ely 127.31 33 *e*PKPdf PKPdf 19 25 29.8 -0.7
MVO Moncorvo 128.23 318 *e*PKP PKPdf 19 25 33.7 +1.2
PCAB Cabril 128.63 319 *e*PKP PKPdf 19 25 34.6 +1.4
PVRL Vila Real 128.64 318 *e*PKP PKPdf 19 25 34.8 +1.6
KSU1 Kansas State U 128.72 45 *e*PKPdf PKPdf 19 25 34.0 +0.5
WMOK Wichita Mounta 128.84 51 *e*PKIKP PKPdf 19 25 34.2 +0.4
MTE Manteigas 128.94 317 *e*PKP PKPdf 19 25 35.3 +1.5
MTE *e*P 19 28 42.6
PLCA Paso Flores 128.94 161 PKIKP PKPdf 19 25 35.4 +1.5
PLCA pmax pmax
comp=Z,25nm,0.9s
PLCA pmax pmax
comp=N,12nm,0.9s
PLCA Paso Flores 128.94 161 *e*PKPdf PKPdf 19 25 35.2 +1.3
PLCA *e*SKP 19 28 42.3
PLCA Paso Flores 128.94 161 PKP PKPdf 19 25 35.4 +1.5
comp=N,25nm,0.9s,baz=207,slow=3.0,SNR=41
PLCA SKPbc 19 28 43.0
comp=N,12nm,0.8s,baz=207,slow=4.3,SNR=14
PVIS Viseu 129.02 318 *e*PKP PKPdf 19 25 35.6 +1.6
PVIS *e*P 19 28 42.3
PCBR Castelo Branco 129.15 316 *e*PKP PKPdf 19 25 35.5 +1.3
PCBR *e*P 19 28 42.5
JCT Junction City 129.38 57 *e*PKPdf PKPdf 19 25 34.5 -0.5
JCT *e*SKP 19 28 44.6
PBAR Barrancos 129.59 314 *e*PKP PKPdf 19 25 36.6 +1.5
PBAR *e*P 19 28 43.7
PESTR Estremoz 129.67 315 *e*PKP PKPdf 19 25 36.4 +1.1
PESTR *e*P 19 28 43.8
COWI Conover 129.72 34 *e*PKPdf PKPdf 19 25 34.5 -0.6
MDT Midelt 129.81 307 PKP PKPdf 19 25 37.0 +1.3
comp=N,13nm,1.0s,baz=106,slow=3.0,SNR=15
MDT SKPbc 19 28 45.0
comp=N,5.5nm,0.9s,baz=62,slow=4.5,SNR=5.4
PTOM Tomar 129.89 317 *e*PKP PKPdf 19 25 37.4 +1.7
PTOM *e*P 19 28 45.4
EVO Evora 130.11 315⇑ *i*PKIKP PKPdf 19 25 37.8 +1.7
comp=N,57nm,1.1s
EVO *e*MLR MLR
comp=Z,90nm,18.8s
PBEJ Beja 130.24 314 *e*P SKPbc 19 28 47.1 -1.7
PVAQ Vaqueiros 130.40 314 *e*PKP PKPdf 19 25 38.6 +1.9
PVAQ *e*P 19 28 47.2
PBDV Barranco-do-Ve 130.63 314 *e*P SKPbc 19 28 48.8 -1.5
PTEO Sao Teotonio 131.06 314 *e*PKP PKPdf 19 25 39.9 +1.9
PTEO *e*P 19 28 49.3
MORF Marmelete 131.11 314 *e*PKP PKPdf 19 25 38.2 +0.1
MORF *e*P 19 28 50.3
SCHQ Schefferville 131.18 12 *e*PKPpre 19 25 30.9
SCHQ PKP PKPdf 19 25 34.2 -3.5
SCHQ *e*PKPdf PKPdf 19 25 37.9 +0.3
SCHQ SKPbc SKPbc 19 28 49.4 -2.3
SCHQ Schefferville 131.18 12 PKhKP 19 25 34.2
comp=Z,20nm,0.8s,baz=258,slow=4.8,SNR=5.2
SCHQ SKPbc SKPbc 19 28 49.4 -2.4
comp=Z,48nm,1.1s,baz=352,slow=4.1,SNR=16
MIAR Mount Ida 132.87 49 *e*PKHKP 19 25 28.5
MIAR *e* 19 25 40.7
MIAR Mount Ida 132.87 49 *e*PKPpre 19 25 28.5
MIAR *e*PKPdf PKPdf 19 25 40.7 -0.8
MIAR *e*SKP 19 28 57.3
HDIL Hopedale 132.89 40 *e*PKPdf PKPdf 19 25 41.5 +0.2
HDIL *e*SKP 19 28 55.9
CCM Cathedral Cave 132.93 44 *e*PKHKP 19 25 26.5
CCM *e* 19 25 41.0
CCM Cathedral Cave 132.93 44 *e*PKPpre 19 25 26.5
CCM *e*PKPdf PKPdf 19 25 41.0 -0.5
CCM *e*SKP 19 28 56.2
NATX Nacogdoches 133.13 53 *e*PKPdf PKPdf 19 25 43.9 +1.8
FVM French Village 133.52 43 *e*PKIKP PKPdf 19 25 42.6 0.0
FVM French Village 133.52 43 *e*PKPdf PKPdf 19 25 42.4 -0.2
FVM *e*SKP 19 28 58.1
UALR University of 133.69 48 *e*PKPdf PKPdf 19 25 43.2 +0.2
UALR *e*SKP 19 28 59.6
DBIC Dimbokro 133.72 272 *e*PKHKP 19 25 31.5
DBIC 19 25 43.5
DBIC Dimbokro 133.72 272 *e*PKPpre 19 25 31.5
DBIC PKP PKPdf 19 25 43.5 -0.2
DBIC *e*PKPdf PKPdf 19 25 43.6 0.0
DBIC *e*SKP 19 28 58.5
DBIC SKPbc SKPbc 19 28 59.2 -2.7
DBIC Dimbokro 133.72 272 PKhKP 19 25 31.6
comp=Z,4.3nm,0.9s,baz=62,slow=6.0,SNR=4.5
DBIC PKP PKPdf 19 25 43.5 -0.2
comp=Z,26nm,0.7s,baz=79,slow=1.4,SNR=22
DBIC SKPbc SKPbc 19 28 59.2 -2.7
comp=Z,13nm,0.9s,baz=69,slow=3.4,SNR=8.7
LIC Lamto 133.86 271 *e*PKIKP PKPdf 19 25 43.6 -0.3
comp=Z,69nm,0.8s
LIC *e*MLR MLR
comp=Z,94nm,22.2s
LIC Lamto 133.86 271 *e*PKPdf PKPdf 19 25 43.6 -0.3
LIC LR LR
comp=Z,50nm,22.3s
SIUC Southern Illin 134.48 43 *e*PKPdf PKPdf 19 25 45.0 +0.6
SIUC *e*SKP 19 29 04.4
PARMO Parma 134.65 44 *e*PKPdf PKPdf 19 25 45.1 +0.4
PARMO *e*SKP 19 29 06.0
GNAR Gosnell 134.81 45 *e*PKPdf PKPdf 19 25 45.8 +0.8
GLAT Glass 135.17 45 *e*PKPdf PKPdf 19 25 46.1 +0.4
AAM Ann Arbor 135.17 34 PKIKP PKPdf 19 25 47.1 +1.6
AAM Ann Arbor 135.17 34 PKPdf PKPdf 19 25 44.9 -0.7
USIN University of 135.38 42 *e*PKPdf PKPdf 19 25 46.6 +0.5
BLO Bloomington 135.43 39 *e*PKHKP 19 25 36.3
BLO *e* 19 25 46.5
UTMT University of 135.43 44 *e*PKPdf PKPdf 19 25 46.5 +0.3
SADO Sadowa 135.74 28 SKP 19 29 04.8
baz=309,slow=5.0
OXF Oxford 135.95 47 *e*PKHKP 19 25 33.8
OXF *e* 19 25 47.7
OXF Oxford 135.95 47 *e*PKPpre 19 25 33.8
OXF *e*PKPdf PKPdf 19 25 47.7 +0.4
OXF *e*SKP 19 29 06.9
VBMS Vicksburg 136.18 50 *e*PKPdf PKPdf 19 25 47.9 +0.2
VBMS *e*SKP 19 29 08.0
WVT Waverly 136.25 44 *e*PKHKP 19 25 33.6
WVT *e* 19 25 47.1
WVT Waverly 136.25 44 *e*PKPpre 19 25 33.6
WVT *e*PKPdf PKPdf 19 25 47.1 -0.7
WVT *e*SKP 19 29 06.2
PLAL Pickwick Lake 136.68 45 *e*PKPpre 19 25 38.8
PLAL *e*PKPdf PKPdf 19 25 47.7 -0.9
PLAL *e*SKP 19 29 07.7
ACSO Alum Creek Sta 136.92 36 *e*PKPpre 19 25 37.8
ACSO *e*PKPdf PKPdf 19 25 48.9 +0.1
ERPA Erie 137.27 32 *e*PKPdf PKPdf 19 25 49.5 +0.1
LONY Lake Ozonia 137.88 25 *e*PKPpre 19 25 40.2
LONY *e*PKPdf PKPdf 19 25 50.6 +0.1
LONY *e*SKP 19 29 10.3
CFAA Coronel Fontan 137.99 158 PKP 19 25 42.0
CFAA PKP PKPdf 19 25 50.3 -0.8
CFAA SKPbc SKPbc 19 29 13.0 -1.6
CFAA Coronel Fontan 137.99 158 PKhKP 19 25 42.0
comp=Z,0.4nm,0.4s,baz=205,slow=3.1,SNR=13
CFAA PKP PKPdf 19 25 50.3 -0.8
comp=Z,4.6nm,0.8s,baz=234,slow=2.1,SNR=21
CFAA SKPbc SKPbc 19 29 13.0 -1.6
comp=Z,0.9nm,0.7s,baz=251,slow=2.5,SNR=7.8
SWET Sewanee 138.05 44 *e*PKPpre 19 25 39.4
SWET *e*PKPdf PKPdf 19 25 50.4 -0.7
SWET *e*SKP 19 29 11.6
FRNY Flat Rock 138.10 24 *e*PKPpre 19 25 43.7
FRNY *e*PKPdf PKPdf 19 25 50.7 -0.2
FRNY *e*SKP 19 29 09.8
NCB Newcomb 138.56 25 *e*PKPpre 19 25 41.7
NCB *e*PKPdf PKPdf 19 25 52.0 +0.3
NCB *e*SKP 19 29 12.1
CPCT Cooper Cave 138.88 43 *e*PKPdf 19 25 42.2
CPCT *e*PKPdf PKPdf 19 25 52.9 +0.3
CPCT *e*SKP 19 29 10.8
TZTN Tazewell 138.88 41 *e*PKPpre 19 25 43.5
TZTN *e*PKPdf PKPdf 19 25 53.1 +0.6
TZTN *e*SKP 19 29 13.9
MCWV Mont Chateau 139.09 34 *e*PKPpre 19 25 43.4
MCWV *e*PKPdf PKPdf 19 25 53.5 +0.6
MCWV *e*SKP 19 29 15.2
BINY Binghamton 139.19 28 *e*PKPpre 19 25 38.3
BINY *e*PKPdf PKPdf 19 25 53.0 0.0
BINY *e*SKP 19 29 13.1
LBNH Lisbon 139.25 23 *e*PKPpre 19 25 47.3
LBNH *e*PKPdf PKPdf 19 25 52.3 -0.7
LBNH *e*SKP 19 29 15.9
ACCN Adirondack Com 139.27 25 *e*PKPpre 19 25 47.5
ACCN *e*PKPdf PKPdf 19 25 52.2 -0.8
ACCN *e*SKP 19 29 15.1
PKME Peaks-Kenny Pk 139.30 19 *e*PKPpre 19 25 44.1
PKME *e*PKPdf PKPdf 19 25 52.6 -0.5
PKME *e*SKP 19 29 14.8
PKME *e*SKPab 19 29 24.9
BRAL Brewton 139.35 50 *e*PKPpre 19 25 45.8
SSPA Standing Stone 139.44 31 *e*PKPpre 19 25 44.0
SSPA *e*PKPdf PKPdf 19 25 53.3 -0.2
SSPA *e*SKP 19 29 15.3
HNH Hanover 139.56 23 *e*PKPpre 19 25 47.3
HNH *e*PKPdf PKPdf 19 25 54.6 +1.0
HNH *e*SKP 19 29 16.8
ELN Prospectdale 140.20 38 *e*PKPpre 19 25 46.8
ELN *e*SKP 19 29 17.1
MVL Millersville 140.69 31 *e*PKPpre 19 25 48.3
MVL *e*PKPdf PKPdf 19 25 56.3 +0.5
MVL *e*SKP 19 29 18.1
QUA2 Belchertown 140.73 25 *e*PKPpre 19 25 48.5
QUA2 *e*PKPdf PKPdf 19 25 56.4 +0.6
QUA2 *e*SKP 19 29 19.6
GOGA Godfrey 140.74 44 *e*PKHKP 19 25 49.4
GOGA *e* 19 25 56.8
GOGA Godfrey 140.74 44 *e*PKPpre 19 25 49.4
GOGA *e*PKPdf PKPdf 19 25 56.8 +0.7
GOGA *e*SKP 19 29 20.1
HRV Adam Dziewonsk 140.86 24 *e*PKHKP 19 25 48.2
HRV *e* 19 25 56.0
SDMD Soldier's Deli 140.88 32 *e*PKPpre 19 25 52.7
WES Weston 141.06 24 *e*PKHKP 19 25 50.3
WES *e* 19 25 56.5
WES Weston 141.06 24 *e*PKPpre 19 25 50.3
WES *e*PKPdf PKPdf 19 25 56.5 +0.2
WES *e*SKP 19 29 20.1
PAL Palisades 141.09 27 *e*PKHKP 19 25 50.3
PAL *e* 19 25 57.0
PAL Palisades 141.09 27 *e*PKPpre 19 25 50.3
PAL *e*PKPdf PKPdf 19 25 57.0 +0.6
PAL *e*SKP 19 29 19.9
CPNY Central Park 141.23 28 *e*PKPpre 19 25 50.4
CPNY *e*PKPdf PKPdf 19 25 56.6 -0.1
CBN Corbin 141.47 34 *e*PKPdf PKPdf 19 25 57.0 -0.3
JSC Jenkinsville 141.73 42 *e*PKPpre 19 25 53.5
JSC *e*PKPdf PKPdf 19 25 58.2 +0.4
URVA University of 141.84 34 *e*PKPpre 19 25 51.7
URVA *e*PKPdf PKPdf 19 25 58.2 +0.3
URVA *e*SKP 19 29 20.7
TEIG Tepich 142.20 67 *e*PKPpre 19 25 55.4
TEIG *e*PKPdf PKPdf 19 25 59.6 +0.5
TEIG PKP PKPdf 19 26 00.1 +1.0
TEIG Tepich 142.20 67 PKP PKPdf 19 26 00.1 +1.0
comp=Z,52nm,1.0s,baz=308,slow=4.0,SNR=11
COW Cow Castle Cre 142.64 42 *e*PKPdf PKPdf 19 25 56.3 -3.1
NHSC New Hope 143.16 42 *e*PKPdf PKPdf 19 25 58.0 -2.4
TGUH Tegucigalpa,Un 144.28 76 *e*PKPdf PKPdf 19 26 01.7 -1.1
CEN1 Los Morros 144.30 150⇓ *i*P PKPdf 19 26 02.4 -0.3
BBTS Babate 144.98 285 PKP PKPdf 19 26 03.9 -0.1
comp=Z,79nm,0.8s,baz=108,slow=3.2,SNR=13
DWPF Disney 145.04 50 *e*PKPdf PKPdf 19 26 03.4 -0.4
CPUP Villa Florida 145.94 171 PKP2 PKPab 19 26 06.5 -0.3
CPUP Villa Florida 145.94 171 *e*PKPdf PKPdf 19 26 06.2 +0.8
CPUP *e*SKP 19 29 32.3
CPUP Villa Florida 145.94 171 PKPbc PKPbc 19 26 06.4 +0.2
comp=Z,70nm,0.9s,baz=174,slow=1.9,SNR=72
CPUP SKPbc SKPbc 19 29 33.0 -1.7
comp=Z,17nm,0.9s,baz=203,slow=1.9,SNR=4.5
JTS JuntasAbangare 146.83 83 *e*PKIKP PKPdf 19 26 06.6 -0.6
JTS *e* 19 26 09.3
NNA Nana 148.24 127 *e*PKPdf PKPdf 19 26 10.6 +1.0
NNA *e*PKPbc PKPbc 19 26 14.2 +1.2
NNA Nana 148.24 127 PKPbc PKPbc 19 26 11.4 -1.6
comp=Z,145nm,0.9s,baz=258,slow=5.2,SNR=35
MGV Manicaragua 148.93 59 *e*P PKPdf 19 26 12.2 +1.7
ARE Arequipa 149.07 140 *e*PKHKP 19 26 12.0
ARE *e* 19 26 17.0
CAM4 Nova Friburgo 149.10 196 *e*P PKPbc 19 26 16.6 +1.5
CAM4 *i* 19 27 06.9
ATAH Atahualpa 149.57 118 PKPbc PKPbc 19 26 14.8 -1.6
comp=Z,188nm,0.9s,baz=277,slow=0.8,SNR=15
CAM3 Guarapari 149.99 201⇓ *i*P PKPbc 19 26 17.7 +0.5
CAM3 *i* 19 26 22.6
CAM3 *i* 19 26 27.0
LPAZ La Paz 151.23 145 *e*PKPdf PKPdf 19 26 15.9 +1.7
LPAZ *e*PKPbc PKPbc 19 26 22.4 +2.1
LPAZ *e*PKPab PKPab 19 26 31.6 +3.3
LPAZ La Paz 151.23 145 PKP PKPdf 19 26 16.1 +1.9
comp=Z,17nm,1.0s,baz=82,slow=0.9,SNR=43
LPAZ PKPbc PKPbc 19 26 22.7 +2.5
comp=Z,67nm,0.8s,baz=206,slow=1.0,SNR=150
BCIP Isla Barro Col 151.91 85 *e*PKPdf PKPdf 19 26 14.9 -0.5
BCIP *e*PKPbc PKPbc 19 26 21.2 -0.7
BBSR BB Station 152.34 25 *e*PKPdf PKPdf 19 26 15.7 +0.2
BBSR *e*PKPbc PKPbc 19 26 22.9 +0.5
SIV San Ignacio 154.85 158 PKP PKPdf 19 26 20.5 +1.1
comp=Z,16nm,0.9s,baz=216,slow=1.4,SNR=59
SIV PKPbc PKPbc 19 26 28.6 +0.4
comp=Z,16nm,0.9s,baz=99,slow=2.8,SNR=9.5
BDFB Brasilia 156.79 189 PKP PKPdf 19 26 23.0 +0.9
comp=Z,10nm,0.9s,baz=150,slow=3.4,SNR=18
ROSC El Rosal 157.15 95 *e*PKPdf PKPdf 19 26 23.7 +1.1
ROSC El Rosal 157.15 95 PKP PKPdf 19 26 23.2 +0.5
comp=Z,22nm,0.8s,baz=274,slow=23,SNR=12
SDDR Presa de Saban 157.62 57 *e*PKPdf PKPdf 19 26 22.6 -0.4
SDDR *e*PKPab PKPab 19 26 56.3 +0.7
SDV Santo Domingo 161.00 84 *e*PKPdf PKPdf 19 26 27.0 -0.1
SDV Santo Domingo 161.00 84 PKP PKPdf 19 26 27.3 +0.2
comp=Z,60nm,0.9s,baz=330,slow=1.1,SNR=68
CPD Cerro la Pandu 162.46 52 PKIKP PKPdf 19 26 28.3 -0.1
CPD Cerro la Pandu 162.46 52 *e*PKPdf PKPdf 19 26 27.8 -0.7
CPD *e*PKPab PKPab 19 27 16.8 +0.1
MTP Monte Pirata 162.70 51 *e*PKPdf PKPdf 19 26 27.6 -1.1
MTP *e*PKPab PKPab 19 27 17.8 +0.1
FDF Fort de France 168.09 52 *e*P PKPdf 19 26 33.5 +0.3

IDC 05 19:31:38.1±7.9, 5490S×13177W, h0km, mb3.9/3, mb1 4.2/3, mb1mx3.8/14, mbtmp3.9/3, Error ellipse: s-maj=523.3km s-min=40.2km az=142.0, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**73.39**	**253**	P	P	19 43 11.8	0.0
	1.4nm,0.7s,baz=138,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**76.12**	**255**	P	P	19 43 27.5	-0.1
	1.3nm,0.7s,baz=146,slow=5.2,SNR=7.7						
TXAR	**Lajitas Array**	**87.30**	**24**	P	P	19 44 26.3	+0.1
	0.1nm,0.3s,baz=200,slow=7.7,SNR=6.4						
SONM	**Songino Array**	**143.95**	**283**	PKP	PKPdf	19 51 12.8	-1.5
	0.3nm,0.6s,baz=145,slow=1.4,SNR=3.8						
MKAR	**Makanchi Array**	**157.21**	**263**	PKPab	PKPab	19 52 06.7	+1.0
	0.4nm,0.9s,baz=123,slow=4.5,SNR=4.6						

IDC 05 20:02:25.7±1.9, 3074N×14071E, h0km, mb3.4/3, mb1 3.5/6, mb1mx3.4/21, mbtmp3.5/6, ML3.1/3, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=86.4km s-min=16.4km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.50**	**342**	Pn	Pn	20 03 07.8	+0.2
	2.6nm,0.3s,baz=73,slow=19,SNR=3.4						
JHJ				Sn	Sn	20 03 41.6	+2.7
	7.3nm,0.3s,baz=73,slow=19,SNR=3.3						
CBIJ	**Chichi jima**	**3.85**	**160**	Pn	Pn	20 03 27.4	+1.2
	4.1nm,0.3s,baz=271,slow=22,SNR=7.8						
CBIJ				Sn	Sn	20 04 11.3	-0.8
	4.1nm,0.3s,baz=312,slow=15,SNR=3.6						
MJAR	**Matsushiro Arr**	**6.15**	**341**	Pn	Pn	20 03 56.1	-1.7
	0.5nm,0.3s,baz=158,slow=11,SNR=20						
MKAR	**Makanchi Array**	**47.21**	**307**	P	P	20 11 00.1	0.0
	0.2nm,0.2s,baz=92,slow=8.9,SNR=2.7						
FITZ	**Fitzroy Crossi**	**50.67**	**199**	LR	LR	20 31 52.0	
	comp=Z,56nm,20.8s,baz=23,slow=35						
WRA	**Warramunga Arr**	**50.76**	**188**	P	P	20 11 26.6	-0.9
	0.2nm,0.4s,baz=6.5,slow=7.7,SNR=15						
ASAR	**Alice Springs**	**54.48**	**188**	P	P	20 11 56.0	+0.9
	0.2nm,0.5s,baz=7.6,slow=6.9,SNR=6.4						

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*NEIC **05** 20:17:43.6, 4138S×17293E, h119km, MG3.7(WEL), After WEL.*

WEL 05 20:17:43.6±0.4, 4136S×17294E, h118km±3km, ML3.6/15, Error ellipse: s-maj=2.5km s-min=2.3km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	**Nelson**	**0.36**	**67**	P	Pn	20 18 00.5	0.0
NNZ				S	Sn	20 18 12.4	-0.9
NNZ	**Nelson**	**0.36**	**67**	PN	Pn	20 18 00.5	-0.1
NNZ				SN	Sn	20 18 12.4	-0.9
THZ	**Tophouse**	**0.40**	**184**	P	Pn	20 18 00.6	-0.1
THZ	**Tophouse**	**0.40**	**184**	PN	Pn	20 18 00.6	-0.1
QRZ	**Quartz Range**	**0.62**	**330**	PN	Pn	20 18 02.1	0.0
TUWZ	**Tuamarina**	**0.76**	**95**	PN	Pn	20 18 03.6	+0.4
TUWZ				SN	Sn	20 18 17.2	-0.8
BSWZ	**Blackbirch Sta**	**0.79**	**117**	P	Pn	20 18 03.8	+0.4
BSWZ				S	Sn	20 18 18.5	+0.1
BSWZ	**Blackbirch Sta**	**0.79**	**117**	PN	Pn	20 18 03.8	+0.4
BSWZ				SN	Sn	20 18 18.5	+0.1
DUWZ	**D'Urville Isla**	**0.93**	**53**	PN	Pn	20 18 05.7	+0.9
DSZ	**Denniston Nort**	**0.93**	**245**	P	Pn	20 18 04.6	-0.2
DSZ				S	Sn	20 18 18.3	-2.5
DSZ	**Denniston Nort**	**0.93**	**245**	PN	Pn	20 18 04.6	-0.2
DSZ				SN	Sn	20 18 18.3	-2.5
TCW	**Tory Channel**	**1.02**	**82**	P	Pn	20 18 06.2	+0.6
TCW	**Tory Channel**	**1.02**	**82**	PN	Pn	20 18 06.2	+0.6
KHZ	**Kahutara**	**1.15**	**157**	P	Pn	20 18 07.1	+0.2
KHZ	**Kahutara**	**1.15**	**157**	PN	Pn	20 18 07.1	+0.1
SNZO	**South Karori**	**1.33**	**88**	P	Pn	20 18 08.7	-0.3
SNZO	**South Karori**	**1.33**	**88**	PN	Pn	20 18 08.7	-0.2
MRW	**Makara Radio**	**1.33**	**85**	P	Pn	20 18 09.0	0.0
MRW	**Makara Radio**	**1.33**	**85**	PN	Pn	20 18 09.0	0.0
WEL	**Wellington**	**1.38**	**87**	P	Pn	20 18 09.4	-0.1

WEL	Wellington	1.38	87	PN	Pn	20 18 09.4	-0.1
BHW	Baring Head	1.46	92	P	Pn	20 18 09.9	-0.5
BHW	Baring Head	1.46	92	PN	Pn	20 18 09.9	-0.4
LTZ	Lake Taylor	1.50	199	P	Pn	20 18 10.9	0.0
LTZ	Lake Taylor	1.50	199	PN	Pn	20 18 10.9	0.0
KIW	Kapiti Island	1.57	72	P	Pn	20 18 12.0	+0.3
KIW	Kapiti Island	1.57	72	PN	Pn	20 18 12.0	+0.3
CAW	Cannon Point	1.63	82	P	Pn	20 18 12.1	-0.3
CAW	Cannon Point	1.63	82	PN	Pn	20 18 12.1	-0.3
MSWZ	Moikau Station	1.74	92	PN	Pn	20 18 13.1	-0.6
PLWZ	Palliser	1.75	98	PN	Pn	20 18 13.2	-0.7
PAWZ	Paruwai Farm	1.87	91	P	Pn	20 18 14.5	-0.9
PAWZ	Paruwai Farm	1.87	91	PN	Pn	20 18 14.5	-0.8
MTW	Mount Morrison	1.94	85	P	Pn	20 18 15.5	-0.7
MTW	Mount Morrison	1.94	85	PN	Pn	20 18 15.5	-0.8
MRZ	Mangatainoka R	2.12	72	P	Pn	20 18 17.8	-0.6
MRZ	Mangatainoka R	2.12	72	PN	Pn	20 18 17.8	-0.6
NWEZ	Newall Road	2.20	19	PN	Pn	20 18 21.2	+1.7
WAZ	Wanganui	2.24	45	P	Pn	20 18 21.8	+1.8
WAZ	Wanganui	2.24	45	PN	Pn	20 18 21.8	+1.8
NEZ	North Egmont	2.27	23	P	Pn	20 18 21.8	+1.4
NEZ	North Egmont	2.27	23	PN	Pn	20 18 21.8	+1.5
PKE	Pukeiti	2.31	21	P	Pn	20 18 22.6	+1.7
PKE	Pukeiti	2.31	21	PN	Pn	20 18 22.6	+1.7
MQZ	McQueen's Vall	2.35	185	*e*P	Pn	20 18 20.1	-1.3
MQZ	McQueen's Vall	2.35	185	PN	Pn	20 18 20.1	-1.3
RAEZ	Rainy Point	2.35	29	P	Pn	20 18 23.5	+2.1
RAEZ	Rainy Point	2.35	29	PN	Pn	20 18 23.5	+2.1
WVZ	Waitaha Valley	2.37	223	*e*P	Pn	20 18 20.8	-0.8
WVZ	Waitaha Valley	2.37	223	PN	Pn	20 18 20.8	-0.8
BFZ	Birch Farm	2.59	76	*e*P	Pn	20 18 23.6	-0.9
BFZ	Birch Farm	2.59	76	PN	Pn	20 18 23.6	-0.9
VRZ	Vera Road	2.63	33	P	Pn	20 18 26.7	+1.6
VRZ	Vera Road	2.63	33	PN	Pn	20 18 26.7	+1.6
TSZ	Takapari Road	2.64	61	*e*P	Pn	20 18 24.4	-0.7
TSZ	Takapari Road	2.64	61	PN	Pn	20 18 24.4	-0.7
RPZ	Rata Peaks	2.73	210	*e*P	Pn	20 18 24.6	-1.7
RPZ	Rata Peaks	2.73	210	PN	Pn	20 18 24.6	-1.7
TRVZ	Turoa	2.87	45	PN	Pn	20 18 29.3	+1.2
WPVZ	Whakapapa	2.94	44	P	Pn	20 18 31.1	+2.1
WPVZ	Whakapapa	2.94	44	PN	Pn	20 18 31.1	+2.1
TUVZ	Tukino	2.95	46	P	Pn	20 18 30.7	+1.6
TUVZ	Tukino	2.95	46	PN	Pn	20 18 30.7	+1.6
TWVZ	Taurewa	2.98	41	PN	Pn	20 18 31.3	+1.7
NGZ	Ngauruhoe	2.99	44	P	Pn	20 18 32.9	+3.2
NGZ	Ngauruhoe	2.99	44	PN	Pn	20 18 32.9	+3.3
WTVZ	West Tongariro	3.03	43	P	Pn	20 18 32.2	+2.0
WTVZ	West Tongariro	3.03	43	PN	Pn	20 18 32.2	+2.0
HIZ	Hauiti	3.20	28	*e*P	Pn	20 18 33.6	+1.1
HIZ	Hauiti	3.20	28	PN	Pn	20 18 33.6	+1.0
FOZ	Fox Glacier	3.26	226	P	Pn	20 18 31.1	-2.1
FOZ	Fox Glacier	3.26	226	PN	Pn	20 18 31.1	-2.0
PXZ	Pawanui	3.27	67	PN	Pn	20 18 32.1	-1.3
ODZ	Otahua Downs	4.04	204	*e*P	Pn	20 18 42.6	-1.0
ODZ	Otahua Downs	4.04	204	PN	Pn	20 18 42.6	-1.0
JCZ	Jackson Bay	4.10	227	*e*P	Pn	20 18 43.5	-0.9
JCZ	Jackson Bay	4.10	227	PN	Pn	20 18 43.5	-0.9
MWZ	Matawai	4.65	51	*e*P	Pn	20 18 52.1	+0.3
MWZ	Matawai	4.65	51	PN	Pn	20 18 52.1	+0.3

ISCJB ***05*** *20:31:16.3±1.3, 060N±006×12663E±009, h54km±13km, mb4.3/18, Error ellipse: s-maj=15.7km s-min=8.8km az=162.3*
NEIC ***05*** *20:31:18.8±2.9, 055N×12660E, h60km±28km, mb4.3/10, Error ellipse: s-maj=15.4km s-min=7.5km az=61.0*
IDC ***05*** *20:31:19.3±6.9, 065N×12681E, h63km±66km, mb3.9/8, mb1 4.0/9, mb1mx3.8/16, mbtmp3.8/9, ML3.3/1, Error ellipse: s-maj=39.2km s-min=15.1km az=74.0*

ISC 05 20:31:17.3±1.4, 057N±006×12666E±009, h44km±14km, n27, σ0°83/28, mb4.3/18, 1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**0.74**	**73**	⇓*e*P	**Pn**	**20 31 31.0**	**-0.4**
KAKA	**Kakadu**	**14.39**	**157**	*e*P	**Pn**	**20 34 45.9**	**+7.5**
	9.0nm,0.6s						
KSM	**Kuching**	**16.37**	**273**	*e*P	**Pn**	**20 35 04.7**	**+0.6**
FITZ	**Fitzroy Crossi**	**18.58**	**183**	P	**Pn**	**20 35 32.2**	**+0.8**
	0.1nm,0.3s,baz=8.1,slow=7.1,SNR=4.7						
WRAB	**Tennant Creek**	**21.73**	**160**	*e*P	**P**	**20 36 05.2**	**+0.3**
	20nm,0.6s,mb4.7						
WRA	**Warramunga Arr**	**21.73**	**160**	P	**P**	**20 36 05.5**	**+0.5**
	14nm,0.5s,mb4.6,baz=339,slow=11,SNR=160						
WB2	**Warramunga Arr**	**21.73**	**160**	*e*P	**P**	**20 36 05.0**	**0.0**
WB2				*e*S	**S**	**20 39 59.1**	**-4.0**
MBWA	**Marble Bar**	**22.63**	**197**	*e*P	**P**	**20 36 13.2**	**-1.4**
	5.8nm,0.8s,mb4.1						
ASAR	**Alice Springs**	**25.10**	**164**	P	**P**	**20 36 39.0**	**+1.1**
	5.9nm,0.5s,mb4.3,baz=350,slow=14,SNR=69						
ASAR				PcP	PcP	20 40 11.9	+0.2
	0.5nm,0.6s,baz=341,slow=2.3,SNR=5.3						
KULM	**Kulim**	**26.39**	**281**	*e*P	**P**	**20 36 47.2**	**-2.6**
HNR	**Honiara**	**34.60**	**108**	P	**P**	**20 38 01.0**	**-1.4**
HNR	**Honiara**	**34.60**	**108**	P	**P**	**20 38 01.0**	**-1.4**
	16nm,0.4s,mb5.3,baz=100,slow=4.2,SNR=3.3						
STKA	**Stephens Creek**	**35.23**	**158**	*e*P	**P**	**20 38 08.2**	**+0.6**
	6.4nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**35.23**	**158**	P	**P**	**20 38 08.5**	**+0.9**
	7.8nm,0.7s,mb4.8,baz=342,slow=8.2,SNR=19						
MJAR	**Matsushiro Arr**	**37.36**	**15**	P	**P**	**20 38 24.8**	**-0.8**
	1.4nm,0.7s,mb3.9,baz=185,slow=9.3,SNR=5.5						
MDJ	**Mudanjiang**	**43.93**	**3**	P	**P**	**20 39 20.6**	**+0.8**
	2.9nm,0.5s,mb4.3						
ULN	**Ulaanbaatar**	**50.09**	**343**	P	**P**	**20 40 08.2**	**+0.5**
	0.9nm,0.8s,mb3.9						
SONM	**Songino Array**	**50.26**	**342**	P	**P**	**20 40 09.6**	**+0.5**
	0.4nm,0.6s,mb3.6,baz=151,slow=9.4,SNR=5.8						
MK31	**Makanchi Array**	**60.11**	**326**	*e*P	**P**	**20 41 20.1**	**0.0**
MKAR	**Makanchi Array**	**60.11**	**326**	P	**P**	**20 41 20.5**	**+0.3**
	1.5nm,0.6s,mb4.2,baz=121,slow=8.8,SNR=25						
MA2	**Magadan**	**61.77**	**14**	P	**P**	**20 41 32.2**	**+1.0**
	3.4nm,0.6s,mb4.7						
UCH	**Uchtor**	**62.46**	**319**	P	**P**	**20 41 36.2**	**+0.1**
	2.0nm,1.0s,mb4.2						
ZALV	**Zalesovo Beam**	**63.36**	**334**	P	**P**	**20 41 40.8**	**-1.1**
	0.6nm,0.6s,mb3.9,baz=131,slow=4.5,SNR=3.9						
KURK	**Kurchatov**	**64.36**	**328**	*e*P	**P**	**20 41 48.9**	**+0.4**
	2.5nm,0.6s,mb4.4						
CASY	**Casey**	**67.69**	**187**	P	**P**	**20 42 09.2**	**-0.4**
	3.1nm,0.9s,mb4.3						
BRVK	**Borovoye**	**70.00**	**328**	*e*P	**P**	**20 42 24.3**	**+0.1**
	2.2nm,1.1s,mb4.0						
VNDA	**Vanda**	**80.32**	**173**	P	**P**	**20 43 22.6**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=316,slow=4.3,SNR=8.6						

MOS ***05*** *20:36:18.4±0.6, 5419N×15693E, h531km, mb4.3/1, Error ellipse: s-maj=98.0km s-min=93.1km az=61.8*

KRSC 05 20:36:16.0±2.7, 5425N×15646E, h533km±63km, ML4.2, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**1.04**	**122**	*i*P	P	20 37 21.4	+0.8
AVH	**Avacha**	**1.67**	**125**	*e*P	P	20 37 25.1	+2.4
GRL	**Gorelyy**	**1.96**	**150**	P	P	20 37 26.9	+3.0
MIPR	**Malaya Ipel'ka**	**1.99**	**175**	*e*P	P	20 37 24.6	+0.6
NLC	**Nalytchevo**	**2.03**	**121**	*e*P	P	20 37 26.3	+2.1
NLC				*i*S	S	20 38 17.4	-2.3
RUS	**Russkaya**	**2.20**	**145**	*e*P	P	20 37 26.5	+1.5
RUS				*i*S	S	20 38 17.7	-3.5
TUMR	**Tumrok**	**2.37**	**63**	P	P	20 37 28.2	+2.5
SPN	**Mys Shipunski**	**2.41**	**117**	*e*P	P	20 37 27.9	+1.8
SPN				*i*S	S	20 38 20.3	-3.0
MKZ	**Mys Kozlova**	**3.10**	**82**	P	P	20 37 31.0	+0.9
MKZ				*i*S	S	20 38 25.9	-4.7
KBTR	**Krutoberegovo**	**4.14**	**59**	P	P	20 37 39.3	+1.8

IDC 05 20:47:15.9±5.3, 599S×15141E, h0km, mb3.6/4, mb1 3.9/4, mb1mx3.5/14, mbtmp3.6/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/22, Error ellipse: s-maj=115.2km s-min=46.0km az=5.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.88**	**199**	LR	LR	20 54 55.8	
	comp=Z,67nm,18.1s,baz=225,slow=31						
WRA	**Warramunga Arr**	**21.62**	**229**	P	P	20 52 07.8	0.0
	0.7nm,0.5s,baz=54,slow=11,SNR=10						
ASAR	**Alice Springs**	**24.34**	**222**	P	P	20 52 35.9	+0.3
	1.2nm,0.8s,baz=57,slow=8.8,SNR=16						
FITZ	**Fitzroy Crossi**	**27.88**	**242**	P	P	20 53 07.5	-0.1
	1.7nm,0.9s,baz=41,slow=11,SNR=7.4						
VNDA	**Vanda**	**71.70**	**178**	P	P	20 58 39.4	+0.1
	0.3nm,0.6s,baz=349,slow=5.9,SNR=4.8						

MOS ***05*** *20:54:57.9±0.9, 5152N×17782W, h33km, mb5.0/56, MS4.1/11, Error ellipse: s-maj=9.1km s-min=5.5km az=90.4*
ISCJB ***05*** *20:54:59.0±0.6, 5137N±005×17774W±003, h50km±4km, mb4.8/157, MS4.2/46, Error ellipse: s-maj=8.1km s-min=3.2km az=174.2*
BJI ***05*** *20:54:58.5, 5179N×17800W, h39km, mB5.0, mb4.9, Ms4.6, Msz4.4*
IDC ***05*** *20:54:58.5±2.4, 5146N×17777W, h31km±16km, mb4.4/27, mb1 4.5/28, mb1mx4.5/32, mbtmp4.4/28, ML4.7/1, MS4.1/24, Ms1 4.1/24, ms1mx4.0/33, Error ellipse: s-maj=15.9km s-min=9.6km az=158.0*
GCMT ***05*** *20:55:00.8±0.4, 5131N×17761W, h37km±1km, MW5.0/60, Moment Tensor Solution. s39,c51; s60,c93; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.91±.15; Mθθ=-2.48±.11; Mφφ=-0.42±.10; Mrθ=1.43±.11; Mrφ=-1.09±.06; Mθφ=1.33±.09; Best double couple: M0=3.52100×10^16 NP1:φs=257.00000°, δ30.00000°, λ108.00000°. NP2: φs=56.00000°, δ62.00000°, λ80.00000°. Principal axes: T 3.5530, Plg71.0000°, Azm303.0000°; N -0.0590, Plg9.0000°, Azm61.0000°; P -3.4900, Plg16.0000°, Azm154.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
SZGRF ***05*** *20:55:00.3, 5150N×178.14W, h33km, mb4.6, Andreanof Islands, Aleutian Islands, United States*
NEIC ***05*** *20:55:00.8±0.2, 5142N×17778W, mb4.8/103, ML4.8(AEIC), Error ellipse: s-maj=6.3km s-min=2.9km az=179.0*

ISC 05 20:55:01.2±0.5, 5143N±005×17777W±003, h54km±4km, h54km±1.5km: pP-P, n410, σ0°94/401, mb4.8/157, MS4.2/46, 18C-8D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ADK	**Adak**	**0.81**	**56**	P	**Pn**	**20 55 14.7**	**-1.8**
ADK				S	**Sn**	**20 55 26.4**	**-1.4**
AMKA	**Amchitka**	**1.84**	**270**	P	**Pn**	**20 55 28.2**	**-2.0**
AMKA				S	**Sn**	**20 55 52.4**	**+0.1**
SMY	**Shemya**	**5.18**	**288**	P	**Pn**	**20 56 15.9**	**-0.1**
NIKO	**Nikolski**	**5.70**	**71**	P	**Pn**	**20 56 23.1**	**0.0**
FX1	**Attu Island--F**	**5.77**	**288**	P	**Pn**	**20 56 23.8**	**-0.3**
SPIA	**Saint Paul Isl**	**7.25**	**34**	P	**Pn**	**20 56 46.7**	**+2.4**
UNV	**Unalaska Valle**	**7.27**	**66**	P	**Pn**	**20 56 45.0**	**+0.3**
AKGG	**Akutan Green G**	**7.66**	**64**	P	**Pn**	**20 56 51.1**	**+1.2**
AKUT	**Akutan**	**7.76**	**65**	*e*P	**Pn**	**20 56 52.6**	**+1.2**
FALS	**False Pass**	**9.28**	**63**	Pn	**Pn**	**20 57 09.8**	**-2.3**
SDPT	**Sand Point**	**11.04**	**62**	*e*P	**Pn**	**20 57 35.1**	**-1.1**
	34nm,0.6s						
GAMB	**Gambell**	**12.79**	**12**	*e*Pn	**Pn**	**20 58 02.6**	**+2.6**
	15nm,0.4s						
PET	**Petropavlovsk**	**14.53**	**286**	*e*P	**Pn**	**20 58 21.8**	**-1.6**
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET	**Petropavlovsk**	**14.53**	**286**	P	**Pn**	**20 58 26.6**	**+3.2**
TNA	**Tin City**	**15.05**	**16**	*e*Pn	**Pn**	**20 58 30.6**	**+0.5**
	comp=Z,17nm,1.1s						
SVW2	**Sparrevohn**	**15.59**	**43**	*e*P	**Pn**	**20 58 38.7**	**+1.6**
KDAK	**Kodiak Island**	**15.86**	**57**	*e*Pn	**Pn**	**20 58 36.7**	**-3.9**
	comp=Z,44nm,0.4s						
KDAK				*e*Sn	**Sn**	**21 01 38.7**	**+3.6**
KDAK	**Kodiak Island**	**15.86**	**57**	Pn	**Pn**	**20 58 37.0**	**-3.6**
	comp=Z,3.3nm,0.3s,baz=255,slow=8.0,SNR=47						
TTA	**Tatalina**	**16.38**	**37**	*e*P	**Pn**	**20 58 49.2**	**+2.1**
TTA				pmax	pmax		
	comp=Z,33nm,0.8s						
TTA	**Tatalina**	**16.38**	**37**	*e*Pn	**Pn**	**20 58 49.2**	**+2.1**
	comp=Z,33nm,0.8s						
SLKM	**Skilak Lake**	**17.77**	**49**	*e*P	**Pn**	**20 59 04.0**	**-0.3**
BILL	**Biiibino**	**18.39**	**341**	⇓*e*P	**Pn**	**20 59 13.8**	**+2.0**
BILL				pmax	pmax		
	comp=Z,11nm,0.8s						
BILL				MLR	MLR		
	comp=Z,700nm,21.0s						
BILL	**Biiibino**	**18.39**	**341**	*e*P	**Pn**	**20 59 12.8**	**+0.9**
	comp=Z,13nm,0.6s						
PMR	**Palmer**	**18.63**	**46**	P	**Pn**	**20 59 15.2**	**+0.4**
PMR				pmax	pmax		
	comp=Z,9.0nm,0.5s						
PMR	**Palmer**	**18.63**	**46**	P	**Pn**	**20 59 15.2**	**+0.4**
	comp=Z,9.2nm,0.5s						
IMA2	**Indian Mountai**	**19.07**	**31**	*e*P	**Pn**	**20 59 20.1**	**0.0**
MID	**Middleton Isla**	**19.39**	**53**	*e*P	**Pn**	**20 59 23.1**	**-0.8**
MA2	**Magadan**	**19.44**	**307**	*e*P	**Pn**	**20 59 24.3**	**-0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MCK	**McKinley**	**19.55**	**40**	*e*P	**Pn**	**20 59 22.8**	**-2.9**
MCK				pmax	pmax		
	comp=Z,21nm,0.7s						
MCK	**McKinley**	**19.55**	**40**	*e*P	**Pn**	**20 59 22.8**	**-2.9**
	comp=Z,21nm,0.7s						
SEY	**Seymchan**	**19.64**	**317**	⇑*e*P	**Pn**	**20 59 27.5**	**+0.7**
DIV	**Divide**	**20.04**	**49**	*e*P	**P**	**20 59 31.1**	**+1.8**
	comp=Z,25nm,0.6s						
COLA	**College**	**20.48**	**37**	⇑*e*P	**P**	**20 59 35.5**	**+1.5**
COLA	**College**	**20.48**	**37**	*e*P	**P**	**20 59 34.2**	**+0.2**
	comp=Z,16nm,0.8s						
MENT	**Mentasta**	**21.46**	**44**	*e*P	**P**	**20 59 43.8**	**-0.8**
EGAK	**Eagle**	**23.09**	**41**	*e*P	**P**	**21 00 00.2**	**-1.7**
DAWY	**Dawson**	**23.63**	**43**	*e*P	**P**	**21 00 04.7**	**-2.3**
SKAG	**Skagway**	**24.99**	**55**	P	**P**	**21 00 19.3**	**-0.1**
	comp=Z,29nm,1.2s,mb4.7						
YSS	**Yuzh-Sakhalins**	**25.96**	**276**	⇑*e*P	**P**	**21 00 28.9**	**+0.6**
YSS				*e*	pP	21 00 40.5	-1.3
YSS				*e*S	**S**	**21 04 53.0**	**-1.7**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.1						
YSS				MLR	MLR		
	comp=Z,600nm,22.0s,MS4.1						
YSS	**Yuzh-Sakhalins**	**25.96**	**276**	*e*P	**P**	**21 00 28.8**	**+0.5**
	comp=Z,68nm,1.2s,mb5.1						
INK	**Inuvik**	**27.05**	**35**	*e*P	**P**	**21 00 36.8**	**-1.1**
	comp=Z,214nm,0.9s,mb5.7						
INK				*e*PcP	PcP	21 03 57.5	-0.1
INK	**Inuvik**	**27.05**	**35**	P	**P**	**21 00 37.4**	**-0.5**
	comp=Z,2.1nm,0.3s,mb4.1,baz=249,slow=9.7,SNR=24						
INK				PcP	PcP	21 03 57.8	+0.2
	comp=Z,5.0nm,0.5s,baz=288,slow=2.7,SNR=16						
INK				ScP	ScP	21 07 34.9	+1.9
	comp=Z,0.9nm,0.6s,baz=253,slow=3.0,SNR=8.6						
ASAJ	**Asahikawa**	**27.35**	**270**	P	**P**	**21 00 41.9**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.5s						
ASAJ				MLR	MLR		
	comp=Z,271nm,20.9s						
ASAJ	**Asahikawa**	**27.35**	**270**	P	**P**	**21 00 41.9**	**+1.0**
	comp=Z,10nm,0.5s,mb4.6,baz=42,slow=9.9,SNR=15						
ASAJ				LR	LR	21 10 06.8	
	comp=Z,271nm,20.9s,MS3.8,baz=349,slow=33						
DLBC	**Dease Lake**	**27.79**	**57**	*e*P	**P**	**21 00 45.4**	**+0.7**
ERM	**Erimo**	**28.09**	**266**	*e*P	**P**	**21 00 48.0**	**+0.5**
ERM				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.1						
ERM	**Erimo**	**28.09**	**266**	*e*P	**P**	**21 00 48.0**	**+0.5**
	comp=Z,60nm,1.2s,mb5.1						
HABR	**Khabarovsk**	**30.09**	**283**	*e*P	**P**	**21 01 04.7**	**-0.5**
HABR				*e*	pP	21 01 16.9	-1.9
HABR				*e*		21 04 03.5	
HABR				S	**S**	**21 06 00.7**	**+1.0**
HABR				*e*		21 07 38.9	
HABR				*e*		21 11 38.5	
TIXI	**Tiksi**	**30.91**	**330**	*e*P	**P**	**21 01 11.5**	**-0.7**
TIXI				*e*		21 04 06.8	
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,421nm,15.0s,MS4.2						
TIXI	**Tiksi**	**30.91**	**330**	*e*P	**P**	**21 01 11.7**	**-0.4**
	comp=Z,1.6nm,0.6s,mb4.0						
KLR	**Kul'dur**	**31.79**	**286**	⇓*i*P	**P**	**21 01 16.8**	**-3.3**
KLR				pmax	pmax		
	comp=E,43nm,1.2s						
KLR				pmax	pmax		
	comp=Z,66nm,1.2s,mb5.3						
MJAR	**Matsushiro Arr**	**34.43**	**262**	P	**P**	**21 01 42.4**	**-0.9**
MJAR						21 04 18.0	
MJAR	**Matsushiro Arr**	**34.43**	**262**	P	**P**	**21 01 42.4**	**-0.9**
MJAR				PcP	PcP	21 04 18.0	+0.4
MJAR				LR	LR	21 13 36.5	
MJAR	**Matsushiro Arr**	**34.43**	**262**	P	**P**	**21 01 42.4**	**-0.9**
	comp=Z,4.8nm,0.9s,mb4.4,baz=52,slow=6.6,SNR=18						
MJAR				PcP	PcP	21 04 18.0	+0.4
	comp=Z,1.6nm,0.7s,baz=146,slow=0.6,SNR=6.5						
MJAR				LR	LR	21 13 36.5	
	comp=Z,368nm,21.8s,MS4.1,baz=75,slow=32						
MAJO	**Matsushiro**	**34.43**	**262**	*e*P	**P**	**21 01 43.3**	**0.0**
MAJO				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.2						
MAJO	**Matsushiro**	**34.43**	**262**	*e*P	**P**	**21 01 43.3**	**0.0**
	comp=Z,21nm,0.6s,mb5.2						
MAT	**Matsushiro**	**34.43**	**262**	P	**P**	**21 01 43.6**	**+0.3**
MAT				S	**S**	**21 07 15.0**	**+7.5**
VLA	**Vladivostok**	**34.55**	**276**	*i*P	**P**	**21 01 44.7**	**+0.5**
VLA				pmax	pmax		
	comp=Z,77nm,1.9s,mb5.3						
NLWA	**Neilton Lookou**	**34.64**	**75**	*e*P	**P**	**21 01 46.0**	**+1.1**
	comp=Z,22nm,1.0s,mb5.0						
YKA	**Yellowknife Ar**	**34.73**	**47**	P	**P**	**21 01 44.6**	**-0.9**
YKA						21 04 18.6	
YKA	**Yellowknife Ar**	**34.73**	**47**	P	**P**	**21 01 44.6**	**-0.9**
YKA				PcP	PcP	21 04 18.6	+0.6
YKA				ScP	ScP	21 08 00.8	+2.3
YKA				LR	LR	21 17 47.7	
YKA	**Yellowknife Ar**	**34.73**	**47**	P	**P**	**21 01 44.6**	**-1.0**
	comp=Z,5.0nm,0.7s,mb4.6,baz=282,slow=7.8,SNR=46						
YKA				PcP	PcP	21 04 18.6	+0.6
	comp=Z,2.5nm,0.6s,baz=288,slow=3.3,SNR=13						
YKA				ScP	ScP	21 08 00.8	+2.3
	comp=Z,1.2nm,0.8s,baz=292,slow=3.0,SNR=4.1						
YKA				LR	LR	21 17 47.7	
	comp=Z,170nm,18.4s,MS3.8,baz=305,slow=39						
MDJ	**Mudanjiang**	**35.20**	**280**	P	**P**	**21 01 48.6**	**-1.2**
MDJ				XP	sP	21 02 04.2	-5.7
MDJ				PCP	PcP	21 04 19.8	+0.1
MDJ				S	**S**	**21 07 20.0**	**+0.9**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,57nm,6.2s						
MDJ				LR	LR		
	comp=E,258nm,24.1s						
MDJ				LR	LR		
	comp=Z,277nm,25.2s,MS3.9						
CN2	**Changchun**	**38.17**	**281**	*e*P	**P**	**21 02 14.0**	**-1.1**
CN2				*e*AP	pP	21 02 26.3	-2.7
CN2				*e*PP	PP	21 03 44.9	+1.9
CN2				*e*S	**S**	**21 08 02.9**	**-1.5**
CN2				*e*SS	SS	21 10 41.4	-12
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
CN2				AMB	AMB		
	comp=Z,120nm,5.0s						
CN2				LR	LR		
	comp=N,270nm,19.0s,MS4.2						
CN2				LR	LR		
	comp=E,290nm,19.0s,MS4.2						
CN2				LR	LR		
	comp=Z,370nm,22.0s,MS4.2						
EDM	**Edmonton**	**38.22**	**61**	*e*P	**P**	**21 02 15.0**	**-0.4**
EDM				*e*PP	pP	21 02 28.3	-1.0
YBH	**Yreka Blue Hor**	**38.23**	**82**	*e*P	**P**	**21 02 16.8**	**+1.2**
YBH				pmax	pmax		
	comp=Z,5.0nm,0.9s						
YBH	**Yreka Blue Hor**	**38.23**	**82**	*e*P	**P**	**21 02 16.8**	**+1.2**
	comp=Z,5.4nm,0.9s,mb4.3						
NEW	**Newport**	**38.26**	**70**	P	**P**	**21 02 16.4**	**+0.6**
NEW				LR	LR	21 15 30.4	
NEW	**Newport**	**38.26**	**70**	P	**P**	**21 02 16.4**	**+0.6**
	comp=Z,15nm,0.8s,mb4.8,baz=300,slow=7.6,SNR=19						
NEW				LR	LR	21 15 30.4	
	comp=Z,288nm,21.4s,MS4.1,baz=112,slow=32						
BOD	**Bodaibo**	**38.47**	**307**	*e*P	**P**	**21 02 14.8**	**-2.6**
CBIJ	**Chichi jima**	**38.69**	**247**	P	**P**	**21 02 19.7**	**+0.1**
	comp=Z,68nm,0.4s,mb5.7,baz=282,slow=23,SNR=17						
HIA	**Hailar**	**38.87**	**292**	*e*P	**P**	**21 02 20.2**	**-0.7**
HIA				pmax	pmax		
	comp=Z,5.0nm,0.4s						
HIA	**Hailar**	**38.87**	**292**	*e*P	**P**	**21 02 20.2**	**-0.7**
	comp=Z,4.9nm,0.4s,mb4.6						
RES	**Resolute Bay**	**39.43**	**25**	*e*P	**P**	**21 02 24.5**	**-0.8**
	comp=Z,117nm,1.0s,mb5.6						
RES				PcP	PcP	21 04 32.0	-0.2
MOD	**Modoc**	**39.63**	**81**	*e*P	**P**	**21 02 28.0**	**+0.7**
	comp=Z,7.2nm,0.6s,mb4.6						
WALA	**Waterton Lakes**	**39.76**	**67**	*e*P	**P**	**21 02 27.1**	**-

FCC *e*PcP PcP 21 04 51.6 -0.8
GSC Goldstone 45.80 86 *e*P **P 21 03 17.4 0.0**
GSC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GSC Goldstone 45.80 86 *e*P **P 21 03 17.4 0.0**
comp=Z,10nm,0.9s,mb4.8
JLU Jordanelle 45.82 77 *e*P **P 21 03 18.1 +0.7**
NLU North Lily Min 45.82 78 *e*P **P 21 03 17.6 +0.1**
BJI Beijing 45.99 283 P **P 21 03 19.5 +0.7**
BJI S **S 21 10 03.1 +3.3**
BJI AMB AMB
comp=Z,18nm,0.9s,mb5.0
BJI LR LR
comp=N,248nm,19.2s
BJI LR LR
comp=E,227nm,26.7s
BJI LR LR
comp=Z,368nm,25.5s
BJT Baijiatuau 46.01 283 *e*P **P 21 03 18.5 -0.5**
BJT pmax pmax
comp=Z,8.0nm,0.6s
BJT Baijiatuau 46.01 283 *e*P **P 21 03 18.5 -0.5**
comp=Z,8.1nm,0.6s,mb4.8
MPU Maple Canyon 46.06 77 *e*P **P 21 03 20.0 +0.7**
comp=Z,7.8nm,0.6s,mb4.8
CCUT Cedar City 46.51 81 *e*P **P 21 03 23.0 0.0**
MSU Marysvale 46.65 79 *e*P **P 21 03 24.7 +0.7**
SONM Songino Array 47.20 297 P **P 21 03 28.9 +0.7**
SONM 21 04 59.4
SONM Songino Array 47.20 297 P **P 21 03 28.9 +0.8**
comp=Z,2.8nm,0.5s,mb4.5,baz=70,slow=5.0,SNR=41
SONM PcP PcP 21 04 59.4 +0.6
comp=Z,2.1nm,0.6s,baz=78,slow=1.6,SNR=8.6
SONM ScP ScP 21 08 51.0 +3.1
comp=Z,0.9nm,0.8s,baz=25,slow=3.3,SNR=5.5
SONM LR LR 21 24 03.0
comp=Z,552nm,20.2s,MS4.5,baz=62,slow=37
ZAK Zakamensk 47.48 302⇑ *i*P **P 21 03 31.1 +0.8**
ZAK *e* 21 04 56.4
ZAK pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
GUMO Guam 48.25 232 LR LR 21 22 51.1
comp=Z,80nm,18.9s,MS3.7,baz=58,slow=35
HHC Hu-ho-hao-te 48.30 287 *e*P **P 21 03 37.1 +0.4**
HHC AP pP 21 03 49.3 -1.7
HHC XP sP 21 03 54.9 -2.3
HHC PCP PcP 21 05 04.6 +1.8
HHC PP PP 21 05 29.8 +0.5
HHC S **S 21 10 32.2 -0.3**
HHC XS sS 21 10 52.9 -3.6
HHC SCS ScS 21 13 23.8 -0.6
HHC SS SS 21 13 55.3 -6.7
HHC AMB AMB
comp=Z,82nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,206nm,5.6s
HHC LR LR
comp=N,487nm,18.4s,MS4.8
HHC LR LR
comp=E,707nm,19.2s,MS4.8
HHC LR LR
comp=Z,631nm,19.2s,MS4.6
PV10 Paradox Valley 48.65 77 *e*P **P 21 03 40.0 +0.5**
WUAZ Wupatki 49.04 82 *e*P **P 21 03 42.0 -0.5**
comp=Z,3.9nm,0.7s,mb4.5
PV01 Paradox Valley 49.09 77 *e*P **P 21 03 43.2 +0.3**
ULM Lac du Bonnet 49.12 57 P **P 21 03 42.4 -0.5**
ULM LR LR 21 26 48.5
ULM Lac du Bonnet 49.12 57 P **P 21 03 42.4 -0.5**
comp=Z,4.2nm,0.6s,mb4.7,baz=291,slow=5.9,SNR=5.8
ULM LR LR 21 26 48.5
comp=Z,211nm,18.4s,MS4.2,baz=306,slow=39
BTO Baotou 49.37 287 *e*P **P 21 03 46.7 +1.7**
SMCO Snowmass 49.41 75 *e*P **P 21 03 45.2 -0.1**
comp=Z,11nm,1.0s,mb4.8
NJ2 Nanjing 49.46 273 *e*P **P 21 03 47.3 +1.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
ANMO Albuquerque 52.45 79⇑ *e*P **P 21 04 08.2 0.0**
LENM Lemitar 52.65 80 *e*P **P 21 04 10.2 +0.5**
LPM Los Pinos Moun 52.77 80 *e*P **P 21 04 10.4 -0.1**
LPM *e* pP 21 04 24.5 -0.4
BNM Barren Site 52.88 80 *e*P **P 21 04 12.0 +0.7**
WHN Wuhan 53.30 275 P **P 21 04 14.1 -0.4**
XAN Xi'an 54.28 282 P **P 21 04 21.4 -0.2**
XAN AP pP 21 04 28.1 -8.0
XAN AMB AMB
comp=Z,12nm,1.3s,mb4.7
XAN LR LR
comp=N,100nm,25.2s,MS4.0
XAN LR LR
comp=E,138nm,25.2s,MS4.0
XAN LR LR
comp=Z,177nm,26.9s,MS4.0
ZALV Zalesovo Beam 54.46 314 P **P 21 04 22.1 -0.5**
ZALV PcP PcP 21 05 25.9 +0.4
ZALV LR LR 21 30 06.9
ZALV Zalesovo Beam 54.46 314 P **P 21 04 22.1 -0.5**
comp=Z,0.4nm,0.3s,mb3.8,baz=52,slow=9.3,SNR=3.1
ZALV PcP PcP 21 05 25.9 +0.4
comp=Z,6.3nm,0.6s,baz=40,slow=3.8,SNR=25
ZALV LR LR 21 30 06.9
comp=Z,123nm,18.1s,MS4.0,baz=168,slow=39
ZAL Zalesovo 54.48 314 P **P 21 04 22.1 -0.7**
ZAL 21 05 25.9
QZH Quanzhou 54.59 266 P **P 21 04 23.8 -0.2**
QZH AMB AMB
comp=Z,40nm,0.8s,mb5.5
COWI Conover 55.22 58 *e*P **P 21 04 25.7 -2.5**
MNTX Cornudas Mount 55.30 81 *e*P **P 21 04 29.1 0.0**
comp=Z,14nm,1.1s,mb4.9
KSU1 Kansas State U 55.62 69 *e*P **P 21 04 30.4 -0.8**
comp=Z,11nm,0.5s,mb5.1
KSU1 *e* pP 21 04 42.6 -3.2
LZH Lanzhou 55.99 287 *e*P **P 21 04 35.5 +1.6**
LZH AP pP 21 04 44.5 -4.0
LZH XP sP 21 04 47.0 -7.6
LZH PCP PcP 21 05 34.2 +2.5
LZH PP PP 21 06 44.0 +5.1
LZH *e*S **S 21 12 17.0 -1.0**
LZH AMB AMB
comp=Z,20nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,104nm,5.7s
LZH LR LR
comp=E,366nm,15.0s
LZH LR LR
comp=Z,544nm,17.7s,MS4.7
GTA Gaotai 56.15 292⇑ *i*P **P 21 04 35.5 +0.5**
GTA AP pP 21 04 47.3 -2.2
GTA XP sP 21 04 52.6 -3.1
GTA PCP PcP 21 05 30.6 -1.7
GTA PP PP 21 06 43.0 +2.8
GTA PPP 21 08 00.6
GTA S **S 21 12 21.1 +1.1**
GTA PS 21 12 39.7
GTA XS sS 21 12 41.6 -2.8
GTA AMB AMB
comp=Z,30nm,0.8s,mb5.4
GTA AMB AMB
comp=Z,120nm,6.1s
GTA LR LR
comp=N,247nm,18.3s,MS4.4
GTA LR LR
comp=E,249nm,22.1s,MS4.4
GTA LR LR
comp=Z,439nm,20.9s,MS4.5
KEV Kevo 57.78 350 *e*p **P 21 04 45.0 -1.1**
TXAR Lajitas Array 58.01 82 P **P 21 04 48.1 -0.1**
comp=Z,4.2nm,0.7s,mb4.6,baz=302,slow=5.0,SNR=44
TXAR LR LR 21 29 00.7
comp=Z,73nm,19.9s,MS3.8,baz=5.0,slow=35
ARCES ARCESS Array B 58.15 351 P **P 21 04 48.2 -0.5**
ARCES 21 05 39.1
ARCES ARCESS Array B 58.15 351 P **P 21 04 48.2 -0.5**
ARCES PcP PcP 21 05 39.1 -0.5
ARCES LR LR 21 32 12.7
ARCES ARCESS Array B 58.15 351 P **P 21 04 48.2 -0.4**
comp=Z,2.1nm,0.4s,mb4.6,baz=23,slow=7.4,SNR=36
ARCES PcP PcP 21 05 39.1 -0.5
comp=Z,4.6nm,0.6s,baz=3.8,slow=5.4,SNR=7.9
ARCES LR LR 21 32 12.7
comp=Z,227nm,19.2s,MS4.3,baz=80,slow=38

ARE0 ARCESS Array S 58.15 351 *e*P **P 21 04 48.7 0.0**
CCM Cathedral Cave 59.43 66 *e*P **P 21 04 55.3 -2.7**
CCM pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
CCM Cathedral Cave 59.43 66 *e*P **P 21 04 55.3 -2.7**
comp=Z,6.8nm,0.6s,mb4.8
KURK Kurchatov 59.45 314 *e*P **P 21 04 56.4 -1.6**
KURK *e* 21 05 44.6
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
KURK Kurchatov 59.45 314 *e*P **P 21 04 56.4 -1.6**
comp=Z,5.2nm,0.6s,mb4.7
KURK *e*PcP PcP 21 05 44.6 -0.6
SCHQ Schefferville 59.56 39 P **P 21 04 57.9 -0.8**
comp=Z,1.4nm,0.5s,mb4.3,baz=331,slow=10,SNR=2.9
SCHQ PcP PcP 21 05 45.5 0.0
comp=Z,2.4nm,0.6s,baz=340,slow=6.6,SNR=4.7
SCHQ LR LR 21 31 54.6
comp=Z,262nm,20.0s,MS4.4,baz=273,slow=37
CD2 Chengdu 59.60 282 P **P 21 05 00.0 +0.7**
CD2 AP pP 21 05 12.6 -1.3
CD2 XP sP 21 05 17.9 -2.2
CD2 PP PP 21 07 13.6 +2.6
CD2 S **S 21 13 03.8 -1.5**
CD2 XS sS 21 13 26.5 -3.4
CD2 SS SS 21 17 00.6 -0.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.8s
CD2 LR LR
comp=N,130nm,12.6s,MS4.5
CD2 LR LR
comp=E,210nm,13.2s,MS4.5
CD2 LR LR
comp=Z,160nm,14.4s,MS4.3
WMQ Urumqi 59.86 303 P **P 21 05 02.5 +1.6**
WMQ XP sP 21 05 20.5 -1.2
WMQ PP PP 21 07 16.5 +3.6
WMQ S **S 21 13 08.5 +0.2**
WMQ SS SS 21 17 06.5 +2.1
WMQ AMB AMB
comp=Z,34nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,248nm,5.0s
WMQ LR LR
comp=N,227nm,12.0s,MS4.7
WMQ LR LR
comp=E,215nm,12.0s,MS4.7
WMQ LR LR
comp=Z,289nm,12.0s,MS4.6
FVM French Village 59.95 66 *e*P **P 21 05 00.2 -1.4**
FVM pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
FVM French Village 59.95 66 *e*P **P 21 05 00.2 -1.3**
comp=Z,10nm,0.8s,mb4.9
MIAR Mount Ida 60.50 71 *e*P **P 21 05 04.9 -0.5**
MIAR *e* pP 21 05 20.6 +0.5
MIAR pmax pmax
comp=Z,40nm,1.3s,mb5.3
MIAR Mount Ida 60.50 71 *e*P **P 21 05 04.9 -0.5**
comp=Z,40nm,1.3s,mb5.3
MIAR *e* pP 21 05 20.6 +0.5
MK31 Makanchi Array 60.51 309 *e*P **P 21 05 03.2 -2.1**
MKAR Makanchi Array 60.51 309 P **P 21 05 03.6 -1.7**
MKAR 21 05 49.5
MKAR Makanchi Array 60.51 309 P **P 21 05 03.6 -1.6**
MKAR PcP PcP 21 05 49.5 +0.1
MKAR LR LR 21 31 17.9
MKAR Makanchi Array 60.51 309 P **P 21 05 03.6 -1.6**
comp=Z,1.0nm,0.4s,mb4.3,baz=45,slow=7.2,SNR=14
MKAR PcP PcP 21 05 49.5 +0.1
comp=Z,1.2nm,0.5s,baz=42,slow=3.9,SNR=4.1
MKAR LR LR 21 31 17.9
comp=Z,189nm,21.0s,MS4.2,baz=39,slow=36
GYA Guiyang 60.96 277 P **P 21 05 08.6 0.0**
GYA AP pP 21 05 23.8 +0.4
GYA XP sP 21 05 28.9 -0.6
GYA PP PP 21 07 25.8 +2.7
GYA SCP ScP 21 09 48.5 +0.3
GYA S **S 21 13 21.4 -1.4**
GYA XS sS 21 13 44.8 -2.8
GYA SCS ScS 21 14 52.6 -2.4
GYA SS SS 21 17 22.3 -0.2
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,110nm,6.2s
GYA LR LR
comp=N,490nm,20.8s,MS4.8
GYA LR LR
comp=E,430nm,19.6s,MS4.8
GYA LR LR
comp=Z,560nm,20.2s,MS4.7
BVAR Borovoye Array 61.27 320 P **P 21 05 09.8 -0.5**
BVAR 21 05 52.5
BVAR Borovoye Array 61.27 320 P **P 21 05 09.8 -0.5**
comp=Z,3.9nm,0.3s,mb5.0,baz=53,slow=7.8,SNR=26
BVAR PcP PcP 21 05 52.5 +0.2
comp=Z,5.8nm,0.5s,baz=50,slow=3.0,SNR=12
BVAR LR LR 21 34 14.8
comp=Z,220nm,18.6s,MS4.3,baz=52,slow=38
BRVK Borovoye 61.28 320 *e*P **P 21 05 07.2 -3.2**
BRVK *e* 21 05 52.4
USIN University of 61.52 64 *e*P **P 21 05 11.6 -0.7**
comp=Z,29nm,0.6s,mb5.6
WVT Waverly 62.72 66 *e*P **P 21 05 19.8 -0.6**
WVT pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
WVT Waverly 62.72 66 *e*P **P 21 05 19.8 -0.6**
comp=Z,3.5nm,0.6s,mb4.7
ARU Arti 62.90 329⇓ *e*P **P 21 05 21.2 0.0**
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.5
ARU MLR MLR
comp=Z,100nm,19.0s,MS4.0
OXF Oxford 62.96 68 *e*P **P 21 05 21.5 -0.5**
OXF *e* pP 21 05 36.4 -0.4
OXF pmax pmax
comp=Z,67nm,0.9s,mb5.8
OXF Oxford 62.96 68 *e*P **P 21 05 21.5 -0.4**
comp=Z,67nm,0.9s,mb5.8
OXF *e* pP 21 05 36.4 -0.4
PLAL Pickwick Lake 63.40 67 *e*P **P 21 05 24.1 -0.8**
comp=Z,12nm,0.7s,mb5.1
PLAL *e* pP 21 05 39.6 0.0
HNR Honiara 63.60 205 LR LR 21 26 59.9
comp=Z,94nm,19.8s,MS4.0,baz=359,slow=30
LONY Lake Ozonia 63.65 51 *e*P **P 21 05 24.5 -1.9**
comp=Z,11nm,1.3s,mb4.7
JOF Joensuu 63.71 346 *e*p **P 21 05 25.0 -1.5**
comp=Z,1.4nm,0.4s,mb4.3
KMI Kunming 64.36 279⇑ P **P 21 05 31.6 +0.3**
KMI AP pP 21 05 45.1 -1.0
KMI XP sP 21 05 50.8 -1.4
KMI PP PP 21 07 55.4 +2.3
KMI S **S 21 14 03.8 -1.7**
KMI XS sS 21 14 26.8 -3.6
KMI SS SS 21 18 15.1 -0.5
KMI AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
KMI AMB AMB
comp=Z,76nm,3.1s
KMI LR LR
comp=N,125nm,16.1s,MS4.4
KMI LR LR
comp=E,145nm,13.6s,MS4.4
KMI LR LR
comp=Z,144nm,20.8s
SWET Sewanee 64.45 65 *e*P **P 21 05 30.5 -1.3**
BINY Binghamton 64.73 54 *e*P **P 21 05 32.2 -1.3**
comp=Z,5.7nm,0.6s,mb4.8
TZTN Tazewell 64.84 63 *e*P **P 21 05 34.4 +0.1**
comp=Z,26nm,1.0s,mb5.2
SSPA Standing Stone 64.91 56 *e*P **P 21 05 34.0 -0.6**
comp=Z,6.1nm,0.6s,mb4.8
CPCT Cooper Cave 65.08 64 *e*P **P 21 05 35.1 -0.8**
ELN Prospectdale 65.88 60 *e*P **P 21 05 40.6 -0.3**
FINES FINESS Array B 65.88 348 *i* P **P 21 05 40.0 -0.6**
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES FINESS Array B 65.88 348 P **P 21 05 39.8 -0.8**
comp=Z,1.4nm,0.3s,mb4.4,baz=30,slow=7.1,SNR=30
FINES PcP PcP 21 06 10.7 -0.4
comp=Z,1.9nm,0.6s,baz=29,slow=3.2,SNR=5.0

FINES LR LR 21 34 44.5
comp=Z,85nm,20.0s,MS4.0,baz=196,slow=36
GOGA Godfrey 67.17 65 *e*P **P 21 05 48.2 -1.0**
GOGA *e* pP 21 06 03.7 -0.5
GOGA pmax pmax
comp=Z,18nm,0.8s,mb5.2
GOGA Godfrey 67.17 65 *e*P **P 21 05 48.2 -1.0**
comp=Z,18nm,0.8s,mb5.2
GOGA *e* pP 21 06 03.6 -0.5
AAK Ala-Archa 67.33 310⇑ *e*P **P 21 05 51.1 +1.0**
AAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
AAK Ala-Archa 67.33 310 *e*P **P 21 05 48.4 -1.8**
comp=Z,1.9nm,0.6s,mb4.3
AAK Ala-Archa 67.33 310 LR LR 21 36 32.3
comp=Z,192nm,21.6s,MS4.3,baz=24,slow=37
EKS2 Erkin-Say 67.65 311 *e*P **P 21 05 51.4 -0.8**
comp=Z,2.8nm,0.6s,mb4.5
NB2 NORSAR Subarra 67.65 355 P **P 21 05 51.0 -0.9**
comp=Z,0.8nm,0.4s,mb4.1,baz=6.0,slow=6.5
NOA NORSAR Array B 67.65 355 P **P 21 05 52.3 +0.4**
NOA 21 06 18.3
NOA NORSAR Array B 67.65 355 P **P 21 05 52.2 +0.4**
comp=Z,1.3nm,0.6s,mb4.1,baz=7.0,slow=6.5,SNR=12
NOA PcP PcP 21 06 18.2 -0.2
comp=Z,1.0nm,0.5s,baz=359,slow=3.1,SNR=4.7
NOA LR LR 21 33 16.1
comp=Z,92nm,21.8s,MS4.0,baz=355,slow=34
JSC Jenkinsville 67.76 63 *e*P **P 21 05 53.0 0.0**
AKTK Aktyubinsk 68.02 325 P **P 21 05 54.3 0.0**
AKTK PcP PcP 21 06 20.5 +0.3
AKTK LR LR 21 40 11.7
AKTO Aktyubinsk 68.02 325 P **P 21 05 54.3 0.0**
AKTO 21 06 20.5
AKTO Aktyubinsk 68.02 325 P **P 21 05 54.3 0.0**
comp=Z,18nm,0.6s,mb5.3,baz=60,slow=7.8,SNR=73
AKTO PcP PcP 21 06 20.5 +0.3
comp=Z,4.4nm,0.5s,baz=56,slow=3.6,SNR=4.4
AKTO LR LR 21 40 11.7
comp=Z,294nm,18.4s,MS4.5,baz=45,slow=40
LSA Lhasa 68.03 290 P **P 21 05 57.0 +2.2**
LSA Lhasa 68.03 290 *e*P **P 21 05 57.0 +2.2**
LSA pmax pmax
comp=Z,58nm,0.6s,mb5.8
LSA Lhasa 68.03 290 *e*P **P 21 05 57.0 +2.2**
comp=Z,58nm,0.6s,mb5.8
HFS Hagfors 68.41 354 LR LR 21 34 21.5
comp=Z,156nm,19.4s,MS4.2,baz=4.7,slow=35
NHSC New Hope 69.24 63 *e*P **P 21 06 02.6 +0.4**
comp=Z,145nm,1.4s,mb5.7
OBN Obninsk 70.05 340⇑ *e*P **P 21 06 07.7 +0.9**
OBN *e**PP pP 21 06 21.3 -0.5
OBN *e* 21 06 28.1
OBN pmax pmax
comp=Z,17nm,1.1s,mb4.9
OBN MLR MLR
comp=Z,100nm,24.0s,MS4.0
OBN Obninsk 70.05 340 P **P 21 06 06.6 -0.2**
comp=Z,11nm,0.7s,mb4.9
SHL Shillong 70.66 287⇑ *i*P **P 21 06 13.0 +2.0**
PMOR Pomariorio Ree 71.09 149 *e*T 22 23 55.3
comp=Z,20nm,0.3s
GUN Gumba 72.44 293 *e*P **P 21 06 22.8 +1.1**
comp=Z,97nm,0.3s,mb6.2
JIRN Jiri 72.44 292 *e*P **P 21 06 23.0 +1.2**
comp=Z,75nm,0.6s,mb5.8
KKN Kakani 72.87 293 *e*P **P 21 06 25.4 +1.1**
comp=Z,40nm,0.6s,mb5.5
PKI Pulchoki 72.96 293 *e*P **P 21 06 25.9 +1.1**
comp=Z,32nm,0.5s,mb5.5
PKIN Phulchoki 72.97 293 *e*P **P 21 06 25.8 +0.9**
comp=Z,40nm,0.5s,mb5.6
PPT Papeete 73.00 152 *e*S S 21 15 51.6 +3.9
comp=Z,129nm,30.0s
PPT Papeete 73.00 152 *e*LR LR 21 28 48.4
comp=Z,226nm,24.0s,baz=342
PPT Papeete 73.00 152 LR LR 21 31 36.8
comp=Z,245nm,18.8s,MS4.5,baz=3.1,slow=30
GKN Gorkha 73.08 294 *e*P **P 21 06 26.3 +0.8**
comp=Z,38nm,0.4s,mb5.7
DMN Daman 73.11 293 *e*P **P 21 06 26.8 +1.1**
VORD Divnogorie 73.25 337 *e*P **P 21 06 26.0 -0.2**
VORD pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,6.0nm,0.4s
DANN Dangsing 73.32 294 *e*P **P 21 06 27.8 +0.9**
KOLN Koldanda 73.85 294 *e*P **P 21 06 30.5 +0.4**
SMLA Simla 74.84 301 *e*P **P 21 06 35.4 -0.3**
SMLA AMb AMB 21 06 38.6
comp=Z,16nm,1.0s,mb4.9
BOK Bokaro 75.56 290 *e*P **P 21 06 39.3 -0.7**
BOK AMb AMB 21 06 43.7
comp=Z,46nm,2.4s,mb5.0
AKASG Malin Array Be 75.70 343 P **P 21 06 40.2 -0.2**
AKASG LR LR 21 43 09.4
AKASG Malin Array Be 75.70 343 P **P 21 06 40.2 -0.2**
comp=Z,1.4nm,0.3s,mb4.4,baz=21,slow=5.6,SNR=22
AKASG LR LR 21 43 09.4
comp=Z,112nm,20.2s,MS4.2,baz=30,slow=38
AKBB Malin Array Si 75.70 343 *e*P **P 21 06 39.7 -0.6**
KIEV Kiev 75.71 343 *e*P **P 21 06 39.6 -0.8**
KIEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
KIEV Kiev 75.71 343 *e*P **P 21 06 39.6 -0.8**
comp=Z,3.9nm,0.4s,mb4.7
KBL Kabul 76.31 309 *e*P **P 21 06 43.3 -0.9**
comp=Z,8.4nm,0.7s,mb4.8
CLL Collm 77.23 353 P PcP 21 06 57.0 -2.5
CLL *e*S S 21 16 24.0 -10
CLL Collm 77.23 353 *e*(PcP) PcP 21 06 57.0 -2.5
CLL *e*x x 21 13 47.0
CLL *e*(S) S 21 16 24.0 -10
CLL *e*SP 21 17 06.0
CLL *e*PPS 21 17 38.0
CLL *e*SS SS 21 21 26.0 -5.3
CLL Lm 21 43 00.0
comp=N,100nm,21.1s
CLL Lm 21 43 00.0
comp=E,100nm,21.8s
CLL Lm 21 43 00.0
comp=Z,100nm,21.7s
KWP Kalwaria 77.82 347 *e*P **P 21 06 52.8 +0.5**
KWP Kalwaria 77.82 347 *e*P **P 21 06 52.8 +0.5**
KWP Kalwaria 77.82 347⇑ *i*P **P 21 06 52.4 +0.1**
STHS Stebnicka Huta 78.23 347 *e*P **P 21 06 56.5 +1.9**
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
STHS Stebnicka Huta 78.23 347 *e*P **P 21 06 56.5 +1.9**
comp=Z,1.7nm,0.8s,mb4.0
BCLA Clavier 78.50 358 P **P 21 06 56.0 -0.1**
BCLA XP sP 21 07 16.2 -1.1
TBI Tubuai 78.50 154 *e*LR LR 21 31 14.5
comp=Z,282nm,31.0s,baz=342
KOLS Kolonicke sedl 78.56 347 *e*P **P 21 06 57.8 +1.4**
CRVS Cervenica-Dubn 78.71 347 *e*P **P 21 06 58.6 +1.4**
KIV Kislovodsk 78.74 331⇑ *e*P **P 21 06 57.9 +0.4**
KIV *e**PP pP 21 07 12.7 0.0
KIV pmax pmax
comp=Z,15nm,1.8s,mb4.6
KIV MLR MLR
comp=Z,200nm,21.0s,MS4.4
KIV Kislovodsk 78.74 331 *e*P **P 21 06 57.4 -0.1**
comp=Z,4.4nm,0.7s,mb4.5
GIVF Givet 78.82 358 *e*P **P 21 06 57.6 -0.3**
BAIF Baives 78.88 359 *e*P **P 21 06 58.5 +0.4**
comp=Z,17nm,0.7s,mb4.8
BAIF Baives 78.88 359 *e*P **P 21 06 58.5 +0.4**
BAIF pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BAIF Baives 78.88 359 *e*P **P 21 06 58.5 +0.4**
comp=Z,8.6nm,0.7s,mb4.8
GRA1 Grafenberg Arr 78.97 354 *e*P **P 21 06 58.5 -0.1**
comp=Z,11nm,1.7s,mb4.5
GRF Grafenberg Arr 78.97 354 *e*P **P 21 06 58.5 -0.1**
GRF pmax pmax
comp=Z,11nm,1.7s,mb4.5
GRF Grafenberg Arr 78.97 354 *e*P **P 21 06 58.5 -0.1**
GRF pmax pmax
comp=Z,11nm,1.7s,mb4.5
GRF Grafenberg Arr 78.97 354 *e*P **P 21 06 58.5 -0.1**
comp=Z,11nm,1.7s,mb4.5
BLSP Bilaspur 79.03 292 *e*P **P 21 06 58.4 -1.1**

KHC Kasperske Hory 79.35 352⇓ *eP* **P 21 07 01.1 +0.3**
KHC Kasperske Hory 79.35 352 *eP* **P 21 07 00.0 -0.8**
BURAR Bucovina Array 79.38 344⇑ *iP* **P 21 07 01.0 0.0**
BATI Kupang 79.39 239 P **P 21 07 01.4 0.0**
comp=Z,13nm,0.5s,mb5.2,baz=112,slow=1.5,SNR=6.8
VYHS Vyhne 79.45 349 *eP* **P 21 07 02.8 +1.5**
VYHS pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
VYHS Vyhne 79.45 349 *eP* **P 21 07 02.8 +1.5**
comp=Z,3.3nm,1.6s,mb4.0
GERES GERESS Array B 79.63 352 P **P 21 07 02.2 0.0**
comp=Z,0.9nm,0.6s,mb3.9,baz=26,slow=4.7,SNR=7.8
GERES LR LR 21 46 01.1
comp=Z,118nm,21.6s,MS4.2,baz=276,slow=38
MODS Modra-Piesok 79.75 350 *eP* **P 21 07 04.0 +1.1**
MODS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
MODS Modra-Piesok 79.75 350 *eP* **P 21 07 04.0 +1.1**
comp=Z,3.7nm,1.3s,mb4.2
ZST Bratislava 79.94 350 *eP* **P 21 07 08.2 +4.2**
ZST pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ZST Bratislava 79.94 350 *eP* **P 21 07 08.2 +4.2**
comp=Z,4.7nm,0.8s,mb4.5
FLN La Foliniere 80.16 2 *eP* **P 21 07 04.8 -0.4**
comp=Z,12nm,0.5s,mb4.8
FLN *e*MLR MLR
comp=Z,139nm,21.0s,MS4.0
FLN La Foliniere 80.16 2 *eP* **P 21 07 04.8 -0.4**
FLN pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
FLN MLR MLR
comp=Z,140nm,21.0s,MS4.3
FLN La Foliniere 80.16 2 *eP* **P 21 07 04.8 -0.4**
comp=Z,6.1nm,0.5s,mb4.8
FLN LR LR
comp=Z,140nm,21.0s,MS4.3
LDF La Druitiere 80.34 2 *eP* **P 21 07 05.7 -0.4**
comp=Z,30nm,0.5s,mb5.2
LDF La Druitiere 80.34 2 *eP* **P 21 07 05.7 -0.4**
LDF pmax pmax
comp=Z,15nm,0.5s,mb5.2
LDF La Druitiere 80.34 2 *eP* **P 21 07 05.7 -0.4**
comp=Z,15nm,0.5s,mb5.2
MEZF Maizieres J'vi 80.42 358 *eP* **P 21 07 06.8 +0.3**
comp=Z,17nm,0.8s,mb4.7
MEZF Maizieres J'vi 80.42 358 *eP* **P 21 07 06.8 +0.3**
comp=Z,17nm,0.8s,mb5.0
CDF Champ du Feu 80.45 357 *eP* **P 21 07 06.7 0.0**
comp=Z,5.1nm,0.8s,mb4.2
CDF Champ du Feu 80.45 357 *eP* **P 21 07 06.7 0.0**
CDF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
CDF Champ du Feu 80.45 357 *eP* **P 21 07 06.7 0.0**
comp=Z,2.5nm,0.8s,mb4.2
ROSF Rostrenen 80.50 4 *eP* **P 21 07 06.9 -0.1**
comp=Z,14nm,0.7s,mb4.7
ROSF Rostrenen 80.50 4 *eP* **P 21 07 06.9 -0.1**
ROSF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
ROSF Rostrenen 80.50 4 *eP* **P 21 07 06.9 -0.1**
comp=Z,6.8nm,0.7s,mb4.7
GRR Gorron 80.53 2 *eP* **P 21 07 07.0 -0.1**
comp=Z,30nm,0.6s,mb5.1
GRR Gorron 80.53 2 *eP* **P 21 07 07.0 -0.1**
GRR pmax pmax
comp=Z,15nm,0.6s,mb5.1
GRR Gorron 80.53 2 *eP* **P 21 07 07.0 -0.1**
comp=Z,15nm,0.6s,mb5.1
DRGR 80.59 346⇑ *iP* **P 21 07 07.4 -0.1**
SGMF Saint Gilles 80.61 3 *eP* **P 21 07 07.6 0.0**
comp=Z,24nm,0.5s,mb5.1
SGMF Saint Gilles 80.61 3 *eP* **P 21 07 07.6 0.0**
SGMF pmax pmax
comp=Z,12nm,0.5s,mb5.1
SGMF Saint Gilles 80.61 3 *eP* **P 21 07 07.6 0.0**
comp=Z,12nm,0.5s,mb5.1
VRI Vrincioaia 80.81 343⇓ *iP* **P 21 07 09.5 +0.8**
BHPL Bhopal 80.86 296 *eP* **P 21 07 08.3 -1.1**
HAU Haudompre 80.88 357 *eP* **P 21 07 09.0 0.0**
comp=Z,7.4nm,0.7s,mb4.4
HAU *e*MLR MLR
comp=Z,185nm,22.0s,MS4.1
HAU Haudompre 80.88 357 *eP* **P 21 07 09.0 0.0**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HAU MLR MLR
comp=Z,180nm,22.0s,MS4.4
HAU Haudompre 80.88 357 *eP* **P 21 07 09.0 0.0**
comp=Z,3.7nm,0.7s,mb4.4
HAU LR LR
comp=Z,180nm,22.0s,MS4.4
QUIF Quistinic 80.93 4 *eP* **P 21 07 09.5 +0.2**
comp=Z,15nm,0.7s,mb4.8
QUIF Quistinic 80.93 4 *eP* **P 21 07 09.5 +0.2**
QUIF pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
QUIF Quistinic 80.93 4 *eP* **P 21 07 09.5 +0.2**
comp=Z,7.6nm,0.6s,mb4.8
HINF Hinteralfeld 81.06 357 *eP* **P 21 07 09.7 -0.3**
comp=Z,3.6nm,0.7s,mb4.1
HINF Hinteralfeld 81.06 357 *eP* **P 21 07 09.7 -0.3**
HINF pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
HINF Hinteralfeld 81.06 357 *eP* **P 21 07 09.7 -0.3**
comp=Z,1.8nm,0.7s,mb4.1
MLR Muntele Rosu 81.31 343⇑ *iP* **P 21 07 12.1 +0.7**
VOIR 81.52 344⇓ *iP* **P 21 07 18.3 +5.8**
ISR Istrita 81.56 343⇑⇑ *iP* **P 21 07 13.0 +0.3**
ISR Istrita 81.56 343⇑ *iP* **P 21 07 12.9 +0.2**
NGP Nagpur 81.58 293 *eP* **P 21 07 12.5 -0.7**
NGP AMb AMB 21 07 14.0
comp=Z,30nm,1.4s,mb5.0
LOR Lormes 81.67 359 *eP* **P 21 07 13.3 +0.1**
comp=Z,14nm,0.9s,mb4.6
LOR *e*MLR MLR
comp=Z,122nm,21.2s,MS3.9
LOR Lormes 81.67 359 *eP* **P 21 07 13.3 +0.1**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LOR MLR MLR
comp=Z,120nm,21.3s,MS4.2
LOR Lormes 81.67 359 *eP* **P 21 07 13.3 +0.1**
comp=Z,6.8nm,0.9s,mb4.6
LOR LR LR
comp=Z,120nm,21.3s,MS4.2
HYF Humbligny 81.68 360 *eP* **P 21 07 13.6 +0.3**
VIS Vishakhapatnam 81.75 288 *eP* **P 21 07 13.9 -0.1**
VIS AMb AMB 21 07 17.3
comp=Z,33nm,1.4s,mb5.1
SSF Saint Saulge 81.89 359 *eP* **P 21 07 14.3 -0.1**
comp=Z,9.9nm,0.6s,mb4.6
SSF Saint Saulge 81.89 359 *eP* **P 21 07 14.3 -0.1**
SSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
SSF Saint Saulge 81.89 359 *eP* **P 21 07 14.3 -0.1**
comp=Z,4.9nm,0.6s,mb4.6
GZR Gura Zlata 81.94 346⇓ *iP* **P 21 07 17.2 +2.5**
PTCC Patocco-Chiusa 82.08 352 P **P 21 07 16.5 +1.1**
comp=Z,4.4nm,0.6s,mb4.6
AVF Avril sur Loir 82.16 359 *eP* **P 21 07 15.7 -0.1**
comp=Z,14nm,0.8s,mb4.7
AVF Avril sur Loir 82.16 359 *eP* **P 21 07 15.7 -0.1**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
AVF Avril sur Loir 82.16 359 *eP* **P 21 07 15.7 -0.1**
comp=Z,6.8nm,0.8s,mb4.6
CABF La Chapelle 82.28 357 *eP* **P 21 07 16.7 +0.2**
SMF Signal de Mont 82.30 359 *eP* **P 21 07 16.5 0.0**
comp=Z,12nm,0.6s,mb4.7
SMF Signal de Mont 82.30 359 *eP* **P 21 07 16.5 0.0**
SMF pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SMF Signal de Mont 82.30 359 *eP* **P 21 07 16.5 0.0**
comp=Z,6.2nm,0.6s,mb4.7
MFF Saint Martin d 82.33 2 *eP* **P 21 07 16.8 +0.1**
comp=Z,19nm,0.8s,mb4.8
MFF Saint Martin d 82.33 2 *eP* **P 21 07 16.8 +0.1**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF Saint Martin d 82.33 2 *eP* **P 21 07 16.8 +0.1**
comp=Z,9.4nm,0.8s,mb4.8
BGF Bois d'Agland 82.39 360 *eP* **P 21 07 17.0 0.0**
comp=Z,7.2nm,0.5s,mb4.6
BGF Bois d'Agland 82.39 360 *eP* **P 21 07 17.0 0.0**
BGF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BGF Bois d'Agland 82.39 360 *eP* **P 21 07 17.0 0.0**
comp=Z,3.6nm,0.5s,mb4.6
WRA Warramunga Arr 82.50 225 P **P 21 07 16.6 -1.2**
comp=Z,3.5nm,0.7s,mb4.4,baz=32,slow=6.0,SNR=32
TCF Toulx Ste Croi 82.67 0 *eP* **P 21 07 18.4 0.0**
comp=Z,3.7nm,0.4s,mb4.5
AKL Akola 83.10 294 *eP* **P 21 07 20.8 -0.3**
AKL AMb AMB 21 07 22.4
comp=Z,17nm,0.9s,mb5.1
RKT Rikitea 83.19 141 *e*LR LR 21 33 40.1
comp=Z,370nm,23.8s
RKT Rikitea 83.19 141 *e*T 22 39 02.9
comp=Z,6.3nm,0.3s
LPL La Plagne 83.36 357 *eP* **P 21 07 23.5 +1.5**
LPG La Plagne 83.38 357 *eP* **P 21 07 23.8 +1.7**
RJF Les Rejaudoux 83.65 1 *eP* **P 21 07 23.4 -0.1**
RJF *e*MLR MLR
comp=Z,145nm,20.8s,MS4.0
RJF Les Rejaudoux 83.65 1 *eP* **P 21 07 23.4 -0.1**
RJF LR LR
comp=Z,140nm,20.8s,MS4.3
ORIF Oris-en-Rattie 83.98 357 *eP* **P 21 07 26.1 +0.9**
ORIF *e*MLR MLR
comp=Z,105nm,19.5s,MS3.9
LFF La Frestale 84.00 1 *eP* **P 21 07 25.5 +0.1**
comp=Z,21nm,0.6s,mb5.2
LFF La Frestale 84.00 1 *eP* **P 21 07 25.5 +0.1**
LFF pmax pmax
comp=Z,11nm,0.6s,mb5.2
LFF La Frestale 84.00 1 *eP* **P 21 07 25.5 +0.1**
comp=Z,11nm,0.6s,mb5.2
CAF Calviac 84.03 0 *eP* **P 21 07 25.7 +0.2**
comp=Z,17nm,0.9s,mb4.9
CAF Calviac 84.03 0 *eP* **P 21 07 25.7 +0.2**
CAF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
CAF Calviac 84.03 0 *eP* **P 21 07 25.7 +0.2**
comp=Z,8.7nm,0.9s,mb4.9
VIVF Saint-Julien-l 84.07 358 *eP* **P 21 07 25.5 -0.2**
comp=Z,8.3nm,0.8s,mb4.6
VIVF Saint-Julien-l 84.07 358 *eP* **P 21 07 25.5 -0.2**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
VIVF Saint-Julien-l 84.07 358 *eP* **P 21 07 25.5 -0.2**
comp=Z,4.2nm,0.8s,mb4.6
MBDF Montbardon 84.15 357 *eP* **P 21 07 27.1 +1.0**
comp=Z,12nm,0.9s,mb4.7
MBDF Montbardon 84.15 357 *eP* **P 21 07 27.1 +1.0**
MBDF pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
MBDF Montbardon 84.15 357 *eP* **P 21 07 27.1 +1.0**
comp=Z,5.8nm,0.9s,mb4.7
PZZ Prazzo 84.36 357 P **P 21 07 25.8 -1.3**
VTS Vitosha 84.60 345⇓ *iP* **P 21 07 28.7 +0.3**
SFI Santa Sofia 84.68 353 P **P 21 07 30.0 +1.2**
HYB Hyderabad 84.80 291 *eP* **P 21 07 30.0 +0.2**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.6
HYB Hyderabad 84.80 291 *eP* **P 21 07 30.0 +0.2**
comp=Z,50nm,1.0s,mb5.6
HYB Hyderabad 84.80 291 *i P* **P 21 07 30.0 +0.2**
comp=Z,50nm,1.0s,mb5.6
SMRF Simiane la Rot 84.93 358 *eP* **P 21 07 30.9 +0.8**
comp=Z,21nm,0.8s,mb5.0
SMRF Simiane la Rot 84.93 358 *eP* **P 21 07 30.9 +0.8**
comp=Z,21nm,0.8s,mb5.3
SBF Sospel 84.98 356 *eP* **P 21 07 30.1 -0.2**
comp=Z,40nm,0.9s,mb5.2
SBF Sospel 84.98 356 *eP* **P 21 07 30.1 -0.2**
SBF pmax pmax
comp=Z,20nm,0.9s,mb5.2
SBF Sospel 84.98 356 *eP* **P 21 07 30.1 -0.2**
comp=Z,20nm,0.9s,mb5.2
FITZ Fitzroy Crossi 85.01 233 *eP* **P 21 07 30.5 -0.1**
comp=Z,3.3nm,0.6s,mb4.6
FITZ Fitzroy Crossi 85.01 233 P **P 21 07 30.6 0.0**
comp=Z,6.0nm,0.8s,mb4.8,baz=21,slow=5.5,SNR=20
LATR Latur 85.17 293 *eP* **P 21 07 31.2 -0.4**
LATR AMb AMB 21 07 32.4
comp=Z,34nm,1.7s,mb5.2
MALT Malatya 85.18 332 *eP* **P 21 07 32.0 +0.6**
MALT pmax pmax
comp=Z,16nm,1.2s,mb5.0
MALT Malatya 85.18 332 *eP* **P 21 07 31.9 +0.5**
comp=Z,16nm,1.2s,mb5.0
FRF La Foret Royal 85.31 357 *eP* **P 21 07 32.1 +0.1**
comp=Z,12nm,0.7s,mb4.8
FRF La Foret Royal 85.31 357 *eP* **P 21 07 32.1 +0.1**
FRF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
FRF La Foret Royal 85.31 357 *eP* **P 21 07 32.1 +0.1**
comp=Z,5.8nm,0.7s,mb4.8
LMR La Mourre 85.55 357 *eP* **P 21 07 32.6 -0.5**
comp=Z,10nm,0.9s,mb4.8
LMR La Mourre 85.55 357 *eP* **P 21 07 32.6 -0.5**
LMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
LMR La Mourre 85.55 357 *eP* **P 21 07 32.6 -0.5**
comp=Z,5.3nm,0.9s,mb4.8
MTLF Montolieu 85.61 0 *eP* **P 21 07 33.7 +0.2**
comp=Z,10.0nm,0.6s,mb4.9
MTLF Montolieu 85.61 0 *eP* **P 21 07 33.7 +0.2**
MTLF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
MTLF Montolieu 85.61 0 *eP* **P 21 07 33.7 +0.2**
comp=Z,5.0nm,0.6s,mb4.9
NRCA Norcia 85.64 352 P **P 21 07 32.8 -0.8**
SJPF Ste Jean 85.79 3 *eP* **P 21 07 34.8 +0.4**
comp=Z,15nm,0.7s,mb5.0
SJPF Ste Jean 85.79 3 *eP* **P 21 07 34.8 +0.4**
SJPF pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
SJPF Ste Jean 85.79 3 *eP* **P 21 07 34.8 +0.4**
comp=Z,7.4nm,0.7s,mb5.0
EPF Esparros 85.91 1 *eP* **P 21 07 35.0 +0.1**
comp=Z,3.0nm,0.5s,mb4.5
EPF Esparros 85.91 1 *eP* **P 21 07 35.0 +0.1**
EPF pmax pmax
comp=Z,2.0nm,0.5s,mb4.6
EPF Esparros 85.91 1 *eP* **P 21 07 35.0 +0.1**
comp=Z,1.5nm,0.5s,mb4.5
ASAR Alice Springs 85.96 223 P **P 21 07 35.0 -0.3**
comp=Z,5.0nm,0.6s,mb5.0,baz=22,slow=5.7,SNR=140
ASAR PKiKP PKiKP 21 12 42.0 -1.8
comp=Z,0.3nm,0.7s,baz=45,slow=1.0,SNR=5.5
ETSF Etsaut 86.02 2 *eP* **P 21 07 36.0 +0.5**
comp=Z,16nm,0.7s,mb5.0
ETSF Etsaut 86.02 2 *eP* **P 21 07 36.0 +0.5**
ETSF pmax pmax
comp=Z,8.0nm,0.7s,mb5.1
ETSF Etsaut 86.02 2 *eP* **P 21 07 36.0 +0.5**
comp=Z,7.8nm,0.7s,mb5.0
PGF Pioggiola 86.22 355 *eP* **P 21 07 36.2 -0.3**
comp=Z,25nm,0.7s,mb5.2
PGF Pioggiola 86.22 355 *eP* **P 21 07 36.2 -0.3**
PGF pmax pmax
comp=Z,12nm,0.7s,mb5.2
PGF Pioggiola 86.22 355 *eP* **P 21 07 36.2 -0.3**
comp=Z,12nm,0.7s,mb5.2
POO Poona 86.62 296 *eP* **P 21 07 38.1 -0.7**
MVO Moncorvo 87.43 7 *eP* **P 21 07 42.3 -0.1**
PVIS Viseu 87.81 8 *eP* **P 21 07 44.4 +0.2**
MTE Manteigas 88.15 7 *eP* **P 21 07 45.5 -0.4**
PCBR Castelo Branco 88.71 7 *eP* **P 21 07 48.0 -0.5**
CPD Cerro la Pandu 88.95 62 *eP* **P 21 07 50.9 +0.9**
CPD pmax pmax
comp=Z,20nm,0.8s,mb5.5
CPD Cerro la Pandu 88.95 62 *eP* **P 21 07 50.9 +0.9**
comp=Z,20nm,0.8s,mb5.5
ESDC Sonseca Array 89.11 5 P **P 21 07 49.9 -0.5**
comp=Z,2.4nm,0.6s,mb4.7,baz=349,slow=4.1,SNR=29
ESLA Sonseca Array 89.11 5 *eP* **P 21 07 49.3 -1.1**
comp=Z,0.5nm,0.6s,mb4.0
MIB Mutribah 89.91 322 *eP* **P 21 07 53.4 -0.9**
MIB AMb AMB 21 07 54.9
comp=Z,17nm,0.8s,mb5.5
UMR Umm Al-Rimmam 89.99 322 *eP* **P 21 07 53.4 -1.3**
UMR AMb AMB 21 07 55.0
comp=Z,15nm,0.5s,mb5.6
STKA Stephens Creek 90.32 214 *eP* **P 21 07 56.0 +0.2**
comp=Z,3.8nm,0.6s,mb4.9
NAY Al-Naaiem 90.44 322 *eP* **P 21 07 55.6 -1.2**
NAY AMb AMB 21 07 56.4
comp=Z,3.5nm,0.6s,mb4.8
RDF Al-Radifah 90.61 321 *eP* **P 21 07 56.8 -0.8**
RDF AMb AMB 21 07 57.7
comp=Z,18nm,0.7s,mb5.5
ASF Jabal al Asfar 91.35 331 P **P 21 08 00.8 -0.1**
comp=Z,2.3nm,0.6s,mb4.7,baz=308,slow=2.6
ROSC El Rosal 94.55 76 LR LR 21 57 39.5
comp=Z,64nm,18.2s,MS4.1,baz=13,slow=40
DBIC Dimbokro 121.81 8 PKP PKPdf 21 13 48.9 -0.4
comp=Z,5.6nm,0.4s,baz=350,slow=2.2,SNR=38
KMBO Kilima Mbogo 121.86 318 PKP PKPdf 21 13 50.1 +0.7
comp=Z,0.5nm,0.5s,baz=22,slow=1.8,SNR=3.7
LIC Lamto 122.24 9 *e*PKIKP PKIKPdf 21 13 49.1 -1.0
comp=Z,8.4nm,0.3s
LIC *e*MLR MLR
comp=Z,141nm,22.0s,MS4.3
PLCA Paso Flores 130.37 108 PKP PKPdf 21 14 04.3 -0.4
comp=Z,1.3nm,0.7s,baz=333,slow=5.2,SNR=3.1
TSUM Tsumeb 145.64 334 *e*PKPdf PKPdf 21 14 33.5 +0.2
MAW Mawson 146.92 218 PKPbc PKPbc 21 14 35.4 -0.7
comp=Z,28nm,1.2s,baz=58,slow=5.1,SNR=19
LBTB Lobatse 148.14 317 *e*PKP2 PKPab 21 14 41.2 -2.4
BOSA Boshof 151.41 314 PKIKP PKPbc 21 14 47.8 -0.8
BOSA pmax pmax
comp=Z,14nm,0.5s
BOSA Boshof 151.41 314 *e*PKPbc PKPbc 21 14 48.5 0.0
BOSA Boshof 151.41 314 PKPbc PKPbc 21 14 47.8 -0.8
comp=Z,14nm,0.5s,baz=30,slow=2.3,SNR=104
VNA3 Neumayer Olymp 159.40 169 *e*PKPdf PKPdf 21 14 51.8 0.0
VNA3 *e* 21 14 55.5
VNA3 *e* 21 15 05.4
VNA3 *e* 21 15 11.5
VNA2 Neumayer--Watz 159.94 171 *e*PKPdf PKPdf 21 14 52.3 -0.2
VNA2 *e* 21 14 55.8
VNA2 *e* 21 15 05.9
VNA2 *e* 21 15 12.4
VNA2 *e* 21 15 31.9
VNA2 *e* 21 15 44.7

*IPEC **05** 21:01:11.3±0.3,5131N×1909E,h0km±1km,ML2.3/2,Error ellipse: s-maj=2.0km s-min=1.3km az=22.0*
*ISCJB **05** 21:01:13.9±0.8,5114N±004×1884E±004,h0km,Error ellipse: s-maj=6.6km s-min=2.9km az=18.5*
*CSEM **05** 21:01:15.0±0.3,5116N×1904E,h4km,ML2.9/3,Error ellipse: s-maj=5.4km s-min=2.6km az=28.0*
*PRU **05** 21:01:16.6,5112N×1888E,h0km*
*NEIC **05** 21:01:17.3±2.1,5099N×1875E,h5km,ML2.6(BRA),Error ellipse: s-maj=28.1km s-min=11.1km az=198.0*
ISC 05 21:01:15.1±1.0,5115N±005×1891E±004,h1km±5km,n25,σ1§50/49,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**1.09**	**148**	*e*Pg	**Pg**	**21 01 34.0**	**-1.9**
OJC				*e*Sg	**Sg**	**21 01 49.6**	**-0.4**
OJC	**Ojcow**	**1.09**	**148**	*e*Pg	**Pg**	**21 01 34.1**	**-1.8**
OJC				*e*Sg	**Sg**	**21 01 49.6**	**-0.4**
RAC	**Raciborz**	**1.16**	**203**	*e*Pg	**Pg**	**21 01 36.0**	**-1.3**
RAC				*e*Sg	**Sg**	**21 01 54.5**	**+2.2**
OKC	**Ostrava-Krasne**	**1.40**	**201**	*e*Pn	**Pn**	**21 01 40.7**	**-1.1**
OKC	**Ostrava-Krasne**	**1.40**	**201**	*e*Pg	**Pg**	**21 01 41.1**	**-0.8**
OKC				*e*Sg	**Sg**	**21 02 01.0**	**+1.0**
OKC	**Ostrava-Krasne**	**1.40**	**201**	*e*PG	**Pg**	**21 01 41.1**	**-0.8**
OKC				*e*SG	**Sg**	**21 02 01.0**	**+1.0**
comp=Z,36nm,0.7s							
MORC	**Moravsky Berou**	**1.63**	**213**	*e*Pn	**Pn**	**21 01 43.3**	**-1.6**
MORC				*e*Sn	**Sn**	**21 02 07.3**	**+0.8**
MORC	**Moravsky Berou**	**1.63**	**213**	*e*Pn	**Pn**	**21 01 43.6**	**-1.3**
MORC				*e*Sg	**Sg**	**21 02 08.1**	**+0.8**
comp=Z,13nm,0.3s							
KSP	**Ksiaz**	**1.68**	**261**	*e*Pn	**Pn**	**21 01 46.3**	**+0.6**
KSP				*e*Pg	**Pg**	**21 01 48.3**	**+1.0**
KSP				*e*Sg	**Sg**	**21 02 12.2**	**+3.1**
KSP	**Ksiaz**	**1.68**	**261**	*e*Pg	**Pg**	**21 01 48.3**	**+1.0**
KSP				*e*Sg	**Sg**	**21 02 12.2**	**+3.1**
DPC	**Dobruska-Polom**	**1.83**	**245**	*e*Pn	**Pn**	**21 01 46.5**	**-1.2**
DPC				*e*Sg	**Sg**	**21 02 11.9**	**-1.9**
comp=Z,9.1nm,0.5s							
UPC	**Upice**	**1.95**	**252**	*e*Sg	**Sg**	**21 02 15.8**	**-1.8**
NIE	**Niedzica**	**1.95**	**152**	*e*Pg	**Pg**	**21 01 51.2**	**-1.3**
NIE				*e*Sg	**Sg**	**21 02 15.4**	**-2.3**
STHS	**Stebnicka Huta**	**2.29**	**138**	*e*Pn	**Pn**	**21 01 56.2**	**+2.2**
STHS				*e*Pg	**Pg**	**21 01 59.3**	**+0.3**
STHS				*e*Sn	**Sn**	**21 02 26.0**	**+3.2**
STHS				*e*Sg	**Sg**	**21 02 30.9**	**+2.3**
STHS				*e*		21 02 44.4	
STHS	**Stebnicka Huta**	**2.29**	**138**	*e*PN	**Pn**	**21 01 56.2**	**+2.2**
STHS				*e*PG	**Pg**	**21 01 59.3**	**+0.3**
STHS				*e*SN	**Sn**	**21 02 25.9**	**+3.1**
STHS				*e*SG	**Sg**	**21 02 30.9**	**+2.3**
STHS				*e*		21 02 44.4	
STHS	**Stebnicka Huta**	**2.29**	**138**	*e*Pg	**Pg**	**21 01 59.3**	**+0.3**
STHS				*e*Sg	**Sg**	**21 02 30.9**	**+2.3**
KRUC	**Moravsky**	**2.64**	**219**	*e*Pn	**Pn**	**21 01 57.6**	**-1.2**
VYHS	**Vyhne**	**2.66**	**181**	*e*PN	**Pn**	**21 02 00.2**	**+1.1**
VYHS				*e*PG	**Pg**	**21 02 03.4**	**-2.6**
VYHS				*e*SN	**Sn**	**21 02 31.9**	**0.0**
VYHS				*e*SG	**Sg**	**21 02 41.5**	**+1.1**
VYHS				*e*		21 02 45.3	
CRVS	**Cervenica-Dubn**	**2.79**	**143**	*e*SG	**Sg**	**21 02 47.5**	**+3.0**
PRU	**Pruhonice**	**3.02**	**249**	*e*Sg	**Sg**	**21 02 52.2**	**+0.2**
comp=Z,3.7nm,0.4s							
KOLS	**Kolonicke sedl**	**3.10**	**134**	*e*PG	**Pg**	**21 02 16.5**	**+2.0**
KOLS				*e*SG	**Sg**	**21 02 54.1**	**-0.6**
KOLS				*e*		21 03 12.9	
CLL	**Collm**	**3.72**	**275**	*e*Sg	**Sg**	**21 03 17.0**	**+2.6**
KHC	**Kasperske Hory**	**3.98**	**242**	*e*PN	**Pn**	**21 02 16.0**	**-1.2**
KHC				*e*SG	**Sg**	**21 03 21.8**	**-1.1**
comp=Z,4.2nm,0.5s							
NKC	**Novy Kostel**	**4.21**	**260**	*e*Sg	**Sg**	**21 03 29.1**	**-1.1**
comp=Z,4.1nm,0.4s							
MOX	**Moxa**	**4.64**	**267**	(SG)	**Sg**	**21 03 46.0**	**+1.8**

*NEIC **05** 21:05:11.9±0.7,3433N×8197E,h10km,mb3.9/2,Error ellipse: s-maj=13.7km s-min=8.5km az=48.0*
*IDC **05** 21:05:11.2±1.3,3446N×8205E,h0km,mb3.4/6,mb1 3.7/8,mb1mx3.5/23,mbtmp3.6/8,ML3.4/2,Error ellipse: s-maj=42.6km s-min=20.8km az=63.0*
*ISCJB **05** 21:05:14.9±1.0,346N±0.1×82.1E±0.2,h33km,mb3.3/5,Error ellipse: s-maj=22.3km s-min=12.3km az=145.1*
ISC 05 21:05:15.8±0.8,3442N±009×821E±01,h35km,n16,σ1§01/16,mb3.3/5,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**9.05**	**119**	P	**Pn**	**21 07 21.9**	**-1.9**
9.7nm,1.4s							
UCH	**Uchtor**	**9.78**	**325**	*e*P	**Pn**	**21 07 34.1**	**+0.3**
1.2nm,0.6s							
TKM2	**Tokmak 2**	**9.87**	**331**	P	**Pn**	**21 07 35.3**	**+0.3**
2.2nm,0.7s							
KBL	**Kabul**	**10.73**	**274**	P	**Pn**	**21 07 43.7**	**-3.2**
3.5nm,1.0s							
MK31	**Makanchi Array**	**12.36**	**1**	*e*Pn	**Pn**	**21 08 09.6**	**+0.5**
MK31				*e*		21 08 23.2	
MKAR	**Makanchi Array**	**12.36**	**1**	Pn	**Pn**	**21 08 09.2**	**+0.2**
0.3nm,0.3s,baz=183,slow=13,SNR=23							
KURK	**Kurchatov**	**16.47**	**352**	*e*P	**Pn**	**21 09 03.0**	**-1.0**
7.7nm,1.0s							
ZALV	**Zalesovo Beam**	**19.62**	**5**	P	**Pn**	**21 09 41.0**	**-1.5**
0.1nm,0.3s,baz=195,slow=15,SNR=4.3							
BVAR	**Borovoye Array**	**20.36**	**339**	P	**P**	**21 09 49.9**	**+0.8**
2.6nm,0.6s,baz=143,slow=11,SNR=11							
BRVK	**Borovoye**	**20.42**	**339**	*e*P	**P**	**21 09 49.8**	**+0.1**
6.2nm,0.9s							
SONM	**Songino Array**	**22.59**	**46**	P	**P**	**21 10 13.4**	**+0.4**
0.3nm,0.7s,mb2.8,baz=238,slow=8.0,SNR=2.8							
AKTK	**Aktyubinsk**	**23.73**	**320**	P	**P**	**21 10 24.8**	**+0.3**
AKTO	**Aktyubinsk**	**23.73**	**320**	P	**P**	**21 10 24.8**	**+0.3**
0.9nm,0.6s,mb3.4,baz=98,slow=7.1,SNR=2.7							
WRA	**Warramunga Arr**	**73.45**	**129**	P	**P**	**21 16 46.1**	**+1.4**
0.3nm,0.5s,mb3.5,baz=327,slow=5.6,SNR=6.2							
ASAR	**Alice Springs**	**75.91**	**132**	P	**P**	**21 17 00.3**	**+1.5**
0.4nm,0.9s,mb3.3,baz=313,slow=6.0,SNR=5.4							
YKA	**Yellowknife Ar**	**82.49**	**8**	P	**P**	**21 17 33.6**	**-0.6**
0.6nm,0.7s,mb3.6,baz=342,slow=5.3,SNR=8.5							

*ISCJB **05** 21:09:36.9±1.2,171S±03×1776W±02,h400km,mb3.6/9,Error ellipse: s-maj=41.9km s-min=18.0km az=143.2*
*NEIC **05** 21:09:36.1±7.4,1683S×17766W,h377km±72km,mb3.7/2,Error ellipse: s-maj=43.7km s-min=27.6km az=148.0*

IDC ***05*** *21:09:41.1±8.9, 17.14S×17757W, h432km±92km, mb3.3/8, mb1 3.5/8, mb1mx3.4/15, mbtmp3.3/8, Error ellipse: s-maj=39.5km s-min=30.8km az=109.0*

ISC 05 21:09:38.1±1.2, 171S±03×1776W±02, h400km, n22, σ0§84/10, mb3.6/9, 2C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	39.73	241	*e*P	P	21 16 34.5	+0.6
	2.8nm,0.6s,mb3.8						
STKA	Stephens Creek	39.73	241	P	P	21 16 34.9	+0.9
	2.1nm,0.4s,mb3.8,baz=80,slow=11,SNR=15						
WRAB	Tennant Creek	45.58	259	P	P	21 17 19.6	-0.9
	4.8nm,1.1s,mb3.7						
WRA	Warramunga Arr	45.59	259	P	P	21 17 20.2	-0.4
	0.2nm,0.3s,mb3.0,baz=93,slow=7.8,SNR=22						
ASAR	Alice Springs	45.80	253	P	P	21 17 22.2	+0.1
	3.5nm,0.4s,mb4.0,baz=90,slow=7.8,SNR=97						
MJAR	Matsushiro Arr	67.77	323	P	P	21 19 53.1	-1.1
	1.3nm,0.8s,mb3.6,baz=142,slow=5.7,SNR=4.9						
ASAJ	Asahikawa	70.98	331	P	P	21 20 14.6	+1.1
	3.1nm,0.7s,mb4.0,baz=80,slow=7.0,SNR=3.8						
KSRS	Korea Array	74.66	318	P	P	21 20 36.0	+1.0
	0.8nm,0.8s,mb3.4,baz=120,slow=4.8,SNR=5.2						
TXAR	Lajitas Array	84.88	57	P	P	21 21 29.8	+0.4
	0.9nm,0.8s,mb3.6,baz=216,slow=6.2,SNR=7.1						
YKA	Yellowknife Ar	93.27	24	P	P	21 22 06.8	-1.1
	0.3nm,0.6s,mb3.4,baz=246,slow=4.4,SNR=5.9						
BVAR	Borovoye Array	116.74	321	PKP	PKPdf	21 27 34.6	-0.8
	0.4nm,0.4s,baz=116,slow=3.4,SNR=4.8						
ARCES	ARCESS Array B	125.68	350	PKP	PKPdf	21 27 51.3	-0.7
	1.2nm,0.8s,baz=339,slow=4.8,SNR=4.1						
STHS	Stebnicka Huta	144.36	339	*e*PKP	PKPdf	21 28 27.0	-0.2
KOLS	Kolonicke sedl	144.40	337	*e*PKP	PKPdf	21 28 27.0	-0.3
KSP	Ksiaz	144.57	345	*e*P	PKPdf	21 28 27.1	-0.4
CRVS	Cervenica-Dubn	144.72	338	*e*PKP	PKPdf	21 28 28.4	+0.6
CLL	Collm	144.86	348	⇑*i*P	PKPdf	21 28 27.6	-0.4
CLL	Collm	144.86	348	⇑*i*PKPbc	PKPdf	21 28 27.6	-0.4
	comp=Z,7.0nm,1.2s						
BRG	Berggiesshubel	145.08	347	*e*P	PKPdf	21 28 28.7	+0.3
	comp=Z,2.8nm,0.8s						
BRG							
	comp=N,142nm,27.2s						
BRG							
	comp=E,99nm,16.5s						
BRG							
	comp=Z,179nm,25.3s						
VYHS	Vyhne	145.96	340	*e*PKP	PKPdf	21 28 31.9	+1.9
GERES	GERESS Array B	147.05	346	PKPbc	PKPbc	21 28 33.8	-0.7
	comp=Z,0.6nm,0.6s,baz=13,slow=3.0,SNR=5.2						
DAVOX	Davos/Dischmat	149.78	350	PKPbc	PKPbc	21 28 41.4	0.0
	comp=Z,4.0nm,0.7s,baz=228,slow=3.4,SNR=11						

GII ***05*** *21:10:45.0±0.0, 3823N×49.15E, h30km±1km, mb5.3/7, ML5.4/7*

THR ***05*** *21:11:33.0±0.7, 3914N×4192E, h14km, ML3.6*

MOS ***05*** *21:11:36.6±1.2, 3872N×4230E, h10km, mb4.6/31, Error ellipse: s-maj=6.7km s-min=4.2km az=118.3*

ISK ***05*** *21:11:36.9, 3881N×4227E, h2km, ML4.2*

NEIC ***05*** *21:11:37.0, 3879N×4227E, h8km, mb4.4/47, ML4.5(ISK), After ISK.*

ISCJB ***05*** *21:11:37.5±0.1, 3878N±002×4231E±002, h10km, mb4.3/77, MS3.7/3, Error ellipse: s-maj=2.4km s-min=1.8km az=160.4*

BJI ***05*** *21:11:37.0, 3880N×4230E, h7km, mB5.0, mb4.6, Ms4.5, Msz4.4*

DDA ***05*** *21:11:38.2, 3874N×4222E, h5km±4km, Ml4.4*

CSEM ***05*** *21:11:39.4±0.1, 3879N×4228E, h25km, mb4.5/10, Error ellipse: s-maj=1.8km s-min=1.3km az=169.0*

NSSP ***05*** *21:11:39.5, 3883N×4230E, h10km, ML4.2*

IDC ***05*** *21:11:41.3±3.8, 3880N×4219E, h31km±29km, mb3.9/21, mb1 4.0/27, mb1mx4.0/31, mbtmp4.0/27, ML3.8/6, MS3.3/4, Ms1 3.3/4, ms1mx3.0/25, Error ellipse: s-maj=14.3km s-min=11.4km az=160.0*

SZGRF ***05*** *21:11:46.8, 3890N×4172E, h33km, mb4.4, MS3.2, Turkey*

ISC 05 21:11:38.5±0.5, 3880N±002×4229E±002, h6km±3km, h28km±2.7km: pP-P, n324, σ1§25/361, mb4.3/77, MS3.7/3, 16C-15D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VANB	Van	0.89	103	PG	Pg	21 11 55.2	-0.3
VANB				*e*SG	Sn	21 12 08.2	-2.5
BNGL	BINGOL	0.90	280	*i* P	Pg	21 11 54.6	-1.1
BNGL				*i* S	Sn	21 12 09.0	-2.0
TVAN	Van	0.92	107	*i* P	Pg	21 11 55.3	-0.8
TVAN				*i* S	Sn	21 12 15.7	+4.2
VANT	Van	0.93	112	PG	Pg	21 11 54.4	-1.9
AGRB	Hanur-Agry	0.95	35	PG	Pg	21 11 56.0	-0.7
AGRB				*e*SG	Sn	21 12 09.9	-2.3
HOMI	Horasan	1.28	347	*i* P	Pn	21 12 01.9	-1.0
HOMI				*i* S	Sn	21 12 23.5	+3.1
SIRT	Sirnak	1.30	175	*e*PN	Pn	21 12 02.5	-0.7
SIRT				*e*SN	Sn	21 12 22.2	+1.3
CLDR	Caldiran	1.31	74	*e*PN	Pn	21 12 03.1	-0.4
ERZM	Erzurum	1.31	327	*i* P	Pn	21 12 02.1	-1.3
EZM	Erzurum	1.32	327	PN	Pn	21 12 02.2	-1.2
DYDN	Diyadin	1.32	55	*i* P	Pn	21 12 02.3	-1.2
DYDN				*i* S	Sb	21 12 23.7	+2.9
BINT	Bingol	1.41	274	*e*PN	Pn	21 12 03.9	-0.8
HAKT	HAKKARI	1.67	138	*i* P	Pn	21 12 07.9	-0.4
HAKT				*i* S	Sn	21 12 32.3	+2.3
HKR	Hakkari	1.67	136	*e*PN	Pn	21 12 08.4	0.0
VNNZ	Vanand	1.76	42	⇓P	Pn	21 12 10.3	+0.7
KOPT	Kop Dagi	1.84	312	*i* P	Pg	21 12 11.7	-2.2
KOPT				*i* S	Sg	21 12 41.2	+3.4
DIY	Diyarbakir	1.85	242	*e*PN	Pn	21 12 11.0	+0.2
AKSZ	Araks	1.86	41	⇓P	Pn	21 12 11.5	+0.6
CUKT	Cukurca	1.87	146	*e*PN	Pn	21 12 11.5	+0.5
MARD	Mardin	1.90	219	*i* P	Pn	21 12 10.9	-0.6
MARD				*i* S	Sn	21 12 35.1	-0.6
KARS	Kars	1.91	19	*e*PN	Pn	21 12 11.5	-0.2
VRNZ	Vardanashen	1.93	49	⇓P	Pn	21 12 12.8	+0.9
MAKU	Maku	1.94	73	*e*Pg	Pg	21 12 11.8	-4.0
MAKU				*e*Sg	Sg	21 12 41.0	0.0
MAKU				AML	AML	21 12 45.2	
	comp=E,501nm,0.4s						
MAKU				AML	AML	21 12 49.0	
	comp=N,486nm,0.8s						
MAKU	Maku	1.94	73	*e*Pg	Pg	21 12 11.8	-4.0
	SNR=90						
MAKU				*e*Sg	Sg	21 12 41.0	0.0
	SNR=90						
ARUZ	Aruch	2.03	43	⇓P	Pn	21 12 13.5	+0.2
EZC	Erzincan	2.14	297	*e*PN	Pg	21 12 19.4	-0.1
AMBZ	Amberd	2.20	43	⇓P	Pn	21 12 16.5	+0.9
AMBZ				S	Sn	21 12 45.1	+2.0
PTK	Pertek	2.26	273	*e*PN	Pn	21 12 16.2	-0.3
HNAZ	Hnaberd	2.32	37	⇓P	Pn	21 12 16.7	-0.6
SVRC	Sivrice-ELAZID	2.37	261	*e*PN	Pn	21 12 17.5	-0.5
KAMZ	Kamo	2.39	32	P	Pn	21 12 19.0	+0.7
ELZG	Elazig	2.60	264	*i* P	Pn	21 12 20.9	-0.2
PZAR	Pazar-Rize	2.60	336	*e*PN	Pn	21 12 20.8	-0.3
BCA	Borcka	2.69	349	*e*PN	Pn	21 12 22.7	+0.4
STE	Stepanavan	2.72	35	P	Pn	21 12 23.0	+0.3
STE				S	Sn	21 12 54.0	-1.9
GUMT	Gumushane	2.73	308	*e*PN	Pn	21 12 23.2	+0.3
MACK	Trabzon	2.89	319	*i* P	Pb	21 12 30.2	-0.2
MACK				*i* S	Sg	21 12 16.4	+5.1
KTUT	Trabzon	2.92	319	*e*PN	Pn	21 12 26.5	+1.0
URFA	Urfa	3.05	245	*e*PN	Pn	21 12 27.4	+0.1
MALT	Malatya	3.06	262	*e*PN	Pn	21 12 28.0	+0.6
MALT	Malatya	3.06	262	*e*Pn	Pn	21 12 26.6	-0.9
MALT	Malatya	3.06	262	*e*P	Pn	21 12 26.6	-0.9
MALT	Malatya	3.06	262	*e*Pn	Pn	21 12 28.0	+0.5
MYA	Malataya	3.06	262	*e*PN	Pn	21 12 28.1	+0.7
ATAB	Bozova	3.42	248	*i* P	Pn	21 12 31.1	-1.2
ESPY	Espiye-Giresun	3.46	309	*e*PN	Pn	21 12 33.9	+1.0
MTA	Mtatsminda	3.47	33	P	Pn	21 12 33.2	+0.1
MTA				S	Sg	21 13 26.5	-3.4
GOR	Gori	3.47	23	P	Pn	21 12 34.3	+1.2
GOR				S	Sg	21 13 31.3	+1.3
TBLG	Delisi	3.48	32	P	Pn	21 12 24.2	-9.0
TBLG				S	Sn	21 13 16.6	+2.0
DGRG	David-gareji	3.55	41	P	Pn	21 12 36.0	+1.9
DGRG				S	Sg	21 13 33.8	+1.3
GRSN	GIRESUNGRSN	3.75	306	*e*P	Pn	21 12 43.2	+6.3
ONI	Oni	3.88	13	P	Pn	21 12 40.0	+1.4
ONI				S	Sg	21 13 40.0	-3.1
GZT	Gaziantep	4.00	250	*i* P	Pn	21 12 38.8	-1.5
SVSK	Karacayir	4.25	287	*e*PN	Pn	21 12 44.7	+0.9
GAZ	Gaziantep	4.33	250	*e*PN	Pn	21 12 46.1	+1.3
GRMI	Germi	4.38	88	*e*Pn	Pn	21 12 45.9	+0.4
GRMI				AML	AML	21 14 17.8	
	comp=E,40nm,1.4s						
KMRS	Kahramanmaras	4.44	255	*e*PN	Pn	21 12 47.5	+1.1
ANDN	Andirin	4.84	257	*i* P	Pn	21 12 51.3	-0.6
BNN	Bunyan	5.03	273	*e*PN	Pn	21 12 55.9	+1.4
SOC	Sochi	5.16	339	*i* P	Pn	21 12 56.7	+0.5
KIV	Kislovodsk	5.16	3⇑	*e*P	Pn	21 12 58.4	+2.1
KIV				pmax	pmax		
	comp=Z,12nm,0.8s						
KIV	Kislovodsk	5.16	3	*e*Pn	Pn	21 12 57.0	+0.8
	comp=Z,123nm,1.0s						
KIV	Kislovodsk	5.16	3	*e*P	Pn	21 12 58.4	+2.1
	comp=Z,12nm,0.8s						
KOZT	Kozan	5.26	258	*e*PN	Pn	21 12 59.2	+1.5
SNGE	Sanandaj	5.49	131	*e*Pn	Pn	21 13 02.5	+1.7
HTY	Hatay	5.58	243	*e*PN	Pn	21 13 03.4	+1.4
MAK	Makhachkala	5.74	42	*e*P	Pn	21 13 06.1	+1.9
MAK				*e*S	Sn	21 14 12.2	+1.9
MAK				pmax	pmax		
	comp=Z,117nm,1.4s						
MAK				MLR	MLR		
	comp=Z,780nm,10.0s						
MAK	Makhachkala	5.74	42	*e*P	Pn	21 13 06.1	+1.9
	comp=Z,117nm,1.4s						
MAK				*e*S	Sn	21 14 12.2	+1.9
	comp=Z,780nm,10.0s						
AVNT	Avonos	5.81	272	*i* P	Pn	21 13 07.8	+2.7
KARA	Karaisali	5.91	257	*e*PN	Pn	21 13 08.6	+1.9
CTKT	Corum	6.06	290	*i* P	Pn	21 13 12.0	+3.4
CDAG	Cicekdag	6.20	280	*e*P	Pn	21 13 09.5	-1.1
MERS	Mersin	6.44	255	*e*PN	Pn	21 13 16.5	+2.6
FKH	Fakeheh	6.57	228	*e*Pn	Pn	21 13 15.3	-0.4
HWQ	Hawqa	6.81	230	*e*Pn	Pn	21 13 19.4	+0.4
ANN	Anapa	7.01	330	*e*P	Pn	21 13 19.7	-1.9
ANN				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ANN				MLR	MLR		
	comp=N,227nm,10.0s						
ANN				MLR	MLR		
	comp=E,100nm,10.0s						
ANN				MLR	MLR		
	comp=Z,240nm,10.0s						
BHL	Bhannes	7.25	230	*e*Pn	Pn	21 13 26.3	+1.4
BEYL	Beyrouth	7.36	230	*e*Pn	Pn	21 13 24.5	-2.1
THKV	Tehran--Karaj	7.42	110	*e*Pn	Pn	21 13 28.8	+1.4
RCY	Rachaya	7.45	227	*e*Pn	Pn	21 13 28.0	+0.2
ASAO	Ashtian	7.53	122	*e*Pn	Pn	21 13 30.9	+2.1
HRI	Mount Hermon	7.66	226	Pn	Pn	21 13 32.3	+1.7
HRI				Sn	Sg	21 15 45.2	+0.9
KSHT	Keshet	7.83	224	Pn	Pn	21 13 34.1	+1.2
ASF	Jabal al Asfar	7.94	215	Pn	Pn	21 13 34.4	0.0
ASF				Lg		21 15 35.4	
ASF	Jabal al Asfar	7.94	215	Pn	Pn	21 13 34.4	0.0
	comp=Z,1.5nm,0.3s,baz=264,slow=11,SNR=41						
ASF				Lg		21 15 35.4	
	comp=Z,1.2nm,0.3s,baz=168,slow=20,SNR=2.4						
ASF				LR	LR	21 16 57.6	
	comp=Z,224nm,19.5s,baz=273,slow=40						
KDHN	Kadinhani	7.96	271	*i* P	Pn	21 13 38.1	+3.3
MMB1	Mount Meron ar	8.03	226	Pn	Pn	21 13 37.5	+1.9
MMC5	Mount Meron ar	8.03	226	Pn	Pn	21 13 37.7	+2.0
MMA0B	Mount Meron ar	8.03	226	Pn	Pn	21 13 37.7	+2.0
MMA0B				Sn	Sg	21 15 54.4	-1.9
MMAI	Mount Meron Ar	8.03	226	Pn	Pn	21 13 36.9	+1.2
	comp=Z,4.8nm,0.3s,baz=61,slow=15,SNR=16						
MMAI				Lg		21 15 44.0	
	comp=Z,2.1nm,0.3s,baz=54,slow=20,SNR=3.3						
HNTI	Hanita	8.11	227	Sn	Sg	21 15 57.9	-0.9
DAMV	Damavand	8.35	109	*e*Pn	Pn	21 13 41.3	+1.3
MMLI	Mount Malkishu	8.46	223	Pn	Pn	21 13 42.2	+0.7
MMLI				Sn	Sn	21 16 01.0	+44
SHGR	Shooshtar-Gavs	8.53	140	*e*Pn	Pn	21 13 44.6	+2.0
HMDT	Nahal Hemdat	8.54	222	Pn	Pn	21 13 42.8	0.0
HMDT				Sn	Sn	21 16 01.5	+42
OFRI	'Ofer	8.56	226	Pn	Pn	21 13 44.4	+1.4
SLTI	Sal'it	8.81	224	Pn	Pn	21 13 47.3	+0.9
SLTI				Sn	Sn	21 16 10.1	+44
MIB	Mutribah	9.90	154	*e*P	Pn	21 13 58.4	-2.9
MIB				AML	AML	21 15 42.1	
	comp=Z,8.5nm,0.5s						
RTMI	Retamim	9.93	221	Pn	Pn	21 13 59.3	-2.4
NAY	Al-Naaiem	10.37	155	*e*P	Pn	21 14 04.7	-3.2
NAY				AML	AML	21 15 51.9	
	comp=Z,4.6nm,0.6s						
KRMI	Paran Flat	10.67	218	Pn	Pn	21 14 05.0	-6.9
RDF	Al-Radifah	10.77	155	*e*P	Pn	21 14 10.2	-3.2
RDF				AML	AML	21 16 02.1	
	comp=Z,9.5nm,0.5s						
EIL	Elat	10.94	216	Pn	Pn	21 14 15.7	+0.1
EIL				Lg		21 17 17.1	
EIL	Elat	10.94	216	Pn	Pn	21 14 15.7	+0.1
	comp=Z,0.2nm,0.3s,baz=28,slow=3.7,SNR=7.4						
EIL				Lg		21 17 17.1	
	comp=Z,0.3nm,0.3s,baz=73,slow=13,SNR=2.3						
EIL				LR	LR	21 19 00.6	
	comp=Z,240nm,21.4s,baz=127,slow=40						
EIL	Elat	10.94	216	Pn	Pn	21 14 15.6	0.0
VRHR	Novokhopersk	12.30	358	*e*P	Pn	21 14 43.6	+9.5
VRHR				pmax	pmax		
	comp=Z,9.0nm,0.6s						
VRHR				pmax	pmax		
	comp=N,30nm,0.8s						
VRHR				pmax	pmax		
	comp=E,20nm,0.7s						
VRSR	Storozhevoye	12.61	351	*e*P	Pn	21 14 39.0	+0.8
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VRSR				pmax	pmax		
	comp=N,6.0nm,0.9s						
VRSR				pmax	pmax		
	comp=E,2.0nm,0.9s						
VRSR	Storozhevoye	12.61	351	*e*P	Pn	21 14 39.0	+0.8
	comp=E,2.0nm,0.7s						
MLR	Muntele Rosu	13.84	304	Pn	Pn	21 14 54.2	-0.9
	comp=E,0.1nm,0.3s,baz=346,slow=3.8,SNR=3.4						
VOIR		14.40	303	⇓*i*P	Pn	21 15 09.2	+6.5
VTS	Vitosha	14.96	291	⇑*i*P	Pn	21 15 16.9	+6.5
AKASG	Malin Array Be	15.06	326	Pn	Pn	21 15 09.4	-2.4
	comp=E,0.4nm,0.3s,baz=136,slow=12,SNR=35						
AKBB	Malin Array Si	15.06	326	*e*P	Pn	21 15 10.6	-1.2
KIEV	Kiev	15.06	326	*e*P	Pn	21 15 10.0	-1.8
KIEV				pmax	pmax		
	comp=Z,14nm,0.9s						
KIEV	Kiev	15.06	326	*e*P	Pn	21 15 10.0	-1.8
	comp=Z,14nm,0.9s						
GVD	Gavdhos	15.10	260	*e*Pn	Pn	21 15 11.2	-1.2
	comp=Z,25nm,0.9s						
BURAR	Bucovina Array	15.22	311	⇑*i*P	Pn	21 15 20.0	+6.1
AKTK	Aktyubinsk	16.11	39	Pn	Pn	21 15 24.1	-1.4
AKTK	Aktyubinsk	16.11	39	P	Pn	21 15 24.1	-1.3
AKTO	Aktyubinsk	16.11	39	Pn	Pn	21 15 24.1	-1.4
	comp=Z,0.2nm,0.3s,baz=227,slow=11,SNR=14						
AKTO				LR	LR	21 21 54.1	
	comp=Z,76nm,21.6s,baz=50,slow=38						
DRGR		16.41	305	⇑*i*P	Pn	21 15 34.9	+5.6
BZS	Buzias	16.74	301	⇓*i*P	Pn	21 15 34.8	+1.3
OBN	Obninsk	16.77	349	⇓*e*P	Pn	21 15 33.6	-0.2
OBN				pmax	pmax		
	comp=Z,42nm,1.2s						
OBN				MLR	MLR		
	comp=Z,100nm,12.0s						
OBN	Obninsk	16.77	349	*e*Pn	Pn	21 15 33.7	-0.1
	comp=Z,14nm,0.7s						
OBN	Obninsk	16.77	349	*e*P	Pn	21 15 33.6	-0.2
	comp=Z,100nm,12.0s						
LVV	L'vov	17.04	316	*e*P	Pn	21 15 39.9	+2.6
MOS	Moscow	17.23	351	*e*P	Pn	21 15 45.6	+6.0
MOS				pmax	pmax		
	comp=Z,59nm,0.9s						
UZH	Uzhgorod	17.43	311	*e*P	Pn	21 15 49.0	+6.8
KOLS	Kolonicke sedl	17.58	312	*e*P	Pn	21 15 45.1	+1.1
KWP	Kalwaria	17.67	314	*e*P	Pn	21 15 45.8	+0.7
KWP				*e*		21 15 52.6	
KWP	Kalwaria	17.67	314	*e*P	Pn	21 15 45.8	+0.7
KWP				*e*		21 15 52.6	
KWP	Kalwaria	17.67	314	⇓*i*P	Pn	21 15 46.4	+1.3
CRVS	Cervenica-Dubn	18.05	311	*e*P	Pn	21 15 53.0	+3.2
STHS	Stebnicka Huta	18.40	312	*e*P	Pn	21 15 58.4	+4.2
STHS				pmax	pmax		
	comp=Z,3.0nm,0.9s						
STHS	Stebnicka Huta	18.40	312	*e*P	Pn	21 15 58.4	+4.2
	comp=Z,2.8nm,0.9s						
PSZ	Piszkesteto	18.61	307	*e*P	Pn	21 15 58.6	+2.0
PSZ				pmax	pmax		
	comp=Z,26nm,1.4s						
PSZ	Piszkesteto	18.61	307	*e*Pn	Pn	21 15 58.6	+2.0
	comp=Z,26nm,1.4s						
PSZ	Piszkesteto	18.61	307	*e*P	Pn	21 15 58.6	+2.0
	comp=Z,26nm,1.4s						
PKSM	Moragy	18.90	301	⇓*i*P	Pn	21 16 01.9	+1.7
NIE	Niedzica	18.95	311	*e*P	Pn	21 16 02.9	+2.1
VYHS	Vyhne	19.47	307	*e*P	Pn	21 16 07.8	+0.7
VYHS				pmax	pmax		
	comp=Z,10.0nm,1.5s						
VYHS	Vyhne	19.47	307	*e*P	Pn	21 16 07.8	+0.7
	comp=Z,10.0nm,1.5s						
OJC	Ojcow	19.60	313	*e*P	Pn	21 16 08.4	-0.2
TIP	Tímpagrande	19.83	279	*e*P	Pn	21 16 09.8	-1.7
	comp=Z,28nm,1.1s						
TIP	Tímpagrande	19.83	279	*e*P	Pn	21 16 09.8	-1.7
	comp=Z,28nm,1.1s						
SUW	Suwalki	20.03	326	*e*P	P	21 16 12.4	+0.5
OKC	Ostrava-Krasne	20.40	311	*e*P	P	21 16 16.4	+0.4
OKC				*e*S	S	21 20 11.8	+7.0
MODS	Modra-Piesok	20.41	306	*e*P	P	21 16 18.1	+2.0
MODS				pmax	pmax		
	comp=Z,6.0nm,1.5s						
MODS	Modra-Piesok	20.41	306	*e*P	P	21 16 18.1	+2.0
	comp=Z,6.2nm,1.5s						
ZST	Bratislava	20.46	305	*e*P	P	21 16 18.2	+1.5
ZST				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ZST	Bratislava	20.46	305	*e*P	P	21 16 18.2	+1.5
ZST	Bratislava	20.46	305	*e*P	P	21 16 18.2	+1.5
	comp=Z,5.3nm,0.5s						
KOGS	Kog	20.57	300	*e*P	P	21 16 18.6	+0.8
ARU	Arti	20.68	26*c*	*i*P	P	21 16 18.3	-0.7
ARU				*e*		21 16 38.0	
ARU				*e*S	S	21 20 10.3	+0.2
ARU				*e*SS		21 20 38.7	
ARU				pmax	pmax		
	comp=Z,25nm,1.7s						
ARU	Arti	20.68	26	*e*P	P	21 16 18.2	-0.8
	comp=Z,15nm,0.7s						
ARU	Arti	20.68	26	*i* P	P	21 16 18.3	-0.7
	comp=Z,25nm,1.7s						
MORC	Moravsky Berou	20.74	310	*e*P	P	21 16 19.2	-0.5
MORC				pmax	pmax		
	comp=Z,14nm,1.4s						
MORC	Moravsky Berou	20.74	310	*e*P	P	21 16 19.2	-0.5
	comp=Z,14nm,1.4s						
DOBS	Dobrina	21.04	299	*e*P	P	21 16 23.4	+0.5
BOJS	Bojanci	21.07	297	*e*P	P	21 16 24.5	+1.2
VRAC	Vranov	21.15	308	P	P	21 16 24.4	+0.3
VRAC				pmax	pmax		
	comp=Z,5.0nm,0.8s						
VRAC	Vranov	21.15	308	⇑P	P	21 16 24.9	+0.8
VRAC	Vranov	21.15	308	P	P	21 16 24.4	+0.3
	comp=Z,5.4nm,0.8s,mb3.9,baz=84,slow=10,SNR=7.8						
VRAC	Vranov	21.15	308	⇑*i*P	P	21 16 24.9	+0.8
CONA	Conrad Observa	21.18	304	*i* P	P	21 16 25.7	+1.2
	comp=Z,22nm,1.6s,mb4.2,SNR=10						
CEY	Cerknica	21.68	298	*e*P	P	21 16 31.7	+1.8
DPC	Dobruska-Polom	21.69	311	*e*P	P	21 16 32.5	+2.6
DPC				*e*pP		21 16 38.8	
SVE	Sverdlovsk	21.72	28	*e*P	P	21 16 31.0	+0.8
SVE				pmax	pmax		
	comp=Z,31nm,1.1s,mb4.7						
SVE	Sverdlovsk	21.72	28	*e*P	P	21 16 31.0	+0.8
	comp=Z,31nm,1.1s,mb4.7						
TREC	Trest	21.82	307	*e*P	P	21 16 32.2	+0.8
TREC				*e*pP		21 16 40.7	
KBL	Kabul	21.85	93	*e*P	P	21 16 32.7	+0.9
	comp=Z,11nm,1.0s,mb4.2						
KBL	Kabul	21.85	93	*e*P	P	21 16 32.7	+1.0
	comp=Z,11nm,1.0s,mb4.2						
KSP	Ksiaz	21.89	312	*e*P	P	21 16 32.7	+0.6
KSP	Ksiaz	21.89	312	*e*P	P	21 16 32.3	+0.2
KSP				*e*pP		21 16 40.0	
UPC	Upice	21.93	311	*e*P	P	21 16 32.9	+0.4
VSU	Vasula	22.09	338	*e*P	P	21 16 35.6	+1.4
AQU	L'Aquila	22.18	288	*e*P	P	21 16 35.0	-0.2
AQU				pmax	pmax		
	comp=Z,48nm,0.7s,mb5.0						
AQU	L'Aquila	22.18	288	*e*P	P	21 16 35.0	-0.2
	comp=Z,48nm,0.7s,mb5.0						
AQU	L'Aquila	22.18	288	*e*P	P	21 16 35.0	-0.2
	comp=Z,48nm,0.7s,mb5.0						
PRU	Pruhonice	22.63	309	*e*P	P	21 16 39.9	-0.1
PRU				*e*S	S	21 20 52.5	+4.0
PRU	Pruhonice	22.63	309	*e*P	P	21 16 39.9	-0.1
PRU				*e*S	S	21 20 52.5	+4.0
PRU				AMS	AMS	21 28 00.0	
	comp=Z,100nm,14.

SQTA	**Sankt Quirin**	24.11	301	⇓ *i* P	P	21 16 54.6	-0.2
SQTA				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.2						
MANZ	**Manzenberg**	24.13	307	*e* P	P	21 16 55.3	+0.3
	comp=Z,16nm,1.6s,mb4.2						
WERD	**Werda**	24.14	309	*e* P	P	21 16 55.2	+0.1
	comp=Z,5.0nm,1.2s,mb3.8						
MOTA	**Moosalm**	24.20	301	⇑ *i* P	P	21 16 55.1	-0.6
	comp=Z,13nm,1.1s,mb4.3,SNR=15						
MOTA	**Moosalm**	24.20	301	⇑ *i* pP	P	21 16 55.1	-0.6
	comp=Z,13nm,1.1s,mb4.3,SNR=15						
MOTA	**Moosalm**	24.20	301	⇑ *i* P	P	21 16 55.1	-0.5
MOTA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
GRA1	**Grafenberg Arr**	24.60	306	*e* P	P	21 16 59.1	-0.2
	comp=Z,61nm,1.0s,mb5.1						
GRF	**Grafenberg Arr**	24.60	306	*e* P	P	21 16 59.1	-0.2
	comp=Z,61nm,1.0s,mb5.1						
GRF				*e* L		21 37 36.7	
	comp=Z,84nm,21.8s						
GRFO	**Grafenberg**	24.61	306	*e* P	P	21 16 59.6	+0.3
GRFO				pmax	pmax		
	comp=Z,64nm,1.1s,mb5.1						
GRFO	**Grafenberg**	24.61	306	*e* P	P	21 16 59.6	+0.3
	comp=Z,64nm,1.1s,mb5.1						
MOX	**Moxa**	24.62	309	*e* P	P	21 16 58.5	-0.9
	comp=Z,5.0nm,1.6s,mb3.8						
MOX	**Moxa**	24.62	309	*e* P	P	21 16 58.5	-0.9
MOX				pmax	pmax		
	comp=Z,5.0nm,1.6s,mb3.8						
MOX	**Moxa**	24.62	309	*e* P	P	21 16 58.4	-1.0
	comp=Z,10.0nm,1.3s,mb4.2						
AAK	**Ala-Archa**	24.63	71	⇑ *e* P	P	21 17 00.4	+0.8
AAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.8						
AAK	**Ala-Archa**	24.63	71	*e* P	P	21 16 59.1	-0.4
	comp=Z,9.0nm,1.1s,mb4.2						
AAK	**Ala-Archa**	24.63	71	P	P	21 16 59.6	0.0
	comp=Z,1.4nm,0.4s,mb3.9,baz=224,slow=8.3,SNR=6.9						
UCH	**Uchtor**	24.66	72	*e* P	P	21 17 00.2	+0.3
	comp=Z,2.5nm,1.0s,mb3.7						
FIA1	**FINESS Array S**	24.80	341	*e* P	P	21 16 58.6	-2.3
FINES	**FINESS Array B**	24.80	341	*i* P	P	21 17 00.0	-0.9
FINES				pmax	pmax		
	comp=Z,5.0nm,0.7s						
FINES	**FINESS Array B**	24.80	341	P	P	21 16 59.7	-1.2
	comp=Z,4.7nm,0.7s,mb4.1,baz=142,slow=11,SNR=16						
DAVOX	**Davos/Dischmat**	24.95	299	P	P	21 17 01.8	-0.6
	comp=Z,3.5nm,0.9s,mb3.8,baz=121,slow=8.7,SNR=5.1						
DAVOS	**Davos**	25.01	299	P	P	21 17 01.8	-1.3
JOF	**Joensuu**	25.05	348	*ep*	P	21 17 01.6	-1.6
	comp=Z,9.1nm,0.8s,mb4.4						
TKM2	**Tokmak 2**	25.43	70	*e* P	P	21 17 06.3	-0.6
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
TKM2	**Tokmak 2**	25.43	70	*e* P	P	21 17 06.3	-0.6
	comp=Z,4.4nm,0.8s,mb4.0						
PGF	**Pioggiola**	25.43	289	*e* P	P	21 17 03.6	-3.3
	comp=Z,31nm,1.0s,mb4.5						
PGF	**Pioggiola**	25.43	289	*e* P	P	21 17 03.6	-3.3
PGF				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5						
PGF	**Pioggiola**	25.43	289	*e* P	P	21 17 03.6	-3.3
	comp=Z,16nm,1.0s,mb4.5						
TMCR	**Tamitsa**	25.53	356	*e* P	P	21 17 15.1	+7.6
CLZ	**Clausthal**	25.72	311	*e* P	P	21 17 09.3	-0.1
CLZ				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.3						
CLZ	**Clausthal**	25.72	311	*e* P	P	21 17 09.3	-0.1
	comp=Z,10.0nm,0.9s,mb4.3						
KSH	**Kashi**	26.05	78	*e* P	P	21 17 16.0	+3.5
KSH				*e* PPP		21 18 11.6	
KSH				*e* PCP	PcP	21 20 42.1	+1.8
KSH				*e* S	**S**	**21 21 44.4**	**+0.5**
KSH				AMB	AMB		
	comp=Z,163nm,2.8s,mb5.1						
KSH				LR	LR		
	comp=N,562nm,6.4s						
KSH				LR	LR		
	comp=E,557nm,5.3s						
KSH				LR	LR		
	comp=Z,537nm,5.6s						
NRDL	**Niedersach Rie**	26.08	312	*e* P	P	21 17 13.0	+0.3
	comp=Z,8.0nm,1.3s,mb4.1						
SBF	**Sospel**	26.53	292	*e* P	P	21 17 14.0	-2.8
	comp=Z,55nm,1.1s,mb4.7						
SBF	**Sospel**	26.53	292	*e* P	P	21 17 14.0	-2.8
SBF				pmax	pmax		
	comp=Z,27nm,1.1s,mb4.7						
SBF	**Sospel**	26.53	292	*e* P	P	21 17 14.0	-2.8
	comp=Z,27nm,1.1s,mb4.7						
LPG	**La Plagne**	27.02	296	*e* P	P	21 17 17.9	-3.4
	comp=Z,20nm,1.2s,mb4.2						
LPG	**La Plagne**	27.02	296	*e* P	P	21 17 17.9	-3.4
LPG				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.2						
LPG	**La Plagne**	27.02	296	*e* P	P	21 17 17.9	-3.4
	comp=Z,9.9nm,1.2s,mb4.2						
LPL	**La Plagne**	27.04	296	*e* P	P	21 17 17.9	-3.5
CABF	**La Chapelle**	27.53	298	*e* P	P	21 17 22.0	-3.8
	comp=Z,27nm,1.1s,mb4.5						
CABF	**La Chapelle**	27.53	298	*e* P	P	21 17 22.0	-3.8
CABF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.5						
CABF	**La Chapelle**	27.53	298	*e* P	P	21 17 22.0	-3.8
	comp=Z,14nm,1.1s,mb4.5						
HFS	**Hagfors**	27.91	329	P	P	21 17 27.8	-1.3
	comp=Z,4.5nm,0.7s,mb4.2,baz=116,slow=6.9,SNR=9.3						
KURK	**Kurchatov**	28.13	53	*d i* P	P	21 17 31.6	+0.5
KURK	**Kurchatov**	28.13	53	*e* P	P	21 17 31.2	+0.1
	comp=Z,8.6nm,1.0s,mb4.3						
KURK	**Kurchatov**	28.13	53	*e* P	P	21 17 31.2	+0.1
	comp=Z,8.6nm,1.0s,mb4.3						
NB2	**NORSAR Subarra**	29.44	329	P	P	21 17 41.0	-1.6
	comp=Z,0.7nm,0.7s,mb3.5,baz=125,slow=9.3						
NOA	**NORSAR Array B**	29.44	329	P	P	21 17 41.3	-1.3
	comp=Z,0.6nm,0.7s,mb3.4,baz=125,slow=8.7,SNR=2.6						
MK31	**Makanchi Array**	30.16	62	*e* P	P	21 17 49.0	-0.1
MK31				*e*		21 18 47.4	
MKAR	**Makanchi Array**	30.16	62	P	P	21 17 48.9	-0.2
MKAR	**Makanchi Array**	30.16	62	P	P	21 17 48.9	-0.2
	comp=Z,3.5nm,0.8s,mb4.1,baz=269,slow=6.1,SNR=29						
MKAR	**Makanchi Array**	30.16	62	*e* P	P	21 17 49.5	+0.4
TCF	**Toulx Ste Croi**	30.20	297	*e* P	P	21 17 46.5	-3.1
	comp=Z,40nm,1.5s,mb4.6						
TCF	**Toulx Ste Croi**	30.20	297	*e* P	P	21 17 46.5	-3.1
TCF				pmax	pmax		
	comp=Z,20nm,1.5s,mb4.6						
TCF	**Toulx Ste Croi**	30.20	297	*e* P	P	21 17 46.5	-3.1
	comp=Z,20nm,1.5s,mb4.6						
NVS	**Novosibirsk**	31.74	46	*e* P	P	21 18 03.1	+0.1
NVS				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.5						
NVS				pmax	pmax		
	comp=N,6.0nm,1.5s						
NVS	**Novosibirsk**	31.74	46	*e* P	P	21 18 03.1	+0.1
	comp=N,6.0nm,1.5s,mb4.2						
ARCES	**ARCESS Array B**	32.08	349	P	P	21 18 05.1	-0.7
	comp=N,2.3nm,0.8s,mb4.1,baz=160,slow=3.9,SNR=6.2						
ZAL	**Zalesovo**	32.45	48	P	P	21 18 08.7	-0.6
ZAA0	**Zalesovo Array**	32.47	48	*e* P	P	21 18 08.0	-1.4
ZAA0	**Zalesovo Array**	32.47	48	*e* P	P	21 18 08.0	-1.4
ZALV	**Zalesovo Beam**	32.47	48	P	P	21 18 08.7	-0.7
	comp=N,1.8nm,0.7s,mb4.0,baz=255,slow=8.9,SNR=6.8						
EKA	**Eskdalemuir Ar**	34.37	314	P	P	21 18 25.6	-0.5
	comp=N,3.1nm,0.7s,mb4.4,baz=105,slow=8.3,SNR=10						
ESDC	**Sonseca Array**	35.53	286	P	P	21 18 34.4	-1.8
	comp=N,0.4nm,0.5s,mb3.6,baz=262,slow=33,SNR=3.7						
ESLA	**Sonseca Array**	35.53	286	P	P	21 18 32.8	-3.4
	comp=N,0.4nm,0.8s,mb3.4						
LSA	**Lhasa**	40.98	88	*e* P	P	21 19 22.0	-0.3
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
LSA	**Lhasa**	40.98	88	*e* P	P	21 19 22.0	-0.2
	comp=Z,3.9nm,0.7s,mb4.2						
LSA	**Lhasa**	40.98	88	*e* P	P	21 19 22.0	-0.3
	comp=Z,3.9nm,0.7s,mb4.2						
ZAK	**Zakamensk**	43.78	54	*e* P	P	21 19 42.2	-2.6
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.6s,mb3.3						
GTA	**Gaotai**	43.98	70	*e* P	P	21 19 46.9	+0.4
GTA				AP	pP	21 19 53.9	+5.6
GTA				XP	sP	21 19 58.0	+9.0
GTA				PP	PP	21 21 31.9	+3.2
GTA				PPP		21 22 09.6	
GTA				S	**S**	**21 26 16.7**	**-2.0**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
GTA				AMB	AMB		
	comp=Z,58nm,6.5s						
GTA				LR	LR		
	comp=N,53nm,14.5s,MS3.9						
GTA				LR	LR		
	comp=E,98nm,18.2s,MS3.9						
GTA				LR	LR		
	comp=Z,89nm,16.3s,MS3.8						
SONM	**Songino Array**	46.29	57	P	P	21 20 04.9	+0.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=298,slow=9.6,SNR=6.2						
ULN	**Ulaanbaatar**	46.71	57	*c i* P	P	21 20 08.4	+0.3
ULN	**Ulaanbaatar**	46.71	57	*e* P	P	21 20 08.3	+0.3
	comp=Z,11nm,1.0s,mb4.8						
ULN	**Ulaanbaatar**	46.71	57	*e* P	P	21 20 08.3	+0.2
	comp=Z,11nm,1.0s,mb4.8						
LZH	**Lanzhou**	48.13	73	*e* P	P	21 20 20.4	+1.1
LZH				AP	pP	21 20 28.9	+7.8
LZH				XP	sP	21 20 32.4	+11
LZH				AMB	AMB		
	comp=Z,17nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,86nm,5.1s						
BOD	**Bodaibo**	48.83	42	*e* P	P	21 20 23.0	-1.3
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
BOD	**Bodaibo**	48.83	42	*e* P	P	21 20 23.0	-1.3
	comp=Z,10.0nm,0.8s,mb4.9						
CD2	**Chengdu**	50.23	79	*e* P	P	21 20 35.3	-0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
HHC	**Hu-ho-hao-te**	51.95	64	*e* P	P	21 20 48.5	+0.3
HHC				AP	pP	21 20 58.6	+8.6
HHC				XP	sP	21 21 01.6	+11
HHC				PCP	PcP	21 22 01.9	+1.2
HHC				PP	PP	21 22 47.0	+1.0
HHC				S	**S**	**21 28 07.4**	**-4.2**
HHC				XS	sS	21 28 23.9	+9.3
HHC				SS	SS	21 31 41.0	-7.1
HHC				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,149nm,5.0s						
HHC				LR	LR		
	comp=N,130nm,16.1s,MS4.2						
HHC				LR	LR		
	comp=E,160nm,16.3s,MS4.2						
HHC				LR	LR		
	comp=Z,155nm,15.7s,MS4.1						
TIXI	**Tiksi**	52.65	23	*e* P	P	21 20 52.0	-1.0
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
TIXI	**Tiksi**	52.65	23	*e* P	P	21 20 52.1	-0.8
	comp=Z,5.0nm,1.0s,mb4.4						
XAN	**Xi'an**	52.77	73	P	P	21 20 53.5	-0.9
XAN				AP	pP	21 20 59.7	+3.5
XAN				AMB	AMB		
	comp=Z,6.0nm,0.9s,mb4.5						
DBIC	**Dimbokro**	53.14	246	P	P	21 20 54.8	-2.5
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
DBIC	**Dimbokro**	53.14	246	*e* P	P	21 20 54.3	-3.0
	comp=Z,8.6nm,0.7s,mb4.8						
DBIC	**Dimbokro**	53.14	246	P	P	21 20 54.8	-2.5
	comp=Z,6.3nm,0.6s,mb4.7,baz=26,slow=6.0,SNR=13						
LIC	**Lamto**	53.57	245	⇑ *i* P	P	21 20 58.0	-2.5
	comp=Z,53nm,1.1s,mb5.1						
LIC	**Lamto**	53.57	245	⇑ *i* P	P	21 20 58.0	-2.5
	comp=Z,27nm,1.1s,mb5.1						
GYA	**Guiyang**	54.59	83	*e* P	P	21 21 06.5	-1.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
TSUM	**Tsumeb**	62.17	207	*e* P	P	21 21 56.9	-3.7
	comp=Z,2.5nm,0.9s,mb4.3						
MDJ	**Mudanjiang**	62.42	54	P	P	21 22 01.1	-1.1
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.3s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,87nm,4.7s						
SEY	**Seymchan**	64.40	28	⇑ *e* P	P	21 22 15.4	+0.4
KSRS	**Korea Array**	64.84	61	P	P	21 22 17.2	-1.0
	comp=Z,2.1nm,0.8s,mb4.2,baz=301,slow=5.8,SNR=8.3						
LBTB	**Lobatse**	65.38	197	*e* P	P	21 22 21.2	-0.5
LBTB				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
LBTB	**Lobatse**	65.38	197	*e* P	P	21 22 21.2	-0.5
	comp=Z,8.3nm,0.9s,mb4.8						
BILL	**Bilibino**	65.55	20	⇑ *e* P	P	21 22 22.8	+0.4
BILL				*e*		21 22 53.6	
BILL				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.3						
SCHQ	**Schefferville**	68.84	324	P	P	21 22 42.4	-1.1
	comp=Z,2.9nm,0.7s,mb4.3,baz=164,slow=1.5,SNR=5.3						
BOSA	**Boshof**	68.92	196	P	P	21 22 43.2	-1.0
BOSA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
BOSA	**Boshof**	68.92	196	*e* P	P	21 22 42.6	-1.6
	comp=Z,7.6nm,0.8s,mb4.7						
BOSA	**Boshof**	68.92	196	P	P	21 22 43.1	-1.0
	comp=Z,8.5nm,0.8s,mb4.8,baz=27,slow=4.8,SNR=18						
MAJO	**Matsushiro**	72.24	57	P	P	21 23 03.2	-1.4
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
MAJO	**Matsushiro**	72.24	57	P	P	21 23 03.2	-1.4
	comp=Z,4.0nm,0.8s,mb4.4						
MJAR	**Matsushiro Arr**	72.24	57	P	P	21 23 03.5	-1.1
	comp=Z,1.4nm,0.9s,mb3.9,baz=316,slow=3.4,SNR=4.7						
INK	**Inuvik**	73.17	358	P	P	21 23 09.3	-0.2
INK				pmax	pmax		
	comp=Z,2.0nm,1.0s						
INK	**Inuvik**	73.17	358	*e* P	P	21 23 05.8	-3.8
	comp=Z,101nm,0.9s						
INK	**Inuvik**	73.17	358	P	P	21 23 09.2	-0.3
	comp=Z,2.1nm,1.0s,mb4.0,baz=19,slow=3.7,SNR=5.2						
SUR	**Sutherland**	73.58	199	P	P	21 23 12.3	+0.1
IMA2	**Indian Mountai**	74.73	7	*e* P	P	21 23 21.5	+2.7
FCC	**Fort Churchill**	76.24	338	*e* P	P	21 23 26.7	-0.8
FCC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
FCC	**Fort Churchill**	76.24	338	*e* P	P	21 23 26.7	-0.8
	comp=Z,4.1nm,0.9s,mb4.4						
COLA	**College**	76.36	4	P	P	21 23 27.4	-0.7
YKA	**Yellowknife Ar**	77.35	349	P	P	21 23 32.5	-1.2
YKA	**Yellowknife Ar**	77.35	349	P	P	21 23 32.5	-1.2
	comp=Z,2.2nm,1.1s,mb4.0,baz=18,slow=6.0,SNR=14						
FFC	**Flin Flon**	81.93	340	*e* P	P	21 23 57.6	-1.1
FFC				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
FFC	**Flin Flon**	81.93	340	*e* P	P	21 23 57.6	-1.1
	comp=Z,10nm,1.4s,mb4.6						

*IDC **05** 21:14:09.1±9.8, 1799N×106.17W, h0km, mb3.3/2, mb1 3.9/3, mb1mx3.6/19, mbtmp3.5/3, ML3.8/1, Error ellipse: s-maj=156.5km s-min=94.3km az=150.0*
*ISCJB **05** 21:14:19.1±1.5, 186N±0.1×106.45W±008, h33km, mb3.8/4, Error ellipse: s-maj=19.1km s-min=11.1km az=169.6*
*MEX **05** 21:14:19.7±1.3, 1855N×106.44W, h10km, MD4.4*
*NEIC **05** 21:14:19.9, 1851N×106.46W, h20km, mb4.3/2, MD4.4(MEX), After MEX.*
ISC 05 21:14:23.0±2.9, 187N±01×1063W±02, h57km±32km, n13, σ0.96/15, mb3.8/4, Off coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	1.45	56	*i* P	**Pn**	**21 14 44.2**	**-2.7**
CJM				*i* S	**Sn**	**21 15 04.7**	**-0.1**
ANIG	**Ahuacatlan**	2.89	35	*i* P	**Pn**	**21 15 06.5**	**-0.1**
ANIG				*i* S	**Sn**	**21 15 40.4**	**+0.1**
SFJM	**Santa Fe**	3.57	59	*i* P	**Pn**	**21 15 16.0**	**+0.1**
H06S		4.41	271	*i* P	**Pn**	**21 15 19.1**	**-8.3**
MZVM		6.72	85	*i* P	**Pn**	**21 16 05.6**	**+6.4**
PBVM	**Pinon**	6.88	83	*i* P	**Pn**	**21 16 11.1**	**+10**
PPM	**Popocatepetl**	7.29	86	*i* P	**Pn**	**21 16 07.9**	**+1.0**
TXAR	**Lajitas Array**	10.87	12	Pn	**Pn**	**21 16 56.7**	**+0.8**
	0.1nm,0.3s,baz=198,slow=11,SNR=13						
JCT	**Junction City**	13.14	26	*e* P	**Pn**	**21 17 30.8**	**+3.9**
	26nm,1.3s						
NVAR	**Mina Array Bea**	22.27	334	P	**P**	**21 19 15.2**	**-0.1**
	1.0nm,0.7s,mb3.3,baz=149,slow=11,SNR=5.4						
TPAW	**Teton Pass**	25.03	352	P	**P**	**21 19 37.6**	**-4.1**
	6.3nm,1.0s,mb4.1						
LOHW	**Long Hollow**	25.11	353	*e* P	**P**	**21 19 43.2**	**+0.7**
	17nm,1.4s,mb4.4						
YKA	**Yellowknife Ar**	44.14	354	P	**P**	**21 22 24.6**	**-1.0**
	0.6nm,0.9s,mb3.3,baz=170,slow=7.2,SNR=7.6						

*SKO **05** 21:27:40.9, 4192N×2296E, h10km, M2.2, ML2.3*
*ISCJB **05** 21:27:40.4±0.3, 4194N±002×2291E±002, h5km±3km, Error ellipse: s-maj=3.2km s-min=2.6km az=154.3*
*BEO **05** 21:27:41.7±0.4, 4193N×2295E, h7km±2km, ML2.3/9*
*THE **05** 21:27:41.6, 4192N×2293E, h2km, ML3.0*
*CSEM **05** 21:27:41.0±0.1, 4197N×2294E, h5km, MD2.8, Error ellipse: s-maj=1.8km s-min=1.3km az=133.0*
*SOF **05** 21:27:41.7, 4198N×2302E, h2km, MD2.8*
*NEIC **05** 21:27:42.7, 4181N×2292E, h13km, MD3.2(ATH), After ATH.*
*ATH **05** 21:27:43.2, 4179N×2294E, h14km±3km, MD3.2/3*
ISC 05 21:27:41.4±0.3, 4193N±002×2292E±002, h7km±3km, n51, σ0.89/87, 1C, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	0.13	117	*i* Pg	**Pg**	**21 27 45.2**	**+0.9**
STIP	**Stip**	0.60	247	*e* Pg	**Pg**	**21 27 53.2**	**+0.2**
STIP				*e* Sg	**Sg**	**21 28 01.5**	**+0.8**
STIP	**Stip**	0.60	247	*e* Pg	**Pg**	**21 27 53.2**	**+0.2**
STIP				*e* Sg	**Sg**	**21 28 01.2**	**+0.4**
STIP	**Stip**	0.60	247	*i* Pg	**Pg**	**21 27 53.1**	**+0.2**
STIP				*e* Lg		21 28 01.2	
	comp=E,25nm,0.2s						
STIP				*i* Sg	**Sg**	**21 28 01.5**	**+0.7**
STIP				*e* Lg		21 28 01.7	
	comp=N,40nm,0.2s						
STIP	**Stip**	0.60	247	*i* Pg	**Pg**	**21 27 53.1**	**+0.1**
STIP				*i* Sg	**Sg**	**21 28 01.5**	**+0.7**
VAY	**Valandovo**	0.66	204	*e* Pg	**Pg**	**21 27 54.3**	**+0.2**
VAY				*e* Sg	**Sg**	**21 28 03.3**	**+0.5**
VAY	**Valandovo**	0.66	204	*i* Pg	**Pg**	**21 27 54.2**	**+0.1**
VAY				*e* Sg	**Sg**	**21 28 03.3**	**+0.6**
VAY	**Valandovo**	0.66	204	*i* Pg	**Pg**	**21 27 54.2**	**0.0**
VAY				*i* Sg	**Sg**	**21 28 03.4**	**+0.6**
VAY				*e* Lg		21 28 03.6	
	comp=E,102nm,0.3s						
VAY				*e* Lg		21 28 03.6	
	comp=N,100nm,0.2s						
VAY	**Valandovo**	0.66	204	*e* Pg	**Pg**	**21 27 54.3**	**+0.2**
VAY				*i* Sg	**Sg**	**21 28 03.3**	**+0.6**
MMB	**Musomiste**	0.69	119	*i* Pg	**Pg**	**21 27 55.4**	**+0.7**
VTS	**Vitosha**	0.70	18	*e* Pg	**Pg**	**21 27 54.6**	**-0.2**
VTS				*e* Sg	**Sg**	**21 28 04.3**	**+0.4**
VTS	**Vitosha**	0.70	18	*i* Pg	**Pg**	**21 27 54.5**	**-0.4**
VTS				*e* Sg	**Sg**	**21 28 03.6**	**-0.4**
VTS	**Vitosha**	0.70	18	*e* Pg	**Pg**	**21 27 54.7**	**-0.2**
VTS				*e* Sg	**Sg**	**21 28 04.3**	**+0.3**
KNT	**Kendrikon**	0.76	181	*e* Pg	**Pg**	**21 27 56.0**	**-0.1**
KNT				*e* Sg	**Sg**	**21 28 06.3**	**+0.3**
KNT	**Kendrikon**	0.76	181	*e* Pg	**Pg**	**21 27 56.0**	**-0.1**
KNT				*e* Sg	**Sg**	**21 28 06.3**	**+0.3**
NVR	**Nevrokopi**	0.91	129	⇑ *i* PG	**Pg**	**21 27 58.4**	**-0.5**
NVR				*e* SB	**Sb**	**21 28 10.5**	**-1.2**
NVR	**Nevrokopi**	0.91	129	*i* Pg	**Pg**	**21 27 58.4**	**-0.5**
NVR				*e* Sb	**Sb**	**21 28 10.7**	**-1.0**
SRS	**Serrai**	0.95	148	*e* Pg	**Pg**	**21 27 59.2**	**-0.5**
SRS				*e* Sg	**Sg**	**21 28 12.6**	**+0.6**
GRG	**Griva**	1.04	202	*e* Pg	**Pg**	**21 28 01.2**	**-0.3**
GRG				*e* Sg	**Sg**	**21 28 15.7**	**+0.6**
PGB	**Panagyurishte**	1.11	56	*i* Pg	**Pg**	**21 28 02.7**	**-0.1**
SOH	**Sokhos**	1.15	164	*e* Pg	**Pg**	**21 28 03.0**	**-0.5**
SOH				*e* Sg	**Sg**	**21 28 19.7**	**+1.3**
BARS	**Barje**	1.21	318	*i* Pg	**Pg**	**21 28 04.3**	**-0.4**
BARS				*e* Sg	**Sg**	**21 28 20.4**	**0.0**
THE	**Thessaloniki**	1.29	179	*e* Pg	**Pg**	**21 28 05.8**	**-0.4**
THE				*e* Sg	**Sg**	**21 28 23.7**	**+0.7**
HORT	**Hortiatis**	1.33	174	*e* Pg	**Pg**	**21 28 06.6**	**-0.4**
HORT				*e* Sg	**Sg**	**21 28 24.6**	**+0.3**
HORT	**Hortiatis**	1.33	174	*e* Pg	**Pg**	**21 28 06.6**	**-0.4**
HORT				*e* Sg	**Sg**	**21 28 24.6**	**+0.3**
PLD	**Plovdiv**	1.34	82	*e* Pg	**Pg**	**21 28 06.8**	**-0.3**
PLD				*e* Sg	**Sg**	**21 28 25.4**	**+1.0**
PLD	**Plovdiv**	1.34	82	*i* Pg	**Pg**	**21 28 06.7**	**-0.4**
PLD				*e* Sg	**Sg**	**21 28 25.4**	**+1.0**
RZN	**Rozhen**	1.36	99	*i* Pg	**Pg**	**21 28 07.0**	**-0.5**
KRUS	**Krusevo**	1.37	247	*i* Pg	**Pg**	**21 28 08.4**	**+0.6**
KRUS				*i* Sg	**Sg**	**21 28 26.4**	**+0.8**
KRUS	**Krusevo**	1.37	247	*i* Pg	**Pg**	**21 28 08.3**	**+0.5**
KRUS				*i* Sg	**Sg**	**21 28 26.3**	**+0.7**
BIA	**Bitola**	1.51	234	*e* Pg	**Pg**	**21 28 10.3**	**0.0**
BIA				*e* Sg	**Sg**	**21 28 30.1**	**+0.3**
PLG	**Polygyros**	1

PLD	**Plovdiv**	**0.95**	**84**	*e*Pg	**Pg**	**21 36 30.9**	**0.0**
PLD				*e*Sg	**Sg**	**21 36 44.2**	**+1.0**
PLD	**Plovdiv**	**0.95**	**84**	*i* Pg	**Pg**	**21 36 32.1**	**+1.2**
STIP	**Stip**	**0.98**	**252**	*i* Pg	**Pg**	**21 36 31.0**	**-0.5**
STIP				*e*Sg	**Sg**	**21 36 45.1**	**+0.9**
STIP	**Stip**	**0.98**	**252**	*i* Pg	**Pg**	**21 36 31.1**	**-0.4**
STIP				*i* Sg	**Sg**	**21 36 45.2**	**+0.9**
STIP	**Stip**	**0.98**	**252**	*e*Pg	**Pg**	**21 36 31.1**	**-0.4**
STIP				*i* Sg	**Sg**	**21 36 45.1**	**+0.9**
RZN	**Rozhen**	**1.01**	**108**	*i* Pg	**Pg**	**21 36 31.1**	**-1.0**
SOH	**Sokhos**	**1.19**	**183**	*e*Pg	**Pg**	**21 36 34.8**	**-0.7**
SOH				*e*Sg	**Sg**	**21 36 51.5**	**+0.6**
GRG	**Griva**	**1.31**	**217**	*e*Pg	**Pg**	**21 36 37.3**	**-0.4**
GRG				*e*Sg	**Sg**	**21 36 55.6**	**+1.0**
THE	**Thessaloniki**	**1.42**	**194**	*e*Pg	**Pg**	**21 36 38.8**	**-1.1**
THE				*e*Sg	**Sg**	**21 36 59.0**	**+0.6**
HORT	**Hortiatis**	**1.44**	**190**	*e*Pg	**Pg**	**21 36 39.1**	**-1.0**
HORT				*e*Sg	**Sg**	**21 36 59.0**	**+0.3**
HORT	**Hortiatis**	**1.44**	**190**	*e*Pg	**Pg**	**21 36 39.1**	**-1.0**
HORT				*e*Sg	**Sg**	**21 36 59.0**	**+0.3**
BARS	**Barje**	**1.44**	**304**	*i* Pn	**Pn**	**21 36 39.6**	**+0.3**
BARS				*e*Sg	**Sg**	**21 36 58.7**	**-0.3**
KDZ	**Kurdzhali**	**1.53**	**103**	*i* P	**Pn**	**21 36 39.2**	**-1.2**
DIM	**Dimitrovgrad**	**1.57**	**88**	P	**Pn**	**21 36 41.8**	**+0.8**
PLG	**Polygyros**	**1.64**	**180**	*e*Pb	**Pb**	**21 36 41.6**	**-1.6**
PLG				*e*Sb	**Sb**	**21 37 04.2**	**+0.1**
PLG	**Polygyros**	**1.64**	**180**	⇑*i*Pn	**Pn**	**21 36 41.7**	**-0.2**
PLG				*e*Sn	**Sn**	**21 37 02.4**	**-0.9**
PLG	**Polygyros**	**1.64**	**180**	⇑*i*PN	**Pn**	**21 36 41.7**	**-0.2**
PLG				*e*SN	**Sn**	**21 37 02.8**	**-0.5**
PLG	**Polygyros**	**1.64**	**180**	*i* Pn	**Pn**	**21 36 41.7**	**-0.2**
PLG				*e*Sn	**Sn**	**21 37 02.4**	**-0.9**
PLG				*e*Sb	**Sb**	**21 37 04.2**	**+0.1**
OUR	**Ouranopolis**	**1.73**	**166**	*e*Pb	**Pb**	**21 36 42.5**	**-2.2**
KRUS	**Krusevo**	**1.76**	**249**	*i* Pn	**Pn**	**21 36 44.7**	**+1.1**
RDO	**Rodhopi**	**1.80**	**118**	*e*PN	**Pn**	**21 36 44.0**	**-0.2**
RDO				*e*SN	**Sn**	**21 37 07.3**	**0.0**
PVL	**Pavlikeni**	**1.85**	**49**	*i* P	**Pn**	**21 36 44.3**	**-0.6**
BIA	**Bitola**	**1.87**	**239**	*e*Pn	**Pn**	**21 36 48.1**	**+3.0**
BIA				*e*Sg	**Sg**	**21 37 13.6**	**+1.0**
FNA	**Florina**	**1.97**	**232**	*e*Pb	**Pb**	**21 36 47.0**	**-2.0**
LIT	**Litokhoron**	**2.04**	**201**	*e*Pn	**Pn**	**21 36 47.3**	**-0.2**
PAIG	**Paliouri**	**2.09**	**175**	*e*Pn	**Pn**	**21 36 47.7**	**-0.5**
PAIG				*e*Sn	**Sn**	**21 37 14.9**	**+0.4**
BOLS	**Boljevac**	**2.12**	**330**	*i* Pn	**Pn**	**21 36 49.0**	**+0.5**
BOLS				*e*Sg	**Sg**	**21 37 21.1**	**+0.5**
SZH	**Strazhica**	**2.23**	**55**	*i* P	**Pn**	**21 36 54.2**	**+4.1**
ALN	**Alexandroupoli**	**2.26**	**119**	*e*Pn	**Pn**	**21 36 50.8**	**+0.3**
ALN				*e*Sn	**Sn**	**21 37 19.8**	**+1.2**
JMB	**Yambol**	**2.38**	**78**	*e*Pn	**Pn**	**21 36 52.2**	**0.0**
JMB				*e*Sn	**Sn**	**21 37 23.0**	**+1.3**
LIA	**Limnos Island**	**2.49**	**147**	*e*Pn	**Pn**	**21 36 53.2**	**-0.5**
LIA	**Limnos Island**	**2.49**	**147**	*e*Pn	**Pn**	**21 36 52.5**	**-1.2**
LIA	**Limnos Island**	**2.49**	**147**	*e*PN	**Pn**	**21 36 53.5**	**-0.2**
THL	**Klokotos Trika**	**2.67**	**204**	*e*Pn	**Pn**	**21 36 56.4**	**+0.3**
THL	**Klokotos Trika**	**2.67**	**204**	*e*PN	**Pn**	**21 36 56.3**	**+0.1**
NEO	**Neokhori**	**2.71**	**183**	*e*PN	**Pn**	**21 36 56.2**	**-0.5**
GRUS	**Gruza**	**2.74**	**314**	*e*Pn	**Pn**	**21 36 56.4**	**-0.7**
GRUS				*e*Sg	**Sg**	**21 37 39.6**	**-1.0**
SVIS	**Svilajnac**	**2.78**	**325**	*e*Pn	**Pn**	**21 37 00.9**	**+3.3**
SVIS				*e*Sg	**Sg**	**21 37 41.0**	**-0.8**
AGG	**Agios Georgios**	**3.10**	**196**	*e*Pn	**Pn**	**21 37 02.3**	**+0.2**
DIVS	**Divibare**	**3.27**	**311**	*i* Pn	**Pn**	**21 37 04.3**	**-0.1**
DIVS				*e*Sg	**Sg**	**21 37 58.3**	**+0.6**
GZR	**Gura Zlata**	**3.41**	**352**	⇓P	**Pn**	**21 37 04.8**	**-1.6**
GZR	**Gura Zlata**	**3.41**	**352**	⇓*i*P	**Pn**	**21 37 04.8**	**-1.6**
VOIR		**3.62**	**18**	⇓P	**Pn**	**21 37 14.4**	**+5.3**
VOIR		**3.62**	**18**	⇓*i*P	**Pn**	**21 37 14.8**	**+5.2**
BZS	**Buzias**	**3.84**	**341**	⇑P	**Pn**	**21 37 12.5**	**+0.4**
BZS	**Buzias**	**3.84**	**341**	*e*Pn	**Pn**	**21 37 11.6**	**-0.6**
BZS	**Buzias**	**3.84**	**341**	⇑*i*P	**Pn**	**21 37 12.5**	**+0.3**
ISR	**Istrita**	**3.84**	**35**	⇓P	**Pn**	**21 37 19.1**	**+6.9**
ISR	**Istrita**	**3.84**	**35**	⇓*i*P	**Pn**	**21 37 19.1**	**+6.9**
MLR	**Muntele Rosu**	**3.92**	**27**	⇑P	**Pn**	**21 37 17.5**	**+4.1**
MLR	**Muntele Rosu**	**3.92**	**27**	*e*Pn	**Pn**	**21 37 15.4**	**+2.0**
MLR	**Muntele Rosu**	**3.92**	**27**	⇑*i*P	**Pn**	**21 37 17.5**	**+4.1**
CHOS	**Chios island**	**4.14**	**150**	*e*Pn	**Pn**	**21 37 16.7**	**+0.3**
PLOR	**Plostina**	**4.49**	**30**	⇑*i*P	**Pn**	**21 37 23.1**	**+2.0**
DRGR		**4.81**	**354**	⇑P	**Pb**	**21 37 37.5**	**+0.3**
DRGR		**4.81**	**354**	⇑*i*P	**Pb**	**21 37 37.5**	**+0.3**
PKSM	**Moragy**	**5.43**	**322**	⇑P	**Pn**	**21 37 33.3**	**-0.8**
PKSM	**Moragy**	**5.43**	**322**	⇑*i*P	**Pn**	**21 37 33.3**	**-0.8**

IDC 05 21:50:27.6±2.4, 565S×13044E, h0km, mb3.9/1, mb1 3.6/3, mb1mx3.4/12, mbtmp3.5/3, ML3.3/2, Error ellipse: s-maj=150.0km s-min=31.0km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.70**	**165**	Pn	Pn	21 53 56.5	-0.4
	0.2nm,0.3s,baz=348,slow=14,SNR=16						
WRA				Sn	Sn	21 56 26.3	-14
	0.4nm,0.3s,baz=337,slow=23,SNR=8.0						
ASAR	**Alice Springs**	**18.22**	**170**	P	Pn	21 54 42.4	+0.3
	0.1nm,0.3s,baz=352,slow=8.8,SNR=4.7						
ASAR				S	Sn	21 57 51.8	-14
	0.1nm,0.3s,baz=346,slow=26,SNR=3.9						
MKAR	**Makanchi Array**	**67.35**	**326**	P	P	22 01 24.7	+0.1
	0.5nm,0.4s,baz=116,slow=8.2,SNR=9.0						

*CSEM **05** 21:57:00.6±0.1, 3790N×2924E, h5km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.7km az=127.0*
*ISCJB **05** 21:57:01.4±0.5, 3790N±002×2925E±003, h2km±6km, Error ellipse: s-maj=4.2km s-min=3.7km az=16.0*
*ISK **05** 21:57:01.2, 3791N×2922E, h13km, MD3.0*
*DDA **05** 21:57:02.5, 3789N×2929E, h7km±4km, Md2.8*

ISC 05 21:57:02.2±0.4, 3789N±002×2926E±003, h11km±5km, n19, σ0§97/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	**Denizli**	**0.22**	**233**	*e*PG	**Pg**	**21 57 06.0**	**-0.8**
KHL	**Karahalli**	**0.48**	**26**	*e*PG	**Pg**	**21 57 10.8**	**-0.8**
KHL				*e*SG	**Sg**	**21 57 17.6**	**-0.4**
GOLH	**Golhisar**	**0.69**	**160**	*i* P	**Pg**	**21 57 14.3**	**-1.3**
GOLH				*i* S	**Sg**	**21 57 25.7**	**+1.0**
KULA	**Kula-Manisa**	**0.78**	**323**	*e*PG	**Pg**	**21 57 16.4**	**-0.9**
KULA				*e*SG	**Sg**	**21 57 27.4**	**-0.1**
MANT	**Manisa**	**0.82**	**318**	*i* P	**Pg**	**21 57 17.2**	**-0.7**
MANT				*i* S	**Sg**	**21 57 29.4**	**+0.9**
TKTP	**Tekketepe**	**0.85**	**80**	*e*P	**Pg**	**21 57 17.9**	**-0.8**
TKTP				*i* S	**Sg**	**21 57 34.2**	**+4.4**
ISP	**Isparta**	**0.99**	**92**	*e*PG	**Pg**	**21 57 21.8**	**+0.6**
ISP				*e*SG	**Sg**	**21 57 36.7**	**+2.6**
YER	**Yerkesik**	**1.08**	**226**	*e*PG	**Pg**	**21 57 22.1**	**-0.9**
AYDN	**Tasoluk**	**1.12**	**259**	*i* P	**Pb**	**21 57 23.2**	**-0.2**
AYDN				*i* S	**Sb**	**21 57 38.6**	**+0.6**
AYDN	**Tasoluk**	**1.12**	**259**	*i* P	**Pb**	**21 57 23.2**	**-0.3**
AYDN				*i* S	**Sb**	**21 57 38.6**	**+0.6**
GDZ	**Gediz**	**1.21**	**8**	*i* P	**Pn**	**21 57 23.4**	**-1.7**
GDZ				*i* S	**Sb**	**21 57 41.0**	**+0.3**
SHUT	**Suhut-Afyon**	**1.22**	**57**	*e*PN	**Pn**	**21 57 24.7**	**-0.4**
DALT	**Dalyan (Mudla)**	**1.22**	**204**	*e*PN	**Pn**	**21 57 24.4**	**-0.8**
FETY	**Fethiye**	**1.26**	**186**	*e*PN	**Pn**	**21 57 25.0**	**-0.7**
BDRM	**Kayabasi**	**1.66**	**241**	*i* P	**Pn**	**21 57 31.9**	**+0.6**
BDRM				*i* S	**Sg**	**21 57 57.4**	**+1.8**
ESKT	**Eskisehir**	**2.05**	**37**	*i* P	**Pn**	**21 57 38.0**	**+1.4**
SEYT	**Eskypehyr**	**2.05**	**37**	*i* P	**Pn**	**21 57 38.0**	**+1.4**
BTOK	**Tokmak**	**2.10**	**333**	*i* P	**Pg**	**21 57 42.3**	**-0.1**
BTOK				*i* S	**Sg**	**21 58 11.1**	**+1.4**
BORA	**Eskisehir**	**2.20**	**25**	*i* P	**Pb**	**21 57 42.8**	**+0.8**
BORA				*i* S	**Sg**	**21 58 12.4**	**-0.3**

*ATH **05** 22:03:44.4, 3639N×2798E, h15km±8km, MD3.1/4*
*NEIC **05** 22:03:44.4, 3639N×2798E, h15km, MD3.1(ATH), After ATH.*
*ISCJB **05** 22:03:45.5±2.6, 3626N±004×2793E±005, h8km±18km, Error ellipse: s-maj=7.1km s-min=6.6km az=164.8*
*CSEM **05** 22:03:45.6±0.1, 3634N×2791E, h2km, MD3.1, Error ellipse: s-maj=1.9km s-min=1.7km az=82.0*
*DDA **05** 22:03:45.9, 3623N×2787E, h6km±3km, Md2.9*

ISC 05 22:03:46.1±0.8, 3627N±004×2789E±006, h9km±6km, n7, σ0§87/13, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.20**	**107**	⇑*i*PB	**Pg**	**22 03 49.6**	**-0.6**
ARG				*e*SB	**Sg**	**22 03 52.7**	**-0.2**
BDRM	**Kayabasi**	**0.87**	**336**	*i* P	**Pg**	**22 04 02.8**	**+0.1**
BDRM				*i* S	**Sg**	**22 04 15.4**	**+1.3**
KARP	**Karpathos**	**0.94**	**219**	*e*PN	**Pn**	**22 04 04.9**	**-0.5**
KARP				*e*SN	**Sn**	**22 04 19.4**	**+0.4**
AYDN	**Tasoluk**	**1.38**	**360**	*i* P	**Pn**	**22 04 11.3**	**-0.3**
AYDN				*i* S	**Sb**	**22 04 29.6**	**-0.3**
GOLH	**Golhisar**	**1.65**	**54**	*i* P	**Pn**	**22 04 15.0**	**-0.3**
GOLH				*i* S	**Sn**	**22 04 38.3**	**+1.7**
SMG	**Samos**	**1.66**	**330**	*e*PN	**Pn**	**22 04 14.8**	**-0.6**
SMG				*e*SN	**Sn**	**22 04 35.3**	**-1.6**
NPS	**Neapolis**	**2.11**	**242**	*e*PN	**Pn**	**22 04 22.8**	**+1.2**

*ISCJB **05** 22:08:06.8±0.5, 3661N±002×3661E±003, h4km±4km, Error ellipse: s-maj=4.1km s-min=2.8km az=31.1*
*CSEM **05** 22:08:06.1±0.1, 3659N×3665E, h5km, MD3.7, Error ellipse: s-maj=1.9km s-min=1.3km az=112.0*
*ISK **05** 22:08:06.6, 3658N×3663E, h13km, MD3.5*
*DDA **05** 22:08:07.0, 3647N×3663E, h6km±3km, Md3.7*
*NSSC **05** 22:08:08.4, 3655N×3667E, h12km±1km*

ISC 05 22:08:07.5±0.4, 3661N±002×3661E±003, h7km±3km, n47, σ0§93/68, 12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COBT	**Iskenderun**	**0.30**	**253**	*i* P	**Pg**	**22 08 12.8**	**-0.5**
BTCH	**Batrach**	**0.58**	**192**	⇓P	**Pg**	**22 08 18.9**	**+0.1**
BTCH				⇑S	**Sg**	**22 08 27.2**	**+0.9**
BTCH	**Batrach**	**0.58**	**192**	⇓*i*P	**Pg**	**22 08 18.9**	**+0.2**
BTCH				⇑*i*S	**Sg**	**22 08 27.2**	**+0.9**
HTY	**Hatay**	**0.61**	**218**	PG	**Pg**	**22 08 18.8**	**-0.6**
HTY				*e*SG	**Sg**	**22 08 28.2**	**+0.8**
GAZ	**Gaziantep**	**0.74**	**41**	PG	**Pg**	**22 08 21.1**	**-0.8**
GAZ				*e*SG	**Sg**	**22 08 33.0**	**+1.5**
CEYT	**Ceyhan**	**0.80**	**300**	PG	**Pg**	**22 08 22.9**	**+0.1**
ARNB	**Al Arnab**	**0.91**	**215**	⇓P	**Pg**	**22 08 24.8**	**-0.2**
ARNB				⇓S	**Sg**	**22 08 38.2**	**+1.6**
KMRS	**Kahramanmaras**	**0.93**	**15**	PG	**Pg**	**22 08 24.9**	**-0.4**
SLNF	**Slenfeh**	**1.06**	**197**	⇑P	**Pg**	**22 08 27.5**	**-0.3**
SLNF				⇑S	**Sg**	**22 08 42.0**	**+0.5**
SLNF	**Slenfeh**	**1.06**	**197**	⇑*i*P	**Pg**	**22 08 27.5**	**-0.3**
SLNF				⇑*i*S	**Sg**	**22 08 42.0**	**+0.5**
GZT	**Gaziantep**	**1.07**	**46**	*i* P	**Pg**	**22 08 27.2**	**-0.9**
GZT				*i* S	**Sg**	**22 08 43.6**	**+1.6**
KOZT	**Kozan**	**1.07**	**325**	PN	**Pn**	**22 08 28.7**	**-0.3**
KOZT				*e*SN	**Sn**	**22 08 44.7**	**+0.7**
WRDH	**Warideh**	**1.11**	**188**	⇓P	**Pg**	**22 08 28.2**	**-0.6**
WRDH				⇑S	**Sg**	**22 08 43.7**	**+0.5**
WRDH	**Warideh**	**1.11**	**188**	⇓*i*P	**Pg**	**22 08 28.2**	**-0.6**
WRDH				⇑*i*S	**Sg**	**22 08 43.7**	**+0.5**
SLMH	**Al Salmeh**	**1.14**	**110**	⇓P	**Pg**	**22 08 28.4**	**-0.9**
SLMH				⇑S	**Sg**	**22 08 43.6**	**-0.5**
SLMH	**Al Salmeh**	**1.14**	**110**	⇓*i*P	**Pg**	**22 08 28.4**	**-0.9**
KARA	**Karaisali**	**1.40**	**298**	*e*PN	**Pn**	**22 08 31.9**	**-1.6**
ATAB	**Bozova**	**1.60**	**57**	*i* P	**Pn**	**22 08 37.0**	**+0.8**
ATAB				*i* S	**Sn**	**22 08 58.5**	**+1.3**
ATAB	**Bozova**	**1.60**	**57**	*i* P	**Pn**	**22 08 37.0**	**+0.8**
ATAB				*i* S	**Sn**	**22 08 58.5**	**+1.4**
BIDA	**Albida**	**1.61**	**188**	⇑P	**Pn**	**22 08 35.5**	**-0.8**
BIDA				⇓S	**Sn**	**22 08 56.4**	**-0.8**
BIDA	**Albida**	**1.61**	**188**	⇑*i*P	**Pn**	**22 08 35.5**	**-0.8**
BIDA				⇓*i*S	**Sn**	**22 08 56.4**	**-0.9**
MERS	**Mersin**	**1.69**	**279**	*e*PN	**Pn**	**22 08 36.7**	**-0.8**
JHLN	**Al Jahlan**	**1.75**	**122**	⇑P	**Pn**	**22 08 37.1**	**-1.2**
JHLN				⇓S	**Sn**	**22 08 60.0**	**-0.9**
JHLN	**Al Jahlan**	**1.75**	**122**	⇑*i*P	**Pn**	**22 08 37.2**	**-1.1**
URFA	**Urfa**	**1.96**	**64**	*e*PN	**Pn**	**22 08 40.6**	**-0.5**
KSRV	**Kasrt alli**	**2.08**	**110**	⇓P	**Pn**	**22 08 45.9**	**+3.2**
NIG	**Nigde**	**2.19**	**314**	*e*PN	**Pn**	**22 08 44.7**	**+0.4**
MALT	**Malatya**	**2.24**	**40**	*e*PN	**Pn**	**22 08 45.3**	**+0.4**
MYA	**Malataya**	**2.24**	**40**	*e*PN	**Pn**	**22 08 44.7**	**-0.4**
EREN	**Erenkoy**	**2.25**	**242**	*e*PN	**Pn**	**22 08 44.1**	**-1.0**
BNN	**Bunyan**	**2.32**	**345**	*e*PN	**Pn**	**22 08 46.4**	**+0.3**
FKH	**Fakeheh**	**2.37**	**184**	*e*Pn	**Pn**	**22 08 46.2**	**-0.6**
IKL	**Isikli**	**2.38**	**262**	*e*PN	**Pn**	**22 08 45.9**	**-1.1**
HWQ	**Hawqa**	**2.39**	**193**	*e*Pn	**Pn**	**22 08 47.7**	**+0.7**
AVNT	**Avonos**	**2.57**	**328**	*i* P	**Pn**	**22 08 51.2**	**+1.6**
AVNT				*i* S	**Sg**	**22 09 28.3**	**-1.9**
ELZG	**Elazig**	**2.67**	**44**	*i* P	**Pn**	**22 08 50.3**	**-0.6**
ELZG				*i* S	**Sn**	**22 09 27.8**	**+4.3**
SVRC	**Sivrice-ELAZID**	**2.78**	**50**	*e*PN	**Pn**	**22 08 51.7**	**-0.8**
BHL	**Bhannes**	**2.81**	**196**	*e*Pn	**Pn**	**22 08 55.5**	**+2.7**
LFK	**Lefkose**	**2.82**	**243**	*e*PN	**Pn**	**22 08 53.4**	**+0.4**
BEYL	**Beyrouth**	**2.88**	**199**	*e*Pn	**Pn**	**22 08 53.0**	**-0.8**
ERMK	**Ermenek**	**2.97**	**272**	*e*P	**Pn**	**22 08 56.2**	**+1.2**
ERMK				*i* S	**Sn**	**22 09 34.8**	**+3.9**
PTK	**Pertek**	**3.17**	**43**	*e*PN	**Pn**	**22 08 58.6**	**+0.8**
YOZ	**Yozgat**	**3.19**	**342**	*e*PN	**Pn**	**22 08 58.6**	**+0.5**
SVSK	**Karacayir**	**3.32**	**5**	*e*PN	**Pn**	**22 08 59.8**	**0.0**
LEF	**Lefka**	**3.36**	**245**	*e*PN	**Pn**	**22 09 00.9**	**+0.5**
MARD	**Mardin**	**3.42**	**77**	*i* P	**Pn**	**22 09 01.2**	**0.0**
MARD				*i* S	**Sg**	**22 09 51.1**	**-6.1**
KAMT	**Kaman**	**3.58**	**321**	*e*PN	**Pn**	**22 09 03.3**	**-0.2**

*CSEM **05** 22:23:24.0, 4308N×4679E, h14km, mb3.6, After OBN*

MOS 05 22:23:24.0±1.0, 4308N×4679E, h14km, mb3.6/1, Error ellipse: s-maj=13.5km s-min=10.7km az=129.1, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBC	**Dubki**	**0.07**	**155**	*i* PG	Pg	22 23 27.0	+0.3
DBC				*i* S	Sg	22 23 32.0	+3.3
DBC				pmax	pmax		
	comp=Z,139nm,0.1s						
DBC	**Dubki**	**0.07**	**155**	*i* Pg	Pg	22 23 27.0	+0.3
	comp=Z,139nm,0.1s						
DBC				*i* Sg	Sg	22 23 32.0	+3.3
KRNR	**Karanay**	**0.27**	**161**	*e*PG	Pg	22 23 30.6	+1.0
KRNR				*i* S	Sg	22 23 38.1	+4.7
UNCR	**Uncukul**	**0.36**	**180**	*i* PG	Pg	22 23 32.0	+0.6
UNCR				*i* S	Sg	22 23 41.0	+4.7
UNCR				pmax	pmax		
	comp=Z,26nm,0.3s						
UNCR	**Uncukul**	**0.36**	**180**	*i* Pg	Pg	22 23 32.0	+0.6
	comp=Z,26nm,0.3s						
UNCR				*i* Sg	Sg	22 23 41.0	+4.7
KMKR	**Kumukh**	**0.97**	**166**	*e*PG	Pg	22 23 45.0	+2.2
KMKR				*i* S	Sb	22 24 01.0	+5.7
VLKR	**Vladikavkaz**	**1.55**	**270**	*e*Pg	Pg	22 23 51.2	-2.6
VLKR				*e*Sg	Sg	22 24 12.6	-1.3
BTKR	**Batakoyurt**	**1.67**	**281**	*i* Pn	Pn	22 23 53.4	+0.6
BTKR				*e*Sg	Sg	22 24 17.0	-0.8
ARNR	**Ardon**	**1.84**	**274**	*i* Pn	Pn	22 23 56.4	+1.2
ARNR				*e*Sg	Sg	22 24 21.4	-1.9
LACR	**Lac**	**1.85**	**263**	*i* Pn	Pn	22 23 56.3	+1.0
ZEI	**Tsey**	**2.15**	**263**	*e*Pn	Pn	22 24 00.7	+1.3
ZEI				*e*Sb	Sb	22 24 28.0	-1.1
LSNR	**Lesken**	**2.19**	**276**	*e*Pn	Pn	22 24 01.8	+1.9
LSNR				*e*Sn	Sn	22 24 30.0	+3.3
DIGR	**Digorskoe uzhe**	**2.36**	**267**	*e*Pn	Pn	22 24 03.6	+1.3
DIGR				*e*Sn	Sn	22 24 33.9	+2.8

IDC 05 22:26:08.3±1.2, 2199N×14338E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/19, mbtmp3.5/5, Error ellipse: s-maj=52.2km s-min=23.8km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.60**	**193**	P	P	22 34 07.3	+1.1
	0.7nm,1.0s,baz=13,slow=9.1,SNR=3.8						
ASAR	**Alice Springs**	**46.30**	**192**	P	P	22 34 34.7	-1.2
	0.4nm,0.7s,baz=12,slow=9.7,SNR=7.1						
ZALV	**Zalesovo Beam**	**54.09**	**321**	P	P	22 35 34.5	-0.1
	0.5nm,0.4s,baz=108,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**54.63**	**312**	P	P	22 35 38.9	+0.2
	0.2nm,0.2s,baz=98,slow=8.9,SNR=4.6						
YKA	**Yellowknife Ar**	**76.12**	**28**	P	P	22 37 57.6	0.0
	2.1nm,1.2s,baz=298,slow=5.0,SNR=5.8						

*TIR **05** 22:33:39.2±0.3, 4147N×2097E, h7km*
*ISCJB **05** 22:33:41.4±0.3, 4052N±002×2176E±002, h2km, Error ellipse: s-maj=2.5km s-min=2.2km az=35.3*
*SOF **05** 22:33:41.9, 4047N×2179E, h21km, MD2.6*
*ATH **05** 22:33:42.1, 4055N×2178E, h21km±1km, MD3.4/11*
*NEIC **05** 22:33:42.1, 4055N×2178E, h21km, MD3.4(ATH), After ATH.*
*THE **05** 22:33:42.0, 4054N×2175E, h3km, ML3.5*
*CSEM **05** 22:33:42.1±0.1, 4055N×2173E, h2km, MD3.4, Error ellipse: s-maj=1.6km s-min=1.3km az=41.0*

ISC 05 22:33:42.2±0.3, 4053N±002×2176E±002, h5km±3km, n59, σ1§25/85, 8C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.23**	**179**	⇑*e*PB	**Pg**	**22 33 47.9**	**+1.3**
KZN				*e*SB	**Sg**	**22 33 51.8**	**+2.3**
FNA	**Florina**	**0.39**	**311**	*e*Pg	**Pg**	**22 33 49.0**	**-0.7**
FNA				*e*Sg	**Sg**	**22 33 55.2**	**+0.4**
BIA	**Bitola**	**0.59**	**326**	*e*Pg	**Pg**	**22 33 52.3**	**-1.3**
BIA				*e*Sg	**Sg**	**22 34 01.6**	**+0.3**
BIA	**Bitola**	**0.59**	**326**	⇑*i*Pg	**Pg**	**22 33 52.4**	**-1.2**
BIA				*i* Sg	**Sg**	**22 34 01.8**	**+0.5**
LIT	**Litokhoron**	**0.70**	**128**	*e*Pg	**Pg**	**22 33 55.5**	**-0.2**
LIT				*e*Sg	**Sg**	**22 34 05.8**	**+1.0**
KBN	**Korca**	**0.75**	**277**	*i* PG	**Pg**	**22 33 56.2**	**-0.4**
KBN				*i* SG	**Sg**	**22 34 08.6**	**+2.3**
MEV	**Metsovon**	**0.85**	**209**	*e*Pg	**Pg**	**22 33 58.7**	**+0.1**
THE	**Thessaloniki**	**0.92**	**83**	*e*Pg	**Pg**	**22 34 00.3**	**+0.5**
THE				*e*Sg	**Sg**	**22 34 13.6**	**+1.8**
KRUS	**Krusevo**	**0.92**	**335**	⇑*i*Pg	**Pg**	**22 33 59.4**	**-0.5**
KRUS				*i* Sg	**Sg**	**22 34 13.5**	**+1.6**
KRUS	**Krusevo**	**0.92**	**335**	⇑*i*Pg	**Pg**	**22 33 59.4**	**-0.5**
KRUS				*i* Sg	**Sg**	**22 34 13.4**	**+1.5**
OHR	**Ohrid**	**0.93**	**309**	*e*Pg	**Pg**	**22 33 58.8**	**-1.4**
OHR				*e*Sg	**Sg**	**22 34 12.9**	**+0.7**
OHR	**Ohrid**	**0.93**	**309**	⇑*i*Pg	**Pg**	**22 33 58.7**	**-1.4**
OHR				*i* Sg	**Sg**	**22 34 11.9**	**-0.3**
THL	**Klokotos Trika**	**0.98**	**169**	*e*Pg	**Pg**	**22 34 00.6**	**-0.5**
THL	**Klokotos Trika**	**0.98**	**169**	⇑*i*PB	**Pb**	**22 34 00.7**	**-1.0**
THL				*e*SN	**Sn**	**22 34 16.1**	**-0.9**
THL	**Klokotos Trika**	**0.98**	**169**	*e*Pg	**Pg**	**22 34 00.6**	**-0.5**
THL				*e*Sn	**Sn**	**22 34 16.1**	**-0.9**
VAY	**Valandovo**	**1.00**	**38**	*e*Pg	**Pg**	**22 34 00.5**	**-0.9**
VAY	**Valandovo**	**1.00**	**38**	*i* Pg	**Pg**	**22 34 00.4**	**-0.9**
VAY				*i* Sg	**Sg**	**22 34 17.7**	**+3.4**
VAY	**Valandovo**	**1.00**	**38**	*e*Pg	**Pg**	**22 34 00.5**	**-0.8**
VAY				*i* Sg	**Sg**	**22 34 17.7**	**+3.4**
HORT	**Hortiatis**	**1.02**	**86**	*e*Pg	**Pg**	**22 34 01.9**	**+0.2**
HORT				*e*Sg	**Sg**	**22 34 16.6**	**+1.6**
KNT	**Kendrikon**	**1.07**	**53**	*e*Pg	**Pg**	**22 34 01.9**	**-0.7**
KNT				*e*Sg	**Sg**	**22 34 17.9**	**+1.5**
JAN	**Janina**	**1.12**	**219**	*e*PN	**Pn**	**22 34 03.8**	**-0.7**
STIP	**Stip**	**1.21**	**15**	*e*Pg	**Pg**	**22 34 04.9**	**-0.5**
**STI

SDV eSn Sn 23 12 12.2 +0.8
SDV Santo Domingo 3.12 48 P Pn 23 11 34.2 +1.3
15nm,0.3s,baz=243,slow=3.8,SNR=86
SDV S Sn 23 12 12.2 +0.8
12nm,0.3s,baz=246,slow=22,SNR=18
ELOV Elorza 3.48 86⇑eP Pn 23 11 38.8 +1.4
ELOV eS Sn 23 12 20.0 +0.6
VIRV Villa del Rosa 3.74 9⇑eP Pn 23 11 39.4 -1.2
VIRV eS Sn 23 12 22.7 -2.7
SANV Sanarito 4.35 51 eP Pn 23 11 48.9 +0.3
CURV Curarigua 4.38 43 eP Pn 23 11 49.3 +0.3
CURV eS Sn 23 12 39.5 -0.8
TEPV Terepaima 4.90 50⇑eP Pn 23 11 56.1 +0.4
BAUV El Baul 5.34 66⇑iP Pn 23 12 00.8 -0.7
BAUV eS Sn 23 13 00.4 -2.3
CAOV Caicara del Or 6.63 85 eP Pn 23 12 18.1 -0.5
NNA Nana 19.04 192 P P 23 14 51.1 -1.8
12nm,0.4s
PARMO Parma 33.45 335 eP P 23 17 06.8 +0.3
LCO Las Campanas 35.66 177 eP P 23 17 21.5 -4.0
10nm,0.6s,mb4.6
TXAR Lajitas Array 36.59 312 P P 23 17 34.5 +1.0
0.2nm,0.6s,mb2.9,baz=110,slow=7.8,SNR=2.9
NVAR Mina Array Bea 51.61 315 P P 23 19 32.5 -0.3
0.2nm,0.2s,mb3.3,baz=123,slow=9.8,SNR=2.6
YKA Yellowknife Ar 63.34 340 P P 23 20 55.1 +0.7
0.5nm,0.6s,mb3.5,baz=131,slow=6.6,SNR=11
ASAR Alice Springs 149.20 234 PKPbc PKPbc 23 30 12.8 -0.2
0.2nm,0.7s,baz=91,slow=4.1,SNR=3.1
WRA Warramunga Arr 150.44 241 PKPbc PKPbc 23 30 16.5 +0.4
0.2nm,0.5s,baz=101,slow=4.0,SNR=3.3

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*MEX **05** 23:19:29.1±0.8, 1522N×9674W, h24km±20km, MD4.5*
*NEIC **05** 23:19:29.0, 1521N×9675W, h20km, mb4.2/10, MD4.4(MEX), After MEX.*
*ISCJB **05** 23:19:31.2±1.2, 1550N±005×9667W±005, h26km±8km, mb4.0/17, MS3.3/3, Error ellipse: s-maj=10.0km s-min=6.4km az=34.1*
*IDC **05** 23:19:38.4±4.6, 1609N×9636W, h42km±41km, mb3.6/9, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, ML3.6/2, MS3.2/5, Ms1 3.2/5, ms1mx2.8/28, Error ellipse: s-maj=35.0km s-min=16.5km az=45.0*

ISC 05 23:19:34.0±1.2, 1560N±006×9656W±005, h27km±8km, n68, σ1§31/89, mb4.0/17, MS3.3/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.47**	**68**	*i* P	**Pb**	**23 19 42.5**	**-1.2**
HUIG				*i* S	**Sb**	**23 19 51.9**	**+1.6**
VHO	**Vista Hermosa**	**1.48**	**353**	*i* P	**Pn**	**23 19 56.5**	**-2.4**
VHO				*i* S	**Sn**	**23 20 18.3**	**+1.0**
OXX	**Oaxaca**	**1.49**	**354**	*i* P	**Pn**	**23 19 57.0**	**-2.0**
OXX				*i* S	**Sn**	**23 20 19.0**	**+1.5**
PNIG	**Pinotepa**	**1.71**	**298**	*i* P	**Pn**	**23 19 54.5**	**-7.5**
PNIG				*i* S	**Sn**	**23 20 24.4**	**+1.4**
PNIG	**Pinotepa**	**1.71**	**298**	*i* P	**Pn**	**23 19 54.5**	**-7.5**
PNIG				*e*S	**Sn**	**23 20 18.2**	**-4.7**
CMIG	**Matias Romero**	**2.19**	**47**	*i* P	**Pn**	**23 20 07.2**	**-1.4**
CMIG				*i* S	**Sn**	**23 20 32.3**	**-2.6**
CMIG	**Matias Romero**	**2.19**	**47**	*i* P	**Pn**	**23 20 07.2**	**-1.4**
CMIG				*i* S	**Sn**	**23 20 37.5**	**+2.6**
TUIG	**Tuzandepetl**	**3.17**	**40**	*i* P	**Pn**	**23 20 21.1**	**-1.1**
ACX	**Acapulco**	**3.47**	**292**	*e*P	**Pn**	**23 20 20.5**	**-5.7**
MEIG	**Mezcala**	**3.74**	**309**	*e*P	**Pn**	**23 20 24.2**	**-5.8**
MEIG				*i* S	**Sn**	**23 21 06.8**	**-6.3**
CAIG	**El Cayaco**	**3.84**	**293**	*i* P	**Pn**	**23 20 36.6**	**+5.2**
CAIG				*i* S	**Sn**	**23 21 17.7**	**+1.9**
CAIG	**El Cayaco**	**3.84**	**293**	*i* P	**Pn**	**23 20 24.8**	**-6.6**
CAIG				*i* S	**Sn**	**23 21 09.3**	**-6.5**
SCX	**San Cristobal**	**3.94**	**73**	*e*P	**Pn**	**23 20 33.0**	**+0.3**
PLIG	**Platanillo**	**3.96**	**315**	*i* P	**Pn**	**23 20 37.2**	**+4.2**
PLIG				*i* S	**Sn**	**23 21 12.2**	**-6.4**
PLIG	**Platanillo**	**3.96**	**315**	*i* P	**Pn**	**23 20 32.9**	**-0.1**
PLIG				*i* S	**Sn**	**23 21 13.3**	**-5.2**
PPM	**Popocatepetl**	**3.98**	**331**	*i* P	**Pn**	**23 20 37.6**	**+4.3**
PPM				*i* S	**Sn**	**23 21 21.1**	**+2.0**
PPM	**Popocatepetl**	**3.98**	**331**	*e*P	**Pn**	**23 20 32.5**	**-0.8**
PPM				*i* P		23 20 34.4	
PPM				*i* S	**Sn**	**23 21 18.6**	**-0.4**
YAIG	**Yautepec**	**4.04**	**324**	*i* P	**Pn**	**23 20 40.5**	**+6.4**
YAIG				*i* S	**Sn**	**23 21 19.2**	**-1.3**
YAIG	**Yautepec**	**4.04**	**324**	*i* P	**Pn**	**23 20 35.4**	**+1.3**
YAIG				*i* S	**Sn**	**23 21 19.2**	**-1.3**
LVIG	**Laguna Verde**	**4.11**	**2**	*i* P	**Pb**	**23 20 47.1**	**+1.5**
LVIG				*i* S	**Sn**	**23 21 25.2**	**+3.0**
LVIG	**Laguna Verde**	**4.11**	**2**	*i* P	**Pn**	**23 20 38.7**	**+3.7**
LVIG				*i* S	**Sn**	**23 21 25.2**	**+3.0**
CCIG	**Comitan**	**4.31**	**80**	*i* P	**Pn**	**23 20 39.0**	**+1.2**
CCIG				*i* S	**Sn**	**23 21 20.6**	**-6.6**
CCIG	**Comitan**	**4.31**	**80**	*i* P	**Pn**	**23 20 39.0**	**+1.2**
CCIG				*i* S	**Sn**	**23 21 24.2**	**-3.0**
UNM	**Universidad Na**	**4.48**	**326**	*e*P	**Pn**	**23 20 47.0**	**+6.9**
SZVM	**Salazar**	**4.58**	**324**	*i* P	**Pn**	**23 20 41.8**	**+0.2**
SZVM				*i* S	**Sn**	**23 21 32.8**	**-1.2**
DEIG	**Demacu**	**5.24**	**334**	*i* P	**Pn**	**23 20 50.7**	**+0.1**
DEIG				*i* S	**Sn**	**23 21 46.6**	**-3.6**
MOIG	**Morelia**	**6.00**	**313**	*i* S	**Sn**	**23 22 03.7**	**-5.2**
TEIG	**Tepich**	**9.13**	**58**	*e*Pn	**Pn**	**23 21 41.1**	**-3.0**
TEIG	**Tepich**	**9.13**	**58**	P	**Pn**	**23 21 40.7**	**-3.4**
	2.4nm,0.3s,baz=246,slow=3.3,SNR=7.8						
TEIG				S	**Sn**	**23 23 20.8**	**-5.2**
	1.6nm,0.3s,baz=356,slow=20,SNR=6.1						
JTS	**JuntasAbangare**	**12.48**	**114**	LR	LR	23 27 10.8	
	comp=Z,44nm,20.8s,baz=7.7,slow=36						
TXAR	**Lajitas Array**	**15.16**	**336**	P	**Pn**	**23 23 05.1**	**-1.3**
TXAR				LR	LR	23 29 35.2	
TXAR	**Lajitas Array**	**15.16**	**336**	P	**Pn**	**23 23 05.1**	**-1.3**
	0.0nm,0.3s,baz=111,slow=10.0,SNR=5.0						
TXAR				LR	LR	23 29 35.2	
	comp=Z,102nm,21.4s,baz=0.0,slow=40						
MIAR	**Mount Ida**	**19.06**	**8**	*e*P	**Pn**	**23 23 52.9**	**-2.3**
	12nm,0.9s						
WMOK	**Wichita Mounta**	**19.17**	**354**	*e*P	**Pn**	**23 23 54.5**	**-2.0**
BNM	**Barren Site**	**20.59**	**336**	*e*P	**P**	**23 24 11.5**	**+0.6**
LENM	**Lemitar**	**20.74**	**335**	*e*P	**P**	**23 24 11.5**	**-1.1**
LAZ	**Ladron**	**21.01**	**335**	*e*P	**P**	**23 24 15.4**	**-0.1**
TUC	**Tucson**	**21.08**	**325**	*e*P	**P**	**23 24 17.1**	**+0.9**
ANMO	**Albuquerque**	**21.23**	**337**	*e*P	**P**	**23 24 18.9**	**+1.1**
ANMO	**Albuquerque**	**21.23**	**337**	P	**P**	**23 24 18.0**	**+0.2**
	4.0nm,0.9s,mb3.7,baz=143,slow=12,SNR=7.1						
WVT	**Waverly**	**21.88**	**19**	*e*P	**P**	**23 24 22.1**	**-2.8**
CPCT	**Cooper Cave**	**22.52**	**26**	*e*P	**P**	**23 24 31.9**	**+0.3**
CCM	**Cathedral Cave**	**22.86**	**11**	*e*P	**P**	**23 24 34.2**	**-1.0**
	5.1nm,0.7s,mb4.1						
CBKS	**Cedar Bluff**	**23.30**	**354**	*e*P	**P**	**23 24 39.6**	**-0.3**
	28nm,0.9s,mb4.7						
SDCO	**Great Sand Dun**	**23.44**	**342**	*e*P	**P**	**23 24 41.9**	**+0.6**
	6.8nm,1.1s,mb4.0						
WUAZ	**Wupatki**	**23.86**	**329**	*e*P	**P**	**23 24 47.0**	**+1.7**
	14nm,0.9s,mb4.4						
PV01	**Paradox Valley**	**24.83**	**337**	*e*P	**P**	**23 24 54.6**	**+0.6**
SMCO	**Snowmass**	**25.21**	**341**	*e*P	**P**	**23 24 58.8**	**+1.3**
	10nm,1.0s,mb4.3						
ISCO	**Idaho Springs**	**25.38**	**344**	*e*P	**P**	**23 24 59.8**	**+0.7**
	3.6nm,0.9s,mb3.9						
SDV	**Santo Domingo**	**26.18**	**102**	*e*P	**P**	**23 25 08.2**	**+1.7**
	5.9nm,1.0s,mb4.1						
SDV	**Santo Domingo**	**26.18**	**102**	P	**P**	**23 25 07.5**	**+1.0**
	3.7nm,0.7s,mb4.0,baz=296,slow=8.9,SNR=5.4						
SCIA	**State Center**	**26.38**	**6**	*e*P	**P**	**23 25 13.3**	**+5.2**
NVAR	**Mina Array Bea**	**29.73**	**324**	P	**P**	**23 25 38.2**	**+0.1**
	0.8nm,0.8s,mb3.5,baz=114,slow=11,SNR=4.2						
REDW	**Red Top Meadow**	**30.25**	**339**	*e*P	**P**	**23 25 43.2**	**+0.7**
	7.2nm,1.0s,mb4.4						
SNOW	**Snow King Moun**	**30.30**	**339**	*e*P	**P**	**23 25 44.1**	**+1.1**
LOHW	**Long Hollow**	**30.39**	**340**	*e*P	**P**	**23 25 44.5**	**+0.7**
TPAW	**Teton Pass**	**30.40**	**339**	*e*P	**P**	**23 25 45.5**	**+1.6**
DLMT	**Dillon**	**32.60**	**339**	*e*P	**P**	**23 26 04.6**	**+1.3**
FFC	**Flin Flon**	**39.27**	**355**	*e*P	**P**	**23 26 59.4**	**-0.9**
	3.1nm,0.9s,mb4.0						
EDM	**Edmonton**	**39.81**	**344**	*e*P	**P**	**23 27 03.9**	**-0.8**
LPAZ	**La Paz**	**42.32**	**137**	P	**P**	**23 27 30.4**	**+4.6**
LPAZ				LR	LR	23 42 57.9	
LPAZ	**La Paz**	**42.32**	**137**	P	**P**	**23 27 30.4**	**+4.6**
	0.3nm,0.5s,mb3.2,baz=304,slow=11,SNR=3.6						
LPAZ				LR	LR	23 42 57.8	
	comp=Z,46nm,20.9s,MS3.3,baz=215,slow=33						
SCHQ	**Schefferville**	**45.41**	**24**	P	**P**	**23 27 49.1**	**-1.0**
	4.6nm,1.1s,mb4.2,baz=240,slow=8.1,SNR=2.8						
SIV	**San Ignacio**	**47.04**	**130**	P	**P**	**23 28 08.9**	**+5.4**
	0.9nm,0.8s,mb3.7,baz=327,slow=11,SNR=3.9						
YKA	**Yellowknife Ar**	**48.55**	**349**	P	**P**	**23 28 13.0**	**-1.5**
	0.8nm,0.8s,mb3.8,baz=156,slow=7.0,SNR=10						
YKA				LR	LR	23 50 24.3	
	comp=Z,32nm,18.6s,MS3.3,baz=110,slow=38						
INK	**Inuvik**	**57.70**	**345**	P	**P**	**23 29 20.8**	**-1.1**
	3.1nm,0.9s,mb4.3,baz=140,slow=6.7,SNR=6.9						
ESDC	**Sonseca Array**	**82.17**	**51**	P	**P**	**23 31 52.6**	**-0.2**
	0.6nm,0.7s,mb3.7,baz=297,slow=5.9,SNR=4.5						
NOA	**NORSAR Array B**	**84.82**	**28**	LR	LR	00 07 38.9	
	comp=Z,13nm,21.7s,MS3.3,baz=355,slow=34						

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*NEIC **05** 23:23:49.4, 1479N×9264W, h26km, MD4.1(MEX), After MEX.*

MEX 05 23:23:49.4±0.7, 1479N×9266W, h26km±79km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.57**	**19**	*i* P	Pn	23 24 13.3	-2.3
CCIG				*i* S	Sn	23 24 31.7	-3.4
SCX	**San Cristobal**	**1.94**	**1**	*i* P	Pn	23 24 19.0	-1.7
SCX				*i* S	Sn	23 24 41.8	-2.4
CMIG	**Matias Romero**	**3.14**	**317**	*i* P	Pn	23 24 34.6	-2.6
VHO	**Vista Hermosa**	**4.53**	**301**	*i* S	Sn	23 25 51.5	+3.2
VHO	**Vista Hermosa**	**4.53**	**301**	*i* S	Sn	23 25 44.8	-3.5
PPM	**Popocatepetl**	**7.12**	**308**	*i* S	Sn	23 26 56.3	+4.1
PPM	**Popocatepetl**	**7.12**	**308**	*i* S	Sn	23 26 53.8	+1.6

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*MOS **05** 23:28:31.1±1.6, 5312N×16257E, h35km, mb4.2/1, Error ellipse: s-maj=21.4km s-min=13.6km az=107.3*

KRSC 05 23:28:31.5±0.7, 5310N×16260E, h43km±42km, ML4.1, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.55**	**341**	*i* P	Pn	23 28 57.7	+1.2
MKZ				*i* S	Sn	23 29 17.0	+1.6
SPN	**Mys Shipunski**	**1.55**	**271**	*i* P	Pn	23 28 58.2	+1.6
SPN				*i* S	Sn	23 29 17.6	+2.1
NLC	**Nalytchevo**	**1.96**	**273**	*i* P	Pn	23 29 04.0	+1.8
NLC				*i* S	Sn	23 29 28.1	+2.5
KII	**Karymskiy**	**2.10**	**298**	*e*P	Pn	23 29 06.4	+2.3
KII				*i* S	Sn	23 29 32.1	+3.1
AVH	**Avacha**	**2.33**	**276**	*i* P	Pn	23 29 10.1	+2.8
AVH				*i* S	Sn	23 29 38.1	+3.5
PET	**Petropavlovsk**	**2.38**	**270**	*e*PN	Pn	23 29 09.4	+1.4
PET				*e*S	Sn	23 29 39.4	+3.5
PET				pmax	pmax		
	comp=Z,21nm,0.4s						
PET				smax			
	comp=E,122nm,0.4s						
PET				smax			
	comp=N,194nm,0.4s						
PET	**Petropavlovsk**	**2.38**	**270**	P	Pn	23 29 09.3	+1.3
PET				*i* S	Sn	23 29 37.0	+1.1
RUS	**Russkaya**	**2.57**	**257**	P	Pn	23 29 12.1	+1.5
RUS				*i* S	Sn	23 29 41.3	+0.7
TUMR	**Tumrok**	**2.62**	**328**	*i* P	Pn	23 29 14.6	+3.4
TUMR				*e*S	Sn	23 29 45.8	+4.1
GRL	**Gorelyy**	**2.80**	**261**	P	Pn	23 29 17.0	+3.3
GRL				*i* S	Sn	23 29 49.3	+3.1
GNL	**Ganaly**	**2.85**	**284**	*i* P	Pn	23 29 17.7	+3.3
GNL				*i* S	Sn	23 29 51.7	+4.2
KMNR	**Kamenistaya**	**3.00**	**334**	*e*P	Pn	23 29 20.1	+3.7
KBTR	**Krutoberegovo**	**3.12**	**2**	*e*P	Pn	23 29 18.3	+0.2
KBTR				*i* S	Sn	23 29 52.7	-1.3
KOZ	**Kozyrevsk**	**3.36**	**333**	P	Pn	23 29 24.9	+3.5
KOZR	**Kozyr**	**3.36**	**333**	PN	Pn	23 29 24.9	+3.5
KLY	**Klyuchi**	**3.41**	**341**	P	Pn	23 29 23.6	+1.5
SRDR	**Sredinnyy**	**3.63**	**334**	*e*P	Pn	23 29 27.8	+2.7
MIPR	**Malaya Ipel'ka**	**3.65**	**259**	P	Pn	23 29 27.8	+2.4
SRKR	**Sorokina**	**3.66**	**348**	*i* P	Pn	23 29 28.2	+2.8
SRKR				*e*S	Sn	23 30 10.2	+2.9

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*CSEM **05** 23:28:41.1, 3904N×4409E, h4km, MD3.1, After ISK*

ISK 05 23:28:41.1, 3904N×4409E, h4km, MD3.1, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.17**	**307**	PG	Pg	23 28 45.1	+0.7
CLDR				*e*SG	Sg	23 28 49.0	+2.3
VANB	**Van**	**0.70**	**231**	*e*PG	Pg	23 28 55.2	+0.6
VANT	**Van**	**0.81**	**223**	*e*PG	Pg	23 28 59.1	+2.5
AGRB	**Hanur-Agry**	**1.00**	**302**	*e*PG	Pg	23 29 00.7	+0.4
AGRB				*e*SG	Sg	23 29 15.4	+2.0
CUKT	**Cukurca**	**1.83**	**192**	*e*PN	Pn	23 29 15.2	+1.9
BTMT	**Batman**	**2.21**	**248**	*e*PN	Pn	23 29 21.8	+3.4
EZM	**Erzurum**	**2.28**	**293**	*e*PN	Pn	23 29 20.9	+1.4
DGRG	**David-gareji**	**2.60**	**22**	P	Pn	23 29 30.0	+6.2

IDC 05 23:29:00.4±6.5, 8705×12032E, h214km±38km, mb3.4/1, mb1 3.1/5, mb1mx2.9/18, mbtmp3.0/5, Error ellipse: s-maj=70.0km s-min=54.0km az=85.0, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.62**	**115**	P	Pn	23 29 57.8	-0.4
	8.5nm,0.3s,baz=283,slow=9.0,SNR=12						
BATI				S	S	23 30 44.0	+0.5
	2.3nm,0.3s,baz=256,slow=18,SNR=2.5						
FITZ	**Fitzroy Crossi**	**10.68**	**152**	P	Pn	23 31 28.9	+0.7
	0.1nm,0.3s,baz=332,slow=15,SNR=7.9						
FITZ				S	S	23 33 27.0	-0.8
	0.1nm,0.3s,baz=189,slow=20,SNR=2.4						
WRA	**Warramunga Arr**	**17.57**	**131**	P	P	23 32 51.1	+0.3
	0.2nm,0.3s,baz=307,slow=11,SNR=8.7						
ASAR	**Alice Springs**	**19.77**	**140**	P	P	23 33 14.7	+0.3
	0.2nm,0.3s,baz=314,slow=9.4,SNR=15						
STKA	**Stephens Creek**	**30.37**	**142**	P	P	23 34 51.7	-0.7
	1.6nm,0.9s,baz=317,slow=18,SNR=3.0						

IDC 05 23:57:00.2±2.1, 2129S×6701W, h174km±22km, mb3.6/1, mb1 3.3/4, mb1mx3.2/17, mbtmp3.1/4, Error ellipse: s-maj=36.1km s-min=22.2km az=112.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.09**	**348**	P	Pn	23 58 15.9	+0.6
	2.0nm,0.3s,baz=149,slow=7.6,SNR=62						
SIV	**San Ignacio**	**7.71**	**48**	P	Pn	23 58 50.9	+1.2
	1.2nm,0.3s,baz=247,slow=9.8,SNR=22						
SIV				S	Sn	00 00 15.3	-0.9
	0.3nm,0.3s,baz=150,slow=24,SNR=4.0						
CFAA	**Coronel Fontan**	**10.33**	**186**	P	Pn	23 59 23.8	-0.2
	0.1nm,0.3s,baz=9.1,slow=13,SNR=5.8						
YKA	**Yellowknife Ar**	**91.59**	**340**	P	P	00 09 46.3	-0.3
	0.4nm,0.5s,baz=131,slow=4.7,SNR=16						
ZALV	**Zalesovo Beam**	**141.00**	**26**	PKP	PKPdf	00 16 08.5	-0.7
	0.4nm,0.4s,baz=324,slow=2.0,SNR=2.3						
MKAR	**Makanchi Array**	**144.41**	**37**	PKP	PKPdf	00 16 15.6	+0.2
	0.7nm,0.4s,baz=317,slow=3.7,SNR=11						

KISR 06 00:24:36.2±1.0, 2826N×5717E, h9km±999km, ML3.3, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLWS		**6.78**	**241**	P	Pn	00 26 17.7	+1.7
BTHS		**7.06**	**235**	P	Pn	00 26 19.3	-0.5
BTHS		**7.06**	**235**	P	Pn	00 26 19.3	-0.4
BTHS				S	Sn	00 27 33.3	-6.8
BOQSS		**7.34**	**253**	P	Pn	00 26 30.0	+6.4
RDF	**Al-Radifah**	**8.48**	**277**	*e*P	Pn	00 26 45.3	+6.1
RDF				*e*S	Sn	00 28 21.2	+6.1
RDF				AML	AML	00 28 24.0	
	comp=Z,3.5nm,0.3s						
RDF	**Al-Radifah**	**8.48**	**277**	*e*P	Pn	00 26 45.3	+6.1
RDF				*e*S	Sn	00 28 21.2	+6.1
	comp=Z,3.5nm,0.3s						
MIB	**Mutribah**	**8.74**	**283**	*e*P	Pn	00 26 48.2	+5.4
MIB				*e*S	Sn	00 28 28.1	+6.7
MIB				AML	AML	00 28 30.0	
	comp=Z,1.3nm,0.3s						
MIB	**Mutribah**	**8.74**	**283**	*e*P	Pn	00 26 48.2	+5.4
MIB				*e*S	Sn	00 28 28.1	+6.6
NAY	**Al-Naaiem**	**8.77**	**279**	*e*P	Pn	00 26 49.2	+6.0
NAY				*e*S	Sn	00 28 28.9	+6.8
NAY				AML	AML	00 28 33.8	
	comp=Z,1.1nm,0.2s						
NAY	**Al-Naaiem**	**8.77**	**279**	*e*P	Pn	00 26 49.2	+6.0
NAY				*e*S	Sn	00 28 28.9	+6.7

BJI 06 00:31:20.0, 3404N×11970E, h23km, mB4.5, mb4.3, ML4.0, Ms3.3, Msz3.2, Southeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIA	**Tai'an**	**3.02**	**316**	P	Pn	00 32 06.4	-0.1
TIA				SG	Sn	00 32 49.5	+7.5
TIA				Smax			
	comp=N,570nm,0.8s						
TIA				Smax			
	comp=E,646nm,0.7s						
DL2	**Dalian**	**5.10**	**17**	PG	Pn	00 32 49.5	+15
DL2				S	Sn	00 33 33.2	+0.1
DL2				SG	Sn	00 33 53.9	+21
DL2				Smax			
	comp=N,160nm,0.5s						
DL2				Smax			
	comp=E,210nm,0.5s						
XAN	**Xi'an**	**8.95**	**273**	P	Pn	00 33 26.2	-1.6
XAN				S	Sn	00 35 04.2	-3.6
XAN				AMB	AMB		
	comp=Z,4.0nm,0.7s						
XAN				AMB	AMB		
	comp=Z,42nm,6.4s						
XAN				LR	LR		
	comp=N,79nm,14.1s						
XAN				LR	LR		
	comp=E,78nm,13.5s						
XAN				LR	LR		
	comp=Z,74nm,8.5s						
LZH	**Lanzhou**	**13.15**	**283**	*e*P	Pn	00 34 26.2	+0.9
LZH				AP		00 34 29.5	
LZH				PP		00 34 36.3	
LZH				*e*S	Sn	00 36 50.5	-0.3
LZH				SS		00 37 10.1	
LZH				AMB	AMB		
	comp=Z,17nm,1.3s						
LZH				AMB	AMB		
	comp=Z,90nm,4.5s						
LZH				LR	LR		
	comp=E,112nm,7.1s						
LZH				LR	LR		
	comp=Z,136nm,8.6s						

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*PRU **06** 00:34:02.3, 4740N×779E, h0km*
*CSEM **06** 00:34:03.3±0.0, 4759N×761E, h10km, ML2.6/15, Error ellipse: s-maj=0.8km s-min=0.6km az=155.0*
*BGR **06** 00:34:03.5±0.3, 4759N×763E, h5km, ML2.6/5, Error ellipse: s-maj=4.4km s-min=2.2km az=160.0*
*LDG **06** 00:34:03.0±0.1, 4759N×764E, h4km, Md2.8/2, Ml2.7/20, Error ellipse: s-maj=1.5km s-min=1.4km az=131.0*
*ZUR **06** 00:34:03.5, 4758N×760E, h4km±1km, ML2.3*
*LEDBW **06** 00:34:03.5±0.0, 47590N±0003×7609E±0003, h5km, ML2.2, Error ellipse: s-maj=1.0km s-min=0.8km az=132.0*
*STR **06** 00:34:03.2±0.1, 4759N×761E, h5km, Ml2.3, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **06** 00:34:03.5, 4758N×760E, h4km, ML2.7(LDG), ML2.3(ZUR), ML2.3(STR), ML2.2(SZGRF), After ZUR.*

ISC 06 00:34:02.6±0.2, 4759N±001×758E±001, h0km, n132, σ1§23/237, 19C-16D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WEIL	**Weil am Rhein**	**0.02**	**82**⇑	*i*Pg	**Pg**	**00 34 04.5**	**+1.6**
WEIL				Sg	**Sg**	**00 34 05.6**	**+2.4**
WEIL	**Weil am Rhein**	**0.02**	**82**	Px	Px	00 34 05.0	
LOES	**Loerrach-Stett**	**0.06**	**77**⇑	*i*Pg	**Pg**	**00 34 05.0**	**+1.2**
LOES	**Loerrach-Stett**	**0.06**	**77**	Px	Px	00 34 05.2	
LOES				Sg	**Sg**	**00 34 06.4**	**+1.8**
WYH	**Wyhlen**	**0.10**	**115**⇓	*i*Pg	**Pg**	**00 34 05.2**	**+0.9**
WYH				Sg	**Sg**	**00 34 06.5**	**+0.9**
BBS	**Basel-Blauen**	**0.13**	**200**⇑	*i*P*	**Pg**	**00 34 06.5**	**+1.4**
BBS	**Basel-Blauen**	**0.13**	**200**⇑	*i*Pg	**Pg**	**00 34 06.5**	**+1.4**
BBS	**Basel-Blauen**	**0.13**	**200**	Pg	**Pg**	**00 34 06.4**	**+1.3**
BBS				Sg	**Sg**	**00 34 08.4**	**+1.6**
ENDD	**Endenburg**	**0.17**	**41**⇓	*i*Pg	**Pg**	**00 34 06.7**	**+0.9**
ENDD				*i* Sg	**Sg**	**00 34 09.1**	**+1.2**
BALST	**Balsthal**	**0.27**	**162**⇓	*i*Pg	**Pg**	**00 34 08.7**	**+1.0**
	1μm,0.3s						
BALST				*i* Sg	**Sg**	**00 34 12.4**	**+1.3**
	1μm,0.3s						
BALST	**Balsthal**	**0.27**	**162**⇓	*i*Pg	**Pg**	**00 34 08.7**	**+1.0**
BALST				*i* Sg	**Sg**	**00 34 12.4**	**+1.3**
BOURR	**Bourrignon**	**0.31**	**230**⇑	*i*Pg	**Pg**	**00 34 09.9**	**+1.5**
	299nm,0.4s						
BOURR	**Bourrignon**	**0.31**	**230**⇑	*i*Pg	**Pg**	**00 34 09.9**	**+1.4**
BOURR				Sg	**Sg**	**00 34 14.2**	**+1.8**
SULZ	**Cheisacher**	**0.37**	**100**⇓	*i*Pg	**Pg**	**00 34 10.4**	**+0.8**
	359nm,0.3s						
SULZ				*e*Sg	**Sg**	**00 34 15.3**	**+0.9**
	359nm,0.3s						
SULZ	**Cheisacher**	**0.37**	**100**⇓	*i*Pg	**Pg**	**00 34 10.4**	**+0.7**
SULZ				Sg	**Sg**	**00 34 15.1**	**+0.7**
MOF	**Molkenrain**	**0.40**	**311**⇓	*i*P*	**Pg**	**00 34 11.7**	**+1.5**
MOF				*i* S*	**Sg**	**00 34 17.4**	**+2.1**
MOF	**Molkenrain**	**0.40**	**311**	Pg	**Pg**	**00 34 11.

	73nm,0.3s							
SISB	**Singen-Schiene**	**0.94**	**84**	⇑*iP**	**Pb**	**00 34 21.7**	**-0.1**
SISB				PmP		00 34 22.4	
SISB				S*	**Sb**	**00 34 33.7**	**-1.1**
SISB				SmS		00 34 35.7	
SISB	**Singen-Schiene**	**0.94**	**84**	⇑*i*Pn	**Pb**	**00 34 21.7**	**-0.1**
SISB				Sn	**Sb**	**00 34 33.7**	**-1.1**
SISB	**Singen-Schiene**	**0.94**	**84**	PmP		00 34 22.4	
SISB				SmS		00 34 35.7	
MUO	**Muotathal**	**0.95**	**130**	⇓*i*Pg	**Pg**	**00 34 21.1**	**+0.2**
	156nm,0.8s						
WEIN	**Weingarten**	**0.96**	**93**	⇓*i*Pg	**Pg**	**00 34 21.2**	**+0.3**
SPAK	**Spaichingen-Ko**	**0.96**	**57**	P*	**Pb**	**00 34 21.4**	**-0.7**
SPAK	**Spaichingen-Ko**	**0.96**	**57**	Pg	**Pg**	**00 34 21.3**	**+0.3**
BRANT	**Les Verrieres**	**0.99**	**229**	⇑*i*Pg	**Pg**	**00 34 22.3**	**+0.7**
	112nm,0.3s						
GUT	**Gutenstein**	**1.14**	**65**	⇑*i*Pn	**Pn**	**00 34 23.8**	**-2.0**
GUT				⇑*e*Pg	**Pg**	**00 34 25.0**	**+0.5**
GUT	**Gutenstein**	**1.14**	**65**	⇑*i*Pn	**Pn**	**00 34 23.8**	**-2.0**
GUT	**Gutenstein**	**1.14**	**65**	⇑*e*P	**Pg**	**00 34 25.0**	**+0.5**
THEF	**They Montfort**	**1.24**	**301**	Pg	**Pg**	**00 34 27.1**	**+0.7**
THEF	**They Montfort**	**1.24**	**301**	Pg	**Pg**	**00 34 26.9**	**+0.5**
LIENZ	**Kamor/St.Gall**	**1.33**	**102**	⇓*i*P	**Pg**	**00 34 21.6**	**-6.6**
	79nm,0.2s						
LBG	**Lerchenberg**	**1.35**	**37**	P	**Pg**	**00 34 26.3**	**-2.1**
LBG				Sg	**Sg**	**00 34 46.3**	**+0.4**
LBG	**Lerchenberg**	**1.35**	**37**	Px		00 34 26.3	
LBG				S	**Sg**	**00 34 46.3**	**+0.4**
TUBL	**Tuebingen-Lenn**	**1.38**	**47**	Pg	**Pg**	**00 34 30.4**	**+1.4**
TUBL				Sg	**Sg**	**00 34 48.0**	**+1.3**
CABF	**La Chapelle**	**1.41**	**227**	*e*Pg	**Pg**	**00 34 30.5**	**+0.9**
CABF				*e*Sg	**Sg**	**00 34 47.8**	**-0.1**
	17nm,0.3s						
CABF	**La Chapelle**	**1.41**	**227**	*e*Pn	**Pn**	**00 34 28.7**	**-0.8**
CABF				*e*Pg	**Pg**	**00 34 30.5**	**+0.9**
CABF				*e*Sg	**Sg**	**00 34 47.8**	**-0.1**
CABF	**La Chapelle**	**1.41**	**227**	*e*Pg	**Pg**	**00 34 30.5**	**+0.9**
CABF				*e*Sg	**Sg**	**00 34 47.8**	**-0.1**
	8.7nm,0.3s						
BUCH	**Bad Urach**	**1.47**	**54**	Pn	**Pn**	**00 34 28.2**	**-2.1**
BUCH				Pg	**Pg**	**00 34 31.1**	**+0.4**
BUCH				Sg	**Sg**	**00 34 50.2**	**+0.4**
BUCH	**Bad Urach**	**1.47**	**54**	P	**Pg**	**00 34 31.1**	**+0.4**
DAVA	**Damuels**	**1.59**	**100**	⇓*i*Sg	**Sn**	**00 34 53.1**	**-0.2**
	comp=Z,19nm,0.3s						
DAVA	**Damuels**	**1.59**	**100**	⇑*i*Pn	**Pn**	**00 34 31.7**	**-0.3**
DAVA				⇓*i*Sn	**Sn**	**00 34 53.1**	**-0.2**
	19nm,0.3s						
STU	**Stuttgart**	**1.60**	**42**	*e*Pg	**Pg**	**00 34 33.4**	**+0.1**
STU				*e*Sg	**Sg**	**00 34 54.3**	**+0.2**
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**00 34 37.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**00 34 55.6**	**-3.1**
SFTF				*e*Sg	**Sg**	**00 35 01.1**	**+0.2**
	8.7nm,0.2s						
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pn	**Pn**	**00 34 33.9**	**-1.1**
SFTF				*e*Pg	**Pg**	**00 34 37.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**00 34 55.6**	**-3.1**
SFTF				*e*Sg	**Sg**	**00 35 01.1**	**+0.2**
SFTF	**Sexfontaines**	**1.81**	**291**	*e*Pg	**Pg**	**00 34 37.8**	**+0.5**
SFTF				*e*Sn	**Sn**	**00 34 55.6**	**-3.1**
VAI	**Varese**	**1.91**	**154**	Pn	**Pn**	**00 34 36.6**	**+0.3**
VAI				Sn	**Sn**	**00 34 59.6**	**-1.4**
MEZF	**Maizieres J'vi**	**1.92**	**299**	*e*Pg	**Pg**	**00 34 39.4**	**0.0**
MEZF				*e*Sn	**Sn**	**00 34 57.9**	**-3.5**
MEZF				*e*Sg	**Sg**	**00 35 04.9**	**+0.6**
	8.7nm,0.4s						
MEZF	**Maizieres J'vi**	**1.92**	**299**	*e*Pn	**Pn**	**00 34 35.7**	**-0.8**
MEZF				*e*Pg	**Pg**	**00 34 39.4**	**0.0**
MEZF				*e*Sn	**Sn**	**00 34 57.9**	**-3.5**
MEZF				*e*Sg	**Sg**	**00 35 04.9**	**+0.6**
MEZF	**Maizieres J'vi**	**1.92**	**299**	*e*Pg	**Pg**	**00 34 39.4**	**0.0**
MEZF				*e*Sn	**Sn**	**00 34 57.9**	**-3.5**
ORX	**Oropa**	**1.98**	**172**	Pn	**Pn**	**00 34 40.2**	**+2.9**
ORX				Sn	**Sn**	**00 35 05.5**	**+2.7**
ORO	**Oropa**	**1.98**	**172**	Pn	**Pn**	**00 34 38.7**	**+1.3**
ORO				Sn	**Sn**	**00 35 05.8**	**+2.9**
HDH	**Heidenheim-Cha**	**2.02**	**60**	S	**Sn**	**00 35 00.7**	**-3.2**
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**00 34 43.9**	**0.0**
LPL				*e*Sg	**Sg**	**00 35 11.9**	**+0.1**
	2.8nm,0.3s						
LPL	**La Plagne**	**2.15**	**196**	*e*Pn	**Pn**	**00 34 40.1**	**+0.4**
LPL				*e*Pg	**Pg**	**00 34 43.9**	**0.0**
LPL				*e*Sg	**Sg**	**00 35 11.9**	**+0.1**
LPL	**La Plagne**	**2.15**	**196**	*e*Pg	**Pg**	**00 34 43.9**	**0.0**
LPL				*e*Sg	**Sg**	**00 35 11.9**	**+0.1**
	1.4nm,0.3s						
LPG	**La Plagne**	**2.17**	**195**	*e*Pg	**Pg**	**00 34 44.2**	**+0.1**
LPG				*e*Sg	**Sg**	**00 35 11.8**	**-0.4**
	3.9nm,0.2s						
LPG	**La Plagne**	**2.17**	**195**	*e*Pn	**Pn**	**00 34 39.6**	**-0.3**
LPG				*e*Pg	**Pg**	**00 34 44.2**	**+0.1**
LPG				*e*Sg	**Sg**	**00 35 11.8**	**-0.4**
LPG	**La Plagne**	**2.17**	**195**	*e*Pg	**Pg**	**00 34 44.2**	**+0.1**
LPG				*e*Sg	**Sg**	**00 35 11.8**	**-0.4**
	2.0nm,0.2s						
SIND	**Sindeldorf**	**2.22**	**37**	Pg	**Pg**	**00 34 44.8**	**-0.3**
SIND				Sg	**Sg**	**00 35 13.7**	**-0.2**
FETA	**Feichten**	**2.22**	**104**	⇑*i*Pg	**Pg**	**00 34 46.2**	**+1.0**
FETA				⇓*i*Sg	**Sg**	**00 35 14.4**	**+0.5**
	0.7nm,0.2s						
WLF	**Walferdange**	**2.28**	**336**	*e*Sg	**Sg**	**00 35 16.2**	**+0.4**
SQTA	**Sankt Quirin**	**2.50**	**97**	⇑*i*Pg	**Pg**	**00 34 50.2**	**-0.1**
SQTA				⇑*i*Sg	**Sg**	**00 35 22.0**	**-0.7**
	4.7nm,0.2s						
SQTA	**Sankt Quirin**	**2.50**	**97**	Pg	**Pg**	**00 34 50.2**	**-0.2**
SQTA				Sg	**Sg**	**00 35 22.0**	**-0.7**
	4.7nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Pg	**Pg**	**00 34 51.2**	**-0.1**
LOR				*e*Sg	**Sg**	**00 35 22.6**	**-1.7**
	11nm,0.2s						
LOR	**Lormes**	**2.54**	**264**	*e*Pg	**Pg**	**00 34 51.2**	**-0.1**
LOR				*e*Sg	**Sg**	**00 35 22.6**	**-1.7**
	5.6nm,0.2s						
SMF	**Signal de Mont**	**2.72**	**251**	*e*Pg	**Pg**	**00 34 54.0**	**-0.7**
SMF				*e*Sg	**Sg**	**00 35 26.4**	**-3.5**
	8.1nm,0.3s						
SMF	**Signal de Mont**	**2.72**	**251**	*e*Pn	**Pn**	**00 34 48.8**	**+1.3**
SMF				*e*Pg	**Pg**	**00 34 54.0**	**-0.7**
SMF				*e*Sg	**Sg**	**00 35 26.4**	**-3.5**
SMF	**Signal de Mont**	**2.72**	**251**	*e*Pg	**Pg**	**00 34 54.0**	**-0.7**
SMF				*e*Sg	**Sg**	**00 35 26.4**	**-3.5**
	4.1nm,0.3s						
SSF	**Saint Saulge**	**2.82**	**261**	*e*Pg	**Pg**	**00 34 56.2**	**-0.4**
SSF				*e*Sn	**Sn**	**00 35 19.5**	**-4.0**
SSF				*e*Sg	**Sg**	**00 35 30.0**	**-3.1**
	10.0nm,0.4s						
SSF	**Saint Saulge**	**2.82**	**261**	*e*Pn	**Pn**	**00 34 49.9**	**+1.1**
SSF				*e*Pg	**Pg**	**00 34 56.2**	**-0.4**
SSF				*e*Sn	**Sn**	**00 35 19.5**	**-4.0**
SSF				*e*Sg	**Sg**	**00 35 30.0**	**-3.1**
SSF	**Saint Saulge**	**2.82**	**261**	*e*Pg	**Pg**	**00 34 56.2**	**-0.4**
SSF				*e*Sn	**Sn**	**00 35 19.5**	**-4.0**
SSF				*e*Sg	**Sg**	**00 35 30.0**	**-3.1**
	5.0nm,0.4s						
MBDF	**Montbardon**	**2.92**	**191**	*e*Pg	**Pg**	**00 34 57.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**00 35 35.6**	**-0.7**
	3.1nm,0.4s						
MBDF	**Montbardon**	**2.92**	**191**	*e*Pg	**Pg**	**00 34 57.8**	**-0.7**
MBDF				*e*Sg	**Sg**	**00 35 35.6**	**-0.7**
	1.5nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.92**	**204**	*e*Pg	**Pg**	**00 34 57.8**	**-0.7**
ORIF				*e*Sg	**Sg**	**00 35 35.4**	**-1.0**
	5.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.92**	**204**	*e*Pn	**Pn**	**00 34 49.2**	**-1.0**
ORIF				*e*Pg	**Pg**	**00 34 57.8**	**-0.7**
ORIF				*e*Sg	**Sg**	**00 35 35.4**	**-1.0**
ORIF	**Oris-en-Rattie**	**2.92**	**204**	*e*Pg	**Pg**	**00 34 57.8**	**-0.7**
ORIF				*e*Sg	**Sg**	**00 35 35.4**	**-1.0**
	2.8nm,0.5s						
AVF	**Avril sur Loir**	**2.99**	**256**	*e*Pg	**Pg**	**00 34 59.4**	**-0.4**
AVF				*e*Sg	**Sg**	**00 35 37.4**	**-1.2**
	3.3nm,0.3s						
AVF	**Avril sur Loir**	**2.99**	**256**	*e*Pn	**Pn**	**00 34 51.3**	**+0.1**
AVF				*e*Pg	**Pg**	**00 34 59.4**	**-0.4**
AVF				*e*Sg	**Sg**	**00 35 37.4**	**-1.2**
AVF	**Avril sur Loir**	**2.99**	**256**	*e*Pg	**Pg**	**00 34 59.4**	**-0.4**
AVF				*e*Sg	**Sg**	**00 35 37.4**	**-1.2**
	1.6nm,0.3s						
GIVF	**Givet**	**3.10**	**325**	*e*Pn	**Pn**	**00 34 51.7**	**-1.0**
GRA1	**Grafenberg Arr**	**3.21**	**48**	*e*Pg	**Pg**	**00 35 03.3**	**-0.7**
GRA1				*e*Sg	**Sg**	**00 35 44.0**	**-1.5**
GRF	**Grafenberg Arr**	**3.21**	**48**	*e*Pg	**Pg**	**00 35 03.4**	**-0.6**
	SNR=3.0						
GRF				*e*Sg	**Sg**	**00 35 43.9**	**-1.6**
GRF	**Grafenberg Arr**	**3.21**	**48**	*e*Pg	**Pg**	**00 35 03.3**	**-0.7**
GRF				*e*Sg	**Sg**	**00 35 44.0**	**-1.5**
BAIF	**Baives**	**3.33**	**319**	*e*Pn	**Pn**	**00 34 54.6**	**-1.2**
HYF	**Humbligny**	**3.37**	**266**	*e*Sg	**Sg**	**00 35 49.2**	**-1.5**
BGF	**Bois d'Agland**	**3.39**	**254**	*e*Pg	**Pg**	**00 35 07.0**	**-0.6**
BGF				*e*Sg	**Sg**	**00 35 49.8**	**-1.7**
	9.2nm,0.3s						
BGF	**Bois d'Agland**	**3.39**	**254**	*e*Pg	**Pg**	**00 35 07.0**	**-0.6**
BGF				*e*Sg	**Sg**	**00 35 49.8**	**-1.7**
	4.6nm,0.3s						
VIVF	**Saint-Julien-l**	**3.40**	**217**	*e*Pg	**Pg**	**00 35 06.8**	**-0.9**
VIVF				*e*Sg	**Sg**	**00 35 50.5**	**-1.2**
	4.3nm,0.4s						
VIVF	**Saint-Julien-l**	**3.40**	**217**	*e*Pn	**Pn**	**00 34 54.6**	**-2.2**
VIVF				*e*Pg	**Pg**	**00 35 06.8**	**-0.9**
VIVF				*e*Sg	**Sg**	**00 35 50.5**	**-1.2**
VIVF	**Saint-Julien-l**	**3.40**	**217**	*e*Pg	**Pg**	**00 35 06.8**	**-0.9**
VIVF				*e*Sg	**Sg**	**00 35 50.5**	**-1.2**
	2.2nm,0.4s						
WET	**Wettzell**	**3.86**	**64**	*e*Sn	**Sn**	**00 35 45.2**	**-4.0**
WET				*e*Sg	**Sg**	**00 36 04.0**	**-2.6**
TCF	**Toulx Ste Croi**	**3.90**	**252**	*e*Pn	**Pn**	**00 35 03.0**	**-0.7**
TCF				*e*Sn	**Sn**	**00 35 45.4**	**-4.7**
TCF				*e*Sg	**Sg**	**00 36 05.1**	**-2.7**
	2.0nm,0.3s						
TCF	**Toulx Ste Croi**	**3.90**	**252**	*e*Pn	**Pn**	**00 35 03.0**	**-0.7**
TCF				*e*Sn	**Sn**	**00 35 45.4**	**-4.7**
TCF				*e*Sg	**Sg**	**00 36 05.1**	**-2.7**
	1.0nm,0.3s						
MOX	**Moxa**	**4.05**	**39**	*e*Pg	**Pg**	**00 35 18.3**	**-1.8**
	SNR=1.2						
NKC	**Novy Kostel**	**4.16**	**49**	*e*Pg	**Pg**	**00 35 20.8**	**-1.5**
NKC				*e*Sg	**Sg**	**00 36 14.3**	**-1.9**
NKC	**Novy Kostel**	**4.16**	**49**	*e*Pg	**Pg**	**00 35 20.8**	**-1.5**
NKC				*e*Sg	**Sg**	**00 36 14.3**	**-1.9**
GUNZ	**Gunzen**	**4.18**	**47**	*e*Sg	**Sg**	**00 36 14.0**	**-2.9**
TANN	**Tannenbergstha**	**4.28**	**47**	*e*Sg	**Sg**	**00 36 19.0**	**-1.1**
GEC2	**GERESS Array S**	**4.28**	**71**	*e*Sg	**Sg**	**00 36 18.3**	**-1.8**
KHC	**Kasperske Hory**	**4.29**	**67**	*ex*	x	00 35 55.6	
KHC				*e*SG	**Sg**	**00 36 17.1**	**-3.2**
	comp=Z,3.4nm,0.6s						
LASF	**Ste Croix**	**4.37**	**218**	*e*Pg	**Pg**	**00 35 24.8**	**-1.5**
LASF				*e*Sg	**Sg**	**00 36 20.7**	**-2.2**
	comp=Z,3.4nm,0.4s						
LASF	**Ste Croix**	**4.37**	**218**	*e*Pn	**Pn**	**00 35 07.6**	**-2.6**
LASF				*e*Pg	**Pg**	**00 35 24.8**	**-1.5**
LASF				*e*Sg	**Sg**	**00 36 20.7**	**-2.2**
LASF	**Ste Croix**	**4.37**	**218**	*e*Pg	**Pg**	**00 35 24.8**	**-1.5**
LASF				*e*Sg	**Sg**	**00 36 20.7**	**-2.2**
	comp=Z,1.7nm,0.4s						
PRU	**Pruhonice**	**5.19**	**60**	*e*Sg	**Sg**	**00 36 47.4**	**-1.9**
DPC	**Dobruska-Polom**	**6.39**	**61**	*e*SG	**Sg**	**00 37 25.2**	**-2.4**

*IDC **06** 01:03:42.4±0.5,362S×123.14E,h0km,mb4.7/16, mb1 4.7/18,mb1mx4.6/24,mbtmp4.6/18,ML4.0/2,MS4.2/13, Ms1 4.2/13,ms1mx4.0/30,Error ellipse: s-maj=27.0km s-min=12.5km az=63.0*

*ISCJB **06** 01:03:44.4±1.2,367S±004×12328E±006,h28km±8km, mb4.8/65,MS4.2/23,Error ellipse: s-maj=11.0km s-min=4.7km az=150.5*

*BJI **06** 01:03:45.7,370S×12320E,h30km,mB4.9,mb4.9,Ms4.5, Msz4.2*

*MOS **06** 01:03:45.1±1.0,355S×12331E,h33km,mb5.2/14,Error ellipse: s-maj=17.2km s-min=7.4km az=116.3*

*NEIC **06** 01:03:46.7±0.2,366S×123.18E,h30km,mb4.8/18,Error ellipse: s-maj=9.6km s-min=4.1km az=60.0*

NEIC Felt [III] at Kendari.

*GCMT **06** 01:03:46.7±0.2,354S×12334E,h12km,MW5.1/87, Moment Tensor Solution. s52,c77; s87,c151; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.34±.11; $M_{\theta\theta}$4.90±.07; $M_{\phi\phi}$-0.56±.12; $M_{r\theta}$2.15±.26; $M_{\theta\phi}$0.35±.09; $M_{\phi r}$0.85±.40; Best double couple: $M_0$5.18500×10^{16} NP1:ϕ_s96.00000°,δ33.00000°,λ-74.00000°. NP2: ϕ_s258.00000°,δ58.00000°,λ-100.00000°. Principal axes: T 5.4230, Plg13.0000°, Azm355.0000°; N -0.4760, Plg9.0000°, Azm263.0000°; P -4.9470, Plg75.0000°, Azm140.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 06 01:03:46.1±1.1,372S±004×12323E±006,h25km±8km, h35km±1.6km:pP-P,n144,σ1°19/144,mb4.8/65,MS4.2/23, 9C-9D,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	**Kendari**	**0.65**	**249**	P	**Pb**	**01 03 58.4**	**-0.5**
	118µm,0.8s						
PCI	**Palu**	**4.39**	**309**	P	**Pn**	**01 04 51.9**	**+0.7**
	2µm,1.0s						
AAI	**Ambon**	**4.96**	**90**	P	**Pn**	**01 05 04.2**	**+5.2**
	178nm,1.0s						
TNE	**Ternate**	**6.10**	**43**	⇑*e*P	**Pn**	**01 05 10.0**	**-4.6**
BATI	**Kupang**	**6.46**	**176**	Pn	**Pn**	**01 05 25.3**	**+5.7**
	11nm,0.3s,baz=8.5,slow=2.0,SNR=24						
MYLDM	**Lahad Datu**	**10.02**	**332**	⇓P	**Pn**	**01 06 11.8**	**+3.2**
SDKM	**Sandakan**	**11.08**	**327**	⇑P	**Pn**	**01 06 25.4**	**+2.3**
KKM	**Kota Kinabalu**	**11.96**	**324**	Pn	**Pn**	**01 06 34.8**	**-0.3**
SBUM	**Sibu**	**12.60**	**299**	⇓P	**Pn**	**01 06 53.6**	**+10**
KAKA	**Kakadu**	**12.76**	**135**	*e*P	**Pn**	**01 06 46.8**	**+0.8**
	45nm,1.2s						
KAKA	**Kakadu**	**12.76**	**135**	*e*Pn	**Pn**	**01 06 46.3**	**+0.3**
	124nm,1.3s						
KAKA				*e*P		01 06 46.8	
KSM	**Kuching**	**13.91**	**292**	Pn	**Pn**	**01 07 01.2**	**-0.5**
FITZ	**Fitzroy Crossi**	**14.49**	**171**	*e*P	**Pn**	**01 07 08.1**	**-1.5**
	37nm,0.8s						
FITZ				*e*S	**Sn**	**01 09 47.9**	**-1.6**
FITZ	**Fitzroy Crossi**	**14.49**	**171**	Pn	**Pn**	**01 07 10.1**	**+0.5**
	0.2nm,0.3s,baz=0.4,slow=15,SNR=12						
FITZ				Sn	**Sn**	**01 09 46.6**	**-2.9**
	0.1nm,0.3s,baz=11,slow=22,SNR=3.0						
FITZ				LR	LR	01 12 14.3	
	comp=Z,396nm,21.6s,baz=351,slow=35						
MBWA	**Marble Bar**	**17.66**	**191**	*e*Pn	**Pn**	**01 07 51.1**	**+0.6**
WRAB	**Tennant Creek**	**19.42**	**147**	*e*P	**Pn**	**01 08 11.7**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,36nm,1.1s						
WRAB	**Tennant Creek**	**19.42**	**147**	*e*P	**Pn**	**01 08 11.7**	**-0.3**
	comp=Z,36nm,1.1s						
WRA	**Warramunga Arr**	**19.43**	**147**	*i* P	**Pn**	**01 08 10.8**	**-1.2**
WRA				pmax	pmax		
	comp=Z,14nm,0.9s						
WRA	**Warramunga Arr**	**19.43**	**147**	P	**Pn**	**01 08 10.9**	**-1.1**
	comp=Z,0.8nm,0.3s,baz=324,slow=13,SNR=25						
WRA				S	**Sn**	**01 11 43.0**	**-6.3**
	baz=315,slow=23,SNR=5.3						
WRA				LR	LR	01 15 38.1	
	comp=Z,489nm,21.8s,baz=310,slow=37						
WB2	**Warramunga Arr**	**19.43**	**147**	*e*P	**Pn**	**01 08 10.8**	**-1.2**
WB2				*e*S	**Sn**	**01 11 34.2**	**-15**
MYKOM	**Kota Tinggi**	**20.13**	**285**	⇓P	**P**	**01 08 25.1**	**+6.7**
KGM	**Kluang**	**20.70**	**286**	⇓P	**P**	**01 08 27.9**	**+3.2**
KTGM	**Kuala Trenggan**	**21.99**	**294**	⇑P	**P**	**01 08 42.8**	**+4.3**
ASAR	**Alice Springs**	**22.35**	**153**	P	**P**	**01 08 43.4**	**+1.1**
	comp=Z,44nm,1.1s,mb4.8,baz=330,slow=8.8,SNR=88						
ASAR				PcP	PcP	01 12 37.6	+0.3
	comp=Z,2.8nm,0.7s,baz=341,slow=2.0,SNR=8.9						
FRIM	**Kepong**	**22.67**	**287**	⇓P	**P**	**01 08 50.3**	**+4.5**
IPM	**Ipoh**	**23.63**	**290**	⇑P	**P**	**01 08 56.8**	**+1.1**
KULM	**Kulim**	**24.27**	**292**	*e*P	**P**	**01 09 01.1**	**-0.3**
KULM	**Kulim**	**24.27**	**292**	⇑P	**P**	**01 09 05.2**	**+3.7**
PSI	**Prapat**	**25.14**	**285**	P	**P**	**01 09 10.0**	**+0.5**
	comp=Z,16nm,0.8s,mb4.6,baz=84,slow=4.6,SNR=14						
QIZ	**Qiongzhong**	**26.17**	**330**	P	**P**	**01 09 21.2**	**+2.5**
QIZ				XP	sP	01 09 32.5	+3.3
QIZ				S	**S**	**01 13 51.0**	**+1.8**
QIZ				XS	sS	01 14 07.0	+5.5
QIZ				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,141nm,7.9s						
QIZ				LR	LR		
	comp=N,693nm,14.4s,MS4.5						
QIZ				LR	LR		
	comp=E,704nm,13.3s,MS4.5						
QIZ				LR	LR		
	comp=Z,694nm,18.0s,MS4.2						
QIZ	**Qiongzhong**	**26.17**	**330**	*e*P	**P**	**01 09 16.9**	**-1.7**
	comp=Z,25nm,1.3s,mb4.6						
FORT	**Forrest**	**27.30**	**171**	*e*P	**P**	**01 09 29.1**	**+0.4**
	comp=Z,32nm,0.9s,mb4.8						
FORT				*e*pP	pP	01 09 39.9	+3.7
CTA	**Charters Tower**	**27.72**	**128**	P	**P**	**01 09 34.2**	**+1.6**
	comp=Z,9.5nm,0.9s,mb4.4,baz=322,slow=13,SNR=3.2						
KLBR	**Kellerberrin**	**28.20**	**190**	*e*P	**P**	**01 09 37.4**	**+0.6**
	comp=Z,42nm,1.1s,mb5.0						
QZH	**Quanzhou**	**28.85**	**351**	*e*P	**P**	**01 09 47.3**	**+4.7**
QZH				S	**S**	**01 14 33.1**	**+1.8**
QZH				LR	LR		
	comp=Z,500nm,18.6s,MS4.2						
NWAO	**Narrogin (SRO)**	**29.59**	**190**	*e*P	**P**	**01 09 49.8**	**+0.6**
NWAO				pmax	pmax		
	comp=Z,31nm,1.3s						
NWAO	**Narrogin (SRO)**	**29.59**	**190**	*e*P	**P**	**01 09 49.8**	**+0.7**
	comp=Z,31nm,1.3s,mb4.9						
NWAO	**Narrogin (SRO)**	**29.59**	**190**	P	**P**	**01 09 50.8**	**+1.7**
	comp=Z,15nm,1.0s,mb4.7,baz=24,slow=9.4,SNR=5.0						
NWAO				LR	LR	01 22 54.3	
	comp=Z,356nm,21.2s,MS4.0,baz=177,slow=39						
JOW	**Kunigami**	**30.76**	**9**	LR	LR	01 20 58.0	
	comp=Z,362nm,19.2s,MS4.0,baz=119,slow=34						
CM31	**Chiang Mai Arr**	**32.53**	**313**	*e*P	**P**	**01 10 15.3**	**0.0**
	comp=Z,4.8nm,0.4s,mb4.8						
CHTO	**Chiang Mai**	**32.76**	**314**	*e*P	**P**	**01 10 17.6**	**+0.3**
STKA	**Stephens Creek**	**32.90**	**150**	*e*P	**P**	**01 10 19.5**	**+1.2**
	comp=Z,28nm,1.0s,mb5.2						
STKA	**Stephens Creek**	**32.90**	**150**	*e*P	**P**	**01 10 19.4**	**+1.1**
	comp=Z,71nm,1.2s,mb5.5						
STKA	**Stephens Creek**	**32.90**	**150**	P	**P**	**01 10 19.8**	**+1.5**
	comp=Z,33nm,1.0s,mb5.2,baz=320,slow=8.6,SNR=23						
STKA				LR	LR	01 23 47.1	
	comp=Z,776nm,19.7s,MS4.4,baz=100,slow=36						
GYA	**Guiyang**	**34.02**	**333**	*e*P	**P**	**01 10 30.4**	**+2.3**
GYA				AP	pP	01 10 41.8	+6.2
GYA				XP	sP	01 10 45.6	+6.9
GYA				PP	PP	01 11 47.2	+1.8
GYA				PCP	PcP	01 13 08.4	+2.6
GYA				S	**S**	**01 15 54.4**	**+2.3**
GYA				XS	sS	01 16 11.8	+7.3
GYA				SCP	ScP	01 16 49.7	+0.4
GYA				SCS	ScS	01 20 50.6	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,90nm,4.9s						
GYA				LR	LR		
	comp=N,410nm,18.2s,MS4.3						
GYA				LR	LR		
	comp=E,390nm,17.6s,MS4.3						
GYA				LR	LR		
	comp=Z,480nm,18.8s,MS4.2						
SSE	**Sheshan**	**34.68**	**357**	*e*P	**P**	**01 10 34.2**	**+0.4**
SSE				AP	pP	01 10 46.2	+4.9
SSE				XP	sP	01 10 50.0	+5.6
SSE				S	**S**	**01 16 03.2**	**+1.0**
SSE				SCS	ScS	01 20 48.1	-6.6
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,92nm,9.3s						
SSE				LR	LR		
	comp=N,181nm,21.6s,MS3.8						
SSE				LR	LR		
	comp=E,77nm,21.6s,MS3.8						
SSE				LR	LR		
	comp=Z,263nm,22.6s,MS3.9						
KMI	**Kunming**	**34.90**	**326**	P	**P**	**01 10 38.9**	**+3.1**
KMI				AP	pP	01 10 49.3	+6.0
KMI				XP	sP	01 10 52.8	+6.4
KMI				PP	PP	01 11 56.7	+1.5
KMI				PPP		01 12 15.9	
KMI				S	**S**	**01 16 07.4**	**+1.6**
KMI				XS	sS	01 16 23.9	+5.6
KMI				SS	SS	01 18 22.6	-15
KMI				SSS		01 18 51.6	
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb5.0						
KM

HHC LR LR
comp=E,335nm,18.4s,MS4.5
HHC LR LR
comp=Z,513nm,20.0s,MS4.5
CN2 Changchun 47.35 2 *e*P **P** **01 12 20.5 +2.7**
CN2 *e*AP pP 01 12 30.7 +5.1
CN2 *e*PP PP 01 14 11.2 +1.9
CN2 *e*S **S** **01 19 12.1 +2.0**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
JIRN Jiri 47.41 313 *e*P **P** **01 12 18.5 -0.1**
comp=Z,20nm,0.9s,mb5.1
GUN Gumba 47.78 314 *e*P **P** **01 12 21.2 -0.3**
comp=Z,31nm,0.8s,mb5.4
PKI Pulchoki 47.92 313 *e*P **P** **01 12 22.0 -0.6**
comp=Z,21nm,0.9s,mb5.2
GTA Gaotai 48.03 336 *e*P **P** **01 12 23.4 +0.1**
GTA AP pP 01 12 33.7 +2.7
GTA XP sP 01 12 38.0 +3.9
GTA PCP PcP 01 13 52.5 +1.5
GTA PP PP 01 14 13.1 -2.5
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,72nm,4.9s
GTA LR LR
comp=N,203nm,20.2s,MS4.2
GTA LR LR
comp=E,184nm,21.3s,MS4.2
GTA LR LR
comp=Z,236nm,20.9s,MS4.1
KKN Kakani 48.14 313 *e*P **P** **01 12 24.0 -0.3**
comp=Z,31nm,0.9s,mb5.3
DMN Daman 48.17 313 *e*P **P** **01 12 24.2 -0.3**
comp=Z,12nm,0.6s,mb5.1
MDJ Mudanjiang 48.46 6 S **S** **01 19 24.0 -1.8**
GKN Gorkha 48.73 313 *e*P **P** **01 12 28.4 -0.5**
HYB Hyderabad 48.83 297 *e*P **P** **01 12 29.0 -0.8**
HYB Hyderabad 48.83 297 *i*P **P** **01 12 29.0 -0.8**
KOLN Koldanda 49.37 312 *e*P **P** **01 12 33.4 -0.4**
comp=Z,50nm,0.8s,mb5.6
DANN Dangsing 49.57 313 *e*P **P** **01 12 34.9 -0.4**
comp=Z,58nm,0.7s,mb5.7
HIA Hailar 52.86 357 *e*P **P** **01 12 59.2 -0.4**
HIA pmax pmax
comp=Z,26nm,0.9s
HIA Hailar 52.86 357 *e*P **P** **01 12 59.1 -0.4**
comp=Z,26nm,0.9s,mb5.2
HABR Khabarovsk 52.99 10 *e*P **P** **01 12 59.1 -1.5**
HABR *e* pP 01 13 07.1 -1.3
HABR *e* 01 13 11.3
HABR *e* 01 14 07.4
HABR *e* 01 16 02.4
HABR *e*S **S** **01 20 26.0 -2.7**
HABR *e* 01 20 42.5
HABR *e* 01 22 45.3
HABR *e* 01 24 07.7
ULN Ulaanbaatar 53.29 346 *e*P **P** **01 13 02.3 -0.5**
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
ULN Ulaanbaatar 53.29 346 *e*P **P** **01 13 02.3 -0.5**
comp=Z,4.1nm,0.6s,mb4.5
ZAK Zakamensk 56.56 345 *e*P **P** **01 13 23.9 -2.5**
ZAK *e* 01 14 22.3
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.5s,mb3.9
WMQ Urumqi 57.09 330 *e*P **P** **01 13 32.0 +1.7**
WMQ AMB AMB
comp=Z,17nm,0.8s,mb5.1
RPZ Rata Peaks 57.98 141 LR LR 01 40 15.7
comp=Z,406nm,20.6s,MS4.5,baz=308,slow=38
MOY Mondy 58.34 344 *e*P **P** **01 13 40.6 +1.7**
URZ Urewera 59.81 133 P **P** **01 13 51.3 +1.8**
comp=Z,8.0nm,0.8s,mb4.8,baz=61,slow=6.8,SNR=4.7
URZ LR LR 01 39 20.0
comp=Z,256nm,18.0s,MS4.4,baz=276,slow=36
BOD Bodaibo 61.79 354 ‖ *i*P **P** **01 14 01.1 -1.4**
BOD pmax pmax
comp=Z,11nm,0.9s,mb5.0
MK31 Makanchi Array 61.89 329 *i*P **P** **01 14 02.7 -0.7**
MK31 pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
MK31 Makanchi Array 61.89 329 *e*P **P** **01 14 03.2 -0.2**
MKAR Makanchi Array 61.89 329 P **P** **01 14 02.9 -0.5**
comp=Z,2.6nm,0.7s,mb4.5,baz=133,slow=7.5,SNR=22
MKAR PcP PcP 01 14 43.7 -0.3
comp=Z,4.5nm,0.7s,baz=132,slow=4.7,SNR=9.2
TKM2 Tokmak 2 63.24 323 *e*P **P** **01 14 12.3 -0.2**
TKM2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
TKM2 Tokmak 2 63.24 323 *e*P **P** **01 14 12.3 -0.1**
comp=Z,2.4nm,0.6s,mb4.5
UCH Uchtor 63.52 321 *e*P **P** **01 14 14.5 +0.2**
comp=Z,2.5nm,0.8s,mb4.3
UCH *e*PcP PcP 01 14 51.2 +0.4
KBL Kabul 63.53 312 *e*P **P** **01 14 14.4 -0.2**
AAK Ala-Archa 63.75 322 *e*P **P** **01 14 15.1 -0.8**
AML Almayashu 63.98 321 *e*P **P** **01 14 17.2 -0.2**
comp=Z,5.2nm,0.8s,mb4.6
AML *e*PcP PcP 01 14 52.8 +0.1
EKS2 Erkin-Say 64.21 322 *e*P **P** **01 14 19.0 +0.1**
comp=Z,3.3nm,0.8s,mb4.4
YAK Yakutsk 65.75 3 *e*P **P** **01 14 27.6 -0.9**
YAK *e**PP pP 01 14 34.4 -2.1
YAK *e* 01 14 56.6
YAK *e* 01 16 51.6
YAK *e*PPP 01 18 24.1
YAK *e*S S 01 23 11.3 -1.8
YAK *e* 01 24 17.7
YAK *e*SS SS 01 27 25.5 -2.5
YAK pmax pmax
comp=Z,21nm,0.7s,mb5.3
YAK pmax pmax
comp=N,11nm,1.1s
YAK pmax pmax
comp=E,4.0nm,1.3s
YAK pmax pmax
comp=Z,13nm,0.8s,mb5.0
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,15nm,1.4s
YAK smax
comp=N,170nm,7.0s
YAK smax
comp=E,60nm,3.8s
YAK Yakutsk 65.75 3 *e*P **P** **01 14 27.5 -1.0**
ZAA0 Zalesovo Array 65.78 336 *e*P **P** **01 14 27.4 -1.5**
ZAL Zalesovo 65.78 336 P **P** **01 14 27.8 -1.0**
ZALV Zalesovo Beam 65.78 336 P **P** **01 14 27.8 -1.1**
comp=E,12nm,0.8s,mb5.0,baz=126,slow=5.3,SNR=50
KURK Kurchatov 66.30 331 *e*P **P** **01 14 31.7 -0.6**
KURK pmax pmax
comp=Z,19nm,0.9s,mb5.1
KURK Kurchatov 66.30 331 *e*P **P** **01 14 31.7 -0.5**
comp=Z,19nm,0.9s,mb5.1
MA2 Magadan 66.74 15 *e*P **P** **01 14 35.5 +0.6**
MA2 *e*S S 01 23 22.5 -2.7
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.2
MA2 MLR MLR
comp=Z,200nm,25.2s,MS4.2
MA2 Magadan 66.74 15 *e*P **P** **01 14 35.6 +0.7**
comp=Z,11nm,0.8s,mb5.0
NVS Novosibirsk 67.07 336 *e*P **P** **01 14 35.6 -1.5**
NVS pmax pmax
comp=N,14nm,1.4s
NVS pmax pmax
comp=E,18nm,1.4s
NVS pmax pmax
comp=Z,16nm,1.4s,mb4.9
SEY Seymchan 70.04 14 ‖ *e*P **P** **01 14 54.7 -0.8**
BRVK Borovoye 71.85 330 *e*P **P** **01 15 06.2 -0.4**
TIXI Tiksi 75.32 2 *e*P **P** **01 15 25.0 -1.7**
TIXI pmax pmax
comp=Z,16nm,0.8s,mb5.0
TIXI Tiksi 75.32 2 *e*P **P** **01 15 24.4 -2.3**
MAW Mawson 75.60 200 LR LR 01 47 02.1
comp=Z,210nm,18.1s,MS4.5,baz=66,slow=34
VNDA Vanda 76.56 172 P **P** **01 15 34.8 +1.0**
comp=Z,4.4nm,0.8s,mb4.5,baz=308,slow=7.0,SNR=25
VNDA LR LR 01 46 28.0
comp=Z,285nm,19.7s,MS4.6,baz=314,slow=34

AKTO Aktyubinsk 77.41 323 *i*P **P** **01 15 38.1 -0.9**
SBA Scott Base 77.51 171 *e*P **P** **01 15 41.2 +2.1**
SBA pmax pmax
comp=Z,93nm,2.5s,mb5.3
SBA Scott Base 77.51 171 *e*P **P** **01 15 41.2 +2.0**
comp=Z,93nm,2.5s,mb5.3
BILL Bilibino 77.61 15 ‖ *e*P **P** **01 15 39.6 -0.1**
BILL *e* 01 18 36.0
BILL *e*S SKSac 01 26 06.9 +16
BILL pmax pmax
comp=Z,7.0nm,2.2s,mb4.2
SVE Sverdlovsk 78.54 330 *e*P **P** **01 15 44.5 -0.6**
SVE pmax pmax
comp=Z,12nm,0.6s,mb5.0
UMR Umm Al-Rimmam 79.29 301 *e*P **P** **01 15 49.1 -0.7**
UMR AMb AMB 01 15 52.0
comp=Z,15nm,1.0s,mb4.9
RDF Al-Radifah 79.32 300 *e*P **P** **01 15 49.9 -0.2**
RDF AMb AMB 01 15 55.6
comp=Z,20nm,1.0s,mb5.0
ARU Arti 79.42 329 *c i*P **P** **01 15 46.6 -3.4**
ARU pmax pmax
comp=Z,19nm,1.5s,mb4.8
NAY Al-Naaiem 79.64 300 *e*P **P** **01 15 50.9 -0.9**
NAY AMb AMB 01 15 54.1
comp=Z,6.9nm,0.9s,mb4.6
MIB Mutribah 79.66 301 *e*P **P** **01 15 51.8 0.0**
MIB AMb AMB 01 15 54.4
comp=Z,24nm,0.8s,mb5.2
GAMB Gambell 82.58 24 *e*P **P** **01 16 07.6 +0.9**
DGRG David-gareji 83.38 312 P **P** **01 16 12.7 +1.4**
MTA Mtatsminda 83.85 312 P **P** **01 16 13.6 -0.1**
SYO Syowa Base 84.26 201 ‖ *e*P **P** **01 16 14.0 -1.3**
SYO Syowa Base 84.26 201 ‖ *e*PcP PcP 01 16 20.0 +1.0
KMBO Kilima Mbogo 85.91 269 ‖ *e*P **P** **01 16 25.7 +1.0**
KMBO Kilima Mbogo 85.91 269 P **P** **01 16 25.1 +0.4**
comp=Z,2.2nm,0.9s,mb4.4,baz=42,slow=18,SNR=4.7
QSPA South Pole Qui 86.24 180 P **P** **01 16 25.7 +0.8**
comp=Z,9.3nm,1.1s,mb4.9,baz=324,slow=1.5,SNR=9.0
SOC Sochi 87.84 314 *e*P **P** **01 16 31.5 -1.9**
SOC *e**PP pP 01 16 40.9 -0.8
SOC *e*PPP 01 21 59.2
SOC *e*S SKSac 01 26 56.7 -3.5
SOC *e* 01 27 18.0
SOC *e*SSS 01 36 28.4
SOC pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
MALT Malatya 88.20 308 *e*P **P** **01 16 35.6 +0.3**
MALT pmax pmax
comp=Z,5.0nm,1.3s,mb4.6
MALT Malatya 88.20 308 *e*P **P** **01 16 35.6 +0.3**
comp=Z,5.1nm,1.3s,mb4.6
VRSR Storozhevoye 89.14 321 *e*P **P** **01 16 38.0 -1.4**
VRSR pmax pmax
comp=Z,1.0nm,0.6s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,1.0nm,0.5s
IMA2 Indian Mountai 90.56 24 *e*P **P** **01 16 45.5 -0.2**
OBN Obninsk 91.11 325 ‖ *e*P **P** **01 16 47.4 -1.1**
OBN *e*S SKSac 01 27 16.6 -2.3
OBN *e*SS SS 01 33 41.9 -7.2
OBN pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
LSZ Lusaka 93.88 254 P **P** **01 17 02.0 -0.2**
comp=Z,2.0nm,0.8s,mb4.6,baz=126,slow=5.1,SNR=5.2
BOSA Boshof 95.22 241 LR LR 01 53 40.5
comp=Z,131nm,19.0s,MS4.4,baz=265,slow=32
AKASG Malin Array Be 95.40 320 P **P** **01 17 06.9 -1.4**
comp=Z,0.9nm,0.7s,mb4.3,baz=76,slow=4.3,SNR=7.7
ARCES ARCESS Array B 96.17 339 P **P** **01 17 09.3 -2.1**
comp=Z,1.6nm,0.7s,mb4.5,baz=88,slow=3.9,SNR=3.9
SNAA Sanae 97.17 195 P **P** **01 17 16.4 +0.4**
comp=Z,0.6nm,0.9s,mb4.0,baz=90,slow=3.0,SNR=3.7
CLL Collm 105.47 322 *e*PS PS 01 31 24.0 -7.5
CLL *e*SSS 01 41 15.0
CLL *ex* x 01 42 47.0
KHC Kasperske Hory 105.61 320 *e*PP PP 01 22 16.5 +0.2
YKA Yellowknife Ar 107.68 24 PKKPbc PKKPbc 01 33 24.1 -3.1
comp=Z,0.4nm,0.7s,baz=101,slow=2.1,SNR=8.0
PV10 Paradox Valley 121.32 47 *e*PKPdf PKPdf 01 22 39.0 +1.5
TXAR Lajitas Array 128.82 55 PKP PKPdf 01 22 53.0 +0.9
comp=Z,0.8nm,0.8s,baz=287,slow=2.7,SNR=9.5
LCO Las Campanas 144.81 159 *e*PKPdf PKPdf 01 23 20.9 -0.7
CPUP Villa Florida 150.12 179 PKPbc PKPbc 01 23 36.1 +0.6
comp=Z,9.1nm,0.9s,baz=159,slow=2.4,SNR=13
LPAZ La Paz 157.17 151 PKPab PKPab 01 24 13.5 +2.2
comp=Z,1.7nm,0.7s,baz=180,slow=8.1,SNR=5.8

NIED ***06*** *01:09:00,3690N×14160E,h65km,Mw4.3 Best double couple: M0=3.29000×10^15 NP1:φ=44.00000°,δ=87.00000°, λ=90.00000°. NP2:φ=223.00000°,δ=3.00000°,λ=89.00000°.*
SZGRF ***06*** *01:09:33.4,3468N×14143E,h61km,mb4.8, Off east coast of Honshu, Japan*
MOS ***06*** *01:09:37.0±1.1,3686N×14167E,h33km,mb4.7/26, Error ellipse: s-maj=12.3km s-min=7.3km az=104.8*
BJI ***06*** *01:09:38.7,3694N×14139E,h45km,mB4.6,mb4.6,Ms3.9, Msz3.5*
ISCJB ***06*** *01:09:39.9±0.3,3685N±003×14160E±003,h58km, mb4.4/43, Error ellipse: s-maj=4.2km s-min=3.8km az=151.7*
NEIC ***06*** *01:09:41.7±0.9,3697N×14155E,h54km±7km,mb4.6/15, MW4.3(NIED), Error ellipse: s-maj=10.4km s-min=6.9km az=113.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi; [1 JMA] in Miyagi Prefectures.
IDC ***06*** *01:09:41.5±0.5,3681N×14153E,h56km±3km,mb4.0/16, mb1 4.2/20,mb1mx4.1/25,mbtmp4.1/20,MS3.3/3, Ms1 3.3/3,ms1mx2.9/37, Error ellipse: s-maj=10.0km s-min=7.9km az=113.0*
JMA ***06*** *01:09:41.7±0.1,3688N×14147E,h62km±2km,M4.5*
JMA Felt II J1.
ISC 06 01:09:42.2±0.3,3692N±003×14152E±004,h60km, h60km±.7km:pP-P,n137,σ0=87/147,mb4.4/43,3C-15D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**0.60**	**288**	‖P		**Pn**	**Pn**	**01 09 54.6**	**-0.7**
ONAJ				S		**Sn**	**Sn**	**01 10 03.8**	**-1.1**
JFK	**Kawauchi**	**0.68**	**311**	‖P		**Pn**	**Pn**	**01 09 55.6**	**-0.6**
JFK				*e*S		**Sn**	**Sn**	**01 10 05.6**	**-0.9**
JHO	**Hitachi**	**0.82**	**248**	‖P		**Pn**	**Pn**	**01 09 56.9**	**-1.0**
JHO				*e*S		**Sn**	**Sn**	**01 10 07.4**	**-2.1**
JMM	**Marumori**	**1.11**	**329**	‖P		**Pn**	**Pn**	**01 10 01.4**	**-0.3**
JMM				S		**Sn**	**Sn**	**01 10 15.8**	**-0.3**
JFT	**Otama**	**1.12**	**303**	‖P		**Pn**	**Pn**	**01 10 02.2**	**+0.4**
JFT				S		**Sn**	**Sn**	**01 10 16.7**	**+0.4**
JFY	**Yanaizu**	**1.53**	**289**	‖P		**Pn**	**Pn**	**01 10 07.1**	**-0.1**
JFY				*e*S		**Sn**	**Sn**	**01 10 26.0**	**-0.1**
JIO	**Ouri**	**1.54**	**355**	‖P		**Pn**	**Pn**	**01 10 07.4**	**0.0**
JIO				*e*S		**Sn**	**Sn**	**01 10 25.8**	**-0.6**
JOU	**Okura**	**1.60**	**335**	P		**Pn**	**Pn**	**01 10 08.2**	**0.0**
JOU				*e*S		**Sn**	**Sn**	**01 10 28.3**	**+0.5**
JAG	**Ashikaga**	**1.73**	**254**	P		**Pn**	**Pn**	**01 10 09.5**	**-0.5**
JAG				*e*S		**Sn**	**Sn**	**01 10 29.6**	**-1.4**
JYS	**Shiratake**	**1.74**	**319**	‖P		**Pn**	**Pn**	**01 10 10.5**	**+0.4**
JYS				*e*S		**Sn**	**Sn**	**01 10 32.4**	**+1.2**
JKT	**Katashina**	**1.82**	**266**	‖P		**Pn**	**Pn**	**01 10 11.5**	**+0.2**
JKT				*e*S		**Sn**	**Sn**	**01 10 33.7**	**+0.4**
MJAR	**Matsushiro Arr**	**2.68**	**263**	P		**Pn**	**Pn**	**01 10 23.5**	**+0.6**
MJAR				S		**Sn**	**Sn**	**01 10 54.5**	**+0.3**
MJAR				pmax	pmax				
MJAR				smax					
MJAR	**Matsushiro Arr**	**2.68**	**263**	P		**Pn**	**Pn**	**01 10 23.5**	**+0.6**
MJAR				S		**Sn**	**Sn**	**01 10 54.5**	**+0.2**
MAJO	**Matsushiro**	**2.68**	**263**	*e*Pn		**Pn**	**Pn**	**01 10 23.6**	**+0.6**
MAJO				*e*Sn		**Sn**	**Sn**	**01 10 53.9**	**-0.4**
MAT	**Matsushiro**	**2.68**	**263**	P		**Pn**	**Pn**	**01 10 23.9**	**+0.9**
MAT				S		**Sn**	**Sn**	**01 10 55.3**	**+1.0**
JHJ	**Hachijo jima 2**	**4.05**	**201**	P		**Pn**	**Pn**	**01 10 39.5**	**-2.2**
JHJ				S		**Sn**	**Sn**	**01 11 23.4**	**-4.3**
ERM	**Erimo**	**5.25**	**13**	*e*P		**Pn**	**Pn**	**01 10 56.9**	**-1.1**

ERM pmax pmax
comp=Z,68nm,0.3s
ERM Erimo 5.25 13 *e*Pn **Pn** **01 10 56.9 -1.1**
comp=Z,68nm,0.3s
ASAJ Asahikawa 7.24 6 P **Pn** **01 11 24.3 -1.0**
ASAJ S **Sn** **01 12 44.1 -1.9**
ASAJ pmax pmax
comp=Z,22nm,0.3s
ASAJ smax
comp=N,5.0nm,0.3s
ASAJ MLR MLR
comp=Z,70nm,19.6s
ASAJ Asahikawa 7.24 6 P **Pn** **01 11 24.2 -1.0**
comp=Z,22nm,0.3s,baz=223,slow=9.6,SNR=78
ASAJ S **Sn** **01 12 44.0 -1.9**
comp=Z,5.1nm,0.3s,baz=82,slow=30,SNR=7.2
ASAJ LR LR 01 14 54.2
comp=Z,70nm,19.6s,baz=167,slow=43
JNU Nakatsue 9.51 250 P **Pn** **01 11 58.2 +1.8**
comp=Z,1.1nm,0.3s,baz=51,slow=14,SNR=15
CBIJ Chichi jima 9.81 176 P **Pn** **01 11 56.5 -4.0**
comp=Z,19nm,0.3s,baz=76,slow=19,SNR=23
CBIJ S **Sn** **01 13 37.5 -12**
comp=Z,18nm,0.3s,baz=272,slow=24,SNR=6.9
YSS Yuzh-Sakhalins 10.07 5 ‖ *i*P **Pn** **01 12 02.5 -1.5**
YSS pmax pmax
comp=N,70nm,0.8s
YSS pmax pmax
comp=E,20nm,0.8s
YSS pmax pmax
comp=Z,60nm,0.8s
YSS Yuzh-Sakhalins 10.07 5 *e*Pn **Pn** **01 12 02.2 -1.8**
comp=Z,40nm,0.6s
KSRS Korea Array 10.86 277 P **Pn** **01 12 17.6 +2.9**
comp=Z,0.6nm,0.3s,baz=88,slow=14,SNR=16
KSRS LR LR 01 16 11.3
comp=Z,93nm,20.9s,baz=95,slow=36
MDJ Mudanjiang 11.86 314 P **Pn** **01 12 25.8 -2.6**
MDJ AP 01 12 34.9
MDJ XP 01 12 38.7
MDJ PP 01 14 18.1
MDJ SS 01 22 54.9
MDJ AMB AMB
comp=Z,20nm,0.6s
MDJ AMB AMB
comp=Z,61nm,4.1s
MDJ LR LR
comp=N,244nm,26.9s
MDJ LR LR
comp=E,151nm,11.2s
MDJ LR LR
comp=Z,271nm,24.6s
MDJ Mudanjiang 11.86 314 *e*Pn **Pn** **01 12 25.2 -3.2**
comp=Z,15nm,0.6s
KLR Kul'dur 14.21 333 *e*P **Pn** **01 12 54.4 -5.7**
SNY Shenyang 14.71 295 P **Pn** **01 13 07.5 +0.8**
SNY AMB AMB
comp=Z,74nm,7.2s
SNY LR LR
comp=N,242nm,21.8s
SNY LR LR
comp=Z,253nm,21.2s
PET Petropavlovsk 20.07 31 *e*P **P** **01 14 11.4 +1.0**
PET pmax pmax
comp=Z,14nm,0.9s
PET pmax pmax
comp=Z,100nm,13.4s
YHNB Yeheng 21.12 240 *e*P **P** **01 14 24.1 +2.1**
YAK Yakutsk 26.20 347 *e*P **P** **01 15 10.6 -0.3**
YAK pmax pmax
comp=Z,29nm,0.6s,mb5.0
YAK Yakutsk 26.20 347 *e*P **P** **01 15 10.6 -0.3**
comp=Z,29nm,0.6s,mb5.0
XAN Xi'an 26.63 274 P **P** **01 15 14.9 -0.2**
XAN AP pP 01 15 20.6 -9.2
XAN AMB AMB
comp=Z,2.0nm,1.2s,mb3.5
ULN Ulaanbaatar 27.49 304 *e*P **P** **01 15 22.3 -0.3**
ULN pmax pmax
comp=Z,11nm,0.9s,mb4.4
ULN Ulaanbaatar 27.49 304 *e*P **P** **01 15 22.2 -0.4**
comp=Z,11nm,0.9s,mb4.4
BOD Bodaibo 27.67 328 *e*P **P** **01 15 23.5 -0.6**
BOD pmax pmax
comp=Z,7.0nm,1.1s,mb4.2
SONM Songino Array 27.92 304 P **P** **01 15 25.8 -0.7**
SONM pmax pmax
comp=Z,11nm,0.7s
SONM Songino Array 27.92 304 P **P** **01 15 25.8 -0.6**
comp=Z,11nm,0.7s,mb4.6,baz=113,slow=11,SNR=5.1
ZAK Zakamensk 30.41 308 *e*P **P** **01 15 48.5 0.0**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
GTA Gaotai 32.68 287 *e*P **P** **01 16 08.8 +0.2**
GTA AMB AMB
comp=Z,6.0nm,0.7s,mb4.6
ZAA0 Zalesovo Array 42.05 312 *e*P **P** **01 17 27.2 -0.5**
ZAA0 *e*pP pP 01 17 42.5 -0.5
ZALV Zalesovo Beam 42.05 312 P **P** **01 17 27.9 +0.2**
comp=Z,9.3nm,0.6s,mb4.6,baz=96,slow=7.2,SNR=24
ZALV pP pP 01 17 42.3 -0.7
comp=Z,5.1nm,0.6s,baz=96,slow=6.9,SNR=6.6
ZALV PcP PcP 01 19 21.6 +0.2
comp=Z,0.7nm,0.5s,baz=101,slow=2.9,SNR=2.4
ZALV pPcP 01 19 39.4
comp=Z,1.5nm,0.7s,baz=131,slow=4.1,SNR=3.6
ZAL Zalesovo 42.07 312 P **P** **01 17 27.9 +0.2**
ZAL *PP pP 01 17 42.3 -0.8
ZAL 01 19 21.7
ZAL 01 19 39.4
MK31 Makanchi Array 44.25 302 *e*P **P** **01 17 45.2 -0.3**
MK31 *e**PP pP 01 18 00.9 0.0
MKAR Makanchi Array 44.25 302 P **P** **01 17 45.5 0.0**
MKAR *PP pP 01 18 00.5 -0.4
MKAR pmax pmax
comp=Z,5.0nm,0.8s
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR Makanchi Array 44.25 302 P **P** **01 17 45.5 0.0**
MKAR pP pP 01 18 00.5 -0.4
MKAR Makanchi Array 44.25 302 P **P** **01 17 45.5 0.0**
comp=Z,4.8nm,0.8s,mb4.3,baz=89,slow=9.9,SNR=20
MKAR pP pP 01 18 00.5 -0.4
comp=Z,2.6nm,0.6s,baz=87,slow=9.0,SNR=6.7
KURK Kurchatov 46.07 308 *e*P **P** **01 17 59.1 -0.7**
KURK *e**PP pP 01 18 13.8 -1.6
KURK Kurchatov 46.07 308 *e*P **P** **01 17 59.1 -0.7**
KURK *e*pP pP 01 18 13.8 -1.5
KURK sP sP 01 18 21.1 -1.2
TKM2 Tokmak 2 49.76 299 *e*P **P** **01 18 29.1 +0.7**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TKM2 Tokmak 2 49.76 299 *e*P **P** **01 18 29.1 +0.7**
comp=Z,4.1nm,0.6s,mb4.6
AML Almayashu 51.34 298 *e*P **P** **01 18 41.3 +1.0**
comp=Z,228nm,1.2s
INK Inuvik 54.45 27 P **P** **01 19 04.2 +1.3**
INK pmax pmax
comp=Z,1.0nm,0.5s
INK Inuvik 54.45 27 *e*P **P** **01 19 03.5 +0.6**
comp=Z,18nm,0.4s,mb5.4
INK Inuvik 54.45 27 P **P** **01 19 04.2 +1.3**
comp=Z,0.6nm,0.5s,mb3.8,baz=127,slow=5.5,SNR=4.9
FITZ Fitzroy Crossi 56.73 198 *e*P **P** **01 19 19.9 +0.1**
comp=Z,3.8nm,0.6s,mb4.6
FITZ Fitzroy Crossi 56.73 198 P **P** **01 19 19.2 -0.6**
comp=Z,2.0nm,0.6s,mb4.3,baz=9.2,slow=10,SNR=12
WRAB Tennant Creek 56.94 188 *e*P **P** **01 19 20.8 -0.4**
WRAB pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
WRAB Tennant Creek 56.94 188 *e*P **P** **01 19 20.8 -0.5**
comp=Z,2.1nm,0.6s,mb4.3
WB2 Warramunga Arr 56.95 188 *e*P **P** **01 19 20.5 -0.8**
WRA Warramunga Arr 56.95 188 P **P** **01 19 20.2 -1.1**
WRA *PP pP 01 19 34.7 -2.6
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 56.95 188 P **P** **01 19 20.2 -1.1**
comp=Z,2.5nm,0.5s,mb4.5,baz=6.5,slow=7.5,SNR=28
WRA pP pP 01 19 34.7 -2.6
comp=Z,2.8nm,0.5s,baz=6.0,slow=7.4,SNR=5.0
ASAR Alice Springs 60.68 188 P **P** **01 19 46.7 -0.4**
ASAR *PP pP 01 20 01.5 -1.8
ASAR pmax pmax

comp=Z,2.0nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.8s
ASAR Alice Springs 60.68 188 P **P** **01 19 46.7 -0.4**
comp=Z,1.8nm,0.7s,mb4.3,baz=6.3,slow=5.7,SNR=15
ASAR pP pP 01 20 01.4 -1.8
comp=Z,1.7nm,0.8s,baz=6.7,slow=7.0,SNR=7.6
YKA Yellowknife Ar 63.87 30 P **P** **01 20 08.9 +0.9**
YKA *PP pP 01 20 24.8 +0.5
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 63.87 30 P **P** **01 20 08.9 +0.9**
YKA pP pP 01 20 24.8 +0.5
YKA Yellowknife Ar 63.87 30 P **P** **01 20 08.9 +0.9**
comp=Z,0.5nm,0.7s,mb3.6,baz=304,slow=6.5,SNR=6.8
YKA pP pP 01 20 24.8 +0.5
comp=Z,0.3nm,0.6s,baz=302,slow=5.9,SNR=3.7
ARCES ARCESS Array B 64.14 339 P **P** **01 20 09.5 -0.2**
ARCES *PP pP 01 20 25.7 -0.3
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES ARCESS Array B 64.14 339 P **P** **01 20 09.4 -0.2**
comp=Z,2.1nm,0.7s,mb4.3,baz=59,slow=8.7,SNR=13
ARCES pP pP 01 20 25.7 -0.3
comp=Z,3.1nm,0.8s,baz=62,slow=8.1,SNR=3.7
JOF Joensuu 66.11 332 *e*pkp **P** **01 20 21.5 -1.0**
OBN Obninsk 68.24 323 *e*P **P** **01 20 35.5 -0.7**
STKA Stephens Creek 68.44 180 *e*P **P** **01 20 34.0 -3.5**
comp=Z,2.8nm,0.9s,mb4.3
STKA Stephens Creek 68.44 180 P **P** **01 20 38.2 +0.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=329,slow=9.7,SNR=4.9
FINES FINESS Array B 68.96 332 P **P** **01 20 40.7 +0.2**
FINES *PP pP 01 20 56.0 -1.0
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES pmax pmax
comp=Z,6.0nm,0.8s
FINES FINESS Array B 68.96 332 P **P** **01 20 40.7 +0.2**
comp=Z,3.8nm,0.7s,mb4.4,baz=60,slow=7.5,SNR=16
FINES pP pP 01 20 56.0 -1.0
comp=Z,5.9nm,0.8s,baz=57,slow=7.0,SNR=11
VRSR Storozhevoye 69.06 319 *e*P pP 01 20 56.7 -1.1
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,2.0nm,0.9s
KIV Kislovodsk 71.05 311 *e*P **P** **01 20 54.2 +0.5**
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
KIV Kislovodsk 71.05 311 ⇑*i*P **P** **01 20 55.0 +1.3**
NB2 NORSAR Subarra 74.33 337 P **P** **01 21 13.0 +0.2**
comp=Z,5.5nm,0.8s,mb4.5,baz=39,slow=5.9
NOA NORSAR Array B 74.33 337 P **P** **01 21 13.1 +0.3**
NOA *PP pP 01 21 29.0 -0.4
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA NORSAR Array B 74.33 337 P **P** **01 21 13.1 +0.3**
comp=Z,3.9nm,0.8s,mb4.4,baz=39,slow=5.8,SNR=17
NOA pP pP 01 21 29.0 -0.4
comp=Z,5.6nm,0.8s,baz=39,slow=5.9,SNR=15
AKASG Malin Array Be 74.44 322 P **P** **01 21 13.4 -0.3**
AKASG *PP pP 01 21 29.4 -0.9
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG pmax pmax
comp=Z,5.0nm,0.5s
AKASG Malin Array Be 74.44 322 P **P** **01 21 13.4 -0.3**
comp=Z,2.8nm,0.5s,mb4.4,baz=46,slow=6.0,SNR=38
AKASG pP pP 01 21 29.4 -0.9
comp=Z,4.6nm,0.5s,baz=46,slow=5.9,SNR=17
NVAR Mina Array Bea 74.99 53 P **P** **01 21 18.4 +1.3**
comp=Z,0.5nm,0.6s,mb3.6,baz=295,slow=4.5,SNR=2.9
SUW Suwalki 75.03 327 *e*PX pP 01 21 34.0 +0.3
SUW Suwalki 75.03 327 *e*P pP 01 21 34.0 +0.4
UMR Umm Al-Rimmam 75.69 296 *e*P **P** **01 21 20.8 -0.4**
UMR AMb AMB 01 21 26.3
comp=Z,6.9nm,0.6s,mb4.8
MIB Mutribah 75.82 297 *e*P **P** **01 21 21.4 -0.6**
MIB AMb AMB 01 21 39.4
comp=Z,15nm,0.7s,mb5.0
RDF Al-Radifah 76.16 296 *e*P **P** **01 21 23.9 -0.1**
RDF AMb AMB 01 21 41.4
comp=Z,24nm,0.9s,mb5.1
NAY Al-Naaiem 76.20 296 *e*P **P** **01 21 23.5 -0.7**
NAY AMb AMB 01 21 40.9
comp=Z,7.5nm,0.8s,mb4.7
KWP Kalwaria 78.27 324 *e*PX **P** **01 21 36.0 +0.6**
KWP Kalwaria 78.27 324 *e*P **P** **01 21 35.7 +0.3**
comp=Z,9.4nm,0.9s,mb4.7
KWP Kalwaria 78.27 324 ⇓*i*P **P** **01 21 36.5 +1.1**
BURAR Bucovina Array 78.45 322 ⇑*i*P **P** **01 21 37.3 +0.9**
STHS Stebnicka Huta 79.10 325 *e*P **P** **01 21 41.6 +1.6**
STHS *e* pP 01 21 57.3 +0.6
STHS pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
STHS Stebnicka Huta 79.10 325 *e*P **P** **01 21 41.6 +1.6**
comp=Z,3.5nm,1.1s,mb4.2
STHS *e* pP 01 21 57.3 +0.6
BSEG Bad Segeberg 80.20 333 *e*P **P** **01 21 47.0 +1.2**
BSEG pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
BSEG Bad Segeberg 80.20 333 *e*P **P** **01 21 47.0 +1.2**
comp=Z,6.0nm,0.9s,mb4.5
DRGR 80.26 322 ⇑*i*P **P** **01 21 45.0 -1.3**
MORC Moravsky Berou 80.50 327 *e*P **P** **01 21 48.1 +0.6**
MORC pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MORC Moravsky Berou 80.50 327 *e*P **P** **01 21 48.1 +0.6**
comp=Z,3.7nm,1.0s,mb4.3
MORC Moravsky Berou 80.50 327 ⇓*i*P **P** **01 21 48.4 +0.9**
PSZ Piszkesteto 80.80 325 ⇓*i*P **P** **01 21 49.7 +0.6**
VYHS Vyhne 80.87 325 *e*P **P** **01 21 49.9 +0.4**
VYHS *e*PCP PcP 01 21 58.9 +3.0
VYHS *e*pP pP 01 22 07.4 +1.1
BRG Berggiesshubel 81.20 329 *i*P **P** **01 21 51.7 +0.5**
BRG *e* pP 01 22 08.6 +0.6
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG Berggiesshubel 81.20 329 *i*P **P** **01 21 51.7 +0.5**
BRG *e* pP 01 22 08.6 +0.6
BRG Berggiesshubel 81.20 329 *i*P **P** **01 21 51.7 +0.5**
comp=Z,3.2nm,0.9s,mb4.2
BRG *e* pP 01 22 08.6 +0.6
comp=Z,3.5nm,0.9s
CLL Collm 81.24 330 *i*P **P** **01 21 51.8 +0.4**
CLL *i* pP 01 22 08.6 +0.4
CLL pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CLL Collm 81.24 330 *e*P **P** **01 21 51.6 +0.2**
comp=Z,7.0nm,0.6s,mb4.8
CLL Collm 81.24 330 *i*P **P** **01 21 51.8 +0.4**
comp=Z,6.0nm,1.1s,mb4.4
CLL *i* pP pP 01 22 08.6 +0.4
comp=Z,9.0nm,0.9s
VRAC Vranov 81.27 327 ⇓*i*P **P** **01 21 52.7 +1.1**
FBE Freiberg 81.40 330 *e*P **P** **01 21 52.8 +0.5**
comp=Z,9.0nm,0.8s,mb4.8
FBE *e*pP pP 01 22 09.8 +0.7
CLZ Clausthal 81.84 332 *e*pP pP 01 22 12.3 +0.9
ZST Bratislava 81.87 326 *e*pP pP 01 22 12.3 +0.7
MMAI Mount Meron Ar 82.10 305 LR LR 02 04 38.3
comp=Z,93nm,18.8s,baz=105,slow=40
GUNZ Gunzen 82.24 330 *e*P **P** **01 21 56.9 +0.2**
comp=Z,4.0nm,1.0s,mb4.3
MOX Moxa 82.31 330 *e*P **P** **01 21 57.3 +0.3**
comp=Z,2.0nm,0.8s,mb4.1
ROTZ Rotzenmuhle 82.76 330 *e*P **P** **01 22 00.2 +0.8**
comp=Z,10.0nm,1.5s,mb4.6
ROTZ *e*pP pP 01 22 16.8 +0.5
GEC2 GERESS Array S 82.86 328 *e*P **P** **01 21 59.2 -0.7**
GEC2 pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
GEC2 GERESS Array S 82.86 328 *e*P **P** **01 21 59.2 -0.7**
comp=Z,3.0nm,0.9s,mb4.3
GERES GERESS Array B 82.86 328 P **P** **01 21 59.6 -0.3**
GERES *PP pP 01 22 16.3 -0.5
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES GERESS Array B 82.86 328 P **P** **01 21 59.6 -0.4**
comp=Z,1.3nm,0.7s,mb4.1,baz=42,slow=5.9,SNR=12
GERES pP pP 01 22 16.3 -0.5
comp=Z,1.7nm,0.6s,baz=36,slow=5.6,SNR=12
VTS Vitosha 82.96 319 ⇓*i*P **P** **01 22 01.4 +0.8**
GRA1 Grafenberg Arr 83.21 330 *e*P **P** **01 22 02.4 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
GRA1 *e*pP pP 01 22 19.5 +0.9
GRF Grafenberg Arr 83.21 330 *e*P **P** **01 22 02.4 +0.6**
GRF *e**PP pP 01 22 19.5 +0.9
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 83.21 330 *e*P **P** **01 22 02.4 +0.6**
GRF *e**PP pP 01 22 19.5 +0.9
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 83.21 330 *e*P **P** **01 22 02.4 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
GRF *e*pP pP 01 22 19.5 +0.9
BUG Bochum--Univer 83.31 333 *e*P **P** **01 22 02.2 0.0**
STU Stuttgart 84.75 331 *e*P **P** **01 22 09.9 +0.3**
comp=Z,7.0nm,0.9s,mb4.8
BFO Black Forest 85.45 331 *e*P **P** **01 22 13.3 +0.2**
BFO pmax pmax
comp=Z,14nm,1.4s,mb4.9
BFO Black Forest 85.45 331 *e*P **P** **01 22 13.3 +0.2**
comp=Z,14nm,1.4s,mb4.9
BFO Black Forest 85.45 331 *e*P **P** **01 22 12.8 -0.3**
comp=Z,9.0nm,1.0s,mb4.8
BFO *e*pP pP 01 22 30.1 +0.1
TXAR Lajitas Array 90.13 52 P **P** **01 22 35.5 -0.4**
comp=Z,0.3nm,0.7s,mb3.7,baz=318,slow=3.6,SNR=3.9
RPN Rapa Nui 120.37 103 *e*PKPdf PKPdf 01 28 29.1 +2.3
LPAZ La Paz 146.68 60 PKP2 PKPab 01 29 19.0 +0.2
LPAZ pmax pmax
comp=Z,2.0nm,0.9s
LPAZ La Paz 146.68 60 PKPbc PKPbc 01 29 19.0 +1.5
comp=Z,1.5nm,0.9s,baz=29,slow=11,SNR=6.2

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*IDC **06** 01:27:03.3±0.4, 34.15N×8191E, h0km, mb4.5/26, mb1 4.6/29, mb1mx4.6/30, mbtmp4.5/29, ML3.7/3, MS3.9/5, Ms1 3.9/5, ms1mx3.5/27, Error ellipse: s-maj=15.3km s-min=10.6km az=42.0*
*LDG **06** 01:27:03.4±0.1, 3429N×8164E, h10km, Mb5.1/37, Ms3.6/1, Error ellipse: s-maj=9.3km s-min=3.3km az=71.0*
*ISCJB **06** 01:27:04.5±0.1, 3423N±002×8190E±002, h13km, mb4.8/154, MS4.1/21, Error ellipse: s-maj=2.6km s-min=2.0km az=144.2*
*NEIC **06** 01:27:05.6±0.2, 34.13N×8194E, mb5.0/91, Error ellipse: s-maj=6.1km s-min=4.3km az=42.0*
*MOS **06** 01:27:06.9±1.2, 34.18N×8189E, h33km, mb5.0/76, MS4.1/16, Error ellipse: s-maj=7.7km s-min=3.4km az=127.1*
*BJI **06** 01:27:07.1, 3427N×8195E, h21km, mB4.8, mb4.6, ML4.9, Ms4.5, Msz4.4*
*SZGRF **06** 01:27:08.3, 3474N×8219E, h19km, mb4.9, Xizang*
*NDI **06** 01:27:08.0±3.6, 3403N×8216E, h14km, mb5.1, mb5.0(NEIC)*
ISC 06 01:27:06.6±0.1, 3427N±002×8196E±002, h14km, h14km±.4km: pP-P, n501, σ1§14/517, mb4.8/154, MS4.1/21, 19C-21D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLP	**Kalpa**	**4.14**	**230**	*e*P	**Pn**	**01 28 12.3**	**+3.0**
KLP				*ex*	**Sn**	**01 28 50.7**	**-6.9**
PTH	**Pithoragarh**	**4.93**	**198**	*ex*	**Pn**	**01 28 24.0**	**+3.8**
SDNR	**Sundarnagar**	**5.02**	**238**	*e*P	**Pn**	**01 28 23.0**	**+1.6**
SDNR				*ex*	**Sb**	**01 29 29.4**	**-5.0**
SMLA	**Simla**	**5.11**	**234**	*e*P	**Pn**	**01 28 24.2**	**+1.6**
SMLA				AMb	AMB	01 28 43.7	
DDI	**Dehra Dun**	**5.14**	**221**	*e*P	**Pn**	**01 28 24.0**	**+1.0**
DDI				*ex*	**Sg**	**01 29 51.7**	**+0.2**
DLH	**Dalhousie**	**5.30**	**253**	*ex*	x	01 28 10.0	
DLH				*ex*	x	01 30 35.0	
BHK	**Bhakra**	**5.46**	**240**	*e*P	**Pn**	**01 28 31.2**	**+3.7**
BHK				*ex*	x	01 28 54.3	
THN	**Thein Dam**	**5.53**	**252**	*e*P	**Pn**	**01 28 29.0**	**+0.5**
DANN	**Dangsing**	**6.10**	**165**	*e*Pn	**Pn**	**01 28 37.3**	**+1.1**
KOLN	**Koldanda**	**6.63**	**167**	*e*Pn	**Pn**	**01 28 44.2**	**+0.7**
KOLN				*e*Sn	**Sn**	**01 30 00.4**	**+1.5**
GKN	**Gorkha**	**6.65**	**159**	*e*Pn	**Pn**	**01 28 45.2**	**+1.3**
NDI	**New Delhi**	**6.88**	**217**	*e*P	**Pn**	**01 28 47.6**	**+0.6**
NDI				AMb	AMB	01 28 51.3	
KKN	**Kakani**	**7.06**	**155**	*e*Pn	**Pn**	**01 28 51.1**	**+1.7**
KKN				*e*Sn	**Sn**	**01 30 11.7**	**+2.2**
AYAN	**Aya Nagar**	**7.09**	**217**	*e*P	**Pn**	**01 28 51.0**	**+1.1**
AYAN				AMb	AMB	01 29 00.6	
KSH	**Kashi**	**7.10**	**319**	*e*P	**Pn**	**01 28 54.0**	**+4.0**
KSH				S	**Sn**	**01 30 11.0**	**+0.6**
KSH				Smax			
KSH				Smax			
DMN	**Daman**	**7.17**	**157**	*e*Pn	**Pn**	**01 28 52.9**	**+2.0**
GUN	**Gumba**	**7.17**	**151**	*e*Pn	**Pn**	**01 28 53.3**	**+2.3**
GUN				*e*Sn	**Sn**	**01 30 15.2**	**+2.9**
CHCP	**Chirah Chowk**	**7.25**	**268**	P	**Pn**	**01 28 50.8**	**-1.2**
CHCP				S	**Sn**	**01 30 16.0**	**+1.9**
PKIN	**Phulchoki**	**7.29**	**155**	*e*Pn	**Pn**	**01 28 54.7**	**+2.0**
PKIN				*e*Sn	**Sn**	**01 30 17.3**	**+2.0**
PKI	**Pulchoki**	**7.30**	**155**	*e*Pn	**Pn**	**01 28 54.2**	**+1.4**
SONA	**Sohna**	**7.30**	**216**	*e*P	**Pn**	**01 28 52.7**	**-0.1**
SONA				AMb	AMB	01 29 03.3	
JIRN	**Jiri**	**7.52**	**150**	*e*Pn	**Pn**	**01 28 58.6**	**+2.8**
JIRN				*e*Sn	**Sn**	**01 30 25.2**	**+4.3**
KUDL	**Kundal**	**7.69**	**219**	*e*P	**Pn**	**01 28 58.0**	**-0.1**
AGRA	**Agra**	**7.82**	**207**	*e*P	**Pn**	**01 28 59.4**	**-0.5**
KHET	**Khetri**	**8.12**	**222**	*e*P	**Pn**	**01 29 02.7**	**-1.2**
KHET				AMb	AMB	01 29 11.8	
THW	**Thamme Wali**	**8.65**	**263**	P	**Pn**	**01 29 10.4**	**-0.9**
THW				S	**Sn**	**01 30 49.0**	**+0.3**
LSA	**Lhasa**	**9.04**	**118**	P	**Pn**	**01 29 21.4**	**+4.8**
LSA				LR	LR		
LSA	comp=N,2μm,14.7s			LR	LR		
LSA	comp=E,3μm,14.7s			LR	LR		
LSA	comp=Z,3μm,9.8s			LR	LR		
LSA	**Lhasa**	**9.04**	**118**	*e*Pn	**Pn**	**01 29 20.4**	**+3.8**
ULHL	**Ulahol**	**9.14**	**332**	P	**Pn**	**01 29 22.3**	**+4.4**
	SNR=61						
KZA	**Kyzart**	**9.41**	**328**	P	**Pn**	**01 29 25.3**	**+3.7**
	SNR=40						
AAA	**Alma-Ata**	**9.80**	**338**	*i* P	**Pn**	**01 29 30.6**	**+3.6**
AAA				pmax	pmax		
	comp=Z,248nm,4.5s						
UCH	**Uchtor**	**9.87**	**326**	*e*Pn	**Pn**	**01 29 30.5**	**+2.6**
	comp=Z,71nm,1.4s						
UCH				*e*Sn	**Sn**	**01 31 23.5**	**+5.2**
UCH	**Uchtor**	**9.87**	**326**	P	**Pn**	**01 29 31.1**	**+3.2**
	SNR=28						
TKM2	**Tokmak 2**	**9.97**	**332**	*e*P	**Pn**	**01 29 32.3**	**+3.0**
TKM2				*e*		01 31 24.9	
TKM2				pmax	pmax		
	comp=Z,53nm,1.2s						
TKM2	**Tokmak 2**	**9.97**	**332**	*e*Pn	**Pn**	**01 29 32.3**	**+3.0**
	comp=Z,53nm,1.2s						
TKM2				*e*Sn	**Sn**	**01 31 24.9**	**+4.1**
TKM2	**Tokmak 2**	**9.97**	**332**	P	**Pn**	**01 29 33.8**	**+4.5**
	SNR=29						
AJM	**Ajmer**	**10.00**	**221**	*e*P	**Pn**	**01 29 29.7**	**-0.1**
AJM				AMb	AMB	01 29 38.3	
	comp=Z,65nm,1.0s						
KBK	**Karagaybulak**	**10.01**	**329**	P	**Pn**	**01 29 34.1**	**+4.2**
	SNR=8.2						
AML	**Almayashu**	**10.19**	**323**	*e*Pn	**Pn**	**01 29 33.9**	**+1.6**
	comp=Z,21nm,0.8s						
AML	**Almayashu**	**10.19**	**323**	P	**Pn**	**01 29 34.9**	**+2.6**
	SNR=17						
AAK	**Ala-Archa**	**10.19**	**327**	*d i*P	**Pn**	**01 29 34.0**	**+1.6**
AAK				pmax	pmax		
	comp=Z,32nm,1.5s						
AAK	**Ala-Archa**	**10.19**	**327**	Pn	**Pn**	**01 29 33.9**	**+1.6**
AAK	**Ala-Archa**	**10.19**	**327**	Pn	**Pn**	**01 29 35.2**	**+2.8**
	SNR=24						
AAK	**Ala-Archa**	**10.19**	**327**	P	**Pn**	**01 29 35.2**	**+2.8**
	SNR=24						
AAK	**Ala-Archa**	**10.19**	**327**	Pn	**Pn**	**01 29 33.9**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=153,slow=9.5,SNR=26						
AAK	**Ala-Archa**	**10.19**	**327**	P	**Pn**	**01 29 36.0**	**+3.6**
	SNR=11						
FRU	**Bishkek**	**10.30**	**328**	*e*P	**Pn**	**01 29 37.5**	**+3.7**
FRU				pmax	pmax		
	comp=Z,175nm,1.6s						
CHMS	**Chumysh**	**10.38**	**329**	P	**Pn**	**01 29 38.0**	**+3.1**
	SNR=8.9						
WMQ	**Urumqi**	**10.53**	**23**	P	**Pn**	**01 29 39.5**	**+2.6**
WMQ				XP		01 29 45.5	
WMQ				S	**Sn**	**01 31 38.5**	**+3.9**
WMQ				SS		01 31 52.5	
WMQ				AMB	AMB		
	comp=Z,89nm,1.0s						
WMQ				LR	LR		
	comp=N,824nm,7.0s						
WMQ				LR	LR		
	comp=E,1μm,9.0s						
WMQ				LR	LR		
	comp=Z,768nm,7.0s						
EKS2	**Erkin-Say**	**10.55**	**325**	*e*Pn	**Pn**	**01 29 39.9**	**+2.7**
	comp=Z,15nm,0.9s						
EKS2				*e*Sn	**Sn**	**01 31 34.3**	**-0.8**
EKS2	**Erkin-Say**	**10.55**	**325**	P	**Pn**	**01 29 40.7**	**+3.5**
	SNR=9.6						
KBL	**Kabul**	**10.67**	**275**	*e*Pn	**Pn**	**01 29 37.4**	**-1.6**
	comp=Z,27nm,0.5s						
USP	**Ospenovka**	**10.70**	**329**	P	**Pn**	**01 29 42.2**	**+2.9**
	SNR=7.6						
BOK	**Bokaro**	**10.99**	**161**	*e*P	**Pn**	**01 29 41.4**	**-1.9**
BOK				AMb	AMB	01 29 44.9	
	comp=Z,39nm,0.9s						
BOK				*ex*	x	01 31 37.6	
BHPL	**Bhopal**	**11.68**	**201**	*e*P	**Pn**	**01 29 51.2**	**-1.6**
BHPL				*ex*	x	01 31 44.2	
BLSP	**Bilaspur**	**12.10**	**179**	*e*P	**Pn**	**01 29 56.0**	**-2.5**
BLSP				*ex*	x	01 31 48.7	
MK31	**Makanchi Array**	**12.52**	**1**	*e*P	**Pn**	**01 30 04.9**	**+0.8**
MKAR	**Makanchi Array**	**12.52**	**1**	P	**Pn**	**01 30 04.7**	**+0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**12.52**	**1**	Pn	**Pn**	**01 30 04.7**	**+0.6**
	comp=Z,1.4nm,0.3s,baz=181,slow=12,SNR=104						
NGP	**Nagpur**	**13.32**	**192**	*e*P	**Pn**	**01 30 12.0**	**-3.2**
	comp=Z,65nm,1.4s						
NGP				*ex*	x	01 30 14.4	
NGP				*ex*	x	01 32 36.5	
IMP	**Imphal**	**14.06**	**129**	*e*P	**Pn**	**01 30 23.0**	**-2.3**
IMP				*ex*	x	01 32 17.0	
AKL	**Akola**	**14.20**	**199**	⇑*i*P	**Pn**	**01 30 25.1**	**-2.2**
GTA	**Gaotai**	**15.19**	**65**	*e*P	**Pn**	**01 30 41.1**	**+0.6**
GTA				AP	pP	01 30 48.6	-1.0
GTA				XP	sP	01 30 51.7	+0.3
GTA				PP		01 30 53.6	
GTA				S	**Sn**	**01 33 28.0**	**-0.5**
GTA				XS	sS	01 33 36.3	-15
GTA				SS		01 33 44.7	
GTA				PCP	PcP	01 35 51.3	+4.6
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s						
GTA				AMB	AMB		
	comp=Z,233nm,4.9s						
GTA				LR	LR		
	comp=N,1μm,13.7s						
GTA				LR	LR		
	comp=E,1μm,11.4s						
GTA				LR	LR		
	comp=Z,1μm,12.2s						
BHJ	**Bhuj**	**15.37**	**228**	*e*P	**Pn**	**01 30 43.9**	**+0.8**
LATR	**Latur**	**16.51**	**198**	*ex*	x	01 30 53.5	
LATR				AMb	AMB	01 31 02.7	
	comp=Z,77nm,1.1s						
VIS	**Vishakhapatnam**	**16.52**	**175**	*i* P	**Pn**	**01 30 55.9**	**-2.1**
VIS				*ex*	x	01 33 53.4	
KURK	**Kurchatov**	**16.62**	**353**	*e*P	**Pn**	**01 30 57.5**	**-1.4**
KURK				pmax	pmax		
	comp=Z,94nm,1.1s						
KURK	**Kurchatov**	**16.62**	**353**	*e*Pn	**Pn**	**01 30 57.5**	**-1.4**
	comp=Z,94nm,1.1s						
KURK	**Kurchatov**	**16.62**	**353**	Pn	**Pn**	**01 31 02.0**	**+3.1**
	SNR=49						
KURK	**Kurchatov**	**16.62**	**353**	P	**Pn**	**01 31 02.0**	**+3.1**
	SNR=49						
HYB	**Hyderabad**	**17.06**	**191**	*e*P	**Pn**	**01 31 01.0**	**-3.6**
HYB				*e*S	**Sn**	**01 34 01.0**	**-13**
HYB				pmax	pmax		
	comp=Z,60nm,1.0s						
HYB	**Hyderabad**	**17.06**	**191**	*e*P	**Pn**	**01 31 01.0**	**-3.6**
	comp=Z,60nm,1.0s						
HYB				*e*S	**Sn**	**01 34 01.0**	**-13**
HYB	**Hyderabad**	**17.06**	**191**	*i* P	**Pn**	**01 31 01.0**	**-3.6**
	comp=Z,60nm,1.0s						
HYB				*e*S	**Sn**	**01 34 01.0**	**-13**
POO	**Poona**	**17.26**	**207**	*e*P	**Pn**	**01 31 07.3**	**+0.1**
POO				AMb	AMB	01 31 12.6	
	comp=Z,29nm,0.7s						
POO				*e*PP		01 31 16.5	
BOM	**Bombay**	**17.34**	**210**	*ex*	x	01 30 58.7	
BOM				*ex*	x	01 31 00.1	
	comp=Z,52nm,1.8s						
BOM				*ex*	x	01 33 58.2	
LZH	**Lanzhou**	**17.98**	**78**	*e*P	**Pn**	**01 31 22.3**	**+6.2**
LZH				AP	pP	01 31 26.2	+5.6
LZH				XP	sP	01 31 29.1	+6.7
LZH				PP		01 31 37.0	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,156nm,5.6s						
LZH				LR	LR		
	comp=E,870nm,10.6s						
LZH				LR	LR		
	comp=Z,998nm,12.0s						
KAD	**Karad**	**18.27**	**204**	*e*P	**Pn**	**01 31 18.9**	**-0.8**
KAD				AMb	AMB	01 31 23.5	
	comp=Z,35nm,1.4s						
CD2	**Chengdu**	**18.67**	**94**	P	**Pn**	**01 31 26.5**	**+2.0**
CD2				XP	sP	01 31 33.4	+3.4
CD2				PP		01 31 42.4	
CD2				S	**Sn**	**01 34 50.8**	**-2.3**
CD2				XS	sS	01 34 58.0	-4.9
CD2				SS		01 35 16.2	
CD2				AMB	AMB		
	comp=Z,30nm,1.3s						
CD2				AMB	AMB		
	comp=Z,60nm,3.8s						
CD2				LR	LR		
	comp=N,1μm,9.6s						
CD2				LR	LR		
	comp=Z,2μm,10.8s						
VAN	**Vannovskaya**	**19.60**	**288**	*e*P	**Pn**	**01 31 33.6**	**-2.1**
ZAL	**Zalesovo**	**19.77**	**5**	P	**Pn**	**01 31 36.8**	**-0.7**
ZAA0	**Zalesovo Array**	**19.78**	**5**	*e*P	**Pn**	**01 31 36.7**	**-0.9**
ZALV	**Zalesovo Beam**	**19.78**	**5**	P	**Pn**	**01 31 36.8**	**-0.8**
	comp=Z,0.3nm,0.3s,baz=195,slow=10.0,SNR=16						
ZALV				LR	LR	01 39 15.8	
	comp=Z,86nm,21.0s,baz=183,slow=37						
KMI	**Kunming**	**20.20**	**111**	P	**P**	**01 31 42.0**	**+1.1**
KMI				PP		01 32 01.2	
KMI				AMB	AMB		
	comp=Z,25nm,0.9s						
KMI				AMB	AMB		
	comp=Z,261nm,3.1s						
KMI				LR	LR		
	comp=N,588nm,11.7s						
KMI				LR	LR		
	comp=E,460nm,8.7s						
KMI				LR	LR		
	comp=Z,397nm,12.8s,MS4.0						
BVAR	**Borovoye Array**	**20.48**	**340**	P	**P**	**01 31 44.2**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,44nm,0.9s						

BVAR Borovoye Array 20.48 340 P **P** **01 31 44.2 +0.5**
comp=Z,44nm,0.9s,baz=146,slow=11,SNR=76
BRVK Borovoye 20.54 340 *e*P **P** **01 31 45.7 +1.3**
BRVK pmax pmax
comp=Z,176nm,1.3s
BRVK Borovoye 20.54 340 *e*P **P** **01 31 45.7 +1.3**
comp=Z,176nm,1.3s
BRVK Borovoye 20.54 340 P **P** **01 31 45.5 +1.1**
SNR=86
BRVK Borovoye 20.54 340 P **P** **01 31 45.5 +1.1**
SNR=86
NVS Novosibirsk 20.59 2 *e*P **P** **01 31 45.0 +0.1**
NVS pmax pmax
comp=N,40nm,1.3s
NVS pmax pmax
comp=Z,42nm,1.3s
CHRT Chiangrai 21.34 128 ⇓P **P** **01 31 52.5 -0.8**
comp=Z,408nm,0.8s,mb5.8
CHG Chiang Mai 21.58 131 ⇑P **P** **01 31 56.0 +0.1**
comp=Z,45nm,0.7s,mb5.0
CHTO Chiang Mai 21.58 131 *e*P **P** **01 31 55.5 -0.4**
CHTO pmax pmax
comp=Z,45nm,1.0s,mb4.8
CHTO Chiang Mai 21.58 131 *e*P **P** **01 31 55.5 -0.3**
comp=Z,45nm,1.0s,mb4.9
CHTO Chiang Mai 21.58 131 P **P** **01 31 56.3 +0.5**
SNR=18
CHTO Chiang Mai 21.58 131 P **P** **01 31 56.3 +0.5**
SNR=18
MOY Mondy 22.17 33 *e*P **P** **01 32 07.1 +5.2**
XAN Xi'an 22.30 83 P **P** **01 32 02.7 -0.8**
XAN PP 01 32 32.8
XAN AMB AMB
comp=Z,29nm,1.2s,mb4.6
XAN LR LR
comp=N,236nm,14.2s,MS4.0
XAN LR LR
comp=E,299nm,10.7s,MS4.0
XAN LR LR
comp=Z,554nm,10.5s,MS4.3
ZAK Zakamensk 22.41 38 *e*P **P** **01 32 05.3 +0.8**
ZAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb3.7
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb3.7
GYA Guiyang 22.66 103 P **P** **01 32 08.5 +1.2**
GYA AMB AMB
comp=Z,10.0nm,0.4s,mb4.6
GYA AMB AMB
comp=Z,160nm,4.0s
GYA LR LR
comp=N,610nm,8.2s
GYA LR LR
comp=E,490nm,7.6s
GYA LR LR
comp=Z,680nm,9.8s
NANT Nan 22.71 128 ⇑P **P** **01 32 06.0 -1.9**
comp=Z,225nm,0.9s,mb5.6
SONM Songino Array 22.76 46 P **P** **01 32 09.8 +1.6**
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 22.76 46 P **P** **01 32 09.8 +1.6**
comp=Z,11nm,0.9s,mb4.3,baz=238,slow=8.5,SNR=6.1
BTO Baotou 23.11 66 *e*P **P** **01 32 17.3 +5.3**
ULN Ulaanbaatar 23.16 47⇑*e*P **P** **01 32 13.9 +1.4**
ULN Ulaanbaatar 23.16 47 P **P** **01 32 17.7 +5.2**
SNR=14
ULN Ulaanbaatar 23.16 47 P **P** **01 32 17.7 +5.2**
SNR=14
AKTK Aktyubinsk 23.80 320 P **P** **01 32 17.6 -1.2**
AKTO Aktyubinsk 23.80 320 P **P** **01 32 17.6 -1.2**
AKTO pmax pmax
comp=Z,9.0nm,0.9s,mb4.2
AKTO Aktyubinsk 23.80 320 P **P** **01 32 17.6 -1.2**
comp=Z,9.3nm,0.9s,mb4.2,baz=103,slow=9.4,SNR=19
JMDO Jabal Madar 24.05 247 P **P** **01 32 23.4 +2.1**
SNR=8.6
JMDO Jabal Madar 24.05 247 P **P** **01 32 23.4 +2.1**
SNR=8.6
HHC Hu-ho-hao-te 24.30 66 *e*P **P** **01 32 21.9 -1.5**
HHC PP 01 32 56.8
HHC PCP PcP 01 36 03.2 +0.1
HHC S **S** **01 36 38.2 -3.8**
HHC SS 01 37 29.7
HHC AMB AMB
comp=Z,26nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,275nm,6.7s
HHC LR LR
comp=N,543nm,11.6s,MS4.5
HHC LR LR
comp=E,658nm,12.5s,MS4.5
HHC LR LR
comp=Z,874nm,12.2s,MS4.5
ASHO Ashiyiah 24.43 254 P **P** **01 32 27.2 +2.4**
SNR=12
ASHO Ashiyiah 24.43 254 P **P** **01 32 27.2 +2.4**
SNR=12
NST Nakhon Sawan 24.71 134 P **P** **01 32 28.0 +0.7**
comp=Z,67nm,0.7s,mb5.3
TIY Taiyuan 24.84 73 P **P** **01 32 28.7 +0.3**
TIY LR LR
comp=N,619nm,7.3s
TIY LR LR
comp=E,929nm,10.0s
TIY LR LR
comp=Z,1μm,11.8s,MS4.7
KKTK Khon Kaen 25.88 128 P **P** **01 32 38.5 +0.5**
comp=Z,556nm,0.9s,mb6.1
SVE Sverdlovsk 26.84 334 *e*P **P** **01 32 47.4 +1.2**
SVE pmax pmax
comp=Z,14nm,0.9s,mb4.5
ARU Arti 27.34 331*c i*P **P** **01 32 51.2 +0.4**
ARU *e* 01 33 32.9
ARU *e* 01 36 09.7
ARU *e*S **S** **01 37 31.7 +1.8**
ARU pmax pmax
comp=Z,8.0nm,1.7s,mb4.0
BJI Beijing 27.76 68 P **P** **01 32 59.8 +5.0**
BJI AMB AMB
comp=Z,12nm,1.3s,mb4.4
BJI LR LR
comp=N,317nm,14.3s,MS4.3
BJI LR LR
comp=E,432nm,12.6s,MS4.3
BJI LR LR
comp=Z,189nm,16.0s,MS3.8
QIZ Qiongzhong 29.06 114 P **P** **01 33 05.4 -1.1**
QIZ S **S** **01 37 58.5 +0.9**
QIZ LR LR
comp=N,237nm,17.0s,MS4.0
QIZ LR LR
comp=E,211nm,19.1s,MS4.0
MIB Mutribah 29.59 271 *e*P **P** **01 33 10.5 -0.6**
MIB AML AML 01 33 20.1
comp=Z,24nm,0.6s
RDF Al-Radifah 29.70 269 *e*P **P** **01 33 11.9 -0.2**
RDF AMb AMB 01 33 25.2
comp=Z,48nm,1.2s,mb5.1
NAY Al-Naaiem 29.85 270 *e*P **P** **01 33 12.8 -0.6**
NAY AMb AMB 01 33 28.1
comp=Z,23nm,1.3s,mb4.8
NJ2 Nanjing 30.86 84 *e*P **P** **01 33 23.3 +0.9**
NJ2 AP pP 01 33 27.3 +0.6
NJ2 XP sP 01 33 30.8 +2.3
NJ2 PP PP 01 34 24.2 -7.8
NJ2 PPP 01 34 40.1
NJ2 S **S** **01 38 25.0 -0.8**
NJ2 XS sS 01 38 34.0 +1.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.1
NJ2 AMB AMB
comp=Z,180nm,11.0s
NJ2 LR LR
comp=N,530nm,20.9s,MS4.3
NJ2 LR LR
comp=E,520nm,19.7s,MS4.3
NJ2 LR LR
comp=Z,520nm,19.7s,MS4.2
KIV Kislovodsk 31.71 300 *e*P **P** **01 33 29.8 +0.1**
KIV *e*S **S** **01 38 39.4 +0.6**
KIV pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
KIV MLR MLR
comp=Z,88nm,16.0s,MS3.5
BOD Bodaibo 31.88 33 *e*P **P** **01 33 31.6 +0.6**
BOD pmax pmax
comp=Z,6.0nm,1.3s,mb4.3
VRHR Novokhopersk 33.58 312 *e*P **P** **01 33 46.1 +0.1**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,1.4s
KULM Kulim 33.64 145 *e*P **P** **01 33 46.9 0.0**
SOC Sochi 33.84 299 *e*P **P** **01 33 49.7 +1.3**
SOC *e*PPP 01 35 13.7
SOC *e* 01 36 23.4
SOC *e*S **S** **01 39 14.9 +3.0**
SOC *e*SSS 01 41 20.7
SOC pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
SOC MLR MLR
comp=Z,149nm,14.0s,MS3.9
CN2 Changchun 34.75 61 *e*P **P** **01 33 56.4 +0.1**
CN2 *e*PP PP 01 35 13.5 -1.5
CN2 *e*S **S** **01 39 25.1 -0.9**
CN2 LR LR
comp=N,420nm,11.0s,MS4.5
CN2 LR LR
comp=E,180nm,11.0s,MS4.5
CN2 LR LR
comp=Z,290nm,12.0s,MS4.2
MALT Malatya 35.08 289 *e*P **P** **01 34 00.6 +1.5**
MALT pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MALT Malatya 35.08 289 *e*P **P** **01 34 00.6 +1.4**
comp=Z,8.5nm,1.1s,mb4.6
VRSR Storozhevoye 35.10 312 *e*P **P** **01 33 59.1 -0.1**
VRSR pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,5.0nm,1.2s
ANN Anapa 35.52 301 *e*P **P** **01 34 02.4 -0.4**
ANN *e* 01 35 21.5
ANN *e*S **S** **01 39 39.1 +1.4**
ANN *e*SS SS 01 41 57.6 -15
ANN pmax pmax
comp=Z,22nm,1.4s,mb4.9
KSRS Korea Array 37.11 71 P **P** **01 34 16.9 +0.4**
comp=Z,2.8nm,0.9s,mb4.1,baz=276,slow=7.8,SNR=9.1
KSRS PcP PcP 01 36 35.3 -1.5
comp=Z,1.5nm,0.7s,baz=270,slow=2.5,SNR=6.3
KSRS LR LR 01 53 06.6
comp=Z,217nm,19.7s,MS4.0,baz=57,slow=42
MOS Moscow 37.13 319 *e* **P** **01 34 15.5 -0.9**
MOS *e* 01 35 59.2
MOS pmax pmax
comp=Z,70nm,1.4s,mb5.3
OBN Obninsk 37.54 318⇑*e*P **P** **01 34 20.3 +0.3**
OBN *e* 01 35 43.8
OBN *e*S **S** **01 40 10.9 +2.5**
OBN pmax pmax
comp=Z,32nm,1.1s,mb5.0
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.8
MDJ Mudanjiang 37.73 60 P **P** **01 34 21.0 -0.7**
MDJ S **S** **01 40 13.1 +1.5**
MDJ AMB AMB
comp=Z,5.0nm,0.5s,mb4.5
MDJ AMB AMB
comp=Z,56nm,4.6s
MDJ LR LR
comp=N,189nm,26.1s
MDJ LR LR
comp=Z,63nm,18.5s
SIM Simferopol' **37.88 301***d i*P **P** **01 34 23.2 +0.3**
SIM pmax pmax
comp=Z,14nm,1.0s,mb4.7
SIM MLR MLR
comp=Z,100nm,19.2s,MS3.6
ANTO Ankara 39.23 293 *e*P **P** **01 34 35.2 +0.9**
ANTO pmax pmax
comp=Z,34nm,1.8s,mb4.8
ANTO Ankara 39.23 293 *e*P **P** **01 34 35.2 +0.8**
comp=Z,34nm,1.8s,mb4.8
ANTO Ankara 39.23 293 P **P** **01 34 36.2 +1.9**
SNR=5.2
ANTO Ankara 39.23 293 P **P** **01 34 36.2 +1.9**
SNR=5.2
KLR Kul'dur 39.31 52 *e*P **P** **01 34 34.8 -0.1**
EIL Elat 39.87 277 P **P** **01 34 38.9 -0.9**
comp=Z,3.9nm,0.7s,mb4.3,baz=91,slow=5.9,SNR=4.4
JNU Nakatsue 40.41 77 P **P** **01 34 47.9 +3.6**
comp=Z,18nm,1.0s,mb4.7,baz=198,slow=7.5,SNR=4.6
YAK Yakutsk 40.81 32 *e*P **P** **01 34 51.0 +3.9**
YAK pmax pmax
comp=N,3.0nm,0.9s
YAK pmax pmax
comp=Z,13nm,0.9s,mb4.6
YAK pmax pmax
comp=E,10.0nm,1.5s
AKASG Malin Array Be 41.28 310 P **P** **01 34 50.8 -0.4**
AKASG 01 36 24.6
AKASG pmax pmax
comp=Z,1.0nm,0.3s
AKASG pmax pmax
comp=Z,2.0nm,0.8s
AKASG Malin Array Be 41.28 310 P **P** **01 34 50.8 -0.4**
comp=Z,1.1nm,0.3s,mb3.9,baz=79,slow=7.9,SNR=23
AKASG PP PP 01 36 24.6 -1.9
comp=Z,1.7nm,0.8s,baz=89,slow=10,SNR=7.0
AKBB Malin Array Si 41.28 310 *e*P **P** **01 34 50.4 -0.8**
KIEV Kiev 41.29 310 *e*P **P** **01 34 50.7 -0.6**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
KIEV Kiev 41.29 310 *e*P **P** **01 34 50.7 -0.6**
comp=Z,3.3nm,0.6s,mb4.1
KIS Kishinev 41.53 304 *e*P **P** **01 34 53.0 -0.3**
KIS *e* 01 35 06.0
KIS MLR MLR
comp=Z,300nm,12.0s,MS4.4
KIS MLR MLR
comp=Z,300nm,12.0s
ATD Arta Tunnel 42.17 247 P **P** **01 34 58.7 -0.2**
ATD Arta Tunnel 42.17 247 P **P** **01 34 58.7 -0.2**
comp=Z,12nm,0.9s,mb4.5,baz=241,slow=19,SNR=4.1
KKM Kota Kinabalu 42.32 124 *e*P **P** **01 34 60.0 -0.2**
JOF Joensuu 42.38 328 *e*p **P** **01 34 59.9 -0.1**
comp=Z,5.9nm,0.4s,mb4.6
JOF Joensuu 42.38 328 *e*P **P** **01 34 59.9 -0.1**
JOF pmax pmax
comp=Z,6.0nm,0.4s,mb4.6
VRI Vrincioaia 43.03 303 P **P** **01 35 07.3 +1.7**
VRI Vrincioaia 43.03 303⇑*i*P **P** **01 35 07.7 +2.1**
PLOR Plostina 43.09 303 P **P** **01 35 08.0 +2.0**
VSU Vasula 43.52 321*d i*P **P** **01 35 09.4 +0.1**
MLR Muntele Rosu 43.61 302 P **P** **01 35 12.6 +2.4**
MLR Muntele Rosu 43.61 302⇓*i*P **P** **01 35 12.0 +1.8**
BURAR Bucovina Array 43.94 305⇑*i*P **P** **01 35 13.6 +0.7**
ZIMR **44.23 300** P **P** **01 35 16.9 +1.6**
VOIR **44.24 302** P **P** **01 35 16.6 +1.3**
VOIR **44.24 302**⇓*i*P **P** **01 35 16.8 +1.5**
FINES FINESS Array B 44.38 325⇑*e*P **P** **01 35 16.5 +0.3**
FINES FINESS Array B 44.38 325 P **P** **01 35 15.8 -0.3**
FINES PcP PcP 01 36 58.0 -1.8
FINES FINESS Array B 44.38 325 P **P** **01 35 15.8 -0.3**
comp=Z,1.8nm,0.4s,mb4.2,baz=109,slow=9.3,SNR=44
FINES PcP PcP 01 36 58.0 -1.8
comp=Z,4.0nm,0.9s,baz=123,slow=3.2,SNR=4.0
LVV L'vov 44.61 309 *i*P **P** **01 35 17.9 -0.3**
TIXI Tiksi 44.70 19⇑*e*P **P** **01 35 19.3 +0.7**
TIXI pmax pmax
comp=Z,15nm,1.8s,mb4.5
TIXI MLR MLR
comp=Z,200nm,14.0s,MS4.2
TIXI Tiksi 44.70 19 *e*P **P** **01 35 18.2 -0.4**
comp=Z,23nm,1.4s,mb4.8
SUW Suwalki 45.10 315 *e*P **P** **01 35 22.0 -0.1**
SUW Suwalki 45.10 315 *e*P **P** **01 35 22.0 -0.1**
MAJO Matsushiro 45.35 70 *e*P **P** **01 35 24.3 0.0**
MAJO pmax pmax
comp=Z,11nm,0.9s,mb4.7
MAJO Matsushiro 45.35 70 *e*P **P** **01 35 24.3 0.0**
comp=Z,11nm,0.9s,mb4.7
MAT Matsushiro 45.35 70 P **P** **01 35 23.7 -0.6**
MJAR Matsushiro Arr 45.35 70 P **P** **01 35 24.1 -0.2**
MJAR pmax pmax
comp=Z,7.0nm,0.9s
MJAR MLR MLR
comp=Z,117nm,18.1s
MJAR Matsushiro Arr 45.35 70 P **P** **01 35 24.1 -0.2**
comp=Z,7.0nm,0.9s,mb4.5,baz=286,slow=9.2,SNR=8.5
MJAR LR LR 01 57 56.2
comp=Z,117nm,18.1s,MS3.9,baz=165,slow=41
APE Apeiranthos 45.35 290*d i*P **P** **01 35 24.0 -0.3**
APE Apeiranthos 45.35 290⇑*i*P **P** **01 35 23.9 -0.4**
KWP Kalwaria 45.48 308 *e*P **P** **01 35 25.6 +0.5**
KWP Kalwaria 45.48 308 *e*P **P** **01 35 25.6 +0.5**
KWP Kalwaria 45.48 308⇓*i*P **P** **01 35 25.7 +0.6**
DRGR **45.72 304** P **P** **01 35 28.8 +1.8**
DRGR **45.72 304**⇓*i*P **P** **01 35 28.1 +1.1**
KOLS Kolonicke sedl 45.81 307 *e*P **P** **01 35 28.2 +0.5**
GZR Gura Zlata 45.84 302 P **P** **01 35 29.7 +1.7**
VTS Vitosha 45.96 299⇓*i*P **P** **01 35 30.1 +1.1**
KEV Kevo 46.29 337 *e*p **P** **01 35 28.2 -3.0**
comp=Z,0.8nm,0.3s,mb4.1
KEV Kevo 46.29 337 *e*P **P** **01 35 28.2 -3.0**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
CRVS Cervenica-Dubn 46.35 307 *e*P **P** **01 35 32.6 +0.6**
STHS Stebnicka Huta 46.45 308 *e*P **P** **01 35 32.9 +0.2**
STHS pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
STHS Stebnicka Huta 46.45 308 *e*P **P** **01 35 32.9 +0.2**
comp=Z,4.9nm,0.8s,mb4.5
BZS Buzias 46.62 303 P **P** **01 35 35.4 +1.3**
BZS Buzias 46.62 303⇓*i*P **P** **01 35 34.8 +0.7**
ARCES ARCESS Array B 46.71 336 P **P** **01 35 33.9 -0.6**
ARCES 01 37 07.1
ARCES pmax pmax
comp=Z,9.0nm,0.9s
ARCES pmax pmax
comp=Z,6.0nm,1.0s
ARCES MLR MLR
comp=Z,188nm,18.5s
ARCES ARCESS Array B 46.71 336 P **P** **01 35 33.9 -0.6**
ARCES PcP PcP 01 37 07.1 -0.7
ARCES LR LR 01 56 50.5
ARCES ARCESS Array B 46.71 336 P **P** **01 35 33.9 -0.6**
comp=Z,9.0nm,0.9s,mb4.7,baz=95,slow=7.0,SNR=21
ARCES PcP PcP 01 37 07.1 -0.7
comp=Z,6.1nm,1.0s,baz=111,slow=2.3,SNR=7.5
ARCES LR LR 01 56 50.5
comp=Z,188nm,18.5s,MS4.1,baz=106,slow=38
YSS Yuzh-Sakhalins 46.76 55 *e*P **P** **01 35 39.3 +4.1**
YSS MLR MLR
comp=Z,200nm,14.0s,MS4.2
NIE Niedzica 47.05 308 *i*P **P** **01 35 39.1 +1.6**
OJC Ojcow 47.31 309 *e*P **P** **01 35 39.5 0.0**
PSZ Piszkesteto 47.49 306⇑*e*P **P** **01 35 42.2 +1.3**
PSZ *e*PP PP 01 37 35.1 +3.0
PSZ Piszkesteto 47.49 306⇓*i*P **P** **01 35 41.7 +0.8**
VYHS Vyhne 48.12 307 *e*P **P** **01 35 46.5 +0.7**
VYHS pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
VYHS Vyhne 48.12 307 *e*P **P** **01 35 46.5 +0.7**
comp=Z,10nm,1.4s,mb4.7
BUD Budapest 48.13 306⇑*e*P **P** **01 35 46.8 +0.9**
BUD *e*PP PP 01 37 39.5 +1.5
OKC Ostrava-Krasne 48.41 309 *e*P **P** **01 35 48.4 +0.4**
OKC *e*pP pP 01 35 52.6 +0.1
OKC Ostrava-Krasne 48.41 309 *e*P **P** **01 35 48.4 +0.4**
OKC *e*pP pP 01 35 52.6 +0.1
OKC AMS AMS 01 58 10.0
comp=Z,200nm,7.7s
PKSM Moragy 48.58 304⇓*i*P **P** **01 35 49.4 0.0**
GKP Gorka Klasztor 48.66 314 *e*P **P** **01 35 49.9 0.0**
MORC Moravsky Berou 48.81 309 *e*P **P** **01 35 51.5 +0.4**
MORC pmax pmax
comp=Z,20nm,1.2s,mb5.0
MORC Moravsky Berou 48.81 309 *e*P **P** **01 35 51.5 +0.4**
comp=Z,20nm,1.2s,mb5.0
MORC Moravsky Berou 48.81 309⇓*i*P **P** **01 35 51.4 +0.3**
MODS Modra-Piesok 49.17 307 *e*P **P** **01 35 54.7 +0.9**
ZST Bratislava 49.31 307 *e*P **P** **01 35 54.4 -0.5**
ZST pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
ZST Bratislava 49.31 307 *e*P **P** **01 35 54.4 -0.5**
comp=Z,10nm,1.3s,mb4.7
KSP Ksiaz 49.47 311 *e*P **P** **01 35 56.5 +0.4**
KSP Ksiaz 49.47 311⇓*e*P **P** **01 35 56.3 +0.2**
KSP *e*pP pP 01 36 00.4 -0.3
VRAC Vranov 49.48 308⇑*i*P **P** **01 35 57.1 +0.9**
DPC Dobruska-Polom 49.52 310 *e*P **P** **01 35 57.1 +0.6**
DPC *e*pP pP 01 36 01.3 +0.3
DPC Dobruska-Polom 49.52 310 *e*P **P** **01 35 57.1 +0.6**
DPC *e*pP pP 01 36 01.3 +0.3
DPC AMS AMS 01 58 50.0
comp=Z,300nm,5.9s
UPC Upice 49.69 310 *e*P **P** **01 35 58.4 +0.6**
UPC *e*pP pP 01 36 02.3 0.0
SOP Sopron 49.75 306⇓*e*P **P** **01 35 58.5 +0.2**
SOP *e*PP PP 01 37 51.9 -0.8
CONA Conrad Observa 50.17 307 *i*P **P** **01 36 02.0 +0.5**
comp=Z,35nm,1.1s,mb5.3,SNR=28
TREC Trest 50.20 309 *e*P **P** **01 36 02.4 +0.7**
TREC *e*pP pP 01 36 07.1 +0.9
TREC AMS AMS 01 59 30.0
comp=Z,200nm,14.8s
ARSA Arzberg 50.52 306⇑*i*P **P** **01 36 04.5 +0.4**
comp=Z,14nm,1.2s,mb4.8,SNR=7.3
MA2 Magadan 50.59 38 *e*P **P** **01 36 09.2 +4.7**
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
PVCC Panska Ves 50.60 310 *e*P **P** **01 36 05.6 +0.9**
PVCC AMS AMS 01 59 20.0
comp=Z,300nm,15.1s
PRU Pruhonice 50.70 310 *e*P **P** **01 36 05.9 +0.4**
PRU *e*pP pP 01 36 10.0 0.0
PRU AMS AMS 01 59 40.0
comp=Z,200nm,16.8s
RUE Ruedersdorf 50.82 313 *e*P **P** **01 36 05.9 -0.4**
comp=Z,56nm,1.9s,mb5.2
RUE *e*PP PP 01 37 59.4 -3.0
CRES Cresnjev 50.83 304 *i*P **P** **01 36 07.0 +0.5**
PERS Pernice 50.90 305 *i*P **P** **01 36 07.5 +0.4**
PERS *i* pP 01 36 11.0 -0.6
BRG Berggiesshubel 50.95 311 *e*P **P** **01 36 07.6 +0.3**
BRG *e* 01 37 23.7
BRG pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BRG Berggiesshubel 50.95 311 *e*P **P** **01 36 07.4 +0.1**
comp=Z,15nm,0.9s,mb4.9
BRG *e*PP PP 01 38 00.5 -3.0
BRG Berggiesshubel 50.95 311 *e*P **P** **01 36 07.6 +0.3**
comp=Z,14nm,0.9s,mb4.9
BRG *e* 01 37 23.7
comp=Z,7.8nm,1.3s
BOJS Bojanci 51.04 304 *i*P **P** **01 36 09.1 +1.0**
MOA Molln 51.24 307 *i*P **P** **01 36 09.7 +0.1**
comp=Z,19nm,1.1s,mb5.0,SNR=12
MOA Molln 51.24 307 *i*P **P** **01 36 09.7 +0.1**
comp=Z,19nm,1.0s,mb5.0
SEY Seymchan 51.30 34⇑*e*P **P** **01 36 10.9 +1.2**
FBE Freiberg 51.31 311 *e*P **P** **01 36 10.2 +0.2**
comp=Z,18nm,1.1s,mb4.9
FBE *e*PP PP 01 38 03.5 -3.3
OBKA Obir 51.31 305 *i*P **P** **01 36 10.9 +0.7**
comp=Z,23nm,1.1s,mb5.0,SNR=6.7
LJU Ljubljana 51.42 305 *i*P **P** **01 36 11.4 +0.4**
LJU *i* pP 01 36 16.5 +1.0
LJU Ljubljana 51.42 305 *i*P **P** **01 36 11.4 +0.5**
LJU *i* pP 01 36 16.5 +1.0
GEC2 GERESS Array S 51.43 308 *e*P **P** **01 36 11.2 +0.2**
comp=Z,17nm,1.0s,mb4.9
GEC2 GERESS Array S 51.43 308 *e*P **P** **01 36 11.2 +0.2**
comp=Z,17nm,1.0s,mb4.9
GERES GERESS Array B 51.43 308 P **P** **01 36 10.9 -0.1**
GERES pmax pmax
comp=Z,9.0nm,0.9s
GERES GERESS Array B 51.43 308 P **P** **01 36 10.9 -0.1**
comp=Z,9.0nm,0.9s,mb4.7,baz=77,slow=7.0,SNR=71
KHC Kasperske Hory 51.46 309 *e*P **P** **01 36 11.8 +0.6**
KHC *e*pP pP 01 36 15.8 +0.1
KHC AMS AMS 02 00 10.0
comp=Z,200nm,16.6s
CLL Collm 51.47 312⇓*i*P **P** **01 36 10.7 -0.5**

comp=Z,11nm,1.2s,mb4.7
CLL *i* pP 01 36 15.1 -0.6
CLL Collm 51.47 312 *eP* **P 01 36 10.9 -0.3**
comp=Z,11nm,1.2s,mb4.7
CLL Collm 51.47 312⇓ *iP* **P 01 36 10.7 -0.5**
comp=Z,11nm,1.2s,mb4.7
CLL *i* pP pP 01 36 15.1 -0.6
CLL *ex* x 01 46 30.0
CLL LmV 02 01 00.0
comp=Z,200nm,21.4s
NB2 NORSAR Subarra 51.50 324 P **P 01 36 10.8 -0.5**
comp=Z,16nm,1.4s,mb4.8,baz=88,slow=7.9
NOA NORSAR Array B 51.50 324 P **P 01 36 10.3 -1.0**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 51.50 324 P **P 01 36 10.2 -1.0**
comp=Z,2.8nm,0.7s,mb4.3,baz=87,slow=7.4,SNR=13
JAVS Javornik 51.77 305 *i* P **P 01 36 13.3 -0.3**
JAVS *i* pP 01 36 17.0 -1.1
JAVS *e* 01 38 12.1
FG4 Candela 51.88 298 P **P 01 36 14.9 +0.5**
FG4 pmax pmax
comp=Z,145nm,1.0s,mb5.9
FG4 Candela 51.88 298 P **P 01 36 14.9 +0.5**
comp=Z,145nm,1.0s,mb5.9
WET Wettzell 51.91 309 *eP* **P 01 36 14.8 +0.2**
WET *e* 01 38 07.6
WET pmax pmax
comp=Z,16nm,1.3s,mb4.8
WET Wettzell 51.91 309 *eP* **P 01 36 14.8 +0.2**
comp=Z,16nm,1.3s,mb4.8
WET *e*PP PP 01 38 07.6 -4.7
TANN Tannenbergstha 51.95 310 *eP* **P 01 36 15.2 +0.4**
comp=Z,14nm,1.3s,mb4.7
TANN *e*PP PP 01 38 07.9 -4.7
NKC Novy Kostel 51.99 310 *eP* **P 01 36 16.0 +0.9**
NKC *e*pP pP 01 36 19.8 +0.1
NKC Novy Kostel 51.99 310 *eP* **P 01 36 16.0 +0.9**
NKC *e*pP pP 01 36 19.8 +0.1
NKC AMS AMS 02 00 10.0
comp=Z,400nm,15.2s
FG5 Orsara di Pugl 52.02 299 P **P 01 36 15.8 +0.3**
FG5 pmax pmax
comp=Z,64nm,1.1s,mb5.5
FG5 Orsara di Pugl 52.02 299 P **P 01 36 15.8 +0.3**
comp=Z,64nm,1.1s,mb5.5
WERN Wernitzgruen 52.02 310 *eP* **P 01 36 16.2 +0.8**
comp=Z,10.0nm,1.2s,mb4.6
GUNZ Gunzen 52.04 310 *eP* **P 01 36 15.8 +0.3**
comp=Z,15nm,1.2s,mb4.8
GUNZ *e*PP PP 01 38 08.9 -4.5
WERD Werda 52.04 311 *eP* **P 01 36 15.8 +0.3**
comp=Z,15nm,1.3s,mb4.8
WERD *e*PP PP 01 38 08.9 -4.5
PTCC Patocco-Chiusa 52.14 305 P **P 01 36 15.8 -0.5**
comp=Z,5.2nm,0.7s,mb4.6
ROTZ Rotzenmuhle 52.23 310 *eP* **P 01 36 17.2 +0.3**
comp=Z,18nm,1.2s,mb4.9
ROTZ *e*PP PP 01 38 09.8 -5.3
MANZ Manzenberg 52.25 310 *eP* **P 01 36 17.0 -0.1**
comp=Z,10.0nm,1.2s,mb4.6
MANZ *e*PP PP 01 38 10.5 -4.8
MOX Moxa 52.44 311 *eP* **P 01 36 19.1 +0.6**
comp=Z,18nm,1.5s,mb4.8
MOX *e* 01 38 12.0
MOX
comp=Z,200nm,18.0s
MOX Moxa 52.44 311 *eP* **P 01 36 19.1 +0.6**
MOX *e* 01 38 12.0
MOX pmax pmax
comp=Z,18nm,1.5s,mb4.8
MOX MLR MLR
comp=Z,200nm,18.0s,MS4.2
MOX Moxa 52.44 311 *eP* **P 01 36 18.3 -0.2**
comp=Z,12nm,1.2s,mb4.7
MOX *e*PP PP 01 38 11.8 -5.2
ABTA Abfaltersbach 52.64 306⇑ *iP* **P 01 36 19.1 -0.8**
SNR=7.1
BSEG Bad Segeberg 52.68 315 *eP* **P 01 36 20.6 +0.4**
BSEG *e* 01 38 13.7
BSEG pmax pmax
comp=Z,23nm,1.0s,mb5.1
BSEG Bad Segeberg 52.68 315 *eP* **P 01 36 20.6 +0.4**
comp=Z,23nm,1.0s,mb5.1
BSEG *e*PP PP 01 38 13.7 -5.5
INTR Introdacqua 52.81 300 P **P 01 36 20.1 -1.3**
GRA1 Grafenberg Arr 52.87 310 *eP* **P 01 36 22.3 +0.6**
comp=Z,28nm,1.2s,mb5.1
GRA1 *e*pP pP 01 36 26.9 +0.7
GRA1 *e*PP PP 01 38 15.6 -5.3
GRA1 *e*pPP 01 38 20.9
GRF Grafenberg Arr 52.87 310 *eP* **P 01 36 22.3 +0.6**
GRF *e* 01 38 20.9
GRF pmax pmax
comp=Z,28nm,1.2s,mb5.1
GRF Grafenberg Arr 52.87 310 *eP* **P 01 36 22.3 +0.6**
GRF *e* 01 38 20.9
GRF pmax pmax
comp=Z,28nm,1.2s,mb5.1
GRF Grafenberg Arr 52.87 310 *eP* **P 01 36 22.3 +0.6**
comp=Z,28nm,1.2s,mb5.1
GRF *e*pP pP 01 36 26.9 +0.7
GRF *e*PP PP 01 38 15.6 -5.3
GRF *e*pPP 01 38 20.9
GRFO Grafenberg 52.87 310 *eP* **P 01 36 22.2 +0.5**
GRFO pmax pmax
comp=Z,31nm,1.4s,mb5.0
GRFO Grafenberg 52.87 310 *eP* **P 01 36 22.2 +0.6**
comp=Z,30nm,1.4s,mb5.0
SDI San Donato 52.96 299 P **P 01 36 22.6 +0.1**
SDI pmax pmax
comp=Z,24nm,1.2s,mb5.0
SDI San Donato 52.96 299 P **P 01 36 22.6 +0.1**
comp=Z,24nm,1.2s,mb5.0
CLZ Clausthal 52.99 313 *eP* **P 01 36 22.6 0.0**
CLZ pmax pmax
comp=Z,26nm,1.2s,mb5.0
CLZ Clausthal 52.99 313 *eP* **P 01 36 22.6 0.0**
comp=Z,26nm,1.2s,mb5.0
CLZ *e*PP PP 01 38 16.2 -5.8
NRDL Niedersach Rie 53.04 313 *eP* **P 01 36 23.3 +0.4**
comp=Z,28nm,1.1s,mb5.1
NRDL *e*PP PP 01 38 16.4 -6.0
AQU L'Aquila 53.08 300 *eP* **P 01 36 23.2 -0.2**
AQU pmax pmax
comp=Z,40nm,1.0s,mb5.3
AQU L'Aquila 53.08 300 *eP* **P 01 36 23.2 -0.2**
comp=Z,40nm,1.0s,mb5.3
WATA Walderalm 53.13 307⇑ *iP* **P 01 36 22.9 -0.7**
comp=Z,6.6nm,1.0s,mb4.5,SNR=7.0
WATA Walderalm 53.13 307⇑ *iP* **P 01 36 23.0 -0.6**
WATA pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
NRCA Norcia 53.16 301 P **P 01 36 24.2 +0.3**
comp=Z,19nm,0.8s,mb5.1
SNTG Esanatoglia 53.17 302 P **P 01 36 24.3 +0.3**
comp=Z,34nm,0.8s,mb5.3
FSSB Fossombrone 53.18 302 P **P 01 36 24.3 +0.3**
comp=Z,15nm,0.6s,mb5.1
GUAR Guarcino 53.30 300 P **P 01 36 24.7 -0.3**
CTI Castel Tesino 53.38 305 P **P 01 36 24.8 -0.7**
CTI pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CTI Castel Tesino 53.38 305 P **P 01 36 24.8 -0.7**
comp=Z,8.8nm,0.6s,mb4.9
PIEI Pieia 53.39 302 P **P 01 36 26.1 +0.5**
SQTA Sankt Quirin 53.40 307⇓ *iP* **P 01 36 24.9 -0.7**
comp=Z,7.9nm,0.8s,mb4.7,SNR=24
SQTA Sankt Quirin 53.40 307⇓ *iP* **P 01 36 24.9 -0.7**
SQTA pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
UBBA Unterbreizbach 53.42 311 *eP* **P 01 36 25.4 -0.3**
comp=Z,5.0nm,0.9s,mb4.4
ASS Assisi 53.43 301 P **P 01 36 27.3 +1.4**
ASS pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ASS Assisi 53.43 301 P **P 01 36 27.3 +1.4**
comp=Z,2.2nm,0.6s,mb4.3
MOTA Moosalm 53.44 307 *i* P **P 01 36 25.2 -0.7**
comp=Z,11nm,0.9s,mb4.8,SNR=25
MOTA Moosalm 53.44 307 *i* P **P 01 36 25.2 -0.7**
MOTA pmax pmax
comp=Z,11nm,0.9s,mb4.8
MURB Monte Urbino 53.47 302 P **P 01 36 26.8 +0.6**
MNS Montasola 53.59 301 P **P 01 36 26.6 -0.5**

BADI Badiali 53.60 302 P **P 01 36 28.7 +1.6**
CDCA Citt' di Caste 53.62 302 P **P 01 36 28.5 +1.2**
comp=Z,25nm,1.1s,mb5.1
RETA Reutte 53.63 307 *i* P **P 01 36 26.8 -0.6**
comp=Z,15nm,1.1s,mb4.8,SNR=8.8
RDP Rocca di Papa 53.74 300 P **P 01 36 27.5 -0.7**
FETA Feichten 53.77 307 *i* P **P 01 36 27.8 -0.5**
comp=Z,13nm,0.7s,mb4.9,SNR=10
SFI Santa Sofia 53.77 303 P **P 01 36 29.5 +1.1**
SFI pmax pmax
comp=Z,35nm,0.6s,mb5.5
SFI Santa Sofia 53.77 303 P **P 01 36 29.5 +1.1**
comp=Z,35nm,0.6s,mb5.5
CRE Caprese Michel 53.78 302 P **P 01 36 29.3 +0.9**
CRE pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
CRE Caprese Michel 53.78 302 P **P 01 36 29.3 +0.9**
comp=Z,6.2nm,0.5s,mb4.8
VMG Vicchio 53.97 303 P **P 01 36 31.4 +1.6**
comp=Z,119nm,1.0s,mb5.8
BRMO Bormio 54.13 306 P **P 01 36 30.3 -0.7**
comp=Z,4.7nm,0.6s,mb4.6
FNVD Fontana Vidola 54.21 303 P **P 01 36 32.2 +0.6**
DAVA Damuels 54.26 307 *i* P **P 01 36 31.6 -0.4**
comp=Z,31nm,1.0s,mb5.2,SNR=21
STU Stuttgart 54.36 309 *eP* **P 01 36 32.7 +0.1**
comp=Z,22nm,1.0s,mb5.0
STU *e*PP PP 01 38 25.8 -8.6
IBBN Ibbenburen 54.49 313 *eP* **P 01 36 33.2 -0.3**
comp=Z,14nm,0.4s,mb5.2
KMBO Kilima Mbogo 54.72 239 P **P 01 36 35.7 0.0**
KMBO 01 38 33.0
KMBO pmax pmax
comp=Z,2.0nm,0.8s
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 54.72 239 P **P 01 36 35.6 0.0**
comp=Z,3.0nm,0.8s,mb4.3,baz=26,slow=12,SNR=4.3
KMBO PP PP 01 38 33.0 -5.4
comp=Z,2.6nm,0.8s,baz=57,slow=13,SNR=4.1
BUG Bochum--Univer 54.97 313 *eP* **P 01 36 37.4 +0.4**
comp=Z,16nm,1.3s,mb4.9
CDF Champ du Feu 55.69 309 *eP* **P 01 36 40.9 -1.3**
comp=Z,35nm,1.1s,mb5.0
CDF Champ du Feu 55.69 309 *eP* **P 01 36 40.9 -1.3**
CDF pmax pmax
comp=Z,18nm,1.1s,mb5.0
CDF Champ du Feu 55.69 309 *eP* **P 01 36 40.9 -1.3**
comp=Z,18nm,1.1s,mb5.0
MEM Membach 55.94 312 P **P 01 36 44.0 +0.1**
WLF Walferdange 56.08 311 P **P 01 36 45.9 +0.9**
WLF Walferdange 56.08 311 *eP* **P 01 36 45.3 +0.3**
comp=Z,15nm,0.8s,mb5.1
HINF Hinteralfeld 56.11 308 *eP* **P 01 36 43.9 -1.4**
comp=Z,43nm,0.9s,mb5.2
HINF Hinteralfeld 56.11 308 *eP* **P 01 36 43.9 -1.4**
HINF pmax pmax
comp=Z,22nm,0.9s,mb5.2
HINF Hinteralfeld 56.11 308 *eP* **P 01 36 43.9 -1.4**
comp=Z,22nm,0.9s,mb5.2
PGF Pioggiola 56.15 302 *eP* **P 01 36 44.1 -1.5**
comp=Z,36nm,0.9s,mb5.1
PGF Pioggiola 56.15 302 *eP* **P 01 36 44.1 -1.5**
PGF pmax pmax
comp=Z,18nm,0.9s,mb5.1
PGF Pioggiola 56.15 302 *eP* **P 01 36 44.1 -1.5**
comp=Z,18nm,0.9s,mb5.1
HAU Haudompre 56.39 309 *eP* **P 01 36 45.9 -1.3**
comp=Z,34nm,1.1s,mb5.0
HAU Haudompre 56.39 309 *eP* **P 01 36 45.9 -1.3**
HAU pmax pmax
comp=Z,17nm,1.1s,mb5.0
HAU Haudompre 56.39 309 *eP* **P 01 36 45.9 -1.3**
comp=Z,17nm,1.1s,mb5.0
BCLA Clavier 56.42 312 P **P 01 36 47.9 +0.5**
BCLA AP pP 01 36 51.7 -0.3
BILL Bilibino 56.62 27⇓ *eP* **P 01 36 49.7 +1.1**
BILL *e* 01 38 54.2
BILL *e*S **S 01 44 56.8 +17**
BILL pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.2
BILL Bilibino 56.62 27 *eP* **P 01 36 49.7 +1.1**
comp=Z,6.5nm,1.1s,mb4.6
GIVF Givet 56.80 311 *eP* **P 01 36 49.2 -0.9**
comp=Z,44nm,1.2s,mb5.0
GIVF Givet 56.80 311 *eP* **P 01 36 49.2 -0.9**
GIVF pmax pmax
comp=Z,22nm,1.2s,mb5.1
GIVF Givet 56.80 311 *eP* **P 01 36 49.2 -0.9**
comp=Z,22nm,1.2s,mb5.1
LPG La Plagne 56.83 306 *eP* **P 01 36 49.8 -0.6**
comp=Z,90nm,1.0s,mb5.5
LPG La Plagne 56.83 306 *eP* **P 01 36 49.8 -0.6**
LPG pmax pmax
comp=Z,45nm,1.0s,mb5.5
LPG La Plagne 56.83 306 *eP* **P 01 36 49.8 -0.6**
comp=Z,45nm,1.0s,mb5.5
LPL La Plagne 56.84 306 *eP* **P 01 36 49.8 -0.7**
comp=Z,69nm,0.7s,mb5.5
LPL La Plagne 56.84 306 *eP* **P 01 36 49.8 -0.7**
LPL pmax pmax
comp=Z,34nm,0.7s,mb5.5
LPL La Plagne 56.84 306 *eP* **P 01 36 49.8 -0.7**
comp=Z,34nm,0.7s,mb5.5
SBF Sospel 56.85 304 *eP* **P 01 36 49.4 -1.2**
comp=Z,94nm,1.0s,mb5.5
SBF Sospel 56.85 304 *eP* **P 01 36 49.4 -1.2**
SBF pmax pmax
comp=Z,47nm,1.0s,mb5.5
SBF Sospel 56.85 304 *eP* **P 01 36 49.4 -1.2**
comp=Z,47nm,1.0s,mb5.5
DOU Dourbes 56.94 311 P **P 01 36 51.5 +0.4**
CABF La Chapelle 56.95 307 *eP* **P 01 36 50.0 -1.2**
comp=Z,27nm,1.0s,mb4.9
CABF La Chapelle 56.95 307 *eP* **P 01 36 50.0 -1.2**
CABF pmax pmax
comp=Z,14nm,1.0s,mb5.0
CABF La Chapelle 56.95 307 *eP* **P 01 36 50.0 -1.2**
comp=Z,14nm,1.0s,mb4.9
BNI Bardonecchia 57.01 305 *eP* **P 01 36 50.6 -1.1**
BNI pmax pmax
comp=Z,28nm,1.2s,mb5.2
BNI Bardonecchia 57.01 305 *eP* **P 01 36 50.5 -1.1**
comp=Z,28nm,1.2s,mb5.2
MBDF Montbardon 57.04 305 *eP* **P 01 36 50.2 -1.7**
comp=Z,34nm,1.0s,mb5.0
MBDF Montbardon 57.04 305 *eP* **P 01 36 50.2 -1.7**
MBDF pmax pmax
comp=Z,17nm,1.0s,mb5.0
MBDF Montbardon 57.04 305 *eP* **P 01 36 50.2 -1.7**
comp=Z,17nm,1.0s,mb5.0
MEZF Maizieres J'vi 57.09 309 *eP* **P 01 36 51.2 -1.0**
comp=Z,64nm,1.1s,mb5.2
MEZF Maizieres J'vi 57.09 309 *eP* **P 01 36 51.2 -1.0**
comp=Z,64nm,1.1s,mb5.6
BAIF Baives 57.19 311 *eP* **P 01 36 52.1 -0.8**
comp=Z,38nm,1.4s,mb4.9
BAIF Baives 57.19 311 *eP* **P 01 36 52.1 -0.8**
BAIF pmax pmax
comp=Z,19nm,1.4s,mb4.9
BAIF Baives 57.19 311 *eP* **P 01 36 52.1 -0.8**
comp=Z,19nm,1.4s,mb4.9
FRF La Foret Royal 57.48 303 *eP* **P 01 36 53.5 -1.6**
comp=Z,133nm,1.5s,mb5.5
FRF La Foret Royal 57.48 303 *eP* **P 01 36 53.5 -1.6**
FRF pmax pmax
comp=Z,67nm,1.5s,mb5.5
FRF La Foret Royal 57.48 303 *eP* **P 01 36 53.5 -1.6**
comp=Z,67nm,1.5s,mb5.5
ORIF Oris-en-Rattie 57.59 305 *eP* **P 01 36 53.9 -1.9**
comp=Z,16nm,1.0s,mb4.7
ORIF Oris-en-Rattie 57.59 305 *eP* **P 01 36 53.9 -1.9**
ORIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
ORIF Oris-en-Rattie 57.59 305 *eP* **P 01 36 53.9 -1.9**
comp=Z,7.8nm,1.0s,mb4.7
LMR La Mourre 57.65 303 *eP* **P 01 36 54.8 -1.4**
comp=Z,50nm,1.3s,mb5.1
LMR La Mourre 57.65 303 *eP* **P 01 36 54.8 -1.4**
LMR pmax pmax
comp=Z,25nm,1.3s,mb5.1
LMR La Mourre 57.65 303 *eP* **P 01 36 54.8 -1.4**
comp=Z,25nm,1.3s,mb5.1
SMRF Simiane la Rot 58.09 304 *eP* **P 01 36 58.2 -1.1**
KEST Kesra 58.18 294 P **P 01 36 59.8 -0.3**

comp=Z,2.3nm,0.9s,mb4.2,baz=249,slow=6.2,SNR=4.4
LOR Lormes 58.22 308 *eP* **P 01 36 58.3 -1.8**
comp=Z,16nm,0.9s,mb4.8
LOR Lormes 58.22 308 *eP* **P 01 36 58.3 -1.8**
LOR pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
LOR Lormes 58.22 308 *eP* **P 01 36 58.3 -1.8**
comp=Z,8.1nm,0.9s,mb4.8
SMF Signal de Mont 58.42 308 *eP* **P 01 36 59.9 -1.7**
comp=Z,48nm,1.0s,mb5.2
SMF Signal de Mont 58.42 308 *eP* **P 01 36 59.9 -1.7**
SMF pmax pmax
comp=Z,24nm,1.0s,mb5.2
SMF Signal de Mont 58.42 308 *eP* **P 01 36 59.9 -1.7**
comp=Z,24nm,1.0s,mb5.2
VIVF Saint-Julien-I 58.42 305 *eP* **P 01 37 00.3 -1.3**
comp=Z,25nm,1.0s,mb4.9
VIVF Saint-Julien-I 58.42 305 *eP* **P 01 37 00.3 -1.3**
VIVF pmax pmax
comp=Z,12nm,1.0s,mb4.9
VIVF Saint-Julien-I 58.42 305 *eP* **P 01 37 00.3 -1.3**
comp=Z,12nm,1.0s,mb4.9
SSF Saint Saulge 58.51 308 *eP* **P 01 37 00.5 -1.7**
comp=Z,40nm,1.0s,mb5.1
SSF Saint Saulge 58.51 308 *eP* **P 01 37 00.5 -1.7**
SSF pmax pmax
comp=Z,20nm,1.0s,mb5.1
SSF Saint Saulge 58.51 308 *eP* **P 01 37 00.5 -1.7**
comp=Z,20nm,1.0s,mb5.1
AVF Avril sur Loir 58.69 308 *eP* **P 01 37 01.8 -1.7**
comp=Z,54nm,1.3s,mb5.1
AVF Avril sur Loir 58.69 308 *eP* **P 01 37 01.8 -1.7**
AVF pmax pmax
comp=Z,27nm,1.3s,mb5.1
AVF Avril sur Loir 58.69 308 *eP* **P 01 37 01.8 -1.7**
comp=Z,27nm,1.3s,mb5.1
HYF Humbligny 59.01 309 *eP* **P 01 37 04.5 -1.1**
BGF Bois d'Agland 59.10 308 *eP* **P 01 37 04.5 -1.8**
comp=Z,78nm,1.7s,mb5.2
BGF Bois d'Agland 59.10 308 *eP* **P 01 37 04.5 -1.8**
BGF pmax pmax
comp=Z,39nm,1.7s,mb5.2
BGF Bois d'Agland 59.10 308 *eP* **P 01 37 04.5 -1.8**
comp=Z,39nm,1.7s,mb5.2
LASF Ste Croix 59.23 305 *eP* **P 01 37 06.2 -1.1**
comp=Z,40nm,1.2s,mb5.0
BATI Kupang 59.34 130 P **P 01 37 07.1 -1.2**
comp=Z,18nm,0.7s,mb5.2,baz=287,slow=11,SNR=2.8
TCF Toulx Ste Croi 59.60 308 *eP* **P 01 37 08.6 -1.2**
comp=Z,68nm,1.3s,mb5.2
TCF Toulx Ste Croi 59.60 308 *eP* **P 01 37 08.6 -1.2**
TCF pmax pmax
comp=Z,34nm,1.3s,mb5.2
TCF Toulx Ste Croi 59.60 308 *eP* **P 01 37 08.6 -1.2**
comp=Z,34nm,1.3s,mb5.2
CAF Calviac 60.15 306 *eP* **P 01 37 12.4 -1.2**
comp=Z,40nm,1.2s,mb5.0
CAF Calviac 60.15 306 *eP* **P 01 37 12.4 -1.2**
CAF pmax pmax
comp=Z,20nm,1.2s,mb5.0
CAF Calviac 60.15 306 *eP* **P 01 37 12.4 -1.2**
comp=Z,20nm,1.2s,mb5.0
LDF La Druitiere 60.34 311 *eP* **P 01 37 13.0 -1.8**
comp=Z,54nm,1.1s,mb5.2
LDF La Druitiere 60.34 311 *eP* **P 01 37 13.0 -1.8**
LDF pmax pmax
comp=Z,27nm,1.1s,mb5.2
LDF La Druitiere 60.34 311 *eP* **P 01 37 13.0 -1.8**
comp=Z,27nm,1.1s,mb5.2
RJF Les Rejaudoux 60.39 307 *eP* **P 01 37 14.3 -0.9**
comp=Z,35nm,1.3s,mb4.9
RJF Les Rejaudoux 60.39 307 *eP* **P 01 37 14.3 -0.9**
RJF pmax pmax
comp=Z,17nm,1.3s,mb4.9
RJF Les Rejaudoux 60.39 307 *eP* **P 01 37 14.3 -0.9**
comp=Z,17nm,1.3s,mb4.9
FLN La Foliniere 60.51 311 *eP* **P 01 37 14.2 -1.7**
MTLF Montolieu 60.60 305 *eP* **P 01 37 15.3 -1.4**
comp=Z,24nm,1.2s,mb4.9
MTLF Montolieu 60.60 305 *eP* **P 01 37 15.3 -1.4**
MTLF pmax pmax
comp=Z,12nm,1.2s,mb4.9
MTLF Montolieu 60.60 305 *eP* **P 01 37 15.3 -1.4**
comp=Z,12nm,1.2s,mb4.9
GRR Gorron 60.87 311 *eP* **P 01 37 16.7 -1.7**
comp=Z,12nm,0.5s,mb5.0
GRR Gorron 60.87 311 *eP* **P 01 37 16.7 -1.7**
GRR pmax pmax
comp=Z,6.0nm,0.5s,mb5.0
GRR Gorron 60.87 311 *eP* **P 01 37 16.7 -1.7**
comp=Z,6.1nm,0.5s,mb5.0
MFF Saint Martin d 61.03 309 *eP* **P 01 37 17.8 -1.7**
comp=Z,4.9nm,0.5s,mb4.6
MFF Saint Martin d 61.03 309 *eP* **P 01 37 17.8 -1.7**
MFF pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
MFF Saint Martin d 61.03 309 *eP* **P 01 37 17.8 -1.7**
comp=Z,2.5nm,0.5s,mb4.6
LFF La Frestale 61.03 307 *eP* **P 01 37 18.8 -0.8**
ETOS Mallorca 61.49 301 P **P 01 37 23.8 +1.0**
comp=Z,2.6nm,0.5s,mb4.6
SGMF Saint Gilles 61.98 311 *eP* **P 01 37 24.5 -1.4**
comp=Z,116nm,1.4s,mb5.5
SGMF Saint Gilles 61.98 311 *eP* **P 01 37 24.5 -1.4**
SGMF pmax pmax
comp=Z,58nm,1.4s,mb5.5
SGMF Saint Gilles 61.98 311 *eP* **P 01 37 24.5 -1.4**
comp=Z,58nm,1.4s,mb5.5
EPF Esparros 61.99 305 *eP* **P 01 37 23.5 -2.6**
ROSF Rostrenen 62.39 311 *eP* **P 01 37 27.2 -1.5**
comp=Z,26nm,0.9s,mb5.0
ROSF Rostrenen 62.39 311 *eP* **P 01 37 27.2 -1.5**
ROSF pmax pmax
comp=Z,13nm,0.9s,mb5.1
ROSF Rostrenen 62.39 311 *eP* **P 01 37 27.2 -1.5**
comp=Z,13nm,0.9s,mb5.0
QUIF Quistinic 62.48 311 *eP* **P 01 37 27.4 -1.9**
comp=Z,48nm,1.3s,mb5.2
QUIF Quistinic 62.48 311 *eP* **P 01 37 27.4 -1.9**
QUIF pmax pmax
comp=Z,24nm,1.3s,mb5.2
QUIF Quistinic 62.48 311 *eP* **P 01 37 27.4 -1.9**
comp=Z,24nm,1.3s,mb5.2
ETSF Etsaut 62.65 305 *eP* **P 01 37 29.2 -1.3**
SJPF Ste Jean 63.02 305 *eP* **P 01 37 31.2 -1.8**
EBEN Beniarda 64.08 300 P **P 01 37 35.2 -4.8**
comp=Z,0.9nm,0.5s,mb4.1
ESDC Sonseca Array 66.31 303 P **P 01 37 54.0 -0.5**
comp=Z,0.6nm,0.4s,mb4.0
ESDC Sonseca Array 66.31 303 P **P 01 37 54.0 -0.5**
comp=Z,0.4nm,0.5s,mb3.8,baz=53,slow=6.2,SNR=6.8
FITZ Fitzroy Crossi 66.64 134 *eP* **P 01 37 56.3 -0.5**
comp=Z,5.8nm,0.8s,mb4.7
FITZ Fitzroy Crossi 66.64 134 P **P 01 37 56.4 -0.4**
comp=Z,4.0nm,0.8s,mb4.5,baz=356,slow=5.1,SNR=7.0
EMIN Mina Concepcio 69.05 302 P **P 01 38 11.1 -0.8**
IMA2 Indian Mountai 71.27 21 *eP* **P 01 38 25.4 +0.4**
MUN Mundaring 73.36 150 *eP* **P 01 38 36.4 -1.4**
WRA Warramunga Arr 73.41 129 P **P 01 38 37.6 -0.7**
WRA pmax pmax
comp=Z,7.0nm,1.0s
WRA Warramunga Arr 73.41 129 P **P 01 38 37.6 -0.8**
comp=Z,7.4nm,1.0s,mb4.6,baz=325,slow=6.0,SNR=21
WRAB Tennant Creek 73.41 129 *i* P **P 01 38 40.8 +2.5**
WB2 Warramunga Arr 73.42 129 *eP* **P 01 38 37.5 -0.9**
COLA College 73.82 20 *eP* **P 01 38 40.5 +0.3**
COLA pmax pmax
comp=Z,22nm,1.1s,mb5.0
COLA College 73.82 20 *eP* **P 01 38 40.5 +0.3**
comp=Z,22nm,1.1s,mb5.0
COLA *e*pP pP 01 38 44.4 -0.5
SVW2 Sparrevohn 74.10 25 *eP* **P 01 38 43.0 +1.1**
INK Inuvik 74.36 13 *eP* **P 01 38 42.7 -0.6**
INK *e*pP pP 01 38 46.6 -1.3
NWAO Narrogin (SRO) 74.61 150 P **P 01 38 43.7 -1.4**
NWAO pmax pmax
comp=Z,10.0nm,0.9s
NWAO Narrogin (SRO) 74.61 150 P **P 01 38 43.7 -1.4**
comp=Z,9.6nm,0.8s,mb4.8,baz=90,slow=1.1,SNR=3.8
EGAK Eagle 75.68 18 *eP* **P 01 38 50.8 -0.1**
comp=Z,19nm,1.3s,mb4.9
ASAR Alice Springs 75.86 132 P **P 01 38 51.1 -1.4**
ASAR pmax pmax
comp=Z,3.0nm,0.8s
ASAR Alice Springs 75.86 132 P **P 01 38 51.0 -1.4**
comp=Z,3.0nm,0.8s,mb4.3,baz=319,slow=6.0,SNR=28

DAWY Dawson 76.70 17 *eP* **P 01 38 56.9 +0.1**
FORT Forrest 77.95 141 *eP* **P 01 39 02.8 -1.3**
comp=Z,20nm,0.8s,mb5.1
LBTB Lobatse 79.60 230 *eP* **P 01 39 12.2 -1.1**
LBTB pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LBTB Lobatse 79.60 230 *eP* **P 01 39 12.2 -1.1**
comp=Z,5.5nm,0.8s,mb4.5
CTA Charters Tower 81.59 121 *eP* **P 01 39 23.1 -1.0**
comp=Z,5.7nm,0.9s,mb4.5
CTA Charters Tower 81.59 121 P **P 01 39 23.4 -0.7**
CTA pmax pmax
comp=Z,6.0nm,0.7s
CTA Charters Tower 81.59 121 P **P 01 39 23.4 -0.7**
comp=Z,5.8nm,0.7s,mb4.6,baz=22,slow=4.4,SNR=3.1
SKAG Skagway 81.64 18 *eP* **P 01 39 24.6 +0.8**
comp=Z,20nm,1.4s,mb4.9
BOSA Boshof 82.37 228 P **P 01 39 26.4 -1.6**
BOSA pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
BOSA Boshof 82.37 228 P **P 01 39 26.4 -1.7**
comp=Z,5.8nm,0.5s,mb4.8,baz=27,slow=4.3,SNR=40
YKA Yellowknife Ar 82.66 8 P **P 01 39 28.1 -1.0**
YKA pmax pmax
comp=Z,8.0nm,0.8s
YKA Yellowknife Ar 82.66 8 P **P 01 39 28.1 -1.0**
YKA Yellowknife Ar 82.66 8 P **P 01 39 28.1 -1.0**
comp=Z,7.6nm,0.8s,mb4.8,baz=343,slow=4.9,SNR=53
DBIC Dimbokro 83.66 274 P **P 01 39 34.2 -1.0**
DBIC pmax pmax
comp=Z,9.0nm,0.5s
DBIC MLR MLR
comp=Z,93nm,20.9s
DBIC Dimbokro 83.66 274 *eP* **P 01 39 34.2 -1.0**
comp=Z,19nm,1.1s,mb5.1
DBIC Dimbokro 83.66 274 P **P 01 39 34.2 -1.0**
comp=Z,8.5nm,0.5s,mb5.2,baz=38,slow=7.9,SNR=33
DBIC LR LR 02 17 10.1
comp=Z,93nm,20.9s,MS4.1,baz=285,slow=36
LIC Lamto 84.05 273 *eP* **P 01 39 35.2 -1.9**
comp=Z,33nm,0.9s,mb5.2
LIC Lamto 84.05 273 *eP* **P 01 39 35.2 -1.9**
comp=Z,17nm,0.9s,mb5.2
STKA Stephens Creek 86.47 133 *eP* **P 01 39 46.9 -1.8**
comp=Z,4.8nm,1.5s,mb4.5
STKA Stephens Creek 86.47 133 P **P 01 39 47.1 -1.6**
comp=Z,4.1nm,0.9s,mb4.6,baz=320,slow=9.2,SNR=3.6
SCHQ Schefferville 87.29 343 P **P 01 39 51.7 -0.9**
SCHQ Schefferville 87.29 343 P **P 01 39 51.7 -0.8**
comp=Z,4.1nm,0.9s,mb4.7,baz=48,slow=5.3,SNR=4.5
FFC Flin Flon 91.30 2 *eP* **P 01 40 10.6 -0.8**
FFC pmax pmax
comp=Z,12nm,1.2s,mb5.1
FFC Flin Flon 91.30 2 *eP* **P 01 40 10.6 -0.8**
comp=Z,12nm,1.2s,mb5.1
FFC *e*pP pP 01 40 14.8 -1.4
EDM Edmonton 91.86 9 *eP* **P 01 40 14.6 +0.6**
TXAR Lajitas Array 116.52 5 PKP PKPdf 01 45 49.1 -1.2
comp=Z,0.2nm,0.5s,baz=236,slow=1.1,SNR=6.8
SNAA Sanae 120.52 201 *e*PKPdf PKPdf 01 45 55.0 -1.5
SNAA *e* 01 45 58.2
SNAA *e* 01 46 04.4
SNAA *e* 01 46 07.4
SNAA Sanae 120.52 201 PKIKP PKPdf 01 45 55.3 -1.2
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 120.52 201 PKP PKPdf 01 45 55.3 -1.3
comp=Z,0.7nm,0.8s,baz=70,slow=5.4,SNR=5.9
VNDA Vanda 121.03 166 PKIKP PKPdf 01 45 55.0 -2.4
VNDA pmax pmax
comp=Z,1.0nm,0.9s
VNDA Vanda 121.03 166 PKP PKPdf 01 45 55.0 -2.4
comp=Z,1.0nm,0.9s,baz=306,slow=3.8,SNR=5.3
VNA2 Neumayer--Watz 121.75 203 *e*PKPdf PKPdf 01 45 57.8 -1.1
baz=17,slow=2.6
VNA2 *e* 01 46 01.8
VNA2 *e* 01 46 07.8
VNA2 *e* 01 46 10.8
VNA3 Neumayer Olymp 122.54 203 *e*PKPdf PKPdf 01 45 59.0 -1.4
VNA3 *e* 01 46 02.9
VNA3 *e* 01 46 09.2
VNA3 *e* 01 46 11.9
QSPA South Pole Qui 124.06 180 PKP PKPdf 01 46 01.6 -1.5
comp=Z,7.5nm,1.1s,baz=281,slow=2.5,SNR=12
CPUP Villa Florida 144.15 272 PKhKP 01 46 37.8
comp=Z,5.0nm,0.7s,baz=48,slow=4.6,SNR=12
LPAZ La Paz 147.74 296 PKP2 PKPbc 01 46 48.9 -2.4
LPAZ pmax pmax
comp=Z,1.0nm,0.4s
LPAZ La Paz 147.74 296 PKPbc PKPbc 01 46 48.9 -2.4
comp=Z,1.3nm,0.4s,baz=12,slow=4.7,SNR=9.4

IDC ***06*** *01:28:56.2±0.7,3394N×8166E,h0km,mb4.3/17, mb1 4.5/19,mb1mx4.4/24,mbtmp4.3/19,ML3.6/2, Error ellipse: s-maj=21.9km s-min=15.2km az=41.0*
ISCJB ***06*** *01:28:56.9±1.8,3413N±006×8180E±004,h10km±11km, mb4.7/80,MS3.9/3,Error ellipse: s-maj=9.8km s-min=5.8km az=15.3*
LDG ***06*** *01:28:57.2±0.1,3423N×8159E,h10km,Mb4.9/37,Ms3.5/1, Error ellipse: s-maj=5.5km s-min=3.6km az=76.0*
NEIC ***06*** *01:28:58.6±0.3,3407N×8189E,mb4.9/55,Error ellipse: s-maj=7.8km s-min=5.5km az=33.0*
MOS ***06*** *01:29:00.1±0.9,3415N×8184E,h33km,mb4.9/55,Error ellipse: s-maj=11.8km s-min=4.6km az=126.9*
BJI ***06*** *01:29:04.3,3457N×8251E,h14km,mB4.6,mb4.4,Ms4.3, Msz4.2*
ISC 06 01:29:02.5±1.9,3417N±006×8186E±005,h35km±13km, h16km±.9km:pP-P,n235,σ0:93/232,mb4.7/80,MS3.9/3, 11C-41D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAK	**Ala-Archa**	**10.23**	**328**	P	**Pn**	**01 31 28.0**	**+1.3**
AAK				pmax	pmax		
comp=Z,1.0nm,0.3s							
AAK	**Ala-Archa**	**10.23**	**328**	Pn	**Pn**	**01 31 28.0**	**+1.3**
AAK	**Ala-Archa**	**10.23**	**328**	Pn	**Pn**	**01 31 28.0**	**+1.3**
comp=Z,0.5nm,0.3s,baz=156,slow=10.0,SNR=2.8							
KBL	**Kabul**	**10.60**	**276**	*e*Pn	**Pn**	**01 31 32.6**	**+0.8**
MK31	**Makanchi Array**	**12.62**	**1**	*e*P	**Pn**	**01 31 58.3**	**-1.0**
MKAR	**Makanchi Array**	**12.62**	**1**	P	**Pn**	**01 31 58.9**	**-0.4**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
MKAR	**Makanchi Array**	**12.62**	**1**	Pn	**Pn**	**01 31 58.9**	**-0.4**
comp=Z,1.1nm,0.3s,baz=183,slow=13,SNR=11							
KURK	**Kurchatov**	**16.70**	**353**	⇓*e*P	**Pn**	**01 32 54.3**	**+0.7**
KURK	**Kurchatov**	**16.70**	**353**	*e*Pn	**Pn**	**01 32 49.8**	**-3.8**
comp=Z,32nm,1.0s							
LZH	**Lanzhou**	**18.08**	**78**	*e*P	**Pn**	**01 33 08.8**	**-2.0**
LZH				AP	pP	01 33 12.2	-7.9
LZH				XP	sP	01 33 15.8	-8.8
LZH				PP		01 33 23.6	
LZH				SS		01 36 46.1	
LZH				AMB	AMB		
comp=Z,36nm,1.4s							
LZH				AMB	AMB		
comp=Z,156nm,6.4s							
LZH				LR	LR		
comp=N,529nm,10.2s							
LZH				LR	LR		
comp=Z,960nm,11.2s							
ZAL	**Zalesovo**	**19.87**	**5**	P	**Pn**	**01 33 31.1**	**-1.1**
ZAA0	**Zalesovo Array**	**19.89**	**5**	*e*P	**Pn**	**01 33 30.3**	**-2.1**
ZALV	**Zalesovo Beam**	**19.89**	**5**	P	**Pn**	**01 33 31.1**	**-1.3**
comp=Z,4.0nm,0.8s,baz=195,slow=10,SNR=3.7							
KMI	**Kunming**	**20.23**	**111**	P	**P**	**01 33 34.8**	**+0.2**
KMI				S	**S**	**01 37 17.2**	**-2.6**
KMI				AMB	AMB		
comp=Z,15nm,0.9s							
KMI				LR	LR		
comp=N,243nm,10.7s,MS3.9							
KMI				LR	LR		
comp=E,216nm,13.1s,MS3.9							
KMI				LR	LR		
comp=Z,283nm,11.9s,MS3.8							
BVAR	**Borovoye Array**	**20.55**	**340**	P	**P**	**01 33 38.5**	**+0.7**
BVAR				pmax	pmax		
comp=Z,24nm,0.8s							
BVAR	**Borovoye Array**	**20.55**	**340**	P	**P**	**01 33 38.5**	**+0.7**
comp=Z,24nm,0.8s,baz=140,slow=9.5,SNR=17							
BRVK	**Borovoye**	**20.61**	**340**	*e*P	**P**	**01 33 38.4**	**0.0**
CHTO	**Chiang Mai**	**21.58**	**131**	*e*P	**P**	**01 33 48.9**	**-0.2**
CHTO				pmax	pmax		
comp=Z,18nm,0.9s,mb4.5							
CHTO	**Chiang Mai**	**21.58**	**131**	*e*P	**P**	**01 33 48.9**	**-0.2**
comp=Z,18nm,0.9s,mb4.5							
XAN	**Xi'an**	**22.39**	**83**	P	**P**	**01 33 58.8**	**+1.1**
XAN				AP		01 34 06.0	
XAN				XP	sP	01 34 09.3	-2.1
XAN				AMB	AMB		
comp=Z,18nm,1.0s,mb4.5							
GYA	**Guiyang**	**22.71**	**103**	P	**P**	**01 34 03.1**	**+1.9**
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.3							
ULN	**Ulaanbaatar**	**23.29**	**46**	*c iP*	**P**	**01 34 10.1**	**+3.0**
AKTK	**Aktyubinsk**	**23.83**	**320**	P	**P**	**01 34 11.4**	**-0.6**
AKTO	**Aktyubinsk**	**23.83**	**320**	P	**P**	**01 34 11.4**	**-0.7**
AKTO				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.0							
AKTO	**Aktyubinsk**	**23.83**	**320**	P	**P**	**01 34 11.4**	**-0.7**
comp=Z,6.4nm,0.9s,mb4.0,baz=103,slow=12,SNR=3.7							
TIY	**Taiyuan**	**24.95**	**73**	P	**P**	**01 34 22.8**	**+0.3**
TIY				S	**S**	**01 38 45.4**	**+1.7**
TIY				LR	LR		
comp=N,340nm,7.6s							
TIY				LR	LR		
comp=E,583nm,11.7s							
TIY				LR	LR		
comp=Z,613nm,8.0s							
SVE	**Sverdlovsk**	**26.89**	**334**	*e*P	**P**	**01 34 43.8**	**+4.0**
KULM	**Kulim**	**33.61**	**145**	*e*P	**P**	**01 35 35.9**	**-3.7**
SOC	**Sochi**	**33.82**	**299**	*e*P	**P**	**01 35 43.2**	**+2.0**
SOC				*e*PPP		01 37 09.4	
SOC				*e*S	**S**	**01 41 08.3**	**+5.5**
SOC				*e*SS	SS	01 43 04.1	-25
SOC				*e*SSS		01 43 38.9	
SOC				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.6							
MALT	**Malatya**	**35.03**	**290**	*e*P	**P**	**01 35 53.2**	**+1.4**
MALT				pmax	pmax		
comp=Z,4.0nm,1.1s,mb4.3							
MALT	**Malatya**	**35.03**	**290**	*e*P	**P**	**01 35 53.2**	**+1.4**
comp=Z,3.8nm,1.1s,mb4.2							
KSRS	**Korea Array**	**37.22**	**71**	P	**P**	**01 36 12.4**	**+2.0**
comp=Z,2.1nm,0.8s,mb4.0,baz=275,slow=8.2,SNR=6.3							
OBN	**Obninsk**	**37.56**	**318**	⇑*e*P	**P**	**01 36 13.3**	**+0.2**
OBN				*e*		01 37 40.9	
OBN				*e*S	**S**	**01 42 00.3**	**+0.5**
OBN				pmax	pmax		
comp=Z,26nm,1.3s,mb4.8							
OBN				MLR	MLR		
comp=Z,100nm,15.0s,MS3.7							
SIM	**Simferopol'**	**37.86**	**301**	*e*P	**P**	**01 36 13.9**	**-1.9**
SIM				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
EIL	**Elat**	**39.80**	**277**	P	**P**	**01 36 33.4**	**+1.2**
comp=Z,6.8nm,1.0s,mb4.3,baz=54,slow=8.7,SNR=3.4							
AKASG	**Malin Array Be**	**41.28**	**310**	P	**P**	**01 36 43.9**	**-0.3**
AKASG						01 38 20.8	
AKASG				pmax	pmax		
comp=Z,2.0nm,0.5s							
AKASG				pmax	pmax		
comp=Z,2.0nm,0.8s							
AKASG	**Malin Array Be**	**41.28**	**310**	P	**P**	**01 36 43.9**	**-0.4**
comp=Z,1.6nm,0.5s,mb3.9,baz=79,slow=8.1,SNR=9.8							
AKASG				PP	PP	01 38 20.8	+1.0
comp=Z,1.6nm,0.8s,baz=81,slow=9.7,SNR=4.4							
KIEV	**Kiev**	**41.30**	**310**	*e*P	**P**	**01 36 43.5**	**-0.8**
KIEV				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.1							
KIEV	**Kiev**	**41.30**	**310**	*e*P	**P**	**01 36 43.5**	**-0.8**
comp=Z,3.6nm,0.8s,mb4.0							
KKM	**Kota Kinabalu**	**42.34**	**124**	P	**P**	**01 36 57.0**	**+3.7**
JOF	**Joensuu**	**42.42**	**328**	*ep*	**P**	**01 36 52.9**	**-0.4**
comp=Z,2.1nm,0.4s,mb4.1							
JOF	**Joensuu**	**42.42**	**328**	*e*P	**P**	**01 36 52.9**	**-0.4**
JOF				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.1							
VSU	**Vasula**	**43.55**	**321**	⇑*e*P	**P**	**01 37 02.8**	**+0.3**
FINES	**FINESS Array B**	**44.41**	**325**	P	**P**	**01 37 09.8**	**+0.4**
FINES				pmax	pmax		
comp=Z,2.0nm,0.6s							
FINES	**FINESS Array B**	**44.41**	**325**	P	**P**	**01 37 09.8**	**+0.4**
comp=Z,1.9nm,0.6s,mb4.0,baz=110,slow=9.3,SNR=5.5							
TIXI	**Tiksi**	**44.82**	**19**	*e*P	**P**	**01 37 12.9**	**+0.4**
TIXI				pmax	pmax		
comp=Z,12nm,1.6s,mb4.5							
TIXI	**Tiksi**	**44.82**	**19**	*e*P	**P**	**01 37 11.9**	**-0.6**
comp=Z,2.2nm,0.6s,mb4.1							
MAJO	**Matsushiro**	**45.46**	**70**	*e*P	**P**	**01 37 19.2**	**+1.1**
MAJO				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.5							
MAJO	**Matsushiro**	**45.46**	**70**	*e*P	**P**	**01 37 19.2**	**+1.1**
comp=Z,7.4nm,0.9s,mb4.5							
MJAR	**Matsushiro Arr**	**45.46**	**70**	P	**P**	**01 37 20.2**	**+2.1**
MJAR				pmax	pmax		
comp=Z,6.0nm,0.9s							
MJAR	**Matsushiro Arr**	**45.46**	**70**	P	**P**	**01 37 20.1**	**+2.1**
comp=Z,6.1nm,0.9s,mb4.4,baz=286,slow=9.1,SNR=10							
KWP	**Kalwaria**	**45.48**	**308**	*e*P	**P**	**01 37 15.4**	**-2.6**
KWP				pmax	pmax		
comp=Z,16nm,1.1s,mb4.8							
KWP	**Kalwaria**	**45.48**	**308**	*e*P	**P**	**01 37 15.4**	**-2.7**
comp=Z,16nm,1.1s,mb4.8							
KOLS	**Kolonicke sedl**	**45.81**	**308**	*e*P	**P**	**01 37 19.6**	**-1.1**
CRVS	**Cervenica-Dubn**	**46.34**	**308**	*e*P	**P**	**01 37 26.5**	**+1.6**
STHS	**Stebnicka Huta**	**46.45**	**308**	*e*P	**P**	**01 37 25.8**	**+0.1**
STHS				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.5							
STHS	**Stebnicka Huta**	**46.45**	**308**	*e*P	**P**	**01 37 25.8**	**+0.1**
comp=Z,3.9nm,0.7s,mb4.5							
ARCES	**ARCESS Array B**	**46.77**	**336**	P	**P**	**01 37 27.9**	**0.0**
ARCES						01 39 00.5	
ARCES				pmax	pmax		
comp=Z,4.0nm,0.7s							
ARCES				pmax	pmax		
comp=Z,2.0nm,0.8s							
ARCES	**ARCESS Array B**	**46.77**	**336**	P	**P**	**01 37 27.9**	**-0.1**
comp=Z,4.4nm,0.7s,mb4.5,baz=103,slow=8.0,SNR=7.9							
ARCES				PcP	PcP	01 39 00.5	-0.2
comp=Z,2.3nm,0.8s,baz=101,slow=4.8,SNR=3.6							
NIE	**Niedzica**	**47.05**	**308**	*e*P	**P**	**01 37 32.1**	**+1.7**
OJC	**Ojcow**	**47.31**	**309**	*e*P	**P**	**01 37 32.9**	**+0.5**
VYHS	**Vyhne**	**48.12**	**307**	*e*P	**P**	**01 37 39.5**	**+0.8**
VYHS				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.5							
VYHS	**Vyhne**	**48.12**	**307**	*e*P	**P**	**01 37 39.5**	**+0.8**
comp=Z,4.6nm,1.1s,mb4.4							
OKC	**Ostrava-Krasne**	**48.41**	**309**	*e*P	**P**	**01 37 41.4**	**+0.5**
MORC	**Moravsky Berou**	**48.81**	**309**	*e*P	**P**	**01 37 44.6**	**+0.6**
MORC				pmax	pmax		
comp=Z,11nm,1.3s,mb4.7							
MORC	**Moravsky Berou**	**48.81**	**309**	*e*P	**P**	**01 37 44.6**	**+0.6**
comp=Z,11nm,1.3s,mb4.7							
MODS	**Modra-Piesok**	**49.16**	**307**	*e*P	**P**	**01 37 47.9**	**+1.2**
ZST	**Bratislava**	**49.30**	**307**	*e*P	**P**	**01 37 48.7**	**+0.9**
ZST				pmax	pmax		
comp=Z,8.0nm,1.3s,mb4.6							
ZST	**Bratislava**	**49.30**	**307**	*e*P	**P**	**01 37 48.7**	**+0.9**
comp=Z,7.5nm,1.3s,mb4.6							
DPC	**Dobruska-Polom**	**49.52**	**310**	*e*P	**P**	**01 37 50.4**	**+1.0**
DPC				*e*pP	pP	01 37 55.8	-4.1
UPC	**Upice**	**49.69**	**310**	*e*P	**P**	**01 37 51.9**	**+1.1**
CONA	**Conrad Observa**	**50.17**	**307**	⇑*i*P	**P**	**01 37 55.0**	**+0.6**
comp=Z,19nm,1.0s,mb5.1							
TREC	**Trest**	**50.20**	**309**	*e*P	**P**	**01 37 55.6**	**+1.0**
ARSA	**Arzberg**	**50.51**	**306**	⇑*i*P	**P**	**01 37 57.3**	**+0.3**
comp=Z,9.9nm,1.1s,mb4.7							
PVCC	**Panska Ves**	**50.60**	**310**	*e*P	**P**	**01 37 58.5**	**+0.8**
PRU	**Pruhonice**	**50.70**	**310**	*e*P	**P**	**01 37 59.1**	**+0.7**
PRU				*e*pP	pP	01 38 04.1	-4.8
PERS	**Pernice**	**50.90**	**305**	*i* P	**P**	**01 38 00.8**	**+0.9**
PERS				*i*		01 38 04.4	
BRG	**Berggiesshubel**	**50.95**	**311**	*e*P	**P**	**01 38 00.8**	**+0.6**
BRG				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.6							
BRG	**Berggiesshubel**	**50.95**	**311**	*e*P	**P**	**01 38 00.8**	**+0.6**
comp=Z,11nm,0.8s,mb4.8							
BOJS	**Bojanci**	**51.03**	**304**	*i* P	**P**	**01 38 01.9**	**+0.9**
MOA	**Molln**	**51.24**	**307**	⇑*i*P	**P**	**01 38 02.7**	**+0.2**
comp=Z,11nm,0.8s,mb4.8,SNR=15							
OBKA	**Obir**	**51.30**	**305**	⇑*i*P	**P**	**01 38 04.2**	**+1.2**
comp=Z,18nm,1.1s,mb4.9							
OBKA	**Obir**	**51.30**	**305**	⇑*i*pP	**P**	**01 38 04.2**	**+1.2**
comp=Z,18nm,1.1s,mb4.9							
LJU	**Ljubljana**	**51.41**	**305**	*i* P	**P**	**01 38 04.7**	**+0.9**
LJU				*i*	pP	01 38 10.1	-4.2
SEY	**Seymchan**	**51.42**	**33**	⇑*e*P	**P**	**01 38 04.2**	**+0.6**
GEC2	**GERESS Array S**	**51.43**	**308**	*e*P	**P**	**01 38 04.3**	**+0.5**
GEC2	**GERESS Array S**	**51.43**	**308**	*e*PP	**P**	**01 38 04.4**	**+0.5**
GEC2	**GERESS Array S**	**51.43**	**308**	*e*PP	**P**	**01 38 04.4**	**+0.5**
GERES	**GERESS Array B**	**51.43**	**308**	P	**P**	**01 38 04.6**	**+0.7**
GERES				pmax	pmax		
comp=Z,6.0nm,0.8s							
GERES	**GERESS Array B**	**51.43**	**308**	P	**P**	**01 38 04.6**	**+0.7**
comp=Z,6.2nm,0.8s,mb4.6,baz=76,slow=7.0,SNR=26							
KHC	**Kasperske Hory**	**51.46**	**309**	*e*P	**P**	**01 38 04.8**	**+0.7**
KHC				*e*pP	pP	01 38 10.1	-4.5
CLL	**Collm**	**51.47**	**312**	*i* P	**P**	**01 38 04.5**	**+0.4**
CLL				pmax	pmax		
comp=Z,19nm,1.7s,mb4.8							
CLL	**Collm**	**51.47**	**312**	*i* P	**P**	**01 38 04.5**	**+0.4**
comp=Z,19nm,1.7s,mb4.8							
CLL	**Collm**	**51.47**	**312**	*e*PP	**P**	**01 38 04.2**	**+0.1**
NB2	**NORSAR Subarra**	**51.53**	**324**	P	**P**	**01 38 03.6**	**-0.8**
comp=Z,6.2nm,1.1s,mb4.5,baz=89,slow=7.4							
NOA	**NORSAR Array B**	**51.53**	**324**	P	**P**	**01 38 04.2**	**-0.2**
NOA				pmax	pmax		
comp=Z,2.0nm,0.8s							
NOA	**NORSAR Array B**	**51.53**	**324**	P	**P**	**01 38 04.2**	**-0.3**
comp=Z,2.1nm,0.8s,mb4.2,baz=87,slow=7.4,SNR=7.3							
JAVS	**Javornik**	**51.76**	**305**	*i* P	**P**	**01 38 06.7**	**+0.3**
NKC	**Novy Kostel**	**51.99**	**310**	*e*P	**P**	**01 38 08.7**	**+0.6**
NKC				*e*pP	pP	01 38 13.4	-5.1
AQU	**L'Aquila**	**53.06**	**300**	*e*P	**P**	**01 38 16.7**	**+0.6**
AQU				pmax	pmax		
comp=Z,16nm,0.9s,mb5.0							
AQU	**L'Aquila**	**53.06**	**300**	*e*P	**P**	**01 38 16.6**	**+0.5**
comp=Z,16nm,0.9s,mb5.0							
WATA	**Walderalm**	**53.12**	**307**	⇓*i*P	**P**	**01 38 16.2**	**-0.2**
comp=Z,4.8nm,0.9s,mb4.4,SNR=8.2							
WATA	**Walderalm**	**53.12**	**307**	⇓*i*P	**P**	**01 38 16.2**	**-0.3**
WATA				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
SQTA	**Sankt Quirin**	**53.39**	**307**	⇓*i*P	**P**	**01 38 18.2**	**-0.2**
comp=Z,5.5nm,0.8s,mb4.5,SNR=13							
SQTA	**Sankt Quirin**	**53.39**	**307**	⇓*i*P	**P**	**01 38 18.2**	**-0.3**
SQTA				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.6							
MOTA	**Moosalm**	**53.44**	**307**	⇓*i*P	**P**	**01 38 18.4**	**-0.4**
comp=Z,11nm,0.9s,mb4.8,SNR=20							
MOTA	**Moosalm**	**53.44**	**307**	⇓*i*P	**P**	**01 38 18.4**	**-0.4**
MOTA				pmax	pmax		
comp=Z,11nm,0.9s,mb4.8							
RETA	**Reutte**	**53.63**	**307**	⇓*i*P	**P**	**01 38 20.2**	**0.0**
comp=Z,9.5nm,1.0s,mb4.7,SNR=5.9							
DAVA	**Damuels**	**54.26**	**307**	⇑*i*P	**P**	**01 38 23.5**	**-1.3**
comp=Z,24nm,1.0s,mb5.1							
CDF	**Champ du Feu**	**55.69**	**309**	⇓*i*P	**P**	**01 38 34.8**	**-0.3**
comp=Z,21nm,1.1s,mb4.8							
CDF	**Champ du Feu**	**55.69**	**309**	⇓*i*P	**P**	**01 38 34.8**	**-0.3**
CDF				pmax	pmax		
comp=Z,10.0nm,1.1s,mb4.8							
CDF	**Champ du Feu**	**55.69**	**309**	⇓*i*P	**P**	**01 38 34.8**	**-0.3**
comp=Z,10nm,1.1s,mb4.8							
HINF	**Hinteralfeld**	**56.11**	**308**	*e*P	**P**	**01 38 37.8**	**-0.3**
comp=Z,27nm,0.9s,mb5.0							
HINF	**Hinteralfeld**	**56.11**	**308**	*e*P	**P**	**01 38 37.8**	**-0.3**
HINF				pmax	pmax		
comp=Z,13nm,0.9s,mb5.0							
HINF	**Hinteralfeld**	**56.11**	**308**	*e*P	**P**	**01 38 37.8**	**-0.3**
comp=Z,13nm,0.9s,mb5.0							
PGF	**Pioggiola**	**56.14**	**302**	*e*P	**P**	**01 38 37.9**	**-0.5**
comp=Z,17nm,0.8s,mb4.8							
PGF	**Pioggiola**	**56.14**	**302**	*e*P	**P**	**01 38 37.9**	**-0.5**
PGF				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
PGF	**Pioggiola**	**56.14**	**302**	*e*P	**P**	**01 38 37.9**	**-0.5**
comp=Z,8.5nm,0.8s,mb4.8							
HAU	**Haudompre**	**56.39**	**309**	⇓*i*P	**P**	**01 38 39.8**	**-0.3**
comp=Z,20nm,0.9s,mb4.8							
HAU	**Haudompre**	**56.39**	**309**	⇓*i*P	**P**	**01 38 39.8**	**-0.3**
HAU				pmax	pmax		
comp=Z,10.0nm,0.9s,mb4.8							
HAU	**Haudompre**	**56.39**	**309**	⇓*i*P	**P**	**01 38 39.8**	**-0.3**
comp=Z,9.8nm,0.9s,mb4.8							
BILL	**Bilibino**	**56.75**	**27**	⇑*e*P	**P**	**01 38 46.2**	**+3.9**
BILL				*e*		01 40 44.1	
BILL				*e*S	**S**	**01 46 36.1**	**+3.7**
BILL				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
BILL				MLR	MLR		
comp=Z,100nm,15.0s,MS4.0							
GIVF	**Givet**	**56.80**	**311**	*e*P	**P**	**01 38 43.2**	**+0.2**
LPG	**La Plagne**	**56.82**	**306**	⇓*i*P	**P**	**01 38 43.7**	**+0.5**
comp=Z,54nm,0.8s,mb5.3							
LPG	**La Plagne**	**56.82**	**306**	⇓*i*P	**P**	**01 38 43.7**	**+0.5**
LPG				pmax	pmax		
comp=Z,27nm,0.8s,mb5.3							
LPG	**La Plagne**	**56.82**	**306**	⇓*i*P	**P**	**01 38 43.7**	**+0.5**
comp=Z,27nm,0.8s,mb5.3							
LPL	**La Plagne**	**56.83**	**306**	⇓*i*P	**P**	**01 38 43.7**	**+0.4**
comp=Z,73nm,0.9s,mb5.4							
LPL	**La Plagne**	**56.83**	**306**	⇓*i*P	**P**	**01 38 43.7**	**+0.4**
LPL				pmax	pmax		
comp=Z,37nm,0.9s,mb5.4							
LPL	**La Plagne**	**56.83**	**306**	⇓*i*P	**P**	**01 38 43.7**	**+0.4**
comp=Z,36nm,0.9s,mb5.4							
SBF	**Sospel**	**56.83**	**304**	*e*P	**P**	**01 38 43.3**	**-0.1**
comp=Z,76nm,0.9s,mb5.4							
SBF	**Sospel**	**56.83**	**304**	*e*P	**P**	**01 38 43.3**	**-0.1**
SBF				pmax	pmax		
comp=Z,38nm,0.9s,mb5.4							
SBF	**Sospel**	**56.83**	**304**	*e*P	**P**	**01 38 43.3**	**-0.1**
comp=Z,38nm,0.9s,mb5.4							
CABF	**La Chapelle**	**56.94**	**307**	*e*P	**P**	**01 38 43.8**	**-0.3**
comp=Z,22nm,1.0s,mb4.8							
CABF	**La

SMF pmax pmax
comp=Z,15nm,0.9s,mb5.0
SMF Signal de Mont 58.41 308 *i*P **P 01 38 53.8 -0.6**
comp=Z,15nm,0.9s,mb5.0
VIVF Saint-Julien-I 58.41 305 *e*P **P 01 38 54.1 -0.4**
comp=Z,18nm,1.0s,mb4.7
VIVF Saint-Julien-I 58.41 305 *e*P **P 01 38 54.1 -0.4**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VIVF Saint-Julien-I 58.41 305 *e*P **P 01 38 54.1 -0.4**
comp=Z,8.8nm,1.0s,mb4.7
SSF Saint Saulge 58.51 308 ⇓*i*P **P 01 38 54.4 -0.6**
comp=Z,18nm,0.8s,mb4.8
SSF Saint Saulge 58.51 308 ⇓*i*P **P 01 38 54.4 -0.6**
SSF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
SSF Saint Saulge 58.51 308 ⇓*i*P **P 01 38 54.4 -0.6**
comp=Z,8.9nm,0.8s,mb4.8
AVF Avril sur Loir 58.69 308 *e*P **P 01 38 55.7 -0.6**
comp=Z,26nm,1.1s,mb4.9
AVF Avril sur Loir 58.69 308 *e*P **P 01 38 55.7 -0.6**
AVF pmax pmax
comp=Z,13nm,1.1s,mb4.9
AVF Avril sur Loir 58.69 308 *e*P **P 01 38 55.7 -0.6**
comp=Z,13nm,1.1s,mb4.9
BGF Bois d'Agland 59.09 308 *e*P **P 01 38 58.5 -0.6**
LASF Ste Croix 59.22 305 *e*P **P 01 39 00.0 -0.1**
comp=Z,20nm,1.0s,mb4.8
TCF Toulx Ste Croi 59.60 308 *e*P **P 01 39 02.4 -0.2**
comp=Z,28nm,0.9s,mb5.0
TCF Toulx Ste Croi 59.60 308 *e*P **P 01 39 02.4 -0.2**
TCF pmax pmax
comp=Z,14nm,0.9s,mb5.0
TCF Toulx Ste Croi 59.60 308 *e*P **P 01 39 02.4 -0.2**
comp=Z,14nm,0.9s,mb5.0
CAF Calviac 60.14 306 *e*P **P 01 39 06.4 0.0**
comp=Z,24nm,1.2s,mb4.8
CAF Calviac 60.14 306 *e*P **P 01 39 06.4 0.0**
CAF pmax pmax
comp=Z,12nm,1.2s,mb4.8
CAF Calviac 60.14 306 *e*P **P 01 39 06.4 0.0**
comp=Z,12nm,1.2s,mb4.8
LDF La Druitiere 60.34 311 ⇓*i*P **P 01 39 07.0 -0.7**
comp=Z,40nm,1.2s,mb5.0
LDF La Druitiere 60.34 311 ⇓*i*P **P 01 39 07.0 -0.7**
LDF pmax pmax
comp=Z,20nm,1.2s,mb5.0
LDF La Druitiere 60.34 311 ⇓*i*P **P 01 39 07.0 -0.7**
comp=Z,20nm,1.2s,mb5.0
RJF Les Rejaudoux 60.38 307 *e*P **P 01 39 08.1 +0.1**
comp=Z,17nm,1.0s,mb4.7
RJF Les Rejaudoux 60.38 307 *e*P **P 01 39 08.1 +0.1**
RJF pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
RJF Les Rejaudoux 60.38 307 *e*P **P 01 39 08.1 +0.1**
comp=Z,8.5nm,1.0s,mb4.7
FLN La Foliniere 60.51 311 *e*P **P 01 39 08.0 -0.8**
comp=Z,8.2nm,0.8s,mb4.6
FLN La Foliniere 60.51 311 *e*P **P 01 39 08.0 -0.8**
FLN pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
FLN La Foliniere 60.51 311 *e*P **P 01 39 08.0 -0.8**
comp=Z,4.1nm,0.8s,mb4.6
MTLF Montolieu 60.59 305 *e*P **P 01 39 09.2 -0.3**
comp=Z,16nm,1.0s,mb4.8
MTLF Montolieu 60.59 305 *e*P **P 01 39 09.2 -0.3**
MTLF pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
MTLF Montolieu 60.59 305 *e*P **P 01 39 09.2 -0.3**
comp=Z,8.1nm,1.0s,mb4.8
GRR Gorron 60.87 311 *e*P **P 01 39 10.4 -0.9**
comp=Z,28nm,1.0s,mb5.1
GRR Gorron 60.87 311 *e*P **P 01 39 10.4 -0.9**
GRR pmax pmax
comp=Z,14nm,1.0s,mb5.0
GRR Gorron 60.87 311 *e*P **P 01 39 10.4 -0.9**
comp=Z,14nm,1.0s,mb5.0
LFF La Frestale 61.02 307 *e*P **P 01 39 12.4 0.0**
MFF Saint Martin d 61.02 309 ⇓*i*P **P 01 39 11.5 -0.9**
comp=Z,24nm,1.2s,mb4.9
MFF Saint Martin d 61.02 309 ⇓*i*P **P 01 39 11.5 -0.9**
MFF pmax pmax
comp=Z,12nm,1.3s,mb4.9
MFF Saint Martin d 61.02 309 ⇓*i*P **P 01 39 11.5 -0.9**
comp=Z,12nm,1.3s,mb4.9
SGMF Saint Gilles 61.98 311 ⇓*i*P **P 01 39 18.4 -0.4**
comp=Z,53nm,1.4s,mb5.2
SGMF Saint Gilles 61.98 311 ⇓*i*P **P 01 39 18.4 -0.4**
SGMF pmax pmax
comp=Z,27nm,1.4s,mb5.2
SGMF Saint Gilles 61.98 311 ⇓*i*P **P 01 39 18.4 -0.4**
comp=Z,27nm,1.4s,mb5.2
ROSF Rostrenen 62.40 311 ⇓*i*P **P 01 39 21.1 -0.5**
comp=Z,30nm,1.1s,mb5.0
ROSF Rostrenen 62.40 311 ⇓*i*P **P 01 39 21.1 -0.5**
ROSF pmax pmax
comp=Z,15nm,1.1s,mb5.0
ROSF Rostrenen 62.40 311 ⇓*i*P **P 01 39 21.1 -0.5**
comp=Z,15nm,1.1s,mb5.0
QUIF Quistinic 62.48 311 *e*P **P 01 39 21.3 -0.9**
comp=Z,70nm,1.5s,mb5.3
QUIF Quistinic 62.48 311 *e*P **P 01 39 21.3 -0.9**
QUIF pmax pmax
comp=Z,35nm,1.5s,mb5.3
QUIF Quistinic 62.48 311 *e*P **P 01 39 21.3 -0.9**
comp=Z,35nm,1.5s,mb5.3
ETSF Etsaut 62.64 305 ⇓*i*P **P 01 39 23.1 -0.2**
comp=Z,22nm,1.2s,mb4.9
ETSF Etsaut 62.64 305 ⇓*i*P **P 01 39 23.1 -0.2**
ETSF pmax pmax
comp=Z,11nm,1.2s,mb4.9
ETSF Etsaut 62.64 305 ⇓*i*P **P 01 39 23.1 -0.2**
comp=Z,11nm,1.2s,mb4.9
ESDC Sonseca Array 66.29 303 P **P 01 39 45.9 -1.3**
comp=Z,0.8nm,0.7s,mb3.9,baz=52,slow=5.7,SNR=4.3
WRA Warramunga Arr 73.41 129 P **P 01 40 29.7 -1.5**
comp=Z,0.2nm,0.4s,baz=322,slow=5.7,SNR=4.8
WRAB Tennant Creek 73.41 129 *i*P **P 01 40 34.7 +3.6**
WB2 Warramunga Arr 73.42 129 *e*P **P 01 40 30.4 -0.8**
COLA College 73.94 20 *e*P **P 01 40 33.3 -0.4**
COLA pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
COLA College 73.94 20 *e*P **P 01 40 33.3 -0.4**
comp=Z,6.0nm,0.9s,mb4.5
COLA *e*pP pP 01 40 37.5 -7.0
INK Inuvik 74.48 13 *e*P **P 01 40 36.1 -0.6**
INK *e*pP pP 01 40 40.0 -7.7
ASAR Alice Springs 75.85 132 P **P 01 40 44.5 -0.7**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 75.85 132 P **P 01 40 44.5 -0.7**
comp=Z,1.5nm,0.7s,mb4.0,baz=317,slow=6.3,SNR=4.5
BOSA Boshof 82.25 228 P **P 01 41 19.0 -1.1**
BOSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
BOSA Boshof 82.25 228 P **P 01 41 19.0 -1.2**
comp=Z,3.5nm,0.6s,mb4.5,baz=51,slow=3.3,SNR=7.4
YKA Yellowknife Ar 82.77 8 P **P 01 41 21.4 -1.0**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 82.77 8 P **P 01 41 21.4 -1.0**
comp=Z,3.1nm,0.7s,mb4.5,baz=343,slow=5.0,SNR=7.6
DBIC Dimbokro 83.59 274 P **P 01 41 26.6 -0.9**
DBIC pmax pmax
comp=Z,9.0nm,0.8s
DBIC Dimbokro 83.59 274 P **P 01 41 26.6 -0.9**
comp=Z,8.7nm,0.8s,mb4.9,baz=33,slow=7.3,SNR=7.0
LIC Lamto 83.97 273 *e*P **P 01 41 29.0 -0.5**
comp=Z,21nm,1.0s,mb4.9
LIC Lamto 83.97 273 *e*P **P 01 41 29.0 -0.5**
comp=Z,10nm,1.0s,mb4.9
SCHQ Schefferville 87.36 342 P **P 01 41 44.3 -1.3**
comp=Z,3.3nm,0.8s,mb4.6,baz=121,slow=1.5,SNR=3.6
FFC Flin Flon 91.41 2 *e*P **P 01 42 04.0 -0.6**
FFC pmax pmax
comp=Z,7.0nm,1.4s,mb4.8
FFC Flin Flon 91.41 2 *e*P **P 01 42 04.0 -0.6**
comp=Z,7.0nm,1.4s,mb4.8
FFC *e*pP pP 01 42 07.8 -7.9
VNA2 Neumayer--Watz 121.63 203 *e*PKPdf PKPdf 01 47 50.9 -0.4
baz=33,slow=4.1
VNA2 *e* 01 47 55.3
VNA2 *e* 01 48 02.5
VNA2 *e* 02 15 24.3
VNA3 Neumayer Olymp 122.42 203 *e*PKPdf PKPdf 01 47 52.5 -0.3
VNA3 *e* 01 47 56.6
VNA3 *e* 01 48 04.2
QSPA South Pole Qui 123.96 180 PKP PKPdf 01 47 54.7 -0.8
comp=Z,2.3nm,0.8s,baz=58,slow=0.8,SNR=4.7
CPUP Villa Florida 144.08 271 PKIKP PKPdf 01 48 31.1 -3.5
CPUP pmax pmax
comp=Z,4.0nm,0.8s
CPUP Villa Florida 144.08 271 PKP PKPdf 01 48 31.1 -3.5
comp=Z,3.5nm,0.8s,baz=19,slow=2.5,SNR=6.1
LPAZ La Paz 147.71 296 PKIKP PKPdf 01 48 40.9 -0.1
LPAZ pmax pmax
comp=Z,2.0nm,0.7s
LPAZ La Paz 147.71 296 PKPbc PKPdf 01 48 40.9 -0.1
comp=Z,1.7nm,0.7s,baz=69,slow=8.5,SNR=3.6
TRQA Tornquist 150.65 252 *e*PKPbc PKPbc 01 48 50.2 -0.4

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*NEIC **06** 01:34:25.3±9.7,2109S×174.13W,h35km,mb4.4/4,Error ellipse: s-maj=185.0km s-min=26.0km az=77.0*
*IDC **06** 01:34:56.1±17.0,2173S×176.42W,h171km±143km, mb3.8/4,mb1 4.0/5,mb1mx3.6/14,mbtmp3.8/5,ML4.8/1, Error ellipse: s-maj=89.2km s-min=41.6km az=27.0*
ISC 06 01:34:36.9±4.6,216S±01×1757W±06,h35km,n15, σ0975/13,mb4.3/7,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.89**	**194**	*e*Pn	**Pn**	**01 36 29.8**	**+0.5**
	273nm,0.8s						
RAO				*e*Sn	**Sn**	01 37 57.0	-0.3
URZ	**Urewera**	**17.74**	**199**	P	**Pn**	**01 38 46.7**	**+5.7**
	2.9nm,0.3s,baz=277,slow=6.5,SNR=17						
CTA	**Charters Tower**	**35.52**	**265**	P	**P**	**01 41 31.9**	**+1.2**
	4.5nm,0.4s,mb4.7,baz=96,slow=9.2,SNR=7.0						
CTAO	**Charters Tower**	**35.52**	**265**	*e*P	**P**	**01 41 31.5**	**+0.8**
	3.7nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**39.27**	**246**	*e*P	**P**	**01 42 06.2**	**+3.9**
STKA	**Stephens Creek**	**39.27**	**246**	P	**P**	**01 42 06.5**	**+4.2**
	1.1nm,0.4s,mb4.0,baz=103,slow=8.9,SNR=6.4						
ASAR	**Alice Springs**	**46.36**	**257**	P	**P**	**01 43 00.8**	**+0.9**
	2.8nm,0.7s,mb4.3,baz=90,slow=8.2,SNR=35						
ASAR				PcP	PcP	01 44 34.3	-0.4
	0.4nm,0.6s,baz=105,slow=3.9,SNR=5.6						
WRAB	**Tennant Creek**	**46.56**	**263**	*e*P	**P**	**01 43 01.0**	**-0.6**
	1.0nm,0.3s,mb4.2						
WRA	**Warramunga Arr**	**46.57**	**263**	P	**P**	**01 43 01.3**	**-0.3**
	1.4nm,0.2s,mb4.5,baz=96,slow=7.9,SNR=29						
WRA				PcP	PcP	01 44 34.8	-0.7
	0.4nm,0.7s,baz=92,slow=4.0,SNR=4.4						
FITZ	**Fitzroy Crossi**	**55.00**	**263**	*e*P	**P**	**01 44 04.8**	**-0.3**
	1.1nm,0.3s,mb4.4						
FITZ				PP	PP	01 46 08.4	-0.1
FITZ	**Fitzroy Crossi**	**55.00**	**263**	P	**P**	**01 44 04.5**	**-0.6**
	0.5nm,0.3s,mb4.0,baz=138,slow=17,SNR=7.5						
MBWA	**Marble Bar**	**59.70**	**257**	*e*P	**P**	**01 44 37.4**	**-0.9**
	8.3nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**121.27**	**320**	PKP	PKPdf	01 53 27.7	+1.8
	0.4nm,0.3s,baz=111,slow=4.2,SNR=2.9						
AKASG	**Malin Array Be**	**144.97**	**332**	PKP	PKPdf	01 54 10.3	+0.1
	1.0nm,0.3s,baz=44,slow=4.2,SNR=18						
GERES	**GERESS Array B**	**151.77**	**347**	PKPbc	PKPbc	01 54 32.0	+4.3
	0.2nm,0.6s,baz=44,slow=3.0,SNR=4.6						

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*IDC **06** 01:37:18.7±2.6,3388N×8144E,h0km,mb3.3/5,mb1 3.6/6, mb1mx3.4/22,mbtmp3.4/6,ML3.1/1,MS3.8/1,Ms1 3.8/1, ms1mx2.9/23,Error ellipse: s-maj=124.2km s-min=22.4km az=70.0*
*ISCJB **06** 01:37:21.7±0.9,340N±0.1×813E±02,h33km,mb3.3/3, Error ellipse: s-maj=20.9km s-min=16.5km az=20.1*
ISC 06 01:37:23.9±0.9,339N±01×813E±02,h35km,n8,σ1$10/7, mb3.3/3,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PONG	**Pong**	**4.94**	**248**	*e*P	**Pn**	**01 38 35.5**	**-0.2**
MKAR	**Makanchi Array**	**12.87**	**3**	Pn	**Pn**	**01 40 21.9**	**-2.3**
	0.1nm,0.3s,baz=186,slow=14,SNR=6.2						
ZALV	**Zalesovo Beam**	**20.16**	**6**	P	**P**	**01 41 56.9**	**+1.9**
	0.2nm,0.3s,baz=189,slow=7.3,SNR=2.5						
BVAR	**Borovoye Array**	**20.63**	**341**	P	**P**	**01 42 00.7**	**+0.6**
	1.3nm,0.7s,baz=138,slow=11,SNR=6.4						
EIL	**Elat**	**39.40**	**277**	LR	LR	02 04 09.6	
	comp=Z,123nm,18.5s,baz=288,slow=41						
WRA	**Warramunga Arr**	**73.59**	**128**	P	**P**	**01 48 53.3**	**-0.3**
	0.3nm,0.8s,mb3.3,baz=327,slow=6.0,SNR=2.4						
ASAR	**Alice Springs**	**76.01**	**131**	P	**P**	**01 49 07.9**	**+0.3**
	0.1nm,0.6s,mb3.0,baz=324,slow=5.2,SNR=3.2						
YKA	**Yellowknife Ar**	**83.06**	**7**	P	**P**	**01 49 44.9**	**-0.4**
	0.4nm,0.6s,mb3.6,baz=340,slow=5.3,SNR=6.2						

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*ISCJB **06** 01:49:08.8±1.2,4330N±004×4472E±007,h0km±8km, Error ellipse: s-maj=9.1km s-min=5.2km az=151.8*
*TIF **06** 01:49:10.8,4322N×4461E,h14km±1km*
*MOS **06** 01:49:10.4±1.1,4316N×4460E,h16km,mb3.7/1,Error ellipse: s-maj=15.1km s-min=10.6km az=25.8*
ISC 06 01:49:10.1±1.2,4329N±004×4470E±008,h9km±7km,n12, σ0976/22,1C,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMSR	**Komsomolskaya**	**0.31**	**286**	*e*Pg	**Pg**	**01 49 16.9**	**+0.7**
ARNR	**Ardon**	**0.32**	**253**	*e*Pg	**Pg**	**01 49 16.0**	**-0.4**
KORR	**Kora**	**0.50**	**247**	*e*Pg	**Pg**	**01 49 19.0**	**-0.8**
KORR				*e*Sg	**Sg**	**01 49 26.6**	**+0.2**
LACR	**Lac**	**0.55**	**213**	*i* Pg	**Pg**	**01 49 19.7**	**-1.0**
LACR				*e*Sg	**Sg**	**01 49 28.3**	**+0.5**
ZEI	**Tsey**	**0.78**	**229**	*e*Pg	**Pg**	**01 49 24.3**	**-0.8**
ZEI				*e*Sg	**Sg**	**01 49 35.3**	**0.0**
DIGR	**Digorskoe uzhe**	**0.90**	**245**	*e*Pg	**Pg**	**01 49 26.8**	**-0.7**
DIGR				*e*Sg	**Sg**	**01 49 40.8**	**+1.6**
KUBR	**Kubataba**	**1.07**	**299**	*e*Pg	**Pg**	**01 49 31.5**	**+0.9**
KUBR				*i* Sg	**Sg**	**01 49 48.1**	**+3.6**
ONI	**Oni**	**1.16**	**233**	P	**Pb**	**01 49 31.1**	**-1.1**
ONI				S	**Sb**	**01 49 47.4**	**+0.1**
SHAR	**Shatzhatmas**	**1.54**	**288**	*i* PG	**Pn**	**01 49 37.6**	**-0.2**
SHAR				*e*S	**Sg**	**01 49 59.6**	**-0.2**
KIV0	**Kislovodsk Arr**	**1.60**	**295**	*e*Pg	**Pn**	**01 49 39.2**	**+0.7**
KIV0				*i* Sg	**Sg**	**01 50 01.0**	**-0.6**
KIV	**Kislovodsk**	**1.61**	**295**	⇑*e*PG	**Pn**	**01 49 39.3**	**+0.7**
KIV				*i* S	**Sg**	**01 50 01.2**	**-0.5**
DGRG	**David-gareji**	**1.90**	**164**	P	**Pn**	**01 49 42.4**	**-0.3**
DGRG				S	**Sg**	**01 50 12.1**	**+0.9**

MAN 06 01:49:21,1001N×12500E,h29km,mb3.6,ML2.4,MS1.9, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.53**	**116**	*e*P	Pb	01 49 33.0	+1.1
SCPH				*e*S	Sb	01 49 40.0	+0.7
OCLP	**Ormoc**	**1.10**	**339**	*e*P	Pn	01 49 42.5	+2.0
PLP	**Palo**	**1.14**	**359**	*e*P	Pn	01 49 41.5	+0.5
PLP				*e*S	Sn	01 49 56.0	+0.2

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*ISCJB **06** 01:55:07.9±0.5,3718N±002×2307E±003,h8km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=175.4*
*CSEM **06** 01:55:08.7±0.1,3716N×2309E,h5km,ML3.7,Error ellipse: s-maj=1.3km s-min=1.1km az=62.0*
*ATH **06** 01:55:08.7,3717N×2304E,h22km±1km,MD3.4/12,ML3.1*
*NEIC **06** 01:55:08.7,3716N×2304E,h22km,ML3.1(ATH),After ATH.*
*THE **06** 01:55:09.0,3718N×2310E,h1km,ML3.7*
ISC 06 01:55:08.6±0.5,3717N±002×2307E±003,h9km±3km,n51, σ1$20/70,2C,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DID	**Didima**	**0.36**	**21**	*e*Pg	**Pg**	**01 55 16.0**	**+0.3**
DID				*e*Sg	**Sg**	**01 55 20.4**	**-0.2**
VLI	**Veliai**	**0.46**	**193**	⇑*i*PB	**Pg**	**01 55 18.0**	**+0.4**
VLI				*e*SB	**Sg**	**01 55 24.5**	**+0.9**
VLX	**Vlachokerasia**	**0.59**	**290**	*e*Pg	**Pg**	**01 55 20.2**	**+0.2**
VLX				*e*Sg	**Sg**	**01 55 28.9**	**+1.3**
NAIG	**Nisos Aigina**	**0.68**	**29**	*e*PN	**Pn**	**01 55 22.5**	**-1.9**
NAIG				*e*SN	**Sg**	**01 55 32.5**	**+2.0**
LTK	**Loutraki**	**0.86**	**355**	*e*Pg	**Pg**	**01 55 25.0**	**-0.1**
LTK				*e*Sg	**Sg**	**01 55 37.2**	**+0.9**
KVR	**Kavouri**	**0.86**	**40**	*e*PB	**Pb**	**01 55 25.0**	**-0.8**
KVR				*e*SN	**Sn**	**01 55 38.5**	**-1.2**
KYTH	**Kithira**	**0.89**	**182**	*e*PN	**Pn**	**01 55 26.0**	**-1.2**
KYTH				*e*SN	**Sn**	**01 55 39.0**	**-1.2**
ITM	**Ithomi**	**0.91**	**271**	⇑*i*PN	**Pn**	**01 55 26.2**	**-1.4**
ITM				*e*SN	**Sn**	**01 55 38.2**	**-2.7**
ATH	**Athens Observa**	**0.95**	**32**	*e*PN	**Pn**	**01 55 27.5**	**-0.7**
ATH				*e*SN	**Sn**	**01 55 40.0**	**-1.9**
ATH	**Athens Observa**	**0.95**	**32**	*e*Pn	**Pn**	**01 55 27.1**	**-1.1**
ATH				*e*Sn	**Sn**	**01 55 41.8**	**-0.1**
PTL	**Penteli**	**1.08**	**35**	*e*PN	**Pn**	**01 55 29.5**	**-0.5**
PTL				*e*SN	**Sn**	**01 55 44.0**	**-1.1**
PYL	**PYLOS**	**1.10**	**256**	*e*Pg	**Pg**	**01 55 29.4**	**-0.2**
SELA	**Sela**	**1.45**	**320**	*e*Pg	**Pg**	**01 55 35.8**	**-0.5**
LKR	**Lokris**	**1.48**	**358**	*e*PN	**Pn**	**01 55 35.8**	**+0.4**
LKR				*e*SN	**Sn**	**01 55 55.3**	**+0.4**
LKR	**Lokris**	**1.48**	**358**	*e*Pg	**Pg**	**01 55 36.0**	**-1.0**
RLS	**Riolos of Patr**	**1.55**	**305**	*e*PN	**Pn**	**01 55 37.2**	**+0.8**
RLS				*e*SN	**Sn**	**01 55 57.7**	**+1.0**
KARN	**Karanos**	**1.89**	**159**	*e*Pb	**Pb**	**01 55 41.8**	**-1.5**
KARN				*e*Sb	**Sb**	**01 56 07.2**	**+0.2**
AGG	**Agios Georgios**	**1.94**	**343**	*e*Pb	**Pb**	**01 55 42.4**	**-1.7**
APE	**Apeiranthos**	**1.97**	**92**	*e*Pb	**Pb**	**01 55 42.2**	**-2.5**
APE				*e*Sb	**Sb**	**01 56 08.1**	**-1.2**
APE	**Apeiranthos**	**1.97**	**92**	*e*PB	**Pb**	**01 55 42.5**	**-2.1**
APE				*e*SN	**Sn**	**01 56 09.0**	**+2.0**
APE	**Apeiranthos**	**1.97**	**92**	*e*Pb	**Pb**	**01 55 42.5**	**-2.1**
APE				*e*Sb	**Sb**	**01 56 08.1**	**-1.2**
VAM	**Vamos**	**1.98**	**152**	*e*PB	**Pb**	**01 55 43.0**	**-1.8**
VAM				*e*SN	**Sn**	**01 56 09.2**	**+2.0**
EVR	**Evrytania**	**2.01**	**331**	*e*PN	**Pn**	**01 55 43.9**	**+1.2**
SANT	**Santorini**	**2.08**	**112**	*e*Pn	**Pn**	**01 55 43.9**	**+0.3**
AOS	**Alonnisos**	**2.10**	**17**	*e*Pn	**Pn**	**01 55 44.0**	**+0.1**
NEO	**Neokhori**	**2.14**	**3**	*e*PB	**Pb**	**01 55 45.0**	**-2.5**
XOR	**Xorichti**	**2.20**	**2**	*e*Pn	**Pn**	**01 55 45.1**	**-0.2**
THL	**Klokotos Trika**	**2.53**	**341**	*e*Pn	**Pn**	**01 55 50.9**	**+1.0**
THL	**Klokotos Trika**	**2.53**	**341**	*e*PB	**Pb**	**01 55 51.4**	**-2.8**
THL	**Klokotos Trika**	**2.53**	**341**	Pb	**Pb**	**01 55 51.4**	**-2.8**
SIVA	**Sivas**	**2.57**	**146**	*e*Pn	**Pn**	**01 55 51.4**	**+1.0**
CHOS	**Chios island**	**2.66**	**62**	*e*Pn	**Pn**	**01 55 51.7**	**0.0**
LAST	**Lasithi**	**2.79**	**135**	*e*Pn	**Pn**	**01 55 54.3**	**+0.8**
LAST				*e*Sn	**Sn**	**01 56 29.8**	**+2.5**
PAIG	**Paliouri**	**2.80**	**10**	*e*Pn	**Pn**	**01 55 53.7**	**+0.2**
NPS	**Neapolis**	**2.80**	**132**	*e*PB	**Pb**	**01 55 55.9**	**-2.9**
NPS	**Neapolis**	**2.80**	**132**	*e*Pb	**Pb**	**01 55 56.5**	**-2.3**
LIT	**Litokhoron**	**2.96**	**351**	*e*Pn	**Pn**	**01 55 57.0**	**+1.2**
JAN	**Janina**	**3.04**	**326**	*e*Pb	**Pb**	**01 56 01.0**	**-1.8**
SMG	**Samos**	**3.05**	**79**	*e*PN	**Pn**	**01 55 57.7**	**+0.7**
LIA	**Limnos Island**	**3.19**	**31**	*e*Pn	**Pn**	**01 55 59.5**	**+0.5**
PLG	**Polygyros**	**3.21**	**5**	*e*Pn	**Pn**	**01 55 59.6**	**+0.4**
PLG	**Polygyros**	**3.21**	**5**	*e*Pn	**Pn**	**01 55 59.9**	**+0.6**
OUR	**Ouranopolis**	**3.24**	**12**	*e*Pn	**Pn**	**01 55 59.9**	**+0.3**
SOH	**Sokhos**	**3.66**	**3**	*e*Pn	**Pn**	**01 56 06.4**	**+1.1**
KARP	**Karpathos**	**3.68**	**115**	*e*PN	**Pn**	**01 56 07.4**	**+1.8**
GRG	**Griva**	**3.82**	**352**	*e*Pn	**Pn**	**01 56 08.7**	**+1.1**
GRG	**Griva**	**3.82**	**352**	*e*Pn	**Pn**	**01 56 08.6**	**+1.0**
FNA	**Florina**	**3.84**	**340**	*e*Pn	**Pn**	**01 56 08.5**	**+0.5**
SRS	**Serrai**	**3.96**	**6**	*e*Pn	**Pn**	**01 56 10.6**	**+1.0**
NVR	**Nevrokopi**	**4.22**	**8**	*e*PN	**Pn**	**01 56 14.2**	**+1.1**
ALN	**Alexandroupoli**	**4.38**	**31**	*e*Pn	**Pn**	**01 56 16.1**	**+0.8**

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*SZGRF **06** 01:56:18.2,3390N×8394E,h12km,mb4.3,Xizang*
*IDC **06** 01:56:24.6±0.7,3413N×8205E,h0km,mb4.0/13, mb1 4.2/16,mb1mx4.0/24,mbtmp4.0/16,ML3.4/2,Error ellipse: s-maj=26.8km s-min=14.6km az=42.0*
*LDG **06** 01:56:24.6±0.1,3429N×8169E,h10km,Mb4.6/17,Error ellipse: s-maj=5.0km s-min=3.2km az=77.0*
*NEIC **06** 01:56:25.1±0.4,3396N×8199E,h10km,mb4.6/20,Error ellipse: s-maj=11.2km s-min=7.4km az=225.0*
*ISCJB **06** 01:56:27.9±0.7,3403N±004×8194E±005,h44km±7km, mb4.3/38,MS4.3/2,Error ellipse: s-maj=6.9km s-min=5.9km az=164.1*
*MOS **06** 01:56:27.2±1.1,3408N×8192E,h33km,mb4.4/32,Error ellipse: s-maj=12.2km s-min=5.6km az=118.7*
*NDI **06** 01:56:29.6±3.3,3378N×8218E,h10km,mb4.8, mb4.6(NEIC)*
*BJI **06** 01:56:30.5,3450N×8249E,h11km,mB4.5,mb4.3,ML3.9, Ms3.8,Msz3.7*
ISC 06 01:56:30.4±0.5,3401N±003×8197E±004,h48km±5km, h5km±6.3km:pP-P,n149,σ1$08/149,mb4.3/38,MS4.3/2, 3C-3D,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**4.69**	**199**	*e*P	**Pn**	**01 57 40.0**	**+1.3**
SDNR	**Sundarnagar**	**4.90**	**241**	*e*P	**Pn**	**01 57 44.1**	**+2.6**
SDNR				*ex*	x	01 58 45.1	
DDI	**Dehra Dun**	**4.95**	**223**	*ex*	x	01 57 51.5	
SMLA	**Simla**	**4.97**	**236**	*e*P	**Pn**	**01 57 43.9**	**+1.4**
SMLA				AMb	AMB	01 58 10.0	
	comp=Z,60nm,2.0s						
THN	**Thein Dam**	**5.47**	**255**	*e*P	**Pn**	**01 57 53.5**	**+4.2**
NDI	**New Delhi**	**6.69**	**219**	*e*P	**Pn**	**01 58 04.6**	**-1.4**
NDI				AMb	AMB	01 58 16.6	
	comp=Z,18nm,0.2s						
CHCP	**Chirah Chowk**	**7.25**	**270**	P	**Pn**	**01 58 15.9**	**+2.2**
KSH	**Kashi**	**7.30**	**321**	P	**Pn**	**01 58 19.7**	**+5.3**
KSH				S	**Sn**	**01 59 37.7**	**+1.8**
KSH				Smax			
	comp=N,79nm,0.3s						
KSH				Smax			
	comp=E,45nm,0.3s						
THW	**Thamme Wali**	**8.63**	**265**	P	**Pn**	**01 58 33.1**	**+0.4**
THW				S	**Sn**	**02 00 06.0**	**-2.7**
LSA	**Lhasa**	**8.91**	**116**	P	**Pn**	**01 58 43.8**	**+7.2**
LSA	**Lhasa**	**8.91**	**116**	Pn	**Pn**	**01 58 36.2**	**-0.4**
AJM	**Ajmer**	**9.82**	**222**	*e*P	**Pn**	**01 58 48.4**	**-0.5**
AJM				AMb	AMB	01 58 54.0	
	comp=Z,6.4nm,0.3s						
UCH	**Uchtor**	**10.08**	**327**	*e*Pn	**Pn**	**01 58 52.2**	**-0.3**
	comp=Z,9.9nm,0.8s						
TKM2	**Tokmak 2**	**10.20**	**333**	*e*P	**Pn**	**01 58 54.2**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,9.0nm,0.8s						
TKM2	**Tokmak 2**	**10.20**	**333**	*e*Pn	**Pn**	**01 58 54.2**	**+0.2**
	comp=Z,8.8nm,0.8s						
AML	**Almayashu**	**10.40**	**324**	*e*Pn	**Pn**	**01 58 57.0**	**+0.2**
	comp=Z,12nm,1.0s						
AAK	**Ala-Archa**	**10.41**	**328**	*e*P	**Pn**	**01 58 57.5**	**+0.5**
AAK				pmax	pmax		
	comp=Z,7.0nm,0.7s						
AAK	**Ala-Archa**	**10.41**	**328**	*e*Pn	**Pn**	**01 58 57.5**	**+0.5**
	comp=Z,7.

LZH AP pP 02 00 38.9 -10
LZH XP sP 02 00 40.5 -14
LZH AMB AMB
comp=Z,19nm,1.3s
LZH AMB AMB
comp=Z,83nm,4.3s
ZAL Zalesovo 20.02 5 P **P 02 00 58.0 -1.0**
ZAA0 Zalesovo Array 20.03 5 *e*P **P 02 00 58.0 -1.0**
ZALV Zalesovo Beam 20.03 5 P **P 02 00 58.0 -1.1**
baz=186,slow=12,SNR=7.8
BVAR Borovoye Array 20.73 340 P **P 02 01 06.4 -0.2**
BVAR pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 20.73 340 P **P 02 01 06.4 -0.2**
comp=Z,9.6nm,0.8s,baz=140,slow=9.7,SNR=37
BRVK Borovoye 20.79 340 *e*P **P 02 01 06.8 -0.5**
BRVK pmax pmax
comp=Z,28nm,1.1s
BRVK Borovoye 20.79 340 *e*P **P 02 01 06.8 -0.5**
comp=Z,28nm,1.1s
CHTO Chiang Mai 21.41 131 *e*P **P 02 01 11.0 -3.2**
CHTO pmax pmax
comp=Z,7.0nm,0.6s,mb4.2
CHTO Chiang Mai 21.41 131 *e*P **P 02 01 11.0 -3.3**
comp=Z,6.6nm,0.6s,mb4.1
GYA Guiyang 22.59 103 P **P 02 01 28.6 +1.8**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
GYA AMB AMB
comp=Z,90nm,3.2s
ZAK Zakamensk 22.61 37 *e*P **P 02 01 24.7 -2.1**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb3.5
ULN Ulaanbaatar 23.34 46⇑ *e*P **P 02 01 35.0 +0.7**
AKTK Aktyubinsk 24.00 320 P **P 02 01 42.3 +1.9**
AKTO Aktyubinsk 24.00 320 P **P 02 01 42.3 +1.9**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
AKTO Aktyubinsk 24.00 320 P **P 02 01 42.3 +1.9**
comp=Z,2.6nm,0.6s,mb3.8,baz=101,slow=9.1,SNR=10
NJ2 Nanjing 30.89 83 *e*P **P 02 02 42.5 +0.2**
NJ2 AP pP 02 02 46.3 -8.6
NJ2 XP sP 02 02 50.1 -11
NJ2 PP PP 02 03 43.2 -9.4
NJ2 PPP 02 03 57.6
NJ2 S **S 02 07 45.0 +2.0**
NJ2 XS sS 02 07 54.0 -10
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,200nm,10.7s
NJ2 LR LR
comp=N,1μm,21.1s,MS4.7
NJ2 LR LR
comp=E,2μm,21.6s,MS4.7
NJ2 LR LR
comp=Z,2μm,21.5s,MS4.6
KSRS Korea Array 37.18 71 P **P 02 03 37.3 +0.5**
comp=Z,0.6nm,0.5s,mb3.7,baz=284,slow=6.8,SNR=3.2
OBN Obninsk 37.74 318⇑ *e*P **P 02 03 42.8 +1.5**
OBN *e* 02 05 05.1
OBN *e*S **S 02 09 20.8 -7.3**
OBN *e*SS SS 02 12 02.3 -11
OBN pmax pmax
comp=Z,6.0nm,0.7s,mb4.4
AKASG Malin Array Be 41.45 310 P **P 02 04 12.0 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 41.45 310 P **P 02 04 11.9 -0.3**
comp=Z,1.1nm,0.5s,mb3.7,baz=78,slow=7.8,SNR=5.7
JOF Joensuu 42.60 328 *e*p **P 02 04 21.0 -0.4**
comp=Z,1.1nm,0.4s,mb3.9
JOF Joensuu 42.60 328 *e*P **P 02 04 21.0 -0.4**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
FINES FINESS Array B 44.59 325 P **P 02 04 37.3 -0.1**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 44.59 325 P **P 02 04 37.3 -0.1**
comp=Z,1.0nm,0.6s,mb3.9,baz=118,slow=11,SNR=4.7
TIXI Tiksi 44.94 19⇓ *e*P **P 02 04 40.7 +0.6**
TIXI pmax pmax
comp=Z,2.0nm,1.4s,mb3.8
MJAR Matsushiro Arr 45.43 70 P **P 02 04 44.3 -0.2**
MJAR pmax pmax
comp=Z,3.0nm,0.8s
MJAR Matsushiro Arr 45.43 70 P **P 02 04 44.3 -0.2**
comp=Z,2.6nm,0.8s,mb4.1,baz=286,slow=9.5,SNR=8.9
CRVS Cervenica-Dubn 46.51 308 *e*P **P 02 04 51.7 -1.1**
STHS Stebnicka Huta 46.61 308 *e*P **P 02 04 53.7 +0.1**
STHS pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
STHS Stebnicka Huta 46.61 308 *e*P **P 02 04 53.7 +0.1**
comp=Z,1.1nm,0.7s,mb3.9
ARCES ARCESS Array B 46.95 336 P **P 02 04 56.2 +0.3**
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 46.95 336 P **P 02 04 56.2 +0.2**
ARCES ARCESS Array B 46.95 336 P **P 02 04 56.2 +0.2**
comp=Z,1.3nm,0.7s,mb4.0,baz=101,slow=6.3,SNR=4.9
DPC Dobruska-Polom 49.69 310 *e*P **P 02 05 18.5 +1.2**
TREC Trest 50.36 309 *e*P **P 02 05 23.6 +1.2**
PVCC Panska Ves 50.77 310 *e*P **P 02 05 30.1 +4.6**
PRU Pruhonice 50.87 310 *e*P **P 02 05 30.8 +4.6**
BRG Berggiesshubel 51.12 311 *e*P **P 02 05 28.6 +0.5**
BRG pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BRG pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BRG Berggiesshubel 51.12 311 *e*P **P 02 05 28.6 +0.6**
comp=Z,2.0nm,0.7s,mb4.1
BRG *e* 02 05 32.3
comp=Z,3.2nm,0.9s
GERES GERESS Array B 51.59 308 P **P 02 05 32.7 +1.0**
GERES pmax pmax
comp=Z,2.0nm,0.7s
GERES GERESS Array B 51.59 308 P **P 02 05 32.7 +1.0**
comp=Z,1.6nm,0.7s,mb4.0,baz=78,slow=7.0,SNR=16
KHC Kasperske Hory 51.62 309 *e*P **P 02 05 32.5 +0.6**
KHC *e*pP pP 02 05 36.0 -9.2
NB2 NORSAR Subarra 51.71 324 P **P 02 05 32.0 -0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=86,slow=7.4
NOA NORSAR Array B 51.71 324 P **P 02 05 31.9 -0.4**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 51.71 324 P **P 02 05 31.9 -0.4**
NOA NORSAR Array B 51.71 324 P **P 02 05 31.9 -0.4**
comp=Z,1.0nm,0.7s,mb3.8,baz=88,slow=7.4,SNR=4.3
GRF Grafenberg Arr 53.04 310 *e*P **P 02 05 43.8 +1.4**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 53.04 310 *e*P **P 02 05 43.8 +1.4**
GRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
GRF Grafenberg Arr 53.04 310 *e*P **P 02 05 43.8 +1.4**
comp=Z,3.0nm,0.9s,mb4.2
GRF *e*pP pP 02 05 47.2 -8.5
KMBO Kilima Mbogo 54.60 240 *i* P **P 02 05 50.0 -4.2**
KMBO pmax pmax
comp=Z,1.0nm,0.7s
CDF Champ du Feu 55.85 309 *e*P **P 02 06 02.4 -0.4**
comp=Z,3.9nm,0.7s,mb4.2
CDF Champ du Feu 55.85 309 *e*P **P 02 06 02.4 -0.4**
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
CDF Champ du Feu 55.85 309 *e*P **P 02 06 02.4 -0.4**
comp=Z,2.0nm,0.7s,mb4.3
WLF Walferdange 56.25 311 P **P 02 06 05.8 +0.1**
WLF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
WLF Walferdange 56.25 311 P **P 02 06 05.8 +0.1**
comp=Z,3.8nm,0.7s,mb4.5
HINF Hinteralfeld 56.28 308 *e*P **P 02 06 05.4 -0.5**
comp=Z,8.8nm,0.7s,mb4.6
HINF Hinteralfeld 56.28 308 *e*P **P 02 06 05.4 -0.5**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
HINF Hinteralfeld 56.28 308 *e*P **P 02 06 05.4 -0.5**
comp=Z,4.4nm,0.7s,mb4.6
PGF Pioggiola 56.29 302 *e*P **P 02 06 05.3 -0.8**
comp=Z,46nm,1.1s,mb5.1
PGF Pioggiola 56.29 302 *e*P **P 02 06 05.3 -0.8**
PGF pmax pmax
comp=Z,23nm,1.1s,mb5.1
PGF Pioggiola 56.29 302 *e*P **P 02 06 05.3 -0.8**
comp=Z,23nm,1.1s,mb5.1
HAU Haudompre 56.56 309 *e*P **P 02 06 07.6 -0.3**
BILL Bilibino 56.85 27⇓ *e*P **P 02 06 10.5 +0.9**
BILL pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.0
GIVF Givet 56.97 312 *e*P **P 02 06 10.7 -0.1**
LPG La Plagne 56.98 306 *e*P **P 02 06 11.2 +0.3**
comp=Z,11nm,0.7s,mb4.7
LPG La Plagne 56.98 306 *e*P **P 02 06 11.2 +0.3**
LPG pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
LPG La Plagne 56.98 306 *e*P **P 02 06 11.2 +0.3**
comp=Z,5.7nm,0.7s,mb4.7
LPL La Plagne 56.99 306 *e*P **P 02 06 11.2 +0.2**
comp=Z,21nm,0.6s,mb5.1
LPL La Plagne 56.99 306 *e*P **P 02 06 11.2 +0.2**
LPL pmax pmax
comp=Z,11nm,0.6s,mb5.1
LPL La Plagne 56.99 306 *e*P **P 02 06 11.2 +0.2**
comp=Z,10nm,0.6s,mb5.0
SBF Sospel 56.99 304 *e*P **P 02 06 10.9 -0.1**
comp=Z,22nm,0.8s,mb5.0
SBF Sospel 56.99 304 *e*P **P 02 06 10.9 -0.1**
SBF pmax pmax
comp=Z,11nm,0.8s,mb4.9
SBF Sospel 56.99 304 *e*P **P 02 06 10.9 -0.1**
comp=Z,11nm,0.8s,mb4.9
MBDF Montbardon 57.19 305 *e*P **P 02 06 11.7 -0.7**
comp=Z,19nm,1.0s,mb4.8
MBDF Montbardon 57.19 305 *e*P **P 02 06 11.7 -0.7**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
MBDF Montbardon 57.19 305 *e*P **P 02 06 11.7 -0.7**
comp=Z,9.6nm,1.0s,mb4.8
MEZF Maizieres J'vi 57.26 310 *e*P **P 02 06 12.6 -0.2**
comp=Z,16nm,1.0s,mb4.7
MEZF Maizieres J'vi 57.26 310 *e*P **P 02 06 12.6 -0.2**
comp=Z,16nm,1.0s,mb5.0
SMRF Simiane la Rot 58.24 304 *e*P **P 02 06 19.3 -0.5**
LOR Lormes 58.38 309 *e*P **P 02 06 19.6 -1.1**
SMF Signal de Mont 58.58 308 *e*P **P 02 06 21.3 -0.8**
comp=Z,11nm,0.7s,mb4.7
SMF Signal de Mont 58.58 308 *e*P **P 02 06 21.3 -0.8**
SMF pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
SMF Signal de Mont 58.58 308 *e*P **P 02 06 21.3 -0.8**
comp=Z,5.4nm,0.7s,mb4.7
SSF Saint Saulge 58.67 308 *e*P **P 02 06 21.9 -0.8**
comp=Z,7.2nm,0.7s,mb4.5
SSF Saint Saulge 58.67 308 *e*P **P 02 06 21.9 -0.8**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
SSF Saint Saulge 58.67 308 *e*P **P 02 06 21.9 -0.8**
comp=Z,3.6nm,0.7s,mb4.5
AVF Avril sur Loir 58.85 308 *e*P **P 02 06 23.1 -0.9**
comp=Z,3.5nm,0.7s,mb4.2
AVF Avril sur Loir 58.85 308 *e*P **P 02 06 23.1 -0.9**
AVF pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AVF Avril sur Loir 58.85 308 *e*P **P 02 06 23.1 -0.9**
comp=Z,1.8nm,0.7s,mb4.2
TCF Toulx Ste Croi 59.76 308 *e*P **P 02 06 30.0 -0.3**
comp=Z,13nm,0.9s,mb4.6
TCF Toulx Ste Croi 59.76 308 *e*P **P 02 06 30.0 -0.3**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
TCF Toulx Ste Croi 59.76 308 *e*P **P 02 06 30.0 -0.3**
comp=Z,6.4nm,0.9s,mb4.7
CAF Calviac 60.31 306 *e*P **P 02 06 33.9 -0.2**
LDF La Druitiere 60.51 311 *e*P **P 02 06 34.4 -1.0**
comp=Z,8.9nm,0.8s,mb4.7
LDF La Druitiere 60.51 311 *e*P **P 02 06 34.4 -1.0**
LDF pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LDF La Druitiere 60.51 311 *e*P **P 02 06 34.4 -1.0**
comp=Z,4.4nm,0.8s,mb4.6
RJF Les Rejaudoux 60.55 307 *e*P **P 02 06 35.6 -0.1**
MTLF Montolieu 60.75 305 *e*P **P 02 06 36.6 -0.5**
GRR Gorron 61.04 311 *e*P **P 02 06 38.1 -0.9**
comp=Z,4.4nm,0.5s,mb4.5
GRR Gorron 61.04 311 *e*P **P 02 06 38.1 -0.9**
GRR pmax pmax
comp=Z,2.0nm,0.5s,mb4.5
GRR Gorron 61.04 311 *e*P **P 02 06 38.1 -0.9**
comp=Z,2.2nm,0.5s,mb4.5
EPF Esparros 62.14 305 *e*P **P 02 06 45.7 -0.8**
WRA Warramunga Arr 73.24 129 P **P 02 07 58.2 +1.6**
WRA pmax pmax
comp=Z,2.0nm,0.5s
WRA Warramunga Arr 73.24 129 P **P 02 07 58.2 +1.6**
comp=Z,2.0nm,0.5s,mb4.3,baz=326,slow=5.7,SNR=14
INK Inuvik 74.61 13 *e*P **P 02 08 03.8 -0.2**
ASAR Alice Springs 75.68 132 P **P 02 08 12.7 +2.0**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 75.68 132 P **P 02 08 12.7 +1.9**
comp=Z,1.6nm,0.7s,mb4.1,baz=316,slow=5.8,SNR=23
YKA Yellowknife Ar 82.91 8⇑ *e*P **P 02 08 49.0 -0.6**
YKA Yellowknife Ar 82.91 8 P **P 02 08 48.4 -1.2**
comp=Z,1.2nm,0.6s,mb4.1,baz=342,slow=5.1,SNR=17
DBIC Dimbokro 83.69 274 P **P 02 08 54.8 +0.3**
DBIC pmax pmax
comp=Z,3.0nm,0.7s
DBIC Dimbokro 83.69 274 P **P 02 08 54.8 +0.4**
comp=Z,3.1nm,0.7s,mb4.5,baz=67,slow=4.5,SNR=7.1
TXAR Lajitas Array 116.77 6 PKP PKPdf 02 15 10.5 +0.8
comp=Z,0.2nm,0.7s,baz=283,slow=1.6,SNR=3.1
CPUP Villa Florida 144.17 271 PKhKP 02 15 59.6
comp=Z,0.4nm,0.5s,baz=91,slow=3.8,SNR=3.5
LPAZ La Paz 147.86 296 PKP2 PKPab 02 16 14.6 +1.4
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 147.86 296 PKPbc PKPbc 02 16 14.6 +4.0
comp=Z,0.9nm,0.7s,baz=46,slow=2.8,SNR=3.8

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*IDC **06** 02:13:29.9±0.9, 34.32N×8193E, h0km, mb3.9/10, mb1 4.1/13, mb1mx3.9/24, mbtmp3.9/13, ML3.5/3, Error ellipse: s-maj=31.2km s-min=16.9km az=52.0*
*LDG **06** 02:13:30.3±0.1, 34.37N×8164E, h10km, Mb4.6/4, Error ellipse: s-maj=8.6km s-min=4.4km az=79.0*
*NEIC **06** 02:13:31.6±0.5, 34.23N×8193E, h10km, mb4.4/9, Error ellipse: s-maj=11.2km s-min=8.6km az=48.0*
*ISCJB **06** 02:13:31.4±1.5, 34.27N±004×8190E±005, h22km±11km, mb4.2/20, MS3.8/2, Error ellipse: s-maj=6.9km s-min=6.5km az=177.0*
*BJI **06** 02:13:31.6, 34.34N×8193E, h9km, mB4.6, mb4.4, ML3.8, Ms3.8, Msz3.6*
*MOS **06** 02:13:33.3±1.0, 34.36N×8187E, h33km, mb4.3/16, Error ellipse: s-maj=16.2km s-min=6.9km az=107.4*
ISC 06 02:13:34.8±1.2, 34.25N±004×8192E±005, h32km±9km, n78, σ1§18/82, mb4.2/20, MS3.8/2, 2C-3D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**5.10**	**221**	*e*P	**Pn**	**02 14 50.0**	**+1.0**
THN	**Thein Dam**	**5.50**	**252**	*e*P	**Pb**	**02 15 10.4**	**+0.4**
NDI	**New Delhi**	**6.85**	**217**	*e*P	**Pn**	**02 15 13.0**	**0.0**
NDI				*ex*	x	02 16 32.0	
THW	**Thamme Wali**	**8.62**	**263**	P	**Pn**	**02 15 38.3**	**+1.0**
UCH	**Uchtor**	**9.86**	**326**	*e*Pn	**Pn**	**02 15 55.5**	**+1.3**
	4.5nm,0.8s						
TKM2	**Tokmak 2**	**9.97**	**332**	*e*P	**Pn**	**02 15 57.7**	**+2.0**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
TKM2	**Tokmak 2**	**9.97**	**332**	*e*Pn	**Pn**	**02 15 57.7**	**+2.0**
	comp=Z,3.9nm,0.8s						
AML	**Almayashu**	**10.18**	**323**	*e*Pn	**Pn**	**02 15 59.2**	**+0.5**
	comp=Z,4.6nm,0.7s						
AAK	**Ala-Archa**	**10.19**	**327**	*e*P	**Pn**	**02 15 59.5**	**+0.7**
AAK				pmax	pmax		
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**10.19**	**327**	*e*Pn	**Pn**	**02 15 59.5**	**+0.8**
	comp=Z,4.0nm,0.8s						
AAK	**Ala-Archa**	**10.19**	**327**	Pn	**Pn**	**02 16 00.6**	**+1.8**
	comp=Z,0.2nm,0.3s,baz=188,slow=14,SNR=3.7						
WMQ	**Urumqi**	**10.56**	**23**	P	**Pn**	**02 16 05.5**	**+1.7**
WMQ				XP		02 16 11.5	
WMQ				S	**Sn**	**02 18 03.5**	**+2.6**
WMQ				XS		02 18 08.5	
WMQ				SS		02 18 17.5	
WMQ				AMB	AMB		
	comp=Z,27nm,1.0s						
WMQ				LR	LR		
	comp=N,118nm,5.0s						
WMQ				LR	LR		
	comp=E,167nm,5.0s						
WMQ				LR	LR		
	comp=Z,109nm,5.0s						
KBL	**Kabul**	**10.64**	**275**	*e*Pn	**Pn**	**02 16 06.4**	**+1.4**
BOK	**Bokaro**	**10.98**	**161**	*e*P	**Pn**	**02 16 08.3**	**-1.4**
BOK				AMb	AMB	02 16 13.4	
	comp=Z,11nm,0.9s						
BHPL	**Bhopal**	**11.65**	**201**	*e*P	**Pn**	**02 16 18.4**	**-0.5**
BLSP	**Bilaspur**	**12.08**	**179**	*e*P	**Pn**	**02 16 21.5**	**-3.2**
MK31	**Makanchi Array**	**12.53**	**1**	*e*P	**Pn**	**02 16 29.5**	**-1.3**
MKAR	**Makanchi Array**	**12.53**	**1**	P	**Pn**	**02 16 30.2**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**12.53**	**1**	Pn	**Pn**	**02 16 30.1**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=181,slow=13,SNR=81						
KURK	**Kurchatov**	**16.63**	**353**	*d*P	**Pn**	**02 17 22.6**	**-2.7**
KURK	**Kurchatov**	**16.63**	**353**	*e*P	**Pn**	**02 17 27.5**	**+2.2**
	comp=Z,22nm,0.9s						
CD2	**Chengdu**	**18.70**	**94**	*e*P	**Pn**	**02 17 50.6**	**-0.5**
CD2				XP	sP	02 17 57.8	-5.1
CD2				PP		02 18 06.7	
CD2				S	**Sn**	**02 21 14.8**	**-4.5**
CD2				SS		02 21 40.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,3.6s						
CD2				LR	LR		
	comp=N,120nm,9.6s						
CD2				LR	LR		
	comp=Z,100nm,8.4s						
ZAL	**Zalesovo**	**19.79**	**5**	P	**Pn**	**02 18 01.7**	**-2.2**
ZAA0	**Zalesovo Array**	**19.80**	**5**	*e*P	**Pn**	**02 18 02.6**	**-1.4**
ZALV	**Zalesovo Beam**	**19.80**	**5**	Pn	**Pn**	**02 18 01.7**	**-2.3**
	comp=Z,0.4nm,0.3s,baz=185,slow=15,SNR=11						
BVAR	**Borovoye Array**	**20.49**	**340**	P	**P**	**02 18 09.7**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,8.0nm,0.8s						
BVAR	**Borovoye Array**	**20.49**	**340**	P	**P**	**02 18 09.7**	**-0.1**
	comp=Z,8.3nm,0.8s,baz=145,slow=11,SNR=22						
BRVK	**Borovoye**	**20.55**	**340**	*e*P	**P**	**02 18 11.6**	**+1.1**
BRVK				pmax	pmax		
	comp=Z,34nm,1.2s						
BRVK	**Borovoye**	**20.55**	**340**	*e*P	**P**	**02 18 11.6**	**+1.1**
	comp=Z,34nm,1.2s						
NVS	**Novosibirsk**	**20.61**	**2**	*e*P	**P**	**02 18 09.3**	**-1.8**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CHTO	**Chiang Mai**	**21.59**	**131**	*e*P	**P**	**02 18 23.2**	**+1.2**
CHTO				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.2						
CHTO	**Chiang Mai**	**21.59**	**131**	*e*P	**P**	**02 18 23.2**	**+1.2**
	comp=Z,5.5nm,0.6s,mb4.2						
ULN	**Ulaanbaatar**	**23.20**	**47**	*e*P	**P**	**02 18 38.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb3.8						
ULN	**Ulaanbaatar**	**23.20**	**47**	*e*P	**P**	**02 18 38.9**	**0.0**
	comp=Z,3.7nm,1.1s,mb3.7						
AKTK	**Aktyubinsk**	**23.79**	**320**	P	**P**	**02 18 43.0**	**-1.5**
AKTO	**Aktyubinsk**	**23.79**	**320**	P	**P**	**02 18 43.0**	**-1.5**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.7						
AKTO	**Aktyubinsk**	**23.79**	**320**	P	**P**	**02 18 43.0**	**-1.5**
	comp=Z,2.1nm,0.6s,mb3.8,baz=115,slow=9.3,SNR=11						
NJ2	**Nanjing**	**30.90**	**84**	*e*P	**P**	**02 19 50.8**	**+2.3**
NJ2				AP	pP	02 19 55.1	-2.6
NJ2				XP	sP	02 19 57.8	-3.7
NJ2				PP	PP	02 20 51.2	-7.3
NJ2				PPP		02 21 06.3	
NJ2				S	**S**	**02 24 53.0**	**+2.4**
NJ2				XS	sS	02 25 02.0	-3.7
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,180nm,10.0s						
OBN	**Obninsk**	**37.53**	**318**⇓	*e*P	**P**	**02 20 46.1**	**+0.5**
OBN				*e*S	**S**	**02 26 34.1**	**+1.7**
OBN				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.9						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.7						
YAK	**Yakutsk**	**40.84**	**32**	*e*P	**P**	**02 21 13.6**	**+0.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.4						
AKASG	**Malin Array Be**	**41.27**	**310**	P	**P**	**02 21 15.7**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**41.27**	**310**	P	**P**	**02 21 15.7**	**-1.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=78,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**44.37**	**325**	P	**P**	**02 21 41.6**	**-0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**44.37**	**325**	P	**P**	**02 21 41.6**	**-0.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=119,slow=6.7,SNR=6.4						
MJAR	**Matsushiro Arr**	**45.39**	**70**	P	**P**	**02 21 50.5**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=289,slow=9.8,SNR=4.1						
SEY	**Seymchan**	**51.33**	**34**⇓	*e*P	**P**	**02 22 37.0**	**+1.3**
NOA	**NORSAR Array B**	**51.49**	**324**	P	**P**	**02 22 35.5**	**-1.4**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**51.49**	**324**	P	**P**	**02 22 35.5**	**-1.4**
	comp=Z,0.6nm,0.7s,mb3.7,baz=87,slow=7.5,SNR=3.8						
BILL	**Bilibino**	**56.65**	**27**⇓	*e*P	**P**	**02 23 13.5**	**-0.9**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
LPG	**La Plagne**	**56.81**	**306**	*e*P	**P**	**02 23 16.2**	**+0.3**
	comp=Z,12nm,0.9s,mb4.6						
LPG	**La Plagne**	**56.81**	**306**	*e*P	**P**	**02 23 16.2**	**+0.3**
LPG				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
LPG	**La Plagne**	**56.81**	**306**	*e*P	**P**	**02 23 16.2**	**+0.3**
	comp=Z,6.2nm,0.9s,mb4.6						
LPL	**La Plagne**	**56.82**	**306**	*e*P	**P**	**02 23 16.3**	**+0.3**
	comp=Z,8.0nm,0.6s,mb4.6						
LPL	**La Plagne**	**56.82**	**306**	*e*P	**P**	**02 23 16.3**	**+0.3**
LPL				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
LPL	**La Plagne**	**56.82**	**306**	*e*P	**P**	**02 23 16.3**	**+0.3**
	comp=Z,4.0nm,0.6s,mb4.6						
SBF	**Sospel**	**56.83**	**304**	*e*P	**P**	**02 23 16.0**	**-0.1**
	comp=Z,22nm,0.9s,mb4.9						
SBF	**Sospel**	**56.83**	**304**	*e*P	**P**	**02 23 16.0**	**-0.1**
SBF				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
SBF	**Sospel**	**56.83**	**304**	*e*P	**P**	**02 23 16.0**	**-0.1**
	comp=Z,11nm,0.9s,mb4.9						
FRF	**La Foret Royal**	**57.47**	**303**	*e*P	**P**	**02 23 20.0**	**-0.6**
SMF	**Signal de Mont**	**58.40**	**308**	*e*P	**P**	**02 23 26.5**	**-0.6**
SSF	**Saint Saulge**	**58.49**	**308**	*e*P	**P**	**02 23 26.9**	**-0.8**
	comp=Z,4.2nm,0.8s,mb4.2						
SSF	**Saint Saulge**	**58.49**	**308**	*e*P	**P**	**02 23 26.9**	**-0.8**
SSF				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.2						
SSF	**Saint Saulge**	**58.49**	**308**	*e*P	**P**	**02 23 26.9**	**-0.8**
	comp=Z,2.1nm,0.8s,mb4.2						
TCF	**Toulx Ste Croi**	**59.58**	**308**	*e*P	**P**	**02 23 35.0**	**-0.3**
FLN	**La Foliniere**	**60.49**	**311**	*e*P	**P**	**02 23 40.8**	**-0.7**
GRR	**Gorron**	**60.85**	**311**	*e*P	**P**	**02 23 43.1**	**-0.9**
WRA	**Warramunga Arr**	**73.42**	**129**	P	**P**	**02 25 04.1**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**73.42**	**129**	P	**P**	**02 25 04.1**	**+0.1**
	comp=Z,0.6nm,0.6s,mb3.7,baz=326,slow=5.6,SNR=5.4						
COLA	**College**	**73.85**	**20**	*e*P	**P**	**02 25 06.8**	**+0.9**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
COLA	**College**	**73.85**	**20**	*e*P	**P**	**02 25 06.8**	**+0.8**
	comp=Z,3.4nm,0.9s,mb4.3						
INK	**Inuvik**	**74.39**	**13**	*e*P	**P**	**02 25 09.0**	**0.0**
ASAR	**Alice Springs**	**75.87**	**132**	P	**P**	**02 25 18.7**	**+0.6**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**75.87**	**132**	P	**P**	**02 25 18.6**	**+0.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=317,slow=5.4,SNR=7.7						
BOSA	**Boshof**	**82.33**	**228**	P	**P**	**02 25 55.0**	**+1.6**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BOSA	**Boshof**	**82.33**	**228**	P	**P**	**02 25 55.0**	**+1.6**
	comp=Z,1.8nm,0.7s,mb4.1,baz=58,slow=3.7,SNR=4.5						
YKA	**Yellowknife Ar**	**82.68**	**8**⇑	*e*P	**P**	**02 25 54.2**	**-0.6**

YKA	Yellowknife Ar	82.68	8	P	P	02 25 54.3	-0.5
YKA	Yellowknife Ar	82.68	8	P	P	02 25 54.3	-0.5

comp=Z,1.9nm,0.6s,mb4.3,baz=339,slow=5.4,SNR=15

*IDC **06** 02:23:35.7±0.8, 128N×12630E, h0km, mb4.2/10, mb1 4.3/11, mb1mx4.1/19, mbtmp4.2/11, ML4.0/1, MS3.5/2, Ms1 3.5/2, ms1mx2.9/27, Error ellipse: s-maj=49.8km s-min=14.3km az=74.0*

*NEIC **06** 02:23:37.6±0.4, 126N×12638E, h10km, mb4.4/12, Error ellipse: s-maj=20.7km s-min=6.8km az=76.0*

*BJI **06** 02:23:38.6, 130N×12640E, h10km, mB4.9, mb4.6, Ms4.5, Msz4.4*

*ISCJB **06** 02:23:42.8±2.4, 1.19N±007×1263E±02, h66km±24km, mb4.3/20, Error ellipse: s-maj=27.7km s-min=10.6km az=172.3*

ISC 06 02:23:43.8±1.8, 118N±006×1263E±01, h60km±18km, n35, σ0°95/34, mb4.4/20, 2D, Northern Moluccа Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	Ternate	1.10	111	⇓eP	Pn	02 23 57.5	-5.7
TNE	Ternate	1.10	111	⇓eP	Pn	02 24 04.0	+0.8
KAKA	Kakadu	15.07	156	eP	Pn	02 27 19.4	+6.1
	16nm,0.6s						
KSM	Kuching	16.03	271	eP	Pn	02 27 31.2	+5.6
FITZ	Fitzroy Crossi	19.17	182	eP	Pn	02 28 02.0	-2.0
	6.9nm,0.9s						
FITZ	Fitzroy Crossi	19.17	182	P	Pn	02 28 02.1	-1.9
	0.3nm,0.3s,baz=34,slow=12,SNR=16						
WRAB	Tennant Creek	22.40	160	eP	P	02 28 37.2	-0.2
	6.5nm,0.4s,mb4.4						
WRA	Warramunga Arr	22.41	160	P	P	02 28 37.1	-0.4
	5.3nm,0.4s,mb4.3,baz=338,slow=11,SNR=53						
WRA				S	S	02 32 39.8	-0.3
	1.5nm,0.9s,baz=332,slow=20,SNR=4.0						
WB2	Warramunga Arr	22.41	160	eP	P	02 28 37.6	+0.1
MBWA	Marble Bar	23.12	196	eP	P	02 28 44.4	-0.5
	8.3nm,1.0s,mb4.1						
ASAR	Alice Springs	25.77	164	P	P	02 29 09.3	+0.2
	2.4nm,0.6s,mb3.9,baz=343,slow=7.6,SNR=38						
FORT	Forrest	31.82	177	eP	P	02 30 03.3	+0.4
	10nm,0.5s,mb4.9						
MUN	Mundaring	34.34	195	eP	P	02 30 25.7	+0.8
NWAO	Narrogin (SRO)	34.99	193	P	P	02 30 31.1	+0.6
	3.8nm,0.5s,mb4.6,baz=21,slow=9.0,SNR=5.0						
STKA	Stephens Creek	35.91	158	eP	P	02 30 39.5	+1.1
	2.3nm,0.6s,mb4.3						
STKA	Stephens Creek	35.91	158	P	P	02 30 38.5	+0.1
	3.2nm,0.7s,mb4.4,baz=2.9,slow=7.4,SNR=8.4						
KSRS	Korea Array	36.13	2	LR	LR	02 45 21.6	
	comp=Z,22nm,18.7s,baz=215,slow=36						
CD2	Chengdu	36.50	326	eP	P	02 30 49.0	+5.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
MJAR	Matsushiro Arr	36.86	16	P	P	02 30 45.6	-0.9
	comp=Z,1.5nm,0.8s,mb3.9,baz=187,slow=9.7,SNR=3.8						
WMQ	Urumqi	54.60	326	eP	P	02 33 10.0	+3.8
MK31	Makanchi Array	59.43	326	eP	P	02 33 39.7	-0.6
MKAR	Makanchi Array	59.43	326	P	P	02 33 39.5	-0.8
	comp=Z,1.2nm,0.4s,mb4.3,baz=125,slow=7.3,SNR=20						
TKM2	Tokmak 2	61.41	320	eP	P	02 33 56.5	+2.7
	comp=Z,2.1nm,0.8s,mb4.3						
UCH	Uchtor	61.80	319	eP	P	02 33 59.6	+3.1
	comp=Z,2.7nm,0.8s,mb4.4						
ZALV	Zalesovo Beam	62.68	334	P	P	02 34 01.6	-0.6
	comp=Z,0.6nm,0.4s,mb4.1,baz=116,slow=6.6,SNR=3.4						
KURK	Kurchatov	63.68	328	eP	P	02 34 07.3	-1.5
	comp=Z,6.2nm,0.8s,mb4.7						
BVAR	Borovoye Array	69.24	328	P	P	02 34 43.6	-0.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=116,slow=3.4,SNR=5.5						
BRVK	Borovoye	69.31	328	eP	P	02 34 46.2	+1.5
	comp=Z,2.3nm,0.6s,mb4.3						
AKTK	Aktyubinsk	75.41	322	P	P	02 35 20.8	-0.4
AKTO	Aktyubinsk	75.41	322	P	P	02 35 20.8	-0.4
	comp=Z,1.2nm,0.5s,mb4.1,baz=96,slow=6.9,SNR=5.1						
OPO	Ambohidratompo	80.09	251	LR	LR	03 03 19.8	
	comp=Z,76nm,22.0s,baz=98,slow=30						
TTA	Tatalina	83.34	27	eP	P	02 36 04.4	+0.4
	comp=Z,15nm,1.3s,mb4.9						
MALT	Malatya	87.64	308	eP	P	02 36 26.2	+0.2
	comp=Z,1.2nm,0.8s,mb4.2						
INK	Inuvik	92.66	21	eP	P	02 36 49.2	+0.4
ARCES	ARCESS Array B	92.69	340	P	P	02 36 48.3	-0.6
	comp=Z,2.3nm,0.9s,mb4.6,baz=78,slow=8.4,SNR=4.1						

*JMA **06** 02:28:14.6±0.3, 3301N×13699E, h441km, M2.9*

*ISCJB **06** 02:28:15.4±0.7, 330N±0.1×137.12E±009, h430km±6km, mb3.2/5, Error ellipse: s-maj=17.1km s-min=10.7km az=151.5*

*IDC **06** 02:28:15.8±1.9, 3297N×13692E, h412km±27km, mb3.0/5, mb1 3.1/6, mb1mx2.9/21, mbtmp2.9/6, Error ellipse: s-maj=60.8km s-min=15.5km az=76.0*

ISC 06 02:28:16.7±0.6, 3311N±010×13714E±009, h424km±7km, n25, σ1°02/33, mb3.2/5, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKN2	Miekihoku	1.34	328	P	P	02 29 11.5	+0.1
JAJ2	Tsuna	2.29	306	P	P	02 29 15.7	-0.9
JFM	Mihama	2.60	339	P	P	02 29 19.0	+0.4
JWT	Wachi	2.61	327	P	P	02 29 18.5	-0.2
JGM	Miyama	2.61	352	P	P	02 29 19.5	+0.8
JMN	Monobe	2.80	284	P	P	02 29 19.1	-1.0
JAD	Aida	3.07	307	P	P	02 29 21.7	-0.5
JGN	Niukaw	3.11	3	P	P	02 29 23.3	+0.8
JGN				S	S	02 30 14.7	-1.3
JRY	Ryogami san	3.25	26	P	P	02 29 25.5	+1.9
JRY				eS	S	02 30 19.2	+1.2
BSO4	Boso 4	3.25	54	eS	S	02 30 18.8	+0.7
JHU	Hanno	3.26	32	P	P	02 29 24.7	+1.0
JHU				eS	S	02 30 18.0	-0.2
BSO3	Boso 3	3.27	58	eS	S	02 30 18.4	0.0
JNG	Nsakai	3.39	13	P	P	02 29 25.8	+1.1
MJAR	Matsushiro Arr	3.54	14	P	P	02 29 25.9	-0.1
	1.2nm,0.3s,baz=195,slow=9.2,SNR=28						
MAT	Matsushiro	3.54	14	P	P	02 29 26.9	+0.9
MAT				S	S	02 30 23.4	+0.9
MAT	Matsushiro	3.54	14	P	P	02 29 27.0	+1.0
JAG	Ashikaga	3.82	29	P	P	02 29 28.6	+0.1
JAG				eS	S	02 30 24.9	-2.0
JYT	Yasato	4.00	38	P	P	02 29 30.2	+0.1
JYT				eS	S	02 30 27.2	-2.8
JHO	Hitachi	4.49	38	P	P	02 29 35.3	+0.6
JHO				eS	S	02 30 36.5	-1.8
JMM	Marumori	5.61	31	P	P	02 29 47.1	+1.3
JMM				S	S	02 30 57.0	-1.7
MKAR	Makanchi Array	43.37	305	P	P	02 35 38.9	-0.5
	0.3nm,0.5s,mb2.9,baz=91,slow=10,SNR=2.3						
WRA	Warramunga Arr	52.81	183	P	P	02 36 49.9	-0.9
	0.5nm,0.3s,mb3.2,baz=0.3,slow=7.6,SNR=12						
ASAR	Alice Springs	56.54	184	P	P	02 37 16.4	-0.7
	0.2nm,0.4s,mb2.8,baz=350,slow=4.3,SNR=5.7						
ARCES	ARCESS Array B	66.42	339	P	P	02 38 22.6	+0.9
	2.0nm,0.8s,mb3.8,baz=80,slow=10,SNR=3.1						
FINES	FINESS Array B	70.62	332	P	P	02 38 47.5	+0.1
	0.9nm,0.8s,mb3.4,baz=36,slow=4.9,SNR=6.7						

*CSEM **06** 02:34:21.6±0.2, 4384N×2037E, h2km, ML2.8, Error ellipse: s-maj=4.9km s-min=3.3km az=50.0*

*ISCJB **06** 02:34:22.7±0.4, 4389N±002×2035E±003, h12km±3km, Error ellipse: s-maj=4.4km s-min=3.5km az=151.9*

*NEIC **06** 02:34:22.1, 4382N×2025E, h5km, ML2.8(BUC), After BUC.*

*BEO **06** 02:34:23.4±0.4, 4386N×2031E, h12km±4km, ML2.9/9*

ISC 06 02:34:23.6±0.5, 4388N±002×2035E±004, h10km±3km, n45, σ1°02/61, 10C-10D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	Gruza	0.27	88	iPg	Pg	02 34 28.2	-0.8
DIVS	Divibare	0.34	310	iPg	Pg	02 34 30.5	+0.3
DIVS				eSg	Sg	02 34 36.0	+1.3
SJES	Sjenica	0.68	204	iPg	Pg	02 34 35.9	-0.7
SJES				eSg	Sg	02 34 44.5	-1.0
SVIS	Svilajnac	0.73	58	iPg	Pg	02 34 38.2	+0.4
SVIS				eSg	Sg	02 34 49.8	+2.4
BEO	Beograd	0.93	6	ePg	Pg	02 34 41.2	-0.3
BEO				eSg	Sg	02 34 53.9	+0.3
BOLS	Boljevac	1.16	92	ePg	Pg	02 34 46.0	+0.1
BOLS				eSg	Sg	02 35 02.1	+1.1
FGSL	Fruska Gora	1.33	343	iPg	Pg	02 34 48.0	-1.1
FGSL				eSg	Sg	02 35 04.7	-1.7
BARS	Barje	1.51	134	iPg	Pg	02 34 50.1	-2.5
BARS				eSg	Sg	02 35 12.2	+0.1
DJES	Djerdap	1.75	63	ePn	Pn	02 34 53.5	-0.5
DJES				eSg	Sg	02 35 18.8	-1.0
BZS	Buzias	1.96	27	⇓P	Pn	02 34 56.3	-0.6
BZS	Buzias	1.96	27	⇓iP	Pn	02 34 56.3	-0.6
GZR	Gura Zlata	2.30	48	⇓P	Pn	02 35 01.6	0.0
GZR	Gura Zlata	2.30	48	⇓iP	Pn	02 35 01.5	-0.1
VTS	Vitosha	2.46	121	⇑P	Pn	02 35 03.0	-0.8
VTS	Vitosha	2.46	121	⇑iP	Pn	02 35 03.0	-0.7
RHK3	Tenkes	2.50	324	⇓iPn	Pn	02 35 04.5	+0.2
STIP	Stip	2.57	148	iPn	Pn	02 35 04.0	-1.3
STIP	Stip	2.57	148	iPn	Pn	02 35 03.9	-1.4
KRUS	Krusevo	2.60	165	iPn	Pn	02 35 06.5	+0.8
KRUS	Krusevo	2.60	165	iPn	Pn	02 35 06.4	+0.7
PKSM	Moragy	2.62	333	⇑iP	Pn	02 35 05.9	-0.1
PKSM	Moragy	2.62	333	⇑ePn	Pn	02 35 05.9	-0.1
BIA	Bitola	2.95	165	iPn	Pn	02 35 11.6	+1.1
PKSN	Nyarlorinc	3.04	354	ePn	Pn	02 35 11.4	-0.3
PKS7	Kunszentmiklos	3.27	346	ePn	Pn	02 35 15.1	+0.2
PKS7				eSn	Sn	02 35 54.2	+0.3
DRGR		3.35	29	⇑P	Pn	02 35 16.0	0.0
DRGR		3.35	29	⇑iP	Pn	02 35 16.0	-0.1
PKSG		3.77	339	⇑ePn	Pn	02 35 22.2	+0.5
PKSG				eSn	Sn	02 36 06.9	+0.8
GOLS	Golise	3.97	304	iPn	Pn	02 35 25.6	+1.1
PENC	Penc	3.98	350	⇓iPn	Pn	02 35 25.3	+0.7
PENC				eSn	Sn	02 36 10.0	-1.3
PSZ	Piszkesteto	4.05	356	⇓P	Pn	02 35 25.6	0.0
PSZ	Piszkesteto	4.05	356	⇓ePn	Pn	02 35 25.7	+0.1
PSZ				eSn	Sn	02 36 09.1	-4.0
PSZ	Piszkesteto	4.05	356	⇓iP	Pn	02 35 25.6	0.0
LEGS	Legarje	4.13	302	iPn	Pn	02 35 27.7	+1.1
MLR	Muntele Rosu	4.30	66	⇓P	Pn	02 35 30.9	+1.8
MLR	Muntele Rosu	4.30	66	⇓iP	Pn	02 35 30.9	+1.8
PDKS	Podkum	4.38	302	iPn	Pn	02 35 31.4	+1.3
SOP	Sopron	4.63	326	eSn	Sn	02 36 26.8	-0.7
VYHS	Vyhne	4.73	348	ePN	Pn	02 35 35.7	+0.7
VYHS				eSN	Sn	02 36 27.7	-2.2
MODS	Modra-Piesok	4.97	336	ePN	Pn	02 35 39.1	+0.8
MODS				eSN	Sn	02 36 31.9	-3.9
BURAR	Bucovina Array	5.05	41	⇑P	Pn	02 35 40.3	+0.9
BURAR	Bucovina Array	5.05	41	⇑iP	Pn	02 35 40.3	+0.9
CRVS	Cervenica-Dubn	5.08	8	ePN	Pn	02 35 40.3	+0.5
CRVS				eSN	Sn	02 36 35.9	-2.6
CRVS	Cervenica-Dubn	5.08	8	ePn	Pn	02 35 40.4	+0.6
CRVS				eSn	Sn	02 36 35.9	-2.6
KOLS	Kolonicke sedl	5.23	14	eSG	Sg	02 37 16.5	+5.2

IDC 06 02:39:12.4±3.1, 3468N×8319E, h0km, mb3.5/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.4/18, Error ellipse: s-maj=158.3km s-min=27.6km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.12	357	Pn	Pn	02 42 08.8	+2.6
	0.2nm,0.3s,baz=180,slow=13,SNR=12						
BVAR	Borovoye Array	20.47	338	P	P	02 43 51.8	+0.3
	1.4nm,0.6s,baz=146,slow=10,SNR=9.5						
JNU	Nakatsue	39.33	78	LR	LR	03 03 18.9	
	comp=Z,51nm,21.3s,baz=164,slow=37						
WRA	Warramunga Arr	72.89	130	P	P	02 50 43.9	+0.5
	0.2nm,0.6s,baz=330,slow=5.6,SNR=2.8						
YKA	Yellowknife Ar	82.11	8	P	P	02 51 33.3	-1.1
	0.3nm,0.6s,baz=337,slow=5.5,SNR=5.8						

*ISCJB **06** 02:48:54.9±0.7, 3832N±003×2036E±003, h2km±5km, Error ellipse: s-maj=5.2km s-min=3.4km az=135.6*

*ATH **06** 02:48:54.3, 3823N×2033E, h11km±1km, MD3.5/14*

*NEIC **06** 02:48:54.2, 3823N×2029E, h13km, MD3.6(ATH), After ATH.*

*CSEM **06** 02:48:56.1±0.2, 3832N×2040E, h1km±1km, ML3.5, Error ellipse: s-maj=3.3km s-min=1.6km az=46.0*

*THE **06** 02:48:56.0, 3835N×2042E, h3km, ML3.5*

ISC 06 02:48:56.2±0.7, 3832N±003×2043E±004, h4km±5km, n39, σ0°96/52, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.35	126	ePg	Pg	02 49 02.8	-0.2
LKD	Levkas	0.43	24	ePg	Pg	02 49 03.6	-0.8
LKD				eSg	Sg	02 49 09.8	-0.2
RLS	Riolos of Patr	0.86	107	ePB	Pg	02 49 11.7	-1.0
RLS				eSB	Sg	02 49 24.8	+1.0
SELA	Sela	1.15	92	ePg	Pg	02 49 17.9	-0.5
SELA				eSg	Sn	02 49 34.4	-0.9
IGT	Igoumenitsa	1.22	357	ePg	Pg	02 49 18.6	-0.9
IGT				eSg	Sn	02 49 35.1	-1.8
EVR	Evrytania	1.24	61	ePb	Pn	02 49 18.3	-2.0
EVR				eSb	Sg	02 49 39.8	+3.8
EVR	Evrytania	1.24	61	ePN	Pn	02 49 18.1	-2.2
EVR				eSB	Sn	02 49 37.8	+0.4
JAN	Janina	1.38	14	ePB	Pb	02 49 22.5	0.0
JAN				eSB	Sg	02 49 42.6	+2.1
KEK	Kerkira	1.48	341	ePG	Pn	02 49 22.6	-1.0
KEK				eSB	Sg	02 49 44.2	+0.5
ITM	Ithomi	1.64	133	ePB	Pb	02 49 25.8	-1.3
ITM				eSB	Sb	02 49 47.8	-0.3
AGG	Agios Georgios	1.65	64	ePb	Pb	02 49 25.7	-1.4
AGG				eSb	Sb	02 49 48.3	+0.1
THL	Klokotos Trika	1.76	44	ePN	Pn	02 49 28.1	+0.7
THL				eSN	Sg	02 49 53.2	+0.5
THL	Klokotos Trika	1.76	44	ePb	Pn	02 49 26.3	-1.1
THL	Klokotos Trika	1.76	44	ePn	Pn	02 49 28.1	+0.7
THL				eSn	Sg	02 49 53.2	+0.5
PYL	PYLOS	1.76	143	ePb	Pn	02 49 27.4	-0.1
PYL				eSb	Sb	02 49 52.1	+0.6
VLX	Vlachokerasia	1.81	121	ePb	Pn	02 49 27.9	-0.3
LTK	Loutraki	2.02	98	ePn	Pn	02 49 31.2	+0.1
LKR	Lokris	2.05	80	ePn	Pn	02 49 31.8	+0.4
LKR	Lokris	2.05	80	ePN	Pn	02 49 31.9	+0.5
KZN	Kozani	2.24	27	ePN	Pn	02 49 35.5	+1.4
DID	Didima	2.37	109	ePn	Pn	02 49 36.3	+0.5
NEO	Neokhori	2.40	65	ePN	Pn	02 49 37.3	+1.1
NAIG	Nisos Aigina	2.48	102	ePB	Pn	02 49 37.5	+0.1
VLI	Veliai	2.56	128	ePG	Pb	02 49 41.3	-1.3
VLI	Veliai	2.56	128	ePn	Pn	02 49 39.3	+0.9
PTL	Penteli	2.72	95	ePN	Pn	02 49 41.0	+0.3
SG1	Sgolgore (BA)	3.84	312	ePn	Pn	02 49 55.2	-0.8
VAM	Vamos	4.19	133	ePN	Pn	02 50 01.8	+0.9
APE	Apeiranthos	4.24	106	ePN	Pn	02 50 03.2	+1.7
APE	Apeiranthos	4.24	106	ePn	Pn	02 50 03.4	+1.9
SGO	Sicignano	4.55	301	Pn	Pn	02 50 07.5	+1.7
CSSN	Cassano Irpino	4.89	303	Pn	Pn	02 50 12.2	+1.8
FG5	Orsara di Pugl	4.96	308	Pn	Pn	02 50 11.8	+0.4
RGNG	Rignano Grg	5.00	314	Pn	Pn	02 50 11.5	-0.6
FG2	Serracapriola	5.33	312	Pn	Pn	02 50 16.3	-0.3
	37nm,0.2s						
SGG	Gregorio Mates	5.57	305	Pn	Pn	02 50 20.5	+0.7
	44nm,1.7s						
SDI	San Donato	6.11	306	Pn	Pn	02 50 27.1	-0.1
	1.9nm,0.3s						
BOJS	Bojanci	8.15	333	iPn	Pn	02 50 54.8	-0.5
PDKS	Podkum	8.72	334	iPn	Pn	02 51 01.9	-1.1

IDC 06 02:52:25.0±3.2, 3448N×8264E, h0km, mb3.3/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML2.9/1, Error ellipse: s-maj=159.0km s-min=28.2km az=65.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.30	359	Pn	Pn	02 55 23.6	+2.3
	0.1nm,0.3s,baz=183,slow=14,SNR=5.5						
BVAR	Borovoye Array	20.49	339	P	P	02 57 04.4	+0.2
	1.0nm,0.5s,baz=141,slow=9.6,SNR=6.6						
WRA	Warramunga Arr	73.11	130	P	P	03 03 57.7	+0.5
	0.3nm,0.8s,baz=329,slow=5.9,SNR=4.7						
YKA	Yellowknife Ar	82.37	8	P	P	03 04 47.3	-1.0
	0.1nm,0.4s,baz=337,slow=5.6,SNR=4.2						

*FUNV **06** 03:15:49.8, 677N×73.13W, h165km, MW3.2*

*ISCJB **06** 03:15:50.0±0.7, 691N±006×7294W±006, h171km±6km, mb3.6/9, Error ellipse: s-maj=10.5km s-min=9.3km az=157.0*

*NEIC **06** 03:15:50.6±0.6, 672N×7292W, h172km±8km, mb3.6/5, Error ellipse: s-maj=16.5km s-min=8.8km az=146.0*

*IDC **06** 03:15:50.3±1.2, 678N×7289W, h166km±13km, mb3.4/5, mb1 3.6/8, mb1mx3.3/22, mbtmp3.5/8, Error ellipse: s-maj=30.6km s-min=13.8km az=133.0*

ISC 06 03:15:51.0±0.7, 689N±006×7293W±006, h164km±6km, n32, σ0°83/39, mb3.6/9, 6D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.15	32	⇓iP	Pn	03 16 18.9	+0.5
CAPV				eS	Sn	03 16 39.5	+0.1
ROSC	El Rosal	2.45	215	P	Pn	03 16 31.3	-1.0
	21nm,0.3s,baz=83,slow=22,SNR=149						
ROSC				S	Sn	03 16 57.9	-6.3
	74nm,0.3s,baz=92,slow=18,SNR=16						
SOCV	Socops	2.48	56	eP	Pn	03 16 33.4	+0.8
SOCV				eS	Sn	03 17 05.7	+1.0
VIGV	El Vigia	2.48	39	eP	Pn	03 16 32.9	+0.3
VIGV				eS	Sn	03 17 05.3	+0.5
SDV	Santo Domingo	3.02	49	P	Pn	03 16 40.4	+1.2
SDV				S	Sn	03 17 17.4	+0.8
SDV	Santo Domingo	3.02	49	P	Pn	03 16 40.4	+1.2
	23nm,0.3s,baz=227,slow=3.0,SNR=161						
SDV				S	Sn	03 17 17.4	+0.8
	15nm,0.3s,baz=80,slow=22,SNR=18						
ELOV	Elorza	3.42	88	⇓eP	Pn	03 16 45.1	+0.9
ELOV				eS	Sn	03 17 24.5	-1.0
VIRV	Villa del Rosa	3.63	8	eP	Pn	03 16 45.6	-1.3
VIRV				eS	Sn	03 17 27.9	-2.5
QARV	Quebrada Arrib	4.06	36	⇓iP	Pn	03 16 53.3	+0.8
QARV				eS	Sn	03 17 39.8	-0.6
SANV	Sanarito	4.24	52	eP	Pn	03 16 55.2	+0.4
CURV	Curarigua	4.27	43	⇓eP	Pn	03 16 55.6	+0.4
CURV				eS	Sn	03 17 43.2	-2.0
TEPV	Terepaima	4.79	50	eP	Pn	03 17 02.4	+0.5
SIQV	Siquisique	4.84	39	⇓eP	Pn	03 17 02.7	+0.1
BAUV	El Baul	5.25	67	⇓eP	Pn	03 17 07.0	-1.0
CAOV	Caicara del Or	6.57	86	eP	Pn	03 17 24.4	-1.0
BIRV	Birongo	7.48	61	eP	Pn	03 17 36.8	-0.7
CUPV	Cepira	7.73	65	eP	Pn	03 17 40.2	-0.6
PCRV	Puerto La Cruz	8.83	68	P	Pn	03 17 55.8	+0.5
	0.5nm,0.3s,baz=233,slow=5.1,SNR=2.5						
TEIG	Tepich	19.93	313	P	P	03 20 11.0	+0.7
	4.7nm,0.6s,baz=95,slow=12,SNR=2.9						
LPAZ	La Paz	23.51	168	pP	pP	03 21 17.6	-0.1
	0.9nm,0.8s,baz=328,slow=13,SNR=4.3						
SIV	San Ignacio	25.58	153	pP	pP	03 21 37.8	-1.1
	0.5nm,0.6s,baz=328,slow=15,SNR=3.9						
WVT	Waverly	32.15	337	eP	P	03 22 03.4	+0.4
	1.7nm,0.5s,mb4.0						
TXAR	Lajitas Array	36.56	311	P	P	03 22 41.0	-0.1
	0.2nm,0.4s,mb3.1,baz=126,slow=9.5,SNR=8.4						
MNTX	Cornudas Mount	39.06	313	eP	P	03 23 01.9	-0.2
	0.9nm,0.6s,mb3.6						
SDCO	Great Sand Dun	42.62	321	eP	P	03 23 31.7	+0.7
	0.7nm,0.7s,mb3.4						
ULM	Lac du Bonnet	47.29	340	P	P	03 24 07.3	-0.4
	1.2nm,0.4s,mb3.8,baz=76,slow=4.2,SNR=2.8						
SCHQ	Schefferville	48.06	5	P	P	03 24 14.6	+1.0
SCHQ	Schefferville	48.06	5	P	P	03 24 14.6	+1.0
	1.2nm,0.7s,mb3.6,baz=154,slow=0.7,SNR=3.7						
LOHW	Long Hollow	49.26	324	eP	P	03 24 23.0	+0.1
	1.0nm,0.6s,mb3.6						
BOZ	Bozeman (W)	51.06	326	eP	P	03 24 35.8	-0.7
	0.6nm,0.6s,mb3.4						
YKA	Yellowknife Ar	63.27	340	P	P	03 26 01.5	-0.3
	0.8nm,0.6s,mb3.7,baz=132,slow=6.6,SNR=29						
WRA	Warramunga Arr	150.54	241	PKPbc	PKPbc	03 35 22.8	-1.5
	0.3nm,0.4s,baz=108,slow=2.2,SNR=10						

IDC 06 03:16:37.9±2.1, 677S×15483E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/13, mbtmp3.8/4, MS3.0/2, Ms1 3.0/2, ms1mx2.8/20, Error ellipse: s-maj=90.2km s-min=29.1km az=128.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	5.72	118	LR	LR	03 20 08.1	
	comp=Z,123nm,20.0s,baz=180,slow=37						
CTA	Charters Tower	15.63	211	LR	LR	03 25 05.1	
	comp=Z,77nm,21.5s,baz=50,slow=32						
WRA	Warramunga Arr	23.81	235	P	P	03 21 53.3	+0.6
	2.7nm,1.0s,baz=60,slow=9.6,SNR=6.3						
ASAR	Alice Springs	26.20	228	P	P	03 22 13.9	-0.5
	0.9nm,0.9s,baz=58,slow=9.6,SNR=7.5						
MKAR	Makanchi Array	83.12	319	P	P	03 29 05.8	+0.1
	0.6nm,0.9s,baz=98,slow=3.7,SNR=4.7						
YKA	Yellowknife Ar	96.22	28	P	P	03 30 07.7	0.0
	0.9nm,1.0s,baz=270,slow=4.5,SNR=8.7						

*NIED **06** 03:45:00, 2390N×123.40E, h20km, Mw4.6 Best double couple: M0:9.97000×10^15 NP1:φ=52.00000°, δ71.00000°, λ76.00000°. N

SSE S **Sn** **03 48 37.9 -0.2**
SSE AMB AMB
comp=Z,75nm,0.8s
SSE AMB AMB
comp=Z,61nm,4.0s
SSE LR LR
comp=N,799nm,14.9s
SSE LR LR
comp=E,344nm,14.9s
SSE LR LR
comp=Z,1μm,14.7s
NJ2 Nanjing 9.02 335 *e*P **Pn** **03 47 38.6 +1.1**
NJ2 XP 03 47 53.1
NJ2 S **Sn** **03 49 19.0 +1.0**
NJ2 AMB AMB
comp=Z,60nm,0.8s
NJ2 AMB AMB
comp=Z,140nm,6.0s
NJ2 LR LR
comp=N,2μm,14.6s
NJ2 LR LR
comp=E,1μm,14.8s
NJ2 LR LR
comp=Z,1μm,14.8s
WHN Wuhan 10.38 311 *e*P **Pn** **03 48 02.0 +5.9**
QIZ Qiongzhong 13.49 251 P **Pn** **03 48 39.0 +0.3**
QIZ S **Sn** **03 51 09.5 +1.9**
QIZ AMB AMB
comp=Z,21nm,1.7s
QIZ AMB AMB
comp=Z,75nm,7.4s
QIZ LR LR
comp=N,475nm,21.5s
QIZ LR LR
comp=Z,361nm,18.6s
KSRS Korea Array 14.04 15 Pn **Pn** **03 48 46.0 -0.1**
comp=Z,0.1nm,0.3s,baz=191,slow=11,SNR=16
KSRS LR LR 03 54 45.4
comp=Z,318nm,19.5s,baz=193,slow=40
XAN Xi'an 16.14 312 P **Pn** **03 49 18.0 +4.0**
XAN S **Sn** **03 52 16.6 +4.5**
XAN SS 03 52 36.1
XAN SCP ScP 03 57 40.7 -0.1
XAN PCS PcS 03 57 47.2 +3.1
XAN SCS ScS 04 01 18.6 -1.1
XAN AMB AMB
comp=Z,12nm,1.0s
XAN LR LR
comp=N,236nm,14.2s
XAN LR LR
comp=E,519nm,14.4s
XAN LR LR
comp=Z,633nm,14.2s
BJT Baijiatuau 17.16 341 *e*P **Pn** **03 49 26.2 -0.5**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 17.16 341 *e*P **Pn** **03 49 26.2 -0.6**
comp=Z,9.3nm,0.6s
BJI Beijing 17.17 341 P **Pn** **03 49 29.0 +2.0**
BJI XP sP 03 49 43.8 +3.2
BJI S **Sn** **03 52 36.6 -0.4**
BJI AMB AMB
comp=Z,7.0nm,1.0s
BJI LR LR
comp=N,598nm,12.9s
BJI LR LR
comp=E,228nm,13.7s
BJI LR LR
comp=Z,366nm,24.5s
MAT Matsushiro 17.94 42 P **Pn** **03 49 33.7 -2.8**
MJAR Matsushiro Arr 17.94 42 P **Pn** **03 49 34.9 -1.5**
comp=Z,0.1nm,0.3s,baz=230,slow=9.6,SNR=7.1
CD2 Chengdu 18.73 296 P **Pn** **03 49 47.1 +1.0**
CD2 AP pP 03 49 55.3 +1.5
CD2 XP sP 03 50 04.6 +6.8
CD2 PP 03 50 05.8
CD2 S **Sn** **03 53 14.3 -0.4**
CD2 XS sS 03 53 28.6 -1.7
CD2 SS 03 53 40.0
CD2 AMB AMB
comp=Z,41nm,0.8s
CD2 AMB AMB
comp=Z,210nm,7.8s
CD2 LR LR
comp=N,870nm,15.0s
CD2 LR LR
comp=E,790nm,16.6s
CD2 LR LR
comp=Z,780nm,15.6s
KMI Kunming 18.80 278 P **Pn** **03 49 47.4 +0.3**
KMI AP pP 03 49 57.5 +2.8
KMI XP sP 03 50 04.2 +5.6
KMI PP 03 50 05.9
KMI PPP 03 50 14.6
KMI S **Sn** **03 53 10.7 -5.9**
KMI XS sS 03 53 26.5 -5.4
KMI SS 03 53 36.1
KMI SSS 03 53 51.9
KMI AMB AMB
comp=Z,8.0nm,0.6s
KMI AMB AMB
comp=Z,97nm,6.1s
KMI LR LR
comp=N,589nm,14.7s
KMI LR LR
comp=E,653nm,13.8s
KMI LR LR
comp=Z,721nm,14.1s
HHC Hu-ho-hao-te 19.56 332 ⇑P **Pn** **03 49 56.1 0.0**
HHC AP pP 03 50 02.7 -0.2
HHC XP sP 03 50 06.4 -0.5
HHC PP 03 50 14.5
HHC S **Sn** **03 53 29.6 -5.1**
HHC XS sS 03 53 42.6 -4.2
HHC SS 03 54 01.0
HHC AMB AMB
comp=Z,61nm,1.0s
HHC AMB AMB
comp=Z,206nm,4.2s
HHC LR LR
comp=N,855nm,14.7s
HHC LR LR
comp=E,843nm,14.1s
HHC LR LR
comp=Z,975nm,15.8s
CN2 Changchun 19.90 4 *e*P **Pn** **03 50 01.5 +1.4**
CN2 *e*AP pP 03 50 11.8 +5.2
CN2 *e*S **Sn** **03 53 37.9 -4.9**
CN2 *e*SS 03 54 07.1
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,300nm,3.0s
CN2 LR LR
comp=N,700nm,12.0s
CN2 LR LR
comp=E,360nm,12.0s
CN2 LR LR
comp=Z,510nm,13.0s
LZH Lanzhou 20.75 310 *e*P **P** **03 50 09.0 +1.4**
LZH AP 03 50 20.0
LZH XP sP 03 50 25.0 +5.1
LZH PP 03 50 32.2
LZH *e*S **S** **03 53 53.0 -4.6**
LZH XS sS 03 54 08.0 -2.9
LZH AMB AMB
comp=Z,27nm,1.4s
LZH AMB AMB
comp=Z,125nm,4.6s
LZH LR LR
comp=E,304nm,12.6s
LZH LR LR
comp=Z,724nm,14.4s,MS4.2
MDJ Mudanjiang 21.26 12 P **P** **03 50 12.8 -0.2**
MDJ AP 03 50 22.7
MDJ XP sP 03 50 27.8 +2.5
MDJ S **S** **03 54 07.2 -0.3**
MDJ AMB AMB
comp=Z,7.0nm,0.8s,mb4.0
MDJ AMB AMB
comp=Z,68nm,4.7s
MDJ LR LR
comp=E,421nm,17.4s
MDJ LR LR
comp=Z,461nm,15.3s,MS4.0

GUMO Guam 22.78 113 LR LR 03 58 42.8
comp=Z,213nm,18.8s,MS3.6,baz=332,slow=35
CHTO Chiang Mai 23.28 262 *e*P **P** **03 50 35.0 +0.2**
CHTO pmax pmax
comp=Z,5.0nm,1.0s,mb3.9
CHTO Chiang Mai 23.28 262 *e*P **P** **03 50 35.0 +0.3**
comp=Z,4.9nm,1.0s,mb3.9
GTA Gaotai 25.19 313 *e*P **P** **03 50 51.9 -0.3**
GTA AP pP 03 51 04.0 +2.9
GTA XP sP 03 51 08.9 +4.0
GTA PP 03 51 31.5
GTA PCP PcP 03 54 26.8 +1.4
GTA S **S** **03 55 13.3 -2.1**
GTA XS sS 03 55 32.3 +2.1
GTA SS 03 56 17.6
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.2
GTA AMB AMB
comp=Z,75nm,5.7s
GTA LR LR
comp=N,286nm,17.1s,MS4.1
GTA LR LR
comp=E,416nm,14.1s,MS4.1
GTA LR LR
comp=Z,388nm,15.6s,MS4.0
HIA Hailar 25.45 354 *e*P **P** **03 50 52.7 -1.7**
HIA pmax pmax
comp=Z,6.0nm,0.6s
HIA Hailar 25.45 354 *e*P **P** **03 50 52.7 -1.8**
comp=Z,6.5nm,0.6s,mb4.3
ASAJ Asahikawa 25.57 33 P **P** **03 50 54.0 -1.6**
comp=Z,2.1nm,0.4s,mb4.0,baz=178,slow=7.5,SNR=4.7
ASAJ LR LR 04 01 07.8
comp=Z,306nm,21.8s,MS3.8,baz=163,slow=37
KLR Kul'dur 26.11 13 *e*P **P** **03 50 56.3 -4.0**
KLR MLR MLR
comp=N,500nm,11.0s
KLR MLR MLR
comp=Z,1μm,11.0s,MS4.6
ULN Ulaanbaatar 27.19 336⇓*e*P **P** **03 51 09.6 -0.5**
ULN Ulaanbaatar 27.19 336 *e*P **P** **03 51 09.4 -0.7**
comp=Z,4.6nm,1.0s,mb4.0
SONM Songino Array 27.41 335 P **P** **03 51 10.6 -1.5**
SONM LR LR 04 03 16.0
SONM Songino Array 27.41 335 P **P** **03 51 10.6 -1.5**
comp=Z,6.2nm,1.0s,mb4.1,baz=145,slow=10,SNR=7.2
SONM LR LR 04 03 16.0
comp=Z,385nm,19.1s,MS4.0,baz=48,slow=39
YSS Yuzh-Sakhalins 27.74 29 *e*P **P** **03 51 16.3 +1.2**
ZAK Zakamensk 30.68 334 *e*P **P** **03 51 37.9 -3.2**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.9
TLY Talaya 31.58 336 *e*P **P** **03 51 48.8 -0.2**
TLY pmax pmax
comp=Z,4.0nm,0.7s,mb4.4
TLY MLR MLR
comp=Z,248nm,17.0s,MS4.0
JIRN Jiri 33.59 284 *e*P **P** **03 52 08.4 +1.4**
comp=Z,14nm,0.7s,mb5.0
GUN Gumba 33.86 285 *e*P **P** **03 52 10.7 +1.4**
comp=Z,14nm,0.6s,mb5.1
BATI Kupang 33.92 179 LR LR 04 07 18.1
comp=Z,390nm,18.5s,MS4.2,baz=111,slow=39
KKN Kakani 34.39 285 *e*P **P** **03 52 14.7 +0.8**
DMN Daman 34.55 284 *e*P **P** **03 52 16.3 +1.0**
comp=Z,13nm,0.7s,mb5.0
GKN Gorkha 34.95 285 *e*P **P** **03 52 19.0 +0.3**
WMQ Urumqi 35.28 313 P **P** **03 52 22.0 +0.7**
WMQ XP sP 03 52 40.0 +5.8
WMQ PP PP 03 53 42.0 +0.4
WMQ S **S** **03 57 51.0 -2.2**
WMQ AMB AMB
comp=Z,28nm,1.0s,mb5.2
WMQ LR LR
comp=N,152nm,10.0s,MS4.2
WMQ LR LR
comp=E,187nm,12.0s,MS4.2
WMQ LR LR
comp=Z,127nm,12.0s,MS3.9
DANN Dangsing 35.71 286 *e*P **P** **03 52 26.2 +0.9**
comp=Z,22nm,0.8s,mb5.1
YAK Yakutsk 38.33 5 *e*P **P** **03 52 45.1 -2.0**
YAK pmax pmax
comp=Z,24nm,0.8s,mb5.0
YAK Yakutsk 38.33 5 *e*P **P** **03 52 45.1 -1.9**
comp=Z,24nm,0.8s,mb5.0
MK31 Makanchi Array 39.91 315 *e*P **P** **03 53 00.4 -0.1**
MKAR Makanchi Array 39.91 315 P **P** **03 53 00.2 -0.3**
comp=Z,2.9nm,0.6s,mb4.2,baz=100,slow=11,SNR=36
MKAR PcP PcP 03 55 04.5 -1.1
comp=Z,1.1nm,0.7s,baz=91,slow=5.0,SNR=4.4
ZAA0 Zalesovo Array 41.55 326 *e*P **P** **03 53 11.9 -2.0**
ZALV Zalesovo Beam 41.55 326 P **P** **03 53 12.2 -1.8**
comp=Z,7.1nm,0.6s,mb4.5,baz=108,slow=7.9,SNR=26
ZALV PcP PcP 03 55 09.9 -0.9
comp=Z,0.9nm,0.4s,baz=101,slow=7.5,SNR=2.6
ZALV LR LR 04 11 48.3
comp=Z,229nm,18.4s,MS4.1,baz=301,slow=38
ZAL Zalesovo 41.56 326 P **P** **03 53 12.2 -1.8**
ZAL 03 55 09.9
FITZ Fitzroy Crossi 41.83 177 *e*P **P** **03 53 15.2 -1.3**
comp=Z,11nm,2.0s,mb4.2
TKM2 Tokmak 2 43.49 308 *e*P **P** **03 53 30.2 +0.3**
TKM2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
TKM2 Tokmak 2 43.49 308 *e*P **P** **03 53 30.2 +0.4**
comp=Z,7.9nm,0.7s,mb4.5
SEY Seymchan 43.56 19 *i*P **P** **03 53 30.4 +0.3**
KURK Kurchatov 43.57 320 *d i*P **P** **03 53 29.7 -0.7**
KURK Kurchatov 43.57 320 *e*P **P** **03 53 28.7 -1.6**
comp=Z,4.6nm,0.8s,mb4.3
UCH Uchtor 44.17 307 *e*P **P** **03 53 37.2 +1.8**
comp=Z,7.6nm,1.0s,mb4.4
AAK Ala-Archa 44.24 307⇓*e*P **P** **03 53 35.9 0.0**
AAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
AAK Ala-Archa 44.24 307 *e*P **P** **03 53 35.5 -0.4**
comp=Z,1.4nm,0.6s,mb3.9
AAK Ala-Archa 44.24 307 P **P** **03 53 36.0 +0.1**
comp=Z,2.3nm,0.6s,mb4.1,baz=44,slow=3.3,SNR=5.9
AAK PcP PcP 03 55 19.0 -1.1
comp=Z,1.0nm,0.3s,baz=85,slow=5.6,SNR=3.5
EKS2 Erkin-Say 44.77 307 *e*P **P** **03 53 40.4 +0.3**
comp=Z,2.5nm,0.7s,mb4.2
WRA Warramunga Arr 44.90 165 *i*P **P** **03 53 40.7 -0.5**
WRA pmax pmax
comp=Z,5.0nm,0.7s
WRA Warramunga Arr 44.90 165 P **P** **03 53 40.2 -1.1**
comp=Z,4.7nm,0.7s,mb4.5,baz=348,slow=8.9,SNR=30
WB2 Warramunga Arr 44.90 165 *e*P **P** **03 53 39.9 -1.4**
TIXI Tiksi 47.85 2 *e*P **P** **03 54 01.9 -2.0**
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,338nm,17.0s,MS4.4
TIXI Tiksi 47.85 2 *e*P **P** **03 54 01.4 -2.5**
comp=Z,5.4nm,0.8s,mb4.6
KBL Kabul 48.07 296 *e*P **P** **03 54 07.6 +1.5**
KBL pmax pmax
comp=Z,28nm,1.3s,mb5.1
KBL Kabul 48.07 296 *e*P **P** **03 54 07.5 +1.4**
comp=Z,28nm,1.3s,mb5.1
ASAR Alice Springs 48.40 167 P **P** **03 54 08.9 +0.3**
comp=Z,2.4nm,0.6s,mb4.4,baz=352,slow=15,SNR=35
HNR Honiara 48.75 129 LR LR 04 12 29.5
comp=Z,101nm,18.9s,MS3.8,baz=359,slow=33
BVAR Borovoye Array 49.14 320 P **P** **03 54 13.6 -0.5**
comp=Z,1.1nm,0.5s,mb4.1,baz=90,slow=8.9,SNR=3.4
BRVK Borovoye 49.21 320 *e*P **P** **03 54 14.1 -0.5**
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRVK Borovoye 49.21 320 *e*P **P** **03 54 14.1 -0.5**
comp=Z,8.8nm,1.0s,mb4.7
BILL Bilibino 51.26 19⇑*e*P **P** **03 54 29.8 -0.1**
BILL *e* 03 56 22.5
BILL *e*S **S** **04 01 49.8 +3.4**
BILL pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BILL MLR MLR
comp=Z,200nm,21.0s,MS4.1
FORT Forrest 54.58 175 *e*P **P** **03 54 53.9 -0.9**
comp=Z,7.7nm,0.7s,mb4.8
AKTK Aktyubinsk 56.35 316 P **P** **03 55 07.6 +0.2**
AKTO Aktyubinsk 56.35 316 P **P** **03 55 07.6 +0.2**
comp=Z,2.0nm,0.7s,mb4.3,baz=103,slow=11,SNR=7.1
NWAO Narrogin (SRO) 56.83 186 LR LR 04 22 47.2

comp=Z,159nm,19.0s,MS4.1,baz=354,slow=39
GAMB Gambell 57.76 28 *e*P **P** **03 55 17.2 0.0**
comp=Z,5.4nm,1.0s,mb4.5
STKA Stephens Creek 58.16 162 *e*P **P** **03 55 20.7 +0.4**
comp=Z,4.3nm,0.6s,mb4.7
STKA Stephens Creek 58.16 162 P **P** **03 55 20.7 +0.4**
comp=Z,5.4nm,0.7s,mb4.7,baz=333,slow=7.3,SNR=14
TTA Tatalina 64.74 30 *e*P **P** **03 56 05.0 +0.6**
TTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
TTA Tatalina 64.74 30 *e*P **P** **03 56 05.0 +0.6**
comp=Z,10nm,1.0s,mb4.8
SVW2 Sparrevohn 65.07 32 *e*P **P** **03 56 07.2 +0.7**
IMA2 Indian Mountai 65.55 26 *e*P **P** **03 56 09.9 +0.3**
QRN Al-Qurain 66.74 292 *e*P **P** **03 56 17.5 -0.4**
QRN AMb AMB 03 56 18.9
comp=Z,34nm,0.9s,mb5.4
MIB Mutribah 66.95 294 *e*P **P** **03 56 19.5 +0.2**
MIB AMb AMB 03 56 21.0
comp=Z,34nm,0.7s,mb5.5
RDF Al-Radifah 67.00 293 *e*P **P** **03 56 19.8 +0.2**
RDF AMb AMB 03 56 21.1
comp=Z,51nm,0.7s,mb5.7
NAY Al-Naaiem 67.17 293 *e*P **P** **03 56 20.7 0.0**
NAY AMb AMB 03 56 22.0
comp=Z,25nm,0.7s,mb5.4
KIV Kislovodsk 67.29 309⇓*e*P **P** **03 56 22.3 +1.1**
KIV pmax pmax
comp=Z,29nm,1.6s,mb5.1
MCK McKinley 67.83 29 *e*P **P** **03 56 24.2 0.0**
MCK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
MCK McKinley 67.83 29 *e*P **P** **03 56 24.2 0.0**
comp=Z,6.8nm,0.8s,mb4.7
PMR Palmer 68.09 31 *e*P **P** **03 56 25.1 -0.8**
PMR pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
PMR Palmer 68.09 31 *e*P **P** **03 56 25.1 -0.8**
comp=Z,7.5nm,1.1s,mb4.6
COLA College 68.11 27 *i*P **P** **03 56 26.1 +0.2**
COLA College 68.11 27 *e*P **P** **03 56 25.5 -0.5**
comp=Z,3.0nm,0.6s,mb4.5
OBN Obninsk 68.93 322⇑*e*P **P** **03 56 30.4 -0.8**
OBN *e*S S 04 05 36.8 +3.3
OBN pmax pmax
comp=Z,24nm,1.7s,mb4.8
SOC Sochi 69.47 310 *e*P **P** **03 56 33.7 -1.1**
SOC *e*PPP 04 00 43.2
SOC *e*S S 04 05 42.0 +1.7
SOC pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
JOF Joensuu 69.91 331 *e*p **P** **03 56 35.9 -1.2**
comp=Z,1.4nm,0.4s,mb4.2
KEV Kevo 69.95 338 *e*p **P** **03 56 33.3 -4.0**
comp=Z,0.4nm,0.4s,mb3.7
ARCES ARCESS Array B 70.52 338 P **P** **03 56 40.7 -0.1**
comp=Z,2.5nm,0.9s,mb4.2,baz=77,slow=7.6,SNR=8.7
ANN Anapa 70.76 311 *e*P **P** **03 56 41.9 -0.8**
ANN *e*S S 04 05 55.8 +0.4
ANN pmax pmax
comp=Z,37nm,0.9s,mb5.3
EGAK Eagle 70.92 27 *e*P **P** **03 56 42.9 -0.4**
comp=Z,3.9nm,0.8s,mb4.4
MALT Malatya 71.79 304 *e*P **P** **03 56 49.7 +0.7**
comp=Z,46nm,1.3s,mb5.2
MALT Malatya 71.79 304⇑*i*P **P** **03 56 50.1 +1.1**
DAWY Dawson 71.86 27 *e*P **P** **03 56 49.2 +0.3**
FINES FINESS Array B 72.67 330 *i*P **P** **03 56 53.5 -0.4**
FINES pmax pmax
comp=Z,6.0nm,0.7s
FINES FINESS Array B 72.67 330 P **P** **03 56 53.6 -0.3**
comp=Z,5.5nm,0.7s,mb4.6,baz=67,slow=6.0,SNR=31
INK Inuvik 72.72 22 *e*P **P** **03 56 53.8 -0.3**
comp=Z,268nm,0.7s
SIM Simferopol' 72.99 312 *e*P **P** **03 56 56.2 +0.1**
SIM pmax pmax
comp=Z,13nm,0.7s,mb5.0
AKASG Malin Array Be 74.38 319 P **P** **03 57 03.4 -0.8**
comp=Z,5.0nm,0.7s,mb4.5,baz=59,slow=6.2,SNR=17
AKBB Malin Array Si 74.38 319 *e*P **P** **03 57 02.5 -1.6**
KIEV Kiev 74.39 319 *e*P **P** **03 57 03.0 -1.2**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KIEV Kiev 74.39 319 *e*P **P** **03 57 03.0 -1.2**
comp=Z,2.7nm,0.6s,mb4.3
ASF Jabal al Asfar 74.84 299 P **P** **03 57 08.1 +0.9**
comp=Z,3.4nm,0.7s,mb4.4,baz=308,slow=5.6,SNR=10.0
ANTO Ankara 75.49 307 *e*P **P** **03 57 11.2 +0.4**
comp=Z,12nm,0.6s,mb5.0
ANTO Ankara 75.49 307⇑*i*P **P** **03 57 10.8 0.0**
MMAI Mount Meron Ar 75.75 300 P **P** **03 57 13.5 +1.1**
comp=Z,0.4nm,0.3s,mb3.8,baz=91,slow=10,SNR=4.1
SUW Suwalki 76.70 323 *e*P **P** **03 57 17.1 -0.2**
SUW Suwalki 76.70 323 *e*P **P** **03 57 17.1 -0.2**
CSS Prodhromos 76.72 302 *e*P **P** **03 57 17.0 -0.8**
comp=Z,8.8nm,0.6s,mb4.9
TIRR Tirgusor 77.00 313⇓*i*P **P** **03 57 19.5 +0.3**
HARR Harsova 77.24 313⇓*i*P **P** **03 57 21.1 +0.5**
VRI Vrincioaia 77.61 315⇓*i*P **P** **03 57 23.9 +1.3**
BURAR Bucovina Array 77.92 317⇓*i*P **P** **03 57 24.5 +0.2**
MLR Muntele Rosu 78.25 315⇓*i*P **P** **03 57 27.1 +0.9**
RES Resolute Bay 78.59 10 *e*P **P** **03 57 26.8 -0.8**
comp=Z,160nm,0.9s
KWP Kalwaria 78.67 319 *e*P **P** **03 57 29.1 +0.6**
KWP Kalwaria 78.67 319 *e*P **P** **03 57 29.1 +0.6**
KWP Kalwaria 78.67 319⇑*i*P **P** **03 57 28.4 -0.1**
KOLS Kolonicke sedl 79.22 319 *e*P **P** **03 57 31.6 +0.2**
NB2 NORSAR Subarra 79.37 333 P **P** **03 57 31.3 -0.8**
comp=Z,5.4nm,0.6s,mb4.7,baz=56,slow=5.6
NOA NORSAR Array B 79.37 333 P **P** **03 57 31.6 -0.4**
comp=Z,4.6nm,0.6s,mb4.6,baz=56,slow=5.7,SNR=28
NAO01 NORSAR Array S 79.61 333 *e*P **P** **03 57 32.4 -1.0**
STHS Stebnicka Huta 79.63 320 *e*P **P** **03 57 34.0 +0.3**
STHS pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
STHS Stebnicka Huta 79.63 320 *e*P **P** **03 57 34.0 +0.3**
comp=Z,1.9nm,0.7s,mb4.1
CRVS Cervenica-Dubn 79.72 319 *e*P **P** **03 57 34.1 -0.1**
DRGR 79.82 317⇑*i*P **P** **03 57 35.3 +0.5**
OJC Ojcow 80.14 321 *e*P **P** **03 57 36.4 0.0**
NIE Niedzica 80.18 320 *e*P **P** **03 57 37.6 +0.9**
PSZ Piszkesteto 81.08 319 *e*P **P** **03 57 41.9 +0.4**
PSZ pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
PSZ Piszkesteto 81.08 319 *e*P **P** **03 57 41.9 +0.4**
comp=Z,1.8nm,0.8s,mb4.0
VTS Vitosha 81.21 313⇓*i*P **P** **03 57 43.3 +1.0**
OKC Ostrava-Krasne 81.27 321 *e*P **P** **03 57 43.0 +0.5**
VYHS Vyhne 81.46 319 *i*P **P** **03 57 44.2 +0.7**
VYHS pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
VYHS Vyhne 81.46 319 *i*P **P** **03 57 44.2 +0.7**
comp=Z,4.4nm,1.2s,mb4.3
VYHS Vyhne 81.46 319 *i*P **P** **03 57 44.1 +0.6**
MORC Moravsky Berou 81.64 321 *e*P **P** **03 57 44.2 -0.3**
MORC pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
MORC Moravsky Berou 81.64 321 *e*P **P** **03 57 44.2 -0.3**
comp=Z,3.5nm,1.0s,mb4.2
MORC Moravsky Berou 81.64 321⇓*i*P **P** **03 57 44.4 -0.1**
KSP Ksiaz 81.86 322 *e*P **P** **03 57 46.2 +0.6**
KSP Ksiaz 81.86 322⇑*e*P **P** **03 57 46.0 +0.4**
DPC Dobruska-Polom 82.08 322 *e*P **P** **03 57 47.2 +0.5**
SANT Santorini 82.15 306 *e*P **P** **03 57 46.0 -1.4**
comp=Z,23nm,1.0s,mb5.1
UPC Upice 82.18 322 *e*P **P** **03 57 47.8 +0.5**
VRAC Vranov 82.41 321⇓*i*P **P** **03 57 49.2 +0.7**
YKA Yellowknife Ar 82.43 23 P **P** **03 57 48.2 -0.1**
comp=Z,2.5nm,0.6s,mb4.3,baz=304,slow=5.2,SNR=104
PKSM Moragy 82.60 317⇓*i*P **P** **03 57 49.2 -0.4**
PVCC Panska Ves 82.97 322 *e*P **P** **03 57 53.5 +2.1**
TREC Trest 83.05 321 *e*P **P** **03 57 52.4 +0.6**
BRG Berggiesshubel 83.15 323 *e*P **P** **03 57 52.2 -0.1**
BRG pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
BRG Berggiesshubel 83.15 323 *e*P **P** **03 57 52.2 -0.1**
comp=Z,6.0nm,1.3s,mb4.5
PRU Pruhonice 83.25 322 *e*P **P** **03 57 53.3 +0.4**
CLL Collm 83.45 324 *e*P **P** **03 57 54.0 +0.2**
CLL *i* pP 03 58 03.2 -0.5
CLL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
CLL Collm 83.45 324 *e*P **P** **03 57 54.0 +0.2**
comp=Z,3.0nm,0.7s,mb4.4
CLL *i*sP sP 03 58 03.2 -4.1

KHC	Kasperske Hory	84.22	322	eP	P	03 57 57.9	0.0
GEC2	GERESS Array S	84.30	321	eP	P	03 57 57.7	-0.5
GERES	GERESS Array B	84.30	321	P	P	03 57 58.4	+0.2
	comp=Z,3.8nm,0.8s,mb4.6,baz=57,slow=4.9,SNR=43						
GRA1	Grafenberg Arr	85.26	323	eP	P	03 58 03.3	+0.3
	comp=Z,8.0nm,1.6s,mb4.6						
GRA1				epP	pP	03 58 12.9	-0.1
GRF	Grafenberg Arr	85.26	323	eP	P	03 58 03.3	+0.3
GRF				e*PP	pP	03 58 12.9	-0.1
GRF				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.6						
GRF	Grafenberg Arr	85.26	323	eP	P	03 58 03.3	+0.3
GRF				e*PP	pP	03 58 12.9	-0.1
GRF				pmax	pmax		
	comp=Z,8.0nm,1.6s,mb4.6						
GRF	Grafenberg Arr	85.26	323	eP	P	03 58 03.3	+0.3
	comp=Z,8.0nm,1.6s,mb4.6						
GRF				epP	pP	03 58 12.9	-0.1
CDF	Champ du Feu	88.13	323	eP	P	03 58 16.7	-0.4
UCC	Uccle	88.27	326	P	P	03 58 16.7	-1.1
HINF	Hinteralfeld	88.70	323	eP	P	03 58 18.9	-0.9
HAU	Haudompre	88.87	323	eP	P	03 58 18.7	-1.9
NEW	Newport	90.07	36	eP	P	03 58 27.7	+1.5
NEW				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NEW	Newport	90.07	36	eP	P	03 58 27.7	+1.5
	comp=Z,2.0nm,0.9s,mb4.5						
LPG	La Plagne	90.09	321	⇑iP	P	03 58 26.6	+0.2
	comp=Z,15nm,0.8s,mb5.1						
LPG	La Plagne	90.09	321	⇑iP	P	03 58 26.6	+0.2
LPG				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
LPG	La Plagne	90.09	321	⇑iP	P	03 58 26.6	+0.2
	comp=Z,7.4nm,0.8s,mb5.1						
LPL	La Plagne	90.09	321	⇑iP	P	03 58 26.4	0.0
	comp=Z,8.3nm,0.7s,mb4.9						
LPL	La Plagne	90.09	321	⇑iP	P	03 58 26.4	0.0
LPL				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.9						
LPL	La Plagne	90.09	321	⇑iP	P	03 58 26.4	0.0
	comp=Z,4.2nm,0.7s,mb4.9						
BNI	Bardonecchia	90.39	321	eP	P	03 58 27.6	-0.2
BNI				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.7						
BNI	Bardonecchia	90.39	321	eP	P	03 58 27.6	-0.2
	comp=Z,4.4nm,1.0s,mb4.7						
ORIF	Oris-en-Rattie	90.93	321	eP	P	03 58 30.0	-0.3
	comp=Z,7.3nm,0.8s,mb4.8						
ORIF	Oris-en-Rattie	90.93	321	eP	P	03 58 30.0	-0.3
ORIF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
ORIF	Oris-en-Rattie	90.93	321	eP	P	03 58 30.0	-0.3
	comp=Z,3.7nm,0.8s,mb4.8						
SMF	Signal de Mont	91.05	323	eP	P	03 58 30.2	-0.6
	comp=Z,6.1nm,0.8s,mb4.7						
SMF	Signal de Mont	91.05	323	eP	P	03 58 30.2	-0.6
SMF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
SMF	Signal de Mont	91.05	323	eP	P	03 58 30.2	-0.6
	comp=Z,3.0nm,0.8s,mb4.7						
AVF	Avril sur Loir	91.23	323	eP	P	03 58 31.0	-0.6
	comp=Z,9.1nm,1.2s,mb4.7						
AVF	Avril sur Loir	91.23	323	eP	P	03 58 31.0	-0.6
AVF				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.7						
AVF	Avril sur Loir	91.23	323	eP	P	03 58 31.0	-0.6
	comp=Z,4.6nm,1.2s,mb4.7						
FCC	Fort Churchill	91.98	18	eP	P	03 58 34.4	-0.4
FCC				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.7						
FCC	Fort Churchill	91.98	18	eP	P	03 58 34.4	-0.5
	comp=Z,2.7nm,0.7s,mb4.7						
FFC	Flin Flon	92.56	24	eP	P	03 58 37.2	-0.4
FFC				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.9						
FFC	Flin Flon	92.56	24	eP	P	03 58 37.2	-0.5
	comp=Z,5.5nm,0.9s,mb5.0						
RJF	Les Rejaudoux	93.15	323	eP	P	03 58 39.6	-1.0
	comp=Z,5.2nm,0.8s,mb4.7						
RJF	Les Rejaudoux	93.15	323	eP	P	03 58 39.6	-1.0
RJF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.8						
RJF	Les Rejaudoux	93.15	323	eP	P	03 58 39.6	-1.0
	comp=Z,2.6nm,0.8s,mb4.7						
NVAR	Mina Array Bea	95.25	44	P	P	03 58 51.8	+1.4
	comp=Z,0.4nm,0.7s,mb4.0,baz=291,slow=6.3,SNR=3.3						
SDV	Santo Domingo	144.64	24	ePKPdf	PKPdf	04 05 02.2	-1.6
ROSC	El Rosal	146.60	33	PKPbc	PKPbc	04 05 10.8	+2.1
	comp=Z,1.9nm,0.5s,baz=107,slow=18,SNR=4.7						
RCBR	Riachuelo	153.14	309	ePKPdf	PKPdf	04 05 15.7	-1.8

WEL 06 03:47:29.5±0.5, 4055S×17326E, h197km±3km, ML3.6/13, Error ellipse: s-maj=3.2km s-min=2.4km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DUWZ	D'Urville Isla	0.56	117	PN	Pn	03 47 56.5	+0.1
DUWZ				SN	Sn	03 48 16.7	-0.6
QRZ	Quartz Range	0.62	243	PN	Pn	03 47 56.4	-0.3
QRZ				SN	Sn	03 48 16.0	-1.7
NNZ	Nelson	0.67	172	PN	Pn	03 47 56.7	-0.2
NNZ				SN	Sn	03 48 17.4	-1.0
TCW	Tory Channel	1.01	131	PN	Pn	03 47 59.1	+0.2
TUWZ	Tuamarina	1.02	150	PN	Pn	03 47 59.0	0.0
THZ	Tophouse	1.24	192	PN	Pn	03 48 00.6	0.0
BSWZ	Blackbirch Sta	1.25	158	PN	Pn	03 48 00.9	+0.2
MRW	Makara Radio	1.28	122	PN	Pn	03 48 01.0	0.0
KIW	Kapiti Island	1.29	104	PN	Pn	03 48 01.0	0.0
SNZO	South Karori	1.33	125	PN	Pn	03 48 01.2	-0.1
CAW	Cannon Point	1.48	113	PN	Pn	03 48 02.6	0.0
BHW	Baring Head	1.49	126	PN	Pn	03 48 02.4	-0.3
MSWZ	Moikau Station	1.73	120	PN	Pn	03 48 04.8	-0.2
MRZ	Mangatainoka R	1.77	94	PN	Pn	03 48 05.3	0.0
MTW	Mount Morrison	1.81	110	PN	Pn	03 48 05.6	-0.1
PLWZ	Palliser	1.82	125	PN	Pn	03 48 05.5	-0.3
PAWZ	Paruwai Farm	1.84	118	PN	Pn	03 48 05.8	-0.2
KHZ	Kahutara	1.88	174	PN	Pn	03 48 05.8	-0.6
BFZ	Birch Farm	2.28	94	PN	Pn	03 48 10.8	+0.2
MQZ	McQueen's Vall	3.19	188	SN	Sn	03 48 56.2	-5.4

*BJI **06** 03:53:44.0, 2407N×6208E, h31km, mB5.1, mb4.6, Ms4.6, Msz4.3*
*SZGRF **06** 03:53:51.0, 2351N×6237E, h31km, mb4.9, Off coast of Pakistan*
*ISCJB **06** 03:53:53.2±0.4, 2496N±005×6296E±003, h27km, mb4.3/47, MS3.6/4, Error ellipse: s-maj=8.0km s-min=3.9km az=161.5*
*CSEM **06** 03:53:53.6±0.1, 2505N×6293E, h27km, mb4.6/22, Error ellipse: s-maj=5.6km s-min=2.4km az=144.0*
*MOS **06** 03:53:55.0±0.8, 2510N×6296E, h33km, mb4.6/34, Error ellipse: s-maj=9.4km s-min=5.6km az=112.3*
*IDC **06** 03:53:55.4±1.3, 2502N×6296E, h25km±4km, mb4.1/14, mb1 4.1/15, mb1mx3.9/25, mbtmp4.1/15, Error ellipse: s-maj=25.9km s-min=17.4km az=156.0*
*NEIC **06** 03:53:56.2±3.7, 2503N×6299E, h32km±25km, mb4.6/28, Error ellipse: s-maj=14.6km s-min=5.9km az=167.0*
ISC 06 03:53:55.5±0.4, 2497N±005×6295E±003, h29km, h29km±.5km: pP-P, n189, o0:88/197, mb4.3/47, MS3.6/4, 5C-15D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	4.34	238	⇓Pn	Pn	03 54 58.4	-1.2
	SNR=50						
WBK	Wadi Bani Khal	4.34	238	⇓P	Pn	03 54 58.4	-1.2
	SNR=50						
WBK				⇓S	Sn	03 55 43.2	-6.0
BIDO	Bidbid	4.63	253	⇓Pn	Pn	03 55 03.8	+0.1
	SNR=22						
BIDO	Bidbid	4.63	253	⇓P	Pn	03 55 03.8	+0.1
	SNR=22						
BIDO				⇑S	Sn	03 55 50.9	-5.6
SMDO	Samad	4.87	248	⇓Pn	Pn	03 55 05.9	-1.0
	SNR=17						
JMDO	Jabal Madar	5.14	241	⇑Pn	Pn	03 55 09.9	-0.8
	SNR=15						
JMDO	Jabal Madar	5.14	241	⇑P	Pn	03 55 09.9	-0.8
	SNR=15						
JMDO				⇓S	Sn	03 56 04.5	-4.6
HOQ	Hoqain	5.33	256	⇑P	Pn	03 55 12.1	-1.1
BSYO	Bisya	5.68	248	P	Pn	03 55 18.8	+0.7
	SNR=9.2						
BSY	Bisya	5.71	248	⇑P	Pn	03 55 18.8	+0.4
	SNR=9.2						
BANOM	Banah	6.09	280	Pn	Pn	03 55 22.5	-1.1
	SNR=48						
BANOM	Banah	6.09	280	P	Pn	03 55 22.5	-1.1
	SNR=48						
BANOM				⇓S	Sn	03 56 24.3	-8.1
ASHO	Ashiyiah	6.27	269	Pn	Pn	03 55 25.3	-0.8
	SNR=70						
KBL	Kabul	10.90	28	ePn	Pn	03 56 28.1	-1.5
	7.1nm,0.6s						
KBL	Kabul	10.90	28	eP	Pn	03 56 28.1	-1.5
THW	Thamme Wali	10.96	43	P	Pn	03 56 27.0	-3.3
CHCP	Chirah Chowk	12.48	44	P	Pn	03 56 47.8	-3.4
QRN	Al-Qurain	13.94	289	eP	Pn	03 57 06.9	-4.2
RDF	Al-Radifah	14.29	289	eP	Pn	03 57 11.8	-4.2
RDF				AML	AML	03 59 40.8	
	comp=Z,15nm,0.3s						
UMR	Umm Al-Rimmam	14.30	292	eP	Pn	03 57 12.3	-3.7
UMR				AML	AML	03 59 41.4	
	comp=Z,22nm,0.5s						
NAY	Al-Naaiem	14.62	290	eP	Pn	03 57 16.4	-4.1
NAY				AML	AML	03 59 49.0	
	comp=Z,6.1nm,0.5s						
KOLN	Koldanda	18.71	77	eP	Pn	03 58 12.2	-0.1
DANN	Dangsing	18.90	75	eP	Pn	03 58 14.1	-0.5
	comp=Z,42nm,0.8s						
AML	Almayashu	19.29	25	eP	Pn	03 58 17.6	-1.6
	comp=Z,25nm,0.6s						
AML	Almayashu	19.29	25	P	Pn	03 58 19.2	+0.1
	SNR=34						
AML	Almayashu	19.29	25	eP	Pn	03 58 17.6	-1.5
	comp=Z,25nm,0.6s						
GKN	Gorkha	19.64	76	eP	Pn	03 58 23.3	-0.2
	comp=Z,15nm,0.7s						
UCH	Uchtor	19.69	26	eP	Pn	03 58 22.1	-1.8
UCH	Uchtor	19.69	26	P	Pn	03 58 23.3	-0.6
	SNR=18						
UCH	Uchtor	19.69	26	eP	Pn	03 58 22.1	-1.8
EKS2	Erkin-Say	19.77	24	eP	Pn	03 58 23.4	-1.5
	comp=Z,17nm,0.9s						
EKS2	Erkin-Say	19.77	24	P	Pn	03 58 23.6	-1.3
	SNR=15						
EKS2	Erkin-Say	19.77	24	eP	Pn	03 58 23.4	-1.5
	comp=Z,17nm,0.9s						
KZA	Kyzart	19.87	28	P	Pn	03 58 24.9	-1.2
	SNR=23						
AAK	Ala-Archa	20.02	26	eP	P	03 58 25.5	-0.5
AAK				pmax	pmax		
	comp=Z,13nm,0.8s						
AAK	Ala-Archa	20.02	26	eP	P	03 58 25.5	-0.6
	comp=Z,13nm,0.8s						
AAK	Ala-Archa	20.02	26	P	P	03 58 25.8	-0.3
	comp=Z,1.5nm,0.3s,baz=199,slow=8.2,SNR=23						
AAK	Ala-Archa	20.02	26	P	P	03 58 27.0	+1.0
	SNR=13						
AAK	Ala-Archa	20.02	26	eP	P	03 58 25.5	-0.5
	comp=Z,13nm,0.8s						
DMN	Daman	20.04	78	eP	P	03 58 27.2	+0.9
KKN	Kakani	20.20	77	eP	P	03 58 29.6	+1.5
	comp=Z,15nm,0.5s						
KBK	Karagaybulak	20.22	26	P	P	03 58 29.2	+1.1
	SNR=13						
FRU	Bishkek	20.24	25	eP	P	03 58 29.0	+0.6
FRU				pmax	pmax		
	comp=Z,45nm,2.1s						
FRU	Bishkek	20.24	25	eP	P	03 58 29.0	+0.6
	comp=Z,45nm,2.1s						
CHMS	Chumysh	20.43	25	P	P	03 58 31.0	+0.5
	SNR=7.5						
ULHL	Ulahol	20.43	29	P	P	03 58 31.8	+1.3
	SNR=75						
USP	Ospenovka	20.57	25	P	P	03 58 31.9	0.0
	SNR=24						
TKM2	Tokmak 2	20.71	27	eP	P	03 58 33.4	0.0
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	Tokmak 2	20.71	27	eP	P	03 58 33.4	0.0
	comp=Z,7.6nm,0.6s						
TKM2	Tokmak 2	20.71	27	P	P	03 58 33.6	+0.1
	SNR=6.7						
TKM2	Tokmak 2	20.71	27	eP	P	03 58 33.4	0.0
	comp=Z,7.6nm,0.6s						
GUN	Gumba	20.73	77	eP	P	03 58 34.7	+0.8
	comp=Z,55nm,0.8s						
JIRN	Jiri	21.00	78	eP	P	03 58 37.3	+0.6
DGRG	David-gareji	21.99	323	P	P	03 58 49.4	+2.2
ASF	Jabal al Asfar	23.94	293	P	P	03 59 09.0	+1.7
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF	Jabal al Asfar	23.94	293	P	P	03 59 09.0	+1.7
	comp=Z,1.0nm,0.3s,mb3.7,baz=297,slow=9.0,SNR=3.4						
MALT	Malatya	24.67	309	eP	P	03 59 15.5	+1.7
MALT				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.2						
MALT	Malatya	24.67	309	eP	P	03 59 15.5	+1.7
	comp=Z,12nm,1.4s,mb4.2						
KIV	Kislovodsk	25.14	324	eP	P	03 59 20.5	+2.5
KIV				eS	S	04 03 45.5	+4.4
KIV				pmax	pmax		
	comp=Z,45nm,1.2s,mb4.9						
KIV				MLR	MLR		
	comp=Z,34nm,14.0s,MS3.0						
KIV	Kislovodsk	25.14	324	eP	P	03 59 19.7	+1.6
	comp=Z,66nm,1.1s,mb5.1						
KIV	Kislovodsk	25.14	324	eP	P	03 59 19.7	+1.7
	comp=Z,66nm,1.1s,mb5.1						
AKTK	Aktyubinsk	25.71	353	P	P	03 59 23.6	+0.5
AKTK	Aktyubinsk	25.71	353	P	P	03 59 23.6	+0.5
AKTO	Aktyubinsk	25.71	353	P	P	03 59 23.7	+0.6
AKTO				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.6						
AKTO	Aktyubinsk	25.71	353	P	P	03 59 23.6	+0.5
	comp=Z,13nm,0.6s,mb4.6,baz=160,slow=11,SNR=49						
SOC	Sochi	26.56	320	eP	P	03 59 30.4	-0.5
SOC				ePPP		04 00 20.9	
SOC				eS	S	04 04 02.3	-1.3
SOC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.1						
SOC	Sochi	26.56	320	eP	P	03 59 30.4	-0.5
	comp=Z,4.0nm,0.6s,mb4.1						
MK31	Makanchi Array	26.69	30	eP	P	03 59 32.0	-0.1
MK31				e		03 59 42.2	
MKAR	Makanchi Array	26.69	30	P	P	03 59 32.4	+0.3
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	Makanchi Array	26.69	30	P	P	03 59 32.4	+0.3
	comp=Z,5.3nm,0.7s,mb4.2,baz=210,slow=9.4,SNR=42						
CSS	Prodhromos	27.44	298	eP	P	03 59 39.7	+0.8
	comp=Z,6.4nm,0.9s,mb4.2						
CSS	Prodhromos	27.44	298	eP	P	03 59 39.7	+0.8
	comp=Z,6.4nm,0.9s,mb4.2						
WMQ	Urumqi	27.59	41	eP	P	03 59 40.0	-0.2
KURK	Kurchatov	28.40	21	eP	P	03 59 47.2	-0.2
KURK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
KURK	Kurchatov	28.40	21	eP	P	03 59 47.1	-0.2
	comp=Z,2.5nm,0.7s,mb4.0						
KURK	Kurchatov	28.40	21	eP	P	03 59 47.2	-0.2
	comp=Z,2.5nm,0.7s,mb4.0						
BVAR	Borovoye Array	28.57	9	P	P	03 59 49.1	+0.3
BVAR				*PP	pP	03 59 56.9	-0.3
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
BVAR	Borovoye Array	28.57	9	P	P	03 59 49.1	+0.3
	comp=Z,2.2nm,0.5s,mb4.2,baz=182,slow=8.9,SNR=10						
BVAR				pP	pP	03 59 56.9	-0.3
	comp=Z,5.8nm,0.6s,baz=181,slow=9.7,SNR=10						
BRVK	Borovoye	28.59	9	eP	P	03 59 49.4	+0.4
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
BRVK	Borovoye	28.59	9	eP	P	03 59 49.4	+0.4
	comp=Z,4.1nm,0.7s,mb4.3						
BRVK	Borovoye	28.59	9	eP	P	03 59 49.4	+0.4
	comp=Z,4.1nm,0.7s,mb4.3						
ZAL	Zalesovo	33.21	24	P	P	04 00 29.5	-0.2
ZAL				*PP	pP	04 00 37.9	-0.2
ZAA0	Zalesovo Array	33.23	24	eP	P	04 00 29.2	-0.7
ZAA0	Zalesovo Array	33.23	24	eP	P	04 00 29.2	-0.6
ZALV	Zalesovo Beam	33.23	24	P	P	04 00 29.5	-0.3
ZALV				pP	pP	04 00 37.9	-0.3
ZALV	Zalesovo Beam	33.23	24	P	P	04 00 29.5	-0.3
	comp=Z,3.2nm,0.5s,mb4.5,baz=227,slow=10.0,SNR=15						
ZALV				pP	pP	04 00 37.9	-0.3
	comp=Z,2.5nm,0.6s,baz=228,slow=11,SNR=4.4						
GTA	Gaotai	34.10	56	eP	P	04 00 39.3	+1.6
GTA				AP	pP	04 00 45.6	-0.5
GTA				XP	sP	04 00 49.3	-0.3
GTA				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
OBN	Obninsk	35.83	334	⇓eP	P	04 00 52.9	+0.6
OBN				eS	S	04 06 24.6	-3.4
OBN				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS3.6						
CD2	Chengdu	36.38	71	eP	P	04 00 55.5	-1.9
CD2				S	S	04 06 34.9	-2.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,120nm,11.6s						
CD2				LR	LR		
	comp=Z,100nm,12.2s,MS3.8						
AKASG	Malin Array Be	36.48	324	P	P	04 00 57.9	-0.1
AKASG				*PP	pP	04 01 05.7	-0.8
AKASG				pmax	pmax		
	comp=Z,7.0nm,0.6s						
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.9s						
AKASG	Malin Array Be	36.48	324	P	P	04 00 57.9	-0.1
AKASG				pP	pP	04 01 05.7	-0.8
AKASG	Malin Array Be	36.48	324	P	P	04 00 57.9	-0.1
	comp=Z,7.0nm,0.6s,mb4.8,baz=124,slow=7.5,SNR=37						
AKASG				pP	pP	04 01 05.7	-0.8
	comp=Z,8.9nm,0.9s,baz=124,slow=7.4,SNR=8.7						
AKBB	Malin Array Si	36.48	324	eP	P	04 00 57.6	-0.4
AKBB	Malin Array Si	36.48	324	eP	P	04 00 57.5	-0.5
KIEV	Kiev	36.49	324	eP	P	04 00 57.8	-0.2
KIEV				e	pP	04 01 05.8	-0.7
KIEV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KIEV	Kiev	36.49	324	eP	P	04 00 57.8	-0.3
	comp=Z,9.5nm,0.7s,mb4.8						
KIEV				e	pP	04 01 05.8	-0.8
KIEV	Kiev	36.49	324	eP	P	04 00 57.8	-0.2
BURAR	Bucovina Array	37.37	317	⇓iP	P	04 01 06.6	+1.1
KWP	Kalwaria	39.70	319	eP	P	04 01 25.9	+0.8
	comp=Z,5.4nm,0.9s,mb4.3						
KWP				e	pP	04 01 34.4	+0.7
KWP	Kalwaria	39.70	319	eP	P	04 01 25.9	+0.8
ZAK	Zakamensk	40.05	40	eP	P	04 01 27.8	-0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.7						
SONM	Songino Array	41.04	45	P	P	04 01 37.2	+0.9
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	Songino Array	41.04	45	P	P	04 01 37.2	+1.0
	comp=Z,2.0nm,0.5s,mb4.0,baz=238,slow=5.1,SNR=4.5						
MORC	Moravsky Berou	42.88	317	eP	P	04 01 51.3	0.0
MORC				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
MORC	Moravsky Berou	42.88	317	eP	P	04 01 51.3	+0.1
	comp=Z,2.5nm,0.6s,mb4.1						
MORC	Moravsky Berou	42.88	317	eP	P	04 01 51.3	0.0
	comp=Z,2.5nm,0.6s,mb4.1						
JOF	Joensuu	43.37	340	ep	P	04 01 54.4	-0.6
	comp=Z,0.4nm,0.3s,mb3.6						
DPC	Dobruska-Polom	43.81	318	eP	P	04 01 59.1	+0.4
DPC				epP	pP	04 02 08.3	+1.0
TREC	Trest	44.02	316	eP	P	04 02 01.0	+0.5
TREC				epP	pP	04 02 08.8	-0.3
UPC	Upice	44.05	318	eP	P	04 02 01.3	+0.7
UPC				epP	pP	04 02 09.2	0.0
FINES	FINESS Array B	44.19	336	P	P	04 02 01.0	-0.6
FINES				*PP	pP	04 02 08.3	-1.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	FINESS Array B	44.19	336	P	P	04 02 01.0	-0.6
FINES				pP	pP	04 02 08.3	-1.9
FINES	FINESS Array B	44.19	336	P	P	04 02 01.0	-0.6
	comp=Z,1.0nm,0.4s,mb3.9,baz=132,slow=9.3,SNR=19						
FINES				pP	pP	04 02 08.3	-1.9
	comp=Z,1.7nm,0.5s,baz=126,slow=8.4,SNR=4.5						
PRU	Pruhonice	44.80	317	eP	P	04 02 06.5	-0.2
PRU				epP	pP	04 02 15.0	-0.3
GEC2	GERESS Array S	45.05	315	eP	P	04 02 08.7	+0.1
GEC2				e	pP	04 02 17.2	-0.1
GERES	GERESS Array B	45.05	315	P	P	04 02 08.6	0.0
GERES				*PP	pP	04 02 16.9	-0.4
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
GERES	GERESS Array B	45.05	315	P	P	04 02 08.6	-0.1
	comp=Z,3.0nm,0.8s,mb4.2,baz=108,slow=7.2,SNR=32						
GERES				pP	pP	04 02 16.9	-0.3
	comp=Z,3.0nm,0.9s,baz=107,slow=7.1,SNR=9.2						
KHC	Kasperske Hory	45.19	315	⇓eP	P	04 02 10.1	+0.3
KHC	Kasperske Hory	45.19	315	eP	P	04 02 09.9	+0.1
KHC				epP	pP	04 02 18.0	-0.4
CLL	Collm	46.10	318	⇓iP	P	04 02 18.1	+1.2
CLL				i	pP	04 02 26.0	+0.4
CLL	Collm	46.10	318	⇓iP	P	04 02 18.1	+1.2
CLL				i pP	pP	04 02 26.0	+0.4
GRA1	Grafenberg Arr	46.82	316	eP	P	04 02 23.1	+0.5
	comp=Z,10.0nm,1.1s,mb4.7						
GRA1				epP	pP	04 02 31.4	+0.1
GRF	Grafenberg Arr	46.82	316	eP	P	04 02 23.1	+0.5
GRF				e*PP	pP	04 02 31.4	+0.1
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	Grafenberg Arr	46.82	316	eP	P	04 02 23.1	+0.5
GRF				e*PP	pP	04 02 31.4	+0.1
GRF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
GRF	Grafenberg Arr	46.82	316	eP	P	04 02 23.1	+0.5
	comp=Z,10.0nm,1.1s,mb4.7						
GRF				epP	pP	04 02 31.4	+0.1

ARCES ARCESS Array B 49.73 344 P P 04 02 44.6 -0.1
comp=Z,1.2nm,0.7s,mb4.0,baz=139,slow=7.8,SNR=9.3
CABF La Chapelle 49.75 311 *e*P P 04 02 45.6 +0.3
ORIF Oris-en-Rattie 49.76 309 *e*P P 04 02 43.8 -1.6
comp=Z,16nm,1.1s,mb4.6
ORIF Oris-en-Rattie 49.76 309 *e*P P 04 02 43.8 -1.6
ORIF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
ORIF Oris-en-Rattie 49.76 309 *e*P P 04 02 43.8 -1.6
comp=Z,7.8nm,1.1s,mb4.6
NB2 NORSAR Subarra 50.19 330 P P 04 02 47.4 -0.9
comp=Z,0.8nm,0.7s,mb3.9,baz=111,slow=7.9
NOA NORSAR Array B 50.19 330 P P 04 02 47.7 -0.6
NOA *PP pP 04 02 55.9 -1.2
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA pmax pmax
comp=Z,2.0nm,0.9s
NOA NORSAR Array B 50.19 330 P P 04 02 47.7 -0.6
NOA pP pP 04 02 55.9 -1.2
NOA NORSAR Array B 50.19 330 P P 04 02 47.7 -0.6
comp=Z,0.6nm,0.6s,mb3.8,baz=117,slow=7.4,SNR=3.3
NOA pP pP 04 02 55.9 -1.2
comp=Z,1.8nm,0.9s,baz=119,slow=7.3,SNR=4.6
MEZF Maizieres J'vi 50.63 313 *e*P P 04 02 52.1 +0.2
comp=Z,16nm,1.0s,mb4.6
MEZF Maizieres J'vi 50.63 313 *e*P P 04 02 52.1 +0.2
comp=Z,8.2nm,1.0s,mb4.6
SMF Signal de Mont 51.30 311 *e*P P 04 02 56.8 -0.1
comp=Z,16nm,1.0s,mb4.6
SMF Signal de Mont 51.30 311 *e*P P 04 02 56.8 -0.1
SMF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
SMF Signal de Mont 51.30 311 *e*P P 04 02 56.8 -0.1
comp=Z,8.1nm,1.0s,mb4.6
BAIF Baives 51.35 315 *e*P P 04 02 58.3 +1.0
comp=Z,7.0nm,0.7s,mb4.4
BAIF Baives 51.35 315 *e*P P 04 02 58.3 +1.0
BAIF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BAIF Baives 51.35 315 *e*P P 04 02 58.3 +1.0
comp=Z,3.5nm,0.7s,mb4.4
SSF Saint Saulge 51.55 311 *e*P P 04 02 58.6 -0.3
comp=Z,12nm,1.1s,mb4.4
SSF Saint Saulge 51.55 311 *e*P P 04 02 58.6 -0.3
SSF pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
SSF Saint Saulge 51.55 311 *e*P P 04 02 58.6 -0.3
comp=Z,6.0nm,1.1s,mb4.4
AVF Avril sur Loir 51.64 311 *e*P P 04 02 59.1 -0.4
MTLF Montolieu 52.35 307 *e*P P 04 03 05.3 +0.4
TCF Toulx Ste Croi 52.40 310 *e*P P 04 03 05.1 -0.1
RJF Les Rejaudoux 52.87 309 *e*P P 04 03 09.1 +0.5
LDF La Druitiere 54.07 313 *e*P P 04 03 17.3 -0.1
FLN La Foliniere 54.31 313 *e*P P 04 03 18.8 -0.4
comp=Z,7.4nm,0.7s,mb4.4
FLN La Foliniere 54.31 313 *e*P P 04 03 18.8 -0.4
FLN pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
FLN La Foliniere 54.31 313 *e*P P 04 03 18.8 -0.4
comp=Z,3.7nm,0.7s,mb4.4
ETSF Etsaut 54.39 306 *e*P P 04 03 20.4 +0.5
comp=Z,13nm,0.8s,mb4.6
ETSF Etsaut 54.39 306 *e*P P 04 03 20.4 +0.5
ETSF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
ETSF Etsaut 54.39 306 *e*P P 04 03 20.4 +0.5
comp=Z,6.3nm,0.8s,mb4.6
KSRS Korea Array 55.96 60 P P 04 03 30.1 -1.2
comp=Z,1.0nm,0.7s,mb4.0,baz=278,slow=8.7,SNR=4.8
TIXI Tiksi 58.97 20⇓*e*P P 04 03 51.4 -0.5
TIXI pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
BOSA Boshof 64.44 217 P P 04 04 30.3 +1.0
BOSA pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
BOSA Boshof 64.44 217 P P 04 04 30.3 +1.0
comp=Z,0.9nm,0.5s,mb4.1,baz=21,slow=6.7,SNR=5.4
YSS Yuzh-Sakhalins 65.42 48 *i* P P 04 04 36.1 +0.5
YSS pmax pmax
comp=Z,7.0nm,1.3s,mb4.5
SEY Seymchan 67.83 30⇓*e*P P 04 04 51.5 +0.9
BILL Bilibino 71.92 23 *e*P P 04 05 16.1 +0.4
BILL *e*S S 04 14 32.0 -2.6
BILL pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BILL MLR MLR
comp=Z,100nm,19.0s,MS4.1
INK Inuvik 86.21 6 *e*P P 04 06 33.6 -0.3
MCK McKinley 88.11 14 *e*P P 04 06 42.6 -0.5
MCK pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
MCK McKinley 88.11 14 *e*P P 04 06 42.6 -0.5
comp=Z,3.6nm,0.6s,mb4.8
MCK McKinley 88.11 14 *e*P P 04 06 42.6 -0.5
comp=Z,3.6nm,0.6s,mb4.8
YKA Yellowknife Ar 92.82 359 P P 04 07 05.4 +0.3
comp=Z,0.6nm,0.8s,mb4.1,baz=353,slow=5.0,SNR=9.3
YKA Yellowknife Ar 92.82 359 P P 04 07 05.4 +0.3
FCC Fort Churchill 94.43 348 *e*P P 04 07 12.0 -0.6

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*OMAN **06** 04:00:40.9, 2528N×6454E, h16km*
*CSEM **06** 04:01:00.7±0.1, 2503N×6290E, h28km, mb4.9/68, Error ellipse: s-maj=3.6km s-min=2.9km az=163.0*
*ISCJB **06** 04:01:00.1±0.2, 2498N±004×6297E±002, h27km, mb4.7/120, MS4.1/17, Error ellipse: s-maj=5.3km s-min=2.8km az=177.9*
*MOS **06** 04:01:01.6±0.9, 2505N×6292E, h33km, mb4.9/79, MS4.1/6, Error ellipse: s-maj=6.8km s-min=3.9km az=121.8*
*BJI **06** 04:01:01.1, 25.15N×6286E, h32km, mB5.0, mb4.8, Ms4.5, Msz4.3*
*IDC **06** 04:01:02.3±0.5, 2501N×6295E, h26km±2km, mb4.3/21, mb1 4.3/22, mb1mx4.2/28, mbtmp4.3/22, ML4.4/1, MS3.8/4, Ms1 3.8/4, ms1mx3.4/26, Error ellipse: s-maj=13.4km s-min=11.7km az=30.0*
*NEIC **06** 04:01:02.5±0.2, 2508N×6299E, mb4.8/68, Error ellipse: s-maj=5.1km s-min=3.6km az=183.0*
NEIC Felt at Gwadur and Pasni.
*SZGRF **06** 04:01:09.1, 2492N×6149E, h31km, mb4.8, Off coast of Pakistan*
ISC 06 04:01:02.4±0.2**, 2500N**±004×**6299E**±002**, h29km, h29km**±.5km**:pP-P, n409, σ1§02**/427**, mb4.7**/120**, MS4.1**/17**, 71C-6D, Off coast of Pakistan**

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

WBK Wadi Bani Khal 4.38 238 P Pn 04 02 05.0 -2.0
SNR=92
WBK Wadi Bani Khal 4.38 238 P Pn 04 02 05.0 -2.0
SNR=92
WBK Wadi Bani Khal 4.38 238 P Pn 04 02 05.0 -2.0
SNR=92
WBK Wadi Bani Khal 4.38 238 Pn Pn 04 02 05.0 -2.0
SNR=92
WBK Wadi Bani Khal 4.38 238 P Pn 04 02 05.0 -2.0
SNR=92
BIDO Bidbid 4.68 253 P Pn 04 02 10.7 -0.3
SNR=26
SMDO Samad 4.91 248 P Pn 04 02 13.8 -0.5
SNR=31
JMDO Jabal Madar 5.19 241 P Pn 04 02 17.3 -0.7
SNR=22
HOQ Hoqain 5.37 256 P Pn 04 02 19.1 -1.5
SNR=20
BANOM Banah 6.12 280 P Pn 04 02 29.3 -1.6
SNR=80
HATD Hatta, Dubai 6.23 270 P Pn 04 02 31.1 -1.2
SNR=11
QUE Quetta 6.25 33 *e*P Pn 04 02 36.0 +3.4
QUE *e*S Sn 04 03 51.0 +7.9
ASHO Ashiyiah 6.31 269 P Pn 04 02 32.4 -1.0
SNR=110
BHJ Bhuj 6.33 105 *e*P Pn 04 02 31.8 -2.0
BHJ *e*S Sn 04 03 38.5 -6.6
JASL Jaisalmer 7.37 73 *e*P Pn 04 02 45.8 -2.3
JASL AMb AMB 04 02 48.6
KBL Kabul 10.86 28 *e*Pn Pn 04 03 34.0 -1.9
20nm,0.7s
THW Thamme Wali 10.91 43 P Pn 04 03 33.3 -3.2
THW S Sn 04 05 26.0 -12
POO Poona 11.96 120 *e*P Pn 04 03 50.7 -0.3
POO AMb AMB 04 03 57.6
comp=Z,11nm,0.5s
POO *e*S Sn 04 05 53.7 -10
CHCP Chirah Chowk 12.43 44 P Pn 04 03 54.2 -3.2
KUDL Kundal 12.48 73 *e*P Pn 04 03 54.5 -3.5
KUDL AMb AMB 04 03 56.8
comp=Z,26nm,0.4s
KUDL *e*S Sn 04 06 02.7 -13
SONA Sohna 13.02 73 *e*P Pn 04 04 00.3 -5.0
SONA AMb AMB 04 04 03.2
comp=Z,26nm,0.4s
SONA *e*S Sn 04 06 15.2 -14
NDI New Delhi 13.22 71 *e*P Pn 04 04 05.8 -2.3
NDI *e*S Sn 04 06 20.7 -13
BHPL Bhopal 13.30 95 *e*P Pn 04 04 07.6 -1.6
BHPL AMb AMB 04 04 09.4
comp=Z,24nm,0.7s
THN Thein Dam 13.39 54 *e*P Pn 04 04 07.5 -3.0
THN *e*x x 04 06 35.4
DLH Dalhousie 13.63 54 *e*P Pn 04 04 10.0 -3.7
DLH *e*x x 04 04 35.0
SDNR Sundarnagar 13.91 59 *e*P Pn 04 04 14.0 -3.6
SDNR *e*x x 04 06 39.0
SMLA Simla 13.92 61 *e*P Pn 04 04 15.1 -2.6
SMLA *e*x x 04 06 40.9
QRN Al-Qurain 13.96 289 *e*P Pn 04 04 15.1 -3.2
QRN AMb AMB 04 04 17.6
comp=Z,58nm,0.6s
RDF Al-Radifah 14.31 289 *e*P Pn 04 04 19.3 -3.8
RDF AMb AMB 04 04 22.1
comp=Z,54nm,0.4s
UMR Umm Al-Rimmam 14.32 292 *e*P Pn 04 04 19.3 -3.8
UMR AMb AMB 04 04 21.0
comp=Z,138nm,0.6s
NAY Al-Naaiem 14.65 290 *e*P Pn 04 04 24.0 -3.6
NAY AMb AMB 04 04 32.9
comp=Z,54nm,0.8s
MIB Mutribah 14.70 292 *e*P Pn 04 04 25.1 -3.2
MIB AMb AMB 04 04 35.5
comp=Z,164nm,0.7s
KLP Kalpa 14.93 61 *e*P Pn 04 04 29.6 -1.8
KLP *e*x x 04 06 52.5
JOSI Joshimath 15.67 66 *e*P Pn 04 04 38.2 -2.9
JOSI *e*x x 04 07 29.5
LGTI Lohaghat 15.97 70 *i* P Pn 04 04 41.0 -4.0
HYB Hyderabad 16.34 114 *i* P Pn 04 04 49.0 -0.8
HYB Hyderabad 16.34 114 *e*P Pn 04 04 49.0 -0.8
BLSP Bilaspur 17.78 95 *e*P Pn 04 05 05.6 -2.2
BLSP AMb AMB 04 05 11.5
comp=Z,19nm,1.4s
KSH Kashi 18.14 34 *e*P Pn 04 05 11.8 -0.2
KSH *e*AP pP 04 05 17.6 -2.3
KSH *e*XP sP 04 05 21.5 -2.1
KSH *e*PP 04 05 26.2
KSH *e*PPP 04 05 35.4
KSH *e*S Sn 04 08 27.1 -6.5
KSH *e*SS 04 08 49.5
KSH AMB AMB
comp=Z,287nm,1.3s
KSH LR LR
comp=N,2μm,11.5s
KSH LR LR
comp=E,969nm,7.7s
KSH LR LR
comp=Z,2μm,13.6s
KOLN Koldanda 18.67 77 *e*P Pn 04 05 18.5 -0.1
comp=Z,46nm,0.7s
DANN Dangsing 18.86 75 *e*P Pn 04 05 20.4 -0.5
comp=Z,104nm,0.8s
AML Almayashu 19.25 25 *e*P Pn 04 05 23.8 -1.6
comp=Z,66nm,0.6s
AML Almayashu 19.25 25 P Pn 04 05 26.0 +0.6
SNR=6.8
AML Almayashu 19.25 25 *e*P Pn 04 05 23.8 -1.6
comp=Z,66nm,0.6s
GKN Gorkha 19.60 76 *e*P Pn 04 05 29.5 -0.3
comp=Z,30nm,0.6s
UCH Uchtor 19.65 26 *e*P Pn 04 05 29.1 -1.2
comp=Z,36nm,0.9s
UCH Uchtor 19.65 26 P Pn 04 05 29.8 -0.5
SNR=41
UCH Uchtor 19.65 26 *e*P Pn 04 05 29.1 -1.1
comp=Z,36nm,0.9s
EKS2 Erkin-Say 19.73 24 *e*P Pn 04 05 30.0 -1.3
comp=Z,40nm,0.9s
EKS2 Erkin-Say 19.73 24 P Pn 04 05 30.1 -1.2
SNR=37
EKS2 Erkin-Say 19.73 24 *e*P Pn 04 05 30.0 -1.3
comp=Z,40nm,0.9s
KZA Kyzart 19.83 28 P Pn 04 05 31.7 -0.6
SNR=63
AAK Ala-Archa 19.98 26*c* *i*P Pn 04 05 32.6 -1.6
AAK pmax pmax
comp=Z,42nm,1.0s
AAK Ala-Archa 19.98 26 *e*P Pn 04 05 31.8 -2.4
comp=Z,33nm,0.8s
AAK Ala-Archa 19.98 26 P Pn 04 05 33.1 -1.1
comp=Z,4.2nm,0.3s,baz=203,slow=6.8,SNR=52
AAK Ala-Archa 19.98 26 P Pn 04 05 35.4 +1.2
SNR=29
AAK Ala-Archa 19.98 26 *i* P Pn 04 05 32.6 -1.6
comp=Z,42nm,1.0s
DMN Daman 19.99 78 *e*P Pn 04 05 33.5 -1.0
comp=Z,76nm,1.0s
KKN Kakani 20.16 77 *e*P P 04 05 35.7 +1.3
comp=Z,31nm,0.7s
KBK Karagaybulak 20.18 26 P P 04 05 36.0 +1.5
SNR=27
FRU Bishkek 20.20 25 *e*P P 04 05 35.0 +0.3
FRU pmax pmax
comp=Z,110nm,2.2s
FRU Bishkek 20.20 25 *e*P P 04 05 35.0 +0.3
comp=Z,110nm,2.2s
PKI Pulchoki 20.26 78 *e*P P 04 05 36.6 +1.1
comp=Z,33nm,0.6s
CHMS Chumysh 20.39 25 P P 04 05 37.5 +0.7
SNR=19
ULHL Ulahol 20.39 29 P P 04 05 38.6 +1.8
SNR=178
USP Ospenovka 20.52 25 P P 04 05 38.5 +0.2
SNR=46
TKM2 Tokmak 2 20.67 27 *e*P P 04 05 39.8 0.0
TKM2 pmax pmax
comp=Z,41nm,1.0s
TKM2 Tokmak 2 20.67 27 *e*P P 04 05 39.8 0.0
comp=Z,41nm,1.0s
TKM2 Tokmak 2 20.67 27 P P 04 05 40.1 +0.3
SNR=18
TKM2 Tokmak 2 20.67 27 *e*P P 04 05 39.8 0.0
comp=Z,41nm,1.0s
GUN Gumba 20.69 77 *e*P P 04 05 41.5 +1.3
comp=Z,83nm,0.8s
JIRN Jiri 20.96 78 *e*P P 04 05 44.4 +1.3
comp=Z,174nm,0.9s
MAK Makhachkala 21.98 328 *e*P P 04 05 53.9 0.0
MAK *i* 04 06 24.2
MAK *e*S S 04 09 56.4 +1.4
MAK pmax pmax
comp=Z,186nm,1.6s,mb5.3
MAK MLR MLR
comp=Z,319nm,14.0s,MS3.9
MAK Makhachkala 21.98 328 *e*P P 04 05 53.9 0.0
comp=Z,186nm,1.6s,mb5.3
DGRG David-gareji 21.99 323 P P 04 05 55.8 +1.8
MTA Mtatsminda 22.47 322 P P 04 06 01.4 +2.3
TBLG Delisi 22.53 322 P P 04 05 50.9 -8.9
ATD Arta Tunnel 23.31 239 P P 04 06 14.4 +6.2
comp=Z,4.8nm,0.3s,mb4.4,baz=54,slow=14,SNR=2.0
ATD LR LR 04 16 12.3
comp=Z,154nm,18.7s,MS3.5,baz=58,slow=39
ONI Oni 23.81 322 P P 04 06 14.1 +1.4
ASF Jabal al Asfar 23.97 293 P P 04 06 15.9 +1.6
ASF pmax pmax
comp=Z,3.0nm,0.7s
ASF Jabal al Asfar 23.97 293 P P 04 06 15.9 +1.6
comp=Z,3.0nm,0.7s,mb3.8,baz=330,slow=9.1,SNR=6.7
MALT Malatya 24.68 308 *e*P P 04 06 21.4 +0.7
MALT pmax pmax
comp=Z,17nm,1.1s,mb4.5
MALT Malatya 24.68 308 *e*P P 04 06 21.4 +0.7
comp=Z,17nm,1.1s,mb4.5
MALT Malatya 24.68 308 *e*P P 04 06 21.4 +0.7
comp=Z,17nm,1.1s,mb4.5
KIV Kislovodsk 25.14 324 *e*P P 04 06 26.4 +1.6
KIV *e* 04 07 01.1
KIV *e*S S 04 10 48.0 +0.1
KIV pmax pmax
comp=Z,115nm,1.1s,mb5.3
KIV MLR MLR
comp=Z,42nm,13.0s
KIV Kislovodsk 25.14 324 *e*P P 04 06 26.9 +2.1
comp=Z,121nm,1.1s,mb5.3
KIV Kislovodsk 25.14 324 *e*P P 04 06 26.4 +1.6
comp=Z,115nm,1.1s,mb5.3
EIL Elat 25.31 287 LR LR 04 17 29.0
comp=Z,121nm,20.9s,MS3.4,baz=100,slow=39
MMAI Mount Meron Ar 25.36 295 P P 04 06 28.5 +1.5
comp=Z,1.8nm,0.5s,mb3.9,baz=94,slow=12,SNR=4.1
AKTK Aktyubinsk 25.68 353 P P 04 06 30.1 +0.3
AKTK Aktyubinsk 25.68 353 P P 04 06 30.0 +0.3
AKTO Aktyubinsk 25.68 353 P P 04 06 30.1 +0.4
AKTO pmax pmax
comp=Z,29nm,0.6s,mb5.0
AKTO Aktyubinsk 25.68 353 P P 04 06 30.1 +0.3
comp=Z,28nm,0.6s,mb5.0,baz=168,slow=9.1,SNR=91
SOC Sochi 26.56 320*c* *i*P P 04 06 37.4 -0.4
SOC *e**PP pP 04 06 46.5 +0.3
SOC *e* 04 07 20.5
SOC *e* 04 10 00.9
SOC *e*S S 04 11 12.2 +1.8
SOC *e* 04 11 24.5
SOC *e*SS 04 12 14.6
SOC pmax pmax
comp=Z,13nm,0.8s,mb4.5
SOC MLR MLR
comp=Z,156nm,13.0s,MS3.7
SOC Sochi 26.56 320 *i* P P 04 06 37.4 -0.4
comp=Z,13nm,0.8s,mb4.5
MK31 Makanchi Array 26.65 30 *e*P P 04 06 38.8 +0.3
MKAR Makanchi Array 26.65 30 P P 04 06 39.2 +0.7
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 26.65 30 P P 04 06 39.2 +0.7
comp=Z,12nm,0.7s,mb4.6,baz=212,slow=9.4,SNR=133
WMQ Urumqi 27.54 41 P P 04 06 48.0 +1.4
WMQ XP sP 04 06 59.0 +0.5
WMQ PP 04 07 36.0
WMQ S S 04 11 25.0 -0.9
WMQ SS 04 12 43.0
WMQ AMB AMB
comp=Z,32nm,1.0s,mb4.9
WMQ LR LR
comp=N,231nm,10.0s
WMQ LR LR
comp=E,426nm,9.0s
WMQ LR LR
comp=Z,258nm,9.0s
KURK Kurchatov 28.37 21⇑*e*P P 04 06 54.4 +0.6
BVAR Borovoye Array 28.54 9 P P 04 06 56.1 +0.8
BVAR pmax pmax
comp=Z,5.0nm,0.5s
BVAR Borovoye Array 28.54 9 P P 04 06 56.1 +0.7
comp=Z,5.0nm,0.5s,mb4.5,baz=180,slow=9.4,SNR=22
BRVK Borovoye 28.56 9 *e*P P 04 06 54.9 -0.6
BRVK pmax pmax
comp=Z,8.0nm,0.7s,mb4.6
BRVK Borovoye 28.56 9 *e*P P 04 06 54.9 -0.6
comp=Z,7.9nm,0.7s,mb4.5
BRVK Borovoye 28.56 9 *e*P P 04 06 54.9 -0.6
comp=Z,7.9nm,0.7s,mb4.5
ANN Anapa 28.61 320 *e*P P 04 06 56.1 +0.1
ANN pmax pmax
comp=Z,17nm,1.3s,mb4.6
SIM Simferopol' 30.67 318 *e*P P 04 07 14.5 +0.2
SIM pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
ZAL Zalesovo 33.17 24 P P 04 07 36.0 -0.1
ZAL 04 10 18.1
ZAA0 Zalesovo Array 33.19 24 *e*P P 04 07 35.9 -0.4
ZALV Zalesovo Beam 33.19 24 P P 04 07 36.0 -0.3
comp=Z,9.3nm,0.5s,mb5.0,baz=226,slow=10,SNR=43
ZALV PcP PcP 04 10 18.1 -0.4
comp=Z,1.3nm,0.6s,baz=221,slow=5.2,SNR=3.6
NVS Novosibirsk 33.35 21 *e*P P 04 07 37.8 +0.1
NVS pmax pmax
comp=N,17nm,1.5s
NVS pmax pmax
comp=Z,17nm,1.5s,mb4.8
CHTO Chiang Mai 33.85 93 *e*P P 04 07 42.8 +0.3
CHTO pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CHTO Chiang Mai 33.85 93 *e*P P 04 07 42.8 +0.3
comp=Z,9.4nm,1.3s,mb4.6
CHTO Chiang Mai 33.85 93 *e*P P 04 07 42.8 +0.3
comp=Z,9.4nm,1.3s,mb4.6
SANT Santorini 34.02 298 *e*P P 04 07 43.3 -0.5
SANT Santorini 34.02 298 *e*P P 04 07 43.3 -0.5
GTA Gaotai 34.06 56 P P 04 07 45.9 +1.8
GTA AP pP 04 07 53.1 +0.5
GTA XP sP 04 07 56.1 0.0
GTA PP PP 04 08 58.5 -2.9
GTA S S 04 13 06.5 -1.4
GTA SS SS 04 15 10.8 -25
GTA AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,46nm,4.2s
GTA LR LR
comp=N,393nm,19.8s,MS4.2
GTA LR LR
comp=E,258nm,19.8s,MS4.2
GTA LR LR
comp=Z,214nm,20.5s,MS3.9
OBN Obninsk 35.82 334 *i* P P 04 08 00.5 +1.4
OBN *e* 04 09 17.3
OBN *e*S S 04 13 32.3 -2.3
OBN pmax pmax
comp=Z,13nm,0.4s,mb5.2
MOS Moscow 35.88 336 *e*P P 04 07 58.5 -1.0
KMI Kunming 35.92 81 P P 04 08 02.0 +1.7
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.4
KMBO Kilima Mbogo 36.00 228 *e*P P 04 08 03.0 +1.9
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 36.00 228 *e*P P 04 08 03.0 +2.0
comp=Z,2.8nm,0.8s,mb4.2
KMBO Kilima Mbogo 36.00 228 *e*P P 04 08 03.0 +1.9
comp=Z,2.8nm,0.8s,mb4.2
CD2 Chengdu 36.34 71 *e*P P 04 08 04.8 +0.9
CD2 XP sP 04 08 16.6 +0.7
CD2 PP PP 04 09 27.7 +0.9
CD2 S S 04 13 42.8 -0.4
CD2 XS sS 04 13 54.9 -2.4
CD2 SS SS 04 16 07.0 -15
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,20nm,4.6s
CD2 LR LR
comp=N,130nm,12.4s
CD2 LR LR
comp=Z,120nm,13.4s,MS3.8
AKASG Malin Array Be 36.48 324 P P 04 08 04.7 -0.1
AKASG *PP pP 04 08 12.7 -0.7
AKASG pmax pmax
comp=Z,18nm,0.7s
AKASG pmax pmax
comp=Z,13nm,0.7s
AKASG Malin Array Be 36.48 324 P P 04 08 04.7 -0.1
AKASG pP pP 04 08 12.7 -0.6
AKASG Malin Array Be 36.48 324 P P 04 08 04.7 -0.1
comp=Z,18nm,0.7s,mb5.1,baz=125,slow=7.4,SNR=85
AKASG pP pP 04 08 12.7 -0.6
comp=Z,13nm,0.7s,baz=125,slow=7.5,SNR=16
AKBB Malin Array Si 36.48 324 *e*P P 04 08 04.4 -0.4
AKBB *e*pP pP 04 08 12.2 -1.2
KIEV Kiev 36.49 324 *e*P P 04 08 04.3 -0.5
KIEV *e**PP pP 04 08 12.5 -0.9
KIEV pmax pmax
comp=Z,31nm,0.7s,mb5.3
KIEV Kiev 36.49 324 *e*P P 04 08 04.2 -0.6
comp=Z,31nm,0.7s,mb5.3
KIEV *e*pP pP 04 08 12.4 -0.9
KIEV Kiev 36.49 324 *e*P P 04 08 04.2 -0.6
comp=Z,31nm,0.7s,mb5.3
KIEV *e*pP pP 04 08 12.4 -1.0
LZH Lanzhou 36.64 63 *e*P P 04 08 06.0 -0.3
LZH PP PP 04 09 32.0 +2.0
LZH PCP PcP 04 10 30.4 +1.4

LZH *eS* **S** **04 13 45.6 -2.1**
LZH SS SS 04 16 13.0 -15
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,84nm,4.8s
LZH LR LR
comp=N,405nm,13.0s
LZH LR LR
comp=Z,631nm,15.5s,MS4.5
BURAR Bucovina Array 37.37 317⇑ *iP* **P** **04 08 12.7 +0.3**
DRGR 38.65 315⇓ *iP* **P** **04 08 23.7 +0.5**
BZS Buzias 38.99 312⇓ *iP* **P** **04 08 26.3 +0.2**
GYA Guiyang 39.23 78 P **P** **04 08 29.8 +1.5**
GYA AP pP 04 08 38.4 +1.5
GYA XP sP 04 08 41.6 +1.1
GYA PP PP 04 10 02.4 +3.8
GYA PCP PcP 04 10 39.7 +2.5
GYA SCP ScP 04 14 24.9 +1.2
GYA S **S** **04 14 27.9 +0.8**
GYA XS sS 04 14 42.0 +0.7
GYA SS SS 04 17 13.2 -7.6
GYA SCS ScS 04 18 34.9 -0.6
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,90nm,5.2s
GYA LR LR
comp=N,460nm,17.9s,MS4.5
GYA LR LR
comp=E,440nm,17.0s,MS4.5
GYA LR LR
comp=Z,420nm,18.2s,MS4.3
MOY Mondy 39.27 37 *eP* **P** **04 08 30.1 +1.8**
MOY pmax pmax
comp=Z,13nm,1.5s,mb4.4
KOLS Kolonicke sedl 39.70 318 *eP* **P** **04 08 32.8 +0.9**
KWP Kalwaria 39.70 319 *eP* **P** **04 08 32.6 +0.6**
KWP *e* pP 04 08 41.4 +0.9
KWP Kalwaria 39.70 319 *eP* **P** **04 08 32.6 +0.7**
KWP *e* pP 04 08 41.4 +0.9
KWP Kalwaria 39.70 319⇓ *iP* **P** **04 08 32.6 +0.7**
ZAK Zakamensk 40.01 40 *eP* **P** **04 08 35.5 +1.0**
ZAK pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
XAN Xi'an 40.69 66 P **P** **04 08 40.6 +0.2**
XAN AP pP 04 08 48.2 -0.8
XAN XP sP 04 08 52.3 -0.2
XAN AMB AMB
comp=Z,12nm,1.2s,mb4.4
XAN AMB AMB
comp=Z,38nm,13.6s
XAN LR LR
comp=N,127nm,18.0s
XAN LR LR
comp=E,85nm,25.2s
XAN LR LR
comp=Z,165nm,19.3s,MS3.9
TLY Talaya 40.76 38 *eP* **P** **04 08 42.8 +2.2**
TLY *e*PPP 04 10 15.4
TLY *e* 04 18 19.2
TLY pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
TLY MLR MLR
comp=Z,197nm,18.0s,MS4.0
TLY Talaya 40.76 38 *eP* **P** **04 08 42.6 +1.9**
comp=Z,2.8nm,0.6s,mb4.1
TLY Talaya 40.76 38 *eP* **P** **04 08 42.6 +2.0**
comp=Z,2.8nm,0.6s,mb4.1
SONM Songino Array 41.00 45 P **P** **04 08 44.8 +2.1**
SONM *PP pP 04 08 51.8 +0.5
SONM pmax pmax
comp=Z,8.0nm,0.8s
SONM pmax pmax
comp=Z,5.0nm,0.7s
SONM MLR MLR
comp=Z,272nm,18.7s
SONM Songino Array 41.00 45 P **P** **04 08 44.8 +2.1**
comp=Z,8.1nm,0.8s,mb4.4,baz=254,slow=8.2,SNR=12
SONM pP pP 04 08 51.8 +0.5
comp=Z,5.2nm,0.7s,baz=257,slow=8.5,SNR=6.5
SONM LR LR 04 29 01.0
comp=Z,272nm,18.7s,MS4.1,baz=20,slow=41
PSI Prapat 41.04 117 P **P** **04 08 46.3 +2.9**
PSI pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
PSI Prapat 41.04 117 P **P** **04 08 46.3 +2.9**
comp=Z,7.2nm,0.7s,mb4.4,baz=318,slow=11,SNR=5.4
KULM Kulim 41.08 112 *eP* **P** **04 08 44.4 +0.7**
KULM Kulim 41.08 112 *eP* **P** **04 08 44.4 +0.6**
PKSM Moragy 41.15 312⇓ *iP* **P** **04 08 44.0 0.0**
TIP Timpagrande 41.21 302 *eP* **P** **04 08 44.1 -0.5**
comp=Z,34nm,1.3s,mb4.8
TIP Timpagrande 41.21 302 *eP* **P** **04 08 44.1 -0.5**
comp=Z,34nm,1.3s,mb4.8
SUW Suwalki 41.35 325 *eP* **P** **04 08 45.4 -0.1**
SUW *e* pP 04 08 54.0 -0.2
SUW Suwalki 41.35 325 *eP* **P** **04 08 45.4 -0.1**
SUW *e* pP 04 08 54.0 -0.2
ULN Ulaanbaatar 41.43 45⇑ *eP* **P** **04 08 47.9 +1.7**
OJC Ojcow 41.66 319 *eP* **P** **04 08 48.7 +0.6**
VYHS Vyhne 41.68 316 *eP* **P** **04 08 48.1 -0.2**
VYHS pmax pmax
comp=Z,2.0nm,1.2s,mb3.6
VYHS Vyhne 41.68 316 *eP* **P** **04 08 48.1 -0.2**
comp=Z,2.3nm,1.2s,mb3.7
OKC Ostrava-Krasne 42.54 318 *eP* **P** **04 08 55.0 -0.2**
OKC *ep*P pP 04 09 03.8 -0.1
MODS Modra-Piesok 42.64 315 *eP* **P** **04 08 56.6 +0.5**
MODS *ep*P pP 04 09 04.2 -0.6
MORC Moravsky Berou 42.89 317 *eP* **P** **04 08 58.0 -0.1**
MORC *e**PP pP 04 09 06.4 -0.4
MORC pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
MORC Moravsky Berou 42.89 317 *eP* **P** **04 08 58.0 -0.1**
comp=Z,3.9nm,0.6s,mb4.3
MORC *ep*P pP 04 09 06.4 -0.4
MORC Moravsky Berou 42.89 317⇓ *iP* **P** **04 08 58.0 -0.1**
MORC Moravsky Berou 42.89 317 *eP* **P** **04 08 58.0 -0.1**
comp=Z,3.9nm,0.6s,mb4.3
MORC *ep*P pP 04 09 06.4 -0.4
HHC Hu-ho-hao-te 43.17 56 *eP* **P** **04 09 00.9 +0.3**
HHC AP pP 04 09 08.6 -0.6
HHC XP sP 04 09 11.7 -1.0
HHC PP PP 04 10 42.6 +1.6
HHC PCP PcP 04 10 51.0 +1.2
HHC S **S** **04 15 24.5 -0.8**
HHC XS sS 04 15 37.3 -2.3
HHC SS SS 04 18 30.8 -7.8
HHC SCS ScS 04 18 57.2 -1.7
HHC AMB AMB
comp=Z,26nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,268nm,4.6s
HHC LR LR
comp=N,317nm,17.8s,MS4.5
HHC LR LR
comp=E,431nm,19.6s,MS4.5
HHC LR LR
comp=Z,389nm,19.8s,MS4.3
JOF Joensuu 43.36 340 *ep* **P** **04 09 01.3 -0.4**
comp=Z,1.2nm,0.3s,mb4.1
JOF Joensuu 43.36 340 *eP* **P** **04 09 01.3 -0.4**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
QIZ Qiongzhong 43.67 88 P **P** **04 09 07.4 +2.5**
QIZ S **S** **04 15 35.4 +2.2**
QIZ AMB AMB
comp=Z,10.0nm,1.8s,mb4.2
QIZ LR LR
comp=N,132nm,22.6s
QIZ LR LR
comp=Z,109nm,16.8s
DPC Dobruska-Polom 43.81 318 *eP* **P** **04 09 05.8 +0.2**
DPC *ep*P pP 04 09 14.1 -0.1
DPC Dobruska-Polom 43.81 318 *eP* **P** **04 09 05.8 +0.2**
DPC *ep*P pP 04 09 14.1 -0.1
DPC AMS AMS 04 31 50.0
comp=Z,200nm,19.5s
KSP Ksiaz 43.98 318 *eP* **P** **04 09 07.9 +1.0**
KSP *e* pP 04 09 16.2 +0.6
KSP Ksiaz 43.98 318⇑ *eP* **P** **04 09 07.5 +0.6**
KSP *ep*P pP 04 09 15.8 +0.2
TREC Trest 44.03 316 *eP* **P** **04 09 07.4 +0.1**
TREC *ep*P pP 04 09 16.2 +0.2
TREC AMS AMS 04 31 20.0
comp=Z,200nm,8.0s
UPC Upice 44.05 318 *eP* **P** **04 09 07.7 +0.2**
UPC *ep*P pP 04 09 16.3 +0.2
AQU L'Aquila 44.10 306 *eP* **P** **04 09 08.2 +0.2**
AQU pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
AQU L'Aquila 44.10 306 *eP* **P** **04 09 08.2 +0.2**
comp=Z,8.2nm,0.8s,mb4.5
AQU L'Aquila 44.10 306 *eP* **P** **04 09 08.2 +0.2**
comp=Z,8.2nm,0.8s,mb4.5
FINES FINESS Array B 44.18 336 P **P** **04 09 07.9 -0.4**
FINES *PP pP 04 09 15.3 -1.7
FINES 04 10 52.5
FINES pmax pmax
comp=Z,2.0nm,0.4s
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 44.18 336 P **P** **04 09 07.8 -0.5**
FINES pP pP 04 09 15.3 -1.7
FINES PcP PcP 04 10 52.5 -0.2
FINES FINESS Array B 44.18 336 P **P** **04 09 07.8 -0.5**
comp=Z,2.3nm,0.4s,mb4.2,baz=132,slow=9.0,SNR=44
FINES pP pP 04 09 15.3 -1.7
comp=Z,3.9nm,0.5s,baz=131,slow=8.3,SNR=8.6
FINES PcP PcP 04 10 52.5 -0.2
comp=Z,1.6nm,0.5s,baz=140,slow=5.4,SNR=4.6
FINES FINESS Array B 44.18 336 P **P** **04 09 07.8 -0.5**
FINES pP pP 04 09 15.3 -1.7
MOA Molln 44.45 314 *iP* **P** **04 09 10.9 +0.2**
comp=Z,13nm,0.8s,mb4.7,SNR=22
PRU Pruhonice 44.81 317 *eP* **P** **04 09 13.4 -0.1**
PRU *ep*P pP 04 09 22.0 -0.2
PRU Pruhonice 44.81 317 *eP* **P** **04 09 13.4 -0.1**
PRU *ep*P pP 04 09 22.0 -0.2
PRU AMS AMS 04 32 30.0
comp=Z,200nm,16.5s
KBA Koelnbreinsper 44.90 312 *iP* **P** **04 09 14.7 +0.4**
comp=Z,9.4nm,0.9s,mb4.6,SNR=7.4
KBA Koelnbreinsper 44.90 312 *iP* **P** **04 09 14.7 +0.4**
KBA pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
PVCC Panska Ves 44.94 317 *eP* **P** **04 09 14.7 +0.1**
PVCC *ep*P pP 04 09 23.4 +0.1
GEC2 GERESS Array S 45.05 315 *eP* **P** **04 09 15.6 +0.1**
GEC2 *e**PP pP 04 09 24.3 +0.1
GEC2 pmax pmax
comp=Z,13nm,0.9s,mb4.8
GEC2 GERESS Array S 45.05 315 *eP* **P** **04 09 15.6 +0.1**
comp=Z,13nm,0.9s,mb4.8
GEC2 *ep*P pP 04 09 24.3 +0.1
GERES GERESS Array B 45.05 315 P **P** **04 09 15.7 +0.2**
GERES *PP pP 04 09 23.6 -0.6
GERES pmax pmax
comp=Z,8.0nm,0.8s
GERES pmax pmax
comp=Z,7.0nm,0.9s
GERES GERESS Array B 45.05 315 P **P** **04 09 15.7 +0.3**
comp=Z,7.5nm,0.8s,mb4.6,baz=108,slow=7.3,SNR=85
GERES pP pP 04 09 23.6 -0.6
comp=Z,6.6nm,0.9s,baz=112,slow=6.3,SNR=16
KHC Kasperske Hory 45.20 315 *eP* **P** **04 09 16.5 -0.1**
KHC *e**PP pP 04 09 24.9 -0.5
KHC MLR MLR
comp=Z,200nm,6.6s
KHC Kasperske Hory 45.20 315 *eP* **P** **04 09 16.5 -0.1**
KHC *ep*P pP 04 09 24.9 -0.5
KHC *e* 04 09 45.5
KHC Kasperske Hory 45.20 315 *eP* **P** **04 09 16.5 -0.1**
KHC *ep*P pP 04 09 24.9 -0.5
KHC Kasperske Hory 45.20 315 *eP* **P** **04 09 16.5 -0.1**
KHC *ep*P pP 04 09 24.9 -0.5
KHC *ex* x 04 09 45.5
KHC AMS AMS 04 32 00.0
comp=Z,200nm,6.6s
ABTA Abfaltersbach 45.40 312 *iP* **P** **04 09 18.5 +0.2**
comp=Z,11nm,0.6s,mb4.9,SNR=16
BRG Berggiesshubel 45.42 318 *eP* **P** **04 09 18.8 +0.5**
BRG *e* pP 04 09 27.5 +0.4
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BRG Berggiesshubel 45.42 318 *eP* **P** **04 09 18.8 +0.5**
comp=Z,4.2nm,0.7s,mb4.4
BRG *e* pP 04 09 27.4 +0.4
comp=Z,4.7nm,0.9s
WET Wettzell 45.65 315 *eP* **P** **04 09 19.7 -0.5**
WET pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
WET Wettzell 45.65 315 *eP* **P** **04 09 19.7 -0.5**
comp=Z,3.0nm,0.8s,mb4.3
RUE Ruedersdorf 45.97 320 *eP* **P** **04 09 23.1 +0.4**
comp=Z,10.0nm,0.8s,mb4.8
CLL Collm 46.10 318⇑ *iP* **P** **04 09 24.6 +0.8**
CLL *i* pP 04 09 32.8 +0.3
CLL pmax pmax
comp=Z,30nm,1.2s,mb5.1
CLL Collm 46.10 318⇑ *iP* **P** **04 09 24.6 +0.8**
comp=Z,30nm,1.2s,mb5.1
CLL *i* pP 04 09 32.8 +0.3
CLL Collm 46.10 318⇑ *iP* **P** **04 09 24.6 +0.8**
comp=Z,30nm,1.2s,mb5.1
CLL *i* pP pP 04 09 32.8 +0.3
CLL *ex* x 04 13.0
NKC Novy Kostel 46.17 317 *eP* **P** **04 09 24.9 +0.6**
NKC *ep*P pP 04 09 33.4 +0.3
NKC Novy Kostel 46.17 317 *eP* **P** **04 09 24.9 +0.6**
NKC *ep*P pP 04 09 33.4 +0.3
NKC AMS AMS 04 33 30.0
comp=Z,400nm,6.0s
TANN Tannenbergstha 46.21 317 *eP* **P** **04 09 24.6 0.0**
comp=Z,5.0nm,1.3s,mb4.3
ROTZ Rotzenmuhle 46.22 316 *eP* **P** **04 09 24.8 +0.1**
comp=Z,8.0nm,0.9s,mb4.7
SQTA Sankt Quirin 46.36 312⇑ *iP* **P** **04 09 25.5 -0.4**
comp=Z,13nm,1.2s,mb4.7,SNR=12
SQTA Sankt Quirin 46.36 312⇓ *iP* **P** **04 09 25.5 -0.3**
SQTA pmax pmax
comp=Z,13nm,1.2s,mb4.7
MOTA Moosalm 46.45 312⇑ *iP* **P** **04 09 25.9 -0.7**
comp=Z,16nm,1.2s,mb4.8,SNR=13
MOTA Moosalm 46.45 312⇓ *iP* **P** **04 09 25.9 -0.7**
MOTA pmax pmax
comp=Z,16nm,1.2s,mb4.8
BJI Beijing 46.63 58 P **P** **04 09 29.0 +0.9**
BJI S **S** **04 16 16.1 +0.7**
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb4.6
BJI LR LR
comp=N,297nm,20.8s,MS4.2
BJI LR LR
comp=E,71nm,20.8s,MS4.2
BJI LR LR
comp=Z,155nm,20.1s,MS4.0
FETA Feichten 46.65 312 *iP* **P** **04 09 28.2 +0.1**
comp=Z,17nm,0.7s,mb5.1,SNR=15
RETA Reutte 46.70 313⇑ *iP* **P** **04 09 28.0 -0.5**
comp=Z,14nm,0.5s,mb5.1,SNR=8.4
MOX Moxa 46.79 317 *eP* **P** **04 09 29.5 +0.4**
comp=Z,8.0nm,1.0s,mb4.6
GRA1 Grafenberg Arr 46.82 316 *eP* **P** **04 09 29.9 +0.5**
comp=Z,15nm,0.9s,mb4.9
GRA1 *ep*P pP 04 09 38.4 +0.2
GRF Grafenberg Arr 46.82 316 *eP* **P** **04 09 29.9 +0.5**
GRF *e**PP pP 04 09 38.4 +0.2
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 46.82 316 *eP* **P** **04 09 29.9 +0.5**
GRF *e**PP pP 04 09 38.4 +0.2
GRF pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRF Grafenberg Arr 46.82 316 *eP* **P** **04 09 29.9 +0.5**
comp=Z,15nm,0.9s,mb4.9
GRF *ep*P pP 04 09 38.4 +0.2
GRFO Grafenberg 46.83 316 *eP* **P** **04 09 29.5 +0.1**
GRFO *e**PP pP 04 09 37.4 -0.8
GRFO pmax pmax
comp=Z,25nm,1.4s,mb5.0
GRFO Grafenberg 46.83 316 *eP* **P** **04 09 29.5 +0.1**
comp=Z,25nm,1.4s,mb5.0
GRFO *ep*P pP 04 09 37.4 -0.8
GRFO Grafenberg 46.83 316 *eP* **P** **04 09 29.5 +0.1**
comp=Z,25nm,1.4s,mb5.0
GRFO *ep*P pP 04 09 37.4 -0.8
DAVA Damuels 47.26 312 *iP* **P** **04 09 32.7 -0.2**
comp=Z,29nm,0.6s,mb5.4,SNR=33
PGF Pioggiola 47.36 306 *eP* **P** **04 09 33.2 -0.6**
comp=Z,78nm,1.4s,mb5.2
PGF Pioggiola 47.36 306 *eP* **P** **04 09 33.2 -0.6**
PGF pmax pmax
comp=Z,39nm,1.4s,mb5.1
PGF Pioggiola 47.36 306 *eP* **P** **04 09 33.2 -0.6**
comp=Z,39nm,1.4s,mb5.2
CLZ Clausthal 47.83 318 *eP* **P** **04 09 38.2 +1.0**
CLZ pmax pmax
comp=Z,14nm,0.8s,mb5.0
CLZ Clausthal 47.83 318 *eP* **P** **04 09 38.2 +1.0**
comp=Z,14nm,0.8s,mb5.0
STU Stuttgart 47.95 314 *eP* **P** **04 09 37.5 -0.8**
comp=Z,9.0nm,1.0s,mb4.8
FIN Finale Ligure 48.06 308 P **P** **04 09 37.9 -1.3**
NRDL Niedersach Rie 48.14 319 *eP* **P** **04 09 40.5 +0.9**
comp=Z,15nm,1.1s,mb4.9
NRDL *ep*P pP 04 09 49.1 +0.7
BSEG Bad Segeberg 48.38 321 *eP* **P** **04 09 42.0 +0.6**
BSEG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
BSEG Bad Segeberg 48.38 321 *eP* **P** **04 09 42.0 +0.6**
comp=Z,9.0nm,0.9s,mb4.8
SBF Sospel 48.59 307⇑ *iP* **P** **04 09 43.0 -0.3**
comp=Z,54nm,0.8s,mb5.3
SBF Sospel 48.59 307⇑ *iP* **P** **04 09 43.0 -0.3**
SBF pmax pmax
comp=Z,27nm,0.8s,mb5.3
SBF Sospel 48.59 307⇑ *iP* **P** **04 09 43.0 -0.3**
comp=Z,27nm,0.8s,mb5.3
ENR Entracque 48.63 308 P **P** **04 09 41.6 -1.9**
BOD Bodaibo 48.66 34 *eP* **P** **04 09 43.3 -0.2**
BOD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
HFS Hagfors 48.70 330 P **P** **04 09 43.6 -0.2**
HFS *PP pP 04 09 52.0 -0.6
HFS pmax pmax
comp=Z,3.0nm,0.7s
HFS pmax pmax
comp=Z,6.0nm,0.5s
HFS Hagfors 48.70 330 P **P** **04 09 43.6 -0.2**
comp=Z,3.2nm,0.7s,mb4.5,baz=116,slow=6.8,SNR=12
HFS pP pP 04 09 52.0 -0.6
comp=Z,5.9nm,0.5s,baz=128,slow=11,SNR=9.1
PZZ Prazzo 48.88 308 P **P** **04 09 43.4 -2.0**
MBDF Montbardon 49.13 308 *eP* **P** **04 09 46.8 -0.6**
comp=Z,36nm,0.9s,mb5.1
MBDF Montbardon 49.13 308 *eP* **P** **04 09 46.8 -0.6**
MBDF pmax pmax
comp=Z,18nm,0.9s,mb5.1
MBDF Montbardon 49.13 308 *eP* **P** **04 09 46.8 -0.6**
comp=Z,18nm,0.9s,mb5.1
NJ2 Nanjing 49.13 68 *eP* **P** **04 09 50.9 +3.3**
NJ2 AP pP 04 09 57.8 +1.5
NJ2 XP sP 04 10 01.3 +1.5
NJ2 PCP PcP 04 11 15.1 +4.3
NJ2 S **S** **04 16 52.0 +0.9**
NJ2 XS sS 04 17 07.0 +1.4
NJ2 AMB AMB
comp=Z,30nm,1.3s,mb5.2
NJ2 AMB AMB
comp=Z,730nm,11.0s
NJ2 LR LR
comp=N,660nm,24.0s,MS4.7
NJ2 LR LR
comp=E,850nm,26.0s,MS4.7
NJ2 LR LR
comp=Z,690nm,16.0s
RRL Cesana Torines 49.13 309 P **P** **04 09 46.6 -0.8**
FRF La Foret Royal 49.15 307 *eP* **P** **04 09 47.0 -0.5**
comp=Z,62nm,1.4s,mb5.2
FRF La Foret Royal 49.15 307 *eP* **P** **04 09 47.0 -0.5**
FRF pmax pmax
comp=Z,31nm,1.4s,mb5.2
FRF La Foret Royal 49.15 307 *eP* **P** **04 09 47.0 -0.5**
comp=Z,31nm,1.4s,mb5.2
CDF Champ du Feu 49.16 313⇑ *iP* **P** **04 09 46.8 -0.7**
comp=Z,10nm,1.0s,mb4.5
CDF Champ du Feu 49.16 313⇑ *iP* **P** **04 09 46.8 -0.7**
CDF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CDF Champ du Feu 49.16 313⇑ *iP* **P** **04 09 46.8 -0.7**
comp=Z,5.1nm,1.0s,mb4.5
LPG La Plagne 49.20 309⇑ *iP* **P** **04 09 47.6 -0.3**
comp=Z,20nm,0.8s,mb4.9
LPG La Plagne 49.20 309⇑ *iP* **P** **04 09 47.6 -0.3**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
LPG La Plagne 49.20 309⇑ *iP* **P** **04 09 47.6 -0.3**
comp=Z,9.9nm,0.8s,mb4.9
LPL La Plagne 49.22 309⇑ *iP* **P** **04 09 47.7 -0.3**
comp=Z,24nm,0.8s,mb5.0
LPL La Plagne 49.22 309⇑ *iP* **P** **04 09 47.7 -0.3**
LPL pmax pmax
comp=Z,12nm,0.8s,mb5.0
LPL La Plagne 49.22 309⇑ *iP* **P** **04 09 47.7 -0.3**
comp=Z,12nm,0.8s,mb5.0
BNI Bardonecchia 49.22 309 *eP* **P** **04 09 46.9 -1.1**
BNI *e**PP pP 04 09 55.5 -1.3
BNI pmax pmax
comp=Z,13nm,0.8s,mb5.0
BNI Bardonecchia 49.22 309 *eP* **P** **04 09 46.9 -1.2**
comp=Z,13nm,0.8s,mb5.0
BNI *ep*P pP 04 09 55.5 -1.3
BNI Bardonecchia 49.22 309 *eP* **P** **04 09 46.8 -1.2**
comp=Z,13nm,0.8s,mb5.0
BNI *ep*P pP 04 09 55.5 -1.3
LMR La Mourre 49.23 307 *eP* **P** **04 09 47.4 -0.8**
comp=Z,19nm,1.0s,mb4.8
LMR La Mourre 49.23 307 *eP* **P** **04 09 47.4 -0.8**
LMR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LMR La Mourre 49.23 307 *eP* **P** **04 09 47.4 -0.8**
comp=Z,9.4nm,1.0s,mb4.8
HINF Hinteralfeld 49.37 312⇑ *iP* **P** **04 09 48.4 -0.7**
KEV Kevo 49.49 344 *ep* **P** **04 09 48.9 -0.8**
comp=Z,1.0nm,0.4s,mb4.2
KEV Kevo 49.49 344 *eP* **P** **04 09 48.9 -0.8**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
IBBN Ibbenburen 49.50 318 *eP* **P** **04 09 50.7 +0.6**
comp=Z,24nm,1.3s,mb5.1
BUG Bochum--Univer 49.64 317 *eP* **P** **04 09 51.9 +0.8**
comp=Z,16nm,0.8s,mb5.1
BUG *ep*P pP 04 10 00.6 +0.7
ARCES ARCESS Array B 49.71 344 P **P** **04 09 51.2 -0.2**
ARCES 04 11 12.7
ARCES pmax pmax
comp=Z,3.0nm,0.7s
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES ARCESS Array B 49.71 344 P **P** **04 09 51.2 -0.2**
ARCES PcP PcP 04 11 12.7 +0.5
ARCES ARCESS Array B 49.71 344 P **P** **04 09 51.2 -0.2**
comp=Z,2.6nm,0.7s,mb4.4,baz=142,slow=8.0,SNR=22
ARCES PcP PcP 04 11 12.7 +0.5
comp=Z,1.7nm,0.7s,baz=133,slow=5.1,SNR=3.8
ARCES ARCESS Array B 49.71 344 PcP PcP 04 11 12.6 +0.4
HAU Haudompre 49.73 313 *eP* **P** **04 09 51.1 -0.8**
comp=Z,5.7nm,0.6s,mb4.5
HAU Haudompre 49.73 313 *eP* **P** **04 09 51.1 -0.8**
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
HAU Haudompre 49.73 313 *eP* **P** **04 09 51.1 -0.8**
comp=Z,2.8nm,0.6s,mb4.4
CABF La Chapelle 49.76 311⇑ *iP* **P** **04 09 52.2 +0.1**
comp=Z,42nm,1.2s,mb5.0
CABF La Chapelle 49.76 311⇑ *iP* **P** **04 09 52.2 +0.1**
CABF pmax pmax
comp=Z,21nm,1.2s,mb5.0
CABF La Chapelle 49.76 311⇑ *iP* **P** **04 09 52.2 +0.1**
comp=Z,21nm,1.2s,mb5.1
ORIF Oris-en-Rattie 49.77 309 *eP* **P** **04 09 50.8 -1.5**
comp=Z,11nm,0.8s,mb4.6
ORIF Oris-en-Rattie 49.77 309 *eP* **P** **04 09 50.8 -1.5**
ORIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 49.77 309 *eP* **P** **04 09 50.8 -1.5**
comp=Z,5.5nm,0.8s,mb4.6

SMRF Simiane la Rot 49.94 307 *eP* **P 04 09 53.3 -0.3**
HIA Hailar 49.95 46⇓ *eP* **P 04 09 55.6 +2.0**
WLF Walferdange 50.06 315 *eP* **P 04 09 54.6 +0.2**
WLF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
WLF Walferdange 50.06 315 *eP* **P 04 09 54.6 +0.2**
comp=Z,7.9nm,0.7s,mb4.8
WLF Walferdange 50.06 315 P **P 04 09 54.9 +0.6**
WLF AP pP 04 10 02.8 -0.4
WLF Walferdange 50.06 315 *eP* **P 04 09 54.7 +0.3**
comp=Z,10.0nm,0.8s,mb4.9
WLF Walferdange 50.06 315 *eP* **P 04 09 54.6 +0.2**
comp=Z,7.9nm,0.7s,mb4.8
NB2 NORSAR Subarra 50.18 330 P **P 04 09 54.0 -1.1**
comp=Z,2.4nm,0.6s,mb4.4,baz=109,slow=7.9
NOA NORSAR Array B 50.18 330 P **P 04 09 54.2 -0.9**
NOA *PP pP 04 10 03.4 -0.5
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA NORSAR Array B 50.18 330 P **P 04 09 54.2 -0.9**
NOA pP pP 04 10 03.4 -0.5
NOA NORSAR Array B 50.18 330 P **P 04 09 54.2 -0.9**
comp=Z,2.1nm,0.6s,mb4.3,baz=111,slow=7.5,SNR=7.3
NOA pP pP 04 10 03.4 -0.5
comp=Z,3.5nm,0.7s,baz=110,slow=7.7,SNR=10
MEM Membach 50.29 316 P **P 04 09 56.0 -0.1**
MEM AP pP 04 10 05.3 +0.4
MEM Membach 50.29 316 P **P 04 09 55.9 -0.2**
VIVF Saint-Julien-I 50.63 308 *eP* **P 04 09 58.3 -0.4**
comp=Z,39nm,1.2s,mb4.9
VIVF Saint-Julien-I 50.63 308 *eP* **P 04 09 58.3 -0.4**
VIVF pmax pmax
comp=Z,20nm,1.2s,mb4.9
VIVF Saint-Julien-I 50.63 308 *eP* **P 04 09 58.3 -0.4**
comp=Z,20nm,1.2s,mb4.9
MEZF Maizieres J'vi 50.64 313⇑ *iP* **P 04 09 58.9 +0.1**
comp=Z,22nm,1.0s,mb4.8
MEZF Maizieres J'vi 50.64 313⇑ *iP* **P 04 09 58.9 +0.1**
comp=Z,11nm,1.0s,mb4.8
BCLA Clavier 50.71 316 P **P 04 10 00.3 +1.1**
BCLA AP pP 04 10 05.8 -2.3
BCLA XP sP 04 10 13.8 +2.3
BCLA Clavier 50.71 316 P **P 04 10 00.3 +1.1**
GIVF Givet 50.97 315 *eP* **P 04 10 02.1 +0.9**
comp=Z,36nm,1.0s,mb4.9
GIVF Givet 50.97 315 *eP* **P 04 10 02.1 +0.9**
GIVF pmax pmax
comp=Z,18nm,1.0s,mb5.0
GIVF Givet 50.97 315 *eP* **P 04 10 02.1 +0.9**
comp=Z,18nm,1.0s,mb4.9
DOU Dourbes 51.12 315 P **P 04 10 02.4 +0.1**
DOU AP pP 04 10 10.3 -0.9
LASF Ste Croix 51.18 307⇑ *iP* **P 04 10 02.9 0.0**
comp=Z,11nm,0.7s,mb4.6
LASF Ste Croix 51.18 307⇑ *iP* **P 04 10 02.9 0.0**
comp=Z,5.3nm,0.7s,mb4.6
SMF Signal de Mont 51.30 311⇑ *iP* **P 04 10 03.4 -0.4**
comp=Z,35nm,1.0s,mb5.0
SMF Signal de Mont 51.30 311⇑ *iP* **P 04 10 03.4 -0.4**
SMF pmax pmax
comp=Z,17nm,1.0s,mb4.9
SMF Signal de Mont 51.30 311⇑ *iP* **P 04 10 03.4 -0.4**
comp=Z,17nm,1.0s,mb5.0
LOR Lormes 51.33 312⇑ *iP* **P 04 10 03.4 -0.6**
comp=Z,5.0nm,0.7s,mb4.2
LOR Lormes 51.33 312⇑ *iP* **P 04 10 03.4 -0.6**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LOR Lormes 51.33 312⇑ *iP* **P 04 10 03.4 -0.6**
comp=Z,2.5nm,0.7s,mb4.2
UCC Uccle 51.35 316 P **P 04 10 04.6 +0.5**
UCC Uccle 51.35 316 P **P 04 10 04.5 +0.4**
BAIF Baives 51.36 315⇑ *iP* **P 04 10 04.9 +0.7**
comp=Z,7.3nm,0.5s,mb4.5
BAIF Baives 51.36 315⇑ *iP* **P 04 10 04.9 +0.7**
BAIF pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
BAIF Baives 51.36 315⇑ *iP* **P 04 10 04.9 +0.7**
comp=Z,3.7nm,0.5s,mb4.5
SSF Saint Saulge 51.56 311⇑ *iP* **P 04 10 05.4 -0.3**
comp=Z,24nm,1.0s,mb4.8
SSF Saint Saulge 51.56 311⇑ *iP* **P 04 10 05.4 -0.3**
SSF pmax pmax
comp=Z,12nm,1.0s,mb4.8
SSF Saint Saulge 51.56 311⇑ *iP* **P 04 10 05.4 -0.3**
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 51.65 311⇑ *iP* **P 04 10 05.8 -0.6**
comp=Z,27nm,1.5s,mb4.7
AVF Avril sur Loir 51.65 311⇑ *iP* **P 04 10 05.8 -0.6**
AVF pmax pmax
comp=Z,14nm,1.5s,mb4.7
AVF Avril sur Loir 51.65 311⇑ *iP* **P 04 10 05.8 -0.6**
comp=Z,14nm,1.5s,mb4.7
BGF Bois d'Agland 51.98 311 *eP* **P 04 10 08.6 -0.3**
MTLF Montolieu 52.36 306⇑ *iP* **P 04 10 12.0 +0.2**
comp=Z,14nm,0.8s,mb4.6
MTLF Montolieu 52.36 306⇑ *iP* **P 04 10 12.0 +0.2**
MTLF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
MTLF Montolieu 52.36 306⇑ *iP* **P 04 10 12.0 +0.2**
comp=Z,7.1nm,0.8s,mb4.6
TCF Toulx Ste Croi 52.41 310⇑ *iP* **P 04 10 11.9 -0.2**
comp=Z,41nm,1.5s,mb4.8
TCF Toulx Ste Croi 52.41 310⇑ *iP* **P 04 10 11.9 -0.2**
TCF pmax pmax
comp=Z,21nm,1.5s,mb4.8
TCF Toulx Ste Croi 52.41 310⇑ *iP* **P 04 10 11.9 -0.2**
comp=Z,21nm,1.5s,mb4.8
LSZ Lusaka 52.48 224 *eP* **P 04 10 15.1 +2.2**
LSZ pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
LSZ Lusaka 52.48 224 *eP* **P 04 10 15.1 +2.3**
comp=Z,7.3nm,1.4s,mb4.4
LSZ Lusaka 52.48 224 *eP* **P 04 10 15.1 +2.2**
comp=Z,7.3nm,1.4s,mb4.4
CAF Calviac 52.48 308⇑ *iP* **P 04 10 12.8 +0.2**
comp=Z,13nm,0.8s,mb4.6
CAF Calviac 52.48 308⇑ *iP* **P 04 10 12.8 +0.2**
CAF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CAF Calviac 52.48 308⇑ *iP* **P 04 10 12.8 +0.2**
comp=Z,6.7nm,0.8s,mb4.6
RJF Les Rejaudoux 52.88 309⇑ *iP* **P 04 10 15.7 +0.2**
comp=Z,18nm,0.8s,mb4.8
RJF Les Rejaudoux 52.88 309⇑ *iP* **P 04 10 15.7 +0.2**
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
RJF Les Rejaudoux 52.88 309⇑ *iP* **P 04 10 15.7 +0.2**
comp=Z,9.1nm,0.8s,mb4.8
LFF La Frestale 53.42 308 *eP* **P 04 10 19.8 +0.2**
comp=Z,32nm,0.9s,mb5.0
LFF La Frestale 53.42 308 *eP* **P 04 10 19.8 +0.2**
LFF pmax pmax
comp=Z,16nm,0.9s,mb5.0
LFF La Frestale 53.42 308 *eP* **P 04 10 19.8 +0.2**
comp=Z,16nm,0.9s,mb5.0
CN2 Changchun 53.58 53 *eP* **P 04 10 21.9 +1.2**
CN2 *eXP* sP 04 10 32.9 -0.2
EPF Esparros 53.74 306 *eP* **P 04 10 20.7 -1.2**
comp=Z,14nm,1.0s,mb4.5
EPF Esparros 53.74 306 *eP* **P 04 10 20.7 -1.2**
EPF pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
EPF Esparros 53.74 306 *eP* **P 04 10 20.7 -1.2**
comp=Z,6.9nm,1.0s,mb4.5
LDF La Druitiere 54.08 313⇑ *iP* **P 04 10 23.7 -0.6**
comp=Z,37nm,1.1s,mb4.9
LDF La Druitiere 54.08 313⇑ *iP* **P 04 10 23.7 -0.6**
LDF pmax pmax
comp=Z,18nm,1.1s,mb4.9
LDF La Druitiere 54.08 313⇑ *iP* **P 04 10 23.7 -0.6**
comp=Z,18nm,1.1s,mb4.9
FLN La Foliniere 54.32 313 *eP* **P 04 10 25.6 -0.5**
ETSF Etsaut 54.41 306⇑ *iP* **P 04 10 27.2 +0.4**
comp=Z,35nm,0.8s,mb5.0
ETSF Etsaut 54.41 306⇑ *iP* **P 04 10 27.2 +0.4**
ETSF pmax pmax
comp=Z,17nm,0.8s,mb5.0
ETSF Etsaut 54.41 306⇑ *iP* **P 04 10 27.2 +0.4**
comp=Z,18nm,0.8s,mb5.0
SJPF Ste Jean 54.88 306 *eP* **P 04 10 30.5 +0.2**
comp=Z,54nm,1.3s,mb5.1
SJPF Ste Jean 54.88 306 *eP* **P 04 10 30.5 +0.2**
SJPF pmax pmax
comp=Z,27nm,1.3s,mb5.1
SJPF Ste Jean 54.88 306 *eP* **P 04 10 30.5 +0.2**
comp=Z,27nm,1.3s,mb5.1
SGMF Saint Gilles 55.69 313 *eP* **P 04 10 36.2 +0.2**
KSRS Korea Array 55.91 61 P **P 04 10 37.5 -0.2**
comp=Z,2.7nm,0.5s,mb4.5,baz=273,slow=7.3,SNR=11
KSRS pP pP 04 10 46.8 +0.2
comp=Z,1.2nm,0.7s,baz=277,slow=7.3,SNR=4.3
KSRS LR LR 04 39 07.5
comp=Z,120nm,18.2s,MS4.0,baz=84,slow=41
ESDC Sonseca Array 57.22 302 P **P 04 10 46.5 -0.5**
comp=Z,0.2nm,0.4s,mb3.5,baz=74,slow=6.6,SNR=5.4
YAK Yakutsk 57.32 31c *iP* **P 04 10 47.0 -0.3**
YAK pmax pmax
comp=Z,36nm,1.2s,mb5.3
YAK Yakutsk 57.32 31 *eP* **P 04 10 46.6 -0.7**
comp=Z,32nm,0.8s,mb5.4
YAK Yakutsk 57.32 31 *eP* **P 04 10 46.6 -0.7**
comp=Z,32nm,0.8s,mb5.4
TIXI Tiksi 58.93 20 *eP* **P 04 10 57.3 -1.1**
TIXI pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
TIXI MLR MLR
comp=Z,270nm,17.0s,MS4.4
TIXI Tiksi 58.93 20 *eP* **P 04 10 57.5 -0.9**
comp=Z,5.0nm,1.0s,mb4.5
TIXI Tiksi 58.93 20 *eP* **P 04 10 57.5 -0.9**
comp=Z,5.0nm,1.0s,mb4.5
LBTB Lobatse 61.49 219 *eP* **P 04 11 18.4 +1.8**
LBTB pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
LBTB Lobatse 61.49 219 *eP* **P 04 11 18.4 +1.8**
comp=Z,8.7nm,0.9s,mb4.9
LBTB Lobatse 61.49 219 *eP* **P 04 11 18.4 +1.8**
comp=Z,8.7nm,0.9s,mb4.9
BOSA Boshof 64.49 217 P **P 04 11 37.5 +1.1**
BOSA *PP pP 04 11 44.6 -0.9
BOSA pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
BOSA pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BOSA Boshof 64.49 217 *eP* **P 04 11 37.3 +0.9**
comp=Z,6.1nm,0.9s,mb4.6
BOSA Boshof 64.49 217 P **P 04 11 37.5 +1.1**
comp=Z,2.1nm,0.4s,mb4.5,baz=67,slow=7.5,SNR=24
BOSA pP pP 04 11 44.5 -0.9
comp=Z,4.9nm,0.8s,baz=46,slow=8.6,SNR=6.8
BOSA Boshof 64.49 217 *eP* **P 04 11 37.3 +0.9**
comp=Z,6.1nm,0.9s,mb4.6
YSS Yuzh-Sakhalins 65.38 48⇑ *eP* **P 04 11 42.3 +0.2**
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 65.38 48 *eP* **P 04 11 42.1 0.0**
comp=Z,14nm,0.6s,mb5.2
DBIC Dimbokro 67.15 267 P **P 04 11 53.9 -0.1**
DBIC pmax pmax
comp=Z,3.0nm,1.0s
DBIC Dimbokro 67.15 267 P **P 04 11 53.9 -0.1**
DBIC Dimbokro 67.15 267 P **P 04 11 53.9 -0.1**
comp=Z,3.2nm,0.9s,mb4.3,baz=90,slow=6.5,SNR=4.2
MA2 Magadan 67.69 33 *iP* **P 04 11 56.8 +0.2**
MA2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SEY Seymchan 67.78 30⇑ *eP* **P 04 11 58.2 +1.0**
BILL Bilibino 71.88 23⇑ *eP* **P 04 12 22.9 +0.6**
BILL *eS* S 04 21 37.9 -3.0
BILL pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BILL MLR MLR
comp=Z,200nm,17.0s,MS4.5
WRA Warramunga Arr 82.50 116 P **P 04 13 21.8 -0.8**
WRA *PP pP 04 13 30.8 -1.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 82.50 116 P **P 04 13 21.8 -0.8**
comp=Z,1.1nm,0.8s,mb3.9,baz=316,slow=4.7,SNR=6.9
WRA pP pP 04 13 30.8 -1.1
comp=Z,2.0nm,0.9s,baz=315,slow=4.5,SNR=6.9
ASAR Alice Springs 84.01 119 P **P 04 13 30.6 +0.2**
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 84.01 119 P **P 04 13 30.6 +0.2**
comp=Z,0.5nm,0.7s,mb3.8,baz=304,slow=5.2,SNR=6.9
ASAR Alice Springs 84.01 119 P **P 04 13 30.5 +0.1**
IMA2 Indian Mountai 85.02 14 *eP* **P 04 13 34.6 -0.1**
IMA2 Indian Mountai 85.02 14 *eP* **P 04 13 34.7 -0.1**
INK Inuvik 86.18 6 *eP* **P 04 13 40.5 0.0**
comp=Z,49nm,0.7s,mb5.8
COLA College 87.28 13 *eP* **P 04 13 46.0 0.0**
COLA pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
COLA College 87.28 13 *eP* **P 04 13 46.0 0.0**
comp=Z,3.9nm,0.9s,mb4.6
COLA College 87.28 13 *eP* **P 04 13 46.0 0.0**
comp=Z,3.9nm,0.9s,mb4.6
MCK McKinley 88.07 14 *eP* **P 04 13 49.7 0.0**
MCK pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
MCK McKinley 88.07 14 *eP* **P 04 13 49.7 -0.1**
comp=Z,5.5nm,0.7s,mb4.9
MCK McKinley 88.07 14 *eP* **P 04 13 49.7 0.0**
comp=Z,5.5nm,0.7s,mb4.9
YKA Yellowknife Ar 92.79 359 P **P 04 14 12.0 +0.2**
YKA *PP pP 04 14 20.8 -0.3
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 92.79 359 P **P 04 14 12.1 +0.3**
YKA pP pP 04 14 20.8 -0.3
YKA Yellowknife Ar 92.79 359 P **P 04 14 12.0 +0.3**
comp=Z,1.7nm,0.8s,mb4.5,baz=351,slow=5.0,SNR=27
YKA pP pP 04 14 20.8 -0.3
comp=Z,1.2nm,0.9s,baz=350,slow=4.8,SNR=8.1
YKA Yellowknife Ar 92.79 359 P **P 04 14 12.1 +0.3**
YKA pP pP 04 14 20.8 -0.3
FCC Fort Churchill 94.41 348 *eP* **P 04 14 19.4 +0.1**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
FCC Fort Churchill 94.41 348 *eP* **P 04 14 19.4 +0.1**
comp=Z,2.7nm,0.8s,mb4.7
FCC Fort Churchill 94.41 348 *eP* **P 04 14 19.4 +0.1**
comp=Z,2.7nm,0.8s,mb4.7
TXAR Lajitas Array 124.48 346 PKP PKPdf 04 19 59.9 +0.6
comp=Z,0.3nm,0.7s,baz=116,slow=2.9,SNR=4.9
TXAR pPKP pPKPdf 04 20 09.3 +0.4
comp=Z,0.4nm,0.7s,baz=153,slow=2.2,SNR=3.9

*IDC **06** 04:03:48.4±1.3, 928S×1130±1E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.1/11, ML3.6/1, MS3.5/4, Ms1 3.6/4, ms1mx3.2/19, Error ellipse: s-maj=60.9km s-min=15.9km az=50.0*
*NEIC **06** 04:03:49.3±0.6, 947S×1129±1E, h10km, mb4.2/5, Error ellipse: s-maj=30.4km s-min=7.6km az=55.0*
*ISCJB **06** 04:03:51.5±0.7, 93S±02×1131E±02, h33km, mb4.1/15, MS3.6/2, Error ellipse: s-maj=37.7km s-min=9.3km az=141.4*
ISC 06 04:03:53.7±0.7,**93S**±02×**1131E**±02,**h35**km,**n23**,σ0§**57**/22,**mb4.1**/15,**MS3.6**/2,**South of Jawa**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MBWA	**Marble Bar**	**13.41**	**152**	*e*Pn		**Pn**	**04 06 56.5**	**-5.1**
FITZ	**Fitzroy Crossi**	**14.99**	**127**	Pn		**Pn**	**04 07 21.7**	**-1.4**
	0.2nm,0.3s,baz=345,slow=11,SNR=11							
FITZ				Sn		**Sn**	**04 09 54.7**	**-13**
	0.0nm,0.3s,baz=139,slow=20,SNR=3.1							
FITZ				LR		LR	04 12 55.0	
	comp=Z,119nm,20.9s,baz=90,slow=36							
PSI	**Prapat**	**18.55**	**310**	LR		LR	04 16 14.3	
	comp=Z,181nm,21.3s,baz=274,slow=40							
WRA	**Warramunga Arr**	**23.08**	**120**	P		**P**	**04 08 56.8**	**+0.2**
	2.3nm,0.9s,mb3.6,baz=292,slow=11,SNR=8.4							
WRA				LR		LR	04 18 50.2	
	comp=Z,65nm,20.4s,MS3.1,baz=225,slow=39							
ASAR	**Alice Springs**	**24.48**	**128**	P		**P**	**04 09 10.4**	**+0.7**
	3.9nm,0.7s,mb3.9,baz=304,slow=9.1,SNR=40							
FORT	**Forrest**	**25.52**	**149**	*e*P		**P**	**04 09 19.0**	**0.0**
	1.8nm,0.8s,mb3.6							
STKA	**Stephens Creek**	**34.67**	**134**	P		**P**	**04 10 41.0**	**+0.9**
STKA	**Stephens Creek**	**34.67**	**134**	P		**P**	**04 10 41.0**	**+0.9**
	1.7nm,0.8s,mb4.0,baz=276,slow=11,SNR=4.8							
MJAR	**Matsushiro Arr**	**51.35**	**26**	P		**P**	**04 12 54.5**	**-0.3**
	1.2nm,0.8s,mb3.9,baz=197,slow=8.0,SNR=5.3							
ULN	**Ulaanbaatar**	**57.17**	**355**	*e*P		**P**	**04 13 37.5**	**+0.5**
	0.9nm,0.5s,mb4.1							
SONM	**Songino Array**	**57.20**	**355**	P		**P**	**04 13 38.3**	**+1.2**
	2.0nm,0.6s,mb4.3,baz=188,slow=4.4,SNR=3.0							
TKM2	**Tokmak 2**	**62.21**	**330**	*e*P		**P**	**04 14 11.7**	**-0.1**
	1.5nm,0.9s,mb4.1							
MK31	**Makanchi Array**	**62.24**	**337**	*e*P		**P**	**04 14 11.8**	**-0.1**
MKAR	**Makanchi Array**	**62.24**	**337**	P		**P**	**04 14 11.5**	**-0.4**
MKAR	**Makanchi Array**	**62.24**	**337**	P		**P**	**04 14 11.5**	**-0.4**
	2.0nm,0.5s,mb4.5,baz=152,slow=7.7,SNR=28							
AAK	**Ala-Archa**	**62.56**	**329**	P		**P**	**04 14 14.3**	**+0.2**
	0.8nm,0.3s,mb4.3,baz=194,slow=15,SNR=3.8							
EKS2	**Erkin-Say**	**62.95**	**328**	*e*P		**P**	**04 14 17.0**	**+0.3**
	2.2nm,0.7s,mb4.4							
KURK	**Kurchatov**	**66.84**	**337**	*e*P		**P**	**04 14 41.6**	**-0.3**
	1.6nm,0.6s,mb4.2							
ZALV	**Zalesovo Beam**	**67.40**	**342**	P		**P**	**04 14 44.8**	**-0.6**
	2.5nm,0.6s,mb4.4,baz=151,slow=3.6,SNR=9.5							
BVAR	**Borovoye Array**	**71.94**	**334**	P		**P**	**04 15 12.9**	**-0.4**
	0.4nm,0.6s,mb3.5,baz=134,slow=4.2,SNR=3.1							
VNDA	**Vanda**	**72.64**	**170**	LR		LR	04 41 58.8	
	comp=Z,95nm,18.3s,MS4.1,baz=300,slow=32							
AKTK	**Aktyubinsk**	**76.24**	**327**	P		**P**	**04 15 38.4**	**-0.1**
AKTO	**Aktyubinsk**	**76.24**	**327**	P		**P**	**04 15 38.4**	**-0.2**
	1.3nm,0.7s,mb4.0,baz=38,slow=7.0,SNR=5.3							

*ISCJB **06** 04:14:10.1±0.4, 4203N±002×2341E±003, h4km±6km, Error ellipse: s-maj=4.5km s-min=3.1km az=162.0*
*CSEM **06** 04:14:10.6±0.1, 4206N×2346E, h1km±1km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.7km az=128.0*
*THE **06** 04:14:11.7, 4201N×2342E, h1km, ML3.0*
*ATH **06** 04:14:11.6, 4187N×2332E, h25km±2km, MD3.2/3*
*BEO **06** 04:14:11.8±0.8, 4202N×2344E, h4km±5km, ML2.5/7*
ISC 06 04:14:10.9±0.4,**4203N**±002×**2343E**±004,**h9**km±5km,**n33**,σ1§**02**/58,**2C-1D**,**Bulgaria**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VTS	**Vitosha**	**0.58**	**344**	*e*Pg		**Pg**	**04 14 22.8**	**+0.7**
VTS				*e*Sg		**Sg**	**04 14 31.2**	**+1.5**
VTS	**Vitosha**	**0.58**	**344**	*e*Pg		**Pg**	**04 14 22.8**	**+0.6**
VTS				*e*Sg		**Sg**	**04 14 31.1**	**+1.3**
VTS	**Vitosha**	**0.58**	**344**	*e*Pg		**Pg**	**04 14 22.8**	**+0.6**
VTS				*e*Sg		**Sg**	**04 14 31.2**	**+1.4**
NVR	**Nevrokopi**	**0.76**	**154**	*e*PN		**Pg**	**04 14 24.9**	**-0.6**
NVR				*e*SN		**Sg**	**04 14 34.3**	**-1.0**
SRG	**Serrai**	**0.92**	**172**	*e*Pg		**Pg**	**04 14 28.1**	**-0.5**
SRS				*e*Sg		**Sg**	**04 14 41.3**	**+0.6**
PLD	**Plovdiv**	**0.95**	**85**	*e*Pg		**Pg**	**04 14 30.1**	**+0.9**
PLD				*e*Sg		**Sg**	**04 14 43.2**	**+1.6**
PLD	**Plovdiv**	**0.95**	**85**	*e*Pg		**Pg**	**04 14 30.1**	**+0.9**
PLD				*e*Sg		**Sg**	**04 14 43.2**	**+1.6**
KNT	**Kendrikon**	**0.96**	**205**	*e*Pg		**Pg**	**04 14 29.4**	**+0.1**
VAY	**Valandovo**	**0.96**	**222**	*e*Pg		**Pg**	**04 14 29.3**	**0.0**
VAY				*e*Sg		**Sg**	**04 14 42.5**	**+0.7**
VAY	**Valandovo**	**0.96**	**222**	*e*Pg		**Pg**	**04 14 29.1**	**-0.2**
VAY				*e*Sg		**Sg**	**04 14 42.1**	**+0.4**
VAY	**Valandovo**	**0.96**	**222⇑**	*i*Pg		**Pg**	**04 14 30.4**	**+1.1**
VAY				*i* Sg		**Sg**	**04 14 42.1**	**+0.4**
VAY	**Valandovo**	**0.96**	**222**	*e*Pg		**Pg**	**04 14 29.3**	**0.0**
VAY				*i* Sg		**Sg**	**04 14 42.1**	**+0.4**
STIP	**Stip**	**0.99**	**250**	*e*Pg		**Pg**	**04 14 30.3**	**+0.5**
STIP				*e*Sg		**Sg**	**04 14 43.9**	**+1.2**
STIP	**Stip**	**0.99**	**250**	*e*Pg		**Pg**	**04 14 29.6**	**-0.3**
STIP				*e*Sg		**Sg**	**04 14 43.8**	**+1.1**
STIP	**Stip**	**0.99**	**250**	*i* Pg		**Pg**	**04 14 29.7**	**-0.2**
STIP				*i* Sg		**Sg**	**04 14 43.9**	**+1.2**
STIP	**Stip**	**0.99**	**250**	*e*Pg		**Pg**	**04 14 30.3**	**+0.4**
STIP				*i* Sg		**Sg**	**04 14 43.8**	**+1.1**
SOH	**Sokhos**	**1.21**	**183**	*e*Pg		**Pg**	**04 14 33.6**	**-0.5**
SOH				*e*Sg		**Sg**	**04 14 50.2**	**+0.4**
GRG	**Griva**	**1.32**	**216**	*e*Pg		**Pg**	**04 14 36.0**	**-0.2**
GRG				*e*Sg		**Sg**	**04 14 54.1**	**+0.7**
GRG	**Griva**	**1.32**	**216**	*e*Pg		**Pg**	**04 14 36.0**	**-0.3**
GRG				*e*Sg		**Sg**	**04 14 54.1**	**+0.7**
BARS	**Barje**	**1.43**	**304**	*i* Pg		**Pg**	**04 14 38.1**	**-0.2**
BARS				*e*Sg		**Sg**	**04 14 56.8**	**0.0**
THE	**Thessaloniki**	**1.44**	**194**	*e*Pg		**Pg**	**04 14 38.0**	**-0.5**
THE				*e*Sg		**Sg**	**04 14 57.5**	**+0.2**
HORT	**Hortiatis**	**1.46**	**190**	*e*Pg		**Pg**	**04 14 37.9**	**-0.9**
PLG	**Polygyros**	**1.66**	**180**	*e*Pb		**Pb**	**04 14 40.9**	**-0.6**
PLG				*e*Sb		**Sb**	**04 15 03.5**	**+1.0**
PLG	**Polygyros**	**1.66**	**180**	*e*Pn		**Pn**	**04 14 38.5**	**-1.6**
PLG	**Polygyros**	**1.66**	**180**	*e*Pb		**Pb**	**04 14 40.9**	**-0.7**
PLG				*e*Sb		**Sb**	**04 15 03.5**	**+1.0**
OUR	**Ouranopolis**	**1.75**	**166**	*e*Pb		**Pb**	**04 14 41.2**	**-1.9**
RDO	**Rodhopi**	**1.81**	**119**	*e*PB		**Pb**	**04 14 43.1**	**-1.1**
RDO				*e*SN		**Sn**	**04 15 06.7**	**+1.3**
BOLS	**Boljevac**	**2.10**	**329**	*i* Pg		**Pg**	**04 14 49.0**	**-2.1**
BOLS				*e*Sg		**Sg**	**04 15 19.8**	**+1.5**
PAIG	**Paliouri**	**2.11**	**175**	*e*Pn		**Pn**	**04 14 46.2**	**-0.2**
ALN	**Alexandroupoli**	**2.27**	**119**	*e*Pn		**Pn**	**04 14 49.8**	**+1.3**
GRUS	**Gruza**	**2.72**	**314**	*i* Pn		**Pn**	**04 14 55.7**	**+1.0**
GRUS				*e*Sg		**Sg**	**04 15 38.5**	**+0.2**
BZS	**Buzias**	**3.81**	**341⇑**	*i*P		**Sg**	**04 16 11.7**	**-1.7**
DRGR		**4.79**	**354⇓**	*i*P		**Sg**	**04 16 42.2**	**-2.3**

*ISCJB **06** 04:27:46.8±0.4, 4014N±002×2866E±003, h3km, Error ellipse: s-maj=3.5km s-min=3.3km az=140.3*
*CSEM **06** 04:27:46.4±0.1, 4012N×2865E, h8km, MD2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=155.0*
*DDA **06** 04:27:46.6, 4012N×2866E, h7km±2km, Md2.5*
*ISK **06** 04:27:46.0, 4012N×2865E, h3km, MD2.7*
ISC 06 04:27:47.2±0.4,**4014N**±002×**2866E**±003,**h6**km±6km,**n18**,σ0§**58**/28,**Turkey**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.54**	**183**	*e*PG		**Pg**	**04 27 56.8**	**-0.7**
DST				*e*SG		**Sg**	**04 28 04.5**	**0.0**
BTOK	**Tokmak**	**0.61**	**232**	*i* P		**Pg**	**04 27 58.7**	**-0.3**
BTOK				*i* S		**Sg**	**04 28 06.9**	**-0.1**
EDC	**Edincik**	**0.65**	**289**	*e*PG		**Pg**	**04 27 59.3**	**-0.3**
EDC				*e*SG		**Sg**	**04 28 09.1**	**+1.1**
IZI	**Iznik**	**0.65**	**72**	*e*PG		**Pg**	**04 27 60.0**	**+0.3**
YLV	**Yalova**	**0.69**	**52**	*e*PG		**Pg**	**04 28 00.6**	**+0.2**
BALB	**Balikesir**	**0.78**	**231**	*e*PG		**Pg**	**04 28 01.6**	**-0.6**
BALB				*e*SG		**Sg**	**04 28 12.9**	**+0.5**
ADVT	**Abdulvahap**	**0.87**	**70**	*e*PG		**Pg**	**04 28 03.8**	**-0.2**
MRMT	**Marmara Adasi**	**0.94**	**300**	*e*PG		**Pg**	**04 28 05.0**	**-0.2**
CTT	**Catalca**	**1.02**	**350**	*e*PG		**Pg**	**04 28 06.5**	**-0.3**
ELBA	**Catalca**	**1.02**	**350**	*i* P		**Pg**	**04 28 06.8**	**+0.1**
ELBA				*i* S		**Sg**	**04 28 20.3**	**+0.2**
ELBA	**Catalca**	**1.02**	**350**	*i* P		**Pg**	**04 28 06.8**	**0.0**
ELBA				*i* S		**Sg**	**04 28 20.3**	**+0.3**
HRT	**Hereke**	**1.02**	**48**	*e*PG		**Pg**	**04 28 07.0**	**+0.1**
KLYT	**Kilyos**	**1.15**	**14**	*e*PN		**Pn**	**04 28 08.7**	**-1.1**
GDZ	**Gediz**	**1.23**	**149**	*i* P		**Pb**	**04 28 11.0**	**+0.2**
GDZ				*i* S		**Sg**	**04 28 26.9**	**+0.3**
SART	**Tekirdag**	**1.26**	**296**	*i* P		**Pn**	**04 28 10.8**	**-0.6**
SART				*i* S		**Sb**	**04 28 28.6**	**+0.8**
BORA	**Eskisehir**	**1.40**	**100**	*e*P		**Pn**	**04 28 12.6**	**-0.7**
BORA				*i* S		**Sb**	**04 28 33.1**	**+1.3**
AKHS	**Akhisar**	**1.42**	**208**	*e*P		**Pn**	**04 28 12.7**	**-0.9**
AKHS				*i* S		**Sb**	**04 28 33.2**	**+0.7**
GULT	**Gulveren**	**1.45**	**78**	*e*PN		**Pn**	**04 28 14.2**	**+0.3**

*CAS

BLLM				eS		x	04 45 15.7	
CAHU	**Cacacuatique**	**0.70**	**348**⇑	eP		x	04 45 06.9	
CAHU				eS		x	04 45 22.4	
SNVI	**San Vicente**	**0.92**	**305**	eP		x	04 45 04.8	
SNVI				eS		x	04 45 18.0	
CRIN	**San Cristobal**	**1.05**	**111**⇓	eP		**Pn**	**04 45 05.0**	**-1.6**
CRIN				eS		**Sn**	**04 45 23.6**	**+1.0**
LFRS	**El Faro**	**1.11**	**299**	eP		x	04 45 06.0	
LFRS				eS		x	04 45 19.1	
TGUH	**Tegucigalpa,Un**	**1.23**	**38**	ePn		**Pn**	**04 45 09.3**	**+0.7**
TGUH				eSn		**Sn**	**04 45 25.2**	**-1.0**
TEL3	**Telica 3**	**1.29**	**113**⇓	eP		**Pn**	**04 45 08.2**	**-1.0**
TEL3				eS		**Sn**	**04 45 29.3**	**+2.0**
TELN	**Telica**	**1.29**	**112**⇑	eP		**Pn**	**04 45 08.4**	**-0.8**
TELN				eS		**Sn**	**04 45 29.4**	**+2.1**
BOQS	**Boqueron**	**1.35**	**299**⇓	eP		x	04 45 08.9	
BOQS				eS		x	04 45 24.8	
CNGN	**Cerro Negro**	**1.45**	**114**	eP		**Pn**	**04 45 09.1**	**-2.0**
CNGN				eS		**Sn**	**04 45 31.1**	**+0.5**
MOMJ	**Momotombo**	**1.63**	**114**	eP		**Pn**	**04 45 14.4**	**+1.1**
MOMJ				eS		**Sn**	**04 45 34.5**	**-0.1**
COPN	**Copaltepe**	**1.69**	**122**	eP		**Pn**	**04 45 12.3**	**-1.7**
SNJE	**San Jose**	**1.70**	**298**⇓	eP		x	04 45 13.5	
SNJE				eS		x	04 45 32.8	
SBLS	**San Blas**	**1.70**	**296**	eP		x	04 45 13.4	
SBLS				eS		x	04 45 32.8	
CSAN		**1.83**	**119**	eP		**Pn**	**04 45 15.2**	**-0.6**
CSAN				eS		**Sn**	**04 45 38.9**	**-0.2**
APYN	**Apoyeque**	**1.87**	**117**⇑	eP		**Pn**	**04 45 15.9**	**-0.4**
XAVN	**Gruta Xavier**	**1.93**	**119**	eP		**Pn**	**04 45 16.4**	**-0.7**
TISN	**Laguna Tiscapa**	**1.98**	**118**	eP		**Pn**	**04 45 17.1**	**-0.6**
HUEN		**1.98**	**112**	eP		**Pn**	**04 45 18.2**	**+0.4**
MGAN	**Managua**	**2.00**	**118**	eP		**Pn**	**04 45 17.3**	**-0.6**
MGAN				*i*			04 45 44.6	
	comp=E,545nm,0.5s							
CRUN	**El Crucero**	**2.04**	**122**⇓	eP		**Pn**	**04 45 17.9**	**-0.5**
TICN	**Ticuantepe**	**2.07**	**120**	eP		**Pn**	**04 45 18.3**	**-0.5**
APON	**Apoyo**	**2.26**	**121**	eP		**Pn**	**04 45 20.8**	**-0.5**
SSNN	**San Juan del S**	**2.80**	**129**	eP		**Pn**	**04 45 28.2**	**-0.2**
CONN	**Concepcion**	**2.82**	**122**	eP		**Pn**	**04 45 29.1**	**+0.5**
MADN	**Villa Maderas**	**2.98**	**124**	eP		**Pn**	**04 45 31.0**	**+0.2**
JTS	**JuntasAbangare**	**4.12**	**132**	P		**Pn**	**04 45 43.1**	**-3.0**
	comp=E,1.5nm,0.3s,baz=311,slow=18,SNR=18							
JTS				Pg		**Pn**	**04 45 51.5**	**+5.4**
	comp=E,29nm,0.3s,baz=306,slow=17,SNR=66							
JTS				S		**Sn**	**04 46 33.0**	**-0.3**
	comp=E,2.5nm,0.3s,baz=270,slow=23,SNR=2.1							
JTS				Lg			04 46 47.6	
	comp=E,3.3nm,0.3s,baz=207,slow=17,SNR=5.2							
JCR	**Jicaral**	**4.32**	**138**	eP		**Pn**	**04 45 46.9**	**-2.0**
CGA2	**Cerro Gallo 2**	**4.66**	**131**	eP		**Pn**	**04 45 54.4**	**+1.1**
CGA2				eS		**Sn**	**04 46 48.5**	**+2.2**
PRS1	**Puriscal**	**4.79**	**130**	eP		**Pn**	**04 45 55.7**	**+0.5**
LAJ	**Bijagual**	**5.01**	**129**	eP		**Pn**	**04 45 54.2**	**-4.0**
LCR2	**La Lucha 2**	**5.18**	**129**	eP		**Pn**	**04 46 01.2**	**+0.8**
LCR2				eS		**Sn**	**04 47 00.7**	**+1.7**
BAR1		**6.02**	**129**	eP		**Pn**	**04 46 11.9**	**0.0**
TEIG	**Tepich**	**7.11**	**358**	P		**Pn**	**04 46 28.2**	**+1.6**
	comp=E,3.8nm,0.3s,baz=180,slow=14,SNR=38							
TERV	**Terraza Guagua**	**16.17**	**144**⇓	iP		**Pn**	**04 48 26.7**	**+0.2**
JCT	**Junction City**	**20.43**	**330**	eP		**P**	**04 49 13.5**	**-0.8**
	comp=E,2.2nm,0.5s							
TXAR	**Lajitas Array**	**21.71**	**321**	P		**P**	**04 49 27.2**	**-0.7**
	comp=E,2.3nm,0.7s,mb3.6,baz=137,slow=11,SNR=30							
MNTX	**Cornudas Mount**	**24.43**	**322**	eP		**P**	**04 49 54.0**	**-0.2**
	comp=E,1.2nm,0.5s,mb3.5							
GRW	**Mount Saint Ca**	**25.77**	**89**	eP		**P**	**04 50 05.2**	**-1.4**
GRW	**Mount Saint Ca**	**25.77**	**89**	*e*		**P**	**04 50 05.2**	**-1.4**
GRHS	**Sauteurs**	**25.79**	**89**	eP		**P**	**04 50 06.0**	**-0.8**
GRHS	**Sauteurs**	**25.79**	**89**	*e*		**P**	**04 50 05.9**	**-0.8**
GRSS	**Sisters**	**25.81**	**89**	eP		**P**	**04 50 06.6**	**-0.4**
GRSS	**Sisters**	**25.81**	**89**	*e*		**P**	**04 50 06.6**	**-0.4**
GRIC	**Isle de Caille**	**25.84**	**89**	*e*		**P**	**04 50 06.6**	**-0.5**
SDCO	**Great Sand Dun**	**29.07**	**331**	eP		**P**	**04 50 36.6**	**+0.8**
	comp=E,1.7nm,1.0s,mb3.6							
BW06	**Boulder Array**	**34.94**	**332**	eP		**P**	**04 51 27.2**	**+0.2**
	comp=E,1.2nm,0.9s,mb3.7							
HWUT	**Hardware Ranch**	**35.03**	**329**	eP		**P**	**04 51 28.7**	**+0.9**
	comp=E,1.1nm,0.4s,mb4.0							
REDW	**Red Top Meadow**	**36.00**	**331**	eP		**P**	**04 51 36.7**	**+0.5**
	comp=E,4.0nm,0.5s,mb4.6							
SNOW	**Snow King Moun**	**36.03**	**331**	eP		**P**	**04 51 37.2**	**+0.8**
	comp=E,11nm,0.9s,mb4.8							
LOHW	**Long Hollow**	**36.08**	**332**	eP		**P**	**04 51 37.8**	**+1.0**
	comp=E,2.9nm,1.0s,mb4.2							
TPAW	**Teton Pass**	**36.14**	**331**	eP		**P**	**04 51 37.8**	**+0.4**
	comp=E,2.5nm,0.7s,mb4.2							
MOOW	**Moose Ponds**	**36.24**	**332**	eP		**P**	**04 51 38.7**	**+0.5**
	comp=E,1.6nm,0.6s,mb4.1							
NVAR	**Mina Array Bea**	**36.84**	**319**	P		**P**	**04 51 44.9**	**+1.6**
	comp=E,0.9nm,0.8s,mb3.7,baz=150,slow=7.3,SNR=4.3							
ULM	**Lac du Bonnet**	**37.61**	**352**	eP		**P**	**04 51 48.3**	**-1.3**
	comp=E,2.5nm,0.5s,mb4.3							
ULM	**Lac du Bonnet**	**37.61**	**352**	P		**P**	**04 51 48.6**	**-1.1**
	comp=E,2.5nm,0.5s,mb4.3,baz=170,slow=8.6,SNR=7.2							
EDM	**Edmonton**	**44.81**	**339**	eP		**P**	**04 52 48.1**	**-0.4**
SCHQ	**Schefferville**	**44.85**	**17**	P		**P**	**04 52 49.2**	**+0.4**
	comp=E,2.4nm,0.8s,mb4.0,baz=231,slow=8.2,SNR=6.3							
YKA	**Yellowknife Ar**	**52.85**	**345**	P		**P**	**04 53 49.3**	**-0.6**
YKA				pP		pP	04 54 07.0	-7.8
YKA	**Yellowknife Ar**	**52.85**	**345**	P		**P**	**04 53 49.3**	**-0.6**
	comp=E,0.4nm,0.3s,mb3.9,baz=149,slow=6.6,SNR=33							
YKA				pP		pP	04 54 07.0	-7.8
	comp=E,0.3nm,0.5s,baz=133,slow=8.2,SNR=8.3							
WRA	**Warramunga Arr**	**138.87**	**255**	PKP		PKPdf	05 04 02.2	+2.0
	comp=E,0.3nm,0.4s,baz=91,slow=2.4,SNR=6.9							
ASAR	**Alice Springs**	**138.95**	**249**	PKP		PKPdf	05 04 00.5	+0.3
	comp=E,0.3nm,0.6s,baz=129,slow=3.0,SNR=3.1							
FITZ	**Fitzroy Crossi**	**147.19**	**257**	PKPbc		PKPbc	05 04 17.0	-0.2
	comp=E,1.0nm,0.9s,baz=78,slow=16,SNR=6.3							

ISCJB ***06*** *04:47:12.9±0.1, 677N±002×7295W±001, h165km, mb5.2/198, Error ellipse: s-maj=3.0km s-min=1.7km az=176.2*

BJI ***06*** *04:47:12.4, 684N×7284W, h156km, mB5.2*

MOS ***06*** *04:47:13.6±1.0, 696N×7292W, h161km, mb5.0/51, MS4.1/4, Error ellipse: s-maj=5.7km s-min=4.6km az=74.3*

IDC ***06*** *04:47:14.0±0.4, 672N×7292W, h160km±3km, mb4.8/16, mb1 5.0/21, mb1mx4.9/23, mbtmp4.9/21, MS4.0/11, Ms1 4.0/11, ms1mx3.7/25, Error ellipse: s-maj=7.5km s-min=5.5km az=102.0*

GCMT ***06*** *04:47:13.7±0.2, 684N×7313W, h157km±1km, MW5.4/92, Moment Tensor Solution. s69,c115; s92,c173; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr0.17±.02; Mθθ0.95±.02; Mφφ-1.12±.02; Mrθ0.77±.01; Mrφ0.24±.02; Mθφ-0.51±.02; Best double couple: M0 1.41400×1017 NP1:φs36.00000°, δ49.00000°, λ173.00000°. NP2:φs131.00000°, δ85.00000°, λ41.00000°. Principal axes: T 1.4200, Plg32.0000°, Azm2.0000°; N -0.0160, Plg49.0000°, Azm137.0000°; P -1.4080, Plg23.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***06*** *04:47:13.7±0.3, 671N×7295W, h160km±2km, mb5.4/158, MW5.4 Error ellipse: s-maj=3.6km s-min=2.3km az=199.0, Moment Tensor Solution. s8 Moment tensor: Scale 1017 Nm; Mrr0.51; Mθθ0.81; Mφφ-1.32; Mrθ0.60; Mθφ0.39; Mφr~0.32; Best double couple: M0 1.40000×1017 NP1: φs30.00000°, δ55.00000°, λ161.00000°. NP2: φs132.00000°, δ74.00000°, λ37.00000°. Principal axes: T 1.2900, Plg37.0000°, Azm357.0000°; N 0.1900, Plg50.0000°, Azm151.0000°; P -1.4800, Plg13.0000°, Azm257.0000°;*

NEIC Felt [IV] at Bucaramanga and Medellin and [III] at Bogota. Also felt at Armenia, Chia, Floridablanca, Leiva, Manizales and Pereira.

CASC ***06*** *04:47:14.5±1.2, 742N×7321W, h33km±802km, MD5.5, ML4.7, mb5.4(NEIC)*

FUNV ***06*** *04:47:14.9, 681N×7310W, h164km, MW5.3*

SZGRF ***06*** *04:47:26.7, 788N×7071W, h164km, mb5.1, Venezuela*

ISC 06 04:47:14.6±0.1, 675N±002×7289W±001, h167km, h167km±2.0km: pP-P, n988, σ0s79/962, mb5.2/198, 321C-194D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
BARC	**Barichara**	**0.31**	**250**	⇑*iP*		**Pn**	**04 47 35.6**	**-1.5**
BARC				*eS*		**Sn**	**04 47 49.6**	**-4.7**
CAPV	**Capacho**	**1.25**	**27**	⇓*iP*		**Pn**	**04 47 43.1**	**+0.1**
CAPV				*eS*		**Sn**	**04 48 04.3**	**-0.7**
CAPV	**Capacho**	**1.25**	**27**	⇓*iP*		**Pn**	**04 47 43.1**	**+0.1**
CAPV				*eS*		**Sn**	**04 48 03.7**	**-1.2**
OCAC	**Ocana**	**1.54**	**344**	⇓*iP*		**Pn**	**04 47 43.6**	**-2.3**
OCAC				*eS*		**Sn**	**04 48 06.0**	**-4.0**
ROSC	**El Rosal**	**2.37**	**217**	⇑*iP*		**Pn**	**04 47 54.9**	**-0.1**
ROSC	**El Rosal**	**2.37**	**217**	*e*Pn		**Pn**	**04 47 54.8**	**-0.2**
ROSC				*e*Sn		**Sn**	**04 48 21.5**	**-4.7**
ROSC	**El Rosal**	**2.37**	**217**	P		**Pn**	**04 47 54.6**	**-0.3**
	baz=282,slow=20							
ROSC				S		**Sn**	**04 48 25.3**	**-0.9**
	12μm,0.3s,baz=73,slow=19,SNR=14							
SOCV	**Socops**	**2.53**	**53**	⇓*iP*		**Pn**	**04 47 58.0**	**+1.1**
SOCV				*e*S		**Sn**	**04 48 29.9**	**+0.3**
VIGV	**El Vigia**	**2.57**	**36**	⇓*iP*		**Pn**	**04 47 57.6**	**+0.3**
VIGV				*e*S		**Sn**	**04 48 30.9**	**+0.4**
VIGV	**El Vigia**	**2.57**	**36**	⇓*iP*		**Pn**	**04 47 57.6**	**+0.3**
VIGV				*e*S		**Sn**	**04 48 28.5**	**-2.0**
HELC	**Santa Helena**	**2.69**	**259**	⇓*iP*		**Pn**	**04 47 55.1**	**-3.8**
HELC				*e*S		**Sn**	**04 48 29.9**	**-3.2**
SDV	**Santo Domingo**	**3.08**	**46**	*e*Pn		**Pn**	**04 48 04.3**	**+0.6**
SDV				*e*Sn		**Sn**	**04 48 41.0**	**-0.8**
SDV	**Santo Domingo**	**3.08**	**46**	P		**Pn**	**04 48 04.4**	**+0.7**
	2μm,0.3s,baz=253,slow=11,SNR=7409							
SDV				S		**Sn**	**04 48 41.6**	**-0.1**
	1μm,0.3s,baz=69,slow=22,SNR=21							
ELOV	**Elorza**	**3.39**	**86**	⇓*iP*		**Pn**	**04 48 09.4**	**+2.0**
ELOV				*e*S		**Sn**	**04 48 50.5**	**+1.9**
PRAC	**Prado**	**3.64**	**214**	⇑*iP*		**Pn**	**04 48 08.6**	**-2.1**
PRAC				*e*S		**Sn**	**04 48 52.2**	**-2.1**
VIRV	**Villa del Rosa**	**3.76**	**7**	*e*P		**Pn**	**04 48 10.0**	**-2.3**
VIRV				*e*S		**Sn**	**04 48 52.1**	**-5.1**
QARV	**Quebrada Arrib**	**4.16**	**34**	⇓*iP*		**Pn**	**04 48 17.5**	**+0.2**
QARV				*e*S		**Sn**	**04 49 03.4**	**-2.8**
SANV	**Sanarito**	**4.30**	**50**	⇓*iP*		**Pn**	**04 48 19.4**	**+0.2**
SANV				*e*S		**Sn**	**04 49 08.6**	**-1.0**
CURV	**Curarigua**	**4.35**	**42**	⇓*iP*		**Pn**	**04 48 19.9**	**+0.1**
CURV				*e*S		**Sn**	**04 49 08.4**	**-2.3**
SOLC	**Bahia Solano**	**4.56**	**266**	⇓*iP*		**Pn**	**04 48 18.4**	**-4.1**
DABV	**Dabajuro**	**4.71**	**28**	*e*P		**Pn**	**04 48 24.0**	**-0.5**
TEPV	**Terepaima**	**4.85**	**49**	⇓*iP*		**Pn**	**04 48 26.7**	**+0.3**
SIQV	**Siquisique**	**4.93**	**38**	⇓*iP*		**Pn**	**04 48 27.0**	**-0.4**
SIQV				*e*S		**Sn**	**04 49 20.8**	**-3.5**
SIQV	**Siquisique**	**4.93**	**38**	⇓*iP*		**Pn**	**04 48 27.0**	**-0.4**
SIQV				*e*S		**Sn**	**04 49 22.6**	**-1.7**
MALC	**Bahia Malaga**	**5.20**	**239**	⇓*iP*		**Pn**	**04 48 29.4**	**-1.5**
BAUV	**El Baul**	**5.27**	**65**	⇓*iP*		**Pn**	**04 48 31.2**	**-0.7**
BAUV				*e*S		**Sn**	**04 49 30.3**	**-2.1**
BAUV	**El Baul**	**5.27**	**65**	⇓*iP*		**Pn**	**04 48 31.2**	**-0.7**
BAUV				*e*S		**Sn**	**04 49 29.6**	**-2.8**
PAYV	**Puerto Ayacuch**	**5.37**	**104**	⇓*iP*		**Pn**	**04 48 34.0**	**+0.8**
PAYV				*e*S		**Sn**	**04 49 30.4**	**-4.2**
JACV	**Jacura**	**5.89**	**43**	⇓*iP*		**Pn**	**04 48 39.7**	**-0.2**
TURV	**Turiamo**	**6.20**	**53**	⇓*iP*		**Pn**	**04 48 43.5**	**-0.6**
TURV				*e*S		**Sn**	**04 49 51.1**	**-3.3**
CAOV	**Caicara del Or**	**6.54**	**85**	⇓*iP*		**Pn**	**04 48 48.4**	**-0.2**
CAOV				*e*S		**Sn**	**04 50 00.4**	**-2.1**
CRUC	**La Cruz**	**6.61**	**218**	⇓*iP*		**Pn**	**04 48 49.0**	**-0.5**
MERV	**Las Mercedes**	**6.98**	**69**	⇓*iP*		**Pn**	**04 48 54.0**	**-0.4**
FUNV	**FUNVISIS**	**7.05**	**58**	⇓*iP*		**Pn**	**04 48 55.0**	**-0.4**
FUNV				*e*S		**Sn**	**04 50 11.2**	**-3.5**
BCIP	**Isla Barro Col**	**7.29**	**290**	*e*Pn		**Pn**	**04 48 52.5**	**-6.0**
	685nm,0.8s							
BCIP				*e*Sn		**Sn**	**04 50 12.4**	**-8.0**
AZU	**Azuero**	**7.40**	**279**	⇑*iP*		**Pn**	**04 48 55.6**	**-4.4**
BIRV	**Birongo**	**7.52**	**60**	⇓*iP*		**Pn**	**04 49 00.9**	**-0.6**
BIRV				*e*S		**Sn**	**04 50 21.9**	**-4.0**
CUPV	**Cœpira**	**7.75**	**64**	⇓*iP*		**Pn**	**04 49 04.4**	**-0.3**
ORCV	**Isla La Orchil**	**8.30**	**52**	⇓*iP*		**Pn**	**04 49 09.9**	**-2.0**
PRGV	**PARIAGUAN**	**8.41**	**76**	⇓*iP*		**Pn**	**04 49 12.7**	**-0.7**
PCRV	**Puerto La Cruz**	**8.84**	**67**	⇓*iP*		**Pn**	**04 49 18.7**	**-0.4**
PCRV	**Puerto La Cruz**	**8.84**	**67**	P		**Pn**	**04 49 18.7**	**-0.4**
	38nm,0.3s,baz=222,slow=5.3,SNR=108							
IBAV	**Isla La Blanqu**	**9.62**	**58**	⇓*iP*		**Pn**	**04 49 27.4**	**-2.0**
IBAV	**Isla La Blanqu**	**9.62**	**58**	⇓*iP*		**Pn**	**04 49 27.2**	**-2.2**
ORIV	**Oritupano**	**9.67**	**76**	*e*P		**Pn**	**04 49 28.9**	**-1.1**
GURV	**El Guri**	**9.78**	**83**	⇓*iP*		**Pn**	**04 49 30.2**	**-1.2**
CNI	**Changuinola**	**9.90**	**286**	⇑*iP*		**Pn**	**04 49 28.3**	**-4.7**
CRUV	**Carupano**	**10.30**	**67**	*e*P		**Pn**	**04 49 37.4**	**-1.0**
GUNV	**Guanoco**	**10.40**	**70**	⇓*iP*		**Pn**	**04 49 39.5**	**-0.1**
BAR1		**10.62**	**284**	⇓*e*P		**Pn**	**04 49 39.4**	**-3.1**
BAR1				*e*S		**Sn**	**04 51 31.9**	**-8.4**
RIOV	**Rio Grande**	**11.06**	**82**	⇓*iP*		**Pn**	**04 49 47.5**	**-0.7**
BUS	**Buena Vista**	**11.12**	**285**	⇓*e*P		**Pn**	**04 49 47.1**	**-1.9**
URSC	**Urasca**	**11.21**	**287**	⇑*e*P		**Pn**	**04 49 47.1**	**-3.1**
URSC				*e*S		**Sn**	**04 51 48.9**	**-5.6**
LUEV	**Luepa**	**11.39**	**94**	⇓*iP*		**Pn**	**04 49 51.5**	**-1.2**
LCR2	**La Lucha 2**	**11.40**	**286**	⇓*e*P		**Pn**	**04 49 50.0**	**-2.7**
SJS	**Escuela Geolog**	**11.49**	**287**	*e*P		**Pn**	**04 49 52.6**	**-1.3**
LAJ	**Bijagual**	**11.54**	**286**	⇓*e*P		**Pn**	**04 49 57.7**	**+3.2**
TCE	**Chacachacare**	**11.68**	**70**	*e*P		**Pn**	**04 49 56.9**	**+0.5**
TCE				*e*S		**Sn**	**04 52 06.0**	**+0.1**
PRS1	**Puriscal**	**11.75**	**287**	*e*P		**Pn**	**04 49 56.3**	**-0.9**
CMJ	**Castle Mountai**	**11.82**	**344**	*e*P		**Pn**	**04 49 57.6**	**-0.5**
TPP	**Pointe-a-Pierr**	**11.85**	**72**	*e*P		**Pn**	**04 49 58.9**	**+0.4**
TPP				*e*S		**Sn**	**04 52 09.4**	**-0.6**
STH	**Stony Hill**	**11.89**	**342**	⇓*e*P		**Pn**	**04 49 58.7**	**-0.3**
STH				*e*S		**Sn**	**04 51 56.0**	**-15**
CGA2	**Cerro Gallo 2**	**11.91**	**287**	⇑*e*P		**Pn**	**04 49 58.3**	**-0.9**
TRN	**Trinidad (W)**	**11.99**	**70**	*e*P		**Pn**	**04 50 01.0**	**+0.7**
TRN				*e*S		**Sn**	**04 52 09.0**	**-4.4**
MCJ	**Malvern**	**12.05**	**338**	⇓*e*P		**Pn**	**04 49 59.8**	**-1.4**
MCJ				*e*S		**Sn**	**04 52 00.5**	**-14**
BNJ	**Bonny Gate**	**12.16**	**341**	⇓*e*P		**Pn**	**04 50 02.1**	**-0.4**
BNJ				*e*S		**Sn**	**04 52 05.5**	**-12**
SDDR	**Presa de Saban**	**12.26**	**7**	*e*Pn		**Pn**	**04 50 03.1**	**-0.6**
	605nm,0.9s							
SDDR				*e*P			04 50 10.6	
TBH	**Brigand Hill**	**12.26**	**72**	*e*P		**Pn**	**04 50 03.8**	**-0.1**
TBH				*e*S		**Sn**	**04 52 12.8**	**-7.1**
CVJ	**Coleyville**	**12.28**	**339**	⇓*e*P		**Pn**	**04 50 03.0**	**-0.9**
GRGR	**Grenville**	**12.30**	**63**	*e*Pn		**Pn**	**04 50 04.4**	**0.0**
	2μm,1.0s							
GRGR				*e*P			04 50 09.1	
GRGR				*e*S		**Sn**	**04 52 38.4**	**+18**
BBJ	**Bamboo Saint A**	**12.33**	**340**	⇓*e*P		**Pn**	**04 50 04.9**	**+0.3**
BBJ				*e*S		**Sn**	**04 52 08.3**	**-13**
JTS	**JuntasAbangare**	**12.44**	**287**	Pn		**Pn**	**04 50 03.9**	**-2.2**
	4μm,0.7s,SNR=43							
JTS	**JuntasAbangare**	**12.44**	**287**	*e*Pn		**Pn**	**04 50 03.1**	**-3.0**
JTS				*e*P			04 50 10.5	
JTS	**JuntasAbangare**	**12.44**	**287**	P		**Pn**	**04 50 02.9**	**-3.2**
	3.2nm,0.3s,baz=74,slow=7.9,SNR=44							
JTS				LR		LR	04 55 03.1	
	comp=Z,556nm,19.1s,baz=297,slow=38							
JCR	**Jicaral**	**12.48**	**285**	⇑*e*P		**Pn**	**04 50 05.2**	**-1.4**
MBJ	**Montego Bay**	**12.56**	**338**	⇓*e*P		**Pn**	**04 50 07.4**	**-0.2**
TPR	**Prospect**	**12.75**	**69**	*e*P		**Sn**	**04 52 41.1**	**+10**
TPR	**Prospect**	**12.75**	**69**	*e*		**Sn**	**04 52 41.1**	**+10**
CPD	**Cerro la Pandu**	**13.12**	**31**	P		**Pn**	**04 50 12.0**	**-2.8**
CPD				pmax		pmax		
	comp=Z,170nm,1.0s							
CPD	**Cerro la Pandu**	**13.12**	**31**	*e*Pn		**Pn**	**04 50 11.5**	**-3.3**
	comp=Z,171nm,1.0s							
CPD				*e*Sn		**Sn**	**04 52 31.2**	**-9.1**
MADN	**Villa Maderas**	**13.32**	**291**	*e*P		**Pn**	**04 50 16.2**	**-1.1**
MTP	**Monte Pirata**	**13.36**	**32**	*e*Pn		**Pn**	**04 50 14.9**	**-2.9**
MTP				⇓*iP*			04 50 17.4	
MASC	**Masc**	**13.41**	**355**	*e*P		**Pn**	**04 50 18.8**	**+0.4**
	baz=173							
MASC				*e*S		**Sn**	**04 52 38.7**	**-8.6**
	comp=N,2.3nm,0.7s							
MASC				*e*				
	comp=E,2.6nm,0.7s							
RCC	**Rio Carpintero**	**13.45**	**349**	*e*P		**Pn**	**04 50 16.8**	**-2.1**
	baz=155							
RCC				*e*S		**Sn**	**04 52 35.5**	**-13**
	comp=N,224nm,1.1s							
RCC				*e*				
	comp=E,244nm,1.8s							
LMGC	**Las Mercedes**	**13.83**	**344**	*e*P		**Pn**	**04 50 22.6**	**-1.1**
	baz=166							
LMGC				*e*S		**Sn**	**04 52 48.8**	**-8.5**
	comp=N,124nm,0.5s							
LMGC				*e*				
	comp=E,244nm,0.5s							
APON	**Apoyo**	**13.98**	**293**	*e*P		**Pn**	**04 50 25.0**	**-0.7**
FDF	**Fort de France**	**13.99**	**54**	*e*P		**Pn**	**04 50 23.7**	**-2.1**
TICN	**Ticuantepe**	**14.17**	**293**	*e*P		**Pn**	**04 50 27.9**	**-0.2**
MGAN	**Managua**	**14.23**	**293**	*e*P		**Pn**	**04 50 28.8**	**+0.1**
HUEN		**14.23**	**294**	*e*P		**Pn**	**04 50 28.2**	**-0.6**
TISN	**Laguna Tiscapa**	**14.24**	**293**	*e*P		**Pn**	**04 50 29.4**	**+0.4**
LZG	**Guadaloupe-1**	**14.33**	**48**	*e*P		**Pn**	**04 50 29.7**	**-0.4**
CSAN		**14.40**	**293**	*e*P		**Pn**	**04 50 33.2**	**+2.3**
MGG	**Marie-Galante**	**14.54**	**50**	*e*P		**Pn**	**04 50 32.5**	**-0.2**
COPN	**Copaltepe**	**14.55**	**293**	*e*P		**Pn**	**04 50 34.3**	**+1.5**
BBGH	**Gun Hill**	**14.58**	**63**	*e*Pn		**Pn**	**04 50 35.8**	**+2.6**
MOMJ	**Momotombo**	**14.59**	**294**	*e*P		**Pn**	**04 50 34.3**	**+1.1**
ATAH	**Atahualpa**	**14.72**	**202**	P		**Pn**	**04 50 35.8**	**+0.8**
	comp=E,6.4nm,0.3s,baz=40,slow=5.4,SNR=31							
ATAH				S		**Sn**	**04 53 25.6**	**+6.7**
	comp=E,2.5nm,0.3s,baz=198,slow=16,SNR=2.0							
CNGN	**Cerro Negro**	**14.76**	**294**	*e*P		**Pn**	**04 50 35.5**	**+0.1**
SFG	**Saint Francois**	**14.84**	**49**	*e*P		**Pn**	**04 50 37.3**	**+0.9**
TEL3	**Telica 3**	**14.92**	**294**	*e*P		**Pn**	**04 50 40.3**	**+2.9**
TELN	**Telica**	**14.92**	**294**	*e*P		**Pn**	**04 50 38.9**	**+1.5**
DEG	**La Desirade**	**14.98**	**50**	*e*P		**Pn**	**04 50 38.7**	**+0.7**
TGUH	**Tegucigalpa,Un**	**15.90**	**298**	⇓*iP*		**Pn**	**04 50 46.6**	**-2.8**
	comp=E,0.6nm,0.2s							
NNA	**Nana**	**19.02**	**192**	P		**P**	**04 51 24.5**	**+0.6**
	comp=E,400nm,0.6s,SNR=5.3							
NNA	**Nana**	**19.02**	**192**	*e*P		**P**	**04 51 23.9**	**0.0**
	comp=E,44nm,0.7s							
NNA				*e*S		**S**	**04 55 00.5**	**+9.3**
NNA	**Nana**	**19.02**	**192**	P		**P**	**04 51 24.4**	**+0.4**
	comp=E,3.8nm,0.3s,baz=350,slow=9.1,SNR=18							
NNA				S		**S**	**04 54 57.6**	**+6.5**
	comp=E,2.2nm,0.3s,baz=68,slow=19,SNR=4.5							
TEIG	**Tepich**	**20.06**	**313**	⇑*iP*		**P**	**04 51 34.3**	**-0.8**
	comp=E,578nm,0.8s							
TEIG	**Tepich**	**20.06**	**313**	P		**P**	**04 51 34.5**	**-0.5**
	comp=E,358nm,0.5s,baz=129,slow=4.6,SNR=101							
TEIG				S		**S**	**04 55 14.4**	**+2.9**
	comp=E,27nm,1.1s,baz=215,slow=22,SNR=8.6							
TEIG				ScP		ScP	04 59 06.2	+1.6
	comp=E,23nm,0.9s,baz=330,slow=5.9,SNR=5.9							
CCIG	**Comitan**	**21.09**	**298**	*i* P		**P**	**04 51 43.8**	**-2.3**
SCX	**San Cristobal**	**21.

comp=Z,412nm,1.4s,mb5.9
QUA2 ePP PP 04 55 21.0 +2.8
BINY Binghamton 35.41 356⇑iP P 04 53 55.7 +1.2
comp=Z,138nm,0.8s,mb5.6
BINY eScP ScP 04 59 52.8 +1.8
SLM Saint Louis 35.41 336 P P 04 53 54.3 -0.3
SLM pmax pmax
comp=Z,110nm,0.5s,mb5.7
SLM Saint Louis 35.41 336 eP **P 04 53 53.8 -0.8**
comp=Z,113nm,0.5s,mb5.8
WES Weston 35.52 2 P P 04 53 56.6 +1.2
WES pmax pmax
comp=Z,630nm,1.2s,mb6.1
WES Weston 35.52 2⇑iP P 04 53 56.5 +1.1
comp=Z,631nm,1.3s,mb6.1
ERPA Erie 35.78 351⇑iP P 04 53 58.6 +1.0
comp=Z,121nm,0.8s,mb5.6
CPUP Villa Florida 36.18 156 eP **P 04 53 58.3 -3.0**
CPUP e*PP pP 04 54 35.4 -1.4
CPUP pmax pmax
comp=Z,27nm,0.8s
CPUP Villa Florida 36.18 156 eP **P 04 53 58.3 -2.9**
comp=Z,27nm,0.8s,mb4.9
CPUP epP pP 04 54 35.4 -1.4
CPUP Villa Florida 36.18 156 P P 04 53 58.8 -2.4
comp=Z,6.7nm,0.8s,mb4.3,baz=318,slow=8.2,SNR=17
CPUP pP pP 04 54 35.4 -1.4
comp=Z,8.4nm,0.6s,baz=322,slow=8.1,SNR=7.4
CPUP ScP ScP 04 59 54.5 +0.4
comp=Z,4.5nm,0.7s,baz=296,slow=5.9,SNR=5.0
CPUP LR LR 05 11 03.4
comp=Z,487nm,18.7s,baz=320,slow=40
ACCN Adirondack Com 36.49 359⇑iP P 04 54 04.6 +0.9
comp=Z,171nm,1.4s,mb5.5
ACCN eScP ScP 04 59 56.5 +1.6
FFD Franklin Falls 36.59 2⇑iP P 04 54 05.3 +0.9
comp=Z,312nm,1.1s,mb5.8
AAM Ann Arbor 36.67 347 eP **P 04 54 05.4 +0.2**
AAM pmax pmax
comp=Z,176nm,0.6s,mb5.9
AAM Ann Arbor 36.67 347 eP **P 04 54 05.4 +0.2**
comp=Z,176nm,0.6s,mb5.9
WMOK Wichita Mounta 36.68 323⇑iP P 04 54 03.7 -1.7
WMOK e 04 56 22.9
TXAR Lajitas Array 36.68 312 P P 04 54 05.0 -0.5
TXAR 04 56 26.4
TXAR S **S 04 59 35.4 -1.2**
TXAR Lajitas Array 36.68 312 P P 04 54 05.0 -0.6
comp=Z,43nm,0.6s,mb5.2,baz=126,slow=9.1,SNR=637
TXAR PcP PcP 04 56 26.4 +1.7
comp=Z,11nm,0.7s,baz=148,slow=4.7,SNR=8.0
TXAR S **S 04 59 35.4 -1.2**
comp=Z,3.0nm,1.1s,baz=121,slow=14,SNR=4.4
TXAR ScP ScP 04 59 57.6 +1.7
comp=Z,5.7nm,0.9s,baz=134,slow=5.8,SNR=6.2
HDIL Hopedale 36.73 339⇑iP P 04 54 04.8 -0.9
comp=Z,275nm,0.5s,mb6.1
LBNH Lisbon 37.35 1⇑iP P 04 54 12.1 +1.2
LBNH pmax pmax
comp=Z,178nm,1.1s,mb5.6
LBNH Lisbon 37.35 1⇑iP P 04 54 12.1 +1.2
comp=Z,178nm,1.1s,mb5.6
MSNY Massena 38.14 358 eP **P 04 54 18.3 +0.8**
SADO Sadowa 38.26 353 P P 04 54 19.0 +0.5
SADO Sadowa 38.26 353 P P 04 54 19.0 +0.5
baz=187,slow=8.8
CFAA Coronel Fontan 38.39 174 P P 04 54 18.9 -0.8
comp=Z,1.6nm,0.8s,mb3.7,baz=344,slow=8.0,SNR=36
CFAA pP pP 04 54 54.5 -1.1
comp=Z,1.8nm,0.6s,baz=348,slow=7.3,SNR=4.8
CFAA S **S 04 59 57.4 -4.8**
comp=Z,1.5nm,0.8s,baz=189,slow=19,SNR=6.4
PKME Peaks-Kenny Pk 38.49 4⇑iP P 04 54 21.5 +1.0
comp=Z,147nm,1.0s,mb5.6
AMTX Amarillo 38.56 321⇑iP P 04 54 20.4 -0.8
comp=Z,192nm,0.8s,mb5.8
RCBR Riachuelo 38.97 108 eP **P 04 54 26.6 +1.7**
comp=Z,55nm,1.3s,mb5.0
JFWS Jewell Farm 39.14 340⇑iP P 04 54 25.1 -0.8
JFWS pmax pmax
comp=Z,444nm,0.6s,mb6.3
JFWS Jewell Farm 39.14 340⇑iP P 04 54 25.1 -0.8
comp=Z,444nm,0.6s,mb6.3
MNTX Cornudas Mount 39.19 314⇑iP P 04 54 25.8 -0.7
comp=Z,121nm,0.7s,mb5.6
MNTX eS **S 05 00 06.7 -7.6**
SCIA State Center 39.39 336⇑iP P 04 54 27.5 -0.4
comp=Z,666nm,0.9s,mb6.3
LPIG La Paz 39.81 300 LR LR 05 10 29.6
comp=Z,120nm,21.8s,baz=109,slow=35
CBKS Cedar Bluff 40.08 327⇑iP P 04 54 32.7 -1.1
CBKS pmax pmax
comp=Z,72nm,0.5s,mb5.6
CBKS Cedar Bluff 40.08 327⇑iP P 04 54 32.7 -1.0
comp=Z,72nm,0.5s,mb5.6
ANMO Albuquerque 41.73 317c iP P 04 54 47.3 0.0
ANMO Albuquerque 41.73 317⇑iP P 04 54 47.2 -0.1
comp=Z,69nm,1.2s,mb5.2
ANMO Albuquerque 41.73 317 P P 04 54 47.4 +0.1
comp=Z,22nm,0.7s,mb4.9,baz=143,slow=10,SNR=46
ANMO ScP ScP 05 00 17.8 +2.5
comp=Z,1.8nm,0.8s,baz=154,slow=2.8,SNR=3.1
319A Douglas 41.90 311⇓P P 04 54 49.4 +0.6
baz=42,SNR=31
219A White Tail Can 42.18 311⇑P P 04 54 51.4 +0.4
baz=42,SNR=61
ECSD EROS,Sioux Fal 42.31 334⇑iP P 04 54 50.3 -1.5
comp=Z,113nm,0.6s,mb5.7
ECSD eS **S 05 00 56.8 -3.3**
318A Bisbee 42.47 310⇓P P 04 54 53.7 +0.3
baz=42,SNR=64
119A Ashpeak Ranch, 42.59 312⇑P P 04 54 55.0 +0.7
baz=43,SNR=47
SDCO Great Sand Dun 42.75 321⇑iP P 04 54 56.1 +0.6
comp=Z,92nm,0.9s,mb5.4
218A Dragoon 42.76 311⇓P P 04 54 56.2 +0.5
baz=43,SNR=44
Z19A T-Link Ranch, 42.82 313⇑P P 04 54 56.8 +0.7
baz=43,SNR=16
118A Homack Ranch, 43.02 312 P P 04 54 58.4 +0.6
baz=43,SNR=123
Y19A Nutrioso 43.15 314⇑P P 04 54 59.8 +1.1
baz=43,SNR=148
217A Green Valley 43.25 310⇓P P 04 54 59.7 +0.1
baz=43,SNR=49
Z18A Geronimo 43.28 312⇑P P 04 55 00.6 +0.7
baz=43,SNR=38
X19A St. Johns 43.41 314⇓P P 04 55 01.9 +1.0
baz=43,SNR=57
TUC Tucson 43.47 311 P P 04 55 01.4 0.0
TUC pmax pmax
comp=Z,36nm,0.8s,mb5.0
TUC Tucson 43.47 311⇑iP P 04 55 01.2 -0.2
comp=Z,36nm,0.8s,mb5.0
TUC eScP ScP 05 00 24.1 +1.6
117A Oracle 43.56 311⇑P P 04 55 02.2 +0.1
baz=44,SNR=70
Y18A Canyon Day Jun 43.62 313⇑P P 04 55 03.0 +0.5
baz=44,SNR=67
W19A Sanders 43.83 315⇑P P 04 55 05.0 +0.8
baz=44
216A Three Points, 43.84 310⇓P P 04 55 04.6 +0.3
baz=44
X18A Snowflake 43.93 314⇑P P 04 55 05.6 +0.6
baz=44,SNR=26
W18A Petrified Fore 44.08 315⇓P P 04 55 07.3 +1.1
baz=44
ISCO Idaho Springs 44.10 323⇑iP P 04 55 06.9 +0.6
ISCO pmax pmax
comp=Z,147nm,1.0s,mb5.6
ISCO Idaho Springs 44.10 323⇑iP P 04 55 06.9 +0.6
comp=Z,147nm,1.0s,mb5.6
Y17A Roosevelt 44.17 313⇑P P 04 55 07.2 +0.3
baz=44,SNR=30
116A Eloy 44.28 311⇑P P 04 55 07.7 -0.1
baz=44,SNR=74
MVCO Mesa Verde 44.36 318 P P 04 55 08.7 +0.3
baz=44
Z16A Peralta Trail, 44.43 312⇑P P 04 55 09.0 0.0
baz=44,SNR=12
X17A Forest Lakes 44.45 313⇑P P 04 55 10.1 +0.9
baz=44,SNR=110
SMCO Snowmass 44.54 322⇑iP P 04 55 10.3 +0.6
comp=Z,75nm,1.0s,mb5.3
SMCO eScP ScP 05 00 29.2 +2.6
Y16A Circle Bar Ran 44.72 312⇓P P 04 55 11.9 +0.7
baz=45,SNR=81
115A Sonoran Desert 44.73 311⇓P P 04 55 11.3 -0.1
baz=45,SNR=37
W17A Winslow 44.75 314⇑P P 04 55 11.8 +0.3
baz=45
PV01 Paradox Valley 44.93 319 eP **P 04 55 13.5 +0.6**
Z15A Gila River Ind 44.95 311⇑P P 04 55 13.4 +0.3
baz=45
X16A Lo Mia Camp, P 44.95 313⇑P P 04 55 13.5 +0.4
baz=45,SNR=77
PHWY Pilot Hill 44.98 325⇑iP P 04 55 13.2 0.0
W16A Flagstaff 45.34 314⇑P P 04 55 17.1 +0.9
baz=45
Y15A Casa Rosa Ranc 45.38 312⇓P P 04 55 16.7 +0.2
baz=45,SNR=64
WUAZ Wupatki 45.44 315⇑iP P 04 55 17.3 +0.4
comp=Z,196nm,1.0s,mb5.7
WUAZ eScP ScP 05 00 33.1 +2.7
WUAZ Wupatki 45.44 315⇓P P 04 55 17.5 +0.6
baz=46,SNR=152
X15A Humboldt 45.56 313⇑P P 04 55 18.3 +0.4
baz=46,SNR=72
Z14A Wintersburg 45.57 311⇓P P 04 55 18.2 +0.3
baz=46,SNR=36
TRQA Tornquist 45.72 168 eP **P 04 55 17.4 -1.6**
comp=Z,9.5nm,1.0s,mb4.4
TRQA epP pP 04 55 54.5 -1.5
Y14A Wickenburg 45.87 312⇑P P 04 55 20.4 +0.1
baz=46,SNR=93
W15A Williams 45.91 314 P P 04 55 21.5 +0.9
baz=46,SNR=24
X14A Yava 46.03 312⇓P P 04 55 21.9 +0.3
baz=46,SNR=43
V15A Kaibab Nationa 46.15 314⇑P P 04 55 23.4 +0.9
baz=46,SNR=195
RWWY Rawlins 46.24 324⇑iP P 04 55 23.1 0.0
comp=Z,155nm,1.0s,mb5.6
T16A Glen Canyon Da 46.27 316⇑P P 04 55 24.0 +0.6
baz=46,SNR=20
Y13A Salome 46.43 311⇓P P 04 55 25.0 +0.3
baz=46,SNR=33
W14A Seligman 46.51 313⇓P P 04 55 26.0 +0.6
baz=46,SNR=54
V14A Boquillas Ranc 46.73 314⇓P P 04 55 27.7 +0.7
baz=47,SNR=89
X13A Yucca 46.77 312⇓P P 04 55 27.2 -0.2
baz=47,SNR=12
GLA Glamis 46.86 310⇓P P 04 55 28.1 0.0
baz=47,SNR=30
PDMCI Parker Dam,Lak 46.87 312⇓P P 04 55 28.1 0.0
baz=47
T15A Red Dirt Ranch 46.89 316⇑P P 04 55 28.9 +0.7
baz=47,SNR=42
Y12C Blythe 46.92 311⇓P P 04 55 28.5 0.0
baz=47,SNR=12
W13A Hualapai Mount 47.04 313⇓P P 04 55 29.8 +0.4
baz=47,SNR=23
U14A Mt Trumbull 47.15 315⇑P P 04 55 31.1 +0.7
baz=47,SNR=84
PLCA Paso Flores 47.29 178 eP **P 04 55 30.2 -1.0**
PLCA e*PP pP 04 56 07.0 -1.4
PLCA pmax pmax
comp=Z,17nm,0.9s
PLCA Paso Flores 47.29 178 eP **P 04 55 30.2 -1.0**
comp=Z,17nm,0.9s,mb4.7
PLCA epP pP 04 56 07.0 -1.4
PLCA eScP ScP 05 00 37.6 -0.4
PLCA Paso Flores 47.29 178 P P 04 55 30.2 -1.0
comp=Z,12nm,0.8s,mb4.6,baz=349,slow=8.2,SNR=22
PLCA pP pP 04 56 07.5 -0.9
comp=Z,43nm,1.1s,baz=358,slow=9.3,SNR=6.7
PLCA ScP ScP 05 00 38.0 0.0
comp=Z,11nm,0.8s,baz=357,slow=4.8,SNR=9.8
T14A Hurricane 47.40 315⇑P P 04 55 32.9 +0.7
baz=47,SNR=33
ULM Lac du Bonnet 47.43 340⇑iP P 04 55 31.2 -1.0
comp=Z,341nm,0.9s,mb6.0
ULM Lac du Bonnet 47.43 340 P P 04 55 31.3 -0.9
comp=Z,165nm,0.5s,mb6.0,baz=145,slow=7.6,SNR=296
ULM S **S 05 02 10.7 -3.0**
comp=Z,9.1nm,1.0s,baz=240,slow=22,SNR=3.5
ULM LR LR 05 15 53.0
comp=Z,321nm,19.4s,baz=133,slow=36
V13A Grand Canyon W 47.46 314⇓P P 04 55 33.1 +0.4
baz=48,SNR=59
MSU Marysvale 47.51 318 eP **P 04 55 33.6 +0.5**
MSU eScP ScP 05 00 41.4 +2.3
IRM Iron Mountain 47.57 311⇑P P 04 55 33.5 0.0
baz=48,SNR=18
U13A Pakoon Wash 47.71 314⇑P P 04 55 35.3 +0.7
baz=48,SNR=59
S14A Cedar City 47.80 316⇓P P 04 55 35.5 +0.2
baz=48,SNR=38
CCUT Cedar City 47.83 316⇑iP P 04 55 35.7 +0.2
CCUT ePcP PcP 04 57 02.8 +1.1
CCUT eScP ScP 05 00 42.0 +1.6
W12A Cal Nev Ari 47.85 312⇑P P 04 55 35.6 -0.1
baz=48,SNR=12
DAU Daniels Canyon 47.94 320 P P 04 55 36.9 +0.6
DAU Daniels Canyon 47.94 320 eP **P 04 55 36.7 +0.4**
T13A Saint George 47.95 315⇓P P 04 55 37.1 +0.7
baz=48,SNR=78
MPU Maple Canyon 47.96 320⇑iP P 04 55 36.6 +0.2
comp=Z,180nm,1.0s,mb5.7
ARUT Antelope Range 48.00 316 eP **P 04 55 37.0 +0.2**
MONP Monument Peak 48.02 309⇓P P 04 55 36.7 -0.4
baz=48,SNR=5.2
V12A Nelson 48.03 313⇓P P 04 55 37.3 +0.2
baz=48,SNR=79
U12A Valley of Fire 48.13 314⇓P P 04 55 38.0 +0.3
baz=48,SNR=7.4
BELC Belle Mtn. 48.14 310⇓P P 04 55 37.9 0.0
baz=48,SNR=12
JLU Jordanelle 48.17 320⇑iP P 04 55 38.2 +0.2
JLU eScP ScP 05 00 43.7 +1.9
S13A Holt Ranch, En 48.19 316 P P 04 55 39.4 +1.1
baz=48,SNR=164
SCHQ Schefferville 48.19 5⇑iP P 04 55 38.4 +0.4
comp=Z,300nm,0.9s,mb5.9
SCHQ eScP ScP 05 00 42.4 +0.9
SCHQ Schefferville 48.19 5 P P 04 55 38.7 +0.7
comp=Z,204nm,0.8s,mb5.8,baz=184,slow=5.9,SNR=200
SCHQ ScP ScP 05 00 42.9 +1.3
comp=Z,28nm,0.8s,baz=165,slow=2.0,SNR=11
SCHQ LR LR 05 16 01.4
comp=Z,122nm,20.4s,baz=8.9,slow=36
GMRC Granite Mounta 48.21 311⇑P P 04 55 38.4 -0.1
baz=48,SNR=13
NLU North Lily Min 48.21 319⇑iP P 04 55 38.7 +0.3
BW06 Boulder Array 48.27 324⇑iP P 04 55 38.4 -0.4
comp=Z,10μm,1.0s
PFO Pinyon Flat Ob 48.33 310 P P 04 55 39.8 +0.4
PFO pmax pmax
comp=Z,18nm,1.1s,mb4.6
PFO Pinyon Flat Ob 48.33 310 eP **P 04 55 39.5 0.0**
comp=Z,18nm,1.1s,mb4.6
PFO Pinyon Flat Ob 48.33 310⇓P P 04 55 39.3 -0.1
baz=48,SNR=5.2
T12A Mopapa 48.39 314⇑P P 04 55 40.1 +0.3
baz=48,SNR=20
CTU Camp Tracy 48.41 320⇑iP P 04 55 39.9 0.0
comp=Z,57nm,1.0s,mb5.2
V11A Goodsprings 48.50 313⇓P P 04 55 40.9 +0.2
baz=48,SNR=41
NOQ North Oquirrh 48.62 320⇑iP P 04 55 41.1 -0.4
comp=Z,35nm,1.0s,mb4.9
TUQ Turquoise Mtn. 48.69 312⇑P P 04 55 42.5 +0.4
baz=49,SNR=9.3
U11A Corn Creek 48.73 314⇑P P 04 55 42.9 +0.5
baz=49
HEC Hector,Ludlow 48.73 311⇑P P 04 55 42.6 +0.2
baz=49,SNR=14
HWUT Hardware Ranch 48.80 321⇑P P 04 55 42.5 -0.4
comp=Z,66nm,0.7s,mb5.4
HWUT eScP ScP 05 00 45.8 +1.4
DUG Dugway 48.82 319 P P 04 55 43.5 +0.5
DUG pmax pmax
comp=Z,66nm,0.9s,mb5.3
DUG Dugway 48.82 319⇑iP P 04 55 43.2 +0.2
comp=Z,66nm,0.9s,mb5.3
DUG eScP ScP 05 00 46.6 +2.1
DUG Dugway 48.82 319⇑P P 04 55 43.4 +0.3
baz=49,SNR=79
S12A Delamar Landin 48.90 315⇑P P 04 55 44.2 +0.6
baz=49,SNR=8.8
MURC Murrieta 48.90 309⇓P P 04 55 43.7 0.0
baz=49,SNR=7.3
Q13A Wheeler Ranch, 48.98 317 P P 04 55 45.0 +0.8
baz=49,SNR=175
T11A Corn Creek, Al 48.98 315⇓P P 04 55 44.5 +0.2
baz=49,SNR=26
N15A Stansbury Isla 49.00 320 P P 04 55 44.8 +0.4
baz=49,SNR=6.4
LAO LASA Array 49.01 330 eP **P 04 55 41.9 -2.5**
comp=Z,66nm,0.6s,mb5.4
R12A Pony Springs, 49.07 316⇓P P 04 55 45.7 +0.7
baz=49,SNR=97
SHOC Shoshone 49.15 312⇓P P 04 55 46.1 +0.5
baz=49
AHID Auburn Hatcher 49.18 323⇑iP P 04 55 45.2 -0.6
comp=Z,79nm,1.0s,mb5.3
SPUT South Promonto 49.19 321⇑iP P 04 55 45.5 -0.3
P13A Bates Ranch, G 49.23 318⇓P P 04 55 47.0 +0.8
baz=49,SNR=136
M15A Larsen Ranch, 49.27 321⇓P P 04 55 46.0 -0.5
baz=49,SNR=20
GSC Goldstone 49.28 312 P P 04 55 46.8 +0.2
GSC pmax pmax
comp=Z,46nm,0.7s,mb5.2
GSC Goldstone 49.28 312⇓iP P 04 55 46.6 0.0
comp=Z,46nm,0.7s,mb5.2
GSC eScP ScP 05 00 48.9 +2.2
GSC Goldstone 49.28 312⇑P P 04 55 46.8 +0.2
baz=49,SNR=27
DGMT Dagmar 49.32 333⇑iP P 04 55 46.8 +0.1
comp=Z,542nm,0.6s,mb6.4
BGU Big Grassy Mou 49.35 320⇑iP P 04 55 47.0 -0.1
REDW Red Top Meadow 49.39 324⇑iP P 04 55 47.2 0.0
comp=Z,186nm,0.8s,mb5.8
REDW eS **S 05 02 43.9 +2.5**
SNOW Snow King Moun 49.39 324⇑iP P 04 55 47.3 0.0
comp=Z,145nm,0.8s,mb5.7
LOHW Long Hollow 49.39 324⇑iP P 04 55 47.1 -0.2
comp=Z,72nm,0.6s,mb5.5
LOHW eScP ScP 05 00 47.6 +0.7
N14A Grayback Hills 49.41 320⇑P P 04 55 47.7 +0.2
baz=50,SNR=97
BFSC Mount Baldy St 49.50 310⇑P P 04 55 48.2 -0.1
baz=50
TPAW Teton Pass 49.52 324⇑iP P 04 55 48.3 0.0
comp=Z,129nm,0.9s,mb5.6
TPAW eS **S 05 02 45.9 +2.7**
S11A Rachel 49.54 315⇑P P 04 55 49.4 +0.8
baz=50,SNR=11
O13A Hicks Ranch, I 49.55 319⇑P P 04 55 49.3 +0.8
baz=50,SNR=72
MOOW Moose Ponds 49.56 324⇑iP P 04 55 48.4 -0.2
comp=Z,68nm,0.8s,mb5.3
MOOW eScP ScP 05 00 48.7 +1.0
Q12A Willow Creek R 49.57 317⇓P P 04 55 49.3 +0.5
baz=50,SNR=83
RLMT Red Lodge 49.57 327 eP **P 04 55 48.3 -0.3**
comp=Z,42nm,0.7s,mb5.2
TPNV Topopah Spring 49.59 314 P P 04 55 49.7 +0.8
TPNV pmax pmax
comp=Z,71nm,1.0s,mb5.2
TPNV Topopah Spring 49.59 314⇑iP P 04 55 49.4 +0.5
comp=Z,70nm,1.0s,mb5.2
TPNV eScP ScP 05 00 50.3 +2.4
TPNV Topopah Spring 49.59 314⇑P P 04 55 49.5 +0.6
baz=50,SNR=40
HVU Hansel Valley 49.65 321 P P 04 55 48.9 -0.4
HVU pmax pmax
comp=Z,34nm,0.6s,mb5.2
HVU Hansel Valley 49.65 321 eP **P 04 55 48.4 -0.9**
comp=Z,34nm,0.6s,mb5.2
DCID1 Drake Creek 49.72 324⇑iP P 04 55 49.6 -0.2
FLWY Flagg Ranch 49.73 325⇑iP P 04 55 49.8 0.0
comp=Z,30nm,0.6s,mb5.1
R11A Troy Canyon, C 49.76 316⇓P P 04 55 50.5 +0.3
baz=50,SNR=75
IMW Indian Meadow 49.76 324⇑iP P 04 55 49.2 -0.9
comp=Z,92nm,0.7s,mb5.5
IMW eScP ScP 05 00 48.9 +0.4
FURC Furnace Creek, 49.82 313 P P 04 55 51.2 +0.5
baz=50,SNR=15
P12A McGill 49.83 317⇑P P 04 55 51.4 +0.6
baz=50,SNR=58
LKWY Lake 49.85 325 P P 04 55 51.9 +1.1
LKWY pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
LKWY Lake 49.85 325 eP **P 04 55 51.4 +0.6**
comp=Z,8.4nm,0.6s,mb4.5
M14A Sheep Mountain 49.86 320⇓P P 04 55 50.8 -0.1
baz=50,SNR=181
EDW2 Edwards Air Fo 50.00 311⇑P P 04 55 51.9 -0.2
baz=50,SNR=15
YFT Old Faithful 50.03 325⇑iP P 04 55 53.2 +1.1
Q11A Duckwater 50.04 316⇑P P 04 55 52.6 +0.3
baz=50,SNR=66
N13A Wendover, West 50.07 319⇓P P 04 55 52.6 +0.1
baz=50,SNR=13
YNR Norris Junctio 50.10 325 eP **P 04 55 52.8 +0.1**
MPMC Manual Prospec 50.11 312⇑P P 04 55 52.5 -0.4
baz=50,SNR=14
O12A Currie 50.12 318⇓P P 04 55 53.2 +0.3
baz=50,SNR=59
GCMT Greycliff 50.21 327 eP **P 04 55 53.4 0.0**
R10A Warm Springs 50.23 315⇑P P 04 55 54.6 +0.9
baz=50,SNR=42
YMR Madison River 50.24 325⇑iP P 04 55 54.2 +0.5
comp=Z,73nm,0.7s,mb5.4
YMR eScP ScP 05 00 52.6 +2.1
S10A Tonopah Range, 50.27 315⇓P P 04 55 54.6 +0.6
baz=50,SNR=62
M13A Montello 50.31 320⇑P P 04 55 54.2 0.0
baz=50,SNR=190
K14A Jones Ranch, D 50.32 322⇓P P 04 55 53.8 -0.5
baz=50,SNR=103
GRAC Grapevine Rang 50.41 313⇓P P 04 55 55.6 +0.4
baz=50,SNR=5.2
P11A Circle Ranch, 50.45 317⇑P P 04 55 56.1 +0.7
baz=50,SNR=6.9
Q10A Clear Creek Ra 50.54 316⇑P P 04 55 56.8 +0.7
baz=51,SNR=29
L13A Double Diamond 50.55 321⇓P P 04 55 55.8 -0.3
baz=51,SNR=31
QLMT Earthquake Lak 50.60 325 eP **P 04 55 57.3 +1.0**
N12A Clover Valley, 50.61 319⇑P P 04 55 56.4 -0.1
baz=51,SNR=50
S09A Goldfield 50.62 314⇓P P 04 55 56.8 +0.1
baz=51,SNR=47
O11A Cowboy Ranch, 50.66 318⇓P P 04 55 57.2 +0.3
baz=51,SNR=78
CWC Cottonwood Cre 50.70 312⇑P P 04 55 57.9 +0.6
baz=51
ARVC Arvin 50.73 310⇑P P 04 55 57.5 0.0
baz=51,SNR=7.4
R09A Tonopah 50.75 315⇓P P 04 55 57.9 +0.3
baz=51,SNR=59
M12A Wells 50.82 319⇑P P 04 55 57.8 -0.2
baz=51,SNR=80
K13A Stover Farm, H 50.94 321⇓P P 04 55 58.5 -0.5
baz=51,SNR=38
P10A Eureka 50.96 317⇑P P 04 55 59.7 +0.5
baz=51
N11A Elko Archery C 51.05 318⇑P P 04 55 59.7 -0.2
baz=51,SNR=10
TIN Tinemaha 51.06 313⇑P P 04 56 00.6 +0.6
baz=51,SNR=5.5
Q09A Carvers 51.09 315⇑P P 04 56 00.8 +0.6
baz=51
VES Vestal, Richgr 51.20 311⇓P P 04 56 01.6 +0.6
baz=51,SNR=17
BOZ Bozeman (W) 51.20 326 P P 04 56 00.9 0.0
BOZ pmax pmax
comp=Z,82nm,1.0s,mb5.3
BOZ Bozeman (W) 51.20 326⇑iP P 04 56 00.8 -0.1
comp=Z,82nm,0.9s,mb5.4
BOZ Bozeman (W) 51.20 326⇓P P 04 56 01.0 +0.1
baz=51,SNR=90
S08C White Mtn Res 51.21 314⇓P P 04 56 01.9 +0.8
baz=51,SNR=74
L12A House Creek Ra 51.26 320⇑P P 04 56 01.4 +0.1
baz=51,SNR=66
O10A Cortez Mining, 51.30 317⇑P P 04 56 01.8 +0.1
baz=51,SNR=37
P09A Austin 51.39 316⇑P P 04 56 02.9 +0.6
baz=51,SNR=10.0
M11A Holland Ranch, 51.39 319⇓P P 04 56 02.4 0.0
baz=51,SNR=92
J13A Cove Ranch, Pi 51.40 322 P P 04 56 02.4 0.0
baz=52,SNR=133
G15A Dillon 51.40 325⇓P P 04 56 02.7 +0.3
baz=52,SNR=76

MCMT **McKenzie Canyo** 51.41 324 *eP* P 04 56 03.6 +1.2
K12A **Draper Farm, C** 51.44 321 ⇓P P 04 56 02.6 -0.1
baz=52,SNR=33
HELL **Mitchell Peak** 51.49 312 ⇑P P 04 56 03.4 +0.2
baz=52,SNR=57
RCTC **Rector, Farmer** 51.50 312 ⇓P P 04 56 03.5 +0.2
baz=52
N10A **Dunphy** 51.51 318 ⇓P P 04 56 02.7 -0.6
baz=52,SNR=9.2
R08A **Mina** 51.52 315 ⇓P P 04 56 03.6 +0.2
baz=52,SNR=26
DLMT **Dillon** 51.58 325⇑*iP* P 04 56 03.8 +0.1
comp=Z,168nm,1.3s,mb5.5
Q08A **Gabbs** 51.62 315 ⇑P P 04 56 04.2 +0.1
baz=52,SNR=67
HLID **Hailey** 51.64 322 P P 04 56 04.3 +0.2
baz=52,SNR=157
I13A **Wildhorse Cree** 51.65 323 P P 04 56 04.7 +0.5
baz=52,SNR=131
SMMC **Simmler** 51.69 310 ⇓P P 04 56 04.8 +0.1
baz=52,SNR=9.8
EGMT **Eagleton** 51.69 329⇑*iP* P 04 56 04.5 0.0
comp=Z,61nm,0.6s,mb5.4
EGMT **Eagleton** 51.69 329 P P 04 56 04.5 +0.1
baz=52,SNR=86
NVAR **Mina Array Bea** 51.70 315 P P 04 56 05.0 +0.3
NVAR PcP PcP 04 57 16.8 +0.9
NVAR ScP ScP 05 00 59.0 +2.0
NVAR **Mina Array Bea** 51.70 315 P P 04 56 05.0 +0.3
comp=Z,23nm,0.7s,mb4.9,baz=112,slow=7.6,SNR=143
NVAR PcP PcP 04 57 16.8 +0.9
comp=Z,3.9nm,0.4s,baz=134,slow=3.9,SNR=7.2
NVAR ScP ScP 05 00 59.0 +2.0
comp=Z,4.6nm,0.9s,baz=121,slow=5.3,SNR=5.3
O09A **Fish Creek Ran** 51.71 317 ⇓P P 04 56 05.1 +0.4
baz=52,SNR=129
L11A **Cat Creek Ranc** 51.74 320 P P 04 56 05.2 +0.3
baz=52,SNR=166
F15A **Butte** 51.80 325 ⇑P P 04 56 05.5 +0.1
baz=52,SNR=86
J12A **Stokes Ranch,** 51.89 321 ⇓P P 04 56 05.8 -0.2
baz=52,SNR=56
M10A **I.L. Ranch, Tu** 51.92 319 ⇑P P 04 56 06.1 -0.2
baz=52,SNR=32
KCC **Kaiser Creek** 51.96 313 ⇑P P 04 56 06.4 -0.3
baz=52,SNR=9.6
G14A **Jackson** 52.01 324 ⇑P P 04 56 06.7 -0.2
baz=52,SNR=20
R07C **Lee Vining** 52.08 314 ⇑P P 04 56 08.1 +0.5
baz=52,SNR=27
H13A **Challis** 52.09 323 ⇑P P 04 56 07.3 -0.1
baz=52,SNR=72
T06C **Millerton Lake** 52.12 312 ⇑P P 04 56 06.9 -1.0
baz=52,SNR=15
L10A **Juniper Basin** 52.16 319 ⇓P P 04 56 08.2 +0.1
baz=52,SNR=198
K11A **Parker Ranch,** 52.23 320 ⇓P P 04 56 08.5 0.0
baz=52,SNR=51
E15A **Deer Lodge** 52.23 326 ⇓P P 04 56 08.6 +0.1
baz=52,SNR=126
N09A **Rock Creek Ran** 52.26 318 ⇑P P 04 56 08.5 -0.2
baz=52,SNR=53
F14A **Wisdom** 52.28 325 ⇑P P 04 56 09.0 +0.1
baz=52,SNR=38
PKD **Parkfield** 52.33 311 ⇓P P 04 56 08.7 -0.7
baz=52
G13A **Cobalt** 52.37 324 ⇓P P 04 56 09.4 -0.1
baz=52,SNR=115
MFID **Camas Ranch** 52.43 321 ⇑P P 04 56 10.0 0.0
baz=52,SNR=160
H12A **Diamond D Ranc** 52.44 323 P P 04 56 10.2 +0.2
baz=52,SNR=170
M09A **Marrel Ranch,** 52.48 318 ⇑P P 04 56 09.2 -1.2
baz=52,SNR=16
D15A **Lincoln** 52.53 327 ⇓P P 04 56 11.1 +0.4
baz=53,SNR=98
R06C **Coleville** 52.55 314 ⇑P P 04 56 11.4 +0.4
baz=53,SNR=14
P07A **Fallon** 52.59 316 ⇑P P 04 56 11.5 +0.2
baz=53,SNR=5.1
N08A **GE Springer Mi** 52.63 317 ⇓P P 04 56 10.6 -0.9
baz=53,SNR=52
U04C **Hernandez Rese** 52.67 311 ⇑P P 04 56 10.9 -1.0
baz=53
E14A **Clinton** 52.70 326 ⇑P P 04 56 11.9 0.0
baz=53,SNR=88
S05C **Merced** 52.71 312 ⇑P P 04 56 11.9 -0.3
baz=53,SNR=16
K10A **MacKenzie Ranc** 52.76 320 P P 04 56 12.6 +0.2
baz=53,SNR=125
I11A **Placerville** 52.77 322 ⇓P P 04 56 12.2 -0.2
baz=53,SNR=109
T05C **Eagle Field, D** 52.79 312 ⇓P P 04 56 09.2 -3.6
baz=53
F13A **Darby** 52.82 324 ⇑P P 04 56 12.6 -0.3
baz=53,SNR=117
CHMT **Chamberlain Mo** 52.86 326 *eP* P 04 56 12.8 -0.3
V03C **Hunter Liggett** 52.88 311 ⇓P P 04 56 13.5 0.0
baz=53
L09A **Wilkinson Ranc** 52.90 319 ⇑P P 04 56 13.7 +0.2
baz=53,SNR=226
PAHR **Pah Rah Range** 53.01 316 *eP* P 04 56 13.8 -0.5
comp=Z,27nm,0.7s,mb5.1
PAHR *e*ScP ScP 05 01 05.2 +2.5
J10A **Berg Farm, Mel** 53.02 321 P P 04 56 14.0 -0.3
baz=53,SNR=11
CMB **Columbia Colle** 53.03 313 *eP* P 04 56 14.0 -0.5
CMB pmax pmax
comp=Z,12nm,1.0s,mb4.6
CMB **Columbia Colle** 53.03 313 *eP* P 04 56 13.9 -0.5
comp=Z,12nm,1.0s,mb4.6
CMB **Columbia Colle** 53.03 313 ⇓P P 04 56 14.1 -0.4
baz=53,SNR=9.7
R05C **Kirkwood Meado** 53.07 314 ⇑P P 04 56 15.6 +0.8
baz=53
WCN **Washoe City** 53.10 315 ⇑P P 04 56 15.4 +0.5
baz=53,SNR=22
D14A **Greenough** 53.10 326 ⇓P P 04 56 14.6 -0.2
baz=53,SNR=34
M08A **Happy Creek Ra** 53.10 318 ⇑P P 04 56 14.9 0.0
baz=53
E13A **Victor** 53.11 325 ⇑P P 04 56 14.6 -0.4
baz=53,SNR=37
MSO **Missoula** 53.19 326⇑*iP* P 04 56 15.3 -0.3
comp=Z,40nm,1.1s,mb5.1
N07B **Gerlach** 53.20 317 ⇑P P 04 56 15.9 +0.2
baz=53,SNR=12
H11A **Donnelly** 53.22 323 ⇓P P 04 56 15.2 -0.5
baz=53,SNR=64
FFC **Flin Flon** 53.23 339 P P 04 56 15.6 -0.1
comp=Z,623nm,0.5s,SNR=67
FFC **Flin Flon** 53.23 339 P P 04 56 15.2 -0.5
FFC pmax pmax
comp=Z,48nm,0.5s,mb5.5
FFC **Flin Flon** 53.23 339⇑*iP* P 04 56 15.0 -0.7
comp=Z,48nm,0.4s,mb5.6
HAST **Hastings Reser** 53.26 311 ⇑P P 04 56 16.0 -0.2
baz=53,SNR=6.6
K09A **Rome** 53.27 320 ⇑P P 04 56 16.5 +0.3
baz=53,SNR=196
F12A **Elk City** 53.34 324 ⇑P P 04 56 16.5 -0.1
baz=53,SNR=130
P06A **Stead Airport,** 53.35 315 ⇑P P 04 56 17.2 +0.3
baz=53,SNR=37
I10A **Payette** 53.38 321 ⇓P P 04 56 16.2 -0.7
baz=53,SNR=24
L08A **Fields** 53.43 319 ⇓P P 04 56 17.7 +0.3
baz=54,SNR=109
R04C **Big Horse Ranc** 53.51 313 ⇑P P 04 56 18.4 +0.4
baz=54,SNR=17
O06A **Flanigan** 53.51 316 ⇓P P 04 56 17.4 -0.6
baz=54,SNR=34
LAVA **Lava Cap Winer** 53.57 314 ⇓P P 04 56 18.1 -0.3
baz=54,SNR=14
H10A **Noah's Angus R** 53.61 322 ⇑P P 04 56 17.3 -1.3
baz=54,SNR=60
J09A **Fry Pan Ranch,** 53.61 320 P P 04 56 18.5 -0.1
baz=54,SNR=152
M07A **Soldier Meadow** 53.61 317 ⇑P P 04 56 18.3 -0.4
baz=54,SNR=91
C14A **Swan Lake** 53.64 327 ⇓P P 04 56 19.2 +0.5
baz=54,SNR=181
D13A **Huson** 53.64 326 ⇓P P 04 56 18.7 0.0
baz=54,SNR=85
P05C **Yuba Gap, Truc** 53.70 315 ⇑P P 04 56 19.9 +0.5
baz=54,SNR=29
WVOR **Wild Horse Val** 53.73 319⇑*iP* P 04 56 19.3 -0.3
WVOR pmax pmax
comp=Z,132nm,1.0s,mb5.6
WVOR **Wild Horse Val** 53.73 319⇑*iP* P 04 56 19.3 -0.3
comp=Z,132nm,1.0s,mb5.6
G11A **Walters Elk Ra** 53.74 323 ⇓P P 04 56 18.8 -0.8
baz=54,SNR=76
BEKR **Beckwourth** 53.76 315 ⇑P P 04 56 19.7 0.0
baz=54,SNR=54
N06A **Buffalo Meadow** 53.77 317 ⇑P P 04 56 18.9 -1.0
baz=54,SNR=27
K08A **Mann Creek Ran** 53.78 319 ⇓P P 04 56 19.9 0.0
baz=54,SNR=112
WENL **Wente Brothers** 53.87 312 ⇑P P 04 56 21.1 +0.5
baz=54,SNR=12
I09A **Lost Marbles R** 53.91 321 ⇓P P 04 56 20.0 -0.8
baz=54,SNR=11
F11A **Grangeville** 53.94 324 ⇑P P 04 56 20.2 -0.7
baz=54,SNR=94
BNLO **Ben Lomond (Sa** 53.99 312 P P 04 56 20.5 -1.1
baz=54
L07A **Adell** 54.01 318 ⇑P P 04 56 21.5 0.0
baz=54,SNR=159
C13A **Hot Springs** 54.04 326 P P 04 56 22.0 +0.3
baz=54,SNR=101
Q04C **Lincoln** 54.06 314 ⇓P P 04 56 22.4 +0.5
baz=54,SNR=28
J08A **Circle Bar Ran** 54.07 320 ⇑P P 04 56 21.3 -0.6
baz=54,SNR=61
BDM **Black Diamond** 54.07 313 ⇑P P 04 56 22.7 +0.6
baz=54,SNR=13
BMO **Blue Mountains** 54.08 322 *eP* P 04 56 20.0 -2.0
comp=Z,18nm,0.7s,mb4.9
D12A **Red Ives Fores** 54.12 325 ⇑P P 04 56 21.8 -0.5
baz=54
JRSC **Jasper Ridge** 54.14 312 ⇓P P 04 56 22.0 -0.6
baz=54
O05C **Quincy** 54.19 315 ⇓P P 04 56 23.1 +0.3
baz=54,SNR=18
G10A **Bishop Farm, J** 54.20 323 ⇑P P 04 56 22.3 -0.6
baz=54,SNR=149
H09A **Durkee** 54.21 322 ⇓P P 04 56 21.8 -1.1
baz=54,SNR=9.9
E11A **Bogner Ranch,** 54.22 324 ⇑P P 04 56 22.3 -0.7
baz=54,SNR=122
K07A **Rock Creek Ran** 54.25 319 ⇓P P 04 56 22.8 -0.5
baz=54,SNR=76
ELFS **Eagle Lake Fie** 54.33 316 ⇑P P 04 56 23.7 -0.2
baz=54
OHCM **Honcut** 54.33 314 *eP* P 04 56 23.8 -0.1
B13A **Whitefish** 54.38 327 ⇑P P 04 56 24.2 0.0
baz=54,SNR=31
FCC **Fort Churchill** 54.40 347⇑*iP* P 04 56 23.2 -0.8
FCC pmax pmax
comp=Z,246nm,1.1s,mb5.8
FCC **Fort Churchill** 54.40 347⇑*iP* P 04 56 23.2 -0.8
comp=Z,246nm,1.1s,mb5.8
I08A **Drewsey** 54.40 321 ⇑P P 04 56 23.6 -0.8
baz=54,SNR=32
M06C **Likely Place G** 54.41 317 ⇓P P 04 56 23.7 -0.7
baz=54,SNR=28
ORV **Oroville** 54.43 315 ⇑P P 04 56 24.8 +0.1
baz=54,SNR=35
Q03C **Winters** 54.44 313 ⇓P P 04 56 25.6 +0.8
baz=54
O04C **Chester** 54.45 316 ⇑P P 04 56 24.9 +0.1
baz=54,SNR=66
WALA **Waterton Lakes** 54.49 328⇑*iP* P 04 56 24.4 -0.5
comp=Z,38nm,1.0s,mb5.1
SUTB **Sutter Butte** 54.51 314 ⇑P P 04 56 25.2 0.0
baz=54
G09A **Cove** 54.59 322 ⇑P P 04 56 25.1 -0.6
baz=55
MOD **Modoc** 54.59 318 *eP* P 04 56 24.9 -0.9
comp=Z,24nm,0.6s,mb5.1
MOD **Moc** 54.59 318 ⇑P P 04 56 24.9 -0.9
baz=55,SNR=36
J07A **Hines** 54.61 320 ⇑P P 04 56 25.3 -0.6
baz=55,SNR=27
F10A **Beach Ranch, E** 54.62 323 ⇑P P 04 56 25.4 -0.4
baz=55,SNR=104
CVS **Carmenet Viney** 54.65 313 ⇓P P 04 56 25.4 -0.8
baz=55
D11A **Klaveano Farm,** 54.67 325 ⇑P P 04 56 25.8 -0.4
baz=55,SNR=167
A13A **Flathead Natio** 54.69 328 ⇓P P 04 56 26.3 0.0
baz=55
H08A **Prairie City** 54.76 321 ⇑P P 04 56 26.3 -0.6
baz=55,SNR=87
E10A **Myers Farm, Un** 54.82 324 ⇑P P 04 56 26.4 -0.9
baz=55,SNR=53
NSHM **Saint Helena R** 54.83 313 *eP* P 04 56 27.7 +0.2
MNRC **McLaughlin Nat** 54.84 313 ⇓P P 04 56 27.1 -0.5
baz=55,SNR=8.3
F09A **S2 Ranch, Elgi** 54.89 323 ⇓P P 04 56 27.8 0.0
baz=55,SNR=34
HATC **Hat Creek Radi** 54.92 316 ⇑P P 04 56 27.8 -0.3
baz=55,SNR=25
M05C **Lookout** 54.93 317 ⇑P P 04 56 27.7 -0.6
baz=55,SNR=64
K06A **Valley Falls** 54.96 319 ⇑P P 04 56 28.1 -0.3
baz=55,SNR=27
L05A **Lakeview** 55.01 318 ⇑P P 04 56 28.3 -0.5
baz=55,SNR=8.1
B12A **Libby** 55.05 327 ⇓P P 04 56 29.2 +0.2
baz=55,SNR=28
I07A **Izee** 55.07 320 P P 04 56 28.9 -0.3
baz=55,SNR=103
J06A **Christmas Vall** 55.10 319 ⇑P P 04 56 28.7 -0.7
baz=55,SNR=72
G08A **Pilot Rock** 55.32 322 P P 04 56 31.0 +0.1
baz=55,SNR=167
GASB **Alder Springs** 55.33 314 ⇑P P 04 56 31.4 +0.2
baz=55,SNR=9.4
A12A **Yaak River Ran** 55.35 327 ⇓P P 04 56 31.7 +0.6
baz=55,SNR=34
K05A **Summer Lake** 55.35 318 P P 04 56 31.2 0.0
baz=55,SNR=19
H07A **Lands Inn, Kim** 55.35 321 ⇑P P 04 56 30.9 -0.3
baz=55
E09A **Wood Farm, Sta** 55.44 323 ⇑P P 04 56 31.2 -0.5
baz=56,SNR=33
F08A **Pendleton** 55.46 322 ⇓P P 04 56 31.1 -0.8
baz=56
I06A **Prineville** 55.46 320 ⇓P P 04 56 32.1 +0.2
baz=56,SNR=101
B11A **Sandpoint** 55.46 326 ⇑P P 04 56 31.8 0.0
baz=56,SNR=45
M03C **McCloud** 55.56 316 ⇑P P 04 56 32.0 -0.7
baz=56,SNR=14
WDC **Whiskeytown Da** 55.57 315 P P 04 56 30.4 -2.4
WDC pmax pmax
comp=Z,36nm,1.0s,mb5.2
WDC **Whiskeytown Da** 55.57 315⇑*iP* P 04 56 30.0 -2.8
comp=Z,36nm,1.1s,mb5.1
WDC **Whiskeytown Da** 55.57 315 ⇑P P 04 56 30.5 -2.3
baz=56,SNR=13
M04C **Macdoel** 55.58 317 P P 04 56 32.8 -0.1
baz=56,SNR=40
O02C **Red Bluff** 55.59 315 P P 04 56 31.4 -1.6
baz=56,SNR=15
C10A **Spilker Farm,** 55.65 325 ⇑P P 04 56 32.9 -0.3
baz=56,SNR=14
P01C **Double 8 Ranch** 55.71 314 ⇑P P 04 56 34.4 +0.5
baz=56,SNR=10
G07A **Ruggs Ranch, H** 55.74 321 ⇓P P 04 56 33.9 0.0
baz=56,SNR=32
A11A **Hall Mountain,** 55.75 327 P P 04 56 34.3 +0.4
baz=56,SNR=75
L04A **Fort Rock** 55.78 317 ⇑P P 04 56 34.1 -0.2
baz=56,SNR=34
NEW **Newport** 55.78 326 P P 04 56 33.6 -0.6
NEW pmax pmax
comp=Z,60nm,1.0s
NEW **Newport** 55.78 326⇑*iP* P 04 56 33.5 -0.7
comp=Z,60nm,1.0s,mb5.4
D09A **Jones Farm, Ri** 55.82 324 ⇑P P 04 56 33.8 -0.7
baz=56,SNR=7.6
J05A **Fort Rock** 55.82 319 ⇑P P 04 56 34.5 0.0
baz=56,SNR=133
K04A **Chilquin** 55.86 318 ⇑P P 04 56 34.8 -0.1
baz=56
B10A **Chitwood Farm,** 55.86 326 ⇑P P 04 56 34.1 -0.6
baz=56,SNR=8.1
H06A **Lindquist Farm** 55.90 321 ⇑P P 04 56 35.3 +0.2
baz=56,SNR=45
KCPM **Cahto Peak** 55.97 314 *eP* P 04 56 36.1 +0.5
E08A **Dider Farm, El** 55.97 323 ⇓P P 04 56 34.8 -0.8
baz=56
M02C **Callahan** 56.11 316 ⇑P P 04 56 35.1 -1.6
baz=56,SNR=9.4
YBH **Yreka Blue Hor** 56.15 316 P P 04 56 35.4 -1.5
YBH pmax pmax
comp=Z,28nm,0.6s
YBH **Yreka Blue Hor** 56.15 316⇑*iP* P 04 56 35.2 -1.7
comp=Z,28nm,0.6s,mb5.3
YBH **Yreka Blue Hor** 56.15 316 ⇓P P 04 56 35.2 -1.7
baz=56,SNR=34
D08A **Wollman Farm,** 56.18 324 ⇑P P 04 56 36.8 -0.2
baz=56,SNR=28
C09A **Chrisman Ranch** 56.19 325 ⇓P P 04 56 37.0 0.0
baz=56,SNR=30
N02C **Big Bar** 56.20 315 ⇑P P 04 56 36.3 -1.0
baz=56,SNR=19
F07A **Phinny Hill Vi** 56.20 322 ⇓P P 04 56 37.1 -0.1
baz=56,SNR=22
HAWA **Hanford** 56.21 323⇑*iP* P 04 56 36.4 -0.8
comp=Z,19nm,0.8s,mb5.0
I05A **Bend** 56.23 320 ⇑P P 04 56 38.1 +0.6
baz=56,SNR=42
O01C **Eel River Cons** 56.30 314 ⇓P P 04 56 38.7 +0.6
baz=56,SNR=8.2
G06A **Carlson Farm,** 56.33 321 ⇑P P 04 56 38.9 +0.8
baz=56,SNR=38
J04A **Umpqua Nationa** 56.38 318 ⇓P P 04 56 38.7 +0.2
baz=56,SNR=41
A10A **Northport** 56.42 326 ⇓P P 04 56 38.0 -0.6
baz=56,SNR=13
H05A **Madras** 56.43 320 ⇓P P 04 56 39.5 +0.7
baz=56,SNR=13
B09A **Rice** 56.45 325 ⇓P P 04 56 38.2 -0.7
baz=56,SNR=46
E07A **Sunnyside** 56.48 323 ⇓P P 04 56 39.0 -0.2
baz=56,SNR=6.1
C08A **Higginbotham F** 56.62 324 ⇑P P 04 56 39.3 -0.8
baz=57,SNR=28
F06A **Goldendale** 56.67 322 ⇑P P 04 56 41.2 +0.7
baz=57,SNR=9.0
HUMO **Hull Mountain** 56.68 317 *eP* P 04 56 38.8 -1.9
comp=Z,9.7nm,0.6s,mb4.8
HUMO **Hull Mountain** 56.68 317 ⇓P P 04 56 39.1 -1.5
baz=57,SNR=9.3
JCC **Jacoby Creek** 56.71 315 ⇑P P 04 56 40.9 0.0
baz=57
EDM **Edmonton** 56.80 332⇑*iP* P 04 56 40.4 -0.8
I04A **Tendick Farm,** 56.81 319 ⇓P P 04 56 41.0 -0.6
baz=57,SNR=44
D07A **Quincy** 56.87 323 ⇓P P 04 56 42.2 +0.3
baz=57,SNR=14
KRMB **Red Mountain** 56.89 316 *eP* P 04 56 41.9 -0.2
L02A **Cave Junction** 56.93 317 ⇑P P 04 56 41.5 -0.9
baz=57,SNR=5.5
A09A **Danville** 56.98 326 P P 04 56 42.1 -0.6
baz=57,SNR=28
J03A **Ideyld Park** 57.00 318 ⇑P P 04 56 41.7 -1.2
baz=57,SNR=17
H04A **Detroit Lake** 57.06 320 ⇓P P 04 56 43.2 -0.1
baz=57,SNR=99
B08A **Colville Reser** 57.09 325 ⇑P P 04 56 42.9 -0.5
baz=57,SNR=88
K02A **Glendale** 57.10 317 ⇑P P 04 56 42.8 -0.8
baz=57,SNR=13
F05A **White Salmon** 57.14 321 ⇓P P 04 56 44.2 +0.4
baz=57,SNR=14
E06A **Yakima** 57.16 322 ⇓P P 04 56 44.1 +0.2
baz=57,SNR=23
M01C **Crescent City** 57.17 316 ⇓P P 04 56 44.2 +0.1
baz=57,SNR=6.1
C07A **Waterville** 57.17 324 ⇓P P 04 56 43.2 -0.8
baz=57,SNR=30
A08A **Turner Farm, O** 57.36 325 ⇓P P 04 56 45.0 -0.3
baz=57,SNR=54
KBO **Bosley Butte** 57.38 316⇑*iP* P 04 56 46.1 +0.5
D06A **Cle Elum** 57.39 323 P P 04 56 45.8 +0.2
baz=57,SNR=35
J02A **Umpqua** 57.40 318 ⇑P P 04 56 45.5 -0.2
baz=57,SNR=37
I03A **Eugene** 57.46 319 P P 04 56 45.6 -0.5
baz=58,SNR=14
G04A **Mulino** 57.47 320 P P 04 56 46.0 -0.1
baz=58,SNR=24
B07A **Winthrop** 57.59 325 ⇓P P 04 56 46.3 -0.6
baz=58,SNR=23
E05A **Randle** 57.64 322 ⇓P P 04 56 47.3 0.0
baz=58,SNR=58
KEBM **Edson Butte** 57.71 317⇑*iP* P 04 56 48.2 +0.3
COR **Corvallis** 57.73 319⇑*iP* P 04 56 47.8 -0.2
COR pmax pmax
comp=Z,144nm,1.0s,mb5.8
COR **Corvallis** 57.73 319⇑*iP* P 04 56 47.8 -0.2
comp=Z,144nm,1.0s,mb5.8
F04A **Amboy** 57.76 321 ⇑P P 04 56 47.5 -0.6
baz=58,SNR=17
H03A **Soap Creek Ran** 57.76 319 ⇓P P 04 56 48.4 +0.2
baz=58,SNR=53
C06A **Tall Timber Ra** 57.77 324 ⇑P P 04 56 48.1 -0.1
baz=58,SNR=5.1
K01A **Sixes** 57.78 317 ⇑P P 04 56 48.6 +0.3
baz=58,SNR=5.3
I02A **Mapleton** 57.83 319 ⇓P P 04 56 48.9 +0.2
baz=58,SNR=23
G03A **Yamhill** 58.03 320 ⇑P P 04 56 50.4 +0.3
baz=58,SNR=27
A07A **Ashnola River,** 58.03 325 ⇓P P 04 56 50.3 +0.3
baz=58,SNR=67
D05A **Enumclaw** 58.07 323 ⇓P P 04 56 50.0 -0.3
baz=58,SNR=29
C05A **Tolt Reservoir** 58.13 323 ⇑P P 04 56 49.4 -1.2
baz=58,SNR=15
E04A **Onalaska** 58.24 322 ⇓P P 04 56 51.3 -0.2
baz=58,SNR=16
B06A **Marblemount** 58.41 324 P P 04 56 51.7 -0.9
baz=58,SNR=8.4
F03A **Seaside** 58.47 321 ⇓P P 04 56 53.5 +0.4
baz=58,SNR=24
D04A **Dobbs Creek Ra** 58.53 322 ⇑P P 04 56 53.4 -0.1
baz=59
B05A **Bryant** 58.64 324 ⇑P P 04 56 52.8 -1.5
baz=59,SNR=19
A06A **Chilliwack** 58.69 325 ⇓P P 04 56 53.8 -0.7
baz=59
E03A **Lebam** 58.74 321 ⇓P P 04 56 55.1 +0.1
baz=59,SNR=30
C04A **Brinnon** 58.91 323 ⇓P P 04 56 55.6 -0.4
baz=59
A05A **Maple Falls** 58.99 324 ⇓P P 04 56 55.6 -1.0
baz=59,SNR=13
D03A **Wishkah Elem.** 59.12 322 P P 04 56 58.3 +0.8
baz=59,SNR=14
A04A **Legoe Bay, Lum** 59.22 324 ⇓P P 04 56 57.4 -0.8
baz=59,SNR=21
NLWA **Neilton Lookou** 59.30 322⇑*iP* P 04 56 59.4 +0.5
comp=Z,131nm,1.1s,mb5.7
NLWA **Neilton Lookou** 59.30 322 ⇑P P 04 56 59.4 +0.6
baz=59,SNR=27
B04A **Port Angeles** 59.38 323 ⇓P P 04 56 59.7 +0.4
baz=59,SNR=25
PGC **Sidney** 59.62 324⇑*iP* P 04 57 00.4 -0.5
comp=Z,196nm,1.2s,mb5.8
C03A **Quillayute Air** 59.97 322 ⇓P P 04 57 03.9 +0.5
baz=60
USHA **Ushuaia** 61.47 177 P P 04 57 12.4 -0.8
comp=Z,11nm,0.7s,mb4.8,baz=30,slow=8.8,SNR=4.2
YKA **Yellowknife Ar** 63.41 340 P P 04 57 25.8 -0.3
YKA S S 05 05 44.3 -1.0
YKA **Yellowknife Ar** 63.41 340 P P 04 57 25.8 -0.3
YKA S S 05 05 44.3 -1.0
YKA LR LR 05 25 20.5
YKA **Yellowknife Ar** 63.41 340 P P 04 57 25.7 -0.3
comp=Z,112nm,0.6s,mb5.9,baz=133,slow=6.6,SNR=2917
YKA S S 05 05 44.3 -1.0
comp=Z,2.6nm,1.0s,baz=129,slow=13,SNR=5.7
YKA LR LR 05 25 20.5
comp=Z,161nm,19.5s,baz=145,slow=36
LIC **Lamto** 67.37 86⇑*iP* P 04 57 52.7 +0.2
comp=Z,78nm,0.7s,mb5.3,baz=274
LIC *ep*P pP 04 58 34.4 +2.2
LIC *e*MLR MLR
comp=Z,92nm,18.8s
LIC **Lamto** 67.37 86⇑*iP* P 04 57 52.7 +0.2
comp=Z,39nm,0.7s,mb5.3
LIC *ep*P pP 04 58 34.4 +2.2
LIC LR LR
comp=Z,50nm,18.8s
DLBC **Dease Lake** 67.50 331⇑*iP* P 04 57 53.3 +0.9
DBIC **Dimbokro** 67.51 86 P P 04 57 53.7 +0.4
DBIC pmax pmax
comp=Z,43nm,0.9s

DBIC Dimbokro 67.51 86⇑ iP P 04 57 53.5 +0.1
comp=Z,43nm,0.9s,mb5.2
DBIC ep P pP 04 58 35.6 +2.5
DBIC Dimbokro 67.51 86 P P 04 57 53.6 +0.3
comp=Z,37nm,0.7s,mb5.2,baz=265,slow=6.4,SNR=45
RES Resolute Bay 69.07 354 P P 04 58 01.7 -0.2
RES Resolute Bay 69.07 354⇑ iP P 04 58 01.5 -0.4
comp=Z,1µm,1.0s
ESDC Sonseca Array 69.52 50 P P 04 58 05.1 -0.2
comp=Z,0.9nm,0.5s,mb3.8,baz=268,slow=6.0,SNR=9.4
ESDC PKPPKP 05 26 10.8
comp=Z,1.3nm,0.7s,baz=57,slow=2.7,SNR=10
DCN Croghan 70.16 35 eP P 04 58 09.5 +0.5
DCN Croghan 70.16 35 eP P 04 58 15.6 +6.6
SKAG Skagway 70.43 331 eP P 04 58 10.9 +0.5
comp=Z,64nm,1.0s,mb5.3
DMUB Kingscourt 70.53 35 eP P 04 58 11.6 +0.4
DMUB Kingscourt 70.53 35 eP P 04 58 17.9 +6.7
QUIF Quistinic 71.46 42 eP P 04 58 16.4 -0.5
comp=Z,27nm,1.0s,mb4.6
QUIF Quistinic 71.46 42 eP P 04 58 16.4 -0.5
QUIF pmax pmax
comp=Z,13nm,1.0s,mb4.6
QUIF Quistinic 71.46 42 eP P 04 58 16.4 -0.5
comp=Z,13nm,1.0s,mb4.6
ROSF Rostrenen 71.47 41 eP P 04 58 16.5 -0.5
comp=Z,17nm,0.7s,mb4.6
ROSF Rostrenen 71.47 41 eP P 04 58 16.5 -0.5
ROSF pmax pmax
comp=Z,9.0nm,0.7s,mb4.6
ROSF Rostrenen 71.47 41 eP P 04 58 16.5 -0.5
comp=Z,8.6nm,0.7s,mb4.6
SGMF Saint Gilles 71.92 41 eP P 04 58 19.2 -0.5
comp=Z,32nm,0.8s,mb4.8
SGMF Saint Gilles 71.92 41 eP P 04 58 19.2 -0.5
SGMF pmax pmax
comp=Z,16nm,0.8s,mb4.8
SGMF Saint Gilles 71.92 41 eP P 04 58 19.2 -0.5
comp=Z,16nm,0.8s,mb4.8
SJPF Ste Jean 72.04 47 eP P 04 58 20.3 -0.2
ETSF Etsaut 72.50 47 eP P 04 58 22.9 -0.3
GRR Gorron 73.06 42 eP P 04 58 25.9 -0.5
comp=Z,39nm,0.7s,mb4.9
GRR Gorron 73.06 42 eP P 04 58 25.9 -0.5
GRR pmax pmax
comp=Z,20nm,0.7s,mb5.0
GRR Gorron 73.06 42 eP P 04 58 25.9 -0.5
comp=Z,20nm,0.7s,mb4.9
EPF Esparros 73.17 47 eP P 04 58 27.0 -0.2
INK Inuvik 73.17 340 P P 04 58 26.9 +0.2
INK Inuvik 73.17 340⇑ iP P 04 58 26.8 +0.1
comp=Z,6µm,1.2s
MFF Saint Martin d 73.28 43 eP P 04 58 27.3 -0.4
comp=Z,49nm,0.8s,mb5.0
MFF Saint Martin d 73.28 43 eP P 04 58 27.3 -0.4
MFF pmax pmax
comp=Z,25nm,0.8s,mb5.0
MFF Saint Martin d 73.28 43 eP P 04 58 27.3 -0.4
comp=Z,25nm,0.8s,mb5.0
FLN La Foliniere 73.37 41 eP P 04 58 27.9 -0.3
comp=Z,48nm,0.7s,mb5.1
FLN eMLR MLR
comp=Z,102nm,19.2s
FLN La Foliniere 73.37 41 eP P 04 58 27.9 -0.3
FLN pmax pmax
comp=Z,24nm,0.7s,mb5.0
FLN MLR MLR
comp=Z,100nm,19.3s
FLN La Foliniere 73.37 41 eP P 04 58 27.9 -0.3
comp=Z,24nm,0.7s,mb5.0
FLN LR LR
comp=Z,100nm,19.3s
LDF La Druitiere 73.58 41 eP P 04 58 29.0 -0.4
comp=Z,50nm,1.1s,mb4.9
LDF La Druitiere 73.58 41 eP P 04 58 29.0 -0.4
LDF pmax pmax
comp=Z,25nm,1.1s,mb4.9
LDF La Druitiere 73.58 41 eP P 04 58 29.0 -0.4
comp=Z,25nm,1.1s,mb4.9
LFF La Frestale 73.68 45 eP P 04 58 29.4 -0.7
DAWY Dawson 73.80 335⇑ iP P 04 58 30.2 -0.2
RJF Les Rejaudoux 74.27 45 eP P 04 58 32.9 -0.6
RJF eMLR MLR
comp=Z,98nm,18.0s
RJF Les Rejaudoux 74.27 45 eP P 04 58 32.9 -0.6
RJF LR LR
comp=Z,100nm,18.0s
MTLF Montolieu 74.57 47 eP P 04 58 34.4 -0.9
comp=Z,10nm,0.8s,mb4.2
MTLF Montolieu 74.57 47 eP P 04 58 34.4 -0.9
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
MTLF Montolieu 74.57 47 eP P 04 58 34.4 -0.9
comp=Z,5.3nm,0.8s,mb4.2
CAF Calviac 74.61 45 eP P 04 58 35.0 -0.5
EGAK Eagle 74.75 336⇑ iP P 04 58 36.0 +0.1
comp=Z,176nm,1.4s,mb5.5
TCF Toulx Ste Croi 74.86 44 eP P 04 58 36.2 -0.7
comp=Z,30nm,1.1s,mb4.5
TCF Toulx Ste Croi 74.86 44 eP P 04 58 36.2 -0.7
TCF pmax pmax
comp=Z,15nm,1.1s,mb4.5
TCF Toulx Ste Croi 74.86 44 eP P 04 58 36.2 -0.7
comp=Z,15nm,1.1s,mb4.5
BGF Bois d'Agland 75.32 44 eP P 04 58 38.9 -0.6
comp=Z,21nm,0.7s,mb4.5
BGF Bois d'Agland 75.32 44 eP P 04 58 38.9 -0.6
BGF pmax pmax
comp=Z,11nm,0.7s,mb4.6
BGF Bois d'Agland 75.32 44 eP P 04 58 38.9 -0.6
comp=Z,11nm,0.7s,mb4.6
MENT Mentasta 75.35 333 eP P 04 58 39.9 +0.6
PYM Petit Puy Mans 75.36 45 eP P 04 58 46.7 +6.9
AGO Saint Agoulin 75.47 44 eP P 04 58 45.7 +5.3
LBL Lubilhac 75.47 45 eP P 04 58 47.4 +7.0
DAG Danmarks Havn 75.68 11⇓ iP P 04 58 41.2 +0.2
DAG pmax pmax
comp=Z,63nm,0.8s,mb5.3
DAG Danmarks Havn 75.68 11⇓ iP P 04 58 41.2 +0.2
comp=Z,63nm,0.8s,mb5.3
AVF Avril sur Loir 75.69 44 eP P 04 58 40.5 -1.1
LASF Ste Croix 75.81 46 eP P 04 58 42.2 -0.2
SSF Saint Saulge 75.82 43 eP P 04 58 41.3 -1.1
ALE Alert 75.88 1 P P 04 58 42.0 -0.1
comp=Z,306nm,0.7s,mb6.0,SNR=34
DIV Divide 75.88 331⇑ iP P 04 58 42.7 +0.3
comp=Z,91nm,1.1s,mb5.3
SMF Signal de Mont 76.01 44 eP P 04 58 42.5 -1.0
comp=Z,53nm,1.1s,mb4.8
SMF Signal de Mont 76.01 44 eP P 04 58 42.5 -1.0
SMF pmax pmax
comp=Z,26nm,1.1s,mb4.8
SMF Signal de Mont 76.01 44 eP P 04 58 42.5 -1.0
comp=Z,26nm,1.1s,mb4.8
LOR Lormes 76.08 43 eP P 04 58 43.0 -0.8
comp=Z,36nm,1.1s,mb4.6
LOR eMLR MLR
comp=Z,86nm,17.5s
LOR Lormes 76.08 43 eP P 04 58 43.0 -0.8
LOR pmax pmax
comp=Z,18nm,1.1s,mb4.6
LOR MLR MLR
comp=Z,90nm,17.5s
LOR Lormes 76.08 43 eP P 04 58 43.0 -0.8
comp=Z,18nm,1.1s,mb4.6
LOR LR LR
comp=Z,90nm,17.5s
VIVF Saint-Julien-l 76.45 46 eP P 04 58 45.9 -0.1
BAIF Baives 76.57 40 eP P 04 58 45.8 -0.7
comp=Z,7.5nm,0.6s,mb4.2
BAIF Baives 76.57 40 eP P 04 58 45.8 -0.7
BAIF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
BAIF Baives 76.57 40 eP P 04 58 45.8 -0.7
comp=Z,3.8nm,0.6s,mb4.2
UCC Uccle 76.74 39 PCP PcP 04 58 53.3 -4.8
DOU Dourbes 76.82 40 P **P 04 58 47.7 -0.3**
DOU Dourbes 76.82 40 PCP PcP 04 58 54.4 -4.1
GIVF Givet 76.97 40 eP P 04 58 48.4 -0.4
comp=Z,53nm,0.8s,mb4.9
GIVF Givet 76.97 40 eP P 04 58 48.4 -0.4
GIVF pmax pmax
comp=Z,27nm,0.8s,mb4.9
GIVF Givet 76.97 40 eP P 04 58 48.4 -0.4
comp=Z,27nm,0.8s,mb4.9
MEZF Maizieres J'vi 76.98 42 eP P 04 58 48.4 -0.5
comp=Z,59nm,0.9s,mb4.9
MEZF Maizieres J'vi 76.98 42 eP P 04 58 48.4 -0.5
comp=Z,59nm,0.9s,mb5.2
SML Sawmill 77.22 332⇑ iP P 04 58 50.2 +0.3
BCLA Clavier 77.31 40 P P 04 58 51.8 +1.2
BCLA PCP PcP 04 58 57.3 -3.3
ORIF Oris-en-Rattie 77.31 46 eP P 04 58 49.9 -0.9
ORIF eMLR MLR
comp=Z,110nm,19.2s
COLA College 77.55 335c iP P 04 58 51.5 -0.2
COLA College 77.55 335⇑ iP P 04 58 51.6 -0.1
comp=Z,26nm,0.9s,mb4.9
COLA ePP PP 05 01 47.6 -1.1
CABF La Chapelle 77.55 44 eP P 04 58 51.7 -0.4
comp=Z,32nm,1.1s,mb4.6
CABF La Chapelle 77.55 44 eP P 04 58 51.7 -0.4
CABF pmax pmax
comp=Z,16nm,1.1s,mb4.6
CABF La Chapelle 77.55 44 eP P 04 58 51.7 -0.4
comp=Z,16nm,1.1s,mb4.6
PMR Palmer 77.56 332 eP P 04 58 51.9 +0.1
PMR pmax pmax
comp=Z,66nm,0.8s,mb5.3
PMR Palmer 77.56 332 eP P 04 58 51.9 +0.1
comp=Z,66nm,0.8s,mb5.3
BEBN Eben Emael 77.57 40 P P 04 58 52.0 -0.1
BEBN PCP PcP 04 58 58.8 -2.9
THEF They Montfort 77.59 42 eP P 04 58 52.5 +0.3
LMR La Mourre 77.69 47 eP P 04 58 52.2 -0.7
HGN Heimansgroeve 77.73 40⇑ eP P 04 58 52.6 -0.4
comp=Z,11nm,0.6s,mb4.7
HGN Heimansgroeve 77.73 40 esP PcP 04 58 59.3 -3.1
comp=Z,34nm,0.9s
MEM Membach 77.77 40 P P 04 58 53.3 +0.1
MEM PCP PcP 04 58 59.8 -2.7
WLF Walferdange 77.79 41 P P 04 58 53.7 +0.3
WLF pmax pmax
comp=Z,29nm,0.9s,mb4.9
WLF Walferdange 77.79 41 eP P 04 58 53.2 -0.2
comp=Z,29nm,0.8s,mb5.0
WLF Walferdange 77.79 41 P P 04 58 53.7 +0.4
WLF Walferdange 77.79 41 PCP PcP 04 58 59.7 -3.0
WLF Walferdange 77.79 41 eP P 04 58 53.1 -0.3
comp=Z,34nm,0.9s,mb5.0
WLF e 04 58 59.6
FRF La Foret Royal 77.80 47 eP P 04 58 52.9 -0.6
HAU Haudompre 77.81 42 eP P 04 58 52.5 -1.0
HAU eMLR MLR
comp=Z,138nm,18.8s
HAU Haudompre 77.81 42 eP P 04 58 52.5 -1.0
HAU LR LR
comp=Z,140nm,18.8s
MCK McKinley 77.81 334⇑ iP P 04 58 53.4 +0.2
MCK pmax pmax
comp=Z,129nm,1.4s,mb5.4
MCK McKinley 77.81 334⇑ iP P 04 58 53.4 +0.2
comp=Z,129nm,1.4s,mb5.4
BNI Bardonecchia 77.89 45 eP P 04 58 55.0 +1.0
BNI pmax pmax
comp=Z,23nm,1.5s,mb4.6
BNI Bardonecchia 77.89 45 eP P 04 58 55.0 +1.0
comp=Z,23nm,1.5s,mb4.6
SLKM Skilak Lake 77.92 330 eP P 04 58 53.7 -0.2
MBDF Montbardon 77.94 46 eP P 04 58 53.5 -0.8
LPL La Plagne 77.95 45 eP P 04 58 54.7 +0.4
LPG La Plagne 77.96 45 eP P 04 58 54.9 +0.5
HINF Hinteralfeld 78.14 43 eP P 04 58 54.4 -0.9
comp=Z,22nm,0.7s,mb4.6
HINF Hinteralfeld 78.14 43 eP P 04 58 54.4 -0.9
HINF pmax pmax
comp=Z,11nm,0.7s,mb4.6
HINF Hinteralfeld 78.14 43 eP P 04 58 54.4 -0.9
comp=Z,11nm,0.7s,mb4.6
WTSB Winterswijk 78.36 38⇑ eP P 04 58 56.4 0.0
comp=Z,29nm,0.7s,mb5.0
WTSB Winterswijk 78.36 38 esP PcP 04 59 03.0 -2.1
comp=Z,67nm,1.0s
ECH Echery 78.37 42 eP P 04 58 56.4 -0.2
SBF Sospel 78.38 47 eP P 04 58 56.7 0.0
RUP Ruppelstein 78.38 41 eP P 04 58 57.7 +1.1
CDF Champ du Feu 78.46 42 eP P 04 58 56.3 -0.7
comp=Z,35nm,1.0s,mb4.6
CDF Champ du Feu 78.46 42 eP P 04 58 56.3 -0.7
CDF pmax pmax
comp=Z,17nm,1.0s,mb4.6
CDF Champ du Feu 78.46 42 eP P 04 58 56.3 -0.7
comp=Z,18nm,1.0s,mb4.6
BUG Bochum-Univer 78.62 39 eP P 04 58 57.5 -0.4
comp=Z,30nm,0.8s,mb5.0
BUG e 04 59 04.5
ABH Alteburg 78.71 41 eP P 04 58 59.0 +0.6
KDAK Kodiak Island 78.83 328 P P 04 58 58.9 0.0
comp=Z,198nm,1.3s,mb5.6,SNR=10
KDAK Kodiak Island 78.83 328⇑ iP P 04 58 58.3 -0.6
comp=Z,38nm,1.0s,mb5.0
LANF Langenberg 78.83 42 eP P 04 58 59.6 +0.5
FELD Feldberg im Sc 78.92 43 eP P 04 58 59.4 -0.2
IBBN Ibbenburen 78.97 38 eP P 04 59 00.1 +0.3
comp=Z,32nm,0.7s,mb5.1
IBBN e 04 59 06.5
BFO Black Forest 79.16 42 eP P 04 59 01.1 +0.2
BFO e PcP 04 59 06.8 -1.8
BFO pmax pmax
comp=Z,14nm,1.0s,mb4.5
BFO Black Forest 79.16 42 eP P 04 59 01.1 +0.2
comp=Z,14nm,1.0s,mb4.5
BFO e 04 59 06.8
PPT Papeete 79.45 251 eS S 05 08 52.4 +1.6
comp=Z,128nm,26.0s
PPT Papeete 79.45 251 eLR LR 05 24 03.0
comp=Z,428nm,26.5s
PPT Papeete 79.45 251 LR LR 05 26 55.0
comp=Z,164nm,20.4s,baz=74,slow=30
PGF Pioggiola 79.50 48 eP P 04 59 02.7 -0.2
comp=Z,16nm,0.8s,mb4.4
PGF Pioggiola 79.50 48 eP P 04 59 02.7 -0.2
PGF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
PGF Pioggiola 79.50 48 eP P 04 59 02.7 -0.2
comp=Z,7.8nm,0.8s,mb4.4
STU Stuttgart 79.74 42 eP P 04 59 04.4 +0.4
comp=Z,28nm,0.8s,mb4.9
STU e 04 59 10.3
STU epP pP 04 59 44.9 -0.1
MUD Monsted U'grnd 80.02 34 i P P 04 59 12.4 +7.0
MUD pmax pmax
comp=Z,46nm,0.9s,mb5.1
MUD Monsted U'grnd 80.02 34 i P P 04 59 12.4 +7.0
comp=Z,46nm,0.9s,mb5.1
IMA2 Indian Mountai 80.13 336 eP P 04 59 06.1 +0.3
DAVA Damuels 80.17 43⇑ iP P 04 59 07.0 +0.6
comp=Z,28nm,0.9s,mb4.9,SNR=11
UBBA Unterbreizbach 80.31 40 eP P 04 59 07.3 +0.3
NRDL Niedersach Rie 80.42 38 eP P 04 59 08.0 +0.4
comp=Z,15nm,0.9s,mb4.6
NRDL e 04 59 14.0
NRDL epP pP 04 59 47.8 -0.8
TBI Tubuai 80.45 245 eS S 05 08 59.4 -1.7
comp=Z,141nm,33.2s
TBI Tubuai 80.45 245 eLR LR 05 24 31.1
comp=Z,146nm,33.2s
BRMO Bormio 80.51 44 P P 04 59 08.6 +0.4
comp=Z,5.2nm,0.7s,mb4.3
CLZ Clausthal 80.57 39 eP P 04 59 09.0 +0.6
CLZ pmax pmax
comp=Z,22nm,0.7s,mb4.9
CLZ Clausthal 80.57 39 eP P 04 59 09.0 +0.6
comp=Z,22nm,0.7s,mb4.9
CLZ e 04 59 14.8
BSEG Bad Segeberg 80.58 37 eP P 04 59 09.3 +0.9
BSEG pmax pmax
comp=Z,31nm,0.9s,mb4.9
BSEG Bad Segeberg 80.58 37 eP P 04 59 09.3 +0.9
comp=Z,31nm,0.9s,mb4.9
BSEG e 04 59 15.0
SVW2 Sparrevohn 80.60 331 eP P 04 59 07.5 -0.8
FETA Feichten 80.75 44⇑ iP P 04 59 09.8 +0.3
comp=Z,27nm,1.3s,mb4.7,SNR=13
TTA Tatalina 80.90 333 eP P 04 59 09.4 -0.5
MOTA Moosalm 81.01 43⇓ iP P 04 59 10.7 -0.1
comp=Z,5.8nm,1.1s,mb4.1,SNR=12
MOTA Moosalm 81.01 43⇓ iP P 04 59 10.7 -0.1
MOTA pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
SQTA Sankt Quirin 81.08 43⇑ iP P 04 59 11.1 0.0
comp=Z,14nm,1.1s,mb4.5,SNR=15
SQTA Sankt Quirin 81.08 43⇑ iP P 04 59 11.2 0.0
SQTA pmax pmax
comp=Z,14nm,1.1s,mb4.5
GRA1 Grafenberg Arr 81.08 41 eP P 04 59 11.8 +0.6
comp=Z,18nm,1.1s,mb4.6
GRA1 e 04 59 17.7
GRF Grafenberg Arr 81.08 41 eP P 04 59 11.8 +0.6
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.6
GRF Grafenberg Arr 81.08 41 eP P 04 59 11.8 +0.6
GRF pmax pmax
comp=Z,18nm,1.1s,mb4.6
GRF Grafenberg Arr 81.08 41 eP P 04 59 11.8 +0.6
comp=Z,18nm,1.1s,mb4.6
GRF e 04 59 17.7
GRFO Grafenberg 81.08 41 eP P 04 59 17.2 +6.0
GRFO Grafenberg 81.08 41 e P 04 59 17.2 +6.0
NAO01 NORSAR Array S 81.11 30⇓ iP P 04 59 12.4 +1.4
comp=Z,46nm,0.9s,mb5.1
NB2 NORSAR Subarra 81.28 29 P P 04 59 12.7 +0.8
comp=Z,12nm,0.8s,mb4.6,baz=268,slow=5.3
NOA NORSAR Array B 81.28 29 P P 04 59 12.7 +0.7
comp=Z,21nm,0.9s,mb4.8,baz=268,slow=5.4,SNR=40
NOA LR LR 05 30 31.4
comp=Z,64nm,18.0s,baz=285,slow=32
MOX Moxa 81.34 40 eP P 04 59 13.5 +1.0
comp=Z,10.0nm,0.9s,mb4.5
MOX Moxa 81.34 40 eP P 04 59 13.5 +1.0
MOX pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
MOX Moxa 81.34 40 eP P 04 59 13.0 +0.5
comp=Z,7.0nm,0.8s,mb4.3
CTI Castel Tesino 81.39 45 P P 04 59 13.2 +0.3
CTI pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
CTI Castel Tesino 81.39 45 P P 04 59 13.2 +0.3
comp=Z,6.8nm,0.6s,mb4.5
MANZ Manzenberg 81.66 41 eP P 04 59 14.3 +0.1
comp=Z,16nm,0.8s,mb4.7
MANZ e 04 59 20.9
MANZ epP pP 04 59 55.3 0.0
ROTZ Rotzenmuhle 81.72 41 eP P 04 59 14.6 +0.1
comp=Z,7.0nm,0.9s,mb4.3
ROTZ e 04 59 20.7
WERD Werda 81.78 40 eP P 04 59 15.5 +0.7
comp=Z,13nm,0.9s,mb4.6
WERD e 04 59 21.3
WERD epP pP 04 59 55.7 -0.2
GUNZ Gunzen 81.80 40 eP P 04 59 15.6 +0.7
comp=Z,13nm,1.2s,mb4.4
GUNZ e 04 59 21.4
WERN Wernitzgruen 81.83 40 e P 04 59 21.7 +6.7
COP Copenhagen 81.83 35 eP P 04 59 21.8 +6.9
COP pmax pmax
comp=Z,22nm,1.0s,mb4.7
COP Copenhagen 81.83 35 i P P 04 59 21.8 +6.9
comp=Z,22nm,1.0s,mb4.7
NKC Novy Kostel 81.87 40 eP P 04 59 16.5 +1.2
NKC ePCP PcP 04 59 22.2 +1.7
TANN Tannenbergstha 81.88 40 eP P 04 59 16.1 +0.8
comp=Z,19nm,1.0s,mb4.7
TANN e 04 59 22.0
CHGN Chignik 81.95 326 eP P 04 59 15.2 -0.3
FVI Forni Avoltri 82.17 44 P P 04 59 17.5 +0.6
WET Wettzell 82.17 41 eP P 04 59 17.6 +0.7
WET pmax pmax
comp=Z,21nm,1.2s,mb4.6
WET Wettzell 82.17 41 eP P 04 59 17.6 +0.7
comp=Z,21nm,1.2s,mb4.6
WET e 04 59 23.5
CLL Collm 82.21 39⇓ iP P 04 59 17.8 +0.8
CLL eS S 05 09 21.0 +2.7
CLL pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
CLL Collm 82.21 39⇓ iP P 04 59 17.8 +0.8
comp=Z,9.0nm,0.9s,mb4.4
CLL epP pP 05 00 08.0 +10
CLL eS S 05 09 21.0 +2.7
CLL Collm 82.21 39 eP P 04 59 17.7 +0.7
comp=Z,13nm,1.1s,mb4.5
CLL e 04 59 23.5
CLL epP pP 04 59 58.0 -0.2
CLL Collm 82.21 39⇓ iP P 04 59 17.8 +0.8
comp=Z,9.0nm,0.9s,mb4.4
CLL i PcP PcP 04 59 22.6 +0.7
CLL ex x 04 59 44.0
CLL i pP pP 04 59 58.2 0.0
KBS Kingsbay 82.42 11 eP P 04 59 19.3 +1.7
KBS pmax pmax
comp=Z,129nm,1.6s,mb5.3
KBS Kingsbay 82.42 11 eP P 04 59 19.3 +1.6
comp=Z,129nm,1.6s,mb5.3
FBE Freiberg 82.44 40 eP P 04 59 18.9 +0.7
comp=Z,15nm,0.7s,mb4.7
FBE e 04 59 25.0
GMNA Gemona 82.49 44 P P 04 59 18.4 -0.2
comp=Z,141nm,1.0s,mb5.5
KBA Koelnbreinsper 82.54 43⇑ iP P 04 59 18.4 -0.4
comp=Z,12nm,0.9s,mb4.6,SNR=9.2
KBA Koelnbreinsper 82.54 43⇑ iP P 04 59 18.5 -0.3
KBA pmax pmax
comp=Z,12nm,0.9s,mb4.6
PTCC Patocco-Chiusa 82.57 44 P P 04 59 18.8 -0.2
comp=Z,15nm,0.7s,mb4.8
KHC Kasperske Hory 82.63 41⇓ eP P 04 59 19.7 +0.4
KHC Kasperske Hory 82.63 41 eP P 04 59 19.6 +0.3
KHC ePCP PcP 04 59 25.9 +2.1
RUE Ruedersdorf 82.67 38 eP P 04 59 20.2 +0.9
comp=Z,18nm,0.6s,mb5.0
RUE e 04 59 25.8
ROBS Robic 82.68 44 eP P 04 59 18.8 -0.7
GEC2 GERESS Array S 82.72 42 eP P 04 59 20.1 +0.4
GEC2 pmax pmax
comp=Z,15nm,0.8s,mb4.8
GEC2 GERESS Array S 82.72 42 eP P 04 59 20.1 +0.4
comp=Z,15nm,0.8s,mb4.8
GEC2 e 04 59 26.1
GERES GERESS Array B 82.72 42 P P 04 59 19.8 +0.1
comp=Z,5.5nm,0.7s,mb4.4,baz=259,slow=3.3,SNR=58
BRG Berggiesshubel 82.81 40 eP P 04 59 21.7 +1.6
BRG e pP 05 00 00.9 -0.5
BRG pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BRG Berggiesshubel 82.81 40 eP P 04 59 20.9 +0.8
comp=Z,11nm,0.9s,mb4.6
BRG e 04 59 26.6
BRG epP pP 05 00 01.0 -0.4
BRG Berggiesshubel 82.81 40 eP P 04 59 21.6 +1.5
comp=Z,9.7nm,1.0s,mb4.5
BRG i 04 59 26.9
comp=Z,11nm,0.9s
BRG e pP 05 00 00.9 -0.5
comp=Z,8.7nm,1.1s
VOY Vojsko 82.96 44 eP P 04 59 21.4 +0.4
JAVS Javornik 83.08 45 eP P 04 59 21.7 +0.1
SDPT Sand Point 83.13 325 eP P 04 59 21.4 -0.3
comp=Z,240nm,1.3s,mb5.8
MOA Molln 83.14 43⇓ iP P 04 59 21.8 -0.1
comp=Z,21nm,1.4s,mb4.7,SNR=10
PVCC Panska Ves 83.22 40 eP P 04 59 23.4 +1.1
PVCC ePCP PcP 04 59 28.7 +2.3
PRU Pruhonice 83.23 40 eP P 04 59 22.8 +0.5
PRU ePCP PcP 04 59 28.8 +2.4
BSD Bornholm Skovb 83.26 35 i P P 04 59 28.8 +6.5
BSD pmax pmax
comp=Z,23nm,0.8s,mb5.0
BSD Bornholm Skovb 83.26 35 i P P 04 59 28.8 +6.5
comp=Z,23nm,0.8s,mb5.0
SPB4 Spitsbergen Ar 83.28 12⇑ iP P 04 59 22.9 +0.8
LJU Ljubljana 83.40 44 eP P 04 59 24.0 +0.7
VISS Visnje 83.63 45 i P P 04 59 25.8 +1.3
TREC Trest 83.88 41 eP P 04 59 26.5 +0.9
TREC ePCP PcP 04 59 32.4 +3.1
BOJS Bojanci 83.93 45 i P P 04 59 33.8 +7.8
ARSA Arzberg 84.02 43⇑ iP P 04 59 26.6 +0.3
comp=Z,11nm,1.1s,mb4.5,SNR=7.3
UPC Upice 84.14 40 eP P 04 59 28.5 +1.6
UPC ePCP PcP 04 59 33.3 +2.9
KSP Ksiaz 84.30 40 eP P 04 59 28.3 +0.6
KSP Ksiaz 84.30 40⇑ eP P 04 59 28.1 +0.4
KSP epP PcP 04 59 33.8 +2.7
DPC Dobruska-Polom 84.35 40 eP P 04 59 28.9 +0.9
DPC ePCP PcP 04 59 34.8 +3.4
VRAC Vranov 84.60 41⇓ iP P 04 59 31.0 +1.7

GKP	Gorka Klasztor	84.72	37	eP		P	04 59 31.1	+1.3
GKP	Gorka Klasztor	84.72	37	eP		P	04 59 31.1	+1.3
ZST	Bratislava	85.02	42	eP		P	04 59 31.9	+0.5
MODS	Modra-Piesok	85.12	42	eP		P	04 59 33.2	+1.3
MORC	Moravsky Berou	85.18	41	eP		P	04 59 32.5	+0.4
	comp=Z,12nm,0.9s,mb4.6							
MORC	Moravsky Berou	85.18	41	⇑iP		P	04 59 32.8	+0.7
OKC	Ostrava-Krasne	85.56	40	eP		P	04 59 35.1	+1.0
OKC				ePCP		PcP	04 59 40.3	+3.6
TNA	Tin City	85.99	335	⇑iP		P	04 59 36.7	+0.8
	comp=Z,37nm,1.1s,mb5.0							
VYHS	Vyhne	86.14	42	eP		P	04 59 37.9	+1.0
VYHS				e		pP	05 00 17.1	-1.4
VYHS				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.0							
VYHS	Vyhne	86.14	42	eP		P	04 59 37.9	+1.0
	comp=Z,3.1nm,0.9s,mb4.0							
VYHS				e		pP	05 00 17.1	-1.4
PKSM	Moragy	86.24	44	⇑iP		P	04 59 37.3	-0.2
OJC	Ojcow	86.58	40	eP		P	04 59 39.9	+0.8
ARCES	ARCESS Array B	86.66	20	P		P	04 59 39.3	+0.3
	comp=Z,23nm,0.8s,mb5.0,baz=277,slow=3.9,SNR=48							
ARE0	ARCESS Array S	86.66	20	eP		P	04 59 38.8	-0.2
UNV	Unalaska Valle	86.74	324	⇑iP		P	04 59 39.6	-0.1
	comp=Z,128nm,1.0s,mb5.7							
PSZ	Piszkesteto	86.91	42	P		P	04 59 41.9	+1.2
PSZ				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.4							
PSZ	Piszkesteto	86.91	42	eP		P	04 59 41.5	+0.8
	comp=Z,5.8nm,0.9s,mb4.4							
NIE	Niedzica	87.01	41	eP		P	04 59 43.3	+2.2
KEV	Kevo	87.13	20	ep		P	04 59 40.6	-0.7
	comp=Z,0.8nm,0.4s,mb3.9							
KEV	Kevo	87.13	20	eP		P	04 59 40.6	-0.7
KEV				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.0							
STHS	Stebnicka Huta	87.61	41	eP		P	04 59 46.3	+2.3
STHS				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.3							
STHS	Stebnicka Huta	87.61	41	eP		P	04 59 46.3	+2.3
	comp=Z,5.2nm,0.9s,mb4.4							
STHS				e			05 00 19.8	
CRVS	Cervenica-Dubn	87.82	41	eP		P	04 59 46.4	+1.4
CRVS				e			04 59 53.1	
GAMB	Gambell	87.88	334	⇑iP		P	04 59 45.9	+0.9
	comp=Z,60nm,0.9s,mb5.4							
SUW	Suwalki	88.15	36	eP		P	04 59 47.7	+1.3
SUW	Suwalki	88.15	36	eP		P	04 59 47.7	+1.3
VNA1	Neumayer--Stat	88.18	162	eP		P	04 59 46.4	+0.3
VNA1				e			04 59 49.5	
VNA1				e			04 59 52.2	
VNA1				e			04 59 57.1	
VNA1				e		pP	05 00 28.2	+0.3
VNA1				e			05 00 37.1	
VNA1				e			05 00 42.9	
VNA1				e			05 00 47.0	
VNA1				e			05 00 56.4	
KOLS	Kolonicke sedl	88.35	41	eP		P	04 59 51.9	+4.4
BZS	Buzias	88.37	44	⇑iP		P	04 59 49.2	+1.5
FINES	FINESS Array B	88.39	28	P		P	04 59 48.0	+0.6
	comp=Z,8.5nm,0.9s,mb4.6,baz=240,slow=1.5,SNR=22							
FINES				PKKPbc		PKKPbc	05 17 29.1	-2.8
	comp=Z,1.0nm,0.8s,baz=132,slow=2.8,SNR=6.0							
FINES				LR		LR	05 34 34.9	
	comp=Z,47nm,19.2s,baz=110,slow=32							
VNA2	Neumayer--Watz	88.56	163	eP		P	04 59 47.6	-0.3
VNA2				e			04 59 51.0	
VNA2				e			04 59 53.0	
VNA2				e			04 59 57.9	
VNA2				e		pP	05 00 29.3	-0.4
VNA2				e			05 00 38.3	
VNA2				e			05 00 43.8	
VNA2				e			05 00 48.8	
VNA2				e			05 00 58.2	
VNA2				e			05 17 27.9	
DRGR		88.95	43	⇑iP		P	04 59 51.7	+1.3
VSU	Vasula	89.31	31	⇑iP		P	04 59 51.9	+0.1
LVV	L'vov	89.34	40	eP		P	04 59 58.7	+6.6
APA	Apatity	89.95	22	⇑eP		P	04 59 55.0	+0.4
APA				pmax		pmax		
	comp=Z,18nm,1.2s,mb4.9							
SNAA	Sanae	90.20	163	eP		pP	05 00 37.1	-0.3
SNAA				e			05 00 46.6	
SNAA				e			05 00 52.3	
SNAA				e			05 00 56.9	
SNAA				e			05 01 04.3	
LVZ	Lovozero	90.30	21	P		P	04 59 56.8	+0.6
	comp=Z,161nm,0.9s,mb6.0,SNR=5.5							
JOF	Joensuu	90.44	26	ep		P	04 59 53.9	-3.1
	comp=Z,0.6nm,0.4s,mb3.9							
JOF	Joensuu	90.44	26	eP		P	04 59 53.9	-3.1
JOF				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb4.1							
BURAR	Bucovina Array	90.50	42	⇑iP		P	04 59 58.7	+1.1
MNK	Minsk	90.74	35	eP		P	04 59 59.0	+0.5
VOIR		90.78	44	⇑iP		P	05 00 03.2	+4.3
MLR	Muntele Rosu	91.39	44	⇑iP		P	05 00 02.2	+0.4
AKASG	Malin Array Be	92.43	38	P		P	05 00 06.0	-0.4
AKASG				*PP		pP	05 00 47.0	-1.3
AKASG							05 17 19.0	
AKASG	Malin Array Be	92.43	38	P		P	05 00 06.0	-0.5
AKASG				pP		pP	05 00 47.0	-1.3
AKASG				PKKPbc		PKKPbc	05 17 19.0	-2.3
AKASG				LR		LR	05 38 30.3	
AKASG	Malin Array Be	92.43	38	P		P	05 00 06.0	-0.5
	comp=Z,0.5nm,0.5s,mb3.8,baz=270,slow=4.7,SNR=8.4							
AKASG				pP		pP	05 00 47.0	-1.3
	comp=Z,0.2nm,0.3s,baz=269,slow=4.6,SNR=2.6							
AKASG				PKKPbc		PKKPbc	05 17 19.0	-2.3
	comp=Z,0.7nm,0.6s,baz=92,slow=2.7,SNR=6.6							
AKASG				LR		LR	05 38 30.3	
	comp=Z,104nm,18.0s,baz=290,slow=33							
AKBB	Malin Array Si	92.43	38	eP		P	05 00 06.7	+0.3
TMCR	Tamitsa	92.89	24	eP		P	05 00 07.8	-0.5
BILL	Bilibino	94.78	341	⇑eP		P	05 00 17.4	+0.5
BILL				i			05 04 06.4	
BILL				eS		SKSac	05 10 36.3	0.0
BILL				ePS		PS	05 12 54.1	+0.3
BILL				pmax		pmax		
	comp=Z,48nm,1.6s,mb5.5							
BILL	Bilibino	94.78	341	⇑iP		P	05 00 17.2	+0.3
	comp=Z,46nm,1.3s,mb5.5							
OBN	Obninsk	95.42	33	⇓eP		P	05 00 20.5	+0.4
OBN				i S		SKSac	05 10 33.3	-6.9
OBN				ePS		PS	05 12 43.7	-18
OBN				eSS		SS	05 17 50.5	-2.2
OBN				pmax		pmax		
	comp=Z,7.0nm,0.4s,mb5.2							
QSPA	South Pole Qui	96.76	180	PKKPbc		PKKPbc	05 17 07.7	-3.4
	comp=Z,1.2nm,0.8s,baz=99,slow=5.9,SNR=6.1							
TIXI	Tiksi	100.45	353	eP		Pdif	05 00 42.0	-0.7
TIXI				pmax		pmax		
	comp=Z,5.0nm,1.0s							
TIXI	Tiksi	100.45	353	ePdif		Pdif	05 00 41.9	-0.7
	comp=Z,7.9nm,1.2s							
SEY	Seymchan	102.47	341	⇑eP		Pdif	05 00 53.2	+1.6
VNDA	Vanda	103.81	191	PKKPbc		PKKPbc	05 16 46.0	-4.8
	comp=Z,0.3nm,0.5s,baz=291,slow=5.1,SNR=5.9							
AKTO	Aktyubinsk	109.03	31	PKKPbc		PKKPbc	05 16 30.5	-3.4
	comp=Z,2.5nm,0.7s,baz=100,slow=6.9,SNR=8.0							
BRVK	Borovoye	112.75	23	ePKIKP		PKiKP	05 05 32.7	+1.3
BVAR	Borovoye Array	112.82	23	PKiKP		PKiKP	05 05 31.5	-0.1
BVAR				PKKPbc		PKKPbc	05 16 18.5	-3.2
	comp=Z,0.8nm,0.6s,baz=128,slow=2.4,SNR=3.7							
ZAA0	Zalesovo Array	116.68	15	ePKPdf		PKPdf	05 05 38.9	-0.1
ZALV	Zalesovo Beam	116.68	15	PKP		PKPdf	05 05 39.0	+0.1
	comp=Z,6.1nm,0.4s,baz=287,slow=2.5,SNR=25							
ZALV				SKP			05 08 59.9	
	comp=Z,1.9nm,0.6s,baz=288,slow=1.4,SNR=3.8							
ZAL	Zalesovo	116.69	15	PKIKP		PKPdf	05 05 39.0	+0.1
EKS2	Erkin-Say	122.22	29	ePKPdf		PKPdf	05 05 50.9	+1.0
MK31	Makanchi Array	122.31	20	ePKIKP		PKPdf	05 05 49.8	-0.2
MKAR	Makanchi Array	122.31	20	PKP		PKPdf	05 05 49.9	-0.1
MKAR				SKP			05 09 11.2	
MKAR	Makanchi Array	122.31	20	PKP		PKPdf	05 05 49.9	0.0
	comp=Z,3.6nm,0.5s,baz=337,slow=2.7,SNR=24							
MKAR				SKP			05 09 11.2	
	comp=Z,0.9nm,0.6s,baz=350,slow=2.1,SNR=4.0							
AAK	Ala-Archa	122.58	28	ePKIKP		PKPdf	05 05 51.0	+0.4
AAK	Ala-Archa	122.58	28	PKP		PKPdf	05 05 51.3	+0.7
	comp=Z,2.7nm,0.4s,baz=227,slow=3.7,SNR=5.7							
AAK				SKP			05 09 12.8	
	comp=Z,2.6nm,0.7s,baz=226,slow=5.0,SNR=3.5							
TKM2	Tokmak 2	122.87	27	ePKIKP		PKPdf	05 05 52.0	+0.8
UCH	Uchtor	122.91	28	ePKPdf		PKPdf	05 05 53.3	+2.1
ZAK	Zakamensk	123.01	3	ePKIKP		PKPdf	05 05 51.3	+0.1
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
ZAK				pmax		pmax		
	comp=Z,2.0nm,1.4s							
ZAK				pmax		pmax		
	comp=Z,3.0nm,1.2s							
MDJ	Mudanjiang	125.01	341	PKP		PKPdf	05 05 54.5	-0.7
MDJ				PP		PP	05 07 44.0	-0.9
MDJ				LR		LR		
	comp=N,68nm,35.9s							
MDJ				LR		LR		
	comp=E,100nm,34.5s							
MDJ				LR		LR		
	comp=Z,82nm,29.9s							
SONM	Songino Array	125.65	1	PKP		PKPdf	05 05 57.5	+1.1
	comp=Z,5.9nm,0.6s,baz=317,slow=1.1,SNR=8.4							
SONM				SKP			05 09 17.9	
	comp=Z,2.4nm,0.6s,baz=35,slow=3.6,SNR=4.2							
WMQ	Urumqi	126.69	17	PKP		PKPdf	05 06 00.0	+1.5
WMQ				PP		PP	05 08 04.0	+8.0
WMQ				SKS		SKSdf	05 12 54.0	-0.7
WMQ				SKKS		SKKSac	05 14 38.0	-0.3
WMQ				PP		PP		
	comp=Z,75nm,8.0s							
CN2	Changchun	127.02	343	ePKP		PKPdf	05 06 00.8	+1.7
CN2				ePP		PP	05 08 04.4	+6.2
CN2				PP		PP		
	comp=Z,100nm,5.0s							
CN2				LR		LR		
	comp=N,220nm,22.0s							
CN2				LR		LR		
	comp=E,140nm,22.0s							
CN2				LR		LR		
	comp=Z,200nm,23.0s							
MAJO	Matsushiro	128.00	328	ePKIKP		PKPdf	05 06 01.0	-0.2
MAT	Matsushiro	128.00	328	PKP		PKPdf	05 06 01.1	-0.1
MJAR	Matsushiro Arr	128.00	328	PKIKP		PKPdf	05 06 01.2	0.0
MJAR							05 06 42.8	
MJAR	Matsushiro Arr	128.00	328	PKP		PKPdf	05 06 01.2	0.0
	comp=Z,4.9nm,1.0s,baz=82,slow=1.0,SNR=15							
MJAR				pPKP		pPKPdf	05 06 42.8	-2.2
	comp=Z,2.6nm,1.0s,baz=150,slow=0.3,SNR=3.1							
MJAR				SKPbc			05 09 05.7	
	comp=Z,2.0nm,0.9s,baz=50,slow=2.2,SNR=3.3							
KSRS	Korea Array	131.92	338	PKP		PKPdf	05 06 06.6	-2.0
	comp=Z,3.2nm,0.6s,baz=344,slow=0.8,SNR=11							
KSRS				PP		PP	05 08 29.7	-0.5
	comp=Z,3.9nm,0.9s,baz=16,slow=5.5,SNR=7.3							
KSRS				SKPbc		SKPbc	05 09 19.8	+0.5
	comp=Z,4.7nm,0.9s,baz=23,slow=3.8,SNR=6.5							
CNB	Canberra Magne	131.94	228	eP		PKPdf	05 06 09.7	+1.0
	comp=Z,15nm,1.2s							
CNB				eSKP			05 09 19.9	
HHC	Hu-ho-hao-te	132.46	355	ePKP		PKPdf	05 06 10.4	+0.9
HHC				XPKP			05 07 09.7	
HHC				PP		PP	05 08 38.5	+5.2
HHC				PKS			05 09 44.6	
HHC				SKS		SKSdf	05 13 04.6	-0.8
HHC				SKKS		SKKSac	05 15 13.6	-0.6
HHC				PP		PP		
	comp=Z,175nm,7.8s							
HHC				LR		LR		
	comp=N,252nm,20.1s							
HHC				LR		LR		
	comp=E,693nm,21.1s							
HHC				LR		LR		
	comp=Z,259nm,21.4s							
BJI	Beijing	132.70	351	PKP		PKPdf	05 06 10.3	+0.3
BJI				XPKP			05 07 11.1	
BJI				PP		PP	05 08 33.2	-1.7
BJI				SS		SS	05 25 59.5	-1.7
BJI				PP		PP		
	comp=Z,227nm,5.9s							
GTA	Gaotai	133.58	8	PKP		PKPdf	05 06 13.0	+1.3
GTA				PP		PP	05 08 44.3	+3.8
GTA				PKS			05 09 48.1	
GTA				SKS		SKSdf	05 13 07.0	-0.4
GTA				SKKS		SKKSac	05 15 18.9	-2.1
GTA				SS		SS	05 26 11.4	-0.4
GTA				PP		PP		
	comp=Z,54nm,4.2s							
GTA				LR		LR		
	comp=N,120nm,17.5s							
GTA				LR		LR		
	comp=E,161nm,17.5s							
GTA				LR		LR		
	comp=Z,100nm,16.7s							
LZH	Lanzhou	137.28	4	ePKP		PKPdf	05 06 20.9	+2.2
LZH				XPKP			05 07 19.7	
LZH				PPP			05 12 16.2	
LZH				SKS		SKSdf	05 13 09.0	-5.0
LZH				SKKS		SKKSac	05 15 45.0	+1.6
LZH				PP		PP		
	comp=Z,391nm,6.8s							
LZH				LR		LR		
	comp=E,482nm,19.2s							
LZH				LR		LR		
	comp=Z,885nm,20.1s							
STKA	Stephens Creek	139.28	228	ePKP		PKPdf	05 06 16.0	-6.4
	comp=Z,6.6nm,0.7s							
STKA				eSKP			05 09 42.8	
STKA	Stephens Creek	139.28	228	ePKP		PKPdf	05 06 16.0	-6.4
STKA				PKP		PKPdf	05 06 23.2	+0.8
STKA				SKPbc		SKPbc	05 09 42.0	-0.3
STKA				eSKP			05 09 42.8	
STKA	Stephens Creek	139.28	228	PKP		PKPdf	05 06 23.2	+0.8
	comp=Z,7.7nm,0.7s,baz=108,slow=4.4,SNR=9.3							
STKA				SKPbc		SKPbc	05 09 42.0	-0.3
	comp=Z,19nm,0.9s,baz=101,slow=4.9,SNR=12							
XAN	Xi'an	139.40	358	PKP		PKPdf	05 06 18.6	-4.0
CTA	Charters Tower	139.81	247	ePKP			05 06 14.4	
	comp=Z,6.1nm,1.0s							
CTA				eSKP			05 09 44.7	
CTA	Charters Tower	139.81	247	PKhKP			05 06 15.5	
	comp=Z,3.0nm,0.6s,baz=211,slow=5.9,SNR=4.1							
CTA				SKPbc		SKPbc	05 09 44.1	+0.1
	comp=Z,20nm,1.0s,baz=91,slow=3.5,SNR=6.9							
NJ2	Nanjing	139.82	344	ePKP		PKPdf	05 06 21.0	-2.5
NJ2				XPKP			05 07 20.8	
NJ2				PP		PP	05 09 23.0	+3.4
NJ2				PKS			05 09 52.0	
NJ2				PPP			05 12 27.0	
NJ2				SKS		SKSdf	05 13 15.0	-3.4
NJ2				PP		PP		
	comp=Z,240nm,10.8s							
NJ2				LR		LR		
	comp=N,4μm,32.2s							
NJ2				LR		LR		
	comp=E,2μm,34.6s							
NJ2				LR		LR		
	comp=Z,2μm,36.2s							
LSA	Lhasa	140.65	22	ePKP		PKPdf	05 06 21.2	-3.8
LSA	Lhasa	140.65	22	ePKPdf		PKPdf	05 06 26.6	+1.5
CD2	Chengdu	142.42	5	PKP		PKPdf	05 06 25.2	-2.9
CD2				APKP			05 07 08.7	
CD2				XPKP			05 07 27.2	
CD2				PP		PP	05 09 38.2	+3.0
CD2				PKS			05 09 58.8	
CD2				SS		SS	05 27 52.6	-3.5
CD2				PP		PP		
	comp=Z,120nm,10.2s							
CD2				LR		LR		
	comp=N,250nm,24.2s							
CD2				LR		LR		
	comp=E,270nm,21.2s							
CD2				LR		LR		
	comp=Z,180nm,18.6s							
HYB	Hyderabad	142.95	49	ePKIKP		PKPdf	05 06 27.0	-2.4
HYB	Hyderabad	142.95	49	i PKP		PKPdf	05 06 27.0	-2.4
SHL	Shillong	144.63	24	⇑iP		PKPdf	05 06 31.5	-0.7
IMP	Imphal	146.13	22	eP		PKPdf	05 06 36.0	+1.2
IMP				eS			05 07 34.0	
NACB	Ninganchiao	146.17	336	ePKPbc		PKPbc	05 06 36.7	+0.7
GYA	Guiyang	146.99	1	i PKP		PKPdf	05 06 33.6	-2.6
GYA				PKP2		PKPab	05 06 40.7	+0.6
GYA				APKP			05 07 20.0	
GYA				XPKP			05 07 37.4	
GYA				PP		PP	05 10 06.2	+3.8
GYA				PKS			05 10 08.6	
GYA				SKS		SKSdf	05 13 24.9	-4.7
GYA				SKKS		SKKSac	05 16 36.6	-3.0
GYA				SS		SS	05 28 48.8	+0.6
GYA				PP		PP		
	comp=Z,130nm,8.4s							
GYA				LR		LR		
	comp=N,270nm,24.6s							
GYA				LR		LR		
	comp=E,210nm,25.5s							
GYA				LR		LR		
	comp=Z,250nm,24.3s							
KMI	Kunming	148.04	8	PKP		PKPdf	05 06 36.5	-1.4
KMI				PKP2		PKPab	05 06 45.0	+0.8
KMI				APKP			05 07 21.7	
KMI				PKS			05 10 10.2	
KMI				PP		PP	05 10 11.5	+3.0
KMI				SKKS		SKKSac	05 16 42.6	-2.9
KMI				SS		SS	05 29 00.6	+0.5
KMI				PP		PP		
	comp=Z,122nm,3.9s							
KMI				LR		LR		
	comp=Z,58nm,22.4s							
FORT	Forrest	149.06	217	eP		PKPdf	05 06 42.5	+3.1
	comp=Z,56nm,0.7s							
ASAR	Alice Springs	149.26	234	PKP		PKPdf	05 06 40.2	+0.3
	comp=Z,45nm,0.6s,baz=117,slow=3.3,SNR=180							
ASAR				PKPbc		PKPbc	05 06 43.6	-0.8
	comp=Z,45nm,0.6s,baz=114,slow=3.6,SNR=317							
ASAR				pPKP		pPKPdf	05 07 23.3	-0.5
	comp=Z,20nm,0.8s,baz=128,slow=3.0,SNR=3.0							
ASAR				SKPbc		SKPbc	05 10 06.8	+0.6
	comp=Z,9.2nm,0.9s,baz=132,slow=2.9,SNR=6.0							
PALK	Pallekele	150.20	63	ePKPbc		PKPbc	05 06 47.3	+0.4
PALK				ePKPab		PKPab	05 06 53.3	-0.3
WB2	Warramunga Arr	150.50	241	ePKP		PKPbc	05 06 47.0	-0.4
WB2				eSKKS		SKKSac	05 16 54.4	-5.4
WB2	Warramunga Arr	150.50	241	ePKPdf		PKPdf	05 06 42.2	+0.2
WB2				ePKPbc		PKPbc	05 06 47.0	-0.5
WB2				eSKKS		SKKSac	05 16 54.4	-5.4
WRAB	Tennant Creek	150.50	241	i PKIKP		PKPdf	05 06 41.8	-0.1
WRAB	Tennant Creek	150.50	241	ePKPdf		PKPdf	05 06 42.3	+0.4
WRAB				ePKPbc		PKPbc	05 06 46.9	-0.6
WRA	Warramunga Arr	150.51	241	PKP		PKPdf	05 06 42.4	+0.5
	comp=Z,27nm,0.5s,baz=110,slow=2.5,SNR=89							
WRA				PKPbc		PKPbc	05 06 46.7	-0.7
	comp=Z,27nm,0.5s,baz=109,slow=2.4,SNR=163							
WRA				pPKPbc		pPKPbc	05 07 27.8	-3.2
	comp=Z,29nm,0.8s,baz=109,slow=2.1,SNR=2.7							
NWAO	Narrogin (SRO)	152.31	199	PKPbc		PKPbc	05 06 51.5	+0.3
	comp=Z,7.5nm,0.8s,baz=145,slow=5.5,SNR=5.5							
CHG	Chiang Mai	153.35	17	⇑P		PKPbc	05 06 54.0	+0.1
	comp=Z,22nm,0.8s							
CHTO	Chiang Mai	153.35	17	ePKPdf		PKPdf	05 06 46.9	+0.6
CHTO				ePKPbc		PKPbc	05 06 53.8	-0.2
CHTO				ePKPab		PKPab	05 07 04.2	-2.1
KLBR	Kellerberrin	153.36	201	eP		PKPdf	05 06 48.0	+2.1
	comp=Z,44nm,1.2s							
MUN	Mundaring	153.50	198	eP		PKPbc	05 06 56.0	+2.1
CM31	Chiang Mai Arr	153.69	18	ePKPbc		PKPbc	05 06 55.2	+0.5
NANT	Nan	153.84	14	⇑P		PKPdf	05 06 43.0	-4.0
	comp=Z,125nm,1.0s							
QIZ	Qiongzhong	154.25	354	ePKPbc		PKPbc	05 06 56.3	+0.5
QIZ				ePKPab		PKPab	05 07 10.6	+0.4
KAKA	Kakadu	154.36	255	ePKP		PKPdf	05 06 56.2	+8.4
	comp=Z,22nm,0.9s							
FITZ	Fitzroy Crossi	158.71	236	e		PKPab	05 07 29.6	0.0
FITZ	Fitzroy Crossi	158.71	236	PKP		PKPdf	05 06 53.4	+0.1
FITZ				PKPab		PKPab	05 07 29.6	0.0
FITZ	Fitzroy Crossi	158.71	236	PKP		PKPdf	05 06 53.4	+0.1
	comp=Z,3.1nm,1.1s,baz=76,slow=4.2,SNR=3.1							
FITZ				PKPab		PKPab	05 07 29.6	0.0
	comp=Z,17nm,0.8s,baz=126,slow=4.3,SNR=22							
KULM	Kulim	166.41	28	ePKPdf		PKPdf	05 07 01.5	+0.5
PSI	Prapat	167.48	41	PKP		PKPdf	05 07 03.1	+1.3
	comp=Z,10nm,1.0s,baz=191,slow=8.7,SNR=6.7							
PSI				PKPab		PKPab	05 08 10.6	+2.5
	comp=Z,7.2nm,0.8s,baz=177,slow=13,SNR=3.0							

ISCJB ***06*** *04:52:02.7±0.6, 3842N±003×2187E±005, h10km±4km, Error ellipse: s-maj=6.7km s-min=3.6km az=29.6*
CSEM ***06*** *04:52:03.9±0.1, 3844N×2191E, h12km, ML2.7, Error ellipse: s-maj=4.0km s-min=2.4km az=108.0*
NEIC ***06*** *04:52:03.8, 3845N×2188E, h24km, MD2.9(ATH), After ATH.*
ATH ***06*** *04:52:04.2, 3844N×2189E, h9km±3km, MD2.9/6*
THE ***06*** *04:52:04.1, 3845N×2189E, h5km, ML2.7*
ISC 06 04:52:03.6±0.5, 3843N±003×2190E±004, h14km±4km, n21, σ0°77/34, 2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.15	181	ePg	Pg	04 52 07.5	0.0
SELA				eSg	Sg	04 52 10.4	+0.2
EVR	Evrytania	0.49	352	ePG	Pg	04 52 13.2	-0.1
EVR				eSB	Sb	04 52 20.5	-0.5
EVR	Evrytania	0.49	352	⇓Pb	Pg	04 52 13.2	-0.1
EVR				Sb	Sb	04 52 21.3	+0.3
RLS	Riolos of Patr	0.50	222	ePB	Pb	04 52 14.0	-0.2
RLS				eSB	Sb	04 52 21.3	0.0
RLS	Riolos of Patr	0.50	222	⇓Pn	Pg	04 52 13.8	+0.2
RLS				Sn	Sg	04 52 22.2	+1.9
AGG	Agios Georgios	0.68	30	ePg	Pg	04 52 16.1	-0.8
AGG				eSg	Sg	04 52 26.8	+0.9
AGG	Agios Georgios	0.68	30	ePg	Pg	04 52 16.1	-0.8
AGG				eSg	Sg	04 52 26.8	+0.9
LKR	Lokris	0.89	75	ePg	Pg	04 52 20.7	-0.2
LKR				eSg	Sg	04 52 34.0	+1.4
LKR	Lokris	0.89	75	Pn	Pn	04 52 22.2	+0.5
LKR				Sn	Sn	04 52 33.7	-0.7
LKR	Lokris	0.89	75	ePB	Pb	04 52 21.7	+0.9
LKR

comp=E,60nm,2.0s
WMQ Urumqi 10.61 23 *e*P **Pn 05 04 00.0 +1.2**
WMQ AMB AMB
comp=Z,39nm,1.0s
KBL Kabul 10.69 276 *e*Pn **Pn 05 03 57.8 -2.1**
MK31 Makanchi Array 12.61 1 *e*P **Pn 05 04 24.6 -1.5**
MKAR Makanchi Array 12.61 1 P **Pn 05 04 24.9 -1.2**
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 12.61 1 Pn **Pn 05 04 24.9 -1.2**
MKAR Makanchi Array 12.61 1 Pn **Pn 05 04 24.9 -1.2**
comp=Z,1.4nm,0.3s,baz=183,slow=13,SNR=116
KURK Kurchatov 16.71 353 *e*P **Pn 05 05 22.2 +1.7**
KURK pmax pmax
comp=Z,15nm,0.9s
KURK Kurchatov 16.71 353 *e*P **Pn 05 05 22.2 +1.7**
comp=Z,15nm,0.9s
HYB Hyderabad 16.97 191 *e*P **Pn 05 05 23.0 -0.9**
HYB Hyderabad 16.97 191 *i*P **Pn 05 05 23.0 -0.9**
ZAL Zalesovo 19.86 5 P **Pn 05 05 56.9 -1.9**
ZALV Zalesovo Beam 19.87 5 P **Pn 05 05 56.9 -2.0**
ZALV Zalesovo Beam 19.87 5 P **Pn 05 05 56.9 -2.0**
comp=Z,0.1nm,0.3s,baz=186,slow=7.2,SNR=3.0
BVAR Borovoye Array 20.57 340 P **P 05 06 04.9 +0.2**
BVAR pmax pmax
comp=Z,7.0nm,0.7s
BVAR Borovoye Array 20.57 340 P **P 05 06 04.9 +0.2**
comp=Z,6.6nm,0.7s,baz=144,slow=11,SNR=16
BRVK Borovoye 20.63 340 *e*P **P 05 06 06.1 +0.7**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 20.63 340 *e*P **P 05 06 06.1 +0.7**
comp=Z,19nm,1.0s
NVS Novosibirsk 20.68 2 *e*P **P 05 06 03.1 -2.8**
NVS *e**PP 05 06 36.2
NVS pmax pmax
comp=Z,9.0nm,1.4s
NVS pmax pmax
comp=N,12nm,1.8s
CHRT Chiangrai 21.28 127 ⇓P **P 05 06 14.0 +1.4**
comp=N,153nm,1.3s,mb5.2
CHTO Chiang Mai 21.51 131 *e*P **P 05 06 14.5 -0.6**
CHTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
CHTO Chiang Mai 21.51 131 *e*P **P 05 06 14.5 -0.7**
comp=Z,3.6nm,0.7s,mb3.9
AKASG Malin Array Be 41.35 310 P **P 05 09 09.8 -1.6**
comp=Z,0.1nm,0.3s,baz=81,slow=7.5,SNR=3.9
JOF Joensuu 42.46 328 *e*p **P 05 09 17.0 -3.3**
comp=Z,0.9nm,0.4s,mb3.8
JOF Joensuu 42.46 328 *e*P **P 05 09 17.0 -3.3**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb3.8
FINES FINESS Array B 44.46 325 P **P 05 09 36.4 +0.1**
FINES pmax pmax
comp=Z,2.0nm,0.9s
FINES FINESS Array B 44.46 325 P **P 05 09 36.4 +0.1**
FINES FINESS Array B 44.46 325 P **P 05 09 36.4 +0.1**
comp=Z,2.1nm,0.9s,mb3.9,baz=107,slow=11,SNR=7.1
MJAR Matsushiro Arr 45.38 70 P **P 05 09 44.4 +0.4**
MJAR pmax pmax
comp=Z,1.0nm,0.8s
MJAR Matsushiro Arr 45.38 70 P **P 05 09 44.4 +0.4**
comp=Z,1.2nm,0.8s,mb3.8,baz=286,slow=7.2,SNR=3.2
ARCES ARCESS Array B 46.80 336 P **P 05 09 54.6 -0.2**
ARCES pmax pmax
comp=Z,1.0nm,0.8s
ARCES ARCESS Array B 46.80 336 P **P 05 09 54.6 -0.2**
comp=Z,1.2nm,0.8s,mb3.9,baz=79,slow=6.3,SNR=4.9
GERES GERESS Array B 51.49 308 P **P 05 10 31.2 +0.3**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 51.49 308 P **P 05 10 31.2 +0.2**
comp=Z,0.8nm,0.7s,mb3.8,baz=75,slow=7.3,SNR=10
NOA NORSAR Array B 51.58 324 P **P 05 10 31.9 +0.5**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 51.58 324 P **P 05 10 31.9 +0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=87,slow=7.2,SNR=3.8
CDF Champ du Feu 55.75 309 ⇑*i*P **P 05 11 02.3 +0.2**
HINF Hinterlalfeld 56.18 308 ⇑*i*P **P 05 11 05.3 +0.1**
comp=Z,5.4nm,0.8s,mb4.4
HINF Hinterlalfeld 56.18 308 ⇑*i*P **P 05 11 05.3 +0.1**
HINF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
HINF Hinterlalfeld 56.18 308 ⇑*i*P **P 05 11 05.3 +0.1**
comp=Z,2.7nm,0.8s,mb4.3
LPG La Plagne 56.89 306 ⇑*i*P **P 05 11 11.2 +0.9**
comp=Z,9.2nm,0.7s,mb4.6
LPG La Plagne 56.89 306 ⇑*i*P **P 05 11 11.2 +0.9**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LPG La Plagne 56.89 306 ⇑*i*P **P 05 11 11.2 +0.9**
comp=Z,4.6nm,0.7s,mb4.6
LPL La Plagne 56.90 306 *e*P **P 05 11 11.2 +0.9**
comp=Z,14nm,0.8s,mb4.8
LPL La Plagne 56.90 306 *e*P **P 05 11 11.2 +0.9**
LPL pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
LPL La Plagne 56.90 306 *e*P **P 05 11 11.2 +0.9**
comp=Z,7.3nm,0.8s,mb4.8
CABF La Chapelle 57.01 307 ⇑*i*P **P 05 11 11.4 +0.3**
MBDF Montbardon 57.10 305 ⇑*i*P **P 05 11 11.5 -0.3**
MEZF Maizieres J'vi 57.15 310 ⇑*i*P **P 05 11 12.6 +0.5**
comp=Z,19nm,1.1s,mb4.7
MEZF Maizieres J'vi 57.15 310 ⇑*i*P **P 05 11 12.6 +0.5**
comp=Z,19nm,1.1s,mb5.0
SMF Signal de Mont 58.48 308 ⇑*i*P **P 05 11 21.3 -0.1**
comp=Z,2.9nm,0.6s,mb4.2
SMF Signal de Mont 58.48 308 ⇑*i*P **P 05 11 21.3 -0.1**
SMF pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
SMF Signal de Mont 58.48 308 ⇑*i*P **P 05 11 21.3 -0.1**
comp=Z,1.5nm,0.6s,mb4.2
VIVF Saint-Julien-l 58.48 306 ⇑*i*P **P 05 11 21.6 +0.1**
comp=Z,19nm,1.2s,mb4.7
VIVF Saint-Julien-l 58.48 306 ⇑*i*P **P 05 11 21.6 +0.1**
VIVF pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
VIVF Saint-Julien-l 58.48 306 ⇑*i*P **P 05 11 21.6 +0.1**
comp=Z,9.4nm,1.2s,mb4.7
AVF Avril sur Loir 58.75 308 ⇑*i*P **P 05 11 23.2 -0.1**
GRR Gorron 60.93 311 ⇑*i*P **P 05 11 38.0 -0.3**
WRA Warramunga Arr 73.34 129 P **P 05 12 57.5 +0.2**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 73.34 129 P **P 05 12 57.5 +0.2**
comp=Z,1.0nm,0.6s,mb3.9,baz=326,slow=6.0,SNR=5.0
ASAR Alice Springs 75.79 132 P **P 05 13 12.1 +0.7**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 75.79 132 P **P 05 13 12.1 +0.6**
comp=Z,0.7nm,0.6s,mb3.8,baz=317,slow=5.4,SNR=5.1
BOSA Boshof 82.31 228 P **P 05 13 47.2 +0.2**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BOSA Boshof 82.31 228 P **P 05 13 47.2 +0.2**
comp=Z,2.0nm,0.7s,mb4.1,baz=54,slow=4.2,SNR=4.6
YKA Yellowknife Ar 82.75 8 P **P 05 13 48.3 -0.5**
comp=Z,1.4nm,0.7s,mb4.1,baz=339,slow=5.4,SNR=26

*NEIC **06** 05:08:44.5, 3170S×7205W, h8km, ML3.4(GUC), After GUC.*
GUC 06 05:08:44.5±0.9, 3170S×7205W, h8km±6km, MD3.7, ML3.4, 2C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.04**	**60**	⇑*i*P		Pg	05 09 03.5	-1.0
CMCH				*i* S		Sg	05 09 17.9	-0.2
CMCH	**Combarbala**	**1.04**	**60**	⇑*i*P		Pg	05 09 03.5	-1.0
CMCH				*i* S		Sg	05 09 17.9	-0.2
CMCH				AML		AML	05 09 20.0	
	comp=N,6μm,0.8s							
OVCH	**Ovalle**	**1.31**	**34**	⇓*i*P		Pn	05 09 08.0	-1.1
OVCH				*i* S		Sb	05 09 26.1	-0.2
OVCH	**Ovalle**	**1.31**	**34**	⇓*i*P		Pn	05 09 08.0	-1.1
OVCH				*i* S		Sb	05 09 26.1	-0.2
OVCH				AML		AML	05 09 34.2	
	comp=N,1μm,0.5s							
ROCH	**El Roble**	**1.54**	**145**	*e*P		Pn	05 09 12.1	-0.1
ROCH				*i* S		Sn	05 09 33.0	+0.6
JACH	**Jahuel**	**1.58**	**129**	*e*P		Pn	05 09 12.3	-0.4
JACH				*i* S		Sn	05 09 33.3	+0.1
PEL	**Peldehue**	**1.84**	**142**	⇓*i*P		Pn	05 09 16.2	-0.2
PEL				*i* S		Sn	05 09 41.0	+1.2
PEL				AML		AML	05 09 46.7	
	comp=E,840nm,0.3s							
TLL	**Tololo Astrono**	**1.87**	**35**	*e*P		Pn	05 09 17.3	+0.5
TLL				*e*S		Sn	05 09 42.4	+1.9
TLL	**Tololo Astrono**	**1.87**	**35**	*e*P		Pn	05 09 17.3	+0.5
TLL				*e*S		Sn	05 09 42.4	+1.9
TLL				AML		AML	05 09 49.6	
	comp=N,526nm,0.5s							
RCDM	**Rinconada Maip**	**2.07**	**150**	AML		AML	05 09 55.7	
	comp=E,212nm,0.3s							
CLCH	**Cerro Calan**	**2.12**	**143**	*i* P		Pn	05 09 21.0	+0.9
CLCH				*i* S		Sn	05 09 48.8	+2.1
CLCH				AML		AML	05 09 57.5	
	comp=E,459nm,0.6s							
FCH	**Farellones**	**2.20**	**138**	*e*P		Pn	05 09 21.1	-0.1
FCH				*i* S		Sn	05 09 50.0	+1.4
FCH				AML		AML	05 09 56.5	
	comp=E,168nm,0.3s							
ANTU	**Antumapu**	**2.21**	**148**	AML		AML	05 09 59.5	
	comp=N,296nm,0.7s							
PCH	**Pirque**	**2.31**	**146**	⇓*i*P		Pn	05 09 23.8	+1.0
PCH				*i* S		Sn	05 09 54.1	+2.7
CHCH	**Chadas Angostu**	**2.52**	**152**	*i* P		Pn	05 09 26.3	+0.7
CHCH				*i* S		Sn	05 09 58.5	+2.0
LMEL	**Las Melosas**	**2.65**	**144**	*i* P		Pn	05 09 27.6	+0.2
LMEL				*i* S		Sn	05 10 01.0	+1.4
LMEL	**Las Melosas**	**2.65**	**144**	*i* P		Pn	05 09 27.6	+0.2
LMEL				*i* S		Sn	05 10 01.0	+1.4
LMEL				AML		AML	05 10 13.1	
	comp=N,215nm,0.5s							
LCO	**Las Campanas**	**2.93**	**24**	*e*Pn		Pn	05 09 30.3	-1.0
LCO				*e*Sg		Sg	05 10 16.1	-2.5

*NEIC **06** 05:11:28.7, 2831S×7029W, h87km, MD3.9(GUC), After GUC.*
GUC 06 05:11:28.7±0.6, 2831S×7029W, h87km±7km, MD3.9, ML4.1, 1C, Central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.49**	**237**	*e*P		Pn	05 11 43.4	+0.4
VACH				*i* S		Sn	05 11 54.2	+0.5
VACH	**Vallenar**	**0.49**	**237**	*e*P		Pn	05 11 43.4	+0.4
VACH				*i* S		Sn	05 11 54.2	+0.5
VACH				AML		AML	05 11 55.1	
	comp=E,15μm,0.0s							
LCO	**Las Campanas**	**0.79**	**207**	*e*Pn		Pn	05 11 47.1	+1.4
LCO				*e*Sn		Sn	05 12 01.0	+2.5
CPCH	**Copiapo**	**0.95**	**357**	⇑*i*P		Pn	05 11 47.9	+0.3
LSCH	**La Serena**	**1.80**	**207**	*i* P		Pn	05 11 58.8	+0.6
LSCH				*i* S		Sn	05 12 21.0	+0.5
OVCH	**Ovalle**	**2.42**	**199**	*e*P		Pn	05 12 06.6	+0.2
OVCH				*i* S		Sn	05 12 35.6	+0.3
OVCH	**Ovalle**	**2.42**	**199**	*e*P		Pn	05 12 06.6	+0.2
OVCH				*i* S		Sn	05 12 35.6	+0.3
OVCH				AML		AML	05 12 39.8	
	comp=N,919nm,0.4s							
JACH	**Jahuel**	**4.36**	**183**	*e*P		Pn	05 12 33.3	+0.7
JACH				*i* S		Sn	05 13 23.1	+0.8

*NEIC **06** 05:26:29.3, 1780N×7047W, h62km, MD3.9(RSPR), After RSPR.*
RSPR 06 05:26:29.3, 1780N×7047W, h62km±7km, MD3.9/9, MD3.9/9, 8C-3D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STDO	**Santo Domingo**	**0.83**	**38**	⇑*e*P		Pn	05 26 44.3	-0.9
STDO				*e*S		Sn	05 26 56.3	-0.6
DR08	**Loma La Naviza**	**1.23**	**20**	⇓*e*P		Pn	05 26 49.6	-0.9
SDDR	**Presa de Saban**	**1.41**	**327**	⇓*e*P		Pn	05 26 51.0	-1.9
SDDR				*e*S		Sn	05 27 08.5	-2.0
DR12	**Loma Pena Alta**	**1.43**	**46**	⇓*e*P		Pn	05 26 52.5	-0.5
DR12				*e*S		Sn	05 27 10.6	-0.3
SMN1	**Samana, DR**	**1.79**	**39**	⇑*e*P		Pn	05 26 57.6	-0.3
SMN1	**Samana, DR**	**1.79**	**39**	*e*S		Sn	05 27 18.0	-1.5
CRPR	**Cabo Rojo, PR**	**3.20**	**86**	⇑*e*P		Pn	05 27 16.5	-0.7
CRPR				*e*S		Sn	05 27 53.5	-0.7
LSP	**Las Mesas**	**3.24**	**83**	*e*S		Sn	05 27 55.6	+0.5
AOPR	**Arecibo Observ**	**3.57**	**81**	⇑*e*P		Pn	05 27 22.4	+0.1
AOPR				*e*S		Sn	05 28 02.8	-0.5
CELP	**Cerrillos**	**3.71**	**85**	⇑*e*P		Pn	05 27 23.9	-0.2
CELP				*e*S		Sn	05 28 06.6	0.0
SJG	**San Juan**	**4.12**	**85**	⇑*e*P		Pn	05 27 29.7	-0.1
SJG				*e*S		Sn	05 28 16.3	-0.4
MASC	**Masc**	**4.28**	**304**	*e*P		Pn	05 27 32.7	+0.8
	baz=221							
MASC				*e*S		Sn	05 28 26.0	+5.5
	comp=N,138nm,0.2s							
MASC				*e*				
	comp=E,138nm,0.1s							
HUMP	**Col San Antoni**	**4.41**	**85**	⇑*e*P		Pn	05 27 34.2	+0.5
HUMP				*e*S		Sn	05 28 23.4	-0.3
CBYP	**Canovanas**	**4.41**	**83**	*e*S		Sn	05 28 24.2	+0.3
MTP	**Monte Pirata**	**4.69**	**86**	⇑*e*P		Pn	05 27 38.0	+0.5
MTP				*e*S		Sn	05 28 30.9	+0.3
SDV	**Santo Domingo**	**8.86**	**181**	*e*Pn		Pn	05 28 33.9	-0.8
	comp=E,4.1nm,0.4s							
SDV				*e*Sn		Sn	05 30 06.0	-7.1

*IDC **06** 05:29:01.2±0.7, 701N×12688E, h0km, mb4.0/11, mb1 4.1/11, mb1mx4.0/21, mbtmp4.0/11, Error ellipse: s-maj=44.8km s-min=14.9km az=78.0*
*ISCJB **06** 05:29:11.2±0.9, 691N±005×12694E±010, h99km±7km, mb4.1/15, Error ellipse: s-maj=16.3km s-min=8.7km az=179.2*
*NEIC **06** 05:29:12.4±1.4, 696N×12693E, h93km±12km, mb4.4/4, Error ellipse: s-maj=20.3km s-min=7.2km az=71.0*
*MAN **06** 05:29:13, 703N×12689E, h42km, mb4.7, ML3.6, MS3.6*
ISC 06 05:29:11.9±1.0, 690N±005×12696E±010, h87km±7km, n26, σ1§06/33, mb4.1/15, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.70**	**274**	*e*P		**Pn**	**05 29 27.7**	**-0.4**
MATI				*e*S		**Sn**	**05 29 37.9**	**-2.3**
DAV	**Davao City (W)**	**1.38**	**277**	*e*Pn		**Pn**	**05 29 36.6**	**+0.6**
DAV				*e*Sn		**Sn**	**05 29 57.1**	**+2.9**
BIPH	**Bislig**	**1.41**	**335**	⇓*e*P		**Pn**	**05 29 36.8**	**+0.4**
BIPH				*i* S		**Sn**	**05 29 53.7**	**-1.2**
KCP	**Kidapawan**	**1.86**	**274**	⇑*e*P		**Pn**	**05 29 42.4**	**+0.2**
KCP				*i* S		**Sn**	**05 30 04.5**	**-0.7**
BUKP	**Musuan**	**2.12**	**298**	*e*P		**Pn**	**05 29 46.4**	**+0.8**
GSPH	**General Santos**	**2.15**	**248**	⇓*e*P		**Pn**	**05 29 43.9**	**-2.2**
GSPH				*e*S		**Sn**	**05 30 08.5**	**-3.6**
CGP	**Cagayan de Oro**	**2.73**	**305**	*e*P		**Pn**	**05 29 55.9**	**+2.2**
CGP				*e*S		**Sn**	**05 30 30.5**	**+4.7**
SCPH	**Surigao**	**3.21**	**333**	*e*P		**Pn**	**05 30 07.0**	**+6.7**
SCPH				*e*S		**Sn**	**05 30 38.9**	**+1.2**
PAGZ	**Pagadian**	**3.67**	**285**	*e*P		**Pn**	**05 30 07.8**	**+1.3**
FITZ	**Fitzroy Crossi**	**24.88**	**183**	P		**P**	**05 34 26.2**	**-0.5**
	1.5nm,0.9s,mb3.4,baz=6.5,slow=15,SNR=5.8							
WRA	**Warramunga Arr**	**27.64**	**165**	P		**P**	**05 34 52.2**	**+0.6**
	0.7nm,0.5s,mb3.4,baz=343,slow=10,SNR=5.7							
ASAR	**Alice Springs**	**31.13**	**168**	P		**P**	**05 35 23.2**	**+0.8**
	0.5nm,0.3s,mb3.7,baz=338,slow=7.0,SNR=18							
ASAR				PcP		PcP	05 38 16.7	+0.8
	0.6nm,0.4s,baz=351,slow=2.4,SNR=10							
MJAR	**Matsushiro Arr**	**31.25**	**18**	P		**P**	**05 35 22.2**	**-1.2**
MJAR	**Matsushiro Arr**	**31.25**	**18**	P		**P**	**05 35 22.2**	**-1.2**
	1.4nm,1.0s,mb3.7,baz=195,slow=9.6,SNR=4.2							
NWAO	**Narrogin (SRO)**	**40.67**	**193**	P		**P**	**05 36 44.3**	**+0.5**
	3.2nm,0.4s,mb4.5,baz=32,slow=10,SNR=5.3							
STKA	**Stephens Creek**	**41.01**	**161**	P		**P**	**05 36 47.6**	**+1.0**
	1.4nm,0.6s,mb4.0,baz=334,slow=11,SNR=3.6							
MKAR	**Makanchi Array**	**55.12**	**324**	P		**P**	**05 38 35.2**	**0.0**
	2.8nm,0.5s,mb4.5,baz=120,slow=7.9,SNR=47							
TKM2	**Tokmak 2**	**57.56**	**317**	*e*P		**P**	**05 38 52.5**	**-0.1**
	1.6nm,0.6s,mb4.2							
ZALV	**Zalesovo Beam**	**57.90**	**332**	P		**P**	**05 38 53.7**	**-1.1**
	0.7nm,0.4s,mb4.1,baz=146,slow=6.4,SNR=3.4							
UCH	**Uchtor**	**58.04**	**316**	*e*P		**P**	**05 38 56.2**	**+0.2**
	2.7nm,0.8s,mb4.3							
AAK	**Ala-Archa**	**58.20**	**316**	P		**P**	**05 38 56.3**	**-0.8**
	0.8nm,0.3s,mb4.2,baz=180,slow=10,SNR=3.2							
EKS2	**Erkin-Say**	**58.70**	**316**	*e*P		**P**	**05 39 00.6**	**0.0**
	2.5nm,0.6s,mb4.4							
KURK	**Kurchatov**	**59.22**	**326**	*e*P		**P**	**05 39 03.5**	**-0.5**
BRVK	**Borovoye**	**64.89**	**326**	*e*P		**P**	**05 39 41.5**	**-0.4**
	3.4nm,0.6s,mb4.3							
ARCES	**ARCESS Array B**	**87.57**	**340**	P		**P**	**05 41 48.9**	**-1.1**
	2.8nm,1.1s,mb4.2,baz=81,slow=7.4,SNR=4.4							
YKA	**Yellowknife Ar**	**96.54**	**24**	P		**P**	**05 42 32.4**	**+0.8**
	0.3nm,0.6s,mb3.9,baz=302,slow=4.5,SNR=7.8							

GUC 06 05:45:06.0±0.7, 3176S×7183W, h0km±8km, MD3.6, ML2.6, 1C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.91**	**51**	⇓*i*P		Pg	05 45 23.6	+0.1
CMCH				*i* S		Sg	05 45 38.1	+2.7
CMCH				AML		AML	05 45 40.0	
	comp=E,1μm,0.6s							
PEL	**Peldehue**	**1.69**	**145**	*i* P		Pn	05 45 36.5	-0.2
PEL				*i* S		Sn	05 45 59.5	+0.5
PEL				AML		AML	05 46 06.6	
	comp=E,112nm,0.5s							
TLL	**Tololo Astrono**	**1.81**	**29**	⇑*i*P		Pn	05 45 39.0	+0.5
TLL				*i* S		Sn	05 46 03.8	+1.7
TLL				AML		AML	05 46 11.2	
	comp=E,53nm,0.5s							
LMEL	**Las Melosas**	**2.49**	**147**	*e*P		Pn	05 45 49.3	+1.5
LMEL				*i* S		Sn	05 46 22.1	+3.1
LMEL				AML		AML	05 46 28.6	
	comp=N,22nm,0.0s							

*IDC **06** 06:07:26.8±0.6, 4569N×2799W, h0km, mb4.0/18, mb1 4.1/20, mb1mx4.0/32, mbtmp4.0/20, ML4.0/2, MS4.5/31, Ms1 4.5/31, ms1mx4.4/38, Error ellipse: s-maj=20.4km s-min=13.4km az=165.0*
*IGIL **06** 06:07:26.9, 4540N×2780W, h10km, MS4.6*
*MOS **06** 06:07:27.1±1.2, 4545N×2778W, h10km, mb4.9/35, Error ellipse: s-maj=9.9km s-min=4.2km az=154.0*
*ISCJB **06** 06:07:28.3±1.2, 4541N±004×2774W±003, h15km±8km, mb4.5/82, MS4.6/50, Error ellipse: s-maj=6.5km s-min=3.6km az=179.0*
*BJI **06** 06:07:29.3, 4603N×2725W, h6km, mB5.1, mb5.0, Ms5.0, Msz4.8*
*GCMT **06** 06:07:29.6±0.2, 4550N×2774W, h12km, MW5.2/91, Moment Tensor Solution. s51,c69; s91,c163; Duration: 0 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.74±.01; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$0.71±.01; $M_{r\theta}$-0.00±.04; $M_{r\phi}$0.08±.01; $M_{\theta\phi}$0.07±.04; Best double couple: $M_0$0.73500×10^{17} NP1:ϕ_s8.00000°, δ42.00000°, λ-89.00000°. NP2: ϕ_s186.00000°, δ48.00000°, λ-91.00000°. Principal axes: T 0.7270, Plg3.0000°, Azm277.0000°; N 0.0150, Plg1.0000°, Azm187.0000°; P -0.7420, Plg87.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **06** 06:07:29.6±0.2, 4552N×2771W, h10km, mb4.7/54 Error ellipse: s-maj=8.8km s-min=3.5km az=181.0*
*CSEM **06** 06:07:30.2±0.0, 4530N×2762W, h30km, mb4.8/41, Ms4.4, Mw5.2, Error ellipse: s-maj=2.4km s-min=1.6km az=171.0*
*SZGRF **06** 06:07:38.1, 4682N×2753W, h33km, mb4.7, MS4.9, Northern Mid-Atlantic Ridge*
*PDA **06** 06:07:47.8±0.7, 4438N×2644W, h5km, ML4.2, Error ellipse: s-maj=17.0km s-min=5.0km az=96.0*
ISC 06 06:07:30.4±1.4, 4544N±004×2770W±003, h16km±9km, h16km±3.1km: pP-P, n375, σ1§22/370, mb4.5/82, MS4.6/50, 15C-5D, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSCM	**Serra do Cume**	**6.75**	**176**	*e*P		**Pn**	**06 09 07.8**	**-0.9**
PSCM				*e*S		**Sn**	**06 10 09.3**	**-16**
PSCM				A			06 10 11.7	
	11nm,0.4s							
PSCM	**Serra do Cume**	**6.75**	**176**	*e*P		**Pn**	**06 09 07.8**	**-0.9**
PSCM				*e*S		**Sn**	**06 10 09.3**	**-16**
ADH	**Angra Heroismo**	**6.79**	**177**	*e*P		**Pn**	**06 09 08.7**	**-0.6**
ADH				*e*S		**Sn**	**06 10 10.8**	**-15**
PMAN	**Manadas**	**6.81**	**183**	*e*P		**Pn**	**06 09 11.5**	**+1.9**
PSET	**Sete Cidades**	**7.75**	**168**	*e*P		**Pn**	**06 09 21.4**	**-1.1**
PDA	**Ponta Delgada**	**7.84**	**168**	*e*P		**Pn**	**06 09 22.1**	**-1.6**
CMLA	**Cha da Macela**	**7.84**	**167**	*e*P		**Pn**	**06 09 21.8**	**-1.9**
CMLA				*e*S		**Sn**	**06 10 32.9**	**-19**
CMLA				A			06 10 33.9	
	10nm,0.4s							
CMLA				*e*LQ			06 10 57.3	
CMLA				*e*LR		LR	06 11 46.3	
CMLA	**Cha da Macela**	**7.84**	**167**	*e*Pn		**Pn**	**06 09 23.6**	**-0.1**
CMLA	**Cha da Macela**	**7.84**	**167**	*e*Pn		**Pn**	**06 09 23.6**	**-0.1**
CMLA				*e*S		**Sn**	**06 10 32.9**	**-19**
PSMN	**Pico do Norte,**	**8.66**	**166**	*e*P		**Pn**	**06 09 33.0**	**-1.9**
EMAZ	**Mazaricos**	**13.66**	**94**	P		**Pn**	**06 10 40.1**	**-3.3**
	14nm,0.4s							
STS	**Santiago**	**13.98**	**94**	P		**Pn**	**06 10 44.6**	**-3.1**
STS				pmax		pmax		
	comp=Z,7.0nm,0.3s							
STS	**Santiago**	**13.98**	**94**	P		**Pn**	**06 10 44.6**	**-3.1**
	comp=Z,7.1nm,0.3s							
ELOB	**Lobios**	**14.65**	**97**	P		**Pn**	**06 10 54.2**	**-2.6**
	comp=Z,1.2nm,0.3s							
PCAB	**Cabril**	**14.73**	**98**	*e*P		**Pn**	**06 10 57.6**	**-0.4**
EPON	**Pontenova**	**14.84**	**91**	P		**Pn**	**06 10 58.2**	**-1.3**
	comp=Z,4.0nm,0.5s							
EPON	**Pontenova**	**14.84**	**91**	P		**Pn**	**06 10 58.2**	**-1.2**
	comp=Z,4.0nm,0.5s							
PMAFR	**Mafra**	**15.10**	**109**	*e*P		**Pn**	**06 11 02.0**	**-0.8**
	comp=Z,157nm,1.7s							
PMAFR				*e*LQ			06 13 41.3	
PMAFR				*e*S		**Sn**	**06 13 49.8**	**+0.2**
PMAFR				*e*LR		LR	06 14 27.2	
	comp=Z,3μm,18.8s							
PVRL	**Vila Real**	**15.11**	**99**	*e*P		**Pn**	**06 11 03.8**	**+0.7**
ERUA	**La Rua**	**15.12**	**94**	P		**Pn**	**06 11 01.6**	**-1.6**
LIS	**Lisbon**	**15.31**	**110**	*e*P		**Pn**	**06 11 07.7**	**+2.0**
LIS				*e*S		**Sn**	**06 13 49.9**	**-4.9**
LIS				*e*S		**Sn**	**06 13 50.2**	**-4.7**
LIS				AMS		AMS	06 16 11.1	
	comp=Z,4μm,18.6s							
LIS	**Lisbon**	**15.31**	**110**	*e*P		**Pn**	**06 11 07.7**	**+2.0**
LIS				*e*S		**Sn**	**06 13 49.9**	**-4.9**
LIS				A			06 16 11.1	
	comp=Z,4μm,18.6s							
MTE	**Manteigas**	**15.59**	**102**	*e*P		**Pn**	**06 11 09.9**	**+0.6**
	comp=Z,36nm,1.7s							
MTE				*e*LR		LR	06 14 40.7	
	comp=Z,3μm,18.4s							
MVO	**Moncorvo**	**15.63**	**99**	*e*P		**Pn**	**06 11 09.3**	**-0.6**
	comp=Z,24nm,1.9s							
MVO	**Moncorvo**	**15.63**	**99**	*

comp=Z,80nm,2.1s
PBDV Barranco-do-Ve 16.92 112 *e*P **Pn 06 11 27.9 +1.5**
comp=Z,80nm,2.1s
PBDV A 06 11 36.4
comp=Z,78nm,2.5s
PBDV *e*LR LR 06 15 22.9
comp=Z,4µm,18.0s
ROSF Rostrenen 16.93 71 *e*P **Pn 06 11 25.4 -1.0**
PVAQ Vaqueiros 16.97 111 *e*P **Pn 06 11 27.0 0.0**
comp=Z,64nm,1.5s
PVAQ Vaqueiros 16.97 111 *e*P **Pn 06 11 28.0 +1.0**
comp=Z,64nm,1.5s
PVAQ A 06 11 36.2
comp=Z,61nm,1.9s
PVAQ *e*LQ 06 14 40.6
PVAQ *e*LR LR 06 15 36.5
comp=Z,3µm,19.2s
QUIF Quistinic 17.00 73 *e*P **Pn 06 11 26.0 -1.3**
PBAR Barrancos 17.00 108 *e*P **Pn 06 11 26.5 -0.9**
comp=Z,48nm,1.9s
PBAR Barrancos 17.00 108 *e*P **Pn 06 11 26.5 -0.9**
comp=Z,48nm,1.9s
PBAR A 06 11 36.5
comp=Z,46nm,1.9s
PBAR *e*LR LR 06 15 41.4
comp=Z,2µm,21.8s
EGRO El Granado 17.05 110 P **Pn 06 11 28.4 +0.3**
comp=Z,60nm,1.4s
EGRO El Granado 17.05 110 P **Pn 06 11 28.4 +0.4**
comp=Z,60nm,1.4s
SGMF Saint Gilles 17.41 72 *e*P **Pn 06 11 32.0 -0.3**
EMIN Mina Concepcio 17.46 109 P **Pn 06 11 33.2 +0.1**
comp=Z,88nm,1.7s
EMIN Mina Concepcio 17.46 109 P **Pn 06 11 33.2 +0.1**
comp=Z,88nm,1.7s
ELAN Lanestosa 17.48 89 P **Pn 06 11 33.9 +0.5**
comp=Z,34nm,1.4s
ELAN Lanestosa 17.48 89 P **Pn 06 11 33.9 +0.5**
comp=Z,34nm,1.4s
ESDC Sonseca Array 18.38 100 P **Pn 06 11 46.3 +1.8**
comp=Z,0.3nm,0.3s,baz=291,slow=12,SNR=7.8
ESDC LR LR 06 17 32.3
comp=Z,2µm,19.3s,baz=295,slow=32
ESLA Sonseca Array 18.38 100 *e*P **Pn 06 11 45.4 +1.0**
comp=Z,8.0nm,1.5s
EKA Eskdalemuir Ar 18.42 49 P **Pn 06 11 44.4 -0.4**
comp=Z,0.1nm,0.3s,baz=254,slow=9.5,SNR=3.5
EADA Adamuz 18.67 105 P **Pn 06 11 49.2 +1.2**
comp=Z,33nm,1.5s
EADA Adamuz 18.67 105 P **Pn 06 11 49.2 +1.3**
comp=Z,33nm,1.5s
FLN La Foliniere 18.78 70 *e*P **Pn 06 11 49.1 -0.2**
FLN *e*MLR MLR
comp=Z,3µm,18.5s
ELIZ Elizondo 18.84 88 P **Pn 06 11 53.2 +3.2**
ELIZ pmax pmax
comp=Z,7.0nm,0.6s
ELIZ Elizondo 18.84 88 P **Pn 06 11 53.2 +3.1**
comp=Z,7.2nm,0.6s
SJPF Ste Jean 19.07 88 *e*P **Pn 06 11 50.1 -2.7**
comp=Z,68nm,1.4s
SJPF Ste Jean 19.07 88 *e*P **Pn 06 11 50.1 -2.7**
SJPF pmax pmax
comp=Z,34nm,1.4s
SJPF Ste Jean 19.07 88 *e*P **Pn 06 11 50.1 -2.7**
comp=Z,34nm,1.4s
MFF Saint Martin d 19.14 77 *e*P **Pn 06 11 52.6 -0.9**
comp=Z,24nm,1.0s
MFF Saint Martin d 19.14 77 *e*P **Pn 06 11 52.6 -0.9**
MFF pmax pmax
comp=Z,12nm,1.0s
MFF Saint Martin d 19.14 77 *e*P **Pn 06 11 52.6 -0.9**
comp=Z,12nm,1.0s
ETOR Torete 19.24 95 P **Pn 06 11 56.7 +1.8**
ETOR pmax pmax
comp=Z,5.0nm,0.8s
ETOR Torete 19.24 95 P **Pn 06 11 56.7 +1.8**
comp=Z,4.7nm,0.8s
ETOR Torete 19.24 95 P **Pn 06 11 56.7 +1.8**
comp=Z,4.7nm,0.8s
EMIJ Mijas 19.39 109 P **Pn 06 11 58.7 +2.1**
comp=Z,62nm,1.6s
EMIJ Mijas 19.39 109 P **Pn 06 11 58.7 +2.0**
comp=Z,62nm,1.6s
ETSF Etsaut 19.60 88 *e*P **Pn 06 11 56.4 -2.7**
BORG Borgarnes 19.67 8 LR LR 06 17 08.5
comp=Z,1µm,19.4s,baz=12,slow=30
EQES Quesada 19.88 104 P **Pn 06 12 04.2 +1.7**
comp=Z,46nm,1.6s
EQES Quesada 19.88 104 P **Pn 06 12 04.2 +1.7**
comp=Z,46nm,1.6s
LFF La Frestale 20.01 81 *e*P **P 06 12 02.6 +0.4**
EBIE Bielsa 20.16 88 P **P 06 12 06.6 +2.8**
comp=Z,41nm,1.6s
EBIE Bielsa 20.16 88 P **P 06 12 06.6 +2.8**
comp=Z,41nm,1.6s
EPF Esparros 20.20 87 *e*P **P 06 12 03.3 -0.9**
comp=Z,55nm,1.4s
EPF Esparros 20.20 87 *e*P **P 06 12 03.3 -0.9**
EPF pmax pmax
comp=Z,27nm,1.4s
EPF Esparros 20.20 87 *e*P **P 06 12 03.3 -0.9**
comp=Z,28nm,1.4s
RJF Les Rejaudoux 20.48 80 *e*P **P 06 12 08.3 +1.0**
comp=Z,101nm,1.8s
RJF *e*MLR MLR
comp=Z,4µm,22.0s,MS4.5
RJF Les Rejaudoux 20.48 80 *e*P **P 06 12 08.3 +1.0**
RJF pmax pmax
comp=Z,51nm,1.8s
RJF MLR MLR
comp=Z,4µm,22.0s,MS4.8
RJF Les Rejaudoux 20.48 80 *e*P **P 06 12 08.3 +1.0**
comp=Z,51nm,1.8s
RJF LR LR
comp=Z,4µm,22.0s,MS4.8
ECHE Chera 20.50 97 P **P 06 12 09.8 +2.2**
ECHE pmax pmax
comp=Z,44nm,1.6s
ECHE Chera 20.50 97 P **P 06 12 09.8 +2.2**
comp=Z,44nm,1.6s
ECHE Chera 20.50 97 P **P 06 12 09.8 +2.2**
comp=Z,44nm,1.6s
ETOB Tobarra 20.52 100 P **P 06 12 11.7 +3.9**
comp=Z,28nm,1.4s
TCF Toulx Ste Croi 20.79 77 *e*P **P 06 12 10.6 -0.1**
comp=Z,176nm,1.4s
TCF Toulx Ste Croi 20.79 77 *e*P **P 06 12 10.6 -0.1**
TCF pmax pmax
comp=Z,88nm,1.4s
TCF Toulx Ste Croi 20.79 77 *e*P **P 06 12 10.6 -0.1**
comp=Z,88nm,1.4s
CAF Calviac 20.94 81 *e*P **P 06 12 11.9 -0.3**
VERF Verneugheol 21.07 78 *e*P **P 06 12 13.9 +0.2**
BGF Bois d'Agland 21.19 76 *e*P **P 06 12 15.5 +0.5**
comp=Z,222nm,1.6s,mb5.0
BGF Bois d'Agland 21.19 76 *e*P **P 06 12 15.5 +0.5**
BGF pmax pmax
comp=Z,111nm,1.6s,mb4.9
BGF Bois d'Agland 21.19 76 *e*P **P 06 12 15.5 +0.5**
comp=Z,111nm,1.6s,mb5.0
MTLF Montolieu 21.43 85 *e*P **P 06 12 17.0 -0.5**
PYM Petit Puy Mans 21.43 78 *e*P **P 06 12 19.6 +2.1**
AGO Saint Agoulin 21.46 77 *e*P **P 06 12 18.2 +0.3**
AVF Avril sur Loir 21.50 75 *e*P **P 06 12 18.5 +0.2**
comp=Z,112nm,1.4s,mb4.8
AVF Avril sur Loir 21.50 75 *e*P **P 06 12 18.5 +0.2**
AVF pmax pmax
comp=Z,56nm,1.4s,mb4.8
AVF Avril sur Loir 21.50 75 *e*P **P 06 12 18.5 +0.2**
comp=Z,56nm,1.4s,mb4.8
SSF Saint Saulge 21.57 74 *e*P **P 06 12 18.7 -0.4**
comp=Z,207nm,1.6s,mb5.0
SSF Saint Saulge 21.57 74 *e*P **P 06 12 18.7 -0.4**
SSF pmax pmax
comp=Z,103nm,1.6s,mb5.0
SSF Saint Saulge 21.57 74 *e*P **P 06 12 18.7 -0.4**
comp=Z,103nm,1.6s,mb5.0
LBL Lubilhac 21.69 79 *e*P **P 06 12 22.6 +2.2**
LOR Lormes 21.79 74 *e*P **P 06 12 20.7 -0.6**
comp=Z,169nm,1.6s,mb4.9
LOR *e*MLR MLR
comp=Z,3µm,20.5s,MS4.4
LOR Lormes 21.79 74 *e*P **P 06 12 20.7 -0.6**
LOR pmax pmax
comp=Z,85nm,1.6s,mb4.9
LOR MLR MLR
comp=Z,3µm,20.5s,MS4.7
LOR Lormes 21.79 74 *e*P **P 06 12 20.7 -0.6**
comp=Z,85nm,1.6s,mb4.9
LOR LR LR
comp=Z,3µm,20.5s,MS4.7
MDT Midelt 21.81 117 P **P 06 12 24.3 +2.6**
comp=Z,11nm,1.1s,mb4.2,baz=300,slow=13,SNR=5.4
MDT LR LR 06 19 51.6
comp=Z,1µm,19.6s,MS4.3,baz=333,slow=34
PLDF La Plantade 21.81 77 *e*P **P 06 12 21.9 +0.2**
BAIF Baives 21.85 66 *e*P **P 06 12 21.8 -0.2**
comp=Z,67nm,1.6s,mb4.5
BAIF Baives 21.85 66 *e*P **P 06 12 21.8 -0.2**
BAIF pmax pmax
comp=Z,34nm,1.6s,mb4.5
BAIF Baives 21.85 66 *e*P **P 06 12 21.8 -0.2**
comp=Z,34nm,1.6s,mb4.5
SMF Signal de Mont 21.86 75 *e*P **P 06 12 23.0 +0.9**
comp=Z,132nm,1.7s,mb4.8
SMF Signal de Mont 21.86 75 *e*P **P 06 12 23.0 +0.9**
SMF pmax pmax
comp=Z,66nm,1.7s,mb4.8
SMF Signal de Mont 21.86 75 *e*P **P 06 12 23.0 +0.9**
comp=Z,66nm,1.7s,mb4.8
COLF Collangettes 21.95 79 *e*P **P 06 12 21.9 -1.2**
UCC Uccle 21.95 64 P **P 06 12 24.6 +1.5**
UCC E 06 12 40.3
UCC E 06 13 12.0
DOU Dourbes 22.09 66 P **P 06 12 26.2 +1.6**
GIVF Givet 22.24 66 *e*P **P 06 12 26.5 +0.3**
LASF Ste Croix 22.38 82 *e*P **P 06 12 28.4 +0.7**
comp=Z,198nm,1.7s,mb5.0
LASF Ste Croix 22.38 82 *e*P **P 06 12 28.4 +0.7**
comp=Z,99nm,1.7s,mb5.0
MEZF Maizieres J'vi 22.46 70 *e*P **P 06 12 29.7 +1.2**
comp=Z,37nm,1.1s,mb4.4
MEZF Maizieres J'vi 22.46 70 *e*P **P 06 12 29.7 +1.2**
comp=Z,19nm,1.1s,mb4.4
BCLA Clavier 22.55 65 P **P 06 12 29.9 +0.4**
comp=Z,6.2nm,1.1s,mb4.0
VIVF Saint-Julien-l 22.76 80 *e*P **P 06 12 31.2 -0.6**
comp=Z,43nm,1.3s,mb4.4
VIVF Saint-Julien-l 22.76 80 *e*P **P 06 12 31.2 -0.6**
VIVF pmax pmax
comp=Z,22nm,1.3s,mb4.4
VIVF Saint-Julien-l 22.76 80 *e*P **P 06 12 31.2 -0.6**
comp=Z,22nm,1.3s,mb4.4
MEM Membach 23.00 65 P **P 06 12 34.2 0.0**
MEM E 06 12 47.8
THEF They Montfort 23.11 71 *e*P **P 06 12 34.5 -0.9**
WLF Walferdange 23.11 67 P **P 06 12 36.0 +0.6**
WLF E 06 12 42.4
WLF E 06 12 51.2
WLF Walferdange 23.11 67 *e*P **P 06 12 35.9 +0.5**
comp=Z,506nm,3.5s
HAU Haudompre 23.37 71 *e*P **P 06 12 37.9 -0.3**
HAU *e*MLR MLR
comp=Z,2µm,21.8s,MS4.2
HAU Haudompre 23.37 71 *e*P **P 06 12 37.9 -0.3**
HAU LR LR
comp=Z,2µm,21.8s,MS4.5
CABF La Chapelle 23.39 75 *e*P **P 06 12 38.8 +0.4**
ORIF Oris-en-Rattie 23.58 79 *e*P **P 06 12 39.8 -0.5**
ORIF *e*MLR MLR
comp=Z,3µm,20.8s,MS4.5
HINF Hinteralfeld 23.73 72 *e*P **P 06 12 40.4 -1.2**
LOMF Lomont 23.78 73 *e*P **P 06 12 42.3 +0.2**
BUG Bochum--Univer 23.80 63 *e*P **P 06 12 41.4 -0.8**
comp=Z,523nm,3.8s
ECH Echery 23.89 71 *e*P **P 06 12 42.8 -0.3**
MOF Molkenrain 23.91 72 *e*P **P 06 12 43.4 +0.1**
CDF Champ du Feu 23.94 70 *e*P **P 06 12 43.8 +0.2**
ABH Alteburg 24.01 67 *e*P **P 06 12 44.7 +0.6**
LPL La Plagne 24.04 77 *e*P **P 06 12 44.2 -0.3**
LPG La Plagne 24.05 77 *e*P **P 06 12 44.8 +0.2**
BNI Bardonecchia 24.10 79 *e*P **P 06 12 46.4 +1.3**
BNI Bardonecchia 24.10 79 *e*P **P 06 12 46.3 +1.2**
IBBN Ibbenbueren 24.12 61 *e*P **P 06 12 45.2 0.0**
comp=Z,190nm,2.5s,mb5.1
BBS Basel-Blauen 24.22 72 *e*P **P 06 12 46.0 -0.1**
LANF Langenberg 24.24 69 *e*P **P 06 12 46.2 -0.1**
MBDF Montbardon 24.24 79 *e*P **P 06 12 45.1 -1.3**
LMR La Mourre 24.43 83 *e*P **P 06 12 45.9 -2.2**
comp=Z,84nm,1.5s,mb4.6
LMR La Mourre 24.43 83 *e*P **P 06 12 45.9 -2.2**
LMR pmax pmax
comp=Z,42nm,1.5s,mb4.7
LMR La Mourre 24.43 83 *e*P **P 06 12 45.9 -2.2**
comp=Z,42nm,1.5s,mb4.6
BFO Black Forest 24.65 70 *e*P **P 06 12 50.4 +0.4**
BFO pmax pmax
comp=Z,82nm,2.4s,mb4.8
BFO Black Forest 24.65 70 *e*P **P 06 12 50.4 +0.4**
comp=Z,82nm,2.4s,mb4.8
STU Stuttgart 25.17 69 *e*P **P 06 12 56.2 +1.4**
comp=Z,19nm,1.2s,mb4.5
NRDL Niedersach Rie 25.57 60 *e*P **P 06 12 57.4 -0.9**
comp=Z,15nm,1.3s,mb4.4
CLZ Clausthal 25.73 62 *e*P **P 06 12 59.9 +0.1**
CLZ pmax pmax
comp=Z,18nm,1.3s,mb4.4
CLZ Clausthal 25.73 62 *e*P **P 06 12 59.9 +0.1**
comp=Z,18nm,1.3s,mb4.4
DAVOS Davos 25.86 73 P **P 06 13 03.0 +2.0**
DAVOX Davos/Dischmat 25.93 73 P **P 06 13 03.0 +1.3**
comp=Z,6.4nm,1.2s,mb4.0,baz=344,slow=11,SNR=3.8
DAVOX LR LR 06 22 24.6
comp=Z,2µm,18.6s,MS4.7,baz=279,slow=34
GRA1 Grafenberg Arr 26.39 67 *e*P **P 06 13 07.3 +1.5**
comp=Z,27nm,1.4s,mb4.6
GRA1 LR LR
comp=Z,3µm,18.4s,MS4.9
GRF Grafenberg Arr 26.39 67 *e*P **P 06 13 07.3 +1.5**
GRF pmax pmax
comp=Z,27nm,1.4s,mb4.6
GRF MLR MLR
comp=Z,3µm,18.4s,MS4.9
GRF Grafenberg Arr 26.39 67 *e*P **P 06 13 07.3 +1.5**
GRF pmax pmax
comp=Z,27nm,1.4s,mb4.6
GRF MLR MLR
comp=Z,3µm,18.4s,MS4.9
GRF Grafenberg Arr 26.39 67 *e*P **P 06 13 07.3 +1.5**
comp=Z,27nm,1.4s,mb4.6
GRF *e*L 06 22 44.5
comp=Z,3µm,18.4s
SCHQ Schefferville 26.47 305 P **P 06 13 02.9 -3.6**
comp=Z,3.4nm,0.8s,mb3.9,baz=113,slow=11,SNR=4.1
SCHQ LR LR 06 21 43.9
comp=Z,2µm,18.6s,MS4.7,baz=103,slow=33
MOX Moxa 26.57 64 *e*P **P 06 13 08.8 +1.4**
MOX
comp=Z,2µm,19.0s
MOX Moxa 26.57 64 *e*P **P 06 13 08.0 +0.6**
comp=Z,12nm,1.6s,mb4.2
MANZ Manzenberg 26.94 66 *e*P **P 06 13 10.8 +0.1**
comp=Z,25nm,1.3s,mb4.6
WERD Werda 27.02 65 *e*P **P 06 13 12.7 +1.2**
comp=Z,17nm,1.9s,mb4.2
ROTZ Rotzenmuhle 27.02 66 *e*P **P 06 13 13.1 +1.6**
comp=Z,12nm,1.6s,mb4.2
WERN Wernitzgruen 27.08 65 *e*P **P 06 13 13.4 +1.4**
comp=Z,40nm,2.0s,mb4.6
NKC Novy Kostel 27.13 65 *ex* x 06 13 30.9
NKC *e*S **S 06 17 55.0 +5.0**
NKC AMS AMS 06 23 10.0
comp=Z,3µm,17.2s
JMIC Jan Mayen 27.27 14 LR LR 06 21 10.0
comp=Z,458nm,20.1s,MS4.0,baz=236,slow=30
CLL Collm 27.39 63 ⇓*i*P **P 06 13 15.8 +1.0**
CLL *e*S **S 06 17 59.0 +4.9**
CLL MLR MLR
comp=Z,2µm,18.1s,MS4.7
CLL Collm 27.39 63 *e*P **P 06 13 15.5 +0.7**
comp=Z,33nm,2.1s,mb4.5
CLL Collm 27.39 63 ⇓*i*P **P 06 13 15.8 +1.0**
CLL *e*PPP 06 14 09.0
CLL *e*S **S 06 17 59.0 +4.9**
CLL Lm 06 23 00.0
comp=N,1µm,18.0s
CLL Lm 06 23 00.0
comp=E,1µm,21.1s
CLL Lm 06 23 00.0
comp=Z,2µm,18.1s
NOA NORSAR Array B 27.50 41 LR LR 06 22 54.4
comp=Z,523nm,19.5s,MS4.1,baz=275,slow=34
FBE Freiberg 27.64 64 *e*P **P 06 13 17.8 +0.8**
comp=Z,10.0nm,1.1s,mb4.4
KHC Kasperske Hory 27.99 67 *e*P **P 06 13 19.9 -0.3**
KHC *ex* x 06 13 37.2
KHC *e*S **S 06 18 02.0 -1.6**
KHC AMS AMS 06 22 50.0
comp=Z,2µm,19.5s
BRG Berggiesshubel 28.02 64 *e*P **P 06 13 19.8 -0.6**
comp=Z,16nm,1.8s,mb4.3
BRG *e* 06 13 37.6
BRG S **S 06 18 13.0 +9.0**
BRG LR LR
comp=Z,740nm,19.2s,MS4.3
BRG Berggiesshubel 28.02 64 *e*P **P 06 13 19.7 -0.7**
comp=Z,27nm,1.8s,mb4.6
BRG Berggiesshubel 28.02 64 *e*P **P 06 13 19.8 -0.6**
comp=Z,27nm,1.8s,mb4.6
BRG *e* 06 13 37.6
comp=Z,23nm,1.8s
BRG S **S 06 18 13.0 +9.0**
BRG
comp=N,2µm,15.3s
BRG
comp=E,1µm,14.5s
BRG
comp=Z,1µm,19.2s
GEC2 GERESS Array S 28.11 68 *e*P **P 06 13 20.8 -0.5**
GERES GERESS Array B 28.11 68 P **P 06 13 20.0 -1.3**
comp=Z,2.2nm,0.9s,mb3.8,baz=276,slow=6.3,SNR=9.5
GERES LR LR 06 23 44.6
comp=Z,2µm,19.5s,MS4.7,baz=267,slow=35
HFS Hagfors 28.46 44 LR LR 06 24 11.4
comp=Z,665nm,18.9s,MS4.3,baz=256,slow=35
PRU Pruhonice 28.50 65 *e*P **P 06 13 25.6 +0.9**
PRU *ex* x 06 13 38.2
PRU *e*S **S 06 18 15.9 +4.4**
PRU AMS AMS 06 24 00.0
comp=Z,3µm,17.8s
TREC Trest 29.20 67 *e*P **P 06 13 32.4 +1.4**
comp=Z,2µm,17.6s
TREC Trest 29.20 67 *e*P **P 06 13 32.4 +1.4**
TREC *e*S **S 06 18 26.3 +3.7**
TREC AMS AMS 06 24 00.0
comp=Z,2µm,17.6s
UPC Upice 29.37 64 *e*P **P 06 13 32.0 -0.4**
KEST Kesra 29.53 96 LR LR 06 24 01.2
comp=Z,852nm,20.7s,MS4.4,baz=232,slow=33
DPC Dobruska-Polom 29.59 64 *e*P **P 06 13 34.0 -0.3**
DPC *ex* x 06 13 51.6
DPC *e*S **S 06 18 31.1 +2.5**
DPC AMS AMS 06 24 40.0
comp=Z,3µm,16.3s
VRAC Vranov 29.92 66 P **P 06 13 38.4 +1.1**
comp=Z,1.7nm,0.3s,mb4.2,baz=309,slow=13,SNR=5.4
VRAC LR LR 06 25 20.0
comp=Z,3µm,18.2s,MS4.9,baz=272,slow=36
MORC Moravsky Berou 30.45 65 ⇑*i*P **P 06 13 39.9 -2.1**
MODS Modra-Piesok 30.53 68 *e*P **P 06 13 44.7 +2.0**
OKC Ostrava-Krasne 30.82 65 *e*S **S 06 18 57.0 +9.0**
OKC AMS AMS 06 25 30.0
comp=Z,2µm,17.2s
VYHS Vyhne 31.52 67 *e*P **P 06 13 52.8 +1.3**
OJC Ojcow 31.81 64 *e*P **P 06 13 53.2 -0.7**
PKSM Moragy 31.95 72 ⇑*i*P **P 06 13 54.8 -0.4**
PKSM Moragy 31.95 72 P **P 06 13 54.9 -0.3**
BBTS Babate 32.10 159 LR LR 06 24 46.8
comp=Z,318nm,19.2s,MS4.0,baz=332,slow=32
NIE Niedzica 32.29 65 *e*P **P 06 13 58.6 +0.5**
PSZ Piszkesteto 32.34 68 *e*P **P 06 13 59.0 +0.3**
PSZ pmax pmax
comp=Z,33nm,1.7s,mb4.9
PSZ Piszkesteto 32.34 68 *e*P **P 06 13 59.0 +0.3**
comp=Z,33nm,1.7s,mb4.9
PSZ Piszkesteto 32.34 68 ⇑*i*P **P 06 13 58.4 -0.3**
PSZ Piszkesteto 32.34 68 *e*P **P 06 13 59.0 +0.3**
comp=Z,33nm,1.7s,mb4.9
NCB Newcomb 32.74 284 *e*P **P 06 14 01.7 -0.6**
comp=Z,11nm,1.1s,mb4.7
NCB Newcomb 32.74 284 *e*P **P 06 14 01.7 -0.5**
comp=Z,11nm,1.1s,mb4.7
LONY Lake Ozonia 32.78 286 *e*P **P 06 14 01.2 -1.3**
comp=Z,9.9nm,1.1s,mb4.7
LONY Lake Ozonia 32.78 286 *e*P **P 06 14 01.2 -1.3**
comp=Z,9.9nm,1.1s,mb4.7
STHS Stebnicka Huta 32.88 65 *e*P **P 06 14 04.0 +0.7**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 32.88 65 *e*P **P 06 14 04.0 +0.7**
comp=Z,3.3nm,0.9s,mb4.3
CRVS Cervenica-Dubn 33.13 66 *e*P **P 06 14 05.5 -0.1**
KOLS Kolonicke sedl 33.65 66 *e*P **P 06 14 10.1 +0.1**
BZS Buzias 34.11 72 ⇓*i*P **P 06 14 13.5 -0.6**
DRGR 34.49 69 ⇑*i*P **P 06 14 17.1 -0.2**
FINES FINESS Array B 34.64 43 P **P 06 14 17.0 -1.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=278,slow=6.9,SNR=7.0
FINES LR LR 06 26 57.4
comp=Z,546nm,21.9s,MS4.2,baz=90,slow=34
ARCES ARCESS Array B 35.60 29 P **P 06 14 24.8 -1.9**
comp=Z,1.2nm,0.6s,mb4.0,baz=251,slow=7.3,SNR=6.7
ARCES LR LR 06 27 03.8
comp=Z,443nm,21.0s,MS4.2,baz=257,slow=33
BURAR Bucovina Array 35.89 67 ⇑*i*P **P 06 14 29.8 +0.4**
VTS Vitosha 36.23 76 ⇑*i*P **P 06 14 33.0 +0.6**
SSPA Standing Stone 36.51 281 *e*P **P 06 14 38.6 +3.8**
MLR Muntele Rosu 37.03 70 ⇑*i*P **P 06 14 38.6 -0.6**
KIEV Kiev 37.58 61 *e*P **P 06 14 42.5 -1.3**
KIEV pmax pmax
comp=Z,18nm,1.5s,mb4.6
KIEV Kiev 37.58 61 *e*P **P 06 14 42.5 -1.3**
comp=Z,18nm,1.5s,mb4.6
KIEV Kiev 37.58 61 *e*P **P 06 14 42.5 -1.3**
comp=Z,18nm,1.5s,mb4.6
AKASG Malin Array Be 37.59 61 P **P 06 14 42.2 -1.7**
AKASG LR LR 06 30 59.8
AKASG Malin Array Be 37.59 61 P **P 06 14 42.2 -1.7**
comp=Z,1.9nm,0.6s,mb4.0,baz=276,slow=9.0,SNR=10
AKASG LR LR 06 30 59.8
comp=Z,1µm,18.2s,MS4.8,baz=280,slow=38
AKBB Malin Array Si 37.59 61 *e*P **P 06 14 42.6 -1.2**
APA Apatity 38.16 33 ⇑*e*P **P 06 14 47.0 -1.4**
APA MLR MLR
comp=Z,800nm,16.0s,MS4.6
APA Apatity 38.16 33 *e*P **P 06 14 47.0 -1.4**
comp=Z,800nm,16.0s
KIS Kishinev 38.41 67 *e*P **P 06 15 00.0 +9.2**
KIS *e* 06 16 20.0
KIS MLR MLR
comp=Z,2µm,18.0s,MS4.8
KIS MLR MLR
comp=N,1µm,15.0s
KIS MLR MLR
comp=Z,2µm,16.0s
HARR Harsova 38.63 71 ⇓*i*P **P 06 14 51.2 -1.5**
URLA Izmir 40.37 80 *i*P **P 06 15 06.7 -0.6**
OBN Obninsk 40.81 52 ⇑*e*P **P 06 15 11.6 +0.9**
OBN *e* 06 16 47.0
OBN *e*S **S 06 21 12.3 -8.5**
OBN pmax pmax
comp=Z,42nm,1.5s,mb4.8
OBN MLR MLR
comp=Z,1µm,19.0s,MS4.7
OBN Obninsk 40.81 52 *e*P **P 06 15 11.6 +0.9**
comp=Z,42nm,1.5s,mb4.8
FCC Fort Churchill 41.14 313 *e*P **P 06 15 13.0 -0.4**
NHSC New Hope 41.76 272 *e*P **P 06 15 20.7 +1.9**
comp=Z,22nm,1.1s,mb4.7
NHSC New Hope 41.76 272 *e*P **P 06 15 20.7 +1.9**
comp=Z,22nm,1.1s,mb4.7
GDZ Gediz 42.02 78 *i*P **P 06 15 19.8 -1.0**
ESKT Eskisehir 42.76 76 *i*P **P 06 15 25.4 -1.4**
DBIC Dimbokro 43.41 146 LR LR 06 32 18.4
comp=Z,1µm,18.4s,MS4.8,baz=319,slow=34
BALT Daday 43.56 72 *i*P **P 06 15 31.6 -1.7**
KDHN Kadinhani 44.10 77 *i*P **P 06 15 36.5 -1.1**
ULM Lac du Bonnet 44.56 302 P **P 06 15 37.8 -3.4**
comp=Z,3.0nm,0.8s,mb4.2,baz=63,slow=6.8,SNR=3.2
ULM LR LR 06 32 32.2
comp=Z,2µm,18.6s,MS5.0,baz=284,slow=34
SDDR Presa de Saban 44.59 248 *e*P **P 06 15 42.0 +0.2**
comp=Z,13nm,0.9s,mb4.8
BOYT Boyabat 44.63 72 *i*P **P 06 15 38.7 -3.2**
ANN Anapa 44.81 66 *e*P **P 06 15 40.8 -2.4**
ANN *e*PP pP 06 15 49.5 +1.3
ANN *e*S **S 06 22 17.2 -2.5**
ANN pmax pmax

comp=Z,21nm,1.2s,mb4.8
ANN MLR MLR
comp=Z,866nm,15.0s,MS4.8
ANN Anapa 44.81 66 *e*P **P 06 15 40.8 -2.4**
comp=Z,21nm,1.2s,mb4.8
ANN *e*S **S 06 22 17.2 -2.5**
CTKT Corum 44.92 73 *i* P **P 06 15 43.4 -0.8**
WVT Waverly 45.51 280 *e*P **P 06 15 47.1 -1.9**
AVNT Avonos 45.84 75 *i* P **P 06 15 51.5 -0.1**
PLAL Pickwick Lake 46.28 279 *e*P **P 06 15 53.0 -2.0**
comp=Z,3.7nm,0.7s,mb4.4
SCIA State Center 46.34 290 *e*P **P 06 15 57.0 +1.6**
SCIA State Center 46.34 290 *e*P **P 06 15 57.0 +1.6**
FVM French Village 46.36 284 *e*P **P 06 15 54.2 -1.4**
FVM pmax pmax
comp=Z,11nm,0.9s,mb4.8
FVM French Village 46.36 284 *e*P **P 06 15 54.2 -1.4**
comp=Z,11nm,0.9s,mb4.8
FVM French Village 46.36 284 *e*P **P 06 15 54.2 -1.4**
comp=Z,11nm,0.9s,mb4.8
FFC Flin Flon 46.44 310 *e*P **P 06 15 54.6 -1.4**
FFC pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
FFC Flin Flon 46.44 310 *e*P **P 06 15 54.5 -1.5**
comp=Z,8.8nm,1.1s,mb4.6
FFC Flin Flon 46.44 310 *e*P **P 06 15 54.5 -1.5**
comp=Z,8.8nm,1.1s,mb4.6
SOC Sochi 46.82 67 *e*P **P 06 15 59.5 +0.4**
SOC *e* 06 17 46.6
SOC *e*PPP 06 18 40.1
SOC *e*S **S 06 22 48.9 +0.2**
SOC *e* 06 25 50.0
SOC *e*SS SS 06 26 12.9 -1.9
SOC pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SOC MLR MLR
comp=Z,670nm,20.0s,MS4.6
SOC Sochi 46.82 67 *e*S **S 06 22 48.9 +0.2**
SOC *e*ScS ScS 06 25 50.0 -2.9
CCM Cathedral Cave 46.88 284 *e*P **P 06 15 57.8 -1.9**
CCM pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CCM Cathedral Cave 46.88 284 *e*P **P 06 15 57.8 -1.9**
comp=Z,10nm,0.9s,mb4.8
GRSN GIRESUNGRSN 47.10 71 *i* P **P 06 16 07.0 +5.6**
PCRV Puerto La Cruz 47.26 234 LR LR 06 32 54.1
comp=Z,414nm,20.4s,MS4.4,baz=55,slow=32
ECSD EROS,Sioux Fal 47.72 294 *e*P **P 06 16 07.0 +0.9**
GZT Gaziantep 48.41 75 *i* P **P 06 16 11.5 -0.1**
MALT Malatya 48.50 74 *e*P **P 06 16 13.1 +0.8**
MALT pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
MALT Malatya 48.50 74 *e*P **P 06 16 13.1 +0.8**
comp=Z,8.8nm,0.9s,mb4.8
MALT Malatya 48.50 74⇑ *i*P **P 06 16 12.2 -0.1**
MALT Malatya 48.50 74 *e*P **P 06 16 13.1 +0.8**
comp=Z,8.8nm,0.9s,mb4.8
KIV Kislovodsk 48.56 65 *e*P **P 06 16 13.4 +0.8**
KIV *e*S **S 06 23 13.5 +0.1**
KIV *e*SS SS 06 26 44.3 +1.3
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
KIV MLR MLR
comp=Z,487nm,16.0s,MS4.6
ATAB Bozova 48.85 75 *i* P **P 06 16 14.8 -0.2**
ONI Oni 49.70 66 P **P 06 16 22.7 +1.3**
YKA Yellowknife Ar 49.71 323 P **P 06 16 18.2 -3.0**
YKA 06 17 39.4
YKA Yellowknife Ar 49.71 323 P **P 06 16 18.2 -3.0**
YKA PcP PcP 06 17 39.4 -2.7
YKA LR LR 06 34 43.0
YKA Yellowknife Ar 49.71 323 P **P 06 16 18.2 -3.0**
comp=Z,1.1nm,1.0s,mb3.8,baz=69,slow=7.2,SNR=8.8
YKA PcP PcP 06 17 39.4 -2.7
comp=Z,0.3nm,0.8s,baz=67,slow=4.0,SNR=4.3
YKA LR LR 06 34 43.0
comp=Z,338nm,18.3s,MS4.4,baz=125,slow=33
YKA Yellowknife Ar 49.71 323 PcP PcP 06 17 39.4 -2.7
MIAR Mount Ida 50.33 282 *e*P **P 06 16 23.8 -2.5**
MIAR pmax pmax
comp=Z,16nm,0.9s,mb5.0
MIAR Mount Ida 50.33 282 *e*P **P 06 16 23.8 -2.5**
comp=Z,16nm,0.9s,mb5.1
MARD Mardin 50.61 74 *i* P **P 06 16 28.9 +0.5**
DGRG David-gareji 51.51 67 P **P 06 16 36.2 +1.2**
SDV Santo Domingo 51.81 239 *e*P **P 06 16 37.4 -0.2**
comp=Z,7.0nm,1.0s,mb4.5
ARU Arti 51.98 45*d* *i*P **P 06 16 37.1 -1.2**
ARU *e*S **S 06 23 57.8 -2.8**
ARU *e*SS SS 06 27 32.7 -4.3
ARU pmax pmax
comp=Z,28nm,1.2s,mb5.1
ARU MLR MLR
comp=Z,526nm,18.0s,MS4.6
EDM Edmonton 53.16 311 *e*P **P 06 16 45.2 -2.0**
INK Inuvik 53.99 334 LR LR 06 38 04.3
comp=Z,312nm,20.3s,MS4.4,baz=319,slow=34
AKTK Aktyubinsk 54.58 51 P **P 06 16 56.4 -1.1**
AKTK Aktyubinsk 54.58 51 P **P 06 16 56.4 -1.1**
AKTO Aktyubinsk 54.58 51 P **P 06 16 56.4 -1.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=289,slow=8.6,SNR=8.6
ISCO Idaho Springs 55.51 294 *e*P **P 06 17 05.1 +0.7**
AMTX Amarillo 55.67 287 *e*P **P 06 17 09.7 +4.0**
BW06 Boulder Array 56.37 299 *e*P **P 06 17 11.9 +1.4**
BW06 Boulder Array 56.37 299 *e*P **P 06 17 11.9 +1.4**
LOHW Long Hollow 56.55 300 *e*P **P 06 17 11.6 -0.2**
comp=Z,34nm,2.3s,mb5.0
LOHW Long Hollow 56.55 300 *e*P **P 06 17 11.6 -0.2**
comp=Z,34nm,2.3s,mb5.0
IMW Indian Meadow 56.59 301 *e*P **P 06 17 14.1 +1.9**
comp=Z,24nm,1.9s,mb4.9
IMW Indian Meadow 56.59 301 *e*P **P 06 17 14.1 +2.0**
comp=Z,24nm,1.9s,mb4.9
SNOW Snow King Moun 56.72 300 *e*P **P 06 17 15.8 +2.7**
SNOW Snow King Moun 56.72 300 *e*P **P 06 17 15.8 +2.8**
REDW Red Top Meadow 56.83 300 *e*P **P 06 17 15.4 +1.6**
REDW Red Top Meadow 56.83 300 *e*P **P 06 17 15.4 +1.5**
JCT Junction City 56.96 281 *e*P **P 06 17 16.0 +1.0**
ROSC El Rosal 57.22 239 LR LR 06 38 37.5
comp=Z,315nm,19.4s,MS4.4,baz=22,slow=33
NEW Newport 57.79 308 *e*P **P 06 17 21.7 +1.2**
NEW pmax pmax
comp=Z,16nm,1.6s
NEW Newport 57.79 308 *e*P **P 06 17 21.7 +1.2**
comp=Z,16nm,1.6s,mb4.8
NEW Newport 57.79 308 *e*P **P 06 17 21.7 +1.2**
comp=Z,16nm,1.6s,mb4.8
HWUT Hardware Ranch 58.25 299 *e*P **P 06 17 25.3 +1.4**
comp=Z,9.9nm,1.5s,mb4.6
HWUT Hardware Ranch 58.25 299 *e*P **P 06 17 25.3 +1.4**
comp=Z,9.9nm,1.5s,mb4.6
PV10 Paradox Valley 58.51 294 *e*P **P 06 17 29.0 +3.3**
PV10 Paradox Valley 58.51 294 *e*P **P 06 17 29.0 +3.3**
ANMO Albuquerque 58.82 290 *e*P **P 06 17 28.9 +0.9**
MVCO Mesa Verde 58.84 293 *e*P **P 06 17 32.5 +4.5**
GDL2 Guadalupe Moun 59.05 286 *e*P **P 06 17 29.7 +0.1**
GDL2 Guadalupe Moun 59.05 286 *e*P **P 06 17 29.7 +0.1**
BVAR Borovoye Array 59.59 44 P **P 06 17 32.2 -0.8**
comp=Z,1.7nm,0.6s,mb4.3,baz=299,slow=6.1,SNR=9.5
DUG Dugway 59.84 298 *e*P **P 06 17 36.1 +1.2**
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
DUG Dugway 59.84 298 *e*P **P 06 17 36.1 +1.2**
comp=Z,5.8nm,1.0s,mb4.6
MNTX Cornudas Mount 60.04 286 *e*P **P 06 17 37.9 +1.5**
comp=Z,15nm,1.8s,mb4.7
MNTX Cornudas Mount 60.04 286 *e*P **P 06 17 37.9 +1.5**
comp=Z,15nm,1.8s,mb4.7
TXAR Lajitas Array 60.32 283 P **P 06 17 35.9 -2.5**
comp=Z,1.0nm,0.9s,mb3.9,baz=68,slow=6.6,SNR=9.9
TXAR LR LR 06 43 36.7
comp=Z,2μm,19.4s,MS5.3,baz=0.0,slow=36
MSU Marysvale 60.43 296 *e*P **P 06 17 40.4 +1.4**
IMA2 Indian Mountai 61.34 338 *e*P **P 06 17 43.2 -1.6**
WUAZ Wupatki 61.71 293 *e*P **P 06 17 49.1 +1.4**
CCUT Cedar City 61.75 296 *e*P **P 06 17 49.1 +1.1**
CCUT Cedar City 61.75 296 *e*P **P 06 17 49.1 +1.1**
TIXI Tiksi 62.03 8⇑ *e*P **P 06 17 50.4 +1.1**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb4.5
TIXI Tiksi 62.03 8 *e*P **P 06 17 51.2 +1.9**
TIXI Tiksi 62.03 8 *e*P **P 06 17 51.2 +1.9**
TUC Tucson 63.29 290 *e*P **P 06 18 02.7 +4.4**
BDFB Brasilia 63.52 202 P **P 06 17 59.7 -0.1**
comp=Z,1.5nm,0.7s,mb4.1,baz=160,slow=23,SNR=6.2
BDFB LR LR 06 42 07.1
comp=Z,372nm,19.0s,MS4.6,baz=336,slow=33
KURK Kurchatov 65.01 42 *e*P **P 06 18 10.0 +0.7**
KURK Kurchatov 65.01 42 *e*P **P 06 18 07.8 -1.5**
comp=Z,7.3nm,1.1s,mb4.6
KURK Kurchatov 65.01 42 *e*P **P 06 18 07.8 -1.5**
comp=Z,7.3nm,1.1s,mb4.6
ZAL Zalesovo 65.58 37 P **P 06 18 10.8 -2.1**
ZALV Zalesovo Beam 65.58 37 P **P 06 18 10.8 -2.1**
comp=Z,1.3nm,0.6s,mb4.1,baz=298,slow=3.1,SNR=2.1
ZALV LR LR 06 48 12.2
comp=Z,290nm,19.0s,MS4.5,baz=164,slow=37
BILL Bilibino 66.36 354⇑ *e*P **P 06 18 18.1 +0.4**
BILL *e*S S 06 26 58.2 -8.2
BILL pmax pmax
comp=Z,5.0nm,2.4s,mb4.1
BILL Bilibino 66.36 354 *e*P **P 06 18 18.1 +0.4**
comp=Z,5.0nm,2.4s,mb4.1
AAK Ala-Archa 68.31 51⇑ *e*P **P 06 18 30.5 0.0**
AAK pmax pmax
comp=Z,4.0nm,1.6s,mb4.2
AAK Ala-Archa 68.31 51 P **P 06 18 30.1 -0.4**
comp=Z,0.8nm,0.3s,mb4.2,baz=4.3,slow=4.5,SNR=4.4
AAK Ala-Archa 68.31 51 *e*P **P 06 18 30.5 0.0**
comp=Z,4.0nm,1.6s,mb4.2
UCH Uchtor 68.60 51 *e*P **P 06 18 33.5 +1.2**
comp=Z,14nm,1.4s,mb4.7
MKAR Makanchi Array 69.47 44 P **P 06 18 36.4 -1.3**
comp=Z,1.2nm,0.7s,mb3.9,baz=330,slow=5.9,SNR=11
MKAR LR LR 06 50 17.1
comp=Z,298nm,18.4s,MS4.6,baz=331,slow=37
YAK Yakutsk 71.34 11⇑ *e*P **P 06 18 50.9 +2.1**
YAK pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
YAK Yakutsk 71.34 11 *e*P **P 06 18 50.9 +2.1**
comp=Z,9.0nm,1.1s,mb4.6
LPAZ La Paz 71.53 221 P **P 06 18 50.6 +0.2**
comp=Z,0.6nm,0.7s,mb3.6,baz=7.9,slow=4.7,SNR=3.9
LPAZ LR LR 06 46 14.7
comp=Z,205nm,21.2s,MS4.4,baz=198,slow=32
SEY Seymchan 71.98 360⇑ *e*P **P 06 18 54.1 +1.5**
BOD Bodaibo 72.29 20 *e*P **P 06 18 51.6 -3.0**
BOD pmax pmax
comp=Z,6.0nm,1.8s,mb4.2
KMBO Kilima Mbogo 73.49 109 LR LR 06 51 06.5
comp=Z,384nm,19.9s,MS4.7,baz=87,slow=36
WMQ Urumqi 74.25 43 *e*P **P 06 19 08.0 +1.6**
CPUP Villa Florida 76.35 207 LR LR 06 49 38.4
comp=Z,130nm,20.9s,MS4.2,baz=6.4,slow=33
LSZ Lusaka 78.75 125 *e*P **P 06 19 30.7 -1.4**
LSZ *e* 06 19 41.1
LSZ pmax pmax
comp=Z,11nm,1.1s,mb4.7
LSZ Lusaka 78.75 125 *e*P **P 06 19 30.7 -1.4**
comp=Z,11nm,1.1s,mb4.7
LSZ *e*PcP PcP 06 19 41.1 +0.2
LSZ Lusaka 78.75 125 *e*P **P 06 19 30.7 -1.4**
comp=Z,11nm,1.1s,mb4.7
LSZ Lusaka 78.75 125 *e*PcP PcP 06 19 41.1 +0.2
SONM Songino Array 78.77 30 LR LR 06 57 39.6
comp=Z,167nm,20.1s,MS4.4,baz=5.6,slow=38
GTA Gaotai 83.29 38 *e*P **P 06 19 54.9 -1.3**
GTA AP pP 06 19 59.3 -2.1
GTA XP sP 06 20 01.9 -1.3
GTA PP PP 06 23 06.2 -0.8
GTA S S 06 30 12.1 -3.9
GTA SKS 06 30 13.2
GTA XS sS 06 30 20.4 -4.2
GTA PS 06 31 06.5
GTA SS SS 06 35 39.5 -0.1
GTA AMB AMB
comp=Z,6.0nm,1.3s,mb4.5
GTA AMB AMB
comp=Z,167nm,5.3s
GTA LR LR
comp=N,286nm,19.0s,MS4.8
GTA LR LR
comp=E,258nm,18.3s,MS4.8
GTA LR LR
comp=Z,502nm,18.6s,MS4.9
HHC Hu-ho-hao-te 86.67 30 *e*P **P 06 20 12.1 -1.1**
HHC AP pP 06 20 16.9 -1.5
HHC XP sP 06 20 19.0 -1.2
HHC PP PP 06 23 35.0 +0.6
HHC SKS 06 30 35.9
HHC S S 06 30 47.0 -2.6
HHC XS sS 06 30 55.5 -2.7
HHC SS SS 06 36 28.7 -0.5
HHC AMB AMB
comp=Z,35nm,1.2s,mb5.5
HHC AMB AMB
comp=Z,160nm,4.8s
HHC LR LR
comp=N,345nm,21.1s,MS5.0
HHC LR LR
comp=E,478nm,19.1s,MS5.0
HHC LR LR
comp=Z,437nm,18.2s,MS4.9
LZH Lanzhou 87.81 37 *e*P **P 06 20 17.5 -1.2**
LZH AP pP 06 20 20.0 -4.0
LZH XP sP 06 20 22.5 -3.3
LZH *e*S S 06 30 55.0 -5.7
LZH XS sS 06 31 02.1 -7.2
LZH AMB AMB
comp=Z,14nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,60nm,4.2s
LZH LR LR
comp=N,312nm,18.1s
LZH LR LR
comp=Z,492nm,19.0s,MS4.9
BOSA Boshof 88.02 135 LR LR 06 57 17.3
comp=Z,436nm,20.4s,MS4.9,baz=322,slow=34
BJI Beijing 88.94 27 P **P 06 20 23.3 -0.7**
BJI PP PP 06 23 51.4 -1.2
BJI SS SS 06 37 00.4 -1.9
BJI AMB AMB
comp=Z,6.0nm,0.8s,mb5.0
BJI LR LR
comp=N,273nm,16.8s,MS4.9
BJI LR LR
comp=E,199nm,14.7s,MS4.9
BJI LR LR
comp=Z,248nm,20.6s
CD2 Chengdu 92.16 40 *e*P **P 06 20 38.6 -0.6**
CD2 AP pP 06 20 43.4 -1.0
CD2 XP sP 06 20 46.0 -0.3
CD2 PP PP 06 24 20.1 +1.7
CD2 SKS 06 31 09.1
CD2 S S 06 31 36.5 -4.6
CD2 XS sS 06 31 44.5 -5.3
CD2 SS SS 06 37 47.5 -1.8
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,9.2s
CD2 LR LR
comp=N,150nm,14.4s,MS4.8
CD2 LR LR
comp=E,210nm,13.4s,MS4.8
CD2 LR LR
comp=Z,120nm,14.6s,MS4.5
PLCA Paso Flores 93.98 211 LR LR 06 58 25.5
comp=Z,213nm,21.7s,MS4.6,baz=18,slow=32
KMI Kunming 96.55 44 P **P 06 21 00.4 +1.0**
KMI S S 06 32 14.1 -5.7
KMI AMB AMB
comp=Z,5.0nm,0.5s,mb5.2
KMI LR LR
comp=N,185nm,17.6s,MS4.8
KMI LR LR
comp=E,202nm,17.6s,MS4.8
KMI LR LR
comp=Z,276nm,19.5s,MS4.8
NJ2 Nanjing 97.11 28 *e*P **P 06 21 03.1 +1.3**
GYA Guiyang 97.27 40 *e*P **P 06 21 02.2 -0.4**
GYA PP PP 06 25 01.5 +3.2
GYA SKS 06 31 39.2
GYA S S 06 32 22.7 -3.2
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb5.3
GYA AMB AMB
comp=Z,90nm,6.4s
GYA LR LR
comp=N,470nm,20.6s,MS5.0
GYA LR LR
comp=E,310nm,20.5s,MS5.0
GYA LR LR
comp=Z,450nm,21.3s,MS4.9
TAOE Nuku Hiva Isla 111.98 280 *e*LR LR 06 59 30.5
comp=Z,14μm,27.0s
RKT Rikitea 118.02 265 *e*LR LR 07 02 10.7
comp=Z,286nm,33.8s
PPT Papeete 124.59 280 *e*SS SS 06 45 27.6 +19
comp=Z,138nm,28.8s
PPT Papeete 124.59 280 *e*LR LR 07 05 24.9
comp=Z,538nm,22.0s
TBI Tubuai 128.35 275 *e*SS SS 06 45 55.2 -1.0
comp=Z,205nm,32.5s
TBI Tubuai 128.35 275 *e*LR LR 07 07 12.1
comp=Z,309nm,32.0s
FITZ Fitzroy Crossi 144.86 48 *e*P PKPdf 06 27 04.3 -2.4
comp=Z,5.0nm,1.0s
VNDA Vanda 147.59 184 PKPbc PKPbc 06 27 12.7 +0.3
comp=Z,1.2nm,0.8s,baz=266,slow=2.8,SNR=7.6
WRA Warramunga Arr 150.56 36 PKPbc PKPbc 06 27 18.7 -2.8
comp=Z,0.8nm,0.7s,baz=315,slow=2.4,SNR=9.7
WB2 Warramunga Arr 150.56 36 *e*P PKPab 06 27 26.2 -1.9
ASAR Alice Springs 153.64 41 PKPbc PKPbc 06 27 26.2 -2.2
comp=Z,0.6nm,0.7s,baz=340,slow=1.8,SNR=9.2
ASAR PKPab PKPab 06 27 39.4 -1.5
comp=Z,2.0nm,0.9s,baz=327,slow=3.3,SNR=9.1

NIED ***06*** *06:09:00,2920N×130.40E,h35km,Mw4.3 Best double couple: M0 2.69000×10^15 NP1:φ=32.00000°,δ74.00000°, λ78.00000°. NP2:φ=250.00000°,δ20.00000°,λ126.00000°.*
JMA ***06*** *06:09:09.2±0.1,2922N×13036E,h73km±5km,M3.6*
ISCJB ***06*** *06:09:10.0±0.7,2922N±004×13040E±009,h51km±5km, mb4.1/15,MS3.4/3,Error ellipse: s-maj=13.5km s-min=5.2km az=15.8*
IDC ***06*** *06:09:11.5±1.8,2928N×13032E,h46km±17km,mb3.7/11, mb1 3.9/14,mb1mx3.8/24,mbtmp3.8/14,ML3.5/2,MS3.3/5, Ms1 3.3/5,ms1mx3.0/36,Error ellipse: s-maj=25.2km s-min=12.9km az=92.0*
NEIC ***06*** *06:09:12.6±1.1,2925N×13009E,h54km±11km, MG4.2(JMA),Error ellipse: s-maj=15.5km s-min=10.5km az=110.0*
BJI ***06*** *06:09:12.5,2920N×130.10E,h54km,mB4.2,mb4.3,Ms3.7, Msz3.6*

ISC 06 06:09:10.8±0.7,2921N±004×13039E±009,h42km±6km, n36,σ0°86/38,mb4.1/15,MS3.4/3,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.77**	**324**	P	**Pn**	**06 09 25.0**	**-0.2**
JNN				S	**Sn**	**06 09 37.2**	**+1.5**
JZK	**Kikaishima**	**0.97**	**202**	P	**Pn**	**06 09 27.5**	**-0.4**
JAM	**Amami Oshima**	**1.05**	**221**	P	**Pn**	**06 09 28.6**	**-0.5**
JAM				*e*S	**Sn**	**06 09 43.2**	**+0.7**
JKC	**Kuchinoerabu**	**1.26**	**352**	P	**Pn**	**06 09 31.6**	**-0.3**
JKC				*e*S	**Sn**	**06 09 49.0**	**+1.4**
JTN	**Tanegashima 3**	**1.53**	**19**	P	**Pn**	**06 09 34.4**	**-1.2**
JTK	**Tokunoshima**	**1.90**	**222**	P	**Pn**	**06 09 40.5**	**-0.3**
JTSR	**Tashiro 2**	**2.00**	**13**	P	**Pn**	**06 09 41.5**	**-0.6**
JTSR				*e*S	**Sn**	**06 10 05.9**	**0.0**
JOW	**Kunigami**	**3.02**	**219**	P	**Pn**	**06 09 55.8**	**-0.3**
	6.7nm,0.3s,baz=86,slow=19,SNR=26						
JOW				LR	LR	06 11 24.8	
	comp=Z,332nm,19.3s,baz=315,slow=44						
JNU	**Nakatsue**	**3.92**	**6**	P	**Pn**	**06 10 08.4**	**0.0**
	8.0nm,0.3s,baz=184,slow=8.5,SNR=93						
JNU				S	**Sn**	**06 10 53.1**	**0.0**
	4.2nm,0.3s,baz=53,slow=20,SNR=4.4						
KSRS	**Korea Array**	**8.47**	**347**	P	**Pn**	**06 11 10.6**	**-0.3**
	baz=157,slow=15,SNR=5.5						
KSRS				LR	LR	06 14 42.7	
	comp=Z,119nm,19.5s,baz=173,slow=40						
MJAR	**Matsushiro Arr**	**9.83**	**40**	P	**Pn**	**06 11 35.4**	**+5.9**
	0.6nm,0.3s,baz=252,slow=14,SNR=6.6						
CN2	**Changchun**	**15.09**	**346**	*e*P	**Pn**	**06 12 47.2**	**+6.2**
CN2				AMB	AMB		
	comp=Z,20nm,0.7s						
CN2				LR	LR		
	comp=N,200nm,11.0s						
CN2				LR	LR		
	comp=E,100nm,11.0s						
CN2				LR	LR		
	comp=Z,210nm,12.0s						
GUMO	**Guam**	**20.54**	**136**	LR	LR	06 20 05.0	
	comp=Z,54nm,18.2s,MS3.0,baz=106,slow=32						
CD2	**Chengdu**	**23.10**	**281**	P	**P**	**06 14 12.7**	**-0.3**
SONM	**Songino Array**	**26.25**	**322**	LR	LR	06 26 44.1	
	comp=Z,108nm,18.9s,MS3.4,baz=227,slow=40						
GTA	**Gaotai**	**27.11**	**300**	*e*P	**P**	**06 14 53.8**	**+4.1**
GTA				AP	pP	06 15 02.0	+1.0
GTA				XP	sP	06 15 05.6	-0.4
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**41.07**	**309**	P	**P**	**06 16 50.1**	**-0.1**
	comp=Z,1.2nm,0.6s,mb3.7,baz=94,slow=9.9,SNR=15						
EKS2	**Erkin-Say**	**46.95**	**303**	*e*P	**P**	**06 17 41.0**	**+3.6**
WRA	**Warramunga Arr**	**49.02**	**175**	P	**P**	**06 17 54.5**	**+1.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=354,slow=8.4,SNR=9.2						
BVAR	**Borovoye Array**	**49.38**	**316**	P	**P**	**06 17 55.8**	**-0.2**
	comp=Z,5.2nm,0.6s,mb4.8,baz=96,slow=9.4,SNR=18						
BRVK	**Borovoye**	**49.45**	**316**	*e*P	**P**	**06 17 55.5**	**-1.1**
	comp=Z,5.1nm,0.5s,mb4.8						
ASAR	**Alice Springs**	**52.68**	**176**	P	**P**	**06 18 22.3**	**+1.3**
	comp=Z,0.5nm,0.5s,mb3.7,baz=11,slow=12,SNR=11						
AKTK	**Aktyubinsk**	**57.14**	**313**	P	**P**	**06 18 53.5**	**+0.4**
AKTO	**Aktyubinsk**	**57.14**	**313**	P	**P**	**06 18 53.5**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.5,baz=82,slow=11,SNR=9.8						
INK	**Inuvik**	**65.40**	**24**	*e*P	**P**	**06 19 48.7**	**0.0**
	comp=Z,24nm,0.7s,mb5.3						
HPO	**Honuapo**	**67.36**	**80**	*e*P	**P**	**06 20 04.5**	**+2.5**
JOF	**Joensuu**	**68.37**	**331**	*e*p	**P**	**06 20 04.0**	**-3.6**
	comp=Z,0.5nm,0.4s,mb3.9						
FINES	**FINESS Array B**	**71.22**	**331**	P	**P**	**06 20 23.9**	**-1.2**
FINES	**FINESS Array B**	**71.22**	**331**	P	**P**	**06 20 23.9**	**-1.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=87,slow=6.4,SNR=12						
AKASG	**Malin Array Be**	**74.51**	**320**	P	**P**	**06 20 44.3**	**-0.6**
	comp=Z,3.7nm,0.6s,mb4.5,baz=58,slow=6.1,SNR=16						
YKA	**Yellowknife Ar**	**75.02**	**26**	P	**P**	**06 20 47.5**	**-0.1**
YKA	**Yellowknife Ar**	**75.02**	**26**	P	**P**	**06 20 47.5**	**-0.1**
	comp=Z,0.9nm,0.9s,mb3.7,baz=301,slow=5.8,SNR=10						
NOA	**NORSAR Array B**	**77.48**	**334**	P	**P**	**06 21 00.5**	**-1.1**
	comp=Z,1.5nm,1.0s,mb3.9,baz=49,slow=5.9,SNR=3.0						
MMAI	**Mount Meron Ar**	**78.50**	**301**	LR	LR	07 02 22.6	
	comp=Z,49nm,18.5s,MS3.9,baz=210,slow=41						
GERES	**GERESS Array B**	**83.97**	**324**	P	**P**	**06 21 36.2**	**-0.3**
	comp=Z,0.4nm,0.7s,mb3.7,baz=11,slow=1.4,SNR=4.0						
NVAR	**Mina Array Bea**	**87.07**	**47**	P	**P**	**06 21 52.8**	**+0.6**
	comp=Z,0.3nm,0.6s,mb3.7,baz=316,slow=3.8,SNR=3.8						

ISCJB ***06*** *06:11:11.9±0.9,456N±02×2794W±010,h10km,mb4.2/24, Error ellipse: s-maj=31.2km s-min=9.6km az=4.7*
IDC ***06*** *06:11:12.2±1.1,4571N×2798W,h0km,mb3.8/7,mb1 3.9/8, mb1mx3.7/27,mbtmp3.7/8,ML4.2/1,Error ellipse: s-maj=43.4km s-min=21.7km az=176.0*
NEIC ***06*** *06:11:13.5±0.6,4559N×2794W,h10km,mb4.4/22,Error ellipse: s-maj=20.8km s-min=6.9km az=180.0*

ISC 06 06:11:14.0±0.9,456N±02×2791W±010,h10km,n64, σ0°70/61,mb4.2/24,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**17.01**	**72**	*e*P	**Pn**	**06 15 11.3**	**-0.4**
QUIF	**Quistinic**	**17.09**	**73**	*e*P	**Pn**	**06 15 11.5**	**-1.2**
SGMF	**Saint Gilles**	**17.49**	**72**	*e*P	**Pn**	**06 15 17.7**	**0.0**
	79nm,1.5s						
SGMF	**Saint Gilles**	**17.49**	**72**	*e*P	**Pn**	**06 15 17.7**	**0.0**
	40nm,1.5s						
ESDC	**Sonseca Array**	**18.56**	**100**	P	**Pn**	**06 15 31.5**	**+0.5**
	0.2nm,0.3s,baz=301,slow=10,SNR=4.6						
SJPF	**Ste Jean**	**19.21**	**88**	*e*P	**Pn**	**06 15 35.4**	**-3.4**
	119nm,1.7s						
SJPF	**Ste Jean**	**19.21**	**88**	*e*P	**Pn**	**06 15 35.4**	**-3.4**
	60nm,1.7s						
MFF	**Saint Martin d**	**19.24**	**77**	*e*P	**Pn**	**06 15 38.0**	**-1.1**
	24nm,1.2s						
MFF	**Saint Martin d**	**19.24**	**77**	*e*P	**Pn**	**06 15 38.0**	**-1.1**
	12nm,1.2s						
LFF	**La Frestale**	**20.13**	**82**	*e*P	**P**	**06 15 48.2**	**+0.3**
EPF	**Esparros**	**20.33**	**87**	*e*P	**P**	**06 15 49.6**	**-0.5**
	25nm,1.2s						
EPF	**Esparros**	**20.33**	**87**	*e*P	**P**	**06 15 49.6**	**-0.5**

12nm,1.2s
RJF Les Rejaudoux 20.59 80 *e*P **P 06 15 53.9 +1.0**
39nm,1.4s
RJF Les Rejaudoux 20.59 80 *e*P **P 06 15 53.9 +1.0**
20nm,1.4s
TCF Toulx Ste Croi 20.89 77 *e*P **P 06 15 56.2 0.0**
53nm,1.1s
TCF Toulx Ste Croi 20.89 77 *e*P **P 06 15 56.2 0.0**
27nm,1.1s
CAF Calviac 21.05 81 *e*P **P 06 15 57.6 -0.3**
42nm,1.5s,mb4.2
CAF Calviac 21.05 81 *e*P **P 06 15 57.6 -0.3**
21nm,1.5s,mb4.2
BGF Bois d'Agland 21.29 76 *e*P **P 06 16 01.0 +0.6**
35nm,1.0s,mb4.3
BGF Bois d'Agland 21.29 76 *e*P **P 06 16 01.0 +0.6**
17nm,1.0s,mb4.3
MTLF Montolieu 21.56 85 *e*P **P 06 16 02.7 -0.7**
72nm,1.6s,mb4.6
MTLF Montolieu 21.56 85 *e*P **P 06 16 02.7 -0.7**
36nm,1.6s,mb4.6
AVF Avril sur Loir 21.60 76 *e*P **P 06 16 04.0 +0.2**
34nm,1.1s,mb4.4
AVF Avril sur Loir 21.60 76 *e*P **P 06 16 04.0 +0.2**
17nm,1.1s,mb4.4
SSF Saint Saulge 21.66 75 *e*P **P 06 16 04.1 -0.4**
64nm,1.4s,mb4.6
SSF Saint Saulge 21.66 75 *e*P **P 06 16 04.1 -0.4**
32nm,1.4s,mb4.6
LOR Lormes 21.87 74 *e*P **P 06 16 06.5 -0.2**
92nm,1.8s,mb4.6
LOR Lormes 21.87 74 *e*P **P 06 16 06.5 -0.2**
46nm,1.8s,mb4.6
BAIF Baives 21.91 67 *e*P **P 06 16 07.3 +0.3**
30nm,1.3s,mb4.3
BAIF Baives 21.91 67 *e*P **P 06 16 07.3 +0.3**
15nm,1.3s,mb4.3
SMF Signal de Mont 21.95 76 *e*P **P 06 16 07.8 +0.2**
24nm,1.1s,mb4.2
SMF Signal de Mont 21.95 76 *e*P **P 06 16 07.8 +0.2**
12nm,1.1s,mb4.2
GIVF Givet 22.30 67 *e*P **P 06 16 11.9 +0.6**
57nm,1.3s,mb4.5
GIVF Givet 22.30 67 *e*P **P 06 16 11.9 +0.6**
29nm,1.3s,mb4.5
LASF Ste Croix 22.50 83 *e*P **P 06 16 14.3 +0.9**
62nm,1.3s,mb4.6
LASF Ste Croix 22.50 83 *e*P **P 06 16 14.3 +0.9**
31nm,1.3s,mb4.6
MEZF Maizieres J'vi 22.54 71 *e*P **P 06 16 14.9 +1.1**
39nm,1.3s,mb4.4
MEZF Maizieres J'vi 22.54 71 *e*P **P 06 16 14.9 +1.1**
20nm,1.3s,mb4.4
VIVF Saint-Julien-l 22.87 80 *e*P **P 06 16 16.7 -0.7**
HAU Haudompre 23.45 72 *e*P **P 06 16 23.6 +0.2**
34nm,1.4s,mb4.3
HAU Haudompre 23.45 72 *e*P **P 06 16 23.6 +0.2**
17nm,1.4s,mb4.3
CABF La Chapelle 23.48 75 *e*P **P 06 16 24.6 +0.8**
38nm,1.3s,mb4.4
CABF La Chapelle 23.48 75 *e*P **P 06 16 24.6 +0.8**
19nm,1.3s,mb4.4
HINF Hinteralfeld 23.81 72 *e*P **P 06 16 25.9 -1.0**
25nm,1.3s,mb4.2
HINF Hinteralfeld 23.81 72 *e*P **P 06 16 25.9 -1.0**
13nm,1.3s,mb4.2
CDF Champ du Feu 24.02 71 *e*P **P 06 16 29.0 +0.3**
LPL La Plagne 24.14 78 *e*P **P 06 16 29.5 -0.4**
17nm,1.3s,mb4.0
LPL La Plagne 24.14 78 *e*P **P 06 16 29.5 -0.4**
8.6nm,1.3s,mb4.0
LPG La Plagne 24.16 78 *e*P **P 06 16 31.0 +1.0**
MBDF Montbardon 24.35 80 *e*P **P 06 16 30.6 -1.2**
39nm,1.4s,mb4.3
MBDF Montbardon 24.35 80 *e*P **P 06 16 30.6 -1.2**
19nm,1.4s,mb4.3
GERES GERESS Array B 28.18 68 P **P 06 17 07.1 +0.8**
1.0nm,0.9s,mb3.5,baz=262,slow=7.5,SNR=6.1
AKASG Malin Array Be 37.62 61 P **P 06 18 28.1 -0.6**
0.4nm,0.5s,mb3.4,baz=281,slow=8.9,SNR=5.6
YKA Yellowknife Ar 49.47 322 P **P 06 20 02.9 -1.0**
YKA Yellowknife Ar 49.47 322 P **P 06 20 02.9 -1.0**
0.6nm,1.0s,mb3.6,baz=66,slow=7.2,SNR=5.4
MIAR Mount Ida 50.15 282 *e*P **P 06 20 09.4 0.0**
8.3nm,0.9s,mb4.8
AKTK Aktyubinsk 54.58 52 P **P 06 20 42.6 +0.5**
AKTO Aktyubinsk 54.58 52 P **P 06 20 42.6 +0.5**
0.9nm,0.4s,mb4.2,baz=301,slow=3.9,SNR=4.1
BVAR Borovoye Array 59.56 44 P **P 06 21 18.0 +0.7**
0.4nm,0.4s,mb3.8,baz=329,slow=11,SNR=3.5
TXAR Lajitas Array 60.13 283 P **P 06 21 21.9 +0.3**
0.8nm,0.9s,mb3.7,baz=53,slow=7.0,SNR=6.4
MKAR Makanchi Array 69.44 44 P **P 06 22 21.6 -0.4**
0.8nm,0.8s,mb3.7,baz=307,slow=6.4,SNR=3.9
VNDA Vanda 147.76 184 PKPbc PKPbc 06 30 57.6 +0.2
1.6nm,0.9s,baz=262,slow=4.2,SNR=6.7
WRA Warramunga Arr 150.49 36 PKPbc PKPbc 06 31 04.5 -1.4
1.5nm,1.0s,baz=343,slow=2.9,SNR=4.9
ASAR Alice Springs 153.59 40 PKPbc PKPbc 06 31 10.5 -2.3
0.4nm,0.6s,baz=318,slow=1.2,SNR=5.5
ASAR PKPab PKPab 06 31 24.8 -0.6
0.9nm,0.9s,baz=340,slow=4.2,SNR=5.7

IDC ***06*** *06:22:31.2±1.0,4578N±2814W,h0km,mb3.8/9, mb1 3.9/11,mb1mx3.8/28,mbtmp3.8/11,ML3.9/2,MS4.0/19, Ms1 4.0/19,ms1mx3.9/36,Error ellipse: s-maj=33.7km s-min=18.5km az=179.0*
MOS ***06*** *06:22:32.5±1.0,4523N±2747W,h10km,mb4.7/32,Error ellipse: s-maj=13.5km s-min=6.3km az=151.5*
CSEM ***06*** *06:22:32.2±0.1,4528N±2750W,h10km,mb4.5/32,Ms3.8, Error ellipse: s-maj=11.1km s-min=2.4km az=179.0*
ISCJB ***06*** *06:22:33.3±2.3,454N±0.1×2755W±005,h13km±15km, mb4.4/43,MS4.0/22,Error ellipse: s-maj=23.0km s-min=6.2km az=178.5*
NEIC ***06*** *06:22:36.0±0.5,4571N±2750W,h10km,mb4.6/33,Error ellipse: s-maj=16.2km s-min=5.1km az=183.0*
SZGRF ***06*** *06:22:40.3,4623N±2754W,h33km,mb4.3,Northern Mid-Atlantic Ridge*
ISC 06 06:22:35.9±2.5,454N±01×2751W±005,h16km±17km,n165,σ1§14/153,mb4.4/43,MS4.0/22,5C,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**16.81**	**71**	*e*P	**Pn**	**06 26 29.6**	**-0.8**
QUIF	**Quistinic**	**16.88**	**73**	*e*P	**Pn**	**06 26 29.9**	**-1.4**
SGMF	**Saint Gilles**	**17.28**	**72**	*e*P	**Pn**	**06 26 36.3**	**-0.1**
ESDC	**Sonseca Array**	**18.24**	**100**	P	**Pn**	**06 26 51.0**	**+2.8**
	0.2nm,0.3s,baz=300,slow=12,SNR=4.6						
ESDC				LR	LR	06 32 25.6	
	comp=Z,527nm,19.4s,baz=310,slow=32						
EKA	**Eskdalemuir Ar**	**18.34**	**48**	P	**Pn**	**06 26 49.2**	**0.0**
	0.1nm,0.3s,baz=247,slow=9.2,SNR=4.1						
FLN	**La Foliniere**	**18.66**	**70**	*e*P	**Pn**	**06 26 53.7**	**+0.4**
FLN				*e*MLR	MLR		
	comp=Z,921nm,19.2s						
LFF	**La Frestale**	**19.88**	**81**	*e*P	**Pn**	**06 27 07.0**	**-1.0**
	comp=Z,213nm,1.9s						
LFF	**La Frestale**	**19.88**	**81**	*e*P	**Pn**	**06 27 07.0**	**-1.0**
LFF				pmax	pmax		
	comp=Z,106nm,1.9s						
LFF	**La Frestale**	**19.88**	**81**	*e*P	**Pn**	**06 27 07.0**	**-1.0**
	comp=Z,106nm,1.9s						
EPF	**Esparros**	**20.06**	**87**	*e*P	**P**	**06 27 07.6**	**-0.7**
	comp=Z,70nm,1.8s						
EPF	**Esparros**	**20.06**	**87**	*e*P	**P**	**06 27 07.6**	**-0.7**
EPF				pmax	pmax		
	comp=Z,35nm,1.8s						
EPF	**Esparros**	**20.06**	**87**	*e*P	**P**	**06 27 07.6**	**-0.7**
	comp=Z,35nm,1.8s						
RJF	**Les Rejaudoux**	**20.35**	**80**	*e*P	**P**	**06 27 12.6**	**+1.2**
	comp=Z,42nm,1.4s						
RJF				*e*MLR	MLR		
	comp=Z,889nm,19.0s,MS3.8						
RJF	**Les Rejaudoux**	**20.35**	**80**	*e*P	**P**	**06 27 12.6**	**+1.2**
RJF				pmax	pmax		
	comp=Z,21nm,1.4s						
RJF				MLR	MLR		
	comp=Z,890nm,19.0s,MS4.1						
RJF	**Les Rejaudoux**	**20.35**	**80**	*e*P	**P**	**06 27 12.6**	**+1.2**
	comp=Z,21nm,1.4s						
RJF				LR	LR		
	comp=Z,890nm,19.0s,MS4.1						
TCF	**Toulx Ste Croi**	**20.67**	**77**	*e*P	**P**	**06 27 14.9**	**+0.1**

comp=Z,48nm,1.0s
TCF Toulx Ste Croi 20.67 77 *e*P **P 06 27 14.9 +0.1**
TCF pmax pmax
comp=Z,24nm,1.0s
TCF Toulx Ste Croi 20.67 77 *e*P **P 06 27 14.9 +0.1**
comp=Z,24nm,1.0s
CAF Calviac 20.81 81 *e*P **P 06 27 16.4 0.0**
comp=Z,92nm,1.9s
CAF Calviac 20.81 81 *e*P **P 06 27 16.4 0.0**
CAF pmax pmax
comp=Z,46nm,1.9s
CAF Calviac 20.81 81 *e*P **P 06 27 16.4 0.0**
comp=Z,46nm,1.9s
BGF Bois d'Agland 21.06 76 *e*P **P 06 27 19.7 +0.6**
comp=Z,142nm,1.6s,mb4.8
BGF Bois d'Agland 21.06 76 *e*P **P 06 27 19.7 +0.6**
BGF pmax pmax
comp=Z,71nm,1.6s,mb4.8
BGF Bois d'Agland 21.06 76 *e*P **P 06 27 19.7 +0.6**
comp=Z,71nm,1.6s,mb4.8
MTLF Montolieu 21.29 85 *e*P **P 06 27 21.2 -0.4**
comp=Z,65nm,1.6s,mb4.4
MTLF Montolieu 21.29 85 *e*P **P 06 27 21.2 -0.4**
MTLF pmax pmax
comp=Z,32nm,1.6s,mb4.4
MTLF Montolieu 21.29 85 *e*P **P 06 27 21.2 -0.4**
comp=Z,32nm,1.6s,mb4.4
AVF Avril sur Loir 21.38 75 *e*P **P 06 27 22.7 +0.2**
comp=Z,53nm,1.2s,mb4.4
AVF Avril sur Loir 21.38 75 *e*P **P 06 27 22.7 +0.2**
AVF pmax pmax
comp=Z,27nm,1.2s,mb4.5
AVF Avril sur Loir 21.38 75 *e*P **P 06 27 22.7 +0.2**
comp=Z,27nm,1.2s,mb4.4
SSF Saint Saulge 21.45 74 *e*P **P 06 27 22.8 -0.4**
comp=Z,114nm,1.5s,mb4.7
SSF Saint Saulge 21.45 74 *e*P **P 06 27 22.8 -0.4**
SSF pmax pmax
comp=Z,57nm,1.5s,mb4.7
SSF Saint Saulge 21.45 74 *e*P **P 06 27 22.8 -0.4**
comp=Z,57nm,1.5s,mb4.7
LOR Lormes 21.66 74 *e*P **P 06 27 25.0 -0.5**
comp=Z,125nm,1.7s,mb4.8
LOR *e*MLR MLR
comp=Z,706nm,20.5s,MS3.8
LOR Lormes 21.66 74 *e*P **P 06 27 25.0 -0.5**
LOR pmax pmax
comp=Z,63nm,1.7s,mb4.8
LOR MLR MLR
comp=Z,710nm,20.5s,MS4.1
LOR Lormes 21.66 74 *e*P **P 06 27 25.0 -0.5**
comp=Z,63nm,1.7s,mb4.8
LOR LR LR
comp=Z,710nm,20.5s,MS4.1
MDT Midelt 21.68 118 P **P 06 27 30.3 +4.5**
comp=Z,4.2nm,1.0s,mb3.8,baz=315,slow=15,SNR=3.9
MDT LR LR 06 34 18.1
comp=Z,333nm,20.6s,MS3.7,baz=337,slow=32
SMF Signal de Mont 21.73 75 *e*P **P 06 27 27.3 +1.0**
comp=Z,59nm,1.4s,mb4.5
SMF Signal de Mont 21.73 75 *e*P **P 06 27 27.3 +1.0**
SMF pmax pmax
comp=Z,29nm,1.4s,mb4.5
SMF Signal de Mont 21.73 75 *e*P **P 06 27 27.3 +1.0**
comp=Z,30nm,1.4s,mb4.5
BAIF Baives 21.73 66 *e*P **P 06 27 26.2 -0.1**
comp=Z,26nm,1.3s,mb4.2
BAIF Baives 21.73 66 *e*P **P 06 27 26.2 -0.1**
BAIF pmax pmax
comp=Z,13nm,1.3s,mb4.2
BAIF Baives 21.73 66 *e*P **P 06 27 26.2 -0.1**
comp=Z,13nm,1.3s,mb4.2
GIVF Givet 22.13 66 *e*P **P 06 27 30.9 +0.4**
LASF Ste Croix 22.25 82 *e*P **P 06 27 33.1 +1.3**
comp=Z,69nm,1.4s,mb4.6
LASF Ste Croix 22.25 82 *e*P **P 06 27 33.1 +1.3**
comp=Z,35nm,1.4s,mb4.6
MEZF Maizieres J'vi 22.34 70 *e*P **P 06 27 34.2 +1.4**
comp=Z,36nm,1.2s,mb4.4
MEZF Maizieres J'vi 22.34 70 *e*P **P 06 27 34.2 +1.4**
comp=Z,18nm,1.2s,mb4.4
HAU Haudompre 23.25 71 *e*P **P 06 27 42.1 -0.3**
HAU *e*MLR MLR
comp=Z,488nm,23.0s,MS3.6
HAU Haudompre 23.25 71 *e*P **P 06 27 42.1 -0.3**
HAU LR LR
comp=Z,490nm,23.0s,MS3.9
CABF La Chapelle 23.27 75 *e*P **P 06 27 43.0 +0.4**
HINF Hinteralfeld 23.61 72 *e*P **P 06 27 45.2 -0.9**
CDF Champ du Feu 23.82 70 *e*P **P 06 27 48.1 +0.1**
MBDF Montbardon 24.12 79 *e*P **P 06 27 49.8 -0.9**
comp=Z,21nm,1.0s,mb4.2
MBDF Montbardon 24.12 79 *e*P **P 06 27 49.8 -0.9**
MBDF pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
MBDF Montbardon 24.12 79 *e*P **P 06 27 49.8 -0.9**
comp=Z,10nm,1.0s,mb4.2
DAVOS Davos 25.74 73 P **P 06 28 07.9 +2.5**
DAVOX Davos/Dischmat 25.81 73 P **P 06 28 07.9 +1.9**
comp=Z,2.2nm,0.8s,mb3.7,baz=333,slow=19,SNR=3.1
DAVOX LR LR 06 37 17.7
comp=Z,540nm,18.8s,MS4.1,baz=264,slow=34
GRA1 Grafenberg Arr 26.28 67 *e*P **P 06 28 09.7 -0.6**
comp=Z,12nm,1.5s,mb4.2
GRF Grafenberg Arr 26.28 67 *e*P **P 06 28 09.7 -0.6**
GRF pmax pmax
comp=Z,12nm,1.5s,mb4.2
GRF Grafenberg Arr 26.28 67 *e*P **P 06 28 09.7 -0.6**
GRF pmax pmax
comp=Z,12nm,1.5s,mb4.2
GRF Grafenberg Arr 26.28 67 *e*P **P 06 28 09.7 -0.6**
comp=Z,12nm,1.5s,mb4.2
SCHQ Schefferville 26.59 305 LR LR 06 36 26.4
comp=Z,458nm,21.6s,MS4.0,baz=189,slow=32
CLL Collm 27.29 63 *e*P **P 06 28 19.0 -0.3**
CLL Lm 06 38 00.0
comp=N,300nm,18.0s
CLL Lm 06 38 00.0
comp=E,400nm,19.1s
NOA NORSAR Array B 27.43 41 LR LR 06 37 15.1
comp=E,156nm,19.1s,MS3.6,baz=265,slow=32
KHC Kasperske Hory 27.88 67 *e*P **P 06 28 23.8 -0.9**
BRG Berggiesshubel 27.91 64 P **P 06 28 23.6 -1.3**
BRG pmax pmax
comp=Z,4.0nm,1.4s,mb3.9
BRG Berggiesshubel 27.91 64 *e*(P) **P 06 28 23.6 -1.3**
comp=Z,6.8nm,1.4s,mb4.1
GERES GERESS Array B 28.00 68 P **P 06 28 26.2 +0.5**
comp=Z,1.8nm,1.0s,mb3.6,baz=302,slow=7.7,SNR=7.5
GERES LR LR 06 38 37.3
comp=Z,386nm,18.9s,MS4.0,baz=264,slow=34
HFS Hagfors 28.38 44 LR LR 06 38 07.6
comp=Z,257nm,20.2s,MS3.8,baz=201,slow=33
KEST Kesra 29.39 96 LR LR 06 38 54.2
comp=Z,213nm,21.8s,MS3.7,baz=95,slow=33
VRAC Vranov 29.80 66 LR LR 06 40 13.8
comp=Z,521nm,18.8s,MS4.2,baz=268,slow=35
MORC Moravsky Berou 30.34 65 *e*P **P 06 28 47.2 +0.7**
MORC pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
MORC Moravsky Berou 30.34 65 *e*P **P 06 28 47.2 +0.7**
comp=Z,1.4nm,0.7s,mb3.8
MORC Moravsky Berou 30.34 65 *e*P **P 06 28 47.2 +0.7**
comp=Z,1.4nm,0.7s,mb3.8
BBTS Babate 32.03 160 LR LR 06 38 36.6
comp=Z,83nm,21.7s,MS3.4,baz=352,slow=30
PSZ Piszkesteto 32.23 68 *e*P **P 06 29 03.8 +0.6**
PSZ pmax pmax
comp=Z,35nm,2.0s,mb4.8
PSZ Piszkesteto 32.23 68 *e*P **P 06 29 03.8 +0.7**
comp=Z,35nm,2.0s,mb4.8
PSZ Piszkesteto 32.23 68 *e*P **P 06 29 03.8 +0.6**
comp=Z,35nm,2.0s,mb4.8
FINES FINESS Array B 34.57 43 P **P 06 29 22.4 -1.0**
FINES LR LR 06 41 01.5
FINES FINESS Array B 34.57 43 P **P 06 29 22.4 -1.0**
comp=Z,2.0nm,1.1s,mb4.0,baz=237,slow=9.3,SNR=3.0
FINES LR LR 06 41 01.5
comp=Z,152nm,22.0s,MS3.7,baz=289,slow=32
SPB4 Spitsbergen Ar 36.93 14 *e*P **P 06 29 42.0 -1.5**
SPB4 Spitsbergen Ar 36.93 14 *e*P **P 06 29 42.0 -1.5**
AKASG Malin Array Be 37.48 61 *i* P **P 06 29 47.2 -1.3**
AKASG pmax pmax
comp=Z,1.0nm,0.7s
AKASG Malin Array Be 37.48 61 P **P 06 29 46.5 -1.9**
comp=Z,1.3nm,0.7s,mb3.9,baz=280,slow=8.7,SNR=14
AKASG LR LR 06 46 03.1
comp=Z,249nm,18.2s,MS4.0,baz=305,slow=38
AKASG Malin Array Be 37.48 61 *i* P **P 06 29 47.2 -1.3**
comp=Z,1.0nm,0.7s,mb3.8
OBN Obninsk 40.72 52⇑ *e*P **P 06 30 14.9 -0.6**
OBN *e*S **S 06 36 25.8 +0.9**
OBN pmax pmax
comp=Z,11nm,1.3s,mb4.3
OBN Obninsk 40.72 52 *e*P **P 06 30 14.9 -0.6**
comp=Z,11nm,1.3s,mb4.3
OBN *e*S **S 06 36 25.8 +0.9**
RES Resolute Bay 40.86 338 *e*P **P 06 30 18.4 +2.0**
comp=Z,38nm,1.0s,mb5.0
RES Resolute Bay 40.86 338 *e*P **P 06 30 18.4 +2.0**
comp=Z,38nm,1.0s,mb5.0
FCC Fort Churchill 41.26 314 *e*P **P 06 30 20.4 +0.5**
DBIC Dimbokro 43.32 146 LR LR 06 46 30.3
comp=Z,321nm,19.5s,MS4.2,baz=309,slow=33
ULM Lac du Bonnet 44.69 302 LR LR 06 47 34.5
comp=Z,418nm,18.0s,MS4.4,baz=50,slow=34
ANN Anapa 44.69 66 *e*P **P 06 30 45.6 -2.3**
ANN pmax pmax
comp=Z,12nm,0.7s,mb4.8
ANN MLR MLR
comp=Z,270nm,15.0s,MS4.3
ANN Anapa 44.69 66 *e*P **P 06 30 45.6 -2.3**
comp=Z,270nm,15.0s
WVT Waverly 45.65 280 *e*P **P 06 30 53.1 -2.5**
WVT pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
WVT Waverly 45.65 280 *e*P **P 06 30 53.1 -2.5**
comp=Z,6.3nm,1.0s,mb4.5
WVT Waverly 45.65 280 *e*P **P 06 30 53.1 -2.5**
comp=Z,6.3nm,1.0s,mb4.5
PLAL Pickwick Lake 46.42 279 *e*P **P 06 30 57.5 -4.2**
comp=Z,11nm,1.3s,mb4.6
FVM French Village 46.49 284 *e*P **P 06 30 58.1 -4.1**
FVM pmax pmax
comp=Z,13nm,1.0s,mb4.8
FVM French Village 46.49 284 *e*P **P 06 30 58.1 -4.1**
comp=Z,13nm,1.0s,mb4.8
FFC Flin Flon 46.56 310 *e*P **P 06 31 03.4 +0.9**
FFC Flin Flon 46.56 310 *e*P **P 06 31 03.3 +0.8**
HALT Halls 46.81 281 *e*P **P 06 31 04.2 -0.5**
HALT Halls 46.81 281 *e*P **P 06 31 04.2 -0.5**
CCM Cathedral Cave 47.02 285 *e*P **P 06 31 02.5 -3.8**
CCM pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CCM Cathedral Cave 47.02 285 *e*P **P 06 31 02.5 -3.8**
comp=Z,5.6nm,0.7s,mb4.6
OXF Oxford 47.60 279 *e*P **P 06 31 10.1 -0.8**
OXF pmax pmax
comp=Z,14nm,1.1s,mb4.9
OXF Oxford 47.60 279 *e*P **P 06 31 10.1 -0.8**
comp=Z,14nm,1.1s,mb4.9
OXF Oxford 47.60 279 *e*P **P 06 31 10.1 -0.8**
comp=Z,14nm,1.1s,mb4.9
MALT Malatya 48.38 74 *e*P **P 06 31 18.5 +1.6**
MALT pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
MALT Malatya 48.38 74 *e*P **P 06 31 18.5 +1.7**
comp=Z,8.8nm,1.2s,mb4.7
MALT Malatya 48.38 74 *e*P **P 06 31 18.5 +1.6**
comp=Z,8.8nm,1.2s,mb4.7
KIV Kislovodsk 48.44 65 *e*P **P 06 31 17.2 -0.1**
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KIV Kislovodsk 48.44 65 *e*P **P 06 31 17.2 -0.1**
comp=Z,5.0nm,1.0s,mb4.5
YKA Yellowknife Ar 49.81 323 P **P 06 31 21.7 -5.8**
YKA 06 32 43.9
YKA Yellowknife Ar 49.81 323 P **P 06 31 21.6 -5.8**
YKA PcP PcP 06 32 43.9 -4.0
YKA LR LR 06 48 39.6
YKA Yellowknife Ar 49.81 323 P **P 06 31 21.6 -5.8**
comp=Z,0.2nm,0.9s,mb3.1,baz=66,slow=8.2,SNR=3.3
YKA PcP PcP 06 32 43.9 -4.0
comp=Z,0.1nm,0.4s,baz=57,slow=4.5,SNR=3.2
YKA LR LR 06 48 39.6
comp=Z,98nm,18.3s,MS3.9,baz=145,slow=32
YKA Yellowknife Ar 49.81 323 PcP PcP 06 32 43.9 -4.1
MIAR Mount Ida 50.46 282 *e*P **P 06 31 28.8 -4.0**
MIAR pmax pmax
comp=Z,15nm,1.0s,mb5.0
MIAR Mount Ida 50.46 282 *e*P **P 06 31 28.8 -4.0**
comp=Z,15nm,1.0s,mb5.0
ARU Arti 51.90 45*c i*P **P 06 31 44.5 +1.2**
ARU *e* 06 32 56.6
ARU *e* 06 33 39.8
ARU *e*S **S 06 39 04.4 -0.7**
ARU *e*SS SS 06 42 39.9 -1.4
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
ARU Arti 51.90 45 *e*P **P 06 31 42.9 -0.4**
comp=Z,17nm,0.6s,mb5.1
ARU Arti 51.90 45 *i* P **P 06 31 44.5 +1.2**
comp=Z,14nm,1.0s,mb4.8
ARU *e*S **S 06 39 04.4 -0.7**
AKTK Aktyubinsk 54.49 52 P **P 06 32 01.1 -1.3**
AKTO Aktyubinsk 54.49 52 P **P 06 32 01.1 -1.3**
comp=Z,2.2nm,0.8s,mb4.1,baz=296,slow=5.0,SNR=7.3
PHWY Pilot Hill 54.72 295 *e*P **P 06 32 04.6 +0.3**
PHWY Pilot Hill 54.72 295 *e*P **P 06 32 04.6 +0.3**
ISCO Idaho Springs 55.64 294 *e*P **P 06 32 11.2 +0.3**
REDW Red Top Meadow 56.96 300 *e*P **P 06 32 20.9 +0.6**
REDW Red Top Meadow 56.96 300 *e*P **P 06 32 20.9 +0.6**
JCT Junction City 57.10 282 *e*P **P 06 32 21.3 -0.1**
JCT pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
JCT Junction City 57.10 282 *e*P **P 06 32 21.3 -0.2**
comp=Z,9.9nm,1.3s,mb4.7
JCT Junction City 57.10 282 *e*P **P 06 32 21.3 -0.1**
comp=Z,9.9nm,1.3s,mb4.7
ROSC El Rosal 57.32 240 LR LR 06 52 47.5
comp=Z,151nm,20.8s,MS4.1,baz=18,slow=32
ANMO Albuquerque 58.96 290 *e*P **P 06 32 36.4 +2.0**
BRVK Borovoye 59.45 44 *e*P **P 06 32 37.3 -0.2**
BRVK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
BRVK Borovoye 59.45 44 *e*P **P 06 32 37.3 -0.2**
comp=Z,3.5nm,0.8s,mb4.4
BRVK Borovoye 59.45 44 *e*P **P 06 32 37.3 -0.2**
comp=Z,3.5nm,0.8s,mb4.4
BVAR Borovoye Array 59.52 44 LR LR 06 57 50.6
comp=Z,108nm,18.7s,MS4.0,baz=30,slow=36
DUG Dugway 59.97 298 *e*P **P 06 32 42.1 +0.8**
DUG pmax pmax
comp=Z,10.0nm,1.5s,mb4.6
DUG Dugway 59.97 298 *e*P **P 06 32 42.1 +0.8**
comp=Z,10nm,1.5s,mb4.7
DUG Dugway 59.97 298 *e*P **P 06 32 42.1 +0.8**
comp=Z,10nm,1.5s,mb4.7
TXAR Lajitas Array 60.45 283 P **P 06 32 38.8 -6.1**
comp=Z,1.5nm,0.9s,mb4.0,baz=60,slow=6.7,SNR=8.5
TXAR LR LR 06 58 29.6
comp=Z,516nm,18.9s,MS4.7,baz=30,slow=36
IMA2 Indian Mountai 61.41 338 *e*P **P 06 32 52.4 +1.6**
IMA2 Indian Mountai 61.41 338 *e*P **P 06 32 52.4 +1.7**
TIXI Tiksi 62.03 8⇑ *e*P **P 06 32 56.7 +1.8**
TIXI pmax pmax
comp=Z,3.0nm,1.3s,mb4.3
TIXI Tiksi 62.03 8 *e*P **P 06 32 56.7 +1.8**
comp=Z,3.0nm,1.3s,mb4.3
TUC Tucson 63.42 290 *e*P **P 06 33 06.4 +1.7**
BDFB Brasilia 63.55 202 LR LR 06 57 30.5
comp=Z,104nm,19.5s,MS4.0,baz=179,slow=33
BILL Bilibino 66.39 354⇑ *e*P **P 06 33 23.7 +0.2**
BILL *e*S S 06 42 19.7 +7.3
BILL pmax pmax
comp=Z,1.0nm,1.1s,mb3.8
BILL Bilibino 66.39 354 *e*P **P 06 33 23.7 +0.2**
comp=Z,1.0nm,1.1s,mb3.8
EKS2 Erkin-Say 67.81 51 *e*P **P 06 33 32.3 -0.6**
comp=Z,3.9nm,1.1s,mb4.3
EKS2 Erkin-Say 67.81 51 *e*P **P 06 33 32.3 -0.6**
comp=Z,3.9nm,1.1s,mb4.3
AAK Ala-Archa 68.22 51⇑ *e*P **P 06 33 34.7 -0.8**
AAK pmax pmax
comp=Z,5.0nm,1.7s,mb4.3
AAK Ala-Archa 68.22 51 *e*P **P 06 33 34.5 -1.0**
comp=Z,4.4nm,1.5s,mb4.3
AAK Ala-Archa 68.22 51 *e*P **P 06 33 34.7 -0.8**
comp=Z,5.0nm,1.7s,mb4.3
MKAR Makanchi Array 69.40 44 P **P 06 33 40.1 -2.6**
comp=Z,0.9nm,0.7s,mb3.8,baz=320,slow=4.8,SNR=6.8
YAK Yakutsk 71.34 11 *e*P **P 06 33 56.5 +2.2**
YAK pmax pmax

comp=Z,6.0nm,0.8s,mb4.6
YAK Yakutsk 71.34 11 *e*P **P 06 33 56.5 +2.2**
comp=Z,6.0nm,0.8s,mb4.6
SEY Seymchan 72.00 0 *e*P **P 06 34 00.7 +2.4**
FITZ Fitzroy Crossi 144.77 48 PKP PKPdf 06 42 10.3 -1.8
comp=Z,3.0nm,0.8s,baz=7.7,slow=16,SNR=5.6
VNDA Vanda 147.57 184 PKPbc PKPbc 06 42 16.0 -1.8
comp=Z,1.3nm,1.1s,baz=253,slow=0.4,SNR=4.0
WRA Warramunga Arr 150.49 37 PKPbc PKPbc 06 42 23.4 -3.4
comp=Z,0.9nm,1.0s,baz=327,slow=2.4,SNR=6.7
ASAR Alice Springs 153.56 41 PKPbc PKPbc 06 42 33.8 0.0
comp=Z,1.1nm,0.8s,baz=0.0,slow=2.6,SNR=9.2

IDC 06 06:44:00.8±2.3,061S×13322E,h0km,mb3.4/2,mb1 3.7/4, mb1mx3.5/16,mbtmp3.5/4,ML3.3/2,Error ellipse: s-maj=92.9km s-min=24.5km az=78.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.91**	**203**	P	Pn	06 48 24.1	+0.3
	0.0nm,0.3s,baz=18,slow=12,SNR=4.1						
WRA	**Warramunga Arr**	**19.25**	**177**	P	Pn	06 48 26.6	-1.1
	0.1nm,0.3s,baz=355,slow=11,SNR=12						
ASAR	**Alice Springs**	**22.93**	**178**	P	P	06 49 06.5	-0.2
	0.7nm,0.3s,baz=356,slow=10,SNR=14						
MKAR	**Makanchi Array**	**64.83**	**324**	P	P	06 54 41.6	+0.1
	0.2nm,0.6s,baz=110,slow=9.1,SNR=2.9						

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*ISCJB **06** 06:54:22.6±1.1,4570N×004×2662E×006,h95km±9km, Error ellipse: s-maj=7.4km s-min=5.7km az=29.2*
*CSEM **06** 06:54:22.8±0.3,4571N×2660E,h88km±3km,MD3.7/2, Error ellipse: s-maj=5.2km s-min=4.1km az=130.0*
*BUC **06** 06:54:22.7±1.9,4570N×2663E,h98km±19km,MD3.6/2, Error ellipse: s-maj=12.5km s-min=9.9km az=84.0*
*NEIC **06** 06:54:23.2,4570N×2664E,h91km,MG2.8(BUC),After BUC.*

ISC 06 06:54:23.1±1.1,4570N±004×2663E±006,h94km±10km, n25,σ0°73/41,11C-6D,Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VRI	**Vrincioaia**	**0.18**	**23**	⇑*i*P	**Pn**	**06 54 36.8**	**+0.4**
VRI				*i* S	**Sn**	**06 54 46.4**	**0.0**
VRI	**Vrincioaia**	**0.18**	**23**	⇓*i*P	**Pn**	**06 54 36.8**	**+0.4**
VRI				*i* S	**Sn**	**06 54 47.0**	**+0.6**
BRD	**Bordesti**	**0.32**	**117**	⇓*i*P	**Pn**	**06 54 38.6**	**+1.6**
MLR	**Muntele Rosu**	**0.52**	**247**	P	**Pn**	**06 54 39.1**	**+0.8**
MLR	**Muntele Rosu**	**0.52**	**247**	⇓*i*P	**Pn**	**06 54 38.9**	**+0.6**
MLR				*i* S	**Sn**	**06 54 49.8**	**+0.1**
MLR	**Muntele Rosu**	**0.52**	**247**	P	**Pn**	**06 54 39.2**	**+0.9**
MLR				*i* S	**Sn**	**06 54 49.8**	**+0.1**
ISR	**Istrita**	**0.58**	**186**	⇑P	**Pn**	**06 54 39.8**	**+0.9**
ISR	**Istrita**	**0.58**	**186**	⇓*i*P	**Pn**	**06 54 39.8**	**+0.9**
TESR		**0.81**	**1**	⇑*i*P	**Pn**	**06 54 41.0**	**0.0**
TESR				*i* S	**Sn**	**06 54 53.4**	**-1.0**
VOIR		**1.14**	**257**	⇑P	**Pn**	**06 54 44.8**	**+0.2**
VOIR				S	**Sn**	**06 54 59.8**	**-0.9**
VOIR		**1.14**	**257**	⇑*i*P	**Pn**	**06 54 44.8**	**+0.2**
VOIR				*i* S	**Sn**	**06 54 59.9**	**-0.9**
VOIR		**1.14**	**257**	⇑*i*P	**Pn**	**06 54 44.8**	**+0.2**
VOIR				*i* S	**Sn**	**06 54 59.8**	**-1.0**
CFR	**Carcaliu**	**1.18**	**116**	P	**Pn**	**06 54 40.1**	**-5.0**
CFR	**Carcaliu**	**1.18**	**116**	⇑*i*P	**Pn**	**06 54 45.3**	**+0.2**
CFR				*i* S	**Sn**	**06 55 01.4**	**-0.3**
HARR	**Harsova**	**1.37**	**137**	P	**Pn**	**06 54 47.8**	**+0.5**
HARR	**Harsova**	**1.37**	**137**	⇓*i*P	**Pn**	**06 54 47.8**	**+0.5**
HARR				*i* S	**Sn**	**06 55 05.0**	**-0.6**
BUC1	**Bucharest**	**1.42**	**198**	⇓P	**Pn**	**06 54 48.5**	**+0.5**
BUC1				S	**Sn**	**06 55 06.8**	**+0.1**
BUC1	**Bucharest**	**1.42**	**198**	⇑*i*P	**Pn**	**06 54 48.5**	**+0.6**
BUC1				*i* S	**Sn**	**06 55 06.8**	**+0.1**
IAS	**Iasi**	**1.63**	**23**	⇑P	**Pn**	**06 54 50.8**	**+0.2**
IAS				S	**Sn**	**06 55 10.5**	**-0.9**
IAS	**Iasi**	**1.63**	**23**	⇑*i*P	**Pn**	**06 54 50.8**	**+0.2**
IAS				*i* S	**Sn**	**06 55 10.5**	**-0.9**
TIRR	**Tirgusor**	**1.77**	**134**	P	**Pn**	**06 54 53.0**	**+0.5**
TIRR	**Tirgusor**	**1.77**	**134**	⇓*i*P	**Pn**	**06 54 52.9**	**+0.5**
TIRR				*i* S	**Sn**	**06 55 13.7**	**-1.0**
TIRR	**Tirgusor**	**1.77**	**134**	P	**Pn**	**06 54 53.0**	**+0.6**
TIRR				*i* S	**Sn**	**06 55 13.7**	**-1.0**
KIS	**Kishinev**	**2.00**	**49**	*e*S	**Sn**	**06 55 20.0**	**+0.1**
	400nm,0.5s						
ZIMR		**2.23**	**204**	*i* S	**Sn**	**06 55 24.0**	**-1.4**

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*ISCJB **06** 06:55:34.0±0.9,3648N±006×718E±0.1,h91km±14km, mb3.3/3,Error ellipse: s-maj=13.8km s-min=9.6km az=172.6*
*NEIC **06** 06:55:35.7±1.3,3643N×7164E,h96km±12km,Error ellipse: s-maj=28.9km s-min=11.0km az=131.0*
*IDC **06** 06:55:39.6±8.8,3674N×7167E,h116km±58km,mb3.1/3, mb1 3.2/7,mb1mx3.1/23,mbtmp3.2/7,Error ellipse: s-maj=74.8km s-min=39.8km az=172.0*

ISC 06 06:55:35.5±0.8,3648N±006×717E±01,h92km±13km,n13, σ1°06/14,mb3.3/3,1C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.91**	**229**	*e*Pn	**Pn**	**06 56 19.5**	**-0.4**
DLH	**Dalhousie**	**5.27**	**137**	*e*P	**Sn**	**06 57 51.0**	**-0.1**
AML	**Almayashu**	**5.85**	**15**	*e*Pn	**Pn**	**06 57 00.8**	**+1.2**
	5.6nm,0.4s						
AAK	**Ala-Archa**	**6.51**	**18**	P	**Pn**	**06 57 08.9**	**+0.3**
	1.4nm,0.3s,baz=182,slow=10,SNR=6.0						
AAK				S	**Sn**	**06 58 20.2**	**-1.1**
	0.6nm,0.3s,baz=114,slow=18,SNR=4.1						
KK31	**Karatay Array**	**6.68**	**352**	**Pn**	**Pn**	**06 57 09.0**	**-1.9**
	1.3nm,0.5s,baz=182,slow=13,SNR=23						
KK31				⇑Lg		06 58 18.3	
	1.1nm,0.4s,baz=190,slow=26,SNR=4.6						
MKAR	**Makanchi Array**	**12.98**	**34**	P	**Pn**	**06 58 38.4**	**+2.3**
	0.0nm,0.3s,baz=226,slow=12,SNR=2.9						
AKTK	**Aktyubinsk**	**17.09**	**329**	P	**Pn**	**06 59 29.4**	**+1.0**
AKTO	**Aktyubinsk**	**17.09**	**329**	P	**Pn**	**06 59 29.4**	**+1.0**
	0.6nm,0.3s,baz=150,slow=8.1,SNR=6.4						
ZALV	**Zalesovo Beam**	**19.70**	**23**	P	**Pn**	**06 59 58.5**	**-1.0**
	0.5nm,0.3s,baz=222,slow=11,SNR=5.8						
FINES	**FINESS Array B**	**37.83**	**326**	P	**P**	**07 02 43.0**	**+0.4**
	0.8nm,0.8s,mb3.6,baz=119,slow=10,SNR=4.0						
NOA	**NORSAR Array B**	**44.74**	**323**	P	**P**	**07 03 38.5**	**-0.8**
	0.6nm,0.1s,mb3.4,baz=13,slow=7.7,SNR=2.3						
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**07 07 40.2**	**-0.6**
YKA	**Yellowknife Ar**	**81.24**	**3**	P	**P**	**07 07 40.2**	**-0.6**
	0.1nm,0.4s,mb3.0,baz=350,slow=5.4,SNR=5.7						

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*ISCJB **06** 07:24:14.8±0.8,279S±02×638E±02,h10km,mb4.1/7, Error ellipse: s-maj=25.2km s-min=23.6km az=156.3*
*IDC **06** 07:24:15.2±0.9,2788S×6384E,h0km,mb4.1/7,mb1 4.2/7, mb1mx3.9/21,mbtmp4.1/7,Error ellipse: s-maj=27.1km s-min=25.7km az=103.0*
*NEIC **06** 07:24:16.7±0.5,2788S×6382E,h10km,Error ellipse: s-maj=17.0km s-min=16.7km az=122.0*

ISC 06 07:24:16.8±0.8,279S±02×638E±02,h10km,n10,σ0°32/8, mb4.1/7,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**33.89**	**259**	P	**P**	**07 30 59.8**	**-0.2**
	2.0nm,0.7s,mb4.1,baz=92,slow=7.2,SNR=4.7						
QSPA	**South Pole Qui**	**62.28**	**180**	P	**P**	**07 34 39.1**	**+0.6**
	6.6nm,0.8s,mb4.8,baz=270,slow=2.6,SNR=20						
ASAR	**Alice Springs**	**62.47**	**104**	P	**P**	**07 34 40.4**	**-0.3**
	1.5nm,0.8s,mb4.2,baz=246,slow=6.4,SNR=15						
WRA	**Warramunga Arr**	**64.18**	**100**	P	**P**	**07 34 52.2**	**+0.1**
	0.9nm,0.6s,mb4.0,baz=248,slow=6.0,SNR=11						
VNDA	**Vanda**	**64.73**	**166**	P	**P**	**07 34 54.3**	**-0.4**
	1.1nm,1.0s,mb3.8,baz=264,slow=5.6,SNR=4.0						
MKAR	**Makanchi Array**	**76.16**	**13**	P	**P**	**07 36 04.9**	**+0.2**
	0.7nm,0.8s,mb3.6,baz=207,slow=5.8,SNR=5.5						
ZALV	**Zalesovo Beam**	**83.48**	**12**	P	**P**	**07 36 44.2**	**0.0**
ZALV	**Zalesovo Beam**	**83.48**	**12**	P	**P**	**07 36 44.2**	**0.0**
	0.5nm,0.3s,mb4.0,baz=202,slow=1.6,SNR=4.0						
YKA	**Yellowknife Ar**	**145.36**	**359**	PKPbc	PKPbc	07 43 54.0	-0.1
YKA	**Yellowknife Ar**	**145.36**	**359**	PKPbc	PKPbc	07 43 54.0	-0.1
	0.3nm,0.6s,baz=348,slow=3.4,SNR=3.7						

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*NEIC **06** 07:32:28.6±0.9,5210N×1752E,h5km,ML2.8(SZGRF),*
Error ellipse: s-maj=11.5km s-min=4.4km az=16.0
*ISCJB **06** 07:32:28.3±0.6,5196N±003×1741E±003,h0km,Error ellipse: s-maj=4.4km s-min=2.8km az=14.4*
*IDC **06** 07:32:29.4±1.0,5207N×1725E,h0km,mb1 3.3/4, mb1mx3.1/20,mbtmp3.1/4,ML2.7/4,Error ellipse: s-maj=25.6km s-min=8.8km az=113.0*
*PRU **06** 07:32:30.1,5200N×1746E,h0km*
*IPEC **06** 07:32:30.6±0.5,5200N×1751E,h14km±2km,ML2.1/3, Error ellipse: s-maj=2.4km s-min=0.8km az=23.0*
*CSEM **06** 07:32:31.1±0.1,5197N×1745E,h2km,ML3.2/6,Error ellipse: s-maj=3.1km s-min=1.6km az=6.0*

ISC 06 07:32:28.6±0.7,5205N±003×1747E±003,h3km±4km,n48, σ1°02/102,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**1.42**	**212**	*e*Pn	**Pn**	**07 32 56.2**	**+1.0**
KSP				*e*Sn	**Sn**	**07 33 15.4**	**+0.9**
KSP	**Ksiaz**	**1.42**	**212**	*e*Pn	**Pn**	**07 32 56.2**	**+0.9**
KSP				*e*Pg	**Pg**	**07 32 56.8**	**+1.1**
KSP				*e*Sn	**Sn**	**07 33 14.2**	**-0.2**
KSP				*e*Sg	**Sg**	**07 33 15.1**	**+1.0**
KSP	**Ksiaz**	**1.42**	**212**	*e*Pn	**Pn**	**07 32 56.2**	**+0.9**
KSP				*e*Sn	**Sn**	**07 33 14.2**	**-0.2**
UPC	**Upice**	**1.80**	**211**	*e*Pn	**Pn**	**07 33 00.5**	**0.0**
UPC	**Upice**	**1.80**	**211**	*e*PG	**Pg**	**07 33 04.0**	**+1.0**
DPC	**Dobruska-Polom**	**1.85**	**203**	*e*Pn	**Pn**	**07 33 01.5**	**+0.3**
DPC	**Dobruska-Polom**	**1.85**	**203**	*e*PN	**Pn**	**07 33 01.6**	**+0.4**
DPC				*e*PG	**Pg**	**07 33 04.6**	**+0.6**
DPC				*e*SG	**Sg**	**07 33 27.8**	**-0.2**
	comp=Z,17nm,0.2s						
OKC	**Ostrava-Krasne**	**2.26**	**169**	*e*Pg	**Pg**	**07 33 11.4**	**-0.4**
OKC				*e*Sg	**Sg**	**07 33 40.0**	**-1.1**
OKC	**Ostrava-Krasne**	**2.26**	**169**	*e*PN	**Pn**	**07 33 11.4**	**-0.4**
OKC				*e*PG	**Pg**	**07 33 11.4**	**-0.4**
OKC				*e*SG	**Sg**	**07 33 40.1**	**-1.0**
	comp=Z,12nm,0.3s						
MORC	**Moravsky Berou**	**2.28**	**179**	*e*Pn	**Pn**	**07 33 07.0**	**-0.1**
MORC				*e*Sg	**Sg**	**07 33 43.2**	**+1.4**
MORC	**Moravsky Berou**	**2.28**	**179**	*e*Pn	**Pn**	**07 33 06.9**	**-0.2**
MORC				*e*Sg	**Sg**	**07 33 43.2**	**+1.5**
OJC	**Ojcow**	**2.35**	**140**	*e*Pn	**Pn**	**07 33 07.1**	**-1.0**
OJC				*e*Pg	**Pg**	**07 33 13.4**	**-0.2**
OJC				*e*Sg	**Sg**	**07 33 43.3**	**-0.7**
OJC	**Ojcow**	**2.35**	**140**	*e*Pg	**Pg**	**07 33 13.4**	**-0.2**
OJC				*e*Sg	**Sg**	**07 33 42.9**	**-1.1**
PVCC	**Panska Ves**	**2.38**	**231**	*e*Pn	**Pn**	**07 33 08.9**	**+0.5**
PVCC	**Panska Ves**	**2.38**	**231**	*e*Pg	**Pg**	**07 33 14.8**	**+0.7**
PVCC				*e*Sg	**Sg**	**07 33 45.3**	**+0.5**
PVCC	**Panska Ves**	**2.38**	**231**	*e*PN	**Pn**	**07 33 09.1**	**+0.7**
PVCC				*e*PG	**Pg**	**07 33 14.8**	**+0.7**
PVCC				*e*SG	**Sg**	**07 33 46.0**	**+1.1**
	comp=Z,40nm,0.3s						
BRG	**Berggiesshubel**	**2.50**	**243**	Pg	**Pg**	**07 33 17.1**	**+0.6**
BRG				*e*Sg	**Sg**	**07 33 48.4**	**-0.5**
BRG	**Berggiesshubel**	**2.50**	**243**	PN	**Pn**	**07 33 11.4**	**+1.2**
BRG				PG	**Pg**	**07 33 17.1**	**+0.6**
BRG				SG	**Sg**	**07 33 50.5**	**+1.6**
	comp=Z,18nm,0.5s						
PRU	**Pruhonice**	**2.77**	**223**	*e*Pg	**Pg**	**07 33 20.6**	**-1.1**
PRU				*e*Sg	**Sg**	**07 33 56.5**	**-1.1**
	comp=Z,10nm,0.5s						
PRU	**Pruhonice**	**2.77**	**223**	*e*PN	**Pn**	**07 33 14.1**	**+0.2**
PRU				*e*PG	**Pg**	**07 33 20.6**	**-1.1**
PRU				*e*SG	**Sg**	**07 33 56.5**	**-1.1**
	comp=Z,10nm,0.5s						
VRAC	**Vranov**	**2.80**	**192**	Pn	**Pn**	**07 33 15.0**	**+0.6**
	comp=Z,0.6nm,0.3s,baz=13,slow=14,SNR=5.5						
VRAC				Pg	**Pg**	**07 33 22.7**	**+0.4**
	comp=Z,1.9nm,0.3s,baz=5.0,slow=17,SNR=7.0						
VRAC				Lg		07 33 56.7	
	comp=Z,2.7nm,0.3s,baz=107,slow=21,SNR=6.6						
VRAC	**Vranov**	**2.80**	**192**	*e*Pn	**Pn**	**07 33 14.7**	**+0.4**
VRAC	**Vranov**	**2.80**	**192**	Pg	**Pg**	**07 33 22.7**	**+0.4**
VRAC				*e*Sg	**Sg**	**07 33 56.4**	**-2.2**
	comp=Z,5.7nm,0.2s						
CLL	**Collm**	**2.88**	**257**	*i* Pn	**Pn**	**07 33 15.3**	**-0.1**
CLL				*e*Pg	**Pg**	**07 33 24.0**	**+0.3**
CLL				*e*Sn	**Sn**	**07 33 47.0**	**-3.5**
CLL				*e*Sg	**Sg**	**07 34 02.0**	**+1.0**
CLL	**Collm**	**2.88**	**257**	*i* Pn	**Pn**	**07 33 15.3**	**-0.1**
CLL				*i* x	x	07 33 16.9	
CLL				*e*Pg	**Pg**	**07 33 24.0**	**+0.3**
CLL				*e*x	x	07 33 31.0	
CLL				*e*Sn	**Sn**	**07 33 47.0**	**-3.5**
CLL				*e*Sg	**Sg**	**07 34 02.0**	**+1.0**
CLL				*i* x	x	07 34 08.6	
CLL	**Collm**	**2.88**	**257**	*e*Pg	**Pg**	**07 33 24.0**	**+0.3**
CLL				*e*Sg	**Sg**	**07 34 01.6**	**+0.6**
TREC	**Trest**	**3.04**	**205**	*e*PN	**Pn**	**07 33 17.8**	**+0.3**
TREC				*e*PG	**Pg**	**07 33 25.8**	**-0.9**
TREC				*e*SG	**Sg**	**07 34 03.9**	**-2.1**
	comp=Z,12nm,0.2s						
KRUC	**Moravsky**	**3.07**	**193**	*e*Pn	**Pn**	**07 33 18.5**	**+0.5**
KRUC				*e*Sg	**Sg**	**07 34 04.2**	**-3.0**
	comp=Z,4.1nm,0.2s						
NIE	**Niedzica**	**3.20**	**144**	*e*Pn	**Pn**	**07 33 20.5**	**+0.8**
NIE				*e*Pg	**Pg**	**07 33 30.3**	**+0.5**
NIE				*e*Sg	**Sg**	**07 34 09.9**	**-1.3**
NIE	**Niedzica**	**3.20**	**144**	*e*Pg	**Pg**	**07 33 30.3**	**+0.5**
NIE				*e*Sg	**Sg**	**07 34 09.9**	**-1.3**
JAVC	**Velka Javorina**	**3.20**	**178**	*e*Pn	**Pn**	**07 33 21.3**	**+1.5**
BSD	**Bornholm Skovb**	**3.42**	**335**	*i* P	**Pn**	**07 33 22.4**	**-0.4**
BSD				*i* S	**Sn**	**07 34 00.9**	**-3.0**
STHS	**Stebnicka Huta**	**3.56**	**136**	*e*Pn	**Pn**	**07 33 25.0**	**+0.2**
STHS				*e*		07 33 39.4	
STHS				*e*Sg	**Sg**	**07 34 25.3**	**+2.3**
STHS	**Stebnicka Huta**	**3.56**	**136**	*e*PN	**Pn**	**07 33 25.0**	**+0.2**
STHS				*e*		07 33 39.4	
STHS	**Stebnicka Huta**	**3.56**	**136**	*e*Pn	**Pn**	**07 33 25.0**	**+0.2**
STHS				*e*Sg	**Sg**	**07 34 25.3**	**+2.3**
NKC	**Novy Kostel**	**3.65**	**242**	*e*PN	**Pn**	**07 33 26.5**	**+0.6**
NKC				*e*PG	**Pg**	**07 33 37.1**	**-1.4**
NKC				*e*SG	**Sg**	**07 34 25.8**	**+0.1**
	comp=Z,13nm,0.3s						
VYHS	**Vyhne**	**3.67**	**166**	*e*PN	**Pn**	**07 33 27.4**	**+1.2**
VYHS				*e*SG	**Sg**	**07 34 27.5**	**+1.1**
KHC	**Kasperske Hory**	**3.83**	**222**	*e*PN	**Pn**	**07 33 28.9**	**+0.4**
KHC				*e*PG	**Pg**	**07 33 40.3**	**-1.7**
KHC				*e*SN	**Sn**	**07 34 12.9**	**-1.1**
KHC				*e*SG	**Sg**	**07 34 30.6**	**-1.1**
	comp=Z,6.9nm,0.3s						
MOX	**Moxa**	**3.93**	**251**	*e*PN	**Pn**	**07 33 30.0**	**+0.2**
MOX				*e*SG	**Sg**	**07 34 35.5**	**+0.7**
GEC2	**GERESS Array S**	**4.01**	**218**	*e*Pn	**Pn**	**07 33 31.7**	**+0.8**
GERES	**GERESS Array B**	**4.01**	**218**	Pn	**Pn**	**07 33 31.9**	**+1.0**
GERES				Pg	**Pg**	**07 33 41.4**	**-4.1**
GERES				Sn	**Sn**	**07 34 16.8**	**-1.6**
GERES				Lg		07 34 36.5	
GERES	**GERESS Array B**	**4.01**	**218**	Pn	**Pn**	**07 33 31.9**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=206,slow=9.3,SNR=7.3						
GERES				Pg	**Pg**	**07 33 41.4**	**-4.1**
	comp=Z,0.5nm,0.3s,baz=38,slow=15,SNR=11						
GERES				Sn	**Sn**	**07 34 16.8**	**-1.6**
	comp=Z,1.0nm,0.3s,baz=36,slow=25,SNR=7.1						
GERES				Lg		07 34 36.5	
	comp=Z,2.4nm,0.3s,baz=33,slow=27,SNR=9.8						
GERES	**GERESS Array B**	**4.01**	**218**	Pg	**Pg**	**07 33 41.4**	**-4.0**
CRVS	**Cervenica-Dubn**	**4.05**	**139**	*e*PN	**Pn**	**07 33 31.6**	**+0.1**
CRVS				*e*SG	**Sg**	**07 34 38.1**	**-0.6**
WET	**Wettzell**	**4.13**	**227**	*e*Pn	**Pn**	**07 33 32.8**	**+0.3**
CLZ	**Clausthal**	**4.40**	**270**	*e*Pn	**Pn**	**07 33 36.3**	**+0.1**
FINES	**FINESS Array B**	**10.52**	**23**	Pn	**Pn**	**07 34 58.6**	**-1.5**
	comp=Z,0.2nm,0.3s,baz=206,slow=9.3,SNR=7.3						
ARCES	**ARCESS Array B**	**17.94**	**9**	Pn	**Pn**	**07 36 32.9**	**-5.9**
	comp=Z,0.1nm,0.3s,baz=198,slow=14,SNR=3.6						

MEX 06 07:47:17.6±0.3,1552N×9287W,h114km±25km,MD3.9, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	**San Cristobal**	**1.23**	**10**	*i* P	Pn	07 47 40.6	-1.1
SCX				*i* S	Sn	07 48 00.0	+0.1
CMIG	**Matias Romero**	**2.49**	**309**	*i* P	Pn	07 47 55.9	-1.2
CMIG				*i* S	Sn	07 48 25.9	-1.5
SCIG	**Sabancuy**	**3.79**	**25**	*i* P	Pn	07 48 13.3	-1.0
SCIG				*i* S	Sn	07 48 56.0	-2.1
TEIG	**Tepich**	**6.41**	**42**	*i* P	Pn	07 48 47.2	-2.3
TEIG				*i* S	Sn	07 49 58.1	-3.1

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*ISCJB **06** 07:48:09.8±0.5,5150N±003×16.14E±003,h0km,Error ellipse: s-maj=4.1km s-min=2.4km az=20.4*
*CSEM **06** 07:48:11.9±0.2,5154N×1610E,h0km,ML3.2/5,Error ellipse: s-maj=3.2km s-min=1.9km az=17.0*
*IPEC **06** 07:48:12.1±0.3,5153N×1616E,h8km±1km,ML2.3/3,Error ellipse: s-maj=1.7km s-min=0.8km az=31.0*
*WAR **06** 07:48:12.9,5150N×1609E,ML2.6,Mining Induced*
*PRU **06** 07:48:13.1,5147N×1608E,h0km*

ISC 06 07:48:11.2±0.5,5154N±003×1611E±003,h0km,n31, σ0°80/60,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**07 48 25.2**	**+0.6**
KSP				*e*Sg	**Sg**	**07 48 34.1**	**+0.4**
KSP	**Ksiaz**	**0.70**	**170**	*e*Pg	**Pg**	**07 48 25.1**	**+0.5**
KSP				*e*Sg	**Sg**	**07 48 34.1**	**+0.4**
UPC	**Upice**	**1.03**	**183**	*e*Pg	**Pg**	**07 48 31.2**	**+0.3**
UPC	**Upice**	**1.03**	**183**	*e*PG	**Pg**	**07 48 31.4**	**+0.5**
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*Pg	**Pg**	**07 48 33.9**	**-0.1**
DPC				*e*Sg	**Sg**	**07 48 48.6**	**-0.9**
DPC	**Dobruska-Polom**	**1.19**	**173**	*e*PG	**Pg**	**07 48 34.0**	**0.0**
DPC				*e*SG	**Sg**	**07 48 48.9**	**-0.6**
	comp=Z,69nm,0.5s						
PVCC	**Panska Ves**	**1.40**	**225**	*e*Pg	**Pg**	**07 48 38.7**	**+0.7**
PVCC				*e*Sg	**Sg**	**07 48 57.3**	**+1.2**
BRG	**Berggiesshubel**	**1.51**	**245**	*e*Pn	**Pn**	**07 48 40.3**	**+0.8**
BRG				*e*Sg	**Sg**	**07 49 00.0**	**+0.2**
BRG	**Berggiesshubel**	**1.51**	**245**	PN	**Pn**	**07 48 39.0**	**-0.5**
BRG				PG	**Pg**	**07 48 40.5**	**+0.3**
BRG				SG	**Sg**	**07 49 00.6**	**+0.8**
	comp=Z,62nm,0.4s						
RUE	**Ruedersdorf**	**1.72**	**304**	*e*Pn	**Pn**	**07 48 42.1**	**-0.2**
PRU	**Pruhonice**	**1.84**	**213**	*e*Pn	**Pn**	**07 48 44.1**	**+0.1**
PRU	**Pruhonice**	**1.84**	**213**	*e*PN	**Pn**	**07 48 44.4**	**+0.4**
PRU				*e*PG	**Pg**	**07 48 45.7**	**-0.7**
PRU				*e*SG	**Sg**	**07 49 10.0**	**-0.2**
	comp=Z,38nm,0.4s						
CLL	**Collm**	**1.96**	**265**	*e*Pn	**Pn**	**07 48 45.0**	**-0.6**
CLL				*i* Pg	**Pg**	**07 48 48.5**	**-0.1**
CLL				*i* x	x	07 48 52.7	
CLL				*i* Sg	**Sg**	**07 49 14.3**	**+0.3**
	comp=Z,16nm,0.5s						
MORC	**Moravsky Berou**	**1.98**	**152**	*e*Pn	**Pn**	**07 48 45.8**	**-0.1**
MORC				*e*Sg	**Sg**	**07 49 13.1**	**-1.7**
	comp=Z,31nm,0.4s						
OKC	**Ostrava-Krasne**	**2.14**	**142**	*e*Pg	**Pg**	**07 48 51.9**	**-0.2**
OKC				*e*Sg	**Sg**	**07 49 19.4**	**-0.4**
	comp=Z,19nm,0.5s						
VRAC	**Vranov**	**2.25**	**172**	*e*Pn	**Pn**	**07 48 50.2**	**+0.6**
VRAC				*e*Sg	**Sg**	**07 49 22.0**	**-1.4**
	comp=Z,13nm,0.4s						
TREC	**Trest**	**2.28**	**190**	*e*Pn	**Pn**	**07 48 49.4**	**-0.6**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**07 48 53.8**	**+1.0**
KRUC	**Moravsky**	**2.48**	**176**	*e*Pg	**Pg**	**07 48 57.6**	**-1.1**
KRUC				*e*Sg	**Sg**	**07 49 30.1**	**-0.8**
	comp=Z,8.9nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**242**	*e*Pg	**Pg**	**07 49 02.2**	**+0.1**
NKC				*e*Sg	**Sg**	**07 49 36.7**	**+0.2**
NKC	**Novy Kostel**	**2.66**	**242**	*e*PN	**Pn**	**07 48 56.2**	**+1.0**
NKC				*e*PG	**Pg**	**07 49 02.2**	**+0.1**
NKC				*e*SG	**Sg**	**07 49 37.4**	**+0.9**
	comp=Z,42nm,0.3s						
OJC	**Ojcow**	**2.68**	**118**	*e*Pg	**Pg**	**07 49 02.5**	**-0.1**
OJC				*e*Sg	**Sg**	**07 49 38.0**	**+0.7**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*Pn	**Pn**	**07 48 59.2**	**+0.7**
KHC	**Kasperske Hory**	**2.90**	**215**	*e*PN	**Pn**	**07 48 59.3**	**+0.8**
KHC				*e*PG	**Pg**	**07 49 05.5**	**-1.2**
KHC				*e*SN	**Sn**	**07 49 33.7**	**-0.4**
KHC				*e*SG	**Sg**	**07 49 42.9**	**-1.4**
	comp=Z,14nm,0.5s						
MOX	**Moxa**	**2.97**	**254**	*e*PN	**Pn**	**07 49 00.4**	**+0.9**
MOX				*e*PG	**Pg**	**07 49 07.7**	**-0.3**
MOX				*e*SG	**Sg**

SCHQ	Schefferville	26.28	305	LR	LR	08 08 17.7	
	comp=Z,347nm,19.5s,MS3.9,baz=219,slow=32						
GRA1	Grafenberg Arr	26.46	67	eP	P	07 59 50.4	+0.2
	comp=Z,9.0nm,1.5s,mb4.1						
GRF	Grafenberg Arr	26.46	67	eP	P	07 59 50.4	+0.2
	comp=Z,9.0nm,1.5s,mb4.1						
JMIC	Jan Mayen	27.17	14	LR	LR	08 08 21.0	
	comp=Z,110nm,18.3s,MS3.5,baz=249,slow=31						
NOA	NORSAR Array B	27.49	42	LR	LR	08 09 06.7	
	comp=Z,101nm,18.6s,MS3.4,baz=270,slow=33						
GERES	GERESS Array B	28.18	68	P	P	08 00 06.0	+0.3
	comp=Z,0.6nm,0.9s,mb3.2,baz=272,slow=9.2,SNR=4.7						
GERES				LR	LR	08 10 28.1	
	comp=Z,306nm,18.5s,MS3.9,baz=277,slow=35						
HFS	Hagfors	28.45	44	LR	LR	08 09 14.5	
	comp=Z,129nm,21.0s,MS3.5,baz=60,slow=32						
KEST	Kesra	29.67	96	LR	LR	08 10 55.0	
	comp=Z,120nm,18.7s,MS3.5,baz=270,slow=34						
VRAC	Vranov	29.98	67	LR	LR	08 12 03.8	
	comp=Z,407nm,18.2s,MS4.1,baz=275,slow=36						
FINES	FINESS Array B	34.63	43	LR	LR	08 13 29.0	
	comp=Z,92nm,19.4s,MS3.5,baz=41,slow=33						
ARCES	ARCESS Array B	35.54	29	P	P	08 01 10.7	+0.6
	comp=Z,2.9nm,1.1s,mb4.1,baz=263,slow=6.8,SNR=4.2						
ARCES				LR	LR	08 13 58.8	
	comp=Z,64nm,20.1s,MS3.4,baz=119,slow=33						
ARCES	ARCESS Array B	35.54	29	P	P	08 01 10.6	+0.6
AKASG	Malin Array Be	37.64	61	P	P	08 01 26.8	-1.3
	comp=Z,0.4nm,0.4s,mb3.5,baz=282,slow=8.7,SNR=4.8						
AKASG				LR	LR	08 17 43.8	
	comp=Z,172nm,18.6s,MS3.9,baz=270,slow=38						
DBIC	Dimbokro	43.60	146	LR	LR	08 19 13.2	
	comp=Z,194nm,18.4s,MS4.0,baz=318,slow=34						
ULM	Lac du Bonnet	44.38	302	LR	LR	08 19 05.6	
	comp=Z,312nm,19.1s,MS4.2,baz=3.8,slow=34						
FFC	Flin Flon	46.25	309	eP	P	08 02 38.9	+0.5
	comp=Z,3.1nm,1.1s,mb4.2						
FFC	Flin Flon	46.25	309	eP	P	08 02 38.9	+0.5
	comp=Z,3.1nm,1.1s,mb4.2						
CCM	Cathedral Cave	46.72	284	eP	P	08 02 42.0	-0.3
	comp=Z,8.6nm,1.2s,mb4.6						
CCM	Cathedral Cave	46.72	284	eP	P	08 02 42.0	-0.3
	comp=Z,8.6nm,1.2s,mb4.6						
YKA	Yellowknife Ar	49.53	322	P	P	08 03 02.8	-0.8
YKA				PcP	PcP	08 04 23.8	-1.5
YKA				LR	LR	08 21 16.0	
YKA	Yellowknife Ar	49.53	322	P	P	08 03 02.8	-0.8
	comp=Z,0.4nm,1.0s,mb3.4,baz=67,slow=6.5,SNR=4.1						
YKA				PcP	PcP	08 04 23.8	-1.5
	comp=Z,0.3nm,0.9s,baz=67,slow=4.3,SNR=3.5						
YKA				LR	LR	08 21 16.0	
	comp=Z,63nm,19.1s,MS3.6,baz=125,slow=33						
YKA	Yellowknife Ar	49.53	322	PcP	PcP	08 04 23.8	-1.5
MIAR	Mount Ida	50.17	282	eP	P	08 03 08.8	-0.1
	comp=Z,13nm,1.3s,mb4.8						
MIAR	Mount Ida	50.17	282	eP	P	08 03 08.9	-0.1
	comp=Z,13nm,1.3s,mb4.8						
EDM	Edmonton	52.98	311	eP	P	08 03 30.1	+0.5
EDM	Edmonton	52.98	311	eP	P	08 03 30.1	+0.4
LKWY	Lake	55.72	301	eP	P	08 03 50.1	+0.4
	comp=Z,2.3nm,0.5s,mb4.5						
LKWY	Lake	55.72	301	eP	P	08 03 50.1	+0.3
	comp=Z,2.3nm,0.5s,mb4.5						
JCT	Junction City	56.81	281	eP	P	08 03 55.7	-2.1
	comp=Z,4.9nm,0.3s,mb5.0						
JCT	Junction City	56.81	281	eP	P	08 03 55.7	-2.0
	comp=Z,4.9nm,0.3s,mb5.0						
ROSC	El Rosal	57.17	239	LR	LR	08 24 04.7	
	comp=Z,103nm,21.3s,MS3.9,baz=204,slow=31						
BVAR	Borovoye Array	59.59	44	LR	LR	08 31 22.0	
	comp=Z,73nm,18.6s,MS3.8,baz=213,slow=37						
TXAR	Lajitas Array	60.16	283	P	P	08 04 21.2	+0.1
	comp=Z,0.8nm,0.9s,mb3.7,baz=69,slow=6.9,SNR=7.0						
TXAR				LR	LR	08 30 20.3	
	comp=Z,403nm,18.4s,MS4.6,baz=355,slow=36						
BDFB	Brasília	63.60	202	LR	LR	08 28 14.1	
	comp=Z,71nm,19.0s,MS3.9,baz=23,slow=32						
NVAR	Mina Array Bea	64.12	299	P	P	08 04 48.8	+1.2
	comp=Z,0.4nm,0.7s,mb3.6,baz=52,slow=10,SNR=3.4						
ZALV	Zalesovo Beam	65.55	37	P	P	08 04 56.8	+0.2
	comp=Z,0.8nm,0.4s,mb4.1,baz=310,slow=7.0,SNR=4.4						
ZALV				LR	LR	08 34 37.0	
	comp=Z,49nm,18.5s,MS3.7,baz=284,slow=37						
MKAR	Makanchi Array	69.47	44	P	P	08 05 21.6	+0.1
MKAR				LR	LR	08 35 24.7	
MKAR	Makanchi Array	69.47	44	P	P	08 05 21.6	+0.1
	comp=Z,0.6nm,0.6s,mb3.7,baz=318,slow=4.8,SNR=5.7						
MKAR				LR	LR	08 35 24.7	
	comp=Z,48nm,19.7s,MS3.7,baz=352,slow=36						
LPAZ	La Paz	71.55	221	LR	LR	08 32 42.7	
	comp=Z,46nm,18.1s,MS3.8,baz=112,slow=32						
KMBO	Kilima Mbogo	73.66	109	LR	LR	08 37 51.1	
	comp=Z,98nm,18.4s,MS4.1,baz=347,slow=36						
BOSA	Boshof	88.21	135	LR	LR	08 43 30.9	
	comp=Z,102nm,18.6s,MS4.3,baz=300,slow=34						
VNDA	Vanda	147.71	184	PKPbc	PKPbc	08 13 56.6	0.0
	comp=Z,2.2nm,1.1s,baz=191,slow=1.9,SNR=8.3						
WRA	Warramunga Arr	150.52	36	PKPbc	PKPbc	08 14 03.5	-1.8
	comp=Z,0.8nm,0.7s,baz=328,slow=2.2,SNR=7.5						
ASAR	Alice Springs	153.62	40	PKPbc	PKPbc	08 14 10.6	-1.7
	comp=Z,0.4nm,0.7s,baz=343,slow=2.0,SNR=7.4						
ASAR				PKPab	PKPab	08 14 24.6	-0.2
	comp=Z,1.0nm,0.7s,baz=336,slow=3.9,SNR=7.7						

IDC 06 07:55:23.9±4.0, 652S×12766E, h444km±61km, mb3.6/1, mb1 3.4/3, mb1mx2.9/13, mbtmp3.2/3, Error ellipse: s-maj=134.2km s-min=56.4km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	14.84	155	P	P	07 58 34.1	+0.6
	1.1nm,0.3s,baz=336,slow=9.9,SNR=37						
WRA				S	S	08 01 10.2	0.0
	0.3nm,0.3s,baz=330,slow=21,SNR=67						
WB2	Warramunga Arr	14.85	155	eP	P	07 58 34.1	+0.5
ASAR	Alice Springs	18.08	161	P	P	07 59 06.7	-1.0
	1.8nm,0.3s,baz=350,slow=15,SNR=93						
ASAR				S	S	08 02 12.2	+0.8
	0.1nm,0.3s,baz=338,slow=20,SNR=4.1						
STKA	Stephens Creek	28.39	154	eP	P	08 00 40.6	-0.1
	2.5nm,0.4s						
STKA	Stephens Creek	28.39	154	P	P	08 00 40.9	+0.3
	3.9nm,0.6s,baz=329,slow=8.5,SNR=18						

MAN 06 07:58:00, 877N×12269E, h32km, mb4.0, ML2.8, MS2.5, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCPH	Dipolog City	0.68	106	⇓iP	Pn	07 58 13.9	+0.5
DCPH				i S	Sb	07 58 24.4	+1.8
SNPH	Sibulan	0.78	43	eP	Pn	07 58 15.2	+0.4
SNPH				eS	Sn	07 58 26.0	+0.6
PAGZ	Pagadian	1.14	143	eP	Pn	07 58 23.9	+4.2
GUIM	Jordan	1.85	357	eP	Pn	07 58 31.0	+1.6
CUYO	Cuyo Island	2.64	322	eP	Pn	07 58 41.4	+1.0
ENPP	El Nido	4.03	307	eP	Pn	07 59 00.6	+1.1

*IDC **06** 08:30:08.7±1.7, 3503N×141.15E, h0km, mb3.7/3, mb1 3.8/7, mb1mx3.6/23, mbtmp3.8/7, ML3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/31, Error ellipse: s-maj=47.8km s-min=21.0km az=75.0*

*ISCJB **06** 08:30:11.6±0.7, 3510N±003×141.11E±006, h33km, mb3.8/3, Error ellipse: s-maj=7.0km s-min=4.6km az=179.9*

*JMA **06** 08:30:11.6±0.1, 3508N×14108E, h50km±2km, M3.2*

ISC 06 08:30:12.8±0.7, 3508N±003×14106E±006, h35km, n19, σ0§99/29, mb3.8/3, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO2	Boso 2	0.41	217	S	Sn	08 30 30.0	+1.4
BSO1	Boso 1	0.43	189	P	Pn	08 30 21.9	-0.5
BSO1				S	Sn	08 30 30.3	+1.3
BSO3	Boso 3	0.53	238	P	Pn	08 30 23.5	-0.3
BSO3				S	Sn	08 30 32.0	+0.6
BSO4	Boso 4	0.59	262	P	Pn	08 30 24.5	-0.2
BSO4				S	Sn	08 30 34.5	+1.3
KTR	Katsuura	0.61	277	P	Pn	08 30 24.6	-0.3
KTR				S	Sn	08 30 33.1	-0.4
CHOJ	Chosi	0.64	346	P	Pn	08 30 24.7	-0.7
CHOJ				S	Sn	08 30 33.8	-0.6
JCN	Nagara	0.78	296	P	Pn	08 30 27.4	+0.2
JCN				S	Sn	08 30 37.3	-0.4
JYT	Yasato	1.34	329	P	Pn	08 30 35.5	+0.5
JIM2	Oshima 3	1.38	255	P	Pn	08 30 34.6	-1.0
JIM2				S	Sn	08 30 50.6	-2.0
JMY	Miyakejima3	1.62	232	P	Pn	08 30 38.4	-0.4
JMY				S	Sn	08 30 57.5	-1.0
JHJ	Hachijo jima 2	2.22	209	Pn	Pn	08 30 46.2	-0.9
	13nm,0.3s,baz=60,slow=20,SNR=3.4						
JHJ				Sn	Sn	08 31 09.1	-4.2
	38nm,0.3s,baz=308,slow=19,SNR=6.9						
MJAR	Matsushiro Arr	2.73	303	Pn	Pn	08 30 54.8	+0.6
	2.8nm,0.3s,baz=126,slow=10,SNR=29						
MJAR				Sn	Sn	08 31 27.7	+1.7
	4.1nm,0.3s,baz=139,slow=24,SNR=5.9						
MAT	Matsushiro	2.74	303	P	Pn	08 30 53.8	-0.4
MAT				eS	Sn	08 31 25.9	-0.1
CBIJ	Chichi jima	8.02	173	Pn	Pn	08 32 04.7	-2.1
	3.7nm,0.3s,baz=297,slow=16,SNR=3.0						
JNU	Nakatsue	8.66	260	LR	LR	08 35 21.4	
	comp=Z,36nm,18.2s,baz=48,slow=36						
ASAJ	Asahikawa	9.10	7	Pn	Pn	08 32 21.4	-0.2
	0.6nm,0.3s,baz=235,slow=18,SNR=3.8						
MKAR	Makanchi Array	44.94	304	P	P	08 38 26.0	+1.9
	0.2nm,0.4s,mb3.3,baz=90,slow=10,SNR=2.8						
WRA	Warramunga Arr	55.09	188	P	P	08 39 42.2	+1.0
	2.9nm,0.8s,mb4.4,baz=5.0,slow=6.9,SNR=45						
ASAR	Alice Springs	58.81	188	P	P	08 40 08.8	+1.2
	0.4nm,0.5s,mb3.7,baz=1.5,slow=6.4,SNR=12						

*CSEM **06** 09:14:13.6, 3649N×2194E, h9km, MD3.2/4, After ATH*
*NEIC **06** 09:14:13.6, 3649N×2194E, h9km, MD3.3(ATH), After ATH.*

ATH 06 09:14:13.6, 3649N×2194E, h9km±1km, MD3.3/4, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.43	339	eP	Pg	09 14 23.2	+1.1
ITM	Ithomi	0.69	359	⇑ePG	Pg	09 14 26.6	-0.3
ITM				eSB	Sg	09 14 36.5	+0.6
VLI	Veliai	0.83	74	ePB	Pb	09 14 29.6	-0.6
VLI				eSB	Sb	09 14 41.3	-0.3
KYTH	Kithira	0.91	103	ePB	Pb	09 14 31.0	-0.5
NAIG	Nisos Aigina	1.77	44	ePN	Pn	09 14 46.5	+2.1

SKHL 06 09:34:38.4±0.5, 5400N×13512E, h10km, mb3.8/2, 1D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKMR	Ekimchan	1.60	235	⇓ePg	Pg	09 35 07.1	-1.9
EKMR				AMB	AMB	09 35 08.5	
	33nm,0.4s						
EKMR				AMB	AMB	09 35 08.5	
	68nm,0.4s						
EKMR				AMB	AMB	09 35 08.5	
	97nm,0.4s						
EKMR				i Sg	Sg	09 35 28.4	-1.2
EKMR				A		09 35 30.0	
	60nm,0.4s						
EKMR				A		09 35 30.0	
	29nm,0.4s						
GRNR	Gornyy	3.33	166	eSg	Sg	09 36 23.0	-2.4
NKL	Nikolayevsk	3.42	102	erx	rx	09 35 47.0	
NKL				eSg	Sg	09 36 24.4	-3.8
NKL				A		09 36 30.9	
	35nm,0.4s						
BMKR	Bomnak	3.74	284	ePg	Pg	09 35 45.7	-4.3
BMKR				eSg	Sg	09 36 34.5	-4.0
BMKR				A		09 36 41.1	
	20nm,0.4s						
ZEA	Zeya	4.67	270	erx	rx	09 37 09.8	
KROS	Kirovskiy	4.80	278	ePg	Pg	09 36 05.0	-5.3
KROS				AMB	AMB	09 36 07.3	
	3.0nm,0.5s						
KROS				eSg	Sg	09 37 07.6	-4.9
KROS				A		09 37 13.8	
	6.0nm,0.5s						
KLR	Kul'dur	5.22	205	eSg	Sg	09 37 20.0	-5.8
TYV	Tymovskoe	5.58	121	eSg	Sg	09 37 35.0	-2.3

MOS 06 10:04:44.5±1.0, 4521N×4201E, h13km, mb3.9/1, 1D, Error ellipse: s-maj=46.5km s-min=17.6km az=102.2, Ukraine - Moldova - Southwestern Russia region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIV	Kislovodsk	1.34	159	ePG	Pg	10 05 09.3	-1.0
KIV				eS	Sb	10 05 27.1	+0.5
KIV0	Kislovodsk Arr	1.35	158	⇓ePG	Pg	10 05 09.3	-1.1
KIV0				eS	Sb	10 05 27.2	+0.5
SHAR	Shatzhatmas	1.54	162	i PG	Pg	10 05 12.5	-1.6
SHAR				eS	Sn	10 05 33.2	+1.7
KUBR	Kubataba	1.73	144	ePN	Pn	10 05 15.4	+1.2
ANN	Anapa	3.27	264	ePG	Pg	10 06 03.2	+16

IDC 06 10:42:23.9±1.6, 405N×12383E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.7/18, mbtmp3.9/5, MS4.3/1, Ms1 4.3/1, ms1mx3.0/27, Error ellipse: s-maj=127.3km s-min=22.4km az=66.0, Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	22.08	175	P	P	10 47 21.0	+0.2
	0.7nm,0.4s,baz=354,slow=10,SNR=11						
WRA	Warramunga Arr	25.98	157	P	P	10 47 59.1	+0.6
	1.9nm,0.4s,baz=335,slow=9.6,SNR=40						
WB2	Warramunga Arr	25.99	157	eP	P	10 47 59.2	+0.6
ASAR	Alice Springs	29.24	161	P	P	10 48 27.7	0.0
	0.6nm,0.5s,baz=334,slow=6.9,SNR=21						
STKA	Stephens Creek	39.52	156	P	P	10 49 55.8	-0.8
	1.5nm,0.5s,baz=315,slow=10.0,SNR=5.0						
MKAR	Makanchi Array	55.67	327	P	P	10 52 02.0	+0.1
	0.5nm,0.3s,baz=131,slow=7.8,SNR=8.6						
MKAR				LR	LR	11 16 24.6	
	comp=Z,262nm,19.4s,baz=38,slow=37						

*OMAN **06** 10:57:38.8, 2519N×6453E, h50km*
*BJI **06** 10:57:54.4, 2488N×6245E, h35km, mB5.0, mb4.7, Ms4.7, Msz4.4*
*ISCJB **06** 10:57:56.2±0.2, 2498N±004×6293E±002, h27km, mb4.5/84, MS4.2/30, Error ellipse: s-maj=5.1km s-min=3.0km az=175.5*
*CSEM **06** 10:57:56.5±0.1, 2508N×6286E, h26km, mb4.8/36, Ms3.8, Error ellipse: s-maj=4.7km s-min=2.4km az=145.0*
*IDC **06** 10:57:57.9±0.8, 2495N×6294E, h26km±3km, mb4.0/21, mb1 4.1/21, mb1mx4.0/29, mbtmp4.0/21, MS4.0/14, Ms1 4.1/14, ms1mx3.8/35, Error ellipse: s-maj=16.9km s-min=13.1km az=7.0*
*MOS **06** 10:57:57.0±1.0, 2502N×6299E, h33km, mb4.9/43, MS4.2/8, Error ellipse: s-maj=7.9km s-min=4.5km az=115.4*
*NEIC **06** 10:57:58.2±0.4, 2499N×6295E, mb4.8/44, Error ellipse: s-maj=8.0km s-min=4.8km az=161.0*
*SZGRF **06** 10:57:58.3, 2495N×6308E, h29km, mb4.6, Off coast of Pakistan*

ISC 06 10:57:58.4±0.2, 2498N±004×6294E±002, h29km, h29km±6km: pP-P, n297, σ1§04/309, mb4.5/84, MS4.2/30, 15C-8D, Off coast of Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WBK	Wadi Bani Khal	4.33	238	P	Pn	10 59 00.7	-1.6
	SNR=129						
WBK	Wadi Bani Khal	4.33	238	Pn	Pn	10 59 00.7	-1.6
	SNR=129						
WBK	Wadi Bani Khal	4.33	238	P	Pn	10 59 00.7	-1.6
	SNR=129						
WBK	Wadi Bani Khal	4.33	238	P	Pn	10 59 00.7	-1.6
	SNR=129						
BIDO	Bidbid	4.63	253	P	Pn	10 59 06.3	-0.1
	SNR=42						
SMDO	Samad	4.86	248	P	Pn	10 59 08.9	-0.7
	SNR=38						
JMDO	Jabal Madar	5.14	241	P	Pn	10 59 12.4	-1.0
	SNR=33						
BSYO	Bisya	5.68	248	P	Pn	10 59 21.8	+1.0
	SNR=13						
BSY	Bisya	5.71	248	P	Pn	10 59 21.8	+0.6
	SNR=13						
BSY	Bisya	5.71	248	P	Pn	10 59 21.8	+0.6
	SNR=13						
BANOM	Banah	6.08	280	Pn	Pn	10 59 25.2	-1.1
	SNR=65						
ASHO	Ashiyiah	6.26	269	Pn	Pn	10 59 27.8	-1.0
	SNR=51						
BHJ	Bhuj	6.37	104	eP	Pn	10 59 29.0	-1.3
BHJ				eS	Sn	11 00 36.0	-6.1
JASL	Jaisalmer	7.42	73	eP	Pn	10 59 43.4	-1.4
AJM	Ajmer	10.66	79	ex	x	11 00 35.0	
AJM				i x	x	11 02 36.0	
KBL	Kabul	10.90	28	eP	Pn	11 00 31.1	-1.3
KBL				pmax	pmax		
	comp=Z,8.0nm,0.6s						
KBL	Kabul	10.90	28	ePn	Pn	11 00 31.1	-1.3
	comp=Z,7.9nm,0.6s						
KBL	Kabul	10.90	28	eP	Pn	11 00 31.1	-1.3
	comp=Z,8.0nm,0.6s						
KHET	Khetri	11.93	72	eP	Pn	11 00 42.6	-3.8
KHET				AMb	AMB	11 00 44.4	
	comp=Z,6.4nm,0.7s						
KHET				eS	Sn	11 02 45.3	-13
POO	Poona	11.99	120	eP	Pn	11 00 46.5	-1.0
POO				AMb	AMB	11 00 56.5	
	comp=Z,11nm,0.6s						
KUDL	Kundal	12.53	72	eP	Pn	11 00 51.1	-3.6
KUDL				AMb	AMB	11 01 01.3	
	comp=Z,16nm,0.7s						
KUDL				eS	Sn	11 02 59.1	-14
KAD	Karad	12.96	124	eP	Pn	11 01 00.1	-0.7
KAD				AMb	AMB	11 01 03.9	
	comp=Z,12nm,0.9s						
SONA	Sohna	13.06	72	eP	Pn	11 00 58.1	-4.0
SONA				AMb	AMB	11 01 06.2	
	comp=Z,13nm,0.7s						
AYAN	Aya Nagar	13.15	72	eP	Pn	11 01 00.3	-2.9
AYAN				AMb	AMB	11 01 04.3	
	comp=Z,8.6nm,0.7s						
AYAN				eS	Sn	11 03 16.1	-12
NDI	New Delhi	13.27	71	eP	Pn	11 01 01.3	-3.6
NDI				AMb	AMB	11 01 04.4	
	comp=Z,10nm,0.1s						
NDI				eS	Sn	11 03 18.1	-13
BHPL	Bhopal	13.34	94	eP	Pn	11 01 04.5	-1.3
BHPL				AMb	AMB	11 01 18.1	
	comp=Z,24nm,1.1s						
THN	Thein Dam	13.44	54	eP	Pn	11 01 03.6	-3.6
THN				eS	Sn	11 03 23.2	-12
AGRA	Agra	13.67	77	ex	x	11 03 26.9	
RDF	Al-Radifah	14.28	289	eP	Pn	11 01 15.5	-3.1
RDF				AML	AML	11 03 41.9	
	comp=Z,16nm,0.6s						
UMR	Umm Al-Rimmam	14.28	292	eP	Pn	11 01 16.1	-2.6
UMR				AML	AML	11 03 41.9	
	comp=Z,16nm,0.5s						
NAY	Al-Naaiem	14.61	290	eP	Pn	11 01 20.2	-2.9
NAY				AML	AML	11 03 50.5	
	comp=Z,7.4nm,0.6s						
MIB	Mutribah	14.67	293	eP	Pn	11 01 21.1	-2.8
MIB				AML	AML	11 03 52.5	
	comp=Z,15nm,0.3s						
HYB	Hyderabad	16.38	114	i P	Pn	11 01 48.0	+1.7
BLSP	Bilaspur	17.82	95	eP	Pn	11 02 03.1	-1.2
KSH	Kashi	18.18	34	eP	Pn	11 02 09.1	+0.5
KSH				eAP	pP	11 02 15.1	-1.3
KSH				eXP	sP	11 02 19.4	-0.8
KSH				ePP		11 02 24.2	
KSH				ePPP		11 02 32.2	
KSH				eS	Sn	11 05 26.5	-4.2
KSH				AMB	AMB		
	comp=Z,656nm,2.7s						
KSH				LR	LR		
	comp=N,2μm,9.0s						
KSH				LR	LR		
	comp=E,2μm,12.5s						
KSH				LR	LR		
	comp=Z,3μm,14.3s						
KOLN	Koldanda	18.72	77	eP	Pn	11 02 15.8	+0.6
DANN	Dangsing	18.91	75	eP	Pn	11 02 17.4	-0.1
	comp=Z,67nm,0.9s						
KK31	Karatay Array	19.12	17	i P	Pn	11 02 18.1	-1.9
KK31				pmax	pmax		
	comp=Z,8.0nm,0.7s						
KK31	Karatay Array	19.12	17	i P	Pn	11 02 18.1	-1.9
	comp=Z,8.0nm,0.7s						
AML	Almayashu	19.28	25	eP	Pn	11 02 20.6	-1.3
	comp=Z,30nm,0.6s						
AML	Almayashu	19.28	25	P	Pn	11 02 21.9	-0.1
	SNR=46						
AML	Almayashu	19.28	25	eP	Pn	11 02 20.6	-1.3
	comp=Z,30nm,0.6s						
GKN	Gorkha	19.65	76	eP	Pn	11 02 26.4	0.0
	comp=Z,56nm,1.1s						
UCH	Uchtor	19.69	26	eP	Pn	11 02 25.7	-1.1
	comp=Z,28nm,1.1s						
UCH	Uchtor	19.69	26	P	Pn	11 02 25.8	-1.0
	SNR=26						
UCH	Uchtor	19.69	26	eP	Pn	11 02 25.7	-1.0
	comp=Z,28nm,1.1s						
EKS2	Erkin-Say	19.77	24	eP	Pn	11 02 27.1	-0.7
	comp=Z,133nm,1.6s						
EKS2	Erkin-Say	19.77	24	P	Pn	11 02 28.3	+0.6
	SNR=16						
EKS2	Erkin-Say	19.77	24	eP	Pn	11 02 27.1	-0.6
	comp=Z,133nm,1.6s						
KZA	Kyzart	19.87	28	P	Pn	11 02 27.9	-1.0
	SNR=46						
AAK	Ala-Archa	20.02	26	eP	P	11 02 29.1	+0.3
AAK				pmax	pmax		
	comp=Z,115nm,1.6s						
AAK	Ala-Archa	20.02	26	eP	P	11 02 29.1	+0.2
	comp=Z,115nm,1.6s						
AAK	Ala-Archa	20.02	26	P	P	11 02 28.8	0.0
	comp=Z,11nm,0.6s,baz=206,slow=7.6,SNR=40						
AAK	Ala-Archa	20.02	26	P	P	11 02 29.3	+0.5
	SNR=15						
AAK	Ala-Archa	20.02	26	eP	P	11 02 29.0	+0.2
	comp=Z,115nm,1.6s						
DMN	Daman	20.04	78	eP	P	11 02 31.5	+2.3
	comp=Z,23nm,0.6s						
KKN	Kakani	20.20	77	eP	P	11 02 32.5	+1.5
KBK	Karagaybulak	20.22	26	P	P	11 02 32.2	+1.2
	SNR=11						
FRU	Bishkek	20.24	25	eP	P	11 02 32.0	+0.8
FRU				pmax	pmax		
	comp=Z,130nm,2.2s						
FRU	Bishkek	20.24	25	eP	P	11 02 32.0	+0.8
	comp=Z,130nm,2.2s						
CHMS	Chumysh	20.43	25	P	P	11 02 33.3	0.0
	SNR=9.8						
ULHL	Ulahol	20.43	29	P	P	11 02 35.6	+2.4
	SNR=14						
USP	Ospenovka	20.56	25	P	P	11 02 35.0	+0.3
	SNR=38						
TKM2	Tokmak 2	20.71	27	eP	P	11 02 36.1	-0.1
TKM2				pmax	pmax		
	comp=Z,33nm,1

KIV pmax pmax
comp=Z,112nm,1.2s,mb5.3
KIV Kislovodsk 25.13 324 *e*P **P 11 03 23.5 +2.7**
comp=Z,129nm,1.2s,mb5.3
KIV Kislovodsk 25.13 324⇑*i*P **P 11 03 23.0 +2.2**
KIV Kislovodsk 25.13 324 *e*P **P 11 03 22.6 +1.8**
comp=Z,112nm,1.2s,mb5.3
EIL Elat 25.27 287 P **P 11 03 22.3 0.0**
EIL Elat 25.27 287 P **P 11 03 22.3 0.0**
comp=Z,2.0nm,0.7s,mb3.8,baz=83,slow=18,SNR=1.8
MMAI Mount Meron Ar 25.33 295 P **P 11 03 22.7 0.0**
comp=Z,0.5nm,0.3s,mb3.5,baz=114,slow=11,SNR=2.4
AKTK Aktyubinsk 25.70 353 P **P 11 03 26.1 +0.3**
AKTK Aktyubinsk 25.70 353 P **P 11 03 26.1 +0.2**
AKTO Aktyubinsk 25.70 353 P **P 11 03 26.1 +0.3**
comp=Z,13nm,0.5s,mb4.7,baz=158,slow=11,SNR=49
SOC Sochi 26.55 320 *e*P **P 11 03 32.6 -1.0**
SOC *e**PP pP 11 03 45.2 +3.1
SOC *e* 11 04 14.5
SOC *e*S **S 11 08 03.2 -3.0**
SOC *e*SS 11 09 10.5
SOC pmax pmax
comp=Z,11nm,0.8s,mb4.4
SOC MLR MLR
comp=Z,363nm,15.0s,MS4.0
SOC Sochi 26.55 320 *e*P **P 11 03 32.6 -1.0**
comp=Z,11nm,0.8s,mb4.4
MK31 Makanchi Array 26.69 30 *e*P **P 11 03 35.0 +0.1**
MKAR Makanchi Array 26.69 30⇑*e*P **P 11 03 35.0 +0.1**
MKAR Makanchi Array 26.69 30 P **P 11 03 34.9 0.0**
comp=Z,3.2nm,0.5s,mb4.1,baz=211,slow=10.0,SNR=34
WMQ Urumqi 27.59 41 P **P 11 03 44.0 +1.0**
WMQ XP sP 11 03 54.0 -1.0
WMQ PP 11 04 32.0
WMQ S **S 11 08 22.0 -0.6**
WMQ AMB AMB
comp=Z,35nm,0.7s,mb5.1
WMQ LR LR
comp=N,715nm,10.0s,MS4.7
WMQ LR LR
comp=E,748nm,11.0s,MS4.7
WMQ LR LR
comp=Z,564nm,8.0s
KURK Kurchatov 28.40 21 *e*P **P 11 03 50.3 +0.2**
KURK pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
KURK Kurchatov 28.40 21 *e*P **P 11 03 50.3 +0.2**
comp=Z,8.4nm,1.1s,mb4.3
KURK Kurchatov 28.40 21 *e*P **P 11 03 50.3 +0.2**
comp=Z,8.4nm,1.1s,mb4.3
BVAR Borovoye Array 28.57 9 P **P 11 03 52.0 +0.4**
comp=Z,1.7nm,0.5s,mb4.0,baz=186,slow=7.4,SNR=15
BRVK Borovoye 28.59 9 *e*P **P 11 03 52.2 +0.5**
BRVK pmax pmax
comp=Z,27nm,1.4s,mb4.8
BRVK Borovoye 28.59 9 *e*P **P 11 03 52.2 +0.5**
comp=Z,27nm,1.4s,mb4.8
BRVK Borovoye 28.59 9 *e*P **P 11 03 52.2 +0.5**
comp=Z,27nm,1.4s,mb4.8
ANN Anapa 28.59 320 *e*P **P 11 03 52.2 +0.3**
ANN *e*S **S 11 08 37.5 -0.9**
ANN pmax pmax
comp=Z,15nm,1.1s,mb4.6
ANN MLR MLR
comp=Z,261nm,16.0s,MS3.9
ISP Isparta 30.35 303 *e*P **P 11 04 08.3 +0.7**
ISP pmax pmax
comp=Z,12nm,1.1s,mb4.5
ISP Isparta 30.35 303 *e*P **P 11 04 08.3 +0.7**
comp=Z,12nm,1.1s,mb4.5
SIM Simferopol' 30.65 318 *e*P **P 11 04 11.0 +0.8**
SIM pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
ARU Arti 31.58 355 *e*P **P 11 04 17.7 -0.5**
ARU *e* 11 05 20.2
ARU *e* 11 07 08.2
ARU *e*S **S 11 09 23.7 -1.3**
ARU MLR MLR
comp=Z,622nm,15.0s,MS4.4
VRSR Storozhevoye 31.90 331 *e*P **P 11 04 20.7 -0.4**
VRSR pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
VRSR pmax pmax
comp=N,3.0nm,1.1s
VRSR pmax pmax
comp=E,2.0nm,0.9s
ZAL Zalesovo 33.21 24 P **P 11 04 32.2 -0.3**
ZAA0 Zalesovo Array 33.22 24 *e*P **P 11 04 32.5 -0.2**
ZAA0 Zalesovo Array 33.22 24 *e*P **P 11 04 32.5 -0.1**
ZALV Zalesovo Beam 33.22 24 P **P 11 04 32.2 -0.4**
comp=E,2.5nm,0.5s,mb4.4,baz=228,slow=10,SNR=16
NVS Novosibirsk 33.39 21 *e*P **P 11 04 34.2 +0.1**
NVS pmax pmax
comp=N,18nm,1.6s
NVS pmax pmax
comp=E,8.0nm,1.6s
NVS pmax pmax
comp=Z,14nm,1.6s,mb4.6
OBN Obninsk 35.82 334⇓*e*P **P 11 04 55.5 +0.4**
OBN *e* 11 06 13.8
OBN *e*S **S 11 10 22.3 -8.3**
OBN pmax pmax
comp=Z,35nm,1.6s,mb5.0
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.0
MOS Moscow 35.87 336 *e*P **P 11 04 55.0 -0.5**
MOS *e* 11 05 07.4
KMI Kunming 35.97 81 P **P 11 04 58.5 +1.8**
KMI S **S 11 10 36.4 +2.8**
KMI AMB AMB
comp=Z,8.0nm,0.7s,mb4.8
KMI LR LR
comp=N,176nm,10.4s
KMI LR LR
comp=E,166nm,16.4s
KMI LR LR
comp=Z,149nm,15.6s
MLR Muntele Rosu 36.07 314 P **P 11 04 58.9 +1.6**
comp=Z,1.9nm,0.6s,mb4.2,baz=95,slow=4.1,SNR=5.0
MLR Muntele Rosu 36.07 314⇓*i*P **P 11 05 00.4 +3.1**
CD2 Chengdu 36.39 71 *e*P **P 11 05 00.7 +0.4**
CD2 AP pP 11 05 09.2 +0.3
CD2 XP sP 11 05 12.5 +0.1
CD2 PP PP 11 06 23.9 +0.6
CD2 S **S 11 10 38.7 -1.3**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,130nm,12.6s
CD2 LR LR
comp=Z,120nm,11.8s,MS3.9
AKASG Malin Array Be 36.47 324 P **P 11 05 00.4 -0.3**
comp=Z,5.0nm,0.5s,mb4.7,baz=124,slow=7.4,SNR=58
AKASG pP pP 11 05 08.7 -0.6
comp=Z,26nm,1.0s,baz=124,slow=7.4,SNR=18
AKBB Malin Array Si 36.47 324 *e*P **P 11 05 00.3 -0.4**
AKBB *e* pP 11 05 08.8 -0.5
KIEV Kiev 36.48 324 *e*P **P 11 05 00.2 -0.6**
KIEV *e* pP 11 05 08.7 -0.6
KIEV pmax pmax
comp=Z,23nm,0.8s,mb5.2
KIEV Kiev 36.48 324 *e*P **P 11 05 00.1 -0.6**
comp=Z,23nm,0.8s,mb5.2
KIEV *e* pP 11 05 08.7 -0.7
KIEV Kiev 36.48 324 *e*P **P 11 05 00.2 -0.6**
LZH Lanzhou 36.69 63 *e*P **P 11 05 05.0 +2.2**
LZH AP pP 11 05 12.0 +0.6
LZH XP sP 11 05 15.5 +0.6
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,53nm,4.3s
BURAR Bucovina Array 37.35 317⇓*i*P **P 11 05 08.9 +0.6**
DRGR 38.63 315⇑*i*P **P 11 05 19.9 +0.9**
BZS Buzias 38.97 313⇓*i*P **P 11 05 20.7 -1.2**
GYA Guiyang 39.28 78 P **P 11 05 25.4 +0.6**
GYA AP pP 11 05 34.6 +1.2
GYA XP sP 11 05 37.9 +1.0
GYA PP PP 11 06 58.9 +3.8
GYA PCP PcP 11 07 35.4 +2.1
GYA SCP ScP 11 11 21.2 +1.3
GYA S **S 11 11 24.6 +0.7**
GYA SCS ScS 11 15 31.2 -0.6
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,90nm,5.2s
GYA LR LR
comp=N,460nm,17.6s,MS4.5
GYA LR LR
comp=E,440nm,17.4s,MS4.5
GYA LR LR
comp=Z,420nm,18.0s,MS4.3
KOLS Kolonicke sedl 39.68 318 *e*P **P 11 05 29.1 +1.3**
STHS Stebnicka Huta 40.49 318 *e*P **P 11 05 39.2 +4.7**
STHS *e* 11 05 57.4
STHS pmax pmax
comp=Z,3.0nm,1.2s,mb3.9
STHS Stebnicka Huta 40.49 318 *e*P **P 11 05 39.2 +4.7**
comp=Z,2.9nm,1.2s,mb3.9
STHS *e* 11 05 57.4
TLY Talaya 40.80 38 *e*P **P 11 05 38.6 +1.6**
TLY *e*SS ScS 11 15 37.9 -2.0
TLY pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
TLY MLR MLR
comp=Z,341nm,19.0s,MS4.2
TLY Talaya 40.80 38 *e*P **P 11 05 38.4 +1.4**
comp=Z,8.1nm,1.3s,mb4.2
TLY *e* pP 11 05 47.1 +1.4
TLY Talaya 40.80 38 *e*P **P 11 05 38.4 +1.4**
SONM Songino Array 41.05 45 P **P 11 05 40.2 +1.1**
comp=Z,2.9nm,0.9s,mb3.9,baz=258,slow=7.4,SNR=20
SONM pP pP 11 05 48.2 +0.4
comp=Z,7.1nm,1.0s,baz=251,slow=8.0,SNR=19
SONM LR LR 11 25 59.0
comp=Z,432nm,18.7s,MS4.3,baz=248,slow=41
SONM Songino Array 41.05 45 P **P 11 05 40.2 +1.1**
SONM pP pP 11 05 48.2 +0.4
PSI Prapat 41.07 117 LR LR 11 21 22.3
comp=Z,274nm,18.8s,MS4.1,baz=270,slow=34
ULN Ulaanbaatar 41.48 45 *e*P **P 11 05 44.0 +1.4**
ULN *e* pP 11 05 52.1 +0.8
ULN pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
ULN Ulaanbaatar 41.48 45 *e*P **P 11 05 44.0 +1.4**
comp=Z,9.1nm,1.1s,mb4.3
ULN *e* pP 11 05 52.1 +0.8
ULN Ulaanbaatar 41.48 45 *e*P **P 11 05 44.0 +1.4**
OJC Ojcow 41.65 319 *e*P **P 11 05 44.3 +0.3**
VYHS Vyhne 41.66 316 *e*P **P 11 05 45.0 +0.8**
VYHS pmax pmax
comp=Z,6.0nm,1.8s,mb3.9
VYHS Vyhne 41.66 316 *e*P **P 11 05 45.0 +0.8**
comp=Z,5.9nm,1.8s,mb3.9
OKC Ostrava-Krasne 42.52 318 *e*P **P 11 05 51.7 +0.6**
OKC *e*pP pP 11 05 59.8 0.0
OKC Ostrava-Krasne 42.52 318 *e*P **P 11 05 51.7 +0.6**
OKC *e*pP pP 11 05 59.8 0.0
OKC AMS AMS 11 28 00.0
comp=Z,300nm,5.8s
MODS Modra-Piesok 42.62 315 *e*P **P 11 05 52.1 +0.1**
MORC Moravsky Berou 42.87 317 *e*P **P 11 05 53.9 -0.1**
MORC *e* pP 11 06 02.6 -0.1
MORC pmax pmax
comp=Z,7.0nm,1.2s,mb4.3
MORC Moravsky Berou 42.87 317 *e*P **P 11 05 53.9 -0.1**
comp=Z,7.5nm,1.2s,mb4.3
MORC *e* pP 11 06 02.5 -0.1
MORC Moravsky Berou 42.87 317⇓*i*P **P 11 05 54.7 +0.7**
MORC Moravsky Berou 42.87 317 *e*P **P 11 05 53.4 -0.6**
HHC Hu-ho-hao-te 43.22 56 *e*P **P 11 05 56.8 -0.2**
HHC AP pP 11 06 04.0 -1.7
HHC XP sP 11 06 07.5 -1.7
HHC PP PP 11 07 39.5 +1.9
HHC SCP ScP 11 11 35.0 -0.3
HHC S **S 11 12 20.7 -1.4**
HHC SS SS 11 15 28.1 -7.5
HHC SCS ScS 11 15 54.0 -1.2
HHC AMB AMB
comp=Z,22nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,171nm,6.4s
HHC LR LR
comp=N,630nm,18.6s,MS4.6
HHC LR LR
comp=E,317nm,18.6s,MS4.6
HHC LR LR
comp=Z,468nm,19.4s,MS4.4
VRAC Vranov 43.32 316 P **P 11 05 57.1 -0.5**
comp=Z,1.3nm,0.4s,mb4.0,baz=109,slow=13,SNR=5.1
VRAC LR LR 11 28 23.7
comp=Z,149nm,18.9s,MS3.9,baz=122,slow=42
VRAC Vranov 43.32 316 *e*P **P 11 05 58.5 +0.9**
JOF Joensuu 43.36 340 *e*p **P 11 05 56.9 -0.8**
comp=Z,0.5nm,0.3s,mb3.7
QIZ Qiongzhong 43.72 88 P **P 11 06 01.6 +0.3**
QIZ S **S 11 12 30.5 +0.6**
QIZ LR LR
comp=N,194nm,24.5s
QIZ LR LR
comp=Z,141nm,17.1s
DPC Dobruska-Polom 43.80 318 *e*P **P 11 06 02.2 +0.7**
DPC *e*pP pP 11 06 10.1 -0.1
DPC Dobruska-Polom 43.80 318 *e*P **P 11 06 02.2 +0.7**
DPC *e*pP pP 11 06 10.1 -0.1
DPC AMS AMS 11 26 20.0
KSP Ksiaz 43.97 318 *e*P **P 11 06 03.6 +0.8**
KSP Ksiaz 43.97 318 *e*P **P 11 06 03.5 +0.7**
KSP *e*pP pP 11 06 11.7 +0.2
TREC Trest 44.01 316 *e*P **P 11 06 03.8 +0.6**
TREC *e*pP pP 11 06 12.1 +0.2
TREC AMS AMS 11 28 20.0
comp=Z,300nm,17.3s
UPC Upice 44.03 318 *e*P **P 11 06 04.2 +0.9**
UPC *e*pP pP 11 06 12.2 +0.1
FINES FINESS Array B 44.18 336 P **P 11 06 03.6 -0.7**
comp=Z,1.1nm,0.5s,mb3.9,baz=132,slow=8.4,SNR=14
FINES pP pP 11 06 11.4 -1.7
comp=Z,2.1nm,0.6s,baz=130,slow=9.2,SNR=5.1
MOA Molln 44.44 314⇑*i*P **P 11 06 05.9 -0.7**
comp=Z,15nm,1.7s,mb4.5
PRU Pruhonice 44.79 317 *e*P **P 11 06 09.7 +0.3**
PRU *e*pP pP 11 06 17.3 -0.8
PRU Pruhonice 44.79 317 *e*P **P 11 06 09.7 +0.3**
PRU *e*pP pP 11 06 17.3 -0.8
PRU AMS AMS 11 29 20.0
comp=Z,200nm,8.6s
KBA Koelnbreinsper 44.88 312⇑*i*P **P 11 06 10.6 +0.4**
comp=Z,8.1nm,1.2s,mb4.4
KBA Koelnbreinsper 44.88 312⇑*i*P **P 11 06 10.6 +0.4**
KBA pmax pmax
comp=Z,8.0nm,1.3s,mb4.4
PVCC Panska Ves 44.92 317 *e*P **P 11 06 11.1 +0.7**
PVCC AMS AMS 11 28 20.0
GEC2 GERESS Array S 45.03 315 *e*P **P 11 06 11.5 +0.1**
GEC2 pmax pmax
comp=Z,21nm,1.5s,mb4.8
GEC2 GERESS Array S 45.03 315 *e*P **P 11 06 11.5 +0.1**
comp=Z,21nm,1.5s,mb4.8
GERES GERESS Array B 45.03 315 P **P 11 06 11.3 -0.1**
GERES *PP pP 11 06 19.3 -0.8
GERES GERESS Array B 45.03 315 P **P 11 06 11.3 -0.1**
comp=Z,2.9nm,0.7s,mb4.2,baz=106,slow=8.5,SNR=32
GERES pP pP 11 06 19.3 -0.7
comp=Z,5.5nm,1.0s,baz=110,slow=7.3,SNR=13
GERES LR LR 11 29 40.9
comp=Z,92nm,19.4s,MS3.7,baz=112,slow=42
GERES GERESS Array B 45.03 315 P **P 11 06 11.2 -0.2**
GERES pP pP 11 06 19.3 -0.8
KHC Kasperske Hory 45.18 315 *e*P **P 11 06 12.9 +0.4**
KHC *e*pP pP 11 06 20.6 -0.6
KHC Kasperske Hory 45.18 315 *e*P **P 11 06 12.9 +0.4**
KHC *e*pP pP 11 06 20.6 -0.6
KHC AMS AMS 11 29 10.0
comp=Z,300nm,18.0s
BRG Berggiesshubel 45.40 318 *e*P **P 11 06 14.1 -0.1**
BRG *e* pP 11 06 23.5 +0.5
BRG pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
BRG Berggiesshubel 45.40 318 *e*P **P 11 06 14.0 -0.2**
comp=Z,9.0nm,1.4s,mb4.4
BRG Berggiesshubel 45.40 318 *e*P **P 11 06 14.1 -0.2**
comp=Z,9.0nm,1.4s,mb4.4
BRG *e* pP 11 06 23.5 +0.5
comp=Z,5.5nm,1.0s
CLL Collm 46.09 318⇑*i*P **P 11 06 20.3 +0.6**
CLL *i* pP 11 06 28.7 +0.3
CLL pmax pmax
comp=Z,28nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,200nm,18.1s,MS4.1
CLL Collm 46.09 318⇑*i*P **P 11 06 20.3 +0.6**
comp=Z,28nm,1.3s,mb5.0
CLL *i* pP 11 06 28.7 +0.3
CLL LR LR
comp=Z,200nm,18.1s,MS4.1
CLL Collm 46.09 318 *e*P **P 11 06 20.4 +0.7**
comp=Z,28nm,1.3s,mb5.0
CLL Collm 46.09 318⇑*i*P **P 11 06 20.3 +0.6**
comp=Z,28nm,1.3s,mb5.0
CLL *i*pP pP 11 06 28.7 +0.3
CLL *e*(sP) sP 11 06 32.0 +0.1
CLL *e*x x 11 06 59.0
CLL *e*PP PP 11 08 06.0 -1.9
CLL Lm 11 29 00.0
comp=Z,200nm,18.1s
ROTZ Rotzenmuhle 46.20 316 *e*P **P 11 06 20.9 +0.3**
comp=Z,11nm,1.3s,mb4.6
SQTA Sankt Quirin 46.34 312⇓*i*P **P 11 06 21.3 -0.4**
comp=Z,13nm,1.3s,mb4.7
SQTA Sankt Quirin 46.34 312⇓*i*P **P 11 06 21.3 -0.4**
SQTA pmax pmax
comp=Z,13nm,1.3s,mb4.7
FETA Feichten 46.63 312⇑*i*P **P 11 06 23.9 -0.1**
comp=Z,23nm,1.3s,mb5.0
BJI Beijing 46.68 58 P **P 11 06 26.3 +1.8**
BJI S **S 11 13 13.2 +1.1**
BJI AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
BJI LR LR
comp=N,554nm,20.5s,MS4.5
BJI LR LR
comp=E,99nm,21.9s,MS4.5
BJI LR LR
comp=Z,232nm,19.6s,MS4.1
RETA Reutte 46.68 313⇑*i*P **P 11 06 23.0 -1.4**
comp=Z,5.3nm,0.5s,mb4.7
MOX Moxa 46.77 317 *e*P **P 11 06 25.8 +0.8**
comp=Z,29nm,1.9s,mb4.9
MOX Moxa 46.77 317 *e*P **P 11 06 26.0 +1.0**
GRA1 Grafenberg Arr 46.81 316 *e*P **P 11 06 26.0 +0.7**
comp=Z,46nm,1.5s,mb5.2
GRA1 *e*pP pP 11 06 33.8 -0.3
GRF Grafenberg Arr 46.81 316 *e*P **P 11 06 26.0 +0.7**
GRF *e**PP pP 11 06 33.8 -0.3
GRF pmax pmax
comp=Z,46nm,1.5s,mb5.2
GRF Grafenberg Arr 46.81 316 *e*P **P 11 06 26.0 +0.7**
GRF *e**PP pP 11 06 33.8 -0.3
GRF pmax pmax
comp=Z,46nm,1.5s,mb5.2
GRF Grafenberg Arr 46.81 316 *e*P **P 11 06 26.0 +0.7**
comp=Z,46nm,1.5s,mb5.2
GRF *e*pP pP 11 06 33.8 -0.3
KEST Kesra 46.97 296 LR LR 11 31 01.1
comp=Z,35nm,19.7s,baz=263,slow=42
DAVOX Davos/Dischmat 47.17 311 LR LR 11 31 22.8
comp=Z,144nm,18.9s,MS4.0,baz=264,slow=42
DAVA Damuels 47.24 312⇓*i*P **P 11 06 28.9 +0.2**
comp=Z,20nm,1.0s,mb5.0
CLZ Clausthal 47.81 318 *e*P **P 11 06 33.7 +0.6**
CLZ pmax pmax
comp=Z,16nm,1.3s,mb4.9
CLZ Clausthal 47.81 318 *e*P **P 11 06 33.7 +0.6**
comp=Z,16nm,1.3s,mb4.9
NRDL Niedersach Rie 48.12 319 *e*P **P 11 06 36.7 +1.2**
comp=Z,15nm,1.2s,mb4.9
SBF Sospel 48.57 307 *e*P **P 11 06 38.6 -0.5**
comp=Z,51nm,0.9s,mb5.2
SBF Sospel 48.57 307 *e*P **P 11 06 38.6 -0.5**
SBF pmax pmax
comp=Z,26nm,0.9s,mb5.3
SBF Sospel 48.57 307 *e*P **P 11 06 38.6 -0.5**
comp=Z,26nm,0.9s,mb5.2
HFS Hagfors 48.70 330 LR LR 11 30 26.2
comp=Z,231nm,18.4s,MS4.2,baz=121,slow=40
BOD Bodaibo 48.70 34 *e*P **P 11 06 38.8 -1.1**
BOD pmax pmax
comp=Z,6.0nm,1.4s,mb4.4
MBDF Montbardon 49.10 308 *e*P **P 11 06 42.3 -0.9**
comp=Z,21nm,1.0s,mb4.8
MBDF Montbardon 49.10 308 *e*P **P 11 06 42.3 -0.9**
MBDF pmax pmax
comp=Z,11nm,1.0s,mb4.8
MBDF Montbardon 49.10 308 *e*P **P 11 06 42.3 -0.9**
comp=Z,11nm,1.0s,mb4.8
LPG La Plagne 49.18 309 *e*P **P 11 06 43.3 -0.4**
comp=Z,24nm,1.0s,mb4.9
LPG La Plagne 49.18 309 *e*P **P 11 06 43.3 -0.4**
LPG pmax pmax
comp=Z,12nm,1.0s,mb4.9
LPG La Plagne 49.18 309 *e*P **P 11 06 43.3 -0.4**
comp=Z,12nm,1.0s,mb4.9
NJ2 Nanjing 49.18 68 *e*P **P 11 06 46.5 +2.5**
NJ2 AP pP 11 06 53.1 +0.3
NJ2 XP sP 11 06 56.4 +0.2
NJ2 PCP PcP 11 08 10.5 +3.5
NJ2 S **S 11 13 49.0 +1.2**
NJ2 XS sS 11 14 03.0 +0.7
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
NJ2 AMB AMB
comp=Z,340nm,4.9s
NJ2 LR LR
comp=N,550nm,22.2s,MS4.5
NJ2 LR LR
comp=E,240nm,24.6s,MS4.5
NJ2 LR LR
comp=Z,240nm,24.6s,MS4.1
LPL La Plagne 49.19 309 *e*P **P 11 06 43.3 -0.6**
comp=Z,47nm,1.3s,mb5.1
LPL La Plagne 49.19 309 *e*P **P 11 06 43.3 -0.6**
LPL pmax pmax
comp=Z,24nm,1.3s,mb5.1
LPL La Plagne 49.19 309 *e*P **P 11 06 43.3 -0.6**
comp=Z,24nm,1.3s,mb5.1
BNI Bardonecchia 49.20 309 *e*P **P 11 06 43.3 -0.6**
BNI pmax pmax
comp=Z,16nm,1.0s,mb5.0
BNI Bardonecchia 49.20 309 *e*P **P 11 06 43.2 -0.6**
comp=Z,16nm,1.0s,mb5.0
BNI Bardonecchia 49.20 309 *e*P **P 11 06 43.2 -0.7**
comp=Z,16nm,1.0s,mb5.0
HINF Hinteralfeld 49.35 312 *e*P **P 11 06 44.3 -0.7**
IBBN Ibbenburen 49.49 318 *e*P **P 11 06 47.6 +1.6**
comp=Z,17nm,1.0s,mb5.0
KEV Kevo 49.50 344 *e*p **P 11 06 45.2 -0.6**
comp=Z,0.5nm,0.4s,mb3.9
KEV Kevo 49.50 344 *e*P **P 11 06 45.2 -0.6**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
ARCES ARCESS Array B 49.72 344 P **P 11 06 47.2 -0.3**
ARCES pP pP 11 06 55.0 -1.3
ARCES LR LR 11 31 14.5
ARCES ARCESS Array B 49.72 344 P **P 11 06 47.2 -0.3**
comp=Z,1.8nm,0.8s,mb4.1,baz=141,slow=8.1,SNR=15
ARCES pP pP 11 06 55.0 -1.3
comp=Z,3.7nm,0.8s,baz=142,slow=8.5,SNR=5.6
ARCES LR LR 11 31 14.5
comp=Z,512nm,18.2s,MS4.6,baz=136,slow=40
ARCES ARCESS Array B 49.72 344 P **P 11 06 47.2 -0.3**
ARCES pP pP 11 06 55.0 -1.3
CABF La Chapelle 49.74 311 *e*P **P 11 06 48.1 +0.1**
comp=Z,69nm,1.4s,mb5.2
CABF La Chapelle 49.74 311 *e*P **P 11 06 48.1 +0.1**
CABF pmax pmax
comp=Z,34nm,1.4s,mb5.2
CABF La Chapelle 49.74 311 *e*P **P 11 06 48.1 +0.1**
comp=Z,34nm,1.4s,mb5.2
ORIF Oris-en-Rattie 49.75 309 *e*P **P 11 06 46.5 -1.6**
comp=Z,14nm,1.1s,mb4.6
ORIF *e*MLR MLR
comp=Z,162nm,22.5s,MS3.7
ORIF Oris-en-Rattie 49.75 309 *e*P **P 11 06 46.5 -1.6**
ORIF pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ORIF Oris-en-Rattie 49.75 309 *e*P **P 11 06 46.5 -1.6**
comp=Z,6.8nm,1.1s,mb4.6
WLF Walferdange 50.04 315 P **P 11 06 50.9 +0.6**
comp=Z,4.1nm,0.7s,mb4.6
NB2 NORSAR Subarra 50.18 330 P **P 11 06 50.5 -0.6**
comp=Z,1.2nm,0.7s,mb4.0,baz=113,slow=7.9

NOA	**NORSAR Array B**	**50.18**	330	P	**P**	**11 06 50.3 -0.8**
NOA				pP	pP	11 06 59.0 -0.9
NOA				LR	LR	11 31 21.4
NOA	**NORSAR Array B**	**50.18**	330	P	**P**	**11 06 50.3 -0.8**
	comp=Z,0.5nm,0.7s,mb3.6,baz=130,slow=6.4,SNR=2.9					
NOA				pP	pP	11 06 59.0 -0.9
	comp=Z,2.7nm,0.8s,baz=111,slow=7.6,SNR=6.0					
NOA				LR	LR	11 31 21.4
	comp=Z,205nm,19.2s,MS4.2,baz=105,slow=40					
NOA	**NORSAR Array B**	**50.18**	330	P	**P**	**11 06 50.3 -0.8**
NOA				pP	pP	11 06 59.0 -0.9
VIVF	**Saint-Julien-l**	**50.60**	308	*e*P	**P**	**11 06 54.0 -0.6**
MEZF	**Maizieres J'vi**	**50.62**	313	*e*P	**P**	**11 06 54.7 0.0**
LASF	**Ste Croix**	**51.16**	307	*e*P	**P**	**11 06 58.4 -0.4**
	comp=Z,82nm,1.4s,mb5.2					
LASF	**Ste Croix**	**51.16**	307	*e*P	**P**	**11 06 58.4 -0.4**
	comp=Z,41nm,1.4s,mb5.2					
SMF	**Signal de Mont**	**51.28**	311	*e*P	**P**	**11 06 59.1 -0.6**
	comp=Z,22nm,1.1s,mb4.7					
SMF	**Signal de Mont**	**51.28**	311	*e*P	**P**	**11 06 59.1 -0.6**
SMF				pmax	pmax	
	comp=Z,11nm,1.1s,mb4.7					
SMF	**Signal de Mont**	**51.28**	311	*e*P	**P**	**11 06 59.1 -0.6**
	comp=Z,11nm,1.1s,mb4.7					
BAIF	**Baives**	**51.34**	315	*e*P	**P**	**11 07 00.8 +0.8**
SSF	**Saint Saulge**	**51.54**	311	*e*P	**P**	**11 07 01.0 -0.6**
	comp=Z,23nm,1.2s,mb4.7					
SSF	**Saint Saulge**	**51.54**	311	*e*P	**P**	**11 07 01.0 -0.6**
SSF				pmax	pmax	
	comp=Z,12nm,1.3s,mb4.7					
SSF	**Saint Saulge**	**51.54**	311	*e*P	**P**	**11 07 01.0 -0.6**
	comp=Z,12nm,1.2s,mb4.7					
AVF	**Avril sur Loir**	**51.63**	311	*e*P	**P**	**11 07 01.5 -0.7**
BGF	**Bois d'Agland**	**51.96**	311	*e*P	**P**	**11 07 04.3 -0.5**
MTLF	**Montolieu**	**52.34**	306	*e*P	**P**	**11 07 07.7 +0.1**
	comp=Z,58nm,1.5s,mb5.0					
MTLF	**Montolieu**	**52.34**	306	*e*P	**P**	**11 07 07.7 +0.1**
MTLF				pmax	pmax	
	comp=Z,29nm,1.5s,mb5.0					
MTLF	**Montolieu**	**52.34**	306	*e*P	**P**	**11 07 07.7 +0.1**
	comp=Z,29nm,1.5s,mb5.0					
TCF	**Toulx Ste Croi**	**52.39**	310	*e*P	**P**	**11 07 07.5 -0.4**
CAF	**Calviac**	**52.46**	308	*e*P	**P**	**11 07 08.5 0.0**
	comp=Z,17nm,1.1s,mb4.6					
CAF	**Calviac**	**52.46**	308	*e*P	**P**	**11 07 08.5 0.0**
CAF				pmax	pmax	
	comp=Z,8.0nm,1.1s,mb4.6					
CAF	**Calviac**	**52.46**	308	*e*P	**P**	**11 07 08.5 0.0**
	comp=Z,8.4nm,1.1s,mb4.6					
RJF	**Les Rejaudoux**	**52.85**	309	*e*P	**P**	**11 07 11.4 0.0**
	comp=Z,28nm,1.1s,mb4.8					
RJF				*e*MLR	MLR	
	comp=Z,125nm,19.0s,MS3.7					
RJF	**Les Rejaudoux**	**52.85**	309	*e*P	**P**	**11 07 11.4 0.0**
RJF				pmax	pmax	
	comp=Z,14nm,1.1s,mb4.8					
RJF				MLR	MLR	
	comp=Z,120nm,19.0s,MS4.0					
RJF	**Les Rejaudoux**	**52.85**	309	*e*P	**P**	**11 07 11.4 0.0**
	comp=Z,14nm,1.1s,mb4.8					
RJF				LR	LR	
	comp=Z,120nm,19.0s,MS4.0					
LDF	**La Druitiere**	**54.06**	313	*e*P	**P**	**11 07 19.5 -0.7**
ETSF	**Etsaut**	**54.38**	306	*e*P	**P**	**11 07 22.9 +0.3**
	comp=Z,62nm,1.3s,mb5.1					
ETSF	**Etsaut**	**54.38**	306	*e*P	**P**	**11 07 22.9 +0.3**
ETSF				pmax	pmax	
	comp=Z,31nm,1.3s,mb5.1					
ETSF	**Etsaut**	**54.38**	306	*e*P	**P**	**11 07 22.9 +0.3**
	comp=Z,31nm,1.3s,mb5.1					
KSRS	**Korea Array**	**55.96**	60	P	**P**	**11 07 34.2 +0.1**
	comp=Z,1.0nm,1.0s,mb3.8,baz=224,slow=6.8,SNR=3.9					
KSRS				pP	pP	11 07 42.0 -1.0
	comp=Z,0.9nm,0.6s,baz=278,slow=7.7,SNR=3.7					
KSRS				LR	LR	11 36 14.1
	comp=Z,154nm,19.7s,MS4.1,baz=88,slow=41					
ROSF	**Rostrenen**	**56.15**	313	*e*P	**P**	**11 07 34.6 -0.7**
YAK	**Yakutsk**	**57.36**	31	*e*P	**P**	**11 07 41.3 -2.3**
YAK				*e*	pP	11 07 50.5 -2.1
YAK				pmax	pmax	
	comp=E,7.0nm,1.4s					
YAK				pmax	pmax	
	comp=Z,12nm,1.4s,mb4.7					
YAK				pmax	pmax	
	comp=Z,16nm,0.9s,mb5.0					
YAK				pmax	pmax	
	comp=N,4.0nm,1.5s					
YAK				pmax	pmax	
	comp=E,7.0nm,1.1s					
YAK				MLR	MLR	
	comp=Z,159nm,15.0s,MS4.2					
YAK				MLR	MLR	
	comp=N,224nm,18.0s,MS4.4					
YAK				MLR	MLR	
	comp=E,181nm,18.0s,MS4.4					
KLR	**Kul'dur**	**57.85**	46	*e*P	**P**	**11 07 42.2 -5.1**
TIXI	**Tiksi**	**58.97**	20	*e*P	**P**	**11 07 53.6 -1.1**
TIXI				pmax	pmax	
	comp=Z,4.0nm,1.3s,mb4.3					
TIXI				MLR	MLR	
	comp=Z,320nm,17.0s,MS4.5					
TIXI	**Tiksi**	**58.97**	20	*e*P	**P**	**11 07 53.5 -1.3**
	comp=Z,1.3nm,0.6s,mb4.1					
TIXI	**Tiksi**	**58.97**	20	*e*P	**P**	**11 07 53.5 -1.2**
	comp=Z,1.3nm,0.6s,mb4.1					
HABR	**Khabarovsk**	**60.07**	47	*e*P	**P**	**11 08 00.4 -2.3**
HABR				*e*		11 08 14.3
HABR				*e*		11 08 46.0
HABR				*e*S	**S**	**11 16 09.4 -4.3**
HABR				*e*		11 16 25.4
HABR				*e*		11 17 45.5
HABR				*e*		11 20 07.5
HABR				pmax	pmax	
	comp=Z,32nm,2.7s,mb4.9					
LBTB	**Lobatse**	**61.44**	219	*e*P	**P**	**11 08 13.5 +1.2**
LBTB				pmax	pmax	
	comp=Z,18nm,1.3s,mb5.0					
LBTB	**Lobatse**	**61.44**	219	*e*P	**P**	**11 08 13.5 +1.2**
	comp=Z,18nm,1.3s,mb5.0					
LBTB	**Lobatse**	**61.44**	219	*e*P	**P**	**11 08 13.5 +1.2**
	comp=Z,18nm,1.3s,mb5.0					
TSUM	**Tsumeb**	**62.26**	229	*e*P	**P**	**11 08 19.6 +1.7**
	comp=Z,2.5nm,0.8s,mb4.4					
BOSA	**Boshof**	**64.44**	217	*e*P	**P**	**11 08 33.1 +0.9**
BOSA				*e*	pP	11 08 41.7 +0.5
BOSA				pmax	pmax	
	comp=Z,3.0nm,0.5s,mb4.6					
BOSA	**Boshof**	**64.44**	217	*e*P	**P**	**11 08 33.1 +0.9**
	comp=Z,3.3nm,0.5s,mb4.6					
BOSA				*e*	pP	11 08 41.7 +0.5
BOSA	**Boshof**	**64.44**	217	P	**P**	**11 08 32.9 +0.7**
	comp=Z,6.9nm,1.0s,mb4.7,baz=47,slow=5.0,SNR=12					
YSS	**Yuzh-Sakhalins**	**65.43**	48	*e*P	**P**	**11 08 36.6 -1.8**
YSS				*e*	pP	11 08 46.5 -1.0
DBIC	**Dimbokro**	**67.10**	267	LR	LR	11 40 25.5
	comp=Z,161nm,19.8s,MS4.2,baz=50,slow=38					
SEY	**Seymchan**	**67.82**	30⇑	*e*P	**P**	**11 08 53.6 +0.2**
BILL	**Bilibino**	**71.92**	23⇑	*e*P	**P**	**11 09 18.1 -0.4**
BILL				*e*		11 11 59.8
BILL				*e*S	S	11 18 26.6 -11
BILL				pmax	pmax	
	comp=Z,2.0nm,1.2s,mb3.9					
BILL				MLR	MLR	
	comp=Z,300nm,19.0s,MS4.6					
WRA	**Warramunga Arr**	**82.53**	116⇑	*e*P	**P**	**11 10 18.7 -0.1**
WRA	**Warramunga Arr**	**82.53**	116	P	**P**	**11 10 18.1 -0.7**
	comp=Z,0.7nm,0.8s,mb3.8,baz=317,slow=4.9,SNR=6.0					
ASAR	**Alice Springs**	**84.04**	119	P	**P**	**11 10 24.9 -1.6**
	comp=Z,0.3nm,0.7s,mb3.5,baz=297,slow=5.1,SNR=9.4					
IMA2	**Indian Mountai**	**85.05**	14	*e*P	**P**	**11 10 31.1 +0.2**
IMA2				*e*	pP	11 10 39.7 -0.5
IMA2	**Indian Mountai**	**85.05**	14	*e*P	**P**	**11 10 31.1 +0.2**
INK	**Inuvik**	**86.20**	6	*e*P	**P**	**11 10 36.4 -0.2**
	comp=Z,188nm,1.3s					
MCK	**McKinley**	**88.10**	14	*e*P	**P**	**11 10 45.8 -0.1**
MCK				*e*	pP	11 10 54.4 -0.9
MCK				pmax	pmax	
	comp=Z,5.0nm,0.8s,mb4.8					
MCK	**McKinley**	**88.10**	14	*e*P	**P**	**11 10 45.8 -0.1**
	comp=Z,4.9nm,0.8s,mb4.8					
MCK				*e*	pP	11 10 54.4 -0.9
MCK	**McKinley**	**88.10**	14	*e*P	**P**	**11 10 45.8 -0.1**
SCHQ	**Schefferville**	**89.62**	334	LR	LR	11 54 43.1
	comp=Z,75nm,19.1s,MS4.1,baz=90,slow=38					
YKA	**Yellowknife Ar**	**92.81**	359	P	**P**	**11 11 08.1 +0.2**
YKA				*P	pP	11 11 16.5 -0.8
YKA						11 14 50.0
YKA	**Yellowknife Ar**	**92.81**	359	P	**P**	**11 11 08.1 +0.2**
YKA				pP	pP	11 11 16.5 -0.8
YKA				PP	PP	11 14 50.0 +0.7
YKA				LR	LR	11 57 50.6
YKA	**Yellowknife Ar**	**92.81**	359	P	**P**	**11 11 08.1 +0.2**
	comp=Z,0.8nm,0.9s,mb4.2,baz=349,slow=4.8,SNR=14					
YKA				pP	pP	11 11 16.5 -0.8
	comp=Z,1.2nm,0.8s,baz=349,slow=5.1,SNR=13					
YKA				PP	PP	11 14 50.0 +0.7
	comp=Z,0.2nm,0.9s,baz=356,slow=7.2,SNR=4.0					
YKA				LR	LR	11 57 50.6
	comp=Z,107nm,18.9s,MS4.3,baz=335,slow=39					
YKA	**Yellowknife Ar**	**92.81**	359	P	**P**	**11 11 08.1 +0.2**
YKA				pP	pP	11 11 16.5 -0.8

WEL 06 11:10:50.6±0.1, 3790S×17675E, h5km, ML3.7/11, Error ellipse: s-maj=0.8km s-min=0.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.10**	**216**	PG	Pg	11 10 53.1	+0.3
MARZ				SG	Sg	11 10 55.3	+1.1
OPRZ	**Ohinepanea**	**0.17**	**290**	PG	Pg	11 10 54.1	+0.3
OPRZ				SG	Sg	11 10 56.9	+0.9
LIRZ	**Lichensteins R**	**0.31**	**251**	PG	Pg	11 10 57.0	+0.5
MKRZ	**Makatiti**	**0.33**	**224**	PG	Pg	11 10 57.6	+0.8
OMRZ	**Omania**	**0.36**	**236**	PG	Pg	11 10 57.9	+0.3
TAZ	**Tarawera**	**0.38**	**210**	PG	Pg	11 10 58.9	+0.9
KARZ	**Kaharoa**	**0.42**	**253**	PG	Pg	11 10 59.0	+0.3
TGRZ	**Tauranga**	**0.43**	**294**	*e*PG	Pg	11 10 59.2	+0.4
URZ	**Urewera**	**0.46**	**142**	PG	Pg	11 10 59.3	0.0
WIZ	**White Island**	**0.51**	**43**	PG	Pg	11 11 01.2	+0.8
UTU	**Utuhina**	**0.52**	**238**	PG	Pg	11 11 01.2	+0.7
HRRZ	**Handcock Road**	**0.61**	**217**	P*	Pg	11 11 03.1	+0.8
MYRZ	**Mayor Island**	**0.74**	**327**	P*	Pb	11 11 05.3	-0.7
MWZ	**Matawai**	**0.75**	**125**	P*	Pb	11 11 04.9	-1.2
TOZ	**Tahuroa Road**	**1.00**	**279**	P*	Pb	11 11 09.3	-1.1
PUZ	**Puketiti**	**1.20**	**99**	P*	Pb	11 11 13.8	0.0
BKZ	**Black Stump Fm**	**1.28**	**189**	P*	Pb	11 11 13.0	-2.2
MXZ	**Matakaoa Point**	**1.28**	**75**	P*	Pb	11 11 15.5	+0.4
KNZ	**Kokohu**	**1.33**	**147**	P*	Pb	11 11 15.5	-0.5
KUZ	**Kuaotunu**	**1.42**	**324**	PN	Pn	11 11 15.9	-1.1
TUVZ	**Tukino**	**1.61**	**212**	P*	Pb	11 11 19.1	-1.7
HIZ	**Hauiti**	**1.61**	**247**	PN	Pn	11 11 17.7	-2.0

IDC 06 11:15:09.5±2.2, 4566N×2791W, h0km, mb3.2/2, mb1 3.7/2, mb1mx3.3/24, mbtmp3.2/2, Error ellipse: s-maj=98.7km s-min=48.1km az=14.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**49.45**	**322**	P	P	11 24 00.8	0.0
	0.1nm,0.6s,baz=64,slow=7.9,SNR=3.0						
TXAR	**Lajitas Array**	**60.12**	**283**	P	P	11 25 18.6	-0.1
	0.4nm,0.9s,baz=86,slow=7.9,SNR=3.6						
WRA	**Warramunga Arr**	**150.47**	**36**	PKPbc	PKPbc	11 35 02.9	-0.1
	0.4nm,0.8s,baz=327,slow=2.0,SNR=5.2						
ASAR	**Alice Springs**	**153.57**	**40**	PKPbc	PKPbc	11 35 10.0	0.0
	0.3nm,0.9s,baz=337,slow=2.9,SNR=4.1						

WEL 06 11:30:28.4±0.4, 3914S×17352E, h12km±1km, ML3.6/36, Error ellipse: s-maj=2.0km s-min=1.2km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWEZ	**Newall Road**	**0.30**	**117**	P*	Pg	11 30 34.7	+0.2
PKE	**Pukeiti**	**0.36**	**99**	P*	Pg	11 30 36.0	+0.4
PKE				S*	Sg	11 30 40.9	+0.3
NEZ	**North Egmont**	**0.46**	**107**	P*	Pg	11 30 37.3	-0.2
RAEZ	**Rainy Point**	**0.69**	**103**	P*	Pb	11 30 41.7	-0.7
VRZ	**Vera Road**	**0.96**	**90**	P*	Pb	11 30 46.0	-1.0
HIZ	**Hauiti**	**1.21**	**59**	P*	Pb	11 30 50.1	-1.2
HIZ				S*	Sb	11 31 05.1	-1.8
WAZ	**Wanganui**	**1.29**	**119**	PN	Pn	11 30 51.4	-0.8
WAZ				S*	Sb	11 31 08.0	-1.1
PKVZ	**Pokaka**	**1.42**	**97**	PN	Pn	11 30 52.8	-1.3
TWVZ	**Taurewa**	**1.49**	**88**	PN	Pn	11 30 53.7	-1.3
MTVZ	**Mangateitei**	**1.53**	**100**	PN	Pn	11 30 55.1	-0.5
WPVZ	**Whakapapa**	**1.57**	**93**	PN	Pn	11 30 55.6	-0.6
FWVZ	**Far West T-bar**	**1.58**	**95**	PN	Pn	11 30 55.6	-0.6
TRVZ	**Turoa**	**1.58**	**96**	PN	Pn	11 30 55.7	-0.5
WTVZ	**West Tongariro**	**1.61**	**90**	PN	Pn	11 30 55.7	-0.8
NGZ	**Ngauruhoe**	**1.62**	**92**	PN	Pn	11 30 56.0	-0.7
WNVZ	**Wahianoa**	**1.62**	**97**	PN	Pn	11 30 56.1	-0.7
KRVZ	**Karewarewa**	**1.65**	**89**	PN	Pn	11 30 54.9	-2.2
TUVZ	**Tukino**	**1.66**	**95**	PN	Pn	11 30 56.9	-0.4
OTVZ	**Oturere**	**1.67**	**91**	PN	Pn	11 30 56.7	-0.6
DUWZ	**D'Urville Isla**	**1.69**	**170**	PN	Pn	11 30 56.7	-1.0
KATZ	**Kakaramea**	**1.70**	**85**	PN	Pn	11 30 57.3	-0.5
MOVZ	**Moawhango**	**1.75**	**99**	PN	Pn	11 30 57.8	-0.8
RATZ	**Rangitukua**	**1.77**	**82**	PN	Pn	11 30 58.4	-0.5
WATZ	**Wairara**	**1.78**	**77**	PN	Pn	11 30 58.4	-0.5
QRZ	**Quartz Range**	**1.85**	**204**	PN	Pn	11 30 58.8	-1.1
KIW	**Kapiti Island**	**2.02**	**149**	PN	Pn	11 31 02.1	-0.2
NNZ	**Nelson**	**2.08**	**183**	PN	Pn	11 31 02.5	-0.6
TSZ	**Takapari Road**	**2.10**	**117**	PN	Pn	11 31 05.1	+1.8
TCW	**Tory Channel**	**2.15**	**165**	PN	Pn	11 31 03.9	-0.1
MRZ	**Mangatainoka R**	**2.19**	**135**	PN	Pn	11 31 05.2	+0.6
MRW	**Makara Radio**	**2.27**	**157**	PN	Pn	11 31 06.4	+0.7
CAW	**Cannon Point**	**2.29**	**149**	PN	Pn	11 31 06.2	+0.2
TUWZ	**Tuamarina**	**2.31**	**172**	PN	Pn	11 31 06.1	-0.1
SNZO	**South Karori**	**2.35**	**158**	PN	Pn	11 31 07.5	+0.7
WTAZ	**Waiatarua**	**2.35**	**21**	PN	Pn	11 31 07.9	+1.1
BHW	**Baring Head**	**2.49**	**156**	PN	Pn	11 31 11.8	+3.1
MTW	**Mount Morrison**	**2.52**	**144**	PN	Pn	11 31 10.3	+1.1
BSWZ	**Blackbirch Sta**	**2.58**	**174**	PN	Pn	11 31 11.3	+1.3
BFZ	**Birch Farm**	**2.60**	**127**	PN	Pn	11 31 13.5	+3.3
MSWZ	**Moikau Station**	**2.63**	**150**	PN	Pn	11 31 11.3	+0.7
THZ	**Tophouse**	**2.66**	**190**	PN	Pn	11 31 11.0	-0.1
DSZ	**Denniston Nort**	**2.92**	**206**	PN	Pn	11 31 14.4	-0.2
KUZ	**Kuaotunu**	**2.95**	**37**	PN	Pn	11 31 15.2	+0.1
WCZ	**Waipu Caves**	**3.26**	**12**	PN	Pn	11 31 20.2	+0.9
KHZ	**Kahutara**	**3.27**	**180**	PN	Pn	11 31 20.5	+1.0
LTZ	**Lake Taylor**	**3.76**	**194**	PN	Pn	11 31 26.1	0.0
OUZ	**Omahuta**	**3.91**	**1**	PN	Pn	11 31 29.6	+1.3
WVZ	**Waitaha Valley**	**4.46**	**207**	PN	Pn	11 31 35.3	-0.5

IDC 06 11:38:44.4±1.9, 2163S×6644W, h204km±17km, mb3.2/1, mb1 3.3/4, mb1mx3.1/17, mbtmp3.1/4, Error ellipse: s-maj=28.0km s-min=19.4km az=96.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.55**	**343**	P	Pn	11 40 06.6	+0.6
	3.9nm,0.3s,baz=156,slow=11,SNR=89						
LPAZ				S	Sn	11 41 12.2	+1.6
	baz=349,slow=16,SNR=1.4						
SIV	**San Ignacio**	**7.57**	**43**	P	Pn	11 40 33.2	+1.1
	1.5nm,0.3s,baz=250,slow=12,SNR=24						
SIV				S	Sn	11 41 56.9	-1.0
	0.2nm,0.3s,baz=299,slow=19,SNR=3.3						
CFAA	**Coronel Fontan**	**10.06**	**189**	P	Pn	11 41 04.2	-0.1
	0.1nm,0.3s,baz=22,slow=15,SNR=15						
YKA	**Yellowknife Ar**	**92.09**	**340**	P	P	11 51 29.2	-0.5
	0.2nm,0.5s,baz=128,slow=4.4,SNR=6.5						
ASAR	**Alice Springs**	**130.81**	**205**	PKP	PKPdf	11 57 31.8	-0.2
	0.2nm,1.0s,baz=144,slow=2.0,SNR=4.3						
WRA	**Warramunga Arr**	**133.96**	**208**	PKP	PKPdf	11 57 36.8	-1.1
	0.3nm,0.7s,baz=155,slow=1.8,SNR=4.7						
MKAR	**Makanchi Array**	**144.36**	**38**	PKP	PKPdf	11 57 55.8	-0.2
	1.0nm,0.6s,baz=307,slow=3.7,SNR=9.2						
SONM	**Songino Array**	**153.23**	**11**	PKPbc	PKPbc	11 58 18.4	+0.6
	0.2nm,0.4s,baz=342,slow=0.5,SNR=2.0						

MOS ***06*** *11:54:10.0±0.7, 4972N×15489E, h118km, mb4.2/19, Error ellipse: s-maj=11.4km s-min=6.5km az=76.4*
ISCJB ***06*** *11:54:10.4±0.6, 4970N×006×15490E±008, h116km±4km, mb4.2/53, Error ellipse: s-maj=11.5km s-min=5.2km az=138.7*
BJI ***06*** *11:54:11.5, 4968N×15496E, h127km, mB4.7, mb4.6*
IDC ***06*** *11:54:12.8±0.8, 4977N×15487E, h124km±7km, mb3.6/19, mb1 3.8/21, mb1mx3.8/25, mbtmp3.6/21, Error ellipse: s-maj=15.0km s-min=10.1km az=140.0*
KRSC ***06*** *11:54:12.0±0.8, 4942N×156.14E, h118km±8km, ML4.5*
NEIC ***06*** *11:54:13.1±1.4, 4977N×15486E, h124km±13km, mb4.3/10, Error ellipse: s-maj=14.9km s-min=7.6km az=150.0*

ISC 06 11:54:12.1±0.5, 4969N±005×15491E±008, h118km±4km, h120km±2.7km: pP-P, n125, σ1.9±10/139, mb4.2/53, 8C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.25**	**19**	*e*P	**Pn**	**11 54 38.9**	**+2.4**
ALID				*i* S	**Sn**	**11 54 58.2**	**+3.2**
SKR	**Severo-Kuril's**	**1.26**	**37**	*e*PN	**Pn**	**11 54 34.0**	**-2.6**
SKR				*e*S	**Sn**	**11 54 52.9**	**-2.3**
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,80nm,0.4s						
SKR				pmax	pmax		
	comp=Z,240nm,0.4s						
SKR				smax			
	comp=N,1.0nm,0.3s						
SKR				smax			
	comp=E,2.0nm,0.3s						
MIPR	**Malaya Ipel'ka**	**2.84**	**24**	*i* P	**Pn**	**11 54 58.0**	**+1.9**
MIPR				*i* S	**Sn**	**11 55 32.4**	**+2.3**
GRL	**Gorelyy**	**3.49**	**34**	*e*P	**Pn**	**11 55 06.8**	**+2.1**
GRL				*i* S	**Sn**	**11 55 47.4**	**+2.0**
RUS	**Russkaya**	**3.57**	**38**	*e*P	**Pn**	**11 55 05.1**	**-0.6**
RUS				*i* S	**Sn**	**11 55 44.4**	**-2.8**
PET	**Petropavlovsk**	**4.08**	**34**	*e*PN	**Pn**	**11 55 13.0**	**+0.5**
PET				*e*S	**Sn**	**11 55 59.7**	**+0.3**
PET				pmax	pmax		
	comp=Z,13nm,0.5s						
PET				smax			
	comp=N,129nm,0.5s						
PET				smax			
	comp=E,92nm,0.5s						
PET	**Petropavlovsk**	**4.08**	**34**	*e*Pn	**Pn**	**11 55 12.7**	**+0.2**
PET	**Petropavlovsk**	**4.08**	**34**	*e*P	**Pn**	**11 55 13.2**	**+0.7**
PET				*i* S	**Sn**	**11 55 57.7**	**-1.7**
AVH	**Avacha**	**4.31**	**32**	*e*P	**Pn**	**11 55 17.7**	**+2.1**
GNL	**Ganaly**	**4.43**	**24**	*e*P	**Pn**	**11 55 19.7**	**+2.5**
NLC	**Nalytchevo**	**4.46**	**37**	*e*P	**Pn**	**11 55 16.6**	**-1.0**
NLC				*i* S	**Sn**	**11 56 03.7**	**-4.7**
SPN	**Mys Shipunski**	**4.68**	**41**	*e*P	**Pn**	**11 55 19.9**	**-0.7**
SPN				*i* S	**Sn**	**11 56 08.8**	**-5.0**
MKZ	**Mys Kozlova**	**6.43**	**38**	*e*P	**Pn**	**11 55 42.8**	**-1.4**
MKZ				*i* S	**Sn**	**11 56 49.3**	**-6.8**
KBTR	**Krutoberegovo**	**8.09**	**33**	*e*P	**Pn**	**11 56 05.5**	**-1.0**
YSS	**Yuzh-Sakhalins**	**8.55**	**256**	*e*PN	**Pn**	**11 56 18.0**	**+5.1**
ASAJ	**Asahikawa**	**10.10**	**241**	PN	**Pn**	**11 56 36.6**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**10.10**	**241**	P	**Pn**	**11 56 36.5**	**+2.7**
	comp=Z,2.2nm,0.3s,baz=67,slow=13,SNR=22						
ERM	**Erimo**	**11.22**	**231**	*e*PN	**Pn**	**11 56 47.5**	**-1.3**
HABR	**Khabarovsk**	**13.08**	**272**	PN	**Pn**	**11 57 08.2**	**-5.0**
SEY	**Seymchan**	**13.35**	**355⇑**	*e*PN	**Pn**	**11 57 14.6**	**-2.0**
KLR	**Kul'dur**	**15.06**	**277**	*e*P	**Pn**	**11 57 38.6**	**+0.1**
MJAR	**Matsushiro Arr**	**17.87**	**229**	P	**Pn**	**11 58 13.0**	**0.0**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**17.87**	**229**	P	**Pn**	**11 58 13.0**	**-0.1**
	comp=Z,0.5nm,0.3s,baz=14,slow=12,SNR=7.6						
MAJO	**Matsushiro**	**17.87**	**229**	*e*P	**Pn**	**11 58 11.7**	**-1.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MAJO	**Matsushiro**	**17.87**	**229**	*e*P	**Pn**	**11 58 11.7**	**-1.3**
	comp=Z,7.0nm,0.5s						
MAT	**Matsushiro**	**17.87**	**229**	P	**Pn**	**11 58 12.2**	**-0.8**
MDJ	**Mudanjiang**	**17.91**	**263**	P	**Pn**	**11 58 17.0**	**+3.5**
MDJ				AMB	AMB		
	comp=Z,11nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,36nm,3.4s						
YAK	**Yakutsk**	**18.64**	**321**	*e*P	**P**	**11 58 21.2**	**+1.0**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=E,4.0nm,0.8s						
YAK	**Yakutsk**	**18.64**	**321**	*e*P	**P**	**11 58 21.1**	**+0.9**
	comp=E,20nm,0.6s						
BILL	**Bilibino**	**19.26**	**13⇑**	*e*P	**P**	**11 58 26.4**	**-0.5**
BILL				*e*S	**S**	**12 01 58.5**	**+0.2**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.4s						
CN2	**Changchun**	**20.95**	**265**	*e*P	**P**	**11 58 45.0**	**-0.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
HIA	**Hailar**	**22.73**	**282**	*e*P	**P**	**11 59 01.4**	**-2.6**
KSRS	**Korea Array**	**22

CD2 AMB AMB
comp=Z,20nm,4.2s
DLBC Dease Lake 42.71 49 P P 12 01 58.3 +1.4
baz=306,slow=8.7
GYA Guiyang 43.56 256 *e*P **P 12 02 04.3 +0.2**
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
WMQ Urumqi 45.03 289 P P 12 02 17.0 +1.3
MK31 Makanchi Array 46.70 296 *e*P **P 12 02 28.7 0.0**
MKAR Makanchi Array 46.70 296⇑ *e*P **P 12 02 28.7 0.0**
MKAR Makanchi Array 46.70 296 P P 12 02 28.4 -0.3
comp=Z,4.1nm,0.9s,mb4.2,baz=62,slow=8.4,SNR=20
KURK Kurchatov 46.78 302⇑ *e*P **P 12 02 29.2 -0.1**
KURK Kurchatov 46.78 302 *e*P **P 12 02 28.7 -0.5**
comp=Z,9.5nm,0.9s,mb4.5
YKA Yellowknife Ar 47.86 39 P P 12 02 37.6 +0.1
YKA *PP pP 12 03 06.1 +1.3
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 47.86 39 P P 12 02 37.6 +0.1
comp=Z,1.5nm,0.7s,mb4.0,baz=298,slow=7.6,SNR=25
YKA pP pP 12 03 06.1 +1.3
comp=Z,0.4nm,0.6s,baz=297,slow=7.5,SNR=4.8
BVAR Borovoye Array 49.95 308 P P 12 02 53.5 0.0
BVAR pmax pmax
comp=Z,2.0nm,0.3s
BVAR Borovoye Array 49.95 308 P P 12 02 53.5 0.0
comp=Z,1.8nm,0.3s,mb4.5,baz=54,slow=8.5,SNR=11
BRVK Borovoye 49.99 308 *e*P **P 12 02 53.8 0.0**
BRVK pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
BRVK Borovoye 49.99 308 *e*P **P 12 02 53.8 -0.1**
comp=Z,2.7nm,0.5s,mb4.4
AAK Ala-Archa 53.64 295 *e*P **P 12 03 19.5 -1.5**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
ARU Arti 53.68 317 *d i*P **P 12 03 20.2 -0.9**
ARU *e* 12 04 24.9
ARU *e* 12 05 18.6
ARU *e*S **S 12 10 45.9 +0.4**
ARU *e*SS SS 12 14 22.5 -4.4
ARU pmax pmax
comp=Z,11nm,1.2s,mb4.8
ARCES ARCESS Array B 55.47 341 P P 12 03 32.4 -1.5
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 55.47 341 P P 12 03 32.4 -1.5
comp=Z,1.0nm,0.7s,mb3.9,baz=45,slow=8.1,SNR=16
FCC Fort Churchill 58.15 35 *e*P **P 12 03 52.5 -0.5**
FCC pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
FCC Fort Churchill 58.15 35 *e*P **P 12 03 52.5 -0.4**
comp=Z,1.5nm,0.5s,mb4.3
JOF Joensuu 59.23 334 *e*p **P 12 03 57.6 -2.8**
comp=Z,0.7nm,0.3s,mb4.2
JOF Joensuu 59.23 334 *e*P **P 12 03 57.6 -2.8**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
NVAR Mina Array Bea 60.05 65 P P 12 04 06.6 +0.2
NVAR Mina Array Bea 60.05 65 P P 12 04 06.6 +0.2
comp=Z,0.5nm,0.5s,mb3.8,baz=294,slow=8.9,SNR=4.6
FINES FINESS Array B 61.89 335 *i*P **P 12 04 17.2 -1.2**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 61.89 335 P P 12 04 17.2 -1.2
comp=Z,1.4nm,0.5s,mb4.3,baz=40,slow=8.0,SNR=19
OBN Obninsk 63.56 326⇓ *e*P **P 12 04 28.7 -0.9**
OBN *e*S **S 12 12 53.6 +0.1**
OBN pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
NOA NORSAR Array B 65.83 342 P P 12 04 42.8 -1.4
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 65.83 342 P P 12 04 42.8 -1.4
comp=Z,0.6nm,0.6s,mb3.6,baz=28,slow=6.6,SNR=2.6
KIV Kislovodsk 69.60 314 *e*P **P 12 05 01.1 -7.1**
KIV pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
AKASG Malin Array Be 69.76 327 *i*P **P 12 05 08.5 -0.5**
AKASG Malin Array Be 69.76 327 P P 12 05 07.3 -1.7
comp=Z,0.4nm,0.3s,mb3.7,baz=35,slow=6.3,SNR=5.3
SCHQ Schefferville 70.13 24 P P 12 05 10.8 -0.4
comp=Z,1.2nm,0.5s,mb4.0,baz=0,0,slow=11,SNR=5.9
WRA Warramunga Arr 71.69 200⇑ *e*P **P 12 05 20.2 -0.7**
WRA Warramunga Arr 71.69 200 P P 12 05 20.1 -0.8
comp=Z,0.7nm,0.6s,mb3.7,baz=18,slow=6.6,SNR=15
TXAR Lajitas Array 75.03 62 P P 12 05 40.8 +0.2
TXAR *PP pP 12 06 10.7 +0.6
TXAR pmax pmax
comp=Z,1.0nm,0.6s
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR Lajitas Array 75.03 62 P P 12 05 40.8 +0.1
comp=Z,1.3nm,0.6s,mb3.8,baz=297,slow=5.0,SNR=18
TXAR pP pP 12 06 10.7 +0.5
comp=Z,0.8nm,0.7s,baz=300,slow=4.5,SNR=5.4
ASAR Alice Springs 75.38 200 P P 12 05 42.8 +0.4
ASAR *PP pP 12 06 14.1 +2.1
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR pmax pmax
comp=Z,1.0nm,1.2s
ASAR Alice Springs 75.38 200 P P 12 05 42.8 +0.4
comp=Z,0.8nm,0.7s,mb3.6,baz=11,slow=5.2,SNR=19
ASAR pP pP 12 06 14.1 +2.1
comp=Z,0.8nm,1.1s,baz=10,slow=5.7,SNR=1.9
MALT Malatya 76.02 313 *e*P **P 12 05 48.1 +2.0**
MALT pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
MALT Malatya 76.02 313 *e*P **P 12 05 48.0 +1.9**
comp=Z,3.3nm,1.0s,mb4.0
KHC Kasperske Hory 76.10 335 *e*P **P 12 05 46.0 -0.4**
KHC *ex* x 12 05 52.0
KHC *ep*P pP 12 06 16.0 0.0
GERES GERESS Array B 76.33 335 P P 12 05 47.7 0.0
GERES pmax pmax
comp=Z,1.0nm,0.3s
GERES GERESS Array B 76.33 335 P P 12 05 47.7 0.0
comp=Z,0.5nm,0.3s,mb3.7,baz=38,slow=5.6,SNR=7.9
MIB Mutribah 78.14 302 *e*P **P 12 05 57.9 -0.2**
MIB AMb AMB 12 05 59.1
comp=Z,15nm,0.6s,mb4.9
CDF Champ du Feu 78.38 339 *e*P **P 12 05 59.3 +0.2**
comp=Z,4.4nm,0.7s,mb4.0
NAY Al-Naaiem 78.62 302 *e*P **P 12 06 00.4 -0.4**
NAY AMb AMB 12 06 02.6
comp=Z,7.8nm,0.8s,mb4.6
RDF Al-Radifah 78.70 301 *e*P **P 12 06 00.8 -0.5**
RDF AMb AMB 12 06 03.1
comp=Z,16nm,0.8s,mb4.9
MEZF Maizieres J'vi 78.80 340 *e*P **P 12 06 01.7 +0.3**
HINF Hinteralfeld 79.03 339 *e*P **P 12 06 02.4 -0.3**
comp=Z,3.4nm,0.6s,mb4.1
FLN La Foliniere 79.67 344 *e*P **P 12 06 06.1 0.0**
LDF La Druitiere 79.76 343 *e*P **P 12 06 06.5 -0.2**
comp=Z,5.9nm,0.4s,mb4.5
GRR Gorron 80.09 344⇑ *i*P **P 12 06 08.7 +0.3**
comp=Z,12nm,0.7s,mb4.5
LOR Lormes 80.23 340 *e*P **P 12 06 09.2 0.0**
comp=Z,6.2nm,0.7s,mb4.2
SSF Saint Saulge 80.50 341 *e*P **P 12 06 10.7 +0.1**
SGMF Saint Gilles 80.52 345 *e*P **P 12 06 11.0 +0.3**
comp=Z,4.8nm,0.5s,mb4.3
ROSF Rostrenen 80.56 345 *e*P **P 12 06 11.2 +0.3**
AVF Avril sur Loir 80.79 341 *e*P **P 12 06 12.4 +0.2**
comp=Z,4.4nm,0.6s,mb4.1
SMF Signal de Mont 80.82 340 *e*P **P 12 06 12.5 +0.1**
LPL La Plagne 81.22 338⇑ *i*P **P 12 06 15.6 +1.1**
comp=Z,6.8nm,0.6s,mb4.3
LPG La Plagne 81.23 338⇑ *i*P **P 12 06 15.9 +1.3**
comp=Z,7.1nm,0.6s,mb4.3
MFF Saint Martin d 81.68 343 *e*P **P 12 06 17.5 +0.6**
comp=Z,4.6nm,0.7s,mb4.1
MBDF Montbardon 81.95 338 *e*P **P 12 06 18.8 +0.5**
ORIF Oris-en-Rattie 81.99 338 *e*P **P 12 06 19.4 +0.9**
LFF La Frestale 83.10 342 *e*P **P 12 06 25.2 +0.9**
comp=Z,6.2nm,0.6s,mb4.3
LMR La Mourre 83.32 337 *e*P **P 12 06 25.8 +0.3**
PGF Pioggiola 83.41 335 *e*P **P 12 06 26.0 +0.1**
EPF Esparros 85.02 342 *e*P **P 12 06 34.2 +0.1**
comp=Z,4.0nm,0.6s,mb4.2
ESDC Sonseca Array 89.09 344 P P 12 06 52.8 -1.0
comp=Z,0.3nm,0.5s,mb3.6,baz=358,slow=4.5,SNR=3.9

*ISCJB **06** 12:10:27.6±0.5,5140N×003×16.13E±003,h0km, Error ellipse: s-maj=4.0km s-min=2.4km az=21.8*
*IPEC **06** 12:10:27.5±0.2,5150N×1624E,h0km,ML2.0/3, Error ellipse: s-maj=1.2km s-min=0.8km az=47.0*
*NEIC **06** 12:10:28.1,5150N×1618E,h1km,ML2.7(SZGRF), After SZGRF.*
*CSEM **06** 12:10:29.8±0.2,5140N×1614E,h1km,ML3.1/7, Error ellipse: s-maj=3.0km s-min=1.6km az=17.0*
*WAR **06** 12:10:29.5,5145N×1618E,ML2.6, Mining Induced*
*VIE **06** 12:10:30.8±0.5,5127N×1633E,h0km,mb2.1/4,ML2.7/4, Error ellipse: s-maj=3.3km s-min=2.7km az=97.0, Suspected Mining induced.*
*PRU **06** 12:10:31.1,5136N×1608E,h0km*

ISC 06 12:10:28.3±0.5,5146N±002×1616E±003,h0km,n38, σ0:99/73,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.62**	**172**	*e*Pg	**Pg**	**12 10 40.3**	**+0.1**
KSP				*e*Sg	**Sg**	**12 10 50.4**	**+2.1**
KSP	**Ksiaz**	**0.62**	**172**	*i* Pg	**Pg**	**12 10 40.6**	**+0.4**
KSP				*e*Sg	**Sg**	**12 10 48.6**	**+0.3**
KSP				*e*		12 10 53.0	
KSP	**Ksiaz**	**0.62**	**172**	*i* Pg	**Pg**	**12 10 40.6**	**+0.4**
KSP				*e*Sg	**Sg**	**12 10 48.6**	**+0.3**
UPC	**Upice**	**0.96**	**186**	*e*Pg	**Pg**	**12 10 46.8**	**+0.2**
DPC	**Dobruska-Polom**	**1.12**	**175**	*e*PG	**Pg**	**12 10 49.5**	**-0.1**
DPC				*e*SG	**Sg**	**12 11 03.5**	**-0.6**
comp=Z,37nm,0.6s							
PVCC	**Panska Ves**	**1.37**	**228**	*e*Pg	**Pg**	**12 10 54.7**	**+0.2**
PVCC				*e*Sg	**Sg**	**12 11 13.7**	**+1.4**
BRG	**Berggiesshubel**	**1.51**	**248**	*e*Pn	**Pn**	**12 10 55.9**	**-0.7**
BRG	**Berggiesshubel**	**1.51**	**248**	Pg	**Pg**	**12 10 57.4**	**+0.2**
BRG				*e*Sg	**Sg**	**12 11 17.3**	**+0.5**
BRG	**Berggiesshubel**	**1.51**	**248**	PG	**Pg**	**12 10 57.4**	**+0.2**
BRG				SG	**Sg**	**12 11 17.9**	**+1.1**
comp=Z,45nm,0.5s							
RUE	**Ruedersdorf**	**1.79**	**306**	*e*Pn	**Pn**	**12 10 59.7**	**-0.7**
PRU	**Pruhonice**	**1.80**	**216**	*e*Pg	**Pg**	**12 11 02.1**	**-0.6**
PRU				*e*Sg	**Sg**	**12 11 25.1**	**-0.8**
PRU	**Pruhonice**	**1.80**	**216**	*e*PN	**Pn**	**12 11 00.9**	**+0.4**
PRU				*e*PG	**Pg**	**12 11 02.1**	**-0.6**
PRU				*e*SG	**Sg**	**12 11 25.3**	**-0.6**
comp=Z,25nm,0.7s							
MORC	**Moravsky Berou**	**1.90**	**152**	*e*Pn	**Pn**	**12 11 01.1**	**-0.8**
MORC				*e*Sn	**Sn**	**12 11 26.3**	**-0.2**
MORC	**Moravsky Berou**	**1.90**	**152**	*e*Pn	**Pn**	**12 11 01.3**	**-0.6**
MORC				*e*Sn	**Sn**	**12 11 26.3**	**-0.2**
MORC				*e*Sg	**Sg**	**12 11 27.1**	**-2.2**
comp=Z,9.2nm,0.2s							
CLL	**Collm**	**1.98**	**267**	*e*Pg	**Pg**	**12 11 06.0**	**-0.2**
CLL				*e*Sg	**Sg**	**12 11 33.0**	**+1.1**
comp=Z,15nm,0.7s							
CLL	**Collm**	**1.98**	**267**	*e*Pn	**Pn**	**12 11 01.9**	**-1.1**
CLL	**Collm**	**1.98**	**267**	*e*Pg	**Pg**	**12 11 06.0**	**-0.2**
CLL				*e*Sg	**Sg**	**12 11 33.0**	**+1.1**
OKC	**Ostrava-Krasne**	**2.06**	**141**	*e*Pg	**Pg**	**12 11 07.3**	**-0.4**
OKC				*e*Sg	**Sg**	**12 11 33.8**	**-0.6**
comp=Z,37nm,0.8s							
VRAC	**Vranov**	**2.17**	**172**	*e*Pn	**Pn**	**12 11 06.3**	**+0.7**
VRAC				*e*Sg	**Sg**	**12 11 36.7**	**-1.3**
comp=Z,8.4nm,0.2s							
KRUC	**Moravsky**	**2.41**	**176**	*e*Pn	**Pn**	**12 11 09.4**	**+0.6**
KRUC				*e*Sg	**Sg**	**12 11 44.1**	**-1.4**
comp=Z,5.1nm,0.3s							
OJC	**Ojcow**	**2.62**	**117**	*e*Pg	**Pg**	**12 11 18.9**	**+0.4**
OJC				*e*Sg	**Sg**	**12 11 53.7**	**+1.3**
NKC	**Novy Kostel**	**2.65**	**244**	*e*Pn	**Pn**	**12 11 12.7**	**+0.5**
NKC	**Novy Kostel**	**2.65**	**244**	*e*PN	**Pn**	**12 11 12.8**	**+0.6**
NKC				*e*PG	**Pg**	**12 11 18.9**	**-0.2**
NKC				*e*SG	**Sg**	**12 11 53.4**	**0.0**
comp=Z,27nm,0.4s							
KHC	**Kasperske Hory**	**2.86**	**216**	*e*Pn	**Pn**	**12 11 15.3**	**+0.2**
KHC	**Kasperske Hory**	**2.86**	**216**	*e*Pg	**Pg**	**12 11 20.9**	**-2.1**
KHC				*e*Sn	**Sn**	**12 11 49.9**	**-0.2**
KHC				*e*Sg	**Sg**	**12 11 57.9**	**-2.2**
KHC	**Kasperske Hory**	**2.86**	**216**	*e*PN	**Pn**	**12 11 15.5**	**+0.4**
KHC				*e*PG	**Pg**	**12 11 20.9**	**-2.1**
KHC				*e*SN	**Sn**	**12 11 49.9**	**-0.2**
KHC				*e*SG	**Sg**	**12 11 58.4**	**-1.7**
comp=Z,11nm,0.6s							
MOX	**Moxa**	**2.98**	**256**	*e*PG	**Pg**	**12 11 26.4**	**+1.1**
MOX				*e*SG	**Sg**	**12 12 05.1**	**+1.1**
GEC2	**GERESS Array S**	**3.06**	**212**	*e*Pn	**Pn**	**12 11 18.0**	**+0.2**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**12 11 19.2**	**+0.4**
WET				*e*Sg	**Sg**	**12 12 07.4**	**-1.4**
WET	**Wettzell**	**3.13**	**223**	*e*Pn	**Pn**	**12 11 19.0**	**+0.2**
WET				*e*Sg	**Sg**	**12 12 07.4**	**-1.4**
MODS	**Modra-Piesok**	**3.17**	**166**	*e*SG	**Sg**	**12 12 11.8**	**+1.6**
VYHS	**Vyhne**	**3.44**	**149**	*e*PG	**Pg**	**12 11 34.4**	**+0.3**
VYHS				*e*SG	**Sg**	**12 12 21.7**	**+3.1**
CONA	**Conrad Observa**	**3.54**	**183⇑**	*i*Pn	**Pn**	**12 11 24.8**	**+0.4**
CONA				⇓*i*Sg	**Sg**	**12 12 21.6**	**-0.4**
comp=Z,15nm,0.6s							
CLZ	**Clausthal**	**3.62**	**278**	*e*Pn	**Pn**	**12 11 26.5**	**+0.9**
BSD	**Bornholm Skovb**	**3.73**	**349**	*i* P	**Pn**	**12 11 26.1**	**-1.0**
BSD				*i* S	**Sn**	**12 12 09.3**	**-2.4**
MOA	**Molln**	**3.82**	**200⇑**	*i*Pn	**Pn**	**12 11 28.7**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**12 12 32.2**	**+1.4**
comp=Z,8.3nm,0.5s							
MOA	**Molln**	**3.82**	**200**	Pn	**Pn**	**12 11 28.7**	**+0.5**
MOA				Sg	**Sg**	**12 12 32.2**	**+1.4**
comp=Z,8.3nm,0.5s							
STHS	**Stebnicka Huta**	**3.84**	**120**	*e*PG	**Pg**	**12 11 43.1**	**+1.3**
STHS				*e*SG	**Sg**	**12 12 36.6**	**+5.0**

IDC 06 12:16:23.0±132.0,1545S×17397E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.7/13,mbtmp3.8/3,Error ellipse: s-maj=2289.0km s-min=148.6km az=70.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.69**	**235**	P	P	12 23 05.7	-0.2
4.8nm,1.2s,baz=53,slow=10,SNR=4.5							
WRA	**Warramunga Arr**	**37.96**	**257**	P	P	12 23 42.9	+0.2
0.4nm,0.6s,baz=82,slow=6.1,SNR=8.7							
ASAR	**Alice Springs**	**38.52**	**251**	P	P	12 23 47.2	-0.2
0.7nm,0.5s,baz=78,slow=8.8,SNR=22							

IDC 06 12:34:24.7±4.5,242S×13888E,h0km,mb3.3/2,mb1 3.6/3, mb1mx3.4/12,mbtmp3.4/3,ML3.4/1,Error ellipse: s-maj=183.5km s-min=29.7km az=87.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.97**	**194**	P	Pn	12 38 35.6	-0.4
0.1nm,0.3s,baz=17,slow=13,SNR=14							
ASAR	**Alice Springs**	**21.66**	**192**	P	P	12 39 17.7	+0.8
0.6nm,0.5s,baz=22,slow=11,SNR=19							
MKAR	**Makanchi Array**	**69.66**	**322**	P	P	12 45 36.0	-0.2
0.4nm,0.6s,baz=111,slow=6.3,SNR=3.9							

IDC 06 13:05:40.8±0.9,2184N×14310E,h0km,mb3.8/8, mb1 4.0/8,mb1mx3.9/18,mbtmp3.8/8,MS2.6/1,Ms1 2.6/1, ms1mx2.3/37,Error ellipse: s-maj=35.5km s-min=19.8km az=88.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.38**	**168**	LR	LR	13 10 35.4	
comp=Z,42nm,20.6s,baz=154,slow=35							
KSRS	**Korea Array**	**20.35**	**323**	P	P	13 10 23.4	+4.7
2.1nm,0.8s,baz=141,slow=9.8,SNR=9.0							
SONM	**Songino Array**	**39.18**	**320**	P	P	13 13 09.8	-0.5
0.7nm,0.5s,baz=122,slow=7.2,SNR=3.7							
WRA	**Warramunga Arr**	**42.40**	**192**	P	P	13 13 36.3	-0.8
1.0nm,0.7s,baz=19,slow=8.7,SNR=4.0							
ASAR	**Alice Springs**	**46.11**	**192**	P	P	13 14 07.3	+0.5
0.5nm,0.6s,baz=16,slow=9.1,SNR=15							
STKA	**Stephens Creek**	**53.43**	**182**	P	P	13 15 02.4	-0.1
1.3nm,0.8s,baz=328,slow=9.5,SNR=3.2							
ZALV	**Zalesovo Beam**	**54.05**	**322**	P	P	13 15 06.9	+0.1
0.6nm,0.4s,baz=104,slow=6.3,SNR=4.7							
MKAR	**Makanchi Array**	**54.54**	**313**	P	P	13 15 11.1	+0.6
0.4nm,0.8s,baz=80,slow=9.4,SNR=4.1							
YKA	**Yellowknife Ar**	**76.36**	**28**	P	P	13 17 31.2	-0.3
1.0nm,0.6s,baz=292,slow=5.9,SNR=18							
NVAR	**Mina Array Bea**	**83.12**	**51**	P	P	13 18 09.7	+1.0
0.8nm,0.7s,baz=275,slow=4.5,SNR=5.5							

IDC 06 13:13:21.2±1.6,602S×10305E,h0km,mb4.0/10, mb1 4.0/10,mb1mx3.9/21,mbtmp4.0/10,Error ellipse: s-maj=62.7km s-min=15.3km az=52.0,Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**20.82**	**103**	P	P	13 18 04.8	+0.3
13nm,0.3s,baz=277,slow=4.0,SNR=6.3							
FITZ	**Fitzroy Crossi**	**25.10**	**121**	P	P	13 18 49.2	+1.2
1.4nm,1.0s,baz=81,slow=10,SNR=2.7							
WRA	**Warramunga Arr**	**33.40**	**117**	P	P	13 20 00.6	-1.2
0.2nm,0.4s,baz=307,slow=8.8,SNR=7.9							
ASAR	**Alice Springs**	**34.47**	**124**	P	P	13 20 10.5	-0.6
0.2nm,0.4s,baz=302,slow=8.3,SNR=12							
STKA	**Stephens Creek**	**44.23**	**131**	P	P	13 21 32.6	+0.1
2.4nm,1.1s,baz=287,slow=17,SNR=5.0							
KSRS	**Korea Array**	**49.08**	**26**	P	P	13 22 09.8	-0.6
1.6nm,0.6s,baz=222,slow=7.9,SNR=9.4							
SONM	**Songino Array**	**53.70**	**3**	P	P	13 22 45.3	+0.5
2.2nm,0.8s,baz=176,slow=7.9,SNR=8.9							
MKAR	**Makanchi Array**	**55.71**	**343**	P	P	13 22 59.9	+0.4
2.0nm,0.6s,baz=145,slow=7.7,SNR=24							
ZALV	**Zalesovo Beam**	**61.68**	**348**	P	P	13 23 40.5	-0.4
1.3nm,0.3s,baz=159,slow=4.6,SNR=12							
BVAR	**Borovoye Array**	**64.99**	**339**	P	P	13 24 02.5	-0.4
1.1nm,0.4s,baz=116,slow=6.8,SNR=8.2							
TXAR	**Lajitas Array**	**145.74**	**44**	PKPbc	PKPbc	13 33 03.1	+0.3
1.1nm,0.5s,baz=280,slow=1.1,SNR=18							

IDC 06 13:20:28.2±0.7,2186N×14316E,h0km,mb3.9/12, mb1 4.1/12,mb1mx4.0/21,mbtmp3.9/12,MS3.5/14, Ms1 3.5/14,ms1mx3.4/32,Error ellipse: s-maj=26.9km s-min=18.3km az=80.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.29**	**350**	LR	LR	13 23 45.6	
comp=Z,339nm,21.1s,baz=120,slow=37							
GUMO	**Guam**	**8.38**	**169**	LR	LR	13 25 14.7	
comp=Z,165nm,18.0s,baz=269,slow=34							
JHJ	**Hachijo jima 2**	**11.61**	**346**	LR	LR	13 27 30.3	
comp=Z,297nm,19.4s,baz=329,slow=36							
JOW	**Kunigami**	**14.44**	**293**	LR	LR	13 28 47.1	
comp=Z,89nm,18.2s,baz=7.4,slow=35							
MJAR	**Matsushiro Arr**	**15.25**	**345**	LR	LR	13 29 35.2	
comp=Z,157nm,18.4s,baz=165,slow=36							
JNU	**Nakatsue**	**15.63**	**318**	LR	LR	13 28 57.2	
comp=Z,55nm,21.7s,baz=233,slow=33							
KSRS	**Korea Array**	**20.38**	**323**	P	P	13 25 07.7	+1.2
0.8nm,0.8s,baz=140,slow=37,SNR=3.4							
KSRS				LR	LR	13 31 55.7	
comp=Z,67nm,18.6s,baz=348,slow=34							
ASAJ	**Asahikawa**	**22.20**	**359**	LR	LR	13 33 36.1	
comp=Z,53nm,19.7s,baz=48,slow=36							
BATI	**Kupang**	**37.17**	**213**	LR	LR	13 41 47.9	
comp=Z,271nm,19.4s,baz=246,slow=34							
SONM	**Songino Array**	**39.20**	**320**	P	P	13 27 57.8	-0.2
1.2nm,0.7s,baz=138,slow=5.9,SNR=6.5							
WRA	**Warramunga Arr**	**42.43**	**192**	P	P	13 28 23.9	-0.9
1.6nm,0.9s,baz=15,slow=8.7,SNR=9.3							
ASAR	**Alice Springs**	**46.14**	**192**	P	P	13 28 55.4	+1.0
0.7nm,0.7s,baz=18,slow=11,SNR=15							
ZALV	**Zalesovo Beam**	**54.08**	**322**	P	P	13 29 53.7	-0.7
1.5nm,0.7s,baz=77,slow=6.5,SNR=6.1							
ZALV				LR	LR	13 53 22.7	
comp=Z,33nm,19.6s,baz=77,slow=36							
MKAR	**Makanchi Array**	**54.58**	**313**	P	P	13 29 59.5	+1.3
0.7nm,0.8s,baz=90,slow=7.6,SNR=5.9							
BVAR	**Borovoye Array**	**62.54**	**319**	P	P	13 30 54.1	+0.4
1.6nm,0.5s,baz=89,slow=8.2,SNR=13							
INK	**Inuvik**	**67.43**	**24**	P	P	13 31 25.3	0.0
1.3nm,0.9s,baz=300,slow=10,SNR=7.0							
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P	13 32 18.8	+0.1
1.4nm,0.7s,baz=292,slow=5.6,SNR=16							
YKA				LR	LR	14 03 47.6	
comp=Z,31nm,18.8s,baz=335,slow=34							
PPT	**Papeete**	**76.61**	**115**	LR	LR	13 57 52.7	
comp=Z,135nm,20.3s,baz=278,slow=29							
ARCES	**ARCESS Array B**	**78.77**	**341**	P	P	13 32 32.1	-0.2
3.1nm,1.1s,baz=342,slow=12,SNR=2.5							
FINES	**FINESS Array B**	**83.03**	**334**	P	P	13 32 53.6	-1.6
2.0nm,1.0s,baz=196,slow=20,SNR=3.1							
NVAR	**Mina Array Bea**	**83.06**	**51**	P	P	13 32 57.4	+1.6
1.3nm,0.8s,baz=264,slow=8.8,SNR=8.0							
PFO	**Pinyon Flat Ob**	**86.32**	**55**	LR	LR	14 07 46.2	
comp=Z,71nm,18.6s,baz=310,slow=33							
TXAR	**Lajitas Array**	**97.97**	**54**	LR	LR	14 16 41.5	
comp=Z,40nm,19.5s,baz=0.0,slow=34							
LPAZ	**La Paz**	**149.94**	**85**	PKPbc	PKPbc	13 40 20.9	-0.5
1.3nm,0.8s,baz=360,slow=5.1,SNR=6.2							

*IDC **06** 13:37:38.1±0.9,10.19N×12695E,h0km,mb3.8/8, mb1 3.9/8,mb1mx3.7/18,mbtmp3.8/8,MS2.7/1,Ms1 2.7/1, ms1mx2.5/35,Error ellipse: s-maj=74.6km s-min=18.1km az=75.0*
*ISCJB **06** 13:37:45.3±1.1,994N±006×12633E±008,h64km±11km, mb3.8/8,Error ellipse: s-maj=13.4km s-min=9.4km az=174.0*
*MAN **06** 13:37:46,992N×12615E,h16km,mb4.9,ML3.8,MS3.9*

ISC 06 13:37:46.8±1.2,995N±006×12630E±009,h64km±12km, n24,σ0:96/28,mb3.8/8,1C,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**259**	*e*P	**Pn**	**13 37 59.2**	**-3.4**
SCPH				*e*S	**Sn**	**13 38 09.6**	**-4.7**
MSLP	**Maasin**	**1.43**	**278**	*e*P	**Pn**	**13 38 09.5**	**-1.1**
MSLP				*e*S	**Sn**	**13 38 28.4**	**-0.2**
OCLP	**Ormoc**	**1.99**	**304**	*e*P	**Pn**	**13 38 18.8**	**+0.6**
CGP	**Cagayan de Oro**	**2.17**	**227**	*e*P	**Pn**	**13 38 20.5**	**-0.1**
CGP				*e*S	Sx	13 38 28.9	
LLP	**Lapu-Lapu**	**2.33**	**279**	*e*P	**Pn**	**13 38 22.9**	**+0.2**
LLP				*e*S	**Sn**	**13 38 49.2**	**-1.0**
BUKP	**Musuan**	**2.39**	**211**	*e*P	**Pn**	**13 38 24.3**	**+0.7**
TBP	**Tagbilaran**	**2.42**	**264**	*e*P	**Pn**	**13 38 23.9**	**0.0**
TBP				*e*S	**Sn**	**13 38 52.5**	**+0.1**
CNP	**Cataman**	**3.01**	**328**	*e*P	**Pn**	**13 38 30.6**	**-1.5**
SNPH	**Sibulan**	**3.08**	**259**	*e*P	**Pn**	**13 38 34.0**	**+1.0**
DCPH	**Dipolog City**	**3.21**	**245⇑**	*e*P	**Pn**	**13 38 35.2**	**+0.4**
DCPH				*e*S	**Sn**	**13 39 10.9**	**-0.9**
PAGZ	**Pagadian**	**3.56**	**234**	*e*P	**Pn**	**13 38 40.2**	**+0.7**
GUIM	**Jordan**	**3.71**	**281**	*e*P	**Pn**	**13 38 42.6**	**+1.0**
**PVCP

s-maj=19.2km s-min=17.5km az=116.0
ISCJB ***06*** *14:00:31.3±1.4,2404S±009×1799E±01,h506km±16km, mb4.0/11, Error ellipse: s-maj=17.8km s-min=13.0km az=158.6*
NEIC ***06*** *14:00:34.0±1.4,2443S×17997E,h544km±19km, mb4.3/2, Error ellipse: s-maj=24.0km s-min=16.2km az=182.0*
ISC 06 14:00:32.6±1.3,2419S±009×1799E±01,h511km±16km, n25,σ0°98/23,mb4.0/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**5.41**	**159**	*e*P	**P**	**14 02 05.6**	**+1.9**
RAO	**Raoul Island**	**5.41**	**159**	P	**P**	**14 02 04.0**	**+0.3**
	99nm,0.3s,baz=280,slow=23,SNR=8.8						
URZ	**Urewera**	**14.23**	**189**	P	**P**	**14 03 31.8**	**-2.5**
	3.0nm,0.3s,baz=346,slow=4.5,SNR=21						
URZ				S	**S**	**14 06 04.0**	**-0.2**
	0.7nm,0.3s,baz=339,slow=23,SNR=11						
RPZ	**Rata Peaks**	**20.79**	**198**	P	**P**	**14 04 33.9**	**-3.6**
	16nm,1.0s,baz=23,slow=16,SNR=3.2						
HNR	**Honiara**	**24.04**	**304**	P	**P**	**14 05 06.0**	**-1.1**
	43nm,0.8s,mb5.1,baz=138,slow=1.0,SNR=3.4						
CTA	**Charters Tower**	**31.39**	**271**	*e*P	**P**	**14 06 12.3**	**+1.0**
	6.4nm,0.5s,mb4.4						
CTA	**Charters Tower**	**31.39**	**271**	P	**P**	**14 06 12.5**	**+1.2**
	9.1nm,0.5s,mb4.5,baz=103,slow=9.0,SNR=15						
CTAO	**Charters Tower**	**31.39**	**271**	*e*P	**P**	**14 06 12.3**	**+1.0**
ASAR	**Alice Springs**	**41.90**	**261**	P	**P**	**14 07 38.5**	**+0.5**
	3.5nm,0.9s,mb3.9,baz=96,slow=8.1,SNR=24						
ASAR				ScP	ScP	14 12 25.9	+2.4
	1.5nm,1.0s,baz=92,slow=3.9,SNR=6.9						
WB2	**Warramunga Arr**	**42.28**	**266**	*e*P	**P**	**14 07 41.2**	**+0.2**
WRAB	**Tennant Creek**	**42.29**	**267**	*e*P	**P**	**14 07 40.9**	**-0.1**
	5.6nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**42.30**	**266**	P	**P**	**14 07 40.9**	**-0.3**
	5.4nm,0.7s,mb4.2,baz=103,slow=8.1,SNR=40						
WRA				ScP	ScP	14 12 27.3	+2.2
	1.0nm,0.9s,baz=108,slow=4.3,SNR=5.9						
FITZ	**Fitzroy Crossi**	**50.71**	**266**	P	**P**	**14 08 45.5**	**+0.4**
	2.8nm,0.7s,mb3.7,baz=159,slow=8.7,SNR=5.2						
SBA	**Scott Base**	**54.08**	**183**	*e*P	**P**	**14 09 11.3**	**+3.0**
MJAR	**Matsushiro Arr**	**72.08**	**326**	P	**P**	**14 11 03.5**	**-1.2**
	1.5nm,0.5s,mb3.7,baz=100,slow=6.4,SNR=8.2						
ASAJ	**Asahikawa**	**76.08**	**333**	P	**P**	**14 11 27.9**	**+0.8**
	6.5nm,0.9s,mb4.1,baz=275,slow=7.9,SNR=3.7						
KSRS	**Korea Array**	**78.41**	**320**	P	**P**	**14 11 40.3**	**+0.3**
	1.3nm,0.7s,mb3.4,baz=130,slow=5.1,SNR=6.1						
SNAA	**Sanae**	**84.38**	**179**	*e*	**P**	**14 12 10.5**	**+0.3**
SNAA				*e*		14 12 12.2	
VNA3	**Neumayer Olymp**	**84.59**	**177**	*e*	**P**	**14 12 11.6**	**+0.4**
VNA3				*e*		14 12 13.4	
VNA2	**Neumayer--Watz**	**85.01**	**178**	*e*	**P**	**14 12 12.6**	**-0.7**
	baz=190,slow=4.2						
VNA2				*e*		14 12 14.7	
NVAR	**Mina Array Bea**	**85.02**	**44**	P	**P**	**14 12 13.2**	**-0.6**
	0.6nm,0.8s,mb3.2,baz=213,slow=5.6,SNR=4.0						
TXAR	**Lajitas Array**	**90.66**	**58**	P	**P**	**14 12 40.6**	**+0.1**
	1.2nm,0.7s,mb3.9,baz=216,slow=6.4,SNR=13						
ARCES	**ARCESS Array B**	**132.15**	**348**	PKP		14 18 45.7	-1.4
ARCES	**ARCESS Array B**	**132.15**	**348**	PKP	PKPdf	14 18 45.7	-1.4
	0.6nm,0.6s,baz=48,slow=1.8,SNR=6.0						
AKASG	**Malin Array Be**	**145.16**	**327**	PKPbc	PKPbc	14 19 10.7	-1.5
	1.6nm,0.5s,baz=41,slow=4.3,SNR=7.5						

NIED ***06*** *14:04:00,4570N×15180E,h5km,Mw4.8 Best double couple: M0=1.60000×10^16 NP1:φs=72.00000°,δ78.00000°, λ85.00000°. NP2:φs=274.00000°,δ13.00000°,λ112.00000°.*
BJI ***06*** *14:04:17.2,4557N×152.13E,h26km,mB4.8,mb4.7,Ms4.0, Msz3.8*
SZGRF ***06*** *14:04:18.0,4426N×15137E,h33km,mb4.6,East of Kuril Islands, Russia*
SKHL ***06*** *14:04:18.4±1.8,4547N×152.13E,h58km±25km,mb5.0/6, Ms3.8/2*
ISCJB ***06*** *14:04:19.2±1.1,4532N±005×15181E±005,h27km±8km, mb4.6/74,MS3.7/19, Error ellipse: s-maj=9.3km s-min=4.6km az=151.2*
NEIC ***06*** *14:04:19.2±2.6,4551N×15177E,h12km±16km,mb4.7/37, MS4.1/4, Error ellipse: s-maj=10.5km s-min=6.3km az=140.0*
JMA ***06*** *14:04:20.8±0.4,4565N×15180E,h30km,M4.8*
MOS ***06*** *14:04:21.8±1.2,4560N×15168E,h36km,mb4.9/29, Error ellipse: s-maj=10.2km s-min=5.7km az=110.7*
IDC ***06*** *14:04:26.0±3.5,4558N×15167E,h67km±32km,mb3.9/17, mb1 4.0/19,mb1mx4.0/25,mbtmp3.9/19,ML3.7/2,MS3.5/8, Ms1 3.5/8,ms1mx3.3/29, Error ellipse: s-maj=18.0km s-min=13.2km az=157.0*
ISC 06 14:04:21.3±1.0,4542N±005×15183E±005,h27km±7km, h15km±1.1km;pP-P,n254,σ1°24/279,mb4.6/73,MS3.7/19, 18C-7D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**2.80**	**267**	*e*PN	**Pn**	**14 05 02.0**	**-2.2**
KUR				*i* S	**Sn**	**14 05 34.7**	**-2.3**
KUR				pmax	pmax		
	comp=N,110nm,0.5s						
KUR				pmax	pmax		
	comp=E,70nm,0.5s						
KUR				pmax	pmax		
	comp=Z,240nm,0.5s						
KUR				smax			
	comp=N,400nm,0.6s						
KUR				smax			
	comp=E,710nm,0.6s						
KUR				smax			
	comp=N,5μm,1.6s						
KUR				smax			
	comp=E,2μm,1.6s						
KUR	**Kuril'sk**	**2.80**	**267**	*e*P	**Pn**	**14 05 02.0**	**-2.2**
KUR				AMB	AMB	14 05 15.4	
	comp=E,114nm,0.5s						
KUR				AMB	AMB	14 05 15.4	
	comp=E,68nm,0.5s						
KUR				AMB	AMB	14 05 15.4	
	comp=E,236nm,0.5s						
KUR				*e*S	**Sn**	**14 05 34.7**	**-2.3**
KUR				A		14 05 37.5	
	comp=E,403nm,0.6s						
KUR				A		14 05 37.5	
	comp=E,714nm,0.6s						
KUR				A		14 05 40.0	
	comp=E,5μm,1.6s						
KUR				A		14 05 40.0	
	comp=E,2μm,1.6s						
YUK	**Yuzh-Kuril'sk**	**4.47**	**254**	*e*P	**Pn**	**14 05 28.0**	**+0.8**
YUK				AMB	AMB	14 05 30.4	
	comp=E,390nm,0.2s						
YUK				*e*S	**Sn**	**14 06 17.2**	**-1.0**
YUK				A		14 06 25.5	
	comp=E,2μm,0.8s						
YUK				A		14 06 25.5	
	comp=E,2μm,0.8s						
YUK				A		14 06 25.5	
	comp=E,530nm,0.5s						
YUK				A		14 06 25.5	
	comp=E,460nm,0.5s						
NEM2	**Nemuro 2**	**4.82**	**247**	P	**Pn**	**14 05 31.5**	**-0.5**
NEM2				*e*S	**Sn**	**14 06 24.5**	**-2.4**
JRA	**Rausu**	**5.01**	**255**	P	**Pn**	**14 05 36.5**	**+2.0**
JRA				*e*S	**Sn**	**14 06 32.7**	**+1.3**
JNK	**Nakash**	**5.40**	**253**	P	**Pn**	**14 05 41.2**	**+1.2**
JNK				*e*S	**Sn**	**14 06 41.1**	**-0.2**
JAK	**Akkeshi**	**5.67**	**247**	P	**Pn**	**14 05 43.3**	**-0.3**
JAK				*e*S	**Sn**	**14 06 45.1**	**-2.7**
JTKR	**Abashiri--Toko**	**5.83**	**258**	P	**Pn**	**14 05 47.8**	**+2.0**
SKR	**Severo-Kuril's**	**6.00**	**27**	*e*PN	**Pn**	**14 05 43.6**	**-4.5**
SKR				pmax	pmax		
	comp=N,50nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,220nm,0.5s						
SKR	**Severo-Kuril's**	**6.00**	**27**	*e*P	**Pn**	**14 05 43.6**	**-4.5**
SKR				AMB	AMB	14 05 45.5	
	comp=Z,50nm,0.5s						
SKR				AMB	AMB	14 05 45.5	
	comp=Z,60nm,0.5s						
SKR				AMB	AMB	14 05 45.5	
	comp=Z,220nm,0.5s						
SKR				*e*S	**Sn**	**14 06 48.8**	**-7.0**
SKR				A		14 07 02.6	
	comp=Z,80nm,0.5s						
SKR				A		14 07 02.6	
	comp=Z,60nm,0.5s						
JAR	**Ashorobuto**	**6.15**	**253**	P	**Pn**	**14 05 51.8**	**+1.5**
JMP	**Maruseppu**	**6.20**	**260**	P	**Pn**	**14 05 53.4**	**+2.5**
JOB	**Onbets**	**6.28**	**249**	P	**Pn**	**14 05 52.6**	**+0.6**
JOB				*e*S	**Sn**	**14 06 58.8**	**-3.9**
YSS	**Yuzh-Sakhalins**	**6.48**	**287**	⇑*i*PN	**Pn**	**14 05 57.5**	**+2.8**
YSS				*e*S	**Sn**	**14 07 10.5**	**+2.8**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax			
	comp=E,40nm,0.9s						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.48**	**287**	*e*Pn	**Pn**	**14 05 57.5**	**+2.8**
	comp=Z,19nm,0.4s						
YSS	**Yuzh-Sakhalins**	**6.48**	**287**	⇑*i*P	**Pn**	**14 05 57.5**	**+2.8**
YSS				AMB	AMB	14 05 59.8	
	comp=Z,30nm,0.5s						
YSS				*e*S	**Sn**	**14 07 10.5**	**+2.8**
YSS				A		14 07 15.6	
	comp=Z,40nm,0.9s						
YSS				*e*LR	LR	14 08 02.0	
YSS				AMS	AMS	14 08 36.0	
	comp=Z,400nm,16.0s						
YSS				AMS	AMS	14 08 36.0	
	comp=Z,400nm,16.0s						
JKK2	**Kamakawa 2**	**6.66**	**260**	P	**Pn**	**14 05 59.8**	**+2.6**
ASAJ	**Asahikawa**	**6.70**	**262**	PN	**Pn**	**14 06 00.6**	**+2.8**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,318nm,18.7s						
ASAJ	**Asahikawa**	**6.70**	**262**	P	**Pn**	**14 06 00.8**	**+3.0**
ASAJ	**Asahikawa**	**6.70**	**262**	P	**Pn**	**14 06 00.6**	**+2.8**
	comp=Z,2.1nm,0.3s,baz=91,slow=19,SNR=16						
ASAJ				LR	LR	14 08 46.9	
	comp=Z,318nm,18.6s,baz=102,slow=39						
JCH	**Churui**	**6.72**	**248**	P	**Pn**	**14 05 58.0**	**0.0**
JCH				*e*S	**Sn**	**14 07 11.2**	**-2.4**
JFR	**Furan**	**7.00**	**254**	P	**Pn**	**14 06 04.6**	**+2.7**
JEM	**Erimo**	**7.14**	**245**	P	**Pn**	**14 06 05.8**	**+1.9**
ERM	**Erimo**	**7.14**	**245**	*e*PN	**Pn**	**14 06 05.8**	**+1.9**
ERM				pmax	pmax		
	comp=Z,66nm,0.6s						
ERM	**Erimo**	**7.14**	**245**	*e*Pn	**Pn**	**14 06 05.8**	**+1.9**
	comp=Z,66nm,0.6s						
ERM	**Erimo**	**7.14**	**245**	*e*P	**Pn**	**14 06 05.5**	**+1.6**
JNBK	**Urakawa-nobuka**	**7.27**	**248**	P	**Pn**	**14 06 05.2**	**-0.4**
JBT2	**Biratori 2**	**7.31**	**252**	P	**Pn**	**14 06 06.5**	**+0.4**
UGL	**Uglegorsk**	**7.58**	**302**	*e*P	**Pn**	**14 06 14.0**	**+4.2**
UGL				AMB	AMB	14 06 14.5	
	comp=Z,18nm,0.7s						
UGL				AMS	AMS	14 09 12.0	
	comp=Z,400nm,16.0s						
UGL				AMS	AMS	14 09 12.0	
	comp=Z,500nm,16.0s						
JEW	**Eniwo**	**7.90**	**255**	P	**Pn**	**14 06 16.1**	**+1.9**
TYV	**Tymovskoe**	**8.20**	**315**	*e*P	**Pn**	**14 06 20.0**	**+1.7**
TYV				AMB	AMB	14 06 22.2	
	comp=Z,44nm,1.0s						
TYV				AMB	AMB	14 06 22.2	
	comp=Z,13nm,0.8s						
JNB	**Noboribetsu**	**8.32**	**253**	P	**Pn**	**14 06 22.0**	**+1.9**
JNB				*e*S	**Sn**	**14 07 51.0**	**-2.1**
JKB	**Kayabe**	**8.59**	**249**	P	**Pn**	**14 06 23.3**	**-0.3**
JKB				*e*S	**Sn**	**14 07 53.9**	**-5.6**
PET	**Petropavlovsk**	**8.82**	**28**	*e*PN	**Pn**	**14 06 24.8**	**-2.0**
PET				pmax	pmax		
	comp=Z,13nm,1.0s						
PET				MLR	MLR		
	comp=Z,200nm,20.0s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
PET	**Petropavlovsk**	**8.82**	**28**	*e*Pn	**Pn**	**14 06 24.6**	**-2.2**
	comp=Z,8.0nm,0.6s						
JYM2	**Yakumo 2**	**8.92**	**252**	P	**Pn**	**14 06 28.4**	**+0.1**
JANG	**Nango**	**9.09**	**240**	P	**Pn**	**14 06 28.1**	**-2.5**
JANG				*e*S	**Sn**	**14 08 03.4**	**-8.6**
JTM	**Tenmabayashi**	**9.13**	**243**	P	**Pn**	**14 06 30.4**	**-0.7**
JTM				*e*S	**Sn**	**14 08 06.0**	**-6.9**
JTH	**Tanohata**	**9.15**	**237**	P	**Pn**	**14 06 28.8**	**-2.7**
JTH				*e*S	**Sn**	**14 08 04.8**	**-8.7**
JOSM	**Okushiri--Mats**	**9.54**	**254**	P	**Pn**	**14 06 37.4**	**+0.7**
OFUJ	**Ofunato**	**9.84**	**233**	P	**Pn**	**14 06 38.8**	**-2.0**
OFUJ				*e*S	**Sn**	**14 08 22.2**	**-8.1**
JRG	**Rokugo**	**10.23**	**238**	P	**Pn**	**14 06 44.8**	**-1.4**
JOG2	**Oga 2**	**10.43**	**242**	P	**Pn**	**14 06 48.0**	**-0.9**
JIO	**Ouri**	**10.45**	**232**	P	**Pn**	**14 06 46.9**	**-2.3**
JIO				*e*S	**Sn**	**14 08 35.3**	**-10**
NKL	**Nikolayevsk**	**10.61**	**321**	*e*P	**Pn**	**14 06 49.2**	**-2.1**
JYA	**Atsumi**	**11.30**	**237**	P	**Pn**	**14 06 59.5**	**-1.3**
JFY	**Yanaizu**	**12.11**	**233**	P	**Pn**	**14 07 11.8**	**-0.1**
MJAR	**Matsushiro Arr**	**13.57**	**234**	P	**Pn**	**14 07 30.5**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=19,slow=16,SNR=7.7						
MAJO	**Matsushiro**	**13.57**	**234**	*e*P	**Pn**	**14 07 29.9**	**-1.9**
MAJO				pmax	pmax		
	comp=Z,11nm,0.8s						
MAJO	**Matsushiro**	**13.57**	**234**	*e*Pn	**Pn**	**14 07 29.9**	**-2.0**
	comp=Z,10nm,0.8s						
KLR	**Kul'dur**	**14.13**	**293**	*e*P	**Pn**	**14 07 41.7**	**+2.3**
MA2	**Magadan**	**14.19**	**358**	*e*P	**Pn**	**14 07 39.2**	**-1.0**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2	**Magadan**	**14.19**	**358**	*e*P	**Pn**	**14 07 39.9**	**-0.2**
	comp=Z,3.6nm,0.6s						
MDJ	**Mudanjiang**	**15.74**	**275**	P	**Pn**	**14 08 02.9**	**+2.0**
MDJ				AP	pP	14 08 08.9	-3.0
MDJ				XP	sP	14 08 10.9	-4.6
MDJ				S	**Sn**	**14 11 02.1**	**+7.8**
MDJ				SCP	ScP	14 16 33.2	+1.3
MDJ				SCS	ScS	14 20 12.1	+1.8
MDJ				AMB	AMB		
	comp=Z,12nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,53nm,4.4s						
MDJ				LR	LR		
	comp=N,146nm,18.1s						
MDJ				LR	LR		
	comp=Z,178nm,13.5s						
MDJ	**Mudanjiang**	**15.74**	**275**	P	**Pn**	**14 08 01.8**	**+0.9**
	comp=Z,8.6nm,0.8s						
SEY	**Seymchan**	**17.55**	**1**	*e*P	**Pn**	**14 08 20.4**	**-3.2**
ZEA	**Zeya**	**17.90**	**307**	*e*P	**Pn**	**14 08 23.7**	**-4.3**
ZEA				AMB	AMB	14 08 25.2	
	comp=Z,18nm,1.4s						
CN2	**Changchun**	**18.82**	**274**	*e*P	**Pn**	**14 08 37.8**	**-1.5**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s						
KSRS	**Korea Array**	**19.56**	**254**	P	**Pn**	**14 08 49.0**	**+0.8**
	comp=Z,0.1nm,0.3s,baz=50,slow=11,SNR=7.2						
KSRS				LR	LR	14 15 54.5	
	comp=Z,76nm,18.1s,baz=349,slow=35						
JNU	**Nakatsue**	**20.27**	**240**	LR	LR	14 17 08.1	
	comp=Z,78nm,19.3s,MS3.1,baz=45,slow=38						
YAK	**Yakutsk**	**20.99**	**330**	*e*P	**P**	**14 08 59.7**	**-2.4**
YAK				*e*		14 09 15.6	
YAK				*e*S	**S**	**14 12 47.7**	**-6.6**
YAK				*e*SS		14 13 07.8	
YAK				*e*SSS		14 13 33.8	
YAK				*e*		14 20 28.1	
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YAK				pmax	pmax		
	comp=N,4.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,31nm,1.7s						
YAK				pmax	pmax		
	comp=N,18nm,1.5s						
YAK				pmax	pmax		
	comp=E,12nm,1.4s						
YAK				smax			
	comp=E,53nm,3.2s						
YAK				smax			
	comp=N,29nm,2.1s						
YAK				MLR	MLR		
	comp=Z,89nm,19.0s,MS3.2						
YAK				MLR	MLR		
	comp=N,96nm,22.0s,MS3.3						
YAK				MLR	MLR		
	comp=E,82nm,18.0s,MS3.3						
YAK	**Yakutsk**	**20.99**	**330**	*e*P	**P**	**14 09 01.5**	**-0.6**
	comp=E,14nm,0.6s						
BILL	**Biibino**	**23.89**	**13**	⇑*e*P	**P**	**14 09 30.0**	**-2.2**
BILL				*i* S	**S**	**14 13 42.5**	**-3.8**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
BILL				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.4						
BOD	**Bodaibo**	**26.18**	**312**	*e*P	**P**	**14 09 48.5**	**-4.6**
BJI	**Beijing**	**26.59**	**271**	P	**P**	**14 09 59.2**	**+2.2**
BJI				S	**S**	**14 14 31.7**	**+1.9**
BJI				AMB	AMB		
	comp=Z,18nm,0.8s,mb4.7						
BJI				LR	LR		
	comp=N,146nm,15.6s,MS3.7						
BJI				LR	LR		
	comp=E,71nm,16.0s,MS3.7						
BJI				LR	LR		
	comp=Z,116nm,21.7s						
BJT	**Baijiatuau**	**26.60**	**271**	*e*P	**P**	**14 09 59.1**	**+2.0**
BJT				pmax	pmax		
	comp=Z,9.0nm,0.6s						
BJT	**Baijiatuau**	**26.60**	**271**	*e*P	**P**	**14 09 59.1**	**+2.0**
	comp=Z,8.8nm,0.6s,mb4.5						
TIXI	**Tiksi**	**28.50**	**345**	*e*P	**P**	**14 10 07.4**	**-6.4**
TIXI				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb3.9						
TIXI	**Tiksi**	**28.50**	**345**	*e*P	**P**	**14 10 10.2**	**-3.6**
	comp=Z,1.8nm,0.6s,mb4.0						
HHC	**Hu-ho-hao-te**	**29.51**	**276**	⇑P	**P**	**14 10 23.8**	**+0.7**
HHC				AP	pP	14 10 28.2	-2.9
HHC				XP	sP	14 10 31.1	-3.4
HHC				PP	PP	14 11 20.6	-9.2
HHC				PCP	PcP	14 13 27.0	-0.8
HHC				S	**S**	**14 15 17.7**	**+1.8**
HHC				SS	SS	14 16 50.7	-31
HHC				AMB	AMB		
	comp=Z,49nm,1.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,137nm,5.1s						
HHC				LR	LR		
	comp=N,294nm,12.6s,MS4.2						
HHC				LR	LR		
	comp=E,323nm,14.9s,MS4.2						
HHC				LR	LR		
	comp=Z,246nm,12.9s,MS4.0						
ULN	**Ulaanbaatar**	**30.51**	**291**	⇑*e*P	**P**	**14 10 32.3**	**+0.5**
ULN	**Ulaanbaatar**	**30.51**	**291**	*e*P	**P**	**14 10 30.6**	**-1.2**
	comp=Z,3.9nm,0.8s,mb4.3						
SONM	**Songino Array**	**30.95**	**291**	P	**P**	**14 10 36.6**	**+0.9**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,125nm,18.7s						
SONM	**Songino Array**	**30.95**	**291**	P	**P**	**14 10 36.6**	**+0.9**
	comp=Z,2.0nm,0.7s,mb4.1,baz=75,slow=7.4,SNR=9.2						
SONM				LR	LR	14 24 15.0	
	comp=Z,125nm,18.7s,MS3.6,baz=235,slow=39						
TLY	**Talaya**	**32.01**	**299**	*e*P	**P**	**14 10 43.4**	**-1.6**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
TLY				MLR	MLR		
	comp=Z,118nm,19.0s,MS3.6						
TLY	**Talaya**	**32.01**	**299**	P	**P**	**14 10 43.4**	**-1.6**
	comp=Z,1.9nm,0.8s,mb4.0						
GUMO	**Guam**	**32.27**	**193**	LR	LR	14 22 57.0	
	comp=Z,105nm,18.0s,MS3.6,baz=32,slow=34						
ZAK	**Zakamensk**	**32.45**	**297**	*e*P	**P**	**14 10 47.5**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.6						
KDAK	**Kodiak Island**	**35.64**	**49**	P	**P**	**14 11 15.5**	**-1.0**
	comp=Z,12nm,0.6s,mb5.0,baz=276,slow=6.3,SNR=14						
LZH	**Lanzhou**	**37.04**	**273**	*e*P	**P**	**14 11 29.9**	**+1.2**
LZH				AP	pP	14 11 33.0	-3.8
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,103nm,4.3s						
GTA	**Gaotai**	**38.30**	**280**	P	**P**	**14 11 40.4**	**+1.1**
GTA				AP	pP	14 11 44.8	-2.7
GTA				XP	sP	14 11 47.4	-3.4
GTA				PP	PP	14 13 11.6	+4.6
GTA				S	**S**	**14 17 35.1**	**+3.4**
GTA				SS	SS	14 20 14.4	-5.6
GTA				AMB	AMB		
	comp=Z,24nm,0.8s,mb5.0						
GTA				AMB	AMB		
	comp=Z,70nm,4.9s						
GTA				LR	LR		
	comp=N,92nm,17.1s,MS3.8						
GTA				LR	LR		
	comp=E,96nm,16.4s,MS3.8						
GTA				LR	LR		
	comp=Z,90nm,13.7s,MS3.8						
CD2	**Chengdu**	**39.88**	**266**	P	**P**	**14 11 52.9**	**+0.3**
CD2				AP	pP	14 11 57.4	-3.4
CD2				XP	sP	14 11 59.8	-4.3
CD2				PP	PP	14 13 29.2	+4.8
CD2				S	**S**	**14 17 57.8**	**+2.2**
CD2				SS	SS	14 20 48.3	-4.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,160nm,16.8s						
CD2				LR	LR		
	comp=Z,150nm,15.6s,MS3.9						
GYA	**Guiyang**	**40.56**	**258**	P	**P**	**14 11 57.4**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
ZALV	**Zalesovo Beam**	**42.67**	**307**	P	**P**	**14 12 12.5**	**-2.7**
	comp=Z,0.9nm,0.4s,mb3.8,baz=59,slow=8.0,SNR=3.9						
ZALV				PcP	PcP	14 14 06.3	-0.4
	comp=Z,0.7nm,0.4s,baz=58,slow=5.6,SNR=5.1						
ZALV				LR	LR	14 31 09.9	
	comp=Z,60nm,19.2s,MS3.5,baz=204,slow=38						
ZAL	**Zalesovo**	**42.69**	**307**	P	**P**	**14 12 12.5**	**-2.8**
ZAL						14 14 06.3	
INK	**Inuvik**	**43.25**	**32**	*e*P	**P**	**14 12 19.8**	**+0.1**
INK	**Inuvik**	**43.25**	**32**	P	**P**	**14 12 19.9**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.9,baz=274,slow=19,SNR=17						
KMI	**Kunming**	**44.12**	**260**	P	**P**	**14 12 26.2**	**-1.1**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
WMQ	**Urumqi**	**44.58**	**292**	*e*P	**P**	**14 12 32.0**	**+1.3**
WMQ				AMB	AMB		
	comp=Z,24nm,1.0s,mb5.0						
MK31	**Makanchi Array**	**46.76**	**298**	*e*P	**P**	**14 12 46.5**	**-1.4**
MKAR	**Makanchi Array**	**46.76**	**298**	P	**P**	**14 12 46.3**	**-1.6**
MKAR						14 14 20.6	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR				MLR	MLR		
	comp=Z,125nm,18.1s						
MKAR	**Makanchi Array**	**46.76**	**298**	P	**P**	**14 12 46.3**	**-1.7**
	comp=Z,0.7nm,0.4s,mb3.9,baz=71,slow=8.1,SNR=9.4						
MKAR				PcP	PcP	14 14

ULHL	Ulahol	52.72 295	P	P	14 13 34.1	+0.8
	SNR=5.7					
TKM2	Tokmak 2	52.78 296	eP	P	14 13 34.4	+0.7
TKM2			pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5					
TKM2	Tokmak 2	52.78 296	eP	P	14 13 34.4	+0.6
	comp=Z,3.7nm,0.6s,mb4.5					
TKM2	Tokmak 2	52.78 296	P	P	14 13 34.5	+0.8
	SNR=5.8					
USP	Ospenovka	53.29 297	P	P	14 13 37.8	+0.3
	SNR=27					
KBK	Karagaybulak	53.33 296	P	P	14 13 38.2	+0.5
	SNR=12					
KZA	Kyzart	53.44 296	P	P	14 13 40.2	+1.6
	SNR=17					
AAK	Ala-Archa	53.62 297	P	P	14 13 39.5	-0.4
AAK			pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8					
AAK	Ala-Archa	53.62 297	eP	P	14 13 39.0	-0.9
	comp=Z,9.5nm,0.8s,mb4.8					
AAK	Ala-Archa	53.62 297	P	P	14 13 39.5	-0.4
	comp=Z,10nm,0.7s,mb4.9,baz=116,slow=5.7,SNR=28					
AAK	Ala-Archa	53.62 297	P	P	14 13 40.3	+0.3
	SNR=12					
UCH	Uchtor	53.82 296	P	P	14 13 43.3	+1.9
	comp=Z,2.4nm,0.8s,mb4.2					
EKS2	Erkin-Say	54.06 297	eP	P	14 13 43.3	+0.2
	comp=Z,1.4nm,0.7s,mb5.0					
EKS2	Erkin-Say	54.06 297	P	P	14 13 43.6	+0.5
	SNR=14					
JIRN	Jiri	54.16 275	eP	P	14 13 45.1	+1.0
	comp=Z,10.0nm,0.5s,mb5.0					
GUN	Gumba	54.22 275	eP	P	14 13 45.2	+0.7
	comp=Z,18nm,0.7s,mb5.1					
AML	Almayashu	54.39 296	eP	P	14 13 46.4	+0.9
	comp=Z,9.6nm,0.9s,mb4.7					
AML	Almayashu	54.39 296	P	P	14 13 46.7	+1.2
	SNR=9.5					
KKN	Kakani	54.72 275	eP	P	14 13 49.3	+1.2
	comp=Z,24nm,0.7s,mb5.3					
DMN	Daman	54.95 275	eP	P	14 13 50.5	+0.7
	comp=Z,19nm,0.7s,mb5.2					
GKN	Gorkha	55.04 276	eP	P	14 13 51.0	+0.6
	comp=Z,33nm,0.8s,mb5.4					
ARU	Arti	55.39 318	d iP	P	14 13 50.3	-2.2
ARU			e		14 15 51.1	
ARU			eS	S	14 21 32.5	-2.4
ARU			pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6					
DANN	Dangsing	55.44 277	eP	P	14 13 54.4	+1.1
	comp=Z,27nm,0.6s,mb5.4					
KOLN	Koldanda	55.91 276	eP	P	14 13 57.4	+0.7
KEV	Kevo	58.29 340	ep	P	14 14 10.7	-2.2
	comp=Z,2.2nm,0.3s,mb4.7					
KEV	Kevo	58.29 340	eP	P	14 14 10.7	-2.2
KEV			pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6					
ARCES	ARCESS Array B	58.81 341	P	P	14 14 15.7	-0.8
	comp=Z,3.3nm,0.7s,mb4.5,baz=65,slow=6.5,SNR=23					
KBL	Kabul	61.72 292	eP	P	14 14 36.4	-0.6
	comp=Z,8.7nm,0.8s,mb4.9					
JOF	Joensuu	62.12 334	ep	P	14 14 36.4	-2.8
	comp=Z,1.7nm,0.5s,mb4.4					
JOF	Joensuu	62.12 334	eP	P	14 14 36.4	-2.8
JOF			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5					
NVAR	Mina Array Bea	63.85 61	P	P	14 14 52.1	+1.0
	comp=Z,0.4nm,0.5s,mb3.7,baz=305,slow=5.3,SNR=4.4					
FINES	FINESS Array B	64.86 334	i P	P	14 14 55.2	-2.1
FINES			pmax	pmax		
	comp=Z,11nm,0.6s					
FINES	FINESS Array B	64.86 334	P	P	14 14 55.3	-2.0
	comp=Z,11nm,0.6s,mb5.0,baz=40,slow=7.2,SNR=73					
WRA	Warramunga Arr	66.97 198	P	P	14 15 11.4	+0.1
	comp=Z,0.4nm,0.7s,mb3.6,baz=15,slow=6.6,SNR=4.4					
NB2	NORSAR Subarra	69.19 341	P	P	14 15 23.2	-1.6
	comp=Z,11nm,1.0s,mb4.8,baz=28,slow=6.2					
NOA	NORSAR Array B	69.19 341	P	P	14 15 23.5	-1.3
NOA			pmax	pmax		
	comp=Z,3.0nm,0.4s					
NOA			MLR	MLR		
	comp=Z,25nm,18.8s					
NOA	NORSAR Array B	69.19 341	P	P	14 15 23.5	-1.3
	comp=Z,2.9nm,0.4s,mb4.5,baz=28,slow=6.2,SNR=12					
NOA			LR	LR	14 48 58.0	
	comp=Z,25nm,18.8s,MS3.5,baz=240,slow=39					
ASAR	Alice Springs	70.67 197	P	P	14 15 35.3	+1.0
ASAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
ASAR	Alice Springs	70.67 197	P	P	14 15 35.3	+1.0
	comp=Z,0.5nm,0.7s,mb3.5,baz=8.6,slow=5.8,SNR=7.0					
KIV	Kislovodsk	71.08 314	eP	P	14 15 37.2	+0.5
KIV			pmax	pmax		
	comp=Z,13nm,0.7s,mb5.0					
KIV			MLR	MLR		
	comp=Z,48nm,18.0s,MS3.8					
KIV	Kislovodsk	71.08 314	eP	P	14 15 37.1	+0.4
	comp=Z,24nm,1.0s,mb5.1					
KIV	Kislovodsk	71.08 314	⇑iP	P	14 15 36.9	+0.2
AKASG	Malin Array Be	72.14 326	P	P	14 15 41.5	-1.5
AKASG			pmax	pmax		
	comp=Z,9.0nm,0.7s					
AKASG	Malin Array Be	72.14 326	P	P	14 15 41.5	-1.5
	comp=Z,9.2nm,0.7s,mb4.8,baz=34,slow=6.1,SNR=40					
SOC	Sochi	72.84 315	eP	P	14 15 47.2	-0.1
SOC			eS	S	14 25 07.4	-4.0
SOC			e		14 25 46.1	
SOC			eSS	SS	14 29 57.4	+6.7
SOC			pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8					
SIM	Simferopol'	74.49 319	eP	P	14 15 56.8	-0.2
SIM			pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7					
KWP	Kalwaria	75.50 329	eP	P	14 16 02.9	+0.3
KWP	Kalwaria	75.50 329	eP	P	14 16 02.9	+0.2
KWP	Kalwaria	75.50 329	⇑iP	P	14 16 02.6	-0.1
OJC	Ojcow	76.04 331	eP	P	14 16 05.9	+0.1
BURAR	Bucovina Array	76.19 326	⇑iP	P	14 16 06.7	0.0
STHS	Stebnicka Huta	76.21 329	eP	P	14 16 07.6	+0.9
STHS			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6					
STHS	Stebnicka Huta	76.21 329	eP	P	14 16 07.6	+0.9
	comp=Z,7.1nm,0.8s,mb4.7					
KOLS	Kolonicke sedl	76.23 328	eP	P	14 16 06.6	-0.3
NIE	Niedzica	76.54 330	eP	P	14 16 08.9	+0.3
CRVS	Cervenica-Dubn	76.56 329	eP	P	14 16 08.3	-0.4
KSP	Ksiaz	76.68 333	eP	P	14 16 09.4	0.0
OKC	Ostrava-Krasne	76.93 331	eP	P	14 16 10.4	-0.4
UPC	Upice	77.06 333	eP	P	14 16 11.4	-0.1
DPC	Dobruska-Polom	77.10 333	eP	P	14 16 11.8	+0.1
MORC	Moravsky Berou	77.19 332	⇑iP	P	14 16 12.1	-0.1
CLL	Collm	77.30 335	⇑iP	P	14 16 11.9	-0.9
CLL			pmax	pmax		
	comp=Z,27nm,1.8s,mb4.9					
CLL	Collm	77.30 335	⇑iP	P	14 16 11.9	-0.9
	comp=Z,27nm,1.8s,mb4.9					
BRG	Berggiesshubel	77.39 334	eP	P	14 16 12.4	-1.0
BRG			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.1					
BRG	Berggiesshubel	77.39 334	eP	P	14 16 12.4	-1.0
	comp=Z,4.5nm,1.1s,mb4.3					
PVCC	Panska Ves	77.50 334	eP	P	14 16 13.8	-0.2
MLR	Muntele Rosu	77.63 324	⇑iP	P	14 16 15.8	+1.0
VYHS	Vyhne	77.84 330	i P	P	14 16 15.6	-0.3
VYHS			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3					
VYHS	Vyhne	77.84 330	i P	P	14 16 15.6	-0.3
	comp=Z,3.8nm,1.0s,mb4.3					
DRGR		77.84 327	⇓iP	P	14 16 16.1	+0.1
DRGR		77.84 327	⇓iP	P	14 16 16.0	0.0
VRAC	Vranov	77.91 332	⇑iP	P	14 16 16.5	+0.2
PSZ	Piszkesteto	77.95 329	⇑iP	P	14 16 17.4	+0.9
PRU	Pruhonice	77.98 333	eP	P	14 16 16.3	-0.4
VOIR		78.04 325	⇑iP	P	14 16 17.6	+0.5
UMR	Umm Al-Rimmam	78.53 300	eP	P	14 16 19.5	-0.6
UMR			AMb	AMB	14 16 21.9	
	comp=Z,35nm,0.5s,mb5.5					
TXAR	Lajitas Array	78.93 59	P	P	14 16 22.1	-0.2
TXAR			pmax	pmax		
	comp=Z,1.0nm,0.6s					
TXAR	Lajitas Array	78.93 59	P	P	14 16 22.1	-0.2
	comp=Z,0.6nm,0.6s,mb3.7,baz=307,slow=4.6,SNR=8.4					
GZR	Gura Zlata	78.98 326	⇓iP	P	14 16 22.1	-0.2
KHC	Kasperske Hory	79.03 334	eP	P	14 16 22.4	-0.1
NAY	Al-Naaiem	79.04 301	eP	P	14 16 21.9	-1.0
NAY			AMb	AMB	14 16 24.7	
	comp=Z,13nm,0.8s,mb4.9					
RDF	Al-Radifah	79.08 300	eP	P	14 16 22.6	-0.6
RDF			AMb	AMB	14 16 25.2	
	comp=Z,41nm,0.5s,mb5.6					
BZS	Buzias	79.25 327	⇓iP	P	14 16 24.8	+1.1
GERES	GERESS Array B	79.25 333	P	P	14 16 23.2	-0.5
GERES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
GERES	GERESS Array B	79.25 333	P	P	14 16 23.2	-0.5
	comp=Z,0.8nm,0.5s,mb4.0,baz=35,slow=6.2,SNR=15					
GRA1	Grafenberg Arr	79.26 335	eP	P	14 16 23.6	-0.1
	comp=Z,11nm,1.4s,mb4.6					
GRF	Grafenberg Arr	79.26 335	eP	P	14 16 23.6	-0.1
GRF			pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6					
GRF	Grafenberg Arr	79.26 335	eP	P	14 16 23.6	-0.1
GRF			pmax	pmax		
	comp=Z,11nm,1.4s,mb4.6					
GRF	Grafenberg Arr	79.26 335	eP	P	14 16 23.6	-0.1
	comp=Z,11nm,1.4s,mb4.6					
PKSM	Moragy	79.85 329	⇑iP	P	14 16 25.6	-1.4
GIVF	Givet	80.63 339	eP	P	14 16 32.0	+0.9
BAIF	Baives	80.82 340	eP	P	14 16 32.3	+0.1
VTS	Vitosha	81.13 324	⇓iP	P	14 16 34.2	+0.2
CDF	Champ du Feu	81.54 337	eP	P	14 16 35.8	-0.2
	comp=Z,12nm,0.9s,mb4.5					
CDF	Champ du Feu	81.54 337	eP	P	14 16 35.8	-0.2
CDF			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5					
CDF	Champ du Feu	81.54 337	eP	P	14 16 35.8	-0.2
	comp=Z,6.2nm,0.9s,mb4.5					
ISP	Isparta	81.72 317	⇑iP	P	14 16 37.2	0.0
MEZF	Maizieres J'vi	82.05 338	eP	P	14 16 37.9	-0.8
	comp=Z,22nm,0.9s,mb4.8					
MEZF	Maizieres J'vi	82.05 338	eP	P	14 16 37.9	-0.8
	comp=Z,22nm,0.9s,mb5.1					
HAU	Haudompre	82.16 337	eP	P	14 16 39.5	+0.2
HAU			eMLR	MLR		
	comp=Z,68nm,19.8s,MS3.7					
HAU	Haudompre	82.16 337	eP	P	14 16 39.5	+0.2
HAU			LR	LR		
	comp=Z,70nm,19.8s,MS4.0					
HINF	Hinteralfeld	82.20 337	eP	P	14 16 39.5	0.0
	comp=Z,3.9nm,0.7s,mb4.2					
HINF	Hinteralfeld	82.20 337	eP	P	14 16 39.5	0.0
HINF			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2					
HINF	Hinteralfeld	82.20 337	eP	P	14 16 39.5	0.0
	comp=Z,2.0nm,0.7s,mb4.2					
FLN	La Foliniere	83.13 342	eP	P	14 16 44.8	+0.5
FLN			eMLR	MLR		
	comp=Z,60nm,18.0s,MS3.7					
FLN	La Foliniere	83.13 342	eP	P	14 16 44.8	+0.5
FLN			LR	LR		
	comp=Z,60nm,18.0s,MS4.0					
LDF	La Druitiere	83.21 342	eP	P	14 16 44.9	+0.2
LOR	Lormes	83.50 339	eP	P	14 16 46.0	-0.2
	comp=Z,15nm,0.8s,mb4.8					
LOR			eMLR	MLR		
	comp=Z,80nm,20.2s,MS3.8					
LOR	Lormes	83.50 339	eP	P	14 16 46.0	-0.2
LOR			pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8					
LOR			MLR	MLR		
	comp=Z,80nm,20.3s,MS4.1					
LOR	Lormes	83.50 339	eP	P	14 16 46.0	-0.2
	comp=Z,7.6nm,0.8s,mb4.8					
LOR			LR	LR		
	comp=Z,80nm,20.3s,MS4.1					
CABF	La Chapelle	83.51 337	eP	P	14 16 46.2	-0.1
GRR	Gorron	83.56 342	eP	P	14 16 47.4	+0.9
	comp=Z,13nm,0.8s,mb4.8					
GRR	Gorron	83.56 342	eP	P	14 16 47.4	+0.9
GRR			pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.8					
GRR	Gorron	83.56 342	eP	P	14 16 47.4	+0.9
	comp=Z,6.5nm,0.8s,mb4.8					
SSF	Saint Saulge	83.78 339	eP	P	14 16 47.4	-0.3
	comp=Z,6.2nm,0.7s,mb4.5					
SSF	Saint Saulge	83.78 339	eP	P	14 16 47.4	-0.3
SSF			pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.5					
SSF	Saint Saulge	83.78 339	eP	P	14 16 47.4	-0.3
	comp=Z,3.1nm,0.7s,mb4.5					
SGMF	Saint Gilles	84.05 343	eP	P	14 16 48.7	-0.3
AVF	Avril sur Loir	84.07 339	eP	P	14 16 49.0	-0.2
	comp=Z,16nm,1.0s,mb4.8					
AVF	Avril sur Loir	84.07 339	eP	P	14 16 49.0	-0.2
AVF			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.8					
AVF	Avril sur Loir	84.07 339	eP	P	14 16 49.0	-0.2
	comp=Z,7.9nm,1.0s,mb4.8					
SMF	Signal de Mont	84.08 338	eP	P	14 16 49.2	0.0
	comp=Z,23nm,0.9s,mb5.0					
SMF	Signal de Mont	84.08 338	eP	P	14 16 49.2	0.0
SMF			pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0					
SMF	Signal de Mont	84.08 338	eP	P	14 16 49.2	0.0
	comp=Z,11nm,0.9s,mb5.0					
LPL	La Plagne	84.33 336	eP	P	14 16 51.0	+0.5
	comp=Z,9.2nm,0.9s,mb4.6					
LPL	La Plagne	84.33 336	eP	P	14 16 51.0	+0.5
LPL			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.6					
LPL	La Plagne	84.33 336	eP	P	14 16 51.0	+0.5
	comp=Z,4.6nm,0.9s,mb4.6					
LPG	La Plagne	84.34 336	eP	P	14 16 51.3	+0.7
	comp=Z,16nm,0.9s,mb4.8					
LPG	La Plagne	84.34 336	eP	P	14 16 51.3	+0.7
LPG			pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8					
LPG	La Plagne	84.34 336	eP	P	14 16 51.3	+0.7
	comp=Z,7.8nm,0.9s,mb4.8					
QUIF	Quistinic	84.49 343	eP	P	14 16 51.4	+0.1
TCF	Toulx Ste Croi	84.82 339	eP	P	14 16 53.2	+0.2
	comp=Z,7.7nm,0.9s,mb4.5					
TCF	Toulx Ste Croi	84.82 339	eP	P	14 16 53.2	+0.2
TCF			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5					
TCF	Toulx Ste Croi	84.82 339	eP	P	14 16 53.2	+0.2
	comp=Z,3.8nm,0.9s,mb4.5					
MBDF	Montbardon	85.04 336	eP	P	14 16 55.3	+1.2
	comp=Z,9.0nm,0.8s,mb4.7					
MBDF	Montbardon	85.04 336	eP	P	14 16 55.3	+1.2
MBDF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.7					
MBDF	Montbardon	85.04 336	eP	P	14 16 55.3	+1.2
	comp=Z,4.5nm,0.8s,mb4.7					
AQU	L'Aquila	85.06 330	⇓iP	P	14 16 54.7	+0.4
MFF	Saint Martin d	85.09 341	eP	P	14 16 55.7	+1.4
	comp=Z,12nm,0.7s,mb4.8					
MFF	Saint Martin d	85.09 341	eP	P	14 16 55.7	+1.4
MFF			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.8					
MFF	Saint Martin d	85.09 341	eP	P	14 16 55.7	+1.4
	comp=Z,5.8nm,0.7s,mb4.8					
ORIF	Oris-en-Rattie	85.12 336	eP	P	14 16 55.7	+1.2
	comp=Z,11nm,0.7s,mb4.8					
ORIF			eMLR	MLR		
	comp=Z,53nm,18.0s,MS3.7					
ORIF	Oris-en-Rattie	85.12 336	eP	P	14 16 55.7	+1.2
ORIF			pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8					
ORIF	Oris-en-Rattie	85.12 336	eP	P	14 16 55.7	+1.2
	comp=Z,5.3nm,0.7s,mb4.8					
VIVF	Saint-Julien-l	85.51 337	eP	P	14 16 57.0	+0.5
	comp=Z,17nm,1.0s,mb4.9					
VIVF	Saint-Julien-l	85.51 337	eP	P	14 16 57.0	+0.5
VIVF			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0					
VIVF	Saint-Julien-l	85.51 337	eP	P	14 16 57.0	+0.5
	comp=Z,8.6nm,1.0s,mb4.9					
RJF	Les Rejaudoux	85.92 339	eP	P	14 16 58.6	+0.1
RJF			eMLR	MLR		
	comp=Z,80nm,18.2s,MS3.9					
RJF	Les Rejaudoux	85.92 339	eP	P	14 16 58.6	+0.1
RJF			LR	LR		
	comp=Z,80nm,18.3s,MS4.2					
MTLF	Montolieu	87.57 338	eP	P	14 17 07.8	+1.2
SJPF	Ste Jean	88.64 341	eP	P	14 17 11.7	0.0
	comp=Z,14nm,1.0s,mb4.9					
SJPF	Ste Jean	88.64 341	eP	P	14 17 11.7	0.0
SJPF			pmax	pmax		
	comp=Z,7.0nm,1.0s,mb5.0					
SJPF	Ste Jean	88.64 341	eP	P	14 17 11.7	0.0
	comp=Z,6.8nm,1.0s,mb4.9					

IDC 06 14:30:44.7±7.0, 147N×12254E, h445km±88km, mb2.9/4, mb1 3.1/6, mb1mx2.8/18, mbtmp3.0/6, Error ellipse: s-maj=96.7km s-min=24.3km az=58.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	11.65	175	P	P	14 33 21.0	+1.1
	2.2nm,0.3s,baz=298,slow=14,SNR=6.8						
BATI				S	S	14 35 29.4	+1.5
	0.7nm,0.3s,baz=115,slow=22,SNR=2.5						
FITZ	Fitzroy Crossi	19.68	171	P	P	14 34 42.7	-0.9
	0.1nm,0.3s,baz=4.2,slow=10,SNR=11						
WRA	Warramunga Arr	24.22	152	P	P	14 35 23.9	-0.7
	1.0nm,0.4s,baz=336,slow=9.5,SNR=36						
ASAR	Alice Springs	27.32	157	P	P	14 35 52.1	+0.1
	0.2nm,0.3s,baz=341,slow=9.4,SNR=16						
STKA	Stephens Creek	37.76	153	P	P	14 37 22.1	+0.9
	1.3nm,0.4s,baz=332,slow=7.4,SNR=12						
MKAR	Makanchi Array	57.13	328	P	P	14 39 47.5	0.0
	0.1nm,0.3s,baz=116,slow=6.7,SNR=3.0						

*IDC **06** 14:42:38.8±2.3, 305N×9567E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.4/20, mbtmp3.4/4, ML3.0/1, MS3.1/1, Ms1 3.1/1, ms1mx2.8/19, Error ellipse: s-maj=82.9km s-min=26.2km az=51.0*

*ISCJB **06** 14:42:42.4±1.6, 32N±02×958E±02, h33km, mb3.5/3, Error ellipse: s-maj=29.8km s-min=21.3km az=38.0*

*NEIC **06** 14:42:43.8±1.3, 320N×9585E, h30km, Error ellipse: s-maj=25.6km s-min=18.0km az=221.0*

ISC 06 14:42:44.7±1.6, 32N±02×959E±02, h35km, n6, σ0=63/6, mb3.5/3, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	3.09	98	Pn	Pn	14 43 31.7	+0.7
PSI				LR	LR	14 45 01.5	
PSI	Prapat	3.09	98	Pn	Pn	14 43 31.7	+0.7
	1.4nm,0.3s,baz=134,slow=16,SNR=7.0						
PSI				LR	LR	14 45 01.5	
	comp=Z,248nm,18.4s,baz=214,slow=44						
KULM	Kulim	5.20	67	eP	Pn	14 43 59.5	-0.5
WRA	Warramunga Arr	44.24	123	P	P	14 50 50.6	-0.4
	0.3nm,0.4s,mb3.3,baz=300,slow=9.1,SNR=10						
MKAR	Makanchi Array	44.98	347	P	P	14 50 56.7	+0.2
	0.5nm,0.3s,mb3.6,baz=161,slow=8.7,SNR=9.2						
ASAR	Alice Springs	45.68	128	P	P	14 51 02.2	-0.1
	0.4nm,0.8s,mb3.4,baz=302,slow=7.9,SNR=6.7						

*ISCJB **06** 14:51:47.8±3.7, 184N±02×1463E±03, h72km±34km, mb3.5/7, Error ellipse: s-maj=48.6km s-min=24.6km az=10.1*

*IDC **06** 14:51:47.5±4.8, 1844N×14641E, h57km±45km, mb3.4/7, mb1 3.6/8, mb1mx3.5/18, mbtmp3.5/8, ML3.9/1, Error ellipse: s-maj=39.0km s-min=24.9km az=97.0*

ISC 06 14:51:49.0±3.3, 184N±02×1464E±03, h70km±31km, n8, σ0=73/9, mb3.5/7, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	5.00	197	P	Pn	14 53 02.5	+0.9
	4.3nm,0.3s,baz=90,slow=22,SNR=3.0						
GUMO				S	Sn	14 53 57.1	-1.0
	1.6nm,0.3s,baz=354,slow=18,SNR=1.6						
WRA	Warramunga Arr	39.90	198	P	P	14 59 16.5	+0.2
	0.4nm,0.5s,mb3.5,baz=24,slow=8.9,SNR=6.3						
ASAR	Alice Springs	43.55	197	P	P	14 59 46.9	+0.8
	0.3nm,0.7s,mb3.1,baz=19,slow=13,SNR=5.8						
MKAR	Makanchi Array	59.10	314	P	P	15 01 42.6	+0.4
	0.2nm,0.2s,mb3.7,baz=247,slow=13,SNR=2.1						
YKA	Yellowknife Ar	77.95	28	P	P	15 03 38.6	-0.7
	0.2nm,0.6s,mb3.0,baz=288,slow=5.4,SNR=4.5						
NVAR	Mina Array Bea	82.83	52	P	P	15 04 06.2	+0.2
	0.1nm,0.3s,mb3.1,baz=260,slow=4.3,SNR=2.9						
ARCES	ARCESS Array B	82.95	342	P	P	15 04 06.3	+0.4
	1.2nm,0.5s,mb4.0,baz=68,slow=7.6,SNR=18						
FINES	FINESS Array B	87.40	335	P	P	15 04 27.1	-1.2
	1.4nm,0.9s,mb3.9,baz=69,slow=6.3,SNR=5.6						

*ISCJB **06** 15:02:52.3±0.5, 3829N±003×2657E±003, h9km±4km, Error ellipse: s-maj=4.6km s-min=4.5km az=40.2*

*CSEM **06** 15:02:52.2±0.2, 3830N×2664E, h10km, MD2.9, Error ellipse: s-maj=3.9km s-min=3.2km az=163.0*

*THE **06** 15:02:53.1, 3834N×2662E, h6km, ML2.3*

*DDA **06** 15:02:54.2, 3834N×2662E, h5km, Md2.9*

ISC 06 15:02:52.8±0.5, 3830N±003×2659E±003, h12km±4km, n12, σ0=90/23, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.06	7	i P	Pg	15 02 54.8	-0.4
URLA				i S	Sg	15 02 56.4	-0.6
BLCB	Balcova	0.37	77	ePg	Pg	15 02 59.7	-0.4
BLCB				eSg	Sg	15 03 04.9	-0.2
CHOS	Chios island	0.43	282	ePg	Pg	15 03 01.9	+0.7
CHOS				eSg	Sg	15 03 08.4	+1.4
KDAG	Bornova	0.54	79	i P	Pg	15 03 03.2	-0.2
KDAG				i S	Sg	15 03 11.0	+0.4
KDAG	Bornova	0.54	79	i P	Pg	15 03 03.2	-0.2
PRK	Paraskevi	0.98	345	ePg	Pg	15 03 11.1	-0.5
PRK				eSg	Sg	15 03 24.4	+0.1
AYVA	Ayvalik	1.01	5	i P	Pb	15 03 11.8	-0.3
AYVA				i S	Sg	15 03 26.1	+0.7
AKHS	Akhisar	1.12	59	i P	Pb	15 03 14.6	+0.6
AKHS				i S	Sb	15 03 28.3	-0.3
AYDN	Tasoluk	1.20	122	i P	Pn	15 03 16.5	+1.2
AYDN				i S	Sb	15 03 32.0	+1.0
BDRM	Kayabasi	1.41	151	i P	Pn	15 03 19.7	+1.5
BDRM				i S	Sn	15 03 34.2	-2.5
APE	Apeiranthos	1.49	215	ePg	Pg	15 03 19.9	-1.4
APE				eSg	Sg	15 03 40.3	-0.3
BOZC	Bozcaada	1.59	345	i P	Pn	15 03 20.9	+0.2
BOZC				i S	Sn	15 03 39.8	-1.5

NEIC 06 15:08:25.2, 5824N×15359W, h56km, ML3.9(PMR), **ML3.4**(AEIC), **After AEIC., Kodiak Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDAK	Kodiak Island	0.70	130	P	Pn	15 08 38.6	-0.6
KDAK				S	Sn	15 08 49.6	+0.3
AUL	Augustine Lava	1.15	4	P	Pn	15 08 44.7	-0.3
SLKM	Skilak Lake	2.86	36	P

Msz4.2
*ISCJB **06** 15:16:18.5±2.5, 084N×007×9744E±009, h28km±17km, mb4.2/20, MS3.6/4, Error ellipse: s-maj=16.6km s-min=11.4km az=155.8*
*NEIC **06** 15:16:20.1±6.2, 083N×9738E, h27km±41km, mb4.3/4, Error ellipse: s-maj=25.7km s-min=7.5km az=53.0*
NEIC Felt [II] at Gunungsitoli.
ISC 06 15:16:22.7±1.5, 090N±008×9753E±010, h44km±12km, h32km±2.9km: pP-P, n35, σ0§79/37, mb4.2/20, MS3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.34**	**36**	Pn	**Pn**	**15 16 58.8**	**+0.1**
	14nm,0.3s,baz=258,slow=6.5,SNR=26						
KULM	**Kulim**	**5.36**	**35**	*e*Pn	**Pn**	**15 17 40.0**	**-0.1**
CHTO	**Chiang Mai**	**17.85**	**4**	*e*P	**Pn**	**15 20 25.7**	**-2.2**
	6.9nm,1.0s						
KKM	**Kota Kinabalu**	**19.33**	**74**	*e*P	**Pn**	**15 20 45.9**	**0.0**
KMI	**Kunming**	**24.60**	**11**	P	**P**	**15 21 40.3**	**+1.4**
KMI				AP		15 21 48.5	
KMI				XP	sP	15 21 53.0	-2.7
KMI				S	**S**	**15 25 56.9**	**-0.3**
KMI				AMB	AMB		
	comp=Z,11nm,0.6s,mb4.6						
KMI				LR	LR		
	comp=Z,96nm,19.2s,MS3.3						
LSA	**Lhasa**	**29.28**	**349**	P	**P**	**15 22 21.6**	**+0.7**
LSA	**Lhasa**	**29.28**	**349**	*e*P	**P**	**15 22 22.2**	**+1.3**
	comp=Z,4.6nm,0.6s,mb4.4						
CD2	**Chengdu**	**30.42**	**11**	*e*P	**P**	**15 22 33.0**	**+2.0**
CD2				PP	PP	15 23 32.8	-7.6
CD2				S	**S**	**15 27 30.2**	**+1.2**
CD2				SS	SS	15 29 10.9	-29
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
FITZ	**Fitzroy Crossi**	**33.49**	**126**	P	**P**	**15 22 58.2**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=89,slow=18,SNR=3.0						
XAN	**Xi'an**	**34.65**	**17**	P	**P**	**15 23 06.5**	**-1.5**
XAN				AP	pP	15 23 14.3	-5.5
XAN				XP	sP	15 23 17.6	-7.3
XAN				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
NJ2	**Nanjing**	**36.94**	**31**	*e*P	**P**	**15 23 27.5**	**-0.2**
NJ2				AP	pP	15 23 37.6	-2.0
NJ2				XP	sP	15 23 41.9	-2.8
NJ2				PP	PP	15 24 51.8	-0.7
NJ2				S	**S**	**15 29 08.0**	**-1.9**
NJ2				XS	sS	15 29 25.0	-4.7
NJ2				AMB	AMB		
	comp=Z,290nm,3.8s						
NJ2				LR	LR		
	comp=N,210nm,17.2s,MS4.1						
NJ2				LR	LR		
	comp=E,210nm,17.7s,MS4.1						
NJ2				LR	LR		
	comp=Z,200nm,14.0s,MS4.1						
GTA	**Gaotai**	**38.38**	**3**	*e*P	**P**	**15 23 39.6**	**-0.1**
GTA				AP	pP	15 23 49.2	-2.4
GTA				XP	sP	15 23 52.8	-4.0
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**41.60**	**122**	P	**P**	**15 24 06.7**	**-0.1**
	comp=Z,1.3nm,0.7s,mb3.6,baz=300,slow=9.0,SNR=8.0						
ASAR	**Alice Springs**	**42.95**	**127**	P	**P**	**15 24 18.1**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.6,baz=298,slow=7.7,SNR=22						
WMQ	**Urumqi**	**43.62**	**350**	*e*P	**P**	**15 24 23.0**	**+0.2**
KSRS	**Korea Array**	**45.90**	**34**	P	**P**	**15 24 41.3**	**+0.2**
	comp=Z,2.0nm,0.6s,mb4.2,baz=217,slow=9.0,SNR=14						
KSRS				LR	LR	15 44 25.1	
	comp=Z,46nm,18.9s,MS3.4,baz=150,slow=37						
UCH	**Uchtor**	**46.05**	**336**	*e*P	**P**	**15 24 42.6**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.2						
AML	**Almayashu**	**46.31**	**335**	*e*P	**P**	**15 24 45.0**	**+0.8**
	comp=Z,2.3nm,0.5s,mb4.4						
SONM	**Songino Array**	**47.38**	**8**	P	**P**	**15 24 52.9**	**+0.5**
	comp=Z,2.1nm,0.7s,mb4.2,baz=192,slow=8.8,SNR=12						
SONM				PcP	PcP	15 26 23.3	+0.7
	comp=Z,0.6nm,0.6s,baz=196,slow=3.6,SNR=3.5						
ULN	**Ulaanbaatar**	**47.50**	**9**	*e*P	**P**	**15 24 53.5**	**+0.1**
MK31	**Makanchi Array**	**47.61**	**346**	*e*P	**P**	**15 24 54.1**	**-0.2**
MKAR	**Makanchi Array**	**47.61**	**346**	P	**P**	**15 24 54.3**	**0.0**
	comp=Z,3.9nm,0.5s,mb4.7,baz=159,slow=8.0,SNR=44						
MKAR				LR	LR	15 49 01.5	
	comp=Z,65nm,21.3s,MS3.6,baz=84,slow=41						
MJAR	**Matsushiro Arr**	**51.69**	**42**	P	**P**	**15 25 26.2**	**+0.7**
	comp=Z,1.4nm,0.7s,mb4.0,baz=224,slow=5.6,SNR=7.6						
KURK	**Kurchatov**	**52.16**	**345**	*e*P	**P**	**15 25 28.1**	**-0.6**
STKA	**Stephens Creek**	**52.91**	**132**	P	**P**	**15 25 34.2**	**-0.5**
STKA	**Stephens Creek**	**52.91**	**132**	P	**P**	**15 25 34.2**	**-0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=299,slow=5.6,SNR=6.1						
ZAA0	**Zalesovo Array**	**53.90**	**351**	*e*P	**P**	**15 25 41.3**	**-0.2**
ZALV	**Zalesovo Beam**	**53.90**	**351**	P	**P**	**15 25 41.4**	**-0.1**
ZALV	**Zalesovo Beam**	**53.90**	**351**	P	**P**	**15 25 41.4**	**-0.1**
	comp=Z,4.6nm,0.4s,mb4.8,baz=179,slow=6.4,SNR=34						
AKASG	**Malin Array Be**	**75.69**	**322**	P	**P**	**15 28 02.2**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=99,slow=4.0,SNR=6.8						
FINES	**FINESS Array B**	**80.41**	**332**	P	**P**	**15 28 28.9**	**-0.5**
FINES	**FINESS Array B**	**80.41**	**332**	P	**P**	**15 28 28.9**	**-0.5**
	comp=Z,0.8nm,0.6s,mb3.8,baz=103,slow=4.3,SNR=5.3						
ARCES	**ARCESS Array B**	**82.92**	**340**	P	**P**	**15 28 42.2**	**-0.4**
	comp=Z,2.4nm,0.9s,mb4.2,baz=100,slow=5.0,SNR=6.5						
GERES	**GERESS Array B**	**85.25**	**319**	P	**P**	**15 28 55.0**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.7,baz=101,slow=6.9,SNR=4.0						
TXAR	**Lajitas Array**	**143.74**	**32**	PKP	PKPdf	15 35 52.7	-1.1
	comp=Z,0.3nm,0.7s,baz=300,slow=2.5,SNR=3.9						

*CSEM **06** 15:27:52.7, 3903N×3577E, h5km, MD2.9, After ISK*
*ISK **06** 15:27:52.7, 3903N×3577E, h5km, MD2.9*
*ISCJB **06** 15:27:53.3±1.1, 3903N±006×3572E±009, h1km±12km, Error ellipse: s-maj=13.0km s-min=7.8km az=140.8*
ISC 06 15:27:53.7±0.8, 3900N±007×3570E±009, h5km±11km, n6, σ0§74/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.18**	**143**	*e*PG	**Pg**	**15 27 56.4**	**-0.9**
BNN				*e*SG	**Sg**	**15 28 00.5**	**+0.7**
AVNT	**Avonos**	**0.70**	**252**	*i* P	**Pn**	**15 28 10.4**	**+0.2**
YOZ	**Yozgat**	**0.70**	**335**	*e*PG	**Pg**	**15 28 07.6**	**+0.4**
CDAG	**Cicekdag**	**1.21**	**302**	*i* P	**Pg**	**15 28 16.5**	**-0.4**
SVSK	**Karacayir**	**1.36**	**47**	*e*PN	**Pn**	**15 28 18.7**	**-0.6**
SVSK				*e*SN	**Sn**	**15 28 37.9**	**+0.3**
CORM	**Corum**	**1.44**	**325**	*e*PN	**Pg**	**15 28 21.5**	**+0.2**

*IDC **06** 15:31:00.9±6.9, 644S×13042E, h67km±67km, mb3.7/2, mb1 4.1/6, mb1mx3.7/13, mbtmp3.9/6, ML4.3/4, Error ellipse: s-maj=54.2km s-min=23.4km az=41.0*
*NEIC **06** 15:31:05.3±3.0, 642S×13058E, h112km±28km, mb4.1/1, Error ellipse: s-maj=36.6km s-min=24.6km az=67.0*
*ISCJB **06** 15:31:07.3±2.2, 69S±01×13026E±009, h153km±23km, mb3.8/2, Error ellipse: s-maj=23.1km s-min=10.2km az=32.5*
ISC 06 15:31:04.1±3.1, 66S±02×1304E±01, h98km±29km, n15, σ1§35/21, mb3.8/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.39**	**162**	*e*P	**Pn**	**15 32 38.1**	**+2.3**
	43nm,0.6s						
KAKA				*e*S	**Sn**	**15 33 47.6**	**+0.2**
KAKA	**Kakadu**	**6.39**	**162**	*e*Pn	**Pn**	**15 32 38.5**	**+2.7**
KAKA				*e*Sn	**Sn**	**15 33 47.3**	**-0.1**
BATI	**Kupang**	**7.54**	**241**	P	**Pn**	**15 32 52.0**	**+0.5**
	3.1nm,0.3s,baz=175,slow=2.1,SNR=6.7						
BATI				S	**Sn**	**15 34 15.3**	**-0.1**
	5.6nm,0.3s,baz=322,slow=21,SNR=9.6						
FITZ	**Fitzroy Crossi**	**12.32**	**202**	*e*P	**Pn**	**15 33 54.2**	**-2.0**
	8.6nm,0.4s						
FITZ				*e*S	Sx	15 36 01.6	
FITZ	**Fitzroy Crossi**	**12.32**	**202**	*e*P	**Pn**	**15 33 53.7**	**-2.5**
FITZ				*e*S	Sx	15 36 01.6	
FITZ	**Fitzroy Crossi**	**12.32**	**202**	P	**Pn**	**15 33 54.5**	**-1.7**
	1.3nm,0.3s,baz=38,slow=13,SNR=34						
FITZ				S	Sx	15 36 02.2	
	0.8nm,0.3s,baz=239,slow=20,SNR=4.0						
WRAB	**Tennant Creek**	**13.79**	**164**	*e*P	**Pn**	**15 34 14.4**	**-1.1**
	4.7nm,0.4s						
WRA	**Warramunga Arr**	**13.80**	**164**	P	**Pn**	**15 34 14.4**	**-1.2**
	2.0nm,0.3s,baz=348,slow=13,SNR=59						
WRA				S	**Sn**	**15 36 42.3**	**-5.2**
	2.3nm,0.3s,baz=336,slow=23,SNR=9.0						
WB2	**Warramunga Arr**	**13.80**	**164**	*e*P	**Pn**	**15 34 14.4**	**-1.2**
WB2				*e*S	**Sn**	**15 36 39.3**	**-8.3**
WB2	**Warramunga Arr**	**13.80**	**164**	*e*P	**Pn**	**15 34 14.4**	**-1.2**
WB2				*e*S	**Sn**	**15 36 39.3**	**-8.3**
ASAR	**Alice Springs**	**17.29**	**169**	P	**Pn**	**15 35 00.9**	**+1.4**
	1.4nm,0.3s,baz=343,slow=9.9,SNR=71						
ASAR				S	Sx	15 38 07.2	
	0.5nm,0.3s,baz=357,slow=27,SNR=7.2						
MBWA	**Marble Bar**	**17.76**	**214**	*e*P	**Pn**	**15 35 07.9**	**+2.8**
STKA	**Stephens Creek**	**27.23**	**159**	P	**P**	**15 36 40.2**	**+1.2**
STKA	**Stephens Creek**	**27.23**	**159**	P	**P**	**15 36 40.2**	**+1.2**
	1.9nm,0.8s,mb3.7,baz=328,slow=9.5,SNR=5.4						
MKAR	**Makanchi Array**	**68.11**	**327**	P	**P**	**15 41 52.9**	**-0.6**
	0.9nm,0.5s,mb3.9,baz=124,slow=7.7,SNR=12						

*ATH **06** 15:31:14.9, 3476N×2410E, h26km±2km, MD3.5/8*
*NEIC **06** 15:31:16.9±1.3, 3487N×2411E, h18km±11km, MD3.7(ATH), Error ellipse: s-maj=25.8km s-min=12.3km az=209.0*
*CSEM **06** 15:31:18.5, 3506N×2424E, h36km, MD3.7/7, After ATH*
ISC 06 15:31:16.3±1.5, 348N±01×241E±01, h19km±8km, n14, σ0§91/15, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.07**	**347**	⇓*i*Pg	**Pg**	**15 31 20.1**	**+0.3**
GVD	**Gavdhos**	**0.07**	**347**	*e*PB	**Pg**	**15 31 19.5**	**-0.3**
VAM	**Vamos**	**0.64**	**7**	*e*PN	**Pn**	**15 31 27.5**	**-2.9**
VAM				*e*SN	**Sb**	**15 31 38.0**	**+0.5**
IDI	**Anoyia**	**0.83**	**51**	P	**Pb**	**15 31 32.2**	**+0.2**
XRY	**Khrisi**	**1.31**	**85**	*e*PN	**Pn**	**15 31 40.0**	**+0.4**
NPS	**Neapolis**	**1.33**	**68**	*e*PN	**Pn**	**15 31 39.4**	**-0.5**
KYTH	**Kithira**	**1.74**	**330**	*e*PN	**Pn**	**15 31 46.5**	**+0.9**
SANT	**Santorini**	**1.94**	**34**	P	**Pn**	**15 31 49.8**	**+1.5**
VLI	**Veliai**	**2.17**	**334**	*e*PN	**Pn**	**15 31 51.2**	**-0.2**
APE	**Apeiranthos**	**2.57**	**26**	*e*PN	**Pn**	**15 31 56.4**	**-0.5**
APE	**Apeiranthos**	**2.57**	**26**	Pn	**Pn**	**15 31 55.8**	**-1.1**
KARP	**Karpathos**	**2.62**	**72**	*e*PN	**Pn**	**15 31 58.0**	**+0.4**
ARG	**Arkhangelos**	**3.58**	**65**	*e*PN	**Pn**	**15 32 11.1**	**+0.2**
SMG	**Samos**	**3.67**	**36**	Pn	**Pn**	**15 32 10.8**	**-1.3**

*NEIC **06** 15:34:50.5, 3273S×7100W, h59km±2km, MD3.7(GUC), After GUC.*
GUC 06 15:34:50.5±0.7, 3273S×7100W, h59km±2km, MD3.7, ML3.6, 6C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	**El Roble**	**0.24**	**181**	⇓*i*P	Pn	15 35 00.8	+0.8
ROCH				*i* S	Sn	15 35 08.7	+1.8
JACH	**Jahuel**	**0.35**	**82**	⇓*i*P	Pn	15 35 01.3	+0.4
JACH				*i* S	Sn	15 35 09.7	+1.3
PEL	**Peldehue**	**0.49**	**147**	⇓*i*P	Pn	15 35 02.9	+0.6
PEL				*i* S	Sn	15 35 12.1	+1.3
PEL				AML	AML	15 35 12.7	
	comp=N,12μm,0.3s						
IHA	**Instituto Hidr**	**0.61**	**241**	*i* P	Pn	15 35 04.0	+0.5
IHA				*i* S	Sn	15 35 13.4	+0.3
DSCH	**Colegio Aleman**	**0.76**	**151**	⇑*i*P	Pn	15 35 05.4	0.0
DSCH				*i* S	Sn	15 35 17.1	+0.8
STL	**Santa Lucia**	**0.77**	**157**	*i* P	Pn	15 35 05.6	+0.2
STL				*i* S	Sn	15 35 17.3	+0.8
CLCH	**Cerro Calan**	**0.77**	**149**	⇓*i*P	Pn	15 35 06.1	+0.6
CLCH				*i* S	Sn	15 35 17.7	+1.2
CLCH				AML	AML	15 35 19.5	
	comp=E,1μm,0.3s						
CLCH				AML	AML	15 35 20.2	
	comp=E,2μm,0.2s						
RCDM	**Rinconada Maip**	**0.77**	**168**	*e*P	Pn	15 35 05.8	+0.3
RCDM				*i* S	Sn	15 35 18.1	+1.4
RCDM	**Rinconada Maip**	**0.77**	**168**	*e*P	Pn	15 35 05.8	+0.3
RCDM				*i* S	Sn	15 35 18.1	+1.4
RCDM				AML	AML	15 35 21.0	
	comp=N,2μm,0.2s						
FCH	**Farellones**	**0.84**	**135**	*e*P	Pn	15 35 07.2	+0.8
FCH				*i* S	Sn	15 35 20.5	+2.3
LCCH	**Las Cruces**	**0.88**	**213**	*e*P	Pn	15 35 07.2	+0.3
LCCH				*i* S	Sn	15 35 19.6	+0.5
ANTU	**Antumapu**	**0.89**	**160**	⇑*i*P	Pn	15 35 07.5	+0.5
ANTU				*i* S	Sn	15 35 20.4	+1.2
ANTU	**Antumapu**	**0.89**	**160**	⇑*i*P	Pn	15 35 07.5	+0.5
ANTU				*i* S	Sn	15 35 20.4	+1.2
ANTU				AML	AML	15 35 21.6	
	comp=E,2μm,0.2s						
TACH	**Talagante**	**0.92**	**177**	⇑*i*P	Pn	15 35 07.9	+0.4
TACH				*i* S	Sn	15 35 21.2	+1.2
PCH	**Pirque**	**0.98**	**155**	*i* P	Pn	15 35 08.4	+0.2
PCH				*i* S	Sn	15 35 22.4	+1.2
SJCH	**San Jose de Ma**	**1.06**	**149**	⇑*i*P	Pn	15 35 09.7	+0.4
SJCH				*i* S	Sn	15 35 24.8	+1.7
CHCH	**Chadas Angostu**	**1.23**	**166**	⇑*i*P	Pn	15 35 12.0	+0.5
CHCH				*i* S	Sn	15 35 28.8	+1.5
LNV	**Longovilo**	**1.27**	**195**	*e*P	Pn	15 35 12.4	+0.4
LNV				*i* S	Sn	15 35 29.2	+1.2
LMEL	**Las Melosas**	**1.30**	**149**	*i* P	Pn	15 35 13.7	+1.2
LMEL				*i* S	Sn	15 35 30.9	+2.1
LMEL	**Las Melosas**	**1.30**	**149**	*i* P	Pn	15 35 13.7	+1.2
LMEL				*i* S	Sn	15 35 30.9	+2.1
LMEL				AML	AML	15 35 36.7	
	comp=N,854nm,0.2s						
CACH	**El Canelo**	**1.42**	**166**	⇓*i*P	Pn	15 35 15.2	+1.1
CACH				*i* S	Sn	15 35 34.3	+2.5
CMCH	**Combarbala**	**1.56**	**0**	*e*P	Pn	15 35 15.4	-0.5
CMCH				*i* S	Sn	15 35 35.1	+0.1
CMCH	**Combarbala**	**1.56**	**0**	*e*P	Pn	15 35 15.4	-0.5
CMCH				*i* S	Sn	15 35 35.1	+0.1
CMCH				AML	AML	15 35 42.6	
	comp=E,4μm,0.7s						
CICH	**Cipreses**	**1.66**	**163**	*i* P	Pn	15 35 18.4	+1.2
CICH				*i* S	Sn	15 35 39.1	+1.6
SFDO	**San Fernando**	**1.88**	**180**	*e*P	Pn	15 35 21.1	+0.9
SFDO				*i* S	Sn	15 35 44.0	+1.2
OVCH	**Ovalle**	**2.12**	**355**	*i* P	Pn	15 35 24.6	+0.9
OVCH				*i* S	Sn	15 35 49.9	+1.0
OVCH	**Ovalle**	**2.12**	**355**	*i* P	Pn	15 35 24.6	+0.9
OVCH				*i* S	Sn	15 35 49.9	+1.0
OVCH				AML	AML	15 35 56.7	
	comp=N,1μm,0.3s						
TLL	**Tololo Astrono**	**2.56**	**4**	*e*P	Pn	15 35 30.5	+0.9
TLL				*i* S	Sn	15 36 01.4	+1.7
TLL	**Tololo Astrono**	**2.56**	**4**	*e*P	Pn	15 35 30.5	+0.9
TLL				*i* S	Sn	15 36 01.4	+1.7
TLL				AML	AML	15 36 08.7	
	comp=N,511nm,0.4s						
LCO	**Las Campanas**	**3.72**	**4**	*e*Pn	Pn	15 35 46.4	+1.0
LCO				*e*Sn	Sn	15 36 30.0	+2.0

*ISCJB **06** 15:40:25.9±0.6, 3430N±006×8189E±010, h10km, mb3.8/9, Error ellipse: s-maj=11.6km s-min=8.8km az=167.5*
*IDC **06** 15:40:26.0±0.9, 3425N×8199E, h0km, mb3.7/8, mb1 3.9/11, mb1mx3.7/24, mbtmp3.8/11, ML3.4/3, Error ellipse: s-maj=33.3km s-min=17.4km az=55.0*
*NEIC **06** 15:40:27.5±0.7, 3423N×8192E, h10km, mb4.2/2, Error ellipse: s-maj=15.1km s-min=9.5km az=59.0*
*BJI **06** 15:40:33.6, 3470N×8246E, h20km, mb4.5, ML3.4*
ISC 06 15:40:27.4±0.5, 3419N±005×8176E±008, h10km, n28, σ1§16/28, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**4.97**	**220**	*e*P	**Pb**	**15 41 55.0**	**+0.5**
DDI				*e*S	**Sg**	**15 43 05.5**	**-1.5**
KSH	**Kashi**	**7.06**	**321**	*e*PG	**Pg**	**15 42 40.7**	**-1.8**
KSH				S	**Sn**	**15 43 39.1**	**+8.1**
KSH				Smax			
	comp=N,47nm,0.2s						
KSH				Smax			
	comp=E,47nm,0.2s						
LSA	**Lhasa**	**9.14**	**117**	P	**Pn**	**15 42 47.6**	**+8.3**
UCH	**Uchtor**	**9.84**	**327**	*e*P	**Pn**	**15 42 49.3**	**+0.4**
TKM2	**Tokmak 2**	**9.96**	**333**	*e*P	**Pn**	**15 42 50.0**	**-0.6**
AAK	**Ala-Archa**	**10.18**	**328**	P	**Pn**	**15 42 55.0**	**+1.6**
AAK	**Ala-Archa**	**10.18**	**328**	Pn	**Pn**	**15 42 55.7**	**+2.2**
	comp=E,0.2nm,0.3s,baz=226,slow=24,SNR=2.4						
MK31	**Makanchi Array**	**12.60**	**2**	*e*P	**Pn**	**15 43 25.8**	**-0.8**
MKAR	**Makanchi Array**	**12.60**	**2**	Pn	**Pn**	**15 43 25.9**	**-0.7**
	comp=E,0.8nm,0.3s,baz=181,slow=13,SNR=32						
KURK	**Kurchatov**	**16.68**	**353**	*e*P	**Pn**	**15 44 23.3**	**+2.3**
	comp=E,13nm,0.9s						
ZAA0	**Zalesovo Array**	**19.87**	**5**	*e*P	**Pn**	**15 44 57.8**	**-2.3**
ZALV	**Zalesovo Beam**	**19.87**	**5**	P	**Pn**	**15 44 58.0**	**-2.1**
	comp=E,0.2nm,0.3s,baz=192,slow=12,SNR=8.7						
KMI	**Kunming**	**20.31**	**111**	P	**P**	**15 45 04.9**	**+1.3**
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s						
BVAR	**Borovoye Array**	**20.51**	**340**	P	**P**	**15 45 06.1**	**+0.7**
	comp=Z,6.6nm,0.7s,baz=146,slow=12,SNR=17						
BRVK	**Borovoye**	**20.57**	**340**	P	**P**	**15 45 06.5**	**+0.4**
	comp=Z,14nm,1.0s						
SONM	**Songino Array**	**22.93**	**46**	P	**P**	**15 45 30.7**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.1,baz=242,slow=9.4,SNR=6.4						
AKTK	**Aktyubinsk**	**23.76**	**320**	P	**P**	**15 45 40.8**	**+0.9**
AKTO	**Aktyubinsk**	**23.76**	**320**	P	**P**	**15 45 40.8**	**+0.9**
	comp=Z,0.7nm,0.4s,mb3.4,baz=132,slow=8.4,SNR=3.6						
FINES	**FINESS Array B**	**44.35**	**325**	P	**P**	**15 48 37.9**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.7,baz=101,slow=14,SNR=3.2						
GERES	**GERESS Array B**	**51.36**	**308**	P	**P**	**15 49 33.2**	**+1.3**
	comp=Z,0.4nm,0.6s,mb3.5,baz=2.9,slow=2.7,SNR=3.8						
LPG	**La Plagne**	**56.74**	**306**	*e*P	**P**	**15 50 11.7**	**+0.4**
	comp=Z,10nm,0.9s,mb4.6						
LPL	**La Plagne**	**56.75**	**306**	*e*P	**P**	**15 50 11.7**	**+0.3**
	comp=Z,12nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**73.48**	**129**	P	**P**	**15 51 59.9**	**-0.4**
	comp=Z,0.7nm,0.7s,mb3.7,baz=324,slow=6.1,SNR=9.3						
ASAR	**Alice Springs**	**75.92**	**132**	P	**P**	**15 52 14.3**	**0.0**
	comp=Z,0.6nm,0.7s,mb3.7,baz=313,slow=6.2,SNR=11						
YKA	**Yellowknife Ar**	**82.76**	**8**	P	**P**	**15 52 49.8**	**-1.4**
YKA	**Yellowknife Ar**	**82.76**	**8**	P	**P**	**15 52 49.8**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.2,baz=340,slow=5.3,SNR=21						
LPAZ	**La Paz**	**147.63**	**296**	*e*PKPbc	PKPbc	16 00 14.2	+1.6
LPAZ	**La Paz**	**147.63**	**296**	PKPbc	PKPbc	16 00 14.3	+1.7
	comp=Z,0.4nm,0.7s,baz=21,slow=0.5,SNR=5.2						

*NEIC **06** 15:48:04.0±3.8, 657N×7618W, h116km±38km, Error ellipse: s-maj=61.5km s-min=16.9km az=96.0*
*ISCJB **06** 15:48:06.0±1.0, 731N±009×7293W±009, h181km±8km, Error ellipse: s-maj=16.2km s-min=13.3km az=34.8*
*FUNV **06** 15:48:05.6, 7.10N×7306W, h175km, MW3.2*
*IDC **06** 15:48:06.2±6.9, 673N×7567W, h139km±86km, mb3.2/1, mb1 3.5/2, mb1mx3.0/19, mbtmp3.3/2, Error ellipse: s-maj=200.6km s-min=34.1km az=82.0*
ISC 06 15:48:07.1±1.0, 731N±009×7292W±010, h176km±8km, n17, σ0§79/23, 3C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.81**	**48**	⇑*i*P	**Pn**	**15 48 32.2**	**-0.9**
CAPV				*e*S	**Sn**	**15 48 52.9**	**-0.3**
VIGV	**El Vigia**	**2.16**	**45**	⇑*i*P	**Pn**	**15 48 46.7**	**+0.9**
VIGV				*e*S	**Sn**	**15 49 16.0**	**+0.4**
SOCV	**Socops**	**2.26**	**65**	⇑*i*P	**Pn**	**15 48 47.0**	**+0.1**
SOCV				*e*S	**Sn**	**15 49 17.8**	**+0.1**
SDV	**Santo Domingo**	**2.75**	**55**	*e*Pn	**Sn**	**15 49 30.0**	**+2.1**
ROSC	**El Rosal**	**2.81**	**210**	*e*Pn	**Pn**	**15 48 44.1**	**-9.3**
ROSC				*e*Sn	**Sn**	**15 49 12.5**	**-17**
ROSC	**El Rosal**	**2.81**	**210**	P	**Pn**	**15 48 44.8**	**-8.6**
	18nm,0.3s,baz=18,slow=1.6,SNR=54						
ROSC				S	**Sn**	**15 49 15.0**	**-14**
	11nm,0.3s,baz=84,slow=21,SNR=6.1						
VIRV	**Villa del Rosa**	**3.21**	**9**	*e*P	**Pn**	**15 48 58.8**	**+0.6**
VIRV				*e*S	**Sn**	**15 49 37.4**	**-0.6**
QARV	**Quebrada Arrib**	**3.73**	**39**	*e*P	**Pn**	**15 49 04.9**	**+0.2**
CURV	**Curarigua**	**3.97**	**47**	*e*P	**Pn**	**15 49 08.1**	**+0.3**
SANV	**Sanarito**	**3.99**	**57**	*e*P	**Pn**	**15 49 08.1**	**0.0**
SANV				*e*S	**Sn**	**15 49 54.5**	**-1.1**
DABV	**Dabajuro**	**4.24**	**32**	*e*P	**Pn**	**15 49 11.4**	**+0.3**
SIQV	**Siquisique**	**4.52**	**43**	*e*P	**Pn**	**15 49 14.7**	**-0.1**
SIQV				*e*S	**Sn**	**15 50 06.0**	**-1.8**
TEPV	**Terepaima**	**4.53**	**54**	*e*P	**Pn**	**15 49 15.0**	**+0.1**
LCO	**Las Campanas**	**36.18**	**177**	*e*P	**P**	**15 54 52.1**	**-0.7**
YKA	**Yellowknife Ar**	**62.87**	**340**	P	**P**	**15 58 14.6**	**+0.5**
	0.4nm,0.6s,baz=132,slow=6.6,SNR=8.7						
ASAR	**Alice Springs**	**149.56**	**235**	PKPbc	PKPdf	16 07 32.7	+0.9
	0.4nm,1.0s,baz=116,slow=3.3,SNR=3.2						
WRA	**Warramunga Arr**	**150.74**	**242**	PKPbc	PKPdf	16 07 35.7	+1.9
	0.4nm,1.0s,baz=107,slow=2.8,SNR=5.2						

*IDC **06**

0.2nm,0.7s,mb3.2,baz=352,slow=5.6,SNR=3.8
WRA Warramunga Arr 83.06 123 P **P 16 23 59.6 -1.3**
0.2nm,0.5s,mb3.4,baz=328,slow=5.2,SNR=5.7

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*IDC **06** 16:12:18.2±2.2,3365S×17878W,h0km,mb4.1/4,*
mb1 4.3/5,mb1mx4.0/15,mbtmp4.2/5,ML4.6/1,Error
ellipse: s-maj=58.9km s-min=39.3km az=142.0
*NEIC **06** 16:12:19.6±1.9,3386S×17826W,h35km,mb4.2/1,Error*
ellipse: s-maj=44.1km s-min=26.5km az=123.0
ISC 06 16:12:22.3±4.9,338S±02×1787W±07,h35km,n14,
σ0°61/10,mb4.1/5,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.59**	**217**	Pn	**Pn**	**16 13 42.8**	**0.0**
	16nm,0.3s,baz=161,slow=10,SNR=76						
URZ				Sn	**Sn**	**16 14 45.6**	**-0.1**
	7.1nm,0.3s,baz=154,slow=20,SNR=12						
STKA	**Stephens Creek**	**33.31**	**262**	P	**P**	**16 18 58.2**	**+1.6**
STKA	**Stephens Creek**	**33.31**	**262**	P	**P**	**16 18 57.9**	**+1.2**
	2.3nm,1.0s,mb4.1,baz=129,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**42.49**	**271**	P	**P**	**16 20 14.2**	**0.0**
	2.3nm,0.7s,mb3.9,baz=109,slow=8.0,SNR=58						
WB2	**Warramunga Arr**	**43.78**	**276**	*eP*	**P**	**16 20 24.2**	**-0.4**
WB2	**Warramunga Arr**	**43.78**	**276**	*eP*	**P**	**16 20 24.5**	**-0.2**
WRAB	**Tennant Creek**	**43.78**	**276**	*eP*	**P**	**16 20 23.8**	**-0.9**
	2.7nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**43.79**	**276**	P	**P**	**16 20 24.6**	**-0.1**
	2.7nm,0.6s,mb4.2,baz=117,slow=8.1,SNR=67						
FITZ	**Fitzroy Crossi**	**51.88**	**273**	P	**P**	**16 21 27.7**	**+0.2**
	0.8nm,0.4s,mb4.0,baz=121,slow=9.5,SNR=7.9						
VNA3	**Neumayer Olymp**	**74.92**	**176**	*e*	Px	16 24 10.9	
VNA3				*e*		16 24 13.9	
VNA3				*e*		16 24 24.2	
VNA2	**Neumayer--Watz**	**75.34**	**177**	*e*	Px	16 24 13.3	
	baz=182,slow=5.3						
VNA2				*e*		16 24 16.0	
VNA2				*e*		16 24 25.9	
FINES	**FINESS Array B**	**148.14**	**338**	PKPbc	PKPbc	16 32 03.7	+0.2
FINES	**FINESS Array B**	**148.14**	**338**	PKPbc	PKPbc	16 32 03.7	+0.2
	1.1nm,0.5s,baz=64,slow=3.2,SNR=9.4						
MMAI	**Mount Meron Ar**	**151.63**	**278**	PKPbc	PKPbc	16 32 14.5	+1.6
	1.2nm,0.6s,baz=98,slow=9.0,SNR=3.0						

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*CSEM **06** 16:22:31.9±0.9,3724N×2476W,h5km,ML2.4,Error*
ellipse: s-maj=9.5km s-min=2.6km az=91.0,After PDA
PDA 06 16:22:31.9±0.9,3724N×2476W,h5km,MD3.5,ML2.4,
Error ellipse: s-maj=9.5km s-min=2.6km az=91.0,
Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.34**	**225**	*eP*	Pg	16 22 38.0	-0.5
PSMN				*eS*	Sg	16 22 42.8	-0.1
CMLA	**Cha da Macela**	**0.80**	**311**	*eP*	Pg	16 22 45.2	-2.0
CMLA				*eS*	Sg	16 22 54.6	-3.0
CMLA				A		16 22 57.5	
	50nm,0.3s						
CMLA	**Cha da Macela**	**0.80**	**311**	*eP*	Pg	16 22 45.2	-2.0
CMLA				*eS*	Sg	16 22 54.6	-3.0
PDA	**Ponta Delgada**	**0.87**	**305**	*eP*	Pg	16 22 45.5	-3.2
PDA				*eS*	Sg	16 22 56.2	-3.8
PSET	**Sete Cidades**	**0.96**	**308**	*eS*	Sg	16 22 58.6	-4.1
PSET				A		16 23 01.6	
	45nm,0.3s						
PSCM	**Serra do Cume**	**2.36**	**309**	*eS*	Sn	16 23 33.0	-7.6
PSCM				A		16 23 33.9	
	11nm,0.2s						

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*ATH **06** 16:33:20.5,3808N×2037E,h15km±4km,MD3.4/6*
*NEIC **06** 16:33:20.5,3808N×2037E,h15km,MD3.4(ATH),After*
ATH.
*ISCJB **06** 16:33:22.2±1.2,3820N±005×2039E±008,h10km±6km,*
Error ellipse: s-maj=11.7km s-min=7.4km az=149.1
*CSEM **06** 16:33:22.9±0.2,3822N×2039E,h2km,ML3.1,Error*
ellipse: s-maj=6.3km s-min=2.9km az=56.0
*THE **06** 16:33:23.2,3825N×2042E,h3km,ML3.1*
ISC 06 16:33:21.8±1.6,3822N±005×2034E±010,h5km±8km,n16,
σ1°02/21,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**103**	*e*Pg	**Pg**	**16 33 25.8**	**0.0**
VLS				*e*Sg	**Sg**	**16 33 28.7**	**+0.3**
VLS	**Valsamata**	**0.20**	**103**	↑*i*PB	**Pg**	**16 33 25.5**	**-0.3**
VLS				*e*SB	**Sg**	**16 33 28.6**	**+0.2**
KFL	**Anninata**	**0.37**	**108**	*e*Pg	**Pg**	**16 33 29.1**	**+0.2**
LKD	**Levkas**	**0.54**	**27**	*e*Pg	**Pg**	**16 33 32.8**	**+0.6**
RLS	**Riolos of Patr**	**0.90**	**100**	*e*PN	**Pn**	**16 33 37.8**	**-3.3**
SELA	**Sela**	**1.22**	**87**	*e*Sg	**Sg**	**16 34 01.6**	**+0.5**
SELA				*e*Sg	**Sg**	**16 34 05.7**	**+4.6**
EVR	**Evrytania**	**1.34**	**59**	*e*PN	**Pn**	**16 33 47.1**	**-0.1**
KEK	**Kerkira**	**1.55**	**344**	*e*PN	**Pn**	**16 33 51.7**	**+1.7**
ITM	**Ithomi**	**1.63**	**129**	*e*PN	**Pn**	**16 33 48.8**	**-2.4**
MEV	**Metsovon**	**1.71**	**24**	*e*Pb	**Pb**	**16 33 53.1**	**-0.6**
PYL	**PYLOS**	**1.73**	**140**	*e*Pb	**Pb**	**16 33 53.5**	**-0.5**
PYL				*e*Sb	**Sb**	**16 34 17.4**	**+1.3**
AGG	**Agios Georgios**	**1.75**	**62**	*e*Pb	**Pb**	**16 33 53.4**	**-1.0**
AGG				*e*Sb	**Sb**	**16 34 17.1**	**+0.5**
THL	**Klokotos Trika**	**1.87**	**44**	*e*Pb	**Pb**	**16 33 54.9**	**-1.6**
THL	**Klokotos Trika**	**1.87**	**44**	*e*PN	**Pn**	**16 33 55.1**	**+0.7**
LTK	**Loutraki**	**2.08**	**95**	*e*Pn	**Pn**	**16 33 57.8**	**+0.4**
DID	**Didima**	**2.40**	**106**	*e*Pn	**Pn**	**16 34 02.4**	**+0.7**

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*IDC **06** 16:46:15.4±2.1,3005×14239E,h0km,mb3.5/4,mb1 3.8/6,*
mb1mx3.6/15,mbtmp3.7/6,ML4.0/2,Error ellipse:
s-maj=59.9km s-min=25.4km az=101.0
*ISCJB **06** 16:46:18.7±0.9,31S±01×1423E±01,h33km,mb3.4/4,*
Error ellipse: s-maj=17.5km s-min=14.4km az=37.1
*NEIC **06** 16:46:20.9±0.7,3065×14224E,h35km,mb3.7/1,Error*
ellipse: s-maj=17.3km s-min=12.2km az=125.0
ISC 06 16:46:20.7±0.9,31S±01×1423E±01,h35km,n15,σ0°74/13,
mb3.4/4,Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.65**	**225**	*e*P	**Pn**	**16 49 30.3**	**-1.7**
	5.0nm,0.4s						
KAKA	**Kakadu**	**13.65**	**225**	*e*Pn	**Pn**	**16 49 30.4**	**-1.6**
WRAB	**Tennant Creek**	**18.45**	**204**	P	**Pn**	**16 50 33.1**	**-0.7**
	6.5nm,1.1s						
WB2	**Warramunga Arr**	**18.46**	**204**	*e*P	**Pn**	**16 50 34.7**	**+0.8**
WB2	**Warramunga Arr**	**18.46**	**204**	*e*P	**Pn**	**16 50 34.5**	**+0.6**
WRA	**Warramunga Arr**	**18.46**	**204**	P	**Pn**	**16 50 34.9**	**+1.0**
	0.3nm,0.3s,baz=27,slow=12,SNR=19						
HNR	**Honiara**	**18.65**	**111**	*e*P	**Pn**	**16 50 36.0**	**-0.2**
BATI	**Kupang**	**19.79**	**248**	P	**Pn**	**16 50 50.4**	**+0.4**
	2.2nm,0.3s,baz=73,slow=14,SNR=5.8						
ASAR	**Alice Springs**	**22.01**	**201**	P	**P**	**16 51 12.2**	**+0.1**
	0.5nm,0.6s,mb3.1,baz=27,slow=12,SNR=11						
FITZ	**Fitzroy Crossi**	**22.11**	**226**	*e*P	**P**	**16 51 14.1**	**+0.8**
FITZ	**Fitzroy Crossi**	**22.11**	**226**	P	**P**	**16 51 12.9**	**-0.3**
	1.2nm,0.5s,mb3.6,baz=48,slow=15,SNR=5.3						
MKAR	**Makanchi Array**	**72.28**	**321**	P	**P**	**16 57 43.1**	**+0.5**
	0.1nm,0.3s,mb3.2,baz=102,slow=6.0,SNR=2.9						
ZALV	**Zalesovo Beam**	**74.07**	**329**	P	**P**	**16 57 52.6**	**-0.5**
	0.3nm,0.4s,mb3.5,baz=91,slow=6.1,SNR=3.5						
LPAZ	**La Paz**	**144.31**	**124**	PKP	PKPdf	17 05 55.4	+1.2
LPAZ				*e*PKP	PKPdf	17 05 56.4	+2.3
LPAZ	**La Paz**	**144.31**	**124**	PKP	PKPdf	17 05 55.4	+1.2
	1.4nm,0.7s,baz=254,slow=2.1,SNR=8.2						

IDC 06 16:56:12.6±5.9,3029S×17813W,h0km,mb3.5/3,
mb1 3.7/3,mb1mx3.6/11,mbtmp3.5/3,MS4.1/1,Ms1 4.1/1,
ms1mx3.0/15,Error ellipse: s-maj=228.4km
s-min=55.0km az=151.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	**Rarotonga**	**18.82**	**66**	LR	LR	17 06 26.9	
	comp=Z,516nm,19.4s,baz=81,slow=33						
STKA	**Stephens Creek**	**34.40**	**257**	P	P	17 03 02.3	+0.8
	1.7nm,0.8s,baz=90,slow=12,SNR=3.5						
ASAR	**Alice Springs**	**43.00**	**267**	P	P	17 04 13.6	-0.4
	0.3nm,0.8s,baz=109,slow=7.3,SNR=4.0						
WRA	**Warramunga Arr**	**43.98**	**272**	P	P	17 04 20.8	-1.1
	0.2nm,0.5s,baz=111,slow=8.1,SNR=7.5						
FINES	**FINESS Array B**	**145.00**	**340**	PKPbc	PKPbc	17 15 50.0	-0.4
	0.4nm,0.4s,baz=72,slow=6.2,SNR=4.7						

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*ISCJB **06** 17:05:03.5±0.3,6234N±003×15125W±008,h96km±5km,*
mb3.9/8,Error ellipse: s-maj=6.3km s-min=5.2km az=5.6
*IDC **06** 17:05:03.6±2.5,6238N×15131W,h74km±27km,mb3.6/8,*
mb1 3.6/11,mb1mx3.5/21,mbtmp3.6/11,MS2.5/1,
Ms1 2.5/1,ms1mx2.3/24,Error ellipse: s-maj=21.4km
s-min=16.7km az=133.0
*NEIC **06** 17:05:06.0,6235N×151.19W,h81km,MG3.7(AEIC),After*
AEIC.
ISC 06 17:05:04.8±0.3,6233N±003×15124W±008,h89km±5km,
n45,σ0°69/47,mb3.9/8,Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRF	**Thorofare Moun**	**1.21**	**21**	P	**Pn**	**17 05 26.9**	**+0.1**
TRF				S	**Sn**	**17 05 43.4**	**+0.1**
GHO	**Glory Hole Cre**	**1.23**	**116**	P	**Pn**	**17 05 27.4**	**+0.4**
GHO				S	**Sn**	**17 05 44.9**	**+1.0**
KTH	**Kantishna Hill**	**1.23**	**7**	P	**Pn**	**17 05 27.3**	**+0.2**
PMR	**Palmer**	**1.25**	**126**	P	**Pn**	**17 05 26.8**	**-0.4**
FIB	**Fire Island**	**1.28**	**156**	P	**Pn**	**17 05 28.8**	**+1.1**
RC01	**Rabbit Creek A**	**1.44**	**149**	P	**Pn**	**17 05 29.3**	**-0.4**
SML	**Sawmill**	**1.47**	**110**	P	**Pn**	**17 05 30.0**	**0.0**
MCK	**McKinley**	**1.75**	**36**	P	**Pn**	**17 05 33.8**	**+0.2**
SLKM	**Skilak Lake**	**1.90**	**165**	P	**Pn**	**17 05 35.8**	**+0.3**
TT01	**Tatalina**	**2.28**	**287**	P	**Pn**	**17 05 40.6**	**0.0**
TTA	**Tatalina**	**2.28**	**287**	P	**Pn**	**17 05 41.0**	**+0.4**
SEW	**Seward**	**2.40**	**158**	P	**Pn**	**17 05 42.3**	**+0.1**
SVW2	**Sparrevohn**	**2.41**	**241**	P	**Pn**	**17 05 42.8**	**+0.5**
PAX	**Paxson**	**2.74**	**74**	P	**Pn**	**17 05 47.2**	**+0.5**
DIV	**Divide**	**2.87**	**112**	P	**Pn**	**17 05 47.4**	**-1.1**
COLA	**College**	**2.97**	**29**	P	**Pn**	**17 05 49.5**	**-0.2**
IL1	**Eielson Array**	**3.13**	**37**	P	**Pn**	**17 05 51.5**	**-0.4**
AUL	**Augustine Lava**	**3.15**	**201**	P	**Pn**	**17 05 52.2**	**0.0**
BMRM	**Bremner River**	**3.45**	**110**	P	**Pn**	**17 05 55.6**	**-0.7**
MENT	**Mentasta**	**3.53**	**77**	P	**Pn**	**17 05 56.7**	**-0.6**
DOT	**Dot Lake**	**3.53**	**65**	P	**Pn**	**17 05 57.2**	**-0.1**
IM3	**Indian Mountai**	**3.83**	**344**	P	**Pn**	**17 06 01.5**	**+0.2**
IMA2	**Indian Mountai**	**3.90**	**345**	P	**Pn**	**17 06 02.6**	**+0.3**
BCA3	**Beaver Creek A**	**4.42**	**76**	P	**Pn**	**17 06 08.9**	**-0.5**
KDAK	**Kodiak Island**	**4.62**	**189**	P	**Pn**	**17 06 10.9**	**-1.1**
KDAK	**Kodiak Island**	**4.62**	**189**	P	**Pn**	**17 06 11.2**	**-0.8**
	2.2nm,0.3s,baz=53,slow=11,SNR=33						
KDAK				S	**Sn**	**17 07 03.6**	**-0.8**
	7.9nm,0.3s,baz=310,slow=23,SNR=5.8						
COLD	**Coldfoot**	**4.94**	**5**	P	**Pn**	**17 06 16.5**	**+0.2**
EGAK	**Eagle**	**5.13**	**57**	P	**Pn**	**17 06 18.8**	**-0.3**
DAWY	**Dawson**	**5.64**	**67**	P	**Pn**	**17 06 25.5**	**-0.4**
BM3	**Burnt Mountain**	**5.83**	**26**	P	**Pn**	**17 06 28.6**	**0.0**
TNA	**Tin City**	**8.02**	**301**	P	**Pn**	**17 06 57.3**	**-1.0**
INK	**Inuvik**	**9.50**	**43**	P	**Pn**	**17 07 18.6**	**+0.1**
	1.0nm,0.3s,baz=236,slow=16,SNR=53						
INK				LR	LR	17 11 14.9	
	comp=Z,31nm,20.3s,baz=242,slow=39						
YKA	**Yellowknife Ar**	**16.83**	**73**	P	**Pn**	**17 08 56.3**	**+1.8**
YKA	**Yellowknife Ar**	**16.83**	**73**	P	**Pn**	**17 08 56.3**	**+1.8**
	0.1nm,0.3s,baz=288,slow=11,SNR=4.4						
RES	**Resolute Bay**	**22.88**	**35**	*e*P	**P**	**17 09 59.9**	**-0.5**
SCHQ	**Schefferville**	**41.62**	**60**	P	**P**	**17 12 42.8**	**-0.7**
	2.3nm,0.8s,mb4.0,baz=196,slow=1.9,SNR=3.9						
TXAR	**Lajitas Array**	**45.09**	**114**	P	**P**	**17 13 13.7**	**+2.0**
	0.3nm,0.6s,mb3.2,baz=324,slow=4.5,SNR=3.8						
ARCES	**ARCESS Array B**	**48.40**	**2**	P	**P**	**17 13 36.2**	**-0.8**
ARCES				PcP	PcP	17 15 01.7	-0.2
ARCES	**ARCESS Array B**	**48.40**	**2**	P	**P**	**17 13 36.2**	**-0.8**
	0.4nm,0.5s,mb3.5,baz=347,slow=9.0,SNR=4.4						
ARCES				PcP	PcP	17 15 01.7	-0.2
	1.2nm,0.8s,baz=354,slow=4.5,SNR=4.2						
KSRS	**Korea Array**	**53.51**	**282**	P	**P**	**17 14 16.6**	**+0.9**
	0.8nm,0.5s,mb4.0,baz=32,slow=6.9,SNR=7.9						
SONM	**Songino Array**	**54.11**	**306**	P	**P**	**17 14 21.6**	**+1.6**
	1.2nm,0.7s,mb4.0,baz=32,slow=6.9,SNR=11						
ZALV	**Zalesovo Beam**	**55.99**	**324**	P	**P**	**17 14 33.1**	**-0.3**
	1.4nm,0.5s,mb4.2,baz=28,slow=6.1,SNR=8.9						
MKAR	**Makanchi Array**	**63.13**	**322**	P	**P**	**17 15 21.9**	**-0.6**
	1.0nm,0.5s,mb4.0,baz=45,slow=6.6,SNR=7.7						
AKASG	**Malin Array Be**	**67.31**	**360**	P	**P**	**17 15 48.8**	**-0.7**
	1.1nm,0.4s,mb4.1,baz=2.2,slow=6.4,SNR=17						
BOSA	**Boshof**	**146.20**	**6**	PKPbc	PKPbc	17 24 35.2	+1.1
	3.1nm,1.1s,baz=256,slow=4.1,SNR=3.9						

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*IDC **06** 17:11:05.7±1.1,3911S×17610E,h123km±12km,mb3.4/2,*
mb1 3.5/3,mb1mx3.4/12,mbtmp3.3/3,Error ellipse:
s-maj=49.4km s-min=13.1km az=128.0
*ISCJB **06** 17:11:06.1±0.5,3882S±004×17587E±006,h136km±4km,*
mb3.5/2,Error ellipse: s-maj=8.0km s-min=5.7km az=30.8
*WEL **06** 17:11:07.9±0.2,3872S×17589E,h124km±1km,ML4.3/24,*
Error ellipse: s-maj=1.2km s-min=1.1km az=90.0
*NEIC **06** 17:11:07.9,3872S×17589E,h124km,MG4.3(WEL),After*
WEL.
ISC 06 17:11:06.8±0.5,3882S±004×17588E±006,h135km±4km,
n121,σ0°89/128,mb3.5/2,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.10**	**240**	P	**Pn**	**17 11 24.8**	**-0.2**
RATZ	**Rangitukua**	**0.10**	**240**	PN	**Pn**	**17 11 24.8**	**-0.2**
WATZ	**Wairara**	**0.16**	**313**	P	**Pn**	**17 11 24.8**	**-0.3**
WATZ				S	**Sn**	**17 11 38.4**	**-0.6**
WATZ	**Wairara**	**0.16**	**313**	PN	**Pn**	**17 11 24.8**	**-0.3**
WATZ				SN	**Sn**	**17 11 38.4**	**-0.6**
RITZ	**Rihia Road**	**0.16**	**187**	P	**Pn**	**17 11 25.4**	**+0.3**
RITZ	**Rihia Road**	**0.16**	**187**	PN	**Pn**	**17 11 25.4**	**+0.3**
WHTZ	**Whakaora**	**0.16**	**21**	PN	**Pn**	**17 11 25.0**	**-0.2**
HATZ	**Hinemaiaia**	**0.18**	**114**	P	**Pn**	**17 11 25.0**	**-0.2**
HATZ				S	**Sn**	**17 11 38.4**	**-0.7**
HATZ	**Hinemaiaia**	**0.18**	**114**	PN	**Pn**	**17 11 25.0**	**-0.1**
HATZ				SN	**Sn**	**17 11 38.4**	**-0.7**
KATZ	**Kakaramea**	**0.21**	**223**	P	**Pn**	**17 11 25.3**	**+0.1**
KATZ	**Kakaramea**	**0.21**	**223**	PN	**Pn**	**17 11 25.3**	**+0.1**
KRVZ	**Karewarewa**	**0.34**	**214**	PN	**Pn**	**17 11 25.9**	**+0.2**
KRVZ				SN	**Sn**	**17 11 39.8**	**-0.1**
WTVZ	**West Tongariro**	**0.38**	**217**	P	**Pn**	**17 11 26.1**	**+0.3**
WTVZ	**West Tongariro**	**0.38**	**217**	PN	**Pn**	**17 11 26.1**	**+0.3**
OTVZ	**Oturere**	**0.39**	**206**	PN	**Pn**	**17 11 26.3**	**+0.4**
NGZ	**Ngauruhoe**	**0.42**	**211**	P	**Pn**	**17 11 26.2**	**+0.2**
NGZ	**Ngauruhoe**	**0.42**	**211**	PN	**Pn**	**17 11 26.2**	**+0.2**
TWVZ	**Taurewa**	**0.43**	**234**	P	**Pn**	**17 11 26.2**	**+0.2**
TWVZ	**Taurewa**	**0.43**	**234**	PN	**Pn**	**17 11 26.2**	**+0.2**
WPVZ	**Whakapapa**	**0.47**	**214**	P	**Pn**	**17 11 26.5**	**+0.3**
WPVZ	**Whakapapa**	**0.47**	**214**	PN	**Pn**	**17 11 26.5**	**+0.3**
TUVZ	**Tukino**	**0.48**	**202**	P	**Pn**	**17 11 27.0**	**+0.7**
TUVZ	**Tukino**	**0.48**	**202**	PN	**Pn**	**17 11 27.0**	**+0.7**
FWVZ	**Far West T-bar**	**0.51**	**210**	PN	**Pn**	**17 11 26.9**	**+0.5**
DRZ	**Dome Shelter**	**0.52**	**208**	PN	**Pn**	**17 11 27.5**	**+1.0**
TRVZ	**Turoa**	**0.55**	**208**	PN	**Pn**	**17 11 27.5**	**+0.8**
WNVZ	**Wahianoa**	**0.56**	**203**	P	**Pn**	**17 11 27.5**	**+0.8**
WNVZ	**Wahianoa**	**0.56**	**203**	PN	**Pn**	**17 11 27.5**	**+0.8**
BKZ	**Black Stump Fm**	**0.59**	**126**	P	**Pn**	**17 11 27.4**	**+0.5**
BKZ	**Black Stump Fm**	**0.59**	**126**	PN	**Pn**	**17 11 27.4**	**+0.5**
MOVZ	**Moawhango**	**0.60**	**190**	PN	**Pn**	**17 11 27.5**	**+0.5**
PKVZ	**Pokaka**	**0.63**	**221**	PN	**Pn**	**17 11 27.7**	**+0.5**
MTVZ	**Mangateitei**	**0.65**	**209**	PN	**Pn**	**17 11 28.2**	**+0.9**
UTU	**Utuhina**	**0.69**	**21**	P	**Pn**	**17 11 27.2**	**-0.4**
UTU	**Utuhina**	**0.69**	**21**	PN	**Pn**	**17 11 27.2**	**-0.4**
TAZ	**Tarawera**	**0.76**	**40**	P	**Pn**	**17 11 27.9**	**-0.3**
TAZ	**Tarawera**	**0.76**	**40**	PN	**Pn**	**17 11 27.9**	**-0.2**
KARZ	**Kaharoa**	**0.84**	**20**	P	**Pn**	**17 11 28.2**	**-0.6**
KARZ	**Kaharoa**	**0.84**	**20**	PN	**Pn**	**17 11 28.2**	**-0.6**
HIZ	**Hauiti**	**0.86**	**290**	P	**Pn**	**17 11 28.6**	**-0.3**
HIZ	**Hauiti**	**0.86**	**290**	PN	**Pn**	**17 11 28.6**	**-0.3**
VRZ	**Vera Road**	**0.93**	**250**	P	**Pn**	**17 11 29.9**	**+0.4**
VRZ	**Vera Road**	**0.93**	**250**	PN	**Pn**	**17 11 29.9**	**+0.4**
URZ	**Urewera**	**1.11**	**60**	P	**Pn**	**17 11 30.6**	**-0.6**
URZ	**Urewera**	**1.11**	**60**	P	**Pn**	**17 11 30.6**	**-0.6**
	34nm,0.3s,baz=258,slow=6.8,SNR=301						
URZ				S	**Sn**	**17 11 47.6**	**-2.1**
	127nm,0.3s,baz=196,slow=2.8,SNR=16						
URZ	**Urewera**	**1.11**	**60**	PN	**Pn**	**17 11 30.6**	**-0.6**
TOZ	**Tahuroa Road**	**1.13**	**344**	P	**Pn**	**17 11 30.8**	**-0.6**
TOZ				S	**Sn**	**17 11 48.4**	**-1.6**
TOZ	**Tahuroa Road**	**1.13**	**344**	PN	**Pn**	**17 11 30.8**	**-0.6**
TOZ				SN	**Sn**	**17 11 48.4**	**-1.6**
WAZ	**Wanganui**	**1.17**	**216**	P	**Pn**	**17 11 32.9**	**+1.2**
WAZ	**Wanganui**	**1.17**	**216**	PN	**Pn**	**17 11 32.9**	**+1.2**
TSZ	**Takapari Road**	**1.24**	**177**	P	**Pn**	**17 11 33.6**	**+1.1**
TSZ	**Takapari Road**	**1.24**	**177**	PN	**Pn**	**17 11 33.6**	**+1.2**
RAEZ	**Rainy Point**	**1.25**	**248**	P	**Pn**	**17 11 33.7**	**+1.2**
RAEZ	**Rainy Point**	**1.25**	**248**	PN	**Pn**	**17 11 33.7**	**+1.2**
WPHZ	**Waipukurau**	**1.32**	**161**	PN	**Pn**	**17 11 34.7**	**+1.5**
MWZ	**Matawai**	**1.38**	**70**	P	**Pn**	**17 11 33.7**	**-0.2**
MWZ	**Matawai**	**1.38**	**70**	PN	**Pn**	**17 11 33.7**	**-0.1**
KNZ	**Kokohu**	**1.41**	**99**	P	**Pn**	**17 11 35.2**	**+1.0**
KNZ	**Kokohu**	**1.41**	**99**	PN	**Pn**	**17 11 35.2**	**+1.0**
PXZ	**Pawanui**	**1.43**	**148**	PN	**Pn**	**17 11 35.8**	**+1.4**
NEZ	**North Egmont**	**1.46**	**251**	P	**Pn**	**17 11 36.2**	**+1.4**
NEZ	**North Egmont**	**1.46**	**251**	PN	**Pn**	**17 11 36.2**	**+1.4**
DFE	**Dawson Falls**	**1.48**	**249**	P	**Pn**	**17 11 35.0**	**+0.1**
DFE	**Dawson Falls**	**1.48**	**249**	PN	**Pn**	**17 11 35.0**	**+0.1**
PKE	**Pukeiti**	**1.52**	**255**	P	**Pn**	**17 11 36.4**	**+0.9**
PKE	**Pukeiti**	**1.52**	**255**	PN	**Pn**	**17 11 36.4**	**+0.9**
NWEZ	**Newall Road**	**1.63**	**253**	P	**Pn**	**17 11 37.4**	**+0.7**
NWEZ	**Newall Road**	**1.63**	**253**	PN	**Pn**	**17 11 37.4**	**+0.7**
MRZ	**Mangatainoka R**	**1.86**	**187**	P	**Pn**	**17 11 39.9**	**+0.6**
MRZ	**Mangatainoka R**	**1.86**	**187**	PN	**Pn**	**17 11 39.9**	**+0.7**
BFZ	**Birch Farm**	**1.88**	**172**	P	**Pn**	**17 11 40.5**	**+0.9**
BFZ	**Birch Farm**	**1.88**	**172**	PN	**Pn**	**17 11 40.5**	**+0.9**
PUZ	**Puketiti**	**2.01**	**69**	P	**Pn**	**17 11 41.2**	**+0.1**
PUZ	**Puketiti**	**2.01**	**69**	PN	**Pn**	**17 11 41.2**	**+0.1**
KIW	**Kapiti Island**	**2.17**	**200**	P	**Pn**	**17 11 43.3**	**+0.2**
KIW	**Kapiti Island**	**2.17**	**200**	PN	**Pn**	**17 11 43.3**	**+0.2**
MXZ	**Matakaoa Point**	**2.28**	**57**	P	**Pn**	**17 11 44.5**	**0.0**
MXZ	**Matakaoa Point**	**2.28**	**57**	PN	**Pn**	**17 11 44.5**	**0.0**
MTW	**Mount Morrison**	**2.36**	**187**	P	**Pn**	**17 11 45.3**	**-0.1**
MTW	**Mount Morrison**	**2.36**	**187**	PN	**Pn**	**17 11 45.3**	**0.0**
CAW	**Cannon Point**	**2.37**	**195**	P	**Pn**	**17 11 45.6**	**+0.1**
CAW	**Cannon Point**	**2.37**	**195**	PN	**Pn**	**17 11 45.6**	**+0.1**
DUWZ	**D'Urville Isla**	**2.49**	**217**	PN	**Pn**	**17 11 46.8**	**-0.2**
MRW	**Makara Radio**	**2.57**	**200**	P	**Pn**	**17 11 47.8**	**-0.3**
MRW	**Makara Radio**	**2.57**	**200**	PN	**Pn**	**17 11 47.8**	**-0.3**
TRWZ	**Traveller**	**2.58**	**183**	PN	**Pn**	**17 11 48.3**	**+0.1**
PAWZ	**Paruwai Farm**	**2.58**	**188**	P	**Pn**	**17 11 48.0**	**-0.2**
PAWZ	**Paruwai Farm**	**2.58**	**188**	PN	**Pn**	**17 11 48.0**	**-0.2**
MSWZ	**Moikau Station**	**2.64**	**190**	PN	**Pn**	**17 11 48.6**	**-0.3**
SNZO	**South Karori**	**2.65**	**200**	PN	**Pn**	**17 11 48.6**	**-0.4**
TCW	**Tory Channel**	**2.69**	**207**	P	**Pn**	**17 11 49.2**	**-0.4**
TCW	**Tory Channel**	**2.69**	**207**	PN	**Pn**	**17 11 49.2**	**-0.3**
BHW	**Baring Head**	**2.70**	**196**	P	**Pn**	**17 11 49.3**	**-0.4**
BHW	**Baring Head**	**2.70**	**196**	PN	**Pn**	**17 11 49.3**	**-0.4**
PLWZ	**Palliser**	**2.79**	**190**	PN	**Pn**	**17 11 50.4**	**-0.4**
TUWZ	**Tuamarina**	**3.00**	**209**	PN	**Pn**	**17 11 52.9**	**-0.6**
NNZ	**Nelson**	**3.07**	**218**	P	**Pn**	**17 11 53.8**	**-0.7**
NNZ	**Nelson**	**3.07**	**218**	PN	**Pn**	**17 11 53.8**	**-0.6**
QRZ	**Quartz

YOZ	Yozgat	2.02	102	*e*PN	Pn	17 42 50.8	-0.1
BYBT	Boyabat	2.06	47	*e*PN	Pn	17 42 51.8	+0.3
BZK	Bozkurt	2.10	26	*e*PN	Pn	17 42 51.5	-0.5
KONT	Konya--Tatoy	2.16	188	*e*PN	Pn	17 42 53.6	+0.8
ALT	Altintas	2.29	244	*e*PN	Pn	17 42 55.2	+0.6
SHUT	Suhut-Afyon	2.29	229	*e*PN	Pn	17 42 55.2	+0.5
NIG	Nigde	2.44	143	*e*PN	Pn	17 42 57.5	+0.8
IZI	Iznik	2.53	277	*e*PN	Pn	17 42 57.5	-0.4
YLV	Yalova	2.63	282	*e*PN	Pn	17 43 00.2	+0.9
BNN	Bunyan	2.69	116	*e*PN	Pn	17 43 00.8	+0.7
KVT	Kavak	2.70	67	*e*PN	Pn	17 43 00.2	0.0
SVSK	Karacayir	3.26	92	*e*PN	Pn	17 43 08.0	0.0

MOS ***06*** *17:44:39.0±0.9, 752S×1349W, h10km, mb4.9/21, Error ellipse: s-maj=15.0km s-min=7.6km az=70.8*
ISCJB ***06*** *17:44:39.0±0.3, 756S±006×1347W±007, h10km, mb4.5/40, MS4.2/18, Error ellipse: s-maj=10.9km s-min=7.9km az=26.5*
IDC ***06*** *17:44:39.2±0.6, 760S×1343W, h0km, mb4.1/18, mb1 4.2/19, mb1mx4.1/26, mbtmp4.1/19, ML3.1/1, MS4.2/17, Ms1 4.2/17, ms1mx4.1/22, Error ellipse: s-maj=16.8km s-min=15.3km az=141.0*
GCMT ***06*** *17:44:40.5±0.2, 756S×1356W, h12km, MW5.0/68, Moment Tensor Solution. s28,c31; s68,c90; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.38±.10; $M_{\theta\theta}$0.25±.11; $M_{\phi\phi}$3.13±.10; $M_{r\theta}$-0.26±.39; $M_{\theta\phi}$-0.53±.08; $M_{\phi r}$1.57±.35; Best double couple: $M_0$3.66600×10^{16} NP1:ϕ_s350.00000°, δ32.00000°, λ-90.00000°. NP2: ϕ_s170.00000°, δ58.00000°, λ-90.00000°. Principal axes: T 3.5880, Plg13.0000°, Azm260.0000°; N 0.1520, Plg0.0000°, Azm350.0000°; P -3.7440, Plg77.0000°, Azm81.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***06*** *17:44:40.5±0.4, 767S×1356W, h10km, mb4.8/19, MS4.3/3 Error ellipse: s-maj=11.1km s-min=7.5km az=141.0*
SZGRF ***06*** *17:44:43.6, 753S×13.17W, h20km, mb4.4, Ascension Island region*
ISC 06 17:44:41.1±0.3, 759S±006×1349W±007, h10km, (h19km±.0km:pP-P), n109, σ1§09/99, mb4.5/40, MS4.2/18, 2D, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASCN	**Ascension**	**0.93**	**249**	*e*Pg	**Pg**	**17 44 53.5**	**-5.4**
DBIC	**Dimbokro**	**16.58**	**31**	Pn	**Pn**	**17 48 32.0**	**-1.8**
	0.1nm,0.3s,baz=197,slow=13,SNR=2.1						
DBIC				LR	LR	17 53 33.8	
	comp=Z,696nm,20.7s,baz=194,slow=32						
BBTS	**Babate**	**22.32**	**352**	LR	LR	17 56 45.6	
	comp=Z,219nm,21.7s,MS3.5,baz=210,slow=32						
BDFB	**Brasilia**	**34.71**	**254**	P	**P**	**17 51 31.8**	**+0.3**
	1.4nm,0.8s,mb3.9,baz=86,slow=14,SNR=3.5						
BDFB				LR	LR	18 03 00.9	
	comp=Z,483nm,21.5s,MS4.2,baz=34,slow=32						
SUR	**Sutherland**	**40.28**	**132**	*e*P	**P**	**17 52 17.4**	**-1.1**
SUR	**Sutherland**	**40.28**	**132**	P	**P**	**17 52 18.4**	**-0.1**
	5.7nm,0.9s,mb4.3,baz=301,slow=4.5,SNR=3.8						
LBTB	**Lobatse**	**41.12**	**120**	P	**P**	**17 52 26.6**	**+1.0**
	1.8nm,0.6s,mb3.9,baz=265,slow=11,SNR=2.9						
LSZ	**Lusaka**	**41.50**	**104**	P	**P**	**17 52 28.1**	**-0.7**
	1.2nm,0.8s,mb3.6,baz=254,slow=7.4,SNR=3.0						
BOSA	**Boshof**	**42.07**	**125**	*e*P	**P**	**17 52 32.5**	**-0.9**
BOSA				LR	LR	18 06 51.5	
BOSA	**Boshof**	**42.07**	**125**	P	**P**	**17 52 31.9**	**-1.4**
	5.0nm,0.9s,mb4.1,baz=310,slow=6.7,SNR=7.8						
BOSA				LR	LR	18 06 51.5	
	comp=Z,436nm,20.0s,MS4.3,baz=295,slow=32						
CPUP	**Villa Florida**	**45.61**	**240**	LR	LR	18 10 26.2	
	comp=Z,553nm,18.8s,MS4.5,baz=56,slow=34						
SIV	**San Ignacio**	**47.23**	**255**	P	**P**	**17 53 15.3**	**+0.6**
	0.9nm,0.6s,mb3.9,baz=86,slow=14,SNR=3.8						
ESDC	**Sonseca Array**	**47.85**	**10**	P	**P**	**17 53 20.2**	**+1.2**
ESDC				LR	LR	18 14 03.2	
ESDC	**Sonseca Array**	**47.85**	**10**	P	**P**	**17 53 20.2**	**+1.2**
	0.3nm,0.5s,mb3.6,baz=181,slow=5.9,SNR=4.3						
ESDC				LR	LR	18 14 03.2	
	comp=Z,81nm,19.9s,MS3.7,baz=300,slow=37						
KEST	**Kesra**	**48.16**	**25**	LR	LR	18 13 43.8	
	comp=Z,134nm,18.9s,MS3.9,baz=202,slow=36						
KMBO	**Kilima Mbogo**	**50.96**	**85**	LR	LR	18 13 30.1	
	comp=Z,502nm,19.9s,MS4.5,baz=279,slow=34						
LPAZ	**La Paz**	**54.02**	**255**	P	**P**	**17 54 05.8**	**-0.2**
LPAZ				LR	LR	18 14 43.0	
LPAZ	**La Paz**	**54.02**	**255**	P	**P**	**17 54 05.8**	**-0.2**
	2.6nm,1.0s,mb4.1,baz=55,slow=6.7,SNR=7.7						
LPAZ				LR	LR	18 14 43.0	
	comp=Z,322nm,21.9s,MS4.3,baz=258,slow=33						
ORIF	**Oris-en-Rattie**	**55.10**	**17**	*e*P	**P**	**17 54 11.6**	**-1.7**
	34nm,1.4s,mb4.9						
ORIF	**Oris-en-Rattie**	**55.10**	**17**	*e*P	**P**	**17 54 11.6**	**-1.7**
ORIF				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.9						
ORIF	**Oris-en-Rattie**	**55.10**	**17**	*e*P	**P**	**17 54 11.6**	**-1.7**
	comp=Z,17nm,1.4s,mb4.9						
MBDF	**Montbardon**	**55.19**	**17**	*e*P	**P**	**17 54 15.1**	**+1.1**
	comp=Z,24nm,1.0s,mb4.9						
MBDF	**Montbardon**	**55.19**	**17**	*e*P	**P**	**17 54 15.1**	**+1.1**
MBDF				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
MBDF	**Montbardon**	**55.19**	**17**	*e*P	**P**	**17 54 15.1**	**+1.1**
	comp=Z,12nm,1.0s,mb4.9						
TCF	**Toulx Ste Croi**	**55.44**	**13**	*e*P	**P**	**17 54 16.2**	**+0.5**
	comp=Z,36nm,1.3s,mb4.9						
TCF	**Toulx Ste Croi**	**55.44**	**13**	*e*P	**P**	**17 54 16.2**	**+0.5**
TCF				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
TCF	**Toulx Ste Croi**	**55.44**	**13**	*e*P	**P**	**17 54 16.2**	**+0.5**
	comp=Z,18nm,1.3s,mb5.0						
LPG	**La Plagne**	**55.88**	**17**	*e*P	**P**	**17 54 20.1**	**+1.2**
	comp=Z,21nm,1.1s,mb4.8						
LPG	**La Plagne**	**55.88**	**17**	*e*P	**P**	**17 54 20.1**	**+1.2**
LPG				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
LPG	**La Plagne**	**55.88**	**17**	*e*P	**P**	**17 54 20.1**	**+1.2**
	comp=Z,10nm,1.1s,mb4.8						
LPL	**La Plagne**	**55.89**	**17**	*e*P	**P**	**17 54 20.1**	**+1.1**
	comp=Z,24nm,1.3s,mb4.8						
LPL	**La Plagne**	**55.89**	**17**	*e*P	**P**	**17 54 20.1**	**+1.1**
LPL				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
LPL	**La Plagne**	**55.89**	**17**	*e*P	**P**	**17 54 20.1**	**+1.1**
	comp=Z,12nm,1.3s,mb4.8						
SMF	**Signal de Mont**	**56.16**	**14**	*e*P	**P**	**17 54 21.1**	**+0.2**
CFAA	**Coronel Fontan**	**56.17**	**237**	P	**P**	**17 54 19.9**	**-1.5**
	comp=Z,0.4nm,0.9s,mb3.5,baz=68,slow=5.6,SNR=6.0						
AVF	**Avril sur Loir**	**56.18**	**14**	*e*P	**P**	**17 54 21.1**	**+0.1**
	comp=Z,14nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**56.18**	**14**	*e*P	**P**	**17 54 21.1**	**+0.1**
AVF				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
AVF	**Avril sur Loir**	**56.18**	**14**	*e*P	**P**	**17 54 21.1**	**+0.1**
	comp=Z,7.1nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**56.47**	**14**	*e*P	**P**	**17 54 23.1**	**0.0**
CABF	**La Chapelle**	**56.71**	**16**	*e*P	**P**	**17 54 24.8**	**0.0**
	comp=Z,28nm,1.1s,mb4.9						
CABF	**La Chapelle**	**56.71**	**16**	*e*P	**P**	**17 54 24.8**	**0.0**
CABF				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.9						
CABF	**La Chapelle**	**56.71**	**16**	*e*P	**P**	**17 54 24.8**	**0.0**
	comp=Z,14nm,1.1s,mb4.9						
HINF	**Hinteralfeld**	**58.03**	**16**	*e*P	**P**	**17 54 34.5**	**+0.4**
HAU	**Haudompre**	**58.06**	**16**	*e*P	**P**	**17 54 34.0**	**-0.4**
MEZF	**Maizieres J'vi**	**58.19**	**14**	*e*P	**P**	**17 54 35.2**	**0.0**
CDF	**Champ du Feu**	**58.69**	**16**	*e*P	**P**	**17 54 38.8**	**+0.1**
	comp=Z,9.7nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**58.69**	**16**	*e*P	**P**	**17 54 38.8**	**+0.1**
CDF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**58.69**	**16**	*e*P	**P**	**17 54 38.8**	**+0.1**
	comp=Z,4.8nm,1.0s,mb4.5						
BAIF	**Baives**	**59.45**	**13**	*e*P	**P**	**17 54 43.5**	**-0.4**
	comp=Z,24nm,1.1s,mb4.8						
BAIF	**Baives**	**59.45**	**13**	*e*P	**P**	**17 54 43.5**	**-0.4**
BAIF				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
BAIF	**Baives**	**59.45**	**13**	*e*P	**P**	**17 54 43.5**	**-0.4**
	comp=Z,12nm,1.1s,mb4.8						
GIVF	**Givet**	**59.63**	**14**	*e*P	**P**	**17 54 44.5**	**-0.7**
PLCA	**Paso Flores**	**60.33**	**227**	LR	LR	18 17 20.3	
	comp=Z,241nm,21.4s,MS4.3,baz=273,slow=32						
GRA1	**Grafenberg Arr**	**60.98**	**18**	*e*P	**P**	**17 54 54.4**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.7						
GRA1				*e*pP	pP	17 55 00.1	+2.4
GRF	**Grafenberg Arr**	**60.98**	**18**	*e*P	**P**	**17 54 54.4**	**-0.1**
GRF				*e**PP	pP	17 55 00.1	+2.4
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**60.98**	**18**	*e*P	**P**	**17 54 54.4**	**-0.1**
GRF				*e**PP	pP	17 55 00.1	+2.4
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
GRF	**Grafenberg Arr**	**60.98**	**18**	*e*P	**P**	**17 54 54.4**	**-0.1**
	comp=Z,6.0nm,1.0s,mb4.7						
GRF				*e*pP	pP	17 55 00.1	+2.4
GEC2	**GERESS Array S**	**61.05**	**20**	*e*P	**P**	**17 54 54.7**	**-0.3**
GERES	**GERESS Array B**	**61.05**	**20**	P	**P**	**17 54 54.9**	**-0.1**
GERES						17 57 12.6	
GERES	**GERESS Array B**	**61.05**	**20**	P	**P**	**17 54 54.9**	**-0.1**
	comp=Z,2.7nm,0.9s,mb4.4,baz=193,slow=5.5,SNR=18						
GERES				PP	PP	17 57 12.6	+3.0
	comp=Z,0.2nm,0.6s,baz=209,slow=10,SNR=4.6						
GERES				LR	LR	18 21 44.1	
	comp=Z,161nm,20.4s,MS4.2,baz=208,slow=36						
KHC	**Kasperske Hory**	**61.26**	**20**	*e*P	**P**	**17 55 00.6**	**+4.3**
KHC	**Kasperske Hory**	**61.26**	**20**	*e*P	**P**	**17 54 58.0**	**+1.7**
KHC				AMS	AMS	18 21 00.0	
	comp=Z,300nm,20.5s						
NKC	**Novy Kostel**	**61.84**	**19**	*e*P	pP	17 55 06.7	+3.2
NKC	**Novy Kostel**	**61.84**	**19**	*e*pP	pP	17 55 06.7	+3.2
NKC				AMS	AMS	18 22 00.0	
ROSC	**El Rosal**	**61.95**	**280**	P	**P**	**17 55 03.2**	**+1.4**
	comp=Z,8.1nm,0.9s,mb4.9,baz=82,slow=15,SNR=7.8						
ROSC				LR	LR	18 19 56.6	
	comp=Z,448nm,19.1s,MS4.6,baz=203,slow=34						
TREC	**Trest**	**62.06**	**21**	AMS	AMS	18 20 10.0	
	comp=Z,200nm,23.6s						
PRU	**Pruhonice**	**62.32**	**20**	AMS	AMS	18 21 50.0	
	comp=Z,200nm,20.9s						
VYHS	**Vyhne**	**62.66**	**24**	*e*P	**P**	**17 55 04.0**	**-1.8**
VYHS				pmax	pmax		
	comp=Z,23nm,2.6s,mb4.8						
VYHS	**Vyhne**	**62.66**	**24**	*e*P	**P**	**17 55 04.0**	**-1.8**
	comp=Z,23nm,2.6s,mb4.8						
PVCC	**Panska Ves**	**62.79**	**20**	*e*P	**P**	**17 55 06.5**	**-0.1**
PVCC				AMS	AMS	18 21 40.0	
BRG	**Berggiesshubel**	**62.88**	**19**	*e*P	**P**	**17 55 12.9**	**+5.7**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
BRG	**Berggiesshubel**	**62.88**	**19**	*e*P	**P**	**17 55 12.9**	**+5.8**
	comp=Z,6.3nm,1.1s,mb4.7						
CLL	**Collm**	**62.95**	**18**	*e*P	sP	17 55 14.0	+1.9
CLL				*e*S	**S**	**18 03 40.0**	**+2.3**
CLL				MLR	MLR		
	comp=Z,200nm,18.3s,MS4.3						
CLL	**Collm**	**62.95**	**18**	*e*P	**P**	**17 55 08.0**	**+0.3**
CLL				*e*(sP)	sP	17 55 14.0	+1.9
CLL				*e*S	**S**	**18 03 40.0**	**+2.3**
CLL				*e*PS		18 04 03.0	
CLL				*e*SS	SS	18 07 48.0	+4.6
CLL				Lm		18 22 00.0	
	comp=Z,200nm,18.3s						
VNA1	**Neumayer--Stat**	**63.08**	**178**	*e*P	**P**	**17 55 09.2**	**+0.9**
VNA1				*e*		17 55 14.7	
VNA1				*e*		17 55 20.6	
DPC	**Dobruska-Polom**	**63.24**	**21**	*e*P	**P**	**17 55 10.0**	**+0.4**
DPC				AMS	AMS	18 22 10.0	
	comp=Z,200nm,20.2s						
VNA2	**Neumayer--Watz**	**63.38**	**178**	*e*P	**P**	**17 55 11.1**	**+0.8**
	baz=354,slow=7.8						
VNA2				*e*		17 55 16.5	
VNA2				*e*		17 55 22.2	
VNA2				*e*		17 55 27.9	
VNA2				*e*		17 55 38.5	
OKC	**Ostrava-Krasne**	**63.48**	**22**	*e*P	**P**	**17 55 11.7**	**+0.5**
OKC				AMS	AMS	18 21 50.0	
	comp=Z,300nm,16.5s						
CRVS	**Cervenica-Dubn**	**64.05**	**25**	*e*P	**P**	**17 55 17.1**	**+2.1**
SNAA	**Sanae**	**64.36**	**176**	*e*P	**P**	**17 55 17.3**	**+0.6**
SNAA				*e*		17 55 23.0	
SNAA				*e*		17 55 29.5	
SNAA				*e*		17 55 34.1	
SNAA				*e*		17 55 43.6	
SNAA	**Sanae**	**64.36**	**176**	*e*P	**P**	**17 55 17.6**	**+0.9**
SNAA	**Sanae**	**64.36**	**176**	P	**P**	**17 55 16.7**	**0.0**
	comp=Z,1.8nm,0.9s,mb4.1,baz=359,slow=8.8,SNR=9.7						
STHS	**Stebnicka Huta**	**64.36**	**24**	*e*P	**P**	**17 55 18.8**	**+1.8**
STHS				*e*		17 55 25.5	
STHS				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2						
STHS	**Stebnicka Huta**	**64.36**	**24**	*e*P	**P**	**17 55 18.8**	**+1.8**
	comp=Z,2.6nm,1.1s,mb4.2						
STHS				*e*		17 55 25.5	
KIEV	**Kiev**	**68.77**	**28**	*e*P	**P**	**17 55 44.0**	**-1.2**
KIEV				*e*		17 55 50.0	
KIEV				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
KIEV	**Kiev**	**68.77**	**28**	*e*P	**P**	**17 55 44.0**	**-1.3**
	comp=Z,16nm,1.1s,mb4.8						
KIEV				*e*		17 55 50.0	
AKASG	**Malin Array Be**	**68.78**	**28**	P	**P**	**17 55 43.8**	**-1.5**
	comp=Z,3.5nm,0.9s,mb4.3,baz=226,slow=7.2,SNR=14						
AKASG				LR	LR	18 27 31.8	
	comp=Z,81nm,19.5s,MS4.0,baz=245,slow=37						
AKBB	**Malin Array Si**	**68.78**	**28**	*e*P	**P**	**17 55 43.7**	**-1.6**
SOC	**Sochi**	**70.04**	**38**	*e*P	**P**	**17 55 57.9**	**+4.7**
SOC				*e*PPP		18 00 10.5	
SOC				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
NB2	**NORSAR Subarra**	**71.11**	**12**	P	**P**	**17 56 00.2**	**+0.8**
	comp=Z,1.1nm,0.8s,mb3.8,baz=211,slow=6.5						
NOA	**NORSAR Array B**	**71.11**	**12**	P	**P**	**17 56 00.2**	**+0.8**
	comp=Z,2.9nm,0.9s,mb4.2,baz=207,slow=6.4,SNR=4.1						
NOA				LR	LR	18 29 23.1	
	comp=Z,72nm,19.4s,MS3.9,baz=150,slow=38						
KIV	**Kislovodsk**	**72.08**	**39**	*e*P	**P**	**17 56 09.5**	**+3.9**
KIV				*e*S	S	18 05 31.8	+4.2
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6						
JTS	**JuntasAbangare**	**73.33**	**283**	*e*P	**P**	**17 56 07.9**	**-5.8**
OBN	**Obninsk**	**75.03**	**27**	*e*P	**P**	**17 56 26.2**	**+3.5**
OBN				*e*S	S	18 05 54.3	-6.3
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.2						
FINES	**FINESS Array B**	**75.40**	**18**	P	**P**	**17 56 23.7**	**-1.0**
	comp=Z,3.1nm,0.8s,mb4.3,baz=221,slow=2.0,SNR=7.9						
SCHQ	**Schefferville**	**76.39**	**331**	P	**P**	**17 56 31.1**	**+0.6**
	comp=Z,4.0nm,1.0s,mb4.3,baz=110,slow=5.4,SNR=4.2						
SCHQ				LR	LR	18 22 18.6	
	comp=Z,78nm,19.7s,MS4.0,baz=107,slow=30						
MAW	**Mawson**	**77.83**	**158**	LR	LR	18 22 31.6	
	comp=Z,176nm,19.9s,MS4.4,baz=65,slow=29						
ACSO	**Alum Creek Sta**	**79.55**	**313**	*e*P	**P**	**17 56 47.9**	**-0.5**
	comp=Z,30nm,1.0s,mb5.2						
ARCES	**ARCESS Array B**	**81.48**	**13**	P	**P**	**17 56 56.9**	**-1.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=204,slow=5.3,SNR=7.7						
WVT	**Waverly**	**81.98**	**308**	*e*P	**P**	**17 56 59.7**	**-1.8**
WVT				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.7						
WVT	**Waverly**	**81.98**	**308**	*e*P	**P**	**17 56 59.7**	**-1.8**
	comp=Z,14nm,1.3s,mb4.7						
CCM	**Cathedral Cave**	**85.10**	**309**	*e*P	**P**	**17 57 16.0**	**-1.5**
CCM				pmax	pmax		
	comp=Z,23nm,1.3s,mb5.2						
CCM	**Cathedral Cave**	**85.10**	**309**	*e*P	**P**	**17 57 16.0**	**-1.6**
	comp=Z,24nm,1.3s,mb5.2						
ARU	**Arti**	**86.53**	**32**	*d*iP	**P**	**17 57 27.1**	**+2.9**
ARU				*e*		18 00 48.6	
ARU				*e*PPP		18 02 39.1	
ARU				*e*S	S	18 07 51.0	-10
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.6						
JCT	**Junction City**	**90.64**	**301**	P	**P**	**17 57 43.4**	**-0.9**
JCT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.9						
JCT	**Junction City**	**90.64**	**301**	P	**P**	**17 57 43.4**	**-0.9**
	comp=Z,4.3nm,0.6s,mb5.0						
ULM	**Lac du Bonnet**	**90.94**	**320**	LR	LR	18 31 36.0	
	comp=Z,144nm,19.9s,MS4.4,baz=60,slow=31						
TXAR	**Lajitas Array**	**93.82**	**299**	P	**P**	**17 58 00.4**	**+1.3**
	comp=Z,1.2nm,0.9s,mb4.3,baz=120,slow=7.3,SNR=8.1						
ANMO	**Albuquerque**	**96.72**	**304**	*e*P	**P**	**17 58 11.2**	**-1.0**

IDC 06 18:02:31.4±15.0, 2258S×17882W, h546km±172km, mb3.1/4, mb1 3.3/5, mb1mx3.0/14, mbtmp3.2/5, Error ellipse: s-maj=228.3km s-min=70.7km az=61.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.02**	**192**	P	P	18 05 50.5	-0.6
	1.2nm,0.3s,baz=344,slow=4.0,SNR=7.3						
CTA	**Charters Tower**	**32.59**	**268**	*e*P	P	18 08 18.5	+0.2
	1.6nm,0.3s						
CTA	**Charters Tower**	**32.59**	**268**	P	P	18 08 18.7	+0.4
	1.9nm,0.3s,baz=88,slow=11,SNR=10						
STKA	**Stephens Creek**	**36.23**	**247**	*e*P	P	18 08 47.1	-1.5
	1.8nm,0.7s						
STKA	**Stephens Creek**	**36.23**	**247**	P	P	18 08 47.9	-0.8
	1.8nm,0.5s,baz=84,slow=11,SNR=7.6						
ASAR	**Alice Springs**	**43.34**	**259**	P	P	18 09 45.6	-0.1
	0.5nm,0.3s,baz=90,slow=7.0,SNR=34						
WB2	**Warramunga Arr**	**43.59**	**264**	*e*P	P	18 09 47.4	-0.3
WRA	**Warramunga Arr**	**43.60**	**264**	P	P	18 09 47.8	0.0
	0.9nm,0.3s,baz=96,slow=8.4,SNR=119						

SZGRF ***06*** *18:27:15.2, 1659N×120.14E, h60km, mb5.5, MS5.3, Luzon, Philippine Islands*
MOS ***06*** *18:27:17.7±0.8, 1745N×120.14E, h33km, mb5.6/73, MS5.2/38, Error ellipse: s-maj=8.8km s-min=4.2km az=117.9*
IDC ***06*** *18:27:19.9±1.5, 1727N×12022E, h45km±12km, mb4.9/21, mb1 5.0/23, mb1mx4.9/26, mbtmp5.0/23, ML4.8/2, MS4.9/25, Ms1 4.8/25, ms1mx4.8/28, Error ellipse: s-maj=14.3km s-min=9.6km az=75.0*
BJI ***06*** *18:27:19.2, 1743N×120.19E, h41km, mB5.3, mb5.2, Ms5.2, Msz5.1*
MAN ***06*** *18:27:19, 1745N×119.98E, h24km, mb5.7, ML4.8, MS5.4*
MAN INTENSITY IV - VIGAN I. SUR, STO DOMINGO I. SUR, BANGUED, ABRA; INTENSITY III - BAGUIO CITY, SINAIT I SUR, LAOAG CITY.
NEIC ***06*** *18:27:20.9±0.1, 1731N×12020E, mb5.4/87, MW5.4, Error ellipse: s-maj=4.9km s-min=3.7km az=86.0, Moment Tensor Solution. s16 Moment tensor: Scale 10^{17}Nm; M_{rr}0.54; $M_{\theta\theta}$-0.92; $M_{\phi\phi}$0.37; $M_{r\theta}$-0.30; $M_{\theta\phi}$-0.33; $M_{\phi r}$1.72; Best double couple: $M_0$1.80000×10^{17} NP1:ϕ_s260.00000°, δ11.00000°, λ171.00000°. NP2:ϕ_s360.00000°, δ88.00000°, λ79.00000°. Principal axes: T 2.2500, Plg46.0000°, Azm259.0000°; N -0.9800, Plg11.0000°, Azm360.0000°; P -1.2700, Plg42.0000°, Azm100.0000°;*
NEIC Felt [IV PIVS] at Bangued, Santo Domingo and Vigan; [III PIVS] at Baguio, Laoag and Sinait; [II PIVS] at Pasuquin.
ISCJB ***06*** *18:27:20.0±0.1, 1744N±002×120.10E±002, h51km, mb5.4/175, MS5.1/73 Error ellipse: s-maj=2.8km s-min=2.2km az=160.2*
GCMT ***06*** *18:27:20.9±0.1, 1743N×120.14E, h38km±1km, MW5.5/93, Moment Tensor Solution. s75,c138; s93,c182; Duration: 1§4 Moment tensor: Scale 10^{17}Nm; M_{rr}0.38±.03; $M_{\theta\theta}$0.02±.02; $M_{\phi\phi}$-0.40±.03; $M_{r\theta}$-0.28±.03; $M_{\theta\phi}$-0.82±.02; $M_{\phi r}$2.18±.08; Best double couple: $M_0$2.37800×10^{17} NP1:ϕ_s254.00000°, δ21.00000°, λ168.00000°. NP2:ϕ_s356.00000°, δ85.00000°, λ69.00000°. Principal axes: T 2.4380, Plg46.0000°, Azm245.0000°; N -0.1190, Plg21.0000°, Azm358.0000°; P -2.3190, Plg37.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 06 18:27:21.5±0.1, 1743N±002×12014E±002, h53km, h53km±2.3km:pP-P, n788, σ1§07/788, mb5.4/175, MS5.1/73, 133C-32D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.59**	**68**	*e*P	**Pn**	**18 27 32.8**	**-1.3**
ABRA				*e*S	**Sn**	**18 27 45.0**	**+1.9**
PIP	**Pasuquin**	**1.00**	**27**	⇓*i*P	**Pn**	**18 27 38.7**	**-0.7**
PIP				*i* S	**Sn**	**18 27 52.9**	**+0.3**
BOLP	**Bolinao**	**1.06**	**192**	*e*P	**Pn**	**18 27 38.4**	**-1.9**
BCPH	**Baguio City Da**	**1.12**	**158**	⇑*i*P	**Pn**	**18 27 40.1**	**-0.9**
BCPH				*i* S	**Sn**	**18 27 55.2**	**-0.3**
APYP	**Conner**	**1.14**	**67**	*e*P	**Pn**	**18 27 41.1**	**-0.1**
APYP				*e*S	**Sn**	**18 27 58.4**	**+2.6**
CVP	**Callao Caves**	**1.63**	**80**	⇓*i*P	**Pn**	**18 27 48.8**	**+0.9**
CVP				*i* S	**Sn**	**18 28 12.8**	**+5.1**
SCZP	**Santa Cruz**	**1.66**	**188**	*e*P	**Pn**	**18 27 46.9**	**-1.3**
CAUP	**Cauayan**	**1.68**	**106**	*e*P	**Pn**	**18 27 50.7**	**+2.2**
SGCP	**Mt. Cagua**	**1.99**	**66**	*e*P	**Pn**	**18 27 53.8**	**+1.0**
PCPH	**Palayan**	**2.07**	**154**	⇓*i*P	**Pn**	**

BATP	Bataraza	8.87 195	eP	Pn	18 29 26.3 -0.9
QIZ	Qiongzhong	9.91 281	P	Pn	18 29 39.0 -2.4
QIZ			LR	LR	
	comp=E,13μm,18.9s				
QIZ			LR	LR	
	comp=Z,19μm,18.9s				
QIZ	Qiongzhong	9.91 281	ePn	Pn	18 29 38.3 -3.1
	comp=Z,74nm,0.7s				
QIZ			eSn	Sn	18 31 24.2 -7.0
PAGZ	Pagadian	10.03 161	eP	Pn	18 29 46.2 +3.2
BUKP	Musuan	10.63 153	eP	Pn	18 29 53.3 +2.0
KDM	Kudat	10.93 198	⇓P	Pn	18 29 56.1 +0.8
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	P	Pn	18 30 09.7 +5.5
	SNR=7.9				
DAV	Davao City (W)	11.58 152	Pn	Pn	18 30 09.7 +5.5
	SNR=7.9				
KKM	Kota Kinabalu	11.95 199	eP	Pn	18 30 09.3 +0.1
KKM	Kota Kinabalu	11.95 199	⇓P	Pn	18 30 11.0 +1.8
MATI	Mati	12.01 149	eP	Pn	18 30 11.8 +1.7
JOW	Kunigami	12.01 37	P	Pn	18 30 09.9 -0.2
	comp=Z,10nm,0.3s,baz=228,slow=11,SNR=14				
JOW			LR	LR	18 34 54.0
	comp=Z,6μm,18.8s,baz=31,slow=38				
TSM	Tawau	13.24 190	⇓P	Pn	18 30 27.7 +0.9
SSE	Sheshan	13.64 4	eP	Pn	18 30 34.1 +1.9
SSE			AP		18 30 45.2
SSE			PP		18 30 46.9
SSE			S	Sn	18 33 06.0 +3.8
SSE			AMB	AMB	
	comp=Z,29nm,0.9s				
SSE			AMB	AMB	
	comp=Z,60nm,3.5s				
SSE			LR	LR	
	comp=N,2μm,20.2s				
SSE			LR	LR	
	comp=E,3μm,20.1s				
SSE			LR	LR	
	comp=Z,3μm,24.8s				
WHN	Wuhan	14.08 339	P	Pn	18 30 39.7 +1.5
WHN			LR	LR	
	comp=N,25μm,14.3s				
WHN			LR	LR	
	comp=E,4μm,12.0s				
WHN			LR	LR	
	comp=Z,32μm,17.2s				
NJ2	Nanjing	14.61 356	eP	Pn	18 30 48.1 +3.0
NJ2			AP	pP	18 30 58.8 -3.3
NJ2			S	Sn	18 33 28.0 +2.3
NJ2			XS		18 33 43.0
NJ2			AMB	AMB	
	comp=Z,40nm,0.6s				
NJ2			AMB	AMB	
	comp=Z,380nm,4.6s				
NJ2			LR	LR	
	comp=N,6μm,16.9s				
NJ2			LR	LR	
	comp=E,6μm,18.7s				
NJ2			LR	LR	
	comp=Z,6μm,18.7s				
GYA	Guiyang	15.38 308	⇑iP	Pn	18 30 58.3 +3.0
GYA			PP		18 31 13.2
GYA			S	S	18 33 49.2 -9.2
GYA			PCP	PcP	18 35 58.6 +1.8
GYA			AMB	AMB	
	comp=Z,40nm,0.8s				
GYA			AMB	AMB	
	comp=Z,140nm,4.2s				
GYA			LR	LR	
	comp=N,5μm,9.4s				
GYA			LR	LR	
	comp=E,3μm,8.9s				
GYA			LR	LR	
	comp=Z,6μm,10.6s				
BTM	Bintulu	15.74 207	⇑P	Pn	18 31 00.5 +0.5
KKTK	Khon Kaen	16.61 269	⇓P	Pn	18 31 12.6 +1.7
	comp=Z,556nm,1.2s				
SBUM	Sibu	16.79 208	⇑P	Pn	18 31 15.2 +2.0
KMI	Kunming	17.92 298	P	Pn	18 31 29.9 +2.9
KMI			PP		18 31 47.5
KMI			S	S	18 34 46.4 -3.7
KMI			PCP	PcP	18 36 02.4 +1.6
KMI			AMB	AMB	
	comp=Z,45nm,1.2s				
KMI			AMB	AMB	
	comp=Z,991nm,5.0s				
KMI			LR	LR	
	comp=N,8μm,15.5s				
KMI			LR	LR	
	comp=E,11μm,14.5s				
KMI			LR	LR	
	comp=Z,14μm,15.0s				
TNE	Ternate	18.00 156	⇓eP	Pn	18 31 25.0 -3.1
TNE	Ternate	18.00 156	⇓eP	Pn	18 31 35.0 +6.9
JNU	Nakatsue	18.38 30	P	Pn	18 31 33.1 +0.6
	comp=Z,2.9nm,0.3s,baz=179,slow=7.5,SNR=62				
JNU			LR	LR	18 38 39.5
	comp=Z,6μm,21.2s,baz=20,slow=37				
NANT	Nan	18.53 277	⇑P	Pn	18 31 33.0 -1.5
	comp=Z,588nm,1.0s				
KSM	Kuching	18.57 212	eP	Pn	18 31 34.6 -0.3
KSM	Kuching	18.57 212	⇓P	Pn	18 31 35.3 +0.4
TIA	Tai'an	18.90 352	⇑P	Pn	18 31 39.3 +0.5
TIA			S	S	18 35 13.3 +3.6
TIA			AMB	AMB	
	comp=Z,35nm,1.2s				
TIA			LR	LR	
	comp=N,754nm,9.0s				
TIA			LR	LR	
	comp=E,867nm,10.0s				
NST	Nakhon Sawan	19.26 268	P	Pn	18 31 43.0 -0.2
	comp=E,167nm,0.7s				
XAN	Xi'an	19.36 331	P	Pn	18 31 43.7 -0.6
XAN			AP	pP	18 31 58.2 +3.5
XAN			PP		18 32 04.8
XAN			PPP		18 32 17.5
XAN			S	S	18 35 19.2 +0.3
XAN			AMB	AMB	
	comp=Z,63nm,1.5s				
XAN			AMB	AMB	
	comp=Z,1μm,14.4s				
XAN			LR	LR	
	comp=N,1μm,13.9s				
XAN			LR	LR	
	comp=E,5μm,17.0s				
XAN			LR	LR	
	comp=Z,6μm,15.2s				
CHRT	Chiangrai	19.44 280	⇑P	Pn	18 31 46.5 +1.1
	comp=Z,1μm,1.0s				
CD2	Chengdu	20.05 315	P	P	18 31 51.7 +1.4
CD2			AP		18 32 07.6
CD2			PP		18 32 14.5
CD2			S	S	18 35 31.7 -1.2
CD2			SS		18 36 04.3
CD2			PCS	PcS	18 39 37.8 -4.2
CD2			AMB	AMB	
	comp=Z,230nm,0.9s				
CD2			AMB	AMB	
	comp=Z,2μm,7.8s				
CD2			LR	LR	
	comp=N,11μm,14.4s,MS5.5				
CD2			LR	LR	
	comp=E,12μm,15.0s,MS5.5				
CD2			LR	LR	
	comp=Z,14μm,15.6s,MS5.4				
CHG	Chiang Mai	20.19 277	⇑P	P	18 31 51.7 -0.2
	comp=Z,113nm,1.0s				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
CHTO	Chiang Mai	20.19 277	P	P	18 31 53.7 +1.8
	SNR=57				
NNT	Nongplab	20.28 259	P	P	18 31 55.0 +2.1
KTGM	Kuala Trenggan	20.53 236	⇑P	P	18 31 57.8 +2.2
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
INCN	Inchon	20.78 15	P	P	18 31 58.9 +0.7
	SNR=5.1				
KSRS	Korea Array	21.09 17	P	P	18 32 01.3 -0.2
	comp=Z,68nm,0.9s,mb5.0,baz=206,slow=10,SNR=108				
KSRS			PcP	PcP	18 36 06.5 +0.2
	comp=Z,3.7nm,1.0s,baz=188,slow=1.5,SNR=4.8				
KSRS			ScP	ScP	18 39 39.5 +0.9
	comp=Z,4.9nm,0.9s,baz=206,slow=3.0,SNR=14				
KSRS			LR	LR	18 40 42.4
	comp=Z,2μm,19.6s,MS4.4,baz=318,slow=38				
TIY	Taiyuan	21.31 343	⇑iP	P	18 32 04.2 +0.3
TIY			XP	sP	18 32 18.6 -4.1
TIY			S	S	18 36 02.0 +4.4
TIY			LR	LR	
	comp=N,2μm,11.2s,MS5.0				
TIY			LR	LR	
	comp=E,2μm,10.7s,MS5.0				
TIY			LR	LR	
	comp=Z,3μm,16.7s				
DL2	Dalian	21.44 3	P	P	18 32 08.4 +3.2
DL2			S	S	18 36 02.6 +2.6
DL2			SCS	ScS	18 43 24.6 +1.1
DL2			AMB	AMB	
	comp=Z,30nm,0.9s,mb4.6				
DL2			AMB	AMB	
	comp=Z,120nm,6.7s				
DL2			LR	LR	
	comp=N,680nm,17.0s,MS4.6				
DL2			LR	LR	
	comp=E,2μm,15.7s,MS4.6				
DL2			LR	LR	
	comp=Z,1μm,19.9s,MS4.2				
SNG	Songkhla	21.60 244	P	P	18 32 08.0 +0.8
	comp=Z,178nm,0.8s,mb5.5				
MYKOM	Kota Tinggi	22.31 228	⇑P	P	18 32 15.2 +0.5
CBIJ	Chichi jima	22.53 61	P	P	18 32 14.8 -2.1
	comp=Z,288nm,0.4s,mb6.1,baz=269,slow=7.2,SNR=35				
CBIJ			LR	LR	18 39 19.5
	comp=Z,3μm,21.9s,MS4.6,baz=64,slow=32				
KGM	Kluang	22.53 229	⇓P	P	18 32 17.4 +0.3
KULM	Kulim	22.56 240	eP	P	18 32 17.1 -0.4
KULM	Kulim	22.56 240	⇓P	P	18 32 18.5 +1.1
IPM	Ipoh	22.72 238	⇓P	P	18 32 19.4 +0.3
BJT	Baijiatuau	22.77 352	eP	P	18 32 19.2 -0.2
BJT			pmax	pmax	
	comp=Z,208nm,1.2s				
BJT	Baijiatuau	22.77 352	ePn	P	18 32 19.2 -0.2
	comp=Z,208nm,1.2s,mb5.4				
BJI	Beijing	22.79 352	P	P	18 32 20.1 +0.5
BJI			S	S	18 36 27.1 +2.2
BJI			AMB	AMB	
	comp=Z,157nm,1.2s,mb5.3				
BJI			LR	LR	
	comp=N,2μm,16.6s,MS4.8				
BJI			LR	LR	
	comp=E,3μm,19.0s,MS4.8				
BJI			LR	LR	
	comp=Z,2μm,20.7s,MS4.5				
FRIM	Kepong	23.00 234	⇓P	P	18 32 22.4 +0.4
LZH	Lanzhou	23.54 325	⇑iP	P	18 32 28.5 +1.4
LZH			AP		18 32 37.1
LZH			XP	sP	18 32 42.0 -4.5
LZH			PP		18 33 01.6
LZH			PCP	PcP	18 36 14.2 +3.0
LZH			eS	S	18 36 38.3 +1.2
LZH			XS	sS	18 36 56.0 -3.7
LZH			SS		18 37 28.0
LZH			AMB	AMB	
	comp=Z,485nm,1.5s,mb5.7				
LZH			AMB	AMB	
	comp=Z,1μm,4.5s				
LZH			LR	LR	
	comp=N,8μm,14.3s				
LZH			LR	LR	
	comp=Z,11μm,16.4s,MS5.4				
JHJ	Hachijo jima 2	23.59 45	P	P	18 32 27.9 +0.4
	comp=Z,510nm,1.0s,mb5.9,baz=237,slow=8.3,SNR=4.6				
JHJ			LR	LR	18 39 51.4
	comp=Z,4μm,21.6s,MS4.9,baz=68,slow=32				
GUMO	Guam	24.13 96	P	P	18 32 31.7 -0.9
	comp=Z,139nm,1.0s,mb5.3,baz=225,slow=13,SNR=3.4				
GUMO			LR	LR	18 39 59.7
	comp=Z,8μm,21.3s,MS5.2,baz=235,slow=32				
HHC	Hu-ho-hao-te	24.49 344	⇑iP	P	18 32 37.1 +1.5
HHC			PP		18 33 17.0
HHC			S	S	18 36 58.7 +6.4
HHC			AMB	AMB	
	comp=Z,219nm,1.8s,mb5.3				
HHC			AMB	AMB	
	comp=Z,2μm,4.7s				
HHC			LR	LR	
	comp=N,5μm,13.9s,MS5.2				
HHC			LR	LR	
	comp=E,3μm,16.7s,MS5.2				
HHC			LR	LR	
	comp=Z,5μm,15.7s,MS5.1				
MAJO	Matsushiro	24.86 36	eP	P	18 32 37.1 -2.0
MAJO			pmax	pmax	
	comp=Z,38nm,1.0s,mb4.9				
MAJO	Matsushiro	24.86 36	eP	P	18 32 37.1 -2.0
	comp=Z,38nm,1.0s,mb4.9				
MAT	Matsushiro	24.86 36	P	P	18 32 37.0 -2.1
MAT			S	S	18 37 01.0 +2.7
MJAR	Matsushiro Arr	24.86 36	P	P	18 32 38.1 -1.0
MJAR			ScP	ScP	18 39 49.4 +0.8
MJAR			LR	LR	18 41 08.1
MJAR	Matsushiro Arr	24.86 36	P	P	18 32 38.1 -1.0
	comp=Z,24nm,1.0s,mb4.7,baz=223,slow=9.9,SNR=53				
MJAR			ScP	ScP	18 39 49.4 +0.8
	comp=Z,1.9nm,0.9s,baz=139,slow=2.9,SNR=4.6				
MJAR			LR	LR	18 41 08.0
	comp=Z,2μm,21.3s,MS4.5,baz=235,slow=33				
PSI	Prapat	25.39 237	P	P	18 32 44.2 +0.1
PSI			LR	LR	18 42 28.9
PSI	Prapat	25.39 237	P	P	18 32 44.2 +0.1
	comp=Z,44nm,0.7s,mb5.1,baz=27,slow=4.2,SNR=22				
PSI			LR	LR	18 42 28.9
	comp=Z,4μm,19.0s,MS4.9,baz=332,slow=36				
IMP	Imphal	25.49 291	eP	P	18 32 45.0 0.0
TLE	Tual	26.08 150	⇑eP	P	18 32 50.0 -0.3
CN2	Changchun	26.67 9	eP	P	18 32 55.6 +0.2
CN2			ePP		18 33 43.2
CN2			eS	S	18 37 24.2 -2.7
CN2			eSS		18 38 42.0
CN2			PCS	PcS	18 39 57.5 -1.6
CN2			AMB	AMB	
	comp=Z,20nm,0.6s,mb4.8				
CN2			AMB	AMB	
	comp=Z,120nm,3.0s				
CN2			LR	LR	
	comp=N,1μm,18.0s,MS4.8				
CN2			LR	LR	
	comp=E,2μm,18.0s,MS4.8				
CN2			LR	LR	
	comp=Z,2μm,18.0s,MS4.7				
PBA	Port Blair	27.11 262	eP	x	18 35 41.0
PBA			eS	x	18 39 07.5
PBA			ex	x	18 43 33.9
	comp=E,22nm,0.5s				
PBA			ex	x	18 43 34.4
	comp=N,26nm,1.1s				
SHL	Shillong	27.47 292	⇑iP	P	18 33 04.5 +1.7
VLA	Vladivostok	27.49 19	eP	P	18 33 03.0 +0.2
BATI	Kupang	27.68 173	P	P	18 33 02.8 -1.8
	comp=N,55nm,0.5s,mb5.5,baz=284,slow=1.8,SNR=18				
GTA	Gaotai	28.14 325	⇑iP	P	18 33 10.1 +1.5
GTA			AP	pP	18 33 21.5 -0.7
GTA			XP	sP	18 33 27.1 -1.4
GTA			PP	PP	18 34 01.4 -12
GTA			PCP	PcP	18 36 23.4 +1.7
GTA			S	S	18 37 50.6 +0.4
GTA			XS	sS	18 38 10.4 -2.7
GTA			SS	SS	18 39 16.6 -34
GTA			SCP	ScP	18 39 59.1 +0.8
GTA			SCS	ScS	18 43 50.6 -0.3
GTA			AMB	AMB	
	comp=Z,30nm,1.3s,mb4.8				
GTA			AMB	AMB	
	comp=Z,322nm,8.8s				
GTA			LR	LR	
	comp=N,3μm,17.1s,MS5.2				
GTA			LR	LR	
	comp=E,4μm,19.4s,MS5.2				
GTA			LR	LR	
	comp=Z,6μm,20.5s,MS5.1				
MDJ	Mudanjiang	28.25 14	P	P	18 33 10.5 +1.0
MDJ			AP	pP	18 33 27.1 +4.1
MDJ			PCP	PcP	18 36 21.1 -0.7
MDJ			S	S	18 37 53.1 +1.4
MDJ			PCS	PcS	18 40 03.6 -0.3
MDJ			AMB	AMB	
	comp=Z,38nm,0.9s,mb5.0				
MDJ			AMB	AMB	
	comp=Z,79nm,3.5s				
MDJ			LR	LR	
	comp=N,883nm,21.6s,MS4.7				
MDJ			LR	LR	
	comp=E,2μm,19.2s,MS4.7				
MDJ			LR	LR	
	comp=Z,1μm,25.3s				
MDJ	Mudanjiang	28.25 14	eP	P	18 33 09.6 +0.1
	comp=Z,34nm,0.9s,mb5.0				
LSA	Lhasa	29.16 300	P	P	18 33 20.6 +2.8
LSA			AP	pP	18 33 29.0 -2.3
LSA			XP	sP	18 33 33.1 -4.6
LSA			PCP	PcP	18 36 24.0 -0.4
LSA			S	S	18 38 10.1 +3.7
LSA			XS	sS	18 38 29.4 +0.1
LSA			SCP	ScP	18 40 03.7 +2.0
LSA			PCS	PcS	18 40 07.4 +0.1
LSA			SCS	ScS	18 43 58.3 +2.4
LSA			AMB	AMB	
	comp=Z,100nm,1.1s,mb5.5				
LSA			LR	LR	
	comp=N,3μm,20.1s,MS5.0				
LSA			LR	LR	
	comp=E,3μm,21.5s,MS5.0				
LSA			LR	LR	
	comp=Z,6μm,21.0s,MS5.2				
LSA	Lhasa	29.16 300	eP	P	18 33 20.2 +2.4
LSA			pmax	pmax	
	comp=Z,195nm,1.4s,mb5.6				
LSA	Lhasa	29.16 300	eP	P	18 33 20.2 +2.4
	comp=Z,195nm,1.4s,mb5.6				
ERM	Erimo	31.43 34	eP	P	18 33 38.6 +0.9
HIA	Hailar	31.76 360	eP	P	18 33 39.8 -0.7
HIA			pmax	pmax	
	comp=Z,12nm,0.6s				
HIA	Hailar	31.76 360	eP	P	18 33 39.8 -0.7
	comp=Z,12nm,0.6s,mb4.9				
KAKA	Kakadu	32.32 157	eP	P	18 33 41.7 -4.0
	comp=Z,25nm,0.6s,mb5.2				
SONM	Songino Array	32.35 343	P	P	18 33 46.8 +1.1
SONM					18 36 32.7
SONM	Songino Array	32.35 343	P	P	18 33 46.8 +1.0
	comp=Z,28nm,0.9s,mb5.1,baz=158,slow=9.9,SNR=106				
SONM			PcP	PcP	18 36 32.7 +0.3
	comp=Z,0.9nm,0.5s,baz=148,slow=2.4,SNR=4.8				
SONM			ScP	ScP	18 40 12.3 +0.5
	comp=Z,2.5nm,1.1s,baz=163,slow=3.9,SNR=5.2				
SONM			LR	LR	18 47 16.1
	comp=Z,2μm,21.8s,MS4.8,baz=154,slow=37				
JIRN	Jiri	32.87 294	eP	P	18 33 52.0 +1.5
	comp=Z,139nm,0.7s,mb6.0				
KLR	Kul'dur	33.09 14	eP	P	18 33 47.7 -4.5
KLR			eS	S	18 39 03.5 -3.9
KLR			e		18 41 10.0
KLR			pmax	pmax	
	comp=E,50nm,1.2s				
KLR			pmax	pmax	
	comp=Z,120nm,1.2s,mb5.7				
KLR			smax		
	comp=N,600nm,9.0s				
KLR			smax		
	comp=E,1μm,9.0s				
KLR			MLR	MLR	
	comp=Z,4μm,13.5s,MS5.2				
GUN	Gumba	33.19 294	eP	P	18 33 54.6 +1.3
	comp=Z,503nm,1.0s,mb6.4				
HABR	Khabarovsk	33.27 18	eP	P	18 33 54.6 +0.9
HABR			e		18 36 32.9
HABR			eS	S	18 39 12.2 +2.0
HABR			e		18 44 12.4
PKI	Pulchoki	33.54 294	eP	P	18 33 57.1 +0.8
	comp=Z,244nm,1.1s,mb6.0				
PKIN	Phulchoki	33.55 294	eP	P	18 33 56.8 +0.4
KKN	Kakani	33.69 294	eP	P	18 33 58.3 +0.6
	comp=Z,143nm,0.9s,mb5.9				
DMN	Daman	33.81 294	eP	P	18 33 59.4 +0.7
	comp=Z,462nm,1.3s,mb6.2				
GKN	Gorkha	34.28 294	eP	P	18 34 03.2 +0.4
	comp=Z,142nm,0.7s,mb6.0				
YSS	Yuzh-Sakhalins	34.86 27	⇓eP	P	18 34 07.7 +0.2
YSS			e	pP	18 34 20.6 -0.7
YSS			eS	S	18 39 32.0 -2.8
YSS			pmax	pmax	
	comp=E,30nm,1.0s				
YSS			pmax	pmax	
	comp=Z,60nm,1.0s,mb5.5				
YSS			MLR	MLR	
	comp=E,1μm,18.0s				
YSS			MLR	MLR	
	comp=Z,1μm,18.0s,MS4.6				
YSS	Yuzh-Sakhalins	34.86 27	⇑eP	P	18 34 07.7 +0.2
VIS	Vishakhapatnam	35.06 276	eP	P	18 34 10.4 +0.7
VIS			ex	x	18 34 14.2
	comp=Z,166nm,1.4s				
DANN	Dangsing	35.11 295	eP	P	18 34 10.5 +0.6
	comp=Z,252nm,0.8s,mb6.2				
KOLN	Koldanda	35.15 294	eP	P	18 34 11.0 +0.7
	comp=Z,220nm,0.9s,mb6.1				
ZAK	Zakamensk	35.55 341	⇓iP	P	18 34 13.9 +0.5
ZAK			e		18 36 40.6
ZAK			pmax	pmax	
	comp=Z,23nm,1.2s,mb5.0				
ZAK			pmax	pmax	
	comp=Z,5.0nm,1.6s,mb4.2				
FITZ	Fitzroy Crossi	35.72 171	eP	P	18 34 12.3 -2.9
	comp=Z,16nm,0.7s,mb5.0				
FITZ			eS	S	18 39 41.9 -6.5
BLSP	Bilaspur	36.01 284	eP	P	18 34 18.2 +0.5
BLSP			AMb	AMB	18 34 20.4
	comp=Z,116nm,1.2s,mb5.7				
TLY	Talaya	36.60 343	P	P	18 34 23.4 +1.1
	comp=Z,228nm,1.1s,mb5.9,SNR=14				
IRK	Irkutsk	36.93 344	⇑iP	P	18 34 26.0 +0.9
IRK			eS	S	18 40 09.8 +3.5
IRK			pmax	pmax	
	comp=Z,134nm,1.7s,mb5.5				
MOY	Mondy	37.39 340	eP	P	18 34 30.7 +1.7
MOY			pmax	pmax	
	comp=Z,155nm,2.0s,mb5.5				
WMQ	Urumqi	37.95 321	P	P	18 34 35.0 +1.1
WMQ			PP	PP	18 36 07.0 +5.6
WMQ			S	S	18 40 23.0 +1.0
WMQ			SS	SS	18 43 04.0 -6.1
WMQ			AMB	AMB	
	comp=Z,68nm,1.0s,mb5.3				
WMQ			AMB	AMB	
	comp=Z,682nm,4.0s				
WMQ			LR	LR	

comp=N,3μm,14.0s,MS5.4
WMQ LR LR
comp=E,3μm,14.0s,MS5.4
WMQ LR LR
comp=Z,4μm,14.0s,MS5.3
LGTI Lohaghat 38.33 296 *i* P **P 18 34 38.5 +1.2**
PTH Pithoragarh 38.37 296 *e*P **P 18 34 38.1 +0.4**
NGP Nagpur 38.88 282⇑ *i*P **P 18 34 42.1 0.0**
NGP *e*x x 18 34 45.9
comp=Z,202nm,1.9s
NGP *e*S **S 18 40 37.3 +0.6**
NRGR Nerungri 39.32 4 *e*P **P 18 34 46.7 +1.5**
CLNS Chul'man 39.51 4 *e*P **P 18 34 47.5 +0.7**
HYB Hyderabad 39.62 276 *e*P **P 18 34 48.5 +0.2**
HYB pmax pmax
comp=Z,70nm,1.0s,mb5.3
HYB Hyderabad 39.62 276 *e*P **P 18 34 48.5 +0.2**
comp=Z,70nm,1.0s,mb5.3
HYB *e*S S 18 41 12.0 +24
HYB Hyderabad 39.62 276 *i* P **P 18 34 48.5 +0.2**
comp=Z,70nm,1.0s,mb5.3
HYB *e*PcP PcP 18 36 53.0 -1.6
HYB *e*S **S 18 40 50.0 +2.2**
WRAB Tennant Creek 39.66 159 P **P 18 34 45.0 -3.5**
comp=Z,96nm,0.4s,mb5.9,SNR=28
WRAB Tennant Creek 39.66 159 *e*P **P 18 34 45.8 -2.7**
WRAB Tennant Creek 39.66 159 *e*P **P 18 34 44.9 -3.5**
comp=Z,24nm,0.8s,mb5.0
WRA Warramunga Arr 39.67 159 P **P 18 34 45.3 -3.2**
comp=Z,7.3nm,0.4s,mb4.7,baz=340,slow=9.1,SNR=158
WRA S **18 40 41.5 -6.7**
comp=Z,4.8nm,0.8s,baz=339,slow=15,SNR=6.6
WB2 Warramunga Arr 39.67 159 *e*P **P 18 34 44.9 -3.6**
WB2 *e*S **S 18 40 41.4 -6.9**
PALK Pallekele 39.74 260 P **P 18 34 50.4 +1.1**
comp=Z,202nm,0.9s,mb5.8,SNR=8.1
PALK Pallekele 39.74 260 *e*P **P 18 34 50.5 +1.1**
comp=Z,72nm,1.3s,mb5.2
BHPL Bhopal 40.36 286 *e*P **P 18 34 54.0 -0.4**
BHPL AMb AMB 18 34 58.3
comp=Z,157nm,1.5s,mb5.5
BOD Bodaibo 40.59 355⇓ *i*P **P 18 34 56.0 +0.3**
BOD pmax pmax
comp=Z,28nm,1.3s,mb4.7
AKL Akola 40.80 282 *e*P **P 18 34 58.8 +0.8**
AKL AMb AMB 18 35 01.2
comp=Z,202nm,2.7s,mb5.3
LATR Latur 41.40 278 *e*P **P 18 35 03.0 0.0**
LATR AMb AMB 18 35 06.1
comp=Z,123nm,1.8s,mb5.2
BHK Bhakra 41.90 298 *e*P **P 18 35 09.0 +2.1**
KOD Kodaikanal 41.98 266 *e*P **P 18 35 08.0 +0.3**
KOD AMb AMB 18 35 11.5
comp=Z,130nm,2.5s,mb5.1
DLH Dalhousie 42.46 299 *e*P **P 18 35 10.0 -1.5**
THN Thein Dam 42.65 299 *e*P **P 18 35 11.7 -1.3**
MKAR Makanchi Array 42.76 322 P **P 18 35 14.9 +1.3**
MKAR 18 37 04.6
MKAR Makanchi Array 42.76 322 P **P 18 35 14.9 +1.3**
comp=Z,24nm,1.0s,mb4.9,baz=111,slow=6.6,SNR=79
MKAR PcP PcP 18 37 04.6 +0.3
comp=Z,12nm,0.7s,baz=118,slow=2.5,SNR=6.1
MKAR ScP ScP 18 40 51.0 0.0
comp=Z,1.1nm,0.9s,baz=126,slow=1.6,SNR=4.2
MKAR LR LR 18 54 22.2
comp=Z,3μm,19.1s,MS5.2,baz=116,slow=38
ASAR Alice Springs 43.00 161 P **P 18 35 13.1 -2.7**
comp=Z,9.9nm,0.4s,mb4.9,baz=337,slow=6.9,SNR=369
ASAR ScP ScP 18 40 53.1 +1.0
comp=Z,3.3nm,1.1s,baz=345,slow=2.7,SNR=5.6
ASAR S **S 18 41 32.4 -5.1**
comp=Z,3.9nm,0.9s,baz=349,slow=23,SNR=10
KAD Karad 43.78 277 *e*P **P 18 35 22.3 0.0**
KAD AMb AMB 18 35 26.4
comp=Z,74nm,1.7s,mb5.1
SKR Severo-Kuril's 43.85 33 *e*P **P 18 35 19.3 -3.1**
SKR *e* pP 18 35 31.0 -5.5
SKR *e* 18 41 46.0
SKR pmax pmax
comp=Z,180nm,1.0s,mb5.8
SKR MLR MLR
comp=Z,2μm,18.0s,MS5.2
POO Poona 43.95 279 *e*P **P 18 35 23.4 -0.3**
POO AMb AMB 18 35 27.6
comp=Z,144nm,1.5s,mb5.5
KSH Kashi 44.08 309⇑ *i*P **P 18 35 27.1 +2.7**
KSH *e*PCP PcP 18 37 10.0 +1.0
KSH *e*PP PP 18 37 12.3 +4.4
KSH *e*PPP 18 37 53.3
KSH *e*SCP ScP 18 40 54.1 -2.4
KSH *e*PCS PcS 18 41 02.0 0.0
KSH *e*S **S 18 41 54.0 +0.8**
KSH *e*SS SS 18 45 07.1 -4.9
KSH *e*SCS ScS 18 45 15.3 -3.1
KSH LR LR
comp=Z,13μm,15.3s,MS6.0
YAK Yakutsk 45.06 6⇑ *e*P **P 18 35 31.2 -0.7**
YAK pmax pmax
comp=Z,34nm,1.4s,mb5.0
YAK MLR MLR
comp=Z,1μm,23.0s,MS4.7
YAK Yakutsk 45.06 6⇑ *e*P **P 18 35 31.3 -0.6**
CTA Charters Tower 45.24 144 *e*P **P 18 35 32.1 -1.7**
comp=Z,15nm,0.6s,mb5.0
CTA Charters Tower 45.24 144 *e*P **P 18 35 32.1 -1.7**
CTA pmax pmax
comp=Z,15nm,0.6s
KZA Kyzart 45.39 312 P **P 18 35 37.5 +2.7**
SNR=26
TKM2 Tokmak 2 45.43 314 *e*P **P 18 35 36.6 +1.5**
TKM2 pmax pmax
comp=Z,55nm,1.3s,mb5.2
TKM2 Tokmak 2 45.43 314 *e*P **P 18 35 36.6 +1.5**
comp=Z,55nm,1.3s,mb5.2
TKM2 Tokmak 2 45.43 314 P **P 18 35 36.9 +1.8**
SNR=15
ZALV Zalesovo Beam 45.53 331 P **P 18 35 35.9 +0.1**
comp=Z,15nm,0.7s,mb5.0,baz=126,slow=6.7,SNR=54
ZALV PcP PcP 18 37 12.9 -0.7
comp=Z,3.7nm,0.6s,baz=136,slow=5.0,SNR=2.9
ZALV LR LR 18 55 30.8
comp=Z,725nm,19.9s,MS4.6,baz=348,slow=37
ZAL Zalesovo 45.53 331 P **P 18 35 35.9 +0.2**
ZAL 18 37 12.9
KBK Karagaybulak 45.79 313 P **P 18 35 40.1 +2.1**
SNR=39
UCH Uchtor 45.96 312 *e*P **P 18 35 41.6 +2.3**
comp=Z,144nm,1.4s,mb5.7
UCH Uchtor 45.96 312 P **P 18 35 41.9 +2.6**
SNR=37
CHMS Chumysh 46.04 313 P **P 18 35 41.1 +1.2**
SNR=24
FRU Bishkek 46.08 313⇑ *e*P **P 18 35 41.0 +0.8**
FRU pmax pmax
comp=Z,80nm,1.8s,mb5.3
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
comp=Z,84nm,1.2s,mb5.5,SNR=6.9
AAK Ala-Archa 46.10 313⇑ *e*P **P 18 35 41.2 +0.8**
AAK pmax pmax
comp=Z,34nm,1.5s,mb5.1
AAK Ala-Archa 46.10 313 *e*P **P 18 35 40.8 +0.4**
comp=Z,39nm,1.3s,mb5.2
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 41.7 +1.3**
SNR=8.1
AAK Ala-Archa 46.10 313 P **P 18 35 42.2 +1.8**
SNR=8.6
USP Ospenovka 46.30 314 P **P 18 35 43.1 +1.1**
SNR=24
PET Petropavlovsk 46.49 31 *e*P **P 18 35 44.8 +1.5**
PET *e* 18 37 17.9
PET *e* 18 37 31.2
PET *e*S **S 18 42 26.7 -0.9**
PET pmax pmax
comp=Z,100nm,8.5s
PET pmax pmax
comp=Z,46nm,1.3s,mb5.2
PET pmax pmax
comp=Z,200nm,13.5s
PET MLR MLR
comp=Z,900nm,20.0s,MS4.7
PET MLR MLR
comp=Z,700nm,16.0s
PET Petropavlovsk 46.49 31⇑ *e*P **P 18 35 44.7 +1.4**
AML Almayashu 46.51 312 P **P 18 35 45.8 +2.1**
SNR=19
EKS2 Erkin-Say 46.61 313 *e*P **P 18 35 45.5 +1.1**
comp=Z,74nm,1.4s,mb5.4
EKS2 Erkin-Say 46.61 313 P **P 18 35 46.1 +1.7**
SNR=14
NVS Novosibirsk 46.81 332⇑ *i*P **P 18 35 45.3 -0.5**
NVS *e* 18 37 15.9
NVS pmax pmax
comp=N,65nm,1.4s
NVS pmax pmax
comp=E,57nm,1.4s
NVS pmax pmax
comp=Z,90nm,1.4s,mb5.5
KURK Kurchatov 46.83 325 P **P 18 35 46.2 +0.2**
comp=Z,356nm,0.9s,mb6.3,SNR=63
KURK Kurchatov 46.83 325⇑ *e*P **P 18 35 46.8 +0.8**
KURK Kurchatov 46.83 325 *e*P **P 18 35 46.7 +0.7**
comp=Z,59nm,0.8s,mb5.6
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
KURK Kurchatov 46.83 325 P **P 18 35 47.3 +1.3**
SNR=38
BHJ Bhuj 47.50 286 *e*P **P 18 35 52.0 +0.3**
BHJ AMb AMB 18 35 56.5
comp=Z,169nm,1.2s,mb6.0
MA2 Magadan 47.60 21 P **P 18 35 52.1 +0.3**
MA2 *e* 18 37 22.3
MA2 *e* 18 37 40.2
MA2 *e*S **S 18 42 41.2 -2.0**
MA2 pmax pmax
comp=Z,50nm,1.2s,mb5.4
MA2 pmax pmax
comp=N,50nm,1.8s
MA2 MLR MLR
comp=Z,1μm,17.2s,MS5.0
MA2 Magadan 47.60 21⇑ *e*P **P 18 35 52.2 +0.4**
FORT Forrest 48.53 171 *e*P **P 18 35 57.0 -2.3**
comp=Z,29nm,0.6s,mb5.5
KLBR Kellerberrin 48.79 183 *e*P **P 18 35 59.4 -1.9**
comp=Z,30nm,0.9s,mb5.3
MUN Mundaring 49.27 184 *e*P **P 18 36 05.3 +0.4**
SEY Seymchan 50.65 18⇑ *e*P **P 18 36 16.0 +0.9**
BRVK Borovoye 52.49 324 P **P 18 36 29.4 +0.4**
comp=Z,234nm,1.3s,mb6.0,SNR=28
BRVK Borovoye 52.49 324 *e*P **P 18 36 29.4 +0.4**
BRVK pmax pmax
comp=Z,72nm,1.3s,mb5.4
BRVK Borovoye 52.49 324 *e*P **P 18 36 29.4 +0.4**
comp=Z,72nm,1.3s,mb5.5
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
BRVK Borovoye 52.49 324 P **P 18 36 30.0 +1.0**
SNR=29
STKA Stephens Creek 53.17 157 *e*P **P 18 36 32.2 -2.0**
comp=Z,24nm,0.5s,mb5.4
STKA Stephens Creek 53.17 157 P **P 18 36 32.2 -2.0**
comp=Z,28nm,0.5s,mb5.4,baz=332,slow=6.8,SNR=113
STKA LR LR 19 00 47.9
comp=Z,540nm,21.0s,MS4.6,baz=148,slow=38
TIXI Tiksi 54.46 3 *e*P **P 18 36 41.9 -1.3**
TIXI *i* S **S 18 44 15.5 -2.2**
TIXI *i* 18 46 24.5
TIXI pmax pmax
comp=Z,38nm,1.2s,mb5.2
TIXI MLR MLR
comp=Z,2μm,19.0s,MS5.1
TIXI Tiksi 54.46 3⇑ *e*P **P 18 36 42.2 -1.0**
ARMA Armidale 56.41 147 *e*P **P 18 36 56.0 -1.7**
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
WBK Wadi Bani Khal 57.37 286 P **P 18 37 04.8 0.0**
SNR=5.3
ABKT Ailbek 57.56 304 P **P 18 37 07.0 +1.1**
comp=Z,570nm,1.8s,mb6.3,SNR=35
JMDO Jabal Madar 58.20 286 P **P 18 37 10.1 -0.5**
SNR=5.2
JMDO Jabal Madar 58.20 286 P **P 18 37 10.1 -0.5**
SNR=5.2
JMDO Jabal Madar 58.20 286 P **P 18 37 10.1 -0.5**
SNR=5.2
JMDO Jabal Madar 58.20 286 P **P 18 37 10.1 -0.5**
SNR=5.2
JMDO Jabal Madar 58.20 286 P **P 18 37 10.1 -0.5**
SNR=5.2
JMDO Jabal Madar 58.20 286 P **P 18 37 10.1 -0.5**
SNR=5.2
BILL Bilibino 58.36 19⇑ *e*P **P 18 37 11.1 +0.2**
BILL pmax pmax
comp=Z,52nm,1.2s,mb5.4
BILL MLR MLR
comp=Z,900nm,22.0s,MS4.8
BILL Bilibino 58.36 19⇑ *i*P **P 18 37 11.2 +0.3**
HOQ Hoqain 58.77 287 P **P 18 37 14.6 0.0**
SNR=9.4
HOQ Hoqain 58.77 287 P **P 18 37 14.6 0.0**
SNR=9.4
HOQ Hoqain 58.77 287 P **P 18 37 14.6 0.0**
SNR=9.4
HOQ Hoqain 58.77 287 P **P 18 37 14.6 0.0**
SNR=9.4
HOQ Hoqain 58.77 287 P **P 18 37 14.6 0.0**
SNR=9.4
HOQ Hoqain 58.77 287 P **P 18 37 14.6 0.0**
SNR=9.4
BSY Bisya 58.98 286 P **P 18 37 16.1 +0.1**
SNR=6.1
BSY Bisya 58.98 286 P **P 18 37 16.1 +0.1**
SNR=6.1
BSY Bisya 58.98 286 P **P 18 37 16.1 +0.1**
SNR=6.1
BSY Bisya 58.98 286 P **P 18 37 16.1 +0.1**
SNR=6.1
BSY Bisya 58.98 286 P **P 18 37 16.1 +0.1**
SNR=6.1
BSY Bisya 58.98 286 P **P 18 37 16.1 +0.1**
SNR=6.1
SVE Sverdlovsk 59.00 326⇓ *e*P **P 18 37 16.1 +0.5**
SVE *e*S **S 18 45 23.1 +5.0**
SVE pmax pmax
comp=Z,82nm,1.0s,mb5.7
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.4
CNB Canberra Magne 59.33 152 *e*P **P 18 37 17.1 -1.0**
comp=Z,26nm,1.4s,mb5.1
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
BANOM Banah 59.44 290 P **P 18 37 20.7 +1.5**
SNR=6.7
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
HATD Hatta, Dubai 59.70 289 P **P 18 37 21.3 +0.3**
SNR=9.9
ASHO Ashiyiah 59.79 289 P **P 18 37 22.0 +0.4**
SNR=17
ASHO Ashiyiah 59.79 289 P **P 18 37 22.0 +0.4**
SNR=17
ASHO Ashiyiah 59.79 289 P **P 18 37 22.0 +0.4**
SNR=17
ARU Arti 60.00 326 P **P 18 37 22.2 -0.3**
comp=Z,274nm,0.6s,mb6.5,SNR=20
ARU Arti 60.00 326 *c i*P **P 18 37 22.1 -0.4**
ARU *e**PP pP 18 37 36.2 -0.9
ARU *e* 18 38 05.3
ARU *e* 18 39 33.9
ARU *e*S **S 18 45 31.5 +0.5**
ARU pmax pmax
comp=Z,74nm,1.7s,mb5.4
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.3
ARU Arti 60.00 326 *e*P **P 18 37 22.0 -0.5**
comp=Z,59nm,1.0s,mb5.6
RBK Rabkut 62.58 281 P **P 18 37 40.7 +0.1**
SNR=5.7
RBK Rabkut 62.58 281 P **P 18 37 40.7 +0.1**
SNR=5.7
RBK Rabkut 62.58 281 P **P 18 37 40.7 +0.1**
SNR=5.7
RBK Rabkut 62.58 281 P **P 18 37 40.7 +0.1**
SNR=5.7
RBK Rabkut 62.58 281 P **P 18 37 40.7 +0.1**
SNR=5.7
RBK Rabkut 62.58 281 P **P 18 37 40.7 +0.1**
SNR=5.7
WHFO Wadi Hawf 62.91 282 P **P 18 37 41.9 -0.8**
SNR=6.0
WHFO Wadi Hawf 62.91 282 P **P 18 37 41.9 -0.8**
SNR=6.0
WHFO Wadi Hawf 62.91 282 P **P 18 37 41.9 -0.8**
SNR=6.0
WHFO Wadi Hawf 62.91 282 P **P 18 37 41.9 -0.8**
SNR=6.0
WHFO Wadi Hawf 62.91 282 P **P 18 37 41.9 -0.8**
SNR=6.0
ABTO Aybut 63.46 281 P **P 18 37 46.1 -0.3**
SNR=5.6
ABTO Aybut 63.46 281 P **P 18 37 46.1 -0.3**
SNR=5.6
ABTO Aybut 63.46 281 P **P 18 37 46.1 -0.3**
SNR=5.6
ABTO Aybut 63.46 281 P **P 18 37 46.1 -0.3**
SNR=5.6
MAK Makhachkala 65.71 310 *e*P **P 18 37 59.7 -1.0**
MAK *i* 18 38 27.6
MAK *e* 18 40 29.8
MAK *i* S S 18 46 45.2 +2.3
MAK *e*SS SS 18 51 00.4 +2.6
MAK pmax pmax
comp=Z,517nm,2.0s,mb6.2
MAK MLR MLR
comp=Z,3μm,20.0s,MS5.5
MAK Makhachkala 65.71 310 *e*P **P 18 37 59.2 -1.5**
UMR Umm Al-Rimmam 66.59 295 *e*P **P 18 38 05.7 -0.9**
UMR AMb AMB 18 38 08.8
comp=Z,101nm,0.6s,mb6.0
RDF Al-Radifah 66.82 295 *e*P **P 18 38 07.5 -0.6**
RDF AMb AMB 18 38 10.4
comp=Z,269nm,0.7s,mb6.4
MIB Mutribah 66.89 295 *e*P **P 18 38 07.8 -0.7**
MIB AMb AMB 18 38 08.9
comp=Z,120nm,0.6s,mb6.1
NAY Al-Naaiem 67.04 295 *e*P **P 18 38 08.7 -0.8**
NAY AMb AMB 18 38 11.6
comp=Z,151nm,0.7s,mb6.2
DGRG David-gareji 67.36 308 P **P 18 38 12.6 +1.4**
MTA Mtatsminda 67.78 308 P **P 18 38 14.0 +0.1**
TBLG Delisi 67.82 309 P **P 18 38 04.4 -10**
GOR Gori 68.27 309 P **P 18 38 18.8 +1.8**
ONI Oni 68.72 310 P **P 18 38 21.1 +1.4**
HAKT HAKKARI 68.98 304 *i* P **P 18 38 18.8 -2.7**
KIV Kislovodsk 69.17 311 P **P 18 38 23.0 +0.5**
comp=Z,471nm,0.9s,mb6.4,SNR=21
KIV Kislovodsk 69.17 311 *e*P **P 18 38 23.4 +0.9**
KIV *e* pP 18 38 41.9 +4.5
KIV *e* 18 40 55.5
KIV *e*PPP 18 42 40.0
KIV *e*S S 18 47 25.4 +1.1
KIV pmax pmax
comp=Z,67nm,0.9s,mb5.6
KIV pmax pmax
comp=Z,104nm,5.1s
KIV MLR MLR
comp=Z,2μm,17.0s,MS5.5
KIV Kislovodsk 69.17 311 *e*P **P 18 38 22.8 +0.3**
comp=Z,57nm,0.8s,mb5.5
KIV Kislovodsk 69.17 311 P **P 18 38 23.4 +0.9**
SNR=25
KIV Kislovodsk 69.17 311 P **P 18 38 23.4 +0.9**
SNR=25
KIV Kislovodsk 69.17 311 P **P 18 38 23.4 +0.9**
SNR=25
KIV Kislovodsk 69.17 311 P **P 18 38 23.4 +0.9**
SNR=25
KIV Kislovodsk 69.17 311⇑ *i*P **P 18 38 23.1 +0.6**
VRHR Novokhopersk 69.46 319 *e*P **P 18 38 23.9 -0.3**
VRHR pmax pmax
comp=Z,40nm,0.4s,mb5.7
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.4s
VRHR MLR MLR
comp=Z,1μm,17.0s,MS5.2
VRHR MLR MLR
comp=N,1μm,22.0s
VRHR MLR MLR
comp=E,540nm,16.0s
ERZM Erzurum 70.54 307 *i* P **P 18 38 31.4 +0.4**
BNGL BINGOL 70.82 306 *i* P **P 18 38 31.9 -0.9**
VORD Divnogorie 70.94 319 *e*P **P 18 38 31.3 -1.9**
VORD pmax pmax
comp=Z,60nm,1.4s,mb5.3
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,50nm,1.0s
VRSR Storozhevoye 70.98 319 *e*P **P 18 38 32.8 -0.7**
VRSR *e**PP pP 18 38 45.3 -3.2
VRSR *e**SP sP 18 38 53.1 -1.4
VRSR *e*S S 18 47 41.2 -4.1

VRSR pmax pmax
comp=Z,20nm,1.5s,mb4.8
VRSR pmax pmax
comp=N,7.0nm,1.8s
VRSR pmax pmax
comp=E,20nm,1.5s
VRSR smax
comp=N,60nm,4.2s
VRSR smax
comp=Z,20nm,5.4s
VRSR smax
comp=E,10.0nm,4.2s
VRSR MLR MLR
comp=Z,190nm,14.0s,MS4.5
VRSR MLR MLR
comp=N,90nm,15.0s,MS4.5
VRSR MLR MLR
comp=E,160nm,16.0s,MS4.5
TMCR Tamitsa 71.03 333⇑ *i*P **P 18 38 33.2 -0.3**
KOPT Kop Dagi 71.19 307 *i* P **P 18 38 35.2 +0.2**
MARD Mardin 71.33 304 *i* P **P 18 38 33.8 -2.1**
SOC Sochi 71.34 311*c i*P **P 18 38 35.4 -0.4**
SOC *e**PP pP 18 38 48.7 -2.1
SOC *e* 18 41 11.0
SOC *e*PPP 18 42 53.5
SOC *e*S S 18 47 47.8 -2.0
SOC *e**SS sS 18 48 24.4 +9.4
SOC pmax pmax
comp=Z,29nm,0.8s,mb5.3
SOC MLR MLR
comp=Z,2µm,16.0s,MS5.5
SOC Sochi 71.34 311 *i* P **P 18 38 35.6 -0.2**
MOS Moscow 71.59 324 *e*P **P 18 38 35.6 -1.5**
MOS *e* pP 18 38 47.0 -5.1
MOS *e* 18 38 56.9
MOS *e* 18 41 18.9
MOS pmax pmax
comp=Z,400nm,2.3s,mb5.9
MOS pmax pmax
comp=Z,121nm,1.4s,mb5.6
MOS MLR MLR
comp=Z,2µm,18.9s,MS5.3
TTA Tatalina 71.85 29 *e*P **P 18 38 40.1 +1.6**
SVW2 Sparrevohn 72.16 31 *e*P **P 18 38 41.6 +1.2**
PTK Pertek 72.19 306 *e*P **P 18 38 42.3 +1.3**
OBN Obninsk 72.24 323 P **P 18 38 40.4 -0.6**
comp=Z,412nm,1.8s,mb6.1,SNR=8.3
OBN Obninsk 72.24 323⇑ *e*P **P 18 38 40.2 -0.8**
OBN *e* 18 41 22.1
OBN *i*S S 18 47 56.6 -3.1
OBN pmax pmax
comp=Z,140nm,1.6s,mb5.6
OBN MLR MLR
comp=Z,2µm,21.0s,MS5.3
OBN Obninsk 72.24 323 *e*P **P 18 38 39.4 -1.5**
comp=Z,215nm,1.5s,mb5.9
SVRC Sivrice-ELAZID 72.33 305 *e*P **P 18 38 42.9 +1.1**
ELZG Elazig 72.56 306 *i* P **P 18 38 43.1 -0.1**
IMA2 Indian Mountai 72.68 25 *e*P **P 18 38 44.0 +0.6**
GRSN GIRESUNGRSN 72.75 308 *i* P **P 18 38 41.2 -3.1**
APA Apatity 72.80 336⇓ *i*P **P 18 38 43.6 -0.5**
APA *i* pP 18 38 56.4 -2.7
APA *e*S S 18 48 00.0 -5.6
APA pmax pmax
comp=Z,39nm,1.0s,mb5.3
APA MLR MLR
comp=Z,2µm,17.0s,MS5.5
ANN Anapa 72.82 312*c i*P **P 18 38 43.9 -0.8**
ANN *e**PP pP 18 39 05.1 +5.4
ANN *i*S S 18 48 07.8 +1.1
ANN *e*SS SS 18 52 53.8 +6.6
ANN *e*SSS 18 56 04.7
ANN pmax pmax
comp=Z,73nm,1.4s,mb5.4
ANN MLR MLR
comp=Z,1µm,19.0s,MS5.2
URFA Urfa 72.85 305 *e*P **P 18 38 45.6 +0.7**
MALT Malatya 73.02 306 *e*P **P 18 38 46.9 +0.9**
MALT Malatya 73.02 306⇓⇓ *i*P **P 18 38 46.6 +0.7**
MALT Malatya 73.02 306⇓ *i*P **P 18 38 46.6 +0.6**
GZT Gaziantep 73.85 305 *i* P **P 18 38 49.7 -1.2**
SVSK Karacayir 73.86 307 *e*P **P 18 38 51.5 +0.6**
KDAK Kodiak Island 74.00 34 LR LR 19 14 11.5
comp=Z,439nm,19.1s,MS4.8,baz=264,slow=38
JOF Joensuu 74.12 332 *e*p **P 18 38 51.1 -0.8**
comp=Z,6.8nm,0.4s,mb4.9
JOF Joensuu 74.12 332 *e*P **P 18 38 51.1 -0.8**
JOF pmax pmax
comp=Z,7.0nm,0.4s,mb4.9
GAZ Gaziantep 74.16 305 *e*P **P 18 38 53.3 +0.7**
KVT Kavak 74.39 309 *e*P **P 18 38 54.3 +0.4**
KEV Kevo 74.88 339 *e*p **P 18 38 55.4 -0.8**
comp=Z,3.7nm,0.4s,mb4.7
KEV Kevo 74.88 339 *e*P **P 18 38 55.4 -0.8**
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BNN Bunyan 74.92 306 *e*P **P 18 38 56.9 -0.2**
PUL Pulkovo 75.03 328⇑ *e*P **P 18 38 57.5 +0.2**
SIM Simferopol' 75.13 313*c i*P **P 18 38 57.9 -0.2**
SIM *e* pP 18 39 10.0 -3.2
SIM *e*S S 18 48 34.4 +1.7
SIM pmax pmax
comp=Z,59nm,0.9s,mb5.5
SIM MLR MLR
comp=Z,1µm,20.7s,MS5.2
SIM Simferopol' 75.13 313 *e*P **P 18 38 57.8 -0.3**
BOYT Boyabat 75.18 309 *i* P **P 18 38 56.2 -2.3**
KOZT Kozan 75.19 305 *e*P **P 18 39 01.8 +3.1**
PMR Palmer 75.19 30 *e*P **P 18 38 59.0 +0.9**
PMR pmax pmax
comp=Z,12nm,0.5s,mb5.1
PMR Palmer 75.19 30 *e*P **P 18 38 59.0 +0.9**
comp=Z,12nm,0.5s,mb5.1
CTKT Corum 75.41 308 *i* P **P 18 38 58.1 -1.7**
ARCES ARCESS Array B 75.43 339 P **P 18 38 59.3 -0.1**
comp=Z,6.5nm,0.5s,mb4.8,baz=76,slow=7.0,SNR=46
ARCES LR LR 19 17 24.1
comp=Z,814nm,18.2s,MS5.1,baz=72,slow=40
CORM Corum 75.61 308 *e*P **P 18 39 01.4 +0.4**
KARA Karaisali 75.83 305 *e*P **P 18 39 02.8 +0.5**
CDAG Cicekdag 75.91 307 *i* P **P 18 38 57.1 -5.5**
NIG Nigde 76.02 306 *e*P **P 18 39 03.8 +0.5**
BALT Daday 76.28 310 *i* P **P 18 39 04.2 -0.6**
MERS Mersin 76.33 305 *e*P **P 18 39 05.3 +0.2**
KBS Kingsbay 76.44 349 *e*P **P 18 39 04.2 -0.9**
KBS *e*S S 18 48 47.5 +1.4
KBS AMS AMS 19 17 35.7
comp=Z,930nm,18.1s,MS5.1
KAMT Kaman 76.46 307 *e*P **P 18 39 04.3 -1.5**
FIA1 FINESS Array S 76.79 331 *e*P **P 18 39 06.4 -0.8**
FINES FINESS Array B 76.79 331 *i* P **P 18 39 06.9 -0.3**
FINES pmax pmax
comp=Z,9.0nm,0.6s
FINES FINESS Array B 76.79 331 P **P 18 39 06.5 -0.7**
comp=Z,8.5nm,0.6s,mb4.9,baz=86,slow=7.8,SNR=40
FINES LR LR 19 16 18.8
comp=Z,1µm,18.7s,MS5.2,baz=237,slow=38
DIV Divide 76.87 30 P **P 18 39 09.6 +1.9**
comp=Z,22nm,0.9s,mb5.1
ANTO Ankara 77.05 308 *e*P **P 18 39 08.5 -0.6**
comp=Z,70nm,1.5s,mb5.4
ANTO Ankara 77.05 308 P **P 18 39 09.3 +0.2**
SNR=8.3
ANTO Ankara 77.05 308 P **P 18 39 09.3 +0.2**
SNR=8.3
ANTO Ankara 77.05 308 P **P 18 39 09.3 +0.2**
SNR=8.3
ANTO Ankara 77.05 308 P **P 18 39 09.3 +0.2**
SNR=8.3
ANTO Ankara 77.05 308⇓⇓ *i*P **P 18 39 08.9 -0.3**
IKL Isikli 77.12 304 *e*P **P 18 39 09.5 -0.1**
AKASG Malin Array Be 77.29 319 *i* P **P 18 39 09.3 -1.0**
AKASG pmax pmax
comp=Z,24nm,1.0s
AKASG Malin Array Be 77.29 319 P **P 18 39 09.1 -1.1**
comp=Z,24nm,1.0s,mb5.1,baz=66,slow=5.2,SNR=108
AKASG LR LR 19 16 47.3
comp=Z,802nm,20.7s,MS5.0,baz=80,slow=38
AKBB Malin Array Si 77.29 319 *e*P **P 18 39 09.2 -1.1**
KIEV Kiev 77.30 319 *e*P **P 18 39 09.2 -1.1**
KIEV pmax pmax
comp=Z,115nm,1.5s,mb5.6
KIEV Kiev 77.30 319 *e*P **P 18 39 09.2 -1.1**
comp=Z,115nm,1.5s,mb5.6

TRO Tromso 77.65 339 *e*P **P 18 39 10.6 -1.3**
TRO *e*S S 18 48 59.8 +0.4
TRO AMS AMS 19 17 43.5
comp=Z,613nm,19.7s,MS4.9
KDHN Kadinhani 77.85 307 *i* P **P 18 39 08.4 -5.3**
KIZT Kizilcal 77.95 307 *e*P **P 18 39 14.2 0.0**
LEF Lefka 77.99 303 *e*P **P 18 39 14.6 +0.1**
EGAK Eagle 78.05 26 *e*P **P 18 39 13.5 -0.8**
comp=Z,16nm,0.8s,mb5.0
HENT Hendek 78.26 309 *i* P **P 18 39 13.5 -2.4**
KIS Kishinev 78.35 316 *e*P **P 18 39 15.0 -1.2**
KIS *e* 18 49 06.0
KIS pmax pmax
comp=Z,200nm,1.2s,mb5.9
KIS MLR MLR
comp=E,2µm,20.0s
KIS MLR MLR
comp=Z,3µm,20.0s,MS5.6
KIS MLR MLR
comp=Z,2µm,20.0s
KIS Kishinev 78.35 316 *e*P **P 18 39 15.0 -1.2**
comp=Z,200nm,1.2s,mb5.9
KIS LRM 19 16 20.0
comp=Z,2µm,20.0s
BORA Eskisehir 78.81 308 *i* P **P 18 39 16.3 -2.6**
DAWY Dawson 78.99 26 *e*P **P 18 39 19.3 -0.1**
SHUT Suhut-Afyon 79.04 307 *e*P **P 18 39 20.1 -0.1**
TIRR Tirgusor 79.21 313⇑ *i*P **P 18 39 20.8 -0.2**
ISP Isparta 79.24 306 *e*P **P 18 39 20.4 -0.9**
ISP Isparta 79.24 306 P **P 18 39 20.6 -0.7**
ISP Isparta 79.24 306⇑ *i*P **P 18 39 20.5 -0.8**
ALT Altintas 79.26 308 *e*P **P 18 39 21.1 -0.3**
YLV Yalova 79.45 309 *e*P **P 18 39 21.8 -0.6**
HARR Harsova 79.49 314 P **P 18 39 23.2 +0.7**
HARR Harsova 79.49 314⇑ *i*P **P 18 39 22.9 +0.4**
PSN Preselentsi 79.56 312 *i* P **P 18 39 17.6 -5.3**
PSN Preselentsi 79.56 312 *i* P **P 18 39 21.4 -1.5**
GDZ Gediz 79.72 308 *i* P **P 18 39 18.7 -5.3**
INK Inuvik 79.84 21 *e*P **P 18 39 22.2 -1.7**
comp=Z,741nm,1.1s,mb6.5
INK Inuvik 79.84 21 LR LR 19 14 50.3
comp=Z,310nm,20.1s,MS4.7,baz=289,slow=36
VRI Vrincioaia 80.02 315 P **P 18 39 26.4 +1.0**
VRI Vrincioaia 80.02 315⇑ *i*P **P 18 39 26.1 +0.7**
PLOR Plostina 80.08 315 P **P 18 39 26.5 +0.8**
SUW Suwalki 80.09 324 *e*P **P 18 39 25.2 -0.4**
SUW Suwalki 80.09 324 *e*P **P 18 39 25.2 -0.4**
GOLH Golhisar 80.11 306 *i* P **P 18 39 21.0 -5.1**
PRD Provadia 80.23 312 *i* P **P 18 39 26.6 0.0**
MOR8 Moi Rana 80.38 337 *e*P **P 18 39 25.0 -1.9**
MOR8 AMb AMB 18 39 27.4
comp=Z,30nm,1.3s,mb5.1
MOR8 Moi Rana 80.38 337 *e*P **P 18 39 25.0 -1.9**
comp=Z,30nm,1.3s,mb5.1
MANT Manisa 80.57 307 *i* P **P 18 39 26.1 -2.4**
BURAR Bucovina Array 80.58 317⇑ P **P 18 39 28.6 +0.3**
BURAR Bucovina Array 80.58 317⇑ *i*P **P 18 39 28.5 +0.2**
MLR Muntele Rosu 80.65 315 P **P 18 39 29.5 +0.7**
MLR Muntele Rosu 80.65 315⇓ *i*P **P 18 39 29.0 +0.2**
LVV L'vov 80.74 319 *i* P **P 18 39 27.1 -2.0**
LVV MLR MLR
comp=Z,1µm,18.0s,MS5.2
LVV MLR MLR
comp=N,200nm,19.0s,MS5.0
LVV MLR MLR
comp=E,600nm,18.0s,MS5.0
BUC1 Bucharest 80.89 314 P **P 18 39 31.3 +1.2**
JMB Yambol 81.00 312 *e*P pP 18 39 47.5 +1.5
JMB Yambol 81.00 312 *i* P **P 18 39 30.8 +0.1**
SART Tekirdag 81.03 310 *i* P **P 18 39 26.6 -4.3**
SZH Strazhica 81.25 313 *i* P **P 18 39 31.4 -0.6**
VOIR 81.27 315 P **P 18 39 32.2 +0.1**
VOIR 81.27 315⇑ *i*P **P 18 39 32.3 +0.2**
AYDN Tasoluk 81.30 307 *i* P **P 18 39 30.8 -1.6**
ARG Arkhangelos 81.49 305 *e*P **P 18 39 33.5 +0.1**
ZIMR 81.54 313 P **P 18 39 34.2 +0.6**
KWP Kalwaria 81.61 319 *e*P **P 18 39 34.2 +0.4**
KWP Kalwaria 81.61 319 *e*P **P 18 39 34.2 +0.4**
PVL Pavlikeni 81.68 313 *i* P **P 18 39 34.9 +0.6**
BDRM Kayabasi 81.79 306 *i* P **P 18 39 32.2 -2.8**
ALN Alexandroupoli 81.81 310 *e*P **P 18 39 32.8 -2.2**
DIM Dimitrovgrad 81.86 311 *i* P **P 18 39 35.2 -0.1**
SMG Samos 82.09 307 *e*P **P 18 39 37.0 +0.4**
KOLS Kolonicke sedl 82.09 319 *e*P **P 18 39 36.1 -0.2**
URLA Izmir 82.09 308 *i* P **P 18 39 32.2 -4.3**
BOZC Bozcaada 82.09 309 *i* P **P 18 39 33.2 -3.4**
PRK Paraskevi 82.09 309 *e*P **P 18 39 36.0 -0.6**
RDO Rodhopi 82.11 311 *e*P **P 18 39 36.5 -0.1**
UZH Uzhgorod 82.17 318 *e*P **P 18 39 36.7 0.0**
UZH *e*S S 18 49 44.0 -3.7
UZH MLR MLR
comp=Z,750nm,16.5s,MS5.1
KARP Karpathos 82.42 305 *e*P **P 18 39 38.0 -0.4**
CRAR CRAIOVA 82.44 314 P **P 18 39 39.2 +1.0**
DRGR 82.45 317 P **P 18 39 38.8 +0.6**
DRGR 82.45 317⇓ *i*P **P 18 39 38.4 +0.2**
RZN Rozhen 82.55 311 *i* P **P 18 39 38.1 -0.8**
STHS Stebnicka Huta 82.59 319 *i* P **P 18 39 38.9 0.0**
STHS pmax pmax
comp=Z,11nm,1.0s,mb4.8
STHS Stebnicka Huta 82.59 319 *i* P **P 18 39 38.9 0.0**
comp=Z,11nm,1.0s,mb4.8
STHS Stebnicka Huta 82.59 319 *i* P **P 18 39 38.8 -0.1**
CRVS Cervenica-Dubn 82.61 319 *e*P **P 18 39 39.4 +0.4**
PGB Panagyurishte 82.69 312 *i* P **P 18 39 39.3 -0.3**
GZR Gura Zlata 82.82 315 *i* P **P 18 39 40.9 +0.7**
DAG Danmarks Havn 82.86 351⇓ *i*P **P 18 39 39.3 -0.6**
DAG pmax pmax
comp=Z,34nm,1.2s,mb5.2
DAG Danmarks Havn 82.86 351⇓ *i*P **P 18 39 39.3 -0.6**
comp=Z,34nm,1.2s,mb5.3
NIE Niedzica 83.16 320 *e*P **P 18 39 42.8 +0.9**
OJC Ojcow 83.22 320 *i* P **P 18 39 42.3 +0.1**
MMB Musomiste 83.29 311 *i* P **P 18 39 42.3 -0.4**
VTS Vitosha 83.36 312 P **P 18 39 43.3 +0.2**
VTS Vitosha 83.36 312⇑ *i*P **P 18 39 43.4 +0.3**
VTS Vitosha 83.36 312 *i* P **P 18 39 42.2 -0.9**
BZS Buzias 83.53 316 P **P 18 39 43.8 -0.1**
BZS Buzias 83.53 316⇓ *i*P **P 18 39 43.3 -0.6**
KMBO Kilima Mbogo 83.55 267⇑ *e*P **P 18 39 46.0 +1.4**
KMBO Kilima Mbogo 83.55 267 *e*P **P 18 39 44.8 +0.3**
comp=Z,102nm,1.7s,mb5.7
KMBO Kilima Mbogo 83.55 267 P **P 18 39 46.2 +1.7**
SNR=16
KMBO Kilima Mbogo 83.55 267 P **P 18 39 45.5 +1.0**
comp=Z,11nm,1.0s,mb5.0,baz=56,slow=7.8,SNR=21
KMBO LR LR 19 15 04.9
comp=Z,739nm,19.9s,MS5.1,baz=277,slow=34
KKB Krupnik 83.67 312 *i* P **P 18 39 43.8 -0.8**
GKP Gorka Klasztor 83.69 324 *e*P **P 18 39 44.6 +0.1**
GKP Gorka Klasztor 83.69 324 *e*P **P 18 39 44.6 +0.1**
NPS Neapolis 83.72 305 *e*P **P 18 39 44.0 -1.1**
NB2 NORSAR Subarra 83.72 332 P **P 18 39 43.6 -0.9**
comp=Z,21nm,0.7s,mb5.4,baz=65,slow=4.8
NOA NORSAR Array B 83.72 332 P **P 18 39 43.6 -0.9**
comp=Z,19nm,0.6s,mb5.4,baz=64,slow=4.8,SNR=53
NOA LR LR 19 20 00.0
comp=Z,2µm,19.3s,MS5.4,baz=60,slow=38
CASY Casey 83.77 184 *e*P **P 18 39 44.0 -0.4**
XRY Khrisi 83.77 304 *e*P **P 18 39 45.0 -0.3**
PAIG Paliouri 83.82 310 *e*P **P 18 39 44.4 -1.1**
PLG Polygyros 83.86 310 *e*P **P 18 39 45.0 -0.6**
PSZ Piszkesteto 83.91 318 P **P 18 39 46.3 +0.5**
PSZ Piszkesteto 83.91 318⇑ *e*P **P 18 39 45.5 -0.3**
PSZ Piszkesteto 83.91 318⇓ *i*P **P 18 39 46.0 +0.2**
NAO01 NORSAR Array S 83.95 332 *e*P **P 18 39 44.5 -1.2**
comp=Z,10nm,0.6s,mb5.1
VAY Valandovo 84.20 311⇑ *i*P **P 18 39 45.8 -1.6**
RAC Raciborz 84.24 321 *e*P **P 18 39 48.0 +0.6**
OKC Ostrava-Krasne 84.35 320 *e*P **P 18 39 48.2 +0.2**
OKC *e*pP pP 18 40 01.1 -2.2
OKC *e*S S 18 50 09.1 -0.7
OKC Ostrava-Krasne 84.35 320 *e*P **P 18 39 48.2 +0.2**
OKC *e*pP pP 18 40 01.1 -2.2
OKC *e*S S 18 50 09.1 -0.7
OKC AMS AMS 19 19 30.0
comp=Z,600nm,15.8s
VYHS Vyhne 84.39 319 *i* P **P 18 39 48.2 0.0**
VYHS pmax pmax
comp=Z,58nm,1.7s,mb5.4
VYHS Vyhne 84.39 319 *i* P **P 18 39 48.2 0.0**
comp=Z,58nm,1.7s,mb5.4
VYHS *e*PP PP 18 43 02.9 -0.4

OSL Oslo 84.41 332 *e*P **P 18 39 48.0 0.0**
OSL AMb AMB 18 39 49.7
comp=Z,61nm,1.4s,mb5.5
OSL Oslo 84.41 332 *e*P **P 18 39 48.0 0.0**
comp=Z,61nm,1.4s,mb5.5
GRG Griva 84.43 311 *e*P **P 18 39 47.5 -1.1**
MOL Molde 84.61 335 AMS AMS 19 21 31.4
comp=Z,3µm,14.1s,MS5.8
MORC Moravsky Berou 84.74 321 P **P 18 39 50.6 +0.7**
MORC Moravsky Berou 84.74 321 *e*P **P 18 39 49.9 -0.1**
comp=Z,58nm,1.4s,mb5.5
MORC Moravsky Berou 84.74 321⇑ *i*P **P 18 39 50.2 +0.3**
VAM Vamos 84.78 305 *e*P **P 18 39 50.0 -0.4**
SKO Skopje 84.80 312⇑ *e*P **P 18 39 50.4 0.0**
JMIC Jan Mayen 85.08 345 *e*S S 18 50 15.0 -1.2
JMIC AMS AMS 19 23 13.8
comp=Z,494nm,19.2s,MS4.9
KSP Ksiaz 85.10 322 *e*P **P 18 39 52.2 +0.5**
KSP Ksiaz 85.10 322⇑ *i*P **P 18 39 52.1 +0.4**
KSP *e**PP pP 18 40 09.0 +1.9
KSP *e* 18 43 09.5
KSP *e*S S 18 50 13.0 -4.2
KSP MLR MLR
comp=Z,3µm,18.2s,MS5.7
KSP Ksiaz 85.10 322⇑ *i*P **P 18 39 52.1 +0.4**
KSP *e* 18 40 13.7
KSP *e*PP PP 18 43 09.5 +0.4
KSP *e*S S 18 50 13.0 -4.2
KSP LR LR
comp=Z,3µm,18.2s,MS5.7
KRUS Krusevo 85.13 312⇑ *i*P **P 18 39 51.1 -0.9**
DPC Dobruska-Polom 85.27 321 *e*P **P 18 39 52.7 +0.1**
DPC *e*pP pP 18 40 06.6 -1.3
DPC *e*S S 18 50 15.4 -3.4
DPC AMS AMS 19 20 00.0
comp=Z,900nm,17.0s
PKSM Moragy 85.29 317 P **P 18 39 53.0 +0.2**
PKSM Moragy 85.29 317⇑ *i*P **P 18 39 52.7 -0.1**
VLI Veliai 85.35 307 *e*P **P 18 39 50.5 -2.8**
UPC Upice 85.39 322 *e*P **P 18 39 53.5 +0.3**
MODS Modra-Piesok 85.40 319 *e*P **P 18 39 53.0 -0.3**
MODS *e*pP pP 18 40 04.4 -4.2
KYTH Kithira 85.41 306 *e*P **P 18 39 53.0 -0.6**
RES Resolute Bay 85.46 9 *e*P **P 18 39 52.7 -0.3**
comp=Z,686nm,0.9s
VRAC Vranov 85.49 320⇑ *i*P **P 18 39 54.4 +0.7**
EVR Evrytania 85.51 309 *e*P **P 18 39 52.5 -1.5**
ZST Bratislava 85.58 319 *e*P **P 18 39 54.5 +0.4**
ZST pmax pmax
comp=Z,13nm,0.9s,mb5.2
ZST Bratislava 85.58 319 *e*P **P 18 39 54.5 +0.4**
comp=Z,13nm,0.9s,mb5.2
RUE Ruedersdorf 85.93 324 P **P 18 39 54.2 -1.6**
comp=Z,34nm,0.8s,mb5.6
RUE Ruedersdorf 85.93 324 *e*P **P 18 39 55.7 -0.1**
comp=Z,146nm,1.5s,mb6.0
ITM Ithomi 85.97 308 *e*P **P 18 39 55.0 -1.4**
SOP Sopron 86.10 319⇑ *e*P **P 18 39 56.6 -0.2**
TREC Trest 86.16 321 *e*P **P 18 39 57.2 +0.2**
TREC *e*pP pP 18 40 15.7 +3.3
TREC *e*S S 18 50 25.5 -2.2
TREC AMS AMS 19 22 10.0
comp=Z,1µm,19.1s
PVCC Panska Ves 86.24 322 *e*P **P 18 39 57.6 +0.2**
PVCC *e*pP pP 18 40 15.2 +2.5
PVCC *e*SKS 18 50 15.2
PVCC AMS AMS 19 20 20.0
comp=Z,1µm,17.6s
CONA Conrad Observa 86.45 319 *i* PcP PcP 18 39 58.8 -2.1
comp=Z,197nm,2.1s,SNR=16
PRU Pruhonice 86.47 321 *e*P **P 18 39 58.5 0.0**
PRU *e*S S 18 50 27.5 -3.1
PRU AMS AMS 19 20 40.0
comp=Z,900nm,15.8s
BRG Berggiesshubel 86.47 322 *e*P **P 18 39 58.2 -0.3**
BRG *e* 18 43 22.8
BRG 18 50 23.0
BRG pmax pmax
comp=Z,55nm,1.9s,mb5.5
BRG pmax pmax
comp=Z,7.0nm,1.4s,mb4.7
BRG MLR MLR
comp=N,520nm,17.6s,MS5.1
BRG MLR MLR
comp=E,609nm,20.4s,MS5.1
BRG MLR MLR
comp=Z,812nm,20.1s,MS5.1
BRG Berggiesshubel 86.47 322 *e*P **P 18 39 58.2 -0.3**
comp=Z,55nm,1.9s,mb5.5
BRG *e*PP PP 18 43 22.8 +2.7
BRG SKS 18 50 23.0
BRG S S 18 50 46.0 +15
BRG PS 18 51 47.0
BRG SS SS 18 56 26.0 +15
BRG LR LR
comp=Z,810nm,20.1s,MS5.1
BRG Berggiesshubel 86.47 322 *e*P **P 18 39 57.9 -0.6**
comp=Z,92nm,1.9s,mb5.7
BRG *e*pP pP 18 40 15.0 +1.1
BRG Berggiesshubel 86.47 322 *e*P **P 18 39 58.2 -0.3**
comp=Z,92nm,1.9s,mb5.7
BRG *e*PP PP 18 43 22.8 +2.7
comp=Z,11nm,1.4s
BRG SKS 18 50 23.0
BRG S S 18 50 46.0 +15
BRG PS 18 51 47.0
BRG SS SS 18 56 26.0 +15
BRG
comp=N,868nm,17.6s
BRG
comp=E,1µm,20.4s
BRG
comp=Z,1µm,20.1s
BLS5 Blasjo 86.57 332 *e*P **P 18 39 59.9 +1.1**
BLS5 AMb AMB 18 40 02.6
comp=Z,96nm,0.6s,mb6.2
BLS5 Blasjo 86.57 332 *e*P **P 18 39 59.9 +1.1**
comp=Z,96nm,0.6s,mb6.2
BER Bergen 86.59 333 *e*SKS 18 50 17.0
BER AMS AMS 19 22 16.3
comp=Z,2µm,19.2s,MS5.5
FBE Freiberg 86.79 323 *e*P **P 18 39 59.8 -0.3**
comp=Z,94nm,1.6s,mb5.8
FBE *e*PP PP 18 43 23.9 +1.2
CLL Collm 86.84 323 *i* P **P 18 40 00.0 -0.3**
CLL *i* 18 40 09.9
CLL *e*S S 18 50 29.0 -5.1
CLL pmax pmax
comp=Z,62nm,1.6s,mb5.6
CLL MLR MLR
comp=Z,1µm,20.1s,MS5.3
CLL Collm 86.84 323 *i* P **P 18 40 00.0 -0.3**
comp=Z,62nm,1.6s,mb5.6
CLL *i* 18 40 09.9
CLL *e*S S 18 50 29.0 -5.1
CLL LR LR
comp=Z,1µm,20.1s,MS5.3
CLL Collm 86.84 323 *e*P **P 18 39 59.9 -0.4**
comp=Z,63nm,1.6s,mb5.6
CLL Collm 86.84 323 *i* P **P 18 40 00.0 -0.3**
comp=Z,62nm,1.6s,mb5.6
CLL *i* x x 18 40 09.9
CLL *e*pP pP 18 40 18.0 +2.3
CLL *e*PP PP 18 43 26.0 +2.9
CLL *e*PPP 18 45 36.0
CLL *e*SKSac SKSac 18 50 23.0 +0.2
CLL *e*S S 18 50 39.0 +4.9
comp=N,200nm,34.1s
CLL *e*S S 18 50 39.0 +4.9
comp=E,300nm,29.8s
CLL *e*PS 18 51 40.0
CLL *e*SS SS 18 56 25.0 +8.7
CLL *e*SSSS 19 02 42.0
CLL LmH 19 21 00.0
comp=N,1µm,19.1s
CLL LmH 19 21 00.0
comp=E,600nm,21.9s
CLL LmV 19 24 00.0
comp=Z,1µm,20.1s
ARSA Arzberg 86.92 319⇑ *i*P **P 18 40 00.6 -0.2**
comp=Z,85nm,1.9s,mb5.7,SNR=16
BSEG Bad Segeberg 87.21 326 *e*P **P 18 40 01.8 -0.2**
BSEG pmax pmax
comp=Z,13nm,1.0s,mb5.1

BSEG Bad Segeberg 87.21 326 *eP* **P 18 40 01.8 -0.2**
comp=Z,13nm,1.0s,mb5.1
GROS Grobnik 87.23 318 *eP* **P 18 40 01.8 -0.5**
KHC Kasperske Hory 87.38 321⇑ *eP* **P 18 40 02.6 -0.4**
KHC Kasperske Hory 87.38 321 *eP* **P 18 40 02.3 -0.7**
KHC *ex* x 18 40 11.0
KHC *ep*P pP 18 40 16.2 -2.2
KHC *eS* S 18 50 37.6 -1.8
KHC AMS AMS 19 23 30.0
comp=Z,1μm,15.3s
PERS Pernice 87.41 318 *i* P **P 18 40 02.8 -0.4**
GEC2 GERESS Array S 87.42 321 *eP* **P 18 40 02.9 -0.3**
GEC2 *e* 18 43 29.6
GEC2 pmax pmax
comp=Z,46nm,1.7s,mb5.4
GEC2 GERESS Array S 87.42 321 *eP* **P 18 40 02.9 -0.3**
comp=Z,46nm,1.7s,mb5.4
GEC2 *e*PP PP 18 43 29.6 +1.8
GERES GERESS Array B 87.42 321 P **P 18 40 03.1 -0.1**
comp=Z,5.5nm,0.7s,mb4.9,baz=72,slow=4.1,SNR=38
GERES LR LR 19 23 38.8
comp=Z,996nm,21.2s,MS5.2,baz=74,slow=39
MOA Molln 87.47 320 *i* P **P 18 40 03.6 +0.2**
comp=Z,160nm,1.8s,mb6.0,SNR=25
MOA Molln 87.47 320 *i* PcP PcP 18 40 03.6 -1.8
comp=Z,160nm,1.8s,SNR=25
TANN Tannenbergstha 87.52 322 *eP* **P 18 40 03.3 -0.3**
comp=Z,22nm,1.6s,mb5.1
TANN *e*PP PP 18 43 30.5 +1.9
WERD Werda 87.59 322 *eP* **P 18 40 03.3 -0.7**
comp=Z,33nm,1.7s,mb5.3
WERD *e*PP PP 18 43 30.2 +1.0
NKC Novy Kostel 87.60 322 *eP* **P 18 40 04.0 0.0**
NKC *ep*P pP 18 40 21.0 +1.6
NKC *eS* S 18 50 30.3 -11
NKC Novy Kostel 87.60 322 *eP* **P 18 40 04.0 0.0**
NKC *ep*P pP 18 40 21.0 +1.6
NKC *e*SKS 18 50 30.3
NKC AMS AMS 19 21 10.0
comp=Z,2μm,17.1s
GUNZ Gunzen 87.61 322 *eP* **P 18 40 03.4 -0.7**
comp=Z,16nm,0.9s,mb5.2
WERN Wernitzgruen 87.62 322 *eP* **P 18 40 03.5 -0.6**
comp=Z,10.0nm,0.7s,mb5.2
BOJS Bojanci 87.76 317 *eP* **P 18 40 04.8 0.0**
WET Wettzell 87.80 321 *eP* **P 18 40 04.6 -0.4**
WET *e* 18 43 31.7
WET pmax pmax
comp=Z,92nm,2.3s,mb5.6
WET Wettzell 87.80 321 *eP* **P 18 40 04.6 -0.4**
comp=Z,92nm,2.3s,mb5.6
WET *e*PP PP 18 43 31.7 +0.9
OBKA Obir 87.82 318⇑ *iP* **P 18 40 04.7 -0.4**
comp=Z,255nm,4.0s
MANZ Manzenberg 87.90 322 *eP* **P 18 40 05.0 -0.4**
comp=Z,19nm,1.5s,mb5.1
VISS Visnje 87.91 318 *i* P **P 18 40 05.3 -0.3**
MOX Moxa 87.91 323 *eP* **P 18 40 05.1 -0.4**
comp=Z,39nm,1.9s,mb5.3
MOX
comp=Z,800nm,21.0s
MOX Moxa 87.91 323 *eP* **P 18 40 05.1 -0.4**
MOX pmax pmax
comp=Z,39nm,1.9s,mb5.3
MOX MLR MLR
comp=Z,800nm,21.0s,MS5.1
MOX Moxa 87.91 323 *eP* **P 18 40 04.9 -0.6**
comp=Z,50nm,1.9s,mb5.4
MOX *e*PP PP 18 43 33.1 +1.4
ROTZ Rotzenmuhle 87.94 322 *eP* **P 18 40 05.2 -0.4**
comp=Z,27nm,1.5s,mb5.3
NRDL Niedersach Rie 87.96 325 *eP* **P 18 40 05.2 -0.5**
comp=Z,24nm,1.2s,mb5.3
NRDL *e*PP PP 18 43 34.2 +2.2
CLZ Clausthal 88.10 324 *eP* **P 18 40 05.8 -0.5**
CLZ pmax pmax
comp=Z,19nm,1.0s,mb5.3
CLZ Clausthal 88.10 324 *eP* **P 18 40 05.8 -0.5**
comp=Z,19nm,1.0s,mb5.3
KBA Koelnbreinsper 88.35 319 *i* P **P 18 40 06.9 -0.7**
comp=Z,65nm,2.0s,mb5.5,SNR=8.2
KBA Koelnbreinsper 88.35 319 *i* P **P 18 40 06.9 -0.7**
KBA pmax pmax
comp=Z,65nm,2.0s,mb5.5
JAVS Javornik 88.37 318 *i* P **P 18 40 07.2 -0.6**
VOY Vojsko 88.43 318 *eP* **P 18 40 07.4 -0.6**
GRA1 Grafenberg Arr 88.55 322 *eP* **P 18 40 08.1 -0.4**
comp=Z,28nm,1.5s,mb5.4
GRA1 *ep*P pP 18 40 24.4 +0.5
GRA1 *e*PP PP 18 43 39.5 +2.7
GRA1 *eS* S 18 50 50.3 -0.2
GRA1 *e*SS SS 18 56 56.5 +15
GRA1 LR LR
comp=Z,1μm,19.9s,MS5.3
GRF Grafenberg Arr 88.55 322 *eP* **P 18 40 08.1 -0.4**
GRF *e**PP pP 18 40 24.4 +0.5
GRF *e* 18 43 39.5
GRF *eS* S 18 50 50.3 -0.2
GRF pmax pmax
comp=Z,28nm,1.5s,mb5.4
GRF MLR MLR
comp=Z,1μm,19.9s,MS5.3
GRF Grafenberg Arr 88.55 322 *eP* **P 18 40 08.1 -0.4**
GRF *e**PP pP 18 40 24.4 +0.5
GRF *e* 18 43 39.5
GRF *eS* S 18 50 50.3 -0.2
GRF pmax pmax
comp=Z,28nm,1.5s,mb5.4
GRF MLR MLR
comp=Z,1μm,19.9s,MS5.3
GRF Grafenberg Arr 88.55 322 *eP* **P 18 40 08.1 -0.4**
comp=Z,28nm,1.5s,mb5.4
GRF *ep*P pP 18 40 24.4 +0.5
GRF *e*PP PP 18 43 39.5 +2.7
GRF *eS* S 18 50 50.3 -0.2
GRF *e*SS SS 18 56 56.5 +15
GRF *e*L 19 22 08.7
comp=Z,1μm,19.9s
GRFO Grafenberg 88.55 322 *eP* **P 18 40 07.7 -0.8**
GRFO pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
GRFO Grafenberg 88.55 322 *eP* **P 18 40 07.7 -0.8**
comp=Z,5.5nm,0.8s,mb4.9
UBBA Unterbreizbach 88.76 323 *eP* **P 18 40 09.3 -0.2**
comp=Z,30nm,1.6s,mb5.4
FVI Forni Avoltri 88.90 319 P **P 18 40 09.2 -1.0**
FVI pmax pmax
comp=Z,96nm,1.9s,mb5.8
FVI Forni Avoltri 88.90 319 P **P 18 40 09.2 -1.0**
comp=Z,96nm,1.9s,mb5.8
ABTA Abfaltersbach 89.01 319⇑ *iP* **P 18 40 09.5 -1.2**
comp=Z,92nm,2.0s,mb5.8,SNR=16
SEST Monte Rota 89.19 319 P **P 18 40 10.7 -0.9**
IBBN Ibbenburen 89.33 325 *eP* **P 18 40 12.1 0.0**
comp=Z,320nm,3.0s
WATA Walderalm 89.34 320⇑ *iP* **P 18 40 11.8 -0.5**
comp=Z,75nm,1.8s,mb5.7,SNR=24
WATA Walderalm 89.34 320⇑ *iPcP* PcP 18 40 11.8 -1.9
comp=Z,75nm,1.8s,SNR=24
WATA Walderalm 89.34 320⇑ *iP* **P 18 40 11.8 -0.5**
WATA pmax pmax
comp=Z,75nm,1.8s,mb5.7
YKA Yellowknife Ar 89.56 22⇑ *eP* **P 18 40 12.8 -0.2**
YKA Yellowknife Ar 89.56 22 P **P 18 40 12.9 -0.1**
YKA PKKPbc PKKPbc 18 57 45.5 -3.4
YKA LR LR 19 26 52.5
YKA Yellowknife Ar 89.56 22 P **P 18 40 12.9 -0.1**
comp=Z,6.5nm,0.9s,mb5.0,baz=315,slow=4.4,SNR=37
YKA PKKPbc PKKPbc 18 57 45.5 -3.4
comp=Z,0.2nm,0.5s,baz=131,slow=2.6,SNR=5.4
YKA LR LR 19 26 52.5
comp=Z,171nm,19.3s,MS4.5,baz=220,slow=40
SQTA Sankt Quirin 89.62 320⇑ *iP* **P 18 40 13.3 -0.3**
comp=Z,50nm,1.3s,mb5.7,SNR=35
SQTA Sankt Quirin 89.62 320⇑ *iPcP* PcP 18 40 13.3 -1.6
comp=Z,50nm,1.3s,SNR=35
SQTA Sankt Quirin 89.62 320⇑ *iP* **P 18 40 13.3 -0.3**
SQTA pmax pmax
comp=Z,50nm,1.3s,mb5.7
MOTA Moosalm 89.63 320 *i* P **P 18 40 13.1 -0.5**
comp=Z,30nm,1.4s,mb5.4,SNR=24
MOTA Moosalm 89.63 320 *i* PcP PcP 18 40 13.1 -1.8
comp=Z,30nm,1.4s,SNR=24
MOTA Moosalm 89.63 320 *i* P **P 18 40 13.1 -0.5**
MOTA pmax pmax
comp=Z,30nm,1.4s,mb5.4
RETA Reutte 89.78 320⇑ *iPcP* PcP 18 40 13.8 -1.8
comp=Z,21nm,1.8s,SNR=9.1
CTI Castel Tesino 89.84 319 P **P 18 40 14.0 -0.7**
TOD Tromm 90.00 323 *eP* **P 18 40 15.3 0.0**
FETA Feichten 90.00 320 *i* PcP PcP 18 40 15.2 -1.4
comp=Z,91nm,1.8s,SNR=36
BUG Bochum--Univer 90.00 325 *eP* **P 18 40 14.7 -0.6**
comp=Z,22nm,1.2s,mb5.4
FSSB Fossombrone 90.10 316 P **P 18 40 13.5 -2.4**
STU Stuttgart 90.15 322 *eP* **P 18 40 15.8 -0.2**
SNTG Esanatoglia 90.17 316 P **P 18 40 16.6 +0.3**
comp=Z,22nm,0.7s,mb5.6
NRCA Norcia 90.23 315 P **P 18 40 16.4 -0.1**
comp=Z,94nm,2.0s,mb5.8
DAVA Damuels 90.40 320⇓ *iP* **P 18 40 17.1 -0.1**
comp=Z,158nm,2.4s,mb5.9,SNR=11
DAVA Damuels 90.40 320⇓ *iPcP* PcP 18 40 17.1 -1.3
comp=Z,158nm,2.4s,SNR=11
MURB Monte Urbino 90.44 316 P **P 18 40 18.4 +0.9**
BRMO Bormio 90.46 319 P **P 18 40 17.6 +0.1**
comp=Z,17nm,0.7s,mb5.5
ABH Alteburg 90.59 323 *eP* **P 18 40 18.4 +0.4**
SFI Santa Sofia 90.62 317 P **P 18 40 19.0 +0.7**
SFI pmax pmax
comp=Z,49nm,1.5s,mb5.6
SFI Santa Sofia 90.62 317 P **P 18 40 19.0 +0.7**
comp=Z,49nm,1.5s,mb5.6
CRE Caprese Michel 90.68 316 P **P 18 40 18.7 +0.1**
CRE pmax pmax
comp=Z,37nm,1.4s,mb5.5
CRE Caprese Michel 90.68 316 P **P 18 40 18.7 +0.1**
comp=Z,37nm,1.4s,mb5.5
SPAK Spaichingen-Ko 90.69 321 *eP* **P 18 40 18.2 -0.4**
VMG Vicchio 90.80 317 P **P 18 40 20.6 +1.4**
comp=Z,112nm,1.5s,mb6.0
BFO Black Forest 90.86 322 *eP* **P 18 40 18.6 -0.7**
BFO pmax pmax
comp=Z,42nm,1.8s,mb5.5
BFO Black Forest 90.86 322 *eP* **P 18 40 18.6 -0.7**
comp=Z,42nm,1.8s,mb5.5
LANF Langenberg 90.86 322 *eP* **P 18 40 19.6 +0.3**
RUP Ruppelstein 90.95 323 *eP* **P 18 40 20.0 +0.3**
TUE Stuetta 91.09 320 P **P 18 40 21.2 +0.7**
MEM Membach 91.11 324 P **P 18 40 20.7 +0.3**
GSCL Gusciola 91.25 317 P **P 18 40 22.2 +0.9**
comp=Z,74nm,1.4s,mb5.8
FELD Feldberg im Sc 91.26 321 *eP* **P 18 40 21.3 +0.1**
ERBM Eremo 91.33 318 P **P 18 40 22.7 +1.1**
comp=Z,35nm,0.8s,mb5.8
CDF Champ du Feu 91.44 322⇑ *iP* **P 18 40 21.7 -0.3**
comp=Z,117nm,1.6s,mb5.7
CDF Champ du Feu 91.44 322⇑ *iP* **P 18 40 21.7 -0.3**
CDF pmax pmax
comp=Z,58nm,1.6s,mb5.7
CDF Champ du Feu 91.44 322⇑ *iP* **P 18 40 21.7 -0.3**
comp=Z,58nm,1.6s,mb5.7
WLF Walferdange 91.49 324 P **P 18 40 22.5 +0.3**
WLF Walferdange 91.49 324 *eP* **P 18 40 22.1 -0.1**
comp=Z,84nm,1.7s,mb5.8
BCLA Clavier 91.59 324 P **P 18 40 22.6 -0.1**
ECH Echery 91.60 322 *eP* **P 18 40 22.2 -0.6**
VAI Varese 91.73 319 P **P 18 40 22.5 -0.9**
VAI pmax pmax
comp=Z,37nm,1.0s,mb5.7
VAI Varese 91.73 319 P **P 18 40 22.5 -0.9**
comp=Z,37nm,1.0s,mb5.7
BBS Basel-Blauen 91.75 321 *eP* **P 18 40 22.6 -0.9**
MOF Molkenrain 91.79 322 *eP* **P 18 40 22.8 -0.9**
HINF Hinteralfeld 91.97 322⇑ *iP* **P 18 40 23.8 -0.7**
comp=Z,61nm,1.5s,mb5.4
HINF Hinteralfeld 91.97 322⇑ *iP* **P 18 40 23.8 -0.7**
HINF pmax pmax
comp=Z,30nm,1.5s,mb5.4
HINF Hinteralfeld 91.97 322⇑ *iP* **P 18 40 23.8 -0.7**
comp=Z,30nm,1.5s,mb5.4
GIVF Givet 92.02 324 *eP* **P 18 40 24.2 -0.5**
DOU Dourbes 92.14 324 P **P 18 40 24.9 -0.3**
HAU Haudompre 92.18 322⇑ *iP* **P 18 40 24.7 -0.8**
HAU *e*MLR MLR
comp=Z,1μm,20.5s,MS5.0
HAU Haudompre 92.18 322⇑ *iP* **P 18 40 24.7 -0.8**
HAU LR LR
comp=Z,1μm,20.5s,MS5.3
LOMF Lomont 92.21 321 *eP* **P 18 40 25.8 +0.2**
BAIF Baives 92.38 325⇑ *iP* **P 18 40 25.8 -0.5**
comp=Z,111nm,1.9s,mb5.6
BAIF Baives 92.38 325⇑ *iP* **P 18 40 25.8 -0.5**
BAIF pmax pmax
comp=Z,56nm,1.9s,mb5.6
BAIF Baives 92.38 325⇑ *iP* **P 18 40 25.8 -0.5**
comp=Z,56nm,1.9s,mb5.6
MEZF Maizieres J'vi 92.69 323⇑ *iP* **P 18 40 27.5 -0.3**
FIN Finale Ligure 92.84 318 P **P 18 40 27.0 -1.6**
CABF La Chapelle 93.02 321 *eP* **P 18 40 28.5 -0.9**
PGF Pioggiola 93.09 316⇑ *iP* **P 18 40 29.4 -0.4**
comp=Z,47nm,1.0s,mb5.6
PGF Pioggiola 93.09 316⇑ *iP* **P 18 40 29.4 -0.4**
PGF pmax pmax
comp=Z,24nm,1.0s,mb5.6
PGF Pioggiola 93.09 316⇑ *iP* **P 18 40 29.4 -0.4**
comp=Z,24nm,1.0s,mb5.6
LPG La Plagne 93.15 320⇑ *iP* **P 18 40 30.2 +0.2**
comp=Z,36nm,0.8s,mb5.6
LPG La Plagne 93.15 320⇑ *iP* **P 18 40 30.2 +0.2**
LPG pmax pmax
comp=Z,18nm,0.8s,mb5.5
LPG La Plagne 93.15 320⇑ *iP* **P 18 40 30.2 +0.2**
comp=Z,18nm,0.8s,mb5.5
LPL La Plagne 93.15 320⇑ *iP* **P 18 40 30.1 +0.1**
comp=Z,30nm,0.6s,mb5.6
LPL La Plagne 93.15 320⇑ *iP* **P 18 40 30.1 +0.1**
LPL pmax pmax
comp=Z,15nm,0.6s,mb5.6
LPL La Plagne 93.15 320⇑ *iP* **P 18 40 30.1 +0.1**
comp=Z,15nm,0.6s,mb5.6
SBF Sospel 93.50 318 *eP* **P 18 40 30.2 -1.4**
comp=Z,36nm,0.8s,mb5.5
SBF Sospel 93.50 318 *eP* **P 18 40 30.2 -1.4**
SBF pmax pmax
comp=Z,18nm,0.8s,mb5.5
SBF Sospel 93.50 318 *eP* **P 18 40 30.2 -1.4**
comp=Z,18nm,0.8s,mb5.5
MBDF Montbardon 93.51 319⇑ *iP* **P 18 40 30.8 -0.9**
comp=Z,6.6nm,0.7s,mb4.9
MBDF Montbardon 93.51 319⇑ *iP* **P 18 40 30.8 -0.9**
MBDF pmax pmax
comp=Z,3.0nm,0.7s,mb4.8
MBDF Montbardon 93.51 319⇑ *iP* **P 18 40 30.8 -0.9**
comp=Z,3.3nm,0.7s,mb4.9
ORIF Oris-en-Rattie 93.97 320⇑ *iP* **P 18 40 33.5 -0.3**
comp=Z,21nm,0.6s,mb5.4
ORIF *e*MLR MLR
comp=Z,1μm,20.0s,MS5.1
ORIF Oris-en-Rattie 93.97 320⇑ *iP* **P 18 40 33.5 -0.3**
ORIF pmax pmax
comp=Z,10.0nm,0.6s,mb5.4
ORIF Oris-en-Rattie 93.97 320⇑ *iP* **P 18 40 33.5 -0.3**
comp=Z,10nm,0.6s,mb5.4
LOR Lormes 94.01 322⇑ *iP* **P 18 40 33.1 -0.8**
comp=Z,43nm,1.4s,mb5.4
LOR *e*MLR MLR
comp=Z,1μm,20.0s,MS5.1
LOR Lormes 94.01 322⇑ *iP* **P 18 40 33.1 -0.8**
LOR pmax pmax
comp=Z,22nm,1.4s,mb5.4
LOR MLR MLR
comp=Z,1μm,20.0s,MS5.4
LOR Lormes 94.01 322⇑ *iP* **P 18 40 33.1 -0.8**
comp=Z,22nm,1.4s,mb5.4
LOR LR LR
comp=Z,1μm,20.0s,MS5.4
FRF La Foret Royal 94.14 318⇑ *iP* **P 18 40 33.7 -0.9**
comp=Z,38nm,1.1s,mb5.5
FRF La Foret Royal 94.14 318⇑ *iP* **P 18 40 33.7 -0.9**
FRF pmax pmax
comp=Z,19nm,1.0s,mb5.5
FRF La Foret Royal 94.14 318⇑ *iP* **P 18 40 33.7 -0.9**
comp=Z,19nm,1.0s,mb5.5
SSF Saint Saulge 94.32 322⇑ *iP* **P 18 40 34.5 -0.9**
comp=Z,8.0nm,0.7s,mb5.0
SSF Saint Saulge 94.32 322⇑ *iP* **P 18 40 34.5 -0.9**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
SSF Saint Saulge 94.32 322⇑ *iP* **P 18 40 34.5 -0.9**
comp=Z,4.0nm,0.7s,mb5.0
SMF Signal de Mont 94.34 322⇑ *iP* **P 18 40 34.5 -0.9**
comp=Z,22nm,1.0s,mb5.2
SMF Signal de Mont 94.34 322⇑ *iP* **P 18 40 34.5 -0.9**
SMF pmax pmax
comp=Z,11nm,1.0s,mb5.2
SMF Signal de Mont 94.34 322⇑ *iP* **P 18 40 34.5 -0.9**
comp=Z,11nm,1.0s,mb5.2
MAW Mawson 94.42 199 LR LR 19 19 38.1
comp=Z,219nm,18.9s,MS4.6,baz=72,slow=33
AVF Avril sur Loir 94.55 322⇑ *iP* **P 18 40 35.5 -0.9**
comp=Z,18nm,0.9s,mb5.2
AVF Avril sur Loir 94.55 322⇑ *iP* **P 18 40 35.5 -0.9**
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
AVF Avril sur Loir 94.55 322⇑ *iP* **P 18 40 35.5 -0.9**
comp=Z,9.1nm,0.9s,mb5.2
SMRF Simiane la Rot 94.62 319 *eP* **P 18 40 35.7 -1.1**
VIVF Saint-Julien-l 94.75 320⇑ *iP* **P 18 40 36.8 -0.5**
comp=Z,18nm,0.8s,mb5.2
VIVF Saint-Julien-l 94.75 320⇑ *iP* **P 18 40 36.8 -0.5**
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
VIVF Saint-Julien-l 94.75 320⇑ *iP* **P 18 40 36.8 -0.5**
comp=Z,8.8nm,0.8s,mb5.2
PLDF La Plantade 94.82 321 *eP* **P 18 40 37.2 -0.4**
PPT Papeete 95.38 107 *eS* S 18 51 53.5 +0.4
comp=Z,620nm,27.5s
PPT Papeete 95.38 107 *eLR* LR 19 11 32.2
comp=Z,3μm,27.0s,baz=293
PPT Papeete 95.38 107 LR LR 19 17 45.6
comp=Z,507nm,18.3s,MS5.0,baz=262,slow=32
TCF Toulx Ste Croi 95.49 322⇑ *iP* **P 18 40 40.3 -0.4**
comp=Z,9.8nm,0.8s,mb5.0
TCF Toulx Ste Croi 95.49 322⇑ *iP* **P 18 40 40.3 -0.4**
TCF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
TCF Toulx Ste Croi 95.49 322⇑ *iP* **P 18 40 40.3 -0.4**
comp=Z,4.9nm,0.8s,mb5.0
FLN La Foliniere 95.66 325 *eP* **P 18 40 40.7 -0.7**
comp=Z,8.4nm,0.6s,mb5.0
FLN *e*MLR MLR
comp=Z,1μm,20.8s,MS5.1
FLN La Foliniere 95.66 325 *eP* **P 18 40 40.7 -0.7**
FLN pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
FLN MLR MLR
comp=Z,1μm,20.8s,MS5.4
FLN La Foliniere 95.66 325 *eP* **P 18 40 40.7 -0.7**
comp=Z,4.2nm,0.6s,mb5.0
FLN LR LR
comp=Z,1μm,20.8s,MS5.4
KEST Kesra 95.89 310 LR LR 19 30 37.5
comp=Z,202nm,20.3s,MS4.6,baz=359,slow=40
CAF Calviac 96.30 321⇑ *iP* **P 18 40 44.4 0.0**
comp=Z,16nm,1.0s,mb5.1
CAF Calviac 96.30 321⇑ *iP* **P 18 40 44.4 0.0**
CAF pmax pmax
comp=Z,8.0nm,1.0s,mb5.1
CAF Calviac 96.30 321⇑ *iP* **P 18 40 44.4 0.0**
comp=Z,8.1nm,1.0s,mb5.1
RJF Les Rejaudoux 96.42 321⇑ *iP* **P 18 40 44.8 -0.2**
comp=Z,17nm,0.8s,mb5.2
RJF *e*MLR MLR
comp=Z,1μm,20.5s,MS5.0
RJF Les Rejaudoux 96.42 321⇑ *iP* **P 18 40 44.8 -0.2**
RJF pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
RJF MLR MLR
comp=Z,1μm,20.5s,MS5.3
RJF Les Rejaudoux 96.42 321⇑ *iP* **P 18 40 44.8 -0.2**
comp=Z,8.7nm,0.8s,mb5.2
RJF LR LR
comp=Z,1μm,20.5s,MS5.3
MFF Saint Martin d 96.68 323⇑ *iP* **P 18 40 45.6 -0.5**
comp=Z,32nm,1.1s,mb5.4
MFF Saint Martin d 96.68 323⇑ *iP* **P 18 40 45.6 -0.5**
MFF pmax pmax
comp=Z,16nm,1.1s,mb5.4
MFF Saint Martin d 96.68 323⇑ *iP* **P 18 40 45.6 -0.5**
comp=Z,16nm,1.1s,mb5.4
TBI Tubuai 97.09 112 *e*SKSac SKSac 18 51 21.3 -0.1
comp=Z,422nm,33.5s
TBI Tubuai 97.09 112 *e*PS PS 18 53 33.0 -3.1
comp=Z,536nm,28.0s
TBI Tubuai 97.09 112 *e*LR LR 19 12 21.8
comp=Z,2μm,33.8s,baz=289
NEW Newport 97.10 34 LR LR 19 26 58.5
comp=Z,251nm,18.5s,MS4.7,baz=112,slow=37
VNDA Vanda 97.79 172 P **P 18 40 50.4 +0.1**
comp=Z,0.9nm,0.7s,mb4.4,baz=322,slow=7.5,SNR=2.5
TAOE Nuku Hiva Isla 101.81 96 *e*LR LR 19 14 14.6
comp=Z,71μm,25.8s,baz=296
NVAR Mina Array Bea 102.02 43 P Pdif 18 41 11.6 +1.8
comp=Z,0.9nm,0.8s,baz=278,slow=3.3,SNR=4.2
RKT Rikitea 110.00 109 *e*LR LR 19 17 49.2
comp=Z,1μm,32.0s,baz=298
TXAR Lajitas Array 117.16 43 PKP PKPdf 18 46 02.1 +0.7
TXAR PKKPab PKKPab 18 56 26.2 -5.1
TXAR Lajitas Array 117.16 43 PKP PKPdf 18 46 02.1 +0.7
comp=Z,1.2nm,0.8s,baz=221,slow=0.1,SNR=9.6
TXAR PKKPab PKKPab 18 56 26.2 -5.1
comp=Z,0.3nm,0.6s,baz=131,slow=7.5,SNR=5.1
JCT Junction City 118.80 39 *e*PKIKP PKPdf 18 46 03.9 -0.6
WVT Waverly 120.52 26 *e*PKIKP PKPdf 18 46 06.8 -0.8
DBIC Dimbokro 120.63 289 PKP PKPdf 18 46 07.8 -0.6
comp=Z,2.1nm,0.7s,baz=268,slow=2.9,SNR=3.9
PLAL Pickwick Lake 121.39 27 *e*PKPdf PKPdf 18 46 07.7 -1.6
MTP Monte Pirata 144.26 9 *e*PKPdf PKPdf 18 46 50.2 -2.3
CPD Cerro la Pandu 144.26 10 *e*PKIKP PKPdf 18 46 50.2 -2.2
EFI East Falkland 145.80 182 PKP2 PKPab 18 46 54.2 -0.8
BCIP Isla Barro Col 147.02 38 *e*PKPbc PKPbc 18 46 58.8 -0.5
SDV Santo Domingo 151.77 23 *e*PKPdf PKPdf 18 47 04.6 -0.2
SDV *e*PKPbc PKPbc 18 47 11.0 -0.2
SDV Santo Domingo 151.77 23 PKP PKPdf 18 47 05.0 +0.1
comp=Z,9.4nm,0.8s,baz=333,slow=2.2,SNR=16
SDV PKPbc PKPbc 18 47 11.2 0.0
comp=Z,89nm,0.8s,baz=350,slow=2.0,SNR=39
PCRV Puerto La Cruz 152.17 10 PKPbc PKPbc 18 47 10.5 -1.7
comp=Z,27nm,0.7s,baz=127,slow=1.8,SNR=15
ROSC El Rosal 153.65 34 *e*PKPbc PKPbc 18 47 16.6 +1.2
ROSC El Rosal 153.65 34 PKPbc PKPbc 18 47 16.9 +1.5
comp=Z,16nm,0.9s,baz=96,slow=16,SNR=8.8
PLCA Paso Flores 155.01 161 PKP PKPdf 18 47 09.6 +0.9
comp=Z,0.6nm,0.6s,baz=45,slow=4.3,SNR=1.9
PLCA PKPbc PKPdf 18 47 19.8 +11
comp=Z,2.5nm,0.7s,baz=259,slow=1.9,SNR=6.4
BDFB Brasilia 168.50 277 PKPab PKPab 18 48 32.5 -0.4
comp=Z,1.6nm,0.8s,baz=253,slow=26,SNR=3.9
CPUP Villa Florida 170.83 194 PKPab PKPab 18 48 42.4 -0.2
comp=Z,1.3nm,0.6s,baz=147,slow=3.8,SNR=4.4
LPAZ La Paz 172.00 83 *e*PKIKP PKPdf 18 47 25.6 +0.4
LPAZ La Paz 172.00 83 PKP PKPdf 18 47 27.0 +1.8
comp=Z,2.7nm,0.9s,baz=34,slow=5.1,SNR=9.5
LPAZ PKPab PKPab 18 48 50.0 +1.6
comp=Z,4.8nm,0.7s,baz=319,slow=4.2,SNR=10.0
SIV San Ignacio 178.16 39 PKP PKPdf 18 47 27.1 +0.2
comp=Z,3.0nm,1.0s,baz=319,slow=1.6,SNR=9.0

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*NEIC **06** 19:12:00.7, 3165S×7206W, h30km, ML2.9(GUC), After GUC.*

GUC 06 19:12:00.7±0.6, 3165S×7206W, h30km±4km, MD3.7, ML2.9, 1C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.02**	**63**	*i* P	Pn	19 12 18.7	-0.3
CMCH				*i* S	Sn	19 12 33.3	+1.0
CMCH	**Combarbala**	**1.02**	**63**	*i* P	Pn	19 12 18.7	-0.3
CMCH				*i* S	Sn	19 12 33.3	+1.0
CMCH				AML	AML	19 12 35.8	
	comp=N,670nm,0.6s						
JACH	**Jahuel**	**1.62**	**130**	*i* P	Pn	19 12 28.6	+1.5
JACH				*i* S	Sn	19 12 49.6	+2.6
PEL	**Peldehue**	**1.89**	**142**	*e*P	Pn	19 12 32.6	+1.7
PEL				*i* S	Sn	19 12 56.7	+3.0
PEL				AML	AML	19 13 02.8	
	comp=E,221nm,0.6s						
RCDM	**Rinconada Maip**	**2.12**	**150**	AML	AML	19 13 11.4	
	comp=E,92nm,0.3s						
CLCH	**Cerro Calan**	**2.17**	**144**	*i* P	Pn	19 12 36.0	+1.2
CLCH				*i* S	Sn	19 13 03.1	+2.5
CLCH				AML	AML	19 13 12.8	
	comp=N,99nm,0.4s						
TACH	**Talagante**	**2.21**	**155**	*i* P	Pn	19 12 36.7	+1.3
TACH				*i* S	Sn	19 13 04.1	+2.4

FCH	**Farellones**	**2.25 139**⇑	*i*P	Pn	19 12 38.0	+2.2
FCH			*i* S	Sn	19 13 06.1	+3.6
FCH			AML	AML	19 13 15.8	
	comp=N,48nm,0.2s					
PCH	**Pirque**	**2.36 147**	*e*P	Pn	19 12 39.1	+1.7
PCH			*i* S	Sn	19 13 08.0	+2.6
LMEL	**Las Melosas**	**2.70 145**	*i* P	Pn	19 12 43.9	+2.0
LMEL			*i* S	Sn	19 13 16.4	+2.8
LMEL	**Las Melosas**	**2.70 145**	*i* P	Pn	19 12 43.9	+2.0
LMEL			*i* S	Sn	19 13 16.4	+2.8
LMEL			AML	AML	19 13 29.4	
	comp=N,58nm,0.3s					

*NEIC **06** 19:28:00.1±1.2,2047S×6998W,h54km±13km, Error ellipse: s-maj=19.9km s-min=12.1km az=92.0*
*IDC **06** 19:28:01.6±1.1,2042S×6983W,h60km±8km,mb3.1/3, mb1 3.5/5,mb1mx3.3/17,mbtmp3.4/5, Error ellipse: s-maj=34.3km s-min=26.0km az=104.0*
*ISCJB **06** 19:28:03.3±0.8,2056S±006×695W±0.1,h93km±14km, mb3.3/2, Error ellipse: s-maj=18.0km s-min=9.4km az=178.9*
ISC 06 19:28:04.7±0.8,**2057S**±006×**695W**±01,**h89**km±14km,**n15**, σ**1**§**26**/15,**mb3.3**/2,**1C**,**Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**2.87 192**⇑		*e*P	**Pn**	**19 28 50.2**	**+1.7**
CEN1				*e*S	**Sn**	**19 29 35.6**	**+13**
ANCH	**Antofagasta**	**3.20 195**		*e*P	**Pn**	**19 28 51.6**	**-1.3**
ANCH				*e*S	**Sn**	**19 29 44.0**	**+14**
LPAZ	**La Paz**	**4.46**	**18**	*e*Pn	**Pn**	**19 29 08.9**	**-1.1**
LPAZ	**La Paz**	**4.46**	**18**	P	**Pn**	**19 29 09.8**	**-0.2**
	3.5nm,0.3s,baz=210,slow=6.3,SNR=61						
ARE	**Arequipa**	**4.49 335**		*e*P	**Pn**	**19 29 01.0**	**-9.4**
ARE				*e*S	**Sn**	**19 30 02.0**	**+0.6**
SIV	**San Ignacio**	**9.23**	**62**	P	**Pn**	**19 30 14.6**	**-0.5**
	2.7nm,0.3s,baz=263,slow=9.8,SNR=77						
CFAA	**Coronel Fontan**	**11.05 174**		P	**Pn**	**19 30 37.7**	**-2.0**
CFAA	**Coronel Fontan**	**11.05 174**		P	**Pn**	**19 30 37.7**	**-2.0**
	0.1nm,0.3s,baz=358,slow=13,SNR=6.7						
PLCA	**Paso Flores**	**20.12 182**		P	**P**	**19 32 30.8**	**-0.5**
PLCA	**Paso Flores**	**20.12 182**		P	**P**	**19 32 32.9**	**+1.5**
	1.6nm,0.9s,baz=360,slow=14,SNR=4.2						
BDFB	**Brasilia**	**21.02**	**80**	P	**P**	**19 32 43.1**	**+1.7**
	0.7nm,0.4s,mb3.3,baz=244,slow=16,SNR=4.9						
YKA	**Yellowknife Ar**	**90.12 341**		P	**P**	**19 40 53.3**	**-1.1**
	0.1nm,0.5s,mb3.2,baz=130,slow=4.1,SNR=3.7						
YKA				pP	pP	19 41 10.0	-8.0
	0.2nm,0.6s,baz=136,slow=4.7,SNR=2.7						
YKA				sP	sP	19 41 16.9	-11
	0.5nm,0.7s,baz=134,slow=4.6,SNR=5.7						
MK31	**Makanchi Array**	**145.21**	**35**	*e*PKP	PKPdf	19 47 32.4	+0.5
MKAR	**Makanchi Array**	**145.21**	**35**	PKPbc	PKPbc	19 47 31.7	-0.1
MKAR				pPKPbc	pPKPbc	19 47 50.0	-6.0
MKAR				sPKPbc		19 47 55.8	
MKAR	**Makanchi Array**	**145.21**	**35**	PKPbc	PKPbc	19 47 31.7	-0.1
	0.3nm,0.5s,baz=305,slow=5.1,SNR=6.9						
MKAR				pPKPbc	pPKPbc	19 47 50.0	-6.0
	0.2nm,0.6s,baz=336,slow=3.2,SNR=2.0						
MKAR				sPKPbc		19 47 55.8	
	0.6nm,0.7s,baz=346,slow=2.0,SNR=5.8						

*ISCJB **06** 19:28:49.8±0.4,3657N±003×13950E±007,h123km±3km, mb3.5/8, Error ellipse: s-maj=9.9km s-min=5.3km az=1.1*
*IDC **06** 19:28:49.8±1.1,3666N×13964E,h108km±9km,mb3.2/8, mb1 3.4/12,mb1mx3.3/24,mbtmp3.3/12, Error ellipse: s-maj=17.1km s-min=9.7km az=78.0*
*NEIC **06** 19:28:50.5±0.8,3655N×13956E,h112km±7km, MG3.4(JMA), Error ellipse: s-maj=13.8km s-min=8.5km az=117.0*
*JMA **06** 19:28:51.3±0.1,3654N×13943E,h116km±1km,M3.4*
ISC 06 19:28:51.1±0.4,**3659N**±003×**13949E**±007,**h117**km±3km, **n32**, σ**0**§**77**/46,**mb3.5**/8,**Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.16 190**		P	**Pn**	**19 29 07.3**	**+0.1**
JAG				S	**Sn**	**19 29 19.5**	**+0.3**
JKT	**Katashina**	**0.26 313**		P	**Pn**	**19 29 07.8**	**+0.4**
JKT				S	**Sn**	**19 29 20.5**	**+0.7**
JRY	**Ryogami san**	**0.74 220**		P	**Pn**	**19 29 10.7**	**+0.3**
JRY				S	**Sn**	**19 29 24.4**	**-0.5**
JHK	**Hiroka**	**0.76 330**		P	**Pn**	**19 29 10.8**	**+0.2**
JHK				S	**Sn**	**19 29 25.9**	**+0.6**
MJAR	**Matsushiro Arr**	**1.03 268**		P	**Pn**	**19 29 12.5**	**-0.6**
	117nm,0.3s,baz=114,slow=12,SNR=1730						
MJAR				S	**Sn**	**19 29 29.2**	**-0.6**
	17nm,0.3s,baz=124,slow=14,SNR=8.1						
MAJO	**Matsushiro**	**1.03 268**		*e*P	**Pn**	**19 29 12.9**	**-0.2**
MAT	**Matsushiro**	**1.03 268**		P	**Pn**	**19 29 12.8**	**-0.3**
MAT				S	**Sn**	**19 29 29.5**	**-0.3**
MAT	**Matsushiro**	**1.03 268**		P	**Pn**	**19 29 12.9**	**-0.2**
MAT				S	**Sn**	**19 29 29.5**	**-0.3**
JNS	**Sasagawa**	**1.24 354**		P	**Pn**	**19 29 15.7**	**+0.4**
JNS				S	**Sn**	**19 29 34.4**	**+0.7**
JYN	**Shimob**	**1.33 215**		P	**Pn**	**19 29 16.4**	**+0.1**
JYN				S	**Sn**	**19 29 35.5**	**+0.1**
JOD2	**Odawara 2**	**1.36 194**		P	**Pn**	**19 29 16.0**	**-0.6**
JOD2				S	**Sn**	**19 29 35.2**	**-0.8**
JSD	**Sado**	**1.75 326**		P	**Pn**	**19 29 20.8**	**-0.4**
JSD				S	**Sn**	**19 29 42.7**	**-1.5**
JAW	**Awa shima**	**1.88 354**		P	**Pn**	**19 29 23.4**	**+0.6**
JSZ	**Suzu**	**1.91 298**		P	**Pn**	**19 29 22.6**	**-0.5**
JHJ	**Hachijo jima 2**	**3.47 176**		P	**Pn**	**19 29 43.2**	**-0.2**
	191nm,0.3s,baz=95,slow=2.5,SNR=38						
JHJ				S	**Sn**	**19 30 24.9**	**+1.1**
	63nm,0.3s,baz=73,slow=19,SNR=4.0						
ERM	**Erimo**	**6.12**	**27**	*e*Pn	**Pn**	**19 30 18.2**	**-0.8**
ERM				*e*Sn	**Sn**	**19 31 18.2**	**-9.4**
JNU	**Nakatsue**	**7.87 246**		P	**Pn**	**19 30 43.9**	**+1.1**
	0.4nm,0.3s,baz=45,slow=10.0,SNR=4.1						
ASAJ	**Asahikawa**	**7.89**	**17**	P	**Pn**	**19 30 40.2**	**-2.7**
	1.0nm,0.3s,baz=224,slow=23,SNR=12						
ASAJ				S	**Sn**	**19 32 03.2**	**-7.2**
	0.7nm,0.3s,baz=252,slow=20,SNR=3.0						
KSRS	**Korea Array**	**9.29 279**		P	**Pn**	**19 31 04.0**	**+2.1**
	0.3nm,0.3s,baz=89,slow=14,SNR=5.7						
SONM	**Songino Array**	**26.77 305**		P	**P**	**19 34 21.1**	**+1.3**
	0.3nm,0.6s,mb3.0,baz=101,slow=7.6,SNR=2.6						
ZALV	**Zalesovo Beam**	**41.08 313**		P	**P**	**19 36 22.2**	**-0.7**
ZALV	**Zalesovo Beam**	**41.08 313**		P	**P**	**19 36 22.2**	**-0.7**
	0.6nm,0.5s,mb3.7,baz=104,slow=10,SNR=4.9						
MKAR	**Makanchi Array**	**43.05 302**		P	**P**	**19 36 39.2**	**+0.2**
	0.2nm,0.7s,mb3.0,baz=88,slow=9.2,SNR=3.2						
INK	**Inuvik**	**55.49**	**27**	*e*P	**P**	**19 38 14.1**	**+0.9**
FITZ	**Fitzroy Crossi**	**55.94 196**		P	**P**	**19 38 17.0**	**0.0**
	0.7nm,0.7s,mb3.8,baz=30,slow=8.1,SNR=3.3						
WRAB	**Tennant Creek**	**56.42 186**		*e*P	**P**	**19 38 19.9**	**-0.5**
WB2	**Warramunga Arr**	**56.43 186**		*e*P	**P**	**19 38 19.8**	**-0.7**
WRA	**Warramunga Arr**	**56.43 186**		P	**P**	**19 38 19.8**	**-0.7**
	0.5nm,0.3s,mb4.0,baz=0.0,slow=7.6,SNR=40						
ASAR	**Alice Springs**	**60.16 186**		P	**P**	**19 38 46.0**	**-0.3**
	0.2nm,0.3s,mb3.6,baz=1.3,slow=6.5,SNR=8.8						
YKA	**Yellowknife Ar**	**64.97**	**30**	P	**P**	**19 39 17.7**	**-0.2**
YKA	**Yellowknife Ar**	**64.97**	**30**	P	**P**	**19 39 17.7**	**-0.2**
	0.2nm,0.5s,mb3.2,baz=295,slow=6.6,SNR=5.4						
TXAR	**Lajitas Array**	**91.61**	**51**	P	**P**	**19 41 46.1**	**+1.1**
	0.1nm,0.5s,mb3.3,baz=258,slow=3.6,SNR=4.0						

IDC 06 19:29:54.1±2.1,**070N**×**12668E**,**h0**km,**mb3.0**/3,**mb1 3.2**/3, **mb1mx3.1**/14,**mbtmp3.1**/3,**Error ellipse: s-maj=181.8km s-min=26.7km az=66.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.85 160**		P	P	19 34 47.4	-1.1
	0.3nm,0.7s,baz=339,slow=11,SNR=8.8						
ASAR	**Alice Springs**	**25.22 164**		P	P	19 35 22.7	+0.9
	0.2nm,0.4s,baz=344,slow=12,SNR=8.3						
MKAR	**Makanchi Array**	**60.01 326**		P	P	19 40 02.6	0.0
	0.1nm,0.5s,baz=117,slow=8.7,SNR=4.6						

*IDC **06** 19:51:15.9±1.3,3421N×8175E,h0km,mb3.6/6,mb1 3.8/8, mb1mx3.6/22,mbtmp3.6/8,ML3.5/1, Error ellipse: s-maj=45.3km s-min=20.6km az=66.0*
*NEIC **06** 19:51:17.7±1.0,3421N×8182E,h10km,mb3.7/2, Error ellipse: s-maj=27.1km s-min=12.8km az=68.0*
*ISCJB **06** 19:51:19.9±0.8,344N±0.1×819E±02,h33km,mb3.8/7, Error ellipse: s-maj=22.1km s-min=11.8km az=148.6*
*BJI **06** 19:51:20.5,3457N×8253E,h8km,mb4.1*
ISC 06 19:51:22.4±3.3,**344N**±02×**819E**±02,**h38**km±28km,**n16**, σ**0**§**98**/16,**mb3.8**/7,**2C**,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**12.43**	**1**	*e*Pn	**Pn**	**19 54 16.0**	**-0.7**
MKAR	**Makanchi Array**	**12.43**	**1**	Pn	**Pn**	**19 54 16.1**	**-0.6**
	0.3nm,0.3s,baz=181,slow=13,SNR=16						
KURK	**Kurchatov**	**16.52 353**		*e*P	**Pn**	**19 55 13.5**	**+2.4**
	6.4nm,0.9s						
ZALV	**Zalesovo Beam**	**19.69**	**5**	P	**Pn**	**19 55 47.2**	**-2.6**
	0.2nm,0.3s,baz=186,slow=10,SNR=4.2						
KMI	**Kunming**	**20.27 111**		P	**P**	**19 55 55.3**	**+0.6**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.9s						
BVAR	**Borovoye Array**	**20.39 340**		P	**P**	**19 55 56.2**	**+0.4**
	comp=Z,3.8nm,0.8s,baz=145,slow=10,SNR=26						
BRVK	**Borovoye**	**20.45 340**		*e*P	**P**	**19 55 56.5**	**+0.2**
	comp=Z,3.5nm,0.8s						
SONM	**Songino Array**	**22.73**	**46**	P	**P**	**19 56 22.4**	**+1.5**
	comp=Z,0.6nm,0.9s,mb3.0,baz=223,slow=9.5,SNR=3.1						
FINES	**FINESS Array B**	**44.28 325**		P	**P**	**19 59 27.8**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.6,baz=115,slow=9.0,SNR=4.5						
LPG	**La Plagne**	**56.74 306**⇑		*i*P	**P**	**20 01 02.8**	**+0.5**
	comp=Z,6.9nm,0.9s,mb4.4						
LPL	**La Plagne**	**56.75 306**⇑		*i*P	**P**	**20 01 02.8**	**+0.4**
	comp=Z,4.6nm,0.5s,mb4.4						
WRA	**Warramunga Arr**	**73.50 129**		P	**P**	**20 02 50.8**	**-0.5**
	comp=Z,0.7nm,0.8s,mb3.6,baz=328,slow=5.6,SNR=7.2						
INK	**Inuvik**	**74.28**	**13**	*e*P	**P**	**20 02 55.0**	**-0.2**
ASAR	**Alice Springs**	**75.95 132**		P	**P**	**20 03 04.8**	**-0.6**
	comp=Z,0.2nm,0.5s,mb3.3,baz=325,slow=5.8,SNR=7.2						
YKA	**Yellowknife Ar**	**82.57**	**8**	P	**P**	**20 03 40.3**	**-0.8**
YKA	**Yellowknife Ar**	**82.57**	**8**	P	**P**	**20 03 40.3**	**-0.8**
	comp=Z,1.0nm,0.6s,mb4.0,baz=340,slow=5.2,SNR=19						

*CSEM **06** 19:55:22.5±0.1,3868N×3085E,h2km,MD3.5, Error ellipse: s-maj=1.4km s-min=1.1km az=2.0*
*ISCJB **06** 19:55:23.4±0.6,3868N±002×3086E±003,h3km±5km, Error ellipse: s-maj=3.9km s-min=3.7km az=24.8*
*ISK **06** 19:55:23.3,3867N×3086E,h5km,MD3.5*
*DDA **06** 19:55:24.3,3873N×3083E,h9km±6km,Md3.4,Ml3.5*
ISC 06 19:55:24.0±0.5,**3866N**±002×**3086E**±003,**h1**km±5km,**n48**, σ**0**§**82**/57,**3C-2D**,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.27 245**		PG	**Pg**	**19 55 29.7**	**+0.6**
SHUT				*e*SG	**Sg**	**19 55 33.4**	**+0.9**
ALT	**Altintas**	**0.70 304**		PG	**Pg**	**19 55 37.3**	**-0.2**
ALT				*e*SG	**Sg**	**19 55 46.7**	**+0.1**
TKTP	**Tekketepe**	**0.75 214**		*i* P	**Pg**	**19 55 37.8**	**-0.6**
TKTP				*i* S	**Sg**	**19 55 50.4**	**+2.2**
KIZT	**Kizilcal**	**0.83**	**75**	PG	**Pg**	**19 55 39.4**	**-0.4**
ESKT	**Eskisehir**	**0.85 359**		PG	**Pg**	**19 55 39.8**	**-0.6**
ESKT	**Eskisehir**	**0.85 359**		*i* P	**Pg**	**19 55 39.4**	**-1.0**
ESKT				*i* S	**Sg**	**19 55 49.2**	**-2.3**
SEYT	**Eskypehyr**	**0.85 359**		*i* P	**Pg**	**19 55 39.4**	**-1.0**
ISP	**Isparta**	**0.86 199**		PG	**Pg**	**19 55 39.9**	**-0.7**
KDHN	**Kadinhani**	**0.99**	**98**	*i* P	**Pg**	**19 55 41.9**	**-1.2**
KDHN				*i* S	**Sg**	**19 55 57.6**	**+1.7**
KDHN	**Kadinhani**	**0.99**	**98**	*i* P	**Pg**	**19 55 41.8**	**-1.3**
KDHN				*i* S	**Sg**	**19 55 57.7**	**+1.7**
KHL	**Karahalli**	**1.10 252**		PN	**Pn**	**19 55 44.6**	**-1.9**
GDZ	**Gediz**	**1.16 292**		*i* P	**Pg**	**19 55 45.4**	**-0.8**
GDZ				*i* S	**Sg**	**19 56 01.6**	**+0.4**
BCK	**Bucak**	**1.22 190**		PN	**Pn**	**19 55 47.8**	**-0.3**
KONT	**Konya--Tatoy**	**1.38 121**		PN	**Pn**	**19 55 49.8**	**-0.6**
GPA	**Golpazari**	**1.68 345**		*e*PN	**Pn**	**19 55 53.6**	**-0.8**
DENT	**Denizli**	**1.70 238**		*e*PN	**Pn**	**19 55 54.4**	**-0.4**
KULA	**Kula-Manisa**	**1.73 266**		*e*PN	**Pn**	**19 55 55.2**	**+0.1**
GOLH	**Golhisar**	**1.76 216**		*i* P	**Pn**	**19 55 54.7**	**-0.8**
GOLH				*i* S	**Sg**	**19 56 26.1**	**+5.7**
LOD	**Lodumlu**	**1.92**	**50**	*e*PN	**Pn**	**19 55 57.3**	**-0.4**
ANTO	**Ankara**	**1.92**	**51**	*e*PN	**Pn**	**19 55 57.7**	**-0.1**
ADVT	**Abdulvahap**	**1.97 334**		*e*PN	**Pn**	**19 55 58.9**	**+0.5**
DST	**Dursunbey**	**1.97 299**		*e*PN	**Pn**	**19 55 57.9**	**-0.6**
IZI	**Iznik**	**1.99 328**		*e*PN	**Pn**	**19 55 58.8**	**+0.1**
ELL	**Elmali**	**2.06 202**		*e*PN	**Pn**	**19 55 58.9**	**-0.7**
HENT	**Hendek**	**2.16**	**1**	*i* P	**Pb**	**19 56 04.4**	**+0.6**
HENT				*i* S	**Sg**	**19 56 36.5**	**+3.2**
YLV	**Yalova**	**2.22 329**		*e*PN	**Pn**	**19 56 02.4**	**+0.5**
KAMT	**Kaman**	**2.33**	**72**	*e*PN	**Pn**	**19 56 03.7**	**+0.3**
HRT	**Hereke**	**2.34 337**		*e*PN	**Pn**	**19 56 03.5**	**-0.1**
AKS	**Akhisar**	**2.39 276**		*e*PN	**Pn**	**19 56 03.7**	**-0.5**
FETY	**Fethiye**	**2.47 215**		*e*PN	**Pn**	**19 56 05.3**	**0.0**
KCT	**Karacabey**	**2.51 310**		*e*PN	**Pn**	**19 56 06.1**	**+0.1**
BALB	**Balikesir**	**2.51 294**		*e*PN	**Pn**	**19 56 05.7**	**-0.3**
YER	**Yerkesik**	**2.55 234**		*e*PN	**Pn**	**19 56 06.4**	**0.0**
ISK	**Istanbul-Kandi**	**2.77 331**		*e*PN	**Pn**	**19 56 09.8**	**+0.3**
BNT	**Bandirma**	**2.83 308**		*e*PN	**Pn**	**19 56 10.1**	**-0.2**
EDC	**Edincik**	**2.86 307**		*e*PN	**Pn**	**19 56 10.1**	**-0.6**
CANT	**Cankiri**	**2.88**	**47**	*e*PN	**Pn**	**19 56 11.2**	**+0.2**
SAFT	**Safranbolu**	**2.93**	**28**	*e*PN	**Pn**	**19 56 11.7**	**0.0**
KLYT	**Kilyos**	**2.94 332**		*e*PN	**Pn**	**19 56 12.2**	**+0.4**
NIG	**Nigde**	**3.00**	**99**	*e*PN	**Pn**	**19 56 12.7**	**+0.1**
IKL	**Isikli**	**3.30 136**		*e*PN	**Pn**	**19 56 17.2**	**+0.4**
TOS	**Tosya**	**3.40**	**45**	*e*PN	**Pn**	**19 56 18.4**	**+0.3**
MERS	**Mersin**	**3.41 121**		*e*PN	**Pn**	**19 56 18.7**	**+0.4**
TIRR	**Tirgusor**	**6.07 343**⇓		*i*P	**Pn**	**19 56 54.6**	**-0.2**
VTS	**Vitosha**	**7.02 306**⇑		*i*P	**Pn**	**19 57 08.3**	**+0.5**
MLR	**Muntele Rosu**	**7.74 333**⇓		*i*P	**Pn**	**19 57 19.8**	**+2.1**
PLOR	**Plostina**	**7.83 338**⇑		*i*P	**Pn**	**19 57 20.1**	**+1.2**
BURAR	**Bucovina Array**	**9.85 337**⇑		*i*P	**Pn**	**19 57 47.6**	**+1.0**

IDC 06 20:00:35.6±2.2,**043N**×**12679E**,**h0**km,**mb3.2**/3,**mb1 3.5**/3, **mb1mx3.3**/15,**mbtmp3.3**/3,**Error ellipse: s-maj=165.4km s-min=28.6km az=66.0**,**Northern Molucca Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.56 160**		P	P	20 05 26.5	-0.3
	0.4nm,0.4s,baz=339,slow=11,SNR=5.7						
ASAR	**Alice Springs**	**24.93 164**		P	P	20 06 01.0	+0.3
	0.2nm,0.3s,baz=346,slow=12,SNR=10						
MKAR	**Makanchi Array**	**60.30 326**		P	P	20 10 46.1	0.0
	0.3nm,0.7s,baz=117,slow=8.6,SNR=2.6						

*ISCJB **06** 20:02:39.1±1.2,1764N±006×1198E±0.1,h71km±10km, mb3.8/3, Error ellipse: s-maj=17.8km s-min=8.9km az=22.8*
*IDC **06** 20:02:50.1±5.0,1580N×12133E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.5/19,mbtmp3.7/4, Error ellipse: s-maj=259.8km s-min=27.3km az=90.0*
ISC 06 20:02:40.7±1.2,**1761N**±006×**1198E**±01,**h61**km±11km,**n17**, σ**0**§**99**/22,**mb3.7**/3,**1C-4D**,**Philippine Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.85**	**87**	*e*P	**Pn**	**20 02 55.4**	**-1.5**
ABRA				*e*S	**Sn**	**20 03 04.4**	**-4.4**
PIP	**Pasuquin**	**1.04**	**47**⇓	*i*P	**Pn**	**20 02 59.8**	**+0.4**
PIP				*e*S	**Sn**	**20 03 13.4**	**+0.3**
BOLP	**Bolinao**	**1.23 176**		*e*P	**Pn**	**20 03 01.3**	**-0.5**
APYP	**Conner**	**1.38**	**79**	*e*P	**Pn**	**20 03 03.3**	**-0.5**
BCPH	**Baguio City Da**	**1.42 149**⇑		*i*P	**Pn**	**20 03 03.9**	**-0.5**
BCPH				*i* S	**Sn**	**20 03 19.2**	**-3.0**
CVP	**Callao Caves**	**1.91**	**87**⇓	*i*P	**Pn**	**20 03 11.0**	**+0.1**
CVP				*i* S	**Sn**	**20 03 34.0**	**-0.1**
CAUP	**Cauayan**	**2.03 109**		*e*P	**Pn**	**20 03 13.5**	**+0.9**
PCPH	**Palayan**	**2.38 149**⇓		*e*P	**Pn**	**20 03 17.1**	**-0.3**
PCPH				*e*S	**Sn**	**20 03 47.2**	**+1.9**
BALP	**Baler**	**2.51 138**		*e*P	**Pn**	**20 03 19.2**	**+0.1**
PALP	**Palanan**	**2.55 102**⇓		*i*P	**Pn**	**20 03 20.3**	**+0.7**
POLP	**Polillo Island**	**3.52 144**		*e*P	**Pn**	**20 03 34.3**	**+1.4**
LUBP	**Lubang**	**3.88 174**		*e*P	**Pn**	**20 03 41.1**	**+3.2**
BUSP	**Coron**	**5.59 176**		*e*P	**Pn**	**20 04 01.9**	**+0.6**
ENPP	**El Nido**	**6.38 183**		*e*P	**Pn**	**20 04 12.0**	**-0.1**
WRA	**Warramunga Arr**	**39.95 158**		P	**P**	**20 10 07.8**	**-1.5**
	0.4nm,0.5s,mb3.4,baz=339,slow=9.2,SNR=11						
ASAR	**Alice Springs**	**43.27 161**		P	**P**	**20 10 36.1**	**-0.3**
	0.6nm,0.4s,mb3.6,baz=338,slow=7.0,SNR=36						
STKA	**Stephens Creek**	**53.45 157**		P	**P**	**20 11 55.0**	**+0.4**
	0.9nm,0.4s,mb4.0,baz=338,slow=9.6,SNR=5.5						

*ISCJB **06** 20:08:50.4±0.4,4376N±003×105.16W±004,h0km,mb4.0/4, Error ellipse: s-maj=4.7km s-min=3.6km az=155.4*
*IDC **06** 20:08:52.8±0.9,4407N×105.89W,h0km,mb4.0/4, mb1 3.9/7,mb1mx3.7/23,mbtmp3.8/7,ML3.1/3, Error ellipse: s-maj=25.1km s-min=11.7km az=130.0*
*NEIC **06** 20:08:52.6±0.4,4375N×105.21W,h0km,ML3.4, Error ellipse: s-maj=5.5km s-min=4.6km az=115.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 06 20:08:52.5±0.4,**4382N**±003×**105.25W**±004,**h0**km,**n52**, σ**1**§**09**/74,**mb4.0**/4,**Wyoming**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.52 184**		*e*Pn	**Pn**	**20 09 33.8**	**-0.9**
PHWY				*e*Sn	**Sn**	**20 10 05.0**	**-1.0**
RWWY	**Rawlins**	**2.57 215**		*e*Pn	**Pn**	**20 09 35.5**	**+0.1**
RWWY				*e*Sn	**Sn**	**20 10 08.1**	**+0.8**
LAO	**LASA Array**	**2.95 347**		*e*Pn	**Pn**	**20 09 41.8**	**+1.2**
RLMT	**Red Lodge**	**3.16 296**		*e*Pn	**Pn**	**20 09 44.0**	**+0.5**
RLMT				*e*Sn	**Sn**	**20 10 22.1**	**+0.2**
BW06	**Boulder Array**	**3.32 253**		*e*Pn	**Pn**	**20 09 45.2**	**-0.4**
BW06				*e*Sn	**Sn**	**20 10 29.9**	**+4.1**
LKWY	**Lake**	**3.78 283**		*e*Pn	**Pn**	**20 09 53.1**	**+1.1**
LOHW	**Long Hollow**	**3.89 269**		*e*Pn	**Pn**	**20 09 54.1**	**+0.6**
FLWY	**Flagg Ranch**	**3.95 276**		*e*Pn	**Pn**	**20 09 56.7**	**+2.4**
MOOW	**Moose Ponds**	**3.98 271**		*e*Pn	**Pn**	**20 09 56.1**	**+1.3**
MOOW				*e*Pg	**Pg**	**20 10 04.9**	**-3.9**
YNR	**Norris Junctio**	**4.00 285**		*e*Pn	**Pn**	**20 10 01.4**	**+6.3**
SNOW	**Snow King Moun**	**4.01 267**		*e*Pn	**Pn**	**20 09 55.6**	**+0.4**
ISCO	**Idaho Springs**	**4.02 184**		*e*Pn	**Pn**	**20 09 54.8**	**-0.5**
ISCO				*e*Pg	**Pg**	**20 10 07.0**	**-2.6**
ISCO				*e*Sg	**Sg**	**20 10 55.9**	**-5.9**
YFT	**Old Faithful**	**4.07 281**		*e*Pn	**Pn**	**20 09 57.8**	**+1.7**
REDW	**Red Top Meadow**	**4.10 266**		*e*Pn	**Pn**	**20 09 56.6**	**+0.2**
REDW				*e*Pg	**Pg**	**20 10 10.7**	**-0.3**
IMW	**Indian Meadow**	**4.12 273**		*e*Pn	**Pn**	**20 09 57.6**	**+1.0**
IMW				*e*Pg	**Pg**	**20 10 07.8**	**-3.6**
TPAW	**Teton Pass**	**4.15 267**		*e*Pn	**Pn**	**20 09 57.5**	**+0.3**
TPAW				*e*Pg	**Pg**	**20 10 09.7**	**-2.4**
YMR	**Madison River**	**4.20 284**		*e*Pn	**Pn**	**20 10 01.1**	**+3.4**
DCID1	**Drake Creek**	**4.31 269**		*e*Pn	**Pn**	**20 10 00.9**	**+1.6**
AHID	**Auburn Hatcher**	**4.40 258**		*e*Pg	**Pg**	**20 10 12.5**	**-4.4**
QLMT	**Earthquake Lak**	**4.55 285**		*e*Pn	**Pn**	**20 10 05.9**	**+3.3**
QLMT				*e*Pg	**Pg**	**20 10 15.2**	**-4.6**
QLMT				*e*Sg	**Sg**	**20 11 18.8**	**+0.1**
DGMT	**Dagmar**	**4.71**	**9**	Pn	**Pn**	**20 10 08.3**	**+3.5**
DGMT				*e*Pg	**Pg**	**20 10 19.4**	**-3.5**
SMCO	**Snowmass**	**4.81 196**		*e*Pn	**Pn**	**20 10 07.2**	**+1.0**
BOZ	**Bozeman (W)**	**4.90 294**		*e*Pn	**Pn**	**20 10 06.8**	**-0.6**
BOZ				*e*Pg	**Pg**	**20 10 23.5**	**-3.0**
HWUT	**Hardware Ranch**	**5.15 247**		*e*Pn	**Pn**	**20 10 09.9**	**-1.0**
	22nm,0.5s						
JLU	**Jordanelle**	**5.62 237**		*e*Pn	**Pn**	**20 10 16.1**	**-1.1**
CTU	**Camp Tracy**	**5.75 239**		*e*Pn	**Pn**	**20 10 18.5**	**-0.6**
	12nm,0.5s						
HVU	**Hansel Valley**	**5.90 252**		*e*Pn	**Pn**	**20 10 21.1**	**-0.1**
	7.5nm,0.6s			

LZH PG **Pg** **20 23 26.6 -2.1**
LZH S **Sn** **20 23 59.5 +2.7**
LZH SG **Sg** **20 24 12.3 0.0**
LZH Smax
comp=N,230nm,1.0s
LZH Smax
comp=E,134nm,0.8s
LZH LR LR
comp=E,136nm,4.2s
LZH LR LR
comp=Z,196nm,5.4s
GTA Gaotai 3.43 1 P **Pn** **20 23 23.5 +5.7**
GTA PG **Pg** **20 23 29.3 -0.7**
GTA S **Sn** **20 24 00.0 +1.5**
GTA SG **Sg** **20 24 13.9 -0.5**
GTA Smax
comp=N,39nm,1.0s
GTA Smax
comp=E,86nm,1.1s
CD2 Chengdu 6.09 145 *e*PG **Pb** **20 24 10.1 -0.4**
CD2 Smax
comp=N,10.0nm,1.6s
CD2 Smax
comp=E,10.0nm,1.8s
SONM Songino Array 12.85 21 Pn **Pn** **20 25 31.7 +4.8**
comp=E,0.1nm,0.3s,baz=204,slow=12,SNR=4.2
SONM Sn **Sn** **20 27 46.6 -3.2**
comp=E,0.1nm,0.3s,baz=209,slow=23,SNR=3.8
SONM Lg 20 29 18.2
comp=E,0.1nm,0.3s,baz=198,slow=23,SNR=2.9
SONM LR LR 20 30 33.4
comp=E,57nm,19.7s,baz=219,slow=38
MKAR Makanchi Array 16.91 315 Pn **Pn** **20 26 17.0 -4.1**
comp=E,0.1nm,0.3s,baz=125,slow=15,SNR=4.6
ZALV Zalesovo Beam 20.75 335 P **P** **20 27 05.4 +0.4**
comp=E,2.6nm,0.5s,baz=147,slow=11,SNR=8.4
BVAR Borovoye Array 26.70 319 P **P** **20 28 04.0 +0.5**
comp=E,0.4nm,0.6s,mb3.1,baz=115,slow=10,SNR=3.6
FINES FINESS Array B 51.48 324 P **P** **20 31 29.6 0.0**
comp=E,0.5nm,0.6s,mb3.6,baz=106,slow=10,SNR=3.6
FINES LR LR 20 56 09.1
comp=E,80nm,19.8s,baz=236,slow=39

IDC 06 20:41:18.3±4.8,2468N×14129E,h171km±91km,mb3.6/2, mb1 3.7/4,mb1mx3.2/19,mbtmp3.6/4,Error ellipse: s-maj=152.9km s-min=23.5km az=70.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.54**	**18**	P	Pn	20 42 02.6	+1.7
	baz=102,slow=20						
CBIJ				S	Sn	20 42 34.1	0.0
	38nm,0.3s,baz=288,slow=19,SNR=5.5						
KSRS	**Korea Array**	**17.10**	**321**	P	Pn	20 45 08.3	+1.1
	0.2nm,0.3s,baz=134,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**44.86**	**189**	P	P	20 49 15.7	0.0
	3.9nm,0.4s,baz=8.3,slow=6.6,SNR=36						
MKAR	**Makanchi Array**	**51.42**	**311**	P	P	20 50 04.8	-0.9
	0.3nm,0.3s,baz=91,slow=9.1,SNR=5.5						

*IDC **06** 20:41:41.8±1.8, 162N×12638E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, Error ellipse: s-maj=118.4km s-min=22.8km az=68.0*
*ISCJB **06** 20:41:44.6±1.5, 16N±02×1262E±05, h33km, mb3.9/3, Error ellipse: s-maj=81.7km s-min=20.4km az=158.2*
ISC 06 20:41:47.0±1.6,15N±02×1262E±05,h35km,n7,σ0°60°/7, mb3.9/3,2D,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TNE	**Ternate**	**1.35**	**120**	‖*eP*	**Pn**	**20 42 04.0**	**-5.4**
TNE	**Ternate**	**1.35**	**120**	‖*eP*	**Pn**	**20 42 14.0**	**+4.6**
FITZ	**Fitzroy Crossi**	**19.46**	**182**	P	**Pn**	**20 46 12.1**	**-0.1**
	0.1nm,0.3s,baz=6.9,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**22.73**	**160**	P	**P**	**20 46 45.7**	**-0.4**
	2.5nm,0.5s,mb3.9,baz=338,slow=11,SNR=39						
WB2	**Warramunga Arr**	**22.73**	**160**	*eP*	**P**	**20 46 45.6**	**-0.5**
ASAR	**Alice Springs**	**26.09**	**164**	P	**P**	**20 47 18.7**	**+1.1**
	1.5nm,0.4s,mb3.9,baz=348,slow=13,SNR=37						
MKAR	**Makanchi Array**	**59.11**	**326**	P	**P**	**20 51 43.9**	**-0.1**
	0.6nm,0.6s,mb3.6,baz=122,slow=8.1,SNR=9.4						

*ISCJB **06** 21:10:26.0±2.9, 5.1S±0.1×1460E±0.2, h192km±26km, mb3.9/7, Error ellipse: s-maj=39.5km s-min=13.8km az=16.4*
*IDC **06** 21:10:33.3±2.7, 5.17S×145.83E, h245km±28km, mb3.5/7, mb1 3.7/8, mb1mx3.5/15, mbtmp3.5/8, Error ellipse: s-maj=34.9km s-min=11.4km az=102.0*
ISC 06 21:10:32.4±2.6,51S±01×1457E±02,h231km±24km,n11, σ0°85/13,mb3.9/7,1C,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**15.13**	**239**	*eP*	**Pn**	**21 13 54.1**	**-1.0**
	5.7nm,0.4s						
WB2	**Warramunga Arr**	**18.43**	**216**	⇑*iP*	**P**	**21 14 31.6**	**+0.7**
WRA	**Warramunga Arr**	**18.43**	**216**	P	**P**	**21 14 31.8**	**+0.8**
	3.9nm,0.3s,baz=44,slow=11,SNR=241						
WRA				S	**S**	**21 17 48.2**	**-1.1**
	0.2nm,0.3s,baz=21,slow=19,SNR=5.6						
ASAR	**Alice Springs**	**21.67**	**211**	P	**P**	**21 15 05.9**	**+0.8**
	3.9nm,0.3s,mb4.3,baz=31,slow=13,SNR=137						
ASAR				S	**S**	**21 18 49.8**	**+1.1**
	2.3nm,0.9s,baz=28,slow=20,SNR=9.0						
BATI	**Kupang**	**22.44**	**256**	P	**P**	**21 15 13.1**	**+0.8**
	16nm,0.5s,mb4.8,baz=171,slow=4.8,SNR=5.3						
FITZ	**Fitzroy Crossi**	**23.49**	**235**	*eP*	**P**	**21 15 21.8**	**0.0**
	2.8nm,0.4s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.49**	**235**	P	**P**	**21 15 21.9**	**+0.1**
	1.9nm,0.5s,mb3.9,baz=62,slow=10,SNR=14						
STKA	**Stephens Creek**	**26.89**	**188**	P	**P**	**21 15 51.0**	**-1.1**
	1.0nm,0.3s,mb4.0,baz=351,slow=14,SNR=24						
KSRS	**Korea Array**	**45.50**	**340**	P	**P**	**21 18 29.4**	**+0.4**
	2.0nm,0.8s,mb3.5,baz=155,slow=9.1,SNR=8.1						
SONM	**Songino Array**	**63.04**	**331**	P	**P**	**21 20 33.7**	**-1.3**
	0.3nm,0.5s,mb3.1,baz=134,slow=8.2,SNR=2.9						
MKAR	**Makanchi Array**	**76.03**	**321**	P	**P**	**21 21 54.5**	**+0.2**
	0.2nm,0.4s,mb3.1,baz=100,slow=7.4,SNR=5.8						

*NIED **06** 21:11:00, 3060N×13150E, h20km, Mw4.1 Best double couple: M0 1.49000×1015 NP1:φ0=238.00000°, δ0.00000°, λ-89.00000°. NP2:φ0=54.00000°, δ10.00000°, λ-94.00000°.*
*ISCJB **06** 21:11:13.0±0.9, 3060N±005×13157E±007, h46km±6km, mb3.8/13, Error ellipse: s-maj=11.9km s-min=6.0km az=34.8*
*JMA **06** 21:11:13.3±0.1, 3060N×13155E, h39km±2km, M4.1*
JMA Felt I J1.
*BJI **06** 21:11:13.3, 3068N×13152E, h49km, mB4.5, mb3.9, Ms3.9, Msz3.7*
*NEIC **06** 21:11:14.6±0.6, 3062N×13143E, mb4.0/3, Error ellipse: s-maj=12.1km s-min=7.7km az=122.0*
NEIC Recorded [1 JMA] in Kagoshima Prefecture. Also recorded [1 JMA] on Tanega-shima.
*IDC **06** 21:11:14.9±3.0, 3060N×13125E, h36km±24km, mb3.6/9, mb1 3.7/13, mb1mx3.7/24, mbtmp3.6/13, ML3.4/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/39, Error ellipse: s-maj=29.6km s-min=18.5km az=99.0*
ISC 06 21:11:14.5±0.8,3061N±004×13151E±007,h39km±6km, n32,σ0°96/39,mb3.8/13,6C-1D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.46**	**276**	⇑P	**Pn**	**21 11 23.8**	**-0.8**
JTN				S	**Sn**	**21 11 31.2**	**-0.5**
JTSR	**Tashiro 2**	**0.75**	**318**	⇑P	**Pn**	**21 11 27.7**	**-0.9**
JTSR				S	**Sn**	**21 11 39.1**	**+0.3**
JNAR	**Kushima--Naru**	**0.94**	**348**	⇑P	**Pn**	**21 11 30.8**	**-0.4**
JKC	**Kuchinoerabu**	**1.14**	**263**	P	**Pn**	**21 11 33.9**	**0.0**
JKC				*e*S	**Sn**	**21 11 49.9**	**+1.6**
JSU	**Suzuyama**	**1.27**	**315**	P	**Pn**	**21 11 34.9**	**-0.8**
JTZ	**Takazaki**	**1.34**	**345**	⇑P	**Pn**	**21 11 36.6**	**-0.1**
JTZ				*e*S	**Sn**	**21 11 53.4**	**+0.1**
JNN	**Nakanoshima**	**1.61**	**242**	P	**Pn**	**21 11 40.7**	**+0.4**
JNN				*e*S	**Sn**	**21 12 01.0**	**+1.2**
JTSN	**Tsuno**	**1.63**	**360**	⇓P	**Pn**	**21 11 40.2**	**-0.5**
JTSN				*e*S	**Sn**	**21 11 59.9**	**-0.6**
JZO	**Okuchi**	**1.71**	**333**	⇑P	**Pn**	**21 11 41.6**	**-0.2**
JIU2	**Izumi 2**	**2.02**	**343**	⇑P	**Pn**	**21 11 46.0**	**0.0**
JNU	**Nakatsue**	**2.56**	**348**	Pn	**Pn**	**21 11 53.7**	**+0.2**
	11nm,0.3s,baz=26,slow=5.8,SNR=50						
JOW	**Kunigami**	**4.71**	**218**	Pn	**Pn**	**21 12 22.9**	**-0.1**
	4.2nm,0.3s,baz=96,slow=16,SNR=7.9						
JOW				Sn	**Sn**	**21 13 13.8**	**-2.6**
	12nm,0.3s,baz=106,slow=25,SNR=4.0						
KSRS	**Korea Array**	**7.45**	**337**	Pn	**Pn**	**21 13 01.8**	**+1.2**
	0.5nm,0.3s,baz=149,slow=13,SNR=6.9						
KSRS				LR	LR	21 16 10.0	
	comp=Z,230nm,19.6s,baz=157,slow=40						
MAJO	**Matsushiro**	**8.14**	**42**	Pn	**Pn**	**21 13 10.5**	**+0.5**
MJAR	**Matsushiro Arr**	**8.14**	**42**	Pn	**Pn**	**21 13 10.9**	**+0.9**
	0.5nm,0.3s,baz=247,slow=14,SNR=5.8						
NJ2	**Nanjing**	**10.92**	**281**	*e*P	**Pn**	**21 13 49.8**	**+1.7**
ULN	**Ulaanbaatar**	**25.44**	**320**	*e*P	**P**	**21 16 37.9**	**-0.6**
	1.9nm,0.6s,mb3.8						
SONM	**Songino Array**	**25.80**	**319**	P	**P**	**21 16 41.0**	**-0.6**
	1.9nm,0.7s,mb3.7,baz=135,slow=9.8,SNR=8.5						
WMQ	**Urumqi**	**36.88**	**303**	*e*P	**P**	**21 18 20.0**	**+0.9**
ZALV	**Zalesovo Beam**	**40.69**	**319**	P	**P**	**21 18 49.0**	**-1.9**
	0.5nm,0.4s,mb3.5,baz=110,slow=10,SNR=3.8						
ZALV				PcP	PcP	21 20 52.6	+0.7
	0.4nm,0.4s,baz=125,slow=4.0,SNR=2.6						
MKAR	**Makanchi Array**	**40.97**	**307**	P	**P**	**21 18 52.6**	**-0.8**
	0.4nm,0.6s,mb3.2,baz=90,slow=11,SNR=6.6						
MKAR				PcP	PcP	21 20 53.5	+0.5
	0.1nm,0.4s,baz=80,slow=3.3,SNR=5.1						
KURK	**Kurchatov**	**43.80**	**313**	*e*P	**P**	**21 19 15.7**	**-0.6**
	1.3nm,0.5s,mb3.9						
KURK				*e*pP	pP	21 19 29.0	+1.6
FITZ	**Fitzroy Crossi**	**48.75**	**187**	P	**P**	**21 19 54.9**	**-0.6**
	1.3nm,0.6s,mb4.1,baz=30,slow=8.2,SNR=5.5						
BRVK	**Borovoye**	**49.12**	**316**	*e*P	**P**	**21 19 57.3**	**-0.7**
	3.4nm,0.5s,mb4.6						
BRVK				*e*pP	pP	21 20 08.5	-0.8
KEV	**Kevo**	**66.44**	**338**	*e*p	**P**	**21 21 55.4**	**-3.8**
	0.4nm,0.3s,mb3.9						
FINES	**FINESS Array B**	**70.48**	**331**	P	**P**	**21 22 23.4**	**-1.3**
	1.1nm,0.5s,mb4.1,baz=76,slow=6.5,SNR=20						
YKA	**Yellowknife Ar**	**73.35**	**26**	P	**P**	**21 22 44.1**	**+2.3**
	0.1nm,0.4s,mb3.1,baz=302,slow=5.9,SNR=3.3						
AKASG	**Malin Array Be**	**74.08**	**320**	P	**P**	**21 22 46.6**	**+0.3**
	1.5nm,0.4s,mb4.2,baz=56,slow=6.4,SNR=10						
NB2	**NORSAR Subarra**	**76.65**	**334**	P	**P**	**21 23 01.0**	**+0.1**
	comp=Z,0.9nm,0.6s,mb3.9,baz=48,slow=5.6						
NOA	**NORSAR Array B**	**76.65**	**334**	P	**P**	**21 23 01.2**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=53,slow=5.2,SNR=3.9						
CLL	**Collm**	**82.18**	**326**	*e*P	**P**	**21 23 32.0**	**+0.8**
GERES	**GERESS Array B**	**83.42**	**324**	P	**P**	**21 23 39.5**	**+1.8**
	comp=Z,0.4nm,0.6s,mb3.7,baz=72,slow=4.3,SNR=4.9						

*ORF **06** 21:10:43.7, 1831S×17975E, h30km, mb7.0*
*MOS **06** 21:11:50.3±1.2, 1929S×17933W, h657km, mb6.1/46, Error ellipse: s-maj=36.4km s-min=14.3km az=107.4*
*ISCJB **06** 21:11:51.7±0.1, 1948S±002×17936W±002, h677km, mb5.8/182, Error ellipse: s-maj=3.1km s-min=2.1km az=139.8*
*BJI **06** 21:11:51.8, 1883S×17884W, h673km, mB5.4, mb5.5*
*NEIC **06** 21:11:52.5±0.1, 1940S×17935W, mb6.0/135, MW6.4, Error ellipse: s-maj=3.8km s-min=2.6km az=127.0, Moment Tensor Solution. s49 Moment tensor: Scale 1018Nm; M11=5.40; M22=1.50; M33=-3.90; M12=0.77; M13=-1.83; M23=2.28; Best double couple: M0=5.60000×1018 NP1: φ=41.00000°, δ=38.00000°, λ=113.00000°. NP2: φ=193.00000°, δ=56.00000°, λ=73.00000°. Principal axes: T 6.1100, Plg=73.0000°, Azm=58.0000°; N -0.9500, Plg=14.0000°, Azm=202.0000°; P -5.1600, Plg=9.0000°, Azm=295.0000°;*
NEIC Felt at Neiafu, Tonga.
*IDC **06** 21:11:52.7±0.4, 1940S×17932W, h671km±3km, mb5.2/34, mb1 5.2/37, mb1mx5.2/37, mbtmp5.2/37 Error ellipse: s-maj=6.0km s-min=5.2km az=22.0*
*GCMT **06** 21:11:52.5±0.1, 1944S×17904W, h691km, MW6.5/114, Moment Tensor Solution. s114,c279; s94,c150; Duration: 45 Moment tensor: Scale 1018Nm; M11=5.28±.03; M22=-2.26±.04; M33=-3.02±.04; M12=1.35±.04; M13=-2.94±.04; M23=2.40±.04; Best double couple: M0=6.07000×1018 NP1:φ=62.00000°, δ=44.00000°, λ=123.00000°. NP2:φ=199.00000°, δ=54.00000°, λ=62.00000°. Principal axes: T 6.4510, Plg=67.0000°, Azm=51.0000°; N -0.7620, Plg=23.0000°, Azm=217.0000°; P -5.6890, Plg=5.0000°, Azm=309.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*CRAAG **06** 21:11:53.7, 1925S×17935W, Ms6.4*
*SZGRF **06** 21:11:55.9, 1876S×17758W, h679km, Fiji Islands region*
ISC 06 21:11:53.3±0.1,1947S±002×17933W±002,h679km, h679km±1.2km:pP-P,n1944,σ0°73/918,mb5.8/176, 286C-183D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.82**	**173**	P	**P**	**21 14 09.7**	**-1.8**
RAO				S	**S**	**21 16 02.6**	**-2.0**
RAO				pmax	pmax		
	comp=Z,943nm,0.3s						
RAO				smax			
	comp=N,476nm,0.3s						
RAO	**Raoul Island**	**9.82**	**173**	*e*Pn	**P**	**21 14 09.5**	**-2.0**
	comp=N,3μm,0.4s						
RAO				*e*Sn	**S**	**21 16 03.2**	**-1.4**
RAO	**Raoul Island**	**9.82**	**173**	P	**P**	**21 14 09.7**	**-1.8**
	comp=N,943nm,0.3s,baz=128,slow=6.3,SNR=33						
RAO				S	**S**	**21 16 02.6**	**-1.9**
	comp=N,476nm,0.3s,baz=80,slow=24,SNR=15						
FUNA	**Funafuti**	**10.97**	**352**	*e*Pn	**P**	**21 14 19.8**	**-2.5**
	comp=N,11μm,1.2s						
DZM	**Mont Dzumac**	**13.56**	**257**	*e*P	**P**	**21 14 47.0**	**+1.2**
DZM				*e*S	**S**	**21 16 56.5**	**-10**
WCZ	**Waipu Caves**	**17.33**	**197**	*e*P	**P**	**21 15 22.9**	**+2.9**
WCZ	**Waipu Caves**	**17.33**	**197**	PN	**P**	**21 15 23.9**	**+4.0**
KUZ	**Kuaotunu**	**17.75**	**193**	*e*P	**P**	**21 15 25.2**	**+1.4**
KUZ	**Kuaotunu**	**17.75**	**193**	PN	**P**	**21 15 24.9**	**+1.2**
MXZ	**Matakaoa Point**	**18.15**	**186**	*e*P	**P**	**21 15 26.8**	**-0.5**
MXZ	**Matakaoa Point**	**18.15**	**186**	*e*PN	**P**	**21 15 24.8**	**-2.5**
MXZ				SN	**S**	**21 18 13.5**	**-6.5**
RAR	**Rarotonga**	**18.42**	**99**	P	**P**	**21 15 29.3**	**-0.7**
RAR				S	**S**	**21 18 25.5**	**+0.6**
RAR				pmax	pmax		
	comp=Z,27nm,0.3s						
RAR				smax			
	comp=N,2.0nm,0.3s						
RAR	**Rarotonga**	**18.42**	**99**	P	**P**	**21 15 29.3**	**-0.8**
	comp=N,27nm,0.3s,baz=249,slow=7.2,SNR=45						
RAR				S	**S**	**21 18 25.5**	**+0.7**
	comp=N,2.2nm,0.3s,baz=42,slow=18,SNR=5.2						
PUZ	**Puketiti**	**18.66**	**186**	*e*P	**P**	**21 15 31.6**	**-0.3**
PUZ	**Puketiti**	**18.66**	**186**	PN	**P**	**21 15 30.4**	**-1.5**
PUZ				SN	**S**	**21 18 27.0**	**-1.1**
URZ	**Urewera**	**18.98**	**189**	*e*P	**P**	**21 15 33.0**	**-1.8**
URZ	**Urewera**	**18.98**	**189**	P	**P**	**21 15 33.5**	**-1.3**
	comp=N,42nm,0.3s,baz=341,slow=1.5,SNR=72						
URZ				S	**S**	**21 18 28.3**	**-4.9**
	comp=N,5.3nm,0.3s,baz=139,slow=20,SNR=3.3						
URZ				ScS	ScS	21 25 38.4	-2.6
	comp=N,2.4nm,0.3s,baz=158,slow=21,SNR=11						
URZ	**Urewera**	**18.98**	**189**	*e*PN	**P**	**21 15 32.4**	**-2.4**
URZ				SN	**S**	**21 18 26.9**	**-6.2**
MWZ	**Matawai**	**19.00**	**188**	*e*P	**P**	**21 15 34.0**	**-0.9**
MWZ	**Matawai**	**19.00**	**188**	PN	**P**	**21 15 34.1**	**-0.8**
MWZ				SN	**S**	**21 18 28.0**	**-5.4**
KNZ	**Kokohu**	**19.66**	**187**	*e*P	**P**	**21 15 41.1**	**+0.3**
KNZ	**Kokohu**	**19.66**	**187**	PN	**P**	**21 15 40.8**	**0.0**
BKZ	**Black Stump Fm**	**19.96**	**190**	*e*P	**P**	**21 15 42.6**	**-0.9**
BKZ	**Black Stump Fm**	**19.96**	**190**	PN	**P**	**21 15 42.3**	**-1.2**
BKZ				SN	**S**	**21 18 44.3**	**-4.3**
MOVZ	**Moawhango**	**20.32**	**191**	P	**P**	**21 15 45.8**	**-0.9**
MOVZ	**Moawhango**	**20.32**	**191**	*e*PN	**P**	**21 15 45.8**	**-0.9**
PXZ	**Pawanui**	**20.76**	**188**	PN	**P**	**21 15 49.5**	**-1.0**
TSZ	**Takapari Road**	**20.92**	**190**	*e*P	**P**	**21 15 52.3**	**+0.3**
TSZ	**Takapari Road**	**20.92**	**190**	*e*PN	**P**	**21 15 50.5**	**-1.6**
MRZ	**Mangatainoka R**	**21.57**	**191**	P	**P**	**21 15 57.1**	**-0.7**
MRZ	**Mangatainoka R**	**21.57**	**191**	PN	**P**	**21 15 57.0**	**-0.8**
KIW	**Kapiti Island**	**21.89**	**192**	P	**P**	**21 16 00.3**	**-0.3**
KIW	**Kapiti Island**	**21.89**	**192**	*e*PN	**P**	**21 16 00.2**	**-0.4**
DUWZ	**D'Urville Isla**	**22.04**	**194**	PN	**P**	**21 16 02.2**	**+0.3**
MTW	**Mount Morrison**	**22.07**	**190**	P	**P**	**21 16 02.6**	**+0.4**
MTW	**Mount Morrison**	**22.07**	**190**	PN	**P**	**21 16 02.3**	**+0.1**
CAW	**Cannon Point**	**22.09**	**191**	P	**P**	**21 16 01.3**	**-1.1**
CAW	**Cannon Point**	**22.09**	**191**	PN	**P**	**21 16 01.2**	**-1.3**
MRW	**Makara Radio**	**22.28**	**192**	P	**P**	**21 16 03.8**	**-0.3**
MRW	**Makara Radio**	**22.28**	**192**	PN	**P**	**21 16 03.6**	**-0.5**
TCW	**Tory Channel**	**22.35**	**193**	*e*PN	**P**	**21 16 03.8**	**-0.9**
SNZO	**South Karori**	**22.36**	**192**	*e*P	**P**	**21 16 04.3**	**-0.5**
SNZO	**South Karori**	**22.36**	**192**	PN	**P**	**21 16 04.3**	**-0.5**
HNR	**Honiara**	**22.39**	**294**	*e*P	**P**	**21 16 04.8**	**-0.6**
HNR				pmax	pmax		
	comp=Z,640nm,0.8s,mb6.1						
HNR	**Honiara**	**22.39**	**294**	*e*P	**P**	**21 16 04.8**	**-0.7**
	comp=Z,645nm,0.8s,mb6.1						
HNR				*e*ScP	ScP	21 22 08.1	+0.5
HNR	**Honiara**	**22.39**	**294**	P	**P**	**21 16 03.7**	**-1.8**
	comp=Z,446nm,0.6s,mb6.1,baz=106,slow=1.5,SNR=27						
QRZ	**Quartz Range**	**22.40**	**196**	*e*P	**P**	**21 16 05.9**	**+0.8**
QRZ	**Quartz Range**	**22.40**	**196**	PN	**P**	**21 16 06.5**	**+1.3**
PLWZ	**Palliser**	**22.51**	**191**	PN	**P**	**21 16 05.4**	**-0.7**
NNZ	**Nelson**	**22.56**	**194**	*e*P	**P**	**21 16 06.8**	**+0.3**
NNZ	**Nelson**	**22.56**	**194**	*e*PN	**P**	**21 16 06.3**	**-0.2**
TUWZ	**Tuamarina**	**22.63**	**193**	PN	**P**	**21 16 06.3**	**-0.9**
BSWZ	**Blackbirch Sta**	**22.92**	**193**	P	**P**	**21 16 10.0**	**+0.3**
BSWZ	**Blackbirch Sta**	**22.92**	**193**	*e*PN	**P**	**21 16 09.8**	**+0.1**
THZ	**Tophouse**	**23.19**	**195**	*e*PN	**P**	**21 16 11.5**	**-0.5**
DSZ	**Denniston Nort**	**23.45**	**197**	*e*P	**P**	**21 16 15.6**	**+1.2**
DSZ	**Denniston Nort**	**23.45**	**197**	PN	**P**	**21 16 13.9**	**-0.5**
KHZ	**Kahutara**	**23.66**	**193**	PN	**P**	**21 16 14.6**	**-1.6**
WVZ	**Waitaha Valley**	**24.98**	**197**	*e*P	**P**	**21 16 27.6**	**-0.2**
WVZ	**Waitaha Valley**	**24.98**	**197**	PN	**P**	**21 16 27.1**	**-0.8**
MQZ	**McQueen's Vall**	**25.09**	**194**	PN	**P**	**21 16 28.5**	**-0.2**
RPZ	**Rata Peaks**	**25.49**	**196**	P	**P**	**21 16 32.0**	**-0.2**
	comp=Z,82nm,0.4s,mb5.6,baz=20,slow=3.3,SNR=29						
FOZ	**Fox Glacier**	**25.74**	**199**	P	**P**	**21 16 33.9**	**-0.5**
FOZ	**Fox Glacier**	**25.74**	**199**	PN	**P**	**21 16 32.7**	**-1.7**
LBZ	**Lake Benmore**	**26.35**	**197**	*e*P	**P**	**21 16 38.2**	**-1.5**
LBZ	**Lake Benmore**	**26.35**	**197**	PN	**P**	**21 16 38.1**	**-1.6**
JCZ	**Jackson Bay**	**26.48**	**199**	*e*P	**P**	**21 16 41.4**	**+0.5**
JCZ	**Jackson Bay**	**26.48**	**199**	PN	**P**	**21 16 40.6**	**-0.3**
ODZ	**Otahua Downs**	**26.83**	**196**	*e*P	**P**	**21 16 41.3**	**-2.6**
ODZ	**Otahua Downs**	**26.83**	**196**	*e*PN	**P**	**21 16 43.1**	**-0.8**
WKZ	**Wanaka**	**27.09**	**198**	*e*P	**P**	**21 16 45.4**	**-0.7**
WKZ	**Wanaka**	**27.09**	**198**	PN	**P**	**21 16 45.2**	**-0.9**
EAZ	**Earnscleugh**	**27.37**	**198**	*e*P	**P**	**21 16 48.3**	**-0.2**
EAZ	**Earnscleugh**	**27.37**	**198**	PN	**P**	**21 16 47.9**	**-0.6**
MLZ	**Mavora Lakes**	**27.81**	**199**	*e*P	**P**	**21 16 53.8**	**+1.4**
MLZ	**Mavora Lakes**	**27.81**	**199**	PN	**P**	**21 16 53.2**	**+0.8**
EIDS	**Eidsvold**	**27.94**	**252**	*e*P	**P**	**21 16 54.0**	**+0.2**
	comp=Z,845nm,2.0s,mb5.9						
EIDS				*e*S	**S**	**21 20 54.1**	**+0.4**
EIDS				*e*ScP	ScP	21 22 24.7	+1.1
TUZ	**Tuapeka**	**27.94**	**197**	*e*P	**P**	**21 16 53.8**	**+0.3**
TUZ	**Tuapeka**	**27.94**	**197**	PN	**P**	**21 16 53.8**	**+0.3**
TBI	**Tubuai**	**28.05**	**103**	*e*P	**P**	**21 16 54.2**	**-0.6**
	comp=Z,894nm,0.9s,mb6.3						
PAE	**Paea**	**28.24**	**91**	*e*P	**P**	**21 16 55.7**	**-0.8**
	comp=Z,350nm,0.9s,mb5.9						
PAE	**Paea**	**28.24**	**91**	*e*P	**P**	**21 16 55.7**	**-0.8**
PAE				pmax	pmax		
	comp=Z,350nm,0.9s,mb5.9						
PPT	**Papeete**	**28.26**	**91**	*e*P	**P**	**21 16 56.2**	**-0.5**
	comp=Z,358nm,1.2s,mb5.8						
PPT	**Papeete**	**28.26**	**91**	P	**P**	**21 16 55.8**	**-0.9**
PPT						21 19 47.2	
PPT				pmax	pmax		
	comp=Z,296nm,0.5s						
PPT				pmax	pmax		
	comp=Z,30nm,0.6s						
PPT	**Papeete**	**28.26**	**91**	*e*P	**P**	**21 16 56.0**	**-0.7**
PPT				*e*PcP	PcP	21 19 44.5	-1.5
PPT	**Papeete**	**28.26**	**91**	P	**P**	**21 16 55.8**	**-0.9**
	comp=Z,296nm,0.5s,mb6.1,baz=240,slow=5.3,SNR=92						
PPT				PcP	PcP	21 19 47.2	+1.2
	comp=Z,30nm,0.6s,baz=212,slow=10,SNR=4.7						
WHZ	**Wether Hill Ro**	**28.37**	**199**	*e*P	**P**	**21 16 58.3**	**+1.1**
WHZ	**Wether Hill Ro**	**28.37**	**199**	PN	**P**	**21 16 58.1**	**+1.0**
ARMA	**Armidale**	**28.42**	**242**	‖*iP*	**P**	**21 16 59.5**	**+1.6**
ARMA				*e*PCP	PcP	21 19 47.9	+1.7
ARMA				*i* S	**S**	**21 21 03.3**	**+2.3**
ARMA				*e*SCP	ScP	21 22 29.4	+4.4
ARMA				*e*SCS	ScS	21 26 25.8	+5.9
ARMA	**Armidale**	**28.42**	**242**	‖*iP*	SKKSdf	21 48 57.4	+36
MEH	**Mehetia**	**29.64**	**92**	*e*P	**P**	**21 17 07.5**	**-1.0**
	comp=Z,129nm,0.9s,mb5.5						
RIV	**Riverview**	**29.88**	**235**	*e*P	**P**	**21 17 10.9**	**+0.6**
RIV				*e*PCP	PcP	21 19 51.7	+1.7
RIV				*e*SCP	ScP	21 22 34.0	+4.3
RIV				*e*SCS	ScS	21 26 32.5	+5.6
RIV	**Riverview**	**29.88**	**235**	*e*P	**P**	**21 17 10.9**	**+0.6**
RIV				*e*		21 19 51.7	
RIV				*e*		21 26 32.5	
PMOR	**Pomariorio Ree**	**30.32**	**87**	*e*P	**P**	**21 17 13.8**	**-0.5**
	comp=Z,1μm,1.1s,mb6.3						
VAH	**Vaihoa**	**30.52**	**87**	*e*P	**P**	**21 17 15.1**	**-0.9

STKA PKiKP PKiKP 21 27 24.6 -1.5
comp=Z,8.1nm,0.6s,baz=171,slow=22,SNR=6.3
STKA P3KPbc 21 48 18.5
comp=Z,32nm,0.7s,baz=272,slow=4.8,SNR=50
TAOE Nuku Hiva Isla 39.34 80 *eP* **P 21 18 27.7 -0.6**
comp=Z,42μm,1.1s
RKT Rikitea 41.37 103 *eP* **P 21 18 43.5 -0.7**
comp=Z,258nm,1.1s,mb5.6
RKT *e*pP 21 20 33.9
comp=Z,182nm,1.3s
RKT Rikitea 41.37 103 *eP* **P 21 18 43.5 -0.7**
RKT *e**PP 21 20 33.9
RKT pmax pmax
comp=Z,258nm,1.1s,mb5.6
WB2 Warramunga Arr 43.50 261⇓*iP* **P 21 19 00.4 -0.3**
WB2 *i* SCP ScP 21 23 23.9 +2.8
WB2 *e*S **S 21 24 37.0 -6.6**
WB2 *i* SCS ScS 21 27 48.1 +2.5
WRAB Tennant Creek 43.50 261 P **P 21 19 00.0 -0.7**
comp=Z,5μm,0.5s,mb7.1
WRAB Tennant Creek 43.50 261 *eP* **P 21 19 00.0 -0.7**
WRAB *e* 21 20 33.1
WRAB *e**PP 21 20 53.4
WRAB *e*S **S 21 24 40.6 -3.0**
WRAB pmax pmax
comp=Z,500nm,0.6s,mb6.0
WRAB Tennant Creek 43.50 261 *eP* **P 21 19 00.0 -0.7**
comp=Z,504nm,0.6s,mb6.0
WRAB *e*PcP PcP 21 20 33.1 +0.6
WRAB *e*pP 21 20 53.4
WRAB *e*ScP ScP 21 23 23.2 +2.0
WRAB *e*S **S 21 24 40.6 -3.0**
WRA Warramunga Arr 43.51 261 P **P 21 18 59.9 -0.9**
WRA 21 20 33.0
WRA *PP 21 20 52.7
WRA S **S 21 24 42.3 -1.4**
WRA 21 27 46.9
WRA pmax pmax
comp=Z,522nm,0.6s
WRA smax
comp=N,108nm,0.6s
WRA pmax pmax
comp=Z,9.0nm,0.7s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=Z,3.0nm,1.0s
WRA pmax pmax
comp=Z,4.0nm,1.0s
WRA pmax pmax
comp=Z,2.0nm,1.1s
WRA Warramunga Arr 43.51 261 P **P 21 18 59.9 -0.9**
WRA PcP PcP 21 20 33.0 +0.5
WRA pP 21 20 52.7
WRA ScP ScP 21 23 23.8 +2.6
WRA S **S 21 24 42.3 -1.4**
WRA Warramunga Arr 43.51 261 P **P 21 18 59.9 -0.9**
comp=Z,522nm,0.6s,mb6.0,baz=96,slow=8.6,SNR=582
WRA PcP PcP 21 20 33.0 +0.5
comp=Z,116nm,1.0s,baz=91,slow=4.2,SNR=7.1
WRA pP 21 20 52.7
comp=Z,55nm,0.7s,baz=100,slow=7.2,SNR=2.3
WRA ScP ScP 21 23 23.8 +2.6
comp=Z,102nm,0.9s,baz=92,slow=4.4,SNR=13
WRA S **S 21 24 42.3 -1.4**
comp=Z,108nm,0.6s,baz=98,slow=12,SNR=9.2
WRA PKiKP PKiKP 21 27 30.8 -1.3
comp=Z,8.9nm,0.7s,baz=91,slow=0.7,SNR=7.2
WRA ScS ScS 21 27 46.9 +1.3
comp=Z,17nm,0.8s,baz=94,slow=8.3,SNR=8.2
WRA P3KPbc 21 47 50.6
comp=Z,2.0nm,0.6s,baz=292,slow=2.5,SNR=19
WRA P3KP 21 49 14.2
comp=Z,1.1nm,0.6s,baz=191,slow=3.1,SNR=8.2
WRA PKPPKP 21 50 28.0
comp=Z,2.8nm,1.0s,baz=271,slow=2.0,SNR=5.0
WRA PKP2ab 21 51 50.8
comp=Z,3.5nm,1.0s,baz=286,slow=3.5,SNR=5.8
WRA P4KPbc 21 56 45.0
comp=Z,1.6nm,1.1s,baz=88,slow=4.1,SNR=7.3
ASAR Alice Springs 43.55 256 P **P 21 19 01.4 +0.4**
ASAR 21 20 33.1
ASAR S **S 21 24 43.8 -0.3**
ASAR 21 27 48.2
ASAR pmax pmax
comp=Z,864nm,0.8s
ASAR pmax pmax
comp=Z,99nm,0.5s
ASAR smax
comp=N,312nm,0.7s
ASAR pmax pmax
comp=Z,2.0nm,0.6s
ASAR pmax pmax
comp=Z,3.0nm,0.9s
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 43.55 256 P **P 21 19 01.4 +0.3**
ASAR PcP PcP 21 20 33.0 +0.5
ASAR ScP ScP 21 23 24.2 +3.0
ASAR S **S 21 24 43.8 -0.4**
ASAR ScS ScS 21 27 48.2 +2.4
ASAR *e* 21 47 50.5
ASAR P'P'ab 21 51 48.7
ASAR Alice Springs 43.55 256 P **P 21 19 01.4 +0.3**
comp=Z,864nm,0.8s,mb6.1,baz=86,slow=8.7,SNR=1532
ASAR PcP PcP 21 20 33.0 +0.5
comp=Z,99nm,0.5s,baz=99,slow=3.8,SNR=8.6
ASAR ScP ScP 21 23 24.2 +3.0
comp=Z,32nm,0.6s,baz=107,slow=4.4,SNR=5.6
ASAR S **S 21 24 43.8 -0.4**
comp=Z,312nm,0.7s,baz=90,slow=16,SNR=67
ASAR ScS ScS 21 27 48.2 +2.4
comp=Z,29nm,0.9s,baz=98,slow=7.3,SNR=6.7
ASAR P3KPbc 21 47 50.5
comp=Z,2.2nm,0.6s,baz=276,slow=3.7,SNR=21
ASAR PKP2ab 21 51 48.7
comp=Z,3.1nm,0.9s,baz=281,slow=3.2,SNR=6.2
ASAR P4KPbc 21 56 46.6
comp=Z,1.1nm,0.5s,baz=95,slow=4.8,SNR=23
KHU Kahuku 44.96 33 *eP* **P 21 19 10.2 -1.5**
KKH Kailua Kona 45.10 32 *eP* **P 21 19 12.2 -0.6**
STCH Steam Cracks 45.33 33 *eP* **P 21 19 13.7 -0.8**
STCH *e* 21 19 48.6
POHA Pohakuloa 45.43 32 *eP* **P 21 19 14.2 -1.1**
comp=Z,2μm,1.3s,mb6.3
HON Honolulu 45.60 28 *eP* **P 21 19 15.7 -0.8**
KIP Kipapa 45.68 28 *eP* **P 21 19 15.3 -1.8**
KIP *e* 21 20 41.0
KIP pmax pmax
comp=Z,590nm,0.8s,mb6.0
KIP Kipapa 45.68 28 *eP* **P 21 19 15.3 -1.8**
comp=Z,587nm,0.8s,mb6.0
KIP *e* 21 19 51.0
KIP *e*PcP PcP 21 20 41.0 +1.1
HKL Haleakala 45.88 31 *eP* **P 21 19 18.3 -0.3**
KAKA Kakadu 46.71 271⇓*iP* **P 21 19 24.6 -0.4**
comp=Z,829nm,0.5s,mb6.3
KAKA *e*SCP ScP 21 23 35.9 +1.3
KAKA *e*S **S 21 25 22.7 -5.5**
MIDW Midway 47.44 2 *eP* **P 21 19 28.7 -1.4**
comp=Z,1μm,1.5s,mb6.0
GUMO Guam 48.18 310 P **P 21 19 36.1 +0.3**
GUMO *PP pP 21 21 31.6 -1.7
GUMO pmax pmax
comp=Z,150nm,1.0s,mb5.3
GUMO pmax pmax
comp=N,445nm,0.9s
GUMO Guam 48.18 310 P **P 21 19 36.1 +0.3**
comp=N,2μm,0.7s,mb6.5,baz=166,slow=8.2,SNR=92
GUMO pP pP 21 21 31.6 -1.7
comp=N,150nm,1.0s,baz=25,slow=5.7,SNR=2.0
GUMO ScP ScP 21 23 42.1 +1.3
comp=N,444nm,0.8s,baz=184,slow=7.2,SNR=13
FORT Forrest 48.56 246⇓*iP* **P 21 19 38.2 -0.3**
comp=N,712nm,1.4s,mb5.8
FORT *e*S **S 21 25 50.5 -2.6**
FITZ Fitzroy Crossi 51.93 262⇓*iP* **P 21 20 02.9 0.0**
comp=N,332nm,0.7s,mb5.7
FITZ *e*S **S 21 26 39.2 +0.8**
FITZ Fitzroy Crossi 51.93 262⇓*iP* **P 21 20 02.9 0.0**
comp=N,332nm,0.7s,mb5.7
FITZ *e*S **S 21 26 39.2 +0.8**
FITZ Fitzroy Crossi 51.93 262 P **P 21 20 03.1 +0.2**
comp=N,103nm,0.5s,mb5.3,baz=110,slow=4.6,SNR=412
FITZ pP pP 21 22 03.3 -0.2
comp=N,27nm,0.6s,baz=99,slow=16,SNR=2.0
FITZ S **S 21 26 39.0 +0.6**
comp=N,8.5nm,0.6s,baz=132,slow=23,SNR=6.1
DRV Dumont d'Urvil 53.91 199 PP PP 21 22 24.0 -4.4
DRV S **S 21 27 04.0 +1.1**
DRV SS SS 21 30 44.0 -15
DRV L 21 34 00.0
DRV R 01 16 00.0
BATI Kupang 55.66 271 P **P 21 20 30.4 +1.4**
comp=N,458nm,0.6s,mb5.8,baz=151,slow=2.2,SNR=110
BATI S **S 21 27 30.1 +3.0**
comp=N,26nm,0.8s,baz=3.0,slow=23,SNR=8.5
TNE Ternate 55.99 285⇓*eP* **P 21 20 29.0 -2.3**
MBWA Marble Bar 56.86 257 *eP* **P 21 20 36.9 -0.2**
MBWA *e*PcP PcP 21 21 19.1 -3.5
MBWA *e*pP pP 21 22 40.3 -1.2
MBWA *e*ScP ScP 21 24 20.4 +1.7
MBWA *e*S **S 21 27 42.1 -0.1**
MBWA Marble Bar 56.86 257 P **P 21 20 37.2 +0.1**
SNR=16
MBWA Marble Bar 56.86 257 P **P 21 20 37.2 +0.1**
SNR=16
MBWA Marble Bar 56.86 257 P **P 21 20 37.2 +0.1**
SNR=16
MBWA Marble Bar 56.86 257 P **P 21 20 37.2 +0.1**
SNR=16
MBWA Marble Bar 56.86 257 P **P 21 20 37.2 +0.1**
SNR=16
KLBR Kellerberrin 57.37 244⇓*iP* **P 21 20 39.9 -0.4**
comp=N,346nm,0.8s,mb5.5
KLBR *e*pP pP 21 22 43.5 -1.5
KLBR *e*S **S 21 27 44.7 -3.6**
NWAO Narrogin (SRO) 57.72 243 *eP* **P 21 20 43.3 +0.6**
NWAO *e**PP pP 21 22 46.9 -0.8
NWAO pmax pmax
comp=Z,63nm,0.7s
NWAO Narrogin (SRO) 57.72 243 *eP* **P 21 20 43.2 +0.6**
comp=Z,63nm,0.7s,mb4.9
NWAO *e*pP pP 21 22 46.9 -0.8
NWAO Narrogin (SRO) 57.72 243 P pP 21 22 47.2 -0.5
SNR=5.6
NWAO Narrogin (SRO) 57.72 243 P pP 21 22 47.2 -0.5
SNR=5.6
NWAO Narrogin (SRO) 57.72 243 P pP 21 22 47.2 -0.5
SNR=5.6
NWAO Narrogin (SRO) 57.72 243 P pP 21 22 47.2 -0.5
SNR=5.6
NWAO Narrogin (SRO) 57.72 243 pP pP 21 22 46.5 -1.1
comp=Z,42nm,0.8s,baz=110,slow=3.6,SNR=3.3
BLDU Ballidu 58.34 246⇓*iP* **P 21 20 46.5 -0.3**
comp=Z,35nm,0.5s,mb4.8
MUN Mundaring 58.65 244⇓*iP* **P 21 20 48.7 -0.2**
MUN *e*pP pP 21 22 53.6 -1.0
MUN *e*S **S 21 27 59.0 -5.4**
SBA Scott Base 58.82 183 *eP* **P 21 20 51.5 +2.3**
SBA pmax pmax
comp=Z,360nm,1.0s,mb5.5
SBA Scott Base 58.82 183 *eP* **P 21 20 51.5 +2.3**
comp=Z,360nm,1.0s,mb5.5
VNDA Vanda 58.83 185 *eP* **P 21 20 50.6 +1.3**
VNDA *e* 21 21 28.7
VNDA *e**PP pP 21 22 58.9 +3.9
VNDA pmax pmax
comp=Z,88nm,0.8s
VNDA Vanda 58.83 185 *eP* **P 21 20 50.6 +1.4**
comp=Z,88nm,0.8s,mb4.9
VNDA *e*PcP PcP 21 21 28.7 -0.6
VNDA *e*pP pP 21 22 58.9 +3.9
VNDA *e*ScP ScP 21 24 28.0 +1.7
VNDA Vanda 58.83 185 P **P 21 20 51.2 +2.0**
comp=Z,88nm,0.8s,mb4.9,baz=352,slow=7.4,SNR=514
VNDA PcP PcP 21 21 30.0 +0.7
comp=Z,50nm,0.8s,baz=345,slow=4.8,SNR=6.8
VNDA pP pP 21 22 55.9 +0.9
comp=Z,14nm,0.7s,baz=7.9,slow=8.9,SNR=1.4
VNDA ScP ScP 21 24 28.9 +2.7
comp=Z,36nm,1.1s,baz=9.0,slow=6.2,SNR=4.2
VNDA S **S 21 28 08.8 +3.7**
comp=Z,2.7nm,0.9s,baz=278,slow=2.3,SNR=7.0
VNDA PKPPKP 21 50 04.8
comp=Z,2.5nm,1.1s,baz=260,slow=6.1,SNR=5.0
VNDA PKP2bc 21 50 22.1
comp=Z,27nm,1.3s,baz=266,slow=3.4,SNR=19
VNDA P4KPbc 21 57 49.7
comp=Z,1.6nm,0.9s,baz=347,slow=5.1,SNR=7.3
MORW Morawa 59.07 247⇓*iP* **P 21 20 51.3 -0.4**
comp=Z,74nm,0.9s,mb4.8
CBIJ Chichi jima 59.45 320 P **P 21 20 53.2 -1.0**
comp=Z,269nm,0.7s,mb5.5,baz=216,slow=3.1,SNR=19
MATI Mati 59.65 291 *eP* **P 21 20 53.7 -2.1**
BIPH Bislig 60.13 292⇓*eP* **P 21 20 56.9 -2.0**
DAV Davao City (W) 60.30 290 *eP* **P 21 21 00.4 +0.3**
comp=Z,673nm,0.8s,mb5.8
DAV Davao City (W) 60.30 290 P **P 21 21 00.7 +0.7**
SNR=24
DAV Davao City (W) 60.30 290 P **P 21 21 00.7 +0.7**
SNR=24
DAV Davao City (W) 60.30 290 P **P 21 21 00.7 +0.7**
SNR=24
DAV Davao City (W) 60.30 290 P **P 21 21 00.7 +0.7**
SNR=24
DAV Davao City (W) 60.30 290⇓*eP* **P 21 20 58.4 -1.7**
KAPI Kappang 60.95 275 P **P 21 21 03.0 -1.3**
comp=Z,683nm,0.7s,mb6.0,SNR=15
BUKP Musuan 61.13 291 *eP* **P 21 21 05.7 +0.3**
SCPH Surigao 61.64 293 *eP* **P 21 21 07.8 -0.8**
CGP Cagayan de Oro 61.71 291 *eP* **P 21 21 10.5 +1.3**
MSLP Maasin 62.35 293 *eP* **P 21 21 12.9 -0.4**
PAGZ Pagadian 62.60 290 *eP* **P 21 21 15.0 +0.1**
PLP Palo 62.73 294 *eP* **P 21 21 14.3 -1.4**
OCLP Ormoc 63.00 294 *eP* **P 21 21 17.0 -0.4**
TBP Tagbilaran 63.01 292 *eP* **P 21 21 17.4 -0.1**
LLP Lapu-Lapu 63.21 293 *eP* **P 21 21 18.6 -0.1**
CNP Catarman 63.65 295 *eP* **P 21 21 21.1 -0.4**
RPN Rapa Nui 64.03 111 *eP* **P 21 21 25.1 +1.3**
comp=Z,378nm,1.0s,mb5.6
RPN Rapa Nui 64.03 111 P **P 21 21 25.1 +1.4**
comp=Z,271nm,1.0s,mb5.4,baz=315,slow=6.3,SNR=7.4
RPN PcP PcP 21 21 53.0 +1.4
comp=Z,195nm,0.8s,baz=252,slow=2.2,SNR=6.0
CASY Casey 64.36 205⇑*iP* **P 21 21 25.2 +0.1**
CASY *e*pP pP 21 23 31.9 -2.7
CASY *e*S **S 21 29 05.0 -7.8**
GUIM Jordan 64.55 292 *eP* **P 21 21 25.6 -1.6**
PVCP Virac 64.61 296 *eP* **P 21 21 27.5 0.0**
RCP Roxas 64.85 293⇓*eP* **P 21 21 28.9 -0.2**
JHJ Hachijo jima 2 65.26 323 P **P 21 21 31.1 -0.1**
comp=Z,638nm,0.4s,mb6.3,baz=196,slow=7.5,SNR=45
OTRP Odiongan 65.85 294 *eP* **P 21 21 34.5 -0.7**
MYLDM Lahad Datu 65.86 285 ⇓P **P 21 21 38.3 +3.0**
CUYO Cuyo Island 66.03 292 *eP* **P 21 21 36.0 -0.3**
TSM Tawau 66.08 284 ⇓P **P 21 21 38.0 +1.3**
SDKM Sandakan 67.23 285 ⇓P **P 21 21 43.9 +0.2**
BUSP Coron 67.26 293 *eP* **P 21 21 43.5 -0.3**
ENPP El Nido 67.58 291 *eP* **P 21 21 45.8 0.0**
PALP Palanan 67.77 299 *eP* **P 21 21 47.3 +0.4**
BALP Baler 67.83 297 *eP* **P 21 21 46.8 -0.4**
BATP Bataraza 67.98 288 *eP* **P 21 21 47.7 -0.5**
LUBP Lubang 68.01 294 *eP* **P 21 21 47.3 -1.1**
KDM Kudat 68.08 286 ⇓P **P 21 21 50.0 +1.2**
PCPH Palayan 68.15 296⇓*eP* **P 21 21 49.7 +0.5**
CAUP Cauayan 68.21 298 *eP* **P 21 21 49.8 +0.3**
KKM Kota Kinabalu 68.29 285 *eP* **P 21 21 50.0 -0.1**
KKM *e* 21 22 25.2
KKM *e* 21 23 12.8
KKM *e*pP pP 21 24 00.7 -1.4
KKM Kota Kinabalu 68.29 285 ⇓P **P 21 21 51.2 +1.1**
JOW Kunigami 68.55 310 P **P 21 21 51.9 +0.5**
comp=Z,222nm,0.7s,mb5.6,baz=145,slow=6.4,SNR=46
MJAR Matsushiro Arr 68.64 324 P **P 21 21 51.3 -0.4**
MJAR *PP pP 21 24 03.2 -0.8
MJAR S S 21 30 04.6 +1.1
MJAR pmax pmax
comp=Z,151nm,0.7s
MJAR pmax pmax
comp=Z,22nm,1.1s
MJAR smax
comp=N,1.0nm,0.7s
MJAR pmax pmax
comp=Z,8.0nm,1.0s
MJAR Matsushiro Arr 68.64 324 P **P 21 21 51.2 -0.5**
MJAR pP pP 21 24 03.2 -0.9
MJAR S S 21 30 04.6 +1.1
MJAR ⇑*e* 21 49 53.6
MJAR Matsushiro Arr 68.64 324 P **P 21 21 51.2 -0.5**
comp=Z,151nm,0.7s,mb5.4,baz=157,slow=5.7,SNR=377
MJAR pP pP 21 24 03.2 -0.9
comp=Z,22nm,1.1s,baz=157,slow=6.1,SNR=5.1
MJAR S S 21 30 04.6 +1.1
comp=Z,1.0nm,0.7s,baz=134,slow=10,SNR=3.6
MJAR PKP2bc 21 49 53.6
comp=Z,8.3nm,1.0s,baz=307,slow=3.1,SNR=10.0
MAJO Matsushiro 68.64 324 *eP* **P 21 21 51.6 -0.1**
MAJO *e**PP pP 21 24 05.5 +1.4
MAJO pmax pmax
comp=Z,130nm,0.6s,mb5.4
MAJO Matsushiro 68.64 324 *eP* **P 21 21 51.6 -0.2**
comp=Z,131nm,0.6s,mb5.4
MAJO *e* 21 22 21.5
MAJO *e*pP pP 21 24 05.5 +1.4
MAT Matsushiro 68.64 324 P **P 21 21 51.4 -0.3**
MAT S S 21 30 03.8 +0.3
BCPH Baguio City Da 68.97 297⇓*iP* **P 21 21 52.5 -1.5**
APYP Conner 69.14 299 *eP* **P 21 21 54.5 -0.5**
SCZP Santa Cruz 69.25 296 *eP* **P 21 21 57.2 +1.5**
BOLP Bolinao 69.54 297 *eP* **P 21 21 56.4 -1.1**
BTM Bintulu 70.07 281 ⇓P **P 21 22 01.8 +1.1**
ERM Erimo 70.32 331 *diP* **P 21 22 01.3 -0.2**
ERM Erimo 70.32 331 *eP* **P 21 22 01.9 +0.4**
comp=Z,67nm,0.9s,mb5.1
AMKA Amchitka 70.55 359 *eP* **P 21 22 01.2 -1.4**
QSPA South Pole Qui 70.59 180 P **P 21 22 03.6 +1.1**
QSPA pP pP 21 24 16.7 +0.9
QSPA S S 21 30 26.0 +1.7
QSPA P'P'ab 21 49 42.1
QSPA South Pole Qui 70.59 180 P **P 21 22 03.6 +1.1**
comp=Z,706nm,0.8s,mb6.1,baz=27,slow=1.5,SNR=1998
QSPA pP pP 21 24 16.7 +0.9
comp=Z,78nm,1.0s,baz=4.3,slow=3.0,SNR=1.9
QSPA S S 21 30 26.0 +1.7
comp=Z,22nm,1.1s,baz=154,slow=20,SNR=23
QSPA PKP2ab 21 49 42.1
comp=Z,8.1nm,0.9s,baz=225,slow=1.4,SNR=5.7
SBUM Sibu 70.60 280 ⇑P **P 21 22 05.4 +1.6**
JNU Nakatsue 70.67 317 P **P 21 22 03.8 +0.1**
comp=Z,156nm,0.9s,mb5.4,baz=78,slow=6.9,SNR=64
JNU pP pP 21 24 17.2 0.0
comp=Z,31nm,1.1s,baz=146,slow=6.0,SNR=3.1
JNU S S 21 30 26.8 +0.2
comp=Z,13nm,1.1s,baz=108,slow=20,SNR=4.1
ADK Adak 71.08 2 *eP* **P 21 22 03.9 -1.8**
ADK *e**PP pP 21 24 18.6 -0.9
ADK *e* 21 25 01.4
ADK pmax pmax
comp=Z,450nm,0.8s,mb6.0
ADK Adak 71.08 2 *eP* **P 21 22 03.9 -1.7**
comp=Z,451nm,0.8s,mb6.0
ADK *e* 21 22 39.2
ADK *e*pP pP 21 24 18.6 -0.9
ADK *e*PP PP 21 25 01.4 +4.4
MIR Mirnyy 71.39 205α*iP* **P 21 22 08.0 +0.6**
MIR *i* 21 22 20.5
MIR *i* S S 21 30 35.0 +1.4
MIR *i* PS 21 31 04.0
MIR pmax pmax
comp=Z,1μm,1.5s,mb6.2
KSM Kuching 72.03 278 *eP* **P 21 22 12.4 +0.3**
KSM *e*pP pP 21 24 23.0 -3.3
KSM *e*PP PP 21 24 54.8 -11
KSM *e*S S 21 30 43.2 +0.8
KSM Kuching 72.03 278 ⇓P **P 21 22 13.1 +1.0**
NACB Ninganchiao 72.06 305 *eP* **P 21 22 11.0 -1.0**
NACB *e*pP pP 21 24 25.9 -0.4
NACB *e*PP PP 21 25 03.1 -2.7
SMY Shemya 72.12 356 *eP* **P 21 22 10.4 -1.2**
SMY pmax pmax
comp=Z,1μm,1.2s,mb6.1
SMY Shemya 72.12 356 *eP* **P 21 22 10.4 -1.2**
comp=Z,1μm,1.2s,mb6.1
ASAJ Asahikawa 72.23 332 P **P 21 22 13.5 +1.0**
ASAJ S S 21 30 44.4 +1.0
ASAJ pmax pmax
comp=Z,308nm,0.8s
ASAJ smax
comp=N,7.0nm,1.0s
ASAJ Asahikawa 72.23 332 P **P 21 22 13.4 +1.0**
comp=N,308nm,0.8s,mb5.8,baz=210,slow=7.0,SNR=159
ASAJ S S 21 30 44.4 +1.0
comp=N,6.6nm,1.0s,baz=38,slow=19,SNR=2.6
YHNB Yeheng 72.49 305 *eP* **P 21 22 14.2 -0.3**
TATO Taipei 72.57 305 *eP* **P 21 22 14.3 -0.6**
comp=N,232nm,0.7s,mb5.7
TATO *e*PP PP 21 25 07.0 -3.0
NIKO Nikolski 72.71 7 *eP* **P 21 22 13.4 -1.5**
comp=N,830nm,0.9s,mb6.2
NIKO *e* 21 22 48.7
SKR Severo-Kuril's 73.12 344 *eP* **P 21 22 12.0 -5.4**
SKR *e*S S 21 30 48.0 -4.9
SKR *e*PS 21 31 24.0
SKR *e* 21 31 50.0
SKR *e*SSS 21 39 20.0
SKR pmax pmax
comp=Z,270nm,1.0s,mb5.6
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,3μm,4.0s
SKR pmax pmax
comp=Z,4μm,4.0s
SKR smax
comp=N,13μm,12.0s
SKR smax
comp=E,11μm,12.0s
UNV Unalaska Valle 73.84 8 *eP* **P 21 22 19.3 -2.0**
comp=E,241nm,0.5s,mb6.0
UNV *e* 21 22 52.7
AKUT Akutan 74.22 8 *eP* **P 21 22 21.7 -1.8**
comp=E,608nm,0.9s,mb6.1
YSS Yuzh-Sakhalins 74.42 334⇑*iP* **P 21 22 25.1 +0.3**
YSS *e**PP pP 21 24 42.0 +1.6
YSS *i* S S 21 31 09.5 +2.4
YSS *e* 21 31 40.0
YSS pmax pmax
comp=Z,270nm,0.9s,mb5.8
YSS pmax pmax
comp=N,70nm,0.7s
YSS pmax pmax
comp=N,700nm,6.0s
YSS pmax pmax
comp=Z,2μm,6.0s
YSS smax
comp=N,8μm,15.0s
YSS Yuzh-Sakhalins 74.42 334 *eP* **P 21 22 25.0 +0.3**
comp=N,206nm,0.7s,mb5.8
YSS *e* 21 23 00.7
YSS *e*pP pP 21 24 42.3 +1.8
PET Petropavlovsk 74.67 346 *eP* **P 21 22 24.6 -1.4**
PET pmax pmax
comp=Z,2μm,2.3s,mb6.1
PET Petropavlovsk 74.67 346 *eP* **P 21 22 24.6 -1.4**
comp=Z,2μm,2.3s,mb6.1
PET *e* 21 22 60.0
PET *e*pP pP 21 24 48.2 +6.3
QZH Quanzhou 74.80 304 *iP* **P 21 22 28.1 +0.7**
QZH AP pP 21 24 41.2 -2.1
QZH S S 21 31 11.7 -0.5
QZH SCS ScS 21 31 37.1 -1.1
QZH AMB AMB
comp=Z,320nm,0.8s,mb5.9
FALS False Pass 75.26 9 *eP* **P 21 22 27.5 -1.7**
KSRS Korea Array 75.29 319 P **P 21 22 30.6 +0.8**
comp=Z,37nm,0.8s,mb5.0,baz=133,slow=5.7,SNR=168
KSRS pP pP 21 24 49.8 +3.9
comp=Z,8.5nm,1.1s,baz=131,slow=6.2,SNR=2.4
KSRS PP PP 21 25 28.4 -4.0
comp=Z,20nm,0.9s,baz=135,slow=8.5,SNR=6.0
KSRS PKPPKP 21 49 36.4
comp=Z,1.1nm,0.6s,baz=318,slow=3.5,SNR=5.6
KS15 Wonju Array Si 75.31 319 *eP* **P 21 22 30.8 +0.8**
SSE Sheshan 76.07 310 ⇓P **P 21 22 36.1 +1.9**
SSE PCP PcP 21 22 44.8 +2.1
SSE AP pP 21 24 49.5 -1.3
SSE PP PP 21 25 36.6 -2.3
SSE XP sP 21 25 59.4 +0.3
SSE S S 21 31 26.6 +1.2
SSE SCS ScS 21 31 49.3 +1.1
SSE XS sS 21 35 19.4 -9.0
INCN Inchon 76.11 318 *eP* **P 21 22 34.8 +0.5**

comp=Z,60nm,0.8s,mb5.2
INCN *e*pP pP 21 24 53.4 +2.5
SDPT Sand Point 76.23 11 *e*P **P 21 22 32.6 -1.9**
comp=Z,685nm,0.8s,mb6.2
VLA Vladivostok 76.72 326 *d i*P **P 21 22 36.9 -0.6**
VLA pmax pmax
comp=Z,64nm,1.2s,mb5.0
VLA Vladivostok 76.72 326 *i*P **P 21 22 36.0 -1.5**
SNCC San Nicolas Is 77.47 48 *e*P **P 21 22 42.5 +0.8**
comp=Z,399nm,1.0s,mb5.9
SNCC San Nicolas Is 77.47 48 ⇓P **P 21 22 41.5 -0.2**
baz=78,SNR=9.6
CHGN Chignik 77.51 12 *e*P **P 21 22 39.9 -1.5**
FARB Farallon Islan 77.69 43 ⇓P **P 21 22 42.8 0.0**
baz=78,SNR=27
BSC Santa Cruz Isl 77.81 47 ⇑P **P 21 22 43.3 -0.2**
baz=78,SNR=41
V03C Hunter Liggett 77.86 45 ⇑P **P 21 22 43.4 -0.4**
baz=78,SNR=50
HAST Hastings Reser 77.86 44 ⇑P **P 21 22 43.9 +0.2**
baz=78,SNR=256
V04C Ramage Ranch, 77.88 45 ⇑P **P 21 22 44.2 +0.3**
baz=78,SNR=59
BNLO Ben Lomond (Sa 77.89 43 ⇑P **P 21 22 43.6 -0.3**
baz=78,SNR=34
SAC San Andreas 77.99 43 *e*P **P 21 22 44.5 +0.1**
SBC Santa Barbara 78.00 47 ⇑P **P 21 22 44.6 +0.1**
baz=78,SNR=14
JRSC Jasper Ridge 78.00 43 ⇓P **P 21 22 44.6 +0.1**
baz=78,SNR=44
SCI San Clemente I 78.02 49 ⇓P **P 21 22 44.6 0.0**
baz=78,SNR=26
MCCM Marconi Confer 78.03 42 *e*P **P 21 22 44.5 -0.1**
comp=Z,419nm,0.9s,mb6.0
MCCM Marconi Confer 78.03 42 ⇓P **P 21 22 44.2 -0.4**
baz=78,SNR=25
GZH Guangzhou 78.13 300 P **P 21 22 46.5 +1.0**
GZH S S 21 31 41.8 -5.4
GZH AMB AMB
comp=Z,121nm,0.8s,mb5.5
SAO San Andreas Ge 78.15 44 *e*P **P 21 22 45.6 +0.3**
SAO *e* 21 25 51.5
SAO pmax pmax
comp=Z,680nm,1.0s,mb6.1
SAO San Andreas Ge 78.15 44 *e*P **P 21 22 45.6 +0.3**
comp=Z,682nm,0.9s,mb6.2
SAO *e* 21 23 21.3
SAO *e*PP PP 21 25 51.5 -4.3
PKM Peak Mountain 78.18 46 ⇓P **P 21 22 45.9 +0.4**
baz=78,SNR=85
MYKOM Kota Tinggi 78.19 276 ⇑P **P 21 22 47.4 +1.4**
NJ2 Nanjing 78.26 310 *e*P **P 21 22 46.8 +0.8**
NJ2 PCP PcP 21 22 54.0 +1.7
NJ2 AP pP 21 25 04.0 +0.3
NJ2 S S 21 31 50.0 +1.7
BLG Laguna Peak 78.27 47 ⇑P **P 21 22 45.7 -0.3**
baz=78,SNR=10
PKD Parkfield 78.28 45 ⇑P **P 21 22 46.1 +0.1**
baz=78,SNR=80
SMMC Simmler 78.29 46 ⇓P **P 21 22 46.3 +0.2**
baz=78,SNR=54
PTRM Twissleman Ran 78.34 46 *e*P **P 21 22 46.8 +0.4**
CIS Catalina Islan 78.35 48 ⇓P **P 21 22 45.7 -0.7**
baz=78,SNR=20
U04C Hernandez Rese 78.36 45 P **P 21 22 47.2 +0.9**
baz=78,SNR=98
PACP Pacheco Peak 78.39 44 ⇓P **P 21 22 47.2 +0.6**
baz=78,SNR=232
HOPS Hopland 78.42 41 *e*P **P 21 22 46.9 +0.2**
comp=Z,1μm,1.3s,mb6.2
HOPS *e* 21 23 22.5
HOPS *e*pP pP 21 25 05.2 +0.7
HOPS Hopland 78.42 41 ⇓P **P 21 22 46.8 +0.1**
baz=79,SNR=63
CVS Carmenet Viney 78.42 42 ⇑P **P 21 22 46.4 -0.2**
baz=79,SNR=68
NSHM Saint Helena R 78.42 42 *e*P **P 21 22 46.4 -0.3**
NSHM *e* 21 23 22.2
NSHM *e*PP PP 21 25 50.0 -8.0
WENL Wente Brothers 78.44 43 ⇓P **P 21 22 46.9 +0.1**
baz=79,SNR=51
KCPM Cahto Peak 78.52 41 *e*P **P 21 22 47.4 +0.2**
KCPM *e* 21 23 23.4
KCPM *e*pP pP 21 25 11.4 +6.4
KCPM *e*PP PP 21 25 51.4 -7.4
P01C Double 8 Ranch 78.53 41 ⇑P **P 21 22 47.4 +0.2**
baz=79,SNR=43
BDM Black Diamond 78.56 43 ⇑P **P 21 22 47.8 +0.3**
baz=79,SNR=28
FMP Fort Macarthur 78.59 48 ⇑P **P 21 22 47.5 -0.2**
baz=79,SNR=8.4
O01C Eel River Cons 78.65 40 ⇓P **P 21 22 48.5 +0.6**
baz=79,SNR=80
S04C Ingram Canyon, 78.65 43 P **P 21 22 48.2 +0.3**
baz=79,SNR=147
KIPM Iron Peak 78.65 41 *e*P **P 21 22 48.4 +0.5**
V05C Boulder Hill, 78.66 46 ⇑P **P 21 22 48.8 +0.8**
baz=79,SNR=28
T05C Eagle Field, D 78.73 44 ⇑P **P 21 22 49.1 +0.8**
baz=79,SNR=18
MNRC McLaughlin Nat 78.74 42 ⇑P **P 21 22 48.9 +0.5**
baz=79,SNR=130
KGM Kluang 78.76 276 ⇓P **P 21 22 50.7 +1.6**
OSI Osito Adit 78.78 47 ⇑P **P 21 22 48.8 +0.1**
baz=79
U05C Westside ANR, 78.78 45 P **P 21 22 49.3 +0.7**
baz=79,SNR=24
DECC Green Verdugo 78.85 48 ⇑P **P 21 22 48.6 -0.5**
baz=79,SNR=22
Q03C Winters 78.87 42 P **P 21 22 50.0 +1.0**
baz=79,SNR=53
JCC Jacoby Creek 78.93 39 ⇓P **P 21 22 49.6 +0.2**
baz=79,SNR=18
HABR Khabarovsk 78.94 331 ⇑*i*P **P 21 22 49.7 +0.5**
HABR *e* 21 22 54.2
HABR *e* pP 21 25 07.5 +0.3
HABR *e* 21 26 00.6
HABR *e*S S 21 31 56.1 +1.6
HABR *e* 21 32 08.0
HABR *e* 21 37 19.9
HABR *e* 21 40 54.6
HABR pmax pmax
comp=Z,397nm,1.7s,mb5.7
MDJ Mudanjiang 78.96 326 P **P 21 22 49.6 +0.2**
MDJ AP pP 21 25 10.1 +2.6
MDJ S S 21 32 01.5 +6.6
MDJ AMB AMB
comp=Z,120nm,0.8s,mb5.5
MDJ AMB AMB
comp=Z,901nm,7.4s
MDJ Mudanjiang 78.96 326 *e*P **P 21 22 49.7 +0.4**
comp=Z,89nm,0.8s,mb5.3
MDJ *e*pP pP 21 25 08.5 +1.1
ARVC Arvin 78.98 47 ⇑P **P 21 22 49.6 -0.1**
baz=79,SNR=94
109C Camp Elliot, M 78.99 49 ⇑P **P 21 22 49.6 -0.2**
baz=79,SNR=32
MWC Mount Wilson 79.03 48 *e*P **P 21 22 49.8 -0.2**
GASB Alder Springs 79.03 41 P **P 21 22 51.0 +1.2**
baz=79,SNR=152
KHMM Horse Mountain 79.15 40 *e*P **P 21 22 51.2 +0.8**
BAR Barrett 79.19 50 *e*P **P 21 22 50.7 -0.2**
VES Vestal, Richgr 79.20 46 P **P 21 22 50.5 -0.4**
baz=79,SNR=164
S05C Merced 79.21 44 P **P 21 22 50.8 -0.1**
baz=79,SNR=134
QIZ Qiongzhong 79.29 295 P **P 21 22 52.8 +1.1**
QIZ AP pP 21 25 06.8 -3.1
QIZ PP PP 21 26 02.8 -2.6
QIZ S S 21 31 58.2 -1.2
QIZ XS sS 21 36 01.0 -4.3
QIZ Qiongzhong 79.29 295 *e*P **P 21 22 52.4 +0.7**
comp=Z,21nm,0.8s,mb4.7
QIZ *e*pP pP 21 25 10.2 +0.3
O02C Red Bluff 79.30 41 P **P 21 22 52.1 +0.9**
baz=80,SNR=274
MURC Murrieta 79.30 49 ⇓P **P 21 22 51.3 -0.2**
baz=79,SNR=77
BFSC Mount Baldy St 79.31 48 P **P 21 22 51.2 -0.3**
baz=80,SNR=102
R04C Big Horse Ranc 79.34 43 ⇑P **P 21 22 50.9 -0.6**
baz=80,SNR=10
RCTC Rector, Farmer 79.36 45 ⇓P **P 21 22 50.9 -0.7**
baz=80,SNR=23
SUTB Sutter Butte 79.36 42 ⇑P **P 21 22 51.2 -0.4**
baz=80,SNR=45

N02C Big Bar 79.37 40 ⇑P **P 21 22 51.8 +0.2**
baz=80,SNR=94
Q04C Lincoln 79.39 42 ⇑P **P 21 22 51.7 -0.1**
baz=80,SNR=37
EDW2 Edwards Air Fo 79.43 47 ⇑P **P 21 22 52.0 0.0**
baz=80,SNR=377
T06C Milleton Lake 79.43 45 P **P 21 22 51.8 -0.2**
baz=80,SNR=252
KRMB Red Mountain 79.44 39 *e*P **P 21 22 52.4 +0.5**
KRMB *e* 21 23 28.4
KRMB *e*PP PP 21 26 03.8 -2.3
MONP Monument Peak 79.48 50 ⇓P **P 21 22 52.6 +0.2**
baz=80,SNR=191
M01C Crescent City 79.51 39 ⇑P **P 21 22 52.8 +0.5**
baz=80,SNR=40
CMB Columbia Colle 79.56 43 *e*P **P 21 22 52.2 -0.5**
CMB *e* 21 26 05.4
CMB pmax pmax
comp=Z,460nm,0.9s,mb5.9
CMB Columbia Colle 79.56 43 *e*P **P 21 22 52.2 -0.5**
comp=Z,461nm,0.9s,mb5.9
CMB *e* 21 23 27.6
CMB *e*PP PP 21 26 05.4 -1.9
CMB Columbia Colle 79.56 43 P **P 21 22 52.5 -0.2**
baz=80,SNR=404
DVTC Desert V Tower 79.60 50 P **P 21 22 53.4 +0.4**
baz=80,SNR=98
OHCM Honcut 79.61 42 *e*P **P 21 22 52.6 -0.3**
OHCM *e* 21 23 13.7
O03C Acorn Hollow, 79.66 41 ⇑P **P 21 22 53.2 +0.1**
baz=80,SNR=80
KBO Bosley Butte 79.67 38 *e*P **P 21 22 54.2 +1.0**
WDC Whiskeytown Da 79.69 40 *e*P **P 21 22 53.3 0.0**
WDC pmax pmax
comp=Z,790nm,1.2s,mb6.0
WDC Whiskeytown Da 79.69 40 *e*P **P 21 22 53.3 0.0**
comp=Z,791nm,1.3s,mb6.0
WDC *e* 21 23 27.8
WDC Whiskeytown Da 79.69 40 P **P 21 22 53.4 +0.2**
baz=80,SNR=295
HELL Mitchell Peak 79.71 45 ⇓P **P 21 22 53.1 -0.4**
baz=80,SNR=356
ORV Oroville 79.73 42 ⇓P **P 21 22 53.3 -0.2**
baz=80,SNR=211
LAVA Lava Cap Winer 79.75 43 P **P 21 22 53.5 -0.2**
baz=80,SNR=135
PFO Pinyon Flat Ob 79.83 49 P **P 21 22 54.0 -0.2**
comp=Z,1μm,1.2s,mb6.2,SNR=44
PFO Pinyon Flat Ob 79.83 49 *e*P **P 21 22 54.2 0.0**
PFO *e* 21 26 04.8
PFO pmax pmax
comp=Z,720nm,1.6s,mb5.8
PFO Pinyon Flat Ob 79.83 49 *e*P **P 21 22 54.2 0.0**
comp=Z,718nm,1.6s,mb5.8
PFO *e*PP PP 21 26 04.8 -4.7
PFO Pinyon Flat Ob 79.83 49 P **P 21 22 54.0 -0.2**
comp=Z,139nm,1.0s,mb5.3,baz=260,slow=3.5,SNR=100
PFO PP PP 21 26 07.3 -2.2
comp=Z,27nm,1.2s,baz=230,slow=5.0,SNR=4.1
PFO PKKP PKKPbc 21 41 19.3 -15
comp=Z,2.8nm,0.5s,baz=316,slow=8.7,SNR=7.0
PFO PKKPbc PKKPbc 21 41 35.0 +0.4
comp=Z,3.4nm,0.8s,baz=291,slow=2.0,SNR=3.7
PFO Pinyon Flat Ob 79.83 49 ⇓P **P 21 22 54.1 -0.1**
baz=80,SNR=68
BBRC Big Bear Sol-O 79.85 48 ⇑P **P 21 22 54.4 +0.2**
baz=80
KCC Kaiser Creek 79.86 45 ⇑P **P 21 22 54.3 0.0**
baz=80,SNR=260
K01A Sixes 79.90 38 ⇓P **P 21 22 54.4 +0.1**
baz=80,SNR=17
LRMC Laurel Mountai 79.96 47 P **P 21 22 54.8 0.0**
baz=80,SNR=153
SWSC Sam W. Stewart 79.96 50 ⇓P **P 21 22 54.8 -0.1**
baz=80,SNR=121
LPIG La Paz 79.97 60 *i*P **P 21 22 54.9 -0.2**
M02C Callahan 79.99 40 P **P 21 22 55.6 +0.8**
baz=80,SNR=256
L02A Cave Junction 80.00 39 ⇓P **P 21 22 55.4 +0.5**
baz=80,SNR=7.9
KEBM Edson Butte 80.02 38 *e*P **P 21 22 55.3 +0.4**
KEBM *e*pP pP 21 25 15.6 +2.1
KEBM *e*PP PP 21 26 09.7 -1.1
KEBM *e*sP sP 21 26 16.6 -4.6
KTGM Kuala Trenggan 80.08 279 ⇑P **P 21 22 57.9 +1.9**
RRX Edison Barstow 80.12 48 ⇑P **P 21 22 55.6 -0.1**
baz=80,SNR=9.3
KDAK Kodiak Island 80.12 14 P **P 21 22 54.0 -1.1**
comp=Z,2μm,1.0s,mb6.5,SNR=74
KDAK Kodiak Island 80.12 14 *e*P **P 21 22 54.1 -1.0**
comp=Z,373nm,0.9s,mb5.8
KDAK *e* 21 23 30.2
KDAK Kodiak Island 80.12 14 P **P 21 22 54.1 -1.0**
comp=Z,161nm,0.6s,mb5.6,baz=218,slow=2.9,SNR=101
KDAK PKKPbc PKKPbc 21 41 33.2 -2.0
comp=Z,7.4nm,0.6s,baz=153,slow=1.8,SNR=9.3
DL2 Dalian 80.13 317 ⇑*i*P **P 21 22 56.0 +0.4**
DL2 AP pP 21 25 14.3 +0.1
DL2 PP PP 21 26 08.2 -3.6
DL2 XP sP 21 26 17.2 -4.8
DL2 S S 21 32 05.7 -1.3
R05C Kirkwood Meado 80.15 43 P **P 21 22 56.0 +0.3**
baz=80,SNR=240
P05C Yuba Gap, Truc 80.15 42 P **P 21 22 56.0 +0.3**
baz=80,SNR=298
CWC Cottonwood Cre 80.21 46 ⇑P **P 21 22 56.2 +0.1**
baz=80,SNR=21
YBH Yreka Blue Hor 80.28 39 *e*P **P 21 22 56.8 +0.5**
YBH *e**PP pP 21 25 15.9 +0.9
YBH *e* 21 26 08.9
YBH pmax pmax
comp=Z,2μm,1.5s
YBH Yreka Blue Hor 80.28 39 *e*P **P 21 22 56.8 +0.5**
comp=Z,2μm,1.5s,mb6.2
YBH *e* 21 23 31.8
YBH *e*pP pP 21 25 15.9 +0.9
YBH *e*PP PP 21 26 08.9 -4.1
YBH Yreka Blue Hor 80.28 39 ⇓P **P 21 22 56.7 +0.4**
baz=80,SNR=414
O05C Quincy 80.33 42 P **P 21 22 56.8 +0.2**
baz=80,SNR=239
MLAC Mammoth Lakes 80.36 44 ⇓P **P 21 22 57.3 +0.5**
baz=80,SNR=44
M03C McCloud 80.36 40 ⇑P **P 21 22 56.9 +0.2**
baz=80,SNR=227
BELC Belle Mtn. 80.36 49 P **P 21 22 57.1 +0.2**
baz=80,SNR=136
MPMC Manual Prospec 80.41 46 ⇓P **P 21 22 57.3 +0.2**
baz=80,SNR=377
O04C Chester 80.44 41 ⇑P **P 21 22 57.4 +0.2**
baz=81,SNR=92
K02A Glendale 80.44 38 ⇓P **P 21 22 57.3 +0.1**
baz=81,SNR=128
TIN Tinemaha 80.44 45 ⇓P **P 21 22 57.5 +0.2**
baz=81,SNR=28
WAKR Walker 80.45 43 *e*P **P 21 22 57.7 +0.4**
R06C Coleville 80.45 43 ⇑P **P 21 22 57.8 +0.6**
baz=81,SNR=393
R07C Lee Vining 80.47 44 ⇓P **P 21 22 57.8 +0.4**
baz=81,SNR=51
GSC Goldstone 80.47 47 *e*P **P 21 22 57.3 -0.2**
GSC *e* 21 26 10.2
GSC pmax pmax
comp=Z,460nm,1.0s,mb5.9
GSC Goldstone 80.47 47 *e*P **P 21 22 57.3 -0.1**
comp=Z,458nm,1.1s,mb5.8
GSC *e* 21 23 32.9
GSC *e*PP PP 21 26 10.2 -4.5
GSC Goldstone 80.47 47 ⇓P **P 21 22 57.3 -0.1**
baz=81,SNR=288
HATC Hat Creek Radi 80.49 41 ⇑P **P 21 22 57.7 +0.3**
baz=81,SNR=140
HEC Hector,Ludlow 80.56 48 P **P 21 22 57.7 -0.2**
baz=81,SNR=422
SNY Shenyang 80.62 321 ⇑P **P 21 22 57.8 -0.2**
SNY AP pP 21 25 15.4 -1.6
SNY XP sP 21 26 26.4 +1.8
SNY S S 21 32 06.1 -5.8
SNY AMB AMB
comp=Z,635nm,12.0s
BEKR Beckwourth 80.63 42 P **P 21 22 58.4 +0.2**
baz=81,SNR=92
HUMO Hull Mountain 80.66 39 *e*P **P 21 22 58.6 +0.4**
comp=Z,785nm,1.2s,mb6.0
HUMO *e* 21 23 33.9
HUMO *e*PKKPbc PKKPbc 21 41 31.8 -1.5

HUMO Hull Mountain 80.66 39 ⇓P **P 21 22 58.6 +0.4**
baz=81,SNR=350
WCN Washoe City 80.69 43 ⇓P **P 21 22 58.8 +0.3**
baz=81,SNR=212
GLA Glamis 80.72 50 *e*P **P 21 22 59.3 +0.5**
GLA *e**PP pP 21 25 16.9 -0.8
GLA *e* 21 26 14.1
GLA pmax pmax
comp=Z,460nm,0.7s,mb6.0
GLA Glamis 80.72 50 *e*P **P 21 22 59.3 +0.5**
comp=Z,460nm,0.7s,mb6.0
GLA *e* 21 23 35.2
GLA *e*pP pP 21 25 16.9 -0.8
GLA *e*PP PP 21 26 14.1 -2.6
GLA Glamis 80.72 50 ⇑P **P 21 22 59.3 +0.6**
baz=81,SNR=363
S08C White Mtn Res 80.72 45 ⇑P **P 21 22 59.3 +0.6**
baz=81,SNR=744
CN2 Changchun 80.72 323 *e*P **P 21 22 58.4 -0.1**
CN2 *e*AP pP 21 25 18.2 +0.7
CN2 *e*S S 21 32 11.0 -1.8
CN2 AMB AMB
comp=Z,110nm,1.1s,mb5.2
CN2 AMB AMB
comp=Z,1μm,4.0s
J02A Umpqua 80.76 38 ⇓P **P 21 22 58.8 +0.1**
baz=81,SNR=194
FRIM Kepong 80.77 277 ⇓P **P 21 23 00.7 +1.2**
P06A Stead Airport, 80.81 42 P **P 21 22 59.6 +0.5**
baz=81,SNR=64
WHN Wuhan 80.83 307 ⇓P **P 21 23 00.2 +0.8**
WHN AP pP 21 25 17.1 -1.3
WHN S S 21 32 12.6 -1.9
WHN AMB AMB
comp=Z,79nm,0.8s,mb5.2
WHN AMB AMB
comp=Z,772nm,10.9s
ELFS Eagle Lake Fie 80.83 41 ⇑P **P 21 22 59.6 +0.4**
baz=81,SNR=25
M04C Macdoel 80.83 40 P **P 21 22 59.1 0.0**
baz=81,SNR=290
GRAC Grapevine Rang 80.99 46 ⇑P **P 21 23 00.4 +0.4**
baz=81,SNR=73
GMRC Granite Mounta 81.00 48 P **P 21 23 00.1 0.0**
baz=81,SNR=306
M05C Lookout 81.00 40 P **P 21 23 00.3 +0.3**
baz=81,SNR=301
I02A Mapleton 81.01 37 P **P 21 23 00.3 +0.4**
baz=81,SNR=217
KLR Kul'dur 81.01 330 ⇓*i*P **P 21 22 55.0 -4.9**
KLR *i*S S 21 32 11.0 -4.4
KLR *e* 21 37 54.5
KLR pmax pmax
comp=E,64nm,1.8s
KLR pmax pmax
comp=Z,250nm,1.8s,mb5.3
KLR pmax pmax
comp=N,500nm,12.0s
KLR pmax pmax
comp=Z,2μm,12.0s
KLR smax
comp=N,9μm,15.0s
KLR smax
comp=E,3μm,15.0s
L04A Klamath Falls 81.03 39 ⇓P **P 21 23 00.3 +0.2**
baz=81,SNR=222
IRM Iron Mountain 81.05 49 P **P 21 23 00.8 +0.3**
baz=81,SNR=207
FURC Furnace Creek, 81.05 46 P **P 21 23 00.3 -0.1**
baz=81,SNR=112
Q07A Schurz 81.10 43 ⇓P **P 21 23 00.9 +0.3**
baz=81,SNR=16
J03A Ideyld Park 81.12 38 P **P 21 23 00.9 +0.4**
baz=81,SNR=164
O06A Flanigan 81.13 42 ⇓P **P 21 23 00.8 0.0**
baz=81,SNR=293
NVAR Mina Array Bea 81.15 44 P **P 21 23 01.0 +0.2**
NVAR PP PP 21 26 17.0 -3.1
NVAR Mina Array Bea 81.15 44 P **P 21 23 01.0 +0.2**
comp=E,266nm,0.7s,mb5.8,baz=216,slow=6.0,SNR=951
NVAR PP PP 21 26 17.0 -3.1
comp=E,10nm,0.9s,baz=235,slow=6.3,SNR=3.2
NVAR PKiKP PKiKP 21 28 20.1 +0.4
comp=E,2.3nm,0.7s,baz=212,slow=3.2,SNR=3.7
NVAR PKKPbc PKKPbc 21 41 33.1 +1.2
comp=E,6.3nm,0.7s,baz=79,slow=4.6,SNR=15
NVAR PKPPKP 21 49 30.8
comp=E,1.9nm,0.8s,baz=110,slow=4.9,SNR=7.5
SHOC Shoshone 81.15 47 ⇑P **P 21 23 00.7 -0.2**
baz=81,SNR=38
PAHR Pah Rah Range 81.16 43 *e*P **P 21 23 01.0 +0.2**
comp=E,1μm,1.3s,mb6.2
PAHR *e* 21 23 36.6
PAHR *e*PP PP 21 26 14.3 -5.8
TUQ Turquoise Mtn. 81.16 48 ⇓P **P 21 23 01.0 0.0**
baz=81,SNR=74
R08A Mina 81.23 44 ⇑P **P 21 23 01.4 +0.1**
baz=81,SNR=64
Y12C Blythe 81.29 50 P **P 21 23 02.0 +0.3**
baz=81,SNR=170
I03A Eugene 81.30 37 ⇑P **P 21 23 01.3 -0.2**
baz=82,SNR=122
M06C Likely Place G 81.32 41 ⇓P **P 21 23 01.9 +0.3**
baz=82,SNR=270
H02A Toledo 81.33 36 ⇑P **P 21 23 02.1 +0.5**
baz=82,SNR=44
P07A Fallon 81.38 43 ⇑P **P 21 23 02.2 +0.2**
baz=82,SNR=22
K04A Chilquin 81.39 39 ⇓P **P 21 23 02.2 +0.3**
baz=82,SNR=30
N06A Buffalo Meadow 81.46 41 P **P 21 23 02.5 +0.2**
baz=82,SNR=360
S09A Goldfield 81.48 45 ⇑P **P 21 23 02.3 -0.3**
baz=82,SNR=264
J04A Umpqua Nationa 81.54 38 ⇓P **P 21 23 03.2 +0.5**
baz=82,SNR=156
LDFC Landfair 81.54 48 *e*P **P 21 23 03.8 +0.9**
L05A Lakeview 81.59 40 P **P 21 23 03.6 +0.7**
baz=82,SNR=401
Q08A Gabbs 81.62 44 P **P 21 23 03.3 0.0**
baz=82,SNR=460
TIA Tai'an 81.66 313 ⇓P **P 21 23 03.9 +0.4**
COR Corvallis 81.66 37 *e*P **P 21 23 03.4 +0.1**
COR *e* 21 41 29.0
COR pmax pmax
comp=Z,330nm,0.7s,mb6.0
COR Corvallis 81.66 37 *e*P **P 21 23 03.4 +0.1**
comp=Z,334nm,0.7s,mb6.0
COR *e*PKKPbc PKKPbc 21 41 29.0 -2.1
COR Corvallis 81.66 37 P **P 21 23 03.5 +0.2**
I04A Tendick Farm, 81.69 38 P **P 21 23 03.2 -0.3**
baz=82,SNR=302
V11A Goodsprings 81.71 48 ⇑P **P 21 23 03.9 +0.2**
baz=82,SNR=131
H03A Soap Creek Ran 81.72 37 ⇑P **P 21 23 03.8 +0.2**
baz=82
TPNV Topopah Spring 81.72 46 *e*P **P 21 23 04.0 +0.2**
TPNV *e* 21 26 19.0
TPNV pmax pmax
comp=Z,650nm,1.0s,mb6.1
TPNV Topopah Spring 81.72 46 *e*P **P 21 23 04.0 +0.2**
comp=Z,651nm,1.0s,mb6.1
TPNV *e*PP PP 21 26 19.0 -5.7
TPNV Topopah Spring 81.72 46 ⇑P **P 21 23 03.9 +0.1**
baz=82
NEE2 Needles Airpor 81.73 49 ⇑P **P 21 23 04.1 +0.2**
baz=82,SNR=9.9
O07A Toulon 81.73 42 P **P 21 23 03.9 +0.1**
baz=82,SNR=653
IPM Ipoh 81.76 278 ⇑P **P 21 23 06.0 +1.5**
Y13A Salome 81.82 50 P **P 21 23 05.0 +0.6**
baz=82,SNR=281
W12A Cal Nev Ari 81.83 48 ⇑P **P 21 23 04.6 +0.3**
baz=82,SNR=32
MOD Modoc 81.83 40 *e*P **P 21 23 04.2 0.0**
comp=Z,477nm,0.7s,mb6.1
MOD *e* 21 23 40.2
MOD *e*PP PP 21 26 24.0 -1.5
MOD *e*PKKPbc PKKPbc 21 41 30.3 -0.2
MOD Modoc 81.83 40 P **P 21 23 04.5 +0.3**
baz=82,SNR=131
PDMCI Parker Dam,Lak 81.84 49 ⇑P **P 21 23 04.7 +0.3**
baz=82,SNR=124
R09A Tonopah 81.86 45 ⇓P **P 21 23 04.3 -0.1**
baz=82,SNR=106
R09A ⇑P PKKPbc 21 41 30.9 +0.6
baz=82

K05A Summer Lake 81.95 39 P **P 21 23 05.5 +0.7**
baz=82,SNR=556
P08A Dixie Valley 81.98 43 P **P 21 23 05.6 +0.6**
baz=82,SNR=88
S10A Tonopah Range, 82.00 45 P **P 21 23 05.4 +0.2**
baz=82,SNR=1000
S10A ⇑P PKKPbc 21 41 30.7 +0.8
baz=82
N07B Gerlach 82.02 42 P **P 21 23 05.2 0.0**
baz=82,SNR=250
U11A Corn Creek 82.04 47 ⇓P **P 21 23 05.7 +0.3**
baz=82,SNR=28
V12A Nelson 82.06 48 P **P 21 23 05.7 +0.2**
baz=82,SNR=152
V12A ⇑P PKKPbc 21 41 31.0 +1.3
baz=82
J05A Fort Rock 82.08 39 P **P 21 23 06.0 +0.6**
baz=82,SNR=613
Q09A Carvers 82.10 44 P **P 21 23 06.0 +0.3**
baz=82,SNR=64
MAW Mawson 82.11 200 *e*P **P 21 23 05.6 +0.4**
comp=Z,193nm,0.7s,mb5.7
MAW *e*pP pP 21 25 20.9 -3.8
MAW *e*S S 21 32 21.8 -4.1
MAW Mawson 82.11 200 P **P 21 23 06.2 +1.0**
MAW *PP pP 21 25 23.8 -0.9
MAW pmax pmax
comp=Z,180nm,0.6s
MAW pmax pmax
comp=Z,46nm,1.0s
MAW pmax pmax
comp=Z,9.0nm,0.7s
MAW Mawson 82.11 200 P **P 21 23 06.2 +1.0**
comp=Z,180nm,0.6s,mb5.8,baz=125,slow=6.8,SNR=185
MAW pP pP 21 25 23.8 -0.9
comp=Z,46nm,1.0s,baz=95,slow=5.8,SNR=3.1
MAW PKKPbc PKKPbc 21 41 26.9 -3.6
comp=Z,9.2nm,0.7s,baz=322,slow=3.3,SNR=11
G03A Yamhill 82.12 36 P **P 21 23 05.8 +0.2**
baz=82,SNR=71
X13A Yucca 82.21 49 ⇓P **P 21 23 06.6 +0.3**
baz=82,SNR=486
X13A ⇓P PKKPbc 21 41 30.3 +1.0
baz=82,SNR=5.6
M07A Soldier Meadow 82.24 41 P **P 21 23 06.5 +0.3**
baz=82,SNR=269
M07A ⇓P PKKPbc 21 41 29.0 -0.5
baz=82
SHPR Sheep Range 82.24 47 *e*P **P 21 23 06.6 +0.2**
Z14A Wintersburg 82.24 51 P **P 21 23 07.1 +0.6**
baz=82,SNR=214
Z14A ⇑P PKKPbc 21 41 29.7 +0.5
baz=82
O08A Rochester Mine 82.27 43 ⇑P **P 21 23 06.8 +0.3**
baz=82,SNR=12
F03A Seaside 82.35 36 ⇑P **P 21 23 06.7 0.0**
baz=82,SNR=59
H04A Detroit Lake 82.36 37 P **P 21 23 06.5 -0.3**
baz=82,SNR=352
K06A Valley Falls 82.38 40 P **P 21 23 07.2 +0.3**
baz=82,SNR=561
KULM Kulim 82.39 278 *e*P **P 21 23 08.6 +0.9**
KULM *e* 21 23 44.3
KULM *e* 21 24 30.7
KULM *e*pP pP 21 25 26.0 -1.4
KULM *e*PP PP 21 26 28.0 -2.4
KULM Kulim 82.39 278 ⇓P **P 21 23 09.3 +1.6**
R10A Warm Springs 82.39 45 P **P 21 23 07.6 +0.5**
baz=82,SNR=911
W13A Hualapai Mount 82.42 49 P **P 21 23 07.5 +0.2**
baz=83,SNR=330
S11A Rachel 82.43 46 P **P 21 23 07.4 +0.1**
baz=83,SNR=252
115A Sonoran Desert 82.45 52 P **P 21 23 08.0 +0.5**
baz=83,SNR=194
115A P PKKPbc 21 41 29.8 +1.1
baz=83,SNR=13
CJM Chamela 82.46 66 *i* P **P 21 23 07.6 -0.2**
MA2 Magadan 82.47 345 *c i*P **P 21 23 05.5 -1.4**
MA2 *i* *PP pP 21 25 24.2 -2.6
MA2 *SP sP 21 26 31.2 -3.0
MA2 *e*S S 21 32 24.8 -4.6
MA2 *e*SS SS 21 38 15.9 +2.6
MA2 pmax pmax
comp=Z,300nm,1.3s,mb5.7
MA2 pmax pmax
comp=N,100nm,1.4s
MA2 Magadan 82.47 345 *e*P **P 21 23 05.6 -1.4**
comp=N,109nm,0.9s,mb5.4
MA2 *e* 21 23 41.3
MA2 *e*pP pP 21 25 26.7 -0.1
Y14A Wickenburg 82.48 50 P **P 21 23 07.8 +0.1**
baz=83,SNR=318
Y14A P PKKPbc 21 41 29.8 +1.1
baz=83,SNR=7.7
L07A Adell 82.49 41 P **P 21 23 08.1 +0.6**
baz=83,SNR=314
L07A ⇑P PKKPbc 21 41 29.6 +0.6
baz=83,SNR=5.5
G04A Mulino 82.50 37 P **P 21 23 07.5 0.0**
baz=83,SNR=63
P09A Austin 82.52 44 P **P 21 23 07.8 +0.2**
baz=83,SNR=65
SVW2 Sparrevohn 82.53 11 *e*P **P 21 23 05.7 -1.5**
N08A GE Springer Mi 82.55 42 P **P 21 23 07.8 0.0**
baz=83,SNR=887
I05A Bend 82.58 38 P **P 21 23 08.2 +0.3**
baz=83,SNR=66
T11A Corn Creek, Al 82.58 46 P **P 21 23 08.4 +0.4**
baz=83,SNR=641
T11A P PKKPbc 21 41 30.7 +2.1
baz=83,SNR=5.5
Q10A Clear Creek Ra 82.61 45 P **P 21 23 08.3 +0.1**
baz=83,SNR=306
U12A Valley of Fire 82.63 47 P **P 21 23 08.7 +0.4**
baz=83,SNR=193
T12A Moapa 82.66 47 ⇑P **P 21 23 08.8 +0.3**
baz=83,SNR=7.1
216A Three Points, 82.69 53 P **P 21 23 09.4 +0.7**
baz=83,SNR=251
216A ⇓P PKKPbc 21 41 29.1 +1.0
baz=83
J06A Christmas Vall 82.70 39 P **P 21 23 08.4 -0.1**
baz=83,SNR=370
J06A P PKKPbc 21 41 29.0 +0.4
baz=83,SNR=11
E03A Lebam 82.72 35 P **P 21 23 08.7 +0.2**
baz=83,SNR=152
PMSA Palmer Station 82.72 157 *e*P **P 21 23 08.9 +0.6**
comp=N,186nm,0.7s,mb5.7
PMSA Palmer Station 82.72 157 P **P 21 23 09.4 +1.1**
comp=N,143nm,0.6s,mb5.7,baz=223,slow=3.4,SNR=46
V13A Grand Canyon W 82.73 48 P **P 21 23 08.9 +0.1**
baz=83,SNR=213
V13A ⇓P PKKPbc 21 41 29.3 +1.1
baz=83
M08A Happy Creek Ra 82.76 41 P **P 21 23 09.3 +0.5**
baz=83,SNR=304
M08A ⇑P PKKPbc 21 41 28.9 +0.6
baz=83
116A Eloy 82.77 52 P **P 21 23 09.8 +0.6**
baz=83,SNR=196
Z15A Gila River Ind 82.78 51 P **P 21 23 09.5 +0.4**
baz=83,SNR=53
O09A Fish Creek Ran 82.82 43 P **P 21 23 09.3 +0.1**
baz=83,SNR=343
O09A ⇓P PKKPbc 21 41 29.2 +1.0
baz=83
X14A Yava 82.82 50 P **P 21 23 09.9 +0.6**
baz=83,SNR=472
X14A ⇑P PKKPbc 21 41 28.7 +0.8
baz=83
H05A Madras 82.88 38 P **P 21 23 09.4 0.0**
baz=83,SNR=91
H05A ⇓P PKKPbc 21 41 28.2 0.0
baz=83
R11A Troy Canyon, C 82.91 45 P **P 21 23 09.4 -0.2**
baz=83,SNR=242
K07A Rock Creek Ran 82.93 40 P **P 21 23 09.8 +0.2**
baz=83,SNR=616
K07A P PKKPbc 21 41 28.4 +0.3
baz=83,SNR=6.9
D03A Wishkah Elem. 82.97 35 P **P 21 23 10.3 +0.6**
baz=83,SNR=62
Y15A Casa Rosa Ranc 82.97 50 P **P 21 23 10.6 +0.4**
baz=83,SNR=251
N09A Rock Creek Ran 82.97 42 P **P 21 23 10.1 +0.2**
baz=83,SNR=243
F04A Amboy 82.98 36 P **P 21 23 09.6 -0.2**
baz=83,SNR=220
P10A Eureka 82.99 44 ⇓P **P 21 23 10.3 +0.2**
baz=83
S12A Delamar Landin 83.02 46 P **P 21 23 10.9 +0.7**
baz=83,SNR=361
U13A Pakoon Wash 83.02 48 P **P 21 23 10.8 +0.5**
baz=83,SNR=398
W14A Seligman 83.05 49 P **P 21 23 11.1 +0.7**
baz=83,SNR=499
W14A ⇓P PKKPbc 21 41 28.8 +1.4
baz=83,SNR=6.5
217A Green Valley 83.06 53 P **P 21 23 11.5 +0.9**
baz=83,SNR=428
217A ⇓P PKKPbc 21 41 27.8 +0.6
baz=83,SNR=8.3
C03A Quillayute Air 83.06 34 ⇓P **P 21 23 10.9 +0.7**
baz=83,SNR=24
I06A Prineville 83.07 39 P **P 21 23 10.9 +0.6**
baz=83,SNR=245
I06A ⇑P PKKPbc 21 41 28.1 +0.3
baz=83
SNG Songkhla 83.07 280 P **P 21 23 13.0 +1.9**
comp=N,196nm,0.9s,mb5.6
NLWA Neilton Lookou 83.08 34 *e*P **P 21 23 10.5 +0.2**
comp=N,718nm,1.1s,mb6.1
NLWA *e* 21 23 45.6
NLWA *e*pP pP 21 25 30.1 -0.4
NLWA *e*PP PP 21 26 35.6 +0.2
NLWA Neilton Lookou 83.08 34 ⇑P **P 21 23 10.5 +0.2**
baz=83,SNR=125
SLKM Skilak Lake 83.11 14 *e*P **P 21 23 08.7 -1.4**
SLKM *e* 21 23 44.2
SLKM *e*pP pP 21 25 28.7 -1.6
SLKM *e*PP PP 21 26 33.1 -2.2
SLKM *e*S S 21 32 25.1 -11
MID Middleton Isla 83.12 16 *e*P **P 21 23 09.2 -1.0**
Q11A Duckwater 83.12 45 P **P 21 23 10.8 +0.1**
baz=83,SNR=478
Q11A ⇑P PKKPbc 21 41 27.8 +0.4
baz=83,SNR=8.7
WVOR Wild Horse Val 83.15 41 *e*P **P 21 23 10.8 0.0**
WVOR pmax pmax
comp=Z,730nm,1.1s,mb6.1
WVOR Wild Horse Val 83.15 41 *e*P **P 21 23 10.8 0.0**
comp=Z,726nm,1.2s,mb6.1
WVOR *e* 21 23 46.2
PSI Prapat 83.15 275 P **P 21 23 11.2 -0.3**
PSI *PP pP 21 25 29.0 -2.6
PSI 21 26 34.2
PSI S S 21 32 27.5 -11
PSI pmax pmax
comp=Z,52nm,0.8s,mb5.1
PSI pmax pmax
comp=Z,17nm,1.0s,mb4.5
PSI pmax pmax
comp=Z,24nm,0.9s,mb4.7
PSI smax
comp=N,3.0nm,0.7s
PSI pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
PSI Prapat 83.15 275 P **P 21 23 11.2 -0.3**
comp=Z,52nm,0.8s,mb5.1,baz=93,slow=2.2,SNR=29
PSI pP pP 21 25 28.9 -2.6
comp=Z,17nm,1.0s,baz=16,slow=1.2,SNR=3.7
PSI PP PP 21 26 34.2 -2.3
comp=Z,24nm,0.8s,baz=124,slow=3.8,SNR=4.8
PSI S S 21 32 27.5 -11
comp=Z,3.0nm,0.7s,baz=167,slow=22,SNR=6.0
PSI PKKPbc PKKPbc 21 41 26.6 +0.4
comp=Z,8.2nm,0.5s,baz=257,slow=5.2,SNR=8.3
GAMB Gambell 83.18 3 *e*P **P 21 23 10.0 -0.4**
comp=Z,384nm,1.1s,mb5.8
GAMB *e* 21 23 45.8
GAMB *e*pP pP 21 25 31.8 +1.1
G05A Wamic 83.19 37 ⇑P **P 21 23 10.7 -0.2**
baz=83
G05A ⇑P PKKPbc 21 41 27.2 -0.3
baz=83
L08A Fields 83.20 41 P **P 21 23 11.3 +0.3**
baz=83,SNR=538
L08A P PKKPbc 21 41 27.6 +0.2
baz=83,SNR=6.5
E04A Onalaska 83.21 35 ⇑P **P 21 23 11.4 +0.4**
baz=83,SNR=73
V14A Boquillas Ranc 83.24 49 P **P 21 23 11.8 +0.4**
baz=83,SNR=500
V14A P PKKPbc 21 41 28.6 +1.6
baz=83,SNR=5.6
J07A Hines 83.27 39 P **P 21 23 11.6 +0.2**
baz=83,SNR=83
X15A Humboldt 83.30 50 ⇑P **P 21 23 12.1 +0.3**
baz=83,SNR=516
X15A ⇑P PKKPbc 21 41 28.2 +1.4
baz=83,SNR=7.8
O10A Cortez Mining, 83.33 43 P **P 21 23 11.8 +0.1**
baz=84,SNR=212
M09A Marrel Ranch, 83.33 42 ⇓P **P 21 23 12.2 +0.5**
baz=84,SNR=145
TUC Tucson 83.34 53 *e*P **P 21 23 12.6 +0.7**
TUC *e**PP pP 21 25 34.0 +1.8
TUC *e* 21 42 02.9
TUC pmax pmax
comp=Z,540nm,1.2s,mb6.0
TUC Tucson 83.34 53 *e*P **P 21 23 12.6 +0.6**
comp=Z,539nm,1.2s,mb6.0
TUC *e* 21 23 48.4
TUC *e*pP pP 21 25 34.0 +1.8
TUC *e*PKKPbc PKKPbc 21 41 26.7 +0.1
TUC *e* 21 42 02.9
Z16A Peralta Trail, 83.34 51 P **P 21 23 12.4 +0.5**
baz=84,SNR=105
Z16A ⇓P PKKPbc 21 41 27.3 +0.7
baz=84,SNR=6.0
T13A Saint George 83.37 47 P **P 21 23 12.2 +0.2**
baz=84,SNR=228
K08A Mann Creek Ran 83.41 40 P **P 21 23 12.4 +0.4**
baz=84,SNR=376
K08A P PKKPbc 21 41 26.8 -0.1
baz=84,SNR=8.5
P11A Circle Ranch, 83.42 44 ⇓P **P 21 23 12.3 +0.1**
baz=84,SNR=64
H06A Lindquist Farm 83.45 38 ⇑P **P 21 23 12.1 -0.1**
baz=84,SNR=525
H06A ⇑P PKKPbc 21 41 26.0 -0.9
baz=84,SNR=15
D04A Dobbs Creek Ra 83.48 35 ⇑P **P 21 23 12.7 +0.4**
baz=84,SNR=24
F05A White Salmon 83.48 37 ⇑P **P 21 23 12.0 -0.3**
baz=84,SNR=77
F05A ⇓P PKKPbc 21 41 25.7 -1.2
baz=84
117A Oracle 83.49 52 P **P 21 23 13.4 +0.7**
baz=84,SNR=349
117A P PKKPbc 21 41 26.8 +0.5
baz=84,SNR=12
318A Bisbee 83.53 54 P **P 21 23 13.8 +0.8**
baz=84,SNR=538
318A P PKKPbc 21 41 27.1 +1.0
baz=84,SNR=8.6
N10A Dunphy 83.55 43 P **P 21 23 13.2 +0.4**
baz=84,SNR=79
R12A Pony Springs, 83.55 46 P **P 21 23 13.0 +0.2**
baz=84,SNR=200
I07A Izee 83.56 39 P **P 21 23 13.0 +0.2**
baz=84,SNR=308
I07A ⇑P PKKPbc 21 41 26.1 -0.5
baz=84
Y16A Circle Bar Ran 83.56 51 P **P 21 23 13.5 +0.5**
baz=84,SNR=400
Y16A ⇓P PKKPbc 21 41 27.2 +1.0
baz=84
G06A Carlson Farm, 83.57 37 P **P 21 23 12.4 -0.3**
baz=84,SNR=150
U14A Mt Trumbull 83.57 48 P **P 21 23 13.6 +0.6**
baz=84,SNR=752
W15A Williams 83.61 49 P **P 21 23 13.9 +0.7**
baz=84,SNR=82
S13A Holt Ranch, En 83.68 47 P **P 21 23 13.8 +0.3**
baz=84,SNR=322
B04A Port Angeles 83.69 34 ⇓P **P 21 23 13.3 0.0**
baz=84,SNR=110
E05A Randle 83.72 36 ⇓P **P 21 23 12.9 -0.5**
baz=84,SNR=229
E05A ⇑P PKKPbc 21 41 25.2 -1.2
baz=84
218A Dragoon 83.74 53 P **P 21 23 14.8 +0.9**
baz=84,SNR=454
218A ⇓P PKKPbc 21 41 26.4 +0.8
baz=84
GNW Green Mountain 83.75 35 *e*P **P 21 23 13.4 -0.2**
C04A Brinnon 83.76 34 ⇓P **P 21 23 13.8 +0.1**
baz=84,SNR=164
J08A Circle Bar Ran 83.77 40 P **P 21 23 13.9 +0.1**
baz=84,SNR=222
J08A ⇑P PKKPbc 21 41 26.0 -0.2
baz=84,SNR=9.8
Q12A Willow Creek R 83.77 45 P **P 21 23 14.0 +0.1**
baz=84,SNR=110
O11A Cowboy Ranch, 83.79 44 P **P 21 23 14.2 +0.2**
baz=84,SNR=306
F06A Goldendale 83.80 37 ⇓P **P 21 23 13.6 -0.2**
baz=84,SNR=58
F06A ⇑P PKKPbc 21 41 26.0 -0.2
baz=84,SNR=7.8
H07A Lands Inn, Kim 83.82 38 ⇓P **P 21 23 13.9 -0.1**
baz=84
H07A ⇓P PKKPbc 21 41 25.7 -0.4
baz=84
X16A Lo Mia Camp, P 83.84 50 ⇑P **P 21 23 14.8 +0.4**
baz=84,SNR=276
K09A Rome 83.86 41 P **P 21 23 14.4 +0.2**
baz=84,SNR=600
K09A P PKKPbc 21 41 26.3 +0.4
baz=84,SNR=9.0
Y17A Roosevelt 83.94 51 P **P 21 23 15.2 +0.3**
baz=84,SNR=165
Y17A ⇑P PKKPbc 21 41 26.3 +1.0
baz=84,SNR=9.2
P12A McGill 83.94 45 P **P 21 23 14.9 +0.2**
baz=84,SNR=237
P12A ⇑P PKKPbc 21 41 26.3 +0.8
baz=84
T14A Hurricane 83.96 47 P **P 21 23 15.3 +0.4**
baz=84,SNR=57
M10A I.L. Ranch, Tu 83.96 42 P **P 21 23 15.3 +0.6**
baz=84,SNR=432
D05A Enumclaw 83.97 35 P **P 21 23 14.9 +0.3**
baz=84,SNR=175
V15A Kaibab Nationa 83.99 49 P **P 21 23 15.8 +0.7**
baz=84,SNR=321
V15A ⇑P PKKPbc 21 41 26.6 +1.3
baz=84,SNR=5.7
CCUT Cedar City 84.01 47 *e*P **P 21 23 15.4 +0.3**
CCUT *e*PP PP 21 26 40.9 -2.1
I08A Drewsey 84.02 39 P **P 21 23 15.1 +0.1**
baz=84,SNR=146
319A Douglas 84.05 54 ⇑P **P 21 23 16.5 +1.1**
baz=84,SNR=411
319A ⇓P PKKPbc 21 41 26.6 +1.7
baz=84,SNR=11
ARUT Antelope Range 84.07 47 *e*P **P 21 23 15.5 +0.1**
ARUT *e* 21 26 39.7
PGC Sidney 84.09 34 *e*P **P 21 23 14.5 -0.7**
comp=Z,720nm,0.9s,mb6.2
PGC *e* 21 23 51.0
PGC *e*PP PP 21 26 41.6 -1.8
118A Homack Ranch, 84.10 53 P **P 21 23 16.4 +0.7**
baz=84,SNR=329
118A ⇓P PKKPbc 21 41 25.5 +0.6
baz=84,SNR=6.6
N11A Elko Archery C 84.10 43 ⇑P **P 21 23 15.6 +0.2**
baz=84,SNR=17
E06A Yakima 84.14 36 P **P 21 23 15.3 -0.2**
baz=84,SNR=188
G07A Ruggs Ranch, H 84.14 38 P **P 21 23 15.3 -0.3**
baz=84,SNR=353
G07A ⇓P PKKPbc 21 41 24.7 -0.6
baz=84,SNR=8.6
TTA Tatalina 84.16 10 *e*P **P 21 23 14.1 -1.1**
TTA *e**PP pP 21 25 35.0 -0.9
TTA *e*S S 21 32 42.8 -2.9
TTA Tatalina 84.16 10 *e*P **P 21 23 13.9 -1.3**
J09A Fry Pan Ranch, 84.20 40 P **P 21 23 16.1 +0.2**
baz=84,SNR=560
J09A P PKKPbc 21 41 25.3 +0.2
baz=84,SNR=9.6
S14A Cedar City 84.25 47 P **P 21 23 16.7 +0.4**
baz=84,SNR=57
Z18A Geronimo 84.25 52 P **P 21 23 17.1 +0.6**
baz=84,SNR=43
Q13A Wheeler Ranch, 84.27 45 ⇑P **P 21 23 16.1 -0.2**
baz=84,SNR=291
Q13A ⇑P PKKPbc 21 41 25.9 +1.1
baz=84,SNR=6.3
X17A Forest Lakes 84.27 51 ⇑P **P 21 23 17.3 +0.9**
baz=84
X17A ⇑P PKKPbc 21 41 26.3 +1.8
baz=84
BJT Baijiatuau 84.28 316 *e*P **P 21 23 16.3 0.0**
BJT *e**PP pP 21 25 37.5 +0.4
BJT pmax pmax
comp=Z,69nm,0.8s
BJT Baijiatuau 84.28 316 *e*P **P 21 23 16.3 0.0**
comp=Z,69nm,0.8s,mb5.2
BJT *e* 21 23 52.0
BJT *e*pP pP 21 25 37.5 +0.4
BJI Beijing 84.28 316 P **P 21 23 16.5 +0.1**
BJI AP pP 21 25 36.3 -0.8
BJI XP sP 21 26 41.8 -2.5
BJI SKS 21 32 35.4
BJI S S 21 32 50.2 +2.3
BJI SS SS 21 38 40.3 -0.1
BJI AMB AMB
comp=Z,89nm,0.8s,mb5.3
BJI AMB AMB
comp=Z,1μm,3.5s
CRAG Craig 84.29 24 *e*P **P 21 23 16.6 +0.6**
comp=Z,237nm,1.0s,mb5.7
H08A Prairie City 84.30 39 ⇓P **P 21 23 16.0 -0.3**
baz=84,SNR=115
L10A Juniper Basin 84.30 42 ⇑P **P 21 23 16.5 +0.1**
baz=84,SNR=462
PMR Palmer 84.32 14 *e*P **P 21 23 14.6 -1.4**
PMR *e**PP pP 21 25 36.4 -0.4
PMR pmax pmax
comp=Z,790nm,1.2s,mb6.1
PMR Palmer 84.32 14 *e*P **P 21 23 14.5 -1.5**
comp=Z,904nm,1.3s,mb6.1
219A White Tail Can 84.34 53 P **P 21 23 17.6 +0.7**
baz=84,SNR=364
219A P PKKPbc 21 41 25.1 +0.8
baz=84,SNR=7.9
F07A Phinny Hill Vi 84.36 37 P **P 21 23 16.4 -0.2**
baz=84,SNR=53
KKTK Khon Kaen 84.37 289 P **P 21 23 18.7 +1.4**
comp=Z,432nm,0.8s,mb6.0
M11A Holland Ranch, 84.39 43 P **P 21 23 17.4 +0.5**
baz=84,SNR=198
WUAZ Wupatki 84.42 49 *e*P **P 21 23 17.4 +0.3**
comp=Z,520nm,1.2s,mb5.9
WUAZ *e* 21 23 53.6
WUAZ *e*PP PP 21 26 44.5 -1.8
WUAZ Wupatki 84.42 49 ⇓P **P 21 23 17.5 +0.4**
baz=84
WUAZ ⇓P PKKPbc 21 41 25.3 +1.1
baz=85
T15A Red Dirt Ranch 84.43 48 P **P 21 23 17.6 +0.4**
baz=85,SNR=139
K10A MacKenzie Ranc 84.43 41 P **P 21 23 17.2 +0.2**
baz=85,SNR=311
K10A ⇓P PKKPbc 21 41 24.2 -0.3
baz=85,SNR=6.0
C05A Tolt Reservoir 84.44 35 P **P 21 23 16.6 -0.3**
baz=85,SNR=238
C05A ⇓P PKKPbc 21 41 22.6 -2.2
baz=85
O12A Currie 84.46 44 P **P 21 23 17.3 +0.1**
baz=85,SNR=221
A04A Legoe Bay, Lum 84.52 34 P **P 21 23 17.4 +0.1**
baz=85,SNR=340
A04A ⇑P PKKPbc 21 41 22.5 -2.1
baz=85
P13A Bates Ranch, G 84.52 45 P **P 21 23 17.6 0.0**
baz=85,SNR=450
I09A Lost Marbles R 84.55 40 ⇓P **P 21 23 17.2 -0.4**
baz=85,SNR=136
I09A P PKKPbc 21 41 24.2 -0.1
baz=85,SNR=7.7
B05A Bryant 84.56 34 ⇑P **P 21 23 17.4 -0.1**
baz=85,SNR=211
G08A Pilot Rock 84.57 38 P **P 21 23 17.4 -0.2**
baz=85,SNR=416

G08A P PKKPbc 21 41 23.1 -1.2
baz=85,SNR=13
N12A Clover Valley, 84.57 43 P **P 21 23 17.9 +0.2**
baz=85,SNR=115
Y18A Canyon Day Jun 84.58 52 P **P 21 23 18.7 +0.7**
baz=85,SNR=363
SFJM Santa Fe 84.58 66 *i* P **P 21 23 18.0 -0.2**
D06A Cle Elum 84.60 36 P **P 21 23 17.8 0.0**
baz=85,SNR=130
D06A ⇓P PKKPbc 21 41 22.8 -1.6
baz=85
R14A James Farms, M 84.61 46 ⇑P **P 21 23 18.4 +0.3**
baz=85
SIT Sitka 84.64 22 *e*P **P 21 23 17.7 0.0**
SIT Sitka 84.64 22 *e*P **P 21 23 17.6 -0.1**
comp=Z,398nm,1.2s,mb5.9
119A Ashpeak Ranch, 84.66 53 P **P 21 23 19.0 +0.7**
baz=85,SNR=166
119A ⇑P PKKPbc 21 41 24.7 +1.1
baz=85,SNR=7.9
SML Sawmill 84.69 14 *e*P **P 21 23 16.4 -1.4**
DIV Divide 84.72 16 *e*P **P 21 23 16.8 -1.2**
comp=Z,503nm,0.8s,mb6.2
DIV *e* 21 23 52.7
DIV *e*pP pP 21 25 38.8 -0.2
E07A Sunnyside 84.78 37 ⇑P **P 21 23 18.6 0.0**
baz=85,SNR=75
E07A ⇑P PKKPbc 21 41 24.3 +0.4
baz=85
L11A Cat Creek Ranc 84.80 42 P **P 21 23 19.2 +0.4**
baz=85,SNR=399
J10A Berg Farm, Mel 84.85 40 ⇓P **P 21 23 18.7 -0.3**
baz=85,SNR=58
HAWA Hanford 84.87 37 *e*P **P 21 23 18.9 -0.2**
comp=Z,817nm,1.1s,mb6.3
HAWA *e* 21 23 55.1
HAWA *e*PKKPbc PKKPbc 21 41 22.1 -1.6
O13A Hicks Ranch, I 84.89 44 ⇓P **P 21 23 19.5 +0.2**
baz=85,SNR=34
Z19A T-Link Ranch, 84.92 52 ⇑P **P 21 23 20.2 +0.6**
baz=85,SNR=38
M12A Wells 84.94 43 P **P 21 23 19.6 +0.1**
baz=85,SNR=232
K11A Parker Ranch, 84.95 41 P **P 21 23 19.7 +0.2**
baz=85,SNR=179
F08A Pendleton 84.96 38 P **P 21 23 19.3 -0.2**
baz=85,SNR=69
F08A ⇑P PKKPbc 21 41 22.4 -1.1
baz=85
H09A Durkee 84.98 39 P **P 21 23 19.4 -0.2**
baz=85,SNR=252
X18A Snowflake 84.98 51 P **P 21 23 20.2 +0.3**
baz=85,SNR=147
C06A Tall Timber Ra 85.00 35 ⇓P **P 21 23 19.1 -0.6**
baz=85,SNR=16
A05A Maple Falls 85.01 34 ⇓P **P 21 23 18.9 -0.8**
baz=85,SNR=55
A05A ⇑P PKKPbc 21 41 21.7 -1.7
baz=85
T16A Glen Canyon Da 85.02 48 ⇑P **P 21 23 20.4 +0.4**
baz=85,SNR=131
B06A Marblemount 85.04 34 ⇑P **P 21 23 19.2 -0.6**
baz=85,SNR=32
GYA Guiyang 85.05 300 ⇑ *i*P **P 21 23 20.4 0.0**
GYA AP pP 21 25 43.9 +2.4
GYA XP sP 21 26 51.6 +3.0
GYA PP PP 21 26 54.2 +2.7
GYA PPP 21 28 56.0
GYA SKS 21 32 40.4
GYA S S 21 32 55.3 -0.6
GYA PS 21 35 27.2
GYA XS sS 21 37 06.8 -0.1
GYA SS SS 21 38 54.7 +2.7
GYA SSS 21 42 32.8
GYA AMB AMB
comp=Z,670nm,1.0s,mb6.2
D07A Quincy 85.08 36 P **P 21 23 19.9 -0.2**
baz=85,SNR=67
D07A ⇑P PKKPbc 21 41 22.9 -0.3
baz=85,SNR=8.9
SEY Seymchan 85.09 347 ⇑ *e*P **P 21 23 18.7 -1.0**
N13A Wendover, West 85.11 44 P **P 21 23 20.6 +0.2**
baz=85,SNR=144
I10A Payette 85.18 40 P **P 21 23 21.1 +0.5**
baz=85,SNR=128
E08A Dider Farm, El 85.19 37 P **P 21 23 20.4 -0.2**
baz=85,SNR=112
E08A P PKKPbc 21 41 21.9 -1.0
baz=85,SNR=6.9
TNA Tin City 85.21 5 *e*P **P 21 23 19.2 -1.0**
comp=Z,3µm,2.8s,mb6.3
TNA *e* 21 23 56.6
TNA *e*pP pP 21 25 42.2 +0.7
TNA *e*PKKPbc PKKPbc 21 41 20.4 -3.3
Y19A Nutrioso 85.23 52 P **P 21 23 21.9 +0.8**
baz=85,SNR=289
G09A Cove 85.25 39 P **P 21 23 20.7 -0.2**
baz=85,SNR=439
L12A House Creek Ra 85.26 42 P **P 21 23 21.4 +0.4**
baz=85,SNR=247
WRAK Wrangell Islan 85.28 24 *e*P **P 21 23 20.6 -0.1**
comp=Z,321nm,0.9s,mb6.0
WRAK *e* 21 23 56.8
BMO Blue Mountains 85.30 39 *e*P **P 21 23 20.8 -0.3**
BMO pmax pmax
comp=Z,2µm,1.9s,mb6.3
BMO Blue Mountains 85.30 39 *e*P **P 21 23 20.8 -0.4**
comp=Z,2µm,1.9s,mb6.3
BMO *e*PKKPbc PKKPbc 21 41 20.8 -1.8
MSU Marysvale 85.30 47 *e*P **P 21 23 21.8 +0.5**
MSU *e* 21 26 52.2
MSU Marysvale 85.30 47 *e*P **P 21 23 21.8 +0.6**
MSU *e* 21 23 57.6
MSU *e*PP PP 21 26 52.2 -1.0
MSU *e*PKKPdf PKKPdf 21 41 13.7 -1.2
MSU *e*PKKPbc PKKPbc 21 41 22.9 +0.5
C07A Waterville 85.32 36 P **P 21 23 20.6 -0.5**
baz=86,SNR=319
C07A ⇑P PKKPbc 21 41 20.1 -2.6
baz=86,SNR=6.5
A06A Chilliwack 85.39 34 ⇓P **P 21 23 21.1 -0.4**
baz=86,SNR=43
M13A Montello 85.40 43 P **P 21 23 21.9 +0.2**
baz=86,SNR=355
F09A S2 Ranch, Elgi 85.42 38 P **P 21 23 21.6 -0.1**
baz=86,SNR=68
MFID Camas Ranch 85.42 41 P **P 21 23 21.8 +0.1**
baz=86,SNR=131
MFID ⇑P PKKPbc 21 41 22.0 -0.3
baz=86
X19A St. Johns 85.42 51 P **P 21 23 22.4 +0.5**
baz=86,SNR=118
H10A Noah's Angus R 85.49 40 P **P 21 23 21.7 -0.3**
baz=86,SNR=452
H10A ⇓P PKKPbc 21 41 21.7 -0.5
baz=86,SNR=14
K12A Draper Farm, C 85.58 42 P **P 21 23 22.7 +0.2**
baz=86,SNR=208
K12A ⇓P PKKPbc 21 41 21.7 -0.1
baz=86
D08A Wollman Farm, 85.59 37 ⇓P **P 21 23 22.3 -0.2**
baz=86,SNR=288
D08A ⇓P PKKPbc 21 41 20.6 -1.4
baz=86,SNR=5.6
I11A Placerville 85.60 40 P **P 21 23 22.7 +0.1**
baz=86,SNR=278
I11A ⇓P PKKPbc 21 41 21.9 +0.1
baz=86
G10A Bishop Farm, J 85.65 39 ⇑P **P 21 23 22.5 -0.2**
baz=86,SNR=389
G10A ⇑P PKKPbc 21 41 20.3 -1.5
baz=86,SNR=7.9
TIY Taiyuan 85.66 312 ⇑ *i*P **P 21 23 23.6 +0.6**
TIY AMB AMB
comp=Z,1µm,3.7s
USHA Ushuaia 85.67 147 P **P 21 23 23.2 +0.4**
comp=Z,221nm,1.1s,mb5.7,baz=214,slow=5.4,SNR=67
USHA PKPPKP 21 49 17.4
comp=Z,5.9nm,0.9s,baz=45,slow=2.9,SNR=3.6
DUG Dugway 85.70 45 *e*P **P 21 23 22.6 -0.5**
DUG *e* 21 26 54.0
DUG pmax pmax
comp=Z,2µm,2.8s,mb6.3
DUG Dugway 85.70 45 *e*P **P 21 23 22.6 -0.6**
comp=Z,2µm,2.8s,mb6.3
DUG *e*PP PP 21 26 54.0 -2.4
DUG *e*PKKPbc PKKPbc 21 41 21.5 0.0
DUG Dugway 85.70 45 ⇓P **P 21 23 22.9 -0.3**
baz=86
DUG ⇑P PKKPbc 21 41 21.6 +0.2
baz=86
CAIG El Cayaco 85.71 70 *i* P **P 21 23 23.8 +0.1**
E09A Wood Farm, Sta 85.73 37 P **P 21 23 22.6 -0.5**
baz=86,SNR=102
E09A P PKKPbc 21 41 20.5 -1.1
baz=86,SNR=7.8
B07A Winthrop 85.74 35 ⇓P **P 21 23 22.9 -0.2**
baz=86,SNR=288
B07A P PKKPbc 21 41 19.6 -2.1
baz=86,SNR=7.5
N14A Grayback Hills 85.78 44 P **P 21 23 23.2 -0.3**
baz=86,SNR=62
N14A ⇓P PKKPbc 21 41 21.6 +0.3
baz=86
J12A Stokes Ranch, 85.78 41 P **P 21 23 23.9 +0.4**
baz=86,SNR=464
J12A ⇓P PKKPbc 21 41 21.6 +0.2
baz=86
NNT Nongplab 85.79 285 P **P 21 23 26.2 +2.0**
MOIG Morelia 85.88 68 *i* P **P 21 23 23.9 -0.6**
L13A Double Diamond 85.91 43 P **P 21 23 24.4 +0.3**
baz=86,SNR=119
BGU Big Grassy Mou 85.92 44 *e*P **P 21 23 23.4 -0.7**
BGU *e*pP pP 21 25 49.8 +4.1
BGU *e*sP sP 21 26 53.0 +0.4
C08A Higginbotham F 85.94 36 ⇑P **P 21 23 23.6 -0.5**
baz=86,SNR=233
C08A P PKKPbc 21 41 19.6 -1.7
baz=86,SNR=7.3
A07A Ashnola River, 85.94 34 ⇓P **P 21 23 23.9 -0.1**
baz=86,SNR=210
A07A P PKKPbc 21 41 19.6 -1.7
baz=86,SNR=5.6
D09A Jones Farm, Ri 85.94 37 ⇑P **P 21 23 23.9 -0.2**
baz=86,SNR=79
ACX Acapulco 85.96 71 *i* P **P 21 23 25.5 +0.6**
F10A Beach Ranch, E 85.96 38 P **P 21 23 23.7 -0.5**
baz=86,SNR=554
H11A Donnelly 85.99 40 P **P 21 23 24.3 -0.1**
baz=86,SNR=534
H11A ⇓P PKKPbc 21 41 20.0 -0.9
baz=86
M14A Sheep Mountain 86.00 43 P **P 21 23 24.6 +0.1**
baz=86,SNR=152
M14A ⇑P PKKPbc 21 41 19.6 -1.2
baz=86
NLU North Lily Min 86.07 45 *e*P **P 21 23 24.9 +0.1**
NLU *e*PP PP 21 26 56.6 -2.7
B08A Colville Reser 86.11 35 ⇓P **P 21 23 24.0 -0.8**
baz=86,SNR=475
B08A P PKKPbc 21 41 18.9 -2.0
baz=86,SNR=8.0
K13A Stover Farm, H 86.11 42 P **P 21 23 25.5 +0.5**
baz=86,SNR=209
G11A Walters Elk Ra 86.21 39 ⇓P **P 21 23 25.1 -0.3**
baz=86,SNR=1000
N15A Stansbury Isla 86.23 44 ⇑P **P 21 23 25.6 -0.1**
baz=86,SNR=25
MCK McKinley 86.25 13 *e*P **P 21 23 23.5 -1.6**
MCK *e**PP pP 21 25 46.0 -0.9
MCK pmax pmax
comp=Z,870nm,1.4s,mb6.2
MCK McKinley 86.25 13 *e*P **P 21 23 23.5 -1.7**
comp=Z,868nm,1.4s,mb6.2
MCK *e* 21 23 59.1
MCK *e*pP pP 21 25 46.0 -0.9
E10A Myers Farm, Un 86.31 38 P **P 21 23 25.1 -0.7**
baz=86,SNR=134
HLID Hailey 86.37 41 P **P 21 23 26.6 +0.4**
baz=86,SNR=858
C09A Chrisman Ranch 86.38 36 ⇑P **P 21 23 25.7 -0.4**
baz=86,SNR=140
C09A ⇓P PKKPbc 21 41 18.8 -1.4
baz=86
NOQ North Oquirrh 86.38 45 *e*P **P 21 23 26.4 0.0**
comp=Z,325nm,1.0s,mb5.9
MPU Maple Canyon 86.40 45 *e*P **P 21 23 26.6 +0.2**
comp=Z,190nm,1.0s,mb5.7
MPU *e*PP PP 21 26 58.3 -3.5
J13A Cove Ranch, Pi 86.44 42 P **P 21 23 27.1 +0.6**
baz=87,SNR=922
J13A ⇓P PKKPbc 21 41 18.1 -1.8
baz=87
SKAG Skagway 86.46 21 *e*P **P 21 23 25.7 -0.5**
comp=Z,2µm,2.0s,mb6.5
A08A Turner Farm, O 86.48 35 P **P 21 23 26.4 -0.2**
baz=87,SNR=448
A08A P PKKPbc 21 41 18.4 -1.6
baz=87,SNR=7.4
SPUT South Promonto 86.49 44 *e*P **P 21 23 27.7 +0.9**
SPUT *e*pP pP 21 25 51.4 +2.7
SPUT *e*PP PP 21 27 00.8 -1.7
HVU Hansel Valley 86.51 43 *e*P **P 21 23 27.0 +0.1**
HVU *e**PP pP 21 25 48.3 -0.4
HVU *e* 21 27 01.1
HVU pmax pmax
comp=Z,290nm,0.7s,mb6.0
HVU Hansel Valley 86.51 43 *e*P **P 21 23 27.0 +0.1**
comp=Z,287nm,0.7s,mb6.0
HVU *e* 21 24 02.8
HVU *e*pP pP 21 25 48.3 -0.5
HVU *e*PP PP 21 27 01.1 -1.6
HVU *e*PKKPbc PKKPbc 21 41 18.0 -1.6
XAN Xi'an 86.52 308 P **P 21 23 28.5 +1.4**
XAN AP pP 21 25 46.1 -2.9
XAN XP sP 21 26 52.0 -3.8
XAN PP PP 21 27 09.6 +6.7
XAN PPP 21 29 13.4
XAN SKS 21 32 49.8
XAN S S 21 33 14.5 +5.2
XAN XS sS 21 37 23.0 +1.3
XAN SS SS 21 39 20.3 +7.4
XAN AMB AMB
comp=Z,99nm,0.8s,mb5.5
XAN AMB AMB
comp=Z,468nm,10.6s
NST Nakhon Sawan 86.53 288 P **P 21 23 29.0 +1.4**
comp=Z,58nm,0.5s,mb5.5
F11A Grangeville 86.54 39 ⇑P **P 21 23 25.4 -1.6**
baz=87,SNR=185
M15A Larsen Ranch, 86.56 44 ⇑P **P 21 23 27.0 -0.1**
baz=87,SNR=68
H12A Diamond D Ranc 86.61 40 P **P 21 23 27.4 0.0**
baz=87,SNR=793
H12A ⇓P PKKPbc 21 41 18.4 -1.1
baz=87
K14A Jones Ranch, D 86.63 43 P **P 21 23 27.4 -0.1**
baz=87,SNR=533
K14A ⇑P PKKPbc 21 41 19.5 +0.2
baz=87
CTU Camp Tracy 86.65 45 *e*P **P 21 23 27.5 -0.1**
comp=Z,263nm,0.9s,mb5.9
CTU *e*pP pP 21 25 48.1 -1.4
I13A Wildhorse Cree 86.74 41 P **P 21 23 28.3 +0.4**
baz=87,SNR=363
I13A ⇓P PKKPbc 21 41 19.0 -0.1
baz=87
E11A Bogner Ranch, 86.76 38 P **P 21 23 26.6 -1.4**
baz=87,SNR=210
MENT Mentasta 86.78 15 *e*P **P 21 23 26.6 -1.0**
B09A Rice 86.80 36 P **P 21 23 27.6 -0.5**
baz=87,SNR=362
B09A ⇑P PKKPbc 21 41 17.7 -1.5
baz=87,SNR=6.3
JLU Jordanelle 86.80 45 *e*P **P 21 23 28.4 +0.1**
JLU *e*pP pP 21 25 53.8 +3.5
JLU *e*PP PP 21 27 03.2 -1.8
DAU Daniels Canyon 86.84 45 *e*P **P 21 23 28.7 +0.2**
DAU *e* 21 26 58.6
A09A Danville 86.87 35 P **P 21 23 28.2 -0.2**
baz=87,SNR=340
A09A P PKKPbc 21 41 18.1 -1.0
baz=87,SNR=6.9
C10A Spilker Farm, 86.93 37 ⇓P **P 21 23 28.2 -0.5**
baz=87,SNR=23
H13A Challis 86.99 40 P **P 21 23 29.3 +0.2**
baz=87,SNR=532
H13A ⇑P PKKPbc 21 41 17.3 -1.3
baz=87
LAZ Ladron 87.00 52 *e*P **P 21 23 29.7 +0.3**
LAZ *e* 21 24 03.0
LAZ *e*pP pP 21 25 51.3 -0.1
F12A Elk City 87.00 39 ⇑P **P 21 23 28.9 -0.2**
baz=87,SNR=1000
Y22C IRIS PASSCAL I 87.02 52 ⇑P **P 21 23 29.7 +0.2**
baz=87,SNR=18
LENM Lemitar 87.02 52 *e*P **P 21 23 29.8 +0.3**
D11A Klaveano Farm, 87.06 38 ⇓P **P 21 23 28.5 -0.9**
baz=87,SNR=382
HIA Hailar 87.13 325 *e*P **P 21 23 29.5 -0.1**
HIA *e**PP pP 21 25 50.3 -1.5
HIA pmax pmax
comp=Z,35nm,1.0s
HIA Hailar 87.13 325 *e*P **P 21 23 29.5 -0.1**
comp=Z,35nm,1.0s,mb5.0
HIA *e* 21 24 03.6
HIA *e*pP pP 21 25 50.3 -1.5
NANT Nan 87.16 291 ⇑P **P 21 23 36.0 +5.5**
comp=Z,152nm,1.0s,mb5.6
MNTX Cornudas Mount 87.18 55 *e*P **P 21 23 30.5 +0.1**
comp=Z,678nm,1.1s,mb6.2
MNTX *e*pP pP 21 25 50.4 -2.0
MNTX *e*PP PP 21 27 06.4 -1.8
MNTX *e*PKKPdf PKKPdf 21 41 11.1 -0.2
MNTX *e*PKKPbc PKKPbc 21 41 18.1 +0.5
HWUT Hardware Ranch 87.21 44 *e*P **P 21 23 29.8 -0.4**
comp=Z,242nm,0.8s,mb5.9
HWUT *e*pP pP 21 25 53.6 +1.2
HWUT *e*sP sP 21 27 01.8 +2.6
HWUT *e*PKKPbc PKKPbc 21 41 17.3 -0.6
B10A Chitwood Farm, 87.24 36 ⇑P **P 21 23 29.8 -0.4**
baz=87
MVCO Mesa Verde 87.26 49 *e*P **P 21 23 30.2 -0.3**
comp=Z,83nm,0.9s,mb5.4
MVCO *e*PP PP 21 27 04.9 -3.8
MVCO Mesa Verde 87.26 49 ⇓P **P 21 23 30.4 -0.1**
baz=87
G13A Cobalt 87.27 40 P **P 21 23 30.3 -0.1**
baz=87,SNR=374
G13A ⇓P PKKPbc 21 41 17.0 -0.9
baz=87
BNM Barren Site 87.27 52 *e*P **P 21 23 30.8 +0.1**
BNM *e* 21 24 06.7
BNM *e*pP pP 21 25 52.6 -0.2
BNM *e*PKKPdf PKKPdf 21 41 09.6 -1.6
BNM *e*PKKPbc PKKPbc 21 41 17.8 +0.4
NEW Newport 87.28 36 *e*P **P 21 23 29.6 -0.7**
NEW *e* 21 27 04.1
NEW pmax pmax
comp=Z,190nm,0.9s
NEW Newport 87.28 36 *e*P **P 21 23 29.6 -0.7**
comp=Z,192nm,0.9s,mb5.7
NEW *e* 21 24 05.2
NEW *e*PP PP 21 27 04.1 -4.5
NEW *e*PKKPdf PKKPdf 21 41 12.8 +0.9
LPM Los Pinos Moun 87.34 52 *e*P **P 21 23 31.1 +0.1**
LPM *e* 21 24 06.0
LPM *e*pP pP 21 25 51.5 -1.7
A10A Northport 87.43 36 ⇓P **P 21 23 30.8 -0.3**
baz=88,SNR=33
IMA2 Indian Mountai 87.45 10 *e*P **P 21 23 29.4 -1.3**
SYO Syowa Base 87.45 193 ⇑ *e*P **P 21 23 28.4 -2.5**
SYO Syowa Base 87.45 193 ⇓ *i*PcP PcP 21 23 29.4 -2.7
SYO Syowa Base 87.45 193 *e*SH 21 33 12.0
COLA College 87.48 13 *e*P **P 21 23 29.1 -1.8**
COLA *e**PP pP 21 25 51.7 -1.5
COLA pmax pmax
comp=Z,480nm,1.0s,mb6.1
COLA College 87.48 13 *e*P **P 21 23 29.1 -1.8**
comp=Z,476nm,0.9s,mb6.1
COLA *e* 21 24 04.8
COLA *e*pP pP 21 25 51.7 -1.5
COLA College 87.48 13 P **P 21 23 28.9 -2.0**
COLA SKSac SKSac 21 32 53.2 -1.9
COLA SKKSac SKKSac 21 33 12.6 +4.9
UNM Universidad Na 87.51 69 *i* P **P 21 23 33.5 +1.4**
TXAR Lajitas Array 87.56 58 P **P 21 23 32.8 +0.7**
TXAR 21 27 07.0
TXAR pmax pmax
comp=Z,324nm,0.7s
TXAR pmax pmax
comp=Z,21nm,1.1s
TXAR pmax pmax
comp=Z,4.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,0.8s
TXAR pmax pmax
comp=Z,6.0nm,0.8s
TXAR pmax pmax
comp=Z,2.0nm,0.9s
TXAR Lajitas Array 87.56 58 P **P 21 23 32.8 +0.6**
TXAR pP pP 21 25 57.5 +3.1
TXAR PP PP 21 27 07.0 -4.3
TXAR Lajitas Array 87.56 58 P **P 21 23 32.8 +0.6**
comp=Z,324nm,0.7s,mb6.0,baz=221,slow=5.5,SNR=1786
TXAR pP pP 21 25 57.5 +3.1
comp=Z,21nm,1.1s,baz=282,slow=4.4,SNR=3.2
TXAR PP PP 21 27 07.0 -4.2
comp=Z,4.3nm,0.9s,baz=191,slow=4.3,SNR=2.2
TXAR PKiKP PKiKP 21 28 29.4 -1.0
comp=Z,2.3nm,0.8s,baz=195,slow=1.1,SNR=6.3
TXAR PKKPbc PKKPbc 21 41 16.1 -0.4
comp=Z,5.5nm,0.8s,baz=99,slow=3.9,SNR=3.9
TXAR PKPPKP 21 49 22.3
comp=Z,1.6nm,0.9s,baz=60,slow=3.0,SNR=7.3
F13A Darby 87.57 39 ⇓P **P 21 23 31.2 -0.6**
baz=88,SNR=479
F13A ⇓P PKKPbc 21 41 15.8 -1.4
baz=88
DLBC Dease Lake 87.60 24 *e*P **P 21 23 31.5 -0.1**
DLBC *e*pP pP 21 25 52.2 -1.7
DLBC *e*PP PP 21 27 07.7 -3.2
D12A Red Ives Fores 87.63 38 ⇑P **P 21 23 31.4 -0.6**
baz=88
D12A ⇓P PKKPbc 21 41 14.8 -2.3
baz=88
HHC Hu-ho-hao-te 87.74 315 ⇑ *i*P **P 21 23 33.3 +0.6**
HHC AP pP 21 25 54.2 -0.9
HHC XP sP 21 26 57.7 -4.1
HHC PP PP 21 27 14.0 +1.6
HHC SKS 21 32 58.1
HHC S S 21 33 17.9 -2.5
HHC XS sS 21 37 28.0 -5.8
HHC SS SS 21 39 33.7 +3.5
HHC AMB AMB
comp=Z,128nm,1.3s,mb5.4
ANMO Albuquerque 87.74 52 ⇑ *e*P **P 21 23 32.6 -0.3**
ANMO Albuquerque 87.74 52 *e*P **P 21 23 32.8 -0.1**
comp=Z,674nm,1.4s,mb6.1
ANMO *e* 21 24 08.7
ANMO *e*pP pP 21 25 55.8 +0.6
ANMO *e*sP sP 21 27 04.8 +2.9
ANMO Albuquerque 87.74 52 P **P 21 23 32.7 -0.1**
KMI Kunming 87.77 297 P **P 21 23 34.9 +1.7**
KMI AP pP 21 25 54.3 -1.2
KMI XP sP 21 27 04.0 +1.7
KMI PP PP 21 27 16.6 +3.7
KMI PPP 21 29 19.8
KMI SKS 21 32 58.6
KMI S S 21 33 22.2 +0.9
KMI PS 21 35 59.6
KMI XS sS 21 37 35.3 +0.7
KMI SS SS 21 39 36.2 +5.1
KMI SSS 21 43 17.1
KMI AMB AMB
comp=Z,323nm,3.6s
B11A Sandpoint 87.79 36 P **P 21 23 32.4 -0.4**
baz=88,SNR=172
G14A Jackson 87.82 40 P **P 21 23 33.2 +0.3**
baz=88,SNR=70
G14A ⇓P PKKPbc 21 41 17.3 +0.8
baz=88
BILL Bilibino 87.89 355 ⇑ *e*P **P 21 23 31.1 -1.6**
BILL *e*SS SS 21 39 26.7 -4.5
BILL pmax pmax
comp=Z,345nm,1.9s,mb5.7
BILL MLR MLR
comp=Z,600nm,20.0s
BILL Bilibino 87.89 355 *e*P **P 21 23 31.6 -1.2**
comp=Z,233nm,1.3s,mb5.7
BILL *e* 21 24 07.0
BILL *e*pP pP 21 25 57.6 +2.5
BILL *e*PP PP 21 27 08.2 -4.8
PPM Popocatepetl 87.90 69 *i* P **P 21 23 35.0 +1.1**
MCMT McKenzie Canyo 87.98 41 *e*P **P 21 23 33.9 +0.2**
E13A Victor 88.00 39 ⇑P **P 21 23 32.6 -1.1**

baz=88,SNR=116
E13A ⇑P PKKPbc 21 41 14.4 -1.8
baz=88
AHID Auburn Hatcher 88.08 43 *e*P **P 21 23 34.5 +0.3**
comp=Z,304nm,0.7s,mb6.0
AHID *e*PP PP 21 27 12.3 -2.7
A11A Hall Mountain, 88.08 36 P **P 21 23 34.2 +0.2**
baz=88,SNR=320
F14A Wisdom 88.16 40 P **P 21 23 34.2 -0.3**
baz=88,SNR=53
D13A Huson 88.17 38 P **P 21 23 33.3 -1.3**
baz=88,SNR=209
D13A ⇓P PKKPbc 21 41 14.0 -1.8
baz=88
GDL2 Guadalupe Moun 88.18 55 *e*P **P 21 23 35.2 +0.3**
GDL2 *e*pP pP 21 26 00.8 +3.4
GDL2 *e*PP PP 21 27 15.1 -0.9
B12A Libby 88.25 37 ⇑P **P 21 23 34.6 -0.3**
baz=88,SNR=44
MSO Missoula 88.34 39 *e*P **P 21 23 34.2 -1.2**
comp=Z,57nm,0.8s,mb5.2
MSO *e*PKKPbc PKKPbc 21 41 13.4 -2.0
CHRT Chiangrai 88.36 292 ⇑P **P 21 23 37.0 +1.0**
comp=Z,403nm,0.8s,mb6.1
G15A Dillon 88.37 41 P **P 21 23 35.7 +0.1**
baz=88,SNR=430
G15A ⇓P PKKPbc 21 41 15.5 +0.3
baz=88
E14A Clinton 88.39 39 P **P 21 23 35.2 -0.4**
baz=88,SNR=216
E14A ⇓P PKKPbc 21 41 14.7 -0.6
baz=88
DLMT Dillon 88.41 40 *e*P **P 21 23 35.8 +0.1**
comp=Z,1µm,1.4s,mb6.3
DLMT *e*pP pP 21 25 57.1 -1.2
DLMT *e*sP sP 21 27 07.0 +2.0
DLMT *e*S S 21 33 27.7 +1.5
DLMT *e*PKKPdf PKKPdf 21 41 11.2 +1.4
DLMT *e*PKKPbc PKKPbc 21 41 15.9 +0.7
C13A Hot Springs 88.41 38 ⇓P **P 21 23 34.4 -1.2**
baz=89,SNR=72
C13A ⇓P PKKPbc 21 41 13.5 -1.7
baz=89
DCID1 Drake Creek 88.42 42 *e*P **P 21 23 36.3 +0.5**
DCID1 *e*PP PP 21 27 17.0 -0.7
A12A Yaak River Ran 88.46 36 ⇓P **P 21 23 35.6 -0.2**
baz=89,SNR=74
TPAW Teton Pass 88.52 43 *e*P **P 21 23 36.5 +0.3**
comp=Z,629nm,1.1s,mb6.3
TPAW *e*pP pP 21 25 59.6 +0.7
TPAW *e*PP PP 21 27 16.4 -2.0
TPAW *e*PKKPbc PKKPbc 21 41 15.1 +0.3
REDW Red Top Meadow 88.52 43 *e*P **P 21 23 36.3 0.0**
comp=Z,1µm,1.2s,mb6.6
REDW *e* 21 24 12.6
REDW *e*pP pP 21 26 02.3 +3.4
REDW *e*PP PP 21 27 15.8 -2.7
CM31 Chiang Mai Arr 88.59 290 *e*P **P 21 23 38.6 +1.4**
comp=Z,14nm,0.6s,mb4.9
CM31 *e* 21 24 13.8
CM31 *e*pP pP 21 26 01.5 +1.7
CM31 *e*PP PP 21 27 18.2 -1.2
SNOW Snow King Moun 88.63 43 *e*P **P 21 23 37.2 +0.4**
comp=Z,668nm,0.9s,mb6.4
SNOW *e* 21 24 13.4
SNOW *e*pP pP 21 25 59.1 -0.3
SNOW *e*PP PP 21 27 16.7 -2.6
BTO Baotou 88.67 314 *e*P **P 21 23 37.2 +0.2**
F15A Butte 88.71 40 P **P 21 23 36.8 -0.2**
baz=89,SNR=220
F15A ⇓P PKKPbc 21 41 14.2 -0.2
baz=89
CHG Chiang Mai 88.72 290 ⇑P **P 21 23 38.9 +1.2**
comp=Z,57nm,0.7s,mb5.4
CHTO Chiang Mai 88.72 290 *e*P **P 21 23 39.0 +1.3**
CHTO *e* pP 21 26 01.2 +0.8
CHTO *e* 21 27 23.0
CHTO Chiang Mai 88.72 290 *e*P **P 21 23 39.0 +1.3**
comp=Z,31nm,0.6s,mb5.2
CHTO *e* 21 24 13.8
CHTO *e*pP pP 21 26 00.3 -0.1
CHTO *e*PP PP 21 27 20.7 +0.3
CHTO *e*PKKPbc PKKPbc 21 41 13.2 -0.2
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
CHTO Chiang Mai 88.72 290 P **P 21 23 39.2 +1.5**
SNR=13
IMW Indian Meadow 88.72 42 *e*P **P 21 23 36.6 -0.6**
comp=Z,607nm,0.9s,mb6.3
IMW *e* 21 24 12.5
IMW *e*pP pP 21 25 58.0 -1.9
IMW *e*sP sP 21 27 08.8 +2.3
LRM Limekiln Ridge 88.72 40 *e*P **P 21 23 36.8 -0.4**
D14A Greenough 88.72 39 ⇑P **P 21 23 35.6 -1.5**
baz=89,SNR=140
D14A ⇑P PKKPbc 21 41 13.0 -1.5
baz=89
MOOW Moose Ponds 88.77 42 *e*P **P 21 23 37.5 0.0**
comp=Z,944nm,1.7s,mb6.2
MOOW *e*PP PP 21 27 18.2 -2.2
CHMT Chamberlain Mo 88.79 39 *e*P **P 21 23 36.6 -0.8**
CHMT *e* 21 24 11.7
CHMT *e*pP pP 21 25 59.7 -0.4
CHMT *e*sP sP 21 27 08.0 +1.3
CHMT *e*PKKPbc PKKPbc 21 41 12.8 -1.5
LOHW Long Hollow 88.80 43 *e*P **P 21 23 37.1 -0.4**
comp=Z,217nm,0.7s,mb6.0
LOHW *e*pP pP 21 26 01.9 +1.6
LOHW *e*PP PP 21 27 17.1 -3.5
LOHW *e*PKKPbc PKKPbc 21 41 13.7 -0.4
DAWY Dawson 88.82 16 *e*P **P 21 23 36.4 -0.8**
DAWY *e* 21 24 11.8
DAWY *e*pP pP 21 25 58.5 -1.4
DAWY *e*PKKPdf PKKPdf 21 41 11.1 +1.4
B13A Whitefish 88.83 37 ⇑P **P 21 23 36.6 -1.0**
baz=89,SNR=118
B13A ⇓P PKKPbc 21 41 13.5 -0.7
baz=89
QLMT Earthquake Lak 88.86 41 *e*P **P 21 23 38.5 +0.7**
QLMT *e*pP pP 21 25 58.5 -2.1
VHO Vista Hermosa 88.88 72 *i* P **P 21 23 39.4 +0.9**
OXX Oaxaca 88.89 72 *i* P **P 21 23 40.0 +1.5**
E15A Deer Lodge 88.91 39 P **P 21 23 37.5 -0.5**
baz=89,SNR=106
E15A ⇓P PKKPbc 21 41 13.4 -0.6
baz=89
C14A Swan Lake 88.94 38 ⇓P **P 21 23 36.7 -1.4**
baz=89
C14A ⇑P PKKPbc 21 41 12.6 -1.4
baz=89
EGAK Eagle 88.94 15 *e*P **P 21 23 36.6 -1.1**
comp=Z,356nm,0.9s,mb6.1
EGAK *e* 21 24 11.8
FLWY Flagg Ranch 88.96 42 *e*P **P 21 23 38.8 +0.5**
comp=Z,709nm,1.1s,mb6.3
HUIG Huatulco 88.98 73 *i* P **P 21 23 39.5 +0.5**
YFT Old Faithful 89.05 42 *e*P **P 21 23 40.3 +1.6**
YFT *e*PP PP 21 27 22.6 +0.1
SNAA Sanae 89.07 179 *e*P **P 21 23 37.8 -0.6**
SNAA *e* 21 23 39.0
SNAA *e* 21 23 41.9
SNAA *e* 21 23 47.0
SNAA *e* 21 24 14.4
SNAA *e* 21 25 00.1
SNAA *e* pP 21 26 01.1 +0.1
SNAA *e* 21 26 08.1
SNAA *e* 21 28 31.0
SNAA *e* 21 28 47.3
SNAA Sanae 89.07 179 *e* 21 49 15.7
SNAA *e* 21 49 20.5
SNAA Sanae 89.07 179 P **P 21 23 37.6 -0.8**
SNAA *PP pP 21 26 00.1 -0.9
SNAA S SKSac 21 33 03.7 -0.9
SNAA pmax pmax
comp=Z,41nm,0.6s
SNAA pmax pmax
comp=Z,8.0nm,1.0s
SNAA pmax pmax
comp=Z,4.0nm,0.8s
SNAA smax
comp=N,2.0nm,0.9s
SNAA pmax pmax
comp=Z,3.0nm,0.6s
SNAA pmax pmax
comp=Z,3.0nm,1.1s
SNAA Sanae 89.07 179 P **P 21 23 37.6 -0.7**
SNAA pP pP 21 26 00.1 -0.9
SNAA Sanae 89.07 179 P **P 21 23 37.6 -0.7**
comp=Z,41nm,0.6s,mb5.3,baz=204,slow=5.3,SNR=788
SNAA pP pP 21 26 00.1 -0.9
comp=Z,7.8nm,1.0s,baz=223,slow=9.6,SNR=1.6
SNAA PKiKP PKiKP 21 28 31.0 -0.8
comp=Z,3.9nm,0.8s,baz=195,slow=3.2,SNR=8.9
SNAA S SKSac 21 33 03.7 -0.9
comp=Z,2.2nm,0.9s,baz=178,slow=22,SNR=8.5
SNAA PKKPbc PKKPbc 21 41 10.5 -4.0
comp=Z,3.3nm,0.6s,baz=298,slow=0.2,SNR=27
SNAA PKPPKP 21 49 14.7
comp=Z,2.7nm,1.1s,baz=23,slow=1.7,SNR=6.4
YMR Madison River 89.08 42 *e*P **P 21 23 39.5 +0.7**
comp=Z,943nm,1.3s,mb6.4
YMR *e* 21 24 10.8
YMR *e*pP pP 21 26 01.5 -0.1
YMR *e*PP PP 21 27 17.9 -4.8
BW06 Boulder Array 89.08 44 *e*P **P 21 23 38.4 -0.5**
comp=Z,324nm,0.8s,mb6.1
BW06 *e*PP PP 21 27 19.1 -3.7
NRGR Nerungri 89.11 333 *e*P **P 21 23 38.5 -0.1**
NRGR S SKSac 21 33 06.1 +1.2
NRGR smax
comp=N,116nm,1.1s
BOZ Bozeman (W) 89.14 40 *e*P **P 21 23 39.0 -0.1**
BOZ pmax pmax
comp=Z,320nm,1.1s,mb6.0
BOZ Bozeman (W) 89.14 40 *e*P **P 21 23 39.0 -0.1**
comp=Z,318nm,1.1s,mb6.0
BOZ *e*pP pP 21 25 59.6 -2.3
BOZ *e*SP sP 21 27 13.2 +4.8
BOZ *e*PKKPbc PKKPbc 21 41 13.2 -0.2
BOZ Bozeman (W) 89.14 40 ⇓P **P 21 23 39.0 -0.1**
baz=89
BOZ ⇓P PKKPbc 21 41 13.1 -0.3
baz=89
CLNS Chul'man 89.15 333 *c i* P **P 21 23 38.6 -0.2**
CLNS *e* 21 33 03.5
CLNS *e*S S 21 33 32.3 -0.1
CLNS pmax pmax
comp=N,23nm,1.2s
CLNS pmax pmax
comp=Z,48nm,1.2s,mb5.1
CLNS pmax pmax
comp=E,12nm,0.9s
CLNS pmax pmax
comp=Z,33nm,1.2s,mb4.9
CLNS pmax pmax
comp=N,35nm,1.3s
CLNS pmax pmax
comp=E,18nm,1.0s
CLNS smax
comp=N,114nm,1.4s
CLNS smax
comp=Z,7.0nm,1.0s
CLNS smax
comp=E,54nm,1.8s
A13A Flathead Natio 89.16 37 ⇑P **P 21 23 38.6 -0.4**
baz=89
A13A ⇑P PKKPbc 21 41 12.8 -0.6
baz=89
CD2 Chengdu 89.18 303 P **P 21 23 40.8 +1.2**
CD2 AP pP 21 26 00.8 -1.7
CD2 XP sP 21 27 07.5 -1.6
CD2 PP PP 21 27 29.6 +5.7
CD2 SKS 21 33 05.6
CD2 S S 21 33 36.1 +2.2
CD2 XS sS 21 37 43.8 -4.7
CD2 SS SS 21 39 54.0 +2.9
CD2 AMB AMB
comp=Z,2µm,7.8s
SMCO Snowmass 89.20 48 *e*P **P 21 23 39.7 +0.2**
comp=Z,585nm,1.2s,mb6.2
SMCO *e*pP pP 21 26 02.5 +0.1
SMCO *e*PP PP 21 27 19.9 -4.0
SMCO *e*PKKPdf PKKPdf 21 41 08.3 +0.1
SMCO *e*PKKPbc PKKPbc 21 41 12.8 -0.1
VNA3 Neumayer Olymp 89.24 177 *e*P **P 21 23 39.2 0.0**
VNA3 *e* 21 23 40.7
VNA3 *e* 21 23 42.8
VNA3 *e* 21 23 48.2
VNA3 *e* 21 24 15.5
VNA3 *e* 21 25 01.2
VNA3 *e* pP 21 26 04.1 +2.2
VNA3 *e* 21 26 08.6
VNA3 *e* 21 28 31.4
VNA3 *e* 21 28 51.0
YNR Norris Junctio 89.28 42 *e*P **P 21 23 41.0 +1.3**
YNR *e*pP pP 21 26 04.2 +1.6
YNR *e*PP PP 21 27 24.7 +0.4
D15A Lincoln 89.29 39 P **P 21 23 39.4 -0.3**
baz=89,SNR=202
D15A ⇓P PKKPbc 21 41 12.7 -0.3
baz=89
LKWY Lake 89.38 42 *e*P **P 21 23 41.8 +1.6**
LKWY *e*PP pP 21 26 03.9 +0.8
LKWY *e* 21 27 24.3
LKWY pmax pmax
comp=Z,150nm,0.7s,mb5.8
LKWY Lake 89.38 42 *e*P **P 21 23 41.8 +1.6**
comp=Z,145nm,0.7s,mb5.8
LKWY *e*pP pP 21 26 03.9 +0.8
LKWY *e*sP sP 21 27 11.7 +2.1
LKWY *e*PP PP 21 27 24.3 -0.8
WALA Waterton Lakes 89.50 37 *e*P **P 21 23 40.2 -0.5**
comp=Z,241nm,1.0s,mb6.0
WALA *e*pP pP 21 26 05.0 +1.3
WALA *e*PP PP 21 27 23.7 -2.3
WALA *e*PKKPdf PKKPdf 21 41 09.4 +1.4
HRY Holter Researc 89.54 39 *e*P **P 21 23 40.6 -0.2**
SDCO Great Sand Dun 89.63 50 *e*P **P 21 23 41.1 -0.4**
comp=Z,364nm,1.4s,mb6.0
MAIT Maitri 89.67 184 *e*P **P 21 23 40.3 -0.8**
MAIT *e*PP PP 21 27 52.5 +27
MAIT *e*S S 21 33 30.7 -6.1
VNA2 Neumayer--Watz 89.67 177 *e*P **P 21 23 41.6 +0.4**
VNA2 *e* 21 23 42.7
VNA2 *e* 21 23 44.8
VNA2 *e* 21 23 49.2
VNA2 *e* 21 24 17.7
VNA2 *e* 21 25 03.5
VNA2 *e* pP 21 26 06.3 +2.3
VNA2 *e* 21 26 10.4
VNA2 *e* 21 28 32.5
VNA2 *e* 21 28 52.2
VNA2 *e* 21 34 07.2
VNA2 Neumayer--Watz 89.67 177 *e* 21 49 08.8
VNA2 *e* 21 49 14.9
VNA1 Neumayer--Stat 89.91 177 *e*P **P 21 23 42.9 +0.7**
VNA1 *e* 21 23 44.7
VNA1 *e* 21 24 20.0
VNA1 *e* pP 21 26 05.1 -0.1
VNA1 *e* pP 21 26 10.0 +4.8
VNA1 *e* 21 28 33.4
VNA1 *e* 21 28 51.7
VNA1 *e* 21 34 09.7
RWWY Rawlins 90.14 45 *e*P **P 21 23 43.4 -0.4**
RWWY *e*pP pP 21 26 08.4 +1.5
RWWY *e*PKKPbc PKKPbc 21 41 10.4 -0.3
RLMT Red Lodge 90.35 42 *e*P **P 21 23 44.9 +0.2**
comp=Z,177nm,0.9s,mb5.9
RLMT *e*pP pP 21 26 06.2 -1.7
RLMT *e*sP sP 21 27 14.3 0.0
RLMT *e*PP PP 21 27 28.5 -4.1
GCMT Greycliff 90.42 41 *e*P **P 21 23 45.5 +0.5**
GCMT *e*PP PP 21 27 29.3 -3.8
ISCO Idaho Springs 90.42 48 *e*P **P 21 23 45.1 -0.1**
ISCO pmax pmax
comp=Z,590nm,1.8s,mb6.1
ISCO Idaho Springs 90.42 48 *e*P **P 21 23 45.1 0.0**
comp=Z,590nm,1.8s,mb6.1
ISCO *e* 21 24 21.7
ISCO *e*PP PP 21 27 29.0 -4.3
ISCO *e*PKKPdf PKKPdf 21 41 08.0 +2.0
CMIG Matias Romero 90.54 72 *i* P **P 21 23 45.5 -0.7**
YAK Yakutsk 90.70 339 ⇑ *e*P **P 21 23 44.3 -1.5**
YAK pmax pmax
comp=Z,149nm,1.0s,mb5.8
YAK Yakutsk 90.70 339 *e*P **P 21 23 44.5 -1.4**
comp=Z,266nm,1.1s,mb6.0
YAK *e* 21 24 19.7
YAK *e*pP pP 21 26 07.8 -1.3
PLCA Paso Flores 90.89 134 P **P 21 23 47.9 +0.5**
PLCA pmax pmax
comp=Z,56nm,0.8s
PLCA pmax pmax
comp=Z,4.0nm,0.9s
PLCA pmax pmax
comp=Z,10.0nm,0.9s
PLCA pmax pmax
comp=N,5.0nm,0.9s
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 90.89 134 *e*P **P 21 23 48.3 +0.9**
comp=Z,73nm,0.8s,mb5.6
PLCA Paso Flores 90.89 134 P **P 21 23 47.9 +0.5**
comp=Z,56nm,0.8s,mb5.5,baz=232,slow=4.7,SNR=89
PLCA PKiKP PKiKP 21 28 35.4 -0.4
comp=Z,4.0nm,0.9s,baz=270,slow=3.3,SNR=3.0
PLCA PKKP PKKPbc 21 41 08.0 -0.9
comp=Z,10nm,0.9s,baz=49,slow=2.3,SNR=13
PLCA SKKPbc 21 43 45.4
comp=Z,5.2nm,0.9s,baz=96,slow=5.3,SNR=6.8
PLCA PKPPKP 21 49 05.2
comp=Z,3.1nm,1.0s,baz=183,slow=1.3,SNR=3.0
JCT Junction City 91.10 58 *e*P **P 21 23 47.5 -1.0**
JCT pmax pmax
comp=Z,140nm,0.7s,mb5.9
JCT Junction City 91.10 58 *e*P **P 21 23 47.5 -1.0**
comp=Z,141nm,0.7s,mb5.9
JCT *e*pP pP 21 26 12.7 +1.0
LZH Lanzhou 91.15 308 ⇑ *i*P **P 21 23 49.9 +1.3**
LZH AP pP 21 26 12.0 +0.1
LZH XP sP 21 27 21.0 +2.8
LZH PP PP 21 27 41.5 +2.5
LZH PPP 21 29 45.1
LZH SKS 21 33 18.0
LZH S S 21 33 58.8 +7.7
LZH XS sS 21 38 05.1 -2.2
LZH SS SS 21 40 21.1 +2.3
LZH AMB AMB
comp=Z,101nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,710nm,6.0s
PHWY Pilot Hill 91.17 46 *e*P **P 21 23 48.1 -0.4**
PHWY *e*pP pP 21 26 14.9 +3.0
PHWY *e*PP PP 21 27 34.9 -4.1
PHWY *e*PKKPdf PKKPdf 21 41 05.4 +0.6
AMTX Amarillo 91.30 53 *e*P **P 21 23 48.5 -0.8**
comp=Z,419nm,1.3s,mb6.1
AMTX *e* 21 24 23.5
AMTX *e*PP PP 21 27 37.1 -3.1
EGMT Eagleton 91.40 39 *e*P **P 21 23 48.9 -0.5**
comp=Z,270nm,1.2s,mb6.0
EGMT *e*pP pP 21 26 10.9 -1.9
EGMT *e*PP PP 21 27 36.9 -3.8
EGMT Eagleton 91.40 39 ⇑P **P 21 23 49.0 -0.5**
baz=92
KVTX Kingsville 91.58 61 *e*P **P 21 23 52.3 +1.5**
comp=Z,379nm,1.0s,mb6.3
EDM Edmonton 91.93 33 *e*P **P 21 23 50.1 -1.7**
EDM *e**PP pP 21 26 14.5 -0.7
EDM *e* 21 27 40.2
EDM Edmonton 91.93 33 *e*P **P 21 23 50.1 -1.6**
EDM *e* 21 24 26.0
EDM *e*pP pP 21 26 14.4 -0.7
EDM *e*sP sP 21 27 28.1 +6.6
EDM *e*PP PP 21 27 40.2 -4.4
EDM *e*PKKPdf PKKPdf 21 41 05.2 +1.4
SCX San Cristobal 92.45 73 *i* P **P 21 23 56.0 +1.0**
EFI East Falkland 92.62 148 P **P 21 23 55.7 +0.6**
comp=Z,718nm,1.3s,mb6.5,SNR=12
EFI East Falkland 92.62 148 *c i* P **P 21 23 55.3 +0.2**
EFI East Falkland 92.62 148 *e*P **P 21 23 54.6 -0.4**
comp=Z,87nm,0.8s,mb5.8
CCIG Comitan 92.75 74 *i* P **P 21 23 56.3 -0.1**
LAO LASA Array 92.95 41 *e*P **P 21 23 56.8 +0.2**
comp=Z,388nm,0.9s,mb6.4
LAO *e* 21 24 32.4
LAO *e*pP pP 21 26 20.0 -0.1
LAO *e*PP PP 21 27 48.9 -3.7
RSSD Black Hills 93.28 44 P **P 21 23 57.4 -0.7**
RSSD pP pP 21 26 19.4 -2.3
RSSD PP PP 21 27 51.3 -3.9
WMOK Wichita Mounta 93.46 54 *e*P **P 21 23 57.9 -1.3**
WMOK *e* 21 41 01.3
WMOK pmax pmax
comp=Z,35nm,1.2s,mb5.3
WMOK Wichita Mounta 93.46 54 *e*P **P 21 23 57.9 -1.3**
comp=Z,35nm,1.3s,mb5.2
WMOK *e*PKKPdf PKKPdf 21 41 01.3 +0.9
INK Inuvik 93.61 15 *e*P **P 21 23 57.1 -2.0**
comp=Z,6µm,1.2s
INK *e*PKKPdf PKKPdf 21 40 59.5 -1.8
ULN Ulaanbaatar 93.77 320 ⇑ *e*P **P 21 23 58.6 -1.7**
ULN Ulaanbaatar 93.77 320 P **P 21 24 00.1 -0.1**
SNR=16
ULN Ulaanbaatar 93.77 320 P **P 21 24 00.1 -0.1**
SNR=16
ULN Ulaanbaatar 93.77 320 P **P 21 24 00.1 -0.1**
SNR=16
ULN Ulaanbaatar 93.77 320 P **P 21 24 00.1 -0.1**
SNR=16
ULN Ulaanbaatar 93.77 320 P **P 21 24 00.1 -0.1**
SNR=16
ULN Ulaanbaatar 93.77 320 P **P 21 24 00.1 -0.1**
SNR=16
SONM Songino Array 94.16 319 P **P 21 24 01.1 -0.9**
SONM *PP pP 21 26 25.9 +0.2
SONM S SKSac 21 33 32.8 -0.4
SONM 21 40 57.2
SONM pmax pmax
comp=Z,5.0nm,0.8s
SONM pmax pmax
comp=Z,5.0nm,0.9s
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM pmax pmax
comp=Z,8.0nm,0.9s
SONM smax
comp=N,8.0nm,1.0s
SONM pmax pmax
comp=Z,11nm,0.9s
SONM Songino Array 94.16 319 P **P 21 24 01.1 -0.9**
SONM pP pP 21 26 25.9 +0.3
SONM PP PP 21 27 49.0 -13
SONM Songino Array 94.16 319 P **P 21 24 01.1 -0.9**
comp=Z,4.8nm,0.8s,mb4.6,baz=133,slow=6.4,SNR=26
SONM pP pP 21 26 25.9 +0.3
comp=Z,4.9nm,0.9s,baz=136,slow=2.9,SNR=1.9
SONM PP PP 21 27 49.0 -13
comp=Z,7.7nm,0.9s,baz=135,slow=5.7,SNR=4.2
SONM PKiKP PKiKP 21 28 40.6 -0.4
comp=Z,7.9nm,0.9s,baz=70,slow=1.8,SNR=8.1
SONM S SKSac 21 33 32.8 -0.3
comp=Z,8.1nm,0.9s,baz=79,slow=0.7,SNR=13
SONM PKKP PKKPbc 21 40 57.2 -3.5
comp=Z,11nm,0.9s,baz=275,slow=2.2,SNR=20
SONM PKPPKP 21 49 07.6
comp=Z,6.3nm,1.1s,baz=241,slow=2.2,SNR=16
CBKS Cedar Bluff 94.22 50 *e*P **P 21 24 02.0 -0.6**
CBKS *e* 21 27 57.0
CBKS *e* 21 41 00.1
CBKS pmax pmax
comp=Z,700nm,1.2s,mb6.6
CBKS Cedar Bluff 94.22 50 *e*P **P 21 24 02.0 -0.6**
comp=Z,704nm,1.2s,mb6.6
CBKS *e* 21 24 37.9
CBKS *e*PP PP 21 27 57.0 -5.4
CBKS *e*PKPdf PKiKP 21 28 34.6 -6.8
CBKS *e*PKKPdf PKKPdf 21 41 00.1 +0.9
FCH Farellones 94.39 127 ⇓ *e*P **P 21 24 03.0 -0.6**
BOD Bodaibo 94.58 330 *e*P **P 21 24 01.8 -1.9**
BOD *e* pP 21 26 25.1 -2.3

BOD e 21 33 29.7
BOD pmax pmax
comp=Z,17nm,1.9s,mb4.8
BOD pmax pmax
comp=Z,41nm,1.9s,mb5.2
DGMT Dagmar 94.94 40 *e*P **P 21 24 05.1 -0.5**
comp=Z,562nm,1.0s,mb6.7
DGMT e 21 24 41.1
DGMT *e*pP pP 21 26 28.7 -0.6
DGMT *e*PP PP 21 28 01.8 -5.8
IMP Imphal 95.12 294 *e*P **P 21 24 06.0 -1.0**
IMP *e*x x 21 28 05.0
GTA Gaotai 95.36 310 P **P 21 24 07.6 -0.1**
GTA AP pP 21 26 29.0 -2.4
GTA XP sP 21 27 34.3 -3.3
GTA PP PP 21 28 11.2 +0.2
GTA SKS 21 33 38.6
GTA S S 21 34 22.7 -4.5
GTA XS sS 21 38 38.2 -7.9
GTA SS SS 21 41 13.4 -4.2
GTA AMB AMB
comp=Z,254nm,6.8s
NATX Nacogdoches 95.67 58 *e*P **P 21 24 08.5 -0.8**
comp=Z,29nm,0.7s,mb5.5
NATX *e*pP pP 21 26 33.3 +0.3
NATX *e*sP sP 21 27 35.3 -4.0
LCO Las Campanas 95.98 123 *e*P **P 21 24 11.3 +0.5**
comp=Z,52nm,1.0s,mb5.6
YKA Yellowknife Ar 96.11 25 P **P 21 24 09.0 -1.4**
YKA PP PP 21 28 05.3 -11
YKA Yellowknife Ar 96.11 25 P **P 21 24 09.0 -1.4**
comp=Z,16nm,0.6s,mb5.4,baz=241,slow=4.4,SNR=253
YKA PP PP 21 28 05.3 -11
comp=Z,2.3nm,0.7s,baz=237,slow=7.8,SNR=4.4
YKA PKIKP PKiKP 21 28 42.7 -1.3
comp=Z,3.1nm,0.5s,baz=261,slow=1.5,SNR=16
YKA PKKP PKKPbc 21 40 53.9 -2.2
comp=Z,4.0nm,0.5s,baz=35,slow=2.3,SNR=24
YKA PKPPKP 21 49 08.5
comp=Z,3.4nm,0.8s,baz=58,slow=2.8,SNR=20
TGUH Tegucigalpa,Un 96.48 77 *e*P **P 21 24 13.3 +0.1**
comp=Z,76nm,1.5s,mb5.6
KSU1 Kansas State U 96.61 51 *e*P **P 21 24 13.4 +0.1**
comp=Z,146nm,0.7s,mb6.3
KSU1 e 21 24 49.6
KSU1 *e*pP pP 21 26 36.8 -0.4
KSU1 *e*PP PP 21 28 17.8 -2.7
KSU1 *e*PKKPbc PKKPbc 21 40 53.9 -0.1
CFAA Coronel Fontan 96.72 127 P **P 21 24 14.2 +0.1**
comp=Z,2.3nm,0.6s,mb4.6,baz=238,slow=4.4,SNR=55
CFAA pP pP 21 26 37.9 0.0
comp=Z,0.4nm,0.8s,baz=246,slow=3.9,SNR=1.5
CFAA PKKPbc PKKPbc 21 40 51.4 -2.3
comp=Z,0.3nm,0.6s,baz=33,slow=4.3,SNR=6.4
CFAA SKKPbc 21 43 30.3
comp=Z,0.1nm,0.3s,baz=348,slow=5.3,SNR=3.6
ZAK Zakamensk 97.04 321⇑ *i*P Pdif 21 24 13.9 -1.2
ZAK *e* 21 26 38.9
ZAK pmax pmax
comp=Z,5.0nm,1.8s,mb4.4
ZAK pmax pmax
comp=Z,9.0nm,1.6s,mb4.8
SHL Shillong 97.13 294 *e*P Pdif 21 24 17.0 +1.5
IRK Irkutsk 97.17 323 *e*P Pdif 21 24 12.8 -2.9
IRK *e* 21 26 37.2
IRK *e* 21 30 33.1
IRK *e* 21 33 46.5
IRK pmax pmax
comp=Z,29nm,1.4s,mb5.3
MIAR Mount Ida 97.43 56 P Pdif 21 24 16.9 0.0
MIAR *e* 21 28 23.5
MIAR pmax pmax
comp=Z,13nm,0.7s,mb5.3
MIAR Mount Ida 97.43 56 *e*P Pdif 21 24 16.6 -0.2
comp=Z,14nm,0.7s
MIAR *e*pP pP 21 26 40.1 -1.0
MIAR *e*PP PP 21 28 22.5 -4.3
TIXI Tiksi 97.44 345*c i*P Pdif 21 24 14.1 -2.8
TIXI *i* *PP pP 21 26 37.6 -2.7
TIXI *i* S SKSac 21 33 46.7 -2.3
TIXI *e* 21 34 36.3
TIXI pmax pmax
comp=Z,32nm,1.2s,mb5.4
TIXI Tiksi 97.44 345 *e*P Pdif 21 24 14.7 -2.2
comp=Z,25nm,1.1s
TIXI *e*pP pP 21 26 30.8 -10
JTS JuntasAbangare 97.45 82 P Pdif 21 24 17.4 +0.5
JTS pmax pmax
comp=Z,56nm,1.0s
JTS JuntasAbangare 97.45 82 *e*P Pdif 21 24 16.9 -0.1
comp=Z,56nm,0.9s
JTS *e*PP PP 21 28 24.0 -3.3
NNA Nana 97.54 105 P Pdif 21 24 18.1 +0.8
comp=Z,22nm,1.1s,baz=256,slow=8.2,SNR=4.2
ATAH Atahualpa 97.91 100 P Pdif 21 24 21.5 +2.6
comp=Z,8.9nm,0.8s,baz=270,slow=10,SNR=8.5
ATAH PKKP PKKPbc 21 40 52.1 +2.3
comp=Z,5.2nm,0.6s,baz=48,slow=4.6,SNR=3.7
TRQA Tornquist 97.98 135 *e*P Pdif 21 24 20.6 +1.3
comp=Z,32nm,1.4s
ECSD EROS,Sioux Fal 98.13 47 *e*P Pdif 21 24 18.2 -1.7
comp=Z,138nm,1.2s
ECSD *e*pP pP 21 26 43.0 -1.1
ECSD *e*PP PP 21 28 22.8 -9.1
UALR University of 98.47 56 *e*P Pdif 21 24 20.3 -1.1
comp=Z,25nm,1.1s
UALR *e*pP pP 21 26 42.3 -3.5
UALR *e*PP PP 21 28 31.3 -3.2
LSA Lhasa 99.00 298 *e*P Pdif 21 24 26.0 +2.2
LSA *e**PP pP 21 26 47.4 -1.0
LSA *e* 21 28 40.2
LSA pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
LSA Lhasa 99.00 298 *e*P Pdif 21 24 26.0 +2.1
comp=Z,3.7nm,0.6s
LSA *e*pP pP 21 26 47.4 -1.0
LSA *e*PP PP 21 28 40.2 +1.6
AGMN Agassiz Refuge 100.07 42 *e*Pdif Pdif 21 24 27.2 -1.4
comp=Z,23nm,1.1s
AGMN *e*pP pP 21 26 50.5 -2.3
AGMN *e* 21 28 37.2
CCM Cathedral Cave 100.28 53 P Pdif 21 24 28.4 -1.1
CCM *e* 21 28 43.7
CCM pmax pmax
comp=Z,8.0nm,0.5s
CCM Cathedral Cave 100.28 53 *e*Pdif Pdif 21 24 28.3 -1.2
comp=Z,7.6nm,0.5s
CCM *e*PP PP 21 28 43.7 -4.3
ARE Arequipa 100.60 112 *e*P Pdif 21 24 33.0 +2.0
ULM Lac du Bonnet 100.66 40 *e*Pdif Pdif 21 24 29.3 -1.9
comp=Z,24nm,1.1s
ULM *e*pP pP 21 26 56.6 +1.2
ULM *e*PP PP 21 28 45.0 -5.3
ULM Lac du Bonnet 100.66 40 P Pdif 21 24 29.4 -1.8
comp=Z,14nm,0.8s,baz=238,slow=5.8,SNR=16
ULM PP PP 21 28 39.2 -11
comp=Z,7.0nm,0.9s,baz=253,slow=9.4,SNR=2.8
ULM PKiKP PKiKP 21 28 50.4 -2.1
comp=Z,18nm,0.7s,baz=265,slow=3.7,SNR=11
ULM PKKPbc PKKPbc 21 40 41.5 -1.6
comp=Z,6.9nm,0.5s,baz=57,slow=2.7,SNR=9.5
ULM PKKP PKKPbc 21 40 48.4 +5.2
comp=Z,4.5nm,0.6s,baz=180,slow=3.1,SNR=4.4
FVM French Village 100.88 54 *e*P Pdif 21 24 30.9 -1.3
FVM *e* 21 28 47.2
PARMO Parma 101.03 55 *e*Pdif Pdif 21 24 32.3 -0.5
SIUC Southern Illin 101.73 54 *e*Pdif Pdif 21 24 35.6 -0.4
comp=Z,21nm,0.8s
SIUC *e*PKP PKiKP 21 28 53.3 -1.5
PLAL Pickwick Lake 101.89 57 *e*Pdif Pdif 21 24 35.3 -1.3
PLAL *e*PKP PKiKP 21 28 51.2 -4.0
JFWS Jewell Farm 102.34 49 *e*P Pdif 21 24 38.8 +0.1
JFWS Jewell Farm 102.34 49 *e*Pdif Pdif 21 24 38.3 -0.3
JFWS *e*PKP PKiKP 21 28 53.6 -2.2
JFWS *e*PP PP 21 28 59.4 -3.5
WVT Waverly 102.38 56 *e*P Pdif 21 24 38.4 -0.5
HDIL Hopedale 102.42 51 *e*Pdif Pdif 21 24 38.7 -0.3
JIRN Jiri 102.61 295 *e*P PKiKP 21 28 56.3 -0.5
comp=Z,83nm,0.4s
GUN Gumba 102.94 295 *e*P Pdif 21 24 42.8 +1.4
GUN Gumba 102.94 295 *e*P PKiKP 21 28 56.5 -0.8
comp=Z,48nm,0.4s
USIN University of 102.98 54 *e*Pdif Pdif 21 24 42.3 +0.8
USIN *e*PP PP 21 29 02.8 -5.0

PKI Pulchoki 103.26 295 *e*P PKiKP 21 28 57.3 -0.6
comp=Z,104nm,0.6s
PKIN Phulchoki 103.27 295 *e*P PKiKP 21 28 56.9 -1.1
comp=Z,76nm,0.5s
KKN Kakani 103.43 295 *e*P Pdif 21 24 44.0 +0.5
comp=Z,8.0nm,0.6s
KKN Kakani 103.43 295 *e*P PKiKP 21 28 57.2 -1.0
comp=Z,64nm,0.5s
DMN Daman 103.53 295 *e*P Pdif 21 24 44.2 +0.2
comp=Z,8.4nm,0.5s
DMN Daman 103.53 295 *e*P PKiKP 21 28 58.0 -0.4
comp=Z,89nm,0.6s
LPAZ La Paz 103.61 113 *e*Pdif Pdif 21 24 47.2 +2.9
comp=Z,16nm,0.8s
LPAZ La Paz 103.61 113 Pdiff Pdif 21 24 46.9 +2.6
comp=Z,12nm,0.7s,baz=240,slow=3.3,SNR=62
LPAZ PKiKP PKiKP 21 28 59.1 +0.2
comp=Z,4.5nm,0.7s,baz=278,slow=3.4,SNR=7.4
LPAZ PKKPbc PKKPbc 21 40 34.5 +0.5
comp=Z,4.3nm,0.5s,baz=11,slow=2.5,SNR=7.0
LPAZ PKPPKP 21 48 54.9
comp=Z,1.0nm,0.8s,baz=0.0,slow=1.0,SNR=4.4
SWET Sewanee 103.65 57 *e*Pdif Pdif 21 24 44.1 -0.4
SWET *e*PKP PKiKP 21 28 56.2 -2.2
SWET *e*PP PP 21 29 09.1 -3.6
COWI Conover 103.89 46 *e*Pdif Pdif 21 24 45.2 -0.4
COWI *e*PKP PKiKP 21 28 56.5 -2.0
FCC Fort Churchill 104.00 32 *e*P Pdif 21 24 44.3 -1.8
FCC *e* 21 29 09.4
FCC Fort Churchill 104.00 32 *e*Pdif Pdif 21 24 44.3 -1.8
FCC *e*PKP PKiKP 21 28 56.0 -2.3
FCC *e*PP PP 21 29 09.4 -5.2
FCC *e*PKKPbc PKKPbc 21 40 29.3 -4.4
FCC *e*PKKPdf PKKPdf 21 40 42.1 +0.3
GKN Gorkha 104.03 295 *e*P Pdif 21 24 46.2 0.0
comp=Z,11nm,0.5s
GKN Gorkha 104.03 295 *e*P PKiKP 21 28 58.3 -1.0
comp=Z,50nm,0.4s
KOLN Koldanda 104.86 295 *e*P PKiKP 21 28 59.7 -1.2
comp=Z,47nm,0.5s
DANN Dangsing 104.87 295 *e*P Pdif 21 24 50.7 +0.8
comp=Z,14nm,0.8s
DANN Dangsing 104.87 295 *e*P PKiKP 21 29 00.2 -0.7
comp=Z,137nm,0.5s
GOGA Godfrey 105.20 60 *e*PKP PKiKP 21 28 59.4 -1.9
WMQ Urumqi 105.31 311 *e*PDIF Pdif 21 24 52.0 +0.1
WMQ PP PP 21 29 27.0 +2.5
WMQ SS SS 21 43 34.0 +0.7
WMQ PP PP
comp=Z,298nm,9.0s
ROSC El Rosal 105.73 90 *e*PKP PKiKP 21 29 02.1 -0.8
ROSC El Rosal 105.73 90 PKiKP PKiKP 21 29 02.4 -0.6
comp=Z,9.9nm,0.7s,baz=110,slow=10,SNR=7.4
ROSC PKKPbc PKKPbc 21 40 29.7 +2.2
comp=Z,6.1nm,0.4s,baz=284,slow=24,SNR=5.6
HYB Hyderabad 106.72 283 *e*P PKiKP 21 29 04.0 -0.6
HYB Hyderabad 106.72 283 *i* P PKiKP 21 29 04.0 -0.6
HYB *e*PP PP 21 29 35.0 -0.2
HYB *e*SKS SKSac 21 34 33.0 -1.5
HYB *e* 21 35 27.5
HYB *e*SP SP 21 37 50.0 -1.8
HYB *e* 21 38 44.0
HYB *e*PS PS 21 39 04.0 -7.5
AAM Ann Arbor 106.94 51 *e*PKP PKiKP 21 29 02.7 -1.6
AAM *e*PP PP 21 29 33.2 -3.1
RES Resolute Bay 107.16 16 *e*Pdif Pdif 21 24 59.0 -1.1
RES *e*PKP PKiKP 21 29 01.7 -2.0
CPUP Villa Florida 107.61 127 Pdif Pdif 21 25 03.7 +1.6
CPUP *e*PKP PKiKP 21 29 04.4 -1.7
CPUP Villa Florida 107.61 127 Pdiff Pdif 21 25 03.7 +1.6
comp=Z,1.6nm,0.6s,baz=237,slow=5.5,SNR=6.6
CPUP PKiKP PKiKP 21 29 05.1 -1.0
comp=Z,8.5nm,0.6s,baz=264,slow=1.3,SNR=22
CPUP PKKPbc PKKPbc 21 40 22.8 +0.3
comp=Z,0.9nm,0.4s,baz=214,slow=4.2,SNR=3.8
CPUP PKKPab PKKPab 21 40 34.8 -5.8
comp=Z,1.5nm,0.4s,baz=63,slow=5.9,SNR=5.8
CPUP SKKPbc 21 43 00.1
comp=Z,3.0nm,0.7s,baz=38,slow=3.9,SNR=5.6
PTH Pithoragarh 108.16 296 *e*x PKKPbc 21 40 20.9 +0.5
BLA Blacksburg 108.43 56 *e*PKP PKiKP 21 29 05.6 -1.6
ZAA0 Zalesovo Array 108.91 322 *e*PKP PKiKP 21 29 05.6 -2.0
ZALV Zalesovo Beam 108.91 322 Pdif Pdif 21 25 07.2 -0.7
ZALV PKPdf PKiKP 21 29 06.0 -1.6
ZALV SKP 21 31 40.9
ZALV PKKPbc PKKPbc 21 40 15.7 -2.9
ZALV PKKP PKKPbc 21 40 32.8 +14
ZALV Zalesovo Beam 108.91 322 Pdiff Pdif 21 25 07.2 -0.7
comp=Z,0.4nm,0.3s,baz=99,slow=4.3,SNR=3.8
ZALV PKiKP PKiKP 21 29 06.0 -1.6
comp=Z,46nm,0.6s,baz=137,slow=1.0,SNR=100
ZALV SKP 21 31 40.9
comp=Z,10.0nm,0.7s,baz=161,slow=1.4,SNR=4.1
ZALV PKKPbc PKKPbc 21 40 15.7 -2.9
comp=Z,8.0nm,0.5s,baz=259,slow=3.7,SNR=15
ZALV PKKP PKKPbc 21 40 32.8 +14
comp=Z,3.4nm,0.6s,baz=283,slow=2.6,SNR=4.5
ZAL Zalesovo 108.92 322 P Pdif 21 25 07.2 -0.7
ALLY Alegheny Colle 109.40 52 *e*PKP PKiKP 21 29 07.2 -1.8
ALLY *e*PP PP 21 29 49.7 -4.2
MK31 Makanchi Array 109.58 314 *e*Pdif Pdif 21 25 12.0 +1.1
MK31 *e*PKP PKiKP 21 29 07.5 -1.6
MK31 *e*PP PP 21 29 43.3 -12
MKAR Makanchi Array 109.58 314 P Pdif 21 25 12.1 +1.2
MKAR 21 34 43.4
MKAR pmax pmax
comp=Z,2.0nm,0.5s
MKAR pmax pmax
comp=N,9.0nm,0.8s
MKAR Makanchi Array 109.58 314 Pdif Pdif 21 25 12.1 +1.2
MKAR PKPdf PKiKP 21 29 07.7 -1.4
MKAR SKSac SKSac 21 34 43.4 -1.9
MKAR PKKPbc PKKPbc 21 40 15.6 -0.7
MKAR PKKP PKKPbc 21 40 29.7 +13
MKAR PP' 21 48 38.0
MKAR Makanchi Array 109.58 314 Pdiff Pdif 21 25 12.1 +1.2
comp=N,1.6nm,0.5s,baz=83,slow=6.4,SNR=17
MKAR PKiKP PKiKP 21 29 07.7 -1.4
comp=N,44nm,0.7s,baz=71,slow=2.3,SNR=144
MKAR SKSac SKSac 21 34 43.4 -1.9
comp=N,8.7nm,0.8s,baz=87,slow=5.5,SNR=9.4
MKAR PKKPbc PKKPbc 21 40 15.6 -0.7
comp=N,24nm,0.8s,baz=262,slow=4.3,SNR=28
MKAR PKKP PKKPbc 21 40 29.7 +13
comp=N,12nm,0.7s,baz=269,slow=3.7,SNR=8.7
MKAR PKPPKP 21 48 38.0
comp=N,1.7nm,0.8s,baz=330,slow=1.7,SNR=8.1
SIV San Ignacio 109.81 116 Pdiff Pdif 21 25 13.4 +1.5
comp=N,1.1nm,0.7s,baz=250,slow=9.0,SNR=5.9
SIV PKiKP PKiKP 21 29 09.5 -1.0
comp=N,6.7nm,0.6s,baz=255,slow=1.9,SNR=27
SIV PP PP 21 29 54.2 -2.5
comp=N,5.5nm,0.9s,baz=238,slow=5.7,SNR=9.9
SIV PKKPbc PKKPbc 21 40 14.9 -0.4
comp=N,6.3nm,0.7s,baz=68,slow=5.0,SNR=14
SIV SKKPbc 21 42 55.7
comp=N,3.6nm,0.9s,baz=116,slow=6.3,SNR=4.1
SDV Santo Domingo 110.47 88 *e*PKP PKiKP 21 29 09.7 -2.1
NDI New Delhi 110.55 294 *e*P PKiKP 21 29 09.6 -2.0
KAD Karad 110.72 282 *e*P PKiKP 21 29 10.4 -1.7
KAD AMb AMB 21 29 11.5
comp=Z,27nm,0.8s
SSPA Standing Stone 110.94 53 *e*PKP PKiKP 21 29 08.4 -3.5
SSPA *e*PP PP 21 29 59.7 -5.0
POO Poona 111.33 283 *e*P PKiKP 21 29 11.4 -1.8
POO Poona 111.33 283 *e*P PKKPab 21 40 23.0 +0.6
SDMD Soldier's Deli 111.56 54 *e*PKP PKiKP 21 29 11.3 -1.8
SDMD *e*PP PP 21 30 05.2 -3.9
MVL Millersville 112.02 54 *e*PKP PKiKP 21 29 11.9 -2.0
MVL *e*PP PP 21 30 07.5 -4.8
AJM Ajmer 112.36 291 *i* P PKiKP 21 29 14.0 -1.0
KURK Kurchatov 112.39 318 *e*PKIKP PKiKP 21 29 12.3 -2.0
KURK *e* 21 30 12.2
KURK *e* 21 40 06.4
KURK Kurchatov 112.39 318 *e*PKP PKiKP 21 29 12.3 -2.0
KURK *e*PP PP 21 30 12.2 -2.3
KURK *e*SKPdf SKPdf 21 31 47.3 +0.1
KURK *e*PKKPbc PKKPbc 21 40 06.4 -1.0
KURK *e*PKKPab PKKPab 21 40 17.2 +0.5
KURK Kurchatov 112.39 318 PKiKP PKiKP 21 29 13.4 -0.9
SNR=18
KURK Kurchatov 112.39 318 P PKiKP 21 29 13.4 -0.9
SNR=18
KURK Kurchatov 112.39 318 P PKiKP 21 29 13.4 -0.9
SNR=18
KURK Kurchatov 112.39 318 P PKiKP 21 29 13.4 -0.9
SNR=18
THN Thein Dam 112.50 298 *e*P PKiKP 21 29 13.5 -1.6
THN Thein Dam 112.50 298 *e*x PKKPbc 21 40 05.6 -1.0
BINY Binghamton 112.55 52 *e*PKP PKiKP 21 29 12.9 -2.0
BINY *e*PP PP 21 30 12.4 -3.5
SDDR Presa de Saban 112.56 77 *e*PKP PKiKP 21 29 13.5 -2.1
SDDR *e*PP PP 21 30 14.0 -2.6
KSH Kashi 113.28 305 *i* PKP PKiKP 21 29 16.0 -0.4
KSH *e*XPKP 21 32 49.0
KSH *e*PPP 21 32 50.9
KSH *e*PKS 21 32 52.3
KSH *e*SKS SKSdf 21 35 27.0 +1.1
KSH *e*SKKS SKKSac 21 36 05.3 -7.4
KSH PP PP
comp=Z,2μm,5.8s
ULHL Ulahol 113.36 308 P PKKPbc 21 40 04.1 +0.1
SNR=8.1
LONY Lake Ozonia 113.79 49 *e*PKP PKiKP 21 29 15.1 -2.1
LONY *e*PP PP 21 30 18.8 -5.7
TKM2 Tokmak 2 113.89 309 *e*PKIKP PKiKP 21 29 16.2 -1.3
TKM2 *e* 21 30 24.2
TKM2 Tokmak 2 113.89 309 *e*PKP PKiKP 21 29 16.2 -1.3
TKM2 *e* 21 29 52.0
TKM2 *e*PP PP 21 30 24.2 -1.0
TKM2 *e*SKPdf SKPdf 21 31 51.0 +0.6
TKM2 Tokmak 2 113.89 309 P PKiKP 21 29 16.5 -0.9
SNR=25
TKM2 Tokmak 2 113.89 309 P PKKPbc 21 40 00.6 -1.7
SNR=5.4
PAL Palisades 113.98 53 *e*PKIKP PKiKP 21 29 16.8 -0.9
PAL Palisades 113.98 53 *e*PKP PKiKP 21 29 16.4 -1.3
NCB Newcomb 114.00 50 *e*PKP PKiKP 21 29 15.8 -1.8
NCB *e*PP PP 21 30 19.5 -6.4
KZA Kyzart 114.08 308 P PKiKP 21 29 18.0 +0.1
SNR=9.8
KBK Karagaybulak 114.35 309 P PKPdf 21 29 17.7 -0.7
SNR=29
KBK Karagaybulak 114.35 309 P PKKPbc 21 39 55.4 -5.3
SNR=6.6
ACCN Adirondack Com 114.36 50 *e*PKPdf PKPdf 21 29 16.4 -1.9
ACCN *e*PP PP 21 30 23.7 -4.7
FRNY Flat Rock 114.51 49 *e*PKPdf PKPdf 21 29 16.9 -1.6
CHMS Chumysh 114.52 309 P PKPdf 21 29 17.7 -1.0
SNR=34
CHMS Chumysh 114.52 309 P PKKPbc 21 39 57.3 -2.9
SNR=8.5
FRU Bishkek 114.61 309⇑ *e*PKIKP PKPdf 21 29 17.0 -1.8
FRU *i* 21 30 28.0
FRU *e*S SKSac 21 35 04.5 -0.7
FRU *e* 21 39 08.0
FRU pmax pmax
comp=Z,100nm,1.8s
FRU smax
comp=E,310nm,2.8s
UCH Uchtor 114.64 308 *e*PKPdf PKPdf 21 29 18.4 -0.5
UCH *e*PP PP 21 30 30.7 +0.4
UCH *e*SKPdf SKPdf 21 31 53.4 +1.6
UCH Uchtor 114.64 308 P PKPdf 21 29 18.7 -0.2
SNR=39
UCH Uchtor 114.64 308 P PKKPbc 21 39 59.7 -0.1
SNR=8.7
AAK Ala-Archa 114.68 309 PKIKP PKPdf 21 29 17.5 -1.5
AAK 21 30 28.1
AAK pmax pmax
comp=Z,19nm,0.6s
AAK pmax pmax
comp=Z,10.0nm,0.8s
AAK pmax pmax
comp=Z,17nm,0.6s
AAK pmax pmax
comp=Z,18nm,0.5s
AAK Ala-Archa 114.68 309 *e*PKPdf PKPdf 21 29 17.2 -1.8
AAK Ala-Archa 114.68 309 P PKPdf 21 29 18.0 -0.9
SNR=9.7
AAK Ala-Archa 114.68 309 P PKPdf 21 29 18.0 -0.9
SNR=9.7
AAK Ala-Archa 114.68 309 PKP PKPdf 21 29 17.5 -1.5
comp=Z,19nm,0.6s,baz=138,slow=3.8,SNR=39
AAK PP PP 21 30 28.1 -2.6
comp=Z,10.0nm,0.8s,baz=56,slow=4.8,SNR=5.2
AAK PKKPbc PKKPbc 21 39 56.7 -2.9
comp=Z,17nm,0.6s,baz=193,slow=2.0,SNR=17
AAK PKKPab PKKPab 21 40 06.3 -0.4
comp=Z,18nm,0.5s,baz=294,slow=2.6,SNR=12
AAK Ala-Archa 114.68 309 P PKPdf 21 29 18.3 -0.6
SNR=14
AAK Ala-Archa 114.68 309 P PKKPbc 21 39 58.7 -0.9
SNR=7.0
USP Ospenovka 114.72 309 P PKPdf 21 29 17.6 -1.4
SNR=45
USP Ospenovka 114.72 309 P PKKPbc 21 39 57.8 -1.8
SNR=6.9
EKS2 Erkin-Say 115.21 309 *e*PKPdf PKPdf 21 29 19.3 -0.7
EKS2 Erkin-Say 115.21 309 P PKPdf 21 29 19.5 -0.5
SNR=19
EKS2 Erkin-Say 115.21 309 P PKKPbc 21 39 56.6 -1.2
SNR=8.0
AML Almayashu 115.24 308 *e*PKPdf PKPdf 21 29 19.4 -0.6
AML *e*PP PP 21 30 34.2 -0.3
AML *e*SKPdf SKPdf 21 31 54.4 +1.4
AML Almayashu 115.24 308 P PKPdf 21 29 19.7 -0.4
SNR=45
QUA2 Belchertown 115.25 52 *e*PKPdf PKPdf 21 29 18.7 -1.4
HNH Hanover 115.38 50 *e*PKPdf PKPdf 21 29 19.6 -0.7
HNH *e*PP PP 21 30 31.9 -3.5
LBNH Lisbon 115.67 50 *e*PKIKP PKPdf 21 29 20.1 -0.7
LBNH *e* 21 30 35.4
LBNH Lisbon 115.67 50 *e*PKPdf PKPdf 21 29 20.1 -0.8
LBNH *e*PP PP 21 30 34.7 -2.7
BRYW Bryant College 115.83 52 *e*PKPdf PKPdf 21 29 20.3 -0.9
FFD Franklin Falls 115.83 50 *e*PKPdf PKPdf 21 29 20.7 -0.4
FFD *e*PP PP 21 30 36.4 -2.2
HRV Adam Dziewonsk 115.85 51 *e*PKPdf PKPdf 21 29 19.9 -1.3
HRV *e*PP PP 21 30 36.4 -2.3
WES Weston 116.01 52 *e*PKIKP PKPdf 21 29 20.6 -1.0
BHJ Bhuj 116.19 287 *e*P PKPdf 21 29 21.8 -0.6
BHJ AMb AMB 21 29 23.2
comp=Z,104nm,1.0s
CPD Cerro la Pandu 117.30 79 *e*PKIKP PKPdf 21 29 22.8 -1.9
WVL Waterville 117.30 49 *e*PKPdf PKPdf 21 29 22.4 -1.6
HUMP Col San Antoni 117.39 79 *e*PKPdf PKPdf 21 29 23.1 -1.8
CBYP Canovanas 117.41 79 *e*PKPdf PKPdf 21 29 23.0 -1.9
BVAR Borovoye Array 117.49 320 PKIKP PKPdf 21 29 22.9 -1.1
BVAR pmax pmax
comp=Z,114nm,0.4s
BVAR pmax pmax
comp=N,42nm,0.9s
BVAR pmax pmax
comp=Z,4.0nm,0.5s
BVAR pmax pmax
comp=Z,10.0nm,0.8s
BVAR Borovoye Array 117.49 320 PKP PKPdf 21 29 22.9 -1.2
comp=Z,114nm,0.4s,baz=139,slow=1.9,SNR=469
BVAR SKP 21 31 57.7
comp=Z,42nm,0.9s,baz=93,slow=3.0,SNR=7.4
BVAR PKKPbc PKKPbc 21 39 49.2 -1.1
comp=Z,3.5nm,0.5s,baz=274,slow=4.4,SNR=8.6
BVAR PKKPab PKKPab 21 39 54.7 +0.6
comp=Z,9.5nm,0.8s,baz=274,slow=4.5,SNR=12
BRVK Borovoye 117.55 320 *e*PKPdf PKPdf 21 29 22.7 -1.5
BRVK *e* 21 29 58.6
BRVK *e*SKPdf SKPdf 21 31 57.2 +0.1
BRVK Borovoye 117.55 320 PKPdf PKPdf 21 29 23.0 -1.2
SNR=41
BRVK Borovoye 117.55 320 P PKPdf 21 29 23.0 -1.2
SNR=41
BRVK Borovoye 117.55 320 P PKPdf 21 29 23.0 -1.2
SNR=41
BRVK Borovoye 117.55 320 P PKPdf 21 29 23.0 -1.2
SNR=41
BRVK Borovoye 117.55 320 P PKPdf 21 29 23.0 -1.2
SNR=41
BRVK Borovoye 117.55 320 P PKPdf 21 29 23.0 -1.2
SNR=41
BRVK Borovoye 117.55 320 P PKPdf 21 29 23.0 -1.2
SNR=41
PKME Peaks-Kenny Pk 117.57 48 *e*PKPdf PKPdf 21 29 23.1 -1.4

PKME e 21 29 59.1
MTP Monte Pirata 117.65 79 ePKPdf PKPdf 21 29 23.8 -1.6
KBL Kabul 118.30 299 ePKPdf PKPdf 21 29 25.9 -0.3
KBL e 21 30 01.8
KBL eSKPdf SKPdf 21 32 01.0 +1.8
SCHQ Schefferville 118.62 38 ePKPdf PKPdf 21 29 24.0 -2.2
SCHQ Schefferville 118.62 38 PKP PKPdf 21 29 24.6 -1.6
comp=Z,24nm,0.6s,baz=284,slow=2.3,SNR=40
SCHQ PP PP 21 30 53.0 -4.1
comp=Z,27nm,1.1s,baz=290,slow=9.2,SNR=7.7
SCHQ PKKPbc PKKPbc 21 39 43.4 -3.0
comp=Z,2.8nm,0.3s,baz=84,slow=4.5,SNR=13
EMMW East Machias 118.87 49 ePKPdf PKPdf 21 29 25.9 -1.1
EMMW ePP PP 21 30 55.8 -3.3
TCE Chacachacare 119.37 88 eP PKPdf 21 29 28.5 -0.3
TPP Pointe-a-Pierr 119.54 89 eP PKPdf 21 29 28.3 -0.9
TRN Trinidad (W) 119.68 89 eP PKPdf 21 29 29.6 +0.1
GRGR Grenville 119.85 87 ePKPdf PKPdf 21 29 25.9 -3.8
TBH Brigand Hill 119.95 89 eP PKPdf 21 29 31.5 +1.5
KBS Kingsbay 120.26 357 ePP PP 21 31 06.0 -1.4
KBS Kingsbay 120.26 357 ePKIKP PKPdf 21 29 27.9 -0.9
TPR Prospect 120.42 88 eP PKPdf 21 29 32.2 +1.4
ABPO Ambohimpanom 120.43 233 ePKPdf PKPdf 21 29 30.9 +0.1
ABPO ePKKPbc PKKPbc 21 39 39.2 -0.6
ABPO ePKKPab PKKPab 21 39 42.8 -1.0
BBSR BB Station 120.62 63 ePKPdf PKPdf 21 29 30.2 -0.6
BBSR ePP PP 21 31 07.6 -3.7
LZG Guadaloupe-1 120.73 82 eP PKPdf 21 29 30.2 -1.2
OPO Ambohidratompo 120.73 233 PKP PKPdf 21 29 32.1 +0.7
comp=Z,54nm,0.8s,baz=120,slow=1.4,SNR=74
OPO SKP 21 32 06.8
comp=Z,4.0nm,0.7s,baz=228,slow=2.7,SNR=3.5
OPO PKKPbc PKKPbc 21 39 38.6 -0.1
comp=Z,6.9nm,0.7s,baz=273,slow=2.4,SNR=11
BDFB Brasilia 120.76 123 PKIKP PKPdf 21 29 30.8 -0.7
BDFB pmax pmax
comp=Z,44nm,0.7s
BDFB pmax pmax
comp=Z,4.0nm,0.5s
BDFB Brasilia 120.76 123 PKP PKPdf 21 29 30.8 -0.7
comp=Z,44nm,0.7s,baz=237,slow=3.6,SNR=106
BDFB PKKPbc PKKPbc 21 39 38.4 -0.2
comp=Z,3.9nm,0.5s,baz=86,slow=2.1,SNR=11
SPB4 Spitsbergen Ar 120.76 356 ePKPdf PKPdf 21 29 28.7 -1.0
SPB4 e 21 30 03.2
SPB4 eSKPdf SKPdf 21 32 03.7 +1.1
TBG Guadaloupe-3 120.78 83 eP PKPdf 21 29 30.1 -1.4
SCG Saint Claude 120.79 83 eP PKPdf 21 29 30.6 -0.9
FDF Fort de France 120.98 84⇑ eP PKPdf 21 29 30.8 -1.1
BIM Bigot 121.01 84 eP PKPdf 21 29 30.8 -1.2
MSEY Mahe Island 121.01 252 ePKPdf PKPdf 21 29 31.4 -0.6
MGG Marie-Galante 121.11 83 eP PKPdf 21 29 30.4 -1.7
MVM Montagne Vaucl 121.18 84 eP PKPdf 21 29 30.9 -1.3
DEG La Desirade 121.44 82 eP PKPdf 21 29 30.9 -1.8
DAG Danmarks Havn 121.83 5⇓ iPKIKP PKPdf 21 29 29.8 -2.0
DAG pmax pmax
comp=Z,80nm,0.8s
DAG Danmarks Havn 121.83 5⇓ iP PKPdf 21 29 29.8 -2.0
comp=Z,80nm,0.8s
DAG Danmarks Havn 121.83 5⇓ iP PKKPbc 21 39 33.9 -1.2
comp=Z,6.7nm,0.8s
SVE Sverdlovsk 122.44 326⇑ ePKIKP PKPdf 21 29 32.7 -0.7
SVE pmax pmax
comp=Z,196nm,0.6s
ARU Arti 123.65 326 iPKIKP PKPdf 21 29 34.8 -1.0
ARU 21 31 26.3
ARU 21 35 31.2
ARU Arti 123.65 326 ePKPdf PKPdf 21 29 35.0 -0.8
ARU e 21 30 11.0
ARU e 21 30 57.6
ARU eP PP 21 31 25.3 -5.1
ARU eSKPdf SKPdf 21 32 09.8 +1.2
ARU ePKKPab PKKPab 21 39 25.8 -1.2
SUR Sutherland 124.96 201 ePKPdf PKPdf 21 29 39.5 +0.3
SUR Sutherland 124.96 201 PKKPbc PKKPbc 21 39 21.8 -1.7
comp=Z,28nm,0.7s,baz=335,slow=3.9,SNR=36
SUR PKKP PKKPbc 21 39 56.9 +33
comp=Z,6.4nm,0.8s,baz=317,slow=2.2,SNR=4.5
AKTK Aktyubinsk 125.47 319 PKP PKPdf 21 29 38.3 -1.1
AKTK SKP 21 32 12.7
AKTK PKKPbc PKKPbc 21 39 19.9 -0.9
AKTO Aktyubinsk 125.47 319 PKIKP PKPdf 21 29 38.3 -1.1
AKTO pmax pmax
comp=Z,114nm,0.8s
AKTO pmax pmax
comp=N,18nm,0.8s
AKTO pmax pmax
comp=Z,12nm,0.6s
AKTO Aktyubinsk 125.47 319 PKP PKPdf 21 29 38.3 -1.1
comp=Z,114nm,0.8s,baz=83,slow=3.5,SNR=191
AKTO SKP 21 32 12.7
comp=Z,18nm,0.8s,baz=297,slow=1.6,SNR=5.2
AKTO PKKPbc PKKPbc 21 39 19.9 -0.9
comp=Z,12nm,0.6s,baz=223,slow=3.0,SNR=16
BOSA Boshof 126.62 207 iPKHKP 21 29 25.9
BOSA 21 29 42.3
BOSA pmax pmax
comp=Z,2.0nm,0.5s
BOSA pmax pmax
comp=Z,143nm,1.1s
BOSA pmax pmax
comp=Z,8.0nm,0.4s
BOSA Boshof 126.62 207 ePKPdf PKPdf 21 29 42.5 +0.1
BOSA Boshof 126.62 207 PKhKP 21 29 25.9
comp=Z,1.6nm,0.5s,baz=204,slow=1.8,SNR=7.4
BOSA PKP PKPdf 21 29 42.2 -0.2
comp=Z,143nm,1.1s,baz=153,slow=2.0,SNR=31
BOSA PKKPbc 21 39 15.1
comp=Z,8.1nm,0.4s,baz=335,slow=3.9,SNR=18
SMDO Samad 126.69 285 P PKPdf 21 29 42.5 -0.1
SNR=46
KEV Kevo 127.22 349 PKIKP PKPdf 21 29 41.2 -1.1
KEV Kevo 127.22 349 ePKPdf PKPdf 21 29 40.4 -1.8
KEV ePP PP 21 31 58.2 +5.1
APA Apatity 127.63 345⇓ iPKIKP PKPdf 21 29 41.8 -1.3
APA e 21 32 00.0
APA pmax pmax
comp=Z,110nm,0.8s
APA pmax pmax
comp=Z,800nm,3.0s
ARCES ARCESS Array B 127.68 349 PKIKP PKPdf 21 29 42.3 -0.8
ARCES 21 32 01.2
ARCES ARCESS Array B 127.68 349 PKP PKPdf 21 29 42.3 -0.9
ARCES PP PP 21 32 01.2 +5.1
ARCES PKKPbc 21 39 10.6
ARCES PKKP 21 39 53.5
ARCES ARCESS Array B 127.68 349 PKhKP 21 29 23.4
comp=Z,1.3nm,0.5s,baz=34,slow=2.5,SNR=5.8
ARCES PKP PKPdf 21 29 42.3 -0.9
comp=Z,124nm,0.4s,baz=38,slow=1.1,SNR=182
ARCES PP PP 21 32 01.2 +5.1
comp=Z,25nm,0.8s,baz=28,slow=5.5,SNR=5.7
ARCES PKKPbc 21 39 10.6
comp=Z,4.0nm,0.6s,baz=207,slow=3.1,SNR=16
ARCES PKKP 21 39 53.5
comp=Z,11nm,0.8s,baz=213,slow=2.9,SNR=24
ARE0 ARCESS Array S 127.68 349 ePKPdf PKPdf 21 29 42.2 -1.0
ARE0 ePP PP 21 32 00.4 +4.3
SHAO Shalim 128.13 278 P PKPdf 21 29 45.3 -0.1
SNR=17
JMIC Jan Mayen 128.19 4 ePP PP 21 31 57.3 -1.9
KTK1 Kautokeino 128.53 350 e PKPdf 21 29 43.1 -1.6
KTK1 AMb AMB 21 29 46.7
comp=Z,226nm,1.4s
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
BANOM Banah 128.59 288 P PP 21 32 06.2 +2.6
SNR=13
TRO Tromso 128.61 352⇑ i PKPdf 21 29 42.1 -2.8
TRO AMb AMB 21 29 46.4
comp=Z,188nm,1.4s
TRO ePP PP 21 31 54.3 -7.7
TRO eSS SS 21 48 27.4 -1.0
TRO Tromso 128.61 352⇑ iP PKPdf 21 29 42.3 -2.6

HATD Hatta, Dubai 128.64 287 P PKPdf 21 29 46.7 +0.4
SNR=8.5
HATD Hatta, Dubai 128.64 287 P PKPdf 21 29 46.7 +0.4
SNR=8.5
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
HATD Hatta, Dubai 128.64 287 P PP 21 32 05.7 +1.7
SNR=15
ASHO Ashiyiah 128.69 286 P PKPdf 21 29 46.5 +0.1
SNR=24
ASHO Ashiyiah 128.69 286 P PKPdf 21 29 46.5 +0.1
SNR=24
ASHO Ashiyiah 128.69 286 P PP 21 32 06.2 +1.9
SNR=12
ASHO Ashiyiah 128.69 286 P PP 21 32 06.2 +1.9
SNR=12
ASHO Ashiyiah 128.69 286 P PP 21 32 06.2 +1.9
SNR=12
ASHO Ashiyiah 128.69 286 P PP 21 32 06.2 +1.9
SNR=12
ASHO Ashiyiah 128.69 286 P PP 21 32 06.2 +1.9
SNR=12
ASHO Ashiyiah 128.69 286 P PP 21 32 06.2 +1.9
SNR=12
TMCR Tamitsa 128.78 340 ePKIKP PKPdf 21 29 44.2 -1.2
TMCR e 21 32 04.4
RBK Rabkut 129.36 277 P PKPdf 21 29 48.6 +0.7
SNR=9.2
RBK Rabkut 129.36 277 P SKPbc 21 32 10.3 +2.1
SNR=12
RBK Rabkut 129.36 277 P SKPbc 21 32 10.3 +2.1
SNR=12
RBK Rabkut 129.36 277 P SKPbc 21 32 10.3 +2.1
SNR=12
RBK Rabkut 129.36 277 P SKPbc 21 32 10.3 +2.1
SNR=12
RBK Rabkut 129.36 277 P SKPbc 21 32 10.3 +2.1
SNR=12
LBTB Lobatse 129.57 210 ePKHKP 21 29 30.5
LBTB 21 29 47.9
LBTB e 21 32 10.6
LBTB 21 32 11.5
LBTB Lobatse 129.57 210 ePKPpre 21 29 30.5
LBTB ePKPdf PKPdf 21 29 47.6 -0.6
LBTB PKP PKPdf 21 29 47.9 -0.2
LBTB ePP PP 21 32 10.6 +2.3
LBTB SKPbc SKPbc 21 32 11.5 +2.6
LBTB PKKPbc 21 39 01.9
LBTB PKKP 21 39 50.6
LBTB Lobatse 129.57 210 PKhKP 21 29 29.4
comp=Z,1.6nm,0.5s,baz=160,slow=5.3,SNR=5.1
LBTB PKP PKPdf 21 29 47.9 -0.2
comp=Z,45nm,0.6s,baz=175,slow=3.2,SNR=37
LBTB SKPbc SKPbc 21 32 11.5 +2.6
comp=Z,116nm,0.8s,baz=156,slow=4.0,SNR=27
LBTB PKKPbc 21 39 01.9
comp=Z,4.0nm,0.7s,baz=329,slow=7.0,SNR=6.0
LBTB PKKP 21 39 50.6
comp=Z,6.5nm,0.7s,baz=351,slow=1.6,SNR=5.7
WHFO Wadi Hawf 129.84 277 P PKPdf 21 29 49.1 +0.3
SNR=14
WHFO Wadi Hawf 129.84 277 P SKPbc 21 32 11.3 +1.2
SNR=17
WHFO Wadi Hawf 129.84 277 P SKPbc 21 32 11.3 +1.2
SNR=17
WHFO Wadi Hawf 129.84 277 P SKPbc 21 32 11.3 +1.2
SNR=17
WHFO Wadi Hawf 129.84 277 P SKPbc 21 32 11.3 +1.2
SNR=17
WHFO Wadi Hawf 129.84 277 P SKPbc 21 32 11.3 +1.2
SNR=17
WHFO Wadi Hawf 129.84 277 P SKPbc 21 32 11.3 +1.2
SNR=17
ABTO Aybut 130.18 277 P SKPbc 21 32 12.8 +1.5
SNR=34
ABTO Aybut 130.18 277 P SKPbc 21 32 12.8 +1.5
SNR=34
ABTO Aybut 130.18 277 P SKPbc 21 32 12.8 +1.5
SNR=34
ABTO Aybut 130.18 277 P SKPbc 21 32 12.8 +1.5
SNR=34
ABTO Aybut 130.18 277 P SKPbc 21 32 12.8 +1.5
SNR=34
LOF Lofoten 130.68 354 e PKPdf 21 29 43.8 -5.1
LOF Lofoten 130.68 354 eP PKPdf 21 29 50.0 +1.1
JOF Joensuu 131.77 342 ep 21 29 32.0
comp=Z,2.0nm,0.3s
JOF Joensuu 131.77 342 ePKHKP 21 29 32.0
JOF pmax pmax
comp=Z,2.0nm,0.3s
BORG Borgarnes 132.42 13 PKP PKPdf 21 29 52.4 +0.1
comp=Z,57nm,0.8s,baz=319,slow=2.1
MOR8 Moi Rana 132.46 352 eP PKPdf 21 29 50.6 -1.6
MOR8 AMb AMB 21 29 53.1
comp=Z,86nm,1.1s
MOR8 Moi Rana 132.46 352 eP PKPdf 21 29 50.4 -1.9
STOK Stokkvaagen 132.47 353 eP PKPdf 21 29 51.4 -0.9
STOK Stokkvaagen 132.47 353 eP PKPdf 21 29 52.0 -0.3
MAK Makhachkala 134.33 312 iPKIKP PKPdf 21 29 55.2 -1.3
MAK i 21 33 30.1
MAK ePPP 21 35 38.9
MAK e 21 36 01.8
MAK eSS SS 21 49 32.3 -6.5
MAK pmax pmax
comp=Z,178nm,0.9s
MOS Moscow 134.40 332 ePKIKP PKPdf 21 29 54.3 -1.9
MOS e 21 33 25.1
MOS e 21 35 58.4
MOS e 21 43 49.2
MOS pmax pmax
comp=Z,184nm,0.9s
FIA1 FINESS Array S 134.43 343 ePKPpre 21 29 41.2
FIA1 ePKPdf PKPdf 21 29 55.1 -1.0
FIA1 eSKPbc SKPbc 21 32 23.5 -0.8
FIA1 eSKPdf SKPdf 21 32 29.2 +0.6
FIA1 esPKPdf 21 33 26.2
FINES FINESS Array B 134.43 343 PKP PKPdf 21 29 55.8 -0.3
FINES SKPbc SKPbc 21 32 24.3 0.0
FINES PKKPbc 21 38 48.6
FINES PKKP 21 39 39.2
FINES SKKPbc 21 41 32.6
FINES SKKP 21 42 23.6
FINES FINESS Array B 134.43 343 PKhKP 21 29 41.1
comp=Z,3.9nm,0.4s,baz=62,slow=3.6,SNR=63
FINES PKP PKPdf 21 29 55.8 -0.3
comp=Z,40nm,0.5s,baz=60,slow=3.4,SNR=32
FINES SKPbc SKPbc 21 32 24.3 0.0
comp=Z,91nm,0.8s,baz=57,slow=3.1,SNR=18
FINES PKKPbc 21 38 48.6
comp=Z,1.9nm,0.6s,baz=184,slow=3.7,SNR=7.8
FINES PKKP 21 39 39.2
comp=Z,1.4nm,0.4s,baz=156,slow=3.8,SNR=6.7
FINES SKKPbc 21 41 32.6
comp=Z,1.8nm,0.6s,baz=180,slow=2.6,SNR=6.4
FINES SKKP 21 42 23.6
comp=Z,4.1nm,0.8s,baz=176,slow=4.2,SNR=3.9
PUL Pulkovo 134.48 339⇑ ePKIKP PKPdf 21 29 55.6 -0.6
VRHR Novokhopersk 134.95 324 iPKIKP PKPdf 21 29 55.9 -1.5
VRHR e 21 35 56.3
VRHR eSPP 21 43 46.0
VRHR pmax pmax
comp=Z,240nm,0.5s
VRHR pmax pmax
comp=N,40nm,0.4s
VRHR pmax pmax
comp=E,70nm,1.2s
OBN Obninsk 135.26 331⇑ iPKIKP PKPdf 21 29 57.2 -0.6
OBN i 21 33 30.8
OBN i 21 35 59.1
OBN ePS 21 43 50.8
OBN pmax pmax
comp=Z,129nm,0.6s
OBN Obninsk 135.26 331 ePKPdf PKPdf 21 29 54.6 -3.2
OBN eSKPbc SKPbc 21 32 27.5 +0.5

VOR Voronezh 135.93 326 ePKIKP PKPdf 21 29 58.0 -1.2
VOR pmax pmax
comp=Z,450nm,1.5s
LSZ Lusaka 136.12 220 iPKHKP 21 29 47.7
LSZ 21 30 00.6
LSZ pmax pmax
comp=Z,10.0nm,0.5s
LSZ pmax pmax
comp=Z,40nm,0.3s
LSZ pmax pmax
comp=N,17nm,0.8s
LSZ pmax pmax
comp=Z,3.0nm,0.5s
LSZ Lusaka 136.12 220 ePKPpre 21 29 47.6
LSZ ePKPdf PKPdf 21 30 00.3 -0.3
LSZ PKP PKPdf 21 30 00.6 -0.1
LSZ eSKPdf SKPdf 21 32 31.8 -1.4
LSZ SKPbc SKPbc 21 32 32.6 +1.7
LSZ PKKP 21 39 38.5
LSZ Lusaka 136.12 220 PKhKP 21 29 47.7
comp=Z,9.6nm,0.5s,baz=151,slow=2.6,SNR=24
LSZ PKP PKPdf 21 30 00.6 -0.1
comp=Z,40nm,0.3s,baz=89,slow=1.2,SNR=26
LSZ SKPbc SKPbc 21 32 32.7 +1.7
comp=Z,17nm,0.8s,baz=32,slow=1.0,SNR=7.3
LSZ PKKP 21 39 38.6
comp=Z,2.5nm,0.5s,baz=49,slow=1.5,SNR=5.6
VRSR Storozhevoye 136.21 326 iPKIKP PKPdf 21 29 58.4 -1.3
VRSR e 21 36 03.4
VRSR eSPP 21 43 54.1
VRSR eSSS 21 55 13.8
VRSR pmax pmax
comp=Z,90nm,1.2s
VRSR pmax pmax
comp=N,9.0nm,0.4s
VRSR pmax pmax
comp=E,10.0nm,0.6s
UMR Umm Al-Rimmam 136.28 293 eP SKPbc 21 32 30.0 -1.0
UMR eS 21 33 34.4
RDF Al-Radifah 136.45 292 eP SKPbc 21 32 31.6 +0.1
RDF eS 21 33 35.0
RDF AML AML 21 33 35.8
comp=Z,32nm,0.6s
RDF Al-Radifah 136.45 292 eP SKPbc 21 32 31.6 +0.1
RDF eS 21 33 35.0
comp=Z,32nm,0.6s
MIB Mutribah 136.60 293 eP SKPbc 21 32 32.4 +0.5
MIB AML AML 21 33 35.5
comp=Z,8.6nm,0.6s
MTA Mtatsminda 136.62 311 P PKPdf 21 29 53.1 -7.7
TBLG Delisi 136.65 311 P 21 29 51.1
VSU Vasula 136.66 340 iPKIKP PKPdf 21 30 00.7 +0.4
GOR Gori 137.02 311 P PKPdf 21 30 02.7 +1.2
DOMB Dombas 137.06 354 eP 21 29 49.7
DOMB AMb AMB 21 30 03.6
comp=Z,122nm,1.9s
ONI Oni 137.29 312 P PKPdf 21 29 52.7 -9.3
KIV Kislovodsk 137.34 314 ePKIKP PKPdf 21 29 56.0 -6.0
KIV e 21 36 04.9
KIV e 21 42 17.9
KIV pmax pmax
comp=Z,42nm,0.7s
KIV Kislovodsk 137.34 314 ePKPpre 21 29 53.0
KIV ePKP PKPdf 21 30 00.0 -2.0
KIV ePKPdf PKPdf 21 30 01.6 -0.4
KIV eSKPdf SKPdf 21 32 34.7 +0.2
KIV Kislovodsk 137.34 314 PKPdf PKPdf 21 30 02.4 +0.4
SNR=19
KIV Kislovodsk 137.34 314 P PKPdf 21 30 02.4 +0.4
SNR=19
KIV Kislovodsk 137.34 314 P PKPdf 21 30 02.4 +0.4
SNR=19
KIV Kislovodsk 137.34 314 P PKPdf 21 30 02.4 +0.4
SNR=19
KIV Kislovodsk 137.34 314 P PKPdf 21 30 02.4 +0.4
SNR=19
KIV Kislovodsk 137.34 314 P PKPdf 21 30 02.4 +0.4
SNR=19
FOO Floro 137.80 357 eP 21 29 52.6
FOO AMb AMB 21 30 05.8
comp=Z,173nm,1.5s
NB2 NORSAR Subarra 137.81 352 PKPdf 21 29 51.3
comp=Z,6.6nm,0.4s,baz=14,slow=1.8
NB2 NORSAR Subarra 137.81 352 PKPdf 21 29 51.3
baz=14,slow=1.8
NOA NORSAR Array B 137.81 352 PKP PKPdf 21 30 03.0 +0.6
NOA SKP 21 32 34.8
NOA SKPab 21 32 44.3
NOA PKKP 21 39 34.1
NOA SKKPbc 21 41 23.4
NOA SKKP 21 42 16.4
NOA NORSAR Array B 137.81 352 PKhKP 21 29 51.2
comp=Z,34nm,0.8s,baz=19,slow=2.8,SNR=63
NOA PKP PKPdf 21 30 03.0 +0.6
comp=Z,55nm,0.5s,baz=14,slow=4.0,SNR=28
NOA SKP 21 32 34.8
comp=Z,19nm,0.8s,baz=17,slow=4.5,SNR=5.8
NOA SKPab 21 32 44.3
comp=Z,23nm,0.8s,baz=15,slow=3.2,SNR=7.0
NOA PKKP 21 39 34.1
comp=Z,0.9nm,0.8s,baz=246,slow=1.8,SNR=3.2
NOA SKKPbc 21 41 23.4
comp=Z,5.1nm,1.0s,baz=187,slow=4.0,SNR=3.3
NOA SKKP 21 42 16.4
comp=Z,8.3nm,1.2s,baz=184,slow=1.3,SNR=3.9
CLDR Caldiran 137.97 307 eP PKPdf 21 29 58.4 -5.0
NAO01 NORSAR Array S 138.04 353 ePKPpre 21 29 51.8
NAO01 ePKPdf PKPdf 21 30 04.6 +1.9
NAO01 eSKPdf SKPdf 21 32 35.7 +0.6
TSUM Tsumeb 138.14 204 ePKPpre 21 29 55.7
TSUM ePKPdf PKPdf 21 30 06.1 +1.8
TSUM Tsumeb 138.14 204 PKhKP 21 29 55.8
comp=Z,12nm,0.5s,baz=142,slow=5.4,SNR=45
TSUM SKP 21 32 37.3
comp=Z,14nm,0.9s,baz=334,slow=17,SNR=3.5
TSUM PKKP 21 39 33.4
comp=Z,3.3nm,0.9s,baz=279,slow=2.9,SNR=6.7
KARS Kars 138.16 310 eP PKPdf 21 29 55.8 -7.8
HFS Hagfors 138.32 350 PKP PKPdf 21 30 04.3 +1.0
HFS SKP 21 32 35.9
HFS SKPab 21 32 45.7
HFS Hagfors 138.32 350 PKhKP 21 29 52.3
comp=Z,46nm,0.3s,baz=72,slow=4.8,SNR=250
HFS PKP PKPdf 21 30 04.3 +1.0
comp=Z,65nm,0.6s,baz=54,slow=2.5,SNR=14
HFS SKP 21 32 35.9
comp=Z,23nm,0.7s,baz=158,slow=1.6,SNR=4.4
HFS SKPab 21 32 45.7
comp=Z,34nm,0.8s,baz=46,slow=4.3,SNR=6.2
HKR Hakkari 138.49 305 eP PKPdf 21 29 55.2 -9.1
VANB Van 138.51 307 eP PKPdf 21 30 04.6 +0.3
AGRB Hanur-Agry 138.54 308 eP PKPdf 21 29 60.0 -4.4
CUKT Cukurca 138.67 305 eP PKPdf 21 29 56.6 -8.1
KMBO Kilima Mbogo 138.68 244 ePKHKP 21 29 57.8
KMBO 21 30 06.0
KMBO Kilima Mbogo 138.68 244 ePKPpre 21 29 57.8
KMBO PKP PKPdf 21 30 06.0 +0.5
KMBO ePKPdf PKPdf 21 30 08.5 +3.1
KMBO SKPbc SKPbc 21 32 40.3 +2.0
KMBO eSKPdf SKPdf 21 32 40.6 +2.8
KMBO Kilima Mbogo 138.68 244 PKPdf PKPdf 21 29 59.2 -6.3
SNR=22
KMBO Kilima Mbogo 138.68 244 P PKPdf 21 29 59.2 -6.3
SNR=22
KMBO Kilima Mbogo 138.68 244 P PKPdf 21 29 59.2 -6.3
SNR=22
KMBO Kilima Mbogo 138.68 244 P PKPdf 21 29 59.2 -6.3
SNR=22
KMBO Kilima Mbogo 138.68 244 P PKPdf 21 29 59.2 -6.3
SNR=22
KMBO Kilima Mbogo 138.68 244 PKhKP 21 29 58.7
comp=Z,16nm,0.7s,baz=69,slow=4.6,SNR=30
KMBO PKP PKPdf 21 30 06.0 +0.5
comp=Z,67nm,0.9s,baz=65,slow=4.0,SNR=16
KMBO SKPbc SKPbc 21 32 40.3 +2.0
comp=Z,43nm,1.0s,baz=63,slow=3.5,SNR=15
ATD Arta Tunnel 138.69 265 PKhKP 21 29 58.6
comp=Z,13nm,0.8s,baz=50,slow=5.9,SNR=2.4
ATD SKPbc SKPbc 21 32 41.9 +3.7
comp=Z,76nm,0.9s,baz=293,slow=1.9,SNR=16
ASK Askoy 138.90 357 eP PKPdf 21 29 56.2 -8.1
ASK AMb AMB 21 30 06.3
comp=Z,248nm,1.7s

OSL Oslo 138.94 352 *e*P PKPdf 21 29 57.0 -7.5
BCA Borcka 138.96 311 *e*P PKPdf 21 29 60.0 -5.1
BER Bergen 138.99 356 *e*P PKPdf 21 29 56.4 -8.1
BER *e*PKPdf PKPdf 21 29 57.9 -6.6
BER AMb AMB 21 30 08.7
comp=Z,290nm,1.6s
BER *e*SKS SKSdf 21 36 13.6 +1.5
EGD Espegrend 139.11 357 *e*P PKPdf 21 29 57.4 -7.4
EGD AMb AMB 21 30 05.2
comp=Z,155nm,2.0s
MNK Minsk 139.35 336 *e*PKHKP 21 29 58.0
MNK *e* 21 36 16.0
SOC Sochi 139.47 315*c* *i*PKHKP 21 29 49.7
SOC *i* 21 30 04.8
SOC *e* 21 33 07.3
SOC *e* 21 33 41.6
SOC *e* 21 36 13.1
SOC *e*PPP 21 36 17.4
SOC *e*SS SS 21 50 39.1 +0.6
SOC pmax pmax
comp=Z,78nm,0.9s
EZM Erzurum 139.64 309 *e*P PKPdf 21 30 00.9 -5.4
BLS5 Blasjo 139.88 355 *e*P PKPdf 21 29 59.1 -7.0
BLS5 AMb AMB 21 30 08.7
comp=Z,45nm,1.3s
BTMT Batman 140.05 307 *e*P PKPdf 21 30 02.6 -4.6
ANN Anapa 140.43 318 *e*P Pdif 21 27 24.9 -3.1
ANN *e* 21 29 59.7
ANN *i* 21 30 05.8
ANN *i* 21 33 13.5
ANN *i* 21 36 09.3
ANN *i* PPP 21 36 32.1
ANN *i* 21 45 51.0
ANN *i* SS SS 21 50 48.0 -1.3
ANN *i* SSS 21 56 10.1
ANN pmax pmax
comp=Z,124nm,1.2s
KTUT Trabzon 140.43 311 *e*P PKPdf 21 29 60.0 -7.8
BINT Bingol 140.60 308 *e*P PKPdf 21 30 03.9 -4.3
GUMT Gumushane 140.82 311 *e*P PKPdf 21 30 04.2 -4.3
EZC Erzincan 140.82 310 *e*P PKPdf 21 30 05.6 -2.9
ORE Reay 140.84 4 *e*P PKPdf 21 30 01.7 -6.2
SNART Snartemo 140.89 355⇑*i*P PKPdf 21 30 01.9 -6.1
RSC Scourie 140.94 5 *e*P PKPdf 21 30 02.0 -6.1
MLA1 Latheron 141.10 3 *e*P PKPdf 21 30 01.9 -6.4
ESPY Espiye-Giresun 141.19 312 *e*P PKPdf 21 30 02.7 -6.4
RRH Rhenigidale 141.22 6 *e*P PKPdf 21 30 03.1 -5.5
RRR Rubha Reidh 141.37 6 *e*P PKPdf 21 30 03.4 -5.4
PTK Pertek 141.41 308 *e*P PKPdf 21 30 05.7 -3.9
MVH1 Achvaich 141.43 4 *e*P PKPdf 21 30 03.3 -5.7
SUW Suwalki 141.43 339 *e*PKP PKPdf 21 30 03.4 -5.7
SUW *e* 21 30 40.4
SUW *e* 21 32 42.6
AKASG Malin Array Be 141.51 331 *i*PKHKP 21 30 03.5
AKASG pmax pmax
comp=Z,132nm,0.5s
AKASG pmax pmax
comp=N,31nm,0.7s
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 141.51 331 PKhKP 21 30 03.5
comp=Z,132nm,0.5s,baz=44,slow=4.2,SNR=994
AKASG SKPbc SKPbc 21 32 44.8 +0.3
comp=Z,31nm,0.7s,baz=42,slow=2.4,SNR=13
AKASG PKKP 21 39 26.4
comp=Z,0.7nm,0.4s,baz=258,slow=2.0,SNR=5.4
AKASG SKKPbc 21 41 07.2
comp=Z,3.9nm,0.8s,baz=235,slow=4.6,SNR=9.1
AKASG SKKP 21 41 44.8
comp=Z,4.5nm,1.0s,baz=234,slow=3.6,SNR=3.9
AKBB Malin Array Si 141.51 331 *e*PKPdf PKPdf 21 30 03.4 -6.0
AKBB *e*SKPbc SKPbc 21 32 44.0 -0.4
KIEV Kiev 141.52 331 *e*PKPdf PKPdf 21 30 03.2 -6.2
DESE Dese 141.58 263 *e*P PKPdf 21 30 07.2 -3.4
DESE S SKPdf 21 32 39.5 -3.3
SVRC Sivrice-ELAZID 141.64 308 *e*P PKPdf 21 30 06.6 -3.3
KSK Scoval 141.67 6 *e*P PKPdf 21 30 05.1 -4.3
KAC Achnashellach 141.77 5 *e*P PKPdf 21 30 04.7 -4.9
FURI Furi 141.77 259 *e*P PKPdf 21 30 08.1 -2.8
MCD Coleburn Disti 141.83 3 *e*P PKPdf 21 30 04.1 -5.6
KPL Plockton 141.89 6 *e*P PKPdf 21 30 05.0 -4.9
KPL AMb AMB 21 30 08.5
comp=Z,983nm,1.5s
MDO Dochfour 141.90 4 *e*P PKPdf 21 30 04.8 -5.1
KSB Sheil Bridge 142.04 5 *e*P PKPdf 21 30 05.6 -4.5
MME1 Meikle Cairn 142.11 3 *e*P PKPdf 21 30 04.9 -5.3
KAR1 Arisaig 142.29 6 *e*P PKPdf 21 30 06.2 -4.3
URFA Urfa 142.29 306 *e*P PKPdf 21 30 08.6 -2.6
MYA Malataya 142.31 308 *e*P PKPdf 21 30 09.7 -1.5
MALT Malatya 142.31 308 *e*P PKPdf 21 30 07.8 -3.3
MALT Malatya 142.31 308 *e*PKPdf PKPdf 21 30 08.9 -2.3
MALT *e*SKPbc SKPbc 21 32 48.7 +1.8
MALT *e*PKKPdf PKKPdf 21 39 26.3 -1.9
MALT Malatya 142.31 308⇑*i*P PKPdf 21 30 08.7 -2.5
SIM Simferopol' 142.40 320*c* *i*PKIKP PKPdf 21 30 08.1 -3.0
SIM pmax pmax
comp=Z,350nm,9.1s
MUD Monsted U'grnd 142.53 352⇑*i*PKHKP 21 30 07.3
MUD pmax pmax
comp=Z,460nm,1.2s
MUD Monsted U'grnd 142.53 352⇑*i*P PKPdf 21 30 07.3 -3.7
comp=Z,455nm,1.2s
MUD *i* 21 32 46.6
MUD *i* 21 36 25.9
MUD *i* 21 42 36.6
MUD *i* 21 50 34.0
ATAB Bozova 142.68 307 *i*P PKPdf 21 30 09.4 -2.5
COP Copenhagen 142.77 349⇑*i*PKHKP 21 51 12.1
COP *i* 21 51 12.1
COP pmax pmax
comp=Z,370nm,1.0s
COP Copenhagen 142.77 349⇑*i*P PKPdf 21 30 08.1 -3.3
comp=Z,366nm,1.0s
COP *i* 21 30 44.1
COP *i* 21 51 12.1
SVSK Karacayir 142.78 311 *e*P PKPdf 21 30 10.4 -1.5
BSD Bornholm Skovb 142.81 346⇑*i*PKHKP 21 30 08.1
BSD *i* 21 44 55.7
BSD pmax pmax
comp=Z,550nm,1.0s
BSD Bornholm Skovb 142.81 346⇑*i*P PKPdf 21 30 08.1 -3.4
comp=Z,547nm,1.0s
BSD *i* 21 30 44.0
BSD *e* 21 32 42.6
BSD *i* 21 44 55.7
BSD *i* 21 50 23.6
TOKT Tokat 142.95 312 *e*P PKPdf 21 30 11.4 -0.8
KVT Kavak 142.98 313 *e*P PKPdf 21 30 10.9 -1.3
EAB Aberfoyle 143.15 5 *e*P PKPdf 21 30 08.7 -3.3
GZT Gaziantep 143.27 307 *i*P PKPdf 21 30 11.2 -1.7
DIKM Dikmen 143.27 315 *e*P PKPdf 21 30 11.6 -1.2
PGBU Glenifferbraes 143.51 5 *e*P PKPdf 21 30 09.8 -2.9
ESY Stoneypath 143.53 3 *e*P PKPdf 21 30 09.8 -2.9
GAZ Gaziantep 143.59 307 *e*P PKPdf 21 30 12.9 -0.5
BOYT Boyabat 143.61 315 *i*P PKPdf 21 30 12.6 -0.8
WAR Warsaw 143.63 339 *e*PKP PKPdf 21 30 12.2 -0.9
WAR *e* 21 30 48.2
WAR Warsaw 143.63 339 *e*PKP PKPdf 21 30 12.2 -0.8
WAR *e* 21 30 48.2
PCA1 Carrot 143.63 5 *e*P PKPdf 21 30 10.5 -2.4
EBL Broad Law 143.65 4 *e*P PKPdf 21 30 11.0 -1.9
RGN Rugen 143.67 348 *e*PKPdf PKPdf 21 30 12.2 -0.8
BYBT Boyabat 143.68 315 *e*P PKPdf 21 30 13.2 -0.3
GMK Mull of Kintyr 143.87 6 *e*P PKPdf 21 30 11.7 -1.6
GKP Gorka Klasztor 143.91 343 *e*PKP PKPdf 21 30 12.7 -0.8
GKP *e* 21 30 48.5
GKP Gorka Klasztor 143.91 343 *e*PKP PKPdf 21 30 12.7 -0.8
GKP *e* 21 30 48.5
BZK Bozkurt 143.96 316 *e*P PKPdf 21 30 13.7 -0.2
XSO Sourhope Farm 143.97 3 *e*P PKPdf 21 30 11.4 -2.1
BNN Bunyan 144.02 310 *e*P PKPdf 21 30 13.7 -0.5
CTKT Corum 144.04 313 *i*P PKPdf 21 30 12.4 -1.7
EKA Eskdalemuir Ar 144.08 4 PKIKP PKPdf 21 30 12.1 -1.6
EKA pmax pmax
comp=Z,75nm,0.4s
EKA pmax pmax
comp=N,16nm,0.8s
EKA pmax pmax
comp=Z,2.0nm,0.7s
EKA Eskdalemuir Ar 144.08 4 PKP PKPdf 21 30 12.1 -1.6
comp=Z,75nm,0.4s,baz=341,slow=3.1,SNR=401
EKA SKPbc SKPbc 21 32 51.8 +1.3
comp=Z,16nm,0.8s,baz=343,slow=2.6,SNR=3.8
EKA PKKP 21 39 22.2
comp=Z,1.9nm,0.7s,baz=196,slow=2.9,SNR=4.8
GCL Cushendall 144.08 7 *e*P PKPdf 21 30 11.5 -2.2
YOZ Yozgat 144.08 312 *e*P PKPdf 21 30 14.8 +0.6
ESK Eskdalemuir 144.09 4 *e*P PKPdf 21 30 11.1 -2.6
ESK AMb AMB 21 30 14.9
comp=Z,923nm,2.0s
ESK Eskdalemuir 144.09 4 *e*PKIKP PKPdf 21 30 12.3 -1.4
ESK Eskdalemuir 144.09 4 *e*PKPdf PKPdf 21 30 12.2 -1.5
KIS Kishinev 144.19 327⇑*i*PKIKP PKPdf 21 30 12.0 -2.2
KIS *e*PPP 21 37 05.0
KIS pmax pmax
comp=Z,2μm,2.0s
KIS pmax pmax
comp=Z,6μm,10.0s
KIS Kishinev 144.19 327⇑*i*PKIKP PKPdf 21 30 12.0 -2.2
KIS M 21 30 13.0
comp=Z,2μm,2.0s
KIS *i* pPKP pPKPdf 21 32 46.0 -2.2
KIS Kishinev 144.19 327 *e*PPP 21 37 05.0
KIS *i* SKKS SKKSac 21 39 22.0 -1.4
ECK Cauldkaine Hil 144.23 4 *e*P PKPdf 21 30 12.3 -1.7
CORM Corum 144.34 313 *e*P PKPdf 21 30 14.6 -0.1
TOS Tosya 144.38 314 *e*P PKPdf 21 30 15.7 +1.1
GAL1 Galloway 144.43 5 *e*P PKPdf 21 30 12.7 -1.6
GAL1 *e*P 21 30 12.7
LVV L'vov 144.44 334⇑*i*PKIKP PKPdf 21 30 13.1 -1.4
LVV *i* *PP 21 32 42.7
LVV *e* 21 33 47.7
LVV *e* 21 36 13.3
GCD Castle Douglas 144.49 5 *e*P PKPdf 21 30 13.4 -1.0
KOZT Kozan 144.53 308 *e*P PKPdf 21 30 16.8 +1.8
BALT Daday 144.57 316 *i*P PKPdf 21 30 13.4 -1.6
XAL Allendale 144.60 3 *e*P PKPdf 21 30 12.8 -1.8
IAS Iasi 144.71 328 PKIKP PKPdf 21 30 15.7 +0.7
HTY Hatay 144.75 306 *e*P PKPdf 21 30 14.7 -0.8
CEYT Ceyhan 144.75 307 *e*P PKPdf 21 30 15.3 -0.2
CKE Keswick 144.82 4 *e*P PKPdf 21 30 14.0 -1.0
CANT Cankiri 144.85 314 *e*P PKPdf 21 30 15.1 -0.4
GMM Mts of Mourne 144.92 7 *e*P PKPdf 21 30 14.2 -1.0
GIM North Isle of 145.01 5 *e*P PKPdf 21 30 13.4 -1.9
FKH Fakeheh 145.09 302 *e*P PKPdf 21 30 18.1 +2.0
KWP Kalwaria 145.12 335 *e*PKP PKPdf 21 30 15.2 -0.5
KWP *e* 21 32 45.0
KWP Kalwaria 145.12 335 *e*PKP PKPdf 21 30 15.2 -0.5
KWP *e* 21 32 45.0
KWP Kalwaria 145.12 335⇑*i*P PKPdf 21 30 14.9 -0.8
DMUB Kingscourt 145.14 8 *e*P PKPdf 21 30 15.2 -0.4
SAFT Safranbolu 145.17 316 *e*P PKPdf 21 30 15.9 -0.2
KARA Karaisali 145.18 308 *e*P PKPdf 21 30 15.5 -0.7
ASF Jabal al Asfar 145.19 299 PKIKP PKPdf 21 30 16.2 -0.2
ASF pmax pmax
comp=Z,196nm,0.9s
ASF pmax pmax
comp=N,38nm,0.8s
ASF Jabal al Asfar 145.19 299 PKPbc PKPbc 21 30 16.2 -1.6
comp=N,196nm,0.9s,baz=332,slow=1.7,SNR=189
ASF SKPbc SKPbc 21 32 53.1 -0.7
comp=N,38nm,0.8s,baz=354,slow=1.0,SNR=6.7
NIG Nigde 145.19 310 *e*P PKPdf 21 30 16.2 +0.1
KAMT Kaman 145.33 312 *e*P PKPdf 21 30 15.8 -0.6
RUE Ruedersdorf 145.50 346 *e*PKPdf PKPdf 21 30 16.1 -0.2
RUE *e* 21 30 53.2
RUE *e*SKPdf SKPdf 21 32 47.9 -0.1
RUE Ruedersdorf 145.50 346 *e*PKPab PKPab 21 30 20.5 +0.6
BURAR Bucovina Array 145.55 330 PKIKP PKPdf 21 30 16.9 +0.4
BURAR Bucovina Array 145.55 330⇑*i*P PKPdf 21 30 15.9 -0.6
DCN Croghan 145.63 8 *e*P PKPdf 21 30 15.9 -0.5
MERS Mersin 145.72 308 *e*P PKPdf 21 30 16.3 -0.8
ANTO Ankara 145.74 313 *e*P PKPdf 21 30 16.6 -0.5
ANTO Ankara 145.74 313 *e*PKIKP PKPdf 21 30 16.4 -0.7
ANTO *e* 21 30 19.2
ANTO Ankara 145.74 313 *e*PKPdf PKPdf 21 30 16.4 -0.7
ANTO *e*PKPbc PKPbc 21 30 19.2 +0.2
ANTO *e*SKPdf SKPdf 21 32 48.9 +0.1
ANTO *e*SKPbc SKPbc 21 32 54.0 -0.8
ANTO Ankara 145.74 313 P PKPdf 21 30 16.5 -0.5
SNR=116
ANTO Ankara 145.74 313 P PKPdf 21 30 16.5 -0.5
SNR=116
ANTO Ankara 145.74 313 P PKPdf 21 30 16.5 -0.5
SNR=116
ANTO Ankara 145.74 313 P SKPbc 21 32 54.5 -0.3
SNR=8.6
ANTO Ankara 145.74 313 P SKPbc 21 32 54.5 -0.3
SNR=8.6
ANTO Ankara 145.74 313 P SKPbc 21 32 54.5 -0.3
SNR=8.6
ANTO Ankara 145.74 313 SKPdf SKPdf 21 32 48.9 +0.1
ANTO Ankara 145.74 313⇑*i*P PKPdf 21 30 16.5 -0.6
OJC Ojcow 145.75 338 *e*PKPdf PKPdf 21 30 16.0 -0.7
OJC *e*pPKPdf pPKPdf 21 32 49.5 -1.3
OJC *e*PP PP 21 33 46.0 -0.7
OJC *e*SS SS 21 51 49.3 +1.1
LOD Lodumlu 145.75 313 *e*P PKPdf 21 30 16.7 -0.4
RCY Rachaya 145.76 301 *e*P PKPbc 21 30 19.9 +0.6
DLF Lyons Farm 145.78 8 *e*P PKPdf 21 30 16.1 -0.6
BHL Bhannes 145.78 302 *e*P PKPbc 21 30 19.6 +0.3
KOLS Kolonicke sedl 145.85 334 *e*PKIKP PKPdf 21 30 16.5 -0.4
KOLS *i* 21 30 18.9
KOLS Kolonicke sedl 145.85 334 *e*PKP PKPdf 21 30 16.5 -0.4
KOLS *i* 21 30 18.9
KOLS *e* 21 32 52.5
KOLS *e* 21 40 53.7
STHS Stebnicka Huta 145.87 336 *e*PKIKP PKPdf 21 30 16.7 -0.2
STHS *i* 21 30 19.4
STHS Stebnicka Huta 145.87 336 *e*PKP PKPdf 21 30 16.7 -0.2
STHS *i* 21 30 19.4
STHS *e* 21 30 54.8
STHS *e* 21 32 51.3
STHS Stebnicka Huta 145.87 336 *e*PKP PKPdf 21 30 16.7 -0.2
STHS *i* 21 30 19.4
STHS *e* 21 30 54.8
STHS *e* 21 32 51.3
LHO Holmfirth 145.93 3 *e*P PKPdf 21 30 15.6 -1.3
TIRR Tirgusor 146.02 323⇑*i*P PKPdf 21 30 16.2 -1.2
VRI Vrincioaia 146.02 327 P PKPdf 21 30 16.4 -0.9
VRI Vrincioaia 146.02 327⇑*i*P PKPdf 21 30 16.3 -1.0
PLOR Plostina 146.07 327 PKP2 PKPbc 21 30 19.2 -0.6
UZH Uzhgorod 146.08 334⇓*e*PKIKP PKPdf 21 30 16.2 -1.1
UZH *i* 21 30 20.1
HARR Harsova 146.15 324 PKIKP PKPdf 21 30 17.8 +0.2
HARR Harsova 146.15 324⇑*i*P PKPdf 21 30 17.4 -0.2
CRVS Cervenica-Dubn 146.20 335 *e*PKIKP PKPdf 21 30 17.6 +0.1
CRVS *e* 21 30 20.3
CRVS Cervenica-Dubn 146.20 335 *e*PKP PKPdf 21 30 17.6 +0.1
CRVS *e* 21 30 20.3
CRVS *e* 21 30 24.0
CRVS *e* 21 32 57.5
CRVS Cervenica-Dubn 146.20 335 *e*PKP PKPdf 21 30 17.6 +0.1
CRVS *e* 21 30 20.3
CRVS *e* 21 30 24.0
CRVS *e* 21 32 57.5
MMAI Mount Meron Ar 146.22 301 PKP PKPdf 21 30 18.1 +0.1
comp=N,269nm,0.5s,baz=29,slow=2.1,SNR=444
MMAI PKPbc PKPbc 21 30 21.0 +0.4
comp=N,281nm,0.5s,baz=67,slow=6.4,SNR=469
MMAI SKP 21 32 51.2
comp=N,22nm,0.8s,baz=83,slow=4.9,SNR=4.0
MMAI PKKP 21 39 19.4
comp=N,0.3nm,0.3s,baz=95,slow=1.0,SNR=5.8
NIE Niedzica 146.22 337 *e*PKPdf PKPdf 21 30 17.3 -0.2
NIE *e*pPKPdf pPKPdf 21 32 50.6 -1.0
NRDL Niedersach Rie 146.23 350 *e*PKPdf PKPdf 21 30 15.1 -2.3
KBI1 Birley Grange 146.24 2 *e*P PKPdf 21 30 14.8 -2.6
KSP Ksiaz 146.34 342 *e*PKP PKPdf 21 30 17.3 -0.3
KSP *e* 21 30 20.7
KSP *e* 21 30 56.0
KSP *e* 21 32 51.7
KSP Ksiaz 146.34 342 *i* PKP2 PKPab 21 30 20.5 -2.7
KSP Ksiaz 146.34 342 *e*PKP PKPdf 21 30 17.0 -0.7
KSP *i* PKPdf PKPdf 21 30 20.5 +2.8
KSP *i* 21 30 56.0
KSP *e* 21 31 43.1
KSP *e*pPKP pPKPdf 21 32 50.8 -1.0
KSP *e*SKKS SKKSac 21 39 35.7 +0.5
KSP *e*SS SS 21 51 47.0 -7.6
RAC Raciborz 146.41 339 *e*PKPdf PKPdf 21 30 17.6 -0.2
RAC *e*pPKPdf pPKPdf 21 32 51.7 -0.2
KWE Weaver Farm 146.46 3 *e*P PKPdf 21 30 16.4 -1.4
SBD1 Bryn Du 146.49 4 *e*P PKPdf 21 30 16.8 -1.0
OKC Ostrava-Krasne 146.64 339 *e*PKIKP PKPdf 21 30 17.8 -0.4
OKC *e* 21 30 21.2
OKC *e* 21 34 00.6
OKC Ostrava-Krasne 146.64 339 *e*PKPDF PKPdf 21 30 17.8 -0.4
OKC ⇑*e*PKP PKPdf 21 30 21.2 +3.0
OKC *e*x x 21 30 56.9
OKC *e*x x 21 31 00.4
OKC *e*pPKP pPKPdf 21 32 49.1 -3.2
OKC *e*PKS 21 34 00.6
OKC *e*SS SS 21 51 47.7 -10
OKC *e*x x 21 57 22.8
OKC *e*x x 22 01 01.7
ABA1 Baconsthorpe 146.64 359 *e*P PKPdf 21 30 17.0 -1.1
MLR Muntele Rosu 146.68 327 PKIKP PKPdf 21 30 17.4 -1.0
MLR pmax pmax
comp=Z,228nm,0.7s
MLR pmax pmax
comp=Z,228nm,0.7s
MLR pmax pmax
comp=N,24nm,1.0s
MLR pmax pmax
comp=Z,4.0nm,0.9s
MLR Muntele Rosu 146.68 327 P PKPdf 21 30 17.9 -0.5
MLR Muntele Rosu 146.68 327 PKP PKPdf 21 30 17.4 -1.0
comp=Z,228nm,0.7s,baz=20,slow=3.0,SNR=233
MLR PKPbc PKPbc 21 30 20.6 -0.8
comp=Z,228nm,0.7s,baz=24,slow=2.6,SNR=236
MLR SKP 21 32 51.1
comp=Z,24nm,1.0s,baz=27,slow=4.5,SNR=3.2
MLR PKKP 21 39 19.1
comp=Z,3.7nm,0.9s,baz=207,slow=4.5,SNR=3.5
MLR Muntele Rosu 146.68 327⇑*i*P PKPdf 21 30 17.1 -1.3
UPC Upice 146.72 342 *e*PKIKP PKPdf 21 30 18.3 0.0
UPC *e* 21 30 21.6
UPC Upice 146.72 342 *e*PKPDF PKPdf 21 30 18.3 0.0
UPC ⇑*e*PKP PKPbc 21 30 21.6 +0.3
UPC *e*x x 21 30 57.1
UPC *e*x x 21 31 01.0
PHNC Paralimni 146.73 305 P PKPdf 21 30 18.3 -0.6
CWF Charnwood Fore 146.76 2 *e*P PKPdf 21 30 16.8 -1.5
IBBN Ibbenburen 146.76 352 *e*PKPdf PKPdf 21 30 16.7 -1.6
IBBN *e*PKPab PKPab 21 30 24.6 -0.3
DPC Dobruska-Polom 146.76 342 *e*PKIKP PKPdf 21 30 18.4 0.0
DPC *e* 21 30 22.0
DPC *e* 21 32 48.1
DPC *e* 21 33 56.2
DPC *e*SS SS 21 51 53.8 -5.6
DPC Dobruska-Polom 146.76 342 *e*PKPDF PKPdf 21 30 18.4 0.0
DPC ⇑*e*PKP PKPbc 21 30 22.0 +0.6
DPC *e*x x 21 30 57.4
DPC *e*x x 21 31 01.2
DPC *e*pPKP pPKPdf 21 32 48.1 -4.4
DPC *e*PKS 21 33 56.2
DPC *e*SS SS 21 51 53.8 -5.6
DPC *e*x x 21 57 00.6
DPC *e*x x 22 01 35.0
CLL Collm 146.77 346 *i* PKP2 PKPab 21 30 24.8 -0.2
CLL pmax pmax
comp=Z,527nm,0.9s
CLL Collm 146.77 346 *e*PKP PKPdf 21 30 18.0 -0.4
CLL ⇑*i*PKP PKPbc 21 30 21.4 0.0
CLL Collm 146.77 346 *e*PKPdf PKPdf 21 30 17.2 -1.2
CLL *i* PKPbc PKPbc 21 30 21.4 0.0
comp=Z,976nm,0.7s
CLL *i* PKPab PKPab 21 30 24.8 -0.2
CLL *e*SKPdf SKPdf 21 32 48.8 -1.2
CLL *e*pPKPbc 21 32 52.8
CLL *e*PP PP 21 33 52.0 -0.5
CLL *e*SKKSac SKKSac 21 39 39.1 +1.6
CLL *e*SKKSdf SKKSdf 21 45 35.9 +5.9
CLL *e*SS SS 21 51 58.0 -1.3
CLL *e*SSS 21 57 36.0
CLL *e*SSSS 22 01 51.5
CLL Collm 146.77 346 *e*PKPdf PKPdf 21 30 18.0 -0.4
comp=Z,128nm,1.3s
CLL ⇑*i*PKPbc PKPbc 21 30 21.4 0.0
comp=Z,958nm,0.7s
CLL *i* PKPab PKPab 21 30 24.8 -0.2
comp=Z,527nm,0.9s
CLL *e*pPKPdf pPKPdf 21 32 51.0 -1.5
CLL *e*pPKiKP 21 32 54.0
CLL *e*PP PP 21 33 48.0 -4.5
CLL *e*PPP 21 37 13.0
CLL *e*SKKSac SKKSac 21 39 32.0 -5.5
CLL *e*sPPP 21 40 24.0
CLL ⇑*i*SKKPab 21 40 45.8
comp=Z,13nm,1.2s
CLL *e*SKKSdf SKKSdf 21 45 35.0 +5.0
CLL *e*sPSKS 21 47 29.0
CLL *e*x x 21 48 22.0
CLL *e*sPPS 21 49 47.0
CLL *e*x x 21 50 55.0
CLL *e*SS SS 21 51 53.0 -6.3
CLL *e*sPSPS 21 56 50.0
CLL *e*SSSS 22 01 46.0
CLL *e*sPSSrev 22 08 32.0
CLZ Clausthal 146.81 349 *e*PKPdf PKPdf 21 30 16.9 -1.5
CLZ *e* 21 30 56.8
KDHN Kadinhani 146.81 312 *i*P PKPdf 21 30 18.0 -0.8
MORC Moravsky Berou 146.89 340 PKIKP PKPdf 21 30 18.2 -0.4
MORC Moravsky Berou 146.89 340 *e*PKPdf PKPdf 21 30 17.8 -0.9
MORC *e*PKPbc PKPbc 21 30 21.8 0.0
MORC *e*SKPdf SKPdf 21 32 50.6 +0.4
MORC *e*SKPbc SKPbc 21 32 55.8 -1.2
MORC Moravsky Berou 146.89 340⇑*i*P PKPdf 21 30 18.0 -0.6
HLM1 Long Mynd 146.90 4 *e*P PKPdf 21 30 16.7 -1.8
AEU East Anglia Un 146.91 359 *e*P PKPdf 21 30 17.9 -0.7
BRG Berggiesshubel 146.95 345 *i* PKIKP PKPdf 21 30 18.0 -0.7
BRG *i* 21 30 26.0
BRG *e* 21 33 53.0
BRG SS SS 21 51 56.0 -5.3
BRG pmax pmax
comp=Z,72nm,1.1s
BRG pmax pmax
comp=Z,351nm,1.4s
BRG pmax pmax
comp=Z,111nm,0.8s
BRG pmax pmax
comp=Z,29nm,1.3s
BRG pmax pmax
comp=Z,32nm,1.9s
BRG pmax pmax
comp=Z,6.0nm,1.4s
BRG Berggiesshubel 146.95 345 *e*PKPdf PKPdf 21 30 17.8 -0.9
BRG *e*PKPab PKPab 21 30 25.7 0.0
BRG *e*pPKPbc 21 32 54.0
BRG Berggiesshubel 146.95 345 *i* PKP PKPdf 21 30 18.0 -0.6
comp=Z,120nm,1.1s
BRG *i* 21 30 21.9
BRG *i* 21 30 26.1
comp=Z,586nm,1.4s
BRG *i* 21 30 57.3
comp=Z,185nm,0.8s
BRG pPKP pPKPdf 21 32 50.0 -2.8
BRG *e* 21 33 30.2
comp=Z,49nm,1.2s
BRG sPKP 21 33 53.0
BRG *e* 21 40 44.8
comp=Z,53nm,1.9s
BRG *e* 21 43 15.1
comp=Z,10nm,1.4s
BRG SS SS 21 51 56.0 -5.3
LIKS Likavka 146.97 338 *e*PKP PKPbc 21 30 23.0 +1.0
ERMK Ermenek 147.01 308 *i*P PKPdf 21 30 18.0 -1.3
FBE Freiberg 147.05 345 *e*PKPab PKPab 21 30 26.3 +0.2
PVCC Panska Ves 147.10 344 *e*PKIKP PKPdf 21 30 18.7 -0.3
PVCC *e* 21 30 22.7
PVCC *e* 21 33 53.0
PVCC Panska Ves 147.10 344 *e*PKPDF PKPdf 21 30 18.7 -0.3
PVCC ⇑*e*PKP PKPbc 21 30 22.7 +0.4
PVCC *e*x x 21 30 57.6
PVCC *e*x x 21 31 01.4
PVCC *e*pPKP pPKPdf 21 32 50.0 -3.1
PVCC *e*PP PP 21 33 53.0 -1.4
PVCC *e*SS SS 21 51 57.2 -5.8
PVCC *e*x x 21 57 17.8
PVCC *e*x x 22 01 37.8
VOIR 147.18 328 PKIKP PKPdf 21 30 18.9 -0.4
VOIR 147.18 328⇓*i*P PKPdf 21 30 18.1 -1.2
WTSB Winterswijk 147.21 353⇑*i*PKiKP PKPdf 21 30 18.1 -1.0
comp=Z,298nm,1.2s

WTSB	Winterswijk	147.21	353	⇑iPKPpre	PKPbc	21	30	22.3	-0.3
	comp=Z,1µm,1.1s								
WTSB	Winterswijk	147.21	353	pPKP	pPKPdf	21	32	53.0	-0.2
	comp=Z,131nm,1.8s								
ESKT	Eskisehir	147.23	314	iP	PKPdf	21	30	17.5	-2.0
CSS	Prodhromos	147.29	305	⇓P	PKPdf	21	30	19.3	-0.5
	comp=Z,10nm,0.5s								
CSS	Prodhromos	147.29	305	eP	PKPdf	21	30	19.1	-0.7
MAMC	Mammari	147.31	305	P	PKPdf	21	30	19.5	-0.3
HTR	Trewern Hill	147.31	5	eP	PKPdf	21	30	17.9	-1.4
DRGR		147.31	331	PKIKP	PKPdf	21	30	18.6	-0.8
DRGR		147.31	331	P	PKPdf	21	30	18.6	-0.8
DRGR		147.31	331	⇑iP	PKPdf	21	30	18.5	-0.9
EIL	Elat	147.32	295	PKP	PKPdf	21	30	19.1	-0.8
	comp=Z,218nm,0.8s,baz=17,slow=1.3,SNR=42								
EIL				PKPbc	PKPbc	21	30	23.6	0.0
	comp=Z,231nm,0.8s,baz=360,slow=2.1,SNR=114								
EIL				SKP		21	32	52.6	
	comp=Z,42nm,1.1s,baz=31,slow=2.0,SNR=3.9								
BORA	Eskisehir	147.32	315	iP	PKPdf	21	30	17.7	-2.0
HAE	Alders End	147.40	4	eP	PKPdf	21	30	18.0	-1.4
BUC1	Bucharest	147.41	325	PKP2	PKPbc	21	32	22.7	-0.6
MCH1	Michaelchurch	147.41	4	eP	PKPdf	21	30	17.9	-1.6
MCH1				eP		21	30	17.9	
MCH1				AMb	AMB	21	30	24.2	
	comp=Z,926nm,2.4s								
SSW	Stow on the Wo	147.51	3	eP	PKPdf	21	30	19.3	-0.3
VYHS	Vyhne	147.53	337	ePKP	PKPdf	21	30	19.3	-0.4
VYHS				i		21	30	23.4	
VYHS				e		21	30	59.2	
VYHS				e		21	32	57.3	
VYHS	Vyhne	147.53	337	ePKP	PKPdf	21	30	19.3	-0.4
VYHS				i		21	30	23.4	
VYHS				e		21	30	59.2	
VYHS				e		21	32	57.3	
PRA	Prague	147.55	343	PKPDF	PKPdf	21	30	19.0	-0.7
PRA				⇑PKP	PKPbc	21	30	23.0	-0.5
PRA				PKPAB	PKPab	21	30	28.0	-0.2
PRA				ex	x	21	31	03.0	
PRA				pPKP	pPKPdf	21	32	53.0	-0.9
PRU	Pruhonice	147.60	343	ePKIKP	PKPdf	21	30	19.2	-0.6
PRU				e		21	34	03.3	
PRU				eSS	SS	21	52	03.3	-5.2
PRU	Pruhonice	147.60	343	ePKPDF	PKPdf	21	30	19.2	-0.6
PRU				⇑ePKP	PKPbc	21	30	23.5	-0.1
PRU				ex	x	21	30	59.3	
PRU				ex	x	21	31	04.0	
PRU				epPKP	pPKPdf	21	32	52.8	-1.1
PRU				ePKS		21	34	03.3	
PRU				eSS	SS	21	52	03.3	-5.2
PRU				ex	x	21	57	01.1	
PRU				ex	x	22	01	41.5	
VRAC	Vranov	147.60	340	PKIKP	PKPdf	21	30	19.3	-0.5
VRAC				pmax	pmax				
	comp=Z,139nm,0.8s								
VRAC				pmax	pmax				
	comp=Z,139nm,0.8s								
VRAC				pmax	pmax				
	comp=N,10.0nm,0.9s								
VRAC	Vranov	147.60	340	P	PKPdf	21	30	18.9	-0.9
VRAC	Vranov	147.60	340	PKP	PKPdf	21	30	19.3	-0.5
	comp=N,139nm,0.8s,baz=22,slow=1.9,SNR=68								
VRAC				PKPbc	PKPbc	21	30	23.4	-0.2
	comp=N,139nm,0.8s,baz=30,slow=2.6,SNR=128								
VRAC				SKP		21	32	52.3	
	comp=N,10nm,0.9s,baz=39,slow=4.1,SNR=2.9								
VRAC	Vranov	147.60	340	⇑iP	PKPdf	21	30	18.9	-0.9
PSZ	Piszkesteto	147.61	336	ePKPdf	PKPdf	21	30	18.8	-1.1
PSZ				ePKPbc	PKPbc	21	30	23.0	-0.7
PSZ				eSKPdf	SKPdf	21	32	50.5	-0.8
PSZ				eSKPbc	SKPbc	21	32	58.1	-0.5
PSZ	Piszkesteto	147.61	336	⇑ePKP	PKPbc	21	30	23.7	0.0
PSZ				epPKP	pPKPdf	21	32	57.9	+3.9
PSZ	Piszkesteto	147.61	336	⇑iP	PKPdf	21	30	19.0	-0.9
BUG	Bochum--Univer	147.67	352	ePKPdf	PKPdf	21	30	18.9	-1.0
BUG				ePKPbc	PKPbc	21	30	23.2	-0.5
MOX	Moxa	147.70	347	ePKP	PKPdf	21	30	18.6	-1.3
MOX				e		21	30	23.7	
	comp=N,966nm,1.6s								
MOX				e		21	30	59.6	
MOX	Moxa	147.70	347	ePKHKP	PKPdf	21	30	18.6	-1.3
MOX				pmax	pmax				
	comp=Z,966nm,1.6s								
MOX	Moxa	147.70	347	ePKPdf	PKPdf	21	30	18.7	-1.2
MOX				ePKPbc	PKPbc	21	30	23.3	-0.5
SZAC	Souni-Zanaja	147.71	305	⇑P	PKPdf	21	30	20.0	-0.5
TANN	Tannenbergstha	147.73	346	ePKPdf	PKPdf	21	30	19.0	-1.0
TANN				ePKPbc	PKPbc	21	30	24.1	+0.2
TANN				ePKPab	PKPab	21	30	28.1	-0.8
WERD	Werda	147.73	346	ePKPab	PKPab	21	30	28.0	-0.9
HGH	Gray Hill	147.78	4	eP	PKPdf	21	30	18.2	-1.8
ALFC	Alevga	147.79	306	⇑P	PKPdf	21	30	19.6	-1.0
SKP1	Kophill	147.79	2	eP	PKPdf	21	30	18.8	-1.2
GUNZ	Gunzen	147.81	346	ePKPab	PKPab	21	30	29.5	+0.3
UBBA	Unterbreizbach	147.85	349	ePKPdf	PKPdf	21	30	18.7	-1.5
WERN	Wernitzgruen	147.87	346	ePKPab	PKPab	21	30	29.7	+0.2
NKC	Novy Kostel	147.90	346	ePKHKP	PKPdf	21	30	20.3	0.0
NKC				e		21	34	04.5	
NKC	Novy Kostel	147.90	346	ePKPDF	PKPdf	21	30	20.3	0.0
NKC				⇑ePKP	PKPbc	21	30	24.6	+0.2
NKC				ex	x	21	31	00.0	
NKC				ex	x	21	31	04.8	
NKC				epPKP	pPKPdf	21	32	53.0	-1.4
NKC				ePKS		21	34	04.5	
NKC				eSS	SS	21	52	05.5	-6.3
NKC				ex	x	21	57	08.9	
NKC				ex	x	22	02	06.0	
TREC	Trest	147.95	342	ePKHKP	PKPdf	21	30	19.9	-0.5
TREC				e		21	34	03.9	
TREC				eSS	SS	21	52	13.8	+1.3
TREC	Trest	147.95	342	ePKPDF	PKPdf	21	30	19.9	-0.5
TREC				⇑ePKP	PKPbc	21	30	24.6	+0.1
TREC				ex	x	21	31	00.1	
TREC				epPKP	pPKPdf	21	32	55.6	+1.0
TREC				ePKS		21	34	03.9	
TREC				eSS	SS	21	52	13.8	+1.3
TREC				ex	x	21	57	24.0	
TREC				ex	x	22	01	58.5	
SWN1	Swindon	147.96	3	eP	PKPdf	21	30	19.7	-0.6
SWN1				eP		21	30	19.7	
AKMC	Akamas	148.04	306	P	PKPdf	21	30	19.7	-1.3
PPCY	Paphos	148.08	305	P	PKPdf	21	30	19.8	-1.3
MODS	Modra-Piesok	148.19	339	ePKP	PKPdf	21	30	21.0	+0.2
MODS				i		21	30	25.6	
MODS				e		21	31	01.2	
MODS				e		21	32	59.7	
MODS				e		21	40	35.2	
WOL	Wolverton	148.19	2	eP	PKPdf	21	30	20.3	-0.4
WOL				AMb	AMB	21	30	27.4	
	comp=Z,2µm,1.7s								
MANZ	Manzenberg	148.21	346	ePKPdf	PKPdf	21	30	19.5	-1.3
MANZ				ePKPbc	PKPbc	21	30	25.4	+0.3
MANZ				epPKPbc	pPKPbc	21	32	56.2	-0.7
ZIMR		148.22	325	PKP2	PKPbc	21	30	25.1	-0.3
CALA	Caldeira	148.23	47	ePKP	PKPbc	21	30	25.5	-0.1
ISP	Isparta	148.25	312	eP	PKPbc	21	30	24.7	-1.0
ISP	Isparta	148.25	312	ePKPdf	PKPdf	21	30	19.9	-1.3
ISP				ePKPbc	PKPbc	21	30	24.1	-1.5
ISP				eSKPdf	SKPdf	21	32	56.4	+3.7
ISP	Isparta	148.25	312	⇑iP	PKPdf	21	30	19.5	-1.8
HEX	Exmoor	148.27	5	eP	PKPdf	21	30	19.8	-1.1
HTL	Hartland	148.28	6	eP	PKPdf	21	30	22.6	+1.8
HTL				AMb	AMB	21	30	26.8	
	comp=Z,862nm,2.1s								
JMB	Yambol	148.30	322	eP	PKPbc	21	30	24.6	-1.0
SWK	Warminster	148.30	3	eP	PKPdf	21	30	20.1	-0.8
BUD	Budapest	148.31	336	⇑ePKP	PKPbc	21	30	25.2	-0.2
BUD				epPKP	pPKPdf	21	32	56.8	+1.6
HOR	Horta	148.31	47	ePKP	PKPbc	21	30	25.8	0.0
GZR	Gura Zlata	148.32	330	P	PKPdf	21	30	20.6	-0.5
GZR	Gura Zlata	148.32	330	⇑iP	PKPdf	21	30	21.1	0.0
ROTZ	Rotzenmuhle	148.39	346	ePKPdf	PKPdf	21	30	19.9	-1.2
ROTZ				ePKPbc	PKPbc	21	30	25.8	+0.2
ROTZ				e		21	31	01.3	
ROTZ				epPKPbc	pPKPbc	21	32	57.3	-0.2
ZST	Bratislava	148.40	339	ePKP	PKPdf	21	30	21.4	+0.3
ZST				e		21	30	26.4	
ZST				e		21	30	58.2	
ZST				e		21	32	59.3	
TFO1	Folkestone	148.42	359	eP	PKPdf	21	30	22.4	+1.3
PICO	Pico	148.46	47	ePKP	PKPbc	21	30	26.7	+0.6
ROSA	Rosais	148.48	46	ePKP	PKPbc	21	30	25.8	-0.4
BEBN	Eben Emael	148.49	354	PKP	PKPdf	21	30	19.8	-1.4
BEBN				PKPbc	PKPbc	21	30	25.1	-0.7
BEBN				PKPab	PKPab	21	30	31.5	-0.6
BEBN				E		21	31	01.0	
BEBN				E		21	31	06.2	
BEBN				APKP		21	32	54.5	
BEBN				E		21	33	02.4	
HGN	Heimansgroeve	148.50	354	ePKiKP	PKPdf	21	30	20.2	-1.0
	comp=Z,132nm,1.2s								
HGN	Heimansgroeve	148.50	354	iPKPpre	PKPbc	21	30	24.9	-0.9
	comp=Z,700nm,1.5s								
HGN	Heimansgroeve	148.50	354	pPKP	pPKPdf	21	32	54.9	-0.6
	comp=Z,169nm,2.2s								
CRAR	CRAIOVA	148.59	327	⇓iP	PKPdf	21	30	21.9	+0.3
UCC	Uccle	148.60	356	PKP	PKPdf	21	30	20.4	-1.0
UCC				PKPbc	PKPbc	21	30	25.2	-0.8
UCC				PKPab	PKPab	21	30	31.5	-1.0
UCC				E		21	31	01.3	
UCC				APKPbc		21	32	57.8	
PMAN	Manadas	148.63	46	ePKP	PKPbc	21	30	26.2	-0.3
KHC	Kasperske Hory	148.64	344	ePKIKP	PKPdf	21	30	20.6	-0.9
KHC				e		21	34	02.2	
KHC				eSS	SS	21	52	15.8	-4.2
KHC	Kasperske Hory	148.64	344	ePKPDF	PKPdf	21	30	20.6	-0.9
KHC				⇑ePKP	PKPbc	21	30	26.5	+0.3
KHC				ex	x	21	31	01.9	
KHC				ex	x	21	31	08.7	
KHC				ex	x	21	31	24.0	
KHC				epPKP	pPKPdf	21	32	54.8	-0.9
KHC				ePKS		21	34	02.2	
KHC				eSS	SS	21	52	15.8	-4.2
KHC				ex	x	21	57	22.2	
KHC				ex	x	22	01	59.4	
MEM	Membach	148.64	353	PKP	PKPdf	21	30	20.1	-1.4
MEM				PKPbc	PKPbc	21	30	25.9	-0.2
MEM				E		21	31	01.4	
GRA1	Grafenberg Arr	148.68	347	ePKPdf	PKPdf	21	30	20.8	-0.8
GRA1				ePKPab	PKPab	21	30	33.2	+0.3
GRA1				eSKPdf	SKPdf	21	32	53.9	+1.0
GRA1				eSS	SS	21	52	21.9	+1.5
GRF	Grafenberg Arr	148.68	347	ePKP2	PKPab	21	30	33.2	+0.3
GRF				eSS	SS	21	52	21.9	+1.5
GRF	Grafenberg Arr	148.68	347	ePKPdf	PKPdf	21	30	20.8	-0.8
GRF				ePKPab	PKPab	21	30	33.2	+0.3
GRF				eSKPdf	SKPdf	21	32	53.9	+1.0
GRF				eSS	SS	21	52	21.9	+1.5
GRFO	Grafenberg	148.69	347	ePKPdf	PKPdf	21	30	21.3	-0.3
GRFO				ePKPbc	PKPbc	21	30	26.4	+0.1
BZS	Buzias	148.70	331	P	PKPdf	21	30	20.5	-1.2
BZS	Buzias	148.70	331	⇑iP	PKPdf	21	30	20.8	-0.9
TIM	Timisoara	148.79	332	⇑iP	PKPdf	21	30	21.6	-0.2
WET	Wettzell	148.81	344	ePKP2	PKPab	21	30	33.8	+0.4
WET	Wettzell	148.81	344	ePKPdf	PKPdf	21	30	21.1	-0.7
WET				ePKPbc	PKPbc	21	30	26.6	0.0
WET				ePKPab	PKPab	21	30	33.8	+0.4
WET				e		21	31	02.6	
GEC2	GERESS Array S	148.87	343	ePKPdf	PKPdf	21	30	21.0	-0.9
GEC2				e		21	31	02.1	
GEC2				epPKPbc	pPKPbc	21	33	00.2	+1.4
GERES	GERESS Array B	148.87	343	PKHKP		21	30	21.5	
GERES				pmax	pmax				
	comp=Z,26nm,0.6s								
GERES				pmax	pmax				
	comp=Z,228nm,0.8s								
GERES				pmax	pmax				
	comp=N,28nm,1.1s								
GERES	GERESS Array B	148.87	343	PKP	PKPdf	21	30	21.5	-0.4
	comp=N,26nm,0.6s,baz=75,slow=1.5,SNR=120								
GERES				PKPbc	PKPbc	21	30	26.8	0.0
	comp=N,228nm,0.8s,baz=35,slow=2.4,SNR=342								
GERES				SKPbc	SKPbc	21	32	59.4	-1.8
	comp=N,28nm,1.1s,baz=66,slow=3.3,SNR=4.9								
CSA1	St Austell	148.87	7	eP	PKPdf	21	30	21.8	-0.1
DYA	Yadsworthy	148.88	6	eP	PKPdf	21	30	20.3	-1.5
BCLA	Clavier	148.90	354	PKP	PKPdf	21	30	20.9	-0.9
BCLA				E		21	34	24.2	
BCLA				PKPbc	PKPbc	21	30	25.9	-0.9
BCLA				PKPab	PKPab	21	30	32.7	-1.1
BCLA				E		21	31	02.2	
BCLA				E		21	31	08.4	
BCLA				APKPbc		21	32	58.6	
BTOK	Tokmak	148.98	317	iP	PKPdf	21	30	20.9	-1.5
CCA1	Carnmenellis	148.99	7	eP	PKPdf	21	30	21.1	-0.9
SART	Tekirdag	149.00	319	iP	PKPdf	21	30	18.0	-4.4
ASCN	Ascension	149.01	150	ePKPdf	PKPdf	21	30	22.8	-0.4
ASCN				ePKPbc	PKPbc	21	30	27.6	-0.6
CRQ2	Rosemanowes 2	149.02	7	eP	PKPdf	21	30	20.9	-1.2
SOP	Sopron	149.03	339	⇑ePKP	PKPbc	21	30	27.3	+0.1
SOP				epPKP/p		21	32	59.3	
CONA	Conrad Observa	149.04	340	⇓iPKPdf	PKPdf	21	30	21.3	-0.8
	comp=N,983nm,4.4s,SNR=37								
CMA1	Manaccan	149.11	7	eP	PKPdf	21	30	19.8	-2.4
ABH	Alteburg	149.16	351	eP	PKPdf	21	30	22.1	-0.2
ADH	Angra Heroismo	149.20	46	ePKP	PKPbc	21	30	27.8	-0.1
TOD	Tromm	149.23	350	ePKIKP	PKPdf	21	30	21.9	-0.5
PSCM	Serra do Cume	149.25	46	ePKP	PKPdf	21	30	23.6	+0.8
GIVF	Givet	149.26	355	⇑iPKIKP	PKPdf	21	30	21.8	-0.6
	comp=N,239nm,1.2s								
DOU	Dourbes	149.28	355	PKP	PKPdf	21	30	21.7	-0.8
DOU				E		21	30	24.7	
DOU				PKPbc	PKPbc	21	30	27.2	-0.5
DOU				E		21	31	03.2	
DOU				APKPbc		21	32	59.1	
MANT	Manisa	149.29	314	iP	PKPdf	21	30	20.9	-2.0
BAIF	Baives	149.35	356	⇑iPKIKP	PKPdf	21	30	22.0	-0.6
	comp=N,242nm,1.4s								
RUP	Ruppelstein	149.41	352	ePKHKP		21	30	22.6	
PKSM	Moragy	149.50	335	PKIKP	PKPdf	21	30	22.3	-0.7
PKSM	Moragy	149.50	335	⇑iP	PKPdf	21	30	21.6	-1.4
WLF	Walferdange	149.56	353	ePKPdf	PKPdf	21	30	23.2	+0.3
WLF				ePKPbc	PKPbc	21	30	28.5	+0.1
WLF				e		21	31	03.7	
WLF				eSKPdf	SKPdf	21	33	01.0	+6.8
WLF	Walferdange	149.56	353	PKP	PKPdf	21	30	22.1	-0.9
WLF				PKPbc	PKPbc	21	30	27.9	-0.4
WLF				E		21	31	04.2	
WLF				APKPbc		21	33	00.0	
WLF	Walferdange	149.56	353	ePKPdf	PKPdf	21	30	22.3	-0.6
WLF				ePKPbc	PKPbc	21	30	28.9	+0.5
ALN	Alexandroupoli	149.58	320	eP	PKPdf	21	30	20.9	-2.3
AKHS	Akhisar	149.59	315	iP	PKPbc	21	30	26.9	-2.0
MOA	Molln	149.61	342	⇑i	PKPbc	21	30	28.2	-0.4
	comp=N,1µm,2.5s								
MOA	Molln	149.61	342	⇑iPKPdf	PKPdf	21	30	21.4	-1.7
	comp=N,1µm,4.7s,SNR=27								
MOA				⇑iPKiKP	PKiKP	21	30	28.2	-1.0
	comp=N,1µm,2.5s								
KTD	Kalmit	149.63	350	ePKHKP	PKPdf	21	30	22.8	-0.3
KSL	Kastellorizon	149.66	309	eP	PKPbc	21	30	28.5	-0.6
RDO	Rodhopi	149.73	321	eP	PKPdf	21	30	25.0	+1.5
ARSA	Arzberg	149.75	340	⇑iP	PKPdf	21	30	21.9	-1.4
	comp=N,758nm,3.9s,SNR=21								
STU	Stuttgart	149.97	349	ePKPdf	PKPdf	21	30	22.7	-0.9
STU				ePKPbc	PKPbc	21	30	29.4	0.0
STU				ePKPab	PKPab	21	30	38.0	-0.3
LANF	Langenberg	150.00	351	PKP	PKPdf	21	30	23.4	-0.2
LANF	Langenberg	150.00	351	eP	PKPdf	21	30	23.4	-0.2
AYVA	Ayvalik	150.09	317	iP	PKPdf	21	30	22.0	-2.1
VTS	Vitosha	150.10	325	eP	PKPbc	21	30	29.5	-0.4
VTS	Vitosha	150.10	325	P	PKPdf	21	30	23.7	-0.3
VTS	Vitosha	150.10	325	⇑iP	PKPdf	21	30	23.0	-1.0
VTS	Vitosha	150.10	325	iP	PKPdf	21	30	23.1	-0.9
AYDN	Tasoluk	150.17	313	iP	PKPdf	21	30	23.3	-1.0
BOZC	Bozcaada	150.20	318	iP	PKPdf	21	30	20.4	-3.9
BLCB	Balcova	150.37	315	eP	PKPbc	21	30	29.4	-1.3
STR	Strasbourg	150.39	350	PKP	PKPdf	21	30	24.2	-0.1
STR	Strasbourg	150.39	350	eP	PKPdf	21	30	24.2	-0.1
PRK	Paraskevi	150.40	317	eP	PKPbc	21	30	29.4	-1.3
PRK	Paraskevi	150.40	317	eP	PKPdf	21	30	24.0	-0.6
BFO	Black Forest	150.55	350	PKIKP	PKPdf	21	30	23.7	-0.8
BFO	Black Forest	150.55	350	ePKPdf	PKPdf	21	30	22.2	-2.3
BFO				ePKPbc	PKPbc	21	30	30.6	-0.1
BFO				ePKPab	PKPab	21	30	40.3	-0.4
BFO				e		21	31	05.8	
KBA	Koelnbreinsper	150.57	342	⇑i	PKPbc	21	30	30.0	-0.8
	comp=N,421nm,1.2s								
KBA	Koelnbreinsper	150.57	342	⇓iPKPdf	PKPdf	21	30	22.9	-1.7
	comp=N,784nm,3.7s,SNR=18								
KBA				⇑iPKPbc	PKPbc	21	30	30.0	-0.8
	comp=N,421nm,1.2s								
DIVS	Divibare	150.60	331	eP	PKPdf	21	30	24.8	0.0
CDF	Champ du Feu	150.63	351	⇑iPKIKP	PKPdf	21	30	23.7	-0.9
	comp=N,249nm,1.5s								
PSET	Sete Cidades	150.65	46	ePKP	PKPdf	21	30	25.5	+0.5
URLA	Izmir	150.68	315	iP	PKPdf	21	30	22.0	-3.1
ARG	Arkhangelos	150.69	310	eP	PKPdf	21	30	24.5	-0.6
SPAK	Spaichingen-Ko	150.69	349	eP	PKPdf	21	30	24.2	-0.5
LIA	Limnos Island	150.70	319	eP	PKPdf	21	30	24.1	-0.9
OBKA	Obir	150.72	340	⇑i	PKPbc	21	30	29.9	-1.3
	comp=N,552nm,2.1s								
OBKA	Obir	150.72	340	⇓iPKPdf	PKPdf	21	30	23.3	-1.5
	comp=N,734nm,4.0s,SNR=9.4								
OBKA				⇑iPKPbc	PKPbc	21	30	29.9	-1.3
	comp=N,552nm,2.1s								
OBKA	Obir	150.72	340	⇓iP	PKPdf	21	30	23.3	-1.5
OBKA				i		21	30	29.9	
PDA	Ponta Delgada	150.72	46	ePKP	PKPbc	21	30	29.7	-1.8
PDA	Ponta Delgada	150.72	46	ePP	PP	21	34	16.0	0.0
LOS	Limnos	150.74	319	eP	PKPbc	21	30	29.8	-1.7
FLN	La Foliniere	150.76	2	⇑iPKIKP	PKPdf	21	30	23.9	-0.9
	comp=N,278nm,0.8s								
FLN				eMLR	MLR				
	comp=Z,477nm,19.5s								
FLN	La Foliniere	150.76	2	⇑iPKPdf	PKPdf	21	30	23.9	-0.9
FLN				LR	LR				
	comp=Z,480nm,19.5s								
BDRM	Kayabasi	150.77	312	iP	PKPdf	21	30	23.0	-2.2
CMLA	Cha da Macela	150.81	46	ePKP	PKPdf	21	30	26.0	+0.7
CMLA	Cha da Macela	150.81	46	ePKPdf	PKPdf	21	30	26.4	+1.2
CMLA				ePKPbc	PKPbc	21	30	32.0	+0.3
CMLA				e		21	31	06.2	
CMLA				eSKPdf	SKPdf	21	33	01.0	+4.7
WATA	Walderalm	150.81	345	⇑i	PKPbc	21	30	30.4	-0.9
	comp=Z,304nm,1.1s								
WATA	Walderalm	150.81	345	⇓iPKPdf	PKPdf	21	30	23.9	-1.0
	comp=Z,82nm,1.2s,SNR=18								
WATA				⇑iPKPbc	PKPbc	21	30	30.4	-0.9
	comp=Z,304nm,1.1s								
MEZF	Maizieres J'vi	150.82	354	⇑iPKIKP	PKPdf	21	30	24.5	-0.4
	comp=Z,458nm,1.4s								
ECH	Echery	150.84	351	PKP	PKPdf	21	30	24.1	-0.9
ECH	Echery	150.84	351	eP	PKPdf	21	30	24.1	-0.9
SMG	Samos	150.86	314	eP	PKPdf	21	30	24.0	-1.3
RETA	Reutte	150.87	346	iPKPdf	PKPdf	21	30	23.8	-1.2
	comp=Z,940nm,4.1s,SNR=17								
SRS	Serrai	150.88	323	eP	PKPdf	21	30	23.5	-1.7
MOTA	Moosalm	150.92	345	⇑e	PKPbc	21	30	31.2	-0.4
	comp=Z,370nm,1.1s								
MOTA	Moosalm	150.92	345	⇑iPKPdf	PKPdf	21	30	23.8	-1.3
	comp=Z,133nm,1.2s,SNR=51								

AOS	Alonnisos	151.95	319	eP	PKPdf	21 30 24.9	-2.0
CTI	Castel Tesino	151.99	344	PKIKP	PKPdf	21 30 25.6	-1.1
NKY	Niksic	152.06	330	⇓i PKP	PKPdf	21 30 25.9	-1.0
APE	Apeiranthos	152.08	314	eP	PKPdf	21 30 25.5	-1.7
APE	Apeiranthos	152.08	314	⇑P	PKPdf	21 30 24.8	-2.4
APE	Apeiranthos	152.08	314	⇑i P	PKPdf	21 30 24.8	-2.4
TUE	Stuetta	152.14	347	PKP	PKPdf	21 30 26.3	-0.6
LOR	Lormes	152.15	355	⇑i PKIKP	PKPdf	21 30 26.3	-0.6
	comp=Z,395nm,1.4s						
LOR				eMLR	MLR		
	comp=Z,998nm,22.2s						
LOR	Lormes	152.15	355	⇑i PKPdf	PKPdf	21 30 26.3	-0.6
LOR				LR	LR		
	comp=Z,1μm,22.3s						
LIT	Litokhoron	152.18	322	eP	PKPdf	21 30 26.1	-1.1
BRY	Bratogost	152.20	331	⇓i PKP	PKPdf	21 30 25.8	-1.3
BIA	Bitola	152.21	325	eP	PKPbc	21 30 33.1	-1.6
BIA	Bitola	152.21	325	⇑i PKP	PKPdf	21 30 24.7	-2.5
BIA				⇑i PKP	PKPdf	21 30 33.0	+5.8
PUK	Puka	152.21	328	i PN	PKPdf	21 30 26.5	-0.7
HYF	Humbligny	152.22	357	⇑i PKIKP	PKPdf	21 30 26.6	-0.4
TTG	Podgorica	152.23	330	⇓i PKP	PKPdf	21 30 26.2	-1.0
NEO	Neokhori	152.26	320	eP	PKPdf	21 30 26.0	-1.4
MABI	Malga Bissina	152.27	345	PKP	PKPdf	21 30 25.5	-1.6
NVLJ	Novalja	152.32	338	i P	PKPdf	21 30 24.5	-2.7
FNA	Florina	152.34	325	eP	PKPdf	21 30 26.4	-1.0
SSF	Saint Saulge	152.38	356	⇑i PKIKP	PKPdf	21 30 26.4	-0.9
OHR	Ohrid	152.43	326	eP	PKPbc	21 30 34.1	-1.1
OHR	Ohrid	152.43	326	⇑i PKP	PKPdf	21 30 25.5	-2.1
OHR				⇑i PKP	PKPbc	21 30 33.6	-1.6
OHR				⇑i PKP	PKPab	21 30 47.2	-1.8
OHR				i PP	pPKPbc	21 33 04.8	-3.2
KZN	Kozani	152.45	323	eP	PKPdf	21 30 27.0	-0.6
SANT	Santorini	152.49	313	eP	PKPbc	21 30 33.3	-2.1
SANT	Santorini	152.49	313	ePKPdf	PKPdf	21 30 26.1	-1.7
SANT				ePKPbc	PKPbc	21 30 33.2	-2.2
BUM	Brajici-Budva	152.50	330	⇓i PKP	PKPdf	21 30 26.8	-0.8
CABF	La Chapelle	152.56	352	⇑i PKIKP	PKPdf	21 30 27.4	-0.2
	comp=Z,492nm,1.3s						
HCY	Herceg Novi	152.57	331	⇓i PKP	PKPdf	21 30 26.1	-1.6
ZKR	Zakros	152.57	310	eP	PKPdf	21 30 27.5	-0.5
ULC	Ulcinj	152.59	329	⇓i PKP	PKPdf	21 30 26.9	-0.8
QSH	Qafa e Shtames	152.59	327	i PN	PKPdf	21 30 31.0	+3.2
STON	Ston	152.60	332	i P	PKPdf	21 30 25.1	-2.7
PTL	Penteli	152.63	317	eP	PKPdf	21 30 26.5	-1.4
AVF	Avril sur Loir	152.66	356	⇑i PKIKP	PKPdf	21 30 26.6	-1.1
	comp=Z,200nm,1.4s						
TIR	Tirane	152.74	327	eP	PKPbc	21 30 35.6	-0.2
TIR	Tirane	152.74	327	i PN	PKPdf	21 30 27.7	-0.3
ATH	Athens Observa	152.77	317	eP	PKPdf	21 30 25.0	-3.1
SMF	Signal de Mont	152.77	355	⇑i PKIKP	PKPdf	21 30 26.8	-1.0
	comp=Z,300nm,1.5s						
KBN	Korca	152.78	325	i PN	PKPdf	21 30 28.0	-0.1
THL	Klokotos Trika	152.81	322	eP	PKPdf	21 30 27.0	-1.1
KVR	Kavouri	152.82	317	eP	PKPdf	21 30 26.0	-2.2
BGF	Bois d'Agland	152.92	357	⇑i PKIKP	PKPdf	21 30 27.4	-0.7
	comp=Z,198nm,1.1s						
MFF	Saint Martin d	152.93	1	⇑i PKIKP	PKPdf	21 30 27.2	-0.9
	comp=Z,318nm,1.1s						
NPS	Neapolis	152.94	311	eP	PKPdf	21 30 28.5	0.0
AGG	Agios Georgios	152.98	321	eP	PKPdf	21 30 27.4	-1.0
NAIG	Nísos Aigina	153.04	317	eP	PKPdf	21 30 27.0	-1.5
XRY	Khrisi	153.07	310	eP	PKPdf	21 30 28.0	-0.7
LAST	Lasithi	153.08	311	eP	PKPdf	21 30 28.0	-0.7
MEV	Metsovon	153.11	323	eP	PKPdf	21 30 29.8	+1.2
LTK	Loutraki	153.21	318	eP	PKPdf	21 30 27.4	-1.3
TCF	Toulx Ste Croi	153.22	358	⇑i PKIKP	PKPdf	21 30 27.6	-0.9
	comp=Z,281nm,1.1s						
DID	Didima	153.35	317	eP	PKPdf	21 30 28.0	-1.0
EVR	Evrytania	153.36	321	eP	PKPdf	21 30 29.5	+0.6
JAN	Janina	153.41	323	eP	PKPdf	21 30 28.0	-1.0
LPL	La Plagne	153.54	350	⇑i PKIKP	PKPdf	21 30 28.8	-0.2
	comp=Z,161nm,1.3s						
LPG	La Plagne	153.56	350	⇑i PKIKP	PKPdf	21 30 28.9	-0.1
	comp=Z,196nm,1.4s						
SIVA	Sivas	153.63	311	eP	PKPdf	21 30 29.2	-0.3
MATF	Mathat	153.70	2	PKP	PKPdf	21 30 28.9	-0.3
MATF	Mathat	153.70	2	eP	PKPdf	21 30 28.9	-0.3
SELA	Sela	153.72	320	eP	PKPdf	21 30 29.5	0.0
SRN	Sarande	153.73	325	i PN	PKPbc	21 30 36.8	-1.2
BOB	Bobbio (Coli)	153.74	346	PKIKP	PKPdf	21 30 27.9	-1.4
VERF	Verneugheol	153.75	357	PKP	PKPdf	21 30 27.8	-1.5
VERF	Verneugheol	153.75	357	eP	PKPdf	21 30 27.8	-1.5
IGT	Igoumenitsa	153.79	324	eP	PKPbc	21 30 37.3	-0.8
FNVD	Fontana Vidola	153.87	343	PKP	PKPdf	21 30 28.8	-0.7
VAM	Vamos	153.87	312	eP	PKPdf	21 30 29.0	-0.8
COLF	Collangettes	153.90	355	PKP	PKPdf	21 30 27.5	-2.0
COLF	Collangettes	153.90	355	eP	PKPdf	21 30 27.5	-2.0
CING	Cingoli	153.94	339	PKP	PKPdf	21 30 28.8	-0.8
GDM	Grand'Maison	153.94	351	PKP	PKPdf	21 30 28.9	-0.6
GDM	Grand'Maison	153.94	351	eP	PKPdf	21 30 28.9	-0.6
GRN	Grenoble	153.96	352	PKP	PKPdf	21 30 28.9	-0.7
GRN	Grenoble	153.96	352	eP	PKPdf	21 30 28.9	-0.7
KEK	Kerkira	153.96	325	eP	PKPdf	21 30 31.0	+1.3
VLI	Veliai	154.00	316	eP	PKPdf	21 30 31.0	+1.1
BNI	Bardonecchia	154.00	350	ePKPdf	PKPdf	21 30 29.4	-0.3
BNI				ePKPbc	PKPbc	21 30 38.7	+0.3
KARN	Karanos	154.07	313	eP	PKPdf	21 30 30.8	+0.8
VLC	Villacollemand	154.07	344	ePKPdf	PKPdf	21 30 28.1	-1.7
FRNF	Fournols	154.11	357	PKP	PKPdf	21 30 29.4	-0.4
FRNF	Fournols	154.11	357	eP	PKPdf	21 30 29.4	-0.4
LKD	Levkas	154.17	322	eP	PKPdf	21 30 30.0	0.0
KYTH	Kithira	154.19	315	eP	PKPdf	21 30 34.0	+3.8
RJF	Les Rejaudoux	154.23	359	⇑i PKIKP	PKPdf	21 30 29.2	-0.7
	comp=Z,352nm,1.2s						
RJF				eMLR	MLR		
	comp=Z,672nm,22.8s						
RJF	Les Rejaudoux	154.23	359	⇑i PKPdf	PKPdf	21 30 29.2	-0.7
RJF				LR	LR		
	comp=Z,670nm,22.8s						
GVD	Gavdhos	154.24	311	ePKPdf	PKPdf	21 30 29.3	-1.0
GVD				ePKPbc	PKPbc	21 30 38.5	-0.7
GVD	Gavdhos	154.24	311	eP	PKPdf	21 30 29.0	+8.7
ORIF	Oris-en-Rattie	154.25	351	⇑i PKIKP	PKPdf	21 30 29.5	-0.5
	comp=Z,410nm,1.8s						
ORIF				eMLR	MLR		
	comp=Z,878nm,21.0s						
MURB	Monte Urbino	154.26	340	PKP	PKPdf	21 30 28.2	-1.9
MBDF	Montbardon	154.31	350	⇑i PKIKP	PKPdf	21 30 29.6	-0.5
	comp=Z,275nm,1.4s						
ITM	Ithomi	154.38	318	eP	PKPdf	21 30 30.0	-0.4
QLNO	Quiliano	154.40	347	PKP	PKPdf	21 30 28.2	-2.0
CSNT	Castellina Chi	154.46	342	PKP	PKPdf	21 30 27.6	-2.7
VIVF	Saint-Julien-l	154.47	353	⇑i PKIKP	PKPdf	21 30 29.9	-0.4
	comp=Z,172nm,1.1s						
FIN	Finale Ligure	154.54	347	PKIKP	PKPdf	21 30 28.9	-1.5
SURF	Saint Ours	154.54	350	PKP	PKPdf	21 30 29.9	-0.5
SURF	Saint Ours	154.54	350	eP	PKPdf	21 30 29.9	-0.5
VLS	Valsamata	154.56	321	eP	PKPdf	21 30 39.0	+8.4
CAF	Calviac	154.59	358	⇑i PKIKP	PKPdf	21 30 29.9	-0.5
	comp=Z,123nm,1.0s						
LFF	La Frestale	154.60	360	⇑i PKIKP	PKPdf	21 30 29.7	-0.8
	comp=Z,191nm,1.1s						
OCF	Saint Nazaire	154.66	352	eP	PKPdf	21 30 28.9	-1.7
OG26	St.-Nazaire-De	154.66	352	PKP	PKPdf	21 30 28.9	-1.7
AQU	L'Aquila	154.77	337	PKIKP	PKPdf	21 30 30.6	-0.2
AQU	L'Aquila	154.77	337	ePKPdf	PKPdf	21 30 29.8	-1.0
AQU				ePKPdif		21 30 39.6	
AQU	L'Aquila	154.77	337	⇑i P	PKPdf	21 30 29.5	-1.3
SAOF	Saorge	154.88	348	PKP	PKPdf	21 30 30.1	-0.8
SAOF	Saorge	154.88	348	eP	PKPdf	21 30 30.1	-0.8
AUTN	L'Aution	154.90	348	PKP	PKPdf	21 30 30.4	-0.5
AUTN	L'Aution	154.90	348	PKP	PKPdf	21 30 30.9	0.0
AUTN	L'Aution	154.90	348	eP	PKPdf	21 30 30.9	0.0
TOUF	Mont Tournerai	154.91	349	PKP	PKPdf	21 30 30.1	-0.8
TOUF	Mont Tournerai	154.91	349	eP	PKPdf	21 30 30.1	-0.8
LUCF	Luceram	155.01	349	PKP	PKPdf	21 30 29.6	-1.4
SBF	Sospel	155.02	348	⇑i PKIKP	PKPdf	21 30 29.9	-1.2
	comp=Z,522nm,1.4s						
MVIF	Mont Vial	155.04	349	PKP	PKPdf	21 30 29.9	-1.2
MVIF	Mont Vial	155.04	349	eP	PKPdf	21 30 29.9	-1.2
MIDA	Miranda	155.06	335	PKP	PKPdf	21 30 29.7	-1.5
STOF	St-Etienne Org	155.15	351	PKP	PKPdf	21 30 30.9	-0.3
STOF	St-Etienne Org	155.15	351	eP	PKPdf	21 30 30.9	-0.3
REVF	Revere	155.16	348	PKP	PKPdf	21 30 29.9	-1.3
REVF	Revere	155.16	348	PKP	PKPdf	21 30 30.2	-1.0
REVF	Revere	155.16	348	PKP	PKPdf	21 30 30.7	-0.5
MRB1	Monte Rocchett	155.20	334	PKP	PKPdf	21 30 29.0	-2.4
EMAZ	Mazaricos	155.22	17	PKP	PKPdf	21 30 29.0	-2.4
SMRF	Simiane la Rot	155.22	352	⇑i PKIKP	PKPdf	21 30 31.1	-0.2
	comp=Z,231nm,1.1s						
CALN	Calern	155.23	349	PKP	PKPdf	21 30 28.2	-3.1
CALN	Calern	155.23	349	eP	PKPdf	21 30 28.2	-3.1
CERT	Cerreto	155.27	338	PKP	PKPdf	21 30 29.5	-2.0
EPON	Pontenova	155.32	14	PKP	PKPdf	21 30 29.3	-2.2
LASF	Ste Croix	155.32	354	⇑i PKIKP	PKPdf	21 30 31.1	-0.3
	comp=Z,213nm,1.0s						
VILF	Villemus	155.32	351	PKP	PKPdf	21 30 31.2	-0.3
VILF	Villemus	155.32	351	eP	PKPdf	21 30 31.2	-0.3
STS	Santiago	155.39	16	PKIKP	PKPdf	21 30 30.7	-0.9
PRAF	Pradon	155.44	352	PKP	PKPdf	21 30 30.7	-0.9
PRAF	Pradon	155.44	352	eP	PKPdf	21 30 30.7	-0.9
FRF	La Foret Royal	155.46	350	⇑i PKIKP	PKPdf	21 30 30.6	-1.0
	comp=Z,332nm,1.5s						
TAVF	Tavernes	155.50	351	PKP	PKPdf	21 30 30.2	-1.5
TAVF	Tavernes	155.50	351	eP	PKPdf	21 30 30.2	-1.5
TOLF	Tolfa	155.51	339	PKP	PKPdf	21 30 30.4	-1.4
TREF	Trevaresse	155.59	352	PKP	PKPdf	21 30 30.7	-1.1
TREF	Trevaresse	155.59	352	eP	PKPdf	21 30 30.7	-1.1
PUYF	Puyloubier	155.64	351	PKP	PKPdf	21 30 31.4	-0.5
PUYF	Puyloubier	155.64	351	eP	PKPdf	21 30 31.4	-0.5
LMR	La Mourre	155.70	350	⇑i PKIKP	PKPdf	21 30 31.0	-1.0
	comp=Z,341nm,1.4s						
EARI	Arriondas	155.73	10	PKP	PKPdf	21 30 30.7	-1.3
GELF	Grande-Etoile	155.82	352	PKP	PKPdf	21 30 31.2	-0.9
GELF	Grande-Etoile	155.82	352	eP	PKPdf	21 30 31.2	-0.9
BERF	Bertagne	155.85	351	PKP	PKPdf	21 30 31.9	-0.3
BERF	Bertagne	155.85	351	eP	PKPdf	21 30 31.9	-0.3
PGF	Pioggiola	155.94	345	⇑i PKIKP	PKPdf	21 30 31.2	-1.1
	comp=Z,542nm,1.4s						
TIP	Timpagrande	155.94	328	ePKPdf	PKPdf	21 30 32.1	-0.3
ELAN	Lanestosa	156.06	7	PKP	PKPdf	21 30 30.9	-1.5
MTLF	Montolieu	156.16	357	⇑i PKIKP	PKPdf	21 30 31.9	-0.7
	comp=Z,230nm,1.2s						
ERUA	La Rua	156.21	14	PKIKP	PKPdf	21 30 31.9	-0.8
OSSF	Osses	156.23	4	PKP	PKPdf	21 30 31.3	-1.4
OSSF	Osses	156.23	4	eP	PKPdf	21 30 31.3	-1.4
EALK	Alkurruntz	156.25	4	PKP	PKPdf	21 30 31.3	-1.3
ELIZ	Elizondo	156.30	4	PKIKP	PKPdf	21 30 31.8	-1.0
SJPF	Ste Jean	156.37	3	⇑i PKIKP	PKPdf	21 30 32.5	-0.3
	comp=Z,157nm,1.1s						
ATE	Arette	156.43	3	PKP	PKPdf	21 30 32.0	-0.9
ATE	Arette	156.43	3	eP	PKPdf	21 30 32.0	-0.9
REYF	Montagne du Re	156.45	2	PKP	PKPdf	21 30 32.1	-0.8
REYF	Montagne du Re	156.45	2	eP	PKPdf	21 30 32.1	-0.8
ELOB	Lobios	156.47	17	PKP	PKPdf	21 30 31.3	-1.7
LABF	Labassere	156.49	1	PKP	PKPdf	21 30 31.8	-1.2
LABF	Labassere	156.49	1	eP	PKPdf	21 30 31.8	-1.2
EPF	Esparros	156.51	1	⇑i PKIKP	PKPdf	21 30 32.6	-0.4
	comp=Z,386nm,1.5s						
MLS	Moulis	156.58	359	PKP	PKPdf	21 30 32.4	-0.7
MLS	Moulis	156.58	359	eP	PKPdf	21 30 32.4	-0.7
ETSF	Etsaut	156.62	2	⇑i PKIKP	PKPdf	21 30 33.1	-0.1
	comp=Z,199nm,1.0s						
PCAB	Cabril	156.63	17	ePKPdf	PKPdf	21 30 32.7	-0.5
PCAB	Cabril	156.63	17	ePKPab	PKPab	21 31 06.6	-0.4
VIEF	Viey	156.65	1	PKP	PKPdf	21 30 33.0	-0.2
VIEF	Viey	156.65	1	eP	PKPdf	21 30 33.0	-0.2
MELF	Melles	156.67	360	PKP	PKPdf	21 30 33.1	-0.1
MELF	Melles	156.67	360	eP	PKPdf	21 30 33.1	-0.1
ECAL	Calabor	156.73	14	PKP	PKPdf	21 30 31.3	-2.0
RESF	Ens	156.73	1	PKP	PKPdf	21 30 33.2	-0.1
RESF	Ens	156.73	1	eP	PKPdf	21 30 33.2	-0.1
SALF	Salau	156.78	359	PKP	PKPdf	21 30 32.4	-1.0
SALF	Salau	156.78	359	eP	PKPdf	21 30 32.4	-1.0
EBIE	Bielsa	156.85	1	PKP	PKPdf	21 30 32.1	-1.3
FILF	Fillols	156.92	356	PKP	PKPdf	21 30 31.7	-1.9
FILF	Fillols	156.92	356	eP	PKPdf	21 30 31.7	-1.9
EJON	La Jonquera	157.01	356	PKP	PKPdf	21 30 30.9	-2.8
VALF	Valcebollere	157.11	357	PKP	PKPdf	21 30 33.3	-0.5
VALF	Valcebollere	157.11	357	eP	PKPdf	21 30 33.3	-0.5
PVRL	Vila Real	157.12	16	ePKPdf	PKPdf	21 30 33.4	-0.4
PVRL	Vila Real	157.12	16	ePKPab	PKPab	21 31 08.6	-0.5
PVRL	Vila Real	157.12	16	ePP	PP	21 34 59.5	+9.3
SOI	Samo	157.14	327	PKIKP	PKPdf	21 30 32.7	-1.3
MVO	Moncorvo	157.40	15	ePKPdf	PKPdf	21 30 34.0	-0.2
MVO	Moncorvo	157.40	15	ePKPab	PKPab	21 31 08.7	-1.6
PVIS	Viseu	157.59	17	ePKPdf	PKPdf	21 30 33.8	-0.6
PVIS	Viseu	157.59	17	ePKPab	PKPab	21 31 10.7	-0.5
PVIS	Viseu	157.59	17	ePP	PP	21 34 53.5	+0.8
EMIR	Miracle	157.61	358	PKP	PKPdf	21 30 31.2	-3.2
ESAC	San Caprasio	157.80	2	PKP	PKPdf	21 30 33.1	-1.5
MTE	Manteigas	157.98	17	ePKPdf	PKPdf	21 30 34.5	-0.4
MTE				ePKPab	PKPab	21 31 11.9	-1.0
MTE	Manteigas	157.98	17	ePKPdf	PKPdf	21 30 34.4	-0.5
MTE	Manteigas	157.98	17	ePKPab	PKPab	21 31 12.3	-0.6
MTE				eP		21 33 07.0	
MTE	Manteigas	157.98	17	ePP	PP	21 34 55.1	+0.3
EPOB	Poblet	158.18	359	PKP	PKPdf	21 30 32.8	-2.3
PTOM	Tomar	158.45	19	ePKPdf	PKPdf	21 30 35.0	-0.5
PTOM	Tomar	158.45	19	ePKPab	PKPab	21 31 14.2	-0.8
PTOM	Tomar	158.45	19	ePP	PP	21 34 53.5	-3.9
GUD	Guadarrama	158.49	10	PKIKP	PKPdf	21 30 35.1	-0.4
PCBR	Castelo Branco	158.52	17	ePKPdf	PKPdf	21 30 34.9	-0.7
PCBR	Castelo Branco	158.52	17	ePKPab	PKPab	21 31 14.4	-0.9
PCBR	Castelo Branco	158.52	17	ePP	PP	21 34 54.4	-3.3
ERTA	Horta de San J	158.58	1	PKP	PKPdf	21 30 34.1	-1.5
ETOR	Torete	158.59	6	PKIKP	PKPdf	21 30 35.2	-0.4
VSL	Villasalto	158.67	341	ePKPdf	PKPdf	21 30 34.7	-1.0
PMAFR	Mafra	158.75	22	ePKPdf	PKPdf	21 30 35.7	-0.2
PMAFR	Mafra	158.75	22	ePKPab	PKPab	21 31 15.6	-0.7
PMAFR				eP		21 33 08.0	
PMAFR	Mafra	158.75	22	ePP	PP	21 34 56.5	-2.6
ALMR	Almeirim	158.81	20	eP	PKPdf	21 30 35.1	-0.8
LIS	Lisbon	159.01	22	eP	PKPdf	21 30 35.8	-0.4
EMOS	Mosqueruela	159.15	2	PKP	PKPdf	21 30 35.9	-0.4
PESTR	Estremoz	159.39	19	ePKPdf	PKPdf	21 30 36.1	-0.5
PESTR	Estremoz	159.39	19	ePKPab	PKPab	21 31 17.5	-1.6
PESTR				eP		21 33 09.4	
PESTR	Estremoz	159.39	19	ePP	PP	21 34 58.5	-3.9
PMAR	Madeira	159.46	47	ePKPdf	PKPdf	21 30 37.3	+0.4
PMAR	Madeira	159.46	47	ePKPab	PKPab	21 31 19.8	+0.1
ESDC	Sonseca Array	159.47	10	PKP	PKPdf	21 30 35.8	-0.9
ESDC	Sonseca Array	159.47	10	PKP	PKPdf	21 30 36.1	-0.6
	comp=Z,22nm,0.9s,baz=352,slow=2.8,SNR=119						
ESDC				PKPab	PKPab	21 31 18.6	-0.8
	comp=Z,44nm,0.7s,baz=346,slow=4.2,SNR=32						
ESDC				PP	PP	21 35 01.7	-0.9
	comp=Z,8.6nm,1.1s,baz=340,slow=4.5,SNR=4.1						
ESLA	Sonseca Array	159.47	10	ePKPdf	PKPdf	21 30 35.5	-1.1
ESLA				ePKPab	PKPab	21 31 17.9	-1.5
ESLA				ePP	PP	21 35 01.9	-0.8
PAB	San Pablo	159.53	11	ePKIKP	PKPdf	21 30 36.4	-0.3
PAB				e		21 31 18.9	
PAB				e		21 35 01.8	
PAB	San Pablo	159.53	11	PKPdf	PKPdf	21 30 36.3	-0.5
PAB				PKPab	PKPab	21 31 12.5	-7.1
PAB				PKPab	PKPab	21 31 18.3	-1.4
EVO	Evora	159.56	20	ePKIKP	PKPdf	21 30 36.9	+0.1
	comp=Z,317nm,1.1s						
EVO				eMLR	MLR		
	comp=Z,912nm,21.2s						
PMPS	Porto Santo	159.65	45	ePKPdf	PKPdf	21 30 37.5	+0.4
PMPS	Porto Santo	159.65	45	ePKPab	PKPab	21 31 20.1	-0.4
EBAD	Badajoz	159.66	18	PKP	PKPdf	21 30 34.6	-2.3
ETOS	Mallorca	159.69	355	PKP	PKPdf	21 30 35.5	-1.5
ECHE	Chera	159.90	4	PKIKP	PKPdf	21 30 36.4	-0.7
PBEJ	Beja	160.07	20	ePKPdf	PKPdf	21 30 37.3	-0.1
PBEJ	Beja	160.07	20	ePKPab	PKPab	21 31 20.7	-1.4
PBEJ	Beja	160.07	20	ePP	PP	21 35 03.8	-2.2
PBAR	Barrancos	160.19	18	ePKPdf	PKPdf	21 30 37.2	-0.3
PBAR	Barrancos	160.19	18	ePKPab	PKPab	21 31 21.4	-1.2
PBAR				eP		21 33 09.8	
PBAR	Barrancos	160.19	18	ePP	PP	21 35 04.8	-1.8
PTEO	Sao Teotonio	160.21	23	ePKPdf	PKPdf	21 30 37.5	-0.1
PTEO	Sao Teotonio	160.21	23	ePKPab	PKPab	21 31 22.0	-0.7
MORF	Marmelete	160.45	23	ePKPdf	PKPdf	21 30 37.6	-0.2
MORF	Marmelete	160.45	23	ePKPab	PKPab	21 31 21.8	-2.0
MORF				eP		21 33 13.1	
MORF	Marmelete	160.45	23	ePP	PP	21 35 04.5	-3.6
EIBI	Ibiza	160.50	358	PKP	PKPdf	21 30 36.8	-1.0
PFVI	Vila Bisbo	160.54	23	ePKPdf	PKPdf	21 30 37.9	0.0
PFVI	Vila Bisbo	160.54	23	ePKPab	PKPab	21 31 23.3	-0.9
PFVI				eP		21 33 11.0	
PFVI	Vila Bisbo	160.54	23	ePP	PP	21 35 05.5	-3.1
EGRO	El Granado	160.64	20	PKP	PKPdf	21 30 36.5	-1.5
EMIN	Mina Concepcio	160.68	18	PKP	PKPdf	21 30 35.7	-2.3
PVAQ	Vaqueiros	160.69	21	ePKPdf	PKPdf	21 30 38.0	-0.1
PVAQ	Vaqueiros	160.69	21	ePKPab	PKPab	21 31 23.5	-1.3
PVAQ				eP		21 33 10.6	
PVAQ	Vaqueiros	160.69	21	ePP	PP	21 35 06.1	-3.2
EVIA	Vianos	160.70	8	PKIKP	PKPdf	21 30 37.7	-0.3
PBDV	Barranco-do-Ve	160.76	21	ePKPdf	PKPdf	21 30 38.4	+0.2
PBDV	Barranco-do-Ve	160.76	21	ePKPab	PKPab	21 31 24.2	-0.9
PBDV				eP		21 33 11.5	
PBDV	Barranco-do-Ve	160.76	21	ePP	PP	21 35 05.7	-4.0
ETOB	Tobarra	160.79	5	PKP	PKPdf	21 30 36.5	-1.7
EADA	Adamuz	160.82	13	PKP	PKPdf	21 30 36.1	-2.1
EBEN	Beniarda	160.82	2	PKP	PKPdf	21 30 36.8	-1.4
EHIG	Higuera	160.87	58	PKP	PKPdf	21 30 38.5	0.0
EBAN	Banos Encina	160.97	11	PKIKP	PKPdf	21 30 37.7	-0.6
CHIE	El Hierro	161.06	61	PKP	PKPdf	21 30 41.2	+2.4
EQES	Quesada	161.44	9	PKP	PKPdf	21 30 37.4	-1.5
ELUQ	Luque	161.47	12	PKIKP	PKPdf	21 30 37.4	-1.5
EGOM	La Gomera	161.51	59	PKP	PKPdf	21 30 38.8	-0.4
EMUR	La Murta	161.62	5	PKP	PKPdf	21 30 36.4	-2.6
ESPR	Espera	161.74	17	PKP	PKPdf	21 30 37.9	-1.3
ECOG	Cogollos-Vega	161.87	11	PKIKP	PKPdf	21 30 37.9	-1.4
ELOJ	Sierra Loja	161.89	12	PKIKP	PKPdf	21 30 37.9	-1.4
CMAH	Djebel Manchou	161.91	342	P	PKPdf	21 30 38.0	-1.4
CAEH	`Ain El Ouahch	161.92	344	P	PKPdf	21 30 39.0	-0.4
CCAN	Las Canadas	161.97	58	PKP	PKPdf	21 30 39.9	+0.3
SFS	San Fernando	162.02	18	ePKPdf	PKPdf	21 30 40.1	+0.6
SFS				ePKPab	PKPab	21 31 31.7	+1.0
EBAJ	Bajamar	162.04	57	PKP	PKPdf	21 30 39.4	-0.3
ERON	Agron	162.08	12	PKP	PKPdf	21 30 37.6	-1.9
KEST	Kesra	162.08	336	PKP	PKPdf	21 30 39.0	-0.6
	comp=Z,13nm,0.9s,baz=261,slow=0.8,SNR=21						
KEST				PKPab	PKPab	21 31 31.1	+0.1
	comp=Z,18nm,0.8s,baz=54,slow=1.8,SNR=9.0						
ABSA	Djebel Ababsia

13nm,0.5s,mb4.6
WRA Warramunga Arr 43.40 261 P **P 21 29 26.3 -0.3**
12nm,0.4s,mb4.6,baz=97,slow=7.5,SNR=55
WRA S **S 21 35 08.4 -0.1**
1.2nm,0.8s,baz=99,slow=13,SNR=3.7
ASAR Alice Springs 43.44 256 P **P 21 29 27.2 +0.4**
36nm,0.8s,mb4.9,baz=86,slow=8.9,SNR=16
ASAR S **S 21 35 09.2 +0.3**
2.3nm,0.9s,baz=91,slow=17,SNR=7.3
FITZ Fitzroy Crossi 51.82 262 *e*P **P 21 30 28.9 +0.1**
17nm,0.4s,mb4.6
FITZ Fitzroy Crossi 51.82 262 P **P 21 30 29.2 +0.4**
3.7nm,0.5s,mb3.9,baz=98,slow=22,SNR=16
MBWA Marble Bar 56.75 257 *e*P **P 21 31 02.2 -0.7**
16nm,0.6s,mb4.3
VNDA Vanda 58.77 185 P **P 21 31 16.3 +0.9**
VNDA Vanda 58.77 185 P **P 21 31 16.3 +0.9**
2.3nm,0.7s,mb3.4,baz=349,slow=10,SNR=4.2
CASY Casey 64.27 205 *e*P **P 21 31 49.2 -1.8**
MJAR Matsushiro Arr 68.62 324 P **P 21 32 17.3 -0.8**
3.5nm,0.6s,mb3.9,baz=157,slow=5.6,SNR=12
MAJO Matsushiro 68.63 324 *e*P **P 21 32 17.9 -0.2**
5.0nm,0.5s,mb4.1
QSPA South Pole Qui 70.54 180 P **P 21 32 29.0 +0.3**
6.7nm,0.6s,mb4.3,baz=350,slow=7.0,SNR=7.8
KSM Kuching 71.94 278 *e*P **P 21 32 39.0 +1.0**
ASAJ Asahikawa 72.23 332 P **P 21 32 39.5 +0.6**
16nm,0.8s,mb4.5,baz=229,slow=13,SNR=6.8
KSRS Korea Array 75.26 319 P **P 21 32 56.5 +0.3**
2.8nm,0.8s,mb3.8,baz=118,slow=5.7,SNR=5.6
NVAR Mina Array Bea 81.25 44 P **P 21 33 27.6 -0.2**
0.9nm,0.6s,mb3.4,baz=234,slow=7.7,SNR=3.2
TXAR Lajitas Array 87.67 58 P **P 21 33 59.1 +0.1**
1.2nm,0.7s,mb3.6,baz=216,slow=6.2,SNR=4.3
AML Almayashu 115.19 308 *e*PKPdf PKPdf 21 39 43.0 -3.2
BRVK Borovoye 117.52 320 *e*PKPdf PKPdf 21 39 48.4 -2.0
PKME Peaks-Kenny Pk 117.68 48 *e*PKPdf PKPdf 21 39 49.8 -1.2
ARCES ARCESS Array B 127.71 349 PKP PKPdf 21 40 08.6 -0.9
1.5nm,0.7s,baz=11,slow=0.5,SNR=3.7
AKASG Malin Array Be 141.50 331 PKhKP 21 40 30.6
1.7nm,0.3s,baz=43,slow=4.1,SNR=21
EKA Eskdalemuir Ar 144.13 4 PKP PKPdf 21 40 38.8 -1.3
2.7nm,0.9s,baz=339,slow=2.8,SNR=7.0
ASF Jabal al Asfar 145.12 299 PKPbc PKPbc 21 40 44.9 +1.1
2.4nm,0.6s,baz=314,slow=2.6,SNR=5.4
BURAR Bucovina Array 145.54 330 ⇓*i*P PKPab 21 40 46.2 -0.4
STHS Stebnicka Huta 145.88 336 *e*PKP PKPab 21 40 49.3 +1.5
VRI Vrincioaia 146.01 327 ⇓*i*P PKPab 21 40 49.3 +0.8
MMAI Mount Meron Ar 146.15 300 PKPbc PKPbc 21 40 47.1 +0.4
8.7nm,0.7s,baz=72,slow=5.4,SNR=8.9
CRVS Cervenica-Dubn 146.20 335 *e*PKP PKPab 21 40 48.9 -0.3
MLR Muntele Rosu 146.67 327 PKPbc PKPbc 21 40 47.0 -0.7
15nm,0.9s,baz=100,slow=5.0,SNR=7.2
MLR Muntele Rosu 146.67 327 ⇓*i*P PKPbc 21 40 47.0 -0.7
CLL Collm 146.79 346 *i* PKPbc PKPbc 21 40 47.7 -0.1
comp=Z,9.0nm,0.6s
MORC Moravsky Berou 146.90 340 *e*PKPdf PKPdf 21 40 45.5 +0.6
MORC Moravsky Berou 146.90 340 ⇑*i*P PKPdf 21 40 45.7 +0.8
DRGR 147.31 331 ⇓*i*P PKPdf 21 40 43.7 -2.0
VYHS Vyhne 147.54 337 *e*PKP PKPdf 21 40 42.4 -3.6
PSZ Piszkesteto 147.62 335 ⇑*i*P PKPdf 21 40 43.1 -3.1
GERES GERESS Array B 148.88 343 PKPbc PKPbc 21 40 52.6 -0.5
comp=Z,4.7nm,0.9s,baz=35,slow=3.6,SNR=7.5
DAVOX Davos/Dischmat 151.76 346 PKPbc PKPbc 21 40 59.4 -0.3
comp=Z,2.3nm,0.3s,baz=260,slow=3.5,SNR=6.3

IDC 06 21:24:48.7±3.4, 1908S×17948W, h695km±40km, mb3.2/5, mb1 3.5/5, mb1mx3.2/14, mbtmp3.2/5, Error ellipse: s-maj=158.4km s-min=16.5km az=158.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.27 262**		P	P	21 30 25.7	+0.3
8.2nm,0.6s,baz=91,slow=10.0,SNR=5.9							
WRA	**Warramunga Arr**	**43.43 261**		P	P	21 31 54.4	-0.4
2.0nm,0.6s,baz=97,slow=7.8,SNR=4.8							
ASAR	**Alice Springs**	**43.51 255**		P	P	21 31 55.5	+0.1
3.1nm,0.7s,baz=87,slow=8.0,SNR=6.2							
ASAR				S	S	21 37 37.4	-0.2
1.0nm,0.7s,baz=90,slow=16,SNR=6.4							
NVAR	**Mina Array Bea**	**80.96 44**		P	P	21 35 53.3	-0.8
1.3nm,0.6s,baz=234,slow=9.1,SNR=5.8							
TXAR	**Lajitas Array**	**87.47 58**		P	P	21 36 26.6	+0.8
1.5nm,0.8s,baz=217,slow=6.3,SNR=6.9							
ARCES	**ARCESS Array B**	**127.27 349**		PKP	PKPdf	21 42 35.6	-0.7
1.4nm,0.6s,baz=356,slow=0.9,SNR=4.0							
AKASG	**Malin Array Be**	**141.10 331**		PKhKP		21 42 57.3	
0.9nm,0.4s,baz=43,slow=4.1,SNR=10							
EKA	**Eskdalemuir Ar**	**143.70 4**		PKP	PKPdf	21 43 06.1	-0.9
3.9nm,1.0s,baz=331,slow=2.5,SNR=5.6							
MMAI	**Mount Meron Ar**	**145.90 301**		PKPbc	PKPbc	21 43 14.6	+0.9
5.6nm,1.1s,baz=78,slow=4.4,SNR=6.5							
CLL	**Collm**	**146.36 346**		*i* PKPbc	PKPbc	21 43 14.3	0.0
comp=Z,6.0nm,0.7s							
GERES	**GERESS Array B**	**148.45 343**		PKPbc	PKPbc	21 43 19.8	+0.1
comp=Z,1.2nm,0.6s,baz=31,slow=3.6,SNR=5.4							
DAVOX	**Davos/Dischmat**	**151.32 347**		PKPbc	PKPbc	21 43 26.5	0.0
comp=Z,1.9nm,0.4s,baz=307,slow=4.7,SNR=9.7							

IDC 06 21:35:25.6±7.5, 2016S×17814W, h529km±75km, mb3.3/6, mb1 3.5/7, mb1mx3.2/17, mbtmp3.3/7, 1D, Error ellipse: s-maj=47.8km s-min=23.1km az=53.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.50 192**		P	P	21 39 08.2	-0.7
0.7nm,0.3s,baz=257,slow=14,SNR=5.6							
CTA	**Charters Tower**	**33.39 264**		P	P	21 41 21.0	+0.6
3.1nm,0.7s,baz=73,slow=14,SNR=5.4							
ASAR	**Alice Springs**	**44.47 256**		P	P	21 42 49.8	-0.1
3.1nm,0.6s,baz=94,slow=7.7,SNR=37							
ASAR				PcP	PcP	21 44 21.6	-0.5
0.7nm,0.5s,baz=106,slow=3.6,SNR=6.5							
WB2	**Warramunga Arr**	**44.51 262**		*e*P	P	21 42 49.7	-0.5
WRA	**Warramunga Arr**	**44.52 262**		P	P	21 42 49.8	-0.5
2.4nm,0.3s,baz=96,slow=7.6,SNR=71							
FITZ	**Fitzroy Crossi**	**52.94 262**		P	P	21 43 52.8	0.0
0.9nm,0.6s,baz=78,slow=7.6,SNR=5.1							
MJAR	**Matsushiro Arr**	**69.86 324**		P	P	21 45 43.5	+0.2
0.4nm,0.4s,baz=161,slow=6.6,SNR=4.7							
QSPA	**South Pole Qui**	**69.90 180**		P	P	21 45 43.9	+1.1
1.6nm,0.8s,baz=43,slow=2.0,SNR=6.2							
MKAR	**Makanchi Array**	**110.87 314**		PKiKP	PKiKP	21 52 57.4	-1.0
0.2nm,0.2s,baz=338,slow=1.6,SNR=2.6							
BVAR	**Borovoye Array**	**118.74 320**		PKP	PKPdf	21 53 11.7	-1.6
0.5nm,0.3s,baz=126,slow=2.4,SNR=6.1							
ARCES	**ARCESS Array B**	**128.57 350**		PKP	PKPdf	21 53 31.0	-0.8
2.1nm,0.9s,baz=356,slow=2.7,SNR=3.8							
AKASG	**Malin Array Be**	**142.66 331**		PKhKP		21 53 54.4	
2.4nm,0.5s,baz=43,slow=4.2,SNR=23							
EKA	**Eskdalemuir Ar**	**144.68 5**		PKP	PKPdf	21 54 01.9	+0.2
0.9nm,0.6s,baz=298,slow=3.3,SNR=4.6							
MMAI	**Mount Meron Ar**	**147.53 300**		PKPbc	PKPbc	21 54 11.1	+0.4
1.1nm,0.4s,baz=69,slow=6.2,SNR=12							
CLL	**Collm**	**147.71 347**		⇓*i*PKPbc	PKPbc	21 54 10.1	-0.4
comp=Z,4.0nm,0.6s							
CLL				*i* PKPab	PKPab	21 54 14.5	-0.2
comp=Z,3.0nm,0.7s							
GERES	**GERESS Array B**	**149.84 344**		PKPbc	PKPbc	21 54 15.5	-0.3
comp=Z,0.6nm,0.7s,baz=48,slow=2.0,SNR=7.6							

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*ISCJB **06** 21:46:01.0±0.7, 3745N±004×724E±0.1, h211km±9km, mb3.5/6, Error ellipse: s-maj=14.8km s-min=4.4km az=160.3*
*IDC **06** 21:46:02.5±6.0, 3755N×7231E, h198km±38km, mb3.2/5, mb1 3.5/9, mb1mx3.2/23, mbtmp3.4/9, Error ellipse: s-maj=56.0km s-min=31.3km az=175.0*
*NNC **06** 21:46:06.1±8.2, 3784N×7213E, h200km±80km, mb2.9, mpv4.1, Error ellipse: s-maj=77.1km s-min=47.2km az=17.0*

ISC 06 21:46:01.9±0.7, 3744N±004×724E±01, h203km±9km, n36, σ0°93/46, mb3.5/6, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.79 12**		P	**Pn**	**21 47 14.0**	**+0.4**
SNR=459							
UCH	**Uchtor**	**5.06 18**		P	**Pn**	**21 47 17.6**	**+0.7**
SNR=11							
KZA	**Kyzart**	**5.13 25**		P	**Pn**	**21 47 18.1**	**+0.2**
SNR=26							
EKS2	**Erkin-Say**	**5.32 11**		P	**Pn**	**21 47 20.8**	**+0.4**
SNR=41							
AAK	**Ala-Archa**	**5.43 17**		P	**Pn**	**21 47 21.6**	**-0.1**
8.4nm,0.3s,baz=172,slow=6.0,SNR=63							
AAK				S	**Sn**	**21 48 23.5**	**-1.5**
6.9nm,0.3s,baz=93,slow=20,SNR=12							
AAK	**Ala-Archa**	**5.43 17**		P	**Pn**	**21 47 22.6**	**+0.9**
SNR=13							
KBK	**Karagaybulak**	**5.57 20**		P	**Pn**	**21 47 24.7**	**+1.2**
SNR=11							
ULHL	**Ulahol**	**5.65 31**		P	**Pn**	**21 47 24.8**	**+0.3**
SNR=17							
THN	**Thein Dam**	**5.70 150**		*e*P	**Pn**	**21 47 26.2**	**+0.8**
THN				*e*S	**Sn**	**21 48 29.9**	**-1.4**
DLH	**Dalhousie**	**5.71 148**		*e*P	**Pn**	**21 47 25.0**	**-0.5**
DLH				*e*S	**Sn**	**21 48 32.0**	**+0.5**
KK31	**Karatay Array**	**5.83 346**		⇑P	**Pn**	**21 47 26.5**	**-0.4**
10nm,0.5s,baz=22,slow=42,SNR=121							
KK31				S	**Sn**	**21 48 29.2**	**-5.0**
5.7nm,0.2s,baz=157,slow=56,SNR=13							
CHMS	**Chumysh**	**5.84 17**		P	**Pn**	**21 47 27.5**	**+0.5**
SNR=10							
TKM2	**Tokmak 2**	**6.00 23**		⇓P	**Pn**	**21 47 29.4**	**+0.3**
13nm,0.6s							
TKM2				⇓S	**Sn**	**21 48 36.2**	**-2.0**
5.4nm,0.9s							
TKM2	**Tokmak 2**	**6.00 23**		P	**Pn**	**21 47 29.8**	**+0.7**
SNR=10							
USP	**Ospenovka**	**6.04 15**		P	**Pn**	**21 47 29.6**	**0.0**
SNR=15							
KLP	**Kalpa**	**7.63 139**		*e*P	**Pn**	**21 47 51.3**	**+1.0**
KLP				*e*S	**Sn**	**21 49 14.0**	**-2.7**
KLP				AML	AML	21 49 20.6	
comp=N,72nm,0.6s							
KLP				AML	AML	21 49 20.7	
comp=E,62nm,0.7s							
JOSI	**Joshimath**	**9.10 137**		*e*P	**Pn**	**21 48 02.8**	**-6.6**
JOSI				*e*S	**Sn**	**21 49 39.9**	**-11**
JOSI				AML	AML	21 49 58.5	
comp=E,28nm,0.4s							
JOSI				AML	AML	21 49 59.7	
comp=N,23nm,0.7s							
KHET	**Khetri**	**9.78 162**		*e*S	**Sn**	**21 49 57.0**	**-11**
KHET				AML	AML	21 50 05.7	
comp=N,6.6nm,0.5s							
KHET				AML	AML	21 50 05.9	
comp=E,8.5nm,0.3s							
KUDL	**Kundal**	**9.90 158**		*e*S	**Sn**	**21 50 00.4**	**-10**
KUDL				AML	AML	21 50 08.9	
comp=N,3.9nm,0.2s							
DANN	**Dangsing**	**13.17 130**		*e*P	**Pn**	**21 49 02.9**	**+1.5**
GKN	**Gorkha**	**13.96 129**		*e*P	**Pn**	**21 49 12.0**	**+0.8**
KKN	**Kakani**	**14.51 128**		*e*P	**Pn**	**21 49 18.2**	**+0.2**
DMN	**Daman**	**14.53 129**		*e*P	**Pn**	**21 49 18.2**	**-0.1**
AB31	**Akbulak array**	**14.85 327**		⇑P	**Pn**	**21 49 21.4**	**-0.5**
comp=N,0.8nm,0.5s,baz=138,slow=11,SNR=20							
AB31				⇑S	**S**	**21 51 59.0**	**-7.5**
comp=N,1.9nm,0.7s,baz=145,slow=23,SNR=4.8							
JIRN	**Jiri**	**15.18 126**		*e*P	**Pn**	**21 49 24.7**	**-1.5**
BVAR	**Borovoye Array**	**15.64 356**		P	**Pn**	**21 49 32.4**	**+0.9**
comp=N,0.3nm,0.3s,baz=165,slow=11,SNR=11							
AKTO	**Aktyubinsk**	**16.56 326**		⇑P	**P**	**21 49 42.2**	**+0.7**
AKTO				⇓S	**S**	**21 52 40.2**	**-3.8**
comp=N,0.2nm,1.7s							
AKTO	**Aktyubinsk**	**16.56 326**		P	**P**	**21 49 42.2**	**+0.7**
comp=N,1.0nm,0.3s,baz=118,slow=10,SNR=16							
AKTO				S	**S**	**21 52 42.2**	**-1.9**
comp=N,0.1nm,0.3s,baz=168,slow=20,SNR=3.3							
ZALV	**Zalesovo Beam**	**18.61 24**		P	**P**	**21 50 04.2**	**+0.4**
comp=N,1.1nm,0.3s,baz=223,slow=10,SNR=30							
AKASG	**Malin Array Be**	**33.23 307**		P	**P**	**21 52 19.0**	**-0.5**
comp=N,0.4nm,0.4s,mb3.3,baz=107,slow=9.0,SNR=4.6							
JOF	**Joensuu**	**35.61 329**		*ep*	**P**	**21 52 38.4**	**-1.4**
comp=N,1.3nm,0.3s,mb3.9							
FINES	**FINESS Array B**	**37.33 325**		P	**P**	**21 52 54.5**	**+0.2**
comp=N,0.6nm,0.3s,mb3.5,baz=120,slow=9.7,SNR=9.4							
ARCES	**ARCESS Array B**	**40.70 337**		P	**P**	**21 53 22.6**	**+0.5**
comp=N,0.8nm,0.4s,mb3.5,baz=113,slow=8.3,SNR=15							
NB2	**NORSAR Subarra**	**44.30 322**		P	**P**	**21 53 51.0**	**-0.2**
comp=Z,0.7nm,0.5s,mb3.2,baz=91,slow=7.9							
NOA	**NORSAR Array B**	**44.30 322**		P	**P**	**21 53 50.2**	**-0.9**
comp=Z,1.3nm,0.7s,mb3.4,baz=108,slow=6.0,SNR=3.5							
YKA	**Yellowknife Ar**	**80.25 3**		P	**P**	**21 57 49.7**	**+0.2**
comp=Z,0.3nm,0.4s,mb3.2,baz=351,slow=5.5,SNR=7.6							

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*ISCJB **06** 21:50:53.2±0.8, 3477N±006×738E±0.1, h10km, mb3.4/3, Error ellipse: s-maj=16.6km s-min=5.1km az=155.0*
*IDC **06** 21:51:01.2±10.0, 3491N×7387E, h51km±94km, mb3.3/4, mb1 3.6/6, mb1mx3.2/22, mbtmp3.4/6, ML3.7/2, Error ellipse: s-maj=77.2km s-min=37.3km az=58.0*

ISC 06 21:50:56.9±2.3, 3482N±006×739E±02, h20km±12km, n21, σ0°73/25, mb3.4/3, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**2.84 146**		*e*P	**Pb**	**21 51 47.1**	**+0.2**
THN				*e*S	**Sb**	**21 52 29.1**	**+7.8**
DLH	**Dalhousie**	**2.87 142**		*e*P	**Pb**	**21 51 46.0**	**-1.5**
DLH				*e*S	**Sb**	**21 52 21.0**	**-1.2**
SDNR	**Sundarnagar**	**4.22 141**		*e*P	**Pb**	**21 52 12.0**	**+1.6**
SDNR				*e*S	**Sg**	**21 53 12.6**	**+0.3**
KLP	**Kalpa**	**4.93 130**		*e*P	**Pn**	**21 52 04.4**	**-5.5**
KLP				*e*S	**Sn**	**21 53 11.5**	**+5.2**
KLP				AML	AML	21 53 18.2	
comp=N,97nm,0.7s							
KHET	**Khetri**	**6.93 166**		*e*S	**Sn**	**21 53 55.8**	**+0.2**
KHET				AML	AML	21 54 28.1	
comp=E,5.6nm,0.6s							
KHET				AML	AML	21 54 28.4	
comp=N,3.7nm,0.6s							
KUDL	**Kundal**	**7.02 161**		*e*S	**Sn**	**21 53 58.6**	**+0.8**
KUDL				AML	AML	21 54 00.2	
comp=N,7.2nm,0.8s							
SONA	**Sohna**	**7.10 156**		*e*S	**Sn**	**21 53 59.2**	**-0.7**
SONA				AML	AML	21 54 04.1	
comp=N,7.6nm,0.2s							
SONA				AML	AML	21 54 04.5	
comp=E,17nm,0.6s							
DANN	**Dangsing**	**10.62 125**		*e*P	**Pn**	**21 53 28.3**	**+0.3**
GKN	**Gorkha**	**11.44 123**		*e*P	**Pn**	**21 53 39.2**	**0.0**
comp=E,5.0nm,0.3s							
DMN	**Daman**	**12.01 124**		*e*P	**Pn**	**21 53 46.6**	**-0.4**
KKN	**Kakani**	**12.02 123**		*e*P	**Pn**	**21 53 46.8**	**-0.3**
PKI	**Pulchoki**	**12.24 123**		*e*P	**Pn**	**21 53 49.8**	**-0.4**
GUN	**Gumba**	**12.36 121**		*e*P	**Pn**	**21 53 52.5**	**+0.7**
JIRN	**Jiri**	**12.73 121**		*e*P	**Pn**	**21 53 56.9**	**0.0**
MKAR	**Makanchi Array**	**13.55 25**		P	**Pn**	**21 54 13.5**	**+5.6**
comp=E,0.1nm,0.3s,baz=211,slow=12,SNR=4.5							
BVAR	**Borovoye Array**	**18.37 353**		P	**Pn**	**21 55 11.0**	**+0.8**
comp=E,0.5nm,0.3s,baz=154,slow=9.6,SNR=13							
AKTO	**Aktyubinsk**	**19.41 328**		P	**Pn**	**21 55 21.6**	**-1.4**
comp=E,0.1nm,0.3s,baz=117,slow=14,SNR=3.1							
ZALV	**Zalesovo Beam**	**20.62 19**		P	**P**	**21 55 34.8**	**-0.1**
comp=E,1.6nm,0.5s,baz=220,slow=10,SNR=9.2							
WRA	**Warramunga Arr**	**79.13 124**		P	**P**	**22 03 01.1**	**+0.8**
comp=E,0.8nm,1.1s,mb3.6,baz=306,slow=7.0,SNR=4.4							
ASAR	**Alice Springs**	**81.39 127**		P	**P**	**22 03 12.6**	**+0.2**
comp=E,0.2nm,0.5s,mb3.3,baz=307,slow=5.4,SNR=5.9							
YKA	**Yellowknife Ar**	**82.79**	**4**	P	**P**	**22 03 19.2**	**-0.1**
comp=E,0.2nm,0.5s,mb3.4,baz=346,slow=5.3,SNR=3.9							

IDC 06 21:54:43.1±2.9, 1403S×16732E, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.7/15, mbtmp3.9/4, Error ellipse: s-maj=101.3km s-min=46.8km az=141.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.49 229**		P	P	22 00 49.0	0.0
2.3nm,0.6s,baz=30,slow=8.9,SNR=7.1							
WRA	**Warramunga Arr**	**32.05 255**		P	P	22 01 11.0	-0.8
0.7nm,0.9s,baz=85,slow=9.0,SNR=6.7							
ASAR	**Alice Springs**	**32.97 248**		P	P	22 01 19.6	-0.3
0.7nm,0.5s,baz=76,slow=9.0,SNR=12							
FITZ	**Fitzroy Crossi**	**40.20 259**		P	P	22 02 23.0	+1.4
3.0nm,1.1s,baz=94,slow=12,SNR=4.3							
ARCES	**ARCESS Array B**	**119.59 346**		PKP	PKPdf	22 13 34.1	-0.2
3.0nm,1.0s,baz=43,slow=2.5,SNR=4.6							

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*MOS **06** 22:01:06.0±2.2, 1927S×17932W, h670km, mb5.6/23, Error ellipse: s-maj=23.4km s-min=12.2km az=105.9*
*IDC **06** 22:01:07.5±0.6, 1935S×17931W, h667km±6km, mb4.6/27, mb1 4.7/30, mb1mx4.7/30, mbtmp4.6/30, Error ellipse: s-maj=7.0km s-min=6.6km az=172.0*
*BJI **06** 22:01:07.9, 1906S×17876W, h699km, mB5.4, mb5.1*
*NEIC **06** 22:01:08.9±0.1, 1941S×17932W, mb5.5/60, MW6.1, Error ellipse: s-maj=4.5km s-min=3.0km az=126.0, Moment Tensor Solution. s11 Moment tensor: Scale 10^{18}Nm; M_{rr}1.36; $M_{\theta\theta}$0.06; $M_{\phi\phi}$-1.42; $M_{r\theta}$0.29; $M_{\theta\phi}$-0.22; $M_{\phi r}$-0.47; Best double couple: $M_0$1.50000×10^{18} NP1:ϕ_s22.00000°, δ38.00000°, λ112.00000°. NP2:ϕ_s175.00000°, δ55.00000°, λ74.00000°. Principal axes: T 1.5100, Plg74.0000°, Azm38.0000°; N 0.0100, Plg13.0000°, Azm184.0000°; P -1.5100, Plg9.0000°, Azm276.0000°;*
*ISCJB **06** 22:01:08.0±0.1, 1948S±003×17934W±003, h690km, mb5.3/111 Error ellipse: s-maj=4.0km s-min=2.5km az=135.9*
*SZGRF **06** 22:01:08.8, 1995S×17904W, h698km, Fiji Islands region*
*GCMT **06** 22:01:08.9±0.2, 1931S×17905W, h692km±1km, MW6.0/94, Moment Tensor Solution. s94,c191; s54,c56; Duration: 2s6 Moment tensor: Scale 10^{18}Nm; M_{rr}1.34±.03; $M_{\theta\theta}$-0.36±.03; $M_{\phi\phi}$-0.98±.04; $M_{r\theta}$0.43±.04; $M_{\theta\phi}$-0.68±.03; $M_{\phi r}$-0.34±.04; Best double couple: $M_0$1.48200×10^{18} NP1:ϕ_s52.00000°, δ47.00000°, λ118.00000°. NP2: ϕ_s193.00000°, δ50.00000°, λ63.00000°. Principal axes: T 1.5450, Plg70.0000°, Azm36.0000°; N -0.1240, Plg20.0000°, Azm212.0000°; P -1.4200, Plg1.0000°, Azm302.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*

ISC 06 22:01:09.6±0.1, 1948S±003×17930W±003, h692km, h692km±1.9km: pP-P, n1307, σ0°74/706, mb5.3/111, 217C-107D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**9.81 173**		P	**P**	**22 03 26.1**	**-1.7**
312nm,0.3s,baz=90,slow=17,SNR=11							
RAO				S	**S**	**22 05 19.2**	**-1.6**
195nm,0.3s,baz=93,slow=22,SNR=13							
FUNA	**Funafuti**	**10.98 352**		*e*P	**P**	**22 03 34.6**	**-4.1**
1μm,1.1s							
RAR	**Rarotonga**	**18.39 99**		P	**P**	**22 04 44.5**	**-1.3**
19nm,0.3s,baz=257,slow=7.7,SNR=41							
URZ	**Urewera**	**18.97 189**		P	**P**	**22 04 48.9**	**-1.8**
8.7nm,0.3s,baz=20,slow=2.5,SNR=26							
URZ	**Urewera**	**18.97 189**		PN	**P**	**22 04 48.7**	**-2.0**
KIW	**Kapiti Island**	**21.88 192**		P	**P**	**22 05 16.5**	**0.0**
KIW	**Kapiti Island**	**21.88 192**		*e*PN	**P**	**22 05 16.4**	**-0.1**
DUWZ	**D'Urville Isla**	**22.03 194**		PN	**P**	**22 05 17.5**	**-0.4**
CAW	**Cannon Point**	**22.09 191**		P	**P**	**22 05 18.3**	**0.0**
CAW	**Cannon Point**	**22.09 191**		PN	**P**	**22 05 18.0**	**-0.3**
MRW	**Makara Radio**	**22.28 192**		P	**P**	**22 05 20.4**	**+0.4**
MRW	**Makara Radio**	**22.28 192**		*e*PN	**P**	**22 05 19.7**	**-0.3**
TCW	**Tory Channel**	**22.35 193**		P	**P**	**22 05 20.5**	**-0.1**
TCW	**Tory Channel**	**22.35 193**		*e*PN	**P**	**22 05 19.7**	**-0.9**
SNZO	**South Karori**	**22.35 192**		*e*P	**P**	**22 05 20.8**	**+0.1**
90nm,1.0s,mb5.2							
QRZ	**Quartz Range**	**22.40 196**		*e*P	**P**	**22 05 22.1**	**+1.0**
QRZ	**Quartz Range**	**22.40 196**		*e*PN	**P**	**22 05 22.0**	**+1.0**
HNR	**Honiara**	**22.41 294**		*e*P	**P**	**22 05 20.5**	**-1.1**
HNR				pmax	pmax		
comp=Z,286nm,1.2s,mb5.6							
HNR	**Honiara**	**22.41 294**		*e*P	**P**	**22 05 20.5**	**-1.1**
comp=Z,286nm,1.2s,mb5.6							
HNR	**Honiara**	**22.41 294**		P	**P**	**22 05 20.3**	**-1.4**
comp=Z,86nm,0.4s,mb5.6,baz=183,slow=1.0,SNR=7.1							
NNZ	**Nelson**	**22.55 195**		*e*P	**P**	**22 05 22.9**	**+0.5**
NNZ	**Nelson**	**22.55 195**		PN	**P**	**22 05 21.8**	**-0.6**
TUWZ	**Tuamarina**	**22.63 193**		PN	**P**	**22 05 22.3**	**-0.8**
BSWZ	**Blackbirch Sta**	**22.91 193**		P	**P**	**22 05 26.1**	**+0.5**
THZ	**Tophouse**	**23.18 195**		*e*P	**P**	**22 05 27.6**	**-0.4**
THZ	**Tophouse**	**23.18 195**		PN	**P**	**22 05 27.1**	**-0.9**
DSZ	**Denniston Nort**	**23.45 197**		*e*P	**P**	**22 05 30.7**	**+0.4**
DSZ	**Denniston Nort**	**23.45 197**		PN	**P**	**22 05 30.6**	**+0.2**
KHZ	**Kahutara**	**23.66 193**		*e*P	**P**	**22 05 31.2**	**-0.9**
KHZ	**Kahutara**	**23.66 193**		PN	**P**	**22 05 30.7**	**-1.4**
LTZ	**Lake Taylor**	**24.30 195**		*e*P	**P**	**22 05 36.7**	**-1.1**
LTZ	**Lake Taylor**	**24.30 195**		PN	**P**	**22 05 36.6**	**-1.1**
WVZ	**Waitaha Valley**	**24.98 197**		*e*P	**P**	**22 05 43.4**	**-0.3**
WVZ	**Waitaha Valley**	**24.98 197**		PN	**P**	**22 05 43.0**	**-0.8**
MQZ	**McQueen's Vall**	**25.08 194**		*e*P	**P**	**22 05 44.0**	**-0.6**
MQZ	**McQueen's Vall**	**25.08 194**		PN	**P**	**22 05 43.9**	**-0.7**
RPZ	**Rata Peaks**	**25.48 196**		P	**P**	**22 05 46.7**	**-1.4**
comp=Z,27nm,0.4s,mb5.1,baz=0.1,slow=1.8,SNR=17							
FOZ	**Fox Glacier**	**25.73 199**		*e*P	**P**	**22 05 48.9**	**-1.4**
**FOZ

comp=Z,29nm,0.9s,baz=72,slow=4.2,SNR=8.7
STKA P3KPbc 22 37 33.5
comp=Z,5.4nm,0.7s,baz=284,slow=3.6,SNR=11
TAOE Nuku Hiva Isla 39.31 80 *e*P **P 22 07 41.3 -2.5**
comp=Z,12μm,1.1s
RKT Rikitea 41.34 103 *e*P **P 22 07 58.2 -1.4**
comp=Z,213nm,1.4s,mb5.4
RKT Rikitea 41.34 103 *e*P **P 22 07 58.2 -1.4**
RKT pmax pmax
comp=Z,213nm,1.4s,mb5.4
WB2 Warramunga Arr 43.53 261 ⇓*i*P **P 22 08 15.8 -0.7**
WB2 *e*SCP ScP 22 12 37.7 +2.3
WB2 *e*S **S 22 13 57.3 -1.7**
WB2 *e*SCS ScS 22 17 01.3 +1.3
WB2 Warramunga Arr 43.53 261 *e*P **P 22 08 16.1 -0.4**
WB2 *e*PcP PcP 22 09 47.1 -0.5
WB2 *e*pP 22 10 08.8
WB2 *e*ScP ScP 22 12 37.3 +1.9
WB2 *e*S **S 22 13 57.9 -1.1**
WRAB Tennant Creek 43.53 261 *d i*P **P 22 08 15.6 -0.9**
WRAB Tennant Creek 43.53 261 *e*P **P 22 08 15.8 -0.7**
comp=Z,138nm,0.8s,mb5.3
WRA Warramunga Arr 43.54 261 P **P 22 08 14.9 -1.7**
WRA 22 09 47.5
WRA S **S 22 13 57.8 -1.4**
WRA Warramunga Arr 43.54 261 P **P 22 08 14.9 -1.6**
WRA PcP PcP 22 09 47.5 -0.2
WRA ScP ScP 22 12 38.6 +3.2
WRA S **S 22 13 57.8 -1.4**
WRA Warramunga Arr 43.54 261 P **P 22 08 14.9 -1.6**
comp=Z,98nm,0.5s,mb5.4,baz=97,slow=8.5,SNR=1130
WRA PcP PcP 22 09 47.5 -0.2
comp=Z,8.1nm,0.4s,baz=88,slow=3.6,SNR=5.0
WRA ScP ScP 22 12 38.6 +3.2
comp=Z,32nm,1.0s,baz=91,slow=4.3,SNR=15
WRA S **S 22 13 57.8 -1.4**
comp=Z,57nm,0.9s,baz=98,slow=13,SNR=8.0
WRA PKiKP PKiKP 22 16 45.3 -1.8
comp=Z,0.9nm,0.3s,baz=77,slow=0.3,SNR=6.6
WRA ScS ScS 22 17 02.8 +2.8
comp=Z,14nm,1.3s,baz=94,slow=6.9,SNR=7.9
WRA P3KPbc 22 37 05.3
comp=Z,0.3nm,0.4s,baz=291,slow=2.7,SNR=7.3
ASAR Alice Springs 43.57 256 P **P 22 08 17.0 +0.2**
ASAR 22 09 48.1
ASAR S **S 22 13 59.2 -0.4**
ASAR 22 17 03.5
ASAR Alice Springs 43.57 256 P **P 22 08 16.9 +0.2**
ASAR PcP PcP 22 09 48.0 +0.3
ASAR ScP ScP 22 12 39.2 +3.7
ASAR S **S 22 13 59.1 -0.4**
ASAR ScS ScS 22 17 03.5 +3.4
ASAR *e* 22 37 06.0
ASAR Alice Springs 43.57 256 P **P 22 08 16.9 +0.2**
comp=Z,150nm,0.5s,mb5.6,baz=88,slow=7.6,SNR=2175
ASAR PcP PcP 22 09 48.0 +0.3
comp=Z,19nm,0.4s,baz=108,slow=4.1,SNR=6.6
ASAR ScP ScP 22 12 39.2 +3.7
comp=Z,15nm,0.8s,baz=101,slow=3.7,SNR=8.3
ASAR S **S 22 13 59.1 -0.4**
comp=Z,79nm,0.7s,baz=90,slow=15,SNR=65
ASAR ScS ScS 22 17 03.5 +3.4
comp=Z,14nm,1.1s,baz=100,slow=6.2,SNR=7.8
ASAR P3KPbc 22 37 06.0
comp=Z,0.4nm,0.6s,baz=279,slow=4.0,SNR=6.8
ASAR P4KPbc 22 46 02.7
comp=Z,0.4nm,0.8s,baz=97,slow=4.4,SNR=10
POHA Pohakuloa 45.42 32 *e*P **P 22 08 29.4 -1.3**
comp=Z,236nm,1.0s,mb5.5
HON Honolulu 45.59 28 *e*P **P 22 08 31.2 -0.8**
KIP Kipapa 45.67 28 *e*P **P 22 08 30.9 -1.8**
KIP Kipapa 45.67 28 *e*P **P 22 08 30.7 -1.9**
comp=Z,371nm,1.3s,mb5.6
KAKA Kakadu 46.73 271 ⇓*i*P **P 22 08 40.0 -0.7**
comp=Z,328nm,0.9s,mb5.7
KAKA *e*SCP ScP 22 12 51.1 +2.3
KAKA *e*S **S 22 14 40.6 -3.0**
MIDW Midway 47.45 2 *e*P **P 22 08 44.2 -1.5**
GUMO Guam 48.21 310 P **P 22 08 51.1 -0.5**
comp=Z,613nm,1.1s,mb5.8,baz=177,slow=6.6,SNR=12
GUMO ScP ScP 22 12 57.4 +2.4
comp=Z,207nm,1.0s,baz=110,slow=3.5,SNR=5.5
FORT Forrest 48.58 246 ⇓*i*P **P 22 08 54.0 -0.2**
comp=Z,59nm,0.4s,mb5.3
FORT *e*S **S 22 15 07.9 -0.5**
FITZ Fitzroy Crossi 51.95 262 ⇓*i*P **P 22 09 18.6 0.0**
comp=Z,56nm,0.4s,mb5.1
FITZ *e*S **S 22 15 56.0 +2.3**
FITZ Fitzroy Crossi 51.95 262 P **P 22 09 18.6 0.0**
comp=Z,35nm,0.5s,mb4.9,baz=110,slow=4.9,SNR=285
FITZ S **S 22 15 56.5 +2.8**
comp=Z,4.6nm,0.8s,baz=184,slow=23,SNR=7.7
MBWA Marble Bar 56.88 257 *e*P **P 22 09 51.8 -0.9**
MBWA Marble Bar 56.88 257 P **P 22 09 53.2 +0.5**
SNR=5.3
MBWA Marble Bar 56.88 257 P **P 22 09 53.2 +0.5**
SNR=5.3
MBWA Marble Bar 56.88 257 P **P 22 09 53.2 +0.5**
SNR=5.3
MBWA Marble Bar 56.88 257 P **P 22 09 53.2 +0.5**
SNR=5.3
KLBR Kellerberrin 57.38 244 *e*P **P 22 09 55.2 -0.7**
comp=Z,117nm,1.0s,mb5.0
KLBR *e*SCP pP 22 12 00.6 -1.6
NWAO Narrogin (SRO) 57.74 243 *e*P **P 22 09 58.4 +0.2**
NWAO 22 10 40.7
NWAO *e**PP pP 22 12 03.7 -1.1
NWAO pmax pmax
comp=Z,22nm,0.5s
NWAO Narrogin (SRO) 57.74 243 *e*P **P 22 09 58.4 +0.2**
comp=Z,22nm,0.5s,mb4.5
NWAO PcP PcP 22 10 40.7 -0.2
NWAO *e*pP pP 22 12 03.7 -1.1
NWAO Narrogin (SRO) 57.74 243 P **P 22 09 58.6 +0.4**
comp=Z,33nm,0.6s,mb4.7,baz=98,slow=6.5,SNR=23
MUN Mundaring 58.67 244 *e*P **P 22 10 05.1 +0.6**
SBA Scott Base 58.81 183 *e*P **P 22 10 07.3 +2.7**
VNDA Vanda 58.82 185 P **P 22 10 06.4 +1.8**
VNDA 22 10 45.3
VNDA S **S 22 17 25.8 +6.0**
VNDA Vanda 58.82 185 P **P 22 10 06.4 +1.8**
VNDA PcP PcP 22 10 45.3 +0.8
VNDA ScP ScP 22 13 44.5 +4.1
VNDA S **S 22 17 25.8 +6.0**
VNDA P'P' 22 39 36.2
VNDA Vanda 58.82 185 P **P 22 10 06.4 +1.8**
comp=Z,14nm,0.7s,mb4.2,baz=354,slow=7.3,SNR=69
VNDA PcP PcP 22 10 45.3 +0.8
comp=Z,8.8nm,0.8s,baz=311,slow=2.3,SNR=4.9
VNDA ScP ScP 22 13 44.5 +4.1
comp=Z,5.4nm,0.7s,baz=350,slow=3.5,SNR=5.1
VNDA S **S 22 17 25.8 +6.0**
comp=Z,0.6nm,0.8s,baz=199,slow=20,SNR=6.1
VNDA PKPPKP 22 39 36.2
comp=Z,4.0nm,1.2s,baz=259,slow=2.3,SNR=10
DAV Davao City (W) 60.33 290 *e*P **P 22 10 15.9 +0.2**
comp=Z,154nm,0.9s,mb5.1
DAV *e*PcP PcP 22 10 52.9 +1.1
DAV Davao City (W) 60.33 290 P **P 22 10 16.4 +0.8**
SNR=5.5
DAV Davao City (W) 60.33 290 P **P 22 10 16.4 +0.8**
SNR=5.5
DAV Davao City (W) 60.33 290 P **P 22 10 16.4 +0.8**
SNR=5.5
DAV Davao City (W) 60.33 290 P **P 22 10 16.4 +0.8**
SNR=5.5
RPN Rapa Nui 64.00 111 P **P 22 10 40.8 +1.9**
comp=Z,111nm,1.0s,mb5.0,baz=232,slow=19,SNR=3.5
CASY Casey 64.36 205 *e*P **P 22 10 39.7 -0.8**
CASY *e* pP 22 12 49.1 -2.6
CASY *e*S **S 22 18 28.8 +1.3**
MYLDM Lahad Datu 65.89 285 ⇑P **P 22 10 52.9 +2.0**
TSM Tawau 66.11 284 ⇑P **P 22 10 53.6 +1.4**
SDKM Sandakan 67.26 285 ⇓P **P 22 11 00.9 +1.6**
KDM Kudat 68.10 286 ⇓P **P 22 11 05.2 +0.9**
KKM Kota Kinabalu 68.31 285 ⇑P **P 22 11 06.0 +0.4**
JOW Kunigami 68.58 310 P **P 22 11 07.3 +0.4**
comp=Z,59nm,0.7s,mb5.0
MJAR Matsushiro Arr 68.67 324 P **P 22 11 06.3 -0.8**
comp=Z,50nm,0.7s,mb4.9,baz=156,slow=5.9,SNR=137
MJAR pP pP 22 13 21.8 +0.5
comp=Z,9.2nm,0.9s,baz=154,slow=6.1,SNR=5.6
MAT Matsushiro 68.67 324 P **P 22 11 06.1 -1.1**
MAT S S 22 19 13.0 -5.5
BTM Bintulu 70.10 281 ⇑P **P 22 11 17.3 +1.1**

AMKA Amchitka 70.56 359 *e*P **P 22 11 16.4 -1.5**
QSPA South Pole Qui 70.58 180 P **P 22 11 19.3 +1.5**
comp=Z,117nm,0.8s,mb5.4,baz=28,slow=1.6,SNR=193
QSPA pP pP 22 13 33.0 0.0
comp=Z,15nm,0.8s,baz=314,slow=4.4,SNR=2.9
QSPA S S 22 19 42.4 +3.6
comp=Z,5.2nm,1.0s,baz=162,slow=18,SNR=18
SBUM Sibu 70.63 280 ⇑P **P 22 11 20.3 +1.0**
JNU Nakatsue 70.70 317 P **P 22 11 18.9 -0.4**
comp=Z,57nm,0.9s,mb5.0,baz=82,slow=8.1,SNR=22
ADK Adak 71.09 2 *e*P **P 22 11 18.9 -2.1**
ADK pmax pmax
comp=Z,175nm,0.7s,mb5.6
ADK Adak 71.09 2 *e*P **P 22 11 18.9 -2.2**
comp=Z,175nm,0.7s,mb5.6
MIR Mirnyy 71.39 205 *e*P **P 22 11 24.5 +1.8**
MIR *i* 22 11 44.0
MIR pmax pmax
comp=Z,400nm,1.2s,mb5.7
KSM Kuching 72.06 278 ⇓P **P 22 11 28.4 +0.9**
SMY Shemya 72.13 356 *e*P **P 22 11 25.5 -1.5**
SMY pmax pmax
comp=Z,148nm,0.8s,mb5.5
SMY Shemya 72.13 356 *e*P **P 22 11 25.5 -1.5**
comp=Z,148nm,0.8s,mb5.5
ASAJ Asahikawa 72.25 332 P **P 22 11 28.8 +0.9**
comp=Z,125nm,0.7s,mb5.4,baz=198,slow=5.3
TATO Taipei 72.59 305 *e*P **P 22 11 28.2 -2.1**
NIKO Nikolski 72.71 7 *e*P **P 22 11 28.8 -1.5**
SKR Severo-Kuril's 73.14 344 *e*P **P 22 11 27.0 -5.8**
SKR *e*S S 22 20 04.0 -3.7
SKR *e*PS 22 20 39.0
SKR *e* 22 20 50.0
SKR pmax pmax
comp=Z,80nm,0.5s,mb5.4
SKR pmax pmax
comp=E,2μm,2.0s
SKR pmax pmax
comp=Z,2μm,2.0s,mb6.3
SKR smax
comp=N,5μm,12.0s
SKR smax
comp=E,3μm,12.0s
UNV Unalaska Valle 73.85 8 *e*P **P 22 11 34.5 -2.2**
AKUT Akutan 74.23 8 *e*P **P 22 11 36.6 -2.2**
comp=E,111nm,0.4s,mb5.7
YSS Yuzh-Sakhalins 74.44 334 ⇑*i*P **P 22 11 40.3 +0.1**
YSS *i* S S 22 20 25.0 +3.1
YSS pmax pmax
comp=Z,140nm,0.9s,mb5.5
YSS smax
comp=N,4μm,14.0s
YSS Yuzh-Sakhalins 74.44 334 *e*P **P 22 11 40.2 0.0**
PET Petropavlovsk 74.69 346 *e*P **P 22 11 39.9 -1.5**
PET *e*S S 22 20 22.5 -1.8
PET *e*SPP 22 20 54.3
PET pmax pmax
comp=Z,82nm,0.6s,mb5.4
PET pmax pmax
comp=Z,900nm,8.0s
PET pmax pmax
comp=Z,500nm,12.8s
PET pmax pmax
comp=Z,23nm,1.6s,mb4.5
PET smax
comp=N,2μm,9.2s
PET smax
comp=N,2μm,14.4s
PET Petropavlovsk 74.69 346 ⇑*e*P **P 22 11 40.1 -1.3**
QZH Quanzhou 74.83 304 ⇑*i*P **P 22 11 43.5 +0.6**
QZH AP pP 22 13 59.2 -1.4
QZH S S 22 20 24.9 -2.1
QZH XS sS 22 24 35.5 +3.4
QZH AMB AMB
comp=Z,140nm,0.9s,mb5.5
QZH AMB AMB
comp=Z,840nm,3.4s
KSRS Korea Array 75.32 319 P **P 22 11 45.4 +0.2**
comp=Z,16nm,0.8s,mb4.6,baz=133,slow=5.8,SNR=51
KSRS PP PP 22 14 42.9 -5.4
comp=Z,5.2nm,1.0s,baz=132,slow=8.1,SNR=5.1
KS15 Wonju Array Si 75.33 319 *e*P **P 22 11 45.4 +0.1**
SDPT Sand Point 76.23 11 *e*P **P 22 11 47.8 -2.0**
comp=Z,220nm,0.7s,mb5.8
VLA Vladivostok 76.75 326 *e*P **P 22 11 52.4 -0.5**
VLA pmax pmax
comp=Z,34nm,0.8s,mb4.9
VLA Vladivostok 76.75 326 *e*P **P 22 11 52.5 -0.4**
CHGN Chignik 77.52 12 *e*P **P 22 11 55.0 -1.7**
FARB Farallon Islan 77.68 42 ⇑P **P 22 11 58.3 +0.2**
baz=78
BSC Santa Cruz Isl 77.80 47 ⇑P **P 22 11 58.8 0.0**
baz=78,SNR=8.0
V03C Hunter Liggett 77.85 45 ⇑P **P 22 11 59.5 +0.5**
baz=78,SNR=8.6
HAST Hastings Reser 77.85 44 P **P 22 11 59.4 +0.4**
baz=78,SNR=68
V04C Ramage Ranch, 77.87 45 ⇑P **P 22 11 59.1 -0.1**
baz=78,SNR=17
BNLO Ben Lomond (Sa 77.88 43 ⇑P **P 22 11 59.2 +0.1**
baz=78,SNR=9.3
SBC Santa Barbara 77.99 47 ⇑P **P 22 12 00.1 +0.4**
baz=78
JRSC Jasper Ridge 77.99 43 ⇓P **P 22 11 59.2 -0.5**
baz=78,SNR=7.1
SCI San Clemente I 78.00 49 ⇑P **P 22 11 59.4 -0.5**
baz=78
SAO San Andreas Ge 78.14 44 *e*P **P 22 12 00.6 +0.1**
SAO *e* 22 15 09.6
SAO pmax pmax
comp=Z,81nm,0.8s,mb5.3
SAO San Andreas Ge 78.14 44 *e*P **P 22 12 00.6 +0.1**
comp=Z,81nm,0.8s,mb5.3
SAO *e*PP PP 22 15 09.6 -1.9
GZH Guangzhou 78.15 300 P **P 22 12 02.2 +1.3**
GZH S S 22 20 54.9 -7.2
GZH AMB AMB
comp=Z,64nm,1.0s,mb5.1
PKM Peak Mountain 78.17 46 ⇑P **P 22 12 01.4 +0.7**
baz=78,SNR=15
MYKOM Kota Tinggi 78.21 276 ⇑P **P 22 12 02.4 +1.0**
PKD Parkfield 78.27 45 ⇓P **P 22 12 01.4 +0.2**
baz=78,SNR=22
SMMC Simmler 78.28 46 ⇑P **P 22 12 02.1 +0.8**
baz=78,SNR=9.6
NJ2 Nanjing 78.29 310 *e*P **P 22 12 02.6 +1.2**
NJ2 PCP PcP 22 12 10.0 +2.4
NJ2 S S 22 21 06.0 +2.9
NJ2 AMB AMB
comp=Z,60nm,1.2s,mb5.0
NJ2 AMB AMB
comp=Z,680nm,6.3s
CIS Catalina Islan 78.33 48 ⇑P **P 22 12 01.4 -0.3**
baz=78
U04C Hernandez Rese 78.34 45 ⇑P **P 22 12 02.3 +0.7**
baz=78,SNR=32
PACP Pacheco Peak 78.38 44 ⇑P **P 22 12 02.3 +0.6**
baz=78,SNR=57
HOPS Hopland 78.41 41 *e*P **P 22 12 01.9 +0.1**
comp=Z,171nm,1.1s,mb5.5
HOPS Hopland 78.41 41 ⇑P **P 22 12 01.9 +0.1**
baz=79,SNR=12
CVS Carmenet Viney 78.41 42 P **P 22 12 01.8 -0.1**
baz=79,SNR=16
WENL Wente Brothers 78.43 43 ⇓P **P 22 12 02.3 +0.3**
baz=79,SNR=11
P01C Double 8 Ranch 78.53 41 ⇑P **P 22 12 02.6 +0.1**
baz=79,SNR=5.6
O01C Eel River Cons 78.64 40 ⇓P **P 22 12 03.5 +0.5**
baz=79,SNR=17
S04C Ingram Canyon, 78.64 43 P **P 22 12 03.5 +0.3**
baz=79,SNR=35
V05C Boulder Hill, 78.65 45 ⇓P **P 22 12 03.8 +0.6**
baz=79,SNR=5.5
MNRC McLaughlin Nat 78.73 42 P **P 22 12 04.1 +0.5**
baz=79,SNR=24
KGM Kluang 78.79 276 ⇑P **P 22 12 06.1 +1.6**
Q03C Winters 78.86 42 ⇓P **P 22 12 05.1 +0.8**
baz=79,SNR=10.0
HABR Khabarovsk 78.96 331 ⇑*i*P **P 22 12 04.9 +0.4**
HABR *e* 22 12 07.0
HABR *e* pP 22 14 23.2 -1.4
HABR *e*S S 22 21 13.3 +4.0
HABR *e* 22 21 23.1
HABR *e* 22 26 39.7
HABR *e* 22 30 10.1

HABR pmax pmax
comp=Z,333nm,2.4s,mb5.4
ARVC Arvin 78.97 47 ⇑P **P 22 12 04.7 -0.2**
baz=79,SNR=9.8
109C Camp Elliot, M 78.98 49 P **P 22 12 04.9 -0.1**
baz=79,SNR=6.8
MDJ Mudanjiang 78.98 326 P **P 22 12 04.5 -0.3**
MDJ AP pP 22 14 25.1 +0.3
MDJ S S 22 21 16.2 +6.5
MDJ AMB AMB
comp=Z,56nm,0.8s,mb5.2
MDJ AMB AMB
comp=Z,556nm,5.5s
MWC Mount Wilson 79.02 48 *e*P **P 22 12 05.1 -0.1**
GASB Alder Springs 79.02 41 ⇓P **P 22 12 06.0 +0.9**
baz=79,SNR=28
KHMM Horse Mountain 79.14 40 *e*P **P 22 12 06.4 +0.8**
BAR Barrett 79.18 50 *e*P **P 22 12 05.9 -0.2**
VES Vestal, Richgr 79.19 46 P **P 22 12 05.5 -0.5**
baz=79,SNR=36
S05C Merced 79.20 44 P **P 22 12 06.0 -0.1**
baz=79,SNR=38
MURC Murrieta 79.29 49 P **P 22 12 06.7 +0.1**
baz=79,SNR=8.3
O02C Red Bluff 79.29 41 P **P 22 12 07.2 +0.8**
baz=79,SNR=41
BFSC Mount Baldy St 79.30 48 P **P 22 12 06.3 -0.3**
baz=79,SNR=13
QIZ Qiongzhong 79.32 295 ⇑P **P 22 12 07.0 -0.1**
QIZ AP pP 22 14 32.1 +4.8
QIZ S S 22 21 11.5 -2.7
QIZ XS sS 22 25 23.8 +0.3
QIZ AMB AMB
comp=Z,15nm,1.5s,mb4.3
QIZ AMB AMB
comp=Z,334nm,4.2s
RCTC Rector, Farmer 79.34 45 ⇑P **P 22 12 06.5 -0.3**
baz=80,SNR=5.8
SUTB Sutter Butte 79.35 42 ⇑P **P 22 12 06.7 -0.1**
baz=80,SNR=6.7
N02C Big Bar 79.36 40 ⇓P **P 22 12 07.0 +0.1**
baz=80,SNR=16
Q04C Lincoln 79.38 42 ⇑P **P 22 12 07.1 +0.1**
baz=80,SNR=5.8
EDW2 Edwards Air Fo 79.42 47 P **P 22 12 07.3 0.0**
baz=80,SNR=92
T06C Millerton Lake 79.42 45 P **P 22 12 07.0 -0.2**
baz=80,SNR=52
MONP Monument Peak 79.47 50 P **P 22 12 08.1 +0.4**
baz=80,SNR=48
M01C Crescent City 79.50 39 ⇑P **P 22 12 07.8 +0.2**
baz=80,SNR=6.9
CMB Columbia Colle 79.56 43 *e*P **P 22 12 07.3 -0.6**
CMB *e**PP pP 22 14 25.7 -2.6
CMB *e* 22 15 21.8
CMB pmax pmax
comp=Z,67nm,0.8s,mb5.1
CMB Columbia Colle 79.56 43 P **P 22 12 07.7 -0.2**
CMB pmax pmax
comp=Z,67nm,0.9s,mb5.1
CMB Columbia Colle 79.56 43 *e*P **P 22 12 07.3 -0.6**
comp=Z,67nm,0.8s,mb5.1
CMB *e*pP pP 22 14 25.7 -2.6
CMB *e*PP PP 22 15 21.8 -1.1
CMB Columbia Colle 79.56 43 P **P 22 12 07.8 -0.1**
baz=80,SNR=101
DVTC Desert V Tower 79.58 50 P **P 22 12 08.6 +0.4**
baz=80,SNR=25
OHCM Honcut 79.60 42 *e*P **P 22 12 07.9 -0.2**
O03C Acorn Hollow, 79.65 41 ⇓P **P 22 12 08.3 0.0**
baz=80,SNR=21
KBO Bosley Butte 79.67 38 *e*P **P 22 12 09.3 +1.0**
WDC Whiskeytown Da 79.68 40 *e*P **P 22 12 08.3 -0.2**
WDC *e**PP pP 22 14 27.4 -1.5
WDC *e* 22 15 22.4
WDC pmax pmax
comp=Z,243nm,1.4s,mb5.4
WDC Whiskeytown Da 79.68 40 *e*P **P 22 12 08.3 -0.2**
comp=Z,243nm,1.4s,mb5.4
WDC *e*pP pP 22 14 27.4 -1.6
WDC *e*PP PP 22 15 22.4 -1.5
WDC sP sP 22 15 37.8 0.0
WDC Whiskeytown Da 79.68 40 ⇑P **P 22 12 08.5 0.0**
baz=80,SNR=53
HELL Mitchell Peak 79.69 45 P **P 22 12 08.3 -0.4**
baz=80,SNR=80
ORV Oroville 79.72 42 P **P 22 12 08.6 -0.2**
baz=80,SNR=35
LAVA Lava Cap Winer 79.74 43 ⇓P **P 22 12 08.4 -0.5**
baz=80,SNR=25
PFO Pinyon Flat Ob 79.82 49 ⇓P **P 22 12 09.2 -0.2**
baz=80,SNR=15
KCC Kaiser Creek 79.86 45 P **P 22 12 09.6 +0.1**
baz=80,SNR=44
K01A Sixes 79.89 38 ⇑P **P 22 12 09.7 +0.2**
baz=80
LRMC Laurel Mountai 79.94 47 ⇑P **P 22 12 10.0 0.0**
baz=80,SNR=12
SWSC Sam W. Stewart 79.95 50 P **P 22 12 10.0 -0.1**
baz=80,SNR=35
LPIG La Paz 79.95 60 P **P 22 12 10.9 +0.6**
comp=Z,24nm,0.4s,mb5.0,baz=28,slow=2.2,SNR=11
M02C Callahan 79.98 40 P **P 22 12 10.8 +0.8**
baz=80,SNR=62
L02A Cave Junction 80.00 39 ⇓P **P 22 12 10.6 +0.5**
baz=80,SNR=8.7
KEBM Edson Butte 80.01 38 *e*P **P 22 12 10.5 +0.4**
RRX Edison Barstow 80.10 48 ⇓P **P 22 12 10.6 -0.2**
baz=80
KTGM Kuala Trenggan 80.11 279 ⇑P **P 22 12 13.1 +1.7**
KDAK Kodiak Island 80.12 14 *e*P **P 22 12 09.4 -0.9**
R05C Kirkwood Meado 80.14 43 P **P 22 12 11.1 +0.2**
baz=80,SNR=68
P05C Yuba Gap, Truc 80.14 42 P **P 22 12 11.2 +0.4**
baz=80,SNR=34
DL2 Dalian 80.15 317 ⇑*i*P **P 22 12 10.7 -0.3**
DL2 AP pP 22 14 30.4 -1.2
DL2 PP PP 22 15 24.1 -3.6
DL2 S S 22 21 24.7 +2.9
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.5
DL2 AMB AMB
comp=Z,170nm,5.3s
CWC Cottonwood Cre 80.20 46 P **P 22 12 11.5 +0.2**
baz=80,SNR=20
YBH Yreka Blue Hor 80.27 39 *e*P **P 22 12 11.9 +0.4**
YBH *e*pP pP 22 14 35.1 +2.9
YBH Yreka Blue Hor 80.27 39 P **P 22 12 12.0 +0.5**
baz=80,SNR=78
O05C Quincy 80.32 42 P **P 22 12 12.1 +0.2**
baz=80,SNR=33
MLAC Mammoth Lakes 80.34 44 ⇓P **P 22 12 12.9 +0.9**
baz=80,SNR=9.9
BELC Belle Mtn. 80.35 49 P **P 22 12 12.4 +0.3**
baz=80,SNR=30
M03C McCloud 80.35 40 P **P 22 12 12.2 +0.2**
baz=80,SNR=60
MPMC Manual Prospec 80.39 46 P **P 22 12 12.5 +0.2**
baz=80,SNR=86
O04C Chester 80.43 41 P **P 22 12 12.7 +0.3**
baz=81,SNR=36
TIN Tinemaha 80.43 45 ⇑P **P 22 12 12.7 +0.3**
baz=81,SNR=6.1
K02A Glendale 80.44 38 P **P 22 12 12.6 +0.2**
baz=81,SNR=22
WAKR Walker 80.44 43 *e*P **P 22 12 12.9 +0.4**
R06C Coleville 80.44 43 P **P 22 12 13.0 +0.5**
baz=81,SNR=87
R07C Lee Vining 80.46 44 P **P 22 12 13.2 +0.6**
baz=81,SNR=10
GSC Goldstone 80.46 47 *e*P **P 22 12 12.7 0.0**
GSC *e* 22 15 28.0
GSC Goldstone 80.46 47 P **P 22 12 12.7 0.0**
baz=81,SNR=48
HATC Hat Creek Radi 80.48 41 P **P 22 12 12.9 +0.3**
baz=81,SNR=47
HEC Hector,Ludlow 80.55 48 P **P 22 12 13.0 -0.1**
baz=81,SNR=66
BEKR Beckwourth 80.62 42 P **P 22 12 13.5 +0.1**
baz=81,SNR=89
SNY Shenyang 80.64 320 ⇑P **P 22 12 13.2 -0.2**
SNY S S 22 21 20.5 -6.1
SNY AMB AMB
comp=Z,39nm,0.7s,mb5.0
SNY AMB AMB
comp=Z,700nm,3.5s

HUMO **Hull Mountain** 80.65 39 eP P 22 12 13.7 +0.2
HUMO **Hull Mountain** 80.65 39 P P 22 12 13.8 +0.4
baz=81,SNR=84
WCN **Washoe City** 80.68 43 P P 22 12 14.1 +0.4
baz=81,SNR=42
GLA **Glamis** 80.70 50 eP P 22 12 14.5 +0.5
GLA **Glamis** 80.70 50 P P 22 12 14.5 +0.6
baz=81,SNR=56
S08C **White Mtn Res** 80.71 45 P P 22 12 14.6 +0.7
baz=81,SNR=86
CN2 **Changchun** 80.75 323 eP P 22 12 13.6 -0.3
CN2 eAP pP 22 14 35.8 +0.9
CN2 eS S 22 21 25.2 -2.4
CN2 XS sS 22 25 28.2 -10
CN2 eSS SS 22 27 03.1 -1.0
CN2 AMB AMB
comp=Z,80nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,1µm,3.0s
J02A **Umpqua** 80.75 38 ⇓P P 22 12 14.0 0.0
baz=81,SNR=31
FRIM **Kepong** 80.80 277 ⇓P P 22 12 16.4 +1.5
P06A **Stead Airport,** 80.80 42 ⇑P P 22 12 14.8 +0.5
baz=81,SNR=12
M04C **Macdoel** 80.82 40 P P 22 12 14.6 +0.2
baz=81,SNR=49
WHN **Wuhan** 80.86 307 eP P 22 12 15.1 +0.3
GRAC **Grapevine Rang** 80.98 46 P P 22 12 15.7 +0.4
baz=81,SNR=25
GMRC **Granite Mounta** 80.99 48 ⇑P P 22 12 15.4 +0.1
baz=81,SNR=54
M05C **Lookout** 80.99 40 ⇑P P 22 12 15.6 +0.3
baz=81,SNR=34
I02A **Mapleton** 81.00 37 P P 22 12 15.6 +0.4
baz=81,SNR=25
L04A **Klamath Falls** 81.02 39 ⇑P P 22 12 15.6 +0.2
baz=81,SNR=35
KLR **Kul'dur** 81.03 330 eP P 22 12 10.7 -4.5
KLR eS S 22 21 26.5 -3.7
KLR e 22 27 13.5
KLR pmax pmax
comp=E,50nm,1.8s
KLR pmax pmax
comp=Z,140nm,1.8s,mb5.1
KLR smax
comp=N,2µm,15.0s
KLR smax
comp=E,2µm,15.0s
IRM **Iron Mountain** 81.03 49 P P 22 12 16.0 +0.4
baz=81,SNR=26
FURC **Furnace Creek,** 81.04 46 P P 22 12 15.6 0.0
baz=81,SNR=19
J03A **Ideyld Park** 81.11 38 P P 22 12 16.0 +0.2
baz=81,SNR=34
O06A **Flanigan** 81.12 42 P P 22 12 16.1 +0.2
baz=81,SNR=95
NVAR **Mina Array Bea** 81.14 44 P P 22 12 16.2 +0.2
NVAR PKKPbc PKKPbc 22 30 48.5 +1.5
NVAR **Mina Array Bea** 81.14 44 P P 22 12 16.2 +0.2
comp=E,43nm,0.6s,mb5.0,baz=216,slow=6.0,SNR=213
NVAR PKKPbc PKKPbc 22 30 48.5 +1.5
comp=E,1.3nm,0.8s,baz=92,slow=4.5,SNR=5.1
SHOC **Shoshone** 81.14 47 ⇑P P 22 12 16.3 +0.2
baz=81,SNR=5.9
PAHR **Pah Rah Range** 81.15 42 eP P 22 12 16.2 +0.1
comp=E,328nm,1.4s,mb5.6
TUQ **Turquoise Mtn.** 81.15 48 P P 22 12 16.3 +0.1
baz=81,SNR=58
R08A **Mina** 81.22 44 ⇑P P 22 12 16.9 +0.4
baz=81,SNR=8.0
Y12C **Blythe** 81.28 50 ⇓P P 22 12 17.0 +0.2
baz=81,SNR=28
I03A **Eugene** 81.30 37 ⇑P P 22 12 16.7 0.0
baz=82,SNR=24
M06C **Likely Place G** 81.31 41 P P 22 12 17.3 +0.4
baz=82,SNR=75
H02A **Toledo** 81.32 36 P P 22 12 17.3 +0.5
baz=82,SNR=8.3
N06A **Buffalo Meadow** 81.45 41 ⇑P P 22 12 17.3 -0.3
baz=82,SNR=20
S09A **Goldfield** 81.47 45 P P 22 12 17.5 -0.2
baz=82,SNR=46
J04A **Umpqua Nationa** 81.53 38 P P 22 12 18.4 +0.6
baz=82,SNR=31
LDFC **Landfair** 81.53 48 eP P 22 12 18.9 +0.8
L05A **Lakeview** 81.58 40 P P 22 12 18.9 +0.7
baz=82,SNR=61
Q08A **Gabbs** 81.61 44 P P 22 12 18.5 0.0
baz=82,SNR=100
COR **Corvallis** 81.66 37 eP P 22 12 18.8 +0.3
COR **Corvallis** 81.66 37 P P 22 12 18.7 +0.2
I04A **Tendick Farm,** 81.69 38 P P 22 12 18.4 -0.3
baz=82,SNR=40
V11A **Goodsprings** 81.70 47 P P 22 12 19.1 +0.1
baz=82,SNR=42
TPNV **Topopah Spring** 81.71 46 eP P 22 12 19.1 +0.1
TPNV pmax pmax
comp=Z,180nm,1.3s,mb5.4
TPNV **Topopah Spring** 81.71 46 eP P 22 12 19.1 +0.1
comp=Z,180nm,1.3s,mb5.4
TPNV **Topopah Spring** 81.71 46 ⇓P P 22 12 19.2 +0.2
baz=82
H03A **Soap Creek Ran** 81.72 37 ⇓P P 22 12 19.0 +0.2
baz=82
NEE2 **Needles Airpor** 81.72 49 P P 22 12 19.6 +0.5
baz=82,SNR=6.6
O07A **Toulon** 81.72 42 P P 22 12 19.1 +0.2
baz=82,SNR=133
IPM **Ipoh** 81.78 278 ⇓P P 22 12 21.2 +1.3
Y13A **Salome** 81.81 50 P P 22 12 20.2 +0.6
baz=82,SNR=53
W12A **Cal Nev Ari** 81.81 48 ⇑P P 22 12 20.1 +0.6
baz=82,SNR=6.6
MOD **Modoc** 81.82 40 eP P 22 12 19.5 +0.1
comp=Z,266nm,1.4s,mb5.6
MOD **Modoc** 81.82 40 ⇓P P 22 12 19.5 +0.1
baz=82,SNR=53
PDMCI **Parker Dam,Lak** 81.83 49 ⇑P P 22 12 19.7 +0.1
baz=82,SNR=22
R09A **Tonopah** 81.84 45 ⇑P P 22 12 19.6 0.0
baz=82,SNR=8.9
K05A **Summer Lake** 81.94 39 P P 22 12 20.6 +0.6
baz=82,SNR=91
P08A **Dixie Valley** 81.98 43 ⇓P P 22 12 21.1 +0.8
baz=82,SNR=9.7
S10A **Tonopah Range,** 81.99 45 P P 22 12 20.6 +0.3
baz=82,SNR=304
N07B **Gerlach** 82.01 42 P P 22 12 20.5 +0.1
baz=82,SNR=67
U11A **Corn Creek** 82.03 47 ⇓P P 22 12 21.1 +0.5
baz=82,SNR=5.6
V12A **Nelson** 82.04 48 ⇓P P 22 12 20.6 0.0
baz=82,SNR=26
J05A **Fort Rock** 82.07 39 P P 22 12 21.1 +0.5
baz=82,SNR=162
Q09A **Carvers** 82.09 44 P P 22 12 21.2 +0.4
baz=82,SNR=12
MAW **Mawson** 82.10 200 eP P 22 12 20.4 0.0
comp=Z,40nm,1.1s,mb4.9
MAW eS S 22 21 38.1 -2.3
MAW **Mawson** 82.10 200 eP P 22 12 20.4 0.0
MAW eS S 22 21 38.1 -2.3
MAW pmax pmax
comp=Z,40nm,1.1s
MAW **Mawson** 82.10 200 P P 22 12 21.4 +0.9
comp=Z,38nm,0.8s,mb5.0,baz=126,slow=6.3,SNR=28
G03A **Yamhill** 82.11 36 P P 22 12 20.9 +0.1
baz=82,SNR=18
X13A **Yucca** 82.19 49 P P 22 12 21.8 +0.3
baz=82,SNR=71
Z14A **Wintersburg** 82.23 51 P P 22 12 22.3 +0.7
baz=82,SNR=28
M07A **Soldier Meadow** 82.23 41 P P 22 12 21.9 +0.4
baz=82,SNR=64
SHPR **Sheep Range** 82.23 47 eP P 22 12 21.8 +0.2
O08A **Rochester Mine** 82.25 43 ⇓P P 22 12 22.0 +0.4
baz=82
F03A **Seaside** 82.34 36 ⇓P P 22 12 22.0 +0.1
baz=82,SNR=12
H04A **Detroit Lake** 82.35 37 P P 22 12 21.6 -0.3
baz=82,SNR=63
K06A **Valley Falls** 82.37 40 P P 22 12 22.5 +0.4
baz=82,SNR=40
R10A **Warm Springs** 82.38 45 P P 22 12 22.8 +0.5
baz=82,SNR=157
W13A **Hualapai Mount** 82.41 49 P P 22 12 22.9 +0.4
baz=82,SNR=46

KULM **Kulim** 82.42 278 ⇑P P 22 12 24.3 +1.3
S11A **Rachel** 82.42 46 P P 22 12 22.6 +0.1
baz=83,SNR=45
115A **Sonoran Desert** 82.43 52 P P 22 12 23.2 +0.6
baz=83,SNR=27
Y14A **Wickenburg** 82.47 50 P P 22 12 23.0 +0.2
baz=83,SNR=52
L07A **Adell** 82.48 41 P P 22 12 23.4 +0.7
baz=83,SNR=23
MA2 **Magadan** 82.48 345 eP P 22 12 20.4 -1.9
MA2 eS S 22 21 39.4 -4.7
MA2 eSS SS 22 27 35.4 +6.7
MA2 pmax pmax
comp=Z,100nm,1.3s,mb5.2
MA2 **Magadan** 82.48 345 eP P 22 12 20.9 -1.4
comp=Z,207nm,1.6s,mb5.4
G04A **Mulino** 82.50 37 P P 22 12 22.6 -0.1
baz=83,SNR=30
P09A **Austin** 82.51 44 P P 22 12 23.2 +0.3
baz=83,SNR=7.7
SVW2 **Sparrevohn** 82.53 11 eP P 22 12 20.8 -1.7
N08A **GE Springer Mi** 82.54 42 P P 22 12 23.1 +0.1
baz=83,SNR=122
T11A **Corn Creek, Al** 82.57 46 P P 22 12 23.6 +0.4
baz=83,SNR=116
I05A **Bend** 82.57 38 P P 22 12 23.3 +0.2
baz=83,SNR=28
Q10A **Clear Creek Ra** 82.60 45 P P 22 12 23.6 +0.2
baz=83,SNR=42
U12A **Valley of Fire** 82.62 47 P P 22 12 23.9 +0.4
baz=83,SNR=58
T12A **Moapa** 82.65 47 P P 22 12 23.9 +0.2
baz=83,SNR=13
216A **Three Points,** 82.67 53 P P 22 12 24.9 +0.9
baz=83,SNR=36
J06A **Christmas Vall** 82.69 39 P P 22 12 23.6 -0.2
baz=83,SNR=86
PMSA **Palmer Station** 82.70 157 eP P 22 12 23.0 -0.4
comp=Z,26nm,0.6s,mb4.9
V13A **Grand Canyon W** 82.72 48 P P 22 12 24.1 +0.1
baz=83,SNR=65
E03A **Lebam** 82.72 35 ⇓P P 22 12 24.0 +0.3
baz=83,SNR=38
M08A **Happy Creek Ra** 82.75 41 P P 22 12 24.5 +0.4
baz=83,SNR=62
116A **Eloy** 82.76 52 P P 22 12 25.0 +0.7
baz=83,SNR=23
Z15A **Gila River Ind** 82.77 51 P P 22 12 24.7 +0.4
baz=83,SNR=5.5
O09A **Fish Creek Ran** 82.81 43 ⇓P P 22 12 24.2 -0.1
baz=83,SNR=14
X14A **Yava** 82.81 50 ⇑P P 22 12 25.0 +0.4
baz=83,SNR=77
H05A **Madras** 82.88 38 P P 22 12 24.6 0.0
baz=83,SNR=22
R11A **Troy Canyon, C** 82.89 45 ⇑P P 22 12 24.6 -0.2
baz=83,SNR=31
K07A **Rock Creek Ran** 82.92 40 P P 22 12 25.0 +0.2
baz=83,SNR=111
D03A **Wishkah Elem.** 82.96 35 ⇑P P 22 12 25.4 +0.5
baz=83,SNR=14
Y15A **Casa Rosa Ranc** 82.96 50 ⇓P P 22 12 25.5 +0.3
baz=83,SNR=43
N09A **Rock Creek Ran** 82.97 42 ⇑P P 22 12 25.3 +0.2
baz=83,SNR=32
F04A **Amboy** 82.97 36 P P 22 12 24.7 -0.3
baz=83,SNR=40
P10A **Eureka** 82.98 44 ⇓P P 22 12 25.3 +0.1
baz=83
S12A **Delamar Landin** 83.01 46 ⇓P P 22 12 26.0 +0.5
baz=83,SNR=40
U13A **Pakoon Wash** 83.01 48 P P 22 12 25.9 +0.5
baz=83,SNR=100
HOOD **Mount Hood Mea** 83.03 37 eP P 22 12 25.5 +0.1
W14A **Seligman** 83.03 49 P P 22 12 26.3 +0.7
baz=83,SNR=67
217A **Green Valley** 83.05 53 P P 22 12 26.7 +0.9
baz=83,SNR=66
I06A **Prineville** 83.06 39 P P 22 12 26.1 +0.6
baz=83,SNR=32
C03A **Quillayute Air** 83.06 34 ⇓P P 22 12 26.2 +0.8
baz=83,SNR=7.4
NLWA **Neilton Lookou** 83.08 34 P P 22 12 25.8 +0.2
baz=83,SNR=33
Q11A **Duckwater** 83.11 45 P P 22 12 25.9 +0.1
baz=83,SNR=89
WVOR **Wild Horse Val** 83.14 41 eP P 22 12 26.1 +0.1
WVOR e*PP pP 22 14 47.9 -0.3
WVOR e 22 15 51.4
WVOR pmax pmax
comp=Z,142nm,1.1s,mb5.4
WVOR **Wild Horse Val** 83.14 41 eP P 22 12 26.1 +0.1
comp=Z,142nm,1.1s,mb5.4
WVOR epP pP 22 14 47.9 -0.3
WVOR ePP PP 22 15 51.4 -0.3
G05A **Wamic** 83.18 37 ⇑P P 22 12 25.9 -0.1
baz=83,SNR=13
L08A **Fields** 83.19 41 P P 22 12 26.4 +0.3
baz=83,SNR=103
GAMB **Gambell** 83.19 3 eP P 22 12 25.1 -0.6
E04A **Onalaska** 83.21 35 P P 22 12 26.7 +0.5
baz=83,SNR=21
V14A **Boquillas Ranc** 83.23 49 P P 22 12 27.2 +0.6
baz=83,SNR=78
J07A **Hines** 83.27 39 P P 22 12 26.8 +0.3
baz=83,SNR=16
X15A **Humboldt** 83.29 50 P P 22 12 27.5 +0.6
baz=83,SNR=90
O10A **Cortez Mining,** 83.32 43 P P 22 12 27.1 +0.3
baz=84,SNR=26
TUC **Tucson** 83.32 52 eP P 22 12 27.4 +0.3
M09A **Marrel Ranch,** 83.32 42 ⇑P P 22 12 27.3 +0.4
baz=84,SNR=17
Z16A **Peralta Trail,** 83.33 51 ⇑P P 22 12 27.6 +0.4
baz=84,SNR=21
T13A **Saint George** 83.36 47 ⇑P P 22 12 27.3 +0.1
baz=84,SNR=32
K08A **Mann Creek Ran** 83.40 40 ⇑P P 22 12 27.6 +0.3
baz=84,SNR=50
P11A **Circle Ranch,** 83.41 44 ⇓P P 22 12 27.5 +0.1
baz=84,SNR=12
H06A **Lindquist Farm** 83.44 38 P P 22 12 27.3 -0.1
baz=84,SNR=119
D04A **Dobbs Creek Ra** 83.48 35 ⇑P P 22 12 28.0 +0.5
baz=84,SNR=6.6
F05A **White Salmon** 83.48 37 ⇓P P 22 12 27.3 -0.2
baz=84,SNR=14
117A **Oracle** 83.48 52 ⇑P P 22 12 28.7 +0.8
baz=84,SNR=50
318A **Bisbee** 83.52 54 P P 22 12 29.0 +0.9
baz=84,SNR=105
N10A **Dunphy** 83.54 43 ⇑P P 22 12 28.3 +0.3
baz=84,SNR=6.6
R12A **Pony Springs,** 83.54 46 P P 22 12 28.3 +0.3
baz=84,SNR=45
Y16A **Circle Bar Ran** 83.55 51 P P 22 12 28.8 +0.6
baz=84,SNR=64
I07A **Izee** 83.55 39 P P 22 12 28.2 +0.3
baz=84,SNR=78
U14A **Mt Trumbull** 83.56 48 P P 22 12 28.8 +0.6
baz=84,SNR=128
G06A **Carlson Farm,** 83.56 37 P P 22 12 27.7 -0.2
baz=84,SNR=21
W15A **Williams** 83.60 49 ⇓P P 22 12 29.1 +0.7
baz=84,SNR=11
S13A **Holt Ranch, En** 83.67 47 P P 22 12 29.1 +0.4
baz=84,SNR=39
B04A **Port Angeles** 83.69 34 P P 22 12 28.7 +0.2
baz=84,SNR=24
E05A **Randle** 83.71 36 P P 22 12 28.3 -0.4
baz=84,SNR=49
218A **Dragoon** 83.72 53 P P 22 12 30.1 +1.0
baz=84,SNR=76
GNW **Green Mountain** 83.74 35 eP P 22 12 28.5 -0.3
GNW epP pP 22 14 53.5 +2.2
C04A **Brinnon** 83.76 34 P P 22 12 29.0 +0.1
baz=84,SNR=49
Q12A **Willow Creek R** 83.76 45 ⇑P P 22 12 29.1 0.0
baz=84,SNR=46
J08A **Circle Bar Ran** 83.76 40 P P 22 12 29.0 0.0
baz=84,SNR=46
O11A **Cowboy Ranch,** 83.78 44 P P 22 12 29.4 +0.2
baz=84,SNR=67
F06A **Goldendale** 83.79 37 ⇓P P 22 12 28.8 -0.3
baz=84,SNR=13
H07A **Lands Inn, Kim** 83.81 38 ⇓P P 22 12 29.0 -0.1
baz=84
X16A **Lo Mia Camp, P** 83.83 50 P P 22 12 30.2 +0.7
baz=84,SNR=101
K09A **Rome** 83.85 41 P P 22 12 29.6 +0.2
baz=84,SNR=130
Y17A **Roosevelt** 83.93 51 ⇑P P 22 12 30.0 0.0
baz=84,SNR=35
P12A **McGill** 83.93 45 P P 22 12 30.2 +0.3
baz=84,SNR=26
T14A **Hurricane** 83.95 47 ⇑P P 22 12 30.3 +0.3
baz=84,SNR=12
M10A **I.L. Ranch, Tu** 83.95 42 P P 22 12 30.4 +0.4
baz=84,SNR=81
D05A **Enumclaw** 83.97 35 ⇑P P 22 12 30.1 +0.2
baz=84,SNR=35
V15A **Kaibab Nationa** 83.98 49 ⇓P P 22 12 30.9 +0.7
baz=84,SNR=65
I08A **Drewsey** 84.01 39 P P 22 12 30.3 +0.1
baz=84,SNR=31
319A **Douglas** 84.03 54 P P 22 12 31.7 +1.1
baz=84,SNR=58
PGC **Sidney** 84.08 33 eP P 22 12 30.1 -0.3
118A **Homack Ranch,** 84.09 53 P P 22 12 31.6 +0.8
baz=84,SNR=67
W16A **Flagstaff** 84.09 50 ⇑P P 22 12 31.4 +0.6
baz=84
E06A **Yakima** 84.14 36 P P 22 12 30.6 -0.2
baz=84,SNR=44
G07A **Ruggs Ranch, H** 84.14 38 ⇓P P 22 12 30.5 -0.3
baz=84,SNR=70
TTA **Tatalina** 84.16 10 eP P 22 12 29.4 -1.0
J09A **Fry Pan Ranch,** 84.19 40 ⇑P P 22 12 31.2 +0.1
baz=84,SNR=92
S14A **Cedar City** 84.24 47 ⇓P P 22 12 31.8 +0.4
baz=84,SNR=9.5
X17A **Forest Lakes** 84.26 51 ⇑P P 22 12 32.5 +0.9
baz=84
Q13A **Wheeler Ranch,** 84.26 45 P P 22 12 31.5 0.0
baz=84,SNR=63
L10A **Juniper Basin** 84.29 42 P P 22 12 31.8 +0.2
baz=84,SNR=70
H08A **Prairie City** 84.30 39 ⇑P P 22 12 31.3 -0.3
baz=84,SNR=18
BJI **Beijing** 84.31 316 P P 22 12 31.5 -0.2
BJI AP pP 22 14 52.7 -1.8
BJI SKS 22 21 51.1
BJI S S 22 22 04.6 +1.9
BJI AMB AMB
comp=Z,70nm,0.8s,mb5.2
BJI AMB AMB
comp=Z,1µm,4.4s
PMR **Palmer** 84.32 14 eP P 22 12 29.8 -1.4
PMR pmax pmax
comp=Z,340nm,1.5s,mb5.7
PMR **Palmer** 84.32 14 eP P 22 12 29.6 -1.6
comp=Z,130nm,0.8s,mb5.5
219A **White Tail Can** 84.33 53 P P 22 12 32.8 +0.8
baz=84,SNR=27
F07A **Phinny Hill Vi** 84.35 37 ⇓P P 22 12 31.5 -0.3
baz=84,SNR=15
M11A **Holland Ranch,** 84.38 43 P P 22 12 32.5 +0.5
baz=84,SNR=27
KKTK **Khon Kaen** 84.40 289 P P 22 12 33.6 +0.9
comp=Z,309nm,0.9s,mb5.8
WUAZ **Wupatki** 84.40 49 eP P 22 12 32.1 -0.2
comp=Z,183nm,1.5s,mb5.4
WUAZ **Wupatki** 84.40 49 ⇑P P 22 12 32.3 0.0
baz=84
T15A **Red Dirt Ranch** 84.41 48 P P 22 12 32.8 +0.4
baz=84,SNR=55
K10A **MacKenzie Ranc** 84.42 41 P P 22 12 32.4 +0.2
baz=85,SNR=63
C05A **Tolt Reservoir** 84.43 35 ⇓P P 22 12 31.9 -0.2
baz=85,SNR=53
O12A **Currie** 84.45 44 ⇓P P 22 12 32.4 0.0
baz=85,SNR=40
A04A **Legoe Bay, Lum** 84.51 34 ⇑P P 22 12 32.4 -0.1
baz=85,SNR=89
P13A **Bates Ranch, G** 84.51 45 P P 22 12 32.9 +0.1
baz=85,SNR=73
I09A **Lost Marbles R** 84.55 40 ⇑P P 22 12 32.4 -0.4
baz=85,SNR=29
B05A **Bryant** 84.56 34 P P 22 12 32.6 -0.1
baz=85,SNR=55
N12A **Clover Valley,** 84.56 43 P P 22 12 33.2 +0.3
baz=85,SNR=50
G08A **Pilot Rock** 84.56 38 P P 22 12 32.6 -0.2
baz=85,SNR=69
Y18A **Canyon Day Jun** 84.56 51 ⇓P P 22 12 33.7 +0.6
baz=85,SNR=61
SFJM **Santa Fe** 84.56 66 i P P 22 12 32.7 -0.7
D06A **Cle Elum** 84.60 36 ⇑P P 22 12 32.9 0.0
baz=85,SNR=28
119A **Ashpeak Ranch,** 84.64 53 ⇑P P 22 12 34.2 +0.7
baz=85,SNR=30
SML **Sawmill** 84.69 14 eP P 22 12 31.6 -1.4
E07A **Sunnyside** 84.78 37 ⇓P P 22 12 33.7 -0.1
baz=85,SNR=20
L11A **Cat Creek Ranc** 84.79 42 ⇓P P 22 12 34.3 +0.3
baz=85,SNR=52
J10A **Berg Farm, Mel** 84.84 40 ⇑P P 22 12 34.3 +0.1
baz=85,SNR=18
Z19A **T-Link Ranch,** 84.91 52 ⇑P P 22 12 35.3 +0.5
baz=85,SNR=9.7
M12A **Wells** 84.93 43 P P 22 12 35.0 +0.3
baz=85,SNR=47
K11A **Parker Ranch,** 84.94 41 P P 22 12 34.9 +0.2
baz=85,SNR=43
F08A **Pendleton** 84.95 38 ⇓P P 22 12 34.4 -0.3
baz=85,SNR=17
X18A **Snowflake** 84.97 51 P P 22 12 35.5 +0.4
baz=85,SNR=34
H09A **Durkee** 84.97 39 P P 22 12 34.8 0.0
baz=85,SNR=29
C06A **Tall Timber Ra** 85.00 35 ⇑P P 22 12 34.5 -0.3
baz=85
A05A **Maple Falls** 85.01 34 ⇓P P 22 12 34.3 -0.6
baz=85,SNR=12
T16A **Glen Canyon Da** 85.01 48 P P 22 12 35.8 +0.6
baz=85,SNR=23
B06A **Marblemount** 85.04 34 ⇑P P 22 12 34.4 -0.6
baz=85,SNR=7.2
D07A **Quincy** 85.08 36 P P 22 12 35.0 -0.3
baz=85,SNR=29
GYA **Guiyang** 85.08 300 ⇑i P P 22 12 36.0 +0.2
GYA AP pP 22 15 01.2 +2.3
GYA PP PP 22 16 09.4 +2.0
GYA SKS 22 21 53.9
GYA S S 22 22 08.6 -2.0
GYA PS 22 24 41.9
GYA XS sS 22 26 25.0 -0.2
GYA SS SS 22 28 08.7 +1.1
GYA SSS 22 31 47.2
GYA AMB AMB
comp=Z,270nm,1.0s,mb5.8
N13A **Wendover, West** 85.10 44 ⇓P P 22 12 35.5 0.0
baz=85,SNR=25
SEY **Seymchan** 85.11 347 ⇑eP P 22 12 33.9 -1.1
I10A **Payette** 85.17 40 ⇑P P 22 12 35.4 -0.3
baz=85,SNR=12
E08A **Dider Farm, El** 85.19 37 P P 22 12 35.8 0.0
baz=85,SNR=16
TNA **Tin City** 85.22 5 eP P 22 12 34.4 -1.1
comp=Z,615nm,2.7s,mb5.8
Y19A **Nutrioso** 85.22 52 P P 22 12 37.1 +0.9
baz=85,SNR=58
G09A **Cove** 85.24 39 ⇓P P 22 12 35.8 -0.3
baz=85,SNR=26
L12A **House Creek Ra** 85.25 42 ⇓P P 22 12 36.6 +0.4
baz=85,SNR=31
WRAK **Wrangell Islan** 85.28 24 eP P 22 12 36.1 +0.1
MSU **Marysvale** 85.29 46 eP P 22 12 37.0 +0.6
BMO **Blue Mountains** 85.29 39 eP P 22 12 35.8 -0.5
BMO pmax pmax
comp=Z,197nm,1.6s,mb5.5
BMO **Blue Mountains** 85.29 39 eP P 22 12 35.8 -0.5
comp=Z,197nm,1.6s,mb5.5
C07A **Waterville** 85.32 36 P P 22 12 35.9 -0.5
baz=86,SNR=58
A06A **Chilliwack** 85.39 34 ⇓P P 22 12 36.4 -0.3
baz=86,SNR=15
M13A **Montello** 85.39 43 P P 22 12 37.0 +0.1
baz=86,SNR=39
F09A **S2 Ranch, Elgi** 85.41 38 ⇓P P 22 12 36.7 -0.2
baz=86,SNR=10
X19A **St. Johns** 85.41 51 ⇓P P 22 12 37.6 +0.5
baz=86,SNR=27
MFID **Camas Ranch** 85.41 41 ⇑P P 22 12 36.7 -0.2
baz=86,SNR=12

H10A Noah's Angus R 85.48 40 P P 22 12 36.9 -0.3
baz=86,SNR=70
K12A Draper Farm, C 85.58 42 P P 22 12 38.0 +0.2
baz=86,SNR=39
D08A Wollman Farm, 85.59 37 P P 22 12 37.6 0.0
baz=86,SNR=68
I11A Placerville 85.59 40 P P 22 12 37.9 +0.1
baz=86,SNR=26
G10A Bishop Farm, J 85.64 39 P P 22 12 37.7 -0.2
baz=86,SNR=41
USHA Ushuaia 85.65 147 P P 22 12 39.1 +1.2
comp=Z,17nm,0.8s,mb4.7,baz=218,slow=2.7,SNR=12
W19A Sanders 85.65 51 ⇑P P 22 12 38.6 +0.3
baz=86
DUG Dugway 85.69 45 eP P 22 12 38.1 -0.2
DUG Dugway 85.69 45 ⇓P P 22 12 38.0 -0.3
baz=86
TIY Taiyuan 85.69 312 iP P 22 12 38.5 +0.1
TIY AMB AMB
comp=Z,1μm,3.5s
CAIG El Cayaco 85.69 70 iP P 22 12 39.0 +0.2
E09A Wood Farm, Sta 85.72 37 ⇓P P 22 12 37.6 -0.7
baz=86,SNR=22
B07A Winthrop 85.73 35 P P 22 12 38.0 -0.3
baz=86,SNR=61
N14A Grayback Hills 85.77 44 ⇓P P 22 12 38.2 -0.4
baz=86,SNR=14
J12A Stokes Ranch, 85.77 41 P P 22 12 39.0 +0.4
baz=86,SNR=90
MOIG Morelia 85.86 68 iP P 22 12 39.6 0.0
L13A Double Diamond 85.90 43 ⇑P P 22 12 39.4 +0.1
baz=86
C08A Higginbotham F 85.93 36 P P 22 12 38.9 -0.4
baz=86,SNR=37
D09A Jones Farm, Ri 85.94 37 ⇓P P 22 12 39.1 -0.2
baz=86,SNR=32
A07A Ashnola River, 85.94 34 ⇓P P 22 12 39.1 -0.2
baz=86,SNR=45
F10A Beach Ranch, E 85.95 38 P P 22 12 38.9 -0.5
baz=86,SNR=80
H11A Donnelly 85.98 40 P P 22 12 39.5 -0.1
baz=86,SNR=68
M14A Sheep Mountain 85.99 43 ⇓P P 22 12 39.6 -0.1
baz=86,SNR=44
NLU North Lily Min 86.06 45 eP P 22 12 40.5 +0.5
K13A Stover Farm, H 86.10 42 ⇑P P 22 12 40.7 +0.5
baz=86,SNR=91
B08A Colville Reser 86.10 35 P P 22 12 39.4 -0.7
baz=86,SNR=92
G11A Walters Elk Ra 86.20 39 P P 22 12 40.4 -0.2
baz=86,SNR=222
MCK McKinley 86.25 13 eP P 22 12 38.6 -1.8
E10A Myers Farm, Un 86.30 38 ⇓P P 22 12 40.4 -0.6
baz=86,SNR=26
HLID Hailey 86.36 41 P P 22 12 41.9 +0.5
baz=86,SNR=157
C09A Chrisman Ranch 86.37 36 P P 22 12 41.0 -0.3
baz=86,SNR=34
NOQ North Oquirrh 86.37 45 eP P 22 12 41.8 +0.3
MPU Maple Canyon 86.39 45 eP P 22 12 42.0 +0.4
J13A Cove Ranch, Pi 86.43 41 P P 22 12 42.3 +0.6
baz=87,SNR=179
SKAG Skagway 86.46 21 eP P 22 12 41.3 -0.1
comp=Z,708nm,2.1s,mb5.9
A08A Turner Farm, O 86.48 35 P P 22 12 41.5 -0.3
baz=87,SNR=87
SPUT South Promonto 86.48 44 eP P 22 12 42.5 +0.5
HVU Hansel Valley 86.50 43 eP P 22 12 42.2 +0.1
F11A Grangeville 86.53 39 P P 22 12 40.5 -1.6
baz=87,SNR=46
XAN Xi'an 86.54 308 P P 22 12 42.9 +0.4
XAN AP pP 22 15 06.9 +0.5
XAN PPP 22 18 38.1
XAN SKS 22 22 05.2
XAN S S 22 22 29.0 +5.0
XAN AMB AMB
comp=Z,61nm,0.9s,mb5.2
XAN AMB AMB
comp=Z,706nm,14.5s
M15A Larsen Ranch, 86.56 44 ⇑P P 22 12 42.0 -0.4
baz=87,SNR=18
H12A Diamond D Ranc 86.60 40 P P 22 12 42.6 +0.1
baz=87,SNR=154
K14A Jones Ranch, D 86.62 43 P P 22 12 42.9 +0.3
baz=87,SNR=90
CTU Camp Tracy 86.64 45 eP P 22 12 43.2 +0.4
I13A Wildhorse Cree 86.73 41 P P 22 12 43.5 +0.4
baz=87,SNR=86
E11A Bogner Ranch, 86.75 38 P P 22 12 41.9 -1.3
baz=87,SNR=44
MENT Mentasta 86.78 15 eP P 22 12 41.9 -1.0
B09A Rice 86.79 36 ⇓P P 22 12 42.7 -0.6
baz=87,SNR=83
JLU Jordanelle 86.79 45 eP P 22 12 43.7 +0.2
DAU Daniels Canyon 86.83 45 eP P 22 12 43.9 +0.2
A09A Danville 86.86 35 ⇑P P 22 12 43.3 -0.3
baz=87,SNR=79
PLIG Platanillo 86.86 69 iP P 22 12 45.7 +1.4
C10A Spilker Farm, 86.92 37 ⇑P P 22 12 43.5 -0.4
baz=87
H13A Challis 86.98 40 ⇑P P 22 12 44.5 +0.2
baz=87,SNR=108
F12A Elk City 87.00 39 P P 22 12 44.0 -0.3
baz=87,SNR=212
LENM Lemitar 87.01 52 eP P 22 12 45.0 +0.4
D11A Klaveano Farm, 87.05 38 ⇓P P 22 12 43.5 -1.1
baz=87,SNR=77
HIA Hailar 87.16 325 eP P 22 12 44.4 -0.6
HIA e*PP pP 22 15 07.6 -1.6
HIA pmax pmax
comp=Z,29nm,1.0s
HIA Hailar 87.16 325 eP P 22 12 44.4 -0.5
comp=Z,28nm,1.0s,mb4.8
HIA epP pP 22 15 07.6 -1.6
MNTX Cornudas Mount 87.17 55 eP P 22 12 45.6 +0.1
comp=Z,245nm,1.6s,mb5.6
MNTX epP pP 22 15 11.0 +1.4
NANT Nan 87.19 291 ⇑P P 22 12 43.3 -2.5
comp=Z,124nm,1.0s,mb5.5
HWUT Hardware Ranch 87.20 44 eP P 22 12 45.2 -0.2
B10A Chitwood Farm, 87.23 36 ⇑P P 22 12 45.1 -0.3
baz=87
MVCO Mesa Verde 87.24 49 eP P 22 12 45.5 -0.2
MVCO Mesa Verde 87.24 49 ⇑P P 22 12 45.3 -0.4
baz=87
G13A Cobalt 87.26 40 P P 22 12 45.5 -0.1
baz=87,SNR=63
NEW Newport 87.27 36 eP P 22 12 44.8 -0.7
LPM Los Pinos Moun 87.33 52 eP P 22 12 46.2 +0.1
A10A Northport 87.43 36 P P 22 12 46.1 -0.1
baz=88,SNR=7.4
SYO Syowa Base 87.44 193⇓eP P 22 12 43.8 -2.3
SYO Syowa Base 87.44 193⇓iP P 22 12 46.0 -0.1
IMA2 Indian Mountai 87.45 10 eP P 22 12 44.8 -1.2
COLA College 87.48 13⇑iP P 22 12 44.2 -1.9
COLA College 87.48 13 P P 22 12 44.1 -2.0
COLA pP pP 22 15 06.8 -3.7
COLA SKKSac SKKSac 22 22 27.7 +5.7
TXAR Lajitas Array 87.54 58 P P 22 12 48.0 +1.2
TXAR *PP pP 22 15 11.4 -0.2
TXAR Lajitas Array 87.54 58 P P 22 12 48.0 +0.7
TXAR pP pP 22 15 11.4 -0.2
TXAR PKKPbc PKKPbc 22 30 33.0 +1.3
TXAR Lajitas Array 87.54 58 P P 22 12 48.0 +0.7
comp=Z,54nm,0.7s,mb5.3,baz=220,slow=5.8,SNR=558
TXAR pP pP 22 15 11.4 -0.2
comp=Z,5.3nm,1.0s,baz=212,slow=4.4,SNR=5.7
TXAR PKKPbc PKKPbc 22 30 33.0 +1.3
comp=Z,0.6nm,0.4s,baz=162,slow=3.1,SNR=15
F13A Darby 87.56 39 ⇑P P 22 12 46.5 -0.4
baz=88
DLBC Dease Lake 87.60 24 eP P 22 12 46.6 -0.2
PBVM Pinon 87.61 69 iP P 22 12 48.4 +0.6
D12A Red Ives Fores 87.62 38 ⇑P P 22 12 46.3 -0.9
baz=88
PTVM Pico Tres Padr 87.64 68 iP P 22 12 47.9 0.0
ANMO Albuquerque 87.73 52 eP P 22 12 48.1 +0.1
HHC Hu-ho-hao-te 87.77 315 ⇑P P 22 12 48.2 +0.2
HHC AP pP 22 15 12.9 +0.4
HHC PP PP 22 16 31.8 +3.6
HHC SKS 22 22 09.2
HHC S S 22 22 29.9 -5.1
HHC XS sS 22 26 55.9 +3.8
HHC SS SS 22 28 47.1 +1.4
HHC AMB AMB
comp=Z,69nm,1.6s,mb5.0
HHC AMB AMB
comp=Z,1μm,9.1s
B11A Sandpoint 87.79 36 ⇓P P 22 12 47.3 -0.7
baz=88,SNR=42
KMI Kunming 87.80 297 P P 22 12 50.0 +1.5
KMI AP pP 22 15 12.4 -0.6
KMI XP sP 22 16 21.0 +0.2
KMI PP PP 22 16 29.9 +1.1
KMI PPP 22 18 35.4
KMI SKS 22 22 06.8
KMI S S 22 22 33.5 -2.5
KMI PS 22 25 13.3
KMI XS sS 22 26 54.6 +1.6
KMI SS SS 22 28 47.5 +0.8
KMI SSS 22 32 26.1
KMI AMB AMB
comp=Z,26nm,1.2s,mb4.7
KMI AMB AMB
comp=Z,688nm,11.3s
G14A Jackson 87.81 40 ⇑P P 22 12 47.9 -0.2
baz=88,SNR=12
PPM Popocatepetl 87.88 69 iP P 22 12 46.5 -2.5
PPM eP 22 12 50.0
BILL Bilibino 87.90 355⇑eP P 22 12 46.7 -1.3
BILL e 22 16 26.7
BILL iS SKSac 22 22 11.5 -0.2
BILL pmax pmax
comp=Z,212nm,2.5s,mb5.3
BILL Bilibino 87.90 355⇑iP P 22 12 46.8 -1.2
E13A Victor 87.99 39 ⇑P P 22 12 48.0 -0.9
baz=88,SNR=28
IIO Organos 87.99 69 iP P 22 12 51.6 +2.1
AHID Auburn Hatcher 88.06 43 eP P 22 12 49.9 +0.5
comp=Z,147nm,1.1s,mb5.5
A11A Hall Mountain, 88.07 36 ⇑P P 22 12 49.1 -0.1
baz=88,SNR=60
F14A Wisdom 88.15 40 ⇑P P 22 12 49.2 -0.5
baz=88,SNR=7.3
GDL2 Guadalupe Moun 88.16 55 eP P 22 12 50.5 +0.4
GDL2 epP pP 22 15 16.0 +1.3
D13A Huson 88.17 38 P P 22 12 48.2 -1.5
baz=88,SNR=42
B12A Libby 88.24 37 ⇓P P 22 12 49.9 -0.1
baz=88,SNR=12
MSO Missoula 88.33 39 eP P 22 12 49.4 -1.1
G15A Dillon 88.36 41 ⇑P P 22 12 50.9 +0.2
baz=88,SNR=32
BSMT Bassoo Peak 88.37 37 eP P 22 12 49.9 -0.7
E14A Clinton 88.39 39 ⇓P P 22 12 50.3 -0.4
baz=88,SNR=41
DLMT Dillon 88.40 40 eP P 22 12 50.8 0.0
comp=Z,194nm,1.4s,mb5.5
DLMT epP pP 22 15 17.9 +2.4
C13A Hot Springs 88.40 38 ⇓P P 22 12 49.5 -1.3
baz=88,SNR=18
DCID1 Drake Creek 88.41 42 eP P 22 12 51.8 +0.8
A12A Yaak River Ran 88.45 36 ⇑P P 22 12 51.3 +0.3
baz=89,SNR=13
TPAW Teton Pass 88.51 43 eP P 22 12 51.7 +0.3
comp=Z,260nm,1.5s,mb5.7
REDW Red Top Meadow 88.51 43 eP P 22 12 51.5 +0.1
SNOW Snow King Moun 88.62 43 eP P 22 12 52.4 +0.5
F15A Butte 88.70 40 P P 22 12 52.1 -0.1
baz=89,SNR=34
IMW Indian Meadow 88.71 42 eP P 22 12 51.2 -1.2
comp=Z,172nm,1.1s,mb5.7
LRM Limekiln Ridge 88.71 40 eP P 22 12 51.4 -0.9
LRM epP pP 22 15 19.4 +2.3
LRM ePP PP 22 16 31.6 -3.9
D14A Greenough 88.72 39 ⇑P P 22 12 51.4 -0.8
baz=89,SNR=26
CHG Chiang Mai 88.74 290 ⇑P P 22 12 53.9 +0.8
comp=Z,38nm,0.9s,mb5.1
CHTO Chiang Mai 88.74 290 eP P 22 12 53.6 +0.6
CHTO epP pP 22 15 18.2 +0.3
CHTO Chiang Mai 88.74 290 P P 22 12 55.4 +2.3
SNR=7.4
CHTO Chiang Mai 88.74 290 P P 22 12 55.4 +2.3
SNR=7.4
CHTO Chiang Mai 88.74 290 P P 22 12 55.4 +2.3
SNR=7.4
CHTO Chiang Mai 88.74 290 P P 22 12 55.4 +2.3
SNR=7.4
CHTO Chiang Mai 88.74 290 P P 22 12 55.4 +2.3
SNR=7.4
CHTO Chiang Mai 88.74 290 P P 22 12 55.4 +2.3
SNR=7.4
MOOW Moose Ponds 88.76 42 eP P 22 12 52.7 +0.1
comp=Z,159nm,1.6s,mb5.5
MOOW ePP PP 22 16 34.6 -1.3
CHMT Chamberlain Mo 88.78 39 eP P 22 12 51.9 -0.7
CHMT epP pP 22 15 15.7 -1.7
CHMT ePP PP 22 16 34.3 -1.7
LOHW Long Hollow 88.79 43 eP P 22 12 52.8 +0.1
comp=Z,200nm,1.6s,mb5.6
DAWY Dawson 88.82 16 eP P 22 12 51.6 -0.7
B13A Whitefish 88.83 37 ⇓P P 22 12 51.7 -1.1
baz=89,SNR=24
VHO Vista Hermosa 88.85 72 iP P 22 12 52.5 -1.2
QLMT Earthquake Lak 88.86 41 eP P 22 12 53.8 +0.8
QLMT epP pP 22 15 17.6 -0.3
E15A Deer Lodge 88.90 39 P P 22 12 52.7 -0.4
baz=89,SNR=23
C14A Swan Lake 88.93 38 ⇓P P 22 12 51.9 -1.4
baz=89
EGAK Eagle 88.94 15 eP P 22 12 51.9 -1.0
FLWY Flagg Ranch 88.95 42 eP P 22 12 54.1 +0.6
HUIG Huatulco 88.96 73 iP P 22 12 54.2 +0.1
YFT Old Faithful 89.04 42 eP P 22 12 55.6 +1.7
SNAA Sanae 89.06 179 eP P 22 12 53.2 -0.3
SNAA e 22 12 54.8
SNAA e 22 12 57.3
SNAA e pP 22 15 19.2 +0.9
SNAA e 22 17 47.3
SNAA e 22 17 49.9
SNAA Sanae 89.06 179 P P 22 12 53.2 -0.3
SNAA pP pP 22 15 17.4 -0.9
SNAA Sanae 89.06 179 P P 22 12 53.2 -0.3
comp=Z,7.8nm,0.7s,mb4.6,baz=205,slow=4.8,SNR=93
SNAA pP pP 22 15 17.4 -0.9
comp=Z,1.0nm,0.8s,baz=190,slow=7.1,SNR=2.0
SNAA PKiKP PKiKP 22 17 46.7 -0.2
comp=Z,0.6nm,0.5s,baz=212,slow=6.3,SNR=7.1
SNAA S SKSac 22 22 18.9 +0.1
comp=Z,0.9nm,0.9s,baz=214,slow=20,SNR=5.3
SNAA PKKPbc PKKPbc 22 30 25.6 -4.0
comp=Z,0.9nm,0.7s,baz=163,slow=2.3,SNR=17
BW06 Boulder Array 89.07 44 eP P 22 12 53.5 -0.5
comp=Z,134nm,1.4s,mb5.5
BOZ Bozeman (W) 89.13 40 eP P 22 12 54.2 0.0
BOZ pmax pmax
comp=Z,135nm,1.5s,mb5.5
BOZ Bozeman (W) 89.13 40 eP P 22 12 54.2 0.0
comp=Z,135nm,1.5s,mb5.5
BOZ Bozeman (W) 89.13 40 ⇓P P 22 12 54.2 -0.1
baz=89
NRGR Nerungri 89.13 333 eP P 22 12 52.7 -1.2
NRGR S SKSac 22 22 19.3 0.0
NRGR smax
comp=N,15nm,0.5s
A13A Flathead Natio 89.15 37 ⇑P P 22 12 53.9 -0.3
baz=89
CLNS Chul'man 89.17 333 eP P 22 12 53.6 -0.5
CLNS e*PP pP 22 15 15.0 -4.1
CLNS e 22 16 46.3
CLNS e 22 22 19.9
CLNS eS S 22 22 37.4 -10
CLNS pmax pmax
comp=Z,20nm,1.3s,mb4.7
CLNS pmax pmax
comp=N,11nm,1.5s
CLNS pmax pmax
comp=E,4.0nm,0.8s
CLNS pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
CLNS smax
comp=N,86nm,1.4s
CLNS smax
comp=Z,6.0nm,1.1s
CLNS smax
comp=E,20nm,1.0s
SMCO Snowmass 89.19 48 eP P 22 12 54.9 +0.2
comp=E,85nm,1.1s,mb5.4
SMCO epP pP 22 15 21.5 +1.8
SMCO esP sP 22 16 29.9 +2.6
SMCO PP PP 22 16 44.0 +4.6
CD2 Chengdu 89.21 303 P P 22 12 55.4 +0.4
CD2 AP pP 22 15 21.4 +1.5
CD2 XP sP 22 16 27.9 +0.3
CD2 PP PP 22 16 41.5 +1.8
CD2 SKS 22 22 20.8
CD2 S S 22 22 48.0 -0.5
CD2 XS sS 22 27 06.7 -0.1
CD2 SS SS 22 29 09.0 +2.4
CD2 AMB AMB
comp=Z,120nm,1.2s,mb5.5
CD2 AMB AMB
comp=Z,880nm,10.2s
VNA3 Neumayer Olymp 89.23 177 eP P 22 12 54.3 0.0
VNA3 e pP 22 15 19.6 +0.4
VNA3 e 22 15 26.3
VNA3 e 22 17 47.5
VNA3 e 22 17 51.0
YNR Norris Junctio 89.27 42 eP P 22 12 57.0 +2.1
D15A Lincoln 89.28 39 P P 22 12 54.7 -0.2
baz=89,SNR=33
LKWY Lake 89.37 42 eP P 22 12 57.0 +1.6
WALA Waterton Lakes 89.50 37 eP P 22 12 55.5 -0.4
comp=Z,308nm,2.1s,mb5.7
MAIT Maitri 89.66 184 eP P 22 12 55.5 -0.8
VNA2 Neumayer--Watz 89.66 177 eP P 22 12 56.7 +0.4
baz=200,slow=4.2
VNA2 e 22 12 58.8
VNA2 e pP 22 15 20.2 -1.1
VNA2 e pP 22 15 26.1 +4.8
VNA2 e 22 17 48.1
VNA2 e 22 17 51.6
VNA1 Neumayer--Stat 89.89 177 eP P 22 12 57.8 +0.4
VNA1 e 22 13 00.3
VNA1 e pP 22 15 23.1 +0.7
VNA1 e 22 15 29.0
VNA1 e 22 17 49.4
VNA1 e 22 17 52.2
RWWY Rawlins 90.13 45 eP P 22 12 58.9 -0.1
comp=Z,152nm,1.2s,mb5.7
RLMT Red Lodge 90.34 42 eP P 22 13 00.0 +0.2
comp=Z,53nm,1.1s,mb5.3
ISCO Idaho Springs 90.41 48 eP P 22 13 00.3 0.0
CMIG Matias Romero 90.52 72 iP P 22 13 01.3 0.0
YAK Yakutsk 90.72 338 eP P 22 12 59.4 -1.7
YAK eS SKSac 22 22 25.8 -2.2
YAK e 22 22 57.7
YAK pmax pmax
comp=Z,92nm,0.8s,mb5.7
YAK pmax pmax
comp=N,16nm,1.2s
YAK pmax pmax
comp=E,18nm,1.2s
YAK pmax pmax
comp=Z,14nm,0.5s,mb5.0
YAK smax
comp=E,84nm,1.6s
YAK smax
comp=N,144nm,1.5s
YAK Yakutsk 90.72 338 eP P 22 13 00.2 -1.0
PLCA Paso Flores 90.86 134 eP P 22 13 03.7 +1.2
PLCA pmax pmax
comp=Z,16nm,1.0s
PLCA Paso Flores 90.86 134 eP P 22 13 03.6 +1.2
comp=Z,16nm,1.0s,mb4.8
PLCA PKKPbc PKKPbc 22 30 23.1 -1.0
PLCA Paso Flores 90.86 134 P P 22 13 03.5 +1.1
comp=Z,9.3nm,0.8s,mb4.6,baz=225,slow=4.9,SNR=19
PLCA PKKPbc PKKPbc 22 30 23.1 -1.0
comp=Z,2.8nm,0.9s,baz=158,slow=4.1,SNR=4.9
JCT Junction City 91.08 58 eP P 22 13 02.9 -0.7
PHWY Pilot Hill 91.15 46 eP P 22 13 03.6 -0.1
LZH Lanzhou 91.18 308 ⇑P P 22 13 04.9 +1.0
LZH AP pP 22 15 29.0 -0.4
LZH PP PP 22 16 57.0 +2.2
LZH PPP 22 17 08.0
LZH SKS 22 22 26.2
LZH S S 22 23 11.0 +5.3
LZH SS SS 22 29 38.0 +3.6
LZH AMB AMB
comp=Z,75nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,365nm,7.4s
AMTX Amarillo 91.28 53 eP P 22 13 03.8 -0.7
EGMT Eagleton 91.39 39 eP P 22 13 04.5 -0.1
EGMT Eagleton 91.39 39 ⇓P P 22 13 04.1 -0.5
baz=92
EDM Edmonton 91.93 33 eP P 22 13 05.7 -1.2
EDM e*PP pP 22 15 31.3 -1.2
LAO LASA Array 92.94 41 eP P 22 13 12.0 +0.2
comp=Z,60nm,0.8s,mb5.7
LAO epP pP 22 15 40.8 +3.4
INK Inuvik 93.62 15 eP P 22 13 12.4 -1.9
INK Inuvik 93.62 15 eP P 22 13 12.3 -2.0
comp=Z,1μm,1.2s
INK epP pP 22 15 40.7 +0.6
ULN Ulaanbaatar 93.79 320⇑eP P 22 13 14.7 -0.9
ULN Ulaanbaatar 93.79 320 P P 22 13 16.2 +0.6
ULN Ulaanbaatar 93.79 320 P P 22 13 16.2 +0.6
SNR=9.4
ULN Ulaanbaatar 93.79 320 P P 22 13 16.2 +0.6
SNR=9.4
ULN Ulaanbaatar 93.79 320 P P 22 13 16.2 +0.6
SNR=9.4
SONM Songino Array 94.18 319 P P 22 13 16.4 -1.0
comp=Z,3.9nm,0.7s,mb4.5,baz=128,slow=5.3,SNR=20
SONM pP pP 22 15 41.9 -1.2
comp=Z,1.9nm,0.8s,baz=105,slow=4.2,SNR=3.6
SONM PP PP 22 17 12.2 -5.3
comp=Z,8.8nm,1.1s,baz=116,slow=6.2,SNR=8.6
SONM S SKSac 22 22 47.0 -0.4
comp=Z,4.5nm,1.1s,baz=150,slow=3.2,SNR=11
SONM PKKPbc PKKPbc 22 30 12.7 -3.1
comp=Z,1.4nm,0.7s,baz=291,slow=3.5,SNR=7.2
CBKS Cedar Bluff 94.21 50 eP P 22 13 17.2 -0.5
CBKS pmax pmax
comp=Z,59nm,1.0s,mb5.6
CBKS Cedar Bluff 94.21 50 eP P 22 13 17.2 -0.5
comp=Z,59nm,1.0s,mb5.6
BOD Bodaibo 94.60 330 eP P 22 13 16.2 -2.8
BOD pmax pmax
comp=Z,7.0nm,2.1s,mb4.4
DGMT Dagmar 94.93 40 eP P 22 13 20.9 +0.2
GTA Gaotai 95.38 310 eP P 22 13 23.0 0.0
GTA AP pP 22 15 48.3 -0.6
GTA XP sP 22 16 52.0 -4.2
GTA PP PP 22 17 26.8 0.0
GTA SKS 22 22 54.1
GTA S S 22 23 38.2 -3.6
GTA AMB AMB
comp=Z,9.0nm,1.4s,mb4.7
GTA AMB AMB
comp=Z,293nm,8.7s
YKA Yellowknife Ar 96.10 25 P P 22 13 24.2 -1.4
YKA 22 17 27.8
YKA Yellowknife Ar 96.10 25 P P 22 13 24.2 -1.4
comp=Z,4.2nm,0.5s,mb4.8,baz=242,slow=4.5,SNR=78
YKA PP PP 22 17 27.7 -3.9
comp=Z,2.2nm,0.9s,baz=244,slow=6.7,SNR=4.7
YKA PKiKP PKiKP 22 17 57.8 -1.2
comp=Z,0.8nm,0.6s,baz=260,slow=1.6,SNR=8.1
YKA PKKPbc PKKPbc 22 30 08.5 -2.7
comp=Z,1.1nm,0.4s,baz=38,slow=2.2,SNR=20
YKA PKPPKP 22 38 23.9
comp=Z,0.6nm,0.8s,baz=56,slow=2.9,SNR=8.3
YKW3 Yellowknife Ar 96.14 25 eP P 22 13 24.3 -1.4
KSU1 Kansas State U 96.59 51 eP P 22 13 28.9 +0.4
comp=Z,28nm,0.7s,mb5.5
CFAA Coronel Fontan 96.69 127 PKKPbc PKKPbc 22 30 08.4 -0.5
comp=Z,0.1nm,0.3s,baz=26,slow=17,SNR=3.8
ZAK Zakamensk 97.07 321 eP Pdif 22 13 28.7 -1.7
ZAK pmax pmax
comp=Z,2.0nm,2.0s
ZAK pmax pmax
comp=Z,4.0nm,1.8s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.5
TIXI Tiksi 97.45 345 eP Pdif 22 13 29.4 -2.7
TIXI pmax pmax
comp=Z,12nm,1.1s,mb5.0
TIXI Tiksi 97.45 345 ePdif Pdif 22 13 29.9 -2.2
comp=Z,9.0nm,1.0s

ECSD EROS,Sioux Fal 98.12 47 *e*Pdif Pdif 22 13 33.9 -1.2
ECSD *e*pP pP 22 15 59.8 -1.6
LSA Lhasa 99.03 298 P Pdif 22 13 40.4 +1.3
ULM Lac du Bonnet 100.65 40 P Pdif 22 13 47.5 +1.2
comp=Z,4.3nm,0.9s,baz=265,slow=1.9,SNR=3.4
ULM PKiKP PKiKP 22 18 06.6 -0.9
comp=Z,1.4nm,0.4s,baz=263,slow=4.3,SNR=8.8
ULM PKKPbc PKKPbc 22 29 57.8 -0.4
comp=Z,1.6nm,0.4s,baz=98,slow=7.3,SNR=5.1
LPAZ La Paz 103.58 113 Pdif Pdif 22 14 03.9 +4.5
LPAZ PKKPbc PKKPbc 22 29 49.0 -0.3
LPAZ La Paz 103.58 113 Pdiff Pdif 22 14 03.9 +4.5
comp=Z,2.4nm,0.7s,baz=247,slow=3.5,SNR=17
LPAZ PKKPbc PKKPbc 22 29 49.0 -0.3
comp=Z,0.5nm,0.3s,baz=152,slow=0.9,SNR=5.4
MDRS Chennai 103.96 279 *e*x Pdif 22 14 01.9 +0.8
MDRS *e*x x 22 14 59.9
MDRS *e*x x 22 16 29.9
FCC Fort Churchill 104.00 32 *e*P Pdif 22 14 01.5 +0.3
WMQ Urumqi 105.34 311 *e*PDIF Pdif 22 14 10.0 +2.8
WMQ PP PP 22 18 45.0 +4.8
WMQ SS SS 22 32 52.0 +3.4
WMQ PP PP
comp=Z,257nm,9.0s
RES Resolute Bay 107.16 16 *e*PKiKP PKiKP 22 18 17.4 -1.4
CPUP Villa Florida 107.58 127 *e*PKiKP PKiKP 22 18 20.6 -0.6
CPUP PKKPbc PKKPbc 22 29 36.4 -1.3
CPUP Villa Florida 107.58 127 PKiKP PKiKP 22 18 20.6 -0.5
comp=Z,1.4nm,0.5s,baz=282,slow=3.0,SNR=5.7
CPUP PKKPbc PKKPbc 22 29 36.4 -1.3
comp=Z,0.4nm,0.4s,baz=66,slow=4.6,SNR=3.0
ZAA0 Zalesovo Array 108.94 322 *e*PKiKP PKiKP 22 18 20.8 -1.9
ZALV Zalesovo Beam 108.94 322 Pdif Pdif 22 14 22.4 -0.8
ZALV PKPdf PKiKP 22 18 21.1 -1.7
ZALV PP PP 22 19 08.8 +3.2
ZALV SKP 22 20 55.8
ZALV SKSac SKSac 22 23 55.2 -1.1
ZALV PKKPbc PKKPbc 22 29 32.5 -1.2
ZALV Zalesovo Beam 108.94 322 Pdiff Pdif 22 14 22.4 -0.8
comp=Z,0.8nm,0.7s,baz=108,slow=3.2,SNR=3.7
ZALV PKiKP PKiKP 22 18 21.1 -1.7
comp=Z,11nm,0.6s,baz=149,slow=0.8,SNR=50
ZALV PP PP 22 19 08.8 +3.2
comp=Z,4.8nm,0.9s,baz=90,slow=7.4,SNR=4.5
ZALV SKP 22 20 55.8
comp=Z,1.4nm,0.6s,baz=188,slow=1.0,SNR=3.7
ZALV SKSac SKSac 22 23 55.2 -1.1
comp=Z,2.2nm,0.8s,baz=101,slow=6.2,SNR=4.6
ZALV PKKPbc PKKPbc 22 29 32.5 -1.2
comp=Z,1.2nm,0.4s,baz=261,slow=3.3,SNR=6.8
ZAL Zalesovo 108.94 322 P Pdif 22 14 22.4 -0.8
ZAL 22 19 08.8
ZAL 22 23 55.2
MK31 Makanchi Array 109.61 314 *e*P Pdif 22 14 29.0 +2.8
MKAR Makanchi Array 109.61 314 P Pdif 22 14 25.9 -0.3
MKAR 22 23 59.4
MKAR Makanchi Array 109.61 314 Pdif Pdif 22 14 25.9 -0.3
MKAR PKPdf PKiKP 22 18 22.8 -1.4
MKAR SKP 22 20 56.3
MKAR SKSac SKSac 22 23 59.4 -0.1
MKAR PKKPbc PKKPbc 22 29 30.5 -0.8
MKAR Makanchi Array 109.61 314 Pdiff Pdif 22 14 25.9 -0.3
comp=Z,0.9nm,0.6s,baz=88,slow=6.3,SNR=12
MKAR PKiKP PKiKP 22 18 22.8 -1.4
comp=Z,11nm,0.6s,baz=72,slow=0.7,SNR=51
MKAR SKP 22 20 56.3
comp=Z,0.8nm,0.6s,baz=27,slow=1.4,SNR=3.7
MKAR SKSac SKSac 22 23 59.4 -0.1
comp=Z,2.4nm,0.8s,baz=92,slow=3.8,SNR=8.2
MKAR PKKPbc PKKPbc 22 29 30.5 -0.8
comp=Z,1.3nm,0.4s,baz=274,slow=4.1,SNR=15
SIV San Ignacio 109.78 116 PKKPbc PKKPbc 22 29 30.0 -0.5
comp=Z,1.8nm,0.7s,baz=67,slow=5.9,SNR=10
SDV Santo Domingo 110.44 88 *e*PKiKP PKiKP 22 18 25.7 -1.1
KURK Kurchatov 112.42 318⇑ *e*PKiKP PKiKP 22 18 27.7 -1.7
KURK Kurchatov 112.42 318 P PKiKP 22 18 28.2 -1.2
SNR=6.2
KURK Kurchatov 112.42 318 P PKiKP 22 18 28.2 -1.2
SNR=6.2
KURK Kurchatov 112.42 318 P PKiKP 22 18 28.2 -1.2
SNR=6.2
KURK Kurchatov 112.42 318 PKiKP PKiKP 22 18 28.2 -1.2
SNR=6.2
KSH Kashi 113.30 305 *e*PKP PKiKP 22 18 32.1 +0.6
KSH *e*PKS 22 22 07.0
KSH *e*PPP 22 22 25.1
KSH *e*SKS SKSdf 22 24 38.1 -2.0
KSH PP PP
comp=Z,884nm,11.4s
ULHL Ulahol 113.39 308 P PKiKP 22 18 32.1 +0.5
SNR=5.7
TKM2 Tokmak 2 113.92 309 *e*PKIKP PKiKP 22 18 31.5 -1.1
TKM2 Tokmak 2 113.92 309 P PKiKP 22 18 31.6 -0.9
SNR=6.6
NCB Newcomb 113.99 50 *e*PKiKP PKiKP 22 18 31.5 -1.2
KBK Karagaybulak 114.38 309 P PKPdf 22 18 32.8 -0.6
SNR=8.8
CHMS Chumysh 114.55 309 P PKPdf 22 18 32.9 -0.9
SNR=7.0
UCH Uchtor 114.66 308 *e*PKPdf PKPdf 22 18 33.9 -0.1
UCH Uchtor 114.66 308 P PKPdf 22 18 34.5 +0.5
SNR=11
AAK Ala-Archa 114.71 309 *i* PKIKP PKPdf 22 18 32.5 -1.6
AAK Ala-Archa 114.71 309 PKP PKPdf 22 18 32.4 -1.7
comp=Z,4.9nm,0.6s,baz=184,slow=3.7,SNR=14
AAK PKKPbc PKKPbc 22 29 11.5 -3.2
comp=Z,2.3nm,0.4s,baz=153,slow=3.6,SNR=8.1
USP Ospenovka 114.75 309 P PKPdf 22 18 33.2 -1.0
SNR=7.8
AML Almayashu 115.26 308 P PKPdf 22 18 35.0 -0.1
SNR=12
PCRV Puerto La Cruz 116.47 88 PKKPbc PKKPbc 22 29 06.9 -1.4
comp=Z,15nm,0.7s,baz=83,slow=5.4,SNR=3.4
CPD Cerro la Pandu 117.28 79 *e*PKIKP PKPdf 22 18 38.0 -1.8
BVAR Borovoye Array 117.52 320 PKP PKPdf 22 18 38.0 -1.1
comp=Z,27nm,0.5s,baz=114,slow=1.5,SNR=204
BVAR SKP 22 21 13.5
comp=Z,8.3nm,0.9s,baz=101,slow=2.3,SNR=5.9
BVAR PKKPbc PKKPbc 22 29 04.1 -1.2
comp=Z,0.5nm,0.4s,baz=221,slow=3.4,SNR=7.6
PKME Peaks-Kenny Pk 117.56 48 *e*PKPdf PKPdf 22 18 38.2 -1.3
BRVK Borovoye 117.58 320⇑ *e*PKIKP PKPdf 22 18 38.1 -1.2
BRVK Borovoye 117.58 320 P PKPdf 22 18 38.4 -0.9
SNR=11
BRVK Borovoye 117.58 320 P PKPdf 22 18 38.4 -0.9
SNR=11
BRVK Borovoye 117.58 320 P PKPdf 22 18 38.4 -0.9
SNR=11
BRVK Borovoye 117.58 320 P PKPdf 22 18 38.4 -0.9
SNR=11
BRVK Borovoye 117.58 320 PKPdf PKPdf 22 18 38.4 -0.9
SNR=11
MTP Monte Pirata 117.63 79 *e*PKPdf PKPdf 22 18 39.1 -1.3
KBL Kabul 118.33 299 *e*PKPdf PKPdf 22 18 41.3 0.0
SCHQ Schefferville 118.62 38 PKP PKPdf 22 18 39.6 -1.6
SCHQ PKKPbc PKKPbc 22 28 60.0 -1.5
SCHQ Schefferville 118.62 38 PKP PKPdf 22 18 39.6 -1.7
comp=Z,5.2nm,0.5s,baz=269,slow=3.4,SNR=20
SCHQ PKKPbc PKKPbc 22 28 60.0 -1.5
comp=Z,3.1nm,0.8s,baz=147,slow=1.5,SNR=6.2
BDFB Brasilia 120.73 123 PKP PKPdf 22 18 45.7 -0.8
comp=Z,5.0nm,0.4s,baz=245,slow=5.3,SNR=30
BDFB PKKPbc PKKPbc 22 28 52.9 -0.9
comp=Z,2.7nm,1.0s,baz=14,slow=22,SNR=6.2
SCG Saint Claude 120.77 83 *e*P PKPdf 22 18 46.2 -0.3
SPB4 Spitsbergen Ar 120.77 356 *e*PKPdf PKPdf 22 18 44.0 -0.8
FDF Fort de France 120.96 84 *e*P PKPdf 22 18 46.3 -0.6
BIM Bigot 120.98 84 *e*P PKPdf 22 18 47.1 +0.1
MGG Marie-Galante 121.08 83 *e*P PKPdf 22 18 45.5 -1.6
DEG La Desirade 121.41 82 *e*P PKPdf 22 18 45.3 -2.4
DAG Danmarks Havn 121.84 5⇓ *e*PKIKP PKPdf 22 18 45.0 -1.9
DAG pmax pmax
comp=Z,8.0nm,0.6s
DAG Danmarks Havn 121.84 5⇓ *i*P PKPdf 22 18 45.0 -1.9
comp=Z,8.0nm,0.6s
SVE Sverdlovsk 122.46 326⇓ *e*PKIKP PKPdf 22 18 47.8 -0.7
SVE pmax pmax
comp=Z,41nm,0.6s
ARU Arti 123.67 326 *i* PKIKP PKPdf 22 18 49.7 -1.2
ARU 22 20 43.1
ARU Arti 123.67 326⇑ *e*PKP PKPdf 22 18 49.7 -1.2
SUR Sutherland 124.96 201 *e*PKPdf PKPdf 22 18 55.3 +1.1
AKTK Aktyubinsk 125.49 319 PKP PKPdf 22 18 53.5 -1.1
AKTK SKP 22 21 28.6
AKTK PKKPbc PKKPbc 22 28 34.9 -1.0
AKTO Aktyubinsk 125.49 319 PKP PKPdf 22 18 53.5 -1.1
comp=Z,23nm,0.7s,baz=75,slow=2.7,SNR=100
AKTO SKP 22 21 28.6
comp=Z,5.0nm,0.8s,baz=116,slow=2.9,SNR=5.2
AKTO PKKPbc PKKPbc 22 28 34.9 -1.0
comp=Z,2.3nm,0.7s,baz=259,slow=1.9,SNR=6.1
BOSA Boshof 126.62 207 PKP PKPdf 22 18 57.7 +0.2
comp=Z,9.9nm,0.8s,baz=119,slow=3.3,SNR=21
BOSA PKKPbc PKKPbc 22 28 29.8 -2.2
comp=Z,4.1nm,0.8s,baz=6.4,slow=2.0,SNR=8.0
KEV Kevo 127.24 349 *e*PKIKP PKPdf 22 18 56.3 -1.1
ARCES ARCESS Array B 127.70 349 PKHKP 22 18 38.9
ARCES 22 18 56.6
ARCES 22 21 10.1
ARCES ARCESS Array B 127.70 349 PKhKP 22 18 38.9
comp=Z,0.8nm,0.4s,baz=35,slow=1.5,SNR=9.0
ARCES PKP PKPdf 22 18 56.6 -1.6
comp=Z,32nm,0.6s,baz=40,slow=1.5,SNR=92
ARCES PP PP 22 21 10.1 -1.5
comp=Z,1.7nm,0.6s,baz=114,slow=2.9,SNR=2.2
ARCES PKKPbc 22 28 24.2
comp=Z,3.9nm,1.1s,baz=196,slow=2.7,SNR=9.1
BANOM Banah 128.62 288 P PP 22 21 21.8 +2.6
SNR=7.8
BANOM Banah 128.62 288 P PP 22 21 21.8 +2.6
SNR=7.8
BANOM Banah 128.62 288 P PP 22 21 21.8 +2.6
SNR=7.8
HATD Hatta, Dubai 128.67 287 P PP 22 21 21.4 +1.8
SNR=7.7
HATD Hatta, Dubai 128.67 287 P PP 22 21 21.4 +1.8
SNR=7.7
HATD Hatta, Dubai 128.67 287 P PP 22 21 21.4 +1.8
SNR=7.7
ASHO Ashiyiah 128.72 286 P PP 22 21 21.4 +1.5
SNR=8.2
ASHO Ashiyiah 128.72 286 P PP 22 21 21.4 +1.5
SNR=8.2
ASHO Ashiyiah 128.72 286 P PP 22 21 21.4 +1.5
SNR=8.2
RBK Rabkut 129.39 277 P PP 22 21 25.4 +1.1
SNR=5.8
RBK Rabkut 129.39 277 P PP 22 21 25.4 +1.1
SNR=5.8
RBK Rabkut 129.39 277 P PP 22 21 25.4 +1.1
SNR=5.8
LBTB Lobatse 129.57 210 *e*PKIKP PKPdf 22 18 59.5 -3.7
WHFO Wadi Hawf 129.87 277 P PP 22 21 26.9 -0.4
SNR=11
WHFO Wadi Hawf 129.87 277 P PP 22 21 26.9 -0.4
SNR=11
WHFO Wadi Hawf 129.87 277 P PP 22 21 26.9 -0.4
SNR=11
ABTO Aybut 130.21 277 P PP 22 21 28.1 -1.4
SNR=14
ABTO Aybut 130.21 277 P PP 22 21 28.1 -1.4
SNR=14
ABTO Aybut 130.21 277 P PP 22 21 28.1 -1.4
SNR=14
JOF Joensuu 131.79 342 *e*pkp 22 18 51.1
BORG Borgarnes 132.42 13 PKP PKPdf 22 19 06.8 -0.5
comp=Z,27nm,1.0s,baz=329,slow=5.6,SNR=3.1
MOS Moscow 134.42 332 *e*PKIKP PKPdf 22 19 10.6 -0.7
MOS *e* 22 21 40.3
MOS *e* 22 21 48.6
MOS pmax pmax
comp=Z,48nm,0.8s
FINES FINESS Array B 134.45 343 PKHKP 22 18 53.6
FINES 22 19 09.1
FINES 22 21 39.7
FINES FINESS Array B 134.45 343 PKhKP 22 18 53.6
comp=Z,1.4nm,0.4s,baz=76,slow=3.6,SNR=31
FINES PKP PKPdf 22 19 09.1 -2.1
comp=Z,7.3nm,0.3s,baz=65,slow=3.7,SNR=26
FINES SKPbc SKPbc 22 21 39.7 +1.3
comp=Z,15nm,0.8s,baz=64,slow=4.4,SNR=12
FINES PKKPbc 22 28 05.7
comp=Z,0.5nm,0.5s,baz=198,slow=3.6,SNR=4.8
FINES SKKPbc 22 30 47.3
comp=Z,4.3nm,1.2s,baz=158,slow=4.5,SNR=3.6
VRHR Novokhopersk 134.97 324 *i* PKIKP PKPdf 22 19 11.9 -0.6
VRHR *e* 22 21 41.7
VRHR *e*SPP 22 33 02.8
VRHR pmax pmax
comp=Z,70nm,0.7s
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
OBN Obninsk 135.28 331⇑ *i*PKIKP PKPdf 22 19 11.3 -1.6
OBN *e* 22 21 56.6
OBN *e* 22 22 46.1
OBN pmax pmax
comp=Z,30nm,0.7s
OBN Obninsk 135.28 331 *e*PKP PKPdf 22 19 11.4 -1.5
VRSR Storozhevoye 136.23 326 *i* PKHKP 22 19 03.4
VRSR *e*SPP 22 33 08.8
VRSR pmax pmax
comp=Z,60nm,4.5s
VRSR pmax pmax
comp=N,30nm,4.7s
VRSR pmax pmax
comp=E,30nm,4.1s
DGRG David-gareji 136.30 310 P PKPdf 22 19 17.1 +1.8
DGRG S SKPdf 22 21 48.8 +2.1
VORD Divnogorie 136.31 325 *e*PKIKP PKPdf 22 19 13.4 -1.6
VORD pmax pmax
comp=Z,10.0nm,0.5s
VORD pmax pmax
comp=N,40nm,0.7s
VORD pmax pmax
comp=E,30nm,0.6s
UMR Umm Al-Rimmam 136.31 293 *e*P 22 19 02.8
RDF Al-Radifah 136.48 292 *e*P 22 19 03.2
MIB Mutribah 136.63 293 *e*P 22 19 02.9
MTA Mtatsminda 136.65 311 P PKPdf 22 19 15.3 -0.6
MTA S SKPdf 22 21 49.8 +2.5
NAY Al-Naaiem 136.74 292 *e*P 22 19 03.1
ONI Oni 137.32 312 P PKPdf 22 19 16.3 -0.8
ONI S SKPdf 22 21 50.8 +2.3
KIV Kislovodsk 137.37 314 *i* PKIKP PKPdf 22 19 17.0 -0.1
KIV *e* 22 22 11.6
KIV *e* 22 22 51.1
KIV *e*SS SS 22 39 27.5 -1.4
KIV pmax pmax
comp=Z,11nm,0.9s
KIV Kislovodsk 137.37 314 PKPdf PKPdf 22 19 16.0 -1.1
KIV *e*PKP PKPdf 22 19 17.7 +0.6
NB2 NORSAR Subarra 137.82 352 PKPdf 22 19 06.2
comp=Z,3.0nm,0.7s,baz=15,slow=1.9
NOA NORSAR Array B 137.82 352 PKHKP 22 19 06.8
NOA 22 19 17.7
NOA NORSAR Array B 137.82 352 PKhKP 22 19 06.8
comp=Z,8.0nm,0.7s,baz=20,slow=2.4,SNR=26
NOA PKP PKPdf 22 19 17.6 +0.2
comp=Z,9.7nm,0.5s,baz=14,slow=4.1,SNR=15
NOA SKPbc SKPbc 22 21 49.5 +1.1
comp=Z,4.3nm,0.8s,baz=15,slow=4.4,SNR=4.3
TSUM Tsumeb 138.14 204 *e*PKP 22 19 11.9
HFS Hagfors 138.34 350 PKhKP 22 19 07.5
comp=Z,18nm,0.3s,baz=64,slow=3.4,SNR=52
HFS SKPbc SKPbc 22 21 50.7 +0.7
comp=Z,7.5nm,0.7s,baz=77,slow=3.2,SNR=5.1
KMBO Kilima Mbogo 138.70 244 PKP 22 19 13.8
KMBO SKPbc SKPbc 22 21 55.5 +3.0
KMBO Kilima Mbogo 138.70 244 PKhKP 22 19 13.8
comp=Z,4.4nm,0.6s,baz=83,slow=3.9,SNR=14
KMBO SKPbc SKPbc 22 21 55.5 +3.0
comp=Z,15nm,1.0s,baz=67,slow=3.1,SNR=14
BHD Baghdad 138.82 299 *e*x x 22 19 11.0
BHD *e*x x 22 25 31.0
MSL Mosul 139.31 303 *e*x x 22 19 13.0
MSL *e*x x 22 25 32.0
SOC Sochi 139.50 315 *e*PKIKP PKPdf 22 19 19.8 -1.2
SOC *e* 22 22 22.5
SOC pmax pmax
comp=Z,17nm,0.7s
SOC Sochi 139.50 315 *i* PKP PKPdf 22 19 21.2 +0.2
ERZM Erzurum 139.66 309 *i* P 22 19 14.7
ANN Anapa 140.45 318 *e*PKHKP 22 19 16.1
ANN *i* 22 19 20.7
ANN *e* 22 25 26.6
ANN pmax pmax
comp=Z,316nm,8.8s
ORE Reay 140.85 4 *e*P 22 19 16.8
MVH1 Achvaich 141.44 4 *e*P PKPdf 22 19 18.8 -5.3
SUW Suwalki 141.45 339 *e*PKP PKPdf 22 19 19.3 -4.9
SUW Suwalki 141.45 339 *e*PKP PKPdf 22 19 19.3 -4.9
AKASG Malin Array Be 141.53 331 PKP PKPdf 22 19 18.8 -5.7
AKASG SKPbc SKPbc 22 22 00.9 +2.3
AKASG SKKPbc 22 30 22.7
AKASG Malin Array Be 141.53 331 PKhKP 22 19 18.8
comp=Z,20nm,0.3s,baz=42,slow=4.0,SNR=227
AKASG SKPbc SKPbc 22 22 00.9 +2.3
comp=Z,18nm,1.0s,baz=41,slow=2.4,SNR=15
AKASG SKKPbc 22 30 22.7
comp=Z,0.7nm,0.6s,baz=238,slow=4.2,SNR=7.0
AKBB Malin Array Si 141.53 331 PKHKP 22 19 19.0
KIEV Kiev 141.54 331 *e*PKHKP 22 19 19.0
KAC Achnashellach 141.77 5⇑ *e*P PKPdf 22 19 19.5 -5.2
MCD Coleburn Disti 141.84 3 *e*P PKPdf 22 19 19.2 -5.6
ELZG Elazig 141.87 308 *i* P PKPdf 22 19 21.9 -3.5
KPL Plockton 141.90 6⇑ *e*P PKPdf 22 19 20.3 -4.6
KPL AMb AMB 22 19 23.9
comp=Z,210nm,1.8s
MDO Dochfour 141.91 4 *e*P PKPdf 22 19 20.2 -4.7
KSB Sheil Bridge 142.05 5⇑ *e*P PKPdf 22 19 20.2 -5.0
MME1 Meikle Cairn 142.12 3 *e*P PKPdf 22 19 20.0 -5.3
KAR1 Arisaig 142.30 6⇑ *e*P PKPdf 22 19 21.3 -4.3
MALT Malatya 142.34 308 P PKPdf 22 19 24.9 -1.4
MALT Malatya 142.34 308⇑ *i*P PKPdf 22 19 23.9 -2.4
SIM Simferopol' 142.43 320 *c i*PKIKP PKPdf 22 19 23.5 -2.7
SIM pmax pmax
comp=Z,116nm,0.8s
MUD Monsted U'grnd 142.54 352⇑ *i*PKIKP PKPdf 22 19 22.5 -3.5
MUD pmax pmax
comp=Z,62nm,0.6s
MUD Monsted U'grnd 142.54 352⇑ *i*P PKPdf 22 19 22.5 -3.5
comp=Z,62nm,0.6s
COP Copenhagen 142.78 349 *i* PKIKP PKPdf 22 19 23.7 -2.8
COP pmax pmax
comp=Z,65nm,0.8s
COP Copenhagen 142.78 349 *i* P PKPdf 22 19 23.7 -2.8
comp=Z,65nm,0.8s
BSD Bornholm Skovb 142.82 346⇑ *i*PKIKP PKPdf 22 19 23.3 -3.3
BSD pmax pmax
comp=Z,140nm,0.9s
BSD Bornholm Skovb 142.82 346⇑ *i*P PKPdf 22 19 23.3 -3.3
comp=Z,141nm,0.9s
EAB Aberfoyle 143.15 5⇑ *e*P PKPdf 22 19 24.1 -3.0
GZT Gaziantep 143.30 307 *i* P PKPdf 22 19 26.4 -1.6
PGBU Glenifferbraes 143.52 5⇑ *e*P PKPdf 22 19 25.4 -2.4
PGBU AMb AMB 22 19 28.5
comp=Z,419nm,1.8s
ESY Stoneypath 143.53 3⇑ *e*P PKPdf 22 19 25.7 -2.1
BOYT Boyabat 143.64 315 *i* P PKPdf 22 19 27.7 -0.8
WAR Warsaw 143.65 339 *e*PKP PKPdf 22 19 27.5 -0.7
WAR Warsaw 143.65 339 *e*PKP PKPdf 22 19 27.5 -0.6
EBL Broad Law 143.65 4⇑ *e*P PKPdf 22 19 26.3 -1.7
RGN Rugen 143.69 348 *e*PKP PKPdf 22 19 27.1 -1.0
GMK Mull of Kintyr 143.88 6⇑ *e*P PKPdf 22 19 27.0 -1.4
GKP Gorka Klasztor 143.93 343 *e*PKP PKPdf 22 19 27.8 -0.8
GKP Gorka Klasztor 143.93 343 *e*PKP PKPdf 22 19 27.8 -0.8
XSO Sourhope Farm 143.98 3⇑ *e*P PKPdf 22 19 27.1 -1.4
CTKT Corum 144.07 313 *i* P PKPdf 22 19 27.0 -2.2
EKA Eskdalemuir Ar 144.09 4 PKP PKPdf 22 19 27.4 -1.4
comp=Z,61nm,0.8s,baz=338,slow=2.6,SNR=113
ESK Eskdalemuir 144.10 4⇑ *e*P PKPdf 22 19 26.9 -1.9
ESK AMb AMB 22 19 30.4
comp=Z,236nm,1.9s
ESK Eskdalemuir 144.10 4 *e*PKPbc PKPdf 22 19 27.7 -1.1
KIS Kishinev 144.21 327⇑ *i*PKIKP PKPdf 22 19 27.0 -2.3
KIS pmax pmax
comp=Z,1μm,2.0s
ECK Cauldkaine Hil 144.24 4⇑ *e*P PKPdf 22 19 27.4 -1.7
GAL1 Galloway 144.43 5⇑ *e*P PKPdf 22 19 28.6 -0.8
GAL1 ⇑ *e*P 22 19 28.6
GAL1 AMb AMB 22 19 32.3
comp=Z,288nm,2.2s
LVV L'vov 144.46 334 *i* PKIKP PKPdf 22 19 28.8 -0.8
LVV *e*PPP 22 26 20.8
GCD Castle Douglas 144.50 5⇑ *e*P PKPdf 22 19 28.5 -1.0
BALT Daday 144.60 316 *i* P PKPdf 22 19 29.9 -0.2
XAL Allendale 144.61 3⇑ *e*P PKPdf 22 19 29.4 -0.3
IAS Iasi 144.73 328 PKIKP PKPdf 22 19 30.6 +0.5
IAS Iasi 144.73 328⇓ *i*P PKPdf 22 19 30.5 +0.4
BSEG Bad Segeberg 144.82 350 *e*PKPdf PKPdf 22 19 29.1 -1.0
CKE Keswick 144.83 4⇑ *e*P PKPdf 22 19 29.9 -0.2
GMM Mts of Mourne 144.93 7⇑ *e*P PKPdf 22 19 29.9 -0.4
GIM North Isle of 145.02 5⇑ *e*P PKPdf 22 19 30.5 +0.1
FKH Fakeheh 145.12 302 *e*P PKPdf 22 19 32.6 +1.3
KWP Kalwaria 145.14 335 *e*PKP PKPdf 22 19 31.5 +0.7
KWP Kalwaria 145.14 335⇓ *e*PKIKP PKPdf 22 19 31.6 +0.8
KWP Kalwaria 145.14 335 *e*PKP PKPdf 22 19 31.5 +0.7
KWP Kalwaria 145.14 335⇓ *i*P PKPdf 22 19 31.5 +0.7
DMUB Kingscourt 145.15 8 *e*P PKPdf 22 19 30.0 -0.6
ASF Jabal al Asfar 145.22 299 PKIKP PKPdf 22 19 32.0 +0.5
ASF 22 22 03.6
ASF Jabal al Asfar 145.22 299 PKPbc PKPbc 22 19 32.0 -0.9
comp=Z,54nm,0.9s,baz=330,slow=2.5,SNR=73
ASF SKP 22 22 03.6
comp=Z,7.4nm,1.0s,baz=352,slow=1.6,SNR=2.1
ASF SKPbc SKPbc 22 22 08.9 +0.9
comp=Z,15nm,1.0s,baz=338,slow=2.3,SNR=4.9
RUE Ruedersdorf 145.52 346 *e*PKPdf PKPdf 22 19 31.7 +0.4
BURAR Bucovina Array 145.57 330⇓ PKP2 PKPdf 22 19 33.1 +1.5
BURAR Bucovina Array 145.57 330 P PKPdf 22 19 32.9 +1.3
BURAR Bucovina Array 145.57 330⇓ *i*P PKPdf 22 19 33.0 +1.4
DCN Croghan 145.64 8 *e*P PKPdf 22 19 31.7 +0.2
OJC Ojcow 145.76 338 *e*PKPdf PKPdf 22 19 31.2 -0.6
ANTO Ankara 145.77 313 P PKPdf 22 19 32.0 -0.2
ANTO Ankara 145.77 313 PKPdf PKPdf 22 19 31.3 -0.9
ANTO Ankara 145.77 313⇑ *i*P PKPdf 22 19 31.6 -0.6
DLF Lyons Farm 145.79 8 *e*P PKPdf 22 19 31.9 +0.2
BHL Bhannes 145.81 302 *e*P PKPdf 22 19 33.2 +0.8
KOLS Kolonicke sedl 145.87 334 *e*PKP PKPbc 22 19 34.4 +0.2
KOLS *e* 22 22 10.4
STHS Stebnicka Huta 145.89 336 *i* PKP PKPbc 22 19 34.0 -0.2
STHS *e* 22 22 04.2
STHS Stebnicka Huta 145.89 336 *i* PKP PKPbc 22 19 34.0 -0.2
STHS *e* 22 22 04.1
STHS Stebnicka Huta 145.89 336 *e* 22 30 01.9
LHO Holmfirth 145.94 3⇑ *e*P PKPdf 22 19 32.6 +0.7
TIRR Tirgusor 146.04 323⇓ *i*P PKPdf 22 19 32.8 +0.3
VRI Vrincioaia 146.05 327 PKP2 PKPbc 22 19 34.3 -0.5
VRI Vrincioaia 146.05 327⇑ *i*P PKPdf 22 19 34.2 +1.8
PLOR Plostina 146.10 327 PKP2 PKPbc 22 19 34.7 -0.2
UZH Uzhgorod 146.10 334⇓ *i*PKP2 PKPbc 22 19 34.5 -0.3
HARR Harsova 146.17 324 P PKPbc 22 19 35.1 -0.1
HARR Harsova 146.17 324⇑ *i*P PKPbc 22 19 34.9 -0.2
CRVS Cervenica-Dubn 146.22 335 *e*PKP PKPbc 22 19 35.1 0.0
CRVS *e* 22 22 07.6
CRVS Cervenica-Dubn 146.22 335 *e*PKP PKPbc 22 19 35.1 0.0
CRVS *e* 22 22 07.6
CRVS Cervenica-Dubn 146.22 335 *e* 22 30 04.4
NRDL Niedersach Rie 146.24 350 *e*PKPdf PKPdf 22 19 32.8 +0.3
NRDL *e*PKPbc PKPbc 22 19 34.5 -0.6
NIE Niedzica 146.24 337 *e*PKP PKPbc 22 19 35.3 +0.1
KBI1 Birley Grange 146.25 2⇑ *e*P PKPdf 22 19 33.9 +1.4
MMAI Mount Meron Ar 146.25 301 PKPbc PKPbc 22 19 34.7 -1.0
comp=Z,59nm,0.6s,baz=76,slow=6.2,SNR=17
MMAI SKP 22 22 05.6
comp=Z,3.9nm,0.6s,baz=68,slow=4.1,SNR=3.1
KSP Ksiaz 146.35 342 *e*PKP PKPbc 22 19 35.5 +0.1
KSP *e* 22 22 08.9
KSP Ksiaz 146.35 342 *i* PKP2 PKPbc 22 19 35.4 0.0
KSP Ksiaz 146.35 342 *e*PKP PKPdf 22 19 32.3 -0.5
KSP *i* PKPdf PKPbc 22 19 35.4 0.0
KSP *e* 22 22 04.9
KSP *e*pPKP pPKPdf 22 22 08.7 -0.6
STNC Stoke 146.38 3⇑ *e*P PKPdf 22 19 34.6 +1.9
STNC AMb AMB 22 19 38.6
comp=Z,525nm,2.2s
RAC Raciborz 146.43 339 *e*PKPdf PKPdf 22 19 32.6 -0.3
RAC *e*pPKPdf pPKPdf 22 22 08.9 -0.6
KWE Weaver Farm 146.47 3⇑ *e*P PKPdf 22 19 34.7 +1.8
SBD1 Bryn Du 146.50 4⇑ *e*P PKPdf 22 19 34.7 +1.7
HENT Hendek 146.58 316 *i* P PKPdf 22 19 30.6 -2.9
PSN Preselentsi 146.65 322 *i* P PKPdf 22 19 28.7 -4.8
ABA1 Baconsthorpe 146.65 360⇑ *e*P PKPdf 22 19 35.0 +1.8
OKC Ostrava-Krasne 146.66 339 *e*PKIKP PKPdf 22 19 33.2 -0.1
OKC *e* PKPbc 22 19 35.9 -0.4
OKC Ostrava-Krasne 146.66 339 *e*PKPDF PKPdf 22 19 33.2 -0.1
OKC ⇑ *e*PKP PKPbc 22 19 35.9 -0.4
OKC *e*PKPAB PKPab 22 19 40.3 +0.6

OKC ePKP pPKPdf 22 22 10.2 +0.4
MLR Muntele Rosu 146.71 327 PKP2 PKPab 22 19 37.1 -3.0
MLR Muntele Rosu 146.71 327 ⇓P PKPdf 22 19 31.2 -2.3
MLR P PKPbc 22 19 37.1 +0.6
MLR Muntele Rosu 146.71 327 PKP PKPdf 22 19 33.8 +0.2
comp=Z,51nm,0.6s,baz=315,slow=4.1,SNR=79
MLR PKPbc PKPbc 22 19 36.2 -0.3
comp=Z,51nm,0.6s,baz=332,slow=3.7,SNR=80
MLR SKPbc SKPbc 22 22 12.1 +1.3
comp=Z,39nm,1.1s,baz=46,slow=2.1,SNR=14
MLR Muntele Rosu 146.71 327 ⇓iP PKPdf 22 19 31.2 -2.3
AWI1 Witton 146.71 359 eP PKPbc 22 19 35.9 -0.4
UPC Upice 146.74 342 ePKIKP PKPdf 22 19 32.9 -0.5
UPC e PKPbc 22 19 36.4 -0.1
UPC Upice 146.74 342 ePKPDF PKPdf 22 19 32.9 -0.5
UPC ⇑ePKP PKPbc 22 19 36.4 -0.1
UPC ePKPAB PKPab 22 19 41.4 +1.4
UPC epPKP pPKPdf 22 22 10.6 +0.6
PHNC Paralimni 146.76 305 P PKPbc 22 19 36.5 -0.5
IBBN Ibbenburen 146.78 352 ePKPdf PKPdf 22 19 34.0 +0.6
DPC Dobruska-Polom 146.78 342 ePKIKP PKPdf 22 19 33.3 -0.2
DPC e PKPbc 22 19 36.8 +0.2
DPC Dobruska-Polom 146.78 342 ePKPDF PKPdf 22 19 33.3 -0.2
DPC ⇑ePKP PKPbc 22 19 36.8 +0.2
DPC ePKPAB PKPab 22 19 41.7 +1.5
DPC epPKP pPKPdf 22 22 11.0 +0.9
CLL Collm 146.79 346 i PKP2 PKPab 22 19 39.7 -0.5
CLL pmax pmax
comp=Z,189nm,1.1s
CLL Collm 146.79 346 ePKP PKPdf 22 19 33.0 -0.5
CLL ⇑iPKP PKPbc 22 19 36.1 -0.5
CLL Collm 146.79 346 ePKPdf PKPdf 22 19 32.7 -0.8
CLL ePKPbc PKPbc 22 19 36.1 -0.5
CLL Collm 146.79 346 ePKPdf PKPdf 22 19 33.0 -0.5
CLL ⇑iPKPbc PKPbc 22 19 36.1 -0.5
comp=Z,239nm,0.9s
CLL i PKPab PKPab 22 19 39.7 -0.5
comp=Z,189nm,1.1s
CLL epPKPdf pPKPdf 22 22 07.0 -3.0
CLL e(PP) 22 23 04.0
CLZ Clausthal 146.82 349 ePKPdf PKPdf 22 19 33.4 -0.1
KDHN Kadinhani 146.84 312 i P PKPdf 22 19 27.9 -6.1
MORC Moravsky Berou 146.91 340 ⇓PKIKP PKPdf 22 19 33.3 -0.4
MORC PKPbc 22 19 37.6 +0.7
MORC Moravsky Berou 146.91 340 ⇓iP PKPdf 22 19 33.3 -0.4
HLM1 Long Mynd 146.91 4⇑ePKP PKPdf 22 19 35.4 +1.8
AEU East Anglia Un 146.92 359 eP PKPbc 22 19 36.0 -0.9
BRG Berggiesshubel 146.96 345 ePKIKP PKPdf 22 19 33.5 -0.3
BRG i 22 19 40.5
BRG pmax pmax
comp=Z,3.0nm,0.7s
BRG pmax pmax
comp=Z,30nm,0.7s
BRG pmax pmax
comp=Z,31nm,1.2s
BRG Berggiesshubel 146.96 345 ePKPdf PKPdf 22 19 33.5 -0.3
BRG ePKPbc PKPbc 22 19 36.8 -0.2
BRG epPKPbc 22 22 10.9
BRG Berggiesshubel 146.96 345 ePKP PKPdf 22 19 33.5 -0.3
comp=Z,4.8nm,0.7s
BRG i PKPbc 22 19 36.7 -0.3
BRG i 22 19 40.5
comp=Z,50nm,0.7s
BRG i 22 22 07.9
comp=Z,51nm,1.2s
FBE Freiberg 147.06 345 ePKPab PKPab 22 19 41.2 -0.2
PVCC Panska Ves 147.12 344 ePKIKP PKPdf 22 19 33.9 -0.1
PVCC e PKPbc 22 19 37.5 +0.1
PVCC Panska Ves 147.12 344 ePKPDF PKPdf 22 19 33.9 -0.1
PVCC ⇑ePKP PKPbc 22 19 37.5 +0.1
PVCC epPKP pPKPdf 22 22 11.9 +1.3
VOIR 147.20 328 ⇑PKIKP PKPdf 22 19 33.9 -0.5
VOIR PKPbc 22 19 37.7 -0.1
VOIR 147.20 328⇑iP PKPdf 22 19 33.9 -0.5
WTSB Winterswijk 147.23 353 ePKP PKPbc 22 19 37.1 -0.6
comp=Z,275nm,1.7s
ESKT Eskisehir 147.26 314 i P PKPdf 22 19 32.7 -1.9
CSS Prodhromos 147.32 305 ⇑P PKPbc 22 19 37.9 -0.6
comp=Z,1.6nm,0.3s
CSS Prodhromos 147.32 305 ePKPdf PKPdf 22 19 34.2 -0.7
CSS ePKPbc PKPbc 22 19 37.9 -0.6
HTR Trewern Hill 147.32 5⇑eP PKPbc 22 19 36.7 -1.2
MAMC Mammari 147.33 305 ⇑P PKPbc 22 19 38.0 -0.5
DRGR 147.33 332⇑iP PKPbc 22 19 37.7 -0.4
EIL Elat 147.35 295 PKP PKPdf 22 19 35.4 +0.3
EIL PKPbc PKPbc 22 19 38.6 -0.1
EIL SKP 22 22 08.2
EIL Elat 147.35 295 PKP PKPdf 22 19 35.4 +0.3
comp=Z,52nm,0.8s,baz=42,slow=1.6
EIL PKPbc PKPbc 22 19 38.6 -0.1
baz=312,slow=1.9
EIL SKP 22 22 08.2
comp=Z,9.8nm,0.8s,baz=30,slow=5.2,SNR=4.7
PRD Provadia 147.40 322 i P PKPdf 22 19 30.4 -4.4
HAE Alders End 147.41 4⇑eP PKPbc 22 19 37.0 -1.1
MCH1 Michaelchurch 147.42 4⇑eP PKPdf 22 19 35.8 +1.3
MCH1 eP 22 19 35.8
MCH1 AMb AMB 22 19 40.8
comp=Z,203nm,2.2s
MCH1 AMb AMB 22 19 40.8
comp=Z,203nm,2.2s
SSW Stow on the Wo 147.52 3⇑eP PKPbc 22 19 37.3 -1.1
VYHS Vyhne 147.56 337 i PKP PKPbc 22 19 38.6 0.0
VYHS e 22 22 10.4
VYHS Vyhne 147.56 337 i PKP PKPbc 22 19 38.6 0.0
VYHS e 22 22 10.4
PRA Prague 147.57 343 ⇑PKP PKPbc 22 19 38.0 -0.6
PRA PKPAB PKPab 22 19 43.0 -0.5
PRA pPKP pPKPdf 22 22 11.0 -0.4
PRU Pruhonice 147.62 343 ePKIKP PKPdf 22 19 34.5 -0.4
PRU e 22 19 43.8
PRU Pruhonice 147.62 343 ePKPDF PKPdf 22 19 34.5 -0.4
PRU ⇑ePKP PKPbc 22 19 38.4 -0.3
PRU ePKPAB PKPab 22 19 43.8 +0.1
PRU epPKP pPKPdf 22 22 11.2 -0.3
VRAC Vranov 147.62 340 ⇑PKIKP PKPdf 22 19 35.2 +0.3
VRAC 22 19 39.0
VRAC Vranov 147.62 340 PKP PKPdf 22 19 35.4 +0.5
comp=Z,34nm,0.7s,baz=320,slow=3.2,SNR=8.8
VRAC PKPbc PKPbc 22 19 38.6 -0.1
comp=Z,34nm,0.7s,baz=19,slow=2.5,SNR=33
VRAC Vranov 147.62 340⇑iP PKPdf 22 19 35.2 +0.3
PSZ Piszkesteto 147.63 336 P PKPbc 22 19 38.5 -0.3
PSZ Piszkesteto 147.63 336⇑ePKP PKPbc 22 19 38.4 -0.4
PSZ Piszkesteto 147.63 336⇓iP PKPbc 22 19 38.3 -0.5
BUG Bochum--Univer 147.69 352 ePKPdf PKPdf 22 19 34.3 -0.6
MOX Moxa 147.72 347 ePKP PKPdf 22 19 34.0 -1.0
MOX e 22 19 38.5
comp=Z,381nm,1.9s
MOX e 22 22 22.4
MOX Moxa 147.72 347 ePKIKP PKPdf 22 19 34.0 -1.0
MOX e 22 19 38.5
MOX pmax pmax
comp=Z,381nm,1.9s
MOX Moxa 147.72 347 ePKPdf PKPdf 22 19 34.3 -0.7
MOX ePKPbc PKPbc 22 19 38.6 -0.4
MOX ePKPab PKPab 22 19 43.8 -0.2
MOX epPKPbc pPKPbc 22 22 13.1 +0.2
SZAC Souni-Zanaja 147.73 305 P PKPbc 22 19 39.1 -0.4
comp=Z,4.5nm,0.4s
TANN Tannenbergstha 147.75 346 ePKPdf PKPdf 22 19 35.5 +0.4
TANN ePKPbc PKPbc 22 19 38.9 -0.1
HGH Gray Hill 147.79 4⇑eP PKPbc 22 19 37.8 -1.3
SKP1 Kophill 147.80 2⇑eP PKPbc 22 19 37.8 -1.3
ALFC Alevga 147.81 306 ⇑P PKPbc 22 19 38.8 -0.9
comp=Z,5.1nm,0.3s
GUNZ Gunzen 147.82 346 ePKPab PKPab 22 19 44.5 0.0
UBBA Unterbreizbach 147.87 349 ePKPdf PKPdf 22 19 35.7 +0.4
UBBA ePKPbc PKPbc 22 19 38.7 -0.6
WERN Wernitzgruen 147.88 346 ePKPab PKPab 22 19 45.1 +0.4
NKC Novy Kostel 147.92 346 ePKHKP PKPdf 22 19 36.4 +1.0
NKC e 22 19 44.7
NKC Novy Kostel 147.92 346 ePKPDF PKPdf 22 19 36.4 +1.0
NKC ⇑ePKP PKPbc 22 19 39.4 -0.1
NKC ePKPAB PKPab 22 19 44.7 -0.2
NKC epPKP pPKPdf 22 22 11.5 -0.5
TREC Trest 147.97 342 ePKHKP PKPdf 22 19 35.1 -0.4
TREC e 22 19 45.5
TREC Trest 147.97 342 ePKPDF PKPdf 22 19 35.1 -0.4
TREC ⇑ePKP PKPbc 22 19 39.3 -0.3
TREC ePKPAB PKPab 22 19 45.5 +0.4
TREC epPKP pPKPdf 22 22 12.3 +0.2

SWN1 Swindon 147.97 3 eP PKPbc 22 19 38.1 -1.5
SWN1 eP 22 19 38.1
SWN1 AMb AMB 22 19 41.5
comp=Z,466nm,2.5s
AKMC Akamas 148.07 306 P PKPbc 22 19 38.9 -1.5
PPCY Paphos 148.10 305 ⇑P PKPbc 22 19 39.2 -1.3
SZH Strazhica 148.19 324 i P PKPdf 22 19 35.4 -0.6
WOL Wolverton 148.20 2⇑eP PKPbc 22 19 38.9 -1.3
MODS Modra-Piesok 148.21 339 ePKP PKPbc 22 19 40.6 +0.3
MODS e 22 22 14.7
CALA Caldeira 148.22 47 ePKP PKPbc 22 19 40.8 +0.2
MANZ Manzenberg 148.23 346 ePKPdf PKPdf 22 19 36.3 +0.4
MANZ ePKPbc PKPbc 22 19 40.2 -0.1
ZIMR 148.25 325 PKP2 PKPbc 22 19 40.2 -0.3
ISP Isparta 148.28 312 eP PKPbc 22 19 39.5 -1.3
ISP Isparta 148.28 312 P PKPbc 22 19 39.7 -1.1
ISP Isparta 148.28 312 ⇓iP PKPbc 22 19 39.5 -1.3
HEX Exmoor 148.28 5⇑eP PKPbc 22 19 39.3 -1.1
HTL Hartland 148.29 6⇑eP PKPbc 22 19 39.2 -1.2
HTL AMb AMB 22 19 46.0
comp=Z,148nm,0.7s
HOR Horta 148.30 47 ePKP PKPbc 22 19 38.9 -1.9
TKTP Tekketepe 148.32 312 i P PKPdf 22 19 29.0 -7.4
JMB Yambol 148.32 322 eP PKPbc 22 19 40.5 -0.2
JMB Yambol 148.32 322 i P PKPdf 22 19 36.0 -0.3
BUD Budapest 148.32 336⇑ePKP PKPbc 22 19 40.0 -0.6
GZR Gura Zlata 148.35 330 PKHKP PKPbc 22 19 40.1 -0.6
ROTZ Rotzenmuhle 148.41 346 ePKPdf PKPdf 22 19 36.4 +0.2
ROTZ ePKPbc PKPbc 22 19 40.3 -0.4
ZST Bratislava 148.42 339 ePKP PKPbc 22 19 40.9 +0.1
ZST e 22 22 09.1
TFO1 Folkestone 148.43 359⇑eP PKPbc 22 19 39.9 -0.8
PICO Pico 148.45 47 ePKP PKPbc 22 19 41.8 +0.6
ROSA Rosais 148.47 46 ePKP PKPbc 22 19 41.1 -0.1
BEBN Eben Emael 148.50 354 PKPbc PKPbc 22 19 40.2 -0.7
BEBN PKPab PKPab 22 19 46.2 -1.1
HGN Heimansgroeve 148.51 354 ePKP PKPbc 22 19 40.2 -0.7
comp=Z,173nm,1.8s
HGN Heimansgroeve 148.51 354 epPKP pPKPdf 22 22 10.8 -2.2
CRAR CRAIOVA 148.61 327 PKP2 PKPbc 22 19 42.0 +0.6
UCC Uccle 148.61 356 PKP PKPdf 22 19 36.0 -0.5
UCC PKPbc PKPbc 22 19 40.6 -0.6
UCC PKPab PKPab 22 19 46.7 -1.0
PMAN Manadas 148.62 46 ePKP PKPdf 22 19 38.0 +1.1
MEM Membach 148.65 353 PKP PKPdf 22 19 36.1 -0.4
MEM PKPbc PKPbc 22 19 40.7 -0.6
MEM PKPab PKPab 22 19 47.0 -0.9
KHC Kasperske Hory 148.66 344 ePKHKP PKPdf 22 19 36.3 -0.3
KHC e 22 19 48.4
KHC Kasperske Hory 148.66 344 ePKPDF PKPdf 22 19 36.3 -0.3
KHC ⇑ePKP PKPbc 22 19 41.2 -0.1
KHC ePKPAB PKPab 22 19 48.4 +0.4
KHC epPKP pPKPdf 22 22 16.4 +3.2
GRA1 Grafenberg Arr 148.70 347 ePKPdf PKPdf 22 19 36.3 -0.3
GRA1 ePKPab PKPab 22 19 48.0 -0.1
GRF Grafenberg Arr 148.70 347 ePKP2 PKPab 22 19 48.0 -0.1
GRF Grafenberg Arr 148.70 347 ePKPdf PKPdf 22 19 36.3 -0.3
GRF ePKPab PKPab 22 19 48.0 -0.1
GRFO Grafenberg 148.70 347 ePKPdf PKPdf 22 19 37.6 +0.9
GRFO ePKPbc PKPbc 22 19 41.0 -0.4
GRFO ePKPab PKPab 22 19 48.2 +0.1
BZS Buzias 148.72 331 PKP2 PKPbc 22 19 41.1 -0.5
BZS Buzias 148.72 331 ⇑P PKPdf 22 19 36.7 -0.1
BZS P PKPbc 22 19 41.1 -0.5
BZS Buzias 148.72 331⇑iP PKPdf 22 19 36.7 -0.1
TIM Timisoara 148.81 332⇑iP PKPbc 22 19 42.0 +0.2
WET Wettzell 148.82 344 ePKPdf PKPdf 22 19 36.9 0.0
WET ePKPbc PKPbc 22 19 41.4 -0.3
WET ePKPab PKPab 22 19 48.8 +0.1
WET Wettzell 148.82 344 ePKPdf PKPdf 22 19 36.9 0.0
WET ePKPbc PKPbc 22 19 41.4 -0.3
WET ePKPab PKPab 22 19 48.8 +0.1
CSA1 St Austell 148.88 7⇑eP PKPbc 22 19 40.3 -1.5
GEC2 GERESS Array S 148.88 343 ePKPdf PKPdf 22 19 37.0 0.0
GEC2 epPKPbc pPKPbc 22 22 16.7 +0.4
GEC2 GERESS Array S 148.88 343 ePKPdf PKPdf 22 19 37.0 0.0
GEC2 epPKPbc pPKPbc 22 22 16.7 +0.4
GERES GERESS Array B 148.88 343 PKP PKPdf 22 19 36.6 -0.4
comp=Z,53nm,0.7s,baz=332,slow=2.0,SNR=40
GERES PKPbc PKPbc 22 19 41.3 -0.6
comp=Z,7.3nm,0.5s,baz=31,slow=2.3,SNR=12
GERES SKP 22 22 09.7
comp=Z,2.7nm,0.8s,baz=20,slow=3.1,SNR=2.2
BCLA Clavier 148.91 354 PKP PKPdf 22 19 37.3 +0.3
BCLA PKPbc PKPbc 22 19 41.2 -0.7
BCLA PKPab PKPab 22 19 47.9 -1.1
CCA1 Carnmenellis 149.00 7⇑eP PKPbc 22 19 41.0 -1.1
CRQ2 Rosemanowes 2 149.03 7⇑eP PKPbc 22 19 40.5 -1.7
SART Tekirdag 149.03 319 i P PKPdf 22 19 29.0 -8.4
SOP Sopron 149.05 339⇑ePKP PKPbc 22 19 42.1 -0.2
CONA Conrad Observa 149.06 340⇑iPKPdf PKPdf 22 19 37.5 +0.2
comp=Z,14nm,1.5s,SNR=22
CMA1 Manaccan 149.11 7⇑eP PKPbc 22 19 41.4 -1.0
ABH Alteburg 149.18 351 PKP PKPdf 22 19 37.7 +0.3
ADH Angra Heroismo 149.19 46 ePKP PKPbc 22 19 41.7 -1.3
GOLH Golhisar 149.22 311 i P PKPdf 22 19 26.8 -11
PSCM Serra do Cume 149.24 46 ePKP PKPdf 22 19 39.8 +1.9
TOD Tromm 149.25 350 PKHKP 22 19 38.0
GIVF Givet 149.27 355 ePKIKP PKPdf 22 19 37.0 -0.5
DOU Dourbes 149.29 355 PKPbc PKPbc 22 19 42.4 -0.4
BAIF Baives 149.36 356 ePKIKP PKPdf 22 19 37.2 -0.5
RUP Ruppelstein 149.42 352 PKHKP 22 19 38.7
KDZ Kurdzhali 149.51 322 i P PKPdf 22 19 37.4 -0.8
PKSM Moragy 149.52 335 PKHKP PKPbc 22 19 42.9 -0.6
PKSM Moragy 149.52 335 ⇓P PKPdf 22 19 36.6 -1.4
PKSM Moragy 149.52 335 ⇓iP PKPdf 22 19 36.6 -1.4
WLF Walferdange 149.57 353 ePKPdf PKPdf 22 19 38.2 +0.2
WLF ePKPbc PKPbc 22 19 43.6 +0.1
WLF Walferdange 149.57 353 PKP PKPdf 22 19 38.2 +0.2
WLF PKPbc PKPbc 22 19 43.4 0.0
WLF PKPab PKPab 22 19 49.6 -2.1
WLF Walferdange 149.57 353 ePKPdf PKPdf 22 19 38.8 +0.8
WLF ePKPbc PKPbc 22 19 43.6 +0.1
WLF epPKPbc pPKPbc 22 22 19.0 +0.8
ALN Alexandroupoli 149.60 320 eP PKPbc 22 19 42.6 -1.2
AKHS Akhisar 149.62 315 i P PKPdf 22 19 35.6 -2.9
MOA Molln 149.63 342⇑i PKPbc 22 19 42.9 -0.8
comp=Z,60nm,1.1s
MOA Molln 149.63 342⇑iPKPdf PKPdf 22 19 36.8 -1.4
comp=Z,12nm,1.6s,SNR=13
MOA ⇑iPKPbc PKPbc 22 19 42.9 -0.8
comp=Z,60nm,1.1s
PLD Plovdiv 149.63 323 eP PKPbc 22 19 42.7 -1.2
PGB Panagyurishte 149.64 324 i P PKPdf 22 19 37.5 -0.9
KTD Kalmit 149.64 350 PKHKP PKPdf 22 19 38.9 +0.8
RDO Rodhopi 149.75 321 eP PKPab 22 19 53.5 +0.6
ARSA Arzberg 149.77 340⇑i PKPbc 22 19 43.2 -0.8
comp=Z,20nm,0.7s
ARSA Arzberg 149.77 340⇑iPKPdf PKPdf 22 19 38.1 -0.3
comp=Z,5.7nm,1.2s,SNR=11
ARSA ⇑iPKPbc PKPbc 22 19 43.2 -0.8
comp=Z,20nm,0.7s
RZN Rozhen 149.89 323 i P PKPdf 22 19 37.5 -1.3
STU Stuttgart 149.98 349 ePKPdf PKPdf 22 19 38.1 -0.6
STU ePKPab PKPab 22 19 53.2 -0.3
STU epPKPbc pPKPbc 22 22 17.8 -1.5
LANF Langenberg 150.02 351 PKP PKPdf 22 19 39.4 +0.7
VTS Vitosha 150.13 325 eP PKPbc 22 19 44.7 -0.3
VTS Vitosha 150.13 325 P PKPdf 22 19 39.0 -0.2
VTS ⇑P PKPbc 22 19 44.7 -0.3
VTS Vitosha 150.13 325⇑iP PKPbc 22 19 44.7 -0.3
VTS Vitosha 150.13 325 i P PKPdf 22 19 38.1 -1.0
AYDN Tasoluk 150.20 313 i P PKPdf 22 19 38.6 -0.8
BOZC Bozcaada 150.22 318 i P PKPdf 22 19 29.0 -10
BLCB Balcova 150.39 315 eP PKPbc 22 19 44.6 -1.2
STR Strasbourg 150.41 350 PKP PKPdf 22 19 40.2 +0.9
PRK Paraskevi 150.42 317 eP PKPbc 22 19 45.5 -0.3
PRK Paraskevi 150.42 317 eP PKPbc 22 19 45.0 -0.8
MMB Musomiste 150.52 323 i P PKPdf 22 19 38.8 -0.9
BFO Black Forest 150.56 350 ePKPdf PKPdf 22 19 38.6 -1.0
BFO ePKP PKPbc 22 19 45.4 -0.5
BFO ePKPab PKPab 22 19 55.7 -0.3
BFO Black Forest 150.56 350 ePKPdf PKPdf 22 19 38.6 -1.0
BFO ePKPab PKPab 22 19 55.7 -0.3
KBA Koelnbreinsper 150.59 342⇑i PKPbc 22 19 44.6 -1.3
comp=Z,70nm,0.9s
KBA Koelnbreinsper 150.59 342⇑iPKPdf PKPdf 22 19 39.3 -0.4
comp=Z,15nm,1.6s,SNR=15
KBA ⇑iPKPbc PKPbc 22 19 44.6 -1.3
comp=Z,70nm,0.9s
DIVS Divibare 150.63 331 eP PKPbc 22 19 45.8 -0.3

PSET Sete Cidades 150.63 46 ePKP PKPbc 22 19 44.3 -2.1
CDF Champ du Feu 150.65 351 ePKIKP PKPdf 22 19 38.9 -0.8
KKB Krupnik 150.69 324 i P PKPdf 22 19 39.0 -1.0
SPAK Spaichingen-Ko 150.70 349 PKP PKPdf 22 19 37.9 -1.9
PDA Ponta Delgada 150.71 46 ePKP PKPdf 22 19 43.0 +2.8
ARG Arkhangelos 150.71 310 eP PKPbc 22 19 46.0 -0.6
LIA Limnos Island 150.73 319 eP PKPdf 22 19 39.2 -0.9
OBKA Obir 150.74 340⇑i PKPbc 22 19 45.2 -1.1
comp=Z,29nm,0.7s
OBKA Obir 150.74 340⇑iPKPdf PKPdf 22 19 40.7 +0.8
comp=Z,1.9nm,0.7s,SNR=20
OBKA ⇑iPKPbc PKPbc 22 19 45.2 -1.1
comp=Z,29nm,0.7s
FLN La Foliniere 150.77 2 ePKIKP PKPdf 22 19 39.1 -0.8
comp=Z,46nm,0.8s
BDRM Kayabasi 150.79 312 i P PKPdf 22 19 38.8 -1.5
CMLA Cha da Macela 150.80 46 ePKP PKPdf 22 19 40.7 +0.4
CMLA Cha da Macela 150.80 46 ePKPdf PKPdf 22 19 41.2 +1.0
CMLA ePKPbc PKPbc 22 19 47.2 +0.5
WATA Walderalm 150.83 345⇑i PKPbc 22 19 45.7 -0.7
comp=Z,118nm,1.3s
WATA Walderalm 150.83 345⇓iPKPdf PKPdf 22 19 39.8 -0.2
comp=Z,79nm,2.0s,SNR=12
WATA ⇑iPKPbc PKPbc 22 19 45.7 -0.7
comp=Z,118nm,1.3s
MEZF Maizieres J'vi 150.83 354 ePKIKP PKPdf 22 19 39.8 -0.2
comp=Z,28nm,0.8s
ECH Echery 150.86 351 PKP PKPdf 22 19 39.4 -0.6
RETA Reutte 150.88 346⇑iPKPdf PKPdf 22 19 39.2 -0.9
comp=Z,14nm,1.7s,SNR=18
SMG Samos 150.88 314 eP PKPbc 22 19 46.0 -0.9
SRS Serrai 150.91 323 eP PKPbc 22 19 45.0 -1.9
MOTA Moosalm 150.94 345⇑i PKPbc 22 19 45.9 -0.8
comp=Z,82nm,1.0s
MOTA Moosalm 150.94 345⇓iPKPdf PKPdf 22 19 39.1 -1.1
comp=Z,27nm,1.3s,SNR=16
MOTA ⇑iPKPbc PKPbc 22 19 45.9 -0.8
comp=Z,82nm,1.0s
LDF La Druitiere 150.95 1 ePKIKP PKPdf 22 19 39.3 -0.9
comp=Z,32nm,0.8s
THEF They Montfort 151.00 353 PKP PKPdf 22 19 39.7 -0.6
SISC Sisak 151.01 337 i P PKPbc 22 19 46.5 -0.4
SQTA Sankt Quirin 151.03 345⇑i PKPbc 22 19 46.3 -0.6
comp=Z,92nm,1.2s
SQTA Sankt Quirin 151.03 345⇓iPKPdf PKPdf 22 19 39.6 -0.8
comp=Z,32nm,1.4s,SNR=12
SQTA ⇑iPKPbc PKPbc 22 19 46.3 -0.6
comp=Z,92nm,1.2s
ROSF Rostrenen 151.03 5 ePKIKP PKPdf 22 19 39.2 -1.1
comp=Z,7.9nm,0.6s
CHOS Chios island 151.04 316 eP PKPbc 22 19 46.5 -0.7
FELD Feldberg im Sc 151.06 350 PKP PKPdf 22 19 40.5 +0.2
ABTA Abfaltersbach 151.13 343 i PKPdf PKPdf 22 19 39.6 -0.9
comp=Z,20nm,0.9s,SNR=15
ABTA ⇑iPKPbc PKPbc 22 19 46.1 -1.1
GRR Gorron 151.13 2 ePKIKP PKPdf 22 19 39.7 -0.7
comp=Z,16nm,0.7s
SGMF Saint Gilles 151.17 5 ePKIKP PKPdf 22 19 39.5 -1.0
comp=Z,28nm,0.9s
HAU Haudompre 151.18 352 ePKIKP PKPdf 22 19 39.8 -0.7
comp=Z,25nm,1.0s
OUR Ouranopolis 151.19 321 eP PKPbc 22 19 45.6 -1.9
FVI Forni Avoltri 151.19 343 PKIKP PKPdf 22 19 39.0 -1.6
PTCC Patocco-Chiusa 151.20 342 PKP PKPdf 22 19 40.6 0.0
SEST Monte Rota 151.21 343 PKP PKPdf 22 19 40.7 +0.1
MOF Molkenrain 151.22 351 PKP PKPdf 22 19 40.7 +0.1
SOH Sokhos 151.24 323 eP PKPbc 22 19 45.7 -1.9
DAVA Damuels 151.27 347⇑i PKPbc 22 19 47.1 -0.4
comp=Z,79nm,0.9s
DAVA Damuels 151.27 347⇑iPKPdf PKPdf 22 19 40.6 0.0
comp=Z,8.5nm,1.0s,SNR=17
DAVA ⇑iPKiKP PKiKP 22 19 47.1 -0.6
comp=Z,79nm,0.9s
KNT Kendrikon 151.27 324 eP PKPbc 22 19 45.8 -1.8
HINF Hinteralfeld 151.29 351 ePKIKP PKPdf 22 19 39.9 -0.8
comp=Z,16nm,0.8s
FETA Feichten 151.33 346 i PKPdf PKPdf 22 19 40.3 -0.4
comp=Z,25nm,0.9s,SNR=16
VAY Valandovo 151.34 324⇑ePKP PKPdf 22 19 39.6 -1.4
VAY ePKP PKPbc 22 19 45.9 -2.0
VAY i PKP PKPab 22 19 59.4 -0.1
GMNA Gemona 151.35 342 PKP PKPdf 22 19 39.9 -0.9
VOY Vojsko 151.37 341 ePKPdf PKPdf 22 19 41.0 +0.1
VOY ePKPbc PKPbc 22 19 46.6 -1.1
VOY e 22 20 11.8
VOY e 22 22 21.3
CEY Cerknica 151.46 340 ePKPdf PKPdf 22 19 40.7 -0.3
CEY ePKPbc PKPbc 22 19 47.1 -0.8
CEY ePKPab PKPab 22 19 58.4 -1.4
QUIF Quistinic 151.46 5 ePKIKP PKPdf 22 19 39.9 -1.0
comp=Z,38nm,1.1s
PLG Polygyros 151.47 322 eP PKPbc 22 19 46.5 -1.7
PLG Polygyros 151.47 322 eP PKPbc 22 19 46.5 -1.7
SKO Skopje 151.50 326 i PKP PKPdf 22 19 41.6 +0.4
SKO i PKP PKPbc 22 19 48.1 -0.1
SKO i PKP PKPab 22 20 01.6 +1.4
PSMN Pico do Norte, 151.50 47 ePKP PKPdf 22 19 44.4 +3.0
HORT Hortiatis 151.53 323 eP PKPbc 22 19 46.6 -1.6
BBS Basel-Blauen 151.54 350 PKIKP PKPdf 22 19 40.3 -0.8
PAIG Paliouri 151.62 321 eP PKPbc 22 19 46.6 -1.8
GRG Griva 151.69 324 eP PKPdf 22 19 42.5 +1.0
DAVOS Davos 151.71 347 PKIKP PKPdf 22 19 40.9 -0.5
DAVOS 22 19 48.4
DAVOS 22 20 00.6
KARP Karpathos 151.72 310 eP PKPbc 22 19 48.0 -0.9
DAVOX Davos/Dischmat 151.75 347 PKP PKPdf 22 19 40.9 -0.5
comp=Z,13nm,0.8s,baz=348,slow=1.7,SNR=19
DAVOX PKPbc PKPbc 22 19 48.4 -0.1
comp=Z,78nm,0.4s,baz=237,slow=1.6,SNR=130
DAVOX PKPab PKPab 22 20 00.6 -0.4
comp=Z,43nm,0.7s,baz=4.1,slow=7.5,SNR=8.4
DAVOX SKPbc 22 22 19.6
comp=Z,13nm,0.8s,baz=6.3,slow=3.1,SNR=4.7
LOMF Lomont 151.75 351 PKP PKPdf 22 19 41.5 +0.1
CTI Castel Tesino 152.00 344 PKIKP PKPdf 22 19 40.7 -1.1
APE Apeiranthos 152.11 314 P PKPbc 22 19 47.8 -1.8
APE Apeiranthos 152.11 314⇑i PKPbc 22 19 47.9 -1.8
TUE Stuetta 152.16 347 PKP PKPdf 22 19 41.5 -0.5
LOR Lormes 152.16 355 ePKIKP PKPdf 22 19 41.5 -0.5
comp=Z,36nm,1.1s
LIT Litokhoron 152.21 322 eP PKPbc 22 19 47.5 -2.3
HYF Humbligny 152.24 357 ePKIKP PKPdf 22 19 41.7 -0.4
XOR Xorichti 152.27 320 ePKP PKPdf 22 19 46.0 +3.6
NVLJ Novalja 152.34 338 i P PKPbc 22 19 48.7 -1.2
FNA Florina 152.37 325 ePKP PKPdf 22 19 41.3 -1.2
SSF Saint Saulge 152.39 356 ePKIKP PKPdf 22 19 41.7 -0.6
OHR Ohrid 152.45 326 eP PKPbc 22 19 48.7 -1.6
OHR Ohrid 152.45 326 ePKP PKPdf 22 19 42.1 -0.5
OHR i PKP PKPbc 22 19 48.5 -1.7
OHR ePKP PKPab 22 20 02.8 -1.5
SANT Santorini 152.52 313 eP PKPbc 22 19 48.7 -1.9
CABF La Chapelle 152.58 352 ePKIKP PKPdf 22 19 42.6 0.0
comp=Z,104nm,1.2s
STON Ston 152.62 332 i P PKPbc 22 19 49.0 -1.5
PTL Penteli 152.65 317 eP PKPbc 22 19 49.5 -1.3
AVF Avril sur Loir 152.67 356 ePKIKP PKPdf 22 19 41.8 -1.0
SMF Signal de Mont 152.78 355 ePKIKP PKPdf 22 19 42.1 -0.8
ATH Athens Observa 152.79 317 eP PKPbc 22 19 49.5 -1.6
LKR Lokris 152.83 319 eP PKPbc 22 19 49.5 -1.7
THL Klokotos Trika 152.84 322 eP PKPdf 22 19 42.8 -0.4
KVR Kavouri 152.84 317 eP PKPbc 22 19 49.0 -2.2
VAI Varese 152.85 348 PKIKP PKPdf 22 19 41.9 -1.1
BGF Bois d'Agland 152.94 357 ePKIKP PKPdf 22 19 42.4 -0.7
MFF Saint Martin d 152.94 1 ePKIKP PKPdf 22 19 42.3 -0.8
comp=Z,54nm,1.1s
NPS Neapolis 152.97 311 eP PKPbc 22 19 51.5 -0.1
AGG Agios Georgios 153.00 321 eP PKPdf 22 19 42.4 -1.1
NAIG Nisos Aigina 153.06 317 eP PKPbc 22 19 50.0 -1.7
XRY Khrisi 153.09 310 eP PKPdf 22 19 43.0 -0.8
LAST Lasithi 153.11 311 eP PKPdf 22 19 43.3 -0.5
MEV Metsovon 153.14 323 eP PKPbc 22 19 51.5 -0.2
TCF Toulx Ste Croi 153.23 358 ePKIKP PKPdf 22 19 42.7 -0.9
comp=Z,40nm,1.1s
LTK Loutraki 153.24 318 eP PKPbc 22 19 50.3 -1.8
DID Didima 153.38 317 eP PKPbc 22 19 50.5 -1.9
EVR Evrytania 153.38 321 eP PKPbc 22 19 51.5 -0.8
JAN Janina 153.44 324 eP PKPbc 22 19 52.5 +0.1
PLDF La Plantade 153.47 355 PKP PKPdf 22 19 43.4 -0.5
LPL La Plagne 153.56 350 ePKIKP PKPdf 22 19 44.0 -0.1
LPG La Plagne 153.57 350 ePKIKP PKPdf 22 19 44.1 0.0
comp=Z,8.3nm,0.7s
SIVA Sivas 153.66 311 eP PKPbc 22 19 53.0 0.0
AOI Ancona 153.67 339 PKP PKPdf 22 19 39.6 -4.7

RSM	Repubblica di	153.71	341	PKIKP	PKPdf	22 19 45.4	+1.1
PYM	Petit Puy Mans	153.73	356	PKP	PKPdf	22 19 39.4	-4.9
SELA	Sela	153.74	320	*e*P	PKPbc	22 19 53.0	-0.1
FSSB	Fossombrone	153.82	340	PKP	PKPdf	22 19 43.7	-0.8
ERBM	Eremo	153.84	344	PKP	PKPdf	22 19 44.4	-0.1
GSCL	Gusciola	153.86	344	PKP	PKPdf	22 19 43.0	-1.5
VAM	Vamos	153.89	312	*e*P	PKPdf	22 19 45.0	+0.1
SEI	Scarperia	153.92	342	PKP	PKPdf	22 19 44.2	-0.4
CING	Cingoli	153.96	339	PKP	PKPdf	22 19 42.5	-2.2
VLX	Vlachokerasia	154.00	318	*e*P	PKPdf	22 19 44.8	-0.1
BNI	Bardonecchia	154.02	350	*e*PKPdf	PKPdf	22 19 44.5	-0.2
BNI				*e*PKPbc	PKPbc	22 19 53.3	-0.2
VLI	Veliai	154.03	316	*e*P	PKPbc	22 19 53.5	-0.3
PIEI	Pieia	154.03	340	PKP	PKPdf	22 19 44.1	-0.7
VLC	Villacollemand	154.09	344	PKPdf	PKPdf	22 19 43.7	-1.2
VLC				*e*PKPbc	PKPbc	22 19 52.6	-1.0
VLC				*e*PKPab	PKPab	22 20 10.4	-0.8
SNTG	Esanatoglia	154.15	339	PKP	PKPdf	22 19 44.1	-0.9
LBL	Lubilhac	154.23	356	PKP	PKPdf	22 19 44.4	-0.6
RJF	Les Rejaudoux	154.24	359	*e*PKIKP	PKPdf	22 19 44.5	-0.5
	comp=Z,41nm,1.1s						
ORIF	Oris-en-Rattie	154.27	352	*e*PKIKP	PKPdf	22 19 44.7	-0.4
MURB	Monte Urbino	154.28	340	PKP	PKPdf	22 19 43.8	-1.3
MBDF	Montbardon	154.32	350	*e*PKIKP	PKPdf	22 19 44.8	-0.3
	comp=Z,23nm,0.8s						
ITM	Ithomi	154.41	318	*e*P	PKPdf	22 19 54.0	+8.5
NRCA	Norcia	154.47	338	PKP	PKPdf	22 19 44.6	-0.8
VIVF	Saint-Julien-l	154.48	353	*e*PKIKP	PKPdf	22 19 45.1	-0.2
	comp=Z,53nm,1.3s						
VLS	Valsamata	154.59	321	*e*P	PKPdf	22 19 55.0	+9.3
CAF	Calviac	154.60	358	*e*PKIKP	PKPdf	22 19 45.2	-0.3
	comp=Z,49nm,1.2s						
LFF	La Frestale	154.61	360	*e*PKIKP	PKPdf	22 19 44.9	-0.6
	comp=Z,16nm,0.8s						
AQU	L'Aquila	154.78	338	*e*PKIKP	PKPdf	22 19 45.6	-0.2
AQU				*e*		22 20 14.0	
SAOF	Saorge	154.90	348	PKP	PKPdf	22 19 44.1	-1.8
AUTN	L'Aution	154.91	348	PKP	PKPdf	22 19 46.4	+0.4
TOUF	Mont Tournerai	154.93	349	PKP	PKPdf	22 19 44.6	-1.4
FIAM	Fiamignano	154.96	338	PKP	PKPdf	22 19 44.7	-1.4
LUCF	Luceram	155.03	349	PKP	PKPdf	22 19 46.7	+0.6
SBF	Sospel	155.04	348	*e*PKIKP	PKPdf	22 19 45.1	-1.0
MVIF	Mont Vial	155.06	349	PKP	PKPdf	22 19 46.0	-0.2
RNI2	Rionero Sannit	155.07	336	PKP	PKPdf	22 19 45.1	-1.1
VVLD	Villa Vallelon	155.12	337	PKP	PKPdf	22 19 44.8	-1.5
REVF	Revere	155.17	348	PKP	PKPdf	22 19 44.1	-2.2
EMAZ	Mazaricos	155.22	17	PKP	PKPdf	22 19 45.6	-0.8
SMRF	Simiane la Rot	155.24	352	*e*PKIKP	PKPdf	22 19 46.4	0.0
	comp=Z,39nm,1.0s						
EPON	Pontenova	155.32	14	PKP	PKPdf	22 19 47.2	+0.7
LASF	Ste Croix	155.33	355	*e*PKIKP	PKPdf	22 19 46.4	-0.1
	comp=Z,61nm,1.1s						
STS	Santiago	155.39	16	PKIKP	PKPdf	22 19 46.6	0.0
FRF	La Foret Royal	155.47	350	*e*PKIKP	PKPdf	22 19 46.0	-0.7
	comp=Z,46nm,1.2s						
LMR	La Mourre	155.72	350	*e*PKIKP	PKPdf	22 19 46.1	-0.9
	comp=Z,63nm,1.4s						
EARI	Arriondas	155.73	11	PKP	PKPdf	22 19 47.5	+0.5
PGF	Pioggiola	155.95	345	*e*PKIKP	PKPdf	22 19 46.4	-1.0
	comp=Z,64nm,1.1s						
ELAN	Lanestosa	156.06	7	PKP	PKPdf	22 19 47.8	+0.3
MTLF	Montolieu	156.18	357	*e*PKIKP	PKPdf	22 19 47.2	-0.4
ERUA	La Rua	156.21	15	PKIKP	PKPdf	22 19 46.5	-1.2
EALK	Alkurruntz	156.26	4	PKP	PKPdf	22 19 50.1	+2.3
ELIZ	Elizondo	156.31	4	PKIKP	PKPdf	22 19 47.4	-0.4
SJPF	Ste Jean	156.38	4	*e*PKIKP	PKPdf	22 19 47.9	0.0
	comp=Z,23nm,1.0s						
ELOB	Lobios	156.47	17	PKP	PKPdf	22 19 49.2	+1.1
EPF	Esparros	156.52	1	*e*PKIKP	PKPdf	22 19 47.9	-0.2
	comp=Z,16nm,0.8s						
ETSF	Etsaut	156.63	2	*e*PKIKP	PKPdf	22 19 48.2	0.0
	comp=Z,21nm,0.7s						
PCAB	Cabril	156.63	17	*e*PKPdf	PKPdf	22 19 49.2	+0.9
PCAB	Cabril	156.63	17	*e*PKPab	PKPab	22 20 21.2	-1.0
ECAL	Calabor	156.73	14	PKP	PKPdf	22 19 50.8	+2.4
PVRL	Vila Real	157.12	16	*e*PKPdf	PKPdf	22 19 49.1	+0.2
PVRL	Vila Real	157.12	16	*e*PKPab	PKPab	22 20 23.5	-0.8
MVO	Moncorvo	157.40	15	*e*PKPdf	PKPdf	22 19 49.2	0.0
MVO	Moncorvo	157.40	15	*e*PKPab	PKPab	22 20 25.3	-0.2
PVIS	Viseu	157.59	17	*e*PKPdf	PKPdf	22 19 50.0	+0.5
PVIS	Viseu	157.59	17	*e*PKPab	PKPab	22 20 26.3	-0.1
MTE	Manteigas	157.98	17	*e*PKPdf	PKPdf	22 19 49.7	-0.3
MTE	Manteigas	157.98	17	*e*PKPdf	PKPdf	22 19 49.7	-0.3
MTE	Manteigas	157.98	17	*e*PKPab	PKPab	22 20 26.9	-1.2
PTOM	Tomar	158.45	19	*e*PKPdf	PKPdf	22 19 50.3	-0.2
PTOM	Tomar	158.45	19	*e*PKPab	PKPab	22 20 29.1	-1.1
GUD	Guadarrama	158.50	10	PKIKP	PKPdf	22 19 51.2	+0.6
PCBR	Castelo Branco	158.52	17	*e*PKPdf	PKPdf	22 19 50.3	-0.3
PCBR	Castelo Branco	158.52	17	*e*PKPab	PKPab	22 20 29.8	-0.7
ERTA	Horta de San J	158.59	1	PKP	PKPdf	22 19 50.7	0.0
ETOR	Torete	158.60	6	PKIKP	PKPdf	22 19 51.0	+0.3
PMAFR	Mafra	158.75	22	*e*PKPdf	PKPdf	22 19 51.0	+0.1
PMAFR	Mafra	158.75	22	*e*PKPab	PKPab	22 20 30.7	-0.8
PESTR	Estremoz	159.39	19	*e*PKPdf	PKPdf	22 19 51.4	-0.3
PESTR	Estremoz	159.39	19	*e*PKPab	PKPab	22 20 32.7	-1.6
ESDC	Sonseca Array	159.48	10	PKP	PKPdf	22 19 51.1	-0.6
	comp=Z,3.0nm,0.8s,baz=357,slow=2.8,SNR=21						
ESDC				PKPab	PKPab	22 20 33.2	-1.4
	comp=Z,18nm,0.8s,baz=345,slow=4.1,SNR=32						
ESLA	Sonseca Array	159.48	10	*e*PKPdf	PKPdf	22 19 51.0	-0.7
PAB	San Pablo	159.53	11	*e*PKIKP	PKPdf	22 19 51.4	-0.4
EVO	Evora	159.56	20⇑	*i*PKIKP	PKPdf	22 19 51.7	-0.2
	comp=Z,39nm,1.0s						
EBAD	Badajoz	159.66	18	PKP	PKPdf	22 19 52.8	+0.9
ECHE	Chera	159.91	4	PKIKP	PKPdf	22 19 52.4	+0.2
PBEJ	Beja	160.07	20	*e*PKPdf	PKPdf	22 19 52.7	+0.3
PBAR	Barrancos	160.19	18	*e*PKPdf	PKPdf	22 19 52.5	-0.1
PBAR	Barrancos	160.19	18	*e*PKPab	PKPab	22 20 36.9	-0.9
MORF	Marmelete	160.45	23	*e*PKPdf	PKPdf	22 19 53.2	+0.3
MORF	Marmelete	160.45	23	*e*PKPab	PKPab	22 20 38.3	-0.7
PFVI	Vila Bisbo	160.54	23	*e*PKPdf	PKPdf	22 19 53.4	+0.4
EGRO	El Granado	160.64	20	PKP	PKPdf	22 19 54.3	+1.2
EMIN	Mina Concepcio	160.68	18	PKP	PKPdf	22 19 53.1	0.0
PVAQ	Vaqueiros	160.69	21	*e*PKPdf	PKPdf	22 19 53.4	+0.3
PVAQ	Vaqueiros	160.69	21	*e*PKPab	PKPab	22 20 39.0	-1.0
EVIA	Vianos	160.71	8	PKIKP	PKPdf	22 19 53.5	+0.4
PBDV	Barranco-do-Ve	160.76	21	*e*PKPdf	PKPdf	22 19 52.8	-0.4
PBDV	Barranco-do-Ve	160.76	21	*e*PKPab	PKPab	22 20 39.7	-0.6
ETOB	Tobarra	160.80	5	PKP	PKPdf	22 19 53.1	-0.1
EADA	Adamuz	160.82	13	PKP	PKPdf	22 19 53.2	0.0
EBAN	Banos Encina	160.98	11	PKIKP	PKPdf	22 19 54.3	+0.9
EQES	Quesada	161.45	9	PKP	PKPdf	22 19 54.3	+0.4
ELUQ	Luque	161.47	12	PKIKP	PKPdf	22 19 53.8	-0.1
EMUR	La Murta	161.62	5	PKP	PKPdf	22 19 53.8	-0.3
ESPR	Espera	161.75	17	PKP	PKPdf	22 19 56.0	+1.8
ECOG	Cogollos-Vega	161.80	11	PKIKP	PKPdf	22 19 54.5	+0.2
ELOJ	Sierra Loja	161.89	13	PKIKP	PKPdf	22 19 55.4	+1.0
CCAN	Las Canadas	161.95	58	PKP	PKPdf	22 19 56.0	+1.3
EBAJ	Bajamar	162.02	57	PKP	PKPdf	22 19 53.3	-1.5
ERON	Agron	162.09	12	PKP	PKPdf	22 19 54.4	-0.2
KEST	Kesra	162.10	337	PKP	PKPdf	22 19 55.3	+0.7
	comp=Z,2.1nm,0.8s,baz=122,slow=2.6,SNR=4.9						
KEST				PKPab	PKPab	22 20 44.9	-1.4
	comp=Z,9.7nm,0.8s,baz=313,slow=0.9,SNR=16						
EJIF	Jimena Fronter	162.24	17	PKIKP	PKPdf	22 19 55.9	+1.2
EGUA	Guajares	162.31	11	PKIKP	PKPdf	22 19 54.5	-0.3
EMIJ	Mijas	162.31	15	PKP	PKPdf	22 19 54.5	-0.3
EBER	Berja	162.36	10	PKP	PKPdf	22 19 55.7	+0.9
CFTV	Fuerteventura	163.84	54	PKP	PKPdf	22 19 57.2	+0.7
MDT	Midelt	165.89	19	PKP	PKPdf	22 19 58.1	0.0
	comp=Z,12nm,0.8s,baz=49,slow=2.2,SNR=24						
MDT				PKPab	PKPab	22 21 03.1	0.0
	comp=Z,52nm,1.0s,baz=344,slow=4.8,SNR=30						
DBIC	Dimbokro	166.17	156	PKP	PKPdf	22 19 57.7	-1.1
	comp=Z,9.2nm,0.7s,baz=139,slow=1.9,SNR=24						
DBIC				PKPab	PKPab	22 21 05.4	+0.7
	comp=Z,22nm,0.9s,baz=186,slow=6.3,SNR=9.6						

SZGRF ***06*** *22:19:04.3, 21.45S×179.07W, h33km, Fiji Islands region*
BJI ***06*** *22:20:12.4, 19.00S×179.87W, h561km, mB4.6, mb4.4*
NEIC ***06*** *22:20:14.0±1.2, 19.16S×179.28W, h592km±14km, mb4.6/36, Error ellipse: s-maj=13.8km s-min=7.5km az=157.0*
MOS ***06*** *22:20:14.3±1.6, 19.09S×179.33W, h605km, mb4.5/16, Error ellipse: s-maj=11.5km s-min=10.2km az=51.7*
ISCJB ***06*** *22:20:17.2±1.1, 19.47S±0.08×179.35W±0.05, h657km±15km, mb4.5/60, Error ellipse: s-maj=12.0km s-min=5.6km az=162.9*
IDC ***06*** *22:20:19.1±1.0, 19.62S×179.18W, h672km±13km, mb4.0/18, mb1 4.1/21, mb1mx4.0/24, mbtmp4.0/21, Error ellipse:*

2007 MAY

s-maj=13.3km s-min=8.3km az=158.0

ISC 06 22:20:20.2±1.2, 19.48S±0.08×179.34W±0.05, h678km±18km, n459, σ0.62/327, mb4.5/60, 137C-111D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	9.81	173	P	P	22 22 34.1	-4.1
	102nm,0.3s,baz=49,slow=20,SNR=4.3						
RAR	Rarotonga	18.43	99	P	P	22 23 54.2	-2.8
	3.4nm,0.3s,baz=240,slow=6.7,SNR=2.9						
URZ	Urewera	18.97	189	P	P	22 23 59.4	-2.1
	1.6nm,0.3s,baz=270,slow=5.0,SNR=6.7						
RPZ	Rata Peaks	25.48	196	P	P	22 24 57.9	-1.1
	13nm,1.0s,mb4.4,baz=339,slow=8.6,SNR=3.2						
EIDS	Eidsvold	27.93	252	*e*P	P	22 25 21.0	+0.4
	20nm,1.1s,mb4.6						
PPT	Papeete	28.27	91	P	P	22 25 21.0	-2.6
	18nm,0.4s,mb4.9,baz=247,slow=19,SNR=7.5						
ARMA	Armidale	28.41	242	⇓*i*P	P	22 25 26.2	+1.6
CNB	Canberra Magne	31.78	234	⇓*i*P	P	22 25 54.3	+1.1
	29nm,0.4s,mb5.2						
CTA	Charters Tower	32.35	263	⇓*i*P	P	22 25 59.2	+1.0
	82nm,0.3s						
CTA	Charters Tower	32.35	263	⇓*i*P	P	22 25 59.2	+1.0
CTA				pmax	pmax		
	comp=Z,82nm,0.3s						
CTA	Charters Tower	32.35	263	P	P	22 25 59.3	+1.1
	comp=Z,142nm,0.5s,baz=89,slow=10,SNR=245						
CTAO	Charters Tower	32.35	263	*e*P	P	22 25 59.0	+0.8
CTAO				pmax	pmax		
	comp=Z,125nm,0.6s,mb5.6						
CTAO	Charters Tower	32.35	263	*e*P	P	22 25 59.0	+0.8
	comp=Z,125nm,0.6s,mb5.6						
STKA	Stephens Creek	37.12	243	⇓*i*P	P	22 26 38.4	+1.2
	comp=Z,24nm,0.4s,mb5.1						
STKA	Stephens Creek	37.12	243	*e*P	P	22 26 37.5	+0.4
STKA				*e*PP	PP	22 28 23.5	-1.5
STKA	Stephens Creek	37.12	243	P	P	22 26 38.1	+0.9
	comp=Z,33nm,0.4s,mb5.2,baz=91,slow=9.1,SNR=209						
STKA				ScP	ScP	22 31 23.3	+0.8
	comp=Z,3.2nm,0.8s,baz=98,slow=7.1,SNR=2.7						
WB2	Warramunga Arr	43.49	261	⇓*i*P	P	22 27 27.5	0.0
WB2				*e*S	S	22 33 09.2	-1.1
WRAB	Tennant Creek	43.49	261	*d i*P	P	22 27 27.3	-0.2
WRAB	Tennant Creek	43.49	261	*e*P	P	22 27 27.4	-0.1
	comp=Z,47nm,0.5s,mb5.2						
WRA	Warramunga Arr	43.50	261	P	P	22 27 27.5	-0.1
	comp=Z,57nm,0.4s,mb5.2,baz=97,slow=7.6,SNR=1620						
WRA				ScP	ScP	22 31 48.7	+0.6
	comp=Z,1.9nm,0.8s,baz=90,slow=4.2,SNR=4.7						
WRA				S	S	22 33 10.4	-0.1
	comp=Z,5.1nm,0.9s,baz=96,slow=13,SNR=13						
ASAR	Alice Springs	43.53	256	P	P	22 27 28.4	+0.7
	comp=Z,74nm,0.4s,mb5.3,baz=87,slow=7.9,SNR=1431						
ASAR				ScP	ScP	22 31 49.6	+1.4
	comp=Z,1.0nm,0.5s,baz=100,slow=4.4,SNR=4.5						
ASAR				S	S	22 33 10.7	-0.2
	comp=Z,5.4nm,0.7s,baz=92,slow=16,SNR=22						
KAKA	Kakadu	46.70	271	⇓*i*P	P	22 27 51.9	+0.1
	comp=Z,62nm,0.5s,mb5.2						
FORT	Forrest	48.55	246	⇓*i*P	P	22 28 05.0	-0.3
	comp=Z,46nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	51.92	262	⇓*i*P	P	22 28 30.2	+0.5
	comp=Z,31nm,0.4s,mb4.9						
BATI	Kupang	55.65	271	P	P	22 28 57.4	+1.5
	comp=Z,43nm,0.6s,mb4.8,baz=188,slow=2.6,SNR=8.6						
MBWA	Marble Bar	56.85	257	*e*P	P	22 29 03.9	0.0
	comp=Z,9.8nm,0.3s,mb4.4						
KLBR	Kellerberrin	57.35	244	⇓*i*P	P	22 29 06.6	-0.5
	comp=Z,29nm,0.6s,mb4.6						
NWAO	Narrogin (SRO)	57.70	243	*e*P	P	22 29 09.7	+0.2
NWAO				pmax	pmax		
	comp=Z,26nm,0.9s						
NWAO	Narrogin (SRO)	57.70	243	*e*P	P	22 29 09.7	+0.2
	comp=Z,26nm,0.9s,mb4.4						
MUN	Mundaring	58.63	244	*e*P	P	22 29 15.7	0.0
VNDA	Vanda	58.81	185	P	P	22 29 18.5	+2.4
CASY	Casey	64.35	205	P	P	22 29 55.2	+3.4
MJAR	Matsushiro Arr	68.64	324	P	P	22 30 18.8	+0.1
	comp=Z,6.8nm,0.6s,mb4.1,baz=155,slow=5.7,SNR=23						
MAJO	Matsushiro	68.65	324	*e*P	P	22 30 17.7	-0.9
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
MAJO	Matsushiro	68.65	324	*e*P	P	22 30 17.7	-0.9
	comp=Z,6.9nm,0.5s,mb4.2						
QSPA	South Pole Qui	70.58	180	P	P	22 30 28.9	-0.4
QSPA	South Pole Qui	70.58	180	P	P	22 30 28.9	-0.4
	comp=Z,2.1nm,0.7s,mb3.7,baz=350,slow=0.7,SNR=11						
ADK	Adak	71.09	2	*e*P	P	22 30 31.7	-0.9
ADK				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.0						
ADK	Adak	71.09	2	*e*P	P	22 30 31.7	-1.0
	comp=Z,36nm,0.6s,mb5.0						
KSM	Kuching	72.02	278	*e*P	P	22 30 39.4	+0.5
ASAJ	Asahikawa	72.24	332	P	P	22 30 41.2	+1.8
	comp=Z,19nm,0.5s,mb4.8,baz=224,slow=9.6,SNR=16						
TATO	Taipei	72.56	305	*e*P	P	22 30 41.6	-0.1
YSS	Yuzh-Sakhalins	74.42	334	*e*P	P	22 30 49.7	-2.0
YSS				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
YSS	Yuzh-Sakhalins	74.42	334	P	P	22 30 49.9	-1.8
KSRS	Korea Array	75.29	319	P	P	22 30 57.9	+1.2
	comp=Z,1.8nm,0.5s,mb3.8,baz=126,slow=6.1,SNR=8.2						
HAST	Hastings Reser	77.88	44	P	P	22 31 11.4	+0.7
	baz=78,SNR=8.0						
NJ2	Nanjing	78.26	310	*e*P	P	22 31 12.3	-0.6
NJ2				PCP	PcP	22 31 20.4	+1.2
NJ2				PP	PP	22 34 15.0	-8.7
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,300nm,6.0s						
PKD	Parkfield	78.29	45	⇑P	P	22 31 12.7	-0.3
	baz=78						
U04C	Hernandez Rese	78.37	45	⇓P	P	22 31 13.7	+0.3
	baz=78						
PACP	Pacheco Peak	78.41	44	⇓P	P	22 31 14.2	+0.7
	baz=78,SNR=8.6						
WENL	Wente Brothers	78.46	43	⇑P	P	22 31 14.5	+0.7
	baz=78						
S04C	Ingram Canyon,	78.67	43	⇑P	P	22 31 15.3	+0.4
	baz=79						
GASB	Alder Springs	79.05	41	⇑P	P	22 31 17.9	+1.0
	baz=79						
VES	Vestal, Richgr	79.22	46	⇓P	P	22 31 17.5	-0.4
	baz=79,SNR=5.6						
O02C	Red Bluff	79.31	41	⇓P	P	22 31 19.1	+0.9
	baz=79,SNR=5.9						
BFSC	Mount Baldy St	79.33	48	⇑P	P	22 31 18.4	0.0
	baz=79						
EDW2	Edwards Air Fo	79.44	47	⇑P	P	22 31 19.3	+0.3
	baz=79,SNR=9.2						
T06C	Milleton Lake	79.45	45	⇓P	P	22 31 19.1	+0.1
	baz=79,SNR=6.3						
MONP	Monument Peak	79.50	50	⇑P	P	22 31 19.7	+0.3
	baz=79						
CMB	Columbia Colle	79.58	43	*e*P	P	22 31 19.3	-0.4
CMB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.2						
CMB	Columbia Colle	79.58	43	*e*P	P	22 31 19.3	-0.4
	comp=Z,8.2nm,0.8s,mb4.2						
CMB	Columbia Colle	79.58	43	P	P	22 31 19.7	0.0
	baz=80,SNR=10						
DVTC	Desert V Tower	79.61	50	⇓P	P	22 31 20.4	+0.4
	baz=80						
WDC	Whiskeytown Da	79.71	40	*e*P	P	22 31 20.3	0.0
WDC				pmax	pmax		
	comp=Z,28nm,1.4s,mb4.5						
WDC	Whiskeytown Da	79.71	40	*e*P	P	22 31 20.3	0.0
	comp=Z,28nm,1.4s,mb4.5						
WDC	Whiskeytown Da	79.71	40	⇓P	P	22 31 20.1	-0.1
	baz=80,SNR=7.0						
HELL	Mitchell Peak	79.72	45	⇓P	P	22 31 20.0	-0.4
	baz=80,SNR=7.3						
ORV	Oroville	79.75	42	⇓P	P	22 31 20.5	0.0
	baz=80						
PFO	Pinyon Flat Ob	79.85	49	P	P	22 31 21.2	0.0
	comp=Z,0.6nm,0.3s,mb3.5,baz=0.0,slow=4.0,SNR=3.9						
KCC	Kaiser Creek	79.88	45	⇓P	P	22 31 21.5	+0.2
	baz=80,SNR=5.5						
M02C	Callahan	80.00	40	⇑P	P	22 31 22.1	+0.3
	baz=80,SNR=6.5						
L02A	Cave Junction	80.02	39	⇑P	P	22 31 22.0	+0.2
	baz=80						
KDAK	Kodiak Island	80.13	14	P	P	22 31 21.2	-0.8
	comp=Z,7.8nm,0.5s,mb4.4,baz=190,slow=4.9,SNR=14						

R05C	Kirkwood Meado	80.16	43	P	P	22 31 22.9	+0.3
	baz=80,SNR=5.4						
P05C	Yuba Gap, Truc	80.16	42	⇑P	P	22 31 22.9	+0.2
	baz=80						
YBH	Yreka Blue Hor	80.29	39	*e*P	P	22 31 23.7	+0.4
YBH				pmax	pmax		
	comp=Z,17nm,1.2s						
YBH	Yreka Blue Hor	80.29	39	*e*P	P	22 31 23.7	+0.4
	comp=Z,17nm,1.2s,mb4.4						
YBH	Yreka Blue Hor	80.29	39	P	P	22 31 24.0	+0.7
	baz=80,SNR=7.9						
O05C	Quincy	80.35	42	⇑P	P	22 31 23.9	+0.3
	baz=80						
M03C	McCloud	80.37	40	⇑P	P	22 31 23.8	+0.1
	baz=80,SNR=8.1						
BELC	Belle Mtn.	80.38	49	⇑P	P	22 31 24.0	+0.1
	baz=80						
MPMC	Manual Prospec	80.42	46	P	P	22 31 24.3	+0.2
	baz=80,SNR=9.8						
O04C	Chester	80.45	41	⇑P	P	22 31 24.3	+0.2
	baz=80						
K02A	Glendale	80.46	38	⇑P	P	22 31 24.1	0.0
	baz=80						
R06C	Coleville	80.46	43	⇓P	P	22 31 24.5	+0.3
	baz=80,SNR=8.8						
GSC	Goldstone	80.49	47	⇓P	P	22 31 24.5	0.0
	baz=80						
HATC	Hat Creek Radi	80.51	41	⇓P	P	22 31 24.4	0.0
	baz=80						
HEC	Hector,Ludlow	80.57	48	⇓P	P	22 31 24.7	-0.2
	baz=80,SNR=6.5						
HUMO	Hull Mountain	80.67	39	*e*P	P	22 31 26.3	+1.1
	comp=Z,12nm,1.0s,mb4.3						
HUMO	Hull Mountain	80.67	39	⇓P	P	22 31 25.9	+0.7
	baz=81,SNR=7.6						
CN2	Changchun	80.73	323	*e*P	P	22 31 26.3	+0.8
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
GLA	Glamis	80.73	50	*e*P	P	22 31 26.1	+0.3
GLA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3						
GLA	Glamis	80.73	50	*e*P	P	22 31 26.1	+0.3
	comp=Z,12nm,0.9s,mb4.3						
GLA	Glamis	80.73	50	⇑P	P	22 31 26.1	+0.4
	baz=81,SNR=6.8						
S08C	White Mtn Res	80.74	45	⇓P	P	22 31 26.3	+0.6
	baz=81,SNR=14						
J02A	Umpqua	80.78	38	⇑P	P	22 31 25.6	-0.1
	baz=81						
M04C	Macdoel	80.85	40	⇓P	P	22 31 26.4	+0.3
	baz=81						
GMRC	Granite Mounta	81.02	48	⇓P	P	22 31 27.1	-0.1
	baz=81						
I02A	Mapleton	81.02	37	⇑P	P	22 31 27.2	+0.2
	baz=81						
L04A	Klamath Falls	81.05	39	⇑P	P	22 31 27.5	+0.4
	baz=81,SNR=6.4						
IRM	Iron Mountain	81.06	49	⇑P	P	22 31 27.5	+0.1
	baz=81						
J03A	Ideyld Park	81.13	38	⇑P	P	22 31 27.3	-0.3
	baz=81						
O06A	Flanigan	81.15	42	⇓P	P	22 31 27.9	+0.2
	baz=81,SNR=13						
NVAR	Mina Array Bea	81.16	44	P	P	22 31 27.8	0.0
NVAR	Mina Array Bea	81.16	44	P	P	22 31 27.8	0.0
	comp=Z,8.6nm

	baz=83,SNR=13						
D03A	Wishkah Elem.	82.98	35	⇑P	P	22 31 36.7	0.0
	baz=83						
N09A	Rock Creek Ran	82.99	42	P	P	22 31 37.5	+0.5
	baz=83,SNR=6.5						
F04A	Amboy	82.99	36	⇑P	P	22 31 36.5	-0.3
	baz=83,SNR=6.3						
P10A	Eureka	83.01	44	⇑P	P	22 31 36.9	-0.1
	baz=83						
S12A	Delamar Landin	83.04	46	⇓P	P	22 31 38.3	+1.1
	baz=83,SNR=8.3						
U13A	Pakoon Wash	83.04	48	⇑P	P	22 31 37.6	+0.3
	baz=83,SNR=12						
W14A	Seligman	83.06	49	⇑P	P	22 31 37.7	+0.3
	baz=83,SNR=11						
217A	Green Valley	83.08	53	⇓P	P	22 31 38.1	+0.5
	baz=83,SNR=9.6						
I06A	Prineville	83.08	39	⇑P	P	22 31 37.7	+0.5
	baz=83,SNR=9.4						
Q11A	Duckwater	83.13	45	P	P	22 31 37.8	+0.1
	baz=83,SNR=7.9						
PSI	Prapat	83.14	275	P	P	22 31 38.1	-0.3
	comp=Z,6.1nm,1.0s,mb4.1,baz=88,slow=5.8,SNR=3.8						
WVOR	Wild Horse Val	83.17	41	eP	P	22 31 37.8	0.0
WVOR				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.2						
WVOR	Wild Horse Val	83.17	41	eP	P	22 31 37.8	+0.1
	comp=Z,7.9nm,1.0s,mb4.2						
GAMB	Gambell	83.20	3	eP	P	22 31 37.9	+0.5
	comp=Z,15nm,0.9s,mb4.5						
L08A	Fields	83.21	41	⇑P	P	22 31 38.3	+0.4
	baz=83,SNR=11						
V14A	Boquillas Ranc	83.25	49	⇑P	P	22 31 38.9	+0.5
	baz=83,SNR=8.2						
X15A	Humboldt	83.32	50	⇑P	P	22 31 38.7	0.0
	baz=83,SNR=10.0						
Z16A	Peralta Trail,	83.36	51	⇑P	P	22 31 39.1	+0.2
	baz=83						
K08A	Mann Creek Ran	83.43	40	⇑P	P	22 31 39.4	+0.3
	baz=83,SNR=9.6						
H06A	Lindquist Farm	83.47	38	⇓P	P	22 31 39.2	0.0
	baz=83,SNR=9.0						
D04A	Dobbs Creek Ra	83.50	35	⇓P	P	22 31 38.8	-0.5
	baz=83						
F05A	White Salmon	83.50	37	⇑P	P	22 31 38.6	-0.8
	baz=83						
117A	Oracle	83.51	52	⇑P	P	22 31 40.3	+0.6
	baz=83,SNR=6.4						
318A	Bisbee	83.55	54	P	P	22 31 40.8	+0.8
	baz=84,SNR=12						
N10A	Dunphy	83.57	43	⇓P	P	22 31 39.9	+0.2
	baz=84						
I07A	Izee	83.58	39	⇑P	P	22 31 38.8	-0.9
	baz=84,SNR=10						
Y16A	Circle Bar Ran	83.58	51	⇓P	P	22 31 40.5	+0.5
	baz=84,SNR=10.0						
U14A	Mt Trumbull	83.59	48	⇓P	P	22 31 40.3	+0.3
	baz=84,SNR=9.3						
E05A	Randle	83.73	36	⇑P	P	22 31 39.5	-0.9
	baz=84,SNR=6.8						
218A	Dragoon	83.75	53	P	P	22 31 41.9	+1.0
	baz=84,SNR=6.8						
C04A	Brinnon	83.78	34	⇓P	P	22 31 40.5	-0.1
	baz=84,SNR=6.7						
Q12A	Willow Creek R	83.78	45	⇑P	P	22 31 41.1	+0.2
	baz=84						
O11A	Cowboy Ranch,	83.81	44	⇑P	P	22 31 41.0	+0.1
	baz=84						
H07A	Lands Inn, Kim	83.83	38	⇑P	P	22 31 40.9	0.0
	baz=84						
X16A	Lo Mia Camp, P	83.86	50	⇓P	P	22 31 41.6	+0.3
	baz=84,SNR=11						
K09A	Rome	83.88	41	⇑P	P	22 31 41.3	+0.1
	baz=84,SNR=9.3						
Y17A	Roosevelt	83.95	51	⇑P	P	22 31 41.8	0.0
	baz=84						
M10A	I.L. Ranch, Tu	83.98	42	⇑P	P	22 31 42.2	+0.5
	baz=84,SNR=10						
D05A	Enumclaw	83.99	35	⇑P	P	22 31 41.7	0.0
	baz=84						
V15A	Kaibab Nationa	84.01	49	⇓P	P	22 31 42.5	+0.4
	baz=84,SNR=7.2						
I08A	Drewsey	84.04	39	⇑P	P	22 31 41.5	-0.5
	baz=84						
319A	Douglas	84.06	54	⇓P	P	22 31 43.0	+0.6
	baz=84,SNR=10						
118A	Homack Ranch,	84.11	53	⇑P	P	22 31 43.3	+0.6
	baz=84,SNR=7.1						
W16A	Flagstaff	84.12	50	⇓P	P	22 31 43.0	+0.4
	baz=84						
E06A	Yakima	84.16	36	⇓P	P	22 31 42.4	-0.1
	baz=84						
G07A	Ruggs Ranch, H	84.16	38	⇑P	P	22 31 42.4	-0.1
	baz=84,SNR=6.2						
TTA	Tatalina	84.17	10	eP	P	22 31 42.1	-0.1
TTA				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.5						
TTA	Tatalina	84.17	10	eP	P	22 31 42.1	-0.1
	comp=Z,20nm,1.3s,mb4.5						
J09A	Fry Pan Ranch,	84.22	40	⇓P	P	22 31 42.9	0.0
	baz=84,SNR=12						
BJT	Baijiatuau	84.28	316	P	P	22 31 42.5	-0.8
BJI	Beijing	84.28	316	P	P	22 31 44.1	+0.8
BJI				AMB	AMB		
	comp=Z,9.0nm,0.7s,mb4.4						
Q13A	Wheeler Ranch,	84.28	45	⇓P	P	22 31 43.0	-0.3
	baz=84,SNR=5.4						
X17A	Forest Lakes	84.28	51	⇓P	P	22 31 44.1	+0.7
	baz=84						
L10A	Juniper Basin	84.32	42	⇑P	P	22 31 43.6	+0.2
	baz=84,SNR=6.9						
PMR	Palmer	84.33	14	eP	P	22 31 42.0	-1.0
PMR				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.4						
PMR	Palmer	84.33	14	eP	P	22 31 42.0	-1.0
	comp=Z,11nm,0.8s,mb4.5						
219A	White Tail Can	84.36	53	⇑P	P	22 31 44.4	+0.5
	baz=84,SNR=7.1						
M11A	Holland Ranch,	84.40	43	⇑P	P	22 31 44.1	+0.3
	baz=84,SNR=6.1						
WUAZ	Wupatki	84.43	49	⇓P	P	22 31 44.2	+0.1
	baz=84						
T15A	Red Dirt Ranch	84.44	48	⇑P	P	22 31 44.4	+0.3
	baz=84,SNR=6.3						
K10A	MacKenzie Ranc	84.45	41	⇑P	P	22 31 44.0	0.0
	baz=84,SNR=6.3						
C05A	Tolt Reservoir	84.45	35	⇓P	P	22 31 43.8	-0.1
	baz=84,SNR=7.3						
O12A	Currie	84.47	44	⇓P	P	22 31 44.3	+0.1
	baz=84						
A04A	Legoe Bay, Lum	84.53	34	⇓P	P	22 31 44.2	-0.1
	baz=84,SNR=10						
P13A	Bates Ranch, G	84.54	45	⇑P	P	22 31 44.6	0.0
	baz=84,SNR=7.4						
B05A	Bryant	84.58	34	⇓P	P	22 31 44.4	-0.1
	baz=84,SNR=6.6						
G08A	Pilot Rock	84.58	38	⇓P	P	22 31 44.6	0.0
	baz=84,SNR=8.0						
N12A	Clover Valley,	84.58	43	⇓P	P	22 31 44.3	-0.4
	baz=84,SNR=6.4						
Y18A	Canyon Day Jun	84.59	52	⇑P	P	22 31 45.6	+0.7
	baz=84,SNR=7.4						
D06A	Cle Elum	84.62	36	⇓P	P	22 31 44.2	-0.5
	baz=84						
119A	Ashpeak Ranch,	84.67	53	⇓P	P	22 31 45.7	+0.4
	baz=85						
DIV	Divide	84.74	16	eP	P	22 31 44.4	-0.5
	comp=Z,15nm,0.7s,mb4.7						
L11A	Cat Creek Ranc	84.82	42	⇑P	P	22 31 46.1	+0.3
	baz=85,SNR=7.8						
J10A	Berg Farm, Mel	84.86	40	⇑P	P	22 31 46.1	+0.1
	baz=85						
HAWA	Hanford	84.88	37	eP	P	22 31 45.9	-0.1
	comp=Z,15nm,0.9s,mb4.6						
M12A	Wells	84.96	43	⇓P	P	22 31 46.4	-0.1
	baz=85,SNR=6.0						
H09A	Durkee	85.00	39	⇓P	P	22 31 46.3	-0.3
	baz=85						
A05A	Maple Falls	85.03	34	⇓P	P	22 31 45.9	-0.7
	baz=85						
D07A	Quincy	85.10	36	⇓P	P	22 31 46.5	-0.6
	baz=85						
SEY	Seymchan	85.10	347	⇑iP	P	22 31 46.2	-0.5
N13A	Wendover, West	85.13	44	⇓P	P	22 31 47.2	-0.1
	baz=85,SNR=5.4						
E08A	Dider Farm, El	85.21	37	⇓P	P	22 31 47.4	-0.1
	baz=85						
Y19A	Nutrioso	85.25	52	⇓P	P	22 31 48.7	+0.6
	baz=85						
L12A	House Creek Ra	85.27	42	⇓P	P	22 31 48.3	+0.3
	baz=85,SNR=5.2						
MSU	Marysvale	85.31	47	eP	P	22 31 48.8	+0.5
C07A	Waterville	85.34	36	⇑P	P	22 31 47.7	-0.4
	baz=85,SNR=7.6						
M13A	Montello	85.41	43	⇑P	P	22 31 48.7	0.0
	baz=85,SNR=6.0						
H10A	Noah's Angus R	85.50	40	⇓P	P	22 31 48.6	-0.4
	baz=85,SNR=8.3						
K12A	Draper Farm, C	85.60	42	⇓P	P	22 31 49.8	+0.3
	baz=86						
D08A	Wollman Farm,	85.61	37	⇑P	P	22 31 49.4	0.0
	baz=86,SNR=8.5						
I11A	Placerville	85.62	40	⇑P	P	22 31 49.9	+0.4
	baz=86,SNR=5.7						
G10A	Bishop Farm, J	85.66	39	⇓P	P	22 31 49.8	+0.1
	baz=86						
B07A	Winthrop	85.76	35	P	P	22 31 50.1	0.0
	baz=86,SNR=8.0						
N14A	Grayback Hills	85.79	44	⇑P	P	22 31 50.3	-0.2
	baz=86						
J12A	Stokes Ranch,	85.80	41	⇓P	P	22 31 50.8	+0.4
	baz=86,SNR=10						
A07A	Ashnola River,	85.96	34	⇑P	P	22 31 50.9	-0.2
	baz=86,SNR=6.5						
D09A	Jones Farm, Ri	85.96	37	⇑P	P	22 31 51.1	0.0
	baz=86,SNR=8.7						
F10A	Beach Ranch, E	85.97	38	⇓P	P	22 31 50.8	-0.4
	baz=86,SNR=17						
H11A	Donnelly	86.01	40	⇑P	P	22 31 51.7	+0.3
	baz=86,SNR=11						
M14A	Sheep Mountain	86.02	43	⇓P	P	22 31 51.3	-0.2
	baz=86,SNR=11						
B08A	Colville Reser	86.12	35	⇑P	P	22 31 50.9	-0.9
	baz=86,SNR=13						
K13A	Stover Farm, H	86.12	42	⇓P	P	22 31 52.0	0.0
	baz=86,SNR=6.8						
G11A	Walters Elk Ra	86.23	39	P	P	22 31 52.4	0.0
	baz=86,SNR=7.6						
MCK	McKinley	86.26	13	eP	P	22 31 50.9	-1.2
MCK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.5						
MCK	McKinley	86.26	13	eP	P	22 31 50.9	-1.2
	comp=Z,10nm,0.8s,mb4.5						
HLID	Hailey	86.39	41	⇑P	P	22 31 53.8	+0.6
	baz=86,SNR=25						
C09A	Chrisman Ranch	86.39	36	⇑P	P	22 31 52.8	-0.3
	baz=86						
J13A	Cove Ranch, Pi	86.45	42	P	P	22 31 54.2	+0.7
	baz=86,SNR=25						
A08A	Turner Farm, O	86.50	35	⇓P	P	22 31 53.5	0.0
	baz=86,SNR=10						
F11A	Grangeville	86.56	39	P	P	22 31 52.5	-1.5
	baz=86,SNR=7.5						
H12A	Diamond D Ranc	86.63	40	⇓P	P	22 31 54.4	+0.1
	baz=86,SNR=20						
K14A	Jones Ranch, D	86.65	43	⇓P	P	22 31 54.7	+0.2
	baz=87,SNR=9.1						
I13A	Wildhorse Cree	86.75	41	⇑P	P	22 31 55.5	+0.6
	baz=87,SNR=10						
B09A	Rice	86.81	36	⇑P	P	22 31 54.4	-0.6
	baz=87,SNR=9.0						
A09A	Danville	86.88	35	⇑P	P	22 31 55.1	-0.3
	baz=87,SNR=8.6						
H13A	Challis	87.00	40	⇑P	P	22 31 56.3	+0.2
	baz=87,SNR=9.7						
F12A	Elk City	87.02	39	⇓P	P	22 31 55.8	-0.3
	baz=87,SNR=25						
D11A	Klaveano Farm,	87.08	38	⇑P	P	22 31 55.6	-0.7
	baz=87,SNR=8.6						
HIA	Hailar	87.14	325	⇓iP	P	22 31 56.2	-0.4
HWUT	Hardware Ranch	87.23	44	eP	P	22 31 57.2	0.0
	comp=Z,2.5nm,0.6s,mb4.0						
G13A	Cobalt	87.29	40	⇓P	P	22 31 57.4	0.0
	baz=87,SNR=7.6						
NEW	Newport	87.29	36	eP	P	22 31 56.7	-0.6
IMA2	Indian Mountai	87.46	10	eP	P	22 31 57.2	-0.5
COLA	College	87.49	13c	iP	P	22 31 56.4	-1.4
COLA	College	87.49	13	eP	P	22 31 56.3	-1.5
	comp=Z,24nm,0.9s,mb4.8						
TXAR	Lajitas Array	87.58	58	P	P	22 31 59.6	+0.5
	comp=Z,7.5nm,0.8s,mb4.4,baz=219,slow=6.2,SNR=59						
F13A	Darby	87.59	39	⇓P	P	22 31 58.2	-0.6
	baz=88						
D12A	Red Ives Fores	87.65	38	⇑P	P	22 31 58.4	-0.6
	baz=88						
ANMO	Albuquerque	87.76	52	eP	P	22 32 00.0	+0.2
ANMO				pmax	pmax		
	comp=Z,8.0nm,1.2s						
ANMO	Albuquerque	87.76	52	eP	P	22 32 00.0	+0.2
	comp=Z,7.6nm,1.2s,mb4.2						
BILL	Bilibino	87.90	355	⇑iP	P	22 31 59.3	-0.4
BILL				eS	SKSac	22 41 25.3	+0.8
BILL				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
BILL	Bilibino	87.90	355	eP	P	22 31 59.6	-0.1
	comp=Z,7.8nm,0.8s,mb4.4						
E13A	Victor	88.01	39	⇑P	P	22 31 59.9	-0.8
	baz=88						
A11A	Hall Mountain,	88.09	36	⇓P	P	22 32 01.4	+0.4
	baz=88,SNR=5.7						
D13A	Huson	88.19	38	⇑P	P	22 32 00.6	-0.9
	baz=88						
G15A	Dillon	88.39	41	⇑P	P	22 32 02.6	+0.1
	baz=88,SNR=11						
E14A	Clinton	88.41	39	P	P	22 32 02.3	-0.3
	baz=88,SNR=5.3						
DLMT	Dillon	88.42	40	eP	P	22 32 03.0	+0.4
	comp=Z,138nm,0.5s						
C13A	Hot Springs	88.43	38	⇓P	P	22 32 01.7	-1.0
	baz=88						
TPAW	Teton Pass	88.53	43	eP	P	22 32 03.4	+0.2
	comp=Z,20nm,1.4s,mb4.6						
SNOW	Snow King Moun	88.65	43	eP	P	22 32 04.2	+0.4
	comp=Z,14nm,0.9s,mb4.7						
F15A	Butte	88.72	40	⇓P	P	22 32 03.0	-1.0
	baz=89,SNR=5.7						
IMW	Indian Meadow	88.74	42	eP	P	22 32 03.7	-0.5
	comp=Z,16nm,1.1s,mb4.7						
D14A	Greenough	88.74	39	⇑P	P	22 32 03.0	-1.1
	baz=89						
LOHW	Long Hollow	88.81	43	eP	P	22 32 04.8	+0.3
	comp=Z,3.6nm,0.6s,mb4.3						
DAWY	Dawson	88.83	16	eP	P	22 32 03.8	-0.4
B13A	Whitefish	88.85	37	⇑P	P	22 32 03.6	-0.9
	baz=89						
E15A	Deer Lodge	88.92	39	⇓P	P	22 32 04.0	-1.0
	baz=89						
C14A	Swan Lake	88.95	38	⇑P	P	22 32 04.1	-0.9
	baz=89						
EGAK	Eagle	88.95	15	eP	P	22 32 04.0	-0.6
	comp=Z,15nm,1.0s,mb4.7						
SNAA	Sanae	89.06	179	eP	P	22 32 04.5	-0.7
SNAA				e		22 32 07.9	
SNAA	Sanae	89.06	179	P	P	22 32 03.3	-1.9
	comp=Z,0.5nm,0.8s,baz=225,slow=1.4,SNR=4.5						
BOZ	Bozeman (W)	89.15	40	eP	P	22 32 06.3	+0.3
BOZ				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.3						
BOZ	Bozeman (W)	89.15	40	eP	P	22 32 06.2	+0.2
	comp=Z,9.4nm,1.3s,mb4.4						
BOZ	Bozeman (W)	89.15	40	⇓P	P	22 32 06.1	+0.1
	baz=89,SNR=8.4						
VNA3	Neumayer Olymp	89.23	177	eP	P	22 32 04.6	-1.4
VNA3				e		22 32 08.0	
D15A	Lincoln	89.30	39	⇑P	P	22 32 06.0	-0.7
	baz=89						
WALA	Waterton Lakes	89.52	37	eP	P	22 32 07.0	-0.6
VNA2	Neumayer--Watz	89.66	177	eP	P	22 32 07.1	-0.9
VNA2				e		22 32 10.8	
VNA1	Neumayer--Stat	89.89	177	eP	P	22 32 03.4	-5.7
VNA1				e		22 32 07.0	
RLMT	Red Lodge	90.37	42	eP	P	22 32 12.3	+0.7
	comp=Z,3.1nm,1.0s,mb4.1						
YAK	Yakutsk	90.70	339d	iP	P	22 32 12.1	-0.7
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.1						
INK	Inuvik	93.63	15	eP	P	22 32 24.8	-1.3
ULN	Ulaanbaatar	93.77	320	eP	P	22 32 25.0	-2.2
SONM	Songino Array	94.16	319	P	P	22 32 29.0	0.0
	comp=Z,0.3nm,0.4s,mb3.7,baz=128,slow=5.9,SNR=3.3						
YKA	Yellowknife Ar	96.12	25	P	P	22 32 35.7	-1.7
YKA	Yellowknife Ar	96.12	25	P	P	22 32 35.7	-1.7
	comp=Z,0.7nm,0.5s,mb4.0,baz=242,slow=4.6,SNR=14						
TIXI	Tiksi	97.44	345	eP	Pdif	22 32 39.9	-3.9
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.9						
ZALV	Zalesovo Beam	108.91	322	PKPdf	PKiKP	22 37 32.7	-1.8
ZALV	Zalesovo Beam	108.91	322	PKiKP	PKiKP	22 37 32.7	-1.8
	comp=Z,1.3nm,0.6s,baz=150,slow=0.8,SNR=5.9						
MKAR	Makanchi Array	109.58	314	PKPdf	PKiKP	22 37 34.2	-1.8
MKAR	Makanchi Array	109.58	314	PKiKP	PKiKP	22 37 34.2	-1.8
	comp=Z,1.1nm,0.6s,baz=56,slow=1.2,SNR=11						
BVAR	Borovoye Array	117.49	320	PKP	PKPdf	22 37 49.9	-1.1
	comp=Z,2.9nm,0.3s,baz=129,slow=2.1,SNR=31						
BRVK	Borovoye	117.55	320	ePKIKP	PKPdf	22 37 49.9	-1.2
ARU	Arti	123.65	326	i PKIKP	PKPdf	22 38 01.9	-0.8
ARU	Arti	123.65	326	ePKPdf	PKPdf	22 38 02.1	-0.6
AKTK	Aktyubinsk	125.47	319	PKP	PKPdf	22 38 05.5	-0.9
AKTO	Aktyubinsk	125.47	319	PKP	PKPdf	22 38 05.5	-0.9
	comp=Z,1.8nm,0.5s,baz=95,slow=3.3,SNR=9.3						
KEV	Kevo	127.23	349	epkp	PKPdf	22 38 06.4	-2.8
ARCES	ARCESS Array B	127.69	349	PKP	PKPdf	22 38 09.2	-0.9
	comp=Z,4.6nm,0.4s,baz=28,slow=1.1,SNR=67						
JOF	Joensuu	131.77	342	epkp	PKPdf	22 38 12.2	-5.8
FINES	FINESS Array B	134.44	343	PKHKP		22 38 05.6	
FINES						22 38 21.0	
FINES	FINESS Array B	134.44	343	PKP		22 38 05.6	
FINES				PKP	PKPdf	22 38 21.0	-2.0
FINES				SKPbc	SKPbc	22 40 52.2	+0.9
FINES	FINESS Array B	134.44	343	PKhKP		22 38 05.6	
	comp=Z,0.4nm,0.4s,baz=48,slow=2.8,SNR=4.5						
FINES				PKP	PKPdf	22 38 21.0	-2.0
	comp=Z,1.2nm,0.5s,baz=86,slow=1.7,SNR=9.6						
FINES				SKPbc	SKPbc	22 40 52.2	+0.9
	comp=Z,1.1nm,0.5s,baz=79,slow=3.4,SNR=9.0						
OBN	Obninsk	135.26	331	⇑iPKIKP	PKPdf	22 38 23.4	-1.3
OBN				e		22 41 08.5	
OBN				e		22 44 17.2	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.0s						
NB2	NORSAR Subarra	137.81	352	PKPdf		22 38 19.1	
	comp=Z,0.4nm,0.5s,baz=14,slow=1.8						
NOA	NORSAR Array B	137.81	352	PKhKP		22 38 18.6	
	comp=Z,1.2nm,0.6s,baz=16,slow=4.9,SNR=4.4						
NOA				PKP	PKPdf	22 38 30.4	+1.1
	comp=Z,1.8nm,0.4s,baz=14,slow=3.9,SNR=5.8						
TSUM	Tsumeb	138.13	204	PKP	PKPdf	22 38 32.5	+1.3
	comp=Z,0.9nm,0.7s,baz=111,slow=3.7,SNR=4.3						
AKASG	Malin Array Be	141.51	331	PKhKP		22 38 31.1	
	comp=Z,5.9nm,0.4s,baz=43,slow=4.1,SNR=79						
SIM	Simferopol'	142.40	320c	iPKHKP		22 38 35.6	
SIM				pmax	pmax		
	comp=Z,21nm,0.9s						
MUD	Monsted U'grnd	142.53	352	i P	PKPdf	22 38 35.1	-2.8
	comp=Z,15nm,0.6s						
BSD	Bornholm Skovb	142.81	346	⇑iP	PKPdf	22 38 35.6	-2.8
	comp=Z,31nm,0.5s						
GKP	Gorka Klasztor	143.91	343	ePKP	PKPdf	22 38 39.8	-0.6
GKP	Gorka Klasztor	143.91	343	ePKP	PKPdf	22 38 39.8	-0.6
LVV	L'vov	144.44	334	i PKIKP	PKPdf	22 38 41.2	-0.2
BSEG	Bad Segeberg	144.81	350	ePKPbc	PKPdf	22 38 42.2	+0.3
KWP	Kalwaria	145.13	335	ePKP	PKPdf	22 38 43.7	+1.1
KWP	Kalwaria	145.13	335	ePKP	PKPdf	22 38 43.7	+1.1
KWP	Kalwaria	145.13	335	⇑iP	PKPdf	22 38 43.3	+0.7
DMUB	Kingscourt	145.15	8	eP	PKPdf	22 38 43.0	+0.5
ASF	Jabal al Asfar	145.18	299	PKPbc	PKPbc	22 38 45.1	+0.5
	comp=Z,3.3nm,0.6s,baz=340,slow=5.5,SNR=6.6						
BURAR	Bucovina Array	145.56	330	⇓iP	PKPdf	22 38 45.2	+1.8
DCN	Croghan	145.65	8	eP	PKPdf	22 38 44.4	+1.0
ANTO	Ankara	145.74	313	⇓iP	PKPbc	22 38 46.0	0.0
OJC	Ojcow	145.75	338	ePKPdf	PKPdf	22 38 45.1	+1.5
DLF	Lyons Farm	145.79	8	eP	PKPdf	22 38 44.8	+1.2
KOLS	Kolonicke sedl	145.85	334	ePKP	PKPbc	22 38 46.1	+0.1
STHS	Stebnicka Huta	145.88	336	ePKP	PKPbc	22 38 46.2	+0.2
VRI	Vrincioaia	146.03	327	⇓iP	PKPbc	22 38 46.3	-0.2
UZH	Uzhgorod	146.08	334	⇓iPKIKP	PKPbc	22 38 46.5	-0.1
CRVS	Cervenica-Dubn	146.21	335	ePKP	PKPbc	22 38 47.0	+0.1
MMAI	Mount Meron Ar	146.21	301	PKPbc	PKPbc	22 38 47.8	+0.3
	comp=Z,6.4nm,0.5s,baz=71,slow=6.3,SNR=25						
NRDL	Niedersach Rie	146.24	350	ePKPbc	PKPbc	22 38 46.4	-0.5
KSP	Ksiaz	146.34	342	ePKP	PKPbc	22 38 47.4	+0.2
KSP	Ksiaz	146.34	342	ePKP	PKPbc	22 38 47.3	+0.1
MLR	Muntele Rosu	146.69	327	PKPbc	PKPbc	22 38 47.5	-0.8
	comp=Z,6.6nm,0.6s,baz=333,slow=7.6,SNR=15						
MLR	Muntele Rosu	146.69	327	⇑iP	PKPbc	22 38 47.8	-0.5
UPC	Upice	146.72	342	ePKIKP	PKPbc	22 38 48.4	+0.2
UPC				e		22 38 52.6	
UPC	Upice	146.72	342	⇑ePKP	PKPbc	22 38 48.4	+0.2
UPC				ePKPAB	PKPab	22 38 52.6	+0.9
DPC	Dobruska-Polom	146.77	342	ePKIKP	PKPbc	22 38 48.6	+0.2
DPC				e		22 38 52.8	
DPC	Dobruska-Polom	146.77	342	⇑ePKP	PKPbc	22 38 48.6	+0.2
DPC				ePKPAB	PKPab	22 38 52.8	+0.9
CLL	Collm	146.78	346	ePKPbc	PKPbc	22 38 48.0	-0.4
CLL				ePKPab	PKPab	22 38 51.4	-0.5
CLL	Collm	146.78	346	⇑iPKPbc	PKPbc	22 38 48.1	-0.3
	comp=Z,32nm,0.9s						
CLL				i PKPab	PKPab	22 38 51.4	-0.5
	comp=Z,18nm,0.7s						
CLZ	Clausthal	146.81	349	ePKPbc	PKPbc	22 38 48.4	0.0
CLZ				ePKPab	PKPab	22 38 51.6	-0.5
CLZ				ePKPab	PKPab	22 38 51.6	-0.5
CLZ	Clausthal	146.81	349	ePKPbc	PKPbc	22 38 48.4	0.0
MORC	Moravsky Berou	146.89	340	⇓iP	PKPbc	22 38 48.6	-0.1
BRG	Berggiesshubel	146.95	345	ePKPbc	PKPbc	22 38 48.6	-0.2
BRG	Berggiesshubel	146.95	345	i PKP	PKPbc	22 38 48.6	-0.2
	comp=Z,15nm,0.6s						
BRG				i		22 38 52.4	
	comp=Z,9.2nm,0.8s						
PVCC	Panska Ves	147.11	344	ePKIKP	PKPbc	22 38 49.4	+0.2
PVCC				e		22 38 53.7	
PVCC	Panska Ves	147.11	344	⇑ePKP	PKPbc	22 38 49.4	+0.2
PVCC				ePKPAB	PKPab	22 38 53.7	+0.4
CSS	Prodhromos	147.29	305	ePKPdf	PKPbc	22 38 49.5	-0.8
EIL	Elat	147.31	295	PKPbc	PKPbc	22 38 50.3	-0.2
	comp=Z,3.2nm,0.6s,baz=349,slow=1.8,SNR=6.4						
DRGR		147.32	331	⇓iP	PKPbc	22 38 49.5	-0.4
VYHS	Vyhne	147.54	337	i PKP	PKPbc	22 38 50.4	0.0
PRU	Pruhonice	147.60	343	ePKIKP	PKPbc	22 38 50.4	-0.1
PRU				e		22 38 55.7	
PRU	Pruhonice	147.60	343	⇑ePKP	PKPbc	22 38 50.4	-0.1
PRU				ePKPAB	PKPab	22 38 55.7	+0.4
PSZ	Piszkesteto	147.62	336	⇑iP	PKPbc	22 38 50.2	-0.4
MOX	Moxa	147.71	347	eP	PKPbc	22 38 50.4	-0.4
	comp=Z,17nm,1.3s						
MOX				e	PKPab	22 38 55.1	-0.6
MOX	Moxa	147.71	347	ePKPbc	PKPbc	22 38 50.5	-0.3
MOX				ePKPab	PKPab	22 38 55.3	-0.4
TANN	Tannenbergstha	147.74	346	ePKPbc	PKPbc	22 38 50.5	-0.4
TANN				ePKPab	PKPab	22 38 55.6	-0.3
UBBA	Unterbreizbach	147.86	349	ePKPbc	PKPbc	22 38 50.5	-0.7
NKC	Novy Kostel	147.91	346	ePKIKP	PKPbc	22 38 51.3	0.0
NKC				e		22 38 56.7	
NKC	Novy Kostel	147.91	346	⇑ePKP	PKPbc	22 38 51.3	0.0
NKC				ePKPAB	PKPab	22 38 56.7	+0.1
TREC	Trest	147.96	342	ePKIKP	PKPbc	22 38 51.1	-0.3
TREC				e		22 38 56.7	
TREC	Trest	147.96	342	⇑ePKP	PKPbc	22 38 51.1	-0.3
TREC				ePKPAB	PKPab	22 38 56.7	-0.1
MODS	Modra-Piesok	148.19	339	ePKP	PKPbc	22 38 52.7	+0.6
MANZ	Manzenberg	148.22	346	ePKPbc	PKPbc	22 38 52.0	-0.1
ROTZ	Rotzenmuhle	148.40	346	ePKPbc	PKPbc	22 38 51.9	-0.6
ROTZ				ePKPab	PKPab	22 38 58.5	-0.1
ZST	Bratislava	148.41	339	ePKP	PKPbc	22 38 52.5	-0.1
KHC	Kasperske Hory	148.65	344	ePKHKP	PKPbc	22 38 53.1	0.0
KHC				e		22 39 00.3	
KHC	Kasperske Hory	148.65	344	⇑ePKP	PKPbc	22 38 53.1	0.0
KHC				ePKPAB	PKPab	22 39 00.3	+0.6
MEM	Membach	148.65	353	PKP	PKPbc	22 38 52.7	-0.4
GRA1				ePKPab	PKPab	22 38 59.6	-0.2
GRA1	Grafenberg Arr	148.69	347	ePKPbc	PKPbc	22 38 53.1	-0.1
GRF	Grafenberg Arr	148.69	347	ePKPbc	PKPbc	22 38 53.1	-0.1
GRF				ePKPab	PKPab	22 38 59.6	-0.2
BZS	Buzias	148.70	331	⇓iP	PKPbc	22 38 52.9	-0.5
WET	Wettzell	148.81	344	ePKPbc	PKPbc	22 38 53.1	-0.4
WET				ePKPab	PKPab	22 39 00.6	+0.2
WET				ePKPab	PKPab	22 39 00.6	+0.2
WET	Wettzell	148.81	344	ePKPbc	PKPbc	22 38 53.1	-0.4
GEC2	GERESS Array S	148.87	343	ePKPbc	PKPbc	22 38 53.4	-0.3
GEC2	GERESS Array S	148.87	343	ePKPbc	PKPbc	22 38 53.4	-0.3
GERES	GERESS Array B	148.87	343	PKPbc	PKPbc	22 38 53.5	-0.2
	comp=Z,6.5nm,0.7s,baz=30,slow=2.5,SNR=47						
BCLA	Clavier	148.91	354	PKP	PKPab	22 39 00.0	-0.7
CONA	Conrad Observa	149.05	340	⇑iPKPbc	PKPbc	22 38 54.4	+0.3
	comp=Z,10nm,0.6s						
GIVF	Givet	149.26	355	⇑iPKP1	PKPbc	22 38 54.3	-0.3
	comp=Z,54nm,0.8s						

DOU	Dourbes	149.29	355	PKP	PKPbc	22 38 53.9	-0.7
DOU				E	PKPab	22 39 01.6	-0.7
BAIF	Baives	149.36	356	⇑ *i* PKP1	PKPbc	22 38 54.6	-0.2
	comp=Z,30nm,0.7s						
PKSM	Moragy	149.50	335	⇓ *i* P	PKPdf	22 38 48.6	-1.3
WLF	Walferdange	149.56	353	PKP	PKPbc	22 38 55.4	0.0
WLF	Walferdange	149.56	353	*e*PKPbc	PKPbc	22 38 55.5	+0.2
VTS	Vitosha	150.11	325	⇑ *i* P	PKPbc	22 38 56.6	-0.2
BFO	Black Forest	150.56	350	*e*PKP	PKPbc	22 38 56.9	-0.7
BFO	Black Forest	150.56	350	*e*PKPbc	PKPbc	22 38 57.1	-0.6
BFO	Black Forest	150.56	350	*e*PKPbc	PKPbc	22 38 57.1	-0.6
CDF	Champ du Feu	150.64	351	*e*PKP1	PKPbc	22 38 57.5	-0.4
	comp=Z,17nm,0.7s						
FLN	La Foliniere	150.77	2	⇑ *i* PKP1	PKPbc	22 38 57.3	-0.8
	comp=Z,25nm,0.5s						
WATA	Walderalm	150.82	345	⇑ *i* P	PKPbc	22 38 57.6	-0.7
	comp=Z,15nm,1.5s						
MEZF	Maizieres J'vi	150.83	354	⇑ *i* PKP1	PKPbc	22 38 58.0	-0.3
	comp=Z,33nm,0.8s						
MOTA	Moosalm	150.93	345	⇑ *i* P	PKPbc	22 38 57.8	-0.7
	comp=Z,6.2nm,1.0s						
LDF	La Drutiiere	150.95	1	⇑ *i* PKP1	PKPbc	22 38 57.6	-0.9
	comp=Z,14nm,0.4s						
SQTA	Sankt Quirin	151.02	345	⇓ *i* P	PKPbc	22 38 58.3	-0.5
	comp=Z,12nm,1.3s						
VNDS	Vrh nad Dolski	151.04	340	*i* PKP	PKPbc	22 38 58.0	-0.8
ROSF	Rostrenen	151.04	5	⇑ *i* PKP1	PKPbc	22 38 57.6	-1.1
	comp=Z,14nm,0.6s						
GRR	Gorron	151.13	2	⇑ *i* PKP1	PKPbc	22 38 58.2	-0.8
	comp=Z,20nm,0.5s						
HAU	Haudompre	151.17	352	⇑ *i* PKP1	PKPbc	22 38 58.4	-0.7
	comp=Z,12nm,0.5s						
SGMF	Saint Gilles	151.18	4	⇑ *i* PKP1	PKPbc	22 38 58.0	-1.1
	comp=Z,23nm,0.6s						
HINF	Hinteralfeld	151.29	351	⇑ *i* PKP1	PKPbc	22 38 58.6	-0.7
	comp=Z,6.8nm,0.7s						
QUIF	Quistinic	151.46	5	*e*PKP1	PKPbc	22 38 58.8	-0.9
LOR	Lormes	152.16	355	⇑ *i* PKP1	PKPbc	22 39 00.7	-0.6
	comp=Z,6.8nm,0.5s						
SSF	Saint Saulge	152.39	356	⇑ *i* PKP1	PKPbc	22 39 01.2	-0.6
	comp=Z,4.2nm,0.5s						
CABF	La Chapelle	152.57	352	⇑ *i* PKP1	PKPbc	22 39 02.2	0.0
	comp=Z,8.4nm,0.7s						
AVF	Avril sur Loir	152.67	356	*e*PKP1	PKPbc	22 39 01.8	-0.6
SMF	Signal de Mont	152.78	355	*e*PKP1	PKPbc	22 39 02.3	-0.3
BGF	Bois d'Agland	152.93	357	*e*PKP1	PKPbc	22 39 02.3	-0.7
MFF	Saint Martin d	152.94	1	⇑ *i* PKP1	PKPbc	22 39 02.2	-0.8
	comp=Z,9.9nm,0.6s						
TCF	Toulx Ste Croi	153.23	358	⇑ *i* PKP1	PKPbc	22 39 02.8	-0.8
	comp=Z,3.6nm,0.7s						
LPL	La Plagne	153.55	350	⇑ *i* PKP1	PKPbc	22 39 04.6	+0.3
	comp=Z,3.2nm,0.4s						
LPG	La Plagne	153.57	350	⇑ *i* PKP1	PKPbc	22 39 04.6	+0.3
	comp=Z,2.6nm,0.6s						
RJF	Les Rejaudoux	154.24	359	*e*PKP1	PKPbc	22 39 06.4	+0.6
ORIF	Oris-en-Rattie	154.26	351	*e*PKP1	PKPbc	22 39 05.5	-0.3
	comp=Z,4.5nm,0.7s						
MBDF	Montbardon	154.31	350	⇑ *i* PKP1	PKPbc	22 39 05.6	-0.3
	comp=Z,10nm,0.7s						
FRF	La Foret Royal	155.47	349	*e*PKP1	PKPdf	22 39 10.0	+11
	comp=Z,4.4nm,0.7s						
ESDC	Sonseca Array	159.48	10	PKPab	PKPab	22 39 45.7	-0.6
	comp=Z,1.9nm,0.6s,baz=343,slow=4.1,SNR=12						
MDT	Midelt	165.90	19	PKPab	PKPab	22 40 14.2	-0.6
	comp=Z,4.9nm,0.8s,baz=1.4,slow=7.6,SNR=7.9						

ISCJB ***06*** *22:37:36.6±1.0, 160S±0.1×7170W±0.10, h130km±7km, mb3.4/5, Error ellipse: s-maj=18.5km s-min=15.2km az=179.9*

NEIC ***06*** *22:37:37.7±1.2, 1595S×7165W, h126km±9km, Error ellipse: s-maj=21.2km s-min=16.4km az=76.0*

IDC ***06*** *22:37:41.3±3.4, 1594S×7139W, h158km±27km, mb3.5/4, mb1 3.3/7, mb1mx3.2/20, mbtmp3.2/7, MS2.9/2, Ms1 3.0/2, ms1mx2.9/25, Error ellipse: s-maj=38.1km s-min=25.4km az=62.0*

ISC 06 22:37:37.5±1.0, 160S±01×7171W±010, h126km±7km, n13, σ1°02/13, mb3.4/5, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	Arequipa	0.52	156	⇑ *i* P	Pn	22 37 55.8	-0.5
ARE				*i* S	Sn	22 38 09.9	-0.6
LPAZ	La Paz	3.45	96	P	Pn	22 38 31.6	+1.7
	5.9nm,0.3s,baz=283,slow=9.2,SNR=196						
LPAZ				S	Sn	22 39 10.8	+0.3
	baz=39,slow=25,SNR=4.0						
LPAZ				LR	LR	22 39 51.8	
	comp=Z,232nm,22.0s,baz=331,slow=41						
SIV	San Ignacio	10.23	92	P	Pn	22 39 56.9	-4.1
	0.7nm,0.3s,baz=278,slow=10,SNR=17						
CFAA	Coronel Fontan	15.87	169	P	Pn	22 41 15.0	+1.2
	0.0nm,0.3s,baz=4.4,slow=13,SNR=4.0						
CFAA				LR	LR	22 48 03.1	
	comp=Z,48nm,20.1s,baz=210,slow=39						
CPUP	Villa Florida	16.89	130	P	Pn	22 41 26.4	0.0
	0.3nm,0.3s,baz=318,slow=12,SNR=2.0						
BDFB	Brasilia	22.80	92	P	P	22 42 28.3	-1.5
	0.7nm,0.4s,mb3.4,baz=242,slow=17,SNR=4.6						
SDV	Santo Domingo	24.73	3	P	P	22 42 48.0	+0.7
	5.3nm,0.9s,mb4.0,baz=249,slow=10,SNR=7.5						
HOPE	Hope Point	46.97	152	P	P	22 45 55.5	0.0
	0.2nm,1.1s,mb2.8						
DBIC	Dimbokro	69.88	77	P	P	22 48 33.4	-1.9
	1.1nm,0.7s,mb3.8,baz=235,slow=8.5,SNR=3.7						
YKA	Yellowknife Ar	85.13	342	P	P	22 49 59.5	+0.6
YKA	Yellowknife Ar	85.13	342	P	P	22 49 59.5	+0.6
	0.1nm,0.4s,mb3.1,baz=134,slow=4.8,SNR=7.6						
WRA	Warramunga Arr	136.07	217	PKP	PKPdf	22 56 45.5	+0.9
	0.1nm,0.4s,baz=147,slow=1.9,SNR=3.3						
SONM	Songino Array	148.20	2	PKPbc	PKPbc	22 57 13.0	+4.4
	0.2nm,0.4s,baz=8.6,slow=1.4,SNR=3.3						

IDC ***06*** *22:49:59.3±0.5, 1657S×17295W, h0km, mb4.5/18, mb1 4.7/18, mb1mx4.6/24, mbtmp4.5/18, MS4.8/14, Ms1 4.8/14, ms1mx4.6/20, Error ellipse: s-maj=21.5km s-min=11.8km az=118.0*

ISCJB ***06*** *22:50:02.6±0.2, 1661S±006×17279W±006, h32km, mb4.8/56, MS4.8/20, Error ellipse: s-maj=10.5km s-min=5.3km az=142.3*

MOS ***06*** *22:50:04.5±1.8, 1653S×17297W, h33km, mb5.0/16, Error ellipse: s-maj=13.3km s-min=9.0km az=61.1*

BJI ***06*** *22:50:05.6, 1605S×172.19W, h48km, mB5.4, mb5.2, Ms5.3, Msz4.9*

NEIC ***06*** *22:50:06.4±0.3, 1667S×17289W, h45km, mb4.9/30, Error ellipse: s-maj=16.4km s-min=7.0km az=137.0*

ISC 06 22:50:04.8±0.2, 1660S±006×17280W±005, h34km, h34km±1.9km; pP-P, n330, σ0.9 96/257, mb4.8/56, MS4.8/20, 70C-66D, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.15	112	Pn	Pn	22 52 59.7	-10
	5.9nm,0.3s,baz=276,slow=9.5,SNR=14						
RAR				Sn	Sn	22 55 16.5	-18
	1.4nm,0.3s,baz=334,slow=22,SNR=2.1						
RAR				LR	LR	22 57 39.6	
	comp=Z,6μm,18.4s,baz=7.1,slow=35						
PPT	Papeete	22.22	96	*e*LQ		22 59 06.1	
	3μm,26.2s						
PPT				*e*LR	LR	23 00 04.8	
	4μm,27.5s,baz=264						
PPT	Papeete	22.22	96	LR	LR	23 02 07.3	
	comp=Z,2μm,20.4s,MS4.5,baz=276,slow=33						
TBI	Tubuai	22.92	111	*e*LR	LR	23 00 13.3	
	5μm,29.8s,baz=291						
URZ	Urewera	23.33	200	P	P	22 55 09.1	-1.0
	21nm,0.6s,mb4.8,baz=4.4,slow=6.8,SNR=16						
URZ				S	S	22 59 22.5	+2.3
	7.5nm,0.7s,baz=131,slow=21,SNR=7.0						
HNR	Honiara	27.47	282	*e*P	P	22 55 46.2	-1.8
HNR				pmax	pmax		
	comp=Z,26nm,0.4s,mb5.1						
HNR	Honiara	27.47	282	*e*P	P	22 55 46.2	-1.8
	comp=Z,26nm,0.4s,mb5.1						
HNR	Honiara	27.47	282	LR	LR	23 05 08.3	
	comp=Z,5μm,18.1s,MS5.1,baz=179,slow=33						
RPZ	Rata Peaks	30.31	204	P	P	22 56 13.3	+0.4
RPZ				LR	LR	23 06 14.0	
RPZ	Rata Peaks	30.31	204	P	P	22 56 13.3	+0.4
	comp=Z,7.0nm,0.7s,mb4.5,baz=3.3,slow=18,SNR=3.1						
RPZ				LR	LR	23 06 14.0	
	comp=Z,851nm,19.6s,MS4.4,baz=12,slow=32						
TAOE	Nuku Hiva Isla	32.73	80	*e*LR	LR	23 04 48.9	
	comp=Z,52μm,29.2s						
RKT	Rikitea	36.09	107	*e*LR	LR	23 06 17.3	
	comp=Z,2μm,29.5s						
HKL	Haleakala	40.47	24	*e*P	P	22 57 44.8	+4.4
TAU	Tasmania Unive	42.85	224	*e*P	P	22 57 59.6	-0.1
TAU				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.9						
TAU	Tasmania Unive	42.85	224	*e*P	P	22 57 59.6	-0.1
	comp=Z,29nm,1.2s,mb4.9						
STKA	Stephens Creek	43.95	241	*e*P	P	22 58 07.4	-1.4
	comp=Z,11nm,0.9s,mb4.6						
STKA	Stephens Creek	43.95	241	*e*P	P	22 58 07.7	-1.1
STKA	Stephens Creek	43.95	241	P	P	22 58 07.6	-1.2
	comp=Z,7.3nm,0.7s,mb4.5,baz=85,slow=8.5,SNR=11						
WB2	Warramunga Arr	50.13	258	*e*P	P	22 58 53.6	-3.6
WB2	Warramunga Arr	50.13	258	*e*P	P	22 58 55.6	-1.6
WB2				*e*PcP	PcP	23 00 17.3	+0.9
WRAB	Tennant Creek	50.13	258	*e*P	P	22 58 55.7	-1.5
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
WRAB	Tennant Creek	50.13	258	*e*P	P	22 58 55.7	-1.5
	comp=Z,5.5nm,0.9s,mb4.6						
WRA	Warramunga Arr	50.14	258	P	P	22 58 55.0	-2.2
	comp=Z,2.4nm,0.6s,mb4.4,baz=96,slow=7.2,SNR=47						
WRA				LR	LR	23 18 25.4	
	comp=Z,545nm,18.4s,MS4.6,baz=90,slow=34						
ASAR	Alice Springs	50.30	253	P	P	22 58 56.5	-1.8
	comp=Z,26nm,0.5s,mb5.5,baz=88,slow=8.5,SNR=630						
KAKA	Kakadu	52.99	266	*e*P	P	22 59 17.5	-1.1
	comp=Z,6.6nm,0.6s,mb4.7						
FITZ	Fitzroy Crossi	58.54	259	*e*P	P	22 59 57.8	-0.6
	comp=Z,21nm,1.5s,mb4.9						
SBA	Scott Base	62.11	185	*e*P	P	23 00 23.9	+2.1
SBA				pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0						
SBA	Scott Base	62.11	185	*e*P	P	23 00 23.9	+2.0
	comp=Z,11nm,0.9s,mb5.0						
VNDA	Vanda	62.25	186	*e*P	P	23 00 23.9	+1.1
VNDA				pmax	pmax		
	comp=Z,5.0nm,0.9s						
VNDA	Vanda	62.25	186	*e*P	P	23 00 23.9	+1.1
	comp=Z,4.8nm,0.9s,mb4.6						
VNDA	Vanda	62.25	186	P	P	23 00 23.6	+0.8
	comp=Z,4.4nm,0.8s,mb4.6,baz=11,slow=5.4,SNR=18						
MBWA	Marble Bar	63.59	254	*e*P	P	23 00 32.1	-0.6
	comp=Z,5.3nm,0.6s,mb4.8						
NWAO	Narrogin (SRO)	64.54	241	P	P	23 00 38.6	-0.1
CASY	Casey	69.57	205	*e*P	P	23 01 10.2	+0.2
	comp=Z,39nm,1.5s,mb5.1						
MJAR	Matsushiro Arr	70.22	320	P	P	23 01 12.6	-1.9
MJAR				LR	LR	23 25 03.7	
MJAR	Matsushiro Arr	70.22	320	P	P	23 01 12.6	-1.9
	comp=Z,3.9nm,1.0s,mb4.3,baz=160,slow=6.7,SNR=6.2						
MJAR				LR	LR	23 25 03.7	
	comp=Z,433nm,21.5s,MS4.7,baz=105,slow=30						
ERM	Erimo	71.07	327	*e*P	P	23 01 20.5	+1.0
U04C	Hernandez Rese	72.02	42	⇓ P	P	23 01 25.8	+0.5
	baz=72						
PACP	Pacheco Peak	72.09	41	⇑ P	P	23 01 26.3	+0.6
	baz=72						
VES	Vestal, Richgr	72.81	43	⇓ P	P	23 01 29.5	-0.5
	baz=73						
EDW2	Edwards Air Fo	72.98	45	⇑ P	P	23 01 31.0	0.0
	baz=73						
CMB	Columbia Colle	73.28	41	*e*P	P	23 01 32.3	-0.5
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CMB	Columbia Colle	73.28	41	*e*P	P	23 01 32.3	-0.5
	comp=Z,7.4nm,0.9s,mb4.6						
CMB	Columbia Colle	73.28	41	⇑ P	P	23 01 32.6	-0.2
	baz=74						
PFO	Pinyon Flat Ob	73.32	46	P	P	23 01 33.0	-0.1
	comp=Z,4.1nm,1.0s,mb4.3,baz=270,slow=3.0,SNR=3.1						
HELL	Mitchell Peak	73.34	43	⇑ P	P	23 01 32.7	-0.5
	baz=74						
QSPA	South Pole Qui	73.46	180	P	P	23 01 34.1	+0.8
	comp=Z,6.0nm,0.8s,mb4.6,baz=23,slow=3.0,SNR=3.3						
WDC	Whiskeytown Da	73.56	38	*e*P	P	23 01 33.9	-0.5
WDC				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
WDC	Whiskeytown Da	73.56	38	*e*P	P	23 01 33.9	-0.5
	comp=Z,8.9nm,1.3s,mb4.5						
PET	Petropavlovsk	73.58	342	*e*P	P	23 01 32.2	-2.0
PET				*e*PPP		23 06 12.2	
PET				*e*PS		23 11 54.3	
PET				pmax	pmax		
	comp=Z,200nm,12.2s						
R05C	Kirkwood Meado	73.88	40	⇑ P	P	23 01 36.3	0.0
	baz=74						
MPMC	Manual Prospec	73.99	44	⇑ P	P	23 01 36.9	-0.1
	baz=74						
GSC	Goldstone	74.02	45	*e*P	P	23 01 37.5	+0.3
GSC	Goldstone	74.02	45	⇓ P	P	23 01 36.9	-0.3
	baz=74						
WAKR	Walker	74.16	41	*e*P	P	23 01 38.4	+0.5
R06C	Coleville	74.16	41	⇓ P	P	23 01 37.5	-0.4
	baz=74						
YBH	Yreka Blue Hor	74.20	37	*e*P	P	23 01 38.8	+0.7
S08C	White Mtn Res	74.37	42	⇑ P	P	23 01 39.7	+0.5
	baz=75						
GMRC	Granite Mounta	74.51	46	⇓ P	P	23 01 39.2	-0.8
	baz=75						
IRM	Iron Mountain	74.53	47	⇓ P	P	23 01 39.6	-0.6
	baz=75						
HUMO	Hull Mountain	74.63	36	*e*P	P	23 01 42.5	+1.9
HUMO	Hull Mountain	74.63	36	⇓ P	P	23 01 40.7	+0.2
	baz=75						
YSS	Yuzh-Sakhalins	74.80	330	⇑ *e*P	P	23 01 49.0	+7.5
YSS				*e*		23 01 55.0	
YSS				*e*S	S	23 11 23.0	+7.3
YSS				*e*PS		23 11 36.0	
YSS				pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0						
YSS				smax			
	comp=N,500nm,12.0s						
YSS				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
NVAR	Mina Array Bea	74.83	41	P	P	23 01 41.7	-0.2
NVAR	Mina Array Bea	74.83	41	P	P	23 01 41.7	-0.2
	comp=Z,4.2nm,0.7s,mb4.5,baz=233,slow=11,SNR=23						
PAHR	Pah Rah Range	74.92	40	*e*P	P	23 01 43.0	+0.7
	comp=Z,9.1nm,1.0s,mb4.7						
S09A	Goldfield	75.11	43	⇑ P	P	23 01 43.1	-0.4
	baz=75						
M06C	Likely Place G	75.17	38	⇓ P	P	23 01 43.1	-0.6
	baz=76						
Y13A	Salome	75.27	48	⇑ P	P	23 01 44.1	-0.4
	baz=76						
TPNV	Topopah Spring	75.31	44	*e*P	P	23 01 44.6	-0.1
TPNV				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
TPNV	Topopah Spring	75.31	44	*e*P	P	23 01 44.6	-0.1
	comp=Z,7.5nm,0.8s,mb4.7						
TPNV	Topopah Spring	75.31	44	⇓ P	P	23 01 44.4	-0.2
	baz=76						
Q08A	Gabbs	75.32	41	⇑ P	P	23 01 44.5	-0.1
	baz=76						
L05A	Lakeview	75.48	37	⇑ P	P	23 01 45.8	+0.3
	baz=76						
O07A	Toulon	75.50	40	⇑ P	P	23 01 45.5	-0.1
	baz=76						
S10A	Tonopah Range,	75.64	43	⇓ P	P	23 01 45.9	-0.6
	baz=76						
X13A	Yucca	75.68	47	⇑ P	P	23 01 46.8	0.0
	baz=76						
MOD	Modoc	75.70	38	*e*P	P	23 01 46.8	0.0
SHPR	Sheep Range	75.80	45	*e*P	P	23 01 47.5	0.0
H03A	Soap Creek Ran	75.80	34	⇑ P	P	23 01 47.6	+0.3
	baz=76						
N07B	Gerlach	75.81	39	⇓ P	P	23 01 47.5	+0.1
	baz=76						
W13A	Hualapai Mount	75.91	46	⇓ P	P	23 01 48.1	0.0
	baz=76						
Y14A	Wickenburg	75.92	48	⇑ P	P	23 01 48.1	-0.1
	baz=76						
J05A	Fort Rock	76.03	36	⇑ P	P	23 01 48.7	+0.1
	baz=76						
R10A	Warm Springs	76.03	43	⇑ P	P	23 01 49.0	+0.2
	baz=76						
216A	Three Points,	76.05	50	⇑ P	P	23 01 48.7	-0.3
	baz=76						
M07A	Soldier Meadow	76.06	39	⇓ P	P	23 01 49.2	+0.4
	baz=76						
T11A	Corn Creek, Al	76.16	44	⇑ P	P	23 01 49.5	0.0
	baz=76,SNR=12						
K06A	Valley Falls	76.29	37	⇓ P	P	23 01 49.8	-0.3
	baz=77						
N08A	GE Springer Mi	76.32	40	⇑ P	P	23 01 49.6	-0.7
	baz=77						
L07A	Adell	76.34	38	⇑ P	P	23 01 50.0	-0.5
	baz=77						
Y15A	Casa Rosa Ranc	76.40	48	⇑ P	P	23 01 50.4	-0.6
	baz=77						
217A	Green Valley	76.42	51	⇓ P	P	23 01 50.6	-0.5
	baz=77						
W14A	Seligman	76.53	47	⇓ P	P	23 01 51.5	-0.2
	baz=77						
R11A	Troy Canyon, C	76.53	43	⇑ P	P	23 01 51.4	-0.2
	baz=77						
U13A	Pakoon Wash	76.56	45	P	P	23 01 52.0	+0.3
	baz=77,SNR=12						
M08A	Happy Creek Ra	76.57	39	⇓ P	P	23 01 52.0	+0.2
	baz=77						
P10A	Eureka	76.69	41	⇑ P	P	23 01 52.6	+0.1
	baz=77						
TUC	Tucson	76.70	50	*e*P	P	23 01 54.4	+1.7
V14A	Boquillas Ranc	76.73	46	⇑ P	P	23 01 52.9	+0.1
	baz=77						
X15A	Humboldt	76.75	48	⇑ P	P	23 01 53.1	+0.3
	baz=77						
Q11A	Duckwater	76.77	42	⇓ P	P	23 01 52.5	-0.4
	baz=77,SNR=8.0						
117A	Oracle	76.86	50	⇓ P	P	23 01 53.5	-0.1
	baz=77						
318A	Bisbee	76.87	51	⇑ P	P	23 01 53.4	-0.2
	baz=77						
H05A	Madras	76.90	35	⇓ P	P	23 01 53.5	0.0
	baz=77						
T13A	Saint George	76.92	45	⇑ P	P	23 01 53.5	-0.3
	baz=77						
WVOR	Wild Horse Val	77.01	38	*e*P	P	23 01 53.2	-1.0
WVOR				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.6						
WVOR	Wild Horse Val	77.01	38	*e*P	P	23 01 53.2	-0.9
	comp=Z,9.5nm,1.1s,mb4.6						
L08A	Fields	77.04	38	⇓ P	P	23 01 54.5	+0.2
	baz=77						
U14A	Mt Trumbull	77.09	46	⇓ P	P	23 01 54.5	-0.3
	baz=77						
R12A	Pony Springs,	77.16	43	⇑ P	P	23 01 55.1	-0.1
	baz=78,SNR=12						
S13A	Holt Ranch, En	77.25	44	⇓ P	P	23 01 56.2	+0.6
	baz=78,SNR=9.9						
X16A	Lo Mia Camp, P	77.28	48	⇓ P	P	23 01 56.1	+0.2
	baz=78						
K08A	Mann Creek Ran	77.28	38	⇓ P	P	23 01 55.3	-0.3
	baz=78						
Q12A	Willow Creek R	77.41	43	⇓ P	P	23 01 56.6	+0.1
	baz=78,SNR=8.7						
KSRS	Korea Array	77.41	315	P	P	23 01 56.6	+0.1
	comp=Z,3.3nm,0.8s,mb4.3,baz=129,slow=5.8,SNR=12						
KSRS				LR	LR	23 35 07.1	
	comp=Z,234nm,18.7s,MS4.5,baz=303,slow=35						
118A	Homack Ranch,	77.46	50	⇑ P	P	23 01 56.4	-0.6
	baz=78						
V15A	Kaibab Nationa	77.47	47	⇑ P	P	23 01 56.7	-0.3
	baz=78						
O11A	Cowboy Ranch,	77.49	41	⇑ P	P	23 01 56.6	-0.3
	baz=78						
I07A	Izee	77.51	36	⇑ P	P	23 01 56.4	-0.6
	baz=78						
CCUT	Cedar City	77.57	44	*e*P	P	23 01 57.7	+0.2
P12A	McGill	77.60	42	⇓ P	P	23 01 57.1	-0.5
	baz=78						
ARUT	Antelope Range	77.64	44	*e*P	P	23 02 00.0	+2.2
H07A	Lands Inn, Kim	77.79	36	⇓ P	P	23 01 58.3	-0.2
	baz=78						
KSM	Kuching	77.87	275	*e*P	P	23 02 00.4	+0.7
KSM				*e*PcP	PcP	23 02 08.2	-1.3
Q13A	Wheeler Ranch,	77.89	43	⇑ P	P	23 01 58.9	-0.2
	baz=78,SNR=15						
B04A	Port Angeles	77.94	31	⇓ P	P	23 01 59.6	+0.4
	baz=78						
GNW	Green Mountain	77.95	32	*e*P	P	23 02 05.2	+5.9
T15A	Red Dirt Ranch	77.95	45	⇑ P	P	23 01 59.6	+0.1
	baz=78						
Y18A	Canyon Day Jun	77.97	49	⇓ P	P	23 01 59.7	0.0
	baz=78						
C04A	Brinnon	77.97	32	⇓ P	P	23 01 59.2	-0.3
	baz=78						
119A	Ashpeak Ranch,	78.02	50	⇑ P	P	23 02 00.1	+0.1
	baz=78						
L10A	Juniper Basin	78.10	39	⇑ P	P	23 01 59.4	-0.9
	baz=78						
D05A	Enumclaw	78.13	33	⇓ P	P	23 02 01.1	+0.8
	baz=78						
M11A	Holland Ranch,	78.14	40	⇓ P	P	23 02 00.1	-0.5
	baz=78						
O12A	Currie	78.14	42	⇑ P	P	23 02 00.5	0.0
	baz=78						
G07A	Ruggs Ranch, H	78.15	35	⇑ P	P	23 02 01.0	+0.5
	baz=78						
P13A	Bates Ranch, G	78.17	43	⇑ P	P	23 01 59.9	-0.7
	baz=78,SNR=10						
E06A	Yakima	78.25	34	⇓ P	P	23 02 00.6	-0.4
	baz=79						
H08A	Prairie City	78.25	36	⇑ P	P	23 01 59.8	-1.2
	baz=79						
K10A	MacKenzie Ranc	78.26	39	⇑ P	P	23 01 60.0	-1.2
	baz=79						
PGC	Sidney	78.36	31	*e*P	P	23 02 04.2	+2.7
G08A	Pilot Rock	78.56	36	⇓ P	P	23 02 02.7	0.0
	baz=79,SNR=11						
L11

baz=80,SNR=16
HVU Hansel Valley 80.22 41 *e*P **P 23 02 13.2 +1.3**
J13A Cove Ranch, Pi 80.24 39 ⇓P **P 23 02 11.6 -0.4**
baz=80,SNR=10
B08A Colville Reser 80.26 33 ⇓P **P 23 02 11.1 -0.8**
baz=81
CTU Camp Tracy 80.30 42 *e*P **P 23 02 19.9 +7.6**
TTA Tatalina 80.35 8 *e*P **P 23 02 15.4 +3.3**
K14A Jones Ranch, D 80.38 40 ⇓P **P 23 02 12.6 -0.1**
baz=81,SNR=11
DIV Divide 80.42 13 *e*P **P 23 02 14.0 +1.5**
JLU Jordanelle 80.44 43 *e*P **P 23 02 15.2 +2.1**
C09A Chrisman Ranch 80.47 34 ⇑P **P 23 02 12.9 -0.2**
baz=81
MNTX Cornudas Mount 80.48 53 *e*P **P 23 02 13.2 -0.4**
comp=Z,4.7nm,1.2s,mb4.3
H12A Diamond D Ranc 80.48 38 ⇑P **P 23 02 11.7 -1.4**
baz=81
F11A Grangeville 80.50 36 ⇑P **P 23 02 13.3 0.0**
baz=81
I13A Wildhorse Cree 80.56 39 ⇑P **P 23 02 13.6 0.0**
baz=81
A08A Turner Farm, O 80.66 32 ⇓P **P 23 02 13.2 -0.9**
baz=81,SNR=11
E11A Bogner Ranch, 80.74 36 ⇓P **P 23 02 13.0 -1.5**
baz=81
TXAR Lajitas Array 80.80 56 P **P 23 02 14.9 -0.4**
TXAR LR LR 23 35 29.9
TXAR Lajitas Array 80.80 56 P **P 23 02 14.9 -0.4**
comp=Z,0.7nm,0.7s,mb3.7,baz=242,slow=5.4,SNR=8.4
TXAR LR LR 23 35 29.9
comp=Z,459nm,18.1s,MS4.9,baz=270,slow=34
H13A Challis 80.84 38 ⇑P **P 23 02 14.8 -0.3**
baz=81
F12A Elk City 80.93 37 ⇓P **P 23 02 14.0 -1.6**
baz=81,SNR=24
A09A Danville 81.03 33 ⇑P **P 23 02 15.1 -0.9**
baz=81
D11A Klaveano Farm, 81.07 35 ⇓P **P 23 02 15.4 -0.9**
baz=81
ANMO Albuquerque 81.13 50 *e*P **P 23 02 20.5 +3.6**
ANMO Albuquerque 81.13 50 P **P 23 02 18.9 +2.0**
comp=Z,3.3nm,0.9s,mb4.3,baz=204,slow=6.0,SNR=7.3
G13A Cobalt 81.15 38 ⇓P **P 23 02 16.5 -0.2**
baz=82
NJ2 Nanjing 81.34 307 *e*P **P 23 02 19.8 +1.7**
NJ2 AP pP 23 02 29.8 +0.8
NJ2 XP sP 23 02 34.1 +1.2
NJ2 S S 23 12 23.0 -3.8
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,280nm,12.0s
NJ2 LR LR
comp=N,750nm,27.2s
NJ2 LR LR
comp=E,410nm,21.4s
NJ2 LR LR
comp=Z,410nm,21.4s
E13A Victor 81.93 37 ⇑P **P 23 02 19.5 -1.3**
baz=82
TNA Tin City 81.99 2 *e*P **P 23 02 21.4 +0.7**
D13A Huson 82.15 36 ⇑P **P 23 02 20.4 -1.6**
baz=82
MCK McKinley 82.18 10 *e*P **P 23 02 21.2 -0.6**
MCK pmax pmax
comp=Z,41nm,1.0s,mb5.3
MCK McKinley 82.18 10 *e*P **P 23 02 21.2 -0.6**
comp=Z,42nm,1.0s,mb5.3
G15A Dillon 82.22 38 ⇓P **P 23 02 21.7 -0.7**
baz=82
REDW Red Top Meadow 82.26 41 *e*P **P 23 02 24.5 +1.8**
comp=Z,16nm,1.3s,mb4.8
DLMT Dillon 82.26 38 *e*P **P 23 02 23.9 +1.3**
comp=Z,12nm,1.1s,mb4.7
MSO Missoula 82.29 36 *e*P **P 23 02 28.2 +5.4**
E14A Clinton 82.32 37 ⇑P **P 23 02 22.6 -0.3**
baz=83
CN2 Changchun 82.37 320 *e*P **P 23 02 24.5 +1.3**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
SNOW Snow King Moun 82.37 40 *e*P **P 23 02 25.8 +2.5**
comp=Z,12nm,1.0s,mb4.8
IMW Indian Meadow 82.48 40 *e*P **P 23 02 23.0 -0.8**
comp=Z,41nm,1.8s,mb5.1
LOHW Long Hollow 82.54 40 *e*P **P 23 02 25.6 +1.5**
LRM Limekiln Ridge 82.60 38 *e*P **P 23 02 25.9 +1.5**
QLMT Earthquake Lak 82.67 39 *e*P **P 23 02 26.7 +1.9**
SMCO Snowmass 82.72 46 *e*P **P 23 02 25.4 +0.2**
comp=Z,14nm,1.0s,mb5.0
SMCO *e*PcP PcP 23 02 31.9 +1.9
FLWY Flagg Ranch 82.73 40 *e*P **P 23 02 27.1 +2.1**
comp=Z,16nm,0.9s,mb5.0
CHMT Chamberlain Mo 82.73 37 *e*P **P 23 02 25.9 +0.9**
BW06 Boulder Array 82.77 42 *e*P **P 23 02 26.4 +1.1**
E15A Deer Lodge 82.81 37 ⇓P **P 23 02 23.9 -1.6**
baz=83
B13A Whitefish 82.87 35 ⇓P **P 23 02 24.4 -1.3**
baz=83
C14A Swan Lake 82.93 36 ⇓P **P 23 02 24.7 -1.3**
baz=83
BOZ Bozeman (W) 82.99 38 *e*P **P 23 02 26.5 +0.1**
BOZ pmax pmax
comp=Z,32nm,1.9s,mb5.0
BOZ Bozeman (W) 82.99 38 *e*P **P 23 02 26.5 +0.1**
comp=Z,32nm,1.9s,mb5.0
YNR Norris Junctio 83.07 39 *e*P **P 23 02 29.1 +2.3**
LKWY Lake 83.16 40 *e*P **P 23 02 29.1 +1.8**
LKWY pmax pmax
comp=Z,13nm,1.0s,mb4.9
LKWY Lake 83.16 40 *e*P **P 23 02 29.1 +1.7**
comp=Z,12nm,1.0s,mb4.9
D15A Lincoln 83.22 37 ⇓P **P 23 02 26.3 -1.3**
baz=84
COLA College 83.42 10 *e*P **P 23 02 27.3 -0.9**
COLA College 83.42 10 *e*P **P 23 02 27.1 -1.1**
comp=Z,31nm,0.9s,mb5.3
HRY Holter Researc 83.44 37 *e*P pP 23 02 39.5 -0.1
WALA Waterton Lakes 83.56 35 *e*P **P 23 02 32.3 +3.0**
comp=Z,10nm,0.9s,mb5.0
IMA2 Indian Mountai 83.66 8 *e*P **P 23 02 29.3 -0.1**
RWWY Rawlins 83.76 43 *e*P **P 23 02 30.3 -0.2**
SEY Seymchan 83.82 345 *e*P **P 23 02 30.1 -0.2**
ISCO Idaho Springs 83.95 46 *e*P **P 23 02 33.0 +1.5**
ISCO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ISCO Idaho Springs 83.95 46 *e*P **P 23 02 33.0 +1.5**
comp=Z,4.3nm,0.9s,mb4.6
RLMT Red Lodge 84.14 40 *e*P **P 23 02 34.2 +1.8**
DAWY Dawson 84.43 14 *e*P **P 23 02 33.7 +0.4**
AMTX Amarillo 84.64 51 *e*P **P 23 02 35.2 +0.1**
EGAK Eagle 84.64 13 *e*P **P 23 02 36.7 +2.3**
BILL Bilibino 85.76 352⇑*e*P **P 23 02 39.7 -0.3**
BILL *e*SS SS 23 18 50.3 +2.7
BILL pmax pmax
comp=Z,12nm,1.8s,mb4.8
EDM Edmonton 86.20 31 *e*P **P 23 02 42.6 +0.2**
BJI Beijing 86.70 313 P **P 23 02 46.8 +1.5**
BJI XP sP 23 03 01.4 +1.2
BJI S S 23 13 21.8 +1.5
BJI AMB AMB
comp=Z,7.0nm,1.0s,mb4.8
BJI AMB AMB
comp=Z,339nm,5.5s
BJI LR LR
comp=N,327nm,16.6s,MS4.8
BJI LR LR
comp=E,126nm,18.7s,MS4.8
BJI LR LR
comp=Z,295nm,32.5s
MAW Mawson 86.85 198 LR LR 23 40 19.3
comp=Z,1μm,18.4s,MS5.4,baz=109,slow=35
PLCA Paso Flores 88.29 132 LR LR 23 35 29.5
comp=Z,514nm,19.1s,MS5.0,baz=345,slow=31
HIA Hailar 88.49 323 *e*P **P 23 02 53.6 0.0**
GYA Guiyang 89.11 298⇑*i*P **P 23 02 58.4 +1.3**
GYA AP pP 23 03 10.8 +2.8
GYA XP sP 23 03 14.7 +2.7
GYA PP PP 23 06 32.7 +5.0
GYA SKS 23 13 24.6
GYA S S 23 13 44.2 +0.4
GYA PS PS 23 14 55.8 +3.2
GYA SS SS 23 19 42.4 +4.1
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,110nm,6.9s
GYA LR LR
comp=N,480nm,20.4s,MS5.0
GYA LR LR
comp=E,480nm,21.2s,MS5.0
GYA LR LR
comp=Z,540nm,22.0s,MS4.9
INK Inuvik 89.29 14 *e*P **P 23 02 58.8 +1.9**
INK Inuvik 89.29 14 P **P 23 02 57.6 +0.7**
comp=Z,3.5nm,1.0s,mb4.7,baz=215,slow=6.4,SNR=8.9
JTS Juntasabangare 90.86 80 *e*P **P 23 03 06.3 +0.8**
JTS Juntasabangare 90.86 80 *e*P **P 23 03 06.0 +0.5**
comp=Z,16nm,1.1s,mb5.2
JTS Juntasabangare 90.86 80 P **P 23 03 06.3 +0.8**
comp=Z,6.1nm,0.8s,mb5.0,baz=280,slow=12,SNR=3.7
YKA Yellowknife Ar 90.96 23 P **P 23 03 03.8 -1.0**
comp=Z,0.8nm,0.8s,mb4.1,baz=231,slow=4.3,SNR=14
YKW3 Yellowknife Ar 91.00 23 *e*P **P 23 03 10.3 +5.3**
SYO Syowa Base 91.55 191⇑*e*P **P 23 03 06.6 -1.0**
SYO Syowa Base 91.55 191⇑*es*P sP 23 03 21.2 -1.4
SNAA Sanae 91.69 177 *e*P **P 23 03 08.1 -0.2**
SNAA *e* 23 03 12.1
SNAA Sanae 91.69 177 P **P 23 03 07.6 -0.7**
comp=Z,0.8nm,0.8s,mb4.1,baz=192,slow=5.6,SNR=4.7
KMI Kunming 92.06 295 ⇑P **P 23 03 13.5 +2.7**
KMI AP pP 23 03 22.3 +0.5
KMI PP PP 23 06 57.2 +6.0
KMI PPP 23 08 59.4
KMI SKS 23 13 43.6
KMI S S 23 14 13.2 +2.3
KMI SS SS 23 20 28.8 +7.8
KMI SSS 23 24 07.3
KMI AMB AMB
comp=Z,12nm,0.9s,mb5.2
KMI LR LR
comp=N,235nm,15.8s,MS4.8
KMI LR LR
comp=E,222nm,18.4s,MS4.8
KMI LR LR
comp=Z,318nm,18.4s,MS4.8
VNA2 Neumayer--Watz 92.12 175 *e*P **P 23 03 10.4 +0.1**
VNA2 *e* 23 03 15.4
VNA2 *e* pP 23 03 21.2 -0.1
CD2 Chengdu 92.92 301 *e*P **P 23 03 16.4 +1.7**
CD2 AP pP 23 03 27.0 +1.3
CD2 XP sP 23 03 30.9 +1.3
CD2 PP PP 23 07 02.1 +4.3
CD2 SKS 23 13 46.1
CD2 S S 23 14 17.3 -1.1
CD2 SS SS 23 20 36.1 +2.9
CD2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
CD2 AMB AMB
comp=Z,60nm,9.2s
CD2 LR LR
comp=N,230nm,13.2s,MS5.0
CD2 LR LR
comp=E,240nm,14.4s,MS5.0
CD2 LR LR
comp=Z,300nm,14.4s,MS4.9
CM31 Chiang Mai Arr 93.53 288 *e*P **P 23 03 18.1 +0.3**
CHTO Chiang Mai 93.63 288 *e*P **P 23 03 20.1 +1.9**
LZH Lanzhou 94.39 306 *e*P **P 23 03 25.0 +3.7**
LZH AP pP 23 03 34.5 +2.2
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.5
LZH AMB AMB
comp=Z,106nm,5.1s
ULM Lac du Bonnet 94.50 39 LR LR 23 43 45.2
comp=Z,1μm,18.1s,MS5.4,baz=343,slow=34
ULN Ulaanbaatar 95.70 318 *e*P **P 23 03 26.8 -0.2**
SONM Songino Array 96.11 318 P **P 23 03 29.5 +0.6**
comp=Z,0.3nm,0.7s,mb3.9,baz=93,slow=5.8,SNR=2.3
SONM LR LR 23 40 43.0
comp=Z,297nm,21.5s,MS4.7,baz=21,slow=32
TIXI Tiksi 96.30 344 *e*P **P 23 03 32.9 +3.7**
TIXI pmax pmax
comp=Z,1.0nm,1.3s,mb4.1
LPAZ La Paz 98.86 110 LR LR 23 39 45.4
comp=Z,225nm,20.3s,MS4.7,baz=322,slow=30
ROSC El Rosal 99.47 88 LR LR 23 43 40.1
comp=Z,230nm,18.4s,MS4.7,baz=187,slow=32
MKAR Makanchi Array 112.07 314 PKiKP PKiKP 23 08 36.0 -0.6
comp=Z,0.3nm,0.3s,baz=84,slow=0.2,SNR=6.3
KURK Kurchatov 114.42 319 *e*PKIKP PKiKP 23 08 41.9 +1.0
KBL Kabul 122.26 301 *e*PKIKP PKPdf 23 08 57.6 +1.0
ARU Arti 124.65 328 PKIKP PKPdf 23 09 01.2 +0.8
ARCES ARCESS Array B 125.87 352 PKP PKPdf 23 09 01.4 -1.0
comp=Z,2.2nm,0.9s,baz=37,slow=6.5,SNR=3.9
FINES FINESS Array B 133.23 348 PKP PKPdf 23 09 16.2 -0.4
comp=Z,1.3nm,0.9s,baz=288,slow=32,SNR=2.5
OBN Obninsk 135.43 336⇑*i*PKIKP PKPdf 23 09 26.1 +5.2
OBN *e* 23 12 03.3
OBN *e* 23 16 22.8
OBN *e*SSS 23 34 59.8
OBN pmax pmax
comp=Z,5.0nm,0.7s
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.9
GOF Gofitskoye 138.70 321 *e*PKIKP PKPdf 23 09 24.8 -2.5
TSUM Tsumeb 142.99 196 *e*PKPdf PKPdf 23 09 33.3 -2.5
KWP Kalwaria 144.73 342 *e*PKP PKPdf 23 09 36.8 -1.2
KWP Kalwaria 144.73 342 *e*PKP PKPdf 23 09 36.8 -1.1
KWP Kalwaria 144.73 342⇓*i*P PKPdf 23 09 37.5 -0.4
OJC Ojcow 144.95 346 *e*PKPdf PKPdf 23 09 38.4 +0.1
CLL Collm 145.06 354 *e*PKIKP PKPdf 23 09 37.0 -1.5
CLL *i* 23 09 43.7
CLL *i* 23 09 51.4
CLL MLR MLR
comp=Z,300nm,17.4s,MS5.1
CLL Collm 145.06 354 *e*PKPdf PKPdf 23 09 37.0 -1.5
comp=Z,2.0nm,0.6s
CLL *i* PKiKP PKiKP 23 09 43.7 +1.4
CLL *i* pPKPdf pPKPdf 23 09 51.4 +1.6
KSP Ksiaz 145.06 350 *e*PKIKP PKPdf 23 09 38.0 -0.5
KSP *e* 23 09 52.0
MALT Malatya 145.11 315 *e*PKIKP PKPdf 23 09 40.0 +1.0
MALT Malatya 145.11 315⇑*i*P PKPbc 23 09 40.1 +1.6
STHS Stebnicka Huta 145.33 344 *i* PKP PKPdf 23 09 39.8 +0.8
BRG Berggiesshubel 145.38 352 *e*PKP PKPbc 23 09 44.9 +5.9
comp=Z,4.8nm,0.9s
UPC Upice 145.44 350 *e*PKP PKPdf 23 09 40.2 +1.1
KOLS Kolonicke sedl 145.48 342 *e*PKP PKPdf 23 09 39.4 +0.1
KOLS *e* 23 09 56.5
KMBO Kilima Mbogo 145.51 242 PKPbc PKPbc 23 09 41.7 +1.2
comp=Z,3.3nm,0.9s,baz=55,slow=4.5,SNR=8.0
DPC Dobruska-Polom 145.53 350 *e*PKP PKPdf 23 09 39.8 +0.5
NIE Niedzica 145.57 345 *e*PKPdf PKPdf 23 09 40.9 +1.5
PVCC Panska Ves 145.63 352 *e*PKP PKPbc 23 09 41.9 +2.2
OKC Ostrava-Krasne 145.68 347 *e*PKP PKPdf 23 09 40.0 +0.4
BURAR Bucovina Array 145.69 338⇓*i*P PKPdf 23 09 41.0 +1.4
CRVS Cervenica-Dubn 145.74 343 *e*PKP PKPdf 23 09 40.4 +0.7
UZH Uzhgorod 145.75 342 *e*PKP2 PKPab 23 09 40.7 +0.2
MOX Moxa 145.85 355 *e*PKP PKPbc 23 09 42.2 +1.8
comp=Z,48nm,1.9s
MORC Moravsky Berou 145.86 348 *e*PKP2 PKPab 23 09 41.8 +0.9
MORC Moravsky Berou 145.86 348⇑*i*P PKPdf 23 09 41.0 +1.1
PRU Pruhonice 146.17 351 *e*PKP PKPdf 23 09 41.5 +1.1
NKC Novy Kostel 146.18 354 *e*PKP PKPbc 23 09 43.6 +2.2
VRAC Vranov 146.49 349⇑*i*P PKPab 23 09 48.4 +5.1
BAIF Baives 146.53 3 *e*PKP1 PKPbc 23 09 42.3 -0.2
comp=Z,75nm,1.6s
VRI Vrincioaia 146.57 335⇓*i*P PKPab 23 09 50.9 +7.2
TREC Trest 146.70 350 *e*PKP PKPdf 23 09 43.2 +1.9
VYHS Vyhne 146.79 346 *e*PKP PKPbc 23 09 44.4 +1.1
VYHS *e* 23 09 49.1
GRA1 Grafenberg Arr 146.83 355 *e*PKP PKPbc 23 09 44.1 +0.8
GRF Grafenberg Arr 146.83 355 *e*PKP PKPbc 23 09 44.1 +0.8
KHC Kasperske Hory 147.14 352 *e*PKP PKPbc 23 09 45.1 +0.9
KHC *ex* x 23 09 50.0
MLR Muntele Rosu 147.19 335 PKPbc PKPbc 23 09 43.6 -0.9
comp=Z,1.6nm,0.8s,baz=195,slow=14,SNR=2.9
MLR Muntele Rosu 147.19 335⇑*i*P PKPab 23 09 50.9 +4.7
MODS Modra-Piesok 147.25 348 *e*PKP PKPbc 23 09 46.2 +1.6
MODS *e* 23 09 52.3
MODS Modra-Piesok 147.25 348 *e*PKP PKPbc 23 09 46.2 +1.6
MODS *e* 23 09 52.2
DRGR 147.25 340⇓*i*P PKPbc 23 09 45.7 +1.1
GEC2 GERESS Array S 147.40 352 *e*PKIKP PKPdf 23 09 44.2 +1.7
GERES GERESS Array B 147.40 352 PKPbc PKPbc 23 09 44.2 -0.8
comp=Z,1.5nm,0.7s,baz=32,slow=3.5,SNR=13
ANTO Ankara 147.87 321 PKIKP PKPdf 23 09 45.0 +1.4
ANTO Ankara 147.87 321⇑*i*P PKPbc 23 09 47.0 +0.5
BFO Black Forest 148.34 359 *e*PKIKP PKPdf 23 09 45.3 +1.2
BZS Buzias 148.65 340⇑*i*P PKPbc 23 09 48.9 +0.5
HAU Haudompre 148.67 1 *e*PKP1 PKPbc 23 09 48.2 -0.2
comp=Z,24nm,1.0s
ASF Jabal al Asfar 148.96 305 PKPbc PKPbc 23 09 49.2 -0.4
comp=Z,1.3nm,0.7s,baz=151,slow=19,SNR=3.0
PKSM Moragy 148.97 345⇓*i*P PKPbc 23 09 49.5 +0.3
LOR Lormes 149.29 4 *e*PKP1 PKPbc 23 09 49.8 -0.2
comp=Z,28nm,1.1s
SSF Saint Saulge 149.47 5 *e*PKP1 PKPbc 23 09 50.3 -0.1
comp=Z,44nm,1.2s
CABF La Chapelle 150.06 2 *e*PKP1 PKPbc 23 09 52.3 +0.4
comp=Z,51nm,1.2s
TCF Toulx Ste Croi 150.10 7 *e*PKP1 PKPbc 23 09 51.5 -0.5
ESDC Sonseca Array 155.03 21 PKPab PKPab 23 10 20.2 +1.4
comp=Z,1.0nm,0.8s,baz=330,slow=4.5,SNR=5.8

CSEM ***06*** *22:51:46.8±0.4, 3906N×4038E, h1km±2km, MD2.7, Error ellipse: s-maj=2.4km s-min=2.1km az=53.0*
ISK ***06*** *22:51:47.6, 3907N×4040E, h13km, MD2.7*
ISCJB ***06*** *22:51:48.4±0.8, 3890N±006×4045E±005, h28km±8km, Error ellipse: s-maj=10.0km s-min=6.6km az=13.5*
DDA ***06*** *22:51:48.8, 3891N×4052E, h25km±5km, Md2.8*
ISC 06 22:51:47.9±1.2, 388N±01×4047E±006, h30km±6km, n7, σ0§82/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.05**	**23**	PG	**Pb**	**22 51 52.4**	**-0.5**
BINT				*e*SG	**Sb**	**22 51 56.2**	**-0.2**
BNGL	**BINGOL**	**0.55**	**77**	*i* P	**Pb**	**22 51 58.3**	**-0.8**
BNGL				*i* S	**Sb**	**22 52 08.0**	**+1.3**
PTK	**Pertek**	**0.84**	**274**	PG	**Pn**	**22 52 03.3**	**-0.3**
PTK				*e*SG	**Sb**	**22 52 15.5**	**+0.6**
EZC	**Erzincan**	**1.04**	**331**	*e*PG	**Pn**	**22 52 07.8**	**+1.3**
EZC				*e*SG	**Sn**	**22 52 23.9**	**+3.9**
KOPT	**Kop Dagi**	**1.18**	**1**	*i* P	**Pn**	**22 52 07.5**	**-0.9**
KOPT				*i* S	**Sn**	**22 52 22.7**	**-0.8**
EZM	**Erzurum**	**1.28**	**33**	*e*PN	**Pn**	**22 52 09.7**	**+0.1**
ERZM	**Erzurum**	**1.28**	**33**	*i* P	**Pn**	**22 52 09.1**	**-0.6**
ERZM				*i* S	**Sn**	**22 52 26.5**	**+0.7**

ISK ***06*** *22:56:25.8, 3690N×3554E, h22km, ML3.8*
ISCJB ***06*** *22:56:26.6±0.3, 3692N±002×3555E±003, h30km±3km, Error ellipse: s-maj=3.5km s-min=2.9km az=176.2*
CSEM ***06*** *22:56:26.2±0.1, 3694N×3558E, h24km, MD3.7, Error ellipse: s-maj=1.8km s-min=1.5km az=60.0*
DDA ***06*** *22:56:26.0, 37.13N×3562E, h8km±1km, Md3.7*
GII ***06*** *22:56:29.8±0.0, 3685N×3582E, h30km±1km, mb4.1/13, ML4.0/13*
NSSC ***06*** *22:56:29.1, 3688N×3575E, h23km±4km*
HLW ***06*** *22:56:35.7, 3637N×3519E, h33km, Mb3.4*
ISC 06 22:56:26.8±0.4, 3693N±002×3557E±002, h18km±3km, n78, σ0§88/104, 3C-12D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.16**	**60**	PG	**Pg**	**22 56 31.6**	**+0.4**
CEYT				*e*SG	**Sg**	**22 56 35.5**	**+1.3**
KARA	**Karaisali**	**0.53**	**309**	PG	**Pg**	**22 56 36.3**	**-1.2**
KOZT	**Kozan**	**0.59**	**20**	PG	**Pg**	**22 56 39.3**	**+0.8**
COBT	**Iskenderun**	**0.68**	**127**	*i* P	**Pb**	**22 56 40.5**	**+0.3**
COBT				*i* S	**Sb**	**22 56 52.0**	**+2.8**
MERS	**Mersin**	**0.84**	**266**	PG	**Pg**	**22 56 42.3**	**-1.0**
MERS				*e*SG	**Sg**	**22 56 53.7**	**-0.8**
HTY	**Hatay**	**0.93**	**150**	PG	**Pg**	**22 56 44.3**	**-0.6**
HTY				*e*SG	**Sg**	**22 56 56.7**	**-0.3**
ARNB	**Al Arnab**	**1.11**	**163**	⇑P	**Pn**	**22 56 47.6**	**+0.2**
ARNB				⇑S	**Sb**	**22 57 01.8**	**+0.1**
BTCH	**Batrach**	**1.14**	**141**	⇑P	**Pn**	**22 56 47.6**	**-0.2**
BTCH				⇓S	**Sb**	**22 57 02.3**	**-0.1**
BTCH	**Batrach**	**1.14**	**141**	⇑*i*P	**Pn**	**22 56 47.6**	**-0.2**
BTCH				⇓*i*S	**Sb**	**22 57 02.3**	**-0.1**
GAZ	**Gaziantep**	**1.33**	**79**	PN	**Pn**	**22 56 50.2**	**-0.3**
NIG	**Nigde**	**1.41**	**327**	*e*PN	**Pn**	**22 56 51.2**	**-0.3**
SLNF	**Slenfeh**	**1.43**	**158**	⇓P	**Pn**	**22 56 52.3**	**+0.5**
SLNF				⇓S	**Sn**	**22 57 10.3**	**+0.1**
SLNF	**Slenfeh**	**1.43**	**158**	⇓*i*P	**Pn**	**22 56 52.3**	**+0.5**
SLNF				⇓*i*S	**Sn**	**22 57 10.3**	**+0.2**
WRDH	**Warideh**	**1.57**	**154**	⇑P	**Pn**	**22 56 54.1**	**+0.4**
WRDH				⇓S	**Sn**	**22 57 13.7**	**0.0**
WRDH	**Warideh**	**1.57**	**154**	⇑*i*P	**Pn**	**22 56 54.2**	**+0.4**
WRDH				⇓*i*S	**Sn**	**22 57 13.7**	**+0.1**
GZT	**Gaziantep**	**1.65**	**74**	*i* P	**Pn**	**22 56 53.6**	**-1.2**
GZT				*i* S	**Sn**	**22 57 14.8**	**-0.7**
IKL	**Isikli**	**1.67**	**246**	*e*PN	**Pn**	**22 56 54.1**	**-1.0**
EREN	**Erenkoy**	**1.80**	**220**	*e*PN	**Pn**	**22 56 56.0**	**-0.9**
BNN	**Bunyan**	**1.93**	**6**	*e*PN	**Pn**	**22 56 58.0**	**-0.8**
BIDA	**Albida**	**2.00**	**162**	⇓P	**Pn**	**22 57 00.1**	**+0.4**
BIDA	**Albida**	**2.00**	**162**	⇓*i*P	**Pn**	**22 57 00.1**	**+0.4**
SLMH	**Al Salmeh**	**2.02**	**110**	⇑P	**Pn**	**22 56 59.3**	**-0.7**
SLMH				⇑S	**Sn**	**22 57 23.5**	**-1.3**
SLMH	**Al Salmeh**	**2.02**	**110**	⇑*i*P	**Pn**	**22 56 59.3**	**-0.7**
SLMH				⇑*i*S	**Sn**	**22 57 23.5**	**-1.3**
ERMK	**Ermenek**	**2.15**	**263**	*i* P	**Pn**	**22 57 03.3**	**+1.5**
ERMK				*i* S	**Sg**	**22 57 36.0**	**-0.1**
ATAB	**Bozova**	**2.24**	**75**	*i* P	**Pb**	**22 57 06.7**	**0.0**
ATAB				*i* S	**Sg**	**22 57 37.4**	**-1.5**
PHNC	**Paralimni** 5.6nm,0.7s	**2.29**	**214**	P	**Pn**	**22 57 03.9**	**+0.2**
LFK	**Lefkose**	**2.33**	**226**	*e*PN	**Pn**	**22 57 03.0**	**-1.3**
MAMC	**Mammari**	**2.59**	**228**	P	**Pn**	**22 57 05.2**	**-2.6**
JHLN	**Al Jahlan**	**2.63**	**118**	⇑*i*P	**Pn**	**22 57 07.8**	**-0.6**
URFA	**Urfa**	**2.64**	**78**	*e*PN	**Pn**	**22 57 08.0**	**-0.5**
MALT	**Malatya**	**2.65**	**58**	Pn	**Pn**	**22 57 08.0**	**-0.6**
MALT				Sn	**Sn**	**22 57 39.0**	**-1.3**
MALT	**Malatya**	**2.65**	**58**	*e*Pn	**Pn**	**22 57 08.8**	**+0.2**
MYA	**Malataya**	**2.66**	**58**	*e*PN	**Pn**	**22 57 08.8**	**+0.1**
HWQ	**Hawqa**	**2.66**	**173**	*e*Pn	**Pn**	**22 57 09.0**	**+0.2**
CSS	**Prodhromos** 1.9nm,0.5s	**2.68**	**223**	P	**Pn**	**22 57 05.3**	**-3.7**
YOZ	**Yozgat**	**2.71**	**356**	*e*PN	**Pn**	**22 57 09.9**	**+0.4**
KONT	**Konya--Tatoy**	**2.75**	**293**	*e*PN	**Pn**	**22 57 09.5**	**-0.5**
FKH	**Fakeheh**	**2.77**	**166**	*e*Pn	**Pn**	**22 57 11.0**	**+0.8**
LEF	**Lefka**	**2.83**	**231**	*e*PN	**Pn**	**22 57 09.2**	**-1.9**
KAMT	**Kaman**	**2.84**	**330**	*e*PN	**Pn**	**22 57 11.9**	**+0.7**
CDAG	**Cicekdag**	**2.85**	**341**	*i* P	**Pn**	**22 57 09.8**	**-1.5**
CDAG				*i* S	**Sb**	**22 57 53.0**	**+1.3**
ALFC	**Alevga** 5.2nm,0.2s	**2.99**	**235**	P	**Pn**	**22 57 10.2**	**-3.1**
BHL	**Bhannes**	**3.02**	**179**	*e*Pn	**Pn**	**22 57 13.4**	**-0.3**
BEYL	**Beyrouth**	**3.05**	**181**	*e*Pn	**Pn**	**22 57 14.0**	**-0.1**
SZAC	**Souni-Zanaja** 3.1nm,0.3s	**3.08**	**226**	P	**Pn**	**22 57 16.0**	**+1.5**
KDHN	**Kadinhani**	**3.17**	**301**	*i* P	**Pg**	**22 57 24.1**	**-3.4**
KDHN				*i* S	**Sg**	**22 58 13.4**	**+4.8**
SVSK	**Karacayir**	**3.19**	**20**	*e*PN	**Pn**	**22 57 16.4**	**+0.5**
AKMC	**Akamas**	**3.24**	**235**	P	**Pn**	**22 57 17.9**	**+1.1**
SVRC	**Sivrice-ELAZID**	**3.30**	**63**	*e*PN	**Pn**	**22 57 17.7**	**+0.3**
PPCY	**Paphos**	**3.32**	**233**	P	**Pn**	**22 57 18.9**	**+1.1**
CORM	**Corum**	**3.33**	**347**	*e*PN	**Pn**	**22 57 19.3**	**+1.4**
RCY	**Rachaya**	**3.44**	**177**	*e*Pn	**Pn**	**22 57 19.8**	**+0.3**
KIZT	**Kizilcal**	**3.51**	**305**	*e*PN	**Pn**	**22 57 20.9**	**+0.5**
PTK	**Pertek**	**3.60**	**56**	*e*PN	**Pn**	**22 57 22.1**	**+0.5**
ANTO	**Ankara**	**3.66**	**324**	*e*PN	**Pn**	**22 57 22.9**	**+0.4**
LOD	**Lodumlu**	**3.69**	**324**	*e*PN	**Pn**	**22 57 23.4**	**+0.5**
KSDI	**Kefar Szold**	**3.73**	**179**	Pn	**Pn**	**22 57 23.8**	**+0.3**
KSDI				Sn	**Sn**	**22 58 06.5**	**-0.4**
DIY	**Diyarbakir**	**3.83**	**74**	*e*PN	**Pn**	**22 57 24.8**	**0.0**
HNTI	**Hanita**	**3.85**	**185**	Pn	**Pn**	**22 57 25.1**	**-0.1**
MMA0B	**Mount Meron ar**	**3.91**	**182**	Pn	**Pn**	**22 57 26.0**	**+0.1**
MMA0B				Sn	**Sn**	**22 58 10.6**	**-0.7**
KSHT	**Keshet**	**3.94**	**177**	Pn	**Pn**	**22 57 26.1**	**-0.2**
CANT	**Cankiri**	**3.98**	**338**	*e*PN	**Pn**	**22 57 27.6**	**+0.7**
OFRI	**'Ofer**	**4.33**	**187**	Pn	**Pn**	**22 57 31.6**	**-0.1**
MMLI	**Mount Malkishu**	**4.48**	**182**	Pn	**Pn**	**22 57 34.3**	**+0.5**
MMLI				Sn	**Sn**	**22 58 24.5**	**-0.9**
HMDT	**Nahal Hemdat**	**4.67**	**180**	Pn	**Pn**	**22 57 36.9**	**+0.5**
SLTI	**Sal'it**	**4.70**	**186**	Pn	**Pn**	**22 57 37.0**	**+0.3**
SLTI				Sn	**Sn**	**22 58 29.9**	**-0.9**
DSI	**Dead Sea**	**5.35**	**182**	Pn	**Pn**	**22 57 46.1**	**+0.4**
YTIR	**Yattir**	**5.56**	**184**	Pn	**Pn**	**22 57 50.1**	**+1.4**
RTMI	**Retamim**	**5.91**	**187**	Pn	**Pn**	**22 57 54.0**	**+0.7**
KZIT	**Kziot**	**6.09**	**190**	Pn	**Pn**	**22 57 57.1**	**+1.2**
KZIT				Sn	**Sn**	**22 59 04.7**	**-0

MBH	Mount Berech	7.14	185	Pn	Pn	22 58 10.9	+0.6
EIL	Elat	7.26	184	Pn	Pn	22 58 12.9	+0.9
EIL				Sn	Sn	22 59 35.8	+1.9
SUZ		7.43	199⇓	eP	Pn	22 58 13.8	-0.5
SUZ				S	Sn	22 59 25.5	-13
HBST	Basata	7.72	185	⇓P	Pn	22 58 18.5	+0.2
HDHB	Dhahab	8.22	186	⇑P	Pn	22 58 25.4	+0.2

*ISCJB **06** 22:57:49.3±5.4, 4048S×008×719W±02, h15km±37km, mb4.1/11, Error ellipse: s-maj=31.6km s-min=12.6km az=169.2*
*IDC **06** 22:57:50.0±0.9, 4048S×72.13W, h0km, mb4.1/9, mb1 4.1/10, mb1mx4.0/17, mbtmp4.0/10, ML3.5/1, Error ellipse: s-maj=20.1km s-min=12.9km az=32.0*
*NEIC **06** 22:57:55.3±0.8, 4049S×7190W, h35km, mb4.3/2, Error ellipse: s-maj=19.6km s-min=11.1km az=78.0*
ISC 06 22:57:54.6±3.5,**4049S**±008×**718W**±02,**h26**km±23km,**n23**, σ1§**15**/20,**mb4.1**/11,**Southern Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	1.00	104	Pg	Pb	22 58 14.0	+0.7
PLCA				Lg		22 58 31.2	
PLCA	Paso Flores	1.00	104	Pg	Pb	22 58 14.0	+0.7
88nm,0.3s,baz=279,slow=14,SNR=339							
PLCA				Lg		22 58 31.2	
305nm,0.3s,baz=262,slow=16,SNR=25							
CFAA	Coronel Fontan	9.33	19	Pn	Pn	23 00 07.1	-0.3
0.5nm,0.3s,baz=201,slow=11,SNR=29							
EFI	East Falkland	14.68	144	Pn	Pn	23 01 19.2	-1.2
34nm,1.1s							
CPUP	Villa Florida	18.56	45	P	Pn	23 02 09.8	-0.1
CPUP	Villa Florida	18.56	45	P	Pn	23 02 13.7	+3.8
0.2nm,0.3s,baz=218,slow=10,SNR=5.1							
LPAZ	La Paz	24.33	9	eP	P	23 03 11.3	+1.1
3.5nm,0.9s,mb3.8							
LPAZ	La Paz	24.33	9	P	P	23 03 10.3	+0.1
4.1nm,1.0s,mb3.8,baz=142,slow=12,SNR=12							
SIV	San Ignacio	26.14	24	P	P	23 03 25.1	-1.6
3.0nm,0.9s,mb3.8,baz=210,slow=8.4,SNR=13							
BDFB	Brasilia	32.27	47	P	P	23 04 20.2	-1.0
0.8nm,0.5s,mb3.9,baz=218,slow=18,SNR=3.8							
SNAA	Sanae	45.56	156	P	P	23 06 11.5	-0.3
2.7nm,1.2s,mb4.0,baz=250,slow=5.5,SNR=3.7							
SDV	Santo Domingo	49.14	2	P	P	23 06 38.9	-1.3
QSPA	South Pole Qui	49.76	180	P	P	23 06 43.3	-0.8
QSPA	South Pole Qui	49.76	180	P	P	23 06 43.3	-0.8
1.8nm,0.8s,mb4.2,baz=157,slow=4.0,SNR=5.3							
JTS	JuntasAbangare	51.97	344	eP	P	23 07 03.8	+2.3
13nm,1.1s,mb4.8							
TXAR	Lajitas Array	75.50	332	P	P	23 09 35.7	-0.7
0.4nm,0.7s,mb3.4,baz=157,slow=6.8,SNR=4.3							
BOSA	Boshof	76.97	116	P	P	23 09 46.1	+1.0
3.1nm,1.0s,mb4.2,baz=242,slow=7.2,SNR=3.8							
DBIC	Dimbokro	77.19	70	P	P	23 09 46.4	0.0
3.6nm,0.8s,mb4.4,baz=258,slow=1.8,SNR=4.5							
LBTB	Lobatse	79.48	114	eP	P	23 10 01.6	+2.6
7.0nm,0.9s,mb4.6							
ANMO	Albuquerque	81.57	332	P	P	23 10 10.7	+0.9
1.9nm,0.9s,mb4.0,baz=227,slow=3.9,SNR=5.8							
ZALV	Zalesovo Beam	159.32	42	PKP	PKPdf	23 17 47.8	-2.0
0.3nm,0.3s,baz=356,slow=5.8,SNR=3.4							
MKAR	Makanchi Array	160.29	63	PKPab	PKPab	23 18 32.9	+1.0
0.3nm,0.7s,baz=272,slow=5.6,SNR=2.7							
SONM	Songino Array	172.55	9	PKPab	PKPab	23 19 26.9	+1.1
0.4nm,1.0s,baz=358,slow=4.3,SNR=2.9							

*IDC **06** 23:38:29.8±1.8, 4826N×15502E, h0km, mb3.6/9, mb1 3.9/9, mb1mx3.7/20, mbtmp3.7/9, Error ellipse: s-maj=52.8km s-min=23.0km az=167.0*
*ISCJB **06** 23:38:31.9±1.2, 480N±02×1549E±02, h33km, mb3.7/9, Error ellipse: s-maj=33.7km s-min=15.1km az=146.7*
*MOS **06** 23:38:31.8±1.1, 4799N×15486E, h34km, mb4.1/4, Error ellipse: s-maj=30.5km s-min=23.0km az=86.4*
ISC 06 23:38:34.6±1.2,**482N**±02×**1550E**±02,**h35**km,**n18**, σ1§**00**/19,**mb3.7**/9,**1C,Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	2.62	16	ePN	Pn	23 39 09.9	-4.5
SKR				pmax	pmax		
comp=N,80nm,0.5s							
SKR				pmax	pmax		
comp=Z,80nm,0.5s							
SKR				pmax	pmax		
comp=E,90nm,0.3s							
ERM	Erimo	10.37	238	ePN	Pn	23 40 58.8	-2.0
BILL	Bilibino	20.73	12⇑	eP	P	23 43 09.4	-2.3
BILL				eS	S	23 47 14.2	+13
KSRS	Korea Array	22.44	252	P	P	23 43 31.7	+1.5
comp=E,1.1nm,0.4s,mb3.6,baz=38,slow=11,SNR=4.6							
SONM	Songino Array	32.08	288	P	P	23 44 57.9	0.0
comp=E,0.2nm,0.7s,mb3.1,baz=64,slow=9.8,SNR=2.7							
MKAR	Makanchi Array	47.42	297	P	P	23 47 05.1	-0.2
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MKAR	Makanchi Array	47.42	297	P	P	23 47 05.1	-0.2
comp=Z,0.9nm,0.6s,mb3.9,baz=65,slow=8.1,SNR=8.8							
YKA	Yellowknife Ar	49.03	38	P	P	23 47 17.7	+0.2
YKA	Yellowknife Ar	49.03	38	P	P	23 47 17.7	+0.3
comp=Z,0.2nm,0.5s,mb3.4,baz=292,slow=7.0,SNR=3.7							
FINES	FINESS Array B	63.29	335	P	P	23 48 59.5	+0.3
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
FINES	FINESS Array B	63.29	335	P	P	23 48 59.5	+0.3
comp=Z,0.7nm,0.6s,mb3.9,baz=42,slow=7.9,SNR=7.0							
NOA	NORSAR Array B	67.29	342	P	P	23 49 25.2	+0.1
NOA				pmax	pmax		
comp=Z,1.0nm,1.0s							
NOA	NORSAR Array B	67.29	342	P	P	23 49 25.2	+0.1
comp=Z,1.4nm,1.0s,mb4.0,baz=31,slow=7.8,SNR=2.5							
AKASG	Malin Array Be	71.06	327	P	P	23 49 48.5	-0.2
comp=Z,0.4nm,0.4s,mb3.7,baz=31,slow=5.9,SNR=3.1							
CLL	Collm	75.69	336	*i* P	P	23 50 16.9	+1.0
TXAR	Lajitas Array	75.70	62	P	P	23 50 16.4	0.0
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TXAR	Lajitas Array	75.70	62	P	P	23 50 16.4	+0.1
comp=Z,0.6nm,0.6s,mb3.7,baz=297,slow=3.8,SNR=10							
GERES	GERESS Array B	77.72	335	P	P	23 50 28.3	+0.8
comp=Z,0.4nm,0.5s,mb3.6,baz=42,slow=6.1,SNR=5.0							

IDC 06 23:41:01.6±6.7,**1792S**×**6956W,h152**km±42km,**mb3.6**/3, **mb1 3.6**/4,**mb1mx3.3**/17,**mbtmp3.5**/4,**Error ellipse: s-maj=80.2km s-min=32.7km az=26.0,Peru-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.12	40	P	Pn	23 41 39.0	+0.7
8.1nm,0.3s,baz=228,slow=5.0,SNR=92							
LPAZ				S	Sn	23 42 08.0	+1.5
2.2nm,0.3s,baz=99,slow=22,SNR=4.3							
BDFB	Brasilia	20.75	87	P	P	23 45 30.7	+0.1
1.8nm,0.4s,baz=245,slow=17,SNR=14							
DBIC	Dimbokro	68.35	75	P	P	23 51 47.2	+0.1
1.9nm,0.5s,baz=234,slow=5.7,SNR=7.8							
YKA	Yellowknife Ar	87.63	341	P	P	23 53 32.2	0.0
0.2nm,0.3s,baz=138,slow=5.0,SNR=10							
YKA				pP	pP	23 54 04.1	-6.4
0.5nm,0.8s,baz=134,slow=4.5,SNR=7.1							

*ISCJB **06** 23:53:54.0±2.4, 271N±02×873E±02, h15km±12km, mb3.6/3, Error ellipse: s-maj=44.7km s-min=14.6km az=33.1*
*IDC **06** 23:53:56.9±2.9, 2751N×8857E, h0km, mb3.5/3, mb1 3.6/4, mb1mx3.3/21, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=102.4km s-min=27.7km az=75.0*
ISC 06 23:53:55.2±2.5,**272N**±02×**873E**±02,**h12**km±13km,**n7**, σ0§**87**/8,**mb3.6**/3,**Nepal**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	Shiliguri	1.08	116	ePG	Pg	23 54 16.0	0.0
SLGI				eSG	Sg	23 54 25.0	-5.1
GTK	Gangtok	1.16	82	ex	x	23 54 49.0	
SHL	Shillong	4.39	110	ePN	Pn	23 55 06.0	+4.3
SHL				eSN	Sn	23 55 53.0	+0.1
MKAR	Makanchi Array	19.98	350	P	Pn	23 58 29.5	+0.4
0.1nm,0.3s,baz=173,slow=10,SNR=3.3							
SONM	Songino Array	25.45	31	P	P	23 59 19.0	-3.8
0.5nm,0.6s,mb3.3,baz=212,slow=9.6,SNR=5.7							
WRA	Warramunga Arr	65.33	131	P	P	00 04 37.1	-0.4
0.6nm,0.4s,mb4.0,baz=324,slow=6.7,SNR=5.3							
ASAR	Alice Springs	67.66	134	P	P	00 04 52.6	+0.3
0.2nm,0.4s,mb3.5,baz=329,slow=7.8,SNR=4.2							

*SZGRF **06** 23:53:22.2, 2149S×17847E, h33km, South of Fiji Islands*
IDC 06 23:54:37.3±3.6,**1974S**×**17917W,h699**km±46km,**mb2.9**/6, **mb1 3.2**/7,**mb1mx3.0**/14,**mbtmp2.9**/7,**Error ellipse: s-maj=42.9km s-min=21.4km az=164.0,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	18.74	189	P	P	23 58 15.8	-0.5
0.8nm,0.3s,baz=318,slow=0.1,SNR=4.3							
STKA	Stephens Creek	37.15	243	P	P	00 00 54.1	+0.5
1.1nm,0.4s,baz=63,slow=11,SNR=4.9							
WRA	Warramunga Arr	43.62	262	P	P	00 01 43.9	-0.7
0.3nm,0.3s,baz=98,slow=7.5,SNR=7.4							
WRA				PcP	PcP	00 03 15.4	+0.2
0.2nm,0.4s,baz=89,slow=3.3,SNR=4.9							
ASAR	Alice Springs	43.63	256	P	P	00 01 44.5	-0.1
0.6nm,0.4s,baz=90,slow=8.1,SNR=9.4							
ASAR				PcP	PcP	00 03 15.8	+0.7
1.0nm,0.7s,baz=100,slow=4.1,SNR=7.0							
ASAR				S	S	00 07 26.9	-0.6
0.9nm,0.8s,baz=93,slow=14,SNR=7.2							
NVAR	Mina Array Bea	81.23	44	P	P	00 05 44.5	+0.9
0.9nm,0.6s,baz=219,slow=5.7,SNR=4.7							
TXAR	Lajitas Array	87.57	58	P	P	00 06 15.4	+0.9
1.2nm,0.8s,baz=218,slow=6.4,SNR=14							
YKA	Yellowknife Ar	96.28	25	P	P	00 06 52.4	-1.2
0.1nm,0.5s,baz=239,slow=4.6,SNR=4.1							
MKAR	Makanchi Array	109.88	314	PKiKP	PKiKP	00 11 51.1	-0.7
0.2nm,0.3s,baz=50,slow=1.4,SNR=3.2							
BVAR	Borovoye Array	117.80	320	PKP	PKPdf	00 12 06.0	-0.8
0.8nm,0.4s,baz=105,slow=2.5,SNR=8.6							
ARCES	ARCESS Array B	127.97	349	PKP	PKPdf	00 12 25.0	-0.8
1.1nm,0.4s,baz=25,slow=1.1,SNR=18							
FINES	FINESS Array B	134.73	343	PKP	PKPdf	00 12 39.2	+0.4
1.2nm,0.7s,baz=66,slow=3.5,SNR=5.1							
NOA	NORSAR Array B	138.09	352	PKP	PKPdf	00 12 46.3	+1.3
1.0nm,0.9s,baz=8.9,slow=4.3,SNR=2.6							
HFS	Hagfors	138.61	350	PKhKP		00 12 39.2	
0.5nm,0.4s,baz=72,slow=4.7,SNR=5.5							
AKASG	Malin Array Be	141.82	331	PKhKP		00 12 47.3	
1.1nm,0.4s,baz=44,slow=4.2,SNR=16							
EKA	Eskdalemuir Ar	144.34	4	PKP	PKPdf	00 12 55.5	-0.7
1.2nm,0.6s,baz=323,slow=3.1,SNR=6.8							
ASF	Jabal al Asfar	145.45	298	PKPbc	PKPbc	00 13 01.1	+0.4
1.2nm,0.7s,baz=59,slow=1.7,SNR=3.9							
MMAI	Mount Meron Ar	146.49	300	PKPbc	PKPbc	00 13 03.5	0.0
2.3nm,0.5s,baz=67,slow=6.4,SNR=11							
CLL	Collm	147.07	346	*e*PKPbc	PKPbc	00 13 04.1	-0.3
BRG	Berggiesshubel	147.25	345	*e*PKPbc	PKPbc	00 13 04.7	-0.2
FBE	Freiberg	147.35	345	*e*PKPbc	PKPbc	00 13 05.3	+0.2
WERD	Werda	148.03	346	*e*PKPbc	PKPbc	00 13 06.8	-0.1
MANZ	Manzenberg	148.51	346	*e*PKPbc	PKPbc	00 13 08.2	+0.2
ROTZ	Rotzenmuhle	148.69	346	*e*PKPbc	PKPbc	00 13 08.3	-0.2
GRF	Grafenberg Arr	148.98	347	*e*PKPbc	PKPbc	00 13 09.3	+0.1
GEC2	GERESS Array S	149.17	343	*e*PKPbc	PKPbc	00 13 09.5	-0.2
GERES	GERESS Array B	149.17	343	PKPbc	PKPbc	00 13 08.3	-1.3
1.1nm,0.6s,baz=29,slow=3.0,SNR=11							
DAVOX	Davos/Dischmat	152.03	347	PKPbc	PKPbc	00 13 15.6	-0.7
3.7nm,0.6s,baz=313,slow=4.8,SNR=13							
KEST	Kesra	162.39	337	PKPab	PKPab	00 14 15.7	+0.9
2.2nm,1.0s,baz=184,slow=4.1,SNR=7.2							

*ISCJB **06** 23:54:41.5±0.6, 4028N±004×25.13E±006, h4km, Error ellipse: s-maj=6.5km s-min=5.1km az=22.1*
*CSEM **06** 23:54:42.7±0.1, 4026N×2514E, h2km, ML2.1, Error ellipse: s-maj=3.6km s-min=2.7km az=118.0*
*ATH **06** 23:54:42.4, 4026N×2512E, h4km, MD3.1/4*
*NEIC **06** 23:54:42.4, 4026N×2512E, h4km, MD3.1(ATH), After ATH.*
*THE **06** 23:54:42.5, 4024N×2521E, h8km, ML2.1*
ISC 06 23:54:42.2±0.6,**4027N**±004×**2513E**±006,**h5**km±13km,**n12**, σ0§**58**/15,**2C-1D,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	Limnos	0.34	187	*e*Pg	Pg	23 54 47.9	-0.8
LIA	Limnos Island	0.37	174	*e*Pg	Pg	23 54 49.6	+0.3
LIA				eSg	Sg	23 54 54.3	+0.1
LIA	Limnos Island	0.37	174	⇓*i*PG	Pg	23 54 49.6	+0.2
LIA				eSG	Sg	23 54 54.4	+0.2
OUR	Ouranopolis	0.88	275	*e*Pg	Pg	23 55 00.3	+1.2
RDO	Rodhopi	0.93	19	⇑*i*PG	Pg	23 55 00.3	+0.3
ALN	Alexandroupoli	0.94	48	*e*Pg	Pg	23 54 59.7	-0.4
ALN				eSg	Sg	23 55 12.7	+0.4
PAIG	Paliouri	1.17	253	*e*Pg	Pg	23 55 04.9	+0.4
PLG	Polygyros	1.29	275	*e*Pg	Pg	23 55 06.3	-0.6
PLG	Polygyros	1.29	275	⇑*i*PG	Pg	23 55 06.5	-0.5
SRS	Serrai	1.45	306	*e*Pg	Pn	23 55 08.6	-0.4
NVR	Nevrokopi	1.45	319	*e*PG	Pg	23 55 09.1	-0.8
KNT	Kendrikon	1.92	298	*e*Pn	Pn	23 55 15.9	+0.4

*ISCJB **07** 00:04:04.1±1.0, 341N±01×816E±02, h10km, mb3.9/7, Error ellipse: s-maj=21.5km s-min=14.0km az=146.3*
*IDC **07** 00:04:04.7±3.6, 3398N×8151E, h0km, mb3.5/6, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, ML3.3/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/38, Error ellipse: s-maj=65.9km s-min=38.5km az=4.0*
*NEIC **07** 00:04:05.5±1.1, 3398N×8145E, h10km, mb4.1/5, Error ellipse: s-maj=22.5km s-min=15.3km az=53.0*
ISC 07 00:04:05.5±1.0,**340N**±01×**814E**±01,**h10**km,**n16**, σ1§**23**/16, **mb3.9**/7,**1C,Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	9.89	329	*e*P	Pn	00 06 28.7	+1.1
2.9nm,0.9s							
MK31	Makanchi Array	12.83	3	*e*Pn	Pn	00 07 06.9	-1.0
MKAR	Makanchi Array	12.83	3	Pn	Pn	00 07 06.5	-1.3
0.2nm,0.3s,baz=180,slow=13,SNR=12							
MKAR				LR	LR	00 12 17.4	
comp=Z,163nm,19.8s,baz=69,slow=38							
KURK	Kurchatov	16.87	354	*e*Pn	Pn	00 07 59.1	-2.4
5.2nm,0.9s							
ZALV	Zalesovo Beam	20.12	6	P	P	00 08 39.7	+0.4
0.2nm,0.3s,baz=183,slow=8.1,SNR=2.8							
BVAR	Borovoye Array	20.62	341	P	P	00 08 46.8	+1.9
2.5nm,0.8s,baz=145,slow=11,SNR=14							
BRVK	Borovoye	20.68	341	P	P	00 08 46.7	+1.2
9.5nm,1.1s							
CM31	Chiang Mai Arr	21.97	130	P	P	00 08 59.3	-0.3
5.9nm,1.0s,mb4.0							
SONM	Songino Array	23.27	46	P	P	00 09 14.5	+1.2
0.6nm,1.0s,mb3.0,baz=232,slow=11,SNR=4.2							
AKTK	Aktyubinsk	23.76	321	P	P	00 09 17.8	-0.3
AKTO	Aktyubinsk	23.76	321	P	P	00 09 17.8	-0.2
0.8nm,0.5s,mb3.4,baz=114,slow=8.0,SNR=4.0							
FINES	FINESS Array B	44.38	326	P	P	00 12 17.8	+2.0
1.7nm,1.0s,mb3.7,baz=124,slow=12,SNR=3.0							
BRG	Berggiesshubel	50.82	311	*i* P	P	00 13 04.6	-1.4
4.3nm,0.8s,mb4.4							
KHC	Kasperske Hory	51.32	309	*e*P	P	00 13 08.5	-1.2
CLL	Collm	51.34	312	⇑*i*P	P	00 13 04.2	-5.7
7.0nm,0.9s,mb4.6							
YKA	Yellowknife Ar	83.01	7	P	P	00 16 30.7	+0.1
0.8nm,0.7s,mb3.9,baz=338,slow=5.3,SNR=13							

*IDC **07** 00:04:28.5±0.7, 3411N×8167E, h0km, mb3.9/14, mb1 4.1/16, mb1mx4.0/25, mbtmp3.9/16, ML3.5/2, Error ellipse: s-maj=23.3km s-min=16.3km az=46.0*
*LDG **07** 00:04:29.1±0.1, 3435N×8162E, h10km, Mb4.5/10, Error ellipse: s-maj=9.5km s-min=3.7km az=71.0*
*NEIC **07** 00:04:30.4±0.3, 3413N×8168E, h10km, mb4.5/12, Error ellipse: s-maj=9.5km s-min=6.1km az=47.0*
*BJI **07** 00:04:32.4, 3418N×8172E, h16km, mb4.2, ML3.4*
*ISCJB **07** 00:04:33.5±0.7, 3432N±004×8175E±005, h45km±7km, mb4.2/24, Error ellipse: s-maj=8.0km s-min=5.3km az=146.9*
ISC 07 00:04:36.2±0.5,**3433N**±004×**8179E**±005,**h52**km±6km,**n72**, σ0§**83**/72,**mb4.2**/24,**Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	Dangsing	6.19	164	*e*P	Pn	00 06 04.2	-0.8
76nm,0.5s							
KOLN	Koldanda	6.72	166	*e*P	Pn	00 06 10.7	-1.5
60nm,0.5s							
GKN	Gorkha	6.76	158	*e*P	Pn	00 06 13.2	+0.4
47nm,0.4s							
NDI	New Delhi	6.85	216	*e*P	Pn	00 06 15.0	+1.0
NDI				*e*S	Sn	00 07 30.0	-0.6
KKN	Kakani	7.17	154	*e*P	Pn	00 06 19.5	+1.1
41nm,0.5s							
DMN	Daman	7.28	156	*e*P	Pn	00 06 20.3	+0.4
23nm,0.4s							
GUN	Gumba	7.29	150	*e*P	Pn	00 06 21.0	+0.9
34nm,0.4s							
PKIN	Phulchoki	7.41	154	*e*P	Pn	00 06 21.9	+0.3
42nm,0.4s							
PKI	Pulchoki	7.42	154	*e*P	Pn	00 06 22.1	+0.3
39nm,0.4s							
JIRN	Jiri	7.64	149	*e*P	Pn	00 06 26.2	+1.3
34nm,0.3s							
LSA	Lhasa	9.19	118	Pn	Pn	00 06 45.4	-0.6
UCH	Uchtor	9.74	326	*e*P	Pn	00 06 53.0	-0.5
TKM2	Tokmak 2	9.85	332	*e*Pn	Pn	00 06 56.4	+1.3
11nm,1.1s							
AML	Almayashu	10.06	323	*e*Pn	Pn	00 06 57.6	-0.3
3.3nm,0.8s							
AAK	Ala-Archa	10.07	328	*e*Pn	Pn	00 06 58.9	+0.9
4.4nm,0.9s							
AAK	Ala-Archa	10.07	328	Pn	Pn	00 07 01.0	+3.0
0.3nm,0.3s,baz=170,slow=11,SNR=3.7							
KBL	Kabul	10.53	275	*e*Pn	Pn	00 07 01.7	-2.7
7.2nm,0.7s							
KBL				*e*Sn	Sn	00 09 00.9	+0.1
MK31	Makanchi Array	12.46	2	*e*Pn	Pn	00 07 30.3	-0.3
MKAR	Makanchi Array	12.46	2	Pn	Pn	00 07 29.3	-1.4
MKAR	Makanchi Array	12.46	2	Pn	Pn	00 07 29.3	-1.4
0.3nm,0.3s,baz=178,slow=13,SNR=14							
GTA	Gaotai	15.29	65	*e*P	Pn	00 08 15.6	+7.0
GTA				AMB	AMB		
comp=Z,6.0nm,1.1s							
KURK	Kurchatov	16.54	353	*e*Pn	Pn	00 08 23.3	-1.1
comp=Z,24nm,1.2s							
ZALV	Zalesovo Beam	19.73	5	P	Pn	00 09 01.8	-1.4
comp=Z,0.1nm,0.3s,baz=198,slow=9.3,SNR=6.7							
KMI	Kunming	20.34	111	P	P	00 09 08.1	-0.1
KMI				AMB	AMB		
comp=Z,18nm,0.9s							
BVAR	Borovoye Array	20.38	340	P	P	00 09 09.4	+1.0
comp=Z,8.3nm,0.8s,baz=145,slow=10,SNR=19							
BRVK	Borovoye	20.44	340	*e*P	P	00 09 09.5	+0.5
comp=Z,43nm,1.3s							
CHTO	Chiang Mai	21.72	131	*e*P	P	00 09 22.1	-1.0
comp=Z,4.3nm,0.6s,mb4.1							
CM31	Chiang Mai Arr	21.99	132	*e*P	P	00 09 24.2	-1.7
comp=Z,16nm,1.0s,mb4.4							
SONM	Songino Array	22.82	46	P	P	00 09 36.8	+2.4
comp=Z,2.4nm,1.1s,mb3.5,baz=250,slow=8.8,SNR=9.9							
SONM				PcP	PcP	00 13 24.4	+0.3
comp=Z,0.6nm,0.8s,baz=208,slow=2.2,SNR=4.0							
AKTK	Aktyubinsk	23.67	320	P	P	00 09 42.4	-0.4
AKTO	Aktyubinsk	23.67	320	P	P	00 09 42.4	-0.4
comp=Z,2.8nm,0.7s,mb3.8,baz=104,slow=11,SNR=9.5							
AKASG	Malin Array Be	41.14	310	P	P	00 12 14.9	-0.1
comp=Z,0.7nm,0.6s,mb3.5,baz=79,slow=7.6,SNR=5.4							
JOF	Joensuu	42.26	328	*e*p	P	00 12 23.7	-0.3
comp=Z,1.6nm,0.4s,mb4.0							
MLR	Muntele Rosu	43.47	302	P	P	00 12 35.0	+0.9
comp=Z,4.0nm,0.8s,mb4.2,baz=95,slow=6.8,SNR=6.2							
GERES	GERESS Array B	51.29	308	P	P	00 13 36.0	+1.2
comp=Z,0.6nm,0.7s,mb3.6,baz=77,slow=7.0,SNR=4.6							
NOA	NORSAR Array B	51.37	324	P	P	00 13 34.0	-1.2
comp=Z,1.2nm,0.9s,mb3.8,baz=97,slow=15,SNR=3.3							
DAVOX	Davos/Dischmat	54.24	306	P	P	00 13 57.0	+0.3
comp=Z,1.7nm,0.8s,mb4.1,baz=86,slow=6.4,SNR=3.7							
CDF	Champ du Feu	55.54	309	*e*P	P	00 14 05.8	-0.2
HINF	Hinteralfeld	55.97	308	*e*P	P	00 14 09.4	+0.3
comp=Z,3.1nm,0.5s,mb4.3							
HINF	Hinteralfeld	55.97	308	*e*P	P	00 14 09.4	+0.3
comp=Z,1.5nm,0.5s,mb4.3							
PGF	Pioggiola	56.01	302	*e*P	P	00 14 09.5	+0.1
comp=Z,15nm,0.9s,mb4.7							
PGF	Pioggiola	56.01	302	*e*P	P	00 14 09.5	+0.1
comp=Z,7.6nm,0.9s,mb4.7							
LPG	La Plagne	56.68	306	*e*P	P	00 14 15.3	+1.1
comp=Z,14nm,0.8s,mb4.8							
LPG	La Plagne	56.68	306	*e*P	P	00 14 15.3	+1.1
comp=Z,7.3nm,0.8s,mb4.8							
LPL	La Plagne	56.69	306	*e*P	P	00 14 15.2	+1.0
comp=Z,14nm,0.7s,mb4.8							
LPL	La Plagne	56.69	306	*e*P	P	00 14 15.2	+1.0
comp=Z,6.8nm,0.7s,mb4.8							
SBF	Sospel	56.70	304	*e*P	P	00 14 15.0	+0.7
MBDF	Montbardon	56.90	305	*e*P	P	00 14 15.6	-0.1
comp=Z,13nm,1.0s,mb4.6							
MBDF	Montbardon	56.90	305	*e*

LCO				*e*Sn	Sn	00 07 07.4	+1.3
VACH	**Vallenar**	**2.30**	**20**⇑	*e*P	Pn	00 06 49.1	+1.2
VACH				*i* S	Sn	00 07 17.7	+2.3
PEL	**Peldehue**	**2.54**	**161**⇓	*e*P	Pn	00 06 53.0	+1.8
PEL				*i* S	Sn	00 07 23.7	+2.4
PEL				AML	AML	00 07 34.0	
	comp=N,237nm,0.3s						
CLCH	**Cerro Calan**	**2.82**	**160**	*e*P	Pn	00 06 56.7	+1.6
FCH	**Farellones**	**2.83**	**156**	*e*P	Pn	00 06 58.2	+2.9
TACH	**Talagante**	**2.97**	**168**	*e*P	Pn	00 06 58.7	+1.5

NNC ***07*** *00:15:59.5±8.9, 3746N×6860E, h0km, mb3.6, mpv3.2, Error ellipse: s-maj=88.5km s-min=54.9km az=14.0*
IDC ***07*** *00:16:17.3±6.1, 3673N×7424E, h63km±59km, mb3.6/2, mb1 3.7/4, mb1mx3.2/21, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=94.7km s-min=38.6km az=111.0*
ISCJB ***07*** *00:16:22.2±1.4, 390N±0.1×694E±0.1, h33km, Error ellipse: s-maj=16.5km s-min=14.2km az=36.9*
ISC 07 00:16:24.8±1.4, 389N±01×694E±01, h35km, n6, σ1°09/7, 4C-3D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**4.27**	**11**	⇓Pn	**Pn**	**00 17 30.0**	**+2.8**
	0.3nm,0.2s,baz=356,slow=1.9,SNR=18						
KK31				⇓Pg	Pn	00 17 47.6	+20
	0.4nm,0.3s						
KK31				⇓Lg		00 19 05.0	
	8.2nm,0.7s,baz=192,slow=25						
AAK	**Ala-Archa**	**5.35**	**44**	P	**Pn**	**00 17 42.2**	**+0.1**
	2.9nm,0.3s,baz=192,slow=3.5,SNR=20						
TKM2	**Tokmak 2**	**6.16**	**47**	⇑Pn	**Pn**	**00 17 52.1**	**-1.0**
	1.9nm,0.4s						
TKM2				⇑Lg		00 20 01.8	
	4.5nm,0.9s						
AB31	**Akbulak array**	**12.38**	**330**	⇑Pn	**Pn**	**00 19 11.1**	**-7.2**
	1.1nm,0.8s,baz=151,slow=16,SNR=16						
AB31				⇑Sn	**Sn**	**00 21 34.4**	**-0.4**
	0.2nm,0.3s						
ZALV	**Zalesovo Beam**	**18.34**	**30**	P	**Pn**	**00 20 30.6**	**-5.6**
	0.3nm,0.3s,baz=208,slow=13,SNR=5.0						
KMBO	**Kilima Mbogo**	**49.60**	**224**	P	**P**	**00 25 12.7**	**0.0**
	1.0nm,0.5s,baz=47,slow=12,SNR=4.4						

IDC 07 00:17:12.0±26.0, 1728S×17416W, h0km, mb4.3/4, mb1 4.5/4, mbtmx3.9/16, mbtmp4.3/4, Error ellipse: s-maj=480.0km s-min=143.2km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.54**	**259**	*e*P	P	00 24 29.4	+1.2
	9.4nm,1.9s						
CTA	**Charters Tower**	**37.54**	**259**	P	P	00 24 28.6	+0.4
	3.9nm,0.6s,baz=93,slow=9.3,SNR=6.1						
STKA	**Stephens Creek**	**42.48**	**242**	*e*P	P	00 25 09.5	+0.4
	4.0nm,1.3s						
STKA	**Stephens Creek**	**42.48**	**242**	P	P	00 25 09.9	+0.8
	1.4nm,0.3s,baz=81,slow=7.8,SNR=12						
WB2	**Warramunga Arr**	**48.72**	**258**	*e*P	P	00 25 58.1	-0.6
WRA	**Warramunga Arr**	**48.73**	**258**	P	P	00 25 58.2	-0.5
	1.5nm,0.4s,baz=98,slow=7.4,SNR=34						
ASAR	**Alice Springs**	**48.85**	**253**	P	P	00 25 59.0	-0.7
	2.0nm,0.4s,baz=90,slow=7.9,SNR=42						

BJI ***07*** *00:24:43.4, 1936S×17843W, h682km, mB5.1, mb5.1*
ISCJB ***07*** *00:24:45.3±0.6, 1922S±004×179.41W±003, h659km±7km, mb5.2/88, Error ellipse: s-maj=6.5km s-min=4.2km az=164.9*
MOS ***07*** *00:24:45.1±2.0, 1916S×17937W, h658km, mb5.4/16, Error ellipse: s-maj=57.4km s-min=16.1km az=106.3*
NEIC ***07*** *00:24:47.9±0.4, 1925S×17936W, h682km±4km, mb5.4/51, Error ellipse: s-maj=5.5km s-min=3.5km az=150.0*
IDC ***07*** *00:24:47.4±0.7, 1928S×17932W, h673km±8km, mb4.5/28, mb1 4.6/30, mb1mx4.6/30, mbtmp4.6/30, Error ellipse: s-maj=8.2km s-min=7.1km az=162.0*
GCMT ***07*** *00:24:47.9±0.6, 1937S×17899W, h697km±4km, MW5.6/58, Moment Tensor Solution. s58,c85; Duration: 1ϑ6 Moment tensor: Scale 10^17^Nm; Mr2.67±.15; Mϑϑ-0.49±.20; Mϕϕ-2.18±.22; Mrϑ1.61±.24; Mϑϕ-1.72±.22; Mϕr-0.86±.22; Best double couple: M03.49100×10^17^ NP1:ϕ8186.00000°, δ51.00000°, λ50.00000°. NP2: ϕ459.00000°, δ54.00000°, λ128.00000°. Principal axes: T 3.7250, Plg60.0000°, Azm30.0000°; N -0.4750, Plg30.0000°, Azm213.0000°; P -3.2560, Plg1.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s.*
BGS ***07*** *00:24:49.4±6.8, 1925S×17936W, h682km, mb5.4(NEIC)*
SZGRF ***07*** *00:24:49.0, 1946S×17901W, h695km, Fiji Islands region*
ISC 07 00:24:46.2±0.6, 1923S±004×17936W±003, h652km±7km, h674km±3.9km: pP-P, n1131, σ0°61/612, mb5.2/87, 256C-138D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.99**	**55**	*e*P	**P**	**00 26 55.1**	**-1.5**
AFI				pmax	pmax		
	comp=Z,779nm,1.2s						
AFI	**Afiamalu**	**8.99**	**55**	*e*P	**P**	**00 26 55.1**	**-1.5**
	comp=Z,779nm,1.2s						
RAO	**Raoul Island**	**10.07**	**173**	P	**P**	**00 27 06.6**	**0.0**
	comp=Z,82nm,0.3s,baz=266,slow=21,SNR=4.0						
RAO				S	**S**	**00 28 59.0**	**-2.6**
	comp=Z,109nm,0.3s,baz=81,slow=21,SNR=4.8						
FUNA	**Funafuti**	**10.73**	**352**	*e*P	**P**	**00 27 12.9**	**-0.3**
	comp=Z,730nm,1.2s						
RAR	**Rarotonga**	**18.49**	**99**	P	**P**	**00 28 24.2**	**0.0**
	comp=Z,7.0nm,0.3s,baz=249,slow=8.4,SNR=20						
URZ	**Urewera**	**19.21**	**188**	P	**P**	**00 28 30.3**	**-0.1**
	comp=Z,1.8nm,0.3s,baz=215,slow=2.9,SNR=5.8						
HNR	**Honiara**	**22.26**	**293**	P	**P**	**00 28 59.2**	**+1.1**
	comp=Z,82nm,0.3s,mb5.6,baz=214,slow=3.1,SNR=5.3						
RPZ	**Rata Peaks**	**25.71**	**196**	P	**P**	**00 29 27.6**	**-0.4**
	comp=Z,8.3nm,0.4s,mb4.6,baz=282,slow=17,SNR=6.7						
EIDS	**Eidsvold**	**27.99**	**252**	*e*P	**P**	**00 29 48.9**	**+0.8**
	comp=Z,86nm,1.4s,mb5.1						
TBI	**Tubuai**	**28.13**	**104**	⇓*i*P	**P**	**00 29 49.8**	**+0.4**
	comp=Z,230nm,0.8s,mb5.8						
PAE	**Paea**	**28.28**	**92**	⇓*i*P	**P**	**00 29 50.1**	**-0.6**
	comp=Z,78nm,0.8s,mb5.3						
PAE	**Paea**	**28.28**	**92**	⇓*i*P	**P**	**00 29 50.1**	**-0.6**
PAE				pmax	pmax		
	comp=Z,78nm,0.8s,mb5.3						
PPT	**Papeete**	**28.30**	**92**	⇓*i*P	**P**	**00 29 50.4**	**-0.5**
	comp=Z,70nm,1.0s,mb5.2						
PPT	**Papeete**	**28.30**	**92**	⇑*e*P	**P**	**00 29 50.8**	**-0.1**
PPT	**Papeete**	**28.30**	**92**	P	**P**	**00 29 50.9**	**0.0**
	comp=Z,86nm,0.5s,mb5.5,baz=246,slow=5.7,SNR=26						
ARMA	**Armidale**	**28.51**	**241**	⇓*i*P	**P**	**00 29 54.8**	**+2.3**
MEH	**Mehetia**	**29.68**	**93**	*e*P	**P**	**00 30 02.1**	**-0.6**
	comp=Z,64nm,1.1s,mb5.0						
PMOR	**Pomariorio Ree**	**30.34**	**87**	⇓*i*P	**P**	**00 30 07.9**	**-0.5**
	comp=Z,214nm,1.1s,mb5.6						
VAH	**Vaihoa**	**30.54**	**88**	⇓*i*P	**P**	**00 30 09.3**	**-0.8**
	comp=Z,87nm,0.8s,mb5.3						
CNB	**Canberra Magne**	**31.91**	**233**	*e*P	**P**	**00 30 23.4**	**+1.9**
	comp=Z,103nm,0.7s,mb5.5						
CTA	**Charters Tower**	**32.36**	**263**	⇓*i*P	**P**	**00 30 26.8**	**+1.4**
	comp=Z,222nm,0.5s,mb6.0						
CTA	**Charters Tower**	**32.36**	**263**	⇓*i*P	**P**	**00 30 26.8**	**+1.4**
CTA				pmax	pmax		
	comp=Z,222nm,0.5s						
CTA	**Charters Tower**	**32.36**	**263**	P	**P**	**00 30 26.9**	**+1.4**
	comp=Z,318nm,0.6s,mb6.0,baz=93,slow=12						
CTA				PcP	PcP	00 32 51.6	-0.8
	comp=Z,8.8nm,0.6s,baz=100,slow=6.1,SNR=3.0						
CTA				S	**S**	**00 34 55.2**	**-1.0**
	comp=Z,14nm,1.1s,baz=183,slow=22,SNR=3.2						
CTA				ScP	ScP	00 35 35.7	-0.1
	comp=Z,22nm,0.9s,baz=90,slow=3.9,SNR=5.9						
CTAO	**Charters Tower**	**32.36**	**263**	*e*P	**P**	**00 30 26.3**	**+0.9**
STKA	**Stephens Creek**	**37.21**	**242**	*e*P	**P**	**00 31 07.0**	**+1.7**
	comp=Z,85nm,0.9s,mb5.3						
STKA	**Stephens Creek**	**37.21**	**242**	P	**P**	**00 31 07.1**	**+1.8**
	comp=Z,98nm,0.8s,mb5.4,baz=89,slow=9.1,SNR=226						
STKA				PcP	PcP	00 33 05.6	-1.1
	comp=Z,15nm,0.6s,baz=77,slow=3.4,SNR=3.4						
STKA				ScP	ScP	00 35 54.0	+0.6
	comp=Z,10nm,0.9s,baz=74,slow=4.3,SNR=4.6						
WB2	**Warramunga Arr**	**43.51**	**261**	⇓*i*P	**P**	**00 31 55.2**	**+0.1**
WB2	**Warramunga Arr**	**43.51**	**261**	*e*P	**S**	**00 37 37.2**	**-2.0**
WRAB	**Tennant Creek**	**43.51**	**261**	P	**P**	**00 31 55.0**	**-0.1**
	comp=Z,1μm,0.6s						
WRAB	**Tennant Creek**	**43.51**	**261**	*e*P	**P**	**00 31 54.7**	**-0.4**
WRAB	**Tennant Creek**	**43.51**	**261**	*e*P	**P**	**00 31 54.6**	**-0.5**
WRA	**Warramunga Arr**	**43.52**	**261**	P	**P**	**00 31 54.9**	**-0.3**
WRA						00 33 27.0	
WRA				S	**S**	**00 37 37.1**	**-2.2**
WRA						00 40 40.3	
WRA	**Warramunga Arr**	**43.52**	**261**	P	**P**	**00 31 54.9**	**-0.3**
	comp=Z,113nm,0.6s,mb5.4,baz=96,slow=8.6,SNR=372						
WRA				PcP	PcP	00 33 27.0	-0.8
	comp=Z,13nm,0.8s,baz=92,slow=4.3,SNR=7.3						
WRA				ScP	ScP	00 36 18.6	0.0
	comp=Z,11nm,0.9s,baz=89,slow=4.3,SNR=12						
WRA				S	**S**	**00 37 37.1**	**-2.2**
	comp=Z,23nm,0.7s,baz=97,slow=13,SNR=7.6						
WRA				ScS	ScS	00 40 40.3	-2.6
	comp=Z,1.4nm,0.9s,baz=101,slow=5.6,SNR=4.6						
ASAR	**Alice Springs**	**43.58**	**256**	P	**P**	**00 31 56.5**	**+0.9**
ASAR						00 33 27.1	
ASAR				S	**S**	**00 37 38.4**	**-1.6**
ASAR						00 40 38.3	
ASAR	**Alice Springs**	**43.58**	**256**	P	**P**	**00 31 56.5**	**+0.8**
	comp=Z,161nm,0.7s,mb5.5,baz=88,slow=8.4,SNR=1288						
ASAR				PcP	PcP	00 33 27.1	-0.9
	comp=Z,17nm,0.7s,baz=96,slow=3.9,SNR=7.8						
ASAR				ScP	ScP	00 36 18.1	-0.7
	comp=Z,4.4nm,0.7s,baz=105,slow=4.6,SNR=4.6						
ASAR				S	**S**	**00 37 38.4**	**-1.6**
	comp=Z,44nm,0.7s,baz=91,slow=16,SNR=27						
ASAR				ScS	ScS	00 40 38.3	-4.8
	comp=Z,1.8nm,0.9s,baz=90,slow=8.3,SNR=2.9						
POHA	**Pohakuloa**	**45.24**	**32**	*e*P	**P**	**00 32 07.8**	**-0.5**
	comp=Z,133nm,0.7s,mb5.4						
HON	**Honolulu**	**45.40**	**28**	*e*P	**P**	**00 32 09.7**	**+0.3**
KIP	**Kipapa**	**45.48**	**28**	*e*P	**P**	**00 32 09.5**	**-0.5**
KIP				pmax	pmax		
	comp=Z,161nm,0.6s,mb5.5						
KIP	**Kipapa**	**45.48**	**28**	*e*P	**P**	**00 32 09.5**	**-0.5**
	comp=Z,161nm,0.6s,mb5.5						
HKL	**Haleakala**	**45.69**	**31**	*e*P	**P**	**00 32 12.1**	**+0.5**
KAKA	**Kakadu**	**46.67**	**270**	*e*P	**P**	**00 32 19.3**	**+0.1**
	comp=Z,129nm,0.3s,mb5.7						
KAKA	**Kakadu**	**46.67**	**270**	*e*P	**P**	**00 32 19.3**	**+0.1**
GUMO	**Guam**	**48.01**	**310**	P	**P**	**00 32 29.5**	**+0.5**
	comp=Z,52nm,0.6s,mb5.0,baz=175,slow=8.1,SNR=4.2						
FORT	**Forrest**	**48.64**	**246**	*e*P	**P**	**00 32 33.3**	**-0.2**
	comp=Z,29nm,0.4s,mb5.0						
KNA	**Kununurra**	**49.45**	**265**	⇓*i*P	**P**	**00 32 40.2**	**+0.5**
	comp=Z,159nm,0.5s,mb5.6						
FITZ	**Fitzroy Crossi**	**51.93**	**262**	⇓*i*P	**P**	**00 32 57.9**	**+0.3**
	comp=Z,36nm,0.6s,mb4.8						
MBWA	**Marble Bar**	**56.89**	**257**	*e*P	**P**	**00 33 31.9**	**0.0**
KLBR	**Kellerberrin**	**57.44**	**244**	*e*P	**P**	**00 33 35.4**	**-0.1**
	comp=Z,19nm,0.7s,mb4.3						
MUN	**Mundaring**	**58.73**	**244**	*e*P	**P**	**00 33 43.9**	**-0.2**
SBA	**Scott Base**	**59.05**	**183**	*e*P	**P**	**00 33 47.0**	**+1.5**
SBA						00 36 08.2	
SBA				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.0						
SBA	**Scott Base**	**59.05**	**183**	*e*P	**P**	**00 33 47.0**	**+1.5**
	comp=Z,13nm,1.1s,mb4.0						
SBA				PP	PP	00 36 08.2	+1.0
VNDA	**Vanda**	**59.06**	**185**	P	**P**	**00 33 45.9**	**+0.4**
	comp=Z,3.0nm,0.7s,baz=360,slow=7.4,SNR=22						
VNDA				PcP	PcP	00 34 23.7	-1.7
	comp=Z,2.4nm,0.7s,baz=10.0,slow=0.7,SNR=6.8						
CBIJ	**Chichi jima**	**59.25**	**320**	P	**P**	**00 33 47.6**	**+0.1**
	comp=Z,80nm,0.8s,mb4.9,baz=47,slow=19,SNR=3.2						
CASY	**Casey**	**64.57**	**205**	*e*P	**P**	**00 34 20.9**	**-0.2**
JHJ2	**Mitsune**	**65.03**	**323**	P	**P**	**00 34 24.7**	**+0.1**
JHJ	**Hachijo jima 2**	**65.05**	**323**	P	**P**	**00 34 24.9**	**+0.2**
	comp=Z,145nm,0.4s,mb5.7,baz=235,slow=20,SNR=10						
JOD2	**Odawara 2**	**67.01**	**324**	P	**P**	**00 34 36.2**	**-0.5**
JRY	**Ryogami san**	**67.67**	**324**	P	**P**	**00 34 40.7**	**0.0**
JMM	**Marumori**	**68.03**	**327**	P	**P**	**00 34 42.7**	**-0.2**
JGF	**Kuroka**	**68.23**	**323**	P	**P**	**00 34 43.6**	**-0.5**
MJAR	**Matsushiro Arr**	**68.43**	**324**	P	**P**	**00 34 44.9**	**-0.4**
	comp=Z,31nm,0.5s,mb4.9,baz=155,slow=6.0,SNR=48						
MAT	**Matsushiro**	**68.43**	**324**	P	**P**	**00 34 45.0**	**-0.3**
MAT				*e*S	S	00 42 53.7	-3.7
JMN	**Monobe**	**68.99**	**319**	P	**P**	**00 34 51.4**	**+2.7**
JOM	**Ohasama**	**69.00**	**328**	P	**P**	**00 34 48.4**	**-0.2**
JWT	**Wachi**	**69.14**	**322**	P	**P**	**00 34 49.6**	**+0.1**
JYA	**Atsumi**	**69.14**	**327**	P	**P**	**00 34 50.0**	**+0.5**
JSD	**Sado**	**69.49**	**325**	P	**P**	**00 34 51.9**	**+0.3**
JAD	**Aida**	**69.63**	**321**	P	**P**	**00 34 52.9**	**+0.4**
JTM	**Tenmabayashi**	**70.12**	**329**	P	**P**	**00 34 55.2**	**0.0**
AMKA	**Amchitka**	**70.31**	**359**	*e*P	**P**	**00 34 55.2**	**-0.8**
JHS	**Saijyo**	**70.31**	**320**	P	**P**	**00 34 57.1**	**+0.6**
JNU	**Nakatsue**	**70.48**	**317**	P	**P**	**00 34 57.8**	**+0.3**
	comp=Z,8.2nm,0.6s,mb4.4,baz=123,slow=9.3,SNR=4.6						
QSPA	**South Pole Qui**	**70.83**	**180**	P	**P**	**00 34 59.3**	**+0.5**
	comp=Z,40nm,0.9s,mb4.8,baz=28,slow=1.4,SNR=156						
QSPA				PKiKP	PKiKP	00 40 58.8	+0.2
	comp=Z,0.6nm,0.6s,baz=208,slow=2.5,SNR=5.7						
ADK	**Adak**	**70.84**	**2**	*e*P	**P**	**00 34 57.3**	**-1.9**
JEW	**Eniwo**	**71.53**	**331**	P	**P**	**00 35 03.9**	**+0.5**
JMP	**Maruseppu**	**71.58**	**333**	P	**P**	**00 35 04.4**	**+0.7**
NACB	**Ninganchiao**	**71.90**	**305**	*e*P	**P**	**00 35 05.2**	**-0.8**
ASAJ	**Asahikawa**	**72.01**	**332**	P	**P**	**00 35 07.4**	**+1.3**
ASAJ	**Asahikawa**	**72.01**	**332**	P	**P**	**00 35 07.5**	**+1.4**
	comp=Z,78nm,0.6s,mb5.3,baz=217,slow=5.9,SNR=23						
JSH	**Shimam**	**72.03**	**330**	P	**P**	**00 35 06.9**	**+0.6**
JWK2	**Keihoku**	**73.26**	**333**	P	**P**	**00 35 14.2**	**+1.0**
UNV	**Unalaska Valle**	**73.61**	**8**	*e*P	**P**	**00 35 13.4**	**-1.6**
AKUT	**Akutan**	**73.99**	**8**	*e*P	**P**	**00 35 15.6**	**-1.5**
	comp=Z,134nm,0.4s,mb5.8						
YSS	**Yuzh-Sakhalins**	**74.19**	**334**	⇑*i*P	**P**	**00 35 19.0**	**+0.6**
YSS				pmax	pmax		
	comp=N,80nm,0.7s						
YSS				pmax	pmax		
	comp=Z,80nm,0.7s,mb5.4						
YSS	**Yuzh-Sakhalins**	**74.19**	**334**	*e*P	**P**	**00 35 19.2**	**+0.8**
	comp=Z,91nm,0.5s,mb5.6						
PET	**Petropavlovsk**	**74.43**	**346**	*e*P	**P**	**00 35 18.8**	**-0.8**
	comp=Z,180nm,1.4s,mb5.4						
FALS	**False Pass**	**75.03**	**9**	*e*P	**P**	**00 35 21.0**	**-1.9**
KSRS	**Korea Array**	**75.09**	**319**	P	**P**	**00 35 24.4**	**+0.8**
	comp=Z,9.9nm,0.6s,mb4.5,baz=127,slow=6.1,SNR=11						
SDPT	**Sand Point**	**76.00**	**11**	*e*P	**P**	**00 35 26.5**	**-1.7**
	comp=Z,200nm,0.6s,mb5.8						
CHGN	**Chignik**	**77.28**	**12**	*e*P	**P**	**00 35 32.8**	**-2.3**
SNCC	**San Nicolas Is**	**77.33**	**48**	⇓P	**P**	**00 35 36.3**	**+0.3**
	baz=77						
FARB	**Farallon Islan**	**77.53**	**43**	⇑P	**P**	**00 35 36.4**	**-0.5**
	baz=78						
BSC	**Santa Cruz Isl**	**77.67**	**47**	⇑P	**P**	**00 35 37.6**	**-0.2**
	baz=78,SNR=5.9						
V03C	**Hunter Liggett**	**77.71**	**45**	⇑P	**P**	**00 35 38.4**	**+0.4**
	baz=78,SNR=10						
HAST	**Hastings Reser**	**77.71**	**44**	⇓P	**P**	**00 35 38.5**	**+0.5**
	baz=78,SNR=61						
BNLO	**Ben Lomond (Sa**	**77.73**	**43**	⇑P	**P**	**00 35 38.0**	**-0.1**
	baz=78,SNR=5.4						
V04C	**Ramage Ranch,**	**77.74**	**45**	⇓P	**P**	**00 35 38.2**	**+0.1**
	baz=78,SNR=13						
JRSC	**Jasper Ridge**	**77.85**	**43**	⇑P	**P**	**00 35 38.6**	**-0.1**
	baz=78,SNR=6.2						
SBC	**Santa Barbara**	**77.86**	**47**	⇓P	**P**	**00 35 38.9**	**+0.1**
	baz=78						
MCCM	**Marconi Confer**	**77.87**	**42**	⇑P	**P**	**00 35 38.7**	**0.0**
	baz=78						
SCI	**San Clemente I**	**77.88**	**49**	⇓P	**P**	**00 35 38.7**	**-0.2**
	baz=78						
SAO	**San Andreas Ge**	**78.00**	**44**	⇑*i*P	**P**	**00 35 39.6**	**+0.1**
SAO				pmax	pmax		
	comp=Z,51nm,0.7s,mb5.2						
SAO	**San Andreas Ge**	**78.00**	**44**	⇑*i*P	**P**	**00 35 39.6**	**+0.1**
	comp=Z,51nm,0.7s,mb5.2						
PKM	**Peak Mountain**	**78.03**	**46**	P	**P**	**00 35 40.2**	**+0.5**
	baz=78,SNR=16						
NJ2	**Nanjing**	**78.08**	**310**	*e*P	**P**	**00 35 40.4**	**+0.3**
NJ2				PCP	PcP	00 35 49.0	+2.4
NJ2				XP	sP	00 39 03.0	+3.8
NJ2				S	S	00 44 43.0	0.0
NJ2				SKS		00 44 49.0	
NJ2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,1μm,10.0s						
BLG	**Laguna Peak**	**78.13**	**47**	⇑P	**P**	**00 35 39.7**	**-0.6**
	baz=78						
PKD	**Parkfield**	**78.13**	**45**	⇑P	**P**	**00 35 40.3**	**+0.1**
	baz=78,SNR=17						
SMMC	**Simmler**	**78.14**	**46**	⇑P	**P**	**00 35 40.7**	**+0.4**
	baz=78						
U04C	**Hernandez Rese**	**78.20**	**45**	⇓P	**P**	**00 35 41.1**	**+0.5**
	baz=78,SNR=31						
CIS	**Catalina Islan**	**78.21**	**48**	⇓P	**P**	**00 35 40.3**	**-0.4**
	baz=78						
PACP	**Pacheco Peak**	**78.24**	**44**	⇓P	**P**	**00 35 41.2**	**+0.4**
	baz=78,SNR=47						
HOPS	**Hopland**	**78.25**	**41**	*e*P	**P**	**00 35 41.1**	**+0.3**
	comp=Z,249nm,1.5s,mb5.5						
HOPS	**Hopland**	**78.25**	**41**	⇑P	**P**	**00 35 40.8**	**0.0**
	baz=78,SNR=6.7						
CVS	**Carmenet Viney**	**78.26**	**42**	⇑P	**P**	**00 35 40.8**	**-0.1**
	baz=78,SNR=12						
NSHM	**Saint Helena R**	**78.27**	**42**	*e*P	**P**	**00 35 40.9**	**0.0**
WENL	**Wente Brothers**	**78.29**	**43**	⇓P	**P**	**00 35 41.2**	**+0.2**
	baz=78,SNR=8.6						
KCPM	**Cahto Peak**	**78.35**	**41**	*e*P	**P**	**00 35 41.8**	**+0.5**
P01C	**Double 8 Ranch**	**78.37**	**41**	⇑P	**P**	**00 35 41.8**	**+0.3**
	baz=78,SNR=5.7						
BDM	**Black Diamond**	**78.41**	**43**	⇓P	**P**	**00 35 41.9**	**+0.3**
	baz=78						
FMP	**Fort Macarthur**	**78.45**	**48**	⇓P	**P**	**00 35 41.9**	**-0.1**
	baz=79						
O01C	**Eel River Cons**	**78.48**	**40**	P	**P**	**00 35 42.5**	**+0.6**
	baz=79,SNR=18						
KIPM	**Iron Peak**	**78.49**	**41**	⇑*e*P	**P**	**00 35 42.5**	**+0.4**
S04C	**Ingram Canyon,**	**78.50**	**44**	⇓P	**P**	**00 35 42.5**	**+0.4**
	baz=79,SNR=28						
V05C	**Boulder Hill,**	**78.52**	**46**	⇑P	**P**	**00 35 43.0**	**+0.7**
	baz=79						
T05C	**Eagle Field, D**	**78.58**	**44**	⇓P	**P**	**00 35 43.3**	**+0.8**
	baz=79						
MNRC	**McLaughlin Nat**	**78.58**	**42**	⇑P	**P**	**00 35 43.0**	**+0.4**
	baz=79,SNR=22						
U05C	**Westside ANR,**	**78.63**	**45**	⇑P	**P**	**00 35 43.3**	**+0.5**
	baz=79,SNR=6.6						
OSI	**Osito Adit**	**78.64**	**47**	⇑P	**P**	**00 35 42.5**	**-0.4**
	baz=79						
Q03C	**Winters**	**78.71**	**42**	⇑P	**P**	**00 35 44.1**	**+0.9**
	baz=79,SNR=9.5						
DECC	**Green Verdugo**	**78.71**	**48**	⇑P	**P**	**00 35 42.8**	**-0.6**
	baz=79						
HABR	**Khabarovsk**	**78.71**	**331**	*e*P	**P**	**00 35 43.1**	**+0.1**
HABR				*e*		00 35 47.7	
HABR				*e*	pP	00 37 58.6	+1.8
HABR				*e*		00 38 54.2	
HABR				*e*		00 40 48.2	
HABR				*e*S	S	00 44 48.2	-0.6
HABR				*e*		00 45 03.8	
HABR				*e*		00 50 14.2	
HABR				*e*		00 53 45.8	
MDJ	**Mudanjiang**	**78.75**	**326**	P	**P**	**00 35 43.6**	**+0.3**
MDJ				S	S	00 44 51.0	+1.7
MDJ				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,560nm,10.3s						
MDJ	**Mudanjiang**	**78.75**	**326**	*e*P	**P**	**00 35 43.2**	**-0.1**
	comp=Z,18nm,0.8s,mb4.7						
JCC	**Jacoby Creek**	**78.77**	**40**	⇑P	**P**	**00 35 43.3**	**-0.1**
	baz=79						
ARVC	**Arvin**	**78.84**	**47**	⇑P	**P**	**00 35 43.7**	**-0.3**
	baz=79,SNR=23						
109C	**Camp Elliot, M**	**78.86**	**49**	⇑P	**P**	**00 35 44.0**	**-0.1**
	baz=79,SNR=7.7						
GASB	**Alder Springs**	**78.87**	**41**	⇓P	**P**	**00 35 45.0**	**+1.0**
	baz=79,SNR=15						
MWC	**Mount Wilson**	**78.89**	**48**	*e*P	**P**	**00 35 43.6**	**-0.7**
KHMM	**Horse Mountain**	**78.98**	**40**	*e*P	**P**	**00 35 45.5**	**+0.9**
VES	**Vestal, Richgr**	**79.06**	**46**	⇓P	**P**	**00 35 44.7**	**-0.4**
	baz=79,SNR=44						
S05C	**Merced**	**79.06**	**44**	⇑P	**P**	**00 35 44.8**	**-0.2**
	baz=79,SNR=30						
BAR	**Barrett**	**79.06**	**50**	*e*P	**P**	**00 35 44.6**	**-0.7**
O02C	**Red Bluff**	**79.14**	**41**	⇑P	**P**	**00 35 46.2**	**+0.8**
	baz=79,SNR=41						
MURC	**Murrie

comp=Z,68nm,0.7s
YBH Yreka Blue Hor 80.11 39 eP P 00 35 50.9 +0.4
comp=Z,68nm,0.7s,mb5.2
YBH Yreka Blue Hor 80.11 39 P P 00 35 51.1 +0.7
baz=80,SNR=52
O05C Quincy 80.17 42 ⇑P P 00 35 51.0 +0.1
baz=80,SNR=24
M03C McCloud 80.19 40 ⇑P P 00 35 51.2 +0.3
baz=80,SNR=51
MLAC Mammoth Lakes 80.20 45 ⇑P P 00 35 51.7 +0.7
baz=80,SNR=6.4
BELC Belle Mtn. 80.23 49 ⇓P P 00 35 51.4 +0.2
baz=80,SNR=37
MPMC Manual Prospec 80.26 46 P P 00 35 51.5 +0.1
baz=80,SNR=78
K02A Glendale 80.27 38 ⇓P P 00 35 51.5 +0.2
baz=80,SNR=15
O04C Chester 80.27 41 ⇑P P 00 35 51.6 +0.3
baz=80,SNR=32
WAKR Walker 80.29 44 eP P 00 35 52.0 +0.5
R06C Coleville 80.30 44 P P 00 35 52.1 +0.6
baz=80,SNR=72
TIN Tinemaha 80.30 45 ⇑P P 00 35 51.6 +0.1
baz=80,SNR=5.6
R07C Lee Vining 80.32 44 ⇓P P 00 35 52.1 +0.5
baz=80
HATC Hat Creek Radi 80.33 41 ⇑P P 00 35 51.9 +0.3
baz=80,SNR=34
GSC Goldstone 80.33 47 eP P 00 35 51.6 -0.2
GSC Goldstone 80.33 47 P P 00 35 51.7 -0.1
baz=80,SNR=39
HEC Hector,Ludlow 80.42 48 P P 00 35 52.1 -0.1
baz=80,SNR=38
BEKR Beckwourth 80.47 42 P P 00 35 52.5 +0.1
baz=81,SNR=53
HUMO Hull Mountain 80.49 39 eP P 00 35 52.8 +0.4
HUMO Hull Mountain 80.49 39 ⇓P P 00 35 52.8 +0.4
baz=81,SNR=55
CN2 Changchun 80.52 323 ⇑P P 00 35 52.8 +0.3
CN2 eXP sP 00 39 15.5 +3.0
CN2 eS S 00 45 07.7 +0.4
CN2 AMB AMB
comp=Z,40nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,5.0s
WCN Washoe City 80.53 43 ⇓P P 00 35 53.1 +0.4
baz=81,SNR=30
S08C White Mtn Res 80.58 45 P P 00 35 53.6 +0.6
baz=81,SNR=99
GLA Glamis 80.59 50 eP P 00 35 53.8 +0.7
GLA Glamis 80.59 50 ⇓P P 00 35 53.6 +0.5
baz=81,SNR=24
J02A Umpqua 80.59 38 P P 00 35 53.1 +0.3
baz=81,SNR=25
P06A Stead Airport, 80.66 42 ⇑P P 00 35 53.7 +0.3
baz=81,SNR=9.6
M04C Macdoel 80.67 40 P P 00 35 53.8 +0.5
baz=81,SNR=36
ELFS Eagle Lake Fie 80.67 41 ⇑P P 00 35 53.7 +0.4
baz=81
I02A Mapleton 80.83 37 ⇑P P 00 35 54.4 +0.3
baz=81,SNR=18
M05C Lookout 80.84 40 ⇑P P 00 35 54.4 +0.2
baz=81,SNR=40
GRAC Grapevine Rang 80.84 46 ⇑P P 00 35 54.6 +0.2
baz=81,SNR=22
GMRC Granite Mounta 80.87 48 ⇑P P 00 35 54.5 0.0
baz=81,SNR=34
L04A Klamath Falls 80.87 39 ⇓P P 00 35 54.6 +0.3
baz=81,SNR=28
FURC Furnace Creek, 80.91 46 ⇓P P 00 35 54.6 -0.1
baz=81,SNR=25
IRM Iron Mountain 80.91 49 ⇓P P 00 35 55.1 +0.3
baz=81,SNR=19
Q07A Schurz 80.94 43 ⇑P P 00 35 55.1 +0.3
baz=81,SNR=9.2
J03A Ideyld Park 80.95 38 ⇑P P 00 35 55.0 +0.3
baz=81,SNR=21
O06A Flanigan 80.98 42 P P 00 35 55.2 +0.3
baz=81,SNR=104
NVAR Mina Array Bea 80.99 44 P P 00 35 55.3 +0.2
comp=Z,53nm,0.6s,mb5.1,baz=233,slow=9.2,SNR=258
PAHR Pah Rah Range 81.00 43 eP P 00 35 55.2 +0.1
comp=Z,72nm,0.8s,mb5.2
SHOC Shoshone 81.01 47 ⇓P P 00 35 55.0 -0.2
baz=81,SNR=7.4
TUQ Turquoise Mtn. 81.02 48 ⇑P P 00 35 55.3 0.0
baz=81,SNR=11
R08A Mina 81.08 44 ⇑P P 00 35 55.5 0.0
baz=81,SNR=6.3
I03A Eugene 81.13 37 ⇑P P 00 35 55.7 0.0
baz=81,SNR=15
H02A Toledo 81.15 36 ⇓P P 00 35 56.1 +0.4
baz=81,SNR=5.3
Y12C Blythe 81.16 50 P P 00 35 56.3 +0.3
baz=81,SNR=33
M06C Likely Place G 81.16 41 ⇓P P 00 35 56.3 +0.4
baz=81,SNR=38
K04A Chilquin 81.22 39 ⇑P P 00 35 56.3 +0.2
baz=81
P07A Fallon 81.22 43 ⇓P P 00 35 56.5 +0.3
baz=81
N06A Buffalo Meadow 81.30 41 ⇓P P 00 35 56.7 +0.1
baz=81,SNR=24
S09A Goldfield 81.33 45 P P 00 35 56.5 -0.3
baz=81,SNR=39
J04A Umpqua Nationa 81.37 38 ⇓P P 00 35 57.3 +0.4
baz=82,SNR=41
LDFC Landfair 81.41 48 eP P 00 35 57.8 +0.6
L05A Lakeview 81.43 40 ⇓P P 00 35 57.9 +0.7
baz=82,SNR=48
Q08A Gabbs 81.47 44 ⇑P P 00 35 57.5 0.0
baz=82,SNR=68
COR Corvallis 81.49 37 eP P 00 35 57.8 +0.4
I04A Tendick Farm, 81.52 38 P P 00 35 57.4 -0.2
baz=82,SNR=18
H03A Soap Creek Ran 81.55 37 P P 00 35 58.1 +0.4
baz=82,SNR=54
V11A Goodsprings 81.57 48 P P 00 35 58.2 +0.1
baz=82,SNR=38
O07A Toulon 81.58 42 ⇑P P 00 35 58.1 +0.1
baz=82,SNR=116
TPNV Topopah Spring 81.58 46 eP P 00 35 58.2 +0.1
TPNV pmax pmax
comp=Z,76nm,0.9s,mb5.2
TPNV Topopah Spring 81.58 46 eP P 00 35 58.2 +0.1
comp=Z,76nm,0.9s,mb5.2
TPNV Topopah Spring 81.58 46 P P 00 35 58.3 +0.2
baz=82,SNR=92
NEE2 Needles Airpor 81.60 49 ⇓P P 00 35 58.3 +0.1
baz=82
MOD Modoc 81.67 40 eP P 00 35 58.6 +0.2
comp=Z,98nm,0.6s,mb5.5
MOD Modoc 81.67 40 P P 00 35 58.7 +0.3
baz=82,SNR=48
W12A Cal Nev Ari 81.69 48 ⇓P P 00 35 58.9 +0.2
baz=82
Y13A Salome 81.69 50 ⇑P P 00 35 59.2 +0.5
baz=82,SNR=24
PDMCI Parker Dam,Lak 81.71 49 P P 00 35 59.0 +0.1
baz=82,SNR=16
R09A Tonopah 81.71 45 ⇓P P 00 35 58.8 +0.1
baz=82,SNR=24
K05A Summer Lake 81.79 39 P P 00 35 59.7 +0.7
baz=82,SNR=80
P08A Dixie Valley 81.83 43 ⇓P P 00 35 59.7 +0.4
baz=82,SNR=9.1
S10A Tonopah Range, 81.86 45 ⇑P P 00 35 59.6 +0.2
baz=82,SNR=307
N07B Gerlach 81.86 42 ⇓P P 00 35 59.6 +0.1
baz=82,SNR=9.5
U11A Corn Creek 81.90 47 ⇓P P 00 35 60.0 +0.3
baz=82
J05A Fort Rock 81.91 39 P P 00 36 00.2 +0.6
baz=82,SNR=253
V12A Nelson 81.92 48 P P 00 35 60.0 +0.1
baz=82,SNR=38
G03A Yamhill 81.95 36 ⇑P P 00 35 59.8 0.0
baz=82,SNR=10
Q09A Carvers 81.95 44 ⇑P P 00 36 00.1 +0.2
baz=82,SNR=15
X13A Yucca 82.07 49 P P 00 36 00.9 +0.2
baz=82,SNR=83
M07A Soldier Meadow 82.08 41 ⇓P P 00 36 00.8 +0.3
baz=82,SNR=54
SHPR Sheep Range 82.10 47 eP P 00 36 00.9 +0.1
O08A Rochester Mine 82.11 43 ⇑P P 00 36 00.9 +0.2
baz=82

Z14A Wintersburg 82.11 51 ⇑P P 00 36 01.2 +0.3
baz=82,SNR=26
SSOR Sweet Springs 82.13 37 P P 00 36 00.6 -0.1
F03A Seaside 82.17 36 ⇓P P 00 36 00.9 +0.1
baz=82,SNR=14
H04A Detroit Lake 82.18 37 ⇓P P 00 36 00.6 -0.4
baz=82,SNR=74
K06A Valley Falls 82.22 40 ⇑P P 00 36 01.4 +0.2
baz=82,SNR=38
MA2 Magadan 82.23 345⇑eP P 00 36 00.0 -0.8
R10A Warm Springs 82.25 45 P P 00 36 02.0 +0.5
baz=82,SNR=121
S11A Rachel 82.28 46 ⇓P P 00 36 01.6 0.0
baz=82,SNR=41
W13A Hualapai Mount 82.28 49 ⇓P P 00 36 02.0 +0.3
baz=82,SNR=50
SVW2 Sparrevohn 82.30 11 eP P 00 35 59.4 -1.7
MAW Mawson 82.32 200 eP P 00 36 01.1 -0.2
comp=Z,11nm,0.6s,mb4.6
MAW Mawson 82.32 200 eP P 00 36 01.1 -0.2
MAW pmax pmax
comp=Z,49nm,1.4s
MAW Mawson 82.32 200 eP P 00 36 01.1 -0.2
comp=Z,49nm,1.4s,mb4.8
MAW Mawson 82.32 200 P P 00 36 01.1 -0.2
comp=Z,12nm,0.6s,mb4.6,baz=127,slow=5.6,SNR=11
MAW PKKPbc PKKPbc 00 54 21.8 -3.7
comp=Z,2.0nm,0.7s,baz=49,slow=2.5,SNR=3.6
115A Sonoran Desert 82.32 52 ⇓P P 00 36 02.2 +0.3
baz=82,SNR=28
L07A Adell 82.33 41 ⇓P P 00 36 02.3 +0.5
baz=82,SNR=17
G04A Mulino 82.33 37 ⇓P P 00 36 01.5 -0.1
baz=82,SNR=17
Y14A Wickenburg 82.35 50 ⇓P P 00 36 02.0 -0.1
baz=82,SNR=18
P09A Austin 82.36 44 ⇓P P 00 36 01.9 0.0
baz=82,SNR=9.4
N08A GE Springer Mi 82.39 42 ⇓P P 00 36 02.1 +0.1
baz=82,SNR=127
I05A Bend 82.41 38 ⇑P P 00 36 02.2 +0.2
baz=82,SNR=19
T11A Corn Creek, Al 82.43 46 P P 00 36 02.8 +0.4
baz=82,SNR=119
Q10A Clear Creek Ra 82.46 45 P P 00 36 02.5 0.0
baz=83,SNR=33
U12A Valley of Fire 82.49 47 ⇑P P 00 36 02.9 +0.2
baz=83
T12A Moapa 82.52 47 ⇑P P 00 36 02.8 0.0
baz=83
J06A Christmas Vall 82.53 39 ⇓P P 00 36 02.6 -0.2
baz=83,SNR=71
E03A Lebam 82.55 35 ⇓P P 00 36 02.9 +0.2
baz=83,SNR=31
216A Three Points, 82.57 53 ⇑P P 00 36 03.7 +0.5
baz=83,SNR=23
V13A Grand Canyon W 82.59 48 ⇑P P 00 36 03.2 0.0
baz=83,SNR=36
M08A Happy Creek Ra 82.60 42 P P 00 36 03.7 +0.5
baz=83,SNR=46
116A Eloy 82.64 52 P P 00 36 04.0 +0.5
baz=83,SNR=36
Z15A Gila River Ind 82.66 51 ⇓P P 00 36 03.7 +0.1
baz=83
O09A Fish Creek Ran 82.66 43 ⇓P P 00 36 03.5 0.0
baz=83,SNR=7.8
X14A Yava 82.69 50 P P 00 36 04.2 +0.5
baz=83,SNR=74
H05A Madras 82.71 38 ⇑P P 00 36 03.4 -0.2
baz=83,SNR=21
R11A Troy Canyon, C 82.76 45 P P 00 36 03.8 -0.2
baz=83,SNR=45
K07A Rock Creek Ran 82.76 40 ⇑P P 00 36 04.1 +0.3
baz=83,SNR=70
D03A Wishkah Elem. 82.78 35 ⇓P P 00 36 04.4 +0.5
baz=83,SNR=16
F04A Amboy 82.80 36 P P 00 36 03.9 -0.2
baz=83,SNR=61
N09A Rock Creek Ran 82.82 42 ⇓P P 00 36 04.3 +0.1
baz=83,SNR=33
P10A Eureka 82.84 44 ⇑P P 00 36 04.4 0.0
baz=83
Y15A Casa Rosa Ranc 82.84 50 P P 00 36 04.9 +0.4
baz=83,SNR=48
HOOD Mount Hood Mea 82.87 37 eP P 00 36 04.6 +0.2
S12A Delamar Landin 82.88 46 ⇓P P 00 36 05.2 +0.6
baz=83,SNR=75
SLKM Skilak Lake 82.88 14⇑iP P 00 36 02.8 -1.2
SLKM e 00 39 02.9
C03A Quillayute Air 82.88 34 ⇓P P 00 36 05.0 +0.6
baz=83
U13A Pakoon Wash 82.88 48 P P 00 36 05.1 +0.4
baz=83,SNR=84
I06A Prineville 82.90 39 P P 00 36 05.1 +0.6
baz=83,SNR=117
NLWA Neilton Lookou 82.90 34 eP P 00 36 04.8 +0.3
NLWA Neilton Lookou 82.90 34 ⇓P P 00 36 04.7 +0.3
baz=83
W14A Seligman 82.91 49 P P 00 36 05.5 +0.7
baz=83,SNR=72
217A Green Valley 82.94 53 P P 00 36 05.9 +0.8
baz=83,SNR=58
GAMB Gambell 82.95 3 eP P 00 36 04.2 -0.1
Q11A Duckwater 82.97 45 P P 00 36 05.0 0.0
baz=83,SNR=85
WVOR Wild Horse Val 82.99 41 P P 00 36 05.1 +0.1
G05A Wamic 83.01 37 ⇓P P 00 36 04.9 -0.2
baz=83,SNR=13
E04A Onalaska 83.03 35 ⇑P P 00 36 05.6 +0.4
baz=83,SNR=9.8
L08A Fields 83.04 41 ⇓P P 00 36 05.5 +0.2
baz=83,SNR=29
OTR Olympics--Tyee 83.08 34 P P 00 36 05.9 +0.6
V14A Boquillas Ranc 83.10 49 ⇑P P 00 36 06.1 +0.4
baz=83,SNR=76
J07A Hines 83.11 40 ⇑P P 00 36 05.7 +0.1
baz=83,SNR=22
X15A Humboldt 83.17 50 P P 00 36 06.7 +0.6
baz=83,SNR=67
M09A Marrel Ranch, 83.17 42 P P 00 36 06.5 +0.5
baz=83,SNR=22
O10A Cortez Mining, 83.17 43 ⇑P P 00 36 06.1 +0.1
baz=83,SNR=25
TUC Tucson 83.22 53 eP P 00 36 07.0 +0.6
Z16A Peralta Trail, 83.22 51 ⇑P P 00 36 06.8 +0.4
baz=83,SNR=20
T13A Saint George 83.23 47 P P 00 36 06.7 +0.3
baz=83,SNR=26
K08A Mann Creek Ran 83.25 40 ⇑P P 00 36 06.5 +0.2
baz=83,SNR=54
OSD Olympics--Snow 83.26 34 P P 00 36 06.6 +0.4
P11A Circle Ranch, 83.27 44 ⇑P P 00 36 06.6 +0.1
baz=83,SNR=19
H06A Lindquist Farm 83.28 38 P P 00 36 06.3 -0.1
baz=83,SNR=74
D04A Dobbs Creek Ra 83.30 35 ⇓P P 00 36 07.0 +0.6
baz=83
F05A White Salmon 83.31 37 ⇓P P 00 36 06.3 -0.2
baz=83,SNR=14
L09A Wilkinson Ranc 83.36 41 ⇑P P 00 36 07.0 +0.1
baz=84
117A Oracle 83.37 52 ⇑P P 00 36 07.8 +0.6
baz=84,SNR=55
I07A Izee 83.39 39 P P 00 36 07.3 +0.3
baz=84,SNR=100
N10A Dunphy 83.40 43 ⇓P P 00 36 07.3 +0.2
baz=84,SNR=11
G06A Carlson Farm, 83.40 37 P P 00 36 06.7 -0.3
baz=84,SNR=12
R12A Pony Springs, 83.41 46 ⇑P P 00 36 07.4 +0.2
baz=84,SNR=52
318A Bisbee 83.42 54 P P 00 36 08.1 +0.6
baz=84,SNR=68
Y16A Circle Bar Ran 83.43 51 ⇓P P 00 36 07.9 +0.5
baz=84,SNR=68
U14A Mt Trumbull 83.44 48 P P 00 36 08.0 +0.6
baz=84,SNR=85
W15A Williams 83.48 49 ⇑P P 00 36 08.3 +0.6
baz=84,SNR=13
B04A Port Angeles 83.51 34 P P 00 36 07.7 +0.3
baz=84,SNR=29
S13A Holt Ranch, En 83.54 47 ⇑P P 00 36 08.1 +0.2
baz=84,SNR=34
E05A Randle 83.54 36 ⇓P P 00 36 07.3 -0.4
baz=84,SNR=39
GNW Green Mountain 83.57 35 eP P 00 36 07.5 -0.2
C04A Brinnon 83.58 34 ⇑P P 00 36 07.9 +0.1
baz=84,SNR=40

J08A Circle Bar Ran 83.60 40 P P 00 36 08.2 +0.2
baz=84,SNR=40
218A Dragoon 83.62 53 P P 00 36 09.2 +0.8
baz=84,SNR=44
Q12A Willow Creek R 83.62 45 ⇓P P 00 36 08.2 0.0
baz=84,SNR=36
F06A Goldendale 83.62 37 ⇑P P 00 36 07.9 -0.2
baz=84,SNR=11
LON Longmire 83.63 36 ⇑P P 00 36 07.6 -0.5
O11A Cowboy Ranch, 83.64 44 ⇓P P 00 36 08.4 +0.1
baz=84,SNR=52
H07A Lands Inn, Kim 83.65 38 ⇓P P 00 36 08.0 -0.2
baz=84
K09A Rome 83.70 41 P P 00 36 08.7 +0.2
baz=84,SNR=78
X16A Lo Mia Camp, P 83.72 50 ⇓P P 00 36 09.4 +0.6
baz=84,SNR=84
P12A McGill 83.79 45 ⇓P P 00 36 09.1 0.0
baz=84,SNR=30
D05A Enumclaw 83.79 35 P P 00 36 09.2 +0.3
baz=84,SNR=49
M10A I.L. Ranch, Tu 83.80 42 P P 00 36 09.7 +0.6
baz=84,SNR=56
Y17A Roosevelt 83.81 51 ⇑P P 00 36 09.5 +0.2
baz=84,SNR=24
FMW Mount Fremont 83.81 36 ⇑P P 00 36 09.1 +0.1
T14A Hurricane 83.82 47 ⇓P P 00 36 09.4 +0.1
baz=84,SNR=29
I08A Drewsey 83.86 39 ⇑P P 00 36 09.3 +0.1
baz=84,SNR=36
V15A Kaibab Nationa 83.86 49 P P 00 36 10.1 +0.7
baz=84,SNR=60
PGC Sidney 83.90 34 eP P 00 36 09.1 -0.3
TTA Tatalina 83.92 11 eP P 00 36 08.2 -0.9
319A Douglas 83.93 54 ⇓P P 00 36 10.8 +0.8
baz=84,SNR=40
ARUT Antelope Range 83.93 47 eP P 00 36 09.4 -0.4
N11A Elko Archery C 83.95 43 ⇓P P 00 36 09.9 +0.1
baz=84,SNR=12
E06A Yakima 83.97 36 ⇑P P 00 36 09.6 -0.1
baz=84,SNR=49
G07A Ruggs Ranch, H 83.97 38 P P 00 36 09.6 -0.2
baz=84,SNR=54
118A Homack Ranch, 83.98 53 P P 00 36 10.8 +0.7
baz=84,SNR=47
J09A Fry Pan Ranch, 84.04 40 ⇑P P 00 36 10.2 +0.1
baz=84,SNR=80
RMW Rattlesnake Mo 84.06 35 ⇑P P 00 36 10.1 -0.1
BJT Baijiatuau 84.08 316 eP P 00 36 09.8 -0.7
BJT pmax pmax
comp=Z,20nm,0.5s
BJT Baijiatuau 84.08 316 eP P 00 36 09.8 -0.7
comp=Z,20nm,0.5s,mb4.9
PMR Palmer 84.09 14 eP P 00 36 08.8 -1.2
PMR pmax pmax
comp=Z,130nm,0.8s,mb5.5
PMR Palmer 84.09 14 eP P 00 36 08.8 -1.2
comp=Z,130nm,0.8s,mb5.5
S14A Cedar City 84.11 47 ⇑P P 00 36 10.8 +0.2
baz=84,SNR=14
Q13A Wheeler Ranch, 84.12 45 P P 00 36 10.7 0.0
baz=84,SNR=57
Z18A Geronimo 84.13 52 P P 00 36 11.2 +0.4
baz=84,SNR=6.7
H08A Prairie City 84.14 39 P P 00 36 10.4 -0.2
baz=84,SNR=12
X17A Forest Lakes 84.14 51 ⇓P P 00 36 11.5 +0.6
baz=84
L10A Juniper Basin 84.14 42 P P 00 36 10.9 +0.2
baz=84,SNR=44
F07A Phinny Hill Vi 84.19 37 P P 00 36 10.8 -0.1
baz=84,SNR=12
219A White Tail Can 84.22 53 P P 00 36 11.9 +0.6
baz=84,SNR=50
M11A Holland Ranch, 84.23 43 ⇑P P 00 36 11.6 +0.4
baz=84,SNR=36
C05A Tolt Reservoir 84.26 35 P P 00 36 10.8 -0.3
baz=84,SNR=54
K10A MacKenzie Ranc 84.27 41 ⇑P P 00 36 11.4 +0.1
baz=84,SNR=25
WUAZ Wupatki 84.28 49 eP P 00 36 11.9 +0.3
WUAZ Wupatki 84.28 49 ⇓P P 00 36 11.8 +0.2
baz=84,SNR=35
T15A Red Dirt Ranch 84.29 48 P P 00 36 11.9 +0.4
baz=84,SNR=64
O12A Currie 84.31 44 ⇓P P 00 36 11.4 -0.1
baz=84,SNR=15
A04A Legoe Bay, Lum 84.33 34 P P 00 36 11.7 +0.2
baz=84,SNR=59
P13A Bates Ranch, G 84.38 45 P P 00 36 12.1 +0.1
baz=84,SNR=50
B05A Bryant 84.38 34 ⇓P P 00 36 11.5 -0.2
baz=84,SNR=50
I09A Lost Marbles R 84.39 40 ⇓P P 00 36 11.6 -0.3
baz=84,SNR=26
G08A Pilot Rock 84.40 38 ⇓P P 00 36 11.8 -0.1
baz=84,SNR=81
N12A Clover Valley, 84.42 43 ⇓P P 00 36 12.2 +0.1
baz=84,SNR=34
D06A Cle Elum 84.42 36 P P 00 36 11.9 0.0
baz=84,SNR=32
Y18A Canyon Day Jun 84.45 52 P P 00 36 13.1 +0.6
baz=84,SNR=54
SML Sawmill 84.47 14 eP P 00 36 10.5 -1.3
R14A James Farms, M 84.47 46 ⇑P P 00 36 12.4 0.0
baz=85,SNR=5.1
DIV Divide 84.50 16 eP P 00 36 10.8 -1.1
119A Ashpeak Ranch, 84.54 53 P P 00 36 13.4 +0.6
baz=85,SNR=19
E07A Sunnyside 84.61 37 P P 00 36 12.8 0.0
baz=85,SNR=15
L11A Cat Creek Ranc 84.64 42 P P 00 36 13.5 +0.3
baz=85,SNR=59
J10A Berg Farm, Mel 84.68 41 ⇓P P 00 36 13.1 -0.2
baz=85,SNR=10
HAWA Hanford 84.70 37 eP P 00 36 13.1 -0.2
comp=Z,100nm,0.9s,mb5.4
O13A Hicks Ranch, I 84.74 44 ⇓P P 00 36 13.7 0.0
baz=85
M12A Wells 84.79 43 P P 00 36 14.0 +0.1
baz=85,SNR=38
K11A Parker Ranch, 84.79 41 ⇑P P 00 36 13.9 +0.1
baz=85,SNR=14
F08A Pendleton 84.79 38 ⇑P P 00 36 13.4 -0.3
baz=85,SNR=16
Z19A T-Link Ranch, 84.80 52 ⇓P P 00 36 14.5 +0.3
baz=85,SNR=8.1
H09A Durkee 84.81 39 P P 00 36 13.8 -0.1
baz=85,SNR=40
C06A Tall Timber Ra 84.83 35 ⇑P P 00 36 13.2 -0.7
baz=85
A05A Maple Falls 84.83 34 ⇓P P 00 36 13.1 -0.7
baz=85,SNR=6.2
SEY Seymchan 84.86 347⇑eP P 00 36 13.2 -0.5
SEY Seymchan 84.86 347⇑eP P 00 36 13.3 -0.4
X18A Snowflake 84.86 51 ⇑P P 00 36 14.5 +0.2
baz=85,SNR=31
B06A Marblemount 84.86 34 ⇑P P 00 36 13.3 -0.8
baz=85,SNR=12
T16A Glen Canyon Da 84.89 48 P P 00 36 14.9 +0.4
baz=85,SNR=22
D07A Quincy 84.91 36 P P 00 36 14.1 -0.2
baz=85,SNR=32
GYA Guiyang 84.91 300⇑iP P 00 36 14.2 -0.6
GYA AP pP 00 38 36.4 +4.9
GYA XP sP 00 39 41.8 +5.5
GYA PP PP 00 39 47.4 +2.8
GYA PPP 00 41 48.9
GYA SKS 00 45 35.2
GYA S S 00 45 49.4 -1.8
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.7
GYA AMB AMB
comp=Z,140nm,7.2s
N13A Wendover, West 84.96 44 ⇓P P 00 36 14.8 0.0
baz=85,SNR=15
TNA Tin City 84.97 5 eP P 00 36 13.2 -0.9
I10A Payette 85.02 40 ⇓P P 00 36 15.2 +0.4
baz=85,SNR=10
E08A Dider Farm, El 85.02 37 ⇑P P 00 36 14.6 -0.3
baz=85,SNR=6.3
WRAK Wrangell Islan 85.07 24 eP P 00 36 15.1 +0.3
L12A House Creek Ra 85.10 42 P P 00 36 15.8 +0.4
baz=85,SNR=35
Y19A Nutrioso 85.11 52 ⇓P P 00 36 16.2 +0.6
baz=85,SNR=40
C07A Waterville 85.15 36 P P 00 36 15.0 -0.4

baz=85,SNR=42
MSU Marysvale 85.15 47 *e*P P **00 36 16.1 +0.4**
A06A Chilliwack 85.21 34 ⇑P P **00 36 15.2 -0.5**
baz=85,SNR=13
M13A Montello 85.24 43 ⇓P P **00 36 16.1 0.0**
baz=85,SNR=57
F09A S2 Ranch, Elgi 85.25 38 ⇑P P **00 36 15.7 -0.2**
baz=85,SNR=14
MFID Camas Ranch 85.26 41 P P **00 36 15.9 -0.1**
baz=85,SNR=48
X19A St. Johns 85.30 51 P P **00 36 16.8 +0.3**
baz=85,SNR=22
H10A Noah's Angus R 85.32 40 ⇓P P **00 36 15.9 -0.5**
baz=85,SNR=69
D08A Wollman Farm, 85.42 37 ⇓P P **00 36 16.7 -0.1**
baz=86,SNR=44
K12A Draper Farm, C 85.43 42 ⇓P P **00 36 16.9 0.0**
baz=86,SNR=32
I11A Placerville 85.44 40 ⇑P P **00 36 16.8 -0.1**
baz=86,SNR=60
G10A Bishop Farm, J 85.48 39 P P **00 36 16.7 -0.4**
baz=86,SNR=46
DUG Dugway 85.55 45 *e*P P **00 36 17.2 -0.3**
DUG Dugway 85.55 45 ⇑P P **00 36 17.2 -0.4**
baz=86
E09A Wood Farm, Sta 85.56 37 P P **00 36 16.9 -0.4**
baz=86,SNR=16
B07A Winthrop 85.56 35 ⇑P P **00 36 17.1 -0.3**
baz=86,SNR=57
J12A Stokes Ranch, 85.62 41 P P **00 36 18.1 +0.4**
baz=86,SNR=46
N14A Grayback Hills 85.63 44 P P **00 36 17.5 -0.3**
baz=86,SNR=9.0
L13A Double Diamond 85.75 43 ⇑P P **00 36 18.6 +0.1**
baz=86,SNR=12
A07A Ashnola River, 85.76 34 ⇑P P **00 36 18.1 -0.2**
baz=86,SNR=46
C08A Higginbotham F 85.76 36 ⇓P P **00 36 17.8 -0.5**
baz=86,SNR=30
BGU Big Grassy Mou 85.77 44 *e*P P **00 36 17.9 -0.7**
D09A Jones Farm, Ri 85.77 37 ⇓P P **00 36 18.2 -0.2**
baz=86,SNR=79
F10A Beach Ranch, E 85.79 38 P P **00 36 18.0 -0.5**
baz=86,SNR=120
H11A Donnelly 85.83 40 ⇓P P **00 36 18.5 -0.2**
baz=86,SNR=80
M14A Sheep Mountain 85.85 43 ⇓P P **00 36 19.0 +0.1**
baz=86,SNR=44
USHA Ushuaia 85.89 147 P P **00 36 18.5 -0.4**
comp=Z,9.7nm,1.1s,mb4.4,baz=304,slow=14,SNR=3.0
NLU North Lily Min 85.92 45 *e*P P **00 36 19.3 0.0**
B08A Colville Reser 85.93 35 P P **00 36 18.4 -0.7**
baz=86,SNR=101
K13A Stover Farm, H 85.95 42 ⇓P P **00 36 19.8 +0.4**
baz=86,SNR=47
MCK McKinley 86.02 13 *e*P P **00 36 17.5 -1.7**
MCK pmax pmax
comp=Z,147nm,1.3s,mb5.5
MCK McKinley 86.02 13 *e*P P **00 36 17.5 -1.6**
comp=Z,147nm,1.3s,mb5.5
G11A Walters Elk Ra 86.04 39 P P **00 36 19.5 -0.3**
baz=86,SNR=184
N15A Stansbury Isla 86.08 44 ⇑P P **00 36 19.8 -0.2**
baz=86,SNR=12
E10A Myers Farm, Un 86.14 38 ⇓P P **00 36 19.5 -0.7**
baz=86,SNR=26
C09A Chrisman Ranch 86.20 36 ⇓P P **00 36 20.0 -0.4**
baz=86,SNR=36
HLID Hailey 86.21 41 ⇑P P **00 36 21.0 +0.4**
baz=86
NOQ North Oquirrh 86.23 45 *e*P P **00 36 20.7 0.0**
SKAG Skagway 86.25 21 *e*P P **00 36 20.6 +0.3**
MPU Maple Canyon 86.25 45 *e*P P **00 36 21.1 +0.2**
J13A Cove Ranch, Pi 86.28 42 P P **00 36 21.3 +0.5**
baz=86,SNR=173
A08A Turner Farm, O 86.31 35 P P **00 36 20.6 -0.3**
baz=86,SNR=99
SPUT South Promonto 86.34 44 *e*P P **00 36 21.6 +0.4**
XAN Xi'an 86.34 308 P P **00 36 22.2 +0.8**
XAN AP pP 00 38 40.3 +1.5
XAN XP sP 00 39 44.9 +1.4
XAN PP PP 00 40 03.0 +7.2
XAN PPP 00 42 00.1
XAN S S 00 46 06.9 +2.4
XAN AMB AMB
comp=Z,44nm,1.0s,mb5.0
HVU Hansel Valley 86.36 43 *e*P P **00 36 21.4 +0.1**
F11A Grangeville 86.37 39 ⇓P P **00 36 19.7 -1.6**
baz=86
M15A Larsen Ranch, 86.41 44 ⇑P P **00 36 21.4 -0.2**
baz=86,SNR=20
H12A Diamond D Ranc 86.45 40 P P **00 36 21.6 0.0**
baz=86,SNR=130
K14A Jones Ranch, D 86.48 43 P P **00 36 22.1 +0.2**
baz=87,SNR=86
CTU Camp Tracy 86.50 45 *e*P P **00 36 22.0 0.0**
I13A Wildhorse Cree 86.58 41 P P **00 36 22.6 +0.4**
baz=87,SNR=53
E11A Bogner Ranch, 86.59 38 ⇑P P **00 36 20.8 -1.4**
baz=87,SNR=30
B09A Rice 86.62 36 ⇑P P **00 36 21.8 -0.5**
baz=87,SNR=69
JLU Jordanelle 86.66 45 *e*P P **00 36 22.8 +0.1**
A09A Danville 86.69 35 P P **00 36 22.6 -0.1**
baz=87,SNR=83
DAU Daniels Canyon 86.69 45 *e*P P **00 36 23.1 +0.2**
C10A Spilker Farm, 86.75 37 ⇓P P **00 36 22.5 -0.5**
baz=87,SNR=7.5
H13A Challis 86.82 40 P P **00 36 23.6 +0.2**
baz=87,SNR=82
F12A Elk City 86.84 39 P P **00 36 23.1 -0.3**
baz=87,SNR=160
D11A Klaveano Farm, 86.89 38 P P **00 36 22.7 -1.0**
baz=87,SNR=55
Y22C IRIS PASSCAL I 86.90 52 ⇓P P **00 36 24.5 +0.4**
baz=87
HIA Hailar 86.92 325 *e*P P **00 36 22.5 -1.2**
HWUT Hardware Ranch 87.06 44 *e*P P **00 36 24.3 -0.3**
comp=Z,41nm,0.8s,mb5.1
B10A Chitwood Farm, 87.06 36 ⇑P P **00 36 23.9 -0.5**
baz=87
MNTX Cornudas Mount 87.07 55 *e*P P **00 36 25.0 +0.1**
comp=Z,79nm,1.1s,mb5.3
NEW Newport 87.10 36 *e*P P **00 36 23.8 -0.8**
NEW Newport 87.10 36 P P **00 36 23.9 -0.7**
comp=Z,23nm,0.7s,mb4.9,baz=229,slow=3.9,SNR=55
G13A Cobalt 87.11 40 P P **00 36 24.6 -0.1**
baz=87,SNR=56
MVCO Mesa Verde 87.12 49 *e*P P **00 36 24.7 -0.3**
MVCO Mesa Verde 87.12 49 ⇑P P **00 36 24.6 -0.4**
baz=87
IMA2 Indian Mountai 87.22 10 *e*P P **00 36 23.8 -0.9**
COLA College 87.25 13 *c i*P P **00 36 22.9 -2.0**
COLA College 87.25 13 ⇑*i*P P **00 36 22.0 -2.9**
A10A Northport 87.25 36 ⇑P P **00 36 25.0 -0.3**
baz=87,SNR=5.3
DLBC Dease Lake 87.39 24 *e*P P **00 36 25.6 -0.1**
F13A Darby 87.41 39 ⇓P P **00 36 25.6 -0.5**
baz=88
TXAR Lajitas Array 87.46 58 P P **00 36 27.2 +0.5**
comp=Z,54nm,0.7s,mb5.3,baz=219,slow=6.0,SNR=670
TXAR PKKPbc PKKPbc 00 54 10.4 -1.8
comp=Z,0.4nm,0.6s,baz=107,slow=2.0,SNR=6.0
D12A Red Ives Fores 87.46 38 P P **00 36 25.5 -0.8**
baz=88,SNR=53
HHC Hu-ho-hao-te 87.55 315 ⇑P P **00 36 27.4 +0.5**
HHC AP pP 00 38 49.3 +4.5
HHC XP sP 00 39 52.1 +2.8
HHC PP PP 00 40 09.3 +4.1
HHC SKS 00 45 52.9
HHC S S 00 46 11.1 -4.3
HHC SS SS 00 52 25.8 +3.0
HHC AMB AMB
comp=Z,55nm,1.4s,mb5.0
HHC AMB AMB
comp=Z,314nm,9.0s
ANMO Albuquerque 87.62 52⇑*e*P P **00 36 27.1 -0.3**
ANMO Albuquerque 87.62 52 *e*P P **00 36 26.8 -0.6**
comp=Z,94nm,1.4s,mb5.2
B11A Sandpoint 87.62 36 P P **00 36 26.7 -0.3**
baz=88,SNR=32
KMI Kunming 87.63 297 P P **00 36 27.8 +0.1**
KMI AP pP 00 38 48.6 +3.0
KMI AMB AMB
comp=Z,20nm,0.9s,mb4.8
BILL Bilibino 87.65 355 *c i*P P **00 36 25.5 -1.2**
BILL pmax pmax
comp=Z,53nm,0.7s,mb5.3
BILL Bilibino 87.65 355⇑*i*P P **00 36 25.6 -1.1**
G14A Jackson 87.66 40 ⇑P P **00 36 27.4 +0.1**
baz=88,SNR=12
SYO Syowa Base 87.67 193⇓*e*X P **00 36 24.0 -3.0**
MCMT McKenzie Canyo 87.82 41 *e*P P **00 36 28.3 +0.2**
E13A Victor 87.83 39 P P **00 36 27.1 -0.9**
baz=88,SNR=23
A11A Hat Mountain, 87.90 36 P P **00 36 28.6 +0.3**
baz=88,SNR=51
AHID Auburn Hatcher 87.92 43 *e*P P **00 36 29.0 +0.4**
comp=Z,72nm,0.9s,mb5.3
F14A Wisdom 88.00 40 ⇑P P **00 36 28.5 -0.4**
baz=88
D13A Huson 88.00 38 P P **00 36 27.8 -1.1**
baz=88,SNR=13
B12A Libby 88.07 37 ⇑P P **00 36 29.0 -0.2**
baz=88,SNR=9.2
MSO Missoula 88.17 39 *e*P P **00 36 28.5 -1.1**
BSMT Bassoo Peak 88.21 37 *e*P P **00 36 29.0 -0.8**
G15A Dillon 88.21 41 ⇓P P **00 36 29.9 0.0**
baz=88,SNR=9.3
E14A Clinton 88.23 39 P P **00 36 29.5 -0.4**
baz=88,SNR=50
C13A Hot Springs 88.24 38 P P **00 36 28.9 -1.0**
baz=88,SNR=14
DLMT Dillon 88.24 40 *e*P P **00 36 30.1 0.0**
comp=Z,171nm,1.4s,mb5.5
DCID1 Drake Creek 88.26 42 *e*P P **00 36 30.6 +0.5**
A12A Yaak River Ran 88.28 36 ⇑P P **00 36 29.9 -0.2**
baz=88,SNR=12
TPAW Teton Pass 88.36 43 *e*P P **00 36 31.0 +0.3**
comp=Z,69nm,1.0s,mb5.2
REDW Red Top Meadow 88.36 43 *e*P P **00 36 30.8 +0.2**
SNOW Snow King Moun 88.47 43 *e*P P **00 36 31.6 +0.4**
comp=Z,134nm,1.0s,mb5.5
F15A Butte 88.54 40 P P **00 36 31.2 -0.2**
baz=89,SNR=33
D14A Greenough 88.56 39 ⇑P P **00 36 30.2 -1.2**
baz=89,SNR=22
LRM Limekiln Ridge 88.56 40 *e*P P **00 36 31.1 -0.3**
IMW Indian Meadow 88.56 42 *e*P P **00 36 31.0 -0.5**
comp=Z,108nm,1.0s,mb5.5
DAWY Dawson 88.60 16 *e*P P **00 36 30.3 -0.9**
CHTO Chiang Mai 88.61 290 *e*P P **00 36 33.3 +1.0**
CHMT Chamberlain Mo 88.62 39 *e*P P **00 36 31.0 -0.7**
LOHW Long Hollow 88.64 43 *e*P P **00 36 32.1 +0.2**
comp=Z,42nm,0.8s,mb5.2
B13A Whitefish 88.66 37 P P **00 36 30.9 -0.9**
baz=89,SNR=19
QLMT Earthquake Lak 88.70 41 *e*P P **00 36 32.8 +0.6**
EGAK Eagle 88.72 15 *e*P P **00 36 30.8 -1.0**
E15A Deer Lodge 88.74 39 P P **00 36 31.6 -0.7**
baz=89,SNR=19
C14A Swan Lake 88.77 38 P P **00 36 31.1 -1.3**
baz=89,SNR=24
FLWY Flagg Ranch 88.81 42 *e*P P **00 36 33.2 +0.5**
comp=Z,133nm,1.2s,mb5.5
YFT Old Faithful 88.89 42 *e*P P **00 36 34.7 +1.7**
YMR Madison River 88.92 42⇑*i*P P **00 36 34.0 +0.8**
comp=Z,24nm,0.5s,mb5.2
BW06 Boulder Array 88.92 44 *e*P P **00 36 32.8 -0.4**
comp=Z,49nm,0.7s,mb5.3
BOZ Bozeman (W) 88.97 40 *e*P P **00 36 33.3 -0.1**
BOZ Bozeman (W) 88.97 40 ⇓P P **00 36 33.3 -0.1**
baz=89
A13A Flathead Natio 88.98 37 ⇓P P **00 36 32.8 -0.6**
baz=89
CD2 Chengdu 89.03 303 *e*P P **00 36 35.0 +1.0**
CD2 AP pP 00 38 55.8 +3.4
CD2 XP sP 00 40 00.5 +3.7
CD2 PP PP 00 40 20.8 +3.9
CD2 SKS 00 46 02.1
CD2 S S 00 46 27.6 -1.7
CD2 AMB AMB
comp=Z,30nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,130nm,5.8s
SMCO Snowmass 89.07 48⇑*i*P P **00 36 33.8 -0.2**
comp=Z,56nm,1.0s,mb5.2
YNR Norris Junctio 89.12 42 *e*P P **00 36 35.5 +1.4**
D15A Lincoln 89.12 39 P P **00 36 33.8 -0.3**
baz=89,SNR=39
LKWY Lake 89.22 42 *e*P P **00 36 36.2 +1.6**
SNAA Sanae 89.31 179 *e*P P **00 36 33.1 -1.5**
SNAA *e* 00 36 36.6
SNAA *e* 00 36 43.3
SNAA *e* 00 38 57.2
SNAA *e* 00 39 01.9
SNAA Sanae 89.31 179⇑*e*P P **00 36 33.5 -1.1**
HRY Holter Researc 89.37 39 *e*P P **00 36 33.3 -1.9**
VNA3 Neumayer Olymp 89.48 177 *e* pP 00 39 01.6 +7.8
MAIT Maitri 89.90 184 *e*P P **00 36 35.2 -2.1**
VNA2 Neumayer--Watz 89.91 177 *e*P P **00 36 36.6 -0.8**
baz=190,slow=4.0
VNA2 *e* 00 36 40.1
VNA2 *e* 00 36 46.4
VNA2 *e* 00 39 00.0
VNA2 *e* 00 39 04.7
VNA1 Neumayer--Stat 90.15 177 *e*P P **00 36 37.9 -0.6**
VNA1 *e* 00 36 41.3
VNA1 *e* 00 36 48.7
VNA1 *e* pP 00 39 00.4 +3.3
VNA1 *e* 00 39 04.6
RLMT Red Lodge 90.19 42 *e*P P **00 36 39.3 +0.2**
GCMT Greycliff 90.25 41 *e*P P **00 36 39.0 -0.3**
ISCO Idaho Springs 90.28 48 *e*P P **00 36 39.5 -0.1**
YAK Yakutsk 90.46 339⇑*e*P P **00 36 38.6 -1.3**
YAK pmax pmax
comp=Z,95nm,0.8s,mb5.7
YAK Yakutsk 90.46 339 *e*P P **00 36 39.1 -0.8**
LZH Lanzhou 90.98 308 *e*P P **00 36 44.1 +1.2**
LZH AP pP 00 39 09.0 +7.2
LZH XP sP 00 40 11.0 +5.1
LZH PP PP 00 40 38.0 +6.0
LZH SKS 00 46 14.4
LZH *e*S S 00 46 46.3 -0.1
LZH AMB AMB
comp=Z,45nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,160nm,4.2s
JCT Junction City 91.00 58 *e*P P **00 36 42.2 -0.9**
JCT pmax pmax
comp=Z,20nm,0.6s,mb5.1
JCT Junction City 91.00 58 *e*P P **00 36 42.2 -0.9**
comp=Z,20nm,0.6s,mb5.1
PHWY Pilot Hill 91.02 46 *e*P P **00 36 42.6 -0.4**
PLCA Paso Flores 91.07 134 P P **00 36 43.7 +0.3**
comp=Z,2.7nm,0.8s,mb4.1,baz=230,slow=12,SNR=4.8
PLCA PKKPbc PKKPbc 00 54 00.8 -3.0
comp=Z,1.0nm,0.5s,baz=279,slow=22,SNR=3.8
AMTX Amarillo 91.18 53 *e*P P **00 36 43.0 -0.9**
EGMT Eagleton 91.24 39 *e*P P **00 36 43.4 -0.4**
comp=Z,79nm,1.5s,mb5.3
EGMT Eagleton 91.24 39 ⇑P P **00 36 43.2 -0.6**
baz=91,SNR=12
LAO LASA Array 92.79 41 *e*P P **00 36 51.3 +0.3**
WMOK Wichita Mounta 93.34 54 *e*P P **00 36 53.1 -0.7**
INK Inuvik 93.39 15 P P **00 36 51.5 -1.7**
comp=Z,21nm,0.9s,mb5.2,baz=230,slow=4.4,SNR=77
INK PKKP PKKPbc 00 53 54.3 -4.6
comp=Z,0.6nm,0.4s,baz=15,slow=4.8,SNR=4.6
ULN Ulaanbaatar 93.57 320 *i*P P **00 36 52.7 -1.8**
SONM Songino Array 93.96 319 P P **00 36 55.9 -0.4**
comp=Z,2.9nm,0.5s,mb4.5,baz=119,slow=3.8,SNR=7.0
SONM PKKP PKKPbc 00 53 52.8 -3.8
comp=Z,0.6nm,0.6s,baz=259,slow=1.8,SNR=4.9
CBKS Cedar Bluff 94.09 50 *e*P P **00 36 56.9 -0.2**
DGMT Dagmar 94.78 40 *e*P P **00 36 59.8 -0.1**
YKA Yellowknife Ar 95.90 25 P P **00 37 03.2 -1.5**
YKA PKKP PKKPbc 00 53 48.5 -3.5
YKA Yellowknife Ar 95.90 25 P P **00 37 03.2 -1.5**
comp=Z,6.3nm,0.6s,mb4.9,baz=238,slow=4.6,SNR=227
YKA PKKP PKKPbc 00 53 48.5 -3.5
comp=Z,0.5nm,0.5s,baz=42,slow=2.2,SNR=18
YKW3 Yellowknife Ar 95.93 25 *e*P P **00 37 02.9 -1.9**
KSU1 Kansas State U 96.48 51 *e*P P **00 37 08.2 +0.4**
comp=Z,28nm,0.6s,mb5.6
CFAA Coronel Fontan 96.88 127 P P **00 37 08.9 -1.1**
comp=Z,0.1nm,0.5s,baz=226,slow=6.4,SNR=3.3
TIXI Tiksi 97.20 345 *e*P Pdif 00 37 08.5 -2.4
TIXI pmax pmax
comp=Z,24nm,1.3s,mb5.3
JTS JuntasAbangare 97.44 82 P Pdif 00 37 10.5 -1.5
comp=Z,7.2nm,1.1s,baz=240,slow=14,SNR=2.7
ULM Lac du Bonnet 100.50 40 P Pdif 00 37 25.6 0.0
comp=Z,1.8nm,0.6s,baz=273,slow=8.9,SNR=3.3
GNAR Gosnell 100.52 56 *e*Pdif Pdif 00 37 21.0 -4.7
LPAZ La Paz 103.73 113 PKKPbc PKKPbc 00 53 28.7 -0.3
comp=Z,1.2nm,0.6s,baz=346,slow=2.3,SNR=3.7
FCC Fort Churchill 103.82 32 *e*P Pdif 00 37 41.3 +0.9
WMQ Urumqi 105.13 312 *e*PDIF Pdif 00 37 48.0 +1.8
WMQ PP PP
comp=Z,204nm,8.0s
CPUP Villa Florida 107.78 127 PKiKP PKiKP 00 41 58.9 -3.0
comp=Z,0.9nm,0.5s,baz=290,slow=1.5,SNR=3.4
ZAA0 Zalesovo Array 108.70 322 *e*PKPdf PKiKP 00 41 59.9 -2.7
ZALV Zalesovo Beam 108.70 322 PKiKP PKiKP 00 42 00.5 -2.2
comp=Z,9.1nm,0.5s,baz=142,slow=0.9,SNR=45
ZALV PKKPbc PKKPbc 00 53 11.9 -2.7
comp=Z,0.7nm,0.5s,baz=258,slow=5.1,SNR=4.2
MK31 Makanchi Array 109.40 314 *e*PKPdf PKiKP 00 42 02.4 -1.7
MKAR Makanchi Array 109.40 314 PKiKP PKiKP 00 42 02.2 -1.9
comp=Z,9.6nm,0.6s,baz=69,slow=2.2,SNR=47
MKAR PKKPbc PKKPbc 00 53 10.1 -2.2
comp=Z,1.0nm,0.6s,baz=305,slow=2.9,SNR=14
SIV San Ignacio 109.94 116 PKiKP PKiKP 00 42 03.4 -2.7
comp=Z,0.8nm,0.5s,baz=209,slow=6.6,SNR=4.1
SIV PKKPbc PKKPbc 00 53 09.4 -0.8
comp=Z,1.7nm,0.6s,baz=77,slow=4.7,SNR=8.2
SDV Santo Domingo 110.49 87 PKiKP PKiKP 00 42 04.8 -2.4
comp=Z,3.8nm,0.7s,baz=273,slow=3.5,SNR=6.9
KURK Kurchatov 112.20 318 *e*PKiKP PKiKP 00 41 59.9 -9.4
KSH Kashi 113.11 306 *e*PKP PKiKP 00 42 09.1 -2.4
KSH *e*PPP 00 45 39.1
KSH *e*XPKP 00 45 41.0
KSH *e*PKS 00 45 44.2
KSH *e*SKS SKSdf 00 48 20.2 -2.9
KSH PP PP
comp=Z,954nm,4.6s
AAK Ala-Archa 114.51 309 PKiKP PKiKP 00 42 11.8 -2.3
comp=Z,5.2nm,0.6s,baz=125,slow=5.8,SNR=4.4
BRYW Bryant College 115.70 52 *e*PKPdf PKPdf 00 42 14.4 -2.0
BVAR Borovoye Array 117.29 320 PKP PKPdf 00 42 17.3 -1.7
comp=Z,29nm,0.4s,baz=128,slow=2.2,SNR=173
BVAR PKKPab PKKPab 00 52 49.8 -0.4
comp=Z,0.5nm,0.6s,baz=259,slow=1.5,SNR=4.2
BRVK Borovoye 117.35 320⇑*e*PKIKP PKPdf 00 42 17.3 -1.9
KBL Kabul 118.16 299 *e*PKPdf PKPdf 00 42 20.4 -0.9
SCHQ Schefferville 118.45 37 PKP PKPdf 00 42 18.8 -2.4
comp=Z,4.6nm,0.5s,baz=256,slow=3.9,SNR=20
BDFB Brasilia 120.91 123 PKP PKPdf 00 42 24.9 -2.2
comp=Z,3.6nm,0.5s,baz=172,slow=5.5,SNR=12
BDFB PKKPab PKKPab 00 52 33.4 -3.4
comp=Z,1.6nm,0.5s,baz=134,slow=8.0,SNR=6.2
CAM4 Nova Friburgo 120.92 132⇑*i*P PKPdf 00 42 25.8 -1.2
CAM4 *i* 00 42 27.5
CAM4 *i* 00 42 43.0
CAM4 *i* 00 43 08.9
FDF Fort de France 120.99 84 *e*P PKPdf 00 42 25.2 -2.1
DAG Danmarks Havn 121.60 5⇓*i*PKIKP PKPdf 00 42 24.4 -2.3
DAG pmax pmax
comp=Z,11nm,0.5s
DAG Danmarks Havn 121.60 5⇓*i*P PKPdf 00 42 24.4 -2.3
comp=Z,10nm,0.5s
CAM3 Guarapari 123.42 132⇑*i*P PKPdf 00 42 30.3 -1.6
CAM3 *i* 00 42 31.9
CAM3 *i* 00 42 41.5
CAM3 *i* 00 42 46.5
CAM3 *i* 00 43 13.6
ARU Arti 123.43 326 *i*PKIKP PKPdf 00 42 29.5 -1.2
ARU 00 44 21.2
ARU Arti 123.43 326⇑*e*PKP PKPdf 00 42 29.5 -1.2
SUR Sutherland 125.17 201 PKKPab PKKPab 00 52 15.9 -3.1
comp=Z,7.1nm,0.7s,baz=306,slow=3.4,SNR=17
AKTK Aktyubinsk 125.27 319 PKP PKPdf 00 42 33.3 -1.1
AKTO Aktyubinsk 125.27 319 PKP PKPdf 00 42 33.3 -1.1
comp=Z,22nm,0.7s,baz=84,slow=3.8,SNR=46
BOSA Boshof 126.82 207 PKP PKPdf 00 42 36.6 -1.6
comp=Z,17nm,1.1s,baz=149,slow=2.7,SNR=19
BOSA PKKPab 00 52 08.9
comp=Z,3.4nm,0.7s,baz=28,slow=1.6,SNR=8.9
KEV Kevo 126.98 349 *e*p PKPdf 00 42 31.2 -6.0
comp=Z,13nm,0.3s
KEV Kevo 126.98 349 *e*PKIKP PKPdf 00 42 31.2 -6.0
KEV pmax pmax
comp=Z,13nm,0.3s
ARCES ARCESS Array B 127.44 349 PKP PKPdf 00 42 36.5 -1.6
comp=Z,24nm,0.4s,baz=18,slow=1.3,SNR=93
ARCES SKPbc 00 44 55.7
comp=Z,3.4nm,0.8s,baz=30,slow=5.6,SNR=4.8
ARE0 ARCESS Array S 127.44 349 *e*PKPdf PKPdf 00 42 36.3 -1.7
JOF Joensuu 131.53 342 *e*p 00 42 28.7
comp=Z,0.8nm,0.3s
JOF Joensuu 131.53 342 *e*pkp SKPbc 00 45 09.7 -2.4
BORG Borgarnes 132.19 13 PKP PKPdf 00 42 46.2 -0.9
comp=Z,14nm,0.6s,baz=300,slow=8.1,SNR=4.3
MOS Moscow 134.17 332 *e*PKIKP PKPdf 00 42 47.9 -3.3
MOS pmax pmax
comp=Z,50nm,0.9s
FINES FINESS Array B 134.19 343 PKP 00 42 35.2
FINES PKP PKPdf 00 42 49.4 -1.6
FINES SKPbc SKPbc 00 45 19.0 -2.0
FINES FINESS Array B 134.19 343 PKhKP 00 42 35.2
comp=Z,1.2nm,0.4s,baz=42,slow=4.5,SNR=6.5
FINES PKP PKPdf 00 42 49.4 -1.6
comp=Z,10.0nm,0.6s,baz=72,slow=4.5,SNR=14
FINES SKPbc SKPbc 00 45 19.0 -2.0
comp=Z,7.9nm,0.5s,baz=58,slow=2.6,SNR=13
OBN Obninsk 135.03 332⇑*e*PKP PKPdf 00 42 51.1 -1.7
KIV Kislovodsk 137.15 315 *e*P Pdif 00 40 02.5 -6.1
KIV pmax pmax
comp=Z,11nm,0.7s
NB2 NORSAR Subarra137.56 352 PKPdf 00 42 45.9
comp=Z,3.5nm,0.7s,baz=14,slow=1.8
NOA NORSAR Array B137.56 352 PKHKP 00 42 45.8
NOA 00 42 55.8
NOA NORSAR Array B137.56 352 PKhKP 00 42 45.8
comp=Z,6.5nm,0.6s,baz=22,slow=3.9,SNR=14
NOA PKP PKPdf 00 42 55.8 -1.5
comp=Z,8.7nm,0.5s,baz=14,slow=4.0,SNR=10
NOA SKPbc SKPbc 00 45 29.4 -1.8
comp=Z,2.3nm,0.5s,baz=14,slow=4.4,SNR=4.5
HFS Hagfors 138.08 350 PKHKP 00 42 46.7
HFS 00 42 55.2
HFS Hagfors 138.08 350 PKhKP 00 42 46.7
comp=Z,20nm,0.4s,baz=55,slow=4.2,SNR=34
HFS PKP PKPdf 00 42 55.2 -3.0
comp=Z,11nm,0.6s,baz=72,slow=4.8,SNR=6.3
HFS SKPbc SKPbc 00 45 30.1 -2.5
comp=Z,4.6nm,0.6s,baz=108,slow=1.8,SNR=4.1
BHD Baghdad 138.65 299 *e*x x 00 42 48.5
BHD *e*x x 00 46 34.0
ATD Arta Tunnel 138.68 266 SKPbc SKPbc 00 45 33.7 -2.0
comp=Z,14nm,1.1s,baz=93,slow=23,SNR=5.1
KMBO Kilima Mbogo 138.76 245 PKHKP 00 42 53.8
KMBO 00 43 02.1
KMBO Kilima Mbogo 138.76 245 PKhKP 00 42 53.8
comp=Z,2.2nm,0.5s,baz=153,slow=5.6,SNR=8.3
KMBO PKP PKPdf 00 43 02.1 +1.2
comp=Z,6.0nm,0.7s,baz=41,slow=3.9,SNR=6.2
KMBO SKPbc SKPbc 00 45 35.2 -0.8
comp=Z,4.5nm,1.0s,baz=43,slow=23,SNR=6.2
MSL Mosul 139.13 304 *e*x x 00 43 02.0
SOC Sochi 139.28 315 *i*PKP PKPdf 00 43 00.3 -0.7
ERZM Erzurum 139.46 309 *i*P PKPdf 00 42 54.1 -7.3
MVH1 Achvaich 141.19 4 *e*P PKPdf 00 42 57.8 -6.1
SUW Suwalki 141.20 339 *e*PKP PKPdf 00 42 58.7 -5.3
SUW Suwalki 141.20 339 *e*PKP PKPdf 00 42 58.7 -5.4
AKASG Malin Array Be 141.29 331 PKHKP 00 42 58.1
AKASG 00 43 04.9
AKASG Malin Array Be 141.29 331 PKhKP 00 42 58.0
comp=Z,40nm,0.5s,baz=43,slow=4.1,SNR=178
AKASG PKP PKPdf 00 43 04.9 +0.5
comp=Z,23nm,0.7s,baz=47,slow=3.2,SNR=20
AKASG SKPbc SKPbc 00 45 39.1 -2.2
comp=Z,1.8nm,0.6s,baz=47,slow=2.4,SNR=4.9
GRSN GIRESUNGRSN 141.32 312 *i*P PKPdf 00 42 57.6 -7.2
KAC Achnashellach 141.53 5 *e*P PKPdf 00 42 59.2 -5.4
MCD Coleburn Disti 141.59 3 *e*P PKPdf 00 42 58.5 -6.2
KPL Plockton 141.66 5 *e*P PKPdf 00 42 58.9 -5.9
KPL AMb AMB 00 43 02.3
comp=Z,218nm,1.7s
MDO Dochfour 141.66 4 *e*P PKPdf 00 42 59.3 -5.5
ELZG Elazig 141.67 308 *i*P PKPdf 00 43 00.4 -5.0
MME1 Meikle Cairn 141.88 3 *e*P PKPdf 00 42 59.2 -6.0
KAR1 Arisaig 142.06 6⇑*e*P PKPdf 00 43 00.6 -4.9
MALT Malatya 142.14 308 P PKPdf 00 43 03.7 -2.5
MALT Malatya 142.14 308⇑*i*P PKPdf 00 43 03.1 -3.2

SIM **Simferopol'** 142.20 320⇑ *i*PKIKP PKPdf 00 43 02.6 -3.6
SIM pmax pmax
comp=Z,87nm,0.7s
MUD **Monsted U'grnd** 142.28 352 *i* P PKPdf 00 43 02.3 -3.6
comp=Z,70nm,0.6s
MUD
comp=Z,560nm,18.0s
ATAB **Bozova** 142.51 307 *i* P PKPdf 00 43 02.3 -4.7
COP **Copenhagen** 142.53 349⇑ *i*P PKPdf 00 43 02.6 -3.8
comp=Z,76nm,0.8s
COP
comp=Z,200nm,20.0s
BSD **Bornholm Skovb** 142.57 347⇑ *i*P PKPdf 00 43 02.5 -4.0
comp=Z,133nm,0.5s
BSD
comp=Z,490nm,20.0s
ELO **Logie Almond** 142.67 4⇑ *e*P PKPdf 00 43 02.6 -4.0
EBH **Black Hill** 142.91 4⇑ *e*P PKPdf 00 43 03.7 -3.3
EAB **Aberfoyle** 142.91 5⇑ *e*P PKPdf 00 43 03.6 -3.4
GZT **Gaziantep** 143.10 307 *i* P PKPdf 00 43 05.8 -2.2
PGBU **Glenifferbraes** 143.27 5⇑ *e*P PKPdf 00 43 04.8 -2.9
PGBU AMb AMB 00 43 06.8
comp=Z,284nm,1.4s
ESY **Stoneypath** 143.29 3⇑ *e*P PKPdf 00 43 04.8 -2.9
EAU **Auchinoon** 143.31 4⇑ *e*P PKPdf 00 43 05.3 -2.5
WAR **Warsaw** 143.40 339 *e*PKPc PKPdf 00 43 06.6 -1.4
EBL **Broad Law** 143.41 3⇑ *e*P PKPdf 00 43 05.5 -2.4
RGN **Rugen** 143.43 348 *e*PKP PKPdf 00 43 05.9 -2.1
GMK **Mull of Kintyr** 143.63 6⇑ *i*P PKPdf 00 43 06.1 -2.2
GKP **Gorka Klasztor** 143.67 343 *e*PKPc PKPdf 00 43 06.9 -1.6
GKP **Gorka Klasztor** 143.67 343⇑ *e*PKP PKPdf 00 43 06.9 -1.6
XSO **Sourhope Farm** 143.73 3⇑ *e*P PKPdf 00 43 06.3 -2.2
EKA **Eskdalemuir Ar** 143.84 4 PKP PKPdf 00 43 06.5 -2.1
comp=Z,80nm,0.7s,baz=340,slow=2.8,SNR=136
GCL **Cushendall** 143.84 7 *e*P PKPdf 00 43 07.1 -1.6
ESK **Eskdalemuir** 143.85 4 *e*P PKPdf 00 43 06.3 -2.4
ESK AMb AMB 00 43 07.9
comp=Z,211nm,1.5s
ESK **Eskdalemuir** 143.85 4 *e*PKPdf PKPdf 00 43 06.2 -2.5
KIS **Kishinev** 143.97 327⇑ *i*P PKPdf 00 43 07.0 -2.2
KIS M 00 43 07.5
comp=Z,400nm,1.5s
KIS LRM 01 17 36.0
comp=Z,500nm,18.0s
ECK **Cauldkaine Hil** 143.99 4⇑ *e*P PKPdf 00 43 06.9 -2.0
GAL1 **Galloway** 144.19 5⇑ *e*P PKPdf 00 43 07.7 -1.6
GAL1 ⇑ *i*P 00 43 07.7
GAL1 AMb AMB 00 43 09.7
comp=Z,235nm,2.2s
LVV **L'vov** 144.21 334 *i* PKIKP PKPdf 00 43 08.0 -1.5
GCD **Castle Douglas** 144.25 5⇑ *i*P PKPdf 00 43 07.8 -1.6
XAL **Allendale** 144.36 3⇑ *i*P PKPdf 00 43 08.4 -1.2
IAS **Iasi** 144.49 328 PKIKP PKPdf 00 43 09.6 -0.5
BSEG **Bad Segeberg** 144.56 350 *e*PKPbc PKPdf 00 43 09.6 -0.4
CKE **Keswick** 144.59 4⇑ *i*P PKPdf 00 43 09.1 -0.9
HLG **Helgoland** 144.66 353 *e*PKPbc PKPdf 00 43 10.4 +0.3
GMM **Mts of Mourne** 144.69 7 *e*P PKPdf 00 43 09.6 -0.6
GIM **North Isle of** 144.78 5⇑ *i*P PKPdf 00 43 09.6 -0.7
KWP **Kalwaria** 144.90 335 *e*PKPc PKPdf 00 43 11.0 +0.3
KWP **Kalwaria** 144.90 335⇑ *e*PKP PKPdf 00 43 11.0 +0.3
KWP **Kalwaria** 144.90 335⇑ *i*P PKPdf 00 43 10.8 +0.1
DMUB **Kingscourt** 144.91 8 *e*P PKPdf 00 43 10.0 -0.6
FKH **Fakeheh** 144.94 303 *e*P PKPdf 00 43 12.1 +0.8
ASF **Jabal al Asfar** 145.05 299 PKPbc PKPbc 00 43 12.4 -0.2
comp=Z,34nm,0.7s,baz=338,slow=2.2,SNR=64
RUE **Ruedersdorf** 145.26 346 *e*PKPbc PKPbc 00 43 11.8 -0.8
RUE **Ruedersdorf** 145.26 346 *e*PKPbc PKPbc 00 43 11.8 -0.8
HPK **Haverah Park** 145.29 2⇑ *e*P PKPdf 00 43 11.5 +0.3
HPK AMb AMB 00 43 12.7
comp=Z,290nm,1.8s
BURAR **Bucovina Array** 145.33 330⇑ *i*P PKPdf 00 43 12.7 +1.2
DCN **Croghan** 145.40 8 *e*P PKPdf 00 43 11.3 -0.1
OJC **Ojcow** 145.51 338 *e*PKPdf PKPdf 00 43 10.8 -0.9
OJC *i* PKPab PKPab 00 43 12.5 -2.7
OJC **Ojcow** 145.51 338 *i* PKP2 PKPdf 00 43 12.5 +0.8
DLF **Lyons Farm** 145.54 8 *e*P PKPdf 00 43 11.6 -0.1
RCY **Rachaya** 145.61 302 *e*P PKPdf 00 43 13.9 +1.4
DSB **Dublin** 145.61 7 *e*PKPdf PKPdf 00 43 11.2 -0.6
KOLS **Kolonicke sedl** 145.62 334 *e*PKP PKPdf 00 43 11.5 -0.4
BHL **Bhannes** 145.63 302 *e*P PKPdf 00 43 13.8 +1.3
STHS **Stebnicka Huta** 145.64 336 *i* PKP PKPdf 00 43 13.4 +1.4
STHS *e* 00 45 47.2
LHO **Holmfirth** 145.69 3⇑ *i*P PKPdf 00 43 12.2 +0.2
VRI **Vrincioaia** 145.81 327 P PKPdf 00 43 13.7 +1.4
VRI **Vrincioaia** 145.81 327⇑ *i*P PKPdf 00 43 13.3 +0.9
TIRR **Tirgusor** 145.81 324⇑ *i*P PKPdf 00 43 13.2 +0.8
UZH **Uzhgorod** 145.85 334⇑ *e*PKIKP PKPdf 00 43 11.3 -1.0
UZH *i* 00 43 14.3
PLOR **Plostina** 145.86 327 PKP2 PKPdf 00 43 13.7 +1.3
PLOR **Plostina** 145.86 327⇑ *i*P PKPdf 00 43 13.3 +0.9
HARR **Harsova** 145.93 324 P PKPdf 00 43 14.3 +1.7
HARR **Harsova** 145.93 324⇑ *i*P PKPdf 00 43 14.1 +1.5
CRVS **Cervenica-Dubn** 145.97 335 *e*PKP PKPdf 00 43 14.2 +1.7
CRVS *e* 00 45 49.0
NRDL **Niedersach Rie** 145.99 350 *e*PKPdf PKPdf 00 43 11.3 -1.1
NRDL *e*PKPbc PKPbc 00 43 13.8 -0.8
NIE **Niedzica** 145.99 337 *e*PKPdf PKPdf 00 43 12.3 -0.2
NIE *i* PKPab PKPab 00 43 14.5 -2.6
NIE **Niedzica** 145.99 337 *i* PKP2 PKPab 00 43 14.5 -2.6
KBI1 **Birley Grange** 146.00 2⇑ *e*P PKPdf 00 43 13.1 +0.6
MMAI **Mount Meron Ar** 146.07 301 PKPbc PKPbc 00 43 15.4 -0.1
comp=Z,86nm,0.6s,baz=67,slow=6.4,SNR=244
MMAI SKPbc SKPbc 00 45 49.7 -3.5
comp=Z,15nm,1.0s,baz=48,slow=2.1,SNR=5.8
KSP **Ksiaz** 146.10 342 *e*PKPc PKPdf 00 43 14.7 +2.0
KSP **Ksiaz** 146.10 342 *e*PKP PKPdf 00 43 11.6 -1.1
KSP *i* PKPdf PKPdf 00 43 14.5 +1.8
KSP *e*pPKP pPKPdf 00 45 44.8 +2.8
KWE **Weaver Farm** 146.22 3⇑ *e*P PKPdf 00 43 14.0 +1.2
SBD1 **Bryn Du** 146.25 4⇑ *i*P PKPdf 00 43 14.1 +1.2
OKC **Ostrava-Krasne** 146.40 339 *e*PKP PKPdf 00 43 12.2 -1.0
OKC *e* 00 43 15.1
OKC *e* 00 43 18.8
OKC **Ostrava-Krasne** 146.40 339 *e*PKPDF PKPdf 00 43 12.2 -1.0
OKC ⇑ *e*PKP PKPdf 00 43 15.1 +1.9
OKC *e*PKPAB PKPab 00 43 18.8 +0.1
OKC *e*pPKP pPKPdf 00 45 47.3 +5.0
OKC *e*SKP 00 45 52.0
ABA1 **Baconsthorpe** 146.40 359⇑ *e*P PKPdf 00 43 14.6 +1.5
PSN **Preselentsi** 146.42 323 *i* P PKPdf 00 43 15.7 +2.2
AWI1 **Witton** 146.46 359⇑ *e*P PKPdf 00 43 15.1 +1.9
MLR **Muntele Rosu** 146.47 327 P PKPdf 00 43 15.9 +2.4
MLR **Muntele Rosu** 146.47 327 PKPbc PKPbc 00 43 15.0 -1.2
comp=Z,41nm,0.5s,baz=347,slow=4.8,SNR=55
MLR SKPbc SKPbc 00 45 48.7 -5.0
comp=Z,21nm,1.2s,baz=211,slow=1.6,SNR=8.0
MLR **Muntele Rosu** 146.47 327⇓ *i*P PKPdf 00 43 15.1 +1.6
UPC **Upice** 146.48 342 *e*PKP PKPdf 00 43 12.5 -0.8
UPC *e* 00 43 15.6
UPC *e* 00 43 19.2
UPC **Upice** 146.48 342 *e*PKPDF PKPdf 00 43 12.5 -0.8
UPC ⇑ *e*PKP PKPdf 00 43 15.6 +2.3
UPC *e*PKPAB PKPab 00 43 19.2 +0.2
UPC *e*pPKP pPKPdf 00 45 45.6 +3.2
CWF **Charnwood Fore** 146.52 2⇑ *e*P PKPdf 00 43 14.7 +1.3
CWF AMb AMB 00 43 16.8
comp=Z,174nm,1.6s
IBBN **Ibbenburen** 146.52 352 *e*PKPdf PKPdf 00 43 12.5 -0.8
IBBN *e*PKPbc PKPbc 00 43 15.2 -0.9
IBBN *e*PKPab PKPab 00 43 18.5 -0.6
DPC **Dobruska-Polom** 146.53 342 *e*PKIKP PKPdf 00 43 12.6 -0.8
DPC *e* 00 43 15.9
DPC **Dobruska-Polom** 146.53 342 *e*PKP PKPdf 00 43 12.6 -0.8
DPC *e* 00 43 15.9
DPC *e* 00 43 19.7
DPC **Dobruska-Polom** 146.53 342 *e*PKPDF PKPdf 00 43 12.6 -0.8
DPC ⇑ *e*PKP PKPdf 00 43 15.9 +2.5
DPC *e*PKPAB PKPab 00 43 19.7 +0.5
DPC *e*pPKP pPKPdf 00 45 48.0 +5.5
CLL **Collm** 146.53 346⇑ *e*PKIKP PKPdf 00 43 12.0 -1.4
CLL *i* 00 43 18.5
CLL pmax pmax
comp=Z,12nm,1.0s
CLL pmax pmax
comp=Z,245nm,0.6s
CLL pmax pmax
comp=Z,138nm,0.6s
CLL **Collm** 146.53 346 *e*PKP PKPdf 00 43 12.0 -1.4
CLL ⇑ *i*PKP PKPbc 00 43 15.4 -0.7
CLL ⇓ *i*PKP PKPab 00 43 18.5 -0.7
CLL *e*pPKP pPKPdf 00 45 45.0 +2.5
CLL **Collm** 146.53 346 *e*PKPdf PKPdf 00 43 12.0 -1.4
CLL *i* PKPbc PKPbc 00 43 15.3 -0.8
comp=Z,251nm,0.6s
CLL *e*PKiKP PKiKP 00 43 16.9 -1.2
CLL *e*PKPab PKPab 00 43 18.2 -1.0
CLL **Collm** 146.53 346 *e*PKPdf PKPdf 00 43 12.0 -1.4
comp=Z,12nm,1.0s
CLL ⇑ *i*PKPbc PKPbc 00 43 15.4 -0.7
comp=Z,245nm,0.6s
CLL *i* PKiKP PKiKP 00 43 17.0 -1.1
CLL ⇓ *i*PKPab PKPab 00 43 18.5 -0.7
comp=Z,138nm,0.6s
CLL *ex* x 00 45 37.0
CLL *e*pPKPdf pPKPdf 00 45 45.0 +2.5
CLZ **Clausthal** 146.57 349 *e*PKPdf PKPdf 00 43 12.5 -0.9
CLZ *e*PKPbc PKPbc 00 43 15.7 -0.5
CLZ *e*PKPab PKPab 00 43 18.7 -0.6
PHNC **Paralimni** 146.57 305 P PKPdf 00 43 15.8 +1.8
KDHN **Kadinhani** 146.63 312 *i* P PKPdf 00 43 14.9 +0.9
MORC **Moravsky Berou** 146.65 340 P PKPdf 00 43 16.2 +2.6
MORC **Moravsky Berou** 146.65 340⇑ *i*P PKPdf 00 43 15.8 +2.2
HLM1 **Long Mynd** 146.66 4⇑ *i*P PKPdf 00 43 15.1 +1.5
AEU **East Anglia Un** 146.67 359⇑ *e*P PKPdf 00 43 15.3 +1.7
BRG **Berggiesshubel** 146.71 345 *e*PKIKP PKPdf 00 43 12.3 -1.4
BRG *i* 00 43 19.2
BRG pmax pmax
comp=Z,9.0nm,1.0s
BRG pmax pmax
comp=Z,71nm,0.7s
BRG pmax pmax
comp=Z,51nm,0.7s
BRG pmax pmax
comp=Z,10.0nm,1.1s
BRG **Berggiesshubel** 146.71 345 *e*PKPdf PKPdf 00 43 12.4 -1.3
BRG *e*PKPbc PKPbc 00 43 15.9 -0.7
BRG *e*PKPab PKPab 00 43 19.4 -0.5
BRG *e*pPKPab 00 45 48.4
BRG **Berggiesshubel** 146.71 345 *e*PKP PKPdf 00 43 12.3 -1.4
comp=Z,16nm,1.0s
BRG *i* 00 43 16.1
comp=Z,119nm,0.7s
BRG *i* 00 43 19.2
comp=Z,86nm,0.7s
BRG pPKP pPKPdf 00 45 46.7 +3.9
comp=Z,16nm,1.1s
FBE **Freiberg** 146.81 345 *e*PKPdf PKPdf 00 43 12.6 -1.3
FBE *e*PKPbc PKPbc 00 43 16.4 -0.5
FBE *e*PKPab PKPab 00 43 20.0 -0.3
PVCC **Panska Ves** 146.86 344 *e*PKIKP PKPdf 00 43 12.6 -1.4
PVCC *e* 00 43 16.6
PVCC **Panska Ves** 146.86 344 *e*PKPDF PKPdf 00 43 12.6 -1.4
PVCC ⇑ *e*PKP PKPdf 00 43 16.6 +2.6
PVCC *e*pPKP pPKPdf 00 45 48.7 +5.6
PVCC *e*SKP 00 45 53.8
VOIR 146.96 328 PKP2 PKPbc 00 43 16.6 -0.9
VOIR 146.96 328⇑ *i*P PKPbc 00 43 16.7 -0.8
WTSB **Winterswijk** 146.97 353⇑ *i*PKiKP PKiKP 00 43 12.8 -6.2
comp=Z,51nm,1.5s
WTSB **Winterswijk** 146.97 353⇑ *i*PKPpre 00 43 16.2
comp=Z,218nm,0.9s
WTSB **Winterswijk** 146.97 353 *e*PKPab PKPab 00 43 19.7 -1.3
comp=Z,109nm,0.7s
HTR **Trewern Hill** 147.07 4⇑ *i*P PKPdf 00 43 15.9 +1.6
DRGR 147.09 332 P PKPbc 00 43 17.2 -0.6
DRGR 147.09 332⇑ *i*P PKPdf 00 43 16.9 +2.4
CSS **Prodhromos** 147.13 305 ⇑P PKPdf 00 43 17.2 +2.3
comp=Z,1.1nm,0.5s
CSS **Prodhromos** 147.13 305 *e*P PKPdf 00 43 17.2 +2.3
CSS **Prodhromos** 147.13 305 *e*PKPbc PKPbc 00 43 17.1 -1.2
MAMC **Mammari** 147.14 306 ⇑P PKPdf 00 43 17.5 +2.6
HAE **Alders End** 147.16 4⇑ *i*P PKPdf 00 43 16.4 +2.0
PRD **Provadia** 147.17 323 *i* P PKPbc 00 43 17.8 -0.3
MCH1 **Michaelchurch** 147.17 4 P PKPdf 00 43 16.1 +1.7
MCH1 AMb AMB 00 43 21.2
comp=Z,221nm,1.7s
MCH1 AMb AMB 00 43 21.2
comp=Z,221nm,1.7s
MCH1 **Michaelchurch** 147.17 4⇑ *e*P PKPdf 00 43 16.1 +1.7
MCH1 ⇑ *e*P 00 43 16.1
MCH1 AMb AMB 00 43 21.2
comp=Z,221nm,1.7s
MCH1 AMb AMB 00 43 21.2
comp=Z,221nm,1.7s
EIL **Elat** 147.19 295 PKP PKPdf 00 43 13.8 -1.4
comp=Z,36nm,0.6s,baz=308,slow=1.4,SNR=9.2
EIL PKPbc PKPbc 00 43 17.9 -0.7
comp=Z,36nm,0.6s,baz=91,slow=3.7,SNR=49
SSW **Stow on the Wo** 147.27 3⇑ *i*P PKPdf 00 43 17.1 +2.5
VYHS **Vyhne** 147.30 337 *e*PKIKP PKPdf 00 43 13.5 -1.3
VYHS *i* 00 43 17.6
VYHS **Vyhne** 147.30 337 *e*PKP PKPdf 00 43 13.5 -1.3
VYHS *i* 00 43 17.6
VYHS *e* 00 45 47.6
PRA **Prague** 147.31 343 ⇑PKP PKPdf 00 43 17.0 +2.3
PRU **Pruhonice** 147.36 343 *e*PKP PKPdf 00 43 13.6 -1.2
PRU *e* 00 43 17.7
PRU *e* 00 43 22.5
PRU **Pruhonice** 147.36 343 *e*PKPDF PKPdf 00 43 13.6 -1.2
PRU ⇑ *e*PKP PKPdf 00 43 17.7 +2.9
PRU *e*PKPAB PKPab 00 43 22.5 -0.1
PRU *e*pPKP pPKPdf 00 45 50.9 +7.0
PRU *ex* x 00 46 00.3
VRAC **Vranov** 147.37 341 PKP PKPdf 00 43 13.5 -1.4
comp=Z,41nm,0.8s,baz=21,slow=2.2,SNR=3.6
VRAC PKPbc PKPbc 00 43 17.7 -0.7
comp=Z,41nm,0.8s,baz=38,slow=1.9,SNR=36
VRAC SKPbc SKPbc 00 45 51.4 -4.1
comp=Z,8.9nm,1.1s,baz=23,slow=3.1,SNR=6.2
VRAC **Vranov** 147.37 341⇓ *i*P PKPbc 00 43 17.7 -0.7
PSZ **Piszkesteto** 147.38 336 P PKPbc 00 43 17.8 -0.6
PSZ **Piszkesteto** 147.38 336⇑ *e*PKP PKPbc 00 43 17.7 -0.8
PSZ **Piszkesteto** 147.38 336⇑ *i*P PKPbc 00 43 17.6 -0.9
BUG **Bochum--Univer** 147.43 352 *e*PKPdf PKPdf 00 43 13.8 -1.1
BUG *e*PKPbc PKPbc 00 43 17.3 -1.2
MOX **Moxa** 147.46 347 *e*PKP PKPdf 00 43 13.6 -1.3
MOX *e* 00 43 17.6
comp=Z,122nm,1.1s
MOX **Moxa** 147.46 347 *e*PKIKP PKPdf 00 43 13.6 -1.3
MOX *e* 00 43 17.6
MOX pmax pmax
comp=Z,122nm,1.1s
MOX **Moxa** 147.46 347 *e*PKPdf PKPdf 00 43 13.5 -1.4
MOX *e*PKPbc PKPbc 00 43 17.7 -0.9
MOX *e*PKPab PKPab 00 43 22.2 -0.8
TANN **Tannenbergstha** 147.49 346 *e*PKPdf PKPdf 00 43 13.7 -1.3
TANN *e*PKPbc PKPbc 00 43 18.1 -0.6
TANN *e*PKPab PKPab 00 43 22.7 -0.4
WERD **Werda** 147.49 346 *e*PKPdf PKPdf 00 43 13.5 -1.5
WERD *e*PKPbc PKPbc 00 43 18.0 -0.7
WERD *e*PKPab PKPab 00 43 22.6 -0.6
WERD *e*pPKPab pPKPab 00 45 51.1 +5.6
HGH **Gray Hill** 147.54 4⇑ *i*P PKPdf 00 43 17.1 +2.1
SZAC **Souni-Zanaja** 147.54 305 P PKPbc 00 43 18.4 -0.9
comp=Z,4.1nm,0.5s
SKP1 **Kophill** 147.55 2⇑ *i*P PKPdf 00 43 17.1 +2.1
GUNZ **Gunzen** 147.57 346 *e*PKPdf PKPdf 00 43 14.1 -1.0
GUNZ *e*PKPbc PKPbc 00 43 18.5 -0.4
GUNZ *e*PKPab PKPab 00 43 23.3 -0.2
GUNZ *e*pPKPab pPKPab 00 45 51.8 +6.0
UBBA **Unterbreizbach** 147.61 349 *e*PKPdf PKPdf 00 43 13.7 -1.5
UBBA *e*PKPbc PKPbc 00 43 17.9 -1.1
ALFC **Alevga** 147.62 306 ⇑P PKPdf 00 43 18.2 +2.5
comp=Z,4.9nm,0.3s
WERN **Wernitzgruen** 147.63 346 *e*PKPdf PKPdf 00 43 14.2 -1.0
WERN *e*PKPbc PKPbc 00 43 18.6 -0.4
WERN *e*PKPab PKPab 00 43 23.5 -0.2
WERN *e*pPKPab pPKPab 00 45 52.1 +6.1
NKC **Novy Kostel** 147.66 346 *e*PKP PKPdf 00 43 14.0 -1.3
NKC *e* 00 43 18.5
NKC *e* 00 43 23.6
NKC **Novy Kostel** 147.66 346 *e*PKPDF PKPdf 00 43 14.0 -1.3
NKC ⇑ *e*PKP PKPbc 00 43 18.5 -0.6
NKC *e*PKPAB PKPab 00 43 23.6 -0.2
NKC *e*pPKP pPKPdf 00 45 52.5 +8.1
TREC **Trest** 147.72 342 *e*PKIKP PKPdf 00 43 14.2 -1.2
TREC *e* 00 43 18.6
TREC **Trest** 147.72 342 *e*PKPDF PKPdf 00 43 14.2 -1.2
TREC ⇑ *e*PKP PKPbc 00 43 18.6 -0.7
TREC *e*pPKP pPKPdf 00 45 51.8 +7.2
SWN1 **Swindon** 147.73 3⇑ *e*P PKPdf 00 43 17.9 +2.6
SWN1 ⇑ *e*P 00 43 17.9
SWN1 AMb AMB 00 43 22.8
comp=Z,299nm,2.1s
AKMC **Akamas** 147.88 306 P PKPdf 00 43 18.3 +2.2
PPCY **Paphos** 147.91 306 ⇑P PKPdf 00 43 18.5 +2.3
WOL **Wolverton** 147.95 2 *e*P PKPdf 00 43 18.3 +2.6
SZH **Strazhica** 147.95 324 *i* P PKPbc 00 43 19.2 -0.9
MODS **Modra-Piesok** 147.95 339 *e*PKHKP 00 43 15.0
MODS *i* 00 43 19.8
MODS **Modra-Piesok** 147.95 339 *e*PKP PKPdf 00 43 15.0 -0.8
MODS *i* 00 43 19.8
MODS *e* 00 45 53.1
MANZ **Manzenberg** 147.97 346 *e*PKPdf PKPdf 00 43 14.5 -1.3
MANZ *e*PKPbc PKPbc 00 43 19.3 -0.6
ZIMR 148.01 325 PKP2 PKPbc 00 43 19.7 -0.5
HEX **Exmoor** 148.04 5 *e*P PKPdf 00 43 18.5 +2.6
HTL **Hartland** 148.04 6⇑ *e*P PKPdf 00 43 18.3 +2.4
HTL AMb AMB 00 43 25.1
comp=Z,154nm,1.6s
SWK **Warminster** 148.07 3⇑ *i*P PKPdf 00 43 18.3 +2.4
ISP **Isparta** 148.07 312 *e*P PKPdf 00 43 19.0 +2.6
ISP **Isparta** 148.07 312 P PKPdf 00 43 18.9 +2.5
ISP **Isparta** 148.07 312⇑ *i*P PKPdf 00 43 18.7 +2.3
BUD **Budapest** 148.07 336⇑ *e*PKP PKPbc 00 43 19.3 -0.9
CALA **Caldeira** 148.09 47 *e*PKP PKPbc 00 43 20.2 -0.4
JMB **Yambol** 148.09 322 *e*P PKPbc 00 43 19.6 -0.8
JMB **Yambol** 148.09 322 *i* P PKPbc 00 43 19.8 -0.6
GZR **Gura Zlata** 148.10 330 P PKPbc 00 43 19.2 -1.1
GZR **Gura Zlata** 148.10 330⇑ *i*P PKPbc 00 43 19.4 -1.0
ROTZ **Rotzenmuhle** 148.15 346 *e*PKPdf PKPdf 00 43 14.6 -1.5
ROTZ *e*PKPbc PKPbc 00 43 19.7 -0.6
HOR **Horta** 148.17 47 *e*PKP PKPbc 00 43 20.6 -0.2
ZST **Bratislava** 148.17 339 *e*PKP PKPbc 00 43 20.2 -0.2
ZST *e* 00 45 53.6
TFO1 **Folkestone** 148.18 359 *e*P PKPbc 00 43 19.4 -0.9
BEBN **Eben Emael** 148.25 354 PKP PKPdf 00 43 14.9 -1.3
BEBN PKPbc PKPbc 00 43 19.4 -1.1
BEBN PKPab PKPab 00 43 25.1 -1.1
HGN **Heimansgroeve** 148.25 354⇑ *i*PKiKP PKiKP 00 43 14.8 -6.9
comp=Z,14nm,0.7s
HGN **Heimansgroeve** 148.25 354 *i* PKPpre 00 43 19.6
comp=Z,105nm,1.4s
HGN **Heimansgroeve** 148.25 354 *i* PKPab PKPab 00 43 24.6 -1.7
comp=Z,110nm,1.1s
PICO **Pico** 148.32 47 *e*PKP PKPdf 00 43 17.7 +1.0
ROSA **Rosais** 148.34 46 *e*PKP PKPbc 00 43 20.5 -0.7
UCC **Uccle** 148.36 355 PKP PKPdf 00 43 15.3 -1.1
UCC PKPbc PKPbc 00 43 19.8 -1.1
UCC PKPab PKPab 00 43 25.4 -1.3
CRAR **CRAIOVA** 148.37 327⇑ *i*P PKPbc 00 43 20.5 -0.6
MEM **Membach** 148.40 353 PKP PKPdf 00 43 15.4 -1.1
MEM PKPbc PKPbc 00 43 20.0 -0.9
MEM PKPab PKPab 00 43 26.2 -0.6
KHC **Kasperske Hory** 148.40 344 *e*PKP PKPdf 00 43 15.7 -0.8
KHC *e* 00 43 20.5
KHC *e* 00 43 27.0
KHC **Kasperske Hory** 148.40 344 *e*PKPDF PKPdf 00 43 15.7 -0.8
KHC ⇑ *e*PKP PKPbc 00 43 20.5 -0.5
KHC *e*PKPAB PKPab 00 43 27.0 +0.1
KHC *e*pPKP pPKPdf 00 45 50.9 +5.2
KHC *ex* x 00 46 02.6
GRA1 **Grafenberg Arr** 148.44 347 *e*PKPdf PKPdf 00 43 15.4 -1.2
GRA1 *e*PKPbc PKPbc 00 43 20.5 -0.6
GRA1 *e*PKPab PKPab 00 43 26.7 -0.4
GRF **Grafenberg Arr** 148.44 347 *e*PKPdf PKPdf 00 43 15.4 -1.2
GRF *e*PKPbc PKPbc 00 43 20.5 -0.6
GRF *e*PKPab PKPab 00 43 26.7 -0.4
GRFO **Grafenberg** 148.45 347 *e*PKP2 PKPab 00 43 26.8 -0.3
GRFO **Grafenberg** 148.45 347 *e*PKPbc PKPbc 00 43 20.5 -0.6
GRFO *e*PKPab PKPab 00 43 26.8 -0.3
BZS **Buzias** 148.47 331⇑ *i*P PKPbc 00 43 20.2 -1.1
PMAN **Manadas** 148.48 46 *e*PKP PKPbc 00 43 20.8 -0.7
WET **Wettzell** 148.57 345 *e*PKPdf PKPdf 00 43 15.3 -1.5
WET *e*PKPbc PKPbc 00 43 20.7 -0.7
WET *e*PKPab PKPab 00 43 27.4 -0.2
GEC2 **GERESS Array S** 148.63 343 *e*PKPbc PKPbc 00 43 20.8 -0.7
GERES **GERESS Array B** 148.63 343 PKP PKPdf 00 43 15.7 -1.2
comp=Z,9.5nm,0.8s,baz=27,slow=1.5,SNR=9.0
GERES PKPbc PKPbc 00 43 20.8 -0.8
comp=Z,55nm,0.6s,baz=28,slow=2.7,SNR=228
CSA1 **St Austell** 148.63 7⇑ *i*P PKPbc 00 43 19.9 -1.6
DYA **Yadsworthy** 148.65 6⇑ *e*P PKPbc 00 43 19.9 -1.6
DYA AMb AMB 00 43 22.0
comp=Z,167nm,1.8s
BCLA **Clavier** 148.66 354 PKP PKPdf 00 43 15.3 -1.6
BCLA PKPbc PKPbc 00 43 20.4 -1.2
BCLA PKPab PKPab 00 43 26.5 -1.4
CCA1 **Carnmenellis** 148.76 7⇑ *e*P PKPdf 00 43 19.9 +2.8
CRQ2 **Rosemanowes 2** 148.78 7⇑ *i*P PKPbc 00 43 20.2 -1.6
BTOK **Tokmak** 148.78 317 *i* P PKPdf 00 43 19.9 +2.5
SOP **Sopron** 148.79 339⇑ *e*PKP PKPbc 00 43 21.4 -0.6
CONA **Conrad Observa** 148.81 340 *i* PKiKP PKiKP 00 43 21.5 -1.5
comp=Z,298nm,1.6s,SNR=32
CMA1 **Manaccan** 148.87 7⇑ *i*P PKPbc 00 43 20.5 -1.6
ABH **Alteburg** 148.92 351 PKP PKPdf 00 43 16.5 -0.8
TOD **Tromm** 148.99 350 PKIKP PKPdf 00 43 15.8 -1.7
GIVF **Givet** 149.01 355 *e*PKIKP PKPdf 00 43 15.8 -1.7
DOU **Dourbes** 149.04 355 PKP PKPdf 00 43 16.7 -0.8
DOU PKPbc PKPbc 00 43 21.6 -0.8
DOU PKPab PKPab 00 43 28.1 -1.5
PSCM **Serra do Cume** 149.11 45 *e*PKP PKPdf 00 43 19.8 +1.8
BAIF **Baives** 149.11 356 *e*PKIKP PKPdf 00 43 16.1 -1.5
RUP **Ruppelstein** 149.16 352 PKIKP PKPdf 00 43 16.5 -1.2
PKSM **Moragy** 149.27 335 PKHKP PKPbc 00 43 21.9 -1.3
PKSM **Moragy** 149.27 335 ⇑P PKPdf 00 43 16.3 -1.7
PKSM **Moragy** 149.27 335⇑ *i*P PKPdf 00 43 16.3 -1.7
KDZ **Kurdzhali** 149.28 322 *i* P PKPbc 00 43 22.4 -1.0
WLF **Walferdange** 149.31 353 *e*PKPdf PKPdf 00 43 17.4 -0.5
WLF *e*PKPbc PKPbc 00 43 22.6 -0.6
WLF **Walferdange** 149.31 353 PKP PKPdf 00 43 17.5 -0.5
WLF PKPbc PKPbc 00 43 22.8 -0.3
WLF PKPab PKPab 00 43 29.4 -1.3
WLF APKP 00 45 56.3
WLF **Walferdange** 149.31 353 *e*PKPdf PKPdf 00 43 17.5 -0.5
WLF *e*PKPbc PKPbc 00 43 22.8 -0.4
WLF *e*pPKPab pPKPab 00 45 56.6 +4.1
MOA **Molln** 149.37 342⇑ *i*P PKPbc 00 43 22.1 -1.2
comp=Z,72nm,1.5s,SNR=16
ALN **Alexandroupoli** 149.38 320 *e*P PKPdf 00 43 21.8 +3.4
PLD **Plovdiv** 149.40 323 *e*P PKPdf 00 43 22.0 +3.7
AKHS **Akhisar** 149.40 316 *i* P PKPdf 00 43 20.6 +2.1
PGB **Panagyurishte** 149.40 325 *i* P PKPbc 00 43 22.7 -0.9
ARSA **Arzberg** 149.50 340 *i* P PKPbc 00 43 22.4 -1.3
comp=Z,126nm,1.9s,SNR=9.7
RDO **Rodhopi** 149.53 321 *e*P PKPdf 00 43 17.0 -1.6
RZN **Rozhen** 149.66 323 *i* P PKPbc 00 43 23.3 -1.0
STU **Stuttgart** 149.73 349 *e*PKPdf PKPdf 00 43 17.6 -1.0
STU *e*PKPbc PKPbc 00 43 23.5 -0.7
STU *e*PKPab PKPab 00 43 31.6 -0.8
LANF **Langenberg** 149.76 351 PKP PKPdf 00 43 17.5 -1.2
VTS **Vitosha** 149.89 326 *e*P PKPbc 00 43 24.0 -0.7
VTS **Vitosha** 149.89 326 P PKPbc 00 43 23.8 -1.0
VTS **Vitosha** 149.89 326⇑ *i*P PKPbc 00 43 24.0 -0.8
VTS **Vitosha** 149.89 326 *i* P PKPbc 00 43 24.1 -0.7
AYVA **Ayvalik** 149.90 317 *i* P PKPdf 00 43 21.8 +2.6
KOGS **Kog** 149.97 338 *e*PKPdf PKPdf 00 43 17.2 -1.9
KOGS *i* PKPbc PKPbc 00 43 23.2 -1.6
KOGS *i* PKPab PKPab 00 43 32.4 -1.2
AYDN **Tasoluk** 149.99 313 *i* P PKPbc 00 43 23.4 -1.8
BOZC **Bozcaada** 150.00 319 *i* P PKPdf 00 43 22.1 +2.8
KDAG **Bornova** 150.02 315 *i* P PKPdf 00 43 23.1 +3.7
STR **Strasbourg** 150.15 350 PKP PKPdf 00 43 18.2 -1.1
BLCB **Balcova** 150.18 315 *e*P PKPdf 00 43 23.9 +4.3
PERS **Pernice** 150.19 340 *i* PKPbc PKPbc 00 43 23.8 -1.5
PERS *i* PKPab PKPab 00 43 33.6 -0.8
PRK **Paraskevi** 150.20 317 *e*P PKPbc 00 43 24.7 -0.9
PRK **Paraskevi** 150.20 317 *e*P PKPbc 00 43 24.5 -1.1
MMB **Musomiste** 150.28 324 *i* P PKPbc 00 43 25.0 -0.7
BFO **Black Forest** 150.31 350 *e*PKIKP PKPdf 00 43 18.1 -1.4
BFO *e* 00 43 24.6
BFO *e* 00 43 34.0
BFO **Black Forest** 150.31 350 *e*PKPbc PKPbc 00 43 24.6 -0.9
BFO *e*PKPab PKPab 00 43 34.0 -0.9
KBA **Koelnbreinsper** 150.34 342 *i* P PKPbc 00 43 23.9 -1.7
comp=Z,49nm,1.0s,SNR=25
DIVS **Divibare** 150.38 331 *e*P PKPbc 00 43 24.7 -1.1
CDF **Champ du Feu** 150.40 351 *e*PKIKP PKPdf 00 43 17.8 -1.9
comp=Z,23nm,1.1s
SPAK **Spaichingen-Ko** 150.45 349 PKP PKPdf 00 43 18.2 -1.6
KKB **Krupnik** 150.46 325 *i* P PKPbc 00 43 25.0 -1.1
OBKA

ARG	Arkhangelos	150.51 311	eP	PKPbc	00 43 25.0	-1.4
FLN	La Foliniere	150.52 2	ePKIKP	PKPdf	00 43 18.2	-1.7
	comp=Z,73nm,1.0s					
LOS	Limnos	150.54 320	eP	PKPdf	00 43 24.2	+4.0
WATA	Walderalm	150.57 345	i P	PKPbc	00 43 25.0	-1.2
	comp=Z,75nm,1.2s,SNR=35					
PDA	Ponta Delgada	150.58 46	ePKP	PKPdf	00 43 22.3	+2.0
MEZF	Maizieres J'vi	150.58 354	ePKIKP	PKPdf	00 43 18.6	-1.4
BDRM	Kayabasi	150.58 313	i P	PKPdf	00 43 24.3	+4.0
ECH	Echery	150.60 351	PKP	PKPdf	00 43 18.4	-1.6
RETA	Reutte	150.63 346	⇑iPKPbc	PKPbc	00 43 25.1	-1.2
	comp=Z,65nm,1.3s,SNR=21					
CMLA	Cha da Macela	150.66 46	ePKP	PKPdf	00 43 21.4	+1.0
SMG	Samos	150.67 314	eP	PKPbc	00 43 25.5	-1.2
SRS	Serrai	150.67 323	eP	PKPdf	00 43 24.3	+3.9
MOTA	Moosalm	150.68 345	⇑iP	PKPbc	00 43 25.1	-1.3
	comp=Z,72nm,1.0s,SNR=21					
LDF	La Druitiere	150.70 1	ePKIKP	PKPdf	00 43 18.3	-1.8
	comp=Z,25nm,0.8s					
MOZS	Mozjanca	150.71 340	i PKPbc	PKPbc	00 43 25.0	-1.5
THEF	They Montfort	150.75 353	PKP	PKPdf	00 43 18.7	-1.5
SQTA	Sankt Quirin	150.77 345	⇑iP	PKPbc	00 43 25.5	-1.1
	comp=Z,66nm,1.0s,SNR=21					
CRES	Cresnjev	150.78 339	i PKPbc	PKPbc	00 43 25.5	-1.2
ROSF	Rostrenen	150.79 5	ePKIKP	PKPdf	00 43 18.1	-2.2
	comp=Z,43nm,1.0s					
FELD	Feldberg im Sc	150.80 350	PKP	PKPdf	00 43 18.7	-1.6
CHOS	Chios island	150.82 316	eP	PKPbc	00 43 25.8	-1.2
ABTA	Abfaltersbach	150.87 343	⇓iPKPbc	PKPbc	00 43 25.2	-1.7
	comp=Z,111nm,1.2s,SNR=12					
GRR	Gorron	150.89 2	ePKIKP	PKPdf	00 43 18.8	-1.6
	comp=Z,18nm,0.7s					
LJU	Ljubljana	150.90 340	ePKIKP	PKPdf	00 43 19.0	-1.5
LJU			i		00 43 25.8	
LJU	Ljubljana	150.90 340	ePKPdf	PKPdf	00 43 19.0	-1.5
LJU			i PKPbc	PKPbc	00 43 25.8	-1.1
LJU			e		00 46 00.3	
HAU	Haudompre	150.92 352	ePKIKP	PKPdf	00 43 18.7	-1.8
	comp=Z,13nm,0.8s					
SGMF	Saint Gilles	150.93 4	ePKIKP	PKPdf	00 43 18.7	-1.8
OUR	Ouranopolis	150.96 321	eP	PKPbc	00 43 25.4	-1.9
MOF	Molkenrain	150.96 351	PKP	PKPdf	00 43 19.1	-1.5
SOH	Sokhos	151.00 323	eP	PKPdf	00 43 25.1	+4.2
DAVA	Damuels	151.01 347	i P	PKPbc	00 43 26.0	-1.2
	comp=Z,133nm,1.4s,SNR=15					
KNT	Kendrikon	151.03 324	eP	PKPbc	00 43 25.3	-2.1
HINF	Hinteralfeld	151.04 351	ePKIKP	PKPdf	00 43 18.8	-1.9
	comp=Z,25nm,1.0s					
STIP	Stip	151.06 325	eP	PKPbc	00 43 25.6	-1.9
STIP	Stip	151.06 325	i PKP	PKPdf	00 43 18.3	-2.6
STIP			⇑iPKP	PKPbc	00 43 25.1	-2.3
FETA	Feichten	151.07 346	⇑iPKPdf	PKPdf	00 43 19.4	-1.3
	comp=Z,15nm,1.0s,SNR=14					
GMNA	Gemona	151.10 342	P	PKPdf	00 43 19.2	-1.6
VAY	Valandovo	151.11 324	eP	PKPbc	00 43 25.4	-2.2
VAY	Valandovo	151.11 324	ePKP	PKPdf	00 43 15.1	-5.9
VAY			⇑iPKP	PKPbc	00 43 25.2	-2.4
VAY			i PKP	PKPab	00 43 36.9	-1.7
CEY	Cerknica	151.21 340	i PKPdf	PKPdf	00 43 19.2	-1.8
CEY			i PKPbc	PKPbc	00 43 26.4	-1.2
CEY			i PKPab	PKPab	00 43 37.8	-1.0
QUIF	Quistinic	151.22 5	ePKIKP	PKPdf	00 43 19.0	-1.9
	comp=Z,36nm,1.1s					
PLG	Polygyros	151.24 322	eP	PKPbc	00 43 25.6	-2.3
PLG	Polygyros	151.24 322	eP	PKPbc	00 43 26.0	-1.9
SKO	Skopje	151.26 327	i PKP	PKPdf	00 43 21.2	+0.1
SKO			⇑iPKP	PKPbc	00 43 27.2	-0.7
SKO			i PKP	PKPab	00 43 39.8	+0.6
BBS	Basel-Blauen	151.28 350	PKIKP	PKPdf	00 43 21.9	+0.9
HORT	Hortiatis	151.30 323	eP	PKPbc	00 43 25.9	-2.2
THE	Thessaloniki	151.35 323	eP	PKPbc	00 43 25.9	-2.3
PAIG	Paliouri	151.39 321	eP	PKPbc	00 43 25.9	-2.4
GRG	Griva	151.45 324	eP	PKPbc	00 43 26.4	-1.9
DAVOX	Davos/Dischmat	151.49 347	PKP	PKPdf	00 43 19.8	-1.6
	comp=Z,13nm,1.0s,baz=243,slow=2.4,SNR=12					
DAVOX			PKPbc	PKPbc	00 43 27.6	-0.6
	comp=Z,88nm,0.5s,baz=245,slow=3.1,SNR=207					
DAVOX			PKPab	PKPab	00 43 39.8	-0.1
	comp=Z,22nm,0.5s,baz=25,slow=8.2,SNR=6.9					
DAVOX			SKPbc		00 45 59.5	
	comp=Z,6.7nm,0.8s,baz=309,slow=6.5,SNR=3.4					
LOMF	Lomont	151.50 351	PKP	PKPdf	00 43 20.1	-1.3
KARP	Karpathos	151.51 310	eP	PKPbc	00 43 27.5	-1.2
APE	Apeiranthos	151.89 314	P	PKPbc	00 43 27.2	-2.3
APE	Apeiranthos	151.89 314	⇑iP	PKPbc	00 43 27.0	-2.5
TUE	Stuetta	151.90 347	P	PKPdf	00 43 24.6	+2.6
LOR	Lormes	151.91 355	ePKIKP	PKPdf	00 43 20.6	-1.4
	comp=Z,54nm,1.3s					
LIT	Litokhoron	151.97 323	eP	PKPdf	00 43 23.6	+1.3
HYF	Humbligny	151.98 357	ePKIKP	PKPdf	00 43 21.0	-1.1
BIA	Bitola	152.00 325	ePKP	PKPdf	00 43 19.2	-3.1
BIA			⇑iPKP	PKPbc	00 43 27.2	-2.4
BIA			i PP	PP	00 47 40.3	+23
XOR	Xorichti	152.04 321	eP	PKPdf	00 43 26.5	+4.1
NEO	Neokhori	152.06 321	eP	PKPbc	00 43 27.0	-2.8
FNA	Florina	152.13 325	eP	PKPbc	00 43 28.1	-1.8
SSF	Saint Saulge	152.14 356	ePKIKP	PKPdf	00 43 21.0	-1.3
	comp=Z,28nm,0.9s					
OHR	Ohrid	152.21 326	eP	PKPbc	00 43 28.3	-1.8
OHR	Ohrid	152.21 326	ePKP	PKPdf	00 43 20.3	-2.4
OHR			⇑iPKP	PKPbc	00 43 27.9	-2.2
OHR			i PKP	PKPab	00 43 39.7	-3.5
SANT	Santorini	152.31 313	eP	PKPbc	00 43 28.3	-2.1
SANT	Santorini	152.31 313	ePKPbc	PKPbc	00 43 27.6	-2.8
CABF	La Chapelle	152.32 352	ePKIKP	PKPdf	00 43 21.7	-0.9
	comp=Z,72nm,1.3s					
ZKR	Zakros	152.40 310	eP	PKPbc	00 43 28.9	-1.7
AVF	Avril sur Loir	152.42 356	ePKIKP	PKPdf	00 43 21.0	-1.7
	comp=Z,24nm,1.2s					
PTL	Penteli	152.43 318	eP	PKPbc	00 43 28.0	-2.6
TIR	Tirane	152.52 327	eP	PKPbc	00 43 29.3	-1.4
SMF	Signal de Mont	152.53 355	ePKIKP	PKPdf	00 43 21.3	-1.6
	comp=Z,38nm,1.4s					
ATH	Athens Observa	152.57 318	eP	PKPbc	00 43 28.5	-2.4
VAI	Varese	152.60 348	PKIKP	PKPdf	00 43 21.3	-1.7
THL	Klokotos Trika	152.60 322	eP	PKPbc	00 43 28.4	-2.5
LKR	Lokris	152.60 320	eP	PKPbc	00 43 28.7	-2.3
KVR	Kavouri	152.62 317	eP	PKPbc	00 43 29.0	-2.0
BGF	Bois d'Agland	152.68 357	ePKIKP	PKPdf	00 43 21.8	-1.3
	comp=Z,32nm,1.0s					
MFF	Saint Martin d	152.69 1	ePKIKP	PKPdf	00 43 21.5	-1.6
	comp=Z,50nm,1.1s					
NPS	Neapolis	152.76 311	eP	PKPdf	00 43 22.5	-1.1
AGG	Agios Georgios	152.77 321	eP	PKPbc	00 43 29.1	-2.3
NAIG	Nisos Aigina	152.84 318	eP	PKPbc	00 43 29.0	-2.5
XRY	Khrisi	152.89 310	eP	PKPdf	00 43 22.0	-1.8
LAST	Lasithi	152.91 311	eP	PKPbc	00 43 30.5	-1.2
TCF	Toulx Ste Croi	152.98 358	ePKIKP	PKPdf	00 43 22.0	-1.6
	comp=Z,74nm,1.4s					
LTK	Loutraki	153.01 319	eP	PKPbc	00 43 29.5	-2.4
EVR	Evrytania	153.15 321	eP	PKPbc	00 43 31.5	-0.6
DID	Didima	153.15 317	eP	PKPbc	00 43 29.6	-2.7
AGO	Saint Agoulin	153.17 356	PKP	PKPdf	00 43 22.4	-1.4
JAN	Janina	153.20 324	eP	PKPbc	00 43 32.5	+0.3
PLDF	La Plantade	153.22 355	PKP	PKPdf	00 43 22.4	-1.5
LPL	La Plagne	153.30 350	ePKIKP	PKPdf	00 43 23.1	-1.0
	comp=Z,6.7nm,0.8s					
LPG	La Plagne	153.32 350	ePKIKP	PKPdf	00 43 23.3	-0.8
SIVA	Sivas	153.45 311	eP	PKPbc	00 43 32.1	-0.8
PYM	Petit Puy Mans	153.48 356	PKP	PKPdf	00 43 22.2	-2.1
SELA	Sela	153.51 320	eP	PKPbc	00 43 32.2	-0.8
IGT	Igoumenitsa	153.58 324	eP	PKPbc	00 43 31.2	-1.8
VAM	Vamos	153.68 313	eP	PKPbc	00 43 32.5	-0.9
CING	Cingoli	153.71 339	P	PKPdf	00 43 21.5	-3.2
BNI	Bardonecchia	153.76 350	ePKIKP	PKPdf	00 43 24.0	-0.7
BNI			i		00 43 32.7	
VLX	Vlachokerasia	153.78 318	eP	PKPbc	00 43 32.3	-1.2
PIEI	Pieia	153.78 340	P	PKPdf	00 43 23.0	-1.8
LKD	Levkas	153.97 322	eP	PKPbc	00 43 32.7	-1.1
LBL	Lubilhac	153.98 356	PKP	PKPdf	00 43 23.1	-1.9
RJF	Les Rejaudoux	153.99 359	ePKIKP	PKPdf	00 43 23.5	-1.5
	comp=Z,30nm,1.0s					
KYTH	Kithira	154.00 315	eP	PKPbc	00 43 33.5	-0.5
ORIF	Oris-en-Rattie	154.01 351	ePKIKP	PKPdf	00 43 23.8	-1.3
	comp=Z,53nm,1.5s					
GVD	Gavdhos	154.06 312	eP	PKPab	00 43 57.0	+5.6
MBDF	Montbardon	154.06 350	ePKIKP	PKPdf	00 43 23.8	-1.3
ITM	Ithomi	154.18 318	eP	PKPbc	00 43 33.0	-1.4
VIVF	Saint-Julien-l	154.22 353	ePKIKP	PKPdf	00 43 24.2	-1.2
	comp=Z,23nm,1.1s					
RGNG	Rignano Grg	154.26 334	P	PKPdf	00 43 23.7	-1.8
SURF	Saint Ours	154.30 350	PKP	PKPdf	00 43 24.4	-1.1
SURF	Saint Ours	154.30 350	PKP	PKPdf	00 43 24.2	-1.3
SURF			PKP	PKPdf	00 43 24.4	-1.1
CAF	Calviac	154.35 358	ePKIKP	PKPdf	00 43 24.3	-1.2
	comp=Z,22nm,1.0s					
LFF	La Frestale	154.36 360	ePKIKP	PKPdf	00 43 24.0	-1.5
	comp=Z,22nm,0.8s					
PYL	PYLOS	154.47 318	eP	PKPdf	00 43 32.9	+6.9
AQU	L'Aquila	154.53 338	ePKIKP	PKPdf	00 43 24.4	-1.5
AQU			e		00 43 52.6	
SAOF	Saorge	154.64 348	PKIKP	PKPdf	00 43 25.0	-1.0
TOUF	Mont Tournerai	154.67 349	PKIKP	PKPdf	00 43 24.9	-1.1
SBF	Sospel	154.78 348	ePKIKP	PKPdf	00 43 24.3	-1.9
MVIF	Mont Vial	154.81 349	PKIKP	PKPdf	00 43 24.9	-1.3
SDI	San Donato	154.94 336	PKIKP	PKPdf	00 43 24.7	-1.7
SMRF	Simiane la Rot	154.98 352	ePKIKP	PKPdf	00 43 25.5	-0.9
	comp=Z,28nm,1.1s					
EMAZ	Mazaricos	155.00 17	PKP	PKPdf	00 43 25.6	-0.9
LASF	Ste Croix	155.08 354	ePKIKP	PKPdf	00 43 25.4	-1.1
	comp=Z,56nm,1.2s					
EPON	Pontenova	155.09 14	PKP	PKPdf	00 43 28.0	+1.4
STS	Santiago	155.17 16	PKIKP	PKPdf	00 43 26.0	-0.7
FRF	La Foret Royal	155.22 350	ePKIKP	PKPdf	00 43 25.0	-1.7
LMR	La Mourre	155.46 350	ePKIKP	PKPdf	00 43 25.2	-1.9
EARI	Arriondas	155.50 10	PKP	PKPdf	00 43 26.3	-0.8
PGF	Pioggiola	155.70 345	ePKIKP	PKPdf	00 43 25.4	-2.0
	comp=Z,75nm,1.4s					
ELAN	Lanestosa	155.82 7	PKP	PKPdf	00 43 27.2	-0.4
MTLF	Montolieu	155.92 357	ePKIKP	PKPdf	00 43 26.1	-1.6
	comp=Z,78nm,1.5s					
ERUA	La Rua	155.98 14	PKIKP	PKPdf	00 43 26.2	-1.6
EALK	Alkurruntz	156.01 4	PKP	PKPdf	00 43 27.6	-0.2
SJPF	Ste Jean	156.13 3	ePKIKP	PKPdf	00 43 27.6	-0.4
	comp=Z,22nm,1.0s					
ELOB	Lobios	156.25 16	PKP	PKPdf	00 43 27.4	-0.7
EPF	Esparros	156.27 1	ePKIKP	PKPdf	00 43 26.8	-1.3
	comp=Z,31nm,1.1s					
MLS	Moulis	156.34 359	PKP	PKPab	00 43 56.3	-4.5
ETSF	Etsaut	156.38 2	ePKIKP	PKPdf	00 43 27.4	-0.9
	comp=Z,15nm,0.6s					
PCAB	Cabril	156.41 16	ePKPdf	PKPdf	00 43 27.4	-1.0
PCAB	Cabril	156.41 16	ePKPab	PKPab	00 44 00.4	-0.8
RESF	Ens	156.49 1	PKP	PKPab	00 43 56.4	-5.1
ECAL	Calabor	156.50 14	PKP	PKPdf	00 43 27.8	-0.7
EBIE	Bielsa	156.61 1	PKP	PKPdf	00 43 28.1	-0.5
MVO	Moncorvo	157.17 15	ePKPdf	PKPdf	00 43 28.5	-0.8
MVO	Moncorvo	157.17 15	ePKPab	PKPab	00 44 03.5	-1.0
PVIS	Viseu	157.37 17	ePKPdf	PKPdf	00 43 28.7	-0.9
PVIS	Viseu	157.37 17	ePKPab	PKPab	00 44 04.1	-1.3
MTE	Manteigas	157.76 17	ePKPdf	PKPdf	00 43 29.0	-1.1
MTE	Manteigas	157.76 17	ePKPab	PKPab	00 44 06.0	-1.1
EPOB	Poblet	157.94 359	PKP	PKPdf	00 43 29.7	-0.5
PTOM	Tomar	158.23 19	ePKPdf	PKPdf	00 43 29.7	-1.0
PTOM	Tomar	158.23 19	ePKPab	PKPab	00 44 08.1	-1.1
GUD	Guadarrama	158.26 10	PKIKP	PKPdf	00 43 30.5	-0.2
PCBR	Castelo Branco	158.30 17	ePKPdf	PKPdf	00 43 29.4	-1.3
PCBR	Castelo Branco	158.30 17	ePKPab	PKPab	00 44 08.2	-1.2
ETOR	Torete	158.36 6	PKIKP	PKPdf	00 43 30.4	-0.4
PMAFR	Mafra	158.54 22	ePKPab	PKPab	00 44 09.4	-1.2
PESTR	Estremoz	159.17 18	ePKPdf	PKPdf	00 43 30.5	-1.3
PESTR	Estremoz	159.17 18	ePKPab	PKPab	00 44 11.8	-1.5
ESDC	Sonseca Array	159.24 10	PKP	PKPdf	00 43 30.2	-1.6
	comp=Z,4.0nm,0.9s,baz=348,slow=2.5,SNR=14					
ESDC			PKPab	PKPab	00 44 12.4	-1.2
	comp=Z,9.9nm,0.5s,baz=340,slow=3.8,SNR=31					
EVO	Evora	159.35 20	⇑iPKIKP	PKPdf	00 43 31.0	-1.0
	comp=Z,42nm,1.1s					
EBAD	Badajoz	159.44 17	PKP	PKPdf	00 43 31.2	-0.8
ETOS	Mallorca	159.44 355	PKP	PKPdf	00 43 31.8	-0.3
ECHE	Chera	159.66 4	PKIKP	PKPdf	00 43 31.9	-0.4
PBEJ	Beja	159.85 20	ePKPdf	PKPdf	00 43 31.6	-1.0
PBAR	Barrancos	159.97 18	ePKPdf	PKPdf	00 43 31.8	-0.9
PBAR	Barrancos	159.97 18	ePKPab	PKPab	00 44 15.5	-1.3
PTEO	Sao Teotonio	160.00 22	ePKPdf	PKPdf	00 43 32.3	-0.5
PTEO	Sao Teotonio	160.00 22	ePKPab	PKPab	00 44 15.8	-1.2
MORF	Marmelete	160.24 22	ePKPdf	PKPdf	00 43 32.6	-0.4
MORF	Marmelete	160.24 22	ePKPab	PKPab	00 44 17.0	-1.0
PFVI	Vila Bisbo	160.33 23	ePKPdf	PKPdf	00 43 32.8	-0.3
PFVI	Vila Bisbo	160.33 23	ePKPab	PKPab	00 44 17.4	-1.0
EGRO	El Granado	160.43 20	PKP	PKPdf	00 43 31.2	-2.0
EMIN	Mina Concepcio	160.46 18	PKP	PKPdf	00 43 32.6	-0.6
EVIA	Vianos	160.47 7	PKIKP	PKPdf	00 43 32.9	-0.3
PVAQ	Vaqueiros	160.47 20	ePKPdf	PKPdf	00 43 32.0	-1.3
PVAQ	Vaqueiros	160.47 20	ePKPab	PKPab	00 44 18.1	-0.9
PBDV	Barranco-do-Ve	160.55 21	ePKPdf	PKPdf	00 43 33.2	-0.2
PBDV	Barranco-do-Ve	160.55 21	ePKPab	PKPab	00 44 18.8	-0.6
ETOB	Tobarra	160.56 5	PKP	PKPdf	00 43 32.9	-0.5
EBEN	Beniarda	160.58 2	PKP	PKPdf	00 43 33.0	-0.3
EADA	Adamuz	160.59 12	PKP	PKPdf	00 43 32.9	-0.5
EBAN	Banos Encina	160.74 11	PKIKP	PKPdf	00 43 32.9	-0.6
EQES	Quesada	161.21 9	PKP	PKPdf	00 43 32.6	-1.4
ELUQ	Luque	161.24 12	PKIKP	PKPdf	00 43 33.4	-0.7
EMUR	La Murta	161.38 5	PKP	PKPdf	00 43 31.7	-2.5
ESPR	Espera	161.52 17	PKP	PKPdf	00 43 34.2	-0.2
ECOG	Cogollos-Vega	161.64 11	PKIKP	PKPdf	00 43 33.4	-1.1
KEST	Kesra	161.85 337	PKP	PKPdf	00 43 33.0	-1.8
	comp=Z,1.9nm,0.9s,baz=11,slow=5.2,SNR=3.1					
KEST			PKPab	PKPab	00 44 24.9	-0.2
	comp=Z,7.9nm,0.6s,baz=40,slow=0.3,SNR=22					
EJIF	Jimena Fronter	162.02 16	PKIKP	PKPdf	00 43 35.0	+0.1
EBER	Berja	162.12 9	PKP	PKPdf	00 43 34.9	-0.1
MDT	Midelt	165.67 18	PKP	PKPdf	00 43 37.4	-0.9
	comp=Z,10.0nm,0.8s,baz=79,slow=1.2,SNR=19					
MDT			PKPab	PKPab	00 44 42.1	+0.1
	comp=Z,42nm,0.9s,baz=341,slow=4.6,SNR=37					
DBIC	Dimbokro	166.42 156	PKP	PKPdf	00 43 37.4	-2.0
	comp=Z,9.6nm,0.8s,baz=99,slow=2.0,SNR=22					
DBIC			PKPab	PKPab	00 44 44.8	-1.0
	comp=Z,8.1nm,0.8s,baz=191,slow=5.0,SNR=7.3					

NIED ***07*** *00:29:00,3000N×13050E,h50km,Mw5.2 Best double couple: M0 6.35000×10^16 NP1:φs95.00000°,δ77.00000°, λ118.00000°. NP2:φs208.00000°,δ31.00000°,λ26.00000°.*
MOS ***07*** *00:29:02.5±0.9,3000N×13029E,h33km,mb5.3/78, MS4.9/20,Error ellipse: s-maj=8.2km s-min=4.4km az=109.1*
BJI ***07*** *00:29:03.9,2975N×13065E,h52km,mB4.9,mb5.0,Ms4.6, Msz4.5*
SZGRF ***07*** *00:29:03.7,3062N×13106E,h33km,mb5.2,MS4.9, Kyushu, Japan*
JMA ***07*** *00:29:05.3±0.1,2997N×13046E,h49km±1km,M5.1*
JMA Felt III J1.
ISCJB ***07*** *00:29:05.5±0.3,3000N±002×13030E±002,h54km±2km, mb5.0/169,MS4.6/47,Error ellipse: s-maj=3.7km s-min=2.7km az=139.8*
IDC ***07*** *00:29:06.2±0.5,3003N×13027E,h52km±4km,mb4.6/34, mb1 4.7/40,mb1mx4.7/43,mbtmp4.7/40,MS4.4/28, Ms1 4.4/28,ms1mx4.3/40,Error ellipse: s-maj=10.1km s-min=7.3km az=90.0*
NEIC ***07*** *00:29:06.4±0.5,3001N×13018E,h52km±4km,mb5.1/89, MW5.1(NIED),Error ellipse: s-maj=4.9km s-min=4.2km az=172.0*
GCMT ***07*** *00:29:06.4±0.3,2984N×13043E,h54km±1km,MW5.2/84, Moment Tensor Solution. s40,c59; s84,c146; Duration: 1s0 Moment tensor: Scale 10^17Nm; M0 0.63±.04; Mθθ-0.59±.03; Mφφ-0.04±.03; Mrθ 0.45±.02; Mrφ-0.50±.02; Mrr-0.03±.02; Best double couple: M0 0.90100×10^17 NP1:φs215.00000°,δ37.00000°,λ51.00000°. NP2: φs80.00000°,δ62.00000°,λ115.00000°. Principal axes: T 0.8240, Plg64.0000°, Azm34.0000°; N 0.1540, Plg22.0000°, Azm248.0000°; P -0.9780, Plg13.0000°, Azm152.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ORF ***07*** *00:29:06.3,3273N×13423E,h30km,mb6.0*
ISC 07 00:29:07.0±0.3,3001N±002×13029E±002,h55km±2km, h63km±4.9km:pP-P,n638,σ0 997/627,mb5.0/169,MS4.6/47, 68C-66D,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	Nakanoshima	0.40	245	P	Pn	00 29 16.6	-0.9
JNN				eS	Sn	00 29 25.4	+0.3
JKC	Kuchinoerabu	0.46	350	P	Pn	00 29 17.0	-1.2
JKC				eS	Sn	00 29 25.4	-0.8
JTN	Tanegashima 3	0.88	43	P	Pn	00 29 20.9	-2.4
JTSR	Tashiro 2	1.28	25	P	Pn	00 29 26.8	-1.8
JTSR				S	Sn	00 29 43.8	-0.9
JSU	Suzuyama	1.50	5	P	Pn	00 29 30.5	-1.1
JSU				S	Sn	00 29 49.9	-0.2
JAM	Amami Oshima	1.70	201	P	Pn	00 29 32.9	-1.4
JZK	Kikaishima	1.71	189	P	Pn	00 29 34.2	-0.3
JSJ	Shimokoshiki	1.73	344	P	Pn	00 29 34.2	-0.6
JTZ	Takazaki	2.01	20	P	Pn	00 29 37.6	-0.9
JTSN	Tsuno	2.46	25	P	Pn	00 29 44.3	-0.4
JTK	Tokunoshima	2.51	208	P	Pn	00 29 44.5	-0.8
JTK				eS	Sn	00 30 13.1	-1.6
JIU2	Izumi 2	2.57	10	P	Pn	00 29 46.1	-0.1
JNU	Nakatsue	3.14	9	P	Pn	00 29 54.9	+0.8
	158nm,0.3s,baz=181,slow=14,SNR=411						
JNU				S	Sn	00 30 29.4	-0.9
	62nm,0.3s,baz=149,slow=14,SNR=3.8						
JIH	Iheya	3.60	215	P	Pn	00 30 00.8	+0.5
JOW	Kunigami	3.63	210	P	Pn	00 29 59.9	-0.8
JOW	Kunigami	3.63	210	P	Pn	00 30 00.3	-0.4
	95nm,0.3s,baz=65,slow=12,SNR=80						
JOW				S	Sn	00 30 42.0	-0.3
	164nm,0.3s,baz=83,slow=24,SNR=3.7						
JMZ	Minamidaito 2	4.25	169	P	Pn	00 30 06.4	-2.9
JAGN	Aguni-jima	4.34	219	P	Pn	00 30 11.0	+0.6
JKE	Kume jima 2	4.80	221	P	Pn	00 30 16.4	-0.3
JKN2	Miekihoku	6.60	49	P	Pn	00 30 40.5	-0.9
JFM	Mihama	7.30	40	P	Pn	00 30 50.3	-0.7
KS15	Wonju Array Si	7.68	346	ePn	Pn	00 31 00.4	+4.3
KSRS	Korea Array	7.68	346	P	Pn	00 30 58.7	+2.5
	5.2nm,0.3s,baz=167,slow=14,SNR=118						
KSRS				LR	LR	00 34 05.6	
	comp=Z,4μm,20.0s,baz=166,slow=39						
JGM	Miyama	7.84	42	P	Pn	00 30 58.1	-0.2
SSE	Sheshan	7.92	280	P	Pn	00 31 02.1	+2.5
SSE				S	Sn	00 32 29.3	+1.5
SSE				AMB	AMB		
	comp=Z,45nm,0.7s						
SSE				AMB	AMB		
	comp=Z,204nm,9.3s						
SSE				LR	LR		
	comp=N,2μm,18.5s						
SSE				LR	LR		
	comp=E,1μm,18.5s						
SSE				LR	LR		
	comp=Z,1μm,25.6s						
INCN	Inchon	8.05	339	ePn	Pn	00 31 06.6	+5.4
JGN	Niukaw	8.55	42	P	Pn	00 31 07.5	-0.6
JHJ	Hachijo jima 2	8.67	67	P	Pn	00 31 10.0	+0.2
	comp=Z,47nm,0.3s,baz=227,slow=23,SNR=8.5						
JHJ				LR	LR	00 34 19.0	
	comp=Z,2μm,21.0s,baz=271,slow=36						
JJH	Hakui	8.77	36	P	Pn	00 31 11.6	+0.5
JYN	Shimob	8.85	50	P	Pn	00 31 13.8	+1.7
MAJO	Matsushiro	9.29	43	eP	Pn	00 31 17.6	-0.6
MAT	Matsushiro	9.29	43	P	Pn	00 31 17.7	-0.5
MAT				eS	Sn	00 33 02.2	+1.0
MJAR	Matsushiro Arr	9.29	43	P	Pn	00 31 18.7	+0.4
	comp=Z,3.7nm,0.3s,baz=242,slow=14,SNR=53						
JRY	Ryogami san	9.39	48	P	Pn	00 31 20.2	+0.6
JSZ	Suzu	9.47	37	P	Pn	00 31 21.2	+0.5
YHNB	Yeheng	9.54	238	ePn	Pn	00 31 24.2	+2.5
NACB	Ninganchiao	9.68	235	ePn	Pn	00 31 23.1	-0.5
NJ2	Nanjing	10.02	285	eP	Pn	00 31 31.2	+3.0
NJ2				PP		00 31 41.4	
NJ2				S	Sn	00 33 23.0	+3.9
NJ2				AMB	AMB		
	comp=Z,90nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,210nm,10.6s						
NJ2				LR	LR		
	comp=N,5μm,20.6s						
NJ2				LR	LR		
	comp=E,2μm,11.9s						
NJ2				LR	LR		
	comp=Z,2μm,11.9s						
CBIJ	Chichi jima	10.85	103	P	Pn	00 31 39.1	-0.6
	comp=Z,21nm,0.3s,baz=302,slow=11,SNR=7.1		

comp=Z,1μm,5.1s
TIY LR LR
comp=N,1μm,13.7s
TIY LR LR
comp=E,883nm,10.0s
TIY LR LR
comp=Z,2μm,14.7s
ASAJ Asahikawa 17.14 31 P **Pn 00 33 00.3 -2.3**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,821nm,19.0s
ASAJ Asahikawa 17.14 31 P **Pn 00 33 00.3 -2.3**
comp=Z,3.2nm,0.3s,baz=226,slow=11,SNR=15
ASAJ LR LR 00 40 34.1
comp=Z,821nm,19.0s,baz=346,slow=40
XAN Xi'an 18.55 288 P **Pn 00 33 20.4 +0.4**
XAN AP pP 00 33 28.8 -2.6
XAN PP 00 33 37.9
XAN PPP 00 33 46.8
XAN AMB AMB
comp=Z,60nm,1.1s
XAN AMB AMB
comp=Z,347nm,13.4s
XAN LR LR
comp=N,874nm,20.7s
XAN LR LR
comp=E,517nm,25.9s
XAN LR LR
comp=Z,764nm,21.5s
HHC Hu-ho-hao-te 18.66 310 ⇓P **Pn 00 33 24.3 +3.1**
HHC AP pP 00 33 41.2 +8.6
HHC PP 00 33 43.5
HHC AMB AMB
comp=Z,111nm,1.1s
HHC AMB AMB
comp=Z,1μm,5.2s
HHC LR LR
comp=N,2μm,16.5s
HHC LR LR
comp=E,2μm,15.7s
HHC LR LR
comp=Z,3μm,14.9s
HABR Khabarovsk 18.80 10 *e*P **Pn 00 33 20.8 -1.9**
HABR *e*S **S 00 36 49.7 -2.9**
KLR Kul'dur 19.23 3 *e*P **Pn 00 33 20.9 -7.0**
KLR pmax pmax
comp=Z,2μm,11.0s
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,2μm,13.0s
YSS Yuzh-Sakhalins 19.49 26⇓*i*P **Pn 00 33 28.9 -2.1**
YSS *e*S **S 00 36 56.0 -10**
YSS pmax pmax
comp=N,50nm,0.6s
YSS pmax pmax
comp=Z,50nm,0.6s
YSS MLR MLR
comp=Z,600nm,17.0s
YSS MLR MLR
comp=E,600nm,16.0s
YSS Yuzh-Sakhalins 19.49 26 *e*P **Pn 00 33 29.0 -2.0**
comp=E,110nm,1.1s
BTO Baotou 19.59 308 *e*P **Pn 00 33 34.1 +1.9**
MSLP Maasin 20.41 195 *e*P **P 00 33 40.5 +0.9**
HIA Hailar 20.84 340 *e*P **P 00 33 43.8 -0.1**
HIA Hailar 20.84 340 *e*P **P 00 33 43.4 -0.6**
comp=E,103nm,1.5s
GYA Guiyang 21.11 266⇓*i*P **P 00 33 47.8 +0.8**
GYA PP 00 34 15.6
GYA PPP 00 34 26.0
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,130nm,4.2s
GYA LR LR
comp=N,5μm,10.8s
GYA LR LR
comp=E,2μm,9.4s
GYA LR LR
comp=Z,3μm,11.6s,MS4.9
GUMO Guam 21.18 137 P **P 00 33 46.7 -1.1**
comp=Z,47nm,0.6s,mb5.0,baz=176,slow=21,SNR=2.2
GUMO LR LR 00 40 32.6
comp=Z,508nm,19.1s,MS3.9,baz=320,slow=32
QIZ Qiongzhong 21.54 244 P **P 00 33 54.0 +2.3**
QIZ AP 00 34 10.0
QIZ S **S 00 37 47.7 +0.3**
QIZ LR LR
comp=N,934nm,20.9s,MS4.2
QIZ LR LR
comp=E,695nm,22.2s,MS4.2
QIZ LR LR
comp=Z,753nm,21.9s,MS4.0
BUKP Musuan 22.55 194 *e*P **P 00 34 01.6 -0.9**
CD2 Chengdu 22.87 279 P **P 00 34 06.7 +0.9**
CD2 PP 00 34 38.9
CD2 AMB AMB
comp=Z,20nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,200nm,5.2s
CD2 LR LR
comp=N,2μm,18.9s,MS4.8
CD2 LR LR
comp=E,2μm,14.4s,MS4.8
CD2 LR LR
comp=Z,990nm,12.2s,MS4.5
LZH Lanzhou 22.94 292 *e*P **P 00 34 06.9 +0.4**
LZH AP 00 34 24.8
LZH PP 00 34 39.2
LZH AMB AMB
comp=Z,70nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,240nm,4.1s
LZH LR LR
comp=E,1μm,14.7s
LZH LR LR
comp=Z,1μm,15.0s,MS4.5
ULN Ulaanbaatar 25.23 321⇑*e*P **P 00 34 27.6 0.0**
SONM Songino Array 25.57 321 P **P 00 34 30.5 -0.2**
SONM *PP pP 00 34 44.6 +0.2
SONM 00 38 00.1
SONM Songino Array 25.57 321 P **P 00 34 30.5 -0.1**
SONM pP pP 00 34 44.6 +0.2
SONM PcP PcP 00 38 00.1 -0.4
SONM ScP ScP 00 41 34.9 -0.3
SONM LR LR 00 45 53.1
SONM Songino Array 25.57 321 P **P 00 34 30.5 -0.1**
comp=Z,32nm,0.7s,mb5.0,baz=137,slow=9.8,SNR=122
SONM pP pP 00 34 44.6 +0.2
comp=Z,28nm,0.8s,baz=133,slow=10,SNR=10
SONM PcP PcP 00 38 00.1 -0.4
comp=Z,0.9nm,0.5s,baz=151,slow=2.4,SNR=2.9
SONM ScP ScP 00 41 34.9 -0.3
comp=Z,0.9nm,0.5s,baz=169,slow=1.9,SNR=5.7
SONM LR LR 00 45 53.1
comp=Z,2μm,18.7s,MS4.7,baz=122,slow=39
GTA Gaotai 26.65 299 P **P 00 34 41.6 +1.1**
GTA AP pP 00 35 01.0 +6.7
GTA PP 00 35 28.4
GTA PCP PcP 00 38 04.3 +1.1
GTA S **S 00 39 09.3 -2.3**
GTA XS sS 00 39 39.3 +4.1
GTA SS 00 40 26.5
GTA SCS ScS 00 45 26.0 -3.0
GTA AMB AMB
comp=Z,24nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,85nm,5.7s
GTA LR LR
comp=N,871nm,19.0s
GTA LR LR
comp=E,628nm,12.2s
GTA LR LR
comp=Z,798nm,12.9s
CLNS Chul'man 27.09 353 *e*P **P 00 34 37.3 -6.9**
CLNS *e**PP pP 00 34 43.2 -15
CLNS *e*SS 00 39 27.0
CLNS pmax pmax
comp=Z,8.0nm,1.0s,mb4.2
CLNS pmax pmax
comp=N,5.0nm,0.7s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,17nm,1.3s,mb4.4
CLNS pmax pmax
comp=N,15nm,0.7s
CLNS pmax pmax
comp=E,8.0nm,0.8s
CLNS MLR MLR
comp=Z,500nm,14.0s,MS4.2
CLNS MLR MLR
comp=N,400nm,16.0s,MS4.2
CLNS MLR MLR
comp=E,200nm,13.0s,MS4.2
SKR Severo-Kuril's 28.28 36 *e*P **P 00 34 50.5 -4.5**
ZAK Zakamensk 28.71 323 *i*P **P 00 34 58.7 -0.1**
ZAK pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
IRK Irkutsk 29.34 327 *e*P **P 00 35 05.6 +1.2**
IRK *e* 00 36 17.6
IRK pmax pmax
comp=Z,34nm,1.4s,mb4.9
BOD Bodaibo 30.01 343 *e*P **P 00 35 03.1 -7.1**
BOD pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
CHTO Chiang Mai 30.55 256 *e*P **P 00 35 18.7 +3.3**
CHTO *e**PP pP 00 35 35.1 +5.8
MOY Mondy 30.63 323 *e*P **P 00 35 16.3 +0.5**
MOY pmax pmax
comp=Z,14nm,1.4s,mb4.6
CM31 Chiang Mai Arr 30.71 255 *e*P **P 00 35 18.0 +1.2**
PET Petropavlovsk 30.95 34 *e*P **P 00 35 18.5 -0.1**
PET *e*S **S 00 40 18.7 -0.2**
PET pmax pmax
comp=Z,81nm,0.7s,mb5.7
PET pmax pmax
comp=Z,100nm,12.5s
PET pmax pmax
comp=Z,100nm,21.4s
PET smax
comp=E,300nm,27.1s
PET MLR MLR
comp=Z,800nm,20.0s,MS4.4
YAK Yakutsk 32.03 359 *e*P **P 00 35 24.3 -3.7**
YAK pmax pmax
comp=Z,13nm,0.8s,mb4.8
YAK pmax pmax
comp=N,9.0nm,1.6s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK pmax pmax
comp=Z,68nm,0.8s,mb5.5
YAK pmax pmax
comp=N,15nm,1.1s
YAK pmax pmax
comp=E,16nm,1.2s
YAK MLR MLR
comp=Z,429nm,21.0s,MS4.1
YAK MLR MLR
comp=N,239nm,18.0s,MS4.3
YAK MLR MLR
comp=E,566nm,18.0s,MS4.3
MA2 Magadan 32.66 19⇑*e*P **P 00 35 32.8 -0.7**
MA2 pmax pmax
comp=Z,58nm,1.0s,mb5.5
MA2 Magadan 32.66 19 *e*P **P 00 35 33.0 -0.5**
LSA Lhasa 33.84 279 P **P 00 35 45.0 +0.9**
SEY Seymchan 35.89 17⇑*e*P **P 00 36 01.3 -0.1**
WMQ Urumqi 36.34 304 *e*P **P 00 36 08.0 +2.5**
WMQ PP PP 00 37 33.0 +4.1
WMQ AMB AMB
comp=Z,21nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,74nm,4.0s
WMQ LR LR
comp=N,456nm,15.0s,MS4.6
WMQ LR LR
comp=E,554nm,15.0s,MS4.6
WMQ LR LR
comp=Z,668nm,15.0s,MS4.5
GUN Gumba 38.73 278 *e*P **P 00 36 27.6 +1.6**
comp=Z,124nm,0.7s,mb5.8
PKI Pulchoki 39.22 278 *e*P **P 00 36 30.9 +0.9**
comp=Z,38nm,0.7s,mb5.2
PKIN Phulchoki 39.23 278 *e*P **P 00 36 31.0 +0.9**
comp=Z,39nm,0.6s,mb5.3
KKN Kakani 39.28 278 *e*P **P 00 36 31.2 +0.7**
comp=Z,48nm,0.7s,mb5.3
GKN Gorkha 39.78 279 *e*P **P 00 36 35.2 +0.5**
comp=Z,12nm,0.4s,mb5.0
DANN Dangsing 40.44 280 *e*P **P 00 36 41.3 +1.1**
comp=Z,33nm,0.6s,mb5.2
ZAA0 Zalesovo Array 40.45 319 *e*P **P 00 36 39.0 -0.9**
ZALV Zalesovo Beam 40.45 319 P **P 00 36 39.3 -0.6**
comp=Z,3.6nm,0.4s,mb4.5,baz=100,slow=7.4,SNR=26
ZALV PcP PcP 00 38 40.9 -0.8
comp=Z,10nm,0.7s,baz=98,slow=3.0,SNR=13
ZALV LR LR 00 54 47.9
comp=Z,614nm,19.7s,MS4.5,baz=0.4,slow=38
ZAL Zalesovo 40.46 319 P **P 00 36 39.3 -0.7**
ZAL 00 38 40.9
BATI Kupang 40.49 190 LR LR 00 52 48.1
comp=Z,366nm,21.9s,MS4.2,baz=203,slow=35
MK31 Makanchi Array 40.51 308 *e*P **P 00 36 39.7 -0.7**
MKAR Makanchi Array 40.51 308 P **P 00 36 40.7 +0.3**
MKAR *PP pP 00 36 54.2 -0.5
MKAR 00 38 41.4
MKAR Makanchi Array 40.51 308 P **P 00 36 40.7 +0.2**
MKAR pP pP 00 36 54.2 -0.5
MKAR PcP PcP 00 38 41.4 -0.6
MKAR LR LR 00 55 23.4
MKAR Makanchi Array 40.51 308 P **P 00 36 40.7 +0.2**
comp=Z,14nm,0.6s,mb4.8,baz=91,slow=10,SNR=120
MKAR pP pP 00 36 54.2 -0.5
comp=Z,9.8nm,0.8s,baz=97,slow=10,SNR=9.1
MKAR PcP PcP 00 38 41.4 -0.6
comp=Z,5.5nm,0.6s,baz=78,slow=3.8,SNR=14
MKAR LR LR 00 55 23.4
comp=Z,240nm,21.4s,MS4.0,baz=96,slow=39
KOLN Koldanda 40.72 279 *e*P **P 00 36 42.9 +0.4**
comp=Z,40nm,0.9s,mb5.1
NVS Novosibirsk 41.60 320 *e*P **P 00 36 50.3 +1.0**
NVS *e* 00 38 43.8
NVS pmax pmax
comp=N,6.0nm,1.3s
NVS pmax pmax
comp=E,14nm,1.3s
NVS pmax pmax
comp=Z,11nm,1.3s,mb4.3
TIXI Tiksi 41.70 359 *e*P **P 00 36 48.3 -1.6**
TIXI pmax pmax
comp=Z,17nm,0.8s,mb4.7
TIXI MLR MLR
comp=Z,506nm,18.0s,MS4.4
TIXI Tiksi 41.70 359 *e*P **P 00 36 48.3 -1.6**
KURK Kurchatov 43.44 314 P **P 00 37 05.8 +1.5**
comp=Z,250nm,0.5s,mb6.2,SNR=17
KURK Kurchatov 43.44 314⇑*e*P **P 00 37 05.6 +1.3**
KURK Kurchatov 43.44 314 *e*P **P 00 37 03.9 -0.3**
comp=Z,24nm,0.6s,mb5.1
BILL Bilibino 43.52 19*d i*P **P 00 37 05.2 +0.5**
BILL pmax pmax
comp=Z,50nm,1.3s,mb5.1
TKM2 Tokmak 2 45.10 302 *e*P **P 00 37 17.1 -0.6**
TKM2 pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
TKM2 Tokmak 2 45.10 302 *e*P **P 00 37 17.1 -0.5**
comp=Z,9.2nm,0.6s,mb4.8
TKM2 Tokmak 2 45.10 302 P **P 00 37 21.2 +3.5**
SNR=9.3
CHMS Chumysh 45.71 302 P **P 00 37 24.8 +2.2**
SNR=7.2
FRU Bishkek 45.82 302 *e*P **P 00 37 25.0 +1.6**
USP Ospenovka 45.89 303 P **P 00 37 26.3 +2.4**
SNR=9.0
AAK Ala-Archa 45.92 302⇑*e*P **P 00 37 25.2 +1.0**
AAK pmax pmax
comp=Z,11nm,1.4s,mb4.6
AAK Ala-Archa 45.92 302 *e*P **P 00 37 24.9 +0.7**
AAK Ala-Archa 45.92 302 P **P 00 37 23.6 -0.6**
comp=Z,3.7nm,0.4s,mb4.6,baz=96,slow=5.9,SNR=12
AAK PcP PcP 00 38 59.6 -0.8
comp=Z,2.9nm,0.6s,baz=106,slow=7.4,SNR=2.8
UCH Uchtor 45.93 301 *e*P **P 00 37 24.0 -0.2**
comp=Z,15nm,0.9s,mb4.9
UCH Uchtor 45.93 301 P **P 00 37 27.0 +2.7**
SNR=17
EKS2 Erkin-Say 46.45 302 *e*P **P 00 37 29.2 +0.9**
comp=Z,4.3nm,0.7s,mb4.5
AML Almayashu 46.54 301 P **P 00 37 31.6 +2.5**
SNR=6.0
FITZ Fitzroy Crossi 48.04 186 *e*P **P 00 37 40.5 -0.3**
comp=Z,24nm,0.8s,mb5.3
BVAR Borovoye Array 48.75 316 P **P 00 37 45.4 -0.6**
BVAR 00 39 09.5
BVAR Borovoye Array 48.75 316 P **P 00 37 45.4 -0.6**
comp=Z,16nm,0.5s,mb5.3,baz=95,slow=9.0,SNR=134
BVAR PcP PcP 00 39 09.5 -0.8
comp=Z,12nm,0.6s,baz=117,slow=3.2,SNR=10
BVAR LR LR 01 00 35.2
comp=Z,971nm,18.6s,MS4.8,baz=94,slow=39
BRVK Borovoye 48.82 316 P **P 00 37 47.7 +1.2**
comp=Z,277nm,0.5s,SNR=32
BRVK Borovoye 48.82 316 *e*P **P 00 37 47.1 +0.6**
GAMB Gambell 49.46 30 *e*P **P 00 37 48.1 -3.2**
comp=Z,22nm,0.9s,mb5.2
WRAB Tennant Creek 49.80 175 *e*P **P 00 37 53.7 -0.6**
WRA Warramunga Arr 49.81 175 P **P 00 37 53.5 -0.9**
WRA *PP pP 00 38 07.1 -2.0
WRA Warramunga Arr 49.81 175 P **P 00 37 53.5 -0.9**
comp=Z,15nm,0.6s,mb5.2,baz=353,slow=8.5,SNR=18
WRA pP pP 00 38 07.1 -1.9
comp=Z,8.0nm,0.7s,baz=350,slow=7.9,SNR=4.8
WRA LR LR 00 57 20.0
comp=Z,288nm,20.9s,MS4.3,baz=15,slow=34
TNA Tin City 51.46 28 *e*P **P 00 38 06.9 +0.6**
comp=Z,44nm,0.9s,mb5.4
CTA Charters Tower 52.12 161 *e*P **P 00 38 11.5 -0.3**
comp=Z,12nm,0.6s,mb5.0
CTA Charters Tower 52.12 161 P **P 00 38 11.7 -0.1**
comp=Z,14nm,0.6s,mb5.0,baz=344,slow=7.3,SNR=14
CTA LR LR 00 57 22.4
comp=Z,430nm,20.1s,MS4.5,baz=45,slow=32
CTAO Charters Tower 52.12 161 *e*P **P 00 38 11.7 -0.1**
CTAO pmax pmax
comp=Z,15nm,0.7s,mb5.0
CTAO Charters Tower 52.12 161 *e*P **P 00 38 11.7 0.0**
comp=Z,15nm,0.7s,mb5.0
ASAR Alice Springs 53.48 176 P **P 00 38 22.4 +0.7**
comp=Z,10nm,0.6s,mb5.0,baz=8.9,slow=13,SNR=15
SVE Sverdlovsk 54.45 321⇑*e*P **P 00 38 29.2 +0.8**
SVE pmax pmax
comp=Z,29nm,0.8s,mb5.3
SVE MLR MLR
comp=Z,1μm,17.0s,MS5.0
CHGN Chignik 55.38 40 *e*P **P 00 38 29.3 -5.9**
CHGN *e*pP pP 00 38 46.5 -3.6
ARU Arti 55.61 320 P **P 00 38 36.7 -0.1**
comp=Z,205nm,0.5s,SNR=14
ARU Arti 55.61 320*c i*P **P 00 38 36.5 -0.3**
ARU *e* 00 39 34.1
ARU *e* 00 40 37.2
ARU *e*PPP 00 41 55.3
ARU *e*S **S 00 46 17.0 -1.4**
ARU pmax pmax
comp=Z,50nm,1.2s,mb5.4
ARU MLR MLR
comp=Z,1μm,19.0s,MS5.1
ARU Arti 55.61 320 *e*P **P 00 38 36.8 -0.1**
comp=Z,32nm,0.9s,mb5.3
TTA Tatalina 56.37 32 *e*P **P 00 38 42.1 -0.1**
AKTK Aktyubinsk 56.53 313 P **P 00 38 44.3 +0.8**
AKTK PcP PcP 00 39 39.0 -0.6
AKTO Aktyubinsk 56.53 313 P **P 00 38 44.3 +0.8**
comp=Z,3.0nm,0.6s,mb4.5,baz=69,slow=12,SNR=10
AKTO PcP PcP 00 39 39.0 -0.6
comp=Z,2.1nm,0.6s,baz=92,slow=5.5,SNR=2.5
SVW2 Sparrevohn 56.62 34 *e*P **P 00 38 44.8 +0.8**
IMA2 Indian Mountai 57.33 28 *e*P **P 00 38 47.4 -1.5**
KDAK Kodiak Island 58.42 38 P **P 00 38 56.0 -0.7**
comp=Z,299nm,0.6s,SNR=11
KDAK Kodiak Island 58.42 38 *e*P **P 00 38 56.3 -0.4**
KDAK Kodiak Island 58.42 38 P **P 00 38 56.2 -0.5**
comp=Z,31nm,0.6s,mb5.5,baz=316,slow=3.8,SNR=14
MCK McKinley 59.50 31 *e*P **P 00 39 04.0 -0.1**
MCK pmax pmax
comp=Z,59nm,1.0s,mb5.6
MCK McKinley 59.50 31 *e*P **P 00 39 04.0 0.0**
comp=Z,59nm,1.0s,mb5.6
PMR Palmer 59.67 33 *e*P **P 00 39 04.7 -0.6**
COLA College 59.84 29*d i*P **P 00 39 07.3 +0.9**
COLA College 59.84 29 *e*P **P 00 39 07.0 +0.6**
SML Sawmill 60.02 33 *e*P **P 00 39 04.7 -3.0**
DIV Divide 61.35 33 *e*P **P 00 39 17.0 +0.3**
STKA Stephens Creek 62.48 169⇓*i*P **P 00 39 23.9 -0.6**
comp=Z,17nm,0.6s,mb5.3
STKA Stephens Creek 62.48 169 P **P 00 39 23.9 -0.6**
comp=Z,19nm,0.6s,mb5.4,baz=340,slow=6.2,SNR=38
STKA LR LR 01 04 53.6
comp=Z,328nm,18.8s,MS4.5,baz=264,slow=34
DAWY Dawson 63.59 29 *e*P **P 00 39 31.8 +0.1**
TMCR Tamitsa 64.38 331 *e*P **P 00 39 33.7 -3.1**
INK Inuvik 64.71 24 *e*P **P 00 39 38.7 -0.2**
INK Inuvik 64.71 24 P **P 00 39 38.4 -0.5**
comp=Z,9.2nm,0.7s,mb4.9,baz=281,slow=5.7,SNR=18
INK LR LR 01 10 27.9
comp=Z,262nm,19.0s,MS4.5,baz=233,slow=38
APA Apatity 65.19 335⇑*i*P **P 00 39 41.0 -1.0**
APA *i* 00 40 11.0
APA pmax pmax
comp=Z,18nm,1.1s,mb5.0
APA MLR MLR
comp=Z,1μm,17.0s,MS5.1
HKL Haleakala 66.03 79 *e*P pP 00 40 01.3 -2.2
HKL Haleakala 66.03 79 *e*pP pP 00 40 01.2 -2.2
KEV Kevo 66.60 338 *e*p **P 00 39 48.4 -2.7**
comp=Z,5.2nm,0.5s,mb4.8
KEV Kevo 66.60 338 *e*P **P 00 39 48.4 -2.7**
KEV pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
SKAG Skagway 66.80 34 *e*P **P 00 39 53.1 +0.7**
comp=Z,52nm,1.4s,mb5.4
ARCES ARCESS Array B 67.17 338 P **P 00 39 53.1 -1.6**
ARCES 00 40 21.3
ARCES ARCESS Array B 67.17 338 P **P 00 39 53.0 -1.6**
ARCES PcP PcP 00 40 21.3 -1.1
ARCES LR LR 01 14 19.5
ARCES ARCESS Array B 67.17 338 P **P 00 39 53.0 -1.6**
comp=Z,5.1nm,0.8s,mb4.6,baz=60,slow=8.1,SNR=28
ARCES PcP PcP 00 40 21.3 -1.1
comp=Z,4.2nm,0.7s,baz=87,slow=5.3,SNR=6.2
ARCES LR LR 01 14 19.5
comp=Z,814nm,19.7s,MS5.0,baz=60,slow=40
ALE Alert 67.53 2 P **P 00 39 56.0 -0.9**
comp=Z,143nm,0.8s,mb6.0,SNR=10
JOF Joensuu 67.64 331 *e*p **P 00 39 55.5 -2.2**
comp=Z,6.8nm,0.4s,mb5.0
JOF Joensuu 67.64 331 *e*P **P 00 39 55.5 -2.2**
VRSR Storozhevoye 67.89 317 *e*P **P 00 39 59.3 -0.2**
VRSR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
VRSR pmax pmax
comp=N,3.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,0.7s
OBN Obninsk 67.98 322 *e*P **P 00 39 59.6 -0.4**
OBN pmax pmax
comp=Z,25nm,1.7s,mb5.0
OBN MLR MLR
comp=Z,800nm,18.0s,MS5.0
KIV Kislovodsk 68.26 309⇑*e*P **P 00 40 02.7 +0.7**
KIV pmax pmax
comp=Z,36nm,1.7s,mb5.1
KIV Kislovodsk 68.26 309 *e*P **P 00 40 03.1 +1.1**
comp=Z,30nm,1.3s,mb5.2
MIB Mutribah 70.21 294 *e*P **P 00 40 13.4 -0.9**
MIB AMb AMB 00 40 18.7
comp=Z,16nm,0.6s,mb5.1
RDF Al-Radifah 70.39 293 *e*P **P 00 40 14.6 -0.9**
RDF AMb AMB 00 40 22.5
comp=Z,25nm,0.6s,mb5.3
SOC Sochi 70.39 310 *e*P **P 00 40 14.8 -0.4**
SOC *e* pP 00 40 33.0 +2.4
SOC *e**PP pP 00 40 38.0 +7.4
SOC *e*PPP 00 44 33.4
SOC *e*S S 00 49 21.5 -2.1
SOC *e* 00 50 05.7
SOC pmax pmax
comp=Z,19nm,0.7s,mb5.1
SOC MLR MLR
comp=Z,346nm,18.0s,MS4.7
FIA1 FINESS Array S 70.48 330 *e*P **P 00 40 14.0 -1.4**
FINES FINESS Array B 70.48 330 P **P 00 40 14.2 -1.2**
FINES PcP PcP 00 40 34.8 -1.6

FINES LR LR 01 14 22.5
FINES FINESS Array B 70.48 330 P **P 00 40 14.2 -1.2**
comp=Z,7.4nm,0.5s,mb4.8,baz=66,slow=5.6,SNR=82
FINES PcP PcP 00 40 34.8 -1.6
comp=Z,4.0nm,0.5s,baz=75,slow=5.5,SNR=6.4
FINES LR LR 01 14 22.5
comp=Z,427nm,18.8s,MS4.7,baz=36,slow=39
NAY Al-Naaiem 70.51 293 *e*P **P 00 40 15.7 -0.5**
NAY AMb AMB 00 40 22.1
comp=Z,12nm,0.8s,mb4.9
ANN Anapa 71.42 311 *e*P **P 00 40 20.8 -0.6**
ANN *e* pP 00 40 37.7 +0.9
ANN *e*S S 00 49 32.3 -3.2
ANN pmax pmax
comp=Z,38nm,0.8s,mb5.4
ANN MLR MLR
comp=N,583nm,21.0s,MS4.9
ANN MLR MLR
comp=E,291nm,21.0s,MS4.9
ANN MLR MLR
comp=Z,387nm,21.0s,MS4.6
RES Resolute Bay 71.50 11 *e*P **P 00 40 20.8 -0.6**
DAG Danmarks Havn 71.75 353⇑*e*P **P 00 40 21.8 -1.1**
DAG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
DAG Danmarks Havn 71.75 353⇑*i*P **P 00 40 21.8 -1.1**
comp=Z,7.6nm,0.9s,mb4.6
MALT Malatya 73.44 305 *e*P **P 00 40 34.8 +1.2**
BBB Bella Bella 73.46 39 LR LR 01 14 17.6
comp=Z,100nm,18.1s,MS4.1,baz=153,slow=37
AKASG Malin Array Be 73.85 319 P **P 00 40 34.9 -0.9**
comp=Z,4.2nm,0.4s,mb4.7,baz=57,slow=6.3,SNR=23
AKASG LR LR 01 15 54.8
comp=Z,622nm,18.0s,MS4.9,baz=70,slow=38
AKBB Malin Array Si 73.85 319 *e*P **P 00 40 34.3 -1.4**
KIEV Kiev 73.86 319 *e*P **P 00 40 34.3 -1.5**
KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIEV Kiev 73.86 319 *e*P **P 00 40 34.3 -1.5**
comp=Z,7.7nm,0.6s,mb4.8
YKW3 Yellowknife Ar 74.30 26 *e*P **P 00 40 37.7 -0.4**
YKA Yellowknife Ar 74.34 26 P **P 00 40 37.9 -0.5**
YKA *PP pP 00 40 51.7 -2.1
YKA Yellowknife Ar 74.34 26 P **P 00 40 37.9 -0.5**
YKA pP pP 00 40 51.7 -2.1
YKA LR LR 01 19 24.2
YKA Yellowknife Ar 74.34 26 P **P 00 40 37.9 -0.5**
comp=Z,11nm,0.8s,mb4.9,baz=305,slow=5.7,SNR=62
YKA pP pP 00 40 51.7 -2.1
comp=Z,4.3nm,0.7s,baz=307,slow=5.5,SNR=7.0
YKA LR LR 01 19 24.2
comp=Z,64nm,18.4s,MS4.0,baz=310,slow=41
SUW Suwalki 75.46 324 *e*P **P 00 40 45.2 +0.3**
SUW Suwalki 75.46 324 *e*P **P 00 40 45.2 +0.3**
HFS Hagfors 76.32 333 P **P 00 40 48.0 -1.8**
comp=Z,11nm,0.5s,mb5.0,baz=359,slow=2.3,SNR=43
NB2 NORSAR Subarra 76.73 334 P **P 00 40 49.8 -2.2**
comp=Z,15nm,0.6s,mb5.1,baz=50,slow=5.9
NOA NORSAR Array B 76.73 334 P **P 00 40 50.3 -1.8**
NOA LR LR 01 19 40.5
NOA NORSAR Array B 76.73 334 P **P 00 40 50.3 -1.8**
comp=Z,12nm,0.6s,mb5.0,baz=50,slow=5.6,SNR=62
NOA LR LR 01 19 40.5
comp=Z,250nm,18.1s,MS4.6,baz=25,slow=40
ASF Jabal al Asfar 77.28 300 P **P 00 40 56.3 +0.6**
ASF Jabal al Asfar 77.28 300 P **P 00 40 56.3 +0.6**
comp=Z,3.8nm,0.7s,mb4.4,baz=315,slow=2.6,SNR=9.9
VRI Vrincioaia 77.65 316⇑P **P 00 40 58.3 +0.8**
VRI Vrincioaia 77.65 316⇑*i*P **P 00 40 58.3 +0.8**
BURAR Bucovina Array 77.65 318⇑P **P 00 40 57.5 0.0**
BURAR Bucovina Array 77.65 318⇑*i*P **P 00 40 57.5 0.0**
PGC Sidney 77.80 41 *e*P **P 00 40 58.6 +0.3**
comp=Z,41nm,0.9s,mb5.4
MMAI Mount Meron Ar 78.01 301 P **P 00 40 59.6 -0.2**
comp=Z,2.2nm,0.6s,mb4.3,baz=68,slow=9.1,SNR=6.0
KWP Kalwaria 78.01 321 *e*P **P 00 41 00.0 +0.6**
B04A Port Angeles 78.08 41⇑P **P 00 41 00.3 +0.5**
baz=78,SNR=7.2
A04A Legoe Bay, Lum 78.18 40 P **P 00 41 01.3 +0.9**
baz=78,SNR=7.9
NLWA Neilton Lookou 78.22 42 *e*P **P 00 41 01.3 +0.7**
NLWA Neilton Lookou 78.22 42⇓P **P 00 41 01.2 +0.6**
baz=78,SNR=6.1
MLR Muntele Rosu 78.31 316⇓P **P 00 41 01.3 +0.1**
MLR Muntele Rosu 78.31 316⇓P **P 00 41 01.3 +0.1**
MLR Muntele Rosu 78.31 316 P **P 00 41 00.7 -0.5**
comp=Z,3.2nm,0.7s,mb4.4,baz=333,slow=9.3,SNR=5.8
MLR Muntele Rosu 78.31 316⇓*i*P **P 00 41 01.3 +0.1**
A05A Maple Falls 78.38 40⇓P **P 00 41 01.9 +0.4**
baz=78
D03A Wishkah Elem. 78.42 42⇑P **P 00 41 02.2 +0.5**
baz=78
C04A Brinnon 78.56 41⇓P **P 00 41 03.0 +0.5**
baz=78
KOLS Kolonicke sedl 78.63 320 *e*P **P 00 41 03.3 +0.4**
A06A Chilliwack 78.66 40⇓P **P 00 41 02.9 -0.1**
baz=78
GNW Green Mountain 78.73 41 *e*P **P 00 41 04.2 +0.7**
B05A Bryant 78.77 40⇑P **P 00 41 03.8 +0.2**
baz=78,SNR=6.2
UZH Uzhgorod 78.78 320 *e*P **P 00 41 03.5 -0.2**
GKP Gorka Klasztor 78.82 326 *e*P **P 00 41 03.3 -0.6**
GKP Gorka Klasztor 78.82 326 *e*P **P 00 41 03.3 -0.5**
E03A Lebam 78.84 43⇑P **P 00 41 04.3 +0.3**
baz=79,SNR=5.4
STHS Stebnicka Huta 78.93 321 *e*P **P 00 41 05.4 +0.9**
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
STHS Stebnicka Huta 78.93 321 *e*P **P 00 41 05.4 +0.9**
comp=Z,4.2nm,0.7s,mb4.5
B06A Marblemount 78.97 40⇓P **P 00 41 04.4 -0.3**
baz=79
CRVS Cervenica-Dubn 79.09 321 *e*P **P 00 41 05.9 +0.5**
F03A Seaside 79.17 43⇓P **P 00 41 06.0 +0.2**
baz=79
OJC Ojcow 79.26 322 *e*P **P 00 41 05.8 -0.5**
A07A Ashnola River, 79.29 39⇑P **P 00 41 06.3 -0.1**
baz=79,SNR=9.7
C05A Tolt Reservoir 79.30 41⇑P **P 00 41 06.6 +0.1**
baz=79,SNR=7.0
E04A Onalaska 79.31 42⇑P **P 00 41 06.9 +0.3**
baz=79
D05A Enumclaw 79.41 41⇑P **P 00 41 07.6 +0.4**
baz=79,SNR=8.8
NIE Niedzica 79.44 321 *e*P **P 00 41 07.8 +0.5**
DRGR 79.54 318⇓*i*P **P 00 41 08.4 +0.5**
G03A Yamhill 79.66 43⇑P **P 00 41 09.0 +0.5**
baz=79
B07A Winthrop 79.76 40⇓P **P 00 41 09.1 +0.1**
baz=80,SNR=7.5
F04A Amboy 79.84 43⇓P **P 00 41 09.5 0.0**
baz=80,SNR=12
E05A Randle 79.88 42⇑P **P 00 41 10.0 +0.3**
baz=80
EIL Elat 79.93 298 P **P 00 41 10.2 -0.1**
comp=Z,4.1nm,0.9s,mb4.3,baz=13,slow=9.0,SNR=5.6
A08A Turner Farm, O 79.95 39⇓P **P 00 41 10.8 +0.8**
baz=80,SNR=7.4
H03A Soap Creek Ran 79.99 44⇑P **P 00 41 10.5 +0.1**
baz=80,SNR=6.8
COR Corvallis 80.04 44 *e*P **P 00 41 11.9 +1.3**
D06A Cle Elum 80.06 41⇓P **P 00 41 10.6 -0.1**
baz=80
G04A Mulino 80.20 43⇑P **P 00 41 11.3 -0.2**
baz=80
C07A Waterville 80.22 40⇓P **P 00 41 11.3 -0.3**
baz=80,SNR=8.0
B08A Colville Reser 80.25 39⇓P **P 00 41 11.8 +0.1**
baz=80,SNR=12
K01A Sixes 80.26 46⇑P **P 00 41 11.7 -0.1**
baz=80
A09A Danville 80.31 39⇓P **P 00 41 12.2 +0.2**
baz=80,SNR=7.5
E06A Yakima 80.34 42⇓P **P 00 41 12.5 +0.2**
baz=80,SNR=11
OKC Ostrava-Krasne 80.36 323 *e*P **P 00 41 12.0 -0.2**
OKC AMS AMS 01 19 50.0
comp=Z,500nm,24.1s
I03A Eugene 80.38 45⇑P **P 00 41 12.9 +0.4**
baz=80
MUD Monsted U'grnd 80.50 331 *i*P **P 00 41 11.3 -1.6**
MUD pmax pmax
comp=Z,13nm,0.6s,mb5.0
MUD Monsted U'grnd 80.50 331 *i*P **P 00 41 11.3 -1.6**
comp=Z,13nm,0.6s,mb5.0
PSZ Piszkesteto 80.51 320 *e*P **P 00 41 13.1 0.0**
PSZ pmax pmax
comp=Z,20nm,1.4s,mb4.8
PSZ Piszkesteto 80.51 320 *e*P **P 00 41 13.1 0.0**
comp=Z,20nm,1.4s,mb4.9
J02A Umpqua 80.52 45⇑P **P 00 41 13.0 -0.3**
baz=80
D07A Quincy 80.55 41⇓P **P 00 41 12.9 -0.4**
baz=80
H04A Detroit Lake 80.65 44⇑P **P 00 41 13.7 -0.3**
baz=80,SNR=6.0
MORC Moravsky Berou 80.71 323 *e*P **P 00 41 13.5 -0.6**
MORC Moravsky Berou 80.71 323⇑*i*P **P 00 41 13.3 -0.8**
KSP Ksiaz 80.72 324 *e*P **P 00 41 14.3 +0.1**
KSP Ksiaz 80.72 324 *e*P **P 00 41 13.6 -0.6**
C08A Higginbotham F 80.74 40⇑P **P 00 41 14.2 -0.1**
baz=80
VYHS Vyhne 80.76 321 *e*P **P 00 41 14.4 0.0**
VYHS pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VYHS Vyhne 80.76 321 *e*P **P 00 41 14.4 0.0**
comp=Z,9.6nm,0.8s,mb4.8
URZ Urewera 80.77 144 P **P 00 41 13.9 -0.5**
comp=Z,5.8nm,0.7s,mb4.6,baz=346,slow=3.5,SNR=4.6
BZS Buzias 80.82 318⇓*i*P **P 00 41 14.7 -0.1**
B09A Rice 80.86 39 P **P 00 41 15.5 +0.6**
baz=81,SNR=7.1
G05A Wamic 80.86 43⇓P **P 00 41 15.5 +0.5**
baz=81
F06A Goldendale 80.89 42⇑P **P 00 41 15.7 +0.5**
baz=81
J03A Ideyld Park 80.89 45⇓P **P 00 41 15.6 +0.4**
baz=81
K02A Glendale 80.90 46⇑P **P 00 41 15.6 +0.3**
baz=81
RUE Ruedersdorf 80.97 326 *e*P **P 00 41 15.0 -0.5**
comp=Z,21nm,0.8s,mb5.1
E07A Sunnyside 80.98 41⇓P **P 00 41 15.9 +0.3**
baz=81
I04A Tendick Farm, 81.00 44⇓P **P 00 41 15.8 0.0**
baz=81,SNR=5.8
DPC Dobruska-Polom 81.00 324 *e*P **P 00 41 15.7 0.0**
DPC AMS AMS 01 20 20.0
comp=Z,800nm,15.8s
UPC Upice 81.07 324 *e*P **P 00 41 15.7 -0.3**
C09A Chrisman Ranch 81.15 39⇓P **P 00 41 17.1 +0.6**
baz=81
L02A Cave Junction 81.15 46⇑P **P 00 41 16.8 +0.2**
baz=81
D08A Wollman Farm, 81.22 40 P **P 00 41 17.0 +0.1**
baz=81,SNR=11
H05A Madras 81.25 43⇓P **P 00 41 17.2 +0.2**
baz=81,SNR=7.0
HAWA Hanford 81.25 41 *e*P **P 00 41 17.5 +0.4**
comp=Z,16nm,0.8s,mb5.0
G06A Carlson Farm, 81.27 43⇑P **P 00 41 17.5 +0.3**
baz=81,SNR=6.3
F07A Phinny Hill Vi 81.31 42⇓P **P 00 41 17.8 +0.4**
baz=81,SNR=7.9
HUMO Hull Mountain 81.31 46 *e*P **P 00 41 18.5 +1.1**
HUMO Hull Mountain 81.31 46⇓P **P 00 41 17.6 +0.1**
baz=81
E08A Dider Farm, El 81.47 41⇓P **P 00 41 18.4 +0.2**
baz=81
VRAC Vranov 81.49 323 P **P 00 41 18.0 -0.3**
comp=Z,5.9nm,0.6s,mb4.7,baz=70,slow=4.5,SNR=12
VRAC Vranov 81.49 323⇑*i*P **P 00 41 18.1 -0.2**
I05A Bend 81.49 44⇓P **P 00 41 18.6 +0.2**
baz=81
J04A Umpqua Nationa 81.49 45⇓P **P 00 41 18.8 +0.4**
baz=81,SNR=10
A11A Hall Mountain, 81.51 38 P **P 00 41 19.3 +0.9**
baz=81,SNR=11
NEW Newport 81.51 39 *e*P **P 00 41 18.7 +0.3**
NEW pmax pmax
comp=Z,49nm,1.8s
NEW Newport 81.51 39 *e*P **P 00 41 18.7 +0.3**
comp=Z,49nm,1.8s,mb5.1
NEW Newport 81.51 39 P **P 00 41 18.5 +0.1**
comp=Z,6.4nm,0.6s,mb4.7,baz=294,slow=3.6,SNR=12
VTS Vitosha 81.52 314⇓*i*P **P 00 41 19.4 +0.8**
D09A Jones Farm, Ri 81.56 40⇓P **P 00 41 18.7 0.0**
baz=81
BSEG Bad Segeberg 81.66 329 *e*P **P 00 41 18.3 -0.8**
BSEG pmax pmax
comp=Z,20nm,1.1s,mb5.0
BSEG Bad Segeberg 81.66 329 *e*P **P 00 41 18.3 -0.8**
comp=Z,20nm,1.1s,mb5.0
MODS Modra-Piesok 81.68 322 *e*P **P 00 41 20.1 +0.8**
MODS Modra-Piesok 81.68 322 *e*P **P 00 41 20.0 +0.7**
H06A Lindquist Farm 81.72 43⇑P **P 00 41 19.6 0.0**
baz=82,SNR=7.9
PVCC Panska Ves 81.79 324 *e*P **P 00 41 19.4 -0.4**
PVCC AMS AMS 01 21 50.0
comp=Z,600nm,15.8s
G07A Ruggs Ranch, H 81.81 42⇑P **P 00 41 20.3 +0.2**
baz=82,SNR=11
B11A Sandpoint 81.82 38⇓P **P 00 41 20.5 +0.5**
baz=82,SNR=10
ZST Bratislava 81.88 322 *e*P **P 00 41 21.5 +1.2**
comp=Z,13nm,0.6s,mb5.0
ZST LR LR
comp=Z,300nm,17.5s,MS4.7
BRG Berggiesshubel 81.89 325 *e*P **P 00 41 20.2 -0.2**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
BRG Berggiesshubel 81.89 325 *e*P **P 00 41 19.9 -0.5**
comp=Z,7.0nm,0.8s,mb4.6
BRG Berggiesshubel 81.89 325 *e*P **P 00 41 20.2 -0.1**
comp=Z,7.3nm,0.8s,mb4.7
A12A Yaak River Ran 81.90 37⇑P **P 00 41 21.0 +0.6**
baz=82
YBH Yreka Blue Hor 81.94 46⇓P **P 00 41 21.2 +0.4**
baz=82,SNR=6.6
E09A Wood Farm, Sta 81.97 40⇑P **P 00 41 20.8 0.0**
baz=82
J05A Fort Rock 82.00 44⇑P **P 00 41 21.7 +0.6**
baz=82,SNR=29
F08A Pendleton 82.03 41⇓P **P 00 41 21.4 +0.3**
baz=82,SNR=8.2
M02C Callahan 82.04 47⇑P **P 00 41 21.9 +0.6**
baz=82,SNR=5.6
N02C Big Bar 82.06 47 P **P 00 41 21.1 -0.4**
baz=82,SNR=6.3
K04A Chilquin 82.07 45⇑P **P 00 41 21.7 +0.2**
baz=82
TREC Trest 82.07 323 *e*P **P 00 41 21.1 -0.2**
TREC AMS AMS 01 21 00.0
comp=Z,500nm,17.6s
CLL Collm 82.08 326⇑*i*P **P 00 41 20.4 -1.0**
comp=Z,21nm,0.6s,mb5.2
CLL *i* 00 41 22.7
CLL Collm 82.08 326 *e*P **P 00 41 20.4 -1.0**
comp=Z,21nm,0.6s,mb5.2
CLL Collm 82.08 326⇑*i*P **P 00 41 20.4 -1.0**
comp=Z,21nm,0.6s,mb5.2
CLL *i* P(2) 00 41 22.7
comp=Z,26nm,0.8s
CLL Lm 01 20 00.0
comp=Z,800nm,18.4s
O01C Eel River Cons 82.10 48⇑P **P 00 41 21.5 -0.1**
baz=82
PRU Pruhonice 82.14 324 *e*P **P 00 41 21.9 +0.2**
PRU AMS AMS 01 21 10.0
comp=Z,600nm,17.6s
FBE Freiberg 82.15 325 *e*P **P 00 41 21.3 -0.4**
comp=Z,15nm,0.8s,mb5.0
PKSM Mogy 82.19 319⇑*i*P **P 00 41 20.9 -1.1**
L04A Klamath Falls 82.21 46⇓P **P 00 41 22.4 +0.1**
baz=82,SNR=12
G08A Pilot Rock 82.21 42⇓P **P 00 41 22.2 +0.1**
baz=82,SNR=8.6
I06A Prineville 82.24 43⇓P **P 00 41 22.8 +0.4**
baz=82,SNR=16
H07A Lands Inn, Kim 82.26 43⇑P **P 00 41 22.6 +0.2**
baz=82
M04C Macdoel 82.46 46⇓P **P 00 41 23.6 0.0**
baz=82,SNR=15
K05A Summer Lake 82.52 45 P **P 00 41 25.0 +1.2**
baz=82,SNR=13
A13A Flathead Natio 82.55 37⇑P **P 00 41 24.6 +0.7**
baz=82
M03C McCloud 82.56 46⇓P **P 00 41 24.1 0.0**
baz=82,SNR=11
E10A Myers Farm, Un 82.57 40⇓P **P 00 41 24.1 +0.1**
baz=82,SNR=6.6
I07A Izee 82.58 43⇑P **P 00 41 24.3 +0.1**
baz=82,SNR=11
D11A Klaveano Farm, 82.66 39 P **P 00 41 24.6 +0.1**
baz=82,SNR=8.6
J06A Christmas Vall 82.67 44⇓P **P 00 41 24.6 0.0**
baz=82,SNR=15
WDC Whiskeytown Da 82.68 47⇓P **P 00 41 24.4 -0.3**
baz=82,SNR=5.9
NRDL Niedersach Rie 82.70 328 *e*P **P 00 41 23.8 -0.7**
comp=Z,14nm,1.4s,mb4.8
CONA Conrad Observa 82.70 322⇓*i*P **P 00 41 24.9 +0.3**
comp=Z,37nm,1.3s,mb5.3,SNR=36
WALA Waterton Lakes 82.73 37 *e*P **P 00 41 25.6 +0.8**
O02C Red Bluff 82.74 48⇓P **P 00 41 25.3 +0.2**
baz=82,SNR=5.9
P01C Double 8 Ranch 82.78 48⇑P **P 00 41 25.3 0.0**
baz=83
F10A Beach Ranch, E 82.80 41⇑P **P 00 41 25.9 +0.7**
baz=83
H08A Prairie City 82.82 42⇓P **P 00 41 25.6 +0.3**
baz=83,SNR=20
B13A Whitefish 82.86 37 P **P 00 41 26.6 +1.1**
baz=83,SNR=13
K06A Valley Falls 82.87 44⇓P **P 00 41 25.9 +0.3**
baz=83,SNR=11
TANN Tannenbergstha 82.91 325 *e*P **P 00 41 25.3 -0.4**
comp=Z,14nm,1.3s,mb4.8
L05A Lakeview 82.94 45 P **P 00 41 26.6 +0.6**
baz=83,SNR=9.2
WERD Werda 82.97 325 *e*P **P 00 41 25.6 -0.4**
comp=Z,11nm,0.7s,mb5.0
CLZ Clausthal 83.00 327 *e*P **P 00 41 25.8 -0.3**
CLZ pmax pmax
comp=Z,38nm,1.3s,mb5.3
CLZ Clausthal 83.00 327 *e*P **P 00 41 25.8 -0.3**
comp=Z,38nm,1.3s,mb5.3
CLZ Clausthal 83.00 327 *e*P **P 00 41 25.9 -0.2**
comp=Z,38nm,1.3s,mb5.3
GUNZ Gunzen 83.01 325 *e*P **P 00 41 25.8 -0.4**
comp=Z,16nm,0.8s,mb5.1
NKC Novy Kostel 83.03 325 *e*P **P 00 41 26.5 +0.2**
NKC AMS AMS 01 21 40.0
comp=Z,700nm,19.7s
WERN Wernitzgruen 83.04 325 *e*P **P 00 41 26.1 -0.2**
comp=Z,14nm,0.7s,mb5.1
GASB Alder Springs 83.08 48⇑P **P 00 41 27.5 +0.7**
baz=83,SNR=8.0
J07A Hines 83.11 44⇓P **P 00 41 27.2 +0.3**
baz=83,SNR=14
M05C Lookout 83.13 46⇓P **P 00 41 26.9 -0.1**
baz=83
E11A Bogner Ranch, 83.14 40⇑P **P 00 41 27.5 +0.5**
baz=83,SNR=5.5
KHC Kasperske Hory 83.16 324 *e*P **P 00 41 26.7 -0.3**
KHC *ex* x 00 41 36.6
KHC AMS AMS 01 21 40.0
comp=Z,800nm,16.5s
MOX Moxa 83.18 326 *e*P **P 00 41 27.7 +0.6**
comp=Z,30nm,1.5s,mb5.1
MOX
comp=Z,600nm,18.0s
MOX Moxa 83.18 326 *e*P **P 00 41 27.7 +0.6**
MOX pmax pmax
comp=Z,30nm,1.5s,mb5.1
MOX MLR MLR
comp=Z,600nm,18.0s,MS5.0
MOX Moxa 83.18 326 *e*P **P 00 41 26.6 -0.5**
comp=Z,14nm,1.0s,mb5.0
D12A Red Ives Fores 83.20 39 P **P 00 41 27.3 +0.1**
baz=83,SNR=7.2
HATC Hat Creek Radi 83.23 47⇓P **P 00 41 27.7 +0.2**
baz=83,SNR=7.3
C13A Hot Springs 83.23 38 P **P 00 41 28.2 +0.8**
baz=83,SNR=11
I08A Drewsey 83.24 43⇑P **P 00 41 28.0 +0.5**
baz=83,SNR=9.5
G10A Bishop Farm, J 83.27 41 P **P 00 41 27.9 +0.2**
baz=83,SNR=19
GEC2 GERESS Array S 83.28 323 *e*P **P 00 41 26.8 -0.8**
GEC2 pmax pmax
comp=Z,23nm,1.6s,mb5.0
GEC2 GERESS Array S 83.28 323 *e*P **P 00 41 26.8 -0.8**
comp=Z,23nm,1.6s,mb5.0
GERES GERESS Array B 83.28 323 P **P 00 41 26.8 -0.8**
comp=Z,3.7nm,0.7s,mb4.5,baz=46,slow=4.6,SNR=37
GERES LR LR 01 22 19.1
comp=Z,618nm,18.9s,MS5.0,baz=228,slow=38
ARSA Arzberg 83.30 321⇑*i*P **P 00 41 27.8 0.0**
comp=Z,21nm,1.3s,mb5.0,SNR=11
H09A Durkee 83.32 42 P **P 00 41 28.7 +0.8**
baz=83,SNR=12
MOD Modoc 83.34 45 *e*P **P 00 41 28.8 +0.7**
MOD Modoc 83.34 45⇓P **P 00 41 28.0 -0.1**
baz=83,SNR=5.8
MANZ Manzenberg 83.36 325 *e*P **P 00 41 27.5 -0.5**
comp=Z,13nm,1.0s,mb4.9
ROTZ Rotzenmuhle 83.45 325 *e*P **P 00 41 28.2 -0.3**
comp=Z,23nm,1.0s,mb5.2
F11A Grangeville 83.45 40⇓P **P 00 41 29.2 +0.6**
baz=83,SNR=13
WET Wettzell 83.51 324 *e*P **P 00 41 27.2 -1.6**
WET pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
WET Wettzell 83.51 324 *e*P **P 00 41 27.2 -1.6**
comp=Z,8.0nm,1.2s,mb4.7
K07A Rock Creek Ran 83.54 44 P **P 00 41 29.7 +0.6**
baz=83,SNR=27
MOA Molln 83.60 322⇑*i*P **P 00 41 29.2 -0.1**
comp=Z,20nm,1.0s,mb5.2,SNR=18
J08A Circle Bar Ran 83.61 43⇑P **P 00 41 29.7 +0.2**
baz=83,SNR=23
C14A Swan Lake 83.62 38 P **P 00 41 29.8 +0.4**
baz=83,SNR=8.1
M06C Likely Place G 83.63 46⇓P **P 00 41 29.8 +0.2**
baz=83
D13A Huson 83.66 38⇑P **P 00 41 29.7 +0.1**
baz=83
MNRC McLaughlin Nat 83.68 49⇑P **P 00 41 30.5 +0.6**
baz=84,SNR=6.2
G11A Walters Elk Ra 83.69 41 P **P 00 41 29.9 +0.1**
baz=84,SNR=27
I09A Lost Marbles R 83.69 42⇓P **P 00 41 29.9 +0.1**
baz=84,SNR=16
O04C Chester 83.75 47⇑P **P 00 41 30.5 +0.3**
baz=84,SNR=11
UBBA Unterbreizbach 83.85 327 *e*P **P 00 41 29.7 -0.8**
comp=Z,14nm,0.7s,mb5.2
L07A Adell 83.87 45⇓P **P 00 41 31.5 +0.7**
baz=84,SNR=15
PERS Pernice 83.89 321 *e*P **P 00 41 31.4 +0.6**
IBBN Ibbenburen 83.89 329 *e*P **P 00 41 29.6 -1.1**
comp=Z,43nm,0.7s,mb5.7
H10A Noah's Angus R 83.90 41 P **P 00 41 30.8 -0.1**
baz=84,SNR=24
ORV Oroville 83.91 48 P **P 00 41 30.5 -0.6**
baz=84,SNR=8.4
K08A Mann Creek Ran 83.97 44⇑P **P 00 41 31.4 +0.1**
baz=84,SNR=15
GRA1 Grafenberg Arr 83.99 325 *e*P **P 00 41 30.9 -0.3**
comp=Z,39nm,1.1s,mb5.5
GRA1 LR LR
comp=Z,600nm,21.7s,MS4.9
GRF Grafenberg Arr 83.99 325 *e*P **P 00 41 30.9 -0.3**
GRF pmax pmax
comp=Z,39nm,1.1s,mb5.5
GRF MLR MLR
comp=Z,600nm,21.7s,MS4.9
GRF Grafenberg Arr 83.99 325 *e*P **P 00 41 30.9 -0.3**
GRF pmax pmax
comp=Z,39nm,1.1s,mb5.5
GRF MLR MLR
comp=Z,600nm,21.7s,MS4.9
GRF Grafenberg Arr 83.99 325 *e*P **P 00 41 30.9 -0.3**
comp=Z,39nm,1.1s,mb5.5
GRF *e*L 01 21 58.9
comp=Z,552nm,21.7s
GRFO Grafenberg 83.99 325 *e*P **P 00 41 29.8 -1.4**
GRFO pmax pmax
comp=Z,35nm,1.1s,mb5.4
GRFO Grafenberg 83.99 325 *e*P **P 00 41 29.8 -1.4**
comp=Z,35nm,1.1s,mb5.4
F12A Elk City 84.04 40 P **P 00 41 31.8 +0.2**
baz=84,SNR=34
J09A Fry Pan Ranch, 84.05 43 P **P 00 41 32.3 +0.6**
baz=84,SNR=25
OHCM Honcut 84.05 48 *e*P **P 00 41 31.6 -0.1**
OHCM *e*pP pP 00 41 52.3 +4.8
WVOR Wild Horse Val 84.05 44 *e*P **P 00 41 31.6 -0.1**
WVOR pmax pmax
comp=Z,15nm,0.8s,mb5.2

WVOR **Wild Horse Val 84.05 44** *e*P **P 00 41 31.6 -0.1**
comp=Z,15nm,0.8s,mb5.2
O05C **Quincy 84.06 47** ⇓P **P 00 41 31.7 0.0**
baz=84
Q03C **Winters 84.09 49** ⇑P **P 00 41 32.1 +0.1**
baz=84
MSO **Missoula 84.10 38** *e*P **P 00 41 33.1 +1.3**
FCC **Fort Churchill 84.17 21** *e*P **P 00 41 31.4 -0.6**
D14A **Greenough 84.17 38** P **P 00 41 32.2 -0.1**
baz=84,SNR=7.2
LEGS **Legarje 84.20 321** *e*P **P 00 41 32.4 0.0**
OBKA **Obir 84.28 321** ⇓*i*P **P 00 41 32.6 -0.1**
comp=Z,17nm,0.8s,mb5.2
RAR **Rarotonga 84.34 118** LR LR 01 14 54.9
comp=Z,114nm,18.4s,MS4.3,baz=54,slow=33
FFC **Flin Flon 84.41 27** P **P 00 41 33.1 -0.2**
comp=Z,211nm,0.8s,mb6.3,SNR=12
FFC **Flin Flon 84.41 27** *e*P **P 00 41 32.8 -0.5**
CHMT **Chamberlain Mo 84.42 38** *e*P **P 00 41 34.0 +0.6**
VNDS **Vrh nad Dolski 84.45 321** *i*P **P 00 41 33.8 +0.1**
WTSB **Winterswijk 84.56 329** *e*PKP **P 00 41 32.6 -1.4**
comp=Z,35nm,0.9s,mb5.5
KBA **Koelnbreinsper 84.57 322** ⇑*i*P **P 00 41 34.0 -0.2**
comp=Z,11nm,0.8s,mb5.1,SNR=9.3
KBA **Koelnbreinsper 84.57 322** ⇑*i*P **P 00 41 34.0 -0.2**
KBA pmax pmax
comp=Z,11nm,0.8s,mb5.0
LJU **Ljubljana 84.58 321** *e*P **P 00 41 34.3 0.0**
BUG **Bochum--Univer 84.71 328** *e*P **P 00 41 33.6 -1.2**
comp=Z,23nm,1.1s,mb5.2
CEY **Cerknica 84.82 321** *i*P **P 00 41 35.5 0.0**
VOY **Vojsko 84.93 321** *e*P **P 00 41 36.0 -0.1**
HRY **Holter Researc 85.30 38** *e*pP pP 00 41 49.1 -4.6
CMB **Columbia Colle 85.49 48** *e*P **P 00 41 38.7 -0.3**
CMB pmax pmax
comp=Z,19nm,0.8s,mb5.3
CMB **Columbia Colle 85.49 48** *e*P **P 00 41 38.7 -0.4**
comp=Z,19nm,0.8s,mb5.3
EGMT **Eagleton 85.52 36** *e*P **P 00 41 39.1 +0.1**
comp=Z,28nm,0.9s,mb5.5
LRM **Limekiln Ridge 85.53 39** *e*P **P 00 41 39.9 +0.8**
STU **Stuttgart 85.60 325** *e*P **P 00 41 38.5 -0.8**
comp=Z,14nm,0.9s,mb5.2
DLMT **Dillon 85.75 39** *e*P **P 00 41 41.3 +1.2**
HGN **Heimansgroeve 85.78 328** *e*PKP **P 00 41 37.8 -2.4**
comp=Z,15nm,2.1s,mb4.9
WAKR **Walker 85.83 48** *e*P **P 00 41 41.2 +0.5**
MEM **Membach 85.86 328** P **P 00 41 39.2 -1.4**
BOZ **Bozeman (W) 86.09 38** *e*P **P 00 41 42.6 +0.8**
EKA **Eskdalemuir Ar 86.13 335** P **P 00 41 40.1 -1.7**
comp=Z,7.3nm,0.6s,mb5.1,baz=42,slow=4.4,SNR=44
BCLA **Clavier 86.31 328** P **P 00 41 41.9 -1.0**
comp=Z,4.3nm,0.8s,mb4.7
BFO **Black Forest 86.32 325** *e*P **P 00 41 43.2 +0.3**
BFO pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
BFO **Black Forest 86.32 325** *e*P **P 00 41 43.2 +0.3**
comp=Z,8.0nm,0.8s,mb5.0
WLF **Walferdange 86.45 327** *e*P **P 00 41 43.5 0.0**
WLF pmax pmax
comp=Z,17nm,0.8s,mb5.3
WLF **Walferdange 86.45 327** *e*P **P 00 41 43.5 -0.1**
comp=Z,17nm,0.8s,mb5.3
WLF **Walferdange 86.45 327** P **P 00 41 43.1 -0.4**
WLF **Walferdange 86.45 327** *e*P **P 00 41 42.8 -0.7**
comp=Z,28nm,1.2s,mb5.4
UCC **Uccle 86.47 329** P **P 00 41 42.4 -1.2**
DAVOX **Davos/Dischmat 86.58 324** P **P 00 41 43.5 -0.7**
comp=Z,7.8nm,0.5s,mb5.2,baz=42,slow=2.3,SNR=37
NVAR **Mina Array Bea 86.60 47** P **P 00 41 45.3 +0.8**
comp=Z,10nm,0.8s,mb5.1,baz=307,slow=3.9,SNR=34
QLMT **Earthquake Lak 86.72 39** *e*P **P 00 41 46.1 +1.2**
GIVF **Givet 86.75 328** *e*P **P 00 41 43.6 -1.4**
comp=Z,10.0nm,0.6s,mb4.9
GIVF **Givet 86.75 328** *e*P **P 00 41 43.6 -1.4**
GIVF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
GIVF **Givet 86.75 328** *e*P **P 00 41 43.6 -1.4**
comp=Z,5.0nm,0.6s,mb4.9
CDF **Champ du Feu 86.78 326** *e*P **P 00 41 44.0 -1.2**
comp=Z,10nm,0.6s,mb5.0
CDF **Champ du Feu 86.78 326** *e*P **P 00 41 44.0 -1.2**
CDF pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
CDF **Champ du Feu 86.78 326** *e*P **P 00 41 44.0 -1.2**
comp=Z,5.2nm,0.6s,mb4.9
BAIF **Baives 87.06 329** *e*P **P 00 41 45.0 -1.5**
comp=Z,20nm,1.1s,mb5.0
BAIF **Baives 87.06 329** *e*P **P 00 41 45.0 -1.5**
BAIF pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
BAIF **Baives 87.06 329** *e*P **P 00 41 45.0 -1.5**
comp=Z,9.9nm,1.1s,mb5.0
YNR **Norris Junctio 87.20 39** *e*P **P 00 41 51.2 +3.8**
YFT **Old Faithful 87.29 39** *e*P **P 00 41 51.3 +3.6**
HINF **Hinteralfeld 87.39 326** *e*P **P 00 41 46.4 -1.8**
comp=Z,11nm,0.6s,mb5.0
HINF **Hinteralfeld 87.39 326** *e*P **P 00 41 46.4 -1.8**
HINF pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
HINF **Hinteralfeld 87.39 326** *e*P **P 00 41 46.4 -1.8**
comp=Z,5.5nm,0.6s,mb5.0
LKWY **Lake 87.45 39** *e*P **P 00 41 50.9 +2.4**
LKWY pmax pmax
comp=Z,24nm,1.1s,mb5.3
LKWY **Lake 87.45 39** *e*P **P 00 41 50.9 +2.3**
comp=Z,24nm,1.1s,mb5.3
HAU **Haudompre 87.51 326** *e*P **P 00 41 47.1 -1.6**
comp=Z,14nm,0.8s,mb5.0
HAU *e*MLR MLR
comp=Z,654nm,17.5s,MS4.8
HAU **Haudompre 87.51 326** *e*P **P 00 41 47.1 -1.6**
HAU pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
HAU MLR MLR
comp=Z,650nm,17.5s,MS5.1
HAU **Haudompre 87.51 326** *e*P **P 00 41 47.1 -1.6**
comp=Z,7.2nm,0.8s,mb5.0
HAU LR LR
comp=Z,650nm,17.5s,MS5.1
AQU **L'Aquila 87.52 319** *e*P **P 00 41 49.5 +0.6**
AQU pmax pmax
comp=Z,15nm,1.0s,mb5.2
AQU **L'Aquila 87.52 319** *e*P **P 00 41 49.5 +0.6**
comp=Z,15nm,1.0s,mb5.2
RLMT **Red Lodge 87.69 38** *e*P **P 00 41 50.4 +0.7**
MEZF **Maizieres J'vi 87.78 327** *e*P **P 00 41 49.0 -1.0**
comp=Z,19nm,0.7s,mb5.1
MEZF **Maizieres J'vi 87.78 327** *e*P **P 00 41 49.0 -1.0**
comp=Z,19nm,0.7s,mb5.4
MOOW **Moose Ponds 87.80 39** *e*P **P 00 41 51.4 +1.3**
comp=Z,25nm,1.6s,mb5.2
TPAW **Teton Pass 87.85 40** *e*P **P 00 41 51.5 +1.1**
comp=Z,13nm,0.9s,mb5.2
DGMT **Dagmar 87.93 33** *e*P **P 00 41 51.7 +0.9**
LOHW **Long Hollow 87.96 39** *e*P **P 00 41 51.8 +0.8**
SNOW **Snow King Moun 87.98 40** *e*P **P 00 41 52.9 +1.8**
REDW **Red Top Meadow 87.99 40** *e*P **P 00 41 52.7 +1.6**
LAO **LASA Array 88.20 35** *e*P **P 00 41 52.9 +0.9**
BGU **Big Grassy Mou 88.31 43** *e*P **P 00 41 53.2 +0.6**
CABF **La Chapelle 88.61 325** *e*P **P 00 41 52.5 -1.4**
comp=Z,9.1nm,0.7s,mb4.9
CABF **La Chapelle 88.61 325** *e*P **P 00 41 52.5 -1.4**
CABF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
CABF **La Chapelle 88.61 325** *e*P **P 00 41 52.5 -1.4**
comp=Z,4.6nm,0.7s,mb4.9
HWUT **Hardware Ranch 88.72 41** *e*P **P 00 41 55.4 +0.8**
comp=Z,24nm,1.2s,mb5.4
TPNV **Topopah Spring 88.79 47** *e*P **P 00 41 56.0 +1.0**
DUG **Dugway 88.89 43** *e*P **P 00 41 56.5 +1.1**
DUG pmax pmax
comp=Z,11nm,0.9s,mb5.2
DUG **Dugway 88.89 43** *e*P **P 00 41 56.5 +1.1**
comp=Z,11nm,0.9s,mb5.2
NOQ **North Oquirrh 89.01 42** *e*P **P 00 41 56.5 +0.5**
LPL **La Plagne 89.04 324** *e*P **P 00 41 55.6 -0.4**
comp=Z,8.3nm,0.5s,mb5.0
LPL **La Plagne 89.04 324** *e*P **P 00 41 55.6 -0.4**
LPL pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
LPL **La Plagne 89.04 324** *e*P **P 00 41 55.6 -0.4**
comp=Z,4.2nm,0.5s,mb5.0
LPG **La Plagne 89.05 324** *e*P **P 00 41 55.7 -0.3**
comp=Z,9.5nm,0.5s,mb5.1
LPG **La Plagne 89.05 324** *e*P **P 00 41 55.7 -0.3**
LPG pmax pmax
comp=Z,5.0nm,0.5s,mb5.1
LPG **La Plagne 89.05 324** *e*P **P 00 41 55.7 -0.3**
comp=Z,4.8nm,0.5s,mb5.1
BW06 **Boulder Array 89.09 40** *e*P **P 00 41 56.7 +0.3**
comp=Z,9.5nm,0.8s,mb5.2
CTU **Camp Tracy 89.20 42** *e*P **P 00 41 57.0 +0.1**
LOR **Lormes 89.22 327** *e*P **P 00 41 54.9 -1.9**
comp=Z,6.7nm,0.6s,mb4.9
LOR *e*MLR MLR
comp=Z,644nm,22.0s,MS4.7
LOR **Lormes 89.22 327** *e*P **P 00 41 54.9 -1.9**
LOR pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
LOR MLR MLR
comp=Z,640nm,22.0s,MS5.0
LOR **Lormes 89.22 327** *e*P **P 00 41 54.9 -1.9**
comp=Z,3.3nm,0.6s,mb4.8
LOR LR LR
comp=Z,640nm,22.0s,MS5.0
BNI **Bardonecchia 89.39 324** *e*P **P 00 41 56.6 -1.1**
BNI pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
BNI **Bardonecchia 89.39 324** *e*P **P 00 41 56.6 -1.0**
comp=Z,3.8nm,0.6s,mb4.9
GSC **Goldstone 89.42 49** *e*P **P 00 41 59.7 +1.7**
JLU **Jordanelle 89.44 42** *e*P **P 00 41 59.2 +1.2**
NLU **North Lily Min 89.48 43** *e*P **P 00 41 59.4 +1.2**
SSF **Saint Saulge 89.54 327** *e*P **P 00 41 56.6 -1.7**
comp=Z,6.9nm,0.6s,mb4.9
SSF **Saint Saulge 89.54 327** *e*P **P 00 41 56.6 -1.7**
SSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
SSF **Saint Saulge 89.54 327** *e*P **P 00 41 56.6 -1.7**
comp=Z,3.5nm,0.6s,mb4.9
MBDF **Montbardon 89.57 324** *e*P **P 00 41 56.9 -1.6**
comp=Z,9.6nm,0.6s,mb5.0
MBDF **Montbardon 89.57 324** *e*P **P 00 41 56.9 -1.6**
MBDF pmax pmax
comp=Z,5.0nm,0.6s,mb5.0
MBDF **Montbardon 89.57 324** *e*P **P 00 41 56.9 -1.6**
comp=Z,4.8nm,0.6s,mb5.0
DAU **Daniels Canyon 89.67 42** *e*P **P 00 42 00.8 +1.7**
SMF **Signal de Mont 89.68 326** *e*P **P 00 41 57.3 -1.7**
comp=Z,13nm,0.7s,mb5.0
SMF **Signal de Mont 89.68 326** *e*P **P 00 41 57.3 -1.7**
SMF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
SMF **Signal de Mont 89.68 326** *e*P **P 00 41 57.3 -1.7**
comp=Z,6.5nm,0.7s,mb5.1
MPU **Maple Canyon 89.70 43** *e*P **P 00 42 00.4 +1.2**
HYF **Humbligny 89.80 327** *e*P **P 00 41 58.7 -0.8**
AVF **Avril sur Loir 89.81 327** *e*P **P 00 41 57.7 -1.9**
comp=Z,3.8nm,0.5s,mb4.7
AVF **Avril sur Loir 89.81 327** *e*P **P 00 41 57.7 -1.9**
AVF pmax pmax
comp=Z,2.0nm,0.4s,mb4.8
AVF **Avril sur Loir 89.81 327** *e*P **P 00 41 57.7 -1.9**
comp=Z,1.9nm,0.4s,mb4.8
SBF **Sospel 89.81 323** *e*P **P 00 41 59.6 -0.1**
comp=Z,31nm,0.8s,mb5.4
SBF **Sospel 89.81 323** *e*P **P 00 41 59.6 -0.1**
SBF pmax pmax
comp=Z,16nm,0.8s,mb5.4
SBF **Sospel 89.81 323** *e*P **P 00 41 59.6 -0.1**
comp=Z,16nm,0.8s,mb5.4
PGF **Pioggiola 89.87 321** *e*P **P 00 41 58.6 -1.3**
comp=Z,44nm,1.2s,mb5.3
PGF **Pioggiola 89.87 321** *e*P **P 00 41 58.6 -1.3**
PGF pmax pmax
comp=Z,22nm,1.2s,mb5.4
PGF **Pioggiola 89.87 321** *e*P **P 00 41 58.6 -1.3**
comp=Z,22nm,1.2s,mb5.4
ORIF **Oris-en-Rattie 89.89 324** *e*P **P 00 41 58.6 -1.4**
comp=Z,9.3nm,0.7s,mb4.9
ORIF *e*MLR MLR
comp=Z,591nm,22.8s,MS4.7
ORIF **Oris-en-Rattie 89.89 324** *e*P **P 00 41 58.6 -1.4**
ORIF pmax pmax
comp=Z,5.0nm,0.7s,mb5.0
ORIF **Oris-en-Rattie 89.89 324** *e*P **P 00 41 58.6 -1.4**
comp=Z,4.7nm,0.7s,mb4.9
LDF **La Druitiere 90.07 330** *e*P **P 00 41 59.0 -1.8**
comp=Z,24nm,0.7s,mb5.4
LDF **La Druitiere 90.07 330** *e*P **P 00 41 59.0 -1.8**
LDF pmax pmax
comp=Z,12nm,0.7s,mb5.3
LDF **La Druitiere 90.07 330** *e*P **P 00 41 59.0 -1.8**
comp=Z,12nm,0.7s,mb5.3
FLN **La Foliniere 90.10 330** *e*P **P 00 41 59.6 -1.3**
comp=Z,16nm,0.6s,mb5.2
FLN *e*MLR MLR
comp=Z,1μm,20.2s,MS5.0
FLN **La Foliniere 90.10 330** *e*P **P 00 41 59.6 -1.3**
FLN pmax pmax
comp=Z,8.0nm,0.6s,mb5.2
FLN MLR MLR
comp=Z,1μm,20.3s,MS5.3
FLN **La Foliniere 90.10 330** *e*P **P 00 41 59.6 -1.3**
comp=Z,8.2nm,0.6s,mb5.2
FLN LR LR
comp=Z,1μm,20.3s,MS5.3
BGF **Bois d'Agland 90.22 327** *e*P **P 00 42 00.2 -1.3**
comp=Z,6.9nm,0.6s,mb4.9
BGF **Bois d'Agland 90.22 327** *e*P **P 00 42 00.2 -1.3**
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb4.8
BGF **Bois d'Agland 90.22 327** *e*P **P 00 42 00.2 -1.3**
comp=Z,3.5nm,0.6s,mb4.9
ULM **Lac du Bonnet 90.24 28** P **P 00 42 01.6 +0.1**
comp=Z,51nm,0.7s,mb5.9,baz=323,slow=5.3,SNR=51
ULM LR LR 01 23 24.5
comp=Z,191nm,20.4s,MS4.5,baz=65,slow=36
MSU **Marysvale 90.34 44** *e*P **P 00 42 03.9 +1.6**
PPT **Papeete 90.43 110** *e*LR LR 01 10 39.2
comp=Z,392nm,33.5s
PPT **Papeete 90.43 110** LR LR 01 21 32.1
comp=Z,104nm,18.0s,MS4.3,baz=90,slow=35
FRF **La Foret Royal 90.44 323** *e*P **P 00 42 01.5 -1.1**
comp=Z,32nm,1.1s,mb5.2
FRF **La Foret Royal 90.44 323** *e*P **P 00 42 01.5 -1.1**
FRF pmax pmax
comp=Z,16nm,1.1s,mb5.3
FRF **La Foret Royal 90.44 323** *e*P **P 00 42 01.5 -1.1**
comp=Z,16nm,1.1s,mb5.3
VIVF **Saint-Julien-l 90.54 325** *e*P **P 00 42 01.6 -1.5**
comp=Z,8.3nm,0.8s,mb4.8
VIVF **Saint-Julien-l 90.54 325** *e*P **P 00 42 01.6 -1.5**
VIVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
VIVF **Saint-Julien-l 90.54 325** *e*P **P 00 42 01.6 -1.5**
comp=Z,4.2nm,0.8s,mb4.8
GRR **Gorron 90.55 330** *e*P **P 00 42 01.4 -1.6**
comp=Z,21nm,0.6s,mb5.3
GRR **Gorron 90.55 330** *e*P **P 00 42 01.4 -1.6**
GRR pmax pmax
comp=Z,10.0nm,0.6s,mb5.3
GRR **Gorron 90.55 330** *e*P **P 00 42 01.4 -1.6**
comp=Z,10nm,0.6s,mb5.3
LMR **La Mourre 90.67 323** *e*P **P 00 42 02.8 -0.9**
PFO **Pinyon Flat Ob 90.67 50** *e*P **P 00 42 04.7 +0.8**
PFO pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
PFO **Pinyon Flat Ob 90.67 50** *e*P **P 00 42 04.7 +0.9**
comp=Z,8.7nm,1.0s,mb5.0
PFO **Pinyon Flat Ob 90.67 50** P **P 00 42 04.0 +0.1**
comp=Z,6.2nm,0.8s,mb5.0,baz=313,slow=2.8,SNR=6.4
PFO LR LR 01 21 12.3
comp=Z,142nm,18.8s,MS4.4,baz=308,slow=34
SMRF **Simiane la Rot 90.71 324** *e*P **P 00 42 02.3 -1.5**
comp=Z,21nm,1.0s,mb5.1
SMRF **Simiane la Rot 90.71 324** *e*P **P 00 42 02.3 -1.5**
comp=Z,21nm,1.0s,mb5.4
TCF **Toulx Ste Croi 90.71 327** *e*P **P 00 42 02.5 -1.3**
comp=Z,12nm,0.7s,mb5.0
TCF **Toulx Ste Croi 90.71 327** *e*P **P 00 42 02.5 -1.3**
TCF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
TCF **Toulx Ste Croi 90.71 327** *e*P **P 00 42 02.5 -1.3**
comp=Z,5.8nm,0.7s,mb5.0
RWWY **Rawlins 91.11 39** *e*P **P 00 42 06.8 +1.1**
comp=Z,13nm,0.8s,mb5.3
SGMF **Saint Gilles 91.38 331** *e*P **P 00 42 05.4 -1.5**
comp=Z,33nm,0.8s,mb5.4
SGMF **Saint Gilles 91.38 331** *e*P **P 00 42 05.4 -1.5**
SGMF pmax pmax
comp=Z,17nm,0.8s,mb5.4
SGMF **Saint Gilles 91.38 331** *e*P **P 00 42 05.4 -1.5**
comp=Z,17nm,0.8s,mb5.4
LASF **Ste Croix 91.51 325** *e*P **P 00 42 05.8 -1.8**
MFF **Saint Martin d 91.58 328** *e*P **P 00 42 06.6 -1.2**
comp=Z,25nm,0.8s,mb5.3
MFF **Saint Martin d 91.58 328** *e*P **P 00 42 06.6 -1.2**
MFF pmax pmax
comp=Z,12nm,0.8s,mb5.3
MFF **Saint Martin d 91.58 328** *e*P **P 00 42 06.6 -1.2**
comp=Z,12nm,0.8s,mb5.3
ROSF **Rostrenen 91.62 331** *e*P **P 00 42 06.7 -1.3**
comp=Z,47nm,0.8s,mb5.6
ROSF **Rostrenen 91.62 331** *e*P **P 00 42 06.7 -1.3**
ROSF pmax pmax
comp=Z,23nm,0.8s,mb5.6
ROSF **Rostrenen 91.62 331** *e*P **P 00 42 06.7 -1.3**
comp=Z,23nm,0.8s,mb5.6
RJF **Les Rejaudoux 91.77 327** *e*P **P 00 42 07.5 -1.2**
comp=Z,13nm,0.8s,mb5.0
RJF *e*MLR MLR
comp=Z,490nm,18.2s,MS4.7
RJF **Les Rejaudoux 91.77 327** *e*P **P 00 42 07.5 -1.2**
RJF pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
RJF MLR MLR
comp=Z,490nm,18.3s,MS5.0
RJF **Les Rejaudoux 91.77 327** *e*P **P 00 42 07.5 -1.2**
comp=Z,6.3nm,0.8s,mb5.0
RJF LR LR
comp=Z,490nm,18.3s,MS5.0
AGMN **Agassiz Refuge 91.77 29** *e*P **P 00 42 08.4 -0.3**
CAF **Calviac 91.78 326** *e*P **P 00 42 07.8 -1.0**
comp=Z,8.0nm,0.8s,mb4.8
CAF **Calviac 91.78 326** *e*P **P 00 42 07.8 -1.0**
CAF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
CAF **Calviac 91.78 326** *e*P **P 00 42 07.8 -1.0**
comp=Z,4.0nm,0.8s,mb4.8
QUIF **Quistinic 91.90 331** *e*P **P 00 42 07.6 -1.7**
comp=Z,13nm,0.7s,mb5.0
QUIF **Quistinic 91.90 331** *e*P **P 00 42 07.6 -1.7**
QUIF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
QUIF **Quistinic 91.90 331** *e*P **P 00 42 07.6 -1.7**
comp=Z,6.7nm,0.7s,mb5.1
PHWY **Pilot Hill 92.33 39** *e*P **P 00 42 12.7 +1.3**
LFF **La Frestale 92.41 327** *e*P **P 00 42 10.7 -1.0**
comp=Z,17nm,0.8s,mb5.1
LFF **La Frestale 92.41 327** *e*P **P 00 42 10.7 -1.0**
LFF pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
LFF **La Frestale 92.41 327** *e*P **P 00 42 10.7 -1.0**
comp=Z,8.3nm,0.8s,mb5.1
WUAZ **Wupatki 92.76 46** *e*P **P 00 42 14.6 +1.1**
comp=Z,9.3nm,0.9s,mb5.2
MTLF **Montolieu 92.86 325** *e*P **P 00 42 12.7 -1.1**
SMCO **Snowmass 92.95 41** *e*P **P 00 42 15.3 +1.0**
comp=Z,9.3nm,0.8s,mb5.3
KMBO **Kilima Mbogo 93.19 271** LR LR 01 27 28.3
comp=Z,123nm,18.1s,MS4.4,baz=89,slow=38
ISCO **Idaho Springs 93.29 40** *e*P **P 00 42 16.6 +0.7**
ISCO pmax pmax
comp=Z,7.0nm,1.2s,mb5.0
ISCO **Idaho Springs 93.29 40** *e*P **P 00 42 16.6 +0.7**
comp=Z,7.3nm,1.2s,mb5.0
MVCO **Mesa Verde 93.40 43** *e*P **P 00 42 18.8 +2.4**
TBI **Tubuai 93.50 115** *e*S S 00 53 15.8 -5.3
comp=Z,279nm,33.2s
TBI **Tubuai 93.50 115** *e*LR LR 01 12 17.6
comp=Z,280nm,36.2s
TAOE **Nuku Hiva Isla 93.99 98** *e*LR LR 01 12 31.7
comp=Z,7μm,24.6s
KEST **Kesra 94.22 316** P **P 00 42 19.0 -1.2**
comp=Z,2.3nm,1.0s,mb4.5,baz=218,slow=17,SNR=5.0
SCHQ **Schefferville 94.23 10** LR LR 01 28 05.2
comp=Z,247nm,18.6s,MS4.7,baz=283,slow=38
ECSD **EROS,Sioux Fal 94.98 32** *e*P **P 00 42 24.4 +0.9**
ANMO **Albuquerque 96.14 44** P **P 00 42 30.6 +1.6**
comp=Z,1.9nm,0.8s,mb4.6,baz=308,slow=5.3,SNR=6.5
ESDC **Sonseca Array 98.67 326** P **P 00 42 38.6 -1.7**
comp=Z,1.1nm,0.6s,mb4.6,baz=27,slow=4.2,SNR=14
ESDC LR LR 01 35 32.2
comp=Z,310nm,19.4s,MS4.8,baz=35,slow=40
TXAR **Lajitas Array 101.72 46** P Pdif 00 42 55.3 +1.6
comp=Z,2.0nm,0.7s,baz=295,slow=3.0,SNR=16
CMLA **Cha da Macela 108.88 340** *e*Pdif Pdif 00 43 26.1 +0.5
comp=Z,95nm,0.9s
BOSA **Boshof 115.78 251** PKP PKPdf 00 47 43.1 -0.4
comp=Z,3.4nm,0.6s,baz=96,slow=2.3,SNR=12
SYO **Syowa Base 117.90 204** ⇓*e*PP PP 00 49 07.0 +5.5
QSPA **South Pole Qui 119.77 180** PKP PKPdf 00 47 48.5 -1.2
QSPA **South Pole Qui 119.77 180** PKP PKPdf 00 47 48.5 -1.2
comp=Z,1.8nm,0.9s,baz=122,slow=2.2,SNR=7.9
DBIC **Dimbokro 123.60 303** PKP PKPdf 00 47 58.2 -0.9
comp=Z,8.4nm,0.6s,baz=42,slow=2.4,SNR=25
JTS **JuntasAbangare 127.51 46** *e*P Pdif 00 44 50.6 +2.2
SDV **Santo Domingo 136.41 31** PKP PKPdf 00 48 23.2 -0.2
SDV pPKP pPKPdf 00 48 38.4 -1.4
SDV **Santo Domingo 136.41 31** PKhKP 00 48 14.8
comp=Z,5.1nm,0.7s,baz=325,slow=0.8,SNR=8.1
SDV PKP PKPdf 00 48 23.2 -0.2
comp=Z,13nm,0.8s,baz=289,slow=2.1,SNR=16
SDV pPKP pPKPdf 00 48 38.4 -1.4
comp=Z,15nm,0.8s,baz=58,slow=2.3,SNR=7.8
ROSC **El Rosal 138.07 38** PKP PKPdf 00 48 27.4 +1.0
comp=Z,2.3nm,0.4s,baz=101,slow=23,SNR=3.9
ATAH **Atahualpa 144.65 55** PKP PKPdf 00 48 38.4 +0.2
comp=Z,12nm,0.7s,baz=331,slow=2.2,SNR=10
NNA **Nana 149.10 60** PKPbc PKPbc 00 48 48.6 -1.2
comp=Z,14nm,0.7s,baz=344,slow=6.1,SNR=8.2
USHA **Ushuaia 151.78 157** PKPbc PKPbc 00 48 55.2 +0.3
comp=Z,5.3nm,0.8s,baz=139,slow=11,SNR=4.9
LPAZ **La Paz 158.29 55** PKP2 PKPab 00 49 32.3 -0.6
LPAZ pmax pmax
comp=Z,4.0nm,0.9s
LPAZ **La Paz 158.29 55** PKPab PKPab 00 49 32.3 -0.6
comp=Z,4.2nm,0.9s,baz=8.2,slow=5.8,SNR=9.1
SIV **San Ignacio 162.58 39** PKP PKPdf 00 49 03.7 +0.4
comp=Z,3.2nm,0.8s,baz=97,slow=2.0,SNR=16
SIV pPKP pPKPdf 00 49 18.1 -1.7
comp=Z,4.3nm,0.9s,baz=56,slow=1.0,SNR=10
SIV PKPab PKPab 00 49 50.1 -1.4
comp=Z,1.8nm,0.8s,baz=275,slow=1.9,SNR=4.0
CFAA **Coronel Fontan 164.00 100** PKPab PKPab 00 49 56.8 -0.8
comp=Z,0.2nm,0.6s,baz=254,slow=3.1,SNR=4.8
BDFB **Brasilia 165.62 353** PKP PKPdf 00 49 06.4 +0.4
comp=Z,0.9nm,0.7s,baz=92,slow=20,SNR=4.0
BDFB pPKP pPKPdf 00 49 20.8 -1.7
comp=Z,1.7nm,0.8s,baz=78,slow=21,SNR=3.2
BDFB PKPab PKPab 00 50 02.8 -1.9
comp=Z,1.6nm,0.6s,baz=133,slow=21,SNR=5.6
CPUP **Villa Florida 172.34 63** PKP PKPdf 00 49 09.8 -0.3
comp=Z,0.2nm,0.3s,baz=35,slow=11,SNR=3.2
CPUP PKPab PKPab 00 50 32.9 -1.7
comp=Z,0.6nm,0.6s,baz=300,slow=8.6,SNR=2.9

FUNV 07 00:29:28.9, 688N×7308W, h167km, MW3.5, 7D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.24**	**38**	⇓*i*P	Pn	00 29 56.7	-0.6
CAPV				*e*S	Sn	00 30 17.5	-1.7
VIGV	**El Vigia**	**2.59**	**41**	⇓*i*P	Pn	00 30 11.2	-0.8
VIGV				*e*S	Sn	00 30 41.6	-3.6
SOCV	**Socops**	**2.61**	**57**	⇓*e*P	Pn	00 30 11.5	-0.7
SOCV				*e*S	Sn	00 30 42.9	-2.8
ELOV	**Elorza**	**3.57**	**88**	*e*P	Pn	00 30 23.1	-1.0
VIRV	**Villa del Rosa**	**3.66**	**10**	⇓*i*P	Pn	00 30 23.5	-1.9
VIRV				*e*S	Sn	00 31 04.5	-4.8
QARV	**Quebrada Arrib**	**4.16**	**37**	⇓*i*P	Pn	00 30 31.0	-0.7
SANV	**Sanarito**	**4.37**	**53**	*e*P	Pn	00 30 32.9	-1.5
CURV	**Curarigua**	**4.38**	**44**	⇓*e*P	Pn	00 30 33.5	-1.1
DABV	**Dabajuro**	**4.69**	**31**	*e*P	Pn	00 30 37.8	-0.7
TEPV	**Terepaima**	**4.92**	**51**	⇓*i*P	Pn	00 30 40.2	-1.3
SIQV	**Siquisique**	**4.95**	**41**	*e*P	Pn	00 30 40.4	-1.6
BAUV	**El Baul**	**5.39**	**67**	*e*P	Pn	00 30 45.1	-2.7
TURV	**Turiamo**	**6.28**	**55**	*e*P	Pn	00 30 58.0	-1.4
CAOV	**Caicara del Or**	**6.72**	**86**	*e*P	Pn	00 31 02.8	-2.5
BIRV	**Birongo**	**7.62**	**62**	*e*P	Pn	00 31 14.6	-2.6
CUPV	**Cœpira**	**7.87**	**66**	*e*P	Pn	00 31 17.8	-2.8

IDC 07 00:33:05.6±6.3, 2050S×6703W, h220km±44km, mb3.4/1, mb1 3.5/3, mb1mx3.2/17, mbtmp3.3/3, Error ellipse:

s-maj=74.5km s-min=24.1km az=13.0, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.32**	**346**	P	Pn	00 34 12.6	+0.5
	2.6nm,0.3s,baz=179,slow=11,SNR=86						
LPAZ				S	S	00 35 06.1	+1.5
	baz=28,slow=8.7,SNR=1.5						
SIV	**San Ignacio**	**7.22**	**53**	P	Pn	00 34 49.0	+0.1
	1.5nm,0.3s,baz=242,slow=12,SNR=25						
SIV				S	S	00 36 11.8	+0.4
	0.2nm,0.3s,baz=309,slow=20,SNR=5.8						
YKA	**Yellowknife Ar**	**90.84**	**340**	P	P	00 45 43.8	+0.2
	0.3nm,0.5s,baz=135,slow=4.9,SNR=7.4						
MKAR	**Makanchi Array**	**143.79**	**36**	PKP	PKPdf	00 52 13.6	-0.9
	0.3nm,0.3s,baz=324,slow=3.6,SNR=6.6						

*LDG **07** 00:38:05.1±0.1, 3438N×8164E, h10km, Mb4.5/14, Error ellipse: s-maj=5.5km s-min=3.5km az=79.0*
*NEIC **07** 00:38:06.4±0.4, 3423N×8184E, h10km, mb4.6/16, Error ellipse: s-maj=8.7km s-min=6.5km az=70.0*
*MOS **07** 00:38:08.2±0.9, 3430N×8177E, h33km, mb4.7/19, Error ellipse: s-maj=12.3km s-min=7.2km az=110.4*
*ISCJB **07** 00:38:08.4±0.7, 3428N±003×8183E±005, h37km±7km, mb4.4/34, Error ellipse: s-maj=7.6km s-min=5.0km az=180.0*
*BJI **07** 00:38:09.4, 3447N×8206E, h17km, mB4.8, mb4.7, ML3.7, Ms4.3, Msz4.4*
*IDC **07** 00:38:11.4±2.8, 3428N×8180E, h49km±24km, mb4.0/13, mb1 4.1/16, mb1mx3.9/26, mbtmp4.0/16, ML3.6/3, Error ellipse: s-maj=24.1km s-min=17.4km az=43.0*
*NDI **07** 00:38:16.4±4.1, 3361N×8151E, h10km, mb4.7, mb4.6(NEIC)*

ISC 07 00:38:10.8±0.5, 3427N±003×8188E±005, h42km±5km, n119, σ1º03/118, mb4.4/34, 5C-2D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTH	**Pithoragarh**	**4.92**	**197**	*ex*	x	00 39 31.2	
SDNR	**Sundarnagar**	**4.97**	**238**	*eP*	**Pn**	**00 39 24.0**	**+1.1**
SDNR				*ex*	**Sn**	**00 40 25.6**	**+6.5**
THN	**Thein Dam**	**5.47**	**252**	*eP*	**Pn**	**00 39 30.8**	**+1.0**
NDI	**New Delhi**	**6.85**	**217**	*eP*	**Pn**	**00 39 46.1**	**-2.5**
NDI				AMb	AMB	00 39 55.9	
	comp=Z,16nm,0.6s						
NDI				*ex*	**Sn**	**00 41 08.0**	**+2.7**
KSH	**Kashi**	**7.05**	**320**	P	**Pn**	**00 39 53.0**	**+1.5**
KSH				S	**Sn**	**00 41 06.5**	**-3.8**
KSH				Smax			
	comp=N,201nm,1.0s						
KZA	**Kyzart**	**9.38**	**328**	P	**Pn**	**00 40 25.0**	**+1.7**
	SNR=11						
UCH	**Uchtor**	**9.83**	**326**	*e*Pn	**Pn**	**00 40 29.1**	**-0.4**
	comp=N,8.8nm,0.7s						
UCH				*e*Sn	**Sn**	**00 42 12.6**	**-5.7**
UCH	**Uchtor**	**9.83**	**326**	P	**Pn**	**00 40 30.1**	**+0.6**
	SNR=8.9						
TKM2	**Tokmak 2**	**9.93**	**332**	*e*P	**Pn**	**00 40 32.3**	**+1.4**
TKM2	**Tokmak 2**	**9.93**	**332**	P	**Pn**	**00 40 32.6**	**+1.7**
	SNR=8.2						
KBK	**Karagaybulak**	**9.98**	**329**	P	**Pn**	**00 40 33.9**	**+2.4**
	SNR=8.7						
AML	**Almayashu**	**10.15**	**323**	*e*Pn	**Pn**	**00 40 32.5**	**-1.3**
	comp=N,188nm,1.1s						
AAK	**Ala-Archa**	**10.15**	**327**	*e*Pn	**Pn**	**00 40 34.0**	**+0.1**
	comp=N,7.1nm,0.9s						
AAK	**Ala-Archa**	**10.15**	**327**	P	**Pn**	**00 40 33.4**	**-0.6**
	comp=N,0.3nm,0.3s,baz=159,slow=16,SNR=4.2						
FRU	**Bishkek**	**10.26**	**329**	*e*P	**Pn**	**00 40 36.5**	**+1.1**
FRU				pmax	pmax		
	comp=Z,70nm,1.8s						
CHMS	**Chumysh**	**10.34**	**330**	P	**Pn**	**00 40 37.6**	**+1.2**
	SNR=7.2						
EKS2	**Erkin-Say**	**10.51**	**325**	*e*Pn	**Pn**	**00 40 37.4**	**-1.3**
	comp=Z,5.0nm,1.0s						
WMQ	**Urumqi**	**10.55**	**24**	P	**Pn**	**00 40 40.0**	**+0.7**
WMQ				AMB	AMB		
	comp=Z,26nm,1.0s						
KBL	**Kabul**	**10.61**	**275**	*e*Pn	**Pn**	**00 40 40.6**	**+0.4**
	comp=Z,5.4nm,0.4s						
BOK	**Bokaro**	**11.01**	**160**	*e*P	**Pn**	**00 40 46.2**	**+0.4**
BOK				AMb	AMB	00 40 47.8	
	comp=Z,11nm,0.6s						
BHPL	**Bhopal**	**11.66**	**201**	*e*P	**Pn**	**00 40 53.3**	**-1.3**
BHPL				AMb	AMB	00 40 55.4	
	comp=Z,15nm,1.2s						
BLSP	**Bilaspur**	**12.10**	**179**	*e*P	**Pn**	**00 40 59.7**	**-0.9**
BLSP				AMb	AMB	00 41 01.4	
	comp=Z,30nm,1.3s						
MK31	**Makanchi Array**	**12.51**	**1**	*e*P	**Pn**	**00 41 04.6**	**-1.5**
MKAR	**Makanchi Array**	**12.51**	**1**	*i* P	**Pn**	**00 41 04.8**	**-1.3**
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR	**Makanchi Array**	**12.51**	**1**	P	**Pn**	**00 41 04.8**	**-1.3**
MKAR	**Makanchi Array**	**12.51**	**1**	P	**Pn**	**00 41 04.8**	**-1.3**
	comp=Z,1.0nm,0.3s,baz=181,slow=13,SNR=23						
NGP	**Nagpur**	**13.31**	**192**	*e*P	**Pn**	**00 41 12.9**	**-4.2**
NGP				AMb	AMB	00 41 20.9	
	comp=Z,20nm,1.4s						
AKL	**Akola**	**14.19**	**199**	*e*P	**Pn**	**00 41 26.6**	**-2.5**
AKL				AMb	AMB	00 41 30.0	
	comp=Z,14nm,0.8s						
LATR	**Latur**	**16.49**	**198**	*e*P	**Pn**	**00 41 58.2**	**-0.9**
LATR				AMb	AMB	00 42 06.6	
	comp=Z,14nm,0.6s						
KURK	**Kurchatov**	**16.61**	**353**	*e*P	**Pn**	**00 41 59.4**	**-0.9**
KURK				pmax	pmax		
	comp=Z,41nm,1.0s						
KURK	**Kurchatov**	**16.61**	**353**	*e*Pn	**Pn**	**00 41 59.4**	**-1.0**
	comp=Z,41nm,1.0s						
HYB	**Hyderabad**	**17.05**	**191**	*e*P	**Pn**	**00 42 05.0**	**-1.1**
HYB	**Hyderabad**	**17.05**	**191**	*i* P	**Pn**	**00 42 05.0**	**-1.1**
ZAL	**Zalesovo**	**19.77**	**5**	P	**Pn**	**00 42 38.3**	**-0.5**
ZAA0	**Zalesovo Array**	**19.78**	**5**	*e*P	**Pn**	**00 42 36.9**	**-2.1**
ZALV	**Zalesovo Beam**	**19.78**	**5**	P	**Pn**	**00 42 38.3**	**-0.7**
	comp=Z,0.4nm,0.3s,baz=188,slow=9.9,SNR=6.0						
KMI	**Kunming**	**20.26**	**111**	P	**P**	**00 42 45.8**	**+3.2**
KMI				AMB	AMB		
	comp=Z,27nm,0.9s						
BVAR	**Borovoye Array**	**20.46**	**340**	P	**P**	**00 42 44.8**	**+0.2**
	comp=Z,16nm,0.8s,baz=146,slow=11,SNR=6.5						
BRVK	**Borovoye**	**20.52**	**340**	*e*P	**P**	**00 42 45.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,85nm,1.5s						
BRVK	**Borovoye**	**20.52**	**340**	*e*P	**P**	**00 42 45.1**	**-0.1**
	comp=Z,85nm,1.5s						
NVS	**Novosibirsk**	**20.59**	**2**	*e*P	**P**	**00 42 44.6**	**-1.3**
CHG	**Chiang Mai**	**21.63**	**131**	⇑P	**P**	**00 43 02.3**	**+4.8**
	comp=Z,11nm,0.9s,mb4.3						
CHTO	**Chiang Mai**	**21.63**	**131**	*e*P	**P**	**00 42 59.4**	**+1.9**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
CHTO	**Chiang Mai**	**21.63**	**131**	*e*P	**P**	**00 42 59.4**	**+1.9**
	comp=Z,8.9nm,0.8s,mb4.2						
ZAK	**Zakamensk**	**22.45**	**38**	*e*P	**P**	**00 43 07.0**	**+1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.4						
SONM	**Songino Array**	**22.80**	**46**	P	**P**	**00 43 10.1**	**+0.4**
	comp=Z,1.9nm,0.9s,mb3.5,baz=243,slow=9.1,SNR=8.6						
ULN	**Ulaanbaatar**	**23.21**	**47**	*e*P	**P**	**00 43 14.3**	**+0.3**
AKTK	**Aktyubinsk**	**23.76**	**320**	P	**P**	**00 43 18.3**	**-0.8**
AKTO	**Aktyubinsk**	**23.76**	**320**	P	**P**	**00 43 18.3**	**-0.8**
	comp=Z,8.3nm,0.9s,mb4.2,baz=124,slow=6.1,SNR=5.1						
NST	**Nakhon Sawan**	**24.76**	**134**	P	**P**	**00 43 30.7**	**+2.2**
ARU	**Arti**	**27.31**	**331**	*d* iP	**P**	**00 43 52.0**	**+0.8**
ARU				*e*		00 44 35.9	
ARU				*e*S	**S**	**00 48 30.6**	**+3.0**
ARU				SS		00 49 40.1	
ARU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
MIB	**Mutribah**	**29.53**	**271**	*e*P	PP	00 45 14.4	-4.0
MIB				AMb	AMB	00 45 29.3	
	comp=Z,66nm,0.9s,mb5.4						
RDF	**Al-Radifah**	**29.63**	**269**	*e*P	PP	00 45 15.8	-3.7
RDF				AMb	AMB	00 45 29.1	
	comp=Z,96nm,0.9s,mb5.5						
NAY	**Al-Naaiem**	**29.78**	**270**	*e*P	PP	00 45 16.8	-4.4
MOS	**Moscow**	**37.09**	**319**	*e*P	**P**	**00 45 16.7**	**0.0**
OBN	**Obninsk**	**37.50**	**318**	⇑*e*P	**P**	**00 45 20.4**	**+0.2**
OBN				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.9						
ISP	**Isparta**	**41.26**	**290**	*d* iP	**P**	**00 45 52.5**	**+0.7**
MLR	**Muntele Rosu**	**43.55**	**302**	P	**P**	**00 46 11.9**	**+1.5**
	comp=Z,6.9nm,0.8s,mb4.5,baz=112,slow=5.4,SNR=3.3						
FINES	**FINESS Array B**	**44.34**	**325**	P	**P**	**00 46 16.4**	**+0.1**
FINES				ScP	ScP	00 51 46.4	-2.0
FINES	**FINESS Array B**	**44.34**	**325**	P	**P**	**00 46 16.5**	**+0.1**
	comp=Z,1.3nm,0.6s,mb3.9,baz=108,slow=8.9,SNR=2.9						
FINES				ScP	ScP	00 51 46.4	-2.0
	comp=Z,1.2nm,0.9s,baz=219,slow=2.4,SNR=4.0						
TIXI	**Tiksi**	**44.72**	**19**	*e*P	**P**	**00 46 18.1**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.5						
ARCES	**ARCESS Array B**	**46.69**	**336**	P	**P**	**00 46 34.9**	**0.0**
	comp=Z,3.0nm,1.0s,mb4.2,baz=105,slow=6.8,SNR=3.0						
MA2	**Magadan**	**50.63**	**38**	⇑*e*P	**P**	**00 47 04.7**	**-0.6**
MA2				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
SEY	**Seymchan**	**51.33**	**34**	⇑*e*P	**P**	**00 47 10.5**	**0.0**
HINF	**Hinteralfeld**	**56.06**	**308**	*e*P	**P**	**00 47 45.2**	**-0.1**
	comp=Z,5.8nm,0.8s,mb4.4						
HINF	**Hinteralfeld**	**56.06**	**308**	*e*P	**P**	**00 47 45.2**	**-0.1**
HINF				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
HINF	**Hinteralfeld**	**56.06**	**308**	*e*P	**P**	**00 47 45.2**	**-0.1**
	comp=Z,2.9nm,0.8s,mb4.4						
PGF	**Pioggiola**	**56.10**	**302**	*e*P	**P**	**00 47 45.3**	**-0.4**
HAU	**Haudompre**	**56.34**	**309**	*e*P	**P**	**00 47 47.3**	**0.0**
	comp=Z,8.5nm,0.8s,mb4.5						
HAU	**Haudompre**	**56.34**	**309**	*e*P	**P**	**00 47 47.3**	**0.0**
HAU				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
HAU	**Haudompre**	**56.34**	**309**	*e*P	**P**	**00 47 47.3**	**0.0**
	comp=Z,4.3nm,0.8s,mb4.5						
BILL	**Bilibino**	**56.65**	**27**	*e*P	**P**	**00 47 49.6**	**+0.4**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.0						
LPG	**La Plagne**	**56.77**	**306**	*e*P	**P**	**00 47 51.1**	**+0.6**
	comp=Z,17nm,0.8s,mb4.8						
LPG	**La Plagne**	**56.77**	**306**	*e*P	**P**	**00 47 51.1**	**+0.6**
LPG				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
LPG	**La Plagne**	**56.77**	**306**	*e*P	**P**	**00 47 51.1**	**+0.6**
	comp=Z,8.4nm,0.8s,mb4.8						
LPL	**La Plagne**	**56.78**	**306**	*e*P	**P**	**00 47 51.1**	**+0.6**
	comp=Z,22nm,0.8s,mb5.0						
LPL	**La Plagne**	**56.78**	**306**	*e*P	**P**	**00 47 51.1**	**+0.6**
LPL				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
LPL	**La Plagne**	**56.78**	**306**	*e*P	**P**	**00 47 51.1**	**+0.6**
	comp=Z,11nm,0.8s,mb4.9						
SBF	**Sospel**	**56.79**	**304**	*e*P	**P**	**00 47 50.8**	**+0.2**
	comp=Z,34nm,0.8s,mb5.1						
SBF	**Sospel**	**56.79**	**304**	*e*P	**P**	**00 47 50.8**	**+0.2**
SBF				pmax	pmax		
	comp=Z,17nm,0.8s,mb5.1						
SBF	**Sospel**	**56.79**	**304**	*e*P	**P**	**00 47 50.8**	**+0.2**
	comp=Z,17nm,0.8s,mb5.1						
MBDF	**Montbardon**	**56.99**	**305**	*e*P	**P**	**00 47 51.5**	**-0.5**
	comp=Z,14nm,0.9s,mb4.7						
MBDF	**Montbardon**	**56.99**	**305**	*e*P	**P**	**00 47 51.5**	**-0.5**
MBDF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
MBDF	**Montbardon**	**56.99**	**305**	*e*P	**P**	**00 47 51.5**	**-0.5**
	comp=Z,6.8nm,0.9s,mb4.7						
MEZF	**Maizieres J'vi**	**57.04**	**309**	*e*P	**P**	**00 47 52.5**	**+0.2**
SMF	**Signal de Mont**	**58.36**	**308**	*e*P	**P**	**00 48 01.1**	**-0.5**
	comp=Z,18nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**58.36**	**308**	*e*P	**P**	**00 48 01.1**	**-0.5**
SMF				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.8						
SMF	**Signal de Mont**	**58.36**	**308**	*e*P	**P**	**00 48 01.1**	**-0.5**
	comp=Z,8.8nm,1.0s,mb4.7						
VIVF	**Saint-Julien-l**	**58.37**	**305**	*e*P	**P**	**00 48 01.5**	**-0.2**
SSF	**Saint Saulge**	**58.45**	**308**	*e*P	**P**	**00 48 01.8**	**-0.5**
	comp=Z,8.6nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**58.45**	**308**	*e*P	**P**	**00 48 01.8**	**-0.5**
SSF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**58.45**	**308**	*e*P	**P**	**00 48 01.8**	**-0.5**
	comp=Z,4.3nm,0.9s,mb4.5						
AVF	**Avril sur Loir**	**58.64**	**308**	*e*P	**P**	**00 48 03.0**	**-0.5**
	comp=Z,4.2nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**58.64**	**308**	*e*P	**P**	**00 48 03.0**	**-0.5**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
AVF	**Avril sur Loir**	**58.64**	**308**	*e*P	**P**	**00 48 03.0**	**-0.5**
	comp=Z,2.1nm,0.7s,mb4.3						
BGF	**Bois d'Agland**	**59.04**	**308**	*e*P	**P**	**00 48 05.8**	**-0.5**
	comp=Z,5.1nm,0.6s,mb4.4						
BGF	**Bois d'Agland**	**59.04**	**308**	*e*P	**P**	**00 48 05.8**	**-0.5**
BGF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BGF	**Bois d'Agland**	**59.04**	**308**	*e*P	**P**	**00 48 05.8**	**-0.5**
	comp=Z,2.5nm,0.6s,mb4.4						
TCF	**Toulx Ste Croi**	**59.55**	**308**	*e*P	**P**	**00 48 09.8**	**0.0**
	comp=Z,11nm,1.0s,mb4.5						
TCF	**Toulx Ste Croi**	**59.55**	**308**	*e*P	**P**	**00 48 09.8**	**0.0**
TCF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
TCF	**Toulx Ste Croi**	**59.55**	**308**	*e*P	**P**	**00 48 09.8**	**0.0**
	comp=Z,5.3nm,1.0s,mb4.5						
LDF	**La Druitiere**	**60.28**	**311**	*e*P	**P**	**00 48 14.4**	**-0.5**
	comp=Z,9.5nm,0.8s,mb4.6						
LDF	**La Druitiere**	**60.28**	**311**	*e*P	**P**	**00 48 14.4**	**-0.5**
LDF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
LDF	**La Druitiere**	**60.28**	**311**	*e*P	**P**	**00 48 14.4**	**-0.5**
	comp=Z,4.8nm,0.8s,mb4.6						
ESDC	**Sonseca Array**	**66.25**	**303**	P	**P**	**00 48 54.0**	**-0.5**
	comp=Z,1.7nm,1.0s,mb4.0,baz=62,slow=8.1,SNR=4.3						
IMA2	**Indian Mountai**	**71.29**	**21**	*e*P	**P**	**00 49 25.7**	**+0.3**
WRA	**Warramunga Arr**	**73.46**	**129**	*i* P	**P**	**00 49 40.2**	**+1.2**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**73.46**	**129**	P	**P**	**00 49 39.5**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=324,slow=6.1,SNR=11						
COLA	**College**	**73.84**	**20**	*e*P	**P**	**00 49 40.9**	**+0.3**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
COLA	**College**	**73.84**	**20**	*e*P	**P**	**00 49 40.9**	**+0.3**
	comp=Z,4.0nm,0.7s,mb4.5						
INK	**Inuvik**	**74.37**	**13**	P	**P**	**00 49 43.8**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.2,baz=10,slow=6.6,SNR=12						
ASAR	**Alice Springs**	**75.91**	**132**	P	**P**	**00 49 53.8**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.8,baz=322,slow=5.7,SNR=8.8						
BOSA	**Boshof**	**82.33**	**228**	P	**P**	**00 50 27.6**	**-0.5**
	comp=Z,1.6nm,0.8s,mb4.0,baz=26,slow=5.4,SNR=3.5						
YKA	**Yellowknife Ar**	**82.66**	**8**	⇑*e*P	**P**	**00 50 29.1**	**-0.3**
YKA	**Yellowknife Ar**	**82.66**	**8**	P	**P**	**00 50 29.1**	**-0.3**
YKA	**Yellowknife Ar**	**82.66**	**8**	P	**P**	**00 50 29.1**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.5,baz=339,slow=5.4,SNR=51						
DBIC	**Dimbokro**	**83.60**	**274**	P	**P**	**00 50 34.4**	**-0.7**
	comp=Z,4.6nm,0.8s,mb4.7,baz=35,slow=4.3,SNR=5.1						
CPUP	**Villa Florida**	**144.09**	**272**	PKP	PKPdf	00 57 39.6	-2.5
	comp=Z,1.0nm,0.5s,baz=81,slow=5.4,SNR=3.7						
LPAZ	**La Paz**	**147.68**	**296**	PKPbc	PKPbc	00 57 49.3	-1.9
	comp=Z,1.1nm,0.5s,baz=42,slow=8.0,SNR=4.2						

*ISCJB **07** 00:42:32.7±0.7, 4006N±004×3275E±005, h11km±5km, Error ellipse: s-maj=7.7km s-min=5.6km az=38.8*
*CSEM **07** 00:42:32.3±0.1, 4006N×3275E, h12km, MD3.1, Error ellipse: s-maj=2.3km s-min=1.6km az=114.0*
*ISK **07** 00:42:32.3, 4007N×3274E, h12km, MD3.1*
*DDA **07** 00:42:33.8, 3997N×3281E, h11km±9km, Md3.1*

ISC 07 00:42:33.4±0.6, 4004N±004×3277E±005, h13km±4km, n22, σ0º89/30, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.15**	**181**	PG	**Pg**	**00 42 36.7**	**-0.4**
LOD				*e*SG	**Sg**	**00 42 39.5**	**-0.2**
ANTO	**Ankara**	**0.17**	**173**	PG	**Pg**	**00 42 37.0**	**-0.3**
ANTO				*e*SG	**Sg**	**00 42 40.8**	**+0.6**
ANTO	**Ankara**	**0.17**	**173**	⇑*i*P	**Pg**	**00 42 37.2**	**-0.2**
CANT	**Cankiri**	**0.86**	**49**	*e*PG	**Pg**	**00 42 49.1**	**-0.9**
CANT				*e*SG	**Sg**	**00 43 02.3**	**+1.0**
KAMT	**Kaman**	**0.99**	**132**	*e*PG	**Pg**	**00 42 52.3**	**-0.2**
SAFT	**Safranbolu**	**1.20**	**357**	*e*PN	**Pn**	**00 42 55.4**	**-0.4**
CDAG	**Cicekdag**	**1.30**	**108**	*i* P	**Pn**	**00 42 55.2**	**-2.1**
CDAG				*i* S	**Sb**	**00 43 15.1**	**+0.8**
KIZT	**Kizilcal**	**1.35**	**211**	*e*PN	**Pn**	**00 42 57.5**	**-0.4**
TOS	**Tosya**	**1.38**	**44**	*e*PN	**Pn**	**00 42 57.8**	**-0.5**
CORM	**Corum**	**1.44**	**84**	*e*PN	**Pn**	**00 42 59.5**	**+0.5**
BALT	**Daday**	**1.56**	**17**	*i* P	**Pn**	**00 43 01.3**	**+0.6**
BALT				*i* S	**Sn**	**00 43 10.4**	**-10**
ESKT	**Eskisehir**	**1.57**	**251**	*i* P	**Pn**	**00 43 01.4**	**+0.5**
ESKT				*i* S	**Sn**	**00 43 16.7**	**-4.2**
ESKT	**Eskisehir**	**1.57**	**251**	*e*Pn	**Pn**	**00 43 00.9**	**+0.1**
SEYT	**Eskypehyr**	**1.57**	**251**	*i* P	**Pn**	**00 43 01.4**	**+0.6**
SEYT				*i* S	**Sn**	**00 43 16.7**	**-4.3**
HENT	**Hendek**	**1.62**	**299**	*i* P	**Pn**	**00 43 03.9**	**+2.2**
CTKT	**Corum**	**1.65**	**69**	*i* P	**Pn**	**00 43 03.6**	**+1.7**
CTKT				*i* S	**Sn**	**00 43 29.3**	**+6.3**
YOZ	**Yozgat**	**2.01**	**101**	*e*PN	**Pn**	**00 43 07.5**	**+0.6**
BYBT	**Boyabat**	**2.08**	**46**	*e*PN	**Pn**	**00 43 07.3**	**-0.6**
BOYT	**Boyabat**	**2.13**	**49**	*i* P	**Pn**	**00 43 07.4**	**-1.1**
BZK	**Bozkurt**	**2.13**	**26**	*e*PN	**Pn**	**00 43 07.6**	**-1.0**
NIG	**Nigde**	**2.41**	**143**	*e*PN	**Pn**	**00 43 12.4**	**+0.1**
GDZ	**Gediz**	**2.71**	**250**	*i* P	**Pn**	**00 43 16.8**	**+0.2**

IDC 07 00:57:33.3±3.2, 260S×14013E, h0km, mb3.4/3, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, ML4.1/1, Error ellipse: s-maj=102.9km s-min=26.6km az=93.0, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.14**	**198**	P	Pn	01 01 47.1	+0.3
	0.6nm,0.3s,baz=14,slow=12,SNR=24						
FITZ	**Fitzroy Crossi**	**20.96**	**222**	P	P	01 02 18.2	+0.2
	0.9nm,0.7s,baz=139,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**21.80**	**196**	P	P	01 02 26.9	0.0
	1.6nm,0.5s,baz=30,slow=9.7,SNR=31						
MKAR	**Makanchi Array**	**70.57**	**322**	P	P	01 08 50.3	0.0
	0.2nm,0.6s,baz=121,slow=7.8,SNR=2.8						

*ISCJB **07** 01:03:14.6±2.1, 2189N±006×1429E±01, h44km±18km, mb4.4/27, MS3.5/4, Error ellipse: s-maj=17.9km s-min=10.8km az=177.7*
*NEIC **07** 01:03:15.2±0.3, 2192N×1431.0E, h35km, mb4.6/10, Error ellipse: s-maj=12.5km s-min=7.8km az=81.0*
*IDC **07** 01:03:16.4±2.8, 2189N×1430.5E, h45km±25km, mb3.9/14, mb1 4.1/15, mb1mx4.0/23, mbtmp4.0/15, ML4.1/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/36, Error ellipse: s-maj=22.2km s-min=13.7km az=87.0*

ISC 07 01:03:16.9±1.8, 2189N±007×1430E±01, h51km±15km, n46, σ1º01/38, mb4.4/27, MS3.5/4, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.24**	**352**	P	**Pn**	**01 04 31.3**	**-1.4**
	15nm,0.3s,baz=109,slow=22,SNR=5.1						
CBIJ				S	**Sn**	**01 05 32.4**	**+0.5**
	23nm,0.3s,baz=285,slow=24,SNR=7.2						
CBIJ				LR	LR	01 06 31.2	
	comp=Z,411nm,19.6s,baz=158,slow=37						
GUMO	**Guam**	**8.44**	**168**	LR	LR	01 07 34.8	
	comp=Z,156nm,18.8s,baz=86,slow=31						
MJAR	**Matsushiro Arr**	**15.19**	**345**	LR	LR	01 12 07.1	
	comp=Z,259nm,21.2s,baz=145,slow=35						
JNU	**Nakatsue**	**15.52**	**319**	LR	LR	01 11 37.7	
	comp=Z,118nm,21.5s,baz=52,slow=32						
KSRS	**Korea Array**	**20.27**	**323**	P	**P**	**01 07 51.9**	**+3.6**
	5.1nm,0.7s,baz=140,slow=11,SNR=24						
KSRS				LR	LR	01 14 46.1	
	comp=Z,107nm,18.8s,MS3.2,baz=149,slow=34						
ASAJ	**Asahikawa**	**22.17**	**359**	LR	LR	01 16 49.8	
	comp=Z,71nm,19.0s,MS3.1,baz=351,slow=37						
BATI	**Kupang**	**37.13**	**213**	LR	LR	01 24 15.1	
	comp=Z,190nm,19.9s,MS3.9,baz=171,slow=34						
SONM	**Songino Array**	**39.10**	**320**	P	**P**	**01 10 40.2**	**+1.0**
	2.3nm,0.5s,mb4.2,baz=128,slow=6.8,SNR=21						
CTA	**Charters Tower**	**41.84**	**175**	P	**P**	**01 11 02.9**	**+0.9**
	7.2nm,1.0s,mb4.3,baz=17,slow=4.7,SNR=3.5						
CTAO	**Charters Tower**	**41.84**	**175**	P	**P**	**01 11 02.6**	**+0.5**
	12nm,1.2s,mb4.4						
WRAB	**Tennant Creek**	**42.42**	**192**	*e*P	**P**	**01 11 08.4**	**+1.6**
	3.7nm,0.8s,mb4.1						
WB2	**Warramunga Arr**	**42.43**	**192**	*e*P	**P**	**01 11 06.3**	**-0.5**
WRA	**Warramunga Arr**	**42.44**	**192**	P	**P**	**01 11 06.4

0.3nm,0.7s,baz=53,slow=2.1,SNR=5.3
ASAR Alice Springs 26.51 227 P **P 01 13 00.2 +0.2**
0.4nm,0.5s,mb3.2,baz=59,slow=8.7,SNR=6.1
ASAR PcP PcP 01 16 23.8 -0.7
0.2nm,0.6s,baz=64,slow=2.0,SNR=4.8
FITZ Fitzroy Crossi 30.80 245 P **P 01 13 38.4 0.0**
1.1nm,0.8s,mb3.7,baz=90,slow=7.1,SNR=3.5
SONM Songino Array 68.72 327 P **P 01 18 25.7 0.0**
0.2nm,0.3s,mb3.5,baz=145,slow=5.3,SNR=5.7
MKAR Makanchi Array 82.83 319 P **P 01 19 46.5 0.0**
0.5nm,0.8s,mb3.6,baz=103,slow=5.5,SNR=5.3
YKA Yellowknife Ar 95.82 28 P **P 01 20 48.1 0.0**
0.4nm,0.8s,mb3.9,baz=264,slow=4.4,SNR=6.6

IDC 07 01:11:40.2±3.6, 717S×15772E, h0km, mb3.9/5, mb1 4.0/5, mb1mx3.8/13, mbtmp3.9/5, Error ellipse: s-maj=112.2km s-min=9.8km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**25.99**	**238**	P		P	P	01 17 15.0	+0.1
	0.8nm,0.5s,baz=62,slow=9.3,SNR=9.6								
ASAR	**Alice Springs**	**28.14**	**232**	P		P	P	01 17 34.5	+0.2
	0.3nm,0.5s,baz=61,slow=9.7,SNR=5.6								
SONM	**Songino Array**	**70.96**	**326**	P		P	P	01 23 00.8	+1.3
	0.3nm,0.3s,baz=121,slow=5.0,SNR=4.3								
MKAR	**Makanchi Array**	**85.33**	**318**	P		P	P	01 24 19.3	+0.1
	1.9nm,0.7s,baz=103,slow=5.9,SNR=23								
ZALV	**Zalesovo Beam**	**85.84**	**325**	P		P	P	01 24 21.3	-0.3
	1.4nm,0.6s,baz=125,slow=5.9,SNR=5.4								

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*CSEM **07** 01:25:57.3, 3549N×2441E, h28km, MD3.6/6, After ATH*
*NEIC **07** 01:25:57.3, 3549N×2441E, h28km, MD3.6(ATH), After ATH.*
ATH 07 01:25:57.3, 3548N×2442E, h28km±12km, MD3.6/6, 2C-3D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.19**	**248**	⇓*i*PB			Pb	01 26 03.3	+0.1
NPS	**Neapolis**	**1.00**	**102**	⇓*i*PN			Pn	01 26 17.1	+1.7
VLI	**Veliai**	**1.72**	**316**	⇑*i*PN			Pn	01 26 28.3	+2.9
KARP	**Karpathos**	**2.24**	**87**	⇑*i*PN			Pn	01 26 34.1	+1.6
ARG	**Arkhangelos**	**3.10**	**75**	⇓*i*PN			Pn	01 26 46.7	+2.4
LKR	**Lokris**	**3.36**	**341**	*e*PN			Pn	01 26 49.9	+2.0

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*ORF **07** 01:34:11.8, 36.16N×2403E, h30km, mb4.2, ML5.6*
*BJI **07** 01:34:40.8, 3760N×2110E, h16km, mB4.9, mb4.9, Ms5.1, Msz4.7*
*ISCJB **07** 01:34:41.2±0.1, 3757N±001×2105E±001, h10km, mb4.7/87, MS4.2/27, Error ellipse: s-maj=2.0km s-min=1.3km az=13.4*
*PRU **07** 01:34:41.6, 3778N×2102E, h0km, M4.5*
*IDC **07** 01:34:41.3±0.5, 3778N×2115E, h0km, mb4.5/23, mb1 4.5/34, mb1mx4.5/38, mbtmp4.4/34, ML4.1/10, MS3.9/18, Ms1 3.9/18, ms1mx3.7/36, Error ellipse: s-maj=11.1km s-min=10.5km az=61.0*
*CSEM **07** 01:34:42.8±0.0, 3748N×2101E, h15km, mb4.6/8, Ms3.4, Error ellipse: s-maj=1.2km s-min=0.9km az=9.0*
*NEIC **07** 01:34:42.8, 3762N×2108E, h16km, mb4.5/69, ML4.6(PDG), ML4.4(ATH), After ATH.*
*THE **07** 01:34:43.0, 3761N×2106E, h3km, ML5.1*
*ATH **07** 01:34:43.1, 3764N×2109E, h18km±1km, MD4.7/23, ML4.6*
*MOS **07** 01:34:44.8±1.2, 3772N×2110E, h33km, mb4.9/22, MS4.1/23, Error ellipse: s-maj=3.4km s-min=2.1km az=103.0*
*HLW **07** 01:34:45.7, 3757N×2162E, h33km, Mb4.3*
*PDG **07** 01:34:45.0±0.6, 3774N×2094E, h28km±2km, MD4.8/4, ML4.6/10, Error ellipse: s-maj=1.9km s-min=1.9km az=0.0*
*GII **07** 01:34:48.0±0.0, 3670N×2171E, h0km, mb4.9/3, ML4.9/3*
ISC 07 01:34:43.0±0.1, 3758N±001×2107E±001, h10km, (h38km±1.5km: pP-P), n739, σ1§46/797, mb4.7/87, MS4.2/27, 71C-44D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.57**	**33**	⇓*i*PN			**Pg**	01 34 53.2	-0.9
RLS				*e*SN			**Sg**	01 35 01.4	-0.2
KFL	**Anninata**	**0.58**	**337**	*e*Pg			**Pg**	01 34 53.7	-0.6
VLS	**Valsamata**	**0.71**	**328**	*e*Pg			**Pg**	01 34 55.9	-0.9
VLS				*e*Sg			**Sg**	01 35 06.7	+0.6
VLS	**Valsamata**	**0.71**	**328**	⇑*i*PN			**Pg**	01 34 55.9	-0.8
VLS				*e*SN			**Sg**	01 35 06.3	+0.2
ITM	**Ithomi**	**0.79**	**120**	⇑*i*PN			**Pg**	01 34 58.5	+0.4
ITM				*e*SN			**Sg**	01 35 10.8	+2.5
PYL	**PYLOS**	**0.86**	**142**	*e*Pg			**Pg**	01 34 59.7	+0.1
PYL				*e*Sg			**Sg**	01 35 13.2	+2.4
SELA	**Sela**	**0.95**	**43**	*e*Pg			**Pg**	01 35 00.7	-0.6
SELA				*e*Sg			**Sg**	01 35 14.6	+0.9
VLX	**Vlachokerasia**	**1.06**	**101**	*e*Pg			**Pg**	01 35 02.9	-0.4
VLX				*e*Sg			**Sg**	01 35 19.5	+2.4
LKD	**Levkas**	**1.18**	**344**	*e*Pg			**Pn**	01 35 03.8	-1.7
LKD				*e*Sg			**Sg**	01 35 20.9	0.0
EVR	**Evrytania**	**1.46**	**23**	⇑*e*PB			**Pb**	01 35 08.1	-2.1
EVR				*e*SN			**Sg**	01 35 28.1	-1.8
LTK	**Loutraki**	**1.56**	**73**	*e*Pg			**Pg**	01 35 11.1	-1.9
LTK				*e*Sg			**Sg**	01 35 33.7	+0.4
VLI	**Veliai**	**1.72**	**119**	⇓*i*Pn			**Pn**	01 35 15.7	+2.8
VLI	**Veliai**	**1.72**	**119**	⇓*i*PN			**Pg**	01 35 15.8	-0.1
VLI				*e*SN			**Sg**	01 35 37.5	-0.6
DID	**Didima**	**1.72**	**92**	*e*Pb			**Pn**	01 35 13.9	+1.0
AGG	**Agios Georgios**	**1.75**	**34**	*e*Pb			**Pn**	01 35 13.9	+0.5
LKR	**Lokris**	**1.86**	**54**	*e*Pb			**Pn**	01 35 15.0	+0.1
LKR	**Lokris**	**1.86**	**54**	⇓*i*PN			**Pn**	01 35 15.1	+0.2
IGT	**Igoumenitsa**	**2.04**	**344**	*e*Pn			**Pn**	01 35 17.4	+0.1
JAN	**Janina**	**2.09**	**355**	⇑*i*PN			**Pn**	01 35 19.0	+1.0
THL	**Klokotos Trika**	**2.12**	**20**	⇑*i*PN			**Pn**	01 35 19.9	+1.5
ATH	**Athens Observa**	**2.13**	**78**	⇑*i*PN			**Pn**	01 35 20.1	+1.5
KEK	**Kerkira**	**2.36**	**335**	⇑*i*PB			**Pn**	01 35 21.7	0.0
NEO	**Neokhori**	**2.42**	**44**	⇑*i*PB			**Pn**	01 35 23.7	+1.2
XOR	**Xorichti**	**2.44**	**42**	*e*Pn			**Pn**	01 35 23.3	+0.5
SRN	**Sarande**	**2.45**	**340**	*i* PN			**Pn**	01 35 23.1	+0.1
AOS	**Alonnisos**	**2.72**	**53**	*e*Pn			**Pn**	01 35 27.3	+0.6
LIT	**Litokhoron**	**2.75**	**23**	*e*Pn			**Pn**	01 35 27.8	+0.7
KZN	**Kozani**	**2.78**	**11**	⇑*i*PB			**Pn**	01 35 29.8	+2.3
TPE	**Tepelena**	**2.84**	**343**	*i* PN			**Pn**	01 35 28.8	+0.5
KBN	**Korca**	**3.05**	**356**	*i* PN			**Pn**	01 35 33.4	+2.1
PAIG	**Paliouri**	**3.11**	**40**	*e*Pn			**Pn**	01 35 32.4	+0.3
KARN	**Karanos**	**3.15**	**133**	*e*Pn			**Pn**	01 35 34.5	+1.9
FNA	**Florina**	**3.21**	**4**	*e*Pn			**Pn**	01 35 34.3	+0.8
VAM	**Vamos**	**3.32**	**130**	⇑*i*PN			**Pn**	01 35 37.0	+2.1
PLG	**Polygyros**	**3.35**	**33**	*e*Pn			**Pn**	01 35 35.7	+0.4
PLG	**Polygyros**	**3.35**	**33**	⇑*i*PN			**Pn**	01 35 35.7	+0.4
THE	**Thessaloniki**	**3.39**	**25**	*e*Pn			**Pn**	01 35 36.3	+0.5
HORT	**Hortiatis**	**3.41**	**27**	*e*Pn			**Pn**	01 35 36.7	+0.6
BIA	**Bitola**	**3.45**	**3**	*e*Pn			**Pn**	01 35 36.8	+0.1
BIA	**Bitola**	**3.45**	**3**	⇑*i*Pn			**Pn**	01 35 36.8	+0.1
GRG	**Griva**	**3.53**	**17**	*e*Pn			**Pn**	01 35 38.1	+0.3
OHR	**Ohrid**	**3.54**	**357**	*e*Pn			**Pn**	01 35 38.4	+0.5
OHR	**Ohrid**	**3.54**	**357**	⇑*i*Pn			**Pn**	01 35 38.5	+0.6
OUR	**Ouranopolis**	**3.57**	**39**	*e*Pn			**Pn**	01 35 39.2	+0.8
APE	**Apeiranthos**	**3.59**	**97**	*e*Pn			**Pn**	01 35 39.7	+1.1
APE	**Apeiranthos**	**3.59**	**97**	⇓*i*PN			**Pn**	01 35 39.7	+1.1
APE	**Apeiranthos**	**3.59**	**97**	⇓*i*P			**Pn**	01 35 40.1	+1.5
LCI	**Lecce**	**3.59**	**321**	Pn			**Pn**	01 35 38.7	0.0
GVD	**Gavdhos**	**3.66**	**137**	*e*Pn			**Pn**	01 35 39.5	-0.1
GVD	**Gavdhos**	**3.66**	**137**	*e*Pn			**Pn**	01 35 39.5	-0.1
SOH	**Sokhos**	**3.69**	**28**	*e*Pn			**Pn**	01 35 41.3	+1.2
SANT	**Santorini**	**3.71**	**108**	*e*Pn			**Pn**	01 35 44.3	+4.0
SANT	**Santorini**	**3.71**	**108**	*e*Pn			**Pn**	01 35 44.3	+4.0
TIP	**Timpagrande**	**3.75**	**297**	*e*Pn			**Pn**	01 35 40.4	-0.4
TIP	**Timpagrande**	**3.75**	**297**	*e*Pn			**Pn**	01 35 40.4	-0.4
KNT	**Kendrikon**	**3.85**	**21**	*e*Pn			**Pn**	01 35 42.9	+0.7
GRI	**Girifalco**	**3.87**	**290**	Pn			**Pn**	01 35 43.1	+0.6
TIR	**Tirane**	**3.88**	**346**	*i* PN			**Pn**	01 35 43.4	+0.7
VAY	**Valandovo**	**3.92**	**17**	*e*Pn			**Pn**	01 35 43.5	+0.4
VAY	**Valandovo**	**3.92**	**17**	⇑*i*Pn			**Pn**	01 35 43.1	0.0
SIVA	**Sivas**	**3.95**	**129**	*e*Pn			**Pn**	01 35 45.4	+1.8
LIA	**Limnos Island**	**3.96**	**53**	*e*Pn			**Pn**	01 35 44.8	+1.0
LIA	**Limnos Island**	**3.96**	**53**	⇑*i*PN			**Pn**	01 35 44.8	+1.0
SOI	**Samo**	**4.00**	**279**	Pn			**Pn**	01 35 43.7	-0.6
CHOS	**Chios island**	**4.02**	**77**	*e*Pn			**Pn**	01 35 46.0	+1.5
SRS	**Serrai**	**4.04**	**28**	*e*Pn			**Pn**	01 35 45.5	+0.6
QSH	**Qafa e Shtames**	**4.04**	**347**	*i* PN			**Pn**	01 35 47.0	+2.1
STIP	**Stip**	**4.20**	**11**	*e*Pn			**Pn**	01 35 47.6	+0.5
STIP	**Stip**	**4.20**	**11**	⇑*i*Pn			**Pn**	01 35 47.6	+0.6
TDS	**Terranova Siba**	**4.25**	**301**	Pn			**Pn**	01 35 48.2	+0.4
MTTG	**Motta San Giov**	**4.28**	**277**	Pn			**Pn**	01 35 47.9	-0.3
LAST	**Lasithi**	**4.29**	**123**	*e*Pn			**Pn**	01 35 50.0	+1.7
SCLL	**Scilla**	**4.29**	**281**	Pn			**Pn**	01 35 48.0	-0.3
PE1	**Pezze di Greco**	**4.30**	**320**	*e*Pn			**Pn**	01 35 48.4	+0.1
NPS	**Neapolis**	**4.33**	**121**	*e*PN			**Pn**	01 35 50.4	+1.6
NVR	**Nevrokopi**	**4.34**	**29**	⇑*i*PN			**Pn**	01 35 49.8	+0.8
SKO	**Skopje**	**4.40**	**4**	*e*Pn			**Pn**	01 35 51.0	+1.2
SKO	**Skopje**	**4.40**	**4**	⇑*i*Pn			**Pn**	01 35 50.4	+0.6
PRK	**Paraskevi**	**4.41**	**66**	*e*Pn			**Pn**	01 35 51.6	+1.7
PRK	**Paraskevi**	**4.41**	**66**	⇑*i*PN			**Pn**	01 35 52.2	+2.3
PRK	**Paraskevi**	**4.41**	**66**	P			**Pn**	01 35 52.2	+2.3
URLA	**Izmir**	**4.43**	**78**	*i* P			**Pn**	01 35 50.6	+0.4
BOZC	**Bozcaada**	**4.50**	**58**	*i* P			**Pn**	01 35 51.4	+0.2
PUK	**Puka**	**4.55**	**349**	*i* PN			**Pn**	01 35 51.7	-0.2
SMG	**Samos**	**4.58**	**87**	⇑*i*PN			**Pn**	01 35 53.3	+1.1
GADA	**Gvkgeada**	**4.58**	**54**	*e*PN			**Pn**	01 35 53.5	+1.2
ULC	**Ulcinj**	**4.60**	**343**	⇑*i*Pn			**Pn**	01 35 51.4	-1.2
ULC				*e*Sn			**Sn**	01 36 41.7	-4.3
AGST	**Augusta-Monte**	**4.67**	**268**	Pn			**Pn**	01 35 51.6	-1.8
EZN	**Ezine**	**4.68**	**60**	*e*PN			**Pn**	01 35 54.9	+1.3
SG1	**Sgolgore (BA)**	**4.72**	**315**	*e*Pn			**Pn**	01 35 54.7	+0.5
BLCB	**Balcova**	**4.78**	**78**	*e*PN			**Pn**	01 35 58.1	+3.0
BLCB	**Balcova**	**4.78**	**78**	*e*Pn			**Pn**	01 35 57.3	+2.3
HAVL	**Avola**	**4.79**	**264**	Pn			**Pn**	01 35 53.7	-1.4
BAI	**Bari**	**4.80**	**319**	*e*Pn			**Pn**	01 35 55.6	+0.4
SSY	**Sortino**	**4.80**	**267**	Pn			**Pn**	01 35 53.7	-1.6
ZKR	**Zakros**	**4.82**	**119**	*e*Pn			**Pn**	01 35 57.6	+2.1
BCI	**Bajram Curri**	**4.85**	**351**	*i* PN			**Pn**	01 35 56.9	+1.0
PTRP	**Pietrapertosa**	**4.89**	**309**	Pn			**Pn**	01 35 57.9	+1.4
PZI	**Palazzolo**	**4.91**	**266**	P			**Pn**	01 35 55.4	-1.4
KDAG	**Bornova**	**4.96**	**79**	*i* P			**Pn**	01 35 59.8	+2.3
RDO	**Rodhopi**	**4.97**	**43**	⇓*i*PN			**Pn**	01 35 57.9	+0.3
BODT	**Bodrum**	**5.00**	**94**	*e*PN			**Pn**	01 36 03.4	+5.5
BUM	**Brajici-Budva**	**5.01**	**341**	⇑*i*Pn			**Pn**	01 35 57.0	-1.1
BUM				*e*Sn			**Sn**	01 36 51.6	-4.4
MGR	**Morigerati**	**5.01**	**302**	Pn			**Pn**	01 35 58.5	+0.3
TTG	**Podgorica**	**5.04**	**345**	⇑*i*Pn			**Pn**	01 35 57.6	-1.0
TTG				*e*Sn			**Sn**	01 36 52.6	-4.3
ENEZ	**Enez**	**5.05**	**50**	*e*PN			**Pn**	01 35 59.9	+1.1
HMDC	**Modica**	**5.06**	**265**	Pn			**Pn**	01 35 57.5	-1.3
	451nm,0.8s								
HVZN	**Vizzini**	**5.08**	**267**	Pn			**Pn**	01 35 57.5	-1.6
	759nm,0.5s								
PVY	**Plav**	**5.08**	**351**	⇑*i*Pn			**Pn**	01 35 59.1	-0.1
PVY				*e*Sn			**Sn**	01 36 53.5	-4.4
CDT	**Castel del Mon**	**5.11**	**315**	*e*Pn			**Pn**	01 35 59.4	-0.1
LPK	**Lapseki**	**5.24**	**56**	*e*PN			**Pn**	01 36 03.0	+1.8
HCY	**Herceg Novi**	**5.25**	**339**	⇓*i*Pn			**Pn**	01 35 59.8	-1.7
HCY				*e*Sn			**Sn**	01 36 57.4	-4.7
DAT	**Datca**	**5.26**	**97**	*e*PN			**Pn**	01 36 07.1	+5.5
VTS	**Vitosha**	**5.27**	**17**	*e*Pn			**Pn**	01 36 03.0	+1.3
VTS	**Vitosha**	**5.27**	**17**	⇑*i*P			**Pn**	01 36 02.8	+1.1
VAE	**Valguarnera**	**5.30**	**271**	Pn			**Pn**	01 36 04.1	+2.0
	8.2nm,0.3s,baz=346,slow=7.3,SNR=9.5								
VAE				Sn			**Sn**	01 37 04.4	+1.3
	5.4nm,0.3s,baz=124,slow=11,SNR=3.9								
VAE				LR			LR	01 37 50.2	
	comp=Z,495nm,18.3s,baz=352,slow=35								
KARP	**Karpathos**	**5.30**	**111**	⇑*i*PN			**Pn**	01 36 04.4	+2.2
KAP	**Karpathos**	**5.31**	**111**	Pn			**Pn**	01 36 04.4	+2.1
PLD	**Plovdiv**	**5.32**	**31**	*e*Pn			**Pn**	01 36 03.7	+1.3
MLSB	**Milas**	**5.34**	**91**	*e*PN			**Pn**	01 36 07.5	+4.8
RAFF	**Raffo Rosso**	**5.36**	**268**	Pn			**Pn**	01 36 01.9	-1.0
IVA	**Berane**	**5.37**	**351**	⇓*i*Pn			**Pn**	01 36 03.0	0.0
IVA				*e*Sn			**Sn**	01 37 00.3	-4.6
MRLC	**Muro Lucano**	**5.38**	**308**	Pn			**Pn**	01 36 04.6	+1.4
	52nm,0.5s								
SGO	**Sicignano**	**5.39**	**305**	Pn			**Pn**	01 36 04.6	+1.3
AKS	**Akhisar**	**5.46**	**74**	*e*PN			**Pn**	01 36 06.6	+2.2
AKHS	**Akhisar**	**5.46**	**74**	*i* P			**Pn**	01 36 04.2	-0.2
NKY	**Niksic**	**5.47**	**344**	⇑*i*Pn			**Pn**	01 36 03.4	-1.0
NKY				*i* Sn			**Sn**	01 37 02.1	-5.3
CSLB	**Castelbuono**	**5.57**	**276**	Pn			**Pn**	01 36 06.4	+0.5
	113nm,1.0s								
FG4	**Candela**	**5.58**	**311**	P			**Pn**	01 36 07.2	+1.2
FG4				pmax			pmax		
	comp=Z,189nm,0.3s								
FG4	**Candela**	**5.58**	**311**	Pn			**Pn**	01 36 07.2	+1.2
	comp=Z,189nm,0.3s								
GIB	**Gibilmanna**	**5.60**	**276**	P			**Pn**	01 36 06.9	+0.7
GIB				pmax			pmax		
	comp=Z,308nm,0.9s								
GIB	**Gibilmanna**	**5.60**	**276**	Pn			**Pn**	01 36 06.9	+0.7
	comp=Z,308nm,0.9s								
BRY	**Bratogost**	**5.66**	**341**	⇓*i*Pn			**Pn**	01 36 05.5	-1.6
BRY				*e*Sn			**Sn**	01 37 06.8	-5.3
RKY	**Sarkoy-Tekirda**	**5.67**	**55**	*e*PN			**Pn**	01 36 09.5	+2.3
SART	**Tekirdag**	**5.67**	**55**	*i* P			**Pn**	01 36 06.3	-0.9
FGMS	**Monte Sant'Ang**	**5.71**	**318**	Pn			**Pn**	01 36 07.7	-0.1
	comp=Z,115nm,0.3s								
BALB	**Balikesir**	**5.71**	**67**	*e*PN			**Pn**	01 36 10.3	+2.5
MS1	**Monte Sant'Ang**	**5.72**	**318**	*e*Pn			**Pn**	01 36 08.2	+0.3
CSSN	**Cassano Irpino**	**5.73**	**307**	Pn			**Pn**	01 36 09.9	+1.9
	comp=Z,91nm,0.5s								
YER	**Yerkesik**	**5.76**	**92**	*e*PN			**Pn**	01 36 14.0	+5.6
MFT	**Murefte**	**5.79**	**54**	*e*PN			**Pn**	01 36 10.1	+1.2
ARG	**Arkhangelos**	**5.81**	**101**	⇓*i*PN			**Pn**	01 36 11.7	+2.5
FG5	**Orsara di Pugl**	**5.82**	**311**	P			**Pn**	01 36 09.9	+0.6
FG5				pmax			pmax		
	comp=Z,443nm,0.9s								
FG5	**Orsara di Pugl**	**5.82**	**311**	Pn			**Pn**	01 36 09.9	+0.6
	comp=Z,443nm,0.9s								
UPM	**Unac-Piva**	**5.86**	**344**	⇑*i*Pn			**Pn**	01 36 09.0	-0.8
UPM				*e*Sn			**Sn**	01 37 11.9	-5.1
STON	**Ston**	**5.89**	**335**	*e*Pn			**Pn**	01 36 08.1	-2.1
STON				Sn			**Sn**	01 37 11.8	-5.9
PLE	**Pljevlja**	**5.89**	**348**	⇓*i*Pn			**Pn**	01 36 09.8	-0.4
PLE				*e*Sn			**Sn**	01 37 12.5	-5.2
RGNG	**Rignano Grg**	**5.89**	**316**	Pn			**Pn**	01 36 09.5	-0.7
MRMT	**Marmara Adasi**	**5.91**	**57**	*e*PN			**Pn**	01 36 12.0	+1.5
MRB1	**Monte Rocchett**	**5.91**	**309**	Pn			**Pn**	01 36 11.8	+1.3
	comp=Z,377nm,0.6s								
LTBQ	**Tobruq**	**5.98**	**156**	*i* P			**Pn**	01 36 12.6	+1.1
	SNR=22								
BNT	**Bandirma**	**6.01**	**60**	*e*PN			**Pn**	01 36 14.2	+2.3
KULA	**Kula-Manisa**	**6.06**	**79**	*e*PN			**Pn**	01 36 16.4	+3.8
PSB1	**Pescosannita**	**6.07**	**309**	Pn			**Pn**	01 36 14.4	+1.7
	comp=Z,195nm,0.8s								
EDRB	**Edirne**	**6.11**	**44**	*e*PN			**Pn**	01 36 14.1	+0.9
FG2	**Serracapriola**	**6.22**	**315**	Pn			**Pn**	01 36 14.7	0.0
	comp=Z,2μm,1.3s								
DST	**Dumbey**	**6.25**	**69**	*e*PN			**Pn**	01 36 18.1	+2.8
CIGN	**Sant'Elia a Pi**	**6.27**	**312**	Pn			**Pn**	01 36 16.5	+1.1
	comp=Z,226nm,0.7s								
KCT	**Karacabey**	**6.28**	**62**	*e*PN			**Pn**	01 36 17.8	+2.2
DENT	**Denizli**	**6.32**	**86**	*e*PN			**Pn**	01 36 20.9	+4.7
SGG	**Gregorio Mates**	**6.43**	**308**	Pn			**Pn**	01 36 18.8	+1.2
	comp=Z,167nm,0.8s								
FETY	**Fethiye**	**6.47**	**96**	*e*PN			**Pn**	01 36 24.1	+5.9
RFI	**Roccamonfina**	**6.63**	**306**	Pn			**Pn**	01 36 21.7	+1.3
	comp=Z,21nm,1.1s								
MIDA	**Miranda**	**6.65**	**310**	Pn			**Pn**	01 36 23.1	+2.4
	comp=Z,144nm,0.9s								
KHL	**Karahalli**	**6.72**	**81**	*e*PN			**Pn**	01 36 26.2	+4.6
CTT	**Catalca**	**6.72**	**56**	*e*PN			**Pn**	01 36 23.0	+1.4
RNI2	**Rionero Sannit**	**6.75**	**310**	Pn			**Pn**	01 36 23.4	+1.4
	comp=Z,252nm,1.0s								
GDZ	**Gediz**	**6.78**	**75**	*i* P			**Pn**	01 36 22.8	+0.3
SDI	**San Donato**	**6.96**	**309**	P			**Pn**	01 36 25.6	+0.7
SDI				pmax			pmax		
	comp=Z,23nm,0.5s								
SDI	**San Donato**	**6.96**	**309**	Pn			**Pn**	01 36 25.6	+0.7
	comp=Z,23nm,0.5s								
SLUM		**6.96**	**149**	P			**Pn**	01 36 23.0	-2.0
CRAR	**CRAIOVA**	**7.05**	**16**	P			**Pn**	01 36 26.4	+0.2
INTR	**Introdacqua**	**7.08**	**311**	Pn			**Pn**	01 36 27.4	+0.9
	comp=Z,178nm,1.1s								
IZI	**Iznik**	**7.10**	**65**	*e*PN			**Pn**	01 36 29.6	+2.7
ELL	**Elmali**	**7.10**	**94**	*e*PN			**Pn**	01 36 33.1	+6.2
ISK	**Istanbul-Kandi**	**7.10**	**58**	*e*PN			**Pn**	01 36 28.9	+2.0
YLV	**Yalova**	**7.11**	**63**	*e*PN			**Pn**	01 36 29.6	+2.6
VVLD	**Villa Vallelon**	**7.17**	**309**	Pn			**Pn**	01 36 29.1	+1.3
	comp=Z,260nm,1.0s								
KLYT	**Kilyos**	**7.18**	**57**	*e*PN			**Pn**	01 36 29.9	+2.0
ALT	**Altintas**	**7.26**	**75**	*e*PN			**Pn**	01 36 32.6	+3.6
GUAR	**Guarcino**	**7.32**	**308**	Pn			**Pn**	01 36 30.6	+0.7
	comp=Z,367nm,0.9s								
ADVT	**Abdulvahap**	**7.33**	**64**	*e*PN			**Pn**	01 36 33.1	+3.2
TKTP	**Tekketepe**	**7.33**	**84**	*i* P			**Pn**	01 36 32.6	+2.5
HRT	**Hereke**	**7.42**	**61**	*e*PN			**Pn**	01 36 33.1	+1.9
ISP	**Isparta**	**7.49**	**85**	*e*PN			**Pn**	01 36 37.9	+5.7
ISP	**Isparta**	**7.49**	**85**	P			**Pn**	01 36 36.9	+4.8
ISP	**Isparta**	**7.49**	**85**	*e*Pn			**Pn**	01 36 35.4	+3.3
ISP	**Isparta**	**7.49**	**85**	⇑*i*P			**Pn**	01 36 36.0	+3.9
ISP	**Isparta**	**7.49**	**85**	*e*Pn			**Pn**	01 36 35.4	+3.3
SHUT	**Suhut-Afyon**	**7.54**	**80**	*e*PN			**Pn**	01 36 36.8	+3.9
BCK	**Bucak**	**7.56**	**88**	*e*PN			**Pn**	01 36 38.4	+5.2
AQU	**L'Aquila**	**7.58**	**311**	⇓*i*P			**Pn**	01 36 30.1	-3.3
AQU	**L'Aquila**	**7.58**	**311**	*e*P			**Pn**	01 36 36.3	+2.9
TERO	**Teramo**	**7.63**	**314**	Pn			**Pn**	01 36 34.8	+0.7
	comp=Z,143nm,1.0s								
ANTB	**Antalya**	**7.67**	**92**	*e*PN			**Pn**	01 36 39.5	+4.8
GPA	**Golpazari**	**7.69**	**67**	*e*PN			**Pn**	01 36 37.9	+2.9
ESKT	**Eskisehir**	**7.90**	**73**	*e*PN			**Pn**	01 36 41.8	+4.0
GZR	**Gura Zlata**	**7.92**	**9**	⇑*i*P			**Pn**	01 36 37.9	-0.1
MNS	**Montasola**	**8.04**	**309**	P			**Pn**	01 36 40.0	+0.3
MNS				pmax			pmax		
	comp=Z,49nm,0.6s								
MNS	**Montasola**	**8.04**	**309**	Pn			**Pn**	01 36 40.0	+0.3

SNR=8.8
SBF Sospel 12.10 306 *e*P **Pn 01 37 34.2 -1.1**
comp=Z,36nm,0.8s
SBF Sospel 12.10 306 *e*P **Pn 01 37 34.2 -1.1**
SBF pmax pmax
comp=Z,18nm,0.8s
SBF Sospel 12.10 306 *e*P **Pn 01 37 34.2 -1.1**
comp=Z,18nm,0.8s
KWP Kalwaria 12.11 5 *e*P **Pn 01 37 36.2 +0.8**
KWP LMZ 01 42 46.4
comp=Z,2μm,16.5s
KWP Kalwaria 12.11 5⇑*i*P **Pn 01 37 35.6 +0.2**
KWP Kalwaria 12.11 5 *e*P **Pn 01 37 36.2 +0.8**
VRAC Vranov 12.17 346 Pn **Pn 01 37 33.6 -2.6**
comp=Z,0.6nm,0.3s,baz=171,slow=13,SNR=5.5
VRAC Sn **Sn 01 39 46.2 -5.7**
comp=Z,0.6nm,0.3s,baz=182,slow=9.8,SNR=3.8
VRAC Vranov 12.17 346 *e*Pn **Pn 01 37 33.6 -2.6**
AMAG Maghara 12.20 121⇓P **Pn 01 37 34.0 -2.8**
MOTA Moosalm 12.22 326⇑*i*Pn **Pn 01 37 36.3 -0.7**
SNR=16
MOTA ⇓*i*Sn **Sn 01 39 48.3 -4.8**
SIM Simferopol' 12.26 49⇓*e*P **Pn 01 37 38.3 +0.8**
SIM pmax pmax
comp=Z,20nm,0.9s
SIM MLR MLR
comp=Z,400nm,13.2s
SIM Simferopol' 12.26 49 *e*P **Pn 01 37 38.3 +0.8**
comp=Z,400nm,13.2s
DAVOX Davos/Dischmat 12.38 322 Pn **Pn 01 37 37.6 -1.5**
comp=Z,0.2nm,0.3s,baz=162,slow=19,SNR=3.2
DAVOX Sn **Sn 01 39 51.0 -6.0**
comp=Z,1.5nm,0.3s,baz=308,slow=21,SNR=3.8
TREC Trest 12.39 343 *e*P **Pn 01 37 38.8 -0.5**
TREC AMS AMS 01 43 10.0
comp=Z,2μm,11.2s
LVV L'vov 12.42 9 *e*P **Pn 01 37 41.6 +1.9**
LVV *e*S **Sn 01 39 56.2 -1.9**
LVV MLR MLR
comp=N,700nm,10.0s
LVV MLR MLR
comp=E,100nm,10.0s
LVV MLR MLR
comp=Z,600nm,10.0s
OKC Ostrava-Krasne 12.44 351 *e*P **Pn 01 37 38.2 -1.7**
OKC *e*S **Sn 01 39 42.2 -16**
OKC Ostrava-Krasne 12.44 351 *e*P **Pn 01 37 38.2 -1.7**
OKC *e*S **Sn 01 39 42.2 -16**
OKC AMS AMS 01 43 10.0
comp=Z,2μm,11.7s
SUZ 12.46 125⇑P **Pn 01 37 37.6 -2.7**
MORC Moravsky Berou 12.46 349 *e*Pn **Pn 01 37 38.5 -1.8**
MORC Moravsky Berou 12.46 349⇓*i*P **Pn 01 37 39.4 -0.8**
MORC Moravsky Berou 12.46 349 *e*Pn **Pn 01 37 38.5 -1.7**
GEC2 GERESS Array S 12.47 337 *e*Pn **Pn 01 37 37.7 -2.7**
GERES GERESS Array B 12.47 337 Pn **Pn 01 37 37.7 -2.7**
comp=Z,0.5nm,0.3s,baz=157,slow=14,SNR=22
GERES Sn **Sn 01 39 54.0 -5.4**
comp=Z,1.2nm,0.3s,baz=153,slow=23,SNR=8.6
FRF La Foret Royal 12.49 303 *e*P **Pn 01 37 43.2 +2.6**
comp=Z,25nm,1.0s
FRF La Foret Royal 12.49 303 *e*P **Pn 01 37 43.2 +2.6**
FRF pmax pmax
comp=Z,12nm,1.0s
FRF La Foret Royal 12.49 303 *e*P **Pn 01 37 43.2 +2.6**
comp=Z,12nm,1.0s
LMR La Mourre 12.49 302 *e*P **Pn 01 37 43.1 +2.4**
comp=Z,82nm,1.5s
LMR La Mourre 12.49 302 *e*P **Pn 01 37 43.1 +2.4**
LMR pmax pmax
comp=Z,41nm,1.5s
LMR La Mourre 12.49 302 *e*P **Pn 01 37 43.1 +2.4**
comp=Z,41nm,1.5s
MMC7 Mount Meron ar 12.54 107 Sn **Sn 01 39 51.2 -10**
MMB2 Mount Meron ar 12.55 107 Pn **Pn 01 37 38.3 -3.3**
MMB2 Sn **Sn 01 39 52.6 -8.8**
MMAI Mount Meron Ar 12.56 107 Pn **Pn 01 37 40.6 -1.0**
comp=Z,1.9nm,0.3s,baz=314,slow=11,SNR=14
MMAI Sn **Sn 01 39 53.0 -8.6**
comp=Z,3.0nm,0.3s,baz=307,slow=28,SNR=6.9
MMAI LR LR 01 44 35.6
comp=Z,142nm,18.6s,baz=340,slow=47
SLTI Sal'it 12.63 111 Sn **Sn 01 39 52.9 -11**
OJC Ojcow 12.67 356 *e*P **Pn 01 37 42.1 -1.0**
KSDI Kefar Szold 12.68 106 Sn **Sn 01 39 54.8 -10**
DAVA Damuels 12.74 323⇑*i*Pn **Pn 01 37 43.8 -0.2**
KHC Kasperske Hory 12.77 337 *e*P **Pn 01 37 40.9 -3.5**
KHC *e* 01 37 57.0
KHC *e*S **Sn 01 40 00.5 -6.0**
KHC Kasperske Hory 12.77 337 *e*P **Pn 01 37 40.9 -3.5**
KHC *e*x x 01 37 57.0
KHC *e*S **Sn 01 40 00.5 -6.0**
KHC AMS AMS 01 43 30.0
comp=Z,1μm,10.4s
MMLI Mount Malkishu 12.83 109 Sn **Sn 01 39 58.1 -10**
KZIT Kziot 12.87 117 Sn **Sn 01 39 56.4 -13**
MBDF Montbardon 12.92 308 *e*P **Pn 01 37 48.8 +2.2**
comp=Z,50nm,1.0s
MBDF Montbardon 12.92 308 *e*P **Pn 01 37 48.8 +2.2**
MBDF pmax pmax
comp=Z,25nm,1.0s
MBDF Montbardon 12.92 308 *e*P **Pn 01 37 48.8 +2.2**
comp=Z,25nm,1.0s
WET Wettzell 13.00 335 *e*Pn **Pn 01 37 46.3 -1.3**
YTIR Yattir 13.13 114 Sn **Sn 01 40 04.8 -11**
HNKL Nakhl 13.16 122 P **Pn 01 37 47.2 -2.7**
DSI Dead Sea 13.22 113 Sn **Sn 01 40 06.9 -11**
DPC Dobruska-Polom 13.22 347 *e*P **Pn 01 37 53.3 +2.7**
DPC AMS AMS 01 43 40.0
comp=Z,3μm,11.5s
PRU Pruhonice 13.27 341 *e*P **Pn 01 37 49.8 -1.5**
PRU *e*S **Sn 01 40 28.2 +9.5**
PRU Pruhonice 13.27 341 *e*P **Pn 01 37 49.8 -1.5**
PRU *e*S **Sn 01 40 28.2 +9.5**
PRU AMS AMS 01 43 40.0
comp=Z,2μm,10.7s
LPG La Plagne 13.32 311 *e*P **Pn 01 37 53.9 +1.9**
comp=Z,29nm,1.0s
LPG La Plagne 13.32 311 *e*P **Pn 01 37 53.9 +1.9**
LPG pmax pmax
comp=Z,15nm,1.0s
LPG La Plagne 13.32 311 *e*P **Pn 01 37 53.9 +1.9**
comp=Z,15nm,1.0s
MZDA Masada 13.34 114 Pn **Pn 01 37 47.5 -4.8**
MZDA Sn **Sn 01 40 09.1 -12**
LPL La Plagne 13.34 311 *e*P **Pn 01 37 53.8 +1.5**
comp=Z,14nm,0.7s
LPL La Plagne 13.34 311 *e*P **Pn 01 37 53.8 +1.5**
LPL pmax pmax
comp=Z,7.0nm,0.7s
LPL La Plagne 13.34 311 *e*P **Pn 01 37 53.8 +1.5**
comp=Z,7.1nm,0.7s
UPC Upice 13.43 346 *e*P **Pn 01 37 59.4 +6.0**
ASUT 13.46 136⇑P **Pn 01 37 52.0 -1.9**
KRMI Paran Flat 13.56 119 Pn **Pn 01 37 49.5 -5.8**
KRMI Sn **Sn 01 40 13.2 -13**
ORIF Oris-en-Rattie 13.57 307 *e*P **Pn 01 37 57.0 +1.6**
comp=Z,44nm,1.1s
ORIF *e*MLR MLR
comp=Z,560nm,19.0s
ORIF Oris-en-Rattie 13.57 307 *e*P **Pn 01 37 57.0 +1.6**
ORIF pmax pmax
comp=Z,22nm,1.1s
ORIF Oris-en-Rattie 13.57 307 *e*P **Pn 01 37 57.0 +1.6**
comp=Z,22nm,1.1s
PRNI Paran 13.61 118 Sn **Sn 01 40 14.7 -13**
ZFRI Zfri 13.62 117 Sn **Sn 01 40 14.5 -13**
KSP Ksiaz 13.70 347 *e*P **Pn 01 37 56.8 -0.3**
KSP LMZ 01 44 13.1
comp=Z,3μm,16.1s
MALT Malatya 13.72 82 *e*Pn **Pn 01 38 00.4 +3.0**
MALT Malatya 13.72 82⇓*i*P **Pn 01 38 00.4 +2.9**
PVCC Panska Ves 13.76 342 *e*P **Pn 01 37 58.2 +0.2**
PVCC AMS AMS 01 44 00.0
comp=Z,2μm,12.2s
HRFI Mount Harif 13.82 119 Sn **Sn 01 40 20.4 -12**
MBH Mount Berech 13.88 120 Sn **Sn 01 40 21.1 -13**
HDK1 Dakhla 13.93 147⇑*e*P **Pn 01 37 59.2 -1.2**
MANZ Manzenberg 13.98 335 *e*P **Pn 01 38 10.3 +9.3**
EIL Elat 13.98 120 Pn **Pn 01 37 60.0 -1.2**
EIL Sn **Sn 01 40 19.2 -17**
EIL Elat 13.98 120 Pn **Pn 01 37 60.0 -1.2**
comp=Z,0.7nm,0.3s,baz=344,slow=8.0,SNR=9.5
EIL Sn **Sn 01 40 19.2 -17**
comp=Z,0.3nm,0.3s,baz=295,slow=21,SNR=3.4

EIL Elat 13.98 120 Sn **Sn 01 40 23.2 -13**
GRA1 Grafenberg Arr 14.04 333 *e*P **Pn 01 38 10.6 +8.8**
GRF Grafenberg Arr 14.04 333 *e*P **Pn 01 38 10.6 +8.8**
GRF *e*L 01 44 24.5
comp=Z,561nm,20.6s
ASF Jabal al Asfar 14.06 108 Pn **Pn 01 38 03.2 +1.0**
comp=Z,0.2nm,0.3s,baz=315,slow=1.4,SNR=3.2
ASF Sn **Sn 01 40 39.1 +0.9**
comp=Z,0.2nm,0.3s,baz=129,slow=18,SNR=3.2
NKC Novy Kostel 14.09 337 *e*P **Pn 01 38 03.1 +0.7**
NKC AMS AMS 01 44 10.0
comp=Z,900nm,9.0s
HKAT Jabal Katrina 14.09 126⇑P **Pn 01 37 60.0 -2.6**
HBST Basata 14.12 122⇑P **Pn 01 38 00.5 -2.5**
WERN Wernitzgruen 14.15 337 *e*P **Pn 01 38 13.0 +10**
BFO Black Forest 14.21 323 *e*P **Pn 01 38 02.4 -1.8**
BFO pmax pmax
comp=Z,4.0nm,0.7s
BFO Black Forest 14.21 323 *e*P **Pn 01 38 13.0 +8.8**
BFO Black Forest 14.21 323 *e*Pn **Pn 01 38 02.4 -1.8**
comp=Z,4.1nm,0.7s
BRG Berggiesshubel 14.23 341 *e*P **Pn 01 38 02.6 -1.8**
BRG pmax pmax
comp=Z,6.0nm,1.4s
BRG pmax pmax
comp=Z,10.0nm,1.3s
BRG Berggiesshubel 14.23 341 *e*P **Pn 01 38 12.5 +8.1**
BRG Berggiesshubel 14.23 341 *e*P **Pn 01 38 02.6 -1.8**
comp=Z,9.4nm,1.4s
BRG *e* 01 38 13.1
comp=Z,17nm,1.2s
GUNZ Gunzen 14.24 337 *e*P **Pn 01 38 12.4 +8.0**
TANN Tannenbergstha 14.24 337 *e*P **Pn 01 38 12.8 +8.3**
ANN Anapa 14.26 54 *e*P **Pn 01 38 10.3 +5.4**
ANN *e*S **Sn 01 40 50.6 +7.5**
ANN pmax pmax
comp=Z,71nm,1.0s
CABF La Chapelle 14.31 314 *e*P **Pn 01 38 05.9 +0.4**
comp=Z,32nm,1.0s
CABF La Chapelle 14.31 314 *e*P **Pn 01 38 05.9 +0.4**
CABF pmax pmax
comp=Z,16nm,1.0s
CABF La Chapelle 14.31 314 *e*P **Pn 01 38 05.9 +0.4**
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 14.31 306 *e*P **Pn 01 38 06.7 +1.1**
comp=Z,104nm,1.6s
VIVF Saint-Julien-l 14.31 306 *e*P **Pn 01 38 06.7 +1.1**
VIVF pmax pmax
comp=Z,52nm,1.6s
VIVF Saint-Julien-l 14.31 306 *e*P **Pn 01 38 06.7 +1.1**
comp=Z,52nm,1.6s
WERD Werda 14.32 337 *e*P **Pn 01 38 13.7 +8.1**
LOMF Lomont 14.33 317 *e*P **Pn 01 38 11.3 +5.5**
KIEV Kiev 14.34 21 *e*P **Pn 01 38 03.4 -2.5**
KIEV pmax pmax
comp=Z,20nm,0.7s
KIEV Kiev 14.34 21 *e*Pn **Pn 01 38 03.4 -2.5**
comp=Z,20nm,0.7s
KIEV Kiev 14.34 21 *e*Pn **Pn 01 38 03.4 -2.5**
comp=Z,20nm,0.7s
AKASG Malin Array Be 14.36 21 Pn **Pn 01 38 02.9 -3.2**
comp=Z,0.9nm,0.3s,baz=212,slow=12,SNR=29
AKBB Malin Array Si 14.36 21 *e*P **Pn 01 38 03.6 -2.5**
AKBB Malin Array Si 14.36 21 *e*Pn **Pn 01 38 03.5 -2.6**
HDHB Dhahab 14.36 124⇑P **Pn 01 38 03.7 -2.6**
FBE Freiberg 14.43 340 *e*P **Pn 01 38 14.6 +7.5**
GTR Jabal at Tayr 14.48 143⇑P **Pn 01 38 06.4 -1.5**
LASF Ste Croix 14.55 302 *e*P **Pn 01 38 10.6 +1.8**
comp=Z,128nm,1.7s
LASF Ste Croix 14.55 302 *e*P **Pn 01 38 10.6 +1.8**
comp=Z,64nm,1.7s
EMHD Djebel Mahouad 14.57 270 P **Pn 01 38 17.0 +7.9**
HINF Hinteralfeld 14.61 319 *e*P **Pn 01 38 09.2 -0.3**
comp=Z,29nm,0.9s
HINF Hinteralfeld 14.61 319 *e*P **Pn 01 38 09.2 -0.3**
HINF pmax pmax
comp=Z,15nm,0.9s
HINF Hinteralfeld 14.61 319 *e*P **Pn 01 38 09.2 -0.3**
comp=Z,14nm,0.9s
MOX Moxa 14.71 336 *e*P **Pn 01 38 10.1 -0.8**
comp=Z,20nm,1.1s
MOX
comp=Z,1μm,15.0s
MOX Moxa 14.71 336 *e*P **Pn 01 38 10.1 -0.8**
MOX pmax pmax
comp=Z,20nm,1.1s
MOX MLR MLR
comp=Z,1μm,15.0s
ECH Echery 14.71 321 *e*P **Pn 01 38 17.9 +7.0**
ECH Echery 14.71 321 *e*P **Pn 01 38 12.6 +1.7**
HHRG Al Ghardaqah 14.75 131⇑P **Pn 01 38 09.1 -2.5**
CDF Champ du Feu 14.78 321 *e*P **Pn 01 38 12.5 +0.6**
comp=Z,38nm,1.0s
CDF Champ du Feu 14.78 321 *e*P **Pn 01 38 12.5 +0.6**
CDF pmax pmax
comp=Z,19nm,1.0s
CDF Champ du Feu 14.78 321 *e*P **Pn 01 38 12.5 +0.6**
comp=Z,19nm,1.0s
CLL Collm 14.88 340 *e*P **Pn 01 38 13.0 -0.2**
CLL pmax pmax
comp=Z,23nm,1.7s
CLL MLR MLR
comp=Z,1μm,15.3s
CLL Collm 14.88 340 *e*P **Pn 01 38 13.0 -0.2**
comp=Z,23nm,1.7s
CLL *e* 01 38 16.0
CLL *i* 01 38 20.1
CLL Collm 14.88 340 *e*P **Pn 01 38 19.1 +5.9**
CLL Collm 14.88 340 *e*P **Pn 01 38 13.0 -0.2**
comp=Z,23nm,1.7s
CLL *e*pP pP 01 38 16.0 -5.8
CLL *i*PP 01 38 20.1
comp=Z,59nm,1.3s
CLL *e*x x 01 41 24.0
LANF Langenberg 14.92 324 *e*P **Pn 01 38 21.4 +7.6**
TOD Tromm 14.93 328 *e*P **Pn 01 38 19.6 +5.7**
HAU Haudompre 14.99 319 *e*P **Pn 01 38 14.9 +0.1**
comp=Z,48nm,0.8s
HAU *e*MLR MLR
comp=Z,409nm,21.5s
HAU Haudompre 14.99 319 *e*P **Pn 01 38 14.9 +0.1**
HAU pmax pmax
comp=Z,24nm,0.8s
HAU Haudompre 14.99 319 *e*P **Pn 01 38 14.9 +0.1**
comp=Z,24nm,0.8s
NEUB Neuenburg 15.15 337 *e*P **Pn 01 38 23.3 +6.5**
THEF They Montfort 15.32 319 *e*P **Pn 01 38 23.3 +4.2**
SOC Sochi 15.37 61 *e*P **Pn 01 38 18.7 -1.1**
SOC *e* 01 41 08.5
SOC pmax pmax
comp=Z,4.0nm,0.6s
SOC MLR MLR
comp=Z,230nm,11.0s
SOC Sochi 15.37 61 *e*P **Pn 01 38 18.7 -1.1**
comp=Z,4.0nm,0.6s
LBL Lubilhac 15.39 305 *e*P **Pn 01 38 17.3 -2.8**
UBBA Unterbreizbach 15.41 333 *e*P **Pn 01 38 25.5 +5.2**
comp=Z,25nm,1.4s
HSFG 15.45 132⇑*e*P **Pn 01 38 19.2 -1.7**
MTLF Montolieu 15.46 298 *e*P **Pn 01 38 23.7 +2.8**
comp=Z,58nm,1.5s
MTLF Montolieu 15.46 298 *e*P **Pn 01 38 23.7 +2.8**
MTLF pmax pmax
comp=Z,29nm,1.5s
MTLF Montolieu 15.46 298 *e*P **Pn 01 38 23.7 +2.8**
comp=Z,29nm,1.5s
PLDF La Plantade 15.47 308 *e*P **Pn 01 38 23.0 +2.0**
EIBI Ibiza 15.56 281 P **Pn 01 38 26.2 +3.9**
comp=Z,118nm,1.3s
SMF Signal de Mont 15.65 311 *e*P **Pn 01 38 23.0 -0.4**
comp=Z,21nm,0.9s
SMF Signal de Mont 15.65 311 *e*P **Pn 01 38 23.0 -0.4**
SMF pmax pmax
comp=Z,10.0nm,0.9s
SMF Signal de Mont 15.65 311 *e*P **Pn 01 38 23.0 -0.4**
comp=Z,10nm,0.9s
EBNR Beni Rached 15.69 271 P **Pn 01 38 29.3 +5.3**
PYM Petit Puy Mans 15.76 307 *e*P **Pn 01 38 25.3 +0.5**
RUE Ruedersdorf 15.76 343 *e*P **Pn 01 38 28.7 +3.9**
comp=Z,91nm,1.1s
RUP Ruppelstein 15.77 325 *e*P **Pn 01 38 31.1 +6.1**
ECHA Ech Chlef 15.84 271 P **Pn 01 38 29.6 +3.6**
EPOB Poblet 15.89 290 P **Pn 01 38 29.1 +2.5**
comp=Z,273nm,5.2s
EPOB Poblet 15.89 290 P **Pn 01 38 29.1 +2.5**

comp=Z,273nm,5.2s
GKP Gorka Klasztor 15.92 352 *e*P **Pn 01 38 31.0 +4.1**
GKP LMZ 01 46 04.1
comp=Z,1μm,15.0s
LOR Lormes 15.95 313 *e*P **Pn 01 38 27.4 +0.1**
comp=Z,26nm,1.0s
LOR *e*MLR MLR
comp=Z,240nm,19.8s
LOR Lormes 15.95 313 *e*P **Pn 01 38 27.4 +0.1**
LOR pmax pmax
comp=Z,13nm,1.0s
LOR Lormes 15.95 313 *e*P **Pn 01 38 27.4 +0.1**
comp=Z,13nm,1.0s
MEZF Maizieres J'vi 15.98 318 *e*P **Pn 01 38 27.9 +0.2**
comp=Z,90nm,1.0s
MEZF Maizieres J'vi 15.98 318 *e*P **Pn 01 38 27.9 +0.2**
comp=Z,45nm,1.0s
AVF Avril sur Loir 16.01 311 *e*P **Pn 01 38 28.7 +0.6**
comp=Z,11nm,0.8s
AVF Avril sur Loir 16.01 311 *e*P **Pn 01 38 28.7 +0.6**
AVF pmax pmax
comp=Z,6.0nm,0.8s
AVF Avril sur Loir 16.01 311 *e*P **Pn 01 38 28.7 +0.6**
comp=Z,5.5nm,0.8s
CAF Calviac 16.05 303 *e*P **Pn 01 38 29.9 +1.3**
comp=Z,37nm,1.4s
CAF Calviac 16.05 303 *e*P **Pn 01 38 29.9 +1.3**
CAF pmax pmax
comp=Z,19nm,1.4s
CAF Calviac 16.05 303 *e*P **Pn 01 38 29.9 +1.3**
comp=Z,18nm,1.4s
SSF Saint Saulge 16.05 312 *e*P **Pn 01 38 28.5 -0.2**
comp=Z,26nm,0.9s
SSF Saint Saulge 16.05 312 *e*P **Pn 01 38 28.5 -0.2**
SSF pmax pmax
comp=Z,13nm,0.9s
SSF Saint Saulge 16.05 312 *e*P **Pn 01 38 28.5 -0.2**
comp=Z,13nm,0.9s
ETRT Tiaret 16.05 268 P **Pn 01 38 33.0 +4.2**
EANR 'Ain N'Sour 16.09 270 P **Pn 01 38 30.0 +0.8**
CLZ Clausthal 16.14 336 *e*P **Pn 01 38 34.1 +4.4**
CLZ pmax pmax
comp=Z,61nm,1.3s
CLZ Clausthal 16.14 336 *e*P **Pn 01 38 34.1 +4.4**
comp=Z,61nm,1.3s
WLF Walferdange 16.17 323 *e*P **Pn 01 38 36.5 +6.3**
WLF pmax pmax
comp=Z,55nm,1.2s
WLF Walferdange 16.17 323 *e*P **Pn 01 38 36.5 +6.3**
comp=Z,55nm,1.2s
WLF Walferdange 16.17 323 AP **Pn 01 38 36.3 +6.1**
BGF Bois d'Agland 16.21 309 *e*P **Pn 01 38 30.9 +0.2**
comp=Z,43nm,1.1s
BGF Bois d'Agland 16.21 309 *e*P **Pn 01 38 30.9 +0.2**
BGF pmax pmax
comp=Z,22nm,1.1s
BGF Bois d'Agland 16.21 309 *e*P **Pn 01 38 30.9 +0.2**
comp=Z,22nm,1.1s
ERTA Horta de San J 16.41 288 P **Pn 01 38 36.8 +3.5**
comp=Z,154nm,1.8s
TCF Toulx Ste Croi 16.49 308 *e*P **Pn 01 38 34.9 +0.7**
comp=Z,21nm,1.0s
TCF Toulx Ste Croi 16.49 308 *e*P **Pn 01 38 34.9 +0.7**
TCF pmax pmax
comp=Z,11nm,1.0s
TCF Toulx Ste Croi 16.49 308 *e*P **Pn 01 38 34.9 +0.7**
comp=Z,11nm,1.0s
SUW Suwalki 16.50 4 *e*P **Pn 01 38 32.8 -1.5**
SUW *e* 01 38 35.8
SUW LMZ 01 45 40.1
comp=Z,800nm,18.3s
SUW Suwalki 16.50 4 *e*P **Pn 01 38 32.8 -1.6**
SUW *e* 01 38 35.8
RJF Les Rejaudoux 16.55 304 *e*P **Pn 01 38 36.2 +1.2**
comp=Z,20nm,1.0s
RJF *e*MLR MLR
comp=Z,368nm,17.2s
RJF Les Rejaudoux 16.55 304 *e*P **Pn 01 38 36.2 +1.2**
RJF pmax pmax
comp=Z,10.0nm,1.0s
RJF Les Rejaudoux 16.55 304 *e*P **Pn 01 38 36.2 +1.2**
comp=Z,10nm,1.0s
EPF Esparros 16.72 295 *e*P **Pn 01 38 39.1 +2.0**
comp=Z,32nm,1.3s
EPF Esparros 16.72 295 *e*P **Pn 01 38 39.1 +2.0**
EPF pmax pmax
comp=Z,16nm,1.3s
EPF Esparros 16.72 295 *e*P **Pn 01 38 39.1 +2.0**
comp=Z,16nm,1.3s
EBIE Bielsa 16.79 294 P **Pn 01 38 41.4 +3.3**
comp=Z,156nm,2.8s
EBEN Beniarda 16.80 280 P **Pn 01 38 40.9 +2.7**
comp=Z,62nm,1.4s
EBEN Beniarda 16.80 280 P **Pn 01 38 40.9 +2.7**
comp=Z,62nm,1.4s
MEM Membach 16.89 325 AP pP 01 38 45.3 +1.2
LFF La Frestale 16.94 302 *e*P **Pn 01 38 41.3 +1.3**
comp=Z,58nm,1.2s
LFF La Frestale 16.94 302 *e*P **Pn 01 38 41.3 +1.3**
LFF pmax pmax
comp=Z,29nm,1.2s
LFF La Frestale 16.94 302 *e*P **Pn 01 38 41.3 +1.3**
comp=Z,29nm,1.2s
BUG Bochum--Univer 16.96 329 *e*P **Pn 01 38 41.1 +0.9**
comp=Z,24nm,1.1s
EMOS Mosqueruela 16.98 286 P **Pn 01 38 44.1 +3.6**
comp=Z,311nm,2.6s
HGN Heimansgroeve 17.04 326⇓*i*P **Pn 01 38 45.8 +4.6**
comp=Z,35nm,2.2s
BCLA Clavier 17.09 324 AP pP 01 38 49.2 +2.9
ESAC San Caprasio 17.09 291 P **Pn 01 38 47.1 +5.2**
comp=Z,225nm,2.2s
GIVF Givet 17.11 322 *e*P **Pn 01 38 44.9 +2.9**
comp=Z,105nm,1.3s
GIVF Givet 17.11 322 *e*P **Pn 01 38 44.9 +2.9**
GIVF pmax pmax
comp=Z,52nm,1.3s
GIVF Givet 17.11 322 *e*P **Pn 01 38 44.9 +2.9**
comp=Z,52nm,1.3s
DOU Dourbes 17.21 322 P **Pn 01 38 45.4 +2.0**
DOU AP pP 01 38 49.2 +1.5
DOU Dourbes 17.21 322 P **Pn 01 38 45.3 +2.0**
ETSF Etsaut 17.34 295 *e*P **Pn 01 38 46.7 +1.8**
comp=Z,60nm,1.0s
ETSF Etsaut 17.34 295 *e*P **Pn 01 38 46.7 +1.8**
ETSF pmax pmax
comp=Z,30nm,1.0s
ETSF Etsaut 17.34 295 *e*P **Pn 01 38 46.7 +1.8**
comp=Z,30nm,1.0s
ECHE Chera 17.35 283 P **Pn 01 38 45.5 +0.4**
ECHE pmax pmax
comp=Z,14nm,0.8s
ECHE Chera 17.35 283 P **Pn 01 38 45.5 +0.4**
comp=Z,14nm,0.8s
ECHE Chera 17.35 283 P **Pn 01 38 45.5 +0.4**
comp=Z,14nm,0.8s
BAIF Baives 17.38 321 *e*P **Pn 01 38 45.6 +0.2**
comp=Z,69nm,1.3s
BAIF Baives 17.38 321 *e*P **Pn 01 38 45.6 +0.2**
BAIF pmax pmax
comp=Z,35nm,1.3s
BAIF Baives 17.38 321 *e*P **Pn 01 38 45.6 +0.2**
comp=Z,35nm,1.3s
KIV Kislovodsk 17.55 62 *e*P **Pn 01 38 47.7 +0.2**
KIV *e*S **Sn 01 42 01.9 -0.9**
KIV pmax pmax
comp=Z,26nm,1.2s
KIV MLR MLR
comp=Z,117nm,14.0s
KIV Kislovodsk 17.55 62 *e*Pn **Pn 01 38 48.1 +0.6**
KIV Kislovodsk 17.55 62⇑*i*P **Pn 01 38 47.6 +0.1**
KIV Kislovodsk 17.55 62 *e*P **Pn 01 38 47.7 +0.2**
comp=Z,26nm,1.2s
MNK Minsk 17.55 13 *e*P **Pn 01 38 42.0 -5.5**
MNK MLR MLR
comp=N,3μm,10.0s
MNK MLR MLR
comp=Z,3μm,11.0s
WTSB Winterswijk 17.55 330⇓*e*P **Pn 01 38 50.4 +2.9**
comp=Z,22nm,1.3s
MSL Mosul 17.65 87 *e*x x 01 38 51.5
MSL *e*x x 01 42 28.0
EMUR La Murta 17.66 278 P **Pn 01 38 54.0 +5.0**
comp=Z,114nm,3.4s
UCC Uccle 17.79 323 AP pP 01 38 56.8 +2.8
ONI Oni 17.82 67 P **Pn 01 38 56.9 +6.0**

ONI S Sn 01 42 18.1 +8.5
ETOB Tobarra 17.83 280 P Pn 01 38 54.0 +2.9
comp=Z,194nm,3.4s
ETOB Tobarra 17.83 280 P Pn 01 38 54.0 +2.9
comp=Z,194nm,3.4s
SJPF Ste Jean 17.86 295 *e*P Pn 01 38 51.2 -0.2
comp=Z,56nm,1.0s
SJPF Ste Jean 17.86 295 *e*P Pn 01 38 51.2 -0.2
SJPF pmax pmax
comp=Z,28nm,1.0s
SJPF Ste Jean 17.86 295 *e*P Pn 01 38 51.2 -0.2
comp=Z,28nm,1.0s
BSEG Bad Segeberg 17.97 339 *e*P Pn 01 38 53.0 +0.4
BSEG pmax pmax
comp=Z,32nm,1.0s
BSEG Bad Segeberg 17.97 339 *e*P Pn 01 38 53.0 +0.4
comp=Z,32nm,1.0s
BSD Bornholm Skovb 18.04 349 *i* P Pn 01 38 53.4 -0.1
BSD *e*S Sn 01 42 17.5 +2.9
BSD pmax pmax
comp=Z,38nm,0.8s
BSD MLR MLR
comp=Z,410nm,17.0s
BSD Bornholm Skovb 18.04 349 *i* P Pn 01 38 53.4 -0.1
comp=Z,38nm,0.8s
BSD *e*S Sn 01 42 17.5 +2.9
BSD
comp=Z,400nm,17.0s
EALK Alkurruntz 18.08 295 P Pn 01 38 54.6 +0.5
EALK Alkurruntz 18.08 295 P Pn 01 38 54.6 +0.5
ELIZ Elizondo 18.08 295 P Pn 01 38 55.2 +1.0
ELIZ pmax pmax
comp=Z,16nm,0.9s
ELIZ Elizondo 18.08 295 P Pn 01 38 55.2 +1.0
comp=Z,16nm,0.9s
ELIZ Elizondo 18.08 295 P Pn 01 38 55.2 +1.0
comp=Z,16nm,0.9s
MFF Saint Martin d 18.11 307 *e*P Pn 01 38 55.1 +0.7
comp=Z,53nm,1.2s
MFF Saint Martin d 18.11 307 *e*P Pn 01 38 55.1 +0.7
MFF pmax pmax
comp=Z,27nm,1.2s
MFF Saint Martin d 18.11 307 *e*P Pn 01 38 55.1 +0.7
comp=Z,27nm,1.2s
ETOR Torete 18.21 287 P Pn 01 38 56.8 +1.1
ETOR pmax pmax
comp=Z,22nm,0.6s
ETOR Torete 18.21 287 P Pn 01 38 56.8 +1.1
comp=Z,22nm,0.6s
ETOR Torete 18.21 287 P Pn 01 38 56.8 +1.1
comp=Z,22nm,0.6s
TBLG Delisi 18.67 70 P Pn 01 38 58.2 -3.2
MTA Mtatsminda 18.71 70 P Pn 01 39 01.1 -0.7
MTA S Sn 01 42 19.3 -12
VRSR Storozhevoye 18.73 38 *e*P Pn 01 38 59.8 -2.2
VRSR pmax pmax
comp=Z,2.0nm,0.5s
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VRSR MLR MLR
comp=Z,180nm,11.0s
VRSR MLR MLR
comp=N,150nm,13.0s
VRSR MLR MLR
comp=E,140nm,11.0s
LDF La Druitiere 18.93 312 *e*P Pn 01 39 04.7 +0.2
comp=E,30nm,0.9s
LDF La Druitiere 18.93 312 *e*P Pn 01 39 04.7 +0.2
LDF pmax pmax
comp=Z,15nm,0.9s
LDF La Druitiere 18.93 312 *e*P Pn 01 39 04.7 +0.2
comp=Z,15nm,0.9s
EBER Berja 19.09 275 P Pn 01 39 08.1 +1.6
comp=Z,41nm,1.1s
EBER Berja 19.09 275 P Pn 01 39 08.1 +1.7
comp=Z,41nm,1.1s
EQES Quesada 19.10 278 P Pn 01 39 07.5 +0.8
comp=Z,24nm,0.8s
EQES Quesada 19.10 278 P Pn 01 39 07.4 +0.8
comp=Z,24nm,0.8s
DGRG David-gareji 19.12 71 P Pn 01 39 09.4 +2.5
DGRG S Sn 01 42 14.2 -27
FLN La Foliniere 19.22 312 *e*P Pn 01 39 07.8 -0.2
comp=Z,23nm,0.8s
FLN *e*MLR MLR
comp=Z,192nm,19.0s
FLN La Foliniere 19.22 312 *e*P Pn 01 39 07.8 -0.2
FLN pmax pmax
comp=Z,12nm,0.8s
FLN La Foliniere 19.22 312 *e*P Pn 01 39 07.8 -0.2
comp=Z,12nm,0.8s
GRR Gorron 19.28 311 *e*P Pn 01 39 09.1 +0.5
comp=Z,57nm,1.2s
GRR Gorron 19.28 311 *e*P Pn 01 39 09.1 +0.5
GRR pmax pmax
comp=Z,29nm,1.2s
GRR Gorron 19.28 311 *e*P Pn 01 39 09.1 +0.5
comp=Z,29nm,1.2s
BHD Baghdad 19.46 96 *ex* x 01 39 06.0
BHD *ex* x 01 42 55.0
ELAN Lanestosa 19.47 295 P Pn 01 39 10.1 -0.9
comp=Z,53nm,1.0s
ELAN Lanestosa 19.47 295 P Pn 01 39 10.1 -0.9
comp=Z,53nm,1.0s
EBAN Banos Encina 19.62 279 P Pn 01 39 12.4 -0.5
EBAN pmax pmax
comp=Z,6.0nm,0.6s
EBAN Banos Encina 19.62 279 P Pn 01 39 12.4 -0.5
comp=Z,6.3nm,0.6s
EGUA Guajares 19.63 275 P Pn 01 39 12.7 -0.3
EGUA pmax pmax
comp=Z,6.0nm,0.7s
EGUA Guajares 19.63 275 P Pn 01 39 12.7 -0.3
comp=Z,6.0nm,0.7s
EGUA Guajares 19.63 275 P Pn 01 39 12.7 -0.3
comp=Z,6.0nm,0.7s
ESDC Sonseca Array 19.66 284 P Pn 01 39 12.1 -1.2
comp=Z,11nm,0.8s
ESDC Sonseca Array 19.66 284 P Pn 01 39 12.5 -0.8
comp=Z,0.3nm,0.3s,baz=80,slow=12,SNR=59
ESDC Sonseca Array 19.66 284 P Pn 01 39 12.1 -1.2
comp=Z,11nm,0.8s
ESLA Sonseca Array 19.66 284 *e*P Pn 01 39 12.0 -1.3
comp=Z,4.4nm,0.9s
ESLA Sonseca Array 19.66 284 *e*P Pn 01 39 12.0 -1.3
comp=Z,4.4nm,0.9s
GUD Guadarrama 19.80 287 P Pn 01 39 15.2 +0.3
GUD pmax pmax
comp=Z,16nm,0.8s
GUD Guadarrama 19.80 287 P Pn 01 39 15.2 +0.3
comp=Z,16nm,0.8s
GUD Guadarrama 19.80 287 P Pn 01 39 15.2 +0.3
comp=Z,16nm,0.8s
VRHR Novokhopersk 19.88 41 *e*P Pn 01 39 13.0 -2.8
VRHR pmax pmax
comp=Z,70nm,0.8s
VRHR pmax pmax
comp=N,90nm,1.6s
VRHR pmax pmax
comp=E,140nm,1.5s
VRHR MLR MLR
comp=Z,810nm,11.0s
VRHR MLR MLR
comp=N,540nm,15.0s
VRHR MLR MLR
comp=E,650nm,12.0s
PAB San Pablo 19.96 284 *e*P Pn 01 39 15.3 -1.6
PAB pmax pmax
comp=Z,16nm,1.1s
PAB San Pablo 19.96 284 *e*P Pn 01 39 15.3 -1.6
comp=Z,16nm,1.1s
PAB San Pablo 19.96 284 *e*P Pn 01 39 15.3 -1.6
comp=Z,16nm,1.1s
ELUQ Luque 20.07 278 P P 01 39 16.9 +0.5
ELUQ pmax pmax
comp=Z,18nm,0.6s
ELUQ Luque 20.07 278 P P 01 39 16.9 +0.5
comp=Z,18nm,0.6s
ELUQ Luque 20.07 278 P P 01 39 16.9 +0.5
comp=Z,18nm,0.6s
EADA Adamuz 20.25 280 P P 01 39 19.4 +1.1
comp=Z,24nm,1.0s
EADA Adamuz 20.25 280 P P 01 39 19.4 +1.1
comp=Z,24nm,1.0s
SGMF Saint Gilles 20.25 309 *e*P P 01 39 19.5 +1.2
comp=Z,50nm,1.1s
SGMF Saint Gilles 20.25 309 *e*P P 01 39 19.5 +1.2
SGMF pmax pmax
comp=Z,25nm,1.1s
SGMF Saint Gilles 20.25 309 *e*P P 01 39 19.5 +1.2
comp=Z,25nm,1.1s
OBN Obninsk 20.46 26 *c i*P P 01 39 18.7 -1.8
OBN *i* 01 39 36.3
OBN *e*S S 01 43 00.7 -8.7
OBN pmax pmax
comp=Z,79nm,1.0s
OBN MLR MLR
comp=Z,600nm,14.0s,MS4.1
OBN Obninsk 20.46 26 *e*P P 01 39 18.9 -1.6
comp=Z,81nm,1.0s
MUD Monsted U'grnd 20.50 341 ⇓ *i*P P 01 39 21.0 +0.1
MUD pmax pmax
comp=Z,48nm,1.1s
MUD MLR MLR
comp=Z,240nm,18.0s,MS3.6
MUD Monsted U'grnd 20.50 341 ⇓ *i*P P 01 39 21.0 +0.1
comp=Z,48nm,1.1s
MUD
comp=Z,230nm,18.0s
QUIF Quistinic 20.50 308 *e*P P 01 39 22.3 +1.3
EMIJ Mijas 20.63 275 P P 01 39 19.7 -2.8
comp=Z,49nm,1.5s
ROSF Rostrenen 20.73 309 *e*P P 01 39 24.5 +1.1
comp=Z,104nm,1.5s
ROSF Rostrenen 20.73 309 *e*P P 01 39 24.5 +1.1
ROSF pmax pmax
comp=Z,52nm,1.5s
ROSF Rostrenen 20.73 309 *e*P P 01 39 24.5 +1.1
comp=Z,52nm,1.5s
EARI Arriondas 20.76 294 P P 01 39 24.1 +0.2
comp=Z,25nm,1.0s
EARI Arriondas 20.76 294 P P 01 39 24.1 +0.2
comp=Z,25nm,1.0s
MAK Makhachkala 20.83 67 *e*P P 01 39 25.4 +0.8
MAK *e* 01 39 47.0
MAK *e*S S 01 43 18.8 +1.9
MAK *e*SS 01 43 36.6
MAK *e*SSS 01 43 48.1
MAK pmax pmax
comp=Z,320nm,1.5s
MAK MLR MLR
comp=Z,367nm,12.0s,MS4.0
MAK Makhachkala 20.83 67 *e*P P 01 39 25.4 +0.8
comp=Z,320nm,1.5s
EJIF Jimena Fronter 21.21 275 P P 01 39 29.8 +1.1
EJIF pmax pmax
comp=Z,13nm,1.1s,mb4.2
EJIF Jimena Fronter 21.21 275 P P 01 39 29.8 +1.1
comp=Z,13nm,1.1s,mb4.2
EJIF Jimena Fronter 21.21 275 P P 01 39 29.8 +1.1
comp=Z,13nm,1.1s,mb4.2
VSU Vasula 21.23 8 *c i*P P 01 39 27.4 -1.3
VSU Vasula 21.23 8 *i* P P 01 39 27.4 -1.3
DKH Dar Kharkhour 21.32 272 *i* P P 01 39 31.5 +1.5
MOS Moscow 21.33 26 *e*P P 01 39 27.2 -2.6
MOS *e* 01 39 41.4
MOS *e*S S 01 43 20.5 -5.9
MOS *e*SS 01 43 32.9
MOS pmax pmax
comp=Z,145nm,1.0s,mb5.3
MOS pmax pmax
comp=Z,300nm,1.6s,mb5.4
MOS MLR MLR
comp=Z,1µm,15.4s,MS4.4
MOS MLR MLR
comp=N,800nm,13.9s
ESPR Espera 21.44 276 P P 01 39 30.4 -0.7
comp=N,18nm,1.3s,mb4.2
ESPR Espera 21.44 276 P P 01 39 30.5 -0.7
comp=N,18nm,1.3s,mb4.2
MDT Midelt 21.50 265 P P 01 39 32.6 +0.7
comp=N,15nm,0.9s,mb4.3,baz=81,slow=12,SNR=26
MDT LR LR 01 49 59.6
comp=N,154nm,19.0s,baz=56,slow=43
ZFT Errachidia 21.57 263 *i* P P 01 39 33.0 +0.4
CZD Col de Zad 21.76 266 *i* P P 01 39 37.0 +2.3
ECAL Calabor 21.78 290 P P 01 39 34.7 -0.1
comp=N,20nm,0.5s,mb4.8
ECAL Calabor 21.78 290 P P 01 39 34.7 -0.1
comp=N,20nm,0.5s,mb4.8
RSA Sarsar 21.84 271 *i* P P 01 39 36.0 +0.4
EMIN Mina Concepcio 21.94 279 P P 01 39 35.8 -0.7
comp=N,12nm,0.9s,mb4.3
MVO Moncorvo 21.98 288 *e*P P 01 39 36.1 -0.9
comp=N,44nm,1.2s,mb4.8
EBAD Badajoz 22.09 282 P P 01 39 37.2 -0.9
comp=N,20nm,1.0s,mb4.5
EBAD Badajoz 22.09 282 P P 01 39 37.2 -0.9
comp=N,20nm,1.0s,mb4.5
PBAR Barrancos 22.17 280 *e*P P 01 39 39.7 +0.7
comp=N,24nm,1.5s,mb4.4
EPON Pontenova 22.18 294 P P 01 39 41.6 +2.6
comp=N,31nm,1.2s,mb4.6
PCBR Castelo Branco 22.36 285 *e*P P 01 39 40.3 -0.7
comp=N,28nm,1.3s,mb4.5
MTE Manteigas 22.38 286 *e*P P 01 39 39.5 -1.8
comp=N,20nm,1.1s,mb4.5
MTE Manteigas 22.38 286 *e*P P 01 39 39.5 -1.8
comp=N,20nm,1.1s,mb4.5
MTE Manteigas 22.38 286 *e*P P 01 39 40.8 -0.5
comp=N,38nm,2.0s,mb4.5
PESTR Estremoz 22.52 282 *e*P P 01 39 40.9 -1.9
comp=N,33nm,1.2s,mb4.6
EGRO El Granado 22.61 279 P P 01 39 44.3 +0.6
comp=N,26nm,1.1s,mb4.6
PVIS Viseu 22.64 287 *e*P P 01 39 42.8 -1.2
comp=N,32nm,1.1s,mb4.7
PCAB Cabril 22.73 290 *e*P P 01 39 44.2 -0.8
comp=N,41nm,1.3s,mb4.7
PVAQ Vaqueiros 22.81 278 *e*P P 01 39 45.2 -0.7
comp=N,28nm,1.5s,mb4.5
PBEJ Beja 22.84 280 *e*P P 01 39 44.8 -1.3
comp=N,16nm,1.2s,mb4.3
EVO Evora 22.89 281 *e*P P 01 39 48.6 +1.9
comp=N,25nm,1.0s,mb4.3
EVO *e*MLR MLR
comp=Z,237nm,19.8s
HFS Hagfors 23.07 351 P P 01 39 46.0 -2.3
comp=Z,18nm,0.4s,mb4.9,baz=160,slow=10.0,SNR=102
HFS LR LR 01 49 37.5
comp=Z,174nm,19.6s,MS3.5,baz=174,slow=39
PTOM Tomar 23.09 284 *e*P P 01 39 47.4 -1.4
comp=Z,57nm,1.4s,mb4.8
NAY Al-Naaiem 23.31 103 *e*P P 01 39 49.3 -1.9
NAY AMb AMB 01 40 15.5
comp=Z,25nm,0.6s,mb4.8
NAY Al-Naaiem 23.31 103 *e*P P 01 39 49.3 -1.9
comp=Z,25nm,0.6s,mb4.8
UMR Umm Al-Rimmam 23.54 102 *e*P P 01 39 51.6 -2.0
UMR AMb AMB 01 39 59.8
comp=Z,28nm,0.4s,mb5.1
UMR Umm Al-Rimmam 23.54 102 *e*P P 01 39 51.6 -2.0
comp=Z,28nm,0.4s,mb5.1
RDF Al-Radifah 23.70 104 *e*P P 01 39 52.5 -2.6
RDF AMb AMB 01 40 03.6
comp=Z,26nm,0.8s,mb4.7
RDF Al-Radifah 23.70 104 *e*P P 01 39 52.5 -2.6
comp=Z,26nm,0.8s,mb4.7
QRN Al-Qurain 24.07 104 *e*P P 01 39 56.2 -2.3
QRN AMb AMB 01 40 02.3
comp=Z,43nm,0.7s,mb5.0
FINES FINESS Array B 24.10 6 P P 01 39 56.3 -2.1
comp=Z,15nm,0.7s,mb4.6,baz=182,slow=9.4,SNR=83
FINES LR LR 01 50 31.3
comp=Z,552nm,19.0s,MS4.1,baz=294,slow=40
EKA Eskdalemuir Ar 24.17 325 P P 01 39 58.6 -0.5
comp=Z,9.1nm,0.7s,mb4.3,baz=124,slow=9.2,SNR=28
ESK Eskdalemuir 24.18 325 *e*P P 01 39 59.5 +0.3
NB2 NORSAR Subarra 24.30 348 P P 01 39 58.6 -1.6
comp=Z,6.7nm,0.6s,mb4.2,baz=156,slow=9.3
NOA NORSAR Array B 24.30 348 P P 01 39 58.8 -1.4
comp=Z,8.9nm,0.7s,mb4.3,baz=172,slow=12,SNR=25
JOF Joensuu 26.14 11 *e*p P 01 40 14.2 -2.7
comp=Z,8.1nm,0.5s,mb4.5
JOF Joensuu 26.14 11 *e*P P 01 40 14.2 -2.7
JOF pmax pmax
comp=Z,8.0nm,0.5s,mb4.5
TMCR Tamitsa 28.50 16 *e*P P 01 40 35.4 -2.7
TMCR pmax pmax
comp=Z,67nm,1.3s,mb5.1
AKTK Aktyubinsk 29.20 52 P P 01 40 43.0 -1.5
AKTK LR LR 01 54 42.8
AKTO Aktyubinsk 29.20 52 *i* P P 01 40 42.8 -1.7
AKTO Aktyubinsk 29.20 52 P P 01 40 43.0 -1.5
comp=Z,5.5nm,0.3s,mb4.8,baz=256,slow=8.7,SNR=28
AKTO LR LR 01 54 42.8
comp=Z,219nm,19.3s,MS3.8,baz=258,slow=41
APA Apatity 30.84 9 ⇓ *i*P P 01 41 02.7 +3.9
APA pmax pmax
comp=Z,10.0nm,0.8s,mb4.7
APA MLR MLR
comp=Z,1µm,13.0s,MS4.8
ARU Arti 31.23 41 *c i*P P 01 40 59.8 -2.5
ARU *e*PPP 01 42 11.3
ARU *e* 01 43 53.4
ARU *e*S S 01 46 03.4 -4.9
ARU pmax pmax
comp=Z,27nm,1.2s,mb5.0
ARU MLR MLR
comp=Z,355nm,14.0s,MS4.2
ARU Arti 31.23 41 *e*P P 01 40 59.7 -2.6
comp=Z,26nm,1.1s,mb5.0
ARCES ARCESS Array B 32.11 3 P P 01 41 08.2 -1.8
ARCES LR LR 01 55 11.7
ARCES ARCESS Array B 32.11 3 P P 01 41 08.2 -1.8
comp=Z,5.4nm,0.7s,mb4.5,baz=190,slow=11,SNR=86
ARCES LR LR 01 55 11.7
comp=Z,679nm,18.7s,MS4.4,baz=187,slow=39
KEV Kevo 32.40 4 *e*p P 01 41 10.0 -2.5
comp=Z,2.2nm,0.4s,mb4.3
KEV Kevo 32.40 4 *e*P P 01 41 10.0 -2.5
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.3
SVE Sverdlovsk 32.44 41 ⇑ *e*P P 01 41 11.7 -1.2
SVE pmax pmax
comp=Z,58nm,0.9s,mb5.4
SVE MLR MLR
comp=Z,491nm,12.0s,MS4.4
BRVK Borovoye 37.11 49 *e*P P 01 41 51.9 -1.5
BRVK pmax pmax
comp=Z,32nm,0.9s,mb5.2
BRVK Borovoye 37.11 49 *e*P P 01 41 51.9 -1.5
comp=Z,32nm,0.9s,mb5.2
BVAR Borovoye Array 37.17 49 P P 01 41 52.7 -1.2
comp=Z,9.4nm,0.6s,mb4.8,baz=256,slow=6.0,SNR=42
BVAR LR LR 02 00 43.7
comp=Z,120nm,18.8s,MS3.7,baz=103,slow=42
KK31 Karatay Array 37.64 66 *i* P P 01 41 56.1 -1.9
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.3
DBIC Dimbokro 38.75 224 P P 01 42 07.9 +0.3
comp=Z,29nm,0.8s,mb5.1,baz=13,slow=9.5,SNR=38
DBIC LR LR 01 59 06.1
comp=Z,165nm,18.9s,MS3.9,baz=1.1,slow=38
EKS2 Erkin-Say 40.08 66 *e*P P 01 42 17.4 -1.0
comp=Z,18nm,0.8s,mb4.9
AML Almayashu 40.12 67 *e*P P 01 42 17.8 -1.0
comp=Z,5.1nm,0.6s,mb4.4
AAK Ala-Archa 40.61 66 ⇑ *i*P P 01 42 20.8 -2.0
AAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
AAK Ala-Archa 40.61 66 P P 01 42 20.4 -2.3
comp=Z,2.9nm,0.3s,mb4.3,baz=305,slow=5.5,SNR=6.0
FRU Bishkek 40.66 65 *i* P P 01 42 28.0 +4.8
FRU pmax pmax
comp=Z,60nm,1.9s,mb4.9
UCH Uchtor 40.70 66 *e*P P 01 42 21.6 -2.0
comp=Z,12nm,1.3s,mb4.3
KMBO Kilima Mbogo 41.32 155 P P 01 42 30.6 +1.7
comp=Z,1.0nm,0.8s,baz=53,slow=20,SNR=2.2
KMBO LR LR 02 01 30.2
comp=Z,156nm,19.3s,baz=36,slow=39
TKM2 Tokmak 2 41.34 65 *e*P P 01 42 29.3 +0.4
TKM2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
TKM2 Tokmak 2 41.34 65 *e*P P 01 42 29.3 +0.4
comp=Z,5.1nm,0.9s,mb4.2
KBS Kingsbay 41.63 357 *e*P P 01 42 29.6 -1.2
KURK Kurchatov 42.29 53 *e*P P 01 42 34.7 -1.8
KURK pmax pmax
comp=Z,20nm,0.9s,mb4.8
KURK Kurchatov 42.29 53 *e*P P 01 42 34.7 -1.8
comp=Z,20nm,0.9s,mb4.7
NVS Novosibirsk 44.77 47 *e*P P 01 42 54.9 -1.5
NVS *e* 01 44 38.2
NVS pmax pmax
comp=N,12nm,1.3s
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS pmax pmax
comp=Z,35nm,1.3s,mb5.0
MK31 Makanchi Array 45.25 58 *i* P P 01 42 58.2 -2.1
MK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.6
MK31 Makanchi Array 45.25 58 *e*P P 01 42 58.1 -2.2
MK31 *e* 01 44 38.7
MKAR Makanchi Array 45.25 58 ⇑ *e*P P 01 42 58.5 -1.8
MKAR Makanchi Array 45.25 58 P P 01 42 58.5 -1.9
MKAR ScP ScP 01 48 31.7 -1.1
MKAR LR LR 02 05 08.7
MKAR Makanchi Array 45.25 58 P P 01 42 58.5 -1.8
comp=Z,4.6nm,0.4s,mb4.7,baz=273,slow=7.4,SNR=91
MKAR ScP ScP 01 48 31.7 -1.1
comp=Z,1.2nm,1.0s,baz=298,slow=2.6,SNR=4.2
MKAR LR LR 02 05 08.7
comp=Z,110nm,19.1s,MS3.8,baz=296,slow=40
ZAL Zalesovo 45.76 48 P P 01 43 02.1 -2.2
ZALV Zalesovo Beam 45.77 48 P P 01 43 02.1 -2.2
comp=Z,11nm,0.3s,mb5.2,baz=273,slow=8.2,SNR=49
ZALV LR LR 02 05 45.7
comp=Z,96nm,19.0s,MS3.8,baz=298,slow=41
WMQ Urumqi 49.67 61 *e*P P 01 43 37.0 +2.2
WMQ PP PP 01 45 32.0 +3.0
WMQ S S 01 50 42.0 -1.3
WMQ SS SS 01 54 10.0 -5.2
WMQ AMB AMB
comp=Z,24nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,72nm,5.0s
WMQ LR LR
comp=N,195nm,12.0s,MS4.4
WMQ LR LR
comp=E,156nm,12.0s,MS4.4
WMQ LR LR
comp=Z,124nm,11.0s,MS4.2
DANN Dangsing 52.54 81 *e*P P 01 43 55.0 -1.6
comp=Z,115nm,0.8s
KOLN Koldanda 52.68 81 *e*P P 01 43 55.7 -1.9
comp=Z,34nm,0.8s,mb5.3
GKN Gorkha 53.39 81 *e*P P 01 44 00.9 -1.9
comp=Z,21nm,0.6s,mb5.2
DMN Daman 53.94 81 *e*P P 01 44 04.9 -2.0
comp=Z,32nm,0.6s,mb5.4
GUN Gumba 54.40 80 *e*P P 01 44 08.6 -1.7
comp=Z,13nm,0.4s,mb5.2
ZAK Zakamensk 57.63 49 *e*P P 01 44 31.2 -1.8
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
SCHQ Schefferville 59.20 318 P P 01 44 42.8 -1.1
comp=Z,3.6nm,0.6s,mb4.6,baz=16,slow=6.0,SNR=13
GTA Gaotai 59.73 62 *e*P P 01 44 46.1 -1.7
GTA AP pP 01 44 56.3 +5.3
GTA XP sP 01 45 00.5 +8.3
GTA PP PP 01 46 59.1 -0.2
GTA S S 01 52 49.6 -9.0
GTA XS sS 01 53 06.4 +2.5
GTA AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
GTA AMB AMB
comp=Z,65nm,4.9s
GTA LR LR
comp=N,96nm,16.7s,MS4.2
GTA LR LR
comp=E,121nm,15.2s,MS4.2
GTA LR LR
comp=Z,97nm,13.3s,MS4.1
TIXI Tiksi 60.06 20 *e*P P 01 44 47.4 -2.2
TIXI pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
TIXI MLR MLR
comp=Z,769nm,16.0s,MS4.9
SONM Songino Array 60.50 50 P P 01 44 50.9 -2.1
comp=Z,1.1nm,0.6s,mb4.2,baz=290,slow=9.9,SNR=7.8
SONM LR LR 02 12 55.2
comp=Z,123nm,20.8s,MS4.0,baz=264,slow=38
BOD Bodaibo 60.58 38 *e*P P 01 44 50.9 -2.4
BOD pmax pmax
comp=Z,16nm,1.0s,mb5.1

ULN Ulaanbaatar 60.89 50 eP P 01 44 53.7 -1.9
LZH Lanzhou 64.08 63 eP P 01 45 16.1 -1.1
LZH AP pP 01 45 27.8 +7.4
LZH AMB AMB
comp=Z,19nm,1.0s,mb5.1
LZH AMB AMB
comp=Z,103nm,5.1s
BOSA Boshof 65.96 176 P P 01 45 29.7 +0.5
BOSA LR LR 02 16 22.4
BOSA Boshof 65.96 176 P P 01 45 29.7 +0.5
comp=Z,2.4nm,0.7s,mb4.3,baz=354,slow=5.6,SNR=5.9
BOSA LR LR 02 16 22.4
comp=Z,182nm,18.6s,MS4.3,baz=3.9,slow=38
CD2 Chengdu 66.59 68 eP P 01 45 34.5 +1.0
CD2 AP pP 01 45 44.8 +8.1
CD2 PP PP 01 48 02.9 +3.0
CD2 S S 01 54 20.7 -4.0
CD2 XS sS 01 54 37.7 +7.6
CD2 SS SS 01 58 39.1 -2.4
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,130nm,14.2s
CD2 LR LR
comp=Z,100nm,13.8s,MS4.2
HHC Hu-ho-hao-te 67.02 55 eP P 01 45 36.7 +0.7
HHC AP pP 01 45 47.0 +7.7
HHC XP sP 01 45 51.1 +11
HHC PCP PcP 01 46 05.6 +1.2
HHC PP PP 01 48 06.5 +3.2
HHC SCP 01 50 05.9
HHC S S 01 54 25.6 -4.0
HHC XS sS 01 54 41.9 +7.0
HHC SCS ScS 01 55 27.5 -6.2
HHC SS SS 01 58 44.8 -2.8
HHC AMB AMB
comp=Z,26nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,119nm,6.4s
HHC LR LR
comp=N,194nm,18.5s,MS4.7
HHC LR LR
comp=E,401nm,18.1s,MS4.7
HHC LR LR
comp=Z,262nm,19.5s,MS4.5
HIA Hailar 67.64 44 d iP P 01 45 39.2 -0.7
KMI Kunming 68.85 74 P P 01 45 49.5 +1.7
KMI AMB AMB
comp=Z,11nm,1.0s,mb4.7
CHTO Chiang Mai 69.34 82 eP P 01 45 49.9 -1.1
CHTO pmax pmax
comp=Z,16nm,1.0s,mb4.9
CHTO Chiang Mai 69.34 82 eP P 01 45 49.9 -1.1
comp=Z,16nm,1.0s,mb4.9
FCC Fort Churchill 69.99 330 eP P 01 45 54.4 +0.1
FCC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FCC Fort Churchill 69.99 330 eP P 01 45 54.4 +0.1
comp=Z,4.7nm,0.9s,mb4.4
BJI Beijing 70.44 54 P P 01 45 56.4 -1.0
BJI AMB AMB
comp=Z,4.0nm,0.3s,mb4.8
NANT Nan 70.73 81 ⇑P P 01 46 03.0 +3.5
comp=Z,90nm,1.0s,mb5.7
GYA Guiyang 71.10 71 P P 01 46 01.2 -0.5
GYA AP pP 01 46 13.8 +8.9
GYA PCP PcP 01 46 23.2 +1.3
GYA PP PP 01 48 41.7 +2.6
GYA S S 01 55 14.4 -4.0
GYA XS sS 01 55 32.6 +8.8
GYA PS 01 55 47.4
GYA SKS 01 55 57.9
GYA SCS ScS 01 56 01.0 -5.2
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,70nm,5.4s
GYA LR LR
comp=N,490nm,19.6s,MS4.9
GYA LR LR
comp=E,430nm,18.4s,MS4.9
GYA LR LR
comp=Z,480nm,19.0s,MS4.8
BILL Bilibino 71.51 13 ⇑iP P 01 46 02.2 -1.2
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
SEY Seymchan 72.54 21 ⇑iP P 01 46 09.2 -0.5
KKTK Khon Kaen 73.79 82 ⇑P P 01 46 22.0 +4.2
comp=Z,31nm,5.5s
CN2 Changchun 73.98 47 eP P 01 46 17.7 -0.8
CN2 eXP sP 01 46 32.0 +9.0
CN2 eS S 01 55 44.0 -6.7
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,10.0s,MS4.8
CN2 LR LR
comp=E,200nm,10.0s,MS4.8
CN2 LR LR
comp=Z,200nm,13.0s,MS4.6
KLR Kul'dur 74.06 40 eP P 01 46 13.0 -5.9
YKA Yellowknife Ar 74.11 340 P P 01 46 18.1 -0.8
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA MLR MLR
comp=Z,52nm,19.1s
YKA Yellowknife Ar 74.11 340 P P 01 46 18.1 -0.8
comp=Z,0.6nm,0.5s,mb3.8,baz=35,slow=5.5,SNR=19
YKA LR LR 02 19 46.6
comp=Z,52nm,19.1s,MS3.8,baz=205,slow=37
MA2 Magadan 74.67 24 ⇑iP P 01 46 21.8 -0.4
MA2 pmax pmax
comp=Z,14nm,1.3s,mb4.7
MA2 Magadan 74.67 24 eP P 01 46 21.4 -0.8
comp=Z,18nm,0.9s,mb5.0
MDJ Mudanjiang 75.83 44 P P 01 46 26.4 -2.8
MDJ AMB AMB
comp=Z,6.0nm,1.9s,mb4.2
MDJ AMB AMB
comp=Z,48nm,4.4s
ULM Lac du Bonnet 76.44 324 P P 01 46 33.4 +0.8
comp=Z,4.6nm,0.9s,mb4.4,baz=51,slow=3.9,SNR=3.6
IMA2 Indian Mountai 76.61 358 eP P 01 46 32.9 -0.3
NJ2 Nanjing 76.74 60 eP P 01 46 36.3 +1.7
PSI Prapat 78.67 95 P P 01 46 47.2 +1.6
comp=Z,3.9nm,0.7s,mb4.5,baz=316,slow=16,SNR=2.3
KSRS Korea Array 79.37 51 P P 01 46 47.8 -1.4
comp=Z,1.6nm,0.6s,mb4.2,baz=316,slow=4.8,SNR=7.7
KSRS LR LR 02 27 36.3
comp=Z,121nm,19.4s,MS4.2,baz=157,slow=40
YSS Yuzh-Sakhalins 81.00 36 ⇓iP P 01 47 02.9 +5.2
YSS eS S 01 57 13.0 +6.3
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.5
BDFB Brasilia 83.65 245 P P 01 47 13.1 +1.1
comp=Z,2.1nm,0.9s,mb4.3,baz=68,slow=19,SNR=6.1
BDFB LR LR 02 25 20.8
comp=Z,129nm,19.4s,MS4.3,baz=75,slow=36
LAO LASA Array 83.74 327 eP P 01 47 11.2 -0.9
comp=Z,5.1nm,0.7s,mb4.8
EGMT Eagleton 84.19 329 eP P 01 47 13.1 -1.2
comp=Z,18nm,1.3s,mb5.0
SDV Santo Domingo 86.00 278 eP P 01 47 20.9 -3.1
comp=Z,4.9nm,0.9s,mb4.7
MJAR Matsushiro Arr 86.09 46 P P 01 47 23.1 -1.0
comp=Z,1.5nm,0.8s,mb4.3,baz=300,slow=5.0,SNR=4.2
TXAR Lajitas Array 95.71 314 P P 01 48 09.1 -0.1
comp=Z,0.3nm,0.8s,mb3.8,baz=30,slow=7.3,SNR=2.9
WRA Warramunga Arr 120.07 93 PKP PKPdf 01 53 36.1 +1.9
comp=Z,0.7nm,0.7s,baz=317,slow=1.7,SNR=6.8
ASAR Alice Springs 121.67 97 PKP PKPdf 01 53 39.0 +1.8
comp=Z,1.0nm,0.7s,baz=324,slow=1.9,SNR=10

MAN 07 01:36:28,1759N×11973E,h19km,mb4.2,ML3.0,MS2.7, 2D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.94	86	eP	Pb	01 36 45.6	0.0
BOLP	Bolinao	1.22	172	eP	Pn	01 36 50.8	+0.8
BCPH	Baguio City Da	1.45	146	⇓eP	Pn	01 36 53.2	0.0
BCPH				iS	Sn	01 37 39.4	+28
APYP	Conner	1.46	79	eP	Pn	01 36 53.6	+0.2
APYP				eS	Sn	01 37 11.1	-1.0
CVP	Callao Caves	2.00	87	eP	Pn	01 37 01.5	+0.8
CVP				iS	Sn	01 37 25.7	+0.5
CAUP	Cauayan	2.10	108	eP	Pn	01 37 03.5	+1.4
BALP	Baler	2.55	136	eP	Pn	01 37 09.1	+0.7
NBP	Mount Natib	2.91	167	⇓eP	Pn	01 37 15.8	+2.5

IDC 07 01:42:07.7±7.8,740S×11795E,h260km±86km,mb2.7/4, mb1 2.9/5,mb1mx2.8/17,mbtmp2.7/5,Error ellipse: s-maj=116.5km s-min=28.2km az=57.0,Bali Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	6.30	117	S	S	01 44 56.1	+2.5
	5.2nm,0.3s,baz=180,slow=20,SNR=5.5						
FITZ	Fitzroy Crossi	13.01	146	P	Pn	01 45 04.8	+1.3
	0.2nm,0.3s,baz=329,slow=13,SNR=11						
FITZ				S	S	01 47 29.9	+1.8
	0.2nm,0.3s,baz=286,slow=20,SNR=6.5						
WRA	Warramunga Arr	20.20	130	P	P	01 46 23.0	-0.3
	0.2nm,0.3s,baz=301,slow=12,SNR=8.9						
ASAR	Alice Springs	22.27	138	P	P	01 46 43.5	+0.1
	0.6nm,0.6s,baz=311,slow=9.3,SNR=9.2						
SONM	Songino Array	55.93	351	P	P	01 51 19.2	+0.4
	0.6nm,0.6s,baz=172,slow=8.7,SNR=4.9						
MKAR	Makanchi Array	62.56	333	P	P	01 52 04.1	-0.1
	0.1nm,0.5s,baz=131,slow=5.9,SNR=3.3						

IDC 07 01:50:36.7±4.3,294S×13897E,h226km±55km,mb3.1/2, mb1 3.2/4,mb1mx3.0/12,mbtmp3.0/4,Error ellipse: s-maj=54.7km s-min=17.2km az=103.0

NEIC 07 01:50:18.1±2.2,246S×13893E,h35km,mb3.7/1,Error ellipse: s-maj=69.0km s-min=17.1km az=88.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	17.93	194	ePn	Pn	01 54 24.6	-0.2
	2.7nm,0.4s						
WRAB				eSn	Sn	01 57 36.9	-7.0
WRA	Warramunga Arr	17.95	194	P	Pn	01 54 25.0	0.0
	0.8nm,0.3s,baz=19,slow=12,SNR=19						
WRA				S	Sn	01 57 33.8	-10
	0.1nm,0.3s,baz=13,slow=24,SNR=6.2						
FITZ	Fitzroy Crossi	20.29	219	P	P	01 54 51.0	+0.1
	0.1nm,0.3s,baz=59,slow=12,SNR=2.7						
FITZ				S	S	01 58 25.3	-11
	0.1nm,0.3s,baz=335,slow=14,SNR=3.0						
ASAR	Alice Springs	21.64	193	P	P	01 55 05.8	+0.4
	2.7nm,0.9s,baz=22,slow=9.8,SNR=19						
MKAR	Makanchi Array	69.73	322	P	P	02 01 24.6	+0.1
	0.3nm,0.6s,baz=108,slow=7.7,SNR=4.7						

ISCJB 07 02:12:31.2±0.5,37.12N±0.08×135.2E±0.1,h381km±7km, mb3.7/7,Error ellipse: s-maj=16.2km s-min=11.1km az=37.1
IDC 07 02:12:32.0±1.5,37.12N×135.13E,h369km±23km,mb3.0/7, mb1 3.2/9,mb1mx3.0/23,mbtmp3.1/9,Error ellipse: s-maj=40.9km s-min=13.5km az=66.0
JMA 07 02:12:32.0±0.4,37.10N×135.23E,h378km±4km,M3.0
NEIC 07 02:12:32.1,37.10N×135.23E,h378km,MG3.0(JMA),After JMA.

ISC 07 02:12:32.1±0.5,37.12N±0.08×135.2E±0.1,h374km±7km,n22, σ0§65/27,mb3.3/7,1D,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSZ	Suzu	1.73	79	P	Pn	02 13 25.0	+1.1
JWT	Wachi	1.84	176	P	Pn	02 13 24.9	+0.2
JWT				S	S	02 14 06.1	-0.9
JGM	Miyama	1.86	139	P	Pn	02 13 25.1	+0.3
JGM				eS	S	02 14 06.2	-0.9
MAJO	Matsushiro	2.46	103	⇓iPn	Pn	02 13 29.4	+0.5
MAT	Matsushiro	2.46	103	P	Pn	02 13 29.3	+0.4
MAT				S	S	02 14 15.2	+0.6
MAT	Matsushiro	2.46	103	P	Pn	02 13 29.4	+0.5
MJAR	Matsushiro Arr	2.46	103	P	Pn	02 13 29.8	+0.9
MJAR	Matsushiro Arr	2.46	103	P	Pn	02 13 29.8	+0.9
	5.5nm,0.3s,baz=281,slow=9.3,SNR=75						
JSD	Sado	2.58	68	P	Pn	02 13 30.2	+0.5
JIE	Ise	2.98	156	P	Pn	02 13 33.6	+0.4
JOD2	Odawara 2	3.63	120	S	S	02 14 32.7	-0.3
JMK	Ichinoseki	5.07	67	P	Pn	02 13 53.6	+0.1
JMK				eS	S	02 14 59.0	-0.5
BSO1	Boso 1	5.28	116	P	Pn	02 13 54.3	-1.5
ERM	Erimo	7.83	49	ePn	Pn	02 14 24.1	-0.4
	6.3nm,0.5s						
ERM				eS	S	02 15 49.1	-7.3
ASAJ	Asahikawa	8.95	36	P	Pn	02 14 37.1	-0.5
	3.2nm,0.3s,baz=231,slow=13,SNR=5.3						
SONM	Songino Array	23.68	306	P	P	02 17 10.7	-0.8
	0.5nm,0.6s,mb2.9,baz=112,slow=10,SNR=5.2						
MKAR	Makanchi Array	39.86	301	P	P	02 19 30.6	-0.2
	0.7nm,0.5s,mb3.1,baz=96,slow=8.4,SNR=9.3						
BVAR	Borovoye Array	46.83	311	P	P	02 20 25.6	-0.1
	0.7nm,0.4s,mb3.2,baz=82,slow=6.3,SNR=5.3						
WRA	Warramunga Arr	56.76	181	P	P	02 21 38.2	-0.4
	1.5nm,0.4s,mb3.7,baz=358,slow=7.5,SNR=43						
ASAR	Alice Springs	60.48	181	P	P	02 22 04.8	+1.0
	0.3nm,0.4s,mb3.0,baz=16,slow=13,SNR=7.8						
FINES	FINESS Array B	66.36	330	P	P	02 22 42.0	+0.5
	0.7nm,0.4s,mb3.7,baz=56,slow=7.1,SNR=7.7						
AKASG	Malin Array Be	71.12	320	P	P	02 23 10.7	0.0
	0.2nm,0.4s,mb3.2,baz=52,slow=6.0,SNR=4.3						

IDC 07 02:34:22.5±3.1,3433N×8230E,h0km,mb3.4/3,mb1 3.7/4, mb1mx3.3/21,mbtmp3.5/4,ML3.3/1,Error ellipse: s-maj=153.7km s-min=28.0km az=66.0,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	Makanchi Array	12.45	360	Pn	Pn	02 37 22.6	+1.7
	0.2nm,0.3s,baz=184,slow=13,SNR=11						
BVAR	Borovoye Array	20.52	339	P	P	02 39 02.5	+0.4
	1.3nm,0.6s,baz=153,slow=9.7,SNR=7.9						
WRA	Warramunga Arr	73.23	129	P	P	02 45 56.0	+0.4
	0.5nm,0.9s,baz=324,slow=5.6,SNR=3.1						
YKA	Yellowknife Ar	82.55	8	P	P	02 46 45.9	-0.9
	0.2nm,0.6s,baz=338,slow=5.6,SNR=4.7						

BJI 07 03:04:30.3,937N×12601E,h79km,mB5.0,mb5.0,Ms4.6, Msz4.4
MOS 07 03:04:31.3±1.0,966N×12579E,h76km,mb5.5/32,Error ellipse: s-maj=10.7km s-min=5.3km az=115.3
IDC 07 03:04:36.4±0.5,953N×12576E,h108km±4km,mb4.6/26, mb1 4.7/28,mb1mx4.7/29,mbtmp4.7/28,MS3.5/9, Ms1 3.5/9,ms1mx3.4/29,Error ellipse: s-maj=15.1km s-min=7.4km az=75.0
ISCJB 07 03:04:36.2±0.3,958N±0.02×12591E±0.03,h122km±2km, mb5.2/118,Error ellipse: s-maj=5.5km s-min=3.5km az=163.5
MAN 07 03:04:37,954N×12578E,h110km,mb5.2,ML4.2,MS4.2
MAN INTENSITY II - BUTUAN CITY.
NEIC 07 03:04:39.2±0.9,951N×12576E,h134km±8km,mb5.1/38, Error ellipse: s-maj=6.7km s-min=4.2km az=71.0
NEIC Felt [II PIVS] at Butuan.
GCMT 07 03:04:39.2±0.4,972N×12569E,h128km±3km,MW5.0/68, Moment Tensor Solution. s22,c26; s68,c90; Duration: 0 Moment tensor: Scale 10[16]Nm; Mrr-2.50±.15; Mθθ1.51±.20; Mφφ0.99±.27; Mrθ0.63±.11; Mrφ-1.26±.17; Mθr-2.32±.14; Best double couple: Mo3.46600×10[16] NP1:φs112.00000°,δ28.00000°,λ-126.00000°. NP2: φs331.00000°,δ67.00000°,λ-72.00000°. Principal axes: T 3.2760, Plg20.0000°, Azm48.0000°; N 0.3890, Plg16.0000°, Azm145.0000°; P -3.6560, Plg64.0000°, Azm270.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

ISC 07 03:04:37.3±0.3,958N±0.02×12592E±0.03,h117km±2km, h108km±2.1km:pP-P,n376,σ0§98/385,mb5.2/118,25C-31D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.18	298	eP	Pn	03 05 00.4	-0.5
MSLP				eS	Sn	03 05 18.3	-0.6
BIPH	Bislig	1.45	162	⇓iP	Pn	03 05 03.1	-0.9
BIPH				iS	Sn	03 05 23.7	-0.6
CGP	Cagayan de Oro	1.64	227	⇓eP	Pn	03 05 05.3	-0.9
CGP				iS	Sn	03 05 21.0	-7.3
BUKP	Musuan	1.89	207	eP	Pn	03 05 09.1	-0.2
OCLP	Ormoc	1.95	319	eP	Pn	03 05 11.4	+1.4
TBP	Tagbilaran	2.03	273	⇑eP	Pn	03 05 09.6	-1.3
LLP	Lapu-Lapu	2.06	291	⇑eP	Pn	03 05 10.7	-0.6
LLP				iS	Sn	03 05 35.9	-1.5
BESP	Borongan	2.06	347	eP	Pn	03 05 12.3	+0.9
DMPH	Davao City--Mi	2.51	189	eP	Pn	03 05 16.7	-0.4
DAV	Davao City (W)	2.51	188	⇑iPn	Pn	03 05 17.7	+0.5
DAV				eSn	Sn	03 05 44.2	-3.6
MATI	Mati	2.64	173	eP	Pn	03 05 19.7	+0.9
SNPH	Sibulan	2.66	265	eP	Pn	03 05 18.0	-1.0
KCP	Kidapawan	2.68	198	⇑eP	Pn	03 05 19.2	-0.1
KCP				iS	Sn	03 05 51.1	-0.5
DCPH	Dipolog City	2.72	249	⇑iP	Pn	03 05 18.8	-1.1
CTBH	Cotabato--PC H	2.87	215	⇑iP	Pn	03 05 19.2	-2.5
CTBH				iS	Sn	03 05 43.9	-12
PAGZ	Pagadian	3.04	236	eP	Pn	03 05 23.2	-0.8
CNP	Catarman	3.16	337	eP	Pn	03 05 25.4	-0.3
GUIM	Jordan	3.44	288	eP	Pn	03 05 28.2	-1.1
GSPH	General Santos	3.60	196	⇓eP	Pn	03 05 31.0	-0.5
GSPH				eS	Sn	03 06 15.7	+2.4
RCP	Roxas	3.69	303	⇑eP	Pn	03 05 33.2	+0.6
PVCP	Virac	4.35	337	⇑iP	Pn	03 05 41.3	-0.2
OTRP	Odiongan	4.72	306	eP	Pn	03 05 46.5	+0.1
LUBP	Lubang	6.92	307	eP	Pn	03 06 18.0	+1.8
NBP	Mount Natib	7.43	314	⇑eP	Pn	03 06 25.1	+2.0
CAUP	Cauayan	8.34	332	eP	Pn	03 06 34.4	-1.0
MYLDM	Lahad Datu	8.55	240	⇑P	Pn	03 06 40.9	+2.5
KDM	Kudat	9.37	254	⇓P	Pn	03 06 51.7	+2.2
SDKM	Sandakan	9.49	246	⇓P	Pn	03 06 51.5	+0.4
TSM	Tawau	9.55	237	⇑P	Pn	03 06 53.8	+1.8
KKM	Kota Kinabalu	10.23	251	ePn	Pn	03 07 03.0	+2.0
KKM	Kota Kinabalu	10.23	251	⇓P	Pn	03 07 03.5	+2.5
BTM	Bintulu	14.24	244	⇓P	Pn	03 07 56.9	+3.3
SBUM	Sibu	15.35	243	⇑P	Pn	03 08 11.9	+4.2
KAPI	Kappang	15.74	203	P	Pn	03 08 12.5	-0.1
	955nm,1.0s,SNR=16						
KAPI	Kappang	15.74	203	P	Pn	03 08 13.3	+0.7
	SNR=7.9						
KAPI	Kappang	15.74	203	P	Pn	03 08 13.3	+0.7
	SNR=7.9						
KAPI	Kappang	15.74	203	P	Pn	03 08 13.3	+0.7
	SNR=7.9						
KAPI	Kappang	15.74	203	P	Pn	03 08 13.3	+0.7
	SNR=7.9						
JOW	Kunigami	17.31	7	P	Pn	03 08 35.1	+3.5
	9.5nm,0.3s,baz=190,slow=7.0,SNR=14						
KSM	Kuching	17.49	244	ePn	Pn	03 08 34.4	+0.5
KSM	Kuching	17.49	244	⇑P	Pn	03 08 35.6	+1.6
QIZ	Qiongzhong	18.18	303	P	P	03 08 41.3	+0.4
QIZ				S	S	03 12 04.2	+1.1
QIZ				AMB	AMB		
	comp=Z,71nm,0.9s						
QIZ				AMB	AMB		
	comp=Z,266nm,4.5s						
QIZ				LR	LR		
	comp=Z,221nm,21.7s						
QIZ	Qiongzhong	18.18	303	eP	P	03 08 41.6	+0.7
	comp=Z,94nm,1.0s						
GUMO	Guam	18.99	76	P	P	03 08 53.0	+3.2
	baz=162,slow=20,SNR=2.4						
GUMO				LR	LR	03 15 37.3	
	comp=Z,93nm,18.2s,baz=159,slow=34						
BATI	Kupang	19.78	187	P	P	03 08 59.0	+0.5
	comp=Z,19nm,0.3s,baz=276,slow=0.9,SNR=45						
KTGM	Kuala Trenggan	22.98	261	⇓P	P	03 09 32.2	+0.2
KAKA	Kakadu	23.07	164	eP	P	03 09 31.8	-1.0
	comp=Z,42nm,0.5s,mb5.0						
CBIJ	Chichi jima	23.23	39	P	P	03 09 35.7	+1.5
	comp=Z,98nm,0.6s,mb5.3,baz=308,slow=18,SNR=5.0						
MYKOM	Kota Tinggi	23.27	252	⇑P	P	03 09 35.5	+0.8
NJ2	Nanjing	23.30	345	eP	P	03 09 34.9	+0.1
NJ2				AP		03 09 48.9	
NJ2				PP		03 10 04.6	
NJ2				PPP		03 10 14.9	
NJ2				S	S	03 13 39.0	+0.6
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,9.4s						
NJ2				LR	LR		
	comp=N,1μm,22.4s						
NJ2				LR	LR		
	comp=E,650nm,20.4s						
NJ2				LR	LR		
	comp=Z,680nm,21.9s						
KKTK	Khon Kaen	23.47	289	P	P	03 09 36.0	-0.5
	comp=Z,370nm,0.5s,mb6.0						
KGM	Kluang	23.69	253	⇓P	P	03 09 39.9	+1.4
JNU	Nakatsue	23.87	10	P	P	03 09 40.6	+0.6
	comp=Z,4.1nm,0.5s,mb4.0,baz=260,slow=6.1,SNR=5.1						
JNU				LR	LR	03 17 39.8	
	comp=Z,84nm,19.5s,baz=195,slow=33						
GYA	Guiyang	24.78	315	P	P	03 09 50.7	+2.4
GYA				AP		03 10 03.6	
GYA				PP		03 10 27.4	
GYA				PPP		03 10 38.2	
GYA				PCP	PcP	03 13 26.3	+4.3
GYA				S	S	03 14 07.4	+5.1
GYA				SS		03 15 05.9	
GYA				SSS		03 15 22.6	
GYA				PCS	PcS	03 17 05.4	+3.1
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,140nm,5.2s						
GYA				LR	LR		
	comp=N,880nm,12.4s						
GYA				LR	LR		
	comp=E,680nm,14.2s						
GYA				LR	LR		
	comp=Z,840nm,16.0s						
FRIM	Kepong	24.94	257	⇓P	P	03 09 50.8	+0.9
IPM	Ipoh	25.21	260	⇓P	P	03 09 52.6	+0.3
KULM	Kulim	25.41	262	⇓P	P	03 09 55.3	+1.1
NST	Nakhon Sawan	25.86	286	P	P	03 09 57.5	-0.7
	comp=Z,96nm,0.9s,mb5.2						
JHJ	Hachijo jima 2	26.69	27	LR	LR	03 18 46.1	
	comp=Z,98nm,20.0s,baz=42,slow=32						
KMI	Kunming	26.92	308	P	P	03 10 08.4	+0.8
KMI				S	S	03 14 43.1	+7.0
KMI				AMB	AMB		
	comp=Z,23nm,0.8s,mb4.8						
KMI				LR	LR		
	comp=N,125nm,16.6s						
KMI				LR	LR		
	comp=E,125nm,19.3s						
KMI				LR	LR		
	comp=Z,166nm,23.8s						
FITZ	Fitzroy Crossi	27.50	181	eP	P	03 10 11.6	-1.2
	comp=Z,18nm,0.6s,mb4.8						
FITZ				ePCP	PcP	03 13 27.6	-0.8
FITZ	Fitzroy Crossi	27.50	181	P	P	03 10 11.9	-0.9
	comp=Z,16nm,0.9s,mb4.5,baz=15,slow=11,SNR=39						
FITZ				PcP	PcP	03 13 27.6	-0.8
	comp=Z,3.1nm,0.6s,baz=108,slow=9.6,SNR=3.5						
PSI	Prapat	27.65	258	P	P	03 10 14.6	+0.3
	comp=Z,13nm,0.7s,mb4.6,baz=70,slow=4.3,SNR=18						
PSI				PcP	PcP	03 13 28.9	-0.1
	comp=Z,13nm,0.9s,baz=230,slow=1.4,SNR=7.8						
KSRS	Korea Array	27.81	3	P	P	03 10 16.4	+0.9
	comp=Z,4.8nm,0.7s,mb4.2,baz=182,slow=10,SNR=19						
KSRS				pP	pP	03 10 38.5	-2.4
	comp=Z,4.9nm,1.0s,baz=181,slow=10,SNR=3.3						
KSRS				PcP	PcP	03 13 29.2	+0.4
	comp=Z,0.8nm,0.4s,baz=180,slow=2.4,SNR=5.7						
KSRS				ScP	ScP	03 17 00.1	+1.1
	comp=Z,1.6nm,0.8s,baz=171,slow=3.8,SNR=6.0						
KSRS				LR	LR	03 20 24.9	
	comp=Z,62nm,19.0s,baz=185,slow=34						
XAN	Xi'an	28.92	330	P	P	03 10 24.7	-0.6
XAN				AMB	AMB		
	comp=Z,12nm,0.6s,mb4.7						
MJAR	Matsushiro Arr	29.07	21	P	P	03 10 26.5	-0.1
MJAR						03 13 32.9	
MJAR	Matsushiro Arr	29.07	21	P	P	03 10 26.5	-0.1

comp=Z,3.5nm,0.8s,mb4.1,baz=189,slow=9.9,SNR=11
MJAR PcP PcP 03 13 32.9 +0.9
comp=Z,0.4nm,0.3s,baz=212,slow=4.5,SNR=4.9
MJAR LR LR 03 22 15.8
comp=Z,84nm,18.4s,baz=60,slow=36
DL2 Dalian 29.45 353 P **P 03 10 30.5 +0.5**
DL2 AMB AMB
comp=Z,20nm,0.7s,mb4.9
CD2 Chengdu 29.59 319 *e*P **P 03 10 32.7 +1.4**
CD2 AP pP 03 10 46.3 -11
CD2 PP PP 03 11 30.2 -10
CD2 PCP PcP 03 13 35.9 +2.4
CD2 S **S 03 15 25.7 +7.7**
CD2 SS SS 03 17 02.0 -27
CD2 PCS PcS 03 17 17.9 +1.1
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,40nm,4.2s
CD2 LR LR
comp=N,180nm,12.0s
CD2 LR LR
comp=Z,200nm,9.6s
WRAB Tennant Creek 30.48 164 P **P 03 10 39.9 +0.7**
comp=Z,87nm,0.7s,mb5.5,SNR=12
WRAB Tennant Creek 30.48 164⇓*i*P **P 03 10 38.9 -0.3**
WRAB Tennant Creek 30.48 164 *e*P **P 03 10 38.6 -0.6**
WRA Warramunga Arr 30.48 164 P **P 03 10 38.6 -0.6**
WRA *PP pP 03 11 02.0 -2.9
WRA 03 13 36.3
WRA Warramunga Arr 30.48 164 P **P 03 10 38.6 -0.6**
comp=Z,6.7nm,0.6s,mb4.5,baz=345,slow=9.4,SNR=85
WRA pP pP 03 11 02.0 -2.9
comp=Z,7.3nm,0.8s,baz=335,slow=10,SNR=6.6
WRA PcP PcP 03 13 36.3 +0.4
comp=Z,3.6nm,0.8s,baz=344,slow=3.1,SNR=6.2
WRA PKiKP PKiKP 03 21 06.3 -1.0
comp=Z,0.5nm,0.8s,baz=314,slow=1.4,SNR=4.8
WB2 Warramunga Arr 30.49 164 *e*P **P 03 10 39.2 -0.1**
WB2 *e*PCP PcP 03 13 36.5 +0.6
WB2 *e*S **S 03 15 22.5 -10**
MBWA Marble Bar 31.14 191 *e*P **P 03 10 43.9 -1.2**
comp=Z,34nm,0.8s,mb5.1
BJT Baijiatuau 31.53 346 *e*P **P 03 10 48.0 -0.3**
BJT pmax pmax
comp=Z,10.0nm,0.5s
BJT Baijiatuau 31.53 346 *e*P **P 03 10 48.0 -0.3**
comp=Z,10.0nm,0.5s,mb4.8
BJI Beijing 31.55 346 P **P 03 10 48.1 -0.4**
BJI AMB AMB
comp=Z,24nm,0.8s,mb5.0
SNY Shenyang 32.19 357 ⇓P **P 03 10 54.8 +0.8**
SNY AMB AMB
comp=Z,37nm,0.7s,mb5.2
LZH Lanzhou 33.15 326 *e*P **P 03 11 02.9 +0.4**
LZH AP pP 03 11 17.7 -11
LZH PP PP 03 12 15.0 -4.7
LZH PCP PcP 03 13 44.5 +1.6
LZH *e*S **S 03 16 18.0 +4.6**
LZH PCS PcS 03 17 29.0 +0.5
LZH SS SS 03 18 20.5 -21
LZH AMB AMB
comp=Z,16nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,90nm,5.0s
LZH LR LR
comp=E,527nm,12.4s
LZH LR LR
comp=Z,826nm,14.5s
ASAR Alice Springs 33.95 167 P **P 03 11 09.2 -0.3**
comp=Z,15nm,0.7s,mb5.0,baz=343,slow=6.8,SNR=167
ASAR pP pP 03 11 33.8 -1.6
comp=Z,5.0nm,0.9s,baz=7.4,slow=8.3,SNR=3.1
ASAR PcP PcP 03 13 45.7 +0.3
comp=Z,5.2nm,0.7s,baz=342,slow=2.7,SNR=11
ASAR S **S 03 16 23.1 -2.9**
comp=Z,1.9nm,0.9s,baz=353,slow=22,SNR=4.7
CN2 Changchun 34.10 359 *e*P **P 03 11 09.9 -0.7**
CN2 *e*S **S 03 16 33.9 +6.1**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
MDJ Mudanjiang 35.05 5 P **P 03 11 18.8 0.0**
MDJ PP PP 03 12 38.5 -2.2
MDJ S **S 03 16 48.8 +6.3**
MDJ PCS PcS 03 17 37.2 +2.2
MDJ AMB AMB
comp=Z,29nm,1.4s,mb4.9
MDJ AMB AMB
comp=Z,29nm,4.2s
MDJ Mudanjiang 35.05 5⇓*e*P **P 03 11 20.0 +1.2**
comp=Z,14nm,0.8s,mb4.8
CTA Charters Tower 35.63 146 *e*P **P 03 11 25.1 +1.0**
comp=Z,24nm,1.1s,mb5.0
CTA *e*PCP PcP 03 13 51.8 +1.5
CTA Charters Tower 35.63 146 *e*P **P 03 11 25.1 +1.0**
CTA *e* 03 13 51.8
CTA pmax pmax
comp=Z,24nm,1.1s
CTAO Charters Tower 35.63 146 *e*P **P 03 11 24.7 +0.6**
CTAO pmax pmax
comp=Z,64nm,1.2s,mb5.4
CTAO Charters Tower 35.63 146 *e*P **P 03 11 24.7 +0.6**
comp=Z,64nm,1.2s,mb5.4
SHL Shillong 35.99 301 *e*P **P 03 11 27.0 -0.1**
GTA Gaotai 37.75 326 *e*P **P 03 11 41.9 0.0**
GTA PP PP 03 13 12.5 +2.1
GTA PCP PcP 03 13 57.8 +1.4
GTA S **S 03 17 31.1 +7.3**
GTA SS SS 03 20 09.6 -4.8
GTA AMB AMB
comp=Z,10.0nm,1.2s,mb4.5
GTA AMB AMB
comp=Z,105nm,5.3s
GTA LR LR
comp=N,114nm,18.3s
GTA LR LR
comp=E,134nm,16.7s
GTA LR LR
comp=Z,124nm,19.0s
LSA Lhasa 38.15 307 P **P 03 11 47.0 +1.7**
LSA Lhasa 38.15 307 *e*P **P 03 11 46.4 +1.1**
LSA pmax pmax
comp=Z,40nm,0.6s,mb5.4
LSA Lhasa 38.15 307 *e*P **P 03 11 46.4 +1.1**
comp=Z,40nm,0.6s,mb5.4
HABR Khabarovsk 39.52 10 *e*P **P 03 11 54.9 -1.6**
HABR *e* 03 12 13.4
HABR *e* 03 13 25.7
HABR *e* 03 14 01.3
HABR *e*S **S 03 17 53.1 +3.0**
HABR *e* 03 20 49.4
HABR *e* 03 21 57.8
KLR Kul'dur 39.83 6 *e*P **P 03 11 55.1 -3.9**
KLR pmax pmax
comp=Z,30nm,1.2s,mb5.0
HIA Hailar 39.90 354 *e*P **P 03 11 58.5 -1.1**
YSS Yuzh-Sakhalins 39.91 18 *i*P **P 03 11 58.9 -0.8**
FORT Forrest 40.18 177 *e*P **P 03 12 02.3 +0.2**
comp=Z,179nm,0.5s,mb6.2
FORT *e*PCP PcP 03 14 04.8 +0.6
BOK Bokaro 40.71 295 *e*P **P 03 12 07.7 +1.0**
BOK AMb AMB 03 12 09.2
comp=Z,66nm,0.8s,mb5.5
ULN Ulaanbaatar 41.35 341⇑*e*P **P 03 12 10.8 -0.8**
JIRN Jiri 41.48 301 *e*P **P 03 12 13.7 +0.7**
comp=Z,243nm,0.3s
SONM Songino Array 41.55 340 P **P 03 12 12.8 -0.3**
SONM *PP pP 03 12 38.9 -0.8
SONM 03 14 08.5
SONM Songino Array 41.55 340 P **P 03 12 12.8 -0.3**
SONM pP pP 03 12 38.9 -0.8
SONM PcP PcP 03 14 08.5 +0.2
SONM ScP ScP 03 17 48.6 +0.8
SONM Songino Array 41.55 340 P **P 03 12 12.8 -0.3**
comp=Z,1.6nm,0.5s,mb4.0,baz=152,slow=9.2,SNR=15
SONM pP pP 03 12 38.9 -0.8
comp=Z,1.9nm,0.7s,baz=154,slow=7.3,SNR=3.5
SONM PcP PcP 03 14 08.5 +0.2
comp=Z,4.8nm,0.8s,baz=156,slow=3.0,SNR=9.5
SONM ScP ScP 03 17 48.6 +0.8
comp=Z,0.8nm,0.8s,baz=151,slow=3.3,SNR=4.7
KLBR Kellerberrin 41.67 190 *e*P **P 03 12 13.6 -0.8**
comp=Z,63nm,0.6s,mb5.5
GUN Gumba 41.82 301 *e*P **P 03 12 16.2 +0.5**
comp=Z,152nm,0.4s,mb6.0

VIS Vishakhapatnam 42.09 286 *e*P **P 03 12 18.6 +0.6**
VIS AMb AMB 03 12 21.6
comp=Z,40nm,0.9s,mb5.2
PKI Pulchoki 42.12 301 *e*P **P 03 12 18.0 -0.1**
comp=Z,60nm,0.3s,mb5.7
PKIN Phulchoki 42.13 301 *e*P **P 03 12 17.9 -0.3**
KKN Kakani 42.29 301 *e*P **P 03 12 19.8 +0.3**
comp=Z,77nm,0.5s,mb5.7
MUN Mundaring 42.35 192 *e*P **P 03 12 17.4 -2.4**
DMN Daman 42.39 301 *e*P **P 03 12 20.4 +0.1**
comp=Z,42nm,0.4s,mb5.5
EIDS Eidsvold 42.51 145 *e*P **P 03 12 21.1 -0.2**
comp=Z,10nm,0.9s,mb4.5
GKN Gorkha 42.90 301 *e*P **P 03 12 24.1 -0.3**
comp=Z,106nm,0.4s,mb6.0
NWAO Narrogin (SRO) 43.07 191 *e*P **P 03 12 25.7 +0.1**
KOLN Koldanda 43.71 300 *e*P **P 03 12 31.2 +0.2**
DANN Dangsing 43.74 301 *e*P **P 03 12 31.3 +0.1**
comp=Z,119nm,0.3s,mb6.2
BLSP Bilaspur 43.77 292 *e*P **P 03 12 32.2 +0.7**
BLSP AMb AMB 03 12 33.0
comp=Z,71nm,1.0s,mb5.3
STKA Stephens Creek 43.86 161⇓*i*P **P 03 12 32.6 +0.6**
comp=Z,26nm,0.8s,mb5.0
STKA *e*PCP PcP 03 14 17.2 +0.8
STKA Stephens Creek 43.86 161 P **P 03 12 32.6 +0.6**
comp=Z,13nm,0.3s,mb5.2,baz=339,slow=7.8,SNR=79
STKA PcP PcP 03 14 16.6 +0.2
comp=Z,5.3nm,0.5s,baz=359,slow=2.4,SNR=2.9
PALK Pallekele 44.76 271 *e*P **P 03 12 40.7 +1.1**
comp=Z,31nm,1.0s,mb5.0
ZAK Zakamensk 44.78 340 *e*P **P 03 12 35.7 -3.4**
ZAK *e* 03 14 19.1
ZAK pmax pmax
comp=Z,1.0nm,0.9s
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.1
NGP Nagpur 46.47 290 *e*P **P 03 12 53.4 +0.5**
NGP AMb AMB 03 12 55.2
comp=Z,63nm,0.6s,mb5.5
HYB Hyderabad 46.61 285 *e*P **P 03 12 55.0 +1.0**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.2
HYB Hyderabad 46.61 285 *e*P **P 03 12 55.0 +1.0**
comp=Z,50nm,1.0s,mb5.2
HYB Hyderabad 46.61 285 *i* P **P 03 12 55.0 +1.0**
comp=Z,50nm,1.0s,mb5.2
MOY Mondy 46.66 339 *e*P **P 03 12 53.3 -0.5**
ARMA Armidale 46.82 149 *e*P **P 03 12 56.6 +1.2**
WMQ Urumqi 47.55 323 P **P 03 13 02.0 +1.0**
WMQ PP PP 03 14 53.0 -0.4
WMQ S **S 03 19 54.0 +6.7**
WMQ SS SS 03 23 16.0 -0.8
WMQ AMB AMB
comp=Z,38nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,124nm,5.0s
WMQ LR LR
comp=N,124nm,14.0s
WMQ LR LR
comp=E,102nm,14.0s
WMQ LR LR
comp=Z,815nm,14.0s
KOD Kodaikanal 47.70 275 *e*P **P 03 13 02.9 +0.4**
KOD AMb AMB 03 13 05.1
comp=Z,66nm,1.0s,mb5.4
BHPL Bhopal 48.24 293 *e*P **P 03 13 06.0 -0.6**
BHPL AMb AMB 03 13 08.2
comp=Z,56nm,0.6s,mb5.6
AKL Akola 48.31 289 *e*P **P 03 13 08.5 +1.3**
AKL AMb AMB 03 13 09.4
comp=Z,82nm,0.8s,mb5.6
TRD Trivandrum 48.33 273 *e*P **P 03 13 06.0 -1.4**
TRD AMb AMB 03 13 09.6
comp=Z,78nm,1.1s,mb5.5
LATR Latur 48.56 286 *e*P **P 03 13 09.7 +0.5**
LATR AMb AMB 03 13 11.2
comp=Z,95nm,0.8s,mb5.8
BOD Bodaibo 49.00 352 *e*P **P 03 13 11.3 -0.5**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
RIV Riverview 49.38 152 *e*P **P 03 13 17.4 +2.3**
NDI New Delhi 49.39 300 *e*P **P 03 13 13.8 -1.5**
NDI *e*P 03 13 14.0
NDI AMb AMB 03 13 14.6
comp=Z,73nm,0.5s,mb5.9
CNB Canberra Magne 49.85 155 *e*P **P 03 13 20.4 +1.9**
comp=Z,68nm,0.9s,mb5.6
PET Petropavlovsk 50.74 25 *e*P **P 03 13 23.8 -1.2**
PET pmax pmax
comp=Z,8.0nm,1.3s,mb4.6
POO Poona 51.14 286 *e*P **P 03 13 28.1 -0.6**
POO AMb AMB 03 13 30.2
comp=Z,30nm,0.8s,mb5.4
AJM Ajmer 51.22 296 *e*P **P 03 13 29.1 0.0**
AJM AMb AMB 03 13 31.3
comp=Z,44nm,0.9s,mb5.5
THN Thein Dam 51.53 304 *e*P **P 03 13 29.8 -1.6**
MK31 Makanchi Array 52.37 323 *e*P **P 03 13 37.3 0.0**
MKAR Makanchi Array 52.37 323 P **P 03 13 37.1 -0.2**
MKAR *PP pP 03 14 03.7 -1.2
MKAR 03 14 46.6
MKAR Makanchi Array 52.37 323 P **P 03 13 37.1 -0.1**
comp=Z,29nm,0.6s,mb5.5,baz=124,slow=8.1,SNR=433
MKAR pP pP 03 14 03.7 -1.2
comp=Z,3.9nm,0.7s,baz=132,slow=8.6,SNR=2.2
MKAR PcP PcP 03 14 46.6 -0.2
comp=Z,11nm,0.7s,baz=114,slow=4.0,SNR=10
MKAR LR LR 03 36 45.7
comp=Z,52nm,18.9s,baz=354,slow=37
YAK Yakutsk 52.43 2 *e*P **P 03 13 37.0 -0.4**
YAK *e*PP pP 03 14 01.0 -4.1
YAK *e* 03 14 50.3
YAK *e* 03 15 37.1
YAK *e*PPP 03 16 39.9
YAK *e*S **S 03 20 52.3 -2.1**
YAK *e* 03 23 10.8
YAK *e*SS SS 03 24 36.2 +2.4
YAK pmax pmax
comp=Z,55nm,0.8s,mb5.6
YAK pmax pmax
comp=N,30nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.3s
YAK pmax pmax
comp=Z,81nm,5.2s
YAK pmax pmax
comp=N,57nm,4.4s
YAK pmax pmax
comp=E,68nm,4.1s
YAK smax
comp=N,74nm,2.0s
YAK smax
comp=E,50nm,1.9s
YAK Yakutsk 52.43 2 *e*P **P 03 13 37.9 +0.4**
comp=E,69nm,0.9s,mb5.7
MA2 Magadan 53.29 15⇑*e*P **P 03 13 44.0 +0.2**
MA2 pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KSH Kashi 53.44 313 *e*P **P 03 13 47.0 +1.7**
KSH *e*PCP PcP 03 14 55.0 +4.0
KSH *e*PP PP 03 15 48.1 +1.2
KSH *e*PCS PcS 03 18 52.0 +2.0
KSH *e*S **S 03 21 13.7 +4.9**
KSH *e*SS SS 03 24 51.2 +0.7
KSH AMB AMB
comp=Z,361nm,2.2s,mb6.0
KSH LR LR
comp=N,540nm,5.2s
KSH LR LR
comp=E,532nm,5.4s
KSH LR LR
comp=Z,538nm,6.3s
ULHL Ulahol 54.23 316 P **P 03 13 51.8 +0.9**
SNR=11
KZA Kyzart 54.85 315 P **P 03 13 56.9 +1.4**
SNR=19
TKM2 Tokmak 2 54.92 316⇓*e*P **P 03 13 56.4 +0.4**
TKM2 pmax pmax
comp=Z,12nm,0.8s,mb5.0
TKM2 Tokmak 2 54.92 316⇓*e*P **P 03 13 56.4 +0.4**
comp=Z,12nm,0.8s,mb5.0
TKM2 Tokmak 2 54.92 316 P **P 03 13 56.6 +0.6**
SNR=14
ZALV Zalesovo Beam 55.06 332 P **P 03 13 55.8 -1.0**

ZALV PcP PcP 03 14 55.7 -1.2
ZALV ScP ScP 03 18 42.9 -2.0
ZALV LR LR 03 40 33.5
ZALV Zalesovo Beam 55.06 332 P **P 03 13 55.8 -1.0**
comp=Z,9.8nm,0.5s,mb5.1,baz=128,slow=7.0,SNR=27
ZALV PcP PcP 03 14 55.7 -1.2
comp=Z,2.8nm,0.4s,baz=111,slow=3.3,SNR=4.3
ZALV ScP ScP 03 18 42.9 -2.0
comp=Z,0.8nm,0.3s,baz=117,slow=5.2,SNR=4.1
ZALV LR LR 03 40 33.5
comp=Z,24nm,18.3s,baz=107,slow=39
ZAL Zalesovo 55.07 332 P **P 03 13 55.8 -1.0**
ZAL 03 14 55.7
KBK Karagaybulak 55.27 316 P **P 03 13 59.6 +1.2**
SNR=24
BHJ Bhuj 55.34 292 *e*P **P 03 13 59.1 -0.3**
BHJ AMb AMB 03 14 03.7
comp=Z,50nm,1.0s,mb5.5
UCH Uchtor 55.41 315⇓*i*P **P 03 14 00.5 +0.9**
comp=Z,47nm,0.8s,mb5.6
UCH Uchtor 55.41 315 P **P 03 14 00.7 +1.2**
SNR=71
CHMS Chumysh 55.52 316 P **P 03 14 00.5 +0.2**
SNR=12
FRU Bishkek 55.56 316 *e*P **P 03 14 00.0 -0.5**
FRU *e* pP 03 14 32.0 +3.5
AAK Ala-Archa 55.57 316 P **P 03 14 00.7 +0.1**
comp=Z,79nm,0.4s,mb6.1,SNR=9.4
AAK Ala-Archa 55.57 316 *e*P **P 03 13 59.9 -0.7**
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.8 +0.2**
SNR=9.1
AAK Ala-Archa 55.57 316 P **P 03 14 00.2 -0.5**
comp=Z,6.7nm,0.3s,mb5.1,baz=130,slow=7.1,SNR=15
AAK Ala-Archa 55.57 316 P **P 03 14 01.0 +0.3**
SNR=7.7
USP Ospenovka 55.79 316 P **P 03 14 02.1 -0.1**
SNR=26
AML Almayashu 55.95 315 *e*P **P 03 14 04.1 +0.7**
comp=Z,98nm,1.3s,mb5.7
AML Almayashu 55.95 315 P **P 03 14 04.7 +1.3**
SNR=37
EKS2 Erkin-Say 56.08 315⇓*e*P **P 03 14 04.8 +0.6**
comp=Z,28nm,0.9s,mb5.3
EKS2 Erkin-Say 56.08 315 P **P 03 14 05.1 +0.9**
SNR=22
NVS Novosibirsk 56.34 332 *e*P **P 03 14 04.7 -1.2**
NVS pmax pmax
comp=N,10.0nm,1.0s
NVS pmax pmax
comp=E,13nm,1.0s
NVS pmax pmax
comp=Z,19nm,1.0s,mb5.1
KURK Kurchatov 56.44 326 P **P 03 14 06.3 -0.4**
comp=Z,516nm,0.6s,SNR=37
KURK Kurchatov 56.44 326⇑*e*P **P 03 14 06.2 -0.5**
KURK Kurchatov 56.44 326 *e*P **P 03 14 06.0 -0.6**
KURK Kurchatov 56.44 326 P **P 03 14 06.7 0.0**
SNR=24
KURK Kurchatov 56.44 326 P **P 03 14 06.7 0.0**
SNR=24
SEY Seymchan 56.57 14⇑*e*P **P 03 14 07.2 -0.2**
KBL Kabul 57.44 305 *e*P **P 03 14 14.3 +0.3**
KK31 Karatay Array 58.49 315 *i* P **P 03 14 20.6 -0.6**
KK31 pmax pmax
comp=Z,11nm,0.5s,mb5.1
BVAR Borovoye Array 62.04 326 P **P 03 14 44.9 -0.3**
comp=Z,18nm,0.6s,mb5.3,baz=120,slow=8.5,SNR=12
TIXI Tiksi 62.05 1 *e*P **P 03 14 42.9 -2.0**
TIXI *e*S **S 03 22 59.2 -0.9**
TIXI pmax pmax
comp=Z,65nm,1.0s,mb5.6
TIXI Tiksi 62.05 1⇓*e*P **P 03 14 44.8 -0.1**
comp=Z,70nm,1.0s,mb5.7
BRVK Borovoye 62.11 326 P **P 03 14 45.3 -0.3**
comp=Z,341nm,0.8s,mb6.4,SNR=12
BRVK Borovoye 62.11 326⇓*e*P **P 03 14 45.1 -0.5**
BRVK pmax pmax
comp=Z,86nm,1.1s,mb5.7
BRVK Borovoye 62.11 326⇓*e*P **P 03 14 45.1 -0.5**
comp=Z,86nm,1.1s,mb5.7
BRVK Borovoye 62.11 326 P **P 03 14 45.5 -0.1**
SNR=16
BRVK Borovoye 62.11 326 P **P 03 14 45.5 -0.1**
SNR=16
BRVK Borovoye 62.11 326 P **P 03 14 45.5 -0.1**
SNR=16
BRVK Borovoye 62.11 326 P **P 03 14 45.5 -0.1**
SNR=16
BRVK Borovoye 62.11 326 P **P 03 14 45.5 -0.1**
SNR=16
BRVK Borovoye 62.11 326 P **P 03 14 45.5 -0.1**
SNR=16
BILL Bilibino 64.16 16 *e*P **P 03 14 59.8 +0.9**
BILL pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
BILL Bilibino 64.16 16 *e*P **P 03 14 59.8 +0.9**
comp=Z,8.1nm,0.6s,mb4.7
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
BIDO Bidbid 65.93 291 P **P 03 15 11.2 -0.1**
SNR=15
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
JMDO Jabal Madar 65.97 290 P **P 03 15 11.0 -0.4**
SNR=5.2
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
HOQ Hoqain 66.68 292 P **P 03 15 16.0 -0.1**
SNR=7.8
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4

BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
BSY Bisya 66.80 291 P **P 03 15 16.6 -0.1**
SNR=6.4
SVE Sverdlovsk 68.60 328 *eP* **P 03 15 27.3 -0.1**
SVE pmax pmax
comp=Z,39nm,0.7s,mb5.3
AKTK Aktyubinsk 68.63 320 P **P 03 15 27.4 -0.4**
AKTO Aktyubinsk 68.63 320 P **P 03 15 27.4 -0.4**
comp=Z,5.1nm,0.4s,mb4.7,baz=31,slow=5.9,SNR=8.4
ARU Arti 69.61 327 P **P 03 15 32.4 -1.3**
comp=Z,298nm,0.6s,mb6.3,SNR=6.8
ARU Arti 69.61 327 *c iP* **P 03 15 32.7 -1.0**
ARU *e* 03 18 02.8
ARU *eS* S 03 24 38.1 +5.6
ARU *e*SS SS 03 29 06.7 +4.3
ARU pmax pmax
comp=Z,33nm,0.7s,mb5.3
ARU Arti 69.61 327 ⇓ *eP* **P 03 15 32.6 -1.0**
comp=Z,30nm,0.7s,mb5.2
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
RBK Rabkut 69.83 285 P **P 03 15 36.2 +0.4**
SNR=6.3
ABTO Aybut 70.71 285 P **P 03 15 41.4 +0.3**
SNR=6.3
ABTO Aybut 70.71 285 P **P 03 15 41.4 +0.3**
SNR=6.3
ABTO Aybut 70.71 285 P **P 03 15 41.4 +0.3**
SNR=6.3
ABTO Aybut 70.71 285 P **P 03 15 41.4 +0.3**
SNR=6.3
ABTO Aybut 70.71 285 P **P 03 15 41.4 +0.3**
SNR=6.3
ABTO Aybut 70.71 285 P **P 03 15 41.4 +0.3**
SNR=6.3
FALS False Pass 71.12 35 *eP* **P 03 15 45.9 +3.1**
comp=Z,368nm,0.7s,mb6.3
SDPT Sand Point 72.86 35 *eP* **P 03 15 54.6 +1.3**
comp=Z,132nm,1.3s,mb5.6
SDPT LR LR
comp=Z,100nm,17.0s
UMR Umm Al-Rimmam 75.12 298 *eP* **P 03 16 06.0 -1.0**
UMR AMb AMB 03 16 07.1
comp=Z,83nm,0.5s,mb5.7
RDF Al-Radifah 75.29 297 *eP* **P 03 16 07.1 -0.9**
RDF AMb AMB 03 16 08.1
comp=Z,89nm,0.6s,mb5.7
MIB Mutribah 75.43 298 *eP* **P 03 16 08.0 -0.7**
MIB AMb AMB 03 16 09.2
comp=Z,130nm,0.7s,mb5.8
NAY Al-Naaiem 75.55 298 *eP* **P 03 16 08.5 -0.9**
NAY AMb AMB 03 16 09.4
comp=Z,42nm,0.6s,mb5.4
CASY Casey 76.50 186 *eP* **P 03 16 13.5 -0.4**
IMA2 Indian Mountai 77.41 24 *eP* **P 03 16 20.6 +1.5**
BHD Baghdad 77.77 302 *ex* x 03 16 18.5
KIV Kislovodsk 78.56 313 P **P 03 16 26.0 0.0**
comp=Z,339nm,0.7s,mb6.3,SNR=6.3
KIV Kislovodsk 78.56 313 *eP* **P 03 16 25.0 -1.0**
KIV pmax pmax
comp=Z,32nm,0.6s,mb5.3
KIV Kislovodsk 78.56 313 ⇑ P **P 03 16 26.6 +0.6**
KIV Kislovodsk 78.56 313 P **P 03 16 26.5 +0.5**
SNR=6.4
KIV Kislovodsk 78.56 313 P **P 03 16 26.5 +0.5**
SNR=6.4
KIV Kislovodsk 78.56 313 P **P 03 16 26.5 +0.5**
SNR=6.4
KIV Kislovodsk 78.56 313 P **P 03 16 26.5 +0.5**
SNR=6.4
KIV Kislovodsk 78.56 313 P **P 03 16 26.5 +0.5**
SNR=6.4
KIV Kislovodsk 78.56 313 ⇑ *iP* **P 03 16 26.6 +0.6**
MSL Mosul 78.64 305 *ex* x 03 16 27.0
VRHR Novokhopersk 79.04 320 *eP* **P 03 16 27.1 -1.3**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.2
VRHR pmax pmax
comp=N,5.0nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.9s
PMR Palmer 79.24 29 *eP* **P 03 16 30.0 +0.7**
PMR pmax pmax
comp=Z,34nm,1.1s,mb5.1
PMR MLR MLR
comp=Z,100nm,17.0s
PMR Palmer 79.24 29 *eP* **P 03 16 30.0 +0.7**
comp=Z,34nm,1.1s,mb5.1
PMR LR LR
comp=Z,100nm,17.0s
MCK McKinley 79.33 27 *eP* **P 03 16 30.6 +0.8**
MCK pmax pmax
comp=Z,40nm,0.8s,mb5.3
MCK McKinley 79.33 27 *eP* **P 03 16 30.6 +0.8**
comp=Z,40nm,0.8s,mb5.3
COLA College 79.80 26 *eP* **P 03 16 32.9 +0.6**
COLA College 79.80 26 *eP* **P 03 16 32.7 +0.5**
comp=Z,10nm,0.8s,mb4.7
VORD Divnogorie 80.52 320 *eP* **P 03 16 35.1 -1.3**
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,5.0nm,0.5s
TMCR Tamitsa 80.53 334 *eP* **P 03 16 33.1 -3.1**
SOC Sochi 80.73 313 *eP* **P 03 16 35.0 -2.7**
SOC pmax pmax
comp=Z,24nm,0.6s,mb5.2
DIV Divide 80.87 29 *eP* **P 03 16 39.7 +1.6**
comp=Z,38nm,1.2s,mb5.1
OBN Obninsk 81.85 325 ⇓ *iP* **P 03 16 42.7 -0.7**
OBN pmax pmax
comp=Z,30nm,1.3s,mb5.0
APA Apatity 82.18 337 ⇓ *iP* **P 03 16 44.6 -0.3**
APA pmax pmax
comp=Z,42nm,1.0s,mb5.2
MALT Malatya 82.18 308 ⇓ *iP* **P 03 16 46.2 +0.7**
ANN Anapa 82.26 314 *eP* **P 03 16 43.7 -2.1**
ANN *eS* S 03 26 53.8 +2.1
ANN pmax pmax
comp=Z,67nm,1.0s,mb5.4
EGAK Eagle 82.66 26 *eP* **P 03 16 49.0 +1.6**
comp=Z,10nm,0.6s,mb4.8
DAWY Dawson 83.51 26 *eP* **P 03 16 53.7 +1.9**
JOF Joensuu 83.64 333 *ep* **P 03 16 51.0 -1.5**
comp=Z,11nm,0.4s,mb5.0
ASF Jabal al Asfar 84.15 302 P **P 03 16 56.4 +0.6**
comp=Z,6.1nm,0.6s,mb4.6,baz=327,slow=3.8,SNR=16
KEV Kevo 84.16 340 *eP* **P 03 16 53.4 -1.6**
comp=Z,11nm,0.6s,mb4.9
KEV Kevo 84.16 340 *eP* **P 03 16 53.4 -1.6**
KEV pmax pmax
comp=Z,11nm,0.6s,mb4.9
SIM Simferopol' 84.58 315 ⇓ *iP* **P 03 16 57.3 -0.4**
SIM pmax pmax
comp=Z,39nm,0.5s,mb5.6
SPB4 Spitsbergen Ar 84.63 349 *eP* **P 03 16 57.0 -0.2**
ARCES ARCESS Array B 84.72 340 P **P 03 16 57.4 -0.4**
comp=Z,15nm,0.6s,mb5.1,baz=76,slow=6.1,SNR=106
INK Inuvik 85.05 22 *eP* **P 03 17 00.5 +0.9**
comp=Z,1μm,1.0s
ANTO Ankara 86.32 310 *eP* **P 03 17 05.8 -0.6**
ANTO pmax pmax
comp=Z,18nm,1.1s,mb4.9
ANTO Ankara 86.32 310 *eP* **P 03 17 05.8 -0.6**
comp=Z,18nm,1.1s,mb4.9
FIA1 FINESS Array S 86.33 332 *eP* **P 03 17 05.0 -0.9**
FINES FINESS Array B 86.33 332 P **P 03 17 05.3 -0.7**
comp=Z,9.3nm,0.5s,mb5.0,baz=76,slow=5.1,SNR=86
FINES pP pP 03 17 32.8 -3.2
comp=Z,2.3nm,0.6s,baz=83,slow=6.0,SNR=2.5
CSS Prodhromos 86.69 305 *eP* **P 03 17 07.9 -0.4**
comp=Z,33nm,0.6s,mb5.4
AKASG Malin Array Be 86.88 321 P **P 03 17 07.7 -1.2**
AKASG pP pP 03 17 36.4 -2.6
AKASG Malin Array Be 86.88 321 P **P 03 17 07.7 -1.2**
comp=Z,5.4nm,0.4s,mb4.8,baz=66,slow=4.1,SNR=29
AKASG pP pP 03 17 36.4 -2.6
comp=Z,1.2nm,0.5s,baz=66,slow=4.3,SNR=2.3
AKBB Malin Array Si 86.88 321 *eP* **P 03 17 07.1 -1.8**
KIEV Kiev 86.89 321 *eP* **P 03 17 07.3 -1.6**
KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIEV Kiev 86.89 321 *eP* **P 03 17 07.3 -1.7**
comp=Z,8.3nm,0.6s,mb4.8
ISP Isparta 88.43 308 *eP* **P 03 17 14.4 -2.2**
ISP pmax pmax
comp=Z,14nm,0.8s,mb5.0
ISP Isparta 88.43 308 *eP* **P 03 17 14.4 -2.2**
comp=Z,14nm,0.8s,mb5.0
KMBO Kilima Mbogo 88.87 269 ⇑ *eP* **P 03 17 19.7 +0.6**
KMBO Kilima Mbogo 88.87 269 P **P 03 17 19.8 +0.7**
KMBO Kilima Mbogo 88.87 269 P **P 03 17 20.1 +1.0**
SNR=5.2
KMBO Kilima Mbogo 88.87 269 P **P 03 17 20.1 +1.0**
SNR=5.2
KMBO Kilima Mbogo 88.87 269 P **P 03 17 20.1 +1.0**
SNR=5.2
KMBO Kilima Mbogo 88.87 269 P **P 03 17 20.1 +1.0**
SNR=5.2
KMBO Kilima Mbogo 88.87 269 P **P 03 17 19.8 +0.7**
comp=Z,14nm,1.0s,mb5.0,baz=56,slow=7.3,SNR=24
MAW Mawson 88.93 200 P **P 03 17 17.9 -0.2**
comp=Z,5.8nm,0.8s,mb4.7,baz=50,slow=5.6,SNR=7.2
VNDA Vanda 89.29 173 P **P 03 17 20.3 +0.7**
comp=Z,9.3nm,0.6s,mb5.0,baz=320,slow=6.9,SNR=73
SUW Suwalki 89.71 325 *eP* **P 03 17 20.9 -1.3**
SUW Suwalki 89.71 325 *eP* **P 03 17 20.9 -1.3**
BURAR Bucovina Array 90.12 318 ⇑ *iP* **P 03 17 24.3 0.0**
MLR Muntele Rosu 90.15 316 P **P 03 17 23.9 -0.6**
comp=Z,2.1nm,0.6s,mb4.5,baz=268,slow=3.1,SNR=6.1
MLR Muntele Rosu 90.15 316 ⇑ *iP* **P 03 17 24.1 -0.3**
KWP Kalwaria 91.20 321 *eP* **P 03 17 29.1 -0.1**
KWP Kalwaria 91.20 321 *eP* **P 03 17 29.1 -0.1**
DAG Danmarks Havn 91.39 352 ⇓ *iP* **P 03 17 29.4 -0.2**
DAG pmax pmax
comp=Z,11nm,0.7s,mb5.1
DAG Danmarks Havn 91.39 352 ⇓ *iP* **P 03 17 29.4 -0.2**
comp=Z,11nm,0.7s,mb5.1
KOLS Kolonicke sedl 91.67 320 *eP* **P 03 17 31.2 -0.2**
UZH Uzhgorod 91.74 320 *eP* **P 03 17 30.7 -1.1**
STHS Stebnicka Huta 92.18 321 *eP* **P 03 17 33.9 +0.2**
STHS pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
STHS Stebnicka Huta 92.18 321 *eP* **P 03 17 33.9 +0.2**
comp=Z,5.2nm,0.7s,mb4.9
CRVS Cervenica-Dubn 92.19 320 *eP* **P 03 17 33.9 +0.1**
RES Resolute Bay 92.23 10 *eP* **P 03 17 34.2 +0.7**
comp=Z,614nm,1.3s
NIE Niedzica 92.75 321 *eP* **P 03 17 36.8 +0.4**
OJC Ojcow 92.82 322 *eP* **P 03 17 36.1 -0.6**
NOA NORSAR Array B 93.22 334 P **P 03 17 37.0 -1.3**
NOA LR LR 04 04 59.3
NOA NORSAR Array B 93.22 334 P **P 03 17 37.0 -1.3**
comp=Z,3.8nm,0.7s,mb4.8,baz=65,slow=4.7,SNR=16
NOA LR LR 04 04 59.3
comp=Z,42nm,18.1s,baz=280,slow=39
OKC Ostrava-Krasne 93.95 322 *eP* **P 03 17 41.7 -0.2**
VYHS Vyhne 93.97 320 *eP* **P 03 17 41.8 -0.2**
YKA Yellowknife Ar 94.53 24 P **P 03 17 45.2 +0.9**
YKA *PP pP 03 18 12.9 -1.7
YKA Yellowknife Ar 94.53 24 P **P 03 17 45.2 +0.9**
comp=Z,11nm,0.7s,mb5.4,baz=302,slow=4.3,SNR=261
YKA pP pP 03 18 12.9 -1.7
comp=Z,1.4nm,0.8s,baz=299,slow=4.9,SNR=2.3
YKA PKiKP PKiKP 03 22 27.1 +0.5
comp=Z,0.4nm,0.6s,baz=310,slow=1.7,SNR=11
YKA PKKP PKKPbc 03 34 41.0 -3.8
comp=Z,0.9nm,0.6s,baz=124,slow=3.1,SNR=35
DPC Dobruska-Polom 94.87 323 *eP* **P 03 17 46.2 +0.1**
VRAC Vranov 95.08 322 ⇓ *iP* **P 03 17 47.2 +0.1**
TREC Trest 95.76 322 *eP* **P 03 17 49.9 -0.3**
PVCC Panska Ves 95.85 323 *eP* **P 03 17 50.8 +0.2**
PRU Pruhonice 96.07 323 *eP* **P 03 17 51.0 -0.6**
BRG Berggiesshubel 96.08 324 *eP* **P 03 17 51.3 -0.3**
BRG pmax pmax
comp=Z,8.0nm,1.4s,mb5.0
BRG Berggiesshubel 96.08 324 *e*Pdiff **P 03 17 52.6 +1.0**
BRG Berggiesshubel 96.08 324 *eP* **P 03 17 51.3 -0.3**
comp=Z,13nm,1.4s,mb5.2
KHC Kasperske Hory 96.98 322 ⇑ *eP* **P 03 17 55.5 -0.2**
KHC Kasperske Hory 96.98 322 *eP* **P 03 17 55.4 -0.3**
GEC2 GERESS Array S 97.02 322 *e*Pdiff **P 03 17 55.0 -0.9**
GERES GERESS Array B 97.02 322 P **P 03 17 55.7 -0.2**
GERES *PP pP 03 18 24.2 -2.1
GERES GERESS Array B 97.02 322 P **P 03 17 55.7 -0.2**
GERES pP pP 03 18 24.2 -2.1
GERES PKKP PKKPbc 03 34 37.6 -0.1
GERES LR LR 04 04 06.9
GERES GERESS Array B 97.02 322 P **P 03 17 55.7 -0.2**
comp=Z,2.2nm,0.6s,mb4.7,baz=57,slow=4.9,SNR=20
GERES pP pP 03 18 24.2 -2.1
comp=Z,0.9nm,0.9s,baz=60,slow=7.9,SNR=2.3
GERES PKKP PKKPbc 03 34 37.6 -0.1
comp=Z,0.5nm,0.8s,baz=256,slow=5.4,SNR=4.2
GERES LR LR 04 04 06.9
comp=Z,40nm,18.2s,baz=177,slow=37
GUNZ Gunzen 97.23 324 *e*Pdiff **P 03 17 57.1 +0.3**
WET Wettzell 97.40 322 *e*Pdiff **P 03 17 57.6 0.0**
CLZ Clausthal 97.71 326 *e*Pdiff **P 03 17 59.2 +0.2**
GRA1 Grafenberg Arr 98.16 323 *e*Pdif **P 03 18 00.5 -0.5**
GRF Grafenberg Arr 98.16 323 *e*Pdiff **P 03 18 00.5 -0.5**
NVAR Mina Array Bea 103.57 47 PKiKP PKiKP 03 22 45.3 +1.9
comp=Z,0.4nm,0.5s,baz=289,slow=2.8,SNR=4.0
NVAR PKKPbc PKKPbc 03 34 19.1 +0.5
comp=Z,0.6nm,0.7s,baz=120,slow=4.7,SNR=4.3
VNA2 Neumayer--Watz 112.24 195 *e*PKiKP PKiKP 03 22 58.7 +0.1
baz=72,slow=0.8
VNA2 *e* 03 23 01.1
VNA2 *e* 03 23 12.0
VNA2 *e* 03 23 17.0
VNA3 Neumayer Olymp 112.60 194 *e*PKiKP PKiKP 03 22 58.4 -0.9
VNA3 *e* 03 23 01.3
VNA3 *e* 03 23 11.7
VNA3 *e* 03 23 16.8
SCHQ Schefferville 114.94 8 PKiKP PKiKP 03 23 04.8 +0.5
comp=Z,0.7nm,0.4s,baz=299,slow=19,SNR=5.2
TXAR Lajitas Array 118.54 49 PKP PKPdf 03 23 13.2 +1.2
comp=Z,1.2nm,0.6s,baz=360,slow=2.1,SNR=22
TXAR pPKP pPKPdf 03 23 42.8 -0.9
comp=Z,0.2nm,0.6s,baz=308,slow=3.0,SNR=2.5
JCT Junction City 120.73 46 *e*PKiKP PKPdf 03 23 16.8 +0.6
DBIC Dimbokro 128.37 286 PKP PKPdf 03 23 30.5 -0.7
comp=Z,5.7nm,0.6s,baz=198,slow=0.8,SNR=16
PLCA Paso Flores 145.71 158 PKPbc PKPbc 03 24 04.1 +1.3
comp=Z,24nm,0.8s,baz=220,slow=2.7,SNR=48
ROSC El Rosal 155.25 55 PKP PKPdf 03 24 20.1 +2.2
comp=Z,3.3nm,0.7s,baz=88,slow=21,SNR=3.7
CPUP Villa Florida 163.06 170 PKP PKPdf 03 24 26.9 +0.3
comp=Z,2.1nm,0.8s,baz=336,slow=4.5,SNR=3.2
CPUP PKPab PKPab 03 25 16.9 +0.4
comp=Z,5.5nm,0.8s,baz=167,slow=4.4,SNR=7.8
LPAZ La Paz 164.78 117 PKP PKPdf 03 24 30.2 +1.9
comp=Z,5.0nm,0.8s,baz=48,slow=1.9,SNR=22
LPAZ PKPab PKPab 03 25 26.5 +1.8
comp=Z,2.1nm,0.9s,baz=224,slow=5.2,SNR=4.9
BDFB Brasilia 171.55 224 PKP PKPdf 03 24 31.4 -1.5
comp=Z,1.9nm,1.0s,baz=185,slow=17,SNR=4.8

*IDC **07** 03:17:14.2±2.4,3927N×7260E,h0km,mb3.5/2,mb1 3.7/6, mb1mx3.4/23,mbtmp3.6/6,ML3.2/4, Error ellipse: s-maj=30.0km s-min=22.0km az=6.0*
*NEIC **07** 03:17:16.4±2.7,3909N×7221E,h35km, Error ellipse: s-maj=36.4km s-min=16.0km az=184.0*
*NNC **07** 03:17:16.2±4.5,3929N×7152E,h0km,mb4.0,mpv3.6, Error ellipse: s-maj=36.6km s-min=23.8km az=14.0*
ISC 07 03:17:19.2±2.1,392N±01×7211E±009,h57km±17km,n18, σ1§14/24,mb3.3/2,1C-3D,Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AML	**Almayashu**	**3.14**	**22**	P		**Pn**	**03 18 07.6 +1.4**
	SNR=94						
UCH	**Uchtor**	**3.51**	**31**	Pn		**Pn**	**03 18 09.9 -1.4**
UCH	**Uchtor**	**3.51**	**31**	P		**Pn**	**03 18 10.9 -0.4**
	SNR=14						
KZA	**Kyzart**	**3.72**	**39**	P		**Pn**	**03 18 13.6 -0.4**
	SNR=9.2						
AAK	**Ala-Archa**	**3.85**	**27**	Pn		**Pn**	**03 18 15.2 -0.8**
	2.5nm,0.3s,baz=197,slow=7.8,SNR=14						
AAK				Sn		**Sn**	**03 19 00.4 +0.5**
	2.0nm,0.3s,baz=322,slow=24,SNR=9.1						
AAK	**Ala-Archa**	**3.85**	**27**	P		**Pn**	**03 18 16.8 +0.8**
	SNR=8.0						
KBK	**Karagaybulak**	**4.05**	**31**	P		**Pn**	**03 18 19.9 +1.3**
	SNR=5.9						
KK31	**Karatay Array**	**4.06**	**343**	⇓Pn		**Pn**	**03 18 20.4 +1.6**
	3.6nm,0.3s,baz=142,slow=10,SNR=7.0						
KK31				Sn		**Sn**	**03 19 09.9 +4.9**
	34nm,0.7s,baz=160,slow=24,SNR=9.9						
ULHL	**Ulahol**	**4.35**	**45**	P		**Pn**	**03 18 22.4 -0.4**
	SNR=9.7						
TKM2	**Tokmak 2**	**4.54**	**34**	⇑Pn		**Pn**	**03 18 27.2 +1.9**
	11nm,1.0s						
TKM2				⇓Sn		**Sn**	**03 19 27.8 +11**
	14nm,0.6s						
MK31	**Makanchi Array**	**10.61**	**41**	*e*Pn		**Pn**	**03 19 47.0 -1.4**
MKAR	**Makanchi Array**	**10.61**	**41**	Pn		**Pn**	**03 19 46.0 -2.4**
	0.1nm,0.3s,baz=230,slow=13,SNR=6.2						
AB31	**Akbulak array**	**13.27**	**323**	Pn		**Pn**	**03 20 23.9 -0.8**
	1.5nm,0.6s,baz=132,slow=13,SNR=20						
AB31				⇓Sn		**Sn**	**03 22 46.8 -3.7**
	1.2nm,0.6s,baz=133,slow=24,SNR=8.5						
AKTK	**Aktyubinsk**	**14.99**	**323**	Pn		**Pn**	**03 20 47.5 +0.1**
AKTK				Sn		**Sn**	**03 23 31.9 -0.4**
AKTO	**Aktyubinsk**	**14.99**	**323**	Pn		**Pn**	**03 20 47.5 +0.1**
	0.1nm,0.3s,baz=120,slow=17,SNR=4.0						
AKTO				Sn		**Sn**	**03 23 31.9 -0.4**
	0.2nm,0.3s,baz=359,slow=23,SNR=4.7						
ZALV	**Zalesovo Beam**	**17.08**	**26**	Pn		**Pn**	**03 21 12.8 -1.1**
	0.4nm,0.3s,baz=208,slow=12,SNR=3.3						
SONM	**Songino Array**	**26.13**	**60**	P		**P**	**03 22 47.3 -0.4**
	0.7nm,0.8s,mb3.2,baz=277,slow=12,SNR=4.8						
YKA	**Yellowknife Ar**	**78.49**	**3**	P		**P**	**03 29 15.4 +1.8**
	0.3nm,0.7s,mb3.3,baz=348,slow=5.7,SNR=6.4						

*ISCJB **07** 03:29:06.4±0.5,5469S±009×1307W±02,h10km,mb4.2/11, MS4.2/11,Error ellipse: s-maj=15.3km s-min=12.0km az=135.8*
*IDC **07** 03:29:06.7±0.7,5489S×13066W,h0km,mb4.2/10, mb1 4.4/10,mb1mx4.3/14,mbtmp4.2/10,MS4.2/11, Ms1 4.1/11,ms1mx4.0/15,Error ellipse: s-maj=34.8km s-min=17.1km az=164.0*
*NEIC **07** 03:29:08.4±0.6,5492S×13063W,h10km,mb4.1/1,Error ellipse: s-maj=26.3km s-min=13.3km az=164.0*
ISC 07 03:29:08.3±0.5,5469S±009×1308W±02,h10km, (h9km±.2km:pP-P),n25,σ1§04/17,mb4.2/11,MS4.2/11, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RKT	**Rikitea**	**31.68**	**353**	*e*LR		LR	03 44 05.4
	840nm,27.8s						
PMSA	**Palmer Station**	**33.49**	**134**	LR		LR	03 45 20.9
	comp=Z,596nm,21.7s,MS4.3,baz=82,slow=29						
TBI	**Tubuai**	**34.27**	**328**	*eS*		**S**	**03 41 19.8 -1.5**
	107nm,30.2s						
TBI				*e*LR		LR	03 44 52.4
	895nm,29.2s,baz=165						
USHA	**Ushuaia**	**34.91**	**116**	LR		LR	03 45 55.6
	comp=Z,411nm,18.5s,MS4.2,baz=222,slow=29						
QSPA	**South Pole Qui**	**35.49**	**180**	P		**P**	**03 36 03.8 -0.5**
	5.4nm,0.9s,mb4.5,baz=84,slow=4.5,SNR=9.5						
PPT	**Papeete**	**39.77**	**331**	*eS**		**S**	**03 42 45.2 +0.1**
	118nm,25.0s						
PPT				*e*LR		LR	03 47 40.4
	978nm,26.0s,baz=171						
PLCA	**Paso Flores**	**41.55**	**96**	P		**P**	**03 36 55.4 -0.3**
	10nm,1.1s,mb4.3,baz=216,slow=8.2,SNR=7.7						
PLCA				LR		LR	03 49 56.9
	comp=Z,271nm,18.3s,MS4.2,baz=228,slow=30						
TAOE	**Nuku Hiva Isla**	**46.32**	**347**	*e*LR		LR	03 50 50.7
	14μm,25.2s						
VNA3	**Neumayer Olymp**	**47.67**	**158**	*e*		**P**	**03 37 43.1 -1.0**
VNA3				*e*		pP	03 37 45.4 -1.9
VNA3				*e*			03 37 53.6
VNA3				*e*			03 38 00.0
VNA2	**Neumayer--Watz**	**48.40**	**158**	*e*		**P**	**03 37 48.7 -1.1**
	baz=223,slow=8.7						
VNA2				*e*		pP	03 37 51.3 -1.6
VNA2				*e*			03 37 59.8
VNA2				*e*			03 38 06.6
VNA1	**Neumayer--Stat**	**48.43**	**158**	*e*		**P**	**03 37 52.0 +2.1**
VNA1				*e*		pP	03 37 54.5 +1.4
VNA1				*e*			03 38 01.2
VNA1				*e*			03 38 08.1
SNAA	**Sanae**	**48.74**	**161**	*e*		**P**	**03 37 53.4 +1.0**
SNAA				*e*		pP	03 37 55.8 +0.3
SNAA				*e*			03 38 02.0
MAW	**Mawson**	**57.60**	**186**	LR		LR	04 01 00.2
	comp=Z,178nm,20.0s,MS4.2,baz=166,slow=33						
CPUP	**Villa Florida**	**59.49**	**93**	P		**P**	**03 39 10.2 -1.2**
	0.6nm,0.4s,mb4.0,baz=206,slow=8.2,SNR=4.1						
CPUP				LR		LR	04 01 14.7
	comp=Z,313nm,20.1s,MS4.4,baz=206,slow=32						
LPAZ	**La Paz**	**61.11**	**77**	P		**P**	**03 39 23.6 +1.1**
	6.4nm,0.9s,mb4.8,baz=198,slow=4.9,SNR=25						
LPAZ				LR		LR	04 00 00.0
	comp=Z,49nm,21.2s,MS3.6,baz=13,slow=30						
STKA	**Stephens Creek**	**63.37**	**252**	P		**P**	**03 39 38.6 +1.1**
	3.2nm,1.0s,mb4.4,baz=168,slow=12,SNR=3.3						
STKA				LR		LR	04 02 13.6
	comp=Z,256nm,19.8s,MS4.4,baz=51,slow=31						
BDFB	**Brasilia**	**73.22**	**93**	P		**P**	**03 40 38.5 -0.9**
	1.6nm,0.8s,mb4.0,baz=345,slow=14,SNR=5.1						
BDFB				LR		LR	04 09 41.6
	comp=Z,147nm,19.1s,MS4.3,baz=15,slow=33						
ASAR	**Alice Springs**	**74.00**	**252**	P		**P**	**03 40 43.6 -0.3**
	0.9nm,0.8s,mb3.8,baz=88,slow=8.3,SNR=8.0						
ROSC	**El Rosal**	**75.44**	**59**	P		**P**	**03 40 52.5 +0.2**
	3.4nm,0.5s,mb4.5,baz=287,slow=22,SNR=6.6						
ROSC				LR		LR	04 08 59.0
	comp=Z,62nm,20.0s,MS3.9,baz=15,slow=32						
WRA	**Warramunga Arr**	**76.73**	**254**	P		**P**	**03 40 59.3 -0.4**
	2.1nm,1.0s,mb4.0,baz=141,slow=5.5,SNR=8.5						
WRA				LR		LR	04 11 30.5
	comp=Z,153nm,19.3s,MS4.3,baz=175,slow=33						
WRAB	**Tennant Creek**	**76.73**	**254**	P		**P**	**03 40 59.5 -0.1**
	1.1nm,0.7s,mb3.9						
TXAR	**Lajitas Array**	**86.88**	**23**	P		**P**	**03 41 55.6 +3.0**
	0.5nm,0.9s,mb3.8,baz=190,slow=6.4,SNR=5.1						
BOSA	**Boshof**	**94.51**	**159**	LR		LR	04 19 43.1
	comp=Z,127nm,19.7s,MS4.4,baz=161,slow=32						
SONM	**Songino Array**	**144.46**	**283**	PKP		PKPdf	03 48 42.7 -1.0
	1.5nm,0.8s,baz=128,slow=3.3,SNR=10						
MKAR	**Makanchi Array**	**157.80**	**263**	PKPab		PKPab	03 49 37.1 +0.3
	1.4nm,0.8s,baz=116,slow=5.5,SNR=9.4						

MAN 07 04:14:41,1770N×11996E,h38km,mb4.3,ML3.2,MS3.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
APYP	**Conner**	**1.23**	**82**	*e*P		Pn	04 15 03.2 +1.5
APYP				*e*S		Sn	04 15 18.7 +1.5
CAUP	**Cauayan**	**1.93**	**112**	*e*P		Pn	04 15 13.3 +1.9

*ISCJB **07** 04:14:52.3±0.7,625S±0.1×1587W±02,h10km,mb4.2/10, MS4.2/18,Error ellipse: s-maj=17.7km s-min=14.7km az=19.1*
*IDC **07** 04:14:52.7±0.8,6254S×15871W,h0km,mb4.2/10, mb1 4.3/10,mb1mx4.2/14,mbtmp4.2/10,MS4.1/18, Ms1 4.1/18,ms1mx4.0/23,Error ellipse: s-maj=32.1km s-min=17.4km az=17.0*
*GCMT **07** 04:14:54.3±0.3,6276S×15866W,h17km±2km,MW5.1/56, Moment Tensor Solution. s22,c27; s56,c77; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.80±.22; $M_{\theta\theta}$4.39±.23; $M_{\phi\phi}$-3.58±.18; $M_{r\theta}$-0.53±.49; $M_{\phi\theta}$1.49±.16; $M_{\phi r}$3.35±.74; Best double couple: $M_0$5.35200×10^{16} NP1:ϕ_s120.00000°,δ67.00000°,λ-24.00000°. NP2: ϕ_s220.00000°,δ68.00000°,λ-155.00000°. Principal axes:*

T 4.6610, Plg1.0000°, Azm349.0000°; N 1.3910, Plg57.0000°, Azm258.0000°; P -6.0440, Plg33.0000°, Azm80.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

*NEIC **07** 04:14:54.3±0.5, 6251S×15865W, h10km, mb4.8/1 Error ellipse: s-maj=17.0km s-min=12.4km az=195.0*

ISC 07 04:14:54.5±0.7, 626S±01×1587W±02, h10km, (h13km±1km:pP-P), n39, σ0§79/16, mb4.2/10, MS4.2/18, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base** 125nm,1.8s	**18.75**	**202**	*eP*	**Pn**	**04 19 14.0**	**+0.6**
RPZ	**Rata Peaks** comp=Z,214nm,20.0s,MS3.7,baz=178,slow=31	**25.77**	**303**	LR	LR	04 28 18.3	
QSPA	**South Pole Qui** 12nm,0.9s,mb4.5,baz=55,slow=4.2,SNR=27	**27.56**	**180**	P	**P**	**04 20 41.4**	**+0.5**
QSPA	comp=Z,409nm,18.5s,MS4.0,baz=243,slow=32			LR	LR	04 29 37.6	
URZ	**Urewera** comp=Z,403nm,21.6s,MS4.0,baz=225,slow=30	**28.45**	**317**	LR	LR	04 29 17.8	
TBI	**Tubuai** 100nm,30.0s	**39.69**	**13**	*eS*	**S**	**04 28 22.1**	**-7.7**
TBI	744nm,28.0s,baz=185			*e*LR	LR	04 33 12.1	
TBI	**Tubuai** 93nm,0.3s	**39.69**	**13**	*eT*		05 04 35.6	
RAR	**Rarotonga** comp=Z,271nm,18.6s,MS4.2,baz=219,slow=30	**41.32**	**358**	LR	LR	04 35 22.1	
RKT	**Rikitea** 22nm,0.2s	**42.57**	**33**	*eT*		05 08 09.4	
SNAA	**Sanae**	**45.02**	**169**	*e*	**P**	**04 23 07.8**	**-1.6**
SNAA				*e*	pP	04 23 11.3	-1.2
SNAA				*e*		04 23 16.0	
SNAA				*e*		04 23 20.8	
SNAA				*e*		04 23 24.7	
SNAA	**Sanae** 2.0nm,1.0s,mb3.9,baz=233,slow=6.3,SNR=8.7	**45.02**	**169**	P	**P**	**04 23 09.1**	**-0.3**
MEH	**Mehetia** 227nm,0.3s	**45.25**	**14**	*eT*		05 11 32.3	
PAE	**Paea** 41nm,0.3s	**45.30**	**12**	*eT*		05 11 35.7	
VNA2	**Neumayer--Watz** baz=199,slow=6.9	**45.31**	**167**	*e*	**P**	**04 23 11.0**	**-0.7**
VNA2				*e*	pP	04 23 14.6	-0.2
VNA2				*e*		04 23 19.1	
VNA2				*e*		04 23 23.2	
VNA2				*e*		04 23 27.2	
PPT	**Papeete** 122nm,24.8s	**45.39**	**12**	*e*S	**S**	**04 29 47.7**	**-6.1**
PPT	862nm,27.5s,baz=192			*e*LR	LR	04 35 46.1	
PPT	**Papeete** 13nm,0.3s	**45.39**	**12**	*eT*		05 11 39.7	
PPT	**Papeete** comp=Z,278nm,20.2s,MS4.2,baz=240,slow=29	**45.39**	**12**	LR	LR	04 36 52.0	
VNA1	**Neumayer--Stat**	**45.48**	**167**	*e*	**P**	**04 23 13.2**	**+0.1**
VNA1				*e*	pP	04 23 16.8	+0.6
VNA1				*e*		04 23 21.3	
VNA1				*e*		04 23 25.8	
VNA1				*e*		04 23 29.2	
MAW	**Mawson** comp=Z,179nm,20.2s,MS4.0,baz=146,slow=33	**46.71**	**200**	LR	LR	04 40 32.8	
VAH	**Vaihoa** 457nm,0.3s	**47.91**	**14**	*eT*		05 14 50.9	
PMOR	**Pomariorio Ree** 18nm,0.3s	**48.11**	**14**	*eT*		05 15 05.1	
STKA	**Stephens Creek** 3.8nm,0.8s,mb4.5,baz=126,slow=5.4,SNR=3.3	**48.35**	**281**	P	**P**	**04 23 37.0**	**+1.0**
STKA	comp=Z,265nm,19.3s,MS4.2,baz=185,slow=33			LR	LR	04 41 36.8	
PLCA	**Paso Flores** 3.2nm,0.8s,mb4.3,baz=185,slow=6.5,SNR=8.2	**54.03**	**110**	P	**P**	**04 24 19.1**	**+0.6**
TAOE	**Nuku Hiva Isla** 8μm,24.5s	**55.28**	**22**	*e*LR	LR	04 40 30.6	
CTA	**Charters Tower** comp=Z,177nm,18.1s,MS4.2,baz=48,slow=33	**56.49**	**293**	LR	LR	04 45 50.8	
NWAO	**Narrogin (SRO)** comp=Z,197nm,18.3s,MS4.3,baz=201,slow=29	**58.69**	**258**	LR	LR	04 43 23.2	
ASAR	**Alice Springs** 1.7nm,0.7s,mb4.2,baz=141,slow=6.7,SNR=12	**58.87**	**279**	P	**P**	**04 24 53.3**	**+0.2**
WRA	**Warramunga Arr** 1.8nm,0.9s,mb4.2,baz=153,slow=5.7,SNR=5.9	**61.90**	**281**	P	**P**	**04 25 12.4**	**-1.5**
WRA	comp=Z,189nm,19.0s,MS4.3,baz=195,slow=32			LR	LR	04 48 10.5	
CFAA	**Coronel Fontan** 0.6nm,0.8s,mb3.8,baz=184,slow=5.6,SNR=9.5	**62.68**	**106**	P	**P**	**04 25 18.5**	**-0.6**
FITZ	**Fitzroy Crossi** comp=Z,138nm,20.2s,MS4.2,baz=334,slow=32	**67.49**	**274**	LR	LR	04 50 24.4	
CPUP	**Villa Florida** 6.1nm,0.8s,mb4.6,baz=200,slow=7.4,SNR=8.1	**72.01**	**112**	P	**P**	**04 26 17.9**	**-0.2**
CPUP	comp=Z,136nm,19.8s,MS4.2,baz=191,slow=32			LR	LR	04 53 56.3	
BATI	**Kupang** comp=Z,236nm,18.4s,MS4.5,baz=134,slow=36	**75.30**	**276**	LR	LR	05 00 26.8	
NNA	**Nana** comp=Z,128nm,21.2s,MS4.2,baz=135,slow=29	**75.70**	**88**	LR	LR	04 51 48.2	
LPAZ	**La Paz** 3.3nm,0.8s,mb4.3,baz=145,slow=1.8,SNR=15	**75.96**	**98**	P	**P**	**04 26 42.8**	**+1.4**
LPAZ	comp=Z,42nm,20.6s,MS3.7,baz=340,slow=29			LR	LR	04 52 00.8	
BDFB	**Brasilia** 1.1nm,0.8s,mb4.1,baz=91,slow=17,SNR=4.0	**85.43**	**115**	P	**P**	**04 27 31.6**	**-0.5**
BDFB	comp=Z,146nm,19.4s,MS4.4,baz=18,slow=34			LR	LR	05 02 37.3	
BOSA	**Boshof** comp=Z,218nm,20.8s,MS4.6,baz=166,slow=32	**89.09**	**183**	LR	LR	05 02 03.7	
ROSC	**El Rosal** comp=Z,51nm,18.5s,MS4.0,baz=13,slow=29	**91.68**	**83**	LR	LR	04 59 41.5	
YKA	**Yellowknife Ar**	**129.08**	**25**	PKP	PKPdf	04 33 59.9	-0.9
YKA	**Yellowknife Ar** 0.1nm,0.8s,baz=222,slow=1.7,SNR=2.6	**129.08**	**25**	PKP	PKPdf	04 33 59.9	-0.9
MKAR	**Makanchi Array** 0.4nm,0.6s,baz=90,slow=2.9,SNR=3.3	**142.96**	**274**	PKP	PKPdf	04 34 28.1	+1.1

*NEIC **07** 04:16:22.3, 3056S×7129W, h45km, MD3.7(GUC), After GUC.*

GUC 07 04:16:22.3±1.0, 3056S×7129W, h45km±6km, MD3.7, ML2.7, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.09**	**124**	⇑*iP*	Pn	04 16 29.8	+0.3
OVCH				*i* S	Sn	04 16 35.2	+0.7
OVCH	comp=N,2μm,0.1s			AML	AML	04 16 35.5	
TLL	**Tololo Astrono**	**0.57**	**47**	*eP*	Pn	04 16 35.2	+1.1
TLL				*i* S	Sn	04 16 44.7	+2.0
TLL	**Tololo Astrono**	**0.57**	**47**	*eP*	Pn	04 16 35.2	+1.1
TLL				*i* S	Sn	04 16 44.7	+2.0
TLL	comp=E,127nm,0.3s			AML	AML	04 16 47.3	
LSCH	**La Serena**	**0.65**	**4**	⇑*eP*	Pn	04 16 35.6	+0.4
LSCH				*i* S	Sn	04 16 44.8	+0.4
CMCH	**Combarbala**	**0.66**	**158**	⇑*iP*	Pn	04 16 36.0	+0.6
CMCH				*i* S	Sn	04 16 45.7	+0.9
CMCH	**Combarbala**	**0.66**	**158**	⇑*iP*	Pn	04 16 36.0	+0.6
CMCH				*i* S	Sn	04 16 45.7	+0.9
CMCH	comp=E,2μm,0.4s			AML	AML	04 16 46.5	
PEL	**Peldehue**	**2.63**	**169**	*eP*	Pn	04 17 01.9	-0.4

*IDC **07** 04:49:24.7±7.4, 4409S×7652W, h0km, mb3.8/4, mb1 3.9/6, mb1mx3.8/16, mbtmp3.8/6, ML4.0/2, MS3.1/3, Ms1 3.1/3, ms1mx2.9/19, Error ellipse: s-maj=117.1km s-min=70.0km az=20.0*

*NEIC **07** 04:50:04.9±2.0, 4037S×7420W, h10km, mb4.7/4, Error ellipse: s-maj=42.3km s-min=17.5km az=207.0*

ISC 07 04:49:36.2±4.0, 438S±04×757W±03, h35km, n9, σ1§35/9, mb4.1/5, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores** 3.2nm,0.3s,baz=232,slow=14,SNR=80	**4.86**	**53**	Pn	**Pn**	**04 50 49.3**	**+2.5**
PLCA	comp=Z,380nm,18.6s,baz=308,slow=39			LR	LR	04 53 00.8	
CFAA	**Coronel Fontan** 0.1nm,0.3s,baz=208,slow=12,SNR=18	**13.47**	**28**	Pn	**Pn**	**04 52 43.8**	**-1.1**
CFAA	comp=Z,14nm,18.9s,baz=199,slow=36			LR	LR	04 57 54.4	
CPUP	**Villa Florida** 7.5nm,0.5s,mb4.4	**22.89**	**47**	*eP*	**P**	**04 54 36.8**	**0.0**
CPUP	**Villa Florida** 1.6nm,0.5s,mb3.7,baz=202,slow=13,SNR=6.0	**22.89**	**47**	P	**P**	**04 54 37.3**	**+0.5**
CPUP	comp=Z,93nm,20.0s,baz=171,slow=34			LR	LR	05 02 54.8	
LPAZ	**La Paz** 4.7nm,1.4s,mb3.9	**28.12**	**16**	*eP*	**P**	**04 55 25.4**	**+0.6**
LPAZ	**La Paz** 0.6nm,0.6s,mb3.4,baz=212,slow=8.7,SNR=5.8	**28.12**	**16**	P	**P**	**04 55 23.9**	**-0.9**
SIV	**San Ignacio** 1.5nm,0.9s,mb3.7,baz=218,slow=7.6,SNR=5.7	**30.33**	**29**	P	**P**	**04 55 43.2**	**-1.3**
NNA	**Nana** 66nm,1.5s,mb5.2	**31.66**	**358**	*eP*	**P**	**04 55 58.0**	**+1.8**
BDFB	**Brasilia** 1.2nm,0.8s,mb3.8,baz=214,slow=17,SNR=2.8	**36.59**	**49**	P	**P**	**04 56 37.8**	**-1.1**

*IDC **07** 04:50:06.4±0.6, 2979S×17762W, h0km, mb4.8/12, mb1 4.9/15, mb1mx4.9/17, mbtmp4.7/15, ML4.4/3, MS3.9/7, Ms1 3.9/7, ms1mx3.6/15, Error ellipse: s-maj=16.4km s-min=12.2km az=70.0*

*ISCJB **07** 04:50:10.4±0.4, 2992S±004×17790W±009, h33km, mb4.8/22, MS3.9/6, Error ellipse: s-maj=11.0km s-min=6.1km az=9.8*

*NEIC **07** 04:50:11.1±0.3, 2981S×17770W, h35km, mb5.1/13, Error ellipse: s-maj=10.6km s-min=9.1km az=136.0*

ISC 07 04:50:11.9±0.4, 2985S±004×17780W±008, h35km, (h34km±7km:pP-P), n77, σ0§96/42, mb4.8/22, MS3.9/6, 1C, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island** 15μm,0.3s,baz=89,slow=1.8,SNR=981	**0.60**	**350**	Pn	**Pn**	**04 50 23.8**	**-0.2**
RAO	20μm,0.3s,baz=72,slow=20,SNR=27			Sn	**Sn**	**04 50 32.0**	**-0.6**
URZ	**Urewera** 1.1nm,0.3s,baz=308,slow=2.0,SNR=8.8	**9.39**	**205**	Pn	**Pn**	**04 52 23.3**	**-1.4**
URZ	9.3nm,0.3s,baz=164,slow=22,SNR=13			Sn	**Sn**	**04 54 08.0**	**-1.0**
RPZ	**Rata Peaks** 2.5nm,0.3s,baz=335,slow=0.7,SNR=9.0	**16.45**	**210**	Pn	**Pn**	**04 53 59.4**	**-0.6**
RPZ	1.6nm,0.3s,baz=331,slow=22,SNR=5.6			Sn	**Sn**	**04 56 52.4**	**-9.0**
RAR	**Rarotonga** 2.7nm,0.3s,baz=258,slow=4.4,SNR=5.8	**18.38**	**66**	P	**Pn**	**04 54 21.6**	**-2.5**
RAR	comp=Z,236nm,19.4s,baz=237,slow=31			LR	LR	04 59 28.8	
TBI	**Tubuai** 260nm,27.2s	**26.11**	**82**	*e*LQ		05 00 46.2	
TBI	338nm,25.8s,baz=246			*e*LR	LR	05 02 03.3	
TBI	**Tubuai** 40nm,0.3s	**26.11**	**82**	*eT*		05 22 31.1	
ARMA	**Armidale**	**26.41**	**261**	*eP*	**P**	**04 55 49.5**	**+4.2**
EIDS	**Eidsvold** 6.0nm,0.8s,mb4.3	**27.89**	**272**	*eP*	**P**	**04 56 00.6**	**+2.0**
PAE	**Paea** 100nm,0.3s	**28.45**	**71**	*eT*		05 25 29.3	
PPT	**Papeete** 338nm,26.2s,baz=244	**28.50**	**71**	*e*LR	LR	05 03 16.8	
PPT	**Papeete** 22nm,0.3s	**28.50**	**71**	*eT*		05 25 33.3	
PPT	**Papeete** comp=Z,295nm,19.2s,MS3.9,baz=248,slow=29	**28.50**	**71**	LR	LR	05 03 57.6	
PMOR	**Pomariorio Ree** 7.9nm,0.4s	**31.22**	**68**	*eT*		05 28 57.6	
VAH	**Vaihoa** 31nm,0.2s	**31.31**	**69**	*eT*		05 29 03.7	
CTA	**Charters Tower** 16nm,0.6s,mb5.1	**33.89**	**278**	*eP*	**P**	**04 56 53.3**	**+1.7**
CTA	**Charters Tower** 16nm,0.5s,mb5.2,baz=108,slow=11,SNR=26	**33.89**	**278**	P	**P**	**04 56 53.7**	**+2.1**
CTA	comp=Z,215nm,18.4s,MS3.9,baz=50,slow=33			LR	LR	05 08 53.9	
CTAO	**Charters Tower** 28nm,0.8s,mb5.2	**33.89**	**278**	*eP*	**P**	**04 56 52.8**	**+1.2**
STKA	**Stephens Creek** 14nm,0.4s,mb5.2	**34.78**	**256**	*eP*	**P**	**04 57 01.2**	**+2.1**
STKA	**Stephens Creek**	**34.78**	**256**	*eP*	**P**	**04 57 00.9**	**+1.8**
STKA	**Stephens Creek** 23nm,0.6s,mb5.3,baz=97,slow=10,SNR=59	**34.78**	**256**	P	**P**	**04 57 01.9**	**+2.7**
STKA	comp=Z,216nm,20.7s,MS3.9,baz=161,slow=34			LR	LR	05 09 55.3	
RKT	**Rikitea** 301nm,31.0s	**38.74**	**90**	*e*LR	LR	05 07 42.3	
RKT	**Rikitea** 1.8nm,0.2s	**38.74**	**90**	*eT*		05 38 15.9	
ASAR	**Alice Springs** 9.8nm,0.6s,mb4.8,baz=103,slow=6.9,SNR=95	**43.32**	**266**	P	**P**	**04 58 10.6**	**0.0**
ASAR	2.7nm,0.7s,baz=116,slow=4.1,SNR=6.0			PcP	PcP	04 59 59.2	+0.1
WB2	**Warramunga Arr**	**44.25**	**271**	*eP*	**P**	**04 58 17.7**	**-0.4**
WRAB	**Tennant Creek** 30nm,0.6s,mb5.2	**44.25**	**271**	*eP*	**P**	**04 58 17.9**	**-0.3**
WRA	**Warramunga Arr** 29nm,0.5s,mb5.3,baz=110,slow=7.7,SNR=232	**44.26**	**271**	P	**P**	**04 58 18.0**	**-0.2**
WRA	comp=Z,98nm,20.1s,MS3.7,baz=240,slow=34			LR	LR	05 15 36.6	
FORT	**Forrest** 29nm,0.6s,mb5.4	**46.36**	**255**	*eP*	**P**	**04 58 34.2**	**-0.6**
SBA	**Scott Base** 13nm,0.9s,mb5.0	**48.60**	**184**	*eP*	**P**	**04 58 52.5**	**+0.9**
KAKA	**Kakadu** 9.7nm,0.6s,mb5.0	**49.02**	**279**	*eP*	**P**	**04 58 55.2**	**-0.4**
FITZ	**Fitzroy Crossi** 17nm,0.8s,mb5.0	**52.54**	**269**	*eP*	**P**	**04 59 22.1**	**0.0**
FITZ	**Fitzroy Crossi** 11nm,0.8s,mb4.8,baz=156,slow=7.8,SNR=27	**52.54**	**269**	P	**P**	**04 59 22.6**	**+0.5**
KLBR	**Kellerberrin** 15nm,0.7s,mb5.1	**54.70**	**251**	*eP*	**P**	**04 59 36.3**	**-1.4**
CASY	**Casey** 22nm,0.8s,mb5.2	**55.71**	**208**	*eP*	**P**	**04 59 44.2**	**-0.3**
MBWA	**Marble Bar** 7.1nm,0.8s,mb4.8	**56.46**	**263**	*eP*	**P**	**04 59 49.0**	**-1.6**
QSPA	**South Pole Qui** 5.1nm,0.6s,mb4.7,baz=61,slow=2.3,SNR=22	**60.26**	**180**	P	**P**	**05 00 18.0**	**+1.8**
MAW	**Mawson** 12nm,0.8s,mb4.9	**72.89**	**200**	*eP*	**P**	**05 01 37.3**	**+0.4**
MAW				LR	LR	05 30 08.3	
MAW	**Mawson** 8.9nm,0.7s,mb4.8,baz=150,slow=8.4,SNR=14	**72.89**	**200**	P	**P**	**05 01 38.2**	**+1.3**
MAW	comp=Z,85nm,19.2s,MS4.0,baz=23,slow=33			LR	LR	05 30 08.3	
MJAR	**Matsushiro Art** 5.0nm,0.9s,mb4.5,baz=154,slow=4.3,SNR=9.6	**77.89**	**325**	P	**P**	**05 02 05.8**	**-0.2**
MJAR	comp=Z,72nm,20.0s,MS4.0,baz=180,slow=33			LR	LR	05 33 25.3	
SNAA	**Sanae**	**78.70**	**178**	*e*	**P**	**05 02 10.3**	**+0.2**
SNAA				*e*		05 02 15.9	
SNAA				*e*	pP	05 02 20.0	-1.0
SNAA				*e*		05 02 27.2	
SNAA				*e*		05 02 36.0	
VNA2	**Neumayer--Watz**	**79.28**	**177**	*e*	**P**	**05 02 13.7**	**+0.5**
VNA2				*e*		05 02 19.6	
VNA2				*e*	pP	05 02 24.1	-0.1
VNA2				*e*		05 02 30.4	
VNA2				*e*		05 02 41.4	
MAIT	**Maitri**	**79.43**	**183**	*eP*	**P**	**05 02 13.9**	**-0.2**
VNA1	**Neumayer--Stat**	**79.51**	**176**	*e*	**P**	**05 02 15.1**	**+0.6**
VNA1				*e*		05 02 20.9	
VNA1				*e*	pP	05 02 25.2	-0.3
VNA1				*e*		05 02 32.3	
VNA1				*e*		05 02 42.3	
PLCA	**Paso Flores** 4.0nm,1.0s,mb4.4,baz=191,slow=5.6,SNR=3.5	**82.75**	**133**	P	**P**	**05 02 32.8**	**+0.5**
KSRS	**Korea Array** 2.3nm,0.7s,mb4.4,baz=137,slow=5.5,SNR=7.9	**84.04**	**319**	P	**P**	**05 02 39.1**	**+0.4**
GSC	**Goldstone** 3.1nm,0.8s,mb4.6	**86.57**	**46**	*eP*	**P**	**05 02 52.0**	**+0.5**
NVAR	**Mina Array Bea** 2.4nm,0.7s,mb4.5,baz=212,slow=6.3,SNR=20	**87.71**	**43**	P	**P**	**05 02 56.9**	**-0.1**
CFAA	**Coronel Fontan**	**89.42**	**126**	P	**P**	**05 03 05.0**	**-0.4**
CFAA	**Coronel Fontan** 0.2nm,0.6s,mb3.6,baz=288,slow=2.5,SNR=4.0	**89.42**	**126**	P	**P**	**05 03 05.0**	**-0.4**
TXAR	**Lajitas Array** 1.6nm,1.0s,mb4.3,baz=205,slow=7.9,SNR=5.7	**91.94**	**57**	P	**P**	**05 03 17.1**	**+0.1**
YKA	**Yellowknife Ar**	**104.87**	**25**	Pdif	Pdif	05 04 10.0	-5.1
YKA	**Yellowknife Ar** 0.2nm,0.8s,baz=239,slow=7.0,SNR=3.8	**104.87**	**25**	Pdiff	Pdif	05 04 10.0	-5.0
YKA	0.2nm,0.5s,baz=250,slow=1.5,SNR=6.3			PKiKP	PKiKP	05 08 28.2	-1.0
MK31	**Makanchi Array**	**117.55**	**310**	*e*PKPdf	PKPdf	05 08 52.0	-1.8
MKAR	**Makanchi Array** 0.9nm,0.5s,baz=210,slow=1.4,SNR=14	**117.55**	**310**	PKP	PKPdf	05 08 51.9	-1.9
BOSA	**Boshof** 1.0nm,0.4s,baz=189,slow=3.2,SNR=6.1	**117.84**	**203**	PKP	PKPdf	05 08 55.0	0.0
KURK	**Kurchatov**	**120.80**	**314**	*e*PKPdf	PKPdf	05 08 57.8	-2.1
UCH	**Uchtor**	**121.85**	**304**	*e*PKPdf	PKPdf	05 09 01.8	-0.3
AML	**Almayashu**	**122.42**	**303**	*e*PKPdf	PKPdf	05 09 02.9	-0.4
KBL	**Kabul**	**124.17**	**293**	*e*PKPdf	PKPdf	05 09 06.0	-0.9
KEV	**Kevo**	**137.62**	**347**	*e*pkp	PKPdf	05 09 25.2	-6.0
ARCES	**ARCESS Array B** 2.5nm,0.8s,baz=28,slow=2.9,SNR=8.5	**138.09**	**348**	PKhKP		05 09 22.4	
ARCES	5.4nm,0.6s,baz=249,slow=0.8,SNR=9.4			PKP	PKPdf	05 09 30.2	-1.9
JOF	**Joensuu**	**141.97**	**339**	*e*pkp	PKPdf	05 09 32.6	-6.7
FIA1	**FINESS Array S**	**144.69**	**340**	*e*PKPdf	PKPdf	05 09 41.4	-2.8
FINES	**FINESS Array B** 13nm,0.5s,baz=64,slow=3.4,SNR=120	**144.69**	**340**	PKP	PKPdf	05 09 41.6	-2.6
NOA	**NORSAR Array B** 21nm,0.7s,baz=14,slow=4.4,SNR=66	**148.23**	**352**	PKPbc	PKPbc	05 09 52.3	-1.2
NAO01	**NORSAR Array S**	**148.47**	**352**	*e*PKPbc	PKPbc	05 09 52.9	-1.2
MALT	**Malatya**	**148.99**	**296**	*e*PKPbc	PKPbc	05 09 55.6	-0.6
AKASG	**Malin Array Be** 39nm,0.9s,baz=48,slow=2.9,SNR=82	**150.97**	**323**	PKPbc	PKPbc	05 09 59.4	-1.2
AKBB	**Malin Array Si**	**150.97**	**323**	*e*PKPbc	PKPbc	05 09 59.2	-1.4
KIEV	**Kiev**	**150.98**	**323**	*e*PKPbc	PKPbc	05 09 59.3	-1.3
BSD	**Bornholm Skovb** 12nm,0.5s	**153.15**	**344**	⇑*i*P	PKPbc	05 10 04.2	-1.2
BSD				*i*		05 10 07.8	
UPC	**Upice**	**156.90**	**337**	*e*PKPab	PKPab	05 10 34.9	+1.7
DPC	**Dobruska-Polom**	**156.93**	**337**	*e*PKPab	PKPab	05 10 35.1	+1.8
CLL	**Collm**	**157.10**	**342**	*i* PKPab	PKPab	05 10 35.0	+1.0
BRG	**Berggiesshubel** 9.2nm,0.6s	**157.23**	**341**	*eP*	PKPab	05 10 35.4	+0.8
TREC	**Trest**	**158.11**	**336**	*e*PKPab	PKPab	05 10 34.9	-3.5
KHC	**Kasperske Hory**	**158.88**	**339**	*e*PKPab	PKPab	05 10 43.4	+1.6
GERES	**GERESS Array B** 0.7nm,0.3s,baz=23,slow=4.4,SNR=5.8	**159.09**	**338**	PKPab	PKPab	05 10 44.1	+1.4

IDC 07 04:57:17.0±1.2, 2187N×14328E, h0km, mb3.5/7, mb1 3.7/7, mb1mx3.7/19, mbtmp3.6/7, Error ellipse: s-maj=44.9km s-min=20.9km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array** 0.5nm,0.3s,baz=150,slow=8.3,SNR=2.6	**20.43**	**323**	P	P	05 01 57.9	+2.1
SONM	**Songino Array** 0.5nm,0.6s,baz=127,slow=8.0,SNR=5.1	**39.26**	**320**	P	P	05 04 46.5	-0.7
WRA	**Warramunga Arr** 0.9nm,0.9s,baz=16,slow=9.2,SNR=5.1	**42.47**	**193**	P	P	05 05 13.7	-0.2
ASAR	**Alice Springs** 0.3nm,0.5s,baz=17,slow=12,SNR=5.6	**46.17**	**192**	P	P	05 05 43.8	+0.2
ZALV	**Zalesovo Beam** 0.8nm,0.3s,baz=102,slow=4.7,SNR=3.0	**54.13**	**322**	P	P	05 06 43.1	-0.5
MKAR	**Makanchi Array** 0.2nm,0.5s,baz=34,slow=9.9,SNR=3.2	**54.64**	**313**	P	P	05 06 47.6	+0.1
YKA	**Yellowknife Ar** 0.3nm,0.4s,baz=292,slow=5.9,SNR=7.4	**76.26**	**28**	P	P	05 09 07.3	+0.2

MEX 07 05:10:25.3±0.9, 1672N×9437W, h123km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.61**	**307**	*i* P	Pn	05 10 43.4	-0.9
CMIG				*i* S	Sn	05 10 56.4	-2.2
HUIG	**Huatulco**	**1.92**	**241**	*i* P	Pn	05 10 56.1	-1.8
HUIG				*i* S	Sn	05 11 21.7	-1.1
VHO	**Vista Hermosa**	**2.29**	**279**	*i* P	Pn	05 11 01.6	-0.9
VHO				*i* S	Sn	05 11 29.5	-1.5

*NEIC **07** 05:22:18.4, 3300S×72.13W, h9km, ML2.7(GUC), After GUC.*

GUC 07 05:22:18.4±0.6, 3300S×7213W, h9km±2km, MD3.9, ML2.7, 6C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**94**	⇓*iP*	Pg	05 22 27.0	+0.6
IHA				*i* S	Sg	05 22 33.4	+1.4
LNV	**Longovilo**	**1.13**	**148**	⇑*iP*	Pg	05 22 39.0	-1.1
LNV				*i* S	Sg	05 22 54.2	-0.6
TACH	**Talagante**	**1.20**	**123**	*eP*	Pb	05 22 40.1	-1.1
TACH				*i* S	Sb	05 22 56.5	-0.3
RCDM	**Rinconada Maip**	**1.21**	**114**	*eP*	Pb	05 22 40.0	-1.6
RCDM				*i* S	Sb	05 22 56.7	-0.7
RCDM	**Rinconada Maip**	**1.21**	**114**	*eP*	Pb	05 22 40.0	-1.6
RCDM				*i* S	Sb	05 22 56.7	-0.7
RCDM	comp=N,216nm,0.3s			AML	AML	05 22 59.4	
PEL	**Peldehue**	**1.22**	**97**	⇑*iP*	Pn	05 22 40.6	-1.1
PEL				*i* S	Sb	05 22 57.4	-0.3
PEL	comp=E,614nm,0.4s			AML	AML	05 23 03.9	
ANTU	**Antumapu**	**1.38**	**115**	⇑*iP*	Pn	05 22 44.1	+0.3
ANTU				*i* S	Sb	05 23 02.6	+0.5
ANTU	**Antumapu**	**1.38**	**115**	⇑*iP*	Pn	05 22 44.1	+0.3
ANTU				*i* S	Sb	05 23 02.6	+0.5
ANTU	comp=N,184nm,0.5s			AML	AML	05 23 09.5	
CLCH	**Cerro Calan**	**1.40**	**107**	⇓*eP*	Pn	05 22 43.4	-0.7
CLCH				*i* S	Sb	05 23 01.9	-0.7
CLCH	comp=N,242nm,0.5s			AML	AML	05 23 08.8	
PCH	**Pirque**	**1.49**	**115**	*eP*	Pn	05 22 45.0	-0.4
PCH				*i* S	Sn	05 23 05.0	0.0
CHCH	**Chadas Angostu**	**1.55**	**127**	⇑*iP*	Pn	05 22 46.3	+0.1
CHCH				*i* S	Sn	05 23 07.3	+0.9
FCH	**Farellones**	**1.58**	**102**	⇑*eP*	Pn	05 22 46.4	-0.2
FCH				*i* S	Sn	05 23 07.2	0.0
FCH	comp=E,149nm,0.6s			AML	AML	05 23 15.5	
CACH	**El Canelo**	**1.70**	**131**	*eP*	Pn	05 22 48.9	+0.6
LMEL	**Las Melosas**	**1.82**	**118**	*eP*	Pn	05 22 50.4	+0.4
LMEL				*i* S	Sn	05 23 14.2	+1.0
LMEL	**Las Melosas**	**1.82**	**118**	*eP*	Pn	05 22 50.4	+0.4
LMEL				*i* S	Sn	05 23 14.2	+1.0
LMEL	comp=N,192nm,0.3s			AML	AML	05 23 21.1	
SFDO	**San Fernando**	**1.86**	**150**	⇓*eP*	Pn	05 22 50.4	-0.1
CICH	**Cipreses**	**1.94**	**133**	⇓*iP*	Pn	05 22 52.1	+0.5
CMCH	**Combarbala**	**2.06**	**28**	*eP*	Pn	05 22 51.8	-1.4

**MAN 07 05:41:59, 1807N×12094E, h35km, mb4.2, ML3.0, MS2

mb1 4.5/24,mb1mx4.5/26,mbtmp4.4/24,MS3.7/9,
Ms1 3.7/9,ms1mx3.5/24,Error ellipse: s-maj=13.1km
s-min=8.4km az=50.0

ISC 07 05:58:33.2±0.2,2314N±003×9437E±003,h96km,
h96km±1.7km:pP-P,n288,σ1§29/306,mb4.7/81,23C-12D,
Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	**Imphal**	**1.69**	**347**	*i* P	**Pn**	**05 59 00.0**	**-1.6**
IMP				*i* x	x	05 59 30.0	
SHL	**Shillong**	**3.31**	**317**	*e*P	**Pn**	**05 59 22.0**	**-1.0**
SHL				*e*S	**Sn**	**05 59 56.0**	**-5.5**
CAL	**Calcutta**	**5.60**	**265**	*e*P	**Pn**	**05 59 51.7**	**-2.3**
CAL				*e*S	**Sn**	**06 00 51.5**	**-5.6**
SHBG	**Sahibganj**	**6.46**	**290**	*e*P	**Pn**	**06 00 02.5**	**-3.2**
SLGI	**Shiliguri**	**6.46**	**305**	*e*P	**Pn**	**06 00 03.5**	**-2.2**
SLGI				*e*S	**Sn**	**06 01 09.8**	**-8.2**
LSA	**Lhasa**	**7.14**	**337**	P	**Pn**	**06 00 14.4**	**-0.6**
LSA				S	**Sn**	**06 01 30.0**	**-4.6**
LSA				Smax			
	comp=N,420nm,0.9s						
LSA				Smax			
	comp=E,460nm,0.9s						
LSA	**Lhasa**	**7.14**	**337**	⇓*i*P	**Pn**	**06 00 14.5**	**-0.5**
LSA				*e*		06 01 31.4	
LSA				pmax	pmax		
	comp=Z,264nm,0.6s						
LSA	**Lhasa**	**7.14**	**337**	⇓*i*Pn	**Pn**	**06 00 14.5**	**-0.5**
	comp=Z,264nm,0.6s						
LSA				*e*Sn	**Sn**	**06 01 31.4**	**-3.1**
NANT	**Nan**	**7.33**	**125**	⇓P	**Pn**	**06 00 16.8**	**-0.7**
BOK	**Bokaro**	**7.81**	**276**	*e*P	**Pn**	**06 00 21.9**	**-2.2**
BOK				*e*S	**Sn**	**06 01 43.4**	**-7.6**
KMI	**Kunming**	**7.90**	**74**	P	**Pn**	**06 00 29.0**	**+3.7**
KMI				S	**Sn**	**06 01 56.1**	**+3.0**
KMI				Smax			
	comp=N,126nm,1.3s						
KMI				Smax			
	comp=E,114nm,1.6s						
KMI				LR	LR		
	comp=N,1μm,8.1s						
KMI				LR	LR		
	comp=E,1μm,6.0s						
KMI				LR	LR		
	comp=Z,641nm,7.9s						
JIRN	**Jiri**	**8.65**	**303**	*e*Pn	**Pn**	**06 00 32.8**	**-2.8**
GUN	**Gumba**	**9.02**	**304**	*e*Pn	**Pn**	**06 00 37.7**	**-2.8**
GUN				*e*Sn	**Sn**	**06 02 11.4**	**-8.9**
NST	**Nakhon Sawan**	**9.21**	**143**	P	**Pn**	**06 00 42.0**	**-1.2**
	comp=Z,166nm,1.3s						
PKI	**Pulchoki**	**9.22**	**300**	*e*Pn	**Pn**	**06 00 40.0**	**-3.3**
PKI				*e*Sn	**Sn**	**06 02 14.8**	**-11**
	comp=Z,553nm,0.4s						
PKIN	**Phulchoki**	**9.24**	**300**	*e*Pn	**Pn**	**06 00 39.9**	**-3.6**
KKN	**Kakani**	**9.42**	**301**	*e*Pn	**Pn**	**06 00 43.5**	**-2.6**
KKN				*e*Sn	**Sn**	**06 02 19.8**	**-10**
DMN	**Daman**	**9.48**	**300**	*e*Pn	**Pn**	**06 00 43.1**	**-3.7**
DMN				*e*Sn	**Sn**	**06 02 19.4**	**-12**
	comp=Z,912nm,0.5s						
GKN	**Gorkha**	**10.03**	**301**	*e*Pn	**Pn**	**06 00 50.3**	**-4.0**
GKN				*e*Sn	**Sn**	**06 02 33.3**	**-12**
KOLN	**Koldanda**	**10.76**	**298**	*e*Pn	**Pn**	**06 00 59.8**	**-4.5**
KOLN				*e*Sn	**Sn**	**06 02 50.0**	**-13**
	comp=Z,474nm,0.3s						
DANN	**Dangsing**	**10.88**	**301**	*e*Pn	**Pn**	**06 01 01.2**	**-4.6**
DANN				*e*Sn	**Sn**	**06 02 53.2**	**-12**
	comp=Z,310nm,0.3s						
BLSP	**Bilaspur**	**11.34**	**267**	*e*P	**Pn**	**06 01 09.3**	**-2.9**
BLSP				*e*S	**Sn**	**06 03 05.1**	**-12**
CD2	**Chengdu**	**11.40**	**45**	*e*P	**Pn**	**06 01 07.4**	**-5.5**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s						
CD2				AMB	AMB		
	comp=Z,40nm,5.2s						
CD2				LR	LR		
	comp=N,1μm,9.6s						
CD2				LR	LR		
	comp=E,1μm,9.0s						
CD2				LR	LR		
	comp=Z,1μm,10.8s						
PBA	**Port Blair**	**11.52**	**188**	*e*P	x	06 01 25.6	
PBA				*e*S	x	06 03 31.3	
GYA	**Guiyang**	**11.65**	**71**	⇑*i*P	**Pn**	**06 01 10.8**	**-5.5**
GYA				PP		06 01 19.8	
GYA				S	**Sn**	**06 03 16.8**	**-7.6**
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,150nm,4.2s						
GYA				LR	LR		
	comp=N,980nm,8.4s						
GYA				LR	LR		
	comp=E,680nm,9.2s						
GYA				LR	LR		
	comp=Z,940nm,9.0s						
ALBI	**Allahabad**	**11.66**	**283**	*e*P	**Pn**	**06 01 09.5**	**-7.0**
ALBI				*e*S	**Sn**	**06 03 07.5**	**-17**
VIS	**Vishakhapatnam**	**11.66**	**244**	*i* P	**Pn**	**06 01 16.1**	**-0.5**
VIS				AMb	AMB	06 01 19.0	
	comp=Z,25nm,0.8s						
VIS				*i* x	x	06 03 10.2	
LGTI	**Lohaghat**	**14.13**	**299**	*e*P	**Pn**	**06 01 47.5**	**-1.5**
LGTI				*ex*	x	06 04 15.5	
PTH	**Pithoragarh**	**14.20**	**300**	*e*P	**Pn**	**06 01 46.8**	**-3.0**
PTH				*ex*	x	06 04 11.9	
NGP	**Nagpur**	**14.33**	**265**	*e*P	**Pn**	**06 01 50.0**	**-1.6**
NGP				*ex*	x	06 04 15.5	
QIZ	**Qiongzhong**	**15.01**	**103**	P	**Pn**	**06 01 56.3**	**-4.0**
QIZ				AP		06 02 04.9	
QIZ				S	**S**	**06 04 37.8**	**-19**
QIZ				AMB	AMB		
	comp=Z,189nm,3.5s						
QIZ				LR	LR		
	comp=N,619nm,14.1s						
QIZ				LR	LR		
	comp=Z,295nm,26.2s						
QIZ	**Qiongzhong**	**15.01**	**103**	*e*Pn	**Pn**	**06 02 03.8**	**+3.5**
	comp=Z,86nm,0.8s						
LZH	**Lanzhou**	**15.30**	**30**	*e*P	**Pn**	**06 02 01.5**	**-2.3**
LZH				PP		06 02 14.4	
LZH				*e*S	**S**	**06 04 46.0**	**-17**
LZH				AMB	AMB		
	comp=Z,30nm,1.0s						
LZH				AMB	AMB		
	comp=Z,110nm,5.4s						
LZH				LR	LR		
	comp=N,520nm,9.7s						
LZH				LR	LR		
	comp=Z,710nm,10.5s						
BHPL	**Bhopal**	**15.58**	**274**	*e*P	**Pn**	**06 02 05.9**	**-1.6**
BHPL				*ex*	x	06 04 43.1	
HYB	**Hyderabad**	**15.88**	**252**	*e*P	**Pn**	**06 02 12.5**	**+1.2**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s						
HYB	**Hyderabad**	**15.88**	**252**	*e*P	**Pn**	**06 02 12.5**	**+1.2**
	comp=Z,50nm,1.0s						
HYB				*e*S	S	06 04 52.0	-23
HYB	**Hyderabad**	**15.88**	**252**	⇓*i*P	**Pn**	**06 02 12.5**	**+1.2**
	comp=Z,50nm,1.0s						
HYB				*e*S	S	06 04 52.0	-23
DDI	**Dehra Dun**	**16.22**	**300**	*e*P	**Pn**	**06 02 14.8**	**-0.6**
DDI				*ex*	x	06 05 00.0	
AKL	**Akola**	**16.28**	**265**	*e*P	**Pn**	**06 02 13.8**	**-2.5**
AKL				AMb	AMB	06 02 14.3	
	comp=Z,63nm,1.1s						
NDI	**New Delhi**	**16.38**	**293**	*e*P	**Pn**	**06 02 16.7**	**-0.7**
NDI				AMb	AMB	06 02 25.6	
	comp=Z,90nm,0.1s						
NDI				*ex*	x	06 05 01.0	
XAN	**Xi'an**	**16.75**	**46**	P	**Pn**	**06 02 19.7**	**-2.2**
XAN				AP	pP	06 02 26.7	-14
XAN				XP	sP	06 02 32.1	-21
XAN				PP		06 02 33.5	
XAN				PPP		06 02 41.2	
XAN				S	**S**	**06 05 23.6**	**-9.0**
XAN				SS		06 05 47.7	
XAN				PCP	PcP	06 07 04.9	-0.1
XAN				SCP	ScP	06 10 31.8	+0.7
XAN				PCS	PcS	06 10 38.9	-2.1
XAN				SCS	ScS	06 14 10.1	-0.5
XAN				AMB	AMB		
	comp=Z,64nm,0.8s						
XAN				AMB	AMB		
	comp=Z,101nm,9.5s						
XAN				LR	LR		
	comp=Z,360nm,23.7s						
GTA	**Gaotai**	**16.87**	**15**	*e*P	**Pn**	**06 02 22.1**	**-1.2**
GTA				AP	pP	06 02 34.8	-7.1
GTA				S	**S**	**06 05 27.3**	**-7.5**
GTA				XS	sS	06 05 46.9	-18
GTA				SS		06 05 50.6	
GTA				PCP	PcP	06 07 06.7	+1.6
GTA				SCP	ScP	06 10 32.0	+0.8
GTA				SCS	ScS	06 14 10.8	+0.1
GTA				AMB	AMB		
	comp=Z,11nm,1.3s						
GTA				AMB	AMB		
	comp=Z,66nm,4.9s						
GTA				LR	LR		
	comp=N,228nm,19.0s						
GTA				LR	LR		
	comp=E,275nm,17.9s						
GTA				LR	LR		
	comp=Z,279nm,19.4s						
SNG	**Songkhla**	**16.97**	**158**	P	**Pn**	**06 02 25.6**	**+0.9**
SMLA	**Simla**	**17.24**	**301**	*e*P	**Pn**	**06 02 25.6**	**-2.3**
SMLA				AMb	AMB	06 02 34.3	
	comp=Z,51nm,0.6s						
GZH	**Guangzhou**	**17.46**	**86**	P	**Pn**	**06 02 33.7**	**+3.0**
GZH				S	**S**	**06 05 50.1**	**+4.4**
GZH				AMB	AMB		
	comp=Z,205nm,0.9s						
GZH				LR	LR		
	comp=N,1μm,13.0s						
GZH				LR	LR		
	comp=E,322nm,9.2s						
GZH				LR	LR		
	comp=Z,502nm,9.2s						
SDNR	**Sundarnagar**	**17.54**	**302**	*e*P	**Pn**	**06 02 29.0**	**-2.6**
SDNR				*ex*	x	06 05 29.0	
AJM	**Ajmer**	**18.21**	**285**	*e*P	**Pn**	**06 02 38.0**	**-1.7**
AJM				AMb	AMB	06 02 40.1	
	comp=Z,96nm,0.5s						
KULM	**Kulim**	**18.75**	**160**	*e*P	**Pn**	**06 02 44.7**	**-1.5**
THN	**Thein Dam**	**18.90**	**303**	*e*P	**Pn**	**06 02 46.8**	**-1.0**
WHN	**Wuhan**	**19.28**	**63**	P	**Pn**	**06 02 50.0**	**-2.4**
WHN				S	**S**	**06 06 27.0**	**+3.4**
WHN				LR	LR		
	comp=N,572nm,5.8s						
WHN				LR	LR		
	comp=E,508nm,5.2s						
WHN				LR	LR		
	comp=Z,868nm,4.6s						
POO	**Poona**	**19.71**	**260**	*e*P	**Pn**	**06 02 53.9**	**-3.6**
POO				AMb	AMB	06 03 01.1	
	comp=Z,45nm,0.9s						
POO				*ex*	x	06 06 19.1	
KAD	**Karad**	**19.80**	**257**	*e*P	**Pn**	**06 02 56.9**	**-1.6**
KAD				AMb	AMB	06 03 03.6	
	comp=Z,19nm,1.0s						
KAD				*ex*	x	06 06 20.9	
PALK	**Pallekele**	**20.53**	**222**	P	**P**	**06 03 04.3**	**+0.3**
	comp=Z,314nm,1.0s,SNR=5.2						
PALK	**Pallekele**	**20.53**	**222**	*e*P	**P**	**06 03 04.7**	**+0.7**
	comp=Z,110nm,1.3s						
BOM	**Bombay**	**20.55**	**262**	*e*P	**P**	**06 03 05.1**	**+0.9**
BOM				*ex*	x	06 03 09.1	
	comp=Z,280nm,1.4s						
BOM				*ex*	x	06 06 40.5	
PSI	**Prapat**	**20.69**	**167**	P	**P**	**06 03 06.1**	**+0.4**
	comp=Z,54nm,0.9s,baz=333,slow=8.5,SNR=25						
PSI				ScP	ScP	06 10 40.8	+0.6
	comp=Z,9.4nm,0.8s,baz=322,slow=3.5,SNR=10						
TIY	**Taiyuan**	**21.25**	**43**	P	**P**	**06 03 12.0**	**+0.5**
TIY				S	**S**	**06 07 01.6**	**-0.6**
TIY				LR	LR		
	comp=N,492nm,5.5s						
TIY				LR	LR		
	comp=E,256nm,4.4s						
TIY				LR	LR		
	comp=Z,370nm,6.5s						
WMQ	**Urumqi**	**21.35**	**347**	⇑P	**P**	**06 03 12.0**	**-0.5**
WMQ				AP		06 03 21.0	
WMQ				XP	sP	06 03 26.0	-17
WMQ				PP		06 03 35.0	
WMQ				S	**S**	**06 07 01.0**	**-3.0**
WMQ				SS		06 07 38.0	
WMQ				AMB	AMB		
	comp=Z,65nm,0.8s,mb5.0						
WMQ				LR	LR		
	comp=N,157nm,5.0s						
WMQ				LR	LR		
	comp=E,442nm,8.0s						
WMQ				LR	LR		
	comp=Z,135nm,6.0s						
QZH	**Quanzhou**	**22.19**	**80**	P	**P**	**06 03 20.8**	**-0.9**
QZH				S	**S**	**06 07 14.5**	**-5.4**
QZH				LR	LR		
	comp=N,1μm,7.1s						
QZH				LR	LR		
	comp=E,690nm,12.5s						
KSH	**Kashi**	**22.59**	**321**	*e*P	**P**	**06 03 27.0**	**+1.3**
KSH				*e*AP		06 03 36.1	
KSH				*e*XP	sP	06 03 40.3	-16
KSH				*e*PP		06 03 56.1	
KSH				*e*PPP		06 04 06.0	
KSH				*e*PCP	PcP	06 07 19.3	+3.8
KSH				*e*S	**S**	**06 07 27.7**	**+1.7**
KSH				*e*SS		06 08 13.3	
KSH				AMB	AMB		
	comp=Z,440nm,1.7s,mb5.5						
KSH				LR	LR		
	comp=N,1μm,5.4s						
KSH				LR	LR		
	comp=E,1μm,8.0s						
KSH				LR	LR		
	comp=Z,938nm,9.3s						
HHC	**Hu-ho-hao-te**	**22.83**	**35**	*e*P	**P**	**06 03 25.7**	**-2.5**
HHC				AP		06 03 35.1	
HHC				PP		06 03 54.3	
HHC				PCP	PcP	06 07 20.2	+4.3
HHC				S	**S**	**06 07 33.1**	**+3.1**
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,148nm,7.7s						
HHC				LR	LR		
	comp=N,344nm,12.7s						
HHC				LR	LR		
	comp=E,788nm,17.1s						
HHC				LR	LR		
	comp=Z,301nm,15.7s						
NJ2	**Nanjing**	**23.41**	**62**	*e*P	**P**	**06 03 32.6**	**-1.0**
NJ2				AP		06 03 42.1	
NJ2				XP	sP	06 03 46.6	-19
NJ2				PP		06 04 03.4	
NJ2				PPP		06 04 12.9	
NJ2				S	**S**	**06 07 36.0**	**-3.5**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,110nm,10.4s						
NJ2				LR	LR		
	comp=N,1μm,11.8s						
NJ2				LR	LR		
	comp=E,510nm,26.5s						
NJ2				LR	LR		
	comp=Z,510nm,26.4s						
TIA	**Tai'an**	**23.61**	**51**	*e*P	**P**	**06 03 33.8**	**-1.6**
ULHL	**Ulahol**	**24.32**	**326**	P	**P**	**06 03 44.0**	**+2.3**
	SNR=14						
KZA	**Kyzart**	**24.72**	**324**	P	**P**	**06 03 47.6**	**+2.2**
	SNR=7.6						
BJI	**Beijing**	**24.98**	**42**	P	**P**	**06 03 46.9**	**-0.9**
BJI				S	**S**	**06 07 58.4**	**-6.1**
BJI				AMB	AMB		
	comp=Z,52nm,0.6s,mb5.1						
BJI				LR	LR		
	comp=N,254nm,10.3s						
BJI				LR	LR		
	comp=E,258nm,10.3s						
BJI				LR	LR		
	comp=Z,157nm,11.6s						
TKM2	**Tokmak 2**	**25.13**	**326**	P	**P**	**06 03 51.2**	**+2.1**
	SNR=29						
UCH	**Uchtor**	**25.22**	**324**	P	**P**	**06 03 52.3**	**+2.4**
	SNR=31						
KBK	**Karagaybulak**	**25.28**	**325**	P	**P**	**06 03 53.0**	**+2.5**
	SNR=22						
AAK	**Ala-Archa**	**25.51**	**324**	P	**P**	**06 03 54.1**	**+1.6**
	comp=Z,250nm,0.6s,mb5.8,SNR=30						
AAK	**Ala-Archa**	**25.51**	**324**	⇑*e*P	**P**	**06 03 53.6**	**+1.1**
AAK				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.6						
AAK	**Ala-Archa**	**25.51**	**324**	*e*P	**P**	**06 03 53.1**	**+0.6**
AAK	**Ala-Archa**	**25.51**	**324**	P	**P**	**06 03 54.0**	**+1.5**
	comp=Z,34nm,0.7s,mb4.9,baz=129,slow=6.4,SNR=58						
AAK	**Ala-Archa**	**25.51**	**324**	P	**P**	**06 03 54.5**	**+2.0**
	SNR=20						
MK31	**Makanchi Array**	**25.53**	**341**	*i* P	**P**	**06 03 54.1**	**+1.4**
MK31				pmax	pmax		
	comp=Z,32nm,0.4s,mb5.1						
MKAR	**Makanchi Array**	**25.53**	**341**	P	**P**	**06 03 54.0**	**+1.3**
MKAR				*PP	pP	06 04 14.5	+0.4
MKAR	**Makanchi Array**	**25.53**	**341**	P	**P**	**06 03 54.0**	**+1.3**
MKAR				pP	pP	06 04 14.5	+0.4
MKAR				ScP	ScP	06 10 52.7	+0.3
MKAR	**Makanchi Array**	**25.53**	**341**	P	**P**	**06 03 54.0**	**+1.3**
	comp=Z,43nm,0.5s,mb5.1,baz=146,slow=9.2,SNR=629						
MKAR				pP	pP	06 04 14.5	+0.4
	comp=Z,35nm,0.7s,baz=149,slow=10,SNR=5.2						
MKAR				ScP	ScP	06 10 52.7	+0.3
	comp=Z,2.7nm,0.8s,baz=101,slow=2.5,SNR=8.4						
FRU	**Bishkek**	**25.58**	**325**	*e*P	**P**	**06 03 54.0**	**+0.8**
AML	**Almayashu**	**25.61**	**323**	P	**P**	**06 03 55.9**	**+2.4**
	SNR=18						
EKS2	**Erkin-Say**	**25.91**	**324**	P	**P**	**06 03 59.0**	**+2.7**
	SNR=23						
SONM	**Songino Array**	**26.45**	**18**	P	**P**	**06 04 00.9**	**-0.1**
SONM				*PP	pP	06 04 22.9	+0.4
SONM	**Songino Array**	**26.45**	**18**	P	**P**	**06 04 00.9**	**-0.1**
	comp=Z,3.3nm,0.5s,mb4.0,baz=202,slow=7.8,SNR=23						
SONM				pP	pP	06 04 22.9	+0.4
	comp=Z,12nm,0.8s,baz=198,slow=9.8,SNR=8.6						
SONM				ScP	ScP	06 10 55.1	0.0
	comp=Z,1.4nm,0.8s,baz=207,slow=2.0,SNR=4.7						
SONM				LR	LR	06 16 44.2	
	comp=Z,49nm,20.8s,baz=353,slow=41						
ULN	**Ulaanbaatar**	**26.68**	**19**	⇑*e*P	**P**	**06 04 02.5**	**-0.5**
KK31	**Karatay Array**	**28.04**	**321**	*i* P	**P**	**06 04 15.8**	**+0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb3.8						
ZAK	**Zakamensk**	**28.07**	**12**	*e*P	**P**	**06 04 15.8**	**+0.4**
ZAK				*e*	pP	06 04 38.5	+1.4
ZAK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.0						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.4s						
MOY	**Mondy**	**28.94**	**9**	*e*P	**P**	**06 04 24.4**	**+1.3**
IRK	**Irkutsk**	**30.04**	**12**	*e*P	**P**	**06 04 24.3**	**-8.5**
IRK				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.0						
KURK	**Kurchatov**	**30.14**	**340**	P	**P**	**06 04 34.0**	**+0.3**
	comp=Z,153nm,0.5s,mb5.9,SNR=15						
KURK	**Kurchatov**	**30.14**	**340**	*e*P	**P**	**06 04 34.7**	**+0.9**
ZAL	**Zalesovo**	**31.59**	**349**	P	**P**	**06 04 47.4**	**+0.9**
ZAL				*PP	pP	06 05 08.0	-0.3
ZALV	**Zalesovo Beam**	**31.60**	**349**	P	**P**	**06 04 47.4**	**+0.8**
	comp=Z,6.5nm,0.4s,mb4.7,baz=162,slow=9.7,SNR=15						
ZALV				pP	pP	06 05 08.0	-0.4
	comp=Z,8.7nm,0.8s,baz=170,slow=9.0,SNR=3.7						
ZALV				ScP	ScP	06 11 11.4	+0.2
	comp=Z,1.7nm,0.6s,baz=226,slow=6.0,SNR=3.7						
KSRS	**Korea Array**	**32.11**	**56**	P	**P**	**06 04 50.4**	**-0.9**
	comp=Z,2.1nm,0.5s,mb4.1,baz=256,slow=7.7,SNR=8.0						
KSRS				pP	pP	06 05 10.9	-2.1
	comp=Z,4.2nm,0.7s,baz=253,slow=7.8,SNR=5.3						
KSRS				PP	PP	06 06 01.5	-4.0
	comp=Z,2.8nm,1.0s,baz=246,slow=9.5,SNR=4.2						
KSRS				ScP	ScP	06 11 12.3	-1.0
	comp=Z,2.2nm,0.7s,baz=247,slow=4.0,SNR=8.4						
NVS	**Novosibirsk**	**32.74**	**348**	*e*P	**P**	**06 04 56.3**	**-0.2**
NVS				*e*S	**S**	**06 10 05.2**	**-0.7**
NVS				pmax	pmax		
	comp=N,21nm,1.0s						
NVS				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.0						
NVS				pmax	pmax		
	comp=E,6.0nm,0.6s						
NVS				smax			
	comp=N,52nm,1.7s						
NVS				smax			
	comp=E,17nm,1.0s						
CN2	**Changchun**	**32.83**	**44**	*e*P	**P**	**06 04 56.2**	**-1.3**
CN2				*e*S	**S**	**06 10 08.9**	**+1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s						
CN2				LR	LR		
	comp=E,100nm,14.0s						
CN2				LR	LR		
	comp=Z,200nm,13.0s						
HIA	**Hailar**	**32.86**	**31**	*e*P	**P**	**06 04 59.5**	**+1.9**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
HIA	**Hailar**	**32.86**	**31**	*e*P	**P**	**06 04 59.5**	**+1.8**
	comp=Z,7.3nm,0.6s,mb4.7						
JNU	**Nakatsue**	**33.56**	**65**	P	**P**	**06 05 02.9**	**-1.1**
	comp=Z,14nm,0.8s,mb4.8,baz=232,slow=3.4,SNR=8.6						
JNU				pP	pP	06 05 25.4	-0.4
	comp=Z,23nm,0.9s,baz=236,slow=3.6,SNR=5.8						
BVAR	**Borovoye Array**	**34.97**	**335**	P	**P**	**06 05 16.3**	**+0.4**
BVAR						06 07 46.6	
BVAR	**Borovoye Array**	**34.97**	**335**	P	**P**	**06 05 16.3**	**+0.4**
	comp=Z,4.4nm,0.6s,mb4.4,baz=139,slow=11,SNR=17						
BVAR				PcP	PcP	06 07 46.6	+0.5
	comp=Z,4.1nm,0.7s,baz=152,slow=4.5,SNR=5.1						
BVAR				ScP	ScP	06 11 24.2	+1.2
	comp=Z,1.2nm,0.7s,baz=228,slow=3.8,SNR=5.7						
BRVK	**Borovoye**	**35.04**	**335**	*e*P	**P**	**06 05 17.2**	**+0.7**
MDJ	**Mudanjiang**	**35.85**	**45**	P	**P**	**06 05 21.7**	**-1.9**
MDJ				PP	PP	06 06 42.8	-4.0
MDJ				S	**S**	**06 10 55.9**	**+1.7**
MDJ				SCP	ScP	06 11 33.5	+7.1
MDJ				PCS	PcS	06 11 36.9	+0.6
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,19nm,5.7s						
BOD	**Bodaibo**	**37.44**	**17**	*e*P	**P**	**06 05 37.1**	**+0.3**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
KLR	**Kul'dur**	**39.24**	**39**	*e*P	**P**	**06 05 45.8**	**-6.3**
AKTK	**Aktyubinsk**	**39.24**	**323**	P	**P**	**06 05 53.4**	**+1.3**
AKTK				ScP	ScP	06 11 40.5	+1.4
AKTO	**Aktyubinsk**	**39.24**	**323**	P	**P**	**06 05 53.4**	**+1.3**
	comp=Z,10nm,0.7s,mb4.8,baz=109,slow=9.4,SNR=34						
AKTO				ScP	ScP	06 11 40.5	+1.4
	comp=Z,4.3nm,0.9s,baz=96,slow=4.7,SNR=7.9						
MAJO	**Matsushiro**	**39.98**	**60**	*e*P	**P**	**06 05 56.8**	**-1.6**
MAJO				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.1						
MAJO	**Matsushiro**	**39.98**	**60**	*e*P	**P**	**06 05 56.8**	**-1.6**
	comp=Z,26nm,0.8s,mb5.1						
MAT	**Matsushiro**	**39.98**	**60**	P	**P**	**06 05 56.3**	**-2.1**
MAT				S	**S**	**06 11 57.3**	**+0.5**
MJAR	**Matsushiro Arr**	**39.98**	**60**	P	**P**	**06 05 57.3**	**-1.1**
MJAR				*PP	pP	06 06 20.2	-0.6
MJAR	**Matsushiro Arr**	**39.98**	**60**	P	**P**	**06 05 57.3**	**-1.1**
	comp=Z,13nm,0.8s,mb4.8,baz=273,slow=9.7,SNR=34						
MJAR				pP	pP	06 06 20.2	-0.6
	comp=Z,7.9nm,1.1s,baz=254,slow=40,SNR=11						
MJAR				ScP	ScP	06 11 41.5	-0.7
	comp=Z,6.7nm,0.9s,baz=253,slow=3.4,SNR=16						
MJAR				LR	LR	06 24 07.0	
	comp=Z,152nm,18.3s,baz=235,slow=38						
SVE	**Sverdlovsk**	**41.65**	**333**	⇑*e*P	**P**	**06 06 13.0**	**+1.2**
SVE				*e*	pP	06 06 35.8	+1.5
SVE				pmax	pmax		
	comp=Z,21nm,

NAY AMb AMB 06 06 41.2
comp=Z,47nm,0.7s,mb5.3
BATI Kupang 43.83 136 P **P 06 06 28.9 -1.0**
comp=Z,28nm,0.5s,mb5.2,baz=304,slow=4.5,SNR=5.1
BHD Baghdad 44.83 294 *ex* x 06 07 04.5
MSL Mosul 45.93 299 *ex* x 06 07 10.0
KIV Kislovodsk 46.96 309⇑ *eP* **P 06 06 56.2 +1.8**
KIV pmax pmax
comp=Z,26nm,1.1s,mb4.9
KIV MLR MLR
comp=Z,100nm,19.0s
SOC Sochi 49.05 308*c i*P **P 06 07 10.6 +0.2**
SOC *e**SP sP 06 07 24.9 -20
SOC *e* 06 08 35.1
SOC *e* 06 09 09.4
SOC *e*PPP 06 10 02.7
SOC *e*S **S 06 14 17.6 +10**
SOC *e*SSS 06 19 10.3
SOC pmax pmax
comp=Z,16nm,0.6s,mb5.1
ELZG Elazig 49.27 302 *i* P **P 06 07 15.1 +2.9**
GZT Gaziantep 50.38 300 *i* P **P 06 07 19.7 -1.0**
VORD Divnogorie 50.51 318 *eP* **P 06 07 22.3 +0.9**
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
VORD pmax pmax
comp=E,10.0nm,0.7s
FITZ Fitzroy Crossi 51.12 141 *eP* **P 06 07 26.1 -0.3**
comp=E,12nm,0.9s,mb4.9
KAKA Kakadu 51.56 130 *eP* **P 06 07 30.0 +0.3**
comp=E,3.9nm,0.5s,mb4.7
TIXI Tiksi 52.35 13 *eP* **P 06 07 33.2 -1.6**
TIXI *e*S **S 06 14 50.5 -2.2**
TIXI pmax pmax
comp=Z,13nm,0.9s,mb5.0
BOYT Boyabat 52.46 305 *i* P **P 06 07 37.1 +0.9**
CTKT Corum 52.54 304 *i* P **P 06 07 36.8 0.0**
OBN Obninsk 53.01 323⇓ *iP* **P 06 07 41.1 +1.2**
OBN pmax pmax
comp=Z,18nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s
MA2 Magadan 53.45 32⇑ *eP* **P 06 07 41.5 -1.5**
BALT Daday 53.60 305 *i* P **P 06 07 45.3 +0.8**
SEY Seymchan 55.22 28⇑ *iP* **P 06 07 53.5 -2.3**
GDZ Gediz 56.67 303 *i* P **P 06 08 06.7 +0.1**
AKASG Malin Array Be 56.80 316 P **P 06 08 07.0 -0.3**
comp=Z,16nm,0.7s,mb5.2,baz=84,slow=6.2,SNR=67
AKASG ScP ScP 06 12 51.5 -1.4
comp=Z,0.1nm,0.3s,baz=78,slow=3.4,SNR=4.9
JOF Joensuu 57.43 331 *ep* **P 06 08 11.1 -0.4**
comp=Z,4.1nm,0.5s,mb4.7
APA Apatity 57.84 337⇑ *eP* **P 06 08 14.0 -0.3**
APA *i* pP 06 08 39.8 +1.7
APA pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
WRA Warramunga Arr 57.91 134 P **P 06 08 15.5 0.0**
WRA *PP pP 06 08 38.1 -1.2
WRA Warramunga Arr 57.91 134 P **P 06 08 15.5 -0.1**
WRA pP pP 06 08 38.1 -1.2
WRA ScP ScP 06 12 55.7 -2.5
WRA Warramunga Arr 57.91 134 P **P 06 08 15.5 -0.1**
comp=Z,10nm,0.5s,mb5.1,baz=323,slow=7.4,SNR=183
WRA pP pP 06 08 38.1 -1.2
comp=Z,8.0nm,0.6s,baz=322,slow=7.5,SNR=4.4
WRA ScP ScP 06 12 55.7 -2.4
comp=Z,2.0nm,0.7s,baz=323,slow=4.4,SNR=7.5
WRA PKP2bc 06 38 10.8
comp=Z,0.5nm,0.7s,baz=141,slow=1.8,SNR=6.0
WRAB Tennant Creek 57.92 134 P **P 06 08 15.8 +0.3**
comp=Z,133nm,0.7s,SNR=13
WRAB Tennant Creek 57.92 134 *eP* **P 06 08 15.5 0.0**
WRAB pmax pmax
comp=Z,17nm,0.7s,mb5.2
WRAB Tennant Creek 57.92 134 *eP* **P 06 08 15.5 0.0**
comp=Z,17nm,0.7s,mb5.2
WB2 Warramunga Arr 57.92 134 *eP* **P 06 08 14.9 -0.7**
VRI Vrincioaia 58.38 311⇑ *iP* **P 06 08 20.3 +1.8**
PLOR Plostina 58.44 311⇑ *iP* **P 06 08 20.6 +1.7**
MUN Mundaring 58.65 158 *eP* **P 06 08 20.4 0.0**
KLBR Kellerberrin 58.85 157 *eP* **P 06 08 21.5 -0.3**
comp=Z,43nm,1.2s,mb5.3
VSU Vasula 58.90 325⇑ *eP* **P 06 08 22.6 +0.7**
MLR Muntele Rosu 58.95 310⇓ *iP* **P 06 08 24.3 +1.9**
BURAR Bucovina Array 59.38 313⇓ *iP* **P 06 08 26.2 +0.9**
VOIR 59.58 310⇓ *iP* **P 06 08 28.2 +1.4**
FINES FINESS Array B 59.58 329 *i* P **P 06 08 26.7 +0.2**
FINES pmax pmax
comp=Z,4.0nm,0.5s
FINES FINESS Array B 59.58 329 P **P 06 08 26.8 +0.3**
comp=Z,3.7nm,0.5s,mb4.6,baz=104,slow=9.5,SNR=17
FINES pP pP 06 08 50.6 +0.2
comp=Z,3.2nm,0.6s,baz=118,slow=11,SNR=5.0
FINES LR LR 06 36 52.0
comp=Z,69nm,20.9s,baz=69,slow=38
ASAR Alice Springs 60.33 138 P **P 06 08 32.5 +0.3**
ASAR *PP pP 06 08 54.4 -1.7
ASAR Alice Springs 60.33 138 P **P 06 08 32.5 +0.3**
comp=Z,10.0nm,0.6s,mb5.0,baz=320,slow=6.8,SNR=93
ASAR pP pP 06 08 54.4 -1.7
comp=Z,6.8nm,0.7s,baz=322,slow=6.1,SNR=3.4
ASAR PKP2bc 06 38 02.9
comp=Z,0.7nm,0.8s,baz=93,slow=2.6,SNR=5.7
KMBO Kilima Mbogo 60.52 255 P **P 06 08 34.6 +0.9**
comp=Z,3.6nm,0.6s,mb4.6,baz=51,slow=12,SNR=9.7
SUW Suwalki 60.62 320 *eP* **P 06 08 34.3 +0.6**
SUW Suwalki 60.62 320 *eP* **P 06 08 34.3 +0.6**
KEV Kevo 60.68 338 *ep* **P 06 08 32.2 -1.7**
comp=Z,6.2nm,0.6s,mb4.8
KEV Kevo 60.68 338 *eP* **P 06 08 32.2 -1.7**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KWP Kalwaria 60.98 315 *eP* **P 06 08 36.9 +0.7**
KWP Kalwaria 60.98 315 *eP* **P 06 08 36.9 +0.7**
KWP Kalwaria 60.98 315⇓ *iP* **P 06 08 36.9 +0.7**
VTS Vitosha 61.12 307⇑ *iP* **P 06 08 39.1 +1.8**
VTS Vitosha 61.12 307⇑ *iP* **P 06 08 39.0 +1.7**
ARCES ARCESS Array B 61.15 338 P **P 06 08 37.3 +0.2**
ARCES *PP pP 06 09 01.4 +0.4
ARCES ARCESS Array B 61.15 338 P **P 06 08 37.3 +0.3**
comp=Z,5.5nm,0.7s,mb4.7,baz=91,slow=7.1,SNR=28
ARCES pP pP 06 09 01.4 +0.3
comp=Z,3.5nm,0.7s,baz=120,slow=7.1,SNR=9.6
ARCES LR LR 06 38 25.9
comp=Z,41nm,19.9s,baz=285,slow=39
KOLS Kolonicke sedl 61.29 314 *eP* **P 06 08 39.7 +1.3**
UZH Uzhgorod 61.29 314 *eP* **P 06 08 40.0 +1.6**
CRVS Cervenica-Dubn 61.83 314 *eP* **P 06 08 42.8 +0.8**
STHS Stebnicka Huta 61.94 315 *eP* **P 06 08 44.1 +1.4**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
STHS Stebnicka Huta 61.94 315 *eP* **P 06 08 44.1 +1.4**
comp=Z,3.1nm,0.7s,mb4.5
BILL Bilibino 61.99 24⇑ *eP* **P 06 08 41.3 -1.5**
BILL pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
VYHS Vyhne 63.59 314 *eP* **P 06 08 54.9 +1.2**
VYHS pmax pmax
comp=Z,4.0nm,1.4s,mb4.1
VYHS Vyhne 63.59 314 *eP* **P 06 08 54.9 +1.2**
comp=Z,4.0nm,1.4s,mb4.1
OKC Ostrava-Krasne 63.91 316 *eP* **P 06 08 57.5 +1.7**
PKSM Moragy 63.97 312⇑ *iP* **P 06 08 56.8 +0.5**
MORC Moravsky Berou 64.31 316⇓ *iP* **P 06 08 59.8 +1.4**
MODS Modra-Piesok 64.64 314 *eP* **P 06 09 01.1 +0.6**
KSP Ksiaz 64.99 317 *eP* **P 06 09 03.8 +1.0**
DPC Dobruska-Polom 65.03 316 *eP* **P 06 09 04.2 +1.2**
CONA Conrad Observa 65.64 314⇑ *iP* **P 06 09 08.2 +1.2**
comp=Z,5.6nm,1.0s,mb4.3
TREC Trest 65.69 315 *eP* **P 06 09 04.8 -2.6**
PRU Pruhonice 66.21 316 *eP* **P 06 09 11.8 +1.2**
CTA Charters Tower 66.39 126 *eP* **P 06 09 12.6 +0.4**
comp=Z,15nm,1.5s,mb4.6
CTA Charters Tower 66.39 126 *eP* **P 06 09 12.6 +0.4**
CTA pmax pmax
comp=Z,15nm,1.5s
BRG Berggiesshubel 66.46 317 *eP* **P 06 09 13.3 +1.0**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BRG Berggiesshubel 66.46 317 *eP* **P 06 09 13.2 +1.0**
comp=Z,5.5nm,0.9s,mb4.4
MOA Molln 66.71 314⇓ *iP* **P 06 09 14.3 +0.4**
comp=Z,6.7nm,0.7s,mb4.6

NB2 NORSAR Subarra 66.75 328 P **P 06 09 13.2 -0.7**
comp=Z,11nm,0.9s,mb4.7,baz=84,slow=6.5
NOA NORSAR Array B 66.75 328 P **P 06 09 13.5 -0.4**
NOA *PP pP 06 09 37.0 -1.2
NOA NORSAR Array B 66.75 328 P **P 06 09 13.5 -0.4**
NOA pP pP 06 09 37.0 -1.2
NOA LR LR 06 39 08.2
NOA NORSAR Array B 66.75 328 P **P 06 09 13.5 -0.4**
comp=Z,6.0nm,0.7s,mb4.5,baz=85,slow=6.3,SNR=21
NOA pP pP 06 09 37.0 -1.2
comp=Z,2.9nm,0.6s,baz=85,slow=6.4,SNR=2.9
NOA LR LR 06 39 08.2
comp=Z,60nm,18.0s,baz=115,slow=36
GEC2 GERESS Array S 66.92 315 *eP* **P 06 09 16.0 +0.8**
GEC2 pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
GEC2 GERESS Array S 66.92 315 *eP* **P 06 09 16.0 +0.8**
comp=Z,8.0nm,0.9s,mb4.5
GERES GERESS Array B 66.92 315 P **P 06 09 15.8 +0.6**
comp=Z,4.9nm,0.8s,mb4.4,baz=79,slow=6.9,SNR=28
GERES LR LR 06 41 15.2
comp=Z,76nm,19.4s,baz=298,slow=38
KHC Kasperske Hory 66.96 315 *eP* **P 06 09 17.3 +1.9**
CLL Collm 66.99 318 *eP* **P 06 09 15.0 -0.6**
WET Wettzell 67.41 315 *eP* **P 06 09 20.2 +1.9**
WET pmax pmax
comp=Z,8.0nm,0.9s,mb4.5
WET Wettzell 67.41 315 *eP* **P 06 09 20.2 +1.9**
comp=Z,8.0nm,0.9s,mb4.5
ROTZ Rotzenmuhle 67.74 316 *eP* **P 06 09 21.4 +1.1**
comp=Z,15nm,1.0s,mb4.8
MOX Moxa 67.96 317 *eP* **P 06 09 23.3 +1.6**
comp=Z,8.0nm,1.1s,mb4.5
MOX Moxa 67.96 317 *eP* **P 06 09 23.3 +1.6**
MOX pmax pmax
comp=Z,8.0nm,1.1s,mb4.5
GRA1 Grafenberg Arr 68.38 316 *eP* **P 06 09 25.3 +1.0**
comp=Z,9.0nm,1.1s,mb4.5
GRF Grafenberg Arr 68.38 316 *eP* **P 06 09 25.3 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
GRF Grafenberg Arr 68.38 316 *eP* **P 06 09 25.3 +1.0**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
GRF Grafenberg Arr 68.38 316 *eP* **P 06 09 25.3 +1.0**
comp=Z,9.0nm,1.1s,mb4.5
RETA Reutte 69.10 314⇓ *iP* **P 06 09 30.1 +1.2**
comp=Z,8.0nm,0.8s,mb4.6
BFO Black Forest 70.52 315 *eP* **P 06 09 39.3 +1.7**
BFO pmax pmax
comp=Z,11nm,1.3s,mb4.5
BFO Black Forest 70.52 315 *eP* **P 06 09 39.3 +1.7**
comp=Z,11nm,1.3s,mb4.5
STKA Stephens Creek 70.94 139 *eP* **P 06 09 40.2 -0.1**
comp=Z,10nm,1.1s,mb4.6
STKA Stephens Creek 70.94 139 P **P 06 09 39.5 -0.8**
comp=Z,7.7nm,0.6s,mb4.7,baz=308,slow=4.2,SNR=10
CDF Champ du Feu 71.19 315 *eP* **P 06 09 42.3 +0.7**
PGF Pioggiola 71.45 309 *eP* **P 06 09 43.0 -0.3**
HINF Hinteralfeld 71.61 315 *eP* **P 06 09 44.4 +0.3**
HAU Haudompre 71.89 315 *eP* **P 06 09 46.0 +0.2**
HAU eMLR MLR
comp=Z,78nm,20.0s
HAU Haudompre 71.89 315 *eP* **P 06 09 46.0 +0.2**
HAU LR LR
comp=Z,80nm,20.0s
LPG La Plagne 72.26 312 *eP* **P 06 09 48.3 +0.2**
comp=Z,19nm,0.8s,mb4.7
LPG La Plagne 72.26 312 *eP* **P 06 09 48.3 +0.2**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
LPG La Plagne 72.26 312 *eP* **P 06 09 48.3 +0.2**
comp=Z,9.4nm,0.8s,mb4.7
LPL La Plagne 72.27 312 *eP* **P 06 09 48.3 +0.2**
comp=Z,12nm,0.6s,mb4.6
LPL La Plagne 72.27 312 *eP* **P 06 09 48.3 +0.2**
LPL pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
LPL La Plagne 72.27 312 *eP* **P 06 09 48.3 +0.2**
comp=Z,5.8nm,0.6s,mb4.6
CABF La Chapelle 72.42 314 *eP* **P 06 09 48.9 -0.1**
comp=Z,9.6nm,0.8s,mb4.4
CABF La Chapelle 72.42 314 *eP* **P 06 09 48.9 -0.1**
CABF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
CABF La Chapelle 72.42 314 *eP* **P 06 09 48.9 -0.1**
comp=Z,4.8nm,0.8s,mb4.4
MBDF Montbardon 72.45 312 *eP* **P 06 09 49.6 +0.4**
comp=Z,10nm,0.7s,mb4.5
MBDF Montbardon 72.45 312 *eP* **P 06 09 49.6 +0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 72.45 312 *eP* **P 06 09 49.6 +0.4**
comp=Z,5.2nm,0.7s,mb4.5
DAG Danmarks Havn 72.70 347⇑ *iP* **P 06 09 50.2 0.0**
DAG pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
DAG Danmarks Havn 72.70 347⇑ *iP* **P 06 09 50.2 0.0**
comp=Z,3.7nm,0.8s,mb4.3
BAIF Baives 72.72 318 *eP* **P 06 09 50.7 0.0**
KEST Kesra 73.01 302 P **P 06 09 54.6 +1.9**
comp=Z,2.6nm,0.7s,mb4.2,baz=336,slow=10.0,SNR=6.5
LOR Lormes 73.71 315 *eP* **P 06 09 57.0 +0.4**
LOR eMLR MLR
comp=Z,62nm,22.2s
LOR Lormes 73.71 315 *eP* **P 06 09 57.0 +0.4**
LOR LR LR
comp=Z,60nm,22.3s
VIVF Saint-Julien-l 73.85 312 *eP* **P 06 09 57.1 -0.4**
SMF Signal de Mont 73.90 314 *eP* **P 06 09 57.0 -0.7**
SSF Saint Saulge 74.00 315 *eP* **P 06 09 59.0 +0.7**
comp=Z,15nm,0.8s,mb4.4
SSF Saint Saulge 74.00 315 *eP* **P 06 09 59.0 +0.7**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
SSF Saint Saulge 74.00 315 *eP* **P 06 09 59.0 +0.7**
comp=Z,7.4nm,0.8s,mb4.5
AVF Avril sur Loir 74.17 314 *eP* **P 06 09 58.7 -0.6**
comp=Z,9.4nm,0.9s,mb4.2
AVF Avril sur Loir 74.17 314 *eP* **P 06 09 58.7 -0.6**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
AVF Avril sur Loir 74.17 314 *eP* **P 06 09 58.7 -0.6**
comp=Z,4.7nm,0.9s,mb4.2
LASF Ste Croix 74.64 312 *eP* **P 06 10 02.1 0.0**
comp=Z,48nm,1.2s,mb4.8
TCF Toulx Ste Croi 75.08 314 *eP* **P 06 10 04.5 -0.1**
comp=Z,38nm,1.2s,mb4.7
TCF Toulx Ste Croi 75.08 314 *eP* **P 06 10 04.5 -0.1**
TCF pmax pmax
comp=Z,19nm,1.2s,mb4.7
TCF Toulx Ste Croi 75.08 314 *eP* **P 06 10 04.5 -0.1**
comp=Z,19nm,1.2s,mb4.7
CAF Calviac 75.60 313 *eP* **P 06 10 07.6 0.0**
RJF Les Rejaudoux 75.85 313 *eP* **P 06 10 08.7 -0.3**
RJF eMLR MLR
comp=Z,54nm,18.8s
RJF Les Rejaudoux 75.85 313 *eP* **P 06 10 08.7 -0.3**
RJF LR LR
comp=Z,50nm,18.8s
LDF La Druitiere 75.86 317 *eP* **P 06 10 09.6 +0.6**
MTLF Montolieu 75.99 311 *eP* **P 06 10 09.5 -0.4**
comp=Z,21nm,1.0s,mb4.5
MTLF Montolieu 75.99 311 *eP* **P 06 10 09.5 -0.4**
MTLF pmax pmax
comp=Z,11nm,1.0s,mb4.5
MTLF Montolieu 75.99 311 *eP* **P 06 10 09.5 -0.4**
comp=Z,11nm,1.0s,mb4.5
ARMA Armidale 76.52 132 *eP* **P 06 10 14.4 +1.5**
IMA2 Indian Mountai 77.50 23 *eP* **P 06 10 16.3 -1.6**
ETSF Etsaut 78.06 312 *eP* **P 06 10 21.6 +0.2**
comp=Z,4.5nm,0.5s,mb4.1
ETSF Etsaut 78.06 312 *eP* **P 06 10 21.6 +0.2**
ETSF pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
ETSF Etsaut 78.06 312 *eP* **P 06 10 21.6 +0.2**
comp=Z,2.3nm,0.5s,mb4.2
COLA College 80.21 23⇑ *eP* **P 06 10 31.7 -1.0**
PMR Palmer 81.56 26 *eP* **P 06 10 38.9 -1.1**
PMR pmax pmax
comp=Z,162nm,2.9s,mb5.3
PMR Palmer 81.56 26 *eP* **P 06 10 38.9 -1.1**
comp=Z,162nm,2.9s,mb5.3
ESDC Sonseca Array 81.63 309 P **P 06 10 42.2 +1.4**
comp=Z,0.2nm,0.3s,baz=59,slow=6.4,SNR=4.6
RES Resolute Bay 82.23 2 *eP* **P 06 10 43.0 -0.3**

INK Inuvik 82.35 16 *eP* **P 06 10 43.3 -0.7**
EGAK Eagle 82.55 21 *eP* **P 06 10 44.6 -0.5**
comp=Z,5.3nm,1.0s,mb4.3
DAWY Dawson 83.59 21 *eP* **P 06 10 50.1 -0.4**
BOSA Boshof 84.12 236 P **P 06 10 54.5 +0.8**
BOSA LR LR 06 50 09.0
BOSA Boshof 84.12 236 P **P 06 10 54.5 +0.8**
comp=Z,8.6nm,0.8s,mb4.6,baz=71,slow=4.3,SNR=17
BOSA LR LR 06 50 09.0
comp=Z,61nm,19.8s,baz=109,slow=37
YKA Yellowknife Ar 91.60 13 *i* P **P 06 11 28.1 -0.9**
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA Yellowknife Ar 91.60 13 P **P 06 11 28.1 -0.9**
comp=Z,1.8nm,0.7s,mb4.4,baz=332,slow=4.5,SNR=44
YKA PP PP 06 15 05.4 -2.2
comp=Z,0.5nm,0.8s,baz=339,slow=8.0,SNR=4.8
YKA LR LR 06 56 12.7
comp=Z,28nm,18.4s,baz=265,slow=38
MAW Mawson 93.44 192 LR LR 06 50 44.0
comp=Z,86nm,19.5s,baz=65,slow=34
NVAR Mina Array Bea 111.52 27 PKPdf PKiKP 06 16 57.4 +0.9
NVAR Mina Array Bea 111.52 27 PKiKP PKiKP 06 16 57.4 +0.9
comp=Z,0.5nm,0.5s,baz=341,slow=1.5,SNR=7.1
VNA2 Neumayer--Watz 115.51 201 *e*PKPdf PKPdf 06 17 04.1 +1.1
baz=44,slow=2.4
VNA2 *e* 06 17 08.4
VNA3 Neumayer Olymp 116.23 200 *e*PKPdf PKPdf 06 17 04.7 +0.3
VNA3 *e* 06 17 09.0
ANMO Albuquerque 118.94 19⇑ *i*PKIKP PKPdf 06 17 10.9 0.0
TXAR Lajitas Array 125.02 19 PKP PKPdf 06 17 22.9 +0.2
comp=Z,3.9nm,0.6s,baz=195,slow=1.5,SNR=17
BDFB Brasília 143.82 275 PKP PKPdf 06 17 57.3 -0.6
comp=Z,2.3nm,0.6s,baz=101,slow=9.7,SNR=11
SDV Santo Domingo 144.95 334 PKPbc PKPdf 06 17 59.7 -0.4
comp=Z,29nm,0.8s,baz=37,slow=2.9,SNR=62
JTS JuntasAbangare 146.77 359 PKPbc PKPbc 06 18 02.1 -2.8
comp=Z,4.8nm,0.5s,baz=302,slow=1.9,SNR=8.4
ROSC El Rosal 150.07 337 PKP PKPdf 06 18 08.1 -0.4
comp=Z,16nm,1.1s,baz=120,slow=23,SNR=4.4
ROSC PKPbc PKPbc 06 18 15.4 +1.8
comp=Z,26nm,0.8s,baz=88,slow=3.3,SNR=23
CPUP Villa Florida 154.12 257 PKPbc PKPbc 06 18 21.9 -0.5
comp=Z,1.3nm,0.5s,baz=72,slow=3.3,SNR=6.3
SIV San Ignacio 155.81 283 PKPbc PKPdf 06 18 26.5 +10
comp=Z,1.4nm,0.7s,baz=124,slow=4.3,SNR=3.3
SIV PKPab PKPab 06 18 44.7 +0.9
comp=Z,3.2nm,0.7s,baz=96,slow=7.4,SNR=7.5
LPAZ La Paz 162.18 289 PKP PKPdf 06 18 25.4 +1.3
comp=Z,1.4nm,0.8s,baz=26,slow=6.9,SNR=6.6
ATAH Atahualpa 162.51 335 PKP PKPdf 06 18 27.1 +2.5
comp=Z,4.9nm,0.7s,baz=358,slow=4.1,SNR=3.9
ATAH PKPab PKPab 06 19 15.7 +3.0
comp=Z,5.4nm,0.7s,baz=29,slow=3.7,SNR=5.4

IDC 07 06:10:36.6±5.6, 2027S×17013E, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=224.3km s-min=53.1km az=148.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.57**	**264**	P	P	06 17 19.1	+0.4
0.5nm,0.4s,baz=98,slow=8.4,SNR=14							
ASAR	**Alice Springs**	**33.71**	**258**	P	P	06 17 19.4	-0.5
0.7nm,0.6s,baz=75,slow=8.1,SNR=16							
GERES	**GERESS Array B**	**145.79**	**332**	PKPbc	PKPbc	06 30 17.0	-0.6
0.3nm,0.3s,baz=35,slow=3.6,SNR=5.9							

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*CSEM **07** 06:29:53.2±0.3, 39.12N×42.30E, h5km, MD3.0, Error ellipse: s-maj=8.5km s-min=6.2km az=14.0*
*ISK **07** 06:29:53.8, 39.07N×42.32E, h9km, MD3.0*
*ISCJB **07** 06:29:55.3±1.0, 39.18N±003×42.33E±004, h2km±9km, Error ellipse: s-maj=5.7km s-min=4.9km az=38.0*
*DDA **07** 06:29:57.0, 39.18N×42.38E, h7km±3km, Md2.9*
ISC 07 06:29:56.7±0.8, 3920N±003×4235E±004, h16km±7km, n16, σ1$23/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGRB	**Hanur-Agry**	**0.62**	**53**	*e*PG	**Pg**	**06 30 08.2**	**-0.8**
AGRB				*e*SG	**Sg**	**06 30 18.9**	**+1.6**
HOMI	**Horasan**	**0.91**	**338**	*i* P	**Pg**	**06 30 14.2**	**-0.2**
HOMI				*i* S	**Sg**	**06 30 27.6**	**+1.3**
BNGL	**BINGOL**	**0.96**	**255**	*i* P	**Pb**	**06 30 14.0**	**-1.0**
BNGL				*i* S	**Sb**	**06 30 28.4**	**+1.0**
VANB	**Van**	**1.01**	**126**	*e*PG	**Pg**	**06 30 12.7**	**-3.7**
ERZM	**Erzurum**	**1.03**	**313**	*i* P	**Pb**	**06 30 16.1**	**-0.1**
ERZM				*i* S	**Sb**	**06 30 27.2**	**-2.3**
EZM	**Erzurum**	**1.03**	**313**	*e*PN	**Pn**	**06 30 15.8**	**-0.7**
EZM				*e*SN	**Sn**	**06 30 31.3**	**+0.7**
TVAN	**Van**	**1.07**	**129**	*i* P	**Pb**	**06 30 16.0**	**-0.7**
TVAN				*i* S	**Sb**	**06 30 32.1**	**+1.7**
DYDN	**Diyadin**	**1.09**	**71**	*i* P	**Pb**	**06 30 16.2**	**-1.0**
DYDN				*i* S	**Sb**	**06 30 30.9**	**-0.4**
DYDN	**Diyadin**	**1.09**	**71**	*i* P	**Pb**	**06 30 16.2**	**-1.0**
DYDN				*i* S	**Sb**	**06 30 30.9**	**-0.4**
VANT	**Van**	**1.11**	**133**	*e*PG	**Pn**	**06 30 12.8**	**-4.7**
BTMT	**Batman**	**1.21**	**214**	*e*PN	**Pn**	**06 30 17.9**	**-1.1**
CLDR	**Caldiran**	**1.22**	**92**	*e*PN	**Pn**	**06 30 17.9**	**-1.2**
BINT	**Bingol**	**1.48**	**258**	*e*PN	**Pn**	**06 30 21.4**	**-1.3**
KOPT	**Kop Dagi**	**1.64**	**300**	*i* P	**Pn**	**06 30 26.9**	**+2.0**
HAKT	**HAKKARI**	**1.96**	**146**	*i* P	**Pn**	**06 30 30.6**	**+1.4**
HAKT				*i* S	**Sg**	**06 30 59.5**	**-0.3**
MARD	**Mardin**	**2.25**	**214**	*i* P	**Pn**	**06 30 35.5**	**+2.3**

IDC 07 06:42:04.7±2.3, 1812S×17892W, h0km, mb4.2/4, mb1 4.4/4, mb1mx4.0/14, mbtmp4.2/4, Error ellipse: s-maj=153.1km s-min=28.7km az=150.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.11**	**241**	P	P	06 49 25.8	+0.3
1.1nm,0.3s,baz=57,slow=10.0,SNR=7.4							
WRA	**Warramunga Arr**	**44.12**	**260**	P	P	06 50 15.2	0.0
1.9nm,0.3s,baz=97,slow=7.6,SNR=98							
ASAR	**Alice Springs**	**44.27**	**254**	P	P	06 50 15.9	-0.4
2.4nm,0.4s,baz=84,slow=8.3,SNR=46							
NVAR	**Mina Array Bea**	**79.91**	**44**	P	P	06 54 15.9	+0.4
0.7nm,0.7s,baz=232,slow=6.8,SNR=5.0							

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*MOS **07** 06:59:59.8±0.5, 5422N×16046E, h8km, mb4.2/1, Error ellipse: s-maj=33.3km s-min=11.4km az=69.7*
KRSC 07 06:59:59.6±0.6, 5423N×16044E, h5km±5km, ML4.1, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**0.61**	**252**	P	Pg	07 00 12.0	+0.6
KII	**Karymskiy**	**0.61**	**252**	*eP*	Pg	07 00 12.0	+0.6
MKZ	**Mys Kozlova**	**0.82**	**66**	P	Pg	07 00 15.6	+0.2
MKZ				S	Sg	07 00 27.4	+1.4
MKZ	**Mys Kozlova**	**0.82**	**66**	*i* P	Pg	07 00 15.6	+0.2
MKZ				*i* S	Sg	07 00 27.4	+1.4
TUMR	**Tumrok**	**1.07**	**351**	*eP*	Pg	07 00 19.5	-0.6
TUMR				*i* S	Sg	07 00 34.0	+0.1
SPN	**Mys Shipunski**	**1.16**	**193**	P	Pg	07 00 21.4	-0.4
SPN				S	Sg	07 00 37.3	+0.4
SPN	**Mys Shipunski**	**1.16**	**193**	*eP*	Pg	07 00 21.4	-0.4
SPN				*i* S	Sg	07 00 37.3	+0.4
NLC	**Nalytchevo**	**1.25**	**212**	P	Pg	07 00 23.5	+0.1
NLC				S	Sg	07 00 40.9	+1.4
NLC	**Nalytchevo**	**1.25**	**212**	*eP*	Pg	07 00 23.5	+0.1
NLC				*i* S	Sg	07 00 40.9	+1.4
AVH	**Avacha**	**1.40**	**227**	*eP*	Pn	07 00 26.2	+0.5
AVH				*i* S	Sb	07 00 45.8	+1.5
KMNR	**Kamenistaya**	**1.53**	**356**	*eP*	Pn	07 00 28.2	+0.6
KMNR				*i* S	Sn	07 00 49.0	+1.1
GNL	**Ganaly**	**1.57**	**251**	*eP*	Pn	07 00 28.0	-0.1
GNL				*i* S	Sn	07 00 49.1	+0.3
PET	**Petropavlovsk**	**1.61**	**222**	P	Pn	07 00 29.4	+0.8
PET				S	Sn	07 00 50.7	+1.0
PET	**Petropavlovsk**	**1.61**	**222**	*e*PN	Pn	07 00 29.3	+0.7
PET				*e*S	Sn	07 00 50.2	+0.5
PET				pmax	pmax		
comp=Z,55nm,0.6s							
PET				smax			
comp=N,398nm,0.5s							

PET	**Petropavlovsk**	**1.61 222**	*e*P	Pn	07 00 29.4	+0.8
PET			*i* S	Sn	07 00 50.7	+1.0
KOZ	**Kozyrevsk**	**1.86 350**	P	Pn	07 00 33.5	+1.4
KOZ			S	Sn	07 00 58.1	+2.2
KOZ	**Kozyrevsk**	**1.86 350**	*e*P	Pn	07 00 33.5	+1.4
KOZ			*i* S	Sn	07 00 58.1	+2.2
KOZR	**Kozyr**	**1.87 351**	PN	Pn	07 00 33.5	+1.3
KOZR			S	Sn	07 00 58.1	+2.0
RUS	**Russkaya**	**2.14 213**	P	Pn	07 00 36.8	+0.9
RUS			S	Sn	07 01 04.3	+1.5
RUS	**Russkaya**	**2.14 213**	*e*P	Pn	07 00 36.8	+0.9
RUS			*i* S	Sn	07 01 04.3	+1.5
GRL	**Gorelyy**	**2.20 221**	*e*P	Pn	07 00 39.5	+2.8
GRL			*i* S	Sn	07 01 08.6	+4.4
KBTR	**Krutoberegovo**	**2.41 34**	P	Pn	07 00 41.1	+1.5
KBTR			S	Sn	07 01 11.5	+2.1
KBTR	**Krutoberegovo**	**2.41 34**	*e*P	Pn	07 00 41.1	+1.5
KBTR			*i* S	Sn	07 01 11.5	+2.1
MIPR	**Malaya Ipel'ka**	**2.95 230**	*e*P	Pn	07 00 49.0	+1.9

IDC 07 07:05:04.4±9.3, 1774S×17820W, h647km±131km, mb2.9/5, mb1 3.2/5, mb1mx3.0/15, mbtmp2.9/5, Error ellipse: s-maj=176.4km s-min=40.1km az=155.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.85 259**		P	P	07 12 24.0	+0.1
	0.4nm,0.4s,baz=95,slow=7.1,SNR=21						
ASAR	**Alice Springs**	**45.02 254**		P	P	07 12 25.2	+0.1
	0.9nm,0.5s,baz=90,slow=8.2,SNR=20						
NVAR	**Mina Array Bea**	**79.17 44**		P	P	07 16 05.0	+0.8
	0.6nm,0.7s,baz=214,slow=6.7,SNR=5.8						
INK	**Inuvik**	**91.68 15**		P	P	07 17 03.7	-0.3
	0.6nm,0.8s,baz=200,slow=1.9,SNR=5.1						
YKA	**Yellowknife Ar**	**94.10 25**		P	P	07 17 14.7	-0.5
	0.1nm,0.5s,baz=242,slow=4.6,SNR=6.7						
GERES	**GERESS Array B**	**147.50 345**		PKPbc	PKPbc	07 23 37.3	-0.1
	0.5nm,0.4s,baz=30,slow=3.2,SNR=5.4						

WEL 07 07:12:21.3±1.2, 3586S×17894E, h231km±16km, ML3.5/9, Error ellipse: s-maj=22.8km s-min=18.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.78 197**		PN	Pn	07 12 58.8	-1.2
PUZ	**Puketiti**	**2.28 194**		PN	Pn	07 13 04.7	-0.1
PUZ				SN	S	07 13 36.9	-2.2
MWZ	**Matawai**	**2.72 204**		PN	Pn	07 13 10.1	+0.7
MWZ				SN	S	07 13 47.9	+0.5
URZ	**Urewera**	**2.81 211**		PN	Pn	07 13 10.4	0.0
KNZ	**Kokohu**	**3.31 197**		PN	Pn	07 13 16.5	+0.4
BKZ	**Black Stump Fm**	**3.83 210**		PN	Pn	07 13 22.4	+0.2
MRZ	**Mangatainoka R**	**5.48 208**		PN	Pn	07 13 42.3	0.0
KIW	**Kapiti Island**	**5.92 211**		PN	Pn	07 13 47.7	-0.1

IDC 07 07:23:08.3±3.4, 4586N×2808W, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/23, mbtmp3.7/4, MS3.6/13, Ms1 3.6/13, ms1mx3.4/30, Error ellipse: s-maj=110.0km s-min=35.5km az=5.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**18.72 101**		LR	LR	07 33 12.3	
	comp=Z,162nm,18.6s,baz=295,slow=32						
SCHQ	**Schefferville**	**26.01 304**		LR	LR	07 37 04.7	
	comp=Z,190nm,19.9s,baz=46,slow=32						
GERES	**GERESS Array B**	**28.20 69**		LR	LR	07 39 23.4	
	comp=Z,135nm,18.1s,baz=59,slow=35						
KEST	**Kesra**	**29.84 96**		LR	LR	07 39 31.0	
	comp=Z,84nm,21.8s,baz=249,slow=33						
FINES	**FINESS Array B**	**34.52 43**		LR	LR	07 42 56.7	
	comp=Z,52nm,18.4s,baz=25,slow=34						
ARCES	**ARCESS Array B**	**35.36 29**		LR	LR	07 41 40.9	
	comp=Z,39nm,18.8s,baz=95,slow=32						
AKASG	**Malin Array Be**	**37.62 61**		P	P	07 30 22.8	-1.6
	0.2nm,0.2s,baz=272,slow=9.6,SNR=4.6						
DBIC	**Dimbokro**	**43.91 146**		LR	LR	07 47 40.8	
	comp=Z,98nm,20.4s,baz=318,slow=34						
ULM	**Lac du Bonnet**	**44.12 301**		LR	LR	07 47 41.6	
	comp=Z,150nm,20.2s,baz=48,slow=33						
YKA	**Yellowknife Ar**	**49.22 322**		P	P	07 31 56.9	-0.9
	0.5nm,1.0s,baz=69,slow=6.9,SNR=4.3						
YKA				PcP	PcP	07 33 20.9	+0.1
	0.3nm,1.0s,baz=49,slow=4.7,SNR=4.0						
YKA				LR	LR	07 49 05.5	
	comp=Z,25nm,21.8s,baz=185,slow=32						
MMAI	**Mount Meron Ar**	**49.45 82**		LR	LR	07 52 22.0	
	comp=Z,29nm,18.1s,baz=90,slow=36						
BVAR	**Borovoye Array**	**59.47 44**		LR	LR	07 59 07.8	
	comp=Z,37nm,19.6s,baz=125,slow=36						
TXAR	**Lajitas Array**	**59.97 282**		LR	LR	07 59 17.0	
	comp=Z,187nm,18.5s,baz=0.0,slow=36						
ZALV	**Zalesovo Beam**	**65.40 37**		LR	LR	08 01 30.4	
	comp=Z,32nm,18.3s,baz=43,slow=35						
MKAR	**Makanchi Array**	**69.35 44**		P	P	07 34 17.9	+0.6
	1.8nm,1.1s,baz=310,slow=6.0,SNR=9.2						
SONM	**Songino Array**	**78.54 29**		P	P	07 35 12.5	+1.4
	1.9nm,1.1s,baz=334,slow=6.2,SNR=8.1						
WRA	**Warramunga Arr**	**150.37 35**		PKPbc	PKPbc	07 43 01.1	-0.5
	2.0nm,1.1s,baz=330,slow=2.6,SNR=6.1						

*CSEM **07** 07:27:50.4±0.1, 4026N×2961E, h12km, MD2.9, Error ellipse: s-maj=1.5km s-min=1.4km az=37.0*
*ISK **07** 07:27:50.4, 4026N×2961E, h16km, MD2.9*
*ISCJB **07** 07:27:51.0±0.5, 4026N±003×2959E±003, h10km±4km, Error ellipse: s-maj=5.3km s-min=4.3km az=8.8*
*DDA **07** 07:27:52.5, 4028N×2959E, h7km±3km, Md2.8*
ISC 07 07:27:51.3±0.4, 4027N±003×2960E±003, h13km±4km, n25, σ0§69/35, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZI	**Iznik**	**0.11 304**		PG	**Pg**	**07 27 54.4**	**-0.1**
IZI				*e*SG	**Sg**	**07 27 56.7**	**0.0**
ADVT	**Abdulvahap**	**0.19 34**		PG	**Pg**	**07 27 55.8**	**+0.2**
ADVT				*e*SG	**Sg**	**07 27 59.2**	**+0.6**
YLV	**Yalova**	**0.34 330**		PG	**Pg**	**07 27 58.5**	**+0.3**
YLV				*e*SG	**Sg**	**07 28 03.8**	**+0.9**
GPA	**Golpazari**	**0.55 88**		*e*PG	**Pg**	**07 28 01.5**	**-0.5**
HRT	**Hereke**	**0.55 6**		*e*PG	**Pg**	**07 28 01.7**	**-0.4**
ISK	**Istanbul-Kandi**	**0.89 333**		*e*PG	**Pg**	**07 28 08.0**	**-0.5**
KCT	**Karacabey**	**0.95 270**		*e*PG	**Pg**	**07 28 09.6**	**0.0**
DST	**Dursunbey**	**1.00 228**		*e*PG	**Pg**	**07 28 10.2**	**-0.3**
KLYT	**Kilyos**	**1.07 337**		*e*PG	**Pg**	**07 28 11.3**	**-0.6**
HENT	**Hendek**	**1.14 61**		*i* P	**Pb**	**07 28 11.3**	**-1.4**
HENT				*i* S	**Sb**	**07 28 28.4**	**+1.0**
GDZ	**Gediz**	**1.19 184**		*i* P	**Pn**	**07 28 14.4**	**+0.9**
GDZ				*i* S	**Sb**	**07 28 29.5**	**+0.7**
ESKT	**Eskisehir**	**1.22 128**		*i* P	**Pn**	**07 28 13.7**	**-0.3**
ESKT				*i* S	**Sb**	**07 28 31.5**	**+1.6**
ESKT	**Eskisehir**	**1.22 128**		*e*Pn	**Pn**	**07 28 13.6**	**-0.4**
SEYT	**Eskypehyr**	**1.22 128**		*i* P	**Pn**	**07 28 13.7**	**-0.3**
SEYT				*i* S	**Sb**	**07 28 31.5**	**+1.6**
ELBA	**Catalca**	**1.24 315**		*i* P	**Pn**	**07 28 14.4**	**0.0**
ELBA				*i* S	**Sb**	**07 28 31.5**	**+0.9**
CTT	**Catalca**	**1.25 315**		*e*PN	**Pn**	**07 28 13.9**	**-0.4**
ALT	**Altintas**	**1.28 162**		*e*PN	**Pn**	**07 28 13.8**	**-1.0**
BNT	**Bandirma**	**1.28 274**		*e*PN	**Pn**	**07 28 14.2**	**-0.7**
BTOK	**Tokmak**	**1.31 247**		*i* P	**Pn**	**07 28 15.2**	**0.0**
BTOK				*i* S	**Sb**	**07 28 33.2**	**+1.0**
BTOK	**Tokmak**	**1.31 247**		*i* P	**Pn**	**07 28 15.1**	**-0.1**
BTOK				*i* S	**Sb**	**07 28 33.2**	**+0.9**
EDC	**Edincik**	**1.33 274**		*e*PN	**Pn**	**07 28 14.7**	**-0.8**
BALB	**Balikesir**	**1.46 245**		*e*PN	**Pn**	**07 28 17.2**	**-0.1**
MRMT	**Marmara Adasi**	**1.56 283**		*e*PN	**Pn**	**07 28 19.0**	**+0.3**
KULA	**Kula-Manisa**	**1.90 203**		*e*PN	**Pn**	**07 28 22.8**	**-0.6**
KIZT	**Kizilcal**	**2.25 128**		*e*PN	**Pn**	**07 28 27.5**	**-0.6**

*NEIC **07** 07:38:04.1±5.0, 3407N×8236E, h10km, mb3.7/2, Error ellipse: s-maj=62.8km s-min=29.4km az=148.0*
*IDC **07** 07:38:07.2±1.8, 3451N×8216E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/22, mbtmp3.6/5, ML2.9/1, MS3.0/1, Ms1 3.0/1, ms1mx1.9/19, Error ellipse: s-maj=81.1km s-min=27.5km az=60.0*
*ISCJB **07** 07:38:11.2±4.5, 346N±02×822E±02, h35km±36km, mb3.4/3, Error ellipse: s-maj=41.3km s-min=28.5km az=28.5*
ISC 07 07:38:14.8±3.3, 346N±02×821E±02, h54km±25km, n11, σ0§74/11, mb3.4/3, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**9.66 324**		*e*Pn	**Pn**	**07 40 30.0**	**-1.0**
	2.8nm,0.8s						
TKM2	**Tokmak 2**	**9.73 330**		*e*Pn	**Pn**	**07 40 33.5**	**+1.6**
	2.9nm,0.9s						
MK31	**Makanchi Array**	**12.16 1**		*e*Pn	**Pn**	**07 41 04.1**	**-1.0**
MKAR	**Makanchi Array**	**12.16 1**		Pn	**Pn**	**07 41 05.1**	**0.0**
	0.1nm,0.3s,baz=179,slow=13,SNR=10.0						
KURK	**Kurchatov**	**16.29 352**		*e*Pn	**Pn**	**07 42 00.4**	**+0.7**
	4.0nm,0.9s						
BVAR	**Borovoye Array**	**20.20 339**		P	**P**	**07 42 45.7**	**+0.8**
	1.7nm,0.8s,baz=146,slow=11,SNR=12						
BRVK	**Borovoye**	**20.26 339**		*e*P	**P**	**07 42 45.3**	**-0.3**
	6.7nm,1.0s						
AKTK	**Aktyubinsk**	**23.63 319**		P	**P**	**07 43 20.5**	**-0.3**
AKTK				LR	LR	07 54 50.7	
AKTO	**Aktyubinsk**	**23.63 319**		P	**P**	**07 43 20.5**	**-0.3**
	0.4nm,0.4s,mb3.2,baz=111,slow=13,SNR=3.5						
AKTO				LR	LR	07 54 50.7	
	comp=Z,41nm,20.1s,baz=198,slow=42						
ASAR	**Alice Springs**	**75.99 132**		P	**P**	**07 49 56.4**	**+0.2**
	0.2nm,0.6s,mb3.2,baz=320,slow=6.3,SNR=4.6						
YKA	**Yellowknife Ar**	**82.29 8**		P	**P**	**07 50 29.8**	**-0.3**
	0.6nm,0.7s,mb3.6,baz=341,slow=5.2,SNR=13						

*ISCJB **07** 07:39:26.5±0.4, 5488S±007×1307W±01, h10km, mb4.7/21, MS4.5/17, Error ellipse: s-maj=12.2km s-min=9.8km az=161.5*
*IDC **07** 07:39:26.4±0.5, 5480S×13076W, h0km, mb4.6/15, mb1 4.7/15, mb1mx4.6/17, mbtmp4.5/15, MS4.5/17, Ms1 4.5/17, ms1mx4.4/19, Error ellipse: s-maj=20.5km s-min=15.3km az=156.0*
*NEIC **07** 07:39:28.3±0.4, 5484S×13077W, h10km, mb5.2/11, Error ellipse: s-maj=13.9km s-min=11.8km az=113.0*
*GCMT **07** 07:39:28.3±0.1, 5496S×13067W, h19km±1km, MW5.4/94, Moment Tensor Solution. s76,c121; s94,c166; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.13±.02; $M_{\theta\theta}$0.85±.03; $M_{\phi\phi}$-0.72±.02; $M_{r\theta}$0.17±.05; $M_{\theta\phi}$1.12±.02; $M_{\phi r}$0.30±.05; Best double couple: $M_0$1.40900×10^{17} NP1:φ§108.00000°, δ76.00000°, λ1.00000°. NP2:φ§18.00000°, δ89.00000°, λ166.00000°. Principal axes: T 1.4830, Plg10.0000°, Azm332.0000°; N -0.1470, Plg76.0000°, Azm195.0000°; P -1.3350, Plg9.0000°, Azm63.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 07 07:39:28.4±0.4, 5487S±007×1307W±01, h10km, (h14km±1km:pP-P), n64, σ1§09/45, mb4.7/21, MS4.5/17, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBA	**Scott Base**	**31.35 201**		*e*P	**P**	**07 45 49.5**	**+1.1**
	19nm,1.3s,mb4.8						
RPN	**Rapa Nui**	**31.81 38**		LR	LR	07 55 26.0	
	comp=Z,761nm,21.4s,MS4.3,baz=28,slow=30						
RKT	**Rikitea**	**31.86 353**		*e*S	**S**	**07 50 57.9**	**-6.0**
	393nm,27.9s						
RKT				*e*LR	LR	07 54 08.2	
	3μm,29.8s,baz=171						
VNDA	**Vanda**	**32.36 202**		P	**P**	**07 45 58.3**	**+1.0**
	3.5nm,1.1s,mb4.1,baz=81,slow=7.0,SNR=14						
PMSA	**Palmer Station**	**33.35 134**		LR	LR	07 56 01.5	
	comp=Z,1μm,20.7s,MS4.6,baz=271,slow=30						
TBI	**Tubuai**	**34.44 329**		*e*P	**P**	**07 46 15.5**	**-0.4**
	482nm,1.3s						
TBI				*e*S	**S**	**07 51 38.1**	**-5.8**
	338nm,30.8s						
TBI				*e*LQ		07 53 53.9	
	331nm,28.5s						
TBI				*e*LR	LR	07 55 12.6	
	3μm,29.0s,baz=165						
TBI	**Tubuai**	**34.44 329**		*e*P	**P**	**07 46 15.5**	**-0.4**
	482nm,1.3s						
TBI				*e*S	**S**	**07 51 38.1**	**-5.8**
TBI				*e*LQ		07 53 53.9	
USHA	**Ushuaia**	**34.81 116**		LR	LR	07 56 06.9	
	comp=Z,744nm,21.9s,MS4.4,baz=227,slow=29						
QSPA	**South Pole Qui**	**35.31 180**		P	**P**	**07 46 24.9**	**+2.0**
	12nm,1.0s,mb4.8,baz=101,slow=3.0,SNR=16						
URZ	**Urewera**	**38.52 273**		P	**P**	**07 46 51.8**	**+1.1**
	6.0nm,1.0s,mb4.3,baz=94,slow=16,SNR=2.0						
PAE	**Paea**	**39.86 331**		*e*P	**P**	**07 47 01.8**	**-0.1**
	149nm,1.2s,mb5.6						
PPT	**Papeete**	**39.95 331**		*e*P	**P**	**07 47 03.0**	**+0.3**
	98nm,1.5s,mb5.3						
PPT				*e*S	**S**	**07 53 01.0**	**-6.7**
	461nm,25.5s						
PPT				*e*LQ		07 56 05.0	
	560nm,24.8s						
PPT				*e*LR	LR	07 57 54.7	
	4μm,26.2s,baz=170						
PPT	**Papeete**	**39.95 331**		P	**P**	**07 47 02.7**	**+0.1**
	37nm,1.0s,mb5.1,baz=148,slow=9.5,SNR=4.8						
PPT				LR	LR	07 59 31.2	
	comp=Z,1μm,18.1s,MS4.8,baz=113,slow=30						
RAR	**Rarotonga**	**40.09 315**		LR	LR	07 59 09.9	
	comp=Z,559nm,21.4s,MS4.4,baz=150,slow=30						
PLCA	**Paso Flores**	**41.51 96**		*e*P	**P**	**07 47 14.9**	**-0.5**
	111nm,2.5s,mb5.0						
PLCA				LR	LR	08 00 37.6	
PLCA	**Paso Flores**	**41.51 96**		P	**P**	**07 47 15.4**	**0.0**
	7.5nm,1.1s,mb4.2,baz=225,slow=9.8,SNR=5.1						
PLCA				LR	LR	08 00 37.6	
	comp=Z,658nm,18.4s,MS4.5,baz=228,slow=31						
PMOR	**Pomariorio Ree**	**41.96 335**		*e*P	**P**	**07 47 18.2**	**-1.1**
	151nm,1.2s,mb5.5						
TAOE	**Nuku Hiva Isla**	**46.50 347**		*e*S	**S**	**07 54 37.4**	**-6.4**
	11μm,24.7s						
TAOE				*e*LR	LR	08 00 53.9	
	58μm,25.8s						
VNA3	**Neumayer Olymp**	**47.50 158**		*e*	**P**	**07 48 02.2**	**-0.6**
VNA3				*e*	pP	07 48 06.1	+0.1
VNA3				*e*		07 48 10.9	
VNA3				*e*		07 48 21.5	
VNA2	**Neumayer--Watz**	**48.23 158**		*e*	**P**	**07 48 07.7**	**-0.8**
	baz=218,slow=7.8						
VNA2				*e*	pP	07 48 11.5	-0.1
VNA2				*e*		07 48 17.4	
VNA2				*e*		07 48 27.7	
VNA1	**Neumayer--Stat**	**48.25 158**		*e*	**P**	**07 48 08.8**	**+0.1**
VNA1				*e*	pP	07 48 12.7	+0.9
VNA1				*e*		07 48 19.1	
VNA1				*e*		07 48 28.3	
SNAA	**Sanae**	**48.57 161**		*e*	**P**	**07 48 09.4**	**-1.7**
SNAA				*e*	pP	07 48 13.3	-1.0
SNAA				*e*		07 48 20.7	
SNAA				*e*		07 48 29.2	
CFAA	**Coronel Fontan**	**49.20 88**		LR	LR	08 04 28.8	
	comp=Z,73nm,19.2s,MS3.7,baz=234,slow=30						
CASY	**Casey**	**50.67 207**		*e*P	**P**	**07 48 31.0**	**+3.8**
	10nm,1.0s,mb4.7						
MAW	**Mawson**	**57.43 186**		P	**P**	**07 49 16.5**	**0.0**
	4.1nm,0.8s,mb4.5,baz=197,slow=10,SNR=5.4						
MAW				LR	LR	08 11 11.3	
	comp=Z,620nm,18.2s,MS4.8,baz=347,slow=33						
ARMA	**Armidale**	**58.81 261**		*e*P	**P**	**07 49 29.3**	**+2.6**
ARMA				*e*		07 49 37.4	
ARMA	**Armidale**	**58.81 261**		P	**P**	**07 49 22.1**	**-4.6**
	0.6nm,1.1s						
NNA	**Nana**	**59.88 66**		LR	LR	08 08 55.5	
	comp=Z,523nm,19.5s,MS4.7,baz=159,slow=30						
LPAZ	**La Paz**	**61.12 77**		*e*P	**P**	**07 49 42.7**	**0.0**
LPAZ				LR	LR	08 10 11.0	
LPAZ	**La Paz**	**61.12 77**		P	**P**	**07 49 42.0**	**-0.7**
	7.9nm,1.0s,mb4.8,baz=209,slow=5.9,SNR=25						
LPAZ				LR	LR	08 10 11.0	
	comp=Z,170nm,19.4s,MS4.2,baz=28,slow=30						
ATAH	**Atahualpa**	**63.29 62**		LR	LR	08 10 57.9	
	comp=Z,354nm,18.5s,MS4.6,baz=212,slow=30						
STKA	**Stephens Creek**	**63.34 252**		*e*P	**P**	**07 49 57.8**	**+0.4**
	7.2nm,1.3s,mb4.6						
STKA				*e*		07 50 07.2	
STKA				*e*		07 50 15.5	
STKA	**Stephens Creek**	**63.34 252**		*e*P	**P**	**07 49 58.5**	**+1.1**
	15nm,0.7s,mb5.2						
STKA				*e*		07 50 07.2	
STKA				*e*		07 50 15.5	
STKA	**Stephens Creek**	**63.34 252**		P	**P**	**07 49 58.5**	**+1.1**
	9.1nm,1.0s,mb4.8,baz=167,slow=2.7,SNR=5.8						
STKA				LR	LR	08 12 20.5	
	comp=Z,801nm,19.1s,MS4.9,baz=92,slow=31						
CTA	**Charters Tower**	**69.84 264**		*e*P	**P**	**07 50 38.1**	**-1.0**
	8.8nm,0.9s,mb4.7						
CTA				*e*		07 50 49.5	
CTA	**Charters Tower**	**69.84 264**		P	**P**	**07 50 38.4**	**-0.7**
	12nm,0.9s,mb4.8,baz=111,slow=5.0,SNR=5.3						
CTAO	**Charters Tower**	**69.84 264**		*e*P	**P**	**07 50 39.4**	**+0.3**
	23nm,0.9s,mb5.1						
FORT	**Forrest**	**71.41 243**		*e*P	**P**	**07 50 48.7**	**+0.1**
	12nm,0.6s,mb5.0						
FORT				*e*		07 50 58.7	
FORT				*e*		07 51 11.6	
BDFB	**Brasilia**	**73.19 93**		LR	LR	08 19 52.6	
	comp=Z,363nm,20.0s,MS4.7,baz=20,slow=33						
ASAR	**Alice Springs**	**73.97 252**		P	**P**	**07 51 02.3**	**-1.6**
	5.4nm,0.8s,mb4.5,baz=142,slow=6.2,SNR=47						
ROSC	**El Rosal**	**75.51 59**		P	**P**	**07 51 12.2**	**-0.6**
	2.1nm,0.4s,mb4.4,baz=262,slow=21,SNR=8.6						
ROSC				LR	LR	08 18 10.7	
	comp=Z,190nm,18.9s,MS4.4,baz=216,slow=31						
WB2	**Warramunga Arr**	**76.70 254**		*e*P	**P**	**07 51 17.9**	**-1.7**
WB2				*e*		07 51 29.0	
WB2	**Warramunga Arr**	**76.70 254**		*e*P	**P**	**07 51 18.6**	**-1.0**
WB2				*e*		07 51 29.0	
WRA	**Warramunga Arr**	**76.71 254**		P	**P**	**07 51 18.2**	**-1.5**
	5.0nm,0.8s,mb4.5,baz=144,slow=5.1,SNR=28						
WRA				LR	LR	08 21 28.6	
	comp=Z,510nm,18.2s,MS4.9,baz=165,slow=33						
WRAB	**Tennant Creek**	**76.71 254**		*e*P	**P**	**07 51 18.6**	**-1.0**
	16nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**82.97 249**		*e*P	**P**	**07 51 52.9**	**-0.7**
	16nm,1.1s,mb5.0						
FITZ				*e*		07 52 03.7	
FITZ				*e*		07 52 11.4	
FITZ	**Fitzroy Crossi**	**82.97 249**		P	**P**	**07 51 53.3**	**-0.3**
	11nm,1.0s,mb4.8,baz=177,slow=6.8,SNR=9.9						
TXAR	**Lajitas Array**	**87.03 23**		P	**P**	**07 52 14.8**	**+1.3**
	1.5nm,1.0s,mb4.2,baz=186,slow=8.8,SNR=4.7						
TXAR				LR	LR	08 22 46.9	
	comp=Z,90nm,20.9s,MS4.2,baz=185,slow=30						
CCUT	**Cedar City**	**93.25 14**		P	**P**	**07 52 44.2**	**+1.8**
NVAR	**Mina Array Bea**	**93.54 10**		P	**P**	**07 52 45.3**	**+1.5**
	0.3nm,0.7s,mb3.9,baz=207,slow=12,SNR=2.8						
BOSA	**Boshof**	**94.33 159**		LR	LR	08 29 15.5	
	comp=Z,440nm,20.5s,MS4.9,baz=186,slow=32						
YKA	**Yellowknife Ar**	**117.70 8**		PKP	PKPdf	07 58 13.4	+0.3
	0.8nm,1.1s,baz=215,slow=3.0,SNR=4.5						
EGAK	**Eagle**	**119.58 355**		*e*P	PKPdf	07 58 19.0	+2.3
TIXI	**Tiksi**	**143.81 328**		*e*PKPdf	PKPdf	07 58 58.2	-3.7
ULN	**Ulaanbaatar**	**144.18 283**		*e*PKPdf	PKPdf	07 59 00.2	-3.1
SONM	**Songino Array**	**144.53 283**		PKP	PKPdf	07 59 01.5	-2.4
	13nm,1.0s,baz=143,slow=3.4,SNR=42						
SJPF	**Ste Jean**	**145.58 89**		*e*PKIKP	PKPdf	07 58 58.3	-7.6
	105nm,1.4s						
PTH	**Pithoragarh**	**146.34 234**		*e*P	PKPdf	07 59 12.9	+5.3
TCF	**Toulx Ste Croi**	**149.43 87**		*e*PKIKP	PKPdf	07 59 06.2	-5.9
	24nm,1.2s						
LOR	**Lormes**	**150.91 86**		*e*PKIKP	PKPdf	07 59 08.5	-5.9
	34nm,1.3s						
GERES	**GERESS Array B**	**157.40 91**		PKP	PKPdf	07 59 23.5	0.0
	1.4nm,0.8s,baz=230,slow=1.0,SNR=6.9						
MKAR	**Makanchi Array**	**157.81 262**		PKP	PKPdf	07 59 22.4	-1.7
	0.1nm,0.7s,baz=45,slow=4.9,SNR=2.2						
MKAR				PKPab	PKPab	07 59 55.6	-1.3
	3.3nm,0.8s,baz=140,slow=2.3,SNR=22						
ZALV	**Zalesovo Beam**	**159.42 282**		PKPab	PKPab	08 00 01.6	-2.2
	2.3nm,0.3s,baz=46,slow=4.3,SNR=5.2						
BVAR	**Borovoye Array**	**167.43 270**		PKPab	PKPab	08 00 36.9	-2.1
	0.8nm,0.5s,baz=79,slow=7.7,SNR=4.1						

*ISCJB **07** 07:52:58.5±0.2, 4077N±001×12161W±001, h9km, Error ellipse: s-maj=1.6km s-min=1.5km az=160.8*
*NEIC **07** 07:52:58.8, 4077N×12156W, h9km, MW3.6(BRK), After NCEDC.*
ISC 07 07:52:58.3±0.3, 4077N±001×12160W±002, h0km±2km, n95, σ1§13/152, 43C-64D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATC	**Hat Creek Radi**	**0.12 67**		⇑P	**Pg**	**07 53 01.1**	**+0.6**
	baz=0.1,SNR=1000						
HATC				⇑S	**Sg**	**07 53 03.4**	**+1.4**
	baz=0.1						
O04C	**Chester**	**0.60 139**		P	**Pg**	**07 53 09.5**	**-0.2**
	baz=0.6,SNR=708						
O04C				⇑S	**Sg**	**07 53 17.4**	**-0.1**
	baz=0.6						
M03C	**McCloud**	**0.64 322**		⇑P	**Pg**	**07 53 11.1**	**+0.6**
	baz=0.7,SNR=207						
M03C				⇑S	**Sg**	**07 53 19.3**	**+0.5**
	baz=0.7						
ELFS	**Eagle Lake Fie**	**0.68 103**		P	**Pg**	**07 53 11.1**	**-0.2**
	baz=0.7,SNR=441						
ELFS				⇑S	**Sg**	**07 53 20.1**	**-0.1**
	baz=0.7						
M05C	**Lookout**	**0.68 30**		⇓P	**Pg**	**07 53 11.2**	**-0

baz=1.5,SNR=126
O06A ⇓S **Sb** 07 53 44.9 -1.1
baz=1.5
MOD Modoc 1.50 40 *e*Pn **Pn** 07 53 25.3 -1.0
MOD Modoc 1.50 40 ⇑P **Pn** 07 53 25.2 -1.2
baz=1.5,SNR=207
MOD ⇓S **Sb** 07 53 45.6 -0.8
baz=1.5
SUTB Sutter Butte 1.55 185 ⇓P **Pn** 07 53 26.0 -1.0
baz=1.5,SNR=84
SUTB ⇑S **Sn** 07 53 47.5 -0.3
baz=1.5
P05C Yuba Gap, Truc 1.65 152 ⇓Pb **Pb** 07 53 28.8 -0.8
baz=1.6,SNR=20
P05C ⇑Sb **Sb** 07 53 51.4 +0.5
baz=1.6
P06A Stead Airport, 1.70 129 ⇑Pb **Pb** 07 53 29.4 -0.9
baz=1.7,SNR=28
KIPM Iron Peak 1.73 237 *e*Pn **Pn** 07 53 30.6 +1.1
O01C Eel River Cons 1.81 250 ⇓Pb **Pb** 07 53 31.5 -0.7
baz=1.8,SNR=22
K04A Chilquin 1.84 357 ⇓Pb **Pb** 07 53 31.7 -1.2
baz=1.9
JCC Jacoby Creek 1.84 272 ⇓Pb **Pb** 07 53 31.8 -1.1
baz=1.9,SNR=34
P01C Double 8 Ranch 1.86 226 ⇓P **Pn** 07 53 30.9 -0.4
baz=1.9,SNR=11
KCPM Cahto Peak 1.86 235 *e*Pn **Pn** 07 53 32.0 +0.6
KRMB Red Mountain 1.90 294 *e*Pn **Pn** 07 53 32.6 +0.8
M07A Soldier Meadow 1.94 71 P **Pn** 07 53 31.2 -1.2
baz=1.9,SNR=626
M07A ⇑Sb **Sb** 07 53 59.3 +0.2
baz=1.9
Q04C Lincoln 1.94 175 ⇑Pb **Pb** 07 53 33.2 -1.2
baz=1.9,SNR=24
Q04C ⇓S **Sn** 07 53 57.7 +0.3
baz=1.9
N07B Gerlach 2.00 89 ⇑P **Pn** 07 53 31.9 -1.3
baz=2.0,SNR=55
N07B ⇓Sb **Sb** 07 54 01.0 +0.1
baz=2.0
MNRC McLaughlin Nat 2.00 199 ⇓P **Pn** 07 53 32.5 -0.8
baz=2.0
MNRC ⇓Sb **Sb** 07 54 02.4 +1.6
baz=2.0
PAHR Pah Rah Range 2.00 121 *e*Pn **Pn** 07 53 34.1 +0.9
PAHR *e*Sg **Sg** 07 54 04.5 +1.9
K05A Summer Lake 2.02 15 ⇓Pb **Pb** 07 53 34.7 -1.2
baz=2.0,SNR=76
WCN Washoe City 2.04 135 ⇓Pb **Pb** 07 53 35.7 -0.5
baz=2.0
L02A Cave Junction 2.04 313 ⇑Pb **Pb** 07 53 35.4 -0.8
baz=2.1
L02A ⇓Sb **Sb** 07 54 03.9 +1.7
baz=2.1
HUMO Hull Mountain 2.10 331 *e*Pn **Pn** 07 53 35.1 +0.5
HUMO Hull Mountain 2.10 331 ⇓P **Pn** 07 53 34.5 -0.1
baz=2.1,SNR=121
HOPS Hopland 2.10 213 *e*Pn **Pn** 07 53 34.2 -0.5
L07A Adell 2.11 53 P **Pn** 07 53 34.0 -0.8
baz=2.1,SNR=547
L07A ⇑Sb **Sb** 07 54 04.7 +0.7
baz=2.1
LAVA Lava Cap Winer 2.12 161 ⇑P **Pn** 07 53 34.3 -0.6
baz=2.1,SNR=24
LAVA ⇑Sb **Sb** 07 54 05.2 +0.8
baz=2.1
O07A Toulon 2.17 105 ⇑Pb **Pb** 07 53 37.0 -1.3
baz=2.1,SNR=37
K06A Valley Falls 2.26 26 ⇑P **Pn** 07 53 36.5 -0.4
baz=2.3,SNR=89
K06A ⇓Sb **Sb** 07 54 09.7 +1.2
baz=2.3
R05C Kirkwood Meado 2.38 150 ⇓Pb **Pb** 07 53 41.5 -0.4
baz=2.4
R05C ⇓Sb **Sb** 07 54 12.0 +0.3
baz=2.4
NSHM Saint Helena R 2.38 199 *e*Pn **Pn** 07 53 38.7 +0.2
NSHM *e*Sg **Sg** 07 54 17.4 +2.7
P07A Fallon 2.41 120 ⇓Pb **Pb** 07 53 41.6 -0.9
baz=2.4
P07A ⇓Sb **Sb** 07 54 13.9 +1.0
baz=2.4
KBO Bosley Butte 2.44 307 *e*Pn **Pn** 07 53 42.0 +2.7
KBO *e*Sg **Sg** 07 54 25.4 +8.7
K02A Glendale 2.44 325 ⇓Sb **Sb** 07 54 14.6 +0.9
baz=2.5
J04A Umpqua Nationa 2.50 351 ⇓Pb **Pb** 07 53 43.2 -0.8
baz=2.5
CVS Carmenet Viney 2.51 196 ⇑P **Pn** 07 53 40.1 -0.2
baz=2.5,SNR=8.2
CVS ⇑S **Sn** 07 54 10.8 -0.8
baz=2.5
M08A Happy Creek Ra 2.53 73 ⇓P **Pn** 07 53 39.2 -1.4
baz=2.5,SNR=47
M08A ⇓Sb **Sb** 07 54 16.8 +0.8
baz=2.5
J05A Fort Rock 2.53 6 ⇓P **Pn** 07 53 40.2 -0.3
baz=2.5
R04C Big Horse Ranc 2.56 168 ⇑Sb **Sb** 07 54 18.8 +1.7
baz=2.6
K07A Rock Creek Ran 2.60 42 ⇓P **Pn** 07 53 40.9 -0.7
baz=2.6,SNR=34
K07A ⇑Sb **Sb** 07 54 19.6 +1.2
baz=2.6
N08A GE Springer Mi 2.63 89 ⇑P **Pn** 07 53 40.8 -1.2
baz=2.6
N08A ⇓Sb **Sb** 07 54 20.1 +1.0
baz=2.6
J06A Christmas Vall 2.70 23 ⇑Sb **Sb** 07 54 22.5 +1.3
baz=2.7
WVOR Wild Horse Val 2.77 52 *e*Pn **Pn** 07 53 42.6 -1.4
WVOR *e*Sg **Sg** 07 54 27.1 -0.4
L08A Fields 2.83 59 ⇓P **Pn** 07 53 43.4 -1.2
baz=2.8,SNR=8.7
CMB Columbia Colle 2.89 161 *e*Pn **Pn** 07 53 45.5 0.0
CMB *e*Sg **Sg** 07 54 34.8 +3.7
CMB Columbia Colle 2.89 161 ⇓P **Pn** 07 53 45.3 -0.2
baz=2.9
CMB ⇓Sb **Sb** 07 54 28.6 +2.1
baz=2.9
KEBM Edson Butte 2.93 317 Pn **Pn** 07 53 46.5 +0.5
KEBM *e*Pg **Pg** 07 53 56.1 +1.7
KEBM *e*Sg **Sg** 07 54 35.5 +3.1
K08A Mann Creek Ran 3.04 49 ⇓Sb **Sb** 07 54 33.9 +3.0
baz=3.0
N09A Rock Creek Ran 3.10 87 ⇓P **Pn** 07 53 47.3 -1.0
baz=3.1
N09A ⇓Sb **Sb** 07 54 34.5 +2.1
baz=3.1
J07A Hines 3.11 32 ⇓Pb **Pb** 07 53 53.7 -0.7
baz=3.1
M09A Marrel Ranch, 3.20 77 ⇑Sb **Sb** 07 54 38.1 +2.5
baz=3.2
L09A Wilkinson Ranc 3.21 66 ⇓P **Pn** 07 53 49.0 -0.9
baz=3.2
L09A ⇓Sb **Sb** 07 54 37.9 +2.2
baz=3.2
S04C Ingram Canyon, 3.27 176 ⇑Sb **Sb** 07 54 41.0 +3.6
baz=3.3
R07C Lee Vining 3.33 143 ⇓P **Pn** 07 53 52.6 +1.0
baz=3.3
I06A Prineville 3.33 18 ⇓P **Pn** 07 53 52.9 +1.3
baz=3.3,SNR=7.4
O09A Fish Creek Ran 3.42 99 ⇓Sb **Sb** 07 54 44.2 +2.5
baz=3.4
J08A Circle Bar Ran 3.48 41 ⇑P **Pn** 07 53 53.0 -0.6
baz=3.5,SNR=25
J08A ⇓Sb **Sb** 07 54 47.0 +3.6
baz=3.5
K09A Rome 3.48 55 ⇓P **Pn** 07 53 52.6 -1.1
baz=3.5,SNR=15
K09A ⇑Sb **Sb** 07 54 46.7 +3.1
baz=3.5
P09A Austin 3.63 108 ⇓Sb **Sb** 07 54 51.2 +3.4
baz=3.6
J09A Fry Pan Ranch, 3.85 47 ⇓P **Pn** 07 53 58.0 -0.7
baz=3.8,SNR=8.2
I08A Drewsey 3.86 35 ⇓Sb **Sb** 07 54 58.7 +4.3
baz=3.8
N10A Dunphy 3.87 89 ⇑Sb **Sb** 07 54 57.9 +3.2
baz=3.8
H05A Madras 3.88 4 ⇓P **Pn** 07 54 00.1 +0.9
baz=3.9
M10A I.L. Ranch, Tu 3.90 77 ⇑P **Pn** 07 53 58.5 -0.8
baz=3.9
M10A ⇓Sb **Sb** 07 54 59.8 +4.4
baz=3.9
SAO San Andreas Ge 4.00 178 *e*Pn **Pn** 07 54 00.4 -0.4
SAO *e*Pg **Pg** 07 54 13.6 -1.4
K10A MacKenzie Ranc 4.07 59 ⇑P **Pn** 07 54 00.8 -0.9
baz=4.0,SNR=13
L10A Juniper Basin 4.07 70 ⇑P **Pn** 07 54 01.0 -0.8
baz=4.0
L11A Cat Creek Ranc 4.61 70 ⇓P **Pn** 07 54 08.0 -1.1
baz=4.6
BMO Blue Mountains 5.16 36 *e*Pn **Pn** 07 54 19.4 +2.7
BMO *e*Pg **Pg** 07 54 36.9 -0.2
BGU Big Grassy Mou 6.50 86 Pn **Pn** 07 54 38.3 +3.2
BGU *e*Pg **Pg** 07 55 04.1 +1.3
BGU *e*Sg **Sg** 07 56 22.1 -4.9
DUG Dugway 6.72 92 Pn **Pn** 07 54 36.9 -1.3
DUG *e*Pg **Pg** 07 55 07.5 +0.4
MCMT McKenzie Canyo 7.61 55 Pn **Pn** 07 54 52.6 +2.4
MSU Marysvale 7.61 104 *e*Pn **Pn** 07 54 55.6 +5.2

CSEM ***07*** *08:34:26.7±0.1, 3993N×4164E, h8km, MD3.2, Error ellipse: s-maj=3.8km s-min=3.0km az=130.0*
ISCJB ***07*** *08:34:27.5±0.8, 3990N±005×4170E±005, h7km±5km, Error ellipse: s-maj=9.8km s-min=5.0km az=152.8*
DDA ***07*** *08:34:27.6, 4000N×4164E, h7km±5km, Md3.2*
ISK ***07*** *08:34:27.3, 3996N×4165E, h9km, MD3.0*
ISC 07 08:34:27.7±0.8, 3990N±005×4170E±005, h9km±5km, n10, σ0§84/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	**Horasan**	**0.21**	**48**	*i* P	**Pg**	**08 34 31.1**	**-1.0**
HOMI				*i* S	**Sg**	**08 34 36.2**	**+1.2**
ERZM	**Erzurum**	**0.26**	**271**	*i* P	**Pg**	**08 34 32.1**	**-0.7**
ERZM				*i* S	**Sg**	**08 34 36.5**	**+0.1**
EZM	**Erzurum**	**0.26**	**271**	PG	**Pg**	**08 34 32.2**	**-0.8**
EZM				*e*SG	**Sg**	**08 34 36.4**	**0.0**
KOPT	**Kop Dagi**	**0.93**	**277**	*i* P	**Pg**	**08 34 45.0**	**-0.6**
KOPT				*i* S	**Sg**	**08 35 00.3**	**+2.6**
AGRB	**Hanur-Agry**	**1.05**	**108**	*e*PN	**Pn**	**08 34 49.0**	**+0.5**
ARTV	**Artvin**	**1.29**	**8**	*i* P	**Pn**	**08 34 51.2**	**-0.7**
ARTV				*i* S	**Sb**	**08 35 09.6**	**+0.7**
BINT	**Bingol**	**1.39**	**223**	*e*PN	**Pn**	**08 34 53.4**	**+0.2**
BCA	**Borcka**	**1.54**	**358**	*e*PN	**Pn**	**08 34 54.6**	**-0.7**
BCA				*e*SN	**Sn**	**08 35 15.1**	**-0.3**
GUMT	**Gumushane**	**1.79**	**289**	*e*PN	**Pn**	**08 34 58.4**	**-0.3**
PTK	**Pertek**	**2.05**	**241**	*e*PN	**Pn**	**08 35 03.3**	**+0.9**

IDC ***07*** *09:09:05.4±1.1, 3559N×2302E, h0km, mb4.0/13, mb1 4.0/16, mb1mx3.9/26, mbtmp4.0/16, ML4.0/3, MS3.2/3, Ms1 3.2/3, ms1mx2.8/36, Error ellipse: s-maj=22.7km s-min=19.9km az=28.0*
CSEM ***07*** *09:09:09.9±0.1, 3541N×2279E, h69km, mb4.5/3, Error ellipse: s-maj=2.5km s-min=1.6km az=45.0*
ISCJB ***07*** *09:09:09.8±0.4, 3539N±003×2276E±004, h70km±4km, mb3.9/16, Error ellipse: s-maj=6.5km s-min=3.7km az=140.6*
ATH ***07*** *09:09:11.9, 3561N×2288E, h41km±3km, MD4.1/16, ML3.9*
NEIC ***07*** *09:09:12.0, 3560N×2290E, h62km, mb4.4/1, After ATH.*
HLW ***07*** *09:09:13.1, 3549N×2334E, h33km, Mb4.3*
THE ***07*** *09:09:13.9, 3574N×2298E, h14km*
ISC 07 09:09:11.3±0.4, 3542N±003×2276E±004, h62km±4km, n107, σ1§08/116, mb4.0/16, 8C-2D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.89**	**14**	*e*P	**Pn**	**09 09 26.5**	**-1.5**
KYTH				*e*S	**Sn**	**09 09 36.0**	**-4.3**
KARN	**Karanos**	**0.94**	**91**	*e*Pg	**Pn**	**09 09 29.6**	**+0.9**
KARN				*e*Sg	**Sn**	**09 09 42.5**	**+1.0**
VAM	**Vamos**	**1.17**	**90**	*e*P	**Pn**	**09 09 32.5**	**+0.8**
VAM				*e*S	**Sn**	**09 09 47.8**	**+1.0**
GVD	**Gavdhos**	**1.23**	**118**	*e*Pg	**Pn**	**09 09 37.0**	**+4.6**
GVD	**Gavdhos**	**1.23**	**118**	*e*Pg	**Pn**	**09 09 33.2**	**+0.9**
GVD				*e*Sg	**Sn**	**09 09 58.7**	**+11**
GVD	**Gavdhos**	**1.23**	**118**	*e*Pg	**Pn**	**09 09 33.2**	**+0.8**
GVD	**Gavdhos**	**1.23**	**118**	*e*P	**Pn**	**09 09 33.7**	**+1.3**
VLI	**Veliai**	**1.31**	**6**	⇑/P	**Pn**	**09 09 33.2**	**-0.2**
VLI				*e*S	**Sn**	**09 09 46.7**	**-3.3**
ITM	**Ithomi**	**1.89**	**339**	*e*P	**Pn**	**09 09 41.8**	**+0.6**
LAST	**Lasithi**	**2.24**	**96**	*e*Pn	**Pn**	**09 09 48.0**	**+2.0**
LAST				*e*Sn	**Sn**	**09 10 14.7**	**+2.2**
NPS	**Neapolis**	**2.33**	**93**	*e*P	**Pn**	**09 09 47.9**	**+0.6**
SANT	**Santorini**	**2.39**	**66**	*e*Pn	**Pn**	**09 09 47.2**	**-0.8**
SANT				*e*Sn	**Sn**	**09 10 15.0**	**-1.2**
SANT	**Santorini**	**2.39**	**66**	*e*Pn	**Pn**	**09 09 47.1**	**-0.9**
NAIG	**Nisos Aigina**	**2.41**	**14**	*e*P	**Pn**	**09 09 47.5**	**-0.8**
XRY	**Khrisi**	**2.46**	**102**	*e*P	**Pn**	**09 09 51.5**	**+2.5**
KVR	**Kavouri**	**2.54**	**18**	*e*P	**Pn**	**09 09 50.0**	**-0.1**
LTK	**Loutraki**	**2.61**	**4**	*e*Pn	**Pn**	**09 09 51.4**	**+0.3**
ATH	**Athens Observa**	**2.66**	**16**	*e*P	**Pn**	**09 09 51.8**	**0.0**
PTL	**Penteli**	**2.77**	**18**	*e*P	**Pn**	**09 09 51.8**	**-1.5**
APE	**Apeiranthos**	**2.78**	**53**	*e*Pn	**Pn**	**09 09 52.6**	**-0.7**
APE	**Apeiranthos**	**2.78**	**53**	*e*P	**Pn**	**09 09 53.0**	**-0.4**
RLS	**Riolos of Patr**	**2.83**	**339**	*e*P	**Pn**	**09 09 54.6**	**+0.5**
ZKR	**Zakros**	**2.84**	**95**	*e*Pn	**Pn**	**09 09 56.2**	**+2.0**
SELA	**Sela**	**2.94**	**347**	*e*Pn	**Pn**	**09 09 55.7**	**+0.1**
KFL	**Anninata**	**3.12**	**330**	*e*Pn	**Pn**	**09 09 59.6**	**+1.5**
LKR	**Lokris**	**3.23**	**3**	*e*Pn	**Pn**	**09 09 59.5**	**-0.1**
LKR	**Lokris**	**3.23**	**3**	*e*P	**Pn**	**09 09 59.1**	**-0.5**
LKR	**Lokris**	**3.23**	**3**	*e*Pn	**Pn**	**09 09 59.5**	**-0.1**
EVR	**Evrytania**	**3.58**	**348**	*e*P	**Pn**	**09 10 04.9**	**+0.6**
KARP	**Karpathos**	**3.59**	**87**	*e*P	**Pn**	**09 10 04.6**	**+0.1**
AGG	**Agios Georgios**	**3.62**	**355**	*e*Pn	**Pn**	**09 10 05.4**	**+0.6**
LKD	**Levkas**	**3.69**	**333**	*e*Pn	**Pn**	**09 10 07.0**	**+1.2**
AOS	**Alonnisos**	**3.85**	**13**	*e*Pn	**Pn**	**09 10 07.2**	**-0.8**
NEO	**Neokhori**	**3.90**	**5**	*e*P	**Pn**	**09 10 08.4**	**-0.3**
XOR	**Xorichti**	**3.96**	**5**	*e*Pn	**Pn**	**09 10 09.1**	**-0.4**
CHOS	**Chios island**	**3.97**	**41**	*e*Pn	**Pn**	**09 10 08.5**	**-1.2**
SMG	**Samos**	**4.00**	**54**	*e*P	**Pn**	**09 10 09.9**	**-0.1**
BDRM	**Kayabasi**	**4.13**	**65**	*i* P	**Pn**	**09 10 12.3**	**+0.6**
BDRM	**Kayabasi**	**4.13**	**65**	*i* P	**Pn**	**09 10 12.3**	**+0.5**
BDRM				*i* S	**Sn**	**09 10 58.7**	**0.0**
THL	**Klokotos Trika**	**4.18**	**352**	*e*Pn	**Pn**	**09 10 12.4**	**-0.1**
THL	**Klokotos Trika**	**4.18**	**352**	*e*P	**Pn**	**09 10 12.6**	**0.0**
URLA	**Izmir**	**4.25**	**45**	*i* P	**Pn**	**09 10 13.1**	**-0.4**
SLUM		**4.42**	**152**	P	**Pn**	**09 10 16.2**	**+0.4**
MEV	**Metsovon**	**4.53**	**345**	*e*Pn	**Pn**	**09 10 18.6**	**+1.3**
KDAG	**Bornova**	**4.68**	**49**	*i* P	**Pn**	**09 10 24.4**	**+5.0**
AYDN	**Tasoluk**	**4.69**	**60**	*i* P	**Pn**	**09 10 20.0**	**+0.5**
HMAT	**Matruh**	**5.63**	**139**	P	**Pn**	**09 10 32.0**	**-0.5**
HMAT				S	**Sn**	**09 11 28.9**	**-6.9**
GOLH	**Golhisar**	**5.78**	**70**	*i* P	**Pn**	**09 10 35.9**	**+1.5**
TIP	**Timpagrande**	**6.08**	**310**	*e*Pn	**Pn**	**09 10 38.0**	**-0.5**
	12nm,0.9s						
TIP	**Timpagrande**	**6.08**	**310**	*e*Pn	**Pn**	**09 10 38.0**	**-0.6**
	12nm,0.9s						
HAVL	**Avola**	**6.37**	**286**	Pn	**Pn**	**09 10 41.9**	**-0.5**
	199nm,0.2s						
SWA2		**6.56**	**159**	P	**Pn**	**09 10 46.6**	**+1.4**
SWA1		**6.62**	**157**	P	**Pn**	**09 10 47.3**	**+1.3**
SWA1				S	**Sn**	**09 11 56.2**	**-3.9**
HVZN	**Vizzini**	**6.73**	**287**	Pn	**Pn**	**09 10 44.7**	**-2.8**
VAE	**Valguarnera**	**7.04**	**289**	LR	LR	09 14 10.8	
	comp=Z,228nm,19.1s,baz=132,slow=42						
MGR	**Morigerati**	**7.40**	**312**	Pn	**Pn**	**09 10 49.6**	**-7.0**
KDHN	**Kadinhani**	**8.10**	**65**	*i* P	**Pn**	**09 11 06.4**	**+0.2**
ERMK	**Ermenek**	**8.31**	**79**	*i* P	**Pn**	**09 11 09.8**	**+0.7**
AWBH		**8.79**	**142**	⇑P	**Pn**	**09 11 15.1**	**-0.5**
KOT	**Kottamia**	**9.40**	**123**	⇓P	**Pn**	**09 11 22.2**	**-1.8**
HSAF	**As Saff**	**9.40**	**125**	P	**Pn**	**09 11 22.8**	**-1.3**
HFRF	**Wahat Farafira**	**9.51**	**149**	⇑*e*P	**Pn**	**09 11 25.9**	**+0.4**
GLL	**Jalalah**	**9.53**	**125**	⇑P	**Pn**	**09 11 24.7**	**-1.2**
HHAG	**Hagoal**	**9.57**	**122**	⇓*e*P	**Pn**	**09 11 24.6**	**-1.7**
AMAG	**Maghara**	**9.97**	**116**	⇑P	**Pn**	**09 11 29.8**	**-2.1**
SUZ		**10.14**	**120**	P	**Pn**	**09 11 32.7**	**-1.5**
MLR	**Muntele Rosu**	**10.35**	**13**	Pn	**Pn**	**09 11 40.5**	**+3.6**
	0.2nm,0.3s,baz=194,slow=12,SNR=3.9						
MLR				LR	LR	09 16 07.5	
	comp=Z,167nm,18.2s,baz=97,slow=42						
HNKL	**Nakhl**	**10.92**	**117**	*e*P	**Pn**	**09 11 42.6**	**-2.1**
HNKL				S	**Sn**	**09 13 32.5**	**-13**
KEST	**Kesra**	**10.93**	**276**	LR	LR	09 16 11.1	
	comp=Z,69nm,21.1s,baz=19,slow=38						
HDK1	**Dakhla**	**11.38**	**148**	⇑P	**Pn**	**09 11 51.7**	**+0.6**
EIL	**Elat**	**11.77**	**116**	Pn	**Pn**	**09 11 54.6**	**-1.7**
EIL				Sn	**Sn**	**09 13 59.7**	**-6.4**
EIL	**Elat**	**11.77**	**116**	Pn	**Pn**	**09 11 54.6**	**-1.7**
	0.6nm,0.3s,baz=298,slow=5.5,SNR=6.2						
EIL				Sn	**Sn**	**09 13 59.7**	**-6.4**
	1.2nm,0.3s,baz=75,slow=22,SNR=6.3						
EIL	**Elat**	**11.77**	**116**	Sn	**Sn**	**09 13 59.7**	**-6.3**
HDHB	**Dhahab**	**12.06**	**120**	⇑P	**Pn**	**09 11 59.4**	**-1.0**
HHRG	**Al Ghardaqah**	**12.33**	**129**	⇑*e*P	**Pn**	**09 12 03.5**	**-0.5**
GERES	**GERESS Array B**	**14.99**	**336**	Pn	**Pn**	**09 12 37.7**	**-1.7**
	0.2nm,0.3s,baz=159,slow=13,SNR=3.5						
KHC	**Kasperske Hory**	**15.28**	**337**	*e*P	**Pn**	**09 12 48.0**	**+4.9**
AKASG	**Malin Array Be**	**15.98**	**15**	Pn	**Pn**	**09 12 48.4**	**-3.6**
	1.2nm,0.3s,baz=207,slow=12,SNR=6.1						
CLL	**Collm**	**17.37**	**339**	*i* pP	pP	09 13 20.2	-2.7
	comp=Z,8.0nm,1.0s						
MIB	**Mutribah**	**21.42**	**98**	*e*P	**P**	**09 13 54.0**	**-0.1**
MIB				AMb	AMB	09 13 55.8	
	comp=Z,41nm,0.7s,mb4.9						
MIB	**Mutribah**	**21.42**	**98**	*e*P	**P**	**09 13 54.0**	**-0.2**
	comp=Z,41nm,0.7s,mb4.9						
NAY	**Al-Naaiem**	**21.55**	**100**	*e*P	**P**	**09 13 55.4**	**-0.2**
NAY				AMb	AMB	09 13 57.0	
	comp=Z,11nm,0.8s,mb4.3						
NAY	**Al-Naaiem**	**21.55**	**100**	*e*P	**P**	**09 13 55.4**	**-0.2**
	comp=Z,11nm,0.8s,mb4.3						
UMR	**Umm Al-Rimmam**	**21.82**	**99**	*e*P	**P**	**09 13 58.6**	**+0.2**
UMR				AML	AML	09 14 00.3	
	comp=Z,36nm,0.5s						
HFS	**Hagfors**	**25.42**	**349**	P	**P**	**09 14 32.8**	**0.0**
	comp=Z,0.9nm,0.3s,mb3.8,baz=155,slow=11,SNR=8.7						
FINES	**FINESS Array B**	**26.13**	**4**	P	**P**	**09 14 38.9**	**-0.4**
	comp=Z,0.8nm,0.3s,mb3.8,baz=171,slow=10.0,SNR=10						
FINES	**FINESS Array B**	**26.13**	**4**	P	**P**	**09 14 38.8**	**-0.4**
NOA	**NORSAR Array B**	**26.69**	**347**	P	**P**	**09 14 46.6**	**+2.4**
	comp=Z,0.9nm,0.8s,mb3.4,baz=156,slow=10,SNR=3.5						
EKA	**Eskdalemuir Ar**	**26.72**	**326**	P	**P**	**09 14 46.7**	**+2.1**
	comp=Z,7.0nm,1.1s,mb4.1,baz=120,slow=8.8,SNR=8.9						
AKTK	**Aktyubinsk**	**29.53**	**48**	P	**P**	**09 15 09.0**	**-0.7**
AKTK	**Aktyubinsk**	**29.53**	**48**	P	**P**	**09 15 09.0**	**-0.7**
AKTO	**Aktyubinsk**	**29.53**	**48**	P	**P**	**09 15 09.0**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.5,baz=270,slow=8.7,SNR=3.8						
ARCES	**ARCESS Array B**	**34.21**	**2**	P	**P**	**09 15 50.5**	**+0.1**
	comp=Z,2.2nm,0.8s,mb4.1,baz=185,slow=10,SNR=9.2						
ARCES	**ARCESS Array B**	**34.21**	**2**	P	**P**	**09 15 50.5**	**0.0**
BVAR	**Borovoye Array**	**37.60**	**47**	P	**P**	**09 16 19.5**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=257,slow=5.9,SNR=4.8						
DBIC	**Dimbokro**	**38.24**	**228**	P	**P**	**09 16 29.5**	**+4.0**
	comp=Z,2.4nm,0.7s,mb4.0,baz=14,slow=9.3,SNR=3.8						
KURK	**Kurchatov**	**42.54**	**51**	*e*P	**P**	**09 17 00.7**	**0.0**
	comp=Z,6.4nm,0.9s,mb4.3						
KURK	**Kurchatov**	**42.54**	**51**	*e*P	**P**	**09 17 00.7**	**+0.1**
	comp=Z,6.3nm,0.9s,mb4.3						
MK31	**Makanchi Array**	**45.27**	**56**	*e*P	**P**	**09 17 22.5**	**0.0**
MK31	**Makanchi Array**	**45.27**	**56**	*e*P	**P**	**09 17 22.5**	**0.0**
MKAR	**Makanchi Array**	**45.27**	**56**	P	**P**	**09 17 22.6**	**0.0**
	comp=Z,2.5nm,0.6s,mb4.2,baz=283,slow=6.4,SNR=25						
ZALV	**Zalesovo Beam**	**46.24**	**46**	P	**P**	**09 17 29.6**	**-0.5**
	comp=Z,1.4nm,0.4s,mb4.2,baz=269,slow=8.3,SNR=2.5						
SONM	**Songino Array**	**60.83**	**50**	P	**P**	**09 19 17.3**	**+0.3**
	comp=Z,0.6nm,0.5s,mb4.0,baz=300,slow=8.4,SNR=5.5						
YKA	**Yellowknife Ar**	**76.59**	**341**	P	**P**	**09 20 56.2**	**+1.5**
YKA	**Yellowknife Ar**	**76.59**	**341**	P	**P**	**09 20 56.2**	**+1.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=32,slow=5.4,SNR=11						
KSRS	**Korea Array**	**79.67**	**51**	P	**P**	**09 21 12.8**	**+0.6**
	comp=Z,2.9nm,0.7s,mb4.3,baz=304,slow=4.9,SNR=8.0						
STKA	**Stephens Creek**	**129.67**	**104**	PKhKP		09 28 09.9	
	comp=Z,3.2nm,0.9s,baz=304,slow=3.7,SNR=3.1						
STKA				PKP	PKPdf	09 28 16.3	+2.9
	comp=Z,3.3nm,1.1s,baz=288,slow=6.4,SNR=2.9						

IDC 07 09:38:34.5±1.8, 3420N×8181E, h0km, mb3.3/4, mb1 3.5/5, mb1mx3.4/22, mbtmp3.4/5, Error ellipse: s-maj=47.9km s-min=26.0km az=57.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.59**	**2**	Pn	Pn	09 41 34.6	-0.2
	0.1nm,0.3s,baz=180,slow=13,SNR=5.3						
BVAR	**Borovoye Array**	**20.51**	**340**	P	P	09 43 14.5	+0.5
	1.8nm,0.7s,baz=138,slow=9.6,SNR=7.5						
SONM	**Songino Array**	**22.89**	**46**	P	P	09 43 39.9	+0.3
	0.5nm,0.9s,baz=246,slow=10,SNR=5.2						
AKTO	**Aktyubinsk**	**23.78**	**320**	P	P	09 43 48.5	-0.2
	0.4nm,0.4s,baz=136,slow=11,SNR=3.5						
WRA	**Warramunga Arr**	**73.46**	**129**	P	P	09 50 09.0	+0.1
	0.4nm,0.9s,baz=326,slow=5.5,SNR=3.1						

TIR ***07*** *10:29:15.5±3.0, 3981N×1975E, h51km±32km, ML3.1*
ISCJB ***07*** *10:29:18.4±0.5, 3998N±002×1971E±004, h6km±4km, Error ellipse: s-maj=5.2km s-min=3.1km az=166.9*
THE ***07*** *10:29:18.3, 3999N×1963E, h3km, ML3.6*
CSEM ***07*** *10:29:19.6±0.1, 3988N×1968E, h5km, MD3.5, Error ellipse: s-maj=2.3km s-min=1.2km az=60.0*
ATH ***07*** *10:29:20.8, 3984N×1985E, h12km±2km, MD3.5/4*
NEIC ***07*** *10:29:20.8, 3984N×1985E, h12km, MD3.5(ATH), ML3.1(PDG), After ATH.*
PDG ***07*** *10:29:20.0±0.3, 4003N×1971E, h19km±1km, ML3.1/10, Error ellipse: s-maj=2.6km s-min=2.1km az=90.0*
ISC 07 10:29:19.1±0.5, 3997N±002×1972E±004, h6km±4km, n51, σ0§86/75, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.24**	**112**	*i* Pg	**Pg**	**10 29 22.8**	**-0.9**
SRN				*i* Sg	**Sg**	**10 29 26.7**	**-0.2**
KEK	**Kerkira**	**0.26**	**166**	*e*PG	**Pg**	**10 29 24.1**	**-0.1**
KEK				*e*SG	**Sg**	**10 29 26.5**	**-1.2**
TPE	**Tepelena**	**0.40**	**35**	*i* PG	**Pg**	**10 29 25.6**	**-1.2**
VLO	**Vlora**	**0.53**	**341**	*i* Pg	**Pg**	**10 29 29.4**	**+0.2**
VLO				*i* Sg	**Sg**	**10 29 38.1**	**+2.0**
IGT	**Igoumenitsa**	**0.65**	**132**	*e*Pg	**Pg**	**10 29 31.1**	**-0.4**
IGT				*e*Sg	**Sg**	**10 29 42.2**	**+2.3**
JAN	**Janina**	**0.93**	**109**

NKY	**Niksic**	**2.89**	**349**	*i* PG		**Pn**	**10 30 05.6**	**0.0**
NKY				*i* SG		**Sn**	**10 30 39.8**	**-0.9**
BEY	**Berane**	**2.90**	**3**	*i* PG		**Pn**	**10 30 05.9**	**+0.1**
IVA	**Berane**	**2.90**	**3**	*e*Pn		**Pn**	**10 30 05.9**	**+0.1**
IVA				*e*Sn		**Sn**	**10 30 40.7**	**-0.2**
PAIG	**Paliouri**	**3.05**	**90**	*e*Pn		**Pn**	**10 30 07.5**	**-0.2**
BRY	**Bratogost**	**3.06**	**344**	*e*Pn		**Pn**	**10 30 07.8**	**-0.1**
BRY				*e*Sn		**Sn**	**10 30 44.3**	**-0.5**
BRY	**Bratogost**	**3.06**	**344**	*i* PG		**Pn**	**10 30 07.8**	**-0.1**
UPM	**Unac-Piva**	**3.29**	**350**	*e*Pn		**Pn**	**10 30 11.3**	**+0.3**
UPM				*e*Sn		**Sn**	**10 30 50.0**	**-0.4**
AOS	**Alonnisos**	**3.32**	**103**	*e*Pn		**Pn**	**10 30 11.7**	**+0.2**
PLE	**Pljevlja**	**3.37**	**356**	*e*Pn		**Pn**	**10 30 12.5**	**+0.4**
PLE				*e*Sn		**Sn**	**10 30 52.0**	**-0.4**
SOI	**Samo**	**3.42**	**238**	Pn		**Pn**	**10 30 12.7**	**-0.2**
PYL	**PYLOS**	**3.46**	**152**	*e*Pn		**Pn**	**10 30 13.2**	**-0.1**
DID	**Didima**	**3.69**	**131**	*e*Pn		**Pn**	**10 30 17.6**	**+1.0**

IDC 07 10:35:45.2±3.8, 854N×9201E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=149.3km s-min=24.5km az=64.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**39.02**	**349**	P	P	10 43 13.6	+0.1
	0.2nm,0.2s,baz=178,slow=9.8,SNR=2.3						
SONM	**Songino Array**	**41.02**	**15**	P	P	10 43 29.9	-0.3
	0.5nm,0.8s,baz=189,slow=9.4,SNR=3.6						
WRA	**Warramunga Arr**	**50.37**	**125**	P	P	10 44 44.5	0.0
	0.2nm,0.4s,baz=301,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**51.96**	**129**	P	P	10 44 56.5	+0.1
	0.3nm,0.8s,baz=304,slow=8.1,SNR=6.0						

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*IDC **07** 10:36:42.8±4.2, 3401N×8193E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.5/23, mbtmp3.7/5, ML3.0/2, MS3.3/1, Ms1 3.3/1, ms1mx2.6/21, Error ellipse: s-maj=78.1km s-min=41.2km az=23.0*

*ISCJB **07** 10:36:43.3±1.6, 341N±02×820E±02, h10km, Error ellipse: s-maj=35.3km s-min=14.1km az=135.6*

*NEIC **07** 10:36:45.3±1.4, 3406N×8210E, h10km, mb4.7/2, Error ellipse: s-maj=30.6km s-min=13.4km az=45.0*

ISC 07 10:36:49.1±3.0, 341N±02×821E±02, h37km±29km, n11, σ0:95/10, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**10.05**	**326**	*e*Pn	**Pn**	**10 39 11.5**	**+0.7**
	2.2nm,0.8s						
TKM2	**Tokmak 2**	**10.15**	**332**	*e*Pn	**Pn**	**10 39 11.4**	**-0.8**
	2.2nm,0.8s						
AAK	**Ala-Archa**	**10.38**	**327**	Pn	**Pn**	**10 39 16.4**	**+1.1**
	0.1nm,0.3s,baz=210,slow=22,SNR=4.9						
MKAR	**Makanchi Array**	**12.66**	**1**	Pn	**Pn**	**10 39 44.9**	**-1.7**
	0.2nm,0.3s,baz=181,slow=13,SNR=8.4						
KURK	**Kurchatov**	**16.78**	**352**	*e*Pn	**Pn**	**10 40 42.0**	**+0.9**
	5.3nm,0.9s						
BVAR	**Borovoye Array**	**20.66**	**340**	P	**P**	**10 41 24.6**	**-0.9**
	3.6nm,0.8s,baz=146,slow=11,SNR=15						
SONM	**Songino Array**	**22.79**	**46**	P	**P**	**10 41 49.4**	**+1.2**
	0.3nm,0.7s,baz=230,slow=11,SNR=3.6						
KKM	**Kota Kinabalu**	**42.15**	**124**	*e*P	**P**	**10 44 37.8**	**-0.3**
KWP	**Kalwaria**	**45.66**	**309**	*e*P	**P**	**10 45 13.8**	**+7.9**
	56nm,0.6s						
KEST	**Kesra**	**58.34**	**294**	LR	LR	11 13 16.1	
	comp=Z,23nm,18.8s,baz=126,slow=38						
YKA	**Yellowknife Ar**	**82.79**	**8**	P	**P**	**10 49 08.8**	**-0.2**
	0.7nm,0.7s,baz=339,slow=5.4,SNR=19						

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*IDC **07** 10:40:06.5±0.6, 186N×9702E, h0km, mb4.3/17, mb1 4.3/17, mb1mx4.3/21, mbtmp4.3/17, ML2.9/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/23, Error ellipse: s-maj=19.8km s-min=14.5km az=46.0*

*BJI **07** 10:40:08.4, 155N×9708E, h43km, mB5.0, mb4.8, Ms4.5, Msz4.3*

*MOS **07** 10:40:09.6±0.8, 189N×9702E, h33km, mb5.0/15, Error ellipse: s-maj=13.5km s-min=8.8km az=93.7*

*ISCJB **07** 10:40:11.2±1.5, 189N±007×97.13E±007, h47km±12km, mb4.6/50, MS4.0/7, Error ellipse: s-maj=12.7km s-min=10.0km az=37.7*

*NEIC **07** 10:40:11.0±0.3, 183N×9704E, h30km, mb4.8/8, Error ellipse: s-maj=8.8km s-min=6.8km az=217.0*

ISC 07 10:40:13.2±1.6, 188N±007×9716E±008, h47km±13km, n79, σ0:80/84, mb4.6/50, MS4.0/7, 8C-3D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**1.99**	**62**	Pn	**Pn**	**10 40 44.5**	**+0.1**
	3.9nm,0.3s,baz=238,slow=4.8,SNR=11						
PSI				Sn	**Sn**	**10 41 16.1**	**+8.0**
	47nm,0.3s,baz=124,slow=20,SNR=8.6						
TSI	**Tuntungan**	**2.14**	**41**	*e*P	**Pn**	**10 40 41.5**	**-5.0**
TSI				*e*S	**Sn**	**10 41 18.0**	**+6.1**
BSI	**Banda Aceh**	**4.05**	**333**	P	**Pn**	**10 41 08.5**	**-4.2**
	215nm,1.2s						
KULM	**Kulim**	**4.86**	**46**	*e*Pn	**Pn**	**10 41 24.6**	**+0.7**
QIZ	**Qiongzhong**	**21.09**	**35**	P	**P**	**10 44 52.8**	**-1.1**
QIZ				S	**S**	**10 48 41.3**	**-4.8**
QIZ				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.2						
QIZ				AMB	AMB		
	comp=Z,85nm,7.5s						
QIZ				LR	LR		
	comp=N,458nm,16.1s						
QIZ				LR	LR		
	comp=Z,525nm,13.3s,MS4.1						
KMI	**Kunming**	**23.73**	**13**	P	**P**	**10 45 22.0**	**+0.8**
KMI				AP		10 45 27.8	
KMI				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.5						
KMI				LR	LR		
	comp=N,545nm,13.5s,MS4.2						
KMI				LR	LR		
	comp=E,200nm,14.2s,MS4.2						
KMI				LR	LR		
	comp=Z,546nm,14.2s,MS4.2						
HYB	**Hyderabad**	**23.93**	**311**	*i* P	**P**	**10 45 29.0**	**+5.9**
JIRN	**Jiri**	**27.70**	**339**	*e*P	**P**	**10 45 57.4**	**+0.3**
	comp=Z,8.1nm,0.5s,mb4.6						
GUN	**Gumba**	**28.05**	**338**	*e*P	**P**	**10 46 00.2**	**0.0**
DMN	**Daman**	**28.07**	**337**	*e*P	**P**	**10 46 00.6**	**+0.2**
	comp=Z,23nm,0.7s,mb4.9						
KKN	**Kakani**	**28.16**	**337**	*e*P	**P**	**10 46 00.8**	**-0.4**
	comp=Z,44nm,1.0s,mb5.0						
LSA	**Lhasa**	**28.25**	**349**	P	**P**	**10 46 02.8**	**+0.8**
GKN	**Gorkha**	**28.61**	**336**	*e*P	**P**	**10 46 05.1**	**-0.1**
	comp=Z,22nm,0.7s,mb5.0						
KOLN	**Koldanda**	**28.83**	**334**	*e*P	**P**	**10 46 07.3**	**+0.1**
	comp=Z,24nm,0.6s,mb5.1						
BATI	**Kupang**	**28.99**	**115**	LR	LR	11 01 11.7	
	comp=Z,257nm,19.1s,MS3.9,baz=269,slow=44						
DANN	**Dangsing**	**29.27**	**335**	*e*P	**P**	**10 46 11.3**	**+0.2**
	comp=Z,20nm,0.7s,mb5.0						
WHN	**Wuhan**	**32.84**	**28**	||P	**P**	**10 46 43.0**	**+0.5**
XAN	**Xi'an**	**33.83**	**18**	P	**P**	**10 46 49.7**	**-1.4**
XAN				AP	pP	10 46 59.8	-3.8
XAN				PP	PP	10 48 07.7	-0.7
XAN				PPP		10 48 24.5	
XAN				S	**S**	**10 52 19.3**	**+7.3**
XAN				SCP	ScP	10 53 03.4	-7.0
XAN				SCS	ScS	10 57 06.9	-5.2
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.1						
XAN				AMB	AMB		
	comp=Z,71nm,13.0s						
XAN				LR	LR		
	comp=N,254nm,14.6s,MS4.2						
XAN				LR	LR		
	comp=E,193nm,15.6s,MS4.2						
XAN				LR	LR		
	comp=Z,467nm,14.6s,MS4.3						
NJ2	**Nanjing**	**36.31**	**32**	*e*P	**P**	**10 47 11.8**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
GTA	**Gaotai**	**37.44**	**3**	P	**P**	**10 47 21.9**	**0.0**
GTA				AP	pP	10 47 30.2	-4.4
GTA				XP	sP	10 47 34.4	-5.8
GTA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GTA				AMB	AMB		
	comp=Z,53nm,4.6s						
GTA				LR	LR		
	comp=N,113nm,15.2s,MS4.0						
GTA				LR	LR		
	comp=E,159nm,16.0s,MS4.0						
GTA				LR	LR		
	comp=Z,111nm,17.5s,MS3.7						
BJT	**Baijiatuau**	**41.71**	**22**	*e*P	**P**	**10 47 57.5**	**0.0**
BJT				pmax	pmax		
	comp=Z,43nm,1.1s						
BJT	**Baijiatuau**	**41.71**	**22**	*e*P	**P**	**10 47 57.5**	**0.0**
	comp=Z,43nm,1.1s,mb5.0						
WRA	**Warramunga Arr**	**42.43**	**123**	P	**P**	**10 48 03.1**	**-0.6**
	comp=Z,1.0nm,0.5s,mb3.7,baz=302,slow=9.1,SNR=21						
WRAB	**Tennant Creek**	**42.43**	**123**	*e*P	**P**	**10 48 10.4**	**+6.7**
WB2	**Warramunga Arr**	**42.44**	**123**	*e*P	**P**	**10 48 03.4**	**-0.4**
ASAR	**Alice Springs**	**43.84**	**128**	P	**P**	**10 48 15.2**	**+0.2**
	comp=Z,1.1nm,0.9s,mb3.6,baz=298,slow=7.7,SNR=12						
UCH	**Uchtor**	**45.02**	**336**	*e*P	**P**	**10 48 25.1**	**+0.9**
	comp=Z,472nm,0.6s						
TKM2	**Tokmak 2**	**45.18**	**338**	*e*P	**P**	**10 48 25.7**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.7						
TKM2	**Tokmak 2**	**45.18**	**338**	*e*P	**P**	**10 48 25.7**	**+0.3**
	comp=Z,13nm,1.0s,mb4.7						
AML	**Almayashu**	**45.27**	**335**	*e*P	**P**	**10 48 26.5**	**+0.4**
	comp=Z,8.4nm,0.8s,mb4.6						
KSRS	**Korea Array**	**45.32**	**35**	P	**P**	**10 48 27.0**	**+0.4**
	comp=Z,10nm,1.0s,mb4.6,baz=223,slow=9.4,SNR=25						
KSRS				LR	LR	11 08 16.1	
	comp=Z,113nm,19.9s,MS3.8,baz=230,slow=37						
AAK	**Ala-Archa**	**45.37**	**336**	*e*P	**P**	**10 48 26.4**	**-0.5**
AAK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
AAK	**Ala-Archa**	**45.37**	**336**	P	**P**	**10 48 25.9**	**-0.9**
AAK	**Ala-Archa**	**45.37**	**336**	P	**P**	**10 48 26.0**	**-0.9**
	comp=Z,1.9nm,0.4s,mb4.2,baz=214,slow=12,SNR=4.7						
EKS2	**Erkin-Say**	**45.68**	**336**	*e*P	**P**	**10 48 30.0**	**+0.6**
	comp=Z,4.4nm,0.8s,mb4.4						
SONM	**Songino Array**	**46.47**	**9**	P	**P**	**10 48 36.1**	**+0.5**
	comp=Z,5.3nm,0.8s,mb4.5,baz=187,slow=9.0,SNR=42						
MK31	**Makanchi Array**	**46.58**	**346**	*e*P	**P**	**10 48 36.3**	**-0.1**
MKAR	**Makanchi Array**	**46.58**	**346**	P	**P**	**10 48 36.1**	**-0.2**
	comp=Z,5.6nm,0.7s,mb4.6,baz=160,slow=8.4,SNR=38						
MKAR				LR	LR	11 11 49.8	
	comp=Z,78nm,19.5s,MS3.7,baz=165,slow=41						
ULN	**Ulaanbaatar**	**46.60**	**9**	*e*P	**P**	**10 48 36.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**46.60**	**9**	*e*P	**P**	**10 48 36.9**	**+0.3**
	comp=Z,7.4nm,1.0s,mb4.6						
KK31	**Karatay Array**	**47.44**	**334**	*i* P	**P**	**10 48 42.6**	**-0.5**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
ZAK	**Zakamensk**	**48.61**	**5**	*e*P	**P**	**10 48 51.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.0						
CN2	**Changchun**	**48.72**	**27**	*e*P	**P**	**10 48 53.2**	**+0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
KURK	**Kurchatov**	**51.13**	**345**	*e*P	**P**	**10 49 11.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.9						
KURK	**Kurchatov**	**51.13**	**345**	*e*P	**P**	**10 49 11.1**	**-0.1**
	comp=Z,18nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**51.22**	**43**	P	**P**	**10 49 12.0**	**-0.2**
	comp=Z,4.9nm,0.8s,mb4.5,baz=222,slow=6.5,SNR=16						
ZAL	**Zalesovo**	**52.88**	**351**	P	**P**	**10 49 24.2**	**0.0**
ZAA0	**Zalesovo Array**	**52.89**	**351**	*e*P	**P**	**10 49 24.1**	**-0.1**
ZALV	**Zalesovo Beam**	**52.89**	**351**	P	**P**	**10 49 24.2**	**0.0**
	comp=Z,31nm,0.7s,mb5.3,baz=179,slow=5.9,SNR=97						
STKA	**Stephens Creek**	**53.84**	**132**	P	**P**	**10 49 32.4**	**+0.7**
	comp=Z,2.2nm,0.7s,mb4.2,baz=321,slow=13,SNR=2.1						
NVS	**Novosibirsk**	**54.01**	**350**	||*i*P	**P**	**10 49 31.6**	**-0.8**
NVS				*e*S	**S**	**10 57 06.1**	**+1.3**
NVS				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
NVS				pmax	pmax		
	comp=N,10.0nm,0.9s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.9s						
NVS				smax			
	comp=E,18nm,1.9s						
BVAR	**Borovoye Array**	**55.60**	**341**	P	**P**	**10 49 43.2**	**-0.7**
	comp=E,6.8nm,0.7s,mb4.8,baz=143,slow=8.4,SNR=33						
KLR	**Kul'dur**	**55.67**	**27**	*e*P	**P**	**10 49 40.7**	**-3.9**
HABR	**Khabarovsk**	**56.69**	**29**	*e*P	**P**	**10 49 49.6**	**-2.3**
HABR				*e*		10 50 45.9	
HABR				*e*		10 51 55.3	
HABR				*e*S	**S**	**10 57 31.7**	**-9.2**
HABR				*e*		11 03 40.2	
HABR				pmax	pmax		
	comp=Z,32nm,1.8s,mb5.0						
BOD	**Bodaibo**	**57.36**	**11**	*e*P	**P**	**10 49 56.4**	**0.0**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
AKTK	**Aktyubinsk**	**58.62**	**332**	P	**P**	**10 50 03.9**	**-1.4**
AKTO	**Aktyubinsk**	**58.62**	**332**	P	**P**	**10 50 03.9**	**-1.4**
	comp=Z,3.9nm,0.9s,mb4.4,baz=135,slow=5.1,SNR=13						
YSS	**Yuzh-Sakhalins**	**59.82**	**34**	*e*P	**P**	**10 50 14.7**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
KMBO	**Kilima Mbogo**	**59.97**	**268**	P	**P**	**10 50 15.7**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=236,slow=23,SNR=4.0						
ARU	**Arti**	**62.55**	**337**	*e*P	**P**	**10 50 30.4**	**-1.6**
ARU				*e*		10 51 11.1	
ARU				*e*S	**S**	**10 58 46.6**	**-10**
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**63.77**	**319**	*e*P	**P**	**10 50 43.0**	**+2.6**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
YAK	**Yakutsk**	**64.79**	**16**	*e*P	**P**	**10 50 46.8**	**+0.1**
YAK				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.4						
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=E,15nm,1.3s						
YAK	**Yakutsk**	**64.79**	**16**	*e*P	**P**	**10 50 46.9**	**+0.2**
	comp=E,19nm,0.7s,mb5.2						
MA2	**Magadan**	**70.74**	**26**	||*e*P	**P**	**10 51 24.6**	**+0.4**
MA2				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
MA2	**Magadan**	**70.74**	**26**	*e*P	**P**	**10 51 24.7**	**+0.5**
	comp=Z,6.8nm,0.7s,mb4.7						
PET	**Petropavlovsk**	**71.70**	**34**	||*e*P	**P**	**10 51 31.4**	**+1.3**
PET				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
OBN	**Obninsk**	**72.02**	**328**	||*e*P	**P**	**10 51 34.5**	**+2.4**
OBN				pmax	pmax		
	comp=Z,31nm,1.7s,mb5.0						
TIXI	**Tiksi**	**72.53**	**10**	*e*P	**P**	**10 51 33.6**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
SEY	**Seymchan**	**73.16**	**23**	||*e*P	**P**	**10 51 39.0**	**+0.4**
AKASG	**Malin Array Be**	**74.70**	**322**	*i* P	**P**	**10 51 47.5**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**74.70**	**322**	P	**P**	**10 51 46.7**	**-1.2**
	comp=Z,0.6nm,0.4s,mb3.9,baz=92,slow=4.8,SNR=6.1						
BOSA	**Boshof**	**75.08**	**240**	P	**P**	**10 51 50.3**	**-0.3**
	comp=Z,1.2nm,0.7s,mb3.9,baz=104,slow=4.2,SNR=2.7						
FINES	**FINESS Array B**	**79.38**	**332**	*i* P	**P**	**10 52 14.6**	**+0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**79.38**	**332**	P	**P**	**10 52 14.7**	**+0.7**
	comp=Z,1.1nm,0.6s,mb4.0,baz=103,slow=8.4,SNR=5.6						
BILL	**Bilibino**	**80.55**	**21**	||*e*P	**P**	**10 52 12.6**	**-7.6**
BILL				pmax	pmax		
	comp=Z,8.0nm,2.6s,mb4.2						
ARCES	**ARCESS Array B**	**81.89**	**340**	P	**P**	**10 52 27.3**	**0.0**
	comp=Z,3.6nm,1.0s,mb4.3,baz=90,slow=6.1,SNR=3.7						
GERES	**GERESS Array B**	**84.28**	**319**	P	**P**	**10 52 40.0**	**-0.1**
	comp=Z,0.8nm,0.4s,mb4.2,baz=98,slow=5.5,SNR=4.5						
NOA	**NORSAR Array B**	**86.40**	**331**	P	**P**	**10 52 50.7**	**+0.4**
	comp=Z,0.9nm,0.8s,mb4.1,baz=53,slow=6.2,SNR=3.3						
NVAR	**Mina Array Bea**	**128.26**	**35**	PKP	PKPdf	10 59 17.2	+2.3
	comp=Z,0.9nm,1.1s,baz=165,slow=1.4,SNR=3.9						

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*NEIC **07** 10:59:00.8, 3487N×2600E, h17km, MD3.5(ATH), After ATH.*

*THE **07** 10:59:00.4, 3541N×2599E, h16km*

*ATH **07** 10:59:00.8, 3487N×2600E, h17km±1km, MD3.5/5*

*ISCJB **07** 10:59:01.6±1.1, 350N±0.1×2597E±006, h28km±6km, Error ellipse: s-maj=17.5km s-min=7.3km az=171.7*

*CSEM **07** 10:59:01.2±0.4, 3486N×2599E, h12km, MD3.5, Error ellipse: s-maj=9.9km s-min=4.4km az=172.0*

ISC 07 10:59:01.2±1.3, 3487N±009×2597E±005, h15km±9km, n8, σ0:59/12, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.22**	**272**	*e*PB	**Pg**	**10 59 06.4**	**+0.1**
ZKR	**Zakros**	**0.32**	**40**	*e*Pg	**Pg**	**10 59 07.7**	**-0.2**
ZKR				*e*Sg	**Sg**	**10 59 13.2**	**+0.8**
NPS	**Neapolis**	**0.49**	**324**	*e*PN	**Pg**	**10 59 10.9**	**-0.1**
NPS				*e*SN	**Sg**	**10 59 17.5**	**0.0**
LAST	**Lasithi**	**0.49**	**306**	*e*Pg	**Pg**	**10 59 10.1**	**-1.0**
LAST				*e*Sg	**Sg**	**10 59 17.5**	**-0.2**
SIVA	**Sivas**	**0.96**	**279**	*e*Pg	**Pg**	**10 59 18.8**	**-1.0**
SIVA				*e*Sg	**Sg**	**10 59 33.5**	**+1.0**
KARP	**Karpathos**	**1.19**	**55**	*e*PN	**Pn**	**10 59 23.0**	**-0.3**
VAM	**Vamos**	**1.54**	**291**	*e*PN	**Pb**	**10 59 30.0**	**+0.5**
GVD	**Gavdhos**	**1.55**	**269**	*e*PN	**Pb**	**10 59 30.0**	**+0.5**

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*NEIC **07** 11:00:45.9, 1630N×9824W, h10km, MD3.6(MEX), After MEX.*

MEX 07 11:00:46.0±0.5, 1628N×9822W, h10km±2km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.14**	**40**	*i* P	Pg	11 00 48.7	-0.6
PNIG				*i* S	Sg	11 00 51.2	-0.2
VHO	**Vista Hermosa**	**1.63**	**61**	*i* P	Pn	11 01 11.3	-3.6
VHO				*i* S	Sn	11 01 31.2	-4.7
OXX	**Oaxaca**	**1.64**	**61**	*e*P	Pn	11 01 12.2	-2.8
OXX				*i* S	Sn	11 01 31.6	-4.6
ACX	**Acapulco**	**1.72**	**290**	*i* P	Pn	11 01 17.4	+1.3
ACX				*i* S	Sn	11 01 38.9	+0.6
ACX	**Acapulco**	**1.72**	**290**	*e*P	Pn	11 01 12.5	-3.6
ACX				*i* S	Sn	11 01 36.0	-2.2
HUIG	**Huatulco**	**2.10**	**104**	*e*P	Pn	11 01 19.0	-2.3
HUIG				*i* S	Sn	11 01 38.4	-9.1
HUIG	**Huatulco**	**2.10**	**104**	*e*P	Pn	11 01 19.0	-2.3
HUIG				*i* S	Sn	11 01 42.4	-5.0
MEIG	**Mezcala**	**2.11**	**321**	*e*P	Pn	11 01 19.6	-1.9
MEIG				*i* S	Sn	11 01 42.9	-4.8
PPM	**Popocatepetl**	**2.80**	**352**	*i* P	Pn	11 01 28.4	-2.5
PPM				*e*S	Sn	11 02 01.0	-3.8
PPM				*i* S	Sn	11 02 08.5	+3.8
PPM	**Popocatepetl**	**2.80**	**352**	*i* P	Pn	11 01 28.4	-2.5
PPM				*e*S	Sn	11 02 01.0	-3.8
MZVM		**3.05**	**342**	*i* P	Pn	11 01 31.9	-2.4
MZVM				*i* S	Sn	11 02 06.6	-4.3
IIO	**Organos**	**3.33**	**352**	*i* P	Pn	11 01 38.8	+0.6
IIO				*i* S	Sn	11 02 15.6	-2.1
IIO	**Organos**	**3.33**	**352**	*e*P	Pn	11 01 35.3	-2.8
IIO				*i* S	Sn	11 02 15.6	-2.1

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*IDC **07** 11:15:14.2±0.4, 4494S×8077W, h0km, mb5.0/21, mb1 5.0/23, mb1mx5.0/23, mbtmp5.0/23, ML5.7/3, MS5.4/13, Ms1 5.4/13, ms1mx5.1/18, Error ellipse: s-maj=13.9km s-min=7.7km az=97.0*

*ISCJB **07** 11:15:14.6±0.2, 4488S±003×8040W±006, h10km, mb5.2/36, MS5.5/168, Error ellipse: s-maj=6.2km s-min=4.7km az=5.5*

*GCMT **07** 11:15:16.2±0.1, 4500S×8121W, h20km, MW6.0/107, Moment Tensor Solution. s107,c207; s102,c338; Duration: 2s5 Moment tensor: Scale 1018Nm; Mrr-0.09±.01; Mθθ0.50±.01; Mφφ-0.40±.01; Mrθ0.07±.02; Mθφ-1.21±.01; Mφr0.03±.02; Best double couple: M0 1.29600×1018 NP1:φs170.00000°, δ86.00000°, λ-1.00000°. NP2:φs260.00000°, δ89.00000°, λ-176.00000°. Principal axes: T 1.3410, Plg2.0000°, Azm35.0000°; N -0.0900, Plg86.0000°, Azm279.0000°; P -1.2510, Plg3.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

*BJI **07** 11:15:16.2, 4480S×8050W, h10km, mB5.5, Ms5.7, Msz5.6*

*NEIC **07** 11:15:16.2±0.3, 4485S×8045W, h10km, mb5.4/12, MS5.4/155, MW6.1, Error ellipse: s-maj=11.1km s-min=6.7km az=115.0, Moment Tensor Solution. s14 Moment tensor: Scale 1018Nm; Mrr0.13; Mθθ-0.11; Mφφ-0.01; Mrθ0.03; Mθφ-1.69; Mφr-0.27; Best double couple: M0 1.70000×1018 NP1:φs91.00000°, δ81.00000°, λ178.00000°. NP2:φs181.00000°, δ88.00000°, λ9.00000°. Principal axes: T 1.6500, Plg8.0000°, Azm46.0000°; N 0.1100, Plg81.0000°, Azm193.0000°; P -1.7700, Plg5.0000°, Azm316.0000°;*

*MOS **07** 11:15:20.6±1.4, 4447S×8063W, h33km, mb5.6/18, MS5.6/14 Error ellipse: s-maj=17.6km s-min=8.8km az=86.0*

ISC 07 11:15:16.3±0.2, 4486S±003×8049W±006, h10km, (h9km±.3km:pP-P), n414, σ1:933/145, mb5.2/36, MS5.5/168, 13C-4D, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLCH	**Valdivia**	**7.36**	**49**	||*e*P	**Sb**	**11 18 55.9**	**+4.0**
PLCA	**Paso Flores**	**8.38**	**64**	*e*P	**Pn**	**11 17 19.8**	**+2.0**
PLCA	**Paso Flores**	**8.38**	**64**	*e*Pn	**Pn**	**11 17 20.3**	**+2.5**
	410nm,0.7s						
PLCA	**Paso Flores**	**8.38**	**64**	Pn	**Pn**	**11 17 19.8**	**+2.0**
	47nm,0.3s,baz=237,slow=9.4,SNR=669						
PLCA				Sn	**Sn**	**11 18 56.3**	**+3.9**
	baz=237,slow=9.8,SNR=0.7						
PLCA				LR	LR	11 20 17.9	
	comp=Z,41μm,20.5s,baz=242,slow=35						
COCH	**Cobquecura**	**10.50**	**37**	*e*P	**Pn**	**11 17 43.2**	**-3

RPN LR LR
comp=Z,12µm,22.0s,MS5.5
RPN Rapa Nui 29.07 298 LR LR 11 28 41.2
comp=Z,4µm,19.5s,MS5.1,baz=134,slow=28
ARE Arequipa 29.30 18 *e*P **P 11 21 20.0 +1.1**
LPAZ La Paz 30.32 24 *e*Pn **P 11 21 29.6 +1.6**
comp=Z,81nm,1.0s,mb5.4
LPAZ LR LR
comp=Z,8µm,20.0s,MS5.3
LPAZ La Paz 30.32 24 P **P 11 21 29.9 +2.0**
comp=Z,43nm,0.9s,mb5.2,baz=183,slow=7.4,SNR=78
LPAZ S **S 11 26 34.0 +6.0**
comp=Z,0.6nm,0.3s,baz=278,slow=7.0,SNR=2.1
NNA Nana 32.90 7 P **P 11 21 49.3 -1.3**
comp=Z,350nm,0.9s,SNR=6.3
NNA Nana 32.90 7 *e*P **P 11 21 49.0 -1.6**
comp=Z,89nm,1.1s,mb5.6
NNA LR LR
comp=Z,13µm,21.0s,MS5.6
SIV San Ignacio 33.11 36 P **P 11 21 53.1 +0.7**
comp=Z,68nm,0.9s,mb5.6,baz=217,slow=7.8,SNR=108
ATAH Atahualpa 37.75 3 P **P 11 22 33.2 +0.9**
comp=Z,12nm,0.8s,mb4.7,baz=192,slow=7.2,SNR=9.9
CAM4 Nova Friburgo 38.26 67⇑ *i*P **P 11 22 40.1 +3.4**
CAM4 *i* 11 22 46.5
CAM4 *i* 11 23 00.3
CAM4 *i* 11 24 13.0
CAM4 *i* 11 24 34.5
CAM4 *i* 11 25 02.2
BDFB Brasilia 39.96 54 P **P 11 22 52.7 +1.8**
BDFB S **S 11 29 04.1 +7.9**
BDFB Brasilia 39.96 54 P **P 11 22 52.7 +1.8**
comp=Z,42nm,1.0s,mb5.1,baz=203,slow=12,SNR=52
BDFB S **S 11 29 04.1 +7.9**
comp=Z,1.0nm,0.7s,baz=17,slow=26,SNR=2.2
BDFB LR LR 11 41 58.7
comp=Z,981nm,20.8s,MS4.6,baz=197,slow=40
VNA1 Neumayer--Stat 42.68 152 *e*P **P 11 23 12.7 0.0**
VNA1 *e* pP 11 23 15.5 -0.3
VNA1 *e* 11 23 23.2
VNA1 *e* 11 23 28.7
VNA2 Neumayer--Watz 42.96 153 *e*P **P 11 23 14.8 -0.1**
VNA2 *e* pP 11 23 17.5 -0.5
VNA2 *e* 11 23 21.3
VNA2 *e* 11 23 25.1
VNA2 *e* 11 23 30.6
VNA2 *e* 11 25 02.9
VNA2 *e* 11 25 11.2
VNA2 *e* 11 25 17.8
SNAA Sanae 44.36 154 *e*P **P 11 23 25.1 -1.1**
SNAA *e* pP 11 23 27.6 -1.7
SNAA *e* 11 23 30.6
SNAA *e* 11 23 35.9
SNAA *e* 11 23 41.6
SNAA *e* 11 25 14.0
SNAA *e* 11 25 26.4
SNAA Sanae 44.36 154⇑ *e*P **P 11 23 25.3 -0.9**
SNAA Sanae 44.36 154 P **P 11 23 25.5 -0.6**
comp=Z,12nm,1.2s,mb4.5,baz=267,slow=6.3,SNR=33
SNAA S **S 11 30 03.3 +3.3**
comp=Z,0.3nm,0.9s,baz=225,slow=14,SNR=2.3
PTCN Pitcairn Islan 44.42 279 PFAKE 11 23 40.0 +13
PTCN LR LR
comp=Z,7µm,21.0s,MS5.5
QSPA South Pole Qui 45.39 180 P **P 11 23 31.9 -2.4**
comp=Z,14nm,0.8s,mb4.8,baz=138,slow=4.4,SNR=24
RKT Rikitea 49.10 277 *e*S **S 11 31 03.0 -5.9**
comp=Z,3µm,27.8s
RKT *e*LQ 11 35 51.5
comp=Z,8µm,31.5s
RKT *e*LR LR 11 37 54.8
comp=Z,8µm,29.8s,baz=134
MAIT Maitri 49.15 154 *e*P **P 11 24 02.9 -0.7**
NVL N'lazarevskaya 49.18 154 P **P 11 24 07.3 +3.4**
NVL *e*S **S 11 31 13.2 +4.3**
NVL pmax pmax
comp=Z,19nm,0.5s,mb5.4
ROSC El Rosal 49.79 8 *e*P **P 11 24 12.3 +3.1**
ROSC El Rosal 49.79 8 P **P 11 24 11.1 +1.9**
comp=Z,4.6nm,0.4s,mb4.9,baz=115,slow=21,SNR=11
ROSC S **S 11 31 23.4 +4.8**
comp=Z,5.6nm,0.4s,baz=270,slow=22,SNR=1.8
ROSC LR LR 11 43 04.1
comp=Z,14µm,19.1s,MS6.0,baz=190,slow=34
TRIS Tristan da Cun 50.70 106 PFAKE 11 24 30.0 +14
TRIS LR LR
comp=Z,7µm,21.0s,MS5.6
SBA Scott Base 51.05 195 *e*P **P 11 24 15.9 -2.1**
SBA pmax pmax
comp=Z,134nm,1.8s,mb5.6
SBA MLR MLR
comp=Z,3µm,19.0s,MS5.3
SBA Scott Base 51.05 195 *e*P **P 11 24 15.9 -2.1**
comp=Z,134nm,1.8s,mb5.6
SBA LR LR
comp=Z,3µm,19.0s,MS5.3
VNDA Vanda 52.10 194 P **P 11 24 23.4 -2.5**
comp=Z,13nm,1.2s,mb4.7,baz=124,slow=7.2,SNR=23
VNDA LR LR 11 43 28.2
comp=Z,3µm,18.5s,MS5.4,baz=129,slow=33
BCIP Isla Barro Col 53.77 1 PFAKE 11 24 50.0 +11
BCIP LR LR
comp=Z,3µm,20.0s,MS5.3
SDV Santo Domingo 54.23 12 PFAKE 11 24 50.0 +7.8
SDV LR LR
comp=Z,3µm,22.0s,MS5.3
SDV Santo Domingo 54.23 12 P **P 11 24 41.5 -0.7**
comp=Z,33nm,1.1s,mb5.2,baz=205,slow=6.7,SNR=17
SDV S **S 11 32 21.0 +1.5**
comp=Z,0.6nm,0.2s,baz=230,slow=16,SNR=2.5
RCBR Riachuelo 54.91 59 PFAKE 11 25 00.0 +13
RCBR LR LR
comp=Z,6µm,21.0s,MS5.7
JTS JuntasAbangare 55.03 355*c i*P **P 11 24 47.3 -0.7**
JTS JuntasAbangare 55.03 355 PFAKE 11 25 00.0 +12
JTS LR LR
comp=Z,6µm,21.0s,MS5.6
JTS JuntasAbangare 55.03 355 P **P 11 24 47.7 -0.3**
comp=Z,19nm,1.0s,mb5.1,baz=206,slow=4.4,SNR=6.9
JTS S **S 11 32 36.9 +6.6**
comp=Z,1.7nm,0.6s,baz=318,slow=21,SNR=1.7
PCRV Puerto La Cruz 56.62 19 P **P 11 24 59.7 +0.3**
comp=Z,36nm,0.8s,mb5.5,baz=28,slow=4.0,SNR=11
PCRV S **S 11 32 49.3 -2.1**
comp=Z,3.0nm,0.8s,baz=103,slow=21,SNR=1.6
TGUH Tegucigalpa,Un 58.95 352 PFAKE 11 25 30.0 +14
TGUH LR LR
comp=Z,4µm,20.0s,MS5.5
GRGR Grenville 59.23 22 PFAKE 11 25 30.0 +12
GRGR LR LR
comp=Z,8µm,22.0s,MS5.8
TBI Tubuai 59.23 267 *e*S **S 11 33 19.6 -6.2**
comp=Z,4µm,28.5s
TBI *e*SS SS 11 37 11.5 -8.5
comp=Z,920nm,29.5s
TBI *e*LQ 11 40 04.0
comp=Z,15µm,32.8s
TBI *e*LR LR 11 42 28.2
comp=Z,5µm,28.0s
BBGH Gun Hill 60.77 23 PFAKE 11 25 40.0 +12
BBGH LR LR
comp=Z,5µm,20.0s,MS5.7
TAOE Nuku Hiva Isla 62.45 286 *e*S **S 11 34 01.5 -5.5**
comp=Z,175µm,27.1s
TAOE Nuku Hiva Isla 62.45 286 *e*LR LR 11 44 10.5
comp=Z,81µm,27.3s
PPT Papeete 63.06 272 *e*S **S 11 34 07.1 -7.5**
comp=Z,7µm,26.8s
PPT *e*SS SS 11 38 08.2 -12
comp=Z,2µm,28.2s
PPT *e*LQ 11 41 25.3
comp=Z,15µm,33.8s
PPT *e*LR LR 11 44 11.5
comp=Z,5µm,25.5s,baz=136
PPT Papeete 63.06 272 P **P 11 25 41.9 -1.9**
comp=Z,16nm,0.7s,mb5.3,baz=69,slow=9.7,SNR=3.5
PPT LR LR 11 45 57.3
comp=Z,1µm,18.5s,MS5.2,baz=127,slow=29
CPD Cerro la Pandu 63.98 15 *e*P **P 11 25 48.8 -0.9**
SDDR Presa de Saban 64.08 10 PFAKE 11 26 00.0 +10
SDDR LR LR
comp=Z,3µm,20.0s,MS5.4
MAW Mawson 64.50 165 *e*P **P 11 25 50.5 -2.1**
comp=Z,17nm,0.9s,mb5.1
MAW *i*S **S 11 34 31.6 +0.5**
MAW Mawson 64.50 165 *e*P **P 11 25 50.5 -2.1**
MAW *i*S **S 11 34 31.6 +0.5**
MAW pmax pmax
comp=Z,17nm,0.9s
MAW MLR MLR
comp=Z,9µm,22.0s
MAW Mawson 64.50 165 *e*P **P 11 25 50.5 -2.1**
comp=Z,17nm,0.9s,mb5.1
MAW *i*S **S 11 34 31.6 +0.5**
MAW LR LR
comp=Z,9µm,22.0s,MS5.9
MAW Mawson 64.50 165 P **P 11 25 51.6 -1.0**
comp=Z,13nm,1.0s,mb4.9,baz=200,slow=8.8,SNR=12
MAW LR LR 11 51 27.9
comp=Z,5µm,20.3s,MS5.7,baz=206,slow=34
DRV Dumont d'Urvil 64.58 197 P **P 11 25 59.0 +5.9**
DRV Dumont d'Urvil 64.58 197 PP PP 11 28 23.0 +8.5
DRV S **S 11 34 44.0 +12**
DRV SS SS 11 39 05.0 +23
DRV L 11 42 00.0
DRV R 11 46 00.0
TEIG Tepich 65.15 352 PFAKE 11 26 10.0 +13
TEIG LR LR
comp=Z,3µm,20.0s,MS5.5
ASCN Ascension 67.57 78 PFAKE 11 26 20.0 +6.9
ASCN LR LR
comp=Z,2µm,21.0s,MS5.4
CASY Casey 68.88 185 *e*P **P 11 26 19.4 -1.1**
CASY LR LR
comp=Z,7µm,19.0s,MS5.9
SNZO South Karori 71.02 230 PFAKE 11 26 50.0 +16
SNZO LR LR
comp=Z,6µm,20.0s,MS5.8
URZ Urewera 71.75 234 P **P 11 26 38.3 -0.3**
comp=Z,16nm,1.2s,mb4.8,baz=254,slow=11,SNR=3.1
DWPF Disney 72.62 359 PFAKE 11 27 00.0 +16
DWPF LR LR
comp=Z,2µm,21.0s,MS5.4
KVTX Kingsville 73.78 344 PFAKE 11 27 00.0 +9.5
KVTX LR LR
comp=Z,2µm,19.0s,MS5.3
SUR Sutherland 75.12 121 PFAKE 11 27 10.0 +11
SUR LR LR
comp=Z,3µm,20.0s,MS5.6
BRAL Brewton 75.74 354 PFAKE 11 27 10.0 +8.2
BRAL LR LR
comp=Z,2µm,22.0s,MS5.3
TXAR Lajitas Array 76.80 339 P **P 11 27 06.0 -1.9**
TXAR 11 30 09.1
TXAR Lajitas Array 76.80 339 P **P 11 27 06.0 -1.9**
TXAR PP PP 11 30 09.1 +8.0
TXAR LR LR 11 54 25.1
TXAR Lajitas Array 76.80 339 P **P 11 27 06.0 -1.9**
comp=Z,7.5nm,0.9s,mb4.6,baz=161,slow=8.0,SNR=19
TXAR PP PP 11 30 09.1 +8.0
comp=Z,1.6nm,1.1s,baz=99,slow=7.7,SNR=2.4
TXAR LR LR 11 54 25.1
comp=Z,2µm,21.1s,MS5.4,baz=170,slow=31
JCT Junction City 77.02 343 *e*P **P 11 27 09.3 +0.3**
JCT pmax pmax
comp=Z,45nm,1.3s,mb5.2
JCT Junction City 77.02 343 PFAKE 11 27 20.0 +11
JCT LR LR
comp=Z,1µm,20.0s,MS5.2
VBMS Vicksburg 77.25 351 PFAKE 11 27 20.0 +10
VBMS LR LR
comp=Z,1µm,22.0s,MS5.2
NATX Nacogdoches 77.34 348 *e*P **P 11 27 13.0 +2.1**
comp=Z,61nm,1.2s,mb5.4
NATX LR LR
comp=Z,1µm,22.0s,MS5.1
NHSC New Hope 77.59 0 PFAKE 11 27 20.0 +7.8
NHSC LR LR
comp=Z,2µm,21.0s,MS5.5
GOGA Godfrey 77.94 357 *e*P **P 11 27 13.7 -0.5**
GOGA Godfrey 77.94 357 PFAKE 11 27 30.0 +16
GOGA LR LR
comp=Z,3µm,20.0s,MS5.6
BBSR BB Station 78.19 14 PFAKE 11 27 30.0 +14
BBSR LR LR
comp=Z,2µm,22.0s,MS5.3
JSC Jenkinsville 78.77 359 *e*P **P 11 27 18.7 0.0**
OXF Oxford 79.41 353 *e*P **P 11 27 23.2 +1.0**
OXF pmax pmax
comp=Z,51nm,1.0s,mb5.4
OXF Oxford 79.41 353 PFAKE 11 27 30.0 +7.8
OXF LR LR
comp=Z,1µm,20.0s,MS5.2
MNTX Cornudas Mount 79.49 339 PFAKE 11 27 30.0 +7.3
MNTX LR LR
comp=Z,1µm,20.0s,MS5.3
CNNC Cliffs of the 79.75 2 PFAKE 11 27 40.0 +16
CNNC LR LR
comp=Z,3µm,21.0s,MS5.6
PLAL Pickwick Lake 79.76 354 PFAKE 11 27 40.0 +16
PLAL LR LR
comp=Z,2µm,22.0s,MS5.3
MIAR Mount Ida 79.92 349 *e*P **P 11 27 26.5 +1.5**
MIAR pmax pmax
comp=Z,230nm,2.8s,mb5.6
MIAR Mount Ida 79.92 349 PFAKE 11 27 40.0 +15
MIAR LR LR
comp=Z,2µm,22.0s,MS5.4
BOSA Boshof 80.49 121 *e*P **P 11 27 27.2 -1.3**
BOSA pmax pmax
comp=Z,37nm,1.4s,mb5.1
BOSA MLR MLR
comp=Z,3µm,20.0s,MS5.6
BOSA Boshof 80.49 121 *e*P **P 11 27 27.2 -1.3**
comp=Z,37nm,1.4s,mb5.1
BOSA LR LR
comp=Z,3µm,20.0s,MS5.6
BOSA Boshof 80.49 121 P **P 11 27 27.4 -1.1**
comp=Z,3.9nm,0.7s,mb4.5,baz=234,slow=4.3,SNR=7.9
BOSA LR LR 11 59 46.2
comp=Z,3µm,19.0s,MS5.7,baz=224,slow=33
WVT Waverly 80.88 354 *e*P **P 11 27 28.8 -1.3**
WVT Waverly 80.88 354 PFAKE 11 27 40.0 +10
WVT LR LR
comp=Z,1µm,21.0s,MS5.3
WMOK Wichita Mounta 80.94 345 *e*P **P 11 27 30.8 +0.3**
WMOK pmax pmax
comp=Z,42nm,1.2s,mb5.2
WMOK Wichita Mounta 80.94 345 PFAKE 11 27 40.0 +10
WMOK LR LR
comp=Z,1µm,21.0s,MS5.2
TZTN Tazewell 81.07 358 PFAKE 11 27 40.0 +8.9
TZTN LR LR
comp=Z,2µm,22.0s,MS5.5
AFI Afiamalu 81.24 259 PFAKE 11 27 40.0 +7.3
AFI LR LR
comp=Z,1µm,20.0s,MS5.3
PARMO Parma 81.57 352 *e*P **P 11 27 35.8 +2.0**
TUC Tucson 81.60 334 *e*P **P 11 27 37.8 +3.8**
TUC Tucson 81.60 334 PFAKE 11 27 50.0 +16
TUC LR LR
comp=Z,764nm,20.0s,MS5.1
AMTX Amarillo 81.66 343 PFAKE 11 27 50.0 +16
AMTX LR LR
comp=Z,1µm,20.0s,MS5.3
BLA Blacksburg 81.69 0 PFAKE 11 27 50.0 +16
BLA LR LR
comp=Z,2µm,21.0s,MS5.3
BNM Barren Site 82.14 338 *e*P **P 11 27 37.6 +0.7**
TSUM Tsumeb 82.22 109 PFAKE 11 27 50.0 +12
TSUM LR LR
comp=Z,2µm,19.0s,MS5.5
LAZ Ladron 82.51 338 *e*P **P 11 27 38.9 +0.1**
CBN Corbin 82.73 2 PFAKE 11 27 50.0 +10
CBN LR LR
comp=Z,2µm,19.0s,MS5.5
TAU Tasmania Unive 82.77 213 PFAKE 11 27 50.0 +10
TAU LR LR
comp=Z,2µm,20.0s,MS5.6
ANMO Albuquerque 82.86 339⇑ *e*P **P 11 27 39.4 -1.1**
ANMO Albuquerque 82.86 339 PFAKE 11 27 50.0 +9.5
ANMO LR LR
comp=Z,1µm,19.0s,MS5.3
FVM French Village 82.95 352 *e*P **P 11 27 41.1 +0.2**
FVM pmax pmax
comp=Z,27nm,1.0s,mb5.2
CCM Cathedral Cave 83.10 351 *e*P **P 11 27 40.8 -0.9**
CCM Cathedral Cave 83.10 351 PFAKE 11 27 50.0 +8.3
CCM LR LR
comp=Z,1µm,21.0s,MS5.2
LBTB Lobatse 83.29 119 *e*P **P 11 27 40.9 -2.4**
LBTB pmax pmax
comp=Z,29nm,1.0s,mb5.3
LBTB MLR MLR
comp=Z,2µm,20.0s,MS5.5
LBTB Lobatse 83.29 119 *e*P **P 11 27 40.9 -2.4**
comp=Z,29nm,1.0s,mb5.3
LBTB LR LR
comp=Z,2µm,20.0s,MS5.5
SLM Saint Louis 83.58 352 *e*P **P 11 27 45.3 +1.1**
GLA Glamis 83.59 332 *e*P **P 11 27 45.2 +0.8**
GLA Glamis 83.59 332 PFAKE 11 28 00.0 +16
GLA LR LR
comp=Z,1µm,19.0s,MS5.2
BLO Bloomington 83.82 355 *e*P **P 11 27 44.9 -0.5**
MCWV Mont Chateau 84.13 0 PFAKE 11 28 00.0 +13
MCWV LR LR
comp=Z,2µm,22.0s,MS5.5
DBIC Dimbokro 84.59 75 *e*P **P 11 27 50.6 +0.6**
comp=Z,117nm,1.2s,mb5.9
DBIC LR LR
comp=Z,2µm,21.0s,MS5.6
DBIC Dimbokro 84.59 75 P **P 11 27 50.4 +0.4**
comp=Z,44nm,0.9s,mb5.6,baz=195,slow=5.2,SNR=32
DBIC LR LR 11 58 46.4
comp=Z,2µm,20.9s,MS5.5,baz=204,slow=31
PFO Pinyon Flat Ob 84.66 331 *e*P **P 11 27 50.5 +0.7**
PFO Pinyon Flat Ob 84.66 331 PFAKE 11 28 00.0 +10
PFO LR LR
comp=Z,959nm,19.0s,MS5.2
ACSO Alum Creek Sta 84.73 358 PFAKE 11 28 00.0 +10
ACSO LR LR
comp=Z,3µm,21.0s,MS5.6
WUAZ Wupatki 84.76 335 PFAKE 11 28 00.0 +10
WUAZ LR LR
comp=Z,850nm,20.0s,MS5.1
CBKS Cedar Bluff 85.08 345 *e*P **P 11 27 52.8 +1.0**
CBKS Cedar Bluff 85.08 345 PFAKE 11 28 00.0 +8.2
CBKS LR LR
comp=Z,1µm,22.0s,MS5.3
SSPA Standing Stone 85.14 2 PFAKE 11 28 00.0 +7.9
SSPA LR LR
comp=Z,981nm,21.0s,MS5.2
SDCO Great Sand Dun 85.27 340 PFAKE 11 28 00.0 +7.2
SDCO LR LR
comp=Z,1µm,22.0s,MS5.3
HDIL Hopedale 85.39 353 PFAKE 11 28 00.0 +6.7
HDIL LR LR
comp=Z,1µm,19.0s,MS5.3
SNCC San Nicolas Is 85.45 328 PFAKE 11 28 00.0 +6.2
SNCC LR LR
comp=Z,2µm,19.0s,MS5.5
MVCO Mesa Verde 85.52 338 PFAKE 11 28 10.0 +16
MVCO LR LR
comp=Z,1µm,20.0s,MS5.2
MWC Mount Wilson 85.78 330 *e*P **P 11 27 56.1 +0.7**
GSC Goldstone 86.31 331 *e*P **P 11 27 58.9 +0.9**
GSC Goldstone 86.31 331 PFAKE 11 28 10.0 +12
GSC LR LR
comp=Z,973nm,21.0s,MS5.2
ERPA Erie 86.59 0 PFAKE 11 28 10.0 +11
ERPA LR LR
comp=Z,1µm,22.0s,MS5.2
BINY Binghamton 86.76 3 PFAKE 11 28 10.0 +10
BINY LR LR
comp=Z,1µm,20.0s,MS5.3
AAM Ann Arbor 86.82 358 PFAKE 11 28 10.0 +10
AAM LR LR
comp=Z,4µm,22.0s,MS5.7
SCIA State Center 87.13 351 PFAKE 11 28 10.0 +8.2
SCIA LR LR
comp=Z,1µm,20.0s,MS5.3
CCUT Cedar City 87.24 334 *e*P **P 11 28 03.2 +0.7**
WES Weston 87.24 7 PFAKE 11 28 10.0 +7.6
WES LR LR
comp=Z,2µm,20.0s,MS5.4
ISCO Idaho Springs 87.25 341 *e*P **P 11 28 03.6 +1.1**
ISCO pmax pmax
comp=Z,28nm,1.5s,mb5.3
ISCO Idaho Springs 87.25 341 PFAKE 11 28 10.0 +7.5
ISCO LR LR
comp=Z,1µm,19.0s,MS5.3
HRV Adam Dziewonsk 87.34 7 PFAKE 11 28 10.0 +7.1
HRV LR LR
comp=Z,2µm,22.0s,MS5.4
ARUT Antelope Range 87.48 334 *e*P **P 11 28 04.3 +0.6**
TPNV Topopah Spring 87.61 332 *e*P **P 11 28 04.3 0.0**
TPNV Topopah Spring 87.61 332 PFAKE 11 28 20.0 +16
TPNV LR LR
comp=Z,1µm,22.0s,MS5.3
MSU Marysvale 87.77 336 *e*P **P 11 28 05.7 +0.7**
JFWS Jewell Farm 87.82 353 *e*P **P 11 28 04.4 -0.7**
JFWS Jewell Farm 87.82 353 PFAKE 11 28 20.0 +15
JFWS LR LR
comp=Z,2µm,22.0s,MS5.5
FFD Franklin Falls 88.29 6 *e*P **P 11 28 08.4 +1.0**
comp=Z,40nm,0.9s,mb5.7
NCB Newcomb 88.62 5 PFAKE 11 28 20.0 +11
NCB LR LR
comp=Z,2µm,20.0s,MS5.4
MPU Maple Canyon 89.01 337 PFAKE 11 28 20.0 +9.2
MPU LR LR
comp=Z,305nm,20.0s,MS4.7
LBNH Lisbon 89.04 6 PFAKE 11 28 20.0 +9.1
LBNH LR LR
comp=Z,2µm,19.0s,MS5.5
LONY Lake Ozonia 89.24 4 PFAKE 11 28 20.0 +8.2
LONY LR LR
comp=Z,2µm,20.0s,MS5.5
DAU Daniels Canyon 89.27 337 *e*P **P 11 28 13.0 +0.9**
SAO San Andreas Ge 89.29 328 PFAKE 11 28 20.0 +7.8
SAO LR LR
comp=Z,1µm,20.0s,MS5.3
ECSD EROS,Sioux Fal 89.37 348 PFAKE 11 28 20.0 +7.6
ECSD LR LR
comp=Z,2µm,19.0s,MS5.5
DUG Dugway 89.51 336 *e*P **P 11 28 13.9 +0.7**
DUG pmax pmax
comp=Z,30nm,1.2s,mb5.5
DUG Dugway 89.51 336 PFAKE 11 28 20.0 +6.8
DUG LR LR
comp=Z,1µm,20.0s,MS5.3
NVAR Mina Array Bea 89.64 331 P **P 11 28 14.0 +0.1**
comp=Z,3.1nm,0.8s,mb4.7,baz=144,slow=6.1,SNR=9.9
CMB Columbia Colle 90.02 330 *e*P **P 11 28 16.1 +0.4**
CMB pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
CMB MLR MLR
comp=Z,1µm,20.0s,MS5.3
CMB Columbia Colle 90.02 330 *e*P **P 11 28 16.1 +0.4**
comp=Z,7.5nm,1.0s,mb5.0
CMB LR LR
comp=Z,1µm,20.0s,MS5.3
BGU Big Grassy Mou 90.25 336 *e*P **P 11 28 19.5 +2.8**
PKME Peaks-Kenny Pk 90.28 8 PFAKE 11 28 30.0 +13
PKME LR LR
comp=Z,2µm,19.0s,MS5.5
HWUT Hardware Ranch 90.47 337 PFAKE 11 28 30.0 +12
HWUT LR LR
comp=Z,1µm,20.0s,MS5.3
COWI Conover 90.89 354 PFAKE 11 28 30.0 +11
COWI LR LR
comp=Z,1µm,22.0s,MS5.3
HVU Hansel Valley 90.97 336 *e*P **P 11 28 22.3 +2.4**
BW06 Boulder Array 91.02 339 PFAKE 11 28 30.0 +10
BW06 LR LR
comp=Z,1µm,20.0s,MS5.3
MCCM Marconi Confer 91.04 328 PFAKE 11 28 30.0 +10
MCCM LR LR
comp=Z,1µm,22.0s,MS5.3
FUNA Funafuti 91.29 257 PFAKE 11 28 30.0 +7.7
FUNA LR LR
comp=Z,5µm,22.0s,MS5.9
AHID Auburn Hatcher 91.42 338 PFAKE 11 28 30.0 +8.0
AHID LR LR
comp=Z,1µm,20.0s,MS5.3
HOPS Hopland 91.86 328 PFAKE 11 28 40.0 +16
HOPS LR LR
comp=Z,1µm,21.0s,MS5.4
LSZ Lusaka 92.05 114 *e*P **P 11 28 27.5 +1.7**
LKWY Lake 92.92 339 *e*P **P 11 28 34.7 +5.8**
EYMN Ely 92.92 353 PFAKE 11 28 40.0 +11
EYMN LR LR
comp=Z,2µm,21.0s,MS5.4
WDC Whiskeytown Da 93.05 329 PFAKE 11 28 40.0 +10
WDC LR LR

comp=Z,830nm,22.0s,MS5.1
RLMT Red Lodge 93.16 340 PFAKE 11 28 40.0 +10
RLMT LR LR
comp=Z,1µm,20.0s,MS5.3
YMR Madison River 93.16 339 PFAKE 11 28 40.0 +10
YMR LR LR
comp=Z,700nm,22.0s,MS5.1
WVOR Wild Horse Val 93.35 333 *e*P **P** **11 28 30.7 -0.3**
WVOR pmax pmax
comp=Z,4.0nm,1.0s,mb4.8
WVOR MLR MLR
comp=Z,1µm,20.0s,MS5.3
WVOR Wild Horse Val 93.35 333 *e*P **P** **11 28 30.7 -0.3**
comp=Z,4.5nm,1.0s,mb4.8
WVOR LR LR
comp=Z,1µm,20.0s,MS5.3
MOD Modoc 93.43 331 PFAKE 11 28 40.0 +8.6
MOD LR LR
comp=Z,782nm,19.0s,MS5.2
AGMN Agassiz Refuge 93.74 350 PFAKE 11 28 40.0 +7.4
AGMN LR LR
comp=Z,1µm,19.0s,MS5.4
LAO LASA Array 93.94 343 PFAKE 11 28 40.0 +6.4
LAO LR LR
comp=Z,2µm,22.0s,MS5.4
YBH Yreka Blue Hor 94.12 330 PFAKE 11 28 50.0 +15
YBH LR LR
comp=Z,768nm,22.0s,MS5.1
BOZ Bozeman (W) 94.24 339 *e*P **P** **11 28 38.8 +3.8**
BOZ Bozeman (W) 94.24 339 PFAKE 11 28 50.0 +15
BOZ LR LR
comp=Z,879nm,22.0s,MS5.2
STKA Stephens Creek 94.57 215 P **P** **11 28 36.7 -0.5**
comp=Z,4.2nm,1.1s,mb4.8,baz=182,slow=16,SNR=2.9
STKA LR LR 12 03 35.6
comp=Z,5µm,19.2s,MS6.0,baz=150,slow=31
HUMO Hull Mountain 94.98 330 PFAKE 11 28 50.0 +12
HUMO LR LR
comp=Z,1µm,22.0s,MS5.3
BMO Blue Mountains 95.11 335 PFAKE 11 28 50.0 +11
BMO LR LR
comp=Z,715nm,21.0s,MS5.1
DGMT Dagmar 95.24 344 PFAKE 11 28 50.0 +11
DGMT LR LR
comp=Z,1µm,21.0s,MS5.3
ULM Lac du Bonnet 95.66 350 P **P** **11 28 41.1 -0.3**
ULM LR LR
comp=Z,2µm,22.0s,MS5.6
ULM Lac du Bonnet 95.66 350 P **P** **11 28 41.1 -0.3**
comp=Z,5.4nm,0.8s,mb5.1,baz=193,slow=4.6,SNR=6.3
MSO Missoula 95.95 338 PFAKE 11 28 50.0 +7.3
MSO LR LR
comp=Z,696nm,20.0s,MS5.1
PDA Ponta Delgada 95.95 41 *e*SS SS 11 46 40.0 +7.3
EGMT Eagleton 96.00 341 PFAKE 11 28 50.0 +7.1
EGMT LR LR
comp=Z,1µm,20.0s,MS5.5
CMLA Cha da Macela 96.03 41 *e*SS SS 11 46 40.0 +6.2
CMLA Cha da Macela 96.03 41 PFAKE 11 28 50.0 +6.6
CMLA LR LR
comp=Z,2µm,20.0s,MS5.5
COR Corvallis 96.83 331 PFAKE 11 29 00.0 +13
COR LR LR
comp=Z,1µm,22.0s,MS5.3
HAWA Hanford 97.18 334 PFAKE 11 29 00.0 +12
HAWA LR LR
comp=Z,810nm,20.0s,MS5.2
NEW Newport 98.14 336 PFAKE 11 29 00.0 +7.4
NEW LR LR
comp=Z,865nm,20.0s,MS5.2
NLWA Neilton Lookou 99.47 332 PFAKE 11 29 10.0 +11
NLWA LR LR
comp=Z,1µm,19.0s,MS5.5
SCHQ Schefferville 99.99 8 PFAKE 11 29 10.0 +8.4
SCHQ LR LR
comp=Z,2µm,21.0s,MS5.5
ABPO Ambohimpanom 100.60 130 PFAKE 11 29 20.0 +16
ABPO LR LR
comp=Z,3µm,22.0s,MS5.8
FFC Flin Flon 100.88 348 PFAKE 11 29 20.0 +14
FFC LR LR
comp=Z,1µm,22.0s,MS5.4
NWAO Narrogin (SRO) 100.93 195 PFAKE 11 29 20.0 +14
NWAO LR LR
comp=Z,967nm,19.0s,MS5.3
CTAO Charters Tower 102.60 225 PFAKE 11 29 20.0 +6.8
CTAO LR LR
comp=Z,710nm,19.0s,MS5.2
HNR Honiara 103.41 242 PFAKE 11 29 30.0 +13
HNR LR LR
comp=Z,644nm,19.0s,MS5.2
PFVI Vila Bisbo 104.10 51 *e*PP PP 11 33 48.3 +10
PFVI *e*P SP 11 42 54.4 +6.6
PFVI *e*P x 11 49 08.5
PFVI *e*LQ 11 58 32.3
PFVI *e*LR LR 12 06 00.4
comp=Z,3µm,18.0s
MORF Marmelete 104.32 51 *e*PP PP 11 33 48.9 +9.4
MORF *e*P SP 11 42 59.7 +10
MORF *e*LR LR 12 07 05.8
comp=Z,4µm,18.0s
PBDV Barranco-do-Ve 104.68 52 *e*PP PP 11 33 50.2 +8.0
PBDV *e*P SP 11 43 02.1 +8.2
PBDV *e*P x 11 49 10.2
PBDV *e*LQ 11 58 37.5
PBDV *e*LR LR 12 05 32.0
comp=Z,3µm,18.0s
PVAQ Vaqueiros 104.91 52 *e*PP PP 11 33 51.2 +7.3
PVAQ *e*P SP 11 43 04.2 +7.9
PVAQ *e*P x 11 49 25.9
PVAQ *e*LQ 11 58 59.7
PVAQ *e*LR LR 12 05 38.1
comp=Z,2µm,18.0s
ASAR Alice Springs 104.93 212 PKiKP PKiKP 11 33 47.1 +8.5
comp=Z,0.4nm,0.7s,baz=134,slow=1.7,SNR=4.6
ASAR PKKPbc PKKPbc 11 45 09.9 +5.4
comp=Z,0.7nm,0.9s,baz=341,slow=2.3,SNR=4.5
PMAFR Mafra 105.16 50 *e*PP PP 11 33 53.1 +7.4
PMAFR *e*P SP 11 43 02.6 +3.8
PMAFR *e*LQ 11 59 03.3
PMAFR *e*LR LR 12 05 29.7
comp=Z,2µm,18.0s
PBAR Barrancos 105.84 52 *e*PP PP 11 33 58.6 +7.8
PBAR *e*P SP 11 43 11.4 +5.5
PBAR *e*LQ 11 59 22.5
PBAR *e*LR LR 12 06 09.9
comp=Z,3µm,20.0s
PESTR Estremoz 106.02 51 *e*PP PP 11 33 59.9 +7.8
PESTR *e*P SP 11 43 14.0 +6.2
PESTR *e*P x 11 49 23.3
PESTR *e*LQ 11 59 22.1
PESTR *e*LR LR 12 07 04.2
comp=Z,2µm,16.0s
MTE Manteigas 107.12 50 *e*PP PP 11 34 06.4 +6.2
MTE *e*P SP 11 43 23.5 +4.4
MTE *e*P x 11 49 23.3
MTE *e*LQ 12 00 12.7
MTE *e*LR LR 12 06 28.0
comp=Z,2µm,20.0s
MVO Moncorvo 107.94 50 *e*PP PP 11 34 12.9 +6.8
MVO *e*P SP 11 43 30.4 +3.0
MVO *e*LQ 12 00 16.4
MVO *e*LR LR 12 06 16.1
comp=Z,2µm,22.0s
WRA Warramunga Arr 108.12 214 PKiKP PKiKP 11 33 54.2 +10
comp=Z,0.8nm,1.0s,baz=157,slow=1.3,SNR=6.1
WRAB Tennant Creek 108.12 214 PFAKE 11 34 00.0 +15
WRAB LR LR
comp=Z,3µm,21.0s,MS5.8
PAB San Pablo 108.30 52 PFAKE 11 34 00.0 +16
PAB LR LR
comp=Z,764nm,20.0s,MS5.3
KMBO Kilima Mbogo 108.50 111 PFAKE 11 34 00.0 +14
KMBO LR LR
comp=Z,3µm,22.0s,MS5.8
ESLA Sonseca Array 108.60 52 PFAKE 11 34 00.0 +15
ESLA LR LR
comp=Z,12µm,19.0s,MS6.5
WRAK Wrangell Islan 109.90 332 PFAKE 11 34 00.0 +13
WRAK LR LR
comp=Z,999nm,21.0s,MS5.4
YKA Yellowknife Ar 110.44 344 Pdif Pdif 11 29 51.4 +3.3
YKA PKPdf PKiKP 11 33 53.0 +5.5
YKA Yellowknife Ar 110.44 344 Pdiff Pdif 11 29 51.3 +3.3
comp=Z,0.4nm,0.9s,baz=146,slow=4.4,SNR=8.2
YKA PKiKP PKiKP 11 33 53.0 +5.5
comp=Z,0.2nm,0.7s,baz=152,slow=2.0,SNR=3.9
SIT Sitka 111.40 331 PFAKE 11 34 00.0 +10
SIT LR LR
comp=Z,1µm,20.0s,MS5.6
MBWA Marble Bar 111.76 200 PFAKE 11 34 00.0 +8.5
MBWA LR LR
comp=Z,1µm,19.0s,MS5.6
MIDW Midway 113.94 287 PFAKE 11 34 10.0 +15
MIDW LR LR
comp=Z,1µm,19.0s,MS5.6
MSEY Mahe Island 116.92 129 PFAKE 11 34 10.0 +8.4
MSEY LR LR
comp=Z,1µm,19.0s,MS5.5
DIV Divide 118.05 330 PFAKE 11 34 10.0 +7.9
DIV LR LR
comp=Z,3µm,19.0s,MS6.0
KDAK Kodiak Island 118.45 325 PFAKE 11 34 10.0 +7.0
KDAK LR LR
comp=Z,405nm,20.0s,MS5.0
EGAK Eagle 119.07 335 PFAKE 11 34 20.0 +16
EGAK LR LR
comp=Z,1µm,20.0s,MS5.5
ESK Eskdalemuir 119.16 40 PFAKE 11 34 20.0 +16
ESK LR LR
comp=Z,2µm,20.0s,MS5.7
PMR Palmer 119.57 329 PFAKE 11 34 20.0 +15
PMR LR LR
comp=Z,1µm,22.0s,MS5.5
WLF Walferdange 120.48 49 *e*PP PP 11 35 35.5 +0.7
MCK McKinley 120.88 331 PFAKE 11 34 20.0 +13
MCK LR LR
comp=Z,534nm,21.0s,MS5.2
BFO Black Forest 120.91 51 PFAKE 11 34 20.0 +12
BFO LR LR
comp=Z,2µm,20.0s,MS5.7
BFO Black Forest 120.91 51 *e*PP PP 11 35 36.2 -1.6
BFO *e*SP SP 11 45 32.1 +4.7
COLA College 121.25 333⇑ *e*PKP PKPdf 11 34 08.1 -0.1
COLA LR LR
comp=Z,1µm,20.0s,MS5.5
STU Stuttgart 121.63 51 *e*PP PP 11 35 41.5 -1.2
STU *e*SP SP 11 45 38.9 +5.0
BUG Bochum--Univer 122.06 48 *e*PP PP 11 35 43.0 -2.5
BUG *e*SP SP 11 45 42.6 +5.1
FUR Furstenfeldbru 122.47 52 *e*PP PP 11 35 46.0 -2.4
FUR *e*SP SP 11 45 45.7 +4.4
UNV Unalaska Valle 122.48 316 PFAKE 11 34 20.0 +9.1
UNV LR LR
comp=Z,3µm,21.0s,MS5.9
DGAR Diego Garcia 122.55 148 PFAKE 11 34 20.0 +7.6
DGAR LR LR
comp=Z,2µm,22.0s,MS5.7
IBBN Ibbenburen 122.78 47 *e*PP PP 11 35 45.3 -5.1
IBBN *e*SP SP 11 45 49.0 +5.2
COCO West Island 123.17 177 PFAKE 11 34 20.0 +6.4
COCO LR LR
comp=Z,2µm,21.0s,MS5.7
UBBA Unterbreizbach 123.18 49 *e*PP PP 11 35 50.6 -2.5
UBBA *e*SP SP 11 45 50.7 +3.2
LJU Ljubljana 123.21 56 *e*PP PP 11 35 57.6 +4.2
LJU *e*SS SS 11 52 49.9 +11
GRF Grafenberg Arr 123.25 51 *e*PP PP 11 35 49.8 -3.8
GRF *e*SP SP 11 45 46.7 -1.5
GRF *e*SKKPdf 11 48 13.2
GRF *e*SS SS 11 53 12.7 +33
GRF *e*L 12 29 15.9
comp=Z,2µm,18.3s
PDKS Podkum 123.49 56 *e*PP PP 11 35 59.0 +3.7
PDKS *e*SS SS 11 52 52.9 +10
ROTZ Rotzenmuhle 123.83 51 *e*PP PP 11 35 54.3 -3.3
ROTZ *e*SP SP 11 45 55.2 +1.9
HLG Helgoland 123.83 45 *e*PP PP 11 35 53.6 -3.9
HLG *e*SP SP 11 45 54.1 +1.0
WET Wettzell 123.89 52 *e*PP PP 11 35 55.8 -2.1
WET *e*SP SP 11 45 56.9 +3.1
MANZ Manzenberg 123.89 51 *e*PP PP 11 35 56.6 -1.4
MANZ *e*SP SP 11 45 56.5 +2.7
CLZ Clausthal 123.91 48 *e*PP PP 11 35 55.1 -2.9
CLZ *e*SP SP 11 45 58.4 +4.5
IMA2 Indian Mountai 123.91 332 *e*PKPdf PKPdf 11 34 15.5 +2.2
MOX Moxa 123.96 50 *e*PP PP 11 35 56.6 -1.8
MOX *e*SP SP 11 45 56.9 +2.5
NRDL Niedersach Rie 124.11 48 *e*PP PP 11 35 58.1 -1.2
NRDL *e*SP SP 11 45 58.8 +3.2
GEC2 GERESS Array S 124.19 53 *e*PKIKP PKPdf 11 34 15.3 +1.0
GEC2 GERESS Array S 124.19 53 *e*PP PP 11 35 56.6 -3.4
GEC2 *e*SP SP 11 45 57.8 +1.2
GERES GERESS Array B 124.19 53 PKP PKPdf 11 34 13.1 -1.2
comp=Z,1.4nm,0.6s,baz=329,slow=4.7,SNR=4.5
NKC Novy Kostel 124.21 51 *e*SS SS 11 52 47.5 -3.8
NKC *e*SKSSKS 12 07 12.5
NKC AMS AMS 12 25 30.0
comp=Z,2µm,20.7s
KHC Kasperske Hory 124.27 52⇑ *e*PKIKP PKPdf 11 34 13.9 -0.6
KHC Kasperske Hory 124.27 52 *e*PKPDF 11 34 24.8
KHC *e*x x 11 35 27.5
KHC *e*SS SS 11 52 57.0 +4.8
KHC *e*x x 12 06 57.5
KHC AMS AMS 12 22 00.0
comp=Z,2µm,24.8s
TANN Tannenbergstha 124.31 51 *e*PP PP 11 35 58.1 -2.6
TANN *e*SP SP 11 45 59.3 +1.8
BSEG Bad Segeberg 124.94 46 *e*SP SP 11 46 08.0 +5.1
CLL Collm 125.05 50 *e*PKIKP PKPdf 11 34 19.0 +3.1
CLL *e* 11 36 06.0
CLL MLR MLR
comp=Z,3µm,25.2s,MS5.8
CLL Collm 125.05 50 *e*PKP PKPdf 11 34 19.0 +3.1
CLL *e*PP PP 11 36 06.0 +0.3
CLL *e*SKKS SKKSac 11 43 12.0 +9.0
CLL LR LR
comp=Z,3µm,25.2s,MS5.8
CLL Collm 125.05 50 *e*PP PP 11 36 04.1 -1.6
CLL *e*SP SP 11 46 13.8 +10
CLL Collm 125.05 50 *e*PKPdf PKPdf 11 34 19.0 +3.1
CLL *e*PP PP 11 36 06.0 +0.3
CLL *e*x x 11 37 30.0
CLL *e*PPP 11 38 55.0
CLL *e*SKKSac SKKSac 11 43 12.0 +9.0
CLL *e*Sdif Sdif 11 44 20.0 +15
CLL *e*PS PS 11 46 15.0 +10
CLL *e*PPS 11 47 41.0
CLL *e*x x 11 48 34.0
CLL *e*x x 11 48 51.0
CLL *e*SKKSacre 11 51 30.0
CLL *e*SS SS 11 53 06.0 +4.1
CLL *e*PSPS 11 53 40.0
CLL *e*(SSS) 11 57 18.0
PRU Pruhonice 125.25 52 *e*PKIKP PKPdf 11 34 20.0 +3.7
PRU *e*SS SS 11 53 15.6 +11
PRU MLR MLR
comp=Z,2µm,26.0s,MS5.7
PRU Pruhonice 125.25 52 *e*PKPDF PKPdf 11 34 20.0 +3.7
PRU *e*x x 11 53 15.6
PRU *e*SKSSKS 12 07 20.5
PRU AMS AMS 12 21 50.0
comp=Z,2µm,26.0s
BRG Berggiesshubel 125.35 51 Pdif Pdif 11 30 54.0 -0.4
BRG *e*PKP PKPdf 11 34 17.3 +0.9
BRG PP PP 11 36 13.0 +5.3
BRG SKKS SKKSac 11 43 12.0 +7.1
BRG SS SS 11 53 15.0 +9.3
BRG LR LR
comp=Z,1µm,20.3s,MS5.6
BRG Berggiesshubel 125.35 51 *e*PP PP 11 36 04.1 -3.6
BRG *e*SP SP 11 46 11.0 +4.3
BRG Berggiesshubel 125.35 51 *e*PKP PKPdf 11 34 17.3 +0.9
comp=Z,3.5nm,1.1s
BRG PP PP 11 36 13.0 +5.3
BRG SKKS SKKSac 11 43 12.0 +7.1
BRG SS SS 11 53 15.0 +9.3
BRG
comp=N,1µm,19.9s
BRG
comp=E,1µm,22.9s
BRG
comp=Z,2µm,20.3s
TREC Trest 125.44 53 AMS AMS 12 18 10.0
comp=Z,2µm,26.7s
PVCC Panska Ves 125.53 51 *e*PKPDF PKPdf 11 34 21.7 +4.9
PVCC AMS AMS 12 26 10.0
comp=Z,2µm,19.5s
BER Bergen 125.75 38 AMS AMS 12 22 53.8
comp=Z,976nm,19.9s,MS5.5
MODS Modra-Piesok 126.01 55 *e*PKP PKPdf 11 34 18.7 +0.9
RUE Ruedersdorf 126.05 49 *e*SP SP 11 46 15.1 +2.4
JMIC Jan Mayen 126.30 23 AMS AMS 12 22 13.7
comp=Z,1µm,21.2s,MS5.5
UPC Upice 126.33 52 *e*PKPDF PKPdf 11 34 21.9 +3.5
DPC Dobruska-Polom 126.42 52 *e*PKP PKPdf 11 34 20.0 +1.5
DPC *e*SS SS 11 53 27.8 +8.6
DPC LR LR
comp=Z,2µm,25.7s,MS5.6
DPC Dobruska-Polom 126.42 52 *e*PKPDF PKPdf 11 34 20.0 +1.5
DPC *e*SS SS 11 53 27.8 +8.6
DPC *e*x x 12 07 35.5
DPC AMS AMS 12 21 20.0
comp=Z,2µm,25.7s
RGN Rugen 126.78 47 *e*SP SP 11 46 17.6 -1.4
ADK Adak 126.81 310 PFAKE 11 34 30.0 +11
ADK LR LR
comp=Z,1µm,19.0s,MS5.6
VYHS Vyhne 126.98 55 *e*PKP PKPdf 11 34 20.3 +0.6
OKC Ostrava-Krasne 127.22 53 *e*PKP PKPdf 11 34 20.2 +0.1
OKC *e*SS SS 11 53 45.9 +17
OKC Ostrava-Krasne 127.22 53 *e*PKPDF PKPdf 11 34 20.2 +0.1
OKC *e*SS SS 11 53 45.9 +17
OKC AMS AMS 12 30 20.0
comp=Z,1µm,17.3s
KONO Kongsberg 127.31 40 *e*SS SS 11 53 34.1 +4.4
KONO AMS AMS 12 27 51.5
comp=Z,2µm,22.5s,MS5.6
KONO Kongsberg 127.31 40 PFAKE 11 34 30.0 +10
KONO LR LR
comp=Z,2µm,20.0s,MS5.8
MOL Molde 127.71 36 AMS AMS 12 23 06.4
comp=Z,1µm,27.1s,MS5.5
NOA NORSAR Array B 128.63 39 PKP PKPdf 11 34 23.6 +1.2
comp=Z,0.7nm,0.7s,baz=40,slow=22,SNR=2.0
CRVS Cervenica-Dubn 128.71 56 *e*PKP PKPdf 11 34 26.7 +3.7
TNA Tin City 128.75 328 PFAKE 11 34 30.0 +7.5
TNA LR LR
comp=Z,928nm,19.0s,MS5.5
UZH Uzhgorod 129.07 56 *e*PKIKP PKPdf 11 34 28.0 +4.3
KOLS Kolonicke sedl 129.20 56 *e*PKP PKPdf 11 34 30.2 +6.3
SMY Shemya 132.30 308 PFAKE 11 34 40.0 +10
SMY LR LR
comp=Z,2µm,20.0s,MS5.8
KIEV Kiev 134.02 56 PFAKE 11 34 40.0 +7.1
KIEV LR LR
comp=Z,2µm,21.0s,MS5.8
AKASG Malin Array Be 134.03 56 *i* PKIKP PKPdf 11 34 29.6 -3.4
AKASG Malin Array Be 134.03 56 PKP PKPdf 11 34 32.0 -0.9
comp=Z,0.3nm,0.3s,baz=331,slow=23,SNR=4.4
KBS Kingsbay 134.07 16 *i* SKPbc 11 38 05.8 +4.4
KBS *e*SS SS 11 54 54.0 +2.2
KBS Kingsbay 134.07 16 PFAKE 11 34 40.0 +7.7
KBS LR LR
comp=Z,1µm,21.0s,MS5.6
TRO Tromso 134.36 29 *e*PP PP 11 37 06.6 +0.7
MALT Malatya 134.79 76 *e*PKIKP PKPdf 11 34 35.4 +0.6
ARCES ARCESS Array B 136.63 29 PKP PKPdf 11 34 37.4 +0.1
comp=Z,2.1nm,0.8s,baz=312,slow=8.0,SNR=4.2
ANN Anapa 136.95 67 *e*PKIKP PKPdf 11 34 45.5 +6.9
SOC Sochi 137.98 70 *i* PKIKP PKPdf 11 34 41.1 +0.5
SOC *e*PPP 11 40 33.5
SOC *e*PS PS 11 47 47.1 -10
SOC *e* 11 49 39.4
PALK Pallekele 139.14 151 PFAKE 11 35 00.0 +16
PALK LR LR
comp=Z,2µm,20.0s,MS5.9
BILL Bilibino 139.19 328⇑ *i* PKIKP PKPdf 11 34 42.2 +0.2
BILL Bilibino 139.19 328⇑ *e*PKP PKPdf 11 34 42.2 +0.2
APA Apatity 139.43 33⇓ *i* PKHKP 11 34 32.6
OBN Obninsk 139.57 52 *i* PKIKP PKPdf 11 34 42.7 -0.4
OBN *e* 11 37 43.1
OBN *e*SS SS 11 55 56.9 -1.5
OBN pmax pmax
comp=Z,30nm,1.3s
OBN MLR MLR
comp=Z,2µm,19.0s,MS5.8
OBN Obninsk 139.57 52⇑ *e*PKP PKPdf 11 34 42.8 -0.3
OBN LR LR
comp=Z,2µm,20.0s,MS5.9
KIV Kislovodsk 140.11 70 *e*PKIKP PKPdf 11 34 43.1 -1.3
KIV pmax pmax
comp=Z,12nm,0.9s
KIV Kislovodsk 140.11 70⇑ *i* PKP PKPdf 11 34 43.0 -1.4
KIV LR LR
comp=Z,2µm,19.0s,MS5.8
VORD Divnogorie 140.17 59 *i* PKIKP PKPdf 11 34 45.3 +1.0
VORD *e*SS SS 11 56 03.8 -1.9
VORD pmax pmax
comp=Z,10.0nm,1.2s
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
VORD pmax pmax
comp=Z,10.0nm,1.7s
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
PET Petropavlovsk 141.31 304 *e*PKIKP PKPdf 11 34 50.3 +4.0
PET *e*SS SS 11 56 09.6 -9.3
PET pmax pmax
comp=Z,100nm,11.5s
PET pmax pmax
comp=Z,100nm,12.9s
PET MLR MLR
comp=Z,1µm,19.0s,MS5.7
KAD Karad 145.28 134 *e*P PKPbc 11 34 51.6 -2.6
KAD AMb AMB 11 35 04.4
comp=Z,97nm,1.4s
POO Poona 146.13 132 *e*P PKPdf 11 34 56.3 +0.4
POO AMb AMB 11 35 04.3
MA2 Magadan 146.27 314 *i* PKHKP 11 34 52.4
MA2 *e* 11 38 21.8
MA2 *e*SS SS 11 57 09.3 -6.2
MA2 pmax pmax
comp=Z,60nm,1.6s
MA2 Magadan 146.27 314 *e*PKPdf PKPdf 11 34 52.3 -2.5
MA2 *e*PKPab PKPab 11 34 58.4 +1.7
LATR Latur 147.41 137 *e*P PKPdf 11 34 58.6 +0.6
HYB Hyderabad 147.48 141 *e*PKIKP PKPdf 11 34 59.0 +0.9
HYB Hyderabad 147.48 141 *i* PKP PKPdf 11 34 59.0 +0.9
BHJ Bhuj 147.49 122 *e*P PKPdf 11 34 57.4 -0.6
ERM Erimo 148.46 280 PFAKE 11 35 10.0 +11
ERM LR LR
comp=Z,3µm,19.0s,MS6.1
AKL Akola 149.57 135 *e*P PKPdf 11 35 00.6 -0.8
TIXI Tiksi 149.67 342 *i* PKHKP 11 35 02.6
TIXI pmax pmax
comp=Z,41nm,1.7s
TIXI Tiksi 149.67 342 *e*PKPdf PKPdf 11 35 01.8 +1.8
TIXI LR LR
comp=Z,1µm,22.0s,MS5.7
MJAR Matsushiro Arr 149.74 268 PKHKP 11 35 05.3
MJAR pmax pmax
comp=Z,2.0nm,0.7s
MJAR Matsushiro Arr 149.74 268 PKPbc PKPbc 11 35 05.3 -0.7
comp=Z,2.1nm,0.7s,baz=165,slow=2.1,SNR=7.4
MAJO Matsushiro 149.75 268 *e*PKPdf PKPdf 11 35 02.0 +0.8
MAJO LR LR
comp=Z,1µm,21.0s,MS5.7
MAT Matsushiro 149.75 268 PKP PKPdf 11 35 02.1 +0.8
YSS Yuzh-Sakhalins 150.12 290 *e*PKP2 PKPab 11 35 11.0 -1.6
YSS Yuzh-Sakhalins 150.12 290 PFAKE 11 35 10.0 +8.5
YSS LR LR
comp=Z,2µm,20.0s,MS6.0
JASL Jaisalmer 150.94 118 *e*x x 11 35 06.0
NGP Nagpur 150.95 138 *e*P PKPdf 11 35 02.9 -0.7
BHPL Bhopal 151.88 133 *e*P PKPdf 11 35 03.6 -1.4
ARU Arti 152.00 51 *i* PKIKP PKPdf 11 35 07.4 +3.3
ARU Arti 152.00 51 *e*PKPdf PKPdf 11 35 07.7 +3.7
ARU *e*PKPab PKPab 11 35 21.6 +1.5
ARU LR LR
comp=Z,2µm,21.0s,MS5.9
QIZ Qiongzhong 152.85 202 PKP PKPdf 11 35 01.4 -5.1
QIZ SS SS 11 58 24.9 -3.0
QIZ LR LR
comp=E,565nm,17.8s
QIZ LR LR
comp=Z,625nm,18.9s,MS5.5
QIZ Qiongzhong 152.85 202 PFAKE 11 35 20.0 +13

QIZ LR LR
comp=Z,691nm,20.0s,MS5.5
SVE Sverdlovsk 153.07 50 *e*PKIKP PKPbc 11 35 17.2 +4.2
SVE pmax pmax
comp=Z,46nm,1.5s
BLSP Bilaspur 153.21 142 *e*P PKPdf 11 35 05.9 -1.1
TATO Taipei 153.35 229 PFAKE 11 35 20.0 +13
TATO LR LR
comp=Z,1μm,21.0s,MS5.6
CM31 Chiang Mai Arr 153.68 179 PFAKE 11 35 20.0 +12
CM31 LR LR
comp=Z,1μm,21.0s,MS5.7
KHET Khetri 154.76 124 *e*P PKPdf 11 35 07.2 -1.8
KUDL Kundal 155.22 125 *e*P PKPdf 11 35 08.6 -1.0
YAK Yakutsk 155.48 325 PFAKE 11 35 20.0 +11
YAK LR LR
comp=Z,1μm,22.0s,MS5.8
HABR Khabarovsk 155.49 291⇓*e*PKP2 PKPab 11 35 34.6 -0.6
HABR *e* 11 39 10.8
HABR *e* 11 42 13.7
HABR *e* 11 42 46.8
HABR *e* 11 58 59.0
HABR *e* 12 04 55.4
AYAN Aya Nagar 155.84 125 *e*P PKPdf 11 35 09.7 -0.7
KSRS Korea Array 157.45 261 PKP PKPdf 11 35 16.3 +4.1
comp=Z,1.1nm,0.9s,baz=52,slow=2.0,SNR=3.7
KSRS PKPab PKPab 11 35 48.2 +4.3
comp=Z,0.8nm,0.7s,baz=137,slow=5.1,SNR=4.7
SMLA Simla 157.78 120 *e*x x 11 35 43.5
INCN Inchon 158.37 260 PFAKE 11 35 20.0 +6.6
INCN LR LR
comp=Z,924nm,19.0s,MS5.6
MDJ Mudanjiang 158.69 280 PKP PKPdf 11 35 16.0 +2.5
MDJ SS SS 11 59 28.2 -4.8
MDJ LR LR
comp=N,656nm,42.3s
MDJ LR LR
comp=E,439nm,33.3s
MDJ LR LR
comp=Z,621nm,27.2s
MDJ Mudanjiang 158.69 280 PFAKE 11 35 20.0 +6.5
MDJ LR LR
comp=Z,1μm,19.0s,MS5.7
JOSI Joshimath 158.79 126 *e*P PKPdf 11 35 15.6 +1.5
BRVK Borovoye 159.24 56 PFAKE 11 35 20.0 +6.1
BRVK LR LR
comp=Z,3μm,21.0s,MS6.1
KMI Kunming 160.14 189 PKP PKPdf 11 35 17.1 +1.3
KMI PKP2 PKPab 11 35 57.3 +1.6
KMI PP PP 11 39 39.5 +2.6
KMI SKS SKSdf 11 42 19.9 -1.2
KMI SKKS SKKSac 11 46 25.4 -1.0
KMI SS SS 11 59 43.3 -2.8
KMI LR LR
comp=N,561nm,16.1s
KMI LR LR
comp=E,494nm,18.9s
KMI LR LR
comp=Z,740nm,22.4s
GYA Guiyang 160.76 200 *i* PKP PKPdf 11 35 16.2 -0.3
GYA PKP2 PKPab 11 36 01.4 +3.0
GYA PKS 11 38 49.0
GYA PP PP 11 39 44.8 +4.4
GYA SKS SKSdf 11 42 19.6 -2.0
GYA SKKS SKKSac 11 46 30.6 +1.0
GYA SS SS 11 59 55.8 +3.0
GYA PP PP
comp=Z,160nm,8.4s
GYA LR LR
comp=N,1μm,22.4s
GYA LR LR
comp=E,980nm,22.2s
GYA LR LR
comp=Z,2μm,24.0s
AML Almayashu 161.09 89 *e*PKPdf PKPdf 11 35 18.0 +1.7
AML *e*PKPdif 11 35 31.3
AML *e*PKPab PKPab 11 36 01.5 +1.9
AML LR LR
comp=Z,2μm,21.0s
EKS2 Erkin-Say 161.30 88 *e*PKPdf PKPdf 11 35 17.7 +1.2
EKS2 LR LR
comp=Z,1μm,21.0s
CN2 Changchun 161.44 276 *e*PKP PKPdf 11 35 14.3 -2.3
CN2 PKP2 PKPab 11 36 01.2 +0.1
CN2 PP PP 11 39 45.8 +0.6
CN2 SKKS SKKSac 11 46 29.2 -3.6
CN2 *e*SS SS 11 59 56.6 -5.4
CN2 LR LR
comp=N,1μm,20.0s
CN2 LR LR
comp=E,1μm,20.0s
CN2 LR LR
comp=Z,1μm,22.0s
UCH Uchtor 161.70 89 *e*PKPdf PKPdf 11 35 18.5 +1.6
UCH LR LR
comp=Z,2μm,20.0s
KSH Kashi 161.78 99 *e*PKP PKPdf 11 35 22.0 +4.9
KSH *e*PKS 11 38 52.3
KSH *e*SKS SKSdf 11 42 19.0 -2.9
KSH PP PP
comp=Z,713nm,4.0s
KSH LR LR
comp=Z,740nm,8.0s
AAK Ala-Archa 161.80 88 *e*PKIKP PKPdf 11 35 18.1 +1.1
AAK MLR MLR
comp=Z,1μm,20.0s
FRU Bishkek 161.94 88 *e*PKIKP PKPdf 11 35 20.0 +2.8
DL2 Dalian 162.52 258 *e*PKP PKPdf 11 35 14.4 -3.5
DL2 PKP2 PKPab 11 36 04.3 -1.7
DL2 SKKS SKKSac 11 46 34.7 -3.8
DL2 PP PP
comp=Z,120nm,7.8s
DL2 LR LR
comp=N,280nm,18.5s
DL2 LR LR
comp=E,190nm,16.9s
DL2 LR LR
comp=Z,440nm,19.8s
TKM2 Tokmak 2 162.66 88 *e*PKIKP PKPdf 11 35 19.6 +1.7
TKM2 *e* 11 35 33.7
TKM2 Tokmak 2 162.66 88 *e*PKPdf PKPdf 11 35 19.6 +1.7
TKM2 *e*PKPdif 11 35 33.7
TKM2 LR LR
comp=Z,1μm,22.0s
LSA Lhasa 163.49 154 PFAKE 11 35 30.0 +11
LSA LR LR
comp=Z,1μm,22.0s
BOD Bodaibo 164.22 330 *e*PKIKP PKPdf 11 35 11.0 -7.9
BOD *e* 11 36 08.6
BOD pmax pmax
comp=Z,4.0nm,1.6s
BOD pmax pmax
comp=Z,6.0nm,1.3s
KURK Kurchatov 164.80 60 PFAKE 11 35 30.0 +10
KURK LR LR
comp=Z,2μm,22.0s
HIA Hailar 165.54 295 PFAKE 11 35 30.0 +10
HIA LR LR
comp=Z,2μm,20.0s
NVS Novosibirsk 165.54 40 *e*PKIKP PKPdf 11 35 16.1 -4.0
NVS *e* 11 36 20.6
NVS pmax pmax
comp=Z,31nm,1.8s
NVS pmax pmax
comp=N,7.0nm,1.6s
NVS pmax pmax
comp=E,10.0nm,1.7s
CD2 Chengdu 165.68 195 *e*PKP PKPdf 11 35 21.4 +0.4
CD2 APKP 11 35 28.0
CD2 PKP2 PKPab 11 36 22.8 +2.9
CD2 PP PP 11 40 11.2 +4.9
CD2 SKS SKSdf 11 42 20.0 -5.1
CD2 SKKS SKKSac 11 46 53.1 -1.4
CD2 SS SS 12 00 44.7 +1.1
CD2 PP PP
comp=Z,380nm,8.4s
CD2 LR LR
comp=N,2μm,22.8s
CD2 LR LR
comp=E,1μm,21.6s
CD2 LR LR
comp=Z,2μm,21.6s
BJT Baijiatuau 166.79 254 PFAKE 11 35 30.0 +8.4
BJT LR LR
comp=Z,1μm,22.0s
BJI Beijing 166.79 254 PKP PKPdf 11 35 22.8 +1.2
BJI SKS SKSdf 11 42 27.9 +2.5
BJI SS SS 12 00 53.0 -4.0
ZAL Zalesovo 166.82 41 PKIKP PKPdf 11 35 21.4 +0.3
ZAL 11 36 25.2
ZAA0 Zalesovo Array 166.82 41 *e*PKPdf PKPdf 11 35 22.7 +1.5
ZAA0 *e*PKPab PKPab 11 36 25.9 +1.5
ZALV Zalesovo Beam 166.82 41 PKP PKPdf 11 35 21.4 +0.3
comp=Z,2.4nm,0.6s,baz=241,slow=1.5,SNR=5.2
ZALV PKPab PKPab 11 36 25.2 +0.8
comp=Z,5.5nm,0.7s,baz=302,slow=6.5,SNR=3.9
MK31 Makanchi Array 167.83 75 *e*PKIKP PKPdf 11 35 22.5 +0.4
MKAR Makanchi Array 167.83 75 PKP PKPdf 11 35 22.0 -0.1
comp=Z,0.2nm,0.3s,baz=333,slow=1.4,SNR=6.8
MKAR PKPab PKPab 11 36 29.7 +0.5
comp=Z,12nm,0.9s,baz=265,slow=3.7,SNR=20
MKAR PP PP 11 40 21.8 +3.2
comp=Z,1.1nm,0.8s,baz=276,slow=4.8,SNR=3.9
HHC Hu-ho-hao-te 170.29 250 *e*PKP PKPdf 11 35 26.1 +2.2
HHC PKS 11 38 59.0
HHC PP PP 11 40 30.4 -0.5
HHC SKS SKSdf 11 42 27.4 +0.3
HHC SKKS SKKSac 11 47 20.7 +3.4
HHC PP PP
comp=Z,390nm,10.4s
HHC LR LR
comp=N,680nm,25.0s
HHC LR LR
comp=E,605nm,19.0s
HHC LR LR
comp=Z,748nm,20.2s
LZH Lanzhou 170.64 202 *e*PKP PKPdf 11 35 20.8 -3.4
LZH APKP 11 35 24.0
LZH XPKP 11 35 25.5
LZH PP PP 11 40 34.0 +2.3
LZH *e*SKKS SKKSac 11 47 17.2 -1.6
LZH PP PP
comp=Z,260nm,4.8s
LZH LR LR
comp=E,630nm,19.5s
LZH LR LR
comp=Z,1μm,20.0s
WMQ Urumqi 171.46 93 *e*PKP PKPdf 11 35 27.0 +2.6
ZAK Zakamensk 173.91 337 *e*PKIKP PKPdf 11 35 19.1 -6.1
ZAK *e* 11 36 57.1
ZAK *e* 11 40 47.8
ZAK pmax pmax
comp=Z,2.0nm,1.3s
ZAK pmax pmax
comp=Z,3.0nm,1.7s
ZAK pmax pmax
comp=Z,3.0nm,2.0s
ULN Ulaanbaatar 173.98 303 PFAKE 11 35 40.0 +15
ULN LR LR
comp=Z,921nm,21.0s
SONM Songino Array 174.38 304 PKP PKPdf 11 35 24.6 -0.8
comp=Z,1.0nm,1.0s,baz=129,slow=2.1,SNR=6.2
SONM PKPab PKPab 11 36 57.2 -1.0
comp=Z,1.6nm,0.8s,baz=68,slow=3.1,SNR=5.8
SONM PP PP 11 40 55.3 +4.4
comp=Z,0.6nm,0.5s,baz=81,slow=4.1,SNR=5.0
GTA Gaotai 174.55 182 *e*PKP PKPdf 11 35 29.8 +4.0
GTA PKS 11 39 00.8
GTA PP PP
comp=Z,326nm,7.6s
GTA LR LR
comp=N,652nm,25.9s
GTA LR LR
comp=E,903nm,22.1s
GTA LR LR
comp=Z,2μm,25.1s

GII ***07*** *11:16:44.9±1.0, 2988N×36.19E, h0km, ML2.8/8*
SGS ***07*** *11:17:43.0, 30.14N×36.42E, h15km*
CSEM ***07*** *11:17:43.0, 30.14N×36.42E, h15km, ML2.9, After SNSN*
ISC 07 11:17:43.5±1.1, 2987N±004×3634E±006, h0km, n14, σ0°72/23, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.14**	**278**	Pg	**Pg**	**11 18 04.7**	**-0.7**
HRFI				Sg	**Sg**	**11 18 20.4**	**+0.1**
ZFRI	**Zfri**	**1.21**	**304**	Pg	**Pg**	**11 18 05.9**	**-0.9**
ZFRI				Sg	**Sg**	**11 18 22.7**	**+0.1**
EIL	**Elat**	**1.23**	**261**	Pg	**Pg**	**11 18 06.8**	**-0.2**
EIL				Sg	**Sg**	**11 18 22.6**	**-0.3**
MBH	**Mount Berech**	**1.24**	**267**	Pg	**Pg**	**11 18 06.9**	**-0.4**
MBH				Sg	**Sg**	**11 18 23.7**	**+0.3**
HQLS		**1.25**	**243**	P	**Pg**	**11 18 06.7**	**-0.8**
HQLS		**1.25**	**243**	P	**Pg**	**11 18 06.7**	**-0.8**
HQLS				S	**Sg**	**11 18 24.6**	**+0.9**
PRNI	**Paran**	**1.25**	**293**	Pg	**Pg**	**11 18 07.0**	**-0.5**
PRNI				Sg	**Sg**	**11 18 24.5**	**+0.7**
JLOS		**1.36**	**213**	P	**Pg**	**11 18 09.4**	**-0.1**
JLOS		**1.36**	**213**	P	**Pg**	**11 18 09.4**	**-0.1**
JLOS				S	**Sg**	**11 18 28.7**	**+1.6**
KRMI	**Paran Flat**	**1.42**	**280**	Pg	**Pg**	**11 18 10.0**	**-0.8**
KRMI				Sg	**Sg**	**11 18 28.3**	**-0.9**
MZDA	**Masada**	**1.66**	**330**	Pn	**Pn**	**11 18 14.6**	**+0.7**
MZDA				Sn	**Sn**	**11 18 37.0**	**+1.0**
YTIR	**Yattir**	**1.82**	**325**	Pn	**Pn**	**11 18 16.6**	**+0.5**
KZIT	**Kziot**	**1.97**	**302**	Sn	**Sn**	**11 18 44.1**	**+0.6**
RSHS		**2.07**	**221**	P	**Pn**	**11 18 18.6**	**-0.9**

NEIC ***07*** *11:52:16.0±0.5, 693S×155.89E, mb4.9/6, Error ellipse: s-maj=11.9km s-min=10.0km az=112.0*
ISCJB ***07*** *11:52:18.3±2.1, 707S±009×155.95E±008, h86km±22km, mb4.6/18, Error ellipse: s-maj=16.4km s-min=11.7km az=145.7*
IDC ***07*** *11:52:19.1±2.6, 708S×155.92E, h75km±25km, mb4.3/12, mb1 4.3/14, mb1mx4.3/18, mbtmp4.3/14, MS3.5/1, Ms1 3.5/1, ms1mx3.0/21, Error ellipse: s-maj=16.6km s-min=14.9km az=87.0*
ISC 07 11:52:19.7±1.9, 707S±009×15593E±009, h83km±21km, h48km±1.8km: pP-P, n34, σ0°69/30, mb4.6/18, 2C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.61**	**121**	P	**Pn**	**11 53 26.2**	**-0.9**
	16nm,0.3s,baz=270,slow=2.2,SNR=8.1						
HNR				S	**Sn**	**11 54 19.6**	**+0.2**
	47nm,0.3s,baz=83,slow=17,SNR=4.4						
HNR				LR	LR	11 55 08.9	
	comp=Z,507nm,19.5s,baz=360,slow=37						
CTA	**Charters Tower**	**15.99**	**215**	P	**Pn**	**11 56 01.4**	**+1.6**
	0.5nm,0.3s,baz=40,slow=15,SNR=7.9						
CTAO	**Charters Tower**	**15.99**	**215**	*e*P	**Pn**	**11 56 00.9**	**+1.1**
	4.6nm,0.7s						
KAKA	**Kakadu**	**23.80**	**255**	*e*P	**P**	**11 57 25.3**	**+0.2**
	25nm,0.5s,mb4.8						
WRAB	**Tennant Creek**	**24.53**	**236**	*e*P	**P**	**11 57 31.6**	**-0.1**
	17nm,0.6s,mb4.7						
WB2	**Warramunga Arr**	**24.54**	**236**⇑	*i*P	**P**	**11 57 32.0**	**+0.3**
WRA	**Warramunga Arr**	**24.55**	**236**	P	**P**	**11 57 32.2**	**+0.3**
	13nm,0.5s,mb4.6,baz=61,slow=9.2,SNR=260						
WRA				PcP	PcP	12 01 08.5	+0.3
	1.1nm,0.5s,baz=62,slow=2.3,SNR=6.1						
ASAR	**Alice Springs**	**26.83**	**230**	P	**P**	**11 57 52.0**	**-0.4**
	3.3nm,0.6s,mb4.0,baz=59,slow=9.8,SNR=121						
ASAR				PcP	PcP	12 01 14.0	+0.6
	0.9nm,0.5s,baz=64,slow=2.5,SNR=4.1						
STKA	**Stephens Creek**	**28.07**	**207**	P	**P**	**11 58 03.4**	**0.0**
STKA	**Stephens Creek**	**28.07**	**207**	P	**P**	**11 58 03.4**	**0.0**
	2.0nm,0.6s,mb3.8,baz=27,slow=14,SNR=5.4						
FITZ	**Fitzroy Crossi**	**31.48**	**247**⇑	*i*P	**P**	**11 58 33.2**	**-0.6**
	16nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**31.48**	**247**	P	**P**	**11 58 33.6**	**-0.1**
	7.7nm,0.5s,mb4.7,baz=88,slow=8.9,SNR=59						
FORT	**Forrest**	**35.18**	**224**	*e*P	**P**	**11 59 05.4**	**-0.4**
	16nm,0.5s,mb5.1						
RPZ	**Rata Peaks**	**38.84**	**162**	P	**P**	**11 59 37.2**	**+0.6**
	20nm,0.8s,mb5.0,baz=139,slow=3.5,SNR=6.3						
KKM	**Kota Kinabalu**	**41.72**	**287**	*e*P	**P**	**11 59 59.4**	**-1.4**
KKM				*e*pP	pP	12 00 12.8	-8.0
KLBR	**Kellerberrin**	**43.15**	**230**	*e*P	**P**	**12 00 11.4**	**-0.9**
	14nm,0.5s,mb5.0						
MUN	**Mundaring**	**44.51**	**231**	*e*P	**P**	**12 00 23.1**	**0.0**
KSM	**Kuching**	**46.31**	**279**	*e*P	**P**	**12 00 38.1**	**+0.5**
KSM				*e*pP	pP	12 00 50.1	-7.8
MJAR	**Matsushiro Arr**	**46.46**	**340**	P	**P**	**12 00 38.3**	**-0.1**
	3.0nm,0.8s,mb4.1,baz=164,slow=7.7,SNR=12						
KSRS	**Korea Array**	**51.44**	**331**	P	**P**	**12 01 16.8**	**+0.3**
	4.8nm,0.7s,mb4.7,baz=149,slow=7.8,SNR=20						
NST	**Nakhon Sawan**	**59.70**	**293**	P	**P**	**12 02 16.6**	**+0.6**
	44nm,0.7s,mb5.6						
SONM	**Songino Array**	**69.90**	**327**	P	**P**	**12 03 23.4**	**+1.7**
	19nm,0.7s,mb5.0,baz=138,slow=6.4,SNR=126						
VNDA	**Vanda**	**70.48**	**179**	P	**P**	**12 03 24.6**	**-0.2**
	1.4nm,0.9s,mb3.8,baz=322,slow=5.2,SNR=6.2						
BILL	**Bilibino**	**75.28**	**4**	*e*P	**P**	**12 03 54.0**	**+0.7**
	5.2nm,1.0s,mb4.2						
ZAA0	**Zalesovo Array**	**84.76**	**326**	*e*P	**P**	**12 04 43.9**	**-0.7**
ZAA0				*e*pP	pP	12 04 57.6	-9.3
ZALV	**Zalesovo Beam**	**84.76**	**326**	P	**P**	**12 04 44.4**	**-0.2**
	6.2nm,0.5s,mb4.8,baz=107,slow=5.0,SNR=24						
BVAR	**Borovoye Array**	**92.92**	**323**	P	**P**	**12 05 22.2**	**-1.2**
	4.4nm,0.7s,mb4.9,baz=111,slow=8.1,SNR=21						
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**12 05 37.4**	**+0.3**
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**12 05 37.4**	**+0.3**
	0.2nm,0.6s,mb3.7,baz=265,slow=4.8,SNR=4.2						
VNA3	**Neumayer Olymp**	**101.26**	**185**	*e*	PKiKP	12 10 25.2	+0.3
VNA3				*e*		12 10 29.4	
VNA2	**Neumayer--Watz**	**101.37**	**186**	*e*	PKiKP	12 10 25.7	+0.6
	baz=124,slow=1.1						
VNA2				*e*		12 10 30.6	
BOSA	**Boshof**	**120.70**	**231**	PKP	PKPdf	12 11 03.4	+0.6
	1.3nm,0.6s,baz=202,slow=1.5,SNR=3.6						
BDFB	**Brasilia**	**147.26**	**134**	PKPbc	PKPbc	12 11 54.5	0.0
	7.1nm,0.6s,baz=237,slow=4.7,SNR=17						
DBIC	**Dimbokro**	**160.92**	**270**	PKPab	PKPab	12 12 54.8	+0.4
	3.8nm,0.9s,baz=180,slow=12,SNR=6.4						

IDC ***07*** *11:59:45.3±0.3, 3135N×9784E, h0km, mb5.3/31, mb1 5.4/33, mb1mx5.3/34, mbtmp5.3/33, ML4.8/2, MS4.8/15, Ms1 4.8/15, ms1mx4.6/30, Error ellipse: s-maj=12.1km s-min=7.3km az=55.0*
ISCJB ***07*** *11:59:46.2±0.1, 3132N±002×9766E±002, h12km, mb5.4/255, MS5.1/179, Error ellipse: s-maj=2.6km s-min=1.9km az=1.8*
GCMT ***07*** *11:59:47.6±0.2, 3144N×9795E, h14km±1km, MW5.5/86, Moment Tensor Solution. s45,c56; s86,c173; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.84±.09; $M_{\theta\theta}$2.13±.06; $M_{\phi\phi}$-1.29±.06; $M_{r\theta}$-0.48±.11; $M_{\theta\phi}$0.99±.04; $M_{\phi r}$0.10±.15; Best double couple: $M_0$2.03900×10^{17} NP1:ϕ_s210.00000°, δ73.00000°, λ-173.00000°. NP2: ϕ_s118.00000°, δ84.00000°, λ-17.00000°. Principal axes: T 2.4540, Plg8.0000°, Azm165.0000°; N -0.8320, Plg72.0000°, Azm279.0000°; P -1.6230, Plg17.0000°, Azm73.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
BGS ***07*** *11:59:47.5±2.2, 3136N×9779E, h12km, mb5.5*
NEIC ***07*** *11:59:47.6±0.1, 3136N×9779E, mb5.6/155, MS5.1/142, Error ellipse: s-maj=3.3km s-min=2.1km az=204.0*
NEIC Felt at Chengdu.
BJI ***07*** *11:59:47.5, 3139N×9770E, h32km, mB5.4, mb5.4, ML5.4, Ms5.6, Msz5.5*
MOS ***07*** *11:59:48.7±0.8, 3135N×9780E, h33km, mb5.7/101, MS5.0/42, Error ellipse: s-maj=6.4km s-min=3.4km az=124.5*
CRAAG ***07*** *11:59:49.2, 3145N×9780E, Mb5.5*
SZGRF ***07*** *11:59:51.0, 3159N×9721E, h13km, mb5.8, Xizang*
DMN ***07*** *12:01:41.9±8.3, 2950N×88.10E, h60km, Error ellipse: s-maj=200.9km s-min=16.8km az=59.0*
ISC 07 11:59:47.9±0.1, 3134N±002×9773E±002, h13km, h13km±.6km: pP-P, n1145, σ0°90/996, mb5.4/256, MS5.1/179, 138C-177D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**5.18**	**93**	P	**Pn**	**12 01 08.7**	**+3.5**
CD2				PG	**Pg**	**12 01 25.3**	**-1.9**
CD2				SG	**Sg**	**12 02 29.7**	**-4.7**
CD2				Smax			
	comp=N,3μm,1.5s						
CD2				Smax			
	comp=E,4μm,1.1s						
CD2				LR	LR		
	comp=Z,43μm,6.9s						
LSA	**Lhasa**	**5.91**	**256**	P	**Pn**	**12 01 13.8**	**-1.4**
LSA				PG	**Pg**	**12 01 38.5**	**-2.6**
LSA				LR	LR		
	comp=E,31μm,8.9s						
LSA				LR	LR		
	comp=Z,44μm,9.5s						
LSA	**Lhasa**	**5.91**	**256**	*e*P	**Pn**	**12 01 18.4**	**+3.2**
LSA				pmax	pmax		
	comp=Z,649nm,0.9s						
LSA	**Lhasa**	**5.91**	**256**	*e*Pn	**Pn**	**12 01 18.4**	**+3.2**
	comp=Z,649nm,0.9s						
LZH	**Lanzhou**	**6.95**	**45**	⇓P	**Pn**	**12 01 32.3**	**+2.8**
LZH				S	**Sn**	**12 02 42.1**	**-6.3**
LZH				LR	LR		
	comp=N,53μm,9.4s						
LZH				LR	LR		
	comp=Z,59μm,10.7s						
IMP	**Imphal**	**7.34**	**208**	*i* P	**Pn**	**12 01 37.0**	**+2.1**
IMP				*i* x	x	12 03 00.0	
KMI	**Kunming**	**7.61**	**143**	P	**Pn**	**12 01 40.7**	**+2.2**
KMI				S	**Sn**	**12 03 08.6**	**+4.0**
KMI				LR	LR		
	comp=N,23μm,8.7s						
KMI				LR	LR		
	comp=E,30μm,6.1s						
KMI				LR	LR		
	comp=Z,16μm,6.9s						
SHL	**Shillong**	**7.72**	**223**	*e*P	**Pn**	**12 01 41.0**	**+1.0**
SHL				*e*x	x	12 03 08.0	
GTA	**Gaotai**	**8.23**	**11**	*e*P	**Pn**	**12 01 47.9**	**+0.9**
GTA				AP		12 01 54.8	
GTA				XP		12 01 59.6	
GTA				S	**Sn**	**12 03 18.4**	**-1.5**
GTA				XS		12 03 29.1	
GTA				LG1		12 03 58.0	
GTA				LG2		12 04 11.6	
GTA				SCP	ScP	12 11 52.4	+0.2
GTA				SCS	ScS	12 15 24.6	-1.4
GTA				AMB	AMB		
	comp=Z,641nm,7.6s						
GTA				LR	LR		
	comp=N,23μm,10.3s						
GTA				LR	LR		
	comp=E,79μm,10.6s						
GTA				LR	LR		
	comp=Z,20μm,11.0s						
GTK	**Gangtok**	**8.90**	**246**	*ex*	x	12 02 41.0	
GYA	**Guiyang**	**9.21**	**120**⇓	*i*P	**Pn**	**12 02 00.4**	**-0.2**
GYA				PP		12 02 12.4	
GYA				XP		12 02 16.8	
GYA				S	**Sn**	**12 03 41.0**	**-3.1**
GYA				SS		12 04 00.8	
GYA				AMB	AMB		
	comp=Z,100nm,1.0s						
GYA				AMB	AMB		
	comp=Z,540nm,7.2s						
GYA				LR	LR		
	comp=Z,30μm,9.9s						
AGT	**Agartala**	**9.39**	**219**	*i* P	**Pn**	**12 02 02.0**	**-1.0**
AGT				*i* x	x	12 03 37.0	
XAN	**Xi'an**	**9.81**	**71**	P	**Pn**	**12 02 09.3**	**+0.6**
XAN				AP		12 02 17.5	
XAN				PP		12 02 18.0	
XAN				XP		12 02 20.0	
XAN				S	**Sn**	**12 04 01.7**	**+3.1**
XAN				SS		12 04 15.1	
XAN				PCP	PcP	12 08 18.2	-3.9
XAN				AMB	AMB		
	comp=Z,122nm,1.1s						
XAN				AMB	AMB		
	comp=Z,1μm,10.7s						
XAN				LR	LR		
	comp=N,7μm,10.2s						
XAN				LR	LR		
	comp=E,13μm,11.5s						
XAN				LR	LR		
	comp=Z,22μm,11.2s						
JIRN	**Jiri**	**10.70**	**253**	*e*P	**Pn**	**12 02 21.7**	**+0.7**
	comp=Z,201nm,0.5s						
SHBG	**Sahibganj**	**10.76**	**238**	*e*P	**Pn**	**12 02 19.5**	**-2.3**

GUN	**Gumba**	**10.86 255**	*e*P	**Pn**	**12 02 22.4**	**-0.8**
	comp=Z,420nm,0.6s					
PKI	**Pulchoki**	**11.38 254**	*e*P	**Pn**	**12 02 29.2**	**-1.0**
	comp=Z,214nm,0.6s					
PKIN	**Phulchoki**	**11.38 254**	*e*P	**Pn**	**12 02 29.2**	**-1.1**
	comp=Z,303nm,0.9s					
KKN	**Kakani**	**11.40 255**	*e*P	**Pn**	**12 02 29.0**	**-1.5**
	comp=Z,201nm,0.6s					
CHRT	**Chiangrai**	**11.57 170**	⇑P	**Pn**	**12 02 35.0**	**+2.1**
	comp=Z,1μm,1.0s					
DMN	**Daman**	**11.61 255**	*e*P	**Pn**	**12 02 31.8**	**-1.6**
GKN	**Gorkha**	**11.86 257**	*e*P	**Pn**	**12 02 33.8**	**-3.0**
	comp=Z,108nm,0.4s					
DANN	**Dangsing**	**12.49 260**	*e*P	**Pn**	**12 02 42.2**	**-3.2**
	comp=Z,239nm,0.5s					
NANT	**Nan**	**12.77 167**	⇓P	**Pn**	**12 02 50.9**	**+1.6**
	comp=Z,750nm,1.0s					
KOLN	**Koldanda**	**12.81 257**	*e*P	**Pn**	**12 02 47.3**	**-2.4**
	comp=Z,286nm,0.7s					
BOK	**Bokaro**	**12.91 237**	*e*P	**Pn**	**12 02 49.7**	**-1.5**
BOK			AMb	AMB	12 03 09.8	
	comp=Z,235nm,1.4s					
BOK			*ex*	x	12 04 55.4	
BTO	**Baotou**	**13.57 44**	*e*P	**Pn**	**12 02 59.2**	**-0.9**
BTO			LR	LR		
	comp=N,14μm,13.7s					
BTO			LR	LR		
	comp=E,8μm,13.2s					
TIY	**Taiyuan**	**13.68 58**	P	**Pn**	**12 02 59.5**	**-2.1**
TIY			S	**Sn**	**12 05 37.4**	**+4.0**
TIY			LR	LR		
	comp=N,10μm,6.3s					
TIY			LR	LR		
	comp=E,21μm,7.4s					
TIY			LR	LR		
	comp=Z,24μm,9.6s					
WHN	**Wuhan**	**14.29 89**	⇓P	**Pn**	**12 03 07.3**	**-2.6**
WHN			LR	LR		
	comp=Z,22μm,11.2s					
HHC	**Hu-ho-hao-te**	**14.65 46**	⇓*i*P	**Pn**	**12 03 13.4**	**-1.4**
HHC			AP	pP	12 03 20.9	-3.8
HHC			PP		12 03 25.4	
HHC			S	**Sn**	**12 05 55.0**	**-2.0**
HHC			XS	sS	12 06 07.2	-15
HHC			SS		12 06 12.6	
HHC			AMB	AMB		
	comp=Z,698nm,1.2s					
HHC			AMB	AMB		
	comp=Z,2μm,4.8s					
HHC			LR	LR		
	comp=Z,39μm,10.6s					
WMQ	**Urumqi**	**14.77 330**	⇑P	**Pn**	**12 03 14.0**	**-2.4**
WMQ			AP	pP	12 03 22.0	-4.0
WMQ			PP		12 03 26.0	
WMQ			S	**Sn**	**12 05 54.0**	**-5.9**
WMQ			SS		12 06 11.0	
WMQ			AMB	AMB		
	comp=Z,265nm,1.0s					
WMQ			LR	LR		
	comp=N,5μm,5.0s					
WMQ			LR	LR		
	comp=E,6μm,7.0s					
WMQ			LR	LR		
	comp=Z,5μm,6.0s					
LGTI	**Lohaghat**	**15.21 267**	*e*P	**Pn**	**12 03 22.0**	**-0.4**
LGTI			*e*S	**Sn**	**12 06 16.5**	**+5.7**
PTH	**Pithoragarh**	**15.21 268**	*e*P	**Pn**	**12 03 19.2**	**-3.3**
PTH			*e*S	**Sn**	**12 06 12.9**	**+1.9**
JOSI	**Joshimath**	**15.62 272**	*e*P	**Pn**	**12 03 26.9**	**-0.9**
KKTK	**Khon Kaen**	**15.64 162**	P	**Pn**	**12 03 28.0**	**-0.1**
	comp=Z,957nm,0.7s					
NST	**Nakhon Sawan**	**15.75 171**	P	**Pn**	**12 03 25.5**	**-4.1**
	comp=Z,108nm,1.2s					
GZH	**Guangzhou**	**16.12 117**	P	**Pn**	**12 03 30.0**	**-4.4**
GZH			S	**Sn**	**12 06 26.0**	**-7.2**
GZH			LR	LR		
	comp=Z,16μm,8.3s					
QIZ	**Qiongzhong**	**16.43 135**	P	**Pn**	**12 03 39.4**	**+1.1**
QIZ			PP		12 03 53.7	
QIZ			S	**Sn**	**12 06 42.5**	**+2.0**
QIZ			XS	sS	12 06 54.3	-4.0
QIZ			SS		12 07 01.1	
QIZ			AMB	AMB		
	comp=Z,28nm,1.4s					
QIZ			LR	LR		
	comp=N,15μm,9.7s					
QIZ			LR	LR		
	comp=E,20μm,9.4s					
QIZ			LR	LR		
	comp=Z,24μm,10.6s					
QIZ	**Qiongzhong**	**16.43 135**	*e*Pn	**Pn**	**12 03 38.3**	**+0.1**
	comp=Z,79nm,1.0s					
BLSP	**Bilaspur**	**16.67 240**	*e*P	**Pn**	**12 03 39.5**	**-1.9**
BLSP			AMb	AMB	12 03 48.7	
	comp=Z,345nm,1.9s					
BLSP			*ex*	x	12 06 34.9	
TIA	**Tai'an**	**16.83 68**	P	**Pn**	**12 03 43.3**	**0.0**
TIA			AMB	AMB		
	comp=Z,122nm,1.2s					
TIA			AMB	AMB		
	comp=Z,940nm,5.0s					
TIA			LR	LR		
	comp=N,3μm,9.0s					
TIA			LR	LR		
	comp=E,1μm,10.0s					
HKC	**Hong Kong Obse**	**17.20 118**	P	**Pn**	**12 03 56.0**	**+8.0**
HKC			S	**Sn**	**12 07 08.0**	**+8.8**
BJT	**Baijiatuau**	**17.28 55**	*e*P	**Pn**	**12 03 49.4**	**+0.5**
BJT			pmax	pmax		
	comp=Z,255nm,0.9s					
BJT	**Baijiatuau**	**17.28 55**	*e*Pn	**Pn**	**12 03 49.4**	**+0.5**
	comp=Z,254nm,0.9s					
BJI	**Beijing**	**17.29 55**	P	**Pn**	**12 03 49.0**	**0.0**
BJI			AMB	AMB		
	comp=Z,260nm,1.2s					
BJI			AMB	AMB		
	comp=Z,2μm,6.8s					
BJI			LR	LR		
	comp=Z,9μm,15.4s					
UBT	**Ubonrachathani**	**17.35 156**	P	**Pn**	**12 03 51.0**	**+1.1**
SMLA	**Simla**	**17.59 275**	*e*P	**Pn**	**12 03 50.3**	**-2.5**
SMLA			AMb	AMB	12 03 55.3	
	comp=Z,624nm,1.4s					
SDNR	**Sundarnagar**	**17.73 276**	*e*P	**Pn**	**12 03 52.6**	**-1.9**
SDNR			*e*S	**Sn**	**12 07 13.0**	**+1.1**
SONM	**Songino Array**	**17.75 19**	P	**Pn**	**12 03 54.2**	**-0.5**
SONM			S	**Sn**	**12 07 12.6**	**+0.2**
SONM	**Songino Array**	**17.75 19**	P	**Pn**	**12 03 54.2**	**-0.5**
	comp=Z,2.3nm,0.3s,baz=204,slow=10.0,SNR=127					
SONM			S	**Sn**	**12 07 12.6**	**+0.2**
	comp=Z,0.1nm,0.3s,baz=195,slow=11,SNR=3.2					
SONM			PcP	PcP	12 08 30.6	-1.5
	comp=Z,0.3nm,0.3s,baz=187,slow=2.8,SNR=4.6					
SONM			LR	LR	12 10 45.9	
	comp=Z,2μm,21.0s,baz=22,slow=37					
NDI	**New Delhi**	**17.96 267**	*e*P	**Pn**	**12 03 55.2**	**-2.3**
NDI			AMb	AMB	12 03 58.3	
	comp=Z,203nm,2.1s					
NJ2	**Nanjing**	**17.99 82**	*e*P	**Pn**	**12 03 59.6**	**+1.8**
NJ2			AP	pP	12 04 07.3	+5.5
NJ2			XP	sP	12 04 11.5	+8.0
NJ2			PP		12 04 14.2	
NJ2			PPP		12 04 23.1	
NJ2			S	**Sn**	**12 07 15.0**	**-3.3**
NJ2			XS	sS	12 07 29.0	-1.1
NJ2			AMB	AMB		
	comp=Z,110nm,0.9s					
NJ2			AMB	AMB		
	comp=Z,630nm,11.0s					
NJ2			LR	LR		
	comp=N,24μm,19.3s					
NJ2			LR	LR		
	comp=E,8μm,19.1s					
NJ2			LR	LR		
	comp=Z,8μm,19.1s					
AYAN	**Aya Nagar**	**18.09 266**	*e*P	**Pn**	**12 03 56.7**	**-2.3**
AYAN			AMb	AMB	12 04 01.3	
	comp=Z,266nm,1.1s					
SONA	**Sohna**	**18.18 266**	*e*P	**Pn**	**12 03 58.5**	**-1.6**
SONA			AMb	AMB	12 04 02.8	
	comp=Z,372nm,0.9s					
BHK	**Bhakra**	**18.20 276**	*ex*	x	12 04 01.8	
DLH	**Dalhousie**	**18.51 279**	*ex*	x	12 04 00.0	
DLH			*ex*	x	12 04 12.0	
PONG	**Pong**	**18.56 278**	*ex*	x	11 59 50.0	
KUDL	**Kundal**	**18.72 266**	*e*P	**Pn**	**12 04 04.5**	**-2.2**
KUDL			AMb	AMB	12 04 08.8	
	comp=Z,188nm,0.9s					
THN	**Thein Dam**	**18.73 279**	*e*P	**Pn**	**12 04 04.1**	**-2.7**
THN			*ex*	x	12 07 32.2	
VIS	**Vishakhapatnam**	**18.83 227**	*i* P	**Pn**	**12 04 07.2**	**-0.8**
VIS			AMb	AMB	12 04 16.1	
	comp=Z,204nm,1.7s					
VIS			*i* x	x	12 07 33.0	
KHET	**Khetri**	**19.32 266**	*e*P	**Pn**	**12 04 11.7**	**-2.3**
KHET			AMb	AMB	12 04 12.7	
	comp=Z,111nm,1.3s					
QZH	**Quanzhou**	**19.45 104**	⇓*i*P	**Pn**	**12 04 14.4**	**-1.2**
QZH			S	**Sn**	**12 07 53.2**	**-0.6**
QZH			AMB	AMB		
	comp=Z,160nm,0.9s					
QZH			AMB	AMB		
	comp=Z,3μm,7.2s					
QZH			LR	LR		
	comp=N,31μm,12.2s					
QZH			LR	LR		
	comp=E,16μm,12.8s					
QZH			LR	LR		
	comp=Z,12μm,8.5s					
ZAK	**Zakamensk**	**19.47 11**	*e*P	**Pn**	**12 04 15.2**	**-0.3**
MK31	**Makanchi Array**	**19.49 327**	*e*P	**Pn**	**12 04 14.4**	**-1.4**
MKAR	**Makanchi Array**	**19.49 327**	P	**Pn**	**12 04 14.3**	**-1.5**
MKAR			S	**Sn**	**12 07 55.0**	**+0.8**
MKAR	**Makanchi Array**	**19.49 327**	P	**Pn**	**12 04 14.2**	**-1.5**
	comp=Z,3.4nm,0.3s,baz=140,slow=14,SNR=115					
MKAR			S	**Sn**	**12 07 55.0**	**+0.8**
	baz=198,slow=11,SNR=3.1					
MKAR			ScP	ScP	12 12 10.8	0.0
	comp=Z,0.1nm,0.3s,baz=103,slow=5.4,SNR=6.4					
MKAR			LR	LR	12 12 46.8	
	comp=Z,3μm,18.6s,baz=9.5,slow=40					
KSH	**Kashi**	**19.49 301**	*e*P	**Pn**	**12 04 16.0**	**+0.1**
KSH			*e*AP	pP	12 04 26.1	+7.9
KSH			*e*XP	sP	12 04 29.3	+9.4
KSH			*e*PP		12 04 34.1	
KSH			*e*PPP		12 04 43.3	
KSH			*e*S	**Sn**	**12 07 44.6**	**-10**
KSH			*e*XS	sS	12 08 01.0	+0.7
KSH			*e*SS		12 08 15.0	
KSH			AMB	AMB		
	comp=Z,2μm,1.5s					
KSH			LR	LR		
	comp=Z,27μm,10.4s					
NGP	**Nagpur**	**19.56 243**	*e*P	**Pn**	**12 04 14.6**	**-2.3**
NGP			*ex*	x	12 04 19.9	
	comp=Z,177nm,1.2s					
NGP			*ex*	x	12 07 54.6	
BHPL	**Bhopal**	**19.75 251**	*e*P	**Pn**	**12 04 17.3**	**-1.8**
BHPL			AMb	AMB	12 04 18.6	
	comp=Z,411nm,0.7s					
SSE	**Sheshan**	**20.06 85**	P	**P**	**12 04 21.8**	**+0.9**
SSE			S	**S**	**12 08 03.8**	**-2.3**
SSE			XS	sS	12 08 18.0	+6.1
SSE			AMB	AMB		
	comp=Z,448nm,0.8s					
SSE			AMB	AMB		
	comp=Z,1μm,8.6s					
SSE			LR	LR		
	comp=N,4μm,8.9s					
SSE			LR	LR		
	comp=E,6μm,8.9s					
SSE			LR	LR		
	comp=Z,8μm,13.8s,MS5.2					
PBA	**Port Blair**	**20.12 194**	*ex*	x	12 04 36.7	
PBA			*e*S	x	12 08 10.4	
ULHL	**Ulahol**	**20.31 308**	P	**P**	**12 04 25.3**	**+1.7**
	SNR=41					
AAA	**Alma-Ata**	**20.32 312**	*i* P	**P**	**12 04 29.8**	**+6.2**
AAA			pmax	pmax		
	comp=Z,1μm,1.6s					
AAA			MLR	MLR		
	comp=Z,7μm,9.6s					
MOY	**Mondy**	**20.45 6**	*e*P	**P**	**12 04 26.2**	**+1.2**
MOY			pmax	pmax		
	comp=Z,733nm,2.0s					
CHCP	**Chirah Chowk**	**20.76 283**	⇑P	**P**	**12 04 28.4**	**-0.1**
AJM	**Ajmer**	**20.77 262**	*e*P	**P**	**12 04 27.0**	**-1.7**
AJM			AMb	AMB	12 04 34.1	
	comp=Z,1μm,1.6s					
TLY	**Talaya**	**20.79 10**	P	**P**	**12 04 29.5**	**+0.9**
	comp=Z,322nm,0.9s,SNR=19					
KZA	**Kyzart**	**20.91 307**	P	**P**	**12 04 32.2**	**+2.1**
	SNR=154					
DL2	**Dalian**	**20.92 62**	*i* P	**P**	**12 04 30.1**	**-0.1**
DL2			XP	sP	12 04 47.6	+12
DL2			PP		12 04 50.4	
DL2			S	**S**	**12 08 19.6**	**-3.5**
DL2			XS	sS	12 08 31.5	+2.7
DL2			PCP	PcP	12 08 38.1	+0.2
DL2			SS		12 08 45.1	
DL2			AMB	AMB		
	comp=Z,250nm,0.9s					
DL2			AMB	AMB		
	comp=Z,450nm,6.7s					
DL2			LR	LR		
	comp=N,2μm,15.5s,MS5.0					
DL2			LR	LR		
	comp=E,4μm,15.7s,MS5.0					
DL2			LR	LR		
	comp=Z,5μm,13.0s,MS5.1					
TKM2	**Tokmak 2**	**21.03 310**	*e*P	**P**	**12 04 32.6**	**+1.2**
TKM2			*e**PP		12 04 41.8	
TKM2			pmax	pmax		
	comp=Z,210nm,1.2s,mb5.3					
TKM2	**Tokmak 2**	**21.03 310**	*e*P	**P**	**12 04 32.6**	**+1.3**
	comp=Z,206nm,1.2s,mb5.3					
TKM2			LR	LR		
	comp=Z,936nm,22.0s,MS4.1					
TKM2	**Tokmak 2**	**21.03 310**	P	**P**	**12 04 32.8**	**+1.4**
	SNR=34					
KBK	**Karagaybulak**	**21.35 308**	P	**P**	**12 04 36.7**	**+1.9**
	SNR=66					
AKL	**Akola**	**21.38 245**	*e*P	**P**	**12 04 34.1**	**-1.3**
AKL			*ex*	x	12 04 42.8	
	comp=Z,850nm,1.4s					
IRK	**Irkutsk**	**21.43 11**	⇑*i*P	**P**	**12 04 36.2**	**+0.6**
IRK			*e*S	**S**	**12 08 25.7**	**-7.2**
IRK			pmax	pmax		
	comp=Z,528nm,1.2s,mb5.7					
UCH	**Uchtor**	**21.47 307**	*e*P	**P**	**12 04 37.6**	**+1.4**
	comp=Z,149nm,1.0s,mb5.3					
UCH			*e*pP		12 04 40.8	
UCH			LR	LR		
	comp=Z,3μm,20.0s,MS4.6					
UCH	**Uchtor**	**21.47 307**	P	**P**	**12 04 37.6**	**+1.5**
	SNR=116					
CHMS	**Chumysh**	**21.62 309**	P	**P**	**12 04 39.0**	**+1.2**
	SNR=28					
FRU	**Bishkek**	**21.64 308**	⇑*i*P	**P**	**12 04 28.5**	**-9.5**
FRU			*e*		12 05 05.0	
FRU			*i* S	**S**	**12 08 41.0**	**+3.7**
FRU			*i*		12 08 46.0	
FRU			pmax	pmax		
	comp=Z,720nm,1.5s,mb5.9					
FRU			pmax	pmax		
	comp=Z,900nm,2.0s,mb5.8					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 38.9**	**+0.9**
	comp=Z,2μm,1.1s,mb6.4,SNR=86					
AAK	**Ala-Archa**	**21.65 308**	⇑*e*P	**P**	**12 04 38.4**	**+0.4**
AAK			pmax	pmax		
	comp=Z,543nm,1.5s,mb5.8					
AAK			MLR	MLR		
	comp=Z,2μm,14.0s,MS4.8					
AAK	**Ala-Archa**	**21.65 308**	*e*P	**P**	**12 04 38.4**	**+0.4**
	comp=Z,241nm,1.0s,mb5.6					
AAK			LR	LR		
	comp=Z,5μm,21.0s,MS4.9					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.0**	**+1.0**
	SNR=291					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 38.7**	**+0.7**
	comp=Z,95nm,0.8s,mb5.3,baz=115,slow=7.0,SNR=60					
AAK	**Ala-Archa**	**21.65 308**	P	**P**	**12 04 39.5**	**+1.5**
	SNR=49					
TATO	**Taipei**	**21.86 101**	*e*P	**P**	**12 04 40.5**	**0.0**
	comp=Z,230nm,0.9s,mb5.6					
YHNB	**Yeheng**	**21.88 102**	*e*P	**P**	**12 04 41.1**	**+0.3**
USP	**Ospenovka**	**21.91 309**	P	**P**	**12 04 41.4**	**+0.7**
	SNR=53					
AML	**Almayashu**	**22.00 306**	*e*P	**P**	**12 04 43.2**	**+1.4**
	comp=Z,169nm,1.0s,mb5.4					
AML			LR	LR		
	comp=Z,5μm,19.0s,MS4.9					
AML	**Almayashu**	**22.00 306**	P	**P**	**12 04 43.2**	**+1.4**
	SNR=29					
THW	**Thamme Wali**	**22.06 281**	⇑P	**P**	**12 04 41.5**	**-1.0**
EKS2	**Erkin-Say**	**22.14 307**	*e*P	**P**	**12 04 44.5**	**+1.2**
	comp=Z,487nm,1.3s,mb5.8					
EKS2			LR	LR		
	comp=Z,4μm,20.0s,MS4.9					
EKS2	**Erkin-Say**	**22.14 307**	P	**P**	**12 04 44.7**	**+1.4**
	SNR=28					
HYB	**Hyderabad**	**22.25 236**	*e*P	**P**	**12 04 44.0**	**-0.7**
HYB			*e*S	**S**	**12 08 52.0**	**+2.5**
HYB			pmax	pmax		
	comp=Z,370nm,1.0s,mb5.8					
HYB	**Hyderabad**	**22.25 236**	*e*P	**P**	**12 04 44.0**	**-0.7**
	comp=Z,370nm,1.0s,mb5.8					
HYB			*e*S	**S**	**12 08 52.0**	**+2.5**
HYB			*e*		12 13 16.0	
HYB	**Hyderabad**	**22.25 236**	⇓*i*P	**P**	**12 04 44.0**	**-0.7**
	comp=Z,370nm,1.0s,mb5.8					
HYB			*e*S	**S**	**12 08 52.0**	**+2.5**
HYB			LR	LR	12 13 16.0	
	comp=Z,7.0nm,12.0s					
NACB	**Ninganchiao**	**22.26 103**	*e*P	**P**	**12 04 45.4**	**+0.6**
LATR	**Latur**	**23.07 241**	*e*P	**P**	**12 04 54.3**	**+1.0**
LATR			AMb	AMB	12 04 59.0	
	comp=Z,706nm,1.7s,mb5.8					
SNY	**Shenyang**	**23.16 56**	⇓P	**P**	**12 04 53.3**	**-0.8**
SNY			S	**S**	**12 09 01.9**	**-3.4**
SNY			AMB	AMB		
	comp=Z,205nm,1.0s,mb5.5					
SNY			LR	LR		
	comp=N,4μm,10.8s,MS5.4					
SNY			LR	LR		
	comp=E,7μm,10.8s,MS5.4					
SNY			LR	LR		
	comp=Z,9μm,11.4s,MS5.5					
DRP	**Derazinda**	**23.45 278**	P	**P**	**12 04 57.3**	**+0.1**
JASL	**Jaisalmer**	**23.82 266**	*e*P	**P**	**12 05 00.0**	**-0.8**
JASL			AMb	AMB	12 05 04.3	
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.4**	**+0.1**
	comp=Z,523nm,1.5s,mb5.7,SNR=38					
KURK	**Kurchatov**	**24.01 329**	*ce*P	**P**	**12 05 01.0**	**-1.3**
KURK	**Kurchatov**	**24.01 329**	*e*P	**P**	**12 05 01.7**	**-0.6**
	comp=Z,328nm,1.5s,mb5.5					
KURK			LR	LR		
	comp=Z,4μm,22.0s,MS4.9					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
KURK	**Kurchatov**	**24.01 329**	P	**P**	**12 05 02.1**	**-0.2**
	SNR=100					
SNG	**Songkhla**	**24.19 173**	P	**P**	**12 05 05.0**	**+0.8**
	comp=Z,206nm,0.9s,mb5.6					
KBL	**Kabul**	**24.25 285**	*e*P	**P**	**12 05 05.3**	**+0.6**
MDRS	**Chennai**	**24.28 225**	*e*P	**P**	**12 05 05.4**	**+0.3**
HIA	**Hailar**	**24.40 36**	*e*P	**P**	**12 05 05.5**	**-0.3**
HIA			pmax	pmax		
	comp=Z,264nm,1.2s					
HIA			MLR	MLR		
	comp=Z,3μm,20.0s					
HIA	**Hailar**	**24.40 36**	*e*P	**P**	**12 05 05.5**	**-0.4**
	comp=Z,264nm,1.2s,mb5.5					
HIA			LR	LR		
	comp=Z,3μm,20.0s,MS4.8					
ZAL	**Zalesovo**	**24.43 341**	P	**P**	**12 05 05.9**	**-0.2**
ZAL			S	**S**	**12 09 27.9**	**+2.4**
ZALV	**Zalesovo Beam**	**24.43 341**	P	**P**	**12 05 05.8**	**-0.3**
ZALV			S	**S**	**12 09 27.9**	**+2.3**
ZALV	**Zalesovo Beam**	**24.43 341**	P	**P**	**12 05 05.8**	**-0.3**
	comp=Z,76nm,0.6s,mb5.3,baz=153,slow=10.0,SNR=113					
ZALV			S	**S**	**12 09 27.9**	**+2.3**
	comp=Z,3.4nm,0.8s,baz=154,slow=7.3,SNR=2.3					
KK31	**Karatay Array**	**24.54 306**	*i* P	**P**	**12 05 07.4**	**+0.2**
KK31			pmax	pmax		
	comp=Z,563nm,1.6s,mb5.8					
INCN	**Inchon**	**24.56 68**	*e*P	**P**	**12 05 06.6**	**-0.9**
INCN			LR	LR		
	comp=Z,2μm,20.0s,MS4.7					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
INCN	**Inchon**	**24.56 68**	P	**P**	**12 05 06.1**	**-1.4**
	SNR=14					
POO	**Poona**	**25.07 245**	*e*P	**P**	**12 05 12.2**	**0.0**
POO			AMb	AMB	12 05 17.9	
	comp=Z,356nm,1.3s,mb5.8					
CN2	**Changchun**	**25.12 52**	⇓P	**P**	**12 05 11.8**	**-0.7**
CN2			*e*AP	pP	12 05 21.2	+4.9
CN2			PP		12 05 49.6	
CN2			PCP	PcP	12 08 46.4	-0.1
CN2			*e*S	**S**	**12 09 31.9**	**-4.9**
CN2			SS		12 10 30.7	
CN2			AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
CN2			LR	LR		
	comp=N,7μm,10.0s,MS5.7					
CN2			LR	LR		
	comp=E,9μm,10.0s,MS5.7					
CN2			LR	LR		
	comp=Z,12μm,12.0s,MS5.6					
KAD	**Karad**	**25.53 242**	*e*P	**P**	**12 05 15.7**	**-0.8**
KAD			AMb	AMB	12 05 22.5	
	comp=Z,273nm,1.3s,mb5.6					
KS15	**Wonju Array Si**	**25.55 68**	*e*P	**P**	**12 05 15.3**	**-1.2**
KSRS	**Korea Array**	**25.58 68**	P	**P**	**12 05 15.2**	**-1.6**
	comp=Z,242nm,0.8s,mb5.8,baz=258,slow=8.7,SNR=237					
KSRS			PcP	PcP	12 08 46.4	-1.3
	comp=Z,12nm,0.8s,baz=274,slow=2.1,SNR=9.0					
KSRS			ScP	ScP	12 12 28.6	+1.8
	comp=Z,1.2nm,1.0s,baz=232,slow=1.4,SNR=4.6					
KSRS			LR	LR	12 16 49.0	
	comp=Z,497nm,20.6s,baz=283,slow=40					
NVS	**Novosibirsk**	**25.66 340**	⇓*i*P	**P**	**12 05 16.5**	**-0.8**
NVS			*e*S	**S**	**12 09 45.0**	**-0.2**
NVS			*e*		12 11 01.4	
NVS			pmax	pmax		
	comp=E,160nm,1.4s					
NVS			pmax	pmax		
	comp=Z,190nm,1.4s,mb5.4					
NVS			pmax	pmax		
	comp=N,152nm,1.5s					
NVS			smax			
	comp=N,380nm,2.3s					
NVS			smax			
	comp=E,214nm,2.1s					
BOM	**Bombay**	**25.67 247**	*e*P	**P**	**12 05 17.6**	**-0.1**
BOM			*ex*	x	12 05 22.4	
	comp=Z,257nm,1.2s					
BOM			*ex*	x	12 09 51.5	
KULM	**Kulim**	**26.06 173**	*e*P	**P**	**12 05 21.1**	**-0.1**
KULM	**Kulim**	**26.06 173**	⇑P	**P**	**12 05 21.4**	**+0.2**
BHJ	**Bhuj**	**26.17 259**	*e*P	**P**	**12 05 21.5**	**-0.7**
BHJ			AMb	AMB	12 05 27.6	

comp=Z,404nm,1.0s,mb5.9
KTGM Kuala Trenggan 26.37 168 ⇓P **P 12 05 25.3 +1.3**
SALM Salem 26.64 227 *ex* x 12 05 33.0
IPM Ipoh 26.90 173 ⇑P **P 12 05 28.4 -0.4**
GOA Goa 26.93 240 ⇑*i*P **P 12 05 25.6 -3.5**
GOA *i* S **S 12 10 03.5 -2.5**
JOW Kunigami 27.02 92 P **P 12 05 27.9 -2.0**
comp=Z,46nm,0.9s,mb5.0,baz=331,slow=5.4,SNR=8.1
JOW LR LR 12 18 02.2
comp=Z,2μm,18.3s,MS4.8,baz=116,slow=41
TSI Tuntungan 27.70 178 *e*P **P 12 05 31.0 -5.0**
TSI Tuntungan 27.70 178⇓*e*P **P 12 05 42.0 +6.0**
JNU Nakatsue 28.03 78 P **P 12 05 37.2 -1.6**
comp=Z,92nm,1.0s,mb5.3,baz=296,slow=16,SNR=21
JNU PcP PcP 12 08 53.3 -0.2
comp=Z,36nm,0.9s,baz=42,slow=1.2,SNR=9.1
JNU LR LR 12 17 16.1
comp=Z,1μm,20.2s,MS4.5,baz=24,slow=38
FRIM Kepong 28.19 172 ⇑P **P 12 05 41.1 +0.7**
MDJ Mudanjiang 28.20 53 P **P 12 05 38.5 -1.7**
MDJ AP pP 12 05 46.5 +2.4
MDJ XP sP 12 05 51.1 +5.4
MDJ S **S 12 10 21.4 -4.1**
MDJ XS sS 12 10 34.9 +3.0
MDJ SCP ScP 12 12 31.2 -3.3
MDJ PCS PcS 12 12 35.5 -0.3
MDJ AMB AMB
comp=Z,20nm,1.6s,mb4.5
MDJ AMB AMB
comp=Z,265nm,7.6s
MDJ LR LR
comp=N,11μm,14.8s,MS5.6
MDJ LR LR
comp=E,4μm,14.1s,MS5.6
MDJ LR LR
comp=Z,6μm,10.3s,MS5.5
MDJ Mudanjiang 28.20 53 *e*P **P 12 05 39.5 -0.8**
comp=Z,15nm,0.8s,mb4.7
MDJ LR LR
comp=Z,317nm,21.0s
PSI Prapat 28.41 177 P **P 12 05 42.2 -0.1**
comp=Z,8.9nm,0.5s,mb4.7,baz=339,slow=12,SNR=7.7
BOD Bodaibo 28.74 18 *e*P **P 12 05 44.2 -0.7**
BOD pmax pmax
comp=Z,19nm,1.1s,mb4.7
PALK Pallekele 28.75 217 PFAKE 12 06 00.0 +15
PALK LR LR
comp=Z,3μm,20.0s,MS4.9
BVAR Borovoye Array 29.36 326 P **P 12 05 50.4 0.0**
BVAR 12 08 56.4
BVAR 12 12 37.1
BVAR Borovoye Array 29.36 326 P **P 12 05 50.4 0.0**
comp=Z,23nm,1.0s,mb4.9,baz=119,slow=12,SNR=26
BVAR PcP PcP 12 08 56.4 0.0
comp=Z,6.2nm,0.5s,baz=69,slow=0.9,SNR=9.2
BVAR ScP ScP 12 12 37.1 -0.8
comp=Z,3.1nm,0.8s,baz=158,slow=4.7,SNR=3.9
BVAR LR LR 12 19 20.6
comp=Z,2μm,19.2s,MS4.7,baz=321,slow=40
BRVK Borovoye 29.43 326 P **P 12 05 51.4 +0.3**
comp=Z,248nm,0.8s,mb6.0,SNR=14
BRVK Borovoye 29.43 326 *e*P **P 12 05 51.2 +0.1**
BRVK LR LR
comp=Z,3μm,22.0s,MS4.8
BRVK Borovoye 29.43 326 P **P 12 05 51.7 +0.7**
SNR=22
BRVK Borovoye 29.43 326 P **P 12 05 51.7 +0.7**
SNR=22
BRVK Borovoye 29.43 326 P **P 12 05 51.7 +0.7**
SNR=22
BRVK Borovoye 29.43 326 P **P 12 05 51.7 +0.7**
SNR=22
BRVK Borovoye 29.43 326 P **P 12 05 51.7 +0.7**
SNR=22
BRVK Borovoye 29.43 326 P **P 12 05 51.7 +0.7**
SNR=22
VLA Vladivostok 29.43 57*c i*P **P 12 05 49.7 -1.5**
VLA pmax pmax
comp=Z,212nm,1.3s,mb5.7
VLA MLR MLR
comp=Z,5μm,17.0s,MS5.2
VLA Vladivostok 29.43 57 *i*P **P 12 05 51.0 -0.2**
KGM Kluang 29.64 169 ⇓P **P 12 05 54.2 +0.9**
MYKOM Kota Tinggi 29.95 168 ⇓P **P 12 05 57.6 +1.5**
ZRNK Zerenda 30.00 324 *i*P **P 12 05 55.7 -0.4**
ZRNK pmax pmax
comp=Z,40nm,1.1s,mb5.1
KDM Kudat 30.16 140 ⇓P **P 12 05 58.7 +0.8**
KKM Kota Kinabalu 30.55 142 *e*P **P 12 06 01.6 +0.2**
KKM Kota Kinabalu 30.55 142 ⇓P **P 12 06 02.6 +1.3**
KLR Kul'dur 31.16 45 *e*P **P 12 06 00.0 -6.4**
KLR *e* 12 08 55.0
KLR *e* 12 13 09.0
KLR pmax pmax
comp=E,140nm,1.4s
KLR pmax pmax
comp=Z,200nm,1.4s,mb5.8
KLR MLR MLR
comp=Z,25μm,13.0s,MS6.1
SDKM Sandakan 31.41 140 ⇑P **P 12 06 09.2 +0.2**
BTM Bintulu 31.51 150 ⇑P **P 12 06 11.7 +1.9**
NRGR Nerungri 31.51 29 *i*P **P 12 06 09.9 +0.5**
NRGR S **S 12 11 15.7 -1.5**
NRGR smax
comp=E,65nm,0.6s
CLNS Chul'man 31.70 29*d i*P **P 12 06 11.7 +0.6**
CLNS *e* 12 08 59.6
CLNS *e* 12 13 11.2
CLNS pmax pmax
comp=E,40nm,0.9s
CLNS pmax pmax
comp=Z,65nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,38nm,0.8s
CLNS MLR MLR
comp=Z,4μm,13.0s,MS5.3
CLNS MLR MLR
comp=N,3μm,12.0s,MS5.2
CLNS MLR MLR
comp=E,2μm,14.0s,MS5.2
SBUM Sibu 31.82 152 ⇑P **P 12 06 14.4 +1.9**
KSM Kuching 32.00 156 *e*P **P 12 06 15.1 +1.0**
KSM Kuching 32.00 156 ⇑P **P 12 06 15.8 +1.7**
MYLDM Lahad Datu 32.52 139 ⇓P **P 12 06 21.0 +2.3**
TSM Tawau 32.90 141 ⇑P **P 12 06 23.6 +1.6**
HABR Khabarovsk 32.95 48⇓*i*P **P 12 06 21.0 -1.1**
HABR *e* 12 06 34.4
HABR *e* 12 07 29.5
HABR *e* 12 07 41.5
HABR *e* 12 09 04.9
HABR *e*S **S 12 11 37.0 -2.8**
HABR *e* 12 11 53.5
HABR *e* 12 13 33.1
HABR pmax pmax
comp=Z,68nm,1.4s,mb5.4
HABR MLR MLR
comp=Z,3μm,13.1s,MS5.2
ABKT Ailbek 33.06 292 P **P 12 06 24.0 +0.7**
comp=Z,1μm,1.0s,SNR=24
AB31 Akbulak array 33.48 313 *i*P **P 12 06 27.2 +0.4**
MAJO Matsushiro 33.80 70 *e*P **P 12 06 27.7 -2.0**
MAJO LR LR
comp=Z,983nm,20.0s,MS4.5
MAT Matsushiro 33.80 70 P **P 12 06 27.0 -2.7**
MAT *e*S **S 12 11 46.0 -7.3**
MJAR Matsushiro Arr 33.80 70 P **P 12 06 28.2 -1.5**
MJAR 12 09 08.4
MJAR Matsushiro Arr 33.80 70 P **P 12 06 28.2 -1.5**
MJAR PcP PcP 12 09 08.4 -0.3
MJAR ScP ScP 12 12 51.9 -1.3
MJAR Matsushiro Arr 33.80 70 P **P 12 06 28.2 -1.5**
comp=Z,37nm,0.8s,mb5.3,baz=275,slow=10,SNR=106
MJAR PcP PcP 12 09 08.4 -0.3
comp=Z,13nm,0.9s,baz=272,slow=3.3,SNR=12
MJAR ScP ScP 12 12 51.9 -1.3
comp=Z,3.6nm,0.9s,baz=276,slow=3.3,SNR=6.5
AKTO Aktyubinsk 35.03 315 ScP ScP 12 12 56.8 -0.5
comp=Z,9.0nm,1.0s,baz=101,slow=2.2,SNR=8.3
AKTO LR LR 12 22 29.6
comp=Z,3μm,18.0s,MS5.0,baz=117,slow=39
WBK Wadi Bani Khal 35.48 265 P **P 12 06 48.4 +4.1**
SNR=6.8
WBK Wadi Bani Khal 35.48 265 P **P 12 06 48.4 +4.1**
SNR=6.8
WBK Wadi Bani Khal 35.48 265 P **P 12 06 48.4 +4.1**
SNR=6.8
WBK Wadi Bani Khal 35.48 265 P **P 12 06 48.4 +4.1**
SNR=6.8
WBK Wadi Bani Khal 35.48 265 P **P 12 06 48.4 +4.1**
SNR=6.8
WBK Wadi Bani Khal 35.48 265 P **P 12 06 48.4 +4.1**
SNR=6.8
DAV Davao City (W) 35.49 127 *e*P **P 12 06 45.8 +1.3**
comp=Z,161nm,0.5s,mb6.2
DAV LR LR
comp=Z,3μm,20.0s,MS5.1
DAV Davao City (W) 35.49 127⇓*e*P **P 12 06 35.7 -8.9**
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SMDO Samad 36.09 267 P **P 12 06 53.6 +4.0**
SNR=7.0
SVE Sverdlovsk 36.15 326⇓*e*P **P 12 06 50.6 +0.9**
SVE pmax pmax
comp=Z,126nm,1.4s,mb5.7
SVE MLR MLR
comp=Z,2μm,16.0s,MS5.0
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
JMDO Jabal Madar 36.31 266 P **P 12 06 55.2 +3.8**
SNR=5.3
BSY Bisya 36.94 267 P **P 12 06 57.3 +0.5**
SNR=9.5
BSY Bisya 36.94 267 P **P 12 06 57.3 +0.5**
SNR=9.5
BSY Bisya 36.94 267 P **P 12 06 57.3 +0.5**
SNR=9.5
BSY Bisya 36.94 267 P **P 12 06 57.3 +0.5**
SNR=9.5
BSY Bisya 36.94 267 P **P 12 06 57.3 +0.5**
SNR=9.5
BSY Bisya 36.94 267 P **P 12 06 57.3 +0.5**
SNR=9.5
ARU Arti 36.98 324 P **P 12 06 57.1 +0.3**
comp=Z,512nm,1.2s,mb6.2,SNR=13
ARU Arti 36.98 324⇑*e*P **P 12 06 56.8 0.0**
ARU pmax pmax
comp=Z,146nm,1.4s,mb5.6
ARU MLR MLR
comp=Z,1μm,18.0s,MS4.8
ARU Arti 36.98 324 *e*P **P 12 06 56.9 +0.2**
comp=Z,165nm,1.3s,mb5.7
ARU LR LR
comp=Z,2μm,20.0s,MS4.8
YAK Yakutsk 36.99 24⇑*e*P **P 12 06 56.2 -0.6**
YAK pmax pmax
comp=Z,172nm,1.0s,mb5.8
YAK MLR MLR
comp=Z,2μm,19.0s,MS4.9
YAK Yakutsk 36.99 24 *e*P **P 12 06 56.3 -0.5**
YAK LR LR
comp=Z,1μm,19.0s,MS4.7
ASHO Ashiyiah 37.22 270 P **P 12 07 00.5 +1.3**
SNR=10
ASHO Ashiyiah 37.22 270 P **P 12 07 00.5 +1.3**
SNR=10
ASHO Ashiyiah 37.22 270 P **P 12 07 00.5 +1.3**
SNR=10
ASHO Ashiyiah 37.22 270 P **P 12 07 00.5 +1.3**
SNR=10
ASHO Ashiyiah 37.22 270 P **P 12 07 00.5 +1.3**
SNR=10
ASHO Ashiyiah 37.22 270 P **P 12 07 00.5 +1.3**
SNR=10
ERM Erimo 37.57 61 P **P 12 07 02.7 +0.7**
comp=Z,2μm,0.9s,SNR=7.4
ERM Erimo 37.57 61 P **P 12 07 01.8 -0.2**
ERM pmax pmax
comp=Z,220nm,0.9s,mb5.9
ERM Erimo 37.57 61⇑*i*P **P 12 07 01.4 -0.6**
ERM LR LR
comp=Z,3μm,19.0s,MS5.1
YSS Yuzh-Sakhalins 37.69 52⇑*i*P **P 12 07 02.0 -0.9**
YSS *e* 12 07 20.1
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.4
YSS MLR MLR
comp=Z,3μm,12.0s,MS5.3
YSS MLR MLR
comp=E,3μm,14.0s
YSS Yuzh-Sakhalins 37.69 52 *e*P **P 12 07 02.1 -0.8**
comp=E,130nm,1.2s,mb5.5
YSS LR LR
comp=Z,2μm,20.0s,MS5.0
MAK Makhachkala 41.12 301 *e*P **P 12 07 34.7 +3.0**
MAK *e*S **S 12 13 47.6 +3.2**
MAK pmax pmax
comp=Z,417nm,1.6s,mb5.8
MAK MLR MLR
comp=Z,3μm,20.0s,MS5.2
RBK Rabkut 41.69 261 P **P 12 07 36.8 +0.2**
SNR=7.7
RBK Rabkut 41.69 261 P **P 12 07 36.8 +0.2**
SNR=7.7
RBK Rabkut 41.69 261 P **P 12 07 36.8 +0.2**
SNR=7.7
RBK Rabkut 41.69 261 P **P 12 07 36.8 +0.2**
SNR=7.7
RBK Rabkut 41.69 261 P **P 12 07 36.8 +0.2**
SNR=7.7
WHFO Wadi Hawf 41.87 262 P **P 12 07 37.5 -0.5**
SNR=17
WHFO Wadi Hawf 41.87 262 P **P 12 07 37.5 -0.5**
SNR=17
WHFO Wadi Hawf 41.87 262 P **P 12 07 37.5 -0.5**
SNR=17
WHFO Wadi Hawf 41.87 262 P **P 12 07 37.5 -0.5**
SNR=17
WHFO Wadi Hawf 41.87 262 P **P 12 07 37.5 -0.5**
SNR=17
DGRG David-gareji 42.77 299 P **P 12 07 46.5 +1.4**
UMR Umm Al-Rimmam 42.86 281 *e*P **P 12 07 45.0 -1.0**
UMR AMb AMB 12 07 50.3
comp=Z,266nm,1.0s,mb5.9
QRN Al-Qurain 42.91 280 *e*P **P 12 07 45.2 -1.2**
QRN AMb AMB 12 07 51.2
comp=Z,222nm,1.2s,mb5.8
MIB Mutribah 43.11 282 *e*P **P 12 07 47.5 -0.5**
MIB AMb AMB 12 07 52.4
comp=Z,565nm,0.8s,mb6.3
RDF Al-Radifah 43.17 280 *e*P **P 12 07 47.7 -0.8**
RDF AMb AMB 12 07 52.8
comp=Z,412nm,1.0s,mb6.1
MTA Mtatsminda 43.19 299 P **P 12 07 50.5 +2.1**
TBLG Delisi 43.22 299 P **P 12 07 41.4 -7.4**
COCO West Island 43.29 181 PFAKE 12 08 00.0 +11
COCO LR LR
comp=Z,2μm,21.0s,MS5.0
NAY Al-Naaiem 43.34 281 *e*P **P 12 07 49.2 -0.7**
NAY AMb AMB 12 07 54.1
comp=Z,347nm,0.9s,mb6.1
TIXI Tiksi 43.71 14⇑*e*P **P 12 07 50.8 -1.5**
TIXI pmax pmax
comp=Z,89nm,1.4s,mb5.3
TIXI MLR MLR
comp=Z,1μm,18.0s,MS4.9
ONI Oni 44.12 301 P **P 12 07 57.4 +1.4**
DYDN Diyadin 44.22 296 *i*P **P 12 08 01.4 +4.6**
HAKT HAKKARI 44.47 293 *i*P **P 12 07 59.9 +1.0**
KIV Kislovodsk 44.60 303 P **P 12 08 00.3 +0.5**
comp=Z,584nm,1.2s,mb6.3,SNR=7.1
KIV Kislovodsk 44.60 303 *e*P **P 12 08 00.9 +1.1**
KIV *e*S **S 12 14 35.5 +0.1**
KIV pmax pmax
comp=Z,135nm,6.6s
KIV pmax pmax
comp=Z,133nm,1.2s,mb5.6
KIV MLR MLR
comp=Z,1μm,18.0s,MS4.8
KIV Kislovodsk 44.60 303 *e*P **P 12 08 00.6 +0.7**
comp=Z,91nm,1.0s,mb5.6
KIV LR LR
comp=Z,2μm,19.0s,MS5.0
KIV Kislovodsk 44.60 303 P **P 12 08 01.1 +1.3**
SNR=38
KIV Kislovodsk 44.60 303 P **P 12 08 01.1 +1.3**
SNR=38
KIV Kislovodsk 44.60 303 P **P 12 08 01.1 +1.3**
SNR=38
KIV Kislovodsk 44.60 303 P **P 12 08 01.1 +1.3**
SNR=38
KIV Kislovodsk 44.60 303 P **P 12 08 01.1 +1.3**
SNR=38
BHD Baghdad 44.73 287 *ex* x 12 07 57.0
BHD *ex* x 12 08 11.5
BHD *ex* x 12 14 34.0
BHD *ex* x 12 18 03.0
MA2 Magadan 44.98 35⇑*e*P **P 12 08 01.9 -0.7**
MA2 pmax pmax
comp=Z,155nm,1.2s,mb5.7
MA2 MLR MLR
comp=Z,3μm,21.0s,MS5.2
MA2 Magadan 44.98 35 *e*P **P 12 08 01.9 -0.7**
comp=Z,110nm,1.0s,mb5.6
MA2 *e*PcP PcP 12 09 43.3 -0.3
MA2 LR LR
comp=Z,40999μm,21.0s
MSL Mosul 45.17 292 *ex* x 12 08 04.0
MSL *ex* x 12 14 44.0
VRHR Novokhopersk 45.37 313 *e*P **P 12 08 07.0 +1.2**
VRHR *e*S **S 12 14 54.9 +8.6**
VRHR pmax pmax
comp=Z,90nm,1.0s,mb5.5
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,50nm,0.7s
VRHR MLR MLR
comp=Z,2μm,17.0s,MS5.1
VRHR MLR MLR
comp=N,1μm,15.0s,MS5.2
VRHR MLR MLR
comp=E,2μm,18.0s,MS5.2
ARTV Artvin 45.37 299 *i*P **P 12 08 07.8 +1.7**
DGAR Diego Garcia 45.49 216 PFAKE 12 08 20.0 +13
DGAR LR LR
comp=Z,2μm,22.0s,MS5.0
SEY Seymchan 46.63 31⇑*e*P **P 12 08 15.0 -0.6**
SOC Sochi 46.77 302*d i*P **P 12 08 16.4 -0.6**
SOC *e**PP pP 12 08 25.3 +4.3
SOC *e**SP sP 12 08 29.0 +6.4
SOC *e* 12 10 13.3
SOC *e*PPP 12 10 51.2
SOC *e*S **S 12 15 03.3 -3.4**
SOC pmax pmax
comp=Z,67nm,1.1s,mb5.5
SOC MLR MLR
comp=Z,2μm,21.0s,MS5.1
SOC Sochi 46.77 302 *i*P **P 12 08 17.8 +0.8**
MARD Mardin 46.81 294 *i*P **P 12 08 18.2 +0.8**
VORD Divnogorie 46.83 312 *e*P **P 12 08 16.5 -0.9**
VORD pmax pmax
comp=Z,40nm,1.1s,mb5.3
VORD pmax pmax
comp=N,20nm,0.7s
VORD pmax pmax
comp=E,100nm,0.9s
VORD MLR MLR
comp=N,1μm,14.0s,MS5.2
VORD MLR MLR
comp=Z,2μm,14.0s,MS5.1
VORD MLR MLR
comp=E,2μm,16.0s,MS5.2
VRSR Storozhevoye 46.90 313 *e*P **P 12 08 17.4 -0.5**
VRSR *e**SP sP 12 08 29.1 +5.6
VRSR *e*S **S 12 15 08.8 +0.4**
VRSR pmax pmax
comp=N,1.0nm,1.0s
VRSR pmax pmax
comp=E,10.0nm,1.0s
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR smax
comp=N,10.0nm,1.5s
VRSR smax
comp=Z,5.0nm,1.3s
VRSR smax
comp=E,6.0nm,1.6s
VRSR MLR MLR
comp=Z,320nm,16.0s,MS4.4
VRSR MLR MLR
comp=N,110nm,14.0s
VRSR MLR MLR
comp=E,480nm,22.0s
ELZG Elazig 48.00 295 *i*P **P 12 08 28.4 +1.8**
MOS Moscow 48.09 319 *e*P **P 12 08 25.8 -1.2**
MOS *e* 12 10 22.3
MOS *e*PPP 12 11 05.0
MOS *e*S **S 12 15 16.0 -9.1**
MOS pmax pmax
comp=Z,200nm,1.1s,mb6.1
MOS pmax pmax
comp=Z,153nm,1.0s,mb6.0
MOS MLR MLR
comp=Z,3μm,17.0s,MS5.3
MOS Moscow 48.09 319 *e*P **P 12 08 25.4 -1.6**
BATI Kupang 48.21 145 P **P 12 08 26.3 -2.2**
comp=Z,87nm,0.6s,mb6.0,baz=288,slow=1.8,SNR=26
ANN Anapa 48.30 304 *e*P **P 12 08 27.5 -1.3**
ANN *e* 12 11 12.7
ANN *e*S **S 12 15 27.3 -1.1**
ANN *e*SS SS 12 18 57.5 -0.1
ANN pmax pmax
comp=Z,101nm,1.2s,mb5.7
ANN MLR MLR
comp=N,2μm,19.0s,MS5.2
ANN MLR MLR
comp=E,2μm,19.0s,MS5.2
ANN MLR MLR
comp=Z,2μm,19.0s,MS5.1
PET Petropavlovsk 48.42 45⇑*e*P **P 12 08 27.8 -1.9**
PET pmax pmax
comp=Z,48nm,1.7s,mb5.2
PET MLR MLR
comp=Z,2μm,15.0s,MS5.2
MALT Malatya 48.46 295 *e*P **P 12 08 31.5 +1.3**
MALT pmax pmax
comp=Z,30nm,1.0s,mb5.3
MALT Malatya 48.46 295 *e*P **P 12 08 31.5 +1.3**
comp=Z,30nm,0.9s,mb5.3
MALT Malatya 48.46 295⇑*i*P **P 12 08 31.2 +1.0**
OBN Obninsk 48.65 318*d i*P **P 12 08 31.0 -0.4**
OBN *e*S **S 12 15 30.7 -2.3**
OBN pmax pmax
comp=Z,149nm,1.3s,mb5.9
OBN MLR MLR
comp=Z,1μm,20.0s,MS4.9
OBN Obninsk 48.65 318 *e*P **P 12 08 31.5 +0.1**
comp=Z,77nm,1.0s,mb5.7
OBN LR LR
comp=Z,2μm,20.0s,MS5.1
TMCR Tamitsa 49.13 330⇓*i*P **P 12 08 35.3 +0.4**
TMCR *e**PP pP 12 08 44.7 +5.8
GZT Gaziantep 49.32 294 *i*P **P 12 08 37.4 +0.6**
ANDN Andirin 50.22 295 *i*P **P 12 08 44.8 +1.2**
BOYT Boyabat 50.58 300 *i*P **P 12 08 46.3 0.0**
SIM Simferopol' 50.62 305*de*P **P 12 08 46.8 +0.2**
SIM *i*S **S 12 16 02.5 +1.5**
SIM pmax pmax
comp=Z,37nm,1.0s,mb5.3
SIM MLR MLR
comp=Z,2μm,22.1s,MS5.1
CTKT Corum 50.81 299 *i*P **P 12 08 48.7 +0.6**
ASF Jabal al Asfar 51.11 288 P **P 12 08 50.5 0.0**
comp=Z,58nm,0.9s,mb5.5,baz=320,slow=5.4,SNR=27

AVNT Avonos 51.12 297 *i* P **P 12 08 50.6 +0.2**
CDAG Cicekdag 51.31 298 *i* P **P 12 08 51.8 -0.1**
RCY Rachaya 51.62 290 *eP* **P 12 08 55.1 +0.9**
BHL Bhannes 51.64 290 *eP* **P 12 08 54.6 +0.1**
APA Apatity 51.67 334⇓*i* P **P 12 08 53.8 -0.3**
APA *i* S **S 12 16 06.0 -8.8**
APA pmax pmax
comp=Z,20nm,0.8s,mb5.1
APA MLR MLR
comp=Z,2µm,15.0s,MS5.4
BALT Daday 51.69 300 *i* P **P 12 08 55.3 +0.6**
JOF Joensuu 51.91 328 *ep* **P 12 08 54.5 -1.5**
comp=Z,17nm,0.5s,mb5.2
JOF Joensuu 51.91 328 *eP* **P 12 08 54.5 -1.5**
JOF pmax pmax
comp=Z,17nm,0.5s,mb5.2
ANTO Ankara 52.45 298⇓P **P 12 09 00.5 +0.1**
ANTO LR LR
comp=Z,1µm,22.0s,MS5.0
ANTO Ankara 52.45 298 P **P 12 09 00.9 +0.5**
SNR=27
ANTO Ankara 52.45 298 P **P 12 09 00.9 +0.5**
SNR=27
ANTO Ankara 52.45 298 P **P 12 09 00.9 +0.5**
SNR=27
ANTO Ankara 52.45 298⇓*i* P **P 12 09 00.5 +0.1**
CSS Prodhromos 53.21 292 *eP* **P 12 09 06.4 +0.3**
comp=Z,49nm,0.9s,mb5.4
CSS *ep*P pP 12 09 10.1 0.0
AKASG Malin Array Be 53.22 312 P **P 12 09 05.2 -0.7**
comp=Z,51nm,0.8s,mb5.5,baz=77,slow=6.3,SNR=101
AKBB Malin Array Si 53.22 312 *eP* **P 12 09 05.5 -0.4**
AKBB *ep*P pP 12 09 09.0 -0.9
KIEV Kiev 53.23 312 *eP* **P 12 09 05.3 -0.6**
KIEV pmax pmax
comp=Z,93nm,1.1s,mb5.6
KIEV MLR MLR
comp=Z,2µm,21.0s,MS5.2
KIEV Kiev 53.23 312 *eP* **P 12 09 05.3 -0.6**
comp=Z,93nm,1.1s,mb5.6
KIEV *ep*P pP 12 09 09.1 -0.9
KIEV LR LR
comp=Z,2µm,21.0s,MS5.2
KDHN Kadinhani 53.27 297 *i* P **P 12 09 05.7 -0.7**
BILL Bilibino 53.32 26*d i* P **P 12 09 05.8 -0.6**
BILL pmax pmax
comp=Z,110nm,1.3s,mb5.6
BILL Bilibino 53.32 26 *i* P **P 12 09 05.8 -0.6**
MSEY Mahe Island 53.89 236 PFAKE 12 09 20.0 +8.8
MSEY LR LR
comp=Z,729nm,20.0s,MS4.7
KIS Kishinev 53.98 308 *eP* **P 12 09 10.0 -1.5**
KIS MLR MLR
comp=Z,2µm,17.0s,MS5.1
KIS MLR MLR
comp=Z,2µm,16.0s
ESKT Eskisehir 53.99 298 *i* P **P 12 09 11.3 -0.4**
VSU Vasula 54.07 322*d i* P **P 12 09 11.4 -0.6**
VSU Vasula 54.07 322 *i* P **P 12 09 11.5 -0.5**
KEV Kevo 54.30 336 *ep* **P 12 09 12.2 -1.3**
comp=Z,18nm,0.7s,mb5.1
KEV Kevo 54.30 336 *eP* **P 12 09 12.2 -1.3**
KEV pmax pmax
comp=Z,18nm,0.7s,mb5.1
FIA1 FINESS Array S 54.32 326 *eP* **P 12 09 13.7 0.0**
FIA1 *ep*P pP 12 09 17.4 -0.3
FINES FINESS Array B 54.32 326 P **P 12 09 13.7 0.0**
comp=Z,15nm,0.6s,mb5.1,baz=96,slow=9.6,SNR=32
ISP Isparta 54.66 297 P **P 12 09 16.3 -0.3**
ISP pmax pmax
comp=Z,140nm,1.2s,mb5.9
ISP Isparta 54.66 297 P **P 12 09 16.5 -0.1**
ISP Isparta 54.66 297⇓*i* P **P 12 09 18.4 +1.8**
CFR Carcaliu 54.77 306 P **P 12 09 23.0 +5.7**
ARCES ARCESS Array B 54.81 336 P **P 12 09 17.2 +0.1**
comp=Z,13nm,0.6s,mb5.1,baz=87,slow=8.6,SNR=34
ARE0 ARCESS Array S 54.81 336 *eP* **P 12 09 17.3 +0.2**
ARE0 *ep*P pP 12 09 20.9 -0.3
ARE0 *e*PcP PcP 12 10 19.4 0.0
HARR Harsova 55.01 305 P **P 12 09 20.0 +1.0**
HARR Harsova 55.01 305⇑*i* P **P 12 09 19.4 +0.4**
KAKA Kakadu 55.02 137 *eP* **P 12 09 17.6 -1.8**
comp=Z,53nm,1.0s,mb5.5
GOLH Golhisar 55.55 296 *i* P **P 12 09 22.4 -0.6**
KTK1 Kautokeino 55.58 335⇑*i* P **P 12 09 23.7 +0.9**
KTK1 AMb AMB 12 09 32.4
comp=Z,119nm,1.5s,mb5.7
KTK1 Kautokeino 55.58 335⇑*i* P **P 12 09 23.7 +0.9**
comp=Z,119nm,1.5s,mb5.7
VRI Vrincioaia 55.61 307 P **P 12 09 24.7 +1.4**
VRI Vrincioaia 55.61 307⇓*i* P **P 12 09 23.8 +0.5**
PLOR Plostina 55.66 307 P **P 12 09 25.0 +1.3**
AKAS Kas 55.78 295 *i* P **P 12 09 23.3 -1.4**
ISR Istrita 55.89 306⇓*i* P **P 12 09 26.5 +1.2**
FITZ Fitzroy Crossi 55.99 148⇓*i* P **P 12 09 25.5 -0.8**
comp=Z,21nm,0.8s,mb5.2
FITZ Fitzroy Crossi 55.99 148 P **P 12 09 25.7 -0.6**
comp=Z,12nm,0.8s,mb5.0,baz=347,slow=8.1,SNR=18
MLR Muntele Rosu 56.22 306 P **P 12 09 29.2 +1.5**
MLR Muntele Rosu 56.22 306 P **P 12 09 28.5 +0.8**
comp=Z,91nm,1.0s,mb5.7,baz=107,slow=2.2,SNR=24
MLR Muntele Rosu 56.22 306⇑*i* P **P 12 09 28.3 +0.6**
BURAR Bucovina Array 56.29 309⇓*i* P **P 12 09 28.0 -0.2**
MBWA Marble Bar 56.30 155 *eP* **P 12 09 28.4 -0.1**
comp=Z,55nm,1.3s,mb5.4
MBWA *ep*P pP 12 09 31.9 -0.7
MBWA LR LR
comp=Z,1µm,19.0s,MS5.1
SUW Suwalki 56.47 317 *eP* **P 12 09 29.4 0.0**
SUW Suwalki 56.47 317 *eP* **P 12 09 29.4 0.0**
LVV L'vov 56.64 312 *eP* **P 12 09 30.4 -0.3**
LVV *e*S **S 12 17 24.0 +1.5**
LVV MLR MLR
comp=Z,900nm,16.0s,MS5.0
KDAG Bornova 56.98 298 *i* P **P 12 09 35.8 +2.6**
ZIMR 57.03 304 P **P 12 09 34.4 +0.9**
TRO Tromso 57.11 336 *eP* **P 12 09 32.1 -1.6**
TRO *ep*P pP 12 09 36.1 -1.6
TRO AMb AMB 12 09 41.3
comp=Z,62nm,2.6s,mb5.2
TRO Tromso 57.11 336 *eP* **P 12 09 32.1 -1.6**
comp=Z,62nm,2.6s,mb5.2
BDRM Kayabasi 57.22 296 *i* P **P 12 09 34.2 -0.8**
KWP Kalwaria 57.52 312 *eP* **P 12 09 37.5 +0.6**
KWP Kalwaria 57.52 312 *eP* **P 12 09 37.5 +0.6**
KWP Kalwaria 57.52 312⇓*i* P **P 12 09 37.2 +0.3**
SMY Shemya 57.76 44 *eP* **P 12 09 37.9 -0.6**
SMY pmax pmax
comp=Z,375nm,1.4s,mb6.2
SMY MLR MLR
comp=Z,2µm,20.0s,MS5.2
SMY Shemya 57.76 44 *eP* **P 12 09 37.9 -0.6**
comp=Z,375nm,1.4s,mb6.2
SMY LR LR
comp=Z,2µm,20.0s,MS5.2
KOLS Kolonicke sedl 57.95 311 *eP* **P 12 09 40.1 +0.2**
KOLS *e* 12 17 31.7
KOLS *e* 12 17 56.5
UZH Uzhgorod 58.00 311 *eP* **P 12 09 40.3 +0.1**
UZH *i* 12 09 49.3
DRGR 58.13 309 P **P 12 09 42.1 +0.9**
DRGR 58.13 309⇓*i* P **P 12 09 41.5 +0.3**
CRVS Cervenica-Dubn 58.47 311 *eP* **P 12 09 42.6 -1.0**
STHS Stebnicka Huta 58.50 312 *i* P **P 12 09 44.0 +0.3**
STHS pmax pmax
comp=Z,23nm,1.1s,mb5.1
STHS Stebnicka Huta 58.50 312 *i* P **P 12 09 44.0 +0.3**
comp=Z,22nm,1.1s,mb5.1
STHS *e* pP 12 09 46.8 -1.0
STHS Stebnicka Huta 58.50 312 *i* P **P 12 09 44.0 +0.3**
STHS *ep*P pP 12 09 46.8 -1.0
KBS Kingsbay 58.67 347 PFAKE 12 10 00.0 +15
KBS LR LR
comp=Z,1µm,21.0s,MS5.0
APE Apeiranthos 58.68 297⇑*i* P **P 12 09 46.8 +1.6**
VTS Vitosha 58.83 304 P **P 12 09 46.6 +0.4**
VTS Vitosha 58.83 304⇑*i* P **P 12 09 46.4 +0.2**
SANT Santorini 58.95 296 *eP* **P 12 09 45.8 -1.3**
comp=Z,231nm,1.4s,mb6.0
SANT *ep*P pP 12 09 49.5 -1.6
NIE Niedzica 59.09 312 *eP* **P 12 09 48.6 +0.7**
MOR8 Moi Rana 59.10 332⇑*i* P **P 12 09 46.2 -1.4**
MOR8 *ep*P pP 12 09 49.3 -2.4
MOR8 AMb AMB 12 09 55.0
comp=Z,83nm,1.3s,mb5.6
MOR8 Moi Rana 59.10 332⇑*i* P **P 12 09 46.2 -1.4**
comp=Z,83nm,1.3s,mb5.6
BZS Buzias 59.15 307 P **P 12 09 48.6 +0.2**
BZS Buzias 59.15 307⇑*i* P **P 12 09 48.1 -0.2**
LOF Lofoten 59.18 334 *eP* **P 12 09 48.8 +0.7**
LOF AMb AMB 12 09 54.0
comp=Z,141nm,1.2s,mb5.9
LOF Lofoten 59.18 334 *eP* **P 12 09 48.8 +0.7**
comp=Z,141nm,1.2s,mb5.9
OJC Ojcow 59.23 313 *eP* **P 12 09 48.7 -0.1**
VAY Valandovo 59.64 302 *i* P **P 12 09 50.3 -1.5**
PSZ Piszkesteto 59.72 310 P **P 12 09 53.2 +1.0**
PSZ Piszkesteto 59.72 310⇓*eP* **P 12 09 52.3 +0.1**
PSZ Piszkesteto 59.72 310⇓*i* P **P 12 09 52.3 +0.1**
GKP Gorka Klasztor 60.09 317 *eP* **P 12 09 54.9 +0.3**
GKP Gorka Klasztor 60.09 317 *eP* **P 12 09 54.9 +0.2**
VYHS Vyhne 60.26 311 *i* P **P 12 09 55.9 0.0**
VYHS pmax pmax
comp=Z,38nm,1.3s,mb5.3
VYHS Vyhne 60.26 311 *i* P **P 12 09 55.9 0.0**
comp=Z,38nm,1.3s,mb5.3
VYHS *e* pP 12 09 59.7 -0.3
SKO Skopje 60.26 303 *eP* **P 12 09 55.6 -0.5**
OKC Ostrava-Krasne 60.36 313 *eP* **P 12 09 57.1 +0.5**
OKC *ep*P pP 12 10 00.4 -0.3
BUD Budapest 60.40 310⇓*eP* **P 12 10 00.2 +3.3**
HFS Hagfors 60.49 325 P **P 12 09 57.0 -0.3**
comp=Z,8.4nm,0.5s,mb5.0,baz=132,slow=8.2,SNR=8.8
KRUS Krusevo 60.58 303 *i* P **P 12 09 57.6 -0.6**
MORC Moravsky Berou 60.75 313 P **P 12 09 59.7 +0.4**
MORC Moravsky Berou 60.75 313⇓*i* P **P 12 09 59.5 +0.2**
BSD Bornholm Skovb 60.98 319 *i* P **P 12 10 03.3 +2.6**
BSD pmax pmax
comp=Z,25nm,0.9s,mb5.3
BSD Bornholm Skovb 60.98 319 *i* P **P 12 10 03.3 +2.6**
comp=Z,25nm,0.9s,mb5.3
PKSM Moragy 61.00 309 P **P 12 10 01.0 0.0**
PKSM Moragy 61.00 309⇓*i* P **P 12 10 00.7 -0.3**
KSP Ksiaz 61.25 314 *eP* **P 12 10 02.8 +0.2**
KSP Ksiaz 61.25 314 *eP* **P 12 10 02.3 -0.3**
KSP *ep*P pP 12 10 06.3 -0.4
MODS Modra-Piesok 61.29 311 *i* P **P 12 10 03.5 +0.5**
MODS *ep*P pP 12 10 06.8 -0.3
DPC Dobruska-Polom 61.36 314 *eP* **P 12 10 04.3 +0.9**
DPC *ep*P pP 12 10 07.7 +0.2
ZST Bratislava 61.45 311 *eP* **P 12 10 04.6 +0.5**
comp=Z,26nm,1.1s,mb5.3
ZST *e* pP 12 10 07.6 -0.6
ZST LR LR
comp=Z,1µm,17.4s,MS5.1
ZST Bratislava 61.45 311 *eP* **P 12 10 04.6 +0.5**
ZST *ep*P pP 12 10 07.6 -0.6
VRAC Vranov 61.47 313 P **P 12 10 05.0 +0.8**
VRAC Vranov 61.47 313⇑*i* P **P 12 10 04.8 +0.6**
NB2 NORSAR Subarra 61.48 326 P **P 12 10 03.2 -0.8**
comp=Z,29nm,0.8s,mb5.5,baz=76,slow=6.9
NOA NORSAR Array B 61.48 326 P **P 12 10 03.0 -1.0**
comp=Z,16nm,0.7s,mb5.3,baz=76,slow=6.6,SNR=37
UPC Upice 61.51 314 *eP* **P 12 10 05.0 +0.6**
UPC *ep*P pP 12 10 08.9 +0.4
NAO01 NORSAR Array S 61.69 326 *eP* **P 12 10 04.4 -1.0**
comp=Z,25nm,0.9s,mb5.3
WRAB Tennant Creek 61.92 141 P **P 12 10 07.0 -0.4**
comp=Z,978nm,0.7s,SNR=52
WRAB Tennant Creek 61.92 141*d i* P **P 12 10 07.1 -0.3**
WRAB Tennant Creek 61.92 141 *eP* **P 12 10 07.2 -0.2**
comp=Z,174nm,0.9s,mb6.2
WRAB *ep*P pP 12 10 11.1 -0.4
WRAB LR LR
comp=Z,1µm,20.0s,MS5.1
WRA Warramunga Arr 61.92 141 P **P 12 10 07.0 -0.5**
comp=Z,115nm,0.8s,mb6.1,baz=333,slow=7.1,SNR=300
WRA PKPPKP 12 39 14.4
comp=Z,3.1nm,1.0s,baz=131,slow=2.6,SNR=9.1
WB2 Warramunga Arr 61.93 141⇓*i* P **P 12 10 07.0 -0.5**
WB2 *e*S **S 12 18 29.9 -1.5**
SOP Sopron 61.95 311⇓*eP* **P 12 10 07.5 +0.1**
RGN Rugen 62.02 319 *eP* **P 12 10 08.2 +0.5**
comp=Z,108nm,1.0s,mb5.9
TREC Trest 62.17 313 *eP* **P 12 10 09.7 +0.8**
TREC *ep*P pP 12 10 12.9 -0.1
RUE Ruedersdorf 62.32 317 *eP* **P 12 10 09.7 -0.1**
comp=Z,186nm,1.7s,mb5.9
CONA Conrad Observa 62.33 311 *i* P **P 12 10 10.6 +0.7**
comp=Z,102nm,1.6s,mb5.7,SNR=22
CSNA Conrad Observa 62.33 311⇓*i* P **P 12 10 10.2 +0.3**
comp=Z,88nm,1.5s,mb5.7
PVCC Panska Ves 62.39 314 *eP* **P 12 10 11.0 +0.7**
PVCC *ep*P pP 12 10 15.0 +0.6
PRU Pruhonice 62.56 314 *eP* **P 12 10 11.6 +0.1**
comp=Z,3.6nm,0.6s,mb4.7
PRU *ep*P pP 12 10 15.5 -0.1
PRU Pruhonice 62.56 314 *eP* **P 12 10 11.6 +0.1**
PRU *ep*P pP 12 10 15.5 -0.1
PRA Prague 62.61 314 P **P 12 10 13.0 +1.2**
KONO Kongsberg 62.61 325 *eP* **P 12 10 11.3 -0.3**
KONO pmax pmax
comp=Z,57nm,1.2s,mb5.6
KONO MLR MLR
comp=Z,2µm,19.0s,MS5.3
KONO Kongsberg 62.61 325 *eP* **P 12 10 11.3 -0.4**
comp=Z,57nm,1.2s,mb5.6
KONO *ep*P pP 12 10 14.9 -0.8
KONO LR LR
comp=Z,2µm,19.0s,MS5.3
GAMB Gambell 62.62 30 *eP* **P 12 10 10.6 -1.0**
comp=Z,99nm,1.4s,mb5.8
GAMB *e*PcP PcP 12 10 50.3 -0.1
BRG Berggiesshubel 62.67 315 *eP* **P 12 10 12.2 0.0**
comp=Z,81nm,1.5s,mb5.6
BRG Berggiesshubel 62.67 315 *i* P **P 12 10 12.4 +0.2**
comp=Z,21nm,0.9s,mb5.3
BRG *i* pP 12 10 15.6 -0.7
comp=Z,76nm,1.5s
ARSA Arzberg 62.75 311⇓*i* P **P 12 10 12.7 -0.1**
comp=Z,42nm,1.6s,mb5.3
GROS Grobnik 63.00 310 *i* P **P 12 10 14.2 -0.3**
FBE Freiberg 63.02 315 *eP* **P 12 10 14.7 +0.2**
comp=Z,80nm,1.3s,mb5.7
CLL Collm 63.11 316⇓*eP* **P 12 10 14.9 -0.2**
CLL pmax pmax
comp=Z,28nm,1.3s,mb5.2
CLL MLR MLR
comp=Z,1µm,18.4s,MS5.1
CLL Collm 63.11 316⇓*i* P **P 12 10 14.9 -0.2**
comp=Z,28nm,1.3s,mb5.2
CLL *i* pP 12 10 18.3 -0.9
CLL LR LR
comp=Z,1µm,18.4s,MS5.1
CLL Collm 63.11 316 *eP* **P 12 10 14.8 -0.3**
comp=Z,62nm,1.3s,mb5.6
CLL Collm 63.11 316⇓*i* P **P 12 10 14.9 -0.2**
comp=Z,28nm,1.3s,mb5.2
CLL comp=Z,62nm,1.3s *i* pP pP 12 10 18.3 -0.9
CLL *ex* x 12 10 36.0
PERS Pernice 63.20 310 *eP* **P 12 10 15.8 0.0**
PERS *i* pP 12 10 18.7 -1.2
CRES Cresnjev 63.23 309 *eP* **P 12 10 16.1 +0.2**
MOA Molln 63.38 312 *i* P **P 12 10 16.9 0.0**
comp=Z,40nm,1.5s,mb5.3,SNR=13
KHC Kasperske Hory 63.42 313 *eP* **P 12 10 17.4 +0.2**
comp=Z,9.8nm,1.5s,mb4.7
KHC *ep*P pP 12 10 21.1 -0.2
KHC Kasperske Hory 63.42 313 *eP* **P 12 10 17.4 +0.2**
KHC *ep*P pP 12 10 21.1 -0.2
GEC2 GERESS Array S 63.43 313 P **P 12 10 17.5 +0.3**
GEC2 GERESS Array S 63.43 313 *eP* **P 12 10 17.6 +0.4**
comp=Z,68nm,1.3s,mb5.6
GERES GERESS Array B 63.43 313 P **P 12 10 17.6 +0.3**
comp=Z,16nm,1.0s,mb5.1,baz=77,slow=5.9,SNR=28
ADK Adak 63.45 44 PFAKE 12 10 30.0 +13
ADK LR LR
comp=Z,1µm,19.0s,MS5.1
BOJS Bojanci 63.47 309 *eP* **P 12 10 17.7 +0.1**
BOJS *e* pP 12 10 20.7 -1.0
BOJS *e*S **S 12 18 52.0 +1.7**
TNA Tin City 63.66 28 *eP* **P 12 10 18.2 -0.3**
comp=Z,84nm,1.3s,mb5.6
TNA LR LR
comp=Z,928nm,19.0s,MS5.0
TANN Tannenbergstha 63.71 315 *eP* **P 12 10 19.2 +0.1**
comp=Z,64nm,1.5s,mb5.4
MUD Monsted U'grnd 63.74 322 *eP* **P 12 10 20.1 +0.9**
MUD pmax pmax
comp=Z,64nm,1.2s,mb5.5
MUD Monsted U'grnd 63.74 322 *i* P **P 12 10 20.1 +0.9**
comp=Z,64nm,1.2s,mb5.5
NKC Novy Kostel 63.77 314 *eP* **P 12 10 20.2 +0.7**
NKC *ep*P pP 12 10 23.8 +0.2
LJU Ljubljana 63.78 310 *eP* **P 12 10 19.7 +0.1**
WERD Werda 63.80 315 *eP* **P 12 10 19.7 +0.1**
comp=Z,65nm,1.6s,mb5.4
WERN Wernitzgruen 63.80 315 *eP* **P 12 10 19.9 +0.2**
comp=Z,51nm,1.3s,mb5.4
GUNZ Gunzen 63.81 315 *eP* **P 12 10 19.9 +0.2**
comp=Z,87nm,1.5s,mb5.6
WET Wettzell 63.85 313 *eP* **P 12 10 20.4 +0.4**
WET pmax pmax
comp=Z,81nm,1.4s,mb5.6
WET Wettzell 63.85 313 *eP* **P 12 10 20.4 +0.4**
comp=Z,81nm,1.4s,mb5.6
BSEG Bad Segeberg 63.88 319 *eP* **P 12 10 20.8 +0.6**
BSEG pmax pmax
comp=Z,107nm,1.5s,mb5.7
BSEG Bad Segeberg 63.88 319 *eP* **P 12 10 20.8 +0.6**
comp=Z,107nm,1.5s,mb5.7
CEY Cerknica 63.94 309 *eP* **P 12 10 20.5 -0.2**
MANZ Manzenberg 64.06 314 *eP* **P 12 10 21.8 +0.4**
comp=Z,61nm,1.5s,mb5.4
ROTZ Rotzenmuhle 64.07 314 *eP* **P 12 10 22.0 +0.5**
comp=Z,108nm,1.3s,mb5.7
MOX Moxa 64.15 315 *eP* **P 12 10 22.1 +0.1**
comp=Z,87nm,1.6s,mb5.5
MOX Moxa 64.15 315 *eP* **P 12 10 22.1 +0.1**
MOX pmax pmax
comp=Z,87nm,1.6s,mb5.5
VOY Vojsko 64.20 310 *eP* **P 12 10 22.2 -0.2**
VOY *e* pP 12 10 24.8 -1.7
VOY *e* 12 10 38.8
KBA Koelnbreinsper 64.22 311⇓*i* P **P 12 10 22.4 0.0**
comp=Z,56nm,1.2s,mb5.5
KBA Koelnbreinsper 64.22 311⇓*i* P **P 12 10 22.4 -0.1**
KBA pmax pmax
comp=Z,56nm,1.2s,mb5.5
KBA Koelnbreinsper 64.22 311⇓*i* P **P 12 10 22.4 0.0**
comp=Z,56nm,1.2s,mb5.5
NRDL Niedersach Rie 64.45 317 *eP* **P 12 10 24.5 +0.6**
comp=Z,115nm,1.3s,mb5.8
CLZ Clausthal 64.51 317 *eP* **P 12 10 24.7 +0.4**
CLZ pmax pmax
comp=Z,142nm,1.4s,mb5.8
CLZ Clausthal 64.51 317 *eP* **P 12 10 24.7 +0.4**
comp=Z,142nm,1.4s,mb5.8
CLZ *ep*P pP 12 10 28.3 -0.1
TIP Timpagrande 64.53 302 *eP* **P 12 10 23.8 -0.9**
comp=Z,51nm,1.1s,mb5.5
TIP *ep*P pP 12 10 28.1 -0.7
GRA1 Grafenberg Arr 64.70 314 *eP* **P 12 10 26.2 +0.6**
comp=Z,79nm,1.1s,mb5.7
GRA1 *ep*P pP 12 10 29.7 0.0
GRA1 *e* 12 10 46.5
GRF Grafenberg Arr 64.70 314 *eP* **P 12 10 26.2 +0.6**
GRF pmax pmax
comp=Z,79nm,1.1s,mb5.7
GRF Grafenberg Arr 64.70 314 *eP* **P 12 10 26.2 +0.6**
GRF pmax pmax
comp=Z,79nm,1.1s,mb5.7
GRF Grafenberg Arr 64.70 314 *eP* **P 12 10 26.2 +0.6**
comp=Z,79nm,1.1s,mb5.7
GRF *ep*P pP 12 10 29.7 0.0
GRF *e* 12 10 46.5
GRFO Grafenberg 64.70 314 *eP* **P 12 10 26.0 +0.4**
GRFO pmax pmax
comp=Z,68nm,1.1s,mb5.6
GRFO Grafenberg 64.70 314 *eP* **P 12 10 26.0 +0.4**
comp=Z,68nm,1.1s,mb5.6
GRFO *ep*P pP 12 10 29.8 +0.1
ASAR Alice Springs 64.74 143 P **P 12 10 25.8 -0.3**
comp=Z,40nm,0.8s,mb5.5,baz=327,slow=6.7,SNR=521
ASAR PKP2ab 12 39 26.9
comp=Z,0.6nm,0.8s,baz=153,slow=4.5,SNR=4.2
ABTA Abfaltersbach 64.86 311⇑*i* P **P 12 10 26.2 -0.5**
comp=Z,28nm,1.3s,mb5.2,SNR=12
UBBA Unterbreizbach 65.06 316 *eP* **P 12 10 27.9 0.0**
comp=Z,53nm,1.5s,mb5.3
HLG Helgoland 65.16 320 *eP* **P 12 10 29.2 +0.7**
comp=Z,222nm,1.1s,mb6.1
FUR Furstenfeldbru 65.17 313 *eP* **P 12 10 29.3 +0.6**
FUR pmax pmax
comp=Z,282nm,1.4s,mb6.1
FUR Furstenfeldbru 65.17 313 *eP* **P 12 10 29.3 +0.6**
comp=Z,282nm,1.4s,mb6.1
PSB1 Pescosannita 65.21 304 P **P 12 10 28.6 -0.5**
AOI Ancona 65.23 307 P **P 12 10 29.2 0.0**
WTTA Wattenberg 65.25 312 *i* P **P 12 10 29.0 -0.2**
comp=Z,74nm,1.6s,mb5.5,SNR=16
WTTA Wattenberg 65.25 312 *i* P **P 12 10 29.0 -0.2**
WTTA pmax pmax
comp=Z,74nm,1.6s,mb5.5
MUN Mundaring 65.36 163 *eP* **P 12 10 29.0 -0.9**
KLBR Kellerberrin 65.40 161 *eP* **P 12 10 29.8 -0.4**
comp=Z,77nm,1.6s,mb5.5
DAG Danmarks Havn 65.41 347⇑*eP* **P 12 10 28.2 -1.6**
DAG Danmarks Havn 65.41 347⇑*i* P **P 12 10 28.2 -1.6**
comp=Z,2.7nm,0.7s,mb4.4
MIDA Miranda 65.45 305 P **P 12 10 30.3 -0.3**
SQTA Sankt Quirin 65.54 312⇓*i* P **P 12 10 30.7 -0.4**
comp=Z,68nm,1.4s,mb5.5
SQTA Sankt Quirin 65.54 312⇓*i* P **P 12 10 30.7 -0.4**
SQTA pmax pmax
comp=Z,68nm,1.4s,mb5.5
TERO Teramo 65.56 306 P **P 12 10 30.9 -0.4**
MOTA Moosalm 65.56 312⇓*i* P **P 12 10 30.9 -0.3**
comp=Z,62nm,1.3s,mb5.5,SNR=11
MOTA Moosalm 65.56 312⇓*i* P **P 12 10 30.9 -0.3**
MOTA pmax pmax
comp=Z,62nm,1.3s,mb5.5
CING Cingoli 65.57 307 P **P 12 10 31.4 0.0**
KMBO Kilima Mbogo 65.71 253 P **P 12 10 32.5 -0.1**
KMBO pmax pmax
comp=Z,10.0nm,1.0s
KMBO MLR MLR
comp=Z,543nm,18.0s
KMBO Kilima Mbogo 65.71 253 PFAKE 12 10 50.0 +17
KMBO LR LR
comp=Z,554nm,20.0s,MS4.8
KMBO Kilima Mbogo 65.71 253 P **P 12 10 32.5 -0.1**
comp=Z,10nm,1.0s,mb4.8,baz=37,slow=10,SNR=15
KMBO LR LR 12 41 27.7
comp=Z,542nm,18.0s,MS4.8,baz=276,slow=38
RETA Reutte 65.73 312 *i* P **P 12 10 32.1 -0.2**
comp=Z,38nm,1.0s,mb5.4,SNR=13
SNTG Esanatoglia 65.79 307 P **P 12 10 32.9 +0.1**
comp=Z,60nm,1.0s,mb5.6
AQU L'Aquila 65.79 306⇓*i* P **P 12 10 33.1 +0.3**
AQU L'Aquila 65.79 306⇓*i* P **P 12 10 33.0 +0.2**
NRCA Norcia 65.82 307 P **P 12 10 33.2 +0.2**
comp=Z,26nm,0.8s,mb5.3
IBBN Ibbenburen 65.88 318 *eP* **P 12 10 33.3 +0.1**
comp=Z,85nm,1.4s,mb5.6
FETA Feichten 65.92 312 *i* P **P 12 10 33.2 -0.3**
comp=Z,63nm,1.3s,mb5.5,SNR=23
ALE Alert 65.96 357 P **P 12 10 33.3 0.0**
comp=Z,102nm,0.8s,mb5.9,SNR=6.0
PIEI Pieia 65.96 307 P **P 12 10 33.9 0.0**
BADI Badiali 66.17 308 P **P 12 10 36.7 +1.5**
TOD Tromm 66.20 315 *eP* **P 12 10 35.6 +0.3**
STU Stuttgart 66.26 314 *eP* **P 12 10 35.8 +0.1**
comp=Z,120nm,1.4s,mb5.7
MNS Montasola 66.28 306 P **P 12 10 35.2 -0.7**
SFI Santa Sofia 66.30 308 P **P 12 10 37.0 +1.0**
SFI pmax pmax
comp=Z,100nm,1.0s,mb5.8
SFI Santa Sofia 66.30 308 P **P 12 10 37.0 +1.0**
comp=Z,100nm,1.0s,mb5.8
DAVA Damuels 66.36 312⇓*i* P **P 12 10 36.1 -0.3**
comp=Z,33nm,1.2s,mb5.2
BUG Bochum--Univer 66.47 317 *eP* **P 12 10 37.1 +0.1**
comp=Z,68nm,1.4s,mb5.5
VMG Vicchio 66.48 308 P **P 12 10 38.6 +1.4**
comp=Z,294nm,1.5s,mb6.1
NWAO Narrogin (SRO) 66.53 162 P **P 12 10 36.9 -0.5**
NWAO LR LR 12 38 29.2
NWAO Narrogin (SRO) 66.53 162 P **P 12 10 36.9 -0.5**
comp=Z,25nm,1.1s,mb5.2,baz=334,slow=7.8,SNR=6.0
NWAO LR LR 12 38 29.2
comp=Z,846nm,21.9s,MS4.9,baz=136,slow=35
WTSB Winterswijk 66.55 318 *eP* **P 12 10 38.2 +0.7**
SPAK Spaichingen-Ko 66.76 313 *eP* **P 12 10 39.5 +0.6**

ABH Alteburg 66.87 315 *eP* **P 12 10 40.2 +0.7**
BFO Black Forest 66.96 314 P **P 12 10 40.7 +0.5**
comp=Z,193nm,1.3s,mb6.0,SNR=8.2
BFO Black Forest 66.96 314 P **P 12 10 39.9 -0.3**
BFO pmax pmax
comp=Z,64nm,1.3s,mb5.5
BFO Black Forest 66.96 314 *eP* **P 12 10 40.0 -0.2**
comp=Z,74nm,1.4s,mb5.5
BFO LR LR
comp=Z,1µm,22.0s,MS5.0
BFO Black Forest 66.96 314 *eP* **P 12 10 40.0 -0.2**
comp=Z,74nm,1.4s,mb5.5
TUE Stuetta 67.00 311 P **P 12 10 40.3 -0.2**
LANF Langenberg 67.04 314 *eP* **P 12 10 44.3 +3.6**
GRFL Gerfalco 67.16 308 P **P 12 10 40.9 -0.7**
comp=Z,106nm,1.4s,mb5.7
VLC Villacollemand 67.18 309 *eP* **P 12 10 42.5 +0.8**
comp=Z,86nm,1.2s,mb5.7
VLC *ep*P pP 12 10 45.8 0.0
MAIM 67.20 308 P **P 12 10 41.3 -0.5**
RUP Ruppelstein 67.23 315 *eP* **P 12 10 42.1 +0.3**
FELD Feldberg im Sc 67.33 313 *eP* **P 12 10 42.8 +0.3**
MEM Membach 67.51 316 P **P 12 10 43.9 +0.2**
CDF Champ du Feu 67.58 314⇓*iP* **P 12 10 43.7 -0.4**
comp=Z,173nm,1.5s,mb5.6
CDF Champ du Feu 67.58 314⇓*iP* **P 12 10 43.7 -0.4**
CDF pmax pmax
comp=Z,86nm,1.5s,mb5.6
CDF Champ du Feu 67.58 314⇓*iP* **P 12 10 43.7 -0.4**
comp=Z,86nm,1.5s,mb5.6
VAI Varese 67.60 311 P **P 12 10 41.8 -2.5**
VAI pmax pmax
comp=Z,106nm,1.2s,mb5.8
VAI Varese 67.60 311 P **P 12 10 41.8 -2.5**
comp=Z,106nm,1.2s,mb5.8
BEBN Eben Emael 67.64 317 AP pP 12 10 53.7 +5.1
ECH Echery 67.73 314 *eP* **P 12 10 43.9 -1.1**
WLF Walferdange 67.79 315 *eP* **P 12 10 46.5 +1.1**
WLF pmax pmax
comp=Z,221nm,1.4s,mb6.0
WLF Walferdange 67.79 315 *eP* **P 12 10 46.5 +1.1**
comp=Z,221nm,1.4s,mb6.0
WLF *ep*P pP 12 10 50.2 +0.7
WLF Walferdange 67.79 315 P **P 12 10 46.4 +1.0**
WLF E pP 12 10 50.1 +0.5
WLF AP pP 12 10 54.6 +5.1
WLF XP sP 12 10 58.9 +7.8
WLF Walferdange 67.79 315 *eP* **P 12 10 46.1 +0.7**
comp=Z,133nm,1.1s,mb5.9
BBS Basel-Blauen 67.80 313 *eP* **P 12 10 45.1 -0.4**
MOF Molkenrain 67.88 313 *eP* **P 12 10 44.9 -1.1**
BCLA Clavier 68.00 316 E 12 10 50.2
HINF Hinteralfeld 68.07 313⇓*iP* **P 12 10 46.6 -0.6**
comp=Z,100nm,1.4s,mb5.3
HINF Hinteralfeld 68.07 313⇓*iP* **P 12 10 46.6 -0.6**
HINF pmax pmax
comp=Z,50nm,1.4s,mb5.3
HINF Hinteralfeld 68.07 313⇓*iP* **P 12 10 46.6 -0.6**
comp=Z,50nm,1.4s,mb5.3
FORT Forrest 68.15 152 *eP* **P 12 10 46.8 -1.0**
comp=Z,33nm,0.8s,mb5.4
HAU Haudompre 68.31 314 *eP* **P 12 10 48.1 -0.6**
comp=Z,95nm,1.3s,mb5.4
HAU *e*MLR MLR
comp=Z,926nm,21.2s,MS4.7
HAU Haudompre 68.31 314 *eP* **P 12 10 48.1 -0.6**
HAU pmax pmax
comp=Z,47nm,1.3s,mb5.4
HAU MLR MLR
comp=Z,930nm,21.3s,MS5.0
HAU Haudompre 68.31 314 *eP* **P 12 10 48.1 -0.6**
comp=Z,48nm,1.3s,mb5.4
HAU LR LR
comp=Z,930nm,21.3s,MS5.0
UCC Uccle 68.41 317 P **P 12 10 48.9 -0.4**
GIVF Givet 68.41 316 *eP* **P 12 10 49.1 -0.2**
UNV Unalaska Valle 68.53 39 PFAKE 12 11 00.0 +10
UNV LR LR
comp=Z,2µm,19.0s,MS5.5
DOU Dourbes 68.55 316 E 12 10 46.5
DOU Dourbes 68.55 316 P **P 12 10 50.0 -0.2**
DOU AP pP 12 11 00.0 +5.7
PGF Pioggiola 68.73 308⇓*iP* **P 12 10 51.3 -0.2**
comp=Z,230nm,1.3s,mb5.7
PGF Pioggiola 68.73 308⇓*iP* **P 12 10 51.3 -0.2**
PGF pmax pmax
comp=Z,115nm,1.3s,mb5.7
PGF Pioggiola 68.73 308⇓*iP* **P 12 10 51.3 -0.2**
comp=Z,115nm,1.3s,mb5.7
BAIF Baives 68.79 316 *eP* **P 12 10 51.5 -0.2**
comp=Z,118nm,1.5s,mb5.3
BAIF Baives 68.79 316 *eP* **P 12 10 51.5 -0.2**
BAIF pmax pmax
comp=Z,59nm,1.5s,mb5.3
BAIF Baives 68.79 316 *eP* **P 12 10 51.5 -0.2**
comp=Z,59nm,1.5s,mb5.3
IMA2 Indian Mountai 68.82 24 *eP* **P 12 10 51.2 -0.4**
MEZF Maizieres J'vi 68.91 315 *eP* **P 12 10 52.2 -0.2**
CABF La Chapelle 69.02 312 *eP* **P 12 10 52.7 -0.5**
LPG La Plagne 69.05 311⇓*iP* **P 12 10 53.8 +0.4**
comp=Z,138nm,1.0s,mb5.5
LPG La Plagne 69.05 311⇓*iP* **P 12 10 53.8 +0.4**
LPG pmax pmax
comp=Z,69nm,1.0s,mb5.5
LPG La Plagne 69.05 311⇓*iP* **P 12 10 53.8 +0.4**
comp=Z,69nm,1.0s,mb5.5
LPL La Plagne 69.05 311⇓*iP* **P 12 10 53.7 +0.3**
comp=Z,222nm,1.2s,mb5.7
LPL La Plagne 69.05 311⇓*iP* **P 12 10 53.7 +0.3**
LPL pmax pmax
comp=Z,111nm,1.2s,mb5.7
LPL La Plagne 69.05 311⇓*iP* **P 12 10 53.7 +0.3**
comp=Z,111nm,1.2s,mb5.7
SAOF Saorge 69.13 309 *eP* **P 12 10 54.0 +0.1**
CTA Charters Tower 69.15 131⇓*iP* **P 12 10 54.0 -0.2**
comp=Z,64nm,0.9s,mb5.5
CTA Charters Tower 69.15 131⇓*iP* **P 12 10 54.0 -0.2**
CTA pmax pmax
comp=Z,64nm,0.9s
CTA Charters Tower 69.15 131 P **P 12 10 54.0 -0.2**
comp=Z,73nm,0.8s,mb5.7,baz=325,slow=8.5,SNR=48
CTAO Charters Tower 69.15 131 *eP* **P 12 10 53.9 -0.3**
CTAO pmax pmax
comp=Z,121nm,1.0s,mb5.8
CTAO MLR MLR
comp=Z,608nm,19.0s,MS4.9
CTAO Charters Tower 69.15 131 *eP* **P 12 10 53.9 -0.3**
comp=Z,120nm,1.0s,mb5.8
CTAO LR LR
comp=Z,608nm,19.0s,MS4.9
AUTN L'Aution 69.21 309 *eP* **P 12 10 54.7 +0.3**
SBF Sospel 69.26 309⇓*iP* **P 12 10 54.3 -0.4**
comp=Z,204nm,1.2s,mb5.6
SBF Sospel 69.26 309⇓*iP* **P 12 10 54.3 -0.4**
SBF pmax pmax
comp=Z,102nm,1.2s,mb5.6
SBF Sospel 69.26 309⇓*iP* **P 12 10 54.3 -0.4**
comp=Z,102nm,1.2s,mb5.6
BNI Bardonecchia 69.27 311 P **P 12 10 54.2 -0.6**
BNI pmax pmax
comp=Z,40nm,1.0s,mb5.3
BNI Bardonecchia 69.27 311 *eP* **P 12 10 54.9 +0.1**
comp=Z,40nm,1.0s,mb5.3
BNI *ep*P pP 12 10 59.0 +0.1
LUCF Luceram 69.31 309 *eP* **P 12 10 52.7 -2.3**
TOUF Mont Tournerai 69.32 310 *eP* **P 12 10 54.8 -0.3**
MBDF Montbardon 69.34 310 *eP* **P 12 10 54.2 -1.0**
comp=Z,58nm,1.0s,mb5.2
MBDF Montbardon 69.34 310 *eP* **P 12 10 54.2 -1.0**
MBDF pmax pmax
comp=Z,29nm,1.0s,mb5.2
MBDF Montbardon 69.34 310 *eP* **P 12 10 54.2 -1.0**
comp=Z,29nm,1.0s,mb5.2
MVIF Mont Vial 69.43 309 *eP* **P 12 10 54.6 -1.2**
GDM Grand'Maison 69.58 311 *eP* **P 12 10 56.6 0.0**
ABPO Ambohimpanom 69.68 231 PFAKE 12 11 10.0 +12
ABPO LR LR
comp=Z,1µm,20.0s,MS5.1
VSL Villasalto 69.70 304 *eP* **P 12 10 57.0 -0.5**
comp=Z,53nm,1.0s,mb5.4
GRN Grenoble 69.80 311 *eP* **P 12 10 57.7 -0.3**
ORIF Oris-en-Rattie 69.84 311 *eP* **P 12 10 57.9 -0.4**
comp=Z,95nm,1.2s,mb5.3
ORIF *e*MLR MLR
comp=Z,1µm,21.8s,MS4.9
ORIF Oris-en-Rattie 69.84 311 *eP* **P 12 10 57.9 -0.4**
ORIF pmax pmax
comp=Z,48nm,1.2s,mb5.3
ORIF Oris-en-Rattie 69.84 311 *eP* **P 12 10 57.9 -0.4**
comp=Z,48nm,1.2s,mb5.3
FRF La Foret Royal 69.90 309 *eP* **P 12 10 58.1 -0.6**
ESY Stoneypath 70.05 324 *eP* **P 12 10 58.9 -0.4**
LMR La Mourre 70.09 309 *eP* **P 12 10 59.3 -0.5**
comp=Z,164nm,1.4s,mb5.5
LMR La Mourre 70.09 309 *eP* **P 12 10 59.3 -0.5**
LMR pmax pmax
comp=Z,82nm,1.4s,mb5.5
LMR La Mourre 70.09 309 *eP* **P 12 10 59.3 -0.5**
comp=Z,82nm,1.4s,mb5.5
LOR Lormes 70.15 314⇓*iP* **P 12 10 59.2 -0.9**
comp=Z,96nm,1.4s,mb5.2
LOR *e*MLR MLR
comp=Z,849nm,17.0s,MS4.8
LOR Lormes 70.15 314⇓*iP* **P 12 10 59.2 -0.9**
LOR pmax pmax
comp=Z,48nm,1.4s,mb5.2
LOR MLR MLR
comp=Z,850nm,17.0s,MS5.1
LOR Lormes 70.15 314⇓*iP* **P 12 10 59.2 -0.9**
comp=Z,48nm,1.4s,mb5.2
LOR LR LR
comp=Z,850nm,17.0s,MS5.1
TAVF Tavernes 70.27 310 *eP* **P 12 11 04.6 +3.7**
EBL Broad Law 70.33 324 *eP* **P 12 11 00.8 -0.3**
SMF Signal de Mont 70.42 313⇓*iP* **P 12 11 01.2 -0.6**
comp=Z,224nm,1.3s,mb5.6
SMF Signal de Mont 70.42 313⇓*iP* **P 12 11 01.2 -0.6**
SMF pmax pmax
comp=Z,112nm,1.3s,mb5.6
SMF Signal de Mont 70.42 313⇓*iP* **P 12 11 01.2 -0.6**
comp=Z,112nm,1.3s,mb5.6
SMRF Simiane la Rot 70.44 310 *eP* **P 12 11 01.8 -0.1**
comp=Z,105nm,1.4s,mb5.3
SMRF Simiane la Rot 70.44 310 *eP* **P 12 11 01.8 -0.1**
comp=Z,105nm,1.4s,mb5.6
SSF Saint Saulge 70.45 314⇓*iP* **P 12 11 01.3 -0.7**
comp=Z,98nm,1.1s,mb5.3
SSF Saint Saulge 70.45 314⇓*iP* **P 12 11 01.3 -0.7**
SSF pmax pmax
comp=Z,49nm,1.1s,mb5.3
SSF Saint Saulge 70.45 314⇓*iP* **P 12 11 01.3 -0.7**
comp=Z,49nm,1.1s,mb5.3
PUYF Puyloubier 70.54 310 *eP* **P 12 11 06.6 +4.0**
SVW2 Sparrevohn 70.55 30 *eP* **P 12 11 02.3 0.0**
ESK Eskdalemuir 70.62 323 *eP* **P 12 11 02.1 -0.8**
ESK AMb AMB 12 11 02.6
comp=Z,56nm,1.4s,mb5.3
BERF Bertagne 70.64 309 *eP* **P 12 11 07.0 +3.8**
ECK Cauldkaine Hil 70.64 323 *eP* **P 12 11 02.4 -0.6**
VIVF Saint-Julien-l 70.65 311 *eP* **P 12 11 02.9 -0.3**
comp=Z,162nm,1.3s,mb5.5
VIVF Saint-Julien-l 70.65 311 *eP* **P 12 11 02.9 -0.3**
VIVF pmax pmax
comp=Z,81nm,1.3s,mb5.5
VIVF Saint-Julien-l 70.65 311 *eP* **P 12 11 02.9 -0.3**
comp=Z,81nm,1.3s,mb5.5
AVF Avril sur Loir 70.66 313⇓*iP* **P 12 11 02.7 -0.6**
comp=Z,170nm,1.2s,mb5.6
AVF Avril sur Loir 70.66 313⇓*iP* **P 12 11 02.7 -0.6**
AVF pmax pmax
comp=Z,85nm,1.2s,mb5.5
AVF Avril sur Loir 70.66 313⇓*iP* **P 12 11 02.7 -0.6**
comp=Z,85nm,1.2s,mb5.5
KBI1 Birley Grange 70.67 321 *eP* **P 12 11 03.7 +0.5**
LHO Holmfirth 70.72 321 *eP* **P 12 11 03.3 -0.1**
PRAF Pradon 70.78 310 *eP* **P 12 11 08.1 +4.1**
PLDF La Plantade 70.85 313 *eP* **P 12 11 03.9 -0.5**
HYF Humbligny 70.90 314 *eP* **P 12 11 04.6 -0.1**
KWE Weaver Farm 70.95 321 *eP* **P 12 11 04.8 -0.1**
BGF Bois d'Agland 71.08 313 *eP* **P 12 11 05.3 -0.5**
comp=Z,81nm,1.1s,mb5.3
BGF Bois d'Agland 71.08 313 *eP* **P 12 11 05.3 -0.5**
BGF pmax pmax
comp=Z,40nm,1.1s,mb5.3
BGF Bois d'Agland 71.08 313 *eP* **P 12 11 05.3 -0.5**
comp=Z,40nm,1.1s,mb5.3
AGO Saint Agoulin 71.12 313 *eP* **P 12 11 06.2 +0.1**
KEST Kesra 71.31 301 P **P 12 11 07.6 +0.2**
comp=Z,14nm,1.0s,mb4.9,baz=270,slow=0.9,SNR=13
PYM Petit Puy Mans 71.33 313 *eP* **P 12 11 07.4 +0.1**
LBL Lubilhac 71.40 312 *eP* **P 12 11 07.8 0.0**
SSW Stow on the Wo 71.43 320 *eP* **P 12 11 08.2 +0.3**
LASF Ste Croix 71.51 311 *eP* **P 12 11 08.5 0.0**
comp=Z,123nm,1.2s,mb5.4
COLA College 71.52 24⇑*iP* **P 12 11 06.3 -1.8**
COLA LR LR
comp=Z,1µm,20.0s,MS5.1
TCF Toulx Ste Croi 71.59 313⇓*iP* **P 12 11 08.8 -0.1**
comp=Z,185nm,1.2s,mb5.6
TCF Toulx Ste Croi 71.59 313⇓*iP* **P 12 11 08.8 -0.1**
TCF pmax pmax
comp=Z,92nm,1.2s,mb5.6
TCF Toulx Ste Croi 71.59 313⇓*iP* **P 12 11 08.8 -0.1**
comp=Z,92nm,1.2s,mb5.6
MCK McKinley 71.78 25 *eP* **P 12 11 09.2 -0.5**
MCK pmax pmax
comp=Z,96nm,0.9s,mb5.7
MCK MLR MLR
comp=Z,534nm,21.0s,MS4.8
MCK McKinley 71.78 25 *eP* **P 12 11 09.2 -0.5**
comp=Z,96nm,0.9s,mb5.7
MCK LR LR
comp=Z,534nm,21.0s,MS4.8
LDF La Druitiere 71.98 316 *eP* **P 12 11 10.6 -0.6**
comp=Z,88nm,1.0s,mb5.3
LDF La Druitiere 71.98 316 *eP* **P 12 11 10.6 -0.6**
LDF pmax pmax
comp=Z,44nm,1.0s,mb5.3
LDF La Druitiere 71.98 316 *eP* **P 12 11 10.6 -0.6**
comp=Z,44nm,1.0s,mb5.3
HNR Honiara 71.98 113 PFAKE 12 11 20.0 +8.3
HNR LR LR
comp=Z,717nm,22.0s,MS4.9
MCH1 Michaelchurch 72.05 320 *eP* **P 12 11 11.3 -0.2**
MCH1 *eP* 12 11 11.3
MCH1 AMb AMB 12 11 18.3
comp=Z,108nm,1.4s,mb5.6
FLN La Foliniere 72.11 317 *eP* **P 12 11 11.4 -0.6**
FLN *e*MLR MLR
comp=Z,1µm,19.8s,MS4.8
FLN La Foliniere 72.11 317 *eP* **P 12 11 11.4 -0.6**
FLN LR LR
comp=Z,1µm,19.8s,MS5.1
CAF Calviac 72.29 312 *eP* **P 12 11 13.2 +0.1**
comp=Z,91nm,1.2s,mb5.3
CAF Calviac 72.29 312 *eP* **P 12 11 13.2 +0.1**
CAF pmax pmax
comp=Z,45nm,1.2s,mb5.3
CAF Calviac 72.29 312 *eP* **P 12 11 13.2 +0.1**
comp=Z,46nm,1.2s,mb5.3
RJF Les Rejaudoux 72.47 313 *eP* **P 12 11 14.5 +0.3**
RJF *e*MLR MLR
comp=Z,733nm,19.2s,MS4.7
RJF Les Rejaudoux 72.47 313 *eP* **P 12 11 14.5 +0.3**
RJF LR LR
comp=Z,730nm,19.3s,MS5.0
GRR Gorron 72.51 316⇓*iP* **P 12 11 13.9 -0.5**
comp=Z,78nm,0.8s,mb5.4
GRR Gorron 72.51 316⇓*iP* **P 12 11 13.9 -0.5**
GRR pmax pmax
comp=Z,39nm,0.8s,mb5.4
GRR Gorron 72.51 316⇓*iP* **P 12 11 13.9 -0.5**
comp=Z,39nm,0.8s,mb5.4
MFF Saint Martin d 72.90 314 *eP* **P 12 11 16.3 -0.4**
comp=Z,176nm,1.6s,mb5.5
MFF Saint Martin d 72.90 314 *eP* **P 12 11 16.3 -0.4**
MFF pmax pmax
comp=Z,88nm,1.5s,mb5.5
MFF Saint Martin d 72.90 314 *eP* **P 12 11 16.3 -0.4**
comp=Z,88nm,1.5s,mb5.5
MTLF Montolieu 72.91 311 *eP* **P 12 11 16.6 -0.2**
comp=Z,83nm,1.4s,mb5.2
MTLF Montolieu 72.91 311 *eP* **P 12 11 16.6 -0.2**
MTLF pmax pmax
comp=Z,41nm,1.4s,mb5.2
MTLF Montolieu 72.91 311 *eP* **P 12 11 16.6 -0.2**
comp=Z,42nm,1.4s,mb5.2
PMR Palmer 72.92 27 *eP* **P 12 11 15.1 -1.4**
PMR pmax pmax
comp=Z,387nm,1.8s,mb6.0
PMR MLR MLR
comp=Z,1µm,20.0s,MS5.1
PMR Palmer 72.92 27 *eP* **P 12 11 15.1 -1.4**
comp=Z,386nm,1.8s,mb6.0
PMR LR LR
comp=Z,1µm,20.0s,MS5.1
SLKM Skilak Lake 73.09 29 *eP* **P 12 11 16.5 -1.1**
SLKM *e*PcP PcP 12 11 33.6 -0.7
SML Sawmill 73.11 27 *eP* **P 12 11 17.3 -0.4**
LFF La Frestale 73.12 313 *eP* **P 12 11 18.3 +0.2**
comp=Z,200nm,1.4s,mb5.5
LFF La Frestale 73.12 313 *eP* **P 12 11 18.3 +0.2**
LFF pmax pmax
comp=Z,100nm,1.4s,mb5.5
LFF La Frestale 73.12 313 *eP* **P 12 11 18.3 +0.2**
comp=Z,100nm,1.4s,mb5.5
SGMF Saint Gilles 73.57 317 *eP* **P 12 11 20.6 -0.1**
KDAK Kodiak Island 73.58 32 P **P 12 11 19.6 -0.9**
comp=Z,142nm,1.0s,mb5.8,baz=320,slow=2.7,SNR=40
KDAK LR LR 12 46 43.2
comp=Z,1µm,19.6s,MS5.1,baz=312,slow=38
DCN Croghan 73.66 323 *eP* **P 12 11 20.7 -0.4**
INK Inuvik 73.66 18 P **P 12 11 20.4 -0.4**
INK Inuvik 73.66 18 *eP* **P 12 11 20.3 -0.6**
comp=Z,4µm,1.3s
MLS Moulis 73.81 311 *eP* **P 12 11 21.6 -0.6**
EGAK Eagle 73.85 22 *eP* **P 12 11 21.5 -0.4**
comp=Z,86nm,1.2s,mb5.6
EGAK LR LR
comp=Z,1µm,20.0s,MS5.2
RES Resolute Bay 73.92 3 *eP* **P 12 11 21.6 -0.6**
comp=Z,1µm,1.1s
ROSF Rostrenen 73.95 317⇓*iP* **P 12 11 22.8 -0.1**
comp=Z,141nm,1.2s,mb5.5
ROSF Rostrenen 73.95 317⇓*iP* **P 12 11 22.8 -0.1**
ROSF pmax pmax
comp=Z,70nm,1.2s,mb5.5
ROSF Rostrenen 73.95 317⇓*iP* **P 12 11 22.8 -0.1**
comp=Z,70nm,1.2s,mb5.5
EMIR Miracle 74.01 309 P **P 12 11 22.6 -0.8**
comp=Z,112nm,1.2s,mb5.7
QUIF Quistinic 74.09 317 *eP* **P 12 11 23.5 -0.2**
comp=Z,271nm,1.5s,mb5.7
QUIF Quistinic 74.09 317 *eP* **P 12 11 23.5 -0.2**
QUIF pmax pmax
comp=Z,135nm,1.5s,mb5.7
QUIF Quistinic 74.09 317 *eP* **P 12 11 23.5 -0.2**
comp=Z,135nm,1.5s,mb5.7
EPF Esparros 74.27 311 *eP* **P 12 11 24.0 -0.8**
RESF Ens 74.37 311 *eP* **P 12 11 26.0 +0.5**
DIV Divide 74.50 27 *eP* **P 12 11 25.5 -0.3**
comp=Z,126nm,0.9s,mb5.8
DIV LR LR
comp=Z,3µm,19.0s,MS5.6
VIEF Viey 74.54 311 *eP* **P 12 11 27.1 +0.7**
EBIE Bielsa 74.56 311 P **P 12 11 27.3 +0.7**
comp=Z,45nm,1.2s,mb5.3
EPOB Poblet 74.57 309 P **P 12 11 26.2 -0.5**
comp=Z,57nm,1.2s,mb5.4
DAWY Dawson 74.89 22 *eP* **P 12 11 27.6 -0.5**
ETSF Etsaut 74.91 311 *eP* **P 12 11 28.9 +0.3**
comp=Z,52nm,0.9s,mb5.1
ETSF Etsaut 74.91 311 *eP* **P 12 11 28.9 +0.3**
ETSF pmax pmax
comp=Z,26nm,0.9s,mb5.2
ETSF Etsaut 74.91 311 *eP* **P 12 11 28.9 +0.3**
comp=Z,26nm,0.9s,mb5.2
SJPF Ste Jean 75.23 312 *eP* **P 12 11 30.9 +0.5**
comp=Z,31nm,0.9s,mb4.9
SJPF Ste Jean 75.23 312 *eP* **P 12 11 30.9 +0.5**
SJPF pmax pmax
comp=Z,16nm,0.9s,mb5.0
SJPF Ste Jean 75.23 312 *eP* **P 12 11 30.9 +0.5**
comp=Z,16nm,0.9s,mb4.9
ERTA Horta de San J 75.26 309 P **P 12 11 30.0 -0.6**
comp=Z,54nm,1.0s,mb5.4
STKA Stephens Creek 75.35 142⇓*iP* **P 12 11 30.1 -1.0**
comp=Z,34nm,0.8s,mb5.3
STKA Stephens Creek 75.35 142 P **P 12 11 30.5 -0.6**
comp=Z,39nm,0.8s,mb5.4,baz=325,slow=6.0,SNR=50
EMHD Djebel Mahouad 75.72 304 P **P 12 11 35.0 +1.6**
EIDS Eidsvold 76.02 132 *eP* **P 12 11 35.2 +0.2**
comp=Z,92nm,1.4s,mb5.5
EIDS *ep*P pP 12 11 39.4 +0.1
EMOS Mosqueruela 76.08 309 P **P 12 11 36.0 +0.7**
comp=Z,59nm,1.2s,mb5.4
ELAN Lanestosa 76.58 313 P **P 12 11 38.2 +0.1**
comp=Z,76nm,1.8s,mb5.3
EBNR Beni Rached 76.69 304 P **P 12 11 37.5 -1.4**
ECHE Chera 76.79 308 P **P 12 11 39.3 -0.1**
ECHE pmax pmax
comp=Z,11nm,0.9s,mb4.8
ECHE Chera 76.79 308 P **P 12 11 39.3 -0.1**
comp=Z,11nm,0.9s,mb4.8
ECHA Ech Chlef 76.87 304 P **P 12 11 39.0 -0.9**
ETOR Torete 76.90 310 P **P 12 11 39.7 -0.3**
ETOR pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
ETOR Torete 76.90 310 P **P 12 11 39.7 -0.3**
comp=Z,10nm,1.4s,mb4.6
EANR 'Ain N'Sour 77.16 304 P **P 12 11 42.0 +0.5**
ETRT Tiaret 77.29 304 P **P 12 11 44.0 +1.7**
ETOB Tobarra 77.65 308 P **P 12 11 43.8 -0.4**
comp=Z,46nm,1.9s,mb5.1
EARI Arriondas 77.66 313 P **P 12 11 43.8 -0.4**
comp=Z,16nm,0.9s,mb5.0
EMUR La Murta 77.85 307 P **P 12 11 44.8 -0.5**
comp=Z,59nm,1.2s,mb5.4
EVIA Vianos 78.30 308 P **P 12 11 48.8 +0.9**
EVIA pmax pmax
comp=Z,21nm,0.7s,mb5.2
EVIA Vianos 78.30 308 P **P 12 11 48.8 +0.9**
comp=Z,21nm,0.7s,mb5.2
GUD Guadarrama 78.36 311 P **P 12 11 48.9 +0.7**
GUD pmax pmax
comp=Z,22nm,0.8s,mb5.1
GUD Guadarrama 78.36 311 P **P 12 11 48.9 +0.8**
comp=Z,22nm,0.8s,mb5.1
ESDC Sonseca Array 78.74 310 P **P 12 11 50.3 0.0**
comp=Z,24nm,1.2s,mb5.0
ESDC Sonseca Array 78.74 310 P **P 12 11 50.5 +0.2**
comp=Z,5.6nm,0.8s,mb4.6,baz=46,slow=6.0,SNR=14
ESDC LR LR 12 52 20.8
comp=Z,455nm,18.6s,MS4.8,baz=30,slow=40
ESLA Sonseca Array 78.74 310 *eP* **P 12 11 50.5 +0.2**
comp=Z,1.6nm,0.8s,mb4.0
ESLA *ep*P pP 12 11 54.3 -0.1
ESLA LR LR
comp=Z,4µm,19.0s,MS5.8
EPON Pontenova 78.84 314 P **P 12 11 50.4 -0.4**
comp=Z,40nm,1.4s,mb5.2
ENIJ Nijar 78.95 307 P **P 12 11 52.0 +0.5**
ENIJ pmax pmax
comp=Z,29nm,0.9s,mb5.2
ENIJ Nijar 78.95 307 P **P 12 11 52.0 +0.5**
comp=Z,29nm,0.9s,mb5.2
PAB San Pablo 79.06 310 PFAKE 12 12 00.0 +8.0
PAB LR LR
comp=Z,459nm,19.0s,MS4.8
EQES Quesada 79.11 308 P **P 12 11 52.6 +0.3**
comp=Z,31nm,1.0s,mb5.2
ECAL Calabor 79.33 313 P **P 12 11 53.6 +0.2**
comp=Z,29nm,0.9s,mb5.2
EBAN Banos Encina 79.41 308 P **P 12 11 54.3 +0.4**
EBAN pmax pmax
comp=Z,16nm,0.8s,mb5.0
EBAN Banos Encina 79.41 308 P **P 12 11 54.3 +0.3**
comp=Z,16nm,0.8s,mb5.0
EBER Berja 79.46 307 P **P 12 11 54.5 +0.2**
comp=Z,31nm,0.8s,mb5.3
SKAG Skagway 79.49 25 *eP* **P 12 11 54.2 +0.2**
comp=Z,254nm,0.9s,mb6.2
ECOG Cogollos-Vega 79.72 307 P **P 12 11 54.7 -1.0**
ECOG pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ECOG Cogollos-Vega 79.72 307 P **P 12 11 54.7 -1.0**
comp=Z,6.5nm,0.6s,mb4.7
ARMA Armidale 79.93 135⇓*iP* **P 12 11 57.9 +1.2**
MVO Moncorvo 79.94 312 *eP* **P 12 11 57.4 +0.7**
comp=Z,67nm,1.1s,mb5.5
EADA Adamuz 79.94 309 P **P 12 11 56.3 -0.5**
comp=Z,38nm,1.2s,mb5.2
STS Santiago 79.94 314 P **P 12 11 56.9 +0.1**
STS pmax pmax
comp=Z,14nm,1.0s,mb4.8
STS Santiago 79.94 314 P **P 12 11 56.9 +0.2**
comp=Z,14nm,1.0s,mb4.8
ERON Agron 80.02 307 P **P 12 11 56.5 -0.8**

comp=Z,7.2nm,0.6s,mb4.8
ELUQ Luque 80.05 308 P **P** **12 11 57.3 -0.1**
ELUQ pmax pmax
comp=Z,47nm,0.9s,mb5.4
ELUQ Luque 80.05 308 P **P** **12 11 57.3 -0.2**
comp=Z,47nm,0.9s,mb5.4
ELOJ Sierra Loja 80.19 307 P **P** **12 11 57.4 -0.8**
comp=Z,1.6nm,0.5s,mb4.2
ELOB Lobios 80.20 313 P **P** **12 11 58.3 +0.1**
comp=Z,63nm,1.1s,mb5.5
PCAB Cabril 80.27 313 *e*P **P** **12 11 59.5 +1.0**
comp=Z,65nm,1.7s,mb5.3
MTE Manteigas 80.68 312 *e*P **P** **12 12 01.9 +1.1**
comp=Z,108nm,1.4s,mb5.6
MTE *e*pP pP 12 12 05.6 +0.7
MTE Manteigas 80.68 312 *e*P **P** **12 12 01.2 +0.4**
comp=Z,105nm,1.8s,mb5.5
PVIS Viseu 80.73 312 *e*P **P** **12 12 01.9 +0.9**
comp=Z,73nm,1.5s,mb5.4
PCBR Castelo Branco 80.94 311 *e*P **P** **12 12 02.7 +0.5**
comp=Z,39nm,1.5s,mb5.1
LSZ Lusaka 81.19 246 PFAKE 12 12 20.0 +16
LSZ LR LR
comp=Z,233nm,22.0s,MS4.5
LSZ Lusaka 81.19 246 P **P** **12 12 03.5 -0.2**
SNR=11
LSZ Lusaka 81.19 246 P **P** **12 12 03.5 -0.2**
SNR=11
SIT Sitka 81.23 26 PFAKE 12 12 10.0 +6.6
SIT LR LR
comp=Z,2μm,19.0s,MS5.4
EBAD Badajoz 81.23 310 P **P** **12 12 03.8 0.0**
comp=Z,41nm,1.1s,mb5.3
EJIF Jimena Fronter 81.45 307 P **P** **12 12 04.4 -0.6**
EJIF pmax pmax
comp=Z,41nm,1.1s,mb5.3
EJIF Jimena Fronter 81.45 307 P **P** **12 12 04.4 -0.6**
comp=Z,41nm,1.1s,mb5.3
ESPR Espera 81.49 308 P **P** **12 12 04.5 -0.6**
comp=Z,48nm,1.3s,mb5.3
EMIN Mina Concepcio 81.55 309 P **P** **12 12 05.6 +0.1**
comp=Z,15nm,1.0s,mb4.9
PESTR Estremoz 81.55 310 *e*P **P** **12 12 06.2 +0.8**
comp=Z,42nm,1.9s,mb5.0
PBAR Barrancos 81.57 310 *e*P **P** **12 12 05.7 +0.1**
comp=Z,65nm,1.6s,mb5.3
EVO Evora 82.01 310 *e*P **P** **12 12 08.1 +0.2**
EVO comp=Z,107nm,1.2s,mb5.3 *e*MLR MLR
comp=Z,572nm,20.5s,MS4.6
EVO Evora 82.01 310 *e*P **P** **12 12 07.8 -0.1**
DLBC Dease Lake 82.09 23 *e*P **P** **12 12 08.7 +0.8**
CNB Canberra Magne 82.15 140 *e*P **P** **12 12 08.2 -0.2**
comp=Z,40nm,1.1s,mb5.3
PBEJ Beja 82.20 310 *e*P **P** **12 12 09.7 +0.8**
comp=Z,46nm,1.5s,mb5.2
EGRO El Granado 82.22 309 P **P** **12 12 08.1 -0.9**
comp=Z,29nm,1.3s,mb5.0
PVAQ Vaqueiros 82.44 309 *e*P **P** **12 12 10.2 0.0**
comp=Z,37nm,1.8s,mb5.0
PBDV Barranco-do-Ve 82.67 309 *e*P **P** **12 12 11.9 +0.5**
comp=Z,75nm,1.8s,mb5.4
WRAK Wrangell Islan 82.81 25 *e*P **P** **12 12 12.5 +0.8**
comp=Z,108nm,1.0s,mb5.8
WRAK LR LR
comp=Z,1μm,20.0s,MS5.3
YKA Yellowknife Ar 82.95 14 P **P** **12 12 11.3 -1.0**
YKA pmax pmax
comp=Z,20nm,0.9s
YKA Yellowknife Ar 82.95 14 P **P** **12 12 11.3 -1.0**
comp=Z,20nm,0.9s,mb5.2,baz=330,slow=4.9,SNR=184
TAU Tasmania Unive 86.76 146 PFAKE 12 12 40.0 +8.4
TAU LR LR
comp=Z,914nm,20.0s,MS5.2
FUNA Funafuti 87.17 102 PFAKE 12 12 40.0 +5.7
FUNA LR LR
comp=Z,3μm,21.0s,MS5.7
LBTB Lobatse 88.82 240 PFAKE 12 12 50.0 +8.1
LBTB LR LR
comp=Z,872nm,21.0s,MS5.2
FCC Fort Churchill 89.70 6 *e*P **P** **12 12 44.5 -1.0**
FCC pmax pmax
comp=Z,61nm,1.2s,mb5.8
FCC Fort Churchill 89.70 6 *e*P **P** **12 12 44.5 -1.0**
comp=Z,61nm,1.2s,mb5.8
BOSA Boshof 91.15 237 P **P** **12 12 51.7 -1.0**
BOSA LR LR 12 50 49.2
BOSA Boshof 91.15 237 P **P** **12 12 51.7 -1.0**
comp=Z,11nm,0.8s,mb5.3,baz=70,slow=3.2,SNR=17
BOSA LR LR 12 50 49.2
comp=Z,497nm,20.9s,MS4.9,baz=46,slow=34
EDM Edmonton 91.55 18 *e*P **P** **12 12 53.9 -0.4**
TSUM Tsumeb 91.77 249 PFAKE 12 13 10.0 +14
TSUM LR LR
comp=Z,802nm,19.0s,MS5.2
PGC Sidney 92.27 26 *e*P **P** **12 12 58.5 +0.8**
comp=Z,37nm,0.8s,mb5.8
VDB Vedder Mountai 92.46 25 P **P** **12 12 58.5 0.0**
A05A Maple Falls 92.49 25 ⇑P **P** **12 12 58.9 +0.2**
baz=92,SNR=12
A04A Legoe Bay, Lum 92.49 25 ⇑P **P** **12 12 59.4 +0.7**
baz=92,SNR=7.0
OBC Olympics--Boni 92.54 27 P **P** **12 13 00.3 +1.3**
A06A Chilliwack 92.62 25 ⇑P **P** **12 12 59.0 -0.3**
baz=92
FFC Flin Flon 92.62 11 P **P** **12 12 58.2 -1.0**
comp=Z,124nm,1.2s,mb6.2,SNR=7.5
FFC Flin Flon 92.62 11 *e*P **P** **12 12 58.3 -0.9**
FFC pmax pmax
comp=Z,48nm,1.5s,mb5.7
FFC MLR MLR
comp=Z,557nm,20.0s,MS5.0
FFC Flin Flon 92.62 11 *e*P **P** **12 12 58.2 -0.9**
comp=Z,48nm,1.5s,mb5.7
FFC LR LR
comp=Z,557nm,20.0s,MS5.0
MBW Mount Baker 92.73 25 P **P** **12 13 00.1 +0.3**
B04A Port Angeles 92.74 26 ⇑P **P** **12 13 00.8 +0.9**
baz=92,SNR=8.0
CMW Cultus Mountai 92.95 25 P **P** **12 13 01.7 +0.8**
A07A Ashnola River, 93.05 24 P **P** **12 13 02.2 +1.0**
baz=93,SNR=8.3
B05A Bryant 93.10 25 P **P** **12 13 02.0 +0.5**
baz=93,SNR=12
B06A Marblemount 93.11 25 ⇓P **P** **12 13 01.6 0.0**
baz=93,SNR=8.2
NLWA Neilton Lookou 93.15 27 *e*P **P** **12 13 02.0 +0.2**
comp=Z,21nm,0.9s,mb5.6
NLWA LR LR
comp=Z,793nm,19.0s,MS5.2
NLWA Neilton Lookou 93.15 27 ⇓P **P** **12 13 03.1 +1.3**
baz=93,SNR=9.4
SCHQ Schefferville 93.16 351 P **P** **12 13 00.7 -1.0**
comp=Z,18nm,1.1s,mb5.4,baz=36,slow=5.3,SNR=11
SCHQ LR LR 12 56 58.6
comp=Z,549nm,21.4s,MS5.0,baz=187,slow=37
JCW Jim Creek 93.22 25 P **P** **12 13 02.7 +0.7**
CMLA Cha da Macela 93.22 318 PFAKE 12 13 10.0 +7.7
CMLA LR LR
comp=Z,679nm,20.0s,MS5.1
C04A Brinnon 93.23 26 P **P** **12 13 03.6 +1.5**
baz=93,SNR=6.8
D03A Wishkah Elem. 93.42 27 ⇓P **P** **12 13 04.5 +1.5**
baz=93
A08A Turner Farm, O 93.51 23 P **P** **12 13 04.2 +0.8**
baz=93,SNR=33
B07A Winthrop 93.64 24 P **P** **12 13 04.5 +0.5**
baz=93,SNR=17
C05A Tolt Reservoir 93.72 25 ⇑P **P** **12 13 04.8 +0.4**
baz=93,SNR=9.8
A09A Danville 93.72 23 P **P** **12 13 05.3 +0.9**
baz=93,SNR=8.3
RMW Rattlesnake Mo 93.88 26 P **P** **12 13 06.1 +1.0**
E03A Lebam 93.97 27 ⇑P **P** **12 13 06.1 +0.5**
baz=94,SNR=5.3
B08A Colville Reser 94.00 24 ⇑P **P** **12 13 05.9 +0.3**
baz=94,SNR=29
D05A Enumclaw 94.04 26 ⇓P **P** **12 13 06.6 +0.8**
baz=94
A10A Northport 94.06 22 ⇑P **P** **12 13 06.4 +0.5**
baz=94
E04A Onalaska 94.26 27 ⇑P **P** **12 13 07.4 +0.5**
baz=94
C07A Waterville 94.32 25 ⇓P **P** **12 13 07.1 0.0**
baz=94,SNR=8.1
B09A Rice 94.35 23 P **P** **12 13 08.1 +0.9**
baz=94,SNR=23

FMW Mount Fremont 94.37 26 P **P** **12 13 07.7 +0.3**
D06A Cle Elum 94.45 25 ⇓P **P** **12 13 07.6 -0.1**
baz=94
A11A Hall Mountain, 94.46 22 ⇓P **P** **12 13 08.6 +0.9**
baz=94,SNR=10
F03A Seaside 94.48 28 ⇓P **P** **12 13 08.4 +0.5**
baz=94
TBM Table Mountain 94.56 25 P **P** **12 13 09.1 +0.8**
C08A Higginbotham F 94.59 24 ⇓P **P** **12 13 08.4 0.0**
baz=94,SNR=14
ERK Elk Rock 94.64 27 P **P** **12 13 09.5 +0.8**
E05A Randle 94.65 26 ⇑P **P** **12 13 08.8 +0.1**
baz=94
A12A Yaak River Ran 94.71 21 ⇑P **P** **12 13 09.2 +0.4**
baz=94
D07A Quincy 94.77 25 ⇑P **P** **12 13 09.3 +0.1**
baz=94
EBG Ellensburg 94.80 25 P **P** **12 13 10.4 +1.0**
NEW Newport 94.83 23 *e*P **P** **12 13 09.5 +0.1**
NEW pmax pmax
comp=Z,25nm,1.2s
NEW MLR MLR
comp=Z,866nm,21.0s
NEW Newport 94.83 23 *e*P **P** **12 13 09.4 0.0**
comp=Z,25nm,1.2s,mb5.5
NEW LR LR
comp=Z,866nm,21.0s,MS5.2
C09A Chrisman Ranch 94.84 23 ⇓P **P** **12 13 09.8 +0.2**
baz=94,SNR=12
B11A Sandpoint 94.92 22 ⇑P **P** **12 13 10.5 +0.6**
baz=94,SNR=8.5
F04A Amboy 94.92 27 ⇑P **P** **12 13 10.2 +0.2**
baz=94,SNR=10
MTMW Mount Mitchell 94.92 27 P **P** **12 13 10.7 +0.7**
E06A Yakima 94.95 26 P **P** **12 13 10.7 +0.6**
baz=95,SNR=16
OD2 Odessa Site #2 95.05 24 P **P** **12 13 10.9 +0.4**
A13A Flathead Natio 95.09 21 ⇓P **P** **12 13 10.7 +0.1**
baz=95
G03A Yamhill 95.10 28 ⇓P **P** **12 13 11.5 +0.7**
baz=95
B12A Libby 95.14 22 ⇓P **P** **12 13 11.5 +0.6**
baz=95
MXC Moxie City 95.18 25 P **P** **12 13 12.2 +1.1**
D08A Wollman Farm, 95.26 24 ⇑P **P** **12 13 11.8 +0.3**
baz=95,SNR=7.9
F05A White Salmon 95.33 26 ⇓P **P** **12 13 12.3 +0.5**
baz=95
E07A Sunnyside 95.35 25 ⇑P **P** **12 13 12.3 +0.5**
baz=95
D09A Jones Farm, Ri 95.47 24 ⇑P **P** **12 13 12.6 +0.2**
baz=95
G04A Mulino 95.50 27 ⇓P **P** **12 13 13.2 +0.6**
baz=95,SNR=8.4
B13A Whitefish 95.57 21 P **P** **12 13 13.3 +0.5**
baz=95,SNR=24
HAWA Hanford 95.61 25 *e*P **P** **12 13 13.8 +0.7**
HAWA comp=Z,11nm,0.9s,mb5.3 LR LR
comp=Z,765nm,21.0s,MS5.2
H03A Soap Creek Ran 95.62 28 ⇑P **P** **12 13 13.5 +0.3**
baz=95
F06A Goldendale 95.68 26 ⇑P **P** **12 13 14.0 +0.6**
baz=95
COR Corvallis 95.69 28 PFAKE 12 13 20.0 +6.5
COR LR LR
comp=Z,821nm,20.0s,MS5.2
E08A Dider Farm, El 95.70 25 ⇓P **P** **12 13 13.5 +0.1**
baz=95,SNR=7.6
F07A Phinny Hill Vi 95.89 25 ⇓P **P** **12 13 14.9 +0.6**
baz=96
G05A Wamic 95.92 27 ⇓P **P** **12 13 15.3 +0.8**
baz=96
I02A Mapleton 95.95 29 ⇑P **P** **12 13 15.1 +0.4**
baz=96
E09A Wood Farm, Sta 96.00 24 ⇑P **P** **12 13 14.5 -0.3**
baz=96
H04A Detroit Lake 96.05 27 ⇑P **P** **12 13 15.2 +0.1**
baz=96,SNR=5.9
D11A Klaveano Farm, 96.15 23 P **P** **12 13 15.6 +0.1**
baz=96,SNR=22
C13A Hot Springs 96.15 21 P **P** **12 13 16.0 +0.5**
baz=96,SNR=13
G06A Carlson Farm, 96.19 26 ⇑P **P** **12 13 16.4 +0.7**
baz=96,SNR=5.9
I03A Eugene 96.20 28 ⇓P **P** **12 13 16.5 +0.7**
baz=96
C14A Swan Lake 96.33 21 ⇓P **P** **12 13 16.5 +0.2**
baz=96
E10A Myers Farm, Un 96.38 23 ⇑P **P** **12 13 16.4 -0.2**
baz=96
F08A Pendleton 96.39 25 ⇓P **P** **12 13 17.1 +0.4**
baz=96,SNR=8.3
SUR Sutherland 96.43 236 PFAKE 12 13 30.0 +13
SUR LR LR
comp=Z,1μm,20.0s,MS5.4
H05A Madras 96.46 27 ⇑P **P** **12 13 17.4 +0.4**
baz=96,SNR=5.8
D12A Red Ives Fores 96.46 22 ⇓P **P** **12 13 16.6 -0.3**
baz=96
G07A Ruggs Ranch, H 96.52 26 P **P** **12 13 17.8 +0.6**
baz=96,SNR=6.0
I04A Tendick Farm, 96.70 28 ⇓P **P** **12 13 18.1 0.0**
baz=96,SNR=10
D13A Huson 96.71 22 ⇑P **P** **12 13 17.8 -0.2**
baz=96,SNR=10.0
H06A Lindquist Farm 96.73 26 ⇓P **P** **12 13 18.4 +0.3**
baz=96,SNR=12
G08A Pilot Rock 96.76 25 ⇓P **P** **12 13 18.5 +0.1**
baz=96,SNR=7.2
F10A Beach Ranch, E 96.78 24 ⇑P **P** **12 13 18.6 +0.1**
baz=96,SNR=19
E11A Bogner Ranch, 96.80 23 P **P** **12 13 18.5 0.0**
baz=96,SNR=19
VIPM Ingram Point 96.81 27 P **P** **12 13 19.2 +0.6**
J03A Ideyid Park 96.83 29 ⇑P **P** **12 13 19.4 +0.8**
baz=96
I05A Bend 96.85 27 ⇓P **P** **12 13 19.3 +0.5**
baz=96
D14A Greenough 97.02 21 ⇑P **P** **12 13 19.2 -0.2**
baz=97,SNR=7.7
MSO Missoula 97.11 21 *e*P **P** **12 13 19.9 0.0**
comp=Z,8.6nm,1.0s,mb5.1
MSO LR LR
comp=Z,545nm,19.0s,MS5.1
K02A Glendale 97.11 29 ⇑P **P** **12 13 19.8 -0.1**
baz=97
G09A Cove 97.20 24 ⇓P **P** **12 13 20.2 -0.1**
baz=97
DBIC Dimbokro 97.21 282 P **P** **12 13 20.5 -0.4**
DBIC 12 17 14.0
DBIC Dimbokro 97.21 282 P **P** **12 13 20.5 -0.5**
comp=Z,6.4nm,1.0s,mb5.0,baz=31,slow=7.0,SNR=4.7
DBIC PP PP 12 17 14.0 -3.2
comp=Z,5.2nm,0.9s,baz=31,slow=10,SNR=3.6
DBIC LR LR 13 01 03.7
comp=Z,653nm,19.2s,MS5.1,baz=37,slow=38
F11A Grangeville 97.22 23 ⇓P **P** **12 13 20.2 -0.2**
baz=97,SNR=18
EGMT Eagleton 97.24 18 *e*P **P** **12 13 19.7 -0.7**
comp=Z,22nm,1.1s,mb5.5
EGMT LR LR
comp=Z,784nm,20.0s,MS5.2
EGMT Eagleton 97.24 18 ⇑P **P** **12 13 20.0 -0.4**
baz=97
CHMT Chamberlain Mo 97.24 21 *e*P **P** **12 13 20.3 -0.2**
J04A Umpqua Nationa 97.29 28 ⇓P **P** **12 13 21.4 +0.6**
baz=97
D15A Lincoln 97.35 20 ⇓P **P** **12 13 20.6 -0.4**
baz=97,SNR=6.5
E13A Victor 97.38 22 ⇑P **P** **12 13 20.4 -0.6**
baz=97,SNR=13
G10A Bishop Farm, J 97.42 24 ⇓P **P** **12 13 20.9 -0.4**
baz=97,SNR=17
I06A Prineville 97.44 27 ⇑P **P** **12 13 22.0 +0.6**
baz=97,SNR=10
HUMO Hull Mountain 97.47 29 PFAKE 12 13 30.0 +8.4
HUMO LR LR
comp=Z,522nm,22.0s,MS5.0
HUMO Hull Mountain 97.47 29 ⇓P **P** **12 13 22.2 +0.6**
baz=97
H08A Prairie City 97.53 25 ⇑P **P** **12 13 22.4 +0.6**
baz=97,SNR=6.5
L02A Cave Junction 97.57 30 ⇑P **P** **12 13 22.8 +0.7**
baz=97
I07A Izee 97.59 26 ⇑P **P** **12 13 22.8 +0.7**
baz=97,SNR=10
M01C Crescent City 97.60 30 ⇑P **P** **12 13 23.2 +1.0**

baz=97
J05A Fort Rock 97.60 28 ⇑P **P** **12 13 22.9 +0.7**
baz=97,SNR=7.9
G11A Walters Elk Ra 97.61 23 ⇑P **P** **12 13 21.9 -0.3**
baz=97
E14A Clinton 97.62 21 P **P** **12 13 22.4 +0.3**
baz=97,SNR=8.9
F12A Elk City 97.64 23 P **P** **12 13 21.8 -0.5**
baz=97,SNR=11
BMO Blue Mountains 97.73 24 *e*P **P** **12 13 22.5 -0.2**
comp=Z,2.3nm,0.4s,mb5.1
BMO LR LR
comp=Z,488nm,20.0s,MS5.0
H09A Durkee 97.77 25 ⇑P **P** **12 13 22.6 -0.3**
baz=97
CASY Casey 97.80 175 PFAKE 12 13 30.0 +7.8
CASY LR LR
comp=Z,789nm,20.0s,MS5.2
E15A Deer Lodge 97.87 21 ⇑P **P** **12 13 23.0 -0.3**
baz=98,SNR=8.4
ULM Lac du Bonnet 97.88 9 PFAKE 12 13 30.0 +6.7
ULM LR LR
comp=Z,840nm,19.0s,MS5.2
ULM Lac du Bonnet 97.88 9 LR LR 13 01 31.1
comp=Z,711nm,19.2s,MS5.2,baz=241,slow=38
F13A Darby 97.91 22 ⇓P **P** **12 13 22.6 -0.9**
baz=98,SNR=7.5
J06A Christmas Vall 98.05 27 P **P** **12 13 25.1 +0.9**
baz=98,SNR=12
H10A Noah's Angus R 98.16 24 P **P** **12 13 24.3 -0.3**
baz=98,SNR=6.5
DGMT Dagmar 98.16 15 PFAKE 12 13 40.0 +15
DGMT LR LR
comp=Z,646nm,22.0s,MS5.1
F14A Wisdom 98.19 21 ⇓P **P** **12 13 25.0 +0.2**
baz=98
K05A Summer Lake 98.20 28 ⇑P **P** **12 13 25.6 +0.7**
baz=98,SNR=9.2
J07A Hines 98.27 26 ⇑P **P** **12 13 25.6 +0.4**
baz=98
YBH Yreka Blue Hor 98.29 29 PFAKE 12 13 40.0 +15
YBH LR LR
comp=Z,388nm,19.0s,MS4.9
H11A Donnelly 98.31 24 ⇓P **P** **12 13 25.0 -0.3**
baz=98,SNR=12
K06A Valley Falls 98.40 27 ⇑P **P** **12 13 26.4 +0.7**
baz=98,SNR=6.6
F15A Butte 98.44 21 ⇑P **P** **12 13 25.9 +0.1**
baz=98
M02C Callahan 98.51 30 ⇓P **P** **12 13 27.1 +0.8**
baz=98
G13A Cobalt 98.56 22 P **P** **12 13 26.5 +0.1**
baz=98,SNR=5.7
I10A Payette 98.58 24 ⇑P **P** **12 13 26.9 +0.4**
baz=98
J08A Circle Bar Ran 98.60 26 P **P** **12 13 27.4 +0.8**
baz=98,SNR=14
M04C Macdoel 98.61 29 ⇑P **P** **12 13 26.3 -0.4**
baz=98
G14A Jackson 98.67 22 ⇑P **P** **12 13 26.7 -0.2**
baz=98
N02C Big Bar 98.79 30 ⇓P **P** **12 13 27.6 +0.1**
baz=98
L05A Lakeview 98.80 28 ⇑P **P** **12 13 27.6 0.0**
baz=98
DLMT Dillon 98.84 21 *e*P **P** **12 13 27.6 -0.1**
comp=Z,7.9nm,1.0s,mb5.2
H12A Diamond D Ranc 98.84 23 ⇓P **P** **12 13 27.2 -0.5**
baz=98
BOZ Bozeman (W) 98.87 20 *e*P **P** **12 13 28.1 +0.3**
BOZ pmax pmax
comp=Z,9.0nm,1.3s,mb5.1
BOZ MLR MLR
comp=Z,700nm,19.0s,MS5.2
BOZ Bozeman (W) 98.87 20 *e*P **P** **12 13 28.1 +0.3**
comp=Z,8.8nm,1.3s,mb5.1
BOZ LR LR
comp=Z,700nm,19.0s,MS5.2
BOZ Bozeman (W) 98.87 20 ⇓P **P** **12 13 27.4 -0.5**
baz=98
J09A Fry Pan Ranch, 98.88 25 ⇓P **P** **12 13 28.0 +0.2**
baz=98
K07A Rock Creek Ran 98.88 27 ⇑P **P** **12 13 28.3 +0.4**
baz=98,SNR=8.8
M03C McCloud 98.92 29 ⇑P **P** **12 13 27.8 -0.3**
baz=98
H13A Challis 99.02 23 ⇑P **P** **12 13 27.8 -0.7**
baz=99
I11A Placerville 99.02 24 ⇑P **P** **12 13 28.2 -0.3**
baz=99
G15A Dillon 99.05 21 ⇓P **P** **12 13 28.1 -0.5**
baz=99,SNR=14
K08A Mann Creek Ran 99.13 26 ⇓P **P** **12 13 28.9 -0.1**
baz=99,SNR=5.7
MOD Modoc 99.13 28 PFAKE 12 13 40.0 +11
MOD LR LR
comp=Z,529nm,21.0s,MS5.0
MOD Modoc 99.13 28 ⇓P **P** **12 13 29.1 0.0**
baz=99
GCMT Greycliff 99.31 19 *e*P **P** **12 13 29.1 -0.6**
WDC Whiskeytown Da 99.32 30 PFAKE 12 13 40.0 +10
WDC LR LR
comp=Z,478nm,19.0s,MS5.0
WVOR Wild Horse Val 99.33 26 PFAKE 12 13 40.0 +10
WVOR LR LR
comp=Z,629nm,22.0s,MS5.1
LAO LASA Array 99.38 16 PFAKE 12 13 40.0 +10
LAO LR LR
comp=Z,721nm,20.0s,MS5.2
L07A Adell 99.42 27 ⇑P **P** **12 13 30.5 +0.1**
baz=99,SNR=14
K09A Rome 99.44 26 ⇑P **P** **12 13 30.7 +0.3**
baz=99
MFID Camas Ranch 99.51 24 ⇓P **P** **12 13 30.7 0.0**
baz=99
O02C Red Bluff 99.54 30 ⇑P **P** **12 13 31.3 +0.4**
baz=99
HATC Hat Creek Radi 99.58 29 ⇑P **P** **12 13 31.6 +0.5**
baz=99
I13A Wildhorse Cree 99.65 23 P Pdif 12 13 31.8 +0.5
baz=99,SNR=5.6
M06C Likely Place G 99.65 28 ⇑P Pdif 12 13 31.8 +0.5
baz=99
K10A MacKenzie Ranc 99.69 25 ⇓P Pdif 12 13 31.2 -0.3
baz=99
AGMN Agassiz Refuge 99.79 9 PFAKE 12 13 40.0 +8.1
AGMN LR LR
comp=Z,663nm,20.0s,MS5.1
HLID Hailey 99.86 23 ⇓P Pdif 12 13 32.0 -0.2
baz=100,SNR=11
J12A Stokes Ranch, 99.90 24 ⇓P Pdif 12 13 32.6 +0.2
baz=100
YMR Madison River 99.96 20 PFAKE 12 13 40.0 +7.3
YMR LR LR
comp=Z,869nm,22.0s,MS5.2
M07A Soldier Meadow 100.02 27 ⇑P Pdif 12 13 33.6 +0.7
baz=100
RLMT Red Lodge 100.03 19 PFAKE 12 13 40.0 +7.0
RLMT LR LR
comp=Z,687nm,19.0s,MS5.2
L09A Wilkinson Ranc 100.05 26 ⇓P Pdif 12 13 33.3 +0.2
baz=100
J13A Cove Ranch, Pi 100.09 23 ⇓P Pdif 12 13 33.3 0.0
baz=100,SNR=24
O04C Chester 100.15 29 ⇑P Pdif 12 13 34.0 +0.5
baz=100
M08A Happy Creek Ra 100.28 27 ⇓P Pdif 12 13 35.0 +1.0
baz=100
HOPS Hopland 100.39 31 PFAKE 12 13 50.0 +15
HOPS LR LR
comp=Z,542nm,20.0s,MS5.1
L10A Juniper Basin 100.45 25 ⇑P Pdif 12 13 35.5 +0.7
baz=100,SNR=5.9
K12A Draper Farm, C 100.51 24 ⇑P Pdif 12 13 35.0 -0.1
baz=100
O05C Quincy 100.52 29 ⇑P Pdif 12 13 35.5 +0.4
baz=100
ORV Oroville 100.61 30 ⇑P Pdif 12 13 35.4 -0.1
baz=100
N07B Gerlach 100.62 28 ⇑P Pdif 12 13 36.2 +0.6
baz=100
L11A Cat Creek Ranc 100.63 25 P Pdif 12 13 36.5 +0.9
baz=100,SNR=5.3
EYMN Ely 100.64 6 PFAKE 12 13 50.0 +14
EYMN LR LR
comp=Z,790nm,22.0s,MS5.2
K13A Stover Farm, H 100.78 23 ⇓P Pdif 12 13 36.6 +0.3
baz=100

O06A	Flanigan	100.80	28	⇑P	Pdif	12 13 37.0	+0.6
	baz=100						
BEKR	Beckwourth	100.83	29	⇓P	Pdif	12 13 37.0	+0.5
	baz=100						
M10A	I.L. Ranch, Tu	100.91	26	⇓P	Pdif	12 13 36.9	+0.1
	baz=100						
N08A	GE Springer Mi	100.94	27	⇓P	Pdif	12 13 37.2	+0.2
	baz=101						
MCCM	Marconi Confer	101.18	32	PFAKE		12 13 50.0	+12
MCCM				LR	LR		
	comp=Z,745nm,19.0s,MS5.2						
O07A	Toulon	101.18	28	⇑P	Pdif	12 13 38.1	0.0
	baz=101						
SNZO	South Karori	101.25	132	PFAKE		12 13 50.0	+12
SNZO				LR	LR		
	comp=Z,562nm,20.0s,MS5.1						
M11A	Holland Ranch,	101.26	25	⇑P	Pdif	12 13 39.4	+0.9
	baz=101						
AHID	Auburn Hatcher	101.65	21	PFAKE		12 13 50.0	+10
AHID				LR	LR		
	comp=Z,723nm,19.0s,MS5.2						
R05C	Kirkwood Meado	101.93	29	⇓P	Pdif	12 13 41.6	+0.2
	baz=102						
O10A	Cortez Mining,	101.99	26	⇓P	Pdif	12 13 42.0	+0.3
	baz=102						
N12A	Clover Valley,	102.04	25	⇑P	Pdif	12 13 42.4	+0.5
	baz=102						
M14A	Sheep Mountain	102.05	23	⇓P	Pdif	12 13 42.2	+0.3
	baz=102						
BW06	Boulder Array	102.11	20	PFAKE		12 13 50.0	+7.8
BW06				LR	LR		
	comp=Z,395nm,20.0s,MS4.9						
CMB	Columbia Colle	102.36	30	PFAKE		12 13 50.0	+6.7
CMB				LR	LR		
	comp=Z,450nm,21.0s,MS5.0						
CMB	Columbia Colle	102.36	30	⇑P	Pdif	12 13 43.7	+0.4
	baz=102						
M15A	Larsen Ranch,	102.39	23	⇑P	Pdif	12 13 43.4	-0.1
	baz=102						
S04C	Ingram Canyon,	102.39	31	⇓P	Pdif	12 13 44.1	+0.6
	baz=102						
O11A	Cowboy Ranch,	102.44	26	⇑P	Pdif	12 13 44.4	+0.7
	baz=102						
HWUT	Hardware Ranch	102.55	22	PFAKE		12 14 00.0	+16
HWUT				LR	LR		
	comp=Z,647nm,22.0s,MS5.1						
P10A	Eureka	102.59	26	⇑P	Pdif	12 13 44.7	+0.3
	baz=102						
Q08A	Gabbs	102.67	28	⇓P	Pdif	12 13 44.9	+0.2
	baz=102						
COWI	Conover	102.67	5	PFAKE		12 14 00.0	+15
COWI				LR	LR		
	comp=Z,693nm,20.0s,MS5.2						
N14A	Grayback Hills	102.69	24	⇓P	Pdif	12 13 45.1	+0.3
	baz=102						
PKME	Peaks-Kenny Pk	102.85	351	PFAKE		12 14 00.0	+14
PKME				LR	LR		
	comp=Z,546nm,20.0s,MS5.1						
NVAR	Mina Array Bea	102.89	28	P	Pdif	12 13 46.2	+0.5
	comp=Z,2.2nm,0.8s,baz=332,slow=2.9,SNR=14						
NVAR				PP	PP	12 17 55.3	-3.6
	comp=Z,2.9nm,1.1s,baz=298,slow=10,SNR=8.1						
SAO	San Andreas Ge	102.96	31	PFAKE		12 14 00.0	+14
SAO				LR	LR		
	comp=Z,490nm,20.0s,MS5.0						
DUG	Dugway	103.40	24	PFAKE		12 14 00.0	+12
DUG				LR	LR		
	comp=Z,717nm,21.0s,MS5.2						
DUG	Dugway	103.40	24	⇓P	Pdif	12 13 48.0	0.0
	baz=103						
R09A	Tonopah	103.55	28	⇓P	Pdif	12 13 48.8	+0.2
	baz=103						
Q11A	Duckwater	103.57	26	⇓P	Pdif	12 13 49.0	+0.3
	baz=103						
P13A	Bates Ranch, G	103.64	25	⇓P	Pdif	12 13 49.8	+0.8
	baz=103						
Q12A	Willow Creek R	103.71	26	⇑P	Pdif	12 13 49.9	+0.5
	baz=103						
S08C	White Mtn Res	103.74	29	⇓P	Pdif	12 13 49.9	+0.5
	baz=103						
R10A	Warm Springs	103.81	27	⇓P	Pdif	12 13 50.4	+0.7
	baz=103						
S09A	Goldfield	103.93	28	⇓P	Pdif	12 13 51.1	+0.8
	baz=104						
MPU	Maple Canyon	103.96	23	PFAKE		12 14 00.0	+10
MPU				LR	LR		
	comp=Z,631nm,20.0s,MS5.2						
S10A	Tonopah Range,	104.01	27	⇓P	Pdif	12 13 51.4	+0.7
	baz=104,SNR=6.5						
R11A	Troy Canyon, C	104.03	26	⇑P	Pdif	12 13 51.1	+0.3
	baz=104						
HELL	Mitchell Peak	104.08	30	⇑P	Pdif	12 13 51.6	+0.6
	baz=104						
LONY	Lake Ozonia	104.08	354	PFAKE		12 14 00.0	+9.0
LONY				LR	LR		
	comp=Z,465nm,20.0s,MS5.0						
ECSD	EROS,Sioux Fal	104.14	11	PFAKE		12 14 00.0	+8.7
ECSD				LR	LR		
	comp=Z,589nm,20.0s,MS5.1						
LBNH	Lisbon	104.19	352	PFAKE		12 14 00.0	+8.5
LBNH				LR	LR		
	comp=Z,464nm,20.0s,MS5.0						
GRAC	Grapevine Rang	104.50	28	⇓P	Pdif	12 13 54.4	+1.6
	baz=104						
NCB	Newcomb	104.69	354	PFAKE		12 14 00.0	+6.3
NCB				LR	LR		
	comp=Z,497nm,21.0s,MS5.0						
TPNV	Topopah Spring	104.99	28	PFAKE		12 14 10.0	+15
TPNV				LR	LR		
	comp=Z,487nm,20.0s,MS5.0						
MSU	Marysvale	105.12	24	*e*PKP	PKiKP	12 18 11.0	+0.7
MSU				*e*PP	PP	12 18 15.4	-0.1
T11A	Corn Creek, Al	105.14	27	⇑P	Pdif	12 13 56.7	+1.1
	baz=105						
JFWS	Jewell Farm	105.75	6	PFAKE		12 18 20.0	+8.8
JFWS				LR	LR		
	comp=Z,750nm,19.0s,MS5.3						
HRV	Adam Dziewonsk	105.86	352	PFAKE		12 18 20.0	+8.5
HRV				LR	LR		
	comp=Z,539nm,19.0s,MS5.1						
WES	Weston	105.95	352	PFAKE		12 18 20.0	+8.4
WES				LR	LR		
	comp=Z,706nm,19.0s,MS5.2						
ISCO	Idaho Springs	105.98	19	PFAKE		12 18 20.0	+8.2
ISCO				LR	LR		
	comp=Z,683nm,20.0s,MS5.2						
EDW2	Edwards Air Fo	106.05	30	⇑P	PKiKP	12 18 12.2	+0.2
	baz=106						
GSC	Goldstone	106.19	29	PFAKE		12 18 20.0	+7.7
GSC				LR	LR		
	comp=Z,475nm,20.0s,MS5.0						
SCIA	State Center	106.42	8	PFAKE		12 18 20.0	+7.5
SCIA				LR	LR		
	comp=Z,688nm,20.0s,MS5.2						
BINY	Binghamton	106.60	355	PFAKE		12 18 20.0	+7.2
BINY				LR	LR		
	comp=Z,642nm,20.0s,MS5.2						
U14A	Mt Trumbull	106.63	26	⇑P	PKiKP	12 18 12.9	-0.2
	baz=106						
AAM	Ann Arbor	106.71	1	PFAKE		12 18 20.0	+7.0
AAM				LR	LR		
	comp=Z,740nm,19.0s,MS5.3						
T16A	Glen Canyon Da	106.73	24	⇑P	PKiKP	12 18 13.3	+0.1
	baz=106						
SNCC	San Nicolas Is	106.76	32	PFAKE		12 18 20.0	+6.6
SNCC				LR	LR		
	comp=Z,420nm,19.0s,MS5.0						
V13A	Grand Canyon W	106.83	26	⇓P	PKiKP	12 18 13.7	+0.3
	baz=106						
ERPA	Erie	106.88	358	PFAKE		12 18 20.0	+6.6
ERPA				LR	LR		
	comp=Z,642nm,22.0s,MS5.1						
GMRC	Granite Mounta	107.11	28	⇑P	PKiKP	12 18 14.6	+0.6
	baz=107						
BELC	Belle Mtn.	107.64	29	⇑P	PKiKP	12 18 15.3	+0.3
	baz=107						
PFO	Pinyon Flat Ob	107.79	30	PFAKE		12 18 30.0	+15
PFO				LR	LR		
	comp=Z,398nm,20.0s,MS5.0						
PFO	Pinyon Flat Ob	107.79	30	⇑P	PKiKP	12 18 16.0	+0.7
	baz=107						
IRM	Iron Mountain	107.85	28	⇑P	PKiKP	12 18 15.8	+0.4
	baz=108						
SDCO	Great Sand Dun	107.93	19	PFAKE		12 18 30.0	+15
SDCO				LR	LR		
	comp=Z,682nm,21.0s,MS5.2						
X13A	Yucca	108.00	27	⇑P	PKiKP	12 18 16.3	+0.6
	baz=108						
WUAZ	Wupatki	108.09	25	PFAKE		12 18 30.0	+14
WUAZ				LR	LR		
	comp=Z,512nm,22.0s,MS5.0						
HDIL	Hopedale	108.17	6	PFAKE		12 18 30.0	+14
HDIL				LR	LR		
	comp=Z,747nm,20.0s,MS5.2						
SSPA	Standing Stone	108.27	356	PFAKE		12 18 30.0	+14
SSPA				LR	LR		
	comp=Z,531nm,19.0s,MS5.1						
CBKS	Cedar Bluff	108.33	14	PFAKE		12 18 30.0	+14
CBKS				LR	LR		
	comp=Z,916nm,21.0s,MS5.3						
Y13A	Salome	108.68	27	⇑P	PKiKP	12 18 17.5	+0.5
	baz=108						
ACSO	Alum Creek Sta	108.79	1	PFAKE		12 18 30.0	+13
ACSO				LR	LR		
	comp=Z,597nm,20.0s,MS5.2						
Y14A	Wickenburg	108.89	27	⇑P	PKiKP	12 18 17.4	0.0
	baz=108						
GLA	Glamis	108.95	29	PFAKE		12 18 30.0	+13
GLA				LR	LR		
	comp=Z,647nm,20.0s,MS5.2						
GLA	Glamis	108.95	29	⇓P	PKiKP	12 18 17.5	0.0
	baz=109						
Y15A	Casa Rosa Ranc	109.14	26	⇓P	PKiKP	12 18 18.2	+0.4
	baz=109						
MCWV	Mont Chateau	109.33	358	PFAKE		12 18 30.0	+12
MCWV				LR	LR		
	comp=Z,790nm,21.0s,MS5.3						
Z14A	Wintersburg	109.43	27	⇑P	PKiKP	12 18 18.6	+0.2
	baz=109						
X19A	St. Johns	109.81	24	⇑P	PKiKP	12 18 19.2	+0.1
	baz=109						
Y17A	Roosevelt	109.92	25	⇓P	PKiKP	12 18 19.8	+0.5
	baz=110						
ANMO	Albuquerque	110.24	21	PFAKE		12 18 30.0	+10
ANMO				LR	LR		
	comp=Z,568nm,20.0s,MS5.1						
CCM	Cathedral Cave	110.46	8	PFAKE		12 18 30.0	+10
CCM				LR	LR		
	comp=Z,601nm,19.0s,MS5.2						
116A	Eloy	110.61	26	⇑P	PKiKP	12 18 20.7	+0.1
	baz=110						
CBN	Corbin	110.66	356	PFAKE		12 18 30.0	+9.4
CBN				LR	LR		
	comp=Z,566nm,20.0s,MS5.1						
117A	Oracle	110.97	26	⇑P	PKiKP	12 18 21.2	-0.1
	baz=111						
RAR	Rarotonga	111.03	103	PFAKE		12 18 30.0	+8.4
RAR				LR	LR		
	comp=Z,2.0nm,20.0s						
118A	Homack Ranch,	111.18	25	⇑P	PKiKP	12 18 21.5	-0.2
	baz=111						
TUC	Tucson	111.18	26	PFAKE		12 18 30.0	+8.3
TUC				LR	LR		
	comp=Z,403nm,21.0s,MS5.0						
119A	Ashpeak Ranch,	111.31	24	⇑P	PKiKP	12 18 21.6	-0.3
	baz=111						
AMTX	Amarillo	111.64	17	PFAKE		12 18 30.0	+7.5
AMTX				LR	LR		
	comp=Z,640nm,21.0s,MS5.2						
217A	Green Valley	111.65	26	⇑P	PKiKP	12 18 22.6	-0.1
	baz=111						
BLA	Blacksburg	111.78	358	PFAKE		12 18 30.0	+7.3
BLA				LR	LR		
	comp=Z,590nm,22.0s,MS5.1						
219A	White Tail Can	112.02	25	⇓P	PKiKP	12 18 23.1	-0.2
	baz=112						
318A	Bisbee	112.26	25	⇑P	PKiKP	12 18 23.3	-0.5
	baz=112						
WMOK	Wichita Mounta	112.46	15	PFAKE		12 18 40.0	+16
WMOK				LR	LR		
	comp=Z,551nm,20.0s,MS5.1						
TZTN	Tazewell	112.46	1	PFAKE		12 18 40.0	+16
TZTN				LR	LR		
	comp=Z,727nm,19.0s,MS5.3						
319A	Douglas	112.57	25	⇑P	PKiKP	12 18 23.8	-0.6
	baz=112						
WVT	Waverly	112.68	5	PFAKE		12 18 40.0	+16
WVT				LR	LR		
	comp=Z,618nm,20.0s,MS5.2						
MNTX	Cornudas Mount	113.59	21	*e*PKP	PKiKP	12 18 25.8	-0.5
MNTX				LR	LR		
	comp=Z,563nm,19.0s,MS5.2						
MIAR	Mount Ida	113.61	10	PFAKE		12 18 40.0	+14
MIAR				LR	LR		
	comp=Z,471nm,20.0s,MS5.1						
CNNC	Cliffs of the	113.65	356	PFAKE		12 18 40.0	+14
CNNC				LR	LR		
	comp=Z,1μm,20.0s,MS5.4						
PLAL	Pickwick Lake	113.81	5	PFAKE		12 18 40.0	+13
PLAL				LR	LR		
	comp=Z,490nm,20.0s,MS5.1						
OXF	Oxford	114.16	6	PFAKE		12 18 40.0	+13
OXF				LR	LR		
	comp=Z,929nm,20.0s,MS5.4						
VNDA	Vanda	115.08	168	PKP	PKiKP	12 18 25.5	-2.2
	comp=Z,1.6nm,0.8s,baz=311,slow=4.2,SNR=6.9						
VNDA				PKKPab	PKKPab	12 29 08.9	+2.2
	comp=Z,0.4nm,0.3s,baz=178,slow=1.9,SNR=6.2						
GOGA	Godfrey	115.59	1	PFAKE		12 18 40.0	+10
GOGA				LR	LR		
	comp=Z,699nm,20.0s,MS5.3						
NHSC	New Hope	115.87	358	PFAKE		12 18 40.0	+9.3
NHSC				LR	LR		
	comp=Z,786nm,19.0s,MS5.3						
NATX	Nacogdoches	116.16	12	PFAKE		12 18 40.0	+8.7
NATX				LR	LR		
	comp=Z,688nm,20.0s,MS5.3						
JCT	Junction City	116.31	17	*e*PKIKP	PKPdf	12 18 30.8	-0.8
JCT				MLR	MLR		
	comp=Z,663nm,20.0s,MS5.2						
VBMS	Vicksburg	116.31	8	PFAKE		12 18 40.0	+8.5
VBMS				LR	LR		
	comp=Z,572nm,19.0s,MS5.2						
TXAR	Lajitas Array	116.32	21	PKIKP	PKPdf	12 18 30.2	-1.4
TXAR						12 19 36.9	
TXAR	Lajitas Array	116.32	21	PKP	PKPdf	12 18 30.2	-1.5
TXAR				PP	PP	12 19 36.9	+0.7
TXAR				PKKPbc	PKKPbc	12 29 00.9	+0.6
TXAR	Lajitas Array	116.32	21	PKP	PKPdf	12 18 30.2	-1.5
	comp=Z,2.2nm,0.7s,baz=82,slow=0.8,SNR=16						
TXAR				PP	PP	12 19 36.9	+0.7
	comp=Z,2.2nm,1.1s,baz=90,slow=1.3,SNR=4.3						
TXAR				PKKPbc	PKKPbc	12 29 00.9	+0.6
	comp=Z,1.6nm,1.0s,baz=163,slow=8.8,SNR=6.8						
BRAL	Brewton	117.82	5	PFAKE		12 18 50.0	+16
BRAL				LR	LR		
	comp=Z,754nm,21.0s,MS5.3						
SNAA	Sanae	122.73	202	*e*PKPdf	PKPdf	12 18 41.8	-0.7
SNAA				*e*		12 18 45.5	
SNAA				*e*		12 18 50.8	
SNAA				*e*		12 18 55.9	
VNA2	Neumayer--Watz	124.21	203	*e*PKPdf	PKPdf	12 18 45.2	-0.1
	baz=32,slow=1.8						
VNA2				*e*		12 18 48.9	
VNA2				*e*		12 18 54.9	
VNA2				*e*		12 18 58.8	
VNA2	Neumayer--Watz	124.21	203	*e*	Sdif	12 28 29.6	+0.5
	baz=298,slow=6.2						
VNA2				*e*		12 28 33.3	
VNA2				*e*		12 28 40.9	
VNA1	Neumayer--Stat	124.51	203	*e*PKPdf	PKPdf	12 18 45.9	0.0
VNA1				*e*		12 18 49.6	
VNA1				*e*		12 18 56.8	
VNA3	Neumayer Olymp	124.92	202	*e*PKPdf	PKPdf	12 18 46.9	+0.2
VNA3				*e*		12 18 51.1	
MTP	Monte Pirata	128.29	340	*e*PKPdf	PKPdf	12 18 54.0	-0.9
TEIG	Tepich	128.41	7	PFAKE		12 19 10.0	+15
TEIG				LR	LR		
	comp=Z,513nm,19.0s,MS5.2						
CPD	Cerro la Pandu	128.46	340	*e*PKIKP	PKPdf	12 18 54.1	-1.1
SDDR	Presa de Saban	128.87	347	*e*PKPdf	PKPdf	12 18 55.4	-0.5
SDDR				LR	LR		
	comp=Z,329nm,20.0s,MS5.0						
TGUH	Tegucigalpa,Un	134.61	7	PFAKE		12 19 20.0	+13
TGUH				LR	LR		
	comp=Z,433nm,22.0s,MS5.1						
SDV	Santo Domingo	138.48	343	PFAKE		12 19 30.0	+16
SDV				LR	LR		
	comp=Z,156nm,22.0s,MS4.7						
JTS	JuntasAbangare	138.53	4	PFAKE		12 19 30.0	+16
JTS				LR	LR		
	comp=Z,298nm,20.0s,MS5.0						
ROSC	El Rosal	143.22	347	*e*PKPdf	PKPdf	12 19 20.1	-2.6
ROSC	El Rosal	143.22	347	PKP	PKPdf	12 19 19.8	-2.8
	comp=Z,40nm,0.8s,baz=104,slow=9.8,SNR=16						
CAM4	Nova Friburgo	143.62	274	⇑*i*P	PKPdf	12 19 21.6	-1.4
CAM4				*i*		12 19 25.0	
CAM4				*i*		12 19 35.5	
CAM4				*i*		12 20 03.0	
BDFB	Brasilia	145.09	289	PKIKP	PKPdf	12 19 25.5	-0.2
BDFB				pmax	pmax		
	comp=Z,33nm,0.9s						
BDFB	Brasilia	145.09	289	PFAKE		12 19 40.0	+15
BDFB				LR	LR		
	comp=Z,187nm,22.0s,MS4.8						
BDFB	Brasilia	145.09	289	PKPbc	PKPbc	12 19 25.4	+0.3
	comp=Z,33nm,0.8s,baz=60,slow=4.9,SNR=62						
EFI	East Falkland	152.99	214	PFAKE		12 19 50.0	+13
EFI				LR	LR		
	comp=Z,388nm,19.0s,MS5.2						
LPAZ	La Paz	160.24	316	PKIKP	PKPdf	12 19 48.1	+0.3
LPAZ				MLR	MLR		
	comp=Z,277nm,20.0s						
LPAZ	La Paz	160.24	316	PKP	PKPdf	12 19 48.0	+0.3
	comp=Z,6.5nm,0.8s,baz=29,slow=2.6,SNR=24						
TRQA	Tornquist	162.04	243	PFAKE		12 20 00.0	+11
TRQA				LR	LR		
	comp=Z,833nm,22.0s						
PLCA	Paso Flores	166.68	222	PKIKP	PKPdf	12 19 53.2	+0.1
PLCA				MLR	MLR		
	comp=Z,416nm,20.0s						
PLCA	Paso Flores	166.68	222	PKP	PKPdf	12 19 53.2	+0.1
	comp=Z,13nm,1.0s,baz=321,slow=0.1,SNR=13						

CSEM ***07*** *12:10:36.5, 3972N×2346E, h3km, ML2.6, After THE*
THE 07 12:10:36.5, 3972N×2346E, h3km, ML2.6, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAIG	Paliouri	0.27	40	*e*Pg	Pg	12 10 42.2	+0.5
PAIG				*e*Sg	Sg	12 10 46.1	+1.0
XOR	Xorichti	0.41	210	*e*Pg	Pg	12 10 44.8	+0.4
AOS	Alonnisos	0.64	149	*e*Pg	Pg	12 10 47.8	-1.0
PLG	Polygyros	0.65	359	*e*Pg	Pg	12 10 48.6	-0.4
PLG				*e*Sg	Sg	12 10 58.4	+1.0
LIT	Litokhoron	0.83	297	*e*Pg	Pg	12 10 52.0	-0.5
LIT				*e*Sg	Sg	12 11 04.4	+1.1
HORT	Hortiatis	0.92	343	*e*Pg	Pg	12 10 53.6	-0.5
HORT				*e*Sg	Sg	12 11 07.3	+1.4
AGG	Agios Georgios	1.12	232	*e*Pg	Pg	12 10 58.0	0.0
AGG				*e*Sg	Sg	12 11 14.0	+1.5
LKR	Lokris	1.13	198	*e*Pg	Pg	12 10 58.1	0.0
KNT	Kendrikon	1.50	344	*e*Pg	Pg	12 11 04.1	-1.1

MOS ***07*** *12:32:34.6±1.3, 1367N×9068W, h33km, mb4.8/11, Error ellipse: s-maj=17.6km s-min=6.4km az=114.5*
MEX ***07*** *12:32:37.6±3.3, 1366N×9098W, h222km±76km, MD4.9*
BJI ***07*** *12:32:38.7, 1360N×9070W, h57km, mB5.2, Ms5.4, Msz5.0*
NEIC ***07*** *12:32:38.7±0.4, 1364N×9065W, mb4.6/30, MD5.2(SNET), MD4.9(MEX), Error ellipse: s-maj=9.5km s-min=5.7km az=40.0*
NEIC Felt [III] at San Salvador, El Salvador.
IDC ***07*** *12:32:39.4±0.7, 1392N×9027W, h59km±4km, mb4.1/12, mb1 4.2/14, mb1mx4.1/20, mbtmp4.1/14, MS3.5/2, Ms1 3.5/2, ms1mx3.0/27, Error ellipse: s-maj=24.9km s-min=9.9km az=54.0*
CASC ***07*** *12:32:39.9±2.8, 1364N×9067W, h29km±9km, MD4.5, ML5.0, mb4.6(NEIC)*
ISCJB ***07*** *12:32:40.1±0.4, 1376N±005×9056W±004, h79km±4km, mb4.5/39, Error ellipse: s-maj=9.5km s-min=2.9km az=39.5*
ISC 07 12:32:41.6±0.4, 1379N±004×9056W±004, h75km±4km, h59km±1.8km: pP-P, n304, σ0.88/300, mb4.5/39, 49C-66D, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCG	Pacaya	0.60	356	⇓*i*P	Pn	12 32 54.3	-1.6
FUG	Fuego 3	0.71	337	⇓*i*P	Pn	12 32 54.4	-2.6
GCG	Guatemala City	0.79	2	*e*P	Pn	12 32 57.8	-0.2
GCG				*e*S	Sn	12 33 12.7	+2.7
JAT	Jato	1.17	297	⇓*e*P	Pn	12 32 58.1	-4.3
BOQS	Boqueron	1.25	92	⇑*e*P	x	12 33 23.1	
SNET	Serv Nac Est T	1.29	94	⇑*e*P	x	12 33 03.4	
SNET				*i*		12 33 23.6	
	comp=Z,38μm,0.3s						
SNVI	San Vicente	1.68	96	*e*P	x	12 33 29.5	
SNVI				*e*S	x	12 33 51.5	
CAHU	Cacacuatique	2.28	90	*e*P	x	12 33 37.6	
CAHU				*e*S	x	12 34 05.9	
BLLM	Bellamira	2.28	98	*e*P	x	12 33 37.5	
BLLM				*e*S	x	12 34 05.9	
CNCH	Conchagua	2.70	101	*e*P	x	12 33 42.8	
CNCH				*e*S	x	12 34 17.5	
CCIG	Comitan	2.91	329	*i* P	Pn	12 33 25.0	-0.7
CCIG				*i* S	Sn	12 34 03.0	+3.4
CCIG	Comitan	2.91	329	*i* P	Pn	12 33 25.2	-0.5
CCIG				*i* S	Sn	12 34 03.0	+3.4
TGUH	Tegucigalpa,Un	3.20	85	*e*Pn	Pn	12 33 29.4	-0.2
SCX	San Cristobal	3.55	326	*i* P	Pn	12 33 31.1	-3.3
SCX				*i* S	Sn	12 34 14.0	-1.1
CRIN	San Cristobal	3.59	107	*e*P	Pn	12 33 35.0	+0.1
TEL3	Telica 3	3.82	108	*e*P	Pn	12 33 38.2	+0.2
TEL3				*e*S	Sn	12 34 21.6	-0.1
TELN	Telica	3.82	108	*e*P	Pn	12 33 38.2	+0.1
TELN				*e*S	Sn	12 34 21.2	-0.6
CNGN	Cerro Negro	3.97	108	*e*P	Pn	12 33 39.7	-0.5
MOMJ	Momotombo	4.15	109	*e*P	Pn	12 33 43.4	+0.8
MOMJ				*e*S	Sn	12 34 29.4	-0.6
COPN	Copaltepe	4.19	112	*e*P	Pn	12 33 42.8	-0.3
CSAN		4.34	111	*e*P	Pn	12 33 45.0	-0.2
CSAN				*e*S	Sn	12 34 35.1	+0.6
APYN	Apoyeque	4.38	110	*e*P	Pn	12 33 46.0	+0.2
APYN				*e*S	Sn	12 34 34.7	-1.0
XAVN	Gruta Xavier	4.44	111	*e*P	Pn	12 33 46.3	-0.3
XAVN				*e*S	Sn	12 34 37.6	+0.6
TISN	Laguna Tiscapa	4.49	111	⇓*e*P	Pn	12 33 47.7	+0.4
MGAN	Managua	4.51	111	*e*P	Pn	12 33 46.9	-0.6
MGAN				*e*S	Sn	12 34 37.9	-0.9
HUEN		4.51	108	*e*P	Pn	12 33 47.6	+0.1
HUEN				*e*S	Sn	12 34 40.4	+1.6
CRUN	El Crucero	4.53	113	⇓*e*P	Pn	12 33 48.9	+1.2
TICN	Ticuantepe	4.57	112	*e*P	Pn	12 33 48.5	+0.3
TICN				*e*S	Sn	12 34 39.9	-0.3
APON	Apoyo	4.76	113	*e*P	Pn	12 33 52.2	+1.3
SCIG	Sabancuy	5.18	353	*i* P	Pn	12 33 55.3	-1.3
SSNN	San Juan del S	5.23	118	*e*P	Pn	12 33 57.1	-0.2
CONN	Concepcion	5.30	114	*e*P	Pn	12 33 58.2	-0.1
MADN	Villa Maderas	5.45	115	*e*P	Pn	12 34 02.1	+1.7
HUIG	Huatulco	5.71	291	*e*P	Pn	12 33 56.4	-7.6
HUIG				*i* S	Sn	12 34 59.0	-9.2
VCR

comp=Z,38nm,0.7s
TXAR Lajitas Array 19.66 324 P **Pn 12 37 05.8 -0.9**
comp=Z,0.9nm,0.3s,baz=148,slow=10,SNR=26
TXAR pP pP 12 37 18.3 -1.5
comp=Z,0.9nm,0.3s,baz=152,slow=11,SNR=4.6
TXAR PcP PcP 12 41 21.1 -0.1
comp=Z,0.2nm,0.3s,baz=137,slow=3.2,SNR=5.7
SDV Santo Domingo 20.13 102 *e*P **P 12 37 08.6 -1.2**
comp=Z,7.8nm,0.6s
SDV Santo Domingo 20.13 102 P **P 12 37 07.5 -2.3**
comp=Z,1.7nm,0.3s,baz=296,slow=3.3,SNR=14
GOGA Godfrey 20.57 17 *e*P **P 12 37 15.6 +1.2**
OXF Oxford 20.66 3 *e*P **P 12 37 15.7 +0.4**
OXF pmax pmax
comp=Z,53nm,0.9s
OXF Oxford 20.66 3 *e*P **P 12 37 15.7 +0.5**
comp=Z,53nm,0.9s
MIAR Mount Ida 20.84 353 *e*P **P 12 37 17.0 -0.3**
MIAR pmax pmax
comp=Z,20nm,0.8s
MIAR Mount Ida 20.84 353 *e*P **P 12 37 17.0 -0.3**
comp=Z,20nm,0.8s
UALR University of 20.95 356 *e*P **P 12 37 18.5 0.0**
comp=Z,8.5nm,0.7s
UALR *e*pP 12 37 31.6
PLAL Pickwick Lake 21.22 6 *e*P **P 12 37 21.9 +0.7**
comp=Z,61nm,1.7s,mb4.7
PLAL *e*pP 12 37 34.4
SWET Sewanee 21.74 10 *e*P **P 12 37 26.4 -0.4**
WMOK Wichita Mounta 22.14 342 *e*P **P 12 37 30.2 -0.9**
CPCT Cooper Cave 22.24 13 *e*P **P 12 37 32.3 +0.1**
GDL2 Guadalupe Moun 22.25 328 *e*P **P 12 37 31.7 -0.7**
WVT Waverly 22.38 6 *e*P **P 12 37 34.1 +0.5**
AMTX Amarillo 23.28 336 *e*P **P 12 37 41.5 -1.3**
TZTN Tazewell 23.51 14 *e*P **P 12 37 44.3 -0.6**
comp=Z,19nm,0.8s,mb4.5
SIUC Southern Illin 23.86 3 *e*P **P 12 37 47.9 -0.1**
comp=Z,27nm,0.8s,mb4.6
SIUC *e*pP 12 38 03.5
CCM Cathedral Cave 24.17 359 *e*P **P 12 37 51.5 +0.6**
LPM Los Pinos Moun 25.09 327 *e*P **P 12 38 00.1 +0.9**
ANMO Albuquerque 25.49 328 *e*P **P 12 38 02.5 -0.5**
ANMO Albuquerque 25.49 328 P **P 12 38 03.5 +0.5**
comp=Z,7.0nm,0.8s,mb4.1,baz=160,slow=12,SNR=13
ACSO Alum Creek Sta 27.17 13 *e*P **P 12 38 17.6 -0.3**
ACSO *e*pP pP 12 38 33.2 -2.3
MVCO Mesa Verde 28.29 329 *e*P **P 12 38 29.5 +1.5**
WUAZ Wupatki 28.62 323 *e*P **P 12 38 30.2 -0.7**
comp=Z,25nm,0.9s,mb4.8
ECSD EROS,Sioux Fal 30.29 351 *e*P **P 12 38 44.6 -1.0**
comp=Z,2.1nm,0.7s,mb3.9
CCUT Cedar City 31.18 323 *e*P **P 12 38 54.8 +1.3**
CCUT *e*pP pP 12 39 08.9 -2.4
MSU Marysvale 31.19 326 *e*P **P 12 38 54.5 +0.8**
ARUT Antelope Range 31.38 324 *e*P **P 12 38 56.9 +1.5**
ARUT *e**PP pP 12 39 10.9 -2.2
SHPR Sheep Range 31.57 320 *e*P **P 12 38 56.4 -0.6**
GSC Goldstone 31.89 317 *e*P **P 12 38 56.9 -3.0**
GSC pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
GSC Goldstone 31.89 317 *e*P **P 12 38 56.9 -3.1**
comp=Z,8.6nm,0.9s,mb4.5
DAU Daniels Canyon 32.12 330 *e*P **P 12 39 01.4 -0.4**
DAU *e**PP pP 12 39 14.7 -4.9
NLU North Lily Min 32.19 328 *e*P **P 12 39 02.4 0.0**
NLU *e*pP pP 12 39 13.2 -7.0
TPNV Topopah Spring 32.52 320 *e*P **P 12 39 06.1 +0.7**
TPNV *e* 12 41 51.6
TPNV pmax pmax
comp=Z,24nm,1.1s,mb4.9
TPNV Topopah Spring 32.52 320 *e*P **P 12 39 06.1 +0.6**
comp=Z,24nm,1.1s,mb4.9
TPNV *e*PcP PcP 12 41 51.6 +0.9
CTU Camp Tracy 32.58 329 *e*P **P 12 39 05.3 -0.6**
comp=Z,13nm,1.0s,mb4.7
CTU *e*pP pP 12 39 18.8 -4.8
DUG Dugway 32.75 328 *e*P **P 12 39 08.9 +1.6**
DUG *e* 12 41 51.5
DUG pmax pmax
comp=Z,10.0nm,0.9s,mb4.7
DUG Dugway 32.75 328 *e*P **P 12 39 08.9 +1.5**
comp=Z,9.9nm,0.9s,mb4.6
DUG *e*PcP PcP 12 41 51.5 +0.3
HWUT Hardware Ranch 33.19 331 *e*P **P 12 39 11.2 +0.1**
HWUT *e*pP pP 12 39 25.1 -3.8
HWUT *e*PcP PcP 12 41 52.6 +0.2
BW06 Boulder Array 33.20 334 *e*pP pP 12 39 28.9 -0.1
BGU Big Grassy Mou 33.40 328 *e*P **P 12 39 13.3 +0.3**
BGU *e*pP pP 12 39 23.8 -7.0
LONY Lake Ozonia 33.61 21 *e*P **P 12 39 15.5 +0.7**
comp=Z,11nm,0.9s,mb4.7
LONY *e*pP pP 12 39 30.4 -2.1
HVU Hansel Valley 33.91 330 *e*P **P 12 39 17.7 +0.3**
HVU *e**PP pP 12 39 30.3 -4.9
N13A Wendover, West 33.96 327 ⇑P **P 12 39 18.4 +0.5**
baz=34
M14A Sheep Mountain 33.99 329 P **P 12 39 19.2 +1.1**
baz=34,SNR=7.3
S08C White Mtn Res 34.08 319 ⇓P **P 12 39 19.5 +0.6**
baz=34,SNR=9.8
SMMC Simmler 34.08 314 P **P 12 39 15.8 -3.2**
baz=34,SNR=7.3
RCTC Rector, Farmer 34.09 316 ⇓P **P 12 39 18.6 -0.5**
baz=34
HELL Mitchell Peak 34.16 317 P **P 12 39 18.5 -1.1**
baz=34,SNR=41
REDW Red Top Meadow 34.24 333 *e*P **P 12 39 20.2 0.0**
comp=Z,14nm,1.1s,mb4.7
REDW *e*pP pP 12 39 34.8 -3.4
O11A Cowboy Ranch, 34.24 325 ⇓P **P 12 39 21.3 +1.0**
baz=34
SNOW Snow King Moun 34.28 333 *e*P **P 12 39 20.7 +0.1**
SNOW *e*pP pP 12 39 34.5 -4.0
M13A Montello 34.30 328 P **P 12 39 21.8 +1.0**
baz=34,SNR=14
LOHW Long Hollow 34.34 334 *e*P **P 12 39 21.2 +0.1**
comp=Z,2.3nm,0.6s,mb4.2
LOHW *e* pP 12 39 39.0 +0.1
P10A Eureka 34.36 323 ⇑P **P 12 39 22.0 +0.7**
baz=34,SNR=5.1
TPAW Teton Pass 34.39 333 *e*P **P 12 39 22.2 +0.7**
N12A Clover Valley, 34.40 326 ⇓P **P 12 39 22.7 +1.0**
baz=34
MOOW Moose Ponds 34.51 334 *e*P **P 12 39 22.3 -0.2**
comp=Z,1.5nm,0.7s,mb3.9
AGMN Agassiz Refuge 34.68 354 *e*P **P 12 39 22.9 -1.1**
IMW Indian Meadow 34.71 334 *e*P **P 12 39 24.5 +0.2**
IMW *e*pP pP 12 39 40.5 -1.7
IMW *e*PcP PcP 12 41 56.5 -0.2
NVAR Mina Array Bea 34.72 320 P **P 12 39 25.9 +1.4**
NVAR pP pP 12 39 39.5 -2.9
NVAR PcP PcP 12 41 57.3 +0.5
NVAR pPcP 12 42 12.8
NVAR ScP ScP 12 45 39.2 +3.5
NVAR Mina Array Bea 34.72 320 P **P 12 39 25.9 +1.4**
comp=Z,19nm,0.6s,mb5.1,baz=128,slow=9.3,SNR=132
NVAR pP pP 12 39 39.5 -2.9
comp=Z,10nm,0.6s,baz=125,slow=9.0,SNR=9.8
NVAR PcP PcP 12 41 57.3 +0.5
comp=Z,2.6nm,0.8s,baz=104,slow=4.2,SNR=6.1
NVAR pPcP 12 42 12.8
comp=Z,2.8nm,0.7s,baz=115,slow=4.4,SNR=6.0
NVAR ScP ScP 12 45 39.2 +3.5
comp=Z,0.4nm,0.7s,baz=134,slow=3.9,SNR=4.6
M12A Wells 34.73 327 P **P 12 39 25.3 +0.8**
baz=35,SNR=9.2
Q08A Gabbs 34.75 321 P **P 12 39 26.1 +1.4**
baz=35,SNR=27
PKD Parkfield 34.78 315 ⇓P **P 12 39 22.0 -3.1**
baz=35,SNR=5.5
T06C Millerton Lake 34.80 317 ⇑P **P 12 39 23.5 -1.7**
baz=35
R07C Lee Vining 34.98 319 ⇑P **P 12 39 27.9 +1.2**
baz=35,SNR=6.4
O09A Fish Creek Ran 35.15 323 P **P 12 39 29.5 +1.4**
baz=35,SNR=7.7
U04C Hernandez Rese 35.17 315 ⇓P **P 12 39 27.2 -1.1**
baz=35
M11A Holland Ranch, 35.21 326 P **P 12 39 29.6 +0.9**
baz=35,SNR=6.3
L12A House Creek Ra 35.31 328 ⇑P **P 12 39 29.6 +0.2**
baz=35
S05C Merced 35.40 317 ⇓P **P 12 39 29.3 -1.0**
baz=36
WAKR Walker 35.48 319 *e*P **P 12 39 31.7 +0.7**

R06C Coleville 35.50 319 P **P 12 39 33.3 +2.2**
baz=36,SNR=6.3
K12A Draper Farm, C 35.60 329 ⇑P **P 12 39 32.3 +0.3**
baz=36
M10A I.L. Ranch, Tu 35.68 326 P **P 12 39 33.9 +1.2**
baz=36,SNR=8.5
L11A Cat Creek Ranc 35.71 327 P **P 12 39 33.3 +0.4**
baz=36,SNR=7.2
HAST Hastings Reser 35.71 315 ⇓P **P 12 39 31.7 -1.4**
baz=36
N09A Rock Creek Ran 35.78 324 ⇑P **P 12 39 34.1 +0.5**
baz=36
J13A Cove Ranch, Pi 35.80 330 ⇑P **P 12 39 33.5 -0.1**
baz=36
CMB Columbia Colle 35.82 318 *e*P **P 12 39 32.9 -1.0**
CMB pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CMB Columbia Colle 35.82 318 *e*P **P 12 39 32.9 -1.0**
comp=Z,5.7nm,0.8s,mb4.5
CMB Columbia Colle 35.82 318 ⇓P **P 12 39 33.3 -0.6**
baz=36
PACP Pacheco Peak 35.85 316 ⇑P **P 12 39 32.5 -1.7**
baz=36
L10A Juniper Basin 36.03 326 ⇑P **P 12 39 35.5 -0.1**
baz=36
HLID Hailey 36.04 330 ⇓P **P 12 39 36.2 +0.4**
baz=36
N08A GE Springer Mi 36.09 323 ⇑P **P 12 39 36.3 +0.1**
baz=36
M09A Marrel Ranch, 36.12 325 ⇓P **P 12 39 36.5 +0.1**
baz=36
O07A Toulon 36.13 322 ⇓P **P 12 39 37.0 +0.4**
baz=36,SNR=6.5
S04C Ingram Canyon, 36.15 316 ⇓P **P 12 39 36.0 -0.7**
baz=36
J12A Stokes Ranch, 36.15 329 ⇓P **P 12 39 36.5 -0.2**
baz=36,SNR=11
WCN Washoe City 36.15 320 ⇑P **P 12 39 36.4 -0.3**
baz=36
PAHR Pah Rah Range 36.16 321 *e*P **P 12 39 37.8 +1.0**
comp=Z,6.8nm,0.9s,mb4.6
I13A Wildhorse Cree 36.16 331 ⇑P **P 12 39 37.5 +0.7**
baz=36
K11A Parker Ranch, 36.28 328 ⇓P **P 12 39 37.8 0.0**
baz=36
G15A Dillon 36.39 334 P **P 12 39 39.8 +1.1**
baz=36,SNR=5.2
BOZ Bozeman (W) 36.41 335 *e*P **P 12 39 38.8 0.0**
BOZ pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BOZ Bozeman (W) 36.41 335 *e*P **P 12 39 38.8 0.0**
comp=Z,1.5nm,0.7s,mb4.0
BOZ Bozeman (W) 36.41 335 ⇓P **P 12 39 39.1 +0.2**
baz=36
LAVA Lava Cap Winer 36.45 319 ⇓P **P 12 39 38.7 -0.7**
baz=36
WENL Wente Brothers 36.50 316 ⇓P **P 12 39 38.8 -0.9**
baz=37
N07B Gerlach 36.58 323 ⇓P **P 12 39 40.6 +0.3**
baz=37
DLMT Dillon 36.59 334 *e*P **P 12 39 40.9 +0.5**
comp=Z,2.1nm,0.6s,mb4.2
DLMT *e*pP pP 12 39 56.5 -1.9
ULM Lac du Bonnet 36.62 354 P **P 12 39 38.2 -2.3**
ULM pP pP 12 39 53.6 -4.9
ULM Lac du Bonnet 36.62 354 P **P 12 39 38.2 -2.3**
comp=Z,3.2nm,0.5s,mb4.5,baz=171,slow=10,SNR=6.7
ULM pP pP 12 39 53.6 -4.9
comp=Z,8.6nm,1.0s,baz=177,slow=7.4,SNR=3.6
MFID Camas Ranch 36.63 329 ⇑P **P 12 39 41.0 +0.2**
baz=37
L09A Wilkinson Ranc 36.64 325 ⇓P **P 12 39 41.4 +0.6**
baz=37
M08A Happy Creek Ra 36.66 324 ⇓P **P 12 39 41.4 +0.3**
baz=37,SNR=7.5
P05C Yuba Gap, Truc 36.68 319 ⇓P **P 12 39 42.5 +1.2**
baz=37
O06A Flanigan 36.71 321 ⇑P **P 12 39 42.2 +0.7**
baz=37,SNR=12
H13A Challis 36.72 331 P **P 12 39 42.0 +0.6**
baz=37,SNR=9.0
K10A MacKenzie Ranc 36.73 327 ⇓P **P 12 39 41.6 0.0**
baz=37
BEKR Beckwourth 36.86 320 ⇓P **P 12 39 43.5 +0.8**
baz=37,SNR=6.3
G14A Jackson 36.88 333 ⇓P **P 12 39 42.8 0.0**
baz=37,SNR=5.4
LRM Limekiln Ridge 36.90 334 *e*P **P 12 39 43.5 +0.5**
LRM *e*pP pP 12 40 02.1 +1.2
F15A Butte 36.93 334 ⇑P **P 12 39 43.6 +0.3**
baz=37
H12A Diamond D Ranc 36.99 331 ⇑P **P 12 39 44.6 +0.8**
baz=37
I11A Placerville 37.06 329 P **P 12 39 45.0 +0.6**
baz=37,SNR=15
N06A Buffalo Meadow 37.07 322 ⇑P **P 12 39 44.6 +0.1**
baz=37
M07A Soldier Meadow 37.08 323 ⇑P **P 12 39 45.0 +0.4**
baz=37
G13A Cobalt 37.11 332 ⇑P **P 12 39 44.9 +0.1**
baz=37
K09A Rome 37.13 326 P **P 12 39 46.1 +1.1**
baz=37,SNR=31
L08A Fields 37.13 325 P **P 12 39 45.5 +0.5**
baz=37,SNR=6.4
LPAZ La Paz 37.21 143 P **P 12 39 45.4 -0.5**
comp=Z,1.6nm,0.7s,mb4.1,baz=342,slow=11,SNR=7.1
LPAZ pP pP 12 39 59.7 -4.3
comp=Z,2.0nm,0.8s,baz=322,slow=10,SNR=4.1
Q03C Winters 37.21 317 ⇑P **P 12 39 45.9 +0.1**
baz=37
OHCM Honcut 37.26 319 *e*P **P 12 39 47.1 +1.0**
O05C Quincy 37.26 320 ⇑P **P 12 39 45.3 -0.8**
baz=37
HRY Holter Researc 37.36 336 *e*pP pP 12 40 01.0 -3.9
ORV Oroville 37.39 319 ⇓P **P 12 39 48.3 +1.0**
baz=38
WVOR Wild Horse Val 37.45 325 *e*P **P 12 39 47.9 +0.2**
WVOR *e* 12 42 05.8
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WVOR Wild Horse Val 37.45 325 *e*P **P 12 39 47.9 +0.2**
comp=Z,6.6nm,0.9s,mb4.6
WVOR *e*PcP PcP 12 42 05.8 +0.9
O04C Chester 37.58 320 ⇑P **P 12 39 49.0 +0.1**
baz=38
L07A Adell 37.58 324 P **P 12 39 49.7 +0.9**
baz=38,SNR=15
J09A Fry Pan Ranch, 37.59 327 P **P 12 39 49.5 +0.6**
baz=38,SNR=12
I10A Payette 37.61 329 ⇑P **P 12 39 49.3 +0.3**
baz=38
H11A Donnelly 37.66 330 P **P 12 39 49.4 0.0**
baz=38,SNR=5.3
EGMT Eagleton 37.67 339 *e*P **P 12 39 49.1 -0.4**
comp=Z,7.3nm,1.0s,mb4.5
EGMT Eagleton 37.67 339 ⇓P **P 12 39 49.2 -0.3**
baz=38
F13A Darby 37.69 333 ⇑P **P 12 39 49.4 -0.2**
baz=38
M06C Likely Place G 37.73 322 ⇓P **P 12 39 50.6 +0.4**
baz=38
E14A Clinton 37.81 334 ⇓P **P 12 39 50.7 +0.1**
baz=38
D15A Lincoln 37.90 335 ⇓P **P 12 39 51.7 +0.2**
baz=38
H10A Noah's Angus R 37.94 329 ⇓P **P 12 39 51.4 -0.4**
baz=38
K07A Rock Creek Ran 37.96 325 P **P 12 39 52.9 +0.8**
baz=38,SNR=21
J08A Circle Bar Ran 37.98 326 P **P 12 39 52.5 +0.3**
baz=38,SNR=20
LBCM Butte Creek Ri 38.04 321 P **P 12 39 53.3 +0.5**
MOD Modoc 38.06 323 *e*P **P 12 39 53.5 +0.6**
comp=Z,8.6nm,0.8s,mb4.6
MOD Modoc 38.06 323 ⇑P **P 12 39 53.1 +0.2**
baz=38
F12A Elk City 38.08 332 P **P 12 39 52.9 -0.1**
baz=38,SNR=17
HATC Hat Creek Radi 38.10 321 ⇓P **P 12 39 54.1 +0.9**
baz=38
CHMT Chamberlain Mo 38.10 335 *e*P **P 12 39 52.0 -1.1**
E13A Victor 38.13 333 P **P 12 39 53.0 -0.3**
baz=38,SNR=9.8
GASB Alder Springs 38.23 318 ⇑P **P 12 39 55.7 +1.4**
baz=38
M05C Lookout 38.23 322 P **P 12 39 54.9 +0.6**
baz=38,SNR=7.4

G11A Walters Elk Ra 38.29 330 ⇓P **P 12 39 54.1 -0.7**
baz=38
D14A Greenough 38.34 335 ⇓P **P 12 39 54.9 -0.2**
baz=38
I08A Drewsey 38.40 327 ⇓P **P 12 39 55.6 -0.2**
baz=38
BMO Blue Mountains 38.41 329 *e*P **P 12 39 55.1 -0.6**
J07A Hines 38.45 326 ⇑P **P 12 39 56.0 -0.1**
baz=38
O02C Red Bluff 38.56 319 P **P 12 39 56.8 -0.4**
baz=39,SNR=5.3
K06A Valley Falls 38.60 324 ⇓P **P 12 39 57.4 0.0**
baz=39
G10A Bishop Farm, J 38.63 330 ⇑P **P 12 39 57.1 -0.5**
baz=39
LASM Arnica Sink 38.63 322 P **P 12 39 58.2 +0.5**
D13A Huson 38.75 334 P **P 12 39 58.5 0.0**
baz=39,SNR=8.0
M03C McCloud 38.77 321 ⇓P **P 12 39 58.9 0.0**
baz=39
J06A Christmas Vall 38.83 325 P **P 12 39 59.0 -0.3**
baz=39,SNR=6.0
H08A Prairie City 38.87 328 ⇓P **P 12 39 59.5 -0.2**
baz=39
G09A Cove 38.95 329 ⇑P **P 12 39 59.1 -1.1**
baz=39
I07A Izee 39.02 326 P **P 12 40 01.2 +0.4**
baz=39,SNR=9.1
D12A Red Ives Fores 39.11 333 P **P 12 40 01.1 -0.5**
baz=39,SNR=7.1
L04A Klamath Falls 39.16 322 ⇓P **P 12 40 02.1 0.0**
baz=39
F10A Beach Ranch, E 39.17 330 P **P 12 40 02.0 -0.1**
baz=39,SNR=7.9
O01C Eel River Cons 39.20 318 ⇓P **P 12 40 01.8 -0.7**
baz=39
C13A Hot Springs 39.26 334 ⇓P **P 12 40 01.8 -1.0**
baz=39
M02C Callahan 39.29 321 ⇓P **P 12 40 02.7 -0.5**
baz=39
I06A Prineville 39.31 326 ⇑P **P 12 40 03.3 0.0**
baz=39
K04A Chilquin 39.34 323 ⇓P **P 12 40 03.2 -0.4**
baz=39
H07A Lands Inn, Kim 39.39 327 ⇓P **P 12 40 03.9 -0.1**
baz=40
YBH Yreka Blue Hor 39.40 321 *e*P **P 12 40 03.2 -0.9**
YBH Yreka Blue Hor 39.40 321 ⇓P **P 12 40 03.3 -0.7**
baz=40
J05A Fort Rock 39.46 324 ⇓P **P 12 40 04.8 +0.2**
baz=40
D11A Klaveano Farm, 39.55 332 ⇓P **P 12 40 04.6 -0.7**
baz=40
KHMM Horse Mountain 39.55 319 *e*P **P 12 40 05.6 +0.2**
G08A Pilot Rock 39.55 328 ⇓P **P 12 40 05.9 +0.6**
baz=40,SNR=6.1
B13A Whitefish 39.76 335 ⇑P **P 12 40 06.9 -0.1**
baz=40,SNR=5.4
H06A Lindquist Farm 39.90 327 ⇓P **P 12 40 08.3 +0.2**
baz=40
G07A Ruggs Ranch, H 39.90 328 ⇑P **P 12 40 09.0 +0.8**
baz=40
J04A Umpqua Nationa 39.94 323 ⇓P **P 12 40 09.3 +0.8**
baz=40
I05A Bend 40.04 325 ⇓P **P 12 40 09.7 +0.4**
baz=40
G06A Carlson Farm, 40.39 327 ⇓P **P 12 40 12.3 +0.1**
baz=40
I04A Tendick Farm, 40.45 324 P **P 12 40 12.4 -0.3**
baz=40,SNR=6.7
K02A Glendale 40.47 322 ⇑P **P 12 40 12.9 0.0**
baz=40
J03A Ideyld Park 40.52 323 ⇓P **P 12 40 12.7 -0.6**
baz=41
G05A Wamic 40.76 326 P **P 12 40 16.5 +1.3**
baz=41,SNR=5.8
J02A Umpqua 40.87 323 ⇓P **P 12 40 15.7 -0.5**
baz=41
H04A Detroit Lake 40.88 325 P **P 12 40 16.3 +0.1**
baz=41,SNR=20
C09A Chrisman Ranch 40.99 331 P **P 12 40 17.4 +0.3**
baz=41,SNR=5.3
A11A Hall Mountain, 41.00 334 ⇓P **P 12 40 17.1 -0.1**
baz=41
KEBM Edson Butte 41.04 322 *e*P **P 12 40 17.8 +0.2**
I03A Eugene 41.06 324 ⇑P **P 12 40 18.4 +0.7**
baz=41,SNR=5.6
F05A White Salmon 41.25 327 ⇑P **P 12 40 20.0 +0.7**
baz=41
C08A Higginbotham F 41.34 331 ⇑P **P 12 40 20.3 +0.3**
baz=42
G04A Mulino 41.37 326 ⇑P **P 12 40 20.4 +0.1**
baz=42
I02A Mapleton 41.40 323 ⇓P **P 12 40 21.2 +0.7**
baz=42
E06A Yakima 41.44 328 ⇑P **P 12 40 21.1 +0.3**
baz=42
H03A Soap Creek Ran 41.49 324 ⇑P **P 12 40 21.4 +0.1**
baz=42
SIV San Ignacio 41.54 134 P **P 12 40 21.1 -0.9**
comp=Z,6.0nm,0.5s,mb4.5,baz=304,slow=8.3,SNR=29
SIV pP pP 12 40 35.4 -4.9
comp=Z,5.2nm,0.9s,baz=311,slow=9.6,SNR=7.0
SIV PcP PcP 12 42 17.7 -0.6
comp=Z,0.8nm,0.5s,baz=231,slow=5.0,SNR=3.6
SIV pPcP 12 42 33.3
comp=Z,2.2nm,0.9s,baz=342,slow=2.8,SNR=3.3
FFC Flin Flon 41.81 350 *e*P **P 12 40 22.8 -0.9**
FFC pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
FFC Flin Flon 41.81 350 *e*P **P 12 40 22.8 -0.9**
comp=Z,8.6nm,1.0s,mb4.4
E05A Randle 41.85 328 ⇓P **P 12 40 24.4 +0.2**
baz=42
G03A Yamhill 41.88 325 P **P 12 40 25.0 +0.5**
baz=42,SNR=7.0
F03A Seaside 42.41 326 ⇑P **P 12 40 29.0 +0.2**
baz=42
C04A Brinnon 43.23 328 ⇓P **P 12 40 34.9 -0.5**
baz=43
EDM Edmonton 43.29 340 *e*P **P 12 40 34.8 -1.0**
NLWA Neilton Lookou 43.49 327 *e*P **P 12 40 38.0 +0.6**
comp=Z,6.7nm,1.1s,mb4.3
SCHQ Schefferville 44.94 19 *e*P **P 12 40 47.1 -1.8**
comp=Z,8.8nm,0.7s,mb4.6
SCHQ *e*pP pP 12 41 02.2 -5.3
SCHQ Schefferville 44.94 19 P **P 12 40 47.2 -1.8**
comp=Z,5.0nm,0.4s,mb4.6,baz=223,slow=6.1,SNR=32
SCHQ pP pP 12 41 02.9 -4.5
comp=Z,6.6nm,0.5s,baz=227,slow=6.6,SNR=5.3
BDFB Brasilia 51.23 123 P **P 12 41 36.5 -1.5**
comp=Z,1.0nm,0.5s,mb4.2,baz=303,slow=17,SNR=5.7
YKA Yellowknife Ar 51.56 346 P **P 12 41 37.9 -1.8**
YKA *PP pP 12 41 53.8 -4.8
YKA 12 42 51.1
YKA Yellowknife Ar 51.56 346 P **P 12 41 37.9 -1.8**
YKA pP pP 12 41 53.8 -4.8
YKA PcP PcP 12 42 51.1 -1.6
YKA pPcP 12 43 06.3
YKA Yellowknife Ar 51.56 346 P **P 12 41 37.9 -1.8**
comp=Z,1.0nm,0.7s,mb4.0,baz=141,slow=6.8,SNR=21
YKA pP pP 12 41 53.8 -4.8
comp=Z,1.4nm,0.6s,baz=146,slow=7.5,SNR=10
YKA PcP PcP 12 42 51.1 -1.6
comp=Z,1.6nm,0.6s,baz=150,slow=3.7,SNR=13
YKA pPcP 12 43 06.3
comp=Z,0.7nm,0.5s,baz=153,slow=3.6,SNR=6.5
YKW3 Yellowknife Ar 51.62 346 *e*pP pP 12 41 53.8 -5.3
PLCA Paso Flores 57.33 162 P **P 12 42 21.4 -0.5**
comp=Z,3.2nm,1.0s,mb4.3,baz=21,slow=11,SNR=3.3
INK Inuvik 61.04 343 *e*P **P 12 42 45.5 -1.6**
KDAK Kodiak Island 63.63 328 P **P 12 43 03.5 -1.1**
KDAK Kodiak Island 63.63 328 P **P 12 43 03.5 -1.1**
comp=Z,3.8nm,0.4s,mb4.5,baz=121,slow=4.3,SNR=10
COLA College 64.00 336 ⇑*e*P **P 12 43 05.0 -1.9**
EFI East Falkland 71.04 159 ⇑*e*P **P 12 43 51.0 -0.4**
ESDC Sonseca Array 78.75 52 P **P 12 44 33.0 -3.3**
comp=Z,0.8nm,0.5s,mb3.8,baz=291,slow=4.6,SNR=4.8
BILL Bilibino 82.17 338 ⇑*e*P **P 12 44 52.6 -1.4**
BILL pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
BILL Bilibino 82.17 338 *e*P **P 12 44 52.9 -1.1**
comp=Z,2.8nm,0.6s,mb4.3
DBIC Dimbokro 84.28 85 P **P 12 45 04.2 -1.8**
comp=Z,4.8nm,0.6s,mb4.5,baz=274,slow=4.6,SNR=16
DBIC pP pP 12 45 20.3 -6.0
comp=Z,1.3nm,0.4s,baz=270,slow=7.1,SNR=2.0

ARCES	**ARCESS Array B**	**85.89**	**18**	P	**P**	**12 45 11.7**	**-1.2**
	comp=Z,3.3nm,0.9s,mb4.3,baz=298,slow=5.1,SNR=5.1						
SEY	**Seymchan**	**89.52**	**336**	⇑*iP*	**P**	**12 45 28.8**	**-1.5**
TIXI	**Tiksi**	**90.75**	**348**	⇑*iP*	**P**	**12 45 33.3**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.3						
TIXI	**Tiksi**	**90.75**	**348**	*eP*	**P**	**12 45 33.6**	**-2.3**
	comp=Z,1.0nm,0.6s,mb4.1						
MA2	**Magadan**	**91.91**	**333**	⇑*eP*	**P**	**12 45 40.5**	**-1.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.6						
OBN	**Obninsk**	**98.22**	**28**	*eP*	**P**	**12 46 08.7**	**-1.8**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb5.3						
SONM	**Songino Array**	**116.81**	**347**	PKP	PKPdf	12 51 16.4	-1.2
	comp=Z,0.7nm,0.7s,baz=350,slow=2.1,SNR=7.0						
KSRS	**Korea Array**	**117.50**	**326**	PKP	PKPdf	12 51 17.3	-1.9
	comp=Z,0.8nm,0.7s,baz=16,slow=2.8,SNR=5.5						
BOSA	**Boshof**	**119.00**	**115**	PKP	PKPdf	12 51 21.6	-0.7
	comp=Z,5.2nm,0.7s,baz=264,slow=1.4,SNR=17						
MKAR	**Makanchi Array**	**119.36**	**6**	*i* PKIKP	PKPdf	12 51 21.0	-1.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	**Makanchi Array**	**119.36**	**6**	PKP	PKPdf	12 51 20.9	-1.6
	comp=Z,0.6nm,0.4s,baz=345,slow=2.1,SNR=9.0						
HHC	**Hu-ho-hao-te**	**121.90**	**340**	*e*PKP	PKPdf	12 51 26.1	-1.5
HHC				PP	PP	12 53 02.2	+1.4
HHC				PKS		12 55 03.5	
HHC				SKS	SKSdf	12 58 34.0	+0.8
HHC				SKKS	SKKSac	12 59 53.7	-0.8
HHC				SS	SS	13 09 37.2	+5.3
HHC				PP	PP		
	comp=Z,420nm,8.1s						
HHC				LR	LR		
	comp=N,141nm,22.9s						
HHC				LR	LR		
	comp=E,270nm,18.7s						
HHC				LR	LR		
	comp=Z,292nm,22.3s						
WMQ	**Urumqi**	**122.65**	**2**	*e*PKP	PKPdf	12 51 32.0	+3.0
NJ2	**Nanjing**	**126.41**	**329**	*e*PKP	PKPdf	12 51 40.1	+3.6
LZH	**Lanzhou**	**128.56**	**345**	*e*PKP	PKPdf	12 51 41.8	+1.3
LZH				XPKP		12 52 05.0	
CD2	**Chengdu**	**133.47**	**343**	*e*PKP	PKPdf	12 51 48.6	-1.4
CD2				XPKP		12 52 13.6	
CD2				PP	PP	12 54 20.3	+3.3
CD2				PKS		12 55 23.4	
CD2				PP	PP		
	comp=Z,70nm,8.4s						
GYA	**Guiyang**	**136.63**	**337**	*e*PDIF	Pdif	12 48 58.4	-2.8
GYA				PKP	PKPdf	12 51 54.6	-1.4
GYA				XPKP		12 52 21.8	
GYA				PP	PP	12 54 40.2	+3.1
GYA				PP	PP		
	comp=Z,110nm,7.6s						
WRA	**Warramunga Arr**	**136.70**	**256**	PKP	PKPdf	12 51 55.5	-0.6
	comp=Z,1.0nm,0.6s,baz=89,slow=2.8,SNR=16						
ASAR	**Alice Springs**	**136.91**	**250**	PKhKP		12 51 42.4	
	comp=Z,0.4nm,0.8s,baz=98,slow=2.8,SNR=3.7						
ASAR				PKP	PKPdf	12 51 56.5	0.0
	comp=Z,0.5nm,0.8s,baz=102,slow=3.2,SNR=6.0						

*ISCJB **07** 12:34:04.9±0.6, 1803N±004×10128W±004, h65km±7km, mb4.3/3, Error ellipse: s-maj=7.6km s-min=5.2km az=136.6*
*MEX **07** 12:34:05.2±1.9, 1803N×10140W, h68km±21km, MD4.6*
*NEIC **07** 12:34:05.4, 1801N×10141W, h28km, mb4.4/9, MD4.6(MEX), After MEX.*
NEIC Felt at Ixtapa.
*IDC **07** 12:34:07.5±5.2, 1827N×10097W, h70km±48km, mb4.0/5, mb1 4.2/6, mb1mx3.8/20, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=73.1km s-min=25.4km az=58.0*

ISC 07 12:34:06.0±0.5, 1802N±004×10127W±004, h61km±6km, n140, σ1§10/154, mb4.3/8, 15C-15D, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.36**	**135**	*i* P	**Pn**	**12 34 27.9**	**-0.9**
CAIG	**El Cayaco**	**1.36**	**135**	*i* P	**Pn**	**12 34 28.1**	**-0.7**
CAIG				*i* S	**Sn**	**12 34 45.4**	**-0.5**
MEIG	**Mezcala**	**1.58**	**93**	*i* P	**Pn**	**12 34 31.8**	**+0.1**
MEIG				*i* S	**Sn**	**12 34 51.4**	**+0.3**
MOIG	**Morelia**	**1.65**	**3**	*i* P	**Pn**	**12 34 30.7**	**-2.1**
MOIG				*i* S	**Sn**	**12 34 51.1**	**-1.9**
PLIG	**Platanillo**	**1.72**	**77**	*i* P	**Pn**	**12 34 33.6**	**-0.1**
PLIG				*i* S	**Sn**	**12 34 56.6**	**+1.8**
ACX	**Acapulco**	**1.73**	**131**	*i* P	**Pn**	**12 34 32.8**	**-1.0**
ACX				*i* S	**Sn**	**12 34 50.1**	**-4.7**
SZVM	**Salazar**	**2.21**	**54**	*i* P	**Pn**	**12 34 40.7**	**+0.3**
SZVM				*i* S	**Sn**	**12 35 07.7**	**+1.0**
YAIG	**Yautepec**	**2.26**	**68**	*i* P	**Pn**	**12 34 40.7**	**-0.2**
YAIG				*i* S	**Sn**	**12 35 08.4**	**+0.8**
YAIG	**Yautepec**	**2.26**	**68**	*i* P	**Pn**	**12 34 40.8**	**-0.1**
YAIG	**Yautepec**	**2.26**	**68**	*i* P	**Pn**	**12 34 40.7**	**-0.2**
YAIG				*i* S	**Sn**	**12 35 08.4**	**+0.8**
MZVM		**2.26**	**59**	*i* P	**Pn**	**12 34 40.9**	**-0.1**
UNM	**Universidad Na**	**2.38**	**56**	*i* P	**Pn**	**12 34 43.5**	**+0.9**
UNM				*i* S	**Sn**	**12 35 10.4**	**-0.2**
UNM	**Universidad Na**	**2.38**	**56**	*i* P	**Pn**	**12 34 41.0**	**-1.6**
UNM				*i* P		12 34 43.5	
UNM				*i* S	**Sn**	**12 35 10.4**	**-0.2**
PBVM	**Pinon**	**2.51**	**55**	*i* P	**Pn**	**12 34 43.7**	**-0.7**
PTVM	**Pico Tres Padr**	**2.58**	**52**	*i* P	**Pn**	**12 34 44.6**	**-0.7**
PPM	**Popocatepetl**	**2.72**	**67**	*i* P	**Pn**	**12 34 47.5**	**+0.3**
PPM				*i* S	**Sn**	**12 35 22.2**	**+3.2**
PPM	**Popocatepetl**	**2.72**	**67**	*i* P	**Pn**	**12 34 46.9**	**-0.3**
PPM				*i* P		12 34 47.9	
PPM	**Popocatepetl**	**2.72**	**67**	*i* P	**Pn**	**12 34 46.9**	**-0.3**
PPM				*i* P		12 34 47.5	
PPM				*i* P		12 34 47.9	
PPM				*i* S	**Sn**	**12 35 22.2**	**+3.2**
IIO	**Organos**	**2.88**	**57**	*i* P	**Pn**	**12 34 49.3**	**-0.1**
IIO	**Organos**	**2.88**	**57**	*i* P	**Pn**	**12 34 49.3**	**-0.1**
SFJM	**Santa Fe**	**2.97**	**326**	*i* P	**Pn**	**12 34 48.4**	**-2.3**
DEIG	**Demacu**	**3.10**	**43**	*i* P	**Pn**	**12 34 51.6**	**-0.9**
DEIG				*i* S	**Sn**	**12 35 28.2**	**-0.2**
PNIG	**Pinotepa**	**3.41**	**118**	*i* S	**Sn**	**12 35 44.1**	**+8.1**
PNIG	**Pinotepa**	**3.41**	**118**	*e*P	**Pn**	**12 34 57.0**	**+0.2**
PNIG				*i* S	**Sn**	**12 35 36.5**	**+0.4**
CJM	**Chamela**	**3.86**	**293**	*e*P	**Pn**	**12 34 59.7**	**-3.2**
OXX	**Oaxaca**	**4.44**	**101**	*i* P	**Pn**	**12 35 13.0**	**+2.2**
LVIG	**Laguna Verde**	**4.90**	**69**	*i* P	**Pn**	**12 35 17.2**	**+0.1**
LNIG	**Linares**	**7.05**	**13**	*i* P	**Pn**	**12 35 45.8**	**-0.8**
LNIG	**Linares**	**7.05**	**13**	*i* P	**Pn**	**12 35 45.8**	**-0.8**
HPIG		**9.76**	**336**	*i* P	**Pn**	**12 36 23.8**	**+0.3**
TXAR	**Lajitas Array**	**11.48**	**349**	P	**Pn**	**12 36 47.5**	**+0.5**
	0.1nm,0.3s,baz=168,slow=15,SNR=16						
HSIG		**14.09**	**323**	*i* P	**Pn**	**12 37 28.9**	**+6.5**
MNTX	**Cornudas Mount**	**14.12**	**346**	*e*Pn	**Pn**	**12 37 22.8**	**0.0**
	26nm,0.7s						
319A	**Douglas**	**15.15**	**333**	P	**Pn**	**12 37 40.9**	**+4.6**
	baz=25,SNR=8.9						
318A	**Bisbee**	**15.52**	**331**	P	**Pn**	**12 37 45.2**	**+4.1**
	baz=25,SNR=7.1						
219A	**White Tail Can**	**15.68**	**334**	P	**Pn**	**12 37 46.9**	**+3.8**
	baz=25,SNR=31						
218A	**Dragoon**	**16.00**	**332**	P	**Pn**	**12 37 50.4**	**+3.3**
	baz=26,SNR=8.0						
119A	**Ashpeak Ranch,**	**16.37**	**335**	P	**Pn**	**12 37 54.0**	**+2.2**
	baz=26,SNR=5.7						
118A	**Homack Ranch,**	**16.53**	**333**	P	**Pn**	**12 37 57.2**	**+3.4**
	baz=26,SNR=18						
TUC	**Tucson**	**16.62**	**331**	*e*P	**Pn**	**12 37 54.7**	**-0.2**
	3.8nm,0.8s						
216A	**Three Points,**	**16.69**	**328**	⇑P	**Pn**	**12 37 58.8**	**+3.0**
	baz=26						
BNM	**Barren Site**	**16.77**	**344**	*e*Pn	**Pn**	**12 37 55.9**	**-0.8**
117A	**Oracle**	**16.82**	**331**	P	**Pn**	**12 38 01.0**	**+3.7**
	baz=26,SNR=14						
LENM	**Lemitar**	**16.87**	**344**	*e*P	**Pn**	**12 37 58.9**	**+0.9**
LAZ	**Ladron**	**17.14**	**343**	*e*Pn	**Pn**	**12 38 01.9**	**+0.6**
116A	**Eloy**	**17.27**	**329**	⇑P	**Pn**	**12 38 04.4**	**+1.5**
	baz=27						
Y19A	**Nutrioso**	**17.41**	**337**	P	**Pn**	**12 38 06.0**	**+1.4**
	baz=26,SNR=12						
ANMO	**Albuquerque**	**17.49**	**346**	*e*Pn	**Pn**	**12 38 03.9**	**-1.7**
	8.9nm,0.9s						
Y18A	**Canyon Day Jun**	**17.55**	**335**	P	**Pn**	**12 38 07.4**	**+1.1**
	baz=27,SNR=10						
115A	**Sonoran Desert**	**17.64**	**328**	⇑P	**Pn**	**12 38 09.4**	**+1.9**
	baz=27						
Z16A	**Peralta Trail,**	**17.77**	**331**	⇑P	**Pn**	**12 38 09.3**	**+0.1**
	baz=27						
Y17A	**Roosevelt**	**17.81**	**333**	P	**Pn**	**12 38 10.4**	**+0.8**
	baz=27,SNR=21						
X19A	**St. Johns**	**17.84**	**338**	P	**Pn**	**12 38 11.1**	**+1.1**
	baz=27,SNR=9.5						
X18A	**Snowflake**	**18.18**	**336**	P	**Pn**	**12 38 15.1**	**+1.1**
	baz=27,SNR=6.7						
Z14A	**Wintersburg**	**18.53**	**328**	⇑P	**Pn**	**12 38 18.9**	**+0.6**
	baz=28						
X16A	**Lo Mia Camp, P**	**18.69**	**333**	P	**Pn**	**12 38 20.1**	**-0.1**
	baz=28,SNR=18						
Y15A	**Casa Rosa Ranc**	**18.70**	**330**	P	**Pn**	**12 38 19.9**	**-0.5**
	baz=28,SNR=5.8						
Y14A	**Wickenburg**	**19.02**	**329**	P	**Pn**	**12 38 23.5**	**-0.6**
	baz=29,SNR=8.6						
X15A	**Humboldt**	**19.10**	**331**	P	**Pn**	**12 38 24.8**	**-0.3**
	baz=28,SNR=5.9						
GLA	**Glamis**	**19.30**	**323**	*e*P	**Pn**	**12 38 26.5**	**-1.0**
	22nm,0.9s						
GLA	**Glamis**	**19.30**	**323**	⇓P	**Pn**	**12 38 26.7**	**-0.8**
	baz=29						
Y13A	**Salome**	**19.34**	**327**	P	**Pn**	**12 38 27.0**	**-0.9**
	baz=29,SNR=6.2						
X14A	**Yava**	**19.39**	**330**	⇑P	**Pn**	**12 38 27.4**	**-1.1**
	baz=29						
WUAZ	**Wupatki**	**19.60**	**335**	P	**Pn**	**12 38 30.6**	**-0.5**
	baz=29,SNR=26						
Y12C	**Blythe**	**19.66**	**325**	⇓P	**Pn**	**12 38 30.7**	**-1.0**
	baz=30,SNR=8.0						
W15A	**Williams**	**19.69**	**332**	⇓P	**Pn**	**12 38 31.1**	**-1.0**
	baz=29						
DVTC	**Desert V Tower**	**19.77**	**320**	⇓P	**Pn**	**12 38 32.8**	**-0.2**
	baz=30						
SWSC	**Sam W. Stewart**	**19.78**	**321**	P	**Pn**	**12 38 32.6**	**-0.6**
	baz=30,SNR=5.2						
PDMCI	**Parker Dam,Lak**	**19.88**	**327**	P	**Pn**	**12 38 33.2**	**-1.1**
	baz=30,SNR=6.0						
X13A	**Yucca**	**19.95**	**328**	⇑P	**Pn**	**12 38 33.5**	**-1.7**
	baz=30,SNR=13						
SDCO	**Great Sand Dun**	**20.00**	**350**	*e*P	**P**	**12 38 33.7**	**+0.2**
	69nm,1.8s						
W14A	**Seligman**	**20.09**	**331**	⇑P	**P**	**12 38 35.0**	**+0.5**
	baz=30,SNR=20						
MVCO	**Mesa Verde**	**20.15**	**343**	P	**P**	**12 38 29.3**	**-5.8**
	baz=28,SNR=16						
V15A	**Kaibab Nationa**	**20.19**	**334**	⇓P	**P**	**12 38 36.5**	**+0.9**
	baz=29,SNR=28						
IRM	**Iron Mountain**	**20.30**	**325**	P	**P**	**12 38 37.7**	**+0.8**
	baz=30,SNR=20						
W13A	**Hualapai Mount**	**20.38**	**329**	⇓P	**P**	**12 38 39.3**	**+1.6**
	baz=30						
V14A	**Boquillas Ranc**	**20.45**	**331**	P	**P**	**12 38 39.6**	**+1.2**
	baz=30,SNR=9.9						
109C	**Camp Elliot, M**	**20.54**	**319**	⇓P	**P**	**12 38 40.3**	**+0.9**
	baz=31						
PFO	**Pinyon Flat Ob**	**20.64**	**322**	*e*P	**P**	**12 38 41.4**	**+0.9**
	20nm,0.9s						
PFO	**Pinyon Flat Ob**	**20.64**	**322**	P	**P**	**12 38 41.4**	**+0.9**
	20nm,0.9s,baz=130,slow=9.6,SNR=25						
PFO	**Pinyon Flat Ob**	**20.64**	**322**	P	**P**	**12 38 41.9**	**+1.4**
	baz=31,SNR=14						
BELC	**Belle Mtn.**	**20.66**	**323**	P	**P**	**12 38 41.5**	**+0.9**
	baz=31,SNR=10						
T16A	**Glen Canyon Da**	**20.93**	**337**	⇑P	**P**	**12 38 42.4**	**-1.2**
	baz=30,SNR=5.4						
V13A	**Grand Canyon W**	**21.03**	**330**	P	**P**	**12 38 45.6**	**+0.9**
	baz=30,SNR=15						
GMRC	**Granite Mounta**	**21.05**	**325**	P	**P**	**12 38 45.6**	**+0.8**
	baz=31,SNR=12						
MURC	**Murrieta**	**21.08**	**320**	P	**P**	**12 38 46.0**	**+0.8**
	baz=31,SNR=11						
U14A	**Mt Trumbull**	**21.13**	**333**	P	**P**	**12 38 46.8**	**+1.0**
	baz=30,SNR=23						
T15A	**Red Dirt Ranch**	**21.31**	**335**	⇑P	**P**	**12 38 47.0**	**-0.6**
	baz=30						
V12A	**Nelson**	**21.36**	**328**	P	**P**	**12 38 48.9**	**+0.8**
	baz=31,SNR=16						
HEC	**Hector,Ludlow**	**21.45**	**324**	P	**P**	**12 38 50.2**	**+1.0**
	baz=31,SNR=5.7						
U13A	**Pakoon Wash**	**21.48**	**331**	P	**P**	**12 38 50.4**	**+0.9**
	baz=31,SNR=15						
TUQ	**Turquoise Mtn.**	**21.68**	**326**	P	**P**	**12 38 53.2**	**+1.6**
	baz=32,SNR=6.8						
CIS	**Catalina Islan**	**21.70**	**318**	⇑P	**P**	**12 38 52.5**	**+0.6**
	baz=32						
U12A	**Valley of Fire**	**21.77**	**330**	⇓P	**P**	**12 38 53.2**	**+0.7**
	baz=31						
BFSC	**Mount Baldy St**	**21.80**	**321**	⇓P	**P**	**12 38 53.6**	**+0.7**
	baz=32						
T13A	**Saint George**	**21.95**	**332**	⇓P	**P**	**12 38 54.9**	**+0.4**
	baz=31						
GSC	**Goldstone**	**22.06**	**324**	P	**P**	**12 38 56.3**	**+0.6**
	baz=32,SNR=10						
SHOC	**Shoshone**	**22.22**	**326**	⇑P	**P**	**12 38 57.5**	**+0.1**
	baz=32						
S14A	**Cedar City**	**22.26**	**334**	P	**P**	**12 38 55.3**	**-2.5**
	baz=31,SNR=6.1						
S13A	**Holt Ranch, En**	**22.40**	**333**	P	**P**	**12 38 58.4**	**-0.9**
	baz=32,SNR=14						
EDW2	**Edwards Air Fo**	**22.44**	**322**	P	**P**	**12 38 59.4**	**-0.3**
	baz=32,SNR=9.3						
T11A	**Corn Creek, Al**	**22.74**	**330**	P	**P**	**12 39 03.2**	**+0.3**
	baz=32,SNR=15						
S12A	**Delamar Landin**	**22.86**	**331**	⇑P	**P**	**12 39 03.1**	**-1.0**
	baz=32						
FURC	**Furnace Creek,**	**22.96**	**326**	P	**P**	**12 39 05.3**	**+0.1**
	baz=33,SNR=8.3						
MPMC	**Manual Prospec**	**23.00**	**325**	P	**P**	**12 39 05.5**	**0.0**
	baz=33,SNR=23						
TPNV	**Topopah Spring**	**23.01**	**328**	P	**P**	**12 39 06.2**	**+0.5**
	baz=33,SNR=25						
ARVC	**Arvin**	**23.11**	**321**	⇓P	**P**	**12 39 06.9**	**+0.1**
	baz=33						
S11A	**Rachel**	**23.31**	**330**	P	**P**	**12 39 08.5**	**-0.1**
	baz=33,SNR=10						
R12A	**Pony Springs,**	**23.35**	**333**	P	**P**	**12 39 06.2**	**-2.8**
	baz=32,SNR=16						
PHWY	**Pilot Hill**	**23.48**	**352**	*e*P	**P**	**12 39 08.9**	**-1.2**
GRAC	**Grapevine Rang**	**23.63**	**326**	P	**P**	**12 39 12.3**	**+0.8**
	baz=33,SNR=18						
Q13A	**Wheeler Ranch,**	**23.63**	**335**	P	**P**	**12 39 07.0**	**-4.6**
	baz=33,SNR=10						
VES	**Vestal, Richgr**	**23.75**	**322**	P	**P**	**12 39 13.3**	**+0.7**
	baz=34,SNR=9.6						
R11A	**Troy Canyon, C**	**23.80**	**331**	⇓P	**P**	**12 39 12.1**	**-1.0**
	baz=33,SNR=9.9						
S10A	**Tonopah Range,**	**23.94**	**329**	P	**P**	**12 39 14.1**	**-0.3**
	baz=33,SNR=9.3						
P13A	**Bates Ranch, G**	**24.05**	**335**	P	**P**	**12 39 10.0**	**-5.4**
	baz=33,SNR=16						
R10A	**Warm Springs**	**24.09**	**330**	P	**P**	**12 39 14.7**	**-1.0**
	baz=34,SNR=7.5						
S09A	**Goldfield**	**24.10**	**328**	⇑P	**P**	**12 39 15.5**	**-0.4**
	baz=34						
Q11A	**Duckwater**	**24.24**	**332**	P	**P**	**12 39 14.5**	**-2.6**
	baz=34,SNR=9.1						
R09A	**Tonopah**	**24.43**	**329**	P	**P**	**12 39 18.2**	**-0.6**
	baz=34,SNR=11						
P12A	**McGill**	**24.43**	**334**	⇓P	**P**	**12 39 14.1**	**-4.7**
	baz=34						
Q10A	**Clear Creek Ra**	**24.57**	**331**	⇓P	**P**	**12 39 18.3**	**-1.7**
	baz=34						
MLAC	**Mammoth Lakes**	**24.88**	**325**	⇓P	**P**	**12 39 24.5**	**+1.5**
	baz=35,SNR=6.5						
KCC	**Kaiser Creek**	**24.92**	**324**	P	**P**	**12 39 24.2**	**+0.9**
	baz=35,SNR=28						
N14A	**Grayback Hills**	**24.96**	**338**	P	**P**	**12 39 14.4**	**-9.2**
	baz=34,SNR=8.1						
R08A	**Mina**	**25.03**	**327**	⇑P	**P**	**12 39 24.6**	**+0.4**
	baz=35						
O12A	**Currie**	**25.04**	**335**	P	**P**	**12 39 18.2**	**-6.1**
	baz=34,SNR=8.6						
ECSD	**EROS,Sioux Fal**	**25.94**	**8**	*e*P	**P**	**12 39 29.8**	**-2.6**
	2.1nm,0.7s,mb3.8						
FLWY	**Flagg Ranch**	**27.17**	**345**	*e*P	**P**	**12 39 44.9**	**+1.4**
	12nm,1.0s,mb4.4						
RLMT	**Red Lodge**	**27.84**	**348**	*e*P	**P**	**12 39 48.7**	**-0.8**
	14nm,0.5s,mb4.8						
CHMT	**Chamberlain Mo**	**30.46**	**344**	*e*P	**P**	**12 40 12.2**	**-0.5**
ULM	**Lac du Bonnet**	**32.45**	**6**	P	**P**	**12 40 27.3**	**-2.9**
ULM	**Lac du Bonnet**	**32.45**	**6**	P	**P**	**12 40 27.3**	**-2.9**
	3.8nm,0.6s,mb4.4,baz=178,slow=8.8,SNR=4.0						
MTP	**Monte Pirata**	**33.93**	**84**	*e*P	**P**	**12 40 43.8**	**+0.3**
EDM	**Edmonton**	**36.37**	**348**	*e*P	**P**	**12 41 02.7**	**-1.3**
FFC	**Flin Flon**	**36.64**	**359**	*e*P	**P**	**12 41 04.1**	**-2.2**
	12nm,1.1s,mb4.6						
YKA	**Yellowknife Ar**	**45.40**	**351**	P	**P**	**12 42 15.8**	**-2.3**
	1.8nm,0.8s,mb4.0,baz=161,slow=7.8,SNR=9.4						
SIV	**San Ignacio**	**52.06**	**128**	P	**P**	**12 43 09.5**	**-0.3**
	1.5nm,0.7s,mb4.1,baz=290,slow=12,SNR=3.3						
INK	**Inuvik**	**54.23**	**346**	*e*P	**P**	**12 43 24.1**	**-1.0**
ARCES	**ARCESS Array B**	**84.99**	**16**	P	**P**	**12 46 35.0**	**+0.8**
	2.5nm,0.6s,mb4.5,baz=316,slow=5.1,SNR=10						

PLV 07 13:26:22.9±4.9, 2208N×10334E, h0km±39km, MD3.3, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**0.75**	**203**	*e*PG	Pg	13 26 38.6	+1.3
DBV				*e*PG	Pg	13 26 38.6	+1.3
DBV				*e*SG	Sg	13 26 46.1	-0.9
DBV				*e*SG	Sg	13 26 46.1	-0.9
DBV				AMP		13 26 54.4	
SLVN	**Son La**	**0.92**	**145**	*e*PG	Pg	13 26 43.5	+3.0
SLVN				*e*SG	Sg	13 26 53.1	+0.7
SLVN				AMP		13 27 00.8	
BVV	**Ba Vi**	**2.13**	**117**	*e*Pn	Pn	13 27 01.3	+1.6
BVV				*e*Pg	Pg	13 27 05.1	+1.4
BVV				*e*Sg	Sg	13 27 32.2	+0.8
BVV	**Ba Vi**	**2.13**	**117**	*e*Pn	Pn	13 27 01.3	+1.6
BVV				*e*Pg	Pg	13 27 05.0	+1.3
BVV				*e*Sg	Sg	13 27 33.3	+1.9
HNV	**Hanoi**	**2.51**	**114**	*e*PG	Pg	13 27 08.7	-2.3
HNV				*e*Sg	Sg	13 27 42.5	-1.2
HNV	**Hanoi**	**2.51**	**114**	*e*PN	Pn	13 27 03.0	-1.9
HNV				*e*Pg	Pg	13 27 07.6	-3.5
HNV				*e*Sg	Sg	13 27 42.9	-0.7
MTZV	**Met**	**2.84**	**100**	*e*Sg	Sg	13 28 03.0	+8.7
DSV	**Doi Son**	**2.88**	**121**	*e*Sg	Sg	13 27 51.1	-4.2
YTV	**Yen Tu**	**3.28**	**106**	*e*PG	Pg	13 27 27.7	+2.0
YTV				*e*Sg	Sg	13 28 13.2	+4.8
YTV	**Yen Tu**	**3.28**	**106**	*e*Pg	Pg	13 27 26.1	+0.3
YTV				*e*SG	Sg	13 28 07.1	-1.2

*NEIC **07** 13:41:37.1±2.9, 2884N×11331W, h10km, mb3.8/1, ML4.0, Error ellipse: s-maj=34.6km s-min=10.1km az=204.0*

ISC 07 13:41:36.0±0.9, 2893N±005×11346W±005, h10km, n35, σ1§20/47, 12C-13D, Baja California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
216A	**Three Points,**	**3.52**	**29**	⇓P	**Pn**	**13 42 29.8**	**-0.9**
	baz=4.5						
216A				⇓S	**Sb**	**13 43 20.3**	**-0.8**
	baz=4.5						
217A	**Green Valley**	**3.64**	**38**	⇑P	**Pn**	**13 42 31.7**	**-0.7**
	baz=4.6,SNR=7.4						
217A				⇓S	**Sb**	**13 43 25.3**	**+0.7**
	baz=4.6						
115A	**Sonoran Desert**	**3.91**	**15**	⇓P	**Pn**	**13 42 33.6**	**-2.5**
	baz=4.8						
115A				⇑S	**Sb**	**13 43 31.0**	**-1.3**
	baz=4.8						
318A	**Bisbee**	**3.91**	**49**	⇓P	**Pn**	**13 42 35.7**	**-0.4**
	baz=4.9,SNR=13						
318A				⇑S	**Sb**	**13 43 35.5**	**+3.2**
	baz=4.9						
116A	**Eloy**	**3.92**	**22**	⇑P	**Pn**	**13 42 35.0**	**-1.3**
	baz=4.9						
116A				⇑S	**Sb**	**13 43 32.3**	**-0.5**
	baz=4.9						
TUC	**Tucson**	**4.08**	**34**	*e*Pn	**Pn**	**13 42 37.9**	**-0.6**
TUC				*e*Sg	**Sg**	**13 43 39.1**	**-8.0**
218A	**Dragoon**	**4.23**	**43**	⇑P	**Pn**	**13 42 39.9**	**-0.6**
	baz=5.2						
GLA	**Glamis**	**4.28**	**344**	*e*Pn	**Pn**	**13 42 42.1**	**+1.0**
117A	**Oracle**	**4.32**	**32**	⇓P	**Pn**	**13 42 40.8**	**-1.0**
	baz=5.3						
117A				⇓S	**Sb**	**13 43 44.8**	**+0.6**
	baz=5.3						
319A	**Douglas**	**4.36**	**55**	⇑P	**Pn**	**13 42 41.9**	**-0.4**
	baz=5.4						
219A	**White Tail Can**	**4.74**	**49**	⇑P	**Pn**	**13 42 47.0**	**-0.5**
	baz=5.7,SNR=28						
118A	**Homack Ranch,**	**4.76**	**38**	⇑P	**Pn**	**13 42 47.1**	**-0.8**
	baz=5.8,SNR=12						
118A				⇓S	**Sb**	**13 43 57.9**	**+1.0**
	baz=5.8						
119A	**Ashpeak Ranch,**	**5.23**	**42**	⇓P	**Pn**	**13 42 54.2**	**-0.1**
	baz=6.2,SNR=9.9						
Y17A	**Roosevelt**	**5.25**	**25**	⇓P	**Pn**	**13 42 53.7**	**-0.9**
	baz=6.2						
PFO	**Pinyon Flat Ob**	**5.33**	**332**	*e*Pn	**Pn**	**13 42 59.1**	**+3.5**
PFO				*e*Pg	**Pg**	**13

CLDR	**Caldiran**	**1.89 114**	*e*PN	**Pn**	**13 46 10.4**	**-1.0**
TVAN	**Van**	**1.94 136**	*e*P	**Pn**	**13 46 12.7**	**+0.6**
TVAN			*i* S	**Sg**	**13 46 44.0**	**+2.4**
PTK	**Pertek**	**2.08 240**	*e*PN	**Pn**	**13 46 14.1**	**0.0**
SVRC	**Sivrice-ELAZID**	**2.43 231**	*e*PN	**Pn**	**13 46 18.4**	**-0.5**
ESPY	**Espiye-Giresun**	**2.47 294**	*e*PN	**Pn**	**13 46 19.2**	**-0.3**
ELZG	**Elazig**	**2.56 236**	*e*P	**Pn**	**13 46 21.2**	**+0.6**
ELZG			*i* S	**Sg**	**13 47 02.8**	**+1.1**
ELZG	**Elazig**	**2.56 236**	*e*P	**Pn**	**13 46 21.2**	**+0.5**
MARD	**Mardin**	**2.73 196**	*e*P	**Pn**	**13 46 24.8**	**+1.9**
MARD			*i* S	**Sg**	**13 47 04.0**	**-2.9**
GRSN	**GIRESUNGRSN**	**2.80 292**	*e*P	**Pn**	**13 46 27.2**	**+3.2**
MTA	**Mtatsminda**	**2.92 52**	P	**Pg**	**13 46 31.7**	**-3.7**
MTA			S	**Sg**	**13 47 20.5**	**+7.2**
ONI	**Oni**	**2.94 26**	P	**Pn**	**13 46 30.0**	**+4.1**
ONI			S	**Sg**	**13 47 18.7**	**+4.8**
MALT	**Malatya**	**3.02 238**	*e*PN	**Pn**	**13 46 26.6**	**-0.4**
DGRG	**David-gareji**	**3.17 60**	P	**Pb**	**13 46 35.5**	**-0.1**
DGRG			S	**Sg**	**13 47 29.4**	**+8.2**
URFA	**Urfa**	**3.37 223**	*e*PN	**Pn**	**13 46 31.6**	**-0.2**
SVSK	**Karacayir**	**3.62 271**	*e*PN	**Pn**	**13 46 35.8**	**+0.6**
MSL	**Mosul**	**3.81 163**	*ex*	x	13 46 35.0	
MSL			*ex*	x	13 46 48.0	
MSL			*ex*	x	13 47 21.0	
MSL			*ex*	x	13 47 42.0	
BNN	**Bunyan**	**4.67 258**	*e*PN	**Pn**	**13 46 50.8**	**+1.2**

*KRSC **07** 13:45:39.7±1.2, 49.61N×156.99E, h31km±31km, ML4.7*
*BJI **07** 13:45:39.6, 50.12N×156.25E, h88km, mB4.9, mb4.4*
*ISCJB **07** 13:45:40.5±0.7, 49.76N±006×156.00E±009, h86km±5km, mb4.2/33, Error ellipse: s-maj=13.0km s-min=5.3km az=44.5*
*MOS **07** 13:45:40.5±1.3, 49.85N×155.98E, h92km, mb4.3/6, Error ellipse: s-maj=12.1km s-min=6.3km az=73.2*
*NEIC **07** 13:45:41.0±0.4, 49.71N×155.91E, mb4.2/5, Error ellipse: s-maj=10.5km s-min=6.9km az=133.0*
*IDC **07** 13:45:41.2±0.6, 49.74N×155.87E, h78km±5km, mb3.7/17, mb1 3.9/18, mb1mx3.8/23, mbtmp3.7/18, MS3.5/1, Ms1 3.5/1, ms1mx2.6/24, Error ellipse: s-maj=18.5km s-min=12.1km az=146.0*

ISC 07 13:45:42.0±0.7, 49.71N±006×156.08E±009, h90km±4km, h82km±2.5km: pP-P, n78, σ1°18/89, mb4.2/33, 7C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.97**	**2**	⇓*i*PN	**Pn**	**13 45 56.5**	**-4.8**
SKR				*i* S	**Sn**	**13 46 10.9**	**-4.9**
SKR				pmax	pmax		
	comp=N,650nm,0.4s						
SKR				pmax	pmax		
	comp=E,160nm,0.4s						
SKR				pmax	pmax		
	comp=Z,1μm,0.4s						
SKR				smax			
	comp=N,4μm,0.5s						
SKR				smax			
	comp=E,2μm,0.3s						
SKR				smax			
	comp=N,6μm,1.0s						
SKR				smax			
	comp=E,5μm,1.0s						
ALID	**Alaid**	**1.20**	**344**	*e*P	**Pn**	**13 46 04.8**	**+0.7**
ALID				*i* S	**Sn**	**13 46 23.0**	**+2.3**
MIPR	**Malaya Ipel'ka**	**2.60**	**9**	*e*P	**Pn**	**13 46 22.8**	**+0.7**
MIPR				*i* S	**Sn**	**13 46 54.6**	**+1.7**
GRL	**Gorelyy**	**3.11**	**23**	*e*P	**Pn**	**13 46 29.4**	**+0.5**
GRL				*i* S	**Sn**	**13 47 05.3**	**+0.2**
RUS	**Russkaya**	**3.13**	**29**	*e*P	**Pn**	**13 46 27.8**	**-1.4**
RUS				*i* S	**Sn**	**13 47 02.5**	**-3.0**
PET	**Petropavlovsk**	**3.69**	**25**	*e*P	**Pn**	**13 46 36.6**	**-0.1**
PET				*i* S	**Sn**	**13 47 18.1**	**-0.9**
AVH	**Avacha**	**3.92**	**24**	*e*P	**Pn**	**13 46 40.8**	**+0.9**
AVH				*i* S	**Sn**	**13 47 25.4**	**+0.6**
NLC	**Nalytchevo**	**4.02**	**29**	*e*P	**Pn**	**13 46 39.3**	**-1.9**
NLC				*i* S	**Sn**	**13 47 23.0**	**-4.1**
GNL	**Ganaly**	**4.15**	**16**	*e*P	**Pn**	**13 46 44.5**	**+1.5**
SPN	**Mys Shipunski**	**4.19**	**35**	*e*P	**Pn**	**13 46 42.2**	**-1.4**
SPN				*i* S	**Sn**	**13 47 27.4**	**-3.9**
KII	**Karymskiy**	**4.80**	**24**	*e*P	**Pn**	**13 46 52.8**	**+0.9**
KII				*i* S	**Sn**	**13 47 45.9**	**-0.3**
MKZ	**Mys Kozlova**	**5.97**	**33**	*e*P	**Pn**	**13 47 05.4**	**-2.3**
MKZ				*i* S	**Sn**	**13 48 08.8**	**-5.7**
TUMR	**Tumrok**	**6.11**	**22**	*e*P	**Pn**	**13 47 10.8**	**+1.3**
KUR	**Kuril'sk**	**7.14**	**234**	PN	**Pn**	**13 47 27.0**	**+3.3**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KBTR	**Krutoberegovo**	**7.67**	**29**	*e*P	**Pn**	**13 47 29.4**	**-1.4**
YSS	**Yuzh-Sakhalins**	**9.29**	**258**	⇑*e*PN	**Pn**	**13 47 54.9**	**+1.9**
MA2	**Magadan**	**10.35**	**345**	⇑*e*PN	**Pn**	**13 48 08.6**	**+1.4**
MA2				pmax	pmax		
	comp=Z,14nm,1.4s						
MA2	**Magadan**	**10.35**	**345**	*e*Pn	**Pn**	**13 48 07.1**	**-0.1**
	comp=Z,8.2nm,0.7s						
ASAJ	**Asahikawa**	**10.78**	**244**	PN	**Pn**	**13 48 14.0**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.78**	**244**	P	**Pn**	**13 48 14.0**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=36,slow=12,SNR=3.7						
ERM	**Erimo**	**11.84**	**234**	⇑*e*PN	**Pn**	**13 48 27.8**	**+0.2**
SEY	**Seymchan**	**13.41**	**353**	⇑*e*PN	**Pn**	**13 48 50.2**	**+2.0**
MAJO	**Matsushiro**	**18.47**	**231**	*e*P	**Pn**	**13 49 49.3**	**-2.5**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MAJO	**Matsushiro**	**18.47**	**231**	*e*P	**Pn**	**13 49 49.3**	**-2.5**
	comp=Z,5.0nm,0.6s						
MJAR	**Matsushiro Arr**	**18.47**	**231**	P	**Pn**	**13 49 50.8**	**-1.0**
	comp=Z,0.7nm,0.3s,baz=32,slow=9.5,SNR=17						
MDJ	**Mudanjiang**	**18.67**	**264**	*e*P	**Pn**	**13 49 52.0**	**-2.1**
	comp=Z,7.5nm,0.8s						
BILL	**Bilibino**	**19.07**	**12**	*d i*P	**Pn**	**13 49 56.9**	**-1.7**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.5s						
BILL	**Bilibino**	**19.07**	**12**	*e*P	**Pn**	**13 49 56.7**	**-1.9**
	comp=Z,5.5nm,0.4s						
YAK	**Yakutsk**	**19.10**	**320**	⇑*e*P	**Pn**	**13 49 56.7**	**-2.3**
YAK				pmax	pmax		
	comp=Z,29nm,1.3s						
YAK	**Yakutsk**	**19.10**	**320**	*e*P	**Pn**	**13 49 56.9**	**-2.1**
	comp=Z,22nm,0.8s						
CLNS	**Chul'man**	**19.83**	**303**	*e*P	**Pn**	**13 50 03.8**	**-3.8**
CLNS				pmax	pmax		
	comp=Z,19nm,0.6s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
KSRS	**Korea Array**	**23.64**	**249**	P	**P**	**13 50 45.4**	**+0.5**
	comp=N,6.3nm,0.8s,mb4.0,baz=47,slow=9.7,SNR=27						
TIXI	**Tiksi**	**25.26**	**340**	*e*P	**P**	**13 50 58.1**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.3						
BOD	**Bodaibo**	**25.78**	**304**	*e*P	**P**	**13 51 00.4**	**-3.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.6						
SONM	**Songino Array**	**32.32**	**286**	P	**P**	**13 52 01.6**	**-0.7**
	comp=Z,0.8nm,0.6s,mb3.6,baz=65,slow=7.6,SNR=7.7						
SONM				PcP	PcP	13 54 49.1	+1.1
	comp=Z,0.2nm,0.5s,baz=49,slow=2.2,SNR=2.3						
COLA	**College**	**32.59**	**41**	⇑*e*P	**P**	**13 52 01.6**	**-2.8**
ZAK	**Zakamensk**	**33.32**	**292**	*e*P	**P**	**13 52 11.1**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
INK	**Inuvik**	**38.09**	**35**	P	**P**	**13 52 53.0**	**+1.5**
	comp=Z,0.8nm,0.6s,mb3.7,baz=304,slow=7.2,SNR=5.9						
GTA	**Gaotai**	**40.51**	**277**	*e*P	**P**	**13 52 12.3**	**+0.4**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.3						
ZAA0	**Zalesovo Array**	**42.54**	**304**	*e*P	**P**	**13 53 28.0**	**-0.3**
ZALV	**Zalesovo Beam**	**42.54**	**304**	P	**P**	**13 53 27.9**	**-0.3**
	comp=Z,7.9nm,0.5s,mb4.7,baz=63,slow=7.0,SNR=32						
ZAL	**Zalesovo**	**42.55**	**304**	P	**P**	**13 53 28.0**	**-0.4**
NVS	**Novosibirsk**	**43.01**	**306**	*e*P	**P**	**13 53 27.2**	**-4.9**
NVS				*e*	pP	13 53 48.8	-4.6
YKA	**Yellowknife Ar**	**47.37**	**39**	P	**P**	**13 54 07.8**	**+1.3**
	comp=Z,0.2nm,0.3s,mb3.3,baz=290,slow=6.4,SNR=4.6						
YKA				pP	pP	13 54 26.3	-1.7
	comp=Z,0.5nm,0.5s,baz=298,slow=7.5,SNR=5.8						
MK31	**Makanchi Array**	**47.37**	**296**	*i* P	**P**	**13 54 06.1**	**-0.6**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.4						
MK31	**Makanchi Array**	**47.37**	**296**	*e*P	**P**	**13 54 06.0**	**-0.7**
MKAR	**Makanchi Array**	**47.37**	**296**	*i* P	**P**	**13 54 06.3**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**47.37**	**296**	P	**P**	**13 54 06.3**	**-0.4**
	comp=Z,4.2nm,0.7s,mb4.3,baz=57,slow=7.4,SNR=39						
MKAR				LR	LR	14 14 34.8	
	comp=Z,52nm,21.8s,baz=229,slow=37						
KURK	**Kurchatov**	**47.41**	**303**	*e*P	**P**	**13 54 06.3**	**-0.6**
	comp=Z,18nm,0.7s,mb4.9						
BVAR	**Borovoye Array**	**50.53**	**309**	P	**P**	**13 54 30.5**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.6,baz=62,slow=7.9,SNR=21						
BVAR				PcP	PcP	13 55 48.3	+1.0
	comp=Z,0.8nm,0.4s,baz=75,slow=1.7,SNR=4.2						
AAK	**Ala-Archa**	**54.31**	**296**	⇑*e*P	**P**	**13 54 58.0**	**-0.8**
AAK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
ARCES	**ARCESS Array B**	**55.70**	**341**	P	**P**	**13 55 07.3**	**-1.1**
	comp=Z,5.5nm,1.1s,mb4.5,baz=46,slow=7.7,SNR=7.3						
NVAR	**Mina Array Bea**	**59.35**	**66**	P	**P**	**13 55 35.5**	**+1.0**
	comp=Z,1.1nm,0.7s,mb4.0,baz=309,slow=6.2,SNR=9.9						
NVAR				pP	pP	13 55 57.4	+0.6
	comp=Z,0.4nm,0.7s,baz=302,slow=5.2,SNR=2.3						
FINES	**FINESS Array B**	**62.19**	**335**	P	**P**	**13 55 51.6**	**-1.7**
	comp=Z,1.1nm,0.8s,mb4.0,baz=27,slow=9.4,SNR=3.9						
NOA	**NORSAR Array B**	**66.04**	**342**	P	**P**	**13 56 18.4**	**-0.2**
	comp=Z,0.7nm,0.5s,mb3.8,baz=25,slow=6.4,SNR=2.2						
SCHQ	**Schefferville**	**69.80**	**25**	P	**P**	**13 56 43.0**	**+0.8**
	comp=Z,1.8nm,0.8s,mb4.0,baz=307,slow=8.8,SNR=5.8						
AKASG	**Malin Array Be**	**70.16**	**327**	P	**P**	**13 56 42.4**	**-2.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.16**	**327**	P	**P**	**13 56 42.4**	**-2.0**
	comp=Z,0.7nm,0.4s,mb3.8,baz=33,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**71.98**	**201**	P	**P**	**13 56 54.6**	**-1.1**
	comp=Z,0.2nm,0.6s,mb3.1,baz=14,slow=6.3,SNR=3.3						
WRA				pP	pP	13 57 15.8	-3.0
	comp=Z,0.5nm,0.5s,baz=18,slow=6.4,SNR=2.9						
TXAR	**Lajitas Array**	**74.35**	**63**	P	**P**	**13 57 11.0**	**+1.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=305,slow=5.5,SNR=8.4						
TXAR				pP	pP	13 57 31.4	-1.6
	comp=Z,0.7nm,0.7s,baz=322,slow=5.2,SNR=2.8						
ASAR	**Alice Springs**	**75.67**	**201**	P	**P**	**13 57 18.1**	**+0.9**
	comp=Z,0.2nm,0.5s,mb3.1,baz=18,slow=6.3,SNR=4.3						
ASAR				pP	pP	13 57 38.3	-2.2
	comp=Z,0.5nm,0.5s,baz=14,slow=5.3,SNR=4.0						
GERES	**GERESS Array B**	**76.62**	**336**	P	**P**	**13 57 22.8**	**+0.3**
	comp=Z,0.5nm,0.2s,mb3.8,baz=38,slow=6.6,SNR=3.4						
CDF	**Champ du Feu**	**78.62**	**339**	*e*P	**P**	**13 57 33.8**	**+0.2**
FLN	**La Foliniere**	**79.85**	**344**	*e*P	**P**	**13 57 40.4**	**+0.2**
LDF	**La Druitiere**	**79.95**	**344**	*e*P	**P**	**13 57 40.8**	**0.0**
GRR	**Gorron**	**80.28**	**345**	*e*P	**P**	**13 57 43.0**	**+0.5**
	comp=Z,27nm,0.8s,mb4.8						
LOR	**Lormes**	**80.45**	**341**	*e*P	**P**	**13 57 43.6**	**+0.1**
	comp=Z,10nm,0.7s,mb4.5						
SGMF	**Saint Gilles**	**80.69**	**346**	*e*P	**P**	**13 57 45.2**	**+0.4**
	comp=Z,37nm,0.9s,mb4.9						
AVF	**Avril sur Loir**	**81.01**	**341**	*e*P	**P**	**13 57 46.8**	**+0.3**
	comp=Z,9.2nm,0.7s,mb4.4						
SMF	**Signal de Mont**	**81.05**	**341**	*e*P	**P**	**13 57 47.2**	**+0.5**
LPL	**La Plagne**	**81.47**	**339**	*e*P	**P**	**13 57 50.2**	**+1.2**
	comp=Z,10nm,0.6s,mb4.5						
LPG	**La Plagne**	**81.49**	**339**	*e*P	**P**	**13 57 50.4**	**+1.4**
	comp=Z,12nm,0.6s,mb4.6						
TCF	**Toulx Ste Croi**	**81.72**	**342**	*e*P	**P**	**13 57 50.8**	**+0.5**
	comp=Z,13nm,1.0s,mb4.4						
MBDF	**Montbardon**	**82.21**	**338**	*e*P	**P**	**13 57 53.9**	**+1.1**
	comp=Z,4.6nm,0.7s,mb4.1						
ORIF	**Oris-en-Rattie**	**82.24**	**339**	*e*P	**P**	**13 57 54.1**	**+1.1**
	comp=Z,20nm,1.0s,mb4.6						
VIVF	**Saint-Julien-l**	**82.57**	**340**	*e*P	**P**	**13 57 54.8**	**+0.1**
RJF	**Les Rejaudoux**	**82.81**	**342**	*e*P	**P**	**13 57 56.4**	**+0.5**
SMRF	**Simiane la Rot**	**83.20**	**339**	*e*P	**P**	**13 57 59.9**	**+1.9**

*ISCJB **07** 13:45:46.4±0.8, 37.59N±004×21.62E±006, h13km±9km, Error ellipse: s-maj=9.2km s-min=5.5km az=152.2*
*ATH **07** 13:45:46.8, 37.68N×21.82E, h4km, MD3.4/3*
*CSEM **07** 13:45:46.5±0.2, 37.59N×21.58E, h10km, MD3.4, Error ellipse: s-maj=5.9km s-min=2.9km az=73.0*
*THE **07** 13:45:46.3, 37.58N×21.59E, h1km, ML3.4*
*NEIC **07** 13:45:46.8, 37.68N×21.82E, h4km, MD3.4(ATH), After ATH.*

ISC 07 13:45:46.6±0.8, 37.58N±004×21.60E±007, h17km±8km, n9, σ0°89/13, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.48**	**147**	⇑*i*PG	**Pg**	**13 45 55.9**	**-0.4**
ITM				*e*SG	**Sg**	**13 46 03.6**	**+0.8**
RLS	**Riolos of Patr**	**0.48**	**348**	*e*PG	**Pg**	**13 45 55.9**	**-0.5**
VLX	**Vlachokerasia**	**0.66**	**109**	*e*Pg	**Pg**	**13 45 58.4**	**-1.2**
VLX				*e*Sg	**Sg**	**13 46 08.5**	**+0.1**
PYL	**PYLOS**	**0.70**	**170**	*e*Pg	**Pg**	**13 45 59.6**	**-0.7**
SELA	**Sela**	**0.73**	**19**	*e*Pg	**Pg**	**13 45 59.7**	**-1.2**
SELA				*e*Sg	**Sg**	**13 46 11.1**	**+0.5**
VLS	**Valsamata**	**0.99**	**307**	*e*PG	**Pg**	**13 46 08.1**	**+2.2**
DID	**Didima**	**1.31**	**93**	*e*Pg	**Pn**	**13 46 10.7**	**+0.7**
DID				*e*Sg	**Sg**	**13 46 29.8**	**+0.9**
EVR	**Evrytania**	**1.34**	**7**	*e*PB	**Pn**	**13 46 10.0**	**-0.5**
VLI	**Veliai**	**1.38**	**128**	*e*PB	**Pb**	**13 46 11.8**	**-0.1**

*NSSC **07** 13:52:09.8, 37.62N×44.89E, h18km±3km*
*CSEM **07** 13:52:14.6±0.1, 37.61N×44.14E, h10km, MD3.9, Error ellipse: s-maj=3.4km s-min=1.6km az=44.0*
*ISCJB **07** 13:52:16.5±0.5, 37.51N±003×44.06E±004, h10km, Error ellipse: s-maj=5.0km s-min=3.9km az=10.5*
*DDA **07** 13:52:17.8, 37.60N×43.98E, h6km±2km, Md3.6*
*ISK **07** 13:52:17.6, 37.67N×43.87E, h7km, MD3.9, ML3.9*

ISC 07 13:52:18.3±0.5, 37.58N±003×44.02E±004, h10km, n41, σ1°36/54, 3D, Turkey-Iran border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HKR	**Hakkari**	**0.22**	**269**	PG	**Pg**	**13 52 21.2**	**-1.7**
HAKT	**HAKKARI**	**0.25**	**265**	*i* P	**Pg**	**13 52 22.0**	**-1.3**
HAKT				*i* S	**Sg**	**13 52 25.1**	**-1.7**
CUKT	**Cukurca**	**0.47**	**225**	PG	**Pg**	**13 52 27.5**	**+0.1**
CUKT				*e*SG	**Sg**	**13 52 33.7**	**+0.1**
VANT	**Van**	**1.00**	**330**	*e*PG	**Pg**	**13 52 34.8**	**-2.7**
TVAN	**Van**	**1.06**	**333**	*i* P	**Pg**	**13 52 36.1**	**-2.7**
TVAN				*i* S	**Sg**	**13 52 51.1**	**-1.4**
SIRT	**Sirnak**	**1.26**	**267**	*e*PN	**Pn**	**13 52 40.2**	**-1.7**
SIRT				*e*SN	**Sn**	**13 52 56.3**	**-2.6**
MSL	**Mosul**	**1.49**	**210**	*ex*	x	13 52 45.5	
MSL				*i* x	x	13 53 05.5	
MSL				*i* x	x	13 53 06.5	
CLDR	**Caldiran**	**1.56**	**357**	*e*PN	**Pn**	**13 52 44.8**	**-1.3**
DYDN	**Diyadin**	**1.98**	**353**	*i* P	**Pn**	**13 52 53.1**	**+1.3**
DYDN				*i* S	**Sg**	**13 53 26.1**	**+4.3**
BTMT	**Batman**	**2.09**	**288**	*e*PN	**Pn**	**13 52 53.8**	**+0.4**
AGRB	**Hanur-Agry**	**2.15**	**338**	*e*PN	**Pn**	**13 52 53.5**	**-0.7**
MARD	**Mardin**	**2.59**	**265**	*i* P	**Pn**	**13 52 60.0**	**-0.3**
MARD				*i* S	**Sn**	**13 53 35.8**	**+4.0**
BNGL	**BINGOL**	**2.64**	**302**	*i* P	**Pb**	**13 53 05.0**	**-0.6**
BNGL				*i* S	**Sg**	**13 53 41.1**	**-2.0**
KBSD	**Kabsdagh**	**2.83**	**259**	⇓P	**Pn**	**13 53 03.7**	**+0.1**
KBSD				⇓S	**Sn**	**13 53 43.2**	**+5.4**
KBSD	**Kabsdagh**	**2.83**	**259**	⇓*i*P	**Pn**	**13 53 03.7**	**+0.1**
HOMI	**Horasan**	**2.96**	**327**	*e*P	**Pb**	**13 53 10.8**	**-0.4**
HOMI				*i* S	**Sg**	**13 54 00.4**	**+6.9**
BINT	**Bingol**	**3.07**	**296**	*e*PN	**Pn**	**13 53 05.9**	**-0.9**
ERZM	**Erzurum**	**3.11**	**319**	*e*P	**Pn**	**13 53 10.1**	**+2.7**
DRBT	**Darb Altahta**	**3.44**	**259**	⇑P	**Pg**	**13 53 27.4**	**+3.2**
DRBT				⇑S	**Sg**	**13 54 24.8**	**+16**
KOPT	**Kop Dagi**	**3.67**	**313**	*e*P	**Pn**	**13 53 21.2**	**+6.1**
KOPT				*i* S	**Sg**	**13 54 17.7**	**+1.4**
SVRC	**Sivrice-ELAZID**	**3.81**	**284**	*e*PN	**Pn**	**13 53 16.6**	**-0.4**
PTK	**Pertek**	**3.87**	**291**	*e*PN	**Pn**	**13 53 17.9**	**0.0**
BSHR	**Al Beshri**	**3.88**	**242**	⇑P	**Pn**	**13 53 22.4**	**+4.4**
BSHR				⇑S	**Sb**	**13 54 16.0**	**+2.1**
DGRG	**David-gareji**	**4.00**	**15**	P	**Pg**	**13 53 38.1**	**+3.1**
DGRG				S	**Sg**	**13 54 41.5**	**+15**
ELZG	**Elazig**	**4.08**	**284**	*i* P	**Pn**	**13 53 19.6**	**-1.1**
URFA	**Urfa**	**4.13**	**270**	*e*PN	**Pn**	**13 53 21.8**	**+0.4**
MTA	**Mtatsminda**	**4.15**	**8**	P	**Pb**	**13 53 33.3**	**+1.9**
TBLG	**Delisi**	**4.18**	**7**	P	**Pb**	**13 53 33.4**	**+1.4**
BHD	**Baghdad**	**4.31**	**176**	*ex*	x	13 53 23.5	
BHD				*ex*	x	13 53 42.0	
BHD				*ex*	x	13 54 15.5	
BHD				*ex*	x	13 54 34.0	
BHD				*ex*	x	13 54 45.0	
MALT	**Malatya**	**4.48**	**281**	*e*PN	**Pn**	**13 53 26.1**	**-0.1**
MYA	**Malataya**	**4.48**	**281**	*e*PN	**Pn**	**13 53 25.9**	**-0.3**
ONI	**Oni**	**5.01**	**355**	P	**Pn**	**13 53 25.4**	**-8.1**
GAZ	**Gaziantep**	**5.44**	**268**	*e*PN	**Pn**	**13 53 40.1**	**+0.8**
BTCH	**Batrach**	**6.26**	**258**	⇑P	**Pn**	**13 53 51.7**	**+1.1**
BTCH				⇑S	**Sn**	**13 55 04.6**	**+2.4**
BTCH	**Batrach**	**6.26**	**258**	⇑*i*P	**Pn**	**13 53 51.7**	**+1.0**
BTCH				⇑*i*S	**Sn**	**13 55 04.6**	**+2.4**
HTY	**Hatay**	**6.49**	**259**	*e*PN	**Pn**	**13 53 55.3**	**+1.5**
KOZT	**Kozan**	**6.51**	**272**	*e*PN	**Pn**	**13 53 55.4**	**+1.3**
MIB	**Mutribah**	**8.23**	**159**	*e*P	**Pn**	**13 54 16.8**	**-1.0**
UMR	**Umm Al-Rimmam**	**8.58**	**158**	*e*P	**Pn**	**13 54 21.8**	**-0.7**
UMR				AML	AML	13 55 55.2	
	comp=Z,4.6nm,0.3s						
NAY	**Al-Naaiem**	**8.73**	**161**	*e*P	**Pn**	**13 54 23.7**	**-0.9**
NAY				AML	AML	13 56 02.4	
	comp=Z,2.2nm,0.5s						
RDF	**Al-Radifah**	**9.12**	**160**	*e*P	**Pn**	**13 54 29.5**	**-0.5**
RDF				AML	AML	13 56 11.3	
	comp=Z,3.6nm,0.4s						

*NIED **07** 14:09:00, 41.90N×142.40E, h50km, Mw4.5 Best double couple: M0:5.79000×10^15 NP1:φs:27.00000°, δ:65.00000°, λ:86.00000°. NP2:φs:217.00000°, δ:25.00000°, λ:99.00000°.*
*MOS **07** 14:09:35.1±0.9, 42.21N×142.42E, h36km, mb5.0/37, Error ellipse: s-maj=10.3km s-min=5.3km az=111.7*
*ISCJB **07** 14:09:37.0±0.3, 41.89N±002×142.50E±003, h66km±2km, mb4.6/81, Error ellipse: s-maj=4.5km s-min=2.9km az=137.4*
*BJI **07** 14:09:36.3, 41.92N×142.60E, h75km, mB4.7, mb4.7, Ms4.0, Msz3.7*
*SZGRF **07** 14:09:36.3, 42.13N×142.77E, h33km, mb4.8, Hokkaido, Japan, region*
*JMA **07** 14:09:37.4±0.1, 41.89N×142.50E, h64km±2km, M4.3 Broadband fault plane solution: P waves. NP1: φs:180.00000°, δ:16.00000°, λ:74.00000°. NP2:φs:17.00000°, δ:75.00000°, λ:94.00000°. Principal axes: T Plg60.0000°, Azm293.0000°; N Plg4.0000°, Azm195.0000°; P Plg30.0000°, Azm103.0000°;*
JMA Felt III J1.
*NEIC **07** 14:09:38.5±0.5, 41.94N×142.53E, h66km±4km, mb4.7/47, MW4.4(NIED) Error ellipse: s-maj=6.4km s-min=4.5km az=131.0*
NEIC Felt at Sapporo. Recorded [3 JMA] in south-central Hokkaido and [2 JMA] in the Ebetsu area and in southwestern Hokkaido. Also recorded [2 JMA] in Aomori and [1 JMA] in Iwate Prefectures, Honshu.
*IDC **07** 14:09:39.2±0.6, 41.94N×142.46E, h72km±4km, mb4.3/17, mb1 4.3/22, mb1mx4.3/26, mbtmp4.2/22, MS3.5/9, Ms1 3.5/9, ms1mx3.3/24, Error ellipse: s-maj=13.4km s-min=8.4km az=103.0*

ISC 07 14:09:38.0±0.2, 41.90N±002×142.51E±003, h61km±2km, h74km±1.5km: pP-P, n252, σ0°97/278, mb4.7/81, 38C-18D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.42**	**25**	⇑P	**Pn**	**14 09 48.8**	**-0.4**
JNBK				*e*S	**Sn**	**14 09 57.3**	**0.0**
ERM	**Erimo**	**0.49**	**77**	*d i*PN	**Pn**	**14 09 47.2**	**-2.7**
ERM	**Erimo**	**0.49**	**77**	⇓*i*PN	**Pn**	**14 09 49.8**	**-0.1**
ERM				*e*S	**Sn**	**14 09 56.6**	**-2.0**
ERM	**Erimo**	**0.49**	**77**	⇓*i*P	**Pn**	**14 09 49.8**	**-0.1**
ERM				*e*S	**Sn**	**14 09 56.6**	**-2.0**
JEM	**Erimo**	**0.49**	**77**	⇑P	**Pn**	**14 09 49.8**	**-0.1**
JEM				*e*S	**Sn**	**14 09 59.3**	**+0.7**
JBT2	**Biratori 2**	**0.88**	**353**	⇓P	**Pn**	**14 09 54.2**	**-0.3**
JBT2				*e*S	**Sn**	**14 10 06.8**	**+0.1**
JCH	**Churui**	**0.95**	**41**	⇑P	**Pn**	**14 09 55.4**	**0.0**
JCH				*e*S	**Sn**	**14 10 09.2**	**+0.9**
JKB	**Kayabe**	**1.10**	**270**	⇓P	**Pn**	**14 09 56.7**	**-0.7**
JKB				*e*S	**Sn**	**14 10 10.7**	**-1.1**
JOT	**Ohata**	**1

MDJ SCP ScP 14 21 32.9 +1.1
MDJ PCS PcS 14 21 39.7 +1.5
MDJ AMB AMB
comp=Z,14nm,1.1s
MDJ AMB AMB
comp=Z,41nm,6.1s
MDJ LR LR
comp=N,77nm,15.7s
MDJ LR LR
comp=E,178nm,22.8s
MDJ LR LR
comp=Z,235nm,25.2s
MDJ Mudanjiang 9.81 290 *e*P **Pn 14 11 58.3 +2.2**
comp=Z,11nm,0.8s
KLR Kul'dur 10.51 318 *e*PN **Pn 14 12 03.0 -2.7**
KSRS Korea Array 12.09 253 P **Pn 14 12 29.1 +1.9**
comp=Z,2.6nm,0.3s,baz=63,slow=14,SNR=26
KSRS S **Sn 14 14 45.5 +5.2**
comp=Z,1.2nm,0.3s,baz=66,slow=24,SNR=8.5
KSRS LR LR 14 16 49.5
comp=Z,128nm,20.0s,baz=346,slow=36
CN2 Changchun 12.67 284 *e*P **Pn 14 12 36.1 +1.0**
CN2 *e*AP 14 12 46.6
CN2 *e*S **Sn 14 14 55.6 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,100nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,19.0s
JNU Nakatsue 12.72 230 P **Pn 14 12 35.5 -0.4**
comp=Z,0.5nm,0.3s,baz=34,slow=11,SNR=4.3
CBIJ Chichi jima 14.78 181 P **Pn 14 13 02.0 -1.4**
comp=Z,9.1nm,0.3s,baz=300,slow=20,SNR=4.9
MA2 Magadan 18.42 13⇑ *e*P **Pn 14 13 45.5 -3.2**
MA2 pmax pmax
comp=Z,8.0nm,0.7s
MA2 Magadan 18.42 13 *e*P **Pn 14 13 45.2 -3.5**
comp=Z,8.6nm,0.8s
CLNS Chul'man 18.75 329 *e*P **Pn 14 13 49.7 -3.0**
CLNS pmax pmax
comp=Z,18nm,0.6s
CLNS pmax pmax
comp=N,8.0nm,0.7s
JOW Kunigami 19.04 222 P **Pn 14 13 55.0 -1.4**
JOW LR LR 14 21 24.5
JOW Kunigami 19.04 222 P **Pn 14 13 55.0 -1.4**
comp=N,1.9nm,0.3s,baz=38,slow=12,SNR=7.2
JOW LR LR 14 21 24.5
comp=N,121nm,20.3s,baz=315,slow=37
BJI Beijing 19.95 273 P **Pn 14 14 02.7 -4.3**
BJI S **S 14 17 37.4 -8.5**
BJI AMB AMB
comp=Z,20nm,1.0s
BJI LR LR
comp=N,110nm,27.1s
BJI LR LR
comp=E,111nm,13.4s
BJI LR LR
comp=Z,200nm,32.2s
BJT Baijiatuau 19.96 273 *e*P **Pn 14 14 02.1 -5.1**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 19.96 273 *e*P **Pn 14 14 02.1 -5.0**
comp=Z,12nm,0.6s
NJ2 Nanjing 21.25 250 *e*P **P 14 14 21.3 +2.4**
NJ2 AP 14 14 34.6
NJ2 XP sP 14 14 41.6 +1.8
NJ2 PP 14 14 46.6
NJ2 PPP 14 14 56.2
NJ2 S **S 14 18 05.0 -6.5**
NJ2 AMB AMB
comp=Z,30nm,0.5s,mb4.9
NJ2 AMB AMB
comp=Z,150nm,8.0s
NJ2 LR LR
comp=E,220nm,24.4s
NJ2 LR LR
comp=Z,220nm,24.3s
YAK Yakutsk 21.57 343⇑ *e*P **P 14 14 18.1 -4.0**
YAK pmax pmax
comp=Z,16nm,0.7s,mb4.6
YAK Yakutsk 21.57 343 *e*P **P 14 14 17.5 -4.6**
comp=Z,26nm,0.7s,mb4.8
SEY Seymchan 21.86 12⇑ *e*P **P 14 14 23.1 -2.0**
HHC Hu-ho-hao-te 23.19 278 *e*P **P 14 14 39.4 0.0**
HHC AP 14 14 56.5
HHC XP sP 14 15 05.7 +5.1
HHC PP 14 15 13.3
HHC S **S 14 18 41.7 -4.5**
HHC XS sS 14 19 11.3 +0.1
HHC SS 14 19 33.2
HHC AMB AMB
comp=Z,96nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,195nm,5.4s
HHC LR LR
comp=N,258nm,10.2s
HHC LR LR
comp=E,238nm,12.8s
HHC LR LR
comp=Z,222nm,13.5s
BOD Bodaibo 24.06 321 *e*P **P 14 14 43.1 -4.0**
BOD pmax pmax
comp=Z,6.0nm,0.7s,mb4.1
WHN Wuhan 25.28 252 ⇓P **P 14 14 59.5 +1.0**
SONM Songino Array 26.11 296 P **P 14 15 05.8 0.0**
SONM 14 18 31.4
SONM Songino Array 26.11 296 P **P 14 15 05.8 0.0**
comp=Z,4.5nm,0.6s,mb4.2,baz=77,slow=8.4,SNR=28
SONM PcP PcP 14 18 31.4 -0.4
comp=Z,0.8nm,0.6s,baz=149,slow=3.2,SNR=3.8
SONM LR LR 14 26 05.5
comp=Z,129nm,18.7s,baz=306,slow=38
XAN Xi'an 27.49 264 P **P 14 15 18.5 +0.1**
XAN AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
ZAK Zakamensk 28.20 301 *e*P **P 14 15 23.6 -0.9**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb3.9
GUMO Guam 28.29 175 LR LR 14 26 25.9
comp=Z,61nm,20.8s,baz=357,slow=36
MOY Mondy 29.69 304 *e*P **P 14 15 38.0 +0.2**
LZH Lanzhou 30.42 272 *e*P **P 14 15 47.4 +3.0**
LZH AP pP 14 16 02.5 +3.1
LZH XP sP 14 16 07.7 +1.1
LZH AMB AMB
comp=Z,22nm,1.5s,mb4.7
LZH AMB AMB
comp=Z,110nm,5.5s
LZH LR LR
comp=N,460nm,14.0s
LZH LR LR
comp=Z,630nm,15.0s
TIXI Tiksi 30.58 352⇑ *e*P **P 14 15 43.8 -1.6**
TIXI pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
GTA Gaotai 32.25 280 *e*P **P 14 16 00.5 +0.1**
GTA AP pP 14 16 15.1 -0.4
GTA XP sP 14 16 22.7 0.0
GTA PP PP 14 17 08.3 -5.8
GTA PCP PcP 14 18 48.7 +1.2
GTA S **S 14 21 07.1 -2.2**
GTA SS SS 14 23 01.9 -28
GTA AMB AMB
comp=Z,4.0nm,0.7s,mb4.4
GTA AMB AMB
comp=Z,96nm,4.9s
GTA LR LR
comp=N,72nm,15.6s
GTA LR LR
comp=E,86nm,16.0s
GTA LR LR
comp=Z,128nm,16.0s
CD2 Chengdu 32.81 263 *e*P **P 14 16 06.7 +1.2**
CD2 AP pP 14 16 22.7 +2.2
CD2 XP sP 14 16 30.2 +2.5
CD2 PP PP 14 17 18.0 -2.5
CD2 S **S 14 21 18.3 +0.1**
CD2 XS sS 14 21 44.0 +0.1
CD2 SS SS 14 23 19.9 -21
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
CD2 AMB AMB
comp=Z,20nm,4.2s
CD2 LR LR
comp=N,170nm,12.0s
CD2 LR LR
comp=Z,80nm,13.2s
GYA Guiyang 33.14 254 P **P 14 16 09.5 +1.1**
GYA AP pP 14 16 27.9 +4.4
GYA XP sP 14 16 36.0 +5.4
GYA PP PP 14 17 23.4 -0.8
GYA PCP PcP 14 18 52.2 +2.0
GYA S **S 14 21 23.8 +0.3**
GYA XS sS 14 21 53.3 +4.2
GYA SCP ScP 14 22 29.4 +0.3
GYA PCS PcS 14 22 36.8 +0.9
GYA SCS ScS 14 26 28.1 -1.6
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,90nm,4.9s
GYA LR LR
comp=N,590nm,18.6s
GYA LR LR
comp=E,480nm,17.4s
GYA LR LR
comp=Z,580nm,18.0s
KMI Kunming 36.77 256 P **P 14 16 39.1 -0.5**
KMI AP pP 14 16 58.3 +3.4
KMI AMB AMB
comp=Z,9.0nm,0.6s,mb4.8
ZAA0 Zalesovo Array 39.42 308 *e*P **P 14 17 01.0 -0.6**
ZALV Zalesovo Beam 39.42 308 P **P 14 17 01.5 0.0**
ZALV pP pP 14 17 19.9 +2.9
ZALV PcP PcP 14 19 08.8 +0.3
ZALV LR LR 14 34 42.1
ZALV Zalesovo Beam 39.42 308 P **P 14 17 01.5 0.0**
comp=Z,6.7nm,0.4s,mb4.8,baz=87,slow=7.7,SNR=46
ZALV pP pP 14 17 19.9 +2.9
comp=Z,6.1nm,0.7s,baz=95,slow=7.2,SNR=3.8
ZALV PcP PcP 14 19 08.8 +0.3
comp=Z,4.0nm,0.6s,baz=142,slow=3.2,SNR=3.7
ZALV LR LR 14 34 42.1
comp=Z,36nm,18.0s,baz=241,slow=38
ZAL Zalesovo 39.43 308 P **P 14 17 01.5 -0.2**
ZAL *PP pP 14 17 19.9 +2.9
ZAL 14 19 08.8
WMQ Urumqi 39.61 292 P **P 14 17 04.0 +0.7**
WMQ AP pP 14 17 22.0 +3.4
WMQ XP sP 14 17 32.0 +6.2
WMQ PP PP 14 18 40.0 +5.0
WMQ S **S 14 23 01.0 -0.7**
WMQ SS SS 14 25 53.0 -5.4
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,105nm,4.0s
WMQ LR LR
comp=N,56nm,12.0s
WMQ LR LR
comp=E,89nm,12.0s
WMQ LR LR
comp=Z,78nm,12.0s
NVS Novosibirsk 40.24 310 *e*P **P 14 17 07.1 -1.2**
IMA2 Indian Mountai 42.10 33 *e*P **P 14 17 23.1 -0.4**
MK31 Makanchi Array 42.42 298 *e*P **P 14 17 25.8 -0.6**
MKAR Makanchi Array 42.42 298 P **P 14 17 26.1 -0.3**
comp=Z,9.5nm,0.8s,mb4.5,baz=82,slow=9.5,SNR=106
MKAR pP pP 14 17 44.0 +2.1
comp=Z,2.8nm,0.6s,baz=91,slow=9.9,SNR=4.1
MKAR PcP PcP 14 19 18.5 +0.1
comp=Z,1.1nm,0.5s,baz=63,slow=3.3,SNR=4.0
LSA Lhasa 42.82 271 P **P 14 17 31.6 +1.8**
KDAK Kodiak Island 42.99 45 P **P 14 17 29.9 -0.9**
comp=Z,6.6nm,0.8s,mb4.4,baz=319,slow=23,SNR=5.6
KURK Kurchatov 43.74 304 *e*P **P 14 17 36.4 -0.6**
KURK pmax pmax
comp=Z,23nm,0.7s,mb5.0
KURK Kurchatov 43.74 304 *e*P **P 14 17 36.4 -0.5**
comp=Z,23nm,0.7s,mb5.0
COLA College 44.55 35⇑ *e*P **P 14 17 41.9 -1.4**
COLA College 44.55 35 *e*P **P 14 17 43.5 +0.2**
comp=Z,4.5nm,0.8s,mb4.3
EGAK Eagle 47.41 34 *e*P **P 14 18 05.3 -0.3**
comp=Z,3.3nm,0.9s,mb4.3
BVAR Borovoye Array 48.03 309 LR LR 14 39 25.3
comp=Z,61nm,19.3s,baz=325,slow=37
BRVK Borovoye 48.09 309 *e*P **P 14 18 09.6 -1.5**
BRVK pmax pmax
comp=Z,7.0nm,0.4s,mb5.0
BRVK Borovoye 48.09 309 *e*P **P 14 18 09.6 -1.5**
comp=Z,6.6nm,0.4s,mb5.0
TKM2 Tokmak 2 48.20 295 *e*P **P 14 18 12.3 +0.1**
TKM2 pmax pmax
comp=Z,30nm,0.6s,mb5.5
TKM2 Tokmak 2 48.20 295 *e*P **P 14 18 12.3 +0.1**
comp=Z,30nm,0.6s,mb5.5
TKM2 Tokmak 2 48.20 295 P **P 14 18 12.9 +0.7**
SNR=34
KBK Karagaybulak 48.75 295 P **P 14 18 16.9 +0.6**
SNR=28
KZA Kyzart 48.77 294 P **P 14 18 17.9 +1.4**
SNR=12
USP Ospenovka 48.81 296 P **P 14 18 16.8 0.0**
SNR=14
AAK Ala-Archa 49.06 295 *e*P **P 14 18 17.3 -1.5**
AAK pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AAK Ala-Archa 49.06 295 *e*P **P 14 18 17.3 -1.4**
comp=Z,5.3nm,0.7s,mb4.7
UCH Uchtor 49.21 295 *e*P **P 14 18 20.2 +0.3**
comp=Z,2.6nm,0.7s,mb4.4
EKS2 Erkin-Say 49.53 295 *e*P **P 14 18 22.2 -0.2**
comp=Z,13nm,0.6s,mb5.1
EKS2 Erkin-Say 49.53 295 P **P 14 18 22.4 0.0**
SNR=15
KSM Kuching 49.58 224 *e*P **P 14 18 24.1 +1.1**
INK Inuvik 49.70 29 *e*P **P 14 18 22.8 -0.4**
comp=Z,147nm,0.5s
INK Inuvik 49.70 29 P **P 14 18 23.2 0.0**
comp=Z,4.6nm,0.5s,mb4.8,baz=311,slow=6.3,SNR=70
AML Almayashu 49.81 295 *e*P **P 14 18 25.0 +0.5**
comp=Z,6.3nm,0.7s,mb4.8
AML Almayashu 49.81 295 P **P 14 18 25.4 +0.9**
SNR=9.9
KULM Kulim 52.08 237 *e*P **P 14 18 42.7 +0.9**
SVE Sverdlovsk 52.13 316 *e*P **P 14 18 41.9 +0.2**
SVE pmax pmax
comp=Z,15nm,0.6s,mb5.1
ARU Arti 53.35 316 *d*iP **P 14 18 50.1 -0.5**
ARU *e* 14 19 56.2
ARU *e* 14 20 46.4
ARU *e*S **S 14 26 17.9 +0.3**
ARU *e*SS SS 14 30 02.5 +5.0
ARU pmax pmax
comp=Z,14nm,1.0s,mb4.8
ARU Arti 53.35 316 *e*P **P 14 18 50.1 -0.5**
comp=Z,20nm,1.1s,mb5.0
KBL Kabul 56.57 289 *e*P **P 14 19 13.2 -1.0**
comp=Z,8.7nm,0.8s,mb4.8
RES Resolute Bay 57.68 15 *e*P **P 14 19 20.6 -0.9**
comp=Z,301nm,0.7s
YKA Yellowknife Ar 59.20 32 P **P 14 19 32.4 +0.2**
YKA *PP pP 14 19 50.7 +2.3
YKA Yellowknife Ar 59.20 32 P **P 14 19 32.4 +0.2**
comp=Z,3.2nm,0.8s,mb4.4,baz=306,slow=6.4,SNR=41
YKA pP pP 14 19 50.7 +2.2
comp=Z,0.9nm,0.7s,baz=304,slow=6.9,SNR=3.0
KEV Kevo 59.21 339 *ep* **P 14 19 30.5 -1.7**
comp=Z,2.7nm,0.3s,mb4.8
KEV Kevo 59.21 339 *e*P **P 14 19 30.5 -1.7**
KEV pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
HYB Hyderabad 59.28 266 *e*P **P 14 19 33.5 +0.1**
HYB Hyderabad 59.28 266 *i*P **P 14 19 33.5 +0.1**
ARCES ARCESS Array B 59.76 339 P **P 14 19 35.4 -0.5**
comp=Z,1.7nm,0.7s,mb4.2,baz=49,slow=8.3,SNR=6.9
ARCES pP pP 14 19 54.7 +2.5
comp=Z,3.1nm,0.9s,baz=68,slow=8.0,SNR=2.2
WB2 Warramunga Arr 61.99 189⇑ *i*P **P 14 19 51.2 -0.4**
WRA Warramunga Arr 61.99 189 P **P 14 19 51.3 -0.3**
comp=Z,4.3nm,0.4s,mb4.9,baz=6.6,slow=7.0,SNR=160
WRA pP pP 14 20 10.5 +2.5
comp=Z,3.0nm,0.7s,baz=5.5,slow=7.1,SNR=5.4
JOF Joensuu 62.09 331 *ep* **P 14 19 50.7 -1.2**
comp=Z,10nm,0.4s,mb5.3
JOF Joensuu 62.09 331 *e*P **P 14 19 50.7 -1.2**
JOF pmax pmax
comp=Z,11nm,0.4s,mb5.3
FINES FINESS Array B 64.92 332⇑ *e*P **P 14 20 09.8 -0.7**
FINES FINESS Array B 64.92 332 P **P 14 20 09.9 -0.6**
comp=Z,8.9nm,0.5s,mb5.1,baz=57,slow=7.5,SNR=58
FINES LR LR 14 49 49.7
comp=Z,77nm,20.0s,baz=3.4,slow=37
ASAR Alice Springs 65.72 189 P **P 14 20 16.4 +0.3**
comp=Z,1.5nm,0.4s,mb4.3,baz=2.6,slow=7.6,SNR=35
ASAR pP pP 14 20 35.6 +3.1
comp=Z,1.9nm,0.8s,baz=7.7,slow=5.8,SNR=6.6
KIV Kislovodsk 68.39 310 *e*P **P 14 20 32.5 -0.5**
KIV pmax pmax
comp=Z,28nm,1.1s,mb5.2
KIV Kislovodsk 68.39 310 *e*P **P 14 20 33.9 +1.0**
comp=Z,39nm,1.2s,mb5.3
FCC Fort Churchill 69.29 28 *e*P **P 14 20 37.9 -0.3**
FCC pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
FCC Fort Churchill 69.29 28 *e*P **P 14 20 37.9 -0.3**
comp=Z,2.8nm,0.4s,mb4.5
NB2 NORSAR Subarra 70.03 337 P **P 14 20 42.0 -0.8**
comp=Z,5.5nm,0.5s,mb4.7,baz=35,slow=6.5
NOA NORSAR Array B 70.03 337 P **P 14 20 42.2 -0.5**
comp=Z,7.9nm,0.7s,mb4.8,baz=36,slow=6.1,SNR=27
NOA LR LR 14 53 04.0
comp=Z,32nm,20.7s,baz=270,slow=37
AKASG Malin Array Be 70.98 322 P **P 14 20 48.2 -0.5**
comp=Z,9.4nm,0.5s,mb5.0,baz=44,slow=6.0,SNR=50
AKBB Malin Array Si 70.98 322 *e*P **P 14 20 47.9 -0.9**
KIEV Kiev 71.00 322 *e*P **P 14 20 47.4 -1.4**
KIEV pmax pmax
comp=Z,13nm,0.7s,mb5.0
KIEV Kiev 71.00 322 *e*P **P 14 20 47.4 -1.4**
comp=Z,13nm,0.7s,mb5.0
NVAR Mina Array Bea 71.44 55 P **P 14 20 53.1 +1.4**
comp=Z,1.3nm,0.8s,mb3.9,baz=314,slow=4.9,SNR=11
UMR Umm Al-Rimmam 74.21 296 *e*P **P 14 21 06.1 -2.2**
UMR AMb AMB 14 21 12.0
comp=Z,10nm,0.5s,mb5.0
MIB Mutribah 74.30 296 *e*P **P 14 21 05.9 -2.9**
MIB AMb AMB 14 21 09.4
comp=Z,16nm,0.7s,mb5.1
MALT Malatya 74.46 308 *e*P **P 14 21 10.9 +1.3**
comp=Z,13nm,1.2s,mb4.7
MALT Malatya 74.46 308⇑ *i*P **P 14 21 11.1 +1.5**
QRN Al-Qurain 74.58 295 *e*P **P 14 21 08.3 -2.2**
QRN AMb AMB 14 21 11.1
comp=Z,23nm,0.3s,mb5.5
KWP Kalwaria 74.68 324 *e*P **P 14 21 11.4 +0.8**
KWP Kalwaria 74.68 324 *e*P **P 14 21 11.4 +0.8**
KWP Kalwaria 74.68 324⇑ *i*P **P 14 21 11.2 +0.6**
RDF Al-Radifah 74.72 295 *e*P **P 14 21 09.0 -2.3**
RDF AMb AMB 14 21 10.8
comp=Z,14nm,1.1s,mb4.8
NAY Al-Naaiem 74.72 296 *e*P **P 14 21 08.3 -3.0**
NAY AMb AMB 14 21 11.3
comp=Z,6.2nm,0.7s,mb4.6
ULM Lac du Bonnet 74.99 34 P **P 14 21 12.4 0.0**
comp=Z,3.4nm,0.6s,mb4.5,baz=311,slow=5.5,SNR=6.7
BURAR Bucovina Array 75.03 322⇑ *i*P **P 14 21 13.1 +0.4**
KOLS Kolonicke sedl 75.39 324 *e*P **P 14 21 14.9 +0.2**
STHS Stebnicka Huta 75.47 325 *e*P **P 14 21 16.1 +0.9**
STHS *e* pP 14 21 35.2 +3.2
STHS pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
STHS Stebnicka Huta 75.47 325 *e*P **P 14 21 16.1 +0.9**
comp=Z,5.8nm,0.6s,mb4.7
STHS *e* pP 14 21 35.2 +3.2
STHS Stebnicka Huta 75.47 325 *e*P **P 14 21 16.1 +0.9**
STHS *e*pP pP 14 21 35.1 +3.1
OJC Ojcow 75.48 326 *e*P **P 14 21 15.7 +0.5**
CRVS Cervenica-Dubn 75.77 324 *e*P **P 14 21 17.5 +0.6**
CRVS *e*pP pP 14 21 41.2 +7.5
NIE Niedzica 75.87 325 *e*P **P 14 21 18.2 +0.7**
BSEG Bad Segeberg 76.11 333 *e*P **P 14 21 19.1 +0.4**
BSEG pmax pmax
comp=Z,12nm,0.9s,mb4.8
BSEG Bad Segeberg 76.11 333 *e*P **P 14 21 19.1 +0.4**
comp=Z,12nm,0.9s,mb4.8
MLR Muntele Rosu 76.23 320⇑ *i*P **P 14 21 20.8 +1.2**
OKC Ostrava-Krasne 76.45 327 *e*P **P 14 21 28.2 +7.4**
ANTO Ankara 76.64 312⇑ *i*P **P 14 21 22.9 +0.8**
MORC Moravsky Berou 76.75 327 *e*P **P 14 21 22.0 -0.5**
MORC pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MORC Moravsky Berou 76.75 327 *e*P **P 14 21 22.0 -0.4**
comp=Z,8.5nm,0.8s,mb4.7
MORC Moravsky Berou 76.75 327 ⇓*i*P **P 14 21 22.9 +0.4**
UPC Upice 76.79 328 *e*P **P 14 21 23.4 +0.7**
DPC Dobruska-Polom 76.79 328 *e*P **P 14 21 23.6 +0.9**
VYHS Vyhne 77.20 325 *e*P **P 14 21 25.6 +0.6**
VYHS *e* pP 14 21 45.1 +3.2
VYHS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
VYHS Vyhne 77.20 325 *e*P **P 14 21 25.6 +0.6**
comp=Z,2.4nm,1.0s,mb4.1
VYHS *e* pP 14 21 45.1 +3.2
BRG Berggiesshubel 77.30 329 *i*P **P 14 21 25.4 -0.1**
BRG pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
BRG Berggiesshubel 77.30 329 *i*P **P 14 21 25.5 0.0**
comp=Z,2.2nm,0.8s,mb4.2
CLL Collm 77.30 330 *i*P **P 14 21 25.4 -0.1**
CLL pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 77.30 330 *e*P **P 14 21 25.3 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
CLL Collm 77.30 330 *i*P **P 14 21 25.4 -0.1**
comp=Z,10.0nm,0.9s,mb4.8
PVCC Panska Ves 77.33 329 *e*P **P 14 21 26.5 +0.8**
PRU Pruhonice 77.78 329 *e*P **P 14 21 28.9 +0.7**
CLZ Clausthal 77.81 332 *e*P **P 14 21 28.7 +0.3**
CLZ pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
CLZ Clausthal 77.81 332 *e*P **P 14 21 28.7 +0.3**
comp=Z,10.0nm,0.8s,mb4.8
KHC Kasperske Hory 78.84 329⇑ *e*P **P 14 21 33.5 -0.6**
KHC Kasperske Hory 78.84 329 *e*P **P 14 21 34.6 +0.5**
KHC *e*pP pP 14 21 54.0 +3.0
GEC2 GERESS Array S 79.02 328 *e*P **P 14 21 35.8 +0.7**
GEC2 pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
GEC2 GERESS Array S 79.02 328 *e*P **P 14 21 35.8 +0.7**
comp=Z,2.0nm,0.6s,mb4.2
GERES GERESS Array B 79.02 328 P **P 14 21 35.4 +0.3**
comp=Z,1.5nm,0.5s,mb4.2,baz=33,slow=5.1,SNR=9.1
WET Wettzell 79.10 329 *e*P **P 14 21 35.9 +0.4**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
WET Wettzell 79.10 329 *e*P **P 14 21 35.9 +0.4**
comp=Z,6.0nm,0.9s,mb4.5
GRA1 Grafenberg Arr 79.28 330 *e*P **P 14 21 36.5 0.0**
comp=Z,8.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.28 330 *e*P **P 14 21 36.5 0.0**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.28 330 *e*P **P 14 21 36.5 0.0**
GRF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
GRF Grafenberg Arr 79.28 330 *e*P **P 14 21 36.5 0.0**
comp=Z,8.0nm,1.1s,mb4.6
GROS Grobnik 80.20 326 *i*P **P 14 21 41.6 +0.1**
PERS Pernice 80.22 326 *e*P **P 14 21 42.0 +0.3**
SCHQ Schefferville 80.43 17 P **P 14 21 42.8 +0.2**
comp=Z,6.2nm,0.7s,mb4.7,baz=17,slow=6.1,SNR=10
PDKS Podkum 80.73 326 *e*P **P 14 21 44.4 -0.1**
VISS Visnje 81.01 326 *i*P **P 14 21 45.6 -0.3**
BAIF Baives 81.40 334 *e*P **P 14 21 47.5 -0.4**
comp=Z,9.4nm,0.8s,mb4.5
BAIF Baives 81.40 334 *e*P **P 14 21 47.5 -0.4**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BAIF Baives 81.40 334 *e*P **P 14 21 47.5 -0.4**
comp=Z,4.7nm,0.8s,mb4.5
FETA Feichten 81.67 329⇑ *i*P **P 14 21 48.3 -1.0**
comp=Z,5.2nm,0.8s,mb4.5
DAVA Damuels 81.77 330⇑ *i*P **P 14 21 50.2 +0.3**
comp=Z,13nm,1.0s,mb4.8
DAVA Damuels 81.77 330⇑ *i*P **P 14 21 50.2 +0.3**
comp=Z,13nm,1.0s,mb4.8
CDF Champ du Feu 81.78 332 *e*P **P 14 21 49.9 0.0**
comp=Z,5.1nm,0.6s,mb4.4

CDF	**Champ du Feu**	**81.78 332**	*e*P	**P**	**14 21 49.9**	**0.0**
CDF			pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.4						
CDF	**Champ du Feu**	**81.78 332**	*e*P	**P**	**14 21 49.9**	**0.0**
comp=Z,2.5nm,0.6s,mb4.3						
LOR	**Lormes**	**83.94 333**	⇑*i*P	**P**	**14 22 00.8**	**-0.3**
comp=Z,31nm,0.9s,mb5.1						
LOR			*e*MLR	MLR		
comp=Z,76nm,17.8s						
LOR	**Lormes**	**83.94 333**	⇑*i*P	**P**	**14 22 00.8**	**-0.3**
LOR			pmax	pmax		
comp=Z,16nm,0.9s,mb5.2						
LOR			MLR	MLR		
comp=Z,80nm,17.8s						
LOR	**Lormes**	**83.94 333**	⇑*i*P	**P**	**14 22 00.8**	**-0.3**
comp=Z,16nm,0.9s,mb5.1						
LOR			LR	LR		
comp=Z,80nm,17.8s						
FLN	**La Foliniere**	**84.00 336**	*e*P	**P**	**14 22 01.0**	**-0.4**
FLN			*e*MLR	MLR		
comp=Z,60nm,18.0s						
FLN	**La Foliniere**	**84.00 336**	*e*P	**P**	**14 22 01.0**	**-0.4**
FLN			LR	LR		
comp=Z,60nm,18.0s						
LDF	**La Druitiere**	**84.05 336**	*e*P	**P**	**14 22 01.1**	**-0.5**
comp=Z,17nm,0.9s,mb4.9						
LDF	**La Druitiere**	**84.05 336**	*e*P	**P**	**14 22 01.1**	**-0.5**
LDF			pmax	pmax		
comp=Z,9.0nm,0.9s,mb4.9						
LDF	**La Druitiere**	**84.05 336**	*e*P	**P**	**14 22 01.1**	**-0.5**
comp=Z,8.6nm,0.9s,mb4.9						
SSF	**Saint Saulge**	**84.24 333**	*e*P	**P**	**14 22 02.5**	**-0.1**
comp=Z,13nm,0.8s,mb4.8						
SSF	**Saint Saulge**	**84.24 333**	*e*P	**P**	**14 22 02.5**	**-0.1**
SSF			pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.8						
SSF	**Saint Saulge**	**84.24 333**	*e*P	**P**	**14 22 02.5**	**-0.1**
comp=Z,6.3nm,0.8s,mb4.8						
LPL	**La Plagne**	**84.43 330**	⇑*i*P	**P**	**14 22 04.1**	**+0.4**
comp=Z,18nm,1.1s,mb4.8						
LPL	**La Plagne**	**84.43 330**	⇑*i*P	**P**	**14 22 04.1**	**+0.4**
LPL			pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.8						
LPL	**La Plagne**	**84.43 330**	⇑*i*P	**P**	**14 22 04.1**	**+0.4**
comp=Z,9.0nm,1.1s,mb4.8						
LPG	**La Plagne**	**84.44 330**	⇑*i*P	**P**	**14 22 04.3**	**+0.6**
comp=Z,10.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.44 330**	⇑*i*P	**P**	**14 22 04.3**	**+0.6**
LPG			pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.7						
LPG	**La Plagne**	**84.44 330**	⇑*i*P	**P**	**14 22 04.3**	**+0.6**
comp=Z,5.0nm,0.8s,mb4.7						
GRR	**Gorron**	**84.45 336**	*e*P	**P**	**14 22 03.5**	**-0.2**
comp=Z,28nm,0.9s,mb5.1						
GRR	**Gorron**	**84.45 336**	*e*P	**P**	**14 22 03.5**	**-0.2**
GRR			pmax	pmax		
comp=Z,14nm,0.9s,mb5.1						
GRR	**Gorron**	**84.45 336**	*e*P	**P**	**14 22 03.5**	**-0.2**
comp=Z,14nm,0.9s,mb5.1						
SMF	**Signal de Mont**	**84.49 333**	*e*P	**P**	**14 22 03.8**	**-0.1**
comp=Z,13nm,0.8s,mb4.8						
SMF	**Signal de Mont**	**84.49 333**	*e*P	**P**	**14 22 03.8**	**-0.1**
SMF			pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.8						
SMF	**Signal de Mont**	**84.49 333**	*e*P	**P**	**14 22 03.8**	**-0.1**
comp=Z,6.3nm,0.8s,mb4.8						
AVF	**Avril sur Loir**	**84.53 333**	⇑*i*P	**P**	**14 22 04.1**	**0.0**
comp=Z,23nm,0.7s,mb5.1						
AVF	**Avril sur Loir**	**84.53 333**	⇑*i*P	**P**	**14 22 04.1**	**0.0**
AVF			pmax	pmax		
comp=Z,12nm,0.7s,mb5.1						
AVF	**Avril sur Loir**	**84.53 333**	⇑*i*P	**P**	**14 22 04.1**	**0.0**
comp=Z,12nm,0.7s,mb5.1						
MBDF	**Montbardon**	**85.09 330**	⇑*i*P	**P**	**14 22 06.8**	**-0.2**
comp=Z,8.9nm,0.7s,mb4.7						
MBDF	**Montbardon**	**85.09 330**	⇑*i*P	**P**	**14 22 06.8**	**-0.2**
MBDF			pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.7						
MBDF	**Montbardon**	**85.09 330**	⇑*i*P	**P**	**14 22 06.8**	**-0.2**
comp=Z,4.4nm,0.7s,mb4.7						
ORIF	**Oris-en-Rattie**	**85.26 331**	⇑*i*P	**P**	**14 22 08.1**	**+0.3**
comp=Z,9.9nm,0.7s,mb4.8						
ORIF			*e*MLR	MLR		
comp=Z,57nm,22.8s						
ORIF	**Oris-en-Rattie**	**85.26 331**	⇑*i*P	**P**	**14 22 08.1**	**+0.3**
ORIF			pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.8						
ORIF	**Oris-en-Rattie**	**85.26 331**	⇑*i*P	**P**	**14 22 08.1**	**+0.3**
comp=Z,4.9nm,0.7s,mb4.8						
TCF	**Toulx Ste Croi**	**85.35 334**	*e*P	**P**	**14 22 08.5**	**+0.3**
comp=Z,23nm,1.1s,mb4.9						
TCF	**Toulx Ste Croi**	**85.35 334**	*e*P	**P**	**14 22 08.5**	**+0.3**
TCF			pmax	pmax		
comp=Z,11nm,1.1s,mb4.9						
TCF	**Toulx Ste Croi**	**85.35 334**	*e*P	**P**	**14 22 08.5**	**+0.3**
comp=Z,11nm,1.1s,mb4.9						
MFF	**Saint Martin d**	**85.83 335**	*e*P	**P**	**14 22 11.0**	**+0.4**
comp=Z,43nm,1.3s,mb5.2						
MFF	**Saint Martin d**	**85.83 335**	*e*P	**P**	**14 22 11.0**	**+0.4**
MFF			pmax	pmax		
comp=Z,22nm,1.3s,mb5.2						
MFF	**Saint Martin d**	**85.83 335**	*e*P	**P**	**14 22 11.0**	**+0.4**
comp=Z,22nm,1.3s,mb5.2						
PPT	**Papeete**	**86.09 118**	LR	LR	14 56 27.5	
comp=Z,66nm,21.4s,baz=272,slow=33						
FRF	**La Foret Royal**	**86.13 330**	*e*P	**P**	**14 22 13.1**	**+0.9**
RJF	**Les Rejaudoux**	**86.44 334**	*e*P	**P**	**14 22 14.1**	**+0.4**
RJF			*e*MLR	MLR		
comp=Z,8.4nm,0.7s,mb4.8						
RJF			*e*MLR	MLR		
comp=Z,68nm,20.2s						
RJF	**Les Rejaudoux**	**86.44 334**	*e*P	**P**	**14 22 14.1**	**+0.4**
RJF			pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.8						
RJF			MLR	MLR		
comp=Z,70nm,20.3s						
RJF	**Les Rejaudoux**	**86.44 334**	*e*P	**P**	**14 22 14.1**	**+0.4**
comp=Z,4.2nm,0.7s,mb4.8						
RJF			LR	LR		
comp=Z,70nm,20.3s						
TXAR	**Lajitas Array**	**86.50 53**	P	**P**	**14 22 14.5**	**+0.3**
comp=Z,1.1nm,0.7s,mb4.2,baz=292,slow=3.9,SNR=8.3						
TXAR			pP	pP	14 22 33.0	+1.6
comp=Z,1.2nm,0.8s,baz=270,slow=3.8,SNR=5.1						
CAF	**Calviac**	**86.59 333**	*e*P	**P**	**14 22 15.3**	**+0.9**
comp=Z,27nm,0.8s,mb5.2						
CAF	**Calviac**	**86.59 333**	*e*P	**P**	**14 22 15.3**	**+0.9**
CAF			pmax	pmax		
comp=Z,13nm,0.8s,mb5.2						
CAF	**Calviac**	**86.59 333**	*e*P	**P**	**14 22 15.3**	**+0.9**
comp=Z,13nm,0.8s,mb5.2						
LFF	**La Frestale**	**87.02 334**	*e*P	**P**	**14 22 17.3**	**+0.8**
ETSF	**Etsaut**	**89.27 334**	*e*P	**P**	**14 22 28.7**	**+1.5**
comp=Z,10nm,0.8s,mb4.9						
ETSF	**Etsaut**	**89.27 334**	*e*P	**P**	**14 22 28.7**	**+1.5**
ETSF			pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.9						
ETSF	**Etsaut**	**89.27 334**	*e*P	**P**	**14 22 28.7**	**+1.5**
comp=Z,5.1nm,0.8s,mb4.9						
DBIC	**Dimbokro**	**123.21 320**	PKP	PKPdf	14 28 27.8	-0.4
comp=Z,2.5nm,0.7s,baz=342,slow=4.4,SNR=5.4						
SNAA	**Sanae**	**145.64 199**	*e*PKPdf	PKPdf	14 29 08.5	+0.6
SNAA			*e*		14 29 09.5	
SNAA			*e*		14 29 18.9	
SNAA			*e*		14 29 29.1	
SIV	**San Ignacio**	**147.16 45**	PKPbc	PKPbc	14 29 15.1	+0.7
comp=Z,4.7nm,0.6s,baz=333,slow=3.1,SNR=11						
VNA2	**Neumayer--Watz**	**147.22 198**	*e*PKPdf	PKPdf	14 29 13.2	+2.6
VNA2			*e*		14 29 15.5	
VNA2			*e*		14 29 29.7	
VNA2			*e*		14 29 35.5	
VNA3	**Neumayer Olymp**	**147.48 196**	*e*PKPdf	PKPdf	14 29 13.4	+2.4
VNA3			*e*		14 29 15.3	
VNA3			*e*		14 29 35.9	

*IDC **07** 14:16:09.1±6.7, 2158S×68.40W, h98km±49km, mb3.8/2, mb1 3.9/4, mb1mx3.5/15, mbtmp3.8/4, Error ellipse: s-maj=72.1km s-min=39.0km az=15.0*

NEIC 07 14:16:10.0±3.4, 2156S×6827W, h107km±26km, Error ellipse: s-maj=44.9km s-min=17.3km az=188.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.25**	**2**	*e*Pn	Pn	14 17 26.7	+0.5
LPAZ	**La Paz**	**5.25**	**2**	P	Pn	14 17 27.0	+0.8
4.1nm,0.3s,baz=183,slow=7.2,SNR=78							
ARE	**Arequipa**	**5.91**	**328**	*e*P	Pn	14 17 36.0	+0.8
ARE				*e*S	Sn	14 18 33.0	-8.7
SIV	**San Ignacio**	**8.79**	**52**	P	Pn	14 18 13.9	-0.4
1.7nm,0.3s,baz=246,slow=13,SNR=34							
DBIC	**Dimbokro**	**68.19**	**73**	P	P	14 27 00.2	+0.9
1.2nm,0.6s,baz=226,slow=7.1,SNR=3.3							
YKA	**Yellowknife Ar**	**91.44**	**340**	P	P	14 29 02.7	-0.9
YKA	**Yellowknife Ar**	**91.44**	**340**	P	P	14 29 02.7	-0.9
0.6nm,0.5s,baz=134,slow=4.6,SNR=13							
ASAR	**Alice Springs**	**130.13**	**207**	PKP	PKPdf	14 35 07.9	-0.2
0.4nm,0.9s,baz=123,slow=1.7,SNR=4.5							
WRA	**Warramunga Arr**	**133.20**	**210**	PKP	PKPdf	14 35 14.0	0.0
0.2nm,0.6s,baz=173,slow=1.4,SNR=3.3							
MKAR	**Makanchi Array**	**145.33**	**36**	PKPbc	PKPbc	14 35 35.9	+0.7
1.3nm,0.8s,baz=320,slow=3.6,SNR=12							

*NEIC **07** 14:46:57.2, 3790S×17592E, h271km, MG3.8(WEL), After WEL.*

WEL 07 14:46:57.2±0.7, 3791S×17593E, h272km±7km, ML3.8/17, Error ellipse: s-maj=8.7km s-min=7.9km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.00**	**111**	*e*P	Pn	14 47 34.2	-0.2
URZ	**Urewera**	**1.00**	**111**	PN	Pn	14 47 34.2	-0.2
WPVZ	**Whakapapa**	**1.32**	**193**	PN	Pn	14 47 36.1	-0.2
BKZ	**Black Stump Fm**	**1.33**	**161**	P	Pn	14 47 36.4	+0.1
BKZ	**Black Stump Fm**	**1.33**	**161**	PN	Pn	14 47 36.4	+0.2
MWZ	**Matawai**	**1.33**	**109**	P	Pn	14 47 36.7	+0.4
MWZ				S	S	14 48 07.1	-0.2
MWZ	**Matawai**	**1.33**	**109**	PN	Pn	14 47 36.7	+0.4
MWZ				SN	S	14 48 07.1	-0.3
TUVZ	**Tukino**	**1.37**	**189**	PN	Pn	14 47 37.1	+0.5
FWVZ	**Far West T-bar**	**1.37**	**192**	*e*P	Pn	14 47 37.0	+0.4
FWVZ	**Far West T-bar**	**1.37**	**192**	PN	Pn	14 47 37.0	+0.4
TRVZ	**Turoa**	**1.42**	**192**	PN	Pn	14 47 37.3	+0.4
WNVZ	**Wahianoa**	**1.44**	**190**	P	Pn	14 47 37.3	+0.3
WNVZ	**Wahianoa**	**1.44**	**190**	PN	Pn	14 47 37.3	+0.3
MOVZ	**Moawhango**	**1.50**	**185**	P	Pn	14 47 37.3	-0.1
MOVZ	**Moawhango**	**1.50**	**185**	PN	Pn	14 47 37.3	-0.2
MTVZ	**Mangateitei**	**1.51**	**194**	PN	Pn	14 47 37.8	+0.3
KNZ	**Kokohu**	**1.76**	**129**	*e*P	Pn	14 47 39.7	+0.3
KNZ	**Kokohu**	**1.76**	**129**	PN	Pn	14 47 39.7	+0.3
MXZ	**Matakaoa Point**	**1.92**	**80**	P	Pn	14 47 40.9	+0.2
MXZ	**Matakaoa Point**	**1.92**	**80**	PN	Pn	14 47 40.9	+0.2
WAZ	**Wanganui**	**1.98**	**201**	P	Pn	14 47 41.0	-0.2
WAZ	**Wanganui**	**1.98**	**201**	PN	Pn	14 47 41.0	-0.1
TSZ	**Takapari Road**	**2.14**	**179**	P	Pn	14 47 42.2	-0.4
TSZ	**Takapari Road**	**2.14**	**179**	PN	Pn	14 47 42.2	-0.4
WPHZ	**Waipukurau**	**2.19**	**170**	PN	Pn	14 47 42.7	-0.2
PXZ	**Pawanui**	**2.24**	**161**	PN	Pn	14 47 43.4	0.0
MRZ	**Mangatainoka R**	**2.76**	**185**	P	Pn	14 47 47.2	-1.2
MRZ	**Mangatainoka R**	**2.76**	**185**	PN	Pn	14 47 47.2	-1.2
BFZ	**Birch Farm**	**2.78**	**175**	*e*P	Pn	14 47 47.7	-0.9
BFZ	**Birch Farm**	**2.78**	**175**	PN	Pn	14 47 47.7	-0.8
KIW	**Kapiti Island**	**3.05**	**195**	P	Pn	14 47 49.9	-1.5
KIW	**Kapiti Island**	**3.05**	**195**	PN	Pn	14 47 49.9	-1.5
MTW	**Mount Morrison**	**3.26**	**186**	P	Pn	14 47 51.9	-1.7
MTW	**Mount Morrison**	**3.26**	**186**	PN	Pn	14 47 51.9	-1.7
CAW	**Cannon Point**	**3.26**	**191**	P	Pn	14 47 51.9	-1.7
CAW	**Cannon Point**	**3.26**	**191**	PN	Pn	14 47 51.9	-1.7
DUWZ	**D'Urville Isla**	**3.28**	**208**	PN	Pn	14 47 52.1	-1.7
MRW	**Makara Radio**	**3.44**	**196**	P	Pn	14 47 53.8	-1.8
MRW	**Makara Radio**	**3.44**	**196**	PN	Pn	14 47 53.8	-1.8
WEL	**Wellington**	**3.48**	**195**	PN	Pn	14 47 54.5	-1.6
TRWZ	**Traveller**	**3.49**	**183**	PN	Pn	14 47 54.6	-1.4
SNZO	**South Karori**	**3.52**	**195**	P	Pn	14 47 54.4	-2.0
SNZO	**South Karori**	**3.52**	**195**	PN	Pn	14 47 54.4	-2.1
TCW	**Tory Channel**	**3.53**	**201**	P	Pn	14 47 54.7	-1.9
TCW	**Tory Channel**	**3.53**	**201**	PN	Pn	14 47 54.7	-1.9
MSWZ	**Moikau Station**	**3.54**	**188**	P	Pn	14 47 54.7	-1.9
MSWZ	**Moikau Station**	**3.54**	**188**	PN	Pn	14 47 54.7	-1.9
BHW	**Baring Head**	**3.58**	**193**	P	Pn	14 47 55.6	-1.6
BHW	**Baring Head**	**3.58**	**193**	PN	Pn	14 47 55.6	-1.5
PLWZ	**Palliser**	**3.69**	**188**	PN	Pn	14 47 56.3	-2.0
TUWZ	**Tuamarina**	**3.83**	**203**	PN	Pn	14 47 58.0	-1.9
NNZ	**Nelson**	**3.84**	**210**	*e*P	Pn	14 47 57.5	-2.5
NNZ	**Nelson**	**3.84**	**210**	PN	Pn	14 47 57.5	-2.6
QRZ	**Quartz Range**	**3.92**	**221**	*e*P	Pn	14 47 57.9	-3.1
QRZ	**Quartz Range**	**3.92**	**221**	PN	Pn	14 47 57.9	-3.0
BSWZ	**Blackbirch Sta**	**4.11**	**202**	P	Pn	14 48 01.3	-1.8
BSWZ	**Blackbirch Sta**	**4.11**	**202**	PN	Pn	14 48 01.3	-1.8
THZ	**Tophouse**	**4.49**	**210**	*e*P	Pn	14 48 05.1	-2.4
THZ	**Tophouse**	**4.49**	**210**	PN	Pn	14 48 05.1	-2.4
KHZ	**Kahutara**	**4.86**	**201**	*e*P	Pn	14 48 09.6	-2.2
KHZ	**Kahutara**	**4.86**	**201**	PN	Pn	14 48 09.6	-2.2
DSZ	**Denniston Nort**	**4.97**	**218**	*e*P	Pn	14 48 09.6	-3.6
DSZ	**Denniston Nort**	**4.97**	**218**	PN	Pn	14 48 09.6	-3.5
LTZ	**Lake Taylor**	**5.61**	**209**	*e*P	Pn	14 48 17.7	-3.1
LTZ	**Lake Taylor**	**5.61**	**209**	PN	Pn	14 48 17.7	-3.1

*ISCJB **07** 14:52:12.2±0.7, 3417N±0.10×820E±02, h10km, mb3.7/8, Error ellipse: s-maj=21.0km s-min=11.2km az=151.9*
*IDC **07** 14:52:12.1±1.1, 3400N×8182E, h0km, mb3.5/8, mb1 3.8/9, mb1mx3.7/22, mbtmp3.6/9, ML3.7/1, Error ellipse: s-maj=34.9km s-min=19.7km az=56.0*
*NEIC **07** 14:52:13.9±0.8, 3405N×8182E, h10km, mb4.0/2, Error ellipse: s-maj=20.3km s-min=11.0km az=60.0*

ISC 07 14:52:14.2±0.7, 3412N±009×820E±02, h10km, n19, σ0:99/19, mb3.7/8, 2C, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**10.00**	**326**	*e*P	**Pn**	**14 54 37.8**	**-0.1**
5.9nm,1.1s							
AAK	**Ala-Archa**	**10.33**	**328**	Pn	**Pn**	**14 54 41.3**	**-1.1**
AAK				Lg		14 57 41.4	
AAK	**Ala-Archa**	**10.33**	**328**	Pn	**Pn**	**14 54 41.3**	**-1.1**
0.3nm,0.3s,baz=137,slow=16,SNR=3.1							
AAK				Lg		14 57 41.4	
0.3nm,0.3s,baz=151,slow=13,SNR=2.6							
MK31	**Makanchi Array**	**12.66**	**1**	*e*P	**Pn**	**14 55 13.5**	**-0.7**
MKAR	**Makanchi Array**	**12.66**	**1**	Pn	**Pn**	**14 55 14.0**	**-0.1**
MKAR	**Makanchi Array**	**12.66**	**1**	Pn	**Pn**	**14 55 14.0**	**-0.1**
0.4nm,0.3s,baz=183,slow=13,SNR=44							
KURK	**Kurchatov**	**16.77**	**353**	*e*P	**Pn**	**14 56 10.7**	**+1.8**
12nm,1.4s							
ZALV	**Zalesovo Beam**	**19.92**	**5**	P	**Pn**	**14 56 46.1**	**-1.4**
0.7nm,0.6s,baz=201,slow=7.7,SNR=3.7							
BVAR	**Borovoye Array**	**20.63**	**340**	P	**P**	**14 56 54.0**	**+0.4**
5.1nm,0.9s,baz=140,slow=9.5,SNR=14							
BRVK	**Borovoye**	**20.69**	**340**	*e*P	**P**	**14 56 56.5**	**+2.3**
12nm,0.9s							
SONM	**Songino Array**	**22.83**	**46**	P	**P**	**14 57 20.5**	**+3.3**
0.4nm,0.7s,mb3.0,baz=226,slow=9.8,SNR=4.8							
AKASG	**Malin Array Be**	**41.40**	**310**	P	**P**	**14 59 59.6**	**-0.8**
0.3nm,0.4s,mb3.2,baz=77,slow=7.9,SNR=4.7							
GERES	**GERESS Array B**	**51.55**	**308**	P	**P**	**15 01 20.2**	**+0.1**
0.6nm,0.7s,mb3.7,baz=76,slow=5.6,SNR=5.0							
LPG	**La Plagne**	**56.94**	**306**	⇑*i*P	**P**	**15 01 59.8**	**+0.3**
10nm,1.0s,mb4.5							
LPL	**La Plagne**	**56.95**	**306**	⇑*i*P	**P**	**15 01 59.8**	**+0.3**
9.2nm,0.7s,mb4.6							
WRA	**Warramunga Arr**	**73.29**	**129**	P	**P**	**15 03 45.3**	**-0.6**
0.9nm,1.1s,mb3.6,baz=328,slow=5.6,SNR=8.8							
WB2	**Warramunga Arr**	**73.30**	**129**	*e*P	**P**	**15 03 46.3**	**+0.3**
ASAR	**Alice Springs**	**75.74**	**132**	P	**P**	**15 04 00.3**	**+0.3**
0.3nm,0.7s,mb3.3,baz=311,slow=5.9,SNR=9.0							
YKA	**Yellowknife Ar**	**82.80**	**8**	P	**P**	**15 04 37.1**	**-1.0**
0.4nm,0.6s,mb3.6,baz=339,slow=5.2,SNR=7.4							

KRSC 07 14:52:55.3±0.5, 5511N×16229E, h23km±23km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.64**	**210**	*e*P	Pb	14 53 08.6	+0.8
MKZ				*i*S	Sb	14 53 17.9	+1.6
KBTR	**Krutoberegovo**	**1.14**	**15**	*e*P	Pn	14 53 16.8	+1.0
KBTR				*i*S	Sb	14 53 32.7	+2.0
TUMR	**Tumrok**	**1.24**	**279**	*e*P	Pn	14 53 18.7	+1.5
TUMR				*i*S	Sn	14 53 34.9	+1.7
KMNR	**Kamenistaya**	**1.34**	**300**	*e*P	Pn	14 53 19.6	+1.1
KMNR				*i*S	Sn	14 53 37.3	+1.8
KLY	**Klyuchi**	**1.52**	**323**	*e*P	Pn	14 53 20.2	-0.8
KLY				*i*S	Sn	14 53 38.8	-1.3
SMKR	**Semkarok**	**1.55**	**343**	*e*P	Pn	14 53 22.0	+0.6
SMKR				*i*S	Sn	14 53 41.2	+0.5
BDR	**Baidarnaya**	**1.58**	**338**	*e*P	Pn	14 53 23.1	+1.2
BDR				*i*S	Sn	14 53 43.0	+1.4
SRKR	**Sorokina**	**1.67**	**338**	*e*P	Pn	14 53 24.3	+1.2
SRKR				*i*S	Sn	14 53 45.4	+1.6
SRDR	**Sredinnyy**	**1.89**	**311**	*e*P	Pn	14 53 27.3	+1.2
KII	**Karymskiy**	**1.97**	**238**	*e*P	Pn	14 53 28.7	+1.5
KII				*i*S	Sn	14 53 53.7	+2.5
SPN	**Mys Shipunski**	**2.42**	**214**	*e*P	Pn	14 53 32.9	-0.5
SPN				*i*S	Sn	14 54 00.8	-1.4
NLC	**Nalytchevo**	**2.60**	**223**	*e*P	Pn	14 53 37.3	+1.4
NLC				*i*S	Sn	14 54 08.7	+2.0
AVH	**Avacha**	**2.79**	**230**	*e*P	Pn	14 53 40.7	+2.3
AVH				*i*S	Sn	14 54 14.3	+3.0
GNL	**Ganaly**	**2.91**	**243**	*e*P	Pn	14 53 42.1	+2.0
PET	**Petropavlovsk**	**2.99**	**227**	*e*P	Pn	14 53 43.6	+2.3
PET				*i*S	Sn	14 54 18.6	+2.2
RUS	**Russkaya**	**3.50**	**221**	*e*P	Pn	14 53 49.5	+1.4
RUS				*i*S	Sn	14 54 30.0	+1.3

IDC 07 15:17:24.6±10.0, 2377S×17989W, h515km±106km, mb2.8/3, mb1 3.1/4, mb1mx2.9/13, mbtmp3.0/4, Error ellipse: s-maj=94.0km s-min=42.6km az=36.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.67**	**189**	P	P	15 20 31.3	+0.3
1.0nm,0.3s,baz=0.9,slow=1.9,SNR=8.3							
URZ				S	S	15 23 02.0	-2.5
0.2nm,0.3s,baz=151,slow=19,SNR=2.6							
CTA	**Charters Tower**	**31.58**	**270**	P	P	15 23 05.7	+0.9
1.8nm,0.3s,baz=106,slow=7.4,SNR=4.6							
ASAR	**Alice Springs**	**42.16**	**260**	P	P	15 24 31.7	-0.1
0.2nm,0.4s,baz=93,slow=7.4,SNR=4.3							
WRA	**Warramunga Arr**	**42.52**	**266**	P	P	15 24 34.2	-0.5
0.3nm,0.3s,baz=95,slow=8.4,SNR=21							
AKASG	**Malin Array Be**	**144.91**	**327**	PKP	PKPdf	15 36 02.2	-0.4
0.3nm,0.3s,baz=40,slow=3.2,SNR=4.8							

*IDC **07** 15:25:00.2±0.6, 1722N×11994E, h0km, mb3.9/13, mb1 4.0/14, mb1mx4.0/20, mbtmp3.9/14, ML3.7/1, MS3.1/6, Ms1 3.1/6, ms1mx2.9/31, Error ellipse: s-maj=38.5km s-min=13.9km az=69.0*
*ISCJB **07** 15:25:05.9±0.3, 1755N±003×11993E±003, h33km, mb4.2/23, MS3.0/4, Error ellipse: s-maj=5.3km s-min=4.0km az=42.6*
*MAN **07** 15:25:05, 1755N×11992E, h29km, mb4.4, ML3.3, MS3.1*
*NEIC **07** 15:25:08.9±1.7, 1725N×120.11E, h69km±15km, mb4.2/4, Error ellipse: s-maj=22.1km s-min=8.2km az=70.0*

ISC 07 15:25:06.4±1.2, 1752N±003×11997E±004, h26km±9km, n51, σ1:04/52, mb4.2/23, MS3.0/4, 7C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.71**	**80**	*e*P	**Pb**	**15 25 19.8**	**-0.5**
ABRA				*e*S	**Sb**	**15 25 29.6**	**-0.1**
BOLP	**Bolinao**	**1.14**	**183**	*e*P	**Pn**	**15 25 25.6**	**-1.1**
APYP	**Conner**	**1.25**	**74**	*e*P	**Pn**	**15 25 27.9**	**-0.4**
APYP				*e*S	**Sn**	**15 25 44.1**	**-0.3**
BCPH	**Baguio City Da**	**1.27**	**153**	⇓*e*P	**Pn**	**15 25 27.3**	**-1.4**
BCPH				*i*S	**Sn**	**15 25 44.4**	**-0.5**
SCZP	**Santa Cruz**	**1.74**	**182**	*e*P	**Pn**	**15 25 34.0**	**-1.0**
CVP	**Callao Caves**	**1.77**	**84**	⇑*i*P	**Pn**	**15 25 35.7**	**+0.2**
CVP				*i*S	**Sn**	**15 25 58.4**	**+1.2**
CAUP	**Cauayan**	**1.86**	**108**	*e*P	**Pn**	**15 25 37.8**	**+1.1**
SGCP	**Mt. Cagua**	**2.10**	**70**	*e*P	**Pn**	**15 25 40.7**	**+0.8**
PCPH	**Palayan**	**2.23**	**151**	⇑*e*P	**Pn**	**15 25 41.5**	**-0.2**
PCPH				*e*S	**Sn**	**15 26 09.7**	**+1.3**
BALP	**Baler**	**2.34**	**139**	*e*P	**Pn**	**15 25 43.3**	**-0.1**
PALP	**Palanan**	**2.38**	**101**	⇑*i*P	**Pn**	**15 25 44.1**	**+0.2**
PALP				*i*S	**Sn**	**15 26 16.8**	**+4.4**
NBP	**Mount Natib**	**2.80**	**171**	⇑*e*P	**Pn**	**15 25 50.4**	**+0.8**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.50**	**129**	*i* P	Pn	15 36 38.4	+0.7
JACH				*i* S	Sn	15 36 58.0	+1.9
PEL	**Peldehue**	**1.78**	**143**	⇑*e*P	Pn	15 36 42.2	+0.8
PEL				*i* S	Sn	15 37 04.5	+1.7
PEL				AML	AML	15 37 15.2	
	comp=E,136nm,0.8s						
TLL	**Tololo Astrono**	**1.85**	**33**	*e*P	Pn	15 36 44.0	+1.5
TLL				*i* S	Sn	15 37 06.7	+2.0
TLL	**Tololo Astrono**	**1.85**	**33**	*e*P	Pn	15 36 44.0	+1.5
TLL				*i* S	Sn	15 37 06.7	+2.0
TLL				AML	AML	15 37 15.1	
	comp=N,64nm,0.4s						
RCDM	**Rinconada Maip**	**2.01**	**151**	⇑*i*P	Pn	15 36 45.3	+0.7
RCDM				*i* S	Sn	15 37 09.4	+0.9
RCDM	**Rinconada Maip**	**2.01**	**151**	⇑*i*P	Pn	15 36 45.3	+0.7
RCDM				*i* S	Sn	15 37 09.4	+0.9
RCDM				AML	AML	15 37 11.1	
	comp=E,82nm,0.2s						
FCH	**Farellones**	**2.13**	**139**	*e*P	Pn	15 36 47.4	+1.1
FCH				*i* S	Sn	15 37 13.6	+2.1
FCH				AML	AML	15 37 24.6	
	comp=N,37nm,0.4s						
PCH	**Pirque**	**2.25**	**147**	*i* P	Pn	15 36 51.0	+3.1
LMEL	**Las Melosas**	**2.58**	**145**	*e*P	Pn	15 36 53.6	+1.2
LMEL				*i* S	Sn	15 37 24.6	+2.0

*IDC **07** 15:36:16.4±1.4,3154N×13772E,h0km,mb3.5/2,*
mb1 3.6/5,mb1mx3.3/21,mbtmp3.4/5,ML3.3/3,MS2.9/1,
Ms1 2.9/1,ms1mx2.3/20,Error ellipse: s-maj=40.8km
s-min=23.1km az=102.0
*ISCJB **07** 15:36:28.4±0.7,3298N±008×1394E±02,h224km±8km,*
mb3.2/2,Error ellipse: s-maj=25.8km s-min=11.1km
az=163.1
*JMA **07** 15:36:29.8±0.5,3296N×13939E,h208km±4km,M3.5*
ISC 07 15:36:29.6±0.7,3301N±008×1394E±02,h218km±7km,n18,
σ1§00/21,mb3.2/2,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**0.32**	**69**	Pn	**Pn**	**15 36 57.5**	**-0.8**
	61nm,0.3s,baz=34,slow=18,SNR=30						
JHJ				Sn	**S**	**15 37 20.8**	**+0.2**
	38nm,0.3s,baz=58,slow=20,SNR=7.6						
JHJ2	**Mitsune**	**0.35**	**72**	P	**Pn**	**15 36 57.5**	**-0.8**
JMY	**Miyakejima3**	**1.07**	**4**	P	**Pn**	**15 37 01.5**	**-0.1**
JIM2	**Oshima 3**	**1.71**	**0**	P	**Pn**	**15 37 08.0**	**+1.4**
JIZS	**Izushimoda**	**1.77**	**345**	P	**Pn**	**15 37 07.2**	**0.0**
TK04	**Tokai 4**	**1.89**	**317**	P	**Pn**	**15 37 07.8**	**-0.5**
BSO3	**Boso 3**	**2.01**	**26**	P	**Pn**	**15 37 09.8**	**+0.4**
BSO1	**Boso 1**	**2.09**	**38**	P	**Pn**	**15 37 10.7**	**+0.4**
JOD2	**Odawara 2**	**2.27**	**353**	P	**Pn**	**15 37 13.1**	**+1.0**
JOD2				S	**S**	**15 37 45.4**	**-0.2**
SHZ3	**Shizuoka 3**	**2.29**	**334**	S	**S**	**15 37 45.8**	**-0.1**
JYN	**Shimob**	**2.59**	**344**	P	**Pn**	**15 37 16.3**	**+0.8**
JRY	**Ryogami san**	**3.04**	**352**	P	**Pn**	**15 37 21.8**	**+1.3**
JRY				S	**S**	**15 37 59.1**	**-1.6**
JAG	**Ashikaga**	**3.41**	**0**	P	**Pn**	**15 37 24.6**	**-0.3**
JAG				S	**S**	**15 38 06.0**	**-2.5**
MJAR	**Matsushiro Arr**	**3.67**	**345**	Pn	**Pn**	**15 37 30.7**	**+2.8**
	0.4nm,0.3s,baz=181,slow=16,SNR=3.8						
KSRS	**Korea Array**	**10.40**	**298**	Pn	**Pn**	**15 38 42.9**	**-11**
	0.2nm,0.3s,baz=124,slow=14,SNR=2.7						
ASAJ	**Asahikawa**	**11.37**	**12**	LR	LR	15 43 39.5	
	comp=Z,54nm,19.5s,baz=161,slow=34						
WRA	**Warramunga Arr**	**52.87**	**186**	P	**P**	**15 45 22.9**	**-0.1**
	0.3nm,0.3s,mb3.2,baz=0.8,slow=7.6,SNR=11						
ASAR	**Alice Springs**	**56.60**	**186**	P	**P**	**15 45 48.6**	**-1.1**
	0.2nm,0.4s,mb3.1,baz=21,slow=9.8,SNR=5.1						

*IPEC **07** 15:45:10.3±0.3,5155N×1632E,h0km,ML3.3/4,Error*
ellipse: s-maj=1.9km s-min=1.5km az=39.0
*ISCJB **07** 15:45:10.6±0.3,5142N±002×1612E±002,h0km,mb3.7/2,*
Error ellipse: s-maj=2.6km s-min=1.9km az=10.4
*NEIC **07** 15:45:11.8±0.3,5154N×1612E,h5km,ML3.6(SZGRF),*
ML3.3(BRA),Error ellipse: s-maj=4.4km s-min=3.8km
az=180.0
*LDG **07** 15:45:11.5±0.4,5149N×1632E,h1km,Ml4.3/16,Error*
ellipse: s-maj=10.7km s-min=5.3km az=2.0,Suspected
Mining induced.
*BGR **07** 15:45:11.3±0.6,5153N×1621E,h1km,ML3.6/13,Error*
ellipse: s-maj=6.7km s-min=4.4km az=16.0
*CSEM **07** 15:45:12.4±0.1,5147N×1617E,h1km,ML4.1/21,Ms3.8,*
Error ellipse: s-maj=1.8km s-min=1.1km az=12.0
*IDC **07** 15:45:12.6±0.6,5148N×1606E,h0km,mb3.6/2,*
mb1 3.6/10,mb1mx3.5/23,mbtmp3.5/10,ML3.3/8,Error
ellipse: s-maj=10.1km s-min=5.8km az=109.0
*WAR **07** 15:45:13,5147N×1614E,ML3.3,Mining Induced*
*PRU **07** 15:45:13.0,5146N×1612E,h0km,Felt In Harrachov*
*VIE **07** 15:45:15.0±0.5,5122N×1621E,h1km,mb3.0/9,ML3.1/10,*
Ms3.8/1,Error ellipse: s-maj=4.2km s-min=3.0km az=78.0
57 km WNW of Wroclaw Suspected Mining induced.
ISC 07 15:45:11.5±0.3,5150N±002×1614E±002,h0km,n126,
σ1§06/203,mb3.7/2,12C-20D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.66**	**172**	*e*Pg	**Pg**	**15 45 24.4**	**+0.3**
KSP				*e*Sg	**Sg**	**15 45 33.8**	**+1.1**
KSP	**Ksiaz**	**0.66**	**172**	*e*Pg	**Pg**	**15 45 24.4**	**+0.3**
KSP	**Ksiaz**	**0.66**	**172**	⇓*i*Pg	**Pg**	**15 45 24.4**	**+0.3**
KSP				*e*Sg	**Sg**	**15 45 32.5**	**-0.2**
KSP				*e*		15 45 36.5	
KSP	**Ksiaz**	**0.66**	**172**	Pg	**Pg**	**15 45 24.4**	**+0.3**
KSP				*e*Sg	**Sg**	**15 45 32.5**	**-0.2**
UPC	**Upice**	**0.99**	**185**	*e*Pg	**Pg**	**15 45 30.7**	**+0.2**
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*Pg	**Pg**	**15 45 33.4**	**-0.2**
DPC				*e*Sg	**Sg**	**15 45 48.9**	**+0.4**
DPC	**Dobruska-Polom**	**1.15**	**174**	Pg	**Pg**	**15 45 33.4**	**-0.2**
DPC				*e*Sg	**Sg**	**15 45 48.4**	**-0.1**
DPC	**Dobruska-Polom**	**1.15**	**174**	*e*PG	**Pg**	**15 45 33.3**	**-0.3**
DPC				*e*SG	**Sg**	**15 45 48.5**	**0.0**
	comp=Z,200nm,0.4s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pg	**Pg**	**15 45 38.0**	**-0.1**
PVCC				*e*Sg	**Sg**	**15 45 57.6**	**+1.6**
BRG	**Berggiesshubel**	**1.52**	**247**	PN	**Pn**	**15 45 39.0**	**-0.9**
BRG				PG	**Pg**	**15 45 40.8**	**+0.2**
BRG				SG	**Sg**	**15 46 01.1**	**+0.9**
	comp=Z,197nm,0.5s						
PRA	**Prague**	**1.79**	**218**	PG	**Pg**	**15 45 45.0**	**-0.8**
PRA				SG	**Sg**	**15 46 08.0**	**-1.0**
PRU	**Pruhonice**	**1.82**	**215**	*e*Pg	**Pg**	**15 45 45.8**	**-0.5**
PRU				*e*Sg	**Sg**	**15 46 09.8**	**-0.1**
	comp=Z,585nm,1.2s						
PRU	**Pruhonice**	**1.82**	**215**	*e*PN	**Pn**	**15 45 43.6**	**-0.4**
PRU				*e*PG	**Pg**	**15 45 45.8**	**-0.5**
PRU				*e*SG	**Sg**	**15 46 09.8**	**-0.1**
	comp=Z,585nm,1.2s						
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*Pn	**Pn**	**15 45 46.7**	**+1.6**
GKP				*e*Pg	**Pg**	**15 45 54.2**	**+6.3**
GKP				*e*Sg	**Sg**	**15 46 16.7**	**+4.1**
GKP	**Gorka Klasztor**	**1.90**	**20**	*e*Pn	**Pn**	**15 45 46.7**	**+1.6**
GKP				*e*Pg	**Pg**	**15 45 54.2**	**+6.3**
GKP				*e*Sg	**Sg**	**15 46 16.7**	**+4.2**
RAC	**Raciborz**	**1.92**	**137**	*e*Pg	**Pg**	**15 45 48.2**	**-0.1**
RAC				*e*Sg	**Sg**	**15 46 12.5**	**-0.7**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pg	**Pg**	**15 45 45.2**	**-3.4**
MORC	**Moravsky Berou**	**1.94**	**152**	⇓*i*P	**Pn**	**15 45 45.3**	**-0.3**
MORC	**Moravsky Berou**	**1.94**	**152**	*e*Pn	**Pn**	**15 45 44.8**	**-0.8**
MORC	**Moravsky Berou**	**1.94**	**152**	⇓P	**Pn**	**15 45 45.3**	**-0.3**
MORC				*e*Sg	**Sg**	**15 46 10.7**	**-3.0**
	comp=Z,94nm,0.3s						
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**15 45 45.7**	**-0.5**
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**15 45 46.0**	**-0.2**
CLL				*e*Pg	**Pg**	**15 45 49.0**	**-0.3**
CLL				*i* Sg	**Sg**	**15 46 15.9**	**+1.0**
CLL	**Collm**	**1.98**	**266**	*e*Pn	**Pn**	**15 45 46.0**	**-0.2**
CLL				*e*Pg	**Pg**	**15 45 49.0**	**-0.3**
CLL				*ex*	x	15 45 53.0	
CLL				*i* Sg	**Sg**	**15 46 15.9**	**+1.0**
	comp=Z,130nm,0.8s						
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*Pg	**Pg**	**15 45 51.5**	**-0.1**
OKC				*e*Sg	**Sg**	**15 46 18.2**	**-0.5**
	comp=Z,241nm,0.9s						
OKC	**Ostrava-Krasne**	**2.09**	**142**	*e*PN	**Pn**	**15 45 47.2**	**-0.6**
OKC				*e*PG	**Pg**	**15 45 51.5**	**-0.1**
OKC				*e*SG	**Sg**	**15 46 18.2**	**-0.5**
	comp=Z,241nm,0.9s						
VRAC	**Vranov**	**2.21**	**172**	⇑P	**Pn**	**15 45 50.0**	**+0.7**
VRAC	**Vranov**	**2.21**	**172**	Pn	**Pn**	**15 45 50.1**	**+0.7**
	comp=Z,5.5nm,0.3s,baz=353,slow=16,SNR=37						
VRAC				Pg	**Pg**	**15 45 53.3**	**-0.5**
	comp=Z,11nm,0.3s,baz=346,slow=17,SNR=30						
VRAC				Lg		15 46 21.5	
	comp=Z,6.0nm,0.3s,baz=72,slow=19,SNR=3.0						
VRAC	**Vranov**	**2.21**	**172**	⇑*i*P	**Pn**	**15 45 50.0**	**+0.6**
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**15 45 49.2**	**-0.2**
VRAC	**Vranov**	**2.21**	**172**	⇑P	**Pn**	**15 45 50.0**	**+0.6**
VRAC				*e*Sg	**Sg**	**15 46 21.1**	**-1.3**
	comp=Z,59nm,0.3s						
KRUC	**Moravsky**	**2.44**	**176**	*e*Pn	**Pn**	**15 45 52.2**	**-0.4**
KRUC				*e*Sg	**Sg**	**15 46 28.7**	**-1.2**
	comp=Z,292nm,1.4s						
TANN	**Tannenbergstha**	**2.57**	**247**	*e*Pn	**Pn**	**15 45 54.6**	**+0.3**
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**15 45 55.4**	**+0.1**
WERD	**Werda**	**2.64**	**248**	Pn	**Pn**	**15 45 55.4**	**+0.1**
OJC	**Ojcow**	**2.65**	**117**	*e*Pn	**Pn**	**15 45 53.7**	**-1.7**
OJC				*e*Pg	**Pg**	**15 46 01.9**	**-0.3**
OJC				*e*Sg	**Sg**	**15 46 37.6**	**+1.2**
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**15 46 02.6**	**+0.1**
NKC				*e*Sg	**Sg**	**15 46 37.7**	**+0.8**
	comp=Z,126nm,0.5s						
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**15 45 55.9**	**+0.3**
NKC				*e*PG	**Pg**	**15 46 02.6**	**+0.1**
NKC				*e*SG	**Sg**	**15 46 37.7**	**+0.8**
	comp=Z,126nm,0.5s						
JAVC	**Velka Javorina**	**2.82**	**159**	*e*Pn	**Pn**	**15 45 59.0**	**+1.3**
JAVC				*e*Sg	**Sg**	**15 46 43.2**	**+1.3**
	comp=Z,190nm,1.2s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*Pg	**Pg**	**15 46 04.8**	**-1.9**
KHC				*e*Sg	**Sg**	**15 46 44.3**	**+0.3**
	comp=Z,128nm,1.0s						
KHC	**Kasperske Hory**	**2.88**	**216**	*e*PN	**Pn**	**15 45 59.0**	**+0.4**
KHC				*e*PG	**Pg**	**15 46 04.8**	**-1.9**
KHC				*e*SN	**Sn**	**15 46 34.7**	**+0.8**
KHC				*e*SG	**Sg**	**15 46 44.3**	**+0.3**
	comp=Z,128nm,1.0s						
MANZ	**Manzenberg**	**2.97**	**241**	*e*Pn	**Pn**	**15 46 00.4**	**+0.5**
MOX	**Moxa**	**2.98**	**255**	*e*Pn	**Pn**	**15 46 00.8**	**+0.8**
MOX				*e*Sg	**Sg**	**15 46 48.6**	**+1.4**
MOX	**Moxa**	**2.98**	**255**	*e*PN	**Pn**	**15 45 59.7**	**-0.3**
MOX				*e*PG	**Pg**	**15 46 09.0**	**+0.4**
MOX				*e*SG	**Sg**	**15 46 48.6**	**+1.4**
ROTZ	**Rotzenmuhle**	**3.04**	**237**	*e*Pn	**Pn**	**15 46 00.9**	**0.0**
ROTZ				*e*Sg	**Sg**	**15 46 49.3**	**0.0**
GEC2	**GERESS Array S**	**3.08**	**212**	*e*Pn	**Pn**	**15 46 02.2**	**+0.8**
GERES	**GERESS Array B**	**3.08**	**212**	Pn	**Pn**	**15 46 02.1**	**+0.7**
	comp=Z,2.6nm,0.3s,baz=30,slow=13,SNR=56						
GERES				Pg	**Pg**	**15 46 08.5**	**-2.1**
	comp=Z,10nm,0.3s,baz=33,slow=16,SNR=61						
GERES				Sn	**Sn**	**15 46 39.9**	**+1.1**
	comp=Z,7.3nm,0.3s,baz=38,slow=31,SNR=7.5						
GERES				Lg		15 46 47.0	
	comp=Z,11nm,0.3s,baz=29,slow=28,SNR=5.4						
GERES	**GERESS Array B**	**3.08**	**212**	Pg	**Pg**	**15 46 08.5**	**-2.0**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**15 46 02.5**	**+0.2**
WET				*e*Sg	**Sg**	**15 46 52.2**	**-0.4**
WET	**Wettzell**	**3.15**	**223**	*e*Pn	**Pn**	**15 46 02.5**	**+0.2**
WET				*e*Sg	**Sg**	**15 46 52.2**	**-0.4**
MODS	**Modra-Piesok**	**3.21**	**166**	*e*PN	**Pn**	**15 46 04.1**	**+1.0**
MODS				*e*PG	**Pg**	**15 46 12.9**	**-0.1**
MODS				*e*SG	**Sg**	**15 46 56.7**	**+2.1**
ZST	**Bratislava**	**3.36**	**169**	*e*PN	**Pn**	**15 46 06.8**	**+1.6**
ZST				*e*PG	**Pg**	**15 46 14.1**	**-1.8**
ZST				*e*SG	**Sg**	**15 46 58.5**	**-0.9**
NIE	**Niedzica**	**3.38**	**126**	*e*P	**Pg**	**15 46 15.8**	**-0.4**
NIE				*e*S	**Sg**	**15 47 00.1**	**+0.1**
VYHS	**Vyhne**	**3.47**	**149**	*e*PN	**Pn**	**15 46 05.9**	**-0.8**
VYHS				*e*PG	**Pg**	**15 46 15.4**	**-2.6**
VYHS				*e*SG	**Sg**	**15 47 04.6**	**+1.7**
CONA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn	**Pn**	**15 46 08.5**	**+0.3**
CONA				⇓*i*Sg	**Sg**	**15 47 04.0**	**-2.3**
	comp=Z,51nm,0.4s						
CSNA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn	**Pn**	**15 46 08.4**	**+0.3**
CSNA				⇓*i*Sg	**Sg**	**15 47 04.1**	**-2.1**
	comp=Z,46nm,0.5s						
CSNA	**Conrad Observa**	**3.58**	**183**	Pn	**Pn**	**15 46 08.4**	**+0.3**
CSNA				Sg	**Sg**	**15 47 04.1**	**-2.2**
	comp=Z,46nm,0.5s						
GRA1	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**15 46 09.4**	**+0.7**
GRA1				*e*Sg	**Sg**	**15 47 08.3**	**+0.7**
GRA1	**Grafenberg Arr**	**3.62**	**242**	Pn	**Pn**	**15 46 09.4**	**+0.7**
GRA1				Sg	**Sg**	**15 47 08.3**	**+0.7**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**15 46 09.4**	**+0.7**
GRF				*e*Sg	**Sg**	**15 47 08.3**	**+0.6**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**15 46 06.5**	**-2.3**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**15 46 06.5**	**-2.2**
BSD	**Bornholm Skovb**	**3.70**	**349**	*i* P	**Pn**	**15 46 09.2**	**-0.7**
BSD				*i* S	**Sn**	**15 46 51.7**	**-2.4**
SOP	**Sopron**	**3.83**	**176**	⇑*e*P	**Pn**	**15 46 12.3**	**+0.7**
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**15 46 12.2**	**+0.3**
MOA				⇑*i*Sg	**Sg**	**15 47 14.5**	**-0.5**
	comp=Z,63nm,0.8s						
STHS	**Stebnicka Huta**	**3.87**	**121**	*e*PN	**Pn**	**15 46 13.7**	**+1.5**
STHS				*e*PG	**Pg**	**15 46 26.4**	**+0.8**
STHS				*e*SG	**Sg**	**15 47 20.1**	**+4.4**
HROE	**Hohe Rhon--Fla**	**3.90**	**258**	⇑*i*Pn	**Pn**	**15 46 12.4**	**-0.2**
ARSA	**Arzberg**	**4.27**	**186**	⇓*i*Pn	**Pn**	**15 46 18.1**	**+0.4**
ARSA				⇓*i*Sg	**Sg**	**15 47 28.4**	**-0.2**
	comp=Z,52nm,0.8s						
ARSA	**Arzberg**	**4.27**	**186**	⇓*i*Pn	**Pn**	**15 46 18.1**	**+0.4**
ARSA				*i* Sg	**Sg**	**15 47 28.4**	**-0.2**
CRVS	**Cervenica-Dubn**	**4.29**	**125**	*e*PG	**Pg**	**15 46 34.6**	**+0.9**
CRVS				*e*		15 47 36.6	
PSZ	**Piszkesteto**	**4.33**	**144**	⇓P	**Pn**	**15 46 19.2**	**+0.7**
PSZ	**Piszkesteto**	**4.33**	**144**	⇓*e*Pn	**Pn**	**15 46 19.4**	**+0.9**
PSZ	**Piszkesteto**	**4.33**	**144**	⇓*i*P	**Pn**	**15 46 19.2**	**+0.7**
KWP	**Kalwaria**	**4.58**	**111**	*e*Pn	**Pb**	**15 46 36.1**	**+3.4**
KWP				*e*Sg	**Sg**	**15 47 43.6**	**+5.0**
KOLS	**Kolonicke sedl**	**4.70**	**121**	*e*PN	**Pn**	**15 46 23.8**	**+0.2**
KOLS				*e*		15 46 44.8	
KOLS				*e*		15 47 52.3	
KBA	**Koelnbreinsper**	**4.78**	**204**	⇑*i*Pn	**Pn**	**15 46 25.5**	**+0.8**
KBA				⇓*i*Sg	**Sg**	**15 47 45.5**	**+0.4**
	comp=Z,39nm,0.7s						
KBA	**Koelnbreinsper**	**4.78**	**204**	Pn	**Pn**	**15 46 25.5**	**+0.7**
KBA				Sg	**Sg**	**15 47 45.5**	**+0.4**
	comp=Z,39nm,0.7s						
OBKA	**Obir**	**5.10**	**192**	⇓*i*Pn	**Pn**	**15 46 28.9**	**-0.1**
OBKA				⇑*i*Pg	**Pg**	**15 46 47.9**	**-1.3**
WTTA	**Wattenberg**	**5.16**	**217**	⇓*i*Pn	**Pn**	**15 46 31.2**	**+1.4**
MOTA	**Moosalm**	**5.30**	**220**	⇓*i*Pn	**Pn**	**15 46 32.0**	**+0.2**
SQTA	**Sankt Quirin**	**5.36**	**219**	⇓*i*Pn	**Pn**	**15 46 32.7**	**+0.1**
PDKS	**Podkum**	**5.49**	**188**	*i* Pn	**Pn**	**15 46 36.0**	**+1.5**
PKSM	**Moragy**	**5.54**	**162**	⇓P	**Pn**	**15 46 36.0**	**+0.9**
PKSM	**Moragy**	**5.54**	**162**	⇓*i*P	**Pn**	**15 46 36.0**	**+0.9**
DAVA	**Damuels**	**5.87**	**227**	⇑*i*Pn	**Pn**	**15 46 40.3**	**+0.7**
DAVA	**Damuels**	**5.87**	**227**	Pn	**Pn**	**15 46 40.3**	**+0.7**
DAVOX	**Davos/Dischmat**	**6.25**	**223**	Pn	**Pn**	**15 46 44.3**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=315,slow=7.1,SNR=2.7						
DAVOX				Lg		15 48 30.8	
	comp=Z,0.8nm,0.3s,baz=158,slow=23,SNR=3.9						
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**15 46 47.8**	**-0.5**
CDF				*e*Sg	**Sg**	**15 48 37.1**	**-3.0**
	comp=Z,150nm,1.1s						
CDF	**Champ du Feu**	**6.50**	**245**	*e*Pn	**Pn**	**15 46 47.8**	**-0.5**
CDF				*e*Sg	**Sg**	**15 48 37.1**	**-3.0**
	comp=Z,75nm,1.1s						
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn	**Pn**	**15 46 56.6**	**+0.6**
HINF				*e*Sg	**Sg**	**15 48 53.3**	**-4.9**
	comp=Z,80nm,1.0s						
HINF	**Hinteralfeld**	**7.06**	**242**	*e*Pn	**Pn**	**15 46 56.6**	**+0.6**
HINF				*e*Sg	**Sg**	**15 48 53.3**	**-4.9**
	comp=Z,40nm,1.0s						
BURAR	**Bucovina Array**	**7.06**	**120**	⇓P	**Pn**	**15 46 56.6**	**+0.6**
BURAR	**Bucovina Array**	**7.06**	**120**	⇓*i*P	**Pn**	**15 46 56.7**	**+0.6**
HAU	**Haudompre**	**7.24**	**245**	*e*Pn	**Pn**	**15 46 56.9**	**-1.6**
HAU				*e*Sg	**Sg**	**15 48 58.9**	**-5.0**
	comp=Z,73nm,1.2s						
HAU	**Haudompre**	**7.24**	**245**	*e*Pn	**Pn**	**15 46 56.9**	**-1.6**
HAU				*e*Sg	**Sg**	**15 48 58.9**	**-5.0**
	comp=Z,36nm,1.2s						
GIVF	**Givet**	**7.31**	**263**	*e*Sg	**Sg**	**15 49 00.8**	**-5.3**
	comp=Z,112nm,1.2s						
GIVF	**Givet**	**7.31**	**263**	*e*Sg	**Sg**	**15 49 00.8**	**-5.3**
	comp=Z,56nm,1.2s						
BAIF	**Baives**	**7.70**	**264**	*e*Sg	**Sg**	**15 49 13.7**	**-5.0**
	comp=Z,74nm,1.2s						
BAIF	**Baives**	**7.70**	**264**	*e*Sg	**Sg**	**15 49 13.7**	**-5.0**
	comp=Z,37nm,1.2s						
MEZF	**Maizieres J'vi**	**7.75**	**252**	*e*Sg	**Sg**	**15 49 16.2**	**-4.0**
	comp=Z,159nm,1.5s						
MEZF	**Maizieres J'vi**	**7.75**	**252**	*e*Sg	**Sg**	**15 49 16.2**	**-4.0**
	comp=Z,80nm,1.5s						
CABF	**La Chapelle**	**8.21**	**237**	*e*Sg	**Sg**	**15 49 34.7**	**-0.4**
	comp=Z,174nm,1.4s						
AKASG	**Malin Array Be**	**8.28**	**90**	Pn	**Pn**	**15 47 10.6**	**-2.1**
	comp=Z,2.3nm,0.3s,baz=281,slow=12,SNR=12						
AKASG				Sn	**Sn**	**15 48 41.5**	**-5.3**
	comp=Z,1.2nm,0.3s,baz=278,slow=23,SNR=4.3						
AKASG				Lg		15 49 39.6	
	comp=Z,0.6nm,0.3s,baz=278,slow=26,SNR=3.4						
LPL	**La Plagne**	**8.64**	**230**	*e*Pn	**Pn**	**15 47 18.8**	**+1.1**
LPL				*e*Sg	**Sg**	**15 49 48.0**	**-0.9**
	comp=Z,41nm,1.2s						
LPG	**La Plagne**	**8.65**	**230**	*e*Pn	**Pn**	**15 47 18.8**	**+1.0**
LPG				*e*Sg	**Sg**	**15 49 47.8**	**-1.3**
	comp=Z,61nm,1.3s						
HFS	**Hagfors**	**8.77**	**352**	Pn	**Pn**	**15 47 17.1**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=164,slow=16,SNR=7.5						
LOR	**Lormes**	**9.06**	**247**	*e*Pn	**Pn**	**15 47 22.4**	**-1.0**
LOR				*e*Sg	**Sg**	**15 49 57.9**	**-4.2**
	comp=Z,52nm,1.3s						
LOR	**Lormes**	**9.06**	**247**	*e*Pn	**Pn**	**15 47 22.4**	**-1.0**
LOR				*e*Sg	**Sg**	**15 49 57.9**	**-4.2**
	comp=Z,26nm,1.3s						
MBDF	**Montbardon**	**9.22**	**226**	*e*Pn	**Pn**	**15 47 26.3**	**+0.7**
SSF	**Saint Saulge**	**9.37**	**247**	*e*Pn	**Pn**	**15 47 27.6**	**-0.1**
SSF				*e*Sg	Sn	15 50 08.8	+55
	comp=Z,33nm,1.1s						
SMF	**Signal de Mont**	**9.42**	**244**	*e*Sg	Sx	15 50 10.4	
	comp=Z,58nm,1.3s						
ORIF	**Oris-en-Rattie**	**9.49**	**230**	*e*Pn	**Pn**	**15 47 30.4**	**+1.0**
AVF	**Avril sur Loir**	**9.61**	**246**	*e*Sg	Sx	15 50 15.8	
	comp=Z,92nm,1.4s						
AVF	**Avril sur Loir**	**9.61**	**246**	*e*Sg	Sx	15 50 15.8	
	comp=Z,46nm,1.4s						
SBF	**Sospel**	**9.63**	**221**	*e*Pn	**Pn**	**15 47 32.5**	**+1.3**
NOA	**NORSAR Array B**	**9.95**	**346**	Pn	**Pn**	**15 47 34.2**	**-1.3**
	comp=Z,0.3nm,0.3s,baz=168,slow=11,SNR=2.5						
FRF	**La Foret Royal**	**10.20**	**223**	*e*Pn	**Pn**	**15 47 40.3**	**+1.2**
SMRF	**Simiane la Rot**	**10.35**	**227**	*e*Pn	**Pn**	**15 47 41.5**	**+0.4**
LMR	**La Mourre**	**10.45**	**222**	*e*Pn	**Pn**	**15 47 42.8**	**+0.4**
TCF	**Toulx Ste Croi**	**10.54**	**246**	*e*Sg	Sx	15 50 44.2	
	comp=Z,93nm,1.5s						
TCF	**Toulx Ste Croi**	**10.54**	**246**	*e*Sg	Sx	15 50 44.2	
	comp=Z,46nm,1.5s						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**15 47 53.3**	**-1.6**
	comp=Z,0.3nm,0.3s,baz=210,slow=11,SNR=8.3						
FINES				Sn	**Sn**	**15 49 53.9**	**-8.6**
	comp=Z,0.3nm,0.3s,baz=205,slow=20,SNR=4.1						
EKA	**Eskdalemuir Ar**	**12.13**	**296**	Pn	**Pn**	**15 48 02.2**	**-3.

KK31 Karatay Array 3.94 356 ⇑Pn **Pn 16 04 52.0 +2.3**
5.3nm,0.4s,baz=181,slow=13,SNR=83
KK31 ⇑Sn **Sn 16 05 41.4 +6.8**
24nm,0.5s,baz=174,slow=18,SNR=9.4
KK31 ⇑Lg 16 05 53.9
27nm,0.5s,baz=170,slow=31,SNR=5.2
UCH Uchtor 4.10 41 *e*Pn **Pn 16 04 50.4 -1.5**
UCH S **Sn 16 05 39.9 +1.3**
UCH Uchtor 4.10 41 P **Pn 16 04 51.3 -0.5**
SNR=19
EKS2 Erkin-Say 4.10 31 *e*Pn **Pn 16 04 52.0 +0.1**
EKS2 S **Sn 16 05 35.5 -3.2**
EKS2 Erkin-Say 4.10 31 P **Pn 16 04 52.8 +0.9**
SNR=18
AAK Ala-Archa 4.39 37 Pn **Pn 16 04 54.5 -1.4**
6.4nm,0.3s,baz=186,slow=5.0,SNR=33
AAK Sn **Sn 16 05 48.3 +2.5**
3.2nm,0.3s,baz=64,slow=21,SNR=11
AAK Lg 16 05 59.5
5.0nm,0.3s,baz=338,slow=18,SNR=8.6
AAK Ala-Archa 4.39 37 P **Pn 16 04 56.4 +0.5**
SNR=9.5
KZA Kyzart 4.39 47 P **Pn 16 04 55.5 -0.3**
SNR=14
KBK Karagaybulak 4.63 40 P **Pn 16 04 59.5 +0.5**
SNR=16
CHMS Chumysh 4.79 36 P **Pn 16 05 01.7 +0.3**
SNR=5.5
KBL Kabul 4.86 199 *e*Pn **Pn 16 05 02.6 +0.3**
KBL *e*S **Sn 16 06 02.6 +5.3**
TKM2 Tokmak 2 5.15 42 ⇑Pn **Pn 16 05 05.4 -0.7**
4.0nm,0.5s
TKM2 ⇑Sn **Sn 16 06 04.7 +0.5**
11nm,0.7s
TKM2 ⇓Lg 16 06 25.5
9.1nm,0.6s
TKM2 Tokmak 2 5.15 42 *e*Pn **Pn 16 05 05.4 -0.8**
6.4nm,0.4s
TKM2 Tokmak 2 5.15 42 P **Pn 16 05 05.7 -0.5**
SNR=11
MKAR Makanchi Array 11.28 44 Pn **Pn 16 06 27.0 -2.6**
0.1nm,0.3s,baz=233,slow=13,SNR=4.4
AB31 Akbulak array 12.77 326 ⇑Pn **Pn 16 06 49.0 -0.7**
0.5nm,0.4s,baz=146,slow=14,SNR=25
AB31 ⇑Sn **Sn 16 09 10.7 +0.8**
3.7nm,0.6s,baz=135,slow=25,SNR=12
BVAR Borovoye Array 13.86 359 Pn **Pn 16 07 02.5 -1.5**
0.1nm,0.3s,baz=167,slow=13,SNR=2.1
BVAR Sn **Sn 16 09 33.1 -3.1**
0.1nm,0.3s,baz=163,slow=21,SNR=2.5
AKTK Aktyubinsk 14.49 325 Pn **Pn 16 07 10.5 -1.6**
AKTK Sn **Sn 16 09 54.2 +2.8**
AKTO Aktyubinsk 14.49 325 ⇓Pn **Pn 16 07 11.0 -1.2**
AKTO ⇑Sn **Sn 16 09 55.1 +3.7**
AKTO Aktyubinsk 14.49 325 Pn **Pn 16 07 10.5 -1.6**
0.1nm,0.3s,baz=132,slow=10.0,SNR=2.6
AKTO Sn **Sn 16 09 54.2 +2.8**
0.2nm,0.3s,baz=345,slow=20,SNR=8.3
ZALV Zalesovo Beam 17.55 28 P **Pn 16 07 49.1 -1.2**
0.3nm,0.3s,baz=217,slow=9.1,SNR=5.5
WRA Warramunga Arr 83.46 122 P **P 16 16 11.0 +1.2**
0.6nm,0.8s,mb3.5,baz=322,slow=5.0,SNR=6.6
ASAR Alice Springs 85.84 125 P **P 16 16 22.9 +1.2**
0.8nm,1.0s,mb3.6,baz=328,slow=5.9,SNR=4.7

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*ISCJB **07** 16:14:19.7±1.3, 4008N±005×346E±0.1, h8km±8km, Error ellipse: s-maj=14.0km s-min=7.2km az=25.0*
*ISK **07** 16:14:19.8, 4008N×3460E, h7km, MD2.5*
ISC 07 16:14:19.9±1.5, 4009N±006×345E±01, h8km±8km, n4, σ0§67/8, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CORM	**Corum**	**0.11**	**40**	*e*PG	**Pg**	**16 14 22.4**	**-0.1**
CORM				*e*SG	**Sg**	**16 14 24.5**	**+0.3**
CDAG	**Cicekdag**	**0.48**	**195**	*i* P	**Pg**	**16 14 28.3**	**-0.9**
CDAG				*i* S	**Sg**	**16 14 36.4**	**+0.8**
YOZ	**Yozgat**	**0.75**	**127**	*e*PG	**Pg**	**16 14 34.0**	**-0.4**
YOZ				*e*SG	**Sg**	**16 14 44.2**	**0.0**
SVSK	**Karacayir**	**1.90**	**94**	*e*PN	**Pn**	**16 14 52.8**	**+0.3**
SVSK				*e*SN	**Sn**	**16 15 16.7**	**0.0**

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*NNC **07** 16:14:49.9±3.5, 4297N×7647E, h11km±18km, mb3.5, mpv3.1, Error ellipse: s-maj=62.1km s-min=6.2km az=161.0*
*ISCJB **07** 16:14:50.1±0.7, 4285N±005×7659E±006, h22km±7km, Error ellipse: s-maj=9.9km s-min=4.9km az=138.7*
*KNET **07** 16:14:50.5±0.8, 4281N×7644E, h11km±5km, ml2.9, Error ellipse: s-maj=7.3km s-min=2.5km az=81.0*
ISC 07 16:14:50.2±0.7, 4284N±004×7652E±005, h9km±6km, n17, σ0§61/24, 15C-14D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNDC	**Almaty**	**0.49**	**41**	⇓P	**Pg**	**16 14 59.7**	**-0.2**
KNDC				⇓S	**Sg**	**16 15 06.8**	**+0.4**
ULHL	**Ulahol**	**0.63**	**199**	⇓P	**Pg**	**16 15 02.1**	**-0.4**
ULHL				⇓S	**Sg**	**16 15 10.4**	**-0.3**
TKM2	**Tokmak 2**	**0.68**	**277**	⇑P	**Pg**	**16 15 03.2**	**-0.3**
TKM2				⇑S	**Sg**	**16 15 12.8**	**+0.4**
TKM2	**Tokmak 2**	**0.68**	**277**	⇑P	**Pg**	**16 15 03.1**	**-0.3**
KBK	**Karagaybulak**	**1.17**	**261**	⇑P	**Pb**	**16 15 12.0**	**-0.6**
KBK				⇑S	**Sg**	**16 15 28.6**	**+0.5**
KZA	**Kyzart**	**1.21**	**231**	⇓P	**Pb**	**16 15 13.0**	**-0.3**
KZA				⇑S	**Sb**	**16 15 30.0**	**+1.0**
CHMS	**Chumysh**	**1.31**	**277**	⇑P	**Pn**	**16 15 13.7**	**-0.9**
CHMS				⇑S	**Sb**	**16 15 31.6**	**-0.3**
AAK	**Ala-Archa**	**1.51**	**263**	⇑P	**Pn**	**16 15 17.6**	**+0.2**
USP	**Ospenovka**	**1.54**	**287**	⇓P	**Pn**	**16 15 17.8**	**0.0**
UCH	**Uchtor**	**1.61**	**248**	⇑P	**Pn**	**16 15 19.5**	**+0.7**
KK31	**Karatay Array**	**4.42**	**275**	Pg	**Pg**	**16 16 08.9**	**-5.9**
KK31				⇓Lg		16 17 05.9	
MK31	**Makanchi Array**	**5.69**	**44**	Pn	**Pn**	**16 16 15.9**	**+1.0**
MK31				⇑Lg		16 17 41.6	
KURBB	**Kurchatov Arra**	**7.90**	**9**	⇓Pn	**Pn**	**16 16 45.0**	**-0.2**
KURBB				⇑Lg		16 18 59.2	
KURK	**Kurchatov**	**8.01**	**10**	⇑Pn	**Pn**	**16 16 46.3**	**-0.3**
KURK				⇓Lg		16 18 58.3	
VOSK	**Vostochnaya**	**10.56**	**341**	⇓Pn	**Pn**	**16 17 20.8**	**-0.8**
VOSK				⇓Lg		16 20 19.5	
BVA0	**Borovoye Array**	**10.98**	**340**	⇓Pn	**Pn**	**16 17 21.9**	**-5.5**
BVA0				⇓Lg		16 20 32.7	
ZRNK	**Zerenda**	**11.29**	**336**	⇑Pn	**Pn**	**16 17 35.3**	**+3.7**
ZRNK				⇑Sn	**Sn**	**16 19 30.4**	**-7.4**
ZRNK				⇓Lg		16 20 40.4	

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*NEIC **07** 16:39:55.5±2.8, 667S×13141E, h73km±30km, mb4.0/2, Error ellipse: s-maj=34.9km s-min=19.7km az=73.0*
*ISCJB **07** 16:39:59.9±2.0, 7.1S±0.1×13122E±008, h145km±22km, mb3.8/5, Error ellipse: s-maj=17.3km s-min=11.6km az=22.5*
*IDC **07** 16:40:00.2±7.3, 7.10S×13126E, h128km±75km, mb3.6/3, mb1 4.1/7, mb1mx3.8/13, mbtmp3.9/7, Error ellipse: s-maj=58.6km s-min=27.0km az=43.0*
ISC 07 16:39:56.1±3.2, 68S±02×131 4E±01, h83km±34km, n16, σ1§26/19, mb3.9/5, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.93**	**170**	*e*P	**Pn**	**16 41 23.6**	**+2.2**
KAKA				*e*S	**Sn**	**16 42 28.7**	**+0.8**
BATI	**Kupang**	**8.30**	**246**	P	**Pn**	**16 41 56.5**	**+2.7**
BATI				S	**Sn**	**16 43 24.9**	**-1.1**
FITZ	**Fitzroy Crossi**	**12.50**	**206**	*e*P	**Pn**	**16 42 50.2**	**-0.8**
FITZ				*e*S	**Sn**	**16 45 03.1**	**-5.2**
FITZ	**Fitzroy Crossi**	**12.50**	**206**	P	**Pn**	**16 42 50.7**	**-0.3**
FITZ				S	Sx	16 45 02.3	
WRAB	**Tennant Creek**	**13.33**	**168**	*e*P	**Pn**	**16 43 00.7**	**-1.3**
WRAB				*e*S	Sx	16 45 19.1	
WRA	**Warramunga Arr**	**13.34**	**168**	P	**Pn**	**16 43 00.5**	**-1.6**
WRA				S	Sx	16 45 20.8	
WB2	**Warramunga Arr**	**13.34**	**168**	*e*P	**Pn**	**16 43 00.6**	**-1.5**
WB2				*e*S	Sx	16 45 22.9	
ASAR	**Alice Springs**	**16.91**	**172**	P	**Pn**	**16 43 48.0**	**+0.5**
ASAR				S	Sx	16 46 47.4	
MBWA	**Marble Bar**	**18.13**	**217**	*e*P	**Pn**	**16 44 04.7**	**+2.1**
MBWA				*e*S	Sx	16 47 13.4	
KKM	**Kota Kinabalu**	**19.80**	**310**	*e*P	**Pn**	**16 44 18.7**	**-3.7**
SONM	**Songino Array**	**58.73**	**341**	P	**P**	**16 49 45.9**	**+0.7**
MK31	**Makanchi Array**	**68.83**	**326**	*e*P	**P**	**16 50 51.6**	**-0.1**
MKAR	**Makanchi Array**	**68.83**	**326**	P	**P**	**16 50 52.4**	**+0.7**
AAK	**Ala-Archa**	**71.29**	**319**	*e*P	**P**	**16 51 07.1**	**+0.3**
ZALV	**Zalesovo Beam**	**72.04**	**333**	P	**P**	**16 51 10.0**	**-1.1**
KURK	**Kurchatov**	**73.09**	**328**	*e*P	**P**	**16 51 17.4**	**0.0**

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*IDC **07** 17:16:01.0±3.3, 230N×9657E, h0km, mb3.9/5, mb1 3.9/5, mb1mx3.6/18, mbtmp3.9/5, Error ellipse: s-maj=137.7km s-min=21.4km az=59.0*
*ISCJB **07** 17:16:03.8±0.9, 23N±0.1×965E±0.1, h33km, mb3.9/5, Error ellipse: s-maj=17.8km s-min=13.9km az=44.9*
*NEIC **07** 17:16:04.2±0.8, 2.14N×9629E, h30km, Error ellipse: s-maj=19.9km s-min=9.8km az=55.0*
ISC 07 17:16:05.1±1.1, 21N±01×963E±02, h35km, n11, σ0§43/11, mb3.9/5, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.62**	**59**	*e*P	**Sn**	**17 17 07.0**	**-8.5**
KULM	**Kulim**	**5.33**	**54**	*e*P	**Pn**	**17 17 22.2**	**-0.1**
LSA	**Lhasa**	**27.84**	**350**	*e*P	**P**	**17 21 52.2**	**+0.8**
WRA	**Warramunga Arr**	**43.28**	**122**	P	**P**	**17 24 03.7**	**0.0**
WRAB	**Tennant Creek**	**43.28**	**122**	P	**P**	**17 24 03.8**	**0.0**
ASAR	**Alice Springs**	**44.66**	**127**	P	**P**	**17 24 14.8**	**+0.1**
MK31	**Makanchi Array**	**46.12**	**347**	*e*P	**P**	**17 24 25.8**	**-0.1**
MKAR	**Makanchi Array**	**46.12**	**347**	P	**P**	**17 24 26.1**	**+0.2**
SONM	**Songino Array**	**46.34**	**9**	P	**P**	**17 24 27.8**	**+0.1**
ZAA0	**Zalesovo Array**	**52.49**	**351**	*e*P	**P**	**17 25 13.5**	**-1.1**
ZALV	**Zalesovo Beam**	**52.49**	**351**	P	**P**	**17 25 14.5**	**0.0**

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*ISCJB **07** 17:52:29.9±0.5, 3028N±006×1392E±02, h453km±10km, mb3.5/10, Error ellipse: s-maj=24.6km s-min=8.0km az=166.8*
*JMA **07** 17:52:29.9±0.2, 3033N×13936E, h467km, M3.6*
*NEIC **07** 17:52:30.7±1.4, 3011N×13853E, h410km±32km, mb3.2/1, Error ellipse: s-maj=82.2km s-min=14.9km az=69.0*
*IDC **07** 17:52:30.3±1.1, 3011N×13866E, h408km±33km, mb2.5/5, mb1 2.7/8, mb1mx2.7/20, mbtmp2.7/8, Error ellipse: s-maj=80.4km s-min=10.4km az=69.0*
ISC 07 17:52:31.0±0.5, 3030N±006×1393E±02, h447km±10km, n29, σ1§07/36, mb3.5/10, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.84**	**9**	P	**P**	**17 53 38.3**	**+1.8**
JHJ2				*e*S	**S**	**17 54 31.1**	**+1.3**
JHJ	**Hachijo jima 2**	**2.85**	**9**	P	**P**	**17 53 36.0**	**-0.5**
JHJ				S	**S**	**17 54 28.5**	**-1.3**
CBIJ	**Chichi jima**	**4.09**	**141**	P	**P**	**17 53 46.8**	**+0.1**
CBIJ	**Chichi jima**	**4.09**	**141**	P	**P**	**17 53 46.6**	**-0.1**
CBIJ				S	**S**	**17 54 46.5**	**-1.8**
BSO1	**Boso 1**	**4.58**	**18**	*e*S	**S**	**17 54 56.3**	**0.0**
BSO3	**Boso 3**	**4.61**	**13**	*e*S	**S**	**17 54 57.2**	**+0.3**
JIE	**Ise**	**4.63**	**333**	P	**P**	**17 53 52.4**	**+0.9**
BSO4	**Boso 4**	**4.76**	**11**	*e*S	**S**	**17 55 00.2**	**+0.7**
JOD2	**Odawara 2**	**4.96**	**358**	P	**P**	**17 53 55.8**	**+1.2**
JOD2				*e*S	**S**	**17 55 02.8**	**0.0**
JNY	**Yasuok**	**5.19**	**347**	P	**P**	**17 53 58.1**	**+1.3**
JHU	**Hanno**	**5.54**	**0**	P	**P**	**17 54 00.3**	**0.0**
JHU				*e*S	**S**	**17 55 10.2**	**-3.2**
JRY	**Ryogami san**	**5.71**	**357**	P	**P**	**17 54 02.8**	**+0.7**
JYT	**Yasato**	**5.96**	**7**	P	**P**	**17 54 04.3**	**-0.3**
JYT				*e*S	**S**	**17 55 18.6**	**-2.6**
JAG	**Ashikaga**	**6.11**	**1**	P	**P**	**17 54 05.8**	**-0.4**
MJAR	**Matsushiro Arr**	**6.29**	**352**	P	**P**	**17 54 08.1**	**+0.1**
MAJO	**Matsushiro**	**6.29**	**352**	*e*P	**P**	**17 54 08.3**	**+0.3**
JHO	**Hitachi**	**6.39**	**9**	P	**P**	**17 54 10.5**	**+1.5**
JHO				*e*S	**S**	**17 55 27.7**	**-1.6**
JFK	**Kawauchi**	**7.18**	**10**	P	**P**	**17 54 17.0**	**-0.3**
SONM	**Songino Array**	**30.65**	**314**	P	**P**	**17 58 07.0**	**0.0**
SONM	**Songino Array**	**30.65**	**314**	P	**P**	**17 58 07.0**	**0.0**
JIRN	**Jiri**	**46.17**	**281**	*e*P	**P**	**18 00 13.6**	**-0.5**
GUN	**Gumba**	**46.36**	**281**	*e*P	**P**	**18 00 14.5**	**-1.1**
MKAR	**Makanchi Array**	**46.49**	**307**	P	**P**	**18 00 15.3**	**-1.0**
GKN	**Gorkha**	**47.39**	**282**	*e*P	**P**	**18 00 22.2**	**-1.2**
DANN	**Dangsing**	**48.03**	**282**	*e*P	**P**	**18 00 27.1**	**-1.2**
KURK	**Kurchatov**	**48.94**	**313**	*e*P	**P**	**18 00 34.8**	**+0.1**
WRA	**Warramunga Arr**	**50.17**	**186**	P	**P**	**18 00 44.9**	**+0.8**
ASAR	**Alice Springs**	**53.90**	**186**	P	**P**	**18 01 12.2**	**+1.1**
AKASG	**Malin Array Be**	**78.53**	**322**	P	**P**	**18 03 46.6**	**+1.9**

IDC 07 18:17:57.0±39.0, 2908S×17604W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.6/10, mbtmp3.6/3, MS4.1/2, Ms1 4.1/2, ms1mx3.2/18, Error ellipse: s-maj=731.0km s-min=171.1km az=96.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**36.45**	**255**	P	P	18 25 04.2	+0.4
1.7nm,0.9s,baz=96,slow=8.3,SNR=2.7							
ASAR	**Alice Springs**	**44.90**	**265**	P	P	18 26 12.3	-1.3
0.2nm,0.6s,baz=103,slow=7.2,SNR=4.9							
WRA	**Warramunga Arr**	**45.78**	**270**	P	P	18 26 21.1	+0.4
0.3nm,0.3s,baz=110,slow=8.1,SNR=16							
RPN	**Rapa Nui**	**58.15**	**105**	LR	LR	18 45 57.0	
comp=Z,116nm,20.0s,baz=335,slow=29							
USHA	**Ushuaia**	**76.04**	**145**	LR	LR	18 55 09.4	
comp=Z,144nm,18.3s,baz=327,slow=29							

IDC 07 18:33:46.7±8.8, 1407S×16691E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, Error ellipse: s-maj=240.5km s-min=42.8km az=126.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.65**	**255**	P	P	18 40 11.7	-0.3
0.6nm,0.7s,baz=84,slow=8.8,SNR=11							
ASAR	**Alice Springs**	**32.59**	**248**	P	P	18 40 19.1	-0.9
1.4nm,0.5s,baz=76,slow=9.1,SNR=68							
FITZ	**Fitzroy Crossi**	**39.80**	**259**	P	P	18 41 23.1	+1.2
0.9nm,0.5s,baz=76,slow=11,SNR=9.7							
SONM	**Songino Array**	**81.76**	**324**	P	P	18 46 07.5	+0.2
0.2nm,0.5s,baz=130,slow=6.6,SNR=3.1							

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*IDC **07** 18:40:50.0±5.5, 3621N×7105E, h70km±46km, mb3.8/9, mb1 4.0/13, mb1mx3.8/24, mbtmp3.9/13, ML4.1/4, Error ellipse: s-maj=37.0km s-min=17.7km az=28.0*
*MOS **07** 18:40:52.6±1.1, 3638N×7092E, h102km, mb4.4/5, Error ellipse: s-maj=13.6km s-min=6.7km az=88.8*
*ISCJB **07** 18:40:53.2±0.5, 3640N±002×7110E±005, h113km±6km, mb4.1/16, Error ellipse: s-maj=6.6km s-min=3.4km az=167.2*
*NEIC **07** 18:40:55.0±0.8, 3645N×7100E, h106km±8km, mb4.3/8, Error ellipse: s-maj=9.8km s-min=8.0km az=99.0*
*BJI **07** 18:40:54.4, 3665N×7091E, h101km, mB4.8, mb4.0*
*NNC **07** 18:41:04.1±6.5, 37.14N×7087E, h194km±54km, mb3.2, mpv4.6, Error ellipse: s-maj=57.2km s-min=32.5km az=23.0*
ISC 07 18:40:54.5±0.4, 3639N±002×7110E±005, h111km±5km, n97, σ1§22/118, mb4.1/16, 9C-7D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.50**	**223**	*e*P	**Pn**	**18 41 34.4**	**+0.6**
CHCP	**Chirah Chowk**	**3.25**	**146**	⇓P	**Pn**	**18 41 46.9**	**+3.0**
THW	**Thamme Wali**	**3.63**	**171**	P	**Pn**	**18 41 50.6**	**+1.7**
KSH	**Kashi**	**4.95**	**50**	P	**Pn**	**18 42 11.0**	**+4.4**
KSH				S	**Sn**	**18 43 01.8**	**-1.0**
KSH				Smax			
comp=N,738nm,0.6s							
KSH				Smax			
comp=E,895nm,0.6s							
THN	**Thein Dam**	**5.49**	**135**	*e*P	**Pn**	**18 42 15.4**	**+1.5**
THN				*e*x	x	18 43 17.8	
DLH	**Dalhousie**	**5.56**	**132**	*e*P	**Pn**	**18 42 16.0**	**+1.2**
DLH				*e*S	**Sn**	**18 43 17.0**	**-0.5**
AML	**Almayashu**	**6.07**	**19**	*e*P	**Pn**	**18 42 22.6**	**+0.9**
AML				*e*S	**Sn**	**18 43 28.4**	**-1.4**
AML	**Almayashu**	**6.07**	**19**	P	**Pn**	**18 42 22.8**	**+1.1**
SNR=292							
UCH	**Uchtor**	**6.40**	**23**	*e*P	**Pn**	**18 42 27.1**	**+1.0**
comp=E,27nm,0.4s							
UCH				*e*S	**Sn**	**18 43 36.4**	**-1.3**
UCH	**Uchtor**	**6.40**	**23**	P	**Pn**	**18 42 27.4**	**+1.2**
SNR=58							
KZA	**Kyzart**	**6.53**	**28**	P	**Pn**	**18 42 29.1**	**+1.2**
SNR=45							
EKS2	**Erkin-Say**	**6.59**	**17**	*e*P	**Pn**	**18 42 29.4**	**+0.6**
comp=E,39nm,0.6s							
EKS2				*e*S	**Sn**	**18 43 37.1**	**-5.3**
EKS2	**Erkin-Say**	**6.59**	**17**	P	**Pn**	**18 42 29.8**	**+1.0**
SNR=33							
BHK	**Bhakra**	**6.64**	**137**	*e*x	x	18 42 46.6	
BHK				*e*S	**Sn**	**18 43 43.4**	**-0.4**
KK31	**Karatay Array**	**6.72**	**356**	P	**Pn**	**18 42 30.0**	**-0.4**
comp=E,32nm,0.3s,baz=187,slow=14,SNR=627							
KK31				⇓S	**Sn**	**18 43 41.1**	**-4.4**
comp=E,16nm,0.3s							
AAK	**Ala-Archa**	**6.76**	**22**	P	**Pn**	**18 42 31.2**	**+0.2**
comp=E,22nm,0.3s,baz=184,slow=11,SNR=134							
AAK				S	**Sn**	**18 43 44.7**	**-1.8**
comp=E,5.7nm,0.3s,baz=302,slow=22,SNR=8.4							
AAK	**Ala-Archa**	**6.76**	**22**	P	**Pn**	**18 42 32.2**	**+1.2**
SNR=88							
SDNR	**Sundarnagar**	**6.90**	**133**	*e*P	**Pn**	**18 42 34.0**	**+1.0**
SDNR				*e*S	**Sn**	**18 43 46.6**	**-3.4**
KBK	**Karagaybulak**	**6.92**	**24**	P	**Pn**	**18 42 35.1**	**+1.8**
SNR=11							
FRU	**Bishkek**	**6.98**	**22**	*i* PN	**Pn**	**18 42 34.5**	**+0.5**
FRU				pmax	pmax		
comp=Z,120nm,0.7s							
ULHL	**Ulahol**	**7.07**	**33**	P	**Pn**	**18 42 37.3**	**+2.1**
SNR=23							
CHMS	**Chumysh**	**7.17**	**22**	P	**Pn**	**18 42 37.7**	**+1.0**
SNR=23							
USP	**Ospenovka**	**7.35**	**20**	P	**Pn**	**18 42 40.1**	**+1.2**
SNR=48							
TKM2	**Tokmak 2**	**7.38**	**27**	⇓P	**Pn**	**18 42 40.3**	**+0.8**
comp=Z,22nm,0.7s							
TKM2				⇑S	**Sn**	**18 44 00.1**	**-1.5**
comp=Z,36nm,1.1s							
TKM2	**Tokmak 2**	**7.38**	**27**	*e*PN	**Pn**	**18 42 39.9**	**+0.4**
TKM2				pmax	pmax		
comp=Z,23nm,0.7s							
TKM2	**Tokmak 2**	**7.38**	**27**	*e*P	**Pn**	**18 42 39.9**	**+0.4**
comp=Z,23nm,0.7s							
TKM2	**Tokmak 2**	**7.38**	**27**	P	**Pn**	**18 42 40.8**	**+1.3**
SNR=8.6							
KLP	**Kalpa**	**7.66**	**127**	*e*P	**Pn**	**18 42 44.7**	**+1.3**
KLP				*e*S	**Sn**	**18 44 06.4**	**-2.1**
KLP				AML	AML	18 44 13.8	
comp=N,495nm,0.7s							
KLP				AML	AML	18 44 14.3	
comp=E,469nm,0.6s							
JOSI	**Joshimath**	**9.15**	**127**	*e*P	**Pn**	**18 43 06.0**	**+2.5**
JOSI				*e*S	**Sn**	**18 44 40.5**	**-4.2**
JOSI				AML	AML	18 44 47.7	
comp=E,361nm,0.6s							
JOSI				AML	AML	18 44 49.0	
comp=N,317nm,0.4s							
KHET	**Khetri**	**9.20**	**153**	*e*P	**Pn**	**18 43 02.8**	**-1.5**
KHET				*e*S	**Sn**	**18 44 38.8**	**-7.2**
KHET				AML	AML	18 44 42.7	
comp=E,78nm,0.3s							
KHET				AML	AML	18 44 43.0	
comp=N,56nm,0.4s							
NDI	**New Delhi**	**9.26**	**144**	*e*P	**Pn**	**18 43 06.0**	**+1.0**
NDI				*e*x	x	18 44 44.0	
KUDL	**Kundal**	**9.40**	**149**	*e*P	**Pn**	**18 43 06.7**	**-0.3**
KUDL				*e*S	**Sn**	**18 44 43.8**	**-7.1**
KUDL				AML	AML	18 44 49.0	
comp=N,55nm,0.5s							
SONA	**Sohna**	**9.56**	**146**	*e*P	**Pn**	**18 43 08.8**	**-0.4**
SONA				*e*S	**Sn**	**18 44 48.1**	**-6.7**
SONA				AML	AML	18 44 53.2	
comp=N,52nm,0.4s							
SONA				AML	AML	18 44 54.6	
comp=E,108nm,0.4s							
PTH	**Pithoragarh**	**10.25**	**129**	*e*P	**Pn**	**18 43 17.9**	**-0.6**
PTH				*e*x	x	18 45 09.0	
AJM	**Ajmer**	**10.33**	**162**	*i* P	**Pn**	**18 43 18.0**	**-1.7**
AJM				*i* x	x	18 45 00.0	
LGTI	**Lohaghat**	**10.34**	**129**	*e*P	**Pn**	**18 43 19.0**	**-0.7**
LGTI				*e*x	x	18 45 11.0	
MK31	**Makanchi Array**	**13.33**	**35**	P	**Pn**	**18 43 58.4**	**-0.7**
comp=E,6.5nm,0.9s,baz=225,slow=15,SNR=13							
MK31	**Makanchi Array**	**13.33**	**35**	*e*P	**Pn**	**18 43 57.8**	**-1.3**
MKAR	**Makanchi Array**	**13.33**	**35**	*i* P	**Pn**	**18 43 59.4**	**+0.3**
MKAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
MKAR	**Makanchi Array**	**13.33**	**35**	P	**Pn**	**18 43 58.4**	**-0.7**
comp=Z,0.2nm,0.3s,baz=229,slow=15,SNR=11							
DANN	**Dangsing**	**13.36**	**123**	*e*P	**Pn**	**18 43 58.6**	**-1.1**
comp=Z,24nm,0.4s							
KOLN	**Koldanda**	**13.63**	**126**	*e*P	**Pn**	**18 44 02.5**	**-0.7**
comp=Z,9.1nm,0.3s							
GKN	**Gorkha**	**14.18**	**122**	*e*P	**Pn**	**18 44 08.9**	**-1.3**
comp=Z,52nm,0.7s							
DMN	**Daman**	**14.75**	**122**	*e*P	**Pn**	**18 44 16.6**	**-0.9**
comp=Z,21nm,0.5s							
KKN	**Kakani**	**14.75**	**122**	*e*P	**Pn**	**18 44 17.0**	**-0.5**
comp=Z,28nm,0.6s							
PKIN	**Phulchoki**	**14.97**	**122**	*e*P	**Pn**	**18 44 20.1**	**-0.2**
comp=Z,39nm,0.8s							
PKI	**Pulchoki**	**14.98**	**122**	*e*P	**Pn**	**18 44 20.4**	**0.0**
comp=Z,27nm,0.6s							
GUN	**Gumba**	**15.09**	**120**	*e*P	**Pn**	**18 44 21.1**	**-0.8**
comp=Z,18nm,0.4s							
KURBB	**Kurchatov Arra**	**15.20**	**18**	⇓P	**Pn**	**18 44 20.0**	**-3.0**

comp=Z,1.4nm,0.7s
AB31 Akbulak array 15.22 331 P **Pn 18 44 21.0 -2.2**
comp=Z,4.9nm,0.4s,baz=145,slow=12,SNR=196
AB31 ⇑S S 18 46 55.2 -25
comp=Z,7.2nm,0.6s,baz=148,slow=24,SNR=13
KURK Kurchatov 15.31 18 ⇑P **Pn 18 44 24.9 +0.6**
KURK Kurchatov 15.31 18⇑*eP* **Pn 18 44 26.5 +2.2**
KURK Kurchatov 15.31 18 P **Pn 18 44 26.4 +2.1**
comp=Z,9.6nm,1.0s
JIRN Jiri 15.46 120 *eP* **Pn 18 44 26.4 -0.1**
comp=Z,36nm,0.4s
VOSK Vostochnaya 16.33 360 ⇓P **Pn 18 44 32.9 -4.1**
comp=Z,6.1nm,1.0s
ZRNK Zerenda 16.62 356 ⇓P **Pn 18 44 38.2 -2.4**
comp=Z,6.8nm,1.1s
BVA0 Borovoye Array 16.64 358 P **Pn 18 44 40.3 -0.5**
comp=Z,0.8nm,0.6s,baz=172,slow=13,SNR=28
BVAR Borovoye Array 16.64 358 P **Pn 18 44 40.8 0.0**
comp=Z,1.2nm,0.3s,baz=169,slow=12,SNR=22
BRVK Borovoye 16.67 358 *eP* **Pn 18 44 41.1 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.7s
BRVK Borovoye 16.67 358 *eP* **Pn 18 44 41.1 -0.1**
comp=Z,5.2nm,0.7s
AKTK Aktyubinsk 16.91 330 P **Pn 18 44 42.8 -1.4**
AKTK S **S 18 47 38.8 -14**
AKTO Aktyubinsk 16.91 330 ⇓P **Pn 18 44 43.7 -0.5**
comp=Z,0.5nm,0.9s
AKTO ⇑S **S 18 47 36.9 -16**
comp=Z,0.1nm,0.7s
AKTO Aktyubinsk 16.91 330 P **Pn 18 44 42.8 -1.4**
comp=Z,1.3nm,0.3s,baz=139,slow=13,SNR=32
AKTO S **S 18 47 38.8 -14**
comp=Z,0.3nm,0.3s,baz=163,slow=19,SNR=5.7
LSA Lhasa 18.07 106 P **P 18 45 03.0 +5.7**
LSA Lhasa 18.07 106 *eP* **P 18 45 02.0 +4.7**
LSA pmax pmax
comp=Z,9.0nm,0.7s
LSA Lhasa 18.07 106 *eP* **P 18 45 02.0 +4.8**
comp=Z,9.1nm,0.7s
ZAL Zalesovo 19.96 24 P **P 18 45 18.5 +0.9**
ZAA0 Zalesovo Array 19.98 24 *eP* **P 18 45 18.3 +0.5**
ZALV Zalesovo Beam 19.98 24 P **P 18 45 18.5 +0.7**
comp=Z,15nm,0.5s,baz=223,slow=10,SNR=75
HYB Hyderabad 20.02 159 *eP* **P 18 45 20.5 +1.9**
HYB *eS* S 18 49 20.0 +22
HYB Hyderabad 20.02 159 *i P* **P 18 45 20.5 +1.9**
HYB *eS* **S 18 48 59.0 +1.4**
NVS Novosibirsk 20.25 21⇑*iP* **P 18 45 21.3 +0.5**
NVS *e* 18 45 56.6
NVS *eS* **S 18 49 00.4 -1.3**
NVS pmax pmax
comp=N,20nm,1.1s
NVS pmax pmax
comp=Z,19nm,1.1s
NVS smax
comp=N,12nm,1.6s
MIB Mutribah 20.94 259 *eP* **P 18 45 27.0 -1.3**
MIB AMb AMB 18 45 32.6
comp=Z,36nm,0.5s
RDF Al-Radifah 21.15 256 *eP* **P 18 45 29.1 -1.5**
RDF AMb AMB 18 45 32.2
comp=Z,22nm,0.6s,mb4.6
NAY Al-Naaiem 21.25 257 *eP* **P 18 45 29.9 -1.8**
NAY AMb AMB 18 45 35.7
comp=Z,13nm,0.6s,mb4.5
SVE Sverdlovsk 21.62 344 *eP* **P 18 45 36.4 +1.0**
ARU Arti 21.76 341 *c iP* **P 18 45 37.4 +0.5**
ARU *eS* **S 18 49 35.2 +4.3**
ARU pmax pmax
comp=Z,16nm,1.0s,mb4.3
ARU Arti 21.76 341 *eP* **P 18 45 37.0 +0.2**
comp=Z,11nm,0.8s,mb4.2
GTA Gaotai 22.82 74 *eP* **P 18 45 52.7 +4.7**
GTA AP 18 46 10.9
GTA XP sP 18 46 20.2 -2.9
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb3.3
KIV Kislovodsk 22.91 298 *eP* **P 18 45 46.4 -2.4**
KIV *eS* **S 18 49 52.0 +2.0**
KIV pmax pmax
comp=Z,8.0nm,1.2s,mb3.9
SONM Songino Array 28.33 55 P **P 18 46 40.5 +2.8**
comp=Z,0.3nm,0.7s,mb2.9,baz=256,slow=9.1,SNR=4.7
OBN Obninsk 30.07 319⇑*eP* **P 18 46 53.3 +0.3**
OBN pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
AKASG Malin Array Be 33.08 309 P **P 18 47 19.6 +0.2**
comp=Z,2.5nm,0.6s,mb4.2,baz=80,slow=7.4,SNR=16
KIEV Kiev 33.09 309 *eP* **P 18 47 19.2 -0.2**
JOF Joensuu 36.00 330 *ep* **P 18 47 44.4 0.0**
comp=Z,8.8nm,0.4s,mb5.0
JOF Joensuu 36.00 330 *eP* **P 18 47 44.4 0.0**
JOF pmax pmax
comp=Z,9.0nm,0.4s,mb5.0
FINES FINESS Array B 37.62 326 *i P* **P 18 47 59.0 +0.9**
FINES pmax pmax
comp=Z,3.0nm,0.4s
FINES FINESS Array B 37.62 326 P **P 18 47 59.0 +0.8**
comp=Z,2.8nm,0.4s,mb4.5,baz=122,slow=9.4,SNR=21
ARCES ARCESS Array B 41.27 338 P **P 18 48 29.6 +1.3**
comp=Z,6.9nm,0.6s,mb4.6,baz=111,slow=8.7,SNR=27
NB2 NORSAR Subarra 44.52 323 P **P 18 48 54.5 -0.1**
comp=Z,5.3nm,0.6s,mb4.5,baz=96,slow=7.9
NOA NORSAR Array B 44.52 323 P **P 18 48 54.9 +0.3**
comp=Z,6.2nm,0.7s,mb4.5,baz=96,slow=7.8,SNR=17
TIXI Tiksi 45.84 22⇑*eP* **P 18 49 12.4 +7.5**
TIXI pmax pmax
comp=Z,1.0nm,0.6s,mb3.7
TIXI Tiksi 45.84 22 *eP* **P 18 49 06.3 +1.4**
comp=Z,1.3nm,0.6s,mb3.8
INK Inuvik 74.00 9 *eP* **P 18 52 18.8 +1.4**
YKA Yellowknife Ar 81.35 3 P **P 18 52 59.3 +1.0**
comp=Z,0.4nm,0.5s,mb3.5,baz=350,slow=5.6,SNR=5.4
WRA Warramunga Arr 81.86 122 P **P 18 53 01.0 -0.6**
comp=Z,0.6nm,0.4s,mb3.8,baz=323,slow=4.8,SNR=9.4
ASAR Alice Springs 84.12 125 P **P 18 53 12.9 -0.3**
comp=Z,0.6nm,0.6s,mb3.6,baz=318,slow=4.9,SNR=10

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*ISCJB **07** 18:44:17.0±1.1,2167S±005×683W±0.1,h95km±12km, mb3.9/7, Error ellipse: s-maj=17.9km s-min=8.2km az=166.4*
*NEIC **07** 18:44:20.6±1.0,2169S×6827W,h112km±8km,mb3.7/1, Error ellipse: s-maj=14.8km s-min=8.8km az=75.0*
*IDC **07** 18:44:20.9±2.9,2167S×6832W,h113km±25km,mb3.8/6, mb1 3.8/9,mb1mx3.6/16,mbtmp3.7/9, Error ellipse: s-maj=33.7km s-min=19.0km az=79.0*
ISC 07 18:44:18.3±0.9,2166S±005×6821W±008,h89km±10km, n25,σ1§13/23,mb3.9/7,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	**5.35**	**1**	*eP*	**Pn**	**18 45 41.0**	**+5.3**
LPAZ				S	**Sn**	**18 46 35.7**	**-0.3**
LPAZ	**La Paz**	**5.35**	**1**	P	**Pn**	**18 45 41.1**	**+5.5**
LPAZ	0.9nm,0.3s,baz=198,slow=8.3,SNR=13			S	**Sn**	**18 46 35.7**	**-0.3**
ARE	**Arequipa**	**6.03**	**328**	P	**Pn**	**18 45 47.0**	**+2.0**
ARE	0.5nm,0.3s,baz=210,slow=13,SNR=5.0			*eS*	**Sn**	**18 46 52.0**	**-0.7**
SIV	**San Ignacio**	**8.80**	**51**	P	**Pn**	**18 46 25.1**	**+2.3**
SIV	4.7nm,0.3s,baz=236,slow=12,SNR=77			S	**Sn**	**18 47 58.8**	**-1.5**
CFAA	**Coronel Fontan**	**9.90**	**180**	P	**Pn**	**18 46 36.5**	**-1.2**
CFAA	0.0nm,0.3s,baz=0.3,slow=14,SNR=3.5			S	**Sn**	**18 48 19.8**	**-7.1**
TRQA	**Tornquist**	**17.20**	**163**	*eP*	**Pn**	**18 48 13.8**	**+1.0**
PLCA	**Paso Flores**	**19.11**	**185**	P	**Pn**	**18 48 34.1**	**-1.7**
VNA2	**Neumayer--Watz**	**60.28**	**161**	*e*Pdiff	**P**	**18 54 17.9**	**+0.9**
VNA2	0.1nm,0.4s,mb3.2,baz=150,slow=8.6,SNR=3.8			*e*		18 54 25.8	
TXAR	**Lajitas Array**	**61.14**	**325**	P	**P**	**18 54 22.8**	**-0.5**
SNAA	**Sanae**	**61.91**	**161**	*e*Pdiff	**P**	**18 54 28.7**	**+0.7**
SNAA	**Sanae**	**61.91**	**161**	P	**P**	**18 54 28.4**	**+0.4**
DBIC	**Dimbokro**	**68.16**	**73**	P	**P**	**18 55 09.9**	**+0.4**
MSU	**Marysvale**	**72.68**	**325**	*eP*	**P**	**18 55 37.6**	**+1.1**
ULM	**Lac du Bonnet**	**75.67**	**342**	P	**P**	**18 55 52.0**	**-1.5**
SCHQ	**Schefferville**	**76.19**	**1**	P	**P**	**18 55 55.8**	**-0.6**

2.5nm,0.8s,mb4.0,baz=234,slow=7.2,SNR=3.4
BMO Blue Mountains 79.91 327 *eP* **P 18 56 17.7 +0.5**
0.8nm,0.6s,mb3.7
YKA Yellowknife Ar 91.56 340 P **P 18 57 14.2 -0.3**
YKA pP pP 18 57 46.7 +8.4
YKA Yellowknife Ar 91.56 340 P **P 18 57 14.2 -0.3**
1.9nm,0.7s,mb4.4,baz=132,slow=4.5,SNR=30
YKA pP pP 18 57 46.7 +8.4
0.2nm,0.3s,baz=189,slow=19,SNR=1.9
WRA Warramunga Arr 133.14 210 PKP PKPdf 19 03 24.1 -0.3
0.5nm,0.6s,baz=159,slow=1.7,SNR=4.3
ZALV Zalesovo Beam 141.82 26 PKP PKPdf 19 03 39.0 -0.2
0.6nm,0.5s,baz=263,slow=2.3,SNR=4.4
MKAR Makanchi Array 145.38 37 PKPbc PKPbc 19 03 46.2 +0.4
MKAR pPKPbc pPKPbc 19 04 19.0 +8.8
MKAR Makanchi Array 145.38 37 PKPbc PKPbc 19 03 46.2 +0.4
0.9nm,0.6s,baz=317,slow=4.9,SNR=9.7
MKAR pPKPbc pPKPbc 19 04 19.0 +8.8
1.0nm,0.8s,baz=336,slow=5.3,SNR=4.6
MJAR Matsushiro Arr 152.68 309 PKPbc PKPbc 19 04 04.6 -0.3
MJAR Matsushiro Arr 152.68 309 PKPbc PKPbc 19 04 04.6 -0.3
0.5nm,0.6s,baz=83,slow=2.4,SNR=3.7
SONM Songino Array 153.53 8 PKPbc PKPbc 19 04 06.3 -0.1
0.1nm,0.4s,baz=292,slow=27,SNR=2.8

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*NEIC **07** 19:25:08.1±2.4,2412S×17992E,h499km±25km,mb4.7/9, Error ellipse: s-maj=20.5km s-min=12.1km az=46.0*
*ISCJB **07** 19:25:09.3±1.9,2421S±009×1798E±01,h518km±22km, mb4.4/16,Error ellipse: s-maj=17.7km s-min=12.0km az=148.0*
*IDC **07** 19:25:10.0±1.6,2421S×17978E,h515km±16km,mb3.9/11, mb1 4.0/12,mb1mx3.9/15,mbtmp3.9/12,Error ellipse: s-maj=14.5km s-min=13.4km az=17.0*
ISC 07 19:25:09.9±1.8,2430S±009×1798E±01,h511km±20km, n34,σ0§91/32,mb4.4/16,4D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	**Urewera**	**14.10**	**189**	P	**P**	**19 28 09.9**	**-0.4**
URZ	4.5nm,0.3s,baz=19,slow=2.7,SNR=20			S	**S**	**19 30 37.9**	**-1.3**
RPZ	**Rata Peaks**	**20.65**	**198**	P	**P**	**19 29 13.2**	**-0.3**
HNR	**Honiara**	**24.00**	**305**	P	**P**	**19 29 42.3**	**-1.8**
HNR	**Honiara**	**24.00**	**305**	P	**P**	**19 29 42.7**	**-1.4**
EIDS	**Eidsvold**	**26.05**	**262**	*eP*	**P**	**19 30 03.7**	**+1.7**
CTA	**Charters Tower**	**31.28**	**271**	⇓*iP*	**P**	**19 30 49.1**	**+1.4**
CTA	**Charters Tower**	**31.28**	**271**	P	**P**	**19 30 49.0**	**+1.2**
CTAO	**Charters Tower**	**31.28**	**271**	*eP*	**P**	**19 30 49.1**	**+1.4**
STKA	**Stephens Creek**	**34.39**	**249**	*eP*	**P**	**19 31 15.2**	**+1.2**
STKA	**Stephens Creek**	**34.39**	**249**	P	**P**	**19 31 15.3**	**+1.3**
ASAR	**Alice Springs**	**41.77**	**261**	P	**P**	**19 32 14.5**	**+0.2**
ASAR	9.4nm,0.8s,mb4.4,baz=94,slow=7.2,SNR=90			ScP	ScP	19 37 00.8	+0.5
ASAR	3.6nm,1.0s,baz=110,slow=4.6,SNR=11			S	**S**	**19 37 54.3**	**-0.2**
WB2	**Warramunga Arr**	**42.17**	**267**	⇓*iP*	**P**	**19 32 17.3**	**-0.2**
WRAB	**Tennant Creek**	**42.17**	**267**	*eP*	**P**	**19 32 17.4**	**-0.1**
WRA	**Warramunga Arr**	**42.18**	**267**	P	**P**	**19 32 17.6**	**0.0**
WRA	6.5nm,1.0s,baz=97,slow=4.2,SNR=18			ScP	ScP	19 37 02.8	+0.8
WRA	3.5nm,1.2s,baz=102,slow=15,SNR=5.4			S	**S**	**19 37 58.9**	**-1.6**
FORT	**Forrest**	**45.98**	**250**	*eP*	**P**	**19 32 46.6**	**-0.3**
FORT	**Forrest**	**45.98**	**250**	*eP*	**P**	**19 32 46.6**	**-0.3**
KAKA	**Kakadu**	**46.14**	**276**	*eP*	**P**	**19 32 47.7**	**-0.6**
KAKA	**Kakadu**	**46.14**	**276**	*eP*	**P**	**19 32 47.6**	**-0.8**
FITZ	**Fitzroy Crossi**	**50.60**	**266**	⇓*iP*	**P**	**19 33 21.9**	**+0.4**
SBA	**Scott Base**	**53.97**	**183**	*eP*	**P**	**19 33 46.7**	**+1.9**
KLBR	**Kellerberrin**	**54.65**	**248**	*eP*	**P**	**19 33 50.2**	**-0.2**
QSPA	**South Pole Qui**	**65.79**	**180**	*eP*	**P**	**19 35 04.5**	**+1.1**
QSPA	**South Pole Qui**	**65.79**	**180**	P	**P**	**19 35 04.6**	**+1.1**
MJAR	**Matsushiro Arr**	**72.11**	**326**	P	**P**	**19 35 41.0**	**-1.1**
MAW	**Mawson**	**77.31**	**201**	P	**P**	**19 36 11.5**	**+0.5**
KSRS	**Korea Array**	**78.42**	**320**	P	**P**	**19 36 17.7**	**+0.3**
SNAA	**Sanae**	**84.27**	**179**	*e*	**P**	**19 36 46.0**	**-1.0**
SNAA				*e*		19 36 48.4	
SNAA				*e*		19 36 54.1	
VNA2	**Neumayer--Watz**	**84.91**	**178**	*e*	**P**	**19 36 49.5**	**-0.6**
VNA2	baz=188,slow=4.4			*e*		19 36 51.9	
VNA2				*e*		19 36 58.8	
TXAR	**Lajitas Array**	**90.81**	**58**	P	**P**	**19 37 18.6**	**0.0**
BVAR	**Borovoye Array**	**120.60**	**319**	PKP	PKPdf	19 43 01.6	-1.3
ARCES	**ARCESS Array B**	**132.23**	**348**	PKP	PKPdf	19 43 23.1	-1.6
AKASG	**Malin Array Be**	**145.19**	**327**	PKPbc	PKPbc	19 43 48.1	-1.5
MMAI	**Mount Meron Ar**	**147.68**	**294**	PKPbc	PKPbc	19 43 55.1	-1.9
CLL	**Collm**	**151.17**	**343**	⇓*i*PKPbc	PKPbc	19 44 04.3	-0.5
CLL	comp=Z,6.0nm,0.9s			*e*PKPab	PKPab	19 44 12.0	-3.0

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*IDC **07** 19:29:19.8±0.8,3421N×8187E,h0km,mb4.0/15, mb1 4.1/18,mb1mx4.0/25,mbtmp4.0/18,ML3.2/2,MS3.2/1, Ms1 3.2/1,ms1mx2.4/32,Error ellipse: s-maj=22.3km s-min=16.1km az=50.0*
*NDI **07** 19:29:21.9±3.4,3448N×8206E,h10km,mb4.6, mb4.4(NEIC)*
*NEIC **07** 19:29:21.7±0.4,3423N×8189E,h10km,mb4.4/6,Error ellipse: s-maj=9.2km s-min=7.3km az=54.0*
*MOS **07** 19:29:23.6±1.2,3435N×8178E,h33km,mb4.7/6,Error ellipse: s-maj=16.1km s-min=7.2km az=107.8*
*ISCJB **07** 19:29:23.8±0.9,3430N±004×8183E±006,h36km±10km, mb4.0/19,Error ellipse: s-maj=9.0km s-min=6.9km az=163.4*
*BJI **07** 19:29:26.3,3467N×8222E,h11km,mB4.5,mb4.2,ML3.4, Ms3.5*
ISC 07 19:29:25.9±0.7,3430N±004×8192E±007,h41km±7km,n65, σ0§96/62,mb4.0/19,1D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SDNR	**Sundarnagar**	**5.01**	**238**	*eP*	**Pn**	**19 30 39.6**	**+1.0**
SDNR				*ex*	x	19 31 40.2	
LGTI	**Lohaghat**	**5.04**	**197**	*eP*	**Pn**	**19 30 44.0**	**+5.0**
DDI	**Dehra Dun**	**5.14**	**221**	*ex*	x	19 30 46.0	
DLH	**Dalhousie**	**5.27**	**252**	*eP*	**Pn**	**19 30 43.0**	**+0.8**
NDI	**New Delhi**	**6.88**	**217**	*ex*	x	19 32 24.0	
LSA	**Lhasa**	**9.08**	**118**	P	**Pn**	**19 31 39.8**	**+5.4**
LSA	**Lhasa**	**9.08**	**118**	*eP*	**Pn**	**19 31 39.6**	**+5.2**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
LSA	**Lhasa**	**9.08**	**118**	*eP*	**Pn**	**19 31 39.6**	**+5.2**
	comp=Z,3.7nm,0.7s						
UCH	**Uchtor**	**9.82**	**326**	*eP*	**Pn**	**19 31 45.5**	**+0.9**
	comp=Z,478nm,0.6s						
AAK	**Ala-Archa**	**10.15**	**327**	Pn	**Pn**	**19 31 49.8**	**+0.8**
	comp=Z,0.2nm,0.3s,baz=166,slow=6.8,SNR=5.2						
FRU	**Bishkek**	**10.26**	**328**	*eP*	**Pn**	**19 31 52.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,50nm,1.4s						
FRU				pmax	pmax		
	comp=E,50nm,1.9s						
EKS2	**Erkin-Say**	**10.51**	**325**	*eP*	**Pn**	**19 31 55.0**	**+1.1**
	comp=E,3.7nm,0.8s						
KBL	**Kabul**	**10.64**	**275**	*e*Pn	**Pn**	**19 31 54.4**	**-1.3**
	comp=E,10nm,0.5s						
BOK	**Bokaro**	**11.02**	**161**	*eP*	**Pn**	**19 32 00.1**	**-0.9**
BOK				AMb	AMB	19 32 04.8	
	comp=Z,9.8nm,0.8s						
BHPL	**Bhopal**	**11.70**	**201**	*eP*	**Pn**	**19 32 09.1**	**-1.2**
BHPL				*eS*	**Sn**	**19 34 13.6**	**-5.9**
BLSP	**Bilaspur**	**12.12**	**179**	*eP*	**Pn**	**19 32 15.6**	**-0.5**
MK31	**Makanchi Array**	**12.49**	**1**	*eP*	**Pn**	**19 32 19.6**	**-1.3**
MKAR	**Makanchi Array**	**12.49**	**1**	Pn	**Pn**	**19 32 20.0**	**-0.9**
	comp=Z,0.5nm,0.3s,baz=182,slow=13,SNR=29						
GTA	**Gaotai**	**15.20**	**65**	*eP*	**Pn**	**19 33 00.9**	**+3.2**
GTA				AP	pP	19 33 07.5	-4.6
GTA				XP	sP	19 33 10.6	-6.7
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**16.59**	**353**	*eP*	**Pn**	**19 33 12.4**	**-2.9**
KURK				pmax	pmax		
	comp=Z,21nm,1.0s						
KURK	**Kurchatov**	**16.59**	**353**	*eP*	**Pn**	**19 33 12.4**	**-2.9**
	comp=Z,21nm,1.0s						
ZAL	**Zalesovo**	**19.74**	**5**	P	**Pn**	**19 33 52.9**	**-0.8**
ZAA0	**Zalesovo Array**	**19.75**	**5**	*eP*	**Pn**	**19 33 52.5**	**-1.4**
ZALV	**Zalesovo Beam**	**19.75**	**5**	P	**Pn**	**19 33 52.9**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=193,slow=12,SNR=10						
KMI	**Kunming**	**20.23**	**111**	P	**P**	**19 34 01.5**	**+3.9**
KMI				AMB	AMB		
	comp=Z,20nm,1.0s						
BVAR	**Borovoye Array**	**20.45**	**340**	P	**P**	**19 34 00.0**	**+0.3**
	comp=Z,10nm,0.8s,baz=145,slow=10,SNR=42						
BRVK	**Borovoye**	**20.51**	**340**	*eP*	**P**	**19 34 00.6**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,28nm,1.0s						
BRVK	**Borovoye**	**20.51**	**340**	*eP*	**P**	**19 34 00.6**	**+0.3**
	comp=Z,28nm,1.0s						
NVS	**Novosibirsk**	**20.56**	**2**	*eP*	**P**	**19 34 00.4**	**-0.5**
CHTO	**Chiang Mai**	**21.62**	**131**	*eP*	**P**	**19 34 12.9**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.3						
CHTO	**Chiang Mai**	**21.62**	**131**	*eP*	**P**	**19 34 12.9**	**+0.2**
	comp=Z,6.8nm,0.6s,mb4.2						
GYA	**Guiyang**	**22.70**	**103**	P	**P**	**19 34 30.2**	**+6.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
SONM	**Songino Array**	**22.76**	**46**	P	**P**	**19 34 25.8**	**+1.3**
	comp=Z,1.2nm,0.9s,mb3.3,baz=240,slow=10,SNR=9.2						
ULN	**Ulaanbaatar**	**23.17**	**47**	*eP*	**P**	**19 34 29.7**	**+0.9**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.6s,mb3.8						
ULN	**Ulaanbaatar**	**23.17**	**47**	*eP*	**P**	**19 34 29.7**	**+0.9**
	comp=Z,7.4nm,1.6s,mb3.9						
AKTK	**Aktyubinsk**	**23.76**	**320**	P	**P**	**19 34 33.4**	**-1.0**
AKTO	**Aktyubinsk**	**23.76**	**320**	P	**P**	**19 34 33.4**	**-1.0**
	comp=Z,4.0nm,0.7s,mb3.9,baz=115,slow=9.0,SNR=12						
KSRS	**Korea Array**	**37.13**	**72**	LR	LR	19 55 38.2	
	comp=Z,32nm,18.4s,baz=273,slow=42						
EIL	**Elat**	**39.83**	**277**	P	**P**	**19 36 56.2**	**+0.8**
	comp=Z,1.9nm,0.9s,mb3.8,baz=90,slow=5.1,SNR=3.7						
AKASG	**Malin Array Be**	**41.24**	**310**	P	**P**	**19 37 06.1**	**-0.7**
AKASG	**Malin Array Be**	**41.24**	**310**	P	**P**	**19 37 06.1**	**-0.7**
	comp=Z,0.7nm,0.5s,mb3.5,baz=80,slow=7.7,SNR=8.6						
JOF	**Joensuu**	**42.34**	**328**	*e*pkp	PKiKP	19 46 13.4	+0.2
MLR	**Muntele Rosu**	**43.57**	**302**	⇓*iP*	**P**	**19 37 27.9**	**+2.1**
FINES	**FINESS Array B**	**44.34**	**325**	P	**P**	**19 37 31.6**	**0.0**
	comp=Z,2.0nm,0.7s,mb4.0,baz=102,slow=6.4,SNR=5.4						
ARCES	**ARCESS Array B**	**46.67**	**336**	P	**P**	**19 37 50.2**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.4,baz=96,slow=6.4,SNR=3.0						
GERES	**GERESS Array B**	**51.39**	**308**	P	**P**	**19 38 26.7**	**+0.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=46,slow=5.7,SNR=4.5						
NOA	**NORSAR Array B**	**51.45**	**324**	P	**P**	**19 38 25.9**	**-0.9**
	comp=Z,0.8nm,0.7s,mb3.7,baz=87,slow=7.4,SNR=2.7						
LPG	**La Plagne**	**56.78**	**306**	*eP*	**P**	**19 39 06.2**	**+0.4**
	comp=Z,9.7nm,0.8s,mb4.6						
LPG	**La Plagne**	**56.78**	**306**	*eP*	**P**	**19 39 06.2**	**+0.4**
LPG				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
LPG	**La Plagne**	**56.78**	**306**	*eP*	**P**	**19 39 06.2**	**+0.4**
	comp=Z,4.8nm,0.8s,mb4.6						
LPL	**La Plagne**	**56.79**	**306**	*eP*	**P**	**19 39 06.2**	**+0.3**
	comp=Z,22nm,0.9s,mb4.9						
LPL	**La Plagne**	**56.79**	**306**	*eP*	**P**	**19 39 06.2**	**+0.3**
LPL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.9						
LPL	**La Plagne**	**56.79**	**306**	*eP*	**P**	**19 39 06.2**	**+0.3**
	comp=Z,11nm,0.9s,mb4.9						
KEST	**Kesra**	**58.14**	**294**	P	**P**	**19 39 15.8**	**+0.3**
	comp=Z,2.1nm,1.0s,mb4.1,baz=296,slow=10,SNR=3.1						
IMA2	**Indian Mountai**	**71.26**	**21**	*eP*	**P**	**19 40 40.9**	**+0.4**
WRA	**Warramunga Arr**	**73.45**	**129**	P	**P**	**19 40 54.1**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.7,baz=327,slow=5.6,SNR=9.7						
WB2	**Warramunga Arr**	**73.46**	**129**	*eP*	**P**	**19 40 54.5**	**+0.3**
ASAR	**Alice Springs**	**75.90**	**132**	P	**P**	**19 41 08.4**	**+0.1**
	comp=Z,0.7nm,0.7s,mb3.7,baz=309,slow=5.8,SNR=8.0						
BOSA	**Boshof**	**82.37**	**228**	P	**P**	**19 41 42.8**	**-0.8**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.1						
BOSA	**Boshof**	**82.37**	**228**	*eP*	**P**	**19 41 43.1**	**-0.5**
BOSA	**Boshof**	**82.37**	**228**	P	**P**	**19 41 42.8**	**-0.8**
	comp=Z,1.8nm,0.8s,mb4.1,baz=63,slow=2.3,SNR=4.1						
YKA	**Yellowknife Ar**	**82.63**	**8**	P	**P**	**19 41 44.1**	**-0.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**82.63**	**8**	P	**P**	**19 41 44.1**	**-0.4**
	comp=Z,1.9nm,0.6s,mb4.3,baz=341,slow=5.2,SNR=23						
DBIC	**Dimbokro**	**83.63**	**274**	*eP*	**P**	**19 41 50.4**	**-0.1**
DBIC	**Dimbokro**	**83.63**	**274**	P	**P**	**19 41 50.5**	**0.0**
	comp=Z,4.8nm,0.9s,mb4.6,baz=55,slow=7.1,SNR=5.1						

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*CSEM **07** 19:41:18.7±0.3,3670N×2125E,h2km,ML3.7,Error ellipse: s-maj=6.7km s-min=2.8km az=37.0*
*ISCJB **07** 19:41:19.5±1.2,3672N±008×2129E±008,h10km,Error ellipse: s-maj=12.3km s-min=8.3km az=19.9*
*ATH **07** 19:41:19.2,3668N×2129E,h20km±3km,MD3.6/4*
*THE **07** 19:41:19.7,3674N×2130E,h3km,ML3.7*
*NEIC **07** 19:41:22.8,3684N×2156E,h29km,MD3.6(ATH),After ATH.*
ISC 07 19:41:19.8±1.2,3669N±008×2130E±008,h10km,n17, σ0§71/18,Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PYL	**PYLOS**	**0.41**	**60**	*e*Pg	**Pg**	**19 41 26.9**	**-1.0**
ITM	**Ithomi**	**0.70**	**46**	*e*PB	**Pg**	**19 41 32.6**	**-0.8**
ITM				*e*Sn	**Sg**	**19 41 43.5**	**+0.9**
VLX	**Vlachokerasia**	**1.10**	**52**	*e*Pg	**Pg**	**19 41 39.8**	**-1.2**
VLI	**Veliai**	**1.32**	**88**	*e*PN	**Pn**	**19 41 44.3**	**0.0**
RLS	**Riolos of Patr**	**1.37**	**6**	*e*PN	**Pg**	**19 41 45.8**	**-0.3**
KYTH	**Kithira**	**1.46**	**106**	*e*PN	**Pn**	**19 41 46.9**	**+0.7**
KFL	**Anninata**	**1.47**	**344**	*e*Pg	**Pn**	**19 41 46.0**	**-0.4**
VLS	**Valsamata**	**1.58**	**339**	*e*Pg	**Pn**	**19 41 47.5**	**-0.4**
SELA	**Sela**	**1.65**	**17**	*e*Pg	**Pn**	**19 41 48.3**	**-0.5**
DID	**Didima**	**1.75**	**62**	*e*Pb	**Pn**	**19 41 50.2**	**0.0**
LTK	**Loutraki**	**1.88**	**45**	*e*Pb	**Pn**	**19 41 52.4**	**+0.4**
EVR	**Evrytania**	**2.26**	**10**	*e*PB	**Pn**	**19 41 57.9**	**+0.7**
PTL	**Penteli**	**2.45**	**56**	*e*PN	**Pn**	**19 42 00.0**	**+0.1**
PTL	**Penteli**	**2.45**	**56**	*e*Pn	**Pn**	**19 41 59.0**	**-0.9**
THL	**Klokotos Trika**	**2.92**	**11**	*e*PN	**Pn**	**19 42 07.1**	**+0.8**
NEO	**Neokhori**	**3.02**	**30**	P	**Pn**	**19 42 09.1**	**+1.4**

NP1:ϕ_0=276.00000°, δ33.00000°, λ-68.00000°. NP2: ϕ_0=69.00000°, δ60.00000°, λ-104.00000°. Principal axes: T 3.6150, Plg14.0000°, Azm169.0000°; N 0.8070, Plg12.0000°, Azm76.0000°; P -4.4180, Plg71.0000°, Azm308.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.

SZGRF ***07*** *20:32:33.3,2162S×17799W,h571km, Fiji Islands region*
IDC ***07*** *20:32:33.0±0.5,2123S×17866W,h552km±5km,mb4.8/22, mb1 4.7/24,mb1mx4.7/24,mbtmp4.8/24, Error ellipse: s-maj=8.3km s-min=7.6km az=7.0*
BGS ***07*** *20:32:34.5±5.7,2121S×17862W,h550km,mb5.2(NEIC)*
ISC 07 20:32:32.9±0.1,2128S±002×17864W±003,h550km, h550km±1.3km:pP-P,n1171,σ0=71/689,mb5.2/133, 267C-198D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.97**	**175**	*e*P	**P**	**20 34 29.1**	**-1.1**
	1μm,0.3s						
RAO				*e*S	**S**	**20 36 07.6**	**+1.2**
RAO	**Raoul Island**	**7.97**	**175**	P	**P**	**20 34 30.0**	**-0.2**
	523nm,0.3s,baz=235,slow=20,SNR=13						
RAO				S	**S**	**20 36 05.8**	**-0.6**
	386nm,0.3s,baz=90,slow=20,SNR=13						
FUNA	**Funafuti**	**12.85**	**350**	⇑*i*P	**P**	**20 35 16.7**	**-3.6**
	478nm,1.0s						
WCZ	**Waipu Caves**	**15.85**	**201**	*e*P	**P**	**20 35 53.1**	**+2.2**
WCZ	**Waipu Caves**	**15.85**	**201**	PN	**P**	**20 35 53.1**	**+2.2**
KUZ	**Kuaotunu**	**16.18**	**196**	*e*P	**P**	**20 35 55.3**	**+1.4**
KUZ	**Kuaotunu**	**16.18**	**196**	PN	**P**	**20 35 54.9**	**+1.0**
MXZ	**Matakaoa Point**	**16.45**	**189**	*e*P	**P**	**20 35 55.1**	**-1.2**
MXZ	**Matakaoa Point**	**16.45**	**189**	PN	**P**	**20 35 55.2**	**-1.2**
WTAZ	**Waiatarua**	**16.68**	**199**	P	**P**	**20 36 00.9**	**+2.4**
WTAZ	**Waiatarua**	**16.68**	**199**	PN	**P**	**20 36 00.9**	**+2.4**
PUZ	**Puketiti**	**16.95**	**188**	*e*P	**P**	**20 36 01.8**	**+0.8**
PUZ	**Puketiti**	**16.95**	**188**	PN	**P**	**20 36 00.9**	**-0.1**
MWZ	**Matawai**	**17.32**	**190**	P	**P**	**20 36 03.4**	**-0.9**
MWZ	**Matawai**	**17.32**	**190**	PN	**P**	**20 36 03.2**	**-1.2**
URZ	**Urewera**	**17.32**	**191**	*e*P	**P**	**20 36 02.4**	**-1.9**
URZ	**Urewera**	**17.32**	**191**	P	**P**	**20 36 03.1**	**-1.3**
	38nm,0.3s,baz=22,slow=2.8,SNR=78						
URZ				S	**S**	**20 38 52.4**	**-4.3**
	2.7nm,0.3s,baz=225,slow=20,SNR=6.4						
URZ	**Urewera**	**17.32**	**191**	PN	**P**	**20 36 01.8**	**-2.5**
URZ				SN	**S**	**20 38 50.5**	**-6.2**
RAR	**Rarotonga**	**17.59**	**93**	P	**P**	**20 36 06.1**	**-0.9**
	2.3nm,0.3s,baz=243,slow=7.8,SNR=15						
KNZ	**Kokohu**	**17.97**	**189**	*e*P	**P**	**20 36 10.3**	**0.0**
KNZ	**Kokohu**	**17.97**	**189**	PN	**P**	**20 36 09.8**	**-0.4**
HIZ	**Hauiti**	**18.07**	**197**	*e*P	**P**	**20 36 13.2**	**+2.0**
HIZ	**Hauiti**	**18.07**	**197**	PN	**P**	**20 36 13.1**	**+1.9**
BKZ	**Black Stump Fm**	**18.32**	**192**	P	**P**	**20 36 11.9**	**-1.5**
BKZ	**Black Stump Fm**	**18.32**	**192**	PN	**P**	**20 36 11.6**	**-1.8**
OTVZ	**Oturere**	**18.49**	**194**	PN	**P**	**20 36 14.1**	**-0.9**
FWVZ	**Far West T-bar**	**18.60**	**194**	*e*P	**P**	**20 36 15.6**	**-0.4**
FWVZ	**Far West T-bar**	**18.60**	**194**	PN	**P**	**20 36 15.5**	**-0.5**
WNVZ	**Wahianoa**	**18.66**	**194**	P	**P**	**20 36 16.0**	**-0.6**
WNVZ	**Wahianoa**	**18.66**	**194**	PN	**P**	**20 36 16.0**	**-0.6**
MOVZ	**Moawhango**	**18.70**	**194**	P	**P**	**20 36 15.6**	**-1.4**
MOVZ	**Moawhango**	**18.70**	**194**	PN	**P**	**20 36 15.6**	**-1.4**
PXZ	**Pawanui**	**19.09**	**191**	PN	**P**	**20 36 20.1**	**-0.4**
BFZ	**Birch Farm**	**19.83**	**192**	P	**P**	**20 36 26.3**	**-0.9**
BFZ	**Birch Farm**	**19.83**	**192**	PN	**P**	**20 36 26.3**	**-0.9**
MRZ	**Mangatainoka R**	**19.94**	**193**	*e*P	**P**	**20 36 27.9**	**-0.3**
MRZ	**Mangatainoka R**	**19.94**	**193**	*e*PN	**P**	**20 36 27.8**	**-0.3**
KIW	**Kapiti Island**	**20.28**	**194**	P	**P**	**20 36 30.4**	**-0.9**
KIW	**Kapiti Island**	**20.28**	**194**	PN	**P**	**20 36 30.1**	**-1.2**
MTW	**Mount Morrison**	**20.44**	**193**	P	**P**	**20 36 31.9**	**-0.8**
MTW	**Mount Morrison**	**20.44**	**193**	PN	**P**	**20 36 31.7**	**-0.9**
CAW	**Cannon Point**	**20.48**	**194**	P	**P**	**20 36 32.3**	**-0.8**
CAW	**Cannon Point**	**20.48**	**194**	PN	**P**	**20 36 32.1**	**-1.0**
MRW	**Makara Radio**	**20.68**	**194**	P	**P**	**20 36 34.7**	**-0.2**
MRW	**Makara Radio**	**20.68**	**194**	PN	**P**	**20 36 34.6**	**-0.2**
SNZO	**South Karori**	**20.75**	**194**	P	**P**	**20 36 35.3**	**-0.2**
SNZO	**South Karori**	**20.75**	**194**	PN	**P**	**20 36 35.0**	**-0.5**
TCW	**Tory Channel**	**20.77**	**195**	P	**P**	**20 36 35.3**	**-0.3**
TCW	**Tory Channel**	**20.77**	**195**	PN	**P**	**20 36 35.3**	**-0.3**
PLWZ	**Palliser**	**20.88**	**193**	PN	**P**	**20 36 36.1**	**-0.6**
QRZ	**Quartz Range**	**20.89**	**199**	P	**P**	**20 36 37.6**	**+0.9**
QRZ	**Quartz Range**	**20.89**	**199**	PN	**P**	**20 36 37.3**	**+0.6**
NNZ	**Nelson**	**21.00**	**197**	*e*P	**P**	**20 36 37.9**	**+0.1**
NNZ	**Nelson**	**21.00**	**197**	PN	**P**	**20 36 37.3**	**-0.4**
TUWZ	**Tuamarina**	**21.05**	**196**	*e*PN	**P**	**20 36 37.2**	**-1.1**
BSWZ	**Blackbirch Sta**	**21.34**	**196**	P	**P**	**20 36 41.1**	**+0.3**
BSWZ	**Blackbirch Sta**	**21.34**	**196**	*e*PN	**P**	**20 36 40.9**	**+0.1**
THZ	**Tophouse**	**21.64**	**197**	*e*P	**P**	**20 36 43.9**	**+0.4**
THZ	**Tophouse**	**21.64**	**197**	PN	**P**	**20 36 43.1**	**-0.4**
DSZ	**Denniston Nort**	**21.95**	**199**	*e*P	**P**	**20 36 46.6**	**+0.3**
DSZ	**Denniston Nort**	**21.95**	**199**	PN	**P**	**20 36 46.4**	**+0.1**
KHZ	**Kahutara**	**22.08**	**196**	*e*P	**P**	**20 36 46.7**	**-0.8**
KHZ	**Kahutara**	**22.08**	**196**	PN	**P**	**20 36 46.9**	**-0.6**
LTZ	**Lake Taylor**	**22.76**	**198**	P	**P**	**20 36 51.9**	**-1.6**
LTZ	**Lake Taylor**	**22.76**	**198**	PN	**P**	**20 36 51.9**	**-1.6**
WVZ	**Waitaha Valley**	**23.49**	**200**	P	**P**	**20 36 59.9**	**-0.1**
WVZ	**Waitaha Valley**	**23.49**	**200**	PN	**P**	**20 36 59.8**	**-0.2**
HNR	**Honiara**	**23.74**	**296**	*e*P	**P**	**20 37 00.9**	**-1.7**
HNR				pmax	pmax		
	comp=Z,193nm,1.0s,mb5.7						
HNR	**Honiara**	**23.74**	**296**	*e*P	**P**	**20 37 00.9**	**-1.7**
	comp=Z,193nm,1.0s,mb5.7						
HNR	**Honiara**	**23.74**	**296**	P	**P**	**20 37 02.4**	**-0.2**
	comp=Z,130nm,0.5s,mb5.9,baz=105,slow=3.1,SNR=8.0						
HNR				S	**S**	**20 40 37.5**	**-2.1**
	comp=Z,15nm,0.3s,baz=101,slow=13,SNR=3.1						
RPZ	**Rata Peaks**	**23.97**	**199**	*e*P	**P**	**20 37 03.2**	**-1.0**
RPZ	**Rata Peaks**	**23.97**	**199**	P	**P**	**20 37 03.8**	**-0.5**
	comp=Z,72nm,0.5s,mb5.6,baz=353,slow=2.7,SNR=31						
RPZ	**Rata Peaks**	**23.97**	**199**	PN	**P**	**20 37 02.9**	**-1.3**
FOZ	**Fox Glacier**	**24.26**	**201**	P	**P**	**20 37 05.6**	**-1.3**
FOZ	**Fox Glacier**	**24.26**	**201**	PN	**P**	**20 37 05.5**	**-1.4**
LBZ	**Lake Benmore**	**24.84**	**199**	*e*P	**P**	**20 37 10.8**	**-1.2**
LBZ	**Lake Benmore**	**24.84**	**199**	PN	**P**	**20 37 10.3**	**-1.7**
JCZ	**Jackson Bay**	**25.03**	**202**	*e*P	**P**	**20 37 13.9**	**+0.3**
JCZ	**Jackson Bay**	**25.03**	**202**	PN	**P**	**20 37 13.3**	**-0.3**
WKZ	**Wanaka**	**25.61**	**201**	*e*P	**P**	**20 37 18.1**	**-0.6**
WKZ	**Wanaka**	**25.61**	**201**	PN	**P**	**20 37 17.8**	**-1.0**
WHZ	**Wether Hill Ro**	**26.90**	**201**	*e*P	**P**	**20 37 30.6**	**+0.5**
WHZ	**Wether Hill Ro**	**26.90**	**201**	PN	**P**	**20 37 30.2**	**+0.1**
PAE	**Paea**	**27.61**	**88**	*e*P	**P**	**20 37 36.1**	**-0.6**
	comp=Z,86nm,1.0s,mb5.3						
PAE				*e*pP		20 39 01.9	
	comp=Z,188nm,1.3s						
PPT	**Papeete**	**27.63**	**87**	*e*P	**P**	**20 37 36.6**	**-0.3**
	comp=Z,87nm,1.2s,mb5.3						
PPT				*e*pP		20 39 02.4	
	comp=Z,140nm,1.3s						
PPT	**Papeete**	**27.63**	**87**	P	**P**	**20 37 36.4**	**-0.5**
	comp=Z,49nm,0.4s,mb5.5,baz=307,slow=12,SNR=5.0						
EIDS	**Eidsvold**	**28.07**	**256**	*e*P	**P**	**20 37 41.8**	**+1.1**
	comp=Z,45nm,0.6s,mb5.3						
ARMA	**Armidale**	**28.20**	**245**	*e*P	**P**	**20 37 43.0**	**+1.3**
ARMA				*i* S	**S**	**20 41 52.8**	**+3.7**
ARMA				*e*SCP	ScP	20 43 30.1	+3.4
MEH	**Mehetia**	**28.98**	**89**	*e*P	**P**	**20 37 48.5**	**-0.1**
	comp=Z,60nm,1.0s,mb5.2						
RIV	**Riverview**	**29.44**	**238**	*e*P	**P**	**20 37 54.5**	**+2.0**
PMOR	**Pomariorio Ree**	**29.84**	**83**	⇓*i*P	**P**	**20 37 55.4**	**-0.7**
CNB	**Canberra Magne**	**31.30**	**237**	*e*P	**P**	**20 38 10.3**	**+1.9**
	comp=Z,230nm,0.7s,mb5.8						
CTA	**Charters Tower**	**32.83**	**266**	⇓*i*P	**P**	**20 38 22.4**	**+0.8**
	comp=Z,149nm,0.3s,mb6.0						
CTA				*e*PCP	PcP	20 40 50.4	+0.3
CTA	**Charters Tower**	**32.83**	**266**	⇓*i*P	**P**	**20 38 22.4**	**+0.8**
CTA				*e*		20 40 50.4	
CTA				pmax	pmax		
	comp=Z,149nm,0.3s						
CTA	**Charters Tower**	**32.83**	**266**	P	**P**	**20 38 22.6**	**+0.9**
	comp=Z,146nm,0.3s,mb6.0,baz=93,slow=10.0,SNR=340						
CTA				PcP	PcP	20 40 50.0	-0.1
	comp=Z,12nm,0.5s,baz=109,slow=4.4,SNR=5.3						
CTA				S	**S**	**20 43 01.2**	**+0.7**
	comp=Z,7.1nm,0.8s,baz=260,slow=17,SNR=4.0						
CTAO	**Charters Tower**	**32.83**	**266**	⇓*e*P	**P**	**20 38 22.4**	**+0.8**
CTAO				*e*		20 40 49.9	
CTAO				pmax	pmax		
	comp=Z,206nm,0.6s,mb5.8						
CTAO	**Charters Tower**	**32.83**	**266**	⇓*e*P	**P**	**20 38 22.4**	**+0.7**
	comp=Z,206nm,0.6s,mb5.8						
CTAO				*e*PcP	PcP	20 40 49.9	-0.2
CTAO	**Charters Tower**	**32.83**	**266**	P	**P**	**20 38 22.4**	**+0.8**
TAU	**Tasmania Unive**	**35.66**	**225**	*e*P	**P**	**20 38 47.5**	**+2.5**
STKA	**Stephens Creek**	**36.92**	**245**	⇓*i*P	**P**	**20 38 56.8**	**+1.3**
	comp=Z,102nm,0.8s,mb5.4						
STKA				*e*PCP	PcP	20 41 02.8	+0.7
STKA				*e*S	**S**	**20 44 02.2**	**+0.6**
STKA				*e*PCS	PcS	20 44 51.6	+0.3
STKA				*e*SCS	ScS	20 48 08.3	+1.9
STKA	**Stephens Creek**	**36.92**	**245**	P	**P**	**20 38 56.9**	**+1.4**
	comp=Z,117nm,0.8s,mb5.5,baz=91,slow=9.6,SNR=192						
STKA				PcP	PcP	20 41 03.2	+1.1
	comp=Z,10nm,0.4s,baz=76,slow=4.1,SNR=4.0						
STKA				S	**S**	**20 43 58.8**	**-2.9**
	comp=Z,15nm,1.1s,baz=27,slow=11,SNR=4.3						
RKT	**Rikitea**	**40.36**	**101**	⇓*i*P	**P**	**20 39 23.7**	**+0.2**
	comp=Z,174nm,1.3s,mb5.4						
RKT	**Rikitea**	**40.36**	**101**	⇓*i*P	**P**	**20 39 23.7**	**+0.2**
RKT				pmax	pmax		
	comp=Z,174nm,1.3s,mb5.4						
ASAR	**Alice Springs**	**43.77**	**258**	P	**P**	**20 39 51.1**	**+0.8**
ASAR						20 41 25.3	
ASAR				S	**S**	**20 45 40.1**	**-1.1**
ASAR	**Alice Springs**	**43.77**	**258**	P	**P**	**20 39 51.0**	**+0.8**
ASAR				PcP	PcP	20 41 25.3	+0.5
ASAR				ScP	ScP	20 44 25.6	+1.3
ASAR				S	**S**	**20 45 40.1**	**-1.1**
ASAR	**Alice Springs**	**43.77**	**258**	P	**P**	**20 39 51.0**	**+0.8**
	comp=Z,291nm,0.7s,mb5.9,baz=94,slow=8.1,SNR=2375						
ASAR				PcP	PcP	20 41 25.3	+0.5
	comp=Z,29nm,0.6s,baz=98,slow=4.1,SNR=9.4						
ASAR				ScP	ScP	20 44 25.6	+1.3
	comp=Z,5.3nm,0.6s,baz=101,slow=4.3,SNR=5.8						
ASAR				S	**S**	**20 45 40.1**	**-1.1**
	comp=Z,19nm,0.8s,baz=93,slow=16,SNR=32						
ASAR				PKiKP	PKiKP	20 48 22.6	-1.8
	comp=Z,0.7nm,0.5s,baz=88,slow=1.4,SNR=6.5						
WB2	**Warramunga Arr**	**43.90**	**263**	⇓*i*P	**P**	**20 39 51.1**	**-0.2**
WB2				*e*S	**S**	**20 45 40.3**	**-2.9**
WRAB	**Tennant Creek**	**43.90**	**263**	P	**P**	**20 39 51.0**	**-0.4**
	comp=Z,1μm,0.8s						
WRAB	**Tennant Creek**	**43.90**	**263**	⇑*i*P	**P**	**20 39 51.1**	**-0.3**
WRAB				pmax	pmax		
	comp=Z,227nm,0.9s,mb5.7						
WRAB	**Tennant Creek**	**43.90**	**263**	⇑*i*P	**P**	**20 39 51.1**	**-0.2**
	comp=Z,227nm,0.9s,mb5.7						
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**20 39 51.4**	**0.0**
WRA					pP	20 41 26.2	-4.2
WRA				S	**S**	**20 45 40.6**	**-2.7**
WRA	**Warramunga Arr**	**43.91**	**263**	P	**P**	**20 39 51.4**	**0.0**
	comp=Z,67nm,0.3s,mb5.7,baz=97,slow=7.4,SNR=1477						
WRA				PcP	PcP	20 41 26.2	+0.8
	comp=Z,25nm,0.9s,baz=97,slow=4.5,SNR=12						
WRA				S	**S**	**20 45 40.6**	**-2.7**
	comp=Z,18nm,1.0s,baz=101,slow=14,SNR=8.9						
WRA				PKiKP	PKiKP	20 48 22.7	-1.9
	comp=Z,0.6nm,0.5s,baz=61,slow=0.6,SNR=5.2						
KAKA	**Kakadu**	**47.40**	**272**	*e*P	**P**	**20 40 17.8**	**-0.3**
	comp=Z,141nm,0.3s,mb6.0						
KAKA				*e*S	**S**	**20 46 31.6**	**-0.7**
FORT	**Forrest**	**48.45**	**247**	*e*P	**P**	**20 40 25.7**	**0.0**
	comp=Z,106nm,0.5s,mb5.6						
FORT				*e*S	**S**	**20 46 45.1**	**-1.2**
TLE	**Tual**	**49.56**	**281**	⇓*e*P	**P**	**20 40 34.0**	**-0.1**
GUMO	**Guam**	**49.85**	**311**	P	**P**	**20 40 36.2**	**+0.1**
	comp=Z,224nm,0.6s,mb5.8,baz=158,slow=7.0,SNR=17						
FITZ	**Fitzroy Crossi**	**52.34**	**263**	⇓*i*P	**P**	**20 40 54.6**	**+0.3**
	comp=Z,40nm,0.3s,mb5.2						
SBA	**Scott Base**	**57.06**	**184**	*e*P	**P**	**20 41 29.9**	**+3.6**
SBA				pmax	pmax		
	comp=Z,163nm,1.3s,mb5.1						
SBA	**Scott Base**	**57.06**	**184**	*e*P	**P**	**20 41 29.9**	**+3.5**
	comp=Z,163nm,1.3s,mb5.1						
VNDA	**Vanda**	**57.09**	**185**	P	**P**	**20 41 29.1**	**+2.6**
	comp=Z,24nm,0.9s,mb4.4,baz=2.0,slow=7.6,SNR=117						
MBWA	**Marble Bar**	**57.11**	**258**	*e*P	**P**	**20 41 27.1**	**-0.5**
	comp=Z,216nm,0.8s,mb5.4						
KLBR	**Kellerberrin**	**57.19**	**245**	*e*P	**P**	**20 41 27.8**	**-0.2**
	comp=Z,251nm,1.3s,mb5.3						
NWAO	**Narrogin (SRO)**	**57.49**	**244**	*e*P	**P**	**20 41 30.3**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,99nm,1.2s						
NWAO	**Narrogin (SRO)**	**57.49**	**244**	*e*P	**P**	**20 41 30.3**	**+0.3**
	comp=Z,99nm,1.2s,mb4.9						
NWAO				pP	pP	20 43 24.5	+7.4
MUN	**Mundaring**	**58.46**	**245**	*e*P	**P**	**20 41 37.4**	**+0.8**
CBIJ	**Chichi jima**	**61.24**	**320**	P	**P**	**20 41 54.4**	**-0.7**
	comp=Z,93nm,0.4s,mb5.5,baz=240,slow=5.7,SNR=19						
KAPI	**Kappang**	**61.77**	**276**	P	**P**	**20 41 57.9**	**-0.9**
	comp=Z,207nm,0.6s,mb5.7,SNR=6.2						
CASY	**Casey**	**63.01**	**205**	⇓*i*P	**P**	**20 42 07.4**	**+1.5**
MYLDM	**Lahad Datu**	**66.96**	**286**	⇓P	**P**	**20 42 34.1**	**+2.4**
JHJ	**Hachijo jima 2**	**67.09**	**323**	P	**P**	**20 42 31.8**	**-0.2**
	comp=Z,288nm,0.4s,mb6.2,baz=60,slow=22,SNR=49						
TSM	**Tawau**	**67.15**	**284**	⇓P	**P**	**20 42 34.1**	**+1.3**
SDKM	**Sandakan**	**68.33**	**285**	⇑P	**P**	**20 42 40.4**	**+0.4**
QSPA	**South Pole Qui**	**68.80**	**180**	P	**P**	**20 42 43.9**	**+2.2**
QSPA	**South Pole Qui**	**68.80**	**180**	P	**P**	**20 42 43.9**	**+2.2**
	comp=Z,101nm,0.9s,mb5.3,baz=28,slow=1.1,SNR=393						
KDM	**Kudat**	**69.20**	**287**	⇑P	**P**	**20 42 46.5**	**+1.2**
KKM	**Kota Kinabalu**	**69.39**	**285**	*e*P	**P**	**20 42 46.8**	**+0.4**
KKM	**Kota Kinabalu**	**69.39**	**285**	⇑P	**P**	**20 42 47.3**	**+0.9**
MIR	**Mirnyy**	**70.04**	**205**	*e*P	**P**	**20 42 51.5**	**+2.2**
MIR				pmax	pmax		
	comp=Z,200nm,1.0s,mb5.6						
JOW	**Kunigami**	**70.21**	**311**	P	**P**	**20 42 51.5**	**+0.5**
	comp=Z,29nm,0.4s,mb5.2,baz=129,slow=8.7,SNR=35						
MJAR	**Matsushiro Arr**	**70.48**	**324**	P	**P**	**20 42 51.4**	**-0.9**
	comp=Z,22nm,0.5s,mb4.9,baz=156,slow=6.2,SNR=122						
MJAR				pP	pP	20 44 45.9	+0.2
	comp=Z,1.2nm,0.7s,baz=278,slow=1.1,SNR=2.6						
MAJO	**Matsushiro**	**70.48**	**324**	*e*P	**P**	**20 42 50.7**	**-1.7**
MAJO				pmax	pmax		
	comp=Z,31nm,0.6s,mb5.0						
MAJO	**Matsushiro**	**70.48**	**324**	*e*P	**P**	**20 42 50.7**	**-1.6**
	comp=Z,31nm,0.6s,mb5.0						
MAJO				*e*pP	pP	20 44 51.5	+5.7
BTM	**Bintulu**	**71.06**	**281**	⇑P	**P**	**20 42 57.8**	**+1.5**
SBUM	**Sibu**	**71.55**	**280**	⇑P	**P**	**20 43 00.2**	**+1.0**
JNU	**Nakatsue**	**72.43**	**317**	P	**P**	**20 43 03.3**	**-0.5**
	comp=Z,51nm,0.6s,mb5.1,baz=76,slow=1.4,SNR=30						
ADK	**Adak**	**72.86**	**1**	*e*P	**P**	**20 43 03.9**	**-1.9**
ADK				pmax	pmax		
	comp=Z,174nm,1.0s,mb5.4						
ADK	**Adak**	**72.86**	**1**	*e*P	**P**	**20 43 03.9**	**-1.9**
	comp=Z,174nm,1.0s,mb5.4						
KSM	**Kuching**	**72.93**	**278**	*e*P	**P**	**20 43 07.0**	**-0.1**
KSM	**Kuching**	**72.93**	**278**	⇑P	**P**	**20 43 07.6**	**+0.5**
NACB	**Ninganchiao**	**73.62**	**305**	*e*P	**P**	**20 43 09.4**	**-1.4**
YHNB	**Yeheng**	**74.06**	**305**	*e*P	**P**	**20 43 12.9**	**-0.4**
ASAJ	**Asahikawa**	**74.12**	**332**	P	**P**	**20 43 14.2**	**+1.0**
	comp=Z,34nm,0.4s,mb5.1,baz=220,slow=7.1,SNR=74						
NIKO	**Nikolski**	**74.42**	**6**	*e*P	**P**	**20 43 13.2**	**-1.5**
	comp=Z,289nm,1.1s,mb5.6						
UNV	**Unalaska Valle**	**75.54**	**7**	*e*P	**P**	**20 43 18.8**	**-2.1**
	comp=Z,65nm,0.9s,mb5.1						
YSS	**Yuzh-Sakhalins**	**76.32**	**334**	⇓*i*P	**P**	**20 43 25.4**	**0.0**
YSS				pmax	pmax		
	comp=Z,90nm,1.0s,mb5.2						
YSS	**Yuzh-Sakhalins**	**76.32**	**334**	*e*P	**P**	**20 43 25.2**	**-0.2**
	comp=Z,53nm,0.8s,mb5.0						
QZH	**Quanzhou**	**76.34**	**304**	*i* P	**P**	**20 43 26.1**	**+0.1**
QZH				S	S	20 52 27.4	+0.6
QZH				SS	SS	20 57 34.1	-3.0
QZH				AMB	AMB		
	comp=Z,500nm,1.5s,mb5.7						
QZH				AMB	AMB		
	comp=Z,1μm,3.0s						
PET	**Petropavlovsk**	**76.57**	**346**	*e*P	**P**	**20 43 25.3**	**-1.3**
PET				*e*		20 46 24.1	
PET				*e*		20 53 07.2	
PET				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.0						
PET				pmax	pmax		
	comp=Z,100nm,12.5s						
PET	**Petropavlovsk**	**76.57**	**346**	*e*P	**P**	**20 43 25.3**	**-1.3**
	comp=Z,14nm,0.4s,mb4.7						
KSRS	**Korea Array**	**77.08**	**319**	P	**P**	**20 43 30.3**	**+0.6**
	comp=Z,7.5nm,0.5s,mb4.4,baz=138,slow=6.4,SNR=40						
SSE	**Sheshan**	**77.73**	**310**	P	**P**	**20 43 33.8**	**+0.4**
SSE				XP	sP	20 46 29.3	+3.1
SSE				S	S	20 52 40.5	-0.7
SSE				AMB	AMB		
	comp=Z,43nm,0.9s,mb4.8						
SSE				AMB	AMB		
	comp=Z,220nm,8.7s						
SDPT	**Sand Point**	**77.87**	**10**	*e*P	**P**	**20 43 31.8**	**-1.8**
	comp=Z,134nm,1.0s,mb5.2						
INCN	**Inchon**	**77.89**	**318**	*e*P	**P**	**20 43 34.6**	**+0.5**
	comp=Z,162nm,1.4s,mb5.2						
SNCC	**San Nicolas Is**	**78.21**	**47**	⇑P	**P**	**20 43 36.3**	**+0.3**
	baz=78						
BSC	**Santa Cruz Isl**	**78.56**	**47**	⇓P	**P**	**20 43 37.6**	**-0.2**
	baz=79						
VLA	**Vladivostok**	**78.57**	**325**	*c i*P	**P**	**20 43 37.8**	**+0.1**
VLA				pmax	pmax		
	comp=Z,100nm,1.3s,mb5.0						
FARB	**Farallon Islan**	**78.58**	**42**	⇓P	**P**	**20 43 37.9**	**+0.1**
	baz=79						
V03C	**Hunter Liggett**	**78.69**	**44**	⇓P	**P**	**20 43 38.9**	**+0.5**
	baz=79						
V04C	**Ramage Ranch,**	**78.70**	**45**	⇓P	**P**	**20 43 39.0**	**+0.5**
	baz=79						
HAST	**Hastings Reser**	**78.70**	**44**	P	**P**	**20 43 38.7**	**+0.2**
	baz=79,SNR=17						
SCI	**San Clemente I**	**78.73**	**48**	⇓P	**P**	**20 43 38.8**	**+0.1**
	baz=79						
BNLO	**Ben Lomond (Sa**	**78.75**	**43**	P	**P**	**20 43 39.2**	**+0.4**
	baz=79,SNR=5.0						
SBC	**Santa Barbara**	**78.76**	**46**	⇑P	**P**	**20 43 39.2**	**+0.3**
	baz=79						
JRSC	**Jasper Ridge**	**78.88**	**43**	⇓P	**P**	**20 43 39.8**	**+0.4**
	baz=79						
MCCM	**Marconi Confer**	**78.93**	**42**	⇓P	**P**	**20 43 39.8**	**+0.1**
	baz=79						
PKM	**Peak Mountain**	**78.96**	**46**	⇓P	**P**	**20 43 40.3**	**+0.4**
	baz=79,SNR=9.4						
SAO	**San Andreas Ge**	**79.00**	**43**	*e*P	**P**	**20 43 40.6**	**+0.5**
SAO				pmax	pmax		
	comp=Z,41nm,1.0s,mb4.7						
SAO	**San Andreas Ge**	**79.00**	**43**	*e*P	**P**	**20 43 40.5**	**+0.5**
	comp=Z,40nm,1.0s,mb4.7						
SAO				*e*pP	pP	20 45 40.8	+3.9
BLG	**Laguna Peak**	**79.01**	**47**	⇑P	**P**	**20 43 40.4**	**+0.1**
	baz=79						
MYKOM	**Kota Tinggi**	**79.03**	**276**	⇓P	**P**	**20 43 41.4**	**+0.6**
CIS	**Catalina Islan**	**79.07**	**48**	⇑P	**P**	**20 43 40.2**	**-0.3**
	baz=79						
SMMC	**Simmler**	**79.08**	**45**	⇓P	**P**	**20 43 41.0**	**+0.4**
	baz=79						
PKD	**Parkfield**	**79.09**	**45**	⇑P	**P**	**20 43 40.7**	**+0.1**
	baz=79,SNR=8.5						
U04C	**Hernandez Rese**	**79.18**	**44**	P	**P**	**20 43 41.8**	**+0.8**
	baz=79,SNR=12						
PACP	**Pacheco Peak**	**79.24**	**43**	P	**P**	**20 43 42.0**	**+0.6**
	baz=79,SNR=13						
WENL	**Wente Brothers**	**79.32**	**43**	⇑P	**P**	**20 43 42.0**	**+0.3**
	baz=79						
CVS	**Carmenet Viney**	**79.32**	**42**	P	**P**	**20 43 41.7**	**-0.1**
	baz=79,SNR=6.6						
NSHM	**Saint Helena R**	**79.33**	**41**	*e*P

ORV	Oroville	80.65	41	⇑P		P	20 43 48.5	-0.1
	baz=81,SNR=19							
KCC	Kaiser Creek	80.70	44	⇑P		P	20 43 48.9	-0.1
	baz=81,SNR=21							
LRMC	Laurel Mountai	80.72	46	⇑P		P	20 43 49.2	+0.1
	baz=81,SNR=14							
MDJ	Mudanjiang	80.81	325	P		P	20 43 49.6	+0.2
MDJ				AP		pP	20 45 47.1	+0.1
MDJ				XP		sP	20 46 41.9	-1.1
MDJ				PP		PP	20 47 03.4	-0.7
MDJ				S		S	20 53 12.8	+0.4
MDJ				SCS		ScS	20 53 26.5	0.0
MDJ				XS		sS	20 56 43.2	+1.2
MDJ				AMB		AMB		
	comp=Z,85nm,1.3s,mb5.0							
MDJ				AMB		AMB		
	comp=Z,414nm,6.9s							
MDJ	Mudanjiang	80.81	325	*e*P		P	20 43 49.2	-0.2
	comp=Z,94nm,1.0s,mb5.2							
HABR	Khabarovsk	80.83	331	⇓*i*P		P	20 43 50.1	+0.8
HABR				*e*		pP	20 45 46.8	-0.2
HABR				*e*			20 47 02.2	
HABR				*e*			20 48 58.3	
HABR				*e*S		S	20 53 12.9	+0.5
HABR				*e*			20 58 43.6	
HABR				pmax		pmax		
	comp=Z,216nm,1.7s,mb5.3							
RRX	Edison Barstow	80.85	47	⇑P		P	20 43 49.7	-0.1
	baz=81							
M02C	Callahan	80.97	39	P		P	20 43 51.0	+0.7
	baz=81,SNR=43							
CWC	Cottonwood Cre	81.00	45	⇑P		P	20 43 50.4	-0.2
	baz=81							
L02A	Cave Junction	81.01	38	⇓P		P	20 43 50.9	+0.4
	baz=81,SNR=7.8							
KTGM	Kuala Trenggan	81.02	279	⇓P		P	20 43 52.5	+1.3
R05C	Kirkwood Meado	81.02	43	⇑P		P	20 43 50.8	+0.2
	baz=81,SNR=43							
P05C	Yuba Gap, Truc	81.05	42	⇑P		P	20 43 50.9	+0.2
	baz=81,SNR=24							
BELC	Belle Mtn.	81.06	48	P		P	20 43 51.0	+0.1
	baz=81,SNR=9.6							
MPMC	Manual Prospec	81.18	46	P		P	20 43 51.7	+0.2
	baz=81,SNR=13							
MLAC	Mammoth Lakes	81.19	44	⇓P		P	20 43 51.7	+0.2
	baz=81							
MTUM	Tungsten Hills	81.21	44	*e*P		P	20 43 51.5	-0.1
MTUM				*e*pP		pP	20 45 49.3	-0.1
GSC	Goldstone	81.22	47	*e*P		P	20 43 51.5	-0.2
GSC				*e**PP		pP	20 45 48.4	-1.1
GSC				pmax		pmax		
	comp=Z,46nm,1.4s,mb4.7							
GSC	Goldstone	81.22	47	*e*P		P	20 43 51.5	-0.2
	comp=Z,46nm,1.4s,mb4.7							
GSC				*e*pP		pP	20 45 48.4	-1.0
GSC	Goldstone	81.22	47	⇑P		P	20 43 51.6	-0.2
	baz=81,SNR=13							
O05C	Quincy	81.25	41	⇓P		P	20 43 52.1	+0.3
	baz=81,SNR=6.6							
TIN	Tinemaha	81.25	45	⇓P		P	20 43 52.1	+0.2
	baz=81,SNR=6.2							
BC3	Big Chuckw Mtn	81.26	49	P		P	20 43 52.3	+0.4
	baz=81,SNR=17							
YBH	Yreka Blue Hor	81.26	39	*e*P		P	20 43 52.0	+0.2
YBH				*e**PP		pP	20 45 49.2	-0.3
YBH				pmax		pmax		
	comp=Z,64nm,1.0s							
YBH	Yreka Blue Hor	81.26	39	*e*P		P	20 43 52.0	+0.3
	comp=Z,64nm,1.0s,mb5.0							
YBH				*e*pP		pP	20 45 49.2	-0.3
YBH	Yreka Blue Hor	81.26	39	⇑P		P	20 43 52.4	+0.7
	baz=81,SNR=48							
HEC	Hector,Ludlow	81.29	47	⇓P		P	20 43 52.1	0.0
	baz=81,SNR=14							
R06C	Coleville	81.31	43	⇓P		P	20 43 52.7	+0.6
	baz=81,SNR=31							
R07C	Lee Vining	81.32	44	⇓P		P	20 43 52.7	+0.5
	baz=81,SNR=5.3							
M03C	McCloud	81.33	39	⇑P		P	20 43 52.5	+0.4
	baz=81							
O04C	Chester	81.36	41	⇓P		P	20 43 52.5	+0.2
	baz=82,SNR=12							
GLA	Glamis	81.38	50	*e*P		P	20 43 52.4	-0.2
GLA				*e**PP		pP	20 45 48.8	-1.6
GLA				pmax		pmax		
	comp=Z,69nm,1.1s,mb5.0							
GLA	Glamis	81.38	50	*e*P		P	20 43 52.4	-0.2
	comp=Z,69nm,1.1s,mb5.0							
GLA				*e*pP		pP	20 45 48.8	-1.6
GLA	Glamis	81.38	50	⇓P		P	20 43 53.3	+0.7
	baz=82,SNR=27							
HATC	Hat Creek Radi	81.44	40	⇑P		P	20 43 53.2	+0.5
	baz=82,SNR=23							
K02A	Glendale	81.46	38	P		P	20 43 53.4	+0.7
	baz=82,SNR=16							
BEKR	Beckwourth	81.54	41	⇓P		P	20 43 53.4	+0.1
	baz=82,SNR=27							
S08C	White Mtn Res	81.55	44	⇑P		P	20 43 54.0	+0.7
	baz=82,SNR=33							
WCN	Washoe City	81.58	42	⇓P		P	20 43 53.7	+0.2
	baz=82,SNR=13							
FRIM	Kepong	81.63	277	⇑P		P	20 43 54.6	+0.3
HUMO	Hull Mountain	81.67	38	*e*P		P	20 43 54.2	+0.4
	comp=Z,108nm,1.2s,mb5.2							
HUMO				*e*pP		pP	20 45 52.2	+0.4
HUMO	Hull Mountain	81.67	38	P		P	20 43 54.2	+0.4
	baz=82,SNR=40							
KDAK	Kodiak Island	81.70	14	*e*P		P	20 43 52.4	-1.2
	comp=Z,92nm,1.4s,mb5.0							
KDAK	Kodiak Island	81.70	14	pP		pP	20 45 51.5	-0.1
	comp=Z,6.6nm,1.0s,baz=281,slow=8.3,SNR=1.5							
P06A	Stead Airport,	81.71	42	⇓P		P	20 43 54.5	+0.4
	baz=82							
GMRC	Granite Mounta	81.72	48	P		P	20 43 54.6	+0.3
	baz=82,SNR=14							
IRM	Iron Mountain	81.74	49	⇓P		P	20 43 54.9	+0.5
	baz=82,SNR=38							
ELFS	Eagle Lake Fie	81.76	41	⇓P		P	20 43 54.7	+0.4
	baz=82,SNR=8.0							
GRAC	Grapevine Rang	81.79	45	⇓P		P	20 43 54.9	+0.3
	baz=82,SNR=8.3							
J02A	Umpqua	81.79	37	⇑P		P	20 43 54.9	+0.4
	baz=82,SNR=14							
M04C	Macdoel	81.81	39	⇑P		P	20 43 54.9	+0.4
	baz=82,SNR=11							
FURC	Furnace Creek,	81.83	46	⇓P		P	20 43 54.7	-0.2
	baz=82,SNR=12							
DL2	Dalian	81.89	317	*i* P		P	20 43 54.7	-0.3
DL2				XP		sP	20 46 47.6	-1.4
DL2				S		S	20 53 24.8	+1.3
DL2				AMB		AMB		
	comp=Z,40nm,1.3s,mb4.7							
DL2				AMB		AMB		
	comp=Z,210nm,4.2s							
TUQ	Turquoise Mtn.	81.90	47	⇑P		P	20 43 55.4	+0.2
	baz=82							
SHOC	Shoshone	81.91	47	⇓P		P	20 43 55.0	-0.2
	baz=82							
M05C	Lookout	81.96	40	P		P	20 43 55.9	+0.6
	baz=82,SNR=15							
Y12C	Blythe	81.96	49	⇓P		P	20 43 55.9	+0.4
	baz=82,SNR=8.8							
Q07A	Schurz	81.96	43	⇓P		P	20 43 55.6	+0.1
	baz=82							
L04A	Klamath Falls	82.02	39	⇑P		P	20 43 56.0	+0.4
	baz=82,SNR=12							
O06A	Flanigan	82.04	41	⇑P		P	20 43 55.9	+0.1
	baz=82,SNR=31							
PAHR	Pah Rah Range	82.05	42	*e*P		P	20 43 55.4	-0.5
	comp=Z,66nm,1.1s,mb5.0							
PAHR				*e*pP		pP	20 45 57.3	+3.4
I02A	Mapleton	82.06	37	⇓P		P	20 43 56.2	+0.4
	baz=82,SNR=16							
R08A	Mina	82.07	44	⇓P		P	20 43 56.1	+0.1
	baz=82,SNR=12							
VSP	Spence Mountai	82.08	39	P		P	20 43 56.4	+0.5
J03A	Ideyld Park	82.14	37	⇑P		P	20 43 56.6	+0.4
	baz=82,SNR=12							
P07A	Fallon	82.26	42	⇑P		P	20 43 56.9	-0.1
	baz=82							
M06C	Likely Place G	82.27	40	⇓P		P	20 43 57.3	+0.4
	baz=82,SNR=9.8							
S09A	Goldfield	82.29	45	⇑P		P	20 43 56.9	-0.2
	baz=82,SNR=6.1							
I03A	Eugene	82.34	37	⇓P		P	20 43 57.6	+0.3
	baz=82,SNR=8.5							
K04A	Chilquin	82.38	39	⇑P		P	20 43 57.6	+0.2
	baz=82							
N06A	Buffalo Meadow	82.39	41	P		P	20 43 57.4	-0.2
	baz=82,SNR=50							
H02A	Toledo	82.39	36	⇑P		P	20 43 58.1	+0.7
	baz=82							
SNY	Shenyang	82.42	320	⇓P		P	20 43 57.9	+0.2
SNY				AMB		AMB		
	comp=Z,283nm,10.5s							
WHN	Wuhan	82.43	307	⇑P		P	20 43 58.5	+0.5
WHN				S		S	20 53 29.4	+0.2
NEE2	Needles Airpor	82.44	48	⇑P		P	20 43 58.1	+0.2
	baz=82							
V11A	Goodsprings	82.45	47	⇑P		P	20 43 58.0	0.0
	baz=83,SNR=9.0							
Q08A	Gabbs	82.48	43	P		P	20 43 58.2	+0.2
	baz=83,SNR=13							
Y13A	Salome	82.49	49	P		P	20 43 58.5	+0.3
	baz=83,SNR=31							
TPNV	Topopah Spring	82.51	46	*e*P		P	20 43 58.8	+0.6
TPNV				pmax		pmax		
	comp=Z,69nm,0.3s,mb5.7							
TPNV	Topopah Spring	82.51	46	*e*P		P	20 43 58.8	+0.5
	comp=Z,69nm,0.3s,mb5.7							
TPNV	Topopah Spring	82.51	46	⇑P		P	20 43 58.4	+0.2
	baz=83,SNR=5.2							
PDMCI	Parker Dam,Lak	82.52	49	⇑P		P	20 43 58.6	+0.2
	baz=83,SNR=16							
W12A	Cal Nev Ari	82.55	48	⇑P		P	20 43 58.7	+0.2
	baz=83							
CN2	Changchun	82.55	323	⇓P		P	20 43 58.2	-0.1
CN2				*e*AP		pP	20 45 56.2	-0.3
CN2				*e*XP		sP	20 46 49.9	-2.5
CN2				*e*PP		PP	20 47 19.9	+1.7
CN2				*e*PPP			20 49 17.7	
CN2				*e*S		S	20 53 30.3	+0.4
CN2				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.5							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
L05A	Lakeview	82.56	39	⇓P		P	20 43 59.0	+0.6
	baz=83,SNR=35							
O07A	Toulon	82.63	42	⇑P		P	20 43 58.8	0.0
	baz=83,SNR=49							
IPM	Ipoh	82.64	278	⇓P		P	20 44 00.2	+0.7
R09A	Tonopah	82.68	44	P		P	20 43 58.9	-0.2
	baz=83,SNR=18							
I04A	Tendick Farm,	82.72	37	P		P	20 43 59.0	-0.1
	baz=83,SNR=23							
H03A	Soap Creek Ran	82.78	36	⇓P		P	20 43 59.6	+0.2
	baz=83,SNR=15							
V12A	Nelson	82.79	47	P		P	20 43 59.9	+0.2
	baz=83,SNR=12							
MOD	Modoc	82.79	40	*e*P		P	20 43 59.0	-0.5
	comp=Z,70nm,1.1s,mb5.1							
MOD				*e*pP		pP	20 45 56.8	-1.1
MOD	Modoc	82.79	40	⇓P		P	20 43 59.4	-0.2
	baz=83,SNR=45							
U11A	Corn Creek	82.80	47	⇑P		P	20 44 00.1	+0.4
	baz=83							
S10A	Tonopah Range,	82.82	45	P		P	20 43 60.0	+0.2
	baz=83,SNR=11							
P08A	Dixie Valley	82.86	43	⇓P		P	20 44 00.2	+0.3
	baz=83,SNR=6.1							
Z14A	Wintersburg	82.88	50	⇑P		P	20 43 59.8	-0.4
	baz=83,SNR=11							
KLR	Kul'dur	82.89	330	⇑*i*P		P	20 43 55.2	-4.6
KLR				*e*S		S	20 53 29.5	-3.5
KLR				pmax		pmax		
	comp=E,45nm,1.6s							
KLR				pmax		pmax		
	comp=Z,200nm,1.6s,mb5.4							
X13A	Yucca	82.89	49	P		P	20 44 00.2	0.0
	baz=83,SNR=27							
N07B	Gerlach	82.93	41	⇑P		P	20 44 00.3	0.0
	baz=83,SNR=26							
K05A	Summer Lake	82.94	39	P		P	20 44 00.8	+0.5
	baz=83,SNR=47							
Q09A	Carvers	82.94	44	⇑P		P	20 44 00.4	+0.1
	baz=83,SNR=10							
115A	Sonoran Desert	83.06	51	⇓P		P	20 44 01.5	+0.3
	baz=83							
J05A	Fort Rock	83.08	38	P		P	20 44 01.2	+0.3
	baz=83,SNR=128							
W13A	Hualapai Mount	83.12	48	P		P	20 44 01.5	+0.1
	baz=83,SNR=22							
Y14A	Wickenburg	83.14	50	⇑P		P	20 44 01.5	0.0
	baz=83,SNR=10							
O08A	Rochester Mine	83.16	42	⇓P		P	20 44 01.5	+0.1
	baz=83							
M07A	Soldier Meadow	83.17	41	⇑P		P	20 44 01.6	+0.2
	baz=83							
G03A	Yamhill	83.19	36	⇑P		P	20 44 01.5	+0.1
	baz=83,SNR=5.2							
R10A	Warm Springs	83.21	45	⇑P		P	20 44 02.0	+0.2
	baz=83,SNR=48							
S11A	Rachel	83.22	45	⇑P		P	20 44 01.8	0.0
	baz=83,SNR=13							
216A	Three Points,	83.27	52	⇑P		P	20 44 02.9	+0.7
	baz=83							
KULM	Kulim	83.29	278	*e*P		P	20 44 03.1	+0.4
KULM	Kulim	83.29	278	⇑P		P	20 44 03.8	+1.0
T11A	Corn Creek, Al	83.35	46	⇓P		P	20 44 02.7	+0.3
	baz=84,SNR=22							
K06A	Valley Falls	83.36	39	P		P	20 44 02.4	+0.1
	baz=84,SNR=50							
TIA	Tai'an	83.36	313	*e*P		P	20 44 02.8	+0.3
TIA				AMB		AMB		
	comp=Z,88nm,1.4s,mb5.1							
116A	Eloy	83.37	51	⇑P		P	20 44 02.9	+0.3
	baz=84							
P09A	Austin	83.38	43	⇓P		P	20 44 02.5	0.0
	baz=84,SNR=7.4							
H04A	Detroit Lake	83.40	37	P		P	20 44 02.0	-0.5
	baz=84,SNR=30							
F03A	Seaside	83.44	35	⇓P		P	20 44 02.9	+0.2
	baz=84,SNR=6.3							
L07A	Adell	83.44	40	P		P	20 44 03.0	+0.3
	baz=84,SNR=32							
Q10A	Clear Creek Ra	83.44	44	⇓P		P	20 44 02.8	0.0
	baz=84,SNR=20							
V13A	Grand Canyon W	83.45	48	⇑P		P	20 44 03.2	+0.2
	baz=84,SNR=30							
N08A	GE Springer Mi	83.45	42	⇑P		P	20 44 02.9	+0.1
	baz=84,SNR=13							
X14A	Yava	83.49	49	⇑P		P	20 44 03.5	+0.3
	baz=84,SNR=28							
G04A	Mulino	83.56	36	⇑P		P	20 44 03.3	0.0
	baz=84,SNR=7.2							
I05A	Bend	83.60	38	⇓P		P	20 44 03.5	0.0
	baz=84							
Y15A	Casa Rosa Ranc	83.62	50	⇑P		P	20 44 04.3	+0.4
	baz=84							
217A	Green Valley	83.63	53	⇓P		P	20 44 04.7	+0.7
	baz=84							
M08A	Happy Creek Ra	83.69	41	⇓P		P	20 44 04.3	+0.3
	baz=84,SNR=26							
J06A	Christmas Vall	83.69	39	⇓P		P	20 44 03.9	0.0
	baz=84,SNR=56							
O09A	Fish Creek Ran	83.69	43	⇑P		P	20 44 04.0	0.0
	baz=84,SNR=19							
R11A	Troy Canyon, C	83.72	45	⇓P		P	20 44 04.0	-0.3
	baz=84,SNR=12							
W14A	Seligman	83.74	49	⇓P		P	20 44 05.2	+0.8
	baz=84,SNR=40							
U13A	Pakoon Wash	83.76	47	P		P	20 44 05.0	+0.5
	baz=84,SNR=27							
S12A	Delamar Landin	83.80	46	⇓P		P	20 44 05.1	+0.5
	baz=84,SNR=20							
E03A	Lebam	83.83	35	⇑P		P	20 44 04.7	+0.1
	baz=84,SNR=13							
P10A	Eureka	83.85	43	⇓P		P	20 44 04.8	0.0
	baz=84,SNR=8.2							
N09A	Rock Creek Ran	83.87	42	⇓P		P	20 44 04.9	0.0
	baz=84,SNR=13							
K07A	Rock Creek Ran	83.89	40	⇓P		P	20 44 05.3	+0.3
	baz=84,SNR=47							
H05A	Madras	83.92	37	⇑P		P	20 44 05.2	+0.1
	baz=84,SNR=14							
TUC	Tucson	83.92	52	P		P	20 44 06.5	+1.1
TUC				*e**PP		pP	20 46 05.4	+1.3
Q11A	Duckwater	83.94	44	P		P	20 44 05.4	+0.1
	baz=84,SNR=25							
V14A	Boquillas Ranc	83.94	48	⇑P		P	20 44 05.9	+0.5
	baz=84,SNR=43							
X15A	Humboldt	83.96	50	⇓P		P	20 44 06.1	+0.5
	baz=84,SNR=14							
Z16A	Peralta Trail,	83.97	51	⇓P		P	20 44 06.1	+0.5
	baz=84							
PSI	Prapat	83.97	275	P		P	20 44 05.5	-0.5
	comp=Z,76nm,1.0s,mb5.2,baz=83,slow=2.0,SNR=53							
SNG	Songkhla	84.03	280	P		P	20 44 08.0	+1.6
	comp=Z,276nm,1.0s,mb5.7							
F04A	Amboy	84.05	36	⇑P		P	20 44 05.7	0.0
	baz=84,SNR=7.4							
I06A	Prineville	84.07	38	⇑P		P	20 44 06.6	+0.8
	baz=84,SNR=53							
D03A	Wishkah Elem.	84.08	34	⇑P		P	20 44 06.2	+0.4
	baz=84							
117A	Oracle	84.08	52	⇓P		P	20 44 06.8	+0.7
	baz=84							
318A	Bisbee	84.08	53	⇓P		P	20 44 07.0	+0.7
	baz=84,SNR=34							
WVOR	Wild Horse Val	84.10	40	*e*P		P	20 44 06.0	0.0
WVOR				*e**PP		pP	20 46 04.0	-0.9
WVOR				pmax		pmax		
	comp=Z,62nm,1.3s,mb5.0							
WVOR	Wild Horse Val	84.10	40	*e*P		P	20 44 06.0	0.0
	comp=Z,62nm,1.3s,mb5.0							
WVOR				*e*pP		pP	20 46 04.0	-0.9
T13A	Saint George	84.12	47	⇑P		P	20 44 06.3	+0.1
	baz=84,SNR=7.1							
L08A	Fields	84.14	40	⇓P		P	20 44 06.4	+0.2
	baz=84,SNR=28							
SVW2	Sparrevohn	84.17	11	*e*P		P	20 44 03.5	-2.4
O10A	Cortez Mining,	84.20	43	⇓P		P	20 44 06.6	0.0
	baz=84,SNR=9.7							
C03A	Quillayute Air	84.21	33	⇓P		P	20 44 07.2	+0.8
	baz=84							
NLWA	Neilton Lookou	84.21	34	*e*P		P	20 44 06.5	+0.1
	comp=Z,73nm,1.1s,mb5.1							
NLWA	Neilton Lookou	84.21	34	⇓P		P	20 44 06.7	+0.3
	baz=84,SNR=15							
G05A	Wamic	84.23	37	⇑P		P	20 44 06.6	0.0
	baz=84,SNR=6.7							
M09A	Marrel Ranch,	84.24	41	⇑P		P	20 44 07.1	+0.3
	baz=84,SNR=13							
J07A	Hines	84.25	39	⇓P		P	20 44 07.0	+0.2
	baz=84,SNR=5.8							
OOW	Octopus West	84.27	34	P		P	20 44 07.1	+0.5
P11A	Circle Ranch,	84.27	44	⇓P		P	20 44 06.9	0.0
	baz=84							
W15A	Williams	84.30	49	⇑P		P	20 44 07.8	+0.6
	baz=84							
U14A	Mt Trumbull	84.30	48	P		P	20 44 07.5	+0.3
	baz=84,SNR=34							
218A	Dragoon	84.30	53	⇑P		P	20 44 07.9	+0.7
	baz=84							
E04A	Onalaska	84.31	35	⇓P		P	20 44 07.4	+0.5
	baz=84							
R12A	Pony Springs,	84.35	45	⇓P		P	20 44 07.4	+0.1
	baz=84,SNR=13							
K08A	Mann Creek Ran	84.36	40	P		P	20 44 07.3	0.0
	baz=84,SNR=30							
MA2	Magadan	84.37	345	*d i*P		P	20 44 05.4	-1.5
MA2				*e*			20 53 37.3	
MA2				*e*S		S	20 53 44.0	-3.0
MA2				*e*SPP			20 54 45.6	
MA2				pmax		pmax		
	comp=Z,100nm,1.2s,mb5.2							
MA2				pmax		pmax		
	comp=N,30nm,1.1s							
MA2	Magadan	84.37	345	*e*P		P	20 44 05.3	-1.6
	comp=N,80nm,1.2s,mb5.1							
N10A	Dunphy	84.43	42	⇓P		P	20 44 07.5	-0.2
	baz=84							
S13A	Holt Ranch, En	84.45	46	⇑P		P	20 44 08.0	+0.2
	baz=85,SNR=10.0							
L09A	Wilkinson Ranc	84.45	41	⇑P		P	20 44 07.8	0.0
	baz=85							
H06A	Lindquist Farm	84.47	38	⇑P		P	20 44 07.7	-0.1
	baz=85,SNR=75							
X16A	Lo Mia Camp, P	84.50	50	⇓P		P	20 44 08.5	+0.4
	baz=85							
F05A	White Salmon	84.55	36	⇑P		P	20 44 08.1	0.0
	baz=85,SNR=5.7							
I07A	Izee	84.56	38	P		P	20 44 08.6	+0.4
	baz=85,SNR=49							
TSI	Tuntungan	84.56	276	⇓*e*P		P	20 44 05.3	-3.7
Y17A	Roosevelt	84.56	51	⇑P		P	20 44 08.7	+0.2
	baz=85							
319A	Douglas	84.58	54	⇓P		P	20 44 09.4	+0.7
	baz=85,SNR=27							
Q12A	Willow Creek R	84.59	45	P		P	20 44 08.6	+0.1
	baz=85,SNR=17							
D04A	Dobbs Creek Ra	84.59	35	⇑P		P	20 44 08.8	+0.5
	baz=85							
G06A	Carlson Farm,	84.61	37	P		P	20 44 08.1	-0.3
	baz=85,SNR=26							
O11A	Cowboy Ranch,	84.65	43	P		P	20 44 08.7	-0.1
	baz=85,SNR=17							
118A	Homack Ranch,	84.68	52	⇓P		P	20 44 09.4	+0.2
	baz=85							
V15A	Kaibab Nationa	84.69	48	⇓P		P	20 44 09.5	+0.5
	baz=85,SNR=20							
SLKM	Skilak Lake	84.70	14	*e*P		P	20 44 07.1	-1.4
T14A	Hurricane	84.70	47	⇑P		P	20 44 09.1	0.0
	baz=85							
J08A	Circle Bar Ran	84.74	39	⇑P		P	20 44 09.0	-0.1
	baz=85,SNR=29							
CCUT	Cedar City	84.77	46	*e*P		P	20 44 09.6	+0.2
CCUT				*e*pP		pP	20 46 05.3	-3.2
P12A	McGill	84.77	44	⇓P		P	20 44 09.3	0.0
	baz=85,SNR=13							
E05A	Randle	84.80	35	⇑P		P	20 44 09.1	-0.2
	baz=85,SNR=14							
K09A	Rome	84.81	40	P		P	20 44 09.2	-0.2
	baz=85,SNR=66							
B04A	Port Angeles	84.82	34	⇓P		P	20 44 09.8	+0.3
	baz=85,SNR=7.8							
ARUT	Antelope Range	84.84	46	*e*P		P	20 44 10.3	+0.5
ARUT				*PP		pP	20 46 03.6	-5.3
F06A	Goldendale	84.85	37	⇓P		P	20 44 09.8	+0.2
	baz=85							
Z18A	Geronimo	84.85	52	⇑P		P	20 44 09.6	-0.3
	baz=85							
M10A	I.L. Ranch, Tu	84.86	42	P		P	20 44 09.8	0.0
	baz=85,SNR=21							
C04A	Brinnon	84.88	34	⇑P		P	20 44 09.9	+0.2
	baz=85,SNR=10							
219A	White Tail Can	84.90	53	⇓P		P	20 44 10.6	+0.4
	baz=85							
GAMB	Gambell	84.94	3

F07A	Phinny Hill Vi	85.40	37	⇓P		P	20 44 12.3	0.0
	baz=86							
N12A	Clover Valley,	85.44	43	⇓P		P	20 44 12.3	-0.2
	baz=86,SNR=13							
Z19A	T-Link Ranch,	85.52	52	⇑P		P	20 44 13.9	+0.7
	baz=86							
I09A	Lost Marbles R	85.53	39	P		P	20 44 13.0	0.0
	baz=86,SNR=15							
C05A	Tolt Reservoir	85.54	35	⇑P		P	20 44 12.7	-0.2
	baz=86,SNR=14							
KKTK	Khon Kaen	85.58	289	⇓P		P	20 44 15.0	+1.2
G08A	Pilot Rock	85.59	38	P		P	20 44 13.0	-0.2
	baz=86,SNR=61							
X18A	Snowflake	85.62	50	⇑P		P	20 44 14.1	+0.4
	baz=86							
A04A	Legoe Bay, Lum	85.66	33	⇑P		P	20 44 13.6	+0.2
	baz=86,SNR=23							
B05A	Bryant	85.69	34	P		P	20 44 13.8	+0.3
	baz=86,SNR=13							
D06A	Cle Elum	85.69	35	⇓P		P	20 44 13.6	0.0
	baz=86,SNR=8.9							
L11A	Cat Creek Ranc	85.71	42	⇑P		P	20 44 14.1	+0.3
	baz=86,SNR=21							
O13A	Hicks Ranch, I	85.73	44	⇑P		P	20 44 14.1	+0.1
	baz=86							
T16A	Glen Canyon Da	85.75	48	⇓P		P	20 44 14.5	+0.4
	baz=86,SNR=11							
J10A	Berg Farm, Mel	85.80	40	⇑P		P	20 44 14.1	-0.1
	baz=86							
TTA	Tatalina	85.81	10	*e*P		P	20 44 13.6	-0.2
M12A	Wells	85.82	43	⇑P		P	20 44 14.4	0.0
	baz=86,SNR=16							
E07A	Sunnyside	85.84	36	⇑P		P	20 44 14.5	+0.2
	baz=86,SNR=6.5							
SYO	Syowa Base	85.84	193	⇓*e*P		P	20 44 12.0	-2.1
SYO	Syowa Base	85.84	193	⇓*i*PcP		PcP	20 44 15.0	-0.9
Y19A	Nutrioso	85.85	51	⇓P		P	20 44 15.6	+0.9
	baz=86							
K11A	Parker Ranch,	85.87	41	⇑P		P	20 44 14.7	+0.1
	baz=86,SNR=15							
PMR	Palmer	85.91	14	*e*P		P	20 44 13.2	-1.1
PMR				pmax		pmax		
	comp=Z,129nm,1.2s,mb5.4							
PMR	Palmer	85.91	14	*e*P		P	20 44 13.2	-1.1
	comp=Z,128nm,1.2s,mb5.4							
HAWA	Hanford	85.92	37	*e*P		P	20 44 14.6	-0.1
	comp=Z,94nm,1.2s,mb5.3							
HAWA				*e*pP		pP	20 46 12.6	-1.7
N13A	Wendover, West	85.97	43	⇑P		P	20 44 15.1	-0.1
	baz=86,SNR=5.6							
H09A	Durkee	85.97	39	P		P	20 44 14.9	-0.1
	baz=86,SNR=21							
F08A	Pendleton	85.99	37	P		P	20 44 15.3	+0.2
	baz=86,SNR=12							
BJT	Baijiatuau	86.02	316	*e*P		P	20 44 14.9	-0.5
BJT				pmax		pmax		
	comp=Z,21nm,0.5s							
BJT	Baijiatuau	86.02	316	*e*P		P	20 44 14.9	-0.5
	comp=Z,22nm,0.5s,mb5.0							
BJT				*e*pP		pP	20 46 20.4	+5.5
BJI	Beijing	86.03	316	P		P	20 44 15.5	+0.1
BJI				S		S	20 54 10.8	+7.1
BJI				AMB		AMB		
	comp=Z,66nm,1.7s,mb5.0							
BJI				AMB		AMB		
	comp=Z,998nm,4.3s							
X19A	St. Johns	86.05	51	⇑P		P	20 44 16.0	+0.3
	baz=86							
MSU	Marysvale	86.07	46	*e*P		P	20 44 16.2	+0.5
MSU				*e*pP		pP	20 46 16.4	+1.2
C06A	Tall Timber Ra	86.11	35	⇓P		P	20 44 15.1	-0.5
	baz=86							
I10A	Payette	86.15	40	P		P	20 44 16.4	+0.5
	baz=86,SNR=9.0							
A05A	Maple Falls	86.15	33	⇑P		P	20 44 15.4	-0.4
	baz=86							
L12A	House Creek Ra	86.16	42	P		P	20 44 16.4	+0.5
	baz=86,SNR=12							
D07A	Quincy	86.16	36	⇓P		P	20 44 15.8	0.0
	baz=86,SNR=11							
B06A	Marblemount	86.16	34	P		P	20 44 15.3	-0.5
	baz=86,SNR=5.8							
E08A	Dider Farm, El	86.24	37	⇑P		P	20 44 16.1	-0.2
	baz=86							
G09A	Cove	86.26	38	⇓P		P	20 44 16.3	-0.1
	baz=86,SNR=23							
M13A	Montello	86.27	43	⇓P		P	20 44 16.5	0.0
	baz=86,SNR=12							
SML	Sawmill	86.28	14	*e*P		P	20 44 13.7	-2.3
DIV	Divide	86.28	15	*e*P		P	20 44 14.9	-1.2
	comp=Z,84nm,1.1s,mb5.3							
BMO	Blue Mountains	86.29	39	*e*P		P	20 44 15.9	-0.6
	comp=Z,39nm,1.1s,mb5.0							
BMO				*e*pP		pP	20 46 14.8	-1.3
MFID	Camas Ranch	86.36	41	⇓P		P	20 44 16.9	0.0
	baz=86,SNR=19							
C07A	Waterville	86.41	35	P		P	20 44 16.7	-0.3
	baz=86,SNR=18							
F09A	S2 Ranch, Elgi	86.43	38	⇑P		P	20 44 17.2	0.0
	baz=86							
H10A	Noah's Angus R	86.47	39	⇓P		P	20 44 16.9	-0.4
	baz=87,SNR=51							
K12A	Draper Farm, C	86.49	42	⇑P		P	20 44 17.4	-0.1
	baz=87,SNR=5.5							
GYA	Guiyang	86.52	300	⇑*i*P		P	20 44 16.7	-1.4
GYA				AP		pP	20 46 15.8	-2.0
GYA				XP		sP	20 47 09.0	-4.3
GYA				PP		PP	20 47 51.6	+1.3
GYA				PPP			20 49 51.4	
GYA				SKS			20 53 52.0	
GYA				S		S	20 54 08.4	-0.6
GYA				PS		PS	20 56 27.6	-3.0
GYA				XS		sS	20 57 36.4	-5.9
GYA				AMB		AMB		
	comp=Z,60nm,1.0s,mb5.2							
GYA				AMB		AMB		
	comp=Z,380nm,6.6s							
DUG	Dugway	86.52	44	*e*P		P	20 44 17.6	-0.1
DUG				*e**PP		pP	20 46 14.7	-2.8
DUG				pmax		pmax		
	comp=Z,12nm,1.2s,mb4.4							
DUG	Dugway	86.52	44	*e*P		P	20 44 17.6	-0.2
	comp=Z,12nm,1.2s,mb4.4							
DUG				*e*pP		pP	20 46 14.7	-2.8
DUG	Dugway	86.52	44	⇑P		P	20 44 17.3	-0.4
	baz=87							
A06A	Chilliwack	86.52	34	⇑P		P	20 44 17.2	-0.3
	baz=87,SNR=5.7							
I11A	Placerville	86.56	40	P		P	20 44 17.9	+0.1
	baz=87,SNR=13							
N14A	Grayback Hills	86.62	44	⇓P		P	20 44 17.9	-0.3
	baz=87							
G10A	Bishop Farm, J	86.65	38	P		P	20 44 18.0	-0.2
	baz=87,SNR=21							
D08A	Wollman Farm,	86.65	36	P		P	20 44 18.3	+0.1
	baz=87,SNR=28							
WRAK	Wrangell Islan	86.66	24	*e*P		P	20 44 18.0	0.0
	comp=Z,98nm,1.3s,mb5.3							
J12A	Stokes Ranch,	86.71	41	P		P	20 44 18.7	+0.1
	baz=87,SNR=31							
BGU	Big Grassy Mou	86.76	44	*e*P		P	20 44 18.2	-0.7
E09A	Wood Farm, Sta	86.77	37	⇑P		P	20 44 18.3	-0.4
	baz=87,SNR=16							
L13A	Double Diamond	86.80	42	⇑P		P	20 44 19.0	0.0
	baz=87							
B07A	Winthrop	86.84	35	P		P	20 44 18.7	-0.4
	baz=87,SNR=26							
M14A	Sheep Mountain	86.86	43	P		P	20 44 19.2	-0.1
	baz=87,SNR=19							
TNA	Tin City	86.95	4	*e*P		P	20 44 18.1	-1.0
	comp=Z,39nm,1.5s,mb4.8							
TNA				*e*pP		pP	20 46 19.7	+0.7
H11A	Donnelly	86.96	39	P		P	20 44 19.8	+0.1
	baz=87,SNR=49							
F10A	Beach Ranch, E	86.97	38	⇓P		P	20 44 19.3	-0.4
	baz=87,SNR=55							
SEY	Seymchan	86.99	347	⇑*e*P		P	20 44 18.7	-0.7
D09A	Jones Farm, Ri	87.00	37	P		P	20 44 19.6	-0.2
	baz=87,SNR=33							
K13A	Stover Farm, H	87.01	42	⇑P		P	20 44 20.3	+0.3
	baz=87							
C08A	Higginbotham F	87.02	36	P		P	20 44 19.6	-0.3
	baz=87,SNR=15							
A07A	Ashnola River,	87.06	34	P		P	20 44 19.9	-0.2
	baz=87,SNR=23							
N15A	Stansbury Isla	87.07	44	⇑P		P	20 44 20.1	-0.2
	baz=87,SNR=5.7							
B08A	Colville Reser	87.20	35	⇑P		P	20 44 20.1	-0.6
	baz=87,SNR=33							
G11A	Walters Elk Ra	87.20	39	P		P	20 44 20.3	-0.5
	baz=87,SNR=128							
SNAA	Sanae	87.25	179	*e*P		P	20 44 20.2	-0.5
SNAA				*e*			20 44 22.2	
SNAA				*e*			20 44 32.5	
SNAA				*e*		pP	20 46 19.1	-1.5
SNAA				*e*		pP	20 46 24.4	+3.8
SNAA				*e*			20 46 27.9	
SNAA	Sanae	87.25	179	⇓*e*P		P	20 44 19.6	-1.1
HLID	Hailey	87.30	41	⇑P		P	20 44 21.5	+0.2
	baz=87,SNR=36							
E10A	Myers Farm, Un	87.33	37	⇓P		P	20 44 20.7	-0.7
	baz=87,SNR=11							
SPUT	South Promonto	87.33	44	*e*P		P	20 44 21.7	+0.1
TIY	Taiyuan	87.35	312	*i*P		P	20 44 22.7	+1.0
TIY				S		S	20 54 12.9	-3.4
TIY				XS		sS	20 57 47.7	-2.5
TIY				AMB		AMB		
	comp=Z,725nm,2.0s,mb6.0							
J13A	Cove Ranch, Pi	87.36	41	⇑P		P	20 44 22.0	+0.4
	baz=88,SNR=28							
M15A	Larsen Ranch,	87.42	43	P		P	20 44 21.4	-0.5
	baz=88,SNR=13							
C09A	Chrisman Ranch	87.45	36	⇑P		P	20 44 21.7	-0.2
	baz=88,SNR=6.8							
CTU	Camp Tracy	87.47	44	*e*P		P	20 44 22.4	+0.2
	comp=Z,13nm,1.0s,mb4.5							
K14A	Jones Ranch, D	87.52	42	P		P	20 44 22.4	0.0
	baz=88,SNR=9.2							
F11A	Grangeville	87.54	38	P		P	20 44 21.1	-1.3
	baz=88,SNR=20							
D10A	Wagner Farm, O	87.57	37	⇓P		P	20 44 21.9	-0.6
	baz=88,SNR=26							
H12A	Diamond D Ranc	87.57	40	⇑P		P	20 44 22.4	-0.1
	baz=88,SNR=60							
A08A	Turner Farm, O	87.59	35	⇓P		P	20 44 22.3	-0.2
	baz=88,SNR=38							
LAZ	Ladron	87.60	52	*e*P		P	20 44 22.9	0.0
LAZ				*e*pP		pP	20 46 24.6	+1.5
LENM	Lemitar	87.61	52	*e*P		P	20 44 23.0	0.0
LENM				*e*pP		pP	20 46 21.0	-2.1
JLU	Jordanelle	87.62	45	*e*P		P	20 44 22.8	-0.1
I13A	Wildhorse Cree	87.67	41	⇑P		P	20 44 23.2	+0.2
	baz=88,SNR=32							
MNTX	Cornudas Mount	87.68	55	*e*P		P	20 44 23.4	0.0
	comp=Z,42nm,1.1s,mb5.1							
MNTX				*e*pP		pP	20 46 23.3	-0.3
NST	Nakhon Sawan	87.70	288	P		P	20 44 21.0	-2.8
	comp=Z,60nm,0.8s,mb5.4							
E11A	Bogner Ranch,	87.78	38	⇑P		P	20 44 22.3	-1.2
	baz=88,SNR=17							
MCK	McKinley	87.85	13	*e*P		P	20 44 21.2	-2.2
MCK				pmax		pmax		
	comp=Z,78nm,1.0s,mb5.4							
MCK	McKinley	87.85	13	*e*P		P	20 44 21.2	-2.2
	comp=Z,78nm,1.0s,mb5.4							
MCK				*e*pP		pP	20 46 22.1	-1.5
BNM	Barren Site	87.86	52	*e*P		P	20 44 23.4	-0.8
BNM				*e*pP		pP	20 46 22.6	-1.7
B09A	Rice	87.88	35	⇓P		P	20 44 23.6	-0.3
	baz=88,SNR=33							
MAIT	Maitri	87.91	183	*e*P		P	20 44 22.9	-0.9
SKAG	Skagway	87.91	21	*e*P		P	20 44 24.6	+0.8
	comp=Z,274nm,2.1s,mb5.6							
LPM	Los Pinos Moun	87.93	52	*e*P		P	20 44 24.8	+0.3
LPM				*e*pP		pP	20 46 25.0	+0.3
H13A	Challis	87.94	40	P		P	20 44 24.5	+0.2
	baz=88,SNR=35							
MVCO	Mesa Verde	87.95	49	*e*P		P	20 44 24.5	-0.1
MVCO	Mesa Verde	87.95	49	⇓P		P	20 44 24.0	-0.5
	baz=88							
A09A	Danville	87.97	35	P		P	20 44 24.0	-0.3
	baz=88,SNR=21							
TXAR	Lajitas Array	87.97	58	P		P	20 44 24.9	+0.1
	comp=Z,21nm,0.9s,mb4.9,baz=219,slow=5.8,SNR=72							
TXAR				pP		pP	20 46 25.6	+0.6
	comp=Z,7.1nm,1.0s,baz=215,slow=6.1,SNR=7.0							
TXAR				PKKPbc		PKKPbc	21 02 07.3	-0.2
	comp=Z,0.8nm,0.5s,baz=149,slow=3.1,SNR=9.4							
C10A	Spilker Farm,	87.99	36	⇓P		P	20 44 23.9	-0.5
	baz=88							
F12A	Elk City	87.99	39	P		P	20 44 24.0	-0.5
	baz=88,SNR=125							
HWUT	Hardware Ranch	88.06	44	*e*P		P	20 44 24.3	-0.6
D11A	Klaveano Farm,	88.09	37	⇑P		P	20 44 24.3	-0.7
	baz=88,SNR=9.3							
XAN	Xi'an	88.13	308	P		P	20 44 25.7	+0.3
XAN				AP		pP	20 46 25.6	-0.1
XAN				XP		sP	20 47 17.2	-3.9
XAN				PP		PP	20 48 03.7	+0.8
XAN				PPP			20 50 06.0	
XAN				SKS			20 54 01.3	
XAN				S		S	20 54 22.7	-1.0
XAN				SS		SS	21 00 31.1	+1.5
XAN				AMB		AMB		
	comp=Z,109nm,1.2s,mb5.5							
XAN				AMB		AMB		
	comp=Z,308nm,13.6s							
PV10	Paradox Valley	88.13	47	*e*P		P	20 44 24.8	-0.5
G13A	Cobalt	88.23	40	P		P	20 44 25.6	0.0
	baz=88,SNR=45							
B10A	Chitwood Farm,	88.31	36	⇑P		P	20 44 25.6	-0.3
	baz=88							
PV01	Paradox Valley	88.34	48	*e*P		P	20 44 25.7	-0.6
NEW	Newport	88.34	36	*e*P		P	20 44 25.2	-0.9
NEW				pmax		pmax		
	comp=Z,16nm,1.0s							
NEW	Newport	88.34	36	*e*P		P	20 44 25.2	-0.9
	comp=Z,16nm,1.0s,mb4.7							
NEW				*e*pP		pP	20 46 26.7	+0.3
ANMO	Albuquerque	88.35	51	*e*P		P	20 44 26.2	-0.2
ANMO				*e**PP		pP	20 46 26.2	-0.6
ANMO				pmax		pmax		
	comp=Z,30nm,1.2s							
ANMO	Albuquerque	88.35	51	*e*P		P	20 44 26.2	-0.2
	comp=Z,30nm,1.2s,mb4.9							
ANMO				*e*pP		pP	20 46 26.2	-0.5
NANT	Nan	88.41	291	⇑P		P	20 44 28.5	+1.4
	comp=Z,338nm,1.2s,mb6.0							
A10A	Northport	88.52	35	⇓P		P	20 44 26.5	-0.4
	baz=89							
D12A	Red Ives Fores	88.65	38	⇑P		P	20 44 26.8	-0.7
	baz=89,SNR=26							
G14A	Jackson	88.78	40	⇓P		P	20 44 28.0	-0.1
	baz=89,SNR=6.5							
B11A	Sandpoint	88.86	36	P		P	20 44 28.4	-0.1
	baz=89,SNR=6.6							
MCMT	McKenzie Canyo	88.92	40	*e*P		P	20 44 28.9	+0.1
AHID	Auburn Hatcher	88.94	43	*e*P		P	20 44 28.8	-0.2
	comp=Z,37nm,1.1s,mb5.1							
HIA	Hailar	88.98	325	*e*P		P	20 44 28.8	-0.2
HIA				pmax		pmax		
	comp=Z,43nm,1.0s							
HIA	Hailar	88.98	325	*e*P		P	20 44 28.8	-0.2
	comp=Z,43nm,1.0s,mb5.2							
E13A	Victor	88.99	39	P		P	20 44 28.5	-0.7
	baz=89,SNR=8.0							
DLBC	Dease Lake	88.99	23	*e*P		P	20 44 28.6	-0.2
DLBC				*e*pP		pP	20 46 28.8	-0.6
COLA	College	89.09	13	*e*P		P	20 44 27.5	-1.6
COLA				pmax		pmax		
	comp=Z,117nm,1.2s,mb5.6							
COLA	College	89.09	13	*e*P		P	20 44 27.5	-1.6
	comp=Z,117nm,1.2s,mb5.6							
COLA				*e*pP		pP	20 46 29.8	+0.1
IMA2	Indian Mountai	89.11	10	*e*P		P	20 44 28.1	-1.1
F14A	Wisdom	89.13	39	⇑P		P	20 44 29.3	-0.5
	baz=89							
A11A	Hall Mountain,	89.16	36	⇓P		P	20 44 29.8	0.0
	baz=89,SNR=18							
KMI	Kunming	89.17	297	P		P	20 44 31.7	+1.2
KMI				AP		pP	20 46 33.7	+2.7
KMI				PP		PP	20 48 14.0	+2.7
KMI				S		S	20 54 32.6	-1.0
KMI				SP		SP	20 55 43.8	+0.9
KMI				PS		PS	20 56 58.9	+0.5
KMI				XS		sS	20 57 57.5	-11
KMI				SS		SS	21 00 42.2	-2.6
KMI				SSS			21 04 04.1	
KMI				AMB		AMB		
	comp=Z,79nm,1.7s,mb5.3							
KMI				AMB		AMB		
	comp=Z,437nm,6.7s							
PLCA	Paso Flores	89.17	134	P		P	20 44 31.2	+1.0
	comp=Z,5.8nm,1.1s,mb4.3,baz=211,slow=4.0,SNR=7.3							
PLCA				pP		pP	20 46 31.5	+0.7
	comp=Z,5.8nm,1.1s,baz=234,slow=8.5,SNR=4.4							
PLCA				PP		PP	20 48 10.6	+0.3
	comp=Z,3.3nm,1.1s,baz=278,slow=2.8,SNR=3.1							
D13A	Huson	89.19	38	⇓P		P	20 44 29.0	-1.1
	baz=89,SNR=12							
B12A	Libby	89.31	36	⇑P		P	20 44 30.5	0.0
	baz=89,SNR=5.6							
G15A	Dillon	89.32	40	P		P	20 44 30.9	+0.2
	baz=89,SNR=48							
MSO	Missoula	89.34	38	*e*P		P	20 44 30.3	-0.5
	comp=Z,2.3nm,0.8s,mb4.1							
MSO				*e*pP		pP	20 46 32.4	+1.1
DLMT	Dillon	89.36	40	*e*P		P	20 44 30.9	+0.1
	comp=Z,172nm,1.8s,mb5.6							
DLMT				*e*pP		pP	20 46 33.6	+2.2
E14A	Clinton	89.38	39	P		P	20 44 30.6	-0.4
	baz=90,SNR=11							
REDW	Red Top Meadow	89.40	42	*e*P		P	20 44 30.9	-0.2
	comp=Z,89nm,1.1s,mb5.5							
REDW				*e*pP		pP	20 46 29.8	-1.9
TPAW	Teton Pass	89.41	42	*e*P		P	20 44 31.4	+0.3
	comp=Z,47nm,1.1s,mb5.2							
C13A	Hot Springs	89.44	37	⇓P		P	20 44 30.4	-0.8
	baz=90							
HHC	Hu-ho-hao-te	89.47	315	⇓P		P	20 44 32.5	+1.0
HHC				AP		pP	20 46 32.2	+0.1
HHC				XP		sP	20 47 24.5	-2.9
HHC				PP		PP	20 48 16.5	+3.2
HHC				SKS			20 54 10.6	
HHC				S		S	20 54 34.5	-1.1
HHC				XS		sS	20 58 07.2	-3.6
HHC				SS		SS	21 00 53.4	+4.9
HHC				AMB		AMB		
	comp=Z,111nm,1.2s,mb5.6							
HHC				AMB		AMB		
	comp=Z,838nm,5.7s							
SNOW	Snow King Moun	89.52	42	*e*P		P	20 44 32.2	+0.5
	comp=Z,79nm,1.0s,mb5.5							
A12A	Yaak River Ran	89.53	36	⇓P		P	20 44 31.3	-0.2
	baz=90							
IMW	Indian Meadow	89.62	42	*e*P		P	20 44 31.1	-1.1
	comp=Z,66nm,1.1s,mb5.4							
IMW				*e*pP		pP	20 46 32.1	-0.6
MOOW	Moose Ponds	89.67	42	*e*P		P	20 44 32.3	0.0
	comp=Z,44nm,1.4s,mb5.1							
MOOW				*e*pP		pP	20 46 33.4	+0.4
F15A	Butte	89.67	40	⇑P		P	20 44 32.2	-0.1
	baz=90,SNR=18							
LOHW	Long Hollow	89.69	42	*e*P		P	20 44 32.0	-0.4
	comp=Z,256nm,0.4s							
D14A	Greenough	89.73	38	⇓P		P	20 44 31.6	-0.9
	baz=90,SNR=9.2							
BILL	Bilibino	89.74	354	*d*/*i*P		P	20 44 30.7	-1.4
BILL				pmax		pmax		
	comp=Z,65nm,1.7s,mb5.2							
BILL	Bilibino	89.74	354	*e*P		P	20 44 30.9	-1.2
	comp=Z,48nm,1.3s,mb5.2							
BILL				*e*pP		pP	20 46 34.3	+1.5
CHMT	Chamberlain Mo	89.79	39	*e*P		P	20 44 32.1	-0.7
CHMT				*e*pP		pP	20 46 33.4	-0.1
QLMT	Earthquake Lak	89.79	41	*e*P		P	20 44 33.4	+0.5
QLMT				*e*pP		pP	20 46 34.3	+0.8
FLWY	Flagg Ranch	89.86	42	*e*P		P	20 44 33.5	+0.3
	comp=Z,72nm,1.1s,mb5.4							
FLWY				*e*pP		pP	20 46 36.4	+2.5
B13A	Whitefish	89.88	37	⇓P		P	20 44 32.5	-0.7
	baz=90,SNR=5.5							
E15A	Deer Lodge	89.89	39	P		P	20 44 33.0	-0.2
	baz=90,SNR=6.0							
SMCO	Snowmass	89.94	48	P		P	20 44 33.7	0.0
	comp=Z,25nm,1.1s,mb5.0							
SMCO				*e*pP		pP	20 46 34.2	-0.2
CHG	Chiang Mai	89.95	290	⇓P		P	20 44 35.3	+1.1
	comp=Z,98nm,1.0s,mb5.6							
CHTO	Chiang Mai	89.95	290	*e*P		P	20 44 35.2	+1.0
CHTO				pmax		pmax		
	comp=Z,42nm,0.6s,mb5.5							
CHTO	Chiang Mai	89.95	290	*e*P		P	20 44 35.2	+1.0
	comp=Z,42nm,0.6s,mb5.4							
CHTO				*e*pP		pP	20 46 48.2	+13
C14A	Swan Lake	89.96	38	⇑P		P	20 44 32.7	-0.9
	baz=90,SNR=10.0							
YFT	Old Faithful	89.96	42	*e*P		P	20 44 35.0	+1.3
YFT				*e*pP		pP	20 46 37.1	+2.7
YMR	Madison River	89.99	41	*e*P		P	20 44 35.1	+1.3
	comp=Z,12nm,0.3s,mb5.2							
YMR				*e*pP		pP	20 46 36.4	+1.9
BOZ	Bozeman (W)	90.09	40	*e*P		P	20 44 34.4	+0.2
BOZ				pmax		pmax		
	comp=Z,62nm,1.6s,mb5.2							
BOZ	Bozeman (W)	90.09	40	*e*P		P	20 44 34.4	+0.2
	comp=Z,62nm,1.6s,mb5.2							
BOZ				*e*pP		pP	20 46 36.8	+1.9
YNR	Norris Junctio	90.19	41	*e*P		P	20 44 36.0	+1.3
YNR				*e*pP		pP	20 46 39.1	+3.6
D15A	Lincoln	90.28	39	⇓P		P	20 44 34.7	-0.4
	baz=90,SNR=10							
LKWY	Lake	90.29	42	*e*P		P	20 44 37.0	+1.8
LKWY				pmax		pmax		
	comp=Z,8.0nm,0.7s,mb4.7							
LKWY	Lake	90.29	42	*e*P		P	20 44 37.0	+1.8
	comp=Z,7.9nm,0.7s,mb4.7							
SDCO	Great Sand Dun	90.31	49	*e*P		P	20 44 35.5	0.0
	comp=Z,37nm,1.5s,mb5.0							
SDCO				*e*pP		pP	20 46 38.1	+1.9
DAWY	Dawson	90.36	16	*e*P		P	20 44 34.1	-1.0
BTO	Baotou	90.38	314	*e*P		P	20 44 36.0	+0.3
EGAK	Eagle	90.50	15	*e*P		P	20 44 34.1	-1.6
	comp=Z,55nm,1.1s,mb5.4							
EGAK				*e*pP		pP	20 46 37.4	+0.9
WALA	Waterton Lakes	90.56	37	*e*P		P	20 44 35.7	-0.6
	comp=Z,51nm,1.5s,mb5.2							
WALA				*e

YAK	**Yakutsk**	**92.61**	**338**	*eP*	**P**	**20 44 43.7**	**-1.7**
	comp=E,81nm,1.1s,mb5.7						
YAK				*epP*	pP	20 46 46.4	0.0
LZH	**Lanzhou**	**92.77**	**308**	*eP*	**P**	**20 44 47.6**	**+0.8**
LZH				AP	pP	20 46 49.0	+1.2
LZH				XP	sP	20 47 43.6	+0.7
LZH				PP	PP	20 48 42.0	+3.0
LZH				SKS		20 54 29.0	
LZH				S	S	20 55 06.0	+1.0
LZH				XS	sS	20 58 38.0	-4.2
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,260nm,4.0s						
EDM	**Edmonton**	**93.08**	**33**	*eP*	**P**	**20 44 46.2**	**-1.6**
EDM				*epP*	pP	20 46 50.2	+1.4
LAO	**LASA Array**	**93.88**	**41**	*eP*	**P**	**20 44 51.6**	**-0.1**
	comp=Z,32nm,1.3s,mb5.3						
LAO				*epP*	pP	20 46 54.7	+2.0
INK	**Inuvik**	**95.17**	**15**	*eP*	**P**	**20 44 54.9**	**-2.1**
	comp=Z,719nm,1.3s						
INK				*epP*	pP	20 46 58.2	0.0
ULN	**Ulaanbaatar**	**95.56**	**319**	*eP*	**P**	**20 44 58.6**	**-0.6**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.8						
ULN	**Ulaanbaatar**	**95.56**	**319**	*eP*	**P**	**20 44 58.6**	**-0.6**
	comp=Z,2.7nm,0.5s,mb4.7						
ULN				*epP*	pP	20 46 60.0	-0.5
DGMT	**Dagmar**	**95.90**	**40**	*eP*	**P**	**20 45 00.8**	**0.0**
	comp=Z,7.5nm,0.6s,mb5.1						
DGMT				*epP*	pP	20 47 04.2	+2.2
SONM	**Songino Array**	**95.95**	**319**	P	**P**	**20 45 00.5**	**-0.5**
SONM				pP	pP	20 47 02.4	+0.2
SONM				PP	PP	20 49 00.2	-2.9
SONM	**Songino Array**	**95.95**	**319**	P	**P**	**20 45 00.5**	**-0.5**
	comp=Z,1.6nm,0.4s,mb4.6,baz=114,slow=3.6,SNR=47						
SONM				pP	pP	20 47 02.4	+0.2
	comp=Z,1.2nm,1.0s,baz=97,slow=3.4,SNR=3.6						
SONM				PP	PP	20 49 00.2	-2.9
	comp=Z,2.5nm,1.1s,baz=117,slow=6.7,SNR=5.4						
SONM				PKiKP	PKiKP	20 49 35.8	-0.3
	comp=Z,0.6nm,0.5s,baz=101,slow=1.4,SNR=6.5						
SONM				PKKPbc	PKKPbc	21 01 45.3	-2.6
	comp=Z,0.4nm,0.6s,baz=270,slow=1.5,SNR=4.4						
BOD	**Bodaibo**	**96.47**	**330**	*eP*	**P**	**20 45 00.6**	**-2.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.8s,mb4.5						
GTA	**Gaotai**	**97.00**	**309**	*eP*	**P**	**20 45 06.4**	**+0.5**
GTA				AP	pP	20 47 07.6	+0.3
GTA				XP	sP	20 47 59.9	-2.4
GTA				PP	PP	20 49 11.8	+0.5
GTA				SKS		20 54 50.9	
GTA				S	S	20 55 39.2	-2.0
GTA				PS	PS	20 58 16.6	-3.2
GTA				XS	sS	20 59 13.7	-6.1
GTA				SS	SS	21 02 34.8	0.0
GTA				AMB	AMB		
	comp=Z,15nm,1.4s,mb5.0						
GTA				AMB	AMB		
	comp=Z,118nm,8.4s						
YKA	**Yellowknife Ar**	**97.46**	**25**	P	**P**	**20 45 06.0**	**-1.4**
YKA				pP	pP	20 47 08.4	-0.4
YKA	**Yellowknife Ar**	**97.46**	**25**	P	**P**	**20 45 06.0**	**-1.4**
	comp=Z,3.3nm,0.9s,mb4.6,baz=242,slow=4.3,SNR=31						
YKA				pP	pP	20 47 08.4	-0.4
	comp=Z,2.0nm,0.8s,baz=241,slow=4.3,SNR=3.9						
YKA				PKiKP	PKiKP	20 49 36.8	-1.6
	comp=Z,0.4nm,0.5s,baz=233,slow=1.6,SNR=6.3						
ZAK	**Zakamensk**	**98.85**	**321**	*eP*	Pdif	20 45 11.3	-2.8
ZAK				*e*		20 54 58.8	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.5						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb4.3						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.5						
TIXI	**Tiksi**	**99.34**	**345⇑**	*eP*	Pdif	20 45 13.6	-2.7
TIXI				pmax	pmax		
	comp=Z,11nm,1.4s,mb5.0						
TIXI	**Tiksi**	**99.34**	**345**	*eP*	Pdif	20 45 14.1	-2.2
	comp=Z,10nm,1.4s						
TIXI				*epP*	pP	20 47 19.1	+1.9
GUN	**Gumba**	**104.29**	**295**	*eP*	Pdif	20 45 38.9	+0.6
	comp=Z,4.7nm,0.4s						
DMN	**Daman**	**104.86**	**294**	*eP*	Pdif	20 45 42.2	+1.4
	comp=Z,24nm,1.2s						
KOLN	**Koldanda**	**106.19**	**294**	*eP*	Pdif	20 45 48.0	+1.3
	comp=Z,7.9nm,0.7s						
WMQ	**Urumqi**	**106.98**	**311**	*e*PKP	PKiKP	20 49 52.8	-3.5
ZAA0	**Zalesovo Array**	**110.72**	**321**	*e*PKiKP	PKiKP	20 50 00.3	-2.8
ZALV	**Zalesovo Beam**	**110.72**	**321**	Pdif	Pdif	20 46 06.9	+0.1
ZALV				PKPdf	PKiKP	20 50 01.2	-1.9
ZALV	**Zalesovo Beam**	**110.72**	**321**	Pdiff	Pdif	20 46 06.9	+0.1
	comp=Z,0.2nm,0.3s,baz=72,slow=4.7,SNR=2.8						
ZALV				PKiKP	PKiKP	20 50 01.2	-1.9
	comp=Z,5.6nm,0.5s,baz=51,slow=0.9,SNR=31						
ZAL	**Zalesovo**	**110.73**	**321**	P	Pdif	20 46 06.9	0.0
ZAL						20 50 01.2	
MK31	**Makanchi Array**	**111.30**	**313**	*i* PKIKP	PKiKP	20 50 02.8	-1.6
MKAR	**Makanchi Array**	**111.30**	**313**	*i* PKIKP	PKiKP	20 50 02.7	-1.7
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**111.30**	**313**	Pdiff	Pdif	20 46 10.5	+1.1
	comp=Z,1.3nm,0.6s,baz=93,slow=6.1,SNR=8.7						
MKAR				PKiKP	PKiKP	20 50 02.7	-1.7
	comp=Z,3.2nm,0.4s,baz=123,slow=0.7,SNR=43						
MKAR				PKKPbc	PKKPbc	21 01 00.9	-1.6
	comp=Z,0.8nm,0.5s,baz=261,slow=3.4,SNR=4.6						
NVS	**Novosibirsk**	**111.75**	**322**	*e*PKIKP	PKiKP	20 50 02.5	-2.5
NVS				*eS*	SKSac	20 55 51.9	-3.8
NVS				pmax	pmax		
	comp=Z,18nm,1.3s						
NVS				pmax	pmax		
	comp=E,11nm,1.1s						
NVS				smax			
	comp=E,88nm,2.3s						
KURK	**Kurchatov**	**114.16**	**317⇑**	*i* PKIKP	PKiKP	20 50 07.5	-2.2
KURK	**Kurchatov**	**114.16**	**317**	*e*PKiKP	PKiKP	20 50 07.5	-2.2
KSH	**Kashi**	**114.84**	**305**	*e*PKP	PKPdf	20 50 11.6	+0.2
KSH				*ep*PP	PP	20 51 27.1	+6.5
KSH				*e*XPKP		20 53 10.2	
KSH				*e*PKS		20 53 47.1	
KSH				*e*PPP		20 53 59.2	
KSH				*e*SKS	SKSdf	20 56 31.7	+0.2
KSH				*e*SKKS	SKKSac	20 57 24.3	+0.1
KSH				PP	PP		
	comp=Z,298nm,3.7s						
TKM2	**Tokmak 2**	**115.53**	**308**	*e*PKIKP	PKPdf	20 50 11.3	-1.3
TKM2	**Tokmak 2**	**115.53**	**308**	P	PKPdf	20 50 11.8	-0.8
	SNR=6.5						
FRU	**Bishkek**	**116.23**	**308**	*e*PKIKP	PKPdf	20 50 13.0	-1.0
FRU				*e*		20 51 29.0	
FRU				*e*		20 52 07.0	
UCH	**Uchtor**	**116.25**	**308**	*e*PKPdf	PKPdf	20 50 13.6	-0.5
UCH	**Uchtor**	**116.25**	**308**	P	PKPdf	20 50 14.0	0.0
	SNR=13						
AAK	**Ala-Archa**	**116.31**	**308⇑**	*i* PKIKP	PKPdf	20 50 12.2	-1.9
AAK	**Ala-Archa**	**116.31**	**308**	PKP	PKPdf	20 50 12.1	-2.0
AAK	**Ala-Archa**	**116.31**	**308**	PKP	PKPdf	20 50 12.1	-2.0
	comp=Z,2.4nm,0.3s,baz=178,slow=3.5,SNR=7.5						
EKS2	**Erkin-Say**	**116.84**	**308**	*e*PKPdf	PKPdf	20 50 13.9	-1.3
EKS2	**Erkin-Say**	**116.84**	**308**	P	PKPdf	20 50 14.2	-1.0
	SNR=7.3						
PKME	**Peaks-Kenny Pk**	**118.27**	**49**	*e*PKPdf	PKPdf	20 50 15.7	-2.1
BVAR	**Borovoye Array**	**119.28**	**320**	PKP	PKPdf	20 50 18.0	-1.5
	comp=Z,20nm,0.4s,baz=132,slow=1.6,SNR=229						
BRVK	**Borovoye**	**119.35**	**320**	*e*PKIKP	PKPdf	20 50 17.6	-2.0
SCHQ	**Schefferville**	**119.64**	**38**	PKP	PKPdf	20 50 18.1	-2.1
	comp=Z,3.2nm,0.5s,baz=274,slow=2.8,SNR=11						
SPB4	**Spitsbergen Ar**	**122.60**	**356**	*e*PKPdf	PKPdf	20 50 23.8	-1.5
SVE	**Sverdlovsk**	**124.28**	**325**	*e*PKIKP	PKPdf	20 50 28.4	-0.6
SVE				pmax	pmax		
	comp=Z,36nm,0.9s						
BOSA	**Boshof**	**125.30**	**206**	PKP	PKPdf	20 50 32.3	+0.3
	comp=Z,12nm,1.0s,baz=188,slow=1.7,SNR=19						
ARU	**Arti**	**125.50**	**325**	*i* PKIKP	PKPdf	20 50 30.4	-0.9
ARU						20 52 29.0	
ARU						20 56 47.0	
ARU	**Arti**	**125.50**	**325**	*e*PKPdf	PKPdf	20 50 30.2	-1.2
KEV	**Kevo**	**129.11**	**349**	*e*pkp	PKPdf	20 50 35.6	-2.3
ARCES	**ARCESS Array B**	**129.57**	**349**	PKhKP		20 50 24.9	
	comp=Z,3.2nm,0.8s,baz=46,slow=3.5,SNR=4.7						
ARCES				PKP	PKPdf	20 50 37.4	-1.3
	comp=Z,16nm,0.5s,baz=30,slow=1.0,SNR=51						
JOF	**Joensuu**	**133.68**	**342**	*e*pkp		20 50 32.8	
LSZ	**Lusaka**	**135.14**	**218**	*e*PKIKP	PKPdf	20 50 50.5	-0.3
MAK	**Makhachkala**	**136.00**	**310**	*e*PKHKP		20 50 45.0	
MOS	**Moscow**	**136.29**	**331**	*e*PKIKP	PKPdf	20 50 49.0	-2.7
MOS				*e*		20 52 45.3	
FINES	**FINESS Array B**	**136.34**	**343**	PKHKP		20 50 38.0	
FINES						20 50 49.1	
FINES	**FINESS Array B**	**136.34**	**343**	PKhKP		20 50 38.0	
	comp=Z,2.3nm,0.4s,baz=56,slow=4.6,SNR=17						
FINES				PKP	PKPdf	20 50 49.1	-2.6
	comp=Z,8.6nm,0.4s,baz=61,slow=4.0,SNR=16						
FINES				SKPbc	SKPbc	20 53 32.5	0.0
	comp=Z,4.8nm,0.6s,baz=64,slow=4.4,SNR=7.5						
VRHR	**Novokhopersk**	**136.78**	**323**	*i* PKIKP	PKPdf	20 50 53.2	+0.4
VRHR				pmax	pmax		
	comp=Z,30nm,0.5s						
VRHR				pmax	pmax		
	comp=N,30nm,0.9s						
VRHR				pmax	pmax		
	comp=E,30nm,0.6s						
OBN	**Obninsk**	**137.15**	**331⇑**	*i* PKIKP	PKPdf	20 50 52.6	-0.7
OBN				*e*		20 53 48.5	
OBN				pmax	pmax		
	comp=Z,81nm,1.3s						
OBN	**Obninsk**	**137.15**	**331**	*e*PKPdf	PKPdf	20 50 52.2	-1.1
QRN	**Al-Qurain**	**137.38**	**290**	*eP*		20 50 43.0	
QRN				AMb	AMB	20 50 57.0	
	comp=Z,69nm,0.5s						
RDF	**Al-Radifah**	**137.70**	**290**	*eP*		20 50 43.9	
RDF				AMb	AMB	20 50 57.8	
	comp=Z,63nm,0.5s						
MIB	**Mutribah**	**137.88**	**291**	*eP*		20 50 43.7	
MIB				AMb	AMB	20 50 48.2	
	comp=Z,55nm,0.4s						
DGRG	**David-gareji**	**137.92**	**309**	P	PKPdf	20 50 47.5	-7.7
NAY	**Al-Naaiem**	**137.97**	**290**	*eP*		20 50 44.4	
NAY				AMb	AMB	20 50 48.7	
	comp=Z,7.2nm,0.6s						
VRSR	**Storozhevoye**	**138.06**	**325**	*i* PKIKP	PKPdf	20 50 56.5	+1.4
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.5s						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.7s						
VORD	**Divnogorie**	**138.13**	**324**	*e*PKIKP	PKPdf	20 50 54.4	-0.9
VORD				pmax	pmax		
	comp=Z,50nm,1.4s						
VORD				pmax	pmax		
	comp=N,10.0nm,0.5s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.6s						
MTA	**Mtatsminda**	**138.27**	**309**	P	PKPdf	20 50 56.1	+0.2
TBLG	**Delisi**	**138.30**	**309**	P		20 50 46.2	
KMBO	**Kilima Mbogo**	**138.46**	**242**	PKhKP		20 50 48.1	
	comp=E,1.9nm,0.5s,baz=72,slow=20,SNR=7.4						
KMBO				PKP	PKPdf	20 50 57.5	+0.4
	comp=E,4.2nm,0.5s,baz=121,slow=1.3,SNR=9.3						
GOR	**Gori**	**138.68**	**310**	P	PKPdf	20 50 51.1	-5.5
ONI	**Oni**	**138.97**	**311**	P	PKPdf	20 50 57.5	+0.5
KIV	**Kislovodsk**	**139.06**	**313**	*e*PKHKP		20 50 49.4	
KIV				*i*		20 50 56.7	
KIV				pmax	pmax		
	comp=Z,11nm,1.1s						
KIV	**Kislovodsk**	**139.06**	**313**	*e*PKPdf	PKPdf	20 50 56.9	-0.2
NB2	**NORSAR Subarra**	**139.67**	**353**	PKPdf		20 50 48.7	
	comp=Z,1.8nm,0.5s,baz=15,slow=1.9						
NOA	**NORSAR Array B**	**139.67**	**353**	PKHKP		20 50 49.3	
NOA						20 50 57.6	
NOA	**NORSAR Array B**	**139.67**	**353**	PKP		20 50 49.3	
NOA				PKP	PKPdf	20 50 57.6	-0.2
NOA				SKPbc	SKPbc	20 53 41.2	-0.7
NOA	**NORSAR Array B**	**139.67**	**353**	PKhKP		20 50 49.3	
	comp=Z,6.0nm,0.5s,baz=1.7,slow=2.2,SNR=41						
NOA				PKP	PKPdf	20 50 57.6	-0.2
	comp=Z,5.3nm,0.5s,baz=14,slow=3.9,SNR=10						
NOA				SKPbc	SKPbc	20 53 41.2	-0.7
	comp=Z,2.8nm,0.8s,baz=15,slow=4.5,SNR=3.7						
BHD	**Baghdad**	**140.20**	**297**	*ex*	x	20 50 50.0	
BHD				*ex*	x	20 54 35.0	
ARTV	**Artvin**	**140.48**	**310**	*i* P	PKPdf	20 50 54.4	-5.5
MSL	**Mosul**	**140.80**	**302**	*ex*	x	20 50 55.0	
MSL				*ex*	x	20 54 38.0	
SOC	**Sochi**	**141.20**	**314**	*e*PKIKP	PKPdf	20 50 59.3	-1.8
SOC				pmax	pmax		
	comp=Z,20nm,1.2s						
SOC				pmax	pmax		
	comp=Z,16nm,1.1s						
KONO	**Kongsberg**	**141.22**	**353**	*e*PKHKP		20 50 53.9	
MNK	**Minsk**	**141.26**	**335**	*e*PKHKP		20 50 55.0	
BNGL	**BINGOL**	**141.69**	**306**	*i* P	PKPdf	20 50 58.6	-3.5
DESE	**Dese**	**141.98**	**261**	*eP*	PKPdf	20 51 01.6	-1.7
FURI	**Furi**	**142.04**	**257**	*i* P	PKPdf	20 51 00.7	-2.7
ANN	**Anapa**	**142.19**	**317**	*i* PKHKP		20 50 57.1	
ANN				pmax	pmax		
	comp=Z,100nm,1.4s						
MLA1	**Latheron**	**142.85**	**4⇑**	*eP*	PKPdf	20 50 59.5	-4.0
MVH1	**Achvaich**	**143.17**	**5**	*eP*	PKPdf	20 51 00.8	-3.3
SUW	**Suwalki**	**143.34**	**338**	*e*PKP	PKPdf	20 51 01.9	-2.6
SUW	**Suwalki**	**143.34**	**338**	*e*PKP	PKPdf	20 51 02.0	-2.5
KSK	**Scoval**	**143.37**	**7⇑**	*eP*	PKPdf	20 51 01.8	-2.7
AKASG	**Malin Array Be**	**143.39**	**330**	PKP	PKPdf	20 51 01.6	-3.1
	comp=Z,93nm,0.4s,baz=44,slow=4.2,SNR=989						
AKASG				pPKP	pPKPdf	20 53 12.9	-0.7
	comp=Z,0.8nm,0.5s,baz=41,slow=4.4,SNR=2.9						
KIEV	**Kiev**	**143.41**	**330**	*e*PKHKP		20 51 00.4	
KAC	**Achnashellach**	**143.49**	**6⇑**	*eP*	PKPdf	20 51 02.1	-2.6
MCD	**Coleburn Disti**	**143.58**	**4⇑**	*eP*	PKPdf	20 51 01.8	-3.1
KPL	**Plockton**	**143.61**	**6⇑**	*eP*	PKPdf	20 51 02.2	-2.6
KPL				AMb	AMB	20 51 04.7	
	comp=Z,359nm,1.7s						
MDO	**Dochfour**	**143.63**	**5**	*eP*	PKPdf	20 51 02.3	-2.6
KSB	**Sheil Bridge**	**143.76**	**6⇑**	*eP*	PKPdf	20 51 03.5	-1.6
MME1	**Meikle Cairn**	**143.87**	**4**	*eP*	PKPdf	20 51 02.5	-2.8
MALT	**Malatya**	**143.92**	**306**	*e*PKPdf	PKPdf	20 51 05.3	-0.8
MALT				*ep*PKPdf	pPKPdf	20 53 17.8	+2.8
MALT	**Malatya**	**143.92**	**306**	*i* P	PKPdf	20 51 05.5	-0.5
KAR1	**Arisaig**	**144.01**	**7**	*eP*	PKPdf	20 51 04.3	-1.3
SIM	**Simferopol'**	**144.19**	**319**	*i* PKIKP	PKPdf	20 51 05.6	-0.7
SIM				pmax	pmax		
	comp=Z,258nm,1.1s						
ATAB	**Bozova**	**144.26**	**305**	*i* P	PKPdf	20 51 06.8	+0.1
MUD	**Monsted U'grnd**	**144.39**	**353**	*i* PKIKP	PKPdf	20 51 05.4	-0.9
MUD				pmax	pmax		
	comp=Z,330nm,1.3s						
MUD	**Monsted U'grnd**	**144.39**	**353**	*i* P	PKPdf	20 51 05.4	-0.9
	comp=Z,330nm,1.3s						
COP	**Copenhagen**	**144.66**	**349**	*i* PKIKP	PKPdf	20 51 06.0	-0.7
COP				pmax	pmax		
	comp=Z,100nm,1.4s						
COP	**Copenhagen**	**144.66**	**349**	*i* P	PKPdf	20 51 06.0	-0.7
	comp=Z,101nm,1.4s						
BSD	**Bornholm Skovb**	**144.71**	**347**	*i* PKIKP	PKPdf	20 51 06.1	-0.7
BSD				*i*		20 54 30.6	
BSD				pmax	pmax		
	comp=Z,290nm,1.3s						
BSD	**Bornholm Skovb**	**144.71**	**347**	*i* P	PKPdf	20 51 06.1	-0.7
	comp=Z,292nm,1.3s						
BSD				*i*		20 54 30.6	
EAB	**Aberfoyle**	**144.88**	**6⇑**	*eP*	PKPdf	20 51 06.2	-0.9
EDI	**Edinburgh**	**145.23**	**4**	*eP*	PKPdf	20 51 07.7	0.0
EDI				AMb	AMB	20 51 09.2	
	comp=Z,132nm,1.9s						
ESY	**Stoneypath**	**145.28**	**4⇑**	*eP*	PKPdf	20 51 07.4	-0.4
EBL	**Broad Law**	**145.39**	**4⇑**	*eP*	PKPdf	20 51 08.0	0.0
WAR	**Warsaw**	**145.54**	**339**	*e*PKP	PKPdf	20 51 09.7	+1.4
WAR	**Warsaw**	**145.54**	**339**	*e*PKP	PKPdf	20 51 09.7	+1.3
RGN	**Rugen**	**145.57**	**348**	*e*PKPbc	PKPbc	20 51 09.3	-0.5
GMK	**Mull of Kintyr**	**145.58**	**7⇑**	*eP*	PKPdf	20 51 08.4	+0.1
ANDN	**Andirin**	**145.71**	**306**	*i* P	PKPdf	20 51 09.3	+0.2
GKP	**Gorka Klasztor**	**145.82**	**343**	*e*PKP	PKPdf	20 51 09.7	+0.9
GKP	**Gorka Klasztor**	**145.82**	**343**	*e*PKP	PKPdf	20 51 09.7	+0.9
ESK	**Eskdalemuir**	**145.84**	**5⇑**	*eP*	PKPdf	20 51 09.6	+0.8
ESK				AMb	AMB	20 51 11.5	
	comp=Z,151nm,1.6s						
ESK	**Eskdalemuir**	**145.84**	**5**	*e*PKPdf	PKPdf	20 51 08.9	+0.1
ECK	**Cauldkaine Hil**	**145.98**	**5**	*eP*	PKPdf	20 51 09.5	+0.5
KIS	**Kishinev**	**146.05**	**326⇑**	*i* PKIKP	PKPdf	20 51 10.0	+0.6
KIS				*e*		20 53 10.0	
KIS				pmax	pmax		
	comp=Z,600nm,2.0s						
GAL1	**Galloway**	**146.15**	**6**	*eP*	PKPdf	20 51 09.2	-0.1
GCD	**Castle Douglas**	**146.22**	**6⇑**	*eP*	PKPdf	20 51 10.3	+0.8
LVV	**L'vov**	**146.34**	**333⇑**	*i* PKIKP	PKPdf	20 51 10.8	+1.0
XAL	**Allendale**	**146.36**	**4⇑**	*eP*	PKPdf	20 51 10.4	+0.8
AVNT	**Avonos**	**146.41**	**309**	*i* P	PKPbc	20 51 12.1	-0.5
CKE	**Keswick**	**146.57**	**5⇑**	*eP*	PKPbc	20 51 11.5	-1.1
IAS	**Iasi**	**146.57**	**327**	PKP2	PKPbc	20 51 12.6	-0.2
IAS	**Iasi**	**146.57**	**327⇓**	*i* P	PKPbc	20 51 12.2	-0.6
GMM	**Mts of Mourne**	**146.62**	**8**	*eP*	PKPbc	20 51 12.2	-0.5
BSEG	**Bad Segeberg**	**146.69**	**350**	*e*PKPdf	PKPdf	20 51 09.5	-0.7
BSEG				*e*PKPbc	PKPbc	20 51 12.1	-0.8
BSEG				*ep*PKPbc	pPKPbc	20 53 23.9	+4.3
GIM	**North Isle of**	**146.74**	**6⇑**	*eP*	PKPdf	20 51 11.8	+1.5
HLG	**Helgoland**	**146.77**	**353**	*e*PKPbc	PKPbc	20 51 12.6	-0.5
HLG				*e*PKPab	PKPab	20 51 16.3	+0.3
DMUB	**Kingscourt**	**146.82**	**9**	*eP*	PKPbc	20 51 12.4	-0.9
KWP	**Kalwaria**	**147.03**	**334**	*e*PKP	PKPbc	20 51 13.5	-0.4
KWP	**Kalwaria**	**147.03**	**334**	*e*PKP	PKPbc	20 51 13.5	-0.4
KWP	**Kalwaria**	**147.03**	**334⇑**	*i* P	PKPbc	20 51 13.7	-0.2
RCY	**Rachaya**	**147.23**	**299**	*eP*	PKPbc	20 51 15.0	0.0
BHL	**Bhannes**	**147.26**	**300**	*eP*	PKPbc	20 51 14.8	-0.3
DCN	**Croghan**	**147.31**	**10**	*eP*	PKPbc	20 51 13.6	-1.0
RUE	**Ruedersdorf**	**147.40**	**346**	*e*PKPdf	PKPdf	20 51 10.9	-0.5
RUE				*e*PKPbc	PKPbc	20 51 14.4	-0.4
RUE	**Ruedersdorf**	**147.40**	**346**	*e*PKPdf	PKPdf	20 51 10.9	-0.6
RUE				*e*PKPbc	PKPbc	20 51 14.1	-0.7
RUE				*e*PKPab	PKPab	20 51 18.6	-0.1
BURAR	**Bucovina Array**	**147.43**	**329**	⇑PKP2	PKPbc	20 51 15.0	-0.1
BURAR	**Bucovina Array**	**147.43**	**329⇑**	*i* P	PKPbc	20 51 15.1	0.0
ANTO	**Ankara**	**147.44**	**312**	*e*PKIKP	PKPdf	20 51 11.1	-0.8
ANTO				*e*		20 51 14.6	
ANTO	**Ankara**	**147.44**	**312**	*e*PKPdf	PKPdf	20 51 11.1	-0.8
ANTO				*e*PKPbc	PKPbc	20 51 14.6	-0.7
ANTO				*ep*PKPdf	pPKPdf	20 53 20.3	-0.7
ANTO	**Ankara**	**147.44**	**312**	PKPdf	PKPdf	20 51 11.2	-0.7
ANTO	**Ankara**	**147.44**	**312⇓**	*i* P	PKPdf	20 51 10.5	-1.4
DLF	**Lyons Farm**	**147.46**	**9**	*eP*	PKPbc	20 51 13.9	-1.1
CFR	**Cercaliu**	**147.56**	**324**	PKIKP	PKPdf	20 51 11.7	-0.3
OJC	**Ojcow**	**147.66**	**338**	*e*PKPdf	PKPdf	20 51 11.7	-0.2
LHO	**Holmfirth**	**147.69**	**4⇑**	*eP*	PKPbc	20 51 14.4	-1.1
KOLS	**Kolonicke sedl**	**147.75**	**334**	*e*PKP	PKPdf	20 51 12.5	+0.4
KOLS				*e*		20 51 16.6	
STHS	**Stebnicka Huta**	**147.78**	**335**	*e*PKIKP	PKPdf	20 51 13.4	+1.2
STHS				*e*		20 51 21.1	
STHS	**Stebnicka Huta**	**147.78**	**335**	*e*PKP	PKPdf	20 51 13.4	+1.2
STHS				*e*		20 51 16.4	
STHS				*e*		20 51 21.1	
STHS				*e*		20 53 27.9	
STHS	**Stebnicka Huta**	**147.78**	**335**	*e*PKP	PKPdf	20 51 13.4	+1.2
STHS				*e*		20 51 16.4	
STHS				*e*		20 51 21.0	
STHS				*e*		20 53 27.9	
TIRR	**Tirgusor**	**147.85**	**322**	⇓PKIKP	PKPbc	20 51 14.8	-1.4
TIRR	**Tirgusor**	**147.85**	**322**	P	PKPbc	20 51 15.8	-0.4
TIRR	**Tirgusor**	**147.85**	**322⇓**	*i* P	PKPbc	20 51 15.9	-0.3
VRI	**Vrincioaia**	**147.88**	**326**	⇓PKIKP	PKPbc	20 51 15.4	-0.9
VRI	**Vrincioaia**	**147.88**	**326⇓**	*i* P	PKPbc	20 51 15.9	-0.4
BRD	**Bordesti**	**147.93**	**325**	⇑PKP2	PKPbc	20 51 17.5	+1.1
BRD	**Bordesti**	**147.93**	**325⇑**	*i* P	PKPbc	20 51 17.0	+0.6
PLOR	**Plostina**	**147.93**	**326⇑**	*i* P	PKPbc	20 51 15.6	-0.8
HARR	**Harsova**	**147.98**	**323**	PKP2	PKPbc	20 51 16.4	-0.2
HARR	**Harsova**	**147.98**	**323⇑**	*i* P	PKPbc	20 51 16.2	-0.4
UZH	**Uzhgorod**	**147.98**	**333⇓**	*e*PKIKP	PKPdf	20 51 11.6	-0.9
UZH	

BRG pmax pmax
comp=Z,31nm,1.3s
BRG Berggiesshubel 148.85 345 *e*PKPdf PKPdf 20 51 13.3 -0.6
BRG *e*PKPbc PKPbc 20 51 18.0 -0.5
BRG *e*PKPab PKPab 20 51 24.5 -0.1
BRG Berggiesshubel 148.85 345 *e*PKP PKPdf 20 51 13.7 -0.1
comp=Z,68nm,1.8s
BRG *i* 20 51 18.2
comp=Z,321nm,1.6s
BRG *i* 20 51 24.1
comp=Z,86nm,1.2s
BRG *i* 20 53 24.0
BRG *i* pPKP pPKPdf 20 53 29.2 +6.2
comp=Z,51nm,1.3s
BRG *i* 20 54 22.0
BRG *i* 20 57 49.0
MAMC Mammari 148.86 303 P PKPbc 20 51 18.4 -0.7
FBE Freiberg 148.95 345 *e*PKPdf PKPdf 20 51 13.7 -0.3
FBE *e*PKPbc PKPbc 20 51 18.3 -0.5
FBE *e*PKPab PKPab 20 51 25.1 0.0
PVCC Panska Ves 149.01 344 *e*PKPDF PKPdf 20 51 14.2 +0.1
PVCC ⇑*e*PKP PKPbc 20 51 18.8 -0.1
PVCC *ep*PKP pPKPdf 20 53 26.8 +3.6
VOIR P 149.04 327 P PKPbc 20 51 19.0 -0.2
VOIR 149.04 327 ⇓*i*P PKPbc 20 51 18.4 -0.8
BORA Eskisehir 149.04 313 *i* P PKPbc 20 51 18.5 -0.8
WTSB Winterswijk 149.08 353 *i* PKiKP PKiKP 20 51 13.6 -6.3
comp=Z,51nm,1.8s
WTSB Winterswijk 149.08 353 ⇓*i*PKPpre 20 51 18.5
comp=Z,240nm,1.5s
WTSB Winterswijk 149.08 353 *i* PKPab PKPab 20 51 24.6 -1.0
comp=Z,86nm,1.5s
WTSB Winterswijk 149.08 353 *e*P pPKPbc 20 53 30.1 +3.6
comp=Z,64nm,1.8s
MCH1 Michaelchurch 149.15 5⇑*e*P PKPbc 20 51 17.8 -1.4
MCH1 AMb AMB 20 51 20.3
comp=Z,162nm,1.5s
DRGR 149.20 331 ⇓PKHKP PKPbc 20 51 18.7 -0.8
DRGR 149.20 331 P PKPbc 20 51 18.9 -0.6
DRGR 149.20 331 ⇓*i*P PKPbc 20 51 19.1 -0.4
SZAC Souni-Zanaja 149.25 303 P PKPbc 20 51 19.5 -0.5
SSW Stow on the Wo 149.26 4⇑*e*P PKPbc 20 51 18.6 -0.9
ALFC Alevga 149.34 304 P PKPbc 20 51 19.2 -1.0
comp=Z,3.7nm,0.5s
VYHS Vyhne 149.44 337 *e*PKIKP PKPdf 20 51 14.6 -0.3
VYHS *e* 20 51 27.3
VYHS Vyhne 149.44 337 *e*PKP PKPdf 20 51 14.6 -0.3
VYHS *e* 20 51 19.6
VYHS *e* 20 51 27.3
VYHS *e* 20 53 31.5
VYHS Vyhne 149.44 337 *e*PKP PKPdf 20 51 14.5 -0.4
VYHS *e* 20 51 19.6
VYHS *e* 20 51 27.2
VYHS *e* 20 53 31.5
PRA Prague 149.46 343 ⇑PKP PKPbc 20 51 20.0 0.0
PRA PKPAB PKPab 20 51 28.0 +0.8
PRU Pruhonice 149.51 343 *e*PKP PKPdf 20 51 14.8 -0.1
PRU *e* 20 51 19.5
PRU *e* 20 51 27.4
PRU Pruhonice 149.51 343 *e*PKPDF PKPdf 20 51 14.8 -0.1
PRU ⇑*e*PKP PKPbc 20 51 19.5 -0.6
PRU *e*PKPAB PKPab 20 51 27.4 0.0
PRU *ep*PKP pPKPdf 20 53 26.7 +2.6
VRAC Vranov 149.51 340 ⇑PKHKP PKPbc 20 51 19.0 -1.2
VRAC Vranov 149.51 340 P PKPbc 20 51 20.8 +0.7
VRAC Vranov 149.51 340 ⇓*i*P PKPbc 20 51 19.5 -0.7
PSZ Piszkesteto 149.52 335 *e*PKIKP PKPdf 20 51 14.5 -0.5
PSZ PKPbc 20 51 19.4 -0.8
PSZ Piszkesteto 149.52 335 *e*PKPdf PKPdf 20 51 14.5 -0.5
PSZ ⇓P PKPbc 20 51 19.4 -0.8
PSZ *e*PKPbc PKPbc 20 51 19.5 -0.7
PSZ *ep*PKPdf pPKPdf 20 53 27.9 +3.8
PSZ Piszkesteto 149.52 335⇓*e*PKP PKPbc 20 51 19.9 -0.3
PSZ Piszkesteto 149.52 335⇓*i*P PKPbc 20 51 19.4 -0.8
BUG Bochum--Univer 149.54 353 *e*PKPdf PKPdf 20 51 14.0 -0.9
BUG *e*PKPbc PKPbc 20 51 19.2 -1.0
BUG *e*PKPab PKPab 20 51 26.9 -0.6
BUG *ep*PKPbc pPKPbc 20 53 32.3 +4.5
SKP1 Kophill 149.56 3 *e*P PKPbc 20 51 18.2 -2.0
AKMC Akamas 149.59 303 P PKPbc 20 51 19.3 -1.5
MOX Moxa 149.60 347 *e*PKP PKPdf 20 51 14.8 -0.2
MOX *e* 20 51 19.7
comp=Z,284nm,1.9s
MOX *e* 20 53 27.3
MOX Moxa 149.60 347 *e*PKIKP PKPdf 20 51 14.8 -0.2
MOX pmax pmax
comp=Z,284nm,1.9s
MOX Moxa 149.60 347 *e*PKPdf PKPdf 20 51 14.7 -0.3
MOX *e*PKPbc PKPbc 20 51 19.7 -0.6
MOX *e*PKPab PKPab 20 51 27.4 -0.3
PPCY Paphos 149.63 303 P PKPbc 20 51 19.5 -1.4
TANN Tannenbergstha 149.63 346 *e*PKPdf PKPdf 20 51 14.8 -0.3
TANN *e*PKPbc PKPbc 20 51 19.6 -0.8
TANN *e*PKPab PKPab 20 51 28.0 +0.1
TANN *ep*PKPbc pPKPbc 20 53 33.0 +4.9
WERD Werda 149.63 346 *e*PKPdf PKPdf 20 51 14.5 -0.6
WERD *e*PKPbc PKPbc 20 51 19.6 -0.8
WERD *e*PKPab PKPab 20 51 27.9 0.0
GUNZ Gunzen 149.71 346 *e*PKPdf PKPdf 20 51 14.8 -0.4
GUNZ *e*PKPbc PKPbc 20 51 20.3 -0.3
GUNZ *e*PKPab PKPab 20 51 28.5 +0.3
SWN1 Swindon 149.72 4 *e*P PKPbc 20 51 19.4 -1.2
UBBA Unterbreizbach 149.74 349 *e*PKPdf PKPdf 20 51 14.4 -0.9
UBBA *e*PKPbc PKPbc 20 51 19.8 -0.9
UBBA *e*PKPab PKPab 20 51 27.9 -0.4
UBBA *ep*PKPbc pPKPbc 20 53 33.0 +4.6
WERN Wernitzgruen 149.77 346 *e*PKPdf PKPdf 20 51 14.9 -0.4
WERN *e*PKPbc PKPbc 20 51 20.6 -0.1
WERN *e*PKPab PKPab 20 51 28.7 +0.2
WERN *ep*PKPbc pPKPbc 20 53 33.4 +5.0
NKC Novy Kostel 149.80 346 *e*PKP PKPdf 20 51 15.3 -0.1
NKC *e* PKPbc 20 51 20.3 -0.5
NKC *e* 20 51 28.2
NKC Novy Kostel 149.80 346 *e*PKPDF PKPdf 20 51 15.3 -0.1
NKC ⇑*e*PKP PKPbc 20 51 20.3 -0.5
NKC *e*PKPAB PKPab 20 51 28.2 -0.4
NKC *ep*PKP pPKPdf 20 53 33.5 +8.9
TREC Trest 149.86 341 *e*PKIKP PKPdf 20 51 15.2 -0.3
TREC *e* 20 51 28.8
TREC Trest 149.86 341 *e*PKPDF PKPdf 20 51 15.2 -0.3
TREC ⇑*e*PKP PKPbc 20 51 20.3 -0.7
TREC *e*PKPAB PKPab 20 51 28.8 -0.1
TREC *ep*PKP pPKPdf 20 53 25.8 +1.1
ISP Isparta 149.91 310 *e*P PKPbc 20 51 20.3 -1.2
ISP Isparta 149.91 310 P PKPbc 20 51 20.4 -1.1
ISP Isparta 149.91 310 ⇓*i*P PKPbc 20 51 20.0 -1.5
HEX Exmoor 149.99 7 *e*P PKPbc 20 51 19.9 -1.3
SWK Warminster 150.05 5 *e*P PKPbc 20 51 20.2 -1.2
ZIMR 150.06 324 PKHKP PKPbc 20 51 21.1 -0.5
ZIMR 150.06 324⇑*i*P PKPbc 20 51 21.0 -0.6
MODS Modra-Piesok 150.10 338 *e*PKHKP PKPdf 20 51 16.2 +0.3
MODS *e* 20 30.9
MODS Modra-Piesok 150.10 338 *e*PKP PKPdf 20 51 16.2 +0.3
MODS *e* 20 51 21.9
MODS *e* 20 51 30.9
MODS *e* 20 53 34.0
MODS Modra-Piesok 150.10 338 *e*PKP PKPdf 20 51 16.2 +0.3
MODS *e* 20 51 21.9
MODS *e* 20 51 30.9
MODS *e* 20 53 34.0
JMB Yambol 150.11 321 *e*P PKPbc 20 51 21.4 -0.4
MANZ Manzenberg 150.11 346 *e*PKPdf PKPdf 20 51 15.0 -0.9
MANZ *e*PKPbc PKPbc 20 51 21.0 -0.6
MANZ *e*PKPab PKPab 20 51 29.9 0.0
MANZ *ep*PKPbc pPKPbc 20 53 32.8 +3.5
GZR Gura Zlata 150.20 329 PKIKP PKPbc 20 51 20.8 -1.1
BUD Budapest 150.21 336⇓*e*PKP PKPbc 20 51 21.3 -0.6
ROTZ Rotzenmuhle 150.29 346 *e*PKPdf PKPdf 20 51 15.4 -0.8
ROTZ *e*PKPbc PKPbc 20 51 21.3 -0.7
ROTZ *e*PKPab PKPab 20 51 30.8 +0.1
ROTZ *ep*PKPbc pPKPbc 20 53 33.2 +3.4
ZST Bratislava 150.31 339 *e*PKIKP PKPdf 20 51 16.3 +0.1
ZST *e* 20 51 31.5
ZST Bratislava 150.31 339 *e*PKP PKPdf 20 51 16.3 +0.1
ZST *e* 20 51 21.8
ZST *e* 20 51 31.5
ZST *e* 20 53 28.7
BEBN Eben Emael 150.34 354 PKPbc PKPbc 20 51 20.5 -1.6
BEBN PKPab PKPab 20 51 30.1 -0.8
HGN Heimansgroeve 150.35 354 *e*PKiKP PKPdf 20 51 15.6 -0.6
comp=Z,18nm,1.8s
HGN Heimansgroeve 150.35 354⇓*i*PKPpre PKPbc 20 51 21.6 -0.5
comp=Z,84nm,1.3s
HGN Heimansgroeve 150.35 354⇑*i*PKPab PKPab 20 51 30.1 -0.8
comp=Z,79nm,1.3s
HGN Heimansgroeve 150.35 354 *e*P pPKPdf 20 53 33.3 +7.9
comp=Z,40nm,1.7s
PVL Pavlikeni 150.36 323 P PKPbc 20 51 22.8 +0.4
UCC Uccle 150.44 356 PKP PKPdf 20 51 15.3 -1.0
UCC PKPbc PKPbc 20 51 21.3 -1.0
UCC PKPab PKPab 20 51 30.2 -1.1
CRAR CRAIOVA 150.45 326 PKIKP PKPbc 20 51 23.3 +0.8
MEM Membach 150.50 354 PKP PKPdf 20 51 16.1 -0.3
MEM PKPbc PKPbc 20 51 21.5 -0.9
MEM PKPab PKPab 20 51 30.6 -0.9
MEM APKPbc 20 53 28.1
KHC Kasperske Hory 150.55 344 *e*PKIKP PKPdf 20 51 16.4 -0.2
KHC *e* 20 51 22.1
KHC *e* 20 51 32.1
KHC Kasperske Hory 150.55 344 *e*PKPDF PKPdf 20 51 16.4 -0.2
KHC ⇑*e*PKP PKPbc 20 51 22.1 -0.5
KHC *e*PKPAB PKPab 20 51 32.1 +0.3
KHC *ep*PKP pPKPdf 20 53 32.5 +6.7
GRA1 Grafenberg Arr 150.58 347 *e*PKPdf PKPdf 20 51 16.0 -0.6
GRA1 *e*PKPbc PKPbc 20 51 22.1 -0.6
GRA1 *e*PKPab PKPab 20 51 32.2 +0.3
GRA1 *ep*PKPbc pPKPbc 20 53 34.1 +3.6
GRF Grafenberg Arr 150.58 347 *e*PKPdf PKPdf 20 51 16.0 -0.6
GRF *e*PKPbc PKPbc 20 51 22.1 -0.6
GRF *e*PKPab PKPab 20 51 32.2 +0.3
GRF *ep*PKPbc pPKPbc 20 53 34.1 +3.6
GRFO Grafenberg 150.58 347 *e*PKPbc PKPbc 20 51 22.1 -0.6
BZS Buzias 150.59 330 PKIKP PKPbc 20 51 22.0 -0.8
BZS Buzias 150.59 330 ⇓*i*P PKPbc 20 51 21.8 -1.0
CCA1 Carnmenellis 150.68 9 *e*P PKPbc 20 51 21.3 -1.6
CRQ2 Rosemanowes 2 150.71 9⇑*e*P PKPbc 20 51 21.7 -1.2
WET Wettzell 150.71 344 *e*PKPdf PKPdf 20 51 16.2 -0.6
WET *e*PKPbc PKPbc 20 51 22.4 -0.6
WET *e*PKPab PKPab 20 51 32.9 +0.4
WET *ep*PKPbc pPKPbc 20 53 34.3 +3.5
BCLA Clavier 150.75 355 PKPbc PKPbc 20 51 22.1 -1.0
BCLA PKPab PKPab 20 51 31.6 -1.0
MENF Mencas 150.77 359 PKP PKPdf 20 51 14.6 -2.3
GEC2 GERESS Array S 150.78 343 *e*PKPdf PKPdf 20 51 16.1 -0.8
GEC2 *e*PKPbc PKPbc 20 51 22.4 -0.7
GEC2 *e*PKPab PKPab 20 51 32.8 +0.1
GEC2 *ep*PKPbc pPKPbc 20 53 34.4 +3.4
GERES GERESS Array B 150.78 343 PKIKP PKPbc 20 51 22.6 -0.5
GERES 20 51 32.4
GERES GERESS Array B 150.78 343 PKPbc PKPbc 20 51 22.6 -0.5
comp=Z,18nm,0.5s,baz=26,slow=2.5,SNR=104
GERES PKPab PKPab 20 51 32.4 -0.3
comp=Z,9.8nm,0.9s,baz=20,slow=2.0,SNR=7.9
GERES pPKPbc pPKPbc 20 53 30.7 -0.3
comp=Z,3.1nm,0.9s,baz=72,slow=18,SNR=1.6
CMA1 Manaccan 150.80 9⇑*e*P PKPbc 20 51 21.9 -1.2
SOP Sopron 150.94 339⇓*e*PKP PKPbc 20 51 23.4 -0.1
CONA Conrad Observa 150.96 340⇑*i*PKPdf PKPdf 20 51 17.0 -0.3
comp=Z,18nm,1.6s,SNR=18
CONA ⇑*i*PKiKP PKiKP 20 51 23.5 -0.4
comp=Z,48nm,0.6s
CONA ⇓*i*PKPab PKPab 20 51 34.6 +1.0
comp=Z,92nm,1.4s
ABH Alteburg 151.04 352 PKP PKPdf 20 51 17.3 0.0
GIVF Givet 151.10 355 *e*PKIKP PKPdf 20 51 16.2 -1.2
TOD Tromm 151.12 350 PKIKP PKPdf 20 51 17.1 -0.3
DOU Dourbes 151.13 356 PKPbc PKPbc 20 51 23.1 -0.8
DOU PKPab PKPab 20 51 33.2 -1.0
DOU APKPab 20 53 35.3
BAIF Baives 151.19 356 *e*PKIKP PKPdf 20 51 16.3 -1.2
AKAS Kas 151.23 307 *i* P PKPbc 20 51 23.5 -1.1
RUP Ruppelstein 151.28 352 PKIKP PKPdf 20 51 17.8 +0.2
AKHS Akhisar 151.32 314 *i* P PKPbc 20 51 23.5 -1.2
ALN Alexandroupoli 151.37 319 *e*P PKPbc 20 51 21.5 -3.2
PKSM Moragy 151.40 334 ⇑PKIKP PKPbc 20 51 22.5 -2.1
PKSM Moragy 151.40 334 P PKPbc 20 51 23.6 -1.1
PKSM Moragy 151.40 334⇑*i*P PKPdf 20 51 15.0 -3.0
WLF Walferdange 151.42 353 *e*PKIKP PKPdf 20 51 17.9 0.0
WLF *e* 20 51 24.3
WLF Walferdange 151.42 353 PKP PKPdf 20 51 18.9 +1.0
WLF PKPbc PKPbc 20 51 24.4 -0.1
WLF PKPab PKPab 20 51 34.6 -0.8
WLF APKPab 20 53 37.1
WLF Walferdange 151.42 353 *e*PKPdf PKPdf 20 51 18.0 +0.1
WLF *e*PKPbc PKPbc 20 51 24.3 -0.2
WLF *e*PKPab PKPab 20 51 35.4 0.0
WLF *ep*PKPbc pPKPbc 20 53 36.1 +3.6
PLD Plovdiv 151.43 322 *e*P PKPbc 20 51 23.9 -1.0
MOA Molln 151.52 342⇓*i* PKPbc 20 51 23.9 -0.9
comp=Z,16nm,0.6s
MOA Molln 151.52 342⇑*i* PKPab 20 51 36.5 +0.6
comp=Z,83nm,1.5s
MOA Molln 151.52 342⇑*i*PKPdf PKPdf 20 51 17.4 -0.7
comp=Z,11nm,1.8s,SNR=9.5
MOA ⇓*i*PKPbc PKPbc 20 51 23.9 -0.9
comp=Z,16nm,0.6s
MOA ⇑*i*PKPab PKPab 20 51 36.5 +0.6
comp=Z,83nm,1.5s
MOA ⇓*ip*PKPab pPKPab 20 53 36.8 -1.8
comp=Z,39nm,1.4s
ARSA Arzberg 151.66 339⇓*i* PKPbc 20 51 24.5 -0.6
comp=Z,33nm,1.6s
ARSA Arzberg 151.66 339⇑*i*PKPdf PKPdf 20 51 17.5 -0.8
comp=Z,10.0nm,1.5s
ARSA ⇓*i*PKPbc PKPbc 20 51 24.5 -0.6
comp=Z,33nm,1.6s
ARSA ⇑*ip*PKPab pPKPab 20 53 37.4 -1.9
comp=Z,17nm,1.4s
STU Stuttgart 151.86 349 *e*PKPdf PKPdf 20 51 17.9 -0.6
STU *e*PKPbc PKPbc 20 51 24.9 -0.7
STU *e*PKPab PKPab 20 51 37.1 -0.2
STU *ep*PKPbc pPKPbc 20 53 36.5 +2.9
AYDN Tasoluk 151.86 311 *i* P PKPbc 20 51 25.7 -0.2
LANF Langenberg 151.88 351 PKP PKPdf 20 51 18.5 -0.1
VTS Vitosha 151.95 324 *e*P PKPbc 20 51 25.6 -0.4
VTS Vitosha 151.95 324 P PKPdf 20 51 18.2 -0.7
VTS ⇑P PKPbc 20 51 25.5 -0.5
VTS Vitosha 151.95 324⇑*i*P PKPbc 20 51 25.7 -0.3
VTS Vitosha 151.95 324 P PKPbc 20 51 25.3 -0.7
FUR Furstenfeldbru 152.01 346 *e*PKPdf PKPdf 20 51 17.9 -0.9
FUR *e*PKPbc PKPbc 20 51 25.5 -0.9
FUR *e*PKPab PKPab 20 51 38.2 +0.2
FUR *ep*PKPbc pPKPbc 20 53 36.9 +2.9
KOGS Kog 152.11 338 *e*PKPdf PKPdf 20 51 17.9 -1.1
KOGS *i* PKPbc PKPbc 20 51 25.3 -0.9
KOGS *i* PKPab PKPab 20 51 38.0 -0.4
MMB Musomiste 152.32 322 P PKPbc 20 51 25.0 -1.8
BFO Black Forest 152.43 350 *e*PKPdf PKPdf 20 51 18.5 -0.9
BFO *e*PKPdf PKPbc 20 51 25.2 -1.6
BFO *e*PKPbc PKPbc 20 51 25.7 -1.1
BFO *e*PKPab PKPab 20 51 37.8 -1.9
BFO *e*PKPab PKPab 20 51 39.3 -0.4
BFO *ep*PKPdf pPKPdf 20 53 33.8 +5.1
BFO *ep*PKPbc pPKPbc 20 53 37.5 +2.5
BFO Black Forest 152.43 350 *e*PKPdf PKPdf 20 51 18.5 -0.9
BFO *e*PKPbc PKPbc 20 51 25.7 -1.1
BFO *e*PKPab PKPab 20 51 39.3 -0.4
BFO *ep*PKPbc pPKPbc 20 53 37.5 +2.5
BDRM Kayabasi 152.44 311 *i* P PKPbc 20 51 26.1 -1.1
LIA Limnos Island 152.48 318 *e*P PKPbc 20 51 26.0 -1.2
KBA Koelnbreinsper 152.48 342⇑*i* PKPbc 20 51 25.6 -1.4
comp=Z,33nm,1.1s
KBA Koelnbreinsper 152.48 342⇑*i* PKPab 20 51 41.0 +1.0
comp=Z,19nm,0.7s
KBA Koelnbreinsper 152.48 342⇑*i*PKPdf PKPdf 20 51 18.4 -1.1
comp=Z,14nm,1.3s,SNR=13
KBA ⇑*i*PKPbc PKPbc 20 51 25.6 -1.4
comp=Z,33nm,1.1s
KBA ⇑*i*PKPab PKPab 20 51 41.0 +1.0
comp=Z,19nm,0.7s
KBA ⇑*ip*PKiKP 20 53 37.8
comp=Z,27nm,1.2s
KBA Koelnbreinsper 152.48 342⇑*i*PKIKP PKPdf 20 51 18.4 -1.1
KBA *i* 20 51 25.6
KBA *i* 20 51 41.0
DIVS Divibare 152.49 330 *e*P PKPbc 20 51 26.4 -0.7
CDF Champ du Feu 152.51 351 *e*PKIKP PKPdf 20 51 18.1 -1.4
comp=Z,87nm,1.9s
LOS Limnos 152.52 318 *e*P PKPbc 20 51 25.6 -1.7
FLN La Foliniere 152.53 3 *e*PKIKP PKPdf 20 51 18.1 -1.4
comp=Z,64nm,1.2s
FLN *e*MLR MLR
comp=Z,89nm,17.5s
FLN La Foliniere 152.53 3 *e*PKPdf PKPdf 20 51 18.1 -1.4
FLN LR LR
comp=Z,90nm,17.5s
SPAK Spaichingen-Ko 152.58 349 PKP PKPdf 20 51 19.5 -0.1
MEZF Maizieres J'vi 152.67 355 *e*PKIKP PKPdf 20 51 18.7 -1.1
LDF La Druitiere 152.72 2 *e*PKIKP PKPdf 20 51 18.2 -1.6
comp=Z,23nm,1.0s
WATA Walderalm 152.72 345⇓*i* PKPbc 20 51 26.3 -1.2
comp=Z,33nm,1.1s
WATA Walderalm 152.72 345⇑*i* PKPab 20 51 40.8 -0.2
comp=Z,90nm,1.4s
WATA Walderalm 152.72 345⇑*i*PKPdf PKPdf 20 51 19.2 -0.7
comp=Z,28nm,1.6s,SNR=7.7
WATA ⇓*i*PKPbc PKPbc 20 51 26.3 -1.2
comp=Z,33nm,1.1s
WATA ⇑*i*PKPab PKPab 20 51 40.8 -0.2
comp=Z,90nm,1.4s
WATA ⇓*ip*PKPab pPKPab 20 53 39.3 -4.3
comp=Z,25nm,1.2s
WATA Walderalm 152.72 345⇑*i*PKIKP PKPdf 20 51 19.2 -0.7
WATA *i* 20 51 26.3
WATA *i* 20 51 40.8
ECH Echery 152.72 352 PKP PKPdf 20 51 19.5 -0.3
ROSF Rostrenen 152.74 7 *e*PKIKP PKPdf 20 51 18.6 -1.3
CHOS Chios island 152.75 314 *e*P PKPbc 20 51 26.9 -0.9
RETA Reutte 152.77 346⇑*i*PKPdf PKPdf 20 51 19.3 -0.6
comp=Z,12nm,1.9s,SNR=8.3
RETA ⇑*i*PKPbc PKPbc 20 51 26.8 -0.8
comp=Z,18nm,0.8s
RETA ⇓*i*PKPab PKPab 20 51 40.9 -0.3
comp=Z,28nm,0.6s
WTTA Wattenberg 152.77 345⇑*i* PKPbc 20 51 27.1 -0.5
comp=Z,91nm,1.1s
WTTA Wattenberg 152.77 345⇑*i* PKPab 20 51 41.5 +0.3
comp=Z,95nm,1.4s
WTTA Wattenberg 152.77 345⇑*i*PKPdf PKPdf 20 51 19.6 -0.3
comp=Z,26nm,1.6s,SNR=12
WTTA ⇑*i*PKiKP PKiKP 20 51 27.1 -0.6
comp=Z,91nm,1.1s
WTTA ⇑*i*PKPab PKPab 20 51 41.5 +0.3
comp=Z,95nm,1.4s
WTTA ⇑*ip*PKPab pPKPab 20 53 40.1 -3.8
comp=Z,34nm,1.2s
WTTA Wattenberg 152.77 345⇑*i*PKIKP PKPdf 20 51 19.6 -0.3
WTTA *i* 20 51 27.1
WTTA *i* 20 51 41.5
WTTA Wattenberg 152.77 345⇑*i*P PKPdf 20 51 19.6 -0.3
WTTA *i* 20 51 27.1
WTTA *i* 20 51 41.5
WTTA *i* 20 53 40.0
MYKA Terra Mystica 152.80 341⇑*i*PKPdf PKPdf 20 51 20.4 +0.4
comp=Z,11nm,1.0s
MYKA ⇑*i*PKPbc PKPbc 20 51 26.2 -1.5
comp=Z,15nm,0.5s
MYKA ⇑*i*PKPab PKPab 20 51 40.7 -0.7
comp=Z,130nm,1.6s
MOTA Moosalm 152.82 345⇑*i* PKPbc 20 51 26.9 -0.9
comp=Z,40nm,1.1s
MOTA Moosalm 152.82 345⇑*i* PKPab 20 51 41.2 -0.3
comp=Z,59nm,1.2s
MOTA Moosalm 152.82 345⇑*i*PKPdf PKPdf 20 51 19.3 -0.7
comp=Z,22nm,1.3s
MOTA ⇑*i*PKPbc PKPbc 20 51 26.9 -0.9
comp=Z,40nm,1.1s
MOTA ⇑*i*PKPab PKPab 20 51 41.2 -0.3
comp=Z,59nm,1.2s
MOTA ⇑*ip*PKPab pPKPab 20 53 40.1 -4.0
comp=Z,29nm,1.3s
MOTA Moosalm 152.82 345⇑*i*PKIKP PKPdf 20 51 19.4 -0.6
MOTA *i* 20 51 26.9
MOTA *i* 20 51 41.2
GCIS Gornji Cirnik 152.83 338 *i* PKPdf PKPdf 20 51 19.5 -0.6
GCIS *i* PKPbc PKPbc 20 51 27.4 -0.4
GCIS *e*PKPab PKPab 20 51 41.1 -0.4
THEF They Montfort 152.85 353 PKP PKPdf 20 51 20.0 0.0
MOZS Mozjanca 152.85 340 *i* PKPbc PKPbc 20 51 26.8 -1.0
GRR Gorron 152.89 3 *e*PKIKP PKPdf 20 51 18.7 -1.4
comp=Z,75nm,1.5s
SGMF Saint Gilles 152.90 6 *e*PKIKP PKPdf 20 51 18.5 -1.6
SQTA Sankt Quirin 152.91 345⇓*i* PKPbc 20 51 27.0 -1.0
comp=Z,35nm,1.1s
SQTA Sankt Quirin 152.91 345⇑*i* PKPab 20 51 41.9 +0.1
comp=Z,56nm,1.4s
SQTA Sankt Quirin 152.91 345⇓*i*PKPdf PKPdf 20 51 19.6 -0.5
comp=Z,14nm,1.3s
SQTA ⇓*i*PKPbc PKPbc 20 51 27.0 -1.0
comp=Z,35nm,1.1s
SQTA ⇑*i*PKPab PKPab 20 51 41.9 +0.1
comp=Z,56nm,1.4s
SQTA ⇑*ip*PKPab pPKPab 20 53 39.6 -4.8
comp=Z,15nm,1.2s
SQTA Sankt Quirin 152.91 345⇓*i*PKIKP PKPdf 20 51 19.7 -0.4
SQTA *i* 20 51 27.0
SQTA *i* 20 51 41.9
FELD Feldberg im Sc 152.93 350 PKP PKPdf 20 51 19.8 -0.3
OUR Ouranopolis 152.96 320 *e*P PKPbc 20 51 26.8 -1.5
ABTA Abfaltersbach 153.02 343 *i* PKPdf PKPdf 20 51 19.4 -0.9
comp=Z,20nm,1.1s,SNR=11
ABTA ⇑*i*PKPbc PKPbc 20 51 26.9 -1.3
comp=Z,40nm,0.6s
ABTA ⇑*i*PKPab PKPab 20 51 41.5 -0.8
comp=Z,62nm,1.2s
SOH Sokhos 153.03 321 *e*P PKPbc 20 51 26.7 -1.7
HAU Haudompre 153.03 353 *e*PKIKP PKPdf 20 51 19.0 -1.3
HAU *e*MLR MLR
comp=Z,111nm,20.8s
HAU Haudompre 153.03 353 *e*PKPdf PKPdf 20 51 19.0 -1.3
HAU LR LR
comp=Z,110nm,20.8s
LJU Ljubljana 153.05 340 *i* PKIKP PKPdf 20 51 19.5 -0.9
LJU *e* 20 51 27.6
LJU Ljubljana 153.05 340 *i* PKPdf PKPdf 20 51 19.5 -0.8
LJU *e*PKPbc PKPbc 20 51 27.6 -0.6
LJU *ep*PKPdf pPKPdf 20 53 31.0 +1.3
LJU *ep*PKPbc pPKPbc 20 53 39.5 +3.1
KNT Kendrikon 153.07 322 *e*P PKPdf 20 51 27.3 +6.7
MOF Molkenrain 153.08 351 PKP PKPdf 20 51 20.0 -0.4
FVI Forni Avoltri 153.08 342 PKIKP PKPdf 20 51 19.4 -1.0
PTCC Patocco-Chiusa 153.09 341 PKP PKPdf 20 51 19.6 -0.8
STIP Stip 153.12 324 *i* PKP PKPdf 20 51 18.7 -1.9
STIP *i* PKP PKPbc 20 51 27.2 -1.3
STIP ⇑*i* PKP PKPab 20 51 42.7 -0.2
DAVA Damuels 153.15 347⇑*i* PKPbc 20 51 28.7 +0.3
comp=Z,26nm,0.7s
DAVA Damuels 153.15 347⇑*i* PKPab 20 51 42.7 -0.1
comp=Z,59nm,1.2s
DAVA ⇑*i* 20 53 32.5
comp=Z,29nm,1.4s
DAVA Damuels 153.15 347⇑*i*PKPdf PKPdf 20 51 20.0 -0.5
comp=Z,19nm,1.7s,SNR=7.9
DAVA ⇑*i*PKiKP PKiKP 20 51 28.7 +0.2
comp=Z,26nm,0.7s
DAVA ⇑*i*PKPab PKPab 20 51 42.7 -0.1
comp=Z,59nm,1.2s
DAVA ⇑*ip*PKPbc pPKPbc 20 53 32.5 -4.2
comp=Z,29nm,1.4s
HINF Hinteralfeld 153.15 352 *e*PKIKP PKPdf 20 51 19.0 -1.5
comp=Z,112nm,1.9s
VAY Valandovo 153.15 323 *i* PKP PKPdf 20 51 17.0 -3.7
VAY *e*PKP PKPbc 20 51 27.3 -1.4
VAY ⇑*i*PKP PKPab 20 51 42.2 -0.9
QUIF Quistinic 153.17 7 *e*PKIKP PKPdf 20 51 18.6 -1.9
FETA Feichten 153.21 346⇑*i*PKPdf PKPdf 20 51 19.7 -0.9
comp=Z,18nm,1.0s,SNR=9.2
FETA ⇑*i*PKiKP PKiKP 20 51 28.1 -0.6
comp=Z,47nm,1.2s
FETA ⇑*i*PKPab PKPab 20 51 43.1 0.0
comp=Z,50nm,1.1s
GMNA Gemona 153.24 342 PKP PKPdf 20 51 19.8 -0.8
PLG Polygyros 153.26 320 *e*P PKPbc 20 51 27.2 -1.7
VOY Vojsko 153.26 340 *e*PKPdf PKPdf 20 51 20.0 -0.7
VOY *e*PKPbc PKPbc 20 51 27.4 -1.3
VOY *e*PKPab PKPab 20 51 42.2 -1.2
VOY *e* 20 53 41.7
BOJS Bojanci 153.28 338 *e*PKPdf PKPdf 20 51 20.1 -0.7
BOJS *i* PKPbc PKPbc 20 51 28.5 -0.2
BOJS *i* PKPab PKPab 20 51 42.8 -0.7
BOJS *ep*PKPdf pPKPdf 20 53 31.0 +1.0
BOJS *ep*PKPbc pPKPbc 20 53 39.2 +2.2
BOJS *e* 20 54 07.4
HORT Hortiatis 153.32 321 *e*P PKPbc 20 51 27.4 -1.6
SKO Skopje 153.33 325 *e*PKP PKPdf 20 51 19.0 -1.9
SKO *i* PKP PKPbc 20 51 28.7 -0.3
SKO *i* PKP PKPab 20 51 44.6 +0.8
PAIG Paliouri 153.39 319 *e*P PKPbc 20 51 27.5 -1.7

BBS	Basel-Blauen	153.40	351	PKIKP	PKPdf	20 51 20.2	-0.6
GRG	Griva	153.49	322	*e*P	PKPbc	20 51 27.9	-1.5
LOMF	Lomont	153.61	352	PKP	PKPdf	20 51 21.5	+0.4
APE	Apeiranthos	153.78	312	⇑*i*P	PKPab	20 51 44.6	-1.4
BRMO	Bormio	153.81	346	PKP	PKPdf	20 51 20.4	-1.0
KRUS	Krusevo	153.85	324	⇑*i*PKP	PKPdf	20 51 20.9	-0.8
KRUS				*i* PKP	PKPbc	20 51 29.0	-1.1
KRUS				⇑*i*PKP	PKPab	20 51 46.2	+0.1
CTI	Castel Tesino	153.90	344	PKIKP	PKPdf	20 51 20.9	-0.7
LOR	Lormes	153.99	356	*e*PKIKP	PKPdf	20 51 20.4	-1.3
	comp=Z,134nm,1.8s						
LOR				*e*MLR	MLR		
	comp=Z,79nm,19.5s						
LOR	Lormes	153.99	356	*e*PKPdf	PKPdf	20 51 20.4	-1.3
LOR				LR	LR		
	comp=Z,80nm,19.5s						
LIT	Litokhoron	154.00	321	*e*P	PKPbc	20 51 29.1	-1.4
XOR	Xorichti	154.03	319	*e*P	PKPbc	20 51 28.4	-2.2
HYF	Humbligny	154.05	358	*e*PKIKP	PKPdf	20 51 20.6	-1.1
BIA	Bitola	154.05	324	*e*PKP	PKPdf	20 51 19.5	-2.5
BIA				*e*PKP	PKPdf	20 51 28.8	+6.8
FNA	Florina	154.18	323	*e*P	PKPbc	20 51 29.5	-1.4
ZKR	Zakros	154.21	308	*e*P	PKPbc	20 51 30.3	-0.8
SSF	Saint Saulge	154.22	357	*e*PKIKP	PKPdf	20 51 20.7	-1.3
	comp=Z,126nm,1.9s						
OHR	Ohrid	154.27	325	*i* PKP	PKPdf	20 51 21.0	-1.3
OHR				*i* PKP	PKPbc	20 51 30.1	-0.9
OHR				*i* PKP	PKPab	20 51 46.6	-1.3
CABF	La Chapelle	154.44	352	*e*PKIKP	PKPdf	20 51 21.6	-0.7
	comp=Z,43nm,1.1s						
AVF	Avril sur Loir	154.50	357	*e*PKIKP	PKPdf	20 51 20.9	-1.5
	comp=Z,21nm,1.3s						
LKR	Lokris	154.59	318	*e*P	PKPbc	20 51 30.3	-1.5
SMF	Signal de Mont	154.61	356	*e*PKIKP	PKPdf	20 51 21.1	-1.4
	comp=Z,44nm,1.4s						
THL	Klokotos Trika	154.62	321	*e*P	PKPbc	20 51 29.9	-1.9
MFF	Saint Martin d	154.71	2	*e*PKIKP	PKPdf	20 51 21.2	-1.5
	comp=Z,43nm,1.2s						
LAST	Lasithi	154.73	308	*e*P	PKPdf	20 51 31.9	+8.8
VAI	Varese	154.73	348	PKIKP	PKPdf	20 51 21.4	-1.3
BGF	Bois d'Agland	154.75	358	*e*PKIKP	PKPdf	20 51 21.4	-1.3
AGG	Agios Georgios	154.77	319	*e*P	PKPdf	20 51 30.2	+7.2
MEV	Metsovon	154.94	322	*e*P	PKPdf	20 51 33.6	+10
TCF	Toulx Ste Croi	155.04	359	*e*PKIKP	PKPdf	20 51 21.8	-1.3
	comp=Z,49nm,1.2s						
DID	Didima	155.10	315	*e*P	PKPdf	20 51 31.1	+7.6
LPL	La Plagne	155.42	351	*e*PKIKP	PKPdf	20 51 22.9	-0.8
	comp=Z,75nm,1.7s						
LPG	La Plagne	155.44	351	*e*PKIKP	PKPdf	20 51 23.1	-0.6
	comp=Z,59nm,1.6s						
RSM	Repubblica di	155.60	340	PKIKP	PKPdf	20 51 24.3	+0.3
IGT	Igoumenitsa	155.62	322	*e*P	PKPdf	20 51 32.8	+8.7
FSSB	Fossombrone	155.71	340	PKP	PKPdf	20 51 23.8	-0.3
VLX	Vlachokerasia	155.74	316	*e*P	PKPdf	20 51 34.2	+10
GSCL	Gusciola	155.75	344	PKP	PKPdf	20 51 23.9	-0.2
FNVD	Fontana Vidola	155.78	343	PKP	PKPdf	20 51 23.2	-1.0
BNI	Bardonecchia	155.88	351	*e*PKIKP	PKPdf	20 51 24.2	-0.1
RJF	Les Rejaudoux	156.03	360	*e*PKIKP	PKPdf	20 51 23.2	-1.3
	comp=Z,39nm,1.2s						
RJF				*e*MLR	MLR		
	comp=Z,76nm,19.2s						
RJF	Les Rejaudoux	156.03	360	*e*PKPdf	PKPdf	20 51 23.2	-1.3
RJF				LR	LR		
	comp=Z,80nm,19.3s						
SNTG	Esanatoglia	156.04	339	PKP	PKPdf	20 51 24.1	-0.5
ORIF	Oris-en-Rattie	156.13	352	*e*PKIKP	PKPdf	20 51 23.5	-1.1
	comp=Z,89nm,1.7s						
ORIF				*e*MLR	MLR		
	comp=Z,103nm,20.0s						
MBDF	Montbardon	156.19	350	*e*PKIKP	PKPdf	20 51 23.7	-1.0
	comp=Z,120nm,1.7s						
VIVF	Saint-Julien-l	156.32	354	*e*PKIKP	PKPdf	20 51 23.9	-1.0
	comp=Z,22nm,1.2s						
NRCA	Norcia	156.36	338	PKP	PKPdf	20 51 24.3	-0.7
LFF	La Frestale	156.39	1	*e*PKIKP	PKPdf	20 51 23.8	-1.1
CAF	Calviac	156.41	359	*e*PKIKP	PKPdf	20 51 24.1	-0.9
	comp=Z,24nm,1.2s						
AQU	L'Aquila	156.68	337	⇓*i*P	PKPab	20 51 58.0	-0.2
SAOF	Saorge	156.77	349	PKP	PKPdf	20 51 25.1	-0.4
AUTN	L'Aution	156.79	349	PKP	PKPdf	20 51 25.1	-0.4
TOUF	Mont Tournerai	156.80	349	PKP	PKPdf	20 51 25.1	-0.4
LUCF	Luceram	156.90	349	PKP	PKPdf	20 51 25.3	-0.3
STS	Santiago	156.91	19	PKIKP	PKPdf	20 51 24.5	-1.2
SBF	Sospel	156.91	349	*e*PKIKP	PKPdf	20 51 24.1	-1.5
MVIF	Mont Vial	156.93	349	PKP	PKPdf	20 51 25.1	-0.6
SMRF	Simiane la Rot	157.09	352	*e*PKIKP	PKPdf	20 51 25.1	-0.8
	comp=Z,96nm,1.4s						
LASF	Ste Croix	157.17	355	*e*PKIKP	PKPdf	20 51 25.1	-0.9
	comp=Z,39nm,1.1s						
FRF	La Foret Royal	157.34	350	*e*PKIKP	PKPdf	20 51 24.5	-1.7
LMR	La Mourre	157.59	350	*e*PKIKP	PKPdf	20 51 24.9	-1.6
	comp=Z,81nm,1.7s						
TIP	Timpagrande	157.80	327	*e*PKPab	PKPab	20 52 02.5	-0.7
PGF	Pioggiola	157.84	345	*e*PKIKP	PKPdf	20 51 25.2	-1.6
	comp=Z,72nm,1.3s						
MTLF	Montolieu	157.99	358	*e*PKIKP	PKPdf	20 51 25.9	-1.1
	comp=Z,82nm,1.6s						
SJPF	Ste Jean	158.12	5	*e*PKIKP	PKPdf	20 51 26.3	-0.8
GRI	Girifalco	158.24	327	PKIKP	PKPdf	20 51 27.2	-0.2
EPF	Esparros	158.29	2	*e*PKIKP	PKPdf	20 51 26.3	-1.1
	comp=Z,47nm,1.4s						
ETSF	Etsaut	158.38	4	*e*PKIKP	PKPdf	20 51 26.9	-0.6
PVRL	Vila Real	158.63	19	*e*PKPdf	PKPdf	20 51 27.5	-0.3
PVRL	Vila Real	158.63	19	*e*PKPab	PKPab	20 52 06.2	-0.5
MVO	Moncorvo	158.94	18	*e*PKPdf	PKPdf	20 51 29.0	+0.8
MVO	Moncorvo	158.94	18	*e*PKPab	PKPab	20 52 07.6	-0.4
SOI	Samo	159.00	326	PKIKP	PKPdf	20 51 27.7	-0.6
PVIS	Viseu	159.08	20	*e*PKPdf	PKPdf	20 51 29.3	+0.9
PVIS	Viseu	159.08	20	*e*PKPab	PKPab	20 52 08.3	-0.4
PTOM	Tomar	159.89	22	*e*PKPdf	PKPdf	20 51 29.4	+0.1
PTOM	Tomar	159.89	22	*e*PKPab	PKPab	20 52 11.2	-1.0
PCBR	Castelo Branco	160.01	20	*e*PKPdf	PKPdf	20 51 29.7	+0.3
PCBR	Castelo Branco	160.01	20	*e*PKPab	PKPab	20 52 11.7	-1.0
GUD	Guadarrama	160.13	12	PKIKP	PKPdf	20 51 30.0	+0.5
ETOR	Torete	160.30	8	PKIKP	PKPdf	20 51 29.0	-0.7
PESTR	Estremoz	160.85	22	*e*PKPdf	PKPdf	20 51 31.1	+0.7
PESTR	Estremoz	160.85	22	*e*PKPab	PKPab	20 52 15.2	-1.3
EVO	Evora	161.00	23	*e*PKIKP	PKPdf	20 51 28.6	-1.9
	comp=Z,176nm,1.8s						
EVO				*e*MLR	MLR		
	comp=Z,90nm,20.8s						
ESDC	Sonseca Array	161.10	13	PKP	PKPdf	20 51 30.3	-0.3
ESDC	Sonseca Array	161.10	13	PKP	PKPdf	20 51 30.4	-0.2
	comp=Z,1.0nm,0.7s,baz=355,slow=2.0,SNR=8.2						
ESDC				PKPab	PKPab	20 52 16.4	-1.1
	comp=Z,11nm,0.9s,baz=344,slow=4.2,SNR=26						
ESDC				PP	PP	20 56 02.0	+0.4
	comp=Z,1.6nm,0.9s,baz=348,slow=5.1,SNR=6.9						
EBAD	Badajoz	161.15	21	PKP	PKPdf	20 51 30.5	-0.2
PBEJ	Beja	161.50	24	*e*PKPdf	PKPdf	20 51 31.5	+0.4
PBEJ	Beja	161.50	24	*e*PKPab	PKPab	20 52 18.2	-1.1
PBAR	Barrancos	161.66	21	*e*PKPdf	PKPdf	20 51 31.4	+0.2
PBAR	Barrancos	161.66	21	*e*PKPab	PKPab	20 52 19.2	-0.8
EGRO	El Granado	162.07	23	PKP	PKPdf	20 51 31.3	-0.4
PVAQ	Vaqueiros	162.10	24	*e*PKPdf	PKPdf	20 51 32.3	+0.6
PVAQ	Vaqueiros	162.10	24	*e*PKPab	PKPab	20 52 21.0	-1.0
EMIN	Mina Concepcio	162.15	21	PKP	PKPdf	20 51 30.5	-1.3
PBDV	Barranco-do-Ve	162.16	25	*e*PKPdf	PKPdf	20 51 32.4	+0.6
EVIA	Vianos	162.38	10	PKIKP	PKPdf	20 51 31.5	-0.4
EADA	Adamuz	162.40	16	PKP	PKPdf	20 51 31.0	-1.0
EBAN	Banos Encina	162.59	14	PKIKP	PKPdf	20 51 31.2	-0.9
ELUQ	Luque	163.05	16	PKIKP	PKPdf	20 51 32.1	-0.5
EQES	Quesada	163.09	12	PKP	PKPdf	20 51 32.8	+0.2
ESPR	Espera	163.24	20	PKP	PKPdf	20 51 31.2	-1.6
ECOG	Cogollos-Vega	163.49	14	PKIKP	PKPdf	20 51 32.6	-0.4
KEST	Kesra	163.99	336	PKPab	PKPab	20 52 30.1	-0.3
	comp=Z,9.7nm,0.9s,baz=297,slow=2.9,SNR=16						
DBIC	Dimbokro	164.28	157	PKP	PKPdf	20 51 33.1	-1.4
	comp=Z,13nm,0.9s,baz=134,slow=3.0,SNR=17						
DBIC				PKPab	PKPab	20 52 32.9	+0.7
	comp=Z,21nm,1.1s,baz=187,slow=5.0,SNR=8.0						
EALB	Alboran	164.89	14	PKP	PKPdf	20 51 32.6	-1.7

*NEIC **07** 21:00:12.8, 34.15S×72.54W, h45km, MD4.0(GUC), After GUC.*

GUC 07 21:00:12.8±0.6, 3415S×7254W, h45km±10km, MD4.0, ML3.6, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.96	79	⇓*i*P	Pn	21 00 30.6	+0.8
LNV				*i* S	Sn	21 00 43.7	+1.4

SFDO	San Fernando	1.35	111	*e*P	Pn	21 00 36.0	+0.9
NICH	Los Niches	1.38	129	*e*P	Pn	21 00 36.3	+0.8
TACH	Talagante	1.42	70	*e*P	Pn	21 00 37.0	+0.8
CHCH	Chadas Angostu	1.58	83	⇑*i*P	Pn	21 00 39.4	+1.1
CHCH				*i* S	Sn	21 00 59.1	+1.5
RCDM	Rinconada Maip	1.59	66	*e*P	Pn	21 00 39.0	+0.5
RCDM				*i* S	Sn	21 00 58.6	+0.9
RCDM	Rinconada Maip	1.59	66	*e*P	Pn	21 00 39.0	+0.5
RCDM				*i* S	Sn	21 00 58.6	+0.9
RCDM				AML	AML	21 01 01.2	
	comp=N,1μm,0.1s						
CACH	El Canelo	1.61	89	*e*P	Pn	21 00 41.3	+2.5
CACH				*i* S	Sn	21 01 01.1	+2.8
ANTU	Antumapu	1.69	71	*i* S	Sn	21 01 01.7	+1.5
ANTU				AML	AML	21 01 03.1	
	comp=N,972nm,0.3s						
CICH	Cipreses	1.77	96	*e*P	Pn	21 00 42.0	+1.1
PCH	Pirque	1.77	73	*e*P	Pn	21 00 41.7	+0.8
PCH				*i* S	Sn	21 01 04.0	+1.9
CLCH	Cerro Calan	1.83	66	*e*P	Pn	21 00 43.0	+1.3
CLCH				*i* S	Sn	21 01 05.8	+2.1
CLCH				AML	AML	21 01 07.8	
	comp=E,475nm,0.4s						
PEL	Peldehue	1.84	58	*e*P	Pn	21 00 43.7	+1.7
PEL				*i* S	Sn	21 01 06.5	+2.5
PEL				AML	AML	21 01 07.7	
	comp=N,799nm,0.4s						
LMEL	Las Melosas	1.96	82	*e*P	Pn	21 00 44.4	+0.8
LMEL				*i* S	Sn	21 01 09.1	+2.1
LMEL	Las Melosas	1.96	82	*e*P	Pn	21 00 44.4	+0.8
LMEL				*i* S	Sn	21 01 09.1	+2.1
LMEL				AML	AML	21 01 12.6	
	comp=N,856nm,0.3s						
COCH	Cobquecura	1.99	186	⇑*i*P	Pn	21 00 44.6	+0.7
COCH				*i* S	Sn	21 01 07.0	-0.6
FCH	Farellones	2.05	67	*e*P	Pn	21 00 46.1	+1.3
FCH				*i* S	Sn	21 01 11.8	+2.8
FCH				AML	AML	21 01 12.8	
	comp=N,712nm,0.3s						

*MOS **07** 21:14:00.5±3.2, 4791N×15378E, h33km, mb3.9/1, Error ellipse: s-maj=56.9km s-min=21.6km az=69.7*
*ISCJB **07** 21:14:01.3±2.1, 479N±02×1544E±03, h66km±23km, mb3.3/6, Error ellipse: s-maj=39.7km s-min=20.0km az=29.9*
*IDC **07** 21:14:21.7±7.1, 4771N×15306E, h210km±68km, mb3.0/6, mb1 3.2/7, mb1mx3.0/20, mbtmp3.0/7, Error ellipse: s-maj=33.9km s-min=19.9km az=109.0*

ISC 07 21:14:02.3±2.1, 479N±02×1543E±03, h56km±22km, n10, σ0°72/10, mb3.5/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.03	22	*e*PN	Pn	21 14 47.5	-0.2
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
MJAR	Matsushiro Arr	16.43	232	P	Pn	21 17 49.9	+0.9
	comp=Z,0.2nm,0.3s,baz=28,slow=12,SNR=4.4						
KSRS	Korea Array	21.94	251	P	P	21 18 50.1	-0.9
	comp=Z,0.8nm,0.5s,mb3.4,baz=61,slow=9.3,SNR=4.8						
MKAR	Makanchi Array	47.16	297	P	P	21 22 28.6	-0.3
	comp=Z,0.2nm,0.2s,mb3.6,baz=66,slow=7.5,SNR=2.5						
YKA	Yellowknife Ar	49.51	38	P	P	21 22 55.6	+8.9
YKA	Yellowknife Ar	49.51	38	P	P	21 22 55.6	+8.9
	comp=Z,0.1nm,0.4s,mb3.2,baz=296,slow=7.5,SNR=5.3						
FINES	FINESS Array B	63.36	335	P	P	21 24 25.9	+0.8
	comp=Z,0.4nm,0.4s,mb4.0,baz=44,slow=7.9,SNR=9.4						
WRA	Warramunga Arr	69.87	200	P	P	21 25 06.1	-0.9
	comp=Z,0.4nm,0.8s,mb3.4,baz=18,slow=7.0,SNR=4.1						
ASAR	Alice Springs	73.56	199	P	P	21 25 29.7	+0.6
ASAR	Alice Springs	73.56	199	P	P	21 25 29.7	+0.6
	comp=Z,0.3nm,0.7s,mb3.4,baz=19,slow=5.9,SNR=3.4						

SKHL 07 21:15:50.2±0.3, 5475N×12415E, h11km±3km, mb3.7/4, 2D, Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KROS	Kirovskiy	1.67	100	⇓*e*Pn	Pn	21 16 19.8	+0.4
KROS				⇓*i*Pg	Pg	21 16 20.3	-1.9
KROS				AMB	AMB	21 16 20.7	
	14nm,0.3s						
KROS				AMB	AMB	21 16 20.7	
	29nm,0.3s						
KROS				AMB	AMB	21 16 20.7	
	23nm,0.3s						
KROS				*e*Sn	Sn	21 16 41.6	+0.8
KROS				*e*Sg	Sg	21 16 42.6	-1.3
KROS				A		21 16 44.6	
	63nm,0.4s						
KROS				A		21 16 44.6	
	87nm,0.4s						
KROS				A		21 16 44.6	
	34nm,0.4s						
ZEA	Zeya	2.08	118	*e*Pg	Pg	21 16 28.6	-1.5
ZEA				AMB	AMB	21 16 28.9	
	24nm,0.4s						
ZEA				*e*Sg	Sg	21 16 56.2	-0.9
ZEA				A		21 16 56.7	
	58nm,0.5s						
ZEA				A		21 16 56.7	
	68nm,0.5s						
CLNS	Chul'man	2.13	11	*e*rx	rx	21 16 33.3	
CLNS				*e*Sg	Sg	21 17 00.2	+1.5
CLNS				A		21 17 03.9	
	49nm,0.3s						
TUP	Tupik	2.46	264	*e*Pg	Pg	21 16 36.3	-1.1
TUP				pPg		21 16 40.4	
TUP				*e*Sg	Sg	21 17 07.6	-1.7
TUP				A		21 17 23.1	
	34nm,0.5s						
BMKR	Bomnak	2.72	89	*e*Pn	Pn	21 16 34.5	+0.7
BMKR				*e*Pg	Pg	21 16 39.0	-3.3
BMKR				AMB	AMB	21 16 40.3	
	90nm,0.4s						
BMKR				AMB	AMB	21 16 40.3	
	20nm,0.4s						
BMKR				AMB	AMB	21 16 40.3	
	11nm,0.4s						
BMKR				sPg		21 16 41.6	
BMKR				*e*Sg	Sg	21 17 14.5	-3.0
BMKR				A		21 17 17.5	
	28nm,0.5s						
EKMR	Ekimchan	5.47	104	*e*Pg	Pg	21 17 29.6	-5.2
EKMR				AMB	AMB	21 17 32.8	
	4.0nm,0.5s						
EKMR				*e*Sg	Sg	21 18 42.1	-3.5
EKMR				A		21 18 46.8	
	5.0nm,0.6s						
EKMR				A		21 18 46.8	
	3.0nm,0.6s						

IDC 07 22:27:22.1±4.7, 1499N×14504E, h48km±36km, mb3.5/4, mb1 3.6/4, mb1mx3.3/15, mbtmp3.5/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/15, Error ellipse: s-maj=118.5km s-min=25.9km az=85.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.41	187	P	Pn	22 27 44.7	-0.6
	69nm,0.3s,baz=281,slow=2.4,SNR=17						
GUMO				S	Sn	22 28 02.8	+0.1
	174nm,0.3s,baz=117,slow=11,SNR=7.8						
MJAR	Matsushiro Arr	22.31	345	LR	LR	22 39 45.5	
	comp=Z,65nm,21.2s,baz=245,slow=33						
WRA	Warramunga Arr	36.28	197	P	P	22 34 21.2	+0.1
	0.9nm,0.8s,baz=18,slow=9.5,SNR=9.3						
SONM	Songino Array	45.69	324	P	P	22 35 39.1	+0.9
	0.5nm,0.9s,baz=128,slow=9.3,SNR=2.1						
MKAR	Makanchi Array	60.60	315	P	P	22 37 27.7	-0.3
	0.5nm,0.8s,baz=94,slow=6.6,SNR=4.3						
FINES	FINESS Array B	89.97	335	P	P	22 40 15.3	-0.8
	1.2nm,0.9s,baz=28,slow=3.3,SNR=3.4						

IDC 07 22:50:32.6±2.3, 663S×12957E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/13, mbtmp3.4/4, ML3.4/3, Error ellipse: s-maj=94.1km s-min=29.5km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	6.84	238	Sn	Sn	22 53 25.1	-7.8
	3.7nm,0.3s,baz=126,slow=8.3,SNR=3.4						
FITZ	Fitzroy Crossi	12.03	198	Pn	Pn	22 53 24.5	-1.0
	0.1nm,0.3s,baz=35,slow=12,SNR=4.7						
FITZ				Sn	Sn	22 55 22.3	-18
	0.1nm,0.3s,baz=288,slow=20,SNR=2.4						
WRA	Warramunga Arr	14.02	161	Pn	Pn	22 53 54.4	+1.8
	0.2nm,0.3s,baz=346,slow=13,SNR=6.3						
WRA				Sn	Sn	22 56 16.2	-13
	0.5nm,0.3s,baz=331,slow=22,SNR=8.7						
ASAR	Alice Springs	17.44	167	P	Pn	22 54 37.0	-0.4
	0.1nm,0.3s,baz=350,slow=10,SNR=5.6						
MKAR	Makanchi Array	67.69	327	P	P	23 01 31.8	+0.1
	0.3nm,0.6s,baz=121,slow=7.8,SNR=4.1						

*SKO **07** 22:55:12.8, 4098N×2069E, h15km, M1.2, ML1.7*
*CSEM **07** 22:55:14.2±0.2, 4102N×2075E, h10km, ML2.8, Error ellipse: s-maj=3.4km s-min=1.8km az=65.0*
*THE **07** 22:55:14.4, 4098N×2077E, h4km, ML2.8*

ISC 07 22:55:12.1±2.3, 4096N±007×206E±01, h15km±15km, n12, σ0°49/24, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.20	40	*e*Pg	Pg	22 55 16.8	+0.2
OHR				*e*Sg	Sg	22 55 19.7	-0.1
OHR	Ohrid	0.20	40	*i* Pg	Pg	22 55 16.8	+0.1
OHR				*e*Lg		22 55 19.2	
	comp=E,245nm,0.4s						
OHR				*i* Sg	Sg	22 55 19.7	-0.1
OHR				*e*Lg		22 55 20.1	
	comp=N,263nm,0.4s						
OHR	Ohrid	0.20	40	*i* Pg	Pg	22 55 16.8	+0.1
OHR				*e*Lg		22 55 19.1	
	comp=N,245nm,0.4s						
OHR				*i* Sg	Sg	22 55 19.6	-0.2
BIA	Bitola	0.53	83	*e*Pg	Pg	22 55 21.8	-0.7
BIA				*e*Sg	Sg	22 55 28.4	-1.2
BIA	Bitola	0.53	83	*i* Pg	Pg	22 55 22.0	-0.5
BIA				*i* Sg	Sg	22 55 29.6	0.0
BIA				*e*Lg		22 55 29.7	
	comp=N,50nm,0.3s						
BIA				*e*Lg		22 55 29.8	
	comp=E,63nm,0.3s						
BIA	Bitola	0.53	83	*i* Pg	Pg	22 55 21.9	-0.6
BIA				*i* Sg	Sg	22 55 29.5	-0.1
BIA				*e*Lg		22 55 29.8	
	comp=E,63nm,0.3s						
FNA	Florina	0.59	107	*e*Pg	Pg	22 55 24.3	+0.6
FNA				*e*Sg	Sg	22 55 31.6	0.0
KRUS	Krusevo	0.62	49	*i* Pg	Pg	22 55 24.9	+0.7
KRUS				*i* Sg	Sg	22 55 33.0	+0.6
KRUS	Krusevo	0.62	49	*i* Pg	Pg	22 55 24.8	+0.6
KRUS				*i* Sg	Sg	22 55 33.0	+0.5
GRG	Griva	1.34	90	*e*Pg	Pg	22 55 37.5	-0.4
GRG				*e*Sg	Sg	22 55 55.9	+0.6
STIP	Stip	1.38	57	*e*Pg	Pg	22 55 38.0	-0.6
STIP				*i* Sg	Sg	22 55 56.3	-0.3
STIP				*e*Lg		22 55 56.8	
	comp=E,6.1nm,0.3s						
STIP				*e*Lg		22 55 57.1	
	comp=N,7.4nm,0.3s						
STIP	Stip	1.38	57	*e*Pg	Pg	22 55 38.0	-0.7
STIP				*i* Sg	Sg	22 55 56.3	-0.3
STIP				*e*Lg		22 55 57.0	
	comp=N,7.4nm,0.3s						

*NEIC **07** 23:02:05.8, 3145S×6932W, h65km, MD3.5(GUC), After GUC.*

GUC 07 23:02:05.8±0.7, 3145S×6932W, h65km±53km, MD3.5, ML3.5, 3C-3D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	1.46	281	AML	AML	23 02 48.1	
	comp=N,1μm,0.5s						
JACH	Jahuel	1.63	221	⇑*i*P	Pn	23 02 33.2	+0.8
JACH				*i* S	Sn	23 02 53.7	+1.3
TLL	Tololo Astrono	1.81	315	⇓*i*P	Pn	23 02 36.0	+1.3
TLL				*i* S	Sn	23 02 58.3	+1.7
TLL	Tololo Astrono	1.81	315	⇓*i*P	Pn	23 02 36.0	+1.3
TLL				*i* S	Sn	23 02 58.3	+1.7
TLL				AML	AML	23 03 06.7	
	comp=N,304nm,0.4s						
OVCH	Ovalle	1.82	297	*i* P	Pn	23 02 35.0	+0.2
OVCH				*i* S	Sn	23 02 58.0	+1.1
OVCH	Ovalle	1.82	297	*i* P	Pn	23 02 35.0	+0.2
OVCH				*i* S	Sn	23 02 58.0	+1.1
OVCH				AML	AML	23 03 04.4	
	comp=N,2μm,0.7s						
FCH	Farellones	2.04	203	⇑*i*P	Pn	23 02 40.9	+3.0
FCH				*i* S	Sn	23 03 06.4	+4.1
PEL	Peldehue	2.04	214	⇓*i*P	Pn	23 02 40.7	+2.8
PEL				*i* S	Sn	23 03 05.7	+3.4
PEL				AML	AML	23 03 10.9	
	comp=E,657nm,0.3s						
CLCH	Cerro Calan	2.19	208	⇑*i*P	Pn	23 02 43.7	+3.7
CLCH				*i* S	Sn	23 03 09.9	+3.9
CLCH				AML	AML	23 03 16.8	
	comp=E,364nm,0.5s						
CLCH				AML	AML	23 03 17.4	
	comp=E,480nm,0.6s						
RCDM	Rinconada Maip	2.39	211	AML

ARU	**Arti**	**50.97**	**315**	*c iP*	**P**	**23 26 26.5**	**-0.1**
ARU				*e*		23 28 26.3	
ARU				*e*S	**S**	**23 33 11.5**	**+1.6**
ARU				*e*SS	SS	23 36 52.3	+1.5
ARU				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.6						
GUN	**Gumba**	**54.50**	**271**	*e*P	**P**	**23 26 52.1**	**-0.4**
	comp=Z,7.6nm,0.5s,mb4.2						
KKN	**Kakani**	**54.96**	**271**	*e*P	**P**	**23 26 55.9**	**+0.2**
	comp=Z,12nm,0.5s,mb4.4						
DMN	**Daman**	**55.20**	**271**	*e*P	**P**	**23 26 57.4**	**+0.1**
	comp=Z,9.6nm,0.5s,mb4.3						
GKN	**Gorkha**	**55.20**	**272**	*e*P	**P**	**23 26 57.4**	**0.0**
	comp=Z,17nm,0.7s,mb4.4						
DANN	**Dangsing**	**55.50**	**273**	*e*P	**P**	**23 27 00.4**	**+1.0**
	comp=Z,22nm,0.7s,mb4.5						
KOLN	**Koldanda**	**56.01**	**273**	*e*P	**P**	**23 27 03.6**	**+0.6**
	comp=Z,4.8nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**59.09**	**333**	P	**P**	**23 27 22.8**	**-0.8**
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**59.09**	**333**	P	**P**	**23 27 22.5**	**-1.1**
	comp=Z,1.8nm,1.0s,mb3.4,baz=39,slow=7.5,SNR=5.7						
WRA	**Warramunga Arr**	**73.57**	**198**	*i* P	**P**	**23 28 54.2**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**73.57**	**198**	P	**P**	**23 28 54.0**	**-0.5**
	comp=Z,0.5nm,0.5s,mb3.4,baz=15,slow=6.0,SNR=9.3						
TXAR	**Lajitas Array**	**75.06**	**61**	P	**P**	**23 29 03.2**	**+0.1**
TXAR	**Lajitas Array**	**75.06**	**61**	P	**P**	**23 29 02.7**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.3,baz=288,slow=5.2,SNR=4.5						
ASAR	**Alice Springs**	**77.28**	**198**	P	**P**	**23 29 14.8**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**77.28**	**198**	P	**P**	**23 29 14.8**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.3,baz=3.3,slow=4.5,SNR=4.6						

*ISCJB **07** 23:30:50.1±1.7, 3653N±009×217E±0.1, h29km±6km, Error ellipse: s-maj=17.7km s-min=10.0km az=39.5*
*CSEM **07** 23:30:50.7±0.3, 3651N×2175E, h25km, ML2.5, Error ellipse: s-maj=6.3km s-min=3.8km az=21.0*
*THE **07** 23:30:51.8, 3659N×2170E, h25km, ML2.5*
*ATH **07** 23:30:53.9, 3671N×2202E, h10km, MD3.2/3*
ISC 07 23:30:50.6±1.7, 3652N±008×2172E±010, h23km±8km, n9, σ0§61/13, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.37**	**3**	*e*Pg	**Pb**	**23 30 58.6**	**0.0**
PYL				*e*Sg	**Sb**	**23 31 04.4**	**+0.3**
ITM	**Ithomi**	**0.68**	**14**	*e*PB	**Pb**	**23 31 03.1**	**-0.6**
VLX	**Vlachokerasia**	**1.00**	**32**	*e*Pg	**Pn**	**23 31 08.3**	**-0.8**
VLX				*e*Sg	**Sb**	**23 31 22.1**	**+0.2**
VLI	**Veliai**	**1.00**	**78**	*e*PB	**Pb**	**23 31 08.1**	**-1.1**
KYTH	**Kithira**	**1.09**	**102**	*e*PB	**Pb**	**23 31 11.6**	**+0.9**
DID	**Didima**	**1.56**	**51**	*e*Pg	**Pn**	**23 31 16.5**	**-0.4**
DID				*e*Sg	**Sn**	**23 31 36.8**	**+0.4**
AGG	**Agios Georgios**	**2.54**	**11**	*e*Pn	**Pn**	**23 31 31.0**	**+0.6**
THL	**Klokotos Trika**	**3.05**	**4**	*e*Pn	**Pn**	**23 31 38.2**	**+0.9**
IGT	**Igoumenitsa**	**3.20**	**340**	*e*Pn	**Pn**	**23 31 39.6**	**+0.2**
IGT				*e*Sn	**Sn**	**23 32 16.3**	**-0.5**

WEL 07 23:59:46.7±0.4, 3582S×17901E, h164km±8km, ML4.1/5, Error ellipse: s-maj=9.9km s-min=7.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.83**	**198**	PN	Pn	00 00 20.1	-0.6
PUZ	**Puketiti**	**2.33**	**195**	PN	Pn	00 00 26.5	+0.2
PUZ				SN	Sn	00 00 56.3	-0.8
MWZ	**Matawai**	**2.78**	**205**	PN	Pn	00 00 32.4	+0.6
MWZ				SN	Sn	00 01 07.0	+0.3
URZ	**Urewera**	**2.87**	**211**	PN	Pn	00 00 33.5	+0.6
URZ				SN	Sn	00 01 10.8	+2.0
KNZ	**Kokohu**	**3.37**	**198**	*e*PN	Pn	00 00 39.1	0.0
BKZ	**Black Stump Fm**	**3.90**	**210**	PN	Pn	00 00 45.8	0.0
PXZ	**Pawanui**	**4.54**	**201**	PN	Pn	00 00 45.7	-8.4
MRZ	**Mangatainoka R**	**5.54**	**208**	*e*PN	Pn	00 01 06.0	-1.3
MRZ				SN	Sn	00 02 08.4	-2.0
KIW	**Kapiti Island**	**5.98**	**211**	PN	Pn	00 01 11.6	-1.4
KIW				SN	Sn	00 02 19.9	-0.9
PLWZ	**Palliser**	**6.45**	**206**	PN	Pn	00 01 16.6	-2.7
TCW	**Tory Channel**	**6.54**	**213**	SN	Sn	00 02 30.7	-3.6
THZ	**Tophouse**	**7.61**	**217**	*e*PN	Pn	00 01 33.2	-1.6
THZ				SN	Sn	00 02 58.0	-1.8

*ISCJB **08** 00:39:36.7±0.4, 3549S±008×539E±0.1, h10km, mb4.4/12, Error ellipse: s-maj=14.2km s-min=10.1km az=144.6*
*IDC **08** 00:39:36.9±0.7, 3542S×5394E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.0/23, mbtmp4.1/9, ML4.1/1, MS3.4/1, Ms1 3.4/1, ms1mx2.9/22, Error ellipse: s-maj=24.5km s-min=19.0km az=66.0*
*NEIC **08** 00:39:38.4±0.3, 3547S×5389E, h10km, mb4.7/5, Error ellipse: s-maj=11.3km s-min=7.9km az=55.0*
ISC 08 00:39:38.6±0.4, 3547S±008×539E±01, h10km, n26, σ0§78/22, mb4.4/12, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABPO	**Ambohimpanom**	**17.42**	**338**	*e*Pn	**Pn**	**00 43 43.4**	**+1.7**
	8.4nm,0.4s						
OPO	**Ambohidratompo**	**17.85**	**339**	P	**Pn**	**00 43 46.8**	**-0.3**
	0.7nm,0.3s,baz=152,slow=12,SNR=9.9						
BOSA	**Boshof**	**25.17**	**278**	P	**P**	**00 45 04.5**	**+0.3**
	6.5nm,0.9s,mb4.2,baz=113,slow=10,SNR=9.7						
LBTB	**Lobatse**	**26.50**	**285**	P	**P**	**00 45 15.1**	**-1.1**
	19nm,1.7s,mb4.4						
LBTB	**Lobatse**	**26.50**	**285**	LR	LR	00 55 20.0	
	comp=Z,73nm,19.6s,baz=306,slow=36						
MAW	**Mawson**	**32.59**	**174**	P	**P**	**00 46 09.9**	**+0.1**
	1.8nm,0.5s,mb4.2,baz=10,slow=21,SNR=3.0						
COCO	**West Island**	**45.13**	**70**	P	**P**	**00 47 54.2**	**-1.2**
SNAA	**Sanae**	**46.40**	**201**	P	**P**	**00 48 05.3**	**+0.5**
	0.5nm,0.9s,mb3.5,baz=98,slow=9.9,SNR=11						
QSPA	**South Pole Qui**	**54.71**	**180**	*e*P	**P**	**00 49 07.6**	**+0.1**
	15nm,1.4s,mb4.8						
QSPA	**South Pole Qui**	**54.71**	**180**	P	**P**	**00 49 07.9**	**+0.4**
	2.7nm,0.9s,mb4.3,baz=299,slow=7.0,SNR=14						
MBWA	**Marble Bar**	**58.72**	**95**	*e*P	**P**	**00 49 37.7**	**+1.0**
	7.4nm,0.9s,mb4.7						
SBA	**Scott Base**	**60.17**	**167**	P	**P**	**00 49 45.9**	**-0.1**
ASAR	**Alice Springs**	**68.87**	**105**	P	**P**	**00 50 43.9**	**+0.2**
	2.2nm,0.5s,mb4.3,baz=233,slow=5.9,SNR=36						
TAU	**Tasmania Unive**	**69.14**	**128**	*e*P	**P**	**00 50 43.8**	**-1.2**
	155nm,1.8s,mb5.6						
ASF	**Jabal al Asfar**	**69.15**	**345**	P	**P**	**00 50 45.7**	**+0.7**
	0.8nm,0.5s,mb3.9,baz=242,slow=5.8,SNR=3.9						
WRA	**Warramunga Arr**	**71.13**	**101**	P	**P**	**00 50 57.4**	**-0.2**
	4.0nm,0.6s,mb4.5,baz=234,slow=5.4,SNR=31						
WB2	**Warramunga Arr**	**71.14**	**101**	*e*P	**P**	**00 50 57.7**	**0.0**
WRAB	**Tennant Creek**	**71.14**	**101**	*e*P	**P**	**00 50 58.2**	**+0.5**
	4.6nm,0.5s,mb4.7						
LSA	**Lhasa**	**73.70**	**33**	P	**P**	**00 51 13.4**	**+0.8**
KIV	**Kislovodsk**	**79.71**	**352**	P	**P**	**00 51 44.9**	**-1.2**
CTAO	**Charters Tower**	**80.46**	**108**	P	**P**	**00 51 51.6**	**+0.6**
YHNB	**Yeheng**	**87.44**	**57**	*e*P	**P**	**00 52 25.9**	**-0.4**
AKASG	**Malin Array Be**	**88.52**	**345**	P	**P**	**00 52 29.7**	**-1.1**
	0.2nm,0.2s,mb4.1,baz=174,slow=4.6,SNR=6.4						
INK	**Inuvik**	**146.85**	**5**	PKPbc	PKPbc	00 59 19.1	-1.0
	3.7nm,1.0s,baz=340,slow=3.6,SNR=5.7						
YKA	**Yellowknife Ar**	**152.01**	**349**	PKPbc	PKPbc	00 59 32.3	-0.8
YKA	**Yellowknife Ar**	**152.01**	**349**	PKPbc	PKPbc	00 59 32.3	-0.8
	0.8nm,0.8s,baz=21,slow=2.0,SNR=4.5						

*IDC **08** 00:45:21.7±0.5, 3425N×8183E, h0km, mb4.4/29, mb1 4.5/32, mb1mx4.5/34, mbtmp4.4/32, ML4.0/3, MS3.8/17, Ms1 3.8/17, ms1mx3.7/26, Error ellipse: s-maj=14.2km s-min=11.3km az=27.0*
*LDG **08** 00:45:21.9±0.1, 3438N×8164E, h10km, Mb4.7/22, Ms3.7/7, Error ellipse: s-maj=5.8km s-min=4.6km az=116.0*
*SZGRF **08** 00:45:22.4, 3400N×8290E, h33km, mb4.8, MS4.0, Xizang*
*MOS **08** 00:45:24.8±1.0, 3427N×8183E, h33km, mb4.8/44, Error ellipse: s-maj=8.1km s-min=3.9km az=123.7*
*ISCJB **08** 00:45:25.3±0.5, 3430N±002×8184E±002, h34km±4km, mb4.6/105, MS3.9/36, Error ellipse: s-maj=3.8km s-min=3.2km az=24.0*
*NDI **08** 00:45:26.3±3.3, 3438N×8194E, h30km, mb5.0, mb4.8(NEIC)*
*NEIC **08** 00:45:26.2±1.4, 3424N×8187E, h30km±10km, mb4.8/51, Error ellipse: s-maj=5.5km s-min=3.7km az=211.0*
*BJI **08** 00:45:26.3, 3445N×8194E, h27km, mB4.6, mb4.7, Ms4.4, Msz4.2*
ISC 08 00:45:28.0±0.3, 3427N±002×8187E±003, h43km±3km, h40km±1.8km: pP-P, n327, σ1§02/324, mb4.6/105, MS3.9/36, 16C-34D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOSI	**Joshimath**	**4.18**	**208**	*e*P	**Pn**	**00 46 31.8**	**+2.5**
JOSI				*e*x	x	00 46 51.9	
PTH	**Pithoragarh**	**4.91**	**197**	*e*P	**Pn**	**00 46 40.2**	**+0.9**
PTH				*e*x	x	00 47 48.1	
SDNR	**Sundarnagar**	**4.96**	**238**	*e*P	**Pn**	**00 46 40.6**	**+0.6**
SDNR				*e*x	x	00 47 41.4	
SMLA	**Simla**	**5.05**	**233**	*e*P	**Pn**	**00 46 42.1**	**+0.9**
DDI	**Dehra Dun**	**5.09**	**220**	*e*P	**Pn**	**00 46 43.8**	**+2.1**
DDI				*e*x	x	00 48 19.0	
DLH	**Dalhousie**	**5.23**	**252**	*e*P	**Pn**	**00 46 43.0**	**-0.6**
DLH				*e*x	x	00 47 50.0	
BHK	**Bhakra**	**5.40**	**240**	*e*P	**Pn**	**00 46 46.6**	**+0.6**
THN	**Thein Dam**	**5.46**	**252**	*e*P	**Pn**	**00 46 45.7**	**-1.2**
NDI	**New Delhi**	**6.84**	**217**	*e*P	**Pn**	**00 47 05.0**	**-0.7**
NDI				*e*x	x	00 48 22.0	
AYAN	**Aya Nagar**	**7.05**	**216**	*e*P	**Pn**	**00 47 09.3**	**+0.6**
AYAN				AMb	AMB	00 47 12.1	
	comp=Z,31nm,0.8s						
KSH	**Kashi**	**7.05**	**320**	⇑*i*P	**Pn**	**00 47 09.6**	**+0.9**
KSH				*e*S	**Sn**	**00 48 26.4**	**-1.1**
KSH				LR	LR		
	comp=N,8μm,4.8s						
KSH				LR	LR		
	comp=E,13μm,5.9s						
SONA	**Sohna**	**7.26**	**216**	*e*P	**Pn**	**00 47 12.8**	**+1.3**
KUDL	**Kundal**	**7.64**	**218**	*e*P	**Pn**	**00 47 16.8**	**0.0**
KUDL				AMb	AMB	00 47 19.4	
	comp=Z,49nm,0.8s						
AGRA	**Agra**	**7.78**	**207**	⇑*i*P	**Pn**	**00 47 19.8**	**+1.1**
KHET	**Khetri**	**8.06**	**222**	*e*P	**Pn**	**00 47 20.7**	**-1.9**
LSA	**Lhasa**	**9.10**	**117**	P	**Pn**	**00 47 41.0**	**+4.2**
LSA	**Lhasa**	**9.10**	**117**	*e*P	**Pn**	**00 47 35.5**	**-1.3**
LSA				pmax	pmax		
	comp=Z,20nm,0.6s						
LSA	**Lhasa**	**9.10**	**117**	*e*Pn	**Pn**	**00 47 35.5**	**-1.3**
	comp=Z,20nm,0.6s						
LSA				*e*		00 47 42.2	
ULHL	**Ulahol**	**9.11**	**333**	P	**Pn**	**00 47 39.1**	**+2.3**
	SNR=9.6						
KZA	**Kyzart**	**9.38**	**328**	P	**Pn**	**00 47 41.4**	**+0.9**
	SNR=77						
UCH	**Uchtor**	**9.83**	**326**	*e*P	**Pn**	**00 47 46.3**	**-0.3**
	comp=Z,26nm,0.7s						
UCH	**Uchtor**	**9.83**	**326**	P	**Pn**	**00 47 46.5**	**-0.1**
	SNR=53						
TKM2	**Tokmak 2**	**9.94**	**332**	*e*P	**Pn**	**00 47 48.8**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,48nm,1.0s						
TKM2	**Tokmak 2**	**9.94**	**332**	*e*P	**Pn**	**00 47 48.8**	**+0.7**
	comp=Z,48nm,1.0s						
TKM2	**Tokmak 2**	**9.94**	**332**	P	**Pn**	**00 47 49.4**	**+1.3**
	SNR=33						
AJM	**Ajmer**	**9.96**	**221**	*e*P	**Pn**	**00 47 47.5**	**-1.0**
AJM				*e*x	x	00 49 37.0	
KBK	**Karagaybulak**	**9.98**	**329**	P	**Pn**	**00 47 50.0**	**+1.3**
	SNR=39						
AML	**Almayashu**	**10.15**	**323**	*e*Pn	**Pn**	**00 47 50.8**	**-0.3**
	comp=Z,38nm,1.0s						
AML				Sn	**Sn**	**00 49 44.5**	**+1.1**
AML	**Almayashu**	**10.15**	**323**	P	**Pn**	**00 47 50.9**	**-0.1**
	SNR=27						
AAK	**Ala-Archa**	**10.16**	**328**	P	**Pn**	**00 47 50.5**	**-0.6**
AAK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AAK	**Ala-Archa**	**10.16**	**328**	*e*P	**Pn**	**00 47 50.1**	**-1.0**
	comp=Z,31nm,1.0s						
AAK	**Ala-Archa**	**10.16**	**328**	Pn	**Pn**	**00 47 50.5**	**-0.7**
	comp=Z,0.8nm,0.3s,baz=136,slow=9.9,SNR=25						
AAK	**Ala-Archa**	**10.16**	**328**	P	**Pn**	**00 47 51.7**	**+0.6**
	SNR=14						
FRU	**Bishkek**	**10.26**	**329**	⇑*i*P	**Pn**	**00 47 53.0**	**+0.4**
FRU				pmax	pmax		
	comp=Z,270nm,1.8s						
FRU				pmax	pmax		
	comp=N,250nm,2.0s						
CHMS	**Chumysh**	**10.34**	**330**	P	**Pn**	**00 47 54.7**	**+1.0**
	SNR=20						
EKS2	**Erkin-Say**	**10.51**	**325**	*e*Pn	**Pn**	**00 47 56.4**	**+0.5**
	comp=N,15nm,0.9s						
EKS2				*e*Sn	**Sn**	**00 49 48.5**	**-3.7**
EKS2	**Erkin-Say**	**10.51**	**325**	P	**Pn**	**00 47 57.0**	**+1.0**
	SNR=6.6						
WMQ	**Urumqi**	**10.56**	**24**	*e*P	**Pn**	**00 47 57.0**	**+0.4**
WMQ				XP		00 48 09.0	
WMQ				S	**Sn**	**00 49 54.0**	**+0.5**
WMQ				SS		00 50 08.0	
WMQ				AMB	AMB		
	comp=Z,248nm,2.5s						
WMQ				LR	LR		
	comp=N,567nm,6.0s						
WMQ				LR	LR		
	comp=E,821nm,7.0s						
WMQ				LR	LR		
	comp=Z,352nm,5.0s						
BOK	**Bokaro**	**11.01**	**160**	*e*P	**Pn**	**00 48 01.3**	**-1.6**
BOK				AMb	AMB	00 48 09.1	
	comp=Z,25nm,0.8s						
BHPL	**Bhopal**	**11.65**	**201**	*e*P	**Pn**	**00 48 10.4**	**-1.3**
BHPL				*e*x	x	00 50 17.9	
BLSP	**Bilaspur**	**12.09**	**179**	*e*P	**Pn**	**00 48 16.3**	**-1.5**
SHL	**Shillong**	**12.27**	**132**	*e*P	**Pn**	**00 48 19.0**	**-1.1**
SHL				*e*x	x	00 50 35.0	
KK31	**Karatay Array**	**12.50**	**318**	*i* P	**Pn**	**00 48 20.6**	**-2.6**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MK31	**Makanchi Array**	**12.52**	**1**	*i* P	**Pn**	**00 48 21.3**	**-2.1**
MK31				pmax	pmax		
	comp=Z,9.0nm,0.5s						
MKAR	**Makanchi Array**	**12.52**	**1**	*i* P	**Pn**	**00 48 21.6**	**-1.8**
MKAR				pmax	pmax		
	comp=Z,15nm,0.6s						
MKAR	**Makanchi Array**	**12.52**	**1**	Pn	**Pn**	**00 48 21.6**	**-1.8**
	comp=Z,2.7nm,0.3s,baz=182,slow=12,SNR=92						
NGP	**Nagpur**	**13.30**	**192**	*e*P	**Pn**	**00 48 32.4**	**-1.9**
AKL	**Akola**	**14.18**	**199**	*e*P	**Pn**	**00 48 45.0**	**-1.2**
GTA	**Gaotai**	**15.25**	**65**	*e*P	**Pn**	**00 48 59.0**	**-1.3**
GTA				AP	pP	00 49 06.3	-8.6
GTA				XP	sP	00 49 11.6	-8.8
GTA				S	**S**	**00 51 46.8**	**-16**
GTA				AMB	AMB		
	comp=Z,118nm,7.2s						
GTA				LR	LR		
	comp=N,939nm,14.1s						
GTA				LR	LR		
	comp=E,1μm,11.8s						
GTA				LR	LR		
	comp=Z,760nm,11.4s						
LATR	**Latur**	**16.48**	**198**	*e*x	x	00 49 12.6	
KURK	**Kurchatov**	**16.61**	**353**	*e*P	**Pn**	**00 49 14.1**	**-3.5**
KURK				*e*		00 52 23.4	
KURK				pmax	pmax		
	comp=Z,78nm,1.0s						
KURK	**Kurchatov**	**16.61**	**353**	*e*Pn	**Pn**	**00 49 14.1**	**-3.5**
	comp=Z,78nm,1.0s						
KURK				*e*Sn	**Sn**	**00 52 23.4**	**+2.6**
HYB	**Hyderabad**	**17.04**	**191**	*e*P	**Pn**	**00 49 20.0**	**-3.2**
HYB				*e*		00 49 26.0	
HYB				*e*S	S	00 52 12.0	-28
HYB	**Hyderabad**	**17.04**	**191**	*i* P	**Pn**	**00 49 20.0**	**-3.2**
HYB				*e*		00 49 26.0	
HYB				*e*S	**S**	**00 52 25.0**	**-15**
LZH	**Lanzhou**	**18.05**	**78**	*e*P	**Pn**	**00 49 33.8**	**-1.8**
LZH				AP	pP	00 49 41.5	-4.5
LZH				XP	sP	00 49 46.8	-4.7
LZH				PP		00 49 48.9	
LZH				*e*S	**S**	**00 52 53.0**	**-7.3**
LZH				XS	sS	00 53 06.0	-11
LZH				SS		00 53 11.2	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s						
LZH				AMB	AMB		
	comp=Z,160nm,4.1s						
LZH				LR	LR		
	comp=E,772nm,13.2s						
LZH				LR	LR		
	comp=Z,977nm,15.0s						
CD2	**Chengdu**	**18.74**	**94**	*e*P	**Pn**	**00 49 44.9**	**+0.9**
CD2				AP	pP	00 49 53.4	-0.2
CD2				XP	sP	00 49 58.8	-0.3
CD2				PP		00 50 01.8	
CD2				S	**S**	**00 53 08.5**	**-5.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,1.7s						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,490nm,7.2s						
CD2				LR	LR		
	comp=E,1μm,10.2s						
CD2				LR	LR		
	comp=Z,1μm,10.8s						
ZAL	**Zalesovo**	**19.77**	**5**	P	**Pn**	**00 49 54.0**	**-2.1**
ZAA0	**Zalesovo Array**	**19.79**	**5**	*e*P	**Pn**	**00 49 53.6**	**-2.6**
ZALV	**Zalesovo Beam**	**19.79**	**5**	P	**Pn**	**00 49 54.0**	**-2.2**
ZALV				LR	LR	00 57 28.9	
ZALV	**Zalesovo Beam**	**19.79**	**5**	P	**Pn**	**00 49 54.0**	**-2.2**
	comp=Z,1.1nm,0.3s,baz=194,slow=11,SNR=30						
ZALV				LR	LR	00 57 29.0	
	comp=Z,42nm,21.6s,baz=258,slow=37						
KMI	**Kunming**	**20.26**	**111**	P	**P**	**00 50 02.1**	**+2.3**
KMI				AP		00 50 10.7	
KMI				XP	sP	00 50 14.2	-1.5
KMI				PPP		00 50 31.9	
KMI				S	**S**	**00 53 42.7**	**-2.1**
KMI				XS	sS	00 53 55.6	-6.0
KMI				SS		00 54 10.6	
KMI				SSS		00 54 26.5	
KMI				AMB	AMB		
	comp=Z,63nm,1.1s						
KMI				AMB	AMB		
	comp=Z,136nm,3.1s						
KMI				LR	LR		
	comp=N,208nm,7.3s						
KMI				LR	LR		
	comp=E,413nm,8.3s						
KMI				LR	LR		
	comp=Z,440nm,8.3s						
BVAR	**Borovoye Array**	**20.46**	**340**	P	**P**	**00 50 01.6**	**-0.1**
	comp=Z,51nm,0.9s,baz=146,slow=11,SNR=141						
BVAR				PcP	PcP	00 54 12.9	+0.7
	comp=Z,0.9nm,0.5s,baz=131,slow=7.9,SNR=4.6						
BRVK	**Borovoye**	**20.52**	**340**	*e*P	**P**	**00 50 02.2**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,140nm,1.0s						
BRVK	**Borovoye**	**20.52**	**340**	*e*P	**P**	**00 50 02.2**	**-0.2**
	comp=Z,140nm,1.0s						
NVS	**Novosibirsk**	**20.59**	**2**	*e*P	**P**	**00 50 00.4**	**-2.8**
NVS				*e*S	**S**	**00 53 42.4**	**-8.5**
NVS				pmax	pmax		
	comp=Z,25nm,1.0s						
NVS				pmax	pmax		
	comp=N,23nm,1.3s						
CHRT	**Chiangrai**	**21.40**	**127**	⇑P	**P**	**00 50 15.0**	**+2.9**
	comp=N,158nm,0.8s,mb5.4						
CHG	**Chiang Mai**	**21.63**	**131**	⇑P	**P**	**00 50 15.4**	**+0.8**
	comp=N,20nm,0.8s,mb4.6						
CHTO	**Chiang Mai**	**21.63**	**131**	*e*P	**P**	**00 50 14.7**	**+0.1**
CHTO				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**21.63**	**131**	*e*P	**P**	**00 50 14.7**	**+0.1**
	comp=Z,15nm,0.8s,mb4.5						
MOY	**Mondy**	**22.21**	**33**	*e*P	**P**	**00 50 22.1**	**+1.6**
XAN	**Xi'an**	**22.37**	**83**	P	**P**	**00 50 24.0**	**+1.6**
XAN				AP		00 50 32.9	
XAN				XP	sP	00 50 37.3	-1.1
XAN				PP		00 50 50.1	
XAN				PPP		00 51 02.7	
XAN				PCP	PcP	00 54 22.0	+5.7
XAN				S	**S**	**00 54 25.9**	**-0.1**
XAN				SS		00 55 04.3	
XAN				SCS	ScS	01 01 37.4	+1.9
XAN				AMB	AMB		
	comp=Z,13nm,1.6s,mb4.1						
XAN				AMB	AMB		
	comp=Z,58nm,10.1s						
XAN				LR	LR		
	comp=N,218nm,14.7s,MS3.9						
XAN				LR	LR		
	comp=E,312nm,15.4s,MS3.9						
XAN				LR	LR		
	comp=Z,351nm,15.2s,MS3.9						
ZAK	**Zakamensk**	**22.46**	**38**	*e*P	**P**	**00 50 22.6**	**-0.6**
ZAK				*e*		00 50 37.1	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.8						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.6						
GYA	**Guiyang**	**22.73**	**103**	P	**P**	**00 50 25.7**	**-0.6**
GYA				AP		00 50 37.4	
GYA				XP	sP	00 50 41.9	-0.4
GYA				PP		00 50 56.5	
GYA				PCP	PcP	00 54 20.2	+3.0
GYA				S	**S**	**00 54 27.8**	**-4.3**
GYA				XS	sS	00 54 45.3	-5.0
GYA				SS		00 55 11.6	
GYA				SCP	ScP	00 57 53.2	+1.8
GYA				PCS	PcS	00 57 57.8	+1.6
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.2						
GYA				AMB	AMB		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=Z,440nm,16.0s,MS4.0						
NANT	**Nan**	**22.77**	**128**	⇓P	**P**	**00 50 29.0**	**+2.3**
	comp=Z,112nm,1.0s,mb5.2						
SONM	**Songino Array**	**22.81**	**46**	P	**P**	**00 50 27.0**	**+0.1**
SONM						00 54 17.3	
SONM	**Songino Array**	**22.81**	**46**	P	**P**	**00 50 27.0**	**+0.1**
	comp=Z,7.3nm,1.0s,mb4.1,baz=235,slow=9.9,SNR=18						
SONM				PcP	PcP	00 54 17.3	+0.4
	comp=Z,1.3nm,0.9s,baz=186,slow=2.2,SNR=5.6						
SONM				LR	LR	01 00 17.2	
	comp=Z,259nm,19.8s,MS3.7,baz=242,slow=39						
ULN	**Ulaanbaatar**	**23.22**	**47**	*e*P	**P**	**00 50 31.1**	**-0.1**
ULN				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.3						
ULN	**Ulaanbaatar**	**23.22**	**47**	*e*P	**P**	**00 50

WHN Wuhan 27.61 89 ⇑P **P 00 51 15.1 +3.8**
WHN LR LR
comp=N,549nm,7.6s
WHN LR LR
comp=E,581nm,10.2s
WHN LR LR
comp=Z,902nm,16.3s
BJI Beijing 27.83 68 P **P 00 51 12.6 -0.6**
BJI S **S 00 55 51.6 -1.7**
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb4.5
BJI AMB AMB
comp=Z,68nm,4.0s
BJI LR LR
comp=N,293nm,11.9s,MS4.3
BJI LR LR
comp=E,346nm,10.3s,MS4.3
BJI LR LR
comp=Z,231nm,28.8s
QIZ Qiongzhong 29.12 114 P **P 00 51 25.2 +0.3**
QIZ S **S 00 56 13.0 -1.0**
QIZ AMB AMB
comp=Z,61nm,3.0s
QIZ LR LR
comp=N,210nm,18.5s
QIZ LR LR
comp=Z,252nm,16.4s,MS3.9
MIB Mutribah 29.52 271 *e*P **P 00 51 28.1 -0.2**
MIB AMb AMB 00 51 36.4
comp=Z,22nm,0.5s,mb5.1
RDF Al-Radifah 29.62 269 *e*P **P 00 51 28.7 -0.6**
RDF AMb AMB 00 51 36.9
comp=Z,24nm,0.8s,mb5.0
NAY Al-Naaiem 29.77 270 *e*P **P 00 51 30.2 -0.4**
NAY AMb AMB 00 51 43.5
comp=Z,21nm,1.2s,mb4.8
NJ2 Nanjing 30.93 84 *e*P **P 00 51 43.4 +2.6**
NJ2 AP pP 00 51 53.9 +1.4
NJ2 XP sP 00 52 00.3 +2.7
NJ2 PP PP 00 52 45.9 -5.2
NJ2 PPP 00 53 00.5
NJ2 S **S 00 56 45.0 +2.8**
NJ2 AMB AMB
comp=Z,30nm,1.1s,mb5.0
NJ2 AMB AMB
comp=Z,120nm,4.8s
NJ2 LR LR
comp=N,740nm,25.7s,MS4.3
NJ2 LR LR
comp=E,390nm,25.4s,MS4.3
NJ2 LR LR
comp=Z,380nm,24.9s,MS4.0
GOF Gofitskoye 31.50 302 *e*P **P 00 51 48.7 +3.0**
HIA Hailar 31.60 50 P **P 00 51 47.2 +0.7**
KIV Kislovodsk 31.65 300 *e*P **P 00 51 48.6 +1.6**
KIV *e*S **S 00 56 58.2 +5.0**
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
KIV MLR MLR
comp=Z,74nm,15.0s,MS3.5
BOD Bodaibo 31.92 33 *e*P **P 00 51 48.0 -1.2**
BOD pmax pmax
comp=Z,5.0nm,1.6s,mb4.1
SSE Sheshan 33.11 84 P **P 00 51 59.6 -0.3**
SSE AMB AMB
comp=Z,34nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,59nm,6.8s
VRHR Novokhopersk 33.53 312 *e*P **P 00 52 02.8 -0.5**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,20nm,1.7s
KULM Kulim 33.68 145 *e*P **P 00 52 07.9 +2.9**
SOC Sochi 33.78 299*c i*P **P 00 52 04.2 -1.4**
SOC *e*S **S 00 57 26.1 -0.2**
SOC *e*SS SS 00 59 26.7 -27
SOC pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
SOC MLR MLR
comp=Z,112nm,14.0s,MS3.7
CN2 Changchun 34.82 61 *e*P **P 00 52 16.0 +1.4**
CN2 *e*XP sP 00 52 30.0 -1.5
CN2 *e*S **S 00 57 42.6 +0.3**
CN2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.3
CN2 LR LR
comp=E,300nm,13.0s,MS4.3
CN2 LR LR
comp=Z,200nm,14.0s,MS4.0
VORD Divnogorie 34.93 312 *e*P **P 00 52 14.7 -0.8**
VORD pmax pmax
comp=Z,20nm,1.3s,mb4.9
VORD pmax pmax
comp=N,20nm,0.8s
VORD pmax pmax
comp=E,30nm,1.0s
MALT Malatya 35.01 289 *e*P **P 00 52 17.0 +0.7**
MALT pmax pmax
comp=Z,8.0nm,1.3s,mb4.5
MALT Malatya 35.01 289 *e*P **P 00 52 17.0 +0.7**
comp=Z,7.5nm,1.3s,mb4.5
VRSR Storozhevoye 35.05 312 *e*P **P 00 52 15.8 -0.7**
VRSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=N,4.0nm,1.2s
VRSR pmax pmax
comp=E,8.0nm,0.7s
ANN Anapa 35.45 301 *e*P **P 00 52 19.2 -0.9**
ANN pmax pmax
comp=Z,20nm,1.3s,mb4.9
ANN MLR MLR
comp=Z,256nm,19.0s,MS4.0
MOS Moscow 37.09 319 *e*P **P 00 52 33.4 -0.4**
MOS pmax pmax
comp=Z,49nm,1.3s,mb5.2
KSRS Korea Array 37.18 71 P **P 00 52 36.0 +1.1**
comp=Z,0.6nm,0.3s,mb3.9,baz=285,slow=4.7,SNR=4.3
KSRS LR LR 01 09 28.5
comp=Z,281nm,19.6s,MS4.1,baz=91,slow=39
ASF Jabal al Asfar 37.45 280 P **P 00 52 38.0 +0.7**
comp=Z,1.9nm,1.0s,mb3.9,baz=320,slow=12,SNR=3.2
ASF LR LR 01 10 48.5
comp=Z,146nm,21.9s,MS3.7,baz=125,slow=41
OBN Obninsk 37.49 318*k e*P **P 00 52 36.9 -0.4**
OBN 00 54 55.7
OBN pmax pmax
comp=Z,29nm,1.2s,mb5.0
OBN MLR MLR
comp=Z,100nm,15.0s,MS3.7
OBN Obninsk 37.49 318 *e*P **P 00 52 36.7 -0.6**
comp=Z,18nm,0.8s,mb4.9
OBN *e*PP PP 00 54 04.9 +1.6
MMAI Mount Meron Ar 38.45 282 P **P 00 52 46.4 +0.8**
comp=Z,0.8nm,0.5s,mb3.7,baz=55,slow=12,SNR=4.7
MMAI PcP PcP 00 54 58.8 +0.6
comp=Z,0.8nm,0.5s,baz=292,slow=4.4,SNR=4.2
EIL Elat 39.80 277 P **P 00 52 57.0 +0.1**
comp=Z,4.2nm,0.8s,mb4.2,baz=42,slow=6.2,SNR=6.9
JNU Nakatsue 40.48 77 P **P 00 53 03.9 +1.3**
comp=Z,5.2nm,0.9s,mb4.3,baz=259,slow=15,SNR=3.6
AKASG Malin Array Be 41.23 310 *i* P **P 00 53 07.6 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 41.23 310 P **P 00 53 07.7 -0.8**
AKASG PP PP 00 54 41.0 -3.0
AKASG Malin Array Be 41.23 310 P **P 00 53 07.7 -0.8**
comp=Z,1.1nm,0.4s,mb3.8,baz=76,slow=6.7,SNR=13
AKASG PP PP 00 54 41.0 -3.0
comp=Z,0.3nm,0.3s,baz=87,slow=9.9,SNR=4.4
ATD Arta Tunnel 42.11 247 LR LR 01 13 17.8
comp=Z,67nm,18.7s,MS3.5,baz=64,slow=40
JOF Joensuu 42.34 328 *e*p **P 00 53 16.5 -0.9**
comp=Z,7.1nm,0.5s,mb4.5
JOF Joensuu 42.34 328 *e*P **P 00 53 16.5 -0.9**
JOF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
VRI Vrincioaia 42.97 303⇓*i*P **P 00 53 24.5 +1.7**
PLOR Plostina 43.03 303⇓*i*P **P 00 53 24.5 +1.3**

MLR Muntele Rosu 43.55 302 P **P 00 53 28.1 +0.7**
comp=Z,16nm,0.8s,mb4.8,baz=80,slow=13
MLR LR LR 01 15 22.8
comp=Z,182nm,18.1s,MS4.0,baz=70,slow=41
MLR Muntele Rosu 43.55 302⇓*i*P **P 00 53 29.1 +1.6**
BURAR Bucovina Array 43.89 305⇑*i*P **P 00 53 30.3 +0.2**
FINES FINESS Array B 44.34 325 *i* P **P 00 53 33.5 0.0**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 44.34 325 P **P 00 53 33.0 -0.6**
FINES LR LR 01 13 08.6
FINES FINESS Array B 44.34 325 P **P 00 53 33.0 -0.6**
comp=Z,3.4nm,0.6s,mb4.3,baz=107,slow=8.8,SNR=29
FINES LR LR 01 13 08.6
comp=Z,89nm,19.5s,MS3.7,baz=61,slow=38
TIXI Tiksi 44.72 19⇑*e*P **P 00 53 38.1 +1.6**
TIXI pmax pmax
comp=Z,16nm,1.7s,mb4.6
TIXI Tiksi 44.72 19 *e*P **P 00 53 36.8 +0.3**
comp=Z,4.9nm,0.9s,mb4.3
MJAR Matsushiro Arr 45.42 70 P **P 00 53 43.6 +1.1**
MJAR LR LR 01 14 00.4
MJAR Matsushiro Arr 45.42 70 P **P 00 53 43.6 +1.1**
comp=Z,1.1nm,0.4s,mb4.1,baz=286,slow=9.6,SNR=6.0
MJAR LR LR 01 14 00.4
comp=Z,118nm,19.8s,MS3.8,baz=260,slow=38
KWP Kalwaria 45.42 308 *e*P **P 00 53 42.6 +0.2**
KWP pmax pmax
comp=Z,54nm,1.8s,mb5.1
KWP Kalwaria 45.42 308 *e*P **P 00 53 42.6 +0.3**
comp=Z,54nm,1.8s,mb5.1
KOLS Kolonicke sedl 45.76 307 *e*P **P 00 53 45.3 +0.3**
CRVS Cervenica-Dubn 46.29 307 *e*P **P 00 53 50.7 +1.5**
STHS Stebnicka Huta 46.39 308 *e*P **P 00 53 49.4 -0.6**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 46.39 308 *e*P **P 00 53 49.4 -0.6**
comp=Z,3.1nm,0.8s,mb4.3
ARCES ARCESS Array B 46.69 336 P **P 00 53 51.1 -0.9**
ARCES 00 55 24.7
ARCES ARCESS Array B 46.69 336 P **P 00 53 51.0 -0.9**
comp=Z,6.9nm,1.0s,mb4.5,baz=93,slow=6.7,SNR=11
ARCES PcP PcP 00 55 24.7 -0.3
comp=Z,12nm,1.1s,baz=0.0,slow=10,SNR=5.4
ARCES LR LR 01 16 30.1
comp=Z,45nm,20.2s,MS3.4,baz=291,slow=40
NIE Niedzica 47.00 308 *e*P **P 00 53 55.9 +1.2**
PSZ Piszkesteto 47.43 306 *e*P **P 00 53 58.8 +0.7**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PSZ Piszkesteto 47.43 306 *e*P **P 00 53 58.8 +0.7**
comp=Z,6.7nm,1.0s,mb4.5
VYHS Vyhne 48.06 307 *e*P **P 00 54 02.9 -0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.5s,mb4.5
VYHS Vyhne 48.06 307 *e*P **P 00 54 02.9 -0.1**
comp=Z,6.9nm,1.5s,mb4.5
VYHS *e*PP PP 00 55 55.3 +0.1
OKC Ostrava-Krasne 48.35 309 *e*P **P 00 54 05.8 +0.6**
MODS Modra-Piesok 49.11 307 *e*PP PP 00 56 04.9 +0.2
VRAC Vranov 49.42 308 P **P 00 54 14.0 +0.5**
comp=Z,2.6nm,0.5s,mb4.5,baz=60,slow=12,SNR=7.3
DPC Dobruska-Polom 49.46 310 *e*P **P 00 54 14.3 +0.6**
DPC *e*pP pP 00 54 24.9 -0.9
UPC Upice 49.64 310 *e*P **P 00 54 15.4 +0.4**
UPC *e*pP pP 00 54 25.6 -1.6
CONA Conrad Observa 50.12 307 *i* P **P 00 54 19.3 +0.6**
comp=Z,19nm,1.5s,mb4.9,SNR=7.9
CSNA Conrad Observa 50.12 307⇓*i*P **P 00 54 19.2 +0.5**
comp=Z,18nm,1.4s,mb4.9
TREC Trest 50.14 309 *e*P **P 00 54 20.3 +1.4**
HFS Hagfors 50.26 323 P **P 00 54 19.1 -0.5**
baz=94,slow=7.4
HFS LR LR 01 19 12.6
comp=Z,98nm,18.3s,MS3.9,baz=92,slow=40
PVCC Panska Ves 50.55 310 *e*P **P 00 54 22.8 +0.9**
MA2 Magadan 50.64 38 *e*P **P 00 54 22.7 +0.2**
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 Magadan 50.64 38 *e*P **P 00 54 22.3 -0.2**
comp=Z,13nm,0.9s,mb4.8
PRU Pruhonice 50.65 310 *e*P **P 00 54 23.6 +0.9**
RGN Rugen 50.80 316 *e*L 01 16 04.4
comp=Z,124nm,18.2s
BRG Berggiesshubel 50.89 311 *e*P **P 00 54 25.0 +0.5**
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG Berggiesshubel 50.89 311 *e*P **P 00 54 24.8 +0.3**
comp=Z,9.0nm,1.2s,mb4.6
BRG *e*L 01 18 01.7
comp=Z,290nm,18.1s
BRG Berggiesshubel 50.89 311 *e*P **P 00 54 25.0 +0.5**
comp=Z,8.7nm,1.2s,mb4.5
MOA Molln 51.19 307⇑*i*P **P 00 54 26.6 -0.2**
comp=Z,9.8nm,1.1s,mb4.6
SEY Seymchan 51.34 34⇑*e*P **P 00 54 28.3 +0.6**
GEC2 GERESS Array S 51.38 308 *e*P **P 00 54 26.6 -1.6**
GEC2 pmax pmax
comp=Z,22nm,1.7s,mb4.8
GEC2 MLR MLR
comp=Z,100nm,21.8s,MS3.8
GEC2 GERESS Array S 51.38 308 *e*P **P 00 54 26.6 -1.6**
comp=Z,22nm,1.7s,mb4.8
GEC2 *e*L 01 17 12.9
comp=Z,128nm,21.8s
GERES GERESS Array B 51.38 308 P **P 00 54 28.0 -0.2**
GERES 00 56 24.5
GERES GERESS Array B 51.38 308 P **P 00 54 28.0 -0.2**
comp=Z,3.3nm,0.9s,mb4.2,baz=78,slow=7.0,SNR=6.9
GERES PP PP 00 56 24.5 -0.8
comp=Z,0.6nm,0.5s,baz=67,slow=7.4,SNR=4.6
GERES LR LR 01 18 12.8
comp=Z,67nm,20.4s,MS3.7,baz=123,slow=38
KHC Kasperske Hory 51.41 309 *e*P **P 00 54 28.5 +0.1**
KHC *e*pP pP 00 54 41.1 +0.5
CLL Collm 51.41 311 *e*P **P 00 54 29.0 +0.6**
CLL *e*PP pP 00 54 40.0 -0.6
CLL Collm 51.41 311 *e*L 01 18 05.6
comp=Z,182nm,20.7s
TIP Timpagrande 51.42 296 *e*P **P 00 54 28.5 -0.2**
comp=Z,31nm,1.6s,mb5.0
NB2 NORSAR Subarra 51.46 324 P **P 00 54 27.4 -1.2**
comp=Z,1.6nm,0.6s,mb4.1,baz=87,slow=7.4
NOA NORSAR Array B 51.46 324 P **P 00 54 28.1 -0.5**
comp=Z,1.8nm,0.6s,mb4.2,baz=88,slow=7.4,SNR=9.5
NOA LR LR 01 16 58.4
comp=Z,105nm,18.6s,MS3.9,baz=75,slow=37
WET Wettzell 51.85 309 *e*L 01 17 29.3
comp=Z,86nm,21.5s
TANN Tannenbergstha 51.90 310 *e*L 01 18 34.0
comp=Z,266nm,18.2s
NKC Novy Kostel 51.94 310 *e*P **P 00 54 32.0 -0.3**
FG5 Orsara di Pugl 51.96 299 P **P 00 54 33.5 +0.8**
FG5 pmax pmax
comp=Z,23nm,0.8s,mb5.2
FG5 Orsara di Pugl 51.96 299 P **P 00 54 33.5 +0.8**
comp=Z,23nm,0.8s,mb5.2
ROTZ Rotzenmuhle 52.17 310 *e*P **P 00 54 34.7 +0.6**
comp=Z,12nm,1.3s,mb4.7
ROTZ *e*L 01 18 44.8
comp=Z,178nm,18.5s
MANZ Manzenberg 52.20 310 *e*L 01 18 44.4
comp=Z,230nm,19.4s
MOX Moxa 52.39 311 *e*L 01 18 47.1
comp=Z,208nm,19.3s
SGG Gregorio Mates 52.58 299 P **P 00 54 36.9 -0.3**
MIDA Miranda 52.60 299 P **P 00 54 37.5 +0.1**
BSEG Bad Segeberg 52.63 315 *e*P **P 00 54 38.2 +0.8**
BSEG pmax pmax
comp=Z,22nm,1.5s,mb4.9
BSEG MLR MLR
comp=Z,100nm,19.1s,MS3.9
BSEG Bad Segeberg 52.63 315 *e*P **P 00 54 38.2 +0.8**
comp=Z,22nm,1.5s,mb4.9
BSEG *e*L 01 18 29.3
comp=Z,100nm,19.1s
GRA1 Grafenberg Arr 52.81 310 *e*P **P 00 54 39.8 +0.9**
comp=Z,43nm,1.9s,mb5.0
GRA1 LR LR
comp=Z,100nm,21.1s,MS3.8
GRF Grafenberg Arr 52.81 310 *e*P **P 00 54 39.8 +0.9**
GRF pmax pmax
comp=Z,43nm,1.9s,mb5.0
GRF MLR MLR
comp=Z,100nm,21.1s,MS3.8
GRF Grafenberg Arr 52.81 310 *e*P **P 00 54 39.8 +0.9**

GRF pmax pmax
comp=Z,43nm,1.9s,mb5.0
GRF MLR MLR
comp=Z,100nm,21.1s,MS3.8
GRF Grafenberg Arr 52.81 310 *e*P **P 00 54 39.8 +0.9**
comp=Z,43nm,1.9s,mb5.0
GRF *e*L 01 19 03.7
comp=Z,117nm,21.1s
GRFO Grafenberg 52.81 310 *e*L 01 19 04.3
comp=Z,117nm,20.2s
SDI San Donato 52.90 299 P **P 00 54 39.2 -0.4**
SDI pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SDI San Donato 52.90 299 P **P 00 54 39.2 -0.4**
comp=Z,6.8nm,0.6s,mb4.8
CING Cingoli 52.90 302 P **P 00 54 40.0 +0.4**
CLZ Clausthal 52.94 313 *e*P **P 00 54 39.7 -0.1**
CLZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLZ MLR MLR
comp=Z,100nm,18.7s,MS3.9
CLZ Clausthal 52.94 313 *e*P **P 00 54 39.7 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
CLZ *e*L 01 20 04.6
comp=Z,141nm,18.7s
NRDL Niedersach Rie 52.99 313 *e*P **P 00 54 40.2 +0.1**
comp=Z,28nm,1.7s,mb4.9
NRDL *e*L 01 20 44.6
comp=Z,206nm,18.0s
NRCA Norcia 53.10 301 P **P 00 54 40.4 -0.7**
comp=Z,12nm,0.8s,mb4.9
SNTG Esanatoglia 53.12 302 P **P 00 54 41.7 +0.5**
comp=Z,13nm,0.5s,mb5.1
FSSB Fossombrone 53.12 302 P **P 00 54 41.5 +0.3**
comp=Z,11nm,0.5s,mb5.0
PIEI Pieia 53.33 302 P **P 00 54 43.0 +0.3**
SQTA Sankt Quirin 53.34 307⇑*i*P **P 00 54 42.4 -0.4**
comp=Z,4.5nm,0.9s,mb4.4
SQTA Sankt Quirin 53.34 307⇑*i*P **P 00 54 42.4 -0.4**
SQTA pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
UBBA Unterbreizbach 53.36 311 *e*L 01 19 15.5
comp=Z,144nm,19.3s
MOTA Moosalm 53.38 307⇑*i*P **P 00 54 42.6 -0.5**
comp=Z,4.4nm,1.0s,mb4.4,SNR=7.4
MOTA Moosalm 53.38 307⇑*i*P **P 00 54 42.6 -0.5**
MOTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
MURB Monte Urbino 53.41 302 P **P 00 54 45.1 +1.8**
MNS Montasola 53.53 301 P **P 00 54 44.0 -0.2**
BADI Badiali 53.54 302 P **P 00 54 45.3 +1.0**
SFI Santa Sofia 53.71 303 P **P 00 54 46.6 +1.0**
SFI pmax pmax
comp=Z,35nm,0.8s,mb5.3
SFI Santa Sofia 53.71 303 P **P 00 54 46.6 +1.0**
comp=Z,35nm,0.8s,mb5.3
VMG Vicchio 53.91 303 P **P 00 54 48.6 +1.6**
comp=Z,30nm,0.7s,mb5.3
HLG Helgoland 54.01 316 *e*L 01 19 43.0
comp=Z,73nm,21.2s
DAVA Damuels 54.21 307⇓*i*P **P 00 54 48.8 -0.3**
comp=Z,13nm,1.0s,mb4.8
STU Stuttgart 54.31 309 *e*L 01 18 42.6
comp=Z,99nm,18.8s
DAVOX Davos/Dischmat 54.33 306 P **P 00 54 49.0 -1.1**
comp=Z,5.4nm,0.6s,mb4.6,baz=106,slow=6.7,SNR=12
IBBN Ibbenburen 54.44 313 *e*L 01 20 30.6
comp=Z,180nm,18.2s
GSCL Gusciola 54.47 303 P **P 00 54 52.0 +0.9**
comp=Z,17nm,0.9s,mb5.0
KMBO Kilima Mbogo 54.66 239 LR LR 01 15 45.9
comp=Z,117nm,20.6s,MS3.9,baz=98,slow=33
MAIM 54.66 303 P **P 00 54 51.9 -0.5**
BUG Bochum--Univer 54.92 312 *e*L 01 21 59.6
comp=Z,107nm,19.4s
BFO Black Forest 54.97 309 *e*L 01 20 40.5
comp=Z,145nm,18.1s
CDF Champ du Feu 55.63 309 *e*P **P 00 54 58.6 -0.8**
WLF Walferdange 56.03 311 *e*L 01 17 49.3
comp=Z,144nm,21.0s
HINF Hinteralfeld 56.06 308 *e*P **P 00 55 02.1 -0.4**
comp=Z,7.9nm,0.6s,mb4.7
HINF Hinteralfeld 56.06 308 *e*P **P 00 55 02.1 -0.4**
HINF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
HINF Hinteralfeld 56.06 308 *e*P **P 00 55 02.1 -0.4**
comp=Z,4.0nm,0.6s,mb4.6
PGF Pioggiola 56.09 302⇓*i*P **P 00 55 02.2 -0.6**
comp=Z,36nm,1.0s,mb5.1
PGF Pioggiola 56.09 302⇓*i*P **P 00 55 02.2 -0.6**
PGF pmax pmax
comp=Z,18nm,1.0s,mb5.1
PGF Pioggiola 56.09 302⇓*i*P **P 00 55 02.2 -0.6**
comp=Z,18nm,1.0s,mb5.1
HAU Haudompre 56.34 309 *e*P **P 00 55 04.0 -0.4**
comp=Z,5.5nm,0.5s,mb4.5
HAU *e*MLR MLR
comp=Z,142nm,18.2s,MS3.8
HAU Haudompre 56.34 309 *e*P **P 00 55 04.0 -0.4**
HAU pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
HAU MLR MLR
comp=Z,140nm,18.3s,MS4.1
HAU Haudompre 56.34 309 *e*P **P 00 55 04.0 -0.4**
comp=Z,2.8nm,0.5s,mb4.5
HAU LR LR
comp=Z,140nm,18.3s,MS4.1
BILL Bilibino 56.66 27 ⇑P **P 00 55 07.0 +0.6**
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.6
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.1
LPG La Plagne 56.77 306⇓*i*P **P 00 55 08.0 +0.4**
comp=Z,36nm,0.7s,mb5.2
LPG La Plagne 56.77 306⇓*i*P **P 00 55 08.0 +0.4**
LPG pmax pmax
comp=Z,18nm,0.7s,mb5.2
LPG La Plagne 56.77 306⇓*i*P **P 00 55 08.0 +0.4**
comp=Z,18nm,0.7s,mb5.2
LPL La Plagne 56.78 306⇓*i*P **P 00 55 08.0 +0.4**
comp=Z,41nm,0.6s,mb5.3
LPL La Plagne 56.78 306⇓*i*P **P 00 55 08.0 +0.4**
LPL pmax pmax
comp=Z,21nm,0.6s,mb5.3
LPL La Plagne 56.78 306⇓*i*P **P 00 55 08.0 +0.4**
comp=Z,21nm,0.6s,mb5.3
SBF Sospel 56.79 304 *e*P **P 00 55 07.6 -0.1**
comp=Z,60nm,0.8s,mb5.4
SBF Sospel 56.79 304 *e*P **P 00 55 07.6 -0.1**
SBF pmax pmax
comp=Z,30nm,0.8s,mb5.4
SBF Sospel 56.79 304 *e*P **P 00 55 07.6 -0.1**
comp=Z,30nm,0.8s,mb5.4
CABF La Chapelle 56.89 307 *e*P **P 00 55 08.0 -0.4**
MBDF Montbardon 56.98 305 *e*P **P 00 55 08.3 -0.8**
comp=Z,22nm,0.8s,mb4.9
MBDF Montbardon 56.98 305 *e*P **P 00 55 08.3 -0.8**
MBDF pmax pmax
comp=Z,11nm,0.8s,mb4.9
MBDF Montbardon 56.98 305 *e*P **P 00 55 08.3 -0.8**
comp=Z,11nm,0.8s,mb4.9
MEZF Maizieres J'vi 57.03 309 *e*P **P 00 55 08.3 -1.1**
BAIF Baives 57.14 311 *e*P **P 00 55 09.1 -1.0**
FRF La Foret Royal 57.42 303 *e*P **P 00 55 11.6 -0.6**
comp=Z,18nm,0.8s,mb4.9
FRF La Foret Royal 57.42 303 *e*P **P 00 55 11.6 -0.6**
FRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
FRF La Foret Royal 57.42 303 *e*P **P 00 55 11.6 -0.6**
comp=Z,8.9nm,0.8s,mb4.8
ORIF Oris-en-Rattie 57.53 305 *e*P **P 00 55 12.9 0.0**
comp=Z,12nm,0.9s,mb4.6
ORIF *e*MLR MLR
comp=Z,140nm,21.8s,MS3.7
ORIF Oris-en-Rattie 57.53 305 *e*P **P 00 55 12.9 0.0**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
ORIF Oris-en-Rattie 57.53 305 *e*P **P 00 55 12.9 0.0**
comp=Z,5.9nm,0.9s,mb4.6
SMRF Simiane la Rot 58.03 304 *e*P **P 00 55 16.2 -0.3**
KEST Kesra 58.12 294 P **P 00 55 16.4 -0.8**
comp=Z,1.1nm,0.6s,mb4.1,baz=34,slow=5.1,SNR=7.4
LOR Lormes 58.16 308⇓*i*P **P 00 55 16.4 -0.9**
comp=Z,6.6nm,0.8s,mb4.4
LOR *e*MLR MLR
comp=Z,120nm,17.8s,MS3.8
LOR Lormes 58.16 308⇓*i*P **P 00 55 16.4 -0.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LOR				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
LOR				MLR	MLR		
	comp=Z,120nm,17.8s,MS4.1						
LOR	**Lormes**	**58.16**	**308**	⇓*i*P	**P**	**00 55 16.4**	**-0.9**
	comp=Z,3.3nm,0.8s,mb4.4						
LOR				LR	LR		
	comp=Z,120nm,17.8s,MS4.1						
SMF	**Signal de Mont**	**58.36**	**308**	*e*P	**P**	**00 55 18.0**	**-0.7**
	comp=Z,11nm,0.6s,mb4.8						
SMF	**Signal de Mont**	**58.36**	**308**	*e*P	**P**	**00 55 18.0**	**-0.7**
SMF				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.7						
SMF	**Signal de Mont**	**58.36**	**308**	*e*P	**P**	**00 55 18.0**	**-0.7**
	comp=Z,5.4nm,0.6s,mb4.8						
VIVF	**Saint-Julien-l**	**58.37**	**305**	*e*P	**P**	**00 55 18.4**	**-0.4**
	comp=Z,10nm,0.9s,mb4.6						
VIVF	**Saint-Julien-l**	**58.37**	**305**	*e*P	**P**	**00 55 18.4**	**-0.4**
VIVF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
VIVF	**Saint-Julien-l**	**58.37**	**305**	*e*P	**P**	**00 55 18.4**	**-0.4**
	comp=Z,5.1nm,0.9s,mb4.5						
SSF	**Saint Saulge**	**58.45**	**308**	⇓*i*P	**P**	**00 55 18.7**	**-0.7**
	comp=Z,13nm,0.7s,mb4.8						
SSF	**Saint Saulge**	**58.45**	**308**	⇓*i*P	**P**	**00 55 18.7**	**-0.7**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.8						
SSF	**Saint Saulge**	**58.45**	**308**	⇓*i*P	**P**	**00 55 18.7**	**-0.7**
	comp=Z,6.6nm,0.7s,mb4.8						
AVF	**Avril sur Loir**	**58.64**	**308**	⇓*i*P	**P**	**00 55 20.0**	**-0.6**
	comp=Z,8.6nm,0.7s,mb4.6						
AVF	**Avril sur Loir**	**58.64**	**308**	⇓*i*P	**P**	**00 55 20.0**	**-0.6**
AVF				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.6						
AVF	**Avril sur Loir**	**58.64**	**308**	⇓*i*P	**P**	**00 55 20.0**	**-0.6**
	comp=Z,4.3nm,0.7s,mb4.6						
BGF	**Bois d'Agland**	**59.04**	**308**	*e*P	**P**	**00 55 22.7**	**-0.7**
LASF	**Ste Croix**	**59.17**	**305**	*e*P	**P**	**00 55 24.2**	**-0.2**
	comp=Z,9.5nm,0.7s,mb4.6						
TCF	**Toulx Ste Croi**	**59.54**	**308**	⇓*i*P	**P**	**00 55 26.7**	**-0.2**
	comp=Z,10nm,0.7s,mb4.7						
TCF	**Toulx Ste Croi**	**59.54**	**308**	⇓*i*P	**P**	**00 55 26.7**	**-0.2**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.7						
TCF	**Toulx Ste Croi**	**59.54**	**308**	⇓*i*P	**P**	**00 55 26.7**	**-0.2**
	comp=Z,5.1nm,0.7s,mb4.7						
CAF	**Calviac**	**60.09**	**306**	⇓*i*P	**P**	**00 55 30.7**	**0.0**
	comp=Z,6.8nm,0.6s,mb4.5						
CAF	**Calviac**	**60.09**	**306**	⇓*i*P	**P**	**00 55 30.7**	**0.0**
CAF				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
CAF	**Calviac**	**60.09**	**306**	⇓*i*P	**P**	**00 55 30.7**	**0.0**
	comp=Z,3.4nm,0.6s,mb4.5						
LDF	**La Druitiere**	**60.28**	**311**	*e*P	**P**	**00 55 31.2**	**-0.8**
RJF	**Les Rejaudoux**	**60.33**	**307**	*e*P	**P**	**00 55 31.8**	**-0.5**
RJF				*e*MLR	MLR		
	comp=Z,66nm,18.1s,MS3.5						
RJF	**Les Rejaudoux**	**60.33**	**307**	*e*P	**P**	**00 55 31.8**	**-0.5**
RJF				LR	LR		
	comp=Z,70nm,18.1s,MS3.8						
MTLF	**Montolieu**	**60.54**	**304**	*e*P	**P**	**00 55 33.4**	**-0.4**
GRR	**Gorron**	**60.81**	**311**	*e*P	**P**	**00 55 34.8**	**-0.8**
LFF	**La Frestale**	**60.97**	**307**	*e*P	**P**	**00 55 36.6**	**-0.1**
MFF	**Saint Martin d**	**60.97**	**309**	*e*P	**P**	**00 55 35.9**	**-0.8**
SGMF	**Saint Gilles**	**61.92**	**311**	*e*P	**P**	**00 55 42.6**	**-0.5**
EPF	**Esparros**	**61.93**	**305**	*e*P	**P**	**00 55 43.1**	**-0.1**
OPO	**Ambohidratompo**	**62.05**	**218**	P	**P**	**00 55 44.2**	**-0.1**
	comp=Z,1.5nm,0.7s,mb4.2,baz=294,slow=10.0,SNR=3.1						
ROSF	**Rostrenen**	**62.34**	**311**	*e*P	**P**	**00 55 45.3**	**-0.6**
ETSF	**Etsaut**	**62.59**	**305**	*e*P	**P**	**00 55 47.5**	**-0.2**
	comp=Z,7.3nm,0.6s,mb4.7						
ETSF	**Etsaut**	**62.59**	**305**	*e*P	**P**	**00 55 47.5**	**-0.2**
ETSF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
ETSF	**Etsaut**	**62.59**	**305**	*e*P	**P**	**00 55 47.5**	**-0.2**
	comp=Z,3.7nm,0.6s,mb4.7						
ESDC	**Sonseca Array**	**66.25**	**303**	P	**P**	**00 56 11.3**	**-0.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=51,slow=6.1,SNR=10						
MDT	**Midelt**	**69.81**	**296**	P	**P**	**00 56 33.9**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.1,baz=96,slow=7.6,SNR=6.2						
IMA2	**Indian Mountai**	**71.30**	**21**	*e*P	**P**	**00 56 42.8**	**+0.2**
WRA	**Warramunga Arr**	**73.46**	**129**	*i* P	**P**	**00 56 56.5**	**+0.4**
WRA				pmax	pmax		
	comp=Z,5.0nm,1.0s						
WRA	**Warramunga Arr**	**73.46**	**129**	P	**P**	**00 56 56.5**	**+0.4**
	comp=Z,4.7nm,1.0s,mb4.4,baz=326,slow=5.9,SNR=26						
WRAB	**Tennant Creek**	**73.46**	**129**	*e*P	**P**	**00 56 56.4**	**+0.3**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**73.46**	**129**	*e*P	**P**	**00 56 56.4**	**+0.3**
	comp=Z,4.9nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**73.47**	**129**	*e*P	**P**	**00 56 56.2**	**+0.1**
WB2	**Warramunga Arr**	**73.47**	**129**	*e*P	**P**	**00 56 56.4**	**+0.3**
COLA	**College**	**73.85**	**20**	*e*P	**P**	**00 56 57.4**	**-0.3**
COLA				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.1						
COLA	**College**	**73.85**	**20**	*e*P	**P**	**00 56 57.4**	**-0.4**
	comp=Z,20nm,0.8s,mb5.1						
INK	**Inuvik**	**74.38**	**13**	P	**P**	**00 57 00.2**	**-0.6**
INK				pmax	pmax		
	comp=Z,5.0nm,0.8s						
INK	**Inuvik**	**74.38**	**13**	*e*P	**P**	**00 57 00.3**	**-0.5**
INK	**Inuvik**	**74.38**	**13**	P	**P**	**00 57 00.2**	**-0.6**
	comp=Z,5.1nm,0.8s,mb4.5,baz=348,slow=5.7,SNR=38						
NWAO	**Narrogin (SRO)**	**74.64**	**150**	P	**P**	**00 57 01.7**	**-1.0**
NWAO				pmax	pmax		
	comp=Z,6.0nm,0.8s						
NWAO	**Narrogin (SRO)**	**74.64**	**150**	P	**P**	**00 57 00.4**	**-2.3**
NWAO	**Narrogin (SRO)**	**74.64**	**150**	P	**P**	**00 57 01.7**	**-1.0**
	comp=Z,6.3nm,0.8s,mb4.6,baz=297,slow=3.8,SNR=5.1						
EGAK	**Eagle**	**75.70**	**18**	*e*P	**P**	**00 57 08.6**	**+0.2**
	comp=Z,9.8nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**75.91**	**132**	P	**P**	**00 57 09.7**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=319,slow=5.6,SNR=22						
SLKM	**Skilak Lake**	**76.39**	**24**	P	**P**	**00 57 11.5**	**-1.0**
LBTB	**Lobatse**	**79.54**	**230**	P	**P**	**00 57 30.8**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.5,baz=86,slow=3.4,SNR=11						
CTAO	**Charters Tower**	**81.65**	**121**	P	**P**	**00 57 42.5**	**+0.7**
BOSA	**Boshof**	**82.32**	**228**	P	**P**	**00 57 44.8**	**-0.3**
	comp=Z,3.3nm,0.6s,mb4.5,baz=48,slow=3.7,SNR=14						
BOSA				LR	LR	01 32 04.8	
	comp=Z,43nm,18.3s,MS3.9,baz=292,slow=34						
YKA	**Yellowknife Ar**	**82.67**	**8**	*i* P	**P**	**00 57 45.7**	**-0.8**
YKA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
YKA	**Yellowknife Ar**	**82.67**	**8**	P	**P**	**00 57 45.8**	**-0.7**
	comp=Z,10.0nm,0.8s,mb4.9,baz=339,slow=5.3,SNR=138						
DBIC	**Dimbokro**	**83.59**	**274**	P	**P**	**00 57 51.9**	**-0.3**
	comp=Z,8.9nm,0.7s,mb5.0,baz=46,slow=5.5,SNR=22						
DBIC				LR	LR	01 40 45.2	
	comp=Z,68nm,18.9s,MS4.0,baz=283,slow=40						
STKA	**Stephens Creek**	**86.52**	**133**	LR	LR	01 42 23.3	
	comp=Z,175nm,18.1s,MS4.5,baz=24,slow=40						
SCHQ	**Schefferville**	**87.27**	**342**	P	**P**	**00 58 08.9**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.4,baz=61,slow=18,SNR=5.9						
VNA2	**Neumayer--Watz**	**121.72**	**203**	*e*PKPdf	PKPdf	01 04 16.1	+0.1
	baz=49,slow=1.7						
VNA2				*e*		01 04 18.7	
VNA2				*e*		01 04 24.1	
VNA3	**Neumayer Olymp**	**122.51**	**203**	*e*PKPdf	PKPdf	01 04 17.2	-0.3
VNA3				*e*		01 04 19.9	
VNA3				*e*		01 04 25.2	
CPUP	**Villa Florida**	**144.08**	**272**	PKhKP		01 04 56.0	
	comp=Z,2.6nm,0.6s,baz=26,slow=5.1,SNR=10						
LPAZ	**La Paz**	**147.67**	**296**	PKP	PKPdf	01 05 06.6	+1.1
	comp=Z,3.1nm,0.5s,baz=29,slow=2.7,SNR=11						
LPAZ				PKPbc	PKPbc	01 05 10.3	+2.0
	comp=Z,3.1nm,0.5s,baz=28,slow=2.5,SNR=13						

*IDC **08** 00:54:50.5±1.6, 3737N×2704E, h0^{km}, mb3.7/4, mb1 3.9/7, mb1mx3.7/21, mbtmp3.9/7, ML4.1/3, Error ellipse: s-maj=36.5km s-min=24.0km az=22.0*
*NEIC **08** 00:55:00.9, 3667N×2714E, h154^{km}, After ATH.*
*CSEM **08** 00:55:01.4±0.1, 3661N×2715E, h155^{km}±1^{km}, ML4.0, Error ellipse: s-maj=3.1km s-min=2.0km az=177.0*
*HLW **08** 00:55:02.0, 3668N×2721E, h28^{km}, Mb4.0*
*ATH **08** 00:55:02.0, 3665N×2714E, h140^{km}±4^{km}*
*ISCJB **08** 00:55:02.0±0.3, 3659N±004×2717E±003, h145^{km}±4^{km}, mb3.5/4, Error ellipse: s-maj=6.0km s-min=4.3km az=179.7*
*DDA **08** 00:55:15.8, 3670N×2813E, h8^{km}±2^{km}, Md3.2*
ISC 08 00:55:03.0±0.4**, 3659N**±004×**2717E**±003**, h140**^{km}±4^{km}**, n55,** σ**0s77**/71**, mb3.5**/4**, 13C-5D, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BDRM	**Kayabasi**	**0.53**	**25**	*i* P	**Pn**	**00 55 23.2**	**0.0**
BDRM				*i* S	**Sn**	**00 55 37.4**	**-1.3**
ARG	**Arkhangelos**	**0.86**	**115**	⇑*i*P	**Pn**	**00 55 26.2**	**+0.7**
KARP	**Karpathos**	**1.04**	**180**	⇓*i*P	**Pn**	**00 55 27.6**	**+0.5**
KARP				*e*S	**Sn**	**00 55 45.5**	**+0.1**
SMG	**Samos**	**1.15**	**347**	⇓*i*P	**Pn**	**00 55 27.1**	**-1.0**
AYDN	**Tasoluk**	**1.22**	**28**	*i* P	**Pn**	**00 55 29.0**	**+0.2**
AYDN				*i* S	**Sn**	**00 55 46.9**	**-1.6**
AYDN	**Tasoluk**	**1.22**	**28**	*i* P	**Pn**	**00 55 29.0**	**+0.3**
AYDN				*i* S	**Sn**	**00 55 46.8**	**-1.6**
SANT	**Santorini**	**1.39**	**262**	P	**Pn**	**00 55 31.1**	**+0.5**
APE	**Apeiranthos**	**1.40**	**291**	*e*P	**Pn**	**00 55 30.8**	**+0.2**
APE	**Apeiranthos**	**1.40**	**291**	⇓*i*P	**Pn**	**00 55 30.9**	**+0.3**
ZKR	**Zakros**	**1.66**	**208**	P	**Pn**	**00 55 34.9**	**+1.4**
NPS	**Neapolis**	**1.83**	**224**	*e*P	**Pn**	**00 55 35.5**	**+0.1**
LAST	**Lasithi**	**1.97**	**224**	P	**Pn**	**00 55 37.6**	**+0.4**
AKAS	**Kas**	**2.00**	**99**	*i* P	**Pn**	**00 55 38.2**	**+0.7**
AKAS				*i* S	**Sn**	**00 56 04.1**	**+0.3**
KSL	**Kastellorizon**	**2.00**	**102**	*e*P	**Pn**	**00 55 37.7**	**+0.3**
KSL	**Kastellorizon**	**2.00**	**102**	*e*P	**Pn**	**00 55 37.5**	**+0.1**
KSL				*e*S	**Sn**	**00 56 04.0**	**+0.2**
GOLH	**Golhisar**	**2.03**	**71**	*i* P	**Pn**	**00 55 38.8**	**+1.0**
GOLH				*i* S	**Sn**	**00 56 04.4**	**-0.1**
XRY	**Khrisi**	**2.08**	**215**	*e*P	**Pn**	**00 55 39.0**	**+0.5**
XRY	**Khrisi**	**2.08**	**215**	*e*P	**Pn**	**00 55 38.7**	**+0.2**
IDI	**Anoyia**	**2.25**	**236**	P	**Pn**	**00 55 40.5**	**0.0**
SIVA	**Sivas**	**2.47**	**231**	P	**Pn**	**00 55 44.4**	**+1.2**
VAM	**Vamos**	**2.68**	**245**	*e*P	**Pn**	**00 55 45.5**	**-0.3**
VAM	**Vamos**	**2.68**	**245**	*e*P	**Pn**	**00 55 45.4**	**-0.4**
VLI	**Veliai**	**3.40**	**273**	*e*P	**Pn**	**00 55 54.8**	**-0.3**
ITM	**Ithomi**	**4.24**	**280**	*e*P	**Pn**	**00 56 06.5**	**+0.4**
ITM				*e*S	**Sn**	**00 56 53.5**	**-1.6**
ITM	**Ithomi**	**4.24**	**280**	*e*P	**Pn**	**00 56 06.6**	**+0.5**
ERMK	**Ermenek**	**4.62**	**88**	*i* P	**Pn**	**00 56 13.7**	**+2.5**
ERMK				*i* S	**Sn**	**00 57 05.5**	**+1.3**
RLS	**Riolos of Patr**	**4.77**	**290**	P	**Pn**	**00 56 18.0**	**+4.9**
SLUM		**5.33**	**198**	⇑P	**Pn**	**00 56 20.8**	**+0.1**
VLS	**Valsamata**	**5.47**	**289**	P	**Pn**	**00 56 24.0**	**+1.5**
HMAT	**Matruh**	**5.48**	**181**	⇑P	**Pn**	**00 56 22.9**	**+0.3**
SWA1		**7.40**	**190**	⇑P	**Pn**	**00 56 48.0**	**-0.5**
SWA2		**7.46**	**192**	⇑P	**Pn**	**00 56 48.3**	**-0.9**
MMAI	**Mount Meron Ar**	**7.65**	**115**	Pn	**Pn**	**00 56 50.5**	**-1.3**
	10nm,0.3s,baz=318,slow=11,SNR=71						
MMAI				Sn	**Sn**	**00 58 12.1**	**-4.9**
	3.6nm,0.3s,baz=113,slow=21,SNR=9.5						
KOT	**Kottamia**	**7.70**	**148**	⇑P	**Pn**	**00 56 52.0**	**-0.4**
AMAG	**Maghara**	**7.78**	**138**	⇓P	**Pn**	**00 56 52.4**	**-1.0**
AMAG				S	**Sn**	**00 58 15.2**	**-4.9**
AMAG	**Maghara**	**7.78**	**138**	P	**Pn**	**00 56 52.4**	**-1.0**
AMAG				S	**Sn**	**00 58 15.1**	**-4.9**
HHAG	**Hagoal**	**7.80**	**147**	⇑P	**Pn**	**00 56 53.2**	**-0.5**
GLL	**Jalalah**	**7.96**	**150**	⇑P	**Pn**	**00 56 55.4**	**-0.5**
SUZ		**8.23**	**143**	⇑P	**Pn**	**00 56 59.0**	**-0.5**
SUZ		**8.23**	**143**	P	**Pn**	**00 56 59.0**	**-0.5**
AWBH		**8.37**	**169**	P	**Pn**	**00 57 01.0**	**-0.4**
HNKL	**Nakhl**	**8.75**	**137**	⇑P	**Pn**	**00 57 06.1**	**-0.3**
HNKL				S	**Sn**	**00 58 38.1**	**-5.4**
ASF	**Jabal al Asfar**	**9.17**	**116**	Pn	**Pn**	**00 57 11.4**	**-0.6**
	1.0nm,0.3s,baz=174,slow=6.5,SNR=12						
ASF				Sn	**Sn**	**00 58 53.0**	**-0.6**
	0.2nm,0.3s,baz=149,slow=22,SNR=2.1						
HFRF	**Wahat Farafira**	**9.46**	**174**	⇑P	**Pn**	**00 57 16.1**	**+0.1**
EIL	**Elat**	**9.49**	**134**	Pn	**Pn**	**00 57 15.8**	**-0.6**
EIL				Sn	**Sn**	**00 58 56.0**	**-5.4**
EIL	**Elat**	**9.49**	**134**	Pn	**Pn**	**00 57 15.8**	**-0.6**
	0.7nm,0.3s,baz=319,slow=8.6,SNR=11						
EIL				Sn	**Sn**	**00 58 56.0**	**-5.4**
	1.3nm,0.3s,baz=306,slow=13,SNR=8.1						
HBST	**Basata**	**9.71**	**137**	⇓P	**Pn**	**00 57 19.2**	**-0.1**
HKAT	**Jabal Katrina**	**9.89**	**142**	⇑P	**Pn**	**00 57 21.8**	**+0.2**
HDHB	**Dhahab**	**10.04**	**139**	⇑P	**Pn**	**00 57 23.8**	**0.0**
VAE	**Valguarnera**	**10.24**	**279**	Sn	**Sn**	**00 59 09.7**	**-10**
	1.9nm,0.3s,baz=116,slow=8.3,SNR=5.1						
ESDC	**Sonseca Array**	**24.62**	**287**	P	**P**	**01 00 10.0**	**-0.2**
	0.3nm,0.4s,mb3.2,baz=82,slow=9.4,SNR=6.0						
MKAR	**Makanchi Array**	**41.63**	**58**	P	**P**	**01 02 37.8**	**+0.6**
	1.1nm,0.5s,mb3.8,baz=270,slow=8.8,SNR=18						
ZALV	**Zalesovo Beam**	**42.84**	**47**	P	**P**	**01 02 46.2**	**-0.7**
ZALV	**Zalesovo Beam**	**42.84**	**47**	P	**P**	**01 02 46.2**	**-0.7**
	1.1nm,0.5s,mb3.8,baz=265,slow=7.1,SNR=5.4						
SONM	**Songino Array**	**57.33**	**52**	P	**P**	**01 04 36.9**	**+0.8**
	0.2nm,0.3s,mb3.4,baz=285,slow=7.4,SNR=3.0						

KRSC 08 01:00:26.4±0.7**, 5412N**×**16188E, h36**^{km}±36^{km}**, ML3.6, Near east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.45**	**349**	*e*P	Pn	01 00 36.0	-0.3
MKZ				*i* S	Sn	01 00 42.4	-0.7
KII	**Karymskiy**	**1.44**	**268**	*e*P	Pn	01 00 51.1	+1.2
KII				*i* S	Sn	01 01 08.8	+1.4
SPN	**Mys Shipunski**	**1.51**	**228**	*e*P	Pn	01 00 51.6	+0.7
SPN				*i* S	Sn	01 01 09.8	+0.6
TUMR	**Tumrok**	**1.54**	**320**	*e*P	Pn	01 00 53.4	+2.1
TUMR				*i* S	Sn	01 01 13.1	+3.1
NLC	**Nalytchevo**	**1.78**	**239**	*e*P	Pn	01 00 55.7	+1.1
NLC				*i* S	Sn	01 01 17.4	+1.4
AVH	**Avacha**	**2.06**	**247**	*e*P	Pn	01 01 00.8	+2.4
AVH				*i* S	Sn	01 01 26.3	+3.6
KBTR	**Krutoberegovo**	**2.16**	**14**	*e*P	Pn	01 01 00.3	+0.5
KBTR				*i* S	Sn	01 01 25.3	0.0
PET	**Petropavlovsk**	**2.22**	**242**	*e*P	Pn	01 01 02.0	+1.4
PET				*i* S	Sn	01 01 28.3	+1.6
GNL	**Ganaly**	**2.37**	**261**	*e*P	Pn	01 01 05.8	+3.1
RUS	**Russkaya**	**2.63**	**231**	*e*P	Pn	01 01 08.0	+1.7

*ISCJB **08** 01:24:34.2±0.9, 3836N±004×2047E±008, h2^{km}, Error ellipse: s-maj=10.2km s-min=4.6km az=156.9*
*CSEM **08** 01:24:34.2±0.3, 3832N×2040E, h2^{km}, MD3.5, Error ellipse: s-maj=6.6km s-min=2.0km az=65.0*
*ATH **08** 01:24:34.3, 3829N×2043E, h8^{km}±1^{km}, MD3.5/5*
*NEIC **08** 01:24:34.6, 3834N×2046E, h8^{km}, MD3.5(ATH), ML3.0(THE), After THE.*
*THE **08** 01:24:34.6, 3834N×2046E, h8^{km}, ML3.0*
ISC 08 01:24:34.2±1.1**, 3834N**±005×**2043E**±010**, h7**^{km}±11^{km}**, n12,** σ**0s56**/16**, 1C, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.20**	**141**	*e*Pg	**Pg**	**01 24 38.4**	**0.0**
VLS				*e*Sg	**Sg**	**01 24 41.8**	**+0.7**
VLS	**Valsamata**	**0.20**	**141**	⇑*i*Pg	**Pg**	**01 24 38.3**	**0.0**
VLS				*e*Sg	**Sg**	**01 24 41.0**	**-0.1**
KFL	**Anninata**	**0.36**	**128**	*e*Pg	**Pg**	**01 24 41.2**	**-0.1**
KFL				*e*Sg	**Sg**	**01 24 46.2**	**+0.1**
LKD	**Levkas**	**0.41**	**25**	*e*Pg	**Pg**	**01 24 42.2**	**0.0**
RLS	**Riolos of Patr**	**0.87**	**108**	*e*PB	**Pb**	**01 24 50.5**	**-1.1**
SELA	**Sela**	**1.16**	**93**	*e*Pg	**Pg**	**01 24 55.4**	**-1.0**
SELA				*e*Sg	**Sg**	**01 25 12.3**	**+1.0**
IGT	**Igoumenitsa**	**1.20**	**357**	*e*Pg	**Pg**	**01 24 56.8**	**-0.4**
EVR	**Evrytania**	**1.23**	**61**	*e*PB	**Pb**	**01 24 58.0**	**+0.2**
JAN	**Janina**	**1.36**	**14**	*e*PG	**Pg**	**01 25 00.4**	**+0.1**
KEK	**Kerkira**	**1.46**	**341**	*e*PB	**Pb**	**01 25 02.6**	**+0.9**
ITM	**Ithomi**	**1.66**	**134**	*e*PB	**Pb**	**01 25 05.3**	**+0.2**
THL	**Klokotos Trika**	**1.74**	**45**	*e*PG	**Pg**	**01 25 07.3**	**-0.4**

*SKHL **08** 01:42:32.0±8.4, 4451N×15459E, h39^{km}±17^{km}, mb4.8/2*
*MOS **08** 01:42:56.0±2.1, 4715N×15290E, h33^{km}, mb4.4/8, Error ellipse: s-maj=12.1km s-min=8.8km az=79.0*
*ISCJB **08** 01:42:59.7±1.2, 4691N±007×15269E±009, h61^{km}±11^{km}, mb4.2/20, Error ellipse: s-maj=14.1km s-min=8.0km az=142.9*
*IDC **08** 01:43:05.6±3.7, 4682N×15265E, h102^{km}±33^{km}, mb3.6/13, mb1 3.8/15, mb1mx3.7/23, mbtmp3.7/15, MS3.4/6, Ms1 3.4/6, ms1mx3.1/30, Error ellipse: s-maj=20.2km s-min=15.8km az=116.0*
*NEIC **08** 01:43:06.2±1.3, 4685N×15260E, h108^{km}±12^{km}, mb4.6/5, Error ellipse: s-maj=10.3km s-min=7.3km az=118.0*
ISC 08 01:43:02.4±1.1**, 4686N**±007×**15269E**±010**, h71**^{km}±9^{km}**, n60,** σ**1s06**/60**, mb4.2**/20**, 9C-2D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**246**	*e*S	**Sn**	**01 44 38.0**	**-2.1**
KUR				A		01 44 40.6	
	228nm,0.5s						
KUR				A		01 44 40.6	
	243nm,0.5s						
SKR	**Severo-Kuril's**	**4.45**	**29**	*e*PN	**Pn**	**01 44 05.0**	**-2.3**
SKR				*e*S	**Sn**	**01 44 50.0**	**-7.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.6s						
SKR				smax			
	comp=N,140nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.81**	**274**	*e*Pn	**Pn**	**01 44 41.7**	**+2.2**
YSS				Sn	**Sn**	**01 45 55.5**	**0.0**
YSS	**Yuzh-Sakhalins**	**6.81**	**274**	⇑*e*P	**Pn**	**01 44 41.2**	**+1.7**
YSS				AMB	AMB	01 44 42.7	
	comp=N,30nm,0.9s						
YSS				AMS	AMS	01 47 10.0	
	comp=N,400nm,16.0s						
PET	**Petropavlovsk**	**7.28**	**30**	⇑*e*PN	**Pn**	**01 44 36.7**	**-9.2**
ASAJ	**Asahikawa**	**7.60**	**253**	PN	**Pn**	**01 44 52.3**	**+1.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,96nm,20.9s						
ASAJ	**Asahikawa**	**7.60**	**253**	P	**Pn**	**01 44 52.2**	**+1.9**
	comp=Z,1.4nm,0.3s,baz=67,slow=14,SNR=8.7						
ASAJ				LR	LR	01 47 36.5	
	comp=Z,96nm,20.9s,baz=337,slow=36						
ERM	**Erimo**	**8.36**	**238**	⇑*e*PN	**Pn**	**01 44 59.4**	**-1.4**
MA2	**Magadan**	**12.79**	**356**	PN	**Pn**	**01 45 51.6**	**-9.5**
KLR	**Kul'dur**	**14.20**	**287**	*e*P	**Pn**	**01 46 24.7**	**+4.9**
MAJO	**Matsushiro**	**14.91**	**231**	*e*P	**Pn**	**01 46 30.5**	**+1.3**
MJAR	**Matsushiro Arr**	**14.91**	**231**	P	**Pn**	**01 46 32.2**	**+3.1**
	comp=Z,0.4nm,0.3s,baz=31,slow=9.0,SNR=5.3						
MJAR				LR	LR	01 51 45.6	
	comp=Z,65nm,20.8s,baz=60,slow=35						
YAK	**Yakutsk**	**20.07**	**328**	⇑*e*P	**P**	**01 47 23.3**	**-6.4**
YAK	**Yakutsk**	**20.07**	**328**	*e*P	**P**	**01 47 31.3**	**+1.6**
	comp=Z,16nm,0.5s						
KSRS	**Korea Array**	**20.55**	**252**	P	**P**	**01 47 35.5**	**+0.5**
	comp=Z,2.6nm,0.8s,baz=55,slow=10,SNR=8.7						
BILL	**Bilibino**	**22.36**	**13**	*e*	**P**	**01 47 55.4**	**+1.4**
BILL				MLR	MLR		
	comp=Z,100nm,14.0s						
BILL	**Bilibino**	**22.36**	**13**	P	**P**	**01 47 55.0**	**+1.0**
BJT	**Baijiatuau**	**27.20**	**269**	*e*P	**P**	**01 48 38.1**	**-1.1**
ULN	**Ulaanbaatar**	**30.59**	**289**	P	**P**	**01 49 09.1**	**-0.1**
SONM	**Songino Array**	**31.02**	**289**	P	**P**	**01 49 14.5**	**+1.5**
	comp=Z,0.6nm,0.9s,mb3.3,baz=76,slow=11,SNR=3.4						
GUMO	**Guam**	**33.80**	**194**	P	**P**	**01 49 37.8**	**+0.2**
IMA2	**Indian Mountai**	**33.89**	**36**	*e*P	**P**	**01 49 38.2**	**+0.3**
INK	**Inuvik**	**41.72**	**32**	*e*P	**P**	**01 50 44.4**	**+0.6**
	comp=Z,69nm,0.8s,mb5.4						
INK	**Inuvik**	**41.72**	**32**	P	**P**	**01 50 44.4**	**+0.6**
	comp=Z,1.8nm,0.7s,mb3.9,baz=276,slow=6.0,SNR=14						
ZALV	**Zalesovo Beam**	**42.31**	**306**	LR	LR	02 09 28.5	
	comp=Z,46nm,20.9s,baz=28,slow=37						
MK31	**Makanchi Array**	**46.63**	**297**	P	**P**	**01 51 22.9**	**-0.4**
MK31						01 52 55.7	
MKAR	**Makanchi Array**	**46.63**	**297**	*e*P	**P**	**01 51 22.7**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.63**	**297**	P	**P**	**01 51 22.8**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.6,baz=62,slow=6.8,SNR=8.6						
MKAR				PcP	PcP	01 52 55.8	-0.2
	comp=Z,0.5nm,0.6s,baz=67,slow=4.9,SNR=4.7						
MKAR				LR	LR	02 12 10.9	
	comp=Z,78nm,18.6s,baz=356,slow=37						
KURK	**Kurchatov**	**47.06**	**303**	*e*P	**P**	**01 51 26.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**47.06**	**303**	*e*P	**P**	**01 51 26.0**	**-0.5**
	comp=Z,2.6nm,0.9s,mb4.0						
LSA	**Lhasa**	**49.98**	**273**	*e*P	**P**	**01 51 48.0**	**-1.2**
LSA				pmax	pmax		
	comp=Z,9.0nm,0.6s,mb4.9						
LSA	**Lhasa**	**49.98**	**273**	*e*P	**P**	**01 51 48.0**	**-1.3**
	comp=Z,8.7nm,0.6s,mb4.9						
BVAR	**Borovoye Array**	**50.57**	**309**	P	**P**	**01 51 53.4**	**0.0**
	comp=Z,0.7nm,0.4s,mb4.0,baz=51,slow=8.4,SNR=6.9						
BVAR				PcP	PcP	01 53 09.0	-1.1
	comp=Z,0.7nm,0.5s,baz=60,slow=4.3,SNR=4.8						
BRVK	**Borovoye**	**50.61**	**309**	*e*P	**P**	**01 51 53.6**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
BRVK	**Borovoye**	**50.61**	**309**	*e*P	**P**	**01 51 53.5**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**51.02**	**37**	*e*P	**P**	**01 51 56.8**	**+0.2**
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**01 51 56.9**	**+0.3**
YKA				PcP	PcP	01 53 10.9	-0.7
YKA	**Yellowknife Ar**	**51.02**	**37**	P	**P**	**01 51 56.8**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=299,slow=7.0,SNR=5.8						
YKA				PcP	PcP	01 53 10.9	-0.7
	comp=Z,0.3nm,0.6s,baz=307,slow=3.8,SNR=5.5						
AAK	**Ala-Archa**	**53.53**	**296**	⇑*e*P	**P**	**01 52 12.9**	**-2.6**
AAK				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.2						
ARU	**Arti**	**54.74**	**317**	⇑*e*P	**P**	**01 52 23.2**	**-0.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,1.7s,mb4.5						
ARCES	**ARCESS Array B**	**57.66**	**341**	P	**P**	**01 52 45.0**	**+0.3**
	comp=Z,4.5nm,0.9s,mb4.5,baz=17,slow=6.3,SNR=2.5						
FINES	**FINESS Array B**	**63.82**	**335**	*e*P	**P**	**01 53 26.3**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.4s						
FINES	**FINESS Array B**	**63.82**	**335**	P	**P**	**01 53 26.4**	**-0.3**
	comp=Z,2.3nm,0.4s,mb4.3,baz=36,slow=7.6,SNR=26						
FINES				LR	LR	02 23 02.6	
	comp=Z,30nm,18.1s,baz=9.6,slow=38						
NB2	**NORSAR Subarra**	**68.03**	**341**	P	**P**	**01 53 52.9**	**-0.8**
	comp=Z,2.1nm,0.6s,mb4.1,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.03**	**341**	P	**P**	**01 53 53.5**	**-0.2**
	comp=Z,2.4nm,0.6s,mb4.2,baz=27,slow=6.2,SNR=12						
WRA	**Warramunga Arr**	**68.52**	**199**	P	**P**	**01 53 56.1**	**-1.0**
	comp=Z,0.7nm,0.8s,mb3.5,baz=20,slow=6.6,SNR=5.1						
AKASG	**Malin Array Be**	**71.30**	**326**	*e*P	**P**	**01 54 13.4**	**-0.5**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.5s						
AKASG	**Malin Array Be**	**71.30**	**326**	P	**P**	**01 54 13.4**	**-0.5**
	comp=Z,3.1nm,0.5s,mb4.4,baz=33,slow=6.1,SNR=20						
ASAR	**Alice Springs**	**72.22**	**198**	P	**P**	**01 54 19.8**	**+0.2**
	comp=Z,0.7nm,0.6s,mb3.7,baz=8.5,slow=5.5,SNR=7.6						
BURAR	**Bucovina Array**	**75.34**	**326**	⇑*i*P	**P**	**01 54 33.2**	**-4.5**
MORC	**Moravsky Berou**	**76.21**	**332**	⇓*i*P	**P**	**01 54 43.2**	**+0.5**
CLL	**Collm**	**76.25**	**335**	*e*P	**P**	**01 54 43.0**	**+0.2**
MLR	**Muntele Rosu**	**76.81**	**325**	⇑*i*P	**P**	**01 54 47.7**	**+1.6**
MALT	**Malatya**	**76.87**	**313**	⇑*i*P	**P**	**01 54 48.3**	**+1.7**
TXAR	**Lajitas Array**	**77.70**	**60**	P	**P**	**01 54 51.3**	**0.0**
	comp=Z,0.4nm,0.6s,mb3.3,baz=324,slow=7.1,SNR=5.4						
GERES	**GERESS Array B**	**78.23**	**334**	LR	LR	02 33 05.4	
	comp=Z,44nm,18.1s,baz=297,slow=38						
MIB	**Mutribah**	**78.36**	**301**	*e*P	**P**	**01 54 55.2**	**+0.2**
MIB				AMb	AMB	01 54 56.5	
	comp=Z,20nm,0.7s,mb5.0						
BZS	**Buzias**	**78.37**	**327**	⇓*i*P	**P**	**01 54 54.6**	**-0.2**
NAY	**Al-Naaiem**	**78.82**	**301**	*e*P	**P**	**01 54 57.0**	**-0.6**
NAY				AMb	AMB	01 54 59.0	
	comp=Z,9.2nm,1.0s,mb4.6						
RDF	**Al-Radifah**	**78.88**	**300**	*e*P	**P**	**01 54 57.4**	**-0.6**
RDF				AMb	AMB	01 55 01.7	
	comp=Z,16nm,1.2s,mb4.7						

*IDC **08** 01:55:12.9±1.1, 2796S×6752W, h0^{km}, mb3.5/1, mb1 3.6/2, mb1mx3.5/13, mbtmp3.5/2, ML4.2/1, Error ellipse: s-maj=34.2km s-min=16.4km az=116.0*
NEIC 08 01:55:21.2±1.1**, 2826S**×**6709W, h61**^{km}±11^{km}**, Error ellipse: s-maj=25.3km s-min=10.8km az=154.0, La Rioja Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**3.26**	**256**	*e*Pn	Pn	01 56 10.0	+0.1
LCO				*e*S	Sn	01 56 48.6	+1.2
CFAA	**Coronel Fontan**	**3.48**	**196**	Pn	Pn	01 56 13.3	+0.5
CFAA				Pg	Pn	01 56 19.9	+7.0
CFAA				Sn	Sn	01 56 58.0	+5.2
CFAA				Lg		01 57 09.2	
CFAA	**Coronel Fontan**	**3.48**	**196**	Pn	Pn	01 56 13.3	+0.5
	0.3nm,0.3s,baz=6.7,slow=11,SNR=13						
CFAA				Pg	Pn	01 56 19.9	+7.0
	0.4nm,0.3s,baz=0.4,slow=16,SNR=15						
CFAA				Sn	Sn	01 56 58.0	+5.2
	1.6nm,0.3s,baz=351,slow=8.4,SNR=4.4						

CFAA				Lg			01 57 09.2	
	5.0nm,0.3s,baz=105,slow=9.2,SNR=10							
CPUP	**Villa Florida**	**8.89**	**80**	*e*Pn	Pn		01 57 26.7	-0.3
	44nm,0.6s							
CPUP				Sn	Sn		01 59 11.4	+5.6
CPUP				Lg			02 00 05.7	
CPUP	**Villa Florida**	**8.89**	**80**	Pn	Pn		01 57 26.5	-0.5
	0.6nm,0.3s,baz=230,slow=12,SNR=9.2							
CPUP				Lg			02 00 05.7	
	3.9nm,0.3s,baz=335,slow=20,SNR=3.2							
BDFB	**Brasilia**	**21.66**	**59**	P	P		02 00 07.1	+0.3
	1.2nm,0.5s,baz=206,slow=18,SNR=5.2							
ASAR	**Alice Springs**	**124.55**	**204**	PKP	PKPdf		02 14 13.1	-1.1
	0.3nm,0.4s,baz=134,slow=1.6,SNR=4.2							
WRA	**Warramunga Arr**	**127.79**	**206**	PKP	PKPdf		02 14 20.5	0.0
	0.3nm,0.7s,baz=164,slow=1.7,SNR=6.3							
ZALV	**Zalesovo Beam**	**147.13**	**31**	PKPbc	PKPbc		02 14 57.3	+0.4
	4.3nm,0.5s,baz=297,slow=3.5,SNR=15							
MKAR	**Makanchi Array**	**149.75**	**44**	PKPbc	PKPbc		02 15 04.8	+0.9
	2.1nm,0.7s,baz=299,slow=2.5,SNR=12							

*TRN **08** 02:13:36.2, 1058N×6247W, h3km, MD3.1*
*NEIC **08** 02:13:36.2, 1058N×6247W, h3km, MD3.1(TRN), After TRN.*
*ISCJB **08** 02:13:37.8±0.9, 1039N±004×6237W±003, h7km±7km, Error ellipse: s-maj=6.9km s-min=4.0km az=168.7*
*FUNV **08** 02:13:38.6, 1041N×6234W, h3km, MW2.8*
ISC 08 02:13:38.7±0.5, 1043N±004×6238W±002, h13km±4km, n17, σ1§15/28, 1C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.27**	**35**	*e*P	**Pg**	**02 13 43.3**	**-1.0**
GUIV				*e*S	**Sg**	**02 13 48.0**	**-0.1**
GUNV	**Guanoco**	**0.62**	**245⇓**	*e*P	**Pg**	**02 13 50.5**	**-0.3**
GUNV				*e*S	**Sg**	**02 14 00.2**	**+1.3**
TCE	**Chacachacare**	**0.67**	**66**	*e*P	**Pg**	**02 13 50.6**	**-1.1**
TCE				*e*S	**Sg**	**02 14 01.3**	**+0.8**
CRUV	**Carupano**	**0.88**	**286**	*e*P	**Pg**	**02 13 55.1**	**-0.6**
CRUV				*e*S	**Sg**	**02 14 06.6**	**-0.7**
TPP	**Pointe-a-Pierr**	**0.92**	**97**	*e*P	**Pg**	**02 13 56.0**	**-0.4**
TPP				*e*S	**Sg**	**02 14 11.3**	**+2.9**
TRN	**Trinidad (W)**	**0.98**	**77**	*e*P	**Pb**	**02 13 55.7**	**-1.8**
TRN				*e*S	**Sb**	**02 14 11.3**	**+0.9**
ITEV	**Isla Los Testi**	**1.18**	**321⇑**	*e*P	**Pn**	**02 14 01.6**	**+0.7**
ITEV				*e*S	**Sb**	**02 14 17.4**	**+1.2**
TBH	**Brigand Hill**	**1.29**	**87**	*e*P	**Pn**	**02 14 03.1**	**+0.7**
TPR	**Prospect**	**1.74**	**64**	*e*P	**Pn**	**02 14 09.0**	**+0.4**
TPR				*e*S	**Sn**	**02 14 30.4**	**-0.2**
GRW	**Mount Saint Ca**	**1.86**	**22**	*e*P	**Pn**	**02 14 07.8**	**-2.4**
PCRV	**Puerto La Cruz**	**2.24**	**264**	*e*P	**Pn**	**02 14 16.7**	**+1.3**
RIOV	**Rio Grande**	**2.41**	**167**	*e*P	**Pn**	**02 14 18.1**	**+0.4**
RIOV				*e*S	**Sn**	**02 14 46.5**	**-0.6**
PRGV	**PARIAGUAN**	**2.78**	**234**	*e*P	**Pn**	**02 14 24.2**	**+1.3**
CUPV	**Cepira**	**3.38**	**264**	*e*P	**Pn**	**02 14 32.4**	**+1.3**
BIRV	**Birongo**	**3.83**	**271**	*e*P	**Pn**	**02 14 38.1**	**+0.8**
CAOV	**Caicara del Or**	**4.97**	**232**	*e*P	**Pn**	**02 14 52.4**	**-0.6**
CAOV				*e*S	**Sn**	**02 15 47.5**	**-2.8**
BAUV	**El Baul**	**5.78**	**256**	*e*P	**Pn**	**02 15 03.4**	**-0.7**
BAUV				*e*S	**Sn**	**02 16 07.2**	**-3.1**

JMA 08 02:34:03.3±0.2, 2677N×14112E, h61km, M3.7, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.96**	**98**	P	Pn	02 34 21.1	+0.3
JHHJ				S	Sn	02 34 33.7	-0.1
CBIJ	**Chichi jima**	**1.00**	**71**	P	Pn	02 34 21.7	+0.3
CBIJ				*e*S	Sn	02 34 34.8	-0.1
BSO3	**Boso 3**	**8.02**	**356**	P	Pn	02 35 56.6	-0.5

IDC 08 02:54:10.1±2.4, 606S×13003E, h0km, mb3.7/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, ML3.4/2, Error ellipse: s-maj=159.6km s-min=30.9km az=70.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.43**	**164**	Pn	Pn	02 57 36.3	+0.7
	0.1nm,0.3s,baz=347,slow=13,SNR=4.7						
WRA				Sn	Sn	03 00 04.9	-12
	0.6nm,0.3s,baz=333,slow=21,SNR=9.4						
ASAR	**Alice Springs**	**17.90**	**168**	P	Pn	02 58 20.4	-0.3
	0.4nm,0.3s,baz=342,slow=8.5,SNR=27						
ASAR				S	Sn	03 01 30.6	-10
	0.1nm,0.3s,baz=356,slow=27,SNR=4.2						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	03 05 07.8	+0.1
	0.3nm,0.4s,baz=112,slow=7.9,SNR=7.2						

*IDC **08** 03:00:55.6±1.4, 2765N×13046E, h0km, mb3.6/3, mb1 3.7/5, mb1mx3.5/19, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=30.7km s-min=22.8km az=80.0*
*ISCJB **08** 03:00:57.2±2.1, 2767N±004×13056E±005, h32km±20km, mb3.6/3, Error ellipse: s-maj=7.0km s-min=6.3km az=169.0*
*JMA **08** 03:00:57.4±0.1, 2773N×13060E, h62km±2km, M3.5*
*NEIC **08** 03:01:00.2±0.9, 2770N×13046E, h35km, MG3.5(JMA), Error ellipse: s-maj=22.3km s-min=13.1km az=98.0*
ISC 08 03:00:58.1±1.3, 2768N±004×13054E±005, h27km±11km, n17, σ0§82/27, mb3.6/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.81**	**322**	P	**Pb**	**03 01 13.1**	**-0.5**
JZK				*e*S	**Sb**	**03 01 24.7**	**+0.6**
JAM	**Amami Oshima**	**1.10**	**312**	P	**Pn**	**03 01 17.3**	**-0.4**
JAM				*e*S	**Sn**	**03 01 31.8**	**-0.2**
JTK	**Tokunoshima**	**1.41**	**275**	P	**Pn**	**03 01 22.3**	**+0.3**
JTK				*e*S	**Sn**	**03 01 39.8**	**+0.1**
JMZ	**Minamidaito 2**	**1.95**	**162**	P	**Pn**	**03 01 29.6**	**+0.2**
JMZ				*e*S	**Sn**	**03 01 51.5**	**-1.5**
JOW	**Kunigami**	**2.18**	**248**	P	**Pn**	**03 01 33.0**	**+0.4**
JOW				*e*S	**Sn**	**03 01 58.5**	**-0.3**
JOW	**Kunigami**	**2.18**	**248**	Pn	**Pn**	**03 01 33.0**	**+0.4**
	24nm,0.3s,baz=110,slow=24,SNR=161						
JOW				Sn	**Sn**	**03 01 58.5**	**-0.3**
	30nm,0.3s,baz=106,slow=27,SNR=14						
JIH	**Iheya**	**2.37**	**255**	P	**Pn**	**03 01 35.4**	**+0.2**
JIH				*e*S	**Sn**	**03 02 02.6**	**-0.9**
JJT2	**Tamagusuku 2**	**2.92**	**239**	P	**Pn**	**03 01 43.7**	**+0.9**
JTN	**Tanegashima 3**	**2.99**	**7**	P	**Pn**	**03 01 42.5**	**-1.2**
JAGN	**Aguni-jima**	**3.13**	**250**	*e*S	**Sn**	**03 02 21.5**	**-0.6**
JTSR	**Tashiro 2**	**3.49**	**5**	P	**Pn**	**03 01 49.3**	**-1.3**
JTSR				*e*S	**Sn**	**03 02 26.6**	**-4.4**
JKE	**Kume jima 2**	**3.61**	**249**	P	**Pn**	**03 01 52.1**	**-0.1**
JKE				*e*S	**Sn**	**03 02 33.9**	**0.0**
JNAR	**Kushima--Naru**	**3.89**	**9**	P	**Pn**	**03 01 55.7**	**-0.3**
JNU	**Nakatsue**	**5.43**	**3**	Pn	**Pn**	**03 02 18.1**	**+0.9**
	1.2nm,0.3s,baz=14,slow=2.2,SNR=3.5						
JNU				Sn	**Sn**	**03 03 14.3**	**-4.5**
	0.2nm,0.3s,baz=211,slow=22,SNR=1.9						
SONM	**Songino Array**	**27.54**	**323**	P	**P**	**03 06 43.8**	**+1.3**
	0.2nm,0.4s,mb3.1,baz=130,slow=4.5,SNR=3.2						
WRA	**Warramunga Arr**	**47.48**	**175**	P	**P**	**03 09 31.5**	**+0.7**
	1.2nm,0.7s,mb4.0,baz=354,slow=8.5,SNR=10						
ASAR	**Alice Springs**	**51.15**	**176**	P	**P**	**03 10 00.7**	**+1.9**
	0.6nm,0.5s,mb3.8,baz=5.4,slow=15,SNR=9.2						

*ISCJB **08** 03:04:13.6±0.7, 3832N±003×2051E±006, h2km, Error ellipse: s-maj=7.6km s-min=3.6km az=156.5*
*NEIC **08** 03:04:13.5, 3829N×2044E, h5km, MD3.6(ATH), After ATH.*
*ATH **08** 03:04:13.5, 3829N×2044E, h5km, MD3.6/5*
*CSEM **08** 03:04:14.7±0.2, 3831N×2053E, h2km, MD3.6, Error ellipse: s-maj=3.7km s-min=2.0km az=73.0*
*THE **08** 03:04:14.0, 3833N×2052E, h11km, ML3.5*
ISC 08 03:04:14.0±0.8, 3830N±003×2051E±007, h5km±8km, n16, σ0§93/23, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.14**	**153**	*e*Pg	**Pg**	**03 04 17.3**	**+0.4**
VLS				*e*Sg	**Sg**	**03 04 20.5**	**+1.8**
VLS	**Valsamata**	**0.14**	**153**	*e*PG	**Pg**	**03 04 17.1**	**+0.3**
VLS				*e*SG	**Sg**	**03 04 20.5**	**+1.8**
KFL	**Anninata**	**0.29**	**131**	*e*Pg	**Pg**	**03 04 20.1**	**+0.5**
KFL	**Anninata**	**0.29**	**131**	*e*Pg	**Pg**	**03 04 20.1**	**+0.4**
LKD	**Levkas**	**0.42**	**15**	*e*Pg	**Pg**	**03 04 21.6**	**-0.5**
LKD				*e*Sg	**Sg**	**03 04 27.8**	**+0.2**
RLS	**Riolos of Patr**	**0.79**	**108**	*e*PB	**Pb**	**03 04 29.7**	**-0.6**
SELA	**Sela**	**1.09**	**91**	*e*Pg	**Pg**	**03 04 34.2**	**-0.7**
SELA				*e*Sg	**Sg**	**03 04 49.8**	**+0.8**
EVR	**Evrytania**	**1.19**	**59**	*e*PG	**Pg**	**03 04 36.9**	**+0.1**
IGT	**Igoumenitsa**	**1.23**	**354**	*e*Pg	**Pg**	**03 04 36.2**	**-1.5**
IGT				*e*Sg	**Sg**	**03 04 54.7**	**+1.0**
JAN	**Janina**	**1.38**	**11**	*e*PB	**Pb**	**03 04 40.3**	**0.0**
JAN				*e*SB	**Sb**	**03 04 59.8**	**+1.6**
KEK	**Kerkira**	**1.51**	**339**	*e*PB	**Pb**	**03 04 41.9**	**-0.7**
ITM	**Ithomi**	**1.59**	**135**	*e*PG	**Pg**	**03 04 44.0**	**-0.4**
SRN	**Sarande**	**1.62**	**346**	*e*Pn	**Pn**	**03 04 44.5**	**+1.2**
SRN				*i* Sn	**Sn**	**03 05 04.1**	**-0.5**
THL	**Klokotos Trika**	**1.72**	**43**	*e*PG	**Pg**	**03 04 46.1**	**-0.9**
VLI	**Veliai**	**2.50**	**129**	*e*PG	**Pg**	**03 04 59.9**	**-1.9**
SG1	**Sgolgore (BA)**	**3.90**	**312**	*e*Pn	**Pn**	**03 05 14.8**	**+0.3**

*PGC **08** 03:13:26.0±2.0, 6969N×14445W, h10km, ML3.2/1, 160km east of Prudhoe Bay, Ak Alaska*
NEIC 08 03:13:21.5, 6978N×14485W, h10km, ML3.2(PGC), **ML3.0**(AEIC), **After AEIC., Northern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.37**	**178**	P	Pn	03 14 00.4	+0.1
BM3				S	Sn	03 14 31.7	+2.3
COLD	**Coldfoot**	**3.23**	**220**	P	Pn	03 14 12.3	+0.2
COLD				S	Sn	03 14 51.2	+0.6
INK	**Inuvik**	**4.33**	**105**	*e*Pn	Pn	03 14 29.7	+2.5
INK				*e*Sn	Sn	03 15 17.4	-0.2
INK	**Inuvik**	**4.33**	**105**	Pn	Pn	03 14 28.9	+1.6
INK				Sn	Sn	03 15 15.5	-2.2
IM3	**Indian Mountai**	**5.08**	**226**	P	Pn	03 14 38.2	+0.7
IL1	**Eielson Array**	**5.09**	**190**	P	Pn	03 14 37.5	-0.2
EGAK	**Eagle**	**5.22**	**162**	*e*Pn	Pn	03 14 39.3	-0.2
	16nm,0.8s						
EGAK				*e*Sn	Sn	03 15 37.8	-1.9
DAWY	**Dawson**	**6.12**	**157**	P	Pn	03 14 52.1	+0.3
DAWY	**Dawson**	**6.12**	**157**	Pn	Pn	03 14 52.1	+0.2
DAWY				Sn	Sn	03 15 58.5	-3.3
MCK	**McKinley**	**6.28**	**197**	P	Pn	03 14 54.8	+0.8
KTH	**Kantishna Hill**	**6.70**	**204**	P	Pn	03 14 59.9	+0.2
BCA3	**Beaver Creek A**	**6.85**	**168**	P	Pn	03 15 02.2	+0.4
MENT	**Mentasta**	**6.89**	**176**	P	Pn	03 15 02.7	+0.4
HYT	**Haines Junctio**	**9.49**	**158**	Pn	Pn	03 15 40.0	+2.0

*TEH **08** 03:28:12.5, 3180N×5620E, h24km, ML4.5*
*CSEM **08** 03:28:22.9±0.1, 3189N×5629E, h5km, ML4.5, Error ellipse: s-maj=2.6km s-min=1.6km az=147.0*
*IDC **08** 03:28:24.8±2.3, 3204N×5613E, h0km, mb3.9/11, mb1 4.1/16, mb1mx4.0/28, mbtmp4.0/16, ML3.8/5, MS3.4/12, Ms1 3.4/12, ms1mx3.2/31, Error ellipse: s-maj=51.2km s-min=16.3km az=168.0*
*THR **08** 03:28:24.3±1.0, 3190N×5619E, h14km±13km, ML4.2*
*ISCJB **08** 03:28:24.8±0.9, 3194N±004×5621E±003, h19km±8km, mb4.1/24, MS3.4/7, Error ellipse: s-maj=6.3km s-min=4.3km az=172.0*
*NEIC **08** 03:28:25.4, 3180N×5620E, h24km, mb4.2/8, ML4.3(THR), MN4.5(TEH), After TEH.*
*MOS **08** 03:28:25.0±1.5, 3173N×5619E, h33km, mb4.6/7, Error ellipse: s-maj=11.4km s-min=7.8km az=111.3*
ISC 08 03:28:24.3±0.6, 3189N±003×5624E±002, h5km±4km, n119, σ1§31/126, mb4.1/24, MS3.4/7, 7C-2D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	**Bafgh**	**0.65**	**243**	Pg	**Pg**	**03 28 36.5**	**-0.2**
IBAF				Sg	**Sg**	**03 28 45.4**	**+0.2**
IBAF	**Bafgh**	**0.65**	**243**	*e*Pg	**Pg**	**03 28 36.6**	**-0.1**
IBAF				*e*Sg	**Sg**	**03 28 45.5**	**+0.3**
IBAF				*e*		03 28 47.6	
	comp=Z,40μm,0.1s						
IBAF	**Bafgh**	**0.65**	**243**	*e*Pg	**Pg**	**03 28 36.6**	**-0.1**
IBAF				*e*Sg	**Sg**	**03 28 45.5**	**+0.3**
IMEH	**Mehriz**	**1.48**	**251⇓**	*e*Pg	**Pg**	**03 28 51.6**	**-1.0**
IMEH				*e*Sg	**Sg**	**03 29 13.9**	**+2.2**
IMEH				*e*		03 29 16.9	
	comp=Z,34μm,0.1s						
IMEH	**Mehriz**	**1.48**	**251⇓**	*e*Pg	**Pg**	**03 28 51.6**	**-1.0**
IMEH				Sg	**Sg**	**03 29 13.8**	**+2.1**
ICHK	**Chekchek**	**1.60**	**283**	*e*Pg	**Pg**	**03 28 53.6**	**-1.3**
ICHK				*e*		03 29 26.0	
	comp=Z,58μm,0.3s						
KRBR	**Kerman**	**1.95**	**167**	*e*Pg	**Pg**	**03 28 59.7**	**-2.0**
KRBR				*e*Sg	**Sg**	**03 29 27.0**	**-0.1**
KRBR				AML	AML	03 29 33.3	
	comp=N,6μm,0.3s						
KRBR	**Kerman**	**1.95**	**167**	*e*Pg	**Pg**	**03 28 59.7**	**-2.0**
	SNR=90						
KRBR				*e*Sg	**Sg**	**03 29 27.0**	**-0.1**
	SNR=90						
ITEG	**Tejag**	**2.35**	**64**	*e*Pn	**Pn**	**03 29 02.4**	**-1.1**
IKOO	**Kooshah**	**2.40**	**76**	*e*Pn	**Pn**	**03 29 03.2**	**-1.0**
IKOO				*e*Sn	**Sn**	**03 29 32.5**	**-1.5**
NASN	**Na'in**	**3.04**	**288**	*e*Pn	**Pn**	**03 29 13.7**	**+0.7**
NASN				AML	AML	03 30 04.6	
	comp=N,544nm,0.7s						
IMON	**Monand**	**3.17**	**65**	*e*Pn	**Pn**	**03 29 14.5**	**-0.3**
IDAH	**Dahanechah**	**3.19**	**74**	*e*Pn	**Pn**	**03 29 15.1**	**+0.1**
IDAH				*e*Sg	**Sg**	**03 30 06.3**	**-0.3**
IPAR	**Pars**	**3.42**	**234**	*e*Pn	**Pn**	**03 29 22.0**	**+3.8**
IPAR				*e*		03 30 26.5	
	comp=Z,10μm,0.4s						
IPAR	**Pars**	**3.42**	**234**	Pn	**Pn**	**03 29 21.9**	**+3.7**
IZEF	**Zefreh**	**3.46**	**288**	*e*	**Pn**	**03 29 23.8**	**+5.0**
	comp=Z,5μm,0.2s						
IGAR	**Gharneh**	**3.60**	**279**	*e*	**Sg**	**03 30 25.6**	**+5.7**
	comp=Z,11μm,0.3s						
ISRV	**Sarvestan**	**3.68**	**228**	*e*Pn	**Pn**	**03 29 25.2**	**+3.4**
ISRV				*e*		03 30 42.8	
	comp=Z,8μm,0.5s						
ISRV	**Sarvestan**	**3.68**	**228**	Pn	**Pn**	**03 29 25.1**	**+3.3**
IANJ	**Anjilo**	**4.06**	**332**	*e*	**Sg**	**03 30 48.9**	**+14**
	comp=Z,8μm,0.4s						
ISFB	**Sefidab**	**4.16**	**307**	*e*	**Sg**	**03 30 28.3**	**-10**
	comp=Z,6μm,0.4s						
IMOK	**Mouk**	**4.16**	**228**	*e*Pn	**Pn**	**03 29 31.3**	**+2.9**
IMOK				*e*		03 30 59.1	
	comp=Z,6μm,0.4s						
IKLH	**Kolahrood**	**4.19**	**291**	*e*	**Pg**	**03 29 44.8**	**+0.3**
	comp=Z,4μm,0.3s						
IKLH				*e*Sn	**Sn**	**03 30 13.0**	**-5.0**
BNDS	**Bandar-Abbas**	**4.47**	**181**	*e*Pn	**Pn**	**03 29 34.1**	**+1.4**
ZHSF	**Zahedan**	**4.51**	**119**	*e*Pn	**Pn**	**03 29 35.4**	**+2.1**
ZHSF				AML	AML	03 30 56.8	
	comp=N,194nm,1.2s						
ZHSF				AML	AML	03 30 57.4	
	comp=Z,226nm,0.0s						
GHIR	**Ghir-Karzin**	**4.57**	**219**	*e*Pn	**Pn**	**03 29 35.2**	**+1.2**
GHIR				AML	AML	03 31 05.4	
	comp=N,163nm,0.7s						
ISHM	**Shahmirzad**	**4.61**	**329**	*e*Pn	**Pn**	**03 29 34.6**	**0.0**
ISHM				*e*		03 31 03.8	
	comp=Z,8μm,0.3s						
IFIR	**Firoozkooh**	**4.74**	**323**	*e*	**Pb**	**03 29 51.0**	**+3.2**
	comp=Z,2μm,0.2s						
IDMV	**Damavand**	**5.08**	**318**	*e*	**Sg**	**03 31 02.2**	**-5.3**
	comp=Z,6μm,0.8s						
IPAY	**Payeh**	**5.09**	**26**	*e*	**Pg**	**03 30 02.3**	**+0.5**
	comp=Z,3μm,0.3s						
DAMV	**Damavand**	**5.15**	**318**	*e*Pn	**Pn**	**03 29 42.8**	**+0.8**
IKRD	**Kardeh**	**5.22**	**20**	Pn	**Pn**	**03 29 48.9**	**+5.9**
IKRD	**Kardeh**	**5.22**	**20**	*e*Pn	**Pn**	**03 29 49.0**	**+6.0**
IKRD				*e*		03 31 32.0	
	comp=Z,3μm,0.6s						
ISFR	**Sfrayin**	**5.35**	**15**	*e*Pn	**Pn**	**03 29 45.6**	**+0.8**
ISFR				*e*		03 31 49.2	
	comp=Z,4μm,0.4s						
IAFJ	**Afjeh**	**5.46**	**318**	*e*	**Sg**	**03 31 20.0**	**+0.3**
	comp=Z,12μm,0.7s						
IMYA	**Miami**	**5.47**	**35**	*e*Pn	**Pn**	**03 29 46.6**	**+0.1**
IMYA				*e*		03 31 35.3	
	comp=Z,4μm,0.6s						
IEMG	**Emamgholi**	**5.86**	**19**	*e*Pn	**Pn**	**03 29 52.1**	**+0.4**
IEMG				*e*		03 31 52.3	
	comp=Z,1μm,0.4s						
IMHD	**Mahdasht**	**5.99**	**311**	*e*	**Sg**	**03 31 36.6**	**0.0**
	comp=Z,1μm,0.3s						
THKV	**Tehran--Karaj**	**6.00**	**313**	*e*Pn	**Pn**	**03 29 54.6**	**+0.9**
VAN	**Vannovskaya**	**6.24**	**14**	P	**Pn**	**03 29 57.6**	**+0.7**
UMR	**Umm Al-Rimmam**	**7.70**	**255**	*e*P	**Pn**	**03 30 13.7**	**-3.3**
MIB	**Mutribah**	**7.93**	**257**	*e*P	**Pn**	**03 30 17.9**	**-2.3**
RDF	**Al-Radifah**	**8.07**	**251**	*e*P	**Pn**	**03 30 19.0**	**-3.1**
BOQSS		**8.50**	**227**	S	**Sn**	**03 31 59.7**	**-4.5**
BOQSS		**8.50**	**227**	P	**Pn**	**03 30 28.5**	**+0.5**
SLWS		**8.61**	**216**	S	**Sn**	**03 32 02.4**	**-4.7**
BTHS		**9.15**	**213**	P	**Pn**	**03 30 37.0**	**0.0**
BHD	**Baghdad**	**10.10**	**281**	*ex*	x	03 31 45.0	
BHD				*ex*	x	03 34 08.0	
HRDDS		**10.77**	**216**	S	**Sn**	**03 32 54.1**	**-5.9**
MSL	**Mosul**	**11.75**	**295**	*ex*	x	03 32 07.0	
MSL				*ex*	x	03 35 04.0	
MALT	**Malatya**	**15.92**	**299**	*e*P	**Pn**	**03 32 09.7**	**+0.8**
MALT				pmax	pmax		
	comp=Z,9.0nm,1.3s						
MALT	**Malatya**	**15.92**	**299**	*e*Pn	**Pn**	**03 32 09.7**	**+0.7**
	comp=Z,8.6nm,1.3s						
MALT	**Malatya**	**15.92**	**299**	*e*P	**Pn**	**03 32 09.7**	**+0.8**
	comp=Z,9.0nm,1.3s						
KIV	**Kislovodsk**	**16.08**	**322**	*e*P	**Pn**	**03 32 12.3**	**+1.3**
KIV				*e*S	**Sn**	**03 35 14.3**	**+4.7**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KIV	**Kislovodsk**	**16.08**	**322**	*e*P	**Pn**	**03 32 12.3**	**+1.3**
	comp=Z,4.0nm,0.7s						
ASF	**Jabal al Asfar**	**16.41**	**276**	Pn	**Pn**	**03 32 13.3**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=320,slow=6.7,SNR=18						
ASF				LR	LR	03 39 50.6	
	comp=Z,85nm,19.7s,baz=286,slow=42						
EKS2	**Erkin-Say**	**17.58**	**47**	*e*Pn	**Pn**	**03 32 29.3**	**-0.7**
	comp=Z,1.1nm,1.2s						
EKS2	**Erkin-Say**	**17.58**	**47**	*e*Pn	**Pn**	**03 32 29.3**	**-0.7**
	comp=Z,1.1nm,1.2s						
MMAI	**Mount Meron Ar**	**17.63**	**279**	P	**Pn**	**03 32 29.7**	**-0.9**
	comp=Z,0.2nm,0.3s,baz=86,slow=15,SNR=7.3						
MMAI				LR	LR	03 40 40.5	
	comp=Z,121nm,19.9s,baz=80,slow=42						
UCH	**Uchtor**	**17.83**	**50**	*e*Pn	**Pn**	**03 32 32.1**	**-1.0**
	comp=Z,9.0nm,1.4s						
UCH	**Uchtor**	**17.83**	**50**	*e*Pn	**Pn**	**03 32 32.1**	**-0.9**
	comp=Z,9.0nm,1.4s						
AAK	**Ala-Archa**	**18.02**	**48⇑**	*i*P	**Pn**	**03 32 33.1**	**-2.3**
AAK				pmax	pmax		
	comp=Z,7.0nm,1.5s						
AAK	**Ala-Archa**	**18.02**	**48**	P	**Pn**	**03 32 36.8**	**+1.4**
	comp=Z,0.3nm,0.3s,baz=215,slow=12,SNR=5.6						
AAK				LR	LR	03 40 10.2	
	comp=Z,180nm,22.0s,baz=22,slow=39						
EIL	**Elat**	**18.43**	**269**	P	**Pn**	**03 32 42.0**	**+1.6**
	comp=Z,0.3nm,0.3s,baz=39,slow=7.3,SNR=9.8						
EIL				LR	LR	03 41 03.9	
	comp=Z,128nm,21.6s,baz=351,slow=41						
EIL	**Elat**	**18.43**	**269**	P	**Pn**	**03 32 42.0**	**+1.5**
AKTK	**Aktyubinsk**	**18.57**	**4**	P	**Pn**	**03 32 41.4**	**-0.7**
AKTK				LR	LR	03 41 10.3	
AKTK	**Aktyubinsk**	**18.57**	**4**	P	**Pn**	**03 32 41.4**	**-0.7**
AKTO	**Aktyubinsk**	**18.57**	**4**	P	**Pn**	**03 32 41.4**	**-0.7**
	comp=Z,1.2nm,0.3s,baz=180,slow=13,SNR=21						
AKTO				LR	LR	03 41 10.3	
	comp=Z,142nm,19.7s,baz=11,slow=42						
ANN	**Anapa**	**19.53**	**317**	*e*P	**Pn**	**03 32 47.0**	**-6.7**
BVAR	**Borovoye Array**	**23.48**	**22**	P	**P**	**03 33 34.2**	**-0.5**
	comp=Z,2.3nm,0.6s,mb3.8,baz=210,slow=8.6,SNR=11						
BVAR				LR	LR	03 43 56.6	
	comp=Z,139nm,19.7s,MS3.4,baz=285,slow=40						
DANN	**Dangsing**	**24.04**	**91**	*e*P	**P**	**03 33 40.4**	**+0.1**
	comp=Z,26nm,1.0s,mb4.6						
KOLN	**Koldanda**	**24.06**	**93**	*e*P	**P**	**03 33 40.4**	**-0.1**
	comp=Z,19nm,1.1s,mb4.4						
ARU	**Arti**	**24.59**	**3**	*c i*P	**P**	**03 33 45.9**	**+0.9**
ARU				*e*		03 34 15.9	
ARU				*e*S	**S**	**03 38 08.8**	**+2.5**
ARU				pmax	pmax		
	comp=Z,14nm,2.5s,mb4.0						
GKN	**Gorkha**	**24.88**	**92**	*e*P	**P**	**03 33 47.6**	**-0.3**
MKAR	**Makanchi Array**	**24.89**	**46**	P	**P**	**03 33 48.5**	**+0.7**
	comp=Z,1.5nm,0.7s,mb3.6,baz=225,slow=7.4,SNR=6.5						
MKAR				LR	LR	03 43 57.6	
	comp=Z,51nm,19.0s,MS3.0,baz=34,slow=38						
MKAR	**Makanchi Array**	**24.89**	**46**	P	**P**	**03 33 48.5**	**+0.6**
KURK	**Kurchatov**	**25.06**	**35⇑**	*e*P	**P**	**03 33 45.3**	**-4.0**
DMN	**Daman**	**25.39**	**92**	*e*P	**P**	**03 33 54.4**	**+1.9**
KKN	**Kakani**	**25.48**	**92**	*e*P	**P

YKA	Yellowknife Ar	85.66 356	P	P	03 41 02.6	-1.0
YKA	Yellowknife Ar	85.66 356	P	P	03 41 02.6	-1.0

comp=Z,0.5nm,0.7s,mb3.8,baz=356,slow=4.8,SNR=10

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*CSEM **08** 03:31:13.9±0.2, 3831N×2044E, h15km, ML3.6, Error ellipse: s-maj=5.2km s-min=1.9km az=65.0*
*ISCJB **08** 03:31:14.5±0.6, 3835N±003×2062E±008, h3km±7km, Error ellipse: s-maj=10.2km s-min=4.7km az=169.0*
*ATH **08** 03:31:14.2, 3834N×2057E, h5km, MD3.6/5*
*NEIC **08** 03:31:14.2, 3834N×2057E, h5km, MD3.6(ATH), After ATH.*
*THE **08** 03:31:14.3, 3833N×2048E, h1km, ML3.6*

ISC 08 03:31:14.8±0.6, 3833N±003×2066E±007, h7km±6km, n14, σ0§88/20, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.16	199	ePg		Pg	03 31 17.6	-0.5
VLS				eSg		Sg	03 31 20.9	+0.6
VLS	Valsamata	0.16	199	ePg		Pg	03 31 17.7	-0.4
VLS				eSg		Sg	03 31 20.7	+0.4
KFL	Anninata	0.24	155	ePg		Pg	03 31 20.6	+1.0
LKD	Levkas	0.38	359	ePg		Pg	03 31 21.6	-0.5
LKD				eSg		Sg	03 31 28.1	+1.0
RLS	Riolos of Patr	0.69	113	ePB		Pb	03 31 29.2	+0.1
SELA	Sela	0.97	93	ePg		Pg	03 31 34.6	+1.1
SELA				eSg		Sg	03 31 51.5	+5.4
EVR	Evrytania	1.08	57	ePN		Pn	03 31 35.6	-0.6
IGT	Igoumenitsa	1.23	348	ePg		Pg	03 31 36.7	-1.6
IGT				eSg		Sg	03 31 54.9	+0.6
JAN	Janina	1.33	6	ePB		Pb	03 31 40.6	+0.5
ITM	Ithomi	1.53	138	ePB		Pb	03 31 44.0	+0.7
KEK	Kerkira	1.54	334	ePB		Pb	03 31 42.6	-0.9
THL	Klokotos Trika	1.63	40	ePG		Pg	03 31 45.2	-0.7
SRN	Sarande	1.63	342	ePn		Pn	03 31 43.5	-0.3
SRN				i Sn		Sn	03 32 06.1	+1.1
VLI	Veliai	2.42	131	ePG		Pg	03 31 59.5	-1.7

IDC 08 03:32:21.2±1.7, 040N×12429E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/16, mbtmp3.4/3, Error ellipse: s-maj=189.2km s-min=24.8km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.49	155	P		P	03 37 22.0	-0.3

0.2nm,0.3s,baz=332,slow=12,SNR=8.5

ASAR	Alice Springs	25.68	159	P		P	03 37 53.6	+0.6

0.4nm,0.4s,baz=352,slow=7.6,SNR=6.4

MKAR	Makanchi Array	58.96	328	P		P	03 42 22.4	-0.1

0.2nm,0.4s,baz=113,slow=8.1,SNR=3.6

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*NEIC **08** 03:53:28.0, 17.19N×100.39W, h39km, MD3.6(MEX), After MEX.*

MEX 08 03:53:28.7±0.7, 1721N×10036W, h34km±9km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAIG	El Cayaco	0.18	150	i P		Pb	03 53 33.5	-1.8
CAIG				i S		Sb	03 53 38.2	-1.5
ACX	Acapulco	0.55	128	i P		Pb	03 53 38.9	-1.1
ACX				i S		Sb	03 53 45.4	-2.4
ACX	Acapulco	0.55	128	i P		Pb	03 53 38.6	-1.4
ACX				i S		Sb	03 53 45.4	-2.4
MEIG	Mezcala	1.01	45	i P		Pn	03 53 44.5	-1.9
MEIG				i S		Sn	03 53 57.2	-2.2
MZVM		2.25	29	i P		Pn	03 54 02.8	-0.7
MZVM				i S		Sn	03 54 29.3	-0.7
PPM	Popocatepetl	2.48	42	i P		Pn	03 54 14.7	+8.0
PPM				i S		Sn	03 54 41.6	+5.8
PPM	Popocatepetl	2.48	42	i P		Pn	03 54 06.4	-0.3
PPM				i S		Sn	03 54 32.9	-2.9
VHO	Vista Hermosa	3.47	92	i S		Sn	03 54 57.0	-3.3

MAN 08 04:03:22, 1766N×12022E, h16km, mb3.8, ML2.6, MS2.2, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.47	91	eP		Pg	04 03 32.0	+0.6
ABRA				eS		Sg	04 03 42.8	+5.0
PIP	Pasuquin	0.76	30	⇓iP		Pg	04 03 27.9	-9.0
PIP				eS		Sg	04 03 44.4	-2.6
APYP	Conner	1.00	78	eP		Pb	04 03 39.9	-1.0
APYP				eS		Sb	04 03 56.2	+2.4
LUBP	Lubang	3.91	180	eP		Pn	04 04 27.9	+6.5

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*ISCJB **08** 04:05:54.8±0.8, 1124N±005×6192W±004, h68km±11km, Error ellipse: s-maj=7.7km s-min=6.4km az=158.6*
*FUNV **08** 04:05:54.3, 1121N×6168W, h38km, MW2.8*
*TRN **08** 04:05:56.5, 1129N×6174W, h21km, MD2.7*
*NEIC **08** 04:05:56.5, 1129N×6174W, h21km, MD2.7(TRN), After TRN.*

ISC 08 04:05:55.8±0.8, 1124N±004×6190W±004, h58km±14km, n13, σ1§10/26, Windward Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TCE	Chacachacare	0.56	165	eP		Pn	04 06 08.1	-0.2
TCE				eS		Sn	04 06 17.0	-0.3
TCE	Chacachacare	0.56	165	eP		Pn	04 06 08.1	-0.2
TCE				eS		Sn	04 06 17.0	-0.3
GUIV	Guiria	0.67	208	eP		Pn	04 06 08.7	-0.9
GUIV				eS		Sn	04 06 19.0	-0.6
TRN	Trinidad (W)	0.77	140	eP		Pn	04 06 10.7	-0.1
TRN				eS		Sn	04 06 20.6	-1.1
GRW	Mount Saint Ca	0.94	15	eP		Pn	04 06 14.1	+1.1
GRW				eS		Sn	04 06 25.1	-0.6
TPP	Pointe-a-Pierr	1.02	154	eP		Pn	04 06 14.9	+0.9
TPP				eS		Sn	04 06 30.6	+3.0
TPR	Prospect	1.11	93	eP		Pn	04 06 16.0	+0.8
TPR				eS		Sn	04 06 27.9	-1.7
TBH	Brigand Hill	1.11	132	eP		Pn	04 06 14.9	-0.4
TBH				eS		Sn	04 06 31.9	+2.2
ITEV	Isla Los Testi	1.21	276	eP		Pn	04 06 17.2	+0.7
ITEV				eS		Sn	04 06 34.4	+2.4
GUNV	Guanoco	1.48	224	eP		Pn	04 06 20.3	+0.1
GUNV				eS		Sn	04 06 39.4	+0.9
CUPV	Cœpira	4.00	253	eP		Pn	04 06 54.7	+0.2
CUPV				eS		Sn	04 07 39.3	-0.9
CAOV	Caicara del Or	5.84	229	eP		Pn	04 07 18.6	-1.4
CAOV				eS		Sn	04 08 20.4	-5.2
BAUV	El Baul	6.46	250	eP		Pn	04 07 27.4	-0.9
BAUV				eS		Sn	04 08 36.8	-3.9

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*CSEM **08** 04:11:44.6±0.2, 3993N×4169E, h3km±1km, MD3.2, Error ellipse: s-maj=4.0km s-min=3.3km az=131.0*
*ISCJB **08** 04:11:45.5±1.0, 3993N±004×4168E±006, h1km±8km, Error ellipse: s-maj=7.5km s-min=5.5km az=25.4*
*ISK **08** 04:11:45.8, 3994N×4164E, h7km, MD3.1*
*DDA **08** 04:11:47.5, 3993N×4156E, h8km±2km, Md3.2*

ISC 08 04:11:45.7±0.8, 3993N±003×4168E±005, h1km±7km, n13, σ0§78/20, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.21	56	i P		Pg	04 11 49.5	-0.2
HOMI				i S		Sg	04 11 57.9	+5.5
ERZM	Erzurum	0.25	264	i P		Pg	04 11 50.5	+0.1
ERZM				i S		Sg	04 11 53.1	-0.6
EZM	Erzurum	0.25	264	PG		Pg	04 11 50.6	+0.1
KOPT	Kop Dagi	0.92	276	i P		Pg	04 12 03.4	+0.1
KOPT				i S		Sg	04 12 21.1	+6.0
BNGL	BINGOL	1.06	203	i P		Pg	04 12 04.6	-1.4
BNGL				i S		Sg	04 12 20.8	+1.0
AGRB	Hanur-Agry	1.07	109	ePN		Pn	04 12 07.5	-0.4
AGRB				eSN		Sn	04 12 23.1	-0.2
ARTV	Artvin	1.27	8	i P		Pg	04 12 09.2	-0.8
ARTV				i S		Sg	04 12 27.9	+1.5
BINT	Bingol	1.40	222	ePN		Pn	04 12 11.6	-0.8
EZC	Erzincan	1.45	263	ePN		Pg	04 12 17.7	+4.2
BCA	Borcka	1.51	358	ePN		Pn	04 12 13.7	-0.3
BCA				eSN		Sn	04 12 34.0	-0.3

BTMT	Batman	1.74	185	ePN		Pn	04 12 18.8	+1.7
GUMT	Gumushane	1.77	288	ePN		Pn	04 12 17.7	+0.3
PTK	Pertek	2.06	240	ePN		Pn	04 12 21.7	+0.3

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*NEIC **08** 04:18:44.2±1.2, 708S×129.22E, h35km, Error ellipse: s-maj=33.9km s-min=14.2km az=69.0*
*IDC **08** 04:18:50.6±11.0, 750S×129.00E, h105km±132km, mb3.1/1, mb1 3.5/4, mb1mx3.3/14, mbtmp3.3/4, ML3.7/3, Error ellipse: s-maj=79.8km s-min=58.8km az=12.0*
*ISCJB **08** 04:18:55.6±2.9, 78S±01×129.0E±01, h181km±34km, Error ellipse: s-maj=26.1km s-min=12.1km az=41.9*

ISC 08 04:18:55.9±3.1, 78S±01×1290E±01, h162km±35km, n6, σ0§83/10, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.81	245	S		Sn	04 21 26.5	+0.3

7.2nm,0.3s,baz=288,slow=22,SNR=3.7

FITZ	Fitzroy Crossi	10.78	197	P		Pn	04 21 26.0	+0.1

0.4nm,0.3s,baz=24,slow=12,SNR=25

FITZ				S		Sn	04 23 24.8	-0.6

0.6nm,0.3s,baz=180,slow=21,SNR=7.6

WRAB	Tennant Creek	13.15	157	ePn		Pn	04 21 56.3	-0.2

1.9nm,0.8s

WRAB				eSn		Sn	04 24 17.3	-5.1
WRA	Warramunga Arr	13.15	157	P		Pn	04 21 56.4	-0.3

0.4nm,0.3s,baz=343,slow=13,SNR=24

WRA				S		Sn	04 24 17.5	-5.0

0.8nm,0.3s,baz=333,slow=22,SNR=15

ASAR	Alice Springs	16.48	164	P		Pn	04 22 40.6	+2.7

0.2nm,0.3s,baz=340,slow=9.8,SNR=10

ASAR				S		S	04 25 41.4	+0.2

0.3nm,0.3s,baz=342,slow=25,SNR=5.0

MKAR	Makanchi Array	68.34	327	P		P	04 29 39.1	-0.4

0.2nm,0.3s,baz=117,slow=9.2,SNR=4.7

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*ISCJB **08** 04:30:06.7±0.4, 4083N±002×2749E±002, h5km±4km, Error ellipse: s-maj=4.0km s-min=3.0km az=1.5*
*CSEM **08** 04:30:06.6±0.1, 4081N×2751E, h8km, MD3.3, Error ellipse: s-maj=1.6km s-min=1.1km az=13.0*
*ISK **08** 04:30:06.6, 4082N×2751E, h8km, MD3.3*
*NEIC **08** 04:30:06.0, 4082N×2751E, h6km, MD3.3(ISK), After ISK.*
*ATH **08** 04:30:07.9, 4079N×2735E, h19km±7km, MD3.7/4*
*DDA **08** 04:30:08.4, 4081N×2750E, h7km±3km, Md3.3*
*SOF **08** 04:30:08.6, 4065N×2715E, h20km, MD3.0*
*THE **08** 04:30:11.6, 4067N×2715E, h12km, ML3.7*

ISC 08 04:30:07.3±0.4, 4082N±002×2749E±002, h7km±3km, n55, σ0§96/66, 3C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MRMT	Marmara Adasi	0.23	158	PG		Pg	04 30 12.0	+0.1
MRMT				eSG		Sg	04 30 14.5	-0.4
RKY	Sarkoy-Tekirda	0.27	241	PG		Pg	04 30 13.2	+0.7
RKY				eSG		Sg	04 30 17.4	+1.4
EDC	Edincik	0.55	148	PG		Pg	04 30 17.7	-0.2
BNT	Bandirma	0.57	144	PG		Pg	04 30 17.9	-0.4
LPK	Lapseki	0.71	232	PG		Pg	04 30 20.9	0.0
CTT	Catalca	0.79	65	ePG		Pg	04 30 22.5	+0.1
ELBA	Catalca	0.79	65	i P		Pg	04 30 22.7	+0.3
ELBA				i S		Sg	04 30 33.5	+0.8
KCT	Karacabey	0.86	129	ePG		Pg	04 30 23.3	-0.6
ENEZ	Enez	1.01	266	ePG		Pg	04 30 26.7	-0.1
ENEZ				eSG		Sg	04 30 41.0	+1.1
ALN	Alexandroupoli	1.09	275	ePg		Pg	04 30 27.9	-0.4
ALN				eSg		Sg	04 30 40.7	-1.8
BTOK	Tokmak	1.13	158	i P		Pg	04 30 29.1	0.0
BTOK				i S		Sg	04 30 43.7	-0.1
EDRB	Edirne	1.17	332	ePN		Pn	04 30 29.9	-0.2
BALB	Balikesir	1.21	165	ePN		Pn	04 30 29.6	-1.1
ISK	Istanbul-Kandi	1.22	78	ePN		Pn	04 30 29.3	-1.5
BADT	Buyukada	1.24	88	ePN		Pn	04 30 29.5	-1.5
KLYT	Kilyos	1.26	69	ePN		Pn	04 30 30.6	-0.7
EZN	Ezine	1.33	222	ePN		Pn	04 30 31.4	-0.9
GADA	Gvkgeada	1.36	243	ePN		Pn	04 30 32.3	-0.4
YLV	Yalova	1.46	99	ePN		Pn	04 30 33.7	-0.3
BOZC	Bozcaada	1.47	229	i P		Pn	04 30 33.4	-0.8
BOZC				i S		Sn	04 30 53.6	0.0
DST	Dursunbey	1.49	144	ePN		Pn	04 30 35.1	+0.5
RDO	Rodhopi	1.51	283	⇓iPN		Pn	04 30 34.4	-0.4
RDO				eSN		Sn	04 30 54.5	-0.2
IZI	Iznik	1.59	107	ePN		Pn	04 30 34.5	-1.4
AYVA	Ayvalik	1.62	202	i P		Pn	04 30 37.4	+1.0
AYVA				i S		Sn	04 30 59.1	+1.6
HRT	Hereke	1.66	89	ePN		Pn	04 30 36.2	-0.6
ADVT	Abdulvahap	1.76	102	ePN		Pn	04 30 38.0	-0.2
KDZ	Kurdzhali	1.77	299	i P		Pn	04 30 38.6	+0.3
JMB	Yambol	1.78	338	ePb		Pb	04 30 42.0	+1.7
PRK	Paraskevi	1.82	211	ePg		Pn	04 30 38.6	-0.5
PRK	Paraskevi	1.82	211	ePn		Pn	04 30 40.0	+0.9
AKHS	Akhisar	1.95	172	i P		Pn	04 30 42.7	+1.8
AKHS				i S		Sn	04 31 09.1	+3.5
AKS	Akhisar	1.95	172	ePN		Pn	04 30 41.5	+0.7
LIA	Limnos Island	1.98	243	ePb		Pn	04 30 40.2	-1.1
LIA	Limnos Island	1.98	243	ePB		Pn	04 30 40.5	-0.8
LIA				eSN		Sn	04 31 05.4	-1.0
LOS	Limnos	2.04	245	ePb		Pn	04 30 39.7	-2.3
GPA	Golpazari	2.21	103	ePN		Pn	04 30 44.7	+0.2
RZN	Rozhen	2.26	294	i P		Pn	04 30 41.2	-3.9
KULA	Kula-Manisa	2.47	158	ePN		Pn	04 30 47.8	-0.2
ALT	Altintas	2.68	130	ePN		Pn	04 30 50.9	+0.1
SZH	Strazhica	2.71	335	P		Pn	04 30 55.0	+3.7
OUR	Ouranopolis	2.71	261	ePn		Pn	04 30 50.2	-1.1
NVR	Nevrokopi	2.79	282	ePN		Pn	04 30 52.8	+0.4
ESKT	Eskisehir	2.88	116	ePN		Pn	04 30 54.0	+0.3
MMB	Musomiste	2.94	286	i P		Pn	04 30 54.7	+0.3
KHL	Karahalli	2.95	147	ePN		Pn	04 30 55.2	+0.7
KKB	Krupnik	3.48	289	P		Pn	04 31 07.5	+5.7
VTS	Vitosha	3.66	300	⇑iP		Pb	04 31 13.9	+1.6
VTS	Vitosha	3.66	300	S		Sg	04 32 03.2	-1.7
VTS	Vitosha	3.66	300	P		Pn	04 31 05.5	+1.2
TIRR	Tirgusor	3.70	10	⇑iP		Pn	04 31 05.8	+0.9
TIRR	Tirgusor	3.70	10	S		Sg	04 32 05.8	-0.5
HARR	Harsova	3.89	5	⇑iP		Pb	04 31 20.2	+4.0
KIZT	Kizilcal	3.90	118	ePN		Pn	04 31 08.6	+1.0
MLR	Muntele Rosu	4.81	347	⇓iP		Pn	04 31 22.5	+2.4
MLR	Muntele Rosu	4.81	347	S		Sg	04 32 41.7	+0.1

KRSC 08 05:04:13.9±0.8, 5501N×16212E, h54km±54km, ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.51	207	i P		Pn	05 04 26.1	+0.6
MKZ				i S		Sn	05 04 34.8	+1.0
TUMR	Tumrok	1.17	284	eP		Pn	05 04 35.3	+1.4
TUMR				i S		Sn	05 04 50.9	+2.1
KBTR	Krutoberegovo	1.27	18	eP		Pn	05 04 36.3	+1.1
KBTR				i S		Sn	05 04 52.4	+1.3
KMNR	Kamenistaya	1.31	306	eP		Pn	05 04 37.3	+1.5
KMNR				i S		Sn	05 04 54.2	+2.0
KLY	Klyuchi	1.55	328	eP		Pn	05 04 39.9	+0.8
KOZ	Kozyrevsk	1.65	310	P		Pn	05 04 43.0	+2.5
KOZ				i S		Sn	05 05 04.0	+3.4
SRKR	Sorokina	1.73	342	eP		Pn	05 04 43.7	+2.1
SRKR				i S		Sn	05 05 05.3	+2.8
KII	Karymskiy	1.84	239	eP		Pn	05 04 44.6	+1.6
KII				i S		Sn	05 05 06.8	+1.7
SRDR	Sredinnyy	1.89	315	eP		Pn	05 04 45.6	+1.9
SPDR				i S		Sn	05 05 08.3	+2.0
SPN	Mys Shipunski	2.28	214	eP		Pn	05 04 49.9	+0.9
SPN				i S		Sn	05 05 15.7	-0.2
NLC	Nalytchevo	2.46	223	eP		Pn	05 04 53.2	+1.7
NLC				i S		Sn	05 05 22.4	+2.0
AVH	Avacha	2.65	230	eP		Pn	05 04 56.7	+2.6
AVH				i S		Sn	05 05 28.7	+3.8
GNL	Ganaly	2.78	243	eP		Pn	05 04 58.3	+2.5
PET	Petropavlovsk	2.85	227	eP		Pn	05 04 59.5	+2.6
PET				i S		Sn	05 05 32.9	+2.9
RUS	Russkaya	3.35	221	eP		Pn	05 05 06.1	+2.4
RUS				i S		Sn	05 05 44.5	+2.2

IDC 08 05:29:04.2±1.9, 1928N×11908E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/17, mbtmp3.6/3, Error ellipse: s-maj=326.3km s-min=25.5km az=65.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	41.76	158	P		P	05 36 54.7	-0.7

0.5nm,0.3s,baz=338,slow=9.2,SNR=16

ZALV	Zalesovo Beam	43.42	331	P		P	05 37 08.5	-0.1

0.6nm,0.3s,baz=114,slow=9.8,SNR=2.9

ASAR	Alice Springs	45.07	161	P		P	05 37 22.9	+0.8

0.2nm,0.4s,baz=337,slow=6.6,SNR=5.7

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*IDC **08** 05:31:15.7±1.4, 1.19N×97.03E, h0km, mb3.9/8, mb1 3.9/9, mb1mx3.8/22, mbtmp3.8/9, ML3.2/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/27, Error ellipse: s-maj=39.8km s-min=19.2km az=52.0*
*ISCJB **08** 05:31:19.9±5.2, 13N±02×97.1E±03, h45km±38km, mb3.9/9, Error ellipse: s-maj=60.7km s-min=16.6km az=143.9*
*NEIC **08** 05:31:20.2±0.7, 120N×97.07E, h30km, mb3.7/1, Error ellipse: s-maj=19.2km s-min=10.6km az=53.0*

ISC 08 05:31:21.4±5.1, 13N±02×971E±03, h38km±39km, n13, σ0§45/13, mb3.9/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.36	49	Pn		Pn	05 31 57.2	-0.4
PSI				LR		LR	05 33 06.0	
PSI	Prapat	2.36	49	Pn		Pn	05 31 57.2	-0.4

5.5nm,0.3s,baz=253,slow=3.5,SNR=37

PSI				LR		LR	05 33 06.0	

comp=Z,262nm,18.7s,baz=274,slow=46

TSI	Tuntungan	2.65	33	eP		Pn	05 32 02.0	+0.3
WRA	Warramunga Arr	42.12	122	P		P	05 39 10.3	0.0

0.6nm,0.6s,mb3.4,baz=301,slow=9.2,SNR=9.0

WRAB	Tennant Creek	42.12	122	eP		P	05 39 10.1	-0.2

1.1nm,0.6s,mb3.7

ASAR	Alice Springs	43.48	127	P		P	05 39 21.7	+0.5

0.2nm,0.3s,mb3.3,baz=292,slow=7.3,SNR=3.2

KSRS	Korea Array	45.84	35	P		P	05 39 39.3	-0.6

1.1nm,0.4s,mb4.2,baz=224,slow=9.5,SNR=7.0

SONM	Songino Array	47.09	9	P		P	05 39 50.0	+0.5

1.0nm,0.5s,mb4.0,baz=192,slow=9.2,SNR=8.5

MKAR	Makanchi Array	47.18	346	P		P	05 39 50.8	+0.6

1.3nm,0.6s,mb4.0,baz=161,slow=8.7,SNR=17

ZALV	Zalesovo Beam	53.50	351	P		P	05 40 38.3	+0.4

2.4nm,0.4s,mb4.5,baz=179,slow=6.7,SNR=8.6

BVAR	Borovoye Array	56.18	341	P		P	05 40 57.4	+0.1

0.9nm,0.5s,mb4.1,baz=132,slow=10,SNR=4.9

AKTK	Aktyubinsk	59.16	332	P		P	05 41 17.7	-0.6
AKTO	Aktyubinsk	59.16	332	P		P	05 41 17.7	-0.6

0.5nm,0.5s,mb3.8,baz=79,slow=5.2,SNR=2.5

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*IDC **08** 05:31:33.7±0.6, 2108S×173.74W, h0km, mb5.0/15, mb1 5.1/16, mb1mx4.9/21, mbtmp5.0/16, ML5.5/2, MS4.0/16, Ms1 4.0/16, ms1mx3.9/28, Error ellipse: s-maj=22.4km s-min=13.7km az=139.0*
*ISCJB **08** 05:31:37.7±0.2, 2118S±005×173.65W±004, h40km, mb5.2/60, MS4.3/27, Error ellipse: s-maj=8.1km s-min=3.9km az=146.6*
*MOS **08** 05:31:37.6±2.0, 2115S×173.69W, h33km, mb5.3/17, Error ellipse: s-maj=14.5km s-min=8.5km az=51.3*
*BJI **08** 05:31:38.3, 2096S×173.70W, h34km, mB5.4, mb5.1, Ms5.3, Msz4.8*
*SZGRF **08** 05:31:38.6, 2167S×173.56W, h41km, Tonga Islands*
*GCMT **08** 05:31:39.4±0.3, 2125S×173.06W, h12km, MW5.0/65, Moment Tensor Solution. s25,c31; s65,c87; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.05±.11; $M_{\theta\theta}$1.13±.11; $M_{\phi\phi}$1.92±.10; $M_{r\theta}$0.66±.44; $M_{\theta\phi}$1.97±.09; $M_{\phi r}$-0.09±.38; Best double couple: $M_0$3.37000×10^{16} NP1:ϕ_s28.00000°, δ43.00000°, λ-107.00000°. NP2: ϕ_s231.00000°, δ49.00000°, λ-74.00000°. Principal axes: T 3.5520, Plg3.0000°, Azm310.0000°; N -0.3650, Plg12.0000°, Azm40.0000°; P -3.1870, Plg78.0000°, Azm206.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **08** 05:31:39.4±0.1, 2112S×173.71W, mb5.2/39 Error ellipse: s-maj=8.4km s-min=3.4km az=140.0*
*ORF **08** 05:31:56.4, 1378S×171.94W, h30km, mb5.6*

ISC 08 05:31:38.4±2.6, 2119S±006×17363W±005, h32km±18km, h39km±.9km:pP-P, n605, σ0§58/481, mb5.2/60, MS4.3/27, 108C-114D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.45	14	ePn		Pn	05 33 18.1	-6.7

106nm,0.6s

RAO	Raoul Island	8.92	205	P		Pn	05 33 43.4	-1.5
RAO							05 35 19.4	
RAO				pmax		pmax		

comp=Z,88nm,0.3s

RAO				smax				

comp=N,114nm,0.3s

RAO	Raoul Island	8.92	205	ePn		Pn	05 33 43.5	-1.5

comp=N,236nm,0.4s

RAO	Raoul Island	8.92	205	Pn		Pn	05 33 43.4	-1.6

comp=N,88nm,0.3s,baz=58,slow=21,SNR=6.5

RAO				Sn		Sn	05 35 19.4	-4.8

comp=N,114nm,0.3s,baz=233,slow=24,SNR=5.9

RAR	Rarotonga	12.93	93	Pn		Pn	05 34 29.0	-11

comp=N,20nm,0.3s,baz=254,slow=10.0,SNR=47

RAR				Sn		Sn	05 36 37.4	-25

comp=N,4.4nm,0.3s,baz=23,slow=16,SNR=3.3

RAR				LR		LR	05 38 34.3	

comp=N,149nm,18.1s,baz=243,slow=32

URZ	Urewera	18.80

comp=Z,6.5nm,0.8s,baz=97,slow=4.7,SNR=4.5
ASAR S S 05 47 13.7 -1.8
comp=Z,0.5nm,0.7s,baz=98,slow=14,SNR=4.4
WB2 Warramunga Arr 48.54 262 ⇓*i*P P 05 40 17.4 -1.4
WRAB Tennant Creek 48.54 262 P P 05 40 17.0 -1.8
comp=Z,245nm,1.1s,mb6.2,SNR=26
WRAB Tennant Creek 48.54 262 *e*P P 05 40 17.4 -1.4
WRA Warramunga Arr 48.55 262 P P 05 40 17.4 -1.5
WRA 05 41 45.3
WRA S S 05 47 19.0 +0.4
WRA Warramunga Arr 48.55 262 P P 05 40 17.4 -1.5
comp=Z,8.2nm,0.3s,mb5.2,baz=91,slow=5.8,SNR=223
WRA PcP PcP 05 41 45.3 +0.8
comp=Z,6.7nm,0.9s,baz=95,slow=3.7,SNR=5.3
WRA S S 05 47 19.0 +0.4
comp=Z,1.3nm,1.0s,baz=94,slow=12,SNR=4.1
WRA LR LR 06 00 33.4
comp=Z,264nm,18.7s,MS4.2,baz=100,slow=36
KAKA Kakadu 52.07 270 ⇓*i*P P 05 40 44.2 -1.4
comp=Z,18nm,0.4s,mb5.3
FORT Forrest 52.78 247 ⇓*i*P P 05 40 50.3 -0.3
comp=Z,73nm,0.7s,mb5.7
FITZ Fitzroy Crossi 56.98 262 ⇓*i*P P 05 41 20.8 -0.4
comp=Z,16nm,0.7s,mb5.2
FITZ Fitzroy Crossi 56.98 262 P P 05 41 21.0 -0.2
comp=Z,7.1nm,0.5s,mb4.9,baz=104,slow=4.1,SNR=50
SBA Scott Base 57.49 185 *e*P P 05 41 26.3 +2.4
SBA pmax pmax
comp=Z,33nm,1.1s,mb5.3
SBA Scott Base 57.49 185 *e*P P 05 41 26.3 +2.4
comp=Z,33nm,1.1s,mb5.3
BATI Kupang 61.02 270 LR LR 06 06 41.1
comp=Z,354nm,18.5s,MS4.5,baz=138,slow=35
KLBR Kellerberrin 61.47 245 *e*P P 05 41 52.7 +0.6
comp=Z,119nm,0.9s,mb6.0
MBWA Marble Bar 61.69 257 *e*P P 05 41 53.0 -0.7
NWAO Narrogin (SRO) 61.71 243 P P 05 41 54.6 +0.9
NWAO pmax pmax
comp=Z,17nm,0.8s
NWAO MLR MLR
comp=Z,232nm,21.3s
NWAO Narrogin (SRO) 61.71 243 *e*P P 05 41 53.2 -0.5
comp=Z,25nm,1.0s,mb5.3
NWAO Narrogin (SRO) 61.71 243 P P 05 41 54.5 +0.8
comp=Z,17nm,0.8s,mb5.2,baz=105,slow=6.3,SNR=8.2
NWAO LR LR 06 08 31.3
comp=Z,232nm,21.3s,MS4.3,baz=273,slow=36
MUN Mundaring 62.71 244 *e*P P 05 41 59.3 -1.1
CASY Casey 65.10 206 *e*P P 05 42 16.6 +1.1
CASY Casey 65.10 206 *e*P P 05 42 15.8 +0.3
comp=Z,20nm,0.9s,mb5.1
QSPA South Pole Qui 68.89 180 *e*P P 05 42 41.3 +1.9
MJAR Matsushiro Arr 73.25 321 P P 05 43 06.3 -0.1
comp=Z,3.5nm,0.7s,mb4.4,baz=156,slow=5.5,SNR=14
V04C Ramage Ranch, 75.43 42 ⇓P P 05 43 19.1 0.0
baz=76
V03C Hunter Liggett 75.45 42 ⇑P P 05 43 19.5 +0.3
baz=76
FARB Farallon Islan 75.48 39 ⇑P P 05 43 19.2 -0.1
baz=76
HAST Hastings Reser 75.49 41 P P 05 43 19.9 +0.5
baz=76,SNR=12
PKM Peak Mountain 75.62 43 ⇓P P 05 43 20.4 +0.2
baz=76
JNU Nakatsue 75.63 314 P P 05 43 20.1 -0.2
comp=Z,16nm,1.2s,mb4.8,baz=98,slow=6.2,SNR=3.5
JRSC Jasper Ridge 75.73 40 ⇑P P 05 43 20.8 0.0
baz=76
SMMC Simmler 75.77 43 ⇓P P 05 43 20.9 -0.1
baz=76
SAO San Andreas Ge 75.80 41 *e*P P 05 43 21.4 +0.2
SAO *e**PP pP 05 43 33.3 +2.0
SAO pmax pmax
comp=Z,41nm,1.3s,mb5.2
SAO San Andreas Ge 75.80 41 *e*P P 05 43 21.4 +0.2
comp=Z,40nm,1.3s,mb5.2
SAO *e*pP pP 05 43 33.3 +1.9
PKD Parkfield 75.83 42 ⇑P P 05 43 21.4 0.0
baz=76
PTRM Twissleman Ran 75.85 42 *e*P P 05 43 21.9 +0.4
U04C Hernandez Rese 75.95 42 P P 05 43 22.8 +0.8
baz=76,SNR=15
PACP Pacheco Peak 76.05 41 P P 05 43 23.3 +0.7
baz=76,SNR=10.0
WENL Wente Brothers 76.17 40 ⇑P P 05 43 23.6 +0.3
baz=76
109C Camp Elliot, M 76.18 46 ⇑P P 05 43 23.8 +0.3
baz=76
CVS Carmenet Viney 76.22 39 ⇑P P 05 43 23.3 -0.3
baz=76
NSHM Saint Helena R 76.25 39 *e*P P 05 43 23.9 +0.1
NSHM *e*pP pP 05 43 35.8 +1.9
HOPS Hopland 76.30 38 *e*P P 05 43 23.7 -0.3
HOPS Hopland 76.30 38 ⇓P P 05 43 24.0 0.0
baz=76
S04C Ingram Canyon, 76.35 40 ⇑P P 05 43 24.4 +0.1
baz=77,SNR=14
T05C Eagle Field, D 76.35 41 ⇑P P 05 43 24.9 +0.5
baz=77
ARVC Arvin 76.40 44 ⇓P P 05 43 24.6 -0.1
baz=77
P01C Double 8 Ranch 76.47 38 ⇑P P 05 43 25.2 +0.3
baz=77
MURC Murrieta 76.54 46 ⇓P P 05 43 25.5 0.0
baz=77
MNRC McLaughlin Nat 76.59 39 ⇑P P 05 43 25.6 0.0
baz=77,SNR=26
BFSC Mount Baldy St 76.62 45 ⇑P P 05 43 25.5 -0.5
baz=77
MONP Monument Peak 76.64 47 P P 05 43 25.9 -0.2
baz=77,SNR=7.8
Q03C Winters 76.68 39 ⇑P P 05 43 25.5 -0.6
baz=77
VES Vestal, Richgr 76.68 43 ⇓P P 05 43 26.2 0.0
baz=77
DVTC Desert V Tower 76.72 47 P P 05 43 26.0 -0.5
baz=77,SNR=11
EDW2 Edwards Air Fo 76.79 44 P P 05 43 26.7 -0.2
baz=77,SNR=12
S05C Merced 76.85 41 ⇑P P 05 43 26.6 -0.6
baz=77
GASB Alder Springs 76.95 38 ⇑P P 05 43 28.2 +0.5
baz=77,SNR=12
JCC Jacoby Creek 76.99 36 ⇑P P 05 43 28.1 +0.2
baz=77
T06C Millerton Lake 77.02 42 P P 05 43 27.9 -0.2
baz=77,SNR=13
PFO Pinyon Flat Ob 77.04 46 P P 05 43 28.0 -0.3
comp=Z,71nm,1.4s,mb5.4,SNR=5.4
PFO Pinyon Flat Ob 77.04 46 *e*P P 05 43 27.8 -0.5
PFO pmax pmax
comp=Z,19nm,1.2s,mb4.9
PFO Pinyon Flat Ob 77.04 46 *e*P P 05 43 27.8 -0.5
comp=Z,19nm,1.2s,mb4.9
PFO Pinyon Flat Ob 77.04 46 P P 05 43 27.9 -0.4
baz=77,SNR=6.7
R04C Big Horse Ranc 77.07 40 ⇑P P 05 43 27.6 -0.8
baz=77
SWSC Sam W. Stewart 77.09 47 ⇓P P 05 43 28.2 -0.4
baz=77
BBRC Big Bear Sol-O 77.12 45 ⇓P P 05 43 28.3 -0.5
baz=77
Q04C Lincoln 77.19 39 ⇑P P 05 43 28.6 -0.4
baz=77
SUTB Sutter Butte 77.20 39 ⇓P P 05 43 28.8 -0.3
baz=77
HELL Mitchell Peak 77.24 42 P P 05 43 29.0 -0.4
baz=78,SNR=14
O02C Red Bluff 77.25 38 ⇑P P 05 43 29.6 +0.3
baz=78,SNR=20
CMB Columbia Colle 77.26 40 *e*P P 05 43 29.3 -0.1
CMB Columbia Colle 77.26 40 P P 05 43 29.4 0.0
baz=78,SNR=20
LRMC Laurel Mountai 77.35 44 ⇑P P 05 43 29.5 -0.5
baz=78
N02C Big Bar 77.40 37 ⇓P P 05 43 29.6 -0.6
baz=78
OHCM Honcut 77.45 39 *e*P P 05 43 30.1 -0.4
KCC Kaiser Creek 77.46 42 P P 05 43 30.7 +0.1
baz=78,SNR=6.4
LAVA Lava Cap Winer 77.51 40 ⇓P P 05 43 30.4 -0.4
baz=78
KSM Kuching 77.56 276 *e*P P 05 43 32.1 +0.4
O03C Acorn Hollow, 77.57 38 ⇓P P 05 43 30.9 -0.2
baz=78
BELC Belle Mtn. 77.58 46 P P 05 43 31.2 -0.1
baz=78,SNR=11
ORV Oroville 77.58 39 P P 05 43 31.0 -0.2
baz=78,SNR=17
M01C Crescent City 77.65 36 ⇑P P 05 43 31.0 -0.5
baz=78
WDC Whiskeytown Da 77.66 37 *e*P P 05 43 31.6 0.0
WDC Whiskeytown Da 77.66 37 P P 05 43 31.5 -0.1
baz=78,SNR=17
CWC Cottonwood Cre 77.69 43 ⇑P P 05 43 31.8 0.0
baz=78
XMIS Christmas Isla 77.70 263 *e*pP pP 05 43 38.6 -4.1
GSC Goldstone 77.82 44 *e*P P 05 43 32.8 +0.2
GSC pmax pmax
comp=Z,18nm,1.1s,mb4.9
GSC Goldstone 77.82 44 *e*P P 05 43 32.8 +0.1
comp=Z,18nm,1.1s,mb4.9
GSC Goldstone 77.82 44 ⇓P P 05 43 32.0 -0.6
baz=78,SNR=9.5
GLA Glamis 77.82 47 *e*P P 05 43 33.0 +0.3
GLA pmax pmax
comp=Z,37nm,1.4s,mb5.1
GLA Glamis 77.82 47 *e*P P 05 43 33.0 +0.3
comp=Z,37nm,1.4s,mb5.1
GLA Glamis 77.82 47 P P 05 43 32.8 +0.1
baz=78,SNR=8.4
MPMC Manual Prospec 77.83 43 P P 05 43 32.9 +0.2
baz=78,SNR=16
HEC Hector,Ludlow 77.85 45 P P 05 43 32.5 -0.3
baz=78,SNR=16
R05C Kirwood Meado 77.88 40 P P 05 43 33.0 +0.2
baz=78,SNR=19
YHNB Yeheng 77.89 303 *e*P P 05 43 33.2 -0.1
P05C Yuba Gap, Truc 77.94 39 ⇑P P 05 43 33.2 0.0
baz=78
MTUM Tungsten Hills 77.95 42 *e*P P 05 43 33.1 -0.2
MTUM *e*pP pP 05 43 45.2 +1.8
MLAC Mammoth Lakes 77.95 42 ⇓P P 05 43 33.2 -0.1
baz=78
M02C Callahan 78.03 37 ⇓P P 05 43 33.9 +0.2
baz=78,SNR=9.8
R07C Lee Vining 78.11 41 P P 05 43 34.7 +0.5
baz=78,SNR=8.6
WAKR Walker 78.14 41 *e*P P 05 43 34.2 -0.1
R06C Coleville 78.14 41 ⇓P P 05 43 34.5 +0.2
baz=78,SNR=28
L02A Cave Junction 78.14 36 ⇓P P 05 43 34.8 +0.6
baz=78
O05C Quincy 78.19 39 ⇓P P 05 43 34.6 0.0
baz=78
IRM Iron Mountain 78.24 46 P P 05 43 35.1 +0.1
baz=78,SNR=20
GMRC Granite Mounta 78.27 45 P P 05 43 35.0 -0.2
baz=78,SNR=10
S08C White Mtn Res 78.28 42 P P 05 43 35.8 +0.6
baz=78,SNR=35
O04C Chester 78.33 38 ⇓P P 05 43 35.4 +0.1
baz=79,SNR=15
YBH Yreka Blue Hor 78.34 36 *e*P P 05 43 35.6 +0.2
YBH pmax pmax
comp=Z,21nm,1.1s
YBH Yreka Blue Hor 78.34 36 *e*P P 05 43 35.6 +0.3
comp=Z,21nm,1.1s,mb5.0
YBH Yreka Blue Hor 78.34 36 ⇑P P 05 43 35.6 +0.2
baz=79,SNR=11
M03C McCloud 78.36 37 ⇑P P 05 43 35.4 -0.1
baz=79,SNR=11
YSS Yuzh-Sakhalins 78.40 331 *e*P P 05 43 36.1 +0.5
Y12C Blythe 78.43 47 ⇓P P 05 43 35.9 -0.2
baz=79
HATC Hat Creek Radi 78.44 38 ⇓P P 05 43 35.5 -0.4
baz=79,SNR=7.5
WCN Washoe City 78.45 40 P P 05 43 36.4 +0.4
baz=79,SNR=29
BEKR Beckwourth 78.45 39 P P 05 43 36.1 +0.1
baz=79,SNR=18
TUQ Turquoise Mtn. 78.48 45 ⇓P P 05 43 36.0 -0.2
baz=79
GRAC Grapevine Rang 78.48 43 ⇑P P 05 43 36.1 -0.2
baz=79,SNR=10
FURC Furnace Creek, 78.49 43 ⇑P P 05 43 36.0 -0.3
baz=79
SHOC Shoshone 78.52 44 P P 05 43 36.6 +0.1
baz=79,SNR=7.6
P06A Stead Airport, 78.61 39 ⇑P P 05 43 37.1 +0.2
baz=79
K02A Glendale 78.62 35 ⇑P P 05 43 36.8 0.0
baz=79
ELFS Eagle Lake Fie 78.73 38 P P 05 43 38.0 +0.5
baz=79,SNR=12
HUMO Hull Mountain 78.80 36 *e*P P 05 43 38.0 +0.2
HUMO Hull Mountain 78.80 36 ⇑P P 05 43 37.9 +0.1
baz=79,SNR=10
R08A Mina 78.85 41 ⇓P P 05 43 38.5 +0.2
baz=79
M04C Macdoel 78.86 37 ⇑P P 05 43 38.4 +0.2
baz=79,SNR=8.7
PAHR Pah Rah Range 78.93 40 *e*P P 05 43 38.9 +0.2
comp=Z,30nm,1.1s,mb5.1
Y13A Salome 78.94 47 ⇓P P 05 43 38.8 -0.1
baz=79
NEE2 Needles Airpor 78.95 46 ⇑P P 05 43 38.6 -0.3
baz=79
O06A Flanigan 78.96 39 P P 05 43 39.0 +0.2
baz=79,SNR=20
M05C Lookout 78.97 37 P P 05 43 39.0 +0.2
baz=79,SNR=26
J02A Umpqua 78.98 35 ⇑P P 05 43 38.6 -0.3
baz=79
PDMCI Parker Dam,Lak 79.01 47 ⇑P P 05 43 38.5 -0.7
baz=79
S09A Goldfield 79.02 42 P P 05 43 39.0 -0.2
baz=79,SNR=13
V11A Goodsprings 79.04 45 ⇑P P 05 43 39.4 0.0
baz=79
L04A Klamath Falls 79.09 36 ⇓P P 05 43 39.3 -0.2
baz=79
W12A Cal Nev Ari 79.09 45 ⇑P P 05 43 39.5 -0.2
baz=79
P07A Fallon 79.12 40 ⇑P P 05 43 39.9 +0.2
baz=79
TPNV Topopah Spring 79.17 43 *e*P P 05 43 40.1 +0.1
TPNV Topopah Spring 79.17 43 P P 05 43 40.1 +0.1
baz=79,SNR=15
M06C Likely Place G 79.25 38 P P 05 43 40.8 +0.4
baz=80,SNR=12
Q08A Gabbs 79.28 41 P P 05 43 40.7 +0.1
baz=80,SNR=14
Z14A Wintersburg 79.30 48 ⇓P P 05 43 40.6 -0.3
baz=80,SNR=8.6
J03A Ideyld Park 79.31 35 ⇑P P 05 43 40.7 +0.1
baz=80
N06A Buffalo Meadow 79.33 39 P P 05 43 40.9 +0.1
baz=80,SNR=25
V12A Nelson 79.36 45 P P 05 43 41.2 +0.1
baz=80,SNR=9.8
X13A Yucca 79.39 47 P P 05 43 41.4 +0.1
baz=80,SNR=12
U11A Corn Creek 79.41 44 ⇑P P 05 43 41.3 -0.1
baz=80
R09A Tonopah 79.43 42 P P 05 43 41.5 +0.1
baz=80,SNR=12
115A Sonoran Desert 79.43 49 ⇓P P 05 43 41.3 -0.3
baz=80
K04A Chiloquin 79.47 36 ⇓P P 05 43 41.6 0.0
baz=80
O07A Toulon 79.52 40 P P 05 43 42.1 +0.2
baz=80,SNR=21
S10A Tonopah Range, 79.53 42 P P 05 43 42.2 +0.2
baz=80,SNR=14
Y14A Wickenburg 79.58 47 P P 05 43 42.1 -0.2
baz=80,SNR=14
216A Three Points, 79.59 50 P P 05 43 42.6 +0.2
baz=80,SNR=8.2
L05A Lakeview 79.60 37 P P 05 43 42.9 +0.6
baz=80,SNR=14
SHPR Sheep Range 79.61 44 *e*P P 05 43 42.7 +0.2
W13A Hualapai Mount 79.64 46 P P 05 43 42.9 +0.2
baz=80,SNR=11
P08A Dixie Valley 79.70 40 ⇑P P 05 43 43.2 +0.3
baz=80
Q09A Carvers 79.72 41 ⇑P P 05 43 43.1 +0.1
baz=80
116A Eloy 79.72 49 ⇑P P 05 43 43.0 -0.2
baz=80
MOD Modoc 79.80 37 *e*P P 05 43 43.5 +0.1
MOD Modoc 79.80 37 P P 05 43 43.6 +0.2
baz=80,SNR=9.1
N07B Gerlach 79.85 39 ⇓P P 05 43 43.5 -0.2
baz=80,SNR=16
I04A Tendick Farm, 79.89 35 ⇑P P 05 43 43.6 -0.2
baz=80
S11A Rachel 79.90 43 ⇑P P 05 43 44.1 0.0
baz=80
217A Green Valley 79.93 50 ⇑P P 05 43 44.1 -0.2
baz=80,SNR=18
R10A Warm Springs 79.94 42 ⇑P P 05 43 44.6 +0.4
baz=80,SNR=11
X14A Yava 79.95 47 P P 05 43 44.6 +0.2
baz=80,SNR=9.0
U12A Valley of Fire 79.97 45 ⇓P P 05 43 44.8 +0.4
baz=80
T11A Corn Creek, Al 80.00 44 P P 05 43 45.0 +0.4
baz=80,SNR=25
V13A Grand Canyon W 80.00 45 P P 05 43 44.6 0.0
baz=80,SNR=11
K05A Summer Lake 80.01 37 P P 05 43 45.1 +0.7
baz=80,SNR=18
H03A Soap Creek Ran 80.03 34 ⇓P P 05 43 44.7 +0.2
baz=80
T12A Moapa 80.03 44 ⇑P P 05 43 44.7 0.0
baz=80
Y15A Casa Rosa Ranc 80.05 48 P P 05 43 45.1 +0.2
baz=80,SNR=24
M07A Soldier Meadow 80.12 38 P P 05 43 45.4 +0.3
baz=80,SNR=10
KSRS Korea Array 80.15 317 P P 05 43 46.8 +1.4
comp=Z,11nm,1.0s,mb4.8,baz=137,slow=5.9,SNR=28
KSRS LR LR 06 11 50.8
comp=Z,76nm,21.7s,MS4.0,baz=8.0,slow=30
P09A Austin 80.19 41 ⇓P P 05 43 45.7 +0.2
baz=80,SNR=9.1
J05A Fort Rock 80.19 36 P P 05 43 46.0 +0.5
baz=80,SNR=17
Q10A Clear Creek Ra 80.20 42 ⇓P P 05 43 45.9 +0.3
baz=80,SNR=11
TUC Tucson 80.24 50 *e*P P 05 43 46.1 +0.1
W14A Seligman 80.24 46 P P 05 43 46.5 +0.6
baz=80,SNR=20
U13A Pakoon Wash 80.34 45 ⇓P P 05 43 46.7 +0.3
baz=81,SNR=22
Z16A Peralta Trail, 80.34 49 ⇑P P 05 43 46.3 -0.2
baz=80
318A Bisbee 80.35 51 P P 05 43 46.6 0.0
baz=80,SNR=13
N08A GE Springer Mi 80.35 39 ⇓P P 05 43 46.4 0.0
baz=81
117A Oracle 80.41 50 P P 05 43 47.3 +0.4
baz=81,SNR=16
X15A Humboldt 80.41 47 P P 05 43 47.0 +0.2
baz=81,SNR=15
K06A Valley Falls 80.42 37 ⇑P P 05 43 46.8 +0.1
baz=81,SNR=12
R11A Troy Canyon, C 80.42 43 P P 05 43 46.8 0.0
baz=81,SNR=11
L07A Adell 80.43 38 ⇑P P 05 43 47.0 +0.2
baz=81,SNR=14
S12A Delamar Landin 80.46 44 ⇑P P 05 43 47.3 +0.3
baz=81,SNR=6.3
V14A Boquillas Ranc 80.46 46 P P 05 43 47.4 +0.3
baz=81,SNR=11
G03A Yamhill 80.47 33 ⇓P P 05 43 47.9 +1.0
baz=81
O09A Fish Creek Ran 80.53 40 P P 05 43 47.5 +0.2
baz=81,SNR=11
218A Dragoon 80.59 50 ⇑P P 05 43 47.9 0.0
baz=81,SNR=12
Y16A Circle Bar Ran 80.60 48 ⇑P P 05 43 48.1 +0.2
baz=81,SNR=17
H04A Detroit Lake 80.61 34 ⇑P P 05 43 47.5 -0.2
baz=81
M08A Happy Creek Ra 80.62 39 ⇑P P 05 43 47.9 +0.1
baz=81
P10A Eureka 80.64 41 ⇑P P 05 43 47.9 0.0
baz=81,SNR=6.2
Q11A Duckwater 80.68 42 P P 05 43 48.2 +0.1
baz=81,SNR=9.7
T13A Saint George 80.72 44 P P 05 43 49.0 +0.5
baz=81,SNR=6.8
I05A Bend 80.75 35 ⇓P P 05 43 48.6 +0.2
baz=81
N09A Rock Creek Ran 80.75 40 P P 05 43 48.9 +0.3
baz=81,SNR=10.0
J06A Christmas Vall 80.77 37 P P 05 43 48.3 -0.2
baz=81,SNR=14
W15A Williams 80.78 47 ⇑P P 05 43 49.2 +0.4
baz=81
G04A Mulino 80.81 34 ⇓P P 05 43 49.4 +0.7
baz=81
319A Douglas 80.83 51 ⇓P P 05 43 49.2 +0.1
baz=81,SNR=10.0
U14A Mt Trumbull 80.86 45 P P 05 43 49.9 +0.7
baz=81,SNR=16
K07A Rock Creek Ran 80.91 37 P P 05 43 49.6 +0.3
baz=81,SNR=16
X16A Lo Mia Camp, P 80.92 48 P P 05 43 50.2 +0.6
baz=81,SNR=12
Y17A Roosevelt 80.94 49 P P 05 43 50.0 +0.3
baz=81,SNR=9.8
Z17A San Carlos Hig 80.99 49 ⇑P P 05 43 49.9 -0.1
baz=81
118A Homack Ranch, 81.00 50 P P 05 43 50.3 +0.3
baz=81,SNR=14
O10A Cortez Mining, 81.03 41 ⇑P P 05 43 50.1 +0.1
baz=81
R12A Pony Springs, 81.03 43 P P 05 43 50.4 +0.3
baz=81,SNR=16
P11A Circle Ranch, 81.04 42 ⇑P P 05 43 50.0 -0.1
baz=81
S13A Holt Ranch, En 81.08 44 ⇑P P 05 43 50.7 +0.4
baz=81,SNR=13
WVOR Wild Horse Val 81.09 38 *e*P P 05 43 50.3 0.0
WVOR pmax pmax
comp=Z,30nm,1.3s,mb5.1
WVOR Wild Horse Val 81.09 38 *e*P P 05 43 50.3 0.0
comp=Z,30nm,1.3s,mb5.1
H05A Madras 81.10 35 ⇓P P 05 43 50.4 +0.2
baz=81
L08A Fields 81.11 38 ⇑P P 05 43 49.9 -0.4
baz=81
M09A Marrel Ranch, 81.15 39 ⇑P P 05 43 50.9 +0.3
baz=81,SNR=6.1
219A White Tail Can 81.17 51 P P 05 43 51.1 +0.2
baz=81,SNR=9.6
E03A Lebam 81.17 32 ⇑P P 05 43 50.9 +0.2
baz=81
I06A Prineville 81.18 36 ⇓P P 05 43 50.7 0.0
baz=81,SNR=12
Z18A Geronimo 81.19 50 ⇓P P 05 43 50.8 -0.2
baz=81
V15A Kaibab Nationa 81.19 46 ⇑P P 05 43 50.9 -0.1
baz=81,SNR=13
N10A Dunphy 81.28 40 ⇑P P 05 43 51.4 +0.1
baz=82
T14A Hurricane 81.29 45 P P 05 43 52.0 +0.5
baz=82,SNR=7.9
Q12A Willow Creek R 81.31 42 ⇑P P 05 43 51.3 -0.2
baz=82,SNR=7.8
J07A Hines 81.31 37 ⇓P P 05 43 51.3 -0.1
baz=82,SNR=14
F04A Amboy 81.33 33 ⇓P P 05 43 51.2 -0.3
baz=82
K08A Mann Creek Ran 81.37 38 P P 05 43 52.0 +0.2
baz=82,SNR=14
CCUT Cedar City 81.38 44 *e*P P 05 43 52.3 +0.3
CCUT *e*pP pP 05 44 04.5 +2.4
L09A Wilkinson Ranc 81.39 39 ⇓P P 05 43 51.7 -0.2
baz=82
O11A Cowboy Ranch, 81.44 41 P P 05 43 52.5 +0.3
baz=82,SNR=12
ARUT Antelope Range 81.47 44 *e*P P 05 43 52.8 +0.4
ARUT *e**PP pP 05 44 04.8 +2.2
P12A McGill 81.52 42 ⇓P P 05 43 52.7 0.0
baz=82
119A Ashpeak Ranch, 81.54 50 ⇑P P 05 43 52.8 -0.1
baz=82,SNR=6.9
Y18A Canyon Day Jun 81.56 49 P P 05 43 53.6 +0.7
baz=82,SNR=18
WUAZ Wupatki 81.57 47 *e*P P 05 43 53.1 +0.1
WUAZ *e*pP pP 05 44 05.4 +2.2
WUAZ Wupatki 81.57 47 P P 05 43 53.5 +0.5
baz=82,SNR=7.9
NLWA Neilton Lookou 81.61 32 ⇑P P 05 43 53.5 +0.6
baz=82
S14A Cedar City 81.63 44 ⇓P P 05 43 53.6 +0.3
baz=82
H06A Lindquist Farm 81.63 35 P P 05 43 53.0 -0.1
baz=82,SNR=19

I07A	Izee	81.66	36	P	P	05 43 53.5	+0.3
	baz=82,SNR=13						
T15A	Red Dirt Ranch	81.73	45	P	P	05 43 54.4	+0.6
	baz=82,SNR=16						
M10A	I.L. Ranch, Tu	81.75	40	⇓P	P	05 43 53.9	+0.1
	baz=82						
Q13A	Wheeler Ranch,	81.77	43	⇓P	P	05 43 53.7	-0.2
	baz=82,SNR=7.5						
J08A	Circle Bar Ran	81.77	37	⇓P	P	05 43 53.8	0.0
	baz=82						
K09A	Rome	81.79	38	⇑P	P	05 43 53.9	-0.1
	baz=82,SNR=17						
F05A	White Salmon	81.80	34	⇑P	P	05 43 54.9	+0.9
	baz=82						
G06A	Carlson Farm,	81.80	35	⇓P	P	05 43 54.4	+0.4
	baz=82						
N11A	Elko Archery C	81.81	41	⇑P	P	05 43 54.2	+0.1
	baz=82						
Z19A	T-Link Ranch,	81.84	50	⇓P	P	05 43 54.1	-0.4
	baz=82						
D04A	Dobbs Creek Ra	81.94	32	⇑P	P	05 43 55.1	+0.5
	baz=82						
H07A	Lands Inn, Kim	81.96	36	⇑P	P	05 43 54.3	-0.5
	baz=82						
X18A	Snowflake	82.02	48	⇑P	P	05 43 55.7	+0.3
	baz=82						
R14A	James Farms, M	82.03	44	⇑P	P	05 43 55.7	+0.3
	baz=82						
P13A	Bates Ranch, G	82.06	42	P	P	05 43 55.6	+0.1
	baz=82,SNR=7.8						
I08A	Drewsey	82.07	37	⇓P	P	05 43 55.4	0.0
	baz=82						
F06A	Goldendale	82.07	34	⇑P	P	05 43 55.4	0.0
	baz=82						
E05A	Randle	82.09	33	P	P	05 43 55.3	-0.1
	baz=82,SNR=8.2						
L10A	Juniper Basin	82.13	39	P	P	05 43 55.8	0.0
	baz=82,SNR=11						
M11A	Holland Ranch,	82.14	40	P	P	05 43 56.6	+0.8
	baz=82,SNR=7.5						
J09A	Fry Pan Ranch,	82.17	38	P	P	05 43 55.9	-0.1
	baz=82,SNR=14						
Y19A	Nutrioso	82.20	49	P	P	05 43 57.1	+0.8
	baz=82,SNR=18						
GNW	Green Mountain	82.24	32	eP	P	05 43 56.4	+0.2
B04A	Port Angeles	82.25	31	⇑P	P	05 43 55.9	-0.4
	baz=82						
N12A	Clover Valley,	82.25	41	⇑P	P	05 43 56.6	+0.2
	baz=82,SNR=8.0						
MAW	Mawson	82.27	199	eP	P	05 43 57.4	+1.2
	comp=Z,10.0nm,0.7s,mb4.8						
MAW	Mawson	82.27	199	P	P	05 43 57.7	+1.5
MAW				pmax	pmax		
	comp=Z,20nm,1.0s						
MAW	Mawson	82.27	199	P	P	05 43 57.7	+1.5
	comp=Z,20nm,1.0s,mb5.0,baz=135,slow=5.8,SNR=15						
C04A	Brinnon	82.27	32	⇓P	P	05 43 56.5	+0.1
	baz=82						
T16A	Glen Canyon Da	82.29	46	⇓P	P	05 43 56.8	0.0
	baz=82,SNR=6.6						
K10A	MacKenzie Ranc	82.33	38	P	P	05 43 56.8	-0.1
	baz=83,SNR=11						
G07A	Ruggs Ranch, H	82.34	35	⇑P	P	05 43 56.8	0.0
	baz=83						
H08A	Prairie City	82.40	36	P	P	05 43 57.3	+0.2
	baz=83,SNR=5.9						
X19A	St. Johns	82.42	49	⇓P	P	05 43 57.5	0.0
	baz=83,SNR=10						
O13A	Hicks Ranch, I	82.48	42	⇓P	P	05 43 57.7	0.0
	baz=83						
E06A	Yakima	82.48	34	P	P	05 43 57.9	+0.3
	baz=83,SNR=8.5						
I09A	Lost Marbles R	82.57	37	⇑P	P	05 43 57.5	-0.6
	baz=83						
F07A	Phinny Hill Vi	82.61	35	⇓P	P	05 43 58.2	0.0
	baz=83						
L11A	Cat Creek Ranc	82.61	39	P	P	05 43 58.4	+0.1
	baz=83,SNR=12						
M12A	Wells	82.66	40	P	P	05 43 58.4	-0.2
	baz=83,SNR=9.2						
MSU	Marysvale	82.70	44	eP	P	05 43 59.3	+0.5
G08A	Pilot Rock	82.74	35	P	P	05 43 59.0	+0.1
	baz=83,SNR=20						
N13A	Wendover, West	82.77	41	⇑P	P	05 43 59.0	-0.1
	baz=83						
J10A	Berg Farm, Mel	82.79	38	⇓P	P	05 43 58.8	-0.3
	baz=83						
K11A	Parker Ranch,	82.81	39	P	P	05 43 59.5	+0.2
	baz=83,SNR=9.4						
C05A	Tolt Reservoir	82.89	32	P	P	05 43 59.5	-0.1
	baz=83,SNR=9.1						
D06A	Cle Elum	82.98	33	⇓P	P	05 44 00.2	0.0
	baz=83						
L12A	House Creek Ra	83.04	40	P	P	05 44 00.7	+0.2
	baz=83,SNR=9.2						
H09A	Durkee	83.05	37	⇓P	P	05 44 00.2	-0.3
	baz=83						
B05A	Bryant	83.08	32	P	P	05 44 00.1	-0.4
	baz=83,SNR=7.0						
E07A	Sunnyside	83.08	34	⇓P	P	05 44 00.6	0.0
	baz=83						
M13A	Montello	83.08	41	P	P	05 44 00.9	+0.1
	baz=83,SNR=16						
A04A	Legoe Bay, Lum	83.09	31	⇓P	P	05 44 00.6	0.0
	baz=83						
HAWA	Hanford	83.14	34	eP	P	05 44 01.2	+0.3
F08A	Pendleton	83.16	35	⇑P	P	05 44 00.2	-0.9
	baz=83						
I10A	Payette	83.17	37	⇓P	P	05 44 01.1	-0.1
	baz=83,SNR=6.4						
DUG	Dugway	83.25	42	eP	P	05 44 01.7	+0.1
DUG	Dugway	83.25	42	⇓P	P	05 44 01.3	-0.4
	baz=84						
MFID	Camas Ranch	83.32	38	P	P	05 44 01.8	-0.1
	baz=84,SNR=12						
BMO	Blue Mountains	83.37	37	eP	P	05 44 01.7	-0.4
	comp=Z,37nm,1.6s,mb5.2						
N14A	Grayback Hills	83.39	42	⇓P	P	05 44 02.0	-0.4
	baz=84						
K12A	Draper Farm, C	83.40	39	P	P	05 44 02.4	0.0
	baz=84,SNR=7.4						
D07A	Quincy	83.43	34	⇓P	P	05 44 02.3	-0.1
	baz=84						
E08A	Dider Farm, El	83.45	35	⇓P	P	05 44 02.3	-0.3
	baz=84						
MDJ	Mudanjiang	83.48	323	P	P	05 44 03.3	+0.6
MDJ				AP	pP	05 44 16.2	+3.2
MDJ				XP	sP	05 44 21.0	+4.3
MDJ				PP	PP	05 47 15.5	0.0
MDJ				S	S	05 54 23.0	+1.0
MDJ				SCS	ScS	05 54 35.3	0.0
MDJ				XS	sS	05 54 44.0	+5.0
MDJ				SS	SS	05 59 51.0	+2.2
MDJ				AMB	AMB		
	comp=Z,18nm,1.1s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,107nm,4.9s						
MDJ				LR	LR		
	comp=N,53nm,26.5s						
MDJ				LR	LR		
	comp=E,140nm,32.4s						
MDJ				LR	LR		
	comp=Z,151nm,29.4s,MS4.2						
NJ2	Nanjing	83.50	308	eP	P	05 44 02.9	-0.2
NJ2				AP	pP	05 44 15.4	+2.0
NJ2				XP	sP	05 44 21.1	+4.0
NJ2				PP	PP	05 47 13.0	-3.0
NJ2				PPP		05 49 09.0	
NJ2				S	S	05 54 14.0	-8.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,230nm,7.2s						
NJ2				LR	LR		
	comp=N,2μm,25.9s,MS5.3						
NJ2				LR	LR		
	comp=E,520nm,22.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,600nm,24.8s,MS4.9						
H10A	Noah's Angus R	83.52	37	P	P	05 44 02.3	-0.6
	baz=84,SNR=22						
BGU	Big Grassy Mou	83.53	42	eP	P	05 44 03.0	-0.1
B06A	Marblemount	83.55	32	⇓P	P	05 44 02.2	-0.8
	baz=84						
I11A	Placerville	83.55	38	P	P	05 44 02.9	-0.2
	baz=84,SNR=11						
F09A	S2 Ranch, Elgi	83.57	36	⇓P	P	05 44 02.8	-0.4
	baz=84						
A05A	Maple Falls	83.58	31	⇑P	P	05 44 02.8	-0.3
	baz=84						
L13A	Double Diamond	83.65	40	⇓P	P	05 44 03.6	-0.1
	baz=84,SNR=6.5						
J12A	Stokes Ranch,	83.65	39	P	P	05 44 03.8	+0.1
	baz=84,SNR=18						
M14A	Sheep Mountain	83.67	41	P	P	05 44 03.7	-0.1
	baz=84,SNR=16						
C07A	Waterville	83.71	33	P	P	05 44 03.5	-0.3
	baz=84,SNR=5.4						
G10A	Bishop Farm, J	83.74	36	P	P	05 44 03.6	-0.5
	baz=84,SNR=13						
N15A	Stansbury Isla	83.83	42	⇑P	P	05 44 04.3	-0.3
	baz=84,SNR=7.8						
MNTX	Cornudas Mount	83.86	53	eP	P	05 44 04.6	-0.4
	comp=Z,18nm,1.3s,mb5.0						
K13A	Stover Farm, H	83.89	40	P	P	05 44 05.2	+0.3
	baz=84,SNR=8.6						
D08A	Wollman Farm,	83.89	34	P	P	05 44 04.8	0.0
	baz=84,SNR=7.3						
MPU	Maple Canyon	83.89	43	eP	P	05 44 04.8	-0.1
Y22C	IRIS PASSCAL I	83.92	50	⇓P	P	05 44 05.7	+0.4
	baz=84						
LENM	Lemitar	83.93	50	eP	P	05 44 04.9	-0.4
LAZ	Ladron	83.93	50	eP	P	05 44 06.0	+0.7
LAZ				epP	pP	05 44 18.2	+2.6
A06A	Chilliwack	83.94	31	⇑P	P	05 44 04.7	-0.3
	baz=84						
E09A	Wood Farm, Sta	83.95	35	⇑P	P	05 44 04.6	-0.5
	baz=84						
H11A	Donnelly	84.00	37	P	P	05 44 05.0	-0.4
	baz=84,SNR=20						
TXAR	Lajitas Array	84.03	56	P	P	05 44 05.5	-0.4
	comp=Z,4.5nm,0.9s,mb4.6,baz=216,slow=6.2,SNR=29						
TXAR				LR	LR	06 14 02.7	
	comp=Z,143nm,19.0s,MS4.4,baz=185,slow=30						
F10A	Beach Ranch, E	84.11	36	P	P	05 44 05.3	-0.6
	baz=84,SNR=16						
SPUT	South Promonto	84.11	42	eP	P	05 44 05.9	-0.1
BNM	Barren Site	84.17	50	eP	P	05 44 06.9	+0.4
BNM				epP	pP	05 44 19.2	+2.4
HVU	Hansel Valley	84.18	41	eP	P	05 44 06.5	+0.1
HVU				pmax	pmax		
	comp=Z,23nm,1.4s,mb5.1						
HVU	Hansel Valley	84.18	41	eP	P	05 44 06.5	+0.2
	comp=Z,23nm,1.4s,mb5.1						
B07A	Winthrop	84.19	33	⇓P	P	05 44 05.5	-0.7
	baz=84,SNR=8.9						
CTU	Camp Tracy	84.20	42	eP	P	05 44 06.5	0.0
M15A	Larsen Ranch,	84.20	41	P	P	05 44 06.3	-0.2
	baz=84,SNR=12						
D09A	Jones Farm, Ri	84.22	34	P	P	05 44 06.2	-0.2
	baz=84,SNR=8.8						
HLID	Hailey	84.23	39	P	P	05 44 06.8	+0.2
	baz=84,SNR=16						
LPM	Los Pinos Moun	84.25	50	eP	P	05 44 07.2	+0.2
LPM				epP	pP	05 44 19.9	+2.7
J13A	Cove Ranch, Pi	84.28	39	P	P	05 44 07.1	+0.2
	baz=84,SNR=26						
G11A	Walters Elk Ra	84.28	37	P	P	05 44 06.4	-0.4
	baz=84,SNR=19						
C08A	Higginbotham F	84.30	34	⇑P	P	05 44 06.6	-0.2
	baz=84						
JLU	Jordanelle	84.34	43	eP	P	05 44 07.5	+0.3
DAU	Daniels Canyon	84.35	43	eP	P	05 44 08.0	+0.7
K14A	Jones Ranch, D	84.38	40	P	P	05 44 07.1	-0.3
	baz=85,SNR=10						
MVCO	Mesa Verde	84.44	47	⇓P	P	05 44 07.3	-0.4
	baz=85						
A07A	Ashnola River,	84.44	32	P	P	05 44 07.5	0.0
	baz=85,SNR=7.5						
E10A	Myers Farm, Un	84.49	35	⇓P	P	05 44 07.2	-0.7
	baz=85,SNR=6.5						
B08A	Colville Reser	84.52	33	⇑P	P	05 44 07.2	-0.7
	baz=85						
H12A	Diamond D Ranc	84.56	38	⇑P	P	05 44 08.0	-0.3
	baz=85,SNR=14						
I13A	Wildhorse Cree	84.62	39	⇑P	P	05 44 08.1	-0.4
	baz=85,SNR=6.5						
F11A	Grangeville	84.64	36	⇓P	P	05 44 07.5	-1.1
	baz=85						
PV10	Paradox Valley	84.69	45	eP	P	05 44 09.1	0.0
PV10				epP	pP	05 44 21.9	+2.6
ANMO	Albuquerque	84.69	49	eP	P	05 44 09.2	+0.1
ANMO				pmax	pmax		
	comp=Z,25nm,1.1s						
ANMO	Albuquerque	84.69	49	eP	P	05 44 09.2	0.0
	comp=Z,25nm,1.1s,mb5.2						
GAMB	Gambell	84.70	1	eP	P	05 44 09.2	+0.7
	comp=Z,32nm,1.0s,mb5.4						
C09A	Chrisman Ranch	84.70	34	⇓P	P	05 44 08.7	-0.1
	baz=85						
D10A	Wagner Farm, O	84.76	35	⇓P	P	05 44 08.2	-0.9
	baz=85						
PMR	Palmer	84.81	11	eP	P	05 44 08.3	-0.8
HWUT	Hardware Ranch	84.83	42	eP	P	05 44 11.9	+2.2
GDL2	Guadalupe Moun	84.86	53	eP	P	05 44 10.4	+0.3
GDL2				epP	pP	05 44 22.6	+2.3
PV01	Paradox Valley	84.87	46	eP	P	05 44 09.9	0.0
PV01				epP	pP	05 44 22.4	+2.1
E11A	Bogner Ranch,	84.90	36	⇓P	P	05 44 08.6	-1.3
	baz=85						
H13A	Challis	84.92	38	P	P	05 44 10.1	0.0
	baz=85,SNR=12						
A08A	Turner Farm, O	84.94	33	P	P	05 44 09.9	-0.1
	baz=85,SNR=9.9						
TTA	Tatalina	84.98	8	eP	P	05 44 10.4	+0.5
F12A	Elk City	85.06	37	P	P	05 44 10.3	-0.4
	baz=85,SNR=24						
B09A	Rice	85.17	33	⇓P	P	05 44 10.7	-0.5
	baz=85						
G13A	Cobalt	85.25	38	P	P	05 44 11.7	0.0
	baz=86,SNR=7.1						
KLR	Kul'dur	85.25	328	eP	P	05 44 07.8	-3.8
D11A	Klaveano Farm,	85.26	35	⇓P	P	05 44 11.0	-0.7
	baz=86						
CN2	Changchun	85.38	321	⇑P	P	05 44 13.8	+1.4
CN2				eXP	sP	05 44 27.5	+1.1
CN2				eS	S	05 54 41.6	+0.6
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,600nm,17.0s,MS5.2						
CN2				LR	LR		
	comp=E,700nm,17.0s,MS5.2						
CN2				LR	LR		
	comp=Z,900nm,18.0s,MS5.2						
F13A	Darby	85.60	37	⇑P	P	05 44 12.9	-0.5
	baz=86						
D12A	Red Ives Fores	85.79	36	⇑P	P	05 44 13.1	-1.2
	baz=86						
PLCA	Paso Flores	85.81	132	LR	LR	06 13 15.7	
	comp=Z,141nm,20.0s,MS4.4,baz=194,slow=29						
E13A	Victor	86.07	37	⇓P	P	05 44 14.5	-1.3
	baz=86						
B11A	Sandpoint	86.10	34	⇑P	P	05 44 15.7	-0.1
	baz=86						
WHN	Wuhan	86.17	305	eP	P	05 44 16.0	-0.6
REDW	Red Top Meadow	86.24	41	eP	P	05 44 19.0	+2.4
	comp=Z,24nm,1.6s,mb5.2						
TPAW	Teton Pass	86.25	40	eP	P	05 44 18.6	+1.8
	comp=Z,50nm,2.4s,mb5.3						
SKAG	Skagway	86.27	18	eP	P	05 44 17.3	+0.9
	comp=Z,20nm,1.4s,mb5.2						
SKAG				LR	LR		
	comp=Z,100nm,17.0s,MS4.3						
G15A	Dillon	86.29	38	⇓P	P	05 44 15.5	-1.3
	baz=86						
D13A	Huson	86.31	36	⇓P	P	05 44 16.3	-0.6
	baz=86						
DLMT	Dillon	86.34	38	eP	P	05 44 19.2	+2.2
	comp=Z,52nm,2.5s,mb5.3						
SNOW	Snow King Moun	86.36	40	eP	P	05 44 17.4	+0.2
A11A	Hall Mountain,	86.42	34	⇓P	P	05 44 16.2	-1.2
	baz=87						
E14A	Clinton	86.44	37	⇓P	P	05 44 16.3	-1.3
	baz=87						
SMCO	Snowmass	86.48	46	eP	P	05 44 18.6	+0.7
IMW	Indian Meadow	86.49	40	eP	P	05 44 17.1	-0.7
MOOW	Moose Ponds	86.52	40	eP	P	05 44 19.9	+1.8
	comp=Z,29nm,2.2s,mb5.1						
LOHW	Long Hollow	86.53	40	eP	P	05 44 18.0	0.0
	comp=Z,35nm,2.5s,mb5.2						
TNA	Tin City	86.58	2	eP	P	05 44 18.3	+0.5
	comp=Z,16nm,1.0s,mb5.2						
C13A	Hot Springs	86.59	35	⇑P	P	05 44 17.9	-0.4
	baz=87						
BW06	Boulder Array	86.71	42	eP	P	05 44 18.4	-0.6
FLWY	Flagg Ranch	86.73	40	eP	P	05 44 20.9	+1.9
	comp=Z,17nm,1.4s,mb5.1						
MCK	McKinley	86.82	11	eP	P	05 44 18.5	-0.5
D14A	Greenough	86.83	36	⇓P	P	05 44 18.3	-1.2
	baz=87						
CHMT	Chamberlain Mo	86.87	37	eP	P	05 44 19.2	-0.4
SYO	Syowa Base	86.91	191⇑	eP	P	05 44 18.0	-1.6
SYO	Syowa Base	86.91	191⇑	ePcP	PcP	05 44 21.0	-0.9
E15A	Deer Lodge	86.93	37	⇓P	P	05 44 19.0	-0.9
	baz=87						
BOZ	Bozeman (W)	87.06	38	eP	P	05 44 20.6	0.0
BOZ	Bozeman (W)	87.06	38	⇑P	P	05 44 19.5	-1.1
	baz=87						
B13A	Whitefish	87.07	35	⇓P	P	05 44 19.7	-0.9
	baz=87						
C14A	Swan Lake	87.10	36	⇓P	P	05 44 20.2	-0.5
	baz=87						
DLBC	Dease Lake	87.14	21	eP	P	05 44 19.6	-1.0
VNA3	Neumayer Olymp	87.14	175	eP	P	05 44 20.2	-0.5
VNA3				e		05 44 24.4	
VNA3				e	pP	05 44 29.7	-1.3
VNA3				e		05 44 34.7	
SNAA	Sanae	87.17	177	eP	P	05 44 19.7	-1.1
SNAA				e		05 44 23.7	
SNAA				e	pP	05 44 28.9	-2.3
SNAA				e		05 44 35.5	
SNAA	Sanae	87.17	177⇑	eP	P	05 44 20.0	-0.8
D15A	Lincoln	87.35	37	⇑P	P	05 44 21.7	-0.3
	baz=88						
A13A	Flathead Natio	87.43	35	⇓P	P	05 44 21.2	-1.1
	baz=88						
JCT	Junction City	87.53	56	eP	P	05 44 22.3	-1.0
RWWY	Rawlins	87.62	43	eP	P	05 44 23.3	-0.1
	comp=Z,22nm,1.2s,mb5.3						
VNA2	Neumayer--Watz	87.63	176	eP	P	05 44 22.5	-0.6
VNA2				e		05 44 26.9	
VNA2				e	pP	05 44 31.8	-1.6
VNA2				e		05 44 37.5	
VNA1	Neumayer--Stat	87.83	175	eP	P	05 44 24.2	+0.1
VNA1				e		05 44 28.1	
VNA1				e	pP	05 44 34.0	-0.4
VNA1				e		05 44 39.0	
SEY	Seymchan	88.03	345	i P	P	05 44 24.0	-0.8
COLA	College	88.06	11	eP	P	05 44 24.2	-0.7
COLA				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.3						
COLA	College	88.06	11	eP	P	05 44 24.2	-0.8
	comp=Z,21nm,1.1s,mb5.3						
AMTX	Amarillo	88.10	51	eP	P	05 44 25.4	-0.4
IMA2	Indian Mountai	88.29	8	eP	P	05 44 26.4	+0.4
PSI	Prapat	88.62	274	P	P	05 44 28.8	-0.1
	comp=Z,8.1nm,0.9s,mb5.1,baz=189,slow=5.6,SNR=13						
PSI				LR	LR	06 25 19.8	
	comp=Z,218nm,19.1s,MS4.6,baz=262,slow=36						
DAWY	Dawson	89.05	14	eP	P	05 44 30.0	+0.3
EGAK	Eagle	89.27	13	eP	P	05 44 30.6	0.0
BJI	Beijing	89.28	314	P	P	05 44 32.8	+1.5
BJI				PP	PP	05 48 02.4	-0.2
BJI				AMB	AMB		
	comp=Z,20nm,1.3s,mb5.3						
BJI				AMB	AMB		
	comp=Z,170nm,4.6s						
BJI				LR	LR		
	comp=N,114nm,5.0s						
BJI				LR	LR		
	comp=E,106nm,5.1s						
BJI				LR	LR		
	comp=Z,341nm,51.8s,MS4.4						
EGMT	Eagleton	89.45	37	⇓P	P	05 44 31.3	-0.6
	baz=90						
BILL	Bilibino	90.19	353⇑	i P	P	05 44 35.2	+0.3
BILL				pmax	pmax		
	comp=Z,13nm,1.6s,mb5.0						
EDM	Edmonton	90.51	31	eP	P	05 44 36.3	-0.4
GYA	Guiyang	90.56	298	P	P	05 44 37.2	-0.4
GYA				AP	pP	05 44 51.0	+3.0
GYA				XP	sP	05 44 55.8	+4.1
GYA				PP	PP	05 48 16.2	+3.2
GYA				SKS		05 55 04.6	
GYA				S	S	05 55 28.5	-2.7
GYA				PS	PS	05 56 44.3	+1.9
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=N,580nm,21.4s,MS5.1						
GYA				LR	LR		
	comp=E,480nm,23.2s,MS5.1						
GYA				LR	LR		
	comp=Z,540nm,24.0s,MS4.9						
LAO	LASA Array	90.79	39	eP	P	05 44 38.6	+0.5
	comp=Z,17nm,1.3s,mb5.2						
CFAA	Coronel Fontan	91.37	125	LR	LR	06 16 21.1	
	comp=Z,7.5nm,18.1s,MS3.2,baz=183,slow=29						
TGUH	Tegucigalpa,Un	91.67	76	eP	P	05 44 42.8	-0.2
XAN	Xi'an	91.82	306	P	P	05 44 44.9	+1.6
XAN				AP	pP	05 44 54.0	+0.3
XAN				XP	sP	05 45 00.8	+3.4
XAN				AMB	AMB		
	comp=Z,24nm,1.2s,mb5.4						
NNA	Nana	91.93	104	LR	LR	06 18 32.6	
	comp=Z,6.5nm,19.7s,MS3.1,baz=317,slow=31						
ATAH	Atahualpa	92.35	98	LR	LR	06 20 49.0	
	comp=Z,122nm,18.1s,MS4.4,baz=262,slow=32						
JTS	JuntasAbangare	92.44	80	i P	P	05 44 44.8	-1.8
HHC	Hu-ho-hao-te	92.79	313	eP	P	05 44 48.5	+0.9
HHC				AP	pP	05 45 02.2	+4.3
HHC				XP	sP	05 45 07.5	+5.9
HHC				SKS		05 55 17.3	
HHC				S	S	05 55 48.5	-2.1
HHC				XS	sS	05 56 10.3	+2.5
HHC				SS	SS	06 02 03.8	-1.0
HHC				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.5						
HHC				AMB	AMB		
	comp=Z,162nm,4.8s						
HHC				LR	LR		
	comp=N,590nm,18.8s,MS5.3						
HHC				LR	LR		
	comp=E,970nm,21.0s,MS5.3						
HHC				LR	LR		
	comp=Z,263nm,18.4s,MS4.7						
DGMT	Dagmar	92.87	39	eP	P	05 44 48.6	+0.8
KMI	Kunming	93.32	296	P	P	05 44 53.4	+3.0
KMI				AP	pP	05 45 03.6	+2.8
KMI				XP	sP	05 45 09.2	+4.7
KMI				LR	LR		
	comp=Z,166nm,23.4s,MS4.4						
INK	Inuvik	93.91	14	eP	P	05 44 51.5	-0.6
	comp=Z,137nm,0.8s,mb6.4						
INK				epP	pP	05 45 03.7	+1.2
INK	Inuvik	93.91	14	P	P	05 44 51.5	-0.7
	comp=Z,4.2nm,0.9s,mb4.8,baz=223,slow=3.4,SNR=19						
CHTO	Chiang Mai	94.33	288	eP	P	05 44 57.3	+2.1
CD2	Chengdu	94.62	301	eP	P	05 44 57.0	+0.7
CD2				AP	pP	05 45 09.5	+2.9
CD2				XP	sP	05 45 13.6	+3.3
CD2				SKS		05 55 29.0	
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.6						
CD2				AMB	AMB		
	comp=Z,40nm,6.8s						
CD2				LR	LR		
	comp=N,190nm,14.4s

LZH				XP	sP	05 45 22.6	+4.0
LZH				PP	PP	05 49 03.7	+4.7
LZH				SKS		05 55 39.2	
LZH				eS	S	05 56 20.0	-2.9
LZH				XS	sS	05 56 39.0	-1.1
LZH				SS	SS	06 02 58.0	+0.7
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.6						
LZH				AMB	AMB		
	comp=Z,140nm,4.4s						
LZH				LR	LR		
	comp=E,550nm,17.4s						
LZH				LR	LR		
	comp=Z,870nm,18.5s,MS5.3						
LPAZ	**La Paz**	**98.01 111**		LR	LR	06 18 43.7	
	comp=Z,77nm,19.3s,MS4.2,baz=65,slow=29						
ULM	**Lac du Bonnet**	**98.53**	**39**	LR	LR	06 26 16.4	
	comp=Z,90nm,18.1s,MS4.3,baz=205,slow=33						
ULN	**Ulaanbaatar**	**98.58 318**		*i* P	**P**	**05 45 13.6**	**-0.2**
WMQ	**Urumqi**	**110.48 310**		*e*PKP	PKiKP	05 50 08.0	+0.6
MKAR	**Makanchi Array**	**114.65 313**		PKP	PKiKP	05 50 14.4	-0.8
	comp=Z,1.5nm,0.7s,baz=70,slow=4.0,SNR=8.9						
KURK	**Kurchatov**	**117.28 317**		*i* PKIKP	PKPdf	05 50 19.6	-0.6
TKM2	**Tokmak 2**	**119.14 308**		*e*PKIKP	PKPdf	05 50 23.6	-0.4
TKM2				*e*		05 50 36.0	
UCH	**Uchtor**	**119.91 307**		*e*PKPdf	PKPdf	05 50 26.5	+0.9
AAK	**Ala-Archa**	**119.94 308**		⇑*i*PKIKP	PKPdf	05 50 24.3	-1.3
AML	**Almayashu**	**120.52 307**		*e*PKPdf	PKPdf	05 50 26.9	+0.2
BVAR	**Borovoye Array**	**122.23 320**		PKP	PKPdf	05 50 29.5	-0.2
	comp=Z,3.7nm,0.7s,baz=108,slow=2.5,SNR=17						
BOSA	**Boshof**	**127.24 201**		PKP	PKPdf	05 50 40.7	+0.5
	comp=Z,4.0nm,0.8s,baz=192,slow=3.4,SNR=6.5						
ARCES	**ARCESS Array B**	**130.28 351**		PKP	PKPdf	05 50 44.1	-0.4
	comp=Z,4.0nm,0.6s,baz=338,slow=2.5,SNR=16						
AKTK	**Aktyubinsk**	**130.28 319**		PKP	PKPdf	05 50 45.0	-0.1
AKTO	**Aktyubinsk**	**130.28 319**		PKP	PKPdf	05 50 45.0	-0.1
	comp=Z,1.7nm,0.8s,baz=50,slow=4.7,SNR=5.8						
FINES	**FINESS Array B**	**137.50 346**		PKP	PKPdf	05 50 59.5	+1.1
	comp=Z,1.5nm,0.7s,baz=116,slow=4.4,SNR=4.2						
LSZ	**Lusaka**	**137.91 212**		PKP	PKPdf	05 51 01.4	+0.9
	comp=Z,4.6nm,1.0s,baz=150,slow=3.0,SNR=5.9						
KMBO	**Kilima Mbogo**	**142.54 238**		PKhKP		05 51 06.0	
	comp=Z,4.5nm,1.0s,baz=71,slow=3.5,SNR=8.7						
BHD	**Baghdad**	**144.31 298**		*ex*	x	05 51 08.0	
MSL	**Mosul**	**144.70 303**		*ex*	x	05 51 11.0	
MUD	**Monsted U'grnd**	**144.72 357**		*i* PKIKP	PKPdf	05 51 10.2	-1.3
MUD				pmax	pmax		
	comp=Z,31nm,1.0s						
MUD	**Monsted U'grnd**	**144.72 357**		*i* P	PKPdf	05 51 10.2	-1.3
	comp=Z,31nm,1.0s						
SUW	**Suwalki**	**144.82 343**		*e*PKP	PKPdf	05 51 10.7	-1.0
SUW	**Suwalki**	**144.82 343**		*e*PKP	PKPdf	05 51 10.7	-1.0
ERZM	**Erzurum**	**144.85 310**		*i* P	PKPdf	05 51 13.5	+1.3
KOPT	**Kop Dagi**	**145.43 311**		*i* P	PKPdf	05 51 16.0	+2.8
AKASG	**Malin Array Be**	**145.51 334**		PKPbc	PKPbc	05 51 12.6	-0.5
	comp=Z,18nm,0.7s,baz=38,slow=3.6,SNR=91						
AKBB	**Malin Array Si**	**145.51 334**		*e*PKIKP	PKPdf	05 51 12.4	-0.6
BSD	**Bornholm Skovb**	**145.52 351**		*i* PKIKP	PKPdf	05 51 12.3	-0.6
BSD				pmax	pmax		
	comp=Z,36nm,0.9s						
BSD	**Bornholm Skovb**	**145.52 351**		*i* P	PKPdf	05 51 12.3	-0.6
	comp=Z,36nm,0.9s						
MARD	**Mardin**	**146.18 306**		*i* P	PKPbc	05 51 16.8	+1.2
ELZG	**Elazig**	**147.09 309**		*i* P	PKPbc	05 51 19.5	+1.3
BSEG	**Bad Segeberg**	**147.17 356**		*e*PKPbc	PKPbc	05 51 18.0	+0.1
MALT	**Malatya**	**147.57 309**		PKP2	PKPab	05 51 21.0	-0.7
MALT	**Malatya**	**147.57 309**		⇓*i*P	PKPbc	05 51 20.9	+1.3
LVV	**L'vov**	**148.19 338**		*e*PKP2	PKPbc	05 51 20.5	-0.3
GZT	**Gaziantep**	**148.56 308**		*i* P	PKPbc	05 51 23.2	+0.9
BOYT	**Boyabat**	**148.59 316**		*i* P	PKPbc	05 51 23.7	+1.5
KWP	**Kalwaria**	**148.79 339**		*e*PKP	PKPbc	05 51 22.7	+0.3
KWP	**Kalwaria**	**148.79 339**		*e*PKP	PKPbc	05 51 22.7	+0.3
KWP	**Kalwaria**	**148.79 339**		⇓*i*P	PKPbc	05 51 22.7	+0.3
IBBN	**Ibbenburen**	**148.92 358**		*e*PKPbc	PKPbc	05 51 22.7	+0.1
OJC	**Ojcow**	**149.15 343**		*e*PKPdf	PKPbc	05 51 23.4	+0.1
CLZ	**Clausthal**	**149.25 355**		*e*PKPbc	PKPbc	05 51 23.7	+0.2
CLZ				*ep*PKPbc	pPKPbc	05 51 36.0	+1.9
ANDN	**Andirin**	**149.37 309**		*i* P	PKPbc	05 51 25.5	+1.2
KSP	**Ksiaz**	**149.40 348**		*e*PKP	PKPbc	05 51 24.2	+0.3
KSP	**Ksiaz**	**149.40 348**		*i* PKP2	PKPbc	05 51 24.3	+0.4
KSP	**Ksiaz**	**149.40 348**		*e*PKPdf	PKPbc	05 51 24.3	+0.4
STHS	**Stebnicka Huta**	**149.45 341**		*e*PKP	PKPbc	05 51 24.7	+0.7
STHS				*e*		05 51 30.3	
CLL	**Collm**	**149.50 352**		⇓*i*PKP2	PKPbc	05 51 24.0	-0.1
CLL				pmax	pmax		
	comp=Z,41nm,1.4s						
CLL				pmax	pmax		
	comp=Z,33nm,1.2s						
CLL	**Collm**	**149.50 352**		⇓*i*PKP	PKPbc	05 51 24.0	-0.1
CLL				*i* PKP	PKiKP	05 51 26.4	+1.2
CLL				*i* pPKP	pPKPdf	05 51 36.2	+6.0
CLL	**Collm**	**149.50 352**		*e*PKPbc	PKPbc	05 51 24.1	0.0
CLL				*ep*PKPbc	pPKPbc	05 51 36.4	+1.7
CLL	**Collm**	**149.50 352**		⇓*i*PKPbc	PKPbc	05 51 24.0	-0.1
	comp=Z,41nm,1.4s						
CLL				*i* PKiKP	PKiKP	05 51 26.4	+1.2
	comp=Z,33nm,1.2s						
CLL				*i* pPKPbc	pPKPbc	05 51 36.2	+1.5
CLL				*es*PKPab		05 51 45.0	
KOLS	**Kolonicke sedl**	**149.54 339**		*e*PKP	PKPbc	05 51 25.1	+0.8
KOLS				*e*		05 51 32.8	
BURAR	**Bucovina Array**	**149.56 334**		⇓*i*P	PKPbc	05 51 25.2	+0.8
UPC	**Upice**	**149.77 348**		*e*PKPbc	PKPbc	05 51 25.1	+0.3
BRG	**Berggiesshubel**	**149.78 350**		*e*PKHKP		05 51 21.5	
BRG				*i*		05 51 27.4	
BRG				pmax	pmax		
	comp=Z,8.0nm,1.5s						
BRG				pmax	pmax		
	comp=Z,13nm,1.0s						
BRG				pmax	pmax		
	comp=Z,12nm,1.0s						
BRG				MLR	MLR		
	comp=N,122nm,14.6s,MS5.0						
BRG				MLR	MLR		
	comp=E,136nm,16.3s,MS5.0						
BRG				MLR	MLR		
	comp=Z,81nm,12.5s,MS4.7						
BRG	**Berggiesshubel**	**149.78 350**		*e*PKP	PKPdf	05 51 21.5	+1.4
BRG				*i*		05 51 25.0	
BRG				*i*		05 51 27.4	
BRG				LR	LR		
	comp=Z,80nm,12.5s,MS4.7						
BRG	**Berggiesshubel**	**149.78 350**		*e*PKPbc	PKPbc	05 51 25.1	+0.3
BRG	**Berggiesshubel**	**149.78 350**		*e*PKP	PKPdf	05 51 21.5	+1.4
	comp=Z,14nm,1.5s						
BRG				*i*		05 51 25.0	
	comp=Z,21nm,1.0s						
BRG				*i*		05 51 27.4	
	comp=Z,20nm,0.9s						
BRG							
	comp=N,204nm,14.6s						
BRG							
	comp=E,227nm,16.3s						
BRG							
	comp=Z,135nm,12.5s						
UZH	**Uzhgorod**	**149.79 339**		*i* PKP2	PKPbc	05 51 25.6	+0.7
FBE	**Freiberg**	**149.82 351**		*e*PKPbc	PKPbc	05 51 25.4	+0.5
CRVS	**Cervenica-Dubn**	**149.83 340**		*e*PKP2	PKPbc	05 51 25.7	+0.7
CRVS	**Cervenica-Dubn**	**149.83 340**		*e*PKP	PKPbc	05 51 25.6	+0.6
DPC	**Dobruska-Polom**	**149.86 347**		*e*PKPbc	PKPbc	05 51 25.8	+0.8
DPC				*e*PKPab	PKPab	05 51 31.2	+0.7
AVNT	**Avonos**	**149.91 312**		*i* P	PKPbc	05 51 26.0	+0.5
OKC	**Ostrava-Krasne**	**149.93 345**		*e*PKPbc	PKPbc	05 51 25.5	+0.3
PVCC	**Panska Ves**	**150.01 350**		*e*PKPbc	PKPbc	05 51 25.8	+0.4
MORC	**Moravsky Berou**	**150.13 345**		P	PKPbc	05 51 26.4	+0.7
MORC	**Moravsky Berou**	**150.13 345**		⇑*i*P	PKPbc	05 51 25.9	+0.2
VRI	**Vrincioaia**	**150.28 331**		⇓*i*P	PKPbc	05 51 26.5	+0.3
MOX	**Moxa**	**150.31 353**		*e*PKP	PKPbc	05 51 26.3	+0.2
	comp=Z,33nm,1.5s						
MOX	**Moxa**	**150.31 353**		*e*PKIKP	PKPbc	05 51 26.3	+0.2
MOX				pmax	pmax		
	comp=Z,33nm,1.5s						
MOX	**Moxa**	**150.31 353**		*e*PKPbc	PKPbc	05 51 26.1	0.0
WERD	**Werda**	**150.43 352**		*e*PKPbc	PKPbc	05 51 26.7	+0.3
WERD				*ep*PKPbc	pPKPbc	05 51 38.9	+1.9
TANN	**Tannenbergstha**	**150.44 352**		*e*PKPbc	PKPbc	05 51 26.7	+0.3
GUNZ	**Gunzen**	**150.51 352**		*e*PKPbc	PKPbc	05 51 27.1	+0.5
PRU	**Pruhonice**	**150.54 349**		*e*PKPbc	PKPbc	05 51 26.8	+0.1
WERN	**Wernitzgruen**	**150.58 352**		*e*PKPbc	PKPbc	05 51 27.0	+0.3
WERN				*e*PKPab	PKPab	05 51 34.4	+0.9
NKC	**Novy Kostel**	**150.62 352**		*e*PKPbc	PKPbc	05 51 27.4	+0.6
ANTO	**Ankara**	**150.77 315**		P	PKPbc	05 51 28.6	+1.1
ANTO	**Ankara**	**150.77 315**		⇓*i*P	PKPbc	05 51 28.1	+0.5
VRAC	**Vranov**	**150.78 346**		⇓*i*P	PKPbc	05 51 27.5	+0.2
MANZ	**Manzenberg**	**150.91 352**		*e*PKPbc	PKPbc	05 51 27.9	+0.4
MANZ				*ep*PKPbc	pPKPbc	05 51 40.1	+2.0
MLR	**Muntele Rosu**	**150.92 331**		⇓*i*P	PKPbc	05 51 28.1	+0.4
ISR	**Istrita**	**150.92 330**		⇑*i*P	PKPbc	05 51 28.5	+0.8
VYHS	**Vyhne**	**150.98 343**		*e*PKP	PKPbc	05 51 28.2	+0.4
TREC	**Trest**	**151.03 348**		*e*PKPbc	PKPbc	05 51 28.0	+0.2
ROTZ	**Rotzenmuhle**	**151.11 352**		*e*PKPbc	PKPbc	05 51 28.2	+0.2
DOU	**Dourbes**	**151.12 2**		PKPbc	PKPbc	05 51 28.1	+0.1
GIVF	**Givet**	**151.12 2**		*e*PKP1	PKPbc	05 51 27.7	-0.3
	comp=Z,56nm,1.0s						
BAIF	**Baives**	**151.14 3**		*e*PKP1	PKPbc	05 51 28.0	-0.1
	comp=Z,40nm,1.0s						
DRGR		**151.21 336**		PKIKP	PKPbc	05 51 29.1	+0.7
GRA1	**Grafenberg Arr**	**151.30 353**		*e*PKPbc	PKPbc	05 51 29.0	+0.5
GRF	**Grafenberg Arr**	**151.30 353**		*e*PKPbc	PKPbc	05 51 29.0	+0.5
VOIR		**151.36 332**		⇓*i*P	PKPbc	05 51 29.9	+1.2
MODS	**Modra-Piesok**	**151.50 345**		*e*PKP	PKPbc	05 51 29.7	+0.7
KHC	**Kasperske Hory**	**151.53 350**		*e*PKPbc	PKPbc	05 51 29.1	+0.1
KHC				*e*PKPab	PKPab	05 51 37.9	+0.4
WLF	**Walferdange**	**151.59 0**		PKPbc	PKPbc	05 51 29.8	+0.7
GEC2	**GERESS Array S**	**151.79 350**		*e*PKPbc	PKPbc	05 51 29.7	+0.1
GEC2				*e*PKPab	PKPab	05 51 39.4	+0.9
GERES	**GERESS Array B**	**151.79 350**		PKP	PKPdf	05 51 23.2	0.0
	comp=Z,0.2nm,0.3s,baz=204,slow=2.9,SNR=3.5						
GERES				PKPbc	PKPbc	05 51 29.9	+0.3
	comp=Z,3.9nm,0.7s,baz=48,slow=2.0,SNR=16						
FLN	**La Foliniere**	**151.95 10**		*e*PKP1	PKPbc	05 51 29.1	-0.9
	comp=Z,21nm,0.6s						
SGMF	**Saint Gilles**	**152.06 13**		*e*PKP1	PKPbc	05 51 29.2	-1.0
	comp=Z,69nm,1.2s						
LDF	**La Druitiere**	**152.16 9**		*e*PKP1	PKPbc	05 51 29.5	-1.0
	comp=Z,30nm,0.8s						
CONA	**Conrad Observa**	**152.25 346**		⇑*i*PKPdf	PKPdf	05 51 23.7	-0.3
	comp=Z,4.1nm,1.0s						
CONA				⇓*i*PKiKP	PKiKP	05 51 31.1	+0.1
	comp=Z,18nm,1.4s						
CONA				⇑*i*pPKPbc	pPKPbc	05 51 41.6	+0.3
	comp=Z,10nm,0.9s						
GRR	**Gorron**	**152.25 10**		*e*PKP1	PKPbc	05 51 29.9	-0.8
	comp=Z,27nm,0.6s						
BZS	**Buzias**	**152.61 336**		⇓*i*P	PKPbc	05 51 31.5	-0.1
MEZF	**Maizieres J'vi**	**152.73 2**		*e*PKP1	PKPbc	05 51 31.6	-0.1
	comp=Z,15nm,0.8s						
CDF	**Champ du Feu**	**152.83 359**		*e*PKP1	PKPbc	05 51 31.5	-0.5
	comp=Z,36nm,1.2s						
BFO	**Black Forest**	**152.88 357**		*e*PKIKP	PKPbc	05 51 31.5	-0.6
BFO				*e*		05 51 43.8	
BFO	**Black Forest**	**152.88 357**		*e*PKPab	PKPab	05 51 43.8	+0.7
EIL	**Elat**	**152.90 294**		PKPbc	PKPbc	05 51 33.5	+0.8
	comp=Z,6.3nm,1.1s,baz=302,slow=2.7,SNR=7.8						
PKSM	**Moragy**	**153.10 341**		⇓*i*P	PKPbc	05 51 32.5	-0.1
HAU	**Haudompre**	**153.25 0**		*e*PKP1	PKPbc	05 51 32.4	-0.5
	comp=Z,10.0nm,0.6s						
LOR	**Lormes**	**153.90 4**		*e*PKP1	PKPbc	05 51 33.9	-0.4
ABTA	**Abfaltersbach**	**154.02 350**		⇓*i*PKPdf	PKPdf	05 51 25.2	-1.3
	comp=Z,2.0nm,0.6s						
ABTA				⇑*i*PKPbc	PKPbc	05 51 34.2	-0.5
	comp=Z,5.1nm,0.7s						
ABTA				⇓*i*pPKPbc	pPKPbc	05 51 46.1	+0.9
	comp=Z,7.4nm,0.9s						
SSF	**Saint Saulge**	**154.09 4**		*e*PKP1	PKPbc	05 51 34.5	-0.2
	comp=Z,12nm,0.8s						
DAVOX	**Davos/Dischmat**	**154.31 354**		PKPbc	PKPbc	05 51 35.5	+0.3
	comp=Z,3.0nm,0.4s,baz=272,slow=4.8,SNR=4.7						
BGF	**Bois d'Agland**	**154.53 6**		*e*PKP1	PKPbc	05 51 35.2	-0.5
	comp=Z,7.0nm,0.5s						
JAVS	**Jaornik**	**154.56 347**		*e*PKPdf	PKPbc	05 51 35.7	-0.1
BOJS	**Bojanci**	**154.67 345**		*e*PKPdf	PKPbc	05 51 36.1	+0.1
ESDC	**Sonseca Array**	**159.56 23**		PKPab	PKPab	05 52 11.8	-0.2
	comp=Z,0.1nm,0.2s,baz=326,slow=6.2,SNR=4.5						

*IDC **08** 05:49:22.8±5.3,3640N×7121E,h177km±39km,mb3.2/4, mb1 3.3/9,mb1mx3.1/5,mbtmp3.1/9,Error ellipse: s-maj=47.4km s-min=26.6km az=39.0*
*ISCJB **08** 05:49:24.5±0.5,3656N±004×7127E±008,h202km±7km, mb3.1/4,Error ellipse: s-maj=10.7km s-min=6.4km az=20.5*
*NEIC **08** 05:49:25.4±0.6,3655N×7133E,h197km±6km,mb4.5/5, Error ellipse: s-maj=14.0km s-min=7.3km az=123.0.*
*NNC **08** 05:49:29.7±5.8,3697N×7091E,h175km±80km,mb2.9, mpv4.3,Error ellipse: s-maj=54.7km s-min=30.2km az=13.0*

ISC 08 05:49:25.4±0.5,3655N±004×7129E±008,h196km±6km, n34,σ0§90/40,mb3.1/4,3C-3D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.72**	**223**	*e*Pn	**Pn**	**05 50 12.3**	**+0.8**
KBL				*e*Sn	**Sn**	**05 50 47.2**	**-0.2**
DLH	**Dalhousie**	**5.56**	**135**	*e*P	**Sn**	**05 51 50.0**	**-1.1**
AML	**Almayashu**	**5.87**	**18**	*e*Pn	**Pn**	**05 50 51.2**	**+0.4**
	112nm,0.5s						
AML				*e*Sn	**Sn**	**05 51 55.5**	**-2.8**
AML	**Almayashu**	**5.87**	**18**	P	**Pn**	**05 50 51.3**	**+0.5**
	SNR=78						
UCH	**Uchtor**	**6.19**	**23**	*e*Pn	**Pn**	**05 50 55.4**	**+0.5**
	34nm,0.6s						
UCH				*e*Sn	**Sn**	**05 52 03.1**	**-2.7**
UCH	**Uchtor**	**6.19**	**23**	P	**Pn**	**05 50 55.8**	**+0.9**
	SNR=38						
KZA	**Kyzart**	**6.31**	**28**	P	**Pn**	**05 50 56.8**	**+0.3**
	SNR=17						
EKS2	**Erkin-Say**	**6.39**	**17**	*e*Pn	**Pn**	**05 50 57.9**	**+0.4**
	9.7nm,0.5s						
EKS2				*e*Sn	**Sn**	**05 52 11.3**	**+0.7**
EKS2	**Erkin-Say**	**6.39**	**17**	P	**Pn**	**05 50 58.2**	**+0.7**
	SNR=9.4						
AAK	**Ala-Archa**	**6.55**	**21**	P	**Pn**	**05 50 59.5**	**-0.2**
	0.4nm,0.6s						
AAK	**Ala-Archa**	**6.55**	**21**	P	**Pn**	**05 50 59.5**	**-0.2**
	5.3nm,0.3s,baz=183,slow=5.2,SNR=35						
AAK	**Ala-Archa**	**6.55**	**21**	P	**Pn**	**05 51 00.5**	**+0.9**
	SNR=16						
KK31	**Karatay Array**	**6.57**	**355**	⇑P	**Pn**	**05 50 58.9**	**-0.9**
	4.9nm,0.3s,baz=177,slow=12,SNR=123						
KK31				⇓S	**Sn**	**05 52 08.1**	**-6.5**
	24nm,0.6s,baz=187,slow=23						
KBK	**Karagaybulak**	**6.71**	**24**	P	**Pn**	**05 51 03.1**	**+1.3**
	SNR=12						
ULHL	**Ulahol**	**6.85**	**32**	P	**Pn**	**05 51 04.3**	**+0.8**
	SNR=6.8						
CHMS	**Chumysh**	**6.96**	**21**	P	**Pn**	**05 51 05.5**	**+0.6**
	SNR=6.7						
USP	**Ospenovka**	**7.14**	**19**	P	**Pn**	**05 51 08.0**	**+0.7**
	SNR=6.0						
TKM2	**Tokmak 2**	**7.17**	**26**	⇓P	**Pn**	**05 51 08.3**	**+0.7**
	28nm,0.8s						
TKM2				⇑S	**Sn**	**05 52 28.8**	**-0.1**
	3.1nm,0.6s						
TKM2	**Tokmak 2**	**7.17**	**26**	*e*Pn	**Pn**	**05 51 08.1**	**+0.4**
	24nm,0.6s						
TKM2	**Tokmak 2**	**7.17**	**26**	P	**Pn**	**05 51 08.6**	**+0.9**
	SNR=26						
MK31	**Makanchi Array**	**13.11**	**35**	Pn	**Pn**	**05 52 23.6**	**-0.6**
MKAR	**Makanchi Array**	**13.11**	**35**	P	**Pn**	**05 52 24.3**	**+0.1**
MKAR	**Makanchi Array**	**13.11**	**35**	P	**Pn**	**05 52 24.3**	**+0.1**
	0.1nm,0.3s,baz=214,slow=12,SNR=4.7						
AB31	**Akbulak array**	**15.15**	**330**	⇑P	**Pn**	**05 52 50.1**	**+0.7**
	0.5nm,0.5s,baz=145,slow=12,SNR=10.0						
BVAR	**Borovoye Array**	**16.48**	**358**	P	**Pn**	**05 53 04.9**	**-0.5**
	0.4nm,0.3s,baz=154,slow=14,SNR=4.5						
AKTK	**Aktyubinsk**	**16.85**	**330**	P	**Pn**	**05 53 08.7**	**-1.1**
AKTO	**Aktyubinsk**	**16.85**	**330**	⇓P	**Pn**	**05 53 07.4**	**-2.4**
	1.3nm,3.0s						
AKTO	**Aktyubinsk**	**16.85**	**330**	P	**Pn**	**05 53 08.7**	**-1.1**
	0.2nm,0.3s,baz=180,slow=10,SNR=4.1						
ZALV	**Zalesovo Beam**	**19.77**	**24**	P	**P**	**05 53 40.7**	**+0.4**
	0.4nm,0.3s,baz=220,slow=13,SNR=2.5						
NOA	**NORSAR Array B**	**44.48**	**323**	P	**P**	**05 57 16.5**	**-0.3**
	0.5nm,0.8s,mb2.9,baz=104,slow=7.4,SNR=3.1						
INK	**Inuvik**	**73.81**	**9**	P	**P**	**06 00 38.5**	**+0.7**
	0.5nm,0.5s,mb3.5,baz=350,slow=7.3,SNR=12						
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**06 01 18.8**	**+0.2**
YKA	**Yellowknife Ar**	**81.18**	**3**	P	**P**	**06 01 18.8**	**+0.2**
	0.3nm,0.4s,mb3.2,baz=351,slow=5.5,SNR=18						
WRA	**Warramunga Arr**	**81.82**	**122**	P	**P**	**06 01 22.1**	**-0.5**
	0.1nm,0.4s,mb2.8,baz=322,slow=5.1,SNR=5.6						

*ISCJB **08** 05:55:40.8±0.5,3441N±005×826E±0.1,h10km,mb3.5/4, Error ellipse: s-maj=15.8km s-min=5.3km az=162.8*

*IDC **08** 05:55:40.3±1.6,3433N×8272E,h0km,mb3.6/5,mb1 3.9/6, mb1mx3.6/22,mbtmp3.7/6,ML3.6/1,MS3.3/1,Ms1 3.4/1, ms1mx2.6/30,Error ellipse: s-maj=73.1km s-min=24.1km az=55.0*
*NEIC **08** 05:55:41.9±1.0,3434N×8267E,h10km,Error ellipse: s-maj=31.9km s-min=15.7km az=69.0*

ISC 08 05:55:43.9±2.6,3438N±005×823E±01,h17km±19km,n19, σ1§13/19,mb3.5/4,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**5.42**	**223**	*ex*	**Pb**	**05 57 18.0**	**-0.2**
DANN	**Dangsing**	**6.13**	**168**	*e*P	**Pn**	**05 57 11.9**	**-1.8**
	30nm,0.4s						
GKN	**Gorkha**	**6.66**	**162**	*e*S	**Sn**	**05 58 35.6**	**-0.7**
KOLN	**Koldanda**	**6.68**	**170**	*e*P	**Pn**	**05 57 18.4**	**-2.8**
	18nm,0.3s						
KKN	**Kakani**	**7.04**	**158**	*e*P	**Pn**	**05 57 26.6**	**+0.5**
	22nm,0.5s						
GUN	**Gumba**	**7.13**	**154**	*e*P	**Pn**	**05 57 28.6**	**+1.2**
	16nm,0.4s						
DMN	**Daman**	**7.16**	**160**	*e*P	**Pn**	**05 57 27.8**	**+0.1**
	14nm,0.4s						
PKIN	**Phulchoki**	**7.27**	**158**	*e*P	**Pn**	**05 57 29.6**	**+0.2**
	32nm,0.6s						
PKI	**Pulchoki**	**7.28**	**158**	*e*P	**Pn**	**05 57 29.6**	**+0.1**
	20nm,0.5s						
PKI				*e*S	**Sn**	**05 58 52.8**	**+1.0**
JIRN	**Jiri**	**7.47**	**153**	*e*P	**Pn**	**05 57 34.2**	**+2.1**
	17nm,0.2s						
MK31	**Makanchi Array**	**12.40**	**360**	*e*Pn	**Pn**	**05 58 38.7**	**-0.8**
MKAR	**Makanchi Array**	**12.40**	**360**	Pn	**Pn**	**05 58 39.1**	**-0.4**
	0.3nm,0.3s,baz=182,slow=12,SNR=14						
BVAR	**Borovoye Array**	**20.49**	**339**	P	**P**	**06 00 21.9**	**+1.2**
	2.4nm,0.6s,baz=141,slow=9.6,SNR=9.2						
AKTK	**Aktyubinsk**	**23.92**	**320**	P	**P**	**06 00 56.8**	**+0.1**
AKTO	**Aktyubinsk**	**23.92**	**320**	P	**P**	**06 00 56.8**	**+0.1**
	0.7nm,0.4s,mb3.4,baz=121,slow=14,SNR=4.0						
FINES	**FINESS Array B**	**44.46**	**325**	P	**P**	**06 03 55.2**	**+1.5**
	1.3nm,0.7s,mb3.8,baz=66,slow=6.7,SNR=2.6						
NOA	**NORSAR Array B**	**51.59**	**324**	LR	LR	06 27 27.7	
	comp=Z,28nm,18.9s,baz=305,slow=37						
WRA	**Warramunga Arr**	**73.24**	**129**	P	**P**	**06 07 11.9**	**-2.3**
	0.5nm,0.8s,mb3.5,baz=316,slow=7.1,SNR=4.9						
YKA	**Yellowknife Ar**	**82.50**	**8**	P	**P**	**06 08 04.4**	**-0.7**
	0.3nm,0.6s,mb3.5,baz=338,slow=5.4,SNR=8.2						

IDC 08 06:03:38.4±2.6,2321S×6805W,h95km±25km,mb1 3.1/3, mb1mx3.0/16,mbtmp3.1/3,Error ellipse: s-maj=72.7km s-min=25.9km az=100.0,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**6.88**	**359**	P	Pn	06 05 17.8	+1.1
	0.3nm,0.3s,baz=197,slow=14,SNR=16						
CFAA	**Coronel Fontan**	**8.37**	**181**	P	Pn	06 05 37.2	+0.4
	0.1nm,0.3s,baz=352,slow=11,SNR=7.5						
CFAA				S	Sn	06 07 05.2	-4.3
	0.1nm,0.3s,baz=274,slow=19,SNR=3.5						
SIV	**San Ignacio**	**9.73**	**44**	P	Pn	06 05 54.5	-0.9
	2.0nm,0.3s,baz=234,slow=12,SNR=24						
WRA	**Warramunga Arr**	**

RCDM AML AML 06 29 47.5
comp=E,327nm,0.3s
STL Santa Lucia 2.05 148 *e*P Pn 06 29 13.2 +0.9
STL *i* S Sn 06 29 38.8 +2.2
CLCH Cerro Calan 2.07 145⇑*i*P Pn 06 29 14.1 +1.7
CLCH *i* S Sn 06 29 39.7 +2.7
CLCH AML AML 06 29 48.2
comp=E,759nm,0.5s
TACH Talagante 2.12 157⇑*i*P Pn 06 29 15.1 +1.8
TACH *i* S Sn 06 29 41.2 +2.7
FSR Penalolen 2.14 147 *e*P Pn 06 29 15.2 +1.7
FSR *i* S Sn 06 29 41.2 +2.4
FSR Penalolen 2.14 147 *e*P Pn 06 29 15.2 +1.7
FSR *i* S Sn 06 29 41.2 +2.4
FSR AML AML 06 29 51.9
comp=N,423nm,0.4s
FCH Farellones 2.14 140⇑*i*P Pn 06 29 15.3 +1.9
FCH *i* S Sn 06 29 42.4 +3.6
FCH AML AML 06 29 50.7
comp=E,343nm,0.2s
ANTU Antumapu 2.17 150 *e*P Pn 06 29 15.4 +1.5
ANTU *i* S Sn 06 29 41.8 +2.3
ANTU Antumapu 2.17 150 *e*P Pn 06 29 15.4 +1.5
ANTU *i* S Sn 06 29 41.8 +2.3
ANTU AML AML 06 29 51.5
comp=N,460nm,0.3s
PCH Pirque 2.26 148 *e*P Pn 06 29 16.7 +1.6
CHCH Chadas Angostu 2.48 154 *e*P Pn 06 29 20.1 +2.0
CHCH *i* S Sn 06 29 49.9 +2.7
LMEL Las Melosas 2.59 146⇑*i*P Pn 06 29 21.9 +2.2
LMEL *i* S Sn 06 29 53.2 +3.2
LMEL Las Melosas 2.59 146⇑*i*P Pn 06 29 21.9 +2.2
LMEL *i* S Sn 06 29 53.2 +3.2
LMEL AML AML 06 30 06.8
comp=N,294nm,0.8s
CACH El Canelo 2.66 155⇓*i*P Pn 06 29 23.4 +2.7
CICH Cipreses 2.91 154 *e*P Pn 06 29 26.3 +2.3
SFDO San Fernando 3.01 165 *e*P Pn 06 29 26.8 +1.3

IDC 08 06:54:22.9±5.5**,775S**×**11675E, h0**km**, mb3.5**/3**, mb1 3.7**/3**, mb1mx3.6**/15**, mbtmp3.6**/3**, Error ellipse: s-maj=263.9km s-min=27.5km az=58.0, Bali Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.91**	**127**	P	P	06 59 07.0	-0.2
0.3nm,0.3s,baz=303,slow=12,SNR=11							
ASAR	**Alice Springs**	**22.83**	**136**	P	P	06 59 27.9	+0.2
1.4nm,0.6s,baz=311,slow=9.0,SNR=21							
SONM	**Songino Array**	**56.09**	**352**	P	P	07 04 04.0	+0.2
0.7nm,0.5s,baz=167,slow=7.0,SNR=4.5							

SZGRF ***08*** *06:56:23.3, 3447N*×*301E, h33*km*, mb4.1, Northern Algeria*
IDC ***08*** *06:56:33.5*±*1.2, 3615N*×*272E, h0*km*, mb3.9/10, mb1 4.1/17, mb1mx4.0/29, mbtmp4.0/17, ML4.2/7, MS3.6/15, Ms1 3.6/15, ms1mx3.4/38, Error ellipse: s-maj=28.6km s-min=14.6km az=168.0*
CSEM ***08*** *06:56:33.5*±*0.1, 3616N*×*264E, h10*km*, mb4.1/2, ML4.0/1, Error ellipse: s-maj=1.8km s-min=1.2km az=165.0*
ISCJB ***08*** *06:56:34.0*±*0.2, 3620N*±*002*×*257E*±*002, h10*km*, mb4.3/18, MS3.6/10, Error ellipse: s-maj=2.6km s-min=1.7km az=165.7*
LDG ***08*** *06:56:34.7*±*0.3, 3597N*×*245E, h10*km*, Ml4.1/13, Error ellipse: s-maj=8.0km s-min=4.5km az=156.0*
CNRM ***08*** *06:56:35.9, 3606N*×*294W, h30*km*, MD4.6*
NEIC ***08*** *06:56:35.1*±*0.6, 3612N*×*261E, h4*km*±5*km*, mb4.0/3, ML4.5(CSEM), Error ellipse: s-maj=4.8km s-min=2.4km az=155.0*
MDD ***08*** *06:56:35.7*±*0.6, 3611N*×*268E, h3*km*±5*km*, mb4.9/35, Error ellipse: s-maj=5.3km s-min=3.8km az=165.0, PRXIMO*
MOS ***08*** *06:56:36.2*±*1.1, 3630N*×*253E, h18*km*, mb4.1/4, Error ellipse: s-maj=6.4km s-min=2.8km az=83.3*
INMG ***08*** *06:56:37.1*±*2.0, 3607N*×*265E, h20*km*±*20*km*, Mb4.8, ML3.2, Error ellipse: s-maj=18.5km s-min=4.3km az=129.0*
CRAAG ***08*** *06:56:37.1, 3634N*×*289E, Ml4.8*
STR ***08*** *06:56:49.0*±*1.2, 3707N*×*270E, h10*km*, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 08 06:56:35.7±**0.2, 3614N**±**002**×**258E**±**001, h10**km**, n278,** σ**1S27**/342**, mb4.3**/18**, MS3.6**/10**, 7C-11D, Northern Algeria**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.31**	**78**	P	**Pg**	**06 56 41.0**	**-0.8**
ADJB	**Djebel Djouab**	**0.69**	**88**	P	**Pg**	**06 56 46.4**	**-2.7**
ADJB	**Djebel Djouab**	**0.69**	**88**	P	**Pg**	**06 56 48.3**	**-0.8**
ABA	**Alger-Bouzarea**	**0.76**	**29**	P	**Pg**	**06 56 49.1**	**-1.3**
ABA	**Alger-Bouzarea**	**0.76**	**29**	P	**Pg**	**06 56 48.3**	**-2.1**
EBNR	**Beni Rached**	**0.86**	**281**	P	**Pg**	**06 56 52.8**	**+0.4**
ABMS	**Boumerdes**	**0.95**	**49**	P	**Pg**	**06 56 52.0**	**-2.0**
ECHA	**Ech Chlef**	**0.98**	**271**	P	**Pg**	**06 56 54.3**	**-0.3**
ECHF	**Ech Chlef**	**1.01**	**272**	P	**Pg**	**06 56 54.3**	**-0.7**
ECHF	**Ech Chlef**	**1.01**	**272**	P	**Pg**	**06 56 54.6**	**-0.4**
AKET	**Djebel Ketaf**	**1.06**	**94**	P	**Pg**	**06 56 54.3**	**-1.7**
AKET	**Djebel Ketaf**	**1.06**	**94**	P	**Pg**	**06 56 55.5**	**-0.5**
EANR	**'Ain N'Sour**	**1.22**	**262**	P	**Pn**	**06 56 58.0**	**-0.7**
ETRT	**Tiaret**	**1.28**	**235**	P	**Pn**	**06 57 01.0**	**+1.4**
OKGL	**Djebel Kef Gue**	**1.57**	**267**	P	**Pn**	**06 57 06.0**	**+2.3**
OJGS	**Djebel Guires**	**1.62**	**248**	P	**Pn**	**06 57 03.0**	**-1.3**
OJBR	**Djebel Berber**	**1.90**	**254**	P	**Pn**	**06 57 09.0**	**+0.9**
SET	**Setif**	**2.28**	**88**	P	**Pn**	**06 57 12.0**	**-1.4**
ODJA	**Bouhanifia**	**2.36**	**251**	P	**Pn**	**06 57 15.0**	**+0.5**
CKHR	**Kef el Ahmar**	**2.38**	**92**	P	**Pn**	**06 57 13.0**	**-1.7**
USTO	**Oran**	**2.57**	**262**	P	**Pg**	**06 57 26.0**	**+1.0**
DFRA	**Djebel Bou Aff**	**2.69**	**80**	P	**Pn**	**06 57 17.0**	**-2.0**
CMER	**Merouana**	**2.74**	**100**	P	**Pn**	**06 57 18.0**	**-1.7**
EIBI	**Ibiza**	**3.05**	**342**	⇓P	**Pn**	**06 57 24.2**	**+0.2**
382nm,0.6s,SNR=18							
EIBI				S	**Sn**	**06 57 58.5**	**-2.0**
784nm,0.6s							
EIBI	**Ibiza**	**3.05**	**342**	⇓P	**Pn**	**06 57 24.1**	**+0.1**
EIBI				S	**Sn**	**06 57 58.5**	**-2.0**
784nm,0.6s							
CTEI	**Djebel Teioual**	**3.10**	**90**	P	**Pn**	**06 57 17.5**	**-7.1**
CASM	**Ain Smara**	**3.16**	**87**	P	**Pn**	**06 57 23.0**	**-2.5**
ODZI	**Dziouia**	**3.21**	**256**	P	**Pg**	**06 57 40.0**	**+2.7**
CART	**Cartagena**	**3.22**	**298**	*e*Pn	**Pn**	**06 57 25.0**	**-1.3**
CART	**Cartagena**	**3.22**	**298**	*e*Pn	**Pn**	**06 57 25.0**	**-1.3**
CKFL	**Kef-Lekhel**	**3.35**	**84**	P	**Pn**	**06 57 26.0**	**-2.1**
EBEN	**Beniarda**	**3.40**	**320**	P	**Pn**	**06 57 28.6**	**-0.2**
46nm,0.4s,SNR=15							
EBEN				S	**Sn**	**06 58 08.9**	**-0.3**
96nm,0.5s							
EBEN	**Beniarda**	**3.40**	**320**	P	**Pn**	**06 57 28.6**	**-0.2**
46nm,0.4s,SNR=15							
EBEN				S	**Sn**	**06 58 08.9**	**-0.3**
96nm,0.5s							
CAEH	**'Ain El Ouahch**	**3.50**	**78**	P	**Pn**	**06 57 29.0**	**-1.1**
EMUR	**La Murta**	**3.50**	**300**	P	**Pn**	**06 57 30.1**	**-0.1**
47nm,0.5s,SNR=13							
EMUR				S	**Sn**	**06 58 12.5**	**+0.9**
97nm,0.6s,SNR=6.7							
EMUR	**La Murta**	**3.50**	**300**	P	**Pn**	**06 57 30.1**	**-0.1**
47nm,0.5s,SNR=13							
EMUR				S	**Sn**	**06 58 12.5**	**+0.8**
97nm,0.6s,SNR=6.7							
ETOS	**Mallorca**	**3.63**	**3**	⇑P	**Pn**	**06 57 30.9**	**-1.0**
208nm,0.5s,SNR=18							
ETOS				S	**Sn**	**06 58 13.3**	**-1.6**
191nm,0.5s							
ETOS	**Mallorca**	**3.63**	**3**	P	**Pn**	**06 57 30.9**	**-1.1**
208nm,0.5s,SNR=18							
ETOS				S	**Sn**	**06 58 13.3**	**-1.5**
191nm,0.5s							
CMAH	**Djebel Manchou**	**3.93**	**81**	P	**Pn**	**06 57 34.0**	**-2.1**
ENIJ	**Nijar**	**3.94**	**284**	P	**Pn**	**06 57 32.0**	**-4.2**
41nm,0.6s,SNR=4.0							
ENIJ				S	**Sn**	**06 58 20.6**	**-2.0**
38nm,0.4s,SNR=4.0							
OUJ	**Oujda**	**3.95**	**249**	P	**Pn**	**06 57 39.0**	**+2.7**
OUJ				S	**Sn**	**06 58 22.0**	**-0.7**
ABSA	**Djebel Ababsia**	**3.96**	**87**	P	**Pn**	**06 57 35.0**	**-1.5**
CABS	**Djebel Ababsia**	**3.96**	**87**	P	**Pn**	**06 57 35.0**	**-1.5**
ETOB	**Tobarra**	**4.13**	**309**	⇑P	**Pn**	**06 57 40.5**	**+1.6**
56nm,0.4s,SNR=18							
ETOB				S	**Sn**	**06 58 27.7**	**+0.4**
356nm,0.7s,SNR=8.9							
ETOB	**Tobarra**	**4.13**	**309**	P	**Pn**	**06 57 40.5**	**+1.6**
56nm,0.4s,SNR=18							
ETOB				S	**Sn**	**06 58 27.7**	**+0.5**
356nm,0.7s,SNR=8.9							
ECHE	**Chera**	**4.45**	**322**	P	**Pn**	**06 57 44.2**	**+1.0**
29nm,0.4s,SNR=31							
ECHE				S	**Sn**	**06 58 34.2**	**-0.8**
44nm,0.5s							
EBER	**Berja**	**4.47**	**281**	P	**Pn**	**06 57 43.0**	**-0.5**
78nm,0.6s,SNR=18							
EBER				S	**Sn**	**06 58 33.9**	**-1.7**
85nm,0.6s,SNR=4.1							
EBER	**Berja**	**4.47**	**281**	P	**Pn**	**06 57 43.0**	**-0.5**
78nm,0.6s,SNR=18							
EBER				S	**Sn**	**06 58 33.9**	**-1.7**
85nm,0.6s,SNR=4.1							
ZAI	**Zaio**	**4.50**	**257**	*i*P	**Pn**	**06 57 44.0**	**+0.1**
ZAI				*i*S	**Sn**	**06 58 35.5**	**-0.7**
ZAI	**Zaio**	**4.50**	**257**	*e*P	**Pn**	**06 57 44.0**	**+0.1**
ZAI				*e*S	**Sn**	**06 58 35.5**	**-0.7**
EALB	**Alboran**	**4.56**	**269**	P	**Pn**	**06 57 43.0**	**-1.7**
46nm,0.8s,SNR=7.2							
EALB				S	**Sn**	**06 58 36.0**	**-1.6**
60nm,0.5s,SNR=7.9							
EALB	**Alboran**	**4.56**	**269**	P	**Pn**	**06 57 43.0**	**-1.7**
46nm,0.8s,SNR=7.2							
EALB				S	**Sn**	**06 58 36.0**	**-1.7**
60nm,0.5s,SNR=7.9							
EVIA	**Vianos**	**4.76**	**303**	P	**Pn**	**06 57 47.9**	**+0.4**
39nm,0.5s,SNR=11							
EVIA				S	**Sn**	**06 58 41.8**	**-0.8**
101nm,0.6s,SNR=6.1							
EQES	**Quesada**	**4.82**	**292**	P	**Pn**	**06 57 50.6**	**+2.2**
84nm,0.6s,SNR=32							
EQES				S	**Sn**	**06 58 43.1**	**-1.2**
189nm,0.5s,SNR=5.4							
EQES	**Quesada**	**4.82**	**292**	P	**Pn**	**06 57 50.6**	**+2.3**
84nm,0.6s,SNR=32							
EQES				S	**Sn**	**06 58 43.1**	**-1.1**
189nm,0.5s,SNR=5.4							
EMOS	**Mosqueruela**	**4.86**	**331**	⇓P	**Pn**	**06 57 49.8**	**+1.0**
75nm,0.4s,SNR=18							
EMOS				S	**Sn**	**06 58 42.7**	**-2.4**
425nm,1.0s,SNR=7.6							
EMOS	**Mosqueruela**	**4.86**	**331**	P	**Pn**	**06 57 49.8**	**+1.0**
75nm,0.4s,SNR=18							
EMOS				S	**Sn**	**06 58 42.7**	**-2.4**
425nm,1.0s,SNR=7.6							
EQUE	**Quentar**	**4.96**	**284**	⇑P	**Pn**	**06 57 50.6**	**+0.4**
60nm,0.5s,SNR=18							
EQUE				S	**Sn**	**06 58 48.2**	**+0.7**
49nm,0.4s,SNR=5.0							
ECOG	**Cogollos-Vega**	**5.07**	**285**	P	**Pn**	**06 57 52.7**	**+1.0**
54nm,0.6s,SNR=19							
ECOG				S	**Sn**	**06 58 48.8**	**-1.6**
64nm,0.5s,SNR=5.4							
ERTA	**Horta de San J**	**5.13**	**341**	P	**Pn**	**06 57 52.6**	**+0.1**
44nm,0.4s,SNR=10							
ERTA				S	**Sn**	**06 58 49.4**	**-2.3**
152nm,1.2s,SNR=7.3							
ERTA	**Horta de San J**	**5.13**	**341**	P	**Pn**	**06 57 52.6**	**+0.1**
44nm,0.4s,SNR=10							
ERTA				S	**Sn**	**06 58 49.4**	**-2.3**
152nm,1.2s,SNR=7.3							
ERON	**Agron**	**5.22**	**282**	P	**Pn**	**06 57 54.3**	**+0.5**
28nm,0.6s,SNR=18							
ERON				S	**Sn**	**06 58 51.8**	**-2.1**
18nm,0.4s,SNR=4.0							
TOU	**Touzarine**	**5.30**	**259**	*i*P	**Pn**	**06 57 56.0**	**+1.1**
TOU				*i*S	**Sn**	**06 58 56.0**	**+0.1**
TOU	**Touzarine**	**5.30**	**259**	*e*P	**Pn**	**06 57 56.0**	**+1.1**
TOU				*e*S	**Sn**	**06 58 56.0**	**+0.1**
EPOB	**Poblet**	**5.34**	**348**	P	**Pn**	**06 57 54.8**	**-0.7**
17nm,0.3s,SNR=10							
EPOB				S	**Sn**	**06 58 55.2**	**-1.8**
48nm,0.8s,SNR=14							
EPOB	**Poblet**	**5.34**	**348**	P	**Pn**	**06 57 54.8**	**-0.6**
17nm,0.3s,SNR=10							
EPOB				S	**Sn**	**06 58 55.2**	**-1.8**
48nm,0.8s,SNR=14							
EBAN	**Banos Encina**	**5.47**	**294**	P	**Pn**	**06 57 57.9**	**+0.6**
13nm,0.5s,SNR=10							
EBAN				S	**Sn**	**06 58 58.5**	**-1.8**
20nm,0.5s,SNR=4.0							
KEST	**Kesra**	**5.50**	**92**	Pn	**Pn**	**06 57 57.0**	**-0.7**
2.6nm,0.3s,baz=243,slow=3.5,SNR=50							
KEST				Sn	**Sn**	**06 58 57.9**	**-3.1**
2.2nm,0.3s,baz=160,slow=20,SNR=3.7							
ELOJ	**Sierra Loja**	**5.51**	**283**	P	**Pn**	**06 57 59.3**	**+1.5**
30nm,0.5s,SNR=32							
ELOJ				S	**Sn**	**06 59 01.0**	**-0.2**
42nm,0.8s,SNR=5.1							
EMIR	**Miracle**	**5.83**	**352**	P	**Pn**	**06 58 02.6**	**+0.5**
109nm,0.4s,SNR=66							
EMIR				S	**Sn**	**06 59 06.1**	**-3.0**
115nm,0.5s,SNR=6.9							
EMIR	**Miracle**	**5.83**	**352**	P	**Pn**	**06 58 02.6**	**+0.5**
109nm,0.4s,SNR=66							
TZK	**Tazeka**	**5.91**	**252**	*i*P	**Pn**	**06 58 04.0**	**+0.7**
TZK				*i*S	**Sn**	**06 59 10.0**	**-1.0**
ETOR	**Torete**	**5.92**	**324**	P	**Pn**	**06 58 06.4**	**+3.0**
45nm,0.4s,SNR=13							
ETOR				S	**Sn**	**06 59 08.9**	**-2.5**
34nm,0.5s,SNR=4.6							
EMIJ	**Mijas**	**5.95**	**276**	P	**Pn**	**06 58 02.3**	**-1.6**
25nm,0.6s,SNR=7.0							
EMIJ				S	**Sn**	**06 59 08.9**	**-3.2**
17nm,0.4s,SNR=7.9							
ESAC	**San Caprasio**	**6.06**	**338**	P	**Pn**	**06 58 06.6**	**+1.2**
65nm,0.3s,SNR=7.9							
ESAC				S	**Sn**	**06 59 13.9**	**-0.9**
113nm,0.5s							
ESAC	**San Caprasio**	**6.06**	**338**	P	**Pn**	**06 58 06.6**	**+1.2**
65nm,0.3s,SNR=7.9							
ESAC				S	**Sn**	**06 59 13.9**	**-0.9**
113nm,0.5s							
EADA	**Adamuz**	**6.07**	**292**	P	**Pn**	**06 58 05.9**	**+0.4**
7.7nm,0.4s,SNR=6.1							
EADA				S	**Sn**	**06 59 14.1**	**-0.8**
22nm,0.5s,SNR=6.2							
EADA	**Adamuz**	**6.07**	**292**	P	**Pn**	**06 58 05.9**	**+0.5**
7.7nm,0.4s,SNR=6.1							
EADA				S	**Sn**	**06 59 14.1**	**-0.8**
22nm,0.5s,SNR=6.2							
ESDC	**Sonseca Array**	**6.27**	**306**	Pn	**Pn**	**06 58 08.2**	**0.0**
9.7nm,0.3s,baz=119,slow=14,SNR=40							
ESDC	**Sonseca Array**	**6.27**	**306**	P	**Pn**	**06 58 09.4**	**+1.3**
36nm,0.5s,baz=119,slow=13,SNR=29							
ESDC				S	**Sn**	**06 59 18.2**	**-1.5**
18nm,0.6s,baz=117,slow=23,SNR=7.8							
ESDC	**Sonseca Array**	**6.27**	**306**	P	**Pn**	**06 58 09.4**	**+1.3**
36nm,0.5s,SNR=29							
VALF	**Valcebollere**	**6.27**	**356**	P	**Pn**	**06 58 09.2**	**+1.0**
VALF				S	**Sn**	**06 59 15.0**	**-4.9**
EJON	**La Jonquera**	**6.31**	**2**	P	**Pn**	**06 58 08.7**	**0.0**
EJON	**La Jonquera**	**6.31**	**2**	P	**Pn**	**06 58 08.7**	**0.0**
SNR=4.0							
EJIF	**Jimena Fronter**	**6.51**	**275**	P	**Pn**	**06 58 11.8**	**+0.3**
27nm,0.6s,SNR=7.9							
TGT	**Taghat**	**6.59**	**254**	*i*P	**Pn**	**06 58 13.0**	**+0.4**
TGT				*i*S	**Sn**	**06 59 27.0**	**-0.8**
MDT	**Midelt**	**6.80**	**243**	Pn	**Pn**	**06 58 16.6**	**+1.0**
1.6nm,0.3s,baz=72,slow=16,SNR=44							
MDT				Lg		07 00 12.4	
6.0nm,0.3s,baz=20,slow=18,SNR=6.2							
MDT				LR	LR	07 01 09.9	
comp=Z,320nm,21.4s,baz=60,slow=40							
EBIE	**Bielsa**	**6.81**	**345**	P	**Pn**	**06 58 16.3**	**+0.7**
7.5nm,0.4s,SNR=13							
EBIE				S	**Sn**	**06 59 31.3**	**-1.8**
11nm,0.5s							
EBIE	**Bielsa**	**6.81**	**345**	P	**Pn**	**06 58 16.3**	**+0.7**
7.5nm,0.4s,SNR=13							
ESPR	**Espera**	**6.84**	**279**	P	**Pn**	**06 58 17.1**	**+1.2**
9.3nm,0.5s,SNR=4.6							
ESPR	**Espera**	**6.84**	**279**	P	**Pn**	**06 58 17.1**	**+1.1**
9.3nm,0.5s,SNR=4.6							
GUD	**Guadarrama**	**6.94**	**312**	P	**Pn**	**06 58 19.3**	**+1.8**
36nm,0.6s,SNR=22							
GUD				S	**Sn**	**06 59 34.8**	**-1.7**
24nm,0.6s							
MIF	**Mishlifen**	**6.98**	**249**	P	**Pn**	**06 58 18.0**	**0.0**
MIF				S	**Sn**	**06 59 35.0**	**-2.4**
MIF	**Mishlifen**	**6.98**	**249**	*i*P	**Pn**	**06 58 18.0**	**0.0**
CZD	**Col de Zad**	**7.01**	**246**	*i*P	**Pn**	**06 58 21.0**	**+2.6**
CZD				*i*S	**Sn**	**06 59 37.0**	**-1.1**
ZFT	**Errachidia**	**7.06**	**237**	*i*P	**Pn**	**06 58 19.5**	**+0.4**
ZFT				*i*S	**Sn**	**06 59 36.0**	**-3.3**
EPF	**Esparros**	**7.10**	**347**	*e*Pn	**Pn**	**06 58 20.8**	**+1.2**
EPF				*e*Sn	**Sn**	**06 59 39.8**	**-0.5**
41nm,0.8s							
ETSF	**Etsaut**	**7.18**	**341**	*e*Pn	**Pn**	**06 58 21.7**	**+1.1**
MTLF	**Montolieu**	**7.20**	**358**	*e*Pn	**Pn**	**06 58 21.9**	**+0.9**
MTLF				*e*Sn	**Sn**	**06 59 41.1**	**-1.7**
16nm,0.7s							
REYF	**Montagne du Re**	**7.29**	**343**	P	**Pn**	**06 58 23.3**	**+1.0**
IPRE	**Itoiz**	**7.32**	**337**	P	**Pn**	**06 58 23.4**	**+0.7**
6.2nm,0.3s,SNR=7.9							
IPRE	**Itoiz**	**7.32**	**337**	P	**Pn**	**06 58 23.4**	**+0.7**
6.2nm,0.3s,SNR=7.9							
IUNC	**Unciti**	**7.33**	**336**	P	**Pn**	**06 58 23.9**	**+1.2**
7.7nm,0.3s,SNR=4.7							
EORO	**Oroz-Betelu**	**7.39**	**337**	P	**Pn**	**06 58 24.5**	**+1.0**
9.1nm,0.5s,SNR=7.9							
ATE	**Arette**	**7.39**	**341**	P	**Pn**	**06 58 24.5**	**+0.9**
IZUN	**Zunzarren**	**7.41**	**336**	P	**Pn**	**06 58 25.6**	**+1.9**
9.1nm,0.4s,SNR=7.9							
IZUN	**Zunzarren**	**7.41**	**336**	P	**Pn**	**06 58 25.6**	**+1.8**
9.1nm,0.4s,SNR=7.9							
IUSE	**Utxeti**	**7.51**	**336**	P	**Pn**	**06 58 26.5**	**+1.2**
5.4nm,0.3s,SNR=4.0							
IUSE	**Utxeti**	**7.51**	**336**	P	**Pn**	**06 58 26.5**	**+1.2**
5.4nm,0.3s,SNR=4.0							
BERF	**Bertagne**	**7.56**	**18**	P	**Pn**	**06 58 26.6**	**+0.7**
SJPF	**Ste Jean**	**7.56**	**338**	*e*Pn	**Pn**	**06 58 27.6**	**+1.7**
GELF	**Grande-Etoile**	**7.56**	**16**	P	**Pn**	**06 58 26.2**	**+0.3**
EMIN	**Mina Concepcio**	**7.59**	**285**	P	**Pn**	**06 58 25.3**	**-1.0**
14nm,0.6s,SNR=8.7							
EMIN				S	**Sn**	**06 59 48.7**	**-3.7**
8.6nm,0.5s							
EMIN	**Mina Concepcio**	**7.59**	**285**	P	**Pn**	**06 58 25.3**	**-1.0**
14nm,0.6s,SNR=8.7							
ELIZ	**Elizondo**	**7.70**	**337**	P	**Pn**	**06 58 29.0**	**+1.2**
12nm,0.3s,SNR=12							
EALK	**Alkurruntz**	**7.75**	**337**	P	**Pn**	**06 58 30.1**	**+1.6**
21nm,0.5s,SNR=11							
EALK				S	**Sn**	**06 59 52.8**	**-3.4**
74nm,0.6s							
EALK	**Alkurruntz**	**7.75**	**337**	P	**Pn**	**06 58 30.0**	**+1.6**
21nm,0.5s,SNR=11							
PUYF	**Puyloubier**	**7.77**	**17**	P	**Pn**	**06 58 29.0**	**+0.3**
TREF	**Trevaresse**	**7.78**	**15**	P	**Pn**	**06 58 29.9**	**+0.9**
LMR	**La Mourre**	**7.80**	**22**	*e*Pn	**Pn**	**06 58 27.6**	**-1.6**
LMR				*e*Sn	**Sn**	**06 59 50.4**	**-7.1**
26nm,0.6s							
LMR	**La Mourre**	**7.80**	**22**	*e*P	**Pn**	**06 58 27.6**	**-1.6**
LMR				*e*Sn	**Sn**	**06 59 50.4**	**-7.1**
13nm,0.6s							
PRAF	**Pradon**	**7.91**	**14**	P	**Pn**	**06 58 30.8**	**+0.1**
TAVF	**Tavernes**	**7.94**	**19**	P	**Pn**	**06 58 31.1**	**+0.1**
PBAR	**Barrancos**	**7.95**	**288**	*e*P	**Pn**	**06 58 31.2**	**0.0**
PBAR				A		07 00 48.1	
8.2nm,0.8s							
LASF	**Ste Croix**	**7.99**	**7**	*e*Pn	**Pn**	**06 58 31.5**	**-0.3**
LASF				*e*Sn	**Sn**	**06 59 55.7**	**-6.5**
34nm,0.7s							
FRF	**La Foret Royal**	**8.05**	**22**	*e*Pn	**Pn**	**06 58 31.1**	**-1.5**
FRF				*e*Sn	**Sn**	**06 59 57.2**	**-6.4**
37nm,0.6s							
EBAD	**Badajoz**	**8.07**	**292**	P	**Pn**	**06 58 33.5**	**+0.6**
3.8nm,0.4s,SNR=5.3							
EBAD				S	**Sn**	**07 00 00.9**	**-3.2**
8.9nm,0.6s							
EBAD	**Badajoz**	**8.07**	**292**	P	**Pn**	**06 58 33.5**	**+0.6**
3.8nm,0.4s,SNR=5.3							
PGF	**Pioggiola**	**8.11**	**36**	*e*Pn	**Pn**	**06 58 31.6**	**-1.8**
PGF				*e*Sn	**Sn**	**06 59 58.9**	**-6.1**
27nm,0.5s							
SMRF	**Simiane la Rot**	**8.16**	**15**	*e*Pn	**Pn**	**06 58 33.6**	**-0.5**
SMRF				*e*Sn	**Sn**	**07 00 03.4**	**-3.0**
11nm,0.5s							
EGRO	**El Granado**	**8.19**	**283**	P	**Pn**	**06 58 33.8**	**-0.8**
9.1nm,0.5s,SNR=7.0							
CALN	**Calern**	**8.29**	**22**	P	**Pn**	**06 58 36.0**	**0.0**
PVAQ	**Vaqueiros**	**8.36**	**282**	*e*P	**Pn**	**06 58 36.3**	**-0.6**
PVAQ				*e*S	**Sn**	**07 00 10.3**	**-1.1**
PVAQ				A		07 00 16.9	
5.5nm,0.6s							
REVF	**Revere**	**8.44**	**24**	P	**Pn**	**06 58 39.4**	**+1.5**
ELAN	**Lanestosa**	**8.47**	**329**	P	**Pn**	**06 58 39.9**	**+1.5**
14nm,0.4s,SNR=12							
ELAN	**Lanestosa**	**8.47**	**329**	P	**Pn**	**06 58 39.9**	**+1.6**
14nm,0.4s,SNR=12							
MVIF	**Mont Vial**	**8.51**	**23**	P	**Pn**	**06 58 38.9**	**0.0**
PBDV	**Barranco-do-Ve**	**8.52**	**281**	*e*P	**Pn**	**06 58 38.7**	**-0.4**
PBEJ	**Beja**	**8.56**	**286**	*e*P	**Pn**	**06 58 38.9**	**-0.8**
SBF	**Sospel**	**8.57**	**24**	*e*Pn	**Pn**	**06 58 38.7**	**-1.0**
SBF				*e*Sn	**Sn**	**07 00 08.6**	**-7.8**
16nm,0.4s							
TOUF	**Mont Tournerai**	**8.64**	**23**	P	**Pn**	**06 58 40.6**	**-0.1**
AUTN	**L'Aution**	**8.68**	**24**	P	**Pn**	**06 58 43.9**	**+2.6**
OCF	**Saint Nazaire**	**8.68**	**13**	P	**Pn**	**06

comp=Z,8.7nm,0.4s,SNR=11
TCF Toulx Ste Croi 10.15 359 *e*Pn **Pn 06 59 01.5 +0.1**
EPON Pontenova 10.38 317 P **Pn 06 59 05.5 +1.0**
comp=Z,8.4nm,0.3s
BGF Bois d'Agland 10.41 1 *e*Pn **Pn 06 59 05.5 +0.5**
SMF Signal de Mont 10.54 5 *e*Pn **Pn 06 59 07.1 +0.3**
MFF Saint Martin d 10.66 350 *e*Pn **Pn 06 59 08.4 +0.1**
AVF Avril sur Loir 10.66 3 *e*Pn **Pn 06 59 08.9 +0.5**
CABF La Chapelle 10.79 13 *e*Pn **Pn 06 59 10.6 +0.4**
STS Santiago 10.92 311 P **Pn 06 59 13.1 +1.1**
STS pmax pmax
comp=Z,9.0nm,0.3s
STS Santiago 10.92 311 P **Pn 06 59 13.1 +1.1**
comp=Z,9.0nm,0.3s,SNR=4.0
SSF Saint Saulge 10.94 3 *e*P **Pn 06 59 13.0 +0.8**
LOR Lormes 11.16 4 *e*Pn **Pn 06 59 16.5 +1.2**
EMAZ Mazaricos 11.22 311 P **Pn 06 59 17.1 +1.1**
comp=Z,8.8nm,0.4s
EMAZ Mazaricos 11.22 311 P **Pn 06 59 17.1 +1.1**
comp=Z,8.8nm,0.4s
DAVOX Davos/Dischmat 11.95 25 Pn **Pn 06 59 26.2 +0.1**
comp=Z,0.4nm,0.3s,baz=306,slow=17,SNR=2.7
DAVOX LR LR 07 03 52.5
comp=Z,165nm,18.0s,baz=262,slow=37
DAVOS Davos 11.98 25 P **Pn 06 59 26.2 -0.2**
HINF Hinteralfeld 12.09 14 *e*Pn **Pn 06 59 26.8 -1.2**
MOF Molkenrain 12.18 15 P **Pn 06 59 30.5 +1.3**
HAU Haudompre 12.19 12 *e*Pn **Pn 06 59 28.5 -0.7**
THEF They Montfort 12.34 11 P **Pn 06 59 31.4 0.0**
GRR Gorron 12.51 349 *e*Pn **Pn 06 59 34.2 +0.6**
QUIF Quistinic 12.52 342 *e*Pn **Pn 06 59 33.5 -0.3**
ECH Echery 12.54 14 P **Pn 06 59 32.6 -1.4**
LDF La Druitiere 12.61 352 *e*Pn **Pn 06 59 34.1 -0.9**
SGMF Saint Gilles 12.69 344 *e*Pn **Pn 06 59 36.6 +0.5**
CDF Champ du Feu 12.75 14 *e*Pn **Pn 06 59 35.9 -1.0**
FLN La Foliniere 12.82 351 *e*Pn **Pn 06 59 37.6 -0.3**
ROSF Rostrenen 12.94 342 *e*Pn **Pn 06 59 39.0 -0.5**
BAIF Baives 13.97 4 *e*Pn **Pn 06 59 53.4 -0.1**
GIVF Givet 14.05 6 *e*Pn **Pn 06 59 54.7 0.0**
GRA1 Grafenberg Arr 14.94 22 *e*P **Pn 07 00 13.6 +6.8**
comp=Z,14nm,0.6s
GRF Grafenberg Arr 14.94 22 *e*P **Pn 07 00 13.6 +6.8**
GRF pmax pmax
comp=Z,14nm,0.6s
GRF Grafenberg Arr 14.94 22 *e*P **Pn 07 00 13.6 +6.8**
GRF pmax pmax
comp=Z,14nm,0.6s
GRF Grafenberg Arr 14.94 22 *e*P **Pn 07 00 13.6 +6.8**
comp=Z,14nm,0.6s
GEC2 GERESS Array S 15.10 29 *e*P **Pn 07 00 10.5 +1.6**
GEC2 pmax pmax
comp=Z,13nm,1.0s
GEC2 GERESS Array S 15.10 29 *e*P **Pn 07 00 10.5 +1.6**
comp=Z,13nm,1.0s
GERES GERESS Array B 15.10 29 Pn **Pn 07 00 08.5 -0.4**
comp=Z,0.7nm,0.3s,baz=213,slow=12,SNR=13
GERES LR LR 07 05 44.3
comp=Z,133nm,18.8s,baz=117,slow=37
KHC Kasperske Hory 15.28 28 *e*P **Pn 07 00 12.0 +0.7**
MODS Modra-Piesok 16.33 37 *e*P **Pn 07 00 28.2 +3.2**
VRAC Vranov 16.67 34 Pn **Pn 07 00 31.3 +2.0**
comp=Z,0.4nm,0.3s,baz=195,slow=12,SNR=3.4
VRAC LR LR 07 07 16.0
comp=Z,139nm,18.2s,baz=112,slow=39
VRAC Vranov 16.67 34 ⇓*i*P **Pn 07 00 34.8 +5.5**
CLL Collm 16.91 23 *e*(sP) sP 07 00 37.0 -1.4
CLL *i* PP 07 00 42.5
CLL *e*(sPP) 07 00 46.0
VYHS Vyhne 17.19 39 *e*P **Pn 07 00 37.4 +1.6**
VYHS pmax pmax
comp=Z,5.0nm,1.2s
VYHS Vyhne 17.19 39 *e*P **Pn 07 00 37.4 +1.6**
comp=Z,5.0nm,1.2s
PSZ Piszkesteto 17.39 42 ⇓P **Pn 07 00 43.9 +5.6**
PSZ Piszkesteto 17.39 42 ⇓*i*P **Pn 07 00 43.8 +5.5**
MORC Moravsky Berou 17.44 34 ⇑*i*P **Pn 07 00 41.3 +2.4**
GZR Gura Zlata 17.84 53 ⇓P **Pn 07 00 47.4 +3.6**
GZR Gura Zlata 17.84 53 ⇓*i*P **Pn 07 00 47.4 +3.5**
APE Apeiranthos 18.45 80 ⇑*i*P **Pn 07 00 52.7 +1.3**
NIE Niedzica 18.53 39 *e*P **Pn 07 00 54.3 +2.0**
OJC Ojcow 18.80 36 *e*P **Pn 07 00 56.0 +0.4**
CRVS Cervenica-Dubn 18.81 41 *e*P **Pn 07 00 56.4 +0.6**
STHS Stebnicka Huta 19.00 40 *e*P **Pn 07 00 58.7 +0.6**
STHS pmax pmax
comp=Z,11nm,0.9s
STHS Stebnicka Huta 19.00 40 *e*P **Pn 07 00 58.7 +0.6**
comp=Z,11nm,0.9s
KOLS Kolonicke sedl 19.27 42 *i*P **Pn 07 01 0.2 -0.1**
VOIR 19.33 54 ⇑*i*P **Pn 07 01 05.5 +3.4**
EKA Eskdalemuir Ar 19.60 350 P **Pn 07 01 04.8 -0.4**
comp=Z,0.1nm,0.3s,baz=162,slow=15,SNR=3.0
KWP Kalwaria 19.90 41 ⇓*i*P **Pn 07 01 10.7 +1.9**
MLR Muntele Rosu 19.94 55 P **Pn 07 01 07.7 -1.6**
comp=Z,0.2nm,0.3s,baz=342,slow=20,SNR=3.2
MLR Muntele Rosu 19.94 55 ⇓*i*P **Pn 07 01 11.8 +2.5**
BURAR Bucovina Array 20.31 49 ⇓*i*P **P 07 01 15.3 +3.7**
AKASG Malin Array Be 24.05 44 P **P 07 01 47.6 -3.2**
comp=Z,4.8nm,0.6s,mb4.1,baz=242,slow=11,SNR=6.4
HFS Hagfors 25.06 13 P **P 07 01 58.0 -1.9**
comp=Z,2.5nm,0.6s,mb3.9,baz=189,slow=5.6,SNR=6.6
HFS LR LR 07 11 24.3
comp=Z,146nm,18.1s,MS3.5,baz=176,slow=36
NB2 NORSAR Subarra 25.52 10 P **P 07 02 03.3 -0.8**
comp=Z,5.3nm,1.0s,mb4.0,baz=198,slow=10
NOA NORSAR Array B 25.52 10 P **P 07 02 02.7 -1.4**
comp=Z,2.4nm,1.1s,mb3.6,baz=222,slow=11,SNR=3.4
NOA LR LR 07 12 29.9
comp=Z,25nm,21.2s,MS2.7,baz=215,slow=38
EIL Elat 27.85 94 LR LR 07 16 01.3
comp=Z,80nm,19.1s,MS3.3,baz=142,slow=42
MALT Malatya 28.52 75 ⇑*i*P **P 07 02 33.3 +2.0**
DBIC Dimbokro 30.11 195 LR LR 07 14 39.0
comp=Z,80nm,21.0s,MS3.3,baz=350,slow=36
ARCES ARCESS Array B 35.73 14 LR LR 07 17 40.8
comp=Z,73nm,18.0s,MS3.5,baz=120,slow=36
AKTK Aktyubinsk 41.84 52 P **P 07 04 23.9 -1.6**
AKTK Aktyubinsk 41.84 52 P **P 07 04 24.0 -1.5**
AKTO Aktyubinsk 41.84 52 P **P 07 04 23.9 -1.6**
comp=Z,1.7nm,0.6s,mb3.8,baz=275,slow=8.3,SNR=3.9
BVAR Borovoye Array 49.26 48 P **P 07 05 22.6 -1.7**
comp=Z,0.4nm,0.3s,mb3.9,baz=317,slow=5.9,SNR=2.3
SCHQ Schefferville 49.95 315 P **P 07 05 29.2 -0.2**
comp=Z,2.6nm,0.6s,mb4.4,baz=66,slow=8.5,SNR=8.3
ZALV Zalesovo Beam 57.44 44 P **P 07 06 22.6 -1.8**
comp=Z,1.0nm,0.5s,mb4.1,baz=286,slow=10,SNR=2.5
MKAR Makanchi Array 58.27 53 P **P 07 06 29.4 -0.9**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 58.27 53 P **P 07 06 29.4 -1.0**
comp=Z,1.9nm,0.8s,mb4.2,baz=291,slow=5.6,SNR=9.7
DANN Dangsing 67.25 71 *e*P **P 07 07 29.5 -1.0**
comp=Z,15nm,0.9s,mb5.0
KOLN Koldanda 67.41 71 *e*P **P 07 07 30.9 -0.6**
comp=Z,6.0nm,0.6s,mb4.8
BOSA Boshof 67.85 159 LR LR 07 35 45.9
comp=Z,87nm,21.2s,MS4.0,baz=154,slow=35
GKN Gorkha 68.09 71 *e*P **P 07 07 34.8 -1.0**
comp=Z,9.3nm,0.4s,mb5.1
DMN Daman 68.65 71 *e*P **P 07 07 39.1 -0.2**
comp=Z,12nm,0.7s,mb5.0
KKN Kakani 68.69 71 *e*P **P 07 07 38.6 -1.0**
comp=Z,16nm,0.5s,mb5.2
GUN Gumba 69.08 70 *e*P **P 07 07 41.7 -0.3**
comp=Z,12nm,0.7s,mb5.0
ZAK Zakamensk 69.22 42 *e*P **P 07 07 50.2 +7.7**
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
YKA Yellowknife Ar 69.62 334 P **P 07 07 44.4 -0.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 69.62 334 P **P 07 07 44.4 -0.3**
comp=Z,0.7nm,0.7s,mb3.7,baz=51,slow=6.2,SNR=18
YKA Yellowknife Ar 69.62 334 P **P 07 07 44.4 -0.3**
comp=Z,1.0nm,0.7s,mb3.9
BDFB Brasilia 70.26 232 LR LR 07 39 06.4
comp=Z,61nm,20.0s,MS3.9,baz=206,slow=36
SONM Songino Array 72.33 43 P **P 07 08 03.4 +2.0**
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM Songino Array 72.33 43 P **P 07 08 03.4 +2.0**
comp=Z,0.7nm,0.9s,mb3.6,baz=280,slow=8.6,SNR=3.6
ROSC El Rosal 76.58 266 LR LR 07 38 57.2
comp=Z,65nm,19.1s,MS4.0,baz=3.9,slow=33
CPUP Villa Florida 83.96 231 LR LR 07 44 44.2
comp=Z,91nm,18.7s,MS4.2,baz=105,slow=34

TXAR Lajitas Array 84.93 303 P **P 07 09 11.6 +0.4**
comp=Z,0.2nm,0.8s,mb3.3,baz=32,slow=11,SNR=2.9
TXAR LR LR 07 44 57.1
comp=Z,45nm,18.4s,MS3.9,baz=180,slow=34

*MOS **08** 07:15:53.5±1.7,5494N×16543E,h34km,mb4.3/1,Error ellipse: s-maj=36.4km s-min=19.6km az=145.7*
KRSC 08 07:15:53.5±1.0,5494N×16543E,h34km±33km,ML4.1, Komandorsky Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.95**	**312**	*e*P	Pn	07 16 24.0	-0.2
KBTR				*i* S	Sn	07 16 46.1	-1.4
MKZ	**Mys Kozlova**	**2.18**	**261**	*e*P	Pn	07 16 29.9	+2.6
MKZ				*i* S	Sn	07 16 56.8	+3.8
TUMR	**Tumrok**	**3.06**	**279**	*e*P	Pn	07 16 43.7	+4.4
KII	**Karymskiy**	**3.60**	**258**	*e*P	Pn	07 16 51.1	+4.3
SPN	**Mys Shipunski**	**3.69**	**242**	*e*P	Pn	07 16 50.5	+2.5
SPN				*i* S	Sn	07 17 31.5	+1.4
NLC	**Nalytchevo**	**4.00**	**246**	*e*P	Pn	07 16 55.3	+3.0
NLC				*i* S	Sn	07 17 40.1	+2.2
AVH	**Avacha**	**4.28**	**250**	*e*P	Pn	07 17 00.6	+4.5
AVH				*i* S	Sn	07 17 48.8	+4.0
PET	**Petropavlovsk**	**4.44**	**247**	*e*P	Pn	07 17 02.4	+4.1
PET				*i* S	Sn	07 17 52.0	+3.3
GNL	**Ganaly**	**4.56**	**257**	*e*P	Pn	07 17 04.5	+4.5
RUS	**Russkaya**	**4.82**	**241**	*e*P	Pn	07 17 06.8	+3.3
RUS				*i* S	Sn	07 17 59.2	+1.1
GRL	**Gorelyy**	**4.98**	**244**	*e*P	Pn	07 17 10.5	+4.8

*IDC **08** 07:16:16.3±2.7,7085N×12.15W,h0km,mb3.2/2,mb1 3.9/3, mb1mx3.5/19,mbtmp3.6/3,ML3.0/1,MS3.2/2,Ms1 3.2/2, ms1mx2.7/19,Error ellipse: s-maj=113.6km s-min=20.6km az=3.0*
*ISCJB **08** 07:16:17.9±0.9,717N±0.1×114W±.04,h10km,mb4.2/2, Error ellipse: s-maj=23.5km s-min=5.4km az=42.2*
*NEIC **08** 07:16:19.1±1.0,71.33N×1176W,h10km,ML2.8(BER), Error ellipse: s-maj=37.3km s-min=8.5km az=203.0*
*BER **08** 07:16:20.9±0.7,7192N×1112W,h15km±999km,MD3.7, ML2.8*
ISC 08 07:16:19.2±0.9,715N±01×115W±03,h10km,n16,σ1°07/20, mb4.2/2,1C,Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMI	**Jan Mayen**	**1.08**	**123**	*e*P	**Pg**	**07 16 40.3**	**+0.4**
JMI				*e*S	**Sg**	**07 16 55.0**	**+1.2**
JMIC	**Jan Mayen**	**1.10**	**118**	Pn	**Pn**	**07 16 40.5**	**-0.1**
JMIC	12nm,0.3s,baz=236,slow=8.3,SNR=10			Sn	**Sn**	**07 16 54.7**	**-1.2**
	63nm,0.3s,baz=154,slow=7.9,SNR=48						
JNW	**Jan Mayen West**	**1.11**	**115**	*e*P	**Pb**	**07 16 40.2**	**-0.1**
JNW				*e*S	**Sg**	**07 16 54.3**	**-0.6**
JNW				AML	AML	07 16 56.8	
	comp=Z,242nm,0.1s						
JNW	**Jan Mayen West**	**1.11**	**115**	*e*P	**Pb**	**07 16 40.2**	**-0.1**
JNW				*e*S	**Sg**	**07 16 54.3**	**-0.6**
JNE	**Jan Mayen East**	**1.16**	**116**	*e*P	**Pb**	**07 16 41.5**	**+0.1**
JNE				*e*S	**Sb**	**07 16 56.0**	**-0.4**
JNE				AML	AML	07 16 58.5	
	comp=Z,297nm,0.2s						
JNE	**Jan Mayen East**	**1.16**	**116**	*e*P	**Pb**	**07 16 41.5**	**+0.1**
JNE				*e*S	**Sb**	**07 16 56.0**	**-0.4**
DAG	**Danmarks Havn**	**5.62**	**343**	⇑*i*P	**Pn**	**07 17 41.2**	**-1.4**
	comp=Z,30nm,0.5s						
DAG				*i*		07 18 38.5	
ARCES	**ARCESS Array B**	**12.36**	**81**	Pn	**Pn**	**07 19 16.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=294,slow=12,SNR=5.1						
HFS	**Hagfors**	**15.21**	**126**	LR	LR	07 24 55.4	
	comp=Z,71nm,20.9s,baz=81,slow=35						
RES	**Resolute Bay**	**22.56**	**317**	*e*P	**P**	**07 21 21.4**	**+2.5**
	comp=Z,25nm,0.5s,mb4.9						
MLR	**Muntele Rosu**	**31.60**	**125**	LR	LR	07 35 31.5	
	comp=Z,53nm,18.7s,baz=136,slow=37						
YKA	**Yellowknife Ar**	**36.30**	**310**	P	**P**	**07 23 22.8**	**+0.6**
YKA	**Yellowknife Ar**	**36.30**	**310**	P	**P**	**07 23 22.8**	**+0.6**
	comp=Z,0.5nm,1.0s,baz=51,slow=7.1,SNR=6.4						
BJT	**Baijiatuau**	**62.77**	**43**	*e*P	**P**	**07 26 43.4**	**-0.7**
	comp=Z,167nm,0.7s						
TXAR	**Lajitas Array**	**63.17**	**282**	P	**P**	**07 26 45.7**	**-1.2**
TXAR	**Lajitas Array**	**63.17**	**282**	P	**P**	**07 26 45.7**	**-1.2**
	comp=Z,0.3nm,0.7s,mb3.5,baz=20,slow=3.0,SNR=4.2						

IDC 08 07:34:13.6±1.8,1763S×17753W,h0km,mb4.0/4, mb1 4.3/4,mb1mx3.9/13,mbtmp4.0/4,Error ellipse: s-maj=166.9km s-min=30.4km az=156.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.49**	**241**	P	P	07 41 46.1	+0.1
	1.7nm,0.6s,baz=95,slow=12,SNR=3.3						
WRA	**Warramunga Arr**	**45.50**	**259**	P	P	07 42 35.4	+0.2
	1.5nm,0.6s,baz=95,slow=8.0,SNR=31						
ASAR	**Alice Springs**	**45.67**	**254**	P	P	07 42 36.0	-0.4
	3.6nm,0.8s,baz=87,slow=8.7,SNR=32						
TXAR	**Lajitas Array**	**85.14**	**57**	P	P	07 46 52.1	+0.1
	0.2nm,0.6s,baz=224,slow=7.0,SNR=5.6						

*ISCJB **08** 08:42:59.8±0.8, 172S±0.1×6963W±.007,h163km±8km, mb4.2/5, Error ellipse: s-maj=21.3km s-min=11.6km az=177.7*
*NEIC **08** 08:43:00.3±0.8, 1726S×6959W,h152km±8km,mb3.9/1, Error ellipse: s-maj=15.7km s-min=13.9km az=202.0*
*IDC **08** 08:43:01.5±1.8, 1723S×6945W,h162km±12km,mb4.0/5, mb1 4.1/5,mb1mx3.6/15,mbtmp4.0/5,Error ellipse: s-maj=26.0km s-min=20.6km az=76.0*
ISC 08 08:43:00.5±0.8,173S±01×6963W±007,h156km±8km,n9, σ0°68/10,mb4.2/5,1C,Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.72**	**57**	P	**Pn**	**08 43 33.8**	**+0.8**
	baz=245,slow=8.1						
LPAZ				S	**Sn**	**08 43 57.9**	**+0.1**
	16nm,0.3s,baz=319,slow=24,SNR=8.8						
ARE	**Arequipa**	**1.95**	**293**	⇑*i*P	**Pn**	**08 43 34.9**	**-0.5**
ARE				*e*S	**Sn**	**08 44 02.0**	**-0.2**
BDFB	**Brasilia**	**20.79**	**89**	P	**P**	**08 47 28.3**	**-1.4**
	3.1nm,0.5s,baz=251,slow=16,SNR=12						
TRQA	**Tornquist**	**21.79**	**164**	*e*P	**P**	**08 47 39.9**	**-0.1**
	4.0nm,0.7s,mb4.0						
PLCA	**Paso Flores**	**23.42**	**182**	P	**P**	**08 47 56.1**	**+0.7**
	6.9nm,0.8s,mb4.2,baz=350,slow=14,SNR=14						
DBIC	**Dimbokro**	**68.25**	**75**	P	**P**	**08 53 44.4**	**-0.6**
	12nm,0.6s,mb4.8,baz=229,slow=7.0,SNR=21						
ULM	**Lac du Bonnet**	**71.08**	**343**	P	**P**	**08 54 01.5**	**0.0**
	5.3nm,0.4s,mb4.7,baz=153,slow=6.1,SNR=19						
YKA	**Yellowknife Ar**	**86.97**	**341**	P	**P**	**08 55 28.5**	**+1.0**
	0.8nm,0.7s,mb3.7,baz=132,slow=4.6,SNR=28						
SONM	**Songino Array**	**149.32**	**5**	PKPbc	PKPbc	09 02 32.1	+1.2
	0.6nm,0.4s,baz=333,slow=2.7,SNR=3.6						

*CSEM **08** 09:24:29.8±0.9,2989N×3629E,h10km,ML3.2,Error ellipse: s-maj=19.2km s-min=11.1km az=56.0*
*SGS **08** 09:24:29.1,30.19N×3640E,h23km*
*GII **08** 09:24:30.6±1.9,2989N×3620E,h0km,ML2.9/4*
*HLW **08** 09:24:32.5,2984N×3637E,h22km,Mb3.2*
ISC 08 09:24:28.4±1.2,2991N±005×3638E±006,h0km,n17, σ0°72/25,4C-1D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.17**	**277**	Pg	**Pg**	**09 24 50.5**	**-0.4**
HRFI				Sg	**Sg**	**09 25 05.9**	**-0.2**
EIL	**Elat**	**1.26**	**260**	Pg	**Pg**	**09 24 52.8**	**+0.2**
EIL				Sg	**Sg**	**09 25 09.9**	**+1.0**
MBH	**Mount Berech**	**1.27**	**265**	Pg	**Pg**	**09 24 52.5**	**-0.4**
MBH				Sg	**Sg**	**09 25 09.6**	**+0.2**
HQLS		**1.29**	**243**	S	**Sg**	**09 25 10.0**	**0.0**
HQLS		**1.29**	**243**	P	**Pg**	**09 24 52.5**	**-0.8**
HQLS		**1.29**	**243**	P	**Pg**	**09 24 52.5**	**-0.7**
HQLS				S	**Sg**	**09 25 10.0**	**0.0**
JLOS		**1.40**	**214**	P	**Pn**	**09 24 55.2**	**0.0**
JLOS		**1.40**	**214**	P	**Pn**	**09 24 55.2**	**0.0**
JLOS				S	**Sg**	**09 25 14.5**	**+1.1**

KRMI Paran Flat 1.45 279 Pg **Pg 09 24 55.6 -0.6**
KRMI Sg **Sg 09 25 14.8 -0.2**
HBST Basata 1.59 245 ⇑P **Pn 09 24 57.8 0.0**
HDHB Dhahab 1.94 233 ⇑P **Pn 09 25 02.4 -0.2**
KZIT Kziot 1.98 301 Pn **Pn 09 25 04.6 +1.4**
KZIT Sn **Sn 09 25 29.8 +1.1**
HNKL Nakhl 2.08 271 P **Pn 09 25 04.9 +0.4**
HNKL S **Sn 09 25 28.7 -2.5**
RSHS 2.11 221 P **Pn 09 25 04.5 -0.5**
HKAT Jabal Katrina 2.50 237 ⇑*e*P **Pn 09 25 10.4 +0.1**
SHRM 2.81 225 ⇑P **Pn 09 25 14.3 -0.3**
TR1 2.84 229 ⇓P **Pn 09 25 15.1 0.0**

*CSEM **08** 09:37:11.5±0.1,3991N×3896E,h2km,MD3.7,Error ellipse: s-maj=1.7km s-min=1.5km az=118.0*
*DDA **08** 09:37:11.6,3990N×3887E,h24km±6km,Md3.7*
*ISK **08** 09:37:11.4,3989N×3896E,h5km,MD3.7*
*ISCJB **08** 09:37:12.1±0.3,3989N±002×3894E±003,h2km,Error ellipse: s-maj=3.7km s-min=3.3km az=14.8*
ISC 08 09:37:12.8±0.6,3992N±002×3896E±004,h3km±6km,n29, σ0°87/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	**Gumushane**	**0.67**	**36**	*e*PG	**Pg**	**09 37 25.8**	**+0.2**
EZC	**Erzincan**	**0.68**	**104**	PG	**Pg**	**09 37 19.4**	**-6.3**
ESPY	**Espiye-Giresun**	**1.01**	**350**	*e*PG	**Pg**	**09 37 32.0**	**-0.2**
PTK	**Pertek**	**1.08**	**162**	*e*PG	**Pg**	**09 37 32.3**	**-1.1**
PTK				*e*SG	**Sg**	**09 37 47.4**	**0.0**
GRSN	**GIRESUNGRSN**	**1.14**	**332**	*i* P	**Pg**	**09 37 34.2**	**-0.4**
GRSN				*i* S	**Sg**	**09 37 48.8**	**-0.5**
KOPT	**Kop Dagi**	**1.18**	**85**	*i* P	**Pg**	**09 37 35.1**	**-0.3**
KOPT				*i* S	**Sg**	**09 37 54.5**	**+3.8**
MACK	**Trabzon**	**1.19**	**31**	*i* P	**Pg**	**09 37 35.1**	**-0.6**
MACK				*i* S	**Sg**	**09 37 51.3**	**+0.1**
KTUT	**Trabzon**	**1.23**	**30**	*e*PN	**Pn**	**09 37 35.7**	**-1.2**
ELZG	**Elazig**	**1.42**	**179**	*i* P	**Pn**	**09 37 38.4**	**-1.1**
ELZG				*i* S	**Sn**	**09 37 56.1**	**-2.5**
ELZG	**Elazig**	**1.42**	**179**	*i* P	**Pn**	**09 37 38.3**	**-1.2**
ELZG				*i* S	**Sn**	**09 37 56.1**	**-2.5**
SVSK	**Karacayir**	**1.51**	**271**	*e*PN	**Pn**	**09 37 40.5**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.56**	**170**	*e*PN	**Pn**	**09 37 40.5**	**-0.9**
BINT	**Bingol**	**1.57**	**131**	*e*PN	**Pn**	**09 37 41.6**	**0.0**
MYA	**Malataya**	**1.64**	**195**	*e*PN	**Pn**	**09 37 42.3**	**-0.3**
MALT	**Malatya**	**1.66**	**195**	*e*PN	**Pn**	**09 37 42.4**	**-0.3**
EZM	**Erzurum**	**1.84**	**90**	*e*PN	**Pb**	**09 37 46.3**	**-0.9**
TOKT	**Tokat**	**1.90**	**283**	*e*PN	**Pn**	**09 37 46.4**	**+0.3**
PZAR	**Pazar-Rize**	**1.94**	**49**	*e*PN	**Pn**	**09 37 47.1**	**+0.4**
BNGL	**BINGOL**	**1.95**	**119**	*i* P	**Pg**	**09 37 49.9**	**-0.2**
BNGL				*i* S	**Sg**	**09 38 17.0**	**+1.7**
URFA	**Urfa**	**2.48**	**183**	*e*PN	**Pn**	**09 37 54.3**	**+0.3**
KVT	**Kavak**	**2.51**	**299**	*e*PN	**Pn**	**09 37 55.4**	**+0.9**
BCA	**Borcka**	**2.53**	**52**	*e*PN	**Pn**	**09 37 55.8**	**+1.0**
BTMT	**Batman**	**2.61**	**130**	*e*PN	**Pn**	**09 37 55.8**	**-0.2**
BNN	**Bunyan**	**2.64**	**247**	*e*PN	**Pn**	**09 37 56.7**	**+0.4**
YOZ	**Yozgat**	**2.82**	**266**	*e*PN	**Pn**	**09 37 59.3**	**+0.5**
GAZ	**Gaziantep**	**3.07**	**207**	*e*PN	**Pn**	**09 38 03.0**	**+0.9**
ANDN	**Andirin**	**3.10**	**222**	*i* P	**Pg**	**09 38 11.3**	**-1.0**
ANDN				*i* S	**Sg**	**09 38 54.1**	**+1.7**
AGRB	**Hanur-Agry**	**3.12**	**95**	*e*PN	**Pn**	**09 38 04.5**	**+1.6**
KOZT	**Kozan**	**3.46**	**226**	*e*PN	**Pn**	**09 38 08.4**	**+0.9**

*IDC **08** 09:42:04.8±1.1,1918N×12100E,h0km,mb3.5/6, mb1 3.9/9,mb1mx3.8/21,mbtmp3.8/9,ML3.8/3,MS2.9/1, Ms1 2.9/1,ms1mx2.4/23,Error ellipse: s-maj=35.4km s-min=18.6km az=86.0*
*ISCJB **08** 09:42:08.1±0.8,1928N±007×121.1E±02,h33km,mb3.4/6, Error ellipse: s-maj=22.5km s-min=9.5km az=178.6*
*NEIC **08** 09:42:09.8±4.8,1924N×12108E,h29km±36km,Error ellipse: s-maj=27.2km s-min=10.8km az=85.0*
ISC 08 09:42:10.2±0.8,1931N±006×1210E±02,h35km,n11, σ1°01/12,mb3.4/6,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**5.35**	**3**	*e*Pn	**Pn**	**09 43 27.9**	**+0.4**
YHNB				*e*Sn	**Sn**	**09 44 26.0**	**-1.9**
JOW	**Kunigami**	**10.03**	**40**	Pn	**Pn**	**09 44 32.0**	**+0.3**
	2.3nm,0.3s,baz=194,slow=11,SNR=8.7						
DAV	**Davao City (W)**	**12.94**	**159**	*e*Pn	**Pn**	**09 45 12.0**	**+0.2**
JNU	**Nakatsue**	**16.34**	**31**	Pn	**Pn**	**09 45 57.9**	**+1.0**
	0.2nm,0.3s,baz=328,slow=26,SNR=5.4						
KSRS	**Korea Array**	**19.06**	**17**	P	**Pn**	**09 46 29.3**	**-1.1**
	0.5nm,0.3s,baz=197,slow=12,SNR=10						
KSRS				LR	LR	09 54 09.5	
	comp=Z,29nm,18.0s,baz=220,slow=38						
MJAR	**Matsushiro Arr**	**22.86**	**38**	P	**P**	**09 47 11.8**	**+1.4**
	0.6nm,0.5s,mb3.3,baz=207,slow=7.9,SNR=3.1						
SONM	**Songino Array**	**30.85**	**341**	P	**P**	**09 48 23.0**	**+0.2**
	0.1nm,0.3s,mb3.1,baz=168,slow=7.4,SNR=3.0						
WRA	**Warramunga Arr**	**41.13**	**161**	P	**P**	**09 49 49.4**	**-1.6**
	0.2nm,0.4s,mb3.1,baz=341,slow=9.2,SNR=7.5						
MKAR	**Makanchi Array**	**41.84**	**320**	P	**P**	**09 49 58.0**	**+1.3**
	0.4nm,0.4s,mb3.4,baz=106,slow=9.1,SNR=4.4						
ASAR	**Alice Springs**	**44.52**	**163**	P	**P**	**09 50 17.9**	**-0.6**
	0.4nm,0.6s,mb3.5,baz=343,slow=7.0,SNR=6.8						
YKA	**Yellowknife Ar**	**87.51**	**23**	P	**P**	**09 54 54.3**	**+0.3**
	1.3nm,0.8s,mb4.2,baz=309,slow=4.6,SNR=24						

*NEIC **08** 09:44:23.8,3194S×7132W,h47km,MD3.6(GUC),After GUC.*
GUC 08 09:44:23.8±0.7,3194S×7132W,h47km±9km,MD3.6, ML2.8,3C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.81**	**20**	⇓*i*P	Pn	09 44 39.4	+0.4
CMCH				*i* S	Sn	09 44 51.5	+1.6
CMCH	**Combarbala**	**0.81**	**20**	⇓*i*P	Pn	09 44 39.4	+0.4
CMCH				*i* S	Sn	09 44 51.5	+1.6
CMCH				AML	AML	09 44 53.5	
	comp=N,878nm,0.6s						
JACH	**Jahuel**	**0.96**	**140**	⇓*i*P	Pn	09 44 41.8	+0.9
JACH				*i* S	Sn	09 44 55.3	+1.8
PEL	**Peldehue**	**1.31**	**156**	⇑*i*P	Pn	09 44 46.5	+0.8
PEL				*i* S

JACH	Jahuel	1.14	118	⇓iP	Pn	10 05 06.1	-0.3
JACH				i S	Sb	10 05 21.5	+0.2
CMCH	Combarbala	1.18	35	⇑iP	Pn	10 05 06.1	-0.8
CMCH				i S	Sn	10 05 22.3	+0.2
CMCH	Combarbala	1.18	35	⇑iP	Pn	10 05 06.1	-0.8
CMCH				i S	Sn	10 05 22.3	+0.2
CMCH				AML	AML	10 05 28.3	
	comp=E,6μm,0.6s						
PEL	Peldehue	1.36	137	⇑iP	Pn	10 05 09.4	-0.1
PEL				i S	Sn	10 05 27.6	+0.8
PEL				AML	AML	10 05 30.9	
	comp=N,4μm,0.3s						
RCDM	Rinconada Maip	1.58	149	eP	Pn	10 05 12.8	+0.4
RCDM				i S	Sn	10 05 33.2	+1.2
RCDM	Rinconada Maip	1.58	149	eP	Pn	10 05 12.8	+0.4
RCDM				i S	Sn	10 05 33.2	+1.2
RCDM				AML	AML	10 05 34.6	
	comp=N,1μm,0.4s						
OVCH	Ovalle	1.61	18	eP	Pn	10 05 13.5	+0.7
OVCH				i S	Sn	10 05 34.3	+1.5
DSCH	Colegio Aleman	1.62	141	⇑iP	Pn	10 05 13.1	+0.2
DSCH				i S	Sn	10 05 34.2	+1.1
CLCH	Cerro Calan	1.63	140	⇑iP	Pn	10 05 13.9	+0.7
CLCH				i S	Sn	10 05 35.0	+1.6
CLCH				AML	AML	10 05 40.2	
	comp=N,1μm,0.5s						
TACH	Talagante	1.67	155	eP	Pn	10 05 14.1	+0.5
TACH				i S	Sn	10 05 36.1	+1.8
ANTU	Antumapu	1.72	146	iP	Pn	10 05 15.2	+0.8
ANTU				i S	Sn	10 05 37.4	+1.8
ANTU	Antumapu	1.72	146	iP	Pn	10 05 15.2	+0.8
ANTU				i S	Sn	10 05 37.4	+1.8
ANTU				AML	AML	10 05 42.7	
	comp=N,892nm,0.4s						
FCH	Farellones	1.73	134	⇑iP	Pn	10 05 15.1	+0.7
FCH				i S	Sn	10 05 38.1	+2.3
FCH				AML	AML	10 05 40.2	
	comp=E,914nm,0.3s						
PCH	Pirque	1.82	144	eP	Pn	10 05 17.1	+1.4
LNV	Longovilo	1.83	170	eP	Pn	10 05 16.4	+0.5
CHCH	Chadas Angostu	2.02	152	⇑iP	Pn	10 05 20.2	+1.7
CHCH				i S	Sn	10 05 46.1	+3.0
LMEL	Las Melosas	2.16	142	eP	Pn	10 05 21.6	+1.2
LMEL				i S	Sn	10 05 49.4	+3.0
LMEL	Las Melosas	2.16	142	eP	Pn	10 05 21.6	+1.2
LMEL				i S	Sn	10 05 49.4	+3.0
LMEL				AML	AML	10 05 57.3	
	comp=N,765nm,0.8s						
CACH	El Canelo	2.21	153	eP	Pn	10 05 23.1	+2.1
CACH				i S	Sn	10 05 51.1	+3.5
CICH	Cipreses	2.45	153	eP	Pn	10 05 26.3	+1.8
SFDO	San Fernando	2.55	166	eP	Pn	10 05 26.2	+0.4
SFDO				i S	Sn	10 05 58.1	+2.1
LCO	Las Campanas	3.26	17	ePn	Pn	10 05 37.3	+1.8
LCO				eSn	Sn	10 06 10.9	-2.7

*NEIC **08** 10:08:20.8, 3170S×7196W, h34km, ML3.9(GUC), After GUC.*
GUC 08 10:08:20.8±0.7, 3170S×7196W, h34km±3km, ML3.9, 8C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.97	58	⇑iP	Pn	10 08 38.4	+0.4
CMCH				i S	Sn	10 08 52.0	+1.4
CMCH	Combarbala	0.97	58	⇑iP	Pn	10 08 38.4	+0.4
CMCH				i S	Sn	10 08 52.0	+1.4
CMCH				AML	AML	10 08 56.2	
	comp=E,13μm,0.7s						
OVCH	Ovalle	1.27	31	eP	Pn	10 08 42.9	+0.8
OVCH				i S	Sn	10 09 00.0	+2.1
IHA	Instituto Hidr	1.35	168	eP	Pn	10 08 43.6	+0.4
IHA				i S	Sn	10 09 02.1	+2.2
ROCH	El Roble	1.50	148	eP	Pn	10 08 46.7	+1.4
JACH	Jahuel	1.52	130	⇑iP	Pn	10 08 47.3	+1.7
JACH				i S	Sn	10 09 07.5	+3.3
PEL	Peldehue	1.80	143	⇑iP	Pn	10 08 50.7	+1.3
PEL				i S	Sn	10 09 13.5	+2.4
PEL				AML	AML	10 09 23.9	
	comp=E,3μm,0.3s						
RCDM	Rinconada Maip	2.04	152	eP	Pn	10 08 54.2	+1.6
RCDM				i S	Sn	10 09 19.3	+2.5
RCDM	Rinconada Maip	2.04	152	eP	Pn	10 08 54.2	+1.6
RCDM				i S	Sn	10 09 19.3	+2.5
RCDM				AML	AML	10 09 29.0	
	comp=N,673nm,0.7s						
CLCH	Cerro Calan	2.08	145	⇑iP	Pn	10 08 54.7	+1.5
CLCH				i S	Sn	10 09 20.6	+2.7
CLCH				AML	AML	10 09 29.4	
	comp=E,2μm,0.6s						
TACH	Talagante	2.13	156	⇓iP	Pn	10 08 55.6	+1.7
TACH				i S	Sn	10 09 21.9	+2.7
FCH	Farellones	2.15	139	⇑iP	Pn	10 08 56.0	+1.8
FCH				i S	Sn	10 09 23.6	+3.9
FCH				AML	AML	10 09 31.4	
	comp=E,534nm,0.9s						
PCH	Pirque	2.27	148	eP	Pn	10 08 57.5	+1.6
CHCH	Chadas Angostu	2.49	154	eP	Pn	10 09 00.6	+1.8
LMEL	Las Melosas	2.61	146	⇑iP	Pn	10 09 02.6	+2.1
LMEL				i S	Sn	10 09 33.7	+2.8
LMEL	Las Melosas	2.61	146	⇑iP	Pn	10 09 02.6	+2.1
LMEL				i S	Sn	10 09 33.7	+2.8
LMEL				AML	AML	10 09 48.3	
	comp=N,793nm,0.5s						
CACH	El Canelo	2.67	155	eP	Pn	10 09 03.8	+2.5
LCO	Las Campanas	2.89	22	ePn	Pn	10 09 05.8	+1.4
LCO				eSn	Sn	10 09 38.9	+0.9
CICH	Cipreses	2.92	154	eP	Pn	10 09 07.0	+2.2
SFDO	San Fernando	3.02	165	eP	Pn	10 09 07.6	+1.5
VNA3	Neumayer Olymp	51.47	159	e	P	10 17 25.0	+2.7
VNA3				e		10 17 29.5	
VNA2	Neumayer--Watz	52.11	158	e	P	10 17 29.8	+2.7
	baz=277,slow=5.5						
VNA2				e		10 17 33.9	
SNAA	Sanae	53.69	158	e	P	10 17 41.1	+2.4
SNAA				e		10 17 45.1	

*CSEM **08** 10:09:37.4±0.1, 3996N×4169E, h5km, MD3.0, Error ellipse: s-maj=3.5km s-min=2.9km az=179.0*
*ISCJB **08** 10:09:38.7±0.7, 3998N±004×4170E±004, h9km±5km, Error ellipse: s-maj=7.4km s-min=5.7km az=1.6*
*DDA **08** 10:09:38.3, 3993N×4178E, h18km±2km, Md3.0*
*ISK **08** 10:09:38.2, 3997N×4165E, h7km, MD3.2*
ISC 08 10:09:38.6±0.8, 3994N±004×4173E±005, h4km±6km, n14, σ1$05/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.17	52	iP	Pg	10 09 42.3	+0.3
ERZM	Erzurum	0.28	263	iP	Pg	10 09 43.3	-0.8
ERZM				i S	Sg	10 09 50.0	+2.2
EZM	Erzurum	0.28	263	PG	Pg	10 09 43.2	-0.9
KOPT	Kop Dagi	0.95	275	eP	Pg	10 09 55.2	-1.6
KOPT				i S	Sg	10 10 08.7	-0.4
AGRB	Hanur-Agry	1.04	110	ePN	Pn	10 09 59.9	0.0
AGRB				eSN	Sn	10 10 15.4	+0.5
BNGL	BINGOL	1.08	205	iP	Pg	10 09 57.5	-1.9
BNGL				i S	Sg	10 10 13.9	+0.5
BINT	Bingol	1.43	223	ePN	Pn	10 10 04.8	-0.5
BINT				eSN	Sn	10 10 24.5	0.0
EZC	Erzincan	1.48	263	ePN	Pg	10 10 10.1	+3.0
BCA	Borcka	1.51	357	ePN	Pn	10 10 05.7	-0.7
BTMT	Batman	1.75	186	ePN	Pn	10 10 11.5	+1.8
GUMT	Gumushane	1.80	288	ePN	Pn	10 10 09.6	-0.8
MACK	Trabzon	1.80	304	eP	Pg	10 10 13.8	+0.7
MACK				i S	Sg	10 10 37.4	+0.9
PTK	Pertek	2.09	241	ePN	Pn	10 10 14.1	-0.3
ESPY	Espiye-Giresun	2.49	294	ePN	Pn	10 10 19.9	0.0

*IDC **08** 10:18:53.0±3.0, 3399S×17885W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/13, mbtmp4.1/3, ML4.5/1, Error ellipse: s-maj=69.9km s-min=35.7km az=120.0*
ISC 08 10:18:53.5±1.7, 342S±01×1782W±03, h35km, n12, σ0$75/17, mb3.9/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	4.43	219	ePN	Pn	10 19 59.2	+1.0
MXZ				SN	Sn	10 20 49.0	+0.5
PUZ	Puketiti	4.85	215	PN	Pn	10 20 04.2	+0.2
PUZ				SN	Sn	10 21 00.0	+1.2
MWZ	Matawai	5.41	218	PN	Pn	10 20 11.6	-0.1
MWZ				SN	Sn	10 21 12.8	0.0
URZ	Urewera	5.58	222	Pn	Pn	10 20 14.9	+0.9
	16nm,0.3s,baz=278,slow=1.4,SNR=84						
URZ				Sn	Sn	10 21 16.8	-0.1
	3.9nm,0.3s,baz=150,slow=22,SNR=11						
URZ	Urewera	5.58	222	PN	Pn	10 20 14.0	0.0
URZ				SN	Sn	10 21 16.4	-0.5
KNZ	Kokohu	5.88	213	PN	Pn	10 20 18.7	+0.6
BKZ	Black Stump Fm	6.57	219	PN	Pn	10 20 27.6	0.0
BKZ				SN	Sn	10 21 39.8	-1.5
BFZ	Birch Farm	7.87	213	ePN	Pn	10 20 44.3	-1.1
MRZ	Mangatainoka R	8.16	216	ePN	Pn	10 20 48.2	-1.2
ASAR	Alice Springs	42.88	271	P	P	10 26 48.9	+0.2
	1.5nm,0.7s,mb3.8,baz=113,slow=7.5,SNR=14						
WRA	Warramunga Arr	44.21	276	P	P	10 26 59.2	-0.2
	1.1nm,0.4s,mb4.0,baz=118,slow=7.5,SNR=51						
FINES	FINESS Array B	148.59	338	PKPbc	PKPbc	10 38 39.4	+3.5
	1.8nm,0.8s,baz=45,slow=5.7,SNR=6.8						

*BJI **08** 10:40:14.7, 4081N×7923E, h12km, mb4.1, ML3.7*
*ISCJB **08** 10:40:15.8±1.2, 4076N±007×7935E±008, h29km±10km, mb3.7/3, Error ellipse: s-maj=11.5km s-min=9.7km az=160.1*
*NNC **08** 10:40:17.9±2.0, 4092N×7903E, h0km, mb4.1, mpv3.9, Error ellipse: s-maj=16.9km s-min=15.1km az=22.0*
*IDC **08** 10:40:19.7±3.2, 4086N×7913E, h50km±32km, mb3.6/4, mb1 3.7/9, mb1mx3.5/24, mbtmp3.6/9, ML3.2/5, Error ellipse: s-maj=34.1km s-min=28.2km az=13.0*
ISC 08 10:40:15.5±2.7, 4074N±006×7929E±008, h11km±20km, n30, σ1$26/30, mb3.7/3, 8C-2D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	Ulahol	2.74	304	P	Pn	10 41 01.2	+1.8
	SNR=20						
KSH	Kashi	2.82	245	eP	Pn	10 41 02.5	+2.0
KSH				S	Sg	10 41 41.6	-4.4
KSH				Smax			
	comp=N,1μm,0.7s						
KSH				Smax			
	comp=E,1μm,0.8s						
KNDC	Almaty	3.02	326	⇓Pg	Pn	10 41 07.3	+4.0
	comp=E,69nm,0.7s						
KNDC				⇓Lg		10 41 47.0	
	comp=E,579nm,0.8s						
KZA	Kyzart	3.32	295	P	Pb	10 41 13.1	-1.3
	SNR=13						
TKM2	Tokmak 2	3.52	310	⇑Pn	Pn	10 41 11.4	+1.4
	comp=E,30nm,0.8s						
TKM2				⇑Lg		10 42 00.8	
	comp=E,136nm,1.1s						
TKM2	Tokmak 2	3.52	310	P	Pn	10 41 11.9	+1.8
	SNR=7.6						
KBK	Karagaybulak	3.77	302	P	Pb	10 41 21.2	-0.9
	SNR=12						
UCH	Uchtor	3.88	294	P	Pb	10 41 22.9	-1.0
	SNR=11						
AAK	Ala-Archa	4.06	299	P	Pn	10 41 18.2	+0.7
	comp=E,1.0nm,0.3s,baz=108,slow=9.4,SNR=8.7						
AAK	Ala-Archa	4.06	299	P	Pb	10 41 26.9	-0.1
	SNR=6.8						
CHMS	Chumysh	4.07	305	P	Pb	10 41 26.7	-0.5
	SNR=8.0						
USP	Ospenovka	4.37	307	P	Pb	10 41 34.3	+2.0
	SNR=15						
AML	Almayashu	4.43	290	P	Pb	10 41 32.7	-0.6
	SNR=24						
EKS2	Erkin-Say	4.55	297	P	Pb	10 41 35.6	+0.2
	SNR=27						
MKAR	Makanchi Array	6.43	19	P	Pn	10 41 50.8	+0.7
	comp=E,0.6nm,0.3s,baz=207,slow=13,SNR=7.4						
MK31	Makanchi Array	6.43	19	Pn	Pn	10 41 52.4	+2.3
	comp=E,7.5nm,0.9s,baz=194,slow=14,SNR=4.6						
MK31				⇑Lg		10 43 39.8	
	comp=E,32nm,0.9s						
WMQ	Urumqi	6.95	61	eP	Pn	10 41 57.6	+0.4
WMQ				Smax			
	comp=N,85nm,1.0s						
WMQ				Smax			
	comp=E,94nm,1.0s						
KK31	Karatay Array	6.96	293	⇑Pg	Pb	10 42 19.0	+2.6
	comp=E,9.1nm,0.9s,baz=113,slow=14,SNR=20						
KK31				⇑Lg		10 43 50.6	
	comp=E,48nm,1.1s						
THN	Thein Dam	8.77	200	eP	Pn	10 42 22.2	0.0
KURK	Kurchatov	9.99	358	⇑Lg		10 45 31.3	
	comp=E,69nm,1.6s						
BVA0	Borovoye Array	13.70	337	⇑Pn	Pn	10 43 28.1	-1.4
	comp=E,0.6nm,1.1s,baz=145,slow=13,SNR=6.3						
BVA0				⇑Lg		10 47 26.7	
	comp=E,1.7nm,0.8s						
BVAR	Borovoye Array	13.70	337	P	Pn	10 43 28.2	-1.4
	comp=E,0.1nm,0.3s,baz=148,slow=12,SNR=7.0						
ZALV	Zalesovo Beam	13.73	14	P	Pn	10 43 28.9	-1.1
	comp=E,0.4nm,0.3s,baz=182,slow=14,SNR=3.3						
GTA	Gaotai	15.77	88	eP	Pn	10 43 56.3	-1.1
GTA				AP	pP	10 44 00.3	-4.1
GTA				XP	sP	10 44 03.4	-2.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s						
AB31	Akbulak array	16.09	308	P	Pn	10 44 01.3	-0.1
	comp=Z,3.0nm,0.8s,baz=120,slow=10,SNR=18						
AKTO	Aktyubinsk	17.71	310	P	Pn	10 44 19.9	-2.0
	comp=Z,0.1nm,0.3s,baz=103,slow=14,SNR=4.7						
SONM	Songino Array	20.59	61	P	P	10 44 55.6	+1.3
	comp=Z,3.3nm,0.9s,baz=256,slow=10.0,SNR=18						
YKA	Yellowknife Ar	76.51	7	P	P	10 52 03.5	-1.5
	comp=Z,0.9nm,0.8s,mb3.7,baz=345,slow=5.5,SNR=13						
WRA	Warramunga Arr	79.10	128	P	P	10 52 19.4	-0.6
	comp=Z,0.9nm,1.0s,mb3.7,baz=330,slow=5.6,SNR=5.7						
ASAR	Alice Springs	81.72	131	P	P	10 52 34.0	0.0
	comp=Z,0.8nm,0.8s,mb3.7,baz=322,slow=5.6,SNR=7.9						

*ISCJB **08** 10:51:15.2±0.8, 49N±01×622E±01, h10km, mb4.0/9, MS3.5/8, Error ellipse: s-maj=21.5km s-min=18.1km az=155.1*
*IDC **08** 10:51:15.2±0.8, 485N×6222E, h0km, mb4.0/9, mb1 4.1/9, mb1mx3.9/21, mbtmp4.0/9, MS3.5/8, Ms1 3.5/8, ms1mx3.3/30, Error ellipse: s-maj=26.4km s-min=21.6km az=12.0*
*NEIC **08** 10:51:16.7±0.7, 486N×6223E, h10km, Error ellipse: s-maj=20.2km s-min=16.1km az=159.0*
ISC 08 10:51:17.1±0.8, 49N±01×622E±01, h10km, n18, σ0$63/12, mb4.0/9, MS3.5/8, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	20.29	290	LR	LR	11 02 14.3	
	comp=Z,61nm,19.9s,MS3.0,baz=12,slow=32						
KMBO	Kilima Mbogo	25.66	257	P	P	10 56 48.4	+1.0
KMBO				LR	LR	11 06 28.0	
KMBO	Kilima Mbogo	25.66	257	P	P	10 56 48.4	+1.0
	3.4nm,1.0s,mb3.8,baz=63,slow=17,SNR=5.6						
KMBO				LR	LR	11 06 28.0	
	comp=Z,99nm,18.2s,MS3.4,baz=83,slow=36						
MKAR	Makanchi Array	45.23	19	P	P	10 59 34.4	0.0
	0.3nm,0.2s,mb3.7,baz=226,slow=9.5,SNR=3.4						
MKAR				LR	LR	11 16 46.1	
	comp=Z,30nm,20.4s,MS3.2,baz=355,slow=34						
AKTK	Aktyubinsk	45.56	356	P	P	10 59 37.5	+0.5
AKTO	Aktyubinsk	45.56	356	P	P	10 59 37.5	+0.5
	1.2nm,0.7s,mb4.0,baz=142,slow=9.5,SNR=4.7						
BVAR	Borovoye Array	48.48	7	LR	LR	11 21 11.6	
	comp=Z,27nm,21.2s,MS3.2,baz=207,slow=37						
ZALV	Zalesovo Beam	52.29	17	P	P	11 00 27.8	-0.8
	1.2nm,0.4s,mb4.2,baz=214,slow=10,SNR=3.5						
SONM	Songino Array	57.06	34	P	P	11 01 03.9	+0.6
	0.5nm,0.6s,mb3.8,baz=233,slow=6.9,SNR=4.2						
SONM				LR	LR	11 25 20.5	
	comp=Z,54nm,18.9s,MS3.7,baz=258,slow=36						
DBIC	Dimbokro	66.73	275	P	P	11 02 08.2	-0.9
DBIC				LR	LR	11 31 15.1	
DBIC	Dimbokro	66.73	275	P	P	11 02 08.2	-0.9
	4.3nm,0.9s,mb4.5,baz=64,slow=7.9,SNR=5.0						
DBIC				LR	LR	11 31 15.1	
	comp=Z,44nm,18.3s,MS3.7,baz=284,slow=36						
ESDC	Sonseca Array	68.66	311	P	P	11 02 20.1	-0.8
	0.3nm,0.4s,mb3.6,baz=118,slow=4.4,SNR=4.5						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	Nakatsue	69.50	57	LR	LR	11 33 41.5	
	comp=Z,37nm,18.7s,MS3.7,baz=50,slow=37						
WRA	Warramunga Arr	74.96	112	P	P	11 02 58.9	-0.2
	3.5nm,0.8s,mb4.3,baz=291,slow=4.8,SNR=30						
ASAR	Alice Springs	75.30	116	P	P	11 03 01.1	+0.1
	2.0nm,0.9s,mb4.0,baz=286,slow=5.4,SNR=19						
STKA	Stephens Creek	83.55	123	LR	LR	11 36 25.8	
	comp=Z,151nm,19.6s,MS4.4,baz=205,slow=32						
TXAR	Lajitas Array	143.41	339	PKP	PKPdf	11 10 50.9	-1.7
TXAR	Lajitas Array	143.41	339	PKP	PKPdf	11 10 50.9	-1.7
	0.5nm,0.9s,baz=25,slow=4.1,SNR=4.6						

MEX 08 11:01:17.0±1.4, 1739N×9453W, h119km±169km, MD4.2, Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	Oaxaca	2.12	262	iP	Pn	11 01 50.4	-1.4
OXX				i S	Sn	11 02 16.1	-2.5
VHO	Vista Hermosa	2.13	262	iP	Pn	11 01 51.6	-0.4
VHO				i S	Sn	11 02 18.7	-0.1
HUIG	Huatulco	2.21	223	iP	Pn	11 01 51.3	-1.8
HUIG				i S	Sn	11 02 19.2	-1.4
TPIG	Tehuac#an	2.88	291	iP	Pn	11 02 01.0	-0.7
TPIG				i S	Sn	11 02 33.0	-3.3
PPM	Popocatepetl	4.24	294	iP	Pn	11 02 20.7	+1.0
PPM				i S	Sn	11 03 06.7	-1.6
IIO	Organos	4.54	300	iP	Pn	11 02 24.2	+0.4
ACX	Acapulco	5.18	265	iP	Pn	11 02 28.8	-3.6

*ISCJB **08** 11:10:20.2±0.4, 1007N±003×12554E±005, h131km±3km, mb4.0/17, Error ellipse: s-maj=8.0km s-min=4.8km az=174.4*
*MAN **08** 11:10:20, 1007N×12555E, h122km, mb4.9, ML3.8, MS3.9*
*IDC **08** 11:10:22.6±2.4, 1002N×12559E, h141km±21km, mb3.7/12, mb1 3.7/13, mb1mx3.6/23, mbtmp3.7/13, Error ellipse: s-maj=28.7km s-min=12.4km az=87.0*
ISC 08 11:10:21.1±0.4, 1007N±003×12555E±005, h126km±3km, n37, σ1$09/51, mb4.2/17, 2C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	0.29	192	eP	Pn	11 10 38.1	-0.7
SCPH				eS	Sn	11 10 51.2	-0.9
MSLP	Maasin	0.68	275	eP	Pn	11 10 40.9	0.0
MSLP				eS	Sn	11 10 56.0	0.0
PLP	Palo	1.23	333	eP	Pn	11 10 46.0	0.0
PLP				eS	Sn	11 11 04.3	+4.9
OCLP	Ormoc	1.34	317	eP	Pn	11 10 48.0	+0.7
BESP	Borongan	1.53	356	eP	Pn	11 10 50.2	+0.9
BESP				eS	Sn	11 11 10.6	+3.9
LLP	Lapu-Lapu	1.58	279	eP	Pn	11 10 50.1	+0.2
LLP				eS	Sn	11 11 11.6	+3.7
TBP	Tagbilaran	1.71	257	eP	Pn	11 10 51.2	-0.1
TBP				eS	Sn	11 11 13.7	+2.7
CGP	Cagayan de Oro	1.81	208	eP	Pn	11 10 52.0	-0.6
CGP				eS	Sn	11 11 29.5	+16
BIPH	Bislig	2.04	157	⇓iP	Pn	11 10 53.1	-2.2
BIPH				i S	Sn	11 11 23.6	+4.6
BUKP	Musuan	2.23	193	eP	Pn	11 10 58.1	+0.4
BUKP				eS	Sn	11 11 28.2	+4.4
CNP	Catarman	2.58	340	eP	Pn	11 11 01.9	-0.3
CNP				eS	Sn	11 11 34.0	+1.8
DCPH	Dipolog City	2.62	236	⇑eP	Pn	11 11 02.0	-0.7
DCPH				eS	Sn	11 11 33.5	+0.2
GUIM	Jordan	2.97	281	eP	Pn	11 11 09.8	+2.7
GUIM				eS	Sn	11 11 45.7	+4.1
PAGZ	Pagadian	3.08	224	eP	Pn	11 11 08.7	+0.1
RCP	Roxas	3.13	299	⇑eP	Pn	11 11 10.1	+0.8
PVCP	Virac	3.76	339	eP	Pn	11 11 16.8	-0.8
PVCP				eS	Sn	11 12 01.3	+0.4
BALP	Baler	6.84	326	eP	Pn	11 11 58.4	-0.6
BALP				eS	Sn	11 13 08.3	-7.2
CAUP	Cauayan	7.74	332	eP	Pn	11 12 10.4	-0.7
JOW	Kunigami	16.87	8	P	Pn	11 14 12.4	+2.7
	2.5nm,0.3s,baz=179,slow=12,SNR=12						
CBIJ	Chichi jima	23.09	41	P	P	11 15 15.3	-0.6
	33nm,0.4s,mb5.0,baz=282,slow=18,SNR=7.4						
KSRS	Korea Array	27.35	4	P	P	11 15 54.3	0.0
	0.6nm,0.5s,mb3.4,baz=188,slow=11,SNR=4.7						
WRA	Warramunga Arr	31.05	164	P	P	11 16 25.9	-1.4
	0.3nm,0.6s,mb3.2,baz=345,slow=9.1,SNR=4.2						
WRA				ScP	ScP	11 22 49.3	-2.3
	0.7nm,0.8s,baz=343,slow=3.2,SNR=7.6						
ASAR	Alice Springs	34.51	166	P	P	11 16 56.9	-0.4
	0.2nm,0.3s,mb3.4,baz=346,slow=7.0,SNR=11						
ASAR				ScP	ScP	11 23 01.5	-2.0
	0.4nm,0.7s,baz=345,slow=3.8,SNR=5.5						
ASAJ	Asahikawa	37.00	21	P	P	11 17 19.6	+1.3
	5.6nm,0.8s,mb4.5,baz=243,slow=7.4,SNR=7.6						
JIRN	Jiri	40.92	301	eP	P	11 17 51.7	+0.3
	8.2nm,0.5s,mb4.8						
SONM	Songino Array	40.96	340	P	P	11 17 52.0	+0.7
	0.3nm,0.5s,mb3.4,baz=150,slow=9.6,SNR=2.6						
GUN	Gumba	41.26	301	eP	P	11 17 54.3	+0.2
	15nm,0.7s,mb4.9						
GKN	Gorkha	42.34	301	eP	P	11 18 02.7	-0.2
KOLN	Koldanda	43.16	300	eP	P	11 18 09.2	-0.3
	10.0nm,0.7s,mb4.7						
DANN	Dangsing	43.18	301	eP	P	11 18 09.4	-0.3
	8.1nm,0.5s,mb4.7						
NWAO	Narrogin (SRO)	43.48	190	P	P	11 18 12.9	+1.0
	2.5nm,0.4s,mb4.3,baz=57,slow=3.3,SNR=5.7						
MKAR	Makanchi Array	51.76	323	P	P	11 19 16.1	+0.3
	0.6nm,0.6s,mb3.8,baz=128,slow=8.3,SNR=6.8						
KDAK	Kodiak Island	77.21	33	P	P	11 22 01.2	+0.2
	3.9nm,0.7s,mb4.3,baz=258,slow=5.8,SNR=6.5						
ARCES	ARCESS Array B	84.14	340	P	P	11 22 36.7	-1.0
	8.1nm,1.1s,mb4.5,baz=46,slow=5.2,SNR=4.2						
INK	Inuvik	84.73	22	P	P	11 22 40.8	0.0
	2.8nm,0.9s,mb4.2,baz=280,slow=4.4,SNR=22						
FINES	FINESS Array B	85.73	332	P	P	11 22 45.0	-0.9
	1.1nm,0.6s,mb3.9,baz=75,slow=2.2,SNR=3.9				

BIA	**Bitola**	**1.15**	**23**	*i* Pg	**Pg**	**11**	**11**	**03.2**	**-1.4**
OHR	**Ohrid**	**1.15**	**2**	*e*Pg	**Pg**	**11**	**11**	**03.8**	**-0.9**
OHR				*e*Sg	**Sg**	**11**	**11**	**19.3**	**-0.3**
OHR	**Ohrid**	**1.15**	**2**	*i* Pg	**Pg**	**11**	**11**	**06.6**	**+2.0**
LKD	**Levkas**	**1.25**	**183**	*e*Pg	**Pg**	**11**	**11**	**06.1**	**-0.4**
LKD				*e*Sg	**Sg**	**11**	**11**	**25.2**	**+2.4**
EVR	**Evrytania**	**1.33**	**141**	*e*PN	**Pn**	**11**	**11**	**07.6**	**-0.2**
EVR				*e*SN	**Sn**	**11**	**11**	**26.9**	**+1.0**
EVR	**Evrytania**	**1.33**	**141**	*e*Pn	**Pn**	**11**	**11**	**07.1**	**-0.7**
LIT	**Litokhoron**	**1.35**	**83**	*e*Pg	**Pg**	**11**	**11**	**08.3**	**-0.2**
LIT				*e*Sg	**Sg**	**11**	**11**	**27.9**	**+1.9**
KRUS	**Krusevo**	**1.46**	**15**	*e*Pg	**Pg**	**11**	**11**	**10.8**	**+0.2**
KRUS				*i* Sg	**Sg**	**11**	**11**	**30.9**	**+1.3**
KRUS	**Krusevo**	**1.46**	**15**	*e*Pg	**Pg**	**11**	**11**	**10.8**	**+0.2**
KRUS				*i* Sg	**Sg**	**11**	**11**	**30.8**	**+1.3**
TIR	**Tirane**	**1.54**	**335**	*e*PN	**Pn**	**11**	**11**	**02.2**	**-8.5**
AGG	**Agios Georgios**	**1.55**	**127**	*e*Pg	**Pg**	**11**	**11**	**10.9**	**-1.3**
AGG				*e*Sg	**Sg**	**11**	**11**	**33.0**	**+0.7**
GRG	**Griva**	**1.61**	**51**	*e*Pg	**Pg**	**11**	**11**	**11.7**	**-1.8**
QSH	**Qafa e Shtames**	**1.68**	**338**	*e*PN	**Pn**	**11**	**11**	**07.5**	**-5.2**
VLS	**Valsamata**	**1.78**	**184**	*e*Pb	**Pb**	**11**	**11**	**14.9**	**-0.8**
VLS	**Valsamata**	**1.78**	**184**	*e*Pn	**Pn**	**11**	**11**	**14.4**	**+0.4**
VLS				*e*Sn	**Sn**	**11**	**11**	**35.2**	**-1.9**
VLS	**Valsamata**	**1.78**	**184**	*e*PN	**Pb**	**11**	**11**	**14.9**	**-0.8**
VLS				*e*SN	**Sn**	**11**	**11**	**38.8**	**+1.8**
VLS	**Valsamata**	**1.78**	**184**	*e*Pb	**Pb**	**11**	**11**	**14.9**	**-0.8**
VLS				*e*Sn	**Sn**	**11**	**11**	**35.2**	**-1.9**
KFL	**Anninata**	**1.85**	**179**	*e*Pb	**Pb**	**11**	**11**	**15.1**	**-1.7**
HORT	**Hortiatis**	**1.92**	**70**	*e*Pb	**Pb**	**11**	**11**	**15.9**	**-2.1**
HORT				*e*Sb	**Sb**	**11**	**11**	**42.3**	**+0.1**
XOR	**Xorichti**	**1.99**	**107**	*e*Pn	**Pn**	**11**	**11**	**16.7**	**-0.2**
KNT	**Kendrikon**	**2.04**	**53**	*e*Pn	**Pn**	**11**	**11**	**17.5**	**-0.1**
PLG	**Polygyros**	**2.12**	**78**	*e*Pn	**Pn**	**11**	**11**	**18.7**	**+0.1**
PLG				*e*Sn	**Sn**	**11**	**11**	**46.9**	**+1.6**
PLG	**Polygyros**	**2.12**	**78**	*e*PB	**Pb**	**11**	**11**	**19.8**	**-1.6**
SOH	**Sokhos**	**2.18**	**66**	*e*Pn	**Pn**	**11**	**11**	**19.6**	**+0.2**
LKR	**Lokris**	**2.19**	**126**	*e*PN	**Pn**	**11**	**11**	**22.2**	**+2.6**
PAIG	**Paliouri**	**2.26**	**90**	*e*Pn	**Pn**	**11**	**11**	**20.5**	**-0.1**
OUR	**Ouranopolis**	**2.52**	**80**	*e*Pn	**Pn**	**11**	**11**	**24.2**	**+0.1**
BARS	**Barje**	**2.97**	**16**	*i* Pn	**Pn**	**11**	**11**	**31.2**	**+0.9**
TIP	**Timpagrande**	**3.17**	**257**	*e*PN	**Pn**	**11**	**11**	**32.4**	**-0.7**
TIP	**Timpagrande**	**3.17**	**257**	*e*Pn	**Pn**	**11**	**11**	**32.4**	**-0.7**
BOLS	**Boljevac**	**3.97**	**13**	*i* Pn	**Pn**	**11**	**11**	**45.0**	**+0.9**
DIVS	**Divibare**	**4.17**	**353**	*i* Pn	**Pn**	**11**	**11**	**48.6**	**+1.7**

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*CSEM **08** 11:14:21.5, 3009N×3656E, h23km, ML2.9, After SNSN*
*SGS **08** 11:14:21.5, 3009N×3656E, h23km*
*GII **08** 11:14:23.3±1.2, 2987N×3623E, h0km, ML2.4/6*
ISC 08 11:14:21.5±1.3,**2985N**±004×**3639E**±007,**h0**km,**n11**, σ0§69/19,**Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
HRFI	**Mount Harif**	**1.19**	**279**	Pg	**Pg**	**11 14 43.7**		**-0.7**
HRFI				Sg	**Sg**	**11 14 59.9**		**0.0**
EIL	**Elat**	**1.27**	**262**	Pg	**Pg**	**11 14 45.5**		**-0.3**
EIL				Sg	**Sg**	**11 15 02.6**		**+0.3**
HQLS		**1.28**	**245**	P	**Pg**	**11 14 45.7**		**-0.5**
HQLS		**1.28**	**245**	P	**Pg**	**11 14 45.7**		**-0.5**
HQLS				S	**Sg**	**11 15 03.7**		**+0.9**
MBH	**Mount Berech**	**1.29**	**268**	Pg	**Pg**	**11 14 45.6**		**-0.6**
MBH				Sg	**Sg**	**11 15 02.7**		**-0.2**
JLOS		**1.36**	**215**	P	**Pg**	**11 14 47.3**		**-0.4**
JLOS		**1.36**	**215**	P	**Pg**	**11 14 47.3**		**-0.4**
JLOS				S	**Sg**	**11 15 06.6**		**+1.2**
KRMI	**Paran Flat**	**1.47**	**281**	Pn	**Pn**	**11 14 48.8**		**-0.5**
KRMI				Sn	**Sn**	**11 15 08.0**		**-1.3**
MZDA	**Masada**	**1.70**	**329**	Pn	**Pn**	**11 14 53.2**		**+0.7**
MZDA				Sn	**Sn**	**11 15 15.6**		**+0.6**
KZIT	**Kziot**	**2.02**	**302**	Pn	**Pn**	**11 14 57.8**		**+1.0**
KZIT				Sn	**Sn**	**11 15 23.3**		**+0.5**
RSHS		**2.09**	**222**	P	**Pn**	**11 14 57.1**		**-0.7**

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*GRAL **08** 11:17:40.1±0.8, 3373N×3722E, h34km±39km, MD3.3*
*GII **08** 11:17:40.6±0.5, 3395N×3689E, h0km, ML3.0/3*
ISC 08 11:17:40.2±1.8,**3376N**±005×**3714E**±010,**h0**km,**n8**, σ0§93/16,**Jordan - Syria region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
FKH	**Fakeheh**	**0.77**	**308**	*e*Pg	**Pg**	**11 17 55.6**		**+0.6**
FKH				*e*Sg	**Sg**	**11 18 06.5**		**+1.5**
HWQ	**Hawqa**	**1.12**	**298**	*e*Pg	**Pg**	**11 18 01.1**		**-0.4**
HWQ				*e*Sg	**Sg**	**11 18 16.2**		**+0.2**
RCY	**Rachaya**	**1.13**	**256**	*e*Pg	**Pg**	**11 18 00.7**		**-1.2**
RCY				*e*Sg	**Sg**	**11 18 16.7**		**+0.2**
RCY	**Rachaya**	**1.13**	**256**	*e*Pg	**Pg**	**11 18 00.6**		**-1.3**
RCY				*e*Sg	**Sg**	**11 18 16.7**		**+0.2**
BHL	**Bhannes**	**1.24**	**277**	*e*Pg	**Pg**	**11 18 02.4**		**-1.6**
BHL				*e*Sg	**Sg**	**11 18 19.2**		**-0.9**
KSDI	**Kefar Szold**	**1.36**	**246**	Pg	**Pg**	**11 18 05.4**		**-0.8**
KSDI				Sg	**Sg**	**11 18 24.0**		**-0.4**
MMB2	**Mount Meron ar**	**1.64**	**243**	Pn	**Pn**	**11 18 09.8**		**-0.4**
MMB2				Sn	**Sn**	**11 18 32.1**		**+0.2**
MMLI	**Mount Malkishu**	**1.95**	**228**	Pn	**Pn**	**11 18 15.2**		**+0.7**
MMLI				Sn	**Sn**	**11 18 41.5**		**+1.9**

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*NEIC **08** 11:17:54.1, 1656N×9961W, h7km, MD3.5(MEX), After MEX.*
MEX 08 11:17:55.4±0.6,**1659N×9963W**,**h11**km±90km,**MD3.5**, **Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
ACX	**Acapulco**	**0.39**	**315**	*i* P	Pg	11 18 01.5		-1.7
ACX				*i* S	Sg	11 18 08.5		+0.1
CAIG	**El Cayaco**	**0.76**	**307**	*i* P	Pg	11 18 08.1		-2.1
CAIG				*i* S	Sg	11 18 17.9		-2.3
MEIG	**Mezcala**	**1.33**	**0**	*i* P	Pn	11 18 16.6		-3.3
MEIG				*e*S	Sb	11 18 32.4		-5.0
MZVM		**2.62**	**8**	*i* P	Pn	11 18 37.0		-0.6
PPM	**Popocatepetl**	**2.65**	**21**	*i* P	Pn	11 18 35.9		-2.1
PPM				*i* S	Sn	11 19 05.0		-5.0
VHO	**Vista Hermosa**	**2.82**	**80**	*i* P	Pn	11 18 36.2		-4.1
VHO				*i* S	Sn	11 19 12.1		-2.1
IIO	**Organos**	**3.11**	**16**	*i* P	Pn	11 18 40.4		-4.0

WEL 08 11:37:45.0±0.3,**4459S×16817E**,**h86**km±2km,**ML3.5**/12, **Error ellipse: s-maj=2.4km s-min=1.7km az=90.0, South Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
MSZ	**Milford Sound**	**0.19**	**245**	PN	Pn	11 37 57.1		-0.3
MSZ				SN	Sn	11 38 06.7		0.0
WKZ	**Wanaka**	**0.65**	**112**	PN	Pn	11 38 00.8		+0.2
WKZ				SN	Sn	11 38 10.9		-1.4
JCZ	**Jackson Bay**	**0.67**	**39**	PN	Pn	11 38 01.1		+0.3
JCZ				SN	Sn	11 38 12.2		-0.4
MLZ	**Mavora Lakes**	**0.76**	**180**	PN	Pn	11 38 01.8		+0.1
EAZ	**Earnscleugh**	**1.03**	**129**	PN	Pn	11 38 04.8		0.0
DCZ	**Deep Cove**	**1.14**	**219**	PN	Pn	11 38 05.4		-0.6
WHZ	**Wether Hill Ro**	**1.31**	**187**	PN	Pn	11 38 08.3		+0.1
LBZ	**Lake Benmore**	**1.46**	**83**	PN	Pn	11 38 09.5		-0.4
FOZ	**Fox Glacier**	**1.50**	**47**	PN	Pn	11 38 11.0		+0.5
TUZ	**Tuapeka**	**1.71**	**143**	PN	Pn	11 38 13.3		+0.1
ODZ	**Otahua Downs**	**1.82**	**105**	PN	Pn	11 38 14.3		-0.3
PYZ	**Puysegur Point**	**1.89**	**213**	PN	Pn	11 38 16.5		+0.9
SYZ	**Scrubby Hill**	**2.06**	**161**	PN	Pn	11 38 18.0		+0.2
HHSZ	**Highcliff Hill**	**2.15**	**128**	PN	Pn	11 38 19.4		+0.5
APZ	**The Paps**	**2.25**	**183**	PN	Pn	11 38 20.2		0.0
RPZ	**Rata Peaks**	**2.25**	**68**	PN	Pn	11 38 19.3		-1.1
WVZ	**Waitaha Valley**	**2.40**	**52**	PN	Pn	11 38 21.1		-1.1
MQZ	**McQueen's Vall**	**3.34**	**76**	PN	Pn	11 38 33.5		-1.5
CRLZ	**Canterbury Las**	**3.36**	**74**	PN	Pn	11 38 33.4		-1.8
LTZ	**Lake Taylor**	**3.48**	**60**	PN	Pn	11 38 34.9		-1.9
DSZ	**Denniston Nort**	**3.89**	**44**	PN	Pn	11 38 41.6		-0.8
THZ	**Tophouse**	**4.47**	**52**	*e*PN	Pn	11 38 48.4		-1.9
KHZ	**Kahutara**	**4.47**	**63**	*e*PN	Pn	11 38 46.0		-4.3
QRZ	**Quartz Range**	**4.95**	**42**	*e*PN	Pn	11 38 56.6		-0.1
NNZ	**Nelson**	**5.10**	**50**	*e*PN	Pn	11 38 59.8		+1.0

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*NIC **08** 11:43:49.9±0.4, 3233N×3331E, h36km, ML3.3, MW3.3*
*CSEM **08** 11:43:50.7±0.1, 3248N×3330E, h40km, Mw3.3, Error ellipse: s-maj=2.3km s-min=1.4km az=79.0*
*ISCJB **08** 11:43:50.8±0.3, 3246N±002×3339E±003, h33km, Error ellipse: s-maj=3.4km s-min=2.6km az=174.0*
*GRAL **08** 11:43:50.2±8.5, 3258N×3309E, h35km±352km, MD3.8*
*NSSC **08** 11:43:54.1, 3274N×3342E, h40km*
*GII **08** 11:43:54.2±1.0, 3250N×3341E, h31km, ML3.3/3*
*HLW **08** 11:43:58.9, 3188N×3292E, h29km, Mb3.8*
ISC 08 11:43:52.4±0.3,**3246N**±002×**3342E**±003,**h35**km,**n78**, σ1§05/109,**8C-9D, Eastern Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
OFRI	**'Ofer**	**1.33**	**83**	Pn	**Pn**	**11 44 13.8**		**-0.6**
SLTI	**Sal'it**	**1.39**	**99**	Pn	**Pn**	**11 44 15.3**		**+0.1**
SLTI				Sn	**Sn**	**11 44 32.2**		**-0.1**
HNTI	**Hanita**	**1.60**	**67**	Pn	**Pn**	**11 44 18.0**		**-0.2**
HNTI				Sn	**Sn**	**11 44 36.7**		**-0.9**
MMLI	**Mount Malkishu**	**1.69**	**90**	Pn	**Pn**	**11 44 19.4**		**0.0**
MMLI				Sn	**Sn**	**11 44 39.2**		**-0.6**
MMB2	**Mount Meron ar**	**1.75**	**71**	Pn	**Pn**	**11 44 20.1**		**-0.1**
MMA0	**Mount Meron ar**	**1.76**	**71**	Pn	**Pn**	**11 44 20.2**		**-0.1**
MMA0B	**Mount Meron ar**	**1.76**	**71**	Pn	**Pn**	**11 44 20.2**		**-0.1**
MMA0B				Sn	**Sn**	**11 44 40.6**		**-0.9**
KZIT	**Kziot**	**1.76**	**152**	Pn	**Pn**	**11 44 21.4**		**+1.1**
KZIT				Sn	**Sn**	**11 44 41.7**		**+0.1**
RTMI	**Retamim**	**1.77**	**142**	Pn	**Pn**	**11 44 21.4**		**+0.9**
HMDT	**Nahal Hemdat**	**1.79**	**96**	Pn	**Pn**	**11 44 21.6**		**+0.8**
YTIR	**Yattir**	**1.81**	**127**	Pn	**Pn**	**11 44 21.9**		**+0.9**
DSI	**Dead Sea**	**1.89**	**118**	Pn	**Pn**	**11 44 22.8**		**+0.7**
MATL	**Matirih**	**1.90**	**57**	*e*P	**Pn**	**11 44 22.4**		**+0.1**
MZDA	**Masada**	**2.01**	**124**	Pn	**Pn**	**11 44 24.9**		**+1.0**
KSDI	**Kefar Szold**	**2.02**	**68**	Pn	**Pn**	**11 44 24.3**		**+0.4**
KSDI				Sn	**Sn**	**11 44 47.5**		**-0.4**
KSHT	**Keshet**	**2.08**	**75**	Pn	**Pn**	**11 44 25.8**		**+1.0**
HRI	**Mount Hermon**	**2.10**	**67**	Pn	**Pn**	**11 44 25.8**		**+0.7**
TCHB	**Talchebab**	**2.16**	**84**	⇑P	**Pn**	**11 44 27.2**		**+1.3**
TCHB				⇑S	**Sn**	**11 44 51.8**		**+0.4**
TCHB	**Talchebab**	**2.16**	**84**	⇑*i*P	**Pn**	**11 44 27.2**		**+1.3**
TCHB				⇑*i*S	**Sn**	**11 44 51.8**		**+0.4**
BEYL	**Beyrouth**	**2.23**	**51**	*e*P	**Pn**	**11 44 29.6**		**+2.7**
BRBR	**Barbar**	**2.33**	**65**	⇑P	**Pn**	**11 44 29.0**		**+0.8**
BRBR				⇑S	**Sn**	**11 44 54.4**		**-1.2**
BRBR	**Barbar**	**2.33**	**65**	⇑*i*P	**Pn**	**11 44 29.0**		**+0.8**
BRBR				⇑*i*S	**Sn**	**11 44 54.4**		**-1.1**
SZAC	**Souni-Zanaja** 22nm,0.3s	**2.33**	**349**	P	**Pn**	**11 44 28.6**		**+0.4**
SZAC				S	**Sn**	**11 44 57.1**		**+1.5**
BHL	**Bhannes**	**2.36**	**52**	*e*P	**Pn**	**11 44 29.1**		**+0.5**
BHL				*e*S	**Sn**	**11 44 54.3**		**-2.0**
CSS	**Prodhromos** 3.9nm,0.3s	**2.49**	**358**	P	**Pn**	**11 44 29.9**		**-0.5**
CSS				S	**Sn**	**11 45 01.4**		**+1.8**
PRNI	**Paran**	**2.50**	**147**	Pn	**Pn**	**11 44 31.2**		**+0.7**
HNKL	**Nakhl**	**2.57**	**169**	⇑P	**Pn**	**11 44 31.9**		**+0.3**
PPCY	**Paphos**	**2.58**	**340**	P	**Pn**	**11 44 30.3**		**-1.3**
PHNC	**Paralimni** 4.2nm,0.3s	**2.58**	**11**	P	**Pn**	**11 44 30.2**		**-1.5**
PHNC				S	**Sn**	**11 45 00.0**		**-1.9**
KRMI	**Paran Flat**	**2.59**	**154**	Pn	**Pn**	**11 44 32.4**		**+0.6**
QASN	**Qassioun**	**2.63**	**65**	⇑P	**Pn**	**11 44 33.0**		**+0.8**
QASN				⇑S	**Sn**	**11 45 01.2**		**-1.6**
QASN	**Qassioun**	**2.63**	**65**	⇑*i*P	**Pn**	**11 44 33.0**		**+0.8**
QASN				⇑*i*S	**Sn**	**11 45 01.2**		**-1.7**
TOTH	**TOTAH**	**2.68**	**70**	⇑P	**Pn**	**11 44 34.5**		**+1.4**
TOTH				⇑S	**Sn**	**11 45 02.9**		**-1.4**
TOTH	**TOTAH**	**2.68**	**70**	⇑*i*P	**Pn**	**11 44 34.5**		**+1.5**
TOTH				⇑*i*S	**Sn**	**11 45 02.9**		**-1.4**
LEF	**Lefka**	**2.69**	**351**	*e*PN	**Pn**	**11 44 33.1**		**0.0**
MAMC	**Mammari**	**2.71**	**356**	P	**Pn**	**11 44 33.1**		**-0.3**
ALFC	**Alevga** 8.5nm,0.2s	**2.77**	**346**	P	**Pn**	**11 44 34.0**		**-0.3**
ALFC				S	**Sn**	**11 45 08.0**		**+1.5**
HWQ	**Hawqa**	**2.78**	**49**	*e*P	**Pn**	**11 44 34.8**		**+0.4**
HWQ				*e*S	**Sn**	**11 45 03.8**		**-2.9**
HRFI	**Mount Harif**	**2.79**	**150**	Pn	**Pn**	**11 44 35.1**		**+0.6**
HRFI				Sn	**Sn**	**11 45 07.2**		**+0.3**
SALA	**Sala**	**2.81**	**84**	⇑P	**Pn**	**11 44 35.9**		**+1.2**
SALA				⇑S	**Sn**	**11 45 07.5**		**+0.1**
SALA	**Sala**	**2.81**	**84**	⇑*i*P	**Pn**	**11 44 35.9**		**+1.2**
SALA				⇑*i*S	**Sn**	**11 45 07.5**		**+0.1**
LFK	**Lefkose**	**2.81**	**2**	*e*PN	**Pn**	**11 44 34.8**		**+0.1**
KOT	**Kottamia**	**2.87**	**209**	⇑P	**Pn**	**11 44 31.6**		**-4.0**
EIL	**Elat**	**3.08**	**154**	Pn	**Pn**	**11 44 39.1**		**+0.6**
EIL				Sn	**Sn**	**11 45 13.9**		**-0.1**
EREN	**Erenkoy**	**3.12**	**11**	*e*PN	**Pn**	**11 44 39.6**		**+0.6**
SQR		**3.20**	**217**	P	**Pn**	**11 44 36.4**		**-3.8**
HSAF	**As Saff**	**3.26**	**210**	P	**Pn**	**11 44 37.1**		**-3.8**
HBST	**Basata**	**3.43**	**160**	⇓P	**Pn**	**11 44 44.0**		**+0.7**
HMYD	**Mayadein**	**3.48**	**221**	⇑*e*P	**Pn**	**11 44 40.3**		**-3.7**
BIDA	**Albida**	**3.51**	**43**	⇑P	**Pn**	**11 44 44.1**		**-0.3**
BIDA				⇑S	**Sn**	**11 45 20.5**		**-4.2**
BIDA	**Albida**	**3.51**	**43**	⇑*i*P	**Pn**	**11 44 44.1**		**-0.3**
ROOS	**tl_alroos**	**3.66**	**61**	⇑P	**Pn**	**11 44 47.4**		**+0.9**
ROOS				⇑S	**Sn**	**11 45 25.3**		**-3.0**
ROOS	**tl_alroos**	**3.66**	**61**	⇑*i*P	**Pn**	**11 44 47.4**		**+1.0**
IKL	**Isikli**	**3.77**	**3**	*e*PN	**Pn**	**11 44 48.5**		**+0.5**
HDHB	**Dhahab**	**3.87**	**164**	⇓P	**Pn**	**11 44 49.8**		**+0.4**
SLNF	**Slenfeh**	**3.90**	**36**	⇓P	**Pn**	**11 44 48.6**		**-1.1**
SLNF				⇓S	**Sn**	**11 45 28.3**		**-5.9**
SLNF	**Slenfeh**	**3.90**	**36**	⇓*i*P	**Pn**	**11 44 48.6**		**-1.1**
WRDH	**Warideh**	**3.92**	**38**	⇓P	**Pn**	**11 44 49.9**		**-0.2**
WRDH				⇓S	**Sn**	**11 45 30.6**		**-4.3**
WRDH	**Warideh**	**3.92**	**38**	⇓*i*P	**Pn**	**11 44 49.8**		**-0.3**
HKAT	**Jabal Katrina**	**3.96**	**173**	P	**Pn**	**11 44 50.5**		**-0.1**
ARNB	**Al Arnab**	**4.00**	**31**	⇑P	**Pn**	**11 44 50.0**		**-1.0**
ARNB				⇑S	**Sn**	**11 45 30.1**		**-6.5**
HTY	**Hatay**	**4.29**	**31**	*e*PN	**Pn**	**11 44 55.1**		**+0.1**
BTCH	**Batrach**	**4.36**	**34**	⇑P	**Pn**	**11 44 55.2**		**-0.9**
BTCH				⇑S	**Sn**	**11 45 39.8**		**-5.9**
BTCH	**Batrach**	**4.36**	**34**	⇑*i*P	**Pn**	**11 44 55.2**		**-0.9**
TR1		**4.47**	**174**	⇑P	**Pn**	**11 44 57.1**		**-0.5**
MERS	**Mersin**	**4.49**	**11**	*e*PN	**Pn**	**11 44 59.1**		**+1.3**
SHRM		**4.60**	**172**	⇑P	**Pn**	**11 44 59.1**		**-0.2**
CEYT	**Ceyhan**	**4.92**	**22**	*e*PN	**Pn**	**11 45 04.9**		**+1.1**
KARA	**Karaisali**	**4.97**	**15**	*e*PN	**Pn**	**11 45 05.0**		**+0.5**
HHRG	**Al Ghardaqah**	**5.23**	**179**	P	**Pn**	**11 45 07.0**		**-1.1**
KOZT	**Kozan**	**5.38**	**21**	*e*PN	**Pn**	**11 45 11.2**		**+1.1**
FETY	**Fethiye**	**5.49**	**321**	*e*PN	**Pn**	**11 45 14.1**		**+2.5**
HMAT	**Matruh**	**5.55**	**257**	⇑*i*P	**Pn**	**11 45 11.6**		**-0.9**
HFRF	**Wahat Farafira**	**6.91**	**221**	P	**Pn**	**11 45 27.4**		**-3.7**
SWA1		**7.36**	**246**	⇓P	**Pn**	**11 45 35.6**		**-1.7**
SWA1				S	**Sn**	**11 46 40.0**		**-13**
GTR	**Jabal at Tayr**	**7.37**	**201**	P	**Pn**	**11 45 34.6**		**-2.8**
SWA2		**7.56**	**247**	⇑*e*P	**Pn**	**11 45 38.7**		**-1.4**
HDK1	**Dakhla**	**7.74**	**208**	⇑P	**Pn**	**11 45 39.9**		**-2.7**

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*NIED **08** 12:01:00, 36.10N×139.90E, h50km, Mw4.4 Best double couple: M0=3.99000×10^15 NP1:φs=43.00000°, δ74.00000°, λ77.00000°. NP2:φs=263.00000°, δ21.00000°, λ128.00000°.*
*BJI **08** 12:01:25.1, 3578N×14069E, h46km, mB4.7, mb4.6, Ms3.9, Msz3.5*
*ISCJB **08** 12:01:33.7±0.3, 3603N±002×13988E±004, h58km±2km, mb4.5/56, MS3.4/6, Error ellipse: s-maj=5.1km s-min=3.9km az=12.0*
*MOS **08** 12:01:33.8±0.8, 3609N×139.76E, h58km, mb4.8/22, Error ellipse: s-maj=11.1km s-min=6.3km az=106.3*
*IDC **08** 12:01:34.9±1.2, 3596N×13984E, h58km±11km, mb4.1/20, mb1 4.2/23, mb1mx4.2/27, mbtmp4.1/23, MS3.3/9, Ms1 3.3/9, ms1mx3.2/31, Error ellipse: s-maj=13.8km s-min=6.6km az=64.0*
*JMA **08** 12:01:34.8±0.1, 3606N×13989E, h46km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs247.00000°, δ25.00000°, λ111.00000°. NP2: φs45.00000°, δ67.00000°, λ81.00000°. Principal axes: T Plg67.0000°, Azm298.0000°; N Plg9.0000°, Azm49.0000°; P Plg21.0000°, Azm142.0000°;*
JMA Felt III J1.
*NEIC **08** 12:01:34.8, 3606N×13989E, h46km, mb4.6/17, MW4.3(NIED), After JMA.*
NEIC Recorded [3 JMA] in Ibaraki, Saitama and Tochigi; [2 JMA] in Chiba, Fukushima, Gumma, Kanagawa and Tokyo; [1 JMA] in Shizuoka Prefectures.
ISC 08 12:01:34.9±0.3,**3603N**±002×**13985E**±004,**h51**km±2km, **n132**, σ0§87/142,**mb4.5**/56,**MS3.4**/6,**6C-7D, Eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
JYT	**Yasato**	**0.34**	**54**	⇑P	**Pn**	**12 01 43.6**		**-0.8**
JYT				S	**Sn**	**12 01 49.6**		**-1.7**
TOK	**Tokyo**	**0.35**	**193**	P	**Pn**	**12 01 45.3**		**+0.8**
TOK				S	**Sn**	**12 01 52.8**		**+1.5**
JAG	**Ashikaga**	**0.51**	**321**	⇓P	**Pn**	**12 01 46.1**		**-0.2**
JAG				S	**Sn**	**12 01 54.0**		**-0.5**
JRY	**Ryogami san**	**0.77**	**270**	⇓P	**Pn**	**12 01 49.6**		**+0.1**
JRY				S	**Sn**	**12 02 00.0**		**-0.2**
JKT	**Katashina**	**0.89**	**327**	⇓P	**Pn**	**12 01 50.8**		**-0.3**
JKT				S	**Sn**	**12 02 03.1**		**+0.2**
JOD2	**Odawara 2**	**0.98**	**219**	⇓P	**Pn**	**12 01 52.7**		**+0.3**
JOD2				S	**Sn**	**12 02 06.0**		**+0.8**
JYN	**Shimob**	**1.19**	**244**	⇑P	**Pn**	**12 01 56.3**		**+1.2**
BSO3	**Boso 3**	**1.33**	**156**	⇓P	**Pn**	**12 01 56.6**		**-0.5**
JIM2	**Oshima 3**	**1.35**	**195**	P	**Pn**	**12 01 57.0**		**-0.3**
JIM2				S	**Sn**	**12 02 13.8**		**-0.3**
JFY	**Yanaizu**	**1.38**	**355**	⇓P	**Pn**	**12 01 57.9**		**+0.1**
JFY				S	**Sn**	**12 02 15.6**		**+0.7**
JHK	**Hiroka**	**1.39**	**331**	⇓P	**Pn**	**12 01 58.2**		**+0.3**
MJAR	**Matsushiro Arr**	**1.42**	**292**	P	**Pn**	**12 01 58.6**		**+0.3**
MJAR				S	**Sn**	**12 02 16.4**		**+0.5**
MJAR	**Matsushiro Arr** 254nm,0.3s,baz=93,slow=8.6,SNR=1729	**1.42**	**292**	P	**Pn**	**12 01 58.6**		**+0.3**
MJAR				S	**Sn**	**12 02 16.4**		**+0.4**
MJAR	142nm,0.3s,baz=97,slow=25,SNR=13			LR	LR	12 02 20.2		
	comp=Z,1μm,19.8s,baz=130,slow=32							
MAJO	**Matsushiro**	**1.43**	**292**	*e*P	**Pn**	**12 01 58.2**		**-0.1**
MAT	**Matsushiro**	**1.43**	**292**	P	**Pn**	**12 01 59.3**		**+1.0**
MAT				*e*S	**Sn**	**12 02 17.0**		**+1.0**
JHJ	**Hachijo jima 2** 419nm,0.3s,baz=329,slow=1.2,SNR=118	**2.90**	**181**	P	**Pn**	**12 02 18.2**		**-0.3**
JHJ				S	**Sn**	**12 02 50.0**		**-2.1**
	199nm,0.3s,baz=253,slow=23,SNR=8.9							
ERM	**Erimo**	**6.51**	**22**	*e*P	**Pn**	**12 03 08.9**		**+0.9**
ERM				*e*		12 04 20.9		
ERM				pmax	pmax			
	comp=Z,22nm,0.4s							
ERM	**Erimo**	**6.51**	**22**	*e*Pn	**Pn**	**12 03 08.8**		**+0.9**
	comp=Z,22nm,0.4s							
ERM				*e*Sn	**Sn**	**12 04 20.9**		**0.0**
JNU	**Nakatsue**	**7.95**	**251**	P	**Pn**	**12 03 28.6**		**+0.9**
	comp=Z,0.6nm,0.3s,baz=73,slow=16,SNR=9.2							
ASAJ	**Asahikawa**	**8.35**	**14**	P	**Pn**	**12 03 33.0**		**-0.2**
ASAJ				S	**Sn**	**12 05 05.4**		**-0.6**
ASAJ				pmax	pmax			
	comp=Z,2.0nm,0.3s							
ASAJ				smax				
	comp=N,1.0nm,0.3s

KOLN	Koldanda	47.90	277	*e*P		P	12 10 08.0	-0.1
	comp=Z,33nm,1.1s,mb5.3							
KDAK	Kodiak Island	48.69	41	P		P	12 10 13.9	+0.3
	comp=Z,3.6nm,0.6s,mb4.6,baz=319,slow=2.3,SNR=7.3							
TKM2	Tokmak 2	49.01	299	*e*P		P	12 10 17.2	+0.8
TKM2				pmax		pmax		
	comp=Z,8.0nm,0.5s,mb5.0							
TKM2	Tokmak 2	49.01	299	*e*P		P	12 10 17.2	+0.9
	comp=Z,8.3nm,0.5s,mb5.0							
TKM2	Tokmak 2	49.01	299	P		P	12 10 17.3	+0.9
	SNR=11							
HNR	Honiara	49.02	153	LR		LR	12 27 34.1	
	comp=Z,91nm,19.5s,MS3.8,baz=179,slow=32							
KZA	Kyzart	49.48	298	P		P	12 10 21.7	+1.7
	SNR=7.7							
KBK	Karagaybulak	49.54	299	P		P	12 10 21.1	+0.6
	SNR=13							
AAK	Ala-Archa	49.87	299⇑	*i*P		P	12 10 22.1	-0.8
AAK				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
AAK	Ala-Archa	49.87	299	*e*P		P	12 10 22.2	-0.8
AAK	Ala-Archa	49.87	299	P		P	12 10 23.1	+0.2
	SNR=5.6							
UCH	Uchtor	49.96	298	*e*P		P	12 10 25.0	+1.4
	comp=Z,4.1nm,0.8s,mb4.5							
PMR	Palmer	50.18	36	*e*P		P	12 10 26.2	+1.2
PMR				pmax		pmax		
	comp=Z,2.0nm,0.6s,mb4.3							
PMR	Palmer	50.18	36	*e*P		P	12 10 26.2	+1.2
	comp=Z,1.7nm,0.6s,mb4.2							
BVAR	Borovoye Array	50.33	313	P		P	12 10 25.5	-0.8
	comp=Z,3.0nm,0.5s,mb4.6,baz=80,slow=7.3,SNR=18							
BVAR				PcP		PcP	12 11 43.8	-0.5
	comp=Z,1.2nm,0.6s,baz=79,slow=3.1,SNR=2.8							
BRVK	Borovoye	50.38	313	*e*P		P	12 10 26.2	-0.5
BRVK				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
BRVK	Borovoye	50.38	313	*e*P		P	12 10 26.2	-0.5
	comp=Z,7.5nm,1.0s,mb4.7							
AML	Almayashu	50.57	298	*e*P		P	12 10 29.5	+1.2
	comp=Z,40nm,0.7s,mb5.5							
AML	Almayashu	50.57	298	P		P	12 10 29.6	+1.3
	SNR=30							
COLA	College	50.60	32	*e*P		P	12 10 28.7	+0.6
COLA				pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.4							
COLA	College	50.60	32	*e*P		P	12 10 28.7	+0.5
	comp=Z,2.7nm,0.6s,mb4.3							
KK31	Karatay Array	52.54	300	*i*P		P	12 10 42.4	-0.6
KK31				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.9							
EGAK	Eagle	53.46	32	*e*P		P	12 10 51.0	+1.7
SVE	Sverdlovsk	55.07	319	*e*P		P	12 11 01.3	+0.1
FITZ	Fitzroy Cressi	55.49	196	*e*P		P	12 11 04.9	+0.3
	comp=Z,6.9nm,0.6s,mb4.9							
INK	Inuvik	55.85	27	*e*P		P	12 11 07.3	+0.6
INK	Inuvik	55.85	27	P		P	12 11 07.3	+0.6
	comp=Z,1.6nm,0.5s,mb4.3,baz=289,slow=6.8,SNR=29							
WRAB	Tennant Creek	55.90	186	*e*P		P	12 11 07.8	+0.4
	comp=Z,4.1nm,0.5s,mb4.7							
WB2	Warramunga Arr	55.90	186	*e*P		P	12 11 07.8	+0.3
WRA	Warramunga Arr	55.91	186	*i*P		P	12 11 06.6	-0.9
WRA				pmax		pmax		
	comp=Z,4.0nm,0.4s							
WRA	Warramunga Arr	55.91	186	P		P	12 11 06.7	-0.9
	comp=Z,4.3nm,0.4s,mb4.8,baz=1.2,slow=7.6,SNR=76							
ARU	Arti	56.28	319*c*	*i*P		P	12 11 09.4	-0.5
ARU				*e*			12 13 13.2	
ARU				*e*SS		S	12 18 57.6	+1.6
ARU				*e*SS		SS	12 22 45.0	+2.3
ARU				pmax		pmax		
	comp=Z,8.0nm,0.6s,mb4.9							
KBL	Kabul	56.60	291	*e*P		P	12 11 12.3	-0.3
AKTK	Aktyubinsk	58.41	312	P		P	12 11 23.8	-1.2
AKTO	Aktyubinsk	58.41	312	*i*P		P	12 11 23.9	-1.1
AKTO	Aktyubinsk	58.41	312	P		P	12 11 23.8	-1.2
	comp=Z,2.7nm,0.5s,mb4.5,baz=78,slow=5.8,SNR=9.0							
ASAR	Alice Springs	59.63	186	P		P	12 11 33.2	-0.4
	comp=Z,1.3nm,0.5s,mb4.2,baz=17,slow=11,SNR=22							
RES	Resolute Bay	63.89	14	*e*P		P	12 12 01.8	+0.1
ARCES	ARCESS Array B	64.49	339	P		P	12 12 05.5	-0.2
	comp=Z,3.7nm,0.7s,mb4.5,baz=59,slow=7.7,SNR=12							
YKA	Yellowknife Ar	65.31	29	P		P	12 12 10.9	-0.2
	comp=Z,1.4nm,0.7s,mb4.1,baz=302,slow=6.8,SNR=19							
JOF	Joensuu	66.26	332	*e*p		P	12 12 16.1	-1.1
	comp=Z,3.0nm,0.5s,mb4.6							
JOF	Joensuu	66.26	332	*e*P		P	12 12 16.1	-1.1
JOF				pmax		pmax		
	comp=Z,3.0nm,0.5s,mb4.6							
STKA	Stephens Creek	67.57	178	P		P	12 12 25.2	-0.6
	comp=Z,2.6nm,0.8s,mb4.3,baz=298,slow=7.1,SNR=3.9							
FINES	FINESS Array B	69.11	332	*i*P		P	12 12 35.2	-0.1
FINES				pmax		pmax		
	comp=Z,5.0nm,0.8s							
FINES	FINESS Array B	69.11	332	P		P	12 12 34.5	-0.7
	comp=Z,4.5nm,0.8s,mb4.5,baz=61,slow=9.0,SNR=12							
FINES				LR		LR	12 42 01.9	
	comp=Z,37nm,18.9s,MS3.6,baz=332,slow=35							
KIV	Kislovodsk	70.61	311	P		P	12 12 46.0	+1.2
KIV							12 13 08.0	
KIV				pmax		pmax		
	comp=Z,11nm,0.9s,mb4.8							
BMO	Blue Mountains	73.54	46	*e*P		P	12 13 03.6	+1.4
	comp=Z,12nm,2.0s,mb4.5							
AKASG	Malin Array Be	74.32	322	P		P	12 13 05.8	-0.9
AKASG	Malin Array Be	74.32	322	P		P	12 13 05.8	-0.9
	comp=Z,1.4nm,0.3s,mb4.3,baz=48,slow=6.2,SNR=15							
HFS	Hagfors	74.48	335	P		P	12 13 05.8	-1.7
	comp=Z,2.7nm,0.7s,mb4.3,baz=94,slow=4.3,SNR=5.5							
NB2	NORSAR Subarra	74.62	337	P		P	12 13 07.5	-0.8
	comp=Z,1.8nm,0.5s,mb4.3,baz=41,slow=5.9							
NOA	NORSAR Array B	74.62	337	P		P	12 13 07.8	-0.4
	comp=Z,3.6nm,0.8s,mb4.4,baz=40,slow=5.9,SNR=7.9							
NOA				LR		LR	12 46 39.7	
	comp=Z,32nm,20.1s,MS3.6,baz=55,slow=36							
FFC	Flin Flon	75.23	32	*e*P		P	12 13 11.9	0.0
FFC				pmax		pmax		
	comp=Z,44nm,2.4s,mb5.0							
FFC	Flin Flon	75.23	32	*e*P		P	12 13 11.9	0.0
	comp=Z,44nm,2.4s,mb5.0							
LRM	Limekiln Ridge	75.75	43	*e*P		P	12 13 16.6	+1.5
DLMT	Dillon	75.94	44	*e*P		P	12 13 17.9	+1.8
	comp=Z,6.2nm,1.0s,mb4.5							
IMW	Indian Meadow	77.77	44	*e*P		P	12 13 27.8	+1.3
	comp=Z,2.6nm,0.8s,mb4.2							
KWP	Kalwaria	78.21	324	*e*P		P	12 13 29.2	+0.4
KWP				pmax		pmax		
	comp=Z,10.0nm,0.9s,mb4.8							
KWP	Kalwaria	78.21	324	*e*P		P	12 13 29.2	+0.4
	comp=Z,10nm,0.9s,mb4.8							
TPNV	Topopah Spring	78.79	52	*e*P		P	12 13 33.6	+1.4
DUG	Dugway	78.97	48	*e*P		P	12 13 33.5	+0.4
DUG				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
DUG	Dugway	78.97	48	*e*P		P	12 13 33.5	+0.3
	comp=Z,2.1nm,0.7s,mb4.2							
BRG	Berggiesshubel	81.27	329	*e*P		P	12 13 44.7	-0.7
BRG				pmax		pmax		
	comp=Z,2.0nm,0.3s,mb4.5							
BRG				pmax		pmax		
	comp=Z,2.0nm,0.7s,mb4.2							
BRG	Berggiesshubel	81.27	329	*e*(P)		P	12 13 44.7	-0.6
	comp=Z,3.0nm,0.3s,mb4.7							
BRG				*e*			12 13 48.8	
	comp=Z,3.8nm,0.7s							
PV10	Paradox Valley	82.38	48	*e*P		P	12 13 53.4	+1.9
GERES	GERESS Array B	82.89	327	P		P	12 13 53.0	-0.9
	comp=Z,0.7nm,0.5s,mb3.9,baz=47,slow=2.5,SNR=3.4							
EKA	Eskdalemuir Ar	83.65	340	P		P	12 13 57.3	-0.4
	comp=Z,1.3nm,0.7s,mb4.2,baz=36,slow=4.4,SNR=3.8							
ANMO	Albuquerque	86.19	49⇑	*e*P		P	12 14 10.9	+0.1
SCHQ	Schefferville	86.64	15	P		P	12 14 12.9	+0.2
	comp=Z,2.8nm,0.9s,mb4.5,baz=15,slow=3.4,SNR=4.3							
TXAR	Lajitas Array	91.73	51	P		P	12 14 37.6	+0.5
	comp=Z,0.9nm,0.6s,mb4.3,baz=304,slow=2.9,SNR=15							
LPAZ	La Paz	148.29	59	*e*PKIKP		PKPdf	12 21 11.0	-1.4
LPAZ							12 21 16.9	
LPAZ	La Paz	148.29	59	*e*PKPdf		PKPdf	12 21 11.0	-1.4
LPAZ				*e*PKPbc		PKPbc	12 21 16.6	+0.8
LPAZ				PKPbc		PKPbc	12 21 16.9	+1.1
LPAZ				*e*PKPab		PKPab	12 21 19.0	0.0
LPAZ	La Paz	148.29	59	PKPbc		PKPbc	12 21 16.9	+1.1
	comp=Z,1.0nm,0.5s,baz=5.8,slow=4.3,SNR=5.6							
PLCA	Paso Flores	155.77	110	PKPab		PKPab	12 21 47.9	-1.8
	comp=Z,3.6nm,1.2s,baz=93,slow=5.2,SNR=3.0							

*IDC **08** 12:13:40.0±1.9,2516N×9513E,h0km,mb3.4/4,mb1 3.6/4, mb1mx3.4/21,mbtmp3.4/4,Error ellipse: s-maj=87.3km s-min=22.8km az=69.0*
*ISCJB **08** 12:13:46.1±1.1,246N±03×942E±02,h71km±8km,mb3.4/4, Error ellipse: s-maj=49.1km s-min=15.5km az=31.7*
ISC 08 12:13:46.0±2.0,250N±02×944E±02,h56km±23km,n6, σ1°85/8,mb3.5/4,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
IMP	Imphal	0.50	249	*i* P		Pn	12 13 59.0	+1.4
IMP				*i* S		Sn	12 14 05.0	-1.1
SHL	Shillong	2.40	285	*e*PG		Pn	12 14 24.0	+1.2
SHL				*e*SG		Sn	12 14 50.0	-0.9
MKAR	Makanchi Array	23.85	339	P		P	12 18 55.7	+1.8
	0.2nm,0.6s,mb2.8,baz=146,slow=10,SNR=2.1							
SONM	Songino Array	24.71	19	P		P	12 18 58.9	-2.8
	0.7nm,0.6s,mb3.4,baz=197,slow=4.5,SNR=6.2							
WRA	Warramunga Arr	59.15	135	P		P	12 23 41.0	-0.1
	0.2nm,0.2s,mb3.7,baz=322,slow=7.4,SNR=18							
ASAR	Alice Springs	61.64	139	P		P	12 23 58.0	-0.1
	0.4nm,0.4s,mb4.0,baz=318,slow=6.7,SNR=21							

SKHL 08 12:26:29.8±2.4,5239N×13938E,h10km±1km,mb3.5/1, Primorye

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
OKH	Okha	2.44	60	*e*Pn		Pn	12 27 10.0	+0.3
OKH				*e*Sg		Sg	12 27 47.0	-1.2
OKH				A			12 27 50.1	
	380nm,0.8s							
GRNR	Gornyy	2.46	230	*e*Pg		Pg	12 27 14.1	-2.8
GRNR				sPg			12 27 20.5	
GRNR				*e*Sg		Sg	12 27 45.9	-2.8
GRNR				A			12 27 56.9	
	136nm,0.5s							
TYV	Tymovskoe	2.55	126	*e*rx		rx	12 27 12.8	
TYV				*e*Pg		Pg	12 27 15.0	-3.6
TYV				*e*Sg		Sg	12 27 50.0	-1.7
TYV				A			12 27 56.0	
	40nm,0.9s							
EKMR	Ekimchan	3.97	282	*e*Pn		Pn	12 27 30.2	-0.4
EKMR				pPn			12 27 33.0	
EKMR				*e*Pg		Pg	12 27 43.0	-2.7
EKMR				AMB		AMB	12 27 45.4	
	8.0nm,0.5s							
EKMR				*e*Sn		Sn	12 28 16.8	-0.3
EKMR				*e*Sg		Sg	12 28 35.0	-2.1
EKMR				A			12 28 44.3	
	42nm,0.5s							
EKMR				A			12 28 44.3	
	27nm,0.5s							
EKMR				A			12 28 44.3	
	20nm,0.5s							
HABR	Khabarovsk	4.80	217	*e*Pn		Pn	12 27 43.0	+1.0
KLR	Kul'dur	5.78	240	*e*rx		rx	12 28 22.2	
KLR				*e*rx		rx	12 29 25.2	
BMKR	Bomnak	6.70	294	*e*Sg		Sg	12 29 56.4	-8.1
BMKR				A			12 30 03.5	
	7.0nm,0.7s							
KROS	Kirovskiy	7.69	290	*e*Sg		Sg	12 30 28.3	-8.2
KROS				A			12 30 38.5	
	3.0nm,0.6s							

IDC 08 12:27:08.0±80.0,1572S×16930E,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.7/13,mbtmp4.0/3,MS3.6/1,Ms1 3.6/1, ms1mx2.6/20,Error ellipse: s-maj=1354.0km s-min=124.5km az=68.0,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	22.35	255	LR		LR	12 39 49.6	
	comp=Z,145nm,19.2s,baz=32,slow=34							
STKA	Stephens Creek	29.90	233	P		P	12 33 17.6	0.0
	2.9nm,0.7s,baz=54,slow=8.9,SNR=5.4							
WRA	Warramunga Arr	33.51	258	P		P	12 33 49.8	+0.3
	0.4nm,0.8s,baz=89,slow=9.0,SNR=3.5							
ASAR	Alice Springs	34.18	251	P		P	12 33 55.0	-0.3
	5.4nm,0.8s,baz=80,slow=9.0,SNR=91							

*NEIC **08** 12:30:38.0±2.0,3905N×7351E,h10km,Error ellipse: s-maj=25.0km s-min=15.3km az=183.0*
*ISCJB **08** 12:30:42.8±1.6,3930N±008×734E±0.1,h42km±14km, mb3.5/5,Error ellipse: s-maj=14.7km s-min=11.8km az=44.4*
*NNC **08** 12:30:42.3±3.0,3956N×7340E,h0km,mb3.6,mpv3.5, Error ellipse: s-maj=26.4km s-min=14.1km az=10.0*
*IDC **08** 12:30:44.0±5.0,3948N×7372E,h30km±36km,mb3.4/5, mb1 3.6/9,mb1mx3.4/23,mbtmp3.4/9,ML3.2/4,Error ellipse: s-maj=24.3km s-min=19.4km az=62.0*
ISC 08 12:30:43.3±2.3,3925N±006×7340E±010,h32km±18km, n29,σ0°88/37,mb3.5/5,5C-4D,Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
AML	Almayashu	2.88	4	*e*Pn		Pn	12 31 26.2	-0.8
AML				*e*Sn		Sn	12 32 01.4	+0.9
AML	Almayashu	2.88	4	P		Pn	12 31 26.5	-0.5
	SNR=104							
UCH	Uchtor	3.09	16	*e*Pn		Pn	12 31 29.6	-0.1
UCH				*e*Sn		Sn	12 32 05.0	-0.6
UCH	Uchtor	3.09	16	P		Pn	12 31 29.7	-0.1
	SNR=69							
KZA	Kyzart	3.16	26	P		Pn	12 31 31.6	+0.9
	SNR=20							
EKS2	Erkin-Say	3.42	5	*e*Pn		Pn	12 31 34.6	+0.4
EKS2				*e*Sn		Sn	12 32 14.5	+0.8
EKS2	Erkin-Say	3.42	5	P		Pn	12 31 34.2	0.0
	SNR=27							
AAK	Ala-Archa	3.48	13	Pn		Pn	12 31 34.4	-0.8
AAK				Sn		Sn	12 32 15.0	-0.2
AAK	Ala-Archa	3.48	13	Pn		Pn	12 31 34.4	-0.8
	11nm,0.3s,baz=168,slow=4.9,SNR=42							
AAK				Sn		Sn	12 32 15.0	-0.2
	14nm,0.3s,baz=332,slow=20,SNR=11							
AAK	Ala-Archa	3.48	13	P		Pn	12 31 35.4	+0.3
	SNR=19							
KBK	Karagaybulak	3.60	19	P		Pn	12 31 37.1	+0.3
	SNR=16							
ULHL	Ulahol	3.69	35	P		Pn	12 31 39.7	+1.7
	SNR=8.8							
CHMS	Chumysh	3.88	15	P		Pn	12 31 40.6	-0.1
	SNR=12							
TKM2	Tokmak 2	4.03	24	⇑Pn		Pn	12 31 42.4	-0.2
	4.1nm,0.7s							
TKM2				⇓Pg		Pn	12 31 49.5	+6.9
	10nm,0.4s							
TKM2				⇑Lg			12 32 41.1	
	34nm,0.6s							
TKM2	Tokmak 2	4.03	24	*e*Pn		Pn	12 31 43.0	+0.4
TKM2	Tokmak 2	4.03	24	P		Pn	12 31 43.9	+1.3
	SNR=5.5							
USP	Ospenovka	4.10	11	P		Pn	12 31 43.1	-0.5
	SNR=22							
KK31	Karatay Array	4.42	331	⇓Pn		Pn	12 31 47.0	-1.0
	3.0nm,0.3s,baz=132,slow=12,SNR=58							
KK31				⇓Pg		Pn	12 31 57.2	+9.2
	5.8nm,0.3s,baz=146,slow=15,SNR=8.6							
KK31				⇑Sn		Sn	12 32 38.0	-0.3
	13nm,0.5s							
KK31				⇓Lg			12 32 52.7	
	7.4nm,0.3s							
MKAR	Makanchi Array	9.96	38	Pn		Pn	12 33 02.5	-1.4
	0.1nm,0.3s,baz=212,slow=15,SNR=2.5							
AB31	Akbulak array	13.87	321	⇑P		Pn	12 33 53.5	-3.9
	0.3nm,0.3s,baz=127,slow=13,SNR=13							
BVAR	Borovoye Array	13.93	352	Pn		Pn	12 33 54.2	-4.0
	0.2nm,0.3s,baz=154,slow=14,SNR=3.5							
AKTK	Aktyubinsk	15.59	321	Pn		Pn	12 34 20.8	+0.4
AKTO	Aktyubinsk	15.59	321	⇑P		Pn	12 34 21.6	+1.2
	0.1nm,0.8s							
AKTO	Aktyubinsk	15.59	321	Pn		Pn	12 34 20.8	+0.4
	0.3nm,0.3s,baz=124,slow=15,SNR=6.5							
SONM	Songino Array	25.26	59	P		P	12 36 04.4	-1.8
	0.5nm,0.7s,mb3.2,baz=267,slow=11,SNR=5.9							
ARCES	ARCESS Array B	39.37	336	P		P	12 38 09.0	-0.3
	5.4nm,1.0s,mb4.2,baz=123,slow=11,SNR=2.9							
YKA	Yellowknife Ar	78.40	4	P		P	12 42 39.1	-1.0
	0.1nm,0.4s,mb3.1,baz=350,slow=5.6,SNR=6.0							
WRA	Warramunga Arr	81.89	124	P		P	12 43 00.2	+0.7
	0.4nm,0.8s,mb3.4,baz=323,slow=4.9,SNR=8.2							
ASAR	Alice Springs	84.32	127	P		P	12 43 13.1	+1.0
	0.3nm,0.9s,mb3.4,baz=316,slow=5.9,SNR=5.0							

IDC 08 12:45:34.3±1.2,004S×2003W,h0km,mb3.4/2,mb1 3.9/3, mb1mx3.6/22,mbtmp3.7/3,ML4.4/1,MS3.5/5,Ms1 3.5/5, ms1mx3.2/18,Error ellipse: s-maj=50.6km s-min=41.8km az=169.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
DBIC	Dimbokro	16.54	66	Pn		Pn	12 49 28.3	+0.5
	1.3nm,0.3s,baz=230,slow=15,SNR=19							
DBIC					Sn	Sn	12 52 19.0	-13
	0.5nm,0.3s,baz=171,slow=13,SNR=3.6							
DBIC					LR	LR	12 54 31.1	
	comp=Z,90nm,18.7s,baz=69,slow=32							
BDFB	Brasilia	31.69	239	LR		LR	13 02 37.7	
	comp=Z,41nm,19.2s,baz=8.2,slow=32							
BOSA	Boshof	51.76	127	LR		LR	13 12 46.4	
	comp=Z,65nm,18.6s,baz=265,slow=32							
KMBO	Kilima Mbogo	57.28	91	LR		LR	13 16 55.8	
	comp=Z,54nm,18.8s,baz=194,slow=33							
PLCA	Paso Flores	61.08	222	LR		LR	13 18 26.6	
	comp=Z,81nm,20.0s,baz=78,slow=32							
AKASG	Malin Array Be	65.50	32	P		P	12 56 19.1	-0.2
	0.1nm,0.2s,baz=232,slow=7.2,SNR=4.5							
TXAR	Lajitas Array	84.47	299	P		P	12 58 09.7	+0.2
	0.2nm,0.6s,baz=116,slow=8.1,SNR=3.5							
ASAR	Alice Springs	145.42	135	PKPbc		PKPbc	13 05 12.5	-2.6
	0.6nm,0.5s,baz=226,slow=1.7,SNR=17							
WRA	Warramunga Arr	147.99	130	PKPbc		PKPbc	13 05 24.0	+1.3
	0.5nm,0.9s,baz=235,slow=3.3,SNR=3.3							

*NIED **08** 12:52:00,3780N×14250E,h26km,Mw3.6 Best double couple: M0=4.43000×10^14 NP1:φs=258.00000°,δ76.00000°, λ-122.00000°. NP2:φs=147.00000°,δ35.00000°, λ-26.00000°.*
*ISCJB **08** 12:52:30.9±0.8,3780N±004×14252E±006,h10km, mb3.5/3,Error ellipse: s-maj=7.3km s-min=5.9km az=14.9*
*IDC **08** 12:52:30.8±1.9,3763N×14296E,h0km,mb3.5/3, mb1 3.6/6,mb1mx3.5/21,mbtmp3.5/6,ML3.2/3,Error ellipse: s-maj=46.0km s-min=25.5km az=81.0*
*JMA **08** 12:52:33.6±0.2,3782N×14247E,h35km±3km,M3.7*
ISC 08 12:52:32.5±1.5,3781N±005×14242E±007,h10km±8km, n17,σ0°80/25,mb3.5/3,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JIO	Ouri	1.06	308	P		Pg	12 52 52.9	+0.1
JIO				*e*S		Sg	12 53 06.3	-0.3
JMM	Marumori	1.29	273	P		Pn	12 52 56.3	-0.2
JMM				*e*S		Sb	12 53 12.3	-1.1
JFK	Kawauchi	1.30	251	P		Pn	12 52 56.5	-0.3
JFK				*e*S		Sb	12 53 12.8	-1.1
JMK	Ichinoseki	1.48	321	P		Pn	12 52 59.0	-0.2
JMK				*e*S		Sn	12 53 18.1	-0.4
JOU	Okura	1.49	292	P		Pn	12 52 59.8	+0.5
JFT	Otama	1.68	261	P		Pn	12 53 02.9	+1.0
JFT				S		Sn	12 53 24.0	+0.5
JOM	Ohasama	1.88	332	P		Pn	12 53 04.8	+0.1
JOM				S		Sn	12 53 28.3	-0.1
JYK	Kaneyama	1.96	305	P		Pn	12 53 06.5	+0.7
JFY	Yanaizu	2.19	260	S		Sn	12 53 37.2	+1.0
JANG	Nango	2.65	345	P		Pn	12 53 14.7	-0.6
MJAR	Matsushiro Arr	3.59	251	Pn		Pn	12 53 31.8	+3.6
	1.0nm,0.3s,baz=77,slow=16,SNR=7.7							
MJAR					Sn	Sb	12 54 24.4	+4.6
	1.5nm,0.3s,baz=90,slow=29,SNR=7.3							
MAT	Matsushiro	3.59	251	P		Pn	12 53 31.7	+3.4
MAT				*e*S		Sn	12 54 16.5	+5.7
JHJ	Hachijo jima 2	5.15	205	Pn		Pn	12 53 49.7	0.0
	6.3nm,0.3s,baz=75,slow=20,SNR=3.6							
ASAJ	Asahikawa	6.30	1	Pn		Pn	12 54 06.2	+0.7
	0.5nm,0.3s,baz=306,slow=17,SNR=5.2							
SONM	Songino Array	28.03	303	P		P	12 58 28.5	+4.9
	0.2nm,0.5s,mb3.0,baz=93,slow=6.5,SNR=3.5							
WRA	Warramunga Arr	57.95	189	P		P	13 02 24.1	-0.9
	1.3nm,0.9s,mb3.9,baz=6.0,slow=7.1,SNR=9.4							
ASAR	Alice Springs	61.67	189	P		P	13 02 49.5	-1.1
	0.2nm,0.6s,mb3.4,baz=9.0,slow=14,SNR=4.4							

IDC 08 13:24:15.8±1.1,1345S×7699W,h29km±5km,mb3.7/4, mb1 3.8/6,mb1mx3.7/16,mbtmp3.7/6,ML3.4/2,MS2.9/1, Ms1 3.1/1,ms1mx2.5/24,Error ellipse: s-maj=35.0km s-min=21.7km az=70.0,Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
NNA	Nana	1.46	6	Pn		Pn	13 24 39.9	-0.3
	107nm,0.3s,baz=177,slow=14,SNR=99							
NNA					Sn	Sn	13 24 58.1	-0.2
	421nm,0.3s,baz=201,slow=9.7,SNR=28							
ATAH	Atahualpa	6.55	348	Pn		Pn	13 25 50.8	+0.5
	1.5nm,0.3s,baz=186,slow=4.5,SNR=7.4							
LPAZ	La Paz	9.02	109	Pn		Pn	13 26 26.2	+2.1
	0.1nm,0.3s,baz=282,slow=8.8,SNR=3.2							
LPAZ					LR	L

*IDC **08** 13:57:13.3±1.6, 176N×9691E, h0km, mb3.7/7, mb1 3.8/7, mb1mx3.7/19, mbtmp3.7/7, ML2.2/1, Error ellipse: s-maj=46.5km s-min=19.1km az=62.0*
*ISCJB **08** 13:57:16.2±1.2, 18N±01×969E±02, h33km, mb3.7/7, Error ellipse: s-maj=27.2km s-min=16.7km az=151.3*
*NEIC **08** 13:57:17.9±0.9, 176N×9693E, h30km, Error ellipse: s-maj=21.7km s-min=12.7km az=58.0*
ISC 08 13:57:18.8±1.2, 18N±01×970E±02, h35km, n9, σ0§42/9, mb3.6/7, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.15	63	Pn	Pn	13 57 52.5	+0.3
	0.7nm,0.3s,baz=350,slow=12,SNR=4.1						
TSI	Tuntungan	2.28	43	⇓eP	Pn	13 58 02.5	+8.5
WRA	Warramunga Arr	42.52	122	P	P	14 05 11.5	+0.3
	0.3nm,0.4s,mb3.3,baz=302,slow=9.0,SNR=6.1						
ASAR	Alice Springs	43.91	127	P	P	14 05 22.6	+0.2
	0.2nm,0.7s,mb3.0,baz=298,slow=7.9,SNR=7.8						
KSRS	Korea Array	45.45	35	P	P	14 05 33.6	-0.9
	0.6nm,0.5s,mb3.7,baz=224,slow=8.8,SNR=4.8						
SONM	Songino Array	46.56	9	P	P	14 05 43.3	+0.3
	0.2nm,0.5s,mb3.3,baz=191,slow=8.7,SNR=6.8						
MKAR	Makanchi Array	46.60	346	P	P	14 05 43.6	+0.2
	0.7nm,0.6s,mb3.8,baz=134,slow=8.7,SNR=5.6						
ZALV	Zalesovo Beam	52.93	351	P	P	14 06 31.5	+0.1
	2.9nm,0.4s,mb4.5,baz=174,slow=8.3,SNR=14						
STKA	Stephens Creek	53.90	132	P	P	14 06 38.6	-0.4
	1.2nm,0.8s,mb3.9,baz=331,slow=13,SNR=2.0						

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*ISCJB **08** 14:08:23.1±0.3, 41.14N±003×141.44E±006, h122km±2km, mb4.1/18, Error ellipse: s-maj=7.5km s-min=4.9km az=20.8*
*MOS **08** 14:08:23.4±1.4, 41.04N×141.64E, h136km, mb3.8/2, Error ellipse: s-maj=15.3km s-min=9.4km az=95.0*
*IDC **08** 14:08:23.4±1.5, 41.14N×141.40E, h110km±14km, mb3.6/11, mb1 3.6/14, mb1mx3.5/24, mbtmp3.5/14, Error ellipse: s-maj=21.7km s-min=11.8km az=101.0*
*NEIC **08** 14:08:24.6±0.8, 41.12N×141.36E, h123km±8km, mb3.6/1, Error ellipse: s-maj=14.4km s-min=9.0km az=106.0*
*JMA **08** 14:08:24.4±0.1, 41.17N×141.40E, h114km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=305.00000°, δ22.00000°, λ-155.00000°. NP2: φs=192.00000°, δ81.00000°, λ-70.00000°. Principal axes: T Plg33.0000°, Azm265.0000°; N Plg20.0000°, Azm9.0000°; P Plg50.0000°, Azm124.0000°;*
JMA Felt I J1.
ISC 08 14:08:24.3±0.3, 41.14N±003×141.42E±006, h116km±2km, n56, σ0§77/69, mb4.1/18, 2C-7D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	Ohata	0.37	311	⇓P	Pn	14 08 40.7	-0.3
JOT				eS	Sn	14 08 53.7	0.0
JTM	Tenmabayashi	0.44	217	⇓P	Pn	14 08 41.4	-0.1
JTM				S	Sn	14 08 54.0	-0.3
JANG	Nango	0.77	175	⇑P	Pn	14 08 43.8	0.0
JANG				S	Sn	14 08 58.0	-0.5
JKB	Kayabe	0.80	339	⇓P	Pn	14 08 44.1	0.0
JKB				eS	Sn	14 08 58.9	-0.2
JSR	Shiriuchi	0.85	298	⇓P	Pn	14 08 44.4	-0.1
JSR				S	Sn	14 08 59.1	-0.7
JAH	Hinai	1.12	212	⇓P	Pn	14 08 47.7	+0.5
JAH				eS	Sn	14 09 05.1	+0.5
JIW	Iwasaki	1.21	243	⇓P	Pn	14 08 48.3	+0.2
JIW				eS	Sn	14 09 06.2	+0.1
JYM2	Yakumo 2	1.25	321	⇓P	Pn	14 08 48.7	+0.1
JYM2				eS	Sn	14 09 07.5	+0.4
JNBK	Urakawa-nobuka	1.51	41	⇑P	Pn	14 08 52.0	+0.4
JNBK				S	Sn	14 09 13.5	+1.1
ERM	Erimo	1.57	56	eP	Pn	14 08 53.0	+0.8
ERM				eS	Sn	14 09 12.7	-0.8
JOM	Ohasama	1.67	183	P	Pn	14 08 53.7	+0.2
JOM				S	Sn	14 09 16.0	+0.3
ASAJ	Asahikawa	3.10	16	P	Pn	14 09 11.6	-0.1
ASAJ				S	Sn	14 09 46.9	-1.4
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,5.0nm,0.3s						
ASAJ	Asahikawa	3.10	16	P	Pn	14 09 11.6	-0.1
	comp=N,2.2nm,0.3s,baz=203,slow=9.2,SNR=17						
ASAJ				S	Sn	14 09 46.9	-1.4
	comp=N,5.0nm,0.3s,baz=204,slow=30,SNR=7.8						
MAJO	Matsushiro	5.23	210	eP	Pn	14 09 39.9	-0.4
MJAR	Matsushiro Arr	5.23	210	P	Pn	14 09 41.1	+0.8
	comp=N,0.5nm,0.3s,baz=16,slow=12,SNR=6.7						
KSRS	Korea Array	11.09	255	P	Pn	14 10 58.9	-0.5
	comp=N,0.0nm,0.3s,baz=66,slow=15,SNR=2.8						
HIA	Hailar	17.26	305	i P	Pn	14 12 22.0	+4.1
SEY	Seymchan	22.78	13	i P	P	14 13 07.9	-8.7
ULN	Ulaanbaatar	25.27	297	eP	P	14 13 38.6	-0.9
ULN				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.4						
ULN	Ulaanbaatar	25.27	297	eP	P	14 13 38.6	-0.8
	comp=Z,1.4nm,0.6s,mb3.6						
SONM	Songino Array	25.71	297	eP	P	14 13 45.0	+1.5
SONM	Songino Array	25.71	297	P	P	14 13 42.7	-0.7
	comp=Z,0.6nm,0.5s,mb3.3,baz=96,slow=9.5,SNR=8.4						
BILL	Bilibino	30.11	18	i P	P	14 14 23.8	+1.4
TIXI	Tiksi	31.22	352	i P	P	14 14 26.6	-5.6
ZALV	Zalesovo Beam	39.25	309	P	P	14 15 42.5	+1.4
	comp=Z,1.4nm,0.4s,mb4.1,baz=100,slow=9.1,SNR=3.9						
ZAL	Zalesovo	39.27	309	P	P	14 15 42.5	+1.3
MKAR	Makanchi Array	42.06	298	eP	P	14 16 08.2	+3.9
MKAR	Makanchi Array	42.06	298	P	P	14 16 02.7	-1.5
MKAR	Makanchi Array	42.06	298	P	P	14 16 02.7	-1.5
	comp=Z,1.2nm,0.6s,mb3.8,baz=80,slow=12,SNR=3.2						
JIRN	Jiri	46.79	271	eP	P	14 16 42.8	+0.7
	comp=Z,5.2nm,0.4s,mb4.6						
GUN	Gumba	46.89	272	eP	P	14 16 43.3	+0.4
	comp=Z,31nm,0.6s,mb5.2						
KKN	Kakani	47.41	272	eP	P	14 16 47.2	+0.3
	comp=Z,9.9nm,0.7s,mb4.7						
DMN	Daman	47.64	272	eP	P	14 16 48.8	+0.1
	comp=Z,3.4nm,0.5s,mb4.5						
GKN	Gorkha	47.78	273	eP	P	14 16 49.6	-0.2
	comp=Z,6.1nm,0.3s,mb4.9						
BRVK	Borovoye	47.94	310	eP	P	14 16 49.9	-0.8
DANN	Dangsing	48.27	274	eP	P	14 16 54.1	+0.6
	comp=Z,38nm,0.5s						
AAK	Ala-Archa	48.65	295	i P	P	14 16 57.1	+0.8
KOLN	Koldanda	48.69	273	eP	P	14 16 57.4	+0.6
	comp=Z,3.1nm,0.3s,mb4.7						
INK	Inuvik	50.76	29	P	P	14 17 12.9	+1.0
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	Inuvik	50.76	29	eP	P	14 17 13.2	+1.4
INK	Inuvik	50.76	29	P	P	14 17 12.9	+1.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=293,slow=6.2,SNR=11						
ARU	Arti	53.34	317	i P	P	14 17 31.6	+0.5
WRAB	Tennant Creek	61.11	188	eP	P	14 18 25.1	-1.0
WB2	Warramunga Arr	61.12	188	eP	P	14 18 25.4	-0.8
WRA	Warramunga Arr	61.12	188	P	P	14 18 25.0	-1.1
	comp=Z,0.6nm,0.4s,mb4.0,baz=7.8,slow=7.7,SNR=26						
ASAR	Alice Springs	64.85	188	eP	P	14 18 50.6	-0.2
ASAR	Alice Springs	64.85	188	P	P	14 18 50.5	-0.2
	comp=Z,0.4nm,0.4s,mb3.6,baz=5.8,slow=7.7,SNR=20						
FINES	FINESS Array B	65.20	331	eP	P	14 18 52.6	-0.1
FINES	FINESS Array B	65.20	331	P	P	14 18 51.9	-0.8
	comp=Z,1.3nm,0.5s,mb4.0,baz=47,slow=8.4,SNR=8.7						
KIV	Kislovodsk	68.26	310	i P	P	14 19 11.0	-1.4
GNI	Garni	69.30	306	i P	P	14 19 18.2	-0.7
HFS	Hagfors	70.36	335	P	P	14 19 24.2	-0.8
	comp=Z,0.4nm,0.3s,mb3.7,baz=38,slow=7.5,SNR=5.0						
NOA	NORSAR Array B	70.42	337	P	P	14 19 25.1	-0.2
	comp=Z,1.1nm,1.1s,mb3.6,baz=54,slow=4.7,SNR=2.6						
AKASG	Malin Array Be	71.08	322	P	P	14 19 28.3	-1.2
	comp=Z,0.1nm,0.3s,mb3.1,baz=43,slow=5.2,SNR=4.2						
MLR	Muntele Rosu	76.27	319	P	P	14 20 01.4	+1.4
	comp=Z,3.0nm,0.8s,mb4.1,baz=252,slow=4.5,SNR=5.0						
KHC	Kasperske Hory	79.06	328	i P	P	14 20 11.8	-3.6

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*NEIC **08** 14:11:58.9±0.9, 34.34N×81.75E, h10km, mb4.2/2, Error ellipse: s-maj=20.2km s-min=10.5km az=49.0*
*ISCJB **08** 14:12:01.4±2.0, 34.5N±0.1×81.9E±0.1, h42km±19km, mb3.6/7, Error ellipse: s-maj=26.3km s-min=11.6km az=135.8*
*BJI **08** 14:12:04.3, 34.77N×82.48E, h15km, mb4.2, ML3.4*
*IDC **08** 14:12:05.3±6.2, 34.53N×81.80E, h66km±55km, mb3.3/7, mb1 3.6/9, mb1mx3.4/23, mbtmp3.4/9, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.4/20, Error ellipse: s-maj=42.5km s-min=22.3km az=39.0*
ISC 08 14:12:04.6±1.5, 34.5N±01×81.9E±01, h55km±14km, n21, σ1§03/20, mb3.6/7, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	Lhasa	9.23	119	P	Pn	14 14 14.8	-0.2
LSA	Lhasa	9.23	119	eP	Pn	14 14 14.5	-0.6
UCH	Uchtor	9.61	325	eP	Pn	14 14 20.8	+0.6
	4.2nm,0.8s						
AML	Almayashu	9.94	322	P	Pn	14 14 24.9	+0.3
MK31	Makanchi Array	12.27	1	eP	Pn	14 14 55.4	-1.0
MKAR	Makanchi Array	12.27	1	P	Pn	14 14 55.7	-0.7
MKAR	Makanchi Array	12.27	1	P	Pn	14 14 55.7	-0.7
	0.4nm,0.3s,baz=181,slow=13,SNR=23						
KURK	Kurchatov	16.36	353	eP	Pn	14 15 52.1	+1.8
	14nm,1.0s						
ZALV	Zalesovo Beam	19.54	5	P	Pn	14 16 26.9	-2.2
	0.3nm,0.3s,baz=187,slow=10,SNR=3.6						
BVAR	Borovoye Array	20.22	340	P	P	14 16 34.9	+0.1
	6.1nm,0.8s,baz=146,slow=11,SNR=19						
BRVK	Borovoye	20.28	340	eP	P	14 16 36.6	+1.2
	17nm,1.1s						
SONM	Songino Array	22.64	47	P	P	14 17 02.0	+1.2
	0.9nm,1.1s,mb3.1,baz=241,slow=11,SNR=4.8						
GYA	Guiyang	22.80	104	⇓iP	P	14 17 05.9	+3.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.2						
AKTK	Aktyubinsk	23.56	320	P	P	14 17 09.9	+0.1
AKTO	Aktyubinsk	23.56	320	P	P	14 17 09.9	+0.1
	comp=Z,1.5nm,0.7s,mb3.6,baz=140,slow=19,SNR=6.8						
KSRS	Korea Array	37.11	72	LR	LR	14 34 36.8	
	comp=Z,16nm,18.1s,baz=160,slow=36						
AKASG	Malin Array Be	41.06	310	P	P	14 19 41.5	-1.0
	comp=Z,0.2nm,0.3s,mb3.2,baz=78,slow=8.0,SNR=4.0						
WRA	Warramunga Arr	73.63	129	P	P	14 23 32.6	+0.3
	comp=Z,0.5nm,0.7s,mb3.6,baz=328,slow=5.8,SNR=8.0						
ASAR	Alice Springs	76.09	132	P	P	14 23 45.9	-0.6
	comp=Z,0.5nm,0.7s,mb3.5,baz=310,slow=5.4,SNR=10.0						
YKA	Yellowknife Ar	82.42	8	P	P	14 24 19.4	-1.0
YKA	Yellowknife Ar	82.42	8	P	P	14 24 19.4	-1.0
	comp=Z,0.8nm,0.6s,mb3.8,baz=340,slow=5.3,SNR=12						

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*TEH **08** 14:22:17.2, 32.57N×56.27E, h5km, ML3.9*
*ISCJB **08** 14:22:47.8±1.8, 32.59N±003×56.26E±004, h1km±15km, Error ellipse: s-maj=5.8km s-min=5.2km az=139.8*
*CSEM **08** 14:22:49.9±0.1, 32.66N×56.23E, h20km, ML3.9, Error ellipse: s-maj=2.1km s-min=1.7km az=147.0*
*THR **08** 14:22:49.9±0.4, 32.63N×56.16E, h14km±5km, ML3.9*
ISC 08 14:22:50.5±1.6, 32.54N±004×56.27E±004, h15km±14km, n37, σ0§98/42, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBAF	Bafgh	1.12	212	ePg	Pn	14 23 10.8	-0.8
IBAF				eSg	Sn	14 23 25.0	-1.8
IBAF				e		14 23 32.8	
	comp=Z,31μm,0.1s						
ICHK	Chekchek	1.60	260	ePn	Pn	14 23 18.3	+0.1
ICHK				e		14 23 46.4	
	comp=Z,32μm,0.2s						
IMEH	Mehriz	1.81	231	ePn	Pb	14 23 22.7	-0.7
IMEH				e		14 23 51.4	
	comp=Z,18μm,0.2s						
ITEG	Tejag	2.12	80	ePn	Pn	14 23 25.5	+0.1
ISAD	Sadrabad	2.27	255	ePn	Pb	14 23 28.4	-2.8
ISAD				e		14 24 03.5	
	comp=N,16μm,0.1s						
IKOO	Kooshah	2.32	92	ePn	Pn	14 23 28.7	+0.6
KRBR	Kerman	2.59	170	ePn	Pb	14 23 35.0	-1.6
KRBR				eSg	Sg	14 24 14.1	+0.4
KRBR				AML	AML	14 24 20.4	
	comp=N,917nm,0.6s						
KRBR	Kerman	2.59	170	ePn	Pb	14 23 35.0	-1.6
	SNR=52						
KRBR				eSg	Sg	14 24 14.1	+0.4
	SNR=90						
NASN	Na'in	2.93	276	ePn	Pn	14 23 37.0	+0.5
NASN				eSg	Sb	14 24 18.4	+0.5
NASN				AML	AML	14 24 21.9	
	comp=N,318nm,0.4s						
NASN	Na'in	2.93	276	ePn	Pn	14 23 37.0	+0.5
	SNR=52						
NASN				eSg	Sb	14 24 18.5	+0.5
	SNR=90						
IDAH	Dahanechah	3.05	85	ePn	Pn	14 23 39.1	+1.0
IZEF	Zefreh	3.34	277	ePn	Pn	14 23 43.4	+1.3
IZEF				e		14 24 34.3	
	comp=Z,2μm,0.2s						
IANJ	Anjilo	3.51	327	ePn	Pn	14 23 42.8	-1.7
IANJ				e		14 24 42.8	
	comp=Z,2μm,0.2s						
IGAR	Gharneh	3.57	269	ePn	Pn	14 23 46.5	+1.1
IGAR				e		14 24 43.1	
	comp=Z,5μm,0.2s						
ISFB	Sefidab	3.82	299	ePn	Pn	14 23 49.4	+0.7
ILAS	Lasjerd	3.94	317	ePn	Pn	14 23 50.5	0.0
ILAS				e		14 25 10.1	
	comp=Z,2μm,0.2s						
IKLH	Kolahrood	4.01	282	ePn	Pn	14 23 52.3	+0.8
IKLH				e		14 25 03.1	
	comp=Z,1μm,0.2s						
ISHM	Shahmirzad	4.08	324	ePn	Pn	14 23 51.1	-1.3
ISHM				e		14 25 05.1	
	comp=Z,4μm,0.3s						
IFIR	Firoozkooh	4.25	318	ePn	Pn	14 23 54.1	-0.5
IMOG	Moghan	4.37	35	ePn	Pn	14 23 56.4	+0.1
IMOG				e		14 25 07.5	
	comp=Z,497nm,0.4s						
IGLO	Ghaloghah	4.43	334	ePn	Pn	14 23 57.5	+0.4
IGLO				e		14 25 20.4	
	comp=Z,3μm,0.3s						
IPAY	Payeh	4.50	29	ePn	Pn	14 23 58.1	0.0
IPAY				e		14 25 15.3	
	comp=Z,529nm,0.2s						
IPIR	Pirpir	4.54	273	ePn	Pn	14 24 00.5	+1.9
IPIR				e		14 25 15.0	
	comp=Z,1μm,0.2s						
IAKL	Akhelmad	4.54	26	e	Sg	14 25 23.4	+7.2
	comp=Z,886nm,0.6s						
IALA	Alasht	4.54	322	ePn	Pn	14 23 58.2	-0.5
IALA				e		14 25 17.5	
	comp=Z,949nm,0.2s						
GHVR	GHOM	4.58	296	ePn	Pn	14 23 59.7	+0.5
GHVR				AML	AML	14 25 26.2	
	comp=E,91nm,0.6s						
GHVR				AML	AML	14 25 38.2	
	comp=N,96nm,0.5s						
IKRD	Kardeh	4.61	23	ePn	Pn	14 24 04.9	+5.3
IKRD				e		14 25 43.8	
	comp=Z,608nm,0.5s						
IDMV	Damavand	4.64	312	ePn	Pn	14 23 59.2	-0.8
DAMV	Damavand	4.71	312	ePn	Pn	14 24 00.9	-0.1
ISFR	Sfrayin	4.72	17	ePn	Pn	14 24 00.7	-0.4
ZHSF	Zahedan	4.85	126	ePn	Pn	14 24 06.4	+3.5
IPRN	Peran	4.91	320	ePn	Pn	14 24 03.1	-0.7
IPRN				e		14 25 33.7	
	comp=Z,1μm,0.3s						
IMYA	Miami	4.94	39	ePn	Pn	14 24 04.1	0.0
IMYA				e		14 25 37.2	
	comp=Z,622nm,0.4s						
GHIR	Ghir-Karzin	5.10	215	ePn	Pn	14 24 08.4	+2.0
ISHV	Shirvan	5.12	13	ePn	Pn	14 24 06.8	+0.2
IEMG	Emamgholi	5.24	21	ePn	Pn	14 24 07.4	-0.9
IEMG				e		14 25 46.9	
	comp=Z,284nm,0.4s						
ASAO	Ashtian	5.58	293	ePn	Pn	14 24 13.5	+0.5

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*BJI **08** 14:42:22.3, 59.45N×131.46E, h10km, mB5.1, mb4.7*
*ISCJB **08** 14:42:23.1±0.4, 63.9S±003×131.58E±006, h33km, mb4.7/28, MS3.7/6, Error ellipse: s-maj=8.7km s-min=4.6km az=171.0*
*NEIC **08** 14:42:23.2±0.4, 63.0S×131.31E, h10km, mb4.5/8, Error ellipse: s-maj=13.7km s-min=6.9km az=75.0*
*IDC **08** 14:42:26.9±6.9, 62.1S×131.47E, h33km±53km, mb4.2/10, mb1 4.2/12, mb1mx4.2/14, mbtmp4.2/12, ML4.6/2, MS3.7/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=25.1km s-min=14.3km az=79.0*
ISC 08 14:42:25.3±0.4, 63.8S±004×131.64E±006, h35km, n64, σ1§23/72, mb4.7/28, MS3.7/6, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	Ambon	4.35	308	P	Pn	14 43 23.7	-5.2
	204nm,0.9s						
KAKA	Kakadu	6.34	173	eP	Pn	14 43 58.2	+1.8
	38nm,0.3s						
KAKA				eS	Sn	14 45 10.1	+2.5
KAKA	Kakadu	6.34	173	ePn	Pn	14 43 58.4	+2.0
KAKA				eS	Sn	14 45 10.1	+2.5
BATI	Kupang	8.76	244	Pn	Pn	14 44 30.7	+1.1
	17nm,0.3s,baz=86,slow=2.8,SNR=24						
BATI				Sn	Sn	14 46 07.1	0.0
	0.8nm,0.3s,baz=343,slow=19,SNR=2.0						
KDI	Kendari	9.29	285	P	Pn	14 44 42.0	+5.1
	34nm,1.2s						
PCI	Palu	12.96	294	P	Pn	14 45 29.5	+2.3
	101nm,1.4s						
FITZ	Fitzroy Crossi	13.04	206	eP	Pn	14 45 25.4	-2.8
	24nm,0.3s						
FITZ				eS	Sn	14 47 42.3	-10
FITZ	Fitzroy Crossi	13.04	206	ePn	Pn	14 45 25.8	-2.4
FITZ				eS	Sn	14 47 42.3	-10
FITZ				eSn	Sn	14 47 42.9	-9.1
FITZ	Fitzroy Crossi	13.04	206	Pn	Pn	14 45 25.9	-2.3
	4.3nm,0.3s,baz=36,slow=11,SNR=120						
FITZ				Sn	Sn	14 47 43.9	-8.2
	1.0nm,0.3s,baz=186,slow=14,SNR=8.3						
FITZ				LR	LR	14 51 38.6	
	comp=Z,175nm,18.2s,baz=26,slow=42						
WRAB	Tennant Creek	13.73	169	eP	Pn	14 45 36.5	-1.1
	9.3nm,0.4s						
WRAB				eS	Sn	14 48 04.8	-4.1
WRA	Warramunga Arr	13.74	169	Pn	Pn	14 45 35.3	-2.4
	2.0nm,0.3s,baz=340,slow=13,SNR=58						
WRA				Sn	Sn	14 48 03.6	-5.5
	2.1nm,0.3s,baz=350,slow=22,SNR=14						
WB2	Warramunga Arr	13.74	169	eP	Pn	14 45 35.8	-1.9
WB2				eS	Sn	14 47 56.7	-12
WB2	Warramunga Arr	13.74	169	ePn	Pn	14 45 36.1	-1.6
WB2				eS	Sn	14 47 56.7	-12
WB2				eSn	Sn	14 48 04.8	-4.3
ASAR	Alice Springs	17.33	173	P	Pn	14 46 24.4	-0.1
	1.8nm,0.3s,baz=344,slow=7.8,SNR=137						
ASAR				S	S	14 49 31.5	-13
	0.8nm,0.3s,baz=357,slow=26,SNR=6.4						
MBWA	Marble Bar	18.68	217	eP	Pn	14 46 39.3	-1.8
	12nm,0.6s						
CTA	Charters Tower	19.68	135	eP	Pn	14 46 57.1	+4.0
	16nm,1.5s						
CTA	Charters Tower	19.68	135	P	Pn	14 46 57.1	+4.0
	0.7nm,0.3s,baz=314,slow=11,SNR=5.4						
CTAO	Charters Tower	19.68	135	eP	Pn	14 46 57.0	+3.8
KKM	Kota Kinabalu	19.73	308	eP	Pn	14 46 50.7	-3.1
GUMO	Guam	23.80	33	LR	LR	14 55 19.9	
	comp=Z,133nm,20.7s,MS3.4,baz=220,slow=33						
FORT	Forrest	24.50	187	eP	P	14 47 43.9	+2.5
	43nm,0.8s,mb5.0						
FORT	Forrest	24.50	187	eP	P	14 47 44.0	+2.6
CBJI	Citeko	24.63	269	P	P	14 47 41.8	-1.0
	125nm,1.0s,mb5.4						
STKA	Stephens Creek	27.02	161	eP	P	14 48 07.4	+3.2
	3.7nm,0.9s,mb3.9						
STKA	Stephens Creek	27.02	161	eP	P	14 48 07.3	+3.1
STKA	Stephens Creek	27.02	161	P	P	14 48 07.8	+3.5
	3.9nm,0.8s,mb4.0,baz=348,slow=12,SNR=6.9						
KLBR	Kellerberrin	28.25	206	eP	P	14 48 17.1	+1.9
	50nm,1.7s,mb4.9						
NWAO	Narrogin (SRO)	29.62	205	eP	P	14 48 29.6	+2.2
NWAO				LR	LR	15 00 39.7	
NWAO	Narrogin (SRO)	29.62	205	P	P	14 48 29.7	+2.4
	2.9nm,0.5s,mb4.2,baz=57,slow=13,SNR=7.6						
NWAO				LR	LR	15 00 39.7	
	comp=Z,182nm,20.9s,MS3.7,baz=5.8,slow=37						
PSI	Prapat	33.91	285	P	P	14 49 06.7	+1.3
	17nm,0.9s,mb5.0,baz=88,slow=3.8,SNR=7.9						
CHTO	Chiang Mai	40.80	308	eP	P	14 50 02.5	-1.2
	14nm,1.1s,mb4.5						
MJAR	Matsushiro Arr	43.14	8	P	P	14 50 22.5	+0.1
	6.9nm,0.9s,mb4.4,baz=188,slow=9.5,SNR=16						
MJAR				LR	LR	15 05 46.1	
	comp=Z,137nm,19.1s,MS3.9,baz=140,slow=33						
MAJO	Matsushiro	43.14	8	eP	P	14 50 22.3	-0.1
	13nm,0.9s,mb4.7						
MAT	Matsushiro	43.14	8	P	P	14 50 21.9	-0.6
KSRS	Korea Array	43.74	356	P	P	14 50 27.1	-0.2
	1.1nm,0.6s,mb3.7,baz=176,slow=8.3,SNR=7.0						
KSRS				LR	LR	15 07 35.9	
	comp=Z,37nm,19.8s,MS3.3,baz=165,slow=35						
CN2	Changchun	50.26	354	eP	P	14 51 18.0	-0.1
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
RPZ	Rata Peaks	50.75	144	LR	LR	15 14 58.4	
	comp=Z,201nm,18.2s,MS4.2,baz=285,slow=38						
LSA	Lhasa	52.89	315	P	P	14 51 38.8	+0.7
LSA	Lhasa	52.89	315	eP	P	14 51 38.4	+0.3
	comp=Z,5.3nm,0.5s,mb4.7						
GTA	Gaotai	54.23	330	eP	P	14 51 48.3	+0.6
GTA				AP	pP	14 51 51.8	-6.5
GTA				XP	sP	14 51 55.4	-7.0
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.2						
JIRN	Jiri	55.42	310	eP	P	14 51 56.3	-0.3
	comp=Z,23nm,0.6s,mb5.4						
GUN	Gumba	55.78	310	eP	P	14 51 58.8	-0.4
	comp=Z,48nm,0.8s,mb5.6						
PKI	Pulchoki	55.97	309	eP	P	14 51 59.9	-0.6
	comp=Z,6.1nm,0.5s,mb4.9						
KKN	Kakani	56.18	309	eP	P	14 52 01.3	-0.7
	comp=Z,22nm,0.7s,mb5.3						
DMN	Daman	56.23

HNR	Honiara	26.54	282	LR	LR	15 28 04.7	
	comp=Z,53nm,19.5s,MS3.1,baz=174,slow=33						
SNZO	South Karori	26.66	200	*e*P	P	15 18 29.7	+0.1
	42nm,0.6s,mb5.1						
WRA	Warramunga Arr	49.26	258	P	P	15 21 39.4	-0.3
	0.4nm,0.7s,mb3.6,baz=94,slow=6.7,SNR=10						
ASAR	Alice Springs	49.44	253	P	P	15 21 41.0	-0.1
	4.9nm,0.6s,mb4.7,baz=88,slow=8.3,SNR=122						
NVAR	Mina Array Bea	75.37	42	P	P	15 24 34.9	+0.8
NVAR	Mina Array Bea	75.37	42	P	P	15 24 34.9	+0.8
	baz=225,slow=10.0						
ANMO	Albuquerque	81.77	50	LR	LR	15 56 24.9	
	comp=Z,92nm,18.2s,MS4.2,baz=194,slow=33						
PSI	Prapat	88.21	273	LR	LR	16 01 24.4	
	comp=Z,110nm,19.5s,MS4.3,baz=248,slow=33						
SNAA	Sanae	91.84	177	LR	LR	15 59 20.8	
	comp=Z,43nm,21.5s,MS3.9,slow=30						

*BJI **08** 15:26:22.7, 5.15S×102.22E, h38km, mB5.2, mb4.9*
*NEIC **08** 15:26:29.8±0.6, 4.45S×102.00E, h30km, mb4.4/5, Error ellipse: s-maj=19.7km s-min=8.0km az=55.0*
NEIC Felt [II] at Bengkulu.
*ISCJB **08** 15:26:30.9±2.2, 4.3S±0.1×102.1E±0.1, h55km±18km, mb4.7/28, Error ellipse: s-maj=23.5km s-min=8.7km az=43.9*
*IDC **08** 15:26:33.1±4.1, 4.30S×102.14E, h53km±36km, mb4.1/12, mb1 4.2/13, mb1mx3.9/22, mbtmp4.1/13, ML3.7/1, MS3.4/2, Ms1 3.4/2, ms1mx3.0/26, Error ellipse: s-maj=42.9km s-min=12.5km az=53.0*

ISC 08 15:26:33.2±1.8, 44S±01×1021E±01, h58km±14km, n42, σ0°77/39, mb4.7/28, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	7.78	336	P	Pn	15 28 23.2	-0.7
	1.2nm,0.3s,baz=169,slow=16,SNR=3.5						
PSI				LR	LR	15 31 48.9	
	comp=Z,164nm,21.8s,baz=208,slow=41						
KULM	Kulim	9.69	351	P	Pn	15 28 50.1	+0.1
KSM	Kuching	10.04	55	*e*P	Pn	15 28 54.4	-0.4
BATI	Kupang	22.16	106	P	P	15 31 24.5	+0.1
	13nm,0.3s,mb4.8,baz=247,slow=4.9,SNR=18						
CHTO	Chiang Mai	23.23	352	P	P	15 31 35.7	+0.1
FITZ	Fitzroy Crossi	26.78	123	*e*P	P	15 32 08.1	+0.2
	5.1nm,0.9s,mb4.0						
FITZ	Fitzroy Crossi	26.78	123	*e*P	P	15 32 08.2	+0.3
	15nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	26.78	123	P	P	15 32 08.0	+0.1
	2.0nm,0.7s,mb3.8,baz=300,slow=6.6,SNR=10						
WRA	Warramunga Arr	35.01	119	P	P	15 33 20.4	-0.1
	1.2nm,0.4s,mb4.2,baz=309,slow=9.1,SNR=39						
WRAB	Tennant Creek	35.02	119	*e*P	P	15 33 20.4	-0.1
	2.9nm,0.6s,mb4.4						
WB2	Warramunga Arr	35.02	119	*e*P	P	15 33 20.7	+0.1
WB2	Warramunga Arr	35.02	119	*e*P	P	15 33 20.6	0.0
JIRN	Jiri	35.34	335	*e*P	P	15 33 24.4	+1.3
	16nm,0.3s,mb5.4						
GUN	Gumba	35.69	335	*e*P	P	15 33 27.4	+1.3
	37nm,0.4s,mb5.7						
DMN	Daman	35.76	334	*e*P	P	15 33 27.5	+0.8
	4.2nm,0.4s,mb4.7						
KKN	Kakani	35.84	334	*e*P	P	15 33 28.5	+1.1
	16nm,0.5s,mb5.2						
ASAR	Alice Springs	36.19	125	P	P	15 33 31.5	+1.0
	1.5nm,0.7s,mb4.0,baz=299,slow=7.8,SNR=33						
GKN	Gorkha	36.30	333	*e*P	P	15 33 32.3	+0.9
	7.0nm,0.3s,mb5.1						
KOLN	Koldanda	36.58	332	*e*P	P	15 33 35.0	+1.2
	15nm,0.8s,mb4.9						
DANN	Dangsing	37.00	333	*e*P	P	15 33 38.4	+1.1
	21nm,0.4s,mb5.3						
XAN	Xi'an	38.72	9	P	P	15 33 50.7	-1.1
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
STKA	Stephens Creek	46.03	131	P	P	15 34 51.5	+0.3
	comp=Z,1.8nm,0.5s,mb4.2,baz=311,slow=8.6,SNR=11						
KSRS	Korea Array	48.04	28	P	P	15 35 07.0	+0.3
	comp=Z,1.7nm,0.7s,mb4.2,baz=213,slow=6.8,SNR=8.4						
SONM	Songino Array	52.10	4	P	P	15 35 38.3	+0.9
	comp=Z,5.4nm,0.7s,mb4.6,baz=187,slow=9.3,SNR=49						
ULN	Ulaanbaatar	52.18	4	*e*P	P	15 35 38.3	+0.4
	comp=Z,2.0nm,0.8s,mb4.1						
MJAR	Matsushiro Arr	52.84	37	P	P	15 35 41.7	-1.3
	comp=Z,1.5nm,0.8s,mb4.0,baz=217,slow=7.3,SNR=4.2						
MK31	Makanchi Array	53.86	343	*e*P	P	15 35 49.8	-0.5
MKAR	Makanchi Array	53.86	343	P	P	15 35 50.5	+0.2
	comp=Z,5.5nm,0.5s,mb4.8,baz=153,slow=9.0,SNR=52						
KURK	Kurchatov	58.45	343	*e*P	P	15 36 22.5	-0.4
	comp=Z,2.6nm,0.6s,mb4.4						
ZAA0	Zalesovo Array	59.87	348	*e*P	P	15 36 32.1	-0.6
ZALV	Zalesovo Beam	59.87	348	P	P	15 36 32.4	-0.4
	comp=Z,8.2nm,0.4s,mb5.1,baz=172,slow=5.0,SNR=23						
RDF	Al-Radifah	61.92	306	*e*P	P	15 36 46.0	-1.2
RDF				AMb	AMB	15 36 49.4	
	comp=Z,15nm,0.9s,mb5.1						
UMR	Umm Al-Rimmam	62.03	307	*e*P	P	15 36 46.9	-1.0
UMR				AMb	AMB	15 36 50.4	
	comp=Z,17nm,0.8s,mb5.2						
NAY	Al-Naaiem	62.29	306	*e*P	P	15 36 48.7	-1.0
NAY				AMb	AMB	15 36 52.3	
	comp=Z,9.0nm,0.7s,mb5.0						
MIB	Mutribah	62.43	307	*e*P	P	15 36 49.7	-0.9
MIB				AMb	AMB	15 36 53.6	
	comp=Z,14nm,1.0s,mb5.1						
BVAR	Borovoye Array	63.11	339	P	P	15 36 54.1	-0.5
	comp=Z,1.6nm,0.4s,mb4.5,baz=144,slow=8.7,SNR=18						
BRVK	Borovoye	63.17	339	P	P	15 36 54.5	-0.5
TIXI	Tiksi	77.85	8	P	P	15 38 22.8	-1.3
	comp=Z,1.3nm,0.4s,mb4.2						
ARCES	ARCESS Array B	89.38	340	P	P	15 39 23.6	+0.5
	comp=Z,14nm,1.2s,mb5.2,baz=86,slow=6.1,SNR=7.6						
HFS	Hagfors	92.94	330	LR	LR	16 31 18.3	
	comp=Z,34nm,19.3s,baz=326,slow=42						
BDFB	Brasilia	144.37	235	PKP	PKPdf	15 46 04.7	+0.8
	comp=Z,1.0nm,0.5s,baz=161,slow=4.7,SNR=4.9						
TXAR	Lajitas Array	145.17	42	PKPbc	PKPbc	15 46 05.8	+1.2
	comp=Z,4.1nm,0.5s,baz=276,slow=0.7,SNR=75						

*IDC **08** 15:33:42.0±1.9, 38.16N×2030E, h0km, mb3.9/8, mb1 3.9/11, mb1mx3.8/26, mbtmp3.8/11, ML3.7/3, MS2.9/4, Ms1 3.0/4, ms1mx2.6/31, Error ellipse: s-maj=33.3km s-min=22.1km az=37.0*
*PDG **08** 15:33:43.6±0.5, 3.822N×2024E, h15km±1km, ML3.8/10, Error ellipse: s-maj=2.4km s-min=2.6km az=0.0*
*ISCJB **08** 15:33:44.2±0.5, 3.834N±002×2033E±003, h7km±3km, mb4.0/12, Error ellipse: s-maj=4.2km s-min=2.3km az=137.9*
*NEIC **08** 15:33:45.8, 3.831N×2050E, h7km, ML4.1(ATH), ML3.8(PDG), After ATH.*
*THE **08** 15:33:45.5, 3.832N×2041E, h3km, ML4.4*
*ATH **08** 15:33:45.4, 3.834N×2048E, h5km±2km, MD4.0/16, ML4.1*
*CSEM **08** 15:33:46.2±0.1, 3.829N×2044E, h8km, mb4.4/5, Error ellipse: s-maj=2.6km s-min=1.3km az=40.0*

ISC 08 15:33:44.9±0.5, 3831N±002×2038E±003, h3km±3km, n119, σ1°15/154, mb4.0/12, 12C-2D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.21	130	*e*Pg	Pg	15 33 49.2	+0.2
VLS				*e*Sg	Sg	15 33 52.7	+1.0
VLS	Valsamata	0.21	130	⇑*i*Pg	Pg	15 33 49.2	+0.2
VLS				*e*Sg	Sg	15 33 52.8	+1.0
VLS	Valsamata	0.21	130	⇑*i*PG	Pg	15 33 49.2	+0.2
VLS				*e*SG	Sg	15 33 52.7	+0.9
KFL	Anninata	0.38	122	*e*Pg	Pg	15 33 52.2	0.0
LKD	Levkas	0.45	28	*e*Pg	Pg	15 33 52.9	-0.6
LKD				*e*Sg	Sg	15 34 00.7	+1.4
RLS	Riolos of Patr	0.89	106	*e*PG	Pg	15 34 01.0	-1.0
RLS				*e*SB	Sb	15 34 14.0	-1.3
RLS	Riolos of Patr	0.89	106	*e*Pg	Pg	15 34 00.8	-1.2
SELA	Sela	1.19	91	*e*Pg	Pg	15 34 05.6	-2.1
SELA				*e*Sg	Sg	15 34 24.6	+1.4
IGT	Igoumenitsa	1.22	358	*e*Pg	Pg	15 34 07.5	-0.8
IGT				*e*Sg	Sg	15 34 26.3	+2.2
IGT	Igoumenitsa	1.22	358	*e*Pg	Pg	15 34 07.4	-0.9
IGT				*e*Sg	Sg	15 34 26.3	+2.2
EVR	Evrytania	1.27	61	*e*PG	Pg	15 34 07.8	-1.5
EVR				*e*SB	Sb	15 34 24.8	-1.4
JAN	Janina	1.39	15	*e*Pg	Pg	15 34 11.3	-0.3
JAN				*e*Sb	Sb	15 34 32.0	+2.3
JAN	Janina	1.39	15	*e*PB	Pb	15 34 11.4	-0.1
JAN				*e*SB	Sb	15 34 29.4	-0.3
KEK	Kerkira	1.47	342	*e*PG	Pg	15 34 13.0	-0.1
KEK				*e*SB	Sb	15 34 34.0	+2.0
SRN	Sarande	1.59	349	*e*PN	Pn	15 34 17.3	+3.3
SRN				*i* SN	Sn	15 34 40.6	+5.5
MEV	Metsovon	1.61	24	*e*Pg	Pg	15 34 15.2	-0.6
ITM	Ithomi	1.67	132	*e*PB	Pb	15 34 17.1	+0.8
ITM				*e*SB	Sb	15 34 39.2	+1.6
ITM	Ithomi	1.67	132	*e*Pb	Pb	15 34 15.9	-0.4
AGG	Agios Georgios	1.68	64	*e*Pb	Pb	15 34 15.4	-1.1
AGG				*e*Sb	Sb	15 34 37.9	-0.2
PYL	PYLOS	1.78	142	*e*Pb	Pb	15 34 16.8	-1.3
PYL				*e*Sb	Sb	15 34 41.0	+0.1
THL	Klokotos Trika	1.78	45	*e*Pb	Pb	15 34 17.5	-0.7
VLX	Vlachokerasia	1.84	120	*e*Pb	Pb	15 34 18.7	-0.5
VLX				*e*Sb	Sb	15 34 42.9	+0.3
LTK	Loutraki	2.06	97	*e*Pn	Pn	15 34 20.9	+0.5
LTK				*e*Sn	Sn	15 34 47.1	+0.6
LKR	Lokris	2.08	80	*e*Pn	Pn	15 34 20.2	-0.5
LKR				*e*Sn	Sn	15 34 47.8	+0.7
LKR	Lokris	2.08	80	*e*PG	Pg	15 34 21.7	-3.1
KZN	Kozani	2.26	28	*e*PG	Pg	15 34 26.3	-2.0
KBN	Korca	2.33	8	*e*PN	Pg	15 34 29.7	+0.1
KBN				*i* SN	Sg	15 35 03.0	+3.3
DID	Didima	2.40	109	*e*Pn	Pn	15 34 25.3	+0.2
LIT	Litokhoron	2.42	42	*e*Pn	Pn	15 34 26.4	+1.0
XOR	Xorichti	2.43	64	*e*Pn	Pn	15 34 25.0	-0.6
NAIG	Nisos Aigina	2.51	102	*e*PN	Pn	15 34 28.5	+1.8
NAIG	Nisos Aigina	2.51	102	*e*Pn	Pn	15 34 28.0	+1.3
VLI	Veliai	2.58	127	*e*Pg	Pg	15 34 30.9	-3.5
VLI	Veliai	2.58	127	*e*PN	Pn	15 34 31.0	+3.4
FNA	Florina	2.58	17	*e*Pn	Pn	15 34 27.4	-0.2
FNA				*e*Sn	Sn	15 35 01.0	+1.5
ATH	Athens Observa	2.65	96	*e*PN	Pn	15 34 30.2	+1.6
ATH	Athens Observa	2.65	96	*e*Pb	Pn	15 34 28.3	-0.3
LCI	Lecce	2.68	320	Pn	Pn	15 34 29.8	+0.8
KVR	Kavouri	2.72	99	*e*PB	Pn	15 34 30.0	+0.5
PTL	Penteli	2.76	94	*e*PN	Pn	15 34 32.0	+2.0
PTL	Penteli	2.76	94	*e*Pn	Pn	15 34 29.0	-1.0
BIA	Bitola	2.80	15	*e*Pn	Pn	15 34 31.1	+0.5
BIA	Bitola	2.80	15	*e*Pn	Pn	15 34 32.4	+1.9
OHR	Ohrid	2.81	6	*e*Pn	Pn	15 34 31.3	+0.5
OHR	Ohrid	2.81	6	*e*Pn	Pn	15 34 33.5	+2.7
AOS	Alonnisos	2.87	72	*e*Pn	Pn	15 34 31.4	-0.1
KYTH	Kithira	2.93	133	*e*PN	Pn	15 34 35.5	+3.1
TIP	Timpagrande	2.96	288	*e*Pn	Pn	15 34 32.6	-0.2
TIP	Timpagrande	2.96	288	*e*Pn	Pn	15 34 32.6	-0.3
PAIG	Paliouri	3.03	57	*e*Pn	Pn	15 34 33.4	-0.3
HORT	Hortiatis	3.10	42	*e*Pn	Pn	15 34 36.0	+1.3
KRUS	Krusevo	3.12	12	*i* Pn	Pn	15 34 36.0	+0.9
PLG	Polygyros	3.14	48	*e*Pn	Pn	15 34 36.6	+1.3
PLG	Polygyros	3.14	48	*e*Pb	Pb	15 34 37.5	-3.9
QSH	Qafa e Shtames	3.23	354	*e*PN	Pn	15 34 39.0	+2.5
PE1	Pezze di Greco	3.38	318	*e*Pn	Pn	15 34 40.2	+1.6
SOH	Sokhos	3.40	42	*e*Pn	Pn	15 34 40.1	+1.3
SOI	Samo	3.42	267	Pn	Pn	15 34 39.3	+0.2
KNT	Kendrikon	3.44	33	*e*Pn	Pn	15 34 39.6	+0.2
OUR	Ouranopolis	3.44	53	*e*Pn	Pn	15 34 40.1	+0.6
ULC	Ulcinj	3.75	347	⇑*i*Pn	Pn	15 34 43.0	-0.6
ULC				*e*Sn	Sn	15 35 28.5	+0.2
SG1	Sgolgore (BA)	3.81	313	*e*Pn	Pn	15 34 45.5	+0.9
KKB	Krupnik	4.11	29	P	Pn	15 34 51.2	+2.6
BUM	Brajici-Budva	4.14	345	⇑*i*Pn	Pn	15 34 49.0	0.0
BUM				*e*Sn	Sn	15 35 37.5	-0.5
MMB	Musomiste	4.16	37	P	Pn	15 34 50.5	+1.2
MGR	Morigerati	4.17	297	Pn	Pn	15 34 50.5	+1.1
TTG	Podgorica	4.20	349	*e*Pn	Pn	15 34 49.1	-0.8
TTG				*e*Sn	Sn	15 35 38.6	-0.8
CDT	Castel del Mon	4.21	312	*e*Pn	Pn	15 34 50.5	+0.6
APE	Apeiranthos	4.27	105	*e*Pn	Pn	15 34 50.9	+0.1
PVY	Plav	4.29	356	⇑*i*Pn	Pn	15 34 51.2	+0.1
PVY				*e*Sn	Sn	15 35 41.9	+0.3
HCY	Herceg Novi	4.37	341	⇑*i*Pn	Pn	15 34 51.9	-0.3
HCY				*e*Sn	Sn	15 35 42.4	-1.3
CHOS	Chios island	4.46	87	*e*Pn	Pn	15 34 54.0	+0.5
SGO	Sicignano	4.53	301	Pn	Pn	15 34 57.1	+2.8
IVA	Berane	4.57	356	⇑*i*Pn	Pn	15 34 55.2	+0.3
IVA				*e*Sn	Sn	15 35 48.6	+0.1
NKY	Niksic	4.62	347	⇑*i*Pn	Pn	15 34 55.6	0.0
NKY				*e*Sn	Sn	15 35 49.6	-0.1
RZN	Rozhen	4.74	43	P	Pn	15 34 57.8	+0.6
VTS	Vitosha	4.79	26	P	Pn	15 35 01.0	+3.1
BRY	Bratogost	4.79	344	⇑*i*Pn	Pn	15 34 57.2	-0.8
BRY				*e*Sn	Sn	15 35 53.3	-0.7
FG5	Orsara di Pugl	4.93	309	Pn	Pn	15 35 01.1	+1.2
	46nm,0.6s						
RGNG	Rignano Grg	4.98	314	Pn	Pn	15 35 00.8	+0.2
STON	Ston	4.99	337	*e*Pn	Pn	15 34 59.1	-1.6
STON				Sn	Sn	15 35 55.0	-3.8
UPM	Unac-Piva	5.01	348	*e*Pn	Pn	15 35 01.2	+0.2
UPM				*e*Sn	Sn	15 35 58.8	-0.6
PLE	Pljevlja	5.07	352	⇑*i*Pn	Pn	15 35 01.4	-0.4
PLE				*e*Sn	Sn	15 36 00.3	-0.5
KDZ	Kurdzhali	5.10	48	P	Pn	15 34 58.2	-4.1
SGG	Gregorio Mates	5.55	305	Pn	Pn	15 35 10.8	+2.4
	33nm,0.8s						
DIVS	Divibare	5.79	357	*e*Pn	Pn	15 35 11.6	0.0
NRCA	Norcia	7.14	312	Pn	Pn	15 35 31.8	+1.6
	37nm,1.0s						
BOJS	Bojanci	8.14	334	*i* Pn	Pn	15 35 43.3	-0.6
BOJS				*i* Sn	Sn	15 37 11.7	-4.6
MLR	Muntele Rosu	8.28	28	Pn	Pn	15 35 48.5	+2.6
	0.2nm,0.3s,baz=233,slow=4.3,SNR=5.1						
JAVS	Javornik	8.91	330	*i* Pn	Pn	15 35 53.3	-1.2
JAVS				*i* Sn	Sn	15 37 30.9	-4.4
VOY	Vojsko	9.09	330	*e*Pn	Pn	15 35 56.3	-0.7
VOY				*e*		15 37 35.7	
VOY				*e*Sn	Sn	15 37 38.7	-1.1
PERS	Pernice	9.18	337	*i* Pn	Pn	15 35 56.4	-1.8
PERS				*i* Sn	Sn	15 37 35.8	-6.2
OBKA	Obir	9.25	334	⇑*i*Pn	Pn	15 35 57.4	-1.9
OBKA				⇓*i*Sn	Sn	15 37 39.2	-4.6
OBKA	Obir	9.25	334	⇑*i*Pn	Pn	15 35 57.4	-1.9
OBKA				*i* Sn	Sn	15 37 39.2	-4.6
MOA	Molln	10.52	337	⇓*i*Pn	Pn	15 36 14.8	-1.8
DAVOX	Davos/Dischmat	11.46	321	LR	LR	15 41 19.5	
	comp=Z,57nm,18.5s,baz=264,slow=40						
GERES	GERESS Array B	11.58	337	Pn	Pn	15 36 30.0	-1.1
	0.2nm,0.3s,baz=146,slow=15,SNR=2.9						
GERES				LR	LR	15 41 19.0	
	comp=Z,65nm,19.2s,baz=148,slow=39						
AKASG	Malin Array Be	13.88	24	Pn	Pn	15 37 01.7	-0.8
	0.5nm,0.3s,baz=210,slow=12,SNR=3.0						
MDT	Mindelt	21.03	262	LR	LR	15 48 26.0	
	comp=Z,49nm,18.7s,baz=2.8,slow=42						
HFS	Hagfors	22.25	351	P	P	15 38 41.8	-0.9
	5.4nm,0.8s,mb4.0,baz=164,slow=7.7,SNR=7.1						
EKA	Eskdalemuir Ar	23.25	325	P	P	15 38 53.5	+0.2
	2.2nm,0.8s,mb3.6,baz=125,slow=8.1,SNR=2.8						
EKA	Eskdalemuir Ar	23.25	325	P	P	15 38 53.5	+0.1
FINES	FINESS Array B	23.43	7	P	P	15 38 54.0	-1.1
	4.6nm,0.8s,mb4.0,baz=180,slow=7.6,SNR=15						
NB2	NORSAR Subarra	23.46	349	P	P	15 38 54.8	-0.7
	comp=Z,1.1nm,0.6s,mb3.5,baz=159,slow=10						
NOA	NORSAR Array B	23.46	349	P	P	15 38 53.8	-1.7
	comp=Z,1.6nm,0.7s,mb3.6,baz=160,slow=9.6,SNR=4.9						
NOA				LR	LR	15 48 08.6	
	comp=Z,22nm,20.9s,baz=165,slow=37						
MIB	Mutribah	23.83	103	*e*P	P	15 38 58.8	-0.5
MIB				AMb	AMB	15 39 02.7	
	comp=Z,23nm,0.7s,mb4.7						
MIB	Mutribah	23.83	103	*e*P	P	15 38 58.8	-0.5
	comp=Z,23nm,0.7s,mb4.7						
NAY	Al-Naaiem	24.02	104	*e*P	P	15 39 00.1	-0.9
NAY				AMb	AMB	15 39 03.1	
	comp=Z,7.6nm,0.8s,mb4.2						
NAY	Al-Naaiem	24.02	104	*e*P	P	15 39 00.1	-0.9
	comp=Z,7.6nm,0.8s,mb4.2						
UMR	Umm Al-Rimmam	24.24	103	*e*P	P	15 39 02.0	-1.0
UMR				AMb	AMB	15 39 05.2	
	comp=Z,24nm,0.7s,mb4.7						
UMR	Umm Al-Rimmam	24.24	103	*e*P	P	15 39 02.0	-1.0
	comp=Z,24nm,0.7s,mb4.7						
RDF	Al-Radifah	24.41	104	*e*P	P	15 39 04.0	-0.6
RDF				AMb	AMB	15 39 09.1	
	comp=Z,10.0nm,0.7s,mb4.3						
RDF	Al-Radifah	24.41	104	*e*P	P	15 39 04.0	-0.6
	comp=Z,10.0nm,0.7s,mb4.3						
BVAR	Borovoye Array	37.11	50	P	P	15 40 55.3	-1.1
	comp=Z,0.8nm,0.7s,mb3.6,baz=267,slow=9.7,SNR=3.3						
MKAR	Makanchi Array	45.32	58	P	P	15 42 02.7	-1.3
MKAR	Makanchi Array	45.32	58	P	P	15 42 02.7	-1.3
	comp=Z,1.0nm,0.6s,mb3.8,baz=281,slow=7.4,SNR=8.2						
ZALV	Zalesovo Beam	45.68	48	P	P	15 42 04.5	-2.2
	comp=Z,2.4nm,0.6s,mb4.3,baz=283,slow=8.4,SNR=5.9						
SONM	Songino Array	60.46	51	P	P	15 43 54.2	-1.6
	comp=Z,0.9nm,1.1s,mb3.7,baz=285,slow=8.5,SNR=3.5						
ASAR	Alice Springs	122.30	96	PKP	PKPdf	15 52 39.5	-2.1
	comp=Z,0.2nm,0.6s,baz=306,slow=1.7,SNR=6.2						

KRSC 08 15:38:39.3±0.9, 5523N×16103E, h142km±32km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	Tumrok	0.51	276	*e*P	Pn	15 39 01.2	+1.5
TUMR				*e*S	Sn	15 39 17.1	+1.9
KMNR	Kamenistaya	0.69	320	*e*P	Pn	15 39 01.7	+0.9
KMNR				*e*S	Sn	15 39 17.6	+0.4
MKZ	Mys Kozlova	0.79	149	*e*P	Pn	15 39 03.1	+1.6
MKZ				*e*S	Sn	15 39 20.4	+2.0
SRDR	Sredinnyy	1.32	326	*e*P	Pn	15 39 07.2	+1.0
SRDR				*e*S	Sn	15 39 27.4	+0.5
KBTR	Krutoberegovo	1.41	45	*e*P	Pn	15 39 07.9	+0.7
KBTR				*e*S	Sn	15 39 28.8	+0.2
SRKR	Sorokina	1.43	3	*e*P	Pn	15 39 08.1	+0.7
SRKR				*e*S	Sn	15 39 28.8	-0.2
SPN	Mys Shipunski	2.22	196	*e*P	Pn	15 39 16.8	+0.3
SPN				*e*S	Sn	15 39 44.4	-0.6
NLC	Nalytchevo	2.29	206	*e*S	Sn	15 39 45.7	-0.9
GNL	Ganaly	2.37	231	*e*P	Pn	15 39 19.8	+1.5
AVH	Avacha	2.38	215	*e*P	Pn	15 39 20.6	+2.1
PET	Petropavlovsk	2.62	213	*e*P	Pn	15 39 23.0	+1.6
PET				*e*S	Sn	15 39 55.5	+1.7

*BJI **08** 15:46:46.8, 45.31N×112.39W, h11km, mB5.2, mb5.0, Ms4.9, Msz4.5*
*ISCJB **08** 15:46:48.9±0.1, 4546N±001×112.12W±002, h12km, mb4.7/69, MS4.0/17, Error ellipse: s-maj=1.9km s-min=1.6km az=140.3*
*IDC **08** 15:46:48.4±0.4, 4552N×112.13W, h0km, mb4.5/20, mb1 4.5/26, mb1mx4.5/30, mbtmp4.4/26, ML3.7/5, MS3.5/11, Ms1 3.5/11, ms1mx3.2/35, Error ellipse: s-maj=9.6km s-min=8.7km az=112.0*
*SZGRF **08** 15:46:49.0, 44.12N×112.29W, h33km, mb4.7, Eastern Idaho, United States*
*MOS **08** 15:46:49.0±0.9, 4551N×112.09W, h14km, mb5.0/38, Error ellipse: s-maj=7.4km s-min=4.4km az=91.3*
*NEIC **08** 15:46:49.1, 45.39N×112.13W, h14km, mb4.8/49, ML4.7(BUT), MW4.4(SLM), After BUT.*
NEIC Several buildings slightly damaged [V] at Sheridan. Felt [V] at Twin Bridges; [IV] at Dillon, Norris and Virginia City; [III] at Anaconda, Belgrade, Bozeman, Butte, Clancy, Corvallis, Deer Lodge, Divide, Ennis, Gallatin Gateway, Hamilton, Helena, Manhattan, Missoula, Stevensville, Three Forks, Victor and Whitehall; [II] at Florence and Great Falls. Felt at Big Timber, Billings, Boulder, Cardwell, Clinton, Darby, East Helena, Fort Benton, Gardiner, Garrison, Helmville, Lewistown, Lincoln, Lolo, Philipsburg, Pony, Radersburg, Silver Star, Sula and Warm Springs. Felt [III] at Salmon and [II] at Boise, Idaho. Felt at Cascade, Clayton, Elk City, Leadore, Moscow and North Fork, Idaho. Also felt at Pullman, Washington.

ISC 08 15:46:50.3±0.1, 4546N±001×11215W±002, h12km, h12km±1.1km: pP-P, n328, σ1°17/364, mb4.7/69, MS4.0/17, 25C-24D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMT	Dillon	0.33	252	*e*Pg	Pg	15 46 55.3	-1.7
DLMT				*e*Sg	Sg	15 46 59.3	-2.2
G15A	Dillon	0.38	219	⇓P	Pg	15 46 55.8	-2.2
	baz=0.3						
G15A				⇓S	Sg	15 47 00.6	-2.5
	baz=0.3						
BOZ	Bozeman (W)	0.41	63	*e*Pg	Pg	15 46 56.5	-1.9
BOZ				*e*Sg	Sg	15 47 02.4	-1.5
F15A	Butte	0.45	327	⇑P	P

J13A	Cove Ranch, Pi	2.52	216	⇓P	Pn	15 47 30.7	-0.3
	baz=2.5,SNR=328						
C13A	Hot Springs	2.78	324	⇑P	Pn	15 47 34.9	+0.4
	baz=2.8						
AHID	Auburn Hatcher	2.80	164	ePn	Pn	15 47 36.9	+2.0
AHID				eSn	Sn	15 48 13.4	+4.9
H11A	Donnelly	2.84	256	⇑P	Pn	15 47 35.2	-0.2
	baz=2.8,SNR=152						
G11A	Walters Elk Ra	2.90	270	P	Pn	15 47 36.0	-0.2
	baz=2.9,SNR=224						
E11A	Bogner Ranch,	2.97	289	⇓P	Pn	15 47 36.9	-0.3
	baz=3.0						
K14A	Jones Ranch, D	3.01	195	⇓P	Pn	15 47 36.7	-1.0
	baz=3.0						
EGMT	Eagleton	3.04	32	ePn	Pn	15 47 38.5	+0.4
EGMT				eSn	Sn	15 48 15.7	+1.2
J12A	Stokes Ranch,	3.06	225	⇑P	Pn	15 47 38.1	-0.3
	baz=3.0,SNR=244						
I11A	Placerville	3.13	242	⇓P	Pn	15 47 38.7	-0.6
	baz=3.1,SNR=101						
K13A	Stover Farm, H	3.14	207	⇑P	Pn	15 47 38.5	-1.0
	baz=3.1						
BW06	Boulder Array	3.28	144	ePn	Pn	15 47 43.4	+2.0
BW06				eSn	Sn	15 48 21.2	+0.9
D11A	Klaveano Farm,	3.31	300	⇑P	Pn	15 47 41.4	-0.4
	baz=3.3,SNR=68						
B13A	Whitefish	3.32	332	P	Pn	15 47 42.3	+0.4
	baz=3.4,SNR=60						
MFID	Camas Ranch	3.34	233	⇓P	Pn	15 47 41.9	-0.3
	baz=3.3,SNR=229						
H10A	Noah's Angus R	3.38	257	P	Pn	15 47 41.8	-0.9
	baz=3.4,SNR=195						
K12A	Draper Farm, C	3.46	216	⇓P	Pn	15 47 42.9	-0.9
	baz=3.4,SNR=43						
G10A	Bishop Farm, J	3.51	269	⇓P	Pn	15 47 44.2	-0.3
	baz=3.5,SNR=104						
I10A	Payette	3.59	249	⇑P	Pn	15 47 45.6	-0.1
	baz=3.6,SNR=17						
F10A	Beach Ranch, E	3.59	280	⇑P	Pn	15 47 46.0	+0.3
	baz=3.6						
E10A	Myers Farm, Un	3.61	288	P	Pn	15 47 46.2	+0.3
	baz=3.6,SNR=33						
BMO	Blue Mountains	3.70	262	ePn	Pn	15 47 46.2	-1.0
BMO				eS	Sb	15 48 41.4	+1.1
HVU	Hansel Valley	3.71	187	ePn	Pn	15 47 47.2	-0.2
HVU				eSn	Sb	15 48 41.0	+0.4
WALA	Waterton Lakes	3.79	342	ePn	Pn	15 47 49.1	+0.7
WALA				eSg	Sg	15 48 49.6	-2.4
A13A	Flathead Natio	3.80	337	P	Pn	15 47 49.6	+1.0
	baz=3.9,SNR=374						
B12A	Libby	3.82	323	⇓P	Pn	15 47 49.3	+0.4
	baz=3.9						
HWUT	Hardware Ranch	3.88	174	ePn	Pn	15 47 50.0	+0.3
K11A	Parker Ranch,	3.88	227	⇓P	Pn	15 47 49.6	-0.1
	baz=3.8,SNR=71						
J10A	Berg Farm, Mel	3.88	240	⇓P	Pn	15 47 49.7	0.0
	baz=3.9,SNR=22						
D10A	Wagner Farm, O	3.90	296	⇑P	Pn	15 47 49.5	-0.4
	baz=3.9,SNR=90						
SPUT	South Promonto	4.16	183	ePn	Pn	15 47 56.3	+2.7
LAO	LASA Array	4.30	71	ePn	Pn	15 47 54.5	-0.9
LAO				eSn	Sn	15 48 49.9	+4.4
LAO				eSg	Sg	15 49 05.7	-2.6
NEW	Newport	4.41	311	ePn	Pn	15 47 56.7	-0.3
NEW				ePg	Pg	15 48 11.9	-2.9
NEW				eSg	Sg	15 49 07.0	-4.9
NEW	Newport	4.41	311	Pn	Pn	15 47 56.8	-0.2
	42nm,0.3s,baz=132,slow=13,SNR=145						
NEW				Pg	Pg	15 48 11.3	-3.5
	38nm,0.3s,baz=124,slow=18,SNR=29						
NEW				Lg		15 49 06.4	
	562nm,0.3s,baz=54,slow=22,SNR=12						
BGU	Big Grassy Mou	4.58	188	ePn	Pn	15 47 58.5	-0.8
BGU				eSg	Sb	15 49 06.5	+0.8
CTU	Camp Tracy	4.78	176	ePn	Pn	15 48 04.0	+2.0
CTU				eSg	Sg	15 49 20.1	-3.6
NOQ	North Oquirrh	4.81	180	ePn	Pn	15 48 04.1	+1.7
JLU	Jordanelle	4.89	174	ePn	Pn	15 48 06.4	+2.8
JLU				eSg	Sb	15 49 18.7	+4.3
DAU	Daniels Canyon	5.09	172	ePn	Pn	15 48 09.2	+2.9
DAU				ePg	Pg	15 48 22.4	-5.4
DAU				eSg	Sg	15 49 32.0	-1.7
RWWY	Rawlins	5.21	135	ePn	Pn	15 48 10.9	+3.0
	194nm,0.5s						
HAWA	Hanford	5.24	283	ePn	Pn	15 48 08.3	0.0
	213nm,0.4s						
HAWA				eSg	Sg	15 49 36.1	-2.1
DUG	Dugway	5.29	186	eP	Pn	15 48 12.4	+3.4
DUG				pmax	pmax		
	comp=Z,178nm,0.7s						
DUG	Dugway	5.29	186	ePn	Pn	15 48 12.4	+3.4
	comp=Z,178nm,0.7s						
MPU	Maple Canyon	5.46	176	ePn	Pn	15 48 13.0	+1.6
	comp=Z,74nm,0.7s						
NLU	North Lily Min	5.51	179	ePn	Pn	15 48 13.6	+1.5
WVOR	Wild Horse Val	5.58	239	eP	Pn	15 48 13.2	+0.2
WVOR				pmax	pmax		
	comp=Z,320nm,0.8s						
WVOR	Wild Horse Val	5.58	239	ePn	Pn	15 48 13.2	+0.2
	comp=Z,320nm,0.8s						
WVOR				eSg	Sg	15 49 46.3	-3.0
DGMT	Dagmar	6.22	58	ePn	Pn	15 48 21.6	-0.1
	comp=Z,2µm,0.7s						
DGMT				eSg	Sg	15 50 00.1	-10
PHWY	Pilot Hill	6.41	128	ePn	Pn	15 48 26.4	+2.0
PHWY				eSn	Sb	15 50 05.2	+7.0
MOD	Modoc	6.90	242	ePn	Pn	15 48 31.5	+0.4
	comp=Z,166nm,0.9s						
MOD				eSg	Sg	15 50 27.2	-4.5
MSU	Marysvale	6.95	180	eP	Pn	15 48 34.3	+2.5
SMCO	Snowmass	7.36	147	ePn	Pn	15 48 39.1	+1.6
	comp=Z,68nm,0.7s						
ISCO	Idaho Springs	7.43	137	eP	Pn	15 48 41.0	+2.5
ISCO				pmax	pmax		
	comp=Z,74nm,0.8s						
ISCO	Idaho Springs	7.43	137	ePn	Pn	15 48 41.0	+2.5
	comp=Z,74nm,0.8s						
PV10	Paradox Valley	7.45	161	ePn	Pn	15 48 41.3	+2.5
ARUT	Antelope Range	7.73	188	P	Pn	15 48 44.1	+1.5
PV01	Paradox Valley	7.79	159	ePn	Pn	15 48 44.9	+1.4
PV01				eS	Sn	15 50 42.8	+31
EDM	Edmonton	7.80	355	ePn	Pn	15 48 42.3	-1.2
EDM				ePg	Pn	15 49 13.7	+30
PAHR	Pah Rah Range	7.85	225	ePn	Pn	15 48 44.1	-0.1
	comp=Z,60nm,0.9s						
PAHR				eSg	Sn	15 50 53.0	+40
CCUT	Cedar City	7.96	187	ePn	Pn	15 48 49.8	+4.1
CCUT				eSg	Sn	15 50 60.0	+44
HUMO	Hull Mountain	8.29	254	ePn	Pn	15 48 50.9	+0.6
	comp=Z,13nm,0.5s						
NLWA	Neilton Lookou	8.32	288	ePn	Pn	15 48 50.7	0.0
	comp=Z,30nm,0.8s						
PGC	Sidney	8.35	296	ePn	Pn	15 48 50.9	-0.1
	comp=Z,43nm,0.6s						
PGC				eSg	Sn	15 51 06.5	+41
NVAR	Mina Array Bea	8.39	215	Pn	Pn	15 48 54.6	+3.0
	comp=Z,0.8nm,0.3s,baz=23,slow=15,SNR=28						
NVAR				Pg	Pn	15 49 18.4	+27
	comp=Z,3.4nm,0.3s,baz=21,slow=13,SNR=23						
NVAR				Lg		15 51 10.9	
	comp=Z,3.5nm,0.3s,baz=27,slow=24,SNR=3.4						
YBH	Yreka Blue Hor	8.52	248	eP	Pn	15 48 53.5	+0.1
YBH				pmax	pmax		
	comp=Z,35nm,1.0s						
YBH	Yreka Blue Hor	8.52	248	ePn	Pn	15 48 53.5	+0.1
	comp=Z,35nm,1.0s						
WDC	Whiskeytown Da	9.04	241	eP	Pn	15 49 05.3	+4.8
WDC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
WDC	Whiskeytown Da	9.04	241	ePn	Pn	15 49 05.3	+4.8
	comp=Z,9.4nm,0.9s						
TPNV	Topopah Spring	9.05	201	eP	Pn	15 49 02.5	+1.8
TPNV				pmax	pmax		
	comp=Z,27nm,1.0s						
TPNV	Topopah Spring	9.05	201	ePn	Pn	15 49 02.5	+1.8
	comp=Z,27nm,1.0s						
SDCO	Great Sand Dun	9.18	145	ePn	Pn	15 49 03.5	+1.1
	comp=Z,8µm,1.2s						
OHCM	Honcut	9.23	232	ePn	Pn	15 49 03.6	+0.5
MTUM	Tungsten Hills	9.42	213	ePn	Pn	15 49 08.3	+2.5
CMB	Columbia Colle	9.64	223	P	Pn	15 49 10.4	+1.7
CMB				pmax	pmax		
	comp=Z,26nm,1.2s						
CMB	Columbia Colle	9.64	223	Pn	Pn	15 49 10.4	+1.7
	comp=Z,26nm,1.2s						

WUAZ	Wupatki	9.95	176	ePn	Pn	15 49 15.6	+2.6
	comp=Z,24nm,0.7s						
NSHM	Saint Helena R	10.42	232	ePn	Pn	15 49 18.6	-0.8
GSC	Goldstone	10.75	201	eP	Pn	15 49 27.0	+3.0
GSC				pmax	pmax		
	comp=Z,8.0nm,0.8s						
GSC	Goldstone	10.75	201	ePn	Pn	15 49 27.0	+3.0
	comp=Z,8.3nm,0.8s						
SAO	San Andreas Ge	11.16	222	eP	Pn	15 49 36.0	+6.4
SAO				pmax	pmax		
	comp=Z,15nm,0.8s						
SAO	San Andreas Ge	11.16	222	epP		15 49 36.0	
	comp=Z,15nm,0.8s						
ECSD	EROS,Sioux Fal	11.21	93	ePn	Pn	15 49 28.2	-2.1
	comp=Z,47nm,0.7s						
FFC	Flin Flon	11.33	31	eP	Pn	15 49 29.1	-2.7
FFC				pmax	pmax		
	comp=Z,38nm,0.4s						
FFC	Flin Flon	11.33	31	ePn	Pn	15 49 29.1	-2.7
	comp=Z,38nm,0.4s						
CBKS	Cedar Bluff	11.35	121	P	Pn	15 49 32.0	-0.2
CBKS				pmax	pmax		
	comp=Z,112nm,0.7s						
CBKS	Cedar Bluff	11.35	121	Pn	Pn	15 49 31.9	-0.2
	comp=Z,112nm,0.7s						
ANMO	Albuquerque	11.36	156	eP	Pn	15 49 33.7	+1.4
ANMO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
ANMO	Albuquerque	11.36	156	ePn	Pn	15 49 33.7	+1.4
	comp=Z,4.7nm,0.5s						
ANMO				Lg		15 52 44.5	
AGMN	Agassiz Refuge	11.50	70	ePn	Pn	15 49 32.6	-1.6
	comp=Z,143nm,0.7s						
ULM	Lac du Bonnet	11.93	61	Pn	Pn	15 49 36.6	-3.3
	comp=Z,3.9nm,0.3s,baz=250,slow=12,SNR=25						
ULM				Pg	Pn	15 50 26.1	+46
	comp=Z,8.8nm,0.3s,baz=250,slow=14,SNR=9.6						
ULM				Lg		15 52 53.7	
	comp=Z,5.1nm,0.3s,baz=311,slow=18,SNR=7.4						
ULM				LR	LR	15 55 06.2	
	comp=Z,119nm,20.1s,baz=30,slow=42						
LENM	Lemitar	11.96	159	Pn	Pn	15 49 32.9	-7.6
BNM	Barren Site	12.07	158	Pn	Pn	15 49 34.7	-7.3
BNM				e		15 49 47.7	
PFO	Pinyon Flat Ob	12.29	197	Pn	Pn	15 49 50.5	+5.4
	comp=Z,0.2nm,0.3s,baz=32,slow=9.5,SNR=3.1						
PFO				Lg		15 53 19.0	
	comp=Z,0.2nm,0.3s,baz=264,slow=16,SNR=3.8						
PFO				LR	LR	15 54 22.1	
	comp=Z,178nm,21.5s,baz=197,slow=37						
BBB	Bella Bella	12.47	308	Lg		15 53 16.9	
	comp=Z,0.4nm,0.3s,baz=27,slow=18,SNR=2.7						
BBB				LR	LR	15 54 06.7	
	comp=Z,215nm,18.2s,baz=149,slow=35						
KSU1	Kansas State U	13.14	113	Pn	Pn	15 49 58.1	+1.5
	comp=Z,13nm,0.5s						
AMTX	Amarillo	13.24	139	ePn	Pn	15 49 60.0	+1.9
	comp=Z,13nm,0.8s						
SCIA	State Center	14.15	98	Pn	Pn	15 50 09.8	-0.6
	comp=Z,21nm,0.6s						
EYMN	Ely	14.38	73	ePn	Pn	15 50 08.5	-5.0
	comp=Z,16nm,0.7s						
MNTX	Cornudas Mount	14.72	157	ePn	Pn	15 50 17.2	-1.0
	comp=Z,15nm,0.9s						
MNTX				eP		15 50 22.4	
WMOK	Wichita Mounta	14.79	132	eP	Pn	15 50 20.2	+1.1
WMOK				pmax	pmax		
	comp=Z,28nm,0.7s						
WMOK	Wichita Mounta	14.79	132	ePn	Pn	15 50 20.2	+1.1
	comp=Z,28nm,0.7s						
WMOK				eP		15 50 26.2	
JFWS	Jewell Farm	15.91	91	P	Pn	15 50 32.1	-1.7
JFWS				pmax	pmax		
	comp=Z,13nm,0.7s						
JFWS	Jewell Farm	15.91	91	Pn	Pn	15 50 32.1	-1.7
	comp=Z,14nm,0.7s						
COWI	Conover	16.06	79	ePn	Pn	15 50 30.3	-5.4
	comp=Z,20nm,0.7s						
DLBC	Dease Lake	16.96	326	ePn	Pn	15 50 49.3	+2.2
DLBC	Dease Lake	16.96	326	Pn	Pn	15 50 49.7	+2.6
	baz=131,slow=16						
YKA	Yellowknife Ar	17.12	356	Pn	Pn	15 50 45.0	-4.1
YKA				Lg		15 55 41.6	
YKA	Yellowknife Ar	17.12	356	Pn	Pn	15 50 45.0	-4.1
	comp=Z,1.3nm,0.3s,baz=178,slow=12,SNR=66						
YKA				Lg		15 55 41.6	
	comp=Z,0.8nm,0.3s,baz=160,slow=29,SNR=5.6						
CCM	Cathedral Cave	17.23	108	eP	Pn	15 50 49.3	-1.4
CCM				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CCM	Cathedral Cave	17.23	108	ePn	Pn	15 50 49.3	-1.4
	comp=Z,10.0nm,0.6s						
FCC	Fort Churchill	17.25	33	ePn	Pn	15 50 46.6	-4.1
	comp=Z,0.3nm,0.3s						
HDIL	Hopedale	17.40	98	ePn	Pn	15 50 48.8	-3.9
TXAR	Lajitas Array	17.44	155	P	Pn	15 50 54.5	+1.3
	comp=Z,0.1nm,0.3s,baz=336,slow=8.6,SNR=13						
TXAR				LR	LR	15 58 20.2	
	comp=Z,66nm,21.6s,baz=0.0,slow=40						
JCT	Junction City	17.81	143	eP	Pn	15 50 57.2	-0.7
JCT				pmax	pmax		
	comp=Z,22nm,1.0s						
JCT	Junction City	17.81	143	ePn	Pn	15 50 57.2	-0.7
	comp=Z,22nm,1.0s						
FVM	French Village	17.82	107	eP	Pn	15 50 56.8	-1.2
FVM				pmax	pmax		
	comp=Z,28nm,0.8s						
FVM	French Village	17.82	107	ePn	Pn	15 50 56.8	-1.2
	comp=Z,28nm,0.8s						
MIAR	Mount Ida	17.89	121	eP	Pn	15 50 56.9	-1.9
MIAR				pmax	pmax		
	comp=Z,13nm,0.7s						
MIAR	Mount Ida	17.89	121	ePn	Pn	15 50 56.9	-1.9
	comp=Z,13nm,0.7s						
SKAG	Skagway	19.75	323	eP	Pn	15 51 23.1	+2.0
	comp=Z,1.0nm,0.9s						
BLO	Bloomington	19.92	99	P	Pn	15 51 22.7	-0.7
BLO				pmax	pmax		
	comp=Z,41nm,0.8s						
BLO	Bloomington	19.92	99	P	Pn	15 51 22.7	-0.7
	comp=Z,41nm,0.8s						
OXF	Oxford	20.50	114	eP	P	15 51 29.4	+1.3
OXF				pmax	pmax		
	comp=Z,111nm,1.0s						
OXF	Oxford	20.50	114	eP	P	15 51 29.4	+1.3
	comp=Z,112nm,1.0s						
WVT	Waverly	20.57	108	eP	P	15 51 28.7	-0.1
WVT				pmax	pmax		
	comp=Z,37nm,1.0s						
WVT	Waverly	20.57	108	eP	P	15 51 28.7	-0.1
	comp=Z,37nm,1.0s						
PLAL	Pickwick Lake	21.08	111	eP	P	15 51 34.0	-0.2
	comp=Z,43nm,0.6s,mb5.0						
LPIG	La Paz	21.36	175	LR	LR	15 59 59.0	
	comp=Z,95nm,18.6s,MS3.2,baz=307,slow=37						
SADO	Sadowa	23.22	80	P	P	15 51 56.8	-0.3
	baz=296,slow=12						
DAWY	Dawson	24.05	330	eP	P	15 52 06.0	+1.2
MCWV	Mont Chateau	24.39	92	eP	P	15 52 08.3	+0.2
	comp=Z,56nm,1.0s,mb5.0						
SSPA	Standing Stone	25.38	89	eP	P	15 52 16.2	-0.9
	comp=Z,16nm,0.9s,mb4.6						
INK	Inuvik	25.42	342	eP	P	15 52 16.5	-0.8
	comp=Z,315nm,1.0s,mb5.8						
INK	Inuvik	25.42	342	P	P	15 52 17.1	-0.3
	comp=Z,2.1nm,0.6s,mb3.9,baz=158,slow=9.3,SNR=8.7						
LONY	Lake Ozonia	26.40	78	eP	P	15 52 29.5	+3.1
	comp=Z,13nm,0.6s,mb4.6						
NCB	Newcomb	26.83	79	eP	P	15 52 33.3	+3.0
	comp=Z,12nm,0.8s,mb4.5						
MCK	McKinley	27.50	325	eP	P	15 52 34.9	-1.2
MCK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.0						
MCK	McKinley	27.50	325	eP	P	15 52 34.9	-1.2
	comp=Z,5.1nm,0.9s,mb4.0						
COLA	College	27.57	327	iP	P	15 52 37.5	+0.8
SVW2	Sparrevohn	29.63	317	eP	P	15 52 55.8	+0.8
SCHQ	Schefferville	30.03	55	P	P	15 52 58.5	-0.2
	comp=Z,14nm,0.6s,mb4.9,baz=262,slow=8.7,SNR=37						
TTA	Tatalina	30.25	321	eP	P	15 53 02.4	+1.9
RES	Resolute Bay	30.29	9	eP	P	15 52 59.2	-1.6
	comp=Z,72nm,0.6s,mb5.6						
BILL	Bilibino	45.81	329κ	eP	P	15 55 12.2	+0.8
BILL				e	pP	15 55 16.9	+1.6
BILL				pmax	pmax		
	comp=Z,22nm,1.5s,mb4.9						
BILL				MLR	MLR		

	comp=Z,100nm,14.0s,MS3.9						
BILL	Bilibino	45.81	329	eP	P	15 55 11.7	+0.4
	comp=Z,28nm,1.4s,mb5.0						
SDV	Santo Domingo	50.97	123	eP	P	15 55 51.9	+0.1
	comp=Z,4.7nm,0.8s,mb4.5						
ROSC	El Rosal	52.14	129	P	P	15 56 01.7	+1.1
	comp=Z,5.3nm,0.4s,mb4.8,baz=84,slow=19,SNR=5.1						
SEY	Seymchan	53.05	325⇑	eP	P	15 56 06.9	+0.2
MA2	Magadan	55.43	322	P	P	15 56 23.7	-0.4
MA2				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
TIXI	Tiksi	55.54	340⇑	eP	P	15 56 25.0	+0.3
TIXI				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.9						
TIXI	Tiksi	55.54	340	eP	P	15 56 24.1	-0.6
	comp=Z,16nm,1.2s,mb4.9						
ARCES	ARCESS Array B	61.18	16	P	P	15 57 03.3	-0.7
	comp=Z,3.0nm,0.8s,mb4.5,baz=328,slow=5.9,SNR=6.2						
YAK	Yakutsk	61.97	332⇑	eP	P	15 57 09.6	+0.1
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb5.0						
NOA	NORSAR Array B	64.39	27	P	P	15 57 26.1	+0.5
	comp=Z,1.1nm,0.7s,mb4.0,baz=315,slow=6.5,SNR=3.5						
HFS	Hagfors	65.87	26	P	P	15 57 35.1	-0.1
	comp=Z,4.1nm,0.9s,mb4.5,baz=0.0,slow=4.7,SNR=4.4						
YSS	Yuzh-Sakhalins	66.92	314⇑	eP	P	15 57 42.4	+0.2
YSS				pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2						
YSS	Yuzh-Sakhalins	66.92	314	eP	P	15 57 41.7	-0.5
	comp=Z,37nm,1.4s,mb5.2						
FINES	FINESS Array B	68.23	20	P	P	15 57 49.6	-0.5
	comp=Z,1.8nm,0.6s,mb4.3,baz=5.4,slow=4.7,SNR=10						
FLN	La Foliniere	68.85	41	eP	P	15 57 54.4	+0.1
	comp=Z,30nm,1.0s,mb4.9						
FLN				eMLR	MLR		
	comp=Z,76nm,21.2s,MS3.6						
FLN	La Foliniere	68.85	41	eP	P	15 57 54.4	+0.1
FLN				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9						
FLN				MLR	MLR		
	comp=Z,80nm,21.3s,MS3.9						
FLN	La Foliniere	68.85	41	eP	P	15 57 54.4	+0.1
	comp=Z,15nm,1.0s,mb4.9						
FLN				LR	LR		
	comp=Z,80nm,21.3s,MS3.9						
GRR	Gorron	68.95	42	eP	P	15 57 55.2	+0.3
LDF	La Druitiere	69.14	41	eP	P	15 57 56.2	+0.1
	comp=Z,21nm,1.0s,mb4.7						
LDF	La Druitiere	69.14	41	eP	P	15 57 56.2	+0.1
LDF				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.7						
LDF	La Druitiere	69.14	41	eP	P	15 57 56.2	+0.1
	comp=Z,10nm,1.0s,mb4.7						
HABR	Khabarovsk	69.59	319	eP	P	15 57 57.7	-1.1
HABR				e		15 58 08.1	
HABR				e		15 58 20.2	
HABR				e		16 00 30.5	
HABR				eS	S	16 07 02.9	-3.5
HABR				e		16 07 56.8	
HABR				e		16 11 33.7	
BAIF	Baives	70.01	38	eP	P	15 58 01.6	+0.2
BOD	Bodaibo	70.17	336	eP	P	15 57 59.3	-3.0
GIVF	Givet	70.25	38	eP	P	15 58 03.2	+0.3
KLR	Kul'dur	70.52	321	eP	P	15 58 00.0	-4.5
MFF	Saint Martin d	70.56	43	eP	P	15 58 04.9	0.0
	comp=Z,18nm,0.9s,mb4.7						
MFF	Saint Martin d	70.56	43	eP	P	15 58 04.9	0.0
MFF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MFF	Saint Martin d	70.56	43	eP	P	15 58 04.9	0.0
	comp=Z,9.0nm,0.9s,mb4.7						
PPT	Papeete	71.34	218	LR	LR	16 23 39.5	
	comp=Z,88nm,20.6s,MS4.0,baz=89,slow=31						
MEZF	Maizieres J'vi	71.55	39	eP	P	15 58 11.2	+0.4
TCF	Toulx Ste Croi	71.91	42	eP	P	15 58 13.7	+0.7
SSF	Saint Saulge	71.93	40	eP	P	15 58 14.1	+1.0
	comp=Z,22nm,1.1s,mb4.7						
SSF	Saint Saulge	71.93	40	eP	P	15 58 14.1	+1.0
SSF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
SSF	Saint Saulge	71.93	40	eP	P	15 58 14.1	+1.0
	comp=Z,11nm,1.1s,mb4.7						
LOR	Lormes	71.94	40	eP	P	15 58 13.4	+0.2
	comp=Z,37nm,1.0s,mb5.0						
LOR				eMLR	MLR		
	comp=Z,74nm,18.0s,MS3.7						
LOR	Lormes	71.94	40	eP	P	15 58 13.4	+0.2
LOR				pmax	pmax		
	comp=Z,19nm,1.0s,mb5.0						
LOR				MLR	MLR		
	comp=Z,70nm,18.0s,MS4.0						
LOR	Lormes	71.94	40	eP	P	15 58 13.4	+0.2
	comp=Z,19nm,1.0s,mb5.0						
LOR				LR	LR		
	comp=Z,70nm,18.0s,MS4.0						
BGF	Bois d'Agland	72.00	41	eP	P	15 58 13.5	-0.1
	comp=Z,20nm,0.8s,mb4.8						
BGF	Bois d'Agland	72.00	41	eP	P	15 58 13.5	-0.1
BGF				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.8						
BGF	Bois d'Agland	72.00	41	eP	P	15 58 13.5	-0.1
	comp=Z,10nm,0.8s,mb4.8						
AVF	Avril sur Loir	72.06	41	eP	P	15 58 13.7	-0.2
	comp=Z,30nm,1.2s,mb4.8						
AVF	Avril sur Loir	72.06	41	eP	P	15 58 13.7	-0.2
AVF				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.8						
AVF	Avril sur Loir	72.06	41	eP	P	15 58 13.7	-0.2
	comp=Z,15nm,1.2s,mb4.8						
LFF	La Frestale	72.20	43	eP	P	15 58 15.1	+0.3
RJF	Les Rejaudoux	72.30	43	eP	P	15 58 15.3	-0.1
	comp=Z,19nm,0.9s,mb4.7						
RJF				eMLR	MLR		
	comp=Z,76nm,17.2s,MS3.7						
RJF	Les Rejaudoux	72.30	43	eP	P	15 58 15.3	-0.1
RJF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
RJF				MLR	MLR		
	comp=Z,80nm,17.3s,MS4.0						
RJF	Les Rejaudoux	72.30	43	eP	P	15 58 15.3	-0.1
	comp=Z,9.3nm,0.9s,mb4.7						
RJF				LR	LR		
	comp=Z,80nm,17.3s,MS4.0						
SMF	Signal de Mont	72.39	41	eP	P	15 58 16.5	+0.6
HAU	Haudompre	72.49	38	eP	P	15 58 16.8	+0.3
	comp=Z,13nm,0.9s,mb4.5						
HAU				eMLR	MLR		
	comp=Z,95nm,22.2s,MS3.7						
HAU	Haudompre	72.49	38	eP	P	15 58 16.8	+0.3
HAU				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
HAU				MLR	MLR		
	comp=Z,100nm,22.3s,MS4.0						
HAU	Haudompre	72.49	38	eP	P	15 58 16.8	+0.3
	comp=Z,6.4nm,0.9s,mb4.5						
HAU				LR	LR		
	comp=Z,100nm,22.3s,MS4.0						
CDF	Champ du Feu	72.58	37	eP	P	15 58 17.4	+0.4
	comp=Z,20nm,1.0s,mb4.7						
CDF	Champ du Feu	72.58	37	eP	P	15 58 17.4	+0.4
CDF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
CDF	Champ du Feu	72.58	37	eP	P	15 58 17.4	+0.4
	comp=Z,10nm,1.0s,mb4.7						
CAF	Calviac	72.84	43	eP	P	15 58 18.6	0.0
	comp=Z,19nm,0.9s,mb4.7						
CAF	Calviac	72.84	43	eP	P	15 58 18.6	0.0
CAF				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CAF	Calviac	72.84	43	eP	P	15 58 18.6	0.0
	comp=Z,9.7nm,0.9s,mb4.7						
HINF	Hinteralfeld	72.85	38	eP	P	15 58 18.9	+0.3
	comp=Z,20nm,1.0s,mb4.7						
HINF	Hinteralfeld	72.85	38	eP	P	15 58 18.9	+0.3
HINF				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
HINF	Hinteralfeld	72.85	38	eP	P	15 58 18.9	+0.3
	comp=Z,10nm,1.0s,mb4.7						
ETSF	Etsaut	73.05	46	eP	P	15 58 21.9	+2.0
	comp=Z,13nm,0.9s,mb4.5						
ETSF	Etsaut	73.05	46	eP	P	15 58 21.9	+2.0
ETSF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
ETSF	Etsaut	73.05	46	eP	P	15 58 21.9	+2.0
	comp=Z,6.6nm,0.9s,mb4.6						
GRA1	Grafenberg Arr	73.21	35	eP	P	15 58 21.8	+1.1
	comp=Z,6.0nm,0.8s,mb4.6						

GRF Grafenberg Arr 73.21 35 *eP* **P 15 58 21.8 +1.1**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 73.21 35 *eP* **P 15 58 21.8 +1.1**
GRF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
GRF Grafenberg Arr 73.21 35 *eP* **P 15 58 21.8 +1.1**
comp=Z,6.0nm,0.8s,mb4.6
LPAZ La Paz 73.26 136 P **P 15 58 20.7 -0.6**
comp=Z,1.1nm,0.6s,mb4.0,baz=245,slow=3.0,SNR=6.3
BRG Berggiesshubel 73.32 32 P **P 15 58 21.8 +0.4**
BRG pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
BRG Berggiesshubel 73.32 32 *e*(P) **P 15 58 21.8 +0.4**
comp=Z,3.8nm,1.0s,mb4.3
CABF La Chapelle 73.44 39 *eP* **P 15 58 22.8 +0.7**
comp=Z,40nm,1.0s,mb5.0
CABF La Chapelle 73.44 39 *eP* **P 15 58 22.8 +0.7**
CABF pmax pmax
comp=Z,20nm,1.0s,mb5.0
CABF La Chapelle 73.44 39 *eP* **P 15 58 22.8 +0.7**
comp=Z,20nm,1.0s,mb5.0
ESDC Sonseca Array 73.61 50 P **P 15 58 23.0 -0.2**
comp=Z,2.5nm,0.5s,mb4.4,baz=310,slow=5.6,SNR=17
MTLF Montolieu 74.10 44 *eP* **P 15 58 26.2 +0.2**
comp=Z,13nm,0.8s,mb4.6
MTLF Montolieu 74.10 44 *eP* **P 15 58 26.2 +0.2**
MTLF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
MTLF Montolieu 74.10 44 *eP* **P 15 58 26.2 +0.2**
comp=Z,6.4nm,0.8s,mb4.6
LPL La Plagne 74.56 40 *eP* **P 15 58 29.7 +1.0**
comp=Z,8.6nm,0.8s,mb4.4
LPL La Plagne 74.56 40 *eP* **P 15 58 29.7 +1.0**
LPL pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
LPL La Plagne 74.56 40 *eP* **P 15 58 29.7 +1.0**
comp=Z,4.3nm,0.8s,mb4.4
LPG La Plagne 74.58 40 *eP* **P 15 58 30.0 +1.2**
comp=Z,14nm,1.1s,mb4.5
LPG La Plagne 74.58 40 *eP* **P 15 58 30.0 +1.2**
LPG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
LPG La Plagne 74.58 40 *eP* **P 15 58 30.0 +1.2**
comp=Z,7.2nm,1.1s,mb4.5
KHC Kasperske Hory 74.59 34 *i P* **P 15 58 27.1 -1.7**
KHC Kasperske Hory 74.59 34 *eP* **P 15 58 29.5 +0.7**
ORIF Oris-en-Rattie 74.63 41 *eP* **P 15 58 29.6 +0.5**
comp=Z,13nm,1.0s,mb4.5
ORIF *e*MLR MLR
comp=Z,99nm,19.8s,MS3.8
ORIF Oris-en-Rattie 74.63 41 *eP* **P 15 58 29.6 +0.5**
ORIF pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ORIF Oris-en-Rattie 74.63 41 *eP* **P 15 58 29.6 +0.5**
comp=Z,6.4nm,1.0s,mb4.5
GERES GERESS Array B 74.87 34 P **P 15 58 30.7 +0.3**
comp=Z,1.5nm,0.8s,mb4.0,baz=339,slow=3.3,SNR=9.0
GERES LR LR 16 31 54.0
comp=Z,35nm,19.3s,MS3.7,baz=303,slow=36
DAVOX Davos/Dischmat 74.95 37 LR LR 16 35 16.9
comp=Z,31nm,18.7s,MS3.6,baz=258,slow=39
MBDF Montbardon 75.19 40 *eP* **P 15 58 33.3 +1.0**
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 75.19 40 *eP* **P 15 58 33.3 +1.0**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MBDF Montbardon 75.19 40 *eP* **P 15 58 33.3 +1.0**
comp=Z,5.7nm,0.7s,mb4.6
VRAC Vranov 75.59 32 LR LR 16 32 13.0
comp=Z,31nm,18.4s,MS3.6,baz=326,slow=36
OBN Obninsk 76.35 18 P **P 15 58 38.0 -0.8**
OBN *e* pP 15 58 41.7 -1.2
OBN pmax pmax
comp=Z,26nm,0.9s,mb5.2
MODS Modra-Piesok 76.62 32 *eP* **P 15 58 40.9 +0.5**
MAJO Matsushiro 76.67 309 *eP* **P 15 58 41.2 +0.3**
MAJO pmax pmax
comp=Z,11nm,0.8s,mb4.8
MAJO Matsushiro 76.67 309 *eP* **P 15 58 41.2 +0.2**
comp=Z,11nm,0.8s,mb4.8
MAT Matsushiro 76.67 309 P **P 15 58 40.8 -0.1**
MJAR Matsushiro Arr 76.67 309 P **P 15 58 40.7 -0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=38,slow=5.7,SNR=11
VYHS Vyhne 77.09 31 *eP* **P 15 58 43.6 +0.5**
STHS Stebnicka Huta 77.16 29 *eP* **P 15 58 44.4 +0.9**
STHS *e* pP 15 58 47.7 +0.2
STHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
STHS Stebnicka Huta 77.16 29 *eP* **P 15 58 44.4 +0.9**
comp=Z,6.0nm,0.9s,mb4.5
STHS *e* pP 15 58 47.7 +0.2
CN2 Changchun 77.47 321 *eP* **P 15 58 45.1 -0.2**
CN2 *e*AP pP 15 58 49.6 +0.2
CN2 *e*S S 16 08 32.8 -2.9
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,200nm,13.0s,MS4.9
CN2 LR LR
comp=E,300nm,13.0s,MS4.9
CN2 LR LR
comp=Z,500nm,14.0s,MS5.0
SVE Sverdlovsk 77.90 4⇓*eP* **P 15 58 47.5 0.0**
SVE *e*SSS 16 17 02.9
SVE pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
SVE MLR MLR
comp=Z,588nm,26.0s,MS4.8
KOLS Kolonicke sedl 77.92 29 *eP* **P 15 58 46.4 -1.3**
ARU Arti 78.18 5⇑*i P* **P 15 58 48.5 -0.5**
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ARU Arti 78.18 5 *eP* **P 15 58 48.8 -0.2**
comp=Z,7.8nm,0.8s,mb4.7
AKASG Malin Array Be 78.54 24 *i P* **P 15 58 50.5 -0.6**
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG Malin Array Be 78.54 24 P **P 15 58 50.5 -0.6**
comp=Z,7.5nm,0.8s,mb4.7,baz=332,slow=5.4,SNR=22
KIEV Kiev 78.54 24 *eP* **P 15 58 48.9 -2.2**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 78.54 24 *eP* **P 15 58 48.9 -2.3**
comp=Z,7.6nm,0.8s,mb4.7
NVS Novosibirsk 79.22 351 *i P* **P 15 58 53.9 -0.9**
ZAK Zakamensk 79.71 338 *eP* **P 15 58 57.8 +0.3**
ZAK pmax pmax
comp=Z,1.0nm,1.4s,mb3.5
ZAA0 Zalesovo Array 79.91 350 *eP* **P 15 58 57.3 -1.3**
ZALV Zalesovo Beam 79.91 350 P **P 15 58 58.0 -0.6**
comp=Z,8.8nm,0.6s,mb4.8,baz=11,slow=4.8,SNR=25
ZAL Zalesovo 79.93 350 P **P 15 58 58.0 -0.6**
ULN Ulaanbaatar 80.91 334⇑*eP* **P 15 59 04.9 +0.9**
SONM Songino Array 81.13 335 P **P 15 59 05.6 +0.4**
comp=Z,3.5nm,0.9s,mb4.3,baz=17,slow=5.5,SNR=25
KSRS Korea Array 81.33 316 P **P 15 59 07.6 +1.1**
comp=Z,4.3nm,0.9s,mb4.4,baz=45,slow=5.2,SNR=15
BRVK Borovoye 81.83 359 *eP* **P 15 59 08.4 -0.4**
BRVK pmax pmax
comp=Z,18nm,0.9s,mb5.0
BRVK Borovoye 81.83 359 *eP* **P 15 59 08.3 -0.5**
comp=Z,18nm,0.9s,mb5.0
BVAR Borovoye Array 81.87 358 P **P 15 59 08.6 -0.4**
baz=326,slow=4.5
MLR Muntele Rosu 82.15 28 LR LR 16 34 09.4
comp=Z,41nm,18.4s,MS3.8,baz=318,slow=35
KEST Kesra 83.46 44 P **P 15 59 18.1 +0.5**
comp=Z,3.0nm,0.8s,mb4.4,baz=246,slow=3.6,SNR=5.0
BBTS Babate 83.57 76 LR LR 16 35 44.3
comp=Z,47nm,19.0s,MS3.9,baz=268,slow=35
KURK Kurchatov 83.75 353 *eP* **P 15 59 17.9 -0.9**
KURK pmax pmax
comp=Z,13nm,1.0s,mb5.0
KURK Kurchatov 83.75 353 *eP* **P 15 59 17.9 -0.9**
comp=Z,13nm,1.0s,mb5.0
AKTK Aktyubinsk 84.10 6 P **P 15 59 20.2 -0.4**
AKTO Aktyubinsk 84.10 6 P **P 15 59 20.2 -0.4**
comp=Z,3.8nm,0.8s,mb4.6,baz=180,slow=0.0
BJI Beijing 84.49 325 P **P 15 59 20.7 -2.1**
BJI AMB AMB
comp=Z,4.0nm,0.9s,mb4.5
BJI AMB AMB
comp=Z,42nm,3.1s

HHC Hu-ho-hao-te 85.58 328 *eP* **P 15 59 27.3 -1.0**
HHC PP PP 16 02 45.5 -0.6
HHC SKS 16 09 49.5
HHC S S 16 09 56.5 -3.3
HHC SCS ScS 16 10 05.5 -4.1
HHC SS SS 16 15 33.5 -0.6
HHC AMB AMB
comp=Z,26nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,154nm,6.4s
HHC LR LR
comp=N,230nm,19.8s,MS4.7
HHC LR LR
comp=E,187nm,22.2s,MS4.7
HHC LR LR
comp=Z,207nm,21.6s,MS4.5
CFAA Coronel Fontan 86.44 144 P **P 15 59 31.7 -0.7**
CFAA Coronel Fontan 86.44 144 P **P 15 59 31.7 -0.7**
comp=Z,0.5nm,0.7s,mb3.9
CPUP Villa Florida 87.11 133 P **P 15 59 34.6 -1.2**
CPUP pmax pmax
comp=Z,7.0nm,0.7s
CPUP Villa Florida 87.11 133 P **P 15 59 34.6 -1.1**
comp=Z,6.6nm,0.7s,mb5.0
MK31 Makanchi Array 87.25 350 *eP* **P 15 59 35.6 -0.8**
MK31 *e* pP 15 59 38.5 -2.0
MKAR Makanchi Array 87.25 350 *i P* **P 15 59 35.5 -0.9**
MKAR pmax pmax
comp=Z,5.0nm,0.9s
MKAR Makanchi Array 87.25 350 P **P 15 59 35.6 -0.8**
comp=Z,5.2nm,0.9s,mb4.8,baz=346,slow=5.0,SNR=20
WMQ Urumqi 89.37 346 *eP* **P 15 59 48.0 +1.5**
LZH Lanzhou 92.56 332 *eP* **P 16 00 01.9 +0.5**
LZH AP pP 16 00 05.0 -0.6
LZH XP sP 16 00 06.7 -0.3
LZH AMB AMB
comp=Z,13nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,66nm,4.8s
PLCA Paso Flores 93.55 150 P **P 16 00 05.2 -0.3**
comp=Z,1.5nm,0.8s,mb4.5,baz=349,slow=12,SNR=3.1
CD2 Chengdu 97.28 329 *eP* **P 16 00 22.6 -0.5**
CD2 XP sP 16 00 28.0 -0.8
CD2 PP PP 16 04 20.9 +2.2
CD2 SKS 16 10 57.9
CD2 XS sS 16 11 49.5 -4.2
CD2 SS SS 16 18 21.6 -1.2
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb5.2
CD2 AMB AMB
comp=Z,30nm,8.6s
CD2 LR LR
comp=N,120nm,14.8s
CD2 LR LR
comp=Z,100nm,12.8s,MS4.5
GYA Guiyang 100.18 325 *eP* Pdif 16 00 34.3 -1.8
GYA AP 16 00 39.8
GYA PP PP 16 04 42.6 +1.7
GYA SKS 16 11 12.4
GYA S Sdif 16 12 05.3 -5.9
GYA AMB AMB
comp=Z,10.0nm,1.0s
GYA AMB AMB
comp=Z,80nm,5.8s
WRA Warramunga Arr 120.33 272 PKP PKPdf 16 05 40.3 -1.1
comp=Z,1.2nm,0.8s,baz=35,slow=2.0,SNR=9.6
ASAR Alice Springs 123.06 269 PKP PKPdf 16 05 46.2 -0.4
comp=Z,0.9nm,0.8s,baz=50,slow=2.8,SNR=7.8

CSEM ***08*** *16:17:33.6±0.1,3602N×2340E,h80km,ML3.8,Error ellipse: s-maj=2.3km s-min=1.0km az=49.0*
ISCJB ***08*** *16:17:34.0±0.2,3605N±002×2332E±002,h93km±4km, mb4.0/16,Error ellipse: s-maj=4.0km s-min=2.3km az=135.7*
IDC ***08*** *16:17:35.0±1.7,3625N×2346E,h46km±16km,mb3.9/13, mb1 4.0/21,mb1mx3.9/31,mbtmp3.9/21,ML3.9/8,MS2.7/2, Ms1 2.7/2,ms1mx2.3/42,Error ellipse: s-maj=21.2km s-min=13.6km az=19.0*
HLW ***08*** *16:17:35.4,3613N×2351E,h22km,Mb4.2*
ATH ***08*** *16:17:36.3,3618N×2332E,h69km±3km,ML3.8*
NEIC ***08*** *16:17:36.3,3618N×2332E,h69km,mb3.6/2,After ATH.*
THE ***08*** *16:17:37.6,3623N×2338E,h81km,ML4.5*
PDG ***08*** *16:17:39.4±0.3,3641N×2217E,h6km±11km,ML4.5/9, Error ellipse: s-maj=368.7km s-min=164.0km az=90.0*
GII ***08*** *16:17:41.4±0.9,3543N×2420E,h6km±60km,mb4.9/7, ML4.9/7*
DDA ***08*** *16:17:53.3,3727N×2471E,h7km±4km,Md3.8*
ISC 08 16:17:35.4±0.2,3604N±002×2332E±002,h67km±4km, n183,σ1§22/235,mb4.0/16,17C-12D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.34**	**316**	*eP*	**Pn**	**16 17 48.0**	**+1.6**
VLI	**Veliai**	**0.75**	**335**	*eP*	**Pn**	**16 17 51.3**	**+0.7**
VLI				*eS*	**Sn**	**16 18 00.5**	**-1.3**
VAM	**Vamos**	**0.95**	**131**	⇓*i P*	**Pn**	**16 17 56.7**	**+3.7**
VAM				*eS*	**Sn**	**16 18 10.8**	**+4.7**
GVD	**Gavdhos**	**1.35**	**152**	*ePg*	**Pn**	**16 18 02.3**	**+4.1**
GVD	**Gavdhos**	**1.35**	**152**	*eP*	**Pn**	**16 18 01.5**	**+3.3**
DID	**Didima**	**1.47**	**357**	*ePg*	**Pn**	**16 18 00.1**	**+0.3**
DID				*eSg*	**Sn**	**16 18 17.4**	**-0.8**
IDI	**Anoyia**	**1.48**	**120**	P	**Pn**	**16 18 02.9**	**+3.0**
VLX	**Vlachokerasia**	**1.53**	**331**	*ePg*	**Pn**	**16 18 02.1**	**+1.5**
PYL	**PYLOS**	**1.54**	**304**	*ePg*	**Pn**	**16 18 01.5**	**+0.8**
ITM	**Ithomi**	**1.60**	**316**	⇑*i P*	**Pn**	**16 18 03.3**	**+1.8**
ITM				*eS*	**Sn**	**16 18 20.9**	**-0.4**
NAIG	**Nisos Aigina**	**1.72**	**4**	*eP*	**Pn**	**16 18 03.5**	**+0.3**
SANT	**Santorini**	**1.76**	**78**	*ePb*	**Pn**	**16 18 05.8**	**+2.1**
SANT				*eSb*	**Sn**	**16 18 27.1**	**+2.0**
SANT	**Santorini**	**1.76**	**78**	P	**Pn**	**16 18 06.0**	**+2.4**
SANT				*eSb*	**Sn**	**16 18 27.1**	**+2.0**
THR1	**Thera Island**	**1.76**	**78**	*ePb*	**Pn**	**16 18 05.8**	**+2.2**
KVR	**Kavouri**	**1.82**	**11**	*eP*	**Pn**	**16 18 04.5**	**0.0**
ATH	**Athens Observa**	**1.96**	**9**	*eP*	**Pn**	**16 18 06.9**	**+0.6**
ATH				*eS*	**Sn**	**16 18 28.7**	**-1.2**
LAST	**Lasithi**	**1.96**	**116**	*ePn*	**Pn**	**16 18 09.5**	**+3.1**
LTK	**Loutraki**	**2.00**	**352**	*ePb*	**Pn**	**16 18 07.5**	**+0.5**
NPS	**Neapolis**	**2.02**	**112**	*eP*	**Pn**	**16 18 10.6**	**+3.5**
APE	**Apeiranthos**	**2.05**	**59**	*ePb*	**Pn**	**16 18 09.1**	**+1.5**
APE				*eSb*	**Sn**	**16 18 32.2**	**-0.1**
APE	**Apeiranthos**	**2.05**	**59**	*eP*	**Pn**	**16 18 09.3**	**+1.7**
APE				*eS*	**Sn**	**16 18 32.9**	**+0.7**
APE	**Apeiranthos**	**2.05**	**59**	*ePb*	**Pn**	**16 18 09.1**	**+1.5**
APE				*eSb*	**Sn**	**16 18 32.2**	**0.0**
APE				*eS*	**Sn**	**16 18 32.9**	**+0.7**
PTL	**Penteli**	**2.06**	**12**	*eP*	**Pn**	**16 18 07.5**	**-0.1**
XRY	**Khrisi**	**2.25**	**120**	*eP*	**Pn**	**16 18 14.5**	**+4.1**
RLS	**Riolos of Patr**	**2.51**	**324**	⇓*iP*	**Pn**	**16 18 15.9**	**+2.1**
RLS				*eS*	**Sn**	**16 18 42.5**	**-0.7**
SELA	**Sela**	**2.51**	**333**	*ePn*	**Pn**	**16 18 15.2**	**+1.4**
SELA				*eSn*	**Sn**	**16 18 44.3**	**+1.0**
LKR	**Lokris**	**2.62**	**354**	⇑*iP*	**Pn**	**16 18 16.3**	**+1.0**
LKR				*eS*	**Sn**	**16 18 44.4**	**-1.6**
LKR	**Lokris**	**2.62**	**354**	*ePn*	**Pn**	**16 18 15.9**	**+0.6**
LKR	**Lokris**	**2.62**	**354**	*i P*	**Pn**	**16 18 16.3**	**+1.0**
LKR				*eS*	**Sn**	**16 18 44.4**	**-1.6**
VLS	**Valsamata**	**3.06**	**315**	*ePn*	**Pn**	**16 18 21.3**	**+0.1**
VLS	**Valsamata**	**3.06**	**315**	⇓*iP*	**Pn**	**16 18 21.5**	**+0.3**
AGG	**Agios Georgios**	**3.08**	**345**	*ePn*	**Pn**	**16 18 22.9**	**+1.3**
AGG				*eSn*	**Sn**	**16 18 55.7**	**-1.6**
EVR	**Evrytania**	**3.12**	**338**	*eP*	**Pn**	**16 18 24.0**	**+1.9**
KARP	**Karpathos**	**3.16**	**98**	P	**Pn**	**16 18 26.1**	**+3.5**
KARP	**Karpathos**	**3.16**	**98**	*eP*	**Pn**	**16 18 25.8**	**+3.2**
AOS	**Alonnisos**	**3.16**	**8**	*ePn*	**Pn**	**16 18 22.3**	**-0.4**
AOS				*eSn*	**Sn**	**16 18 56.4**	**-2.7**
CHOS	**Chios island**	**3.20**	**42**	*ePn*	**Pn**	**16 18 24.3**	**+1.0**
CHOS				*eSn*	**Sn**	**16 18 59.3**	**-0.9**
SMG	**Samos**	**3.27**	**58**	*eP*	**Pn**	**16 18 26.1**	**+1.9**
XOR	**Xorichti**	**3.33**	**358**	*ePn*	**Pn**	**16 18 24.7**	**-0.2**
BODT	**Bodrum**	**3.37**	**71**	*ePN*	**Pn**	**16 18 27.9**	**+2.3**
LKD	**Levkas**	**3.41**	**322**	*ePn*	**Pn**	**16 18 27.1**	**+1.0**
BDRM	**Kayabasi**	**3.47**	**72**	*i P*	**Pn**	**16 18 29.6**	**+2.7**
BDRM				*i S*	**Sn**	**16 19 07.0**	**+0.2**
URLA	**Izmir**	**3.49**	**47**	*i P*	**Pn**	**16 18 28.3**	**+1.1**
URLA				*i S*	**Sn**	**16 19 04.8**	**-2.6**
DAT	**Datca**	**3.50**	**77**	*ePN*	**Pn**	**16 18 30.3**	**+3.0**
THL	**Klokotos Trika**	**3.67**	**344**	*ePn*	**Pn**	**16 18 31.1**	**+1.5**
THL	**Klokotos Trika**	**3.67**	**344**	*eP*	**Pn**	**16 18 31.5**	**+1.9**
ARG	**Arkhangelos**	**3.89**	**86**	*eP*	**Pn**	**16 18 36.0**	**+3.4**

PAIG Paliouri 3.90 4 *ePn* **Pn 16 18 33.1 +0.4**
KDAG Bornova 3.94 52 *i P* **Pn 16 18 32.1 -1.2**
KDAG *i S* **Sn 16 19 05.4 -13**
AYDN Tasoluk 4.00 65 *i P* **Pn 16 18 35.7 +1.7**
AYDN *i S* **Sn 16 19 17.6 -2.1**
LTBQ Tobruq 4.00 173 *eS* **Sn 16 19 19.0 -0.8**
SNR=48
MEV Metsovon 4.09 337 *ePn* **Pn 16 18 37.8 +2.4**
JAN Janina 4.11 332 *eP* **Pn 16 18 37.0 +1.4**
LIT Litokhoron 4.11 351 *ePn* **Pn 16 18 36.2 +0.6**
LIA Limnos Island 4.13 20 *eP* **Pn 16 18 36.4 +0.6**
LOS Limnos 4.13 19 *ePn* **Pn 16 18 35.6 -0.3**
YER Yerkesik 4.14 73 *ePN* **Pn 16 18 39.1 +3.1**
IGT Igoumenitsa 4.22 327 *ePn* **Pn 16 18 37.1 0.0**
OUR Ouranopolis 4.32 7 *ePn* **Pn 16 18 38.9 +0.4**
BOZC Bozcaada 4.37 29 *i P* **Pn 16 18 37.9 -1.2**
BOZC *i S* **Sn 16 19 22.6 -6.1**
KEK Kerkira 4.61 324 *eP* **Pn 16 18 42.2 -0.2**
GADA Gvkgeada 4.62 25 *ePN* **Pn 16 18 42.2 -0.3**
FETY Fethiye 4.69 81 *ePN* **Pn 16 18 48.3 +4.8**
SLUM 4.80 160 ⇑P **Pn 16 18 46.4 +1.4**
GOLH Golhisar 5.16 75 *i P* **Pn 16 18 54.8 +4.9**
GOLH *i S* **Sn 16 19 49.0 +0.9**
GOLH Golhisar 5.16 75 *i S* **Sn 16 19 49.0 +0.9**
NVR Nevrokopi 5.32 4 P **Pn 16 18 56.0 +3.8**
ELL Elmali 5.36 80 *ePN* **Pn 16 18 57.5 +4.8**
OHR Ohrid 5.44 339 *ePn* **Pn 16 18 53.4 -0.4**
RKY Sarkoy-Tekirda 5.54 32 *ePN* **Pn 16 18 55.2 0.0**
BNT Bandirma 5.63 39 *ePN* **Pn 16 18 55.7 -0.7**
MFT Murefte 5.67 32 *ePN* **Pn 16 18 57.1 +0.1**
HMAT Matruh 5.85 146 ⇑P **Pn 16 19 00.0 +0.6**
HMAT S **Sn 16 20 03.2 -1.8**
HMAT Matruh 5.85 146 P **Pn 16 19 00.0 +0.6**
HMAT S **Sn 16 20 03.2 -1.9**
LCI Lecce 5.94 318 Pn **Pn 16 18 59.7 -0.9**
89nm,0.3s
ANTB Antalya 5.97 80 *ePN* **Pn 16 19 06.3 +5.2**
BCK Bucak 6.00 74 *ePN* **Pn 16 19 05.8 +4.3**
TIP Timpagrande 6.08 303 P **Pn 16 19 02.3 -0.3**
SOI Samo 6.16 291 Pn **Pn 16 19 02.8 -0.8**
42nm,1.1s
EDRB Edirne 6.38 24 *eP* **Pn 16 19 07.3 +0.5**
PE1 Pezze di Greco 6.64 318 *ePn* **Pn 16 19 09.7 -0.5**
HAVL Avola 6.67 280 Pn **Pn 16 19 09.0 -1.6**
67nm,0.2s
ULC Ulcinj 6.71 333⇓*i Pn* **Pn 16 19 10.2 -1.0**
ULC *e*Sn **Sn 16 20 18.7 -7.5**
SWA2 7.01 165 ⇓P **Pn 16 19 16.6 +1.3**
PVY Plav 7.04 339⇓*i Pn* **Pn 16 19 15.8 +0.1**
PVY *e*Sn **Sn 16 20 29.2 -5.1**
SWA1 7.05 163 ⇓P **Pn 16 19 17.0 +1.2**
SWA1 S **Sn 16 20 31.7 -2.8**
SG1 Sgolgore (BA) 7.08 315 *ePn* **Pn 16 19 15.5 -0.8**
SG1 *e*Sn **Sn 16 20 27.6 -7.7**
TTG Podgorica 7.12 335⇑*i Pn* **Pn 16 19 15.8 -1.0**
TTG *e*Sn **Sn 16 20 29.4 -6.8**
BUM Brajici-Budva 7.14 333⇑*i Pn* **Pn 16 19 16.3 -0.7**
BUM *e*Sn **Sn 16 20 28.0 -8.6**
BAI Bari 7.15 317 *ePn* **Pn 16 19 16.7 -0.5**
BAI *e*Sn **Sn 16 20 29.8 -7.1**
VAE Valguarnera 7.30 284 P **Pn 16 19 21.0 +1.8**
2.9nm,0.3s,baz=105,slow=16,SNR=5.5
VAE S **Sn 16 20 33.9 -6.7**
8.6nm,0.3s,baz=58,slow=2.6,SNR=9.6
VAE LR LR 16 22 59.3
comp=Z,70nm,18.7s,baz=137,slow=44
IVA Berane 7.32 340⇓*i Pn* **Pn 16 19 20.7 +1.2**
IVA *e*Sn **Sn 16 20 35.5 -5.6**
MGR Morigerati 7.37 306 Pn **Pn 16 19 19.7 -0.5**
58nm,0.2s
AKMC Akamas 7.41 95 P **Pn 16 19 20.3 -0.5**
HCY Herceg Novi 7.42 331⇓*i Pn* **Pn 16 19 18.9 -1.9**
HCY *e*Sn **Sn 16 20 34.6 -8.8**
PPCY Paphos 7.45 96 P **Pn 16 19 20.2 -1.1**
CDT Castel del Mon 7.47 314 *ePn* **Pn 16 19 19.9 -1.7**
CDT *e*Sn **Sn 16 20 37.4 -7.4**
NKY Niksic 7.55 335 *ePn* **Pn 16 19 22.1 -0.5**
NKY *e*Sn **Sn 16 20 38.8 -7.9**
ALFC Alevga 7.61 94 P **Pn 16 19 23.0 -0.5**
5.1nm,0.2s
ERMK Ermenek 7.76 83 *i P* **Pn 16 19 29.1 +3.6**
BRY Bratogost 7.79 333⇓*i Pn* **Pn 16 19 25.4 -0.5**
BRY *e*Sn **Sn 16 20 44.5 -8.0**
SZAC Souni-Zanaja 7.91 97 P **Pn 16 19 26.9 -0.7**
3.0nm,0.1s
UPM Unac-Piva 7.92 336⇑*i Pn* **Pn 16 19 26.8 -1.0**
UPM *e*Sn **Sn 16 20 48.0 -7.9**
MS1 Monte Sant'Ang 8.07 317 *ePn* **Pn 16 19 29.5 -0.3**
STON Ston 8.09 329 *ePn* **Pn 16 19 27.1 -2.9**
STON Sn **Sn 16 20 48.1 -12**
MAMC Mammari 8.11 93 P **Pn 16 19 30.7 +0.4**
CSS Prodhromos 8.23 95 P **Pn 16 19 31.6 -0.4**
1.0nm,0.2s
PHNC Paralimni 8.79 94 P **Pn 16 19 41.2 +1.5**
HMYD Mayadein 8.84 133 ⇓P **Pn 16 19 39.9 -0.4**
SQR 9.02 131 ⇑P **Pn 16 19 42.3 -0.5**
AWBH 9.03 147 ⇑P **Pn 16 19 43.0 +0.1**
AWBH 9.03 147 P **Pn 16 19 43.0 +0.1**
FYM Al Fayyum 9.06 132 P **Pn 16 19 42.8 -0.6**
AYT Al 'Ayyat 9.12 132 P **Pn 16 19 43.5 -0.6**
KOT Kottamia 9.38 128 ⇑P **Pn 16 19 47.7 -0.7**
HSAF As Saff 9.43 130 P **Pn 16 19 47.7 -0.6**
HHAG Hagoal 9.54 127 P **Pn 16 19 49.1 -0.8**
GLL Jalalah 9.55 130 ⇑P **Pn 16 19 49.9 -0.2**
GLL S **Sn 16 21 29.4 -6.4**
MLR Muntele Rosu 9.65 11 P **Pn 16 19 47.0 -4.4**
0.2nm,0.3s,baz=120,slow=20,SNR=2.4
HFRF Wahat Farafira 9.82 153 ⇑P **Pn 16 19 54.4 +0.5**
AMAG Maghara 9.86 120 P **Pn 16 19 53.0 -1.3**
SUZ 10.10 125 ⇑P **Pn 16 19 56.5 -1.0**
MMB2 Mount Meron ar 10.41 103 Pn **Pn 16 20 00.8 -0.9**
MMB2 Sn **Sn 16 21 50.8 -5.9**
MMAI Mount Meron Ar 10.41 103 P **Pn 16 20 00.2 -1.6**
5.2nm,0.3s,baz=300,slow=12,SNR=17
MMAI S **Sn 16 21 51.1 -5.7**
5.3nm,0.3s,baz=307,slow=25,SNR=7.1
KSDI Kefar Szold 10.55 102 Pn **Pn 16 20 02.9 -0.9**
KSDI Sn **Sn 16 21 54.2 -6.1**
KZIT Kziot 10.57 116 Pn **Pn 16 20 02.8 -1.1**
KZIT Sn **Sn 16 21 52.7 -7.9**
MMLI Mount Malkishu 10.64 106 Pn **Pn 16 20 04.5 -0.4**
MMLI Sn **Sn 16 21 55.7 -6.6**
NVLJ Novalja 10.68 325 Sn **Sn 16 21 52.0 -11**
HNKL Nakhl 10.82 121 P **Pn 16 20 07.5 +0.1**
MZDA Masada 11.08 112 Pn **Pn 16 20 09.9 -1.0**
GRB Gharib 11.14 131 P **Pn 16 20 11.4 -0.4**
HRDS Abu Rudays 11.15 128 ⇑P **Pn 16 20 10.8 -1.1**
KRMI Paran Flat 11.23 118 Pn **Pn 16 20 12.1 -0.9**
BOJS Bojanci 11.26 330 *i Pn* **Pn 16 20 11.7 -1.6**
BOJS *i* Sn **Sn 16 22 06.5 -11**
KEST Kesra 11.35 273 P **Pn 16 20 16.6 +2.1**
0.2nm,0.3s,baz=66,slow=12,SNR=2.9
HRFI Mount Harif 11.50 118 Pn **Pn 16 20 15.6 -1.1**
HRFI Sn **Sn 16 22 16.3 -7.2**
EIL Elat 11.65 120 P **Pn 16 20 18.1 -0.6**
1.3nm,0.3s,baz=291,slow=6.6,SNR=30
EIL S **Sn 16 22 18.6 -8.5**
1.4nm,0.3s,baz=75,slow=12,SNR=4.7
EIL LR LR 16 27 37.6
comp=Z,26nm,18.6s,baz=141,slow=52
EIL Elat 11.65 120 Pn **Pn 16 20 17.8 -1.0**
EIL Sn **Sn 16 22 19.7 -7.4**
HDK1 Dakhla 11.69 152 P **Pn 16 20 19.9 +0.6**
HKAT Jabal Katrina 11.72 127 ⇑P **Pn 16 20 18.8 -1.0**
HBST Basata 11.77 122 ⇓P **Pn 16 20 19.1 -1.3**
ASF Jabal al Asfar 11.89 105 P **Pn 16 20 20.6 -1.4**
0.8nm,0.3s,baz=144,slow=8.3,SNR=5.7
HDHB Dhahab 12.01 124 P **Pn 16 20 22.8 -0.8**
JAVS Javornik 12.07 327 *i Pn* **Pn 16 20 21.8 -2.5**
JAVS *i* Sn **Sn 16 22 24.8 -12**
AKRG Al Kharijah 12.17 148 ⇑P **Pn 16 20 26.1 +0.2**
GTR Jabal at Tayr 12.19 147 P **Pn 16 20 26.0 -0.1**
PERS Pernice 12.25 332 *i Pn* **Pn 16 20 24.6 -2.1**
PERS *i* Sn **Sn 16 22 29.1 -12**
HHRG Al Ghardaqah 12.38 132 ⇑P **Pn 16 20 27.9 -0.8**
VYHS Vyhne 12.88 346 *ePN* **Pn 16 20 45.2 +10**
HSFG 13.08 133 P **Pn 16 20 37.3 -0.9**
STHS Stebnicka Huta 13.46 354 *ePN* **Pn 16 20 51.6 +8.4**
VRAC Vranov 14.15 342 P **Pn 16 20 55.1 +2.9**
1.0nm,0.3s,baz=151,slow=10,SNR=7.5
GERES GERESS Array B 14.62 334 P **Pn 16 20 57.9 -0.5**

0.2nm,0.3s,baz=156,slow=13,SNR=4.3
GERES S **Sn** **16 23 28.1 -11**
0.4nm,0.3s,baz=152,slow=23,SNR=6.0
DAVOX Davos/Dischmat 14.71 321 S **Sn** **16 23 29.1 -12**
0.3nm,0.3s,baz=306,slow=19,SNR=2.2
KHC Kasperske Hory 14.91 334 *eP* **Pn** **16 21 07.7 +5.6**
DPC Dobruska-Polom 15.18 343 *eP* **Pn** **16 21 10.3 +4.7**
KIEV Kiev 15.26 14 *eP* **Pn** **16 21 04.9 -1.7**
3.8nm,0.7s
AKASG Malin Array Be 15.27 14 P **Pn** **16 21 05.2 -1.5**
0.8nm,0.3s,baz=204,slow=12,SNR=14
PRU Pruhonice 15.34 338 *eP* **Pn** **16 21 11.7 +4.1**
UPC Upice 15.40 342 *eP* **Pn** **16 21 12.7 +4.2**
BRG Berggiesshubel 16.30 338 *eP* **Pn** **16 21 22.9 +3.1**
5.5nm,0.9s
MIB Mutribah 21.07 100 *eP* **P** **16 22 15.2 +1.1**
MIB AMb AMB 16 22 16.2
comp=Z,13nm,0.4s,mb4.7
NAY Al-Naaiem 21.22 102 *eP* **P** **16 22 16.9 +1.3**
NAY AMb AMB 16 22 22.1
comp=Z,8.2nm,0.7s,mb4.2
RDF Al-Radifah 21.60 102 *eP* **P** **16 22 20.4 +0.7**
RDF AMb AMB 16 22 22.4
comp=Z,6.7nm,0.3s,mb4.5
MDT Midelt 23.24 270 P **P** **16 22 39.9 +3.1**
comp=Z,1.3nm,0.7s,mb3.3,baz=96,slow=9.2,SNR=3.8
HFS Hagfors 24.90 349 P **P** **16 22 51.3 -0.4**
comp=Z,4.2nm,0.5s,mb4.2,baz=151,slow=10,SNR=34
FINES FINESS Array B 25.49 3 P **P** **16 22 56.3 -0.7**
comp=Z,1.3nm,0.6s,mb3.5,baz=177,slow=10,SNR=9.2
NB2 NORSAR Subarra 26.19 347 P **P** **16 23 03.6 +0.3**
comp=Z,2.1nm,0.7s,mb3.7,baz=162,slow=10
NOA NORSAR Array B 26.19 347 P **P** **16 23 02.7 -0.6**
NOA NORSAR Array B 26.19 347 P **P** **16 23 02.7 -0.6**
comp=Z,1.7nm,0.6s,mb3.7,baz=148,slow=9.6,SNR=5.0
EKA Eskdalemuir Ar 26.46 325 P **P** **16 23 06.5 +0.6**
comp=Z,1.9nm,0.5s,mb3.8,baz=123,slow=8.1,SNR=11
ARCES ARCESS Array B 33.58 1 P **P** **16 24 07.8 -0.8**
comp=Z,0.9nm,0.5s,mb3.8,baz=189,slow=9.7,SNR=10
MKAR Makanchi Array 44.55 57 P **P** **16 25 41.0 +0.6**
comp=Z,3.0nm,0.5s,mb4.3,baz=276,slow=7.1,SNR=22
MKAR PcP PcP 16 27 24.3 +1.9
comp=Z,0.4nm,0.4s,baz=281,slow=3.2,SNR=2.6
ZALV Zalesovo Beam 45.49 47 P **P** **16 25 47.9 +0.2**
comp=Z,3.5nm,0.3s,mb4.5,baz=268,slow=10.0,SNR=6.6
SONM Songino Array 60.09 50 P **P** **16 27 36.4 +0.9**
comp=Z,0.4nm,0.4s,mb3.8,baz=292,slow=7.1,SNR=7.9
SCHQ Schefferville 61.55 319 P **P** **16 27 46.0 +0.7**
comp=Z,1.2nm,0.6s,mb4.1,baz=49,slow=11,SNR=2.4
YKA Yellowknife Ar 76.15 341 P **P** **16 29 16.4 +0.7**
YKA Yellowknife Ar 76.15 341 P **P** **16 29 16.4 +0.7**
comp=Z,0.6nm,0.5s,mb3.6,baz=32,slow=5.3,SNR=10
YKA Yellowknife Ar 76.15 341 P **P** **16 29 16.4 +0.7**
KSRS Korea Array 78.93 52 P **P** **16 29 32.8 +1.1**
comp=Z,1.1nm,0.6s,mb3.9,baz=314,slow=3.8,SNR=8.1
MJAR Matsushiro Arr 85.84 47 P **P** **16 30 09.1 +1.4**
comp=Z,1.3nm,0.8s,mb3.9,baz=322,slow=3.2,SNR=8.1
WRA Warramunga Arr 118.17 95 PKP PKPdf 16 36 16.0 +0.9
comp=Z,0.2nm,0.4s,baz=317,slow=1.3,SNR=13
ASAR Alice Springs 119.67 99 PKP PKPdf 16 36 19.1 +1.2
comp=Z,0.2nm,0.3s,baz=316,slow=1.6,SNR=12

TIR 08 16:19:19.4±0.8, 4012N×2026E, h7km, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRN	**Sarande**	**0.31**	**220**	*e*PG	Pg	16 19 25.4	0.0
SRN				*i* SG	Sg	16 19 30.8	+1.3
KBN	**Korca**	**0.65**	**38**	*e*PG	Pg	16 19 32.9	+1.0
KBN				*i* SG	Sg	16 19 41.8	+1.5
TIR	**Tirane**	**1.27**	**346**	*e*PN	Pn	16 19 52.4	+9.0

*ISCJB **08** 16:39:14.3±0.3, 3286S±002×7000W±005, h112km±2km, mb4.6/26, Error ellipse: s-maj=7.5km s-min=3.8km az=176.8*
*GUC **08** 16:39:14.5±0.7, 3287S×7006W, h112km±3km, ML4.7*
*IDC **08** 16:39:14.5±2.7, 3282S×6971W, h99km±24km, mb4.3/12, mb1 4.3/16, mb1mx4.3/20, mbtmp4.3/16, MS3.7/3, Ms1 3.6/3, ms1mx2.9/24, Error ellipse: s-maj=20.8km s-min=11.9km az=99.0*
*NEIC **08** 16:39:14.8±0.2, 3288S×6994W, h104km±2km, mb4.7/20, Error ellipse: s-maj=6.1km s-min=3.4km az=84.0*
NEIC Felt [III] at Cabildo, Los Andes, Quillota, San Felipe, Valparaiso and Vina del Mar; [II] at Limache, Olmue and Santiago, Chile. Felt at Mendoza.

ISC 08 16:39:15.3±0.3, 3286S±002×6999W±005, h105km±2km, h124km±.4km: pP-P, n98, σ0.9/75/114, mb4.6/26, 18C-11D, Mendoza Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.54**	**208**	*e*P	**Pn**	**16 39 31.9**	**0.0**
FCH				*i* S	**Sn**	**16 39 45.2**	**+0.9**
FCH				AML	AML	16 39 46.9	
comp=N,24μm,0.6s							
JACH	**Jahuel**	**0.54**	**289**	⇓*i*P	**Pn**	**16 39 31.9**	**-0.1**
PEL	**Peldehue**	**0.65**	**244**	⇓*i*P	**Pn**	**16 39 32.6**	**-0.2**
PEL				*i* S	**Sn**	**16 39 46.2**	**+0.3**
PEL				AML	AML	16 39 47.0	
comp=E,65μm,0.3s							
CLCH	**Cerro Calan**	**0.71**	**220**	⇑*i*P	**Pn**	**16 39 33.2**	**-0.1**
CLCH				*i* S	**Sn**	**16 39 47.2**	**+0.4**
CLCH				AML	AML	16 39 49.2	
comp=E,36μm,0.6s							
DSCH	**Colegio Aleman**	**0.73**	**222**	*e*P	**Pn**	**16 39 32.8**	**-0.7**
DSCH				*i* S	**Sn**	**16 39 47.1**	**0.0**
FSR	**Penalolen**	**0.77**	**216**	*e*P	**Pn**	**16 39 33.7**	**-0.2**
FSR				*i* S	**Sn**	**16 39 48.4**	**+0.6**
FSR	**Penalolen**	**0.77**	**216**	*e*P	**Pn**	**16 39 33.7**	**-0.2**
FSR				*i* S	**Sn**	**16 39 48.4**	**+0.6**
FSR				AML	AML	16 39 52.8	
comp=E,18μm,0.7s							
STL	**Santa Lucia**	**0.80**	**223**	⇑*i*P	**Pn**	**16 39 33.5**	**-0.6**
STL				*i* S	**Sn**	**16 39 48.3**	**0.0**
YECH	**El Yeso**	**0.81**	**186**	⇑*i*P	**Pn**	**16 39 34.7**	**+0.5**
YECH				*i* S	**Sn**	**16 39 49.8**	**+1.3**
SAN	**Santiago**	**0.82**	**223**	⇓*i*P	**Pn**	**16 39 34.1**	**-0.3**
SAN				*i* S	**Sn**	**16 39 48.7**	**+0.1**
SAN	**Santiago**	**0.82**	**223**	⇓*i*P	**Pn**	**16 39 34.1**	**-0.3**
SAN				*i* S	**Sn**	**16 39 48.7**	**+0.1**
SAN				AML	AML	16 39 54.9	
comp=E,16μm,0.6s							
SJCH	**San Jose de Ma**	**0.84**	**201**	⇑*i*P	**Pn**	**16 39 34.4**	**-0.1**
SJCH				*i* S	**Sn**	**16 39 49.5**	**+0.5**
SJCH	**San Jose de Ma**	**0.84**	**201**	⇑*i*P	**Pn**	**16 39 34.4**	**-0.1**
SJCH				*i* S	**Sn**	**16 39 49.5**	**+0.5**
SJCH				AML	AML	16 39 50.3	
comp=E,14μm,0.7s							
ROCH	**El Roble**	**0.87**	**262**	⇓*i*P	**Pn**	**16 39 34.6**	**-0.1**
PCH	**Pirque**	**0.88**	**210**	⇓*i*P	**Pn**	**16 39 34.8**	**-0.1**
ANTU	**Antumapu**	**0.89**	**217**	⇑*i*P	**Pn**	**16 39 34.8**	**-0.3**
ANTU				*i* S	**Sn**	**16 39 50.1**	**+0.2**
ANTU	**Antumapu**	**0.89**	**217**	⇑*i*P	**Pn**	**16 39 34.8**	**-0.3**
ANTU				*i* S	**Sn**	**16 39 50.1**	**+0.2**
ANTU				AML	AML	16 39 51.0	
comp=N,30μm,0.4s							
RCDM	**Rinconada Maip**	**0.93**	**227**	⇑*i*P	**Pn**	**16 39 35.0**	**-0.5**
RCDM				*i* S	**Sn**	**16 39 50.7**	**+0.1**
RCDM	**Rinconada Maip**	**0.93**	**227**	⇑*i*P	**Pn**	**16 39 35.0**	**-0.5**
RCDM				*i* S	**Sn**	**16 39 50.7**	**+0.1**
RCDM				AML	AML	16 39 52.7	
comp=E,32μm,0.2s							
PTCH	**Petorca**	**0.99**	**306**	⇓*i*P	**Pn**	**16 39 36.1**	**+0.1**
PTCH				*i* S	**Sn**	**16 39 52.0**	**+0.4**
LMEL	**Las Melosas**	**1.01**	**190**	⇑*i*P	**Pn**	**16 39 36.2**	**0.0**
LMEL				*i* S	**Sn**	**16 39 52.7**	**+0.7**
LMEL	**Las Melosas**	**1.01**	**190**	⇑*i*P	**Pn**	**16 39 36.2**	**0.0**
LMEL				*i* S	**Sn**	**16 39 52.7**	**+0.7**
LMEL				AML	AML	16 39 58.2	
comp=N,9μm,0.2s							
TACH	**Talagante**	**1.12**	**225**	⇓*i*P	**Pn**	**16 39 37.0**	**-0.5**
PACH	**Papudo**	**1.26**	**284**	⇑*i*P	**Pn**	**16 39 38.3**	**-0.7**
CACH	**El Canelo**	**1.36**	**202**	⇑*i*P	**Pn**	**16 39 40.4**	**+0.2**
IHA	**Instituto Hidr**	**1.40**	**263**	⇑*i*P	**Pn**	**16 39 39.5**	**-1.1**
IHA				*i* S	**Sn**	**16 39 58.7**	**-1.1**
LCCH	**Las Cruces**	**1.46**	**245**	⇓*i*P	**Pn**	**16 39 40.5**	**-0.8**
CICH	**Cipreses**	**1.50**	**194**	⇓*i*P	**Pn**	**16 39 42.1**	**+0.2**
CICH				*i* S	**Sn**	**16 40 03.1**	**+1.1**
CMCH	**Combarbala**	**1.88**	**333**	⇑*i*P	**Pn**	**16 39 46.8**	**+0.1**
CMCH				*i* S	**Sn**	**16 40 10.6**	**+0.1**
CMCH	**Combarbala**	**1.88**	**333**	⇑*i*P	**Pn**	**16 39 46.8**	**+0.1**
CMCH				*i* S	**Sn**	**16 40 10.6**	**+0.1**
CMCH				AML	AML	16 40 12.7	
comp=N,18μm,0.5s							
CFAA	**Coronel Fontan**	**1.94**	**50**	P	**Pn**	**16 39 47.7**	**+0.3**
CFAA				S	**Sn**	**16 40 12.2**	**+0.5**
CFAA	**Coronel Fontan**	**1.94**	**50**	P	**Pn**	**16 39 47.7**	**+0.4**
comp=N,80nm,0.3s,baz=210,slow=11,SNR=5534							
CFAA				S	**Sn**	**16 40 12.2**	**+0.5**
comp=N,276nm,0.3s,baz=317,slow=8.6,SNR=37							
SFDO	**San Fernando**	**1.95**	**206**	⇓*i*P	**Pn**	**16 39 46.7**	**-0.8**
NICH	**Los Niches**	**2.38**	**205**	⇑*i*P	**Pn**	**16 39 51.8**	**-1.2**
OVCH	**Ovalle**	**2.47**	**335**	*e*P	**Pn**	**16 39 54.2**	**+0.1**
OVCH				*i* S	**Sn**	**16 40 23.5**	**-0.4**
TLL	**Tololo Astrono**	**2.77**	**345**	*e*P	**Pn**	**16 39 58.9**	**+0.7**
TLL				*i* S	**Sn**	**16 40 31.8**	**+0.7**
TLL	**Tololo Astrono**	**2.77**	**345**	*e*P	**Pn**	**16 39 58.9**	**+0.7**
TLL				*i* S	**Sn**	**16 40 31.8**	**+0.7**
TLL				AML	AML	16 40 33.7	
comp=N,2μm,0.3s							
LSCH	**La Serena**	**3.13**	**340**	*e*P	**Pn**	**16 40 02.4**	**-0.5**
LCO	**Las Campanas**	**3.88**	**351**	*e*Pn	**Pn**	**16 40 12.5**	**-0.5**
LCO				Sn	**Sn**	**16 40 53.7**	**-3.9**
PLCA	**Paso Flores**	**7.88**	**183**	*e*Pn	**Pn**	**16 41 05.0**	**-2.0**
comp=N,2.8nm,0.3s							
PLCA	**Paso Flores**	**7.88**	**183**	P	**Pn**	**16 41 05.3**	**-1.7**
comp=N,0.6nm,0.3s,baz=349,slow=12,SNR=8.2							
TRQA	**Tornquist**	**8.34**	**131**	*e*Pn	**Pn**	**16 41 10.9**	**-2.4**
comp=N,18nm,0.6s							
CPUP	**Villa Florida**	**12.79**	**63**	*e*P	**Pn**	**16 42 06.5**	**-6.8**
comp=N,70nm,0.4s							
CPUP	**Villa Florida**	**12.79**	**63**	P	**Pn**	**16 42 07.7**	**-5.5**
comp=N,3.7nm,0.3s,baz=220,slow=12,SNR=20							
CPUP				LR	LR	16 47 58.5	
comp=N,86nm,19.1s,baz=207,slow=42							
LPAZ	**La Paz**	**16.58**	**6**	*e*P	**Pn**	**16 43 02.3**	**+0.8**
comp=N,12nm,0.7s							
LPAZ	**La Paz**	**16.58**	**6**	P	**Pn**	**16 43 02.2**	**+0.7**
comp=N,1.0nm,0.3s,baz=178,slow=7.3,SNR=55							
SIV	**San Ignacio**	**18.63**	**28**	P	**P**	**16 43 24.1**	**-0.7**
comp=N,4.8nm,0.3s,baz=201,slow=8.9,SNR=140							
EFI	**East Falkland**	**20.73**	**159**	P	**P**	**16 43 47.6**	**+0.4**
USHA	**Ushuaia**	**22.00**	**178**	P	**P**	**16 44 00.4**	**-0.3**
comp=N,21nm,0.8s,mb4.5,baz=329,slow=3.6,SNR=6.1							
BDFB	**Brasilia**	**26.27**	**55**	P	**P**	**16 44 39.6**	**-1.3**
comp=N,37nm,0.8s,mb4.9,baz=215,slow=9.0,SNR=44							
VNA3	**Neumayer Olymp**	**49.78**	**158**	*e*	**P**	**16 47 56.9**	**+0.2**
VNA3				*e*		16 48 02.0	
VNA3				*e*		16 48 04.2	
VNA3				*e*	pP	16 48 25.4	+3.7
VNA3				*e*		16 48 41.3	
VNA1	**Neumayer--Stat**	**50.06**	**157**	*e*	**P**	**16 47 59.6**	**+0.8**
VNA1				*e*		16 48 03.9	
VNA1				*e*		16 48 06.8	
VNA1				*e*		16 48 29.4	
VNA1				*e*		16 48 44.9	
VNA2	**Neumayer--Watz**	**50.41**	**158**	*e*	**P**	**16 48 02.0**	**+0.5**
baz=287,slow=8.6							
VNA2				*e*		16 48 06.9	
VNA2				*e*		16 48 09.2	
VNA2				*e*	pP	16 48 30.6	+4.1
VNA2				*e*		16 48 49.5	
SNAA	**Sanae**	**52.00**	**158**	*e*	**P**	**16 48 13.6**	**+0.2**
SNAA				*e*		16 48 17.1	
SNAA				*e*		16 48 19.1	
SNAA				*e*	pP	16 48 42.6	+4.1
SNAA				*e*		16 49 00.2	
SNAA	**Sanae**	**52.00**	**158**	P	**P**	**16 48 13.3**	**-0.1**
comp=N,4.2nm,0.8s,mb4.5,baz=285,slow=6.7,SNR=59							
TEIG	**Tepich**	**55.60**	**339**	*e*P	**P**	**16 48 39.9**	**-0.2**
comp=N,27nm,0.5s,mb5.5							
QSPA	**South Pole Qui**	**57.38**	**180**	*e*P	**P**	**16 48 52.6**	**+0.5**
comp=N,19nm,0.8s,mb5.2							
QSPA	**South Pole Qui**	**57.38**	**180**	P	**P**	**16 48 53.0**	**+0.9**
comp=N,16nm,0.8s,mb5.1,baz=154,slow=2.2,SNR=97							
VNDA	**Vanda**	**65.55**	**191**	P	**P**	**16 49 48.1**	**+1.1**
comp=N,0.7nm,0.6s,mb3.6,baz=133,slow=4.2,SNR=8.1							
SYO	**Syowa Base**	**66.30**	**158**	⇓*e*P	**P**	**16 49 49.6**	**-2.3**
JCT	**Junction City**	**69.02**	**333**	*e*P	**P**	**16 50 09.8**	**+0.3**
comp=N,8.9nm,0.7s,mb4.7							
TXAR	**Lajitas Array**	**69.61**	**329**	P	**P**	**16 50 13.4**	**+0.4**
comp=N,3.0nm,0.5s,mb4.3,baz=158,slow=8.8,SNR=44							
WVT	**Waverly**	**70.63**	**345**	*e*P	**P**	**16 50 18.4**	**-0.8**
comp=N,28nm,0.6s,mb5.3							
MNTX	**Cornudas Mount**	**72.39**	**329**	*e*P	**P**	**16 50 28.8**	**-1.1**
comp=N,5.2nm,0.6s,mb4.5							
DBIC	**Dimbokro**	**73.19**	**70**	*e*P	**P**	**16 50 34.2**	**-0.8**
comp=N,6.0nm,0.6s,mb4.6							
DBIC	**Dimbokro**	**73.19**	**70**	P	**P**	**16 50 34.3**	**-0.7**
comp=N,6.0nm,0.6s,mb4.6,baz=222,slow=6.9,SNR=11							
CCM	**Cathedral Cave**	**73.27**	**343**	*e*P	**P**	**16 50 34.3**	**-0.6**
comp=N,5.9nm,0.3s,mb4.9							
MAW	**Mawson**	**73.78**	**163**	P	**P**	**16 50 37.5**	**-0.1**
comp=N,0.8nm,0.4s,mb3.8,baz=255,slow=12,SNR=4.5							
CBKS	**Cedar Bluff**	**76.47**	**337**	*e*P	**P**	**16 50 53.5**	**+0.1**
comp=N,6.1nm,0.6s,mb4.5							
SDCO	**Great Sand Dun**	**77.64**	**332**	*e*P	**P**	**16 51 00.5**	**+0.5**
comp=N,2.8nm,0.7s,mb4.1							
RAR	**Rarotonga**	**78.63**	**252**	P	**P**	**16 51 08.9**	**+3.0**
comp=N,5.8nm,0.4s,mb4.7,baz=79,slow=5.2,SNR=3.4							
PV01	**Paradox Valley**	**79.23**	**330**	*e*P	**P**	**16 51 09.6**	**+0.9**
PFO	**Pinyon Flat Ob**	**79.26**	**322**	LR	LR	17 19 58.4	
comp=N,49nm,20.7s,baz=119,slow=31							
SMCO	**Snowmass**	**79.46**	**332**	*e*P	**P**	**16 51 11.5**	**+1.6**
comp=N,9.8nm,0.9s,mb4.6							
ECSD	**EROS,Sioux Fal**	**80.01**	**341**	*e*P	**P**	**16 51 12.1**	**-0.6**
comp=N,13nm,0.9s,mb4.8							
LBTB	**Lobatse**	**81.22**	**114**	*e*P	**P**	**16 51 19.3**	**-0.5**
NVAR	**Mina Array Bea**	**83.95**	**324**	P	**P**	**16 51 34.6**	**+1.1**
comp=N,4.7nm,0.8s,mb4.4,baz=157,slow=5.4,SNR=34							
IMW	**Indian Meadow**	**85.04**	**332**	*e*P	**P**	**16 51 38.3**	**-0.5**
comp=N,6.8nm,0.8s,mb4.6							
FLWY	**Flagg Ranch**	**85.10**	**332**	*e*P	**P**	**16 51 39.8**	**+0.7**
comp=N,9.6nm,0.9s,mb4.7							
ULM	**Lac du Bonnet**	**85.86**	**344**	P	**P**	**16 51 42.0**	**-0.7**
comp=N,2.6nm,0.5s,mb4.4,baz=193,slow=6.4,SNR=7.5							
QLMT	**Earthquake Lak**	**86.01**	**332**	*e*P	**P**	**16 51 44.5**	**+1.0**
MCMT	**McKenzie Canyo**	**86.58**	**331**	*e*P	**P**	**16 51 47.4**	**+1.1**
WOVR	**Wild Horse Val**	**87.21**	**326**	*e*P	**P**	**16 51 50.1**	**+0.6**
comp=N,3.3nm,0.9s,mb4.3							
SCHQ	**Schefferville**	**87.37**	**2**	P	**P**	**16 51 50.1**	**+0.1**
comp=N,1.6nm,0.6s,mb4.1,baz=221,slow=9.3,SNR=3.5							
MOD	**Modoc**	**87.59**	**325**	*e*P	**P**	**16 51 51.9**	**+0.5**
comp=N,2.1nm,0.7s,mb4.3							
MDT	**Midelt**	**89.77**	**50**	LR	LR	17 33 07.4	
comp=N,98nm,18.1s,baz=335,slow=36							
FCC	**Fort Churchill**	**93.46**	**348**	*e*P	**P**	**16 52 17.8**	**-0.5**
comp=N,7.6nm,1.0s,mb5.0							
YKA	**Yellowknife Ar**	**101.54**	**341**	P	Pdif	16 52 53.6	-1.7
comp=N,0.2nm,0.5s,baz=138,slow=4.7,SNR=5.3							
ASAR	**Alice Springs**	**119.35**	**205**	PKP	PKPdf	16 57 51.0	-1.7
comp=N,0.6nm,0.5s,baz=131,slow=1.5,SNR=15							
AKASG	**Malin Array Be**	**120.16**	**47**	PKP	PKPdf	16 57 51.8	-1.5
comp=N,0.1nm,0.2s,baz=247,slow=3.5,SNR=4.8							
ARCES	**ARCESS Array B**	**122.26**	**24**	PKP	PKPdf	16 57 56.0	-0.8
comp=N,7.0nm,1.1s,baz=248,slow=3.0,SNR=5.3							
WRA	**Warramunga Arr**	**122.58**	**207**	PKP	PKPdf	16 57 57.6	-1.4
comp=N,1.6nm,0.5s,baz=163,slow=1.6,SNR=49							
YAK	**Yakutsk**	**148.19**	**342**	*e*PKPbc	PKPbc	16 58 47.4	-0.7
ZAA0	**Zalesovo Array**	**152.34**	**33**	*e*PKPbc	PKPbc	16 58 58.0	-0.3
ZALV	**Zalesovo Beam**	**152.34**	**33**	PKPbc	PKPbc	16 58 58.0	-0.2
comp=N,11nm,0.4s,baz=300,slow=3.0,SNR=20							
MKAR	**Makanchi Array**	**154.72**	**48**	PKPbc	PKPbc	16 59 01.8	-1.9
MKAR	**Makanchi Array**	**154.72**	**48**	PKPbc	PKPbc	16 59 01.8	-1.9
comp=N,1.1nm,0.7s,baz=294,slow=1.2,SNR=4.9							
SONM	**Songino Array**	**164.79**	**9**	PKPab	PKPab	17 00 03.1	+0.4
comp=N,0.7nm,0.7s,baz=327,slow=3.8,SNR=6.0							

IDC 08 16:58:28.3±4.8, 6064S×15548E, h0km, mb4.3/2, mb1 4.5/3, mb1mx4.1/11, mbtmp4.2/3, ML4.0/1, MS3.9/8, Ms1 3.9/8, ms1mx3.7/19, Error ellipse: s-maj=279.0km s-min=36.3km az=75.0, Macquarie Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	**Vanda**	**17.09**	**175**	P	Pn	17 02 28.5	+0.3
0.5nm,0.3s,baz=344,slow=12,SNR=29							
VNDA				LR	LR	17 08 17.3	
comp=Z,274nm,20.6s,baz=339,slow=34							
RPZ	**Rata Peaks**	**19.36**	**36**	LR	LR	17 09 22.9	
comp=Z,520nm,19.4s,baz=340,slow=34							
QSPA	**South Pole Qui**	**29.46**	**180**	P	P	17 04 37.8	+4.7
1.3nm,0.9s,baz=236,slow=3.6,SNR=4.0							
QSPA				LR	LR	17 15 20.5	
comp=Z,260nm,20.9s,baz=16,slow=34							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**37.23**	**301**	LR	LR	17 15 56.4	
comp=Z,102nm,19.9s,baz=150,slow=28							
ASAR	**Alice Springs**	**39.87**	**328**	P	P	17 06 04.3	+0.9
5.1nm,1.1s,baz=160,slow=8.0,SNR=20							
CTA	**Charters Tower**	**41.03**	**347**	LR	LR	17 20 32.9	
comp=Z,150nm,20.1s,baz=214,slow=32							
WRA	**Warramunga Arr**	**43.33**	**330**	P	P	17 06 30.8	-1.0
5.6nm,1.1s,baz=163,slow=7.2,SNR=14							
SNAA	**Sanae**	**47.12**	**189**	LR	LR	17 27 13.4	
comp=Z,86nm,20.5s,baz=148,slow=37							
TBI	**Tubuai**	**52.96**	**71**	*e*T		18 05 43.7	
23nm,0.4s							
PAE	**Paea**	**57.84**	**67**	*e*T		18 11 48.4	
30nm,0.3s							
PPT	**Papeete**	**57.92**	**67**	*e*LR	LR	17 25 43.0	
64nm,24.2s							
PPT	**Papeete**	**57.92**	**67**	LR	LR	17 28 28.6	
comp=Z,108nm,18.7s,baz=188,slow=31							
RKT	**Rikitea**	**60.12**	**84**	*e*T		18 14 41.0	
33nm,0.5s							
BOSA	**Boshof**	**82.26**	**223**	LR	LR	17 42 45.5	
comp=Z,90nm,18.0s,baz=338,slow=32							

*NIED **08** 17:08:00, 3650N×14070E, h50km, Mw3.8 Best double couple: M0:6.66000×10^14 NP1:φ±s16.00000°, δ70.00000°, λ90.00000°. NP2:φ±s196.00000°, δ20.00000°, λ90.00000°.*
*ISCJB **08** 17:08:44.4±0.6, 3652N±004×14088E±006, h59km±4km, mb4.2/12, Error ellipse: s-maj=9.0km s-min=4.8km az=28.0*
*IDC **08** 17:08:44.4±2.3, 3659N×14104E, h46km±20km, mb3.7/8, mb1 3.8/13, mb1mx3.7/24, mbtmp3.7/13, ML3.4/5, MS2.7/4, Ms1 2.7/4, ms1mx2.6/24, Error ellipse: s-maj=22.3km s-min=11.0km az=67.0*
*NEIC **08** 17:08:46.2, 3652N×14069E, h54km, MG3.9(JMA), After JMA.*
*JMA **08** 17:08:46.2±0.1, 3652N×14069E, h55km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ±s227.00000°, δ23.00000°, λ132.00000°. NP2:φ±s2.00000°, δ73.00000°, λ74.00000°. Principal axes: T Plg59.0000°, Azm250.0000°; N Plg15.0000°, Azm7.0000°; P Plg26.0000°, Azm105.0000°;*
JMA Felt II J1.

ISC 08 17:08:45.8±0.6, 3654N±004×14083E±006, h52km±4km, n36, σ0.9/99/48, mb4.2/12, 3C-4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.22**	**290**	⇑P	**Pn**	**17 08 54.7**	**+0.2**
JHO				S	**Sn**	**17 09 00.6**	**-0.1**
ONAJ	**Iwakimizuishiy**	**0.56**	**358**	⇑P	**Pn**	**17 08 58.4**	**+0.5**
ONAJ				S	**Sn**	**17 09 06.6**	**-0.1**
JYT	**Yasato**	**0.60**	**239**	⇓P	**Pn**	**17 08 57.8**	**-0.5**
JYT				S	**Sn**	**17 09 05.6**	**-1.8**
JFK	**Kawauchi**	**0.83**	**3**	⇑P	**Pn**	**17 09 01.4**	**+0.1**
JFK				S	**Sn**	**17 09 12.3**	**-0.3**
JFT	**Otama**	**1.05**	**338**	P	**Pn**	**17 09 05.1**	**+0.8**
JFT				*e*S	**Sn**	**17 09 18.0**	**0.0**
JAG	**Ashikaga**	**1.11**	**265**	⇓P	**Pn**	**17 09 04.4**	**-0.7**
JAG				S	**Sn**	**17 09 17.0**	**-2.3**
JFY	**Yanaizu**	**1.25**	**314**	⇓P	**Pn**	**17 09 07.0**	**+0.1**
JKT	**Katashina**	**1.29**	**281**	⇓P	**Pn**	**17 09 07.1**	**-0.3**
JKT				*e*S	**Sn**	**17 09 21.9**	**-1.7**
JMM	**Marumori**	**1.33**	**359**	P	**Pn**	**17 09 08.8**	**+0.8**
JMM				S	**Sn**	**17 09 24.9**	**+0.4**
MJAR	**Matsushiro Arr**	**2.11**	**271**	P	**Pn**	**17 09 18.4**	**-0.2**
MJAR				S	**Sn**	**17 09 46.2**	**+2.6**
MJAR	**Matsushiro Arr**	**2.11**	**271**	P	**Pn**	**17 09 18.4**	**-0.2**
28nm,0.3s,baz=95,slow=9.2,SNR=250							
MJAR				S	**Sn**	**17 09 46.2**	**+2.6**
18nm,0.3s,baz=80,slow=16,SNR=5.4							
MAJO	**Matsushiro**	**2.11**	**271**	*e*Pn	**Pn**	**17 09 19.0**	**+0.4**
MAT	**Matsushiro**	**2.11**	**271**	P	**Pn**	**17 09 18.9**	**+0.3**
MAT				*e*S	**Sn**	**17 09 45.6**	**+1.9**
JHJ	**Hachijo jima 2**	**3.52**	**194**	P	**Pn**	**17 09 38.

CLCH AML AML 17 10 39.4
comp=E,972nm,0.4s
CMCH Combarbala 1.76 299⇓ *iP* **Pn 17 10 13.6 -0.5**
CMCH *i* S **Sn 17 10 37.1 0.0**
CMCH Combarbala 1.76 299⇓ *iP* **Pn 17 10 13.6 -0.5**
CMCH *i* S **Sn 17 10 37.1 0.0**
CMCH AML AML 17 10 37.7
comp=N,3μm,0.4s
ROCH El Roble 1.78 238⇑ *iP* **Pn 17 10 14.1 -0.2**
ROCH *i* S **Sn 17 10 37.0 -0.4**
STL Santa Lucia 1.84 221⇓ *iP* **Pn 17 10 14.2 -0.8**
STL *i* S **Sn 17 10 38.5 -0.2**
STL AML AML 17 10 41.4
comp=N,122nm,0.3s
SAN Santiago 1.86 221 *i* S **Sn 17 10 39.1 -0.1**
SAN AML AML 17 10 44.5
comp=E,637nm,0.8s
PCH Pirque 1.91 215⇑ *iP* **Pn 17 10 16.3 +0.4**
PCH *i* S **Sn 17 10 40.6 +0.2**
ANTU Antumapu 1.93 218 *eP* **Pn 17 10 16.1 -0.1**
ANTU *i* S **Sn 17 10 40.8 0.0**
ANTU Antumapu 1.93 218 *eP* **Pn 17 10 16.1 -0.1**
ANTU *i* S **Sn 17 10 40.8 0.0**
ANTU AML AML 17 10 44.2
comp=E,840nm,0.6s
RCDM Rinconada Maip 1.97 223⇑ *iP* **Pn 17 10 16.3 -0.3**
RCDM *i* S **Sn 17 10 41.4 -0.2**
RCDM Rinconada Maip 1.97 223⇑ *iP* **Pn 17 10 16.3 -0.3**
RCDM *i* S **Sn 17 10 41.4 -0.2**
RCDM AML AML 17 10 43.9
comp=E,1μm,0.1s
LMEL Las Melosas 1.98 205 *i* S **Sn 17 10 46.9 +5.0**
TACH Talagante 2.16 222⇑ *iP* **Pn 17 10 18.6 -0.5**
TACH *i* S **Sn 17 10 45.5 -0.5**
OVCH Ovalle 2.23 310 *eP* **Pn 17 10 19.7 -0.4**
OVCH *i* S **Sn 17 10 46.8 -0.8**
CHCH Chadas Angostu 2.24 213⇓ *iP* **Pn 17 10 20.0 0.0**
CHCH *i* S **Sn 17 10 47.6 -0.1**
TLL Tololo Astrono 2.33 323⇑ *iP* **Pn 17 10 21.4 +0.2**
TLL *i* S **Sn 17 10 51.0 +1.2**
TLL Tololo Astrono 2.33 323⇑ *iP* **Pn 17 10 21.4 +0.2**
TLL *i* S **Sn 17 10 51.0 +1.2**
TLL AML AML 17 11 27.5
comp=N,334nm,0.5s
CACH El Canelo 2.37 209⇑ *iP* **Pn 17 10 22.2 +0.5**
CACH *i* S **Sn 17 10 51.6 +0.9**
CICH Cipreses 2.48 204⇑ *iP* **Pn 17 10 23.7 +0.5**
LSCH La Serena 2.76 320 *eP* **Pn 17 10 26.0 -0.9**
TRQA Tornquist 8.42 137 *e*Pn **Pn 17 11 41.7 -1.4**
comp=N,18nm,0.6s
LPAZ La Paz 15.72 4 P **Pn 17 13 21.3 +2.1**
comp=N,1.3nm,0.3s,baz=167,slow=8.8,SNR=45
SIV San Ignacio 17.62 27 P **Pn 17 13 41.6 -0.7**
comp=N,0.2nm,0.3s,baz=210,slow=17,SNR=4.4
TXAR Lajitas Array 69.27 328 P **P 17 20 39.5 +0.6**
comp=N,0.3nm,0.5s,baz=150,slow=9.4,SNR=3.5
ASAR Alice Springs 120.35 205 PKP PKPdf 17 28 20.4 -2.1
comp=N,0.1nm,0.4s,baz=126,slow=1.2,SNR=5.6
WRA Warramunga Arr 123.59 207 PKP PKPdf 17 28 27.4 -1.3
comp=N,0.5nm,0.9s,baz=162,slow=1.8,SNR=16
ZALV Zalesovo Beam 151.31 33 PKPbc PKPbc 17 29 23.7 0.0
comp=N,2.1nm,0.6s,baz=319,slow=3.7,SNR=8.7

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*IDC **08** 17:16:49.8±2.6, 2567N×9092E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.3/21, mbtmp3.3/4, Error ellipse: s-maj=96.3km s-min=25.2km az=73.0*
*ISCJB **08** 17:16:53.0±4.8, 256N±02×906E±03, h44km±38km, mb3.2/4, Error ellipse: s-maj=52.3km s-min=24.4km az=146.6*
ISC 08 17:16:50.9±5.8, 256N±02×906E±03, h12km±32km, n5, σ0§52/6, mb3.2/4, India-Bangladesh border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**1.13**	**91**	*e*PG	**Pg**	**17 17 12.3**	**-0.3**
SHL				*e*SG	**Sg**	**17 17 27.5**	**+0.2**
MKAR	**Makanchi Array**	**22.18**	**345**	P	**P**	**17 21 47.2**	**+0.4**
	0.2nm,0.4s,mb2.9,baz=153,slow=11,SNR=4.2						
SONM	**Songino Array**	**25.45**	**25**	P	**P**	**17 22 18.0**	**-0.5**
	0.3nm,0.6s,mb3.0,baz=214,slow=9.5,SNR=3.5						
WRA	**Warramunga Arr**	**62.06**	**133**	P	**P**	**17 27 11.4**	**-0.1**
	0.2nm,0.6s,mb3.4,baz=324,slow=7.0,SNR=4.7						
ASAR	**Alice Springs**	**64.44**	**136**	P	**P**	**17 27 27.4**	**+0.2**
	0.3nm,0.6s,mb3.5,baz=315,slow=6.9,SNR=4.0						

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*ISCJB **08** 17:18:51.9±0.5, 4030N±004×2396E±005, h13km±7km, Error ellipse: s-maj=8.1km s-min=5.0km az=44.6*
*ATH **08** 17:18:51.1, 4025N×2406E, h4km, MD3.0/4*
*NEIC **08** 17:18:51.2, 4027N×2400E, h25km, MD3.1(ATH), After ATH.*
*CSEM **08** 17:18:53.3±0.1, 4037N×2395E, h2km, ML2.4, Error ellipse: s-maj=2.9km s-min=1.5km az=78.0*
*THE **08** 17:18:53.2, 4037N×2395E, h1km, ML2.4*
ISC 08 17:18:52.4±0.5, 4032N±004×2398E±005, h14km±7km, n17, σ0§95/25, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OUR	**Ouranopolis**	**0.01**	**15**	*e*Pg	**Pg**	**17 18 54.6**	**-0.2**
PLG	**Polygyros**	**0.41**	**278**	*e*Pg	**Pg**	**17 19 00.6**	**+0.1**
PLG				*e*Sg	**Sg**	**17 19 05.8**	**-0.3**
PLG	**Polygyros**	**0.41**	**278**	*e*PG	**Pg**	**17 19 00.6**	**0.0**
PLG				*e*SG	**Sg**	**17 19 06.3**	**+0.2**
PAIG	**Paliouri**	**0.45**	**210**	*e*Pg	**Pg**	**17 19 02.3**	**+1.0**
SOH	**Sokhos**	**0.69**	**317**	*e*Pg	**Pg**	**17 19 05.4**	**-0.4**
SOH				*e*Sg	**Sg**	**17 19 14.7**	**-0.2**
HORT	**Hortiatis**	**0.72**	**293**	*e*Pg	**Pg**	**17 19 06.0**	**-0.5**
HORT				*e*Sg	**Sg**	**17 19 15.9**	**-0.1**
HORT	**Hortiatis**	**0.72**	**293**	*e*Pg	**Pg**	**17 19 05.9**	**-0.6**
HORT				*e*Sg	**Sg**	**17 19 15.9**	**-0.1**
LOS	**Limnos**	**0.93**	**114**	*e*Pg	**Pg**	**17 19 10.2**	**-0.1**
LIA	**Limnos Island**	**1.02**	**114**	*e*PB	**Pb**	**17 19 08.5**	**-3.2**
LIA	**Limnos Island**	**1.02**	**114**	*e*Pn	**Pn**	**17 19 08.3**	**-3.8**
LIA				*e*Sn	**Sn**	**17 19 24.6**	**-1.6**
NVR	**Nevrokopi**	**1.03**	**355**	*e*PB	**Pb**	**17 19 12.3**	**+0.3**
NVR				*e*SB	**Sb**	**17 19 27.0**	**+1.6**
XOR	**Xorichti**	**1.13**	**213**	*e*Pg	**Pg**	**17 19 14.9**	**+0.8**
AOS	**Alonnisos**	**1.15**	**184**	*e*Pg	**Pg**	**17 19 15.7**	**+1.2**
KNT	**Kendrikon**	**1.17**	**316**	*e*Pg	**Pg**	**17 19 14.3**	**-0.6**
GRG	**Griva**	**1.36**	**298**	*e*Pg	**Pg**	**17 19 17.8**	**-0.7**
RDO	**Rodhopi**	**1.45**	**55**	*e*PB	**Pb**	**17 19 18.1**	**-0.9**
ALN	**Alexandroupoli**	**1.68**	**69**	*e*Pb	**Pb**	**17 19 23.3**	**+0.3**
ALN				*e*Sb	**Sb**	**17 19 45.7**	**+1.7**

MEX 08 18:27:09.8±2.1, 1677N×9947W, h10km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.44**	**283**	*i* P	Pg	18 27 17.3	-1.2
ACX				*i* S	Sg	18 27 22.9	-1.4
CAIG	**El Cayaco**	**0.82**	**290**	*i* P	Pg	18 27 24.8	-0.8
CAIG				*i* S	Sg	18 27 34.9	-1.4
MEIG	**Mezcala**	**1.16**	**353**	*i* P	Pb	18 27 27.4	-4.6
MEIG				*i* S	Sb	18 27 43.0	-4.0
MZVM		**2.42**	**5**	*i* P	Pn	18 27 49.6	+0.2
MZVM				*i* S	Sn	18 28 14.6	-4.4
PPM	**Popocatepetl**	**2.42**	**19**	*i* P	Pn	18 27 47.0	-2.5
PPM				*i* S	Sn	18 28 16.4	-2.7
VHO	**Vista Hermosa**	**2.63**	**83**	*i* S	Sn	18 28 20.9	-3.5
PTVM	**Pico Tres Padr**	**2.83**	**7**	*i* P	Pn	18 27 57.9	+2.8
PTVM				*i* S	Sn	18 28 29.6	+0.4
IIO	**Organos**	**2.90**	**14**	*i* P	Pn	18 27 58.8	+2.8
IIO				*i* S	Sn	18 28 27.2	-3.6

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*IDC **08** 18:31:38.0±0.9, 3489N×14186E, h0km, mb3.6/5, mb1 3.9/7, mb1mx3.7/21, mbtmp3.7/7, ML3.3/3, Error ellipse: s-maj=27.6km s-min=18.7km az=101.0*
*ISCJB **08** 18:31:39.7±1.5, 3489N±005×14192E±007, h25km±9km, mb3.6/5, Error ellipse: s-maj=10.2km s-min=7.8km az=161.5*
*JMA **08** 18:31:40.0±0.3, 3490N×14191E, h34km, M2.7*
ISC 08 18:31:39.2±1.4, 3492N±005×14190E±006, h11km±7km, n17, σ0§99/25, mb3.6/5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**0.80**	**251**	P	**Pg**	**18 31 55.0**	**+0.3**
BSO1				*e*S	**Sg**	**18 32 05.3**	**+0.2**
BSO3	**Boso 3**	**1.15**	**265**	P	**Pb**	**18 32 00.6**	**-0.5**
BSO3				*e*S	**Sb**	**18 32 17.2**	**+1.2**
CHOJ	**Chosi**	**1.16**	**313**	P	**Pb**	**18 32 01.2**	**0.0**
CHOJ				*e*S	**Sb**	**18 32 14.5**	**-1.7**
BSO4	**Boso 4**	**1.28**	**274**	P	**Pn**	**18 32 03.0**	**-0.1**
BSO4				*e*S	**Sb**	**18 32 22.6**	**+2.7**
JCN	**Nagara**	**1.48**	**290**	*e*S	**Sn**	**18 32 25.3**	**+0.2**
JYT	**Yasato**	**1.91**	**314**	P	**Pn**	**18 32 11.6**	**-0.1**
JYT				*e*S	**Sn**	**18 32 36.6**	**+0.9**
JIM2	**Oshima 3**	**2.04**	**265**	P	**Pn**	**18 32 12.2**	**-1.3**
JOD2	**Odawara 2**	**2.33**	**279**	P	**Pn**	**18 32 16.7**	**-0.8**
JOD2				*e*S	**Sn**	**18 32 44.9**	**-1.2**
JHJ	**Hachijo jima 2**	**2.51**	**225**	Pn	**Pn**	**18 32 20.1**	**+0.1**
	14nm,0.3s,baz=74,slow=15,SNR=4.8						
JHJ				Sn	**Sn**	**18 32 49.0**	**-1.6**
	18nm,0.3s,baz=67,slow=22,SNR=6.0						
MJAR	**Matsushiro Arr**	**3.41**	**299**	Pn	**Pn**	**18 32 33.2**	**+0.9**
	1.0nm,0.3s,baz=108,slow=14,SNR=8.1						
MAT	**Matsushiro**	**3.41**	**299**	P	**Pn**	**18 32 32.4**	**0.0**
MAT				*e*S	**Sn**	**18 33 13.2**	**+0.4**
ASAJ	**Asahikawa**	**9.20**	**3**	Pn	**Pn**	**18 33 50.4**	**-1.5**
	0.7nm,0.3s,baz=209,slow=10,SNR=6.9						
MKAR	**Makanchi Array**	**45.60**	**304**	P	**P**	**18 39 59.5**	**+0.2**
	0.6nm,0.8s,mb3.6,baz=92,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**55.03**	**189**	P	**P**	**18 41 10.2**	**-0.7**
	0.9nm,0.8s,mb3.9,baz=4.4,slow=7.4,SNR=13						
ASAR	**Alice Springs**	**58.75**	**189**	P	**P**	**18 41 38.2**	**+1.0**
	0.3nm,0.8s,mb3.4,baz=19,slow=9.3,SNR=3.3						
NVAR	**Mina Array Bea**	**75.94**	**53**	P	**P**	**18 43 27.9**	**+1.7**
	0.3nm,0.6s,mb3.4,baz=279,slow=6.9,SNR=2.8						
NOA	**NORSAR Array B**	**76.29**	**338**	P	**P**	**18 43 28.4**	**+0.7**
	1.2nm,0.9s,mb3.8,baz=60,slow=4.6,SNR=3.2						

IDC 08 18:38:06.0±2.2, 564S×12900E, h0km, mb3.8/1, mb1 3.5/4, mb1mx3.4/15, mbtmp3.4/4, ML3.0/2, Error ellipse: s-maj=119.2km s-min=27.1km az=74.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.82**	**195**	Pn	Pn	18 41 10.2	+0.5
	0.1nm,0.3s,baz=30,slow=15,SNR=6.3						
WRA	**Warramunga Arr**	**15.14**	**160**	Pn	Pn	18 41 40.4	-1.0
	0.1nm,0.3s,baz=334,slow=13,SNR=3.2						
ASAR	**Alice Springs**	**18.54**	**166**	P	Pn	18 42 24.2	-0.1
	0.0nm,0.3s,baz=344,slow=9.8,SNR=5.6						
MKAR	**Makanchi Array**	**66.55**	**327**	P	P	18 48 58.0	+0.1
	0.7nm,0.6s,baz=115,slow=8.1,SNR=10						

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*ISK **08** 18:40:16.7, 3729N×4237E, h5km, MD3.5*
*ISCJB **08** 18:40:17.3±1.3, 3724N±006×4240E±004, h5km±8km, Error ellipse: s-maj=10.0km s-min=5.5km az=170.2*
*CSEM **08** 18:40:17.3±0.2, 3729N×4243E, h8km, MD3.5, Error ellipse: s-maj=4.5km s-min=2.7km az=179.0*
*DDA **08** 18:40:18.4, 3732N×4235E, h7km±4km, Md3.0*
ISC 08 18:40:17.8±1.1, 3725N±006×4242E±005, h7km±7km, n14, σ0§94/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIRT	**Sirnak**	**0.26**	**4**	*e*PG	**Pg**	**18 40 22.1**	**-0.7**
SIRT				*e*SG	**Sg**	**18 40 26.4**	**+0.1**
HAKT	**HAKKARI**	**1.07**	**73**	*i* P	**Pg**	**18 40 38.6**	**+0.2**
HAKT				*i* S	**Sg**	**18 40 52.5**	**+0.1**
HKR	**Hakkari**	**1.11**	**72**	*e*PN	**Pn**	**18 40 39.4**	**-0.3**
BTMT	**Batman**	**1.20**	**322**	*e*PN	**Pn**	**18 40 39.9**	**-1.1**
BTMT				*e*SN	**Sn**	**18 40 58.0**	**+0.5**
MARD	**Mardin**	**1.31**	**273**	*i* P	**Pn**	**18 40 40.6**	**-1.8**
MARD				*i* S	**Sb**	**18 40 57.1**	**-2.5**
TVAN	**Van**	**1.50**	**31**	*i* P	**Pn**	**18 40 45.2**	**+0.1**
TVAN				*i* S	**Sn**	**18 41 03.2**	**-1.8**
VANB	**Van**	**1.55**	**29**	*e*PN	**Pn**	**18 40 46.1**	**+0.3**
BNGL	**BINGOL**	**1.98**	**330**	*i* P	**Pn**	**18 40 51.6**	**-0.1**
BNGL				*i* S	**Sn**	**18 41 16.9**	**+0.3**
BINT	**Bingol**	**2.23**	**318**	*e*PN	**Pn**	**18 40 55.8**	**+0.6**
AGRB	**Hanur-Agry**	**2.37**	**11**	*e*PN	**Pn**	**18 40 58.1**	**+1.1**
SVRC	**Sivrice-ELAZID**	**2.71**	**296**	*e*PN	**Pn**	**18 41 02.8**	**+1.0**
URFA	**Urfa**	**2.87**	**275**	*e*PN	**Pn**	**18 41 04.8**	**+0.8**
PTK	**Pertek**	**2.90**	**305**	*e*PN	**Pn**	**18 41 05.0**	**+0.7**
MALT	**Malatya**	**3.33**	**290**	*e*PN	**Pn**	**18 41 11.4**	**+1.1**

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*IDC **08** 18:48:40.9±1.2, 565S×13108E, h0km, mb4.2/2, mb1 4.6/6, mb1mx4.2/13, mbtmp4.5/6, ML4.6/4, Error ellipse: s-maj=47.3km s-min=19.6km az=77.0*
*NEIC **08** 18:48:44.4±7.4, 574S×13082E, h22km±58km, mb4.3/2, Error ellipse: s-maj=32.1km s-min=19.0km az=66.0*
*ISCJB **08** 18:48:52.8±2.1, 6.17S±009×13072E±009, h144km±22km, mb4.3/8, Error ellipse: s-maj=18.4km s-min=9.7km az=41.3*
ISC 08 18:48:53.9±1.5, 620S±008×13072E±009, h135km±15km, n23, σ0§97/30, mb4.3/8, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.69**	**165⇓**	*i*Pn	**Pn**	**18 50 31.2**	**+1.4**
	274nm,0.5s						
KAKA				*e*Sn	**Sn**	**18 51 45.0**	**+0.2**
BATI	**Kupang**	**8.04**	**240**	Pn	**Pn**	**18 50 48.9**	**+0.9**
	2.9nm,0.3s,baz=105,slow=10.0,SNR=11						
BATI				Sn	**Sn**	**18 52 17.1**	**-0.3**
	7.1nm,0.3s,baz=160,slow=12,SNR=3.7						
FITZ	**Fitzroy Crossi**	**12.83**	**202**	Pn	**Pn**	**18 51 51.4**	**0.0**
	1.7nm,0.3s,baz=31,slow=12,SNR=56						
FITZ				Sn	**Sn**	**18 54 06.2**	**-6.9**
	1.3nm,0.3s,baz=134,slow=22,SNR=9.4						
WRAB	**Tennant Creek**	**14.10**	**166**	*e*Pn	**Pn**	**18 52 07.1**	**-0.6**
	16nm,0.4s						
WRAB				*e*Sn	**Sn**	**18 54 36.9**	**-6.9**
WRA	**Warramunga Arr**	**14.11**	**166**	Pn	**Pn**	**18 52 07.4**	**-0.5**
	4.8nm,0.3s,baz=351,slow=13,SNR=99						
WRA				Sn	**Sn**	**18 54 40.6**	**-3.3**
	4.3nm,0.3s,baz=354,slow=22,SNR=9.6						
WB2	**Warramunga Arr**	**14.11**	**166**	*e*Pn	**Pn**	**18 52 07.2**	**-0.6**
WB2				*e*Sn	**Sn**	**18 54 38.4**	**-5.6**
ASAR	**Alice Springs**	**17.64**	**170**	P	**Pn**	**18 52 54.6**	**+3.4**
	2.4nm,0.3s,baz=352,slow=9.2,SNR=106						
ASAR				S	**S**	**18 56 06.7**	**+0.2**
	0.8nm,0.3s,baz=353,slow=28,SNR=6.3						
MBWA	**Marble Bar**	**18.29**	**215**	*e*P	**P**	**18 53 01.1**	**+3.7**
	9.3nm,1.2s						
KKM	**Kota Kinabalu**	**18.91**	**310**	*e*P	**P**	**18 53 02.2**	**-2.0**
STKA	**Stephens Creek**	**27.50**	**160**	P	**P**	**18 54 33.0**	**+5.4**
STKA	**Stephens Creek**	**27.50**	**160**	P	**P**	**18 54 33.0**	**+5.4**
	1.0nm,0.3s,mb3.9,baz=344,slow=8.3,SNR=13						
NWAO	**Narrogin (SRO)**	**29.41**	**204**	*e*P	**P**	**18 54 51.3**	**+6.7**
	22nm,1.4s,mb4.7						
MDJ	**Mudanjiang**	**50.59**	**359**	P	**P**	**18 57 37.5**	**-1.2**
JIRN	**Jiri**	**54.61**	**310**	*e*P	**P**	**18 58 08.7**	**0.0**
GUN	**Gumba**	**54.97**	**310**	*e*P	**P**	**18 58 11.4**	**+0.1**
	5.1nm,0.4s,mb4.6						
KKN	**Kakani**	**55.37**	**310**	*e*P	**P**	**18 58 14.0**	**-0.1**
DMN	**Daman**	**55.41**	**310**	*e*P	**P**	**18 58 14.6**	**+0.2**
GKN	**Gorkha**	**55.97**	**310**	*e*P	**P**	**18 58 18.0**	**-0.4**
	6.1nm,0.4s,mb4.8						
KOLN	**Koldanda**	**56.65**	**309**	*e*P	**P**	**18 58 23.5**	**+0.3**
	2.5nm,0.4s,mb4.4						
DANN	**Dangsing**	**56.81**	**310**	*e*P	**P**	**18 58 23.6**	**-0.8**
	2.9nm,0.4s,mb4.4						
SONM	**Songino Array**	**57.92**	**341**	P	**P**	**18 58 33.5**	**+1.8**
	0.3nm,0.5s,mb3.4,baz=148,slow=5.7,SNR=4.1						
MK31	**Makanchi Array**	**67.95**	**326**	*e*P	**P**	**18 59 38.7**	**+0.6**
MKAR	**Makanchi Array**	**67.95**	**326**	P	**P**	**18 59 39.0**	**+0.8**
	0.9nm,0.4s,mb3.9,baz=114,slow=7.6,SNR=22						

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*ISCJB **08** 19:00:11.2±0.6, 1520N±005×9353W±004, h33km, mb3.6/3, Error ellipse: s-maj=7.7km s-min=4.5km az=19.1*
*MEX **08** 19:00:15.8±0.8, 1526N×9356W, h34km±999km, MD4.2*
*CASC **08** 19:00:15.3±2.3, 1501N×9329W, h20km±999km, MD4.0, mb4.0(NEIC)*
*NEIC **08** 19:00:15.4, 1535N×9358W, h36km, mb4.0/2, MD4.2(MEX), After MEX.*
*IDC **08** 19:00:20.3±9.0, 1546N×9281W, h146km±64km, mb3.2/3, mb1 3.6/5, mb1mx3.3/21, mbtmp3.3/5, Error ellipse: s-maj=112.6km s-min=53.5km az=160.0*
ISC 08 19:00:13.0±0.6, 1524N±005×9353W±004, h35km, n26, σ1§14/36, mb3.6/3, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.69**	**52**	*i* P	**Pn**	**19 00 40.9**	**+0.8**
CCIG				*i* S	**Sn**	**19 00 59.6**	**-1.0**
CCIG	**Comitan**	**1.69**	**52**	*i* P	**Pn**	**19 00 40.9**	**+0.8**
CCIG				*i* S	**Sn**	**19 01 01.2**	**+0.6**
SCX	**San Cristobal**	**1.72**	**30**	*i* P	**Pn**	**19 00 40.5**	**+0.1**
SCX				*i* S	**Sn**	**19 00 59.9**	**-1.3**
SCX	**San Cristobal**	**1.72**	**30**	*i* P	**Pn**	**19 00 42.4**	**+1.9**
SCX				*i* S	**Sn**	**19 01 01.9**	**+0.7**
JAT	**Jato**	**2.05**	**116**	*e*P	**Pn**	**19 00 44.9**	**0.0**
JAT				*e*S	**Sn**	**19 01 05.9**	**-3.3**
HUIG	**Huatulco**	**2.54**	**282**	*i* P	**Pn**	**19 00 52.4**	**+0.7**
HUIG				*i* S	**Sn**	**19 01 20.4**	**-1.1**
FUIG	**Fuego 3**	**2.71**	**106**	*e*S	**Sn**	**19 01 25.9**	**+0.2**
TUIG	**Tuzandepetl**	**2.91**	**343**	*i* P	**Pn**	**19 00 58.0**	**+1.2**
TUIG				*i* S	**Sn**	**19 01 29.2**	**-1.3**
OXX	**Oaxaca**	**3.58**	**301**	*e*P	**Pn**	**19 01 12.0**	**+6.0**
VHO	**Vista Hermosa**	**3.58**	**301**	*i* P	**Pn**	**19 01 05.7**	**-0.3**
VHO				*i* S	**Sn**	**19 01 43.8**	**-3.3**
VHO	**Vista Hermosa**	**3.58**	**301**	*i* P	**Pn**	**19 01 07.1**	**+1.1**
VHO				*i* S	**Sn**	**19 01 47.2**	**+0.1**
SBLS	**San Blas**	**4.03**	**110**	*e*P	x	19 01 13.2	
SBLS				*e*S	x	19 01 57.1	
SNJE	**San Jose**	**4.04**	**109**	*e*P	x	19 01 11.9	
SNJE				*e*S	x	19 01 55.8	
LFRS	**El Faro**	**4.62**	**110**	*e*P	x	19 01 20.0	
LFRS				*e*S	x	19 02 11.7	
LCBS	**La Ceiba**	**4.68**	**109**	*e*P	x	19 01 21.0	
PPM	**Popocatepetl**	**6.18**	**309**	*i* P	**Pn**	**19 01 41.5**	**-0.3**
PPM				*i* S	**Sn**	**19 02 57.5**	**+6.1**
PPM	**Popocatepetl**	**6.18**	**309**	*i* P	**Pn**	**19 01 47.8**	**+6.0**
PPM				*i* S	**Sn**	**19 02 49.7**	**-1.7**
TEIG	**Tepich**	**7.05**	**44**	*e*Pn	**Pn**	**19 01 51.5**	**-2.2**
TEIG				S	**Sn**	**19 03 05.7**	**-6.9**
TEIG				*e*Sn	**Sn**	**19 03 06.9**	**-5.7**
TEIG	**Tepich**	**7.05**	**44**	P	**Pn**	**19 01 52.1**	**-1.6**
	16nm,0.3s,baz=191,slow=1.1,SNR=50						
TEIG				S	**Sn**	**19 03 05.7**	**-6.9**
	11nm,0.3s,baz=74,slow=23,SNR=11						
JTS	**JuntasAbangare**	**9.70**	**119**	Pn	**Pn**	**19 02 29.9**	**-0.2**
TXAR	**Lajitas Array**	**16.86**	**328**	P	**Pn**	**19 04 08.4**	**+2.0**
	0.1nm,0.3s,baz=147,slow=12,SNR=10						
MIAR	**Mount Ida**	**19.23**	**360**	*e*P	**Pn**	**19 04 35.4**	**+0.2**
	8.4nm,1.0s						
WMOK	**Wichita Mounta**	**19.98**	**347**	P	**Pn**	**19 04 45.7**	**+1.4**
	15nm,1.8s						
ANMO	**Albuquerque**	**22.81**	**332**	P	**P**	**19 05 11.7**	**-1.1**
	1.5nm,0.7s,mb3.5,baz=157,slow=7.7,SNR=3.7						
NVAR	**Mina Array Bea**	**31.79**	**321**	P	**P**	**19 06 34.6**	**+0.5**
	0.9nm,0.7s,mb3.7,baz=133,slow=9.0,SNR=7.9						
YKA	**Yellowknife Ar**	**49.49**	**347**	P	**P**	**19 08 54.6**	**-5.1**
	0.3nm,0.4s,mb3.7,baz=151,slow=7.3,SNR=4.1						

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*CSEM **08** 19:08:31.6±0.1, 3642N×2606E, h135km±1km, ML3.7, Error ellipse: s-maj=1.4km s-min=1.3km az=66.0*
*HLW **08** 19:08:31.8, 3644N×2608E, h18km, Mb4.2*
*ISCJB **08** 19:08:32.5±0.2, 3636N±002×2598E±003, h135km±3km, Error ellipse: s-maj=3.6km s-min=3.2km az=142.3*
*NEIC **08** 19:08:33.9, 3642N×2593E, h116km, MG3.1(ATH), After ATH.*
*ATH **08** 19:08:33.9, 3644N×2594E, h116km±2km*
*THE **08** 19:08:35.1, 3641N×2601E, h132km, ML3.7*
*DDA **08** 19:08:35.0, 3648N×2580E, h18km±2km, Md3.3*
*GII **08** 19:09:40.3±3.4, 3576N×2648E, h27km±88km, mb4.5/7, ML4.4/7*
ISC 08 19:08:33.5±0.3, 3636N±002×2598E±003, h131km±4km, n92, σ0§93/121, 21C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	**Santorini**	**0.42**	**271**	*e*Pg	**Pn**	**19 08 52.0**	**-0.2**
THR1	**Thera Island**	**0.42**	**271**	*e*Pg	**Pn**	**19 08 52.3**	**+0.1**
APE	**Apeiranthos**	**0.79**	**333**	*e*Pg	**Pn**	**19 08 54.0**	**-0.7**
APE				*e*Sg	**Sn**	**19 09 09.1**	**-1.7**
APE	**Apeiranthos**	**0.79**	**333⇑**	*i*P	**Pn**	**19 08 54.4**	**-0.3**
APE				*e*S	**Sn**	**19 09 08.1**	**-2.7**
APE	**Apeiranthos**	**0.79**	**333⇑**	*i*P	**Pn**	**19 08 54.3**	**-0.4**
APE				*e*S	**Sn**	**19 09 08.1**	**-2.7**
APE	**Apeiranthos**	**0.79**	**333**	*i* P	**Pn**	**19 08 54.4**	**-0.3**
APE				*e*S	**Sn**	**19 09 08.1**	**-2.7**
APE				*e*Sg	**Sn**	**19 09 09.1**	**-1.7**
NPS	**Neapolis**	**1.14**	**195**	*e*P	**Pn**	**19 08 58.5**	**+0.7**
NPS				*e*S	**Sn**	**19 09 15.4**	**-0.9**
KARP	**Karpathos**	**1.26**	**130**	*e*P	**Pn**	**19 09 00.1**	**+1.1**
KARP				*e*S	**Sn**	**19 09 18.9**	**+0.4**
ZKR	**Zakros**	**1.26**	**171**	*e*Pg	**Pn**	**19 08 59.9**	**+0.8**
ZKR				*e*Sg	**Sn**	**19 09 18.2**	**-0.3**
KAP	**Karpathos**	**1.26**	**129**	*e*P	**Pn**	**19 09 00.1**	**+1.0**
KAP				*e*S	**Sn**	**19 09 18.9**	**+0.3**
LAST	**Lasithi**	**1.26**	**199**	*e*Pg	**Pn**	**19 08 59.8**	**+0.6**
LAST				*e*Sg	**Sn**	**19 09 19.2**	**+0.6**
BODT	**Bodrum**	**1.28**	**56**	*e*PN	**Pn**	**19 08 59.3**	**+0.1**
DAT	**Datca**	**1.34**	**74**	*e*PN	**Pn**	**19 08 60.0**	**+0.1**
BDRM	**Kayabasi**	**1.37**	**59⇑**	*i*P	**Pn**	**

TIP	**Timpagrande**	**7.82 294**	Pn	**Pn**	**19 10 22.2**	**-2.3**
KOT	**Kottamia**	**8.07 141**	⇑P	**Pn**	**19 10 26.9**	**-1.0**
HSAF	**As Saff**	**8.19 144**	⇑P	**Pn**	**19 10 28.9**	**-0.7**
HHAG	**Hagoal**	**8.19 140**	⇑P	**Pn**	**19 10 28.8**	**-0.7**
GLL	**Jalalah**	**8.30 143**	⇑P	**Pn**	**19 10 30.1**	**-0.9**
AMAG	**Maghara**	**8.30 131**	⇑P	**Pn**	**19 10 30.2**	**-0.9**
AWBH		**8.39 162**	⇑P	**Pn**	**19 10 31.8**	**-0.4**
MMB2	**Mount Meron ar**	**8.45 111**	Pn	**Pn**	**19 10 32.8**	**-0.1**
KSDI	**Kefar Szold**	**8.57 109**	Pn	**Pn**	**19 10 34.1**	**-0.5**
KSDI			Sn	**Sn**	**19 12 03.7**	**-5.8**
SUZ		**8.68 137**	⇑P	**Pn**	**19 10 35.7**	**-0.4**
MMLI	**Mount Malkishu**	**8.73 114**	Pn	**Pn**	**19 10 36.3**	**-0.5**
MMLI			Sn	**Sn**	**19 12 07.6**	**-5.8**
HAVL	**Avola**	**8.74 277**	Pn	**Pn**	**19 10 34.3**	**-2.6**
KZIT	**Kziot**	**8.88 125**	Pn	**Pn**	**19 10 37.6**	**-1.2**
KZIT			Sn	**Sn**	**19 12 09.6**	**-7.4**
HNKL	**Nakhl**	**9.28 131**	⇑P	**Pn**	**19 10 43.4**	**-0.7**
MZDA	**Masada**	**9.29 120**	Pn	**Pn**	**19 10 44.1**	**-0.2**
MZDA			Sn	**Sn**	**19 12 21.1**	**-5.9**
RAFF	**Raffo Rosso**	**9.36 279**	Pn	**Pn**	**19 10 43.2**	**-1.9**
HFRF	**Wahat Farafira**	**9.40 167**	⇑P	**Pn**	**19 10 45.7**	**-0.1**
KRMI	**Paran Flat**	**9.61 128**	Pn	**Pn**	**19 10 47.9**	**-0.7**
HRFI	**Mount Harif**	**9.87 127**	Pn	**Pn**	**19 10 51.4**	**-0.5**
HRFI			Sn	**Sn**	**19 12 33.3**	**-7.6**
GRB	**Gharib**	**9.91 143**	⇑P	**Pn**	**19 10 52.2**	**-0.4**
MBH	**Mount Berech**	**9.95 129**	Pn	**Pn**	**19 10 51.9**	**-1.3**
MBH			Sn	**Sn**	**19 12 36.5**	**-6.5**
EIL	**Elat**	**10.06 129**	Pn	**Pn**	**19 10 53.6**	**-1.0**
EIL			Sn	**Sn**	**19 12 39.5**	**-6.2**
HBST	**Basata**	**10.25 132**	⇓P	**Pn**	**19 10 57.0**	**0.0**
HDHB	**Dhahab**	**10.54 134**	P	**Pn**	**19 11 00.5**	**-0.5**
TR1		**10.72 139**	⇑P	**Pn**	**19 11 02.3**	**-1.1**
HDK1	**Dakhla**	**11.18 164**	⇑P	**Pn**	**19 11 10.0**	**+0.6**
KHC	**Kasperske Hory**	**15.65 328**	*e*P	**Pn**	**19 12 08.0**	**+1.4**

*MOS **08** 19:13:25.3±2.1, 5638N×11841E, h8km, mb4.4/1, Error ellipse: s-maj=17.3km s-min=14.0km az=73.2*

BYKL 08 19:13:25.7±0.2, 5638N×11840E, h12km±14km, 1C-1D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.53**	**352**	*e*PG	Pg	19 13 35.6	-0.4
CRS				*e*		19 13 42.9	
CRS				pmax	pmax		
	comp=Z,179nm,0.1s						
CRS				smax			
	comp=E,2μm,0.2s						
CRS	**Chara**	**0.53**	**352**	⇓*i*Pg	Pg	19 13 35.6	-0.4
CRS				*e*Sg	Sg	19 13 43.0	0.0
CRS				Pmax			
	comp=E,133nm,0.1s						
CRS				Smax			
	comp=E,2μm,0.2s						
KHNR	**Khani**	**1.03**	**57**	*e*Pg	Pg	19 13 44.4	-1.1
KHNR				*e*Sg	Sg	19 13 58.7	-0.1
TUP	**Tupik**	**2.15**	**155**	*e*PN	Pn	19 14 01.8	+0.5
TUP				*e*		19 14 03.9	
TUP				*e*S	Sn	19 14 28.7	+0.8
TUP				*e*		19 14 31.8	
TUP				pmax	pmax		
	comp=Z,173nm,0.3s						
TUP				smax			
	comp=E,651nm,0.8s						
TUP	**Tupik**	**2.15**	**155**	*e*Pg	Pg	19 14 03.9	-3.0
TUP				*e*Sg	Sg	19 14 31.9	-2.8
TUP				Pmax			
	comp=E,177nm,0.5s						
TUP				Smax			
	comp=E,670nm,0.5s						
SVKR	**Severomuysk**	**2.71**	**266**	*e*PN	Pn	19 14 14.2	+5.1
SVKR				*e*S	Sn	19 14 43.6	+1.8
SVKR				*e*		19 14 48.4	
SVKR				pmax	pmax		
	comp=Z,186nm,0.8s						
SVKR				smax			
	comp=N,993nm,1.0s						
SVKR	**Severomuysk**	**2.71**	**266**	*e*Pg	Pg	19 14 13.9	-3.8
SVKR				*e*Sg	Sg	19 14 49.9	-2.9
SVKR				Pmax			
	comp=N,145nm,0.3s						
SVKR				Smax			
	comp=N,912nm,0.4s						
BOD	**Bodaibo**	**2.80**	**303**	⇑*e*PN	Pn	19 14 09.9	-0.3
BOD				*i*		19 14 14.9	
BOD				*e*S	Sn	19 14 43.6	-0.2
BOD				*e*		19 14 50.8	
BOD				pmax	pmax		
	comp=Z,114nm,0.4s						
BOD				smax			
	comp=N,431nm,0.4s						
BOD	**Bodaibo**	**2.80**	**303**	*e*Pn	Pn	19 14 10.6	+0.4
BOD				*e*Pg	Pg	19 14 15.3	-4.0
BOD				*e*Sg	Sg	19 14 51.0	-4.5
BOD				Pmax			
	comp=N,113nm,0.4s						
BOD				Smax			
	comp=N,418nm,0.4s						
NRGR	**Nerungri**	**3.51**	**83**	*e*PN	Pn	19 14 23.8	+3.8
NRGR				S	Sn	19 15 02.3	+0.8
NRGR				smax			
	comp=E,56nm,0.5s						
CLNS	**Chul'man**	**3.62**	**80**	*e*PN	Pn	19 14 27.2	+5.7
CLNS				*e*		19 15 09.1	
CLNS				pmax	pmax		
	comp=N,10.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,11nm,0.3s						
CLNS				smax			
	comp=Z,122nm,0.4s						
CLNS				smax			
	comp=N,323nm,0.6s						
CLNS				smax			
	comp=E,283nm,0.5s						
TNDR	**Tynda**	**3.78**	**106**	*e*Pn	Pn	19 14 24.7	+1.0
TNDR				*e*Pg	Pg	19 14 33.4	-4.6
TNDR				*e*Sg	Sg	19 15 22.7	-4.2
KMO	**Kumora**	**4.06**	**266**	*e*PN	Pn	19 14 28.7	+1.2
KMO				*e*		19 14 37.7	
KMO	**Kumora**	**4.06**	**266**	*e*Pn	Pn	19 14 28.7	+1.2
KMO				*e*Pg	Pg	19 14 37.8	-5.6
KMO				*e*Sg	Sg	19 15 30.0	-5.9
KMO				Pmax			
	comp=E,39nm,0.4s						
KMO				Smax			
	comp=E,307nm,1.0s						
NIZ	**Nizh Angarsk**	**5.00**	**267**	*e*PN	Pn	19 14 41.5	+1.1
NIZ				*e*		19 14 56.2	
NIZ				*e*		19 16 01.1	
NIZ				pmax	pmax		
	comp=Z,13nm,0.6s						
NIZ				smax			
	comp=N,121nm,1.4s						
NIZ	**Nizh Angarsk**	**5.00**	**267**	*e*Pn	Pn	19 14 41.9	+1.5
NIZ				*e*Pg	Pg	19 14 55.3	-6.1
NIZ				*e*Sg	Sg	19 16 00.0	-6.1
NIZ				Pmax			
	comp=N,13nm,0.6s						
NIZ				Smax			
	comp=N,121nm,1.0s						
SYVR	**Suvo**	**5.55**	**244**	*e*PN	Pn	19 15 04.6	+17
SYVR				*e*		19 16 19.5	
SYVR				pmax	pmax		
	comp=Z,16nm,1.0s						
SYVR				smax			
	comp=E,134nm,1.0s						
SYVR	**Suvo**	**5.55**	**244**	*e*Pn	Pn	19 14 48.7	+0.7
SYVR				*e*Pg	Pg	19 15 04.8	-7.1
SYVR				*e*Sn	Sn	19 15 50.3	-1.3
SYVR				*e*Sg	Sg	19 16 18.1	-5.6
SYVR				Pmax			
	comp=E,19nm,1.0s						
SYVR				Smax			
	comp=E,210nm,1.1s						
MXMB	**Maximikha**	**6.39**	**245**	*e*Pn	Pn	19 15 00.5	+0.9
MXMB				*e*Sn	Sn	19 16 10.0	-2.4
MXMB				*e*Sg	Sg	19 16 44.7	-6.0
MXMB				Smax			
	comp=E,340nm,1.4s						
OGRR	**Ongureny**	**6.79**	**251**	*e*PN	Pn	19 15 06.2	+1.2
OGRR				*e*		19 15 28.2	
OGRR				*e*S	Sn	19 16 20.2	-2.0
OGRR				*e*		19 16 57.0	
OGRR				pmax	pmax		
	comp=Z,5.0nm,0.9s						
OGRR				smax			
	comp=N,72nm,1.5s						
OGRR	**Ongureny**	**6.79**	**251**	*e*Pn	Pn	19 15 06.1	+1.1
OGRR				*e*Sg	Sg	19 16 56.8	-6.7
OGRR				Smax			
	comp=N,72nm,1.4s						
TRTB	**Turuntaevo**	**7.55**	**241**	*e*Pn	Pn	19 15 16.3	+0.9
TRTB				*e*Pg	Pn	19 15 40.5	+25
TRTB				*e*Sg	Sn	19 17 18.8	+38
TRTB				Pmax			
	comp=N,5.0nm,0.9s						
TRTB				Smax			
	comp=N,90nm,1.7s						
KPC	**Khapcheranga**	**7.61**	**211**	*e*Pn	Pn	19 15 15.6	-0.6
KPC				*e*Pg	Pn	19 15 42.9	+27
KPC				*e*Sg	Sn	19 17 21.1	+39
KPC				Pmax			
	comp=N,3.0nm,0.3s						
KPC				Smax			
	comp=N,38nm,1.1s						
UUDB	**Ulan-Yde**	**7.76**	**239**	*e*Sg	Sn	19 17 25.0	+39
UUDB				Smax			
	comp=N,115nm,0.9s						
TRG	**Tyrgan**	**7.88**	**248**	*e*Sg	Sn	19 17 29.2	+40
TRG				Smax			
	comp=N,49nm,1.7s						
YAK	**Yakutsk**	**8.09**	**41**	*e*PN	Pn	19 15 25.3	+2.5
YAK				*e*		19 15 49.5	
YAK				*e*		19 16 51.4	
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.3s						
YAK				pmax	pmax		
	comp=E,1.0nm,0.3s						
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
YAK				pmax	pmax		
	comp=N,1.0nm,0.2s						
YAK				pmax	pmax		
	comp=E,3.0nm,0.4s						
YAK				smax			
	comp=E,18nm,1.4s						
YAK				smax			
	comp=Z,6.0nm,0.4s						
YAK				smax			
	comp=N,9.0nm,0.5s						
YAK				smax			
	comp=E,43nm,0.5s						
YAK				smax			
	comp=Z,37nm,0.8s						
YAK				smax			
	comp=N,56nm,0.6s						
YAK				MLR	MLR		
	comp=Z,25nm,7.0s						
HRMR	**Khuramsha**	**8.25**	**240**	*e*Sg	Sn	19 17 40.8	+43
HRMR				Smax			
	comp=Z,264nm,1.0s						
ARS	**Arshan**	**10.37**	**251**	*e*Sg	Sn	19 18 46.3	+56
ARS				Smax			
	comp=Z,69nm,1.4s						
ULN	**Ulaanbaatar**	**11.00**	**224**	*e*Sg	Sn	19 19 06.4	+61
MOY	**Mondy**	**11.26**	**253**	*e*Sg	Sn	19 19 14.3	+62
MOY				Smax			
	comp=Z,53nm,1.7s						
ORL	**Orlik**	**11.47**	**258**	*e*Sg	Sn	19 19 20.7	+64
ORL				Smax			
	comp=Z,39nm,2.0s						

*NNC **08** 19:31:12.5±5.4, 3769N×7147E, h146km±84km, mb2.6, mpv3.5, Error ellipse: s-maj=73.1km s-min=28.1km az=41.0*

ISC 08 19:31:09.8±2.4, 375N±02×712E±02, h100km, n11, σ0°73/11, 2C-1D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.02**	**22**	P	**Pn**	**19 32 23.0**	**+0.4**
	SNR=10						
UCH	**Uchtor**	**5.37**	**27**	P	**Pn**	**19 32 27.7**	**+0.2**
	SNR=13						
EKS2	**Erkin-Say**	**5.53**	**20**	P	**Pn**	**19 32 30.4**	**+0.8**
	SNR=15						
KK31	**Karatay Array**	**5.64**	**355**	P	**Pn**	**19 32 32.0**	**+0.9**
	1.9nm,0.5s,baz=175,slow=12,SNR=12						
KK31				⇓S	**Sn**	**19 33 34.3**	**-0.2**
	7.9nm,0.6s						
AAK	**Ala-Archa**	**5.72**	**25**	P	**Pn**	**19 32 32.7**	**+0.4**
	SNR=6.1						
CHMS	**Chumysh**	**6.14**	**25**	P	**Pn**	**19 32 37.2**	**-0.6**
	SNR=5.8						
DLH	**Dalhousie**	**6.28**	**140**	*e*P	Px	19 33 32.0	
USP	**Ospenovka**	**6.30**	**22**	P	**Pn**	**19 32 39.3**	**-0.7**
	SNR=9.1						
TKM2	**Tokmak 2**	**6.38**	**30**	⇑P	**Pn**	**19 32 40.5**	**-0.7**
	5.9nm,0.8s						
AB31	**Akbulak array**	**14.32**	**329**	P	**Pn**	**19 34 26.2**	**-1.4**
	0.2nm,0.4s,baz=140,slow=14,SNR=8.3						
AKTO	**Aktyubinsk**	**16.03**	**328**	⇑P	**Pn**	**19 34 50.0**	**+0.8**

*IDC **08** 19:38:28.1±1.9, 491N×12554E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/21, Error ellipse: s-maj=124.4km s-min=23.9km az=68.0*

*ISCJB **08** 19:38:36.6±1.3, 50N±01×1259E±01, h93km±19km, mb3.4/4, Error ellipse: s-maj=23.5km s-min=19.6km az=22.7*

ISC 08 19:38:34.6±4.7, 481N±006×1260E±01, h32km±39km, n8, σ0°64/10, mb3.5/4, 1D, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.65**	**321**	⇓*i*P	**Pn**	**19 39 01.9**	**+0.6**
GSPH				*e*S	**Sn**	**19 39 20.9**	**-0.5**
MATI	**Mati**	**2.14**	**7**	*e*P	**Pn**	**19 39 07.3**	**-0.9**
MATI				*e*S	**Sn**	**19 39 34.0**	**+0.3**
BUKP	**Musuan**	**3.19**	**343**	*e*P	**Pn**	**19 39 22.8**	**+0.2**
BUKP				*e*S	**Sn**	**19 40 03.4**	**+3.8**
JOW	**Kunigami**	**22.01**	**5**	LR	LR	19 51 24.0	
	comp=Z,46nm,19.1s,baz=345,slow=35						
FITZ	**Fitzroy Crossi**	**22.77**	**181**	P	**P**	**19 43 34.7**	**+0.3**
	0.5nm,0.4s,mb3.3,baz=356,slow=10,SNR=3.1						
WRA	**Warramunga Arr**	**25.92**	**162**	P	**P**	**19 44 04.1**	**0.0**
	0.8nm,0.4s,mb3.6,baz=339,slow=10,SNR=15						
ASAR	**Alice Springs**	**29.33**	**165**	P	**P**	**19 44 34.5**	**-0.1**
	0.3nm,0.3s,mb3.5,baz=334,slow=7.4,SNR=8.0						
MKAR	**Makanchi Array**	**56.26**	**325**	P	**P**	**19 48 07.9**	**-4.1**
	0.3nm,0.7s,mb3.5,baz=129,slow=6.7,SNR=3.3						

*IDC **08** 19:47:49.6±2.5, 353S×10077E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, Error ellipse: s-maj=90.6km s-min=20.3km az=57.0*

*ISCJB **08** 19:47:53.4±1.4, 34S±03×1009E±03, h33km, mb4.2/9, Error ellipse: s-maj=53.4km s-min=14.2km az=138.2*

ISC 08 19:47:55.5±1.4, 35S±03×1009E±03, h35km, n13, σ0°82/12, mb4.2/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**34.04**	**336**	*e*P	**P**	**19 54 37.7**	**+1.2**
	9.0nm,0.8s,mb4.8						
GUN	**Gumba**	**34.39**	**336**	*e*P	**P**	**19 54 40.3**	**+0.8**
	6.9nm,0.5s,mb4.8						
KKN	**Kakani**	**34.53**	**335**	*e*P	**P**	**19 54 41.2**	**+0.5**
GKN	**Gorkha**	**34.99**	**334**	*e*P	**P**	**19 54 43.9**	**-0.8**
KOLN	**Koldanda**	**35.25**	**333**	*e*P	**P**	**19 54 47.5**	**+0.5**
DANN	**Dangsing**	**35.68**	**333**	*e*P	**P**	**19 54 48.8**	**-1.8**
	2.8nm,0.4s,mb4.6						
WRA	**Warramunga Arr**	**36.46**	**119**	P	**P**	**19 54 57.4**	**0.0**
	0.3nm,0.3s,mb3.7,baz=308,slow=8.8,SNR=13						
ASAR	**Alice Springs**	**37.65**	**125**	P	**P**	**19 55 07.7**	**+0.2**
	0.7nm,0.4s,mb3.8,baz=299,slow=7.5,SNR=25						
KSRS	**Korea Array**	**47.81**	**29**	P	**P**	**19 56 29.4**	**-0.3**
	1.2nm,0.8s,mb4.0,baz=226,slow=8.4,SNR=4.9						
SONM	**Songino Array**	**51.30**	**5**	P	**P**	**19 56 56.8**	**+0.8**
	1.9nm,0.8s,mb4.1,baz=184,slow=9.3,SNR=13						
MKAR	**Makanchi Array**	**52.67**	**344**	P	**P**	**19 57 06.3**	**0.0**
	0.4nm,0.4s,mb3.7,baz=151,slow=9.0,SNR=5.1						
ZALV	**Zalesovo Beam**	**58.76**	**349**	P	**P**	**19 57 48.8**	**-1.1**
	0.7nm,0.3s,mb4.1,baz=183,slow=5.6,SNR=2.7						
TXAR	**Lajitas Array**	**145.25**	**40**	PKPbc	PKPbc	20 07 29.1	-0.9
	1.0nm,0.6s,baz=247,slow=0.7,SNR=8.6						

*CSEM **08** 19:56:23.9, 12.14N×43.83E, h7km, ML3.5, After DHMR*

DHMR 08 19:56:23.9±1.2, 1214N×4383E, h8km±11km, ML3.5, 5C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.12**	**15**	⇑*i*P	Pg	19 56 45.0	-0.5
TRBA				*i* S	Sg	19 57 00.9	+0.9
TRBA				AML	AML	19 57 03.4	
	comp=E,830nm,0.5s						
ADEN	**Aden**	**1.29**	**61**	*i* P	Pn	19 56 47.7	-0.6
ADEN				*i* S	Sb	19 57 06.6	+1.2
ADEN				AML	AML	19 57 11.9	
	comp=E,1μm,0.2s						
ADEN	**Aden**	**1.29**	**61**	*i* P	Pn	19 56 47.7	-0.6
ADEN				*i* S	Sb	19 57 06.6	+1.3
	comp=E,642nm,0.2s						
UDYN	**Al 'Udayn**	**1.82**	**4**	⇑*i*P	Pn	19 56 55.8	+0.2
UDYN				*i* S	Sn	19 57 22.5	+3.6
UDYN				AML	AML	19 57 29.0	
	comp=N,602nm,0.4s						
UDYN	**Al 'Udayn**	**1.82**	**4**	⇑*i*P	Pn	19 56 55.8	+0.2
UDYN				*i* S	Sn	19 57 22.5	+3.6
	comp=N,301nm,0.4s						
LBOS		**2.21**	**39**	⇓*i*P	Pn	19 57 02.8	+1.8
LBOS				*i* S	Sn	19 57 32.6	+4.2
DHBB	**Dhamar BB**	**2.48**	**13**	*i* P	Pn	19 57 07.3	+2.7
DHBB				*i* S	Sn	19 57 41.2	+6.1
BDHA	**Al Bayda'**	**2.49**	**43**	⇑*i*P	Pn	19 57 07.9	+3.1
BDHA				*i* S	Sn	19 57 41.0	+5.6
BDHA				AML	AML	19 57 48.4	
	comp=N,331nm,0.5s						
BDHA	**Al Bayda'**	**2.49**	**43**	⇑*i*P	Pn	19 57 07.9	+3.1
BDHA				*i* S	Sn	19 57 41.0	+5.6
	comp=N,165nm,0.5s						

*ISK **08** 19:56:35.1, 3672N×3592E, h7km, MD3.4*
*CSEM **08** 19:56:36.9±0.1, 3689N×3589E, h20km, MD3.4, Error ellipse: s-maj=2.5km s-min=2.0km az=62.0*
*ISCJB **08** 19:56:37.8±0.4, 3688N±002×3591E±003, h22km±4km, Error ellipse: s-maj=4.7km s-min=3.8km az=170.0*
*DDA **08** 19:56:38.7, 3691N×3594E, h22km±4km, Md3.4*
*NSSC **08** 19:56:39.3, 3682N×3603E, h20km±1km*

ISC 08 19:56:37.5±0.5, 3687N±002×3593E±004, h14km±4km, n29, σ0°93/48, 9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEYT	**Ceyhan**	**0.20**	**314**	*e*PG	**Pg**	**19 56 42.4**	**+0.2**
CEYT				*e*SG	**Sg**	**19 56 46.1**	**+0.7**
KOZT	**Kozan**	**0.62**	**352**	*e*PG	**Pg**	**19 56 50.7**	**+1.1**
KOZT				*e*SG	**Sg**	**19 57 02.1**	**+4.3**
ANDN	**Andirin**	**0.79**	**25**	*i* P	**Pg**	**19 56 52.4**	**-0.4**
ANDN				*i* S	**Sg**	**19 57 03.0**	**-0.1**
KARA	**Karaisali**	**0.80**	**300**	*e*PG	**Pg**	**19 56 51.7**	**-1.4**
BTCH	**Batrach**	**0.93**	**153**	⇑P	**Pb**	**19 56 55.5**	**+0.1**
BTCH				⇑S	**Sb**	**19 57 07.9**	**+0.4**
BTCH	**Batrach**	**0.93**	**153**	⇑*i*P	**Pb**	**19 56 55.5**	**+0.2**
BTCH				⇑*i*S	**Sb**	**19 57 07.9**	**+0.4**
ARNB	**Al Arnab**	**1.00**	**178**	⇑P	**Pb**	**19 56 57.2**	**+0.6**
ARNB				⇓S	**Sb**	**19 57 10.9**	**+1.3**
GAZ	**Gaziantep**	**1.07**	**73**	*e*PN	**Pn**	**19 56 56.7**	**-1.3**
MERS	**Mersin**	**1.13**	**270**	*e*PN	**Pn**	**19 56 57.4**	**-1.4**
SLNF	**Slenfeh**	**1.29**	**169**	⇑P	**Pn**	**19 57 00.9**	**-0.1**
SLNF				⇓S	**Sb**	**19 57 18.1**	**+0.2**
SLNF	**Slenfeh**	**1.29**	**169**	⇑*i*P	**Pn**	**19 57 00.9**	**-0.1**
SLNF				⇓*i*S	**Sb**	**19 57 18.1**	**+0.2**
GZT	**Gaziantep**	**1.39**	**69**	*i* P	**Pn**	**19 57 01.3**	**-1.1**
GZT				*i* S	**Sn**	**19 57 21.0**	**+0.4**
WRDH	**Warideh**	**1.41**	**164**	⇓P	**Pn**	**19 57 02.9**	**+0.3**
WRDH				⇑S	**Sn**	**19 57 21.5**	**+0.5**
WRDH	**Warideh**	**1.41**	**164**	⇓*i*P	**Pn**	**19 57 02.9**	**+0.2**
WRDH				⇑*i*S	**Sn**	**19 57 21.5**	**+0.5**
NIG	**Nigde**	**1.63**	**320**	*e*PN	**Pn**	**19 57 06.3**	**+0.6**
SLMH	**Al Salmeh**	**1.73**	**111**	⇓P	**Pn**	**19 57 07.2**	**+0.1**
SLMH				⇑S	**Sn**	**19 57 28.7**	**-0.3**
SLMH	**Al Salmeh**	**1.73**	**111**	⇓*i*P	**Pn**	**19 57 07.2**	**+0.1**
SLMH				⇑*i*S	**Sn**	**19 57 28.7**	**-0.3**
BIDA	**Albida**	**1.88**	**170**	⇑P	**Pn**	**19 57 09.0**	**-0.1**
BIDA				⇓S	**Sn**	**19 57 32.2**	**-0.3**
BIDA	**Albida**	**1.88**	**170**	⇑*i*P	**Pn**	**19 57 09.0**	**-0.1**
BIDA				⇓*i*S	**Sn**	**19 57 32.2**	**-0.3**
IKL	**Isikli**	**1.91**	**252**	*e*PN	**Pn**	**19 57 08.7**	**-0.9**
ATAB	**Bozova**	**1.98**	**72**	*i* P	**Pn**	**19 57 12.7**	**+2.2**
ATAB				*i* S	**Sn**	**19 57 34.0**	**-1.1**
ATAB	**Bozova**	**1.98**	**72**	*i* P	**Pn**	**19 57 12.7**	**+2.2**
ATAB				*i* S	**Sn**	**19 57 34.0**	**-1.1**
AVNT	**Avonos**	**2.09**	**336**	*i* P	**Pn**	**19 57 11.1**	**-0.9**
AVNT				*i* S	**Sn**	**19 57 38.6**	**+0.7**
URFA	**Urfa**	**2.38**	**75**	*e*PN	**Pn**	**19 57 16.7**	**+0.7**
ERMK	**Ermenek**	**2.43**	**266**	*e*P	**Pn**	**19 57 19.1**	**+2.3**
ERMK				*i* S	**Sn**	**19 57 46.6**	**+0.3**
MALT	**Malatya**	**2.45**	**53**	*e*PN	**Pn**	**19 57 17.3**	**+0.3**
LFK	**Lefkose**	**2.51**	**232**	*e*PN	**Pn**	**19 57 16.0**	**-1.8**
HWQ	**Hawqa**	**2.58**	**180**	*e*Pn	**Pb**	**19 57 23.8**	**+0.3**
BHL	**Bhannes**	**2.96**	**184**	*e*Pn	**Pg**	**19 57 32.6**	**-1.7**

*MOS **08** 20:03:45.9±2.2, 5639N×11844E, h11km, mb4.4/1, Error ellipse: s-maj=18.1km s-min=14.9km az=72.2*

BYKL 08 20:03:46.6±0.3, 5637N×11839E, h14km±15km, 2D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRS	**Chara**	**0.54**	**353**	*e*PG	Pg	20 03 56.2	-0.9
CRS				*e*		20 04 03.5	
CRS				pmax	pmax		
	comp=Z,149nm,0.1s						
CRS				smax			
	comp=E,2μm,0.2s						
CRS	**Chara**	**0.54**	**353**	⇓*i*Pg	Pg	20 03 56.3	-0.8
CRS				*e*Sg	Sg	20 04 03.5	-0.8
CRS				Pmax			
	comp=E,201nm,0.3s						
CRS				Smax			
	comp=E,2μm,0.2s						
KHNR	**Khani**	**1.04**	**57**	*e*Pg	Pg	20 04 05.4	-1.2
KHNR				*e*Sg	Sg	20 04 19.6	-0.5
TUP	**Tupik**	**2.14**	**155**	*e*PN	Pn	20 04 22.2	+0.3
TUP				*e*		20 04 24.5	
TUP				*e*S	Sn	20 04 49.4	+1.2
TUP				*e*		20 04 52.5	
TUP				pmax	pmax		
	comp=Z,97nm,0.4s						
TUP				smax			
	comp=E,542nm,0.8s						
TUP	**Tupik**	**2.14**	**155**	*e*Pn	Pn	20 04 22.7	+0.8
TUP				*e*Pg	Pg	20 04 24.4	-3.3
TUP				*e*Sg	Sg	20 04 52.3	-3.1
TUP				Pmax			
	comp=E,113nm,0.7s						
TUP				Smax			
	comp=E,545nm,0.5s						
SVKR	**Severomuysk**	**2.71**	**267**	*e*PN	Pn	20 04 33.9	+4.3
SVKR				*e*		20 05 09.4	
SVKR	

	comp=N,363nm,0.4s					
BOD	**Bodaibo**	**2.80**	**303**	*e*Pn	Pn	20 04 31.3 +0.4
BOD				*e*Pg	Pg	20 04 36.1 -4.1
BOD				*e*Sg	Sg	20 05 11.8 -4.7
BOD				Pmax		
	comp=N,85nm,0.4s					
BOD				Smax		
	comp=N,363nm,0.4s					
NRGR	**Nerungri**	**3.52**	**83**	*e*PN	Pn	20 04 40.5 -0.3
NRGR				S	Sn	20 05 22.7 +0.5
NRGR				smax		
	comp=E,55nm,0.4s					
CLNS	**Chul'man**	**3.62**	**80**	*e*PN	Pn	20 04 51.3 +9.1
CLNS				*e*		20 05 36.4
CLNS				pmax	pmax	
	comp=N,5.0nm,0.3s					
CLNS				pmax	pmax	
	comp=E,8.0nm,0.3s					
CLNS				pmax	pmax	
	comp=Z,10.0nm,0.3s					
CLNS				smax		
	comp=N,337nm,0.6s					
CLNS				smax		
	comp=E,237nm,0.5s					
CLNS				smax		
	comp=Z,132nm,0.5s					
TNDR	**Tynda**	**3.78**	**106**	*e*Pn	Pn	20 04 45.6 +1.2
TNDR				*e*Pg	Pg	20 04 54.3 -4.7
TNDR				*e*Sn	Sn	20 05 28.3 -0.3
TNDR				*e*Sg	Sg	20 05 43.4 -4.5
KMO	**Kumora**	**4.05**	**266**	*e*PN	Pn	20 04 49.2 +1.1
KMO				*e*		20 04 58.4
KMO				*e*S	Sn	20 05 33.5 -1.8
KMO	**Kumora**	**4.05**	**266**	*e*Pn	Pn	20 04 49.4 +1.3
KMO				*e*Pg	Pg	20 04 58.6 -5.6
KMO				*e*Sg	Sg	20 05 51.2 -5.4
KMO				Pmax		
	comp=Z,27nm,0.5s					
KMO				Smax		
	comp=Z,232nm,1.0s					
NIZ	**Nizh Angarsk**	**4.99**	**267**	*e*PN	Pn	20 05 02.3 +1.3
NIZ				*e*		20 05 16.7
NIZ				*e*S	Sn	20 05 57.6 -0.9
NIZ				*e*		20 06 21.2
NIZ				pmax	pmax	
	comp=Z,10.0nm,0.6s					
NIZ				smax		
	comp=N,95nm,1.3s					
NIZ	**Nizh Angarsk**	**4.99**	**267**	*e*Pg	Pg	20 05 16.9 -5.2
NIZ				*e*Sg	Sg	20 06 21.1 -5.7
NIZ				Pmax		
	comp=N,10.0nm,0.7s					
NIZ				Smax		
	comp=N,95nm,1.0s					
SYVR	**Suvo**	**5.54**	**244**	*e*PN	Pn	20 05 25.3 +17
SYVR				*e*		20 06 40.3
SYVR				pmax	pmax	
	comp=Z,13nm,1.0s					
SYVR				smax		
	comp=E,109nm,1.0s					
SYVR	**Suvo**	**5.54**	**244**	*e*Pn	Pn	20 05 09.4 +0.9
SYVR				*e*Pg	Pg	20 05 25.5 -7.1
SYVR				*e*Sn	Sn	20 06 10.9 -1.0
SYVR				*e*Sg	Sg	20 06 38.2 -6.0
SYVR				Pmax		
	comp=E,18nm,0.9s					
SYVR				Smax		
	comp=E,165nm,0.9s					
MXMB	**Maximikha**	**6.38**	**245**	*e*Pn	Pn	20 05 21.2 +1.1
MXMB				*e*Sg	Sg	20 07 05.4 -5.9
MXMB				Smax		
	comp=E,260nm,1.5s					
OGRR	**Ongureny**	**6.78**	**251**	*e*PN	Pn	20 05 25.8 +0.2
OGRR				*e*		20 05 48.1
OGRR				*e*		20 07 17.8
OGRR				pmax	pmax	
	comp=Z,3.0nm,0.8s					
OGRR				smax		
	comp=N,61nm,1.5s					
OGRR	**Ongureny**	**6.78**	**251**	*e*Pn	Pn	20 05 27.6 +2.0
OGRR				*e*Pg	Pg	20 05 49.8 -6.5
OGRR				*e*Sg	Sg	20 07 17.2 -6.9
OGRR				Pmax		
	comp=N,5.0nm,0.6s					
OGRR				Smax		
	comp=N,61nm,1.3s					
TRTB	**Turuntaevo**	**7.54**	**241**	*e*Pg	Pn	20 06 01.3 +25
TRTB				*e*Sg	Sn	20 07 40.1 +39
TRTB				Pmax		
	comp=N,6.0nm,0.8s					
TRTB				Smax		
	comp=N,91nm,1.2s					
KPC	**Khapcheranga**	**7.59**	**211**	*e*Pn	Pn	20 05 36.4 -0.3
KPC				*e*Pg	Pn	20 06 04.4 +28
KPC				*e*Sg	Sn	20 07 41.9 +39
KPC				Pmax		
	comp=N,2.0nm,0.2s					
KPC				Smax		
	comp=N,30nm,0.4s					
UUDB	**Ulan-Yde**	**7.75**	**239**	*e*Sg	Sn	20 07 46.1 +40
UUDB				Smax		
	comp=N,84nm,1.0s					
FFNB	**Fofonovo**	**8.07**	**242**	*e*Sg	Sn	20 07 57.4 +43
FFNB				Smax		
	comp=N,106nm,0.5s					
YAK	**Yakutsk**	**8.10**	**41**	*e*PN	Pn	20 05 50.6 +7.0
YAK				*e*		20 06 15.6
YAK				*e*		20 07 11.9
YAK				pmax	pmax	
	comp=N,1.0nm,0.4s					
YAK				pmax	pmax	
	comp=Z,4.0nm,0.4s					
YAK				pmax	pmax	
	comp=N,2.0nm,0.2s					
YAK				pmax	pmax	
	comp=N,1.0nm,0.4s					
YAK				pmax	pmax	
	comp=E,2.0nm,0.4s					
YAK				smax		
	comp=N,7.0nm,0.4s					
YAK				smax		
	comp=Z,8.0nm,0.6s					
YAK				smax		
	comp=E,8.0nm,0.8s					
YAK				smax		
	comp=N,45nm,0.7s					
YAK				smax		
	comp=Z,25nm,0.8s					
YAK				smax		
	comp=E,33nm,0.5s					
YAK				MLR	MLR	
	comp=Z,38nm,8.0s					
ULN	**Ulaanbaatar**	**10.99**	**224**	*e*Sg	Sn	20 09 26.4 +61

NIED ***08*** *20:12:00,2390N×123.40E,h20km,Mw3.9 Best double couple: M0 7.76000×1014 NP1:ϕ=48.00000°,δ73.00000°, λ75.00000°; NP2:ϕ=271.00000°,δ23.00000°,λ130.00000°.*
IDC ***08*** *20:12:06.7±0.9,2397N×12334E,h0km,mb3.6/9, mb1 3.7/10,mb1mx3.7/19,mbtmp3.5/10,ML2.7/1,MS3.0/3, Ms1 3.0/3,ms1mx2.6/22,Error ellipse: s-maj=30.2km s-min=20.1km az=66.0*
ISCJB ***08*** *20:12:11.4±0.7,2392N±008×12338E±004,h45km±5km, mb3.4/9,Error ellipse: s-maj=12.8km s-min=6.2km az=179.7*
JMA ***08*** *20:12:11.3±0.2,2386N×12337E,h29km±3km,M4.0*
NEIC ***08*** *20:12:12.1±1.0,2396N×12341E,h36km±9km, MG4.0(JMA),Error ellipse: s-maj=12.9km s-min=9.8km az=190.0*

ISC 08 20:12:11.5±0.9**,2390N**±007×**12336E**±004**,h30**km±5km**, n24,**σ0**69**/29**,mb3.4**/9**,Southwestern Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.43**	**69**	P	**Pb**	**20 12 20.4**	**-0.5**
HATJ				S	**Sb**	**20 12 27.1**	**-0.2**
IRIF	**Iriomote-Funau**	**0.55**	**38**	P	**Pb**	**20 12 22.4**	**-0.3**
IRIF				*e*S	**Sb**	**20 12 31.0**	**+0.6**
YOJ	**Yonaguni jima**	**0.65**	**330**	P	**Pb**	**20 12 24.6**	**+0.3**
YOJ				S	**Sb**	**20 12 33.0**	**-0.1**
JKRS	**Kuro-shima**	**0.68**	**60**	P	**Pb**	**20 12 24.7**	**-0.2**
JKRS				*e*S	**Sb**	**20 12 33.9**	**-0.1**
JIJ	**Ishigaki jima**	**0.85**	**57**	P	**Pn**	**20 12 27.0**	**-0.3**
JIJ				*e*S	**Sn**	**20 12 38.5**	**-0.3**
JTJ	**Tarama**	**1.43**	**59**	P	**Pn**	**20 12 36.2**	**+0.9**
JTJ				*e*S	**Sn**	**20 12 54.4**	**+1.3**
NACB	**Ninganchiao**	**1.64**	**280**	*e*Pn	**Pn**	**20 12 38.3**	**+0.1**
YHNB	**Yeheng**	**1.97**	**293**	*e*Pn	**Pn**	**20 12 43.7**	**+0.9**
TATO	**Taipei**	**2.02**	**303**	*e*Pn	**Pn**	**20 12 44.5**	**+1.1**
JOGS	**Gusukube**	**2.05**	**65**	P	**Pn**	**20 12 45.1**	**+1.2**
JKE	**Kume jima 2**	**3.93**	**51**	P	**Pn**	**20 13 09.4**	**-0.4**
JOW	**Kunigami**	**5.32**	**56**	Pn	**Pn**	**20 13 27.6**	**-1.2**
	0.5nm,0.3s,baz=218,slow=28,SNR=5.2						
JOW				Sn	**Sn**	**20 14 28.9**	**-0.1**
	0.7nm,0.3s,baz=144,slow=29,SNR=2.0						
JNU	**Nakatsue**	**11.31**	**34**	LR	LR	20 19 21.9	
	comp=Z,62nm,20.1s,baz=52,slow=39						
MJAR	**Matsushiro Arr**	**17.95**	**42**	LR	LR	20 22 34.9	
	comp=Z,45nm,21.9s,baz=310,slow=35						
SONM	**Songino Array**	**27.44**	**335**	P	**P**	**20 17 53.2**	**-1.3**
	0.3nm,0.5s,mb3.1,baz=144,slow=10,SNR=2.5						
SONM				LR	LR	20 30 08.9	
	comp=Z,54nm,19.1s,baz=82,slow=40						
MKAR	**Makanchi Array**	**39.94**	**315**	P	**P**	**20 19 43.0**	**+0.2**
	0.3nm,0.2s,mb3.6,baz=92,slow=12,SNR=4.3						
ZALV	**Zalesovo Beam**	**41.58**	**326**	P	**P**	**20 19 54.8**	**-1.5**
	0.9nm,0.5s,mb3.6,baz=120,slow=8.7,SNR=3.6						
WRA	**Warramunga Arr**	**44.87**	**165**	P	**P**	**20 20 22.9**	**-0.3**
	0.5nm,0.7s,mb3.4,baz=344,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**48.37**	**167**	P	**P**	**20 20 51.4**	**+0.8**
	0.2nm,0.6s,mb3.3,baz=353,slow=15,SNR=4.8						
INK	**Inuvik**	**72.74**	**22**	*e*P	**P**	**20 23 36.2**	**-0.1**
AKASG	**Malin Array Be**	**74.40**	**319**	P	**P**	**20 23 46.0**	**-0.4**
	0.2nm,0.4s,mb3.4,baz=64,slow=6.0,SNR=3.1						
NOA	**NORSAR Array B**	**79.40**	**333**	P	**P**	**20 24 14.3**	**0.0**
	0.8nm,0.9s,mb3.6,baz=52,slow=5.7,SNR=2.4						
YKA	**Yellowknife Ar**	**82.45**	**23**	P	**P**	**20 24 31.0**	**+0.4**
	0.2nm,0.5s,mb3.3,baz=303,slow=5.3,SNR=5.0						
GERES	**GERESS Array B**	**84.32**	**321**	P	**P**	**20 24 40.0**	**-0.5**
	0.1nm,0.3s,mb3.4,baz=75,slow=5.4,SNR=3.5						

CSEM ***08*** *20:14:04.4,1207N×4381E,h3km,ML3.7,After DHMR*

DHMR 08 20:14:04.4±1.1**,1207N×4381E,h4**km±6km**,ML3.7,2C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRBA	**At Turbah**	**1.19**	**14**	*i* P	Pg	20 14 27.2	0.0
TRBA				*i* S	Sg	20 14 43.6	+0.9
TRBA				AML	AML	20 14 46.3	
	comp=E,1μm,0.3s						
ADEN	**Aden**	**1.34**	**58**	*i* P	Pn	20 14 29.2	-0.8
ADEN				*i* S	Sg	20 14 48.6	+1.0
ADEN				AML	AML	20 14 54.5	
	comp=E,2μm,0.3s						
ADEN	**Aden**	**1.34**	**58**	*i* P	Pn	20 14 29.2	-0.8
ADEN				*i* S	Sg	20 14 48.6	+1.0
	comp=E,936nm,0.3s						
UDYN	**Al 'Udayn**	**1.89**	**5**	⇑*i* P	Pn	20 14 38.2	+0.7
UDYN				*i* S	Sn	20 15 05.7	+3.9
UDYN				AML	AML	20 15 11.6	
	comp=N,884nm,0.4s						
UDYN	**Al 'Udayn**	**1.89**	**5**	⇑*i* P	Pn	20 14 38.2	+0.7
UDYN				*i* S	Sn	20 15 05.7	+3.9
	comp=N,442nm,0.4s						
LBOS		**2.27**	**38**	*i* P	Pn	20 14 44.9	+2.1
LBOS				*i* S	Sn	20 15 16.3	+5.0
DHBB	**Dhamar BB**	**2.55**	**13**	*i* P	Pn	20 14 48.5	+2.0
DHBB				*i* S	Sn	20 15 23.5	+5.5
BDHA	**Al Bayda'**	**2.55**	**42**	*i* P	Pn	20 14 49.0	+2.4
BDHA				*i* S	Sn	20 15 23.8	+5.7
BDHA				AML	AML	20 15 37.9	
	comp=N,498nm,0.3s						

ISCJB ***08*** *20:18:03.5±0.3,4448N±002×7.11E±003,h13km±3km, Error ellipse: s-maj=3.9km s-min=2.3km az=152.4*
ROM ***08*** *20:18:03.6±0.2,4446N×7.10E,h10km±1km,Md2.2/6, Ml1.8/2,Error ellipse: s-maj=3.7km s-min=1.5km az=103.0*
STR ***08*** *20:18:04.5±0.2,4447N×709E,h5km,Ml2.2,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***08*** *20:18:04.4±0.1,4449N×7.15E,h2km,Md2.3/3,Ml2.5/10, Error ellipse: s-maj=2.4km s-min=1.1km az=64.0*
NEIC ***08*** *20:18:04.5,4447N×709E,h5km,ML2.5(LDG), ML2.2(STR),ML1.8(ROM),After STR.*

ISC 08 20:18:04.1±0.3**,4448N**±002×**712E**±003**,h12**km±3km**,n29,** σ0**60**/58**,Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PZZ	**Prazzo**	**0.03**	**339**	Pg	**Pg**	**20 18 06.0**	**-0.3**
PZZ				Sg	**Sg**	**20 18 07.2**	**-0.6**
DOI	**San Damiano**	**0.10**	**75**	Pg	**Pg**	**20 18 07.1**	**+0.2**
DOI				Sg	**Sg**	**20 18 08.8**	**-0.1**
	363nm,0.2s						
SURF	**Saint Ours**	**0.22**	**270**	Pg	**Pg**	**20 18 08.7**	**0.0**
SURF				Sg	**Sg**	**20 18 11.8**	**-0.1**
STV	**Sta Anna Valdi**	**0.28**	**147**	Pg	**Pg**	**20 18 09.8**	**0.0**
STV				Sg	**Sg**	**20 18 13.7**	**0.0**
	72nm,0.1s						
MBDF	**Montbardon**	**0.35**	**315**	*e*Pg	**Pg**	**20 18 11.3**	**+0.2**
MBDF				*e*Sg	**Sg**	**20 18 15.9**	**+0.1**
	212nm,0.3s						
TOUF	**Mont Tournerai**	**0.48**	**168**	Pg	**Pg**	**20 18 13.5**	**+0.1**
AUTN	**L'Aution**	**0.53**	**155**	Pg	**Pg**	**20 18 14.8**	**+0.3**
AUTN				Sg	**Sg**	**20 18 22.0**	**+0.4**
MVIF	**Mont Vial**	**0.58**	**177**	Pg	**Pg**	**20 18 15.7**	**+0.2**
MVIF				Sg	**Sg**	**20 18 23.5**	**+0.3**
SAOF	**Saorge**	**0.59**	**147**	Pg	**Pg**	**20 18 15.5**	**0.0**
SAOF				Sg	**Sg**	**20 18 23.0**	**-0.2**
LUCF	**Luceram**	**0.61**	**164**	Pg	**Pg**	**20 18 16.1**	**+0.1**
LUCF				Sg	**Sg**	**20 18 23.9**	**-0.1**
BNI	**Bardonecchia**	**0.65**	**332**	Pg	**Pg**	**20 18 16.8**	**0.0**
BNI				Sg	**Sg**	**20 18 26.0**	**+0.7**
SBF	**Sospel**	**0.66**	**159**	*e*Pg	**Pg**	**20 18 17.4**	**+0.5**
SBF				*e*Sg	**Sg**	**20 18 24.9**	**-0.6**
	15nm,0.2s						
RSP	**Reno Superiore**	**0.68**	**9**	Pg	**Pg**	**20 18 17.2**	**-0.1**
RSP				Sg	**Sg**	**20 18 26.8**	**+0.6**
CALN	**Calern**	**0.74**	**193**	Pg	**Pg**	**20 18 18.6**	**+0.1**
REVF	**Revere**	**0.76**	**166**	Pg	**Pg**	**20 18 18.7**	**-0.1**
FIN	**Finale Ligure**	**0.83**	**109**	Pg	**Pg**	**20 18 20.2**	**+0.1**
FIN				Sg	**Sg**	**20 18 31.5**	**+0.5**
FRF	**La Foret Royal**	**0.98**	**200**	*e*Pg	**Pg**	**20 18 23.7**	**+0.7**
FRF				*e*Sg	**Sg**	**20 18 35.2**	**-0.5**
	22nm,0.2s						
FRF	**La Foret Royal**	**0.98**	**200**	*e*Pn	**Pn**	**20 18 22.7**	**-0.9**
FRF				*e*Pg	**Pg**	**20 18 23.7**	**+0.7**
FRF				*e*Sg	**Sg**	**20 18 35.2**	**-0.5**
ORIF	**Oris-en-Rattie**	**0.98**	**297**	*e*Pg	**Pg**	**20 18 22.9**	**-0.2**
ORIF				*e*Sg	**Sg**	**20 18 35.5**	**-0.4**
	13nm,0.3s						
LPG	**La Plagne**	**1.05**	**346**	*e*Pg	**Pg**	**20 18 24.3**	**0.0**
LPG				*e*Sg	**Sg**	**20 18 37.6**	**-0.4**
	28nm,0.4s						
LPL	**La Plagne**	**1.07**	**345**	*e*Pg	**Pg**	**20 18 24.9**	**+0.2**
LPL				*e*Sg	**Sg**	**20 18 38.9**	**+0.2**
	26nm,0.3s						
SMRF	**Simiane la Rot**	**1.22**	**246**	*e*Pg	**Pg**	**20 18 28.4**	**+0.9**
SMRF				*e*Sg	**Sg**	**20 18 44.5**	**+1.2**
	15nm,0.4s						
LMR	**La Mourre**	**1.23**	**201**	*e*Pg	**Pg**	**20 18 27.8**	**+0.1**
LMR				*e*Sg	**Sg**	**20 18 42.1**	**-1.5**
	13nm,0.2s						
LMR	**La Mourre**	**1.23**	**201**	*e*Pn	**Pn**	**20 18 27.1**	**+0.1**
LMR				*e*Pg	**Pg**	**20 18 27.8**	**+0.1**
LMR				*e*Sg	**Sg**	**20 18 42.1**	**-1.5**
VIVF	**Saint-Julien-l**	**1.78**	**283**	*e*Pg	**Pg**	**20 18 39.5**	**+1.2**
VIVF				*e*Sg	**Sg**	**20 18 59.8**	**-1.6**
	2.7nm,0.3s						
VIVF	**Saint-Julien-l**	**1.78**	**283**	*e*Pn	**Pn**	**20 18 36.0**	**+1.3**
VIVF				*e*Pg	**Pg**	**20 18 39.5**	**+1.2**
VIVF				*e*Sg	**Sg**	**20 18 59.8**	**-1.6**
CABF	**La Chapelle**	**2.25**	**342**	*e*Pn	**Pn**	**20 18 40.8**	**-0.3**
CABF				*e*Sg	**Sg**	**20 19 14.9**	**-1.5**
	1.5nm,0.3s						
PGF	**Pioggiola**	**2.37**	**144**	*e*Pn	**Pn**	**20 18 42.8**	**+0.1**
PGF				*e*Sn	**Sn**	**20 19 10.5**	**-1.2**
	2.1nm,0.2s						
LASF	**Ste Croix**	**2.38**	**261**	*e*Pn	**Pn**	**20 18 43.2**	**+0.4**
LASF				*e*Sn	**Sn**	**20 19 11.8**	**0.0**
	1.4nm,0.3s						

MOS ***08*** *20:34:52.7±1.3,5253N×100.94E,h12km,mb4.3/1,Error ellipse: s-maj=44.9km s-min=30.7km az=177.9*

BYKL 08 20:34:54.0±0.3**,5243N**×**10097E,h6**km±15km**,2C-1D, Tuva-Buryatia-Mongolia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.72**	**279**	*e*PG	Pg	20 35 06.9	-0.9
ORL				*e*		20 35 16.0	
ORL				pmax	pmax		
	comp=Z,71nm,0.1s						
ORL				smax			
	comp=N,1μm,0.3s						
ORL	**Orlik**	**0.72**	**279**	⇑*i* Pg	Pg	20 35 06.9	-0.9
ORL				*e*Sg	Sg	20 35 16.0	-1.1
ORL				Pmax			
	comp=N,69nm,0.2s						
ORL				Smax			
	comp=N,1μm,0.2s						
MOY	**Mondy**	**0.77**	**179**	⇓*i* Pg	Pg	20 35 08.1	-0.6
MOY				*e*Sg	Sg	20 35 18.0	-0.6
MOY				Pmax			
	comp=N,42nm,0.2s						
MOY				Smax			
	comp=N,630nm,0.3s						
ARS	**Arshan**	**1.03**	**119**	*e*PG	Pg	20 35 12.7	-1.0
ARS				*e*		20 35 26.6	
ARS				pmax	pmax		
	comp=Z,122nm,0.2s						
ARS				smax			
	comp=E,1μm,0.2s						
ARS	**Arshan**	**1.03**	**119**	⇑*i* Pg	Pg	20 35 12.6	-1.1
ARS				*e*Sg	Sg	20 35 26.2	-0.9
ARS				Pmax			
	comp=E,124nm,0.2s						
ARS				Smax			
	comp=E,1μm,0.2s						
TLY	**Talaya**	**1.81**	**113**	*e*Pg	Pg	20 35 26.2	-2.5
TLY				*e*Sg	Sg	20 35 49.8	-2.4
TLY				Pmax			
	comp=E,19nm,0.3s						
TLY				Smax			
	comp=E,99nm,0.3s						
IRK	**Irkutsk**	**2.03**	**94**	*e*PN	Pn	20 35 29.8	+1.1
IRK				*e*		20 35 55.7	
IRK				pmax	pmax		
	comp=Z,597nm,0.3s						
IRK				smax			
	comp=N,637nm,0.3s						
IRK	**Irkutsk**	**2.03**	**94**	*e*Pg	Pg	20 35 30.4	-2.5
IRK				*e*Sg	Sg	20 35 56.5	-2.8
IRK				Pmax			
	comp=N,61nm,0.3s						
IRK				Smax			
	comp=N,636nm,0.5s						
LSTR	**Listvyanka**	**2.44**	**102**	*e*Pg	Pg	20 35 37.2	-3.6
LSTR				*e*Sg	Sg	20 36 08.5	-4.0
LSTR				Pmax			
	comp=N,17nm,0.2s						
LSTR				Smax			
	comp=N,160nm,0.6s						
ZAK	**Zakamensk**	**2.51**	**144**	*e*Pg	Pg	20 35 38.6	-3.5
ZAK				*e*Sg	Sg	20 36 12.7	-1.9
ZAK				Pmax			
	comp=N,20nm,0.4s						
ZAK				Smax			
	comp=N,52nm,0.4s						
TDJR	**Todzha**	**2.98**	**271**	*e*Pg	Pg	20 35 46.2	-4.9
TDJR				*e*Sg	Sg	20 36 25.1	-4.6
TRG	**Tyrgan**	**3.30**	**82**	*e*Pn	Pn	20 35 45.8	-0.3
TRG				*e*Pg	Pg	20 35 53.9	-3.2
TRG				*e*Sn	Sn	20 36 24.7	-0.8
TRG				*e*Sg	Sg	20 36 36.3	-3.5
TRG				Pmax			
	comp=N,11nm,0.3s						
TRG				Smax			
	comp=N,126nm,0.4s						
FFNB	**Fofonovo**	**3.58**	**94**	*e*Sg	Sg	20 36 45.1	-3.9
FFNB				Smax			
	comp=N,243nm,0.5s						
ZRHB	**Zarechye**	**3.78**	**86**	*e*Sg	Sg	20 36 50.9	-4.4
ZRHB				Smax			
	comp=N,267nm,0.8s						
HRMR	**Khuramsha**	**3.78**	**100**	*e*Pn	Pn	20 35 53.9	+1.1
HRMR				*e*Pg	Pg	20 36 01.9	-4.5
HRMR				*e*Sg	Sg	20 36 51.6	-3.8
HRMR				Pmax			
	comp=N,20nm,0.4s						
HRMR				Smax			
	comp=N,301nm,0.4s						
TRTB	**Turuntaevo**	**4.09**	**90**	*e*Pn	Pn	20 35 57.5	+0.5
TRTB				*e*Pg	Pg	20 36 06.6	-5.7
TRTB				*e*Sg	Sg	20 37 00.3	-5.0
TRTB				Pmax			
	comp=N,7.0nm,0.4s						
TRTB				Smax			
	comp=N,86nm,0.6s						
UUDB	**Ulan-Yde**	**4.16**	**95**	*e*Sg	Sg	20 37 01.7	-5.8
UUDB				Smax			
	comp=N,55nm,1.0s						
OGRR	**Ongureny**	**4.18**	**70**	*e*PN	Pn	20 35 57.0	-1.2
OGRR				*e*		20 36 07.3	
OGRR				*e*S	Sn	20 36 44.1	-3.2
OGRR				*e*		20 36 59.7	
OGRR				pmax	pmax		
	comp=Z,8.0nm,0.4s						
OGRR				smax			
	comp=E,122nm,0.6s						
OGRR	**Ongureny**	**4.18**	**70**	*e*Pn	Pn	20 35 58.9	+0.7
OGRR				*e*Pg	Pg	20 36 09.8	-4.2
OGRR				*e*Sg	Sg	20 37 02.9	-5.2
OGRR				Pmax			
	comp=E,8.0nm,0.3s						
OGRR				Smax			
	comp=E,115nm,0.6s						
MXMB	**Maximikha**	**4.79**	**77**	*e*Pn	Pn	20 36 08.0	+1.5
MXMB				*e*Sg	Sg	20 37 21.9	-5.7
MXMB				Smax			
	comp=E,116nm,0.7s						
SYVR	**Suvo**	**5.58**	**74**	*e*Pn	Pn	20 36 18.9	+1.4
SYVR				*e*Sg	Sg	20 37 47.0	-6.2
SYVR				Smax			
	comp=E,29nm,0.7s						
ULN	**Ulaanbaatar**	**6.01**	**137**	*e*Sg	Sg	20 38 01.0	-5.9
NIZ	**Nizh Angarsk**	**6.05**	**53**	*e*PN	Pn	20 36 23.7	-0.2
NIZ				*e*		20 36 42.2	
NIZ				*e*		20 37 59.7	
NIZ				pmax	pmax		
	comp=Z,5.0nm,0.7s						
NIZ				smax			
	comp=N,49nm,1.2s						
NIZ	**Nizh Angarsk**	**6.05**	**53**	*e*Pn	Pn	20 36 23.6	-0.3
NIZ				*e*Sn	Sn	20 37 30.4	-3.0
NIZ				*e*Sg	Sg	20 38 01.8	-6.4
NIZ				Smax			
	comp=N,49nm,1.1s						
KMO	**Kumora**	**6.93**	**56**	*e*Pn	Pn	20 36 36.3	+0.3
KMO				*e*Sn	Sn	20 37 52.3	-2.8
KMO				*e*Sg	Sg	20 38 29.3	-7.1
KMO				Smax			
	comp=N,34nm,1.7s						

ISCJB ***08*** *20:59:20.1±0.7,120S±0.1×1666E±0.1,h142km,mb3.9/15, Error ellipse: s-maj=17.1km s-min=16.2km az=4.9*
IDC ***08*** *20:59:21.6±1.2,1188S×16661E,h142km±9km,mb3.7/10, mb1 3.8/10,mb1mx3.7/17,mbtmp3.7/10,Error ellipse: s-maj=20.7km s-min=18.7km az=138.0*
NEIC ***08*** *20:59:27.1±5.8,1197S×16654E,h194km±52km,mb4.2/7, Error ellipse: s-maj=21.8km s-min=13.7km az=50.0*

ISC 08 20:59:21.8±0.7**,119S**±01×**1666E**±01**,h144**km**, h144**km±4.1km**:pP-P,n17,**σ0**79**/17**,mb3.9**/15**,Santa Cruz Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**21.18**	**245**	*e*P	**P**	**21 03 56.9**	**+0.9**
	28nm,1.2s,mb4.5						
URZ	**Urewera**	**27.86**	**162**	P	**P**	**21 04 58.6**	**+0.7**
	4.5nm,0.8s,mb4.2,baz=163,slow=19,SNR=2.9						
STKA	**Stephens Creek**	**30.43**	**225**	*e*P	**P**	**21 05 20.9**	**+0.2**
	3.8nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**30.43**	**225**	P	**P**	**21 05 21.4**	**+0.7

RPZ	Rata Peaks	31.92 174	P		P	21 05 33.3	-0.3
	13nm,0.7s,mb4.8,baz=84,slow=2.3,SNR=3.9						
WRA	Warramunga Arr	32.01 251	P		P	21 05 34.1	-0.6
	0.7nm,0.8s,mb3.5,baz=83,slow=8.9,SNR=8.5						
WRA			pP		pP	21 06 05.8	+0.2
	1.1nm,0.9s,baz=84,slow=8.1,SNR=4.6						
WRA			PcP		PcP	21 08 21.4	+0.1
	0.6nm,0.7s,baz=78,slow=3.4,SNR=6.2						
ASAR	Alice Springs	33.19 245	P		P	21 05 44.5	-0.5
	1.8nm,0.7s,mb3.9,baz=69,slow=9.6,SNR=24						
ASAR			pP		pP	21 06 16.5	+0.5
	0.6nm,0.7s,baz=73,slow=8.1,SNR=2.8						
ASAR			PcP		PcP	21 08 24.6	+0.1
	1.0nm,0.7s,baz=79,slow=2.4,SNR=10.0						
FITZ	Fitzroy Crossi	40.00 256	P		P	21 06 42.8	+0.1
	0.9nm,0.7s,mb3.5,baz=297,slow=12,SNR=3.6						
VNDA	Vanda	65.65 181	eP		P	21 09 49.5	-0.6
	1.4nm,0.9s,mb3.8						
VNDA	Vanda	65.65 181	P		P	21 09 49.6	-0.4
	0.7nm,0.5s,mb3.8,baz=354,slow=7.4,SNR=8.8						
SBA	Scott Base	65.94 180	eP		P	21 09 53.2	+1.3
	3.1nm,0.8s,mb4.2						
QSPA	South Pole Qui	78.10 180	eP		P	21 11 03.7	-0.6
	7.2nm,1.1s,mb4.2						
ULN	Ulaanbaatar	79.50 324	eP		P	21 11 13.1	+0.7
	0.7nm,0.6s,mb3.5						
MAW	Mawson	84.25 202	eP		P	21 11 35.4	-1.5
	8.8nm,1.3s,mb4.3						
NVAR	Mina Array Bea	85.92 50	P		P	21 11 46.6	+0.9
	0.3nm,0.6s,mb3.2,baz=249,slow=7.6,SNR=2.4						
MKAR	Makanchi Array	94.73 317	P		P	21 12 26.8	0.0
	0.1nm,0.2s,mb3.6,baz=88,slow=6.5,SNR=6.4						
MKAR			pP		pP	21 13 01.6	-1.9
	0.2nm,0.2s,baz=69,slow=6.6,SNR=1.8						
YKA	Yellowknife Ar	95.34 27	P		P	21 12 28.1	-1.1
	0.3nm,0.5s,mb3.8,baz=257,slow=4.6,SNR=4.0						

*BJI **08** 21:42:27.5,2006S×17999W,h619km,mB4.9,mb4.7*
*ISCJB **08** 21:42:30.5±0.8,1937S±009×17932W±008,h643km±13km, mb4.3/21,Error ellipse: s-maj=13.9km s-min=10.9km az=158.2*
*NEIC **08** 21:42:30.6±0.8,1930S×179.19W,h627km±11km,mb4.5/13, Error ellipse: s-maj=12.8km s-min=10.0km az=137.0*
*IDC **08** 21:42:34.3±1.6,1944S×17936W,h669km±19km,mb3.6/10, mb1 3.8/10,mb1mx3.6/15,mbtmp3.6/10,Error ellipse: s-maj=17.4km s-min=12.7km az=161.0*

ISC 08 21:42:30.8±0.8,1932S±009×17922W±008,h631km±13km, n46,σ1°15/41,mb4.3/21,1C-5D,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	8.93	54	eP		P	21 44 39.8	-0.2
AFI				eS		S	21 46 26.2	+0.3
FUNA	Funafuti	10.84	352	eP		P	21 44 56.8	-1.7
	50nm,0.8s							
URZ	Urewera	19.14	189	P		P	21 46 13.0	-2.2
	2.1nm,0.3s,baz=296,slow=3.3,SNR=11							
RPZ	Rata Peaks	25.66	196	P		P	21 47 13.1	0.0
	13nm,0.8s,mb4.6,baz=18,slow=18,SNR=6.6							
ARMA	Armidale	28.58	242	eP		P	21 47 41.0	+2.2
CTA	Charters Tower	32.48	263	∥iP		P	21 48 13.5	+1.4
	28nm,0.4s,mb5.2							
CTA	Charters Tower	32.48	263	P		P	21 48 13.4	+1.3
	37nm,0.4s,mb5.3,baz=91,slow=10,SNR=26							
CTAO	Charters Tower	32.48	263	eP		P	21 48 13.3	+1.2
	37nm,0.5s,mb5.3							
STKA	Stephens Creek	37.29	243	∥iP		P	21 48 53.2	+1.5
	5.9nm,0.4s,mb4.5							
STKA	Stephens Creek	37.29	243	P		P	21 48 53.3	+1.6
	7.3nm,0.3s,mb4.6,baz=86,slow=7.7,SNR=47							
WB2	Warramunga Arr	43.63	261	∥iP		P	21 49 41.9	0.0
WRAB	Tennant Creek	43.63	261	eP		P	21 49 41.9	-0.1
	11nm,0.3s,mb4.9							
WRA	Warramunga Arr	43.64	261	P		P	21 49 42.0	0.0
	14nm,0.3s,mb5.0,baz=97,slow=7.6,SNR=620							
WRA				ScP		ScP	21 54 06.4	-1.0
	0.9nm,1.1s,baz=47,slow=32,SNR=3.3							
WRA				S		S	21 55 24.4	-3.6
	1.2nm,0.7s,baz=98,slow=12,SNR=5.4							
ASAR	Alice Springs	43.69	256	P		P	21 49 43.1	+0.8
	32nm,0.7s,mb5.0,baz=86,slow=8.8,SNR=271							
ASAR				ScP		ScP	21 54 05.9	-1.6
	0.4nm,0.7s,baz=98,slow=5.7,SNR=3.3							
ASAR				S		S	21 55 25.3	-3.2
	3.0nm,0.8s,baz=91,slow=16,SNR=20							
KAKA	Kakadu	46.81	271	∥iP		P	21 50 06.3	+0.1
	17nm,0.4s,mb4.9							
FORT	Forrest	48.72	246	eP		P	21 50 19.9	-0.2
	9.7nm,0.5s,mb4.5							
FITZ	Fitzroy Crossi	52.05	262	eP		P	21 50 44.9	+0.5
	8.9nm,0.4s,mb4.5							
MBWA	Marble Bar	57.00	257	eP		P	21 51 18.3	-0.4
	7.3nm,0.5s,mb4.2							
KLBR	Kellerberrin	57.52	244	eP		P	21 51 21.9	-0.3
	13nm,0.8s,mb4.1							
MUN	Mundaring	58.81	244	eP		P	21 51 30.9	+0.1
SBA	Scott Base	58.97	183	eP		P	21 51 32.8	+1.8
	8.1nm,0.9s,mb3.9							
VNDA	Vanda	58.98	185	eP		P	21 51 31.8	+0.7
	1.2nm,0.6s,mb3.2							
VNDA	Vanda	58.98	185	P		P	21 51 30.9	-0.2
	2.3nm,0.8s,mb3.4,baz=357,slow=6.9,SNR=20							
KKM	Kota Kinabalu	68.35	285	P		P	21 52 31.6	0.0
MJAR	Matsushiro Arr	68.59	324	P		P	21 52 33.0	+0.5
	0.9nm,0.5s,mb3.5,baz=164,slow=5.2,SNR=4.0							
QSPA	South Pole Qui	70.74	180	eP		P	21 52 45.1	+0.6
	14nm,0.8s,mb4.6							
KSM	Kuching	72.11	278	eP		P	21 52 53.8	0.0
NVAR	Mina Array Bea	80.97	44	P		P	21 53 42.8	+1.5
	0.7nm,0.6s,mb3.2,baz=227,slow=7.1,SNR=4.9							
MAW	Mawson	82.28	200	eP		P	21 53 46.7	-0.8
	4.3nm,0.8s,mb4.0							
MAW	Mawson	82.28	200	P		P	21 53 47.2	-0.3
	0.9nm,0.5s,mb3.6,baz=117,slow=6.1,SNR=7.9							
TXAR	Lajitas Array	87.39	58	P		P	21 54 14.7	+1.8
	0.9nm,0.8s,mb3.5,baz=234,slow=6.0,SNR=5.4							
SYO	Syowa Base	87.61	193	∥eP		P	21 54 10.4	-2.8
SYO	Syowa Base	87.61	193	∥ePcP		PcP	21 54 14.0	-0.4
HHC	Hu-ho-hao-te	87.72	315	eP		P	21 54 18.1	+4.0
HHC				SKS			22 03 44.3	
HHC				S		S	22 04 05.3	+0.6
HHC				SS		SS	22 10 18.6	+6.6
HHC				AMB		AMB		
	comp=Z,22nm,1.1s,mb4.8							
HHC				AMB		AMB		
	comp=Z,209nm,4.8s							
CD2	Chengdu	89.19	303	eP		P	21 54 19.3	-1.9
CD2				PP		PP	21 58 06.4	+2.3
CD2				SKS			22 03 46.9	
CD2				S		S	22 04 13.5	-5.1
CD2				SS		SS	22 10 34.3	+0.8
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb4.7							
CD2				AMB		AMB		
	comp=Z,20nm,6.8s							
SNAA	Sanae	89.21	179	e		P	21 54 19.4	-1.1
SNAA				e			21 54 22.7	
SNAA				e			21 54 28.2	
VNA3	Neumayer Olymp	89.38	177	e		P	21 54 20.8	-0.6
VNA2	Neumayer--Watz	89.81	177	e		P	21 54 22.7	-0.6
	baz=194,slow=4.2							
VNA2				e			21 54 25.7	
VNA2				e			21 54 30.2	
LZH	Lanzhou	91.15	308	eP		P	21 54 27.1	-3.0
LZH				AP		pP	21 56 47.6	+2.2
LZH				AMB		AMB		
	comp=Z,13nm,1.0s,mb4.8							
LZH				AMB		AMB		
	comp=Z,66nm,5.0s							
MKAR	Makanchi Array	109.56	314	PKiKP		PKiKP	21 59 50.5	-0.6
	comp=Z,0.1nm,0.4s,baz=92,slow=0.4,SNR=4.6							
ARCES	ARCESS Array B	127.56	349	PKP		PKPdf	22 00 24.2	-0.7
	comp=Z,4.3nm,0.9s,baz=25,slow=3.2,SNR=10							
FINES	FINESS Array B	134.32	343	PKP		PKPdf	22 00 36.8	-1.1
	comp=Z,1.9nm,1.0s,baz=0.0,slow=3.8,SNR=3.8							
AKASG	Malin Array Be	141.44	331	PKhKP			22 00 46.0	
	comp=Z,0.8nm,0.4s,baz=44,slow=4.0,SNR=7.2							
CLL	Collm	146.66	346	i PKPbc		PKPbc	22 01 03.0	-0.1
	comp=Z,5.0nm,0.7s							
CLL				Lm			01 01 00.0	
	comp=Z,400nm,18.3s							
KHC	Kasperske Hory	148.53	344	ePKPbc		PKPbc	22 01 07.5	-0.4
GERES	GERESS Array B	148.76	343	PKPbc		PKPbc	22 01 08.2	-0.3
	comp=Z,0.6nm,0.5s,baz=28,slow=3.2,SNR=6.9							

*ISCJB **08** 22:03:07.6±0.8,465N×006×7621W±007,h142km±7km, mb3.7/18,Error ellipse: s-maj=13.0km s-min=7.4km az=142.5*
*NEIC **08** 22:03:08.2±0.8,461N×76.16W,h134km±8km,mb4.0/7, Error ellipse: s-maj=10.6km s-min=6.5km az=67.0*
*IDC **08** 22:03:10.4±1.3,463N×7605W,h154km±11km,mb3.6/15, mb1 3.8/18,mb1mx3.8/24,mbtmp3.6/18,Error ellipse: s-maj=18.5km s-min=10.3km az=75.0*

ISC 08 22:03:08.2±0.8,463N±006×7618W±007,h132km±8km,n40, σ1°00/40,mb3.7/18,Colombia

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	1.86	83	P		Pn	22 03 42.3	+1.7
	31nm,0.3s,baz=271,slow=22,SNR=37							
ROSC				S		Sn	22 04 08.7	+3.3
	28nm,0.3s,baz=101,slow=22,SNR=23							
BCIP	Isla Barro Col	5.79	321	ePn		Pn	22 04 30.4	-1.6
	92nm,0.4s							
BCIP				eSn		Sn	22 05 36.4	-0.8
SDV	Santo Domingo	6.94	52	P		Pn	22 04 47.3	-0.2
	3.5nm,0.3s,baz=242,slow=5.8,SNR=20							
SDV				S		Sn	22 05 59.7	-5.4
	4.8nm,0.3s,baz=278,slow=22,SNR=5.2							
NNA	Nana	16.52	182	ePn		Pn	22 06 51.5	-0.8
	19nm,1.1s							
NNA	Nana	16.52	182	P		Pn	22 06 52.0	-0.3
	0.9nm,0.3s,baz=104,slow=22,SNR=1.9							
SJG	San Juan	16.60	35	eP		Pn	22 06 53.0	-0.4
	11nm,0.7s							
SJG	San Juan	16.60	35	P		Pn	22 06 52.6	-0.8
	1.3nm,0.3s,baz=322,slow=21,SNR=2.3							
LPAZ	La Paz	22.26	159	eP		P	22 07 54.2	-0.4
	1.9nm,0.5s,mb3.8							
LPAZ	La Paz	22.26	159	P		P	22 07 53.9	-0.7
	2.1nm,0.6s,mb3.7,baz=326,slow=8.6,SNR=9.1							
SIV	San Ignacio	25.36	144	P		P	22 08 22.5	-0.7
	4.1nm,0.5s,mb4.2,baz=326,slow=9.7,SNR=14							
SWET	Sewanee	31.74	345	eP		P	22 09 20.3	+0.6
TXAR	Lajitas Array	35.79	316	P		P	22 09 55.6	+0.8
	0.1nm,0.5s,mb2.8,baz=132,slow=12,SNR=3.5							
TXAR				PcP		PcP	22 12 21.6	+1.8
	0.1nm,0.5s,baz=134,slow=5.4,SNR=4.1							
CPUP	Villa Florida	35.79	150	eP		P	22 09 53.5	-1.4
CPUP	Villa Florida	35.79	150	P		P	22 09 52.9	-1.9
	0.8nm,0.4s,mb3.7,baz=343,slow=6.5,SNR=4.4							
WMOK	Wichita Mounta	36.55	328	eP		P	22 10 01.1	-0.1
	1.4nm,0.8s,mb3.6							
CFAA	Coronel Fontan	36.82	169	P		P	22 10 04.1	+0.6
CFAA	Coronel Fontan	36.82	169	P		P	22 10 04.1	+0.6
	0.2nm,0.4s,mb3.1,baz=347,slow=4.2,SNR=5.6							
ANMO	Albuquerque	41.16	321	P		P	22 10 40.8	+1.1
	1.0nm,0.6s,mb3.6,baz=154,slow=8.2,SNR=3.8							
SDCO	Great Sand Dun	42.45	325	eP		P	22 10 50.5	+0.4
	1.9nm,0.6s,mb3.9							
PLCA	Paso Flores	45.44	174	eP		P	22 11 14.4	+0.6
	3.6nm,0.8s,mb4.0							
PLCA	Paso Flores	45.44	174	P		P	22 11 14.8	+0.9
	4.4nm,0.9s,mb4.1,baz=351,slow=9.4,SNR=8.0							
ULM	Lac du Bonnet	48.40	343	P		P	22 11 35.3	-1.4
	1.9nm,0.4s,mb4.1,baz=156,slow=6.4,SNR=4.6							
ULM				PcP		PcP	22 12 59.6	-1.5
	1.1nm,0.5s,baz=117,slow=2.3,SNR=2.6							
HWUT	Hardware Ranch	48.51	325	eP		P	22 11 38.0	+0.3
	1.2nm,0.6s,mb3.7							
SCHQ	Schefferville	50.62	7	P		P	22 11 54.5	+1.1
	6.7nm,0.8s,mb4.3,baz=205,slow=5.5,SNR=8.2							
NVAR	Mina Array Bea	50.93	317	P		P	22 11 57.5	+1.4
NVAR				PcP		PcP	22 13 11.9	+1.2
NVAR	Mina Array Bea	50.93	317	P		P	22 11 57.5	+1.4
	1.2nm,0.7s,mb3.6,baz=127,slow=7.0,SNR=9.4							
NVAR				PcP		PcP	22 13 11.9	+1.2
	0.5nm,0.5s,baz=144,slow=3.5,SNR=4.3							
CMB	Columbia Colle	52.16	316	P		P	22 12 06.7	+1.4
YKA	Yellowknife Ar	64.30	341	P		P	22 13 28.5	-0.7
YKA				PcP		PcP	22 14 01.8	-1.0
YKA	Yellowknife Ar	64.30	341	P		P	22 13 28.5	-0.7
	1.5nm,0.5s,mb4.0,baz=134,slow=6.3,SNR=33							
YKA				PcP		PcP	22 14 01.8	-1.0
	0.3nm,0.5s,baz=134,slow=5.8,SNR=3.9							
DBIC	Dimbokro	70.95	85	P		P	22 14 10.0	-2.0
DBIC	Dimbokro	70.95	85	P		P	22 14 10.0	-2.0
	3.2nm,0.9s,mb4.0,baz=263,slow=10,SNR=3.4							
ESDC	Sonseca Array	73.38	50	P		P	22 14 25.9	0.0
	0.5nm,0.5s,mb3.5,baz=255,slow=5.8,SNR=3.9							
ESK	Eskdalemuir	76.55	34	P		P	22 14 42.9	-0.9
KEST	Kesra	83.69	55	P		P	22 15 22.0	-0.5
	1.4nm,0.7s,mb3.8,baz=289,slow=11,SNR=2.3							
GERES	GERESS Array B	86.47	41	P		P	22 15 36.2	+0.1
	0.8nm,0.8s,mb3.5,baz=266,slow=8.5,SNR=3.7							
VNA3	Neumayer Olymp	86.98	163	e		P	22 15 38.7	+0.6
VNA3				e			22 15 42.3	
VNA2	Neumayer--Watz	87.55	162	e		P	22 15 41.5	+0.7
	baz=311,slow=5.4							
VNA2				e			22 15 44.6	
MKAR	Makanchi Array	125.37	18	PKP		PKPdf	22 21 52.9	-0.8
	0.3nm,0.5s,baz=283,slow=3.3,SNR=5.6							
ASAR	Alice Springs	145.37	234	PKPbc		PKPbc	22 22 30.9	-0.6
	0.5nm,0.7s,baz=113,slow=4.0,SNR=5.5							
WRA	Warramunga Arr	146.62	240	PKPbc		PKPbc	22 22 34.9	-0.3
	0.2nm,0.3s,baz=107,slow=2.9,SNR=4.7							

*IDC **08** 22:17:29.6±0.8,3174S×7196W,h0km,mb4.3/5,mb1 4.3/8, mb1mx4.1/16,mbtmp4.1/8,ML3.8/3,MS4.4/3,Ms1 4.3/3, ms1mx3.4/26,Error ellipse: s-maj=31.8km s-min=21.2km az=74.0*
*ISCJB **08** 22:17:32.7±1.2,3173S±002×7209W±005,h28km±10km, mb4.1/5,MS4.1/3,Error ellipse: s-maj=7.9km s-min=3.4km az=173.5*
*GUC **08** 22:17:34.0±0.9,3178S×7195W,h31km±3km,MD4.6, ML4.4*
*NEIC **08** 22:17:34.0,3178S×7195W,h31km,ML4.4(GUC),After GUC.*

ISC 08 22:17:32.3±1.0,3173S±002×7196W±005,h9km±5km, h6km±2km:pP-P,n53,σ0°81/74,mb4.2/4,MS4.1/3,11C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID	Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.99	56	⇑iP		Pg	22 17 50.4	-1.0
CMCH				i S		Sg	22 18 04.1	-0.1
PTCH	Petorca	1.02	121	eP		Pg	22 17 51.8	-0.2
PTCH				i S		Sg	22 18 05.2	-0.1
OVCH	Ovalle	1.30	30	⇑iP		Pn	22 17 55.6	-1.0
OVCH				i S		Sb	22 18 14.6	+1.0
IHA	Instituto Hidr	1.32	168	eP		Pn	22 17 55.9	-1.0
ROCH	El Roble	1.48	147	⇑iP		Pn	22 17 59.1	+0.1
ROCH				i S		Sn	22 18 17.9	-0.5
JACH	Jahuel	1.50	130	∥iP		Pn	22 17 59.7	+0.3
PEL	Peldehue	1.77	143	∥iP		Pn	22 18 03.3	+0.2
PEL				i S		Sn	22 18 25.5	-0.2
PEL				AML		AML	22 18 31.6	
	comp=N,9μm,0.7s							
TLL	Tololo Astrono	1.85	33	eP		Pn	22 18 03.7	-0.5
TLL				i S		Sn	22 18 28.3	+0.6
TLL	Tololo Astrono	1.85	33	eP		Pn	22 18 03.7	-0.5
TLL				i S		Sn	22 18 28.3	+0.6
TLL				AML		AML	22 18 42.8	
	comp=E,3μm,0.8s							
LSCH	La Serena	1.92	19	⇑iP		Pn	22 18 06.4	+1.3
LSCH				i S		Sn	22 18 30.8	+1.4
RCDM	Rinconada Maip	2.00	151	∥iP		Pn	22 18 06.4	+0.1
RCDM				i S		Sn	22 18 30.7	-0.8
RCDM	Rinconada Maip	2.00	151	∥iP		Pn	22 18 06.4	+0.1
RCDM				i S		Sn	22 18 30.7	-0.8
RCDM				AML		AML	22 18 41.6	
	comp=N,3μm,0.4s							
STL	Santa Lucia	2.03	147	eP		Pn	22 18 06.4	-0.3
STL				i S		Sn	22 18 31.6	-0.5
DSCH	Colegio Aleman	2.04	145	eP		Pn	22 18 06.7	-0.1
DSCH				i S		Sn	22 18 31.7	-0.6
SAN	Santiago	2.04	148	i S		Sn	22 18 32.4	+0.1
SAN				AML		AML	22 18 42.7	
	comp=E,5μm,0.5s							
CLCH	Cerro Calan	2.05	144	⇑iP		Pn	22 18 07.3	+0.4
CLCH				i S		Sn	22 18 33.0	+0.4
CLCH				AML		AML	22 18 43.2	
	comp=N,8μm,0.4s							
TACH	Talagante	2.10	156	eP		Pn	22 18 08.1	+0.5
FSR	Penalolen	2.12	146	eP		Pn	22 18 08.4	+0.5
FSR				i S		Sn	22 18 34.1	-0.2
FSR	Penalolen	2.12	146	eP		Pn	22 18 08.4	+0.5
FSR				i S		Sn	22 18 34.1	-0.2
FSR				AML		AML	22 18 48.2	
	comp=N,6μm,0.6s							
FCH	Farellones	2.13	139	⇑iP		Pn	22 18 08.5	+0.5
FCH				i S		Sn	22 18 35.8	+1.3
FCH				AML		AML	22 18 46.1	
	comp=N,2μm,0.4s							
ANTU	Antumapu	2.15	149	eP		Pn	22 18 08.8	+0.6
ANTU				i S		Sn	22 18 34.5	-0.5
ANTU	Antumapu	2.15	149	eP		Pn	22 18 08.8	+0.6
ANTU				i S		Sn	22 18 34.5	-0.5
ANTU				AML		AML	22 18 44.8	
	comp=N,5μm,0.5s							
PCH	Pirque	2.25	147	eP		Pn	22 18 10.1	+0.5
SJCH	San Jose de Ma	2.34	145	∥iP		Pn	22 18 11.4	+0.6
SJCH				i S		Sn	22 18 39.6	-0.1
CHCH	Chadas Angostu	2.46	154	⇑iP		Pn	22 18 13.3	+0.8
LMEL	Las Melosas	2.58	145	⇑iP		Pn	22 18 14.9	+0.7
LMEL				i S		Sn	22 18 46.1	+0.5
LMEL	Las Melosas	2.58	145	⇑iP		Pn	22 18 14.9	+0.7
LMEL				i S		Sn	22 18 46.1	+0.5
LMEL				AML		AML	22 19 00.1	
	comp=N,2μm,0.8s							
CACH	El Canelo	2.64	155	eP		Pn	22 18 16.2	+1.2
CICH	Cipreses	2.89	154	⇑iP		Pn	22 18 19.5	+1.1
LCO	Las Campanas	2.92	22	ePn		Pn	22 18 17.8	-1.1
LCO				eSn		Sn	22 18 54.9	+0.8
SFDO	San Fernando	2.98	165	⇑iP		Pn	22 18 19.9	+0.2
CFAA	Coronel Fontan	3.18	89	Pn		Pn	22 18 21.9	-0.5
	comp=N,3.0nm,0.3s,baz=252,slow=10,SNR=71							
CFAA				Sn		Sn	22 19 05.8	+5.3
	comp=N,8.1nm,0.3s,baz=33,slow=6.1,SNR=11							
PLCA	Paso Flores	9.05	173	Pn		Pn	22 19 43.0	-0.1
	comp=N,0.5nm,0.3s,baz=334,slow=8.8,SNR=13							
TRQA	Tornquist	10.34	130	ePn		Pn	22 20 01.9	+1.2
	comp=N,14nm,0.6s							
TRQA				eSn		Sn	22 21 55.0	-1.7
CPUP	Villa Florida	13.88	71	ePn		Pn	22 20 48.7	-0.5
CPUP				eSn		Sn	22 23 20.6	-3.0
CPUP				Sn		Sn	22 23 29.2	+5.6
CPUP				LR		LR	22 26 34.8	
CPUP	Villa Florida	13.88	71	Pn		Pn	22 20 52.3	+3.0
	comp=N,0.7nm,0.3s,baz=213,slow=12,SNR=3.6							
CPUP				Sn		Sn	22 23 29.2	+5.6
	comp=N,0.5nm,0.3s,baz=152,slow=7.7,SNR=2.4							
CPUP				LR		LR	22 26 34.8	
	comp=N,472nm,18.5s,baz=223,slow=39							
LPAZ	La Paz	15.77	14	Pn		Pn	22 21 14.0	-0.6
	comp=N,0.1nm,0.3s,baz=177,slow=9.4,SNR=6.2							
SIV	San Ignacio	18.55	35	P		Pn	22 21 47.2	-2.2
	comp=N,0.2nm,0.3s,baz=226,slow=12,SNR=9.6							
ATAH	Atahualpa	25.33	345	LR		LR	22 31 53.9	
	comp=N,31nm,21.6s,MS2.8,baz=353,slow=34							
VNA3	Neumayer Olymp	51.44	159	e		P	22 26 37.7	+0.5
VNA3				e			22 26 44.9	
VNA1	Neumayer--Stat	51.73	158	e		P	22 26 40.0	+0.5
VNA1				e		pP	22 26 41.8	-0.6
VNA1				e			22 26 49.2	
VNA2	Neumayer--Watz	52.08	158	e		P	22 26 41.8	-0.2
	baz=288,slow=9.3							
VNA2				e		pP	22 26 43.6	-1.3
VNA2				e			22 26 50.7	
VNA2				e			22 27 00.0	
VNA2				e			22 40 45.2	
VNA2				e			22 40 49.7	
VNA2				e			22 41 09.5	
SNAA	Sanae	53.66	158	e		P	22 26 53.3	-0.4
SNAA				e		pP	22 26 55.3	-1.3
SNAA				e			22 27 01.2	
SNAA				e			22 40 54.8	
SNAA				e			22 40 58.9	
SNAA				e			22 41 25.8	
TEIG	Tepich	53.98	341	P		P	22 26 55.3	-1.3
TEIG	Tepich	53.98	341	P		P	22 26 55.3	-1.3
	comp=N,3.2nm,0.5s,mb4.5,baz=145,slow=23,SNR=3.4							
MAW	Mawson	75.33	164	P		P	22 29 13.9	-1.5
	comp=N,1.0nm,0.5s,mb4.0,baz=233,slow=5.1,SNR=3.0							
MAW				LR		LR	23 04 52.6	
	comp=N,208nm,18.6s,MS4.5,baz=225,slow=38							
BOSA	Boshof	81.07	118	P		P	22 29 46.9	-1.1
	comp=N,5.1nm,0.9s,mb4.4,baz=258,slow=4.7,SNR=6.5							
NVAR	Mina Array Bea	82.06	325	P		P	22 29 52.9	0.0
	comp=N,0.8nm,0.7s,mb3.8,baz=154,slow=6.5,SNR=6.3							
URZ	Urewera	85.23	228	LR		LR	23 00 03.5	
	comp=N,582nm,20.0s,MS5.0,baz=11,slow=30							
YKA	Yellowknife Ar	99.94	341	P		Pdif	22 31 15.0	-2.5
	comp=N,0.1nm,0.3s,baz=141,slow=4.0,SNR=4.9							
WRA	Warramunga Arr	122.76	210	PKP		PKPdf	22 36 27.4	-1.8
	comp=N,0.3

3.0nm,0.3s,mb4.3
YKA Yellowknife Ar 78.32 341 P **P 22 40 19.6 0.0**
2.9nm,0.6s,mb3.9,baz=136,slow=6.0,SNR=70
DLBC Dease Lake 81.71 333 *e*P **P 22 40 37.5 0.0**
RES Resolute Bay 84.46 354 *e*P **P 22 40 51.5 +0.5**
22nm,0.6s,mb4.9
SUR Sutherland 87.39 122 P **P 22 41 05.3 -0.7**
INK Inuvik 88.09 341 *e*P **P 22 41 08.9 +0.4**
69nm,0.4s
PMR Palmer 91.73 332 *e*P **P 22 41 25.6 +0.1**
8.6nm,0.5s,mb4.9
ZALV Zalesovo Beam 131.03 18 PKP PKPdf 22 47 25.7 -0.9
0.8nm,0.4s,baz=336,slow=3.3,SNR=5.4
MKAR Makanchi Array 135.95 26 PKP PKPdf 22 47 35.7 -0.3
0.2nm,0.3s,baz=318,slow=1.9,SNR=3.2
ASAR Alice Springs 139.34 217 PKhKP 22 47 33.2
0.3nm,0.4s,baz=137,slow=3.3,SNR=3.4
ASAR PKP PKPdf 22 47 42.5 -0.4
0.5nm,0.4s,baz=136,slow=1.7,SNR=7.3
ASAR SKP 22 50 30.4
0.4nm,0.6s,baz=136,slow=4.1,SNR=4.5
WB2 Warramunga Arr 141.80 222 *e*P PKPdf 22 47 43.1 -4.4
WRA Warramunga Arr 141.81 222 PKhKP 22 47 43.1
0.9nm,0.5s,baz=137,slow=2.5,SNR=5.2
WRA PKP PKPdf 22 47 47.0 -0.5
1.4nm,0.3s,baz=138,slow=1.9,SNR=17
WRA SKP 22 50 37.4
0.6nm,0.5s,baz=140,slow=2.2,SNR=5.1
KSRS Korea Array 146.38 331 PKPbc PKPbc 22 47 57.4 +0.3
2.3nm,0.5s,baz=11,slow=2.5,SNR=9.0
KAKA Kakadu 148.06 229 *e*P PKPbc 22 48 01.6 -0.6
6.3nm,0.5s
KAKA Kakadu 148.06 229 PKP PKPdf 22 47 59.2 +0.9
FITZ Fitzroy Crossi 148.43 212 *e*P PKPbc 22 48 02.9 -0.1
4.1nm,0.6s
FITZ Fitzroy Crossi 148.43 212 PKPbc PKPbc 22 48 02.7 -0.2
1.6nm,0.3s,baz=166,slow=4.2,SNR=21

CSEM ***08*** *22:30:26.8±0.2, 38.15N×2666E, h5km, MD3.1, Error ellipse: s-maj=6.0km s-min=3.7km az=75.0*
ISK ***08*** *22:30:26.9, 38.16N×2669E, h2km, MD2.7*
ISCJB ***08*** *22:30:27.6±1.1, 38.16N±004×2665E±006, h4km±7km, Error ellipse: s-maj=8.7km s-min=5.9km az=148.9*
DDA ***08*** *22:30:28.2, 3821N×2660E, h16km, Md3.1*
ISC 08 22:30:27.9±1.0, 3816N±004×2664E±006, h6km±5km, n11, σ0§90/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**350**	*i* P	**Pg**	**22 30 31.6**	**-0.4**
URLA				*i* S	**Sg**	**22 30 34.9**	**+0.2**
KDAG	**Bornova**	**0.55**	**63**	*i* P	**Pg**	**22 30 38.3**	**-0.2**
KDAG				*i* S	**Sg**	**22 30 46.2**	**+0.5**
AYDN	**Tasoluk**	**1.10**	**116**	*i* P	**Pg**	**22 30 48.4**	**-0.6**
AYDN				*i* S	**Sg**	**22 31 03.9**	**+0.7**
AKS	**Akhisar**	**1.17**	**52**	*e*PN	**Pn**	**22 30 49.3**	**-1.5**
AKS				*e*SN	**Sn**	**22 31 06.5**	**-0.5**
BODT	**Bodrum**	**1.22**	**154**	*e*PN	**Pn**	**22 30 51.1**	**-0.4**
BODT				*e*SN	**Sn**	**22 31 08.0**	**-0.2**
MANT	**Manisa**	**1.54**	**77**	*i* P	**Pn**	**22 30 57.4**	**+1.4**
MANT				*i* S	**Sn**	**22 31 15.7**	**-0.6**
MANT	**Manisa**	**1.54**	**77**	*i* P	**Pn**	**22 30 57.3**	**+1.4**
MANT				*i* S	**Sn**	**22 31 15.7**	**-0.6**
DAT	**Datca**	**1.61**	**152**	*e*PN	**Pn**	**22 30 58.0**	**+1.1**
KULA	**Kula-Manisa**	**1.63**	**77**	*e*PN	**Pn**	**22 30 57.1**	**0.0**
BOZC	**Bozcaada**	**1.74**	**345**	*i* P	**Pn**	**22 30 57.0**	**-1.6**
BOZC				*i* S	**Sn**	**22 31 23.3**	**+2.1**
BALB	**Balikesir**	**1.77**	**33**	*e*PN	**Pn**	**22 30 59.3**	**+0.3**

ISCJB ***08*** *22:31:24.7±0.5, 3170S±002×72.11W±005, h10km, mb4.3/5, MS3.8/2, Error ellipse: s-maj=5.8km s-min=2.7km az=174.0*
IDC ***08*** *22:31:24.8±0.9, 3170S×72.10W, h0km, mb4.2/4, mb1 4.2/8, mb1mx4.0/17, mbtmp4.0/8, ML3.8/4, MS3.7/5, Ms1 3.7/5, ms1mx3.2/21, Error ellipse: s-maj=25.6km s-min=21.9km az=48.0*
GUC ***08*** *22:31:27.5±0.7, 3171S×7197W, h30km±2km, ML4.4*
NEIC ***08*** *22:31:27.5, 3171S×7197W, h30km, mb4.8/1, ML4.4(GUC), After GUC.*
ISC 08 22:31:25.8±1.0, 3170S±002×7203W±005, h8km±5km, n56, σ0§84/81, mb4.3/5, MS3.8/2, 7C-4D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.02**	**60⇑**	*i*P	**Pg**	**22 31 44.8**	**-0.7**
CMCH				*i* S	**Sg**	**22 31 58.4**	**-0.4**
CMCH	**Combarbala**	**1.02**	**60⇑**	*i*P	**Pg**	**22 31 44.8**	**-0.7**
CMCH				*i* S	**Sg**	**22 31 58.4**	**-0.4**
CMCH				AML	AML	22 32 00.4	
comp=E,40μm,0.6s
PTCH Petorca 1.09 121 ⇓ *i*P **Pb 22 31 46.2 -0.8**
PTCH *i* S **Sg 22 32 00.4 -0.7**
OVCH Ovalle 1.30 34 ⇑ *i*P **Pn 22 31 49.8 -0.5**
OVCH *i* S **Sb 22 32 06.8 -0.5**
IHA Instituto Hidr 1.37 166 ⇓ *i*P **Pn 22 31 50.6 -0.6**
ROCH El Roble 1.54 146 *e*P **Pn 22 31 53.8 +0.2**
ROCH *i* S **Sn 22 32 13.8 +0.1**
JACH Jahuel 1.57 129 ⇓ *i*P **Pn 22 31 54.1 +0.1**
PEL Peldehue 1.84 142 ⇓ *i*P **Pn 22 31 57.9 +0.2**
PEL *i* S **Sn 22 32 20.9 -0.2**
PEL AML AML 22 32 30.2
comp=N,9μm,0.7s
TLL Tololo Astrono 1.85 35 *e*P **Pn 22 31 57.9 0.0**
TLL *i* S **Sn 22 32 22.1 +0.7**
TLL Tololo Astrono 1.85 35 *e*P **Pn 22 31 57.9 0.0**
TLL *i* S **Sn 22 32 22.1 +0.7**
TLL AML AML 22 32 30.8
comp=N,4μm,0.6s
LSCH La Serena 1.91 21 *e*P **Pn 22 32 00.2 +1.7**
LSCH *i* S **Sn 22 32 23.5 +0.7**
RCDM Rinconada Maip 2.07 150 *e*P **Pn 22 32 00.9 0.0**
RCDM *e*S **Sn 22 32 26.9 +0.2**
RCDM Rinconada Maip 2.07 150 *e*P **Pn 22 32 00.9 0.0**
RCDM *e*S **Sn 22 32 26.9 +0.2**
RCDM AML AML 22 32 38.5
comp=N,2μm,0.9s
STL Santa Lucia 2.10 146 *i* P **Pn 22 32 01.2 0.0**
STL *i* S **Sn 22 32 24.9 -2.6**
DSCH Colegio Aleman 2.10 144 *e*P **Pn 22 32 01.4 +0.2**
DSCH *i* S **Sn 22 32 27.2 -0.3**
CLCH Cerro Calan 2.11 144 ⇑ *i*P **Pn 22 32 01.8 +0.4**
CLCH *i* S **Sn 22 32 27.9 0.0**
CLCH AML AML 22 32 36.9
comp=E,7μm,0.7s
TACH Talagante 2.16 155 *e*P **Pn 22 32 02.6 +0.5**
TACH *i* S **Sn 22 32 28.4 -0.6**
FSR Penalolen 2.19 145 *e*P **Pn 22 32 02.8 +0.4**
FSR *i* S **Sn 22 32 29.7 0.0**
FSR Penalolen 2.19 145 *e*P **Pn 22 32 02.8 +0.4**
FSR *i* S **Sn 22 32 29.7 0.0**
FSR AML AML 22 32 42.3
comp=N,5μm,0.5s
FCH Farellones 2.19 138 ⇑ *i*P **Pn 22 32 02.9 +0.3**
FCH *i* S **Sn 22 32 30.2 +0.3**
FCH AML AML 22 32 37.1
comp=E,2μm,0.4s
ANTU Antumapu 2.21 148 *e*P **Pn 22 32 03.2 +0.4**
ANTU *i* S **Sn 22 32 29.9 -0.4**
ANTU Antumapu 2.21 148 *e*P **Pn 22 32 03.2 +0.4**
ANTU *i* S **Sn 22 32 29.9 -0.4**
ANTU AML AML 22 32 39.4
comp=N,3μm,0.5s
PCH Pirque 2.31 147 *e*P **Pn 22 32 04.7 +0.6**
PCH *i* S **Sn 22 32 33.1 +0.4**
CHCH Chadas Angostu 2.52 153 *e*P **Pn 22 32 07.4 +0.4**
LMEL Las Melosas 2.64 145 ⇑ *i*P **Pn 22 32 09.4 +0.7**
LMEL *i* S **Sn 22 32 41.3 +0.4**
LMEL Las Melosas 2.64 145 ⇑ *i*P **Pn 22 32 09.4 +0.7**
LMEL *i* S **Sn 22 32 41.3 +0.4**
LMEL AML AML 22 32 52.6
comp=E,2μm,0.6s
LCO Las Campanas 2.91 24 *e*Pn **Pn 22 32 12.2 -0.3**
LCO *e*Sn **Sn 22 32 46.4 -1.2**
CICH Cipreses 2.95 153 *e*P **Pn 22 32 13.8 +0.9**
SFDO San Fernando 3.03 164 *e*P **Pn 22 32 14.6 +0.5**
CFAA Coronel Fontan 3.24 89 Pn **Pn 22 32 19.6 +2.7**
CFAA Sn **Sn 22 33 00.5 +4.9**
CFAA LR LR 22 33 47.4
comp=E,3.4nm,0.3s,baz=260,slow=11,SNR=64
CFAA Sn **Sn 22 33 00.5 +4.9**
comp=E,4.0nm,0.3s,baz=270,slow=10,SNR=4.3
CFAA LR LR 22 33 47.4
comp=E,164nm,18.1s,baz=163,slow=43
VACH Vallenar 3.30 20 *e*P **Pn 22 32 18.2 +0.5**
PLCA Paso Flores 9.10 173 *e*Pn **Pn 22 33 37.6 +0.2**
PLCA *e*Sn **Sn 22 35 16.7 -3.3**
PLCA LR LR 22 37 26.4
PLCA Paso Flores 9.10 173 Pn **Pn 22 33 37.7 +0.3**
comp=E,0.4nm,0.3s,baz=330,slow=13,SNR=7.4
PLCA LR LR 22 37 26.4
comp=E,444nm,18.7s,baz=352,slow=40
TRQA Tornquist 10.41 130 *e*Pn **Pn 22 33 55.5 +0.1**
comp=E,12nm,0.6s
TRQA *e*Sn **Sn 22 35 52.7 +0.5**
CPUP Villa Florida 13.93 71 *e*Pn **Pn 22 34 40.4 -3.1**
CPUP *e*Sn **Sn 22 37 11.8 -6.5**
CPUP Sn **Sn 22 37 19.1 +0.7**
CPUP LR LR 22 40 29.3
CPUP Villa Florida 13.93 71 Pn **Pn 22 34 44.6 +1.1**
comp=E,0.3nm,0.3s,baz=220,slow=14,SNR=3.5
CPUP Sn **Sn 22 37 19.1 +0.7**
comp=E,0.3nm,0.3s,baz=162,slow=13,SNR=2.7
CPUP LR LR 22 40 29.3
comp=E,505nm,18.1s,baz=224,slow=39
LPAZ La Paz 15.74 14 Pn **Pn 22 35 08.4 +0.4**
comp=E,0.1nm,0.3s,baz=171,slow=9.7,SNR=2.4
SIV San Ignacio 18.55 35 P **Pn 22 35 39.2 -4.0**
comp=E,0.4nm,0.3s,baz=215,slow=13,SNR=4.9
BDFB Brasilia 27.10 59 LR LR 22 49 27.6
comp=E,272nm,21.4s,MS3.8,baz=223,slow=40
RPN Rapa Nui 32.71 268 LR LR 22 47 19.8
comp=E,161nm,19.7s,MS3.7,baz=289,slow=29
PMSA Palmer Station 33.47 174 P **P 22 38 04.1 -0.9**
SDV Santo Domingo 40.37 2 *e*P **P 22 39 03.7 -0.6**
QSPA South Pole Qui 58.54 180 P **P 22 41 23.2 +1.0**
comp=E,2.4nm,0.7s,mb4.4,baz=207,slow=2.3,SNR=6.6
TXAR Lajitas Array 67.73 330 P **P 22 42 24.5 +0.7**
TXAR Lajitas Array 67.73 330 P **P 22 42 24.5 +0.7**
comp=E,0.6nm,0.5s,mb3.9,baz=31,slow=44,SNR=5.1
WMOK Wichita Mounta 70.71 337 *e*P **P 22 42 39.2 -3.0**
BRNJ Basking Ridge 72.05 358 P **P 22 42 48.3 -1.8**
BOSA Boshof 81.14 118 P **P 22 43 42.0 -0.1**
comp=E,6.6nm,0.9s,mb4.5,baz=222,slow=5.9,SNR=6.0
NVAR Mina Array Bea 82.00 325 P **P 22 43 47.3 +1.1**
comp=E,0.9nm,0.6s,mb3.9,baz=161,slow=5.9,SNR=6.9
LBTB Lobatse 83.27 115 *e*P **P 22 43 52.3 -1.0**
comp=E,13nm,1.5s,mb4.7
FCC Fort Churchill 91.98 349 P **P 22 44 33.2 -1.2**
BRVK Borovoye 145.49 41 *e*PKPdf PKPdf 22 51 02.3 -1.6
ZALV Zalesovo Beam 152.25 30 PKPbc PKPbc 22 51 21.1 -0.5
comp=E,4.3nm,0.5s,baz=300,slow=3.3,SNR=24
MKAR Makanchi Array 155.19 45 PKPab PKPab 22 51 43.7 -0.5
MKAR Makanchi Array 155.19 45 PKPbc PKPab 22 51 43.7 -0.5
comp=E,1.2nm,0.7s,baz=318,slow=3.1,SNR=7.1

ATH ***08*** *22:42:56.5, 3592N×2717E, h14km±5km, MD3.4/5*
ISCJB ***08*** *22:42:56.1±0.9, 3588N±003×2718E±004, h3km±6km, Error ellipse: s-maj=6.4km s-min=3.9km az=24.2*
ISK ***08*** *22:42:56.9, 3590N×2723E, h9km, MD3.3*
NEIC ***08*** *22:42:56.4, 3593N×2716E, h14km, MD3.4(ATH), After ATH.*
CSEM ***08*** *22:42:57.0±0.1, 3593N×2718E, h5km, MD3.4, Error ellipse: s-maj=2.9km s-min=2.0km az=127.0*
DDA ***08*** *22:43:04.1, 36.17N×2772E, h7km±5km, Md3.0*
ISC 08 22:42:57.1±0.6, 3591N±003×2717E±005, h5km±5km, n16, σ0§82/26, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAP	**Karpathos**	**0.36**	**179**	*e*Pb	**Pg**	**22 43 04.2**	**+0.1**
KAP				*e*Sb	**Sg**	**22 43 09.1**	**+0.3**
KARP	**Karpathos**	**0.37**	**181**	*e*PB	**Pg**	**22 43 04.2**	**+0.1**
KARP				*e*SB	**Sg**	**22 43 09.1**	**+0.2**
ARG	**Arkhangelos**	**0.83**	**69**	*e*PG	**Pg**	**22 43 12.0**	**-1.0**
ARG				*e*SB	**Sb**	**22 43 24.4**	**-1.1**
DAT	**Datca**	**0.88**	**22**	*e*PG	**Pg**	**22 43 13.9**	**0.0**
DAT				*e*SG	**Sg**	**22 43 26.9**	**+1.6**
BODT	**Bodrum**	**1.15**	**6**	*e*PN	**Pn**	**22 43 19.7**	**-0.1**
BODT				*e*SN	**Sn**	**22 43 36.2**	**+0.3**
BDRM	**Kayabasi**	**1.17**	**11**	*i* P	**Pg**	**22 43 19.7**	**+0.2**
BDRM				*i* S	**Sg**	**22 43 33.7**	**-1.0**
NPS	**Neapolis**	**1.43**	**243**	*e*PG	**Pg**	**22 43 23.5**	**-0.9**
NPS				*e*SB	**Sb**	**22 43 41.9**	**-0.6**
MLSB	**Milas**	**1.46**	**19**	*e*PN	**Pn**	**22 43 25.0**	**+0.9**
YER	**Yerkesik**	**1.51**	**36**	*e*PN	**Pn**	**22 43 23.8**	**-0.9**
XRY	**Khrisi**	**1.59**	**230**	*e*PB	**Pb**	**22 43 27.5**	**+0.6**
FETY	**Fethiye**	**1.71**	**64**	*e*PN	**Pn**	**22 43 27.1**	**-0.3**
APE	**Apeiranthos**	**1.75**	**312**	*i* Pn	**Pn**	**22 43 28.4**	**+0.3**
APE				*e*Sn	**Sn**	**22 43 50.8**	**0.0**
SMG	**Samos**	**1.81**	**352**	*e*PN	**Pn**	**22 43 29.3**	**+0.4**
AYDN	**Tasoluk**	**1.83**	**18**	*i* P	**Pn**	**22 43 30.2**	**+1.0**
AYDN				*i* S	**Sn**	**22 43 51.0**	**-1.8**
GOLH	**Golhisar**	**2.33**	**55**	*i* P	**Pn**	**22 43 36.7**	**+0.6**
GOLH				*i* S	**Sn**	**22 44 08.2**	**+3.1**
ELL	**Elmali**	**2.36**	**69**	*e*PN	**Pn**	**22 43 36.4**	**-0.1**

CSEM ***08*** *22:48:09.8±0.1, 3941N×2790E, h12km, MD2.8, Error ellipse: s-maj=2.0km s-min=1.6km az=97.0*
ISCJB ***08*** *22:48:10.3±0.5, 3939N±002×2790E±004, h11km±4km, Error ellipse: s-maj=4.7km s-min=4.0km az=0.0*
DDA ***08*** *22:48:10.9, 3940N×2788E, h6km±2km, Md2.8*
ISK ***08*** *22:48:10.0, 3939N×2792E, h14km, MD2.8*
ISC 08 22:48:10.6±0.5, 3939N±002×2791E±004, h14km±4km, n15, σ0§59/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.25**	**355**	*e*PG	**Pg**	**22 48 16.2**	**+0.3**
BALB				*e*SG	**Sg**	**22 48 20.1**	**+0.4**
BTOK	**Tokmak**	**0.39**	**15**	*i* P	**Pg**	**22 48 18.1**	**-0.3**
BTOK				*i* S	**Sg**	**22 48 23.2**	**-0.4**
AKHS	**Akhisar**	**0.51**	**188**	*i* P	**Pg**	**22 48 20.6**	**-0.1**
AKHS				*i* S	**Sg**	**22 48 26.9**	**-0.7**
AKS	**Akhisar**	**0.51**	**188**	*e*PG	**Pg**	**22 48 20.7**	**0.0**
AKS				*e*SG	**Sg**	**22 48 28.3**	**+0.8**
DST	**Dursunbey**	**0.60**	**69**	*e*PG	**Pg**	**22 48 21.9**	**-0.3**
DST				*e*SG	**Sg**	**22 48 30.3**	**+0.1**
KCT	**Karacabey**	**0.94**	**21**	*e*PG	**Pg**	**22 48 28.1**	**-0.7**
AYVA	**Ayvalik**	**0.95**	**266**	*i* P	**Pb**	**22 48 29.5**	**+0.8**
AYVA				*i* S	**Sb**	**22 48 41.2**	**+0.1**
MANT	**Manisa**	**1.03**	**150**	*i* P	**Pb**	**22 48 30.9**	**+0.8**
MANT				*i* S	**Sb**	**22 48 41.8**	**-1.7**
GDZ	**Gediz**	**1.26**	**103**	*i* P	**Pn**	**22 48 33.5**	**-0.2**
GDZ				*i* S	**Sb**	**22 48 51.3**	**+1.2**
RKY	**Sarkoy-Tekirda**	**1.41**	**337**	*e*PN	**Pn**	**22 48 35.1**	**-0.7**
BOZC	**Bozcaada**	**1.50**	**288**	*i* P	**Pn**	**22 48 37.1**	**+0.1**
BOZC				*i* S	**Sn**	**22 48 55.9**	**-0.5**
IZI	**Iznik**	**1.53**	**51**	*e*PN	**Pn**	**22 48 37.8**	**+0.3**
YLV	**Yalova**	**1.63**	**43**	*e*PN	**Pn**	**22 48 39.1**	**+0.3**
GADA	**Gvkgeada**	**1.74**	**298**	*e*PN	**Pn**	**22 48 40.5**	**+0.2**
ENEZ	**Enez**	**1.90**	**316**	*e*PN	**Pn**	**22 48 42.6**	**0.0**

MAN 08 22:54:17, 1316N×12232E, h16km, mb4.2, ML3.0, MS2.7, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OTRP	**Odiongan**	**0.84**	**201**	*e*P	Pb	22 54 33.8	+0.6
OTRP				*e*S	Sb	22 54 48.0	+3.6
POLP	**Polilio Island**	**1.61**	**347**	*e*P	Pn	22 54 45.1	+0.4
POLP				*e*S	Sn	22 55 07.4	+2.3
PVCP	**Virac**	**1.83**	**76**	*e*P	Pn	22 54 48.2	+0.3
PVCP				*e*S	Sn	22 55 13.1	+2.4
LUBP	**Lubang**	**2.10**	**286**	*e*P	Pn	22 54 51.9	+0.4
LUBP				*e*S	Sn	22 55 19.5	+2.1
BALP	**Baler**	**2.67**	**344**	*e*P	Pn	22 55 00.1	+0.7
BALP				*e*S	Sn	22 55 33.7	+2.3
PALP	**Palanan**	**3.89**	**1**	*e*P	Pg	22 55 38.2	+6.7

ISCJB ***08*** *23:26:19.0±1.5, 1990S±005×175.18W±007, h53km±14km, mb4.3/15, Error ellipse: s-maj=11.6km s-min=6.4km az=28.7*
NEIC ***08*** *23:26:20.6±1.3, 1985S×17525W, h52km±13km, mb4.7/6, Error ellipse: s-maj=13.3km s-min=6.4km az=112.0*
IDC ***08*** *23:26:33.1±0.9, 2017S×17538W, h168km±7km, mb3.9/9, mb1 4.2/10, mb1mx4.0/16, mbtmp4.0/10, Error ellipse: s-maj=19.0km s-min=11.6km az=138.0*
ISC 08 23:26:20.4±1.1, 1991S±005×17519W±007, h48km±12km, h162km±2.1km: pP-P, n85, σ0§96/103, mb4.3/15, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.80**	**29**	*e*Pn	**Pn**	**23 27 57.1**	**-0.5**
AFI				*e*Sn	**Sn**	**23 29 14.4**	**+0.7**
RAO	**Raoul Island**	**9.63**	**194**	P	**Pn**	**23 28 44.1**	**+7.8**
RAO				S	**Sn**	**23 30 26.1**	**+3.0**
RAO	**Raoul Island**	**9.63**	**194**	P	**Pn**	**23 28 44.1**	**+7.8**
244nm,0.3s,baz=273,slow=21,SNR=7.2
RAO S **Sn 23 30 26.1 +3.0**
392nm,0.3s,baz=75,slow=23,SNR=7.0
RAR Rarotonga 14.49 98 P **Pn 23 29 49.6 +6.9**
4.7nm,0.3s,baz=257,slow=4.9,SNR=9.7
RAR S **Sn 23 32 20.9 -1.2**
2.2nm,0.3s,baz=131,slow=21,SNR=4.2
MXZ Matakaoa Point 18.48 197 P **Pn 23 30 34.5 +1.6**
MXZ Matakaoa Point 18.48 197 *e*PN **Pn 23 30 33.4 +0.5**
PUZ Puketiti 18.98 196 P **Pn 23 30 40.7 +1.9**
PUZ S **S 23 33 51.4 -19**
PUZ Puketiti 18.98 196 *e*PN **Pn 23 30 38.4 -0.4**
PUZ SN **Sn 23 33 51.4 -19**
MWZ Matawai 19.42 197 P **Pn 23 30 44.5 +0.4**
MWZ S **S 23 34 05.5 -14**
MWZ Matawai 19.42 197 *e*PN **Pn 23 30 44.5 +0.4**
MWZ SN **Sn 23 34 05.5 -16**
URZ Urewera 19.47 198 P **Pn 23 30 42.7 -2.0**
URZ Urewera 19.47 198 P **Pn 23 30 42.9 -1.9**
32nm,0.3s,baz=328,slow=2.2,SNR=108
URZ S **S 23 34 05.1 -16**
3.1nm,0.3s,baz=92,slow=22,SNR=5.1
URZ Urewera 19.47 198 PN **Pn 23 30 42.4 -2.3**
URZ SN **Sn 23 34 07.2 -15**
KNZ Kokohu 20.02 196 P **P 23 30 51.6 +2.4**
KNZ Kokohu 20.02 196 *e*PN **P 23 30 51.5 +2.4**
BKZ Black Stump Fm 20.49 199 P **P 23 30 55.2 +0.9**
BKZ Black Stump Fm 20.49 199 PN **P 23 30 54.1 -0.2**
TUVZ Tukino 20.85 200 P **P 23 30 58.5 +0.4**
TUVZ Tukino 20.85 200 *e*PN **P 23 30 58.3 +0.1**
FWVZ Far West T-bar 20.87 201 P **P 23 30 58.7 +0.3**
FWVZ Far West T-bar 20.87 201 *e*PN **P 23 30 58.4 0.0**
WNVZ Wahianoa 20.92 200 P **P 23 30 59.4 +0.5**
WNVZ Wahianoa 20.92 200 *e*PN **P 23 30 59.0 +0.1**
MTVZ Mangateitei 21.02 201 PN **P 23 31 00.6 +0.7**
PXZ Pawanui 21.19 197 PN **P 23 30 56.1 -5.6**
PXZ SN **S 23 34 40.0 -15**
WPHZ Waipukurau 21.34 198 PN **P 23 31 04.2 +0.8**
TSZ Takapari Road 21.48 199 P **P 23 31 04.9 +0.1**
TSZ Takapari Road 21.48 199 PN **P 23 31 04.7 -0.1**
BFZ Birch Farm 21.96 198 P **P 23 31 10.7 +0.7**
BFZ S **S 23 34 59.0 -11**
BFZ Birch Farm 21.96 198 PN **P 23 31 10.6 +0.6**
BFZ SN **S 23 34 59.0 -11**
MRZ Mangatainoka R 22.14 199 P **P 23 31 11.1 -0.9**
MRZ S **S 23 34 59.8 -13**
MRZ Mangatainoka R 22.14 199 *e*PN **P 23 31 10.8 -1.1**
MRZ SN **S 23 34 59.8 -13**
KIW Kapiti Island 22.53 200 P **P 23 31 15.0 -1.1**
KIW S **S 23 35 10.1 -10**
KIW Kapiti Island 22.53 200 *e*PN **P 23 31 14.9 -1.2**
KIW SN **S 23 35 10.1 -10**
MTW Mount Morrison 22.62 199 P **P 23 31 16.5 -0.5**
MTW Mount Morrison 22.62 199 *e*PN **P 23 31 15.8 -1.2**
CAW Cannon Point 22.71 199 P **P 23 31 18.1 +0.2**
CAW Cannon Point 22.71 199 *e*PN **P 23 31 16.7 -1.3**
SNZO South Karori 23.00 200 *e*P **P 23 31 21.4 +0.3**
TCW Tory Channel 23.06 201 P **P 23 31 20.3 -1.3**
TCW S **S 23 35 21.0 -7.9**
TCW Tory Channel 23.06 201 PN **P 23 31 20.0 -1.6**
TCW SN **S 23 35 21.0 -7.9**
QRZ Quartz Range 23.34 204 P **P 23 31 24.7 +0.2**
QRZ Quartz Range 23.34 204 *e*PN **P 23 31 24.1 -0.4**
NNZ Nelson 23.37 202 P **P 23 31 23.1 -1.7**
NNZ Nelson 23.37 202 *e*PN **P 23 31 22.9 -1.9**
THZ Tophouse 24.02 202 P **P 23 31 30.6 -0.1**
THZ Tophouse 24.02 202 *e*PN **P 23 31 30.2 -0.5**
KHZ Kahutara 24.38 201 P **P 23 31 33.5 -0.5**
KHZ Kahutara 24.38 201 *e*PN **P 23 31 33.3 -0.7**
DSZ Denniston Nort 24.41 204 *e*PN **P 23 31 33.6 -0.6**
LTZ Lake Taylor 25.14 202 P **P 23 31 42.6 +1.7**
LTZ Lake Taylor 25.14 202 *e*PN **P 23 31 43.0 +2.1**
MQZ McQueen's Vall 25.82 201 SN **S 23 36 22.2 +9.0**
RPZ Rata Peaks 26.39 203 P **P 23 31 51.6 -0.6**
RPZ Rata Peaks 26.39 203 P **P 23 31 50.5 -1.7**
9.6nm,0.5s,mb4.6,baz=150,slow=18,SNR=8.3
RPZ Rata Peaks 26.39 203 *e*PN **P 23 31 50.8 -1.4**
FOZ Fox Glacier 26.78 205 P **P 23 31 55.8 +0.1**
FOZ Fox Glacier 26.78 205 *e*PN **P 23 31 55.7 0.0**
LBZ Lake Benmore 27.28 203 P **P 23 31 59.7 -0.5**
LBZ Lake Benmore 27.28 203 *e*PN **P 23 31 59.3 -0.9**
CTAO Charters Tower 36.18 263 *e*P **P 23 33 18.6 0.0**
9.0nm,0.8s,mb4.8
STKA Stephens Creek 40.42 244 P **P 23 33 53.9 -0.2**
STKA Stephens Creek 40.42 244 P **P 23 33 53.9 -0.2**
3.3nm,0.8s,mb4.1,baz=105,slow=7.6,SNR=6.8
ASAR Alice Springs 47.23 256 P **P 23 34 48.4 -0.5**
3.0nm,0.4s,mb4.6,baz=89,slow=8.3,SNR=38
ASAR pP pP 23 35 25.1 +23
5.0nm,1.0s,baz=88,slow=8.3,SNR=3.2
ASAR S **S 23 41 25.8 -13**
0.7nm,0.8s,baz=92,slow=15,SNR=5.4
WRAB Tennant Creek 47.29 261 *e*P **P 23 34 49.6 +0.2**
3.5nm,0.3s,mb4.8
WRA Warramunga Arr 47.30 261 P **P 23 34 48.8 -0.7**
3.5nm,0.3s,mb4.8,baz=96,slow=7.5,SNR=32
WRA pP pP 23 35 25.5 +23
3.0nm,0.9s,baz=94,slow=8.3,SNR=3.0
WRA S **S 23 41 26.7 -13**
0.3nm,0.4s,baz=239,slow=13,SNR=3.8
FITZ Fitzroy Crossi 55.73 261 *e*P **P 23 35 52.2 -0.4**
SBA Scott Base 58.65 184 *e*P **P 23 36 13.7 +1.5**
3.4nm,0.7s,mb4.5
VNDA Vanda 58.74 186 P **P 23 36 13.8 +0.9**
VNDA Vanda 58.74 186 P **P 23 36 13.8 +0.9**
2.0nm,0.9s,mb4.2,baz=7.2,slow=7.4,SNR=9.2
MBWA Marble Bar 60.56 256 P **P 23 36 27.2 +0.8**
QSPA South Pole Qui 70.16 180 *e*P **P 23 37 27.8 +0.4**
3.5nm,0.6s,mb4.5
MJAR Matsushiro Arr 71.34 322 P **P 23 37 35.0 -0.2**
1.2nm,0.4s,mb4.2,baz=166,slow=6.1,SNR=6.3
NVAR Mina Array Bea 78.80 42 P **P 23 38 19.1 +0.9**
0.4nm,0.4s,mb3.7,baz=225,slow=9.0,SNR=8.4
NVAR pP pP 23 38 59.3 +27
0.2nm,0.3s,baz=329,slow=19,SNR=1.6
TUC Tucson 80.55 51 *e*P **P 23 38 29.0 +1.2**
2.8nm,0.8s,mb4.2
PMSA Palmer Station 80.77 156 P **P 23 38 28.8 +0.3**
65nm,1.0s
MSU Marysvale 82.81 45 *e*P **P 23 38 39.8 +0.2**
MAW Mawson 83.00 199 P **P 23 38 39.2 -0.9**
MAW Mawson 83.00 199 P **P 23 38 39.3 -0.9**
1.9nm,0.6s,mb4.3,baz=186,slow=5.5,SNR=4.1
TXAR Lajitas Array 84.52 56 P **P 23 38 49.2 +0.7**
TXAR Lajitas Array 84.52 56 P **P 23 38 49.2 +0.7**
1.2nm,0.7s,mb4.1,baz=223,slow=5.1,SNR=4.6
YKA Yellowknife Ar 94.89 24 P **P 23 39 35.6 -1.2**
0.2nm,0.7s,mb3.6,baz=236,slow=4.4,SNR=5.9
ARCES ARCESS Array B 128.79 351 PKP PKPdf 23 45 19.8 -2.0
3.7nm,0.8s,baz=349,slow=1.8,SNR=8.0
KHC Kasperske Hory 150.01 348 *e*PKP PKPbc 23 46 04.5 -1.0
GERES GERESS Array B 150.26 348 PKPbc PKPbc 23 46 05.0 -1.1
0.9nm,0.7s,baz=32,slow=7.8,SNR=6.7

NEIC ***08*** *23:44:33.0, 3170S×7195W, h32km, ML3.2(GUC), After GUC.*
**GUC 08 23:44:33.0±0.7, 3170S×7195W, h32km±2km, MD3.9, ML3.

PTCH				*i* S		Sn	23 45 05.2	+0.6
PTCH	**Petorca**	**1.03**	**123**	⇓*i*P		Pn	23 44 51.3	+0.1
PTCH				*i* S		Sn	23 45 05.2	+0.6
PTCH				AML		AML	23 45 06.6	
	comp=N,478nm,0.3s							
OVCH	**Ovalle**	**1.26**	**31**	⇑*i*P		Pn	23 44 54.9	+0.4
OVCH				*i* S		Sn	23 45 12.0	+1.6
ROCH	**El Roble**	**1.49**	**148**	⇑*i*P		Pn	23 44 59.2	+1.6
ROCH				*i* S		Sn	23 45 19.3	+3.3
JACH	**Jahuel**	**1.51**	**131**	*e*P		Pn	23 44 59.0	+1.2
JACH				*i* S		Sn	23 45 19.3	+2.9
PEL	**Peldehue**	**1.79**	**144**	⇓*i*P		Pn	23 45 02.8	+1.1
PEL				*i* S		Sn	23 45 26.1	+2.7
PEL				AML		AML	23 45 32.7	
	comp=E,692nm,0.3s							
TLL	**Tololo Astrono**	**1.82**	**33**	*e*P		Pn	23 45 04.5	+2.5
TLL				*i* S		Sn	23 45 27.8	+3.8
TLL	**Tololo Astrono**	**1.82**	**33**	*e*P		Pn	23 45 04.5	+2.5
TLL				*i* S		Sn	23 45 27.8	+3.8
TLL				AML		AML	23 45 33.7	
	comp=E,288nm,0.5s							
RCDM	**Rinconada Maip**	**2.03**	**152**	⇑*i*P		Pn	23 45 06.4	+1.5
RCDM				*i* S		Sn	23 45 31.9	+2.8
RCDM	**Rinconada Maip**	**2.03**	**152**	⇑*i*P		Pn	23 45 06.4	+1.5
RCDM				*i* S		Sn	23 45 31.9	+2.8
RCDM				AML		AML	23 45 34.8	
	comp=E,235nm,0.1s							
CLCH	**Cerro Calan**	**2.07**	**145**	*e*P		Pn	23 45 06.8	+1.3
CLCH				*i* S		Sn	23 45 32.7	+2.6
CLCH				AML		AML	23 45 41.0	
	comp=E,321nm,0.4s							
TACH	**Talagante**	**2.12**	**157**	⇑*i*P		Pn	23 45 07.7	+1.4
TACH				*i* S		Sn	23 45 33.8	+2.2
FCH	**Farellones**	**2.14**	**140**	⇑*i*P		Pn	23 45 08.0	+1.5
FCH				*i* S		Sn	23 45 35.0	+3.0
FCH				AML		AML	23 45 41.9	
	comp=E,145nm,0.7s							
LMEL	**Las Melosas**	**2.59**	**146**	⇑*i*P		Pn	23 45 14.5	+1.8
LMEL				*i* S		Sn	23 45 46.0	+2.8
LMEL	**Las Melosas**	**2.59**	**146**	⇑*i*P		Pn	23 45 14.5	+1.8
LMEL				*i* S		Sn	23 45 46.0	+2.8
LMEL				AML		AML	23 45 58.8	
	comp=N,164nm,0.6s							
CACH	**El Canelo**	**2.66**	**155**	*e*P		Pn	23 45 16.0	+2.3
CACH				*i* S		Sn	23 45 48.5	+3.6
LCO	**Las Campanas**	**2.89**	**22**	*e*Pn		Pn	23 45 17.4	+0.5
LCO				*e*Sn		Sn	23 45 53.1	+2.6

NIED ***08*** *23:52:00, 3590N×13920E, h11km, Mw3.6 Best double couple: M0=2.60000×10^14 NP1:φs=286.00000°, δ59.00000°, λ68.00000°. NP2:φs=144.00000°, δ38.00000°, λ122.00000°.*
IDC ***08*** *23:52:02.0±1.0, 3574N×13925E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/20, mbtmp3.7/6, ML3.1/1, Error ellipse: s-maj=31.9km s-min=11.4km az=55.0*
NEIC ***08*** *23:52:03.0±1.8, 3580N×13924E, h5km±10km, mb4.1/3, Error ellipse: s-maj=11.6km s-min=8.4km az=105.0*
ISCJB ***08*** *23:52:03.8±0.5, 3582N±003×13925E±006, h26km±3km, mb3.7/7, Error ellipse: s-maj=7.7km s-min=5.3km az=166.7*
MOS ***08*** *23:52:04.4±1.0, 3578N×13924E, h33km, mb4.5/1, Error ellipse: s-maj=25.7km s-min=12.5km az=117.3*
JMA ***08*** *23:52:05.2, 3581N×139.19E, h15km±1km, M3.8 Broadband fault plane solution: P waves. NP1: φs=137.00000°, δ40.00000°, λ119.00000°. NP2: φs=281.00000°, δ56.00000°, λ68.00000°. Principal axes: T Plg70.0000°, Azm140.0000°; N Plg18.0000°, Azm294.0000°; P Plg8.0000°, Azm27.0000°;*
JMA Felt II J1.

ISC 08 23:52:04.8±0.5, 3582N±003×13918E±005, h16km±3km, n28, σ0§78/34, mb3.7/7, 1C-3D, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHU	**Hanno**	**0.08**	**70**	⇑P	**Pg**	**23 52 08.4**	**+0.4**
JHU				S	**Sg**	**23 52 10.3**	**+0.2**
JRY	**Ryogami san**	**0.30**	**310**	S	**Sg**	**23 52 15.9**	**+0.5**
JOD2	**Odawara 2**	**0.56**	**188**	⇓P	**Pg**	**23 52 15.9**	**0.0**
JOD2				S	**Sg**	**23 52 23.5**	**0.0**
JYN	**Shimob**	**0.61**	**238**	⇓P	**Pg**	**23 52 16.9**	**0.0**
JYN				S	**Sg**	**23 52 25.1**	**+0.1**
JAG	**Ashikaga**	**0.64**	**20**	⇓P	**Pg**	**23 52 17.4**	**+0.1**
MJAR	**Matsushiro Arr**	**1.07**	**313**	Pg	**Pg**	**23 52 23.7**	**-1.7**
	25nm,0.3s,baz=142,slow=15,SNR=74						
MJAR				Lg		23 52 38.8	
	51nm,0.3s,baz=268,slow=22,SNR=26						
MAJO	**Matsushiro**	**1.07**	**313**	*e*P	**Pb**	**23 52 25.3**	**+0.4**
MAJO				*e*S	**Sb**	**23 52 39.8**	**+1.1**
MAT	**Matsushiro**	**1.07**	**313**	P	**Pb**	**23 52 24.3**	**-0.6**
MAT				S	**Sb**	**23 52 38.7**	**0.0**
JHJ	**Hachijo jima 2**	**2.74**	**169**	Pn	**Pn**	**23 52 45.3**	**-2.9**
	8.1nm,0.3s,baz=80,slow=23,SNR=2.1						
JHJ				Sn	**Sn**	**23 53 22.7**	**+1.7**
	12nm,0.3s,baz=56,slow=23,SNR=4.3						
INCN	**Inchon**	**10.22**	**283**	Pn	**Pn**	**23 54 31.5**	**+0.7**
MDJ	**Mudanjiang**	**11.43**	**323**	P	**Pn**	**23 54 46.5**	**-0.9**
YSS	**Yuzh-Sakhalins**	**11.44**	**12**	P	**Pn**	**23 54 47.5**	**+0.1**
BJT	**Baijiatuau**	**18.62**	**290**	*e*P	**Pn**	**23 56 21.3**	**-0.6**
BJT				pmax	pmax		
	comp=Z,3.0nm,0.4s						
BJT	**Baijiatuau**	**18.62**	**290**	*e*P	**Pn**	**23 56 21.3**	**-0.6**
	comp=Z,3.5nm,0.4s						
NACB	**Ninganchiao**	**19.12**	**237**	P	**Pn**	**23 56 28.3**	**+0.3**
HIA	**Hailar**	**19.56**	**319**	*e*P	**Pn**	**23 56 31.7**	**-1.4**
YAK	**Yakutsk**	**26.90**	**350**	P	**P**	**23 57 45.6**	**+0.8**
ZALV	**Zalesovo Beam**	**41.42**	**313**	P	**P**	**23 59 50.9**	**+0.6**
	comp=Z,0.3nm,0.3s,mb3.3,baz=93,slow=5.8,SNR=2.1						
ZAL	**Zalesovo**	**41.43**	**313**	P	**P**	**23 59 50.9**	**+0.5**
MKAR	**Makanchi Array**	**43.25**	**303**	P	**P**	**00 00 05.9**	**+0.5**
	comp=Z,0.3nm,0.6s,mb3.2,baz=92,slow=8.9,SNR=3.5						
KURK	**Kurchatov**	**45.28**	**309**	*e*P	**P**	**00 00 21.1**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.0						
BRVK	**Borovoye**	**50.12**	**313**	P	**P**	**00 00 59.8**	**+0.7**
WRAB	**Tennant Creek**	**55.64**	**186**	*e*P	**P**	**00 01 39.8**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**55.65**	**186**	P	**P**	**00 01 39.0**	**-1.1**
WRA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
WRA	**Warramunga Arr**	**55.65**	**186**	P	**P**	**00 01 39.0**	**-1.1**
	comp=Z,2.0nm,0.6s,mb4.3,baz=2.0,slow=7.5,SNR=13						
INK	**Inuvik**	**56.28**	**27**	P	**P**	**00 01 44.2**	**+0.1**
ASAR	**Alice Springs**	**59.38**	**186**	P	**P**	**00 02 05.8**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.6,baz=23,slow=11,SNR=7.6						
YKA	**Yellowknife Ar**	**65.75**	**29**	P	**P**	**00 02 48.5**	**0.0**
	comp=Z,0.1nm,0.5s,mb3.1,baz=288,slow=6.0,SNR=3.7						

BJI ***09*** *00:16:59.3, 889S×10505E, h30km, mB5.0, mb4.9, Ms4.7, Msz4.3*
IDC ***09*** *00:17:04.7±0.6, 793S×10500E, h0km, mb4.3/15, mb1 4.4/16, mb1mx4.3/23, mbtmp4.4/16, ML5.1/1, MS4.1/8, Ms1 4.1/8, ms1mx3.7/25, Error ellipse: s-maj=21.3km s-min=13.1km az=57.0*
NEIC ***09*** *00:17:08.7±0.3, 796S×10494E, h30km, mb4.6/15, Error ellipse: s-maj=10.7km s-min=7.2km az=58.0*
ISCJB ***09*** *00:17:11.2±1.4, 790S±006×10510E±007, h66km±12km, mb4.6/41, Error ellipse: s-maj=13.1km s-min=6.8km az=146.2*

ISC 09 00:17:12.4±1.2, 793S±005×10508E±007, h59km±10km, h22km±5.9km: pP-P, n81, σ0§92/73, mb4.6/41, MS4.3/13, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**2.07**	**30**	P	**Pn**	**00 17 42.5**	**-2.4**
	2μm,1.0s						
BJII	**Banjamegara**	**4.62**	**83**	P	**Pn**	**00 18 20.2**	**+0.4**
	112nm,0.8s						
TPI	**Tanjungpandan**	**5.74**	**27**	P	**Pn**	**00 18 40.0**	**+4.9**
	132nm,0.9s						
KRKI	**Karangkates**	**7.30**	**92**	P	**Pn**	**00 18 58.1**	**+1.6**
	336nm,0.8s						
COCO	**West Island**	**9.16**	**242**	*e*Pn	**Pn**	**00 19 14.6**	**-7.3**
KHKI	**Kahang-Kahang**	**10.43**	**93**	P	**Pn**	**00 19 41.8**	**+2.5**
	146nm,0.8s						
PCI	**Palu**	**16.27**	**65**	P	**Pn**	**00 20 57.6**	**+0.3**
	99nm,1.8s						
BSI	**Banda Aceh**	**16.52**	**323**	P	**Pn**	**00 21 01.9**	**+1.5**
	74nm,1.1s						
KKM	**Kota Kinabalu**	**17.77**	**39**	*e*P	**Pn**	**00 21 15.9**	**+0.1**
BATI	**Kupang**	**18.49**	**98**	P	**Pn**	**00 21 22.6**	**-1.9**
	6.4nm,0.3s,baz=304,slow=5.9,SNR=4.1						
MBWA	**Marble Bar**	**19.32**	**134**	*e*P	**Pn**	**00 21 33.3**	**-1.2**
	11nm,0.9s						
FITZ	**Fitzroy Crossi**	**22.41**	**119**	*e*P	**P**	**00 22 05.4**	**-0.8**
	9.6nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**22.41**	**119**	P	**P**	**00 22 06.1**	**-0.1**
	3.9nm,0.9s,mb3.8,baz=267,slow=11,SNR=6.5						
CHTO	**Chiang Mai**	**27.25**	**347**	*e*P	**P**	**00 22 49.7**	**-1.5**
NWAO	**Narrogin (SRO)**	**27.31**	**157**	LR	LR	00 32 04.5	
	comp=Z,235nm,19.1s,MS3.8,baz=326,slow=33						
KAKA	**Kakadu**	**27.32**	**102**	*e*P	**P**	**00 22 49.7**	**-2.2**
	11nm,0.6s,mb4.6						
WRA	**Warramunga Arr**	**30.74**	**116**	P	**P**	**00 23 22.8**	**+0.5**
	6.3nm,0.9s,mb4.4,baz=286,slow=10,SNR=17						
WRAB	**Tennant Creek**	**30.75**	**116**	*e*P	**P**	**00 23 23.0**	**+0.7**
	7.0nm,0.9s,mb4.5						
WB2	**Warramunga Arr**	**30.75**	**116**	⇓*i*P	**P**	**00 23 22.7**	**+0.3**
ASAR	**Alice Springs**	**31.74**	**123**	P	**P**	**00 23 30.0**	**-1.1**
	4.3nm,1.0s,mb4.2,baz=293,slow=7.6,SNR=17						
GYA	**Guiyang**	**34.21**	**3**	⇑*i*P	**P**	**00 23 53.1**	**+0.6**
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NACB	**Ninganchiao**	**35.74**	**26**	P	**P**	**00 24 06.3**	**+0.6**
LSA	**Lhasa**	**39.74**	**341**	P	**P**	**00 24 40.0**	**+0.6**
LSA	**Lhasa**	**39.74**	**341**	*e*P	**P**	**00 24 40.5**	**+1.2**
	comp=Z,48nm,1.5s,mb5.0						
JIRN	**Jiri**	**39.82**	**333**	*e*P	**P**	**00 24 40.5**	**+0.4**
	comp=Z,20nm,0.7s,mb5.0						
GUN	**Gumba**	**40.17**	**333**	*e*P	**P**	**00 24 43.5**	**+0.5**
	comp=Z,26nm,0.7s,mb5.1						
DMN	**Daman**	**40.27**	**332**	*e*P	**P**	**00 24 44.0**	**+0.2**
	comp=Z,17nm,0.7s,mb4.9						
KKN	**Kakani**	**40.34**	**332**	*e*P	**P**	**00 24 44.5**	**+0.1**
GKN	**Gorkha**	**40.82**	**332**	*e*P	**P**	**00 24 48.4**	**0.0**
	comp=Z,5.3nm,0.4s,mb4.5						
KOLN	**Koldanda**	**41.12**	**330**	*e*P	**P**	**00 24 51.0**	**+0.2**
	comp=Z,33nm,0.8s,mb5.0						
JOW	**Kunigami**	**41.23**	**32**	P	**P**	**00 24 51.3**	**-0.4**
	comp=Z,14nm,0.9s,mb4.6,baz=259,slow=10,SNR=4.6						
STKA	**Stephens Creek**	**41.47**	**130**	*e*P	**P**	**00 24 54.2**	**+0.5**
	comp=Z,6.3nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**41.47**	**130**	P	**P**	**00 24 54.3**	**+0.6**
	comp=Z,5.7nm,0.8s,mb4.3,baz=306,slow=9.5,SNR=13						
STKA				LR	LR	00 42 35.1	
	comp=Z,209nm,20.6s,MS4.0,baz=213,slow=37						
DANN	**Dangsing**	**41.53**	**331**	*e*P	**P**	**00 24 54.2**	**0.0**
	comp=Z,58nm,1.1s,mb5.1						
XAN	**Xi'an**	**41.89**	**5**	P	**P**	**00 24 56.5**	**-0.5**
XAN				AP	pP	00 25 05.8	-6.4
XAN				S	**S**	**00 31 14.5**	**+3.5**
XAN				AMB	AMB		
	comp=Z,31nm,1.1s,mb4.8						
XAN				AMB	AMB		
	comp=Z,46nm,4.5s						
XAN				LR	LR		
	comp=N,267nm,14.8s,MS4.4						
XAN				LR	LR		
	comp=E,300nm,15.8s,MS4.4						
XAN				LR	LR		
	comp=Z,465nm,13.6s,MS4.5						
LZH	**Lanzhou**	**43.79**	**359**	*e*P	**P**	**00 25 12.6**	**+0.2**
LZH				AP	pP	00 25 19.7	-7.9
LZH				XP	sP	00 25 22.6	-12
LZH				AMB	AMB		
	comp=Z,62nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,300nm,5.4s						
LZH				LR	LR		
	comp=E,385nm,12.7s						
LZH				LR	LR		
	comp=Z,630nm,14.0s,MS4.7						
NDI	**New Delhi**	**45.25**	**325**	*e*P	**P**	**00 25 21.5**	**-2.6**
GTA	**Gaotai**	**47.35**	**354**	*e*P	**P**	**00 25 41.1**	**+0.7**
GTA				AP	pP	00 25 46.3	-10
GTA				XP	sP	00 25 51.0	-12
GTA				SCS	ScS	00 35 23.5	-5.5
GTA				AMB	AMB		
	comp=Z,19nm,1.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,103nm,6.5s						
GTA				LR	LR		
	comp=N,398nm,17.5s,MS4.6						
GTA				LR	LR		
	comp=E,395nm,19.4s,MS4.6						
GTA				LR	LR		
	comp=Z,369nm,14.8s,MS4.5						
BTO	**Baotou**	**48.50**	**5**	*e*P	**P**	**00 25 49.3**	**0.0**
BJT	**Baijiatuau**	**48.79**	**11**	*e*P	**P**	**00 25 52.2**	**+0.7**
BJI	**Beijing**	**48.81**	**11**	P	**P**	**00 25 51.9**	**+0.2**
BJI				S	**S**	**00 32 50.8**	**+0.2**
BJI				AMB	AMB		
	comp=Z,22nm,1.4s,mb5.0						
BJI				AMB	AMB		
	comp=Z,155nm,5.9s						
BJI				LR	LR		
	comp=N,324nm,16.1s,MS4.5						
BJI				LR	LR		
	comp=E,183nm,17.4s,MS4.5						
BJI				LR	LR		
	comp=Z,207nm,15.7s,MS4.2						
KSRS	**Korea Array**	**49.94**	**24**	P	**P**	**00 26 00.6**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.3,baz=195,slow=8.4,SNR=7.4						
KSRS				LR	LR	00 49 26.5	
	comp=Z,74nm,18.6s,MS3.7,baz=26,slow=39						
TAU	**Tasmania Unive**	**50.82**	**140**	P	**P**	**00 26 07.9**	**+0.8**
WMQ	**Urumqi**	**53.86**	**344**	P	**P**	**00 26 30.2**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.2						
MAJO	**Matsushiro**	**54.06**	**33**	*e*P	**P**	**00 26 30.9**	**-0.1**
	comp=Z,3.8nm,0.4s,mb4.7						
MJAR	**Matsushiro Arr**	**54.06**	**33**	P	**P**	**00 26 28.9**	**-2.2**
	comp=Z,2.1nm,0.6s,mb4.3,baz=207,slow=7.8,SNR=7.7						
CN2	**Changchun**	**54.70**	**18**	*e*P	**P**	**00 26 35.0**	**-0.5**
CN2				*e*S	**S**	**00 34 14.4**	**+3.1**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,14.0s,MS4.5						
CN2				LR	LR		
	comp=Z,200nm,18.0s,MS4.2						
SONM	**Songino Array**	**55.53**	**1**	P	**P**	**00 26 42.2**	**+0.8**
	comp=Z,6.4nm,1.0s,mb4.6,baz=175,slow=8.0,SNR=24						
SONM				LR	LR	00 53 53.1	
	comp=Z,204nm,18.2s,MS4.2,baz=263,slow=40						
UCH	**Uchtor**	**57.20**	**333**	*e*P	**P**	**00 26 53.6**	**+0.2**
	comp=Z,1.9nm,0.8s,mb4.2						
TKM2	**Tokmak 2**	**57.28**	**335**	*e*P	**P**	**00 26 53.9**	**-0.1**
	comp=Z,7.7nm,0.6s,mb4.9						
AML	**Almayashu**	**57.49**	**333**	*e*P	**P**	**00 26 55.6**	**+0.1**
	comp=Z,5.2nm,0.7s,mb4.7						
AAK	**Ala-Archa**	**57.53**	**334**	*e*P	**P**	**00 26 56.5**	**+0.7**
AAK	**Ala-Archa**	**57.53**	**334**	P	**P**	**00 26 56.7**	**+1.0**
	comp=Z,0.8nm,0.4s,mb4.1,baz=156,slow=4.4,SNR=3.2						
EKS2	**Erkin-Say**	**57.87**	**333**	*e*P	**P**	**00 26 57.4**	**-0.8**
	comp=Z,5.8nm,0.7s,mb4.7						
MK31	**Makanchi Array**	**58.13**	**342**	*e*P	**P**	**00 26 59.9**	**0.0**
MKAR	**Makanchi Array**	**58.13**	**342**	P	**P**	**00 26 59.6**	**-0.3**
	comp=Z,2.2nm,0.4s,mb4.5,baz=146,slow=7.7,SNR=26						
MKAR				LR	LR	00 58 00.6	
	comp=Z,86nm,18.3s,MS3.9,baz=335,slow=42						
KURK	**Kurchatov**	**62.74**	**341**	*e*P	**P**	**00 27 30.9**	**-0.4**
	comp=Z,10nm,1.0s,mb4.9						
ZAA0	**Zalesovo Array**	**63.97**	**347**	*e*P	**P**	**00 27 39.0**	**-0.3**
ZALV	**Zalesovo Beam**	**63.97**	**347**	P	**P**	**00 27 39.0**	**-0.4**
	comp=Z,10nm,0.7s,mb5.0,baz=143,slow=3.7,SNR=39						
ZALV				LR	LR	00 59 10.6	
	comp=Z,94nm,18.1s,MS4.0,baz=100,slow=40						
MAW	**Mawson**	**65.94**	**196**	P	**P**	**00 27 52.3**	**+0.3**
	comp=Z,2.6nm,0.8s,mb4.3,baz=28,slow=8.9,SNR=4.9						
MAW				LR	LR	00 49 33.8	
	comp=Z,238nm,18.4s,MS4.4,baz=250,slow=30						
BVAR	**Borovoye Array**	**67.49**	**338**	P	**P**	**00 28 01.9**	**-0.1**
	comp=Z,2.6nm,0.7s,mb4.4,baz=138,slow=7.6,SNR=11						
BRVK	**Borovoye**	**67.56**	**338**	P	**P**	**00 28 02.5**	**+0.1**
GNI	**Garni**	**73.28**	**316**	*e*P	**P**	**00 28 36.2**	**-1.4**
ARU	**Arti**	**74.65**	**335**	*e*P	**P**	**00 28 42.1**	**-3.1**
	comp=Z,5.5nm,0.6s,mb4.7						
VNDA	**Vanda**	**75.42**	**169**	*e*P	**P**	**00 28 49.2**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.1						
VNDA	**Vanda**	**75.42**	**169**	P	**P**	**00 28 50.1**	**+0.6**
	comp=Z,2.2nm,0.9s,mb4.1,baz=292,slow=5.4,SNR=11						
SBA	**Scott Base**	**76.50**	**169**	P	**P**	**00 28 55.5**	**-0.1**
BOSA	**Boshof**	**77.34**	**242**	P	**P**	**00 29 01.6**	**+0.3**
	comp=Z,2.5nm,0.9s,mb4.1,baz=73,slow=14,SNR=2.4						
MMAI	**Mount Meron Ar**	**77.60**	**306**	P	**P**	**00 29 02.5**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.4,baz=134,slow=12,SNR=2.5						
TIXI	**Tiksi**	**80.96**	**7**	*e*P	**P**	**00 29 19.6**	**-0.5**
	comp=Z,4.4nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**82.07**	**180**	*e*P	**P**	**00 29 26.8**	**+0.9**
	comp=Z,7.6nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**82.07**	**180**	LR	LR	00 59 58.8	
	comp=Z,671nm,18.7s,MS5.0,baz=0.0,slow=31						
YKA	**Yellowknife Ar**	**118.38**	**20**	PKP	PKPdf	00 35 53.0	+0.1
YKA	**Yellowknife Ar**	**118.38**	**20**	PKP	PKPdf	00 35 53.0	+0.1
	comp=Z,0.1nm,0.4s,baz=342,slow=2.1,SNR=4.8						
EDM	**Edmonton**	**125.17**	**27**	*e*PKPdf	PKPdf	00 36 01.2	-5.0
WMOK	**Wichita Mounta**	**145.46**	**36**	*e*PKPdf	PKPdf	00 36 45.5	+1.2
TXAR	**Lajitas Array**	**145.60**	**48**	PKPbc	PKPbc	00 36 47.3	+2.3
	comp=Z,5.4nm,0.9s,baz=333,slow=2.0,SNR=16						
CCM	**Cathedral Cave**	**146.57**	**24**	*e*PKPdf	PKPdf	00 36 48.2	+2.0
JCT	**Junction City**	**147.66**	**43**	*e*PKPdf	PKPbc	00 36 52.8	+1.9
MIAR	**Mount Ida**	**148.43**	**30**	*e*PKPdf	PKPdf	00 36 51.6	+2.3
MIAR				*e*PKPbc	PKPbc	00 36 54.0	+1.2
WVT	**Waverly**	**149.55**	**21**	*e*PKPdf	PKPbc	00 36 56.5	+0.8

ISCJB ***09*** *00:22:36.4±0.7, 3632N±004×2213E±005, h26km±6km, Error ellipse: s-maj=8.6km s-min=4.3km az=138.1*
THE ***09*** *00:22:36.9, 3635N×2219E, h1km, ML3.6*
CSEM ***09*** *00:22:37.0±0.2, 3630N×2214E, h15km, MD3.5, Error ellipse: s-maj=5.6km s-min=2.9km az=46.0*
ATH ***09*** *00:22:37.6, 3646N×2226E, h33km±4km, MD3.5/14, ML3.4*
NEIC ***09*** *00:22:37.2, 3636N×2225E, h31km, MD3.5(ATH), ML3.6(THE), After ATH.*

ISC 09 00:22:36.3±0.9, 3634N±004×2216E±005, h13km±5km, n37, σ1§13/48, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.65**	**329**	*e*Pg	**Pg**	**00 22 49.0**	**+0.1**
PYL				*e*Sg	**Sg**	**00 22 58.4**	**+0.8**
KYTH	**Kithira**	**0.71**	**95**	*e*PN	**Pn**	**00 22 51.0**	**-0.9**
KYTH				*e*SN	**Sg**	**00 23 00.0**	**+0.6**
VLI	**Veliai**	**0.73**	**59**	*e*PN	**Pn**	**00 22 50.5**	**-1.7**
VLI				*e*SN	**Sg**	**00 23 00.1**	**0.0**
VLI	**Veliai**	**0.73**	**59**	*e*Pn	**Pn**	**00 22 50.5**	**-1.7**
VLI				*e*Sn	**Sg**	**00 23 00.7**	**+0.6**
ITM	**Ithomi**	**0.86**	**347**	*e*PN	**Pn**	**00 22 52.3**	**-1.7**
ITM				*e*SN	**Sn**	**00 23 04.0**	**-2.4**
ITM	**Ithomi**	**0.86**	**347**	*e*Pn	**Pn**	**00 22 52.3**	**-1.7**
ITM				*e*Sn	**Sn**	**00 23 07.0**	**+0.6**
VLX	**Vlachokerasia**	**1.04**	**10**	*e*Pg	**Pg**	**00 22 55.6**	**-0.8**
VLX				*e*Sg	**Sg**	**00 23 11.7**	**+1.6**
VLX	**Vlachokerasia**	**1.04**	**10**	*e*Pg	**Pg**	**00 22 55.6**	**-0.8**
VLX				*e*Sg	**Sg**	**00 23 11.6**	**+1.6**
DID	**Didima**	**1.45**	**36**	*e*Pg	**Pg**	**00 23 02.2**	**-1.9**
KARN	**Karanos**	**1.71**	**123**	*e*Pb	**Pb**	**00 23 07.4**	**-0.1**
NAIG	**Nisos Aigina**	**1.77**	**36**	*e*PN	**Pn**	**00 23 06.5**	**0.0**
LTK	**Loutraki**	**1.80**	**21**	*e*Pb	**Pb**	**00 23 07.9**	**-1.1**
LTK				*e*Sb	**Sb**	**00 23 32.3**	**+0.8**
RLS	**Riolos of Patr**	**1.80**	**342**	*e*PB	**Pb**	**00 23 08.5**	**-0.6**
RLS	**Riolos of Patr**	**1.80**	**342**	*e*Pb	**Pb**	**00 23 09.3**	**+0.2**
VAM	**Vamos**	**1.90**	**119**	*e*PN	**Pn**	**00 23 09.9**	**+1.6**
VAM	**Vamos**	**1.90**	**119**	*e*Pb	**Pb**	**00 23 09.5**	**-1.2**
SELA	**Sela**	**1.94**	**354**	*e*Pb	**Pb**	**00 23 11.2**	**-0.3**
SELA	**Sela**	**1.94**	**354**	*e*Pb	**Pb**	**00 23 11.2**	**-0.3**
KVR	**Kavouri**	**1.96**	**40**	*e*PN	**Pn**	**00 23 08.5**	**-0.7**
ATH	**Athens Observa**	**2.05**	**37**	*e*PN	**Pn**	**00 23 10.0**	**-0.4**
GVD	**Gavdhos**	**2.17**	**133**	*e*PB	**Pb**	**00 23 15.0**	**-0.4**
GVD	**Gavdhos**	**2.17**	**133**	*e*Pn	**Pn**	**00 23 12.0**	**0.0**
PTL	**Penteli**	**2.18**	**38**	*e*PN	**Pn**	**00 23 10.0**	**-2.2**
VLS	**Valsamata**	**2.22**	**326**	*e*PN	**Pn**	**00 23 13.1**	**+0.4**
LKR	**Lokris**	**2.40**	**16**	*e*PN	**Pn**	**00 23 15.3**	**+0.1**
LKD	**Levkas**	**2.65**	**334**	*e*Pn	**Pn**	**00 23 20.1**	**+1.5**
AGG	**Agios Georgios**	**2.68**	**3**	*e*Pn	**Pn**	**00 23 20.7**	**+1.6**
APE	**Apeiranthos**	**2.80**	**74**	*e*PN	**Pn**	**00 23 20.4**	**-0.3**
LAST	**Lasithi**	**2.94**	**113**	*

region Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**260**	*eP*	**Pg**	**00 44 20.1**	**+0.1**
PSMN				*eS*	**Sg**	**00 44 26.6**	**+0.6**
CMLA	**Cha da Macela**	**1.05**	**310**	*eP*	**Pg**	**00 44 27.5**	**-4.0**
CMLA				*eS*	**Sg**	**00 44 39.1**	**-6.1**
CMLA				A		00 44 42.1	
	3μm,0.4s						
CMLA	**Cha da Macela**	**1.05**	**310**	*eP*	**Pg**	**00 44 27.4**	**-4.0**
CMLA				*eS*	**Sg**	**00 44 41.2**	**-3.9**
CMLA	**Cha da Macela**	**1.05**	**310**	*eP*	**Pg**	**00 44 27.5**	**-4.0**
CMLA				*eS*	**Sg**	**00 44 39.1**	**-6.1**
PDA	**Ponta Delgada**	**1.13**	**306**	*eP*	**Pb**	**00 44 28.6**	**-4.2**
PDA				*eS*	**Sg**	**00 44 41.1**	**-6.5**
PSET	**Sete Cidades**	**1.21**	**308**	*eP*	**Pb**	**00 44 30.1**	**-4.1**
PSET				*eS*	**Sb**	**00 44 43.2**	**-6.7**
PSET				A		00 44 46.2	
	2μm,0.4s						
PSET	**Sete Cidades**	**1.21**	**308**	*eP*	**Pb**	**00 44 30.1**	**-4.1**
PSET				*eS*	**Sb**	**00 44 43.2**	**-6.7**
PSCM	**Serra do Cume**	**2.62**	**309**	*eP*	**Pn**	**00 44 49.9**	**-3.6**
PSCM				*eS*	**Sn**	**00 45 17.8**	**-7.5**
PSCM				A		00 45 20.8	
	783nm,0.2s						
PSCM	**Serra do Cume**	**2.62**	**309**	*eP*	**Pn**	**00 44 49.9**	**-3.6**
PSCM				*eS*	**Sn**	**00 45 17.8**	**-7.5**
ADH	**Angra Heroismo**	**2.67**	**307**	*eP*	**Pn**	**00 44 51.2**	**-3.0**
ADH				*eS*	**Sn**	**00 45 19.7**	**-6.8**
PMAN	**Manadas**	**3.23**	**300**	*eP*	**Pn**	**00 44 58.4**	**-3.5**
PMAN				*eS*	**Sn**	**00 45 32.8**	**-7.6**
PMAN				A		00 45 40.9	
	171nm,0.4s						
PMAN	**Manadas**	**3.23**	**300**	*eP*	**Pn**	**00 44 58.4**	**-3.5**
PMAN				*eS*	**Sn**	**00 45 32.8**	**-7.6**
ROSA	**Rosais**	**3.37**	**300**	*eP*	**Pn**	**00 45 00.9**	**-3.0**
ROSA				*eP*		00 45 19.6	
ROSA				*eS*	**Sn**	**00 45 36.3**	**-7.7**
SRBC	**Serra Branca**	**3.40**	**306**	*eP*	**Sn**	**00 45 35.4**	**-9.2**
PICO	**Pico**	**3.41**	**296**	*eP*	**Pn**	**00 45 01.6**	**-2.8**
PICO				*eS*	**Sn**	**00 45 37.5**	**-7.3**
HOR	**Horta**	**3.57**	**295**	*eP*	**Pn**	**00 45 03.2**	**-3.3**
HOR				*eS*	**Sn**	**00 45 41.0**	**-7.7**
CALA	**Caldeira**	**3.64**	**295**	*eP*	**Pn**	**00 45 04.4**	**-3.1**
CALA				*eS*	**Sn**	**00 45 43.4**	**-7.1**
PMAR	**Madeira**	**7.61**	**123**	*eP*	**Pn**	**00 46 01.7**	**-0.3**
PMAR				*eS*	Sx	00 47 20.9	
PMAR				*eT*		00 53 29.9	
PMPS	**Porto Santo**	**7.81**	**119**	*eP*	**Pn**	**00 46 03.5**	**-1.4**
PMPS				*eS*	Sx	00 47 25.0	
PMPS				*eT*		00 53 46.7	
EHIG	**Higuera**	**10.20**	**145**	P	**Pn**	**00 46 36.0**	**-1.7**
	233nm,0.6s						
EGOM	**La Gomera**	**10.82**	**143**	P	**Pn**	**00 46 44.4**	**-1.7**
	84nm,0.6s						
EGOM				S	Sx	00 48 19.1	
EBAJ	**Bajamar**	**10.94**	**139**	P	**Pn**	**00 46 47.0**	**-0.7**
	16nm,0.3s						
CCAN	**Las Canadas**	**11.06**	**141**	P	**Pn**	**00 46 47.9**	**-1.5**
	13nm,0.5s						
EOSO	**Osorio**	**11.73**	**137**	P	**Pn**	**00 46 57.8**	**-0.8**
	7.8nm,0.3s						
EFAM	**Famara**	**12.15**	**128**	P	**Pn**	**00 47 04.5**	**+0.3**
	141nm,2.2s						
PMAFR	**Mafra**	**12.15**	**77**	*eS*	Sx	00 49 06.6	
PMAFR				*eT*		00 58 36.7	
CFTV	**Fuerteventura**	**12.31**	**132**	P	**Pn**	**00 47 05.8**	**-0.7**
	7.6nm,0.5s						
PFVI	**Vila Bisbo**	**12.52**	**85**	*eS*	Sx	00 49 13.0	
PFVI				*eT*		00 59 16.3	
PTEO	**Sao Teotonio**	**12.58**	**83**	*eS*	Sx	00 49 17.6	
PTEO				*eT*		00 59 16.0	
MORF	**Marmelete**	**12.65**	**84**	*eS*	Sx	00 49 16.3	
MORF				*eT*		00 59 11.4	
EVOP	**Sao Brissos**	**13.04**	**79**	*ePn*	**Pn**	**00 47 14.7**	**-1.7**
EVOP				*eSn*	Sx	00 49 27.1	
	2.8nm,0.3s						
EVO	**Evora**	**13.13**	**79**	*ePn*	**Pn**	**00 47 14.7**	**-2.9**
EVO				*eSn*	Sx	00 49 27.1	
	5.6nm,0.3s						
EVO				*eMLR*	MLR		
	comp=Z,873nm,22.5s						
PBDV	**Barranco-do-Ve**	**13.23**	**84**	*eS*	Sx	00 49 32.3	
PBDV				*eT*		00 59 18.1	
EMAZ	**Mazaricos**	**13.26**	**59**	P	**Pn**	**00 47 14.0**	**-5.4**
	comp=Z,19nm,1.1s						
EMAZ				S	Sx	00 49 27.8	
PVAQ	**Vaqueiros**	**13.39**	**84**	*eS*	Sx	00 49 35.7	
PVAQ				*eT*		00 59 19.9	
PVIS	**Viseu**	**13.44**	**69**	*eS*	Sx	00 49 34.8	
PVIS				*eT*		00 59 25.9	
PESTR	**Estremoz**	**13.47**	**77**	*eS*	Sx	00 49 35.1	
PESTR				*eT*		00 59 16.8	
STS	**Santiago**	**13.53**	**60**	P	**Pn**	**00 47 17.5**	**-5.6**
STS				pmax	pmax		
	comp=Z,11nm,0.8s						
STS	**Santiago**	**13.53**	**60**	P	**Pn**	**00 47 17.5**	**-5.6**
	comp=Z,11nm,0.8s						
STS				S	Sx	00 49 39.0	
EGRO	**El Granado**	**13.56**	**83**	P	**Pn**	**00 47 22.7**	**-0.8**
	comp=Z,4.8nm,0.7s						
EGRO				S	Sx	00 49 37.1	
ELOB	**Lobios**	**13.57**	**64**	P	**Pn**	**00 47 18.4**	**-5.2**
	comp=Z,11nm,0.7s						
ELOB				S	Sx	00 49 37.1	
MTE	**Manteigas**	**13.65**	**71**	*ePn*	**Pn**	**00 47 22.7**	**-2.0**
MTE				*eSn*	Sx	00 49 42.5	
MTE	**Manteigas**	**13.65**	**71**	*eP*	**Pn**	**00 47 22.5**	**-2.2**
MTE				*eS*	Sx	00 49 39.4	
MTE				*eT*		00 59 19.8	
PBAR	**Barrancos**	**13.89**	**80**	*eS*	Sx	00 49 46.1	
PBAR				*eT*		00 59 05.6	
EBAD	**Badajoz**	**13.91**	**78**	P	**Pn**	**00 47 26.4**	**-2.0**
	comp=Z,5.3nm,0.6s						
EBAD				S	Sx	00 49 47.3	
EMIN	**Mina Concepcio**	**14.19**	**82**	P	**Pn**	**00 47 30.1**	**-2.1**
	comp=Z,3.0nm,0.6s						
EMIN				S	Sx	00 49 50.6	
ECAL	**Calabor**	**14.54**	**65**	P	**Pn**	**00 47 31.5**	**-5.5**
	comp=Z,18nm,1.3s						
ECAL				S	Sx	00 50 01.6	
EPON	**Pontenova**	**14.65**	**59**	P	**Pn**	**00 47 31.8**	**-6.5**
	comp=Z,39nm,1.4s						
EPON				S	Sx	00 50 03.0	
ESPR	**Espera**	**14.91**	**85**	P	**Pn**	**00 47 39.0**	**-3.1**
	comp=Z,3.5nm,0.8s						
ESPR				S	Sx	00 50 11.4	
EJIF	**Jimena Fronter**	**15.28**	**87**	P	**Pn**	**00 47 43.9**	**-2.9**
EJIF				pmax	pmax		
	comp=Z,12nm,1.0s						
EJIF	**Jimena Fronter**	**15.28**	**87**	P	**Pn**	**00 47 43.9**	**-3.0**
	comp=Z,12nm,1.0s						
EMIJ	**Mijas**	**15.82**	**86**	P	**Pn**	**00 47 51.6**	**-2.3**
	comp=Z,4.1nm,0.8s						
EMIJ				S	Sx	00 50 38.0	
EADA	**Adamuz**	**15.83**	**80**	P	**Pn**	**00 47 51.0**	**-3.1**
	comp=Z,2.8nm,0.6s						
EADA				S	Sx	00 50 34.0	
EARI	**Arriondas**	**15.99**	**61**	P	**Pn**	**00 47 50.5**	**-5.6**
	comp=Z,65nm,1.6s						
EARI				S	Sx	00 50 40.3	
GUD	**Guadarrama**	**16.24**	**71**	P	**Pn**	**00 47 54.8**	**-4.6**
GUD				S	**Sn**	**00 50 50.9**	**-8.6**
GUD				pmax	pmax		
	comp=Z,2.0nm,1.2s						
GUD	**Guadarrama**	**16.24**	**71**	P	**Pn**	**00 47 54.8**	**-4.5**
	comp=Z,1.6nm,1.2s						
GUD				S	**Sn**	**00 50 50.9**	**-8.7**
ESDC	**Sonseca Array**	**16.32**	**75**	P	**Pn**	**00 47 56.2**	**-4.1**
	comp=Z,0.2nm,0.4s						
ESDC	**Sonseca Array**	**16.32**	**75**	Pn	**Pn**	**00 47 56.0**	**-4.3**
	comp=Z,0.3nm,0.3s,baz=273,slow=13,SNR=8.9						
ESDC				LR	LR	00 53 39.8	
	comp=Z,356nm,18.6s,baz=270,slow=35						
ESLA	**Sonseca Array**	**16.32**	**75**	*ePn*	**Pn**	**00 47 58.1**	**-2.2**
	comp=Z,0.4nm,0.7s						
ECOG	**Cogollos-Vega**	**16.69**	**83**	P	**Pn**	**00 48 02.2**	**-2.9**
ECOG				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ECOG	**Cogollos-Vega**	**16.69**	**83**	P	**Pn**	**00 48 02.2**	**-3.0**
	comp=Z,2.6nm,0.8s						
MDT	**Midelt**	**16.85**	**99**	Pn	**Pn**	**00 48 07.1**	**0.0**
	comp=Z,0.2nm,0.3s,baz=294,slow=13,SNR=8.5						
MDT				LR	LR	00 53 52.3	
	comp=Z,472nm,18.3s,baz=292,slow=34						
EQES	**Quesada**	**17.04**	**81**	P	**Pn**	**00 48 05.8**	**-3.7**
	comp=Z,5.6nm,0.9s						
ELAN	**Lanestosa**	**17.22**	**63**	P	**Pn**	**00 48 07.8**	**-3.9**
	comp=Z,43nm,1.7s						
ELAN				S	**Sn**	**00 51 13.8**	**-9.4**
EBER	**Berja**	**17.27**	**84**	P	**Pn**	**00 48 08.9**	**-3.5**
	comp=Z,4.6nm,1.0s						
EALB	**Alboran**	**17.30**	**87**	P	**Pn**	**00 48 10.3**	**-2.4**
	comp=Z,3.6nm,0.6s						
EALB				S	Sx	00 51 46.1	
EVIA	**Vianos**	**17.44**	**78**	P	**Pn**	**00 48 11.1**	**-3.4**
EVIA				pmax	pmax		
	comp=Z,10.0nm,1.0s						
EVIA	**Vianos**	**17.44**	**78**	P	**Pn**	**00 48 11.1**	**-3.4**
	comp=Z,10nm,1.0s						
ETOR	**Torete**	**17.85**	**71**	P	**Pn**	**00 48 16.0**	**-3.5**
ETOR				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ETOR	**Torete**	**17.85**	**71**	P	**Pn**	**00 48 15.9**	**-3.6**
	comp=Z,3.5nm,1.2s						
ETOB	**Tobarra**	**18.19**	**78**	P	**Pn**	**00 48 20.1**	**-3.7**
	comp=Z,8.9nm,1.3s						
SJPF	**Ste Jean**	**18.77**	**64**	*eP*	**Pn**	**00 48 33.0**	**+2.2**
	comp=Z,42nm,1.3s						
SJPF	**Ste Jean**	**18.77**	**64**	*eP*	**Pn**	**00 48 33.0**	**+2.2**
SJPF				pmax	pmax		
	comp=Z,21nm,1.3s						
SJPF	**Ste Jean**	**18.77**	**64**	*eP*	**Pn**	**00 48 33.0**	**+2.2**
	comp=Z,21nm,1.3s						
EMOS	**Mosqueruela**	**19.02**	**73**	P	**Pn**	**00 48 28.2**	**-5.7**
	comp=Z,6.2nm,4.0s						
ROSF	**Rostrenen**	**19.16**	**47**	*eP*	**Pn**	**00 48 34.9**	**-0.6**
	comp=Z,194nm,1.6s						
ROSF	**Rostrenen**	**19.16**	**47**	*eP*	**Pn**	**00 48 34.9**	**-0.6**
ROSF				pmax	pmax		
	comp=Z,97nm,1.6s						
ROSF	**Rostrenen**	**19.16**	**47**	*eP*	**Pn**	**00 48 34.9**	**-0.6**
	comp=Z,97nm,1.6s						
ETSF	**Etsaut**	**19.22**	**65**	*eP*	**Pn**	**00 48 37.1**	**+0.9**
	comp=Z,12nm,0.8s						
ETSF	**Etsaut**	**19.22**	**65**	*eP*	**Pn**	**00 48 37.1**	**+0.9**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.8s						
ETSF	**Etsaut**	**19.22**	**65**	*eP*	**Pn**	**00 48 37.1**	**+0.9**
	comp=Z,5.8nm,0.8s						
SGMF	**Saint Gilles**	**19.55**	**48**	*eP*	**Pn**	**00 48 39.3**	**-0.8**
	comp=Z,80nm,1.3s						
SGMF	**Saint Gilles**	**19.55**	**48**	*eP*	**Pn**	**00 48 39.3**	**-0.8**
SGMF				pmax	pmax		
	comp=Z,40nm,1.3s						
SGMF	**Saint Gilles**	**19.55**	**48**	*eP*	**Pn**	**00 48 39.3**	**-0.8**
	comp=Z,40nm,1.3s						
EBIE	**Bielsa**	**19.70**	**66**	P	**Pn**	**00 48 35.0**	**-6.9**
	comp=Z,22nm,1.6s						
EPF	**Esparros**	**19.89**	**65**	*eP*	**Pn**	**00 48 45.6**	**+1.4**
	comp=Z,49nm,1.3s						
EPF	**Esparros**	**19.89**	**65**	*eP*	**Pn**	**00 48 45.6**	**+1.4**
EPF				pmax	pmax		
	comp=Z,25nm,1.3s						
EPF	**Esparros**	**19.89**	**65**	*eP*	**Pn**	**00 48 45.6**	**+1.4**
	comp=Z,25nm,1.3s						
MFF	**Saint Martin d**	**20.42**	**55**	*eP*	**P**	**00 48 49.8**	**+1.5**
	comp=Z,101nm,1.2s						
MFF	**Saint Martin d**	**20.42**	**55**	*eP*	**P**	**00 48 49.8**	**+1.5**
MFF				pmax	pmax		
	comp=Z,50nm,1.2s						
MFF	**Saint Martin d**	**20.42**	**55**	*eP*	**P**	**00 48 49.8**	**+1.5**
	comp=Z,50nm,1.2s						
LFF	**La Frestale**	**20.55**	**60**	*eP*	**P**	**00 48 50.0**	**+0.3**
	comp=Z,69nm,1.1s						
LFF	**La Frestale**	**20.55**	**60**	*eP*	**P**	**00 48 50.0**	**+0.3**
LFF				pmax	pmax		
	comp=Z,34nm,1.1s						
LFF	**La Frestale**	**20.55**	**60**	*eP*	**P**	**00 48 50.0**	**+0.3**
	comp=Z,34nm,1.1s						
GRR	**Gorron**	**20.63**	**49**	*eP*	**P**	**00 48 51.2**	**+0.6**
	comp=Z,126nm,1.1s						
GRR	**Gorron**	**20.63**	**49**	*eP*	**P**	**00 48 51.2**	**+0.6**
GRR				pmax	pmax		
	comp=Z,63nm,1.1s						
GRR	**Gorron**	**20.63**	**49**	*eP*	**P**	**00 48 51.2**	**+0.6**
	comp=Z,63nm,1.1s						
FLN	**La Foliniere**	**21.02**	**49**	*eP*	**P**	**00 48 54.7**	**-0.1**
	comp=Z,37nm,0.8s,mb4.5						
FLN				*eMLR*	MLR		
	comp=Z,363nm,21.5s,MS3.4						
FLN	**La Foliniere**	**21.02**	**49**	*eP*	**P**	**00 48 54.7**	**-0.1**
FLN				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.5						
FLN				MLR	MLR		
	comp=Z,360nm,21.5s,MS3.7						
FLN	**La Foliniere**	**21.02**	**49**	*eP*	**P**	**00 48 54.7**	**-0.1**
	comp=Z,18nm,0.8s,mb4.5						
FLN				LR	LR		
	comp=Z,360nm,21.5s,MS3.7						
LDF	**La Druitiere**	**21.16**	**49**	*eP*	**P**	**00 48 57.0**	**+0.7**
	comp=Z,50nm,1.1s,mb4.5						
LDF	**La Druitiere**	**21.16**	**49**	*eP*	**P**	**00 48 57.0**	**+0.7**
LDF				pmax	pmax		
	comp=Z,25nm,1.1s,mb4.5						
LDF	**La Druitiere**	**21.16**	**49**	*eP*	**P**	**00 48 57.0**	**+0.7**
	comp=Z,25nm,1.1s,mb4.5						
MTLF	**Montolieu**	**21.29**	**65**	*eP*	**P**	**00 49 00.3**	**+2.5**
CAF	**Calviac**	**21.46**	**60**	*eP*	**P**	**00 48 59.8**	**+0.2**
	comp=Z,58nm,1.2s,mb4.5						
CAF	**Calviac**	**21.46**	**60**	*eP*	**P**	**00 48 59.8**	**+0.2**
CAF				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.5						
CAF	**Calviac**	**21.46**	**60**	*eP*	**P**	**00 48 59.8**	**+0.2**
	comp=Z,29nm,1.2s,mb4.5						
TCF	**Toulx Ste Croi**	**21.88**	**57**	*eP*	**P**	**00 49 05.2**	**+1.1**
	comp=Z,87nm,1.5s,mb4.7						
TCF	**Toulx Ste Croi**	**21.88**	**57**	*eP*	**P**	**00 49 05.2**	**+1.1**
TCF				pmax	pmax		
	comp=Z,43nm,1.5s,mb4.7						
TCF	**Toulx Ste Croi**	**21.88**	**57**	*eP*	**P**	**00 49 05.2**	**+1.1**
	comp=Z,43nm,1.5s,mb4.7						
BGF	**Bois d'Agland**	**22.38**	**56**	*eP*	**P**	**00 49 09.1**	**-0.3**
LASF	**Ste Croix**	**22.57**	**63**	*eP*	**P**	**00 49 12.7**	**+1.2**
	comp=Z,40nm,1.3s,mb4.4						
LASF	**Ste Croix**	**22.57**	**63**	*eP*	**P**	**00 49 12.7**	**+1.2**
	comp=Z,20nm,1.3s,mb4.4						
AVF	**Avril sur Loir**	**22.78**	**56**	*eP*	**P**	**00 49 13.8**	**+0.2**
SSF	**Saint Saulge**	**22.95**	**55**	*eP*	**P**	**00 49 16.4**	**+1.0**
	comp=Z,61nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**22.95**	**55**	*eP*	**P**	**00 49 16.4**	**+1.0**
SSF				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.6						
SSF	**Saint Saulge**	**22.95**	**55**	*eP*	**P**	**00 49 16.4**	**+1.0**
	comp=Z,30nm,1.2s,mb4.6						
SMF	**Signal de Mont**	**23.07**	**57**	*eP*	**P**	**00 49 16.9**	**+0.2**
	comp=Z,101nm,1.4s,mb4.8						
SMF	**Signal de Mont**	**23.07**	**57**	*eP*	**P**	**00 49 16.9**	**+0.2**
SMF				pmax	pmax		
	comp=Z,50nm,1.4s,mb4.8						
SMF	**Signal de Mont**	**23.07**	**57**	*eP*	**P**	**00 49 16.9**	**+0.2**
	comp=Z,50nm,1.4s,mb4.8						
LOR	**Lormes**	**23.24**	**55**	*eP*	**P**	**00 49 19.0**	**+0.5**
	comp=Z,20nm,1.0s,mb4.2						
LOR				*eMLR*	MLR		
	comp=Z,415nm,20.2s,MS3.6						
LOR	**Lormes**	**23.24**	**55**	*eP*	**P**	**00 49 19.0**	**+0.5**
LOR				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2						
LOR				MLR	MLR		
	comp=Z,420nm,20.3s,MS3.9						
LOR	**Lormes**	**23.24**	**55**	*eP*	**P**	**00 49 19.0**	**+0.5**
	comp=Z,9.9nm,1.0s,mb4.2						
LOR				LR	LR		
	comp=Z,420nm,20.3s,MS3.9						
VIVF	**Saint-Julien-l**	**23.27**	**61**	*eP*	**P**	**00 49 19.6**	**+0.8**
	comp=Z,22nm,1.1s,mb4.2						
VIVF	**Saint-Julien-l**	**23.27**	**61**	*eP*	**P**	**00 49 19.6**	**+0.8**
VIVF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
VIVF	**Saint-Julien-l**	**23.27**	**61**	*eP*	**P**	**00 49 19.6**	**+0.8**
	comp=Z,11nm,1.1s,mb4.2						
ESK	**Eskdalemuir**	**23.29**	**32**	*eP*	**P**	**00 49 18.3**	**-0.6**
ESK				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.3						
ESK	**Eskdalemuir**	**23.29**	**32**	*eP*	**P**	**00 49 18.3**	**-0.6**
	comp=Z,8.9nm,0.7s,mb4.3						
BBTS	**Babate**	**23.44**	**160**	LR	LR	00 58 50.6	
	comp=Z,49nm,18.1s,MS3.0,baz=58,slow=37						
SMRF	**Simiane la Rot**	**23.79**	**64**	*eP*	**P**	**00 49 25.5**	**+1.5**
	comp=Z,30nm,1.1s,mb4.3						
SMRF	**Simiane la Rot**	**23.79**	**64**	*eP*	**P**	**00 49 25.5**	**+1.5**
	comp=Z,15nm,1.1s,mb4.3						
ORIF	**Oris-en-Rattie**	**24.13**	**62**	*eP*	**P**	**00 49 28.2**	**+1.1**
	comp=Z,28nm,1.1s,mb4.3						
ORIF				*eMLR*	MLR		
	comp=Z,536nm,22.0s,MS3.7						
ORIF	**Oris-en-Rattie**	**24.13**	**62**	*eP*	**P**	**00 49 28.2**	**+1.1**
ORIF				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.3						
ORIF	**Oris-en-Rattie**	**24.13**	**62**	*eP*	**P**	**00 49 28.2**	**+1.1**
	comp=Z,14nm,1.1s,mb4.3						
BAIF	**Baives**	**24.34**	**49**	*eP*	**P**	**00 49 28.0**	**-0.9**
	comp=Z,30nm,0.8s,mb4.5						
BAIF	**Baives**	**24.34**	**49**	*eP*	**P**	**00 49 28.0**	**-0.9**
BAIF				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.5						
BAIF	**Baives**	**24.34**	**49**	*eP*	**P**	**00 49 28.0**	**-0.9**
	comp=Z,15nm,0.8s,mb4.5						
MEZF	**Maizieres J'vi**	**24.36**	**53**	*eP*	**P**	**00 49 28.7**	**-0.4**
FRF	**La Foret Royal**	**24.52**	**65**	*eP*	**P**	**00 49 30.9**	**+0.2**
	comp=Z,27nm,0.9s,mb4.5						
FRF	**La Foret Royal**	**24.52**	**65**	*eP*	**P**	**00 49 30.9**	**+0.2**
FRF				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.5						
FRF	**La Foret Royal**	**24.52**	**65**	*eP*	**P**	**00 49 30.9**	**+0.2**
	comp=Z,14nm,0.9s,mb4.5						
CABF	**La Chapelle**	**24.57**	**58**	*eP*	**P**	**00 49 32.0**	**+1.0**
BNI	**Bardonecchia**	**24.71**	**61**	*eP*	**P**	**00 49 33.0**	**+0.7**
BNI				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.3						
BNI	**Bardonecchia**	**24.71**	**61**	*eP*	**P**	**00 49 33.0**	**+0.6**
	comp=Z,11nm,1.2s,mb4.3						
GIVF	**Givet**	**24.73**	**49**	*eP*	**P**	**00 49 31.6**	**-0.9**
	comp=Z,71nm,0.9s,mb4.9						
GIVF	**Givet**	**24.73**	**49**	*eP*	**P**	**00 49 31.6**	**-0.9**
GIVF				pmax	pmax		
	comp=Z,35nm,0.9s,mb4.9						
GIVF	**Givet**	**24.73**	**49**	*eP*	**P**	**00 49 31.6**	**-0.9**
	comp=Z,35nm,0.9s,mb4.9						
MBDF	**Montbardon**	**24.73**	**62**	*eP*	**P**	**00 49 33.8**	**+1.2**
LPG	**La Plagne**	**24.82**	**60**	*eP*	**P**	**00 49 35.2**	**+1.8**
	comp=Z,22nm,1.2s,mb4.2						
LPG	**La Plagne**	**24.82**	**60**	*eP*	**P**	**00 49 35.2**	**+1.8**
LPG				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.2						
LPG	**La Plagne**	**24.82**	**60**	*eP*	**P**	**00 49 35.2**	**+1.8**
	comp=Z,11nm,1.2s,mb4.2						
HAU	**Haudompre**	**25.05**	**54**	*eP*	**P**	**00 49 36.5**	**+1.0**
	comp=Z,32nm,1.0s,mb4.5						
HAU				*eMLR*	MLR		
	comp=Z,360nm,20.0s,MS3.6						
HAU	**Haudompre**	**25.05**	**54**	*eP*	**P**	**00 49 36.5**	**+1.0**
HAU				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5						
HAU				MLR	MLR		
	comp=Z,360nm,20.0s,MS3.9						
HAU	**Haudompre**	**25.05**	**54**	*eP*	**P**	**00 49 36.5**	**+1.0**
	comp=Z,16nm,1.0s,mb4.5						
HAU				LR	LR		
	comp=Z,360nm,20.0s,MS3.9						
SBF	**Sospel**	**25.12**	**64**	*eP*	**P**	**00 49 38.1**	**+2.0**
	comp=Z,82nm,1.1s,mb4.9						
SBF	**Sospel**	**25.12**	**64**	*eP*	**P**	**00 49 38.1**	**+2.0**
SBF				pmax	pmax		
	comp=Z,41nm,1.1s,mb4.9						
SBF	**Sospel**	**25.12**	**64**	*eP*	**P**	**00 49 38.1**	**+2.0**
	comp=Z,41nm,1.1s,mb4.9						
HINF	**Hinteralfeld**	**25.34**	**55**	*eP*	**P**	**00 49 38.4**	**+0.4**
	comp=Z,26nm,1.2s,mb4.3						
HINF	**Hinteralfeld**	**25.34**	**55**	*eP*	**P**	**00 49 38.4**	**+0.4**
HINF				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
HINF	**Hinteralfeld**	**25.34**	**55**	*eP*	**P**	**00 49 38.4**	**+0.4**
	comp=Z,13nm,1.2s,mb4.3						
WLF	**Walferdange**	**25.39**	**51**	*eP*	**P**	**00 49 38.6**	**+0.1**
WLF				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.0						
WLF	**Walferdange**	**25.39**	**51**	*eP*	**P**	**00 49 38.5**	**0.0**
	comp=Z,49nm,1.1s,mb5.0						
CDF	**Champ du Feu**	**25.76**	**54**	*eP*	**P**	**00 49 42.7**	**+0.9**
	comp=Z,28nm,1.2s,mb4.4						
CDF	**Champ du Feu**	**25.76**	**54**	*eP*	**P**	**00 49 42.7**	**+0.9**
CDF				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.4						
CDF	**Champ du Feu**	**25.76**	**54**	*eP*	**P**	**00 49 42.7**	**+0.9**
	comp=Z,14nm,1.2s,mb4.4						
BFO	**Black Forest**	**26.42**	**54**	*eP*	**P**	**00 49 48.6**	**+0.8**
BFO				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.6						
BFO	**Black Forest**	**26.42**	**54**	*eP*	**P**	**00 49 48.6**	**+0.7**
	comp=Z,30nm,1.5s,mb4.6						
DAVOX	**Davos/Dischmat**	**27.16**	**58**	LR	LR	01 00 05.9	
	comp=Z,377nm,18.2s,MS4.0,baz=262,slow=35						
KEST	**Kesra**	**27.20**	**83**	P	**P**	**00 49 56.5**	**+1.5**
	comp=Z,2.7nm,1.0s,mb3.7,baz=180,slow=15,SNR=2.0						
GRA1	**Grafenberg Arr**	**28

comp=Z,101nm,19.8s,MS3.7,baz=87,slow=36
AKASG **Malin Array Be 40.16 53** P **P 00 51 46.7 -0.5**
comp=Z,1.7nm,0.8s,mb3.9,baz=271,slow=8.2,SNR=12
ARCES **ARCESS Array B 42.03 24** P **P 00 52 01.2 -1.1**
comp=Z,1.9nm,0.6s,mb3.9,baz=236,slow=8.0,SNR=13
ARCES LR LR 01 07 55.0
comp=Z,94nm,18.8s,MS3.7,baz=24,slow=34
ELN Prospectdale 44.24 288 P **P 00 52 22.0 +1.4**
OBN Obninsk 44.47 46↑ *e*P **P 00 52 21.1 -1.1**
OBN *e* 00 54 03.9
OBN *e* 00 54 08.5
OBN *e*S **S 00 58 53.2 -3.8**
OBN *e*SS SS 01 02 05.9 -10
OBN pmax pmax
comp=Z,23nm,1.9s,mb4.6
OBN MLR MLR
comp=Z,200nm,17.0s,MS4.1
FCC Fort Churchill 48.86 320 *e*P **P 00 52 56.7 +0.1**
FCC pmax pmax
comp=Z,13nm,1.3s,mb4.8
FCC Fort Churchill 48.86 320 *e*P **P 00 52 56.7 +0.1**
comp=Z,13nm,1.3s,mb4.8
MALT Malatya 48.94 68 *e*P **P 00 52 57.5 0.0**
MALT pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
MALT Malatya 48.94 68 *e*P **P 00 52 57.5 +0.1**
comp=Z,2.0nm,0.7s,mb4.3
RES Resolute Bay 49.45 341 *e*P **P 00 52 56.9 -4.0**
SDV Santo Domingo 50.22 248 *e*P **P 00 53 09.4 +1.9**
SIUC Southern Illin 50.45 292 P **P 00 53 10.1 +1.1**
FVM French Village 51.26 292 *e*P **P 00 53 15.6 +0.5**
ULM Lac du Bonnet 51.36 309 LR LR 01 12 55.3
comp=Z,191nm,19.8s,MS4.1,baz=38,slow=34
OXF Oxford 51.78 288 *e*P **P 00 53 19.2 +0.2**
OXF pmax pmax
comp=Z,45nm,1.2s,mb5.3
OXF Oxford 51.78 288 *e*P **P 00 53 19.2 +0.2**
comp=Z,45nm,1.2s,mb5.3
MIAR Mount Ida 54.92 290 *e*P **P 00 53 41.8 -0.3**
MIAR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
MIAR Mount Ida 54.92 290 *e*P **P 00 53 41.8 -0.3**
comp=Z,9.4nm,1.0s,mb4.8
ROSC El Rosal 55.63 247 LR LR 01 14 50.3
comp=Z,152nm,19.2s,MS4.1,baz=24,slow=33
ARU Arti 56.44 41 *c i*P **P 00 53 53.1 +0.4**
ARU *e*S **S 01 01 36.2 -7.2**
ARU *e* 01 54 52.5
ARU *e* 01 55 56.4
ARU pmax pmax
comp=Z,278nm,18.3s
ARU Arti 56.44 41 *e*P **P 00 53 53.0 +0.3**
comp=Z,12nm,1.1s,mb4.8
BDFB Brasilia 56.93 207 P **P 00 53 58.9 +2.3**
comp=Z,1.7nm,0.6s,mb4.3,baz=48,slow=16,SNR=4.3
SVE Sverdlovsk 57.40 41⇓ *e*P **P 00 54 00.4 +0.9**
SVE pmax pmax
comp=Z,3.0nm,0.3s,mb4.8
YKA Yellowknife Ar 57.92 327 P **P 00 54 02.3 -0.8**
comp=Z,0.5nm,0.9s,mb3.6,baz=71,slow=7.3,SNR=7.3
WMOK Wichita Mounta 58.73 292 *e*P **P 00 54 09.1 -0.1**
AMTX Amarillo 60.80 293 *e*P **P 00 54 24.4 +0.9**
JCT Junction City 61.43 288 *e*P **P 00 54 28.2 +0.4**
RLMT Red Lodge 61.59 307 *e*P **P 00 54 34.1 +5.5**
SDCO Great Sand Dun 62.27 298 *e*P **P 00 54 34.0 +0.6**
comp=Z,0.9nm,0.7s,mb4.0
INK Inuvik 62.58 337 *e*P **P 00 54 35.6 +0.7**
WALA Waterton Lakes 62.76 312 P **P 00 54 36.3 -0.1**
IMW Indian Meadow 63.20 306 *e*P **P 00 54 42.0 +2.6**
comp=Z,22nm,2.0s,mb4.9
CHMT Chamberlain Mo 63.31 310 *e*P **P 00 54 39.8 -0.3**
GDL2 Guadalupe Moun 64.03 292 *e*P **P 00 54 47.2 +2.1**
PV10 Paradox Valley 64.46 300 P **P 00 54 49.4 +1.5**
TXAR Lajitas Array 64.91 289 P **P 00 54 51.5 +0.6**
comp=Z,4.4nm,0.7s,mb4.6,baz=77,slow=6.9,SNR=23
TXAR LR LR 01 23 35.3
comp=Z,111nm,18.5s,MS4.1,baz=5.0,slow=36
LAZ Ladron 65.01 295 *e*P **P 00 54 52.9 +1.4**
DLBC Dease Lake 66.54 326 *e*P **P 00 55 00.0 -0.9**
MSU Marysvale 66.56 301 *e*P **P 00 55 01.7 +0.3**
DAWY Dawson 66.97 334 *e*P **P 00 55 05.8 +2.3**
LPAZ La Paz 67.13 226 LR LR 01 20 28.2
comp=Z,101nm,20.7s,MS4.0,baz=195,slow=32
KURK Kurchatov 69.64 41 *e*P **P 00 55 20.3 -0.2**
KURK pmax pmax
comp=Z,15nm,1.5s,mb4.7
KURK Kurchatov 69.64 41 *e*P **P 00 55 20.2 -0.2**
comp=Z,15nm,1.5s,mb4.7
TIXI Tiksi 69.94 9⇓ *i*P **P 00 55 22.2 +0.2**
TIXI pmax pmax
comp=Z,11nm,1.4s,mb4.6
TIXI Tiksi 69.94 9 *e*P **P 00 55 21.4 -0.6**
comp=Z,6.2nm,0.9s,mb4.5
IMA2 Indian Mountai 70.00 340 *e*P **P 00 55 23.6 +1.1**
CPUP Villa Florida 70.23 211 P **P 00 55 25.0 +0.7**
CPUP Villa Florida 70.23 211 LR LR 01 23 36.4
comp=Z,116nm,18.8s,MS4.2,baz=37,slow=34
MCK McKinley 70.33 337 P **P 00 55 25.6 +1.0**
MCK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MCK McKinley 70.33 337 P **P 00 55 25.6 +1.0**
comp=Z,7.6nm,0.9s,mb4.6
ZAL Zalesovo 70.86 36 P **P 00 55 27.9 0.0**
ZALV Zalesovo Beam 70.86 36 P **P 00 55 27.9 -0.1**
comp=Z,1.4nm,0.5s,mb4.1,baz=310,slow=5.6,SNR=6.6
ZALV LR LR 01 29 53.8
comp=Z,64nm,18.5s,MS3.9,baz=15,slow=39
AAK Ala-Archa 71.77 50↑ *e*P **P 00 55 35.0 +1.3**
AAK pmax pmax
comp=Z,11nm,2.0s,mb4.4
MK31 Makanchi Array 73.89 43 *e*P **P 00 55 45.3 -0.9**
MKAR Makanchi Array 73.89 43 *i*P **P 00 55 46.2 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 73.89 43 P **P 00 55 46.3 +0.2**
comp=Z,1.5nm,0.8s,mb4.0,baz=324,slow=5.7,SNR=12
MKAR LR LR 01 28 53.3
comp=Z,178nm,18.3s,MS4.4,baz=353,slow=36
BILL Bilibino 74.88 356↑ *e*P **P 00 55 51.2 -0.3**
BILL pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
YAK Yakutsk 79.04 12↑ *e*P **P 00 56 16.0 +0.9**
YAK pmax pmax
comp=Z,19nm,1.4s,mb4.8
BOD Bodaibo 79.25 21 *e*P **P 00 56 14.7 -1.6**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOSA Boshof 80.32 137 LR LR 01 30 28.4
comp=Z,108nm,18.1s,MS4.2,baz=142,slow=34
SONM Songino Array 84.78 31 P **P 00 56 46.9 +1.4**
SONM LR LR 01 38 32.9
SONM Songino Array 84.78 31 P **P 00 56 46.9 +1.4**
comp=Z,4.4nm,0.9s,mb4.6,baz=310,slow=5.3,SNR=13
SONM LR LR 01 38 32.9
comp=Z,96nm,18.1s,MS4.2,baz=138,slow=39
ULN Ulaanbaatar 85.03 30 *e*P **P 00 56 47.4 +0.6**
ULN pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
ULN Ulaanbaatar 85.03 30 *e*P **P 00 56 47.4 +0.6**
comp=Z,5.8nm,0.9s,mb4.7
DANN Dangsing 86.41 57 *e*P **P 00 56 54.9 +0.9**
comp=Z,34nm,0.8s,mb5.6
KOLN Koldanda 86.67 58 *e*P **P 00 56 56.3 +1.0**
GKN Gorkha 87.22 57 *e*P **P 00 56 58.8 +0.8**
KKN Kakani 87.79 57 *e*P **P 00 57 01.9 +1.2**
comp=Z,7.2nm,0.5s,mb5.2
DMN Daman 87.79 57 *e*P **P 00 57 02.3 +1.6**
GUN Gumba 88.11 56 *e*P **P 00 57 03.1 +0.9**
comp=Z,32nm,1.0s,mb5.5
JIRN Jiri 88.48 56 *e*P **P 00 57 05.3 +1.3**
comp=Z,27nm,1.2s,mb5.4
WRA Warramunga Arr 154.85 53 PKPbc PKPbc 01 04 13.8 +0.6
comp=Z,0.6nm,0.6s,baz=316,slow=2.3,SNR=3.5
WRA PKPab PKPab 01 04 27.2 -1.0
comp=Z,0.7nm,0.6s,baz=322,slow=4.3,SNR=5.4
ASAR Alice Springs 157.14 60 PKPab PKPab 01 04 38.6 +0.6
comp=Z,1.4nm,0.8s,baz=323,slow=4.4,SNR=10.0

*ATH **09** 00:53:19.8, 3494N×2303E, h10km, MD3.5/3*
*CSEM **09** 00:53:20.5±0.3, 3493N×2298E, h15km, ML3.3, Error ellipse: s-maj=7.1km s-min=2.0km az=29.0*
*NEIC **09** 00:53:20.8, 3499N×2303E, h4km, MD3.5(ATH), ML3.3(THE), After THE.*

*THE **09** 00:53:20.8, 3499N×2303E, h3km, ML3.3*
ISC 09 00:53:19.3±1.6, 3490N±008×2298E±007, h6km±8km, n23, σ0$61/31, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.91**	**93**	*e*Pg		**Pg**	**00 53 37.0**	**+0.2**
GVD				*e*Sg		**Sg**	**00 53 50.2**	**+1.6**
GVD	**Gavdhos**	**0.91**	**93**	*e*Pb		**Pb**	**00 53 36.5**	**-1.0**
GVD	**Gavdhos**	**0.91**	**93**	*e*Pg		**Pg**	**00 53 37.0**	**+0.2**
GVD				*e*Sg		**Sg**	**00 53 50.2**	**+1.6**
KARN	**Karanos**	**0.92**	**57**	*e*Pg		**Pg**	**00 53 36.6**	**-0.3**
KARN				*e*Sg		**Sg**	**00 53 49.2**	**+0.4**
VAM	**Vamos**	**1.12**	**63**	*e*PB		**Pb**	**00 53 40.0**	**-1.1**
KYTH	**Kithira**	**1.38**	**2**	*e*PB		**Pb**	**00 53 45.0**	**-0.5**
SIVA	**Sivas**	**1.51**	**85**	*e*Pg		**Pg**	**00 53 47.2**	**-1.0**
SIVA				*e*Sg		**Sg**	**00 54 07.6**	**-0.1**
LAST	**Lasithi**	**2.07**	**82**	*e*Pn		**Pn**	**00 53 55.2**	**+0.6**
LAST				*e*Sn		**Sn**	**00 54 20.6**	**0.0**
PYL	**PYLOS**	**2.23**	**334**	*e*Pn		**Pn**	**00 53 56.3**	**-0.5**
PYL				*e*Sn		**Sn**	**00 54 24.6**	**-0.1**
SANT	**Santorini**	**2.50**	**53**	*e*Pn		**Pn**	**00 53 59.8**	**-0.7**
DID	**Didima**	**2.61**	**5**	*e*Pn		**Pn**	**00 54 02.2**	**+0.2**
ZKR	**Zakros**	**2.67**	**84**	*e*Pn		**Pn**	**00 54 03.3**	**+0.6**
LTK	**Loutraki**	**3.12**	**360**	*e*Pn		**Pn**	**00 54 09.2**	**+0.2**
SELA	**Sela**	**3.48**	**346**	*e*Pn		**Pn**	**00 54 14.9**	**+1.0**
LKR	**Lokris**	**3.75**	**0**	*e*Pn		**Pn**	**00 54 17.3**	**-0.3**
LKD	**Levkas**	**4.24**	**335**	*e*Pn		**Pn**	**00 54 24.8**	**+0.5**
CHOS	**Chios island**	**4.27**	**34**	*e*Pn		**Pn**	**00 54 24.2**	**-0.6**
XOR	**Xorichti**	**4.46**	**2**	*e*Pn		**Pn**	**00 54 27.6**	**+0.2**
PAIG	**Paliouri**	**5.05**	**6**	*e*Pn		**Pn**	**00 54 35.3**	**-0.2**
MEV	**Metsovon**	**5.07**	**345**	*e*Pn		**Pn**	**00 54 36.7**	**+0.8**
LIT	**Litokhoron**	**5.21**	**356**	*e*Pn		**Pn**	**00 54 37.5**	**-0.2**
LIT				*e*Sn		**Sn**	**00 55 38.2**	**+0.2**
LIT	**Litokhoron**	**5.21**	**356**	*e*Pn		**Pn**	**00 54 37.5**	**-0.2**
LIT				S		**Sn**	**00 55 38.2**	**+0.1**
SOH	**Sokhos**	**5.92**	**3**	*e*Pn		**Pn**	**00 54 47.8**	**+0.3**

*NEIC **09** 00:57:57.4, 3176S×7207W, h33km, ML3.6(GUC), After GUC.*
GUC 09 00:57:57.4±0.8, 3176S×7207W, h33km±2km, MD4.0, ML3.6, 4C-9D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.08**	**58**⇓	*i*P		Pn	00 58 16.6	+0.3
CMCH				*i* S		Sn	00 58 31.8	+1.6
CMCH	**Combarbala**	**1.08**	**58**⇓	*i*P		Pn	00 58 16.6	+0.3
CMCH				*i* S		Sn	00 58 31.8	+1.6
CMCH				AML		AML	00 58 33.4	
	comp=E,11μm,0.7s							
PTCH	**Petorca**	**1.09**	**118**⇓	*i*P		Pn	00 58 16.9	+0.5
PTCH				*i* S		Sn	00 58 31.4	+1.1
PTCH	**Petorca**	**1.09**	**118**⇓	*i*P		Pn	00 58 16.9	+0.5
PTCH				*i* S		Sn	00 58 31.4	+1.1
PTCH				AML		AML	00 58 32.7	
	comp=N,695nm,0.2s							
IHA	**Instituto Hidr**	**1.31**	**164**⇑	*i*P		Pn	00 58 20.0	+0.5
OVCH	**Ovalle**	**1.37**	**33**⇓	*i*P		Pn	00 58 21.4	+1.3
OVCH				*i* S		Sn	00 58 38.9	+1.7
ROCH	**El Roble**	**1.50**	**144**	*e*P		Pn	00 58 24.1	+2.0
ROCH				*i* S		Sn	00 58 44.3	+3.7
JACH	**Jahuel**	**1.55**	**127**	*e*P		Pn	00 58 24.4	+1.7
JACH				*i* S		Sn	00 58 44.3	+2.6
PEL	**Peldehue**	**1.81**	**140**⇓	*i*P		Pn	00 58 27.6	+1.4
PEL				*i* S		Sn	00 58 50.5	+2.4
PEL				AML		AML	00 59 00.3	
	comp=E,2μm,0.5s							
TLL	**Tololo Astrono**	**1.92**	**35**	*e*P		Pn	00 58 29.8	+2.0
TLL				*i* S		Sn	00 58 54.8	+3.9
TLL	**Tololo Astrono**	**1.92**	**35**	*e*P		Pn	00 58 29.8	+2.0
TLL				*i* S		Sn	00 58 54.8	+3.9
TLL				AML		AML	00 59 03.8	
	comp=N,607nm,0.9s							
LSCH	**La Serena**	**1.98**	**21**	*e*P		Pn	00 58 31.8	+3.2
RCDM	**Rinconada Maip**	**2.03**	**149**⇓	*i*P		Pn	00 58 30.6	+1.3
RCDM				*i* S		Sn	00 58 55.9	+2.4
RCDM	**Rinconada Maip**	**2.03**	**149**⇓	*i*P		Pn	00 58 30.6	+1.3
RCDM				*i* S		Sn	00 58 55.9	+2.4
RCDM				AML		AML	00 58 59.6	
	comp=E,413nm,0.4s							
CLCH	**Cerro Calan**	**2.08**	**142**	*e*P		Pn	00 58 31.5	+1.4
CLCH				*i* S		Sn	00 58 57.4	+2.6
CLCH				AML		AML	00 59 06.3	
	comp=N,950nm,0.5s							
TACH	**Talagante**	**2.12**	**153**	*e*P		Pn	00 58 32.1	+1.6
TACH				*i* S		Sn	00 58 57.9	+2.3
FCH	**Farellones**	**2.17**	**137**⇑	*i*P		Pn	00 58 32.8	+1.6
FCH				*i* S		Sn	00 59 00.3	+3.4
FCH				AML		AML	00 59 07.6	
	comp=E,476nm,0.4s							
ANTU	**Antumapu**	**2.17**	**147**	*e*P		Pn	00 58 32.5	+1.3
ANTU				*i* S		Sn	00 58 59.7	+2.7
ANTU	**Antumapu**	**2.17**	**147**	*e*P		Pn	00 58 32.5	+1.3
ANTU				*i* S		Sn	00 58 59.7	+2.7
ANTU				AML		AML	00 59 12.9	
	comp=E,542nm,0.5s							
PCH	**Pirque**	**2.27**	**145**	*e*P		Pn	00 58 34.2	+1.5
CHCH	**Chadas Angostu**	**2.48**	**152**	*e*P		Pn	00 58 37.7	+2.3
LMEL	**Las Melosas**	**2.61**	**143**⇑	*i*P		Pn	00 58 39.3	+2.0
LMEL				*i* S		Sn	00 59 10.8	+3.0
LMEL	**Las Melosas**	**2.61**	**143**⇑	*i*P		Pn	00 58 39.3	+2.0
LMEL				*i* S		Sn	00 59 10.8	+3.0
LMEL				AML		AML	00 59 22.8	
	comp=N,423nm,0.2s							
CACH	**El Canelo**	**2.66**	**153**⇓	*i*P		Pn	00 58 40.6	+2.7
CACH				*i* S		Sn	00 59 13.1	+4.1
CICH	**Cipreses**	**2.91**	**152**	*e*P		Pn	00 58 43.5	+2.2
CICH				*e*S		Sn	00 59 18.1	+3.0
SFDO	**San Fernando**	**2.98**	**163**	*e*P		Pn	00 58 43.7	+1.3
LCO	**Las Campanas**	**2.98**	**24**	*e*Pn		Pn	00 58 43.2	+0.8
LCO				*e*Sn		Sn	00 59 18.1	+1.0

*CSEM **09** 01:08:54.9±0.9, 3720N×2462W, h0km, ML3.7, Error ellipse: s-maj=4.4km s-min=2.8km az=83.0, After PDA*
PDA 09 01:08:54.9±0.9, 3720N×2462W, h0km, MD4.0, ML3.7, Error ellipse: s-maj=4.4km s-min=2.8km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.41**	**242**	*e*P		Pg	01 09 02.3	-0.4
PSMN				*e*S		Sg	01 09 08.3	+0.2
CMLA	**Cha da Macela**	**0.92**	**308**	*e*P		Pg	01 09 10.0	-2.5
CMLA				*i* S		Sg	01 09 21.2	-3.2
CMLA				A			01 09 23.6	
	779nm,0.3s							
CMLA	**Cha da Macela**	**0.92**	**308**	*e*P		Pg	01 09 10.0	-2.5
CMLA				*i* S		Sg	01 09 21.2	-3.2
PDA	**Ponta Delgada**	**1.00**	**304**	*e*P		Pg	01 09 11.5	-2.5
PDA				*e*S		Sg	01 09 23.3	-3.7
PSET	**Sete Cidades**	**1.08**	**306**	*e*P		Pg	01 09 12.8	-2.8
PSET				*e*S		Sg	01 09 25.4	-4.1
PSET				A			01 09 30.5	
	782nm,0.3s							
PSET	**Sete Cidades**	**1.08**	**306**	*e*P		Pg	01 09 12.8	-2.8
PSET				*e*S		Sg	01 09 25.4	-4.1
PSCM	**Serra do Cume**	**2.48**	**308**	*e*P		Pn	01 09 32.1	-4.5
PSCM				*e*S		Sn	01 09 59.9	-7.6
PSCM				A			01 10 02.4	
	122nm,0.2s							
PSCM	**Serra do Cume**	**2.48**	**308**	*e*P		Pn	01 09 32.1	-4.5
PSCM				*e*S		Sn	01 09 59.9	-7.6
ADH	**Angra Heroismo**	**2.53**	**306**	*e*P		Pn	01 09 33.2	-4.0
ADH				*e*S		Sn	01 10 01.4	-7.3
PMAN	**Manadas**	**3.10**	**299**	*e*P		Pn	01 09 41.3	-3.7
PMAN				*e*S		Sn	01 10 14.6	-8.1
PMAN				A			01 10 18.6	
	39nm,0.3s							
PMAN	**Manadas**	**3.10**	**299**	*e*P		Pn	01 09 41.3	-3.7
PMAN				*e*S		Sn	01 10 14.6	-8.1
ROSA	**Rosais**	**3.24**	**299**	*e*P		Pn	01 09 43.5	-3.5
ROSA				*e*S		Sn	01 10 19.1	-7.2
PICO	**Pico**	**3.28**	**294**	*e*P		Pn	01 09 44.9	-2.7
PICO				*e*S		Sn	01 10 21.0	-6.3
HOR	**Horta**	**3.44**	**294**	*e*P		Pn	01 09 46.4	-3.4
HOR				*e*S		Sn	01 10 24.5	-6.7
CALA	**Caldeira**	**3.52**	**294**	*e*P		Pn	01 09 46.9	-3.9
CALA				*e*S		Sn	01 10 25.6	-7.4

*CSEM **09** 01:12:37.0±0.9, 3719N×2455W, h5km, ML3.1, Error ellipse: s-maj=5.8km s-min=3.5km az=82.0, After PDA*
PDA 09 01:12:37.0±0.9, 3719N×2455W, h5km, MD3.7, ML3.1, Error ellipse: s-maj=5.8km s-min=3.5km az=82.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**246**	*e*P		Pg	01 12 44.8	-0.9
PSMN				*e*S		Sg	01 12 51.1	-0.6
CMLA	**Cha da Macela**	**0.97**	**307**	*e*P		Pg	01 12 52.5	-3.1
CMLA				*e*S		Sg	01 13 03.9	-4.3
CMLA				A			01 13 08.2	
	303nm,0.3s							
CMLA	**Cha da Macela**	**0.97**	**307**	*e*P		Pg	01 12 52.5	-3.1
CMLA				*e*S		Sg	01 13 03.9	-4.3
PDA	**Ponta Delgada**	**1.05**	**303**	*e*S		Sg	01 13 05.6	-5.2
PSET	**Sete Cidades**	**1.13**	**305**	*e*P		Pg	01 12 54.7	-4.0
PSET				*e*S		Sg	01 13 08.0	-5.4
PSET				A			01 13 10.3	
	227nm,0.3s							
PSET	**Sete Cidades**	**1.13**	**305**	*e*P		Pg	01 12 54.7	-4.0
PSET				*e*S		Sg	01 13 08.0	-5.4
PMAN	**Manadas**	**3.15**	**298**	*e*S		Sn	01 13 57.4	-7.9
PMAN				A			01 14 00.9	
	16nm,0.2s							
ROSA	**Rosais**	**3.30**	**299**	*e*P		Pn	01 13 26.0	-3.3
ROSA				*e*S		Sn	01 14 02.2	-6.7
PICO	**Pico**	**3.34**	**294**	*e*P		Pn	01 13 27.1	-2.8
PICO				*e*S		Sn	01 14 03.0	-6.9
CALA	**Caldeira**	**3.57**	**294**	*e*P		Pn	01 13 29.5	-3.5
CALA				*e*S		Sn	01 14 08.0	-7.6

IDC 09 01:27:58.9±13.0, 2114S×17898E, h333km±129km, mb3.4/4, mb1 3.7/4, mb1mx3.3/13, mbtmp3.4/4, Error ellipse: s-maj=72.2km s-min=38.5km az=9.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**41.62**	**258**	P		P	01 35 16.1	+0.4
	0.3nm,0.4s,baz=94,slow=9.2,SNR=7.4							
WRA	**Warramunga Arr**	**41.72**	**263**	P		P	01 35 15.9	-0.6
	1.1nm,0.3s,baz=101,slow=8.6,SNR=4.2							
TXAR	**Lajitas Array**	**89.79**	**58**	P		P	01 40 19.8	-0.6
	1.0nm,0.8s,baz=226,slow=3.3,SNR=4.1							
PLCA	**Paso Flores**	**90.86**	**135**	P		P	01 40 25.7	+0.4
	2.5nm,1.1s,baz=233,slow=6.0,SNR=2.9							
ARCES	**ARCESS Array B**	**129.01**	**348**	PKP		PKPdf	01 46 25.6	-0.9
	3.4nm,0.9s,baz=354,slow=3.8,SNR=3.9							
FINES	**FINESS Array B**	**135.55**	**342**	PKhKP			01 46 29.8	
	0.4nm,0.5s,baz=48,slow=2.8,SNR=4.5							
HFS	**Hagfors**	**139.67**	**349**	PKhKP			01 46 41.7	
	3.2nm,0.5s,baz=62,slow=3.5,SNR=26							
AKASG	**Malin Array Be**	**142.15**	**329**	PKP		PKPdf	01 46 49.4	-2.1
	1.0nm,0.5s,baz=47,slow=4.0,SNR=11							
MMAI	**Mount Meron Ar**	**145.65**	**298**	PKPbc		PKPbc	01 46 58.5	-0.6
	2.5nm,0.6s,baz=57,slow=6.2,SNR=12							
EKA	**Eskdalemuir Ar**	**145.82**	**2**	PKPbc		PKPbc	01 46 59.3	+0.4
	3.1nm,1.0s,baz=352,slow=3.1,SNR=5.5							

*ISCJB **09** 01:45:60.0±0.3, 3828N±002×2159E±002, h11km±2km, mb3.7/10, Error ellipse: s-maj=2.8km s-min=2.3km az=19.0*
*IDC **09** 01:46:00.5±1.4, 3851N×2160E, h0km, mb3.8/10, mb1 3.8/15, mb1mx3.7/28, mbtmp3.7/15, ML3.7/5, Error ellipse: s-maj=26.2km s-min=15.4km az=6.0*
*CSEM **09** 01:46:00.8±0.1, 3827N×2164E, h5km, ML4.2, Error ellipse: s-maj=1.5km s-min=1.0km az=20.0*
*ATH **09** 01:46:00.8, 3826N×2166E, h19km±1km, MD4.0/22, ML3.7*
*NEIC **09** 01:46:00.8, 3826N×2166E, h19km, ML4.2(THE), ML3.7(ATH), After ATH.*
*THE **09** 01:46:01.4, 3825N×2162E, h14km, ML4.2*
*MOS **09** 01:46:02.4±1.6, 3826N×2151E, h33km, mb3.9/6, Error ellipse: s-maj=7.7km s-min=4.4km az=83.9*
ISC 09 01:46:01.1±0.3, 3827N±002×2162E±002, h11km±2km, n144, σ1$38/190, mb3.7/10, 5C-8D, Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.22**	**87**	*e*Pg		**Pg**	**01 46 06.3**	**+0.7**
SELA				*e*Sg		**Sg**	**01 46 10.0**	**+1.2**
SELA	**Sela**	**0.22**	**87**	*e*Pg		**Pg**	**01 46 06.3**	**+0.6**
SELA				*e*Sg		**Sg**	**01 46 10.0**	**+1.2**
RLS	**Riolos of Patr**	**0.24**	**210**	*e*PB		**Pg**	**01 46 07.2**	**+1.2**
RLS				*e*SB		**Sg**	**01 46 11.1**	**+1.8**
EVR	**Evrytania**	**0.67**	**13**	*e*PB		**Pb**	**01 46 13.5**	**-1.3**
EVR				*e*SN		**Sg**	**01 46 23.4**	**+0.6**
KFL	**Anninata**	**0.67**	**257**	*e*Pg		**Pg**	**01 46 13.9**	**-0.2**
VLS	**Valsamata**	**0.81**	**264**	*e*Pg		**Pg**	**01 46 15.9**	**-0.9**
VLS				*e*Sg		**Sg**	**01 46 28.6**	**+1.2**
VLS	**Valsamata**	**0.81**	**264**	*e*Pn		**Pn**	**01 46 16.1**	**-2.3**
VLS				*e*Sg		**Sg**	**01 46 28.6**	**+1.2**
VLS				*e*Sn		**Sn**	**01 46 29.3**	**-1.2**
LKD	**Levkas**	**0.88**	**301**	*e*Pg		**Pg**	**01 46 17.0**	**-1.0**
LKD				*e*Sg		**Sg**	**01 46 30.9**	**+1.4**
AGG	**Agios Georgios**	**0.94**	**36**	*e*Pg		**Pg**	**01 46 18.1**	**-1.1**
AGG				*e*Sg		**Sg**	**01 46 31.8**	**+0.3**
AGG	**Agios Georgios**	**0.94**	**36**	*e*Pg		**Pg**	**01 46 18.1**	**-1.1**
AGG				*e*Sg		**Sg**	**01 46 31.8**	**+0.3**
VLX	**Vlachokerasia**	**1.08**	**146**	*e*Pg		**Pg**	**01 46 20.4**	**-1.4**
VLX				*e*Sg		**Sg**	**01 46 36.2**	**+0.4**
LTK	**Loutraki**	**1.09**	**102**	*e*Pg		**Pg**	**01 46 21.1**	**-1.0**
LTK				*e*Sg		**Sg**	**01 46 36.4**	**+0.1**
ITM	**Ithomi**	**1.11**	**167**	*e*PN		**Pn**	**01 46 21.9**	**-0.6**
ITM				*e*SN		**Sn**	**01 46 36.7**	**-1.1**
LKR	**Lokris**	**1.15**	**70**	*e*Pg		**Pg**	**01 46 21.1**	**-2.1**
LKR				*e*Sg		**Sg**	**01 46 38.5**	**+0.3**
LKR	**Lokris**	**1.15**	**70**	*e*Pn		**Pn**	**01 46 21.9**	**-1.2**
LKR				*e*Sg		**Sg**	**01 46 38.5**	**+0.3**
PYL	**PYLOS**	**1.37**	**176**	*e*Pg		**Pg**	**01 46 25.7**	**-1.7**
PYL				*e*Sg		**Sg**	**01 46 44.5**	**-0.7**
DID	**Didima**	**1.49**	**120**	*e*Pg		**Pg**	**01 46 27.2**	**-2.4**
DID				*e*Sg		**Sg**	**01 46 46.9**	**-2.1**
DID	**Didima**	**1.49**	**120**	*e*Pg		**Pg**	**01 46 27.2**	**-2.5**
DID				*e*Sg		**Sg**	**01 46 46.8**	**-2.2**
JAN	**Janina**	**1.51**	**337**	*e*PN		**Pn**	**01 46 30.1**	**+2.0**
JAN				*e*SN		**Sn**	**01 46 49.9**	**+2.1**
MEV	**

LIA	Limnos Island	3.22	58	ePn		Pn	01 46 51.0	-0.5
SRS	Serrai	3.23	28	ePn		Pn	01 46 51.7	0.0
APE	Apeiranthos	3.33	110	ePn		Pn	01 46 53.0	0.0
APE				eSn		Sn	01 47 32.2	-0.3
APE	Apeiranthos	3.33	110	eP		Pn	01 46 53.6	+0.6
APE	Apeiranthos	3.33	110	⇓iP		Pn	01 46 51.9	-1.1
APE	Apeiranthos	3.33	110	i Pn		Pn	01 46 53.3	+0.3
APE				eSn		Sn	01 47 32.2	-0.3
LCI	Lecce	3.42	308	Pn		Pn	01 46 54.4	+0.2
STIP	Stip	3.45	7	ePn		Pn	01 46 56.7	+1.9
STIP	Stip	3.45	7	i Pn		Pn	01 46 56.6	+1.8
CHOS	Chios island	3.49	87	ePn		Pn	01 46 55.7	+0.4
QSH	Qafa e Shtames	3.51	339	ePn		Pn	01 46 59.0	+3.5
VAM	Vamos	3.53	143	ePN		Pn	01 46 56.7	+0.9
NVR	Nevrokopi	3.53	29	ePN		Pn	01 46 57.3	+1.4
SKO	Skopje	3.71	358	ePn		Pn	01 47 04.7	+6.5
PRK	Paraskevi	3.77	73	ePN		Pn	01 47 01.0	+1.9
PRK	Paraskevi	3.77	73	eP		Pn	01 47 02.0	+2.9
TIP	Timpagrande	3.91	285	ePn		Pn	01 47 01.8	+0.8
TIP				eSn		Sn	01 47 46.1	-0.7
TIP	Timpagrande	3.91	285	ePn		Pn	01 47 01.8	+0.8
TIP				eSn		Sn	01 47 46.1	-0.7
GVD	Gavdhos	3.96	149	ePN		Pn	01 47 04.0	+2.3
PE1	Pezze di Greco	4.12	309	ePn		Pn	01 47 03.8	-0.1
PE1				eSn		Sn	01 47 51.5	-0.5
SMG	Samos	4.16	96	ePN		Pn	01 47 05.3	+0.8
RDO	Rodhopi	4.17	45	ePN		Pn	01 47 06.3	+1.6
NPS	Neapolis	4.39	132	ePN		Pn	01 47 09.4	+1.8
VTS	Vitosha	4.49	15	⇑iP		Pn	01 47 12.0	+3.0
SG1	Sgolgore (BA)	4.60	306	ePn		Pn	01 47 10.8	+0.3
SG1				eSn		Sn	01 48 01.6	-2.3
BAI	Bari	4.63	309	ePn		Pn	01 47 11.0	+0.1
BAI				eSn		Sn	01 48 03.4	-1.2
PTRP	Pietrapertosa	4.86	299	Pn		Pn	01 47 15.7	+1.7
CDT	Castel del Mon	4.99	306	ePn		Pn	01 47 16.2	+0.3
CDT				eSn		Sn	01 48 13.1	-0.4
MGR	Morigerati 88nm,0.4s	5.07	294	Pn		Pn	01 47 17.8	+0.9
STON	Ston	5.48	328	ePn		Pn	01 47 21.0	-1.6
STON				Sn		Sn	01 48 20.8	-4.8
FGMS	Monte Sant'Ang 50nm,0.6s	5.54	310	Pn		Pn	01 47 23.6	+0.1
MS1	Monte Sant'Ang	5.55	310	ePn		Pn	01 47 23.6	+0.1
MS1				eSn		Sn	01 48 23.7	-3.6
CSSN	Cassano Irpino 11nm,0.2s	5.71	299	Pn		Pn	01 47 27.4	+1.6
FG5	Orsara di Pugl	5.74	304	P		Pn	01 47 26.9	+0.7
FG5				pmax		pmax		
	comp=Z,32nm,0.5s							
FG5	Orsara di Pugl	5.74	304	Pn		Pn	01 47 26.9	+0.7
	comp=Z,32nm,0.5s							
RGNG	Rignano Grg	5.75	308	Pn		Pn	01 47 26.1	-0.2
VAE	Valguarnera	5.75	264	Pn		Pn	01 47 29.4	+3.1
	comp=Z,0.4nm,0.3s,baz=258,slow=21,SNR=2.3							
VAE				Sn		Sn	01 48 38.6	+6.2
	comp=Z,1.0nm,0.3s,baz=175,slow=10,SNR=3.0							
MRB1	Monte Rocchett	5.87	301	Pn		Pn	01 47 29.3	+1.4
	comp=Z,105nm,0.6s							
FG2	Serracapriola	6.08	308	Pn		Pn	01 47 30.8	-0.1
	comp=Z,51nm,0.3s							
SGG	Gregorio Mates	6.38	302	Pn		Pn	01 47 36.7	+1.7
	comp=Z,34nm,0.5s							
SDI	San Donato	6.91	302	P		Pn	01 47 43.6	+1.4
SDI				pmax		pmax		
	comp=Z,12nm,0.4s							
SDI	San Donato	6.91	302	Pn		Pn	01 47 43.6	+1.4
	comp=Z,12nm,0.4s							
VVLD	Villa Vallelon	7.11	303	Pn		Pn	01 47 46.9	+1.9
	comp=Z,47nm,0.7s							
BZS	Buzias	7.35	0	⇓iP		Pn	01 47 50.3	+2.1
BZS	Buzias	7.35	0	⇓P		Pn	01 47 50.2	+2.0
VOIR		7.61	19	⇑iP		Pn	01 47 57.1	+5.3
MLR	Muntele Rosu	7.91	23	Pn		Pn	01 47 57.4	+1.4
MLR				⇓P			01 48 01.0	
MLR	Muntele Rosu	7.91	23	Pn		Pn	01 47 57.4	+1.4
	comp=Z,0.2nm,0.3s,baz=187,slow=16,SNR=2.9							
MLR	Muntele Rosu	7.91	23	⇓iP		Pn	01 48 01.0	+5.1
NRCA	Norcia	7.92	308	Pn		Pn	01 47 57.3	+1.2
	comp=Z,4.7nm,0.6s							
PKSM	Moragy	8.24	345	⇑iP		Pn	01 47 58.5	-2.0
VRI	Vrincioaia	8.49	25	⇑iP		Pn	01 48 08.6	+4.7
BOJS	Bojanci	8.65	329	ePn		Pn	01 48 05.1	-1.0
BOJS				eSn		Sn	01 49 39.6	-3.9
BOJS	Bojanci	8.65	329	ePn		Pn	01 48 05.1	-1.0
BOJS				eSn		Sn	01 49 39.6	-3.9
BOJS								
	comp=Z,15nm,0.8s							
CRES	Cresnjev	8.83	331	ePn		Pn	01 48 07.8	-0.8
CRES				eSn		Sn	01 49 44.1	-4.0
VISS	Visnje	9.06	328	ePn		Pn	01 48 10.5	-1.2
VOY	Vojsko	9.64	326	ePn		Pn	01 48 19.3	-0.4
VOY				e			01 50 02.9	
VOY				e			01 50 05.5	
OBKA	Obir	9.75	330	⇓iPn		Pn	01 48 19.3	-1.9
OBKA				⇑iSn		Sn	01 50 01.0	-10
OBKA	Obir	9.75	330	⇓iPn		Pn	01 48 19.3	-1.9
OBKA				⇓iSn		Sn	01 50 10.3	-0.4
VYHS	Vyhne	10.42	350	ePN		Pn	01 48 34.8	+4.5
VYHS				eSN		Sn	01 50 25.6	-1.4
GERES	GERESS Array B	12.03	334	Pn		Pn	01 48 52.1	-0.1
	comp=Z,0.2nm,0.3s,baz=162,slow=14,SNR=5.2							
MMAI	Mount Meron Ar	12.37	111	Pn		Pn	01 49 00.8	+3.7
	comp=Z,0.4nm,0.3s,baz=312,slow=13,SNR=3.1							
CABF	La Chapelle	14.16	311	eP		Pn	01 49 18.5	-2.9
HINF	Hinteralfeld	14.39	316	eP		Pn	01 49 21.6	-2.9
	comp=Z,3.1nm,0.6s							
CDF	Champ du Feu	14.53	319	eP		Pn	01 49 22.8	-3.6
HAU	Haudompre	14.77	316	eP		Pn	01 49 26.3	-3.5
SMF	Signal de Mont	15.54	308	eP		Pn	01 49 37.2	-2.8
	comp=Z,4.7nm,0.7s							
LOR	Lormes	15.81	310	eP		Pn	01 49 41.2	-2.3
SSF	Saint Saulge	15.93	309	eP		Pn	01 49 44.4	-0.7
	comp=Z,14nm,1.0s							
KIV	Kislovodsk	16.85	64	i P		Pn	01 50 00.4	+3.6
KIV				pmax		pmax		
	comp=Z,9.0nm,1.2s							
KIV	Kislovodsk	16.85	64	i P		Pn	01 50 00.4	+3.6
	comp=Z,9.0nm,1.2s							
OBN	Obninsk	19.66	26	eP		Pn	01 50 31.7	+0.6
OBN				pmax		pmax		
	comp=Z,7.0nm,1.6s							
OBN	Obninsk	19.66	26	eP		Pn	01 50 31.7	+0.6
	comp=Z,7.0nm,1.6s							
ESDC	Sonseca Array	19.92	282	P		Pn	01 50 33.9	-0.5
	comp=Z,0.1nm,0.3s,baz=80,slow=12,SNR=2.6							
ESDC	Sonseca Array	19.92	282	P		Pn	01 50 33.8	-0.6
HFS	Hagfors	22.46	350	P		P	01 50 57.4	-2.5
HFS				pmax		pmax		
	comp=Z,1.0nm,0.4s							
HFS	Hagfors	22.46	350	P		P	01 50 57.4	-2.5
	comp=Z,1.4nm,0.4s,mb3.8,baz=159,slow=13,SNR=13							
FINES	FINESS Array B	23.37	5	P		P	01 51 07.5	-2.0
FINES				pmax		pmax		
	comp=Z,1.0nm,0.9s							
FINES	FINESS Array B	23.37	5	P		P	01 51 07.5	-1.9
	comp=Z,1.2nm,0.9s,mb3.3,baz=172,slow=14,SNR=2.8							
NB2	NORSAR Subarra	23.71	347	P		P	01 51 11.1	-1.7
	comp=Z,2.2nm,0.7s,mb3.7,baz=160,slow=11							
NOA	NORSAR Array B	23.71	347	P		P	01 51 11.0	-1.8
NOA				pmax		pmax		
	comp=Z,2.0nm,0.7s							
NOA	NORSAR Array B	23.71	347	P		P	01 51 10.9	-1.9
	comp=Z,1.5nm,0.7s,mb3.5,baz=172,slow=12,SNR=15							
EKA	Eskdalemuir Ar	23.86	324	P		P	01 51 13.3	-0.9
EKA				pmax		pmax		
	comp=Z,5.0nm,0.8s							
EKA	Eskdalemuir Ar	23.86	324	P		P	01 51 13.3	-0.9
	comp=Z,4.8nm,0.8s,mb4.0,baz=121,slow=10,SNR=13							
AKTK	Aktyubinsk	28.44	53	P		P	01 51 54.1	-1.5
AKTO	Aktyubinsk	28.44	53	P		P	01 51 54.1	-1.5
	comp=Z,0.4nm,0.3s,mb3.5,baz=224,slow=4.7,SNR=5.3							
BVAR	Borovoye Array	36.40	50	P		P	01 53 06.4	+1.1
BVAR				pmax		pmax		
	comp=Z,1.0nm,0.7s							
BVAR	Borovoye Array	36.40	50	P		P	01 53 06.4	+1.1
	comp=Z,0.5nm,0.7s,mb3.6,baz=263,slow=2.3,SNR=3.4							
AAK	Ala-Archa	39.94	66	P		P	01 53 37.4	+2.2
AAK				pmax		pmax		
	comp=Z,1.0nm,0.4s,mb3.9							
AAK	Ala-Archa	39.94	66	P		P	01 53 37.4	+2.3
	comp=Z,1.1nm,0.4s,mb4.0,baz=198,slow=3.2,SNR=3.6							
MK31	Makanchi Array	44.52	59	eP		P	01 54 11.5	-1.0
MKAR	Makanchi Array	44.52	59	P		P	01 54 11.7	-0.8
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.6s							
MKAR	Makanchi Array	44.52	59	P		P	01 54 11.7	-0.8
	comp=Z,2.4nm,0.6s,mb4.2,baz=281,slow=7.0,SNR=25							
ZAL	Zalesovo	44.98	48	P		P	01 54 14.4	-1.6
ZALV	Zalesovo Beam	44.99	48	P		P	01 54 14.4	-1.8
	comp=Z,2.2nm,0.5s,mb4.3,baz=277,slow=8.8,SNR=6.7							
YKA	Yellowknife Ar	73.60	340	P		P	01 57 33.4	-0.5
	comp=Z,0.2nm,0.7s,mb3.2,baz=28,slow=5.5,SNR=3.1							

*ISCJB **09** 01:59:33.9±1.1, 3318N±003×3480E±008, h27km±6km,*
Error ellipse: s-maj=11.9km s-min=4.6km az=18.4
*GII **09** 01:59:34.5±0.8, 3312N×3481E, h10km±1km, ML2.6/7*
*GRAL **09** 01:59:34.5±0.8, 3329N×3472E, h34km±35km, MD2.9*
*CSEM **09** 01:59:34.5, 3329N×3472E, h34km, ML2.9, After GRAL*
ISC 09 01:59:33.2±1.1, 3318N±003×3477E±007, h15km±7km, n16, σ0⁹69/28, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNTI	Hanita	0.36	105	Pg	Pg	01 59 42.0	+1.5
HNTI				Sg	Sg	01 59 47.0	+1.6
MMC7	Mount Meron ar	0.55	106	Pg	Pg	01 59 44.4	+0.4
MMC7				Sg	Sg	01 59 51.5	+0.1
MMA0	Mount Meron ar	0.56	107	Pg	Pg	01 59 44.5	+0.3
MMA0				Sg	Sg	01 59 51.9	+0.2
MATL	Matirih	0.56	57	ePg	Pg	01 59 45.1	+0.8
OFRI	'Ofer	0.58	162	Pg	Pg	01 59 45.2	+0.5
OFRI				Sg	Sg	01 59 52.6	+0.1
KSDI	Kefar Szold	0.75	89	Pg	Pg	01 59 47.8	0.0
KSDI				Sg	Sg	01 59 57.5	-0.2
HRI	Mount Hermon	0.82	84	Pg	Pg	01 59 49.2	+0.2
KSHT	Keshet	0.90	102	Pg	Pg	01 59 50.7	0.0
MMLI	Mount Malkishu	0.92	143	Pg	Pg	01 59 50.5	-0.6
MMLI				Sg	Sg	02 00 02.5	-0.7
RCY	Rachaya	0.93	71	ePg	Pg	01 59 51.1	-0.1
RCY				eSg	Sg	02 00 03.5	0.0
SLTI	Sal'it	0.96	166	Pg	Pg	01 59 51.4	-0.4
SLTI				Sg	Sg	02 00 04.2	-0.3
BHL	Bhannes	1.04	45	ePg	Pg	01 59 52.2	-1.0
BHL				eSg	Sg	02 00 05.6	-1.2
HMDT	Nahal Hemdat	1.12	145	Pg	Pg	01 59 53.9	-0.9
HMDT				Sg	Sg	02 00 08.3	-1.2
HWQ	Hawqa	1.47	42	eSg	Sg	02 00 16.6	-4.2
DSI	Dead Sea	1.69	162	Pn	Pn	02 00 02.3	+0.3
DSI				Sn	Sn	02 00 23.0	-0.3
KZIT	Kziot	2.29	188	Pn	Pn	02 00 11.1	+0.7
KZIT				Sn	Sn	02 00 38.6	+0.4

*ISCJB **09** 02:08:47.6±0.5, 3828N±004×2162E±003, h13km±8km,*
Error ellipse: s-maj=6.5km s-min=4.2km az=178.0
*ATH **09** 02:08:47.7, 3828N×2157E, h23km, MD2.9/3*
*NEIC **09** 02:08:47.7, 3828N×2157E, h23km, MD2.9(ATH), After ATH.*
*CSEM **09** 02:08:48.5±0.1, 3828N×2160E, h15km, MD2.9, Error ellipse: s-maj=2.4km s-min=1.9km az=152.0*
*THE **09** 02:08:48.5, 3832N×2159E, h12km, ML2.6*
ISC 09 02:08:48.1±0.6, 3828N±003×2161E±003, h19km±6km, n11, σ0⁹65/19, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.22	91	ePg	Pg	02 08 53.3	0.0
SELA				eSg	Sg	02 08 57.4	+0.5
RLS	Riolos of Patr	0.25	208	⇓iPB	Pg	02 08 53.9	0.0
RLS				eSB	Sg	02 08 58.3	+0.5
EVR	Evrytania	0.65	13	ePN	Pg	02 09 00.8	-0.2
EVR				eSN	Sg	02 09 10.4	+0.7
KFL	Anninata	0.67	256	ePg	Pg	02 09 01.2	-0.1
VLS	Valsamata	0.81	263	ePg	Pg	02 09 03.2	-0.8
VLS				eSg	Sg	02 09 15.9	+1.1
LKD	Levkas	0.87	300	ePg	Pg	02 09 04.0	-1.0
LKD				eSg	Sg	02 09 16.3	-0.2
AGG	Agios Georgios	0.93	37	ePg	Pg	02 09 05.3	-0.9
AGG				eSg	Sg	02 09 19.0	+0.6
LTK	Loutraki	1.10	103	ePg	Pg	02 09 08.9	-0.5
ITM	Ithomi	1.13	167	ePN	Pn	02 09 09.4	+0.5
LKR	Lokris	1.15	71	ePg	Pg	02 09 09.9	-0.5
LKR				eSg	Sg	02 09 26.0	+0.6
DID	Didima	1.50	121	ePg	Pn	02 09 14.8	+0.8
DID				eSg	Sg	02 09 35.5	-1.1

*NNC **09** 02:23:00.5±1.6, 4229N×8427E, h0km, mb3.4, mpv3.0,*
Error ellipse: s-maj=15.1km s-min=14.1km az=14.0
BJI 09 02:23:12.6, 4273N×8410E, h12km, ML2.8, 4C-1D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	2.84	66	eP	Pn	02 23 59.5	+1.7
WMQ				S	Sn	02 24 35.5	+3.6
WMQ				Smax			
	comp=N,42nm,0.6s						
WMQ				Smax			
	comp=E,47nm,0.6s						
MK31	Makanchi Array	4.26	343	Pn	Pn	02 24 15.8	-1.5
	comp=E,1.0nm,0.7s,baz=162,slow=13,SNR=49						
MK31				⇑Pg	Pg	02 24 26.7	-7.5
	comp=E,1.8nm,0.4s,baz=158,slow=16,SNR=13						
MK31				⇑Sn	Sn	02 25 18.7	+12
	comp=E,15nm,0.7s,baz=158,slow=26,SNR=7.8						
MK31	Makanchi Array	4.26	343	Pn	Pn	02 24 15.8	-1.5
	comp=E,1.0nm,0.7s,baz=162,slow=13,SNR=49						
MK31				⇑Pg	Pg	02 24 26.7	-7.5
	comp=E,1.8nm,0.4s,baz=158,slow=16,SNR=13						
KURBB	Kurchatov Arra	8.77	336	⇑Lg		02 27 52.7	
	comp=E,2.1nm,0.7s						
KURK	Kurchatov	8.83	337	⇓Lg		02 27 54.1	
	comp=E,6.3nm,0.9s						

*CSEM **09** 02:24:42.7±1.1, 3714N×2453W, h5km, ML3.3, Error ellipse: s-maj=6.7km s-min=4.5km az=78.0, After PDA*
PDA 09 02:24:42.7±1.1, 3714N×2453W, h5km, MD3.9, ML3.3, Error ellipse: s-maj=6.7km s-min=4.5km az=78.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.45	252	eP	Pg	02 24 50.7	-0.7
PSMN				eS	Sg	02 24 56.6	-0.7
CMLA	Cha da Macela	1.01	308	eP	Pg	02 24 58.7	-3.3
CMLA				eS	Sg	02 25 10.4	-4.7
CMLA				A		02 25 14.6	
	376nm,0.4s						
CMLA	Cha da Macela	1.01	308	eP	Pg	02 24 58.7	-3.3
CMLA				eS	Sg	02 25 10.4	-4.7
PDA	Ponta Delgada	1.09	304	eS	Sg	02 25 11.9	-5.8
PSET	Sete Cidades	1.17	306	eP	Pg	02 25 01.3	-3.8
PSET				eS	Sg	02 25 14.4	-5.8
PSET				A		02 25 18.4	
	386nm,0.4s						
PSET	Sete Cidades	1.17	306	eP	Pg	02 25 01.3	-3.8
PSET				eS	Sg	02 25 14.4	-5.8
PSCM	Serra do Cume	2.57	308	eP	Pn	02 25 20.9	-4.1
PSCM				eS	Sn	02 25 48.8	-7.8
PSCM				A		02 25 51.0	
	66nm,0.2s						
PSCM	Serra do Cume	2.57	308	eP	Pn	02 25 20.9	-4.1
PSCM				eS	Sn	02 25 48.8	-7.8
ADH	Angra Heroismo	2.62	306	eP	Pn	02 25 20.7	-5.0
ADH				eS	Sn	02 25 49.6	-8.2
PMAN	Manadas	3.19	299	eS	Sn	02 26 03.9	-7.9
PMAN				A		02 26 07.2	
	27nm,0.3s						
ROSA	Rosais	3.33	299	eP	Pn	02 25 32.0	-3.4
ROSA				eS	Sn	02 26 08.4	-7.0
PICO	Pico	3.37	295	eP	Pn	02 25 33.3	-2.7
PICO				eS	Sn	02 26 10.2	-6.2
HOR	Horta	3.53	294	eS	Sn	02 26 13.3	-7.0
CALA	Caldeira	3.60	295	eP	Pn	02 25 36.1	-3.1
CALA				eS	Sn	02 26 15.5	-6.6

*IDC **09** 02:26:29.1±1.4, 3401N×8159E, h0km, mb3.6/7, mb1 3.8/8,*
mb1mx3.6/22, mbtmp3.7/8, ML3.2/1, Error ellipse:
s-maj=41.4km s-min=23.7km az=55.0
*ISCJB **09** 02:26:31.8±0.9, 343N±0.1×817E±0.1, h21km, mb3.8/8,*
Error ellipse: s-maj=18.6km s-min=11.0km az=140.4
*NEIC **09** 02:26:33.3±4.9, 3411N×8156E, h21km, 35km, mb4.1/4,*
Error ellipse: s-maj=24.3km s-min=13.3km az=221.0
*BJI **09** 02:26:38.7, 3467N×8236E, h18km, mb4.5*
ISC 09 02:26:35.5±4.8, 342N±01×816E±01, h35km±35km, n19, σ1⁹26/19, mb3.8/8, 1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	Uchtor	9.75	327	ePn	Pn	02 28 53.3	+0.1
TKM2	Tokmak 2	9.88	333	ePn	Pn	02 28 54.7	-0.3
AAK	Ala-Archa	10.09	329	ePn	Pn	02 28 57.5	-0.3
WMQ	Urumqi	10.70	24	P	Pn	02 29 05.0	-1.2
WMQ				AMB	AMB		
	comp=Z,27nm,1.0s						
MKAR	Makanchi Array	12.59	2	Pn	Pn	02 29 31.3	-0.7
MKAR	Makanchi Array	12.59	2	Pn	Pn	02 29 31.3	-0.7
	comp=Z,0.1nm,0.3s,baz=182,slow=13,SNR=18						
KURK	Kurchatov	16.64	353	eP	Pn	02 30 27.9	+2.0
	comp=Z,6.2nm,1.1s						
ZALV	Zalesovo Beam	19.87	6	P	Pn	02 31 03.4	-1.8
	comp=Z,0.6nm,0.3s,baz=190,slow=7.3,SNR=3.7						
BVAR	Borovoye Array	20.44	340	P	P	02 31 10.2	+0.5
	comp=Z,4.9nm,1.1s,baz=155,slow=7.4,SNR=6.2						
BRVK	Borovoye	20.50	340	eP	P	02 31 12.5	+2.2
	comp=Z,17nm,1.2s						
CHTO	Chiang Mai	21.77	130	eP	P	02 31 23.9	-0.3
	comp=Z,2.3nm,0.4s,mb4.0						
GYA	Guiyang	22.93	103	⇓iP	P	02 31 39.3	+2.7
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.5						
SONM	Songino Array	23.01	46	P	P	02 31 38.4	+1.2
	comp=Z,1.1nm,0.5s,mb3.5,baz=203,slow=11,SNR=4.0						
AKTK	Aktyubinsk	23.66	320	P	P	02 31 42.6	-1.0
AKTO	Aktyubinsk	23.66	320	P	P	02 31 42.6	-1.0
	comp=Z,0.4nm,0.5s,mb3.1,baz=101,slow=16,SNR=3.0						
FINES	FINESS Array B	44.26	325	P	P	02 34 42.9	+1.7
	comp=Z,1.0nm,0.7s,mb3.6,baz=111,slow=11,SNR=2.4						
PSZ	Piszkesteto	47.29	306	eP	P	02 35 06.0	+0.7
	comp=Z,1.8nm,0.6s,mb4.2						
ASAR	Alice Springs	76.04	132	P	P	02 38 17.9	-1.4
	comp=Z,0.6nm,0.7s,mb3.6,baz=316,slow=5.2,SNR=3.6						
YKA	Yellowknife Ar	82.76	8	P	P	02 38 54.1	-1.4
	comp=Z,0.6nm,0.7s,mb3.8,baz=341,slow=5.6,SNR=6.8						

*ATH **09** 02:37:13.9, 3828N×2149E, h29km, MD2.7/3*
*ISCJB **09** 02:37:14.9±0.7, 3826N±006×2164E±005, h26km±7km,*
Error ellipse: s-maj=9.7km s-min=5.8km az=160.5
*CSEM **09** 02:37:15.4±0.1, 3829N×2161E, h15km, ML2.8, Error ellipse: s-maj=1.9km s-min=1.3km az=140.0*
*THE **09** 02:37:15.5, 3833N×2160E, h12km, ML2.8*
ISC 09 02:37:15.0±0.7, 3827N±006×2163E±005, h25km±7km, n10, σ1⁹00/16, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.21	88	ePg	Pb	02 37 20.3	-0.4
SELA				eSg	Sb	02 37 24.2	-0.3
RLS	Riolos of Patr	0.25	212	ePB	Pb	02 37 20.9	-0.3
RLS				eSB	Sb	02 37 25.2	-0.2
EVR	Evrytania	0.66	12	ePN	Pn	02 37 27.6	-1.2
KFL	Anninata	0.68	257	ePg	Pb	02 37 28.6	+0.3
VLS	Valsamata	0.82	264	ePg	Pb	02 37 30.3	-0.3
VLS				eSg	Sb	02 37 43.1	+1.8
VLS	Valsamata	0.82	264	ePn	Pn	02 37 28.4	-2.6
VLS	Valsamata	0.82	264	ePg	Pb	02 37 30.3	-0.3
VLS				eSg	Sb	02 37 43.1	+1.8
LKD	Levkas	0.89	300	ePg	Pb	02 37 31.1	-0.6
LKD				eSg	Sb	02 37 43.5	+0.4
AGG	Agios Georgios	0.93	36	ePg	Pb	02 37 32.5	0.0
AGG				eSg	Sb	02 37 45.4	+1.0
DID	Didima	1.48	120	ePg	Pn	02 37 41.8	+1.8

BJI 09 03:34:00.9, 3604N×9921E, h14km, ML3.6, Ms3.2, Msz3.2, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	3.40	8	PG	Pg	03 35 02.6	-3.4
GTA				SG	Sg	03 35 47.1	-3.0
GTA				Smax			
	comp=N,30nm,1.2s						
GTA				Smax			
	comp=E,70nm,1.1s						
LZH	Lanzhou	3.75	88	eP	Pn	03 35 00.0	+1.6
LZH				PG	Pg	03 35 07.7	-5.1
LZH				S	Sn	03 35 44.5	+2.1
LZH				SG	Sg	03 35 55.6	-5.9
LZH				Smax			
	comp=N,138nm,0.6s						
LZH				Smax			
	comp=E,158nm,0.8s						
LZH				LR	LR		
	comp=E,280nm,7.1s						
LZH				LR	LR		
	comp=Z,305nm,8.4s						

*IDC **09** 04:10:05.6±1.7, 829S×10740E, h0km, mb4.0/7, mb1 4.2/8,*
mb1mx4.0/18, mbtmp4.1/8, ML5.0/1, MS3.4/1, Ms1 3.4/1,
ms1mx2.9/18, Error ellipse: s-maj=98.9km s-min=17.3km az=47.0
*ISCJB **09** 04:10:09.5±5.5, 84S±01×1075E±03, h43km±47km,*
mb4.2/11, Error ellipse: s-maj=47.0km s-min=14.1km az=155.1
*NEIC **09** 04:10:12.1±3.5, 831S×10758E, h47km±28km, mb4.1/7,*
Error ellipse: s-maj=34.9km s-min=10.6km az=63.0
NEIC Felt [II] at Kuningan.
ISC 09 04:10:11.7±4.9, 84S±01×1075E±03, h44km±42km, n30, σ1⁹09/22, mb4.2/11, Jawa

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

WVT	Waverly	149.01	25	ePKPbc	PKPbc	04 29 55.9	+0.4

*TEH **09** 04:31:29.2, 3831N×4534E, h6km, ML3.7*
*TIF **09** 04:32:45.8, 3831N×4576E, h11km±3km*
*NSSP **09** 04:32:48.3, 3837N×4563E, h10km, ML3.6*
*THR **09** 04:32:50.8±0.8, 3858N×4546E, h16km±12km, ML3.6*
*CSEM **09** 04:32:50.0±0.1, 3851N×4550E, h2km, ML3.7, Error ellipse: s-maj=1.8km s-min=1.5km az=27.0*
*ISCJB **09** 04:32:51.1±0.3, 3843N±002×4560E±002, h10km, Error ellipse: s-maj=3.2km s-min=2.4km az=34.7*
*DDA **09** 04:32:52.2, 3838N×4547E, h2km±3km, Md3.6*
ISC 09 04:32:51.7±0.3, 3844N±002×4559E±003, h10km, n50, σ1§47/70, 6D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISHB	**Shabestar**	**0.15**	**171**	*e*Pg	**Pg**	**04 32 52.7**	**-2.4**
ISHB				*e*Sg	**Sg**	**04 32 56.0**	**-1.4**
ISHB				*e*		04 32 56.8	
	comp=Z,67μm,0.2s						
ITBZ	**Tabriz**	**0.48**	**114**	*e*Pg	**Pg**	**04 33 00.6**	**-0.5**
ITBZ				*e*		04 33 11.3	
	comp=Z,50μm,0.1s						
NAX	**Nakhchivan**	**0.74**	**354**	P	**Pg**	**04 33 03.9**	**-2.1**
	SNR=166						
IHRS	**Heris**	**1.15**	**95**	*e*Pg	**Pg**	**04 33 13.0**	**-0.8**
IHRS				*e*Sg	**Sg**	**04 33 30.5**	**+1.8**
IHRS				*e*		04 33 34.1	
	comp=Z,37μm,0.2s						
MAKU	**Maku**	**1.16**	**323**	*e*Pg	**Pn**	**04 33 09.4**	**-4.5**
MAKU				AML	AML	04 33 34.1	
	comp=E,1μm,0.5s						
MAKU				AML	AML	04 33 35.6	
	comp=N,1μm,0.4s						
GRS	**Goris**	**1.21**	**28**	⇓P	**Pn**	**04 33 12.0**	**-2.7**
GRS				S	**Sb**	**04 33 31.0**	**+0.6**
IBST	**Bostanabad**	**1.27**	**125**	*e*Pg	**Pn**	**04 33 12.9**	**-2.5**
IBST				*e*Sg	**Sg**	**04 33 31.7**	**-0.7**
IBST				*e*		04 33 32.8	
	comp=Z,12μm,0.2s						
IBST				*e*		04 33 34.3	
	comp=E,13μm,0.2s						
IBST				*e*		04 33 37.3	
	comp=N,17μm,0.2s						
CLDR	**Caldiran**	**1.48**	**299**	*e*PN	**Pn**	**04 33 16.8**	**-1.6**
CLDR				*e*SN	**Sn**	**04 33 38.9**	**+1.1**
HKR	**Hakkari**	**1.69**	**240**	*e*PN	**Pn**	**04 33 20.9**	**-0.3**
TVAN	**Van**	**1.71**	**274**	*i* P	**Pn**	**04 33 20.7**	**-0.8**
TVAN				*i* S	**Sn**	**04 33 42.5**	**-1.1**
HAKT	**HAKKARI**	**1.73**	**240**	*i* P	**Pn**	**04 33 20.3**	**-1.4**
HAKT				*i* S	**Sn**	**04 33 43.2**	**-0.6**
VANT	**Van**	**1.73**	**271**	*e*PN	**Pn**	**04 33 22.4**	**+0.7**
VANB	**Van**	**1.73**	**276**	*e*PN	**Pn**	**04 33 20.6**	**-1.2**
VANB				*e*SN	**Sn**	**04 33 45.4**	**+1.5**
GNI	**Garni**	**1.83**	**339**	*e*PN	**Pn**	**04 33 22.3**	**-0.9**
GRMI	**Germi**	**1.84**	**78**	*e*Pn	**Pn**	**04 33 24.6**	**+1.3**
GRMI				*e*Sg	**Sg**	**04 33 51.3**	**+0.3**
GRMI				AML	AML	04 33 52.6	
	comp=E,902nm,0.5s						
GRMI	**Germi**	**1.84**	**78**	*e*Pn	**Pn**	**04 33 24.6**	**+1.2**
	SNR=52						
GRMI				*e*Sg	**Sg**	**04 33 51.3**	**+0.3**
	SNR=91						
DYDN	**Diyadin**	**1.85**	**307**	*i* P	**Pn**	**04 33 21.9**	**-1.5**
DYDN				*i* S	**Sn**	**04 33 48.5**	**+1.7**
VRNZ	**Vardanashen**	**1.94**	**326**	⇓P	**Pn**	**04 33 23.4**	**-1.3**
VRNZ				S	**Sn**	**04 33 51.1**	**+2.0**
PAAR	**P'arak'ar**	**1.95**	**332**	⇓P	**Pn**	**04 33 23.0**	**-1.8**
PAAR				S	**Sn**	**04 33 47.6**	**-1.8**
CUKT	**Cukurca**	**1.97**	**233**	*e*PN	**Pn**	**04 33 25.4**	**+0.3**
VNNZ	**Vanand**	**2.16**	**321**	⇓P	**Pn**	**04 33 25.4**	**-2.2**
VNNZ				S	**Sn**	**04 33 57.4**	**+3.0**
ARUZ	**Aruch**	**2.18**	**328**	⇓P	**Pn**	**04 33 26.8**	**-1.2**
ARUZ				S	**Sn**	**04 33 57.4**	**+2.4**
AMBZ	**Amberd**	**2.20**	**333**	⇓P	**Pn**	**04 33 28.8**	**+0.5**
GANJ	**Ganja**	**2.28**	**14**	P	**Pn**	**04 33 31.1**	**+1.8**
	SNR=40						
AGRB	**Hanur-Agry**	**2.32**	**300**	*e*PN	**Pn**	**04 33 29.7**	**-0.2**
SIRT	**Sirnak**	**2.66**	**250**	*e*PN	**Pn**	**04 33 35.2**	**+0.7**
KARS	**Kars**	**2.91**	**319**	*e*PN	**Pn**	**04 33 37.8**	**-0.2**
MSL	**Mosul**	**2.92**	**224**	*ex*	x	04 33 37.0	
MSL				*ex*	x	04 34 13.0	
MSL				*ex*	x	04 34 25.0	
DGRG	**David-gareji**	**3.02**	**357**	P	**Pb**	**04 33 44.1**	**-1.4**
DGRG				S	**Sg**	**04 34 25.8**	**-2.7**
HOMI	**Horasan**	**3.28**	**300**	*i* P	**Pb**	**04 33 47.8**	**-2.1**
HOMI				*i* S	**Sg**	**04 34 40.7**	**+3.7**
MTA	**Mtatsminda**	**3.31**	**350**	P	**Pb**	**04 33 48.1**	**-2.4**
MTA				S	**Sb**	**04 34 30.5**	**-0.2**
TBLG	**Delisi**	**3.35**	**349**	P	**Pn**	**04 33 39.3**	**-4.8**
TBLG				S	**Sn**	**04 34 25.4**	**+1.4**
ERZM	**Erzurum**	**3.59**	**295**	*i* P	**Pb**	**04 33 55.0**	**-0.3**
ERZM				*i* S	**Sb**	**04 34 42.2**	**+3.3**
EZM	**Erzurum**	**3.60**	**295**	*e*PN	**Pn**	**04 33 48.0**	**+0.6**
SNGE	**Sanandaj**	**3.62**	**157**	*e*Pn	**Pn**	**04 33 50.4**	**+2.6**
SIZA	**Siyzn**	**3.67**	**43**	P	**Pn**	**04 33 51.5**	**+3.0**
	SNR=5.5						
ILIN	**Lien**	**3.68**	**162**	*e*Pn	**Pb**	**04 33 56.3**	**-0.5**
ILIN				*e*		04 35 04.2	
	comp=Z,2μm,0.5s						
GOR	**Gori**	**3.72**	**343**	P	**Pb**	**04 33 58.3**	**+0.8**
IDHR	**Dehrash**	**3.78**	**170**	*e*Pn	**Pn**	**04 33 50.7**	**+0.7**
IDHR				*e*		04 34 03.9	
	comp=Z,2μm,0.3s						
MARD	**Mardin**	**3.97**	**255**	*i* P	**Pb**	**04 34 01.9**	**+0.3**
MARD				*i* S	**Sn**	**04 34 46.2**	**+7.2**
IVIS	**Veis**	**4.03**	**165**	*e*Pn	**Pn**	**04 34 01.8**	**+8.4**
IVIS				*e*		04 34 07.6	
	comp=Z,826nm,0.4s						
IGHG	**Ghaleghazi**	**4.17**	**169**	*e*Pn	**Pn**	**04 33 58.1**	**+2.7**
IGHG				*e*		04 35 28.6	
	comp=Z,1μm,0.4s						
ONI	**Oni**	**4.45**	**339**	P	**Pb**	**04 34 10.1**	**+0.2**
ONI				S	**Sg**	**04 35 14.9**	**+0.4**
PTK	**Pertek**	**4.87**	**277**	*e*PN	**Pn**	**04 34 06.8**	**+1.9**
THKV	**Tehran--Karaj**	**4.92**	**119**	*e*Pn	**Pn**	**04 34 08.8**	**+3.2**
THKV				AML	AML	04 35 34.1	
	comp=E,53nm,0.6s						
THKV				AML	AML	04 35 36.3	
	comp=N,57nm,0.7s						
SVRC	**Sivrice-ELAZID**	**4.93**	**271**	*e*PN	**Pn**	**04 34 07.0**	**+1.2**
BHD	**Baghdad**	**5.25**	**191**	*ex*	x	04 34 13.0	
BHD				*ex*	x	04 34 30.0	
BHD				*ex*	x	04 35 11.0	
ASAO	**Ashtian**	**5.28**	**136**	*e*Pn	**Pn**	**04 34 14.0**	**+3.5**
MALT	**Malatya**	**5.63**	**271**	*e*PN	**Pn**	**04 34 17.6**	**+2.3**
IGLO	**Ghaloghah**	**6.83**	**104**	*e*Pn	**Pn**	**04 34 33.0**	**+1.1**

FUNV 09 04:38:04.1, 676N×7317W, h166km, MW3.5, 11C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.39**	**37**	⇑*i*P	Pn	04 38 33.3	-0.6
CAPV				*e*S	Sn	04 38 55.0	-1.7
VIGV	**El Vigia**	**2.73**	**41**	⇑*i*P	Pn	04 38 47.9	-1.0
VIGV				*e*S	Sn	04 39 19.7	-3.8
SOCV	**Socops**	**2.75**	**56**	⇑*i*P	Pn	04 38 48.1	-0.9
SOCV				*e*S	Sn	04 39 20.1	-3.8
ELOV	**Elorza**	**3.67**	**86**	*e*P	Pn	04 38 59.6	-0.9
ELOV				*e*S	Sn	04 39 40.6	-3.7
VIRV	**Villa del Rosa**	**3.80**	**11**	⇑*i*P	Pn	04 39 00.2	-2.0
VIRV				*e*S	Sn	04 39 43.1	-4.3
QARV	**Quebrada Arrib**	**4.31**	**37**	⇑*i*P	Pn	04 39 07.9	-0.9
SANV	**Sanarito**	**4.51**	**53**	⇑*e*P	Pn	04 39 09.6	-1.8
CURV	**Curarigua**	**4.53**	**44**	⇑*i*P	Pn	04 39 10.1	-1.6
DABV	**Dabajuro**	**4.83**	**31**	*e*P	Pn	04 39 14.7	-0.9
TEPV	**Terepaima**	**5.06**	**51**	⇑*i*P	Pn	04 39 17.2	-1.4
SIQV	**Siquisique**	**5.09**	**40**	⇑*i*P	Pn	04 39 17.4	-1.7
BAUV	**El Baul**	**5.52**	**67**	*e*P	Pn	04 39 21.9	-2.8
TURV	**Turiamo**	**6.42**	**55**	*e*P	Pn	04 39 34.8	-1.7
CAOV	**Caicara del Or**	**6.82**	**85**	⇑*e*P	Pn	04 39 38.8	-3.0
BIRV	**Birongo**	**7.75**	**61**	*e*P	Pn	04 39 51.9	-2.3
CUPV	**Cœpira**	**8.00**	**65**	⇑*i*P	Pn	04 39 55.2	-2.3

*CSEM **09** 05:16:24.6±0.1, 4406N×860E, h2km, ML3.1/9, Error ellipse: s-maj=1.9km s-min=0.9km az=168.0*
*ISCJB **09** 05:16:24.9±0.4, 4398N±003×855E±002, h11km±2km, Error ellipse: s-maj=4.4km s-min=2.6km az=165.2*
*GEN **09** 05:16:25.3, 4398N×853E, h2km, ML2.0*
*STR **09** 05:16:25.7±0.3, 4404N×860E, h10km, Ml2.7, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **09** 05:16:25.9±0.3, 4388N×859E, h7km, Md2.6/3, Ml2.9/8, Error ellipse: s-maj=5.8km s-min=3.8km az=38.0*
*ROM **09** 05:16:26.1±0.4, 4407N×850E, h6km±2km, Md2.7/8, Ml2.2/3, Error ellipse: s-maj=4.1km s-min=2.5km az=132.0*
*NEIC **09** 05:16:26.1, 4407N×850E, h6km, ML2.9(LDG), ML2.7(STR), ML2.2(ROM), After ROM.*
ISC 09 05:16:25.3±0.4, 4398N±003×858E±002, h12km±2km, n55, σ1§11/99, Corsica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIN	**Finale Ligure**	**0.35**	**311**	Pg	**Pg**	**05 16 31.7**	**-0.6**
FIN				Sg	**Sg**	**05 16 36.2**	**-0.9**
QLNO	**Quiliano**	**0.39**	**335**	Pg	**Pg**	**05 16 32.6**	**-0.3**
QLNO				Sg	**Sg**	**05 16 37.1**	**-1.0**
	183nm,0.2s						
RORO		**0.39**	**291**	P	**Pg**	**05 16 32.5**	**-0.5**
GENL	**Genova Univers**	**0.51**	**33**	P	**Pg**	**05 16 35.6**	**+0.3**
GENL				S	**Sg**	**05 16 42.5**	**+0.4**
PCP	**Pian Castagno**	**0.57**	**358**	Pg	**Pg**	**05 16 35.8**	**-0.5**
PCP				Sg	**Sg**	**05 16 43.4**	**-0.4**
ROB	**Roburent**	**0.60**	**302**	P	**Pg**	**05 16 36.1**	**-0.8**
MONE	**Monesi**	**0.60**	**280**	P	**Pg**	**05 16 36.3**	**-0.7**
NEGI	**Negi**	**0.64**	**259**	P	**Pg**	**05 16 37.1**	**-0.7**
SAOF	**Saorge**	**0.74**	**271**	Pg	**Pg**	**05 16 39.8**	**+0.3**
SAOF				Sg	**Sg**	**05 16 50.9**	**+1.7**
SC2M	**Scurtabr**	**0.81**	**58**	P	**Pg**	**05 16 40.7**	**-0.2**
SC2M				S	**Sg**	**05 16 51.7**	**+0.2**
AUTN	**L'Aution**	**0.83**	**272**	Pg	**Pg**	**05 16 41.9**	**+0.6**
AUTN				Sg	**Sg**	**05 16 53.5**	**+1.4**
SBF	**Sospel**	**0.83**	**263**	*e*Pg	**Pg**	**05 16 41.4**	**+0.1**
SBF				*e*Sg	**Sg**	**05 16 52.9**	**+0.7**
	440nm,0.4s						
SBF	**Sospel**	**0.83**	**263**	*e*Pg	**Pg**	**05 16 41.4**	**+0.1**
SBF				*e*Sg	**Sg**	**05 16 52.9**	**+0.7**
	220nm,0.4s						
ENR	**Entracque**	**0.87**	**287**	P	**Pg**	**05 16 41.2**	**-0.8**
ENR				S	**Sg**	**05 16 52.0**	**-1.4**
LUCF	**Luceram**	**0.89**	**265**	Pg	**Pg**	**05 16 42.8**	**+0.3**
LUCF				Sg	**Sg**	**05 16 56.3**	**+2.2**
REVF	**Revere**	**0.91**	**255**	Pg	**Pg**	**05 16 43.7**	**+1.0**
REVF				Sg	**Sg**	**05 16 56.5**	**+2.0**
REVF				Sg	**Sg**	**05 16 56.8**	**+2.3**
REVF	**Revere**	**0.91**	**255**	Pg	**Pg**	**05 16 43.6**	**+0.9**
REVF				Sg	**Sg**	**05 16 56.5**	**+2.0**
REVF				Sg	**Sg**	**05 16 56.8**	**+2.3**
REVF	**Revere**	**0.91**	**255**	Pg	**Pg**	**05 16 43.6**	**+0.9**
REVF				Sg	**Sg**	**05 16 56.8**	**+2.3**
STV	**Sta Anna Valdi**	**0.94**	**287**	Pg	**Pg**	**05 16 42.7**	**-0.7**
STV				S	**Sg**	**05 16 54.0**	**-1.7**
STV				Sg	**Sg**	**05 16 54.5**	**-1.2**
	97nm,0.4s						
TOUF	**Mont Tournerai**	**0.96**	**273**	Pg	**Pg**	**05 16 44.3**	**+0.6**
TOUF				Sg	**Sg**	**05 16 57.9**	**+1.6**
MVIF	**Mont Vial**	**1.03**	**266**	Pg	**Pg**	**05 16 45.9**	**+0.8**
MVIF				Sg	**Sg**	**05 16 59.8**	**+1.2**
DOI	**San Damiano**	**1.09**	**299**	Pg	**Pg**	**05 16 44.9**	**-1.4**
DOI				Sg	**Sg**	**05 17 00.3**	**-0.2**
	93nm,0.2s						
BACM		**1.12**	**74**	P	**Pb**	**05 16 46.7**	**+0.2**
VINC	**Vinca**	**1.15**	**81**	P	**Pb**	**05 16 47.1**	**+0.1**
PZZ	**Prazzo**	**1.19**	**297**	Pg	**Pg**	**05 16 46.4**	**-1.6**
PZZ				Sg	**Sg**	**05 17 02.6**	**-0.9**
GRAM		**1.19**	**64**	P	**Pn**	**05 16 47.6**	**-0.1**
CALN	**Calern**	**1.24**	**260**	Pg	**Pg**	**05 16 49.3**	**+0.2**
CALN				Sg	**Sg**	**05 17 05.6**	**+0.4**
VALM		**1.26**	**72**	P	**Pn**	**05 16 49.1**	**+0.4**
SARO	**Sassorosso**	**1.33**	**80**	P	**Pn**	**05 16 50.0**	**+0.3**
ERBM	**Eremo**	**1.39**	**71**	Pg	**Pg**	**05 16 52.9**	**+0.9**
	26nm,0.6s						
FRF	**La Foret Royal**	**1.46**	**254**	*e*Pn	**Pn**	**05 16 50.2**	**-1.2**
FRF				*e*Sn	**Sn**	**05 17 08.9**	**-1.6**
	23nm,0.2s						
FRF	**La Foret Royal**	**1.46**	**254**	*e*Pn	**Pn**	**05 16 50.2**	**-1.2**
FRF				*e*Sn	**Sn**	**05 17 08.9**	**-1.6**
	11nm,0.2s						
PGF	**Pioggiola**	**1.46**	**168**	*e*Pn	**Pn**	**05 16 50.4**	**-1.0**
PGF				*e*Sn	**Sn**	**05 17 08.0**	**-2.5**
MBDF	**Montbardon**	**1.50**	**301**	*e*Pg	**Pg**	**05 16 55.4**	**+1.4**
MBDF				*e*Sn	**Sn**	**05 17 11.3**	**-0.1**
	121nm,0.6s						
MBDF	**Montbardon**	**1.50**	**301**	*e*Pn	**Pn**	**05 16 51.8**	**-0.2**
MBDF				*e*Pg	**Pg**	**05 16 55.4**	**+1.4**
MBDF				*e*Sn	**Sn**	**05 17 11.3**	**-0.1**
MBDF	**Montbardon**	**1.50**	**301**	*e*Pg	**Pg**	**05 16 55.4**	**+1.4**
MBDF				*e*Sn	**Sn**	**05 17 11.3**	**-0.1**
	60nm,0.6s						
RSP	**Reno Superiore**	**1.51**	**322**	Pg	**Pg**	**05 16 52.6**	**-1.6**
	33nm,0.5s						
RRL	**Cesana Torines**	**1.59**	**307**	P	**Pn**	**05 16 54.0**	**+0.7**
LMR	**La Mourre**	**1.63**	**248**	*e*Pn	**Pn**	**05 16 52.3**	**-1.5**
LMR				*e*Sn	**Sn**	**05 17 12.3**	**-2.4**
	19nm,0.4s						
LMR	**La Mourre**	**1.63**	**248**	*e*Pn	**Pn**	**05 16 52.3**	**-1.5**
LMR				*e*Sn	**Sn**	**05 17 12.3**	**-2.4**
	9.6nm,0.4s						
ORX	**Oropa**	**1.71**	**346**	P	**Pn**	**05 16 54.8**	**-0.1**
BNI	**Bardonecchia**	**1.73**	**309**	*e*Pn	**Pn**	**05 16 56.2**	**+1.0**
BNI	**Bardonecchia**	**1.73**	**309**	*e*Pn	**Pn**	**05 16 56.2**	**+1.0**
LSD	**Ceresole Reale**	**1.80**	**326**	P	**Pn**	**05 16 57.8**	**+1.8**
LPG	**La Plagne**	**2.00**	**320**	*e*Pn	**Pn**	**05 17 01.3**	**+2.4**
LPG				*e*Sn	**Sn**	**05 17 25.3**	**+1.4**
	14nm,0.5s						
LPG	**La Plagne**	**2.00**	**320**	*e*Pn	**Pn**	**05 17 01.3**	**+2.4**
LPG				*e*Sn	**Sn**	**05 17 25.3**	**+1.4**
	7.0nm,0.5s						
LPL	**La Plagne**	**2.03**	**320**	*e*Pn	**Pn**	**05 17 01.6**	**+2.4**
LPL				*e*Sn	**Sn**	**05 17 25.4**	**+1.0**
	13nm,0.5s						
LPL	**La Plagne**	**2.03**	**320**	*e*Pn	**Pn**	**05 17 01.6**	**+2.4**
LPL				*e*Sn	**Sn**	**05 17 25.4**	**+1.0**
	6.4nm,0.5s						
ORIF	**Oris-en-Rattie**	**2.15**	**297**	*e*Pn	**Pn**	**05 17 02.3**	**+1.4**
ORIF				*e*Sn	**Sn**	**05 17 27.8**	**+0.3**
	22nm,0.4s						
ORIF	**Oris-en-Rattie**	**2.15**	**297**	*e*Pn	**Pn**	**05 17 02.3**	**+1.4**
ORIF				*e*Sn	**Sn**	**05 17 27.8**	**+0.3**
	11nm,0.4s						
SMRF	**Simiane la Rot**	**2.17**	**271**	*e*Pn	**Pn**	**05 17 02.4**	**+1.2**
SMRF				*e*Sg	**Sg**	**05 17 33.5**	**-1.4**
	42nm,0.4s						
SMRF	**Simiane la Rot**	**2.17**	**271**	*e*Pn	**Pn**	**05 17 02.4**	**+1.2**
SMRF				*e*Sg	**Sg**	**05 17 33.5**	**-1.4**
	21nm,0.4s						
VIVF	**Saint-Julien-l**	**2.93**	**289**	*e*Pg	**Pg**	**05 17 20.4**	**-1.0**
VIVF				*e*Sn	**Sn**	**05 17 45.4**	**-1.4**
	10.0nm,0.6s						
VIVF	**Saint-Julien-l**	**2.93**	**289**	*e*Pn	**Pn**	**05 17 10.0**	**-1.7**
VIVF				*e*Pg	**Pg**	**05 17 20.4**	**-1.0**
VIVF				*e*Sn	**Sn**	**05 17 45.4**	**-1.4**
VIVF	**Saint-Julien-l**	**2.93**	**289**	*e*Pg	**Pg**	**05 17 20.4**	**-1.0**
VIVF				*e*Sn	**Sn**	**05 17 45.4**	**-1.4**
	5.0nm,0.6s						

*ISCJB **09** 05:16:46.0±0.3, 6129N±004×14688W±006, h61km±4km, mb4.0/11, Error ellipse: s-maj=6.1km s-min=4.5km az=17.9*
*IDC **09** 05:16:46.9±2.7, 6145N×147.18W, h41km±27km, mb3.7/11, mb1 3.9/14, mb1mx3.8/23, mbtmp3.7/14, ML3.2/3, MS2.8/3, Ms1 2.8/3, ms1mx2.4/42, Error ellipse: s-maj=24.9km s-min=19.5km az=49.0*
*NEIC **09** 05:16:47.9, 6129N×14690W, h33km, ML3.8(AEIC), ML3.8(PMR), After AEIC.*
NEIC Felt [IV] at Valdez and [II] at Anchorage. Also felt at Chugiak and Eagle River.
ISC 09 05:16:47.3±0.3, 6128N±004×14691W±006, h51km±5km, n52, σ0§82/55, mb4.0/11, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIV	**Divide**	**0.57**	**105**	P	**Pn**	**05 16 58.2**	**-1.2**
DIV				S	**Sn**	**05 17 07.0**	**-1.2**
KNK	**Knik Glacier**	**0.76**	**281**	P	**Pn**	**05 17 01.2**	**-0.6**
SML	**Sawmill**	**0.86**	**308**	P	**Pn**	**05 17 02.2**	**-1.0**
SML				S	**Sn**	**05 17 14.2**	**-0.7**
GHO	**Glory Hole Cre**	**1.08**	**298**	P	**Pn**	**05 17 05.7**	**-0.4**
GHO				S	**Sn**	**05 17 21.1**	**+1.0**
PMR	**Palmer**	**1.11**	**287**	P	**Pn**	**05 17 06.1**	**-0.4**
BMRM	**Bremner River**	**1.16**	**105**	P	**Pn**	**05 17 06.7**	**-0.5**
RC01	**Rabbit Creek A**	**1.38**	**263**	P	**Pn**	**05 17 10.8**	**+0.6**
FIB	**Fire Island**	**1.58**	**267**	P	**Pn**	**05 17 14.2**	**+1.3**
SEW	**Seward**	**1.72**	**228**	P	**Pn**	**05 17 15.5**	**+0.7**
SLKM	**Skilak Lake**	**1.79**	**246**	P	**Pn**	**05 17 16.4**	**+0.6**
PAX	**Paxson**	**1.83**	**21**	P	**Pn**	**05 17 16.4**	**+0.2**
PAX				S	**Sn**	**05 17 39.6**	**+1.5**
MID	**Middleton Isla**	**1.88**	**171**	P	**Pn**	**05 17 17.7**	**+0.7**
MENT	**Mentasta**	**2.24**	**41**	P	**Pn**	**05 17 22.2**	**+0.3**
MCK	**McKinley**	**2.63**	**340**	P	**Pn**	**05 17 28.2**	**+1.0**
TRF	**Thorofare Moun**	**2.69**	**326**	P	**Pn**	**05 17 28.5**	**+0.5**
KTH	**Kantishna Hill**	**2.95**	**322**	P	**Pn**	**05 17 32.3**	**+0.7**
BCA3	**Beaver Creek A**	**3.00**	**51**	P	**Pn**	**05 17 32.9**	**+0.6**
IL1	**Eielson Array**	**3.51**	**0**	P	**Pn**	**05 17 38.6**	**-0.6**
COLA	**College**	**3.63**	**354**	P	**Pn**	**05 17 41.0**	**0.0**
SVW2	**Sparrevohn**	**4.20**	**271**	P	**Pn**	**05 17 48.0**	**-0.7**
EGAK	**Eagle**	**4.38**	**34**	*e*Pn	**Pn**	**05 17 51.7**	**+0.6**
DAWY	**Dawson**	**4.45**	**48**	P	**Pn**	**05 17 52.6**	**+0.4**
KDAK	**Kodiak Island**	**4.54**	**222**	P	**Pn**	**05 17 53.5**	**0.0**
KDAK	**Kodiak Island**	**4.54**	**222**	P	**Pn**	**05 17 53.7**	**+0.2**
	4.7nm,0.3s,baz=35,slow=11,SNR=44						
TT01	**Tatalina**	**4.58**	**295**	P	**Pn**	**05 17 53.1**	**-0.8**
TTA	**Tatalina**	**4.59**	**295**	*e*P	**Pn**	**05 17 53.2**	**-0.8**
IM3	**Indian Mountai**	**5.62**	**330**	P	**Pn**	**05 18 07.7**	**-0.4**
IMA2	**Indian Mountai**	**5.67**	**331**	P	**Pn**	**05 18 09.0**	**+0.2**
WHY	**Whitehorse**	**5.89**	**91**	P	**Pn**	**05 18 11.4**	**-0.4**
SKAG	**Skagway**	**6.03**	**103**	*e*P	**Pn**	**05 18 14.8**	**+1.0**
COLD	**Coldfoot**	**6.14**	**348**	P	**Pn**	**05 18 15.4**	**+0.1**
BM3	**Burnt Mountain**	**6.25**	**8**	P	**Pn**	**05 18 16.3**	**-0.4**
DLBC	**Dease Lake**	**8.95**	**101**	P	**Pn**	**05 18 54.5**	**+0.7**
	baz=317,slow=14						
INK	**Inuvik**	**9.05**	**33**	*e*P	**Pn**	**05 18 55.9**	**+0.8**
	89nm,0.6s						
INK	**Inuvik**	**9.05**	**33**	P	**Pn**	**05 18 55.1**	**0.0**
	0.2nm,0.3s,baz=230,slow=16,SNR=6.6						
INK				LR	LR	05 22 54.7	
	comp=Z,50nm,21.6s,baz=227,slow=41						
TNA	**Tin City**	**10.32**	**304**	*e*Pn	**Pn**	**05 19 13.0**	**+0.5**
	5.2nm,0.5s						
VIB	**Van Inlet**	**11.17**	**130**	P	**Pn**	**05 19 23.4**	**-0.6**
DIB	**Dawson Inlet,**	**11.23**	**130**	P	**Pn**	**05 19 24.7**	**-0.2**
YKA	**Yellowknife Ar**	**15.19**	**71**	P	**Pn**	**05 20 17.5**	**-0.7**
	0.1nm,0.3s,baz=276,slow=12,SNR=7.3						
YKA				LR	LR	05 26 20.2	
	comp=Z,26nm,21.1s,baz=315,slow=38						
EDM	**Edmonton**	**19.67**	**99**	*e*Pn	**Pn**	**05 21 12.3**	**-1.2**
NEW	**Newport**	**21.32**	**114**	LR	LR	05 30 09.7	
	comp=Z,50nm,20.1s,baz=110,slow=37						
NVAR	**Mina Array Bea**	**28.95**	**129**	P	**P**	**05 22 44.2**	**+2.8**
	1.4nm,0.8s,mb3.7,baz=309,slow=8.6,SNR=7.6						
TXAR	**Lajitas Array**	**42.78**	**118**	P	**P**	**05 24 42.0**	**+2.5**
	0.6nm,0.7s,mb3.4,baz=331,slow=7.1,SNR=4.6						
ARCES	**ARCESS Array B**	**49.36**	**4**	P	**P**	**05 25 30.3**	**-0.6**
	4.5nm,0.8s,mb4.5,baz=16,slow=9.0,SNR=5.2						
NOA	**NORSAR Array B**	**56.86**	**13**	P	**P**	**05 26 26.1**	**+0.1**
	2.1nm,0.9s,mb4.2,baz=351,slow=7.2,SNR=3.8						
FINES	**FINESS Array B**	**57.48**	**4**	P	**P**	**05 26 29.6**	**-0.9**
	0.6nm,0.5s,mb3.9,baz=12,slow=10,SNR=4.5						
ZALV	**Zalesovo Beam**	**58.03**	**327**	P	**P**	**05 26 33.9**	**-0.5**
	0.7nm,0.4s,mb4.0,baz=20,slow=4.6,SNR=3.4						
BVAR	**Borovoye Array**	**62.24**	**336**	P	**P**	**05 27 01.7**	**-1.5**
	0.3nm,0.5s,mb3.6,baz=354,slow=5.8,SNR=2.7						
MKAR	**Makanchi Array**	**65.21**	**325**	P	**P**	**05 27 22.1**	**-0.7**
	0.6nm,0.4s,mb4.0,baz=34,slow=6.6,SNR=6.8						
AKASG	**Malin Array Be**	**68.33**	**3**	P	**P**	**05 27 41.6**	**-0.9**
	0.5nm,0.4s,mb3.9,baz=350,slow=5.4,SNR=5.7						
ESDC	**Sonseca Array**	**74.97**	**29**	P	**P**	**05 28 23.5**	**+0.8**
	0.8nm,0.5s,mb3.9,baz=341,slow=5.4,SNR=5.5						
KEST

Ms1 4.1/15, ms1mx4.0/23, Error ellipse: s-maj=45.3km s-min=12.0km az=82.0
BJI ***09*** *05:42:17.5, 066N×12823E, h66km, mB5.2, mb4.9, Ms4.7, Msz4.2*
MOS ***09*** *05:42:20.7±0.8, 168N×12796E, h33km, mb5.1/21, Error ellipse: s-maj=17.3km s-min=7.9km az=106.8*
ISCJB ***09*** *05:42:22.0±1.1, 155N±004×12789E±006, h42km±10km, mb5.0/65, MS4.2/28, Error ellipse: s-maj=10.1km s-min=6.3km az=153.7*
NEIC ***09*** *05:42:26.3±1.0, 150N×12783E, h67km±10km, mb5.0/22, Error ellipse: s-maj=9.7km s-min=4.8km az=72.0*
GCMT ***09*** *05:42:26.3±0.3, 176N×12797E, h20km±1km, MW5.0/72, Moment Tensor Solution. s22,c22; s72,c98; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.80±.15; Mθθ-1.78±.10; Mφφ2.58±.15; Mrθ0.46±.22; Mθφ-2.23±.11; Mφr~1.17±.27; Best double couple: M○3.28900×10^16 NP1:φs=111.00000°, δ79.00000°, λ170.00000°. NP2: φs=203.00000°, δ80.00000°, λ11.00000°. Principal axes: T 3.8590, Plg15.0000°, Azm67.0000°; N -1.1350, Plg75.0000°, Azm244.0000°; P -2.7190, Plg1.0000°, Azm337.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 05:42:25.2±0.9, 152N±004×12791E±006, h56km±8km, h65km±2.1km: pP-P, n137, σ1§15/147, mb5.0/65, MS4.2/28, 4C-2D, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAV	**Davao City (W)**	**5.98**	**337**	Pn	**Pn**	**05 43 53.7**	**+2.5**
KAPI	**Kappang**	**10.41**	**231**	Pn	**Pn**	**05 44 51.4**	**-0.6**
	273nm,1.5s,SNR=5.4						
BATI	**Kupang**	**12.39**	**200**	LR	LR	05 50 14.3	
	comp=Z,902nm,18.8s,baz=183,slow=38						
KKM	**Kota Kinabalu**	**12.50**	**291**	*e*Pn	**Pn**	**05 45 20.5**	**0.0**
KAKA	**Kakadu**	**14.84**	**162**	*e*P	**Pn**	**05 45 50.8**	**-1.0**
	42nm,0.8s						
KSM	**Kuching**	**17.59**	**270**	*e*P	**Pn**	**05 46 26.4**	**-0.2**
FITZ	**Fitzroy Crossi**	**19.62**	**186**	*e*P	**Pn**	**05 46 48.7**	**-2.4**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.62**	**186**	P	**Pn**	**05 46 49.6**	**-1.5**
	0.3nm,0.3s,baz=12,slow=15,SNR=14						
GUMO	**Guam**	**20.63**	**54**	LR	LR	05 53 27.6	
	comp=Z,420nm,20.3s,MS3.8,baz=240,slow=33						
WRAB	**Tennant Creek**	**22.24**	**164**	P	**P**	**05 47 18.9**	**+1.5**
	439nm,1.3s,mb5.7,SNR=21						
WRAB	**Tennant Creek**	**22.24**	**164**	*e*P	**P**	**05 47 18.0**	**+0.6**
WRAB				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**22.24**	**164**	*e*P	**P**	**05 47 18.0**	**+0.6**
	comp=Z,63nm,0.8s,mb5.1						
WRA	**Warramunga Arr**	**22.24**	**164**	P	**P**	**05 47 17.8**	**+0.4**
	comp=Z,51nm,0.9s,mb4.9,baz=342,slow=9.9,SNR=80						
WB2	**Warramunga Arr**	**22.25**	**164**	*e*P	**P**	**05 47 17.8**	**+0.3**
WB2				*e*S	**S**	**05 51 21.0**	**+1.6**
MBWA	**Marble Bar**	**23.91**	**199**	*e*P	**P**	**05 47 33.1**	**-1.0**
	comp=Z,54nm,1.4s,mb4.8						
QIZ	**Qiongzhong**	**24.82**	**316**	P	**P**	**05 47 41.7**	**-0.7**
QIZ				S	**S**	**05 52 05.7**	**+4.3**
QIZ				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.6						
QIZ				LR	LR		
	comp=N,416nm,18.1s,MS4.1						
QIZ				LR	LR		
	comp=E,348nm,20.7s,MS4.1						
QIZ				LR	LR		
	comp=Z,392nm,18.3s,MS4.0						
JOW	**Kunigami**	**25.17**	**1**	P	**P**	**05 47 44.7**	**-0.8**
	comp=Z,28nm,0.3s,mb5.3,baz=211,slow=12,SNR=23						
JOW				LR	LR	05 56 44.2	
	comp=Z,476nm,18.4s,MS4.0,baz=122,slow=35						
ASAR	**Alice Springs**	**25.70**	**167**	P	**P**	**05 47 51.1**	**+0.8**
	comp=Z,40nm,0.8s,mb5.0,baz=348,slow=9.4,SNR=91						
SSE	**Sheshan**	**30.10**	**348**	P	**P**	**05 48 32.8**	**+3.3**
SSE				AP	pP	05 48 49.4	+5.8
SSE				S	**S**	**05 53 26.8**	**+2.5**
SSE				XS	sS	05 53 56.4	+8.3
SSE				AMB	AMB		
	comp=Z,42nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,45nm,3.4s						
SSE				LR	LR		
	comp=N,87nm,18.5s,MS3.8						
SSE				LR	LR		
	comp=E,166nm,18.5s,MS3.8						
SSE				LR	LR		
	comp=Z,144nm,17.4s,MS3.7						
NJ2	**Nanjing**	**31.55**	**345**	*e*P	**P**	**05 48 45.2**	**+2.9**
NJ2				AP	pP	05 49 00.2	+3.8
NJ2				XP	sP	05 49 07.2	+4.2
NJ2				PP	PP	05 49 49.6	-4.9
NJ2				PPP		05 50 07.1	
NJ2				S	**S**	**05 53 47.0**	**0.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,250nm,6.2s						
NJ2				LR	LR		
	comp=N,2μm,15.7s						
NJ2				LR	LR		
	comp=E,620nm,28.5s						
NJ2				LR	LR		
	comp=Z,930nm,20.6s,MS4.4						
JNU	**Nakatsue**	**31.56**	**5**	LR	LR	06 00 45.9	
	comp=Z,381nm,18.1s,MS4.1,baz=301,slow=35						
NANT	**Nan**	**31.72**	**305**	⇑P	**P**	**05 48 41.0**	**-3.0**
	comp=Z,112nm,1.0s,mb5.7						
FORT	**Forrest**	**32.12**	**180**	*e*P	**P**	**05 48 47.1**	**-0.2**
	comp=Z,20nm,0.7s,mb5.0						
GYA	**Guiyang**	**32.12**	**322**	P	**P**	**05 48 49.2**	**+1.8**
GYA				AP	pP	05 49 06.8	+5.3
GYA				XP	sP	05 49 13.6	+5.5
GYA				PP	PP	05 49 59.2	-1.7
GYA				S	**S**	**05 53 57.5**	**+1.4**
GYA				XS	sS	05 54 25.4	+5.4
GYA				SCS	ScS	05 59 11.6	-2.1
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=N,880nm,18.4s,MS4.6						
GYA				LR	LR		
	comp=E,680nm,17.2s,MS4.6						
GYA				LR	LR		
	comp=Z,640nm,18.0s,MS4.3						
CHTO	**Chiang Mai**	**33.18**	**303**	*e*P	**P**	**05 48 56.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
CHTO	**Chiang Mai**	**33.18**	**303**	*e*P	**P**	**05 48 56.0**	**-0.8**
	comp=Z,17nm,1.2s,mb4.9						
JHJ	**Hachijo jima 2**	**33.35**	**18**	LR	LR	05 59 55.6	
	comp=Z,353nm,20.9s,MS4.1,baz=85,slow=32						
KMI	**Kunming**	**33.77**	**316**	P	**P**	**05 49 03.4**	**+1.5**
KMI				AP	pP	05 49 16.2	+0.2
KMI				PP	PP	05 50 15.2	-4.0
KMI				S	**S**	**05 54 20.0**	**-1.8**
KMI				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.8						
KMI				AMB	AMB		
	comp=Z,61nm,3.1s						
KMI				LR	LR		
	comp=N,269nm,20.6s,MS4.1						
KMI				LR	LR		
	comp=E,235nm,19.5s,MS4.1						
KMI				LR	LR		
	comp=Z,229nm,25.7s						
KLBR	**Kellerberrin**	**34.31**	**195**	*e*P	**P**	**05 49 06.3**	**-0.1**
	comp=Z,2μm,5.0s						
STKA	**Stephens Creek**	**35.66**	**160**	*e*P	**P**	**05 49 18.4**	**+0.3**
	comp=Z,20nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**35.66**	**160**	P	**P**	**05 49 18.4**	**+0.3**
	comp=Z,23nm,0.9s,mb5.1,baz=336,slow=9.0,SNR=22						
STKA				LR	LR	06 03 31.6	
	comp=Z,309nm,20.3s,MS4.1,baz=123,slow=36						
NWAO	**Narrogin (SRO)**	**35.71**	**195**	P	**P**	**05 49 18.1**	**-0.4**
	comp=Z,5.9nm,0.8s,mb4.6,baz=22,slow=11,SNR=3.4						
KSRS	**Korea Array**	**35.76**	**0**	P	**P**	**05 49 17.2**	**-1.7**
	comp=Z,5.6nm,1.0s,mb4.5,baz=176,slow=10,SNR=7.4						
KSRS				LR	LR	06 01 58.6	
	comp=Z,223nm,20.9s,MS3.9,baz=185,slow=33						
MJAR	**Matsushiro Arr**	**36.13**	**14**	P	**P**	**05 49 18.4**	**-3.6**
	comp=Z,3.2nm,0.7s,mb4.3,baz=185,slow=10,SNR=9.1						
MJAR				LR	LR	06 03 20.2	
	comp=Z,373nm,19.5s,MS4.2,baz=200,slow=35						
MAJO	**Matsushiro**	**36.13**	**14**	*e*P	**P**	**05 49 20.8**	**-1.2**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
MAJO	**Matsushiro**	**36.13**	**14**	*e*P	**P**	**05 49 20.8**	**-1.2**
	comp=Z,7.1nm,0.8s,mb4.7						
MAT	**Matsushiro**	**36.13**	**14**	P	**P**	**05 49 18.6**	**-3.4**
MAT				S	**S**	**05 54 58.0**	**+0.2**
XAN	**Xi'an**	**36.91**	**333**	P	**P**	**05 49 28.4**	**-0.3**
XAN				AP	pP	05 49 48.0	+5.1
XAN				S	**S**	**05 55 16.7**	**+7.0**
XAN				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
XAN				AMB	AMB		
	comp=Z,67nm,3.6s						
XAN				LR	LR		
	comp=N,70nm,6.6s						
XAN				LR	LR		
	comp=E,82nm,9.6s						
XAN				LR	LR		
	comp=Z,156nm,14.0s,MS4.0						
CD2	**Chengdu**	**37.11**	**324**	*e*P	**P**	**05 49 30.8**	**+0.3**
CD2				AP	pP	05 49 46.0	+1.3
CD2				XP	sP	05 49 53.2	+1.9
CD2				PP	PP	05 51 00.1	+4.1
CD2				PCP	PcP	05 51 50.2	+0.2
CD2				S	**S**	**05 55 12.8**	**-0.1**
CD2				SCS	ScS	05 59 37.1	-3.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
CD2				AMB	AMB		
	comp=Z,90nm,3.6s						
CD2				LR	LR		
	comp=N,430nm,15.0s,MS4.6						
CD2				LR	LR		
	comp=E,530nm,14.4s,MS4.6						
CD2				LR	LR		
	comp=Z,290nm,13.2s,MS4.2						
ARMA	**Armidale**	**38.99**	**146**	*e*P	**P**	**05 49 47.6**	**+1.3**
BJT	**Baijiatuau**	**39.78**	**346**	*e*P	**P**	**05 49 52.0**	**-0.7**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**39.78**	**346**	*e*P	**P**	**05 49 52.0**	**-0.7**
	comp=Z,18nm,0.8s,mb4.9						
BJI	**Beijing**	**39.80**	**346**	P	**P**	**05 49 51.7**	**-1.2**
BJI				AP	pP	05 50 10.0	+2.7
BJI				XP	sP	05 50 16.8	+3.0
BJI				PP	PP	05 51 27.1	+1.8
BJI				S	**S**	**05 55 54.7**	**+1.5**
BJI				SS	SS	05 58 54.5	+3.3
BJI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.6						
BJI				AMB	AMB		
	comp=Z,219nm,4.3s						
BJI				LR	LR		
	comp=N,182nm,16.0s,MS4.1						
BJI				LR	LR		
	comp=E,107nm,16.4s,MS4.1						
BJI				LR	LR		
	comp=Z,149nm,30.9s						
SNY	**Shenyang**	**40.32**	**355**	⇓P	**P**	**05 50 02.1**	**+4.9**
SNY				AMB	AMB		
	comp=Z,11nm,2.2s,mb4.2						
SNY				AMB	AMB		
	comp=Z,67nm,3.5s						
SNY				LR	LR		
	comp=N,358nm,15.6s,MS4.5						
SNY				LR	LR		
	comp=E,427nm,16.2s,MS4.5						
SNY				LR	LR		
	comp=Z,259nm,22.8s						
LZH	**Lanzhou**	**40.99**	**330**	*e*P	**P**	**05 50 04.0**	**+1.2**
LZH				AP	pP	05 50 19.9	+2.6
LZH				XP	sP	05 50 27.0	+3.2
LZH				PP	PP	05 51 43.0	+4.7
LZH				*e*S	**S**	**05 56 09.0**	**-2.1**
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,220nm,4.0s						
LZH				LR	LR		
	comp=N,1μm,14.0s						
LZH				LR	LR		
	comp=Z,2μm,15.0s,MS5.0						
HHC	**Hu-ho-hao-te**	**41.85**	**341**	*e*P	**P**	**05 50 12.9**	**+3.1**
HHC				AP	pP	05 50 28.5	+4.2
HHC				XP	sP	05 50 35.3	+4.5
HHC				PP	PP	05 51 53.4	+5.8
HHC				PCP	PcP	05 52 06.3	+1.4
HHC				SCP	ScP	05 55 49.7	-1.0
HHC				S	**S**	**05 56 27.3**	**+3.6**
HHC				XS	sS	05 56 52.9	+4.8
HHC				SS	SS	05 59 31.0	-0.9
HHC				AMB	AMB		
	comp=Z,29nm,1.0s,mb4.9						
HHC				LR	LR		
	comp=N,441nm,16.9s,MS4.5						
HHC				LR	LR		
	comp=E,277nm,16.5s,MS4.5						
HHC				LR	LR		
	comp=Z,358nm,17.3s,MS4.3						
SHL	**Shillong**	**42.13**	**308**	*e*P	**P**	**05 50 14.0**	**+1.6**
BTO	**Baotou**	**42.15**	**340**	*e*P	**P**	**05 50 15.0**	**+2.8**
CN2	**Changchun**	**42.16**	**357**	*e*P	**P**	**05 50 16.2**	**+4.0**
CN2				*e*AP	pP	05 50 31.6	+4.9
CN2				*e*S	**S**	**05 56 33.0**	**+4.9**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,400nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.4						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.1						
MDJ	**Mudanjiang**	**42.94**	**2**	P	**P**	**05 50 17.9**	**-0.7**
MDJ				AP	pP	05 50 33.5	+0.4
MDJ				XP	sP	05 50 40.5	+0.9
MDJ				S	**S**	**05 56 34.5**	**-5.1**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,51nm,3.6s						
MDJ				LR	LR		
	comp=N,159nm,27.6s						
MDJ				LR	LR		
	comp=Z,236nm,19.1s						
LSA	**Lhasa**	**44.78**	**312**	P	**P**	**05 50 35.0**	**+1.4**
LSA	**Lhasa**	**44.78**	**312**	*e*P	**P**	**05 50 33.7**	**+0.1**
LSA				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.1						
LSA	**Lhasa**	**44.78**	**312**	*e*P	**P**	**05 50 33.7**	**0.0**
	comp=Z,43nm,1.4s,mb5.1						
GTA	**Gaotai**	**45.58**	**329**	*e*P	**P**	**05 50 40.4**	**+0.6**
GTA				AP	pP	05 50 55.5	+1.1
GTA				XP	sP	05 51 02.8	+1.9
GTA				SCP	ScP	05 56 02.6	-3.3
GTA				S	**S**	**05 57 18.4**	**+0.1**
GTA				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.6						
GTA				AMB	AMB		
	comp=Z,187nm,6.1s						
GTA				LR	LR		
	comp=N,598nm,26.6s,MS4.7						
GTA				LR	LR		
	comp=E,1μm,23.6s,MS4.7						
GTA				LR	LR		
	comp=Z,271nm,22.8s,MS4.1						
HABR	**Khabarovsk**	**47.18**	**6**	P	**P**	**05 50 48.7**	**-3.5**
HABR				*e*		05 50 57.4	
HABR				*e*		05 52 20.6	
HABR				*e*S	**S**	**05 57 38.3**	**-2.5**
HABR				*e*		05 57 54.0	
HABR				*e*		06 00 41.3	
HABR				pmax	pmax		
	comp=Z,58nm,2.5s,mb5.1						
JIRN	**Jiri**	**47.62**	**307**	*e*P	**P**	**05 50 56.2**	**+0.2**
	comp=Z,40nm,1.0s,mb5.4						
KLR	**Kul'dur**	**47.64**	**3**	*e*P	**P**	**05 50 50.3**	**-5.5**
GUN	**Gumba**	**47.98**	**307**	*e*P	**P**	**05 50 59.0**	**+0.3**
	comp=Z,46nm,0.7s,mb5.6						
KKN	**Kakani**	**48.40**	**307**	*e*P	**P**	**05 51 01.8**	**-0.2**
	comp=Z,19nm,0.7s,mb5.2						
DMN	**Daman**	**48.47**	**306**	*e*P	**P**	**05 51 02.8**	**+0.3**
	comp=Z,38nm,1.0s,mb5.4						
GKN	**Gorkha**	**49.01**	**307**	*e*P	**P**	**05 51 06.7**	**0.0**
	comp=Z,44nm,1.1s,mb5.4						
ULN	**Ulaanbaatar**	**49.57**	**342**	*e*P	**P**	**05 51 10.1**	**-0.5**
ULN				pmax	pmax		
	comp=Z,49nm,1.4s,mb5.3						
ULN	**Ulaanbaatar**	**49.57**	**342**	*e*P	**P**	**05 51 10.1**	**-0.5**
	comp=Z,49nm,1.4s,mb5.3						
KOLN	**Koldanda**	**49.75**	**306**	*e*P	**P**	**05 51 12.5**	**+0.1**
	comp=Z,31nm,0.7s,mb5.5						
SONM	**Songino Array**	**49.75**	**341**	P	**P**	**05 51 11.1**	**-0.9**
	comp=Z,6.5nm,0.9s,mb4.7,baz=162,slow=8.7,SNR=11						
SONM				LR	LR	06 14 42.7	
	comp=Z,115nm,19.7s,MS3.9,baz=110,slow=39						
DANN	**Dangsing**	**49.86**	**307**	*e*P	**P**	**05 51 13.3**	**+0.1**
	comp=Z,47nm,0.8s,mb5.6						
HYB	**Hyderabad**	**50.98**	**291**	*e*P	**P**	**05 51 22.0**	**+0.2**
HYB	**Hyderabad**	**50.98**	**291**	*i* P	**P**	**05 51 22.0**	**+0.2**
MOY	**Mondy**	**54.85**	**340**	*e*P	**P**	**05 51 53.7**	**+4.0**
WMQ	**Urumqi**	**55.20**	**325**	P	**P**	**05 51 53.0**	**+0.6**
WMQ				AP	pP	05 52 09.0	+1.6
WMQ				XP	sP	05 52 15.0	+1.3
WMQ				PP	PP	05 53 59.0	+2.6
WMQ				S	**S**	**05 59 30.0**	**-1.7**
WMQ				AMB	AMB		
	comp=Z,52nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,325nm,4.0s						
WMQ				LR	LR		
	comp=N,318nm,15.0s,MS4.6						
WMQ				LR	LR		
	comp=E,246nm,15.0s,MS4.6						
WMQ				LR	LR		
	comp=Z,175nm,15.0s,MS4.3						
DDI	**Dehra Dun**	**55.21**	**306**	*ex*	x	05 51 54.0	
BOD	**Bodaibo**	**57.21**	**351**	*e*P	**P**	**05 52 05.0**	**-1.4**
BOD				pmax	pmax		
	comp=Z,12nm,1.5s,mb4.7						
THN	**Thein Dam**	**57.84**	**308**	*e*P	**P**	**05 52 09.9**	**-1.5**
MK31	**Makanchi Array**	**60.03**	**325**	*i* P	**P**	**05 52 26.1**	**-0.2**
MK31				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
MK31	**Makanchi Array**	**60.03**	**325**	*e*P	**P**	**05 52 26.1**	**-0.2**
MKAR	**Makanchi Array**	**60.03**	**325**	P	**P**	**05 52 26.3**	**0.0**
MKAR				LR	LR	06 22 20.1	
MKAR	**Makanchi Array**	**60.03**	**325**	P	**P**	**05 52 26.3**	**0.0**
	comp=Z,7.8nm,0.7s,mb4.8,baz=119,slow=8.3,SNR=34						
MKAR				LR	LR	06 22 20.1	
	comp=Z,103nm,19.2s,MS4.0,baz=119,slow=40						
YAK	**Yakutsk**	**60.38**	**1**	*e*P	**P**	**05 52 27.4**	**-1.0**
YAK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.3						
YAK	**Yakutsk**	**60.38**	**1**	*e*P	**P**	**05 52 27.2**	**-1.1**
	comp=Z,30nm,0.6s,mb5.5						
KSH	**Kashi**	**60.43**	**316**	*e*P	**P**	**05 52 32.1**	**+2.9**
KSH				*e*AP	pP	05 52 48.0	+3.6
KSH				*e*XP	sP	05 52 55.0	+4.3
KSH				*e*PCP	PcP	05 53 15.2	+1.6
KSH				*e*PP	PP	05 54 48.1	+5.1
KSH				*e*PPP		05 56 16.0	
KSH				*e*PCS	PcS	05 57 16.1	0.0
KSH				*e*S	**S**	**06 00 40.1**	**-0.2**
KSH				*e*XS	sS	06 01 09.2	+3.3
KSH				*e*SS	SS	06 04 42.1	+3.0
KSH				LR	LR		
	comp=N,605nm,4.8s						
KSH				LR	LR		
	comp=E,523nm,5.1s						
KSH				LR	LR		
	comp=Z,395nm,6.3s						
KZA	**Kyzart**	**62.03**	**318**	P	**P**	**05 52 41.0**	**+1.1**
	SNR=12						
TKM2	**Tokmak 2**	**62.17**	**319**	*e*P	**P**	**05 52 40.7**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,35nm,1.4s,mb5.3						
TKM2	**Tokmak 2**	**62.17**	**319**	*e*P	**P**	**05 52 40.7**	**-0.2**
	comp=Z,36nm,1.4s,mb5.3						
TKM2	**Tokmak 2**	**62.17**	**319**	P	**P**	**05 52 40.7**	**-0.2**
	SNR=11						
UCH	**Uchtor**	**62.59**	**318**	*e*P	**P**	**05 52 44.8**	**+1.1**
	comp=Z,466nm,0.6s						
UCH	**Uchtor**	**62.59**	**318**	P	**P**	**05 52 45.1**	**+1.4**
	SNR=25						
AAK	**Ala-Archa**	**62.77**	**318**	*c i* P	**P**	**05 52 44.6**	**-0.3**
AAK				pmax	pmax		
	comp=Z,40nm,1.9s,mb5.2						
AAK	**Ala-Archa**	**62.77**	**318**	*e*P	**P**	**05 52 44.6**	**-0.3**
USP	**Ospenovka**	**63.04**	**319**	P	**P**	**05 52 46.8**	**+0.1**
	SNR=7.8						
ZAA0	**Zalesovo Array**	**63.08**	**333**	*e*P	**P**	**05 52 46.2**	**-0.5**
ZALV	**Zalesovo Beam**	**63.08**	**333**	P	**P**	**05 52 46.0**	**-0.7**
ZALV				LR	LR	06 21 56.6	
ZALV	**Zalesovo Beam**	**63.08**	**333**	P	**P**	**05 52 46.0**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.3,baz=104,slow=6.3,SNR=8.9						
ZALV				LR	LR	06 21 56.6	
	comp=Z,60nm,21.2s,MS3.7,baz=67,slow=38						
ZAL	**Zalesovo**	**63.08**	**333**	P	**P**	**05 52 46.0**	**-0.7**
AML	**Almayashu**	**63.10**	**317**	*e*P	**P**	**05 52 47.8**	**+0.8**
	comp=Z,47nm,1.4s,mb5.4						
AML	**Almayashu**	**63.10**	**317**	P	**P**	**05 52 51.0**	**+3.9**
	SNR=12						
EKS2	**Erkin-Say**	**63.26**	**318**	*e*P	**P**	**05 52 49.2**	**+1.0**
	comp=Z,41nm,1.5s,mb5.3						
EKS2	**Erkin-Say**	**63.26**	**318**	P	**P**	**05 52 50.4**	**+2.2**
	SNR=6.5						
KBL	**Kabul**	**63.80**	**308**	*e*P	**P**	**05 52 51.1**	**-0.7**
	comp=Z,74nm,1.6s,mb5.5						
KURK	**Kurchatov**	**64.22**	**328**	P	**P**	**05 52 53.4**	**-0.9**
	comp=Z,169nm,0.6s,SNR=12						
KURK	**Kurchatov**	**64.22**	**328**	*e*P	**P**	**05 52 53.9**	**-0.4**
KURK				pmax	pmax		
	comp=Z,32nm,1.1s,mb5.3						
KURK	**Kurchatov**	**64.22**	**328**	*e*P	**P**	**05 52 53.9**	**-0.4**
	comp=Z,32nm,1.1s,mb5.3						
NVS	**Novosibirsk**	**64.36**	**333**	*e*P	**P**	**05 52 48.8**	**-6.3**
KK31	**Karatay Array**	**65.64**	**317**	*i* P	**P**	**05 53 04.0**	**+0.3**
KK31				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5						
BRVK	**Borovoye**	**69.87**	**327**	P	**P**	**05 53 31.2**	**+1.1**
	comp=Z,92nm,1.4s,mb5.5,SNR=6.0						
BRVK	**Borovoye**	**69.87**	**327**	*e*P	**P**	**05 53 29.8**	**-0.4**
TIXI	**Tiksi**	**70.03**	**0**	*i* P	**P**	**05 53 29.7**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.9						
TIXI	**Tiksi**	**70.03**	**0**	*e*P	**P**	**05 53 29.2**	**-1.5**
	comp=Z,44nm,1.7s,mb5.1						
BILL	**Bilibino**	**71.38**	**14**	*e*P	**P**	**05 53 37.3**	**-1.7**
BILL				pmax	pmax		
	comp=Z,12nm,2.3s,mb4.4						
SVE	**Sverdlovsk**	**76.45**	**329**	⇑*e*P	**P**	**05 54 08.3**	**-0.5**
SVE				pmax	pmax		
	comp=Z,37nm,1.4s,mb5.1						
ARU	**Arti**	**77.42**	**328**	*d i* P	**P**	**05 54 13.3**	**-1.0**
ARU				*e*		05 54 22.8	
ARU				*e*		05 57 03.2	
ARU				*e*S	S	06 04 03.4	+2.8
ARU				*e*SS	SS	06 09 00.4	+0.2
ARU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
ARU	**Arti**	**77.42**	**328**	*e*P	**P**	**05 54 13.5**	**-0.8**
	comp=Z,35nm,1.6s,mb5.0						
VNDA	**Vanda**	**81.10**	**173**	*e*P	**P**	**05 54 33.8**	**-0.2**
	comp=Z,3.9nm,1.1s,mb4.2						
VNDA	**Vanda**	**81.10**	**173**	P	**P**	**05 54 34.1**	**+0.1**
	comp=Z,2.4nm,0.9s,mb4.1,baz=294,slow=5.6,SNR=11						
VNDA				LR	LR	06 26 08.3

comp=Z,10.0nm,0.5s,mb5.3
VRSR Storozhevoye 88.02 321 *e*P **P 05 55 13.8 +4.4**
VRSR pmax pmax
comp=Z,3.0nm,1.3s,mb4.4
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,3.0nm,1.0s
MALT Malatya 88.66 308 *e*P **P 05 55 12.5 -0.2**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
MALT Malatya 88.66 308 *e*P **P 05 55 12.4 -0.3**
comp=Z,2.5nm,0.7s,mb4.7
EGAK Eagle 89.04 25 *e*P **P 05 55 16.0 +2.1**
OBN Obninsk 89.53 325 *e*P **P 05 55 16.6 +0.2**
OBN *e* 05 55 26.5
OBN *e* 06 07 10.1
OBN pmax pmax
comp=Z,6.0nm,0.8s,mb5.0
DAWY Dawson 89.83 26 *e*P **P 05 55 19.5 +1.8**
KMBO Kilima Mbogo 90.68 269 *e*P **P 05 55 22.4 -0.3**
KMBO pmax pmax
comp=Z,6.0nm,1.2s
KMBO Kilima Mbogo 90.68 269 *e*P **P 05 55 22.4 -0.3**
comp=Z,5.9nm,1.2s,mb4.8
SYO Syowa Base 90.80 201⇑*e*pP pP 05 55 41.8 +3.7
INK Inuvik 91.78 22 *e*P **P 05 55 27.3 +0.7**
SKAG Skagway 92.15 30 *e*P **P 05 55 30.3 +1.8**
ARCES ARCESS Array B 92.91 340 P **P 05 55 31.1 -0.8**
comp=Z,10nm,0.9s,mb5.2,baz=72,slow=5.2,SNR=9.3
ARCES LR LR 06 38 05.2
comp=Z,127nm,19.0s,MS4.4,baz=333,slow=36
FINES FINESS Array B 94.32 332 LR LR 06 39 15.8
comp=Z,96nm,18.6s,MS4.3,baz=71,slow=36
AKASG Malin Array Be 94.34 321 LR LR 06 42 34.8
comp=Z,54nm,20.7s,MS4.0,baz=60,slow=38

*IDC **09** 06:03:46.4±0.9, 4474N×1057E, h0km, mb3.8/5, mb1 3.8/10, mb1mx3.7/21, mbtmp3.6/10, ML3.5/5, MS3.1/3, Ms1 3.1/3, ms1mx2.6/29, Error ellipse: s-maj=19.6km s-min=10.9km az=104.0*
*PRU **09** 06:03:48.6, 4483N×1067E, h0km*
*GEN **09** 06:03:49.2, 4484N×1061E, h5km, ML4.0*
*LDG **09** 06:03:49.2±0.1, 4485N×1067E, h10km, Ml4.3/32, Error ellipse: s-maj=3.3km s-min=2.7km az=33.0*
*CSEM **09** 06:03:49.3±0.0, 4476N×1051E, h12km, ML4.2/19, Error ellipse: s-maj=1.2km s-min=0.8km az=124.0*
*ROM **09** 06:03:49.6±0.4, 4480N×1048E, h10km±5km, Ml3.8/37, Error ellipse: s-maj=2.0km s-min=1.3km az=99.0*
*NEIC **09** 06:03:50.0, 4480N×1052E, h27km, ML4.3(LDG), ML4.0(ROM), ML4.3(SZGRF), ML4.1(ZAG), ML4.0(STR), After ROM.*
NEIC Felt [IV] at Cavriago, Castelnovo di Sotto and Reggio nell'Emilia; [III] at Carpi, Correggio, Parma and Verona. Also felt at Modena and Padova.
*SZGRF **09** 06:03:50.3, 4488N×1057E, h10km, mb4.3, Northern Italy*
*ISCJB **09** 06:03:50.1±0.2, 4485N±001×1052E±001, h33km±2km, mb3.7/5, Error ellipse: s-maj=2.1km s-min=1.5km az=148.2*
*STR **09** 06:03:59.1±0.5, 4512N×953E, h10km, Ml4.0, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 09 06:03:50.8±0.3,**4482N**±001×**1055E**±001,**h26**km±2km, **n279**,σ1$**25**/431,**mb3.7**/5,**22C-35D**,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBPO	**S.Benedetto Po**	**0.35**	**48**	Pg	**Pb**	**06 03 58.3**	**-0.3**
SBPO				Sg	**Sb**	**06 04 05.5**	**+1.6**
19μm,0.4s							
RAVA	**Ravarino**	**0.41**	**99**	Pg	**Pb**	**06 03 59.3**	**-0.2**
RAVA				Sg	**Sb**	**06 04 06.9**	**+1.5**
11μm,0.5s							
ERBM	**Eremo**	**0.41**	**194**	Pg	**Pb**	**06 03 58.4**	**-1.1**
ERBM				Sg	**Sb**	**06 04 06.4**	**+0.9**
8μm,0.8s							
GSCL	**Gusciola**	**0.47**	**177**	⇓Pg	**Pb**	**06 03 59.2**	**-1.3**
GRAM		**0.48**	**227**	P	**Pb**	**06 03 59.0**	**-1.6**
VALM		**0.52**	**205**	P	**Pb**	**06 03 59.7**	**-1.6**
ZCCA	**Zocca**	**0.56**	**147**	Pg	**Pb**	**06 04 01.6**	**-0.3**
332nm,0.6s							
BACM		**0.64**	**212**	P	**Pb**	**06 04 01.8**	**-1.5**
BACM				S	**Sb**	**06 04 10.4**	**-1.4**
SARO	**Sassorosso**	**0.64**	**190**	P	**Pb**	**06 04 01.8**	**-1.6**
SARO				S	**Sb**	**06 04 10.1**	**-1.8**
CODM		**0.66**	**230**	P	**Pb**	**06 03 59.3**	**-4.3**
VLC	**Villacollemand**	**0.67**	**190**	*e*Pg	**Pb**	**06 04 02.4**	**-1.5**
VLC				*e*S	**Sb**	**06 04 13.4**	**+0.7**
VLC	**Villacollemand**	**0.67**	**190**	Pg	**Pb**	**06 04 02.2**	**-1.6**
VLC				Sg	**Sb**	**06 04 11.4**	**-1.3**
5μm,1.0s							
VLC	**Villacollemand**	**0.67**	**190**	Pg	**Pb**	**06 04 02.2**	**-1.6**
VLC				Sg	**Sb**	**06 04 11.4**	**-1.3**
5μm,1.0s							
VLC				*e*S	**Sb**	**06 04 13.4**	**+0.7**
FIU	**Minerbio Fiu**	**0.69**	**105**	Pg	**Pb**	**06 04 04.5**	**+0.3**
5μm,0.2s							
PZZT	**Monte Pizzetto**	**0.72**	**162**	Pg	**Pb**	**06 04 03.0**	**-1.7**
VINC	**Vinca**	**0.73**	**203**	P	**Pb**	**06 04 03.3**	**-1.6**
VINC				S	**Sb**	**06 04 13.1**	**-1.4**
BDI	**Bagni Di Lucca**	**0.76**	**177**	Pg	**Pb**	**06 04 03.5**	**-1.8**
BDI				Sg	**Sb**	**06 04 15.3**	**+0.1**
3μm,0.7s							
FNVD	**Fontana Vidola**	**0.77**	**148**	Pg	**Pb**	**06 04 04.4**	**-1.1**
3μm,0.7s							
SALO	**Salr**	**0.80**	**359**	Pg	**Pb**	**06 04 05.5**	**-0.5**
14μm,0.6s							
SC2M	**Scurtabr**	**0.84**	**241**	Pg	**Pb**	**06 04 05.4**	**-1.2**
5μm,0.7s							
MAIM		**0.91**	**183**	Pg	**Pb**	**06 04 06.4**	**-1.4**
3μm,0.9s							
MAIM				S	**Sb**	**06 04 17.7**	**-1.7**
MAGA	**Magasa**	**0.96**	**3**	Pg	**Pb**	**06 04 07.8**	**-0.9**
26μm,0.3s							
SEI	**Scarperia**	**0.96**	**143**	Pg	**Pn**	**06 04 07.7**	**-0.8**
2μm,0.4s							
TEOL	**Teolo**	**0.96**	**55**	⇓*i*Pg	**Pn**	**06 04 07.9**	**-0.6**
TEOL				*i* Sg	**Sb**	**06 04 21.3**	**+0.3**
CRMI	**Carmignano**	**1.07**	**164**	Pg	**Pn**	**06 04 09.8**	**-0.3**
3μm,0.8s							
PII	**Pisa**	**1.10**	**181**	Pg	**Pn**	**06 04 10.1**	**-0.3**
VMG	**Vicchio**	**1.11**	**140**	Pg	**Pn**	**06 04 11.3**	**+0.6**
1μm,0.4s							
MDI	**Monti di Nese**	**1.13**	**329**	Pg	**Pn**	**06 04 11.1**	**+0.3**
4μm,0.3s							
GENL	**Genova Univers**	**1.20**	**250**	P	**Pn**	**06 04 11.2**	**-0.7**
MABI	**Malga Bissina**	**1.24**	**359**	Pg	**Pn**	**06 04 12.7**	**+0.3**
MABI				Sg	**Sn**	**06 04 29.9**	**+1.7**
2μm,0.6s							
SFI	**Santa Sofia**	**1.30**	**134**	Pg	**Pn**	**06 04 14.6**	**+1.3**
CGRP	**Cima Grappa**	**1.38**	**39**	⇓*i*Pg	**Pn**	**06 04 13.9**	**-0.4**
CGRP				*e*Sg	**Sn**	**06 04 34.2**	**+2.5**
CSNT	**Castellina Chi**	**1.45**	**158**	Pg	**Pn**	**06 04 16.0**	**+0.7**
2μm,1.1s							
PCP	**Pian Castagno**	**1.46**	**260**	P	**Pn**	**06 04 15.8**	**+0.4**
PCP				S	**Sn**	**06 04 33.7**	**+0.1**
GROG	**Isola di Gorgo**	**1.47**	**199**	Pg	**Pn**	**06 04 15.8**	**+0.2**
1μm,0.7s							
MTLO	**Montello**	**1.48**	**47**	*e*Pg	**Pn**	**06 04 16.0**	**+0.3**
MUGIO	**Muggio**	**1.53**	**317**	Pg	**Pn**	**06 04 16.7**	**+0.3**
CRE	**Caprese Michel**	**1.57**	**139**	Pg	**Pn**	**06 04 17.9**	**+1.0**
524nm,0.6s							
VAI	**Varese**	**1.64**	**310**	Pg	**Pn**	**06 04 18.3**	**+0.5**
QLNO	**Quiliano**	**1.65**	**253**	Pg	**Pn**	**06 04 18.9**	**+0.9**
358nm,0.6s							
BRMO	**Bormio**	**1.66**	**356**	Pg	**Pn**	**06 04 19.1**	**+0.9**
2μm,1.4s							
APPI	**Appiano**	**1.73**	**16**	Pg	**Pn**	**06 04 19.9**	**+0.8**
2μm,0.3s							
FAU	**Forcella Aurin**	**1.73**	**35**	⇑*i*Pn	**Pn**	**06 04 19.6**	**+0.4**
CAE	**Caneva**	**1.78**	**48**	⇑*i*Pn	**Pn**	**06 04 19.9**	**0.0**
FIN	**Finale Ligure**	**1.78**	**251**	P	**Pn**	**06 04 19.4**	**-0.5**
FIN				S	**Sn**	**06 04 39.6**	**-2.1**
BADI	**Badiali**	**1.79**	**136**	Pg	**Pn**	**06 04 21.4**	**+1.5**
1093μm,48.0s							
FUORN	**Ofenpass-Fuorn**	**1.81**	**354**	Pg	**Pn**	**06 04 22.0**	**+1.7**
TUE	**Stuetta**	**1.86**	**333**	Pg	**Pn**	**06 04 22.0**	**+1.1**
666nm,0.5s							
RORO		**1.91**	**249**	P	**Pn**	**06 04 21.5**	**-0.2**
RORO				S	**Sn**	**06 04 43.2**	**-1.7**
CSO	**Casso**	**1.92**	**40**	⇑*i*Pn	**Pn**	**06 04 21.8**	**+0.1**
PIEI	**Pieia**	**1.92**	**131**	Pg	**Pn**	**06 04 22.9**	**+1.2**
762nm,1.1s							
FSSB	**Fossombrone**	**1.96**	**124**	Pg	**Pn**	**06 04 23.1**	**+0.8**
721nm,0.4s							
MLNI	**Malnisio**	**1.97**	**47**	⇑*i*Pn	**Pn**	**06 04 22.4**	**0.0**
ROB	**Roburent**	**1.99**	**256**	P	**Pn**	**06 04 22.8**	**+0.2**
ROB				S	**Sn**	**06 04 45.5**	**-1.2**
ORX	**Oropa**	**1.99**	**295**	Pg	**Pn**	**06 04 22.6**	**-0.1**
ORX	**Oropa**	**1.99**	**295**	P	**Pn**	**06 04 22.7**	**0.0**
ORX				S	**Sn**	**06 04 45.6**	**-1.1**
DAVOX	**Davos/Dischmat**	**2.02**	**347**	Pg	**Pn**	**06 04 25.2**	**+2.1**
35nm,0.3s,baz=155,slow=13,SNR=82							
DAVOX				Lg		06 04 52.6	
63nm,0.3s,baz=316,slow=16,SNR=10							
AFL	**Alpe Faloria**	**2.06**	**33**	⇓*i*Pn	**Pn**	**06 04 24.7**	**+1.1**
ARCI	**Arcidosso**	**2.08**	**161**	Pg	**Pn**	**06 04 24.4**	**+0.5**
531nm,1.2s							
MURB	**Monte Urbino**	**2.11**	**137**	Pg	**Pn**	**06 04 25.0**	**+0.7**
1μm,0.8s							
MONE	**Monesi**	**2.13**	**251**	P	**Pn**	**06 04 24.8**	**+0.1**
MONE				S	**Sn**	**06 04 49.2**	**-1.1**
SACS	**San Casciano d**	**2.20**	**153**	Pg	**Pn**	**06 04 26.2**	**+0.6**
462nm,0.9s							
FETA	**Feichten**	**2.21**	**3**	⇑*e*Pg	**Pn**	**06 04 27.3**	**+1.7**
SNR=250							
FETA				⇓*i*Sg	**Sn**	**06 04 57.0**	**+4.9**
146nm,0.3s							
MPRI	**Monte Prat**	**2.23**	**49**	⇓*i*Pn	**Pn**	**06 04 25.7**	**-0.3**
CSMI	**Casera Mimoias**	**2.24**	**40**	⇑*i*Pn	**Pn**	**06 04 27.2**	**+1.0**
CSMI				*e*Sn	**Sn**	**06 04 55.8**	**+2.8**
SEST	**Monte Rota**	**2.25**	**31**	Pg	**Pn**	**06 04 28.0**	**+1.7**
1μm,0.4s							
NEGI	**Negi**	**2.26**	**246**	P	**Pn**	**06 04 26.3**	**-0.1**
NEGI				S	**Sn**	**06 04 51.0**	**-2.5**
BUA	**Buia**	**2.29**	**51**	⇓*i*Pn	**Pn**	**06 04 26.5**	**-0.3**
ENR	**Entracque**	**2.32**	**256**	P	**Pn**	**06 04 27.4**	**+0.2**
ENR				S	**Sn**	**06 04 53.2**	**-1.6**
ASS	**Assisi**	**2.32**	**138**	Pg	**Pn**	**06 04 27.8**	**+0.5**
7.0nm,0.4s							
SNTG	**Esanatoglia**	**2.33**	**131**	Pg	**Pn**	**06 04 28.4**	**+1.1**
492nm,1.0s							
BOO	**Bordano**	**2.34**	**49**	*e*Pn	**Pn**	**06 04 27.1**	**-0.3**
RSP	**Reno Superiore**	**2.36**	**279**	P	**Pn**	**06 04 26.5**	**-1.3**
SCE	**Schlegeis**	**2.36**	**20**	⇓*i*Pn	**Pn**	**06 04 28.6**	**+0.8**
BAD	**Bernadia**	**2.37**	**52**	⇓*i*Pn	**Pn**	**06 04 27.2**	**-0.7**
ABTA	**Abfaltersbach**	**2.37**	**35**	⇓*e*Pn	**Pn**	**06 04 29.0**	**+1.1**
SNR=33							
STV	**Sta Anna Valdi**	**2.38**	**257**	P	**Pn**	**06 04 28.3**	**+0.3**
STV				S	**Sn**	**06 04 54.8**	**-1.5**
COLI	**Coloredo**	**2.38**	**56**	⇑*i*Pn	**Pn**	**06 04 27.7**	**-0.4**
AUTN	**L'Aution**	**2.38**	**251**	Pn	**Pn**	**06 04 29.7**	**+1.6**
AUTN				Sg	**Sn**	**06 04 59.9**	**+3.4**
ZOU	**Zoufplan**	**2.43**	**43**	⇓*i*Pn	**Pn**	**06 04 29.6**	**+0.8**
SBF	**Sospel**	**2.43**	**248**	*e*Pn	**Pn**	**06 04 29.6**	**+0.8**
SBF				*e*Sn	**Sn**	**06 05 00.7**	**+3.1**
1μm,0.5s							
SQTA	**Sankt Quirin**	**2.44**	**11**	⇓*i*	**Pn**	**06 04 30.8**	**+1.9**
SNR=91							
SQTA	**Sankt Quirin**	**2.44**	**11**	⇓*e*Pn	**Pn**	**06 04 30.8**	**+1.9**
SNR=91							
SQTA				⇓*i*Pg	**Pn**	**06 04 32.6**	**+3.6**
SQTA				⇑*i*Sn	**Sn**	**06 04 56.6**	**-1.4**
SQTA				⇓*i*Sg	**Sn**	**06 05 05.1**	**+7.1**
431nm,0.3s							
SQTA	**Sankt Quirin**	**2.44**	**11**	⇓*i*Pg	**Pn**	**06 04 32.6**	**+3.6**
SQTA				*i* Sn	**Sn**	**06 04 56.6**	**-1.4**
SQTA				*i* Sg	**Sn**	**06 05 05.1**	**+7.1**
LUCF	**Luceram**	**2.48**	**249**	Pn	**Pn**	**06 04 30.9**	**+1.5**
LUCF				Sg	**Sn**	**06 05 02.6**	**+3.8**
PZZ	**Prazzo**	**2.48**	**264**	P	**Pn**	**06 04 29.6**	**+0.1**
LSD	**Ceresole Reale**	**2.49**	**286**	P	**Pn**	**06 04 32.1**	**+2.6**
TOUF	**Mont Tournerai**	**2.50**	**252**	Pn	**Pn**	**06 04 31.3**	**+1.6**
TOUF				Sg	**Sn**	**06 05 04.5**	**+5.2**
DAVA	**Damuels**	**2.51**	**350**	*e*Pg	**Pn**	**06 04 32.3**	**+2.4**
SNR=55							
DAVA				⇑*i*Sn	**Sn**	**06 04 57.0**	**-2.6**
DAVA				⇓*i*Sg	**Sn**	**06 05 04.8**	**+5.1**
1μm,0.7s							
DAVA	**Damuels**	**2.51**	**350**	*e*Pn	**Pn**	**06 04 32.1**	**+2.2**
DAVA				*e*Sg	**Sn**	**06 05 06.8**	**+7.2**
PLRO	**Paularo**	**2.51**	**46**	⇑*i*Pn	**Pn**	**06 04 30.1**	**+0.3**
PLRO	**Paularo**	**2.51**	**46**	*i* Pn	**Pn**	**06 04 30.1**	**+0.2**
ROBS	**Robic**	**2.52**	**55**	*i* Pn	**Pn**	**06 04 29.3**	**-0.7**
ROBS				*i* Sn	**Sn**	**06 04 59.7**	**-0.2**
PGF	**Pioggiola**	**2.53**	**207**	*e*Pn	**Pn**	**06 04 30.7**	**+0.5**
PGF				*e*Sn	**Sn**	**06 05 00.4**	**+0.2**
295nm,0.4s							
MOTA	**Moosalm**	**2.56**	**8**	⇓*e*Pg	**Pn**	**06 04 32.9**	**+2.4**
SNR=28							
MOTA				⇑*i*Sg	**Sn**	**06 05 06.8**	**+6.1**
213nm,0.4s							
SKDS	**Skadanscina**	**2.56**	**72**	*i* Pn	**Pn**	**06 04 29.5**	**-1.0**
SKDS				*e*Sn	**Sn**	**06 04 59.1**	**-1.6**
WTTA	**Wattenberg**	**2.56**	**17**	⇓*i*	**Pn**	**06 04 32.1**	**+1.6**
SNR=42							
WTTA	**Wattenberg**	**2.56**	**17**	⇓*e*Pn	**Pn**	**06 04 32.1**	**+1.6**
SNR=42							
WTTA				⇓*i*Pg	**Pn**	**06 04 34.0**	**+3.5**
WTTA				⇑*i*Sg	**Sn**	**06 05 07.0**	**+6.2**
914nm,0.5s							
WTTA	**Wattenberg**	**2.56**	**17**	⇓*i*Pg	**Pn**	**06 04 34.0**	**+3.5**
WTTA				*i* Sg	**Sn**	**06 05 07.0**	**+6.2**
DRE	**Drenchia**	**2.56**	**57**	⇑*i*Pn	**Pn**	**06 04 29.7**	**-0.8**
MVIF	**Mont Vial**	**2.61**	**250**	Pn	**Pn**	**06 04 33.0**	**+1.8**
WATA	**Walderalm**	**2.62**	**15**	⇑*e*Pg	**Pn**	**06 04 33.3**	**+2.0**
SNR=20							
VOY	**Vojsko**	**2.65**	**62**	*i* Pn	**Pn**	**06 04 31.3**	**-0.4**
VOY				*e*Sn	**Sn**	**06 05 02.8**	**-0.2**
LSR	**Lussari**	**2.67**	**51**	⇑*i*Pn	**Pn**	**06 04 32.6**	**+0.6**
RETA	**Reutte**	**2.67**	**3**	⇑*e*Pg	**Pn**	**06 04 34.8**	**+2.7**
SNR=25							
RETA				⇑*i*Sg	**Sn**	**06 05 08.1**	**+4.5**
100nm,0.3s							
RRL	**Cesana Torines**	**2.68**	**273**	P	**Pn**	**06 04 32.5**	**+0.3**
MBDF	**Montbardon**	**2.69**	**269**	*e*Pn	**Pn**	**06 04 32.3**	**-0.1**
JAVS	**Javornik**	**2.70**	**65**	*i* Pn	**Pn**	**06 04 31.9**	**-0.6**
JAVS				*i* Sn	**Sn**	**06 05 03.5**	**-0.8**
JAVS	**Javornik**	**2.70**	**65**	*i* Pn	**Pn**	**06 04 31.9**	**-0.6**
JAVS				*i* Sn	**Sn**	**06 05 03.5**	**-0.8**
JAVS							
comp=Z,218nm,0.2s							
JAVS	**Javornik**	**2.70**	**65**	*i* Pn	**Pn**	**06 04 31.9**	**-0.6**
JAVS				*i* Sn	**Sn**	**06 05 03.5**	**-0.8**
comp=Z,218nm,0.2s							
BNI	**Bardonecchia**	**2.76**	**276**	*e*Pn	**Pn**	**06 04 33.9**	**+0.6**
BNI	**Bardonecchia**	**2.76**	**276**	*e*Pn	**Pn**	**06 04 33.9**	**+0.6**
LPG	**La Plagne**	**2.77**	**286**	*e*Pn	**Pn**	**06 04 33.5**	**+0.1**
LPG				*e*Sn	**Sn**	**06 05 03.9**	**-2.1**
comp=Z,491nm,0.5s							
LPG	**La Plagne**	**2.77**	**286**	*e*Pn	**Pn**	**06 04 33.5**	**+0.1**
LPG				*e*Sn	**Sn**	**06 05 03.9**	**-2.1**
comp=Z,245nm,0.5s							
LPL	**La Plagne**	**2.79**	**286**	*e*Pn	**Pn**	**06 04 33.9**	**+0.2**
LPL				*e*Sn	**Sn**	**06 05 04.4**	**-2.1**
comp=Z,316nm,0.4s							
LPL	**La Plagne**	**2.79**	**286**	*e*Pn	**Pn**	**06 04 33.9**	**+0.2**
LPL				*e*Sn	**Sn**	**06 05 04.4**	**-2.1**
comp=Z,158nm,0.4s							
KNDS	**Knezji Dol**	**2.80**	**74**	*i* Pn	**Pn**	**06 04 33.1**	**-0.7**
KNDS				*i* Sn	**Sn**	**06 05 05.5**	**-1.3**
KNDS	**Knezji Dol**	**2.80**	**74**	*i* Pn	**Pn**	**06 04 33.1**	**-0.7**
KNDS				*i* Sn	**Sn**	**06 05 05.5**	**-1.3**
KNDS							
comp=Z,971nm,0.0s							
KNDS	**Knezji Dol**	**2.80**	**74**	*i* Pn	**Pn**	**06 04 33.2**	**-0.6**
KNDS				*i* Sn	**Sn**	**06 05 05.5**	**-1.3**
comp=Z,971nm,0.0s							
MYKA	**Terra Mystica**	**2.82**	**49**	⇓*i*Pn	**Pn**	**06 04 33.7**	**-0.5**
MYKA				⇓*i*Pg	**Pn**	**06 04 42.5**	**+8.3**
MYKA				⇑*i*Sn	**Sn**	**06 05 10.1**	**+2.8**
MYKA				⇑*i*Sg	**Sn**	**06 05 20.5**	**+13**
comp=Z,152nm,0.3s							
CALN	**Calern**	**2.84**	**249**	Pn	**Pn**	**06 04 36.5**	**+2.2**
LNSS	**Leonessa**	**2.86**	**140**	Pg	**Pn**	**06 04 35.7**	**+1.1**
comp=Z,894nm,0.9s							
MNS	**Montasola**	**2.88**	**147**	Pg	**Pn**	**06 04 35.7**	**+0.7**
comp=Z,222nm,1.0s							
CEY	**Cerknica**	**2.89**	**70**	*i* Pn	**Pn**	**06 04 34.4**	**-0.7**
CEY				*i* Sn	**Sn**	**06 05 08.6**	**-0.3**
CEY	**Cerknica**	**2.89**	**70**	*i* Pn	**Pn**	**06 04 34.4**	**-0.7**
CEY				*i* Sn	**Sn**	**06 05 08.6**	**-0.3**
CEY							
comp=Z,138nm,0.2s							
CEY	**Cerknica**	**2.89**	**70**	Pn	**Pn**	**06 04 34.4**	**-0.6**
CEY				*i* Sn	**Sn**	**06 05 08.6**	**-0.3**
comp=Z,138nm,0.2s							
KBA	**Koelnbreinsper**	**2.98**	**40**	⇓*i*Pn	**Pn**	**06 04 36.9**	**+0.6**
SNR=9.7							
KBA				⇓*i*Sn	**Sn**	**06 05 13.6**	**+2.3**
KBA				⇓*i*Sg	**Sn**	**06 05 26.1**	**+15**
comp=Z,268nm,0.5s							
KBA	**Koelnbreinsper**	**2.98**	**40**	⇓*e*Pn	**Pn**	**06 04 36.9**	**+0.6**
KBA				*i* Sn	**Sn**	**06 05 13.6**	**+2.3**
KBA				*i* Sg	**Sn**	**06 05 26.1**	**+15**
KBA	**Koelnbreinsper**	**2.98**	**40**	*e*Pn	**Pn**	**06 04 37.4**	**+1.0**
KBA	**Koelnbreinsper**	**2.98**	**40**	Pn	**Pn**	**06 04 36.9**	**+0.5**
comp=Z,9.0nm,7.0s							
KBA				Sn	**Sn**	**06 05 13.6**	**+2.3**
KBA				Sg	**Sn**	**06 05 26.1**	**+15**
comp=Z,268nm,0.5s							
LJU	**Ljubljana**	**3.06**	**65**	*e*Pn	**Pn**	**06 04 37.0**	**-0.4**
LJU				*e*		06 04 47.0	
LJU				*e*Sn	**Sn**	**06 05 13.5**	**+0.4**
FRF	**La Foret Royal**	**3.08**	**247**	*e*Pn	**Pn**	**06 04 38.2**	**+0.6**
FRF				*e*Sn	**Sn**	**06 05 13.7**	**+0.1**
comp=Z,264nm,0.4s							
FRF	**La Foret Royal**	**3.08**	**247**	*e*Pn	**Pn**	**06 04 38.2**	**+0.6**
FRF				*e*Sn	**Sn**	**06 05 13.7**	**+0.1**
comp=Z,132nm,0.4s							
NVLJ	**Novalja**	**3.09**	**93**	⇑*i*Pn	**Pn**	**06 04 37.3**	**-0.5**
NVLJ				Sn	**Sn**	**06 05 12.0**	**-1.9**
TERO	**Teramo**	**3.12**	**134**	Pg	**Pn**	**06 04 39.0**	**+0.8**
comp=Z,208nm,0.7s							
AQU	**L'Aquila**	**3.22**	**139**	*e*Pn	**Pn**	**06 04 40.5**	**+0.9**
AQU				*e*Pg	**Pn**	**06 04 53.4**	**+14**
AQU				*e*Sg	**Sn**	**06 05 32.1**	**+15**
AQU	**L'Aquila**	**3.22**	**139**	*e*Pn	**Pn**	**06 04 40.5**	**+0.9**
AQU	**L'Aquila**	**3.22**	**139**	*e*Pg	**Pn**	**06 04 53.4**	**+14**
LMR	**La Mourre**	**3.27**	**244**	*e*Pn	**Pn**	**06 04 40.6**	**+0.3**
LMR				*e*Sn	**Sn**	**06 05 15.8**	**-2.5**
comp=Z,383nm,0.4s							
LMR	**La Mourre**	**3.27**	**244**	*e*Pn	**Pn**	**06 04 40.6**	**+0.3**
LMR				*e*Sn	**Sn**	**06 05 15.8**	**-2.5**
comp=Z,192nm,0.4s							
OBKA	**Obir**	**3.27**	**58**	⇓*i*Pn	**Pn**	**06 04 40.4**	**+0.1**
OBKA				⇓*i*Sn	**Sn**	**06 05 20.8**	**+2.4**
OBKA				⇓*i*Sg	**Sn**	**06 05 38.4**	**+20**
comp=Z,213nm,0.4s							
BGLD	**Berchtesgaden**	**3.31**	**30**	⇑*i*Pn	**Pn**	**06 04 42.9**	**+2.1**
ORIF	**Oris-en-Rattie**	**3.32**	**273**	*e*Pn	**Pn**	**06 04 42.5**	**+1.5**
ORIF				*e*Sn	**Sn**	**06 05 17.9**	**-1.7**
comp=Z,502nm,0.6s							
FUR	**Furstenfeldbru**	**3.38**	**8**	*e*Sn	**Sn**	**06 05 23.0**	**+1.8**
BBS	**Basel-Blauen**	**3.39**	**322**	Pn	**Pn**	**06 04 42.4**	**+0.5**
VCEL	**Villa Celiera**	**3.40**	**134**	Pg	**Pn**	**06 04 43.0**	**+0.9**
comp=Z,483nm,1.2s							
TAVF	**Tavernes**	**3.45**	**251**	Pn	**Pn**	**06 04 44.4**	**+1.7**
FELD	**Feldberg im Sc**	**3.53**	**331**	Pn	**Pn**	**06 04 44.4**	**+0.5**
CABF	**La Chapelle**	**3.60**	**301**	*e*Pn	**Pn**	**06 04 46.1**	**+1.2**
CABF				*e*Sn	**Sn**	**06 05 22.8**	**-3.7**
SMRF	**Simiane la Rot**	**3.66**	**258**	*e*Pn	**Pn**	**06 04 46.3**	**+0.6**
SMRF				*e*Sn	**Sn**	**06 05 24.6**	**-3.5**
comp=Z,140nm,0.6s							
SMRF	**Simiane la Rot**	**3.66**	**258**	*e*Pn	**Pn**	**06 04 46.3**	**+0.6**
SMRF				*e*Sn	**Sn**	**06 05 24.6**	**-3.5**
comp=Z,70nm,0.6s							
VVLD	**Villa Vallelon**	**3.70**	**142**	Pg	**Pn**	**06 04 47.2**	**+1.0**
comp=Z,203nm,1.1s							
BERF	**Bertagne**	**3.81**	**248**	Pn	**Pn**	**06 04 48.9**	**+1.1**
BFO	**Black Forest**	**3.83**	**337**	*e*Pn	**Pn**	**06 04 48.4**	**+0.4**
BFO				*e*Sn	**Sn**	**06 05 32.5**	**+0.3**
MOF	**Molkenrain**	**3.85**	**323**	Pn	**Pn**	**06 04 48.7**	**+0.5**
POFI	**Posta Fibreno**	**3.87**	**142**	Pg	**Pn**	**06 04 49.3**	**+0.8**
comp=Z,149nm,1.4s							
SDI	**San Donato**	**3.92**	**141**	Pg	**Pn**	**06 04 50.4**	**+1.2**
comp=Z,28nm,0.6s							
HINF	**Hinteralfeld**	**3.94**	**321**	*e*Pn	**Pn**	**06 04 49.6**	**+0.1**
HINF				*e*Sn	**Sn**	**06 05 32.7**	**-2.2**
comp=Z,257nm,0.5s							
GELF	**Grande-Etoile**	**3.96**	**251**	Pn	**Pn**

NKC	**Novy Kostel**	**5.57**	**13**	*e*Pn	**Pn**	**06 05 10.5**	**-1.3**
NKC				*e*Sn	**Sn**	**06 06 12.4**	**-2.5**
NKC	**Novy Kostel**	**5.57**	**13**	*e*PN	**Pn**	**06 05 10.5**	**-1.3**
NKC				*e*SN	**Sn**	**06 06 12.4**	**-2.5**
NKC				*e*SG	**Sn**	**06 06 46.8**	**+32**
	comp=Z,55nm,0.5s						
TREC	**Trest**	**5.61**	**35**	*e*Pn	**Pn**	**06 05 11.4**	**-1.0**
TREC				*e*Sn	**Sn**	**06 06 14.2**	**-1.6**
ZST	**Bratislava**	**5.64**	**51**	*e*PN	**Pn**	**06 05 17.4**	**+4.5**
ZST				*e*SN	**Sn**	**06 06 14.1**	**-2.7**
ZST				*e*SG	**Sn**	**06 07 00.2**	**+43**
BGF	**Bois d'Agland**	**5.67**	**291**	*e*Pn	**Pn**	**06 05 13.9**	**+0.6**
BGF				*e*Sn	**Sn**	**06 06 15.3**	**-2.2**
	comp=Z,314nm,0.5s						
WLF	**Walferdange**	**5.70**	**330**	*e*Pn	**Pn**	**06 05 13.3**	**-0.3**
	comp=Z,26nm,0.6s						
WLF	**Walferdange**	**5.70**	**330**	*e*Pn	**Pn**	**06 05 13.3**	**-0.3**
	comp=Z,26nm,0.6s						
TANN	**Tannenbergstha**	**5.75**	**12**	*e*Pn	**Pn**	**06 05 13.4**	**-0.9**
TANN				*e*Sn	**Sn**	**06 06 16.3**	**-3.0**
PRU	**Pruhonice**	**5.84**	**26**	*e*Pn	**Pn**	**06 05 14.0**	**-1.5**
PRU				*e*Sn	**Sn**	**06 06 20.2**	**-1.4**
PRU				*e*Sg	**Sn**	**06 06 54.3**	**+33**
	comp=Z,217nm,2.0s						
MODS	**Modra-Piesok**	**5.84**	**50**	*e*PN	**Pn**	**06 05 16.1**	**+0.5**
MODS				*e*SN	**Sn**	**06 06 19.4**	**-2.3**
MODS				*e*SG	**Sn**	**06 07 11.9**	**+50**
MODS	**Modra-Piesok**	**5.84**	**50**	*e*Pn	**Pn**	**06 05 16.1**	**+0.5**
MODS				*e*Sn	**Sn**	**06 06 19.4**	**-2.3**
PKSM	**Moragy**	**5.85**	**73**	*e*Sn	**Sn**	**06 06 19.2**	**-2.8**
MOX	**Moxa**	**5.87**	**7**	*e*PN	**Pn**	**06 05 15.5**	**-0.5**
MOX				*e*PG	**Pn**	**06 05 41.5**	**+25**
MOX				*e*SN	**Sn**	**06 06 19.0**	**-3.4**
MOX	**Moxa**	**5.87**	**7**	*e*Pn	**Pn**	**06 05 15.0**	**-1.0**
MOX				*e*Sn	**Sn**	**06 06 19.0**	**-3.4**
PRA	**Prague**	**5.88**	**25**	SN	**Sn**	**06 06 22.0**	**-0.5**
SG1	**Sgolgore (BA)**	**6.01**	**129**	*e*Pn	**Pn**	**06 05 16.9**	**-1.0**
HYF	**Humbligny**	**6.03**	**297**	*e*Pn	**Pn**	**06 05 19.6**	**+1.4**
HYF				*e*Sn	**Sn**	**06 06 22.0**	**-4.2**
CAF	**Calviac**	**6.03**	**274**	*e*Pn	**Pn**	**06 05 19.1**	**+0.9**
TCF	**Toulx Ste Croi**	**6.04**	**287**	*e*Pn	**Pn**	**06 05 19.0**	**+0.7**
TCF				*e*Sn	**Sn**	**06 06 23.1**	**-3.4**
	comp=Z,129nm,0.6s						
TCF	**Toulx Ste Croi**	**6.04**	**287**	*e*Pn	**Pn**	**06 05 19.0**	**+0.7**
TCF				*e*Sn	**Sn**	**06 06 23.1**	**-3.4**
	comp=Z,65nm,0.6s						
EJON	**La Jonquera**	**6.04**	**250**	P	**Pn**	**06 05 19.7**	**+1.3**
EJON				S	**Sn**	**06 06 25.8**	**-0.9**
EJON	**La Jonquera**	**6.04**	**250**	P	**Pn**	**06 05 19.7**	**+1.3**
VRAC	**Vranov**	**6.10**	**40**	LR	LR	06 08 15.0	
	comp=Z,191nm,18.6s,baz=226,slow=44						
MTLF	**Montolieu**	**6.18**	**259**	*e*Pn	**Pn**	**06 05 20.8**	**+0.5**
MTLF				*e*Sn	**Sn**	**06 06 25.3**	**-4.8**
	comp=Z,22nm,0.7s						
PVCC	**Panska Ves**	**6.32**	**24**	*e*Pn	**Pn**	**06 05 21.7**	**-0.5**
PVCC				*e*Sn	**Sn**	**06 06 31.5**	**-2.0**
RJF	**Les Rejaudoux**	**6.42**	**278**	*e*PN	**Pn**	**06 05 24.9**	**+1.4**
PE1	**Pezze di Greco**	**6.45**	**126**	*e*Pn	**Pn**	**06 05 22.9**	**-1.1**
BRG	**Berggiesshubel**	**6.47**	**19**	*e*Pn	**Pn**	**06 05 24.0**	**-0.3**
BRG				*e*Sn	**Sn**	**06 06 34.9**	**-2.3**
BRG	**Berggiesshubel**	**6.47**	**19**	PN	**Pn**	**06 05 23.8**	**-0.5**
BRG				PG	Pn	06 05 50.5	+26
BRG				SN	**Sn**	**06 06 33.7**	**-3.5**
BRG				SG	Sn	06 07 14.9	+38
	comp=Z,53nm,1.0s						
BRG							
	comp=N,359nm,8.5s						
BRG							
	comp=E,235nm,11.9s						
BRG							
	comp=Z,509nm,9.7s						
MEM	**Membach**	**6.55**	**334**	P	**Pn**	**06 05 26.3**	**+0.9**
MEM				S	**Sn**	**06 06 37.4**	**-1.8**
GIVF	**Givet**	**6.56**	**326**	*e*Pn	**Pn**	**06 05 25.0**	**-0.4**
KOLL	**Kolacno**	**6.58**	**52**	*e*SN	**Sn**	**06 06 34.7**	**-5.1**
BCLA	**Clavier**	**6.63**	**330**	P	**Pn**	**06 05 27.4**	**+0.9**
BCLA				S	**Sn**	**06 06 39.0**	**-2.1**
DOU	**Dourbes**	**6.64**	**325**	P	**Pn**	**06 05 29.1**	**+2.5**
CLL	**Collm**	**6.70**	**13**	*e*Pn	**Pn**	**06 05 28.0**	**+0.7**
CLL				*e*Pg	Pn	06 05 59.0	+32
CLL				*e*Sn	**Sn**	**06 06 33.0**	**-10**
CLL				*e*Sg	Sn	06 07 31.0	+48
CLL	**Collm**	**6.70**	**13**	*e*Pn	**Pn**	**06 05 28.0**	**+0.7**
CLL				*e*Pg	Pn	06 05 59.0	+32
CLL				*e*Sn	**Sn**	**06 06 33.0**	**-10**
CLL				*e*x	x	06 06 42.0	
CLL				*e*x	x	06 06 52.0	
CLL				*i* Sb	**Sb**	**06 07 03.0**	**-2.8**
CLL				*e*Sg	Sn	06 07 31.0	+48
	comp=Z,83nm,1.2s						
DPC	**Dobruska-Polom**	**6.77**	**33**	*e*Pn	**Pn**	**06 05 27.1**	**-1.2**
DPC				*e*Sn	**Sn**	**06 06 42.7**	**-1.8**
DPC				*e*Sg	Sn	06 07 24.7	+40
	comp=Z,89nm,1.3s						
BAIF	**Baives**	**6.78**	**323**	*e*Pn	**Pn**	**06 05 30.5**	**+2.0**
UPC	**Upice**	**6.78**	**31**	*e*Pn	**Pn**	**06 05 28.6**	**+0.1**
UPC				*e*Sn	**Sn**	**06 06 43.0**	**-1.8**
VYHS	**Vyhne**	**6.78**	**54**	*e*PN	**Pn**	**06 05 27.5**	**-1.0**
VYHS				*e*SN	**Sn**	**06 06 40.9**	**-4.0**
VYHS				*e*SG	Sn	06 07 41.2	+56
VYHS	**Vyhne**	**6.78**	**54**	*e*Pn	**Pn**	**06 05 27.5**	**-1.0**
VYHS				*e*Sn	**Sn**	**06 06 40.9**	**-4.0**
MORC	**Moravsky Berou**	**6.87**	**41**	*e*Pn	**Pn**	**06 05 30.7**	**+1.0**
LFF	**La Frestale**	**6.97**	**274**	*e*Pn	**Pn**	**06 05 28.9**	**-2.2**
CLZ	**Clausthal**	**7.03**	**359**	*e*Pn	**Pn**	**06 05 31.6**	**-0.3**
KSP	**Ksiaz**	**7.16**	**31**	*e*Pn	**Pn**	**06 05 33.3**	**-0.4**
KSP				*e*Sg	Sn	06 07 31.0	+37
PSZ	**Piszkesteto**	**7.17**	**61**	*e*Pn	**Pn**	**06 05 33.0**	**-0.9**
	comp=Z,3.8nm,0.6s						
PSZ	**Piszkesteto**	**7.17**	**61**	⇓*e*Pn	**Pn**	**06 05 42.0**	**+8.2**
PSZ				*e*Sn	**Sn**	**06 06 51.5**	**-2.8**
PSZ	**Piszkesteto**	**7.17**	**61**	*e*Pn	**Pn**	**06 05 33.0**	**-0.8**
	comp=Z,3.8nm,0.6s						
PSZ				*e*Sn	**Sn**	**06 06 51.5**	**-2.8**
EMIR	**Miracle**	**7.19**	**249**	P	**Pn**	**06 05 36.1**	**+2.0**
EMIR				S	**Sn**	**06 06 54.4**	**-0.5**
EMIR	**Miracle**	**7.19**	**249**	P	**Pn**	**06 05 36.1**	**+2.0**
OKC	**Ostrava-Krasne**	**7.20**	**43**	*e*SN	**Sn**	**06 06 53.9**	**-1.2**
OKC				*e*SG	Sn	06 07 37.9	+43
	comp=Z,62nm,1.0s						
ETOS	**Mallorca**	**7.64**	**231**	P	**Pn**	**06 05 42.4**	**+2.1**
ETOS				S	**Sn**	**06 07 03.2**	**-2.7**
ETOS	**Mallorca**	**7.64**	**231**	P	**Pn**	**06 05 42.4**	**+2.1**
MFF	**Saint Martin d**	**7.70**	**287**	*e*Pn	**Pn**	**06 05 41.2**	**+0.1**
MFF				*e*Sn	**Sn**	**06 07 02.0**	**-5.4**
	comp=Z,30nm,0.5s						
MFF	**Saint Martin d**	**7.70**	**287**	*e*Pn	**Pn**	**06 05 41.2**	**+0.1**
MFF				*e*Sn	**Sn**	**06 07 02.0**	**-5.4**
	comp=Z,15nm,0.5s						
EPOB	**Poblet**	**7.75**	**247**	P	**Pn**	**06 05 44.2**	**+2.4**
EPOB				S	**Sn**	**06 07 06.8**	**-1.9**
EPOB	**Poblet**	**7.75**	**247**	P	**Pn**	**06 05 44.2**	**+2.4**
EBIE	**Bielsa**	**7.83**	**258**	P	**Pn**	**06 05 45.7**	**+2.8**
EBIE				S	**Sn**	**06 07 09.9**	**-0.8**
LDF	**La Druitiere**	**8.25**	**301**	*e*Pn	**Pn**	**06 05 50.8**	**+2.2**
LDF				*e*Sn	**Sn**	**06 07 14.1**	**-6.8**
	comp=Z,46nm,0.8s						
ETSF	**Etsaut**	**8.26**	**260**	*e*Sn	**Sn**	**06 07 14.7**	**-6.4**
	comp=Z,13nm,0.7s						
FLN	**La Foliniere**	**8.53**	**301**	*e*Pn	**Pn**	**06 05 53.3**	**+0.8**
	baz=118						
FLN				*e*Sn	**Sn**	**06 07 21.7**	**-6.2**
	comp=Z,34nm,0.5s						
GRR	**Gorron**	**8.63**	**298**	*e*Pn	**Pn**	**06 05 54.6**	**+0.8**
GRR				*e*Sn	**Sn**	**06 07 21.3**	**-8.9**
	comp=Z,28nm,0.6s						
EIBI	**Ibiza**	**8.97**	**233**	P	**Pn**	**06 06 00.8**	**+2.2**
EIBI				S	**Sn**	**06 07 36.2**	**-2.6**
EIBI	**Ibiza**	**8.97**	**233**	P	**Pn**	**06 06 00.8**	**+2.2**
KEST	**Kesra**	**9.12**	**186**	Pn	**Pn**	**06 05 56.7**	**-4.0**
	comp=Z,0.2nm,0.3s,baz=310,slow=4.9,SNR=2.4						
KEST				LR	LR	06 09 51.9	
	comp=Z,46nm,19.1s,baz=225,slow=40						
SGMF	**Saint Gilles**	**9.66**	**295**	*e*Pn	**Pn**	**06 06 06.8**	**-1.2**
SGMF				*e*Sn	**Sn**	**06 07 48.1**	**-7.5**
	comp=Z,14nm,0.5s						
QUIF	**Quistinic**	**9.97**	**293**	*e*Pn	**Pn**	**06 06 12.4**	**+0.1**
ETOR	**Torete**	**10.09**	**251**	P	**Pn**	**06 06 17.1**	**+3.2**
	comp=Z,12nm,0.4s						
ETOR				S	**Sn**	**06 08 02.5**	**-3.6**
ETOR	**Torete**	**10.09**	**251**	P	**Pn**	**06 06 17.1**	**+3.3**
ROSF	**Rostrenen**	**10.15**	**295**	*e*Sn	**Sn**	**06 08 00.6**	**-6.9**
	comp=Z,16nm,0.5s						
EARI	**Arriondas**	**11.45**	**268**	P	**Pn**	**06 06 33.2**	**+0.8**
	comp=Z,2.4nm,0.4s						
EARI				S	**Sn**	**06 08 32.5**	**-6.8**
EARI	**Arriondas**	**11.45**	**268**	P	**Pn**	**06 06 33.2**	**+0.8**
GUD	**Guadarrama**	**11.59**	**254**	P	**Pn**	**06 06 37.8**	**+3.4**
GUD	**Guadarrama**	**11.59**	**254**	P	**Pn**	**06 06 37.8**	**+3.4**
ESDC	**Sonseca Array**	**11.92**	**250**	Pn	**Pn**	**06 06 35.1**	**-3.8**
	comp=Z,0.4nm,0.3s,baz=60,slow=14,SNR=2.6						
EKA	**Eskdalemuir Ar**	**13.69**	**325**	Pn	**Pn**	**06 07 02.8**	**-0.2**
	comp=Z,0.1nm,0.3s,baz=140,slow=15,SNR=3.2						
FINES	**FINESS Array B**	**18.99**	**23**	P	**Pn**	**06 08 09.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=200,slow=12,SNR=2.6						
ARCES	**ARCESS Array B**	**25.92**	**12**	LR	LR	06 21 09.8	
	comp=Z,72nm,18.2s,baz=337,slow=40						
MKAR	**Makanchi Array**	**48.42**	**61**	P	**P**	**06 12 30.8**	**+0.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=291,slow=6.0,SNR=3.8						
YKA	**Yellowknife Ar**	**64.41**	**335**	P	**P**	**06 14 25.6**	**+1.5**
	comp=Z,0.2nm,0.7s,mb3.3,baz=46,slow=6.5,SNR=7.9						
ULM	**Lac du Bonnet**	**65.83**	**318**	P	**P**	**06 14 33.2**	**-0.3**
	comp=Z,1.2nm,0.5s,mb4.2,baz=38,slow=7.8,SNR=3.6						
BOSA	**Boshof**	**74.30**	**167**	P	**P**	**06 15 24.3**	**-1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=15,slow=21,SNR=3.8						
TXAR	**Lajitas Array**	**84.98**	**307**	P	**P**	**06 16 23.8**	**0.0**
	comp=Z,0.2nm,0.6s,mb3.4,baz=72,slow=6.7,SNR=2.6						
VNDA	**Vanda**	**145.23**	**169**	PKPbc	PKPbc	06 23 23.7	-0.6
	comp=Z,1.8nm,1.0s,baz=256,slow=3.9,SNR=7.8						

*NEIC **09** 06:13:10.0, 3789S×17673E, h2km, ML3.7(WEL), After WEL.*

WEL 09 06:13:10.0±0.3, 3789S×17673E, h2km±2km, ML3.9/4, Error ellipse: s-maj=1.3km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.10**	**205**	P	Pg	06 13 12.6	+0.6
MARZ				S	Sg	06 13 14.6	+1.2
MARZ	**Manawahe**	**0.10**	**205**	P*	Pg	06 13 12.6	+0.6
MARZ				S*	Sg	06 13 14.6	+1.2
OPRZ	**Ohinepanea**	**0.15**	**289**	P*	Pg	06 13 13.6	+0.8
OPRZ				S*	Sg	06 13 16.3	+1.6
LIRZ	**Lichensteins R**	**0.29**	**248**	P	Pg	06 13 16.6	+1.0
LIRZ				S	Sg	06 13 21.4	+1.9
LIRZ	**Lichensteins R**	**0.29**	**248**	PG	Pg	06 13 16.6	+0.9
LIRZ				SG	Sg	06 13 21.4	+1.9
MKRZ	**Makatiti**	**0.32**	**220**	P	Pg	06 13 17.2	+1.0
MKRZ	**Makatiti**	**0.32**	**220**	PG	Pg	06 13 17.2	+1.0
OMRZ	**Omania**	**0.35**	**233**	PG	Pg	06 13 17.4	+0.6
TAZ	**Tarawera**	**0.38**	**207**	P	Pg	06 13 18.5	+1.2
TAZ	**Tarawera**	**0.38**	**207**	PG	Pg	06 13 18.5	+1.2
MWZ	**Matawai**	**0.77**	**125**	P	Pg	06 13 24.8	+0.1
MWZ	**Matawai**	**0.77**	**125**	P*	Pb	06 13 24.8	-1.3

IDC 09 06:30:25.1±1.0, 1629S×17260W, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.9/17, mbtmp3.8/6, Error ellipse: s-maj=52.3km s-min=21.5km az=140.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**23.69**	**200**	P	P	06 35 37.7	-1.0
	2.7nm,0.3s,baz=288,slow=6.4,SNR=9.9						
WRA	**Warramunga Arr**	**50.40**	**257**	P	P	06 39 24.3	-0.3
	0.2nm,0.5s,baz=93,slow=7.9,SNR=2.8						
ASAR	**Alice Springs**	**50.58**	**253**	P	P	06 39 26.9	+0.9
	0.8nm,0.5s,baz=87,slow=8.2,SNR=16						
NVAR	**Mina Array Bea**	**74.47**	**41**	P	P	06 42 05.2	-0.2
	0.5nm,0.7s,baz=234,slow=10,SNR=4.6						
TXAR	**Lajitas Array**	**80.47**	**56**	P	P	06 42 40.9	+1.7
	0.5nm,0.9s,baz=242,slow=5.7,SNR=4.5						
YKA	**Yellowknife Ar**	**90.60**	**23**	P	P	06 43 27.6	-1.3
	0.7nm,0.8s,baz=242,slow=4.6,SNR=12						

*CSEM **09** 06:32:13.3±1.0, 3721N×2466W, h0km, ML2.8, Error ellipse: s-maj=7.7km s-min=3.4km az=93.0, After PDA*

PDA 09 06:32:13.3±1.0, 3721N×2466W, h0km, MD3.7, ML2.8, Error ellipse: s-maj=7.7km s-min=3.4km az=93.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**238**	*e*P	Pg	06 32 20.4	-0.3
PSMN				*e*S	Sg	06 32 25.8	+0.1
CMLA	**Cha da Macela**	**0.89**	**309**	*e*P	Pg	06 32 27.5	-2.8
CMLA				*e*S	Sg	06 32 38.9	-2.9
CMLA				A		06 32 41.3	
	107nm,0.4s						
CMLA	**Cha da Macela**	**0.89**	**309**	*e*P	Pg	06 32 27.5	-2.8
CMLA				*e*S	Sg	06 32 38.9	-2.9
PDA	**Ponta Delgada**	**0.97**	**304**	*e*P	Pg	06 32 29.2	-2.6
PDA				*e*S	Sg	06 32 40.5	-3.9
PSET	**Sete Cidades**	**1.05**	**306**	*e*P	Pg	06 32 30.4	-3.0
PSET				*e*S	Sg	06 32 42.7	-4.3
PSET				A		06 32 46.6	
	96nm,0.3s						
PSET	**Sete Cidades**	**1.05**	**306**	*e*P	Pg	06 32 30.4	-3.0
PSET				*e*S	Sg	06 32 42.7	-4.3
PSCM	**Serra do Cume**	**2.45**	**308**	*e*P	Pn	06 32 50.1	-4.4
PSCM				*e*S	Sn	06 33 17.7	-7.5
PSCM				A		06 33 20.5	
	30nm,0.1s						
PSCM	**Serra do Cume**	**2.45**	**308**	*e*P	Pn	06 32 50.1	-4.4
PSCM				*e*S	Sn	06 33 17.7	-7.5
ROSA	**Rosais**	**3.21**	**299**	*e*P	Pn	06 33 00.7	-4.3
ROSA				*e*S	Sn	06 33 36.2	-7.7
PICO	**Pico**	**3.25**	**295**	*e*P	Pn	06 33 00.9	-4.6
PICO				*e*S	Sn	06 33 37.8	-7.1
HOR	**Horta**	**3.41**	**294**	*e*P	Sn	06 33 39.4	-9.4
CALA	**Caldeira**	**3.48**	**294**	*e*P	Pn	06 33 04.4	-4.3
CALA				*e*S	Sn	06 33 42.5	-8.1

*ISCJB **09** 06:33:50.5±0.9, 3734N±005×2457W±007, h10km, Error ellipse: s-maj=8.9km s-min=6.2km az=139.5*
*PDA **09** 06:33:53.7±1.1, 3720N×2459W, h0km, ML3.4, Error ellipse: s-maj=5.4km s-min=3.4km az=82.0*
*CSEM **09** 06:33:53.7±1.1, 3720N×2459W, h0km, ML3.4, Error ellipse: s-maj=5.4km s-min=3.4km az=82.0, After PDA*

ISC 09 06:33:53.5±1.1, 3726N±006×2469W±008, h25km±6km, n17, σ0§58/32, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.39**	**229**	*e*P	**Pb**	**06 34 01.5**	**-0.4**
PSMN				*e*S	**Sb**	**06 34 07.7**	**+0.1**
CMLA	**Cha da Macela**	**0.83**	**307**	*e*P	**Pb**	**06 34 08.7**	**-0.5**
CMLA				*e*S	**Sb**	**06 34 20.1**	**+0.1**
CMLA				A		06 34 22.6	
	410nm,0.4s						
CMLA	**Cha da Macela**	**0.83**	**307**	*e*P	**Pb**	**06 34 08.7**	**-0.5**
CMLA				*e*S	**Sb**	**06 34 20.1**	**+0.1**
PDA	**Ponta Delgada**	**0.91**	**302**	*e*P	**Pb**	**06 34 10.3**	**-0.3**
PDA				*e*S	**Sb**	**06 34 22.3**	**0.0**
PSET	**Sete Cidades**	**0.99**	**305**	*e*P	**Pn**	**06 34 11.3**	**-0.5**
PSET				*e*S	**Sb**	**06 34 24.7**	**+0.1**
PSET				A		06 34 27.6	
	351nm,0.3s						
PSET	**Sete Cidades**	**0.99**	**305**	*e*P	**Pn**	**06 34 11.3**	**-0.5**
PSET				*e*S	**Sb**	**06 34 24.7**	**+0.1**
PSCM	**Serra do Cume**	**2.39**	**308**	*e*P	**Pn**	**06 34 31.1**	**0.0**
PSCM				*e*S	**Sn**	**06 34 58.9**	**-0.7**
PSCM				A		06 35 04.5	
	97nm,0.3s						
PSCM	**Serra do Cume**	**2.39**	**308**	*e*P	**Pn**	**06 34 31.1**	**0.0**
PSCM				*e*S	**Sn**	**06 34 58.9**	**-0.7**
ADH	**Angra Heroismo**	**2.44**	**305**	*e*P	**Pn**	**06 34 32.5**	**+0.7**
ADH				*e*S	**Sn**	**06 35 00.8**	**-0.1**
PMAN	**Manadas**	**3.01**	**298**	*e*P	**Pn**	**06 34 39.9**	**+0.3**
PMAN				*e*S	**Sn**	**06 35 13.9**	**-1.0**
PMAN				A		06 35 18.1	
	24nm,0.2s						
PMAN	**Manadas**	**3.01**	**298**	*e*P	**Pn**	**06 34 39.9**	**+0.3**
PMAN				*e*S	**Sn**	**06 35 13.9**	**-1.0**
ROSA	**Rosais**	**3.16**	**299**	*e*P	**Pn**	**06 34 42.3**	**+0.7**
ROSA				*e*S	**Sn**	**06 35 18.4**	**-0.1**
PICO	**Pico**	**3.20**	**294**	*e*P	**Pn**	**06 34 43.4**	**+1.2**
PICO				*e*S	**Sn**	**06 35 19.6**	**0.0**
HOR	**Horta**	**3.36**	**293**	*e*P	**Pn**	**06 34 45.5**	**+1.1**
HOR				*e*S	**Sn**	**06 35 23.2**	**-0.3**
CALA	**Caldeira**	**3.43**	**294**	*e*P	**Pn**	**06 34 46.2**	**+0.8**
CALA				*e*S	**Sn**	**06 35 25.0**	**-0.3**
PMAR	**Madeira**	**7.83**	**123**	*e*Pn	**Pn**	**06 35 45.1**	**-0.6**
PMAR				*e*Tn		06 43 13.4	
PMPS	**Porto Santo**	**8.03**	**119**	*e*Pn	**Pn**	**06 35 44.3**	**-4.2**
PMPS				*e*T		06 43 35.8	

*CSEM **09** 06:35:10.9±1.0, 3718N×2454W, h5km, ML3.5, Error ellipse: s-maj=5.6km s-min=3.7km az=77.0, After PDA*

PDA 09 06:35:10.9±1.0, 3718N×2454W, h5km, ML3.5, Error ellipse: s-maj=5.6km s-min=3.7km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.46**	**247**	*e*P	Pg	06 35 18.8	-0.9
PSMN				*e*S	Sg	06 35 24.9	-0.7
CMLA	**Cha da Macela**	**0.97**	**307**	*e*P	Pg	06 35 26.1	-3.5
CMLA				*e*S	Sg	06 35 37.6	-4.6
CMLA				A		06 35 39.7	
	364nm,0.3s						
CMLA	**Cha da Macela**	**0.97**	**307**	*e*P	Pg	06 35 26.1	-3.5
CMLA				*e*S	Sg	06 35 37.6	-4.6
PDA	**Ponta Delgada**	**1.06**	**302**	*e*P	Pg	06 35 27.8	-3.4
PDA				*e*S	Sg	06 35 39.7	-5.1
PSET	**Sete Cidades**	**1.14**	**305**	*e*P	Pg	06 35 28.7	-4.0
PSET				*e*S	Sg	06 35 41.7	-5.7
PSET				A		06 35 46.7	
	419nm,0.3s						
PSET	**Sete Cidades**	**1.14**	**305**	*e*P	Pg	06 35 28.7	-4.0
PSET				*e*S	Sg	06 35 41.7	-5.7
PSCM	**Serra do Cume**	**2.54**	**307**	*e*P	Pn	06 35 48.7	-4.0
PSCM				*e*S	Sn	06 36 16.0	-8.0
PSCM				A		06 36 19.0	
	111nm,0.3s						
PSCM	**Serra do Cume**	**2.54**	**307**	*e*P	Pn	06 35 48.7	-4.0
PSCM				*e*S	Sn	06 36 16.0	-8.0
ADH	**Angra Heroismo**	**2.59**	**305**	*e*S	Sn	06 36 18.0	-7.2
ROSA	**Rosais**	**3.30**	**299**	*e*P	Pn	06 35 59.4	-3.8
ROSA				*e*S	Sn	06 36 35.7	-7.2
PICO	**Pico**	**3.34**	**294**	*e*P	Pn	06 36 00.5	-3.3
PICO				*e*S	Sn	06 36 36.9	-7.0
HOR	**Horta**	**3.50**	**294**	*e*P	Pn	06 36 02.4	-3.6
HOR				*e*S	Sn	06 36 40.5	-7.3
CALA	**Caldeira**	**3.58**	**294**	*e*P	Pn	06 36 03.3	-3.7
CALA				*e*S	Sn	06 36 42.1	-7.5

*IDC **09** 06:50:51.9±1.5, 1280S×16646E, h0km, mb3.9/6, mb1 4.2/7, mb1mx4.0/17, mbtmp4.1/7, ML4.8/1, MS3.6/5, Ms1 3.6/5, ms1mx3.3/21, Error ellipse: s-maj=54.8km s-min=26.4km az=150.0*
*ISCJB **09** 06:51:02.8±5.6, 125S±02×1660E±03, h94km±49km, mb3.9/6, Error ellipse: s-maj=55.6km s-min=26.2km az=37.3*

ISC 09 06:51:02.9±4.4, 125S±02×1661E±03, h82km±38km, n12, σ0§51/10, mb3.9/6, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.79**	**296**	Pn	**Pn**	**06 52 40.0**	**+0.1**
	15nm,0.3s,baz=158,slow=3.5,SNR=4.7						
CTA	**Charters Tower**	**20.50**	**246**	P	**P**	**06 55 33.7**	**-0.7**
	5.2nm,1.0s,baz=97,slow=8.1,SNR=2.5						
CTA				LR	LR	07 01 47.5	
	comp=Z,174nm,20.7s,baz=51,slow=32						
ARMA	**Armidale**	**22.32**	**215**	*e*P	**P**	**06 55 53.8**	**+0.1**
STKA	**Stephens Creek**	**29.67**	**226**	*e*P	**P**	**06 57 01.5**	**+0.6**
	2.8nm,0.9s,mb3.9						
STKA	**Stephens Creek**	**29.67**	**226**	P	**P**	**06 57 01.1**	**+0.2**
	2.5nm,0.7s,mb3.9,baz=33,slow=10.0,SNR=5.1						
STKA				LR	LR	07 07 34.7	
	comp=Z,114nm,18.3s,baz=27,slow=34						
WRA	**Warramunga Arr**	**31.37**	**252**	P	**P**	**06 57 15.3**	**-0.7**
	0.7nm,0.7s,mb3.5,baz=83,slow=8.0,SNR=3.5						
WRA				LR	LR	07 08 23.3	
	comp=Z,75nm,19.3s,baz=85,slow=33						
ASAR	**Alice Springs**	**32.50**	**245**	P	**P**	**06 57 25.7**	**-0.3**
	1.5nm,0.8s,mb3.9,baz=73,slow=9.7,SNR=12						
FITZ	**Fitzroy Crossi**	**39.39**	**257**	P	**P**	**06 58 25.8**	**+0.9**
	2.0nm,0.9s,mb4.0,baz=117,slow=6.8,SNR=3.

mb3.7/8, Error ellipse: s-maj=41.2km s-min=14.0km az=167.9

IDC ***09*** *07:36:25.7±7.1, 7.75N×12657E, h149km±71km, mb3.4/8, mb1 3.6/9, mb1mx3.4/21, mbtmp3.5/9, Error ellipse: s-maj=48.6km s-min=12.9km az=75.0*

ISC 09 07:36:22.3±2.0, 781N±010×1268E±02, h115km±19km, n11, σ1§15/13, mb3.7/8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**2.34**	**327**	*e*P	**Pn**	**07 36 53.6**	**-6.2**
SCPH				*e*S	**Sn**	**07 37 27.2**	**-1.4**
TBP	**Tagbilaran**	**3.44**	**303**	*e*P	**Pn**	**07 37 09.9**	**-4.4**
TBP				*e*S	**Sn**	**07 37 55.8**	**+1.4**
JOW	**Kunigami**	**18.97**	**4**	P	**P**	**07 40 36.6**	**+1.9**
	0.6nm,0.3s,baz=204,slow=8.3,SNR=9.5						
FITZ	**Fitzroy Crossi**	**25.77**	**182**	P	**P**	**07 41 42.6**	**+0.1**
	2.2nm,0.8s,mb3.7,baz=24,slow=11,SNR=8.5						
WRA	**Warramunga Arr**	**28.56**	**165**	P	**P**	**07 42 08.9**	**+1.4**
	0.9nm,0.6s,mb3.6,baz=347,slow=10,SNR=12						
ASAR	**Alice Springs**	**32.05**	**168**	P	**P**	**07 42 37.0**	**-1.1**
	0.2nm,0.4s,mb3.2,baz=338,slow=7.3,SNR=5.0						
STKA	**Stephens Creek**	**41.92**	**161**	P	**P**	**07 44 01.1**	**-0.6**
	2.3nm,1.0s,mb3.9,baz=328,slow=13,SNR=2.3						
MKAR	**Makanchi Array**	**54.28**	**324**	P	**P**	**07 45 36.9**	**+0.4**
	1.0nm,0.6s,mb4.0,baz=127,slow=8.6,SNR=12						
ZALV	**Zalesovo Beam**	**57.02**	**332**	P	**P**	**07 45 55.0**	**-0.9**
	0.6nm,0.3s,mb4.0,baz=134,slow=6.2,SNR=3.4						
BVAR	**Borovoye Array**	**63.97**	**326**	P	**P**	**07 46 41.7**	**-1.5**
	0.6nm,0.6s,mb3.6,baz=121,slow=11,SNR=3.0						
YKA	**Yellowknife Ar**	**95.78**	**24**	P	**P**	**07 49 35.8**	**+0.5**
	0.2nm,0.6s,mb3.7,baz=302,slow=4.9,SNR=3.4						

IDC ***09*** *07:42:31.2±0.7, 1496N×12029E, h0km, mb4.1/13, mb1 4.2/13, mb1mx4.1/22, mbtmp4.1/13, MS2.9/2, Ms1 2.9/2, ms1mx2.7/27, Error ellipse: s-maj=62.8km s-min=14.8km az=65.0*

NEIC ***09*** *07:42:32.8±0.3, 1487N×120.15E, h10km, mb4.4/3, Error ellipse: s-maj=24.8km s-min=7.1km az=66.0*

NEIC Felt [III PIVS] at Subic and [II PIVS] at Porac.

ISCJB ***09*** *07:42:37.9±0.6, 1490N±003×11989E±006, h59km±6km, mb4.1/16, Error ellipse: s-maj=10.0km s-min=4.8km az=177.9*

MAN ***09*** *07:42:42, 1492N×12021E, h16km, mb4.3, ML3.1, MS2.9*

ISC 09 07:42:39.1±0.6, 1489N±003×11993E±006, h55km±7km, n44, σ1§24/53, mb4.1/16, 3C-5D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NBP	**Mount Natib**	**0.49**	**108**	⇑*e*P	**Pn**	**07 42 49.5**	**-1.2**
NBP				*e*S	**Sn**	**07 42 57.0**	**-2.0**
NBP	**Mount Natib**	**0.49**	**108**	*e*P	**Pn**	**07 42 58.3**	**+7.6**
SCZP	**Santa Cruz**	**0.88**	**359**	*e*P	**Pn**	**07 42 52.4**	**-3.0**
QVPH	**Quezon City--P**	**1.12**	**102**	⇓*e*P	**Pn**	**07 42 59.2**	**+0.6**
QVPH				*e*S	**Sn**	**07 43 14.6**	**+1.5**
NZB	**Bigte**	**1.13**	**91**	⇓*e*P	**Pn**	**07 42 58.2**	**-0.6**
NZB				*e*S	**Sn**	**07 43 13.5**	**+0.1**
LUBP	**Lubang**	**1.19**	**165**	*e*P	**Pn**	**07 42 58.5**	**-1.1**
TGY	**Tagaytay City**	**1.25**	**129**	⇓*i*P	**Pn**	**07 43 02.1**	**+1.7**
TGY				*i* S	**Sn**	**07 43 22.0**	**+5.8**
PCPH	**Palayan**	**1.31**	**59**	⇓*e*P	**Pn**	**07 42 59.6**	**-1.5**
PCPH				*i* S	**Sn**	**07 43 15.7**	**-2.0**
LBPH	**Los Banos**	**1.42**	**121**	*e*P	**Pn**	**07 43 03.7**	**+1.1**
LBPH	**Los Banos**	**1.42**	**121**	⇑*e*P	**Pn**	**07 43 04.2**	**+1.6**
LBPH				*e*S	**Sn**	**07 43 10.2**	**-10**
BOLP	**Bolinao**	**1.48**	**359**	*e*P	**Pn**	**07 43 00.7**	**-2.8**
BCPH	**Baguio City Da**	**1.61**	**23**	⇑*i*P	**Pn**	**07 43 04.1**	**-1.1**
BCPH				*i* S	**Sn**	**07 43 23.4**	**-1.4**
PGP	**Puerto Galera**	**1.70**	**144**	⇓*e*P	**Pn**	**07 43 07.1**	**+0.6**
LQP	**Lukban**	**1.74**	**116**	*e*P	**Pn**	**07 43 08.4**	**+1.4**
BALP	**Baler**	**1.80**	**62**	*e*P	**Pn**	**07 43 07.4**	**-0.4**
BALP				*e*S	**Sn**	**07 43 29.5**	**-0.1**
POLP	**Polilio Island**	**1.95**	**95**	*e*P	**Pn**	**07 43 11.2**	**+1.3**
BOAC	**Boac**	**2.34**	**127**	*e*P	**Pn**	**07 43 16.7**	**+1.5**
ABRA	**Dolores**	**2.84**	**15**	*e*P	**Pn**	**07 43 23.6**	**+1.5**
ABRA				*e*S	**Sn**	**07 43 55.4**	**+0.3**
BUSP	**Coron**	**2.88**	**175**	*e*P	**Pn**	**07 43 24.2**	**+1.6**
BUSP				*e*S	**Sn**	**07 43 55.8**	**-0.3**
APYP	**Conner**	**3.21**	**23**	*e*P	**Pn**	**07 43 27.8**	**+0.6**
APYP				*e*S	**Sn**	**07 44 05.9**	**+1.7**
PALP	**Palanan**	**3.23**	**48**	*e*P	**Pn**	**07 43 29.4**	**+2.1**
JOW	**Kunigami**	**14.20**	**32**	LR	LR	07 50 43.8	
	comp=Z,50nm,20.1s,baz=249,slow=35						
KSRS	**Korea Array**	**23.57**	**16**	LR	LR	07 58 13.8	
	comp=Z,31nm,19.0s,baz=215,slow=40						
SONM	**Songino Array**	**34.71**	**344**	P	**P**	**07 49 22.5**	**-1.2**
	0.5nm,0.4s,mb3.8,baz=110,slow=7.8,SNR=2.6						
WRAB	**Tennant Creek**	**37.40**	**157**	*e*P	**P**	**07 49 44.8**	**-2.2**
	11nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**37.41**	**157**	P	**P**	**07 49 45.5**	**-1.5**
	7.9nm,0.7s,mb4.7,baz=336,slow=9.5,SNR=68						
WB2	**Warramunga Arr**	**37.41**	**157**	*e*P	**P**	**07 49 45.3**	**-1.7**
ASAR	**Alice Springs**	**40.69**	**160**	P	**P**	**07 50 13.3**	**-1.0**
	2.7nm,0.6s,mb4.1,baz=340,slow=7.0,SNR=43						
MKAR	**Makanchi Array**	**44.63**	**323**	P	**P**	**07 50 47.9**	**+1.8**
MKAR	**Makanchi Array**	**44.63**	**323**	P	**P**	**07 50 47.9**	**+1.8**
	0.3nm,0.6s,mb3.3,baz=129,slow=9.6,SNR=4.3						
ZALV	**Zalesovo Beam**	**47.66**	**333**	P	**P**	**07 51 10.4**	**+0.6**
	0.6nm,0.3s,mb4.0,baz=127,slow=38,SNR=2.9						
KURK	**Kurchatov**	**48.79**	**326**	*e*P	**P**	**07 51 19.0**	**+0.4**
	3.1nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**50.93**	**156**	P	**P**	**07 51 33.4**	**-1.6**
	0.5nm,0.4s,mb3.8,baz=333,slow=2.3,SNR=3.4						
BVAR	**Borovoye Array**	**54.37**	**326**	P	**P**	**07 52 01.2**	**+1.0**
	0.4nm,0.4s,mb3.7,baz=114,slow=13,SNR=3.8						
AKTK	**Aktyubinsk**	**60.83**	**320**	P	**P**	**07 52 46.8**	**+1.1**
AKTO	**Aktyubinsk**	**60.83**	**320**	P	**P**	**07 52 46.8**	**+1.1**
	0.8nm,0.5s,mb4.1,baz=92,slow=9.9,SNR=6.1						
ARCES	**ARCESS Array B**	**77.71**	**339**	P	**P**	**07 54 29.8**	**+0.1**
	3.7nm,0.8s,mb4.4,baz=70,slow=7.8,SNR=9.8						
FINES	**FINESS Array B**	**78.89**	**331**	P	**P**	**07 54 36.4**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=60,slow=6.1,SNR=7.0						
AKASG	**Malin Array Be**	**79.07**	**320**	P	**P**	**07 54 37.4**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=71,slow=4.4,SNR=4.2						
EGAK	**Eagle**	**80.41**	**25**	*e*P	**P**	**07 54 44.3**	**-0.2**
	2.3nm,0.7s,mb4.2						
DAWY	**Dawson**	**81.34**	**26**	*e*P	**P**	**07 54 49.6**	**+0.1**
INK	**Inuvik**	**82.26**	**21**	P	**P**	**07 54 53.8**	**-0.5**
	0.9nm,0.7s,mb3.8,baz=279,slow=5.3,SNR=7.6						
NB2	**NORSAR Subarra**	**85.86**	**332**	P	**P**	**07 55 12.2**	**-0.5**
	comp=Z,2.2nm,0.8s,mb4.4,baz=68,slow=5.1						
NOA	**NORSAR Array B**	**85.86**	**332**	P	**P**	**07 55 12.6**	**-0.2**
	comp=Z,2.7nm,0.8s,mb4.6,baz=67,slow=5.0,SNR=6.6						

BJI ***09*** *07:50:01.1, 3954N×12507W, h16km, mB5.3, mb5.2, Ms5.2, Msz4.8*

GCMT ***09*** *07:50:03.8±0.2, 4034N×12501W, h19km, MW5.4/106, Moment Tensor Solution. s71,c104; s106,c201; Duration: 1§2 Moment tensor: Scale 1017Nm; Mrr=0.17±.02; Mθθ=0.24±.02; Mφφ0.41±.02; Mrθ=0.22±.04; Mθφ=-1.25±.02; Mφr=0.30±.04; Best double couple: M0=1.35000×1017 NP1:φs=99.00000°, δ75.00000°, λ=-170.00000°. NP2:φs=6.00000°, δ81.00000°, λ=-15.00000°. Principal axes: T 1.3850, Plg4.0000°, Azm53.0000°; N -0.0690, Plg72.0000°, Azm155.0000°; P -1.3160, Plg17.0000°, Azm322.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *07:50:03.8, 4038N×12502W, h0km, mb5.3/144, MS4.8/106, MW5.2(BRK), After NCEDC.*

NEIC Felt [V] at Whitethorn; [IV] at Carlotta, Ferndale, Rio Dell and Scotia; [III] at Eureka, Fortuna, Garberville, Leggett, Loleta, Myers Flat and Redway; [II] at Arcata and Hydesville. Also felt at Albion, Alderpoint, Benicia, Berkeley, Bridgeville, Delano, Fort Bragg, Laytonville, Little River, Martinez, McKinleyville, Mendocino, Pacifica, Petrolia, Pleasant Hill, Sunnyvale, Trinidad, Westport and Willits.

ISCJB ***09*** *07:50:04.3±0.6, 4042N±001×12482W±002, h5km±3km, mb5.1/190, MS4.8/139, Error ellipse: s-maj=3.2km s-min=1.8km az=160.2*

MOS ***09*** *07:50:05.9±0.9, 4038N×12477W, h16km, mb5.3/81, MS4.8/37, Error ellipse: s-maj=5.3km s-min=4.4km az=79.0*

IDC ***09*** *07:50:05.1±0.6, 4046N×12475W, h0km, mb4.7/20, mb1 4.9/25, mb1mx4.8/31, mbtmp4.7/25, ML4.2/5, MS4.6/25, Ms1 4.6/25, ms1mx4.6/25, Error ellipse: s-maj=15.2km s-min=9.1km az=50.0*

SZGRF ***09*** *07:50:13.9, 4080N×12444W, h33km, mb5.0, MS4.8, Near coast of northern California, United States*

ISC 09 07:50:08.9±0.6, 4043N±001×12482W±003, h24km±4km, h15km±3.1km; pP-P, n896, σ1§12/832, mb5.1/190, MS4.8/139, 242C-171D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	**Jacoby Creek**	**0.71**	**57**	⇓P	**Pb**	**07 50 20.9**	**-1.8**
	baz=0.4,SNR=1000						
O01C	**Eel River Cons**	**0.82**	**111**	P	**Pb**	**07 50 22.9**	**-1.6**
	baz=0.7,SNR=695						
O01C				⇑S	**Sb**	**07 50 34.9**	**-0.1**
	baz=0.7						
KIPM	**Iron Peak**	**1.20**	**121**	*e*Pg	**Pn**	**07 50 28.0**	**-2.2**
KIPM				*e*Sg	**Sn**	**07 50 46.5**	**+0.8**
KCPM	**Cahto Peak**	**1.21**	**128**	*e*Pg	**Pn**	**07 50 27.8**	**-2.5**
N02C	**Big Bar**	**1.22**	**71**	⇑P	**Pn**	**07 50 28.7**	**-1.7**
	baz=0.9,SNR=1000						
KRMB	**Red Mountain**	**1.29**	**32**	⇑*i*Pn	**Pn**	**07 50 29.0**	**-2.4**
KRMB				*e*S	**Sn**	**07 50 44.9**	**-2.9**
P01C	**Double 8 Ranch**	**1.49**	**130**	⇓P	**Pn**	**07 50 31.6**	**-2.6**
	baz=1.4,SNR=1000						
P01C				⇓S	**Sn**	**07 50 49.0**	**-3.9**
	baz=1.4						
M01C	**Crescent City**	**1.51**	**20**	P	**Pn**	**07 50 31.6**	**-2.8**
	baz=1.3,SNR=311						
M01C				⇓S	**Sn**	**07 50 49.9**	**-3.3**
	baz=1.3						
O02C	**Red Bluff**	**1.58**	**99**	⇑P	**Pn**	**07 50 33.9**	**-1.4**
	baz=1.4,SNR=1000						
WDC	**Whiskeytown Da**	**1.74**	**84**	⇑*i*Pn	**Pn**	**07 50 36.0**	**-1.6**
WDC				*e*Sn	**Sn**	**07 50 58.0**	**-1.1**
WDC	**Whiskeytown Da**	**1.74**	**84**	⇓P	**Pn**	**07 50 36.1**	**-1.6**
	baz=1.5,SNR=1000						
WDC				⇑S	**Sn**	**07 50 57.9**	**-1.2**
	baz=1.5						
M02C	**Callahan**	**1.77**	**57**	P	**Pn**	**07 50 36.3**	**-1.7**
	baz=1.5,SNR=1000						
GASB	**Alder Springs**	**1.79**	**115**	⇑P	**Pn**	**07 50 36.1**	**-2.2**
	baz=1.7,SNR=1000						
L02A	**Cave Junction**	**1.95**	**28**	P	**Pn**	**07 50 38.3**	**-2.2**
	baz=1.7,SNR=393						
L02A				⇓S	**Sn**	**07 51 01.9**	**-2.3**
	baz=1.7						
HOPS	**Hopland**	**1.97**	**136**	⇓*i*Pn	**Pn**	**07 50 37.7**	**-3.0**
HOPS				*e*Sn	**Sn**	**07 51 01.8**	**-2.9**
HOPS	**Hopland**	**1.97**	**136**	⇑P	**Pn**	**07 50 37.8**	**-3.0**
	baz=1.9,SNR=1000						
YBH	**Yreka Blue Hor**	**2.06**	**50**	⇑*i*Pn	**Pn**	**07 50 40.6**	**-1.4**
YBH				*e*Sn	**Sn**	**07 51 08.4**	**+1.6**
YBH	**Yreka Blue Hor**	**2.06**	**50**	⇓P	**Pn**	**07 50 40.7**	**-1.2**
	baz=1.8,SNR=1000						
O03C	**Acorn Hollow,**	**2.18**	**101**	⇑P	**Pn**	**07 50 42.0**	**-1.6**
	baz=2.0,SNR=380						
M03C	**McCloud**	**2.21**	**67**	⇑P	**Pn**	**07 50 43.4**	**-0.7**
	baz=1.9,SNR=190						
K01A	**Sixes**	**2.39**	**6**	⇓P	**Pn**	**07 50 44.1**	**-2.4**
	baz=2.2						
K01A				⇑S	**Sn**	**07 51 10.0**	**-5.0**
	baz=2.2						
MNRC	**McLaughlin Nat**	**2.41**	**129**	⇓P	**Pn**	**07 50 44.8**	**-2.0**
	baz=2.3,SNR=168						
KEBM	**Edson Butte**	**2.46**	**8**	*e*Pn	**Pn**	**07 50 45.3**	**-2.3**
K02A	**Glendale**	**2.54**	**23**	⇓P	**Pn**	**07 50 46.3**	**-2.2**
	baz=2.3,SNR=122						
NSHM	**Saint Helena R**	**2.57**	**137**	*e*Pn	**Pn**	**07 50 45.6**	**-3.3**
HUMO	**Hull Mountain**	**2.58**	**32**	*e*Pn	**Pn**	**07 50 47.4**	**-1.8**
HUMO				*e*Sn	**Sn**	**07 51 17.9**	**-1.9**
HUMO	**Hull Mountain**	**2.58**	**32**	P	**Pn**	**07 50 47.5**	**-1.7**
	baz=2.3,SNR=362						
HATC	**Hat Creek Radi**	**2.59**	**80**	P	**Pn**	**07 50 48.7**	**-0.5**
	baz=2.3,SNR=1000						
M04C	**Macdoel**	**2.62**	**58**	⇓P	**Pn**	**07 50 49.2**	**-0.5**
	baz=2.3,SNR=450						
SUTB	**Sutter Butte**	**2.63**	**116**	⇑P	**Pn**	**07 50 47.2**	**-2.6**
	baz=2.5,SNR=246						
SUTB				⇑S	**Sn**	**07 51 16.2**	**-4.7**
	baz=2.5						
ORV	**Oroville**	**2.70**	**108**	⇑P	**Pn**	**07 50 48.1**	**-2.6**
	baz=2.5,SNR=914						
MCCM	**Marconi Confer**	**2.74**	**146**	*e*Pn	**Pn**	**07 50 46.8**	**-4.5**
MCCM	**Marconi Confer**	**2.74**	**146**	⇑P	**Pn**	**07 50 47.0**	**-4.3**
	baz=2.7						
CVS	**Carmenet Viney**	**2.77**	**138**	P	**Pn**	**07 50 48.1**	**-3.7**
	baz=2.7,SNR=451						
OHCM	**Honcut**	**2.79**	**112**	*e*Pn	**Pn**	**07 50 49.6**	**-2.4**
L04A	**Klamath Falls**	**2.81**	**51**	P	**Pn**	**07 50 51.7**	**-0.6**
	baz=2.5,SNR=220						
O04C	**Chester**	**2.85**	**91**	P	**Pn**	**07 50 52.2**	**-0.7**
	baz=2.6,SNR=1000						
M05C	**Lookout**	**2.94**	**70**	P	**Pn**	**07 50 52.6**	**-1.4**
	baz=2.6,SNR=103						
O05C	**Quincy**	**3.03**	**98**	⇑P	**Pn**	**07 50 55.1**	**-0.2**
	baz=2.8,SNR=508						
O05C				⇑S	**Sn**	**07 51 30.7**	**0.0**
	baz=2.8						
J02A	**Umpqua**	**3.07**	**17**	⇓P	**Pn**	**07 50 54.1**	**-1.8**
	baz=2.9,SNR=113						
FARB	**Farallon Islan**	**3.08**	**152**	⇑P	**Pn**	**07 50 51.0**	**-5.0**
	baz=3.1						
Q04C	**Lincoln**	**3.10**	**120**	⇓P	**Pn**	**07 50 53.4**	**-2.9**
	baz=3.0,SNR=12						
ELFS	**Eagle Lake Fie**	**3.12**	**85**	P	**Pn**	**07 50 55.9**	**-0.8**
	baz=2.9,SNR=243						
K04A	**Chilquin**	**3.18**	**46**	P	**Pn**	**07 50 57.0**	**-0.4**
	baz=2.9,SNR=118						
J03A	**Ideyld Park**	**3.25**	**25**	⇑P	**Pn**	**07 50 56.8**	**-1.4**
	baz=3.0,SNR=143						
BDM	**Black Diamond**	**3.38**	**136**	⇓P	**Pn**	**07 50 57.0**	**-3.1**
	baz=3.3,SNR=43						
M06C	**Likely Place G**	**3.38**	**75**	P	**Pn**	**07 50 58.9**	**-1.3**
	baz=3.1,SNR=150						
L05A	**Lakeview**	**3.41**	**61**	P	**Pn**	**07 50 59.7**	**-0.9**
	baz=3.1,SNR=465						
P05C	**Yuba Gap, Truc**	**3.43**	**108**	⇓P	**Pn**	**07 51 00.1**	**-0.8**
	baz=3.3,SNR=356						
BEKR	**Beckwourth**	**3.47**	**98**	P	**Pn**	**07 51 00.6**	**-0.8**
	baz=3.2,SNR=990						
LAVA	**Lava Cap Winer**	**3.57**	**117**	⇑P	**Pn**	**07 51 01.4**	**-1.3**
	baz=3.4						
JRSC	**Jasper Ridge**	**3.63**	**146**	⇓P	**Pn**	**07 50 59.2**	**-4.4**
	baz=3.6,SNR=595						
I02A	**Mapleton**	**3.64**	**11**	⇓P	**Pn**	**07 51 02.4**	**-1.3**
	baz=3.5,SNR=172						
I02A				⇑S	**Sn**	**07 51 42.3**	**-3.6**
	baz=3.5						
WENL	**Wente Brothers**	**3.69**	**139**	⇓P	**Pn**	**07 51 01.7**	**-2.6**
	baz=3.7,SNR=287						
MOD	**Modoc**	**3.71**	**65**	*e*Pn	**Pn**	**07 51 03.2**	**-1.5**
MOD	**Modoc**	**3.71**	**65**	P	**Pn**	**07 51 03.3**	**-1.4**
	baz=3.4,SNR=121						
R04C	**Big Horse Ranc**	**3.71**	**125**	⇑P	**Pn**	**07 51 02.4**	**-2.3**
	baz=3.6,SNR=65						
I03A	**Eugene**	**3.72**	**17**	⇓P	**Pn**	**07 51 03.1**	**-1.7**
	baz=3.5,SNR=38						
I03A				⇑S	**Sn**	**07 51 45.6**	**-2.2**
	baz=3.5						
K05A	**Summer Lake**	**3.73**	**51**	P	**Pn**	**07 51 04.6**	**-0.4**
	baz=3.4,SNR=288						
I04A	**Tendick Farm,**	**3.81**	**27**	⇓P	**Pn**	**07 51 04.9**	**-1.0**
	baz=3.6,SNR=25						
I04A				⇓S	**Sn**	**07 51 49.3**	**-0.6**
	baz=3.6						
N06A	**Buffalo Meadow**	**3.81**	**84**	P	**Pn**	**07 51 04.6**	**-1.4**
	baz=3.5,SNR=576						
O06A	**Flanigan**	**3.83**	**92**	P	**Pn**	**07 51 05.2**	**-1.1**
	baz=3.6,SNR=94						
P06A	**Stead Airport,**	**3.85**	**100**	⇑P	**Pn**	**07 51 05.8**	**-0.8**
	baz=3.6,SNR=25						
J05A	**Fort Rock**	**3.91**	**42**	P	**Pn**	**07 51 07.2**	**-0.2**
	baz=3.6,SNR=1000						
S04C	**Ingram Canyon,**	**4.00**	**136**	⇓P	**Pn**	**07 51 05.8**	**-2.8**
	baz=3.9,SNR=680						
R05C	**Kirkwood Meado**	**4.05**	**114**	⇑P	**Pn**	**07 51 08.4**	**-1.0**
	baz=3.9						
WCN	**Washoe City**	**4.06**	**105**	⇑P	**Pn**	**07 51 08.7**	**-0.7**
	baz=3.9,SNR=206						
K06A	**Valley Falls**	**4.16**	**54**	⇑P	**Pn**	**07 51 10.0**	**-0.9**
	baz=3.9,SNR=687						
CMB	**Columbia Colle**	**4.20**	**123**	*e*P	**Pn**	**07 51 11.0**	**-0.3**
CMB	**Columbia Colle**	**4.20**	**123**	⇓P	**Pn**	**07 51 10.1**	**-1.3**
	baz=4.1,SNR=56						
PAHR	**Pah Rah Range**	**4.23**	**98**	*e*Pn	**Pn**	**07 51 10.8**	**-1.1**
COR	**Corvallis**	**4.30**	**15**	*e*P	**Pn**	**07 51 12.9**	**+0.2**
M07A	**Soldier Meadow**	**4.39**	**76**	P	**Pn**	**07 51 12.3**	**-1.7**
	baz=4.1,SNR=220						
H03A	**Soap Creek Ran**	**4.39**	**14**	⇓P	**Pn**	**07 51 13.1**	**-0.8**
	baz=4.2,SNR=92						
H03A				⇓S	**Sn**	**07 52 02.9**	**-1.4**
	baz=4.2						
PACP	**Pacheco Peak**	**4.40**	**140**	⇑P	**Pn**	**07 51 10.2**	**-3.9**
	baz=4.4,SNR=68						
L07A	**Adell**	**4.43**	**67**	⇑P	**Pn**	**07 51 12.4**	**-2.1**
	baz=4.1,SNR=24						
N07B	**Gerlach**	**4.47**	**84**	P	**Pn**	**07 51 13.6**	**-1.5**
	baz=4.2,SNR=142						
J06A	**Christmas Vall**	**4.48**	**50**	⇓P	**Pn**	**07 51 14.7**	**-0.6**
	baz=4.2,SNR=301						
SAO	**San Andreas Ge**	**4.52**	**143**	*e*P	**Pn**	**07 51 11.9**	**-3.9**
O07A	**Toulon**	**4.55**	**92**	P	**Pn**	**07 51 15.2**	**-1.0**
	baz=4.3,SNR=673						
I05A	**Bend**	**4.56**	**34**	⇓P	**Pn**	**07 51 16.5**	**+0.1**
	baz=4.3,SNR=31						
R06C	**Coleville**	**4.57**	**113**	⇓P	**Pn**	**07 51 16.5**	**0.0**
	baz=4.4,SNR=17						
P07A	**Fallon**	**4.64**	**99**	⇑P	**Pn**	**07 51 17.0**	**-0.5**
	baz=4.4						
S05C	**Merced**	**4.67**	**130**	⇑P	**Pn**	**07 51 15.9**	**-1.9**
	baz=4.6,SNR=189						
H04A	**Detroit Lake**	**4.67**	**24**	⇓P	**Pn**	**07 51 17.2**	**-0.7**
	baz=4.4,SNR=52						
K07A	**Rock Creek Ran**	**4.75**	**60**	P	**Pn**	**07 51 17.9**	**-1.0**
	baz=4.5,SNR=697						
T05C	**Eagle Field, D**	**4.80**	**136**	⇓P	**Pn**	**07 51 17.2**	**-2.4**
	baz=4.8,SNR=51						
Q07A	**Schurz**	**4.87**	**106**	⇓P	**Pn**	**07 51 20.7**	**0.0**
	baz=4.7						
I06A	**Prineville**	**4.90**	**43**	⇓P	**Pn**	**07 51 21.0**	**-0.1**
	baz=4.6,SNR=56						
H05A	**Madras**	**4.98**	**31**	⇓P	**Pn**	**07 51 21.6**	**-0.4**
	baz=4.7,SNR=20						
M08A	**Happy Creek Ra**	**4.98**	**76**	⇓P	**Pn**	**07 51 20.3**	**-1.9**
	baz=4.7,SNR=55						
G03A	**Yamhill**	**5.01**	**13**	⇑P	**Pn**	**07 51 22.3**	**-0.2**
	baz=4.8,SNR=25						
J07A	**Hines**	**5.05**	**53**	⇑P	**Pn**	**07 51 21.8**	**-1.3**
	baz=4.8,SNR=21						
R07C	**Lee Vining**	**5.06**	**116**	⇓P	**Pn**	**07 51 23.4**	**+0.3**
	baz=4.9,SNR=37						
WVOR	**Wild Horse Val**	**5.06**	**65**	*e*P	**Pn**	**07 51 21.4**	**-1.8**
WVOR				pmax	pmax		
	comp=Z,519nm,0.9s						
WVOR	**Wild Horse Val**	**5.06**	**65**	*e*Pn	**Pn**	**07 51 21.4**	**-1.8**
	comp=Z,519nm,0.9s						
G04A	**Mulino**	**5.07**	**19**	⇑P	**Pn**	**07 51 22.6**	**-0.8**
	baz=4.8,SNR=20						
N08A	**GE Springer Mi**	**5.10**	**84**	⇓P	**Pn**	**07 51 21.8**	**-2.0**
	baz=4.8,SNR=95						
U04C	**Hernandez Rese**	**5.16**	**141**	⇑P	**Pn**	**07 51 21.2**	**-3.4**
	baz=5.1,SNR=137						
L08A	**Fields**	**5.18**	**68**	P	**Pn**	**07 51 23.9**	**-1.0**
	baz=4.9,SNR=7.1						
P08A	**Dixie Valley**	**5.22**	**96**	⇓P	**Pn**	**07 51 24.8**	**-0.7**
	baz=5.0						
V03C	**Hunter Liggett**	**5.23**	**146**	⇑P	**Pn**	**07 51 21.4**	**-4.2**
	baz=5.2,SNR=230						
T06C	**Milleton Lake**	**5.26**	**129**	⇓P	**Pn**	**07 51 24.9**	**-1.1**
	baz=5.2,SNR=183						
K08A	**Mann Creek Ran**	**5.28**	**62**	⇑P	**Pn**	**07 51 24.9**	**-1.3**
	baz=5.0,SNR=24						
KCC	**Kaiser Creek**	**5.30**	**124**	⇑P	**Pn**	**07 51 26.5**	**0.0**
	baz=5.2,SNR=63						
I07A	**Izee**	**5.37**	**46**	⇑P	**Pn**	**07 51 27.5**	**+0.1**
	baz=5.1,SNR=66						
H06A	**Lindquist Farm**	**5.42**	**36**	⇑P	**Pn**	**07 51 28.4**	**+0.2**
	baz=5.2,SNR=47						
NVAR	**Mina Array Bea**	**5.43**	**110**	Pn	**Pn**	**07 51 28.5**	**+0.2**
	comp=Z,12nm,0.3s,baz=290,slow=14,SNR=166						
NVAR				Sn	**Sn**	**07 52 35.2**	**+5.2**
	comp=Z,10nm,0.3s,baz=307,slow=16,SNR=4.2						
MLAC	**Mammoth Lakes**	**5.44**	**119**	⇓P	**Pn**	**07 51 28.5**	**+0.1**
	baz=5.3						
G05A	**Wamic**	**5.45**	**27**	⇓P	**

baz=6.3
CWC **Cottonwood Cre** 6.62 125 ⇑P Pn 07 51 44.3 -0.4
baz=6.5,SNR=11
Q10A **Clear Creek Ra** 6.70 101 ⇓P Pn 07 51 45.6 -0.1
baz=6.5
J10A **Berg Farm, Mel** 6.71 61 ⇑P Pn 07 51 44.6 -1.2
baz=6.4
E06A **Yakima** 6.71 23 ⇓P Pn 07 51 45.9 0.0
baz=6.5,SNR=39
GRAC **Grapevine Rang** 6.76 118 ⇓P Pn 07 51 45.2 -1.4
baz=6.6
H09A **Durkee** 6.77 49 ⇓P Pn 07 51 47.3 +0.6
baz=6.5,SNR=9.2
PKM **Peak Mountain** 6.80 143 ⇓P Pn 07 51 44.0 -3.1
baz=6.8,SNR=37
S10A **Tonopah Range,** 6.87 109 ⇑P Pn 07 51 47.4 -0.6
baz=6.7
M11A **Holland Ranch,** 6.91 79 ⇓P Pn 07 51 47.5 -1.1
baz=6.6
N11A **Elko Archery C** 6.92 84 ⇑P Pn 07 51 47.6 -1.2
baz=6.6
R10A **Warm Springs** 6.94 105 ⇑P Pn 07 51 48.0 -1.0
baz=6.7,SNR=13
F08A **Pendleton** 6.95 38 ⇑P Pn 07 51 49.8 +0.7
baz=6.7,SNR=5.8
I10A **Payette** 6.98 56 ⇓P Pn 07 51 50.1 +0.6
baz=6.7,SNR=19
K11A **Parker Ranch,** 6.99 68 ⇑P Pn 07 51 50.0 +0.3
baz=6.7,SNR=14
NLWA **Neilton Lookou** 6.99 5 *e*Pn Pn 07 51 49.7 0.0
comp=Z,91nm,1.0s
NLWA **Neilton Lookou** 6.99 5 ⇑P Pn 07 51 49.0 -0.6
baz=6.8
O11A **Cowboy Ranch,** 7.01 90 ⇑P Pn 07 51 49.7 -0.4
baz=6.8
P11A **Circle Ranch,** 7.02 94 ⇓P Pn 07 51 49.6 -0.5
baz=6.8
L11A **Cat Creek Ranc** 7.04 73 ⇓P Pn 07 51 49.5 -1.0
baz=6.7
D05A **Enumclaw** 7.05 16 ⇑P Pn 07 51 49.9 -0.7
baz=6.8,SNR=11
BMO **Blue Mountains** 7.08 49 *e*Pn Pn 07 51 51.9 +0.9
comp=Z,394nm,0.8s
HAWA **Hanford** 7.09 31 *e*Pn Pn 07 51 51.9 +0.9
comp=Z,248nm,1.1s
E07A **Sunnyside** 7.11 29 ⇑P Pn 07 51 51.1 -0.2
baz=6.8
ARVC **Arvin** 7.11 136 ⇓P Pn 07 51 48.6 -2.8
baz=7.1,SNR=30
MPMC **Manual Prospec** 7.23 125 ⇓P Pn 07 51 53.6 +0.5
baz=7.1,SNR=95
Q11A **Duckwater** 7.25 100 ⇓P Pn 07 51 53.3 0.0
baz=7.0,SNR=62
H10A **Noah's Angus R** 7.27 53 ⇑P Pn 07 51 54.2 +0.7
baz=7.0,SNR=39
F09A **S2 Ranch, Elgi** 7.30 42 ⇑P Pn 07 51 55.1 +1.1
baz=7.0
MFID **Camas Ranch** 7.34 63 ⇑P Pn 07 51 55.0 +0.6
baz=7.0
D06A **Cle Elum** 7.34 22 ⇓P Pn 07 51 54.7 +0.1
baz=7.1
E08A **Dider Farm, El** 7.36 33 ⇑P Pn 07 51 54.6 -0.2
baz=7.1
FURC **Furnace Creek,** 7.39 120 ⇓P Pn 07 51 55.6 +0.3
baz=7.3
C04A **Brinnon** 7.40 10 ⇓P Pn 07 51 55.4 +0.1
baz=7.2
I11A **Placerville** 7.44 59 ⇓P Pn 07 51 56.8 +0.8
baz=7.1,SNR=9.8
R11A **Troy Canyon, C** 7.45 103 ⇑P Pn 07 51 55.5 -0.5
baz=7.2,SNR=18
N12A **Clover Valley,** 7.45 84 ⇑P Pn 07 51 55.4 -0.6
baz=7.2
G10A **Bishop Farm, J** 7.45 47 ⇑P Pn 07 51 57.4 +1.4
baz=7.2,SNR=38
LRMC **Laurel Mountai** 7.50 129 ⇓P Pn 07 51 56.0 -0.7
baz=7.4,SNR=23
TPNV **Topopah Spring** 7.55 115 *e*P Pn 07 51 59.0 +1.6
TPNV pmax pmax
comp=Z,69nm,0.9s
TPNV **Topopah Spring** 7.55 115 *e*Pn Pn 07 51 59.0 +1.6
comp=Z,70nm,0.9s
TPNV **Topopah Spring** 7.55 115 ⇑P Pn 07 51 58.1 +0.7
baz=7.4
OSI **Osito Adit** 7.56 138 ⇑P Pn 07 51 56.3 -1.3
baz=7.5
M12A **Wells** 7.57 79 ⇓P Pn 07 51 57.6 0.0
baz=7.3,SNR=10
L12A **House Creek Ra** 7.58 74 ⇓P Pn 07 51 58.5 +0.7
baz=7.3
S11A **Rachel** 7.59 109 ⇑P Pn 07 51 58.8 +0.8
baz=7.4
C05A **Tolt Reservoir** 7.60 16 ⇓P Pn 07 51 57.8 -0.3
baz=7.4
D07A **Quincy** 7.61 26 ⇑P Pn 07 51 58.8 +0.6
baz=7.4
P12A **McGill** 7.68 94 ⇑P Pn 07 51 59.6 +0.5
baz=7.4,SNR=12
O12A **Currie** 7.70 88 ⇓P Pn 07 51 59.3 -0.1
baz=7.4,SNR=86
EDW2 **Edwards Air Fo** 7.75 134 ⇓P Pn 07 51 59.1 -1.0
baz=7.7,SNR=58
K12A **Draper Farm, C** 7.76 70 ⇓P Pn 07 52 00.7 +0.4
baz=7.5
H11A **Donnelly** 7.77 54 ⇑P Pn 07 52 01.9 +1.5
baz=7.5,SNR=29
E09A **Wood Farm, Sta** 7.78 36 ⇑P Pn 07 52 00.3 -0.2
baz=7.5
J12A **Stokes Ranch,** 7.79 66 ⇑P Pn 07 52 01.0 +0.3
baz=7.5
BLG **Laguna Peak** 7.80 142 ⇓P Pn 07 51 58.5 -2.4
baz=7.8
Q12A **Willow Creek R** 7.82 97 ⇓P Pn 07 52 01.4 +0.2
baz=7.6,SNR=11
D08A **Wollman Farm,** 7.88 31 ⇓P Pn 07 52 02.1 +0.2
baz=7.6
G11A **Walters Elk Ra** 8.00 49 ⇑P Pn 07 52 05.1 +1.6
baz=7.7,SNR=44
C06A **Tall Timber Ra** 8.00 19 ⇑P Pn 07 52 03.8 +0.3
baz=7.8
C07A **Waterville** 8.02 24 ⇓P Pn 07 52 04.4 +0.5
baz=7.8,SNR=15
DECC **Green Verdugo** 8.05 138 ⇑P Pn 07 52 03.8 -0.5
baz=8.0
B05A **Bryant** 8.07 13 ⇑P Pn 07 52 04.9 +0.5
baz=7.9,SNR=20
N13A **Wendover, West** 8.08 84 ⇓P Pn 07 52 05.1 +0.4
baz=7.8
SHOC **Shoshone** 8.11 121 ⇓P Pn 07 52 04.9 -0.2
baz=8.0
M13A **Montello** 8.12 80 ⇓P Pn 07 52 06.0 +0.7
baz=7.8
D09A **Jones Farm, Ri** 8.13 33 ⇓P Pn 07 52 04.9 -0.4
baz=7.9
T11A **Corn Creek, Al** 8.14 110 ⇑P Pn 07 52 06.6 +1.1
baz=8.0
GSC **Goldstone** 8.15 126 *e*P Pn 07 52 05.8 +0.2
GSC pmax pmax
comp=Z,98nm,0.5s
GSC **Goldstone** 8.15 126 *e*Pn Pn 07 52 05.8 +0.2
comp=Z,98nm,0.5s
GSC **Goldstone** 8.15 126 ⇑P Pn 07 52 05.7 +0.1
baz=8.0,SNR=17
R12A **Pony Springs,** 8.19 102 ⇓P Pn 07 52 06.2 +0.1
baz=8.0
E10A **Myers Farm, Un** 8.24 40 ⇑P Pn 07 52 07.7 +0.8
baz=8.0
S12A **Delamar Landin** 8.26 107 ⇑P Pn 07 52 07.6 +0.5
baz=8.1
PGC **Sidney** 8.27 6 *e*Pn Pn 07 52 08.5 +1.2
comp=Z,178nm,0.9s
PGC *e*Sn Sn 07 53 34.5 -5.3
O13A **Hicks Ranch, I** 8.29 89 ⇑P Pn 07 52 08.6 +1.0
baz=8.0
RRX **Edison Barstow** 8.32 129 ⇓P Pn 07 52 08.2 +0.2
baz=8.2,SNR=14
K13A **Stover Farm, H** 8.35 71 ⇓P Pn 07 52 08.9 +0.5
baz=8.1
F11A **Grangeville** 8.35 46 ⇓P Pn 07 52 10.3 +1.9
baz=8.1,SNR=41
HLID **Hailey** 8.36 65 ⇑P Pn 07 52 09.5 +1.1
baz=8.1,SNR=9.2
L13A **Double Diamond** 8.36 75 ⇑P Pn 07 52 08.8 +0.3
baz=8.1
P13A **Bates Ranch, G** 8.36 93 ⇑P Pn 07 52 08.9 +0.4
baz=8.1,SNR=45
BFSC **Mount Baldy St** 8.41 135 ⇓P Pn 07 52 08.4 -0.8
baz=8.4,SNR=8.2

B06A **Marblemount** 8.43 15 ⇓P Pn 07 52 09.2 -0.2
baz=8.2
H12A **Diamond D Ranc** 8.43 58 ⇓P Pn 07 52 11.2 +1.7
baz=8.1,SNR=18
C08A **Higginbotham F** 8.44 28 ⇓P Pn 07 52 09.5 0.0
baz=8.2
Q13A **Wheeler Ranch,** 8.46 97 ⇑P Pn 07 52 10.2 +0.3
baz=8.2
J13A **Cove Ranch, Pi** 8.47 66 ⇑P Pn 07 52 10.8 +0.8
baz=8.2
D10A **Wagner Farm, O** 8.58 37 ⇓P Pn 07 52 11.2 -0.3
baz=8.3
TUQ **Turquoise Mtn.** 8.62 123 ⇑P Pn 07 52 12.6 +0.5
baz=8.5,SNR=19
E11A **Bogner Ranch,** 8.62 44 ⇑P Pn 07 52 12.9 +0.8
baz=8.3
I13A **Wildhorse Cree** 8.68 63 ⇑P Pn 07 52 13.8 +1.0
baz=8.4,SNR=13
B07A **Winthrop** 8.70 21 ⇑P Pn 07 52 13.3 +0.2
baz=8.5,SNR=8.6
V11A **Goodsprings** 8.70 119 ⇑P Pn 07 52 13.4 +0.1
baz=8.6
T12A **Moapa** 8.74 112 ⇓P Pn 07 52 15.2 +1.5
baz=8.6
C09A **Chrisman Ranch** 8.74 30 ⇓P Pn 07 52 14.2 +0.6
baz=8.5
M14A **Sheep Mountain** 8.75 79 ⇓P Pn 07 52 14.8 +1.0
baz=8.5,SNR=8.6
HEC **Hector,Ludlow** 8.75 127 ⇑P Pn 07 52 14.0 +0.1
baz=8.6,SNR=36
A05A **Maple Falls** 8.78 12 ⇑P Pn 07 52 15.2 +0.9
baz=8.6,SNR=9.4
F12A **Elk City** 8.79 50 ⇓P Pn 07 52 15.7 +1.3
baz=8.5,SNR=17
BBRC **Big Bear Sol-O** 8.80 132 P Pn 07 52 14.0 -0.6
baz=8.7,SNR=17
H13A **Challis** 8.83 59 ⇑P Pn 07 52 16.5 +1.6
baz=8.5,SNR=25
B08A **Colville Reser** 8.84 25 ⇓P Pn 07 52 14.5 -0.6
baz=8.6,SNR=14
N14A **Grayback Hills** 8.86 84 ⇓P Pn 07 52 16.0 +0.7
baz=8.6,SNR=9.3
BGU **Big Grassy Mou** 8.97 83 *e*Pn Pn 07 52 18.0 +1.1
A06A **Chilliwack** 8.98 14 ⇓P Pn 07 52 17.2 +0.2
baz=8.8
K14A **Jones Ranch, D** 8.99 73 ⇑P Pn 07 52 17.4 +0.3
baz=8.7
S13A **Holt Ranch, En** 8.99 105 ⇓P Pn 07 52 17.4 +0.2
baz=8.8
U12A **Valley of Fire** 9.00 113 ⇓P Pn 07 52 16.9 -0.4
baz=8.8
D11A **Klaveano Farm,** 9.02 40 ⇓P Pn 07 52 17.6 +0.1
baz=8.7
G13A **Cobalt** 9.07 56 ⇓P Pn 07 52 19.4 +1.1
baz=8.8,SNR=11
MURC **Murrieta** 9.14 136 ⇑P Pn 07 52 18.7 -0.6
baz=9.1
C10A **Spilker Farm,** 9.14 34 ⇑P Pn 07 52 17.3 -1.9
baz=8.9
V12A **Nelson** 9.16 118 ⇓P Pn 07 52 20.0 +0.5
baz=9.0
A07A **Ashnola River,** 9.17 19 ⇑P Pn 07 52 19.8 +0.2
baz=8.9
DUG **Dugway** 9.18 88 *e*P Pn 07 52 20.7 +1.0
DUG pmax pmax
comp=Z,212nm,1.0s
DUG **Dugway** 9.18 88 *e*Pn Pn 07 52 20.7 +1.0
comp=Z,212nm,1.0s
DUG **Dugway** 9.18 88 ⇑P Pn 07 52 20.2 +0.5
baz=8.9
T13A **Saint George** 9.18 108 ⇑P Pn 07 52 20.0 +0.2
baz=9.0
HVU **Hansel Valley** 9.19 78 *e*P Pn 07 52 21.0 +1.1
HVU pmax pmax
comp=Z,74nm,1.0s
HVU **Hansel Valley** 9.19 78 *e*Pn Pn 07 52 21.0 +1.1
comp=Z,74nm,1.0s
GMRC **Granite Mounta** 9.20 125 ⇑P Pn 07 52 19.6 -0.4
baz=9.1,SNR=19
ARUT **Antelope Range** 9.23 103 *e*P Pn 07 52 22.3 +1.8
B09A **Rice** 9.30 29 ⇓P Pn 07 52 20.8 -0.6
baz=9.0
F13A **Darby** 9.35 52 ⇑P Pn 07 52 22.5 +0.4
baz=9.0,SNR=16
N15A **Stansbury Isla** 9.36 83 ⇑P Pn 07 52 23.2 +1.0
baz=9.1
CCUT **Cedar City** 9.37 104 *e*Pn Pn 07 52 22.8 +0.4
R14A **James Farms, M** 9.38 99 ⇑P Pn 07 52 23.1 +0.6
baz=9.2
A08A **Turner Farm, O** 9.39 23 ⇑P Pn 07 52 22.6 0.0
baz=9.1
W12A **Cal Nev Ari** 9.39 120 ⇓P Pn 07 52 22.6 0.0
baz=9.2
SPUT **South Promonto** 9.41 81 *e*Pn Pn 07 52 24.3 +1.3
U13A **Pakoon Wash** 9.41 112 ⇓P Pn 07 52 23.3 +0.4
baz=9.2
M15A **Larsen Ranch,** 9.42 80 ⇑P Pn 07 52 24.6 +1.6
baz=9.1
S14A **Cedar City** 9.44 103 ⇓P Pn 07 52 24.2 +0.8
baz=9.2
D12A **Red Ives Fores** 9.52 43 ⇓P Pn 07 52 24.8 +0.4
baz=9.2
BELC **Belle Mtn.** 9.52 130 P Pn 07 52 23.9 -0.6
baz=9.4,SNR=58
PFO **Pinyon Flat Ob** 9.54 133 Pn Pn 07 52 23.8 -1.0
comp=Z,352nm,0.5s,SNR=17
PFO **Pinyon Flat Ob** 9.54 133 *e*P Pn 07 52 23.6 -1.2
PFO pmax pmax
comp=Z,46nm,0.7s
PFO **Pinyon Flat Ob** 9.54 133 *e*Pn Pn 07 52 23.6 -1.1
comp=Z,46nm,0.7s
PFO **Pinyon Flat Ob** 9.54 133 Pn Pn 07 52 24.4 -0.3
comp=Z,8.4nm,0.3s,baz=314,slow=11,SNR=80
PFO LR LR 07 56 16.0
comp=Z,4μm,18.9s,baz=310,slow=39
PFO **Pinyon Flat Ob** 9.54 133 P Pn 07 52 23.8 -1.0
baz=9.5,SNR=47
B10A **Chitwood Farm,** 9.56 32 ⇑P Pn 07 52 25.0 +0.1
baz=9.3
NEW **Newport** 9.57 33 *e*P Pn 07 52 25.6 +0.5
NEW pmax pmax
comp=Z,38nm,0.9s
NEW **Newport** 9.57 33 *e*Pn Pn 07 52 25.6 +0.6
comp=Z,38nm,0.9s
NEW **Newport** 9.57 33 Pn Pn 07 52 26.1 +1.0
comp=Z,1.0nm,0.3s,baz=208,slow=13,SNR=21
NEW LR LR 07 56 27.0
comp=Z,6μm,18.7s,baz=221,slow=40
A09A **Danville** 9.62 25 ⇓P Pn 07 52 26.1 +0.3
baz=9.4
G14A **Jackson** 9.63 56 ⇑P Pn 07 52 26.5 +0.6
baz=9.3
NOQ **North Oquirrh** 9.67 85 *e*Pn Pn 07 52 28.0 +1.5
comp=Z,118nm,1.2s
V13A **Grand Canyon W** 9.68 115 ⇓P Pn 07 52 27.7 +1.1
baz=9.5
109C **Camp Elliot, M** 9.75 138 ⇑P Pn 07 52 28.0 +0.4
baz=9.7
NLU **North Lily Min** 9.77 89 *e*Pn Pn 07 52 28.4 +0.7
T14A **Hurricane** 9.77 106 ⇑P Pn 07 52 28.9 +1.0
baz=9.6
E13A **Victor** 9.79 49 ⇑P Pn 07 52 29.7 +1.6
baz=9.5,SNR=20
MCMT **McKenzie Canyo** 9.85 60 *e*Pn Pn 07 52 29.9 +1.0
NEE2 **Needles Airpor** 9.87 122 ⇑P Pn 07 52 29.7 +0.4
baz=9.7
IRM **Iron Mountain** 9.92 126 ⇓P Pn 07 52 29.7 -0.3
baz=9.8,SNR=19
F14A **Wisdom** 9.95 54 ⇑P Pn 07 52 30.5 +0.3
baz=9.6
CTU **Camp Tracy** 9.95 84 *e*Pn Pn 07 52 31.6 +1.2
comp=Z,36nm,0.9s
MSU **Marysvale** 9.96 97 *e*P Pn 07 52 31.7 +1.2
U14A **Mt Trumbull** 9.97 110 ⇑P Pn 07 52 31.4 +0.8
baz=9.8
A10A **Northport** 9.98 29 ⇑P Pn 07 52 30.2 -0.5
baz=9.7
D13A **Huson** 10.02 45 ⇑P Pn 07 52 32.1 +0.9
baz=9.7,SNR=22
B11A **Sandpoint** 10.02 34 ⇑P Pn 07 52 31.5 +0.3
baz=9.7
BC3 **Big Chuckw Mtn** 10.09 129 P Pn 07 52 31.2 -1.0
baz=10.0,SNR=24
HWUT **Hardware Ranch** 10.09 79 *e*Pn Pn 07 52 33.7 +1.5
comp=Z,400nm,1.6s
MPU **Maple Canyon** 10.10 88 *e*Pn Pn 07 52 34.1 +1.7
comp=Z,121nm,1.3s
MONP **Monument Peak** 10.11 136 ⇑P Pn 07 52 31.7 -0.8
baz=10.0,SNR=19
MSO **Missoula** 10.15 47 *e*Pn Pn 07 52 35.2 +2.2
comp=Z,677nm,1.1s
W13A **Hualapai Mount** 10.16 118 ⇑P Pn 07 52 34.9 +1.7
baz=10.0
E14A **Clinton** 10.18 50 ⇑P Pn 07 52 34.1 +0.8
baz=9.9,SNR=24
JLU **Jordanelle** 10.19 85 *e*Pn Pn 07 52 34.8 +1.3
G15A **Dillon** 10.22 58 ⇓P Pn 07 52 34.7 +0.8
baz=9.9
DLMT **Dillon** 10.23 57 *e*Pn Pn 07 52 35.3 +1.2
comp=Z,433nm,1.1s
T15A **Red Dirt Ranch** 10.30 105 ⇓P Pn 07 52 36.0 +0.9
baz=10
C13A **Hot Springs** 10.33 42 ⇓P Pn 07 52 35.8 +0.4
baz=10.0
DAU **Daniels Canyon** 10.35 86 *e*P Pn 07 52 38.2 +2.5
B12A **Libby** 10.39 36 ⇓P Pn 07 52 36.4 +0.1
baz=10
V14A **Boquillas Ranc** 10.41 114 ⇓P Pn 07 52 38.4 +1.8
baz=10
SWSC **Sam W. Stewart** 10.41 133 ⇓P Pn 07 52 37.3 +0.7
baz=10
A11A **Hall Mountain,** 10.43 32 ⇓P Pn 07 52 36.5 -0.3
baz=10
DVTC **Desert V Tower** 10.45 135 ⇓P Pn 07 52 37.4 +0.1
baz=10
PDMCI **Parker Dam,Lak** 10.47 122 ⇑P Pn 07 52 37.6 +0.2
baz=10
X13A **Yucca** 10.49 120 ⇑P Pn 07 52 39.2 +1.5
baz=10,SNR=6.4
F15A **Butte** 10.50 55 ⇓P Pn 07 52 37.9 +0.1
baz=10,SNR=9.7
D14A **Greenough** 10.54 47 ⇑P Pn 07 52 39.4 +1.1
baz=10,SNR=32
AHID **Auburn Hatcher** 10.54 73 *e*Pn Pn 07 52 40.5 +2.2
comp=Z,136nm,1.3s
Y12C **Blythe** 10.58 126 ⇑P Pn 07 52 38.3 -0.7
baz=10,SNR=18
CHMT **Chamberlain Mo** 10.59 48 *e*Pn Pn 07 52 40.6 +1.6
DCID1 **Drake Creek** 10.63 68 *e*Pn Pn 07 52 42.0 +2.5
W14A **Seligman** 10.64 116 ⇓P Pn 07 52 40.3 +0.5
baz=10
E15A **Deer Lodge** 10.69 52 ⇑P Pn 07 52 40.4 +0.1
baz=10,SNR=14
A12A **Yaak River Ran** 10.71 34 ⇓P Pn 07 52 41.1 +0.4
baz=10
TPAW **Teton Pass** 10.77 69 *e*Pn Pn 07 52 43.1 +1.6
comp=Z,378nm,1.4s
QLMT **Earthquake Lak** 10.80 62 *e*Pn Pn 07 52 44.1 +2.2
C14A **Swan Lake** 10.82 44 ⇓P Pn 07 52 42.5 +0.4
baz=10
REDW **Red Top Meadow** 10.82 70 *e*Pn Pn 07 52 43.7 +1.6
comp=Z,172nm,1.2s
B13A **Whitefish** 10.85 40 ⇓P Pn 07 52 42.2 -0.4
baz=11
IMW **Indian Meadow** 10.87 67 *e*Pn Pn 07 52 44.6 +1.7
comp=Z,460nm,1.5s
GLA **Glamis** 10.88 129 *e*P Pn 07 52 41.7 -1.4
GLA pmax pmax
comp=Z,50nm,0.7s
GLA **Glamis** 10.88 129 *e*Pn Pn 07 52 41.7 -1.4
comp=Z,50nm,0.7s
GLA **Glamis** 10.88 129 P Pn 07 52 41.9 -1.2
baz=11,SNR=17
SNOW **Snow King Moun** 10.91 69 *e*Pn Pn 07 52 45.6 +2.3
comp=Z,431nm,1.6s
T16A **Glen Canyon Da** 10.96 104 ⇑P Pn 07 52 46.1 +1.9
baz=11
BOZ **Bozeman (W)** 10.97 57 *e*P Pn 07 52 43.9 -0.3
BOZ pmax pmax
comp=Z,220nm,1.4s
BOZ **Bozeman (W)** 10.97 57 *e*Pn Pn 07 52 43.9 -0.2
comp=Z,220nm,1.4s
BOZ **Bozeman (W)** 10.97 57 ⇓P Pn 07 52 43.5 -0.6
baz=11
MOOW **Moose Ponds** 10.97 68 *e*Pn Pn 07 52 45.9 +1.6
comp=Z,175nm,1.4s
V15A **Kaibab Nationa** 10.97 111 ⇓P Pn 07 52 46.3 +2.0
baz=11
Y13A **Salome** 10.98 124 ⇓P Pn 07 52 44.4 0.0
baz=11
LOHW **Long Hollow** 11.04 69 *e*Pn Pn 07 52 47.6 +2.3
comp=Z,196nm,1.4s
YMR **Madison River** 11.06 63 *e*Pn Pn 07 52 47.8 +2.3
comp=Z,85nm,1.0s
D15A **Lincoln** 11.07 49 ⇓P Pn 07 52 46.0 +0.4
baz=11,SNR=45
FLWY **Flagg Ranch** 11.08 66 *e*Pn Pn 07 52 48.8 +3.0
comp=Z,587nm,1.4s
SRU **San Rafael** 11.09 92 *e*P Pn 07 52 49.1 +3.2
SRU pmax pmax
comp=Z,204nm,1.3s
SRU **San Rafael** 11.09 92 *e*Pn Pn 07 52 49.1 +3.2
comp=Z,204nm,1.3s
YFT **Old Faithful** 11.09 64 *e*Pn Pn 07 52 49.4 +3.5
X14A **Yava** 11.19 118 ⇑P Pn 07 52 48.7 +1.3
baz=11
W15A **Williams** 11.23 114 ⇑P Pn 07 52 49.6 +1.8
baz=11
A13A **Flathead Natio** 11.26 38 ⇑P Pn 07 52 48.4 +0.1
baz=11
YNR **Norris Junctio** 11.27 63 *e*Pn Pn 07 52 51.2 +2.8
HRY **Holter Researc** 11.31 52 *e*Pn Pn 07 52 50.0 +1.1
LKWY **Lake** 11.42 64 *e*P Pn 07 52 53.3 +2.9
LKWY pmax pmax
comp=Z,279nm,1.4s
LKWY **Lake** 11.42 64 *e*Pn Pn 07 52 53.3 +2.9
comp=Z,279nm,1.4s
Y14A **Wickenburg** 11.43 121 ⇓P Pn 07 52 51.9 +1.3
baz=11
WALA **Waterton Lakes** 11.59 38 *e*Pn Pn 07 52 53.7 +1.0
comp=Z,124nm,1.0s
X15A **Humboldt** 11.62 117 ⇓P Pn 07 52 55.0 +1.7
baz=12
BW06 **Boulder Array** 11.66 73 *e*Pn Pn 07 52 54.3 +0.6
comp=Z,65nm,1.1s
WUAZ **Wupatki** 11.69 111 *e*Pn Pn 07 52 57.7 +3.6
comp=Z,42nm,1.0s
WUAZ **Wupatki** 11.69 111 ⇑P Pn 07 52 55.6 +1.5
baz=12
Z14A **Wintersburg** 11.83 123 ⇑P Pn 07 52 57.0 +0.9
baz=12
Y15A **Casa Rosa Ranc** 11.87 119 ⇑P Pn 07 52 58.6 +2.0
baz=12
BBB **Bella Bella** 11.97 350 Pn Pn 07 52 57.8 0.0
comp=Z,0.6nm,0.3s,baz=176,slow=11,SNR=15
BBB LR LR 07 56 52.3
comp=Z,2μm,22.0s,baz=173,slow=34
X16A **Lo Mia Camp, P** 12.21 115 ⇑P Pn 07 53 03.5 +2.2
baz=12
GCMT **Greycliff** 12.29 59 *e*Pn Pn 07 53 02.2 -0.1
RLMT **Red Lodge** 12.35 63 *e*Pn Pn 07 53 04.4 +1.3
comp=Z,402nm,1.7s
PV10 **Paradox Valley** 12.38 94 *e*Pn Pn 07 53 06.0 +2.4
Z15A **Gila River Ind** 12.39 121 ⇓P Pn 07 53 04.5 +0.8
baz=12
Y16A **Circle Bar Ran** 12.49 117 ⇓P Pn 07 53 06.2 +1.2
baz=12
115A **Sonoran Desert** 12.72 123 ⇓P Pn 07 53 09.3 +1.1
baz=13,SNR=12
PV01 **Paradox Valley** 12.80 95 *e*Pn Pn 07 53 11.1 +1.8
Z16A **Peralta Trail,** 12.84 119 ⇓P Pn 07 53 11.5 +1.7
baz=13
Y17A **Roosevelt** 13.02 117 ⇓P Pn 07 53 13.9 +1.5
baz=13
MVCO **Mesa Verde** 13.13 99 ⇑P Pn 07 53 14.7 +0.9
baz=13
116A **Eloy** 13.14 123 ⇓P Pn 07 53 16.0 +1.9
baz=13
EGMT **Eagleton** 13.19 50 *e*Pn Pn 07 53 13.6 -0.9
comp=Z,364nm,1.2s
EGMT **Eagleton** 13.19 50 ⇑P Pn 07 53 14.0 -0.5
baz=13
X18A **Snowflake** 13.19 112 ⇑P Pn 07 53 17.0 +2.3
baz=13
RWWY **Rawlins** 13.35 79 *e*Pn Pn 07 53 16.6 -0.3
comp=Z,154nm,1.2s
Z17A **San Carlos Hig** 13.51 117 ⇑P Pn 07 53 20.8 +1.9
baz=13
Y18A **Canyon Day Jun** 13.54 115 ⇓P Pn 07 53 20.9 +1.5
baz=13
216A **Three Points,** 13.67 124 ⇓P Pn 07 53 23.1 +1.9
baz=14,SNR=5.3
X19A **St. Johns** 13.71 111 ⇑P Pn 07 53 24.1 +2.3
baz=14
117A **Oracle** 13.77 120 ⇑P Pn 07 53 25.0 +2.5
baz=14

SMCO Snowmass 13.78 89 *e*Pn **Pn 07 53 23.3 +0.6**
comp=Z,89nm,1.1s
TUC Tucson 13.90 121 *e*P **Pn 07 53 26.2 +1.8**
TUC pmax pmax
comp=Z,111nm,1.6s
TUC Tucson 13.90 121 *e*Pn **Pn 07 53 26.2 +1.8**
comp=Z,111nm,1.6s
Z18A Geronimo 13.93 117 ⇓P **Pn 07 53 26.7 +2.0**
baz=14
Y19A Nutrioso 13.98 113 ⇑P **Pn 07 53 28.1 +2.6**
baz=14
217A Green Valley 14.23 123 ⇑P **Pn 07 53 30.9 +2.1**
baz=14
118A Homack Ranch, 14.24 118 ⇓P **Pn 07 53 31.1 +2.2**
baz=14
Z19A T-Link Ranch, 14.34 115 ⇓P **Pn 07 53 32.9 +2.6**
baz=14
218A Dragoon 14.60 121 ⇓P **Pn 07 53 36.2 +2.3**
baz=14
119A Ashpeak Ranch, 14.61 117 ⇓P **Pn 07 53 35.8 +1.7**
baz=14
PHWY Pilot Hill 14.68 80 *e*Pn **Pn 07 53 33.3 -1.6**
ISCO Idaho Springs 14.71 86 *e*P **Pn 07 53 35.2 -0.2**
ISCO pmax pmax
comp=Z,96nm,1.3s
ISCO Idaho Springs 14.71 86 *e*Pn **Pn 07 53 35.1 -0.2**
comp=Z,96nm,1.3s
LAO LASA Array 14.85 59 *e*Pn **Pn 07 53 35.1 -2.1**
comp=Z,186nm,1.0s
318A Bisbee 14.98 122 ⇑P **Pn 07 53 41.5 +2.5**
baz=15
EDM Edmonton 14.98 28 *e*P **Pn 07 53 37.0 -1.9**
219A White Tail Can 15.10 119 ⇓P **Pn 07 53 42.2 +1.5**
baz=15
SDCO Great Sand Dun 15.24 94 *e*P **Pn 07 53 44.5 +2.1**
comp=Z,560nm,1.4s
LAZ Ladron 15.28 108 *e*P **Pn 07 53 44.5 +1.6**
319A Douglas 15.48 121 ⇓P **Pn 07 53 48.2 +2.5**
baz=15
LENM Lemitar 15.51 108 *e*P **Pn 07 53 47.8 +1.8**
ANMO Albuquerque 15.52 105 *e*P **Pn 07 53 46.6 +0.5**
ANMO pmax pmax
comp=Z,38nm,1.2s
ANMO Albuquerque 15.52 105 *e*P **Pn 07 53 46.6 +0.5**
comp=Z,38nm,1.2s
ANMO Albuquerque 15.52 105 Pn **Pn 07 53 47.0 +0.8**
comp=Z,0.3nm,0.3s,baz=305,slow=11,SNR=43
ANMO LR LR 07 59 39.1
comp=Z,3μm,21.5s,baz=297,slow=37
Y22C IRIS PASSCAL I 15.59 108 ⇓P **Pn 07 53 49.2 +2.2**
baz=15
LPM Los Pinos Moun 15.69 107 *e*P **Pn 07 53 50.0 +1.7**
BNM Barren Site 15.77 108 *e*P **Pn 07 53 51.3 +2.0**
CRAG Craig 16.02 343 *e*P **Pn 07 53 53.8 +1.4**
comp=Z,182nm,1.4s
DGMT Dagmar 16.74 54 *e*P **Pn 07 53 59.1 -2.5**
comp=Z,2μm,2.2s
WRAK Wrangell Islan 16.74 345 *e*P **Pn 07 54 04.0 +2.4**
comp=Z,197nm,1.2s
MNTX Cornudas Mount 17.94 113 *e*P **Pn 07 54 18.1 +1.3**
comp=Z,31nm,1.3s
DLBC Dease Lake 18.33 351 *e*P **Pn 07 54 23.9 +2.7**
DLBC Dease Lake 18.33 351 P **Pn 07 54 21.6 +0.4**
baz=180,slow=10
AMTX Amarillo 19.12 99 *e*P **Pn 07 54 29.4 -1.6**
comp=Z,52nm,1.2s
CBKS Cedar Bluff 19.38 87 *e*P **Pn 07 54 31.4 -2.6**
CBKS pmax pmax
comp=Z,727nm,1.2s
CBKS Cedar Bluff 19.38 87 *e*P **Pn 07 54 31.4 -2.7**
comp=Z,727nm,1.2s
SKAG Skagway 20.16 344 *e*P **P 07 54 43.1 +1.9**
comp=Z,186nm,1.1s
LPIG La Paz 20.34 139 P **P 07 54 44.1 +0.6**
comp=Z,40nm,1.1s,baz=30,slow=8.1,SNR=8.2
LPIG LR LR 08 02 13.4
comp=Z,1μm,19.0s,MS4.3,baz=70,slow=36
TXAR Lajitas Array 20.53 116 P **P 07 54 45.5 0.0**
comp=Z,23nm,0.9s,baz=298,slow=7.9,SNR=119
FFC Flin Flon 20.89 39 *e*P **P 07 54 47.6 -1.5**
FFC pmax pmax
comp=Z,475nm,1.1s
FFC Flin Flon 20.89 39 *e*P **P 07 54 47.6 -1.5**
comp=Z,475nm,1.1s
ECSD EROS,Sioux Fal 21.15 72 *e*P **P 07 54 48.0 -4.1**
comp=Z,56nm,0.8s,mb4.9
WMOK Wichita Mounta 21.37 97 *e*P **P 07 54 52.6 -1.9**
WMOK pmax pmax
comp=Z,19nm,0.7s,mb4.5
WMOK MLR MLR
comp=Z,2μm,21.0s,MS4.4
WMOK Wichita Mounta 21.37 97 *e*P **P 07 54 52.6 -1.9**
comp=Z,19nm,0.7s,mb4.5
WMOK LR LR
comp=Z,2μm,21.0s,MS4.4
KSU1 Kansas State U 21.69 84 *e*P **P 07 54 55.7 -2.2**
comp=Z,867nm,1.2s
AGMN Agassiz Refuge 22.05 59 *e*P **P 07 54 59.8 -1.9**
comp=Z,205nm,0.9s,mb5.6
AGMN LR LR
comp=Z,4μm,21.0s,MS4.8
ULM Lac du Bonnet 22.46 54 P **P 07 55 03.9 -2.2**
comp=Z,191nm,1.1s,mb5.5,baz=260,slow=10,SNR=84
ULM LR LR 08 04 46.9
comp=Z,3μm,18.4s,MS4.8,baz=256,slow=39
JCT Junction City 22.60 108 *e*P **P 07 55 06.3 -1.4**
JCT pmax pmax
comp=Z,113nm,1.2s,mb5.2
JCT MLR MLR
comp=Z,718nm,20.0s,MS4.1
JCT Junction City 22.60 108 *e*P **P 07 55 06.3 -1.4**
comp=Z,113nm,1.2s,mb5.2
JCT LR LR
comp=Z,718nm,20.0s,MS4.1
YKA Yellowknife Ar 22.93 12 P **P 07 55 10.1 -0.7**
comp=Z,19nm,0.9s,mb4.5,baz=200,slow=9.1,SNR=97
YKA LR LR 08 05 31.5
comp=Z,1μm,18.1s,MS4.3,baz=190,slow=40
SCIA State Center 23.77 76 *e*P **P 07 55 16.4 -3.2**
comp=Z,74nm,0.7s,mb5.2
SCIA LR LR
comp=Z,582nm,20.0s,MS4.0
DIV Divide 24.38 335 *e*P **P 07 55 26.3 +1.5**
comp=Z,47nm,1.2s,mb4.8
DIV LR LR
comp=Z,4μm,21.0s,MS4.9
KDAK Kodiak Island 24.86 324 PFAKE 07 55 40.0 +11
KDAK LR LR
comp=Z,584nm,22.0s,MS4.0
EYMN Ely 24.90 61 *e*P **P 07 55 28.6 -1.1**
comp=Z,676nm,2.0s,mb5.8
EYMN LR LR
comp=Z,2μm,21.0s,MS4.5
DAWY Dawson 25.17 345 *e*P **P 07 55 33.4 +1.4**
MENT Mentasta 25.20 340 *e*P **P 07 55 34.2 +1.9**
MIAR Mount Ida 25.40 93 *e*P **P 07 55 33.4 -1.0**
MIAR pmax pmax
comp=Z,177nm,1.5s,mb5.4
MIAR MLR MLR
comp=Z,2μm,22.0s,MS4.6
MIAR Mount Ida 25.40 93 *e*P **P 07 55 33.4 -1.0**
comp=Z,177nm,1.5s,mb5.4
MIAR LR LR
comp=Z,2μm,22.0s,MS4.6
SLKM Skilak Lake 25.50 330 *e*P **P 07 55 36.1 +1.1**
KVTX Kingsville 25.65 112 PFAKE 07 55 50.0 +13
KVTX LR LR
comp=Z,2μm,22.0s,MS4.6
SML Sawmill 25.72 334 *e*P **P 07 55 38.4 +1.4**
NATX Nacogdoches 25.77 100 *e*P **P 07 55 38.7 +1.0**
comp=Z,42nm,0.9s,mb5.0
NATX LR LR
comp=Z,3μm,19.0s,MS4.9
JFWS Jewell Farm 25.84 73 *e*P **P 07 55 37.1 -1.2**
JFWS pmax pmax
comp=Z,196nm,0.9s,mb5.6
JFWS MLR MLR
comp=Z,476nm,20.0s,MS4.0
JFWS Jewell Farm 25.84 73 *e*P **P 07 55 37.1 -1.1**
comp=Z,196nm,0.9s,mb5.6
JFWS LR LR
comp=Z,476nm,20.0s,MS4.0
PMR Palmer 25.84 333 *e*P **P 07 55 39.4 +1.3**
PMR pmax pmax
comp=Z,76nm,1.1s,mb5.1
PMR MLR MLR
comp=Z,2μm,22.0s,MS4.5

PMR Palmer 25.84 333 *e*P **P 07 55 39.4 +1.3**
comp=Z,76nm,1.1s,mb5.1
PMR LR LR
comp=Z,2μm,22.0s,MS4.5
CCM Cathedral Cave 26.02 84 *e*P **P 07 55 37.9 -2.1**
CCM pmax pmax
comp=Z,51nm,1.2s,mb4.9
CCM MLR MLR
comp=Z,2μm,20.0s,MS4.6
CCM Cathedral Cave 26.02 84 *e*P **P 07 55 37.9 -2.1**
comp=Z,52nm,1.2s,mb4.9
CCM LR LR
comp=Z,2μm,20.0s,MS4.6
EGAK Eagle 26.16 344 *e*P **P 07 55 42.1 +1.2**
comp=Z,22nm,1.4s,mb4.5
EGAK LR LR
comp=Z,738nm,21.0s,MS4.2
UALR University of 26.25 92 *e*P **P 07 55 41.8 -0.3**
comp=Z,39nm,1.4s,mb4.8
COWI Conover 26.44 66 *e*P **P 07 55 44.5 +0.8**
comp=Z,238nm,1.4s,mb5.5
COWI LR LR
comp=Z,2μm,20.0s,MS4.7
SLM Saint Louis 26.64 83 *e*P **P 07 55 45.0 -0.6**
SLM pmax pmax
comp=Z,39nm,0.8s,mb5.0
SLM Saint Louis 26.64 83 *e*P **P 07 55 45.0 -0.6**
comp=Z,39nm,0.8s,mb5.0
FVM French Village 26.67 84 *e*P **P 07 55 44.8 -1.0**
FVM pmax pmax
comp=Z,33nm,0.9s,mb4.9
FVM French Village 26.67 84 *e*P **P 07 55 44.8 -1.0**
comp=Z,33nm,0.9s,mb4.9
FCC Fort Churchill 26.71 36 *e*P **P 07 55 45.1 -0.9**
FCC pmax pmax
comp=Z,96nm,1.1s,mb5.2
FCC Fort Churchill 26.71 36 *e*P **P 07 55 45.1 -0.9**
comp=Z,96nm,1.1s,mb5.2
HDIL Hopedale 26.91 78 *e*P **P 07 55 47.7 -0.2**
comp=Z,503nm,1.7s,mb5.8
HDIL LR LR
comp=Z,3μm,20.0s,MS4.8
CHGN Chignik 27.03 317 *e*P **P 07 55 49.4 +0.5**
MCK McKinley 27.31 337 *e*P **P 07 55 52.3 +1.0**
MCK pmax pmax
comp=Z,87nm,1.5s,mb5.1
MCK MLR MLR
comp=Z,562nm,20.0s,MS4.1
MCK McKinley 27.31 337 *e*P **P 07 55 52.3 +1.0**
comp=Z,87nm,1.5s,mb5.1
MCK LR LR
comp=Z,562nm,20.0s,MS4.1
PARMO Parma 27.57 86 *e*P **P 07 55 54.0 0.0**
SIUC Southern Illin 27.66 84 *e*P **P 07 55 54.4 -0.3**
comp=Z,47nm,1.1s,mb5.0
COLA College 27.86 339 *e*P **P 07 55 56.3 +0.1**
COLA pmax pmax
comp=Z,15nm,1.0s,mb4.6
COLA College 27.86 339 *e*P **P 07 55 56.3 +0.1**
comp=Z,15nm,1.0s,mb4.6
SVW2 Sparrevohn 27.95 328 *e*P **P 07 55 57.8 +0.7**
INK Inuvik 28.33 353 *e*P **P 07 56 00.6 +0.2**
comp=Z,997nm,1.4s
INK Inuvik 28.33 353 P **P 07 56 01.2 +0.8**
comp=Z,5.5nm,1.1s,mb4.1,baz=174,slow=9.4,SNR=13
INK LR LR 08 08 28.9
comp=Z,1μm,18.3s,MS4.6,baz=162,slow=39
UTMT University of 28.35 87 *e*P **P 07 56 00.9 0.0**
comp=Z,153nm,1.2s,mb5.5
OXF Oxford 28.59 91 *e*P **P 07 56 01.5 -1.6**
OXF pmax pmax
comp=Z,141nm,1.2s,mb5.6
OXF MLR MLR
comp=Z,2μm,19.0s,MS4.7
OXF Oxford 28.59 91 *e*P **P 07 56 01.5 -1.6**
comp=Z,141nm,1.2s,mb5.6
OXF LR LR
comp=Z,2μm,19.0s,MS4.7
VBMS Vicksburg 28.69 96 *e*P **P 07 56 04.0 +0.1**
comp=Z,96nm,1.3s,mb5.4
USIN University of 28.77 83 *e*P **P 07 56 04.2 -0.4**
comp=Z,45nm,0.9s,mb5.2
TTA Tatalina 29.17 331 *e*P **P 07 56 08.7 +0.8**
WVT Waverly 29.21 86 *e*P **P 07 56 06.9 -1.7**
WVT pmax pmax
comp=Z,36nm,1.1s,mb5.0
WVT MLR MLR
comp=Z,2μm,22.0s,MS4.6
WVT Waverly 29.21 86 *e*P **P 07 56 06.9 -1.7**
comp=Z,36nm,1.1s,mb5.0
WVT LR LR
comp=Z,2μm,22.0s,MS4.6
BLO Bloomington 29.30 80 *e*P **P 07 56 08.9 -0.5**
BLO pmax pmax
comp=Z,117nm,1.1s,mb5.5
BLO Bloomington 29.30 80 *e*P **P 07 56 08.9 -0.5**
comp=Z,117nm,1.1s,mb5.5
PLAL Pickwick Lake 29.43 89 *e*P **P 07 56 09.0 -1.5**
comp=Z,116nm,1.2s,mb5.5
PLAL LR LR
comp=Z,895nm,21.0s,MS4.4
IMA2 Indian Mountai 30.40 337 *e*P **P 07 56 19.8 +1.0**
AKUT Akutan 30.50 311 P **P 07 56 20.4 +0.6**
AAM Ann Arbor 30.74 73 PFAKE 07 56 30.0 +8.0
AAM LR LR
comp=Z,610nm,19.0s,MS4.3
UNV Unalaska Valle 30.88 310 *e*P **P 07 56 24.2 +1.1**
comp=Z,338nm,1.3s,mb6.0
UNV LR LR
comp=Z,2μm,22.0s,MS4.8
SWET Sewanee 30.98 87 *e*P **P 07 56 23.4 -0.8**
ACSO Alum Creek Sta 31.68 77 *e*P **P 07 56 29.6 -0.8**
comp=Z,223nm,1.1s,mb5.9
ACSO LR LR
comp=Z,2μm,22.0s,MS4.7
BRAL Brewton 31.86 95 *e*P **P 07 56 32.3 +0.2**
comp=Z,172nm,1.4s,mb5.7
CPCT Cooper Cave 31.97 86 *e*P **P 07 56 32.1 -0.9**
TZTN Tazewell 32.33 83 *e*P **P 07 56 35.4 -0.7**
comp=Z,103nm,1.5s,mb5.4
TZTN LR LR
comp=Z,2μm,21.0s,MS4.9
ALLY Alegheny Colle 33.44 73 *e*P **P 07 56 45.3 -0.4**
comp=Z,206nm,1.2s,mb5.9
ERPA Erie 33.45 72 *e*P **P 07 56 45.5 -0.3**
comp=Z,242nm,1.6s,mb5.9
ERPA LR LR
comp=Z,2μm,20.0s,MS4.7
GOGA Godfrey 33.56 89 PFAKE 07 57 00.0 +13
GOGA LR LR
comp=Z,964nm,20.0s,MS4.5
MCWV Mont Chateau 34.16 76 *e*P **P 07 56 51.9 -0.1**
comp=Z,209nm,1.2s,mb5.9
MCWV LR LR
comp=Z,2μm,21.0s,MS4.8
ELN Prospectdale 34.22 81 *e*P **P 07 56 52.4 -0.1**
BLA Blacksburg 34.47 81 *e*P **P 07 56 54.7 0.0**
BLA pmax pmax
comp=Z,111nm,1.3s,mb5.6
BLA MLR MLR
comp=Z,769nm,20.0s,MS4.4
BLA Blacksburg 34.47 81 *e*P **P 07 56 54.7 -0.1**
comp=Z,111nm,1.3s,mb5.6
BLA LR LR
comp=Z,769nm,20.0s,MS4.4
JSC Jenkinsville 34.89 86 *e*P **P 07 56 58.2 -0.2**
TNA Tin City 34.98 330 *e*P **P 07 56 58.8 0.0**
comp=Z,11nm,1.1s,mb4.7
TNA LR LR
comp=Z,546nm,19.0s,MS4.3
SSPA Standing Stone 35.34 74 *e*P **P 07 57 01.4 -0.8**
comp=Z,334nm,1.9s,mb6.0
SSPA LR LR
comp=Z,3μm,19.0s,MS5.0
GAMB Gambell 35.85 326 *e*P **P 07 57 06.7 +0.4**
comp=Z,11nm,1.0s,mb4.8
NHSC New Hope 36.19 87 *e*P **P 07 57 09.4 -0.2**
comp=Z,185nm,1.1s,mb5.9
BINY Binghamton 36.32 71 *e*P **P 07 57 10.2 -0.4**
comp=Z,133nm,1.2s,mb5.7
CBN Corbin 36.43 78 *e*P **P 07 57 11.4 -0.2**
comp=Z,315nm,1.3s
CBN LR LR
comp=Z,1μm,20.0s,MS4.7
SDMD Soldier's Deli 36.45 76 *e*P **P 07 57 12.5 +0.7**
comp=Z,124nm,1.3s,mb5.7
MSNY Massena 36.52 66 *e*P **P 07 57 12.2 -0.1**

URVA University of 36.52 79 *e*P **P 07 57 12.3 0.0**
MVL Millersville 36.64 74 *e*P **P 07 57 13.8 +0.5**
comp=Z,144nm,1.6s,mb5.5
LONY Lake Ozonia 36.79 66 *e*P **P 07 57 13.9 -0.6**
comp=Z,139nm,1.8s,mb5.5
LONY LR LR
comp=Z,2μm,21.0s,MS4.8
ADK Adak 36.95 306 PFAKE 07 57 30.0 +14
ADK LR LR
comp=Z,443nm,19.0s,MS4.3
RES Resolute Bay 37.00 13 *e*P **P 07 57 16.3 +0.2**
comp=Z,1μm,1.0s
TEIG Tepich 37.07 112 PFAKE 07 57 30.0 +13
TEIG LR LR
comp=Z,735nm,19.0s,MS4.5
CNNC Cliffs of the 37.08 83 *e*P **P 07 57 17.4 +0.2**
comp=Z,339nm,1.6s,mb5.9
CNNC LR LR
comp=Z,2μm,19.0s,MS5.0
NCB Newcomb 37.17 67 *e*P **P 07 57 17.4 -0.4**
comp=Z,174nm,1.8s,mb5.6
NCB LR LR
comp=Z,2μm,20.0s,MS4.8
FRNY Flat Rock 37.44 66 *e*P **P 07 57 19.6 -0.4**
comp=Z,63nm,1.3s,mb5.3
DWPF Disney 37.55 95 PFAKE 07 57 30.0 +8.8
DWPF LR LR
comp=Z,2μm,20.0s,MS5.0
ACCN Adirondack Com 37.70 68 *e*P **P 07 57 21.7 -0.6**
comp=Z,116nm,1.4s,mb5.4
HNH Hanover 38.60 67 *e*P **P 07 57 30.0 +0.1**
comp=Z,209nm,1.4s,mb5.7
LBNH Lisbon 38.73 66 *e*P **P 07 57 31.3 +0.4**
LBNH pmax pmax
comp=Z,37nm,0.8s,mb5.2
LBNH MLR MLR
comp=Z,2μm,19.0s,MS4.9
LBNH Lisbon 38.73 66 *e*P **P 07 57 31.3 +0.3**
comp=Z,37nm,0.8s,mb5.2
LBNH LR LR
comp=Z,2μm,19.0s,MS4.9
QUA2 Belchertown 38.91 70 *e*P **P 07 57 33.1 +0.6**
comp=Z,92nm,1.2s,mb5.4
FFD Franklin Falls 39.10 68 *e*P **P 07 57 34.7 +0.6**
comp=Z,150nm,1.2s,mb5.6
HRV Adam Dziewonsk 39.42 69 PFAKE 07 57 50.0 +13
HRV LR LR
comp=Z,2μm,21.0s,MS4.8
WES Weston 39.62 69 PFAKE 07 57 50.0 +12
WES LR LR
comp=Z,2μm,21.0s,MS4.8
PKME Peaks-Kenny Pk 40.32 64 PFAKE 07 58 00.0 +16
PKME LR LR
comp=Z,4μm,19.0s,MS5.3
SCHQ Schefferville 40.45 49 P **P 07 57 44.9 -0.2**
comp=Z,82nm,1.0s,mb5.4,baz=279,slow=7.0,SNR=52
SCHQ LR LR 08 14 55.2
comp=Z,2μm,19.0s,MS5.0,baz=277,slow=37
MGV Manicaragua 41.94 102 *e*P **P 07 57 50.5 -7.5**
TGUH Tegucigalpa,Un 41.99 118 *e*P **P 07 57 59.2 +1.0**
comp=Z,18nm,0.9s,mb4.7
TGUH LR LR
comp=Z,1μm,20.0s,MS4.8
BILL Bilibino 45.42 330 *e*P **P 07 58 25.4 +0.2**
BILL pmax pmax
comp=Z,28nm,1.3s,mb4.9
BILL MLR MLR
comp=Z,521nm,19.0s,MS4.5
BILL Bilibino 45.42 330 *e*P **P 07 58 25.4 +0.2**
comp=Z,28nm,1.3s,mb4.9
BILL LR LR
comp=Z,521nm,19.0s,MS4.5
ALE Alert 46.62 9 P **P 07 58 34.2 -0.4**
comp=Z,140nm,0.9s,mb5.9,SNR=11
BBSR BB Station 48.24 80 *e*P **P 07 58 45.4 -2.4**
comp=Z,59nm,1.1s,mb5.5
BBSR LR LR
comp=Z,988nm,21.0s,MS4.8
SDDR Presa de Saban 50.34 99 *e*P **P 07 59 04.2 +0.3**
comp=Z,63nm,1.3s,mb5.5
SDDR LR LR
comp=Z,1μm,19.0s,MS4.9
TAOE Nuku Hiva Isla 51.05 200 *e*LR LR 08 13 33.7
comp=Z,21μm,26.4s
PET Petropavlovsk 51.52 311⇑*e*P **P 07 59 13.0 +0.7**
PET pmax pmax
comp=Z,82nm,1.5s,mb5.4
PET MLR MLR
comp=Z,100nm,18.0s,MS3.9
PET Petropavlovsk 51.52 311 *e*P **P 07 59 10.9 -1.4**
comp=Z,70nm,1.0s,mb5.5
SEY Seymchan 51.81 325⇓*e*P **P 07 59 14.7 +0.3**
MA2 Magadan 53.56 321⇑*e*P **P 07 59 28.5 +1.1**
MA2 pmax pmax
comp=Z,27nm,1.1s,mb5.1
MA2 Magadan 53.56 321 PFAKE 07 59 40.0 +13
MA2 LR LR
comp=Z,417nm,20.0s,MS4.5
DAG Danmarks Havn 54.57 16⇓*i*P **P 07 59 34.6 +0.1**
DAG pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
DAG Danmarks Havn 54.57 16⇓*i*P **P 07 59 34.6 +0.1**
comp=Z,9.2nm,0.9s,mb4.8
SJG San Juan 54.76 96 *e*P **P 07 59 36.4 -0.3**
SJG pmax pmax
comp=Z,75nm,1.0s
SJG MLR MLR
comp=Z,811nm,22.0s
SJG San Juan 54.76 96 *e*P **P 07 59 36.4 -0.2**
comp=Z,75nm,1.0s,mb5.7
SJG LR LR
comp=Z,811nm,22.0s,MS4.8
MTP Monte Pirata 55.22 95 *e*P **P 07 59 40.3 +0.3**
TIXI Tiksi 56.98 339⇑*e*P **P 07 59 52.0 +0.1**
TIXI pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
TIXI MLR MLR
comp=Z,300nm,17.0s,MS4.5
TIXI Tiksi 56.98 339 *e*P **P 07 59 51.5 -0.4**
comp=Z,21nm,1.1s,mb5.1
TIXI LR LR
comp=Z,461nm,21.0s,MS4.6
SDV Santo Domingo 57.28 108 *e*P **P 07 59 54.5 -0.3**
comp=Z,18nm,1.1s,mb5.0
SDV LR LR
comp=Z,247nm,22.0s,MS4.3
ROSC El Rosal 57.44 114 *e*P **P 07 59 56.8 +0.9**
ROSC El Rosal 57.44 114 LR LR 08 26 34.1
comp=Z,256nm,18.6s,MS4.4,baz=209,slow=38
KBS Kingsbay 58.24 9 PFAKE 08 00 10.0 +9.3
KBS LR LR
comp=Z,1μm,20.0s,MS5.0
BORG Borgarnes 59.52 29 *e*P **P 08 00 09.7 0.0**
comp=Z,47nm,1.0s,mb5.5
BORG LR LR
comp=Z,2μm,19.0s,MS5.2
YAK Yakutsk 61.73 329 *e*P **P 08 00 24.4 -0.4**
YAK *e**PP pP 08 00 34.8 +2.4
YAK *e* 08 02 40.6
YAK *e*S **S 08 08 48.1 +2.2**
YAK *e*SS SS 08 12 49.1 +2.2
YAK pmax pmax
comp=Z,27nm,1.0s,mb5.3
YAK pmax pmax
comp=N,5.0nm,1.2s
YAK pmax pmax
comp=E,16nm,1.3s
YAK pmax pmax
comp=Z,57nm,2.2s,mb5.3
YAK pmax pmax
comp=N,49nm,3.0s
YAK pmax pmax
comp=E,84nm,3.5s
YAK smax
comp=N,85nm,3.9s
YAK smax
comp=Z,52nm,3.5s
YAK smax
comp=E,206nm,5.0s
YAK MLR MLR
comp=Z,360nm,24.0s,MS4.5
YAK MLR MLR
comp=N,198nm,18.0s
YAK MLR MLR
comp=E,245nm,15.0s
YAK Yakutsk 61.73 329 PFAKE 08 00 40.0 +15
YAK LR LR

comp=Z,389nm,21.0s,MS4.5
PPT Papeete 62.13 207 *e*S **S 08 08 51.6 -0.2**
PPT *e*LR LR 08 18 50.8
comp=Z,991nm,26.0s,baz=17
PPT Papeete 62.13 207 LR LR 08 19 32.4
comp=Z,425nm,21.2s,MS4.6,baz=73,slow=28
BBGH Gun Hill 62.80 96 PFAKE 08 00 40.0 +7.4
BBGH LR LR
comp=Z,2μm,21.0s,MS5.2
YSS Yuzh-Sakhalins 63.35 310⇑ *e*P **P 08 00 36.5 +0.6**
YSS pmax pmax
comp=Z,4.0nm,0.4s,mb4.9
YSS Yuzh-Sakhalins 63.35 310 PFAKE 08 00 50.0 +14
YSS LR LR
comp=Z,216nm,20.0s,MS4.3
RKT Rikitea 63.93 190 *e*S **S 08 09 14.8 +0.7**
RKT *e*LQ 08 16 55.7
comp=Z,266nm,30.2s
comp=Z,2μm,31.8s
ASAJ Asahikawa 64.95 307 P **P 08 00 45.6 -0.8**
comp=Z,18nm,1.0s,mb5.1,baz=333,slow=6.8,SNR=5.1
ERM Erimo 65.75 305 PFAKE 08 01 00.0 +8.4
ERM LR LR
comp=Z,357nm,20.0s,MS4.6
HABR Khabarovsk 66.87 315 *e*P **P 08 00 57.3 -1.4**
HABR *e* 08 01 24.6
HABR *e* 08 03 24.4
HABR *e*S S 08 09 49.4 -0.4
HABR *e* 08 10 54.3
HABR *e* 08 14 10.9
HABR pmax pmax
comp=Z,70nm,2.2s,mb5.3
TBI Tubuai 67.48 205 *e*S S 08 09 57.6 +0.2
comp=Z,310nm,27.5s
TBI *e*LQ 08 18 08.1
comp=Z,780nm,30.0s
TBI *e*LR LR 08 21 12.8
comp=Z,689nm,30.5s,baz=15
KLR Kul'dur 68.18 317 *e*P **P 08 01 02.8 -4.2**
KEV Kevo 68.20 10 PFAKE 08 01 20.0 +13
KEV LR LR
comp=Z,951nm,19.0s,MS5.0
NNA Nana 68.49 129 PFAKE 08 01 20.0 +11
NNA LR LR
comp=Z,403nm,21.0s,MS4.6
AFI Afiamalu 69.41 229 PFAKE 08 01 20.0 +5.0
AFI LR LR
comp=Z,605nm,22.0s,MS4.8
RAR Rarotonga 69.43 215 LR LR 08 22 58.4
comp=Z,508nm,20.5s,MS4.8,baz=33,slow=28
BOD Bodaibo 70.47 331 *e*P **P 08 01 19.8 -1.2**
BOD pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
APA Apatity 71.06 9⇓ *e*P **P 08 01 24.0 -0.4**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.2
APA MLR MLR
comp=Z,1μm,20.0s,MS5.1
VLA Vladivostok 71.85 311 *i* P **P 08 01 28.6 -1.0**
VLA pmax pmax
comp=Z,40nm,0.9s,mb5.3
MJAR Matsushiro Arr 72.04 303 P **P 08 01 30.3 -0.6**
MJAR LR LR 08 27 21.6
MJAR Matsushiro Arr 72.04 303 P **P 08 01 30.3 -0.6**
comp=Z,8.5nm,1.0s,mb4.6,baz=35,slow=5.1,SNR=18
MJAR LR LR 08 27 21.6
comp=Z,382nm,19.7s,MS4.7,baz=50,slow=31
MAJO Matsushiro 72.04 303 *e*P **P 08 01 30.5 -0.3**
MAJO pmax pmax
comp=Z,37nm,1.1s,mb5.2
MAJO MLR MLR
comp=Z,299nm,20.0s,MS4.6
MAJO Matsushiro 72.04 303 *e*P **P 08 01 30.5 -0.3**
comp=Z,37nm,1.1s,mb5.2
MAJO LR LR
comp=Z,299nm,20.0s,MS4.6
MAT Matsushiro 72.04 303 P **P 08 01 30.7 -0.1**
MAT S S 08 10 52.0 +0.9
MDJ Mudanjiang 72.20 314 PFAKE 08 01 40.0 +8.3
MDJ LR LR
comp=Z,193nm,21.0s,MS4.3
DCN Croghan 72.22 34 *e*P **P 08 01 31.0 -0.6**
DCN Croghan 72.22 34 *e*P **P 08 01 41.0 +9.4**
DLF Lyons Farm 72.57 34 *e*P **P 08 01 43.4 +10**
NB2 NORSAR Subarra 72.72 21 P **P 08 01 34.3 -0.2**
comp=Z,148nm,2.5s,mb5.5,baz=326,slow=6.2
NOA NORSAR Array B 72.72 21 P **P 08 01 34.4 -0.1**
comp=Z,5.4nm,0.9s,mb4.5,baz=327,slow=6.0,SNR=8.7
CMLA Cha da Macela 72.77 55 PFAKE 08 01 50.0 +15
CMLA LR LR
comp=Z,1μm,20.0s,MS5.2
HIA Hailar 74.14 322 PFAKE 08 01 50.0 +7.0
HIA LR LR
comp=Z,401nm,20.0s,MS4.7
CN2 Changchun 74.99 315 *e*P **P 08 01 45.3 -2.8**
CN2 *e*XP sP 08 01 52.3 -6.3
CN2 *e*S S 08 11 19.2 -5.0
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.7
CN2 LR LR
comp=E,200nm,16.0s,MS4.7
CN2 LR LR
comp=Z,200nm,18.0s,MS4.5
FINES FINESS Array B 75.75 14 P **P 08 01 51.6 -0.5**
comp=Z,5.6nm,0.8s,mb4.5,baz=27,slow=9.0,SNR=12
FINES LR LR 08 36 32.7
comp=Z,506nm,18.1s,MS4.9,baz=339,slow=37
LPAZ La Paz 77.14 125 *e*P **P 08 01 59.9 -0.7**
LPAZ pmax pmax
comp=Z,9.0nm,0.9s
LPAZ MLR MLR
comp=Z,338nm,20.0s
LPAZ La Paz 77.14 125 *e*P **P 08 01 59.9 -0.6**
comp=Z,9.1nm,0.9s,mb4.7
LPAZ LR LR
comp=Z,338nm,20.0s,MS4.7
LPAZ La Paz 77.14 125 P **P 08 02 00.3 -0.3**
comp=Z,2.6nm,0.8s,mb4.2,baz=321,slow=4.9,SNR=10
LPAZ LR LR 08 33 33.1
comp=Z,227nm,21.7s,MS4.5,baz=328,slow=34
KSRS Korea Array 77.82 309 P **P 08 02 04.8 +0.5**
comp=Z,4.2nm,0.9s,mb4.3,baz=56,slow=6.1,SNR=9.5
KSRS LR LR 08 31 40.8
comp=Z,165nm,20.0s,MS4.4,baz=50,slow=32
SGMF Saint Gilles 77.98 35⇑ *i*P **P 08 02 04.0 -0.9**
comp=Z,50nm,1.1s,mb5.1
SGMF Saint Gilles 77.98 35⇑ *i*P **P 08 02 04.0 -0.9**
SGMF pmax pmax
comp=Z,25nm,1.1s,mb5.1
SGMF Saint Gilles 77.98 35⇑ *i*P **P 08 02 04.0 -0.9**
comp=Z,25nm,1.1s,mb5.1
NRDL Niedersach Rie 79.54 26 *e*P **P 08 02 13.7 +0.3**
comp=Z,36nm,1.7s,mb5.0
GIVF Givet 79.59 30 *e*P **P 08 02 14.0 +0.3**
CLZ Clausthal 80.17 26 *e*P **P 08 02 17.4 +0.6**
CLZ pmax pmax
comp=Z,31nm,1.3s,mb5.1
CLZ Clausthal 80.17 26 *e*P **P 08 02 17.4 +0.6**
comp=Z,31nm,1.3s,mb5.1
ZAK Zakamensk 80.22 331 *e*P **P 08 02 09.9 -7.2**
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.2
MFF Saint Martin d 80.30 35⇑ *i*P **P 08 02 17.7 +0.1**
comp=Z,54nm,1.3s,mb5.0
MFF Saint Martin d 80.30 35⇑ *i*P **P 08 02 17.7 +0.1**
MFF pmax pmax
comp=Z,27nm,1.3s,mb5.0
MFF Saint Martin d 80.30 35⇑ *i*P **P 08 02 17.7 +0.1**
comp=Z,27nm,1.3s,mb5.0
WLF Walferdange 80.45 30 *e*P **P 08 02 19.0 +0.6**
comp=Z,47nm,1.6s,mb5.2
PVRL Vila Real 80.65 43 *e*P **P 08 02 20.4 +0.8**
ULN Ulaanbaatar 80.78 328 *i* P **P 08 02 21.2 +1.0**
ULN Ulaanbaatar 80.78 328 PFAKE 08 02 30.0 +10
ULN LR LR
comp=Z,276nm,20.0s,MS4.6
UBBA Unterbreizbach 80.90 27 *e*P **P 08 02 22.2 +1.4**
comp=Z,30nm,1.7s,mb5.0
PVIS Viseu 80.97 43 *e*P **P 08 02 21.3 0.0**
comp=Z,27nm,1.4s,mb5.0
SONM Songino Array 81.07 328 P **P 08 02 22.7 +1.0**
comp=Z,3.2nm,1.0s,mb4.2,baz=50,slow=3.4,SNR=9.9
SONM LR LR 08 40 41.6
comp=Z,406nm,18.9s,MS4.8,baz=264,slow=38
MVO Moncorvo 81.09 43 *e*SKSac SKSac 08 12 40.0 +0.6
MVO *e*LR LR 08 29 28.6
comp=Z,517nm,20.0s
MTE Manteigas 81.38 43 *e*P **P 08 02 23.9 +0.4**
MTE *e*SKSac SKSac 08 12 43.8 +2.4
MTE *e*LR LR 08 29 05.5
comp=Z,615nm,18.0s
LOR Lormes 81.48 33⇑ *i*P **P 08 02 24.0 +0.1**
comp=Z,70nm,1.3s,mb5.1
LOR *e*MLR MLR
comp=Z,807nm,19.2s,MS4.8
LOR Lormes 81.48 33⇑ *i*P **P 08 02 24.0 +0.1**
LOR pmax pmax
comp=Z,35nm,1.3s,mb5.1
LOR MLR MLR
comp=Z,810nm,19.3s,MS5.1
LOR Lormes 81.48 33⇑ *i*P **P 08 02 24.0 +0.1**
comp=Z,35nm,1.3s,mb5.1
LOR LR LR
comp=Z,810nm,19.3s,MS5.1
PMAFR Mafra 81.49 45 *e*P **P 08 02 24.9 +0.7**
PMAFR *e*SKSac SKSac 08 12 44.8 +2.6
PMAFR *e*LR LR 08 31 05.7
comp=Z,485nm,18.0s
SSF Saint Saulge 81.50 33⇑ *i*P **P 08 02 24.0 0.0**
comp=Z,30nm,1.1s,mb4.8
SSF Saint Saulge 81.50 33⇑ *i*P **P 08 02 24.0 0.0**
SSF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SSF Saint Saulge 81.50 33⇑ *i*P **P 08 02 24.0 0.0**
comp=Z,15nm,1.1s,mb4.8
CLL Collm 81.50 25 *i* P **P 08 02 24.1 +0.2**
CLL *i* 08 02 25.0
CLL pmax pmax
comp=Z,22nm,1.2s,mb5.0
CLL MLR MLR
comp=Z,700nm,19.3s,MS5.0
CLL Collm 81.50 25 *i* P **P 08 02 24.1 +0.2**
comp=Z,22nm,1.2s,mb5.0
CLL *i* 08 02 25.0
CLL LR LR
comp=Z,700nm,19.3s,MS5.0
CLL Collm 81.50 25 *e*P **P 08 02 23.8 -0.1**
comp=Z,22nm,1.2s,mb5.0
CLL Collm 81.50 25 *i* P **P 08 02 24.1 +0.2**
comp=Z,22nm,1.2s,mb5.0
CLL *ex* x 08 02 34.0
CLL *e*PS 08 13 26.0
CLL *ex* x 08 18 48.0
CLL LmV 08 38 00.0
comp=Z,700nm,19.3s
GUMO Guam 81.56 281 PFAKE 08 02 30.0 +5.2
GUMO LR LR
comp=Z,585nm,19.0s,MS5.0
GUMO Guam 81.56 281 LR LR 08 29 28.7
comp=Z,371nm,21.7s,MS4.7,baz=54,slow=29
TCF Toulx Ste Croi 81.57 34⇑ *i*P **P 08 02 24.1 -0.3**
comp=Z,25nm,1.0s,mb4.8
TCF Toulx Ste Croi 81.57 34⇑ *i*P **P 08 02 24.1 -0.3**
TCF pmax pmax
comp=Z,13nm,1.0s,mb4.8
TCF Toulx Ste Croi 81.57 34⇑ *i*P **P 08 02 24.1 -0.3**
comp=Z,12nm,1.0s,mb4.8
MOX Moxa 81.60 26 *e*P **P 08 02 24.6 +0.1**
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 81.60 26 *e*P **P 08 02 24.6 +0.1**
MOX pmax pmax
comp=Z,16nm,1.4s,mb4.8
MOX Moxa 81.60 26 *e*P **P 08 02 24.4 -0.1**
comp=Z,16nm,1.4s,mb4.8
BGF Bois d'Agland 81.62 34⇑ *i*P **P 08 02 24.4 -0.3**
comp=Z,66nm,1.2s,mb5.2
BGF Bois d'Agland 81.62 34⇑ *i*P **P 08 02 24.4 -0.3**
BGF pmax pmax
comp=Z,33nm,1.2s,mb5.1
BGF Bois d'Agland 81.62 34⇑ *i*P **P 08 02 24.4 -0.3**
comp=Z,33nm,1.2s,mb5.1
AVF Avril sur Loir 81.65 33⇑ *i*P **P 08 02 24.4 -0.4**
comp=Z,34nm,1.2s,mb4.8
AVF Avril sur Loir 81.65 33⇑ *i*P **P 08 02 24.4 -0.4**
AVF pmax pmax
comp=Z,17nm,1.2s,mb4.8
AVF Avril sur Loir 81.65 33⇑ *i*P **P 08 02 24.4 -0.4**
comp=Z,17nm,1.2s,mb4.8
PCBR Castelo Branco 81.82 44 *e*P **P 08 02 26.0 +0.1**
comp=Z,24nm,0.6s,mb5.3
HAU Haudompre 81.88 31 *e*P **P 08 02 26.1 +0.1**
comp=Z,7.8nm,0.6s,mb4.5
HAU *e*MLR MLR
comp=Z,876nm,19.2s,MS4.8
HAU Haudompre 81.88 31 *e*P **P 08 02 26.1 +0.1**
HAU pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
HAU MLR MLR
comp=Z,880nm,19.3s,MS5.1
HAU Haudompre 81.88 31 *e*P **P 08 02 26.1 +0.1**
comp=Z,3.9nm,0.6s,mb4.5
HAU LR LR
comp=Z,880nm,19.3s,MS5.1
CDF Champ du Feu 81.91 30⇑ *i*P **P 08 02 26.3 +0.2**
comp=Z,24nm,1.1s,mb4.7
CDF Champ du Feu 81.91 30⇑ *i*P **P 08 02 26.3 +0.2**
CDF pmax pmax
comp=Z,12nm,1.1s,mb4.7
CDF Champ du Feu 81.91 30⇑ *i*P **P 08 02 26.3 +0.2**
comp=Z,12nm,1.1s,mb4.8
FBE Freiberg 81.94 25 *e*P **P 08 02 26.3 0.0**
comp=Z,15nm,1.3s,mb4.8
SMF Signal de Mont 81.97 33⇑ *i*P **P 08 02 26.1 -0.4**
comp=Z,48nm,1.3s,mb5.0
SMF Signal de Mont 81.97 33⇑ *i*P **P 08 02 26.1 -0.4**
SMF pmax pmax
comp=Z,24nm,1.3s,mb5.0
SMF Signal de Mont 81.97 33⇑ *i*P **P 08 02 26.1 -0.4**
comp=Z,24nm,1.3s,mb5.0
LFF La Frestale 81.98 36 *e*P **P 08 02 26.6 0.0**
RJF Les Rejaudoux 82.04 35⇑ *i*P **P 08 02 26.5 -0.4**
comp=Z,27nm,1.0s,mb4.8
RJF *e*MLR MLR
comp=Z,1μm,20.0s,MS5.0
RJF Les Rejaudoux 82.04 35⇑ *i*P **P 08 02 26.5 -0.4**
RJF pmax pmax
comp=Z,14nm,1.0s,mb4.8
RJF MLR MLR
comp=Z,1μm,20.0s,MS5.3
RJF Les Rejaudoux 82.04 35⇑ *i*P **P 08 02 26.5 -0.4**
comp=Z,14nm,1.0s,mb4.8
RJF LR LR
comp=Z,1μm,20.0s,MS5.3
GUNZ Gunzen 82.08 26 *e*P **P 08 02 27.0 0.0**
comp=Z,13nm,1.4s,mb4.7
NVS Novosibirsk 82.11 344⇑ *i*P **P 08 02 26.8 -0.3**
NVS *e*S S 08 12 32.9 -7.1
NVS pmax pmax
comp=Z,33nm,1.4s,mb5.1
NVS pmax pmax
comp=N,12nm,1.6s
NVS pmax pmax
comp=E,20nm,1.3s
NVS smax
comp=N,39nm,2.7s
WERN Wernitzgruen 82.16 26 *e*P **P 08 02 27.4 -0.1**
comp=Z,45nm,2.3s,mb5.0
BRG Berggiesshubel 82.18 25 *e*P **P 08 02 27.8 +0.3**
BRG *e* 08 02 38.3
BRG pmax pmax
comp=Z,13nm,1.1s,mb4.8
BRG pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BRG MLR MLR
comp=N,427nm,22.4s
BRG MLR MLR
comp=E,252nm,16.7s
BRG MLR MLR
comp=Z,405nm,22.6s,MS4.7
BRG Berggiesshubel 82.18 25 *e*P **P 08 02 27.8 +0.2**
comp=Z,12nm,1.1s,mb4.8
BRG *e* 08 02 38.3
BRG LR LR
comp=Z,410nm,22.6s,MS4.7
BRG Berggiesshubel 82.18 25 *e*P **P 08 02 27.6 +0.1**
comp=Z,21nm,1.1s,mb5.0
BRG Berggiesshubel 82.18 25 *e*P **P 08 02 27.8 +0.2**
comp=Z,21nm,1.1s,mb5.0
BRG *e* 08 02 38.3
comp=Z,13nm,1.0s
BRG
comp=N,713nm,22.4s
BRG
comp=E,421nm,16.7s
BRG
comp=Z,676nm,22.6s
HINF Hinteralfeld 82.23 31⇑ *i*P **P 08 02 27.8 -0.1**
comp=Z,22nm,1.1s,mb4.7
HINF Hinteralfeld 82.23 31⇑ *i*P **P 08 02 27.8 -0.1**
HINF pmax pmax
comp=Z,11nm,1.1s,mb4.7
HINF Hinteralfeld 82.23 31⇑ *i*P **P 08 02 27.8 -0.1**
comp=Z,11nm,1.1s,mb4.7
NKC Novy Kostel 82.23 26 *e*P **P 08 02 28.5 +0.7**
NKC AMS AMS 08 41 50.0
comp=Z,1μm,15.0s
GRA1 Grafenberg Arr 82.28 27 *e*P **P 08 02 28.3 +0.2**
comp=Z,20nm,1.3s,mb4.9
GRA1 LR LR
comp=Z,400nm,21.6s,MS4.8
GRF Grafenberg Arr 82.28 27 *e*P **P 08 02 28.3 +0.2**
GRF pmax pmax
comp=Z,20nm,1.3s,mb4.9
GRF MLR MLR
comp=Z,400nm,21.6s,MS4.8
GRF Grafenberg Arr 82.28 27 *e*P **P 08 02 28.3 +0.2**
comp=Z,20nm,1.3s,mb4.9
GRF *e*L 08 38 25.7
comp=Z,442nm,21.6s
GRFO Grafenberg 82.28 27 PFAKE 08 02 40.0 +12
GRFO LR LR
comp=Z,540nm,19.0s,MS4.9
BFO Black Forest 82.37 29 PFAKE 08 02 40.0 +11
BFO LR LR
comp=Z,640nm,19.0s,MS5.0
PESTR Estremoz 82.47 44 *e*P **P 08 02 29.3 0.0**
comp=Z,26nm,1.4s,mb5.0
PESTR *e*SKSac SKSac 08 12 48.0 -0.8
PESTR *e*LR LR 08 29 39.6
comp=Z,464nm,20.0s
EVO Evora 82.48 45⇑ *i*P **P 08 02 29.0 -0.4**
comp=Z,38nm,1.1s,mb5.0
EVO *e*MLR MLR
comp=Z,698nm,19.8s,MS4.7
EVO Evora 82.48 45 *e*P **P 08 02 29.6 +0.2**
comp=Z,25nm,1.4s,mb5.0
BJI Beijing 82.54 317 P **P 08 02 27.9 -1.7**
BJI PP PP 08 05 40.2 +1.8
BJI S S 08 12 40.0 -5.0
BJI AMB AMB
comp=Z,7.0nm,0.8s,mb4.7
BJI AMB AMB
comp=Z,154nm,4.7s
BJI LR LR
comp=N,200nm,26.4s,MS4.5
BJI LR LR
comp=E,132nm,23.3s,MS4.5
BJI LR LR
comp=Z,239nm,24.2s,MS4.5
BJT Baijiatuau 82.56 317 PFAKE 08 02 40.0 +10
BJT LR LR
comp=Z,234nm,19.0s,MS4.6
CAF Calviac 82.58 35⇑ *i*P **P 08 02 29.3 -0.4**
comp=Z,20nm,1.0s,mb4.8
CAF Calviac 82.58 35⇑ *i*P **P 08 02 29.3 -0.4**
CAF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
CAF Calviac 82.58 35⇑ *i*P **P 08 02 29.3 -0.4**
comp=Z,9.9nm,1.0s,mb4.8
ZAA0 Zalesovo Array 82.59 343 *e*P **P 08 02 29.5 -0.1**
ZALV Zalesovo Beam 82.59 343 P **P 08 02 30.2 +0.6**
comp=Z,3.2nm,0.8s,mb4.4,baz=14,slow=6.7,SNR=7.5
ZALV LR LR 08 41 15.3
comp=Z,160nm,19.0s,MS4.4,baz=6.3,slow=37
ZAL Zalesovo 82.61 343 P **P 08 02 30.2 +0.5**
PVCC Panska Ves 82.68 25 *e*P **P 08 02 30.9 +0.8**
PVCC *ex* x 08 02 41.1
PVCC AMS AMS 08 39 10.0
comp=Z,800nm,17.0s
EBAD Badajoz 82.86 44 P **P 08 02 29.6 -1.7**
comp=Z,22nm,1.4s,mb5.0
CABF La Chapelle 82.91 32⇑ *i*P **P 08 02 32.0 +0.6**
comp=Z,30nm,0.9s,mb5.0
CABF La Chapelle 82.91 32⇑ *i*P **P 08 02 32.0 +0.6**
CABF pmax pmax
comp=Z,15nm,0.9s,mb5.0
CABF La Chapelle 82.91 32⇑ *i*P **P 08 02 32.0 +0.6**
comp=Z,15nm,0.9s,mb5.0
KSP Ksiaz 82.94 24 *e*P **P 08 02 31.6 +0.1**
KSP MLR MLR
comp=Z,2μm,20.2s,MS5.5
ETSF Etsaut 82.97 38⇑ *i*P **P 08 02 32.2 +0.4**
comp=Z,20nm,1.0s,mb4.8
ETSF Etsaut 82.97 38⇑ *i*P **P 08 02 32.2 +0.4**
ETSF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
ETSF Etsaut 82.97 38⇑ *i*P **P 08 02 32.2 +0.4**
comp=Z,9.9nm,1.0s,mb4.8
SVE Sverdlovsk 83.00 357 *e*P **P 08 02 30.5 -1.2**
SVE pmax pmax
comp=Z,20nm,1.0s,mb5.1
MORF Marmelete 83.03 46 *e*P **P 08 02 32.5 +0.3**
comp=Z,38nm,1.5s,mb5.2
MORF *e*SKSac SKSac 08 12 58.8 +6.2
MORF *e*LR LR 08 32 34.0
comp=Z,390nm,20.0s
MOS Moscow 83.04 10 *e*P **P 08 02 40.8 +8.9**
PFVI Vila Bisbo 83.05 46 *e*P **P 08 02 32.9 +0.5**
PFVI *e*SKSac SKSac 08 12 59.5 +6.7
PFVI *e*LR LR 08 29 13.2
comp=Z,393nm,18.0s
PRU Pruhonice 83.14 25 *e*P **P 08 02 32.9 +0.4**
PRU *ex* x 08 02 45.8
PRU AMS AMS 08 42 00.0
comp=Z,700nm,16.7s
UPC Upice 83.15 24 *e*P **P 08 02 32.8 +0.2**
UPC *ex* x 08 02 43.3
PBAR Barrancos 83.27 45 *e*P **P 08 02 33.6 +0.1**
comp=Z,34nm,1.7s,mb5.1
PBAR *e*SKSac SKSac 08 12 53.3 -0.8
PBAR *e*LR LR 08 29 52.1
comp=Z,437nm,20.0s
EPF Esparros 83.28 37⇑ *i*P **P 08 02 33.3 -0.1**
WET Wettzell 83.31 26 *e*P **P 08 02 33.3 -0.1**
WET pmax pmax
comp=Z,12nm,1.3s,mb4.8
WET Wettzell 83.31 26 *e*P **P 08 02 33.3 -0.1**
comp=Z,12nm,1.3s,mb4.8
DPC Dobruska-Polom 83.38 24 *e*P **P 08 02 34.3 +0.5**
DPC AMS AMS 08 38 50.0
comp=Z,800nm,16.9s
ARU Arti 83.46 358 *c* *i*P **P 08 02 33.2 -0.9**
ARU *e*S S 08 12 54.2 +0.4
ARU pmax pmax
comp=Z,20nm,1.0s,mb5.1
ARU Arti 83.46 358 *e*P **P 08 02 33.1 -0.9**
comp=Z,18nm,1.1s,mb5.0
ARU LR LR
comp=Z,318nm,19.0s,MS4.7
PVAQ Vaqueiros 83.47 46 *e*P **P 08 02 35.0 +0.5**
comp=Z,24nm,1.9s,mb4.9
PVAQ *e*SKSac SKSac 08 13 02.6 +7.1
PVAQ *e*LR LR 08 30 23.8
comp=Z,423nm,18.0s
PBDV Barranco-do-Ve 83.47 46 *e*P **P 08 02 37.2 +2.7**
PBDV *e*SKSac SKSac 08 13 02.0 +6.5
PBDV *e*LR LR 08 29 47.3
comp=Z,408nm,18.0s
EGRO El Granado 83.50 45 P **P 08 02 30.6 -4.0**
comp=Z,35nm,1.3s,mb5.2
OBN Obninsk 83.50 11⇓ *e*P **P 08 02 34.2 -0.1**
OBN *e* 08 02 38.0
OBN *e* 08 05 45.1
OBN *e*S S 08 12 55.9 +1.7
OBN *e*SS SS 08 18 21.4 +2.7
OBN pmax pmax
comp=Z,25nm,1.4s,mb5.2
OBN Obninsk 83.50 11 PFAKE 08 02 40.0 +5.7
OBN LR LR
comp=Z,737nm,20.0s,MS5.1
KHC Kasperske Hory 83.56 26 *e*P **P 08 02 35.5 +0.8**
KHC *ex* x 08 02 45.4
KHC *e*S S 08 13 00.3 +5.3
KHC AMS AMS 08 42 30.0

comp=Z,600nm,13.9s
PAB San Pablo 83.66 42 *e*P **P 08 02 35.5 0.0**
PAB pmax pmax
comp=Z,21nm,1.3s,mb5.1
PAB MLR MLR
comp=Z,702nm,20.0s,MS5.0
PAB San Pablo 83.66 42 *e*P **P 08 02 35.5 +0.1**
comp=Z,21nm,1.3s,mb5.1
PAB LR LR
comp=Z,702nm,20.0s,MS5.0
VIVF Saint-Julien-I 83.75 34 *e*P **P 08 02 36.0 +0.2**
comp=Z,32nm,1.2s,mb5.0
VIVF Saint-Julien-I 83.75 34 *e*P **P 08 02 36.0 +0.2**
VIVF pmax pmax
comp=Z,16nm,1.2s,mb5.0
VIVF Saint-Julien-I 83.75 34 *e*P **P 08 02 36.0 +0.2**
comp=Z,16nm,1.2s,mb5.0
EMIN Mina Concepcio 83.76 45 P **P 08 02 35.2 -0.8**
comp=Z,78nm,1.3s,mb5.7
ESDC Sonseca Array 83.76 42 P **P 08 02 36.2 +0.3**
comp=Z,12nm,1.0s,mb5.0,baz=313,slow=4.9,SNR=25
ESDC LR LR 08 35 19.4
comp=Z,432nm,19.7s,MS4.8,baz=320,slow=32
ESLA Sonseca Array 83.76 42 *e*P **P 08 02 36.0 +0.1**
comp=Z,11nm,1.3s,mb4.8
ESLA LR LR
comp=Z,3μm,20.0s,MS5.7
DAVA Damuels 83.82 29⇑*i*P **P 08 02 37.1 +1.0**
comp=Z,20nm,1.1s,mb5.2
DAVA Damuels 83.82 29⇑*i*PcP PcP 08 02 37.1 -3.1
comp=Z,20nm,1.1s
GEC2 GERESS Array S 83.85 26 *e*P **P 08 02 36.0 -0.2**
GEC2 pmax pmax
comp=Z,20nm,1.4s,mb5.0
GEC2 GERESS Array S 83.85 26 *e*P **P 08 02 36.0 -0.2**
comp=Z,20nm,1.4s,mb5.0
GERES GERESS Array B 83.85 26 P **P 08 02 36.8 +0.6**
comp=Z,2.3nm,0.8s,mb4.4,baz=354,slow=4.0,SNR=15
GERES PKKP PKKPbc 08 20 44.5 -6.5
comp=Z,0.3nm,0.2s,baz=163,slow=2.2,SNR=3.7
ETOR Torete 83.85 40 P **P 08 02 36.2 -0.2**
ETOR pmax pmax
comp=Z,28nm,1.1s,mb5.3
ETOR Torete 83.85 40 P **P 08 02 36.2 -0.1**
comp=Z,28nm,1.1s,mb5.3
MTLF Montolieu 83.89 36⇑*i*P **P 08 02 36.5 -0.1**
comp=Z,51nm,1.4s,mb5.2
MTLF Montolieu 83.89 36⇑*i*P **P 08 02 36.5 -0.1**
MTLF pmax pmax
comp=Z,25nm,1.4s,mb5.2
MTLF Montolieu 83.89 36⇑*i*P **P 08 02 36.5 -0.1**
comp=Z,25nm,1.4s,mb5.2
LASF Ste Croix 84.03 34⇑*i*P **P 08 02 37.3 +0.1**
comp=Z,101nm,1.5s,mb5.4
TREC Trest 84.04 25 *e*P **P 08 02 36.3 -0.9**
TREC AMS AMS 08 38 00.0
comp=Z,800nm,22.3s
LPL La Plagne 84.07 32⇑*i*P **P 08 02 38.4 +1.0**
comp=Z,24nm,1.0s,mb5.0
LPL La Plagne 84.07 32⇑*i*P **P 08 02 38.4 +1.0**
LPL pmax pmax
comp=Z,12nm,1.0s,mb5.0
LPL La Plagne 84.07 32⇑*i*P **P 08 02 38.4 +1.0**
comp=Z,12nm,1.0s,mb5.0
LPG La Plagne 84.09 32⇑*i*P **P 08 02 38.7 +1.2**
comp=Z,68nm,1.4s,mb5.3
LPG La Plagne 84.09 32⇑*i*P **P 08 02 38.7 +1.2**
LPG pmax pmax
comp=Z,34nm,1.4s,mb5.3
LPG La Plagne 84.09 32⇑*i*P **P 08 02 38.7 +1.2**
comp=Z,34nm,1.4s,mb5.3
ORIF Oris-en-Rattie 84.21 33⇑*i*P **P 08 02 38.4 +0.3**
comp=Z,19nm,0.9s,mb4.9
ORIF *e*MLR MLR
comp=Z,889nm,20.2s,MS4.8
ORIF Oris-en-Rattie 84.21 33⇑*i*P **P 08 02 38.4 +0.3**
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
ORIF Oris-en-Rattie 84.21 33⇑*i*P **P 08 02 38.4 +0.3**
comp=Z,9.5nm,0.9s,mb4.9
MOTA Moosalm 84.22 28⇑*i*P **P 08 02 38.8 +0.7**
comp=Z,14nm,1.2s,mb5.0
MOTA Moosalm 84.22 28⇑*i*PcP PcP 08 02 38.8 -3.1
comp=Z,14nm,1.2s
MOTA Moosalm 84.22 28⇑*i*P **P 08 02 38.8 +0.7**
MOTA pmax pmax
comp=Z,14nm,1.2s,mb5.0
HHC Hu-ho-hao-te 84.24 321 *e*P **P 08 02 36.3 -2.1**
HHC XP sP 08 02 43.4 -5.6
HHC PP PP 08 05 51.7 -0.6
HHC SKS 08 12 55.3
HHC S S 08 12 59.4 -2.8
HHC AMB AMB
comp=Z,42nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,231nm,5.1s
HHC LR LR
comp=N,342nm,20.7s,MS5.0
HHC LR LR
comp=E,583nm,22.4s,MS5.0
HHC LR LR
comp=Z,392nm,19.2s,MS4.8
MORC Moravsky Berou 84.26 23 *e*P **P 08 02 37.9 -0.4**
MORC pmax pmax
comp=Z,60nm,2.0s,mb5.4
MORC Moravsky Berou 84.26 23 *e*P **P 08 02 37.9 -0.4**
comp=Z,60nm,2.0s,mb5.4
FETA Feichten 84.36 29⇑*i*PcP PcP 08 02 40.0 -2.5
comp=Z,16nm,1.1s
SQTA Sankt Quirin 84.36 28⇑*i*P **P 08 02 39.7 +0.9**
comp=Z,46nm,1.6s,mb5.3
SQTA Sankt Quirin 84.36 28⇑*i*PcP PcP 08 02 39.7 -2.8
comp=Z,46nm,1.6s
SQTA Sankt Quirin 84.36 28⇑*i*P **P 08 02 39.7 +0.8**
SQTA pmax pmax
comp=Z,46nm,1.6s,mb5.4
OKC Ostrava-Krasne 84.39 23 *e*P **P 08 02 39.3 +0.4**
OKC AMS AMS 08 40 00.0
comp=Z,800nm,17.6s
BNI Bardonecchia 84.42 32 *e*P **P 08 02 39.9 +0.7**
BNI pmax pmax
comp=Z,36nm,1.5s,mb5.3
BNI Bardonecchia 84.42 32 *e*P **P 08 02 39.9 +0.7**
comp=Z,36nm,1.5s,mb5.3
WTTA Wattenberg 84.48 28⇓*i*P **P 08 02 40.3 +0.9**
comp=Z,25nm,1.3s,mb5.2
WTTA Wattenberg 84.48 28⇓*i*PcP PcP 08 02 40.3 -2.7
comp=Z,25nm,1.3s
WTTA Wattenberg 84.48 28⇓*i*P **P 08 02 40.3 +0.8**
WTTA pmax pmax
comp=Z,25nm,1.3s,mb5.2
OJC Ojcow 84.53 22 *e*P **P 08 02 40.1 +0.4**
EADA Adamuz 84.58 43 P **P 08 02 39.6 -0.6**
comp=Z,80nm,1.6s,mb5.6
CCAN Las Canadas 84.64 57 P **P 08 02 41.8 +1.1**
comp=Z,80nm,1.4s,mb5.7
MBDF Montbardon 84.73 32⇑*i*P **P 08 02 41.5 +0.7**
comp=Z,38nm,1.1s,mb5.1
MBDF Montbardon 84.73 32⇑*i*P **P 08 02 41.5 +0.7**
MBDF pmax pmax
comp=Z,19nm,1.1s,mb5.1
MBDF Montbardon 84.73 32⇑*i*P **P 08 02 41.5 +0.7**
comp=Z,19nm,1.1s,mb5.1
JOW Kunigami 84.74 301 LR LR 08 40 16.1
comp=Z,140nm,18.2s,MS4.4,baz=49,slow=36
ESPR Espera 84.87 45 P **P 08 02 40.8 -0.8**
comp=Z,41nm,1.2s,mb5.4
MOA Molln 84.90 26⇑*i*P **P 08 02 41.8 +0.2**
comp=Z,20nm,1.3s,mb5.1
MOA Molln 84.90 26⇑*i*PcP PcP 08 02 41.8 -3.1
comp=Z,20nm,1.3s
EMOS Mosqueruela 84.97 39 P **P 08 02 40.7 -1.3**
comp=Z,57nm,1.6s,mb5.5
HNR Honiara 85.02 253 PFAKE 08 02 50.0 +7.4
HNR LR LR
comp=Z,292nm,19.0s,MS4.7
ABTA Abfaltersbach 85.23 28⇑*i*PcP PcP 08 02 43.5 -2.9
comp=Z,17nm,1.1s
KBA Koelnbreinsper 85.25 27⇑*i*P **P 08 02 44.0 +0.7**
comp=Z,16nm,1.1s,mb5.1
KBA Koelnbreinsper 85.25 27⇑*i*PcP PcP 08 02 44.0 -2.4
comp=Z,16nm,1.1s
KBA Koelnbreinsper 85.25 27⇑*i*P **P 08 02 44.0 +0.7**
KBA pmax pmax
comp=Z,16nm,1.1s,mb5.1
EVIA Vianos 85.29 42 P **P 08 02 44.2 +0.5**
EVIA pmax pmax
comp=Z,28nm,1.0s,mb5.3
EVIA Vianos 85.29 42 P **P 08 02 44.2 +0.5**
comp=Z,28nm,1.0s,mb5.3
ECHE Chera 85.33 40 P **P 08 02 43.9 0.0**
ECHE pmax pmax
comp=Z,14nm,1.0s,mb5.0
ECHE Chera 85.33 40 P **P 08 02 43.9 +0.1**
comp=Z,14nm,1.0s,mb5.0
CSNA Conrad Observa 85.36 25⇑*i*PcP PcP 08 02 44.6 -2.3
comp=Z,22nm,1.2s
CONA Conrad Observa 85.36 25⇑*i*PcP PcP 08 02 44.6 -2.3
comp=Z,23nm,1.2s
EJIF Jimena Fronter 85.38 45 P **P 08 02 44.6 +0.4**
EJIF pmax pmax
comp=Z,17nm,1.1s,mb5.1
EJIF Jimena Fronter 85.38 45 P **P 08 02 44.6 +0.4**
comp=Z,17nm,1.1s,mb5.1
MODS Modra-Piesok 85.42 24 *e*P **P 08 02 45.0 +0.8**
MODS *e* 08 02 56.2
ZST Bratislava 85.52 24 *e*P **P 08 02 45.6 +0.9**
ZST *e* 08 02 56.0
ZST pmax pmax
comp=Z,13nm,0.8s,mb5.2
ZST Bratislava 85.52 24 *e*P **P 08 02 45.6 +0.9**
comp=Z,13nm,0.8s,mb5.2
ZST *e* 08 02 56.0
ZST Bratislava 85.52 24 *e*P **P 08 02 45.5 +0.8**
ZST *e* 08 02 56.0
ELOJ Sierra Loja 85.56 44 P **P 08 02 45.2 +0.1**
ELOJ pmax pmax
comp=Z,12nm,1.1s,mb5.0
ELOJ Sierra Loja 85.56 44 P **P 08 02 45.2 +0.1**
comp=Z,12nm,1.1s,mb5.0
EQES Quesada 85.63 42 P **P 08 02 43.9 -1.5**
comp=Z,12nm,1.0s,mb5.1
STHS Stebnicka Huta 85.66 21 *e*P **P 08 02 46.3 +1.0**
STHS *e* 08 02 57.8
STHS pmax pmax
comp=Z,12nm,1.2s,mb5.0
STHS Stebnicka Huta 85.66 21 *e*P **P 08 02 46.3 +1.0**
comp=Z,12nm,1.2s,mb5.0
STHS *e* 08 02 57.8
STHS Stebnicka Huta 85.66 21 *e*P **P 08 02 46.3 +1.0**
STHS *e* 08 02 57.8
EMIJ Mijas 85.67 44 P **P 08 02 44.9 -0.8**
comp=Z,32nm,1.4s,mb5.4
ETOB Tobarra 85.77 41 P **P 08 02 46.5 +0.4**
comp=Z,21nm,1.1s,mb5.3
ECOG Cogollos-Vega 85.77 43 P **P 08 02 47.1 +1.0**
ECOG pmax pmax
comp=Z,22nm,1.0s,mb5.3
ECOG Cogollos-Vega 85.77 43 P **P 08 02 47.1 +0.9**
comp=Z,22nm,1.0s,mb5.3
VYHS Vyhne 85.79 23 *e*P **P 08 02 46.2 +0.2**
VYHS pmax pmax
comp=Z,10.0nm,1.4s,mb4.8
VYHS Vyhne 85.79 23 *e*P **P 08 02 46.2 +0.2**
comp=Z,10nm,1.4s,mb4.9
SOP Sopron 85.80 25⇑*e*PcP PcP 08 02 47.0 -1.9
ARSA Arzberg 85.84 26⇑*i*P **P 08 02 46.7 +0.4**
comp=Z,13nm,1.1s,mb5.1
ARSA Arzberg 85.84 26⇑*i*PcP PcP 08 02 46.7 -2.4
comp=Z,13nm,1.1s
ERON Agron 85.84 43 P **P 08 02 46.6 +0.1**
comp=Z,13nm,1.2s,mb5.0
EHUE Huescar 85.87 42 P **P 08 02 46.9 +0.3**
EHUE pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
EHUE Huescar 85.87 42 P **P 08 02 46.9 +0.3**
comp=Z,7.3nm,1.0s,mb4.9
BRVK Borovoye 85.97 351 P **P 08 02 47.4 +0.6**
comp=Z,171nm,1.0s,SNR=14
BRVK Borovoye 85.97 351 *e*P **P 08 02 47.1 +0.3**
BRVK pmax pmax
comp=Z,31nm,0.9s,mb5.5
BRVK MLR MLR
comp=Z,339nm,21.0s,MS4.7
BRVK Borovoye 85.97 351 *e*P **P 08 02 47.0 +0.3**
comp=Z,31nm,0.9s,mb5.5
BRVK LR LR
comp=Z,339nm,21.0s,MS4.7
BVAR Borovoye Array 85.99 351 P **P 08 02 47.2 +0.3**
comp=Z,11nm,0.9s,mb5.1,baz=38,slow=2.6,SNR=53
OBKA Obir 86.15 27⇑*i*P **P 08 02 47.6 -0.2**
comp=Z,16nm,0.9s,mb5.2
OBKA Obir 86.15 27⇑*i*PcP **P 08 02 47.6 -0.2**
comp=Z,16nm,0.9s,mb5.2
PERS Pernice 86.24 26 *e*P **P 08 02 47.8 -0.4**
EBER Berja 86.41 43 P **P 08 02 48.2 -1.1**
comp=Z,21nm,1.6s,mb5.1
AKASG Malin Array Be 86.44 16 P **P 08 02 48.3 -0.9**
comp=Z,7.5nm,0.7s,mb5.0,baz=335,slow=4.1,SNR=48
AKASG LR LR 08 42 49.7
comp=Z,344nm,18.5s,MS4.8,baz=335,slow=37
AKBB Malin Array Si 86.44 16 *e*P **P 08 02 47.9 -1.2**
KIEV Kiev 86.44 16 *e*P **P 08 02 48.3 -0.9**
KIEV pmax pmax
comp=Z,39nm,1.4s,mb5.4
KIEV MLR MLR
comp=Z,437nm,20.0s,MS4.8
KIEV Kiev 86.44 16 *e*P **P 08 02 48.3 -0.9**
comp=Z,39nm,1.4s,mb5.5
KIEV LR LR
comp=Z,437nm,20.0s,MS4.8
PSZ Piszkesteto 86.62 23⇑*e*PcP PcP 08 02 50.7 -1.8
UZH Uzhgorod 86.67 21 *e*P **P 08 02 55.0 +4.7**
UZH *e* 08 08 19.0
UZH *e* 08 13 21.0
CEY Cerknica 86.78 27 *e*P **P 08 02 50.8 -0.1**
NJ2 Nanjing 86.92 310 *e*P **P 08 02 50.4 -1.5**
NJ2 AP pP 08 02 55.1 -4.6
NJ2 XP sP 08 02 58.1 -4.4
NJ2 PP PP 08 06 13.5 -0.8
NJ2 PPP 08 08 11.0
NJ2 S S 08 13 24.0 -4.9
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.6
NJ2 AMB AMB
comp=Z,130nm,11.1s
NJ2 LR LR
comp=N,2μm,31.0s,MS5.4
NJ2 LR LR
comp=E,2μm,28.5s,MS5.4
NJ2 LR LR
comp=Z,2μm,28.5s,MS5.3
KURK Kurchatov 86.94 345 P **P 08 02 51.7 +0.1**
comp=Z,137nm,1.0s,SNR=11
KURK Kurchatov 86.94 345 *e*P **P 08 02 51.5 -0.1**
KURK pmax pmax
comp=Z,22nm,0.9s,mb5.4
KURK MLR MLR
comp=Z,378nm,19.0s,MS4.8
KURK Kurchatov 86.94 345 *e*P **P 08 02 51.5 -0.1**
comp=Z,22nm,0.9s,mb5.4
KURK LR LR
comp=Z,378nm,19.0s,MS4.8
BOJS Bojanci 87.27 27 *e*P **P 08 02 52.8 -0.5**
VRSR Storozhevoye 87.67 10 *e*P **P 08 02 54.6 -0.5**
VRSR pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
VRSR pmax pmax
comp=N,8.0nm,1.2s
VRSR pmax pmax
comp=E,2.0nm,0.6s
VRHR Novokhopersk 88.08 9 *e*P **P 08 02 48.3 -8.8**
VRHR pmax pmax
comp=N,9.0nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.6
VRHR pmax pmax
comp=E,40nm,0.7s
AKTK Aktyubinsk 89.48 358 P **P 08 03 03.9 +0.2**
AKTO Aktyubinsk 89.48 358 P **P 08 03 03.9 +0.2**
comp=E,9.2nm,1.0s,mb5.1,baz=7.5,slow=5.3,SNR=17
MK31 Makanchi Array 89.85 342 *i* P **P 08 03 04.7 -0.8**
MK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.6
MK31 Makanchi Array 89.85 342 *e*P **P 08 03 05.9 +0.4**
MKAR Makanchi Array 89.85 342 P **P 08 03 05.5 0.0**
comp=Z,0.3nm,0.3s,mb4.0,baz=22,slow=4.2,SNR=9.4
MKAR LR LR 08 46 36.7
comp=Z,258nm,19.4s,MS4.7,baz=5.4,slow=38
BDFB Brasilia 90.30 110 PFAKE 08 03 20.0 +12
BDFB LR LR
comp=Z,453nm,19.0s,MS4.9
BDFB Brasilia 90.30 110 LR LR 08 47 46.2
comp=Z,220nm,19.5s,MS4.6,baz=148,slow=38
TATO Taipei 90.41 304 PFAKE 08 03 20.0 +12
TATO LR LR
comp=Z,233nm,21.0s,MS4.6
WHN Wuhan 90.62 312 *e*P **P 08 03 06.0 -3.4**
GTA Gaotai 90.70 327 *e*P **P 08 03 10.9 +1.3**
GTA AP pP 08 03 14.4 -3.1
GTA XP sP 08 03 17.6 -2.7
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.9
XAN Xi'an 90.86 318 P **P 08 03 10.3 -0.1**
XAN S S 08 14 04.6 -1.2
XAN AMB AMB
comp=Z,7.0nm,1.1s,mb4.9
XAN AMB AMB
comp=Z,59nm,4.2s
XAN LR LR
comp=E,202nm,18.0s
XAN LR LR
comp=Z,162nm,14.0s,MS4.6
WMQ Urumqi 91.16 337 *e*P **P 08 03 11.6 0.0**
WMQ XP sP 08 03 18.6 -3.7
WMQ PP PP 08 06 51.6 +4.1
WMQ SKS 08 13 41.6
WMQ S S 08 14 07.6 -0.6
WMQ SS SS 08 20 14.6 +3.8
WMQ AMB AMB
comp=Z,27nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,132nm,6.0s
WMQ LR LR
comp=N,254nm,18.0s,MS4.9
WMQ LR LR
comp=E,298nm,18.0s,MS4.9
WMQ LR LR
comp=Z,234nm,18.0s,MS4.7
LZH Lanzhou 91.69 323 *e*P **P 08 03 10.9 -3.4**
LZH PP PP 08 06 51.0 -1.1
LZH AMB AMB
comp=Z,18nm,1.0s,mb5.4
LZH AMB AMB
comp=Z,110nm,5.1s
LZH LR LR
comp=E,487nm,16.9s
LZH LR LR
comp=Z,685nm,17.5s,MS5.2
ANN Anapa 93.66 13 *e**PP pP 08 03 39.0 +8.0
PLCA Paso Flores 94.66 142 PFAKE 08 03 40.0 +13
PLCA LR LR
comp=Z,290nm,20.0s,MS4.7
PLCA Paso Flores 94.66 142 LR LR 08 41 31.7
comp=Z,216nm,19.2s,MS4.6,baz=86,slow=33
TKM2 Tokmak 2 95.00 345 *e*P **P 08 03 29.5 +0.1**
TKM2 pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
TKM2 MLR MLR
comp=Z,418nm,19.0s,MS4.9
TKM2 Tokmak 2 95.00 345 *e*P **P 08 03 29.4 +0.1**
comp=Z,7.0nm,1.1s,mb5.0
TKM2 LR LR
comp=Z,418nm,19.0s,MS4.9
SOC Sochi 95.21 11 *e*P **P 08 03 30.1 -0.2**
SOC *e*PPP 08 09 21.8
SOC *e*S SKSac 08 14 05.5 +0.9
SOC *e*SS SS 08 21 10.4 +1.8
SOC pmax pmax
comp=Z,22nm,1.0s,mb5.5
SOC MLR MLR
comp=Z,607nm,20.0s,MS5.1
KIV Kislovodsk 95.24 9 *i* P **P 08 03 31.4 +1.0**
KIV pmax pmax
comp=Z,12nm,1.6s,mb5.1
KIV MLR MLR
comp=Z,300nm,17.0s,MS4.8
KIV Kislovodsk 95.24 9 PFAKE 08 03 40.0 +10
KIV LR LR
comp=Z,313nm,19.0s,MS4.8
AAK Ala-Archa 95.49 346⇓*e*P **P 08 03 34.7 +3.1**
AAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.7
AAK MLR MLR
comp=Z,200nm,15.0s,MS4.7
AAK Ala-Archa 95.49 346 PFAKE 08 03 40.0 +8.4
AAK LR LR
comp=Z,250nm,21.0s,MS4.7
EKS2 Erkin-Say 95.59 346 PFAKE 08 03 40.0 +7.9
EKS2 LR LR
comp=Z,275nm,21.0s,MS4.7
UCH Uchtor 95.88 346 PFAKE 08 03 40.0 +6.6
UCH LR LR
comp=Z,270nm,20.0s,MS4.7
CD2 Chengdu 95.96 320 *e*P **P 08 03 32.0 -2.0**
CD2 AP pP 08 03 36.5 -5.3
CD2 XP sP 08 03 39.0 -5.6
CD2 PP PP 08 07 25.1 -0.5
CD2 SKS 08 14 05.8
CD2 S S 08 14 44.8 -6.3
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb5.3
CD2 AMB AMB
comp=Z,30nm,9.8s
CD2 LR LR
comp=N,400nm,16.8s
CD2 LR LR
comp=Z,210nm,18.0s,MS4.7
AML Almayashu 96.12 346 PFAKE 08 03 50.0 +16
AML LR LR
comp=Z,234nm,20.0s,MS4.7
ANTO Ankara 97.51 17 PFAKE 08 03 50.0 +9.2
ANTO LR LR
comp=Z,499nm,21.0s,MS5.0
GYA Guiyang 98.04 315 P **P 08 03 39.8 -3.6**
GYA PP PP 08 07 42.3 +0.6
GYA SKS 08 14 18.2
GYA S S 08 15 03.8 -5.2
GYA PS PS 08 16 33.2 -1.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.6
GYA AMB AMB
comp=Z,120nm,6.0s
GYA LR LR
comp=N,680nm,22.4s,MS5.2
GYA LR LR
comp=E,580nm,24.2s,MS5.2
GYA LR LR
comp=Z,640nm,23.0s,MS5.0
GNI Garni 99.23 8 PFAKE 08 04 00.0 +11
GNI LR LR
comp=Z,249nm,20.0s,MS4.7
KMI Kunming 101.19 317 P Pdif 08 03 53.4 -3.9
KMI AMB AMB
comp=Z,9.0nm,0.6s
QIZ Qiongzhong 102.02 308 P Pdif 08 04 02.7 +1.7
QIZ S Sdif 08 15 41.8 -0.3
QIZ AMB AMB
comp=Z,19nm,1.9s
QIZ LR LR
comp=N,308nm,34.9s,MS4.7
QIZ LR LR
comp=E,193nm,34.9s,MS4.7
LSA Lhasa 102.65 328 PFAKE 08 04 10.0 +6.2
LSA LR LR
comp=Z,338nm,20.0s,MS4.9
CHTO Chiang Mai 108.36 316 PFAKE 08 08 50.0 +14
CHTO LR LR
comp=Z,388nm,19.0s,MS5.0
MBWA Marble Bar 122.55 269 PFAKE 08 09 10.0 +7.5
MBWA LR LR
comp=Z,1μm,20.0s,MS5.5
VNDA Vanda 125.66 195 PKP PKPdf 08 09 09.3 +2.5
comp=Z,0.8nm,0.9s,baz=300,slow=8.6,SNR=6.0
PALK Pallekele 127.02 328 PFAKE 08 09 20.0 +8.6
PALK LR LR
comp=Z,367nm,19.0s,MS5.1
QSPA South Pole Qui 130.24 180 *e*PKPdf PKPdf 08 09 15.3 -0.1
QSPA South Pole Qui 130.24 180 PKP PKPdf 08 09 15.5 0.0
comp=Z,4.1nm,0.9s,baz=137,slow=0.5,SNR=9.7
NWAO Narrogin (SRO) 130.57 258 PFAKE 08 09 30.0 +13
NWAO LR LR
comp=Z,308nm,19.0s,MS5.0
VNA2 Neumayer--Watz 136.53 155 *e*PKPdf PKPdf 08 09 26.4 -1.1
baz=312,slow=4.4
VNA2 *e* 08 09 32.6
VNA2 *e* 08 09 37.4
VNA2 *e* 08 09 39.7

VNA2				*e*				08 09 45.5	
KMBO	**Kilima Mbogo**	**137.62**	**27**	PFAKE				08 09 40.0	+8.6
KMBO				LR	LR				
comp=Z,223nm,19.0s,MS4.9									
SNAA	**Sanae**	**137.80**	**156**	*e*PKPdf	PKPdf			08 09 29.5	-0.3
SNAA				*e*				08 09 34.6	
SNAA				*e*				08 09 39.1	
SNAA				*e*				08 09 42.1	
SNAA				*e*				08 09 46.7	
CASY	**Casey**	**140.03**	**211**	PFAKE				08 09 40.0	+6.0
CASY				LR	LR				
comp=Z,872nm,19.0s,MS5.5									
TSUM	**Tsumeb**	**141.51**	**68**	PFAKE				08 09 50.0	+12
TSUM				LR	LR				
comp=Z,543nm,20.0s,MS5.3									
DGAR	**Diego Garcia**	**143.67**	**330**	PFAKE				08 09 50.0	+7.8
DGAR				LR	LR				
comp=Z,389nm,19.0s,MS5.2									
MSEY	**Mahe Island**	**144.40**	**359**	PFAKE				08 09 50.0	+6.5
MSEY				LR	LR				
comp=Z,112nm,20.0s,MS4.6									
LBTB	**Lobatse**	**150.92**	**67**	*e*PKIKP	PKPbc			08 09 59.2	-0.4
LBTB				*e*				08 10 08.1	
LBTB				MLR	MLR				
comp=Z,512nm,19.0s,MS5.3									
MAW	**Mawson**	**152.45**	**186**	*e*PKIKP	PKPdf			08 09 59.7	+4.8
BOSA	**Boshof**	**152.80**	**74**	PFAKE				08 10 10.0	+13
BOSA				LR	LR				
comp=Z,396nm,19.0s,MS5.2									
BOSA	**Boshof**	**152.80**	**74**	PKPbc	PKPbc			08 10 03.6	-0.2
comp=Z,5.7nm,0.8s,baz=320,slow=3.8,SNR=8.2									
ABPO	**Ambohimpanom**	**157.59**	**20**	PFAKE				08 10 10.0	+6.6
ABPO				LR	LR				
comp=Z,404nm,19.0s,MS5.3									

IDC 09 07:55:49.1±1.8, 925S×11617E, h0km, mb3.4/3, mb1 3.8/5, mb1mx3.7/18, mbtmp3.7/5, ML3.7/2, MS2.9/1, Ms1 2.9/1, ms1mx2.6/13, Error ellipse: s-maj=79.0km s-min=23.4km az=45.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Kupang**	**7.45**	**98**	Pn	Pn	07 57 39.2	0.0
6.0nm,0.3s,baz=203,slow=1.7,SNR=3.1							
FITZ	**Fitzroy Crossi**	**12.73**	**135**	Pn	Pn	07 58 52.5	+0.9
0.1nm,0.3s,baz=312,slow=13,SNR=5.7							
FITZ				Sn	Sn	08 01 02.4	-12
0.5nm,0.3s,baz=196,slow=20,SNR=7.9							
FITZ				LR	LR	08 03 49.4	
comp=Z,55nm,20.5s,baz=181,slow=38							
WRA	**Warramunga Arr**	**20.53**	**123**	P	P	08 00 28.8	-0.4
1.4nm,0.3s,baz=299,slow=12,SNR=24							
WRA				S	S	08 04 05.9	-14
0.6nm,0.6s,baz=289,slow=23,SNR=4.7							
ASAR	**Alice Springs**	**22.21**	**132**	P	P	08 00 48.0	+0.7
0.3nm,0.4s,baz=306,slow=9.2,SNR=8.6							
MKAR	**Makanchi Array**	**63.44**	**335**	P	P	08 06 21.7	+1.0
0.5nm,0.4s,baz=150,slow=6.4,SNR=4.5							
YKA	**Yellowknife Ar**	**115.55**	**23**	PKP	PKPdf	08 14 31.3	-1.5
0.1nm,0.5s,baz=290,slow=1.9,SNR=3.5							

*BJI **09** 08:07:29.3, 4040N×12500W, h5km, mB4.8, mb4.6, Ms4.8, Msz4.6*
*ISCJB **09** 08:07:31.3±0.3, 4034N±001×12491W±004, h10km, mb4.1/10, MS4.5/2, Error ellipse: s-maj=4.0km s-min=1.9km az=166.4*
*NEIC **09** 08:07:31.3, 4038N×12496W, h0km, mb4.4/7, MW4.5(BRK), After NCEDC.*
NEIC Felt [IV] at Fortuna. Also felt at Arcata, Bridgeville, Carlotta, Chico, Fort Bragg, Garberville, Petrolia, Redway, Rio Dell and Scotia.
*IDC **09** 08:07:41.0±2.1, 4098N×12357W, h0km, mb3.9/4, mb1 3.9/9, mb1mx3.8/26, mbtmp3.8/9, ML3.3/4, MS3.7/4, Ms1 3.7/4, ms1mx3.4/29, Error ellipse: s-maj=36.8km s-min=10.6km az=54.0*

ISC 09 08:07:33.3±0.3, 4032N±002×12491W±004, h10km, n269, σ1930/287, mb4.1/10, MS4.5/2, 83C-83D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JCC	**Jacoby Creek**	**0.84**	**53**	⇑P	**Pg**	**08 07 48.2**	**-1.2**
JCC				⇑S	**Sg**	**08 07 58.6**	**-1.8**
baz=0.4							
O01C	**Eel River Cons**	**0.86**	**102**	⇑P	**Pg**	**08 07 50.0**	**+0.2**
baz=0.7,SNR=102							
O01C				⇑S	**Sg**	**08 08 02.2**	**+1.2**
baz=0.7							
KCPM	**Cahto Peak**	**1.20**	**121**	*e*Pg	**Pg**	**08 07 54.8**	**-1.6**
KCPM				*e*S	**Sb**	**08 08 13.8**	**+2.2**
KIPM	**Iron Peak**	**1.21**	**114**	*e*Pg	**Pg**	**08 07 54.9**	**-1.6**
N02C	**Big Bar**	**1.32**	**67**	P	**Pn**	**08 07 55.6**	**-2.2**
baz=0.9,SNR=1000							
KRMB	**Red Mountain**	**1.43**	**32**	*e*Pn	**Pn**	**08 07 56.2**	**-3.1**
KRMB				*e*Sn	**Sn**	**08 08 13.3**	**-4.7**
P01C	**Double 8 Ranch**	**1.48**	**124**	P	**Pn**	**08 07 58.5**	**-1.5**
baz=1.4,SNR=1000							
P01C				⇓S	**Sn**	**08 08 16.5**	**-2.8**
baz=1.4							
O02C	**Red Bluff**	**1.63**	**94**	P	**Pn**	**08 08 01.0**	**-1.1**
baz=1.3,SNR=994							
O02C				⇓S	**Sn**	**08 08 21.6**	**-1.5**
baz=1.3							
M01C	**Crescent City**	**1.64**	**21**	⇑P	**Pn**	**08 07 58.6**	**-3.6**
baz=1.3							
M01C				⇑S	**Sn**	**08 08 17.5**	**-5.9**
baz=1.3							
GASB	**Alder Springs**	**1.81**	**111**	⇑P	**Pn**	**08 08 03.3**	**-1.3**
baz=1.6,SNR=437							
GASB				⇓S	**Sn**	**08 08 25.5**	**-2.0**
baz=1.6							
WDC	**Whiskeytown Da**	**1.83**	**81**	*e*Pn	**Pn**	**08 08 03.1**	**-1.7**
WDC				*e*Sn	**Sn**	**08 08 25.7**	**-2.3**
WDC	**Whiskeytown Da**	**1.83**	**81**	P	**Pn**	**08 08 03.2**	**-1.6**
baz=1.4,SNR=902							
M02C	**Callahan**	**1.90**	**55**	P	**Pn**	**08 08 03.4**	**-2.3**
baz=1.4,SNR=1000							
HOPS	**Hopland**	**1.94**	**132**	⇓*i*Pn	**Pn**	**08 08 04.7**	**-1.6**
HOPS				*e*Sn	**Sn**	**08 08 29.1**	**-1.7**
HOPS	**Hopland**	**1.94**	**132**	⇑P	**Pn**	**08 08 04.9**	**-1.4**
baz=1.9,SNR=730							
L02A	**Cave Junction**	**2.09**	**28**	P	**Pn**	**08 08 05.8**	**-2.5**
baz=1.7,SNR=214							
L02A				⇑S	**Sn**	**08 08 29.8**	**-4.5**
baz=1.7							
YBH	**Yreka Blue Hor**	**2.19**	**49**	⇑*i*Pn	**Pn**	**08 08 07.7**	**-2.0**
YBH				*e*Sn	**Sn**	**08 08 35.9**	**-0.9**
YBH	**Yreka Blue Hor**	**2.19**	**49**	P	**Pn**	**08 08 07.8**	**-1.9**
baz=1.7,SNR=362							
O03C	**Acorn Hollow,**	**2.23**	**97**	⇑P	**Pn**	**08 08 09.2**	**-1.1**
baz=1.9,SNR=89							
O03C				⇑S	**Sn**	**08 08 35.5**	**-2.4**
baz=1.9							
M03C	**McCloud**	**2.33**	**65**	⇓P	**Pn**	**08 08 10.8**	**-0.8**
baz=1.9,SNR=96							
MNRC	**McLaughlin Nat**	**2.39**	**126**	⇓P	**Pn**	**08 08 11.7**	**-0.7**
baz=2.3,SNR=101							
NSHM	**Saint Helena R**	**2.53**	**134**	*e*Pn	**Pn**	**08 08 13.1**	**-1.3**
KEBM	**Edson Butte**	**2.59**	**9**	*e*Pn	**Pn**	**08 08 15.5**	**+0.3**
SUTB	**Sutter Butte**	**2.64**	**113**	P	**Pn**	**08 08 14.2**	**-1.8**
baz=2.4,SNR=50							
SUTB				⇑S	**Sn**	**08 08 43.7**	**-4.3**
baz=2.4							
K02A	**Glendale**	**2.67**	**23**	⇓P	**Pn**	**08 08 14.5**	**-1.9**
baz=2.3,SNR=66							
K02A				⇑S	**Sn**	**08 08 44.1**	**-4.7**
baz=2.3							
HATC	**Hat Creek Radi**	**2.68**	**78**	P	**Pn**	**08 08 16.0**	**-0.5**
baz=2.2,SNR=186							
MCCM	**Marconi Confer**	**2.68**	**143**	*e*Pn	**Pn**	**08 08 15.1**	**-1.4**
MCCM	**Marconi Confer**	**2.68**	**143**	⇑P	**Pn**	**08 08 15.0**	**-1.5**
baz=2.7,SNR=188							
HUMO	**Hull Mountain**	**2.72**	**32**	*e*Pn	**Pn**	**08 08 14.6**	**-2.5**
HUMO				*e*Sn	**Sn**	**08 08 46.1**	**-3.8**
HUMO	**Hull Mountain**	**2.72**	**32**	⇑P	**Pn**	**08 08 14.7**	**-2.4**
baz=2.3,SNR=243							
HUMO				⇓S	**Sn**	**08 08 46.5**	**-3.4**
baz=2.3							
ORV	**Oroville**	**2.73**	**105**	⇑P	**Pn**	**08 08 15.7**	**-1.5**
baz=2.5,SNR=217							
ORV				⇓S	**Sn**	**08 08 48.3**	**-1.9**
baz=2.5							
CVS	**Carmenet Viney**	**2.74**	**135**	⇓P	**Pn**	**08 08 15.6**	**-1.7**
baz=2.7,SNR=118							
CVS				⇓S	**Sn**	**08 08 48.4**	**-2.0**
baz=2.7							
M04C	**Macdoel**	**2.75**	**57**	⇑P	**Pn**	**08 08 16.1**	**-1.3**
baz=2.3,SNR=201							
OHCM	**Honcut**	**2.82**	**109**	*e*Pn	**Pn**	**08 08 17.1**	**-1.2**
O04C	**Chester**	**2.93**	**89**	⇓P	**Pn**	**08 08 19.3**	**-0.6**
baz=2.5							
L04A	**Klamath Falls**	**2.94**	**50**	⇑P	**Pn**	**08 08 18.6**	**-1.5**
baz=2.5,SNR=48							
FARB	**Farallon Islan**	**3.01**	**150**	P	**Pn**	**08 08 19.1**	**-1.9**
baz=3.1,SNR=128							
M05C	**Lookout**	**3.04**	**69**	⇓P	**Pn**	**08 08 19.3**	**-2.2**
baz=2.6,SNR=47							
O05C	**Quincy**	**3.08**	**95**	⇓P	**Pn**	**08 08 22.4**	**+0.3**
baz=2.7							
Q04C	**Lincoln**	**3.11**	**117**	⇓P	**Pn**	**08 08 21.3**	**-1.0**
baz=2.9							
J02A	**Umpqua**	**3.21**	**18**	P	**Pn**	**08 08 21.4**	**-2.3**
baz=2.8,SNR=42							
ELFS	**Eagle Lake Fie**	**3.21**	**83**	⇑P	**Pn**	**08 08 22.8**	**-1.0**
baz=2.8,SNR=68							
K04A	**Chilquin**	**3.31**	**45**	⇓P	**Pn**	**08 08 23.9**	**-1.3**
baz=2.8							
BDM	**Black Diamond**	**3.34**	**134**	⇓P	**Pn**	**08 08 25.2**	**-0.4**
baz=3.3,SNR=19							
J03A	**Ideyld Park**	**3.38**	**25**	⇓P	**Pn**	**08 08 24.9**	**-1.2**
baz=3.0,SNR=56							
P05C	**Yuba Gap, Truc**	**3.47**	**106**	⇑P	**Pn**	**08 08 27.2**	**-0.1**
baz=3.2							
M06C	**Likely Place G**	**3.48**	**74**	P	**Pn**	**08 08 26.1**	**-1.4**
baz=3.0,SNR=93							
BEKR	**Beckwourth**	**3.52**	**96**	⇑P	**Pn**	**08 08 27.6**	**-0.4**
baz=3.2,SNR=361							
L05A	**Laview**	**3.53**	**59**	⇑P	**Pn**	**08 08 26.8**	**-1.3**
baz=3.0,SNR=89							
JRSC	**Jasper Ridge**	**3.58**	**143**	P	**Pn**	**08 08 27.2**	**-1.7**
baz=3.6,SNR=223							
LAVA	**Lava Cap Winer**	**3.58**	**114**	⇓P	**Pn**	**08 08 28.9**	**0.0**
baz=3.4							
WENL	**Wente Brothers**	**3.65**	**137**	P	**Pn**	**08 08 29.6**	**-0.1**
baz=3.6,SNR=71							
R04C	**Big Horse Ranc**	**3.71**	**122**	P	**Pn**	**08 08 30.3**	**-0.3**
baz=3.6,SNR=20							
I02A	**Mapleton**	**3.77**	**12**	⇓P	**Pn**	**08 08 30.4**	**-1.1**
baz=3.4,SNR=58							
MOD	**Modoc**	**3.83**	**64**	*e*Pn	**Pn**	**08 08 31.0**	**-1.2**
MOD	**Modoc**	**3.83**	**64**	⇑P	**Pn**	**08 08 30.8**	**-1.4**
baz=3.3,SNR=71							
BNLO	**Ben Lomond (Sa**	**3.83**	**145**	⇓P	**Pn**	**08 08 30.1**	**-2.3**
baz=3.9							
I03A	**Eugene**	**3.85**	**18**	⇑P	**Pn**	**08 08 31.6**	**-0.9**
baz=3.5,SNR=31							
K05A	**Summer Lake**	**3.86**	**50**	P	**Pn**	**08 08 31.8**	**-0.9**
baz=3.4,SNR=75							
N06A	**Buffalo Meadow**	**3.90**	**82**	⇓P	**Pn**	**08 08 31.5**	**-1.6**
baz=3.5,SNR=146							
O06A	**Flanigan**	**3.90**	**91**	⇑P	**Pn**	**08 08 32.2**	**-1.0**
baz=3.5,SNR=27							
P06A	**Stead Airport,**	**3.91**	**98**	⇑P	**Pn**	**08 08 33.6**	**+0.3**
baz=3.6							
I04A	**Tendick Farm,**	**3.94**	**27**	⇑P	**Pn**	**08 08 33.6**	**-0.2**
baz=3.5,SNR=11							
S04C	**Ingram Canyon,**	**3.96**	**134**	⇓P	**Pn**	**08 08 33.6**	**-0.5**
baz=3.9,SNR=162							
J05A	**Fort Rock**	**4.04**	**42**	⇓P	**Pn**	**08 08 34.1**	**-1.1**
baz=3.6,SNR=237							
R05C	**Kirkwood Meado**	**4.07**	**112**	⇑P	**Pn**	**08 08 35.9**	**+0.3**
baz=3.9							
WCN	**Washoe City**	**4.10**	**103**	⇑P	**Pn**	**08 08 36.0**	**0.0**
baz=3.8							
CMB	**Columbia Colle**	**4.19**	**121**	*e*Pn	**Pn**	**08 08 37.6**	**+0.3**
CMB	**Columbia Colle**	**4.19**	**121**	⇑P	**Pn**	**08 08 37.5**	**+0.2**
baz=4.0							
K06A	**Valley Falls**	**4.29**	**53**	⇑P	**Pn**	**08 08 37.3**	**-1.3**
baz=3.8,SNR=137							
PAHR	**Pah Rah Range**	**4.29**	**96**	*e*Pn	**Pn**	**08 08 37.9**	**-0.7**
PACP	**Pacheco Peak**	**4.36**	**138**	P	**Pn**	**08 08 38.5**	**-1.0**
baz=4.4,SNR=31							
COR	**Corvallis**	**4.43**	**15**	*e*Pn	**Pn**	**08 08 40.6**	**+0.1**
COR				*e*Sn	**Sn**	**08 09 29.4**	**-2.7**
SAO	**San Andreas Ge**	**4.47**	**141**	*e*Pn	**Pn**	**08 08 38.5**	**-2.6**
M07A	**Soldier Meadow**	**4.49**	**74**	P	**Pn**	**08 08 39.6**	**-1.7**
baz=4.0,SNR=56							
H03A	**Soap Creek Ran**	**4.52**	**15**	⇑P	**Pn**	**08 08 40.9**	**-0.9**
baz=4.1,SNR=25							
L07A	**Adell**	**4.54**	**66**	⇓P	**Pn**	**08 08 40.6**	**-1.4**
baz=4.1,SNR=13							
N07B	**Gerlach**	**4.55**	**82**	P	**Pn**	**08 08 40.8**	**-1.4**
baz=4.1,SNR=23							
R06C	**Coleville**	**4.59**	**111**	⇑P	**Pn**	**08 08 44.2**	**+1.4**
baz=4.4							
J06A	**Christmas Vall**	**4.61**	**49**	P	**Pn**	**08 08 42.1**	**-0.9**
baz=4.1,SNR=83							
O07A	**Toulon**	**4.62**	**90**	P	**Pn**	**08 08 42.4**	**-0.8**
baz=4.2,SNR=139							
S05C	**Merced**	**4.65**	**128**	P	**Pn**	**08 08 44.2**	**+0.7**
baz=4.6,SNR=50							
I05A	**Bend**	**4.70**	**34**	⇑P	**Pn**	**08 08 44.0**	**-0.2**
baz=4.2							
T05C	**Eagle Field, D**	**4.76**	**134**	P	**Pn**	**08 08 45.4**	**+0.3**
baz=4.7,SNR=8.1							
H04A	**Detroit Lake**	**4.81**	**24**	⇓P	**Pn**	**08 08 44.7**	**-1.0**
baz=4.4,SNR=26							
K07A	**Rock Creek Ran**	**4.87**	**59**	P	**Pn**	**08 08 45.1**	**-1.4**
baz=4.4,SNR=94							
I06A	**Prineville**	**5.04**	**42**	⇓P	**Pn**	**08 08 49.0**	**+0.1**
baz=4.6,SNR=10.0							
M08A	**Happy Creek Ra**	**5.08**	**75**	P	**Pn**	**08 08 47.9**	**-1.6**
baz=4.6,SNR=36							
U04C	**Hernandez Rese**	**5.11**	**139**	P	**Pn**	**08 08 49.2**	**-0.7**
baz=5.1,SNR=36							
H05A	**Madras**	**5.12**	**31**	⇑P	**Pn**	**08 08 49.9**	**0.0**
baz=4.7							
G03A	**Yamhill**	**5.14**	**13**	⇓P	**Pn**	**08 08 50.4**	**+0.1**
baz=4.8							
V03C	**Hunter Liggett**	**5.17**	**145**	P	**Pn**	**08 08 49.3**	**-1.4**
baz=5.2,SNR=46							
J07A	**Hines**	**5.18**	**52**	⇓P	**Pn**	**08 08 49.7**	**-1.2**
baz=4.7							
N08A	**GE Springer Mi**	**5.19**	**83**	P	**Pn**	**08 08 49.5**	**-1.5**
baz=4.8,SNR=27							
G04A	**Mulino**	**5.21**	**19**	⇓P	**Pn**	**08 08 51.9**	**+0.7**
baz=4.8,SNR=7.4							
T06C	**Millerton Lake**	**5.25**	**127**	P	**Pn**	**08 08 53.2**	**+1.5**
baz=5.1,SNR=49							
KCC	**Kaiser Creek**	**5.29**	**123**	⇑P	**Pn**	**08 08 53.7**	**+1.4**
baz=5.2,SNR=25							
L08A	**Fields**	**5.29**	**67**	⇑P	**Pn**	**08 08 51.7**	**-0.7**
baz=4.8							
K08A	**Mann Creek Ran**	**5.39**	**61**	⇓P	**Pn**	**08 08 51.9**	**-1.8**
baz=4.9							
NVAR	**Mina Array Bea**	**5.46**	**108**	Pn	**Pn**	**08 08 55.2**	**+0.5**
NVAR				Lg		08 10 12.5	
NVAR	**Mina Array Bea**	**5.46**	**108**	Pn	**Pn**	**08 08 55.2**	**+0.5**
3.3nm,0.3s,baz=287,slow=15,SNR=65							
NVAR				Lg		08 10 12.5	
0.6nm,0.3s,baz=291,slow=15,SNR=4.7							
U05C	**Westside ANR,**	**5.48**	**135**	⇑P	**Pn**	**08 08 55.3**	**+0.4**
baz=5.4							
I07A	**Izee**	**5.50**	**45**	P	**Pn**	**08 08 56.2**	**+0.9**
baz=5.0,SNR=7.3							
PKD	**Parkfield**	**5.56**	**140**	P	**Pn**	**08 08 54.7**	**-1.3**
baz=5.6,SNR=48							
H06A	**Lindquist Farm**	**5.56**	**36**	⇑P	**Pn**	**08 08 56.4**	**+0.4**
baz=5.1,SNR=16							
Q08A	**Gabbs**	**5.59**	**103**	⇓P	**Pn**	**08 08 56.3**	**-0.1**
baz=5.3							
G05A	**Wamic**	**5.59**	**27**	P	**Pn**	**08 08 57.3**	**+0.9**
baz=5.2,SNR=7.5							
N09A	**Rock Creek Ran**	**5.65**	**82**	P	**Pn**	**08 08 56.1**	**-1.2**
baz=5.2,SNR=15							
V04C	**Ramage Ranch,**	**5.66**	**144**	⇑P	**Pn**	**08 08 56.5**	**-0.9**
baz=5.7,SNR=29							
J08A	**Circle Bar Ran**	**5.69**	**56**	P	**Pn**	**08 08 56.5**	**-1.4**
baz=5.2,SNR=58							
M09A	**Marrel Ranch,**	**5.77**	**77**	⇓P	**Pn**	**08 08 57.5**	**-1.4**
baz=5.3							
MTUM	**Tungsten Hills**	**5.77**	**119**	*e*Pn	**Pn**	**08 09 02.3**	**+3.3**
H07A	**Lands Inn, Kim**	**5.82**	**41**	⇓P	**Pn**	**08 09 01.1**	**+1.4**
baz=5.3							
G06A	**Carlson Farm,**	**5.84**	**31**	⇓P	**Pn**	**08 09 00.5**	**+0.7**
baz=5.4							
HELL	**Mitchell Peak**	**5.88**	**126**	⇑P	**Pn**	**08 09 01.9**	**+1.5**
baz=5.8,SNR=38							
K09A	**Rome**	**5.90**	**64**	⇑P	**Pn**	**08 08 60.0**	**-0.7**
baz=5.4							
F04A	**Amboy**	**5.90**	**17**	P	**Pn**	**08 09 01.1**	**+0.4**
baz=5.5,SNR=12							
O09A	**Fish Creek Ran**	**5.91**	**89**	⇓P	**Pn**	**08 09 01.0**	**+0.1**
baz=5.5							
I08A	**Drewsey**	**5.93**	**51**	⇑P	**Pn**	**08 09 00.9**	**-0.2**
baz=5.4							
RCTC	**Rector, Farmer**	**5.99**	**130**	⇓P	**Pn**	**08 09 02.3**	**+0.4**
baz=5.9							
P09A	**Austin**	**6.02**	**95**	⇑P	**Pn**	**08 09 02.6**	**+0.1**
baz=5.7							
F05A	**White Salmon**	**6.11**	**23**	⇓P	**Pn**	**08 09 03.7**	**+0.1**
baz=5.7							
J09A	**Fry Pan Ranch,**	**6.14**	**58**	⇑P	**Pn**	**08 09 04.2**	**+0.1**
baz=5.7							
H08A	**Prairie City**	**6.24**	**46**	⇓P	**Pn**	**08 09 06.5**	**+1.1**
baz=5.8,SNR=13							
G07A	**Ruggs Ranch, H**	**6.27**	**36**	⇓P	**Pn**	**08 09 06.9**	**+1.1**
baz=5.8,SNR=9.0							
SMMC	**Simmler**	**6.33**	**141**	⇑P	**Pn**	**08 09 05.2**	**-1.5**
baz=6.3							
I09A	**Lost Marbles R**	**6.46**	**53**	⇓P	**Pn**	**08 09 08.7**	**+0.3**
baz=6.0							
K10A	**MacKenzie Ranc**	**6.52**	**65**	⇑P	**Pn**	**08 09 08.6**	**-0.6**
baz=6.0							
S09A	**Goldfield**	**6.52**	**111**	⇓P	**Pn**	**08 09 10.3**	**+1.1**
baz=6.3							
P10A	**Eureka**	**6.53**	**93**	⇑P	**Pn**	**08 09 10.1**	**+0.8**
baz=6.2							
L10A	**Juniper Basin**	**6.61**	**72**	⇓P	**Pn**	**08 09 11.5**	**+1.1**
baz=6.1							
CWC	**Cottonwood Cre**	**6.62**	**124**	⇓P	**Pn**	**08 09 13.5**	**+3.0**
baz=6.5							
G08A	**Pilot Rock**	**6.62**	**39**	⇑P	**Pn**	**08 09 11.6**	**+1.0**
baz=6.1							
E05A	**Randle**	**6.65**	**19**	⇑P	**Pn**	**08 09 11.4**	**+0.4**
baz=6.2							
F07A	**Phinny Hill Vi**	**6.66**	**32**	⇓P	**Pn**	**08 09 11.9**	**+0.8**
baz=6.2							
Q10A	**Clear Creek Ra**	**6.74**	**100**	⇓P	**Pn**	**08 09 14.0**	**+1.7**
baz=6.4							
PKM	**Peak Mountain**	**6.75**	**142**	⇑P	**Pn**	**08 09 12.2**	**-0.2**
baz=6.8,SNR=36							
E06A	**Yakima**	**6.85**	**23**	⇑P	**Pn**	**08 09 13.9**	**+0.2**
baz=6.4,SNR=12							
H09A	**Durkee**	**6.90**	**49**	⇑P	**Pn**	**08 09 15.1**	**+0.7**
baz=6.4							
F08A	**Pendleton**	**7.08**	**37**	⇑P	**Pn**	**08 09 17.8**	**+0.9**
baz=6.6							
K11A	**Parker Ranch,**	**7.10**	**67**	⇑P	**Pn**	**08 09 18.9**	**+1.7**
baz=6.6							
I10A	**Payette**	**7.10**	**55**	⇓P	**Pn**	**08 09 18.5**	**+1.3**
baz=6.6							
L11A	**Cat Creek Ranc**	**7.15**	**72**	⇓P	**Pn**	**08 09 17.9**	**+0.1**
baz=6.7							
BMO	**Blue Mountains**	**7.21**	**49**	*e*Pn	**Pn**	**08 09 19.5**	**+0.8**
30nm,0.8s							
MPMC	**Manual Prospec**	**7.23**	**124**	⇓P	**Pn**	**08 09 21.0**	**+2.1**
baz=7.1							
HAWA	**Hanford**	**7.23**	**31**	*e*Pn	**Pn**	**08 09 20.3**	**+1.4**
16nm,0.8s							
Q11A	**Duckwater**	**7.30**	**99**	⇓P	**Pn**	**08 09 21.3**	**+1.4**
baz=7.0							
H10A	**Noah's Angus R**	**7.39**	**52**	⇓P	**Pn**	**08 09 22.1**	**+0.9**
baz=6.9							
LRMC	**Laurel Mountai**	**7.48**	**128**	⇑P	**Pn**	**08 09 23.7**	**+1.2**
baz=7.4							
I11A	**Placerville**	**7.56**	**59**	⇑P	**Pn**	**08 09 24.4**	**+0.9**
baz=7.1							
TPNV	**Topopah Spring**	**7.57**	**114**	*e*Pn	**Pn**	**08 09 27.2**	**+3.6**
3.5nm,0.5s							
G10A	**Bishop Farm, J**	**7.58**	**46**	⇓P	**Pn**	**08 09 24.6**	**+0.8**
baz=7.1							
EDW2	**Edwards Air Fo**	**7.72**	**132**	⇑P	**Pn**	**08 09 26.8**	**+1.0**
baz=7.7							
P12A	**McGill**	**7.74**	**93**	⇑P	**Pn**	**08 09 26.6**	**+0.6**
baz=7.4							
O12A	**Currie**	**7.77**	**87**	⇓P	**Pn**	**08 09 26.9**	**+0.4**
baz=7.4							
K12A	**Draper Farm, C**	**7.87**	**70**	⇓P	**Pn**	**08 09 28.8**	**+1.1**
baz=7.4							
Q12A	**Willow Creek R**	**7.88**	**96**	⇑P	**Pn**	**08 09 28.9**	**+1.0**
baz=7.5							
J12A	**Stokes Ranch,**	**7.90**	**65**	⇓P	**Pn**	**08 09 28.8**	**+0.7**
baz=7.4							
H11A	**Donnelly**	**7.90**	**53**	⇑P	**Pn**	**08 09 29.3**	**+1.2**
baz=7.4							
G11A	**Walters Elk Ra**	**8.13**	**48**	⇑P	**Pn**	**08 09 32.4**	**+1.1**
baz=7.6,SNR=8.5							
GSC	**Goldstone**	**8.14**	**125**	*e*Pn	**Pn**	**08 09 33.1**	**+1.7**
26nm,0.4s							
GSC	**Goldstone**	**8.14**	**125**	⇓P	**Pn**	**08 09 33.1**	**+1.7**
baz=8.0							
C07A	**Waterville**	**8.16**	**24**

	baz=10.0,SNR=5.8						
MONP	**Monument Peak**	**10.07**	**135**	P	**Pn**	**08 09 59.0**	**+1.1**
	baz=10.0,SNR=19						
D13A	**Huson**	**10.15**	**45**	⇓P	**Pn**	**08 09 59.3**	**+0.3**
	baz=9.7						
HWUT	**Hardware Ranch**	**10.18**	**78**	*e*Pn	**Pn**	**08 10 02.3**	**+2.9**
	18nm,1.6s						
MSO	**Missoula**	**10.28**	**47**	*e*Pn	**Pn**	**08 10 02.4**	**+1.7**
	48nm,1.2s						
E14A	**Clinton**	**10.31**	**50**	⇓P	**Pn**	**08 10 01.8**	**+0.7**
	baz=9.8						
G15A	**Dillon**	**10.34**	**58**	⇓P	**Pn**	**08 10 02.1**	**+0.5**
	baz=9.8						
DLMT	**Dillon**	**10.35**	**57**	*e*Pn	**Pn**	**08 10 02.9**	**+1.1**
	17nm,1.0s						
C13A	**Hot Springs**	**10.46**	**42**	⇑P	**Pn**	**08 10 03.5**	**+0.3**
	baz=10.0						
A11A	**Hall Mountain,**	**10.56**	**32**	⇓P	**Pn**	**08 10 04.9**	**+0.2**
	baz=10						
Y12C	**Blythe**	**10.57**	**125**	⇓P	**Pn**	**08 10 06.2**	**+1.4**
	baz=10						
F15A	**Butte**	**10.63**	**55**	⇓P	**Pn**	**08 10 05.4**	**-0.1**
	baz=10						
D14A	**Greenough**	**10.67**	**47**	⇑P	**Pn**	**08 10 06.6**	**+0.5**
	baz=10						
CHMT	**Chamberlain Mo**	**10.72**	**48**	*e*Pn	**Pn**	**08 10 07.8**	**+1.1**
E15A	**Deer Lodge**	**10.81**	**52**	⇑P	**Pn**	**08 10 08.8**	**+0.8**
	baz=10						
GLA	**Glamis**	**10.86**	**129**	*e*Pn	**Pn**	**08 10 08.6**	**-0.2**
	8.0nm,0.5s						
GLA	**Glamis**	**10.86**	**129**	⇓P	**Pn**	**08 10 09.0**	**+0.2**
	baz=11						
TPAW	**Teton Pass**	**10.88**	**68**	*e*Pn	**Pn**	**08 10 10.1**	**+1.2**
	18nm,1.4s						
QLMT	**Earthquake Lak**	**10.92**	**61**	*e*Pn	**Pn**	**08 10 11.5**	**+2.0**
REDW	**Red Top Meadow**	**10.92**	**69**	Pn	**Pn**	**08 10 10.8**	**+1.2**
	14nm,1.4s						
C14A	**Swan Lake**	**10.95**	**43**	⇓P	**Pn**	**08 10 10.8**	**+0.9**
	baz=10						
Y13A	**Salome**	**10.97**	**123**	⇓P	**Pn**	**08 10 11.2**	**+0.9**
	baz=11						
IMW	**Indian Meadow**	**10.98**	**66**	*e*Pn	**Pn**	**08 10 11.9**	**+1.5**
	5.1nm,0.8s						
B13A	**Whitefish**	**10.98**	**39**	⇓P	**Pn**	**08 10 10.5**	**+0.1**
	baz=10						
SNOW	**Snow King Moun**	**11.01**	**69**	*e*Pn	**Pn**	**08 10 14.2**	**+3.4**
	2.2nm,0.9s						
BOZ	**Bozeman (W)**	**11.09**	**57**	*e*Pn	**Pn**	**08 10 11.8**	**0.0**
	9.2nm,1.2s						
BOZ	**Bozeman (W)**	**11.09**	**57**	⇓P	**Pn**	**08 10 11.9**	**0.0**
	baz=11						
FLWY	**Flagg Ranch**	**11.20**	**66**	*e*Pn	**Pn**	**08 10 15.7**	**+2.4**
	35nm,1.4s						
D15A	**Lincoln**	**11.21**	**49**	⇓P	**Pn**	**08 10 14.3**	**+0.9**
	baz=11,SNR=6.9						
HRY	**Holter Researc**	**11.44**	**52**	*e*Pn	**Pn**	**08 10 17.0**	**+0.3**
LKWY	**Lake**	**11.53**	**64**	*e*Pn	**Pn**	**08 10 21.4**	**+3.5**
	16nm,1.3s						
BBB	**Bella Bella**	**12.07**	**351**	Pn	**Pn**	**08 10 28.3**	**+3.0**
BBB	**Bella Bella**	**12.07**	**351**	Pn	**Pn**	**08 10 28.3**	**+3.0**
	0.2nm,0.3s,baz=114,slow=10.0,SNR=2.6						
GCMT	**Greycliff**	**12.42**	**59**	*e*Pn	**Pn**	**08 10 30.5**	**+0.5**
PV10	**Paradox Valley**	**12.44**	**94**	*e*Pn	**Pn**	**08 10 33.4**	**+3.0**
115A	**Sonoran Desert**	**12.71**	**123**	⇑P	**Pn**	**08 10 36.2**	**+2.1**
	baz=13						
PV01	**Paradox Valley**	**12.86**	**95**	*e*Pn	**Pn**	**08 10 41.0**	**+4.9**
116A	**Eloy**	**13.14**	**122**	⇑P	**Pn**	**08 10 42.3**	**+2.3**
	baz=13						
EGMT	**Eagleton**	**13.32**	**50**	*e*Pn	**Pn**	**08 10 41.7**	**-0.6**
	29nm,1.4s						
EGMT	**Eagleton**	**13.32**	**50**	⇓P	**Pn**	**08 10 41.7**	**-0.6**
	baz=13						
117A	**Oracle**	**13.77**	**120**	⇓P	**Pn**	**08 10 51.0**	**+2.5**
	baz=14						
318A	**Bisbee**	**14.98**	**122**	⇓P	**Pn**	**08 11 06.7**	**+1.7**
	baz=15						
EDM	**Edmonton**	**15.12**	**28**	*e*P	**Pn**	**08 11 04.7**	**-2.0**
SDCO	**Great Sand Dun**	**15.30**	**93**	*e*P	**Pn**	**08 11 12.3**	**+3.0**
	19nm,1.4s						
319A	**Douglas**	**15.48**	**120**	⇑P	**Pn**	**08 11 13.9**	**+2.2**
	baz=15						
ANMO	**Albuquerque**	**15.56**	**104**	Pn	**Pn**	**08 11 12.3**	**-0.4**
ANMO	**Albuquerque**	**15.56**	**104**	Pn	**Pn**	**08 11 12.3**	**-0.4**
	0.1nm,0.3s,baz=297,slow=11,SNR=2.5						
DLBC	**Dease Lake**	**18.43**	**351**	*e*P	**Pn**	**08 11 51.7**	**+3.1**
DLBC	**Dease Lake**	**18.43**	**351**	P	**Pn**	**08 11 52.7**	**+4.1**
	baz=186,slow=11						
TXAR	**Lajitas Array**	**20.55**	**116**	P	**P**	**08 12 14.1**	**+2.2**
	0.1nm,0.3s,baz=308,slow=10,SNR=5.9						
FFC	**Flin Flon**	**21.02**	**39**	*e*P	**P**	**08 12 16.0**	**-0.9**
	34nm,1.1s,mb4.6						
ECSD	**EROS,Sioux Fal**	**21.25**	**71**	*e*P	**P**	**08 12 16.4**	**-3.1**
	5.5nm,1.0s,mb3.8						
KSU1	**Kansas State U**	**21.78**	**84**	*e*P	**P**	**08 12 27.4**	**+2.3**
	9.1nm,0.5s,mb4.5						
AGMN	**Agassiz Refuge**	**22.17**	**59**	*e*P	**P**	**08 12 28.5**	**-0.8**
	15nm,0.9s,mb4.4						
ULM	**Lac du Bonnet**	**22.59**	**54**	P	**P**	**08 12 31.3**	**-2.3**
	11nm,1.0s,mb4.2,baz=265,slow=9.7,SNR=8.3						
YKA	**Yellowknife Ar**	**23.06**	**12**	P	**P**	**08 12 38.0**	**-0.6**
YKA				LR	LR	08 20 34.6	
YKA	**Yellowknife Ar**	**23.06**	**12**	P	**P**	**08 12 38.0**	**-0.6**
	1.2nm,0.8s,mb3.4,baz=200,slow=9.5,SNR=17						
YKA				LR	LR	08 20 34.6	
	comp=Z,94nm,20.8s,baz=250,slow=35						
DAWY	**Dawson**	**25.26**	**345**	*e*P	**P**	**08 13 00.8**	**+1.5**
JFWS	**Jewell Farm**	**25.94**	**73**	*e*P	**P**	**08 13 06.3**	**+0.7**
	6.0nm,0.6s,mb4.3						
FCC	**Fort Churchill**	**26.85**	**36**	*e*P	**P**	**08 13 13.2**	**-0.4**
	8.5nm,0.9s,mb4.3						
INK	**Inuvik**	**28.44**	**353**	P	**P**	**08 13 33.1**	**+5.4**
	2.3nm,1.1s,mb3.7,baz=156,slow=7.3,SNR=3.7						
RES	**Resolute Bay**	**37.13**	**13**	*e*P	**P**	**08 14 43.2**	**-0.4**
	107nm,0.9s						
SCHQ	**Schefferville**	**40.58**	**49**	P	**P**	**08 15 12.6**	**-0.1**
	3.3nm,0.9s,mb4.0,baz=248,slow=16,SNR=3.1						
PPT	**Papeete**	**62.00**	**207**	LR	LR	08 38 58.4	
	comp=Z,217nm,18.6s,MS4.3,baz=85,slow=30						
CN2	**Changchun**	**75.02**	**315**	*e*P	**P**	**08 19 13.3**	**-1.6**
HHC	**Hu-ho-hao-te**	**84.29**	**321**	*e*P	**P**	**08 20 04.1**	**-1.1**
HHC				AP	pP	08 20 08.9	+0.3
HHC				XP	sP	08 20 12.8	+3.0
HHC				PP	PP	08 23 19.6	+0.5
HHC				SKS		08 30 22.2	
HHC				S	S	08 30 27.9	-2.8
HHC				XS	sS	08 30 33.9	-2.3
HHC				SS	SS	08 35 55.3	-3.7
HHC				LR	LR		
	comp=N,263nm,18.7s,MS4.9						
HHC				LR	LR		
	comp=E,320nm,17.5s,MS4.9						
HHC				LR	LR		
	comp=Z,260nm,19.8s,MS4.6						
NJ2	**Nanjing**	**86.94**	**310**	*e*P	**P**	**08 20 18.9**	**+0.3**
LZH	**Lanzhou**	**91.74**	**322**	*e*P	**P**	**08 20 39.2**	**-1.9**
LZH				AP	pP	08 20 43.0	-1.5
LZH				XP	sP	08 20 44.5	-1.2
CD2	**Chengdu**	**96.00**	**320**	*e*P	**P**	**08 20 58.6**	**-2.2**
CD2				XP	sP	08 21 05.8	+0.4
CD2				PP	PP	08 24 52.1	-0.3
CD2				SKS		08 31 32.8	
CD2				S	S	08 32 11.6	-8.0
CD2				SS	SS	08 38 44.3	-4.5
GYA	**Guiyang**	**98.07**	**315**	P	**P**	**08 21 08.2**	**-2.0**
QIZ	**Qiongzhong**	**102.04**	**308**	P	Pdif	08 21 28.3	+0.6
QIZ				S	Sdif	08 33 10.7	+0.3
QIZ				LR	LR		
	comp=N,186nm,59.0s						

IDC 09 08:23:15.3±1.6**,082N**×**12266E,h0**^{km}**,mb3.5**/3**,mb1 3.7**/4**, mb1mx3.5**/18**,mbtmp3.5**/4**,ML3.9**/1**,MS4.1**/1**,Ms1 4.0**/1**, ms1mx3.2**/16**,Error ellipse: s-maj=150.9km s-min=24.1km az=64.0,Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.03**	**171**	P	Pn	08 27 39.9	+0.2
	0.3nm,0.3s,baz=2.7,slow=9.3,SNR=10						
WRA	**Warramunga Arr**	**23.60**	**152**	P	P	08 28 28.2	-0.1
	1.0nm,0.5s,baz=324,slow=11,SNR=20						
ASAR	**Alice Springs**	**26.68**	**157**	P	P	08 28 55.9	-0.4
	0.3nm,0.5s,baz=343,slow=14,SNR=9.8						
STKA	**Stephens Creek**	**37.14**	**153**	LR	LR	08 46 25.3	
	comp=Z,261nm,20.5s,baz=26,slow=37						
MKAR	**Makanchi Array**	**57.74**	**328**	P	P	08 33 08.0	0.0
	0.3nm,0.3s,baz=117,slow=8.8,SNR=5.6						

*ISCJB **09** 08:46:52.6±0.5,38.38N±0.03×21.82E±0.03,h12^{km}±4^{km}, Error ellipse: s-maj=4.9km s-min=4.0km az=173.0*
*CSEM **09** 08:46:53.8±0.1,38.35N×21.82E,h12^{km},ML2.8,Error ellipse: s-maj=2.7km s-min=2.2km az=174.0*
*ATH **09** 08:46:53.3,38.34N×21.80E,h26^{km}±3^{km},MD3.0/5*
*NEIC **09** 08:46:53.3,38.34N×21.80E,h26^{km},MD3.1(ATH),After ATH.*
*THE **09** 08:46:53.8,38.37N×21.81E,h1^{km},ML2.8*
ISC 09 08:46:53.6±0.4**,38.35N**±0.03×**21.82E**±0.03**,h14**^{km}±4^{km}**,n17,** σ**0^{s}81**/30**,1D,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.09**	**142**	*e*Pg	**Pg**	**08 46 55.9**	**-0.7**
SELA				*e*Sg	**Sg**	**08 46 57.9**	**-0.8**
RLS	**Riolos of Patr**	**0.40**	**224**	⇓*i*PB	**Pg**	**08 47 01.6**	**-0.1**
RLS				*e*SB	**Sg**	**08 47 08.2**	**+1.1**
EVR	**Evrytania**	**0.57**	**359**	*e*PN	**Pg**	**08 47 04.7**	**-0.1**
EVR				*e*SN	**Sg**	**08 47 13.9**	**+1.6**
AGG	**Agios Georgios**	**0.78**	**30**	*e*Pg	**Pg**	**08 47 07.9**	**-0.9**
KFL	**Anninata**	**0.85**	**254**	*e*Pg	**Pg**	**08 47 10.1**	**0.0**
LTK	**Loutraki**	**0.96**	**109**	*e*Pg	**Pg**	**08 47 12.0**	**-0.1**
LTK				*e*Sg	**Sg**	**08 47 26.2**	**+1.5**
LKR	**Lokris**	**0.97**	**72**	*e*Pg	**Pg**	**08 47 12.3**	**-0.2**
LKR				*e*Sg	**Sg**	**08 47 26.0**	**+0.9**
LKR	**Lokris**	**0.97**	**72**	*e*PN	**Pn**	**08 47 12.5**	**-0.4**
VLS	**Valsamata**	**0.98**	**260**	*e*Pg	**Pg**	**08 47 11.7**	**-1.0**
VLS				*e*Sg	**Sg**	**08 47 26.4**	**+0.8**
VLS	**Valsamata**	**0.98**	**260**	*e*PN	**Pn**	**08 47 12.0**	**-1.0**
VLS				*e*SN	**Sn**	**08 47 26.9**	**+0.1**
VLS	**Valsamata**	**0.98**	**260**	*e*Pg	**Pg**	**08 47 11.7**	**-1.0**
VLS				*e*Sg	**Sg**	**08 47 26.4**	**+0.9**
VLS				*e*Sn	**Sn**	**08 47 26.9**	**+0.1**
LKD	**Levkas**	**0.99**	**292**	*e*Pg	**Pg**	**08 47 12.0**	**-0.7**
LKD				*e*Sg	**Sg**	**08 47 26.1**	**+0.6**
LKD	**Levkas**	**0.99**	**292**	*e*Pg	**Pg**	**08 47 12.0**	**-0.7**
LKD				*e*Sg	**Sg**	**08 47 26.1**	**+0.5**
ITM	**Ithomi**	**1.17**	**176**	*e*PN	**Pn**	**08 47 14.8**	**-0.8**
ITM				*e*SN	**Sn**	**08 47 32.2**	**+0.9**
DID	**Didima**	**1.40**	**126**	*e*Pg	**Pg**	**08 47 20.1**	**-0.5**
DID	**Didima**	**1.40**	**126**	*e*Pg	**Pg**	**08 47 20.0**	**-0.6**
PYL	**PYLOS**	**1.45**	**183**	*e*Pg	**Pg**	**08 47 20.5**	**-1.0**
PYL				*e*Sg	**Sg**	**08 47 41.5**	**+1.1**

*BJI **09** 09:01:39.3,5.94N×124.34E,h552^{km},mB5.1,mb5.3*
*ISCJB **09** 09:01:46.7±0.1,6.62N±0.02×123.96E±0.03,h576^{km}, mb5.2/155,Error ellipse: s-maj=3.5km s-min=2.8km az=168.5*
*MAN **09** 09:01:46,6.63N×124.01E,h584^{km},mb5.7,ML4.8,MS5.2*
*MOS **09** 09:01:47.0±0.8,6.68N×123.92E,h578^{km},mb5.1/50,Error ellipse: s-maj=9.4km s-min=5.0km az=111.9*
*GCMT **09** 09:01:47.6±0.2,6.62N×123.91E,h569^{km}±1^{km},MW5.6/87, Moment Tensor Solution. s87,c131; Duration: 1^{s}6 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.08±.05; $M_{\theta\theta}$0.56±.08; $M_{\phi\phi}$0.51±.09; $M_{r\theta}$1.54±.08; $M_{\theta\phi}$-0.54±.07; $M_{\phi r}$-2.79±.07; Best double couple: $M_0$3.36400×10^{17} NP1:ϕ_s121.00000°,δ10.00000°,λ-119.00000°. NP2: ϕ_s330.00000°,δ81.00000°,λ-85.00000°. Principal axes: T 3.3220, Plg36.0000°, Azm56.0000°; N 0.0850, Plg5.0000°, Azm149.0000°; P -3.4060, Plg54.0000°, Azm246.0000°; nsta1 refers to body waves, cutoff=40s.*
*NEIC **09** 09:01:47.6±0.1,6.64N×123.91E,mb5.2/74 Error ellipse: s-maj=4.5km s-min=3.3km az=72.0*
NEIC Felt [II] at Manado, Indonesia.
*IDC **09** 09:01:48.1±0.4,6.61N×123.96E,h582^{km}±4^{km},mb4.6/35, mb1 4.6/35,mb1mx4.6/36,mbtmp4.6/35,Error ellipse: s-maj=7.2km s-min=4.4km az=78.0*
ISC 09 09:01:48.0±0.1**,6.60N**±0.02×**123.97E**±0.03**,h579**^{km}**, h579**^{km}±3.6^{km}**:pP-P,n716,**σ**0^{s}95**/554**,mb5.2**/153**, 96C-119D,Mindanao**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**1.09**	**118**	⇓*i*P	**P**	**09 02 57.2**	**-0.2**
GSPH				*i* S	**S**	**09 03 54.5**	**+0.8**
DMPH	**Davao City--Mi**	**1.60**	**72**	⇓*i*P	**P**	**09 02 58.6**	**-0.2**
DAV	**Davao City (W)**	**1.66**	**74**	⇓*i*Pn	**P**	**09 02 58.4**	**-0.7**
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
DAV	**Davao City (W)**	**1.66**	**74**	P	**P**	**09 02 58.8**	**-0.2**
	SNR=264						
CGP	**Cagayan de Oro**	**1.98**	**21**	*e*P	**P**	**09 02 59.0**	**-1.2**
DCPH	**Dipolog City**	**2.06**	**343**	⇑*e*P	**P**	**09 02 59.5**	**-1.2**
DCPH				*e*S	**S**	**09 03 58.0**	**-1.8**
SNPH	**Sibulan**	**2.82**	**345**	⇓*i*P	**P**	**09 03 02.5**	**-1.9**
BIPH	**Bislig**	**2.84**	**56**	⇓*i*P	**P**	**09 03 03.9**	**-0.6**
BIPH				*i* S	**S**	**09 04 04.5**	**-2.3**
TBP	**Tagbilaran**	**3.07**	**358**	*e*P	**P**	**09 03 05.0**	**-0.9**
TBP				*e*S	**S**	**09 04 03.9**	**-5.4**
SCPH	**Surigao**	**3.50**	**25**	*e*P	**P**	**09 03 08.2**	**-0.3**
LLP	**Lapu-Lapu**	**3.69**	**360**	⇓*i*P	**P**	**09 03 09.2**	**-0.6**
LLP				*i* S	**S**	**09 04 14.7**	**-1.7**
PLP	**Palo**	**4.64**	**12**	*i* P	**P**	**09 03 16.2**	**-0.6**
RCP	**Roxas**	**5.08**	**346**	⇓*e*P	**P**	**09 03 18.2**	**-2.0**
KALP	**Kalibo**	**5.30**	**342**	⇑*e*P	**S**	**09 04 36.0**	**-2.8**
TSM	**Tawau**	**6.49**	**250**	⇓P	**P**	**09 03 32.3**	**-0.2**
SDKM	**Sandakan**	**6.81**	**262**	⇑P	**P**	**09 03 34.6**	**-0.8**
PVCP	**Virac**	**6.96**	**1**	⇓*i*P	**P**	**09 03 35.1**	**-1.6**
PVCP				*i* S	**S**	**09 05 00.9**	**-4.7**
KDM	**Kudat**	**7.10**	**273**	⇑P	**P**	**09 03 37.2**	**-0.9**
KKM	**Kota Kinabalu**	**7.73**	**266**	*e*Pn	**P**	**09 03 43.5**	**-0.6**
KKM	**Kota Kinabalu**	**7.73**	**266**	⇑P	**P**	**09 03 43.7**	**-0.4**
LBPH	**Los Banos**	**7.99**	**340**	⇑*e*P	**P**	**09 03 45.9**	**-0.6**
NZB	**Bigte**	**8.68**	**341**	⇑*e*P	**P**	**09 03 52.7**	**-0.5**
NBP	**Mount Natib**	**8.81**	**337**	⇑*e*P	**P**	**09 03 52.9**	**-1.6**
BTM	**Bintulu**	**11.36**	**253**	⇓P	**P**	**09 04 20.6**	**+0.3**
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.3**	**-1.3**
	2μm,0.9s,SNR=16						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KAPI	**Kappang**	**12.28**	**200**	P	**P**	**09 04 28.6**	**-0.9**
	SNR=17						
KSM	**Kuching**	**14.55**	**250**	*e*Pn	**P**	**09 04 52.5**	**-0.2**
KSM				*e*S	**S**	**09 07 24.3**	**+0.1**
KSM				*e*ScP	ScP	09 12 02.2	-0.3
KSM	**Kuching**	**14.55**	**250**	⇑P	**P**	**09 04 52.7**	**+0.1**
BATI	**Kupang**	**16.70**	**181**	P	**P**	**09 05 12.8**	**+0.1**
	171nm,0.3s,baz=348,slow=0.5,SNR=171						
BATI				S	**S**	**09 07 58.5**	**-0.9**
	6.2nm,0.3s,baz=85,slow=21,SNR=10						
NACB	**Ninganchiao**	**17.62**	**353**	*e*P	**P**	**09 05 19.9**	**-1.2**
YHNB	**Yeheng**	**18.14**	**352**	*e*P	**P**	**09 05 26.3**	**+0.5**
TATO	**Taipei**	**18.43**	**353**	*e*P	**P**	**09 05 27.5**	**-0.9**
	112nm,0.7s						
QIZ	**Qiongzhong**	**18.49**	**313**	⇓P	**P**	**09 05 28.2**	**-0.8**
QIZ				XP	sP	09 07 42.0	-11
QIZ				S	**S**	**09 08 28.2**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,40nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,595nm,4.9s						
QIZ	**Qiongzhong**	**18.49**	**313**	*e*P	**P**	**09 05 29.0**	**0.0**
	comp=Z,66nm,1.0s						
GZH	**Guangzhou**	**19.33**	**329**	P	**P**	**09 05 40.1**	**+3.5**
GZH				S	**S**	**09 08 46.0**	**+4.1**
JOW	**Kunigami**	**20.54**	**11**	P	**P**	**09 05 48.3**	**+0.9**
	comp=Z,102nm,0.6s,baz=189,slow=7.1,SNR=64						
JOW				S	**S**	**09 09 00.1**	**-0.9**
	comp=Z,7.7nm,0.6s,baz=256,slow=12,SNR=3.8						
MYKOM	**Kota Tinggi**	**20.62**	**257**	⇓P	**P**	**09 05 48.9**	**+0.4**
KTGM	**Kuala Trenggan**	**20.76**	**268**	⇓P	**P**	**09 05 50.3**	**+0.5**
KAKA	**Kakadu**	**20.95**	**156**	⇓*i*P	**P**	**09 05 51.1**	**-0.2**
	comp=Z,28nm,0.4s						
KAKA				*e*SCP	ScP	09 12 16.6	+0.4
KGM	**Kluang**	**21.09**	**258**	⇑P	**P**	**09 05 53.0**	**+0.4**
GUMO	**Guam**	**21.70**	**70**	*e*P	**P**	**09 05 58.1**	**0.0**
	comp=Z,291nm,1.1s,mb5.8						
GUMO	**Guam**	**21.70**	**70**	P	**P**	**09 05 58.2**	**+0.1**
	comp=Z,158nm,1.0s,mb5.6,baz=162,slow=22,SNR=4.2						
FRIM	**Kepong**	**22.51**	**263**	⇓P	**P**	**09 06 05.6**	**+0.2**
KKTK	**Khon Kaen**	**22.85**	**297**	P	**P**	**09 06 09.0**	**+0.7**
	comp=Z,988nm,0.9s						
IPM	**Ipoh**	**22.94**	**266**	⇑P	**P**	**09 06 09.4**	**+0.2**
SNG	**Songkhla**	**23.19**	**273**	P	**P**	**09 06 12.0**	**+0.6**
	comp=Z,374nm,1.0s,mb6.0						
KULM	**Kulim**	**23.23**	**268**	*e*P	**P**	**09 06 11.7**	**-0.1**
KULM	**Kulim**	**23.23**	**268**	⇑P	**P**	**09 06 12.0**	**+0.2**
SSE	**Sheshan**	**24.51**	**354**	P	**P**	**09 06 23.0**	**+0.2**
SSE				S	**S**	**09 10 05.2**	**+1.7**
SSE				AMB	AMB		
	comp=Z,28nm,0.9s,mb4.9						
SSE				AMB	AMB		
	comp=Z,159nm,6.6s						
FITZ	**Fitzroy Crossi**	**24.60**	**176**	⇓*i*P	**P**	**09 06 23.9**	**+0.1**
	comp=Z,382nm,1.2s,mb5.9						
FITZ				*e*S	**S**	**09 10 02.5**	**-2.6**
FITZ				*e*SCP	ScP	09 12 25.7	-0.2
FITZ	**Fitzroy Crossi**	**24.60**	**176**	P	**P**	**09 06 24.0**	**+0.3**
	comp=Z,112nm,0.8s,mb5.5,baz=1.2,slow=12						
FITZ				S	**S**	**09 10 02.3**	**-2.8**
	comp=Z,17nm,0.8s,baz=236,slow=24,SNR=4.6						
FITZ				ScP	ScP	09 12 24.6	-1.3
	comp=Z,25nm,0.8s,baz=180,slow=3.6,SNR=6.3						
NST	**Nakhon Sawan**	**25.04**	**293**	⇑P	**P**	**09 06 28.5**	**+0.7**
	comp=Z,208nm,1.3s,mb5.6						
PSI	**Prapat**	**25.24**	**263**	P	**P**	**09 06 29.2**	**-0.4**
PSI						09 09 40.8	
PSI				S	**S**	**09 10 13.9**	**-1.6**
PSI	**Prapat**	**25.24**	**263**	P	**P**	**09 06 29.2**	**-0.4**
PSI				PcP	PcP	09 09 40.8	-2.1
PSI				S	**S**	**09 10 13.9**	**-1.6**
PSI				ScP	ScP	09 12 27.2	-0.7
PSI	**Prapat**	**25.24**	**263**	P	**P**	**09 06 29.2**	**-0.4**
	comp=Z,200nm,1.0s,mb5.7,baz=52,slow=10,SNR=129						
PSI				PcP	PcP	09 09 40.8	-2.1
	comp=Z,32nm,0.8s,baz=73,slow=0.4,SNR=6.8						
PSI				S	**S**	**09 10 13.9**	**-1.6**
	comp=Z,7.3nm,0.9s,baz=232,slow=1.9,SNR=6.3						
PSI				ScP	ScP	09 12 27.2	-0.7
	comp=Z,67nm,0.9s,baz=70,slow=0.6,SNR=25						
WHN	**Wuhan**	**25.48**	**340**	⇓*i*P	**P**	**09 06 33.0**	**+1.6**
WHN				S	**S**	**09 10 20.3**	**+1.6**
WHN				AMB	AMB		
	comp=Z,95nm,0.7s,mb5.5						
NANT	**Nan**	**25.70**	**300**	⇓P	**P**	**09 06 32.0**	**-1.5**
	comp=Z,806nm,1.0s,mb6.3						
GYA	**Guiyang**	**25.73**	**322**	⇓*i*P	**P**	**09 06 34.6**	**+0.9**
GYA				XP	sP	09 09 11.6	-0.8
GYA				PCP	PcP	09 09 44.9	+1.1
GYA				S	**S**	**09 10 24.9**	**+2.2**
GYA				SCP	ScP	09 12 28.5	-0.6
GYA				SCS	ScS	09 16 18.3	-1.4
GYA				AMB	AMB		
	comp=Z,30nm,0.8s,mb5.0						
GYA				AMB	AMB		
	comp=Z,190nm,6.3s						
NJ2	**Nanjing**	**25.77**	**350**	*e*P	**P**	**09 06 35.3**	**+1.4**
NJ2				XP	sP	09 09 04.5	-8.2
NJ2				PCP	PcP	09 09 40.0	-3.8
NJ2				S	**S**	**09 10 25.0**	**+1.8**
NJ2				SCP	ScP	09 12 34.0	+4.9
NJ2				SCS	ScS	09 16 23.5	+3.9
NJ2				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,260nm,12.0s						
CBIJ	**Chichi jima**	**26.75**	**38**	P	**P**	**09 06 41.5**	**-1.0**
	comp=Z,422nm,0.9s,mb6.1,baz=148,slow=4.1,SNR=30						
CBIJ				S	**S**	**09 10 36.0**	**-2.6**
	comp=Z,84nm,0.8s,baz=289,slow=23,SNR=9.4						
JNU	**Nakatsue**	**27.16**	**13**	P	**P**	**09 06 45.4**	**-0.8**
	comp=Z,33nm,0.7s,mb5.1,baz=192,slow=5.2,SNR=29						
JNU				S	**S**	**09 10 43.7**	**-1.2**
	comp=Z,8.0nm,0.9s,baz=146,slow=9.8,SNR=2.2						
CHG	**Chiang Mai**	**27.22**	**299**	⇓P	**P**	**09 06 47.4**	**+0.5**
	comp=Z,150nm,0.9s,mb5.6						
CHTO	**Chiang Mai**	**27.22**	**299**	*e*P	**P**	**09 06 47.6**	**+0.7**
CHTO				*e*		09 09 48.5	
CHTO	**Chiang Mai**	**27.22**	**299**	*e*P	**P**	**09 06 47.6**	**+0.8**
CHTO				*e*		09 08 17.7	
CHTO				*e*PcP	PcP	09 09 48.5	+0.9
CHTO				*e*ScP	ScP	09 12 33.9	+0.2
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
CHTO	**Chiang Mai**	**27.22**	**299**	P	**P**	**09 06 47.7**	**+0.8**
	SNR=48						
KMI	**Kunming**	**27.42**	**315**	P	**P**	**09 06 49.9**	**+1.4**
KMI				PCP	PcP	09 09 49.3	+1.4
KMI				S	**S**	**09 10 50.4**	**+1.2**
KMI				SCP	ScP	09 12 34.6	+0.4
KMI				PCS	PcS	09 13 30.7	+0.1
KMI				SCS	ScS	09 16 26.1	-1.2
KMI				AMB	AMB		
	comp=Z,97nm,1.1s,mb5.3						
KMI				AMB	AMB		
	comp=Z,339nm,3.1s						
MBWA	**Marble Bar**	**27.90**	**188**	*e*P	**P**	**09 06 52.3**	**-0.4**
	comp=Z,176nm,0.6s,mb5.9						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
MBWA	**Marble Bar**	**27.90**	**188**	P	**P**	**09 06 52.4**	**-0.2**
	SNR=8.7						
WRAB	**Tennant Creek**	**28.27**	**159**	P	**P**	**09 06 56.0**	**0.0**
	comp=Z,712nm,0.4s						
WRAB	**Tennant Creek**	**28.27**	**159**	*e*P	**P**	**09 06 56.2**	**+0.2**
WRAB				pmax	pmax		
	comp=Z,65nm,0.4s,mb5.6						
WRAB	**Tennant Creek**	**28.27**	**159**	*e*P	**P**	**09 06 56.2**	**+0.3**
	comp=Z,65nm,0.4s,mb5.6						
WRA	**Warramunga Arr**	**28.28**	**159**	P	**P**	**09 06 56.1**	**+0.1**
WRA				S	**S**	**09 10 58.8**	**-3.7**
WRA	**Warramunga Arr**	**28.28**	**159**	P	**P**	**09 06 56.1**	**+0.1**
	comp=Z,64nm,0.5s,mb5.5,baz=340,slow=9.2,SNR=476						
WRA				S	**S**	**09 10 58.8**	**-3.8**
	comp=Z,54nm,1.1s,baz=329,slow=16,SNR=8.4						
WRA				ScP	ScP	09 12 36.6	-0.3
	comp=Z,44nm,0.6s,baz=341,slow=3.3,SNR=24						
WB2	**Warramunga Arr**	**28.28**	**159**	⇓*i*P	**P**	**09 06 56.1**	**0.0**
WB2				*i* S	**S**	**09 10 58.9**	**-3.7**
WB2				*e*SCP	ScP	09 12 36.4	-0.6
JHJ	**Hachijo jima 2**	**30.20**	**27**	P	**P**	**09 07 11.6**	**-0.9**
	comp=Z,91nm,0.3s,mb5.8,baz=129,slow=7.1,SNR=16						
XAN	**Xi'an**	**30.65**	**335**	P	**P**	**09 07 16.6**	**+0.3**
XAN				XP	sP	09 09 50.8	-6.9

XAN SCS ScS 09 16 40.3 -2.2
XAN AMB AMB
comp=Z,89nm,0.7s,mb5.5
XAN AMB AMB
comp=Z,55nm,5.6s
CD2 Chengdu 30.73 324⇓ *i* P **P 09 07 17.2 +0.2**
CD2 PP PP 09 08 47.3 -2.8
CD2 XP sP 09 09 49.9 -8.5
CD2 S **S 09 11 43.6 +3.5**
CD2 PCS PcS 09 13 41.7 +0.5
CD2 SCS ScS 09 16 46.4 +3.4
CD2 AMB AMB
comp=Z,70nm,1.2s,mb5.2
CD2 AMB AMB
comp=Z,300nm,4.1s
KSRS Korea Array 30.92 6 P **P 09 07 19.1 +0.6**
comp=Z,12nm,0.7s,mb4.6,baz=182,slow=11,SNR=38
KSRS PcP PcP 09 09 57.8 +1.0
comp=Z,2.9nm,0.6s,baz=180,slow=2.4,SNR=7.3
KSRS ScP ScP 09 12 45.8 +0.5
comp=Z,14nm,0.8s,baz=192,slow=3.1,SNR=21
ASAR Alice Springs 31.61 162 P **P 09 07 25.6 +1.0**
ASAR 09 09 59.5
ASAR S **S 09 11 52.7 -0.9**
ASAR Alice Springs 31.61 162 P **P 09 07 25.6 +1.0**
comp=Z,114nm,0.3s,mb5.9,baz=339,slow=7.2,SNR=3366
ASAR PcP PcP 09 09 59.5 +0.6
comp=Z,21nm,0.5s,baz=345,slow=3.0,SNR=11
ASAR S **S 09 11 52.7 -0.9**
comp=Z,79nm,0.9s,baz=338,slow=13,SNR=33
ASAR ScP ScP 09 12 47.8 -0.1
comp=Z,17nm,0.6s,baz=344,slow=3.1,SNR=8.2
DL2 Dalian 32.23 357⇑ P **P 09 07 30.2 +0.5**
DL2 S **S 09 12 02.0 -0.8**
DL2 SCS ScS 09 16 49.8 -0.6
DL2 AMB AMB
comp=Z,50nm,0.6s,mb5.3
DL2 AMB AMB
comp=Z,150nm,5.0s
MAJO Matsushiro 32.52 22 *e*P **P 09 07 31.4 -0.8**
MAJO *e*S **S 09 12 03.3 -4.0**
MAJO pmax pmax
comp=Z,133nm,0.9s,mb5.6
MAJO Matsushiro 32.52 22 *e*P **P 09 07 31.4 -0.8**
comp=Z,133nm,0.9s,mb5.6
MAJO *e*pP 09 09 00.8
MAJO *e*S **S 09 12 03.3 -4.0**
MAJO *e*ScP ScP 09 12 51.2 +0.3
MAT Matsushiro 32.52 22 P **P 09 07 31.2 -1.0**
MAT S **S 09 12 03.2 -4.1**
MJAR Matsushiro Arr 32.52 22 P **P 09 07 31.3 -0.9**
MJAR 09 10 00.7
MJAR Matsushiro Arr 32.52 22 P **P 09 07 31.3 -0.9**
MJAR PcP PcP 09 10 00.7 -0.6
MJAR ScP ScP 09 12 50.7 -0.1
MJAR Matsushiro Arr 32.52 22 P **P 09 07 31.3 -0.9**
comp=Z,71nm,0.7s,mb5.4,baz=194,slow=9.5,SNR=234
MJAR PcP PcP 09 10 00.7 -0.6
comp=Z,3.7nm,0.7s,baz=194,slow=3.3,SNR=5.3
MJAR ScP ScP 09 12 50.7 -0.1
comp=Z,28nm,1.0s,baz=208,slow=4.5,SNR=20
TIY Taiyuan 32.70 343 P **P 09 07 35.3 +1.6**
TIY S **S 09 12 09.6 -0.4**
COCO West Island 32.81 235 *e*P **P 09 07 32.7 -2.2**
comp=Z,88nm,0.7s,mb5.5
IMP Imphal 33.97 305 *e*P **P 09 07 43.0 -1.6**
IMP *ex* x 09 12 56.0
BJT Baijiatuau 34.00 349 *e*P **P 09 07 44.6 0.0**
BJT *e* 09 10 06.5
BJT pmax pmax
comp=Z,73nm,0.8s
BJT Baijiatuau 34.00 349 *e*P **P 09 07 44.6 0.0**
comp=Z,74nm,0.8s,mb5.4
BJT *e*PcP PcP 09 10 06.5 +1.0
BJT *e*ScP ScP 09 12 56.5 +0.5
BJI Beijing 34.02 349 P **P 09 07 45.0 +0.2**
BJI AP 09 09 20.1
BJI PP PP 09 09 29.1 +5.5
BJI PCP PcP 09 10 06.2 +0.7
BJI XP sP 09 10 26.2 -1.3
BJI SCP ScP 09 12 56.4 +0.3
BJI XS sS 09 15 28.8 +0.8
BJI SCS ScS 09 17 01.2 +1.4
BJI AMB AMB
comp=Z,90nm,0.8s,mb5.5
CTA Charters Tower 34.41 141⇑ *i*P **P 09 07 49.6 +1.4**
comp=Z,20nm,0.8s,mb4.8
CTA *e*S **S 09 12 36.1 -0.1**
CTA *e*SCP ScP 09 12 58.4 +0.6
CTA Charters Tower 34.41 141⇑ *i*P **P 09 07 49.6 +1.4**
CTA *e*S **S 09 12 36.1 -0.1**
CTA pmax pmax
comp=Z,21nm,0.8s
CTA Charters Tower 34.41 141 P **P 09 07 49.8 +1.6**
comp=Z,28nm,0.7s,mb5.0,baz=324,slow=10,SNR=21
CTA ScP ScP 09 12 58.0 +0.2
comp=Z,25nm,0.8s,baz=302,slow=6.1,SNR=8.2
CTAO Charters Tower 34.41 141 *e*P **P 09 07 49.7 +1.5**
CTAO pmax pmax
comp=Z,46nm,0.9s,mb5.1
CTAO Charters Tower 34.41 141 *e*P **P 09 07 49.7 +1.4**
comp=Z,46nm,0.9s,mb5.1
CTAO *e*ScP ScP 09 12 58.9 +1.0
LZH Lanzhou 34.66 331⇓ P **P 09 07 52.0 +1.8**
LZH PP PP 09 09 29.0 -1.1
LZH PCP PcP 09 10 08.6 +1.1
LZH S **S 09 12 41.3 +1.7**
LZH SCP ScP 09 12 59.3 +0.8
LZH XS sS 09 15 40.0 +1.8
LZH SS SS 09 15 43.0 -11
LZH SCS ScS 09 17 02.5 -1.0
LZH AMB AMB
comp=Z,178nm,1.5s,mb5.5
LZH AMB AMB
comp=Z,312μm,3.0s
HHC Hu-ho-hao-te 35.86 344⇑ P **P 09 08 01.1 +1.1**
HHC AP 09 09 41.3
HHC PP PP 09 09 43.0 +0.7
HHC PCP PcP 09 10 13.0 +2.0
HHC S **S 09 12 59.5 +2.1**
HHC XS sS 09 15 58.4 +1.5
HHC SS SS 09 16 04.9 -9.3
HHC AMB AMB
comp=Z,57nm,1.3s,mb4.9
HHC AMB AMB
comp=Z,149nm,7.1s
SHL Shillong 35.98 305 *e*P **P 09 08 02.0 +0.7**
SHL *e*S **S 09 13 00.1 +0.4**
VLA Vladivostok 37.04 10 *d i*P **P 09 08 10.5 +0.9**
VLA pmax pmax
comp=Z,181nm,2.0s,mb5.3
CN2 Changchun 37.08 2 *e*P **P 09 08 09.4 -0.5**
CN2 PCP PcP 09 10 14.3 -0.4
CN2 *e*S **S 09 13 19.2 +3.9**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.6
CN2 AMB AMB
comp=Z,200nm,3.0s
FORT Forrest 37.37 174 *i i*P **P 09 08 13.2 +0.7**
comp=Z,606nm,0.5s
FORT *e*PCP PcP 09 10 16.6 +0.8
FORT *e*SCP ScP 09 13 08.3 -0.3
FORT *i* S **S 09 13 51.2 -0.8**
MDJ Mudanjiang 38.19 6 P **P 09 08 19.4 +0.5**
MDJ AP 09 09 51.2
MDJ PP PP 09 10 03.9 -1.9
MDJ XP sP 09 10 58.2 -5.4
MDJ SCP ScP 09 13 14.0 +2.5
MDJ S **S 09 13 30.9 -0.8**
MDJ SS SS 09 16 51.9 -0.5
MDJ SCS ScS 09 17 25.5 +2.3
MDJ AMB AMB
comp=Z,57nm,0.9s,mb5.1
MDJ AMB AMB
comp=Z,285nm,6.6s
MDJ Mudanjiang 38.19 6 *e*P **P 09 08 19.3 +0.3**
comp=Z,38nm,0.7s,mb5.0
KLBR Kellerberrin 38.44 189⇓ *i i*P **P 09 08 21.2 +0.1**
KLBR *i* S **S 09 13 34.5 -1.2**
LSA Lhasa 38.50 311 P **P 09 08 23.1 +1.4**
LSA S **S 09 13 37.2 +0.5**
LSA AMB AMB
comp=Z,90nm,1.0s,mb5.2
LSA AMB AMB
comp=Z,320nm,4.3s
LSA Lhasa 38.50 311 *e*P **P 09 08 23.5 +1.8**
LSA *e* 09 10 19.9
LSA pmax pmax
comp=Z,54nm,0.6s,mb5.2
LSA Lhasa 38.50 311 *e*P **P 09 08 23.5 +1.8**
comp=Z,54nm,0.6s,mb5.2
LSA *e*PcP PcP 09 10 19.9 +0.5
MUN Mundaring 39.07 190⇓ *i*P **P 09 08 26.4 +0.2**
MUN *i* 09 13 44.8
ERM Erimo 39.16 23 P **P 09 08 27.3 +0.4**
comp=Z,367nm,1.0s,mb5.9,SNR=6.7
ERM Erimo 39.16 23 *e*P **P 09 08 27.3 +0.4**
ERM pmax pmax
comp=Z,37nm,0.8s,mb5.0
ERM Erimo 39.16 23 *e*P **P 09 08 27.3 +0.4**
comp=Z,37nm,0.8s,mb5.0
HNR Honiara 39.22 114 *e*P **P 09 08 28.7 +0.9**
HNR pmax pmax
comp=Z,310nm,1.0s,mb5.8
HNR Honiara 39.22 114 *e*P **P 09 08 28.7 +0.9**
comp=Z,310nm,1.0s,mb5.8
HNR Honiara 39.22 114 P **P 09 08 28.1 +0.3**
comp=Z,238nm,0.7s,mb5.9,baz=247,slow=1.2,SNR=16
HNR PcP PcP 09 10 19.9 -2.2
comp=Z,62nm,0.8s,baz=225,slow=4.3,SNR=2.2
HNR S **S 09 13 49.3 +1.6**
comp=Z,35nm,0.7s,baz=94,slow=3.2,SNR=4.2
GTA Gaotai 39.25 330 P **P 09 08 28.8 +1.2**
GTA AP 09 10 05.3
GTA PP PP 09 10 15.2 -0.5
GTA XP sP 09 11 04.6 -8.2
GTA SCP ScP 09 13 16.0 +0.3
GTA S **S 09 13 49.3 +1.9**
GTA PCS PcS 09 14 12.2 -0.3
GTA SCS ScS 09 17 27.3 -2.5
GTA AMB AMB
comp=Z,58nm,0.9s,mb5.1
GTA AMB AMB
comp=Z,119nm,5.7s
NWAO Narrogin (SRO) 39.83 189 *e*P **P 09 08 33.0 +0.7**
NWAO *e*S **S 09 13 56.8 +0.9**
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 33.3 +1.0**
SNR=25
NWAO Narrogin (SRO) 39.83 189 P **P 09 08 32.9 +0.6**
comp=Z,232nm,0.5s,mb6.0,baz=16,slow=7.4,SNR=365
NWAO S **S 09 13 56.2 +0.3**
comp=Z,38nm,1.0s,baz=181,slow=19,SNR=5.6
ASAJ Asahikawa 40.77 21 P **P 09 08 40.6 +0.9**
comp=Z,46nm,0.3s,mb5.4,baz=234,slow=12,SNR=64
ASAJ ScP ScP 09 13 22.3 +0.7
comp=Z,13nm,0.8s,baz=253,slow=30,SNR=3.6
VIS Vishakhapatnam 41.15 289 *e*P **P 09 08 44.0 +0.9**
EIDS Eidsvold 41.29 141 *e*P **P 09 08 44.6 +0.6**
comp=Z,28nm,1.0s,mb4.8
JIRN Jiri 41.48 305 *e*P **P 09 08 46.6 +1.0**
comp=Z,81nm,0.4s,mb5.6
STKA Stephens Creek 41.79 157⇓ *i*P **P 09 08 48.9 +1.0**
comp=Z,42nm,0.5s,mb5.2
STKA *e*SCP ScP 09 13 25.8 -0.1
STKA *e*S **S 09 14 24.4 0.0**
STKA Stephens Creek 41.79 157 P **P 09 08 49.1 +1.2**
comp=Z,69nm,0.7s,mb5.3,baz=332,slow=7.5,SNR=236
STKA ScP ScP 09 13 26.1 +0.2
comp=Z,10nm,0.7s,baz=337,slow=8.4,SNR=3.6
STKA S **S 09 14 24.5 +0.1**
comp=Z,22nm,1.1s,baz=43,slow=24,SNR=9.2
GUN Gumba 41.83 305 *e*P **P 09 08 49.2 +0.9**
comp=Z,182nm,0.6s,mb5.8
PKI Pulchoki 42.09 304 *e*P **P 09 08 50.6 +0.3**
KKN Kakani 42.28 305 *e*P **P 09 08 52.1 +0.3**
DMN Daman 42.35 304 *e*P **P 09 08 52.9 +0.5**
comp=Z,59nm,0.5s,mb5.3
HIA Hailar 42.67 356 *e*P **P 09 08 54.9 +0.4**
HIA *e**PP pP 09 10 33.6 -2.7
HIA pmax pmax
comp=Z,108nm,1.5s
HIA Hailar 42.67 356 *e*P **P 09 08 54.9 +0.4**
comp=Z,108nm,1.5s,mb5.2
HIA *e*pP pP 09 10 33.6 -2.7
HABR Khabarovsk 42.78 11⇑ *i*P **P 09 08 56.1 +0.8**
HABR *e* 09 10 32.1
HABR *e* pP 09 10 35.9 -1.3
HABR *e* 09 10 46.5
HABR *e*S **S 09 14 39.3 +1.4**
HABR *e* 09 17 43.3
HABR *e* 09 17 51.4
HABR *e* 09 18 08.2
HABR pmax pmax
comp=Z,140nm,1.9s,mb5.2
GKN Gorkha 42.88 305 *e*P **P 09 08 56.7 +0.2**
PALK Pallekele 42.95 274 P **P 09 08 57.4 +0.1**
comp=Z,486nm,1.1s,mb6.0,SNR=5.1
PALK Pallekele 42.95 274 *e*P **P 09 08 57.7 +0.4**
comp=Z,157nm,1.3s,mb5.4
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
PALK Pallekele 42.95 274 P **P 09 08 58.5 +1.2**
SNR=6.8
KLR Kul'dur 42.99 7⇓ *e*P **P 09 08 52.0 -5.0**
KLR *e* 09 10 41.5
KLR *e*S **S 09 14 33.5 -7.5**
KLR *e* 09 17 46.0
KLR pmax pmax
comp=Z,150nm,1.8s,mb5.2
BLSP Bilaspur 43.20 295 *ex* x 09 08 42.8
YSS Yuzh-Sakhalins 43.32 19⇑ *e*P **P 09 08 58.0 -1.6**
YSS *e* 09 10 32.0
YSS *e* 09 10 55.5
YSS *e*S **S 09 14 40.0 -5.8**
YSS *e*SS SS 09 17 52.0 -24
YSS Yuzh-Sakhalins 43.32 19 *e*P **P 09 08 59.4 -0.2**
comp=Z,65nm,0.9s,mb5.2
ULN Ulaanbaatar 43.58 343 *e*P **P 09 09 02.4 +0.8**
ULN *e* 09 10 36.7
ULN pmax pmax
comp=Z,26nm,0.9s,mb4.8
ULN Ulaanbaatar 43.58 343 *e*P **P 09 09 02.4 +0.9**
comp=Z,26nm,0.9s,mb4.8
ULN *e*PcP PcP 09 10 36.6 +0.7
ULN Ulaanbaatar 43.58 343 P **P 09 09 02.7 +1.2**
SNR=11
ULN Ulaanbaatar 43.58 343 P **P 09 09 02.7 +1.2**
SNR=11
ULN Ulaanbaatar 43.58 343 P **P 09 09 02.7 +1.2**
SNR=11
ULN Ulaanbaatar 43.58 343 P **P 09 09 02.7 +1.2**
SNR=11
ULN Ulaanbaatar 43.58 343 P **P 09 09 02.7 +1.2**
SNR=11
KOLN Koldanda 43.65 304 *e*P **P 09 09 03.3 +0.8**
comp=Z,326nm,0.7s,mb6.0
DANN Dangsing 43.73 305 *e*P **P 09 09 03.8 +0.7**
comp=Z,322nm,0.7s,mb6.0
SONM Songino Array 43.74 343 P **P 09 09 03.6 +0.7**
comp=Z,18nm,0.7s,mb4.7,baz=157,slow=8.8,SNR=45
SONM PcP PcP 09 10 36.3 -0.3
comp=Z,8.7nm,0.8s,baz=161,slow=3.2,SNR=6.7
SONM S **S 09 14 51.3 -0.4**
comp=Z,1.0nm,0.6s,baz=131,slow=38,SNR=2.5
ARMA Armidale 45.36 146 *e*P **P 09 09 18.2 +2.7**
ARMA *e*S **S 09 15 15.1 +0.1**
HYB Hyderabad 45.60 288 *e*P **P 09 09 18.0 +0.4**
HYB pmax pmax
comp=Z,185nm,1.0s,mb5.6
HYB Hyderabad 45.60 288 *e*P **P 09 09 18.0 +0.4**
comp=Z,185nm,1.0s,mb5.6
HYB Hyderabad 45.60 288⇓ *i*P **P 09 09 18.0 +0.4**
comp=Z,185nm,1.0s,mb5.6
HYB *e*sP pP 09 11 03.0 +1.6
HYB *e*S **S 09 15 18.0 -0.7**
NGP Nagpur 45.77 293 *e*P **P 09 09 19.4 +0.6**
NGP AMb AMB 09 09 21.3
comp=Z,191nm,0.9s,mb5.6
KOD Kodaikanal 46.12 278 *e*P **P 09 09 22.0 +0.4**
KOD AMb AMB 09 09 24.1
comp=Z,242nm,1.2s,mb5.6
TRD Trivandrum 46.62 275 *e*P **P 09 09 25.5 +0.1**
TRD AMb AMB 09 09 27.5
comp=Z,234nm,0.9s,mb5.7
ZAK Zakamensk 46.95 342 *e*P **P 09 09 27.4 +0.2**
ZAK *e* 09 10 47.9
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
LGTI Lohaghat 47.00 304 *e*P **P 09 09 28.5 +0.5**
PTH Pithoragarh 47.06 305 *e*P **P 09 09 27.9 -0.5**
AKL Akola 47.55 292 *e*P **P 09 09 32.6 +0.3**
AKL AMb AMB 09 09 34.5
comp=Z,383nm,0.1s
BHPL Bhopal 47.68 295 *e*P **P 09 09 33.0 -0.2**
BHPL AMb AMB 09 09 35.1
comp=Z,233nm,1.0s,mb5.7
JOSI Joshimath 47.94 306 *e*P **P 09 09 34.1 -0.9**
JOSI AMb AMB 09 09 37.2
comp=Z,2μm,1.6s,mb6.3
TLY Talaya 47.98 343 P **P 09 09 36.3 +1.4**
comp=Z,193nm,0.7s,mb5.7,SNR=6.8
CNB Canberra Magne 48.06 152 *e*P **P 09 09 37.2 +1.4**
comp=Z,42nm,1.1s,mb4.9
AGRA Agra 48.23 301 *e*P **P 09 09 34.7 -2.5**
AGRA AMb AMB 09 09 38.4
comp=Z,215nm,0.9s,mb5.7
MOY Mondy 48.78 341 *e*P **P 09 09 42.1 +1.3**
MOY pmax pmax
comp=Z,27nm,1.5s,mb4.5
MNGI Mangalore 48.78 281 *e*P **P 09 09 41.3 -0.2**
MNGI AMb AMB 09 09 43.3
comp=Z,184nm,1.1s,mb5.4
WMQ Urumqi 48.82 325 P **P 09 09 42.0 +0.8**
WMQ AP pP 09 11 23.0 -4.3
WMQ XP sP 09 12 22.0 -9.0
WMQ SCS ScS 09 18 35.0 +3.7
WMQ AMB AMB
comp=Z,102nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,152nm,4.0s
ASOR Ausora 48.82 303 *e*P **P 09 09 40.7 -0.9**
DDI Dehra Dun 49.08 305 *i* x x 09 09 49.4
SONA Sohna 49.25 302 *e*P **P 09 09 44.0 -0.8**
SONA AMb AMB 09 09 45.9
comp=Z,187nm,0.8s,mb5.5
NDI New Delhi 49.27 302 *e*P **P 09 09 43.8 -1.0**
NDI AMb AMB 09 09 45.6
comp=Z,142nm,1.0s,mb5.4
AYAN Aya Nagar 49.28 302 *e*P **P 09 09 43.4 -1.5**
KAD Karad 49.73 287 *e*P **P 09 09 47.7 -0.7**
KAD AMb AMB 09 09 49.7
comp=Z,147nm,0.9s,mb5.4
GOA Goa 49.90 285 *e*P **P 09 09 49.5 -0.3**
NRGR Nerungri 49.93 1 *e*P **P 09 09 49.9 +0.8**
NRGR S **S 09 16 19.5 +2.6**
NRGR smax
comp=N,41nm,0.6s
SMLA Simla 50.07 305 *e*P **P 09 09 51.4 +0.7**
SMLA AMb AMB 09 09 53.3
comp=Z,420nm,1.1s,mb5.8
CLNS Chul'man 50.11 1 *e*P **P 09 09 49.7 -0.8**
CLNS pmax pmax
comp=Z,55nm,0.7s,mb5.1
CLNS pmax pmax
comp=N,34nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.6s
CLNS pmax pmax
comp=E,244nm,10.4s
CLNS pmax pmax
comp=Z,46nm,12.3s
CLNS pmax pmax
comp=N,149nm,12.6s
POO Poona 50.18 289 *e*P **P 09 09 51.2 -0.5**
KHET Khetri 50.29 301 *e*P **P 09 09 51.8 -0.5**
KHET AMb AMB 09 09 54.4
comp=Z,191nm,0.9s,mb5.5
DLH Dalhousie 51.50 307 *e*P **P 09 09 57.0 -4.0**
THN Thein Dam 51.66 306 *e*P **P 09 10 01.0 -1.2**
BOD Bodaibo 51.68 353 *e*P **P 09 10 01.8 0.0**
BOD pmax pmax
comp=Z,29nm,0.7s,mb4.7
BHV Bhavnagar 52.20 292 *e*P **P 09 10 03.0 -3.3**
MK31 Makanchi Array 53.65 325 *i* P **P 09 10 16.6 +0.5**
MK31 pmax pmax
comp=Z,21nm,0.3s,mb5.0
MK31 Makanchi Array 53.65 325 *e*P **P 09 10 16.6 +0.5**
MK31 *e*PcP PcP 09 11 12.9 -0.1
MK31 *e*S **S 09 17 07.8 +0.9**
MKAR Makanchi Array 53.65 325 *i* P **P 09 10 16.7 +0.6**
MKAR pmax pmax
comp=Z,49nm,0.5s
MKAR Makanchi Array 53.65 325 P **P 09 10 16.7 +0.6**
comp=Z,49nm,0.5s,mb5.1,baz=118,slow=7.7,SNR=520
MKAR PcP PcP 09 11 12.4 -0.6
comp=Z,19nm,0.6s,baz=119,slow=4.6,SNR=11
MKAR ScP ScP 09 14 15.1 -0.9
comp=Z,7.6nm,0.7s,baz=125,slow=6.4,SNR=4.0
MKAR S **S 09 17 07.0 +0.1**
comp=Z,2.8nm,0.9s,baz=123,slow=15,SNR=5.8
MKAR PKPPKP 09 40 18.2
comp=Z,0.2nm,0.3s,baz=188,slow=2.9,SNR=3.0
KSH Kashi 54.09 315 *e*P **P 09 10 21.0 +1.7**
KSH *e*PCP PcP 09 11 18.4 +3.5
KSH *e*AP pP 09 12 05.5 -3.2
KSH *e*PP PP 09 12 33.6 +4.0
KSH *e*XP sP 09 13 03.3 -8.1
KSH *e*PPP 09 13 59.6
KSH *e*S **S 09 17 10.9 -2.0**
KSH *e*SCS ScS 09 19 11.4 +2.9
KSH *e*SS SS 09 21 08.5 +2.2
KSH AMB AMB
comp=Z,1μm,3.3s
PET Petropavlovsk 54.23 25⇑ *i*P **P 09 10 21.1 +1.1**
PET *e*PP PP 09 12 34.3 +3.7
PET *e* 09 13 10.2
PET *e*S **S 09 17 17.3 +3.0**
PET pmax pmax
comp=Z,8.0nm,0.5s,mb4.3
PET Petropavlovsk 54.23 25 *e*P **P 09 10 21.1 +1.1**
comp=Z,496nm,1.6s,mb5.6
JASL Jaisalmer 54.24 298 *e*P **P 09 10 20.4 -0.2**
JASL AMb AMB 09 10 21.0
comp=Z,232nm,1.4s,mb5.3
ULHL Ulahol 55.07 318 P **P 09 10 27.4 +1.3**
SNR=9.0
YAK Yakutsk 55.48 3 *c i*P **P 09 10 28.6 +0.1**
YAK *e* pP 09 12 17.4 -1.4
YAK *e*S **S 09 17 29.2 -1.0**
YAK *e* 09 19 13.5
YAK pmax pmax
comp=N,27nm,1.2s
YAK pmax pmax
comp=Z,80nm,1.2s,mb4.9
YAK pmax pmax
comp=E,11nm,1.3s
YAK pmax pmax
comp=Z,120nm,1.9s,mb4.9
YAK pmax pmax
comp=N,151nm,2.6s
YAK pmax pmax
comp=E,62nm,2.5s
YAK smax
comp=N,742nm,4.7s
YAK smax
comp=Z,198nm,4.3s

YAK smax
comp=E,786nm,4.5s
YAK Yakutsk 55.48 3 *e*P **P 09 10 28.6 +0.1**
comp=E,80nm,0.7s,mb5.2
YAK *e*pP pP 09 12 18.2 -0.5
YAK *e*ScP ScP 09 14 24.3 +0.7
YAK *e*S **S 09 17 29.4 -0.8**
KZA Kyzart 55.66 317 P **P 09 10 32.0 +1.9**
SNR=91
TKM2 Tokmak 2 55.79 318 *e*P **P 09 10 32.0 +0.9**
TKM2 pmax pmax
comp=Z,88nm,1.1s,mb4.9
TKM2 Tokmak 2 55.79 318 *e*P **P 09 10 32.0 +0.9**
comp=Z,88nm,1.1s,mb4.9
TKM2 Tokmak 2 55.79 318 P **P 09 10 32.2 +1.1**
SNR=57
KBK Karagaybulak 56.11 318 P **P 09 10 34.7 +1.4**
SNR=28
UCH Uchtor 56.22 317 *e*P **P 09 10 35.4 +1.3**
comp=Z,113nm,1.0s,mb5.0
UCH Uchtor 56.22 317 P **P 09 10 35.8 +1.8**
SNR=140
CHMS Chumysh 56.38 318 P **P 09 10 35.6 +0.5**
SNR=23
AAK Ala-Archa 56.40 318 P **P 09 10 35.9 +0.6**
comp=Z,184nm,1.0s,mb5.3,SNR=18
AAK Ala-Archa 56.40 318 *e*P **P 09 10 35.4 +0.1**
AAK *e* 09 11 23.7
AAK *e*S **S 09 17 43.8 +1.0**
AAK pmax pmax
comp=Z,20nm,0.8s,mb4.4
AAK Ala-Archa 56.40 318 *e*P **P 09 10 35.4 +0.1**
comp=Z,20nm,0.8s,mb4.4
AAK *e*PcP PcP 09 11 23.7 -0.1
AAK *e*S **S 09 17 43.8 +1.0**
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.7 +0.4**
SNR=34
AAK Ala-Archa 56.40 318 P **P 09 10 35.4 +0.1**
comp=Z,9.7nm,0.5s,mb4.3,baz=110,slow=5.2,SNR=45
AAK PcP PcP 09 11 23.1 -0.8
comp=Z,12nm,0.5s,baz=124,slow=4.9,SNR=8.5
AAK S **S 09 17 43.2 +0.5**
comp=Z,0.7nm,0.3s,baz=324,slow=22,SNR=10
AAK Ala-Archa 56.40 318 P **P 09 10 36.4 +1.1**
SNR=28
FRU Bishkek 56.40 318 *e*P **P 09 10 35.0 -0.3**
FRU *e* 09 17 43.0
FRU pmax pmax
comp=Z,80nm,2.0s,mb4.6
MA2 Magadan 56.66 16*c i*P **P 09 10 37.9 +1.2**
MA2 pmax pmax
comp=Z,344nm,2.3s,mb5.2
MA2 Magadan 56.66 16 *e*P **P 09 10 38.0 +1.2**
comp=Z,86nm,0.7s,mb5.1
USP Ospenovka 56.67 318 P **P 09 10 37.7 +0.6**
SNR=8.1
AML Almayashu 56.73 317 *e*P **P 09 10 39.1 +1.5**
comp=Z,126nm,1.0s,mb5.1
AML *e*PcP PcP 09 11 26.1 +0.8
AML *e*S **S 09 17 50.0 +3.0**
AML Almayashu 56.73 317 P **P 09 10 39.6 +2.0**
SNR=8.2
ZAA0 Zalesovo Array 56.81 334 *e*P **P 09 10 37.5 -0.3**
ZALV Zalesovo Beam 56.81 334 P **P 09 10 37.4 -0.4**
ZALV PcP PcP 09 11 23.4 -1.9
ZALV Zalesovo Beam 56.81 334 P **P 09 10 37.4 -0.4**
comp=Z,15nm,0.6s,mb4.4,baz=116,slow=6.8,SNR=54
ZALV PcP PcP 09 11 23.4 -1.9
comp=Z,4.3nm,0.7s,baz=122,slow=1.9,SNR=3.8
ZAL Zalesovo 56.81 333 P **P 09 10 37.4 -0.4**
ZAL 09 11 23.4
EKS2 Erkin-Say 56.89 317 *e*P **P 09 10 39.6 +1.0**
comp=Z,87nm,1.0s,mb4.9
EKS2 *e*S **S 09 17 50.6 +1.5**
EKS2 Erkin-Say 56.89 317 P **P 09 10 40.0 +1.3**
SNR=62
FUNA Funafuti 57.07 105 *e*P **P 09 10 41.4 +1.0**
comp=Z,638nm,1.4s,mb5.7
KBL Kabul 57.61 307 *e*P **P 09 10 43.6 -0.1**
comp=Z,163nm,1.2s,mb5.0
KURK Kurchatov 57.86 328 P **P 09 10 45.5 +0.4**
comp=Z,1μm,0.7s,mb6.1,SNR=86
KURK Kurchatov 57.86 328 *e*P **P 09 10 45.5 +0.4**
KURK pmax pmax
comp=Z,145nm,0.8s,mb5.2
KURK Kurchatov 57.86 328 *e*P **P 09 10 45.5 +0.4**
comp=Z,145nm,0.8s,mb5.2
KURK *e*pP pP 09 12 43.6 +6.9
KURK Kurchatov 57.86 328 P **P 09 10 45.7 +0.6**
SNR=54
KURK Kurchatov 57.86 328 P **P 09 10 45.7 +0.6**
SNR=54
KURK Kurchatov 57.86 328 P **P 09 10 45.7 +0.6**
SNR=54
KURK Kurchatov 57.86 328 P **P 09 10 45.7 +0.6**
SNR=54
KURK Kurchatov 57.86 328 P **P 09 10 45.7 +0.6**
SNR=54
KURK Kurchatov 57.86 328 P **P 09 10 45.7 +0.6**
SNR=54
NVS Novosibirsk 58.09 334⇓ *i*P **P 09 10 45.5 -1.0**
NVS *e* 09 11 26.9
NVS *i* *PP pP 09 12 38.5 +0.2
NVS *i* 09 13 02.6
NVS *i* S **S 09 18 01.5 -2.4**
NVS *i* 09 19 31.5
NVS pmax pmax
comp=Z,52nm,1.2s,mb4.5
NVS pmax pmax
comp=N,31nm,1.5s
NVS pmax pmax
comp=E,34nm,1.2s
NVS pmax pmax
comp=Z,16nm,1.1s,mb4.1
NVS pmax pmax
comp=N,11nm,1.5s
NVS pmax pmax
comp=E,18nm,1.2s
NVS smax
comp=N,127nm,1.7s
NVS smax
comp=E,148nm,1.7s
KK31 Karatay Array 59.27 317 *i*P **P 09 10 54.6 -0.1**
KK31 pmax pmax
comp=Z,66nm,0.8s,mb4.8
SEY Seymchan 59.92 15*c i*P **P 09 10 59.9 +1.3**
BVAR Borovoye Array 63.44 327 P **P 09 11 21.7 +0.1**
comp=Z,38nm,0.8s,mb4.8,baz=126,slow=7.5,SNR=195
BVAR PcP PcP 09 11 51.2 -1.0
comp=Z,9.7nm,0.8s,baz=151,slow=3.4,SNR=5.6
BRVK Borovoye 63.51 327 P **P 09 11 22.6 +0.5**
comp=Z,580nm,1.0s,mb5.9,SNR=36
BRVK Borovoye 63.51 327 *e*P **P 09 11 21.9 -0.2**
BRVK *e**PP pP 09 13 21.4 +4.6
BRVK *e*S **S 09 19 11.3 +0.4**
BRVK pmax pmax
comp=Z,99nm,1.0s,mb5.1
BRVK Borovoye 63.51 327 *e*P **P 09 11 21.9 -0.2**
comp=Z,100nm,1.0s,mb5.1
BRVK *e*pP pP 09 13 21.4 +4.6
BRVK *e*S **S 09 19 11.3 +0.4**
BRVK Borovoye 63.51 327 P **P 09 11 22.6 +0.5**
SNR=40
BRVK Borovoye 63.51 327 P **P 09 11 22.6 +0.5**
SNR=40
BRVK Borovoye 63.51 327 P **P 09 11 22.6 +0.5**
SNR=40
BRVK Borovoye 63.51 327 P **P 09 11 22.6 +0.5**
SNR=40
BRVK Borovoye 63.51 327 P **P 09 11 22.6 +0.5**
SNR=40
TIXI Tiksi 65.05 2*c i*P **P 09 11 30.6 -0.9**
TIXI *i* S S 09 19 25.6 -3.2
TIXI *e* 09 20 22.7
TIXI pmax pmax
comp=Z,41nm,0.9s,mb4.9
TIXI Tiksi 65.05 2 *e*P **P 09 11 30.7 -0.8**
comp=Z,32nm,0.4s,mb5.1
TIXI *e*pP pP 09 13 28.3 +1.3
TIXI *e*S S 09 19 26.2 -2.6
BIDO Bidbid 65.26 293 P **P 09 11 33.7 -0.1**
SNR=5.7
BIDO Bidbid 65.26 293 P **P 09 11 33.7 -0.1**
SNR=5.7
BIDO Bidbid 65.26 293 P **P 09 11 33.7 -0.1**
SNR=5.7
BIDO Bidbid 65.26 293 P **P 09 11 33.7 -0.1**
SNR=5.7
BIDO Bidbid 65.26 293 P **P 09 11 33.7 -0.1**
SNR=5.7
BIDO Bidbid 65.26 293 P **P 09 11 33.7 -0.1**
SNR=5.7
ADK Adak 66.20 36 *e*P **P 09 11 39.0 0.0**
ADK pmax pmax
comp=Z,145nm,1.3s,mb5.2
ADK Adak 66.20 36 *e*P **P 09 11 39.0 0.0**
comp=Z,145nm,1.3s,mb5.2
ABKT Ailbek 66.97 308 P **P 09 11 44.4 +0.3**
comp=Z,400nm,1.1s,mb5.8,SNR=9.1
BILL Bilibino 67.53 16*c i*P **P 09 11 46.6 -0.3**
BILL pmax pmax
comp=Z,72nm,2.3s,mb4.7
BILL Bilibino 67.53 16 *e*P **P 09 11 46.7 -0.2**
comp=Z,22nm,0.9s,mb4.6
BILL *e*pP pP 09 13 42.5 -1.1
RBK Rabkut 68.78 286 P **P 09 11 55.2 -0.2**
SNR=6.9
RBK Rabkut 68.78 286 P **P 09 11 55.2 -0.2**
SNR=6.9
RBK Rabkut 68.78 286 P **P 09 11 55.2 -0.2**
SNR=6.9
RBK Rabkut 68.78 286 P **P 09 11 55.2 -0.2**
SNR=6.9
RBK Rabkut 68.78 286 P **P 09 11 55.2 -0.2**
SNR=6.9
RBK Rabkut 68.78 286 P **P 09 11 55.2 -0.2**
SNR=6.9
WHFO Wadi Hawf 69.19 287 P **P 09 11 57.2 -0.7**
SNR=13
WHFO Wadi Hawf 69.19 287 P **P 09 11 57.2 -0.7**
SNR=13
WHFO Wadi Hawf 69.19 287 P **P 09 11 57.2 -0.7**
SNR=13
WHFO Wadi Hawf 69.19 287 P **P 09 11 57.2 -0.7**
SNR=13
WHFO Wadi Hawf 69.19 287 P **P 09 11 57.2 -0.7**
SNR=13
WHFO Wadi Hawf 69.19 287 P **P 09 11 57.2 -0.7**
SNR=13
ABTO Aybut 69.65 286 P **P 09 12 00.6 -0.1**
SNR=6.3
ABTO Aybut 69.65 286 P **P 09 12 00.6 -0.1**
SNR=6.3
ABTO Aybut 69.65 286 P **P 09 12 00.6 -0.1**
SNR=6.3
ABTO Aybut 69.65 286 P **P 09 12 00.6 -0.1**
SNR=6.3
AKTK Aktyubinsk 69.72 321 P **P 09 12 00.5 +0.1**
AKTO Aktyubinsk 69.72 321 P **P 09 12 00.5 +0.1**
comp=Z,45nm,0.8s,mb5.0,baz=100,slow=7.3,SNR=171
SVE Sverdlovsk 70.10 328 *e*P **P 09 12 02.5 0.0**
SVE pmax pmax
comp=Z,66nm,0.7s,mb5.2
ARU Arti 71.06 328 P **P 09 12 07.0 -1.2**
comp=Z,544nm,0.7s,mb6.2,SNR=14
ARU Arti 71.06 328*d i*P **P 09 12 07.3 -0.9**
ARU *e* 09 14 55.1
ARU *e*PPP 09 16 39.5
ARU *e*S S 09 20 35.9 -2.9
ARU pmax pmax
comp=Z,68nm,1.0s,mb5.1
ARU Arti 71.06 328 *e*P **P 09 12 07.6 -0.6**
comp=Z,72nm,0.8s,mb5.2
ARU *e*pP pP 09 14 14.8 +8.2
UNV Unalaska Valle 72.67 36 *e*P **P 09 12 17.3 -0.3**
comp=Z,120nm,1.1s,mb5.3
AKUT Akutan 73.15 35 *e*P **P 09 12 19.8 -0.6**
comp=Z,211nm,1.0s,mb5.6
CASY Casey 73.35 186⇓ *i*P **P 09 12 21.5 +0.4**
FALS False Pass 74.64 35 *e*P **P 09 12 28.9 +0.2**
comp=Z,64nm,0.5s,mb5.4
TNA Tin City 75.05 24 *e*P **P 09 12 31.3 +0.5**
comp=Z,24nm,1.2s,mb4.6
MIR Mirnyy 76.33 192⇓ *i*P **P 09 12 39.0 +1.2**
MIR pmax pmax
comp=Z,700nm,0.8s,mb6.1
SDPT Sand Point 76.39 35 *e*P **P 09 12 38.5 +0.1**
comp=Z,162nm,0.8s,mb5.5
DGRG David-gareji 77.12 311 P **P 09 12 43.9 +1.2**
GNI Garni 77.55 310 *e*P **P 09 12 46.6 +1.5**
GNI pmax pmax
comp=Z,19nm,0.8s
GNI Garni 77.55 310 *e*P **P 09 12 46.6 +1.5**
comp=Z,19nm,0.8s,mb4.6
GNI Garni 77.55 310 P **P 09 12 46.9 +1.9**
SNR=8.9
GNI Garni 77.55 310 P **P 09 12 46.9 +1.9**
SNR=8.9
GNI Garni 77.55 310 P **P 09 12 46.9 +1.9**
SNR=8.9
MTA Mtatsminda 77.57 311 P **P 09 12 45.5 +0.3**
TBLG Delisi 77.61 311 P **P 09 12 35.9 -9.4**
BHD Baghdad 77.72 303 *i* x x 09 12 42.5
BHD *ex* x 09 21 46.0
GOR Gori 78.09 311 P **P 09 12 49.0 +1.1**
HKL Haleakala 78.15 70 *e*P **P 09 12 40.4 -8.3**
HAKT HAKKARI 78.30 307 *i*P **P 09 12 49.6 +0.4**
ONI Oni 78.59 312 P **P 09 12 51.4 +0.8**
MSL Mosul 78.79 306 *ex* x 09 12 51.5
MSL *ex* x 09 21 59.0
KIV Kislovodsk 79.18 313*d i*P **P 09 12 53.7 0.0**
KIV pmax pmax
comp=Z,80nm,1.9s,mb4.7
KIV Kislovodsk 79.18 313 *e*P **P 09 12 54.4 +0.7**
comp=Z,39nm,1.1s,mb4.7
KIV Kislovodsk 79.18 313 P **P 09 12 54.4 +0.7**
SNR=6.0
KIV Kislovodsk 79.18 313 P **P 09 12 54.4 +0.7**
SNR=6.0
KIV Kislovodsk 79.18 313 P **P 09 12 54.4 +0.7**
SNR=6.0
KIV Kislovodsk 79.18 313⇓ *i*P **P 09 12 53.5 -0.2**
TTA Tatalina 79.61 27 *e*P **P 09 12 56.6 +1.1**
SVW2 Sparrevohn 79.64 29 *e*P **P 09 12 56.9 +1.2**
ABPO Ambohimpanom 79.72 249 *e*P **P 09 12 56.2 -0.8**
comp=Z,62nm,0.8s,mb5.0
ATD Arta Tunnel 80.05 281 P **P 09 12 59.8 +1.0**
comp=Z,37nm,0.7s,mb4.9,baz=250,slow=23,SNR=20
VRHR Novokhopersk 80.09 321 *e*P **P 09 12 57.4 -0.9**
VRHR pmax pmax
comp=Z,100nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,40nm,0.7s
BNGL BINGOL 80.31 308 *i*P **P 09 13 01.0 +1.3**
MARD Mardin 80.63 307 *i*P **P 09 13 01.4 0.0**
IMA2 Indian Mountai 80.89 24 *e*P **P 09 13 03.2 +1.1**
KDAK Kodiak Island 80.96 33 P **P 09 13 03.6 +1.0**
comp=E,494nm,1.5s,mb5.7,SNR=18
KDAK Kodiak Island 80.96 33 *e*P **P 09 13 03.5 +0.8**
comp=E,43nm,0.8s,mb4.9
MACK Trabzon 81.34 310 *i*P **P 09 13 05.2 +0.2**
VORD Divnogorie 81.56 320 *e*P **P 09 13 05.1 -0.8**
VORD pmax pmax
comp=Z,50nm,0.8s,mb5.1
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,70nm,0.8s
VRSR Storozhevoye 81.63 321 *e*P **P 09 13 05.4 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.3s
VRSR pmax pmax
comp=E,10.0nm,1.1s
ELZG Elazig 82.02 308 *i*P **P 09 13 09.0 +0.5**
SLKM Skilak Lake 82.23 30 *e*P **P 09 13 08.7 -0.4**
TMCR Tamitsa 82.33 334 *e*P **P 09 13 08.1 -1.4**
TMCR pmax pmax
comp=Z,99nm,1.1s,mb5.2
MALT Malatya 82.46 308 *e*P **P 09 13 11.4 +0.7**
MALT pmax pmax
comp=Z,88nm,1.5s,mb5.1
MALT Malatya 82.46 308 *e*P **P 09 13 11.4 +0.6**
comp=Z,88nm,1.5s,mb5.1
GRSN GIRESUNGRSN 82.48 310 *i*P **P 09 13 09.9 -0.9**
MOS Moscow 82.53 325 *e*P **P 09 13 09.6 -1.1**
MOS *e*S S 09 22 34.0 -6.1
MOS pmax pmax
comp=Z,210nm,1.3s,mb5.5
ATAB Bozova 82.60 307 *i*P **P 09 13 11.7 +0.3**
PMR Palmer 82.76 29 *e*P **P 09 13 11.7 0.0**
PMR pmax pmax
comp=Z,107nm,1.7s,mb5.1
PMR Palmer 82.76 29 *e*P **P 09 13 11.7 0.0**
comp=Z,107nm,1.7s,mb5.1
MCK McKinley 82.84 27 *e*P **P 09 13 11.9 -0.1**
MCK *e**PP pP 09 15 16.1 +0.6
MCK pmax pmax
comp=Z,108nm,1.0s,mb5.3
MCK McKinley 82.84 27 *e*P **P 09 13 11.9 -0.1**
comp=Z,108nm,1.0s,mb5.3
MCK *e*pP pP 09 15 16.1 +0.6
ANN Anapa 82.94 314 *e*P **P 09 13 08.9 -4.1**
ANN *e*S S 09 22 33.3 -11
ANN pmax pmax
comp=Z,189nm,1.1s,mb5.5
SML Sawmill 83.14 29 *e*P **P 09 13 13.9 +0.3**
OBN Obninsk 83.15 325 P **P 09 13 13.0 -0.8**
comp=Z,845nm,0.6s,mb6.5,SNR=6.6
OBN Obninsk 83.15 325 *i*P **P 09 13 13.1 -0.7**
OBN pmax pmax
comp=Z,333nm,2.0s,mb5.5
OBN Obninsk 83.15 325 *e*P **P 09 13 13.2 -0.5**
comp=Z,112nm,0.8s,mb5.4
GZT Gaziantep 83.19 307 *i*P **P 09 13 14.7 +0.3**
COLA College 83.30 25 *e*P **P 09 13 13.5 -0.8**
COLA pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
COLA College 83.30 25 *e*P **P 09 13 13.4 -0.8**
comp=Z,7.4nm,0.6s,mb4.4
ASF Jabal al Asfar 84.06 302 P **P 09 13 19.4 +0.5**
comp=Z,51nm,0.9s,mb5.0,baz=322,slow=3.4,SNR=64
ASF pP pP 09 15 23.7 +0.9
comp=Z,3.5nm,0.9s,baz=37,slow=2.3,SNR=2.4
ANDN Andirin 84.15 307 *i*P **P 09 13 19.0 -0.1**
APA Apatity 84.17 337⇓ *i*P **P 09 13 18.5 0.0**
APA pmax pmax
comp=Z,16nm,0.8s,mb4.6
DIV Divide 84.40 29 *e*P **P 09 13 20.6 +0.8**
comp=Z,22nm,0.7s,mb4.8
HWQ Hawqa 84.70 304 *e*P **P 09 13 22.2 +0.3**
BHL Bhannes 84.97 303 *e*P **P 09 13 23.7 +0.4**
CTKT Corum 85.14 310 *i*P **P 09 13 23.6 -0.2**
MENT Mentasta 85.23 27 *e*P **P 09 13 24.2 +0.4**
MMAI Mount Meron Ar 85.25 303 P **P 09 13 25.3 +0.7**
comp=Z,26nm,0.9s,mb4.8,baz=88,slow=6.8,SNR=23
SIM Simferopol' 85.29 315*d i*P **P 09 13 23.6 -0.9**
SIM *i* S S 09 23 03.6 -3.8
SIM pmax pmax
comp=Z,18nm,1.0s,mb4.7
MAW Mawson 85.50 200⇓ *i*P **P 09 13 24.7 -0.2**
comp=Z,20nm,0.6s,mb4.9
MAW Mawson 85.50 200⇓ *i*P **P 09 13 24.7 -0.2**
MAW pmax pmax
comp=Z,20nm,0.6s
MAW Mawson 85.50 200 P **P 09 13 25.0 +0.1**
comp=Z,31nm,0.8s,mb5.0,baz=58,slow=5.7,SNR=47
MAW pP pP 09 15 31.0 +1.5
comp=Z,11nm,1.0s,baz=82,slow=7.1,SNR=3.2
CDAG Cicekdag 85.53 309 *i*P **P 09 13 22.4 -3.4**
BALT Daday 86.11 311 *i*P **P 09 13 26.6 -1.9**
EGAK Eagle 86.16 25 *e*P **P 09 13 27.9 -0.3**
comp=Z,10nm,0.7s,mb4.6
EGAK *e*pP pP 09 15 31.1 -1.9
VNDA Vanda 86.61 172 *e*P **P 09 13 30.6 +0.6**
VNDA pmax pmax
comp=Z,60nm,0.9s
VNDA Vanda 86.61 172 *e*P **P 09 13 30.6 +0.6**
comp=Z,60nm,0.9s,mb5.3
VNDA Vanda 86.61 172 P **P 09 13 30.6 +0.5**
comp=Z,30nm,0.6s,mb5.2,baz=317,slow=6.1,SNR=352
VNDA PKKPbc PKKPbc 09 31 22.6 -2.8
comp=Z,0.4nm,0.6s,baz=293,slow=1.6,SNR=5.3
ANTO Ankara 86.72 310⇑ *i*P **P 09 13 30.5 -0.9**
ARCES ARCESS Array B 86.82 340 P **P 09 13 30.4 -0.8**
ARCES *PP pP 09 15 37.2 +0.9
ARCES ARCESS Array B 86.82 340 P **P 09 13 30.4 -0.9**
comp=Z,14nm,0.7s,mb4.8,baz=80,slow=5.4,SNR=25
ARCES pP pP 09 15 37.2 +0.9
comp=Z,7.8nm,1.0s,baz=89,slow=9.2,SNR=2.1
ARCES PKKPbc PKKPbc 09 31 22.1 -2.4
comp=Z,5.5nm,1.1s,baz=297,slow=5.3,SNR=3.9
KMBO Kilima Mbogo 86.87 269 *e*P **P 09 13 33.2 +0.5**
KMBO *e**PP pP 09 15 37.6 -0.1
KMBO pmax pmax
comp=Z,56nm,1.0s
KMBO Kilima Mbogo 86.87 269 *e*P **P 09 13 33.2 +0.6**
comp=Z,56nm,1.0s,mb5.2
KMBO *e*pP pP 09 15 37.6 -0.1
KMBO Kilima Mbogo 86.87 269 P **P 09 13 33.0 +0.3**
SNR=24
KMBO Kilima Mbogo 86.87 269 P **P 09 13 33.0 +0.3**
SNR=24
KMBO Kilima Mbogo 86.87 269 P **P 09 13 33.0 +0.3**
SNR=24
KMBO Kilima Mbogo 86.87 269 P **P 09 13 32.5 -0.1**
comp=Z,37nm,1.0s,mb5.1,baz=51,slow=6.8,SNR=46
KMBO pP pP 09 15 37.3 -0.4
comp=Z,8.3nm,1.1s,baz=58,slow=8.0,SNR=4.2
DAWY Dawson 87.02 26 *e*P **P 09 13 32.9 +0.6**
DAWY *e*pP pP 09 15 36.2 -1.1
SPB4 Spitsbergen Ar 87.15 349 *e*P **P 09 13 31.8 -0.9**
SBA Scott Base 87.54 172 *e*P **P 09 13 35.9 +1.5**
SBA pmax pmax
comp=Z,61nm,1.3s,mb5.2
SBA Scott Base 87.54 172 *e*P **P 09 13 35.9 +1.5**
comp=Z,61nm,1.3s,mb5.2
AKASG Malin Array Be 87.95 321 P **P 09 13 35.5 -1.4**
AKASG pP pP 09 15 41.5 -0.8
AKASG Malin Array Be 87.95 321 P **P 09 13 35.5 -1.4**
comp=Z,9.6nm,0.7s,mb4.7,baz=72,slow=4.1,SNR=60
AKASG pP pP 09 15 41.5 -0.8
comp=Z,2.8nm,1.0s,baz=63,slow=4.4,SNR=1.8
AKBB Malin Array Si 87.95 321 *e*P **P 09 13 34.5 -2.3**
AKBB *e*pP pP 09 15 50.3 +8.0
KIEV Kiev 87.96 321 *e*P **P 09 13 34.5 -2.4**
KIEV pmax pmax
comp=Z,18nm,1.0s,mb4.8
KIEV Kiev 87.96 321 *e*P **P 09 13 34.5 -2.4**
comp=Z,18nm,1.0s,mb4.8
KIEV *e*pP pP 09 15 46.6 +4.2
FIA1 FINESS Array S 88.02 332 *e*P **P 09 13 35.8 -1.2**
FIA1 *e*pP pP 09 15 46.9 +4.5
FINES FINESS Array B 88.02 332 *i*P **P 09 13 36.2 -0.8**
FINES pmax pmax
comp=Z,13nm,0.7s
FINES FINESS Array B 88.02 332 P **P 09 13 36.0 -1.0**
FINES pP pP 09 15 44.0 +1.5
FINES FINESS Array B 88.02 332 P **P 09 13 36.0 -1.0**
comp=Z,13nm,0.7s,mb4.8,baz=66,slow=5.3,SNR=56
FINES pP pP 09 15 44.0 +1.5
comp=Z,0.5nm,0.4s,baz=190,slow=32,SNR=1.8
HENT Hendek 88.06 311 *i*P **P 09 13 31.2 -6.4**
HENT Hendek 88.06 311 *i*P **P 09 13 31.2 -6.4**
VSU Vasula 88.20 329 *i*P **P 09 13 37.3 -0.6**
ESKT Eskisehir 88.25 309 *i*P **P 09 13 36.9 -1.7**
INK Inuvik 88.51 21 *e*P **P 09 13 38.5 -0.6**
comp=Z,668nm,1.2s,mb6.3
INK *e*pP pP 09 15 43.8 -0.9
INK Inuvik 88.51 21 P **P 09 13 39.0 -0.1**
comp=Z,16nm,1.1s,mb4.7,baz=285,slow=6.5,SNR=24
INK pP pP 09 15 44.1 -0.6
comp=Z,15nm,1.2s,baz=262,slow=6.3,SNR=6.6
INK PKKP PKKPbc 09 31 11.1 -9.4
comp=Z,1.0nm,0.6s,baz=105,slow=4.8,SNR=8.7
ISP Isparta 88.73 308 *e*P **P 09 13 39.1 -1.7**
ISP pmax pmax
comp=Z,14nm,0.8s,mb4.8
ISP Isparta 88.73 308 *e*P **P 09 13 39.1 -1.7**
comp=Z,14nm,0.8s,mb4.8

ISP	Isparta	88.73	308	⇑	iP		P	09 13 39.2	-1.6
GDZ	Gediz	89.36	309		iP		P	09 13 42.3	-1.4
TIRR	Tirgusor	89.38	315	⇑	iP		P	09 13 42.6	-1.1
SKAG	Skagway	89.77	30		eP		P	09 13 46.0	+0.8
	comp=Z,33nm,1.4s,mb5.0								
VRI	Vrincioaia	90.34	316	⇑	iP		P	09 13 47.9	-0.2
BTOK	Tokmak	90.38	310		iP		P	09 13 47.3	-1.2
PLOR	Plostina	90.39	316	⇑	iP		P	09 13 48.1	-0.3
SART	Tekirdag	90.87	311		iP		P	09 13 49.2	-1.5
MLR	Muntele Rosu	90.94	316	⇓	iP		P	09 13 50.3	-0.6
BURAR	Bucovina Array	91.05	318	⇓	iP		P	09 13 51.2	-0.1
KDAG	Bornova	91.18	309		iP		P	09 13 51.1	-1.1
DLBC	Dease Lake	92.69	30		eP		P	09 13 59.8	+1.2
DLBC	Dease Lake	92.69	30		P		P	09 13 59.6	+1.0
	baz=278,slow=4.6								
KOLS	Kolonicke sedl	92.70	320		eP		P	09 13 58.6	-0.3
KOLS	Kolonicke sedl	92.70	320		eP		P	09 13 58.5	-0.4
UZH	Uzhgorod	92.75	319	⇓	iP		P	09 13 59.0	-0.1
UZH					e			09 17 05.0	
UZH					eS		S	09 24 04.0	-11
DRGR		92.89	318	⇑	iP		P	09 13 59.3	-0.5
CRVS	Cervenica-Dubn	93.22	320		eP		P	09 14 01.3	0.0
STHS	Stebnicka Huta	93.24	320		eP		P	09 14 02.5	+1.1
STHS					pmax		pmax		
	comp=Z,7.0nm,0.7s,mb4.8								
STHS	Stebnicka Huta	93.24	320		eP		P	09 14 02.5	+1.1
	comp=Z,6.9nm,0.7s,mb4.8								
VTS	Vitosha	93.44	313	⇓	iP		P	09 14 01.5	-0.9
OJC	Ojcow	93.94	321		eP		P	09 14 03.8	-0.7
DAG	Danmarks Havn	94.06	352	⇑	iP		P	09 14 03.8	-0.7
DAG					pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.8								
DAG	Danmarks Havn	94.06	352	⇑	iP		P	09 14 03.8	-0.7
	comp=Z,4.7nm,0.6s,mb4.8								
SYO	Syowa Base	94.10	201	⇑	eX			09 14 03.2	
SYO	Syowa Base	94.10	201	⇓	eP		P	09 14 04.3	-0.5
PSZ	Piszkesteto	94.48	319		eP		P	09 14 06.3	-0.7
PSZ					pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.5								
PSZ	Piszkesteto	94.48	319		eP		P	09 14 06.3	-0.8
	comp=Z,4.1nm,0.9s,mb4.6								
PSZ	Piszkesteto	94.48	319	⇓	iP		P	09 14 05.6	-1.4
NB2	NORSAR Subarra	95.01	333		P		P	09 14 07.6	-1.5
	comp=Z,13nm,0.8s,mb5.1,baz=67,slow=4.6								
NOA	NORSAR Array B	95.01	333		P		P	09 14 07.9	-1.2
NOA					*PP		pP	09 16 16.3	+0.7
NOA	NORSAR Array B	95.01	333		P		P	09 14 07.9	-1.2
	comp=Z,9.0nm,0.8s,mb5.0,baz=68,slow=4.5,SNR=21								
NOA					pP		pP	09 16 16.3	+0.8
	comp=Z,2.1nm,1.0s,baz=213,slow=3.8,SNR=3.0								
NOA					PKKP		PKKPbc	09 31 01.9	-2.0
	comp=Z,1.3nm,0.8s,baz=67,slow=3.2,SNR=4.1								
VYHS	Vyhne	95.01	320		eP		P	09 14 08.8	-0.6
VYHS					pmax		pmax		
	comp=Z,8.0nm,1.8s,mb4.5								
VYHS	Vyhne	95.01	320		eP		P	09 14 08.8	-0.6
	comp=Z,8.0nm,1.8s,mb4.5								
OKC	Ostrava-Krasne	95.07	321		eP		P	09 14 08.5	-1.2
MORC	Moravsky Berou	95.47	321		eP		P	09 14 11.4	0.0
MORC					pmax		pmax		
	comp=Z,3.0nm,0.6s,mb4.6								
MORC	Moravsky Berou	95.47	321		eP		P	09 14 11.4	-0.1
	comp=Z,2.8nm,0.6s,mb4.6								
RES	Resolute Bay	95.48	10		eP		P	09 14 10.3	-0.7
	comp=Z,75nm,0.7s,mb5.9								
RES					epP		pP	09 16 17.6	+0.1
PKSM	Moragy	95.75	318	⇑	iP		P	09 14 12.0	-0.8
KSP	Ksiaz	95.91	323		eP		P	09 14 13.7	+0.3
MODS	Modra-Piesok	96.04	320		eP		P	09 14 13.7	-0.4
DPC	Dobruska-Polom	96.05	322		eP		P	09 14 14.3	+0.3
UPC	Upice	96.19	322		eP		P	09 14 14.9	+0.2
QSPA	South Pole Qui	96.49	180		eP		P	09 14 15.6	+0.2
	comp=Z,10.0nm,0.7s,mb5.2								
RUE	Ruedersdorf	96.86	325		ePdiff		P	09 14 18.1	+0.5
PRU	Pruhonice	97.25	322		eP		P	09 14 19.5	+0.1
BRG	Berggiesshubel	97.31	323		iP		P	09 14 19.6	-0.1
BRG					e			09 18 30.6	
BRG					pmax		pmax		
	comp=Z,8.0nm,0.9s,mb5.0								
BRG					pmax		pmax		
	comp=Z,6.0nm,1.6s,mb4.6								
BRG					pmax		pmax		
	comp=Z,11nm,1.7s,mb4.8								
BRG	Berggiesshubel	97.31	323		ePdiff		P	09 14 19.4	-0.3
BRG	Berggiesshubel	97.31	323		iP		P	09 14 19.6	-0.1
	comp=Z,14nm,0.9s,mb5.2								
BRG					e			09 16 37.8	
	comp=Z,9.9nm,1.6s								
BRG					e			09 18 30.6	
	comp=Z,18nm,1.7s								
FBE	Freiberg	97.65	323		ePdiff		Pdif	09 14 20.7	-0.5
CLL	Collm	97.72	324		eP		Pdif	09 14 20.0	-1.5
CLL					eS		S	09 24 58.0	+0.7
CLL					pmax		pmax		
	comp=Z,37nm,2.0s,mb5.4								
CLL	Collm	97.72	324		ePdiff		Pdif	09 14 21.4	-0.1
CLL	Collm	97.72	324		ePdif		Pdif	09 14 20.0	-1.5
	comp=Z,37nm,2.0s								
CLL					eSdif		S	09 24 58.0	+0.7
CLL					e(sSdiff)			09 28 36.0	
GCIS	Gornji Cirnik	97.86	318		ePdif		Pdif	09 14 22.1	-0.1
CRES	Cresnjev	97.99	318		ePdif		Pdif	09 14 22.6	-0.1
YKA	Yellowknife Ar	98.01	24		P		Pdif	09 14 22.7	-0.1
YKA					*PP		pP	09 16 27.3	-2.0
YKA	Yellowknife Ar	98.01	24		P		Pdif	09 14 22.7	-0.1
	comp=Z,0.7nm,0.5s,baz=302,slow=4.6,SNR=16								
YKA					pP		pP	09 16 27.3	-2.0
	comp=Z,1.3nm,0.8s,baz=301,slow=4.8,SNR=5.5								
YKA					PKiKP		PKiKP	09 18 52.1	+0.2
	comp=Z,0.8nm,0.6s,baz=303,slow=1.8,SNR=7.4								
YKA					PKKPbc		PKKPbc	09 30 48.1	-7.7
	comp=Z,2.7nm,0.5s,baz=123,slow=2.9,SNR=16								
YKA					SKKPbc			09 33 36.3	
	comp=Z,0.3nm,0.5s,baz=120,slow=2.5,SNR=5.3								
KHC	Kasperske Hory	98.12	322	⇑	eP		Pdif	09 14 23.6	+0.3
KHC	Kasperske Hory	98.12	322		eP		Pdif	09 14 23.3	0.0
GEC2	GERESS Array S	98.14	321		ePdiff		Pdif	09 14 23.0	-0.4
GERES	GERESS Array B	98.14	321		P		Pdif	09 14 22.6	-0.8
	comp=Z,2.8nm,0.8s,baz=75,slow=5.7,SNR=12								
GERES					PP		PP	09 18 32.7	+0.5
	comp=Z,0.5nm,0.3s,baz=79,slow=7.2,SNR=5.9								
TANN	Tannenbergstha	98.36	323		ePdiff		Pdif	09 14 23.9	-0.4
NKC	Novy Kostel	98.43	323		eP		Pdif	09 14 24.5	-0.2
WERD	Werda	98.44	323		ePdiff		Pdif	09 14 24.6	-0.1
GUNZ	Gunzen	98.45	323		ePdiff		Pdif	09 14 24.5	-0.3
WERN	Wernitzgruen	98.45	323		ePdiff		Pdif	09 14 24.8	0.0
WET	Wettzell	98.55	322		ePdiff		Pdif	09 14 24.9	-0.3
ROTZ	Rotzenmuhle	98.74	322		ePdiff		Pdif	09 14 25.9	-0.1
MOX	Moxa	98.78	323		ePDIFF		Pdif	09 14 26.2	0.0
	comp=Z,33nm,1.7s								
MOX	Moxa	98.78	323		eP		Pdif	09 14 26.2	0.0
MOX					pmax		pmax		
	comp=Z,33nm,1.7s,mb5.4								
MOX	Moxa	98.78	323		ePdiff		Pdif	09 14 26.0	-0.2
JAVS	Javornik	98.89	318		ePdiff		Pdif	09 14 26.2	-0.5
NRDL	Niedersach Rie	98.94	326		ePdiff		Pdif	09 14 27.7	+0.8
CLZ	Clausthal	99.05	325		ePdiff		Pdif	09 14 27.8	+0.4
ROBS	Robic	99.14	319		ePdiff		Pdif	09 14 26.8	-1.0
GRA1	Grafenberg Arr	99.36	323		ePdif		Pdif	09 14 28.9	+0.1
GRF	Grafenberg Arr	99.36	323		ePdiff		Pdif	09 14 28.9	+0.1
WTTA	Wattenberg	100.00	320	⇓	iP		Pdif	09 14 31.4	-0.2
	comp=Z,11nm,0.9s								
WTTA	Wattenberg	100.00	320	⇓	iP		Pdif	09 14 31.4	-0.2
WTTA					pmax		pmax		
	comp=Z,11nm,0.9s,mb5.2								
FETA	Feichten	100.66	320	⇑	iPdiff		Pdif	09 14 33.8	-0.7
	comp=Z,7.9nm,1.1s								
K08A	Mann Creek Ran	105.15	43	⇓	P		PKKPdf	09 30 52.5	+9.3
	baz=105								
B13A	Whitefish	105.17	36	⇑	P		PKKPdf	09 30 52.0	+8.7
	baz=105								
WVOR	Wild Horse Val	105.17	43		eP		Pdif	09 14 56.4	+1.8
WVOR					pmax		pmax		
	comp=Z,10.0nm,1.4s								
WVOR	Wild Horse Val	105.17	43		ePdif		Pdif	09 14 56.4	+1.8
	comp=Z,9.9nm,1.4s								
M07A	Soldier Meadow	105.22	44	⇑	P		PKKPdf	09 30 52.1	+9.1
	baz=105								
D12A	Red Ives Fores	105.26	38	⇓	P		PKKPdf	09 30 51.5	+8.5
	baz=105								
J09A	Fry Pan Ranch,	105.38	42	⇓	P		PKKPdf	09 30 52.1	+9.3
	baz=105								
C13A	Hot Springs	105.44	37	⇑	P		PKKPdf	09 30 51.6	+8.9
	baz=105								
G11A	Walters Elk Ra	105.45	39	⇑	P		PKKPdf	09 30 51.0	+8.4
	baz=105								
L08A	Fields	105.46	43	⇑	P		PKKPdf	09 30 50.9	+8.3
	baz=105								
H10A	Noah's Angus R	105.50	40	⇑	P		PKKPab	09 30 51.1	-2.1
	baz=105								
N07B	Gerlach	105.60	45	⇓	P		PKKPab	09 30 50.7	-2.1
	baz=106								
R05C	Kirkwood Meado	105.61	47	⇑	P		PKKPab	09 30 50.9	-1.8
	baz=106								
WCN	Washoe City	105.61	46	⇓	P		PKKPab	09 30 50.5	-2.1
	baz=106								
CMB	Columbia Colle	105.63	48	⇓	P		PKKPab	09 30 50.2	-2.3
	baz=106								
K09A	Rome	105.67	42	⇑	P		PKKPab	09 30 50.8	-1.7
	baz=106								
M08A	Happy Creek Ra	105.74	44	⇑	P		PKKPab	09 30 50.1	-2.0
	baz=106								
D13A	Huson	105.78	37	⇑	P		PKKPab	09 30 48.8	-3.2
	baz=106								
C14A	Swan Lake	105.88	36	⇑	P		PKKPab	09 30 48.8	-2.8
	baz=106								
O07A	Toulon	105.91	45	⇑	P		PKKPab	09 30 48.3	-3.1
	baz=106								
F12A	Elk City	105.92	39	⇑	P		PKKPab	09 30 48.2	-3.1
	baz=106								
H11A	Donnelly	105.92	40	⇓	P		PKKPab	09 30 48.1	-3.3
	baz=106								
S05C	Merced	105.92	48	⇑	P		PKKPab	09 30 49.5	-1.8
	baz=106								
U04C	Hernandez Rese	105.94	49	⇓	P		PKKPab	09 30 49.5	-1.6
	baz=106								
L09A	Wilkinson Ranc	105.99	43	⇑	P		PKKPab	09 30 48.9	-2.1
	baz=106								
J10A	Berg Farm, Mel	106.00	41	⇓	P		PKKPab	09 30 49.1	-2.0
	baz=106								
R06C	Coleville	106.13	47	⇓	P		PKKPab	09 30 49.0	-1.3
	baz=106								
K10A	MacKenzie Ranc	106.21	42	⇑	P		PKKPab	09 30 48.1	-1.9
	baz=106								
D14A	Greenough	106.36	37	⇑	P		PKKPab	09 30 47.0	-2.4
	baz=106								
M09A	Marrel Ranch,	106.39	44	⇑	P		PKKPab	09 30 47.5	-1.8
	baz=106								
F13A	Darby	106.48	38	⇓	P		PKKPab	09 30 46.8	-2.1
	baz=106								
T06C	Millerton Lake	106.51	48	⇑	P		PKKPab	09 30 45.6	-3.0
	baz=106								
N09A	Rock Creek Ran	106.57	44	⇑	P		PKKPab	09 30 46.3	-2.1
	baz=106								
R07C	Lee Vining	106.59	47	⇑	P		PKKPab	09 30 46.6	-1.7
	baz=106								
MFID	Camas Ranch	106.62	41	⇓	P		PKKPab	09 30 45.9	-2.4
	baz=106								
E14A	Clinton	106.69	38	⇓	P		PKKPab	09 30 45.7	-2.3
	baz=107								
H12A	Diamond D Ranc	106.73	40	⇑	P		PKKPab	09 30 45.6	-2.2
	baz=107								
K11A	Parker Ranch,	106.77	42	⇓	P		PKKPab	09 30 45.3	-2.2
	baz=107								
L10A	Juniper Basin	106.78	43		P		PKKPab	09 30 46.2	-1.4
	baz=107,SNR=9.1								
G13A	Cobalt	106.87	39	⇓	P		PKKPab	09 30 45.2	-2.0
	baz=107								
SMMC	Simmler	106.91	50	⇓	P		PKKPab	09 30 44.7	-2.1
	baz=107								
D15A	Lincoln	106.97	37	⇑	P		PKKPab	09 30 45.3	-1.4
	baz=107								
M10A	I.L. Ranch, Tu	106.97	43	⇑	P		PKKPab	09 30 45.2	-1.4
	baz=107								
NVAR	Mina Array Bea	107.00	47		Pdif		Pdif	09 15 04.2	+1.5
NVAR					PP		PP	09 19 34.5	-3.1
NVAR					PKKPbc		PKKPbc	09 30 28.6	-0.5
NVAR					PKKPab		PKKPab	09 30 43.7	-2.8
NVAR	Mina Array Bea	107.00	47		Pdiff		Pdif	09 15 04.2	+1.5
	comp=Z,0.6nm,0.8s,baz=278,slow=6.0,SNR=4.9								
NVAR					PP		PP	09 19 34.5	-3.1
	comp=Z,3.5nm,0.9s,baz=277,slow=8.4,SNR=7.4								
NVAR					PKKPbc		PKKPbc	09 30 28.6	-0.5
	comp=Z,2.7nm,0.7s,baz=132,slow=4.0,SNR=23								
NVAR					PKKPab		PKKPab	09 30 43.7	-2.8
	comp=Z,3.2nm,0.8s,baz=130,slow=4.6,SNR=15								
O09A	Fish Creek Ran	107.09	45	⇑	P		PKKPab	09 30 43.0	-3.1
	baz=107								
Q08A	Gabbs	107.09	46	⇑	P		PKKPab	09 30 43.8	-2.2
	baz=107								
H13A	Challis	107.10	39		P		PKKPab	09 30 44.2	-1.9
	baz=107,SNR=6.3								
HELL	Mitchell Peak	107.14	49	⇓	P		PKKPab	09 30 43.1	-2.7
	baz=107								
J12A	Stokes Ranch,	107.17	41	⇑	P		PKKPab	09 30 43.1	-2.7
	baz=107								
PKM	Peak Mountain	107.20	51	⇓	P		PKKPab	09 30 43.7	-1.8
	baz=107								
L11A	Cat Creek Ranc	107.22	42		P		PKKPab	09 30 44.2	-1.3
	baz=107,SNR=8.8								
SNAA	Sanae	107.25	195		ePdiff		Pdif	09 15 03.6	-0.3
SNAA					e			09 15 06.2	
SNAA					e			09 15 10.3	
SNAA					e			09 15 19.3	
SNAA					e			09 19 08.1	
SNAA					e			09 19 13.1	
SNAA					e			09 19 16.6	
S08C	White Mtn Res	107.46	47	⇓	P		PKKPab	09 30 43.0	-1.4
	baz=107								
HLID	Hailey	107.47	40		P		PKKPab	09 30 43.3	-1.2
	baz=107,SNR=5.0								
I13A	Wildhorse Cree	107.50	40		P		PKKPab	09 30 43.2	-1.2
	baz=107,SNR=5.3								
M11A	Holland Ranch,	107.51	43		P		PKKPab	09 30 43.1	-1.1
	baz=107,SNR=6.2								
O10A	Cortez Mining,	107.52	44	⇑	P		PKKPab	09 30 42.5	-1.8
	baz=107								
K12A	Draper Farm, C	107.57	42	⇑	P		PKKPab	09 30 42.2	-1.8
	baz=108								
F15A	Butte	107.58	38	⇑	P		PKKPab	09 30 41.7	-2.3
	baz=108								
J13A	Cove Ranch, Pi	107.70	41		P		PKKPab	09 30 41.9	-1.5
	baz=108,SNR=8.8								
L12A	House Creek Ra	107.72	42		P		PKKPab	09 30 42.0	-1.4
	baz=108,SNR=5.8								
P10A	Eureka	107.82	45	⇑	P		PKKPab	09 30 40.4	-2.4
	baz=108								
G15A	Dillon	107.92	38	⇑	P		PKKPab	09 30 39.8	-2.7
	baz=108								
R09A	Tonopah	107.96	46	⇓	P		PKKPab	09 30 40.2	-2.0
	baz=108								
S09A	Goldfield	108.06	47	⇓	P		PKKPab	09 30 40.0	-1.7
	baz=108								
K13A	Stover Farm, H	108.10	41	⇑	P		PKKPab	09 30 39.6	-2.1
	baz=108								
M12A	Wells	108.11	43		P		PKKPab	09 30 40.3	-1.3
	baz=108,SNR=9.2								
O11A	Cowboy Ranch,	108.17	44	⇓	P		PKKPab	09 30 39.0	-2.3
	baz=108								
BOZ	Bozeman (W)	108.20	38	⇓	P		PKKPab	09 30 39.2	-2.0
	baz=108								
Q10A	Clear Creek Ra	108.20	46		P		PKKPab	09 30 40.1	-1.1
	baz=108,SNR=9.6								
GRAC	Grapevine Rang	108.24	48	⇓	P		PKKPab	09 30 39.4	-1.6
	baz=108								
N12A	Clover Valley,	108.28	43		P		PKKPab	09 30 39.3	-1.5
	baz=108,SNR=5.2								
S10A	Tonopah Range,	108.43	47	⇓	P		PKKPab	09 30 38.1	-2.0
	baz=108								
L13A	Double Diamond	108.45	42	⇓	P		PKKPab	09 30 38.1	-2.0
	baz=108								
R10A	Warm Springs	108.49	46		P		PKKPab	09 30 38.9	-1.0
	baz=108,SNR=5.2								
MPMC	Manual Prospec	108.52	49	⇓	P		PKKPab	09 30 38.1	-1.6
	baz=108								
EDW2	Edwards Air Fo	108.60	50	⇓	P		PKKPab	09 30 37.1	-2.2
	baz=108								
LRMC	Laurel Mountai	108.60	49	⇓	P		PKKPab	09 30 37.2	-2.1
	baz=108								
M13A	Montello	108.64	42		P		PKKPab	09 30 37.6	-1.6
	baz=108,SNR=7.4								
Q11A	Duckwater	108.72	45		P		PKKPab	09 30 37.4	-1.4
	baz=109,SNR=9.0								
O12A	Currie	108.74	44		P		PKKPab	09 30 37.4	-1.4
	baz=109,SNR=6.3								
K14A	Jones Ranch, D	108.75	41	⇑	P		PKKPab	09 30 36.6	-2.2
	baz=109								
FURC	Furnace Creek,	108.83	48	⇓	P		PKKPab	09 30 37.1	-1.2
	baz=109								
N13A	Wendover, West	108.84	43	⇓	P		PKKPab	09 30 36.6	-1.7
	baz=109								
VNA2	Neumayer--Watz	108.88	195		ePdiff		Pdif	09 15 11.4	+0.3
VNA2					e			09 15 14.8	
VNA2					e			09 15 18.9	
VNA2					e			09 15 27.7	
VNA2					e			09 19 12.2	
VNA2					e			09 19 18.0	
VNA2					e			09 19 21.3	
P12A	McGill	108.97	44	⇓	P		PKKPab	09 30 36.0	-1.7
	baz=109								
R11A	Troy Canyon, C	108.98	46		P		PKKPab	09 30 36.5	-1.2
	baz=109,SNR=6.6								
TPNV	Topopah Spring	109.08	47	⇓	P		PKKPab	09 30 35.9	-1.2
	baz=109								
BFSC	Mount Baldy St	109.09	50	⇑	P		PKKPab	09 30 34.7	-2.4
	baz=109								
M14A	Sheep Mountain	109.12	42	⇑	P		PKKPab	09 30 34.7	-2.4
	baz=109								
S11A	Rachel	109.16	47		P		PKKPab	09 30 36.1	-0.8
	baz=109,SNR=6.5								
Q12A	Willow Creek R	109.22	45		P		PKKPab	09 30 35.4	-1.2
	baz=109,SNR=7.0								
GSC	Goldstone	109.33	49	⇑	P		PKKPab	09 30 34.3	-1.8
	baz=109								
N14A	Grayback Hills	109.53	43	⇓	P		PKKPab	09 30 33.3	-1.9
	baz=109								
P13A	Bates Ranch, G	109.60	44	⇓	P		PKKPab	09 30 33.6	-1.3
	baz=110								
BBRC	Big Bear Sol-O	109.65	50	⇓	P		PKKPab	09 30 32.9	-1.7
	baz=110								
R12A	Pony Springs,	109.68	45	⇓	P		PKKPab	09 30 33.6	-0.9
	baz=110								
T11A	Corn Creek, Al	109.71	47		P		PKKPab	09 30 33.5	-0.9
	baz=110,SNR=7.8								
M15A	Larsen Ranch,	109.74	42	⇑	P		PKKPab	09 30 31.5	-2.8
	baz=110								
Q13A	Wheeler Ranch,	109.82	45		P		PKKPab	09 30 32.8	-1.1
	baz=110,SNR=7.3								
S12A	Delamar Landin	109.82	46	⇓	P		PKKPab	09 30 32.9	-1.0
	baz=110								
REDW	Red Top Meadow	109.83	39		ePKPdf		PKiKP	09 19 15.3	+1.1
HEC	Hector,Ludlow	109.88	49	⇓	P		PKKPab	09 30 32.4	-1.2
	baz=110								
TUQ	Turquoise Mtn.	109.94	49	⇑	P		PKKPab	09 30 31.3	-2.1
	baz=110								
N15A	Stansbury Isla	109.96	42	⇓	P		PKKPab	09 30 31.4	-2.0
	baz=110								
DUG	Dugway	110.09	43	⇑	P		PKKPab	09 30 31.1	-1.6
	baz=110								
V11A	Goodsprings	110.14	48	⇓	P		PKKPab	09 30 31.2	-1.3
	baz=110								
PFO	Pinyon Flat Ob	110.26	51	⇑	P		PKKPab	09 30 30.2	-1.7
	baz=110								
GMRC	Granite Mounta	110.40	49	⇓	P		PKKPab	09 30 29.7	-1.6
	baz=110								
BELC	Belle Mtn.	110.46	50	⇑	P		PKKPab	09 30 29.6	-1.4
	baz=110								
S13A	Holt Ranch, En	110.54	46		P		PKKPab	09 30 30.0	-0.7
	baz=110,SNR=6.0								
U12A	Valley of Fire	110.55	47	⇓	P		PKKPab	09 30 29.2	-1.5
	baz=110								
MONP	Monument Peak	110.56	51	⇓	P		PKKPab	09 30 27.9	-2.7
	baz=110								
V12A	Nelson	110.62	48	⇑	P		PKKPab	09 30 28.6	-1.7
	baz=110								
T13A	Saint George	110.75	46		P		PKKPab	09 30 28.9	-0.8
	baz=111,SNR=9.8								
R14A	James Farms, M	110.81	45	⇑	P		PKKPab	09 30 27.8	-1.7
	baz=111								
S14A	Cedar City	110.95	45	⇓	P		PKKPab	09 30 27.7	-1.2
	baz=111								
U13A	Pakoon Wash	110.97	47	⇓	P		PKKPab	09 30 27.4	-1.3
	baz=111								
BC3	Big Chuckw Mtn	111.01	50	⇓	P		PKKPab	09 30 27.0	-1.5
	baz=111								
SWSC	Sam W. Stewart	111.03	51	⇑	P		PKKPab	09 30 26.9	-1.6
	baz=111								
IRM	Iron Mountain	111.04	50	⇓	P		PKKPab	09 30 26.7	-1.8
	baz=111								
V13A	Grand Canyon W	111.20	48	⇓	P		PKKPab	09 30 26.2	-1.6
	baz=111								
T14A	Hurricane	111.33	46		P		PKKPab	09 30 26.1	-1.1
	baz=111,SNR=6.8								
U14A	Mt

319A	Douglas	116.69	50	⇑P		PKKPab	09 30 01.8	-1.6
	baz=117,SNR=5.5							
MOE	Montemor	116.99	319	ePKPdf		PKPdf	09 19 29.1	+1.1
Y22C	IRIS PASSCAL I	117.16	46	⇓P		PKKPab	09 30 01.0	-0.4
	baz=117							
PVAQ	Vaqueiros	117.20	318	ePKPdf		PKPdf	09 19 29.1	+0.6
PBDV	Barranco-do-Ve	117.43	318	ePKPdf		PKPdf	09 19 30.0	+1.1
MORF	Marmelete	117.88	318	ePKPdf		PKPdf	09 19 30.8	+1.0
ECSD	EROS,Sioux Fal	117.92	32	ePKPdf		PKPdf	09 19 29.6	-0.1
PFVI	Vila Bisbo	118.09	318	ePKPdf		PKPdf	09 19 31.2	+1.0
SCHQ	Schefferville	118.13	7	PKP		PKPdf	09 19 30.1	+0.4
	comp=Z,5.0nm,0.5s,baz=342,slow=2.0,SNR=24							
SCHQ				PKKPbc		PKKPbc	09 29 49.6	-3.6
	comp=Z,3.9nm,0.8s,baz=151,slow=8.4,SNR=4.6							
JFWS	Jewell Farm	121.74	29	ePKIKP		PKPdf	09 19 36.4	-0.6
TXAR	Lajitas Array	121.93	49	PKIKP		PKPdf	09 19 38.4	+0.6
TXAR							09 21 22.3	
TXAR	Lajitas Array	121.93	49	PKP		PKPdf	09 19 38.4	+0.6
TXAR				PP		PP	09 21 22.2	+1.0
TXAR				pPKP		pPKPdf	09 21 52.2	-0.1
TXAR				PKKPbc		PKKPbc	09 29 36.8	-1.8
TXAR	Lajitas Array	121.93	49	PKP		PKPdf	09 19 38.4	+0.6
	comp=Z,0.4nm,0.6s,baz=22,slow=3.6,SNR=8.3							
TXAR				PP		PP	09 21 22.2	+1.0
	comp=Z,1.3nm,0.9s,baz=292,slow=3.4,SNR=4.1							
TXAR				pPKP		pPKPdf	09 21 52.2	-0.1
	comp=Z,0.9nm,0.8s,baz=278,slow=1.9,SNR=3.6							
TXAR				PKKPbc		PKKPbc	09 29 36.8	-1.8
	comp=Z,2.6nm,0.8s,baz=131,slow=5.2,SNR=16							
WMOK	Wichita Mounta	122.41	41	ePKIKP		PKPdf	09 19 38.6	0.0
WMOK				e			09 21 23.2	
JCT	Junction City	124.17	46	ePKIKP		PKPdf	09 19 42.5	+0.4
WVT	Waverly	128.06	33	ePKIKP		PKPdf	09 19 49.4	0.0
TGUH	Tegucigalpa,Un	142.82	56	ePKPdf		PKPdf	09 20 16.8	-0.4
MGV	Manicaragua	143.06	39	eP		PKPdf	09 20 17.5	+0.1
PLCA	Paso Flores	143.61	161	ePKPdf		PKPdf	09 20 17.9	0.0
PLCA				epPKPdf		pPKPdf	09 22 36.8	+4.1
PLCA				eSKPbc		SKPbc	09 23 03.1	+0.7
PLCA	Paso Flores	143.61	161	PKP		PKPdf	09 20 18.1	+0.3
	comp=Z,63nm,0.9s,baz=210,slow=3.5,SNR=96							
PLCA				SKPbc		SKPbc	09 23 02.8	+0.3
	comp=Z,9.8nm,0.7s,baz=180,slow=3.0,SNR=8.0							
LMGC	Las Mercedes	146.42	37	eP		PKPab	09 20 27.6	-0.6
JTS	JuntasAbangare	146.66	60	PKPbc		PKPbc	09 20 25.8	-0.7
	comp=Z,11nm,0.5s,baz=320,slow=0.7,SNR=27							
JTS				pPKPbc		pPKPbc	09 22 37.2	-1.5
	comp=Z,9.1nm,0.9s,baz=329,slow=9.1,SNR=4.3							
TRQA	Tornquist	148.22	171	ePKPbc		PKPbc	09 20 30.2	+0.4
SDDR	Presa de Saban	150.46	30	ePKPbc		PKPbc	09 20 36.2	+0.5
SDDR				ePKPab		PKPab	09 20 45.0	+0.1
SDV	Santo Domingo	158.82	44	ePKPdf		PKPdf	09 20 41.2	0.0
LPAZ	La Paz	164.73	130	ePKPdf		PKPdf	09 20 48.7	+1.7
LPAZ				ePKPab		PKPab	09 21 50.3	+3.5
LPAZ	La Paz	164.73	130	PKP		PKPdf	09 20 49.0	+2.0
	comp=Z,7.5nm,1.0s,baz=250,slow=1.3,SNR=21							
LPAZ				PKPab		PKPab	09 21 49.0	+2.2
	comp=Z,3.3nm,0.6s,baz=209,slow=4.8,SNR=8.9							
BDFB	Brasilia	168.06	220	PKP		PKPdf	09 20 49.5	-0.1
	comp=Z,1.4nm,0.6s,baz=44,slow=25,SNR=5.9							
BDFB				PKPab		PKPab	09 22 00.7	-0.8
	comp=Z,6.2nm,0.8s,baz=108,slow=5.1,SNR=10							

*TEH **09** 09:07:21.9,2748N×5781E,h10km,ML3.7*
*ISCJB **09** 09:07:58.1±0.5,2720N±003×5779E±004,h10km,Error ellipse: s-maj=5.7km s-min=3.9km az=0.1*
*CSEM **09** 09:08:01.1±0.2,2725N×5784E,h40km,ML3.7,Error ellipse: s-maj=4.9km s-min=2.6km az=115.0*
*THR **09** 09:08:01.4±0.5,2732N×5772E,h31km±5km,ML3.6*
ISC 09 09:08:00.1±1.1,2713N±003×5781E±005,h17km±7km,n28, σ1§43/35,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IBND	Bandar-abas	1.18	286	ePg	Pg	09 08 23.6	+0.7
BNDS	Bandar-Abbas	1.48	281	ePg	Pg	09 08 26.7	-2.0
BNDS				AML	AML	09 08 54.9	
	comp=N,860nm,0.5s						
BANOM	Banah	1.81	229	P	Pg	09 08 34.0	-1.0
	SNR=12						
BANOM	Banah	1.81	229	P	Pn	09 08 32.0	+1.4
	SNR=86						
BANOM				S	Sg	09 08 58.1	-0.5
ASHO	Ashiyiah	2.91	213	P	Pb	09 08 49.7	-1.8
	SNR=10						
ASHO	Ashiyiah	2.91	213	P	Pn	09 08 48.0	+2.4
	SNR=29						
KRBR	Kerman	2.98	342	ePn	Pn	09 08 46.4	-0.3
KRBR				eSg	Sb	09 09 26.6	-2.4
KRBR				AML	AML	09 09 31.2	
	comp=N,319nm,0.5s						
HOQ	Hoqain	3.57	187	P	Pn	09 08 54.7	0.0
	SNR=12						
ZHSF	Zahedan	3.59	46	ePn	Pn	09 08 56.3	+1.3
ZHSF				AML	AML	09 09 47.5	
	comp=E,88nm,0.7s						
BIDO	Bidbid	3.61	175	P	Pn	09 08 56.4	+1.1
	SNR=5.4						
SMDO	Samad	4.06	177	P	Pn	09 09 02.4	+0.9
	SNR=9.9						
BSY	Bisya	4.41	187	P	Pn	09 09 08.8	+2.6
	SNR=10						
GHIR	Ghir-Karzin	4.43	286	ePn	Pn	09 09 06.8	+0.3
GHIR				AML	AML	09 10 24.3	
	comp=N,47nm,0.6s						
GHIR				AML	AML	09 10 46.7	
	comp=E,55nm,0.5s						
ISRV	Sarvestan	4.71	299	ePn	Pn	09 09 10.7	+0.3
ISRV				e	Sb	09 10 20.5	+1.8
	comp=Z,656nm,0.2s						
IBAF	Bafgh	4.85	337	e	Sg	09 10 36.7	+0.8
	comp=Z,674nm,0.4s						
IMOK	Mouk	4.89	294	ePn	Pn	09 09 11.3	-1.6
IMOK				e	Sg	09 10 38.8	+1.6
	comp=Z,957nm,0.4s						
IPAR	Pars	4.99	304	ePn	Pn	09 09 15.0	+0.8
IPAR				e	Sb	09 10 27.7	+1.1
	comp=Z,902nm,0.4s						
IMEH	Mehriz	5.08	327	ePn	Pn	09 09 15.1	-0.4
IMEH				e	Sg	09 10 45.5	+2.3
	comp=Z,443nm,0.3s						
IKOO	Kooshah	5.37	11	ePn	Pn	09 09 18.3	-1.2
IKOO				eSg	Sb	09 10 40.2	+2.5
ITEG	Tejag	5.80	8	ePn	Pn	09 09 24.2	-1.2
IDAH	Dahanechah	5.86	17	ePn	Pn	09 09 25.2	-1.0
IMON	Monand	6.25	14	ePn	Pn	09 09 31.3	-0.2
NASN	Na'in	7.12	324	ePn	Pn	09 09 43.6	+0.2
IPIR	Pirpir	8.16	314	ePn	Pn	09 09 58.0	+0.2
IPIR				e		09 11 33.6	
	comp=E,441nm,0.4s						
QRN	Al-Qurain	8.90	283	eP	Pn	09 10 06.0	-1.9
RDF	Al-Radifah	9.24	284	eP	Pn	09 10 10.0	-2.6
RDF				AML	AML	09 11 57.8	
	comp=Z,26nm,0.4s						
NAY	Al-Naaiem	9.56	285	eP	Pn	09 10 14.3	-2.7
NAY				AML	AML	09 12 04.9	
	comp=Z,7.7nm,0.5s						
MIB	Mutribah	9.59	289	eP	Pn	09 10 14.8	-2.6
MIB				AML	AML	09 12 05.1	
	comp=Z,22nm,0.5s						

*CSEM **09** 09:11:31.3,3822N×2176E,h15km,ML2.5,After THE*
THE 09 09:11:31.3,3822N×2176E,h15km,ML2.5,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.12	64	ePg	Pg	09 11 37.4	+2.7
SELA				eSg	Sg	09 11 41.7	+4.7
KFL	Anninata	0.78	262	ePg	Pg	09 11 45.3	-1.0
VLS	Valsamata	0.92	267	ePg	Pg	09 11 47.5	-1.7
VLS				eSg	Sg	09 11 60.0	-1.3
LKD	Levkas	1.00	299	ePg	Pg	09 11 48.1	-2.4
LKD				eSg	Sg	09 12 02.0	-1.6

*IDC **09** 09:13:06.3±3.8,4403N×12849W,h0km,mb3.5/3, mb1 3.8/6,mb1mx3.6/24,mbtmp3.6/6,ML3.3/3,MS3.1/3, Ms1 3.1/3,ms1mx2.9/21,Error ellipse: s-maj=61.4km s-min=22.0km az=71.0*
*ISCJB **09** 09:13:07.7±0.6,44.14N±003×12853W±006,h10km, mb4.0/6,Error ellipse: s-maj=6.4km s-min=4.3km az=169.0*

*NEIC **09** 09:13:07.3±1.6,44.18N×12890W,h10km,mb4.1/11,Error ellipse: s-maj=20.1km s-min=9.1km az=79.0*
ISC 09 09:13:11.3±1.2,4411N±003×12864W±008,h34km±14km, n109,σ1§22/121,mb4.0/6,27C-31D,Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	3.37	110	ePn	Pn	09 14 00.8	-0.6
KEBM				eSn	Sn	09 14 37.9	-2.3
H02A	Toledo	3.38	79	⇓P	Pn	09 14 00.8	-0.8
	baz=3.9,SNR=8.8						
I02A	Mapleton	3.47	90	⇓P	Pn	09 14 01.6	-1.3
	baz=4.0,SNR=14						
I02A				⇑S	Sn	09 14 43.7	+0.9
	baz=4.0						
J02A	Umpqua	3.75	100	⇑P	Pn	09 14 04.6	-2.0
	baz=4.3						
J02A				⇑S	Sn	09 14 49.4	-0.1
	baz=4.3						
COR	Corvallis	3.86	81	ePn	Pn	09 14 07.4	-0.8
COR				eS	Sn	09 14 54.1	+1.8
I03A	Eugene	3.87	90	⇑P	Pn	09 14 07.5	-0.9
	baz=4.4,SNR=63						
I03A				⇑S	Sn	09 14 52.1	-0.5
	baz=4.4						
H03A	Soap Creek Ran	3.88	80	⇓P	Pn	09 14 07.1	-1.3
	baz=4.4,SNR=36						
H03A				⇑S	Sn	09 14 51.2	-1.6
	baz=4.4						
K02A	Glendale	3.98	108	⇑S	Sn	09 14 54.8	-0.5
	baz=4.5						
G03A	Yamhill	4.01	71	⇓P	Pn	09 14 08.6	-1.6
	baz=4.5,SNR=25						
G03A				⇑S	Sn	09 14 56.3	+0.3
	baz=4.5						
F03A	Seaside	4.04	61	⇑P	Pn	09 14 09.6	-1.1
	baz=4.5,SNR=7.1						
F03A				⇓S	Sn	09 14 57.5	+0.7
	baz=4.5						
L02A	Cave Junction	4.17	116	⇑S	Sn	09 14 59.2	-0.8
	baz=4.7						
J03A	Ideyld Park	4.18	98	⇑P	Pn	09 14 10.8	-1.8
	baz=4.7,SNR=10						
J03A				⇑S	Sn	09 15 00.1	-0.1
	baz=4.7						
E03A	Lebam	4.33	54	⇓P	Pn	09 14 13.7	-1.0
	baz=4.7						
E03A				⇓S	Sn	09 15 04.5	+0.5
	baz=4.7						
HUMO	Hull Mountain	4.41	108	⇑P	Pn	09 14 14.7	-1.0
	baz=5.0						
HUMO				⇓S	Sn	09 15 03.8	-2.0
	baz=5.0						
BROR	Big Rock Looko	4.46	86	P	Pn	09 14 16.6	+0.2
SSOR	Sweet Springs	4.49	78	P	Pn	09 14 16.3	-0.5
BBOR	Butler Butte	4.50	104	P	Pn	09 14 15.7	-1.4
I04A	Tendick Farm,	4.51	92	⇓P	Pn	09 14 15.4	-1.7
	baz=5.0						
G04A	Mulino	4.53	74	⇓P	Pn	09 14 16.3	-1.2
	baz=5.0,SNR=8.8						
HBO	Huckleberry Mo	4.57	91	P	Pn	09 14 17.9	0.0
RVW	Rose Valley	4.65	62	⇑P	Pn	09 14 18.9	-0.1
H04A	Detroit Lake	4.66	81	⇓P	Pn	09 14 18.1	-1.2
	baz=5.2,SNR=12						
GT2	Goat Mountain	4.67	75	P	Pn	09 14 19.5	+0.2
NLWA	Neilton Lookou	4.69	44	ePn	Pn	09 14 18.4	-1.2
NLWA				eS	Sn	09 15 12.0	-0.7
F04A	Amboy	4.78	65	⇓P	Pn	09 14 19.6	-1.2
	baz=5.2,SNR=9.5						
C03A	Quillayute Air	4.78	35	⇓S	Sn	09 15 16.1	+1.2
	baz=5.0						
VLMM	Larch Mountain	4.91	71	P	Pn	09 14 22.4	-0.3
MTMW	Mount Mitchell	4.94	65	P	Pn	09 14 22.9	-0.2
YBH	Yreka Blue Hor	4.96	117	ePn	Pn	09 14 25.3	+1.9
	5.4nm,0.8s						
TDH	Tom, Dick, Har	5.03	74	P	Pn	09 14 24.9	+0.7
TDL	Tradedollar La	5.06	61	⇑P	Pn	09 14 25.3	+0.6
OSD	Olympics--Snow	5.07	41	P	Pn	09 14 23.9	-0.9
PCMD	Pierce County	5.26	56	P	Pn	09 14 27.7	+0.3
VFP	Flag Point	5.26	74	P	Pn	09 14 28.0	+0.6
LHEM	Herd Peak	5.33	115	P	Pn	09 14 33.4	+5.0
G05A	Wamic	5.35	75	⇑P	Pn	09 14 28.9	+0.2
	baz=5.8,SNR=16						
F05A	White Salmon	5.40	68	⇓P	Pn	09 14 28.7	-0.6
	baz=5.9,SNR=7.7						
E05A	Randle	5.44	61	⇓P	Pn	09 14 30.2	+0.4
	baz=5.9,SNR=9.4						
D05A	Enumclaw	5.59	54	⇑P	Pn	09 14 32.0	+0.1
	baz=6.0,SNR=6.3						
KIPM	Iron Peak	5.76	136	ePn	Pn	09 14 32.3	-2.1
PGC	Sidney	5.79	36	ePn	Pn	09 14 33.0	-1.8
PGC				eSn	Sn	09 15 40.8	+0.9
G06A	Carlson Farm,	5.82	76	⇓P	Pn	09 14 34.5	-0.6
	baz=6.3,SNR=7.7						
H06A	Lindquist Farm	5.98	81	⇑P	Pn	09 14 35.8	-1.5
	baz=6.5						
B05A	Bryant	6.16	45	⇑P	Pn	09 14 38.3	-1.5
	baz=6.5						
G07A	Ruggs Ranch, H	6.50	77	⇓P	Pn	09 14 43.6	-0.9
	baz=7.0,SNR=6.0						
A05A	Maple Falls	6.66	40	⇓P	Pn	09 14 46.3	-0.3
	baz=6.9						
J07A	Hines	6.80	93	⇑P	Pn	09 14 47.1	-1.4
	baz=7.3,SNR=9.4						
HAWA	Hanford	6.83	67	ePn	Pn	09 14 49.2	+0.3
	8.3nm,0.7s						
G08A	Pilot Rock	7.00	77	⇓P	Pn	09 14 50.1	-1.3
	baz=7.5,SNR=16						
BBB	Bella Bella	8.09	2	Pn	Pn	09 15 06.5	+0.3
	0.2nm,0.3s,baz=134,slow=22,SNR=3.6						
BBB				LR	LR	09 17 54.3	
	comp=Z,96nm,20.3s,baz=50,slow=35						
G10A	Bishop Farm, J	8.29	78	⇓P	Pn	09 15 07.7	-1.4
	baz=8.8,SNR=8.1						
CMB	Columbia Colle	8.69	131	ePn	Pn	09 15 15.8	+1.2
G11A	Walters Elk Ra	8.90	77	⇑P	Pn	09 15 16.0	-1.4
	baz=9.4						
NEW	Newport	9.01	58	Pn	Pn	09 15 18.0	-0.8
	0.4nm,0.3s,baz=256,slow=7.1,SNR=3.6						
NEW				LR	LR	09 18 44.3	
	comp=Z,220nm,21.9s,baz=259,slow=38						
F11A	Grangeville	9.03	74	⇓P	Pn	09 15 18.1	-1.0
	baz=9.5,SNR=7.9						
E11A	Bogner Ranch,	9.06	71	⇑P	Pn	09 15 19.3	-0.2
	baz=9.5						
D11A	Klaveano Farm,	9.12	67	⇓P	Pn	09 15 22.3	+1.9
	baz=9.6,SNR=5.5						
I11A	Placerville	9.15	87	⇑P	Pn	09 15 21.3	+0.5
	baz=9.7						
K11A	Parker Ranch,	9.27	94	⇓P	Pn	09 15 23.5	+1.0
	baz=9.8,SNR=5.3						
R07C	Lee Vining	9.41	126	⇑P	Pn	09 15 25.1	+0.7
	baz=9.9						
NVAR	Mina Array Bea	9.63	123	Pn	Pn	09 15 26.6	-0.8
	0.1nm,0.3s,baz=287,slow=14,SNR=9.6						
F12A	Elk City	9.64	75	⇓P	Pn	09 15 28.9	+1.4
	baz=10,SNR=7.0						
J12A	Stokes Ranch,	9.85	90	⇓P	Pn	09 15 32.0	+1.6
	baz=10,SNR=8.3						
H12A	Diamond D Ranc	9.89	83	⇓P	Pn	09 15 32.9	+1.9
	baz=10,SNR=19						
F13A	Darby	10.29	76	⇓P	Pn	09 15 36.9	+0.6
	baz=11,SNR=9.4						
HLID	Hailey	10.30	88	⇑P	Pn	09 15 37.3	+0.8
	baz=11,SNR=15						
G13A	Cobalt	10.33	79	⇑P	Pn	09 15 39.3	+2.4
	baz=11,SNR=18						
C13A	Hot Springs	10.44	65	⇓P	Pn	09 15 40.7	+2.3
	baz=11						
E13A	Victor	10.46	72	⇓P	Pn	09 15 38.7	0.0
	baz=11						
I13A	Wildhorse Cree	10.47	86	⇓P	Pn	09 15 40.9	+2.0
	baz=11,SNR=9.5						
J13A	Cove Ranch, Pi	10.49	89	⇓P	Pn	09 15 41.8	+2.6
	baz=11,SNR=11						
MSO	Missoula	10.68	70	ePn	Pn	09 15 40.6	-1.2
	3.1nm,0.9s						
E14A	Clinton	10.93	72	⇑P	Pn	09 15 44.6	-0.5
	baz=11						
CHMT	Chamberlain Mo	11.16	70	ePn	Pn	09 15 48.5	+0.2
MCMT	McKenzie Canyo	11.31	81	ePn	Pn	09 15 51.5	+1.1
DLMT	Dillon	11.49	78	ePn	Pn	09 15 54.5	+1.7
	5.0nm,0.9s						
BOZ	Bozeman (W)	12.17	77	ePn	Pn	09 16 03.5	+1.4
	2.6nm,0.9s						
QLMT	Earthquake Lak	12.32	81	ePn	Pn	09 16 07.2	+3.0
DUG	Dugway	12.38	103	ePn	Pn	09 16 09.0	+4.0
	1.7nm,1.0s						
IMW	Indian Meadow	12.75	85	ePn	Pn	09 16 12.0	+1.9
	9.6nm,1.1s						
HWUT	Hardware Ranch	12.78	95	ePn	Pn	09 16 11.2	+0.7
	6.7nm,1.1s						
TPAW	Teton Pass	12.80	87	ePn	Pn	09 16 12.9	+2.2
	8.6nm,1.0s						
FLWY	Flagg Ranch	12.90	84	ePn	Pn	09 16 15.2	+3.1
	21nm,1.0s						
SNOW	Snow King Moun	12.95	87	ePn	Pn	09 16 16.8	+4.1
	5.5nm,1.0s						
ARUT	Antelope Range	13.10	114	ePn	Pn	09 16 17.8	+2.9
GCMT	Greycliff	13.55	76	ePn	Pn	09 16 24.8	+3.8
EGMT	Eagleton	13.68	67	ePn	Pn	09 16 27.7	+5.0
	17nm,1.1s						
BW06	Boulder Array	13.94	89	ePn	Pn	09 16 31.7	+5.5
	3.0nm,1.2s						
PFO	Pinyon Flat Ob	14.12	134	LR	LR	09 21 21.0	
	comp=Z,86nm,19.3s,baz=272,slow=35						
WUAZ	Wupatki	15.78	117	ePn	Pn	09 16 55.1	+4.3
	17nm,1.3s						
PV10	Paradox Valley	15.80	104	ePn	Pn	09 16 51.9	+0.8
RWWY	Rawlins	15.89	91	ePn	Pn	09 16 54.0	+1.8
	25nm,1.4s						
PV01	Paradox Valley	16.24	105	eP	Pn	09 16 56.7	-0.1
MVCO	Mesa Verde	16.74	107	eP	Pn	09 17 02.0	-1.1
	6.7nm,0.9s						
SMCO	Snowmass	16.91	99	eP	Pn	09 17 05.7	+0.5
	24nm,1.9s						
DGMT	Dagmar	17.42	67	eP	Pn	09 17 13.7	+2.2
	24nm,1.1s						
ISCO	Idaho Springs	17.64	96	eP	Pn	09 17 16.4	+2.1
	2.7nm,0.8s						
SDCO	Great Sand Dun	18.57	102	eP	Pn	09 17 26.5	+0.8
	4.7nm,1.0s						
LAZ	Ladron	19.22	113	eP	Pn	09 17 34.9	+1.4
ANMO	Albuquerque	19.35	111	P	Pn	09 17 36.3	+1.2
	baz=311,slow=11,SNR=9.0						
BNM	Barren Site	19.71	113	eP	Pn	09 17 40.8	+1.5
YKA	Yellowknife Ar	20.16	19	P	P	09 17 41.1	-1.2
	1.8nm,0.8s,baz=207,slow=11,SNR=10						
AMTX	Amarillo	22.67	105	eP	P	09 18 09.5	-0.1
	8.0nm,1.1s,mb4.1						
AGMN	Agassiz Refuge	22.97	68	eP	P	09 18 11.8	-0.7
	5.8nm,1.0s,mb4.0						
ULM	Lac du Bonnet	22.98	63	P	P	09 18 11.7	-1.0
	3.8nm,0.8s,mb3.9,baz=278,slow=10,SNR=6.2						
ECSD	EROS,Sioux Fal	23.00	80	eP	P	09 18 12.7	-0.3
	14nm,1.0s,mb4.4						
TXAR	Lajitas Array	24.73	118	P	P	09 18 27.9	-1.6
TXAR	Lajitas Array	24.73	118	P	P	09 18 27.9	-1.6
	0.6nm,0.8s,mb3.1,baz=325,slow=13,SNR=3.1						
WMOK	Wichita Mounta	24.78	102	eP	P	09 18 30.8	+0.9
	20nm,1.5s,mb4.4						

*ISCJB **09** 09:20:37.9±0.5,3804N±003×2294E±004,h2km,Error ellipse: s-maj=4.5km s-min=4.0km az=153.6*
*CSEM **09** 09:20:38.7±0.1,3805N×2298E,h2km,ML2.7,Error ellipse: s-maj=2.3km s-min=1.7km az=69.0*
*ATH **09** 09:20:38.4,3802N×2291E,h4km,MD2.8/4,ML2.5*
*NEIC **09** 09:20:38.1,3804N×2296E,h4km,ML2.5(ATH),After ATH.*
*THE **09** 09:20:38.5,3804N×2298E,h3km,ML2.7*
ISC 09 09:20:38.3±0.6,3804N±003×2294E±004,h3km±9km,n15, σ0§93/23,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	Loutraki	0.03	125	ePg	Pg	09 20 37.5	-1.6
LTK				eSg	Sg	09 20 38.8	-0.8
NAIG	Nisos Aigina	0.52	123	ePG	Pg	09 20 48.0	-0.2
NAIG				eSG	Sg	09 20 55.5	+0.6
NAIG	Nisos Aigina	0.52	123	ePg	Pg	09 20 48.0	-0.2
NAIG				eSg	Sg	09 20 54.5	-0.4
DID	Didima	0.58	156	ePg	Pg	09 20 49.3	-0.1
DID				eSg	Sg	09 20 58.3	+1.3
LKR	Lokris	0.61	4	ePg	Pg	09 20 50.0	-0.1
LKR				eSg	Sg	09 20 59.6	+1.5
LKR	Lokris	0.61	4	ePg	Pg	09 20 49.7	-0.4
LKR				eSg	Sg	09 20 59.6	+1.5
ATH	Athens Observa	0.62	96	ePG	Pg	09 20 49.7	-0.5
ATH				eSG	Sg	09 20 59.5	+1.3
PTL	Penteli	0.73	89	ePB	Pb	09 20 53.5	-0.2
VLX	Vlachokerasia	0.80	214	ePg	Pg	09 20 53.9	+0.3
VLX				eSg	Sg	09 21 06.1	+2.1
AGG	Agios Georgios	1.09	334	ePg	Pg	09 20 59.2	0.0
AGG	Agios Georgios	1.09	334	ePg	Pg	09 20 59.2	-0.1
ITM	Ithomi	1.18	224	ePB	Pb	09 20 59.9	-1.3
EVR	Evrytania	1.25	315	ePB	Pb	09 21 02.0	-0.5
VLI	Velíai	1.32	180	ePB	Pb	09 21 03.1	-0.6
PYL	PYLOS	1.49	220	ePg	Pg	09 21 06.6	-0.2

*ISCJB **09** 09:24:28.5±0.6,3642N±002×2875E±002,h8km±4km, Error ellipse: s-maj=4.2km s-min=3.1km az=150.8*
*CSEM **09** 09:24:28.4±0.1,3647N×2878E,h5km,MD3.8,Error ellipse: s-maj=1.6km s-min=1.1km az=165.0*
*ATH **09** 09:24:28.0,3642N×2875E,h16km±1km,MD3.8/15*
*NEIC **09** 09:24:28.2,3642N×2877E,h20km,MD3.8(ATH),After ATH.*
*ISK **09** 09:24:28.2,3642N×2875E,h9km,ML3.8*
*DDA **09** 09:24:30.3,3648N×2879E,h6km±4km,Md3.3*
*HLW **09** 09:24:30.2,3632N×2884E,h33km,Mb3.6*
*THE **09** 09:24:31.8,3644N×2872E,h8km,ML4.2*
ISC 09 09:24:28.8±0.5,3640N±002×2877E±002,h5km±3km,n69, σ0§86/93,2C-1D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.35	47	PG	Pg	09 24 35.3	-0.2
FETY				eSG	Sg	09 24 40

NPS	Neapolis	2.80	247	*e*PN	Pn	09 25 13.7	-0.5
ALT	Altintas	2.86	21	*e*PN	Pn	09 25 14.8	-0.2
XRY	Khrisi	2.93	240	*e*PN	Pn	09 25 16.0	0.0
CHOS	Chios island	2.93	313	*e*Pn	Pn	09 25 16.1	+0.1
CHOS				*e*Sn	Sn	09 25 51.0	-0.6
LAST	Lasithi	2.94	246	*e*Pn	Pn	09 25 16.4	+0.2
LAST				*e*Sn	Sn	09 25 52.5	+0.6
DST	Dursunbey	3.20	358	*e*PN	Pn	09 25 20.0	+0.3
KONT	Konya--Tatoy	3.26	61	*e*PN	Pn	09 25 21.2	+0.7
BALB	Balikesir	3.31	348	*e*PN	Pn	09 25 20.9	-0.3
ERMK	Ermenek	3.35	85	*i* P	Pn	09 25 23.4	+1.6
BTOK	Tokmak	3.41	350	*i* P	Pn	09 25 21.9	-0.7
PRK	Paraskevi	3.46	326	*e*Pn	Pn	09 25 23.8	+0.5
PRK				*e*Sn	Sn	09 26 04.4	-0.2
KIZT	Kizilcal	3.50	44	*e*PN	Pn	09 25 24.3	+0.5
SIVA	Sivas	3.50	248	*e*Pn	Pn	09 25 25.2	+1.4
SIVA				*e*Sn	Sn	09 26 06.0	+0.4
ESKT	Eskisehir	3.52	27	*e*PN	Pn	09 25 24.3	+0.2
LEF	Lefka	3.59	110	*e*PN	Pn	09 25 25.5	+0.5
VAM	Vamos	3.84	256	*e*PN	Pn	09 25 30.5	+2.0
EZN	Ezine	3.93	331	*e*PN	Pn	09 25 29.5	-0.2
IZI	Iznik	3.97	8	*e*PN	Pn	09 25 31.0	+0.7
IKL	Isikli	3.98	91	*e*PN	Pn	09 25 31.4	+1.1
BNT	Bandirma	4.01	351	*e*PN	Pn	09 25 31.0	+0.2
BOZC	Bozcaada	4.05	329	*i* P	Pn	09 25 31.3	0.0
BOZC				*i* S	Sn	09 26 17.5	-1.6
KARN	Karanos	4.06	257	*e*Pn	Pn	09 25 32.8	+1.3
GVD	Gavdhos	4.12	249	*e*PN	Pn	09 25 33.0	+0.7
GADA	Gvkgeada	4.41	330	*e*PN	Pn	09 25 37.1	+0.8
LIA	Limnos Island	4.49	322	*e*Pn	Pn	09 25 38.1	+0.7
LIA				*e*Sn	Sn	09 26 29.8	-0.3
LOS	Limnos	4.57	322	*e*Pn	Pn	09 25 38.8	+0.3
KYTH	Kithira	4.63	270	*e*PN	Pn	09 25 41.0	+1.7
VLI	Velia	4.70	276	*e*PN	Pn	09 25 41.4	+1.0
ALN	Alexandroupoli	4.97	335	*e*Pn	Pn	09 25 44.7	+0.7
ITM	Ithomi	5.54	280	*e*PN	Pn	09 25 52.2	+0.3
SLUM		5.72	212	P	Pn	09 25 52.7	-1.6
SLUM				S	Sn	09 26 52.6	-7.6
AMAG	Maghara	6.83	146	P	Pn	09 26 07.2	-2.5
HSAF	As Saff	7.15	160	P	Pn	09 26 11.7	-2.4
GLL	Jalalah	7.24	159	⇑P	Pn	09 26 13.1	-2.0
GLL				S	Sn	09 27 28.1	-10
SUZ		7.38	151	⇑P	Pn	09 26 14.3	-2.8

*ISCJB **09** 09:39:19.9±2.1, 379S±02×1760E±02, h306km±16km, Error ellipse: s-maj=36.2km s-min=16.9km az=142.4*
*WEL **09** 09:39:24.0±0.4, 3792S×1761.2E, h276km±4km, ML3.8/15, Error ellipse: s-maj=7.5km s-min=7.3km az=90.0*
*NEIC **09** 09:39:24.0, 3792S×1761.2E, h276km, MG3.8(WEL), After WEL.*
ISC 09 09:39:20.7±2.1, 379S±02×1760E±02, h303km±16km, n58, σ0=96/63, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.91	112	P	Pn	09 40 00.9	0.0
URZ	Urewera	0.91	112	PN	Pn	09 40 00.9	0.0
URZ				SN	S	09 40 29.9	-3.0
MWZ	Matawai	1.24	110	P	Pn	09 40 03.1	+0.6
MWZ				S	S	09 40 33.0	-2.8
MWZ	Matawai	1.24	110	PN	Pn	09 40 03.1	+0.6
MWZ				SN	S	09 40 33.0	-2.8
BKZ	Black Stump Fm	1.30	164	P	Pn	09 40 03.6	+0.8
BKZ	Black Stump Fm	1.30	164	PN	Pn	09 40 03.6	+0.8
WPVZ	Whakapapa	1.34	197	P	Pn	09 40 04.1	+1.0
WPVZ	Whakapapa	1.34	197	PN	Pn	09 40 04.1	+1.0
TUVZ	Tukino	1.38	193	P	Pn	09 40 04.4	+1.1
TUVZ	Tukino	1.38	193	PN	Pn	09 40 04.4	+1.1
FWVZ	Far West T-bar	1.39	196	P	Pn	09 40 04.6	+1.3
FWVZ	Far West T-bar	1.39	196	PN	Pn	09 40 04.6	+1.3
WNVZ	Wahianoa	1.45	194	P	Pn	09 40 04.6	+0.9
WNVZ	Wahianoa	1.45	194	PN	Pn	09 40 04.6	+0.9
PKVZ	Pokaka	1.48	202	PN	Pn	09 40 04.7	+0.9
MOVZ	Moawhango	1.50	189	P	Pn	09 40 04.7	+0.6
MOVZ	Moawhango	1.50	189	PN	Pn	09 40 04.7	+0.7
PUZ	Puketiti	1.76	96	P	Pn	09 40 05.9	+0.1
PUZ	Puketiti	1.76	96	PN	Pn	09 40 05.9	+0.1
MXZ	Matakaoa Point	1.83	80	P	Pn	09 40 06.6	+0.2
MXZ				S	S	09 40 40.9	-1.9
MXZ	Matakaoa Point	1.83	80	PN	Pn	09 40 06.6	+0.2
MXZ				SN	S	09 40 40.9	-1.9
WAZ	Wanganui	2.01	204	PN	Pn	09 40 08.4	+0.7
TSZ	Takapari Road	2.14	182	P	Pn	09 40 09.4	+0.7
TSZ	Takapari Road	2.14	182	PN	Pn	09 40 09.4	+0.7
WPHZ	Waipukurau	2.17	172	PN	Pn	09 40 09.9	+1.0
PXZ	Pawanui	2.21	163	PN	Pn	09 40 10.5	+1.3
MRZ	Mangatainoka R	2.76	187	P	Pn	09 40 14.5	+0.3
MRZ	Mangatainoka R	2.76	187	PN	Pn	09 40 14.5	+0.2
KIW	Kapiti Island	3.07	196	P	Pn	09 40 17.3	+0.1
KIW	Kapiti Island	3.07	196	PN	Pn	09 40 17.3	+0.1
MTW	Mount Morrison	3.26	187	P	Pn	09 40 19.1	0.0
MTW	Mount Morrison	3.26	187	PN	Pn	09 40 19.1	0.0
CAW	Cannon Point	3.27	193	P	Pn	09 40 19.3	0.0
CAW	Cannon Point	3.27	193	PN	Pn	09 40 19.3	+0.1
DUWZ	D'Urville Isla	3.32	209	PN	Pn	09 40 19.7	0.0
MRW	Makara Radio	3.47	197	P	Pn	09 40 21.2	0.0
MRW	Makara Radio	3.47	197	PN	Pn	09 40 21.2	0.0
TCW	Tory Channel	3.56	202	P	Pn	09 40 22.0	-0.2
TCW	Tory Channel	3.56	202	PN	Pn	09 40 22.0	-0.2
TUWZ	Tuamarina	3.86	204	PN	Pn	09 40 25.4	-0.1
NNZ	Nelson	3.89	211	P	Pn	09 40 25.0	-0.7
NNZ	Nelson	3.89	211	PN	Pn	09 40 25.0	-0.7
QRZ	Quartz Range	3.98	222	P	Pn	09 40 25.2	-1.5
QRZ	Quartz Range	3.98	222	PN	Pn	09 40 25.2	-1.5
BSWZ	Blackbirch Sta	4.14	203	P	Pn	09 40 28.7	+0.2
BSWZ	Blackbirch Sta	4.14	203	PN	Pn	09 40 28.7	+0.2
THZ	Tophouse	4.54	211	P	Pn	09 40 32.0	-0.9
THZ	Tophouse	4.54	211	PN	Pn	09 40 32.0	-0.9
KHZ	Kahutara	4.89	202	P	Pn	09 40 36.8	-0.1
KHZ	Kahutara	4.89	202	PN	Pn	09 40 36.8	-0.1
DSZ	Denniston Nort	5.03	219	P	Pn	09 40 36.9	-1.6
DSZ	Denniston Nort	5.03	219	PN	Pn	09 40 36.9	-1.6
MQZ	McQueen's Vall	6.33	203	P	Pn	09 40 52.3	-1.6
MQZ	McQueen's Vall	6.33	203	PN	Pn	09 40 52.3	-1.6
WVZ	Waitaha Valley	6.55	216	P	Pn	09 40 55.3	-1.2
WVZ	Waitaha Valley	6.55	216	PN	Pn	09 40 55.3	-1.2
ODZ	Otahua Downs	8.19	208	P	Pn	09 41 16.8	+0.3
ODZ	Otahua Downs	8.19	208	PN	Pn	09 41 16.8	+0.4

*ISCJB **09** 09:59:35.3±1.3, 184S±03×1780W±02, h554km±19km, mb4.2/15, Error ellipse: s-maj=55.0km s-min=12.4km az=149.3*
*NEIC **09** 09:59:36.0±0.9, 1849S×17787W, h553km±11km, mb4.5/11, Error ellipse: s-maj=34.4km s-min=7.6km az=149.0*
*IDC **09** 09:59:40.2±3.2, 1834S×178.10W, h593km±40km, mb3.4/7, mb1 3.7/7, mb1mx3.3/15, mbtmp3.4/7, Error ellipse: s-maj=78.8km s-min=14.5km az=153.0*
ISC 09 09:59:36.3±1.3, 184S±03×1780W±02, h552km±17km, n25, σ0=71/24, mb4.2/15, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.44	54	*e*Pn	P	10 01 27.9	-0.8
	44nm,0.6s						
ARMA	Armidale	30.06	241	*e*P	P	10 05 02.4	+1.2
CNB	Canberra Magne	33.47	233	*e*P	P	10 05 30.3	+0.2
	4.2nm,0.4s,mb4.3						
CTA	Charters Tower	33.79	261	*e*P	P	10 05 34.3	+1.2
	8.8nm,0.6s,mb4.5						
CTAO	Charters Tower	33.79	261	*e*P	P	10 05 34.0	+0.9
	12nm,0.6s,mb4.6						
STKA	Stephens Creek	38.77	242	*e*P	P	10 06 14.4	+0.5
	6.4nm,0.8s,mb4.2						
STKA	Stephens Creek	38.77	242	*e*P	P	10 06 14.3	+0.3
	6.3nm,0.4s,mb4.5						
STKA	Stephens Creek	38.77	242	P	P	10 06 14.5	+0.6
	5.5nm,0.4s,mb4.4,baz=86,slow=8.8,SNR=33						
WB2	Warramunga Arr	44.95	260	*e*P	P	10 07 02.8	0.0
WRAB	Tennant Creek	44.95	260	*e*P	P	10 07 02.6	-0.2
	5.0nm,0.6s,mb4.2						
WRA	Warramunga Arr	44.96	260	P	P	10 07 02.9	0.0
	7.3nm,0.6s,mb4.4,baz=97,slow=7.7,SNR=213						
WRA				PcP	PcP	10 08 32.1	-0.3
	0.6nm,0.5s,baz=96,slow=3.6,SNR=4.6						
ASAR	Alice Springs	45.07	255	P	P	10 07 04.0	+0.3
	14nm,0.7s,mb4.6,baz=88,slow=8.2,SNR=221						
ASAR				PcP	PcP	10 08 31.4	-1.2
	0.9nm,0.5s,baz=96,slow=4.7,SNR=4.8						
ASAR				S	S	10 13 00.6	-2.3
	0.6nm,1.0s,baz=87,slow=16,SNR=4.5						
KAKA	Kakadu	48.00	269	*e*P	P	10 07 26.7	+0.8
	11nm,0.4s,mb4.7						
KAKA	Kakadu	48.00	269	*e*P	P	10 07 26.4	+0.5
	23nm,0.4s,mb5.1						
FORT	Forrest	50.18	245	*e*P	P	10 07 40.7	-1.1
	12nm,0.6s,mb4.5						
FITZ	Fitzroy Crossi	53.37	261	*e*P	P	10 08 05.3	+0.4
	5.9nm,0.4s,mb4.3						
MBWA	Marble Bar	58.37	256	*e*P	P	10 08 38.7	-0.8
	5.6nm,0.3s,mb4.3						
KLBR	Kellerberrin	58.99	244	*e*P	P	10 08 42.6	-0.9
	10.0nm,0.6s,mb4.2						
MUN	Mundaring	60.28	243	*e*P	P	10 08 51.7	-0.4
NVAR	Mina Array Bea	79.49	44	P	P	10 10 46.9	+0.9
	0.6nm,0.7s,mb3.0,baz=225,slow=10,SNR=6.5						
TXAR	Lajitas Array	85.90	57	P	P	10 11 18.9	+0.4
	0.5nm,0.6s,mb3.3,baz=213,slow=6.3,SNR=6.2						
INK	Inuvik	92.25	15	P	P	10 11 46.8	-0.3
	1.0nm,0.9s,mb3.8,baz=205,slow=4.8,SNR=3.6						
YKA	Yellowknife Ar	94.60	25	P	P	10 11 57.7	-0.2
	0.3nm,0.9s,mb3.4,baz=255,slow=8.9,SNR=2.8						
ARCES	ARCESS Array B	126.88	350	PKP	PKPdf	10 17 36.2	-0.8
	3.7nm,0.9s,baz=338,slow=2.0,SNR=6.3						
GERES	GERESS Array B	148.20	345	PKPbc	PKPbc	10 18 20.0	-0.3
	1.2nm,0.8s,baz=64,slow=6.1,SNR=4.5						

*IDC **09** 10:25:17.6±0.5, 958N×7087W, h0km, mb4.4/15, mb1 4.6/20, mb1mx4.5/24, mbtmp4.5/20, ML4.7/5, MS3.7/10, Ms1 3.7/10, ms1mx3.4/25, Error ellipse: s-maj=15.1km s-min=7.5km az=72.0*
*BJI **09** 10:25:20.1, 950N×7080W, h4km, mB5.3, Ms4.9, Msz4.6*
*ISCJB **09** 10:25:21.4±0.5, 957N±002×7075W±002, h26km±3km, mb4.7/42, MS4.1/10, Error ellipse: s-maj=3.3km s-min=2.8km az=175.4*
*FUNV **09** 10:25:21.7, 958N×7076W, h5km, MW4.9*
*NEIC **09** 10:25:21.1, 955N×7075W, h4km, mb4.9/27, MW4.9(CAR), After CAR.*
*MOS **09** 10:25:22.0±1.6, 961N×7053W, h33km, mb5.0/10, Error ellipse: s-maj=13.5km s-min=6.6km az=114.4*
ISC 09 10:25:20.9±0.5, 955N±002×7075W±002, h10km±3km, h4km±2km:pP-P, n398, σ0=91/418, mb4.7/42, MS4.1/10, 94C-86D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDV	Santo Domingo	0.67	170	*e*Pg	Pg	10 25 33.8	-0.2
SDV				*e*Sg	Sg	10 25 43.3	+0.5
SDV	Santo Domingo	0.67	170	Pg	Pg	10 25 33.5	-0.5
	436nm,0.3s,baz=7.8,slow=5.8,SNR=5.2						
SDV				Lg		10 25 42.1	
	8μm,0.3s,baz=47,slow=13,SNR=143						
QARV	Quebrada Arrib	0.69	19⇑	*e*P	Pg	10 25 34.1	-0.2
QARV				*e*S	Sg	10 25 43.5	+0.3
QARV	Quebrada Arrib	0.69	19	*e*P	Pg	10 25 33.6	-0.6
QARV				*e*S	Sg	10 25 43.5	+0.3
CURV	Curarigua	0.90	59⇓	*i*P	Pg	10 25 38.1	-0.2
CURV				*e*S	Sg	10 25 50.0	-0.1
CURV	Curarigua	0.90	59	*e*P	Pg	10 25 38.1	-0.2
VIGV	El Vigia	0.93	221⇑	*e*P	Pg	10 25 38.8	-0.2
VIGV				*e*S	Sg	10 25 52.7	+1.6
VIGV	El Vigia	0.93	221	*e*P	Pg	10 25 39.2	+0.3
VIGV				*e*S	Sg	10 25 51.5	+0.4
SANV	Sanarito	1.20	92⇓	*i*P	Pb	10 25 44.0	+0.3
SANV				*e*S	Sb	10 25 59.8	+0.6
SANV	Sanarito	1.20	92	*e*P	Pb	10 25 43.9	+0.2
SANV				*e*S	Sb	10 25 59.1	-0.1
SOCV	Socops	1.27	185⇑	*e*P	Pn	10 25 44.5	-0.1
SOCV				*e*S	Sb	10 26 02.7	+1.5
SOCV	Socops	1.27	185	*e*P	Pn	10 25 44.4	-0.3
SOCV				*e*S	Sb	10 26 00.5	-0.7
DABV	Dabajuro	1.36	5⇓	*i*P	Pn	10 25 46.3	+0.3
DABV				*e*S	Sb	10 26 05.4	+1.3
SIQV	Siquisique	1.43	40	*e*P	Pn	10 25 47.6	+0.7
SIQV				*e*S	Sn	10 26 07.3	+1.6
SIQV	Siquisique	1.43	40	*e*P	Pn	10 25 48.0	+1.1
SIQV				*e*S	Sn	10 26 07.8	+2.0
TEPV	Terepaima	1.59	75	*e*P	Pn	10 25 50.2	+1.1
TEPV				*e*S	Sn	10 26 11.2	+1.5
TEPV	Terepaima	1.59	75	*e*P	Pn	10 25 50.2	+1.1
TEPV				*e*S	Sn	10 26 10.5	+0.8
VIRV	Villa del Rosa	1.89	300⇓	*i*P	Pn	10 25 51.7	-1.6
VIRV				*e*S	Sn	10 26 18.3	+1.2
VIRV	Villa del Rosa	1.89	300	*e*P	Pn	10 25 53.5	+0.3
VIRV				*e*S	Sn	10 26 17.2	+0.1
CAPV	Capacho	2.28	223⇑	*e*P	Pn	10 25 59.2	+0.5
CAPV				*e*S	Sn	10 26 28.6	+1.8
JACV	Jacura	2.43	51⇑	*e*P	Pn	10 26 01.1	+0.5
JACV				*e*S	Sn	10 26 30.7	+0.3
BAUV	El Baul	2.74	103⇑	*e*P	Pn	10 26 05.2	+0.2
BAUV				*e*S	Sn	10 26 38.5	+0.4
CAFV	EL CAFE	2.75	75⇑	*i*P	Pn	10 26 06.7	+1.6
ELOV	Elorza	2.83	154⇑	*i*P	Pn	10 26 07.0	+0.8
ELOV				*e*S	Sn	10 26 41.2	+0.9
TURV	Turiamo	3.00	72⇑	*e*P	Pn	10 26 08.3	-0.2
TURV				*e*S	Sn	10 26 44.4	-0.2
TURV	Turiamo	3.00	72	*e*P	Pn	10 26 08.6	0.0
TURV				*e*S	Sn	10 26 43.9	-0.6
PAUV	EL PAUJM	3.51	79	*e*P	Pn	10 26 16.9	+1.3
IVIV	IVIC	3.81	77	*e*P	Pn	10 26 20.9	+1.2
FDCV	FORTIN DE LA C	3.86	75	*e*P	Pn	10 26 21.8	+1.4
OCUV	OCUMARITO	3.93	81	*e*P	Pn	10 26 22.3	+1.0
FUNV	FUNVISIS	3.98	76	*e*P	Pn	10 26 23.0	+0.9
LLAV	El Llanito	3.98	76	*e*P	Pn	10 26 23.2	+1.1
MERV	Las Mercedes	4.40	94⇑	*i*P	Pn	10 26 28.3	+0.5
CAOV	Caicara del Or	4.91	116⇑	*i*P	Pn	10 26 34.3	-0.4
CUPV	Cupira	4.91	84⇑	*i*P	Pn	10 26 35.5	+0.6
ORCV	Isla La Orchil	5.01	63	*e*P	Pn	10 26 35.5	-0.7
PAYV	Puerto Ayacuch	5.12	143	*e*P	Pn	10 26 37.5	-0.3
ROSC	El Rosal	5.87	218	*e*Pn	Pn	10 26 49.6	+1.7
ROSC	El Rosal	5.87	218	Pn	Pn	10 26 49.9	+2.0
	16nm,0.3s,baz=80,slow=6.3,SNR=40						
ROSC				Sn	Sn	10 27 59.6	+4.3
	40nm,0.3s,baz=50,slow=23,SNR=4.2						
PCRV	Puerto La Cruz	6.05	84	*e*P	Pn	10 26 51.1	+0.6
PCRV	Puerto La Cruz	6.05	84	Pn	Pn	10 26 51.7	+1.2
	16nm,0.3s,baz=243,slow=4.6,SNR=41						
PCRV				Sn	Sn	10 28 01.4	+1.4
	17nm,0.3s,baz=185,slow=18,SNR=7.5						
PCRV				Lg		10 28 36.0	
	11nm,0.3s,baz=88,slow=21,SNR=2.2						
PCRV				LR	LR	10 29 41.6	
	comp=Z,934nm,20.4s,baz=69,slow=42						
PRGV	PARIAGUAN	6.08	97	*e*P	Pn	10 26 50.8	0.0
IBAV	Isla La Blanqu	6.47	69	*e*P	Pn	10 26 55.9	-0.4
ORIV	Oritupano	7.26	93	*e*P	Pn	10 27 05.9	-1.2
GUNV	Guanoco	7.71	85	*e*P	Pn	10 27 13.0	-0.4
GURV	El Guri	7.78	103	*e*P	Pn	10 27 12.6	-1.7
RIOV	Rio Grande	8.95	99	*e*P	Pn	10 27 29.1	-1.2
BCIP	Isla Barro Col	8.98	268	*e*Pn	Pn	10 27 28.7	-2.0
BCIP				*e*Sn	Sn	10 29 11.2	-0.8
SDDR	Presa de Saban	9.39	357	*e*Pn	Pn	10 27 37.0	+0.7
SDDR				*e*Sn	Sn	10 29 17.7	-4.4
AOPR	Arecibo Observ	9.56	23	*e*Pn	Pn	10 27 36.4	-2.3
SJG	San Juan	9.61	27	*e*Pn	Pn	10 27 36.9	-2.4
SJG				*e*Sn	Sn	10 29 19.0	-8.4
SJG	San Juan	9.61	27	Pn	Pn	10 27 37.6	-1.7
	14nm,0.3s,baz=204,slow=15,SNR=9.7						
SJG				Sn	Sn	10 29 14.6	-13
	3.9nm,0.3s,baz=31,slow=19,SNR=2.4						
SJG				LR	LR	10 31 40.1	
	comp=Z,299nm,20.0s,baz=267,slow=40						
CPD	Cerro la Pandu	9.65	29	*e*P	Pn	10 27 38.0	-1.9
HUMP	Col San Antoni	9.77	29	*e*Pn	Pn	10 27 42.4	+0.8
MTP	Monte Pirata	9.88	30	*e*Pn	Pn	10 27 41.2	-1.8
MTP				*e*Sn	Sn	10 29 26.9	-7.2
CBYP	Canovanas	9.88	28	*e*Pn	Pn	10 27 41.4	-1.7
LUEV	Luepa	9.91	111	*e*P	Pn	10 27 41.7	-1.8
MASC	Masc	11.08	343	*e*P	Pn	10 28 00.8	+1.2
	baz=152						
MASC				*e*S	Sn	10 29 55.5	-8.1
	comp=N,0.7nm,1.7s						
MASC				*e*			
	comp=E,1.8nm,1.5s						
RCC	Rio Carpintero	11.43	336	*e*P	Pn	10 28 02.7	-1.6
RCC				*e*S	Sn	10 29 57.2	-15
	comp=N,28nm,1.6s						
RCC				*e*			
	comp=E,32nm,1.8s						
JTS	JuntasAbangare	14.01	274	Pn	Pn	10 28 36.8	-2.9
	comp=E,0.4nm,0.3s,baz=109,slow=8.4,SNR=3.0						
JTS				Sn	Sn	10 31 06.6	-8.8
	comp=E,0.5nm,0.3s,baz=278,slow=22,SNR=5.9						
JTS				LR	LR	10 33 55.5	
	comp=E,125nm,21.9s,baz=100,slow=37						
TGUH	Tegucigalpa,Un	16.78	287	*e*Pn	Pn	10 29 17.7	+1.5
ATAH	Atahualpa	18.12	205	P	Pn	10 29 33.2	+0.3
	comp=E,0.5nm,0.3s,baz=27,slow=6.6,SNR=13						
TEIG	Tepich	19.97	304	*e*P	Pn	10 29 53.4	-1.8
TEIG				LR	LR	10 37 47.3	
TEIG	Tepich	19.97	304	P	Pn	10 29 51.4	-3.8
	comp=E,1.3nm,0.3s,baz=104,slow=3.1,SNR=10						
TEIG				LR	LR	10 37 47.3	
	comp=E,245nm,20.2s,baz=166,slow=38						
NNA	Nana	22.24	196	*e*P	P	10 30 18.2	+0.2
NNA	Nana	22.24	196	P	P	10 30 16.3	-1.7
	comp=E,7.9nm,0.3s,mb4.5,baz=324,slow=5.9,SNR=6.6						
LPAZ	La Paz	25.80	174	*e*P	P	10 30 51.6	-0.7
LPAZ				LR	LR	10 41 39.8	
LPAZ	La Paz	25.80	174	P	P	10 30 51.6	-0.8
	comp=E,2.0nm,0.5s,mb3.9,baz=40,slow=7.9,SNR=10						
LPAZ				LR	LR	10 41 39.8	
	comp=E,284nm,20.8s,MS3.8,baz=137,slow=38						
SIV	San Ignacio	27.13	159	P	P	10 31 02.2	-2.1
	comp=E,7.5nm,0.9s,mb4.2,baz=355,slow=10,SNR=22						
SWET	Sewanee	29.07	334	*e*P	P	10 31 24.5	+3.0
PLAL	Pickwick Lake	29.86	331	*e*P	P	10 31 28.2	-0.4
	comp=E,12nm,0.8s,mb4.7						
WVT	Waverly	30.68	332	*e*P	P	10 31 34.9	-0.9
MIAR	Mount Ida	32.49	323	*e*P	P	10 31 51.3	-0.5
SIUC	Southern Illin	32.61	332	*e*P	P	10 31 52.2	-0.6
	comp=E,23nm,0.8s,mb5.2						
FVM	French Village	33.40	331	*e*P	P	10 31 58.9	-0.7
BDFB	Brasilia	33.67	138	P	P	10 32 02.0	-0.2
	comp=E,7.7nm,0.8s,mb4.7,baz=297,slow=17,SNR=16						
BDFB				LR	LR	10 46 56.9	
	comp=E,71nm,20.4s,MS3.4,baz=118,slow=38						
ACCN	Adirondack Com	33.80	356	*e*P	P	10 32 06.0	+2.9
	comp=E,10.0nm,0.8s,mb4.8						
CCM	Cathedral Cave	33.85	330	*e*P	P	10 32 02.3	-1.3
NCB	Newcomb	34.42	356	*e*P	P	10 32 08.1	-0.4
	comp=E,17nm,1.1s,mb4.9						
LBNH	Lisbon	34.57	359	P	P	10 32 11.9	+2.1
FRNY	Flat Rock	35.24	356	*e*P	P	10 32 15.0	-0.5
	comp=E,12nm,0.8s,mb4.9						
FRNY				*e*		10 32 20.9	
WMOK	Wichita Mounta	35.85	319	*e*P	P	10 32 19.5	-1.5
TXAR	Lajitas Array	36.55	307	P	P	10 32 25.5	-1.6
	comp=E,2.5nm,0.8s,mb4.1,baz=116,slow=8.7,SNR=11						
TXAR				PcP	PcP	10 34 49.6	-1.0
	comp=E,0.9nm,0.7s,baz=122,slow=6.2,SNR=3.7						
JFWS	Jewell Farm	37.35	336	*e*P	P	10 32 32.8	-0.9
KSU1	Kansas State U	37.42	326	*e*P	P	10 32 35.1	+0.8
SCIA	State Center	37.81	332	*e*P	P	10 32 36.4	-1.1
AMTX	Amarillo	37.87	316	*e*P	P	10 32 38.0	-0.2
RCBR	Riachuelo	37.94	112	*e*P	P	10 32 38.8	-0.2
LCO	Las Campanas	38.34	180	*e*P	P	10 32 39.8	-2.3
	comp=E,45nm,1.1s,mb5.1						
GDL2	Guadalupe Moun	38.39	311	*e*P	P	10 32 45.2	+2.6
MNTX	Cornudas Mount	38.93	310	*e*P	P	10 32 46.4	-0.7
COWI	Conover	39.68	340	*e*P	P	10 32 51.9	-1.2
BNM	Barren Site	40.99	312	*e*P	P	10 33 06.9	+2.7
ANMO	Albuquerque	41.25	313⇓	*e*P	P	10 33 08.8	+2.5
ANMO	Albuquerque	41.25	313	*e*P	P	10 33 08.7	+2.3
LAZ	Ladron	41.48	312	*e*P	P	10 33 08.3	+0.1
319A	Douglas	41.81	307	⇑P	P	10 33 11.2	+0.2
	baz=42						
SDCO	Great Sand Dun	42.02	318	*e*P	P	10 33 12.7	+0.1
219A	White Tail Can	42.04	308	⇑P	P	10 33 13.0	+0.2
	baz=42,SNR=5.4						
EYMN

baz=47
V13A Grand Canyon W 47.16 311 ⇑P P 10 33 54.3 +0.5
baz=47
DAU Daniels Canyon 47.23 317 eP P 10 33 54.5 +0.3
MPU Maple Canyon 47.29 317 eP P 10 33 57.7 +3.0
S14A Cedar City 47.34 313 ⇑P P 10 33 55.5 +0.4
baz=47
BW06 Boulder Array 47.35 321 eP P 10 33 54.2 -0.9
U13A Pakoon Wash 47.37 311 ⇓P P 10 33 56.0 +0.7
baz=47,SNR=6.6
CCUT Cedar City 47.39 313 eP P 10 33 55.8 +0.3
IRM Iron Mountain 47.43 308 ⇓P P 10 33 56.3 +0.4
baz=48,SNR=8.8
JLU Jordanelle 47.45 318 eP P 10 33 59.0 +3.1
R14A James Farms, M 47.47 314 ⇓P P 10 33 56.5 +0.4
baz=48
BC3 Big Chuckw Mtn 47.49 307 ⇓P P 10 33 56.9 +0.5
baz=48
SWSC Sam W. Stewart 47.53 306 ⇓P P 10 33 57.5 +0.8
baz=48
NLU North Lily Min 47.56 317 eP P 10 33 57.0 +0.2
T13A Saint George 47.57 312 ⇑P P 10 33 57.7 +0.8
baz=48
LDFC Landfair 47.73 309 eP P 10 34 01.6 +3.5
LAO LASA Array 47.74 327 eP P 10 33 59.9 +1.9
comp=E,14nm,1.1s,mb4.9
S13A Holt Ranch, En 47.77 313 P P 10 33 59.0 +0.6
baz=48,SNR=18
V12A Nelson 47.77 310 P P 10 33 58.5 0.0
baz=48,SNR=7.7
DGMT Dagmar 47.88 330 eP P 10 33 58.9 -0.2
HWUT Hardware Ranch 48.02 319 eP P 10 34 02.4 +2.1
comp=E,9.3nm,1.0s,mb4.8
BELC Belle Mtn. 48.04 307 ⇑P P 10 34 01.2 +0.6
baz=48
GMRC Granite Mounta 48.04 309 ⇑P P 10 34 01.2 +0.6
baz=48
DUG Dugway 48.17 316 eP P 10 34 01.6 +0.1
DUG pmax pmax
comp=Z,28nm,1.6s,mb5.0
DUG Dugway 48.17 316 eP P 10 34 01.6 0.0
comp=Z,28nm,1.6s,mb5.0
DUG Dugway 48.17 316 ⇑P P 10 34 01.7 +0.2
baz=48
V11A Goodsprings 48.25 310 ⇓P P 10 34 02.4 +0.2
baz=48
SHPR Sheep Range 48.29 311 eP P 10 34 04.9 +2.4
Q13A Wheeler Ranch, 48.46 314 P P 10 34 04.3 +0.6
baz=48,SNR=16
SNOW Snow King Moun 48.46 321 eP P 10 34 04.2 +0.5
TUQ Turquoise Mtn. 48.48 309 ⇑P P 10 34 03.4 -0.5
baz=48,SNR=5.2
RLMT Red Lodge 48.49 324 eP P 10 34 06.4 +2.5
S12A Delamar Landin 48.49 312 ⇑P P 10 34 03.8 -0.2
baz=48
M15A Larsen Ranch, 48.53 318 ⇓P P 10 34 04.2 0.0
baz=49
HEC Hector,Ludlow 48.58 308 ⇓P P 10 34 04.8 +0.1
baz=49
TPAW Teton Pass 48.60 321 eP P 10 34 04.5 -0.2
comp=Z,16nm,1.2s,mb4.9
MOOW Moose Ponds 48.61 322 eP P 10 34 04.3 -0.5
R12A Pony Springs, 48.61 313 P P 10 34 05.4 +0.4
baz=49,SNR=5.6
T11A Corn Creek, Al 48.62 312 ⇑P P 10 34 05.0 0.0
baz=49
BGU Big Grassy Mou 48.66 317 eP P 10 34 05.0 -0.3
P13A Bates Ranch, G 48.67 315 P P 10 34 06.1 +0.8
baz=49,SNR=8.2
FLWY Flagg Ranch 48.76 322 eP P 10 34 10.0 +4.0
comp=Z,17nm,1.3s,mb4.9
IMW Indian Meadow 48.81 322 eP P 10 34 05.3 -1.0
LKWY Lake 48.84 323 eP P 10 34 10.2 +3.6
LKWY pmax pmax
comp=Z,11nm,1.4s,mb4.7
LKWY Lake 48.84 323 eP P 10 34 10.2 +3.6
comp=Z,12nm,1.4s,mb4.7
BBRC Big Bear Sol-O 48.85 307 ⇓P P 10 34 07.5 +0.7
baz=49
MURC Murrieta 48.85 307 ⇑P P 10 34 07.4 +0.5
baz=49
HVU Hansel Valley 48.90 318 eP P 10 34 08.3 +1.2
SHOC Shoshone 48.91 310 ⇑P P 10 34 07.4 +0.1
baz=49,SNR=5.4
O13A Hicks Ranch, I 48.94 316 ⇑P P 10 34 07.6 +0.2
baz=49
Q12A Willow Creek R 49.07 314 ⇑P P 10 34 08.4 0.0
baz=49
GCMT Greycliff 49.10 324 eP P 10 34 08.5 -0.1
GSC Goldstone 49.10 309 eP P 10 34 11.4 +2.6
GSC pmax pmax
comp=Z,24nm,1.5s,mb5.0
GSC Goldstone 49.10 309 eP P 10 34 11.4 +2.6
comp=Z,24nm,1.5s,mb5.0
GSC Goldstone 49.10 309 ⇓P P 10 34 09.1 +0.3
baz=49
M14A Sheep Mountain 49.14 318 P P 10 34 08.4 -0.6
baz=49,SNR=17
TPNV Topopah Spring 49.27 311 eP P 10 34 10.6 +0.6
TPNV Topopah Spring 49.27 311 ⇑P P 10 34 10.5 +0.5
baz=49
P12A McGill 49.30 315 ⇑P P 10 34 11.0 +0.8
baz=49,SNR=5.3
R11A Troy Canyon, C 49.32 313 ⇓P P 10 34 10.4 0.0
baz=49,SNR=6.2
BFSC Mount Baldy St 49.42 307 ⇑P P 10 34 11.5 +0.3
baz=49
N13A Wendover, West 49.42 317 ⇓P P 10 34 11.7 +0.7
baz=50
K14A Jones Ranch, D 49.53 319 ⇓P P 10 34 12.6 +0.7
baz=50
O12A Currie 49.53 316 ⇓P P 10 34 12.6 +0.6
baz=50
FURC Furnace Creek, 49.55 310 ⇑P P 10 34 12.8 +0.6
baz=50
Q11A Duckwater 49.57 314 P P 10 34 12.4 +0.1
baz=50,SNR=7.7
QLMT Earthquake Lak 49.60 322 eP P 10 34 13.3 +0.9
M13A Montello 49.62 317 ⇑P P 10 34 13.0 +0.4
baz=50
L13A Double Diamond 49.81 318 ⇓P P 10 34 14.8 +0.8
baz=50
R10A Warm Springs 49.82 313 ⇑P P 10 34 14.6 +0.5
baz=50
LRMC Laurel Mountai 49.84 309 ⇓P P 10 34 14.7 +0.3
baz=50
EDW2 Edwards Air Fo 49.88 308 ⇑P P 10 34 14.7 -0.1
baz=50
MPMC Manual Prospec 49.89 310 ⇑P P 10 34 15.2 +0.4
baz=50
S10A Tonopah Range, 49.89 312 ⇓P P 10 34 14.8 +0.1
baz=50,SNR=7.0
N12A Clover Valley, 49.99 316 ⇓P P 10 34 15.5 +0.1
baz=50
PLCA Paso Flores 50.03 180 P P 10 34 13.3 -2.3
comp=Z,24nm,0.8s,mb5.3,baz=360,slow=9.1,SNR=41
Q10A Clear Creek Ra 50.10 313 ⇑P P 10 34 16.4 +0.1
baz=50
O11A Cowboy Ranch, 50.10 315 ⇓P P 10 34 16.3 0.0
baz=50
M12A Wells 50.15 317 ⇓P P 10 34 16.2 -0.5
baz=50,SNR=5.7
BOZ Bozeman (W) 50.16 323 eP P 10 34 16.2 -0.5
BOZ pmax pmax
comp=Z,32nm,1.9s,mb5.0
BOZ Bozeman (W) 50.16 323 eP P 10 34 16.2 -0.4
comp=Z,32nm,1.9s,mb5.0
BOZ Bozeman (W) 50.16 323 ⇑P P 10 34 16.6 -0.1
baz=50
K13A Stover Farm, H 50.17 319 ⇑P P 10 34 16.9 +0.2
baz=50
S09A Goldfield 50.28 312 ⇑P P 10 34 17.9 +0.2
baz=50,SNR=5.9
R09A Tonopah 50.36 312 P P 10 34 18.2 -0.1
baz=50,SNR=6.6
G15A Dillon 50.42 322 ⇓P P 10 34 18.7 +0.1
baz=50
N11A Elko Archery C 50.45 316 ⇑P P 10 34 18.9 0.0
baz=50
EGMT Eagleton 50.45 327 eP P 10 34 18.5 -0.3
comp=Z,27nm,1.2s,mb5.2
EGMT Eagleton 50.45 327 ⇑P P 10 34 18.8 0.0
baz=50
P10A Eureka 50.46 314 P P 10 34 19.3 +0.3
baz=50,SNR=6.0
MCMT McKenzie Canyo 50.46 322 eP P 10 34 19.4 +0.4
L12A House Creek Ra 50.55 318 ⇓P P 10 34 19.5 -0.1
baz=51
J13A Cove Ranch, Pi 50.58 320 ⇑P P 10 34 19.6 -0.2
baz=51
DLMT Dillon 50.59 322 eP P 10 34 19.8 -0.1
comp=Z,16nm,1.1s,mb4.9
ARVC Arvin 50.61 308 ⇑P P 10 34 20.2 -0.1
baz=51
K12A Draper Farm, C 50.70 318 ⇑P P 10 34 21.1 +0.4
baz=51
LRM Limekiln Ridge 50.74 323 eP P 10 34 20.6 -0.5
M11A Holland Ranch, 50.75 317 ⇓P P 10 34 21.7 +0.5
baz=51,SNR=7.3
O10A Cortez Mining, 50.76 315 ⇓P P 10 34 21.5 +0.2
baz=51
F15A Butte 50.78 323 ⇑P P 10 34 21.9 +0.5
baz=51
I13A Wildhorse Cree 50.79 320 ⇑P P 10 34 21.6 +0.1
baz=51
HLID Hailey 50.81 320 ⇓P P 10 34 21.8 +0.1
baz=51,SNR=6.9
S08C White Mtn Res 50.90 311 ⇓P P 10 34 22.7 +0.3
baz=51,SNR=5.7
P09A Austin 50.91 314 ⇑P P 10 34 22.4 -0.1
baz=51
VES Vestal, Richgr 51.03 309 P P 10 34 23.2 -0.2
baz=51,SNR=7.4
L11A Cat Creek Ranc 51.05 317 ⇓P P 10 34 23.4 0.0
baz=51,SNR=7.5
J12A Stokes Ranch, 51.10 319 ⇓P P 10 34 23.9 +0.1
baz=51
E15A Deer Lodge 51.18 324 P P 10 34 24.1 -0.2
baz=51,SNR=15
O09A Fish Creek Ran 51.19 315 ⇓P P 10 34 24.2 -0.3
baz=51,SNR=5.3
Q08A Gabbs 51.22 313 P P 10 34 24.4 -0.4
baz=51,SNR=6.7
HELL Mitchell Peak 51.26 310 P P 10 34 24.8 -0.3
baz=51,SNR=8.2
NVAR Mina Array Bea 51.33 312 P P 10 34 23.9 -1.6
comp=Z,1.3nm,0.6s,mb4.0,baz=112,slow=6.4,SNR=11
NVAR PcP PcP 10 35 37.2 -3.2
comp=Z,1.1nm,0.7s,baz=105,slow=5.7,SNR=2.6
FFC Flin Flon 51.42 337 eP P 10 34 24.3 -1.7
FFC pmax pmax
comp=Z,19nm,1.0s,mb5.0
FFC Flin Flon 51.42 337 eP P 10 34 24.3 -1.7
comp=Z,19nm,1.0s,mb5.0
D15A Lincoln 51.44 324 P P 10 34 26.1 -0.1
baz=52,SNR=12
G13A Cobalt 51.44 321 ⇓P P 10 34 25.9 -0.5
baz=52
L10A Juniper Basin 51.49 317 P P 10 34 26.7 0.0
baz=52,SNR=16
K11A Parker Ranch, 51.50 318 ⇑P P 10 34 26.6 -0.1
baz=52
H12A Diamond D Ranc 51.56 321 ⇑P P 10 34 26.8 -0.5
baz=52
SMMC Simmler 51.58 308 ⇑P P 10 34 27.8 +0.2
baz=52
MFID Camas Ranch 51.65 319 ⇑P P 10 34 27.7 -0.3
baz=52
E14A Clinton 51.67 323 ⇓P P 10 34 27.5 -0.5
baz=52
N09A Rock Creek Ran 51.70 315 ⇑P P 10 34 28.1 -0.2
baz=52
CHMT Chamberlain Mo 51.79 324 eP P 10 34 29.0 +0.1
F13A Darby 51.85 322 ⇓P P 10 34 29.0 -0.4
baz=52
M09A Marrel Ranch, 51.88 316 P P 10 34 29.9 +0.3
baz=52,SNR=7.5
T06C Millerton Lake 51.89 310 ⇓P P 10 34 29.9 +0.1
baz=52
I11A Placerville 51.97 319 ⇓P P 10 34 29.9 -0.4
baz=52,SNR=6.3
D14A Greenough 52.03 324 P P 10 34 30.7 0.0
baz=52,SNR=6.4
K10A MacKenzie Ranc 52.06 318 P P 10 34 30.8 -0.2
baz=52,SNR=14
N08A GE Springer Mi 52.09 315 ⇑P P 10 34 30.8 -0.4
baz=52
E13A Victor 52.10 323 ⇑P P 10 34 30.6 -0.6
baz=52
MSO Missoula 52.15 323 eP P 10 34 34.2 +2.6
WAKR Walker 52.19 312 eP P 10 34 34.7 +2.7
FCC Fort Churchill 52.22 345 eP P 10 34 31.3 -0.5
FCC pmax pmax
comp=Z,11nm,0.8s,mb4.8
FCC Fort Churchill 52.22 345 eP P 10 34 31.3 -0.5
comp=Z,11nm,0.8s,mb4.8
L09A Wilkinson Ranc 52.27 317 P P 10 34 32.5 0.0
baz=52,SNR=7.0
H11A Donnelly 52.37 320 ⇓P P 10 34 33.1 -0.1
baz=52,SNR=9.2
F12A Elk City 52.40 322 ⇓P P 10 34 33.0 -0.4
baz=52
C14A Swan Lake 52.53 325 ⇓P P 10 34 33.9 -0.5
baz=53
D13A Huson 52.59 324 P P 10 34 34.9 +0.1
baz=53,SNR=7.6
K09A Rome 52.59 317 P P 10 34 34.8 -0.1
baz=53,SNR=8.0
N07B Gerlach 52.68 315 ⇑P P 10 34 35.4 -0.2
baz=53
WCN Washoe City 52.70 313 ⇓P P 10 34 35.6 -0.2
baz=53,SNR=7.8
R05C Kirkwood Meado 52.73 312 ⇑P P 10 34 35.4 -0.6
baz=53
H10A Noah's Angus R 52.78 320 ⇑P P 10 34 35.9 -0.4
baz=53
L08A Fields 52.80 316 ⇑P P 10 34 36.0 -0.5
baz=53,SNR=7.0
G11A Walters Elk Ra 52.85 321 ⇑P P 10 34 36.0 -0.8
baz=53
J09A Fry Pan Ranch, 52.88 318 ⇑P P 10 34 36.4 -0.7
baz=53,SNR=6.8
C13A Hot Springs 52.96 324 P P 10 34 37.4 -0.2
baz=53,SNR=15
F11A Grangeville 53.01 321 P P 10 34 37.3 -0.7
baz=53,SNR=6.9
M07A Soldier Meadow 53.05 315 P P 10 34 37.5 -0.9
baz=53,SNR=11
PACP Pacheco Peak 53.09 309 ⇑P P 10 34 39.5 +0.8
baz=53
D12A Red Ives Fores 53.10 323 ⇓P P 10 34 38.2 -0.4
baz=53
WVOR Wild Horse Val 53.10 317 eP P 10 34 41.0 +2.3
WVOR pmax pmax
comp=Z,13nm,1.2s,mb4.7
WVOR Wild Horse Val 53.10 317 eP P 10 34 41.0 +2.4
comp=Z,13nm,1.2s,mb4.8
K08A Mann Creek Ran 53.12 317 ⇑P P 10 34 38.2 -0.6
baz=53
BSMT Bassoo Peak 53.17 324 eP P 10 34 39.2 0.0
BMO Blue Mountains 53.25 320 eP P 10 34 41.2 +1.5
comp=Z,34nm,2.4s,mb4.8
E11A Bogner Ranch, 53.27 322 P P 10 34 38.9 -0.9
baz=53,SNR=16
P05C Yuba Gap, Truc 53.32 312 ⇓P P 10 34 39.9 -0.5
baz=53
BEKR Beckwourth 53.33 313 ⇑P P 10 34 40.0 -0.5
baz=53
G10A Bishop Farm, J 53.33 320 P P 10 34 39.6 -0.8
baz=53,SNR=14
J08A Circle Bar Ran 53.37 318 ⇑P P 10 34 40.4 -0.2
baz=53
L07A Adell 53.41 316 ⇓P P 10 34 40.0 -1.0
baz=53,SNR=6.1
A13A Flathead Natio 53.53 326 ⇑P P 10 34 41.2 -0.5
baz=54
K07A Rock Creek Ran 53.61 317 ⇓P P 10 34 41.6 -0.8
baz=54
D11A Klaveano Farm, 53.68 323 ⇓P P 10 34 42.0 -0.9
baz=54,SNR=7.3
O05C Quincy 53.77 313 ⇓P P 10 34 44.0 +0.3
baz=54
BDM Black Diamond 53.81 310 ⇑P P 10 34 44.3 +0.3
baz=54
B12A Libby 53.95 325 ⇓P P 10 34 44.5 -0.3
baz=54
OHCM Honcut 53.97 312 eP P 10 34 46.1 +0.9
H08A Prairie City 53.98 319 ⇑P P 10 34 44.7 -0.5
baz=54
O04C Chester 54.02 313 ⇓P P 10 34 45.2 -0.3
baz=54,SNR=5.7
MOD Modoc 54.03 315 ⇓P P 10 34 45.2 -0.4
baz=54
ORV Oroville 54.06 312 ⇑P P 10 34 45.5 -0.3
baz=54
SUTB Sutter Butte 54.16 312 ⇑P P 10 34 46.2 -0.3
baz=54
A12A Yaak River Ran 54.22 325 ⇑P P 10 34 46.8 0.0
baz=54
D10A Wagner Farm, O 54.25 322 ⇓P P 10 34 46.0 -1.1
baz=54,SNR=6.9
I07A Izee 54.34 318 ⇑P P 10 34 47.6 -0.2
baz=54,SNR=5.5
B11A Sandpoint 54.38 324 ⇑P P 10 34 47.7 -0.3
baz=54
M05C Lookout 54.42 315 ⇓P P 10 34 48.1 -0.3
baz=54
G08A Pilot Rock 54.50 320 ⇑P P 10 34 48.7 -0.2
baz=54,SNR=8.2
H07A Lands Inn, Kim 54.59 319 ⇓P P 10 34 49.3 -0.2
baz=55
A11A Hall Mountain, 54.64 325 ⇑P P 10 34 49.7 -0.2
baz=55
NEW Newport 54.73 324 eP P 10 34 49.4 -1.1
NEW pmax pmax
comp=Z,9.0nm,0.9s
NEW Newport 54.73 324 eP P 10 34 49.4 -1.2
comp=Z,8.6nm,0.9s,mb4.8
I06A Prineville 54.76 318 ⇓P P 10 34 50.5 -0.3
baz=55
M04C Macdoel 55.06 315 ⇓P P 10 34 53.3 +0.3
baz=55
J05A Fort Rock 55.19 317 ⇓P P 10 34 53.8 -0.2
baz=55
C09A Chrisman Ranch 55.20 323 ⇓P P 10 34 53.5 -0.3
baz=55
L04A Klamath Falls 55.23 315 ⇑P P 10 34 54.0 -0.3
baz=55
D08A Wollman Farm, 55.25 322 ⇑P P 10 34 53.8 -0.5
baz=55
K04A Chilquin 55.28 316 ⇓P P 10 34 54.3 -0.3
baz=55
B09A Rice 55.41 323 ⇑P P 10 34 54.7 -0.7
baz=56
G06A Carlson Farm, 55.55 319 ⇓P P 10 34 56.0 -0.5
baz=56
C08A Higginbotham F 55.65 322 ⇓P P 10 34 56.6 -0.6
baz=56
D07A Quincy 55.95 321 ⇑P P 10 34 59.6 +0.2
baz=56
B08A Colville Reser 56.08 323 P P 10 34 59.4 -0.9
baz=56,SNR=6.9
E06A Yakima 56.30 320 ⇑P P 10 35 01.1 -0.8
baz=56
A08A Turner Farm, O 56.32 324 ⇓P P 10 35 00.7 -1.2
baz=56
H04A Detroit Lake 56.35 318 ⇓P P 10 35 01.9 -0.3
baz=56
A07A Ashnola River, 57.01 323 ⇑P P 10 35 07.2 +0.4
baz=57,SNR=8.0
E04A Onalaska 57.42 320 ⇑P P 10 35 10.3 +0.4
baz=58
YKA Yellowknife Ar 61.56 339 P P 10 35 36.0 -2.1
YKA LR LR 11 03 49.0
YKA Yellowknife Ar 61.56 339 P P 10 35 36.0 -2.1
comp=Z,4.1nm,0.8s,mb4.6,baz=122,slow=6.7,SNR=55
YKA LR LR 11 03 49.0
comp=Z,58nm,18.4s,MS3.8,baz=160,slow=38
YKW3 Yellowknife Ar 61.61 339 eP P 10 35 37.2 -1.2
DLBC Dease Lake 66.09 330 eP P 10 36 09.6 +1.5
RES Resolute Bay 66.54 353 eP P 10 36 11.1 +0.5
DCN Croghan 66.67 36 eP P 10 36 16.5 +4.7
SKAG Skagway 69.03 330 eP P 10 36 27.9 +1.4
comp=Z,35nm,1.9s,mb5.0
INK Inuvik 71.29 340 eP P 10 36 38.2 -2.1
comp=Z,325nm,0.9s
DAWY Dawson 72.18 335 eP P 10 36 44.6 -1.1
EGAK Eagle 73.10 335 eP P 10 36 50.4 -0.7
MENT Mentasta 73.82 333 eP P 10 36 57.1 +1.7
SML Sawmill 75.77 331 eP P 10 37 06.4 -0.4
COLA College 75.93 335 i P P 10 37 10.3 +2.7
COLA College 75.93 335 eP P 10 37 12.0 +4.4
comp=Z,5.4nm,0.8s,mb4.5
PMR Palmer 76.13 331 eP P 10 37 09.7 +0.9
PMR pmax pmax
comp=Z,11nm,0.8s,mb4.8
PMR Palmer 76.13 331 eP P 10 37 09.7 +0.9
comp=Z,11nm,0.8s,mb4.8
MCK McKinley 76.26 333 eP P 10 37 11.2 +1.7
KEST Kesra 76.47 56 P P 10 37 10.4 -0.9
comp=Z,2.3nm,0.8s,mb4.2,baz=260,slow=5.6,SNR=3.8
SLKM Skilak Lake 76.56 330 eP P 10 37 12.4 +1.1
NB2 NORSAR Subarra 77.81 30 P P 10 37 17.3 -1.0
comp=Z,2.5nm,0.7s,mb4.2,baz=269,slow=5.9
NOA NORSAR Array B 77.81 30 P P 10 37 17.3 -1.0
comp=Z,2.7nm,0.8s,mb4.2,baz=265,slow=5.7,SNR=4.6
NOA LR LR 11 05 26.4
comp=Z,32nm,19.4s,MS3.7,baz=270,slow=31
KHC Kasperske Hory 79.14 42 eP P 10 37 25.1 -0.8
SVW2 Sparrevohn 79.21 330 eP P 10 37 26.2 +0.2
GERES GERESS Array B 79.23 42 P P 10 37 25.4 -1.0
comp=Z,0.3nm,0.3s,mb3.8,baz=243,slow=4.3,SNR=5.9
TTA Tatalina 79.41 332 eP P 10 37 28.3 +1.3
ARCES ARCESS Array B 83.31 21 P P 10 37 45.6 -2.0
comp=Z,3.2nm,0.9s,mb4.3,baz=274,slow=3.5,SNR=4.0
TNA Tin City 84.34 335 eP P 10 37 55.6 +2.7
comp=Z,6.2nm,1.0s,mb4.7
FINES FINESS Array B 84.94 29 P P 10 37 54.3 -1.8
comp=Z,1.4nm,0.7s,mb4.2,baz=322,slow=5.8,SNR=4.4
VNA1 Neumayer--Stat 90.20 163 eP P 10 38 19.7 -1.5
VNA1 e pP 10 38 20.9 -3.7
VNA1 e 10 38 26.8
VNA1 e 10 38 30.0
VNA1 e 10 38 38.0
VNA2 Neumayer--Watz 90.59 163 eP P 10 38 21.2 -1.8
baz=308,slow=5.6
VNA2 e pP 10 38 22.5 -3.9
VNA2 e 10 38 27.5
VNA2 e 10 38 30.9
VNA2 e 10 39.1
SNAA Sanae 92.24 163 eP P 10 38 28.5 -2.1
SNAA e pP 10 38 29.9 -4.1
SNAA e 10 38 34.6
SNAA e 10 38 38.8
SNAA e 10 38 47.4
SNAA Sanae 92.24 163 eP P 10 38 28.7 -1.9
BILL Bilibino 92.82 342 eP P 10 38 35.0 +1.5
BILL pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
WMQ Urumqi 123.38 19 ePKP PKPdf 10 44 16.0 -2.6
CN2 Changchun 124.90 346 PKP PKPdf 10 44 19.6 -1.9
CN2 PP PP 10 46 10.1 +1.8
CN2 PP PP
comp=Z,200nm,4.0s
HHC Hu-ho-hao-te 129.81 358 ePKP PKPdf 10 44 27.8 -3.2
HHC PP PP 10 46 42.8 +2.2
HHC PKS 10 48 03.0
HHC PP PP
comp=Z,178nm,6.1s
HHC LR LR
comp=N,175nm,19.2s,MS4.9
HHC LR LR
comp=E,145nm,19.9s,MS4.9
HHC LR LR
comp=Z,117nm,19.0s,MS4.6
LZH Lanzhou 134.32 6 ePKP PKPdf 10 44 35.7 -4.0
LZH LR LR
comp=N,35nm,19.5s
LZH LR LR
comp=Z,48nm,20.3s,MS4.2
NJ2 Nanjing 137.62 348 ePKP PKPdf 10 44 42.5 -3.4
CD2 Chengdu 139.43 7 ePKP PKPdf 10 44 45.4 -3.9
CD2 PP PP 10 47 42.9 +1.2
CD2 PKS 10 48 19.9
CD2 PP PP
comp=Z,120nm,10.8s
CD2 LR LR
comp=N,130nm,22.4s
CD2 LR LR
comp=Z,140nm,21.4s,MS4.7
GYA Guiyang 144.12 4 PKP PKPdf 10 44 53.2 -4.6
GYA PKP2 PKPdf 10 44 54.8 -3.0
GYA PP PP 10 48 12.6 +2.4
GYA PP PP
comp=Z,120nm,7.9s
GYA LR LR
comp=N,480nm,23.4s,MS5.3
GYA LR LR
comp=E,380nm,25.2s,MS5.3
GYA LR LR
comp=Z,340nm,24.0s,MS5.0

KMI	**Kunming**	**144.96 10**	PKP	PKPdf	10 45 00.1	+0.8
FORT	**Forrest**	**152.56 217**	*e*P	PKPbc	10 45 14.3	-4.0
	comp=Z,8.6nm,0.5s					
ASAR	**Alice Springs**	**152.59 236**	PKP	PKPdf	10 45 08.6	-3.0
	comp=Z,1.0nm,0.7s,baz=103,slow=1.7,SNR=19					
ASAR			PKPbc	PKPbc	10 45 15.8	-2.8
	comp=Z,7.2nm,0.7s,baz=114,slow=2.4,SNR=89					
WB2	**Warramunga Arr**	**153.66 244**	*e*P	PKPbc	10 45 18.3	-2.7
WRAB	**Tennant Creek**	**153.66 244**	*e*PKIKP	PKPdf	10 45 11.2	-2.0
WRAB			*e*		10 45 18.2	
WRA	**Warramunga Arr**	**153.67 244**	PKP	PKPdf	10 45 10.2	-3.0
	comp=Z,1.5nm,1.0s,baz=107,slow=1.1,SNR=8.9					
WRA			PKPbc	PKPbc	10 45 18.2	-2.8
	comp=Z,4.9nm,0.5s,baz=105,slow=2.8,SNR=171					

WEL 09 10:30:39.6±0.3, 3746S×17735E, h5km, ML3.7/7, Error ellipse: s-maj=3.1km s-min=2.1km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WIZ	**White Island**	**0.14 243**		PG	Pg	10 30 43.2	+0.7
WIZ				SG	Sg	10 30 45.5	+1.1
OPRZ	**Ohinepanea**	**0.74 239**		P*	Pb	10 30 53.5	-1.4
MARZ	**Manawahe**	**0.75 225**		P*	Pb	10 30 53.8	-1.3
MARZ				S*	Sb	10 31 03.3	-2.3
MXZ	**Matakaoa Point**	**0.77 98**		P*	Pb	10 30 53.5	-2.0
MXZ				S*	Sb	10 31 04.9	-1.4
URZ	**Urewera**	**0.82 193**		P*	Pb	10 30 54.5	-1.8
URZ				S*	Sb	10 31 05.4	-2.3
MWZ	**Matawai**	**0.88 171**		P*	Pb	10 30 56.0	-1.4
MYRZ	**Mayor Island**	**0.90 281**		P*	Pb	10 30 57.1	-0.6
PUZ	**Puketiti**	**0.94 130**		P*	Pb	10 30 58.4	-0.1
PUZ				S*	Sb	10 31 13.3	+2.0
KARZ	**Kaharoa**	**1.04 237**		P*	Pb	10 30 58.4	-1.7
KUZ	**Kuaotunu**	**1.48 298**		PN	Pn	10 31 04.2	-2.8
KUZ				SN	Sn	10 31 21.9	-4.8
KNZ	**Kokohu**	**1.58 171**		PN	Pn	10 31 07.8	-0.4
BKZ	**Black Stump Fm**	**1.83 201**		P*	Pb	10 31 09.8	-3.8
TUVZ	**Tukino**	**2.24 216**		P*	Pb	10 31 18.2	-2.4
FWVZ	**Far West T-bar**	**2.28 218**		P*	Pb	10 31 20.2	-1.0
MOVZ	**Moawhango**	**2.31 212**		P*	Pb	10 31 17.5	-4.3
WNVZ	**Wahianoa**	**2.31 216**		P*	Pb	10 31 19.6	-2.2
PXZ	**Pawanui**	**2.59 188**		PN	Pn	10 31 20.0	-2.2
TSZ	**Takapari Road**	**2.81 202**		PN	Pn	10 31 24.2	-1.0
WCZ	**Waipu Caves**	**2.85 301**		PN	Pn	10 31 24.1	-1.6
WAZ	**Wanganui**	**2.94 218**		PN	Pn	10 31 28.3	+1.2

LDG ***09*** *10:39:56.4±0.1, 1788S×16851E, h10km, Mb4.8/2, Ms4.0/7, Error ellipse: s-maj=18.9km s-min=4.2km az=108.0*

BJI ***09*** *10:39:56.3, 1815S×16907E, h33km, mB5.1, mb4.9, Ms4.8, Msz4.4*

ISCJB ***09*** *10:40:00.3±0.3, 1815S±005×16824E±007, h43km, mb4.7/38, MS4.1/26, Error ellipse: s-maj=9.5km s-min=7.8km az=1.8*

MOS ***09*** *10:40:00.9±2.5, 1820S×16807E, h33km, mb5.0/8, MS4.2/4, Error ellipse: s-maj=12.5km s-min=11.3km az=134.2*

GCMT ***09*** *10:40:02.3±0.3, 1797S×168.11E, h45km±1km, MW5.0/52, Moment Tensor Solution. s44,c52; s52,c70; Duration: 0 Moment tensor: Scale 10^16Nm; Mm3.39±.20; Mrr0.40±.14; Mθθ-3.79±.14; Mrθ-0.86±.12; Mφφ-1.01±.10; Mθφ-0.17±.13; Best double couple: M=3.82900×10^16 NP1:φs358.00000°, δ44.00000°, λ68.00000°. NP2: φs207.00000°, δ50.00000°, λ110.00000°. Principal axes: T 3.6200, Plg75.0000°, Azm183.0000°; N 0.4190, Plg15.0000°, Azm14.0000°; P -4.0380, Plg3.0000°, Azm283.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***09*** *10:40:02.3±0.9, 1806S×16823E, h46km±7km, mb4.9/12, MS4.4/1 Error ellipse: s-maj=13.3km s-min=10.5km az=136.0*

NEIC Felt at Port-Vila.

IDC ***09*** *10:40:05.4±3.7, 1802S×16822E, h82km±32km, mb4.1/15, mb1 4.3/16, mb1mx4.3/17, mbtmp4.2/16, MS4.0/14, Ms1 4.0/14, ms1mx3.8/19, Error ellipse: s-maj=19.6km s-min=14.4km az=72.0*

ISC 09 10:40:01.9±0.4, 1815S±005×16832E±007, h44km, h44km±2.1km:pP-P, n162, σ0.99/74, mb4.7/38, MS4.1/26, 20C-4D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**4.28 204**		*e*P	**Pn**	**10 41 04.5**	**0.0**
DZM				*e*S	**Sn**	**10 41 48.0**	**-5.2**
HNR	**Honiara**	**11.88 316**		*e*P	**Pn**	**10 42 49.4**	**+0.7**
HNR				pmax	pmax		
	comp=Z,561nm,0.9s						
HNR	**Honiara**	**11.88 316**		*e*Pn	**Pn**	**10 42 49.4**	**+0.7**
	comp=Z,561nm,0.9s						
HNR	**Honiara**	**11.88 316**		P	**Pn**	**10 42 49.7**	**+1.0**
	comp=Z,18nm,0.3s,baz=206,slow=0.7,SNR=35						
HNR				S	**Sn**	**10 44 54.7**	**-5.2**
	comp=Z,3.5nm,0.3s,baz=124,slow=5.4,SNR=1.8						
HNR				LR	LR	10 46 48.3	
	comp=Z,533nm,18.2s,baz=178,slow=34						
ARMA	**Armidale**	**19.48 228**		*e*P	**Pn**	**10 44 28.1**	**+1.5**
CTA	**Charters Tower**	**20.93 261**		*e*P	**P**	**10 44 42.2**	**+1.2**
	comp=Z,21nm,1.5s						
CTA	**Charters Tower**	**20.93 261**		P	**P**	**10 44 42.1**	**+1.1**
CTA				LR	LR	10 51 54.7	
CTA	**Charters Tower**	**20.93 261**		P	**P**	**10 44 42.1**	**+1.1**
	comp=Z,7.1nm,0.9s,baz=103,slow=13,SNR=5.0						
CTA				LR	LR	10 51 54.7	
	comp=Z,725nm,19.4s,MS4.1,baz=74,slow=34						
CTAO	**Charters Tower**	**20.93 261**		*e*Pn	**P**	**10 44 42.4**	**+1.4**
URZ	**Urewera**	**21.46 161**		P	**P**	**10 44 49.7**	**+3.2**
	comp=Z,21nm,0.7s,mb4.6,baz=320,slow=7.2,SNR=25						
URZ				LR	LR	10 51 40.7	
	comp=Z,541nm,19.2s,MS4.0,baz=340,slow=32						
CNB	**Canberra Magne**	**23.99 221**		*e*P	**P**	**10 45 12.8**	**+0.5**
	comp=Z,28nm,0.8s,mb4.7						
RPZ	**Rata Peaks**	**25.59 175**		P	**P**	**10 45 27.5**	**+0.7**
	comp=Z,19nm,0.7s,mb4.7,baz=19,slow=7.0,SNR=5.5						
RPZ				LR	LR	10 54 30.3	
	comp=Z,156nm,21.4s,MS3.5,baz=290,slow=34						
STKA	**Stephens Creek**	**27.71 235**		*e*P	**P**	**10 45 46.5**	**+0.4**
	comp=Z,13nm,0.9s,mb4.5						
STKA	**Stephens Creek**	**27.71 235**		*e*P	**P**	**10 45 46.6**	**+0.6**
	comp=Z,27nm,1.1s,mb4.8						
STKA	**Stephens Creek**	**27.71 235**		P	**P**	**10 45 46.6**	**+0.6**
	comp=Z,16nm,0.9s,mb4.6,baz=63,slow=7.5,SNR=16						
STKA				LR	LR	10 56 39.1	
	comp=Z,292nm,18.5s,MS3.9,baz=56,slow=36						
RAR	**Rarotonga**	**30.17 101**		LR	LR	10 55 56.4	
	comp=Z,212nm,19.5s,MS3.8,baz=18,slow=31						
WRA	**Warramunga Arr**	**32.14 261**		P	**P**	**10 46 25.0**	**-0.4**
WRA				LR	LR	10 58 51.9	
WRA	**Warramunga Arr**	**32.14 261**		P	**P**	**10 46 25.0**	**-0.4**
	comp=Z,2.2nm,0.8s,mb4.1,baz=102,slow=3.5,SNR=2.8						
WRA				LR	LR	10 58 51.9	
	comp=Z,253nm,19.4s,MS3.9,baz=75,slow=35						
ASAR	**Alice Springs**	**32.56 254**		P	**P**	**10 46 28.2**	**-0.8**
	comp=Z,5.5nm,0.7s,mb4.6,baz=78,slow=8.6,SNR=16						
KAKA	**Kakadu**	**34.96 274**		*e*P	pP	10 47 02.4	+0.4
	comp=Z,7.3nm,0.6s						
KAKA	**Kakadu**	**34.96 274**		*e*P	**P**	**10 46 49.2**	**-0.8**
FORT	**Forrest**	**38.54 243**		*e*P	**P**	**10 47 19.7**	**-0.6**
	comp=Z,23nm,0.6s,mb5.1						
GUMO	**Guam**	**39.11 322**		LR	LR	11 01 50.7	
	comp=Z,204nm,21.5s,MS3.9,baz=161,slow=34						
TBI	**Tubuai**	**39.72 105**		*e*S	**S**	**10 53 34.8**	**+3.7**
	comp=Z,134nm,30.0s						
TBI				*e*LR	LR	10 58 23.6	
	comp=Z,448nm,27.8s						
PPT	**Papeete**	**40.02 96**		*e*S	**S**	**10 53 40.7**	**+5.0**
	comp=Z,122nm,26.2s						
PPT				*e*LR	LR	10 58 32.3	
	comp=Z,664nm,27.5s						
PPT	**Papeete**	**40.02 96**		LR	LR	11 02 16.9	
	comp=Z,115nm,18.4s,MS3.8,baz=273,slow=33						
FITZ	**Fitzroy Crossi**	**40.49 263**		*e*P	**P**	**10 47 36.6**	**-0.1**
	comp=Z,23nm,0.7s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.49 263**		P	**P**	**10 47 36.7**	**0.0**
	comp=Z,14nm,0.7s,mb4.8,baz=105,slow=9.2,SNR=38						
MBWA	**Marble Bar**	**45.72 258**		*e*P	**P**	**10 48 18.8**	**-0.1**
	comp=Z,8.8nm,0.8s,mb4.7						
KLBR	**Kellerberrin**	**47.40 244**		*e*P	**P**	**10 48 30.7**	**-1.3**
	comp=Z,50nm,1.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**47.94 242**		*e*P	**P**	**10 48 35.4**	**-0.8**
NWAO				pmax	pmax		
	comp=Z,38nm,1.5s						
NWAO	**Narrogin (SRO)**	**47.94 242**		*e*P	**P**	**10 48 35.4**	**-0.7**
	comp=Z,38nm,1.5s,mb5.2						
MUN	**Mundaring**	**48.74 243**		*e*P	**P**	**10 48 41.8**	**-0.5**
TAOE	**Nuku Hiva Isla**	**50.81 87**		*e*LR	LR	11 03 33.0	
	comp=Z,10μm,25.9s						
HKL	**Haleakala**	**51.94 44**		*e*P	pP	10 49 17.9	-1.1
HKL	**Haleakala**	**51.94 44**		*e*pP	pP	10 49 17.9	-1.2
RKT	**Rikitea**	**53.03 106**		*e*LR	LR	11 04 33.2	
	comp=Z,385nm,26.5s						
VNDA	**Vanda**	**59.49 182**		P	**P**	**10 49 59.4**	**-0.5**
	comp=Z,1.7nm,0.6s,mb4.3,baz=31,slow=7.1,SNR=4.8						
VNDA				LR	LR	11 11 08.3	
	comp=Z,167nm,21.9s,MS4.1,baz=298,slow=31						
SBA	**Scott Base**	**59.74 180**		*e*P	**P**	**10 50 02.3**	**+0.7**
SBA				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
SBA	**Scott Base**	**59.74 180**		*e*P	**P**	**10 50 02.3**	**+0.6**
	comp=Z,9.5nm,0.8s,mb4.9						
KSM	**Kuching**	**60.28 283**		*e*P	**P**	**10 50 06.5**	**+0.1**
KSM				*e*	pP	10 50 19.8	+0.6
XMIS	**Christmas Isla**	**60.96 268**		*e*P	**P**	**10 50 10.9**	**-0.1**
MJAR	**Matsushiro Arr**	**61.39 333**		P	**P**	**10 50 11.1**	**-2.3**
MJAR				LR	LR	11 12 48.9	
MJAR	**Matsushiro Arr**	**61.39 333**		P	**P**	**10 50 11.1**	**-2.3**
	comp=Z,1.0nm,0.7s,mb4.1,baz=154,slow=6.1,SNR=3.4						
MJAR				LR	LR	11 12 48.9	
	comp=Z,83nm,19.2s,MS3.9,baz=200,slow=32						
ASAJ	**Asahikawa**	**66.28 340**		LR	LR	11 14 43.4	
	comp=Z,221nm,21.2s,MS4.3,baz=144,slow=31						
KSRS	**Korea Array**	**67.12 326**		P	**P**	**10 50 50.8**	**-0.1**
	comp=Z,0.8nm,0.5s,mb4.0,baz=156,slow=6.9,SNR=3.8						
NJ2	**Nanjing**	**68.82 316**		*e*P	**P**	**10 51 02.5**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb5.2						
PSI	**Prapat**	**71.38 279**		P	**P**	**10 51 15.7**	**-2.2**
	comp=Z,3.9nm,0.6s,mb4.5,baz=151,slow=5.2,SNR=3.8						
MDJ	**Mudanjiang**	**71.75 332**		P	**P**	**10 51 21.7**	**+2.3**
MDJ				AP	pP	10 51 33.8	+1.4
MDJ				XP	sP	10 51 38.1	+0.7
MDJ				PP	PP	10 53 59.7	+0.3
MDJ				S	S	11 00 37.5	+1.2
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,81nm,3.7s						
MDJ				LR	LR		
	comp=Z,62nm,25.1s,MS3.8						
QSPA	**South Pole Qui**	**71.90 180**		*e*P	**P**	**10 51 19.7**	**-0.1**
	comp=Z,15nm,0.8s,mb5.0						
CN2	**Changchun**	**73.08 329**		*e*P	**P**	**10 51 27.2**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
GYA	**Guiyang**	**74.48 305**		P	**P**	**10 51 36.4**	**+0.4**
GYA				AP	pP	10 51 50.4	+1.4
GYA				XP	sP	10 51 55.6	+1.6
GYA				PP	PP	10 54 27.2	+4.1
GYA				S	S	11 01 09.5	+1.5
GYA				SKS		11 01 37.7	
GYA				PS		11 01 50.8	
GYA				SS	SS	11 05 59.7	+4.0
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,5.2s						
GYA				LR	LR		
	comp=Z,460nm,21.0s,MS4.8						
KLR	**Kul'dur**	**74.52 336**		*e*P	**P**	**10 51 39.8**	**+4.2**
BJI	**Beijing**	**75.55 321**		P	**P**	**10 51 41.8**	**0.0**
BJI				PP	PP	10 54 32.7	+0.9
BJI				S	S	11 01 29.8	+11
BJI				SS	SS	11 06 15.7	+4.3
BJI				AMB	AMB		
	comp=Z,12nm,0.6s,mb5.0						
BJI				AMB	AMB		
	comp=Z,87nm,4.2s						
BJI				LR	LR		
	comp=Z,110nm,31.8s,MS4.0						
KMI	**Kunming**	**76.96 302**		P	**P**	**10 51 53.5**	**+3.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.8						
CHTO	**Chiang Mai**	**77.41 295**		*e*pP	pP	10 52 07.6	+1.8
MA2	**Magadan**	**78.76 351**		P	**P**	**10 52 04.1**	**+4.8**
MA2				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.8						
HHC	**Hu-ho-hao-te**	**78.83 320**		*e*P	**P**	**10 52 02.8**	**+2.6**
HHC				PCP	PcP	10 52 11.6	+2.8
HHC				AP	pP	10 52 16.1	+2.8
HHC				PP	PP	10 55 05.4	+6.0
HHC				S	S	11 01 58.0	+3.1
HHC				SKS		11 02 11.2	
HHC				XS	sS	11 02 20.2	+3.3
HHC				SS	SS	11 07 06.0	+5.1
HHC				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.2						
HHC				AMB	AMB		
	comp=Z,167nm,9.1s						
HHC				LR	LR		
	comp=N,176nm,18.7s,MS4.6						
HHC				LR	LR		
	comp=E,199nm,17.5s,MS4.6						
HHC				LR	LR		
	comp=Z,176nm,20.8s,MS4.4						
CD2	**Chengdu**	**78.88 308**		*e*P	**P**	**10 52 02.0**	**+1.3**
CD2				AP	pP	10 52 15.2	+1.4
CD2				XP	sP	10 52 20.5	+1.6
CD2				PP	PP	10 55 03.1	+3.1
CD2				S	S	11 01 56.0	+0.1
CD2				XS	sS	11 02 18.4	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
CD2				LR	LR		
	comp=N,120nm,12.8s						
CD2				LR	LR		
	comp=Z,100nm,14.4s,MS4.3						
MAW	**Mawson**	**79.11 202**		P	**P**	**10 52 01.2**	**-0.2**
	comp=Z,5.1nm,0.7s,mb4.5,baz=111,slow=3.7,SNR=9.5						
MAW				LR	LR	11 21 17.7	
	comp=Z,162nm,19.3s,MS4.4,baz=89,slow=31						
LZH	**Lanzhou**	**81.35 312**		*e*P	**P**	**10 52 15.9**	**+2.0**
LZH				AP	pP	10 52 28.0	+0.9
LZH				XP	sP	10 52 33.4	+1.3
LZH				PP	PP	10 55 25.0	+4.6
LZH				*e*S	S	11 02 25.0	+3.3
LZH				SKS		11 02 27.3	
LZH				XS	sS	11 02 46.3	+2.6
LZH				SS	SS	11 07 45.0	+6.1
LZH				AMB	AMB		
	comp=Z,29nm,1.6s,mb5.0						
LZH				AMB	AMB		
	comp=Z,130nm,4.2s						
LZH				LR	LR		
	comp=E,425nm,16.0s						
LZH				LR	LR		
	comp=Z,690nm,17.2s,MS5.1						
ULN	**Ulaanbaatar**	**85.47 324**		*e*P	**P**	**10 52 34.5**	**-0.3**
ULN				*e*	pP	10 52 47.1	-1.0
YAK	**Yakutsk**	**85.58 343**		*e*P	**P**	**10 52 34.2**	**-0.8**
YAK				*e*	pP	10 52 44.9	-3.3
YAK				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.1						
YAK				pmax	pmax		
	comp=N,3.0nm,1.2s						
YAK				pmax	pmax		
	comp=E,2.0nm,2.0s						
YAK				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb5.0						
YAK				pmax	pmax		
	comp=E,2.0nm,0.9s						
SYO	**Syowa Base**	**85.73 196⇓**		*e*P	**P**	**10 52 28.8**	**-7.0**
GTA	**Gaotai**	**85.75 314**		*e*P	**P**	**10 52 36.4**	**0.0**
GTA				AP	pP	10 52 49.3	-0.3
GTA				XP	sP	10 52 54.7	+0.1
GTA				PP	PP	10 55 56.1	-0.2
GTA				SKS		11 02 55.9	
GTA				S	S	11 03 03.9	-1.9
GTA				XS	sS	11 03 22.1	-6.0
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.7						
GTA				AMB	AMB		
	comp=Z,72nm,5.7s						
GTA				LR	LR		
	comp=Z,73nm,16.4s,MS4.2						
SONM	**Songino Array**	**85.83 323**		P	**P**	**10 52 35.4**	**-1.1**
	comp=Z,2.1nm,0.7s,mb4.5,baz=135,slow=6.2,SNR=6.2						
BILL	**Bilibino**	**85.95 359⇓**		*e*P	**P**	**10 52 35.7**	**-1.0**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.7						
BILL	**Bilibino**	**85.95 359**		*e*P	**P**	**10 52 36.2**	**-0.5**
	comp=Z,3.2nm,0.8s,mb4.6						
BILL				*e*	pP	10 52 47.9	-2.1
CMB	**Columbia Colle**	**87.09 48**		*e*P	**P**	**10 52 42.7**	**-0.3**
CMB				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
CMB	**Columbia Colle**	**87.09 48**		*e*P	**P**	**10 52 42.7**	**-0.3**
	comp=Z,5.2nm,0.7s,mb4.9						
NVAR	**Mina Array Bea**	**88.74 49**		P	**P**	**10 52 50.4**	**-0.5**
	comp=Z,1.3nm,0.6s,mb4.4,baz=229,slow=8.2,SNR=14						
ZAK	**Zakamensk**	**88.91 325**		*e*P	**P**	**10 52 46.8**	**-4.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,2.5s,mb4.0						
TPNV	**Topopah Spring**	**89.64 51**		*e*P	**P**	**10 52 55.8**	**+0.7**
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.6						
TPNV	**Topopah Spring**	**89.64 51**		*e*P	**P**	**10 52 55.8**	**+0.7**
	comp=Z,3.1nm,0.9s,mb4.6						
SNAA	**Sanae**	**90.20 183**		*e*P	**P**	**10 52 55.7**	**-1.5**
SNAA				*e*		10 53 00.2	
SNAA				*e*	pP	10 53 03.8	-6.7
SNAA				*e*	pP	10 53 10.1	-0.4
SNAA				*e*		10 53 16.9	
SNAA	**Sanae**	**90.20 183**		*i* P	**P**	**10 52 56.4**	**-0.8**
VNA2	**Neumayer--Watz**	**91.11 181**		*e*P	**P**	**10 53 00.6**	**-0.8**
VNA2				*e*		10 53 05.3	
VNA2				*e*		10 53 08.3	
VNA2				*e*	pP	10 53 15.2	+0.4
VNA2				*e*		10 53 22.6	
VNA1	**Neumayer--Stat**	**91.40 181**		*e*P	**P**	**10 53 02.4**	**-0.4**
VNA1				*e*		10 53 07.5	
VNA1				*e*	pP	10 53 10.8	-5.3
VNA1				*e*	pP	10 53 15.8	-0.3
VNA1				*e*		10 53 22.5	
TIXI	**Tiksi**	**93.50 348⇓**		*e*P	**P**	**10 53 11.7**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.5						
WMQ	**Urumqi**	**95.82 314**		*e*P	**P**	**10 53 24.0**	**+0.5**
TXAR	**Lajitas Array**	**97.02 62**		P	**P**	**10 53 28.9**	**-0.4**
	comp=Z,0.5nm,0.8s,mb4.0,baz=222,slow=5.0,SNR=6.4						
TXAR				LR	LR	11 34 33.3	
	comp=Z,51nm,18.5s,MS4.0,baz=5.0,slow=34						
RLMT	**Red Lodge**	**97.46 45**		*e*P	**P**	**10 53 25.5**	**-5.4**
YKA	**Yellowknife Ar**	**100.11 27**		P	Pdif	10 53 41.9	-0.8
YKA	**Yellowknife Ar**	**100.11 27**		P	Pdif	10 53 41.9	-0.7
	comp=Z,0.1nm,0.5s,baz=250,slow=4.9,SNR=3.6						
MKAR	**Makanchi Array**	**100.35 316**		*i* P	Pdif	10 53 44.0	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ZAL	**Zalesovo**	**100.73 323**		P	Pdif	10 53 46.0	+0.5
AKTK	**Aktyubinsk**	**116.68 318**		PKP	PKPdf	10 58 39.1	-1.9
AKTO	**Aktyubinsk**	**116.68 318**		PKP	PKPdf	10 58 39.1	-1.9
	comp=Z,1.6nm,0.9s,baz=104,slow=4.2,SNR=4.2						
ARCES	**ARCESS Array B**	**123.80 345**		PKP	PKPdf	10 58 52.5	-1.7
	comp=Z,4.9nm,0.8s,baz=70,slow=2.1,SNR=13						
OBN	**Obninsk**	**128.11 327**		*e*PKIKP	PKPdf	10 58 59.2	-3.6
OBN				*e*		10 59 11.7	
OBN				*e*		11 01 07.1	
OBN				pmax	pmax		
	comp=Z,4.0nm,0.8s						
FINES	**FINESS Array B**	**129.25 338**		PKP	PKPdf	10 59 03.2	-1.7
	comp=Z,1.1nm,0.7s,baz=48,slow=2.8,SNR=4.3						
GERES	**GERESS Array B**	**143.12 332**		PKP	PKPdf	10 59 27.1	-3.8
	comp=Z,1.0nm,0.6s,baz=74,slow=5.7,SNR=5.0						
PERS	**Pernice**	**144.02 328**		*i* PKPbc	PKPdf	10 59 29.4	-3.2
CRES	**Cresnjev**	**144.39 327**		*e*PKPbc	PKPdf	10 59 30.4	-2.8
KBA	**Koelnbreinsper**	**144.57 330⇑**		*i*P	PKPdf	10 59 30.8	-2.7
	comp=Z,7.9nm,0.8s						
MEM	**Membach**	**144.67 340**		PKP	PKPdf	10 59 32.1	-1.4
LJU	**Ljubljana**	**144.72 328**		*i* PKPbc	PKPdf	10 59 31.9	-1.9
LJU				*i*		10 59 44.2	
MYKA	**Terra Mystica**	**144.75 329⇑**		*i*PKPbc	PKPdf	10 59 31.1	-2.7
	comp=Z,14nm,0.9s						
CEY	**Cerknica**	**144.98 328**		*e*PKPbc	PKPdf	10 59 32.8	-1.5
CEY				*e*		10 59 44.8	
VOY	**Vojsko**	**145.05 328**		*e*PKPbc	PKPbc	10 59 31.8	-2.0
VOY				*e*		10 59 44.8	
JAVS	**Javornik**	**145.06 328**		*e*PKPbc	PKPbc	10 59 32.5	-1.3
ABTA	**Abfaltersbach**	**145.21 330**		*i* PKPbc	PKPbc	10 59 32.7	-1.6
	comp=Z,18nm,0.8s,SNR=8.5						
WTTA	**Wattenberg**	**145.23 332⇑**		*i*P	PKPbc	10 59 33.5	-0.9
	comp=Z,18nm,1.1s						
MOTA	**Moosalm**	**145.40 332⇓**		*i*P	PKPbc	10 59 34.0	-0.9
	comp=Z,16nm,1.0s						
WLF	**Walferdange**	**145.44 339**		*e*PKP2	PKPab	10 59 34.4	-0.7
WLF	**Walferdange**	**145.44 339**		PKP	PKPdf	10 59 34.3	-0.6
WLF				APKP		10 59 47.3	
RETA	**Reutte**	**145.44 333⇑**		*i*PKPab	PKPab	10 59 34.2	-1.0
	comp=Z,12nm,1.1s						
SQTA	**Sankt Quirin**	**145.45 332⇑**		*i*P	PKPdf	10 59 34.2	-0.8
	comp=Z,11nm,0.8s						
GIVF	**Givet**	**145.48 341**		*e*PKP1	PKPbc	10 59 34.3	-0.8
DOU	**Dourbes**	**145.56 341**		PKP	PKPdf	10 59 34.4	-0.7
DOU				APKP		10 59 47.7	
BAIF	**Baives**	**145.71 342**		*e*PKP1	PKPbc	10 59 34.5	-1.3
	comp=Z,38nm,1.1s						
FETA	**Feichten**	**145.82 332⇑**		*i*PKPbc	PKPbc	10 59 35.3	-0.9
	comp=Z,20nm,1.1s,SNR=7.6						
DAVA	**Damuels**	**145.98 333⇑**		*i*P	PKPdf	10 59 35.7	-0.2
	comp=Z,13nm,1.0s						
CDF	**Champ

ORIF	**Oris-en-Rattie**	**149.54**	**335**	⇑*i*PKP1	PKPbc	10 59 45.4	-1.0
	comp=Z,21nm,0.6s						
ORIF				*e*MLR	MLR		
	comp=Z,54nm,20.5s,MS4.0						
TCF	**Toulx Ste Croi**	**149.68**	**341**	*e*PKP1	PKPbc	10 59 45.3	-1.4
	comp=Z,21nm,1.0s						
SBF	**Sospel**	**149.73**	**332**	*e*PKP1	PKPbc	10 59 46.0	-0.9
	comp=Z,70nm,1.1s						
PGF	**Pioggiola**	**150.00**	**329**	*e*PKP1	PKPbc	10 59 46.2	-1.4
	comp=Z,55nm,0.8s						
VIVF	**Saint-Julien-l**	**150.06**	**336**	*e*PKP1	PKPbc	10 59 46.5	-1.2
	comp=Z,19nm,0.9s						
MFF	**Saint Martin d**	**150.07**	**344**	*e*PKP1	PKPbc	10 59 46.2	-1.4
	comp=Z,17nm,0.6s						
FRF	**La Foret Royal**	**150.32**	**333**	⇑*i*PKP1	PKPbc	10 59 46.7	-1.6
	comp=Z,50nm,1.0s						
SMRF	**Simiane la Rot**	**150.44**	**334**	⇑*i*PKP1	PKPbc	10 59 47.7	-0.9
	comp=Z,29nm,0.8s						
LMR	**La Mourre**	**150.56**	**332**	*e*PKP1	PKPbc	10 59 47.3	-1.6
	comp=Z,44nm,0.9s						
RJF	**Les Rejaudoux**	**150.77**	**341**	*e*PKP1	PKPbc	10 59 48.1	-1.3
	comp=Z,18nm,0.9s						
RJF				*e*MLR	MLR		
	comp=Z,54nm,22.4s,MS4.0						
RJF	**Les Rejaudoux**	**150.77**	**341**	*e*PKP	PKPbc	10 59 48.1	-1.3
RJF				LR	LR		
	comp=Z,50nm,22.4s,MS4.3						
CAF	**Calviac**	**150.93**	**340**	*e*PKP1	PKPbc	10 59 48.6	-1.2
	comp=Z,4.9nm,0.6s						
LASF	**Ste Croix**	**151.03**	**337**	⇑*i*PKP1	PKPbc	10 59 48.9	-1.1
	comp=Z,38nm,0.9s						
LFF	**La Frestale**	**151.34**	**341**	*e*PKP1	PKPbc	10 59 49.3	-1.4
	comp=Z,28nm,0.7s						
MTLF	**Montolieu**	**152.27**	**338**	*e*PKP1	PKPbc	10 59 51.4	-1.5
	comp=Z,11nm,0.8s						
EPF	**Esparros**	**153.19**	**340**	*e*PKP1	PKPbc	10 59 53.8	-1.1
	comp=Z,9.7nm,0.9s						
SJPF	**Ste Jean**	**153.59**	**343**	*e*PKP1	PKPbc	10 59 54.3	-1.5
ETSF	**Etsaut**	**153.59**	**341**	*e*PKP1	PKPbc	10 59 55.4	-0.4
EVO	**Evora**	**159.44**	**352**	*e*PKP2	PKPab	11 00 33.1	-0.4
EVO				*e*MLR	MLR		
	comp=Z,50nm,22.8s,MS4.0						

NIED ***09*** *10:46:00, 2460N×12320E, h68km, Mw4.1 Best double couple: M0 1.37000×10^15 NP1:φs158.00000°, δ61.00000°, λ34.00000°. NP2:φs49.00000°, δ60.00000°, λ146.00000°.*
BJI ***09*** *10:46:11.2, 2406N×12321E, h71km, mb4.6*
ISCJB ***09*** *10:46:14.0±0.4, 2463N±004×12314E±004, h87km±3km, mb4.2/11, Error ellipse: s-maj=7.9km s-min=4.5km az=153.7*
IDC ***09*** *10:46:14.9±4.1, 2470N×123.10E, h83km±41km, mb3.7/8, mb1 3.9/10, mb1mx3.7/22, mbtmp3.8/10, MS2.8/2, Ms1 2.8/2, ms1mx2.5/25, Error ellipse: s-maj=30.9km s-min=15.0km az=69.0*
JMA ***09*** *10:46:16.0±0.1, 2462N×123.18E, h71km±1km, M4.1*
JMA Felt I J1.
NEIC ***09*** *10:46:16.0, 2462N×123.18E, h71km, mb4.9/3, MW4.0(NIED), After JMA.*
NEIC Recorded [1 JMA] on Iriomote-jima.

ISC 09 10:46:15.2±0.4, 2462N±004×12313E±003, h78km±3km, n40, σ1§00/57, mb4.2/11, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.20**	**214**	P	**Pn**	**10 46 26.9**	**+0.2**
YOJ				S	**Sn**	**10 46 34.8**	**-0.4**
IRIF	**Iriomote-Funau**	**0.62**	**118**	P	**Pn**	**10 46 29.5**	**-0.3**
IRIF				S	**Sn**	**10 46 39.7**	**-1.0**
HATJ	**Hateruma jima**	**0.83**	**133**	P	**Pn**	**10 46 32.2**	**0.0**
HATJ				S	**Sn**	**10 46 44.4**	**-0.4**
JKRS	**Kuro-shima**	**0.89**	**116**	P	**Pn**	**10 46 32.9**	**+0.1**
JKRS				S	**Sn**	**10 46 45.8**	**-0.1**
JIJ	**Ishigaki jima**	**0.96**	**106**	P	**Pn**	**10 46 33.3**	**-0.3**
JIJ				S	**Sn**	**10 46 46.3**	**-1.0**
JTJ	**Tarama**	**1.43**	**89**	P	**Pn**	**10 46 39.9**	**+0.4**
JTJ				S	**Sn**	**10 46 57.8**	**0.0**
NACB	**Ninganchiao**	**1.47**	**253**	*e*Pn	**Pn**	**10 46 40.5**	**+0.4**
TATO	**Taipei**	**1.54**	**284**	*e*Pn	**Pn**	**10 46 42.6**	**+1.8**
JMJ	**Miyako jima 2**	**1.97**	**84**	P	**Pn**	**10 46 47.3**	**+0.7**
JMJ				S	**Sn**	**10 47 11.1**	**+0.5**
JOGS	**Gusukube**	**2.07**	**86**	P	**Pn**	**10 46 48.9**	**+0.9**
JOGS				S	**Sn**	**10 47 13.7**	**+0.7**
JKE	**Kume jima 2**	**3.71**	**62**	P	**Pn**	**10 47 10.8**	**+0.7**
JKE				S	**Sn**	**10 47 53.9**	**+1.2**
QZH	**Quanzhou**	**4.14**	**275**	P	**Pn**	**10 47 16.8**	**+0.9**
QZH				S	**Sn**	**10 47 59.8**	**-3.3**
QZH				Smax			
	comp=N,180nm,0.4s						
QZH				Smax			
	comp=E,120nm,0.6s						
JAGN	**Aguni-jima**	**4.19**	**61**	P	**Pn**	**10 47 17.5**	**+0.8**
JAGN				*e*S	**Sn**	**10 48 04.6**	**+0.1**
NAH1	**Naha**	**4.41**	**68**	*e*S	**Sn**	**10 48 10.9**	**+1.1**
JJT2	**Tamagusuku 2**	**4.44**	**69**	P	**Pn**	**10 47 20.9**	**+0.9**
JJT2				*e*S	**Sn**	**10 48 11.5**	**+1.0**
JIH	**Iheya**	**4.97**	**60**	P	**Pn**	**10 47 27.5**	**+0.2**
JIH				S	**Sn**	**10 48 23.6**	**+0.1**
JOW	**Kunigami**	**5.13**	**64**	P	**Pn**	**10 47 28.9**	**-0.6**
JOW	**Kunigami**	**5.13**	**64**	P	**Pn**	**10 47 28.9**	**-0.5**
	comp=E,57nm,0.3s,baz=178,slow=9.7,SNR=288						
JOW				S	**Sn**	**10 48 27.4**	**0.0**
	baz=127,slow=29,SNR=2.0						
JTK	**Tokunoshima**	**6.10**	**58**	P	**Pn**	**10 47 41.5**	**-1.2**
JTK				S	**Sn**	**10 48 48.4**	**-2.7**
JAM	**Amami Oshima**	**6.92**	**56**	P	**Pn**	**10 47 52.2**	**-1.6**
JAM				S	**Sn**	**10 49 07.2**	**-3.8**
JZK	**Kikaishima**	**7.15**	**58**	P	**Pn**	**10 47 56.2**	**-0.8**
JZK				*e*S	**Sn**	**10 49 14.4**	**-2.3**
JMZ	**Minamidaito 2**	**7.42**	**79**	P	**Pn**	**10 47 57.2**	**-3.5**
JMZ				S	**Sn**	**10 49 14.2**	**-9.2**
JNU	**Nakatsue**	**10.85**	**37**	P	**Pn**	**10 48 48.5**	**+1.1**
	comp=E,0.3nm,0.3s,baz=97,slow=24,SNR=2.4						
KSRS	**Korea Array**	**13.43**	**17**	P	**Pn**	**10 49 24.8**	**+2.5**
	comp=E,0.2nm,0.3s,baz=200,slow=12,SNR=8.8						
KSRS				LR	LR	10 54 31.8	
	comp=E,21nm,20.1s,baz=185,slow=37						
SONM	**Songino Array**	**26.70**	**334**	LR	LR	11 03 32.7	
	comp=E,47nm,21.1s,baz=88,slow=39						
MKAR	**Makanchi Array**	**39.27**	**315**	P	**P**	**10 53 35.6**	**-0.5**
	comp=E,0.3nm,0.4s,mb3.4,baz=95,slow=9.8,SNR=3.9						
ZALV	**Zalesovo Beam**	**40.86**	**326**	P	**P**	**10 53 46.0**	**-3.1**
ZALV	**Zalesovo Beam**	**40.86**	**326**	P	**P**	**10 53 46.0**	**-3.1**
	comp=E,0.7nm,0.4s,mb3.8,baz=113,slow=7.7,SNR=3.6						
FITZ	**Fitzroy Crossi**	**42.54**	**176**	*e*P	**P**	**10 54 02.9**	**-0.2**
	comp=E,5.7nm,0.9s,mb4.3						
FITZ	**Fitzroy Crossi**	**42.54**	**176**	P	**P**	**10 54 01.7**	**-1.4**
	comp=E,2.3nm,0.5s,mb4.2,baz=23,slow=6.4,SNR=9.9						
WRAB	**Tennant Creek**	**45.62**	**165**	*e*P	**P**	**10 54 28.4**	**+0.6**
	comp=E,14nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**45.62**	**165**	P	**P**	**10 54 27.0**	**-0.8**
	comp=E,6.3nm,0.5s,mb4.6,baz=346,slow=8.7,SNR=96						
WB2	**Warramunga Arr**	**45.62**	**165**	*e*P	**P**	**10 54 27.8**	**0.0**
BVAR	**Borovoye Array**	**48.47**	**320**	P	**P**	**10 54 48.6**	**-1.0**
	comp=E,0.6nm,0.5s,mb3.7,baz=102,slow=7.6,SNR=3.6						
ASAR	**Alice Springs**	**49.13**	**167**	P	**P**	**10 54 55.5**	**+0.5**
	comp=E,2.8nm,0.6s,mb4.4,baz=349,slow=11,SNR=65						
FORT	**Forrest**	**55.29**	**175**	*e*P	**P**	**10 55 41.4**	**+0.9**
	comp=E,7.3nm,0.6s,mb4.9						
KLBR	**Kellerberrin**	**56.13**	**186**	*e*P	**P**	**10 55 46.8**	**+0.3**
	comp=E,9.4nm,0.5s,mb5.1						
STKA	**Stephens Creek**	**58.89**	**162**	*e*P	**P**	**10 56 06.6**	**+0.7**
	comp=E,1.9nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**58.89**	**162**	P	**P**	**10 56 06.7**	**+0.8**
	comp=E,2.5nm,0.6s,mb4.5,baz=339,slow=6.6,SNR=12						
YKA	**Yellowknife Ar**	**81.87**	**23**	P	**P**	**10 58 24.3**	**-1.2**
	comp=E,0.3nm,0.7s,mb3.3,baz=308,slow=5.2,SNR=6.7						

TEH ***09*** *10:46:23.2, 2930N×5842E, h17km, ML4.0*
IDC ***09*** *10:46:31.6±4.7, 2861N×5839E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.8/6, Error ellipse: s-maj=89.2km s-min=43.0km az=175.0*
ISCJB ***09*** *10:46:33.7±1.3, 2890N±007×5851E±007, h11km±10km, mb3.7/6, Error ellipse: s-maj=13.9km s-min=5.6km az=138.8*
CSEM ***09*** *10:46:35.4±0.1, 2901N×5836E, h20km, ML4.0, Error ellipse: s-maj=5.4km s-min=2.3km az=136.0*
THR ***09*** *10:46:36.7±1.1, 2920N×5838E, h14km±10km, ML3.6*
NEIC ***09*** *10:46:40.8, 2930N×5842E, h17km, MN4.0(TEH), After TEH.*

ISC 09 10:46:35.8±1.3, 2899N±006×5851E±007, h6km±11km, n30, σ1§00/30, mb3.7/6, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**1.82**	**303**	*e*Pg	**Pn**	**10 47 06.3**	**-1.3**
KRBR				AML	AML	10 47 30.5	
	comp=N,890nm,0.3s						
ZHSF	**Zahedan**	**2.07**	**72**	*e*Pg	**Pg**	**10 47 15.5**	**-0.1**
ZHSF				AML	AML	10 47 48.3	
	comp=E,300nm,0.4s						
ZHSF				AML	AML	10 47 50.0	
	comp=N,337nm,0.5s						
BNDS	**Bandar-Abbas**	**2.60**	**233**	*e*Pn	**Pn**	**10 47 21.3**	**+3.0**
BNDS				*e*Sg	**Sg**	**10 47 59.3**	**-0.1**
BNDS				AML	AML	10 48 02.8	
	comp=N,218nm,0.3s						
IKOO	**Kooshah**	**3.45**	**7**	*e*Pn	**Pn**	**10 47 29.3**	**-0.7**
IKOO				*e*Sg	**Sb**	**10 48 19.4**	**-0.1**
IBAF	**Bafgh**	**3.63**	**316**	*e*Pn	**Pn**	**10 47 32.0**	**-0.6**
ITEG	**Tejag**	**3.90**	**3**	*e*Pn	**Pn**	**10 47 35.7**	**-0.5**
IDAH	**Dahanechah**	**3.92**	**17**	*e*Pn	**Pn**	**10 47 37.0**	**+0.6**
IMON	**Monand**	**4.31**	**13**	*e*Pn	**Pn**	**10 47 41.6**	**-0.2**
ICHK	**Chekchek**	**4.80**	**314**	*e*	Px	10 49 14.0	
	comp=Z,869nm,0.3s						
IPAR	**Pars**	**4.84**	**281**	*e*Pn	**Pn**	**10 47 51.5**	**+2.3**
IPAR				*e*		10 49 30.6	
	comp=Z,471nm,0.4s						
GHIR	**Ghir-Karzin**	**4.91**	**263**	*e*Pn	**Pn**	**10 47 51.7**	**+1.7**
GHIR				AML	AML	10 48 55.6	
	comp=N,57nm,0.5s						
GHIR				AML	AML	10 48 56.0	
	comp=E,61nm,0.4s						
ISAD	**Sadrabad**	**5.09**	**306**	*e*	Px	10 49 14.6	
	comp=N,722nm,0.3s						
SLWS		**8.17**	**241**	P	**Pn**	**10 48 34.7**	**-0.2**
BTHS		**8.45**	**236**	P	**Pn**	**10 48 37.7**	**-1.0**
BOGSS		**8.69**	**251**	P	**Pn**	**10 48 41.2**	**-0.8**
UMR	**Umm Al-Rimmam**	**9.45**	**276**	*e*P	**Pn**	**10 48 52.7**	**+0.3**
UMR				AML	AML	10 50 35.0	
	comp=Z,19nm,0.5s						
RDF	**Al-Radifah**	**9.60**	**272**	*e*P	**Pn**	**10 48 54.3**	**-0.2**
RDF				AML	AML	10 50 40.5	
	comp=Z,14nm,0.6s						
MIB	**Mutribah**	**9.78**	**277**	*e*P	**Pn**	**10 48 56.7**	**-0.3**
MIB				AML	AML	10 50 47.0	
	comp=Z,13nm,0.6s						
NAY	**Al-Naaiem**	**9.86**	**274**	*e*P	**Pn**	**10 48 58.3**	**+0.2**
NAY				AML	AML	10 50 46.3	
	comp=Z,6.4nm,0.6s						
HRDDS		**10.13**	**236**	S	**Sn**	**10 50 47.3**	**-8.5**
HRDDS		**10.13**	**236**	P	**Pn**	**10 49 01.3**	**-0.5**
AKTK	**Aktyubinsk**	**21.43**	**359**	P	**P**	**10 51 26.2**	**+1.9**
AKTK	**Aktyubinsk**	**21.43**	**359**	P	**P**	**10 51 26.2**	**+1.9**
AKTO	**Aktyubinsk**	**21.43**	**359**	P	**P**	**10 51 26.2**	**+1.9**
	comp=Z,1.4nm,0.7s,mb3.4,baz=185,slow=11,SNR=4.7						
BVAR	**Borovoye Array**	**25.56**	**17**	P	**P**	**10 52 05.0**	**-0.3**
	comp=Z,2.8nm,0.6s,mb4.0,baz=195,slow=8.8,SNR=22						
MKAR	**Makanchi Array**	**25.69**	**40**	P	**P**	**10 52 06.5**	**0.0**
MKAR	**Makanchi Array**	**25.69**	**40**	P	**P**	**10 52 06.5**	**0.0**
	comp=Z,0.3nm,0.2s,mb3.4,baz=230,slow=11,SNR=4.5						
AKASG	**Malin Array Be**	**30.91**	**323**	P	**P**	**10 52 51.3**	**-1.7**
	comp=Z,0.9nm,0.6s,mb3.8,baz=125,slow=8.4,SNR=5.5						
ZALV	**Zalesovo Beam**	**31.45**	**30**	P	**P**	**10 52 58.0**	**+0.3**
	comp=Z,0.9nm,0.6s,mb3.8,baz=250,slow=7.4,SNR=4.3						
YKA	**Yellowknife Ar**	**88.67**	**357**	P	**P**	**10 59 28.7**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.8,baz=0.3,slow=5.4,SNR=5.7						

WEL 09 11:05:56.0±0.7, 3620S×17761E, h253km±6km, ML3.7/11, Error ellipse: s-maj=11.9km s-min=9.1km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.48**	**158**	PN	Pn	11 06 34.3	0.0
MXZ				SN	S	11 07 03.3	-1.3
PUZ	**Puketiti**	**1.94**	**165**	PN	Pn	11 06 38.3	+0.3
URZ	**Urewera**	**2.10**	**191**	PN	Pn	11 06 39.9	+0.5
URZ				SN	S	11 07 13.9	0.0
MWZ	**Matawai**	**2.14**	**182**	PN	Pn	11 06 40.5	+0.7
MWZ				SN	S	11 07 14.8	+0.2
KNZ	**Kokohu**	**2.82**	**179**	PN	Pn	11 06 46.7	+0.1
BKZ	**Black Stump Fm**	**3.10**	**196**	PN	Pn	11 06 49.4	-0.1
FWVZ	**Far West T-bar**	**3.46**	**207**	PN	Pn	11 06 54.3	+0.7
PXZ	**Pawanui**	**3.88**	**188**	PN	Pn	11 06 57.7	-0.6
TSZ	**Takapari Road**	**4.07**	**198**	PN	Pn	11 06 59.7	-0.9
MRZ	**Mangatainoka R**	**4.74**	**199**	PN	Pn	11 07 06.7	-1.8
KIW	**Kapiti Island**	**5.12**	**204**	PN	Pn	11 07 11.6	-1.5
QRZ	**Quartz Range**	**6.10**	**219**	*e*PN	Pn	11 07 24.7	-0.5
THZ	**Tophouse**	**6.66**	**212**	PN	Pn	11 07 30.9	-1.3
KHZ	**Kahutara**	**6.97**	**206**	PN	Pn	11 07 34.3	-1.8

SGS ***09*** *11:14:13.6, 3009N×3645E, h21km*
GII ***09*** *11:14:14.2±5.2, 2982N×3624E, h0km, ML2.6/3*

ISC 09 11:14:12.5±1.8, 2986N±006×3641E±009, h0km, n8, σ0§71/11, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.20**	**279**	Pg	**Pg**	**11 14 34.5**	**-1.0**
HRFI				Sg	**Sg**	**11 14 52.2**	**+1.1**
EIL	**Elat**	**1.28**	**262**	Pg	**Pg**	**11 14 36.6**	**-0.4**
EIL				Sg	**Sg**	**11 14 52.8**	**-0.8**
HQLS		**1.30**	**245**	S	**Sg**	**11 14 54.3**	**+0.1**
HQLS		**1.30**	**245**	P	**Pg**	**11 14 36.5**	**-0.8**
JLOS		**1.38**	**216**	S	**Sg**	**11 14 57.5**	**+0.8**
JLOS		**1.38**	**216**	P	**Pg**	**11 14 39.1**	**+0.2**
KZIT	**Kziot**	**2.02**	**301**	Pn	**Pn**	**11 14 49.0**	**+1.1**
KZIT				Sn	**Sn**	**11 15 13.9**	**0.0**
RSHS		**2.10**	**223**	P	**Pn**	**11 14 48.5**	**-0.3**

CSEM ***09*** *11:53:59.8±1.1, 3593N×2825E, h8km, MD3.0, Error ellipse: s-maj=23.4km s-min=9.8km az=3.0*
DDA ***09*** *11:53:59.3, 3593N×2828E, h4km±1km, Md3.3*
ISK ***09*** *11:54:00.6, 3600N×2830E, h16km, MD3.0*

ISC 09 11:53:59.3±2.5, 359N±01×2828E±006, h12km±14km, n8, σ0§89/14, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	**Fethiye**	**0.97**	**41**	*e*PG	**Pg**	**11 54 18.7**	**+0.6**
FETY				*e*SG	**Sg**	**11 54 30.9**	**+0.1**
DAT	**Datca**	**1.00**	**325**	*e*PG	**Pg**	**11 54 18.9**	**+0.3**
DAT				*e*SG	**Sg**	**11 54 32.6**	**+1.0**
YER	**Yerkesik**	**1.23**	**0**	*e*PN	**Pn**	**11 54 22.5**	**+0.2**
BDRM	**Kayabasi**	**1.34**	**330**	*i* P	**Pg**	**11 54 24.6**	**-0.4**
BDRM				*i* S	**Sg**	**11 54 43.4**	**+0.9**
BODT	**Bodrum**	**1.39**	**326**	*e*PN	**Pn**	**11 54 24.8**	**+0.2**
GOLH	**Golhisar**	**1.68**	**37**	*i* P	**Pg**	**11 54 30.7**	**-0.9**
GOLH				*i* S	**Sg**	**11 54 54.4**	**+1.0**
GOLH	**Golhisar**	**1.68**	**37**	*i* P	**Pg**	**11 54 30.7**	**-0.9**
GOLH				*i* S	**Sg**	**11 54 54.3**	**+0.9**
AYDN	**Tasoluk**	**1.78**	**350**	*i* P	**Pg**	**11 54 32.1**	**-1.3**
AYDN				*i* S	**Sg**	**11 54 54.6**	**-2.0**

ISC 09 12:01:13.0±0.8, 4608N±005×1365E±005, h0km, n5, σ0§75/10, 1C-1D, Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRE	**Drenchia**	**0.09**	**359**	⇑*i*Pg	**Pg**	**12 01 13.8**	**-1.0**
DRE				*i* Sg	**Sg**	**12 01 15.9**	**-0.1**
VOY	**Vojsko**	**0.18**	**105**	*e*Pg	**Pg**	**12 01 15.8**	**-0.6**
VOY				*e*Sg	**Sg**	**12 01 19.0**	**+0.3**
VOY				*e*Rg		12 01 20.2	
COLI	**Coloredo**	**0.19**	**286**	‖*i*Pg	**Pg**	**12 01 16.2**	**-0.5**
COLI				*i* Sg	**Sg**	**12 01 20.3**	**+1.2**
GORS	**Gorjuse**	**0.34**	**46**	*i* Pg	**Pg**	**12 01 19.1**	**-0.4**
GORS				*i* Sg	**Sg**	**12 01 25.0**	**+1.1**
GORS							
	comp=Z,7.0nm,0.1s						
JAVS	**Javornik**	**0.35**	**122**	*i* Pg	**Pg**	**12 01 18.8**	**-0.8**
JAVS				*i* Sg	**Sg**	**12 01 24.9**	**+0.8**
JAVS							
	comp=Z,3.0nm,0.1s						

NIED ***09*** *12:08:00, 2530N×12920E, h11km, Mw3.7 Best double couple: M0 3.82000×10^14 NP1:φs222.00000°, δ55.00000°, λ-88.00000°. NP2:φs39.00000°, δ35.00000°, λ-92.00000°.*

JMA 09 12:08:06.9±0.3, 2527N×12916E, h50km, M4.0, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJT2	**Tamagusuku 2**	**1.54**	**304**	P	**Pn**	12 08 32.9	+1.0
JJT2				S	Sn	12 08 51.8	+1.0
NAH1	**Naha**	**1.62**	**305**	P	Pn	12 08 33.9	+0.9
NAH1				S	Sn	12 08 52.4	-0.3
JOW	**Kunigami**	**1.75**	**333**	P	Pn	12 08 36.0	+1.2
JOW				S	Sn	12 08 54.8	-1.1
JMZ	**Minamidaito 2**	**1.94**	**73**	P	Pn	12 08 38.0	+0.6
JMZ				S	Sn	12 09 00.2	-0.4
JIH	**Iheya**	**2.06**	**329**	P	Pn	12 08 40.5	+1.5
JIH				S	Sn	12 09 03.0	-0.5
JAGN	**Aguni-jima**	**2.17**	**308**	P	Pn	12 08 41.5	+0.9
JAGN				S	Sn	12 09 05.6	-0.6
JKE	**Kume jima 2**	**2.38**	**297**	P	Pn	12 08 43.8	+0.3
JKE				S	Sn	12 09 10.1	-1.4
JTK	**Tokunoshima**	**2.51**	**356**	P	Pn	12 08 46.8	+1.5
JTK				S	Sn	12 09 13.0	-1.7
JZK	**Kikaishima**	**3.12**	**13**	P	Pn	12 08 56.0	+2.4
JZK				S	Sn	12 09 29.9	+0.3
JAM	**Amami Oshima**	**3.15**	**7**	P	Pn	12 08 55.7	+1.6
JAM				S	Sn	12 09 29.3	-1.1
JOGS	**Gusukube**	**3.44**	**262**	P	Pn	12 08 57.2	-0.8
JOGS				S	Sn	12 09 36.3	-1.3
JMJ	**Miyako jima 2**	**3.54**	**263**	P	Pn	12 08 59.9	+0.6
JMJ				*e*S	Sn	12 09 37.9	-2.0
JTJ	**Tarama**	**4.09**	**262**	P	Pn	12 09 07.1	+0.1
JTJ				S	Sn	12 09 50.7	-2.9
JNN	**Nakanoshima**	**4.60**	**8**	*e*S	Sn	12 10 04.9	-1.1
JIJ	**Ishigaki jima**	**4.65**	**260**	P	Pn	12 09 14.2	-0.4
JIJ				S	Sn	12 10 02.7	-4.5
JKRS	**Kuro-shima**	**4.79**	**259**	P	Pn	12 09 16.7	+0.1
JKRS				S	Sn	12 10 06.7	-4.1
IRIF	**Iriomote-Funau**	**5.02**	**260**	*e*S	Sn	12 10 13.9	-2.5

ISCJB ***09*** *12:31:16.1±0.5, 3831N±003×2162E±003, h13km±4km, Error ellipse: s-maj=4.6km s-min=4.2km az=11.8*
ATH ***09*** *12:31:16.5, 3828N×2154E, h27km±1km, MD3.2/5*
CSEM ***09*** *12:31:17.1±0.1, 3830N×2161E, h10km, ML3.0, Error ellipse: s-maj=3.0km s-min=2.6km az=179.0*
NEIC ***09*** *12:31:17.1, 3827N×2160E, h21km, MD3.2(ATH), After ATH.*
THE ***09*** *12:31:17.0, 3831N×2161E, h3km, ML3.0*

ISC 09 12:31:16.9±0.4, 3831N±003×2161E±003, h17km±4km, n15, σ1§07/26, 1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.22**	**98**	*e*Pg	**Pg**	**12 31 22.0**	**0.0**
SELA				*e*Sg	**Sg**	**12 31 25.1**	**-0.4**
RLS	**Riolos of Patr**	**0.27**	**205**	‖*i*PB	**Pg**	**12 31 22.7**	**-0.1**
RLS				*e*SB	**Sg**	**12 31 27.5**	**+0.6**
EVR	**Evrytania**	**0.63**	**14**	*e*PN	**Pn**	**12 31 29.6**	**-1.4**
EVR				*e*SN	**Sb**	**12 31 40.0**	**+2.1**
KFL	**Anninata**	**0.68**	**254**	*e*Pg	**Pg**	**12 31 29.8**	**-0.4**
VLS	**Valsamata**	**0.82**	**261**	*e*Pg	**Pg**	**12 31 31.9**	**-0.9**
VLS				*e*Sg	**Sg**	**12 31 45.1**	**+1.6**
VLS	**Valsamata**	**0.82**	**261**	*e*Pn	**Pn**	**12 31 31.7**	**-1.8**
VLS				*e*Sn	**Sn**	**12 31 45.2**	**0.0**
LKD	**Levkas**	**0.86**	**298**	*e*Pg	**Pg**	**12 31 32.8**	**-0.7**
LKD				*e*Sg	**Sg**	**12 31 45.7**	**+0.8**
AGG	**Agios Georgios**	**0.91**	**38**	*e*Pg	**Pg**	**12 31 33.7**	**-0.9**
AGG				*e*Sg	**Sg**	**12 31 47.7**	**+1.2**
LTK	**Loutraki**	**1.10**	**104**	*e*Pg	**Pg**	**12 31 37.9**	**-0.2**
ITM	**Ithomi**	**1.15**	**167**	*e*PN	**Pn**	**12 31 37.6**	**-0.5**
ITM				*e*SN	**Sn**	**12 31 54.4**	**+1.0**
PYL	**PYLOS**	**1.41**	**176**	*e*Pg	**Pg**	**12 31 42.8**	**-1.3**
PYL				*e*Sg	**Sg**	**12 32 03.5**	**+1.1**
PYL	**PYLOS**	**1.41**	**176**	*e*Pg	**Pg**	**12 31 42.8**	**-1.2**
PYL				*e*Sg	**Sg**	**12 32 03.5**	**+1.1**
DID	**Didima**	**1.51**	**121**	*e*Pg	**Pg**	**12 31 44.8**	**-1.2**
DID				*e*Sg	**Sg**	**12 32 06.2**	**+0.6**
VLI	**Veliai**	**1.90**	**146**	*e*PN	**Pn**	**12 31 51.1**	**+2.6**
VLI	**Veliai**	**1.90**	**146**	*e*Pn	**Pn**	**12 31 51.3**	**+2.8**

IDC ***09*** *12:55:55.4±0.8, 4711N×15570E, h0km, mb3.7/12, mb1 3.9/13, mb1mx3.9/21, mbtmp3.8/13, ML3.2/1, Error ellipse: s-maj=22.9km s-min=18.1km az=153.0*
MOS ***09*** *12:55:56.9±1.3, 4696N×15572E, h23km, mb4.1/9, Error ellipse: s-maj=15.9km s-min=12.6km az=81.6*
ISCJB ***09*** *12:55:58.4±0.6, 4704N±010×1556E±01, h33km, mb3.8/15, Error ellipse: s-maj=16.2km s-min=9

comp=Z,0.5nm,0.7s,mb3.6,baz=309,slow=4.7,SNR=6.5

*ISCJB **09** 13:06:13.4±3.9, 021N±0.10×127.1E±02, h18km±26km, mb4.2/9, MS3.3/2, Error ellipse: s-maj=34.5km s-min=11.1km az=158.3*
*NEIC **09** 13:06:14.1±0.6, 021N×127.13E, h10km, mb4.4/2, Error ellipse: s-maj=22.6km s-min=9.2km az=66.0*
*IDC **09** 13:06:20.7±2.5, 005N×12701E, h63km±20km, mb3.9/7, mb1 4.0/8, mb1mx3.7/16, mbtmp3.9/8, MS3.4/2, Ms1 3.4/2, ms1mx2.8/26, Error ellipse: s-maj=103.6km s-min=10.3km az=70.0*

ISC 09 13:06:23.3±2.4, 00N±01×1268E±02, h86km±22km, n14, σ1§06/14, mb4.2/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**13.82**	**156**	*e*Pn	**Pn**	**13 09 37.2**	**+1.8**
	10nm,0.4s						
KSM	**Kuching**	**16.56**	**275**	*e*Pn	**Pn**	**13 10 10.7**	**+0.4**
FITZ	**Fitzroy Crossi**	**18.03**	**184**	P	**Pn**	**13 10 27.2**	**-1.1**
	0.1nm,0.3s,baz=3.4,slow=15,SNR=4.5						
WRAB	**Tennant Creek**	**21.15**	**160**	*e*P	**P**	**13 11 00.4**	**-1.0**
	2.4nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**21.16**	**160**	P	**P**	**13 11 00.1**	**-1.4**
	1.2nm,0.3s,mb3.7,baz=336,slow=10,SNR=41						
WRA				S	**S**	**13 14 51.4**	**-0.7**
	0.7nm,0.8s,baz=344,slow=16,SNR=3.7						
WRA				ScP	ScP	13 18 36.4	+2.7
	0.4nm,0.6s,baz=328,slow=2.2,SNR=5.9						
GUMO	**Guam**	**22.41**	**52**	LR	LR	13 18 09.8	
	comp=Z,50nm,19.2s,baz=10,slow=32						
ASAR	**Alice Springs**	**24.52**	**164**	P	**P**	**13 11 36.0**	**+1.2**
	5.5nm,0.6s,mb4.2,baz=341,slow=11,SNR=94						
ASAR				S	**S**	**13 15 51.6**	**+2.2**
	0.1nm,0.4s,baz=350,slow=16,SNR=3.7						
ASAR				ScP	ScP	13 18 45.3	+2.8
	0.2nm,0.5s,baz=336,slow=2.5,SNR=5.9						
STKA	**Stephens Creek**	**34.66**	**158**	P	**P**	**13 13 04.7**	**+0.1**
	0.8nm,0.4s,mb4.0,baz=308,slow=10,SNR=4.9						
JHJ	**Hachijo jima 2**	**35.13**	**19**	LR	LR	13 24 54.5	
	comp=Z,128nm,20.2s,baz=70,slow=32						
SONM	**Songino Array**	**50.84**	**342**	P	**P**	**13 15 15.8**	**+0.8**
	1.8nm,0.8s,mb4.2,baz=155,slow=8.4,SNR=10						
MKAR	**Makanchi Array**	**60.66**	**326**	P	**P**	**13 16 26.2**	**+0.9**
	3.5nm,0.6s,mb4.6,baz=120,slow=8.6,SNR=30						
ZALV	**Zalesovo Beam**	**63.93**	**334**	P	**P**	**13 16 45.9**	**-1.1**
	0.5nm,0.4s,mb3.7,baz=134,slow=6.5,SNR=3.4						
KURK	**Kurchatov**	**64.92**	**328**	*e*P	**P**	**13 16 53.4**	**-0.1**
	5.1nm,0.8s,mb4.4						
ARCES	**ARCESS Array B**	**93.94**	**340**	P	**P**	**13 19 30.2**	**-0.8**
	5.2nm,1.0s,mb4.8,baz=98,slow=4.9,SNR=5.1						

*ISCJB **09** 13:09:15.6±0.8, 3692N±005×24.77W±004, h17km±6km, mb4.1/18, MS3.2/12, Error ellipse: s-maj=9.3km s-min=3.7km az=31.6*
*CSEM **09** 13:09:16.3±0.1, 3692N×2476W, h25km, mb4.3/6, Ms3.0, Error ellipse: s-maj=3.1km s-min=1.8km az=43.0*
*IDC **09** 13:09:17.7±1.0, 3729N×2456W, h0km, mb4.0/11, mb1 4.1/12, mb1mx4.0/22, mbtmp4.0/12, MLS.3/1, MS3.3/11, Ms1 3.4/11, ms1mx3.2/24, Error ellipse: s-maj=29.0km s-min=19.3km az=157.0*
*PDA **09** 13:09:18.7±1.1, 3716N×2450W, h0km, MD4.2, ML3.8, Error ellipse: s-maj=6.3km s-min=4.3km az=73.0*
*NEIC **09** 13:09:18.2±0.4, 3708N×2458W, h10km, mb4.3/11, Error ellipse: s-maj=8.0km s-min=6.5km az=49.0*

ISC 09 13:09:18.7±0.7, 3706N±005×2475W±004, h23km±6km, n103, σ1§13/100, mb4.1/18, MS3.2/12, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.26**	**258**	*e*P	**Pb**	**13 09 27.7**	**+2.8**
PSMN				*e*S	**Sb**	**13 09 34.0**	**+4.9**
PSMN	**Pico do Norte,**	**0.26**	**258**	*e*S	**Sb**	**13 09 34.0**	**+4.9**
CMLA	**Cha da Macela**	**0.94**	**319**	*i* P	**Pn**	**13 09 34.8**	**-1.7**
CMLA				*e*S	**Sb**	**13 09 47.5**	**-0.8**
CMLA				A		13 09 51.5	
	1μm,0.4s						
CMLA	**Cha da Macela**	**0.94**	**319**	*e*P	**Pn**	**13 09 34.9**	**-1.6**
CMLA	**Cha da Macela**	**0.94**	**319**	*e*P	**Pn**	**13 09 34.9**	**-1.6**
CMLA				*e*S	**Sb**	**13 09 47.5**	**-0.8**
PDA	**Ponta Delgada**	**1.00**	**314**	*e*P	**Pn**	**13 09 36.4**	**-1.0**
PDA				*e*S	**Sb**	**13 09 49.3**	**-0.8**
PSET	**Sete Cidades**	**1.09**	**315**	*i* P	**Pn**	**13 09 37.3**	**-1.2**
PSET				*e*S	**Sn**	**13 09 51.7**	**-1.2**
PSET				A		13 09 57.2	
	794nm,0.3s						
PSCM	**Serra do Cume**	**2.49**	**312**	*e*P	**Pn**	**13 09 57.4**	**-0.4**
PSCM				*e*S	**Sn**	**13 10 25.5**	**-2.0**
PSCM				A		13 10 34.3	
	540nm,0.3s						
ADH	**Angra Heroismo**	**2.54**	**310**	*e*P	**Pn**	**13 09 58.5**	**+0.1**
ADH				*e*S	**Sn**	**13 10 27.7**	**-0.9**
PMAN	**Manadas**	**3.08**	**302**	*e*S	**Sn**	**13 10 40.9**	**-1.1**
PMAN				A		13 10 42.3	
	44nm,0.3s						
ROSA	**Rosais**	**3.23**	**302**	*e*P	**Pn**	**13 10 08.4**	**+0.5**
ROSA				*e*S	**Sn**	**13 10 45.3**	**-0.3**
PICO	**Pico**	**3.25**	**297**	*e*P	**Pn**	**13 10 09.7**	**+1.4**
PICO				*e*S	**Sn**	**13 10 46.8**	**+0.6**
HOR	**Horta**	**3.41**	**297**	*e*P	**Pn**	**13 10 11.7**	**+1.3**
CALA	**Caldeira**	**3.48**	**297**	*e*P	**Pn**	**13 10 12.2**	**+0.8**
CALA				*e*S	**Sn**	**13 10 51.5**	**-0.4**
PMAR	**Madeira**	**7.75**	**122**	*e*Pn	**Pn**	**13 11 07.7**	**-2.4**
PMAR				A		13 12 35.9	
	59nm,0.4s						
PMAR				*e*T		13 18 36.4	
PMPS	**Porto Santo**	**7.97**	**118**	*e*Pn	**Pn**	**13 11 10.6**	**-2.5**
PMPS				*e*T		13 18 58.4	
EHIG	**Higuera**	**10.29**	**143**	P	**Pn**	**13 11 44.5**	**-0.4**
EHIG	**Higuera**	**10.29**	**143**	P	**Pn**	**13 11 44.5**	**-0.4**
EGOM	**La Gomera**	**10.91**	**142**	P	**Pn**	**13 11 51.6**	**-1.8**
	21nm,0.2s						
EGOM				S	**Sn**	**13 13 43.0**	**-12**
EGOM	**La Gomera**	**10.91**	**142**	P	**Pn**	**13 11 51.6**	**-1.8**
	21nm,0.2s						
EBAJ	**Bajamar**	**11.04**	**138**	P	**Pn**	**13 11 54.5**	**-0.8**
	7.2nm,0.3s						
EBAJ	**Bajamar**	**11.04**	**138**	P	**Pn**	**13 11 54.5**	**-0.7**
	7.2nm,0.3s						
CCAN	**Las Canadas**	**11.16**	**140**	P	**Pn**	**13 11 55.5**	**-1.4**
	10.0nm,0.4s						
CCAN	**Las Canadas**	**11.16**	**140**	P	**Pn**	**13 11 55.5**	**-1.3**
	10.0nm,0.4s						
EFAM	**Famara**	**12.28**	**127**	P	**Pn**	**13 12 11.7**	**-0.5**
	1.0nm,0.2s						
EFAM	**Famara**	**12.28**	**127**	P	**Pn**	**13 12 11.6**	**-0.5**
	1.0nm,0.2s						
CFTV	**Fuerteventura**	**12.44**	**131**	P	**Pn**	**13 12 13.2**	**-1.1**
	5.1nm,0.6s						
PFVI	**Vila Bisbo**	**12.72**	**85**	*e*Sn	**Sn**	**13 14 22.8**	**-16**
PFVI				*e*T		13 24 18.2	
PTEO	**Sao Teotonio**	**12.77**	**83**	*e*T		13 24 26.0	
MORF	**Marmelete**	**12.84**	**84**	*e*S	**Sn**	**13 14 24.8**	**-17**
MORF				*e*T		13 24 27.5	
MOE	**Montemor**	**13.06**	**79**	*e*S	**Sn**	**13 14 30.5**	**-17**
MOE				*e*T		13 24 00.0	
EVO	**Evora**	**13.32**	**79**	*e*Sn	**Sn**	**13 14 33.4**	**-20**
	14nm,0.8s						
EVO				*e*MLR	MLR		
	comp=Z,127nm,18.0s						
EVO	**Evora**	**13.32**	**79**	*e*T		13 24 24.6	
PBDV	**Barranco-do-Ve**	**13.42**	**84**	*e*S	**Sn**	**13 14 37.8**	**-18**
PBDV				*e*T		13 24 36.8	
PBEJ	**Beja**	**13.44**	**81**	*e*Sn	**Sn**	**13 14 38.6**	**-18**
PBEJ				*e*T		13 24 20.5	
PVAQ	**Vaqueiros**	**13.58**	**83**	*e*S	**Sn**	**13 14 41.3**	**-19**
PVAQ				*e*T		13 24 33.2	
PVIS	**Viseu**	**13.63**	**69**	*e*T		13 24 49.0	
PCAB	**Cabril**	**13.74**	**65**	*e*T		13 25 09.0	
PCBR	**Castelo Branco**	**13.82**	**73**	*e*Sn	**Sn**	**13 14 44.9**	**-21**
PCBR				*e*T		13 24 24.5	
MTE	**Manteigas**	**13.84**	**71**	*e*T		13 24 40.6	
PVRL	**Vila Real**	**13.87**	**67**	*e*T		13 24 54.8	
PBAR	**Barrancos**	**14.09**	**80**	*e*S	**Sn**	**13 14 52.7**	**-20**
PBAR				*e*T		13 24 54.0	
MVO	**Moncorvo**	**14.35**	**68**	*e*Sn	Sx	13 14 55.5	
MVO				*e*T		13 25 05.3	
ESDC	**Sonseca Array**	**16.51**	**75**	LR	LR	13 18 07.0	
	comp=Z,96nm,18.3s,baz=290,slow=32						
MDT	**Midelt**	**17.04**	**98**	Pn	**Pn**	**13 13 16.6**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=280,slow=7.5,SNR=4.0						
MDT				LR	LR	13 18 49.6	
	comp=Z,130nm,18.8s,baz=345,slow=34						
SJPF	**Ste Jean**	**18.96**	**64**	*e*P	**Pn**	**13 13 39.0**	**+0.1**
	comp=Z,62nm,1.5s						
SJPF	**Ste Jean**	**18.96**	**64**	*e*P	**Pn**	**13 13 39.0**	**+0.1**
	comp=Z,31nm,1.5s						
ETSF	**Etsaut**	**19.40**	**65**	*e*P	**Pn**	**13 13 44.1**	**-0.2**
EPF	**Esparros**	**20.08**	**65**	*e*P	**P**	**13 13 52.8**	**+2.4**
	comp=Z,43nm,1.4s						
EPF	**Esparros**	**20.08**	**65**	*e*P	**P**	**13 13 52.8**	**+2.4**
	comp=Z,21nm,1.4s						
MFF	**Saint Martin d**	**20.59**	**55**	*e*P	**P**	**13 13 56.2**	**+0.2**
	comp=Z,15nm,0.7s						
MFF	**Saint Martin d**	**20.59**	**55**	*e*P	**P**	**13 13 56.2**	**+0.2**
	comp=Z,7.3nm,0.7s						
LFF	**La Frestale**	**20.73**	**60**	*e*P	**P**	**13 13 56.4**	**-1.0**
	comp=Z,26nm,0.8s						
LFF	**La Frestale**	**20.73**	**60**	*e*P	**P**	**13 13 56.4**	**-1.0**
	comp=Z,13nm,0.8s						
GRR	**Gorron**	**20.80**	**49**	*e*P	**P**	**13 13 58.3**	**+0.1**
	comp=Z,57nm,1.1s						
GRR	**Gorron**	**20.80**	**49**	*e*P	**P**	**13 13 58.3**	**+0.1**
	comp=Z,28nm,1.1s						
FLN	**La Foliniere**	**21.18**	**49**	*e*P	**P**	**13 14 00.9**	**-1.4**
FLN				*e*MLR	MLR		
	comp=Z,89nm,18.8s,MS2.9						
FLN	**La Foliniere**	**21.18**	**49**	*e*P	**P**	**13 14 00.9**	**-1.4**
FLN				LR	LR		
	comp=Z,90nm,18.8s,MS3.2						
LDF	**La Druitiere**	**21.33**	**50**	*e*P	**P**	**13 14 03.6**	**-0.3**
	comp=Z,45nm,1.2s,mb4.4						
LDF	**La Druitiere**	**21.33**	**50**	*e*P	**P**	**13 14 03.6**	**-0.3**
	comp=Z,22nm,1.2s,mb4.4						
MTLF	**Montolieu**	**21.48**	**65**	*e*P	**P**	**13 14 07.3**	**+1.7**
CAF	**Calviac**	**21.64**	**60**	*e*P	**P**	**13 14 07.7**	**+0.4**
	comp=Z,32nm,1.2s,mb4.3						
CAF	**Calviac**	**21.64**	**60**	*e*P	**P**	**13 14 07.7**	**+0.4**
	comp=Z,16nm,1.2s,mb4.3						
TCF	**Toulx Ste Croi**	**22.06**	**57**	*e*P	**P**	**13 14 11.6**	**-0.1**
LASF	**Ste Croix**	**22.76**	**63**	*e*P	**P**	**13 14 19.5**	**+0.3**
	comp=Z,28nm,1.1s,mb4.3						
LASF	**Ste Croix**	**22.76**	**63**	*e*P	**P**	**13 14 19.5**	**+0.3**
	comp=Z,14nm,1.1s,mb4.3						
AVF	**Avril sur Loir**	**22.95**	**56**	*e*P	**P**	**13 14 20.4**	**-0.8**
SSF	**Saint Saulge**	**23.12**	**55**	*e*P	**P**	**13 14 23.4**	**+0.4**
	comp=Z,9.6nm,0.7s,mb4.0						
SSF	**Saint Saulge**	**23.12**	**55**	*e*P	**P**	**13 14 23.4**	**+0.4**
	comp=Z,4.8nm,0.7s,mb4.0						
SMF	**Signal de Mont**	**23.24**	**57**	*e*P	**P**	**13 14 23.7**	**-0.6**
LOR	**Lormes**	**23.41**	**55**	*e*P	**P**	**13 14 25.4**	**-0.6**
LOR				*e*MLR	MLR		
	comp=Z,103nm,21.8s,MS3.0						
LOR	**Lormes**	**23.41**	**55**	*e*P	**P**	**13 14 25.4**	**-0.6**
LOR				LR	LR		
	comp=Z,100nm,21.8s,MS3.2						
EKA	**Eskdalemuir Ar**	**23.44**	**32**	P	**P**	**13 14 25.8**	**-0.5**
	comp=Z,3.8nm,0.7s,mb4.0,baz=229,slow=8.4,SNR=13						
BBTS	**Babate**	**23.47**	**160**	LR	LR	13 21 54.3	
	comp=Z,41nm,19.3s,MS2.9,baz=272,slow=32						
SMRF	**Simiane la Rot**	**23.98**	**64**	*e*P	**P**	**13 14 32.1**	**+0.8**
ORIF	**Oris-en-Rattie**	**24.31**	**62**	*e*P	**P**	**13 14 35.5**	**+1.1**
ORIF				*e*MLR	MLR		
	comp=Z,148nm,22.5s,MS3.1						
BAIF	**Baives**	**24.51**	**49**	*e*P	**P**	**13 14 35.5**	**-0.6**
FRF	**La Foret Royal**	**24.71**	**65**	*e*P	**P**	**13 14 37.9**	**-0.1**
HINF	**Hinteralfeld**	**25.51**	**55**	*e*P	**P**	**13 14 45.3**	**0.0**
CDF	**Champ du Feu**	**25.93**	**54**	*e*P	**P**	**13 14 49.5**	**+0.5**
	comp=Z,8.1nm,0.8s,mb4.0						
CDF	**Champ du Feu**	**25.93**	**54**	*e*P	**P**	**13 14 49.5**	**+0.5**
	comp=Z,4.1nm,0.8s,mb4.0						
DAVOX	**Davos/Dischmat**	**27.34**	**58**	LR	LR	13 25 11.9	
	comp=Z,90nm,18.0s,MS3.4,baz=264,slow=35						
GERES	**GERESS Array B**	**30.19**	**55**	LR	LR	13 25 26.5	
	comp=Z,24nm,20.2s,MS2.8,baz=298,slow=32						
NOA	**NORSAR Array B**	**32.93**	**32**	P	**P**	**13 15 51.9**	**+0.8**
	comp=Z,1.5nm,0.9s,mb3.9,baz=242,slow=9.2,SNR=2.9						
NOA				LR	LR	13 27 02.3	
	comp=Z,52nm,19.6s,MS3.2,baz=245,slow=33						
SCHQ	**Schefferville**	**33.60**	**316**	P	**P**	**13 15 58.9**	**+1.9**
SCHQ				LR	LR	13 27 08.7	
SCHQ	**Schefferville**	**33.60**	**316**	P	**P**	**13 15 58.9**	**+2.0**
	comp=Z,2.8nm,0.9s,mb4.2,baz=80,slow=10,SNR=4.6						
SCHQ				LR	LR	13 27 08.7	
	comp=Z,40nm,21.4s,MS3.1,baz=274,slow=32						
AKASG	**Malin Array Be**	**40.33**	**53**	P	**P**	**13 16 53.8**	**-0.4**
	comp=Z,0.5nm,0.5s,mb3.5,baz=269,slow=8.5,SNR=6.2						
ARCES	**ARCESS Array B**	**42.13**	**24**	P	**P**	**13 17 08.7**	**-0.1**
	comp=Z,8.9nm,1.0s,mb4.3,baz=235,slow=4.3,SNR=6.9						
ARCES				LR	LR	13 33 53.9	
	comp=Z,38nm,18.3s,MS3.3,baz=45,slow=35						
RES	**Resolute Bay**	**49.41**	**341**	*e*P	**P**	**13 18 08.5**	**+2.4**
	comp=Z,142nm,0.8s						
RES	**Resolute Bay**	**49.41**	**341**	*e*P	**P**	**13 18 08.5**	**+2.3**
	comp=Z,142nm,0.8s						
SDV	**Santo Domingo**	**50.03**	**248**	*e*P	**P**	**13 18 17.2**	**+5.6**
	comp=Z,4.0nm,0.8s,mb4.5						
ULM	**Lac du Bonnet**	**51.23**	**309**	LR	LR	13 38 32.2	
	comp=Z,52nm,18.5s,MS3.6,baz=51,slow=34						
BDFB	**Brasilia**	**56.82**	**207**	P	**P**	**13 19 05.9**	**+4.6**
	comp=Z,1.0nm,0.4s,mb4.2,baz=63,slow=12,SNR=3.8						
YKA	**Yellowknife Ar**	**57.84**	**327**	P	**P**	**13 19 09.1**	**+1.1**
	comp=Z,0.4nm,0.8s,mb3.5,baz=75,slow=7.1,SNR=5.6						
TXAR	**Lajitas Array**	**64.74**	**289**	P	**P**	**13 19 58.9**	**+3.5**
	comp=Z,3.8nm,0.7s,mb4.5,baz=74,slow=7.0,SNR=58						
TXAR				LR	LR	13 48 43.3	
	comp=Z,42nm,18.6s,MS3.7,baz=5.0,slow=36						
TIXI	**Tiksi**	**70.00**	**9**	*e*P	**P**	**13 20 30.0**	**+2.2**
	comp=Z,3.8nm,1.0s,mb4.3						
TIXI	**Tiksi**	**70.00**	**9**	*e*P	**P**	**13 20 30.0**	**+2.2**
	comp=Z,3.8nm,1.0s,mb4.3						
ZALV	**Zalesovo Beam**	**71.00**	**36**	P	**P**	**13 20 35.2**	**+1.0**
ZALV	**Zalesovo Beam**	**71.00**	**36**	P	**P**	**13 20 35.2**	**+1.0**
	comp=Z,1.0nm,0.6s,mb3.9,baz=299,slow=7.7,SNR=5.2						
MKAR	**Makanchi Array**	**74.04**	**43**	P	**P**	**13 20 53.9**	**+1.3**
	comp=Z,1.1nm,0.8s,mb3.8,baz=318,slow=5.4,SNR=8.1						
MKAR				LR	LR	13 53 22.6	
	comp=Z,42nm,20.9s,MS3.7,baz=95,slow=36						
SONM	**Songino Array**	**84.91**	**31**	P	**P**	**13 21 53.4**	**+1.8**
	comp=Z,1.5nm,0.8s,mb4.2,baz=316,slow=4.6,SNR=7.8						
FITZ	**Fitzroy Crossi**	**147.87**	**62**	PKPbc	PKPbc	13 29 04.0	+1.8
	comp=Z,1.7nm,0.8s,baz=300,slow=8.5,SNR=5.8						
ASAR	**Alice Springs**	**157.32**	**60**	PKPab	PKPab	13 29 45.0	+0.7
	comp=Z,0.6nm,0.9s,baz=324,slow=3.7,SNR=5.8						

*NEIC **09** 13:29:30.7, 4435S×16807E, h5km, ML3.8(WEL), After WEL.*

WEL 09 13:29:30.4±0.2, 4434S×16805E, h5km, ML3.8/13, Error ellipse: s-maj=2.6km s-min=1.7km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.35**	**194**	P	Pg	13 29 37.6	+0.4
MSZ				S	Sg	13 29 42.2	+0.5
MSZ	**Milford Sound**	**0.35**	**194**	PG	Pg	13 29 37.6	+0.4
MSZ				SG	Sg	13 29 42.2	+0.5
JCZ	**Jackson Bay**	**0.57**	**63**	P	Pg	13 29 42.2	+0.8
JCZ				S	Sg	13 29 50.4	+1.6
JCZ	**Jackson Bay**	**0.57**	**63**	P*	Pg	13 29 42.2	+0.8
JCZ				SG	Sg	13 29 50.4	+1.6
WKZ	**Wanaka**	**0.85**	**126**	P	Pg	13 29 47.1	+0.4
WKZ				S	Sg	13 29 56.9	-0.8
WKZ	**Wanaka**	**0.85**	**126**	P*	Pb	13 29 47.1	-0.5
WKZ				S*	Sb	13 29 56.9	-2.4
MLZ	**Mavora Lakes**	**1.02**	**175**	P	Pg	13 29 49.9	0.0
MLZ	**Mavora Lakes**	**1.02**	**175**	P*	Pb	13 29 49.9	-0.5
EAZ	**Earnscleugh**	**1.27**	**135**	P	Pg	13 29 54.2	-0.5
EAZ	**Earnscleugh**	**1.27**	**135**	P*	Pb	13 29 54.2	-0.5
DCZ	**Deep Cove**	**1.31**	**209**	P	Pn	13 29 54.0	-1.3
DCZ	**Deep Cove**	**1.31**	**209**	P*	Pb	13 29 54.0	-1.4
FOZ	**Fox Glacier**	**1.41**	**58**	P	Pn	13 29 57.3	+0.6
FOZ	**Fox Glacier**	**1.41**	**58**	PN	Pn	13 29 57.3	+0.6
LBZ	**Lake Benmore**	**1.53**	**93**	P	Pn	13 29 59.8	+1.4
LBZ	**Lake Benmore**	**1.53**	**93**	PN	Pn	13 29 59.8	+1.4
WHZ	**Wether Hill Ro**	**1.56**	**183**	P	Pn	13 29 58.6	-0.2
WHZ	**Wether Hill Ro**	**1.56**	**183**	PN	Pn	13 29 58.6	-0.2
TUZ	**Tuapeka**	**1.97**	**146**	PN	Pn	13 30 05.2	+0.8
ODZ	**Otahua Downs**	**1.98**	**112**	P	Pn	13 30 06.0	+1.4
ODZ	**Otahua Downs**	**1.98**	**112**	PN	Pn	13 30 06.0	+1.4
PYZ	**Puysegur Point**	**2.07**	**207**	PN	Pn	13 30 07.1	+1.3
WVZ	**Waitaha Valley**	**2.32**	**58**	P	Pn	13 30 08.1	-1.1
WVZ	**Waitaha Valley**	**2.32**	**58**	PN	Pn	13 30 08.1	-1.1
SYZ	**Scrubby Hill**	**2.33**	**161**	PN	Pn	13 30 10.0	+0.6
HHSZ	**Highcliff Hill**	**2.38**	**132**	PN	Pn	13 30 11.3	+1.3
APZ	**The Paps**	**2.50**	**181**	PN	Pn	13 30 13.0	+1.3
MQZ	**McQueen's Vall**	**3.38**	**81**	P	Pn	13 30 23.6	-0.2
MQZ	**McQueen's Vall**	**3.38**	**81**	PN	Pn	13 30 23.6	-0.2
CRLZ	**Canterbury Las**	**3.39**	**79**	P	Pn	13 30 23.6	-0.3
CRLZ	**Canterbury Las**	**3.39**	**79**	PN	Pn	13 30 23.6	-0.3
DSZ	**Denniston Nort**	**3.78**	**48**	P	Pn	13 30 28.5	-0.7
DSZ	**Denniston Nort**	**3.78**	**48**	PN	Pn	13 30 28.5	-0.7
THZ	**Tophouse**	**4.39**	**56**	P	Pn	13 30 37.6	0.0
THZ	**Tophouse**	**4.39**	**56**	PN	Pn	13 30 37.6	-0.1
QRZ	**Quartz Range**	**4.82**	**45**	P	Pn	13 30 42.6	-1.0
QRZ	**Quartz Range**	**4.82**	**45**	PN	Pn	13 30 42.6	-1.0
NNZ	**Nelson**	**5.01**	**53**	P	Pn	13 30 45.7	-0.5
NNZ	**Nelson**	**5.01**	**53**	PN	Pn	13 30 45.7	-0.5
TUWZ	**Tuamarina**	**5.21**	**58**	PN	Pn	13 30 50.6	+1.7

*ISCJB **09** 13:36:49.3±0.4, 3548N±002×395W±003, h12km±3km, Error ellipse: s-maj=4.0km s-min=2.7km az=178.4*
*CSEM **09** 13:36:49.7±0.1, 3540N×389W, h12km±1km, ML3.1/6, Error ellipse: s-maj=2.0km s-min=1.5km az=91.0*
*CNRM **09** 13:36:49.5, 3557N×389W, h10km, MD3.6*
*MDD **09** 13:36:50.6±0.3, 3549N×388W, h8km±3km, mbLg2.5/8, Error ellipse: s-maj=3.6km s-min=2.4km az=94.0, PRXIMO MDD.*
*SFS **09** 13:36:50.0, 3549N×388W, h0km, ML2.5*
*INMG **09** 13:36:50.2±1.2, 3549N×388W, h1km±3km, ML2.2, Error ellipse: s-maj=3.2km s-min=2.1km az=9.0*

ISC 09 13:36:49.6±0.4, 3547N±002×393W±003, h9km±3km, n50, σ1§14/82, 1D, Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MPAL	**Palemas**	**0.25**	**181**	P	**Pg**	**13 36 56.0**	**+1.4**
MPAL				S	**Sg**	**13 37 00.5**	**+2.6**
MPAL	**Palemas**	**0.25**	**181**	*i* P	**Pg**	**13 36 56.0**	**+1.4**
TOU	**Touzarine**	**0.53**	**164**	*i* P	**Pg**	**13 37 01.5**	**+1.6**
TOU				*i* S	**Sg**	**13 37 09.5**	**+2.6**
EMEL	**Melilla**	**0.82**	**102**	Pg	**Pg**	**13 37 04.5**	**-0.8**
	575nm,0.1s,SNR=27						
EMEL				Lg		13 37 14.8	
	612nm,0.3s,SNR=13						
EMLI	**Melilla**	**0.82**	**102**	Pg	**Pg**	**13 37 04.5**	**-1.0**
	575nm,0.1s,SNR=27						
EALB	**Alboran**	**0.87**	**57**	Pg	**Pg**	**13 37 05.5**	**-0.9**
	172nm,0.2s,SNR=101						
EALB				Lg		13 37 16.1	
	22nm,0.1s,SNR=4.6						
EALB	**Alboran**	**0.87**	**57**	Pg	**Pg**	**13 37 05.5**	**-0.8**
	172nm,0.2s,SNR=101						
ZAI	**Zaio**	**1.09**	**117**	*i* P	**Pg**	**13 37 09.0**	**-1.7**
ZAI				*i* S	**Sg**	**13 37 24.0**	**-0.9**
DKH	**Dar Kharkhour**	**1.16**	**271**	*i* P	**Pb**	**13 37 11.0**	**-0.9**
DKH				*i* S	**Sg**	**13 37 27.0**	**-0.1**
ECEU	**Ceuta**	**1.25**	**290**	Pg	**Pg**	**13 37 13.1**	**-0.5**
	5.9nm,0.1s,SNR=7.9						
ECEU				Lg		13 37 28.5	
	16nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**1.25**	**290**	Pg	**Pg**	**13 37 13.1**	**-0.5**
	5.9nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**1.28**	**328**	Pg	**Pg**	**13 37 13.8**	**-0.4**
	3.1nm,0.1s,SNR=7.0						
EMIJ				Lg		13 37 30.1	
	27nm,0.1s						
EMAL	**Malaga-Limoner**	**1.35**	**343**	||P	**Pn**	**13 37 15.5**	**+0.8**
EMAL				S	**Sb**	**13 37 30.7**	**-1.8**
EMAL	**Malaga-Limoner**	**1.35**	**343**	*i* P	**Pn**	**13 37 15.5**	**+0.9**
EMAL				*e*S	**Sb**	**13 37 30.7**	**-1.7**
EGUA	**Guajares**	**1.39**	**12**	Pg	**Pg**	**13 37 15.5**	**-0.8**
	3.3nm,0.1s,SNR=7.9						
EGUA				Lg		13 37 33.8	
	21nm,0.2s,SNR=7.9					

PBDV	Barranco-do-Ve	3.68	300	ePn	Pn	13 37 47.8 +1.1
PBDV				eSn	Sn	13 38 30.5 +0.3
PBDV				A		13 38 37.6
	4.9nm,0.2s					
ETOB	Tobarra	3.70	30	Pn	Pn	13 37 48.2 +1.3
	4.1nm,0.2s,SNR=10					
ETOB	Tobarra	3.70	30	Pn	Pn	13 37 48.2 +1.3
EBAD	Badajoz	4.10	324	Pn	Pn	13 37 53.5 +1.0
	0.2nm,0.2s,SNR=7.9					
EBAD				Sn	Sn	13 38 39.1 -1.4
	5.9nm,0.2s,SNR=7.9					
EBAD	Badajoz	4.10	324	Pn	Pn	13 37 53.5 +1.1
EBAD				Sn	Sn	13 38 39.1 -1.4
ESDC	Sonseca Array	4.19	360	Pn	Pn	13 37 55.4 +1.6
	3.4nm,1.1s,baz=174,slow=13,SNR=4.3					
ESDC	Sonseca Array	4.19	360	Pn	Pn	13 37 55.4 +1.6
MORF	Marmelete	4.22	297	P	Pn	13 37 55.6 +1.5
MORF				S	Sn	13 38 41.6 -2.0
PFVI	Vila Bisbo	4.28	294	eSn	Sn	13 38 45.4 +0.3

IDC 09 14:26:32.3±2.0, 621S×13014E, h0km, mb3.6/1, mb1 4.2/5, mb1mx3.8/15, mbtmp4.0/5, ML4.1/4, Error ellipse: s-maj=53.5km s-min=27.0km az=82.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	7.54	238	Pn	Pn	14 28 25.4	+1.9
	2.8nm,0.3s,baz=118,slow=5.6,SNR=6.9						
BATI				Sn	Sn	14 29 40.3	-9.4
	10nm,0.3s,baz=148,slow=13,SNR=12						
FITZ	Fitzroy Crossi	12.61	200	Pn	Pn	14 29 31.5	-1.6
	0.4nm,0.3s,baz=34,slow=12,SNR=22						
FITZ				Sn	Sn	14 31 36.7	-18
	1.2nm,0.3s,baz=97,slow=21,SNR=5.7						
WRA	Warramunga Arr	14.25	164	Pn	Pn	14 29 55.3	-0.1
	1.2nm,0.3s,baz=344,slow=13,SNR=26						
WRA				Sn	Sn	14 32 21.4	-13
	1.2nm,0.3s,baz=336,slow=24,SNR=6.1						
ASAR	Alice Springs	17.73	169	P	Pn	14 30 40.9	+0.2
	0.7nm,0.3s,baz=344,slow=10,SNR=66						
ASAR				S	Sn	14 33 47.4	-12
	0.3nm,0.3s,baz=355,slow=23,SNR=6.4						
MKAR	Makanchi Array	67.64	327	P	P	14 37 31.1	0.0
	0.2nm,0.3s,baz=121,slow=7.8,SNR=8.5						

*DDA **09** 14:47:13.7, 3872N×2501E, h16km, Md3.3*
*ISCJB **09** 14:47:13.5±0.5, 3871N±002×2525E±002, h4km±4km, Error ellipse: s-maj=3.0km s-min=2.7km az=177.6*
*ATH **09** 14:47:14.1, 3869N×2530E, h31km±3km, MD3.7/20, ML3.5*
*NEIC **09** 14:47:14.2, 3869N×2531E, h31km, ML3.5(ATH), After ATH.*
*CSEM **09** 14:47:14.7±0.1, 3869N×2528E, h15km, ML3.9, Error ellipse: s-maj=1.3km s-min=1.0km az=152.0*
*THE **09** 14:47:16.6, 3868N×2536E, h31km, ML3.9*
*ISK **09** 14:47:16.6, 3876N×2522E, h32km, ML3.6*

ISC 09 14:47:14.5±0.5, 3871N±002×2525E±002, h7km±4km, n98, σ1§02/122, 11C-4D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOS	Chios island	0.71	116	ePg	Pg	14 47 28.1	-0.1
CHOS				eSg	Sg	14 47 37.2	-0.2
PRK	Paraskevi	0.96	56	ePg	Pg	14 47 32.8	-0.2
PRK				eSg	Sg	14 47 44.5	-1.1
PRK	Paraskevi	0.96	56	ePn	Pn	14 47 32.3	-2.2
PRK	Paraskevi	0.96	56	ePg	Pg	14 47 32.8	-0.2
PRK				eSg	Sg	14 47 44.5	-1.1
URLA	Izmir	1.11	108	iP	Pg	14 47 35.4	-0.5
URLA				iS	Sg	14 47 50.2	-0.1
AOS	Alonnisos	1.16	294	ePg	Pg	14 47 36.0	-0.8
LIA	Limnos Island	1.19	358	ePg	Pg	14 47 37.1	-0.3
LIA				eSg	Sg	14 47 52.3	-0.5
LIA	Limnos Island	1.19	358	⇓iPn	Pn	14 47 36.9	-0.7
LIA				eSn	Sn	14 47 52.7	-1.4
LOS	Limnos	1.23	354	ePg	Pg	14 47 37.5	-0.7
PTL	Penteli	1.27	239	ePN	Pn	14 47 37.5	-1.1
AYVA	Ayvalik	1.28	61	iP	Pg	14 47 38.7	-0.3
AYVA				iS	Sg	14 47 56.2	+0.7
BOZC	Bozcaada	1.30	29	iP	Pn	14 47 37.5	-1.5
BOZC				iS	Sb	14 47 54.8	-1.2
EZN	Ezine	1.40	36	ePN	Pn	14 47 39.6	-0.9
EZN				eSN	Sn	14 47 56.6	-2.5
ATH	Athens Observa	1.41	239	ePN	Pn	14 47 40.0	-0.6
ATH				eSN	Sn	14 47 58.4	-1.0
KVR	Kavouri	1.46	233	ePN	Pn	14 47 40.5	-0.7
GADA	Gvkgeada	1.57	19	ePN	Pn	14 47 41.9	-0.9
SMG	Samos	1.60	128	ePN	Pn	14 47 41.7	-1.5
SMG				eSN	Sn	14 48 02.4	-1.7
KDAG	Bornova	1.61	100	iP	Pg	14 47 44.6	-0.8
KDAG				iS	Sg	14 48 06.4	+0.1
APE	Apeiranthos	1.65	172	ePg	Pn	14 47 42.1	-1.8
APE				eSg	Sn	14 48 02.4	-2.9
APE	Apeiranthos	1.65	172	ePB	Pn	14 47 42.3	-1.6
APE				eSN	Sn	14 48 03.2	-2.1
APE	Apeiranthos	1.65	172	ePg	Pn	14 47 42.1	-1.8
APE				eSg	Sn	14 48 02.4	-2.9
APE				eSn	Sn	14 48 03.2	-2.1
NAIG	Nisos Aigina	1.68	236	ePN	Pn	14 47 44.0	-0.2
NEO	Neokhori	1.69	291	ePN	Pn	14 47 44.3	-0.1
LKR	Lokris	1.76	269	ePb	Pn	14 47 45.2	-0.2
LKR				eSb	Sn	14 48 07.6	-0.4
LKR	Lokris	1.76	269	ePn	Pn	14 47 45.1	-0.3
LKR				eSb	Sn	14 48 07.6	-0.4
OUR	Ouranopolis	1.90	329	ePb	Pn	14 47 47.5	+0.2
LTK	Loutraki	1.92	250	ePn	Pn	14 47 47.8	+0.2
LTK				eSn	Sn	14 48 12.0	+0.1
DID	Didima	1.99	234	ePn	Pn	14 47 47.9	-0.7
DID				eSn	Sn	14 48 13.1	-0.6
DID	Didima	1.99	234	ePn	Pn	14 47 47.8	-0.7
DID				eSn	Sn	14 48 13.1	-0.5
AKS	Akhisar	2.01	84	ePN	Pn	14 47 50.1	+1.2
LPK	Lapseki	2.04	35	ePN	Pn	14 47 49.3	+0.1
ENEZ	Enez	2.15	19	ePN	Pn	14 47 51.1	+0.4
PLG	Polygyros	2.17	321	ePn	Pn	14 47 51.2	+0.1
PLG				eSn	Sn	14 48 17.6	-0.6
PLG	Polygyros	2.17	321	ePN	Pn	14 47 50.4	-0.7
BALB	Balíkesir	2.25	65	ePN	Pn	14 47 53.4	+1.3
ALN	Alexandroupoli	2.27	15	ePn	Pn	14 47 51.2	-1.2
ALN				eSn	Sn	14 48 18.1	-2.6
ALN	Alexandroupoli	2.27	15	ePn	Pn	14 47 51.2	-1.3
ALN				eSn	Sn	14 48 18.1	-2.6
AGG	Agios Georgios	2.30	279	ePn	Pn	14 47 53.3	+0.5
SANT	Santorini	2.34	176	ePn	Pn	14 47 50.0	-3.4
SANT	Santorini	2.34	176	ePn	Pn	14 47 50.0	-3.3
MLSB	Milas	2.44	124	ePN	Pn	14 47 55.6	+0.8
RDO	Rodhopi	2.45	5	ePN	Pn	14 47 54.2	-0.7
RKY	Sarkoy-Tekirda	2.48	36	ePN	Pn	14 47 54.7	-0.6
HORT	Hortiatis	2.51	319	ePn	Pn	14 47 56.3	+0.5
SOH	Sokhos	2.57	326	ePn	Pn	14 47 57.1	+0.6
MFT	Murefte	2.60	36	ePN	Pn	14 47 57.6	+0.6
EDC	Edincik	2.60	50	ePN	Pn	14 47 57.3	+0.3
MRMT	Marmara Adasi	2.62	43	ePN	Pn	14 47 57.8	+0.5
VLX	Vlachokerasia	2.63	240	ePn	Pn	14 47 58.1	+0.8
BNT	Bandirma	2.64	51	ePN	Pn	14 47 57.0	-0.6
THL	Klokotos Trika	2.66	290	ePN	Pn	14 47 58.8	+1.1
SELA	Sela	2.67	262	ePn	Pn	14 47 58.6	+0.7
KULA	Kula-Manisa	2.68	93	ePN	Pn	14 47 59.4	+1.3
EVR	Evrytania	2.69	276	ePB	Pn	14 47 59.8	+1.6
VLI	Velíai	2.70	223	ePN	Pn	14 47 57.5	-0.8
DAT	Datca	2.70	136	ePN	Pn	14 47 59.2	+0.8
SRS	Serrai	2.72	333	ePn	Pn	14 47 59.0	+0.3
DST	Dursunbey	2.78	70	ePN	Pn	14 48 00.4	+1.0
NVR	Nevrokopi	2.85	339	ePN	Pn	14 48 00.3	-0.1
KCT	Karacabey	2.87	56	ePN	Pn	14 48 00.5	-0.1
YER	Yerkesik	2.87	122	ePN	Pn	14 48 01.8	+1.2
KYTH	Kithira	2.99	217	ePN	Pn	14 48 02.0	-0.3
ITM	Ithomi	3.03	241	ePN	Pn	14 48 04.1	+1.2
KNT	Kendrikon	3.05	324	ePn	Pn	14 48 04.1	+1.0
DALT	Dalyan (Mudla)	3.31	125	ePN	Pn	14 48 08.0	+1.2
PYL	PYLOS	3.31	238	ePn	Pn	14 48 07.9	+1.1
VAY	Valandovo	3.32	323	ePn	Pn	14 48 07.2	+0.3
VAY	Valandovo	3.32	323	ePn	Pg	14 48 17.5	-0.7
KHL	Karahalli	3.38	95	ePN	Pn	14 48 09.6	+2.0
GEMT	Gemlik	3.50	59	ePN	Pn	14 48 10.7	+1.4
KARP	Karpathos	3.50	154	ePN	Pn	14 48 08.1	-1.3
JAN	Janina	3.54	287	ePN	Pn	14 48 08.8	-1.2
JAN	Janina	3.54	287	ePb	Pn	14 48 13.5	+3.5
FNA	Florina	3.63	306	ePn	Pn	14 48 11.6	+0.4
IZI	Iznik	3.65	62	ePN	Pn	14 48 11.8	+0.4
YLV	Yalova	3.69	58	ePN	Pn	14 48 13.2	+1.3
ALT	Altintas	3.81	83	ePN	Pn	14 48 14.3	+0.7
ADVT	Abdulvahap	3.88	62	ePN	Pn	14 48 15.5	+1.0
VTS	Vitosha	4.18	339	⇑iP	Pn	14 48 20.3	+1.6
VTS	Vitosha	4.18	339	⇑iP	Pn	14 48 20.3	+1.6
GPA	Golpazari	4.22	66	ePN	Pn	14 48 20.1	+0.8
ESKT	Eskisehir	4.43	78	ePN	Pn	14 48 23.0	+0.8
KIZT	Kizilcal	5.19	86	ePN	Pn	14 48 35.3	+2.8
TIP	Timpagrande	6.63	277	eP	Pn	14 48 54.2	+1.8
TIP	Timpagrande	6.63	277	eP	Pn	14 48 54.2	+1.8
VOIR		6.73	359	⇑iP	Pn	14 48 57.0	+3.3
VOIR		6.73	359	⇑iP	Pn	14 48 57.0	+3.3
MLR	Muntele Rosu	6.80	4	⇓iP	Pn	14 48 55.7	+1.0
GZR	Gura Zlata	6.93	345	⇓P	Pn	14 48 57.4	+1.0
GZR	Gura Zlata	6.93	345	⇓iP	Pn	14 48 57.4	+1.0
PLOR	Plostina	7.22	8	⇑iP	Pn	14 49 06.2	+5.8
VRI	Vrincioaia	7.24	8	⇑iP	Pn	14 49 04.1	+3.4
BZS	Buzias	7.41	340	⇑iP	Pn	14 49 03.2	+0.2
BZS	Buzias	7.41	340	⇑iP	Pn	14 49 03.2	+0.1
DRGR		8.29	348	⇑iP	Pn	14 49 24.3	+9.2
BURAR	Bucovina Array	8.91	360	⇑P	Pn	14 49 28.4	+4.9
BURAR	Bucovina Array	8.91	360	⇑iP	Pn	14 49 28.4	+4.9
PSZ	Piszkesteto	10.00	339	eP	Pn	14 49 38.6	+0.1
	3.7nm,0.8s						

*ISCJB **09** 15:04:40.2±1.4, 749S×008×12852E±007, h163km±14km, mb3.9/11, Error ellipse: s-maj=14.9km s-min=8.2km az=39.9*
*IDC **09** 15:04:40.4±2.9, 739S×12852E, h141km±28km, mb3.7/8, mb1 3.8/11, mb1mx3.8/15, mbtmp3.7/11, MS2.8/1, Ms1 2.8/1, ms1mx2.5/18, Error ellipse: s-maj=32.1km s-min=12.4km az=76.0*
*NEIC **09** 15:04:41.5±1.6, 742S×12848E, h155km±17km, mb4.1/4, Error ellipse: s-maj=17.8km s-min=10.4km az=65.0*

ISC 09 15:04:40.0±1.5, 744S×009×12856E±007, h141km±17km, n24, σ0§95/31, mb3.9/11, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.56	240	Pn	Pn	15 06 03.1	+2.3
	194nm,0.3s,baz=115,slow=2.0,SNR=309						
BATI				S	Sn	15 07 03.0	-0.9
	80nm,0.3s,baz=15,slow=23,SNR=12						
BATI				LR	LR	15 08 31.4	
	comp=Z,98nm,20.1s,baz=168,slow=42						
KAKA	Kakadu	6.48	144	⇓iP	Pn	15 06 16.5	+3.4
	55nm,0.4s						
KAKA				eS	Sn	15 07 25.1	-0.9
FITZ	Fitzroy Crossi	10.97	195	eP	Pn	15 07 11.7	-1.3
	6.3nm,0.3s						
FITZ				eS	Sn	15 09 03.9	-10
FITZ	Fitzroy Crossi	10.97	195	P	Pn	15 07 12.1	-0.9
	1.3nm,0.3s,baz=33,slow=12,SNR=118						
FITZ				S	Sn	15 09 04.5	-10
	3.1nm,0.3s,baz=96,slow=23,SNR=8.1						
WRAB	Tennant Creek	13.63	156	ePn	Pn	15 07 46.9	-0.7
	6.2nm,0.7s						
WRAB				eSn	Sn	15 10 07.7	-11
WRA	Warramunga Arr	13.63	156	P	Pn	15 07 47.5	-0.1
	0.8nm,0.3s,baz=327,slow=12,SNR=30						
WRA				S	Sn	15 10 08.2	-10
	5.7nm,0.3s,baz=329,slow=22,SNR=17						
WB2	Warramunga Arr	13.64	156	eP	Pn	15 07 47.4	-0.3
WB2				eS	Sn	15 10 08.0	-11
MBWA	Marble Bar	16.09	211	eP	Pn	15 08 17.8	-0.4
ASAR	Alice Springs	16.93	163	P	Pn	15 08 30.0	+1.5
	1.0nm,0.3s,baz=343,slow=11,SNR=132						
ASAR				S	S	15 11 28.9	-8.1
	1.3nm,0.3s,baz=312,slow=16,SNR=6.1						
KSM	Kuching	20.25	295	eP	P	15 09 04.8	+0.5
STKA	Stephens Creek	27.18	155	P	P	15 10 11.5	+1.1
	1.8nm,0.6s,mb3.9,baz=348,slow=10,SNR=8.8						
NWAO	Narrogin (SRO)	27.45	201	eP	P	15 10 12.9	+0.2
NWAO	Narrogin (SRO)	27.45	201	P	P	15 10 12.7	0.0
	3.7nm,0.8s,mb4.1,baz=22,slow=5.4,SNR=3.2						
CHTO	Chiang Mai	39.16	312	eP	P	15 11 54.1	-0.1
	2.3nm,0.8s,mb3.9						
KSRS	Korea Array	44.66	359	P	P	15 12 39.8	+1.2
	0.8nm,0.4s,mb3.7,baz=178,slow=9.2,SNR=6.7						
MJAR	Matsushiro Arr	44.68	11	P	P	15 12 37.3	-1.4
	2.3nm,0.7s,mb3.9,baz=185,slow=9.3,SNR=7.1						
SONM	Songino Array	58.42	343	P	P	15 14 21.1	+0.5
	0.9nm,0.7s,mb3.7,baz=157,slow=7.4,SNR=8.2						
MK31	Makanchi Array	67.82	328	eP	P	15 15 22.7	0.0
MKAR	Makanchi Array	67.82	328	P	P	15 15 22.8	0.0
	1.3nm,0.5s,mb3.9,baz=117,slow=8.1,SNR=30						
ZALV	Zalesovo Beam	71.35	334	P	P	15 15 43.5	-0.8
	2.0nm,0.5s,mb4.1,baz=129,slow=5.7,SNR=9.2						
KURK	Kurchatov	72.15	329	eP	P	15 15 47.8	-1.3
	5.1nm,0.9s,mb4.2						
VNDA	Vanda	72.19	173	P	P	15 15 49.5	+0.6
	0.5nm,0.5s,mb3.5,baz=277,slow=7.7,SNR=9.3						
BRVK	Borovoye	77.75	328	eP	P	15 16 21.0	-0.2
	3.2nm,1.0s,mb3.9						
LPAZ	La Paz	151.21	145	PKPbc	PKPbc	15 24 19.1	+1.4
	1.4nm,0.4s,baz=37,slow=4.1,SNR=9.9						
LPAZ				PKPab	PKPab	15 24 28.4	+2.5
	1.4nm,0.6s,baz=195,slow=8.3,SNR=6.7						

WEL 09 16:03:59.1±0.1, 3790S×17675E, h5km, ML4.2/17, Error ellipse: s-maj=0.6km s-min=0.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	Manawahe	0.10	212	PG	Pg	16 04 01.7	+0.4
MARZ				SG	Sg	16 04 03.9	+1.2
OPRZ	Ohinepanea	0.16	289	PG	Pg	16 04 02.7	+0.4
OPRZ				SG	Sg	16 04 05.3	+0.9
LIRZ	Lichensteins R	0.30	249	PG	Pg	16 04 05.6	+0.6
LIRZ				SG	Sg	16 04 09.8	+0.8
MKRZ	Makatiti	0.33	222	PG	Pg	16 04 06.2	+0.8
OMRZ	Omania	0.36	234	PG	Pg	16 04 06.5	+0.4
TAZ	Tarawera	0.38	209	PG	Pg	16 04 07.3	+0.8
KARZ	Kaharoa	0.42	252	PG	Pg	16 04 07.6	+0.5
TGRZ	Tauranga	0.42	293	PG	Pg	16 04 07.7	+0.5
URZ	Urewera	0.46	142	PG	Pg	16 04 07.7	-0.3
WIZ	White Island	0.51	44	PG	Pg	16 04 09.6	+0.7
UTU	Utuhina	0.52	237	PG	Pg	16 04 09.7	+0.7
HRRZ	Handcock Road	0.61	216	P*	Pg	16 04 11.3	+0.4
MYRZ	Mayor Island	0.73	327	P*	Pb	16 04 13.6	-0.7
MWZ	Matawai	0.76	126	P*	Pb	16 04 13.2	-1.5
TOZ	Tahuroa Road	1.00	279	P*	Pb	16 04 17.0	-1.9
PUZ	Puketiti	1.21	99	P*	Pb	16 04 21.8	-0.7
MXZ	Matakaoa Point	1.28	75	P*	Pb	16 04 23.4	-0.3
BKZ	Black Stump Fm	1.28	189	P*	Pb	16 04 21.4	-2.3
KNZ	Kokohu	1.34	147	P*	Pb	16 04 24.0	-0.6
KUZ	Kuaotunu	1.41	324	PN	Pn	16 04 24.3	-1.1
HIZ	Hauiti	1.61	247	PN	Pn	16 04 26.2	-2.0
FWVZ	Far West T-bar	1.65	214	P*	Pb	16 04 28.8	-1.1
WNVZ	Wahianoa	1.69	212	P*	Pb	16 04 29.8	-0.8
PXZ	Pawanui	2.13	178	PN	Pn	16 04 34.2	-1.2
WPHZ	Waipukurau	2.18	186	PN	Pn	16 04 35.9	-0.1
TSZ	Takapari Road	2.25	196	PN	Pn	16 04 36.5	-0.4
WCZ	Waipu Caves	2.74	315	PN	Pn	16 04 41.9	-1.8
BFZ	Birch Farm	2.81	188	PN	Pn	16 04 43.0	-1.6

*MOS **09** 16:07:10.4±2.0, 4756N×15578E, h10km, mb4.0/4, Error ellipse: s-maj=24.6km s-min=11.9km az=71.8*
*IDC **09** 16:07:11.0±1.0, 4747N×15589E, h0km, mb3.6/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.6/8, ML3.0/2, MS3.2/1, Ms1 3.2/1, ms1mx2.4/32, Error ellipse: s-maj=38.4km s-min=20.0km az=147.0*
*NEIC **09** 16:07:12.0±0.9, 4748N×15598E, h10km, mb3.8/1, Error ellipse: s-maj=30.4km s-min=12.3km az=131.0*
*ISCJB **09** 16:07:14.4±0.8, 476N±0.1×1559E±02, h33km, mb3.7/7, Error ellipse: s-maj=22.3km s-min=11.7km az=43.9*

ISC 09 16:07:16.3±0.7, 475N±01×1559E±02, h35km, n21, σ1§40/22, mb3.7/7, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.21	3	ePN	Pn	16 07 58.0	-6.2
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
PET	Petropavlovsk	5.83	17	ePN	Pn	16 08 36.7	-3.4
PET	Petropavlovsk	5.83	17	ePn	Pn	16 08 35.9	-4.2
PET				eSn	Sn	16 09 35.3	-10
ASAJ	Asahikawa	9.86	255	Pn	Pn	16 09 32.2	-3.1

*ATH **09** 16:23:47.4, 3665N×2875E, h19km, MD3.0/3*
*ISCJB **09** 16:23:48.2±0.8, 3634N±004×2875E±004, h5km±5km, Error ellipse: s-maj=7.1km s-min=4.6km az=151.9*
*CSEM **09** 16:23:49.6±0.1, 3646N×2875E, h5km, MD3.2, Error ellipse: s-maj=2.1km s-min=1.4km az=175.0*
*ISK **09** 16:23:49.3, 3642N×2876E, h12km, MD3.2*
*DDA **09** 16:23:50.8, 3641N×2867E, h7km±2km, Md2.9*

ISC 09 16:23:49.5±0.7, 3638N±004×2878E±004, h9km±5km, n16, σ0§91/23, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FETY	Fethiye	0.35	44	ePG	Pg	16 23 56.5	0.0
FETY				eSG	Sg	16 24 01.7	+0.6
DALT	Dalyan (Mudla)	0.40	343	ePG	Pg	16 23 56.8	-0.6
DALT				eSG	Sg	16 24 02.9	+0.1
ARG	Arkhangelos	0.56	253	ePN	Pg	16 24 00.5	+0.2
ARG				eSN	Sg	16 24 10.0	+2.4
KSL	Kastellorizon	0.69	109	ePN	Pn	16 24 03.5	-2.0
YER	Yerkesik	0.85	332	ePG	Pg	16 24 04.9	-1.0
ELL	Elmali	0.98	68	ePG	Pg	16 24 09.1	+0.8
DAT	Datca	1.03	290	ePG	Pg	16 24 09.1	-0.3
GOLH	Golhisar	1.06	36	iP	Pg	16 24 09.5	-0.4
GOLH				iS	Sn	16 24 27.5	+2.0
BDRM	Kayabasi	1.27	303	iP	Pn	16 24 13.4	-0.1
BDRM				iS	Sn	16 24 30.6	-0.1
BODT	Bodrum	1.36	300	ePN	Pn	16 24 14.3	-0.4
DENT	Denizli	1.38	8	ePN	Pn	16 24 14.6	-0.4
AYDN	Tasoluk	1.47	331	iP	Pg	16 24 16.8	-0.9
AYDN				iS	Sg	16 24 37.0	+0.2
KARP	Karpathos	1.56	238	ePN	Pg	16 24 18.0	-1.4
KARP				eSN	Sg	16 24 40.5	+0.9
BCK	Bucak	1.80	53	ePN	Pn	16 24 20.7	-0.2
KULA	Kula-Manisa	2.13	357	ePN	Pn	16 24 25.7	+0.4
KIZT	Kizilcal	3.50	44	ePN	Pn	16 24 44.9	+0.7

*DDA **09** 16:26:17.6, 35.17N×27.12E, h5km±2km, Md3.9*
*ISK **09** 16:26:24.2, 3530N×2745E, h32km, MD4.0, ML3.9*
*ISCJB **09** 16:26:26.6±0.2, 3536N±002×2776E±002, h46km±4km, mb3.8/10, MS3.0/2, Error ellipse: s-maj=3.3km s-min=2.2km az=28.1*
*CSEM **09** 16:26:26.9±0.1, 3541N×2770E, h40km, ML4.3, Error ellipse: s-maj=1.7km s-min=1.2km az=22.0*
*ATH **09** 16:26:27.5, 3551N×2765E, h42km±1km, MD4.0/18, ML4.3*
*NEIC **09** 16:26:27.5, 3550N×2765E, h42km, mb3.9/4, MD4.0(ATH), After ATH.*
*IDC **09** 16:26:27.4±6.8, 3546N×2766E, h30km±56km, mb3.7/9, mb1 3.8/13, mb1mx3.6/23, mbtmp3.7/13, ML3.6/4, MS3.1/4, Ms1 3.1/4, ms1mx2.6/30, Error ellipse: s-maj=22.2km s-min=16.3km az=0.0*
*THE **09** 16:26:28.8, 3553N×2771E, h18km, ML4.0*
*GII **09** 16:26:31.2±1.2, 3512N×2782E, h31km±3km, mb4.8/6, ML4.8/6*
*HLW **09** 16:26:46.3, 3381N×28.18E, h16km, Mb3.4*

ISC 09 16:26:28.3±0.2, 3539N±002×2774E±002, h38km±5km, n164, σ1§22/202, mb3.8/10, MS3.0/2, 12C-3D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.50	289	⇑iP	Pn	16 26 37.0	-1.9
KARP				eS	Sn	16 26 45.0	-1.4
ARG	Arkhangelos	0.89	21	⇓iP	Pn	16 26 43.8	-0.4
ARG				eS	Sn	16 26 56.0	+0.2
ZKR	Zakros	1.27	258	ePg	Pn	16 26 49.9	+0.4
ZKR				eSg	Sn	16 27 07.3	+1.9
NISR	Nisiros	1.32	338	eP	Pn	16 26 49.3	-0.8
NISR				eS	Sn	16 27 04.0	-2.5
DAT	Datca	1.34	355	ePN	Pn	16 26 48.6	-1.9
DAT				eSN	Sn	16 27 06.0	-1.1
DALT	Dalyan (Mudla)	1.56	28	ePN	Pn	16 26 53.1	-0.3
DALT				eSN	Sn	16 27 13.9	+1.5
FETY	Fethiye	1.66	41	ePN	Pn	16 26 55.1	+0.3
KSL	Kastellorizon	1.68	63	eP	Pn	16 26 55.5	+0.3
KSL	Kastellorizon	1.68	63	eP	Pn	16 26 56.0	+0.8
BDRM	Kayabasi	1.69	352	iP	Pn	16 26 54.0	-1.2
BDRM				iS	Sn	16 27 14.1	-1.6
BODT	Bodrum	1.71	348	ePN	Pn	16 26 53.4	-2.0
NPS	Neapolis	1.74	266	eP	Pn	16 26 56.5	+0.5
NPS				eS	Sn	16 27 16.0	-0.9
NPS	Neapolis	1.74	266	eP	Pn	16 26 57.0	+1.0
XRY	Khrisi	1.75	254	eP	Pn	16 26 57.0	+0.9
YER	Yerkesik	1.80	14	ePN	Pn	16 26 55.9	-0.8
LAST	Lasithi	1.86	264	ePb	Pn	16 26 58.6	+1.0
LAST				eSb	Sn	16 27 21.3	+1.4
LAST	Lasithi	1.86	264	P	Pn	16 27 00.1	+2.5
SANT	Santorini	2.09	299	ePn	Pn	16 26 59.6	-1.2
SANT	Santorini	2.09	299	ePn	Pn	16 26 59.3	-1.5
SANT				Sn	Sn	16 27 22.4	-3.3

KYTH	Kithira	3.92	284	eP	Pn	16 27 26.5	+0.6
GDZ	Gediz	3.95	20	i P	Pn	16 27 26.1	-0.2
GDZ				i S	Sn	16 28 38.0	+27
ALFC	Alevga	3.98	92	P	Pn	16 27 27.4	+0.6
	8.7nm,0.2s						
PTL	Penteli	4.09	312	eP	Pn	16 27 26.5	-1.7
VLI	Veliai	4.11	290	eP	Pn	16 27 28.4	-0.1
ALT	Altintas	4.12	27	ePN	Pn	16 27 29.3	+0.7
ATH	Athens Observa	4.13	310	eP	Pn	16 27 28.5	-0.3
DID	Didima	4.20	302	ePn	Pn	16 27 29.6	-0.1
LEF	Lefka	4.22	92	ePN	Pn	16 27 30.2	+0.1
SZAC	Souni-Zanaja	4.27	97	P	Pn	16 27 31.5	+0.8
	8.2nm,0.5s						
HMAT	Matruh	4.32	187	⇑P	Pn	16 27 30.9	-0.5
ERMK	Ermenek	4.38	72	i P	Pn	16 27 34.3	+2.1
ERMK				i S	Sn	16 28 25.4	+3.5
KONT	Konya--Tatoy	4.51	54	ePN	Pn	16 27 35.8	+1.8
EZN	Ezine	4.57	346	ePN	Pn	16 27 33.5	-1.4
CSS	Prodhromos	4.60	94	P	Pn	16 27 36.3	+1.0
CSS	Prodhromos	4.60	94	ePn	Pn	16 27 36.1	+0.8
CSS				eSn	Sn	16 28 29.7	+2.3
CSS	Prodhromos	4.60	94	ePn	Pn	16 27 35.8	+0.5
CSS	Prodhromos	4.60	94	ePn	Pn	16 27 35.8	+0.5
CSS				eSn	Sn	16 28 29.7	+2.3
LFK	Lefkose	4.74	90	ePN	Pn	16 27 39.0	+1.8
KIZT	Kizilcal	4.81	42	ePN	Pn	16 27 38.9	+0.8
IKL	Isikli	4.91	78	ePN	Pn	16 27 41.2	+1.7
BNT	Bandirma	4.96	2	ePN	Pn	16 27 39.5	-0.7
LKR	Lokris	5.00	312	ePn	Pn	16 27 40.2	-0.5
LKR	Lokris	5.00	312	eP	Pn	16 27 40.8	+0.1
LOS	Limnos	5.00	336	ePn	Pn	16 27 40.3	-0.4
GADA	Gvkgeada	5.01	344	ePN	Pn	16 27 40.1	-0.8
ITM	Ithomi	5.02	293	eP	Pn	16 27 42.0	+0.9
LPK	Lapseki	5.04	351	ePN	Pn	16 27 40.3	-0.9
IZI	Iznik	5.13	15	ePN	Pn	16 27 43.6	+1.1
PHNC	Paralimni	5.17	92	P	Pn	16 27 45.1	+2.0
RKY	Sarkoy-Tekirda	5.31	355	ePN	Pn	16 27 44.1	-0.9
YLV	Yalova	5.33	14	ePN	Pn	16 27 46.2	+1.0
ALN	Alexandroupoli	5.66	347	ePn	Pn	16 27 48.7	-1.1
MERS	Mersin	5.69	73	ePN	Pn	16 27 52.1	+2.0
EVR	Evrytania	5.90	308	eP	Pn	16 27 54.5	+1.4
RDO	Rodhopi	6.00	344	eP	Pn	16 27 54.5	0.0
THL	Klokotos Trika	6.17	314	eP	Pn	16 27 57.2	+0.4
KARA	Karaisali	6.20	70	ePN	Pn	16 27 59.4	+2.3
SWA1		6.34	196	⇑i P	Pn	16 28 00.4	+1.2
SWA1				S	Sn	16 28 54.8	-16
SWA2		6.42	198	⇑eP	Pn	16 28 01.5	+1.2
EDRB	Edirne	6.50	353	ePN	Pn	16 28 01.1	-0.1
HNTI	Hanita	6.57	108	Sn	Sn	16 29 14.5	-1.6
HNTI	Hanita	6.57	108	Sn	Sn	16 29 14.5	-1.6
HSAF	As Saff	6.59	150	⇑P	Pn	16 28 01.6	-1.1
AMAG	Maghara	6.59	134	⇑P	Pn	16 28 04.9	+2.2
OFRI	'Ofer	6.62	113	Sn	Sn	16 29 15.2	-2.0
OFRI	'Ofer	6.62	113	Sn	Sn	16 29 15.2	-2.0
GLL	Jalalah	6.69	149	P	Pn	16 28 03.3	-0.7
MMA0	Mount Meron ar	6.78	108	Sn	Sn	16 29 20.1	-0.9
MMAI	Mount Meron Ar	6.78	108	Pn	Pn	16 28 05.2	0.0
	3.7nm,0.3s,baz=302,slow=13,SNR=14						
MMAI				Sn	Sn	16 29 21.4	+0.3
	6.0nm,0.3s,baz=307,slow=23,SNR=7.0						
MMA2	Mount Meron ar	6.78	108	Pn	Pn	16 28 06.0	+0.7
MMA2				Sn	Sn	16 29 19.9	-1.2
MMA2	Mount Meron ar	6.78	108	Pn	Pn	16 28 06.0	+0.7
SLTI	Sal'it	6.84	115	Sn	Sn	16 29 21.3	-1.3
SLTI	Sal'it	6.84	115	Sn	Sn	16 29 21.3	-1.3
KOZT	Kozan	6.85	70	ePN	Pn	16 28 08.7	+2.6
KSDI	Kefar Szold	6.91	106	Pn	Pn	16 28 06.7	-0.3
KSDI				Sn	Sn	16 29 23.1	-1.3
KSDI	Kefar Szold	6.91	106	Pn	Pn	16 28 06.7	-0.3
KSDI				Sn	Sn	16 29 23.1	-1.3
SUZ		7.00	141	⇓P	Pn	16 28 09.1	+0.8
MMLI	Mount Malkishu	7.03	113	Sn	Sn	16 29 25.7	-1.7
MMLI	Mount Malkishu	7.03	113	Pn	Pn	16 28 08.5	-0.2
MMLI	Mount Malkishu	7.03	113	Sn	Sn	16 29 25.7	-1.7
MMLI	Mount Malkishu	7.03	113	Pn	Pn	16 28 08.5	-0.2
KZIT	Kziot	7.15	127	Pn	Pn	16 28 10.6	+0.3
KZIT				Sn	Sn	16 29 27.4	-2.9
KZIT	Kziot	7.15	127	Pn	Pn	16 28 10.6	+0.3
KZIT				Sn	Sn	16 29 27.4	-2.9
HMDT	Nahal Hemdat	7.20	114	Pn	Pn	16 28 11.0	+0.1
HMDT				Sn	Sn	16 29 30.6	-0.7
HMDT	Nahal Hemdat	7.20	114	Pn	Pn	16 28 11.0	+0.1
HMDT				Sn	Sn	16 29 30.6	-0.7
ZAF		7.32	145	⇑P	Pn	16 28 12.4	-0.2
YTIR	Yattir	7.36	121	Sn	Sn	16 29 34.4	-1.0
YTIR	Yattir	7.36	121	Sn	Sn	16 29 34.4	-1.0
DSI	Dead Sea	7.43	119	Pn	Pn	16 28 14.7	+0.5
DSI				Sn	Sn	16 29 35.7	-1.5
DSI	Dead Sea	7.43	119	Pn	Pn	16 28 14.7	+0.5
DSI				Sn	Sn	16 29 35.7	-1.5
MZDA	Masada	7.56	120	Sn	Sn	16 29 38.2	-2.2
MZDA	Masada	7.56	120	Sn	Sn	16 29 38.2	-2.2
KRMI	Paran Flat	7.89	130	Sn	Sn	16 29 45.1	-3.3
KRMI	Paran Flat	7.89	130	Sn	Sn	16 29 45.1	-3.3
PRNI	Paran	7.91	127	Pn	Pn	16 28 19.9	-0.8
PRNI				Sn	Sn	16 29 46.6	-2.3
PRNI	Paran	7.91	127	Pn	Pn	16 28 19.9	-0.8
PRNI				Sn	Sn	16 29 46.6	-2.3
HRFI	Mount Harif	8.14	129	Pn	Pn	16 28 23.7	-0.2
HRFI				Sn	Sn	16 29 52.0	-2.6
HRFI	Mount Harif	8.14	129	Pn	Pn	16 28 23.7	-0.2
HRFI				Sn	Sn	16 29 52.0	-2.6
MBH	Mount Berech	8.23	131	Sn	Sn	16 29 54.4	-2.5
MBH	Mount Berech	8.23	131	Sn	Sn	16 29 54.4	-2.5
ASF	Jabal al Asfar	8.27	110	Pn	Pn	16 28 26.7	+1.0
	0.4nm,0.3s,baz=146,slow=7.7,SNR=3.4						
ASF				Sn	Sn	16 29 56.4	-1.4
	0.3nm,0.3s,baz=16,slow=9.3,SNR=1.7						
EIL	Elat	8.34	131	Pn	Pn	16 28 27.6	+1.0
	0.8nm,0.3s,baz=340,slow=13,SNR=8.1						
EIL				Sn	Sn	16 29 55.9	-3.6
	3.1nm,0.3s,baz=16,slow=16,SNR=12						
EIL	Elat	8.34	131	Pn	Pn	16 28 26.9	+0.3
EIL				Sn	Sn	16 29 55.9	-3.6
EIL	Elat	8.34	131	Pn	Pn	16 28 26.9	+0.3
EIL				Sn	Sn	16 29 55.9	-3.6
HBST	Basata	8.54	134	⇑P	Pn	16 28 31.4	+2.0
TR2		8.64	142	⇑P	Pn	16 28 31.2	+0.5
HKAT	Jabal Katrina	8.66	140	⇓P	Pn	16 28 31.8	+0.7
HDHB	Dhahab	8.84	137	⇑P	Pn	16 28 35.0	+1.5
TR1		9.06	143	⇑P	Pn	16 28 36.8	+0.2
MLR	Muntele Rosu	10.18	353	Pn	Pn	16 28 58.3	+6.5
	0.3nm,0.3s,baz=157,slow=7.7,SNR=1.9						
MLR				LR	LR	16 33 31.5	
	comp=Z,88nm,19.1s,baz=285,slow=42						
KEST	Kesra	14.98	277	Pn	Pn	16 30 01.0	+3.8
	0.1nm,0.3s,baz=18,slow=7.3,SNR=3.7						
AKASG	Malin Array Be	15.34	4	Pn	Pn	16 30 05.3	+3.5
	0.4nm,0.3s,baz=194,slow=12,SNR=2.6						
GERES	GERESS Array B	16.97	327	Pn	Pn	16 30 23.8	+1.2
	0.1nm,0.3s,baz=245,slow=38,SNR=3.5						
KHC	Kasperske Hory	17.23	327	eP	Pn	16 30 25.0	-0.8
MBDF	Montbardon	18.52	307	eP	Pn	16 30 43.4	+1.7
	22nm,1.2s						
MBDF	Montbardon	18.52	307	eP	Pn	16 30 43.4	+1.7
	11nm,1.2s						
LPG	La Plagne	18.85	309	eP	Pn	16 30 46.5	+0.9
	11nm,1.1s						
LPG	La Plagne	18.85	309	eP	Pn	16 30 46.5	+0.9
	5.6nm,1.1s						
LPL	La Plagne	18.87	309	eP	Pn	16 30 46.5	+0.7
CABF	La Chapelle	19.75	311	eP	Pn	16 30 56.7	+0.3
	17nm,0.9s						
CABF	La Chapelle	19.75	311	eP	Pn	16 30 56.7	+0.3
	8.4nm,0.9s						
LOR	Lormes	21.41	311	eP	P	16 31 13.9	+1.3
SSF	Saint Saulge	21.54	310	eP	P	16 31 14.3	+0.2
	6.5nm,0.6s,mb3.9						
SSF	Saint Saulge	21.54	310	eP	P	16 31 14.3	+0.2
	3.3nm,0.6s,mb3.9						
ESDC	Sonseca Array	25.43	289	P	P	16 31 51.4	-0.9
	2.2nm,0.5s,mb3.9,baz=81,slow=9.5,SNR=8.7						
FINES	FINESS Array B	26.10	358	P	P	16 31 56.8	-1.2
	1.5nm,1.0s,mb3.5,baz=98,slow=35,SNR=2.7						
HFS	Hagfors	26.38	344	P	P	16 31 59.4	-1.3
	2.3nm,0.9s,mb3.7,baz=147,slow=14,SNR=4.7						
AKTK	Aktyubinsk	26.56	46	P	P	16 32 02.0	-0.4
AKTO	Aktyubinsk	26.56	46	P	P	16 32 02.0	-0.4
	1.7nm,0.6s,mb3.8,baz=257,slow=8.3,SNR=8.5						
ATD	Arta Tunnel	27.42	146	LR	LR	16 45 06.7	
	comp=Z,47nm,18.1s,MS3.1,baz=197,slow=41						
TOA0	Torodi Ar. Sit	32.28	233	eP	P	16 32 53.2	-0.3
TOA0	Torodi Ar. Sit	32.28	233	eP	P	16 32 53.2	-0.2
TORD	Torodi Ar. Bea	32.28	233	P	P	16 32 53.5	0.0
TORD	Torodi Ar. Bea	32.28	233	P	P	16 32 53.5	0.0
	4.3nm,0.7s,mb4.4,baz=36,slow=9.2,SNR=26						
ARCES	ARCESS Array B	34.23	359	P	P	16 33 09.1	-0.7
	4.2nm,0.9s,mb4.4,baz=173,slow=8.2,SNR=3.3						
MKAR	Makanchi Array	41.89	57	P	P	16 34 15.1	+0.5
	0.9nm,0.8s,mb3.5,baz=276,slow=6.0,SNR=9.2						
ZALV	Zalesovo Beam	43.32	46	P	P	16 34 26.2	0.0
	0.6nm,0.5s,mb3.6,baz=280,slow=8.6,SNR=3.4						
ZALV				LR	LR	16 56 29.9	
	comp=Z,18nm,21.1s,MS3.0,baz=131,slow=42						
SONM	Songino Array	57.70	51	P	P	16 36 15.9	+1.0
	0.2nm,0.4s,mb3.5,baz=303,slow=7.9,SNR=2.7						

*ISK **09** 16:33:29.6, 3557N×2760E, h5km, ML2.6*
*ISCJB **09** 16:33:31.3±1.7, 356N±0.1×276E±0.1, h13km±9km, Error ellipse: s-maj=29.5km s-min=8.2km az=140.9*
*CSEM **09** 16:33:31.7±0.5, 3552N×2761E, h30km, MD3.1, Error ellipse: s-maj=11.2km s-min=5.0km az=163.0*
*ATH **09** 16:33:32.6, 3586N×2734E, h6km±3km, MD3.1/4*
*NEIC **09** 16:33:32.6, 3586N×2734E, h6km, MD3.1(ATH), After ATH.*

ISC 09 16:33:31.4±1.8, 356N±01×276E±01, h16km±8km, n8, σ0§54/10, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.36	268	⇑i P	B	Pg	16 33 39.3	+0.5
ARG	Arkhangelos	0.78	33	eP	B	Pg	16 33 46.7	0.0
ARG				eS	B	Sg	16 33 56.6	-0.4
DAT	Datca	1.16	359	eP	N	Pn	16 33 52.3	-0.8
DAT				eS	N	Sn	16 34 08.9	+0.3
DALT	Dalyan (Mudla)	1.47	35	eP	N	Pn	16 33 57.1	-0.2
BODT	Bodrum	1.52	351	eP	N	Pn	16 33 58.1	+0.2
NPS	Neapolis	1.65	260	eP	B	Pb	16 34 01.0	-0.5
YER	Yerkesik	1.66	19	eP	N	Pn	16 34 01.2	+1.2
APE	Apeiranthos	2.25	313	eP	N	Pn	16 34 07.7	-0.3

*BJI **09** 16:45:11.4, 008N×12625E, h13km, mB5.0, mb4.7*
*NEIC **09** 16:45:14.0±0.4, 0.10N×12687E, h35km, mb4.5/7, Error ellipse: s-maj=16.9km s-min=5.9km az=67.0*
*ISCJB **09** 16:45:14.0±3.2, 002N±0.10×1268E±0.1, h54km±31km, mb4.5/23, MS3.2/2, Error ellipse: s-maj=25.9km s-min=9.9km az=146.1*
*IDC **09** 16:45:16.7±3.2, 000S×12660E, h59km±29km, mb4.2/9, mb1 4.2/10, mb1mx3.9/18, mbtmp4.1/10, ML3.4/1, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=67.0km s-min=13.1km az=73.0*

ISC 09 16:45:15.0±2.3, 002N±010×1268E±01, h43km±23km, n38, σ0§94/37, mb4.5/23, MS3.2/2, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	13.85	156	eP	P	Pn	16 48 27.6	-1.2
	6.2nm,0.5s							
KSM	Kuching	16.52	275	eP	P	Pn	16 49 04.5	+0.7
FITZ	Fitzroy Crossi	18.04	183	eP	P	Pn	16 49 23.6	+0.9
FITZ	Fitzroy Crossi	18.04	183	P	P	Pn	16 49 23.2	+0.5
	0.1nm,0.3s,baz=28,slow=13,SNR=4.0							
WRAB	Tennant Creek	21.18	160	eP	P	P	16 49 56.5	-0.3
	9.3nm,0.8s,mb4.2							
WRA	Warramunga Arr	21.18	160	P	P	P	16 49 57.1	+0.2
	4.5nm,0.4s,mb4.1,baz=336,slow=10,SNR=22							
WB2	Warramunga Arr	21.19	160	eP	P	P	16 49 57.0	0.0
GUMO	Guam	22.43	52	LR	LR	LR	16 57 14.9	
	comp=Z,49nm,20.0s,MS2.9,baz=10,slow=32							
ASAR	Alice Springs	24.55	164	P	P	P	16 50 31.6	+0.8
	26nm,1.0s,mb4.7,baz=342,slow=9.5,SNR=143							
ASAR				ScP	ScP	ScP	16 57 42.0	-1.8
	0.2nm,0.5s,baz=338,slow=2.2,SNR=5.6							
JOW	Kunigami	26.70	3	P	P	P	16 50 51.3	+1.1
	11nm,0.8s,mb4.5,baz=197,slow=8.5,SNR=8.7							
STKA	Stephens Creek	34.69	158	P	P	P	16 52 01.2	+0.5
	6.4nm,0.7s,mb4.7,baz=323,slow=7.1,SNR=13							
STKA				LR	LR	LR	17 07 50.6	
	comp=Z,66nm,18.2s,MS3.4,baz=25,slow=39							
BJI	Beijing	40.98	348	P	P	P	16 52 54.9	+1.2
BJI				AMB	AMB	AMB		
	comp=Z,14nm,0.9s,mb4.6							
LSA	Lhasa	44.97	314	P	P	P	16 53 24.6	-1.6
LSA	Lhasa	44.97	314	P	P	P	16 53 26.8	+0.6
	comp=Z,3.4nm,0.7s,mb4.3							
GTA	Gaotai	46.31	331	eP	P	P	16 53 37.8	+1.2
GTA				AP	pP	pP	16 53 41.9	-6.8
GTA				XP	sP	sP	16 53 45.5	-8.3
GTA				AMB	AMB			
	comp=Z,3.0nm,1.2s,mb4.1							
JIRN	Jiri	47.63	309	eP	P	P	16 53 46.5	-0.6
	comp=Z,9.4nm,0.8s,mb4.9							
GUN	Gumba	47.99	309	eP	P	P	16 53 49.3	-0.6
	comp=Z,18nm,0.6s							
KKN	Kakani	48.40	308	eP	P	P	16 53 52.1	-1.0
DMN	Daman	48.46	308	eP	P	P	16 53 52.4	-1.1
	comp=Z,7.3nm,0.8s,mb4.8							
GKN	Gorkha	49.01	308	eP	P	P	16 53 56.7	-1.1
	comp=Z,7.6nm,0.7s,mb4.8							
KOLN	Koldanda	49.72	307	eP	P	P	16 54 02.6	-0.6
	comp=Z,12nm,0.6s,mb5.1							
DANN	Dangsing	49.85	308	eP	P	P	16 54 03.5	-0.7
	comp=Z,16nm,0.6s,mb5.2							
SONM	Songino Array	50.81	342	P	P	P	16 54 11.1	0.0
	comp=Z,3.4nm,0.7s,mb4.4,baz=156,slow=7.4,SNR=22							
MK31	Makanchi Array	60.62	326	eP	P	P	16 55 21.6	+0.2
MKAR	Makanchi Array	60.62	326	P	P	P	16 55 21.8	+0.3
	comp=Z,3.7nm,0.4s,mb4.9,baz=121,slow=7.5,SNR=106							
KZA	Kyzart	62.38	319	P	P	P	16 55 35.1	+1.6
	SNR=7.8							
TKM2	Tokmak 2	62.56	320	eP	P	P	16 55 35.0	+0.4
	comp=Z,2.2nm,0.5s,mb4.5							
UCH	Uchtor	62.94	319	eP	P	P	16 55 38.3	+1.1
	comp=Z,1.9nm,0.6s,mb4.4							
UCH	Uchtor	62.94	319	P	P	P	16 55 38.8	+1.6
	SNR=6.9							
USP	Ospenovka	63.43	320	P	P	P	16 55 41.0	+0.6
	SNR=7.2							
AML	Almayashu	63.44	318	eP	P	P	16 55 41.0	+0.6
	comp=Z,3.2nm,0.7s,mb4.6							
AML	Almayashu	63.44	318	P	P	P	16 55 42.0	+1.6
	SNR=7.6							
EKS2	Erkin-Say	63.62	319	P	P	P	16 55 42.8	+1.1
	SNR=5.3							
ZALV	Zalesovo Beam	63.90	334	P	P	P	16 55 42.1	-1.2
	comp=Z,0.5nm,0.4s,mb3.9,baz=103,slow=5.0,SNR=3.6							
KURK	Kurchatov	64.88	328	eP	P	P	16 55 49.1	-0.7
	comp=Z,15nm,0.9s,mb5.0							
TIXI	Tiksi	71.53	1	eP	P	P	16 56 29.7	-1.3
	comp=Z,2.0nm,0.5s,mb4.3							
VNDA	Vanda	79.77	173	P	P	P	16 57 18.1	0.0
	comp=Z,0.4nm,0.8s,mb3.4,baz=315,slow=6.8,SNR=2.7							
ARCES	ARCESS Array B	93.92	340	P	P	P	16 58 25.3	-2.4
	comp=Z,5.0nm,0.9s,mb4.9,baz=64,slow=5.5,SNR=5.9							

MOS 09 17:42:19.8±2.9, 4278N×4764E, h10km, mb3.6/1, 1C, Error ellipse: s-maj=27.7km s-min=20.6km az=128.0, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MNSR	Manas	0.10	143	⇑i PG		Pg	17 42 22.0	-0.3
MNSR				pmax		pmax		
	comp=Z,337nm,0.2s							
MAK	Makhachkala	0.21	331	ePG		Pg	17 42 35.9	+12
MAK				pmax		pmax		
	comp=E,360nm,0.4s							
	comp=N,378nm,0.4s							
KRNR	Karanay	0.54	275	ePG		Pg	17 42 33.2	+2.9
KRNR				i S		Sg	17 42 43.2	+5.8
KRNR				pmax		pmax		
	comp=Z,17nm,0.2s							
UNCR	Uncukul	0.63	264	ePG		Pg	17 42 34.5	+2.6
UNCR				eS		Sg	17 42 46.5	+6.4
UNCR				pmax		pmax		
	comp=Z,26nm,0.3s							
DBC	Dubki	0.64	292	ePG		Pg	17 42 35.0	+2.8
DBC				eS		Sg	17 42 48.0	+7.4
KMKR	Kumukh	0.76	212	ePG		Pg	17 42 40.5	+6.0
KMKR				pmax		pmax		
	comp=Z,24nm,0.2s							

*ISCJB **09** 17:57:54.7±1.2, 3568N±005×2759E±006, h7km±7km, Error ellipse: s-maj=10.7km s-min=5.1km az=141.1*
*ATH **09** 17:57:55.5, 3560N×2757E, h24km±1km, MD3.2/4*
*NEIC **09** 17:57:55.7, 3564N×2754E, h25km, MD3.2(ATH), After ATH.*
*CSEM **09** 17:57:56.1±0.2, 3572N×2753E, h12km, MD3.2, Error ellipse: s-maj=6.2km s-min=2.2km az=131.0*
*ISK **09** 17:57:57.1, 3575N×2766E, h8km, ML2.5*
*DDA **09** 17:57:59.3, 3602N×2797E, h7km±3km, Md2.9*

ISC 09 17:57:56.1±0.9, 3567N±005×2757E±006, h15km±5km, n15, σ0§87/22, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.36	249	⇑i PB		Pg	17 58 02.7	-0.7
KARP				eSB		Sg	17 58 09.0	+0.6
ARG	Arkhangelos	0.70	40	ePN		Pn	17 58 10.2	-1.3
ARG				eSN		Sg	17 58 21.6	+2.4
DAT	Datca	1.05	0	ePG		Pg	17 58 16.3	-0.2
DAT				eSG		Sg	17 58 30.5	+0.2
BDRM	Kayabasi	1.39	356	i P		Pn	17 58 20.8	-0.1
BDRM				i S		Sg	17 58 40.8	-0.2
DALT	Dalyan (Mudla)	1.39	38	ePN		Pn	17 58 21.5	+0.5
BODT	Bodrum	1.40	351	ePN		Pg	17 58 22.8	-0.3
FETY	Fethiye	1.56	52	ePN		Pg	17 58 24.6	-1.5
YER	Yerkesik	1.57	21	ePN		Pn	17 58 24.5	+1.1
MLSB	Milas	1.63	6	ePN		Pn	17 58 25.7	+1.6
NPS	Neapolis	1.65	256	ePN		Pn	17 58 24.6	+0.1
NPS				eSN		Sn	17 58 45.5	+0.1
NPS	Neapolis	1.65	256	ePn		Pn	17 58 24.8	+0.3
XRY	Khrisi	1.73	243	ePN		Pn	17 58 26.0	+0.4
AYDN	Tasoluk	2.00	7	i P		Pn	17 58 29.5	+0.2
AYDN				i S		Sn	17 58 53.5	-0.5
APE	Apeiranthos	2.15	311	ePn		Pn	17 58 30.1	-1.3
GOLH	Golhisar	2.24	45	i P		Pn	17 58 32.6	+0.1
GOLH				eS		Sg	17 59 07.5	-0.5

IDC 09 18:08:31.5±4.1, 693S×15492E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/13, mbtmp3.5/3, Error ellipse: s-maj=116.7km s-min=31.2km az=112.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.80	235	P	P	P	18 13 46.9	+0.6
	0.5nm,0.5s,baz=60,slow=9.6,SNR=4.0							
ASAR	Alice Springs	26.16	228	P	P	P	18 14 07.0	-0.7
	0.2nm,0.6s,baz=58,slow=9.8,SNR=6.2							
SONM	Songino Array	69.24	327	P	P	P	18 19 40.6	+0.4
	0.8nm,0.4s,baz=140,slow=6.3,SNR=12							

*NIED **09** 18:10:00, 4720N×15380E, h32km, Mw4.6 Best double couple: M0:8.07000×10^15 NP1:φs:326.00000°, δ74.00000°, λ30.00000°. NP2:φs:227.00000°, δ61.00000°, λ162.00000°.*
*BJI **09** 18:10:37.1, 4693N×15353E, h26km, mB4.9, mb4.6, Ms4.4, Msz4.2*
*NEIC **09** 18:10:37.7±0.2, 4741N×15308E, h10km, mb4.9/81, Error ellipse: s-maj=5.7km s-min=3.3km az=162.0*
*SKHL **09** 18:10:38.5±0.2, 4724N×15386E, h65km±11km, mb5.4/6, Ms4.5/4, msh5.4/2*
*JMA **09** 18:10:39.1±0.9, 4723N×15380E, h30km, M4.8*
*MOS **09** 18:10:40.4±0.9, 4729N×153.11E, h45km, mb5.0/51, Error ellipse: s-maj=8.2km s-min=5.1km az=89.8*
*ISCJB **09** 18:10:41.6±0.6, 4727N±004×153.15E±004, h55km±5km, mb4.7/134, MS4.0/37, Error ellipse: s-maj=6.7km s-min=3.4km az=154.7*
*SZGRF **09** 18:10:42.5, 4724N×15248E, h33km, mb4.9, MS4.0, Kuril Islands, Russia*
*IDC **09** 18:10:44.3±0.4, 4736N×153.14E, h63km±3km, mb4.1/22, mb1 4.3/22, mb1mx4.3/24, mbtmp4.1/22, MS3.9/21, Ms1 3.9/21, ms1mx3.7/33, Error ellipse: s-maj=12.7km s-min=9.5km az=130.0*

ISC 09 18:10:44.2±0.5, 4733N±004×15309E±004, h60km±4km, h61km±8km: pP-P, n374, σ0§98/379, mb4.7/134, 53C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.90	30	eP		Pn	18 11 35.0	-6.5
SKR				AMB		AMB	18 11 37.7	
	140nm,0.5s							
SKR				AMB		AMB	18 11 37.7	
	170nm,0.3s							
SKR				eS		Sn	18 12 17.5	-8.4
SKR				A			18 12 46.5	
	1μm,0.5s							
SKR				A			18 12 46.5	
	390nm,0.5s							
SKR				A			18 12 46.5	
	2μm,4.0s							
SKR				A			18 12 46.5	
	3μm,4.0s							
SKR				AMS		AMS	18 13 10.0	
	2μm,6.0s							
SKR				AMS		AMS	18 13 10.0

comp=Z,190nm,0.9s
YSS MLR MLR
comp=Z,1μm,17.0s
YSS MLR MLR
comp=N,500nm,16.0s
YSS MLR MLR
comp=E,800nm,16.0s
YSS Yuzh-Sakhalins 7.06 271⇓ eP Pn 18 12 29.0 +4.2
YSS AMB AMB 18 12 30.7
comp=E,150nm,0.9s
YSS AMB AMB 18 12 30.7
comp=E,220nm,0.9s
YSS AMB AMB 18 12 30.7
comp=E,190nm,0.9s
YSS eS **Sn 18 13 52.9 +9.3**
YSS AMS AMS 18 15 04.0
comp=E,1μm,17.0s
YSS AMS AMS 18 15 04.0
comp=E,500nm,16.0s
YSS AMS AMS 18 15 04.0
comp=E,800nm,16.0s
JTKR Abashiri--Toko 7.26 246 P Pn 18 12 30.6 +3.1
JAK Akkeshi 7.35 237 P Pn 18 12 28.3 -0.4
JAK eS **Sn 18 13 49.3 -1.3**
UGL Uglegorsk 7.57 287 ePN Pn 18 12 36.5 +4.7
UGL pmax pmax
comp=Z,160nm,0.9s
UGL MLR MLR
comp=N,900nm,15.0s
UGL MLR MLR
comp=Z,2μm,15.0s
UGL MLR MLR
comp=E,1μm,16.0s
UGL Uglegorsk 7.57 287 eP Pn 18 12 36.5 +4.7
UGL AMB AMB 18 12 38.0
comp=E,160nm,0.9s
UGL eL 18 14 36.0
UGL AMS AMS 18 15 50.0
comp=E,900nm,16.0s
UGL AMS AMS 18 15 50.0
comp=E,1μm,16.0s
UGL AMS AMS 18 15 50.0
comp=E,2μm,15.0s
JMP Maruseppu 7.58 248 P Pn 18 12 36.2 +4.2
JSE Soyaes 7.67 256 P Pn 18 12 38.4 +5.2
TYV Tymovskoe 7.71 301 eP Pn 18 12 37.0 +3.4
TYV AMB AMB 18 12 40.6
comp=E,80nm,1.2s
TYV AMB AMB 18 12 40.6
comp=E,200nm,1.2s
TYV AMB AMB 18 12 40.6
comp=E,280nm,1.2s
TYV AMS AMS 18 15 19.0
comp=E,1μm,22.0s
TYV AMS AMS 18 15 19.0
comp=E,2μm,22.0s
TYV AMS AMS 18 15 19.0
comp=E,1μm,16.0s
JAR Ashorobuto 7.71 242 P Pn 18 12 35.6 +1.9
JOB Onbets 7.90 239 P Pn 18 12 37.1 +0.8
JOB eS **Sn 18 14 03.4 -0.8**
JWK2 Keihoku 8.01 260 P Pn 18 12 44.2 +6.5
ASAJ Asahikawa 8.02 250 PN Pn 18 12 42.4 +4.5
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ MLR MLR
comp=Z,811nm,21.0s
ASAJ Asahikawa 8.02 250 P Pn 18 12 42.2 +4.3
ASAJ Asahikawa 8.02 250 P Pn 18 12 42.4 +4.5
comp=Z,2.3nm,0.3s,baz=85,slow=14,SNR=20
ASAJ LR LR 18 15 33.5
comp=Z,811nm,21.0s,baz=8.7,slow=36
JKK2 Kamakawa 2 8.04 248 P Pn 18 12 41.5 +3.4
JCH Churui 8.36 239 P Pn 18 12 42.7 +0.2
JCH eS **Sn 18 14 13.9 -1.4**
JFR Furan 8.50 244 P Pn 18 12 49.2 +4.8
JAB Ashibetsu 8.55 247 P Pn 18 12 48.8 +3.7
JEM Erimo 8.85 237 P Pn 18 12 49.4 +0.1
ERM Erimo 8.85 237 ePN Pn 18 12 48.7 -0.6
ERM pmax pmax
comp=Z,54nm,0.6s
ERM Erimo 8.85 237 eP Pn 18 12 48.7 -0.5
comp=Z,54nm,0.6s
JBT2 Biratori 2 8.85 243 P Pn 18 12 50.4 +1.1
JNBK Urakawa-nobuka 8.92 239 P Pn 18 12 49.4 -0.8
OKH Okha 8.98 318 ePN Pn 18 12 56.2 +5.2
OKH Okha 8.98 318 eP Pn 18 12 55.3 +4.3
OKH eP 18 12 56.2
OKH eLQ 18 15 45.8
OKH AMS AMS 18 16 54.2
comp=Z,2μm,14.0s
OKH AMS AMS 18 16 54.2
comp=Z,1μm,14.0s
OKH AMS AMS 18 16 54.2
comp=Z,1μm,10.0s
JNB Noboribetsu 9.84 245 P Pn 18 13 03.5 +0.8
JKB Kayabe 10.17 242 P Pn 18 13 06.3 -1.0
JKB eS **Sn 18 14 55.2 -4.6**
JTM Tenmabayashi 10.84 237 P Pn 18 13 14.0 -2.5
JANG Nango 10.87 234 P Pn 18 13 13.3 -3.5
JANG eS **Sn 18 15 07.8 -9.0**
JTH Tanohata 10.98 232 eS **Sn 18 15 08.4 -11**
JOSM Okushiri--Mats 11.02 247 P Pn 18 13 19.3 +0.5
TEY Ternei 11.66 265 eP **Pn 18 13 31.0 +3.4**
JRG Rokugo 12.04 233 P Pn 18 13 30.0 -2.8
JRG eS **Sn 18 15 39.5 -5.8**
HABR Khabarovsk 12.16 282 ePN Pn 18 13 40.1 +5.6
HABR e 18 16 01.1
HABR pmax pmax
comp=Z,21nm,1.2s
MA2 Magadan 12.34 354 ePN Pn 18 13 38.3 +1.5
MA2 e 18 16 05.8
KLR Kul'dur 14.33 285 eP Pn 18 14 04.0 +0.3
KLR pmax pmax
comp=E,34nm,1.6s
KLR pmax pmax
comp=Z,40nm,1.6s
KLR MLR MLR
comp=E,500nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s
SMY Shemya 14.52 60 eP Pn 18 14 03.4 -2.7
SMY pmax pmax
comp=Z,125nm,0.6s
SMY Shemya 14.52 60 eP Pn 18 14 03.4 -2.7
comp=Z,124nm,0.6s
MJAR Matsushiro Arr 15.43 231 P Pn 18 14 15.8 -2.2
comp=Z,0.2nm,0.3s,baz=27,slow=13,SNR=20
MJAR LR LR 18 21 35.7
comp=Z,124nm,18.2s,baz=45,slow=42
MAJO Matsushiro 15.43 231 eP Pn 18 14 16.0 -2.0
MAJO pmax pmax
comp=Z,58nm,1.0s
MAJO Matsushiro 15.43 231 eP Pn 18 14 16.0 -2.0
comp=Z,58nm,1.0s
MAJO e 18 14 23.1
MAT Matsushiro 15.43 231 P Pn 18 14 15.7 -2.3
MAT S **S 18 17 13.0 -7.7**
SEY Seymchan 15.64 359 i P **Pn 18 14 22.6 +2.1**
MDJ Mudanjiang 16.55 269 P Pn 18 14 29.1 -3.0
MDJ AP pP 18 14 34.6 -12
MDJ S **S 18 17 37.1 -6.3**
MDJ XS sS 18 17 49.4 -15
MDJ PCP PcP 18 19 19.4 -0.1
MDJ SCP ScP 18 22 54.4 +5.7
MDJ AMB AMB
comp=Z,5.0nm,1.1s
MDJ AMB AMB
comp=Z,41nm,4.9s
MDJ LR LR
comp=E,267nm,15.6s
MDJ LR LR
comp=Z,348nm,15.2s
MDJ Mudanjiang 16.55 269 P Pn 18 14 30.4 -1.7
comp=Z,24nm,0.9s
ZEA Zeya 17.57 301 eP Pn 18 14 44.2 -0.5
ZEA AMB AMB 18 14 45.6
comp=Z,17nm,1.0s
CN2 Changchun 19.63 270 eP Pn 18 15 07.4 -2.1
CN2 eS **S 18 18 39.9 -5.8**
CN2 AMB AMB
comp=Z,10.0nm,0.9s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
CN2 LR LR
comp=Z,400nm,17.0s
CLNS Chul'man 19.64 309 eP Pn 18 15 13.7 +4.3
CLNS pmax pmax
comp=Z,26nm,1.0s
CLNS pmax pmax
comp=N,24nm,0.9s
CLNS pmax pmax
comp=E,14nm,1.1s
CLNS MLR MLR
comp=N,200nm,14.0s
CLNS MLR MLR
comp=Z,500nm,14.0s
CLNS MLR MLR
comp=E,400nm,15.0s
NRGR Nerungri 19.67 309 eP Pn 18 15 17.9 +8.1
NRGR S **S 18 18 50.7 +4.4**
NRGR smax
comp=E,15nm,0.8s
YAK Yakutsk 19.83 326 eP Pn 18 15 11.3 -0.3
YAK eS **S 18 18 53.6 +4.3**
YAK pmax pmax
comp=Z,18nm,1.0s
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,11nm,1.2s
YAK smax
comp=N,176nm,4.8s
YAK smax
comp=Z,81nm,3.7s
YAK smax
comp=E,122nm,3.4s
YAK MLR MLR
comp=E,216nm,24.0s
YAK MLR MLR
comp=Z,360nm,24.0s
YAK MLR MLR
comp=N,227nm,17.0s
KSRS Korea Array 20.97 251 P P 18 15 24.1 +2.0
comp=N,13nm,0.8s,baz=52,slow=10,SNR=16
KSRS LR LR 18 22 22.7
comp=N,180nm,21.0s,baz=34,slow=33
SNY Shenyang 21.66 266 ⇑P **P 18 15 29.9 +0.5**
SNY S **S 18 19 22.5 -3.1**
SNY AMB AMB
comp=Z,13nm,1.1s,mb4.3
SNY AMB AMB
comp=Z,65nm,3.5s
SNY LR LR
comp=N,264nm,14.4s
SNY LR LR
comp=E,413nm,16.8s
SNY LR LR
comp=Z,383nm,18.0s
BILL Bilibino 21.83 13 i P **P 18 15 31.6 +0.6**
BILL pmax pmax
comp=Z,10.0nm,1.7s,mb4.0
BILL Bilibino 21.83 13 eP **P 18 15 29.1 -2.0**
comp=Z,6.7nm,0.6s,mb4.2
JNU Nakatsue 22.01 238 LR LR 18 24 40.3
comp=Z,93nm,19.6s,baz=330,slow=38
BOD Bodaibo 25.61 309 eP P 18 16 05.0 -2.5
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.0
TIXI Tiksi 26.91 343 i P **P 18 16 21.0 +2.0**
TIXI Tiksi 26.91 343 eP P 18 16 17.7 -1.4
comp=Z,1.9nm,0.9s,mb3.6
BJI Beijing 27.48 268 P P 18 16 24.1 -0.3
BJI S **S 18 21 07.1 +6.4**
BJI LR LR
comp=N,131nm,17.7s
BJI LR LR
comp=E,265nm,17.7s
BJI LR LR
comp=Z,278nm,20.1s
TNA Tin City 27.56 34 eP P 18 16 24.9 0.0
comp=Z,4.8nm,0.9s,mb4.1
JOW Kunigami 28.27 232 P P 18 16 32.6 +1.1
comp=Z,11nm,0.8s,mb4.5,baz=91,slow=7.6,SNR=8.6
SSE Sheshan 29.30 248 P P 18 16 41.9 +1.1
SSE S **S 18 21 33.6 +4.0**
SSE AMB AMB
comp=Z,27nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,59nm,4.7s
SSE LR LR
comp=N,62nm,16.4s
SSE LR LR
comp=E,64nm,16.4s
SSE LR LR
comp=Z,126nm,17.3s
NJ2 Nanjing 30.16 252 eP P 18 16 50.2 +1.9
NJ2 AP pP 18 16 55.0 -8.2
NJ2 XP sP 18 16 57.2 -13
NJ2 PP PP 18 17 50.2 -7.0
NJ2 PPP 18 18 04.7
NJ2 S **S 18 21 46.5 +3.5**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,280nm,4.8s
NJ2 LR LR
comp=N,410nm,16.8s
NJ2 LR LR
comp=E,520nm,21.2s
NJ2 LR LR
comp=Z,520nm,21.2s
HHC Hu-ho-hao-te 30.24 273 eP P 18 16 50.3 +1.3
HHC XP sP 18 16 58.3 -13
HHC PP PP 18 17 47.6 -10
HHC PCP PcP 18 19 50.9 +2.6
HHC S **S 18 21 48.8 +4.6**
HHC AMB AMB
comp=Z,37nm,1.2s,mb5.0
HHC AMB AMB
comp=Z,241nm,5.9s
HHC LR LR
comp=N,395nm,16.1s
HHC LR LR
comp=E,323nm,17.6s
HHC LR LR
comp=Z,549nm,16.7s
ULN Ulaanbaatar 30.70 288 i P **P 18 16 53.4 +0.5**
SONM Songino Array 31.13 288 P P 18 16 57.5 +0.8
comp=Z,0.8nm,0.8s,mb3.6,baz=65,slow=7.4,SNR=5.3
SONM pPcP 18 20 06.9
comp=Z,2.5nm,0.9s,baz=92,slow=2.4,SNR=7.0
SONM LR LR 18 30 34.2
comp=Z,299nm,18.3s,baz=69,slow=38
TTA Tatalina 32.00 42 eP P 18 17 03.1 -1.1
TTA pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
TTA Tatalina 32.00 42 eP P 18 17 03.1 -1.0
comp=Z,4.7nm,0.6s,mb4.5
SVW2 Sparrevohn 32.09 46 eP P 18 17 03.2 -1.8
ZAK Zakamensk 32.42 294 eP P 18 17 06.2 -1.9
ZAK e 18 19 53.1
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.8
IMA2 Indian Mountai 33.34 36 eP P 18 17 15.2 -0.7
GUMO Guam 34.34 194 LR LR 18 31 31.3
comp=Z,57nm,18.5s,baz=4.6,slow=36
MCK McKinley 35.22 41 eP P 18 17 31.5 -0.6
MCK pmax pmax
comp=Z,13nm,1.0s,mb4.8
MCK McKinley 35.22 41 eP P 18 17 31.5 -0.6
comp=Z,13nm,1.0s,mb4.8
XAN Xi'an 35.55 264 P P 18 17 35.6 +0.2
XAN AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
XAN LR LR
comp=Z,188nm,13.9s
SML Sawmill 35.56 44 eP P 18 17 34.6 -0.5
COLA College 35.69 39 c i P **P 18 17 36.4 +0.2**
COLA College 35.69 39 eP P 18 17 36.0 -0.2
LZH Lanzhou 37.86 271 eP P 18 17 54.5 -0.5
LZH PP PP 18 19 23.5 +1.2
LZH eS **S 18 23 43.0 +1.2**
LZH AMB AMB
comp=Z,15nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,90nm,4.9s
LZH LR LR
comp=E,330nm,14.0s
LZH LR LR
comp=Z,520nm,15.6s
EGAK Eagle 38.55 39 eP P 18 17 59.6 -0.8
comp=Z,10nm,0.6s,mb4.7
EGAK e pP 18 18 14.3 -1.2
GTA Gaotai 38.87 278 eP P 18 18 04.6 +1.2
GTA AP pP 18 18 08.8 -10
GTA XP sP 18 18 12.3 -13
GTA PP PP 18 19 36.1 +2.9
GTA PCP PcP 18 20 14.3 +1.1
GTA S **S 18 24 04.2 +7.3**
GTA XS sS 18 24 14.1 -8.6
GTA SS SS 18 26 46.5 -3.5
GTA SCS ScS 18 28 13.5 +6.4
GTA AMB AMB
comp=Z,3.0nm,0.9s,mb4.0
GTA AMB AMB
comp=Z,22nm,6.1s
GTA LR LR
comp=N,119nm,16.7s
GTA LR LR
comp=E,138nm,19.0s
GTA LR LR
comp=Z,177nm,19.8s
CD2 Chengdu 40.92 264 eP P 18 18 20.8 +0.3
CD2 AP pP 18 18 25.3 -10
CD2 PP PP 18 19 58.4 +2.7
CD2 S **S 18 24 31.1 +3.4**
CD2 SS SS 18 27 27.1 -4.0
CD2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
CD2 AMB AMB
comp=Z,60nm,4.2s
CD2 LR LR
comp=N,170nm,16.8s
CD2 LR LR
comp=Z,260nm,15.6s
INK Inuvik 41.17 33 P P 18 18 22.7 +0.6
INK *PP pP 18 18 36.6 -0.8
INK pmax pmax
comp=Z,12nm,0.8s
INK Inuvik 41.17 33 eP P 18 18 22.3 +0.2
comp=Z,315nm,0.6s
INK Inuvik 41.17 33 P P 18 18 22.6 +0.6
comp=Z,12nm,0.8s,mb4.6,baz=290,slow=7.0,SNR=57
INK pP pP 18 18 36.5 -0.8
comp=Z,8.4nm,0.5s,baz=290,slow=5.4,SNR=12
GYA Guiyang 41.83 257⇓ i P **P 18 18 29.0 +1.0**
GYA PP PP 18 20 09.2 +3.6
GYA PCP PcP 18 20 26.3 +3.3
GYA SCP ScP 18 24 15.4 +7.6
GYA S **S 18 24 46.6 +5.3**
GYA SS SS 18 27 46.8 -2.5
GYA SCS ScS 18 28 30.5 +5.4
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
GYA AMB AMB
comp=Z,110nm,5.8s
GYA LR LR
comp=N,480nm,19.4s
GYA LR LR
comp=E,460nm,18.2s
GYA LR LR
comp=Z,490nm,19.0s
ZALV Zalesovo Beam 42.26 305 P P 18 18 30.3 -0.8
comp=Z,0.8nm,0.5s,mb3.6,baz=76,slow=7.9,SNR=5.8
ZALV pP pP 18 18 47.8 +1.3
comp=Z,0.6nm,0.3s,baz=64,slow=8.8,SNR=3.5
ZALV PcP PcP 18 20 23.6 -0.3
comp=Z,3.8nm,0.8s,baz=80,slow=3.3,SNR=8.2
ZALV pPcP 18 20 40.8
comp=Z,3.0nm,0.8s,baz=74,slow=4.4,SNR=5.0
ZALV LR LR 18 37 29.0
comp=Z,176nm,19.5s,baz=56,slow=38
ZAL Zalesovo 42.28 305 P P 18 18 30.3 -1.0
ZAL *PP pP 18 18 47.8 +1.2
ZAL 18 20 23.6
ZAL 18 20 40.8
WMQ Urumqi 44.70 291 eP P 18 18 52.0 +1.0
WMQ PP PP 18 20 37.0 +1.0
WMQ S **S 18 25 28.0 +5.0**
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,74nm,4.0s
WMQ LR LR
comp=N,145nm,14.0s
WMQ LR LR
comp=E,146nm,14.0s
WMQ LR LR
comp=Z,204nm,15.0s
DLBC Dease Lake 45.20 46 eP P 18 18 56.1 +1.4
KMI Kunming 45.34 259 P P 18 18 56.6 +0.4
KMI PCP PcP 18 20 36.0 +1.1
KMI S **S 18 25 38.2 +5.7**
KMI SS SS 18 28 51.4 -5.2
KMI AMB AMB
comp=Z,11nm,1.2s,mb4.6
KMI AMB AMB
comp=Z,80nm,5.0s
KMI LR LR
comp=N,159nm,21.8s
KMI LR LR
comp=E,175nm,12.5s
KMI LR LR
comp=Z,159nm,21.8s
MK31 Makanchi Array 46.66 297 eP P 18 19 05.8 -0.6
MKAR Makanchi Array 46.66 297 P P 18 19 05.9 -0.5
MKAR *PP pP 18 19 23.4 +1.5
MKAR 18 20 39.0
MKAR 18 20 55.6
MKAR Makanchi Array 46.66 297 P P 18 19 05.8 -0.5
comp=Z,1.8nm,0.9s,mb4.0,baz=66,slow=7.3,SNR=13
MKAR pP pP 18 19 23.4 +1.5
comp=Z,1.1nm,0.6s,baz=67,slow=7.9,SNR=5.8
MKAR PcP PcP 18 20 39.0 -0.2
comp=Z,1.5nm,0.7s,baz=61,slow=5.7,SNR=4.0
MKAR pPcP 18 20 55.5
comp=Z,2.7nm,0.8s,baz=95,slow=6.1,SNR=5.3
MKAR LR LR 18 39 55.1
comp=Z,170nm,18.2s,baz=97,slow=38
KURK Kurchatov 47.03 303 eP P 18 19 08.0 -1.2
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KURK Kurchatov 47.03 303 eP P 18 19 08.0 -1.2
comp=Z,4.7nm,0.8s,mb4.5
LSA Lhasa 50.23 273 P P 18 19 36.2 +2.2
LSA Lhasa 50.23 273 eP P 18 19 36.3 +2.3
LSA pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
LSA Lhasa 50.23 273 eP P 18 19 36.3 +2.3
comp=Z,2.9nm,0.4s,mb4.7
RES Resolute Bay 50.29 19 eP P 18 19 33.7 -0.2
comp=Z,107nm,0.6s
YKA Yellowknife Ar 50.47 37 P P 18 19 35.4 +0.1
YKA *PP pP 18 19 51.5 +0.5
YKA 18 20 51.9
YKA Yellowknife Ar 50.47 37 P P 18 19 35.4 +0.1
YKA pP pP 18 19 51.5 +0.5
YKA PcP PcP 18 20 51.9 -0.7
YKA pPcP 18 21 09.4
YKA LR LR 18 44 22.0
YKA Yellowknife Ar 50.47 37 P P 18 19 35.4 +0.1
comp=Z,15nm,0.8s,mb5.1,baz=298,slow=7.3,SNR=149
YKA pP pP 18 19 51.5 +0.5
comp=Z,3.6nm,0.6s,baz=299,slow=7.1,SNR=5.7
YKA PcP PcP 18 20 51.9 -0.7
comp=Z,2.1nm,0.8s,baz=302,slow=3.8,SNR=5.1
YKA pPcP 18 21 09.4
comp=Z,2.3nm,0.8s,baz=296,slow=3.9,SNR=4.4
YKA LR LR 18 44 22.0
comp=Z,37nm,19.6s,baz=275,slow=40
BVAR Borovoye Array 50.48 309 P P 18 19 34.3 -1.2
comp=Z,1.6nm,0.7s,mb4.2,baz=226,slow=39,SNR=10.0
BVAR pP pP 18 19 53.2 +1.9
comp=Z,1.0nm,0.5s,baz=44,slow=7.0,SNR=4.0
BVAR PcP PcP 18 20 52.5 -0.3
comp=Z,1.4nm,0.5s,baz=90,slow=2.1,SNR=4.5
NANT Nan 51.10 255 P P 18 19 39.5 -1.1
CHG Chiang Mai 52.24 256 ⇑P **P 18 19 50.4 +1.2**
comp=Z,40nm,0.9s,mb5.3
CHTO Chiang Mai 52.24 256 eP P 18 19 50.4 +1.2
CHTO pmax pmax

comp=Z,17nm,0.9s,mb5.0
CHTO Chiang Mai 52.24 256 *e*P **P 18 19 50.4 +1.2**
comp=Z,17nm,0.9s,mb5.0
SHL Shillong 52.38 268 *e*P **P 18 19 50.0 -0.1**
AAK Ala-Archa 53.57 296⇓*e*P **P 18 19 57.6 -1.1**
AAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
AAK Ala-Archa 53.57 296 *e*P **P 18 19 56.9 -1.8**
comp=Z,2.6nm,1.0s,mb4.1
ARU Arti 54.58 317 *d i*P **P 18 20 04.5 -1.3**
ARU *e**PP pP 18 20 21.2 -0.4
ARU *e* 18 22 06.3
ARU *e*PPP 18 23 18.0
ARU *e*S **S 18 27 40.4 0.0**
ARU *e*SS SS 18 31 21.6 -1.4
ARU pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
ARU MLR MLR
comp=Z,157nm,20.0s
ARU Arti 54.58 317 *e*P **P 18 20 04.9 -0.9**
comp=Z,6.5nm,1.0s,mb4.6
JIRN Jiri 54.89 274 *e*P **P 18 20 09.6 +1.1**
comp=Z,6.0nm,0.4s,mb5.0
GUN Gumba 54.94 275 *e*P **P 18 20 10.1 +1.3**
KKN Kakani 55.42 275 *e*P **P 18 20 13.1 +0.8**
DMN Daman 55.66 275 *e*P **P 18 20 15.3 +1.3**
comp=Z,9.4nm,0.5s,mb5.1
GKN Gorkha 55.72 276 *e*P **P 18 20 15.2 +0.7**
comp=Z,8.0nm,0.6s,mb5.0
EDM Edmonton 55.92 46 *e*P **P 18 20 15.0 -0.5**
EDM *e* pP 18 20 30.5 -0.9
DANN Dangsing 56.09 276 *e*P **P 18 20 18.4 +1.3**
comp=Z,10nm,0.6s,mb5.1
KOLN Koldanda 56.57 276 *e*P **P 18 20 21.9 +1.4**
comp=Z,5.1nm,0.6s,mb4.8
HAWA Hanford 56.59 56 *e*P **P 18 20 20.0 -0.4**
comp=Z,12nm,1.1s,mb4.9
ARCES ARCESS Array B 57.30 341 P **P 18 20 25.0 -0.1**
comp=Z,8.9nm,1.0s,mb4.8,baz=12,slow=6.7,SNR=6.4
ARCES LR LR 18 48 20.2
comp=Z,134nm,20.0s,baz=297,slow=39
WALA Waterton Lakes 58.08 51 *e*P **P 18 20 31.0 +0.2**
comp=Z,12nm,0.8s,mb5.0
SMLA Simla 58.74 283 *e*P **P 18 20 35.5 -0.3**
SMLA AMb AMB 18 20 54.9
comp=Z,18nm,1.9s,mb4.8
BMO Blue Mountains 58.76 56 *e*P **P 18 20 36.0 +0.3**
comp=Z,16nm,1.5s,mb4.8
BMO *e* pP 18 20 51.1 -0.6
KSM Kuching 58.82 233 *e*P **P 18 20 37.5 +1.1**
KSM *e* pP 18 20 49.9 -2.5
MSO Missoula 59.42 53 *e*P **P 18 20 40.2 +0.1**
comp=Z,12nm,1.1s,mb4.8
MSO *e* pP 18 20 56.1 -0.2
WVOR Wild Horse Val 59.47 59 *e*P **P 18 20 41.2 +0.6**
WVOR *e* pP 18 20 54.0 -2.7
WVOR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
WVOR Wild Horse Val 59.47 59 *e*P **P 18 20 41.2 +0.6**
comp=Z,4.8nm,0.9s,mb4.5
WVOR *e* pP 18 20 54.0 -2.6
CHMT Chamberlain Mo 59.74 52 *e*P **P 18 20 42.6 +0.2**
CHMT *e* pP 18 20 56.5 -2.0
FFC Flin Flon 60.30 40 *e*P **P 18 20 46.3 +0.2**
FFC *e* pP 18 21 01.7 -0.5
FFC pmax pmax
comp=Z,14nm,0.7s,mb5.1
FFC Flin Flon 60.30 40 *e*P **P 18 20 46.2 +0.2**
comp=Z,14nm,0.7s,mb5.1
FFC *e* pP 18 21 01.7 -0.5
FCC Fort Churchill 60.78 33 *e*P **P 18 20 49.0 -0.3**
FCC *e* pP 18 21 04.5 -0.9
FCC pmax pmax
comp=Z,16nm,0.9s,mb5.2
FCC Fort Churchill 60.78 33 *e*P **P 18 20 49.0 -0.3**
comp=Z,16nm,0.9s,mb5.1
FCC *e* pP 18 21 04.5 -0.9
MCMT McKenzie Canyo 61.27 54 *e*P **P 18 20 53.1 +0.3**
MCMT *e* pP 18 21 09.3 +0.4
BLSP Bilaspur 61.30 272 *e*P **P 18 20 51.5 -1.8**
BLSP AMb AMB 18 20 54.1
comp=Z,10nm,1.1s,mb4.9
BOZ Bozeman (W) 61.41 53 *e*P **P 18 20 54.1 +0.3**
BOZ *e* pP 18 21 10.3 +0.4
BOZ pmax pmax
comp=Z,12nm,0.8s,mb5.1
BOZ Bozeman (W) 61.41 53 *e*P **P 18 20 54.0 +0.3**
comp=Z,12nm,0.8s,mb5.1
BOZ *e* pP 18 21 10.3 +0.4
QLMT Earthquake Lak 62.04 53 *e*P **P 18 20 59.1 +1.1**
QLMT *e* pP 18 21 15.1 +0.9
NVAR Mina Array Bea 62.18 63 P **P 18 20 59.7 +0.7**
comp=Z,1.3nm,0.7s,mb4.2,baz=292,slow=6.6,SNR=11
NVAR pP pP 18 21 15.4 +0.2
comp=Z,6.9nm,0.7s,baz=289,slow=7.1,SNR=24
KAKA Kakadu 62.56 203 *e*P **P 18 21 01.5 -0.2**
comp=Z,4.2nm,0.6s,mb4.8
YFT Old Faithful 62.61 53 *e*P **P 18 21 04.0 +2.2**
YFT *e* pP 18 21 19.9 +1.9
LKWY Lake 62.77 53 *e*P **P 18 21 04.7 +1.8**
LKWY pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
LKWY Lake 62.77 53 *e*P **P 18 21 04.7 +1.8**
comp=Z,7.0nm,0.8s,mb4.8
IMW Indian Meadow 62.91 54 *e*P **P 18 21 04.1 +0.3**
comp=Z,10nm,1.1s,mb4.9
IMW *e* pP 18 21 20.4 +0.4
FLWY Flagg Ranch 62.92 54 *e*P **P 18 21 05.7 +1.8**
comp=Z,14nm,1.0s,mb5.1
FLWY *e* pP 18 21 20.2 +0.1
RLMT Red Lodge 63.02 52 *e*P **P 18 21 05.6 +1.0**
comp=Z,13nm,1.1s,mb5.0
RLMT *e* pP 18 21 21.3 +0.5
MOOW Moose Ponds 63.12 54 *e*P **P 18 21 06.0 +0.8**
comp=Z,11nm,1.3s,mb4.8
MOOW *e* pP 18 21 22.7 +1.3
TPAW Teton Pass 63.17 54 *e*P **P 18 21 05.9 +0.3**
comp=Z,39nm,1.1s,mb5.5
TPAW *e* pP 18 21 23.5 +1.7
LOHW Long Hollow 63.28 54 *e*P **P 18 21 07.5 +1.2**
comp=Z,15nm,1.3s,mb5.0
LOHW *e* pP 18 21 23.2 +0.7
DGMT Dagmar 63.42 47 *e*P **P 18 21 06.4 -0.7**
comp=Z,20nm,0.9s,mb5.3
FINES FINESS Array B 63.51 335 P **P 18 21 06.8 -0.6**
comp=Z,2.1nm,0.4s,mb4.5,baz=35,slow=7.1,SNR=23
FINES LR LR 18 50 50.6
comp=Z,112nm,19.6s,baz=24,slow=38
BGU Big Grassy Mou 63.67 58 *e*P **P 18 21 06.3 -2.6**
BGU *e* pP 18 21 25.5 +0.4
BHPL Bhopal 63.74 276 *e*P **P 18 21 10.0 +0.4**
BHPL AMb AMB 18 21 11.0
comp=Z,25nm,0.9s,mb5.3
SPUT South Promonto 63.76 57 *e*P **P 18 21 10.1 +0.6**
SPUT *e* pP 18 21 25.8 +0.1
HWUT Hardware Ranch 64.06 56 *e*P **P 18 21 12.0 +0.6**
comp=Z,3.8nm,0.9s,mb4.4
HWUT *e* pP 18 21 28.0 +0.3
DUG Dugway 64.28 58 *e*P **P 18 21 13.6 +0.7**
DUG *e* pP 18 21 28.7 -0.4
DUG pmax pmax
comp=Z,14nm,1.5s,mb4.8
DUG Dugway 64.28 58 *e*P **P 18 21 13.6 +0.7**
comp=Z,14nm,1.5s,mb4.8
DUG *e* pP 18 21 28.7 -0.5
TPNV Topopah Spring 64.38 63 *e*P **P 18 21 13.7 +0.1**
TPNV *e* pP 18 21 29.6 -0.2
TPNV pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
TPNV Topopah Spring 64.38 63 *e*P **P 18 21 13.7 +0.1**
comp=Z,7.4nm,0.7s,mb4.8
TPNV *e* pP 18 21 29.6 -0.2
OBN Obninsk 64.82 325 *e*P **P 18 21 16.1 -0.1**
OBN *e**PP pP 18 21 34.0 +1.5
OBN *e**SP sP 18 21 42.7 +3.5
OBN *e*S **S 18 29 51.9 -0.3**
OBN pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
NLU North Lily Min 64.86 58 *e*P **P 18 21 17.4 +0.7**
NLU *e* pP 18 21 33.4 +0.4
DAU Daniels Canyon 65.03 57 *e*P **P 18 21 18.5 +0.7**
DAU *e* pP 18 21 32.4 -1.6
GSC Goldstone 65.12 64 *e*P **P 18 21 18.3 -0.2**
GSC *e* pP 18 21 34.8 +0.1
GSC pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
GSC Goldstone 65.12 64 *e*P **P 18 21 18.3 -0.2**
comp=Z,7.8nm,0.8s,mb4.8
GSC *e* pP 18 21 34.8 +0.1
ARUT Antelope Range 65.50 60 *e*P **P 18 21 22.0 +1.1**
ARUT *e* pP 18 21 37.3 +0.1
CCUT Cedar City 65.70 60 *e*P **P 18 21 21.2 -1.0**
CCUT *e* pP 18 21 38.9 +0.4
MSU Marysvale 65.76 59 *e*P **P 18 21 24.2 +1.7**
MSU *e* pP 18 21 39.6 +0.8
MSU *e* 18 21 54.1
ULM Lac du Bonnet 66.09 41 P **P 18 21 23.6 -0.8**
comp=Z,4.7nm,0.7s,mb4.6,baz=306,slow=8.3,SNR=9.9
ULM pP pP 18 21 40.3 -0.4
comp=Z,3.2nm,0.6s,baz=309,slow=7.4,SNR=3.4
ULM LR LR 18 50 19.0
comp=Z,72nm,19.7s,baz=230,slow=36
RWWY Rawlins 66.43 54 *e*P **P 18 21 26.5 -0.3**
comp=Z,8.4nm,1.1s,mb4.7
RWWY *e* pP 18 21 43.3 +0.2
HYB Hyderabad 66.97 271 *i* P **P 18 21 31.0 +0.4**
AGMN Agassiz Refuge 67.51 42 *e*P **P 18 21 32.2 -1.3**
comp=Z,10nm,0.9s,mb4.8
PV10 Paradox Valley 67.67 57 *e*P **P 18 21 36.1 +1.4**
PV10 *e* pP 18 21 51.8 +0.8
NB2 NORSAR Subarra 67.67 341 P **P 18 21 33.9 -0.4**
comp=Z,22nm,1.4s,mb5.0,baz=27,slow=6.5
NOA NORSAR Array B 67.67 341 P **P 18 21 34.2 -0.1**
NOA LR LR 18 55 44.6
NOA NORSAR Array B 67.67 341 P **P 18 21 34.2 -0.1**
comp=Z,6.2nm,0.8s,mb4.7,baz=26,slow=6.2,SNR=16
NOA LR LR 18 55 44.6
comp=Z,70nm,18.3s,baz=5.0,slow=40
GLA Glamis 67.84 65 *e*P **P 18 21 35.7 -0.2**
GLA *e* pP 18 21 52.0 -0.2
GLA pmax pmax
comp=Z,11nm,0.9s,mb4.9
GLA Glamis 67.84 65 *e*P **P 18 21 35.7 -0.2**
comp=Z,11nm,0.9s,mb4.9
GLA *e* pP 18 21 52.0 -0.2
PV01 Paradox Valley 68.10 57 *e*P **P 18 21 38.1 +0.7**
PV01 *e* pP 18 21 54.2 +0.4
SMCO Snowmass 68.28 55 *e*P **P 18 21 39.0 +0.5**
comp=Z,5.8nm,0.8s,mb4.7
SMCO *e* pP 18 21 54.7 -0.2
ISCO Idaho Springs 68.61 54 *e*P **P 18 21 41.2 +0.6**
ISCO *e* pP 18 21 57.1 +0.1
ISCO pmax pmax
comp=Z,13nm,0.8s,mb4.9
ISCO Idaho Springs 68.61 54 *e*P **P 18 21 41.2 +0.6**
comp=Z,13nm,0.8s,mb4.9
ISCO *e* pP 18 21 57.1 +0.1
MVCO Mesa Verde 68.78 58 *e*P **P 18 21 41.4 -0.2**
comp=Z,21nm,0.9s,mb5.1
MVCO *e* pP 18 21 56.9 -1.1
WRAB Tennant Creek 69.05 199 *i* P **P 18 21 43.0 -0.3**
WB2 Warramunga Arr 69.06 199 *e*P **P 18 21 42.8 -0.6**
WRA Warramunga Arr 69.06 199 P **P 18 21 42.1 -1.3**
comp=Z,4.5nm,1.0s,mb4.3,baz=18,slow=6.8,SNR=8.5
WRA pP pP 18 21 59.5 -0.3
comp=Z,2.9nm,0.7s,baz=20,slow=6.8,SNR=6.6
POO Poona 69.39 275 *e*P **P 18 21 45.0 -0.7**
FITZ Fitzroy Crossi 69.65 208 *e*P **P 18 21 47.5 +0.4**
comp=Z,6.5nm,0.9s,mb4.6
FITZ *e* pP 18 22 04.5 +1.0
FITZ Fitzroy Crossi 69.65 208 P **P 18 21 47.3 +0.2**
comp=Z,3.9nm,0.9s,mb4.3,baz=13,slow=5.7,SNR=6.8
FITZ pP pP 18 22 04.6 +1.1
comp=Z,5.5nm,0.8s,baz=352,slow=5.4,SNR=6.9
EYMN Ely 69.73 40 *e*P **P 18 21 46.5 -0.9**
comp=Z,7.8nm,0.9s,mb4.6
KAD Karad 70.02 274 *e*P **P 18 21 49.9 +0.4**
KAD AMb AMB 18 21 50.9
comp=Z,22nm,1.0s,mb5.0
SDCO Great Sand Dun 70.11 56 *e*P **P 18 21 50.1 +0.2**
comp=Z,5.2nm,0.8s,mb4.5
SDCO *e* pP 18 22 06.3 0.0
KIV Kislovodsk 70.38 314⇑*e*P **P 18 21 52.5 +1.1**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
ECSD EROS,Sioux Fal 70.49 46 *e*P **P 18 21 51.2 -0.9**
comp=Z,26nm,0.9s,mb5.2
ECSD *e* pP 18 22 07.9 -0.7
TUC Tucson 70.82 63 *e*P **P 18 21 52.2 -2.1**
TUC *e* pP 18 22 10.9 +0.1
TUC pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
TUC Tucson 70.82 63 *e*P **P 18 21 52.2 -2.1**
comp=Z,6.3nm,1.0s,mb4.5
TUC *e* pP 18 22 10.9 +0.1
AKASG Malin Array Be 71.06 326 P **P 18 21 54.3 -1.1**
AKASG *PP pP 18 22 12.0 +0.1
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG MLR MLR
comp=Z,94nm,20.6s
AKASG Malin Array Be 71.06 326 P **P 18 21 54.3 -1.0**
comp=Z,1.7nm,0.4s,mb4.3,baz=34,slow=6.1,SNR=17
AKASG pP pP 18 22 11.9 +0.1
comp=Z,1.8nm,0.4s,baz=33,slow=6.0,SNR=3.5
AKASG LR LR 18 55 13.1
comp=Z,94nm,20.6s,baz=45,slow=38
AKBB Malin Array Si 71.06 326 *e*P **P 18 21 54.6 -0.8**
KIEV Kiev 71.07 326 *e*P **P 18 21 54.6 -0.9**
KIEV pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KIEV Kiev 71.07 326 *e*P **P 18 21 54.5 -0.9**
comp=Z,3.4nm,0.5s,mb4.5
LAZ Ladron 71.53 59 *e*P **P 18 21 59.4 +0.8**
LAZ *e* pP 18 22 15.3 +0.3
ANMO Albuquerque 71.54 58 *e*P **P 18 21 59.2 +0.6**
ANMO *e* pP 18 22 14.9 -0.2
ANMO pmax pmax
comp=Z,11nm,1.0s
ANMO Albuquerque 71.54 58 *e*P **P 18 21 59.2 +0.6**
comp=Z,12nm,1.0s,mb4.8
ANMO *e* pP 18 22 14.9 -0.2
BNM Barren Site 72.00 59 *e*P **P 18 22 01.6 +0.2**
BNM *e* pP 18 22 18.3 +0.4
ANN Anapa 72.24 318 *e*P **P 18 22 01.4 -1.2**
ANN *e* pP 18 22 18.2 -0.9
ANN *e**PP pP 18 22 20.3 +1.2
ANN *e* 18 24 43.1
ANN *e*PPP 18 26 27.2
ANN *e*S S 18 31 20.2 -0.3
ANN *e*SS SS 18 36 01.2 +3.0
ANN pmax pmax
comp=Z,68nm,1.0s,mb5.5
ASAR Alice Springs 72.76 198 P **P 18 22 06.6 +0.9**
ASAR *PP pP 18 22 23.4 +1.1
ASAR pmax pmax
comp=Z,6.0nm,0.8s
ASAR Alice Springs 72.76 198 P **P 18 22 06.6 +0.9**
comp=Z,6.4nm,0.8s,mb4.6,baz=15,slow=5.9,SNR=70
ASAR pP pP 18 22 23.4 +1.1
comp=Z,7.0nm,0.8s,baz=13,slow=5.3,SNR=12
SCHQ Schefferville 72.78 23 P **P 18 22 05.6 0.0**
comp=Z,9.0nm,0.8s,mb4.8,baz=347,slow=5.2,SNR=10
SCHQ pP pP 18 22 22.0 -0.2
comp=Z,19nm,0.8s,baz=339,slow=6.6,SNR=11
SCHQ LR LR 18 53 29.0
comp=Z,54nm,20.0s,baz=23,slow=35
SCIA State Center 73.52 45 *e*P **P 18 22 09.8 -0.4**
comp=Z,59nm,0.9s,mb5.5
SCIA *e* pP 18 22 25.2 -1.6
AMTX Amarillo 74.31 55 *e*P **P 18 22 14.8 -0.1**
comp=Z,19nm,0.9s,mb5.0
AMTX *e* pP 18 22 30.7 -0.9
KWP Kalwaria 74.32 329 *e*P **P 18 22 15.6 +0.8**
KWP Kalwaria 74.32 329 *e*P **P 18 22 15.6 +0.9**
KWP Kalwaria 74.32 329⇑*i*P **P 18 22 15.6 +0.9**
MNTX Cornudas Mount 74.49 60 *e*P **P 18 22 15.6 -0.5**
comp=Z,7.8nm,0.9s,mb4.6
MNTX *e* pP 18 22 32.2 -0.5
STHS Stebnicka Huta 75.01 330 *e*P **P 18 22 18.2 -0.5**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
STHS Stebnicka Huta 75.01 330 *e*P **P 18 22 18.2 -0.5**
comp=Z,5.6nm,1.1s,mb4.4
BURAR Bucovina Array 75.10 326⇓*i*P **P 18 22 19.5 +0.2**
CRVS Cervenica-Dubn 75.37 329 *e*P **P 18 22 20.8 0.0**
OKC Ostrava-Krasne 75.67 332 *e*P **P 18 22 23.3 +0.8**
UPC Upice 75.76 333 *e*P **P 18 22 23.3 +0.3**
DPC Dobruska-Polom 75.80 333 *e*P **P 18 22 23.7 +0.4**
MORC Moravsky Berou 75.92 332 *e*P **P 18 22 23.8 -0.2**
MORC pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MORC Moravsky Berou 75.92 332 *e*P **P 18 22 23.8 -0.2**
comp=Z,3.8nm,0.8s,mb4.4
MORC Moravsky Berou 75.92 332⇑*i*P **P 18 22 24.5 +0.5**
CLL Collm 75.93 335⇑*i*P **P 18 22 23.1 -0.9**
CLL pmax pmax
comp=Z,17nm,1.1s,mb4.9
CLL Collm 75.93 335 *e*P **P 18 22 22.7 -1.3**
comp=Z,17nm,1.1s,mb4.9
CLL Collm 75.93 335⇑*i*P **P 18 22 23.1 -0.9**
comp=Z,17nm,1.1s,mb4.9
WMOK Wichita Mounta 76.03 54 *e*P **P 18 22 24.0 -0.8**
WMOK *e* pP 18 22 40.7 -0.8
WMOK pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
WMOK Wichita Mounta 76.03 54 *e*P **P 18 22 24.0 -0.8**
comp=Z,8.2nm,0.9s,mb4.7
WMOK *e* pP 18 22 40.7 -0.8
BRG Berggiesshubel 76.05 335 *e*P **P 18 22 23.8 -0.9**
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
BRG Berggiesshubel 76.05 335 *e*P **P 18 22 23.8 -0.8**
comp=Z,6.0nm,1.1s,mb4.5
CLZ Clausthal 76.17 337 *e*P **P 18 22 25.2 -0.1**
MLR Muntele Rosu 76.58 325 LR LR 18 58 34.0
comp=Z,149nm,19.4s,baz=311,slow=38
MLR Muntele Rosu 76.58 325⇓*i*P **P 18 22 29.4 +1.6**
VYHS Vyhne 76.61 331 *e*P **P 18 22 27.5 -0.4**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
VYHS Vyhne 76.61 331 *e*P **P 18 22 27.5 -0.4**
comp=Z,3.2nm,1.1s,mb4.2
VRAC Vranov 76.63 332 LR LR 19 01 42.3
comp=Z,192nm,19.4s,baz=37,slow=40
PRU Pruhonice 76.66 334 *e*P **P 18 22 28.2 +0.1**
DRGR 76.72 327⇓*i*P **P 18 22 28.6 +0.1**
MALT Malatya 76.75 313 *e*P **P 18 22 30.0 +1.1**
MALT pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MALT Malatya 76.75 313 *e*P **P 18 22 30.0 +1.2**
comp=Z,3.8nm,0.8s,mb4.4
MALT Malatya 76.75 313⇑*i*P **P 18 22 30.5 +1.6**
MOX Moxa 76.91 336 *e*P **P 18 22 29.4 -0.2**
comp=Z,20nm,1.4s,mb4.8
MOX Moxa 76.91 336 *e*P **P 18 22 29.4 -0.2**
MOX pmax pmax
comp=Z,20nm,1.4s,mb4.8
MOX Moxa 76.91 336 *e*P **P 18 22 29.0 -0.6**
comp=Z,9.0nm,1.0s,mb4.7
VOIR 76.97 325⇑*i*P **P 18 22 31.0 +1.0**
TREC Trest 76.99 333 *e*P **P 18 22 30.2 +0.2**
NKC Novy Kostel 77.05 335 *e*P **P 18 22 30.5 +0.2**
TXAR Lajitas Array 77.22 61 P **P 18 22 31.6 -0.1**
comp=Z,7.3nm,1.0s,mb4.6,baz=294,slow=4.0,SNR=33
TXAR pP pP 18 22 48.2 -0.1
comp=Z,26nm,0.6s,baz=298,slow=4.3,SNR=48
MODS Modra-Piesok 77.23 332 *e*P **P 18 22 32.0 +0.6**
MANZ Manzenberg 77.37 335 *e*P **P 18 22 31.5 -0.6**
comp=Z,10.0nm,1.1s,mb4.7
ARMA Armidale 77.40 181 *e*P pP 18 22 50.2 +1.2
ZST Bratislava 77.44 332 *e*P **P 18 22 32.4 -0.2**
ZST pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ZST MLR MLR
comp=Z,100nm,25.5s
ZST Bratislava 77.44 332 *e*P **P 18 22 32.4 -0.2**
comp=Z,4.6nm,0.6s,mb4.6
ZST LR LR
comp=Z,100nm,25.5s
CCM Cathedral Cave 77.44 47 *e*P **P 18 22 31.7 -1.1**
CCM *e* pP 18 22 47.4 -2.0
CCM pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CCM Cathedral Cave 77.44 47 *e*P **P 18 22 31.7 -1.1**
comp=Z,5.2nm,0.8s,mb4.5
CCM *e* pP 18 22 47.4 -2.0
ROTZ Rotzenmuhle 77.54 335 *e*P **P 18 22 32.6 -0.5**
comp=Z,10.0nm,1.1s,mb4.7
KHC Kasperske Hory 77.71 334 *e*P **P 18 22 34.4 +0.4**
KHC *e*x x 18 22 51.0
GZR Gura Zlata 77.88 327⇓*i*P **P 18 22 35.0 0.0**
GRA1 Grafenberg Arr 77.88 336 *e*P **P 18 22 34.9 -0.1**
comp=Z,36nm,1.3s,mb5.1
GRA1 LR LR
comp=Z,100nm,20.7s
GRF Grafenberg Arr 77.88 336 *e*P **P 18 22 34.9 -0.1**
GRF pmax pmax
comp=Z,36nm,1.3s,mb5.1
GRF MLR MLR
comp=Z,100nm,20.7s
GRF Grafenberg Arr 77.88 336 *e*P **P 18 22 34.9 -0.1**
comp=Z,36nm,1.3s,mb5.1
GRF *e*L 19 00 19.9
comp=Z,75nm,20.7s
GRFO Grafenberg 77.89 336 *e*P **P 18 22 34.9 -0.1**
GRFO pmax pmax
comp=Z,30nm,1.3s,mb5.1
GRFO Grafenberg 77.89 336 *e*P **P 18 22 34.9 -0.1**
comp=Z,30nm,1.3s,mb5.1
WET Wettzell 77.90 335 *e*P **P 18 22 35.1 0.0**
WET pmax pmax
comp=Z,12nm,1.1s,mb4.7
WET Wettzell 77.90 335 *e*P **P 18 22 35.1 0.0**
comp=Z,12nm,1.1s,mb4.7
GEC2 GERESS Array S 77.93 334 *e*P **P 18 22 34.4 -0.9**
GEC2 pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
GEC2 GERESS Array S 77.93 334 *e*P **P 18 22 34.4 -0.9**
comp=Z,5.0nm,1.2s,mb4.3
GERES GERESS Array B 77.93 334 P **P 18 22 34.9 -0.3**
comp=Z,1.7nm,0.7s,mb4.1,baz=35,slow=4.9,SNR=8.6
GERES LR LR 19 00 41.6
comp=Z,103nm,19.8s,baz=71,slow=38
CONA Conrad Observa 78.08 332⇑*i*pP **P 18 22 36.6 +0.5**
comp=Z,12nm,1.3s,mb4.7
CSNA Conrad Observa 78.08 332⇑*i*pP **P 18 22 36.6 +0.5**
comp=Z,11nm,1.2s,mb4.7
BZS Buzias 78.12 327⇑*i*P **P 18 22 35.6 -0.8**
UMR Umm Al-Rimmam 78.32 301 *e*P **P 18 22 38.1 +0.3**
UMR AMb AMB 18 22 39.3
comp=Z,22nm,0.7s,mb5.2
MIB Mutribah 78.35 301 *e*P **P 18 22 38.3 +0.3**
MIB AMb AMB 18 22 40.0
comp=Z,37nm,0.9s,mb5.3
MEM Membach 78.40 339 P **P 18 22 37.4 -0.4**
JCT Junction City 78.62 57 *e*P **P 18 22 38.8 -0.6**
JCT *e* pP 18 22 55.1 -1.1
JCT pmax pmax
comp=Z,18nm,1.1s,mb4.9
JCT Junction City 78.62 57 *e*P **P 18 22 38.8 -0.7**
comp=Z,18nm,1.1s,mb4.9
JCT *e* pP 18 22 55.1 -1.1
PKSM Moragy 78.66 330⇑*i*P **P 18 22 38.4 -0.9**
BCLA Clavier 78.74 340 P **P 18 22 39.3 -0.4**
comp=Z,7.7nm,1.2s,mb4.5
NAY Al-Naaiem 78.82 301 *e*P **P 18 22 40.5 -0.1**
NAY AMb AMB 18 22 42.1
comp=Z,18nm,0.9s,mb5.0
RDF Al-Radifah 78.88 301 *e*P **P 18 22 41.3 +0.4**
RDF AMb AMB 18 22 42.8
comp=Z,45nm,1.0s,mb5.3
MIAR Mount Ida 78.97 51 *e*P **P 18 22 40.6 -0.7**
MIAR *e* pP 18 22 53.8 -4.2
MIAR pmax pmax
comp=Z,11nm,1.1s,mb4.7
MIAR Mount Ida 78.97 51 *e*P **P 18 22 40.6 -0.6**
comp=Z,11nm,1.1s,mb4.7
MIAR *e* pP 18 22 53.8 -4.2
GIVF Givet 79.15 340 *e*P **P 18 22 42.5 +0.5**
DOU Dourbes 79.21 340 P **P 18 22 40.4 -1.9**
BAIF Baives 79.33 340⇑*i*P **P 18 22 42.6 -0.4**
comp=Z,25nm,1.1s,mb4.8
BAIF Baives 79.33 340⇑*i*P **P 18 22 42.6 -0.4**
BAIF pmax pmax
comp=Z,12nm,1.1s,mb4.7
BAIF Baives 79.33 340⇑*i*P **P 18 22 42.6 -0.4**
comp=Z,12nm,1.1s,mb4.8
PERS Pernice 79.45 332 *e*P **P 18 22 43.4 -0.3**
STKA Stephens Creek 79.52 190 pP pP 18 23 01.3 +0.6
comp=Z,6.6nm,0.9s,baz=323,slow=4.9,SNR=6.3
KBA Koelnbreinsper 79.61 333⇑*i*P **P 18 22 45.0 +0.5**
comp=Z,22nm,1.1s,mb5.0
KBA Koelnbreinsper 79.61 333⇑*i*pP **P 18 22 45.0 +0.5**
comp=Z,22nm,1.1s,mb5.0
KBA Koelnbreinsper 79.61 333⇑*i*P **P 18 22 45.0 +0.5**

KBA pmax pmax
comp=Z,22nm,1.1s,mb5.0
BFO Black Forest 79.91 337 *e*P **P 18 22 45.9 -0.2**
BFO pmax pmax
comp=Z,19nm,1.2s,mb4.9
BFO Black Forest 79.91 337 *e*P **P 18 22 45.9 -0.2**
comp=Z,19nm,1.2s,mb4.9
WTTA Wattenberg 79.96 334⇓*i*P **P 18 22 46.6 +0.2**
comp=Z,19nm,1.0s,mb5.0
WTTA Wattenberg 79.96 334⇓*i*p**P P 18 22 46.6 +0.2**
comp=Z,19nm,1.0s,mb5.0
WTTA Wattenberg 79.96 334⇓*i*pP **P 18 22 46.6 +0.2**
WTTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
MOTA Moosalm 80.04 335⇑*i*P **P 18 22 47.1 +0.2**
comp=Z,23nm,1.2s,mb5.0
MOTA Moosalm 80.04 335⇑*i*pP **P 18 22 47.1 +0.2**
comp=Z,23nm,1.2s,mb5.0
MOTA Moosalm 80.04 335⇑*i*P **P 18 22 47.1 +0.2**
MOTA pmax pmax
comp=Z,23nm,1.2s,mb5.0
CRES Cresnjev 80.06 331 *e*P **P 18 22 46.3 -0.7**
VTS Vitosha 80.09 325⇑*i*P **P 18 22 47.0 -0.2**
CDF Champ du Feu 80.11 338⇑*i*P **P 18 22 46.9 -0.3**
comp=Z,28nm,1.1s,mb4.8
CDF Champ du Feu 80.11 338⇑*i*P **P 18 22 46.9 -0.3**
CDF pmax pmax
comp=Z,14nm,1.1s,mb4.8
CDF Champ du Feu 80.11 338⇑*i*P **P 18 22 46.9 -0.3**
comp=Z,14nm,1.1s,mb4.8
DAVA Damuels 80.44 336⇓*i*P **P 18 22 48.8 -0.2**
comp=Z,9.8nm,1.1s,mb4.7
FETA Feichten 80.44 335⇑*i*pP **P 18 22 49.1 +0.1**
comp=Z,10nm,1.2s,mb4.6
CEY Cerknica 80.47 332 *e*P **P 18 22 48.0 -1.2**
MEZF Maizieres J'vi 80.59 339⇑*i*P **P 18 22 49.7 -0.1**
HAU Haudompre 80.73 338⇑*i*P **P 18 22 50.0 -0.5**
HAU *e*MLR MLR
comp=Z,90nm,22.5s
HAU Haudompre 80.73 338⇑*i*P **P 18 22 50.0 -0.5**
HAU LR LR
comp=Z,90nm,22.5s
HINF Hinteralfeld 80.77 338 *e*P **P 18 22 50.0 -0.8**
DAVOX Davos/Dischmat 80.90 335 LR LR 19 04 56.1
comp=Z,87nm,20.9s,baz=86,slow=40
FORT Forrest 80.96 202 *e*P pP 18 23 09.5 +1.0
comp=Z,26nm,0.8s
PMOR Pomariorio Ree 81.38 123 *e*T 19 51 59.0
comp=Z,16nm,0.2s
CSS Prodhromos 81.91 314 *e*P **P 18 22 56.9 -0.1**
comp=Z,9.7nm,0.8s,mb4.8
LOR Lormes 82.03 339⇑*i*P **P 18 22 56.9 -0.5**
LOR *e*MLR MLR
comp=Z,115nm,20.8s
LOR Lormes 82.03 339⇑*i*P **P 18 22 56.9 -0.5**
LOR LR LR
comp=Z,120nm,20.8s
SWET Sewanee 82.29 45 *e*P **P 18 22 58.0 -1.1**
SSF Saint Saulge 82.31 340 *e*P **P 18 22 58.4 -0.5**
PPT Papeete 82.51 126 *e*LR LR 18 48 43.4
comp=Z,160nm,24.0s
PPT Papeete 82.51 126 LR LR 18 53 43.9
comp=Z,162nm,20.6s,baz=309,slow=31
AVF Avril sur Loir 82.60 340⇑*i*P **P 18 23 00.2 -0.2**
comp=Z,53nm,1.5s,mb5.1
AVF Avril sur Loir 82.60 340⇑*i*P **P 18 23 00.2 -0.2**
AVF pmax pmax
comp=Z,27nm,1.5s,mb5.1
AVF Avril sur Loir 82.60 340⇑*i*P **P 18 23 00.2 -0.2**
comp=Z,26nm,1.5s,mb5.0
SMF Signal de Mont 82.61 339⇑*i*P **P 18 23 00.3 -0.2**
comp=Z,91nm,1.4s,mb5.3
SMF Signal de Mont 82.61 339⇑*i*P **P 18 23 00.3 -0.2**
SMF pmax pmax
comp=Z,45nm,1.4s,mb5.3
SMF Signal de Mont 82.61 339⇑*i*P **P 18 23 00.3 -0.2**
comp=Z,46nm,1.4s,mb5.3
LPL La Plagne 82.93 337⇑*i*P **P 18 23 02.7 +0.5**
comp=Z,27nm,1.2s,mb4.8
LPL La Plagne 82.93 337⇑*i*P **P 18 23 02.7 +0.5**
LPL pmax pmax
comp=Z,13nm,1.2s,mb4.8
LPL La Plagne 82.93 337⇑*i*P **P 18 23 02.7 +0.5**
comp=Z,13nm,1.2s,mb4.8
LPG La Plagne 82.94 337⇑*i*P **P 18 23 02.9 +0.7**
comp=Z,20nm,1.1s,mb4.8
LPG La Plagne 82.94 337⇑*i*P **P 18 23 02.9 +0.7**
LPG pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
LPG La Plagne 82.94 337⇑*i*P **P 18 23 02.9 +0.7**
comp=Z,10nm,1.1s,mb4.8
TCF Toulx Ste Croi 83.34 340 *e*P **P 18 23 04.1 -0.1**
comp=Z,17nm,1.1s,mb4.7
TCF Toulx Ste Croi 83.34 340 *e*P **P 18 23 04.1 -0.1**
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TCF Toulx Ste Croi 83.34 340 *e*P **P 18 23 04.1 -0.1**
comp=Z,8.4nm,1.1s,mb4.7
ORIF Oris-en-Rattie 83.71 337⇑*i*P **P 18 23 06.5 +0.3**
comp=Z,15nm,1.0s,mb4.8
ORIF Oris-en-Rattie 83.71 337⇑*i*P **P 18 23 06.5 +0.3**
ORIF *e*MLR MLR
comp=Z,52nm,22.0s
ORIF Oris-en-Rattie 83.71 337⇑*i*P **P 18 23 06.5 +0.3**
ORIF pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
ORIF Oris-en-Rattie 83.71 337⇑*i*P **P 18 23 06.5 +0.3**
comp=Z,7.3nm,1.0s,mb4.8
VIVF Saint-Julien-l 84.08 338⇑*i*P **P 18 23 08.3 +0.2**
comp=Z,22nm,1.1s,mb4.9
VIVF Saint-Julien-l 84.08 338⇑*i*P **P 18 23 08.3 +0.2**
VIVF pmax pmax
comp=Z,11nm,1.1s,mb4.9
VIVF Saint-Julien-l 84.08 338⇑*i*P **P 18 23 08.3 +0.2**
comp=Z,11nm,1.1s,mb4.9
KLBR Kellerberrin 84.76 210 *e*P **P 18 23 11.3 -0.1**
comp=Z,4μm,7.3s
TIP Timpagrande 85.48 327 *e*P **P 18 23 14.6 -0.6**
comp=Z,7.1nm,1.1s,mb4.7
NWAO Narrogin (SRO) 86.15 210 P **P 18 23 18.8 +0.5**
comp=Z,18nm,1.1s,mb5.2,baz=39,slow=2.9,SNR=4.7
NWAO pP pP 18 23 36.4 +1.2
comp=Z,7.9nm,0.9s,baz=14,slow=5.7,SNR=2.7
TBI Tubuai 87.28 129 *e*LR LR 18 51 00.5
comp=Z,155nm,32.8s
TBI Tubuai 87.28 129 *e*T 19 59 27.7
comp=Z,11nm,0.3s
ESDC Sonseca Array 90.99 342 P **P 18 23 39.8 -1.7**
comp=Z,0.2nm,0.4s,mb3.8,baz=12,slow=6.6,SNR=4.8
ESDC LR LR 19 09 23.4
comp=Z,70nm,18.5s,baz=130,slow=39
VNDA Vanda 124.69 178 PKP PKPdf 18 29 34.5 -0.6
comp=Z,0.7nm,1.0s,baz=303,slow=4.8,SNR=3.8
VNDA pPKP pPKPdf 18 29 50.5 -2.4
comp=Z,1.0nm,0.7s,baz=353,slow=5.2,SNR=4.6
BDFB Brasilia 143.88 36 PKP PKPdf 18 30 09.8 -2.9
comp=Z,2.5nm,0.7s,baz=98,slow=24,SNR=4.6
BDFB pPKP pPKPdf 18 30 27.3 -3.0
comp=Z,4.4nm,0.9s,baz=210,slow=27,SNR=3.8
CFAA Coronel Fontan 144.89 78 PKP PKPdf 18 30 12.4 -1.6
comp=Z,0.3nm,0.5s,baz=278,slow=6.4,SNR=6.8
CPUP Villa Florida 148.19 60 PKP2 PKPbc 18 30 22.2 -0.9
CPUP pmax pmax
comp=Z,2.0nm,0.4s
CPUP Villa Florida 148.19 60 PKPbc PKPbc 18 30 22.2 -0.9
comp=Z,1.5nm,0.4s,baz=262,slow=5.4,SNR=7.2
PLCA Paso Flores 148.27 94 PKP2 PKPbc 18 30 22.5 -0.4
PLCA pmax pmax
comp=Z,3.0nm,1.0s
PLCA Paso Flores 148.27 94 PKPbc PKPbc 18 30 22.4 -0.4
comp=Z,3.3nm,1.0s,baz=239,slow=8.1,SNR=3.7
SNAA Sanae 153.11 197 *e*PKPdf PKPbc 18 30 32.6 -0.8
SNAA *e* 18 30 50.1
SNAA *e* 18 30 58.8
SNAA *e* 18 31 03.1
SNAA Sanae 153.11 197 PKIKP PKPbc 18 30 32.4 -1.0
SNAA pmax pmax
comp=Z,1.0nm,0.9s
SNAA Sanae 153.11 197 PKPbc PKPbc 18 30 32.4 -0.9
comp=Z,1.4nm,0.9s,baz=48,slow=1.1,SNR=10
VNA2 Neumayer--Watz 154.56 195 *e*PKPdf PKPbc 18 30 36.2 -0.3
VNA2 *e* 18 30 51.0
VNA2 *e* 18 31 05.3
VNA2 *e* 18 31 09.2
VNA3 Neumayer Olymp 154.66 193 *e*PKPdf PKPbc 18 30 36.0 -0.7
VNA3 *e* 18 30 52.1
VNA3 *e* 18 31 05.2
VNA3 *e* 18 31 09.1
VNA1 Neumayer--Stat 154.95 195 *e*PKPdf PKPbc 18 30 35.6 -1.7
VNA1 *e* 18 30 53.9
VNA1 *e* 18 31 07.2
VNA1 *e* 18 31 10.9

ISCJB ***09*** *18:16:25.5±0.7, 75S×0.1×15687E±009, h10km, mb3.9/6, Error ellipse: s-maj=21.4km s-min=8.8km az=31.2*
IDC ***09*** *18:16:25.8±1.1, 745S×15677E, h0km, mb4.0/5, mb1 4.1/6, mb1mx3.9/14, mbtmp4.0/6, ML4.5/1, MS3.0/1, Ms1 3.0/1, ms1mx2.7/18, Error ellipse: s-maj=30.0km s-min=25.3km az=52.0*
NEIC ***09*** *18:16:27.1±0.8, 751S×15685E, h10km, mb4.3/1, Error ellipse: s-maj=22.0km s-min=17.1km az=220.0*
ISC 09 18:16:27.1±0.7, 76S±01×15692E±010, h10km, n9, σ1§04/11, mb3.9/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.53**	**122**	Pn	**Pn**	**18 17 22.7**	**+0.7**
HNR				Sn	**Sb**	**18 18 11.9**	**-0.7**
HNR				LR	LR	18 18 39.8	
HNR	**Honiara**	**3.53**	**122**	Pn	**Pn**	**18 17 22.7**	**+0.7**
34nm,0.3s,baz=264,slow=3.6,SNR=17							
HNR				Sn	**Sb**	**18 18 11.9**	**-0.7**
73nm,0.3s,baz=268,slow=11,SNR=6.3							
HNR				LR	LR	18 18 39.8	
comp=Z,221nm,20.8s,baz=182,slow=36							
WRA	**Warramunga Arr**	**25.11**	**238**	P	**P**	**18 21 50.9**	**-1.4**
WRA	**Warramunga Arr**	**25.11**	**238**	P	**P**	**18 21 50.9**	**-1.4**
1.8nm,0.7s,mb3.7,baz=62,slow=9.7,SNR=5.1							
STKA	**Stephens Creek**	**28.10**	**209**	P	**P**	**18 22 20.8**	**+1.7**
2.0nm,0.9s,mb3.7,baz=38,slow=14,SNR=3.0							
ULN	**Ulaanbaatar**	**70.50**	**327**	*e*P	**P**	**18 27 42.3**	**+0.3**
2.1nm,0.8s,mb4.1							
SONM	**Songino Array**	**70.84**	**327**	P	**P**	**18 27 44.3**	**+0.3**
2.9nm,0.8s,mb4.3,baz=135,slow=6.3,SNR=25							
MKAR	**Makanchi Array**	**85.09**	**318**	P	**P**	**18 29 01.7**	**-1.5**
0.5nm,0.7s,mb3.7,baz=104,slow=5.1,SNR=5.8							
YKA	**Yellowknife Ar**	**95.94**	**28**	P	**P**	**18 29 54.6**	**+0.6**
0.2nm,0.5s,mb3.8,baz=257,slow=4.9,SNR=3.4							

ISCJB ***09*** *18:30:54.9±1.5, 070N±005×9994E±005, h3km±9km, mb4.7/55, MS3.9/12, Error ellipse: s-maj=8.9km s-min=7.9km az=10.8*
IDC ***09*** *18:30:56.6±0.6, 084N×10006E, h0km, mb4.3/15, mb1 4.5/16, mb1mx4.3/22, mbtmp4.3/16, ML3.8/1, MS3.4/5, Ms1 3.4/5, ms1mx3.1/29, Error ellipse: s-maj=27.0km s-min=13.6km az=52.0*
NEIC ***09*** *18:30:57.7±4.0, 086N×100.11E, h8km±24km, mb4.8/12, Error ellipse: s-maj=13.7km s-min=6.7km az=50.0*
BJI ***09*** *18:30:57.8, 075N×10049E, h13km, mB4.9, mb4.5, Ms4.4, Msz4.1*
MOS ***09*** *18:31:00.5±1.1, 096N×100.14E, h38km, mb4.9/17, Error ellipse: s-maj=18.1km s-min=7.4km az=113.9*
ISC 09 18:30:59.8±1.6, 078N±005×10000E±005, h20km±11km, h14km±1.1km: pP-P, n111, σ1§03/118, mb4.7/55, MS3.9/12, 5C-8D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**1.29**	**162**	P	**Pn**	**18 31 25.7**	**+3.0**
6μm,0.8s							
PSI	**Prapat**	**2.28**	**332**	P	**Pn**	**18 31 34.3**	**-2.0**
PSI						18 32 03.6	
PSI	**Prapat**	**2.28**	**332**	Pn	**Pn**	**18 31 34.3**	**-2.0**
PSI				Sn	**Sn**	**18 32 03.5**	**-0.3**
PSI				LR	LR	18 32 04.7	
PSI	**Prapat**	**2.28**	**332**	Pn	**Pn**	**18 31 34.3**	**-2.0**
28nm,0.3s,baz=135,slow=11,SNR=58							
PSI				Sn	**Sn**	**18 32 03.5**	**-0.3**
66nm,0.3s,baz=255,slow=22,SNR=13							
PSI				LR	LR	18 32 04.7	
comp=Z,296nm,19.0s,baz=141,slow=32							
PSI	**Prapat**	**2.28**	**332**	⇓*e*P	**Pn**	**18 31 37.3**	**+1.0**
FRIM	**Kepong**	**2.93**	**34**	⇓P	**Pn**	**18 31 44.8**	**-0.6**
TSI	**Tuntungan**	**3.06**	**332**	*e*P	**Pn**	**18 31 51.0**	**+3.9**
TSI				*e*S	**Sn**	**18 32 32.0**	**+8.8**
KGM	**Kluang**	**3.54**	**70**	⇓P	**Pn**	**18 31 53.9**	**+0.3**
IPM	**Ipoh**	**3.82**	**16**	⇑P	**Pn**	**18 31 58.2**	**+0.7**
MYKOM	**Kota Tinggi**	**3.98**	**75**	⇑P	**Pn**	**18 31 58.2**	**-1.5**
KULM	**Kulim**	**4.53**	**8**	*e*P	**Pn**	**18 32 05.8**	**-1.5**
KULM	**Kulim**	**4.53**	**8**	⇓P	**Pn**	**18 32 06.3**	**-1.0**
KSI	**Kapahiang**	**5.11**	**150**	P	**Pn**	**18 32 24.3**	**+9.1**
148nm,1.0s							
KTGM	**Kuala Trenggan**	**5.50**	**35**	⇓P	**Pn**	**18 32 20.8**	**+0.2**
SNG	**Songkhla**	**6.39**	**6**	P	**Pn**	**18 32 33.0**	**+0.2**
678nm,1.0s							
KKM	**Kota Kinabalu**	**17.00**	**72**	⇓P	**Pn**	**18 34 59.4**	**+2.8**
CHG	**Chiang Mai**	**17.95**	**357**	⇓P	**Pn**	**18 35 09.8**	**+1.4**
25nm,1.1s							
QIZ	**Qiongzhong**	**20.55**	**27**	P	**P**	**18 35 36.1**	**-1.2**
QIZ				S	**S**	**18 39 25.2**	**-1.2**
QIZ				AMB	AMB		
comp=Z,23nm,2.3s							
QIZ				AMB	AMB		
comp=Z,231nm,2.8s							
QIZ				LR	LR		
comp=Z,266nm,19.4s,MS3.6							
KMI	**Kunming**	**24.35**	**6**	P	**P**	**18 36 18.5**	**+2.0**
KMI				AMB	AMB		
comp=Z,6.0nm,0.8s,mb4.1							
KMI				LR	LR		
comp=N,162nm,21.9s							
KMI				LR	LR		
comp=E,178nm,9.6s							
KMI				LR	LR		
comp=Z,151nm,12.5s							
GYA	**Guiyang**	**26.32**	**14**	P	**P**	**18 36 34.5**	**+0.1**
GYA				PP		18 37 19.2	
GYA				PCP	PcP	18 40 01.8	+1.4
GYA				S	**S**	**18 41 07.6**	**+1.2**
GYA				SCP	ScP	18 43 40.3	+0.9
GYA				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.4							
GYA				AMB	AMB		
comp=Z,90nm,5.0s							
GYA				LR	LR		
comp=N,450nm,17.4s,MS4.2							
GYA				LR	LR		
comp=E,470nm,17.2s,MS4.2							
GYA				LR	LR		
comp=Z,480nm,16.0s,MS4.1							
JIRN	**Jiri**	**29.83**	**335**	*e*P	**P**	**18 37 06.0**	**+0.2**
comp=Z,55nm,1.1s,mb5.2							
LSA	**Lhasa**	**29.97**	**344**	*e*P	**P**	**18 37 06.2**	**-0.8**
GUN	**Gumba**	**30.18**	**335**	*e*P	**P**	**18 37 09.2**	**+0.3**
comp=Z,48nm,0.7s,mb5.3							
DMN	**Daman**	**30.26**	**333**	*e*P	**P**	**18 37 09.5**	**-0.1**
comp=Z,20nm,0.9s,mb4.8							
KKN	**Kakani**	**30.34**	**334**	*e*P	**P**	**18 37 10.0**	**-0.3**
comp=Z,28nm,0.8s,mb5.0							
GKN	**Gorkha**	**30.81**	**333**	*e*P	**P**	**18 37 14.2**	**-0.2**
comp=Z,34nm,1.1s,mb5.1							
KOLN	**Koldanda**	**31.10**	**331**	*e*P	**P**	**18 37 17.1**	**+0.1**
comp=Z,26nm,0.8s,mb5.1							
DANN	**Dangsing**	**31.51**	**332**	*e*P	**P**	**18 37 20.5**	**-0.1**
comp=Z,38nm,0.9s,mb5.2							
LZH	**Lanzhou**	**35.31**	**5**	*e*P	**P**	**18 37 56.5**	**+2.9**
LZH				AP	pP	18 37 59.5	-0.3
LZH				XP	sP	18 38 01.4	-0.9
LZH				PP	PP	18 39 16.5	+2.5
LZH				SS	SS	18 45 48.5	-12
LZH				AMB	AMB		
comp=Z,13nm,1.0s,mb4.8							
LZH				AMB	AMB		
comp=Z,60nm,4.2s							
LZH				LR	LR		
comp=E,373nm,15.0s							
LZH				LR	LR		
comp=Z,702nm,16.7s,MS4.5							
NJ2	**Nanjing**	**35.84**	**28**	*e*P	**P**	**18 37 58.1**	**-0.1**
NJ2				AP	pP	18 38 02.6	-1.8
NJ2				XP	sP	18 38 06.5	-0.4
NJ2				PP	PP	18 39 16.9	-3.0
NJ2				PPP		18 39 37.3	
NJ2				S	**S**	**18 43 37.0**	**+2.0**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.9							
NJ2				AMB	AMB		
comp=Z,680nm,10.8s							
NJ2				LR	LR		
comp=N,280nm,18.6s,MS4.2							
NJ2				LR	LR		
comp=E,250nm,16.9s,MS4.2							
NJ2				LR	LR		
comp=Z,250nm,17.0s,MS4.0							
GTA	**Gaotai**	**38.45**	**360**	*e*P	**P**	**18 38 21.3**	**+1.0**
GTA				AP	pP	18 38 25.4	-1.1
GTA				XP	sP	18 38 29.2	+0.2
GTA				PP	PP	18 39 52.1	+3.6
GTA				PCP	PcP	18 40 36.1	+2.8
GTA				S	**S**	**18 44 19.4**	**+4.9**
GTA				XS	sS	18 44 28.5	+3.8
GTA				SCS	ScS	18 48 30.9	+0.5
GTA				AMB	AMB		
comp=Z,3.0nm,1.4s,mb3.8							
GTA				AMB	AMB		
comp=Z,101nm,7.2s							
GTA				LR	LR		
comp=N,92nm,15.6s,MS3.9							
GTA				LR	LR		
comp=E,105nm,14.1s,MS3.9							
GTA				LR	LR		
comp=Z,121nm,17.9s,MS3.8							
WRA	**Warramunga Arr**	**39.45**	**123**	P	**P**	**18 38 28.3**	**-0.7**
comp=Z,2.3nm,0.8s,mb4.0,baz=302,slow=9.1,SNR=12							
WRA				PcP	PcP	18 40 37.6	+0.7
comp=Z,0.4nm,0.8s,baz=305,slow=2.1,SNR=4.8							
ASAR	**Alice Springs**	**40.93**	**129**	P	**P**	**18 38 40.1**	**-1.0**
comp=Z,0.7nm,0.7s,mb3.4,baz=297,slow=7.7,SNR=16							
ASAR				PcP	PcP	18 40 42.1	+0.5
comp=Z,1.5nm,0.9s,baz=300,slow=2.7,SNR=8.5							
HHC	**Hu-ho-hao-te**	**41.24**	**13**	*e*P	**P**	**18 38 45.3**	**+1.8**
HHC				AP	pP	18 38 49.8	+0.1
HHC				XP	sP	18 38 52.3	+0.1
HHC				PP	PP	18 40 25.3	+6.4
HHC				PCP	PcP	18 40 44.1	+1.9
HHC				SCP	ScP	18 44 32.4	+1.2
HHC				S	**S**	**18 45 00.4**	**+4.1**
HHC				XS	sS	18 45 06.4	-0.2
HHC				SS	SS	18 47 59.8	-0.2
HHC				SCS	ScS	18 48 47.2	+0.4
HHC				AMB	AMB		
comp=Z,28nm,1.1s,mb4.8							
HHC				AMB	AMB		
comp=Z,146nm,5.7s							
HHC				LR	LR		
comp=N,373nm,14.0s,MS4.5							
HHC				LR	LR		
comp=E,303nm,12.2s,MS4.5							
HHC				LR	LR		
comp=Z,306nm,15.6s,MS4.3							
BJI	**Beijing**	**41.76**	**19**	P	**P**	**18 38 47.5**	**-0.3**
BJI				PP	PP	18 40 24.3	-0.3
BJI				S	**S**	**18 45 03.0**	**-1.1**
BJI				AMB	AMB		
comp=Z,11nm,1.2s,mb4.4							
BJI				AMB	AMB		
comp=Z,162nm,4.0s							
BJI				LR	LR		
comp=N,73nm,19.4s,MS4.0							
BJI				LR	LR		
comp=E,145nm,15.9s,MS4.0							
BJI				LR	LR		
comp=Z,60nm,24.7s							
JNU	**Nakatsue**	**43.32**	**39**	LR	LR	18 59 19.5	
comp=Z,47nm,18.7s,MS3.4,baz=142,slow=39							
WMQ	**Urumqi**	**44.24**	**347**	*e*P	**P**	**18 39 11.0**	**+3.2**
WMQ				XP	sP	18 39 18.0	+1.5
WMQ				PP	PP	18 40 56.0	+4.9
WMQ				S	**S**	**18 45 47.0**	**+6.7**
WMQ				SS	SS	18 48 55.0	-3.9
WMQ				AMB	AMB		
comp=Z,28nm,1.0s,mb5.0							
WMQ				AMB	AMB		
comp=Z,65nm,4.0s							
WMQ				LR	LR		
comp=N,121nm,14.0s,MS4.1							
WMQ				LR	LR		
comp=E,102nm,14.0s,MS4.1							
WMQ				LR	LR		
comp=Z,124nm,14.0s,MS4.0							
KBL	**Kabul**	**44.32**	**323**	*e*P	**P**	**18 39 08.4**	**-0.2**
KBL				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.1							
KBL	**Kabul**	**44.32**	**323**	*e*P	**P**	**18 39 08.4**	**-0.2**
comp=Z,2.8nm,0.8s,mb4.0							
KSRS	**Korea Array**	**44.66**	**32**	P	**P**	**18 39 11.7**	**+0.4**
KSRS				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.2							
KSRS				MLR	MLR		
comp=Z,68nm,18.4s,MS3.6							
KSRS	**Korea Array**	**44.66**	**32**	P	**P**	**18 39 11.7**	**+0.4**
comp=Z,2.9nm,0.8s,mb4.2,baz=226,slow=8.2,SNR=7.7							
KSRS				LR	LR	18 58 56.6	
comp=Z,68nm,18.4s,MS3.6,baz=58,slow=38							
KZA	**Kyzart**	**46.76**	**335**	P	**P**	**18 39 28.6**	**+0.8**
SNR=16							
SONM	**Songino Array**	**47.20**	**6**	P	**P**	**18 39 31.3**	**+0.2**
comp=Z,10nm,0.8s,mb4.8,baz=186,slow=8.5,SNR=75							
SONM				LR	LR	19 02 28.0	
comp=Z,67nm,18.1s,MS3.6,baz=299,slow=40							
UCH	**Uchtor**	**47.20**	**334**	*e*P	**P**	**18 39 31.8**	**+0.6**
comp=Z,6.6nm,0.9s,mb4.6							
UCH	**Uchtor**	**47.20**	**334**	P	**P**	**18 39 32.1**	**+0.9**
SNR=10							
ULN	**Ulaanbaatar**	**47.30**	**6**	*e*P	**P**	**18 39 31.8**	**-0.1**
ULN				pmax	pmax		
comp=Z,11nm,1.0s,mb4.7							
ULN	**Ulaanbaatar**	**47.30**	**6**	*e*P	**P**	**18 39 31.8**	**-0.1**
comp=Z,11nm,1.0s,mb4.7							
TKM2	**Tokmak 2**	**47.31**	**336**	*e*P	**P**	**18 39 32.1**	**0.0**
TKM2				pmax	pmax		
comp=Z,21nm,1.1s,mb5.0							
TKM2	**Tokmak 2**	**47.31**	**336**	*e*P	**P**	**18 39 32.1**	**+0.1**
comp=Z,21nm,1.1s,mb5.0							
TKM2	**Tokmak 2**	**47.31**	**336**	P	**P**	**18 39 32.6**	**+0.5**
SNR=16							
KBK	**Karagaybulak**	**47.36**	**335**	P	**P**	**18 39 33.4**	**+0.9**
SNR=22							
AML	**Almayashu**	**47.49**	**333**	*e*P	**P**	**18 39 34.2**	**+0.8**
comp=Z,10nm,1.0s,mb4.7							
AML	**Almayashu**	**47.49**	**333**	P	**P**	**18 39 34.3**	**+0.9**
SNR=11							
AAK	**Ala-Archa**	**47.54**	**334**	*e*P	**P**	**18 39 33.8**	**0.0**
AAK				pmax	pmax		
comp=Z,18nm,1.4s,mb4.9							
AAK	**Ala-Archa**	**47.54**	**334**	*e*P	**P**	**18 39 33.8**	**-0.1**
comp=Z,18nm,1.4s,mb4.9							
AAK	**Ala-Archa**	**47.54**	**334**	P	**P**	**18 39 35.1**	**+1.2**
SNR=9.0							
CHMS	**Chumysh**	**47.73**	**335**	P	**P**	**18 39 35.7**	**+0.4**
SNR=9.6							
EKS2	**Erkin-Say**	**47.87**	**334**	*e*P	**P**	**18 39 37.1**	**+0.6**
comp=Z,10nm,0.8s,mb4.9							
EKS2	**Erkin-Say**	**47.87**	**334**	P	**P**	**18 39 37.4**	**+0.9**
SNR=24							
USP	**Ospenovka**	**48.05**	**335**	P	**P**	**18 39 37.9**	**+0.1**
SNR=28							
MK31	**Makanchi Array**	**48.38**	**344**	*e*P	**P**	**18 39 39.5**	**-0.7**
MKAR	**Makanchi Array**	**48.38**	**344**	P	**P**	**18 39 39.5**	**-0.7**
comp=Z,3.3nm,0.8s,mb4.4,baz=151,slow=7.3,SNR=38							
CN2	**Changchun**	**48.47**	**25**	*e*P	**P**	**18 39 42.6**	**+1.6**
ZAK	**Zakamensk**	**49.50**	**3**	*e*P	**P**	**18 39 48.7**	**-0.1**
ZAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb4.1							
MAT	**Matsushiro**	**50.15**	**40**	P	**P**	**18 39 52.2**	**-1.8**
MJAR	**Matsushiro Arr**	**50.15**	**40**	P	**P**	**18 39 53.6**	**-0.4**
comp=Z,2.4nm,0.9s,mb4.2,baz=232,slow=6.7,SNR=6.9							
STKA	**Stephens Creek**	**51.01**	**133**	P	**P**	**18 40 00.2**	**-0.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=333,slow=6.8,SNR=3.7							
KURK	**Kurchatov**	**52.96**	**343**	*e*P	**P**	**18 40 13.7**	**-1.1**
KURK				pmax	pmax		
comp=Z,12nm,1.1s,mb4.7							
KURK	**Kurchatov**	**52.96**	**343**	*e*P	**P**	**18 40 13.7**	**-1.1**
comp=Z,12nm,1.1s,mb4.7							
ZAL	**Zalesovo**	**54.45**	**349**	P	**P**	**18 40 24.9**	**-0.7**
ZAA0	**Zalesovo Array**	**54.46**	**349**	*e*P	**P**	**18 40 24.7**	**-1.0**
ZALV	**Zalesovo Beam**	**54.46**	**349**	P	**P**	**18 40 24.9**	**-0.8**
comp=Z,14nm,0.8s,mb4.9,baz=168,slow=6.0,SNR=66							
KLR	**Kul'dur**	**55.42**	**25**	*e*P	**P**	**18 40 29.3**	**-3.4**
NVS	**Novosibirsk**	**55.61**	**348**	*i* P	**P**	**

comp=Z,24nm,0.9s,mb5.2
UMR Umm Al-Rimmam 57.34 305 *e*P **P 18 40 46.9 0.0**
UMR AMb AMB 18 40 48.0
comp=Z,21nm,0.9s,mb5.2
ASAJ Asahikawa 57.35 35 LR LR 19 05 31.0
comp=Z,32nm,19.6s,MS3.4,baz=56,slow=36
NAY Al-Naaiem 57.63 305 *e*P **P 18 40 48.6 -0.3**
NAY AMb AMB 18 40 49.8
comp=Z,13nm,0.9s,mb5.0
BRVK Borovoye 57.66 339 *e*P **P 18 40 47.7 -0.9**
BRVK pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
BRVK Borovoye 57.66 339 *e*P **P 18 40 47.6 -1.0**
comp=Z,6.6nm,1.0s,mb4.6
MIB Mutribah 57.74 305 *e*P **P 18 40 49.7 0.0**
MIB AMb AMB 18 40 51.3
comp=Z,39nm,0.8s,mb5.5
BOD Bodaibo 57.95 9 *e*P **P 18 40 50.8 +0.2**
BOD pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
GNI Garni 63.55 315⇑ *e*P **P 18 41 31.5 +2.4**
GNI pmax pmax
comp=Z,18nm,1.3s
SVE Sverdlovsk 64.14 337 *e*P **P 18 41 32.3 -0.3**
ARU Arti 64.68 336 *c i*P **P 18 41 35.1 -1.1**
ARU *e*S **S 18 50 05.6 -10**
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
KIV Kislovodsk 66.47 318 *i*P **P 18 41 48.1 +0.1**
KIV pmax pmax
comp=Z,16nm,1.6s,mb4.8
MALT Malatya 67.50 312 *e*P **P 18 41 55.2 +0.6**
MALT pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
MALT Malatya 67.50 312 *e*P **P 18 41 55.2 +0.5**
comp=Z,5.8nm,1.0s,mb4.6
EIL Elat 68.05 302 P **P 18 41 59.1 +0.7**
comp=Z,8.0nm,1.0s,mb4.7,baz=326,slow=2.9,SNR=6.3
SOC Sochi 68.32 317 *e*P **P 18 41 58.7 -1.0**
VRHR Novokhopersk 70.06 325 *e*P **P 18 42 08.8 -1.5**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,1.1s
VRHR pmax pmax
comp=E,9.0nm,0.5s
VRSR Storozhevoye 71.51 325 *e*P **P 18 42 17.5 -1.7**
VRSR pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VRSR pmax pmax
comp=E,1.0nm,1.1s
SIM Simferopol' 72.57 317 *e*P **P 18 42 24.3 -1.4**
SIM pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
TIXI Tiksi 73.13 9⇓ *e*P **P 18 42 31.0 +2.5**
TIXI pmax pmax
comp=Z,7.0nm,2.2s,mb4.2
OBN Obninsk 74.46 328⇑ *e*P **P 18 42 36.6 +0.1**
OBN *e* 18 45 18.7
OBN pmax pmax
comp=Z,48nm,2.2s,mb5.0
AKASG Malin Array Be 77.31 322 P **P 18 42 51.6 -1.3**
comp=Z,3.1nm,0.9s,mb4.2,baz=86,slow=4.7,SNR=13
MLR Muntele Rosu 78.30 316 P **P 18 42 58.2 -0.4**
comp=Z,5.3nm,0.7s,mb4.6,baz=104,slow=3.8,SNR=5.0
FINES FINESS Array B 81.67 332 P **P 18 43 16.0 -0.5**
comp=Z,2.7nm,0.8s,mb4.3,baz=104,slow=7.5,SNR=7.5
ARCES ARCESS Array B 83.88 340 P **P 18 43 27.4 -0.3**
comp=Z,6.6nm,0.9s,mb4.8,baz=97,slow=5.4,SNR=11
GERES GERESS Array B 86.98 319 P **P 18 43 44.2 +0.5**
comp=Z,0.9nm,0.6s,mb4.2,baz=95,slow=2.8,SNR=8.4
KHC Kasperske Hory 87.07 319 *i*P **P 18 43 47.0 +2.9**
NB2 NORSAR Subarra 88.73 331 P **P 18 43 51.7 -0.1**
comp=Z,2.3nm,0.9s,mb4.5,baz=92,slow=5.3
NOA NORSAR Array B 88.73 331 P **P 18 43 51.8 0.0**
comp=Z,1.5nm,0.8s,mb4.3,baz=92,slow=4.7,SNR=4.5
NOA PP PP 18 47 15.2 -5.4
comp=Z,1.1nm,0.8s,baz=90,slow=9.6,SNR=3.4
LPG La Plagne 91.73 315 *e*P **P 18 44 06.8 +0.6**
comp=Z,9.3nm,0.9s,mb4.8
LPG La Plagne 91.73 315 *e*P **P 18 44 06.8 +0.6**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.8
LPG La Plagne 91.73 315 *e*P **P 18 44 06.8 +0.6**
comp=Z,4.7nm,0.9s,mb4.8
LPL La Plagne 91.75 315 *e*P **P 18 44 06.8 +0.6**
comp=Z,13nm,1.0s,mb4.9
LPL La Plagne 91.75 315 *e*P **P 18 44 06.8 +0.6**
LPL pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
LPL La Plagne 91.75 315 *e*P **P 18 44 06.8 +0.6**
comp=Z,6.5nm,1.0s,mb4.9
BDFB Brasilia 145.16 243 PKPbc PKPbc 18 50 38.2 +1.7
comp=Z,1.1nm,0.4s,baz=154,slow=24,SNR=3.5
CPUP Villa Florida 146.51 219 PKPbc PKPbc 18 50 41.9 +1.4
comp=Z,3.1nm,0.8s,baz=161,slow=4.8,SNR=4.3

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*CSEM **09** 18:45:16.3±0.1,2670N×35.19E, h2km, mb4.6/27, Error ellipse: s-maj=2.1km s-min=1.6km az=29.0*
*IDC **09** 18:45:18.0±0.7,2666N×3493E, h0km, mb4.2/18, mb1 4.2/21, mb1mx4.2/27, mbtmp4. 1/21, ML3.7/3, MS3.5/9, Ms1 3.5/9, ms1mx3.2/34, Error ellipse: s-maj=17.5km s-min=12.4km az=108.0*
*ISCJB **09** 18:45:18.7±0.3,2681N±003×3504E±003, h10km, mb4.5/84, MS3.7/12, Error ellipse: s-maj=4.9km s-min=3.6km az=25.4*
*SGS **09** 18:45:18.5,2683N×3523E, h0km*
*MOS **09** 18:45:18.0±0.9,2663N×3490E, h11km, mb4.8/36, Error ellipse: s-maj=9.7km s-min=4.3km az=106.4*
*BJI **09** 18:45:18.7,2670N×3500E, h10km, mB4.8, mb4.8, Ms4.4, Msz4.2*
*NEIC **09** 18:45:19.8±0.4,2667N×3498E, h10km, mb4.6/38, Error ellipse: s-maj=8.0km s-min=6.5km az=186.0*
*GII **09** 18:45:22.2±3.6,2701N×3504E, h6km±560km, mb4.7/4, ML4.7/4*
ISC 09 18:45:19.3±1.3,2682N±004×3503E±003, h2km±8km, n251, σ1⅊03/257, mb4.5/84, MS3.7/12, 16C-8D, Red Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
WJHS		**1.22**	**94**	P		**Pn**	**18 45 38.5**	**-5.0**
WJHS		**1.22**	**94**	P		**Pn**	**18 45 38.5**	**-5.0**
WJHS				S		**Sn**	**18 45 53.8**	**-6.8**
JLOS		**1.95**	**12**	P		**Pn**	**18 45 50.7**	**-2.8**
HQLS		**2.47**	**1**	S		**Sn**	**18 46 28.1**	**-3.3**
HQLS		**2.47**	**1**	P		**Pn**	**18 45 58.4**	**-2.3**
GLFJ		**2.67**	**360**	*e*P		**Pn**	**18 46 02.7**	**-0.8**
	SNR=52							
EIL	**Elat**	**2.84**	**359**	Pn		**Pn**	**18 46 04.7**	**-1.0**
	7.8nm,0.3s,baz=193,slow=6.8,SNR=79							
EIL				Sn		**Sn**	**18 46 42.8**	**+2.3**
	11nm,0.3s,baz=222,slow=7.8,SNR=5.5							
EIL	**Elat**	**2.84**	**359**	Pn		**Pn**	**18 46 04.7**	**-1.0**
EIL				Sn		**Sn**	**18 46 38.6**	**-1.9**
MBH	**Mount Berech**	**2.96**	**358**	Pn		**Pn**	**18 46 06.5**	**-1.0**
HRFI	**Mount Harif**	**3.20**	**0**	Pn		**Pn**	**18 46 09.7**	**-1.1**
HRFI				Sn		**Sn**	**18 46 46.7**	**-2.8**
KRMI	**Paran Flat**	**3.29**	**355**	Pn		**Pn**	**18 46 11.7**	**-0.3**
PRNI	**Paran**	**3.52**	**360**	Pn		**Pn**	**18 46 14.8**	**-0.3**
KZIT	**Kziot**	**4.11**	**352**	Pn		**Pn**	**18 46 23.2**	**0.0**
YOBS		**4.15**	**125**	P		**Pn**	**18 46 19.7**	**-4.1**
RTMI	**Retamim**	**4.23**	**356**	Pn		**Pn**	**18 46 24.6**	**-0.3**
MZDA	**Masada**	**4.48**	**4**	Pn		**Pn**	**18 46 27.8**	**-0.5**
YTIR	**Yattir**	**4.52**	**1**	Pn		**Pn**	**18 46 29.6**	**+0.7**
DSI	**Dead Sea**	**4.74**	**4**	Pn		**Pn**	**18 46 32.0**	**+0.1**
DSI				Sn		**Sn**	**18 47 26.2**	**-1.2**
SLTI	**Sal'it**	**5.40**	**0**	Pn		**Pn**	**18 46 40.9**	**0.0**
HMDT	**Nahal Hemdat**	**5.43**	**4**	Pn		**Pn**	**18 46 41.5**	**+0.2**
ASF	**Jabal al Asfar**	**5.57**	**17**	Pn		**Pn**	**18 46 43.7**	**+0.4**
	2.1nm,0.3s,baz=67,slow=4.3,SNR=16							
ASF				Sn		**Sn**	**18 47 41.0**	**-7.0**
	0.9nm,0.3s,baz=78,slow=14,SNR=4.2							
ASF				Lg			18 48 19.2	
	3.9nm,0.3s,baz=250,slow=21,SNR=7.8							
ASF				LR		LR	18 48 48.7	
	comp=Z,111nm,20.2s,baz=76,slow=37							
MMLI	**Mount Malkishu**	**5.61**	**3**	Pn		**Pn**	**18 46 43.5**	**-0.3**
MMA0B	**Mount Meron ar**	**6.18**	**3**	Pn		**Pn**	**18 46 52.9**	**+1.3**
MMAI	**Mount Meron Ar**	**6.18**	**3**	Pn		**Pn**	**18 46 52.7**	**+1.0**
	2.2nm,0.3s,baz=170,slow=14,SNR=8.2							
MMAI				Lg			18 48 42.9	
	3.0nm,0.3s,baz=180,slow=35,SNR=3.4							
MMAI				LR		LR	18 49 22.9	
	comp=Z,333nm,19.3s,baz=190,slow=39							
KSDI	**Kefar Szold**	**6.37**	**5**	Pn		**Pn**	**18 46 55.4**	**+1.1**
CSS	**Prodhromos**	**8.24**	**350**	*e*P		**Pn**	**18 47 13.1**	**-6.9**
	11nm,0.6s							
NAY	**Al-Naaiem**	**11.06**	**75**	*e*P		**Pn**	**18 47 57.4**	**-1.2**
NAY				AML		AML	18 51 09.0	
	comp=Z,1.9nm,0.6s							
MIB	**Mutribah**	**11.24**	**72**	*e*P		**Pn**	**18 47 59.5**	**-1.6**
MIB				AML		AML	18 51 17.3	
	comp=Z,6.2nm,0.5s							
RDF	**Al-Radifah**	**11.27**	**76**	*e*P		**Pn**	**18 48 01.2**	**-0.3**
RDF				AML		AML	18 51 18.6	
	comp=Z,9.9nm,0.6s							
UMR	**Umm Al-Rimmam**	**11.52**	**73**	*e*P		**Pn**	**18 48 03.3**	**-1.6**
QRN	**Al-Qurain**	**11.57**	**78**	*e*P		**Pn**	**18 48 05.3**	**-0.4**
MSL	**Mosul**	**11.67**	**34**	*ex*		x	18 48 07.0	
MSL				*ex*		x	18 50 22.0	
MALT	**Malatya**	**11.81**	**13**	P		**Pn**	**18 48 06.2**	**-2.6**
MALT				pmax		pmax		
	comp=Z,1.0nm,0.6s							
MALT	**Malatya**	**11.81**	**13**	P		**Pn**	**18 48 06.2**	**-2.7**
	comp=Z,1.3nm,0.6s							
GNI	**Garni**	**15.55**	**29**	P		**Pn**	**18 49 04.6**	**+4.9**
GNI				pmax		pmax		
	comp=Z,28nm,1.0s							
GNI	**Garni**	**15.55**	**29**	P		**Pn**	**18 49 04.6**	**+4.9**
	comp=Z,28nm,1.0s							
SOC	**Sochi**	**17.15**	**12**	*e*P		**Pn**	**18 49 23.9**	**+3.8**
SOC				*e*			18 52 36.9	
SOC				pmax		pmax		
	comp=Z,18nm,1.3s							
SOC				MLR		MLR		
	comp=Z,221nm,15.0s							
KIV	**Kislovodsk**	**18.18**	**18⇑**	*e*P		**Pn**	**18 49 35.3**	**+2.4**
KIV				pmax		pmax		
	comp=Z,14nm,0.9s							
KIV				MLR		MLR		
	comp=Z,200nm,22.0s							
KIV	**Kislovodsk**	**18.18**	**18**	*e*P		**Pn**	**18 49 35.1**	**+2.2**
	comp=Z,18nm,1.1s							
KIV	**Kislovodsk**	**18.18**	**18**	*e*P		**Pn**	**18 49 35.2**	**+2.3**
	comp=Z,18nm,1.1s							
SKO	**Skopje**	**18.78**	**327**	*e*P		**Pn**	**18 49 41.2**	**+0.9**
SKO	**Skopje**	**18.78**	**327**	*e*P		**Pn**	**18 49 41.1**	**+0.8**
ASHO	**Ashiyiah**	**19.06**	**92**	P		**Pn**	**18 49 42.7**	**-1.1**
	SNR=11							
ASHO	**Ashiyiah**	**19.06**	**92**	P		**Pn**	**18 49 42.7**	**-1.1**
	SNR=11							
BANOM	**Banah**	**19.08**	**88**	P		**Pn**	**18 49 44.2**	**+0.2**
	SNR=6.1							
BANOM	**Banah**	**19.08**	**88**	P		**Pn**	**18 49 44.2**	**+0.2**
	SNR=6.1							
HATD	**Hatta, Dubai**	**19.10**	**91**	P		**Pn**	**18 49 43.6**	**-0.6**
	SNR=8.0							
HATD	**Hatta, Dubai**	**19.10**	**91**	P		**Pn**	**18 49 43.6**	**-0.6**
	SNR=8.0							
TIP	**Timpagrande**	**19.62**	**313**	*e*P		**Pn**	**18 49 48.3**	**-2.1**
	comp=Z,23nm,1.1s							
MLR	**Muntele Rosu**	**20.00**	**341**	P		**Pn**	**18 49 59.9**	**+5.0**
	comp=Z,3.5nm,0.8s,baz=44,slow=22,SNR=4.0							
HOQ	**Hoqain**	**20.41**	**94**	P		**P**	**18 49 59.3**	**+1.4**
	SNR=9.7							
HOQ	**Hoqain**	**20.41**	**94**	P		**P**	**18 49 59.3**	**+1.4**
	SNR=9.7							
BIDO	**Bidbid**	**21.16**	**94**	P		**P**	**18 50 05.8**	**-0.1**
	SNR=5.9							
BIDO	**Bidbid**	**21.16**	**94**	P		**P**	**18 50 05.8**	**-0.1**
	SNR=5.9							
JMDO	**Jabal Madar**	**21.43**	**97**	P		**P**	**18 50 08.1**	**-0.8**
	SNR=11							
JMDO	**Jabal Madar**	**21.43**	**97**	P		**P**	**18 50 08.1**	**-0.8**
	SNR=11							
BZS	**Buzias**	**21.60**	**334⇑**	*i*P		**P**	**18 50 11.1**	**+0.6**
BURAR	**Bucovina Array**	**22.14**	**342**	⇓P		**P**	**18 50 17.7**	**+1.4**
BURAR	**Bucovina Array**	**22.14**	**342**	⇓*i*P		**P**	**18 50 17.6**	**+1.3**
DRGR		**22.18**	**337**	⇓*i*P		**P**	**18 50 19.5**	**+2.7**
PKSM	**Moragy**	**23.32**	**330**	⇑*i*P		**P**	**18 50 26.7**	**-2.1**
AQU	**L'Aquila**	**23.51**	**317**	*e*P		**P**	**18 50 32.4**	**+1.6**
AQU				pmax		pmax		
	comp=Z,66nm,1.6s,mb4.8							
AQU	**L'Aquila**	**23.51**	**317**	*e*P		**P**	**18 50 32.4**	**+1.6**
	comp=Z,66nm,1.6s,mb4.8							
AQU	**L'Aquila**	**23.51**	**317**	⇑*i*P		**P**	**18 50 33.0**	**+2.2**
AQU	**L'Aquila**	**23.51**	**317**	*e*P		**P**	**18 50 32.4**	**+1.6**
	comp=Z,66nm,1.6s,mb4.8							
KEST	**Kesra**	**23.63**	**298**	P		**P**	**18 50 31.6**	**-0.5**
	comp=Z,5.8nm,1.1s,mb3.9,baz=32,slow=6.2,SNR=6.3							
KEST				LR		LR	19 01 04.3	
	comp=Z,84nm,19.6s,MS3.2,baz=2.4,slow=40							
PSZ	**Piszkesteto**	**24.17**	**335**	*e*P		**P**	**18 50 37.6**	**+0.7**
PSZ	**Piszkesteto**	**24.17**	**335**	*e*P		**P**	**18 50 37.6**	**+0.7**
KOLS	**Kolonicke sedl**	**24.20**	**339**	*e*P		**P**	**18 50 38.8**	**+1.7**
KIEV	**Kiev**	**24.25**	**351**	*e*P		**P**	**18 50 37.6**	**0.0**
KIEV				pmax		pmax		
	comp=Z,13nm,1.2s,mb4.2							
KIEV	**Kiev**	**24.25**	**351**	*e*P		**P**	**18 50 37.6**	**0.0**
	comp=Z,13nm,1.2s,mb4.2							
KIEV	**Kiev**	**24.25**	**351**	*e*P		**P**	**18 50 37.6**	**0.0**
	comp=Z,13nm,1.2s,mb4.2							
AKASG	**Malin Array Be**	**24.25**	**351**	*i*P		**P**	**18 50 36.5**	**-1.1**
AKASG				pmax		pmax		
	comp=Z,3.0nm,0.9s							
AKASG	**Malin Array Be**	**24.25**	**351**	P		**P**	**18 50 36.6**	**-1.0**
	comp=Z,3.1nm,0.9s,mb3.7,baz=176,slow=8.2,SNR=16							
AKASG				PcP		PcP	18 54 16.4	-1.4
	comp=Z,0.1nm,0.2s,baz=181,slow=1.6,SNR=4.2							
AKBB	**Malin Array Si**	**24.25**	**351**	*e*P		**P**	**18 50 37.6**	**0.0**
BOJS	**Bojanci**	**24.43**	**325**	*i*P		**P**	**18 50 39.9**	**+0.6**
CRVS	**Cervenica-Dubn**	**24.43**	**338**	*e*P		**P**	**18 50 39.2**	**-0.1**
CRES	**Cresnjev**	**24.55**	**326**	*e*P		**P**	**18 50 41.1**	**+0.7**
VRSR	**Storozhevoye**	**24.56**	**6**	*e*P		**P**	**18 50 40.3**	**-0.1**
VRSR				pmax		pmax		
	comp=Z,4.0nm,0.9s,mb4.0							
VRSR				pmax		pmax		
	comp=N,7.0nm,1.0s							
VRSR				pmax		pmax		
	comp=E,2.0nm,0.9s							
VRSR	**Storozhevoye**	**24.56**	**6**	*e*P		**P**	**18 50 40.3**	**-0.1**
	comp=E,7.0nm,1.0s,mb4.2							
VRHR	**Novokhopersk**	**24.75**	**10**	*e*P		**P**	**18 50 47.0**	**+4.8**
VRHR				pmax		pmax		
	comp=Z,9.0nm,0.5s,mb4.6							
VRHR				pmax		pmax		
	comp=N,40nm,1.0s							
VRHR				pmax		pmax		
	comp=E,10.0nm,0.6s							
STHS	**Stebnicka Huta**	**24.95**	**338**	*e*P		**P**	**18 50 45.0**	**+1.0**
STHS				pmax		pmax		
	comp=Z,4.0nm,0.8s,mb4.0							
STHS	**Stebnicka Huta**	**24.95**	**338**	*e*P		**P**	**18 50 45.0**	**+1.0**
	comp=Z,3.6nm,0.8s,mb4.0							
STHS				*e*			18 51 00.2	
STHS	**Stebnicka Huta**	**24.95**	**338**	*e*P		**P**	**18 50 45.0**	**+1.0**
STHS				*e*			18 51 00.1	
VYHS	**Vyhne**	**25.05**	**334**	*e*P		**P**	**18 50 45.3**	**+0.4**
VYHS				*e*			18 50 50.7	
VYHS				pmax		pmax		
	comp=Z,13nm,1.4s,mb4.3							
VYHS	**Vyhne**	**25.05**	**334**	*e*P		**P**	**18 50 45.3**	**+0.4**
	comp=Z,12nm,1.4s,mb4.2							
VYHS				*e*			18 50 50.7	
VYHS	**Vyhne**	**25.05**	**334**	*e*P		**P**	**18 50 45.2**	**+0.3**
VYHS				*ep*P			18 50 50.7	
PERS	**Pernice**	**25.28**	**327**	*e*P		**P**	**18 50 47.9**	**+0.8**
OBKA	**Obir**	**25.48**	**326**	⇑*i*		**P**	**18 50 49.8**	**+1.0**
OBKA	**Obir**	**25.48**	**326**			**P**	**18 50 49.8**	**+1.0**
ZST	**Bratislava**	**25.52**	**331**	*e*P		**P**	**18 50 50.1**	**+0.9**
ZST				pmax		pmax		
	comp=Z,9.0nm,1.0s,mb4.2							
ZST	**Bratislava**	**25.52**	**331**	*e*P		**P**	**18 50 50.1**	**+0.9**
	comp=Z,9.3nm,1.0s,mb4.3							
ARSA	**Arzberg**	**25.52**	**328⇑**	*i*P		**P**	**18 50 50.2**	**+0.9**
	comp=Z,13nm,1.0s,mb4.4							
MODS	**Modra-Piesok**	**25.58**	**332**	*e*P		**P**	**18 50 49.6**	**-0.2**
CONA	**Conrad Observa**	**25.86**	**330**	⇓*i*P		**P**	**18 50 52.8**	**+0.5**
	comp=Z,23nm,1.4s,mb4.5							
CSNA	**Conrad Observa**	**25.86**	**330**	⇓*i*P		**P**	**18 50 52.9**	**+0.5**
	comp=Z,19nm,1.3s,mb4.5							
OKC	**Ostrava-Krasne**	**26.40**	**335**	*e*P		**P**	**18 50 58.1**	**+1.0**
OKC				*ep*P			18 51 04.6	
KBA	**Koelnbreinsper**	**26.47**	**325**	⇑*i*P		**P**	**18 50 59.0**	**+1.2**
	comp=Z,28nm,1.2s,mb4.7							
KBA	**Koelnbreinsper**	**26.47**	**325**	⇑*i*P		**P**	**18 50 59.0**	**+1.2**
KBA				pmax		pmax		
	comp=Z,28nm,1.2s,mb4.7							
MORC	**Moravsky Berou**	**26.58**	**334**	*e*P		**P**	**18 50 58.6**	**-0.2**
MORC				pmax		pmax		
	comp=Z,16nm,1.4s,mb4.4							
MORC	**Moravsky Berou**	**26.58**	**334**	*e*P		**P**	**18 50 58.6**	**-0.2**
	comp=Z,16nm,1.4s,mb4.4							
MORC	**Moravsky Berou**	**26.58**	**334**	*e*P		**P**	**18 50 59.2**	**+0.4**
VRAC	**Vranov**	**26.59**	**332**	P		**P**	**18 50 59.9**	**+1.0**
	comp=Z,4.1nm,0.8s,mb4.0,baz=155,slow=8.6,SNR=6.5							
VRAC	**Vranov**	**26.59**	**332**	*e*P		**P**	**18 50 59.5**	**+0.6**
TREC	**Trest**	**27.05**	**331**	*e*P		**P**	**18 51 03.3**	**+0.3**
TREC				*ep*P			18 51 08.6	
WTTA	**Wattenberg**	**27.47**	**324⇑**	*i*P		**P**	**18 51 09.9**	**+3.0**
	comp=Z,12nm,1.1s,mb4.3							
WTTA	**Wattenberg**	**27.47**	**324⇑**	*i*pP		pP	18 51 09.9	+2.6
	comp=Z,12nm,1.1s							
WTTA	**Wattenberg**	**27.47**	**324⇑**	*i*P		**P**	**18 51 09.9**	**+3.1**
WTTA				pmax		pmax		
	comp=Z,12nm,1.1s,mb4.3							
DPC	**Dobruska-Polom**	**27.52**	**334**	*e*P		**P**	**18 51 07.6**	**+0.4**
DPC				*ep*P			18 51 15.4	
GEC2	**GERESS Array S**	**27.52**	**329**	*e*P		**P**	**18 51 07.4**	**+0.1**
GEC2				pmax		pmax		
	comp=Z,18nm,1.2s,mb4.6							
GEC2	**GERESS Array S**	**27.52**	**329**	*e*P		**P**	**18 51 07.4**	**+0.1**
	comp=Z,18nm,1.2s,mb4.6							
GERES	**GERESS Array B**	**27.52**	**329**	P		**P**	**18 51 07.9**	**+0.7**
	comp=Z,7.2nm,1.0s,mb4.2,baz=132,slow=7.9,SNR=19							
GERES				PcP		PcP	18 54 23.5	-1.9
	comp=Z,0.3nm,0.3s,baz=182,slow=4.0,SNR=4.5							
UPC	**Upice**	**27.77**	**333**	*e*P		**P**	**18 51 10.3**	**+0.9**
UPC				*ep*P			18 51 18.2	
KHC	**Kasperske Hory**	**27.78**	**329**	*e*P		**P**	**18 51 09.3**	**-0.3**
KHC				*ep*P			18 51 15.6	
FETA	**Feichten**	**27.80**	**323⇑**	*i*P		**P**	**18 51 10.7**	**+0.9**
	comp=Z,11nm,1.2s,mb4.3							
PRU	**Pruhonice**	**27.98**	**331**	*e*P		**P**	**18 51 11.0**	**-0.3**
PRU				*ep*P			18 51 14.6	
SBF	**Sospel**	**28.02**	**315**	*e*P		**P**	**18 51 11.4**	**-0.4**
WET	**Wettzell**	**28.12**	**328**	*e*P		**P**	**18 51 12.3**	**-0.3**
WET				pmax		pmax		
	comp=Z,22nm,1.7s,mb4.5							
WET	**Wettzell**	**28.12**	**328**	*e*P		**P**	**18 51 12.3**	**-0.3**
	comp=Z,22nm,1.7s,mb4.5							
DAVOX	**Davos/Dischmat**	**28.12**	**322**	P		**P**	**18 51 14.0**	**+1.3**
	comp=Z,7.1nm,0.9s,mb4.3,baz=140,slow=13,SNR=5.7							
OBN	**Obninsk**	**28.29**	**2⇓**	*e*P		**P**	**18 51 14.2**	**+0.2**
OBN				*e*S		**S**	**18 56 00.2**	**-0.7**
OBN				pmax		pmax		
	comp=Z,28nm,1.1s,mb4.8							
OBN				MLR		MLR		
	comp=Z,100nm,17.0s,MS3.5							
PVCC	**Panska Ves**	**28.37**	**332**	*e*P		**P**	**18 51 18.8**	**+4.0**
FRF	**La Foret Royal**	**28.39**	**313**	*e*P		**P**	**18 51 15.0**	**-0.1**
DAVA	**Damuels**	**28.42**	**323⇑**	*i*P		**P**	**18 51 15.4**	**0.0**
	comp=Z,12nm,1.1s,mb4.4							
MBDF	**Montbardon**	**28.85**	**316**	*e*P		**P**	**18 51 19.8**	**+0.6**
	comp=Z,12nm,0.8s,mb4.4							
MBDF	**Montbardon**	**28.85**	**316**	*e*P		**P**	**18 51 19.8**	**+0.6**
MBDF				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.4							
MBDF	**Montbardon**	**28.85**	**316**	*e*P		**P**	**18 51 19.8**	**+0.6**
	comp=Z,5.9nm,0.8s,mb4.4							
BRG	**Berggiesshubel**	**28.89**	**332**	*e*P		**P**	**18 51 19.3**	**-0.2**
BRG				pmax		pmax		
	comp=Z,8.0nm,1.2s,mb4.3							
BRG	**Berggiesshubel**	**28.89**	**332**	*e*P		**P**	**18 51 19.3**	**-0.2**
	comp=Z,14nm,1.2s,mb4.6							
MANZ	**Manzenberg**	**29.06**	**329**	*e*P		**P**	**18 51 21.0**	**0.0**
	comp=Z,11nm,1.3s,mb4.4							
NKC	**Novy Kostel**	**29.08**	**330**	*e*P		**P**	**18 51 25.7**	**+4.5**
LPL	**La Plagne**	**29.27**	**317**	*e*P		**P**	**18 51 22.8**	**0.0**
	comp=Z,10nm,0.8s,mb4.3							
LPL	**La Plagne**	**29.27**	**317**	*e*P		**P**	**18 51 22.8**	**0.0**
LPL				pmax		pmax		
	comp=Z,5.0nm,0.8s,mb4.3							
LPL	**La Plagne**	**29.27**	**317**	*e*P		**P**	**18 51 22.8**	**0.0**
	comp=Z,5.2nm,0.8s,mb4.3							
GRA1	**Grafenberg Arr**	**29.28**	**328**	*e*P		**P**	**18 51 21.8**	**-1.1**
	comp=Z,23nm,1.6s,mb4.7							
GRA1				*ep*P			18 51 27.0	
GRF	**Grafenberg Arr**	**29.28**	**328**	*e*P		**P**	**18 51 21.8**	**-1.1**
GRF				*e**PP			18 51 27.0	
GRF				pmax		pmax		
	comp=Z,23nm,1.6s,mb4.7							
GRF	**Grafenberg Arr**	**29.28**	**328**	*e*P		**P**	**18 51 21.8**	**-1.1**
	comp=Z,23nm,1.6s,mb4.7							
GRF				*ep*P			18 51 27.0	
WERD	**Werda**	**29.30**	**330**	*e*P		**P**	**18 51 23.6**	**+0.5**
	comp=Z,23nm,1.6s,mb4.7							
AKTK	**Aktyubinsk**	**29.41**	**31**	P		**P**	**18 51 27.9**	**+3.9**
AKTK				LR		LR	19 05 26.1	
AKTO	**Aktyubinsk**	**29.41**	**31**	P		**P**	**18 51 27.9**	**+3.9**
	comp=Z,1.0nm,0.8s,mb3.6,baz=242,slow=14,SNR=3.9							
AKTO				LR		LR	19 05 26.1	
	comp=Z,77nm,18.0s,MS3.4,baz=309,slow=41							
CLL	**Collm**	**29.61**	**332**	*i*P		**P**	**18 51 25.6**	**-0.3**
CLL				*i*			18 51 30.8	
CLL				pmax		pmax		
	comp=Z,16nm,1.5s,mb4.5							
CLL	**Collm**	**29.61**	**332**	*e*P		**P**	**18 51 25.7**	**-0.2**
	com

BAIF pmax pmax
comp=Z,21nm,1.4s,mb4.9
BAIF Baives 33.09 323 *eP* **P 18 51 55.6 -0.9**
comp=Z,21nm,1.4s,mb4.9
SJPF Ste Jean 33.56 308 *eP* **P 18 52 00.7 0.0**
comp=Z,30nm,1.1s,mb4.8
SJPF Ste Jean 33.56 308 *eP* **P 18 52 00.7 0.0**
SJPF pmax pmax
comp=Z,15nm,1.1s,mb4.8
SJPF Ste Jean 33.56 308 *eP* **P 18 52 00.7 0.0**
comp=Z,15nm,1.1s,mb4.8
TORD Torodi Ar. Bea 34.03 253 P **P 18 52 01.9 -3.2**
TORD PcP PcP 18 54 39.9 -3.2
TORD LR LR 19 06 28.8
TORD Torodi Ar. Bea 34.03 253 P **P 18 52 01.9 -3.2**
comp=Z,1.1nm,0.5s,mb4.0,baz=67,slow=8.1,SNR=10
TORD PcP PcP 18 54 39.9 -3.2
comp=Z,1.3nm,0.9s,baz=65,slow=3.0,SNR=4.5
TORD LR LR 19 06 28.8
comp=Z,119nm,18.3s,MS3.7,baz=55,slow=38
ARU Arti 34.07 23*d iP* **P 18 52 05.0 +0.1**
ARU *e* 18 53 17.0
ARU *e*S **S 18 57 31.1 -0.2**
ARU *e*SS SS 18 59 39.4 -19
ARU pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
ARU Arti 34.07 23 *eP* **P 18 52 05.1 +0.2**
comp=Z,10nm,1.2s,mb4.6
MDT Midelt 34.76 290 P **P 18 52 10.0 -1.3**
comp=Z,0.8nm,0.3s,mb4.1,baz=95,slow=10,SNR=5.7
ESDC Sonseca Array 34.77 302 P **P 18 52 10.3 -0.9**
comp=Z,6.4nm,1.1s,mb4.5,baz=87,slow=8.5,SNR=13
FINES FINESS Array B 35.14 353 P **P 18 52 14.0 -0.1**
comp=Z,1.3nm,0.8s,mb3.9,baz=211,slow=11,SNR=3.9
GRR Gorron 35.20 317 *eP* **P 18 52 13.5 -1.3**
comp=Z,41nm,0.9s,mb5.0
GRR Gorron 35.20 317 *eP* **P 18 52 13.5 -1.3**
GRR pmax pmax
comp=Z,20nm,0.9s,mb5.0
GRR Gorron 35.20 317 *eP* **P 18 52 13.5 -1.3**
comp=Z,20nm,0.9s,mb5.0
UCH Uchtor 35.63 54 *eP* **P 18 52 20.1 +1.5**
comp=Z,2.2nm,1.0s,mb4.0
UCH Uchtor 35.63 54 *eP* **P 18 52 20.1 +1.5**
comp=Z,2.2nm,1.0s,mb4.0
AAK Ala-Archa 35.71 53 *i P* **P 18 52 20.5 +1.2**
AAK MLR MLR
comp=Z,100nm,14.0s,MS3.7
TKM2 Tokmak 2 36.56 53 *eP* **P 18 52 27.0 +0.4**
TKM2 pmax pmax
comp=Z,13nm,1.0s,mb4.7
TKM2 Tokmak 2 36.56 53 *eP* **P 18 52 27.0 +0.4**
comp=Z,13nm,1.0s,mb4.7
TKM2 Tokmak 2 36.56 53 *eP* **P 18 52 27.0 +0.4**
comp=Z,13nm,1.0s,mb4.7
MVO Moncorvo 37.32 303 *eP* **P 18 52 32.3 -0.8**
TMCR Tamitsa 37.40 2 *eP* **P 18 52 30.6 -2.8**
PVAQ Vaqueiros 37.43 297 *eP* **P 18 52 33.1 -1.0**
comp=Z,19nm,1.2s,mb4.8
PESTR Estremoz 37.45 300 *eP* **P 18 52 33.1 -1.1**
comp=Z,19nm,1.4s,mb4.7
PCBR Castelo Branco 37.48 301 *eP* **P 18 52 33.7 -0.7**
PBDV Barranco-do-Ve 37.59 297 *eP* **P 18 52 34.8 -0.7**
comp=Z,27nm,1.4s,mb4.8
PBEJ Beja 37.60 298 *eP* **P 18 52 34.8 -0.7**
comp=Z,12nm,0.9s,mb4.6
EVO Evora 37.75 299 *eP* **P 18 52 36.3 -0.5**
comp=Z,34nm,1.1s,mb4.7
EVO Evora 37.75 299 *eP* **P 18 52 36.2 -0.6**
comp=Z,26nm,1.0s,mb4.9
NOA NORSAR Array B 37.82 341 P **P 18 52 37.4 +0.4**
comp=Z,0.3nm,0.4s,mb3.4,baz=228,slow=26,SNR=3.0
EVOP Sao Brissos 37.84 299 *eP* **P 18 52 36.3 -1.2**
comp=Z,17nm,1.1s,mb4.7
KURK Kurchatov 40.72 42 *eP* **P 18 53 02.1 +0.7**
KURK pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
KURK Kurchatov 40.72 42 *eP* **P 18 53 02.0 +0.7**
comp=Z,9.7nm,0.9s,mb4.4
KURK Kurchatov 40.72 42 *eP* **P 18 53 02.0 +0.6**
comp=Z,9.7nm,0.9s,mb4.4
APA Apatity 40.78 359 *eP* **P 18 53 01.7 +0.1**
APA pmax pmax
comp=Z,21nm,1.0s,mb4.7
MK31 Makanchi Array 42.03 49 *eP* **P 18 53 12.2 0.0**
MKAR Makanchi Array 42.03 49 P **P 18 53 12.9 +0.7**
comp=Z,6.3nm,0.8s,mb4.3,baz=255,slow=6.7,SNR=18
MKAR LR LR 19 13 26.3
comp=Z,56nm,18.9s,MS3.5,baz=34,slow=40
LSZ Lusaka 42.37 190 P **P 18 53 13.2 -2.0**
LSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
LSZ Lusaka 42.37 190 P **P 18 53 13.2 -2.0**
comp=Z,4.0nm,0.8s,mb4.1,baz=17,slow=8.5,SNR=9.0
KOLN Koldanda 42.95 77 *eP* **P 18 53 19.7 -0.3**
comp=Z,19nm,1.0s,mb4.8
DANN Dangsing 42.98 76 *eP* **P 18 53 20.8 +0.5**
comp=Z,39nm,0.8s,mb5.2
ARCES ARCESS Array B 43.10 355 P **P 18 53 20.8 +0.1**
comp=Z,4.0nm,0.9s,mb4.2,baz=159,slow=10,SNR=5.0
GKN Gorkha 43.81 77 *eP* **P 18 53 26.4 -0.5**
comp=Z,25nm,1.1s,mb4.9
DMN Daman 44.29 77 *eP* **P 18 53 30.4 -0.4**
comp=Z,21nm,1.0s,mb4.8
KKN Kakani 44.41 77 *eP* **P 18 53 31.3 -0.4**
comp=Z,21nm,1.0s,mb4.8
GUN Gumba 44.90 76 *eP* **P 18 53 35.6 -0.1**
comp=Z,15nm,0.9s,mb4.8
JIRN Jiri 45.22 77 *eP* **P 18 53 37.5 -0.7**
comp=Z,5.1nm,0.8s,mb4.4
ZAL Zalesovo 45.31 39 P **P 18 53 38.6 0.0**
ZAL 18 55 30.8
ZALV Zalesovo Beam 45.33 39 P **P 18 53 38.6 -0.1**
comp=Z,0.7nm,0.6s,mb3.7,baz=261,slow=8.8,SNR=4.1
ZALV PP PP 18 55 30.8 +6.4
comp=Z,1.7nm,0.8s,baz=270,slow=9.9,SNR=5.0
WMQ Urumqi 45.41 54 *eP* **P 18 53 42.0 +2.5**
WMQ XP sP 18 53 49.0 +8.8
WMQ PP PP 18 55 28.0 +2.4
WMQ S **S 19 00 20.0 -1.6**
WMQ SS SS 19 03 32.0 -13
WMQ AMB AMB
comp=Z,34nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,69nm,4.0s
WMQ LR LR
comp=N,75nm,15.0s,MS4.0
WMQ LR LR
comp=E,98nm,15.0s,MS4.0
WMQ LR LR
comp=Z,56nm,15.0s,MS3.6
LSA Lhasa 49.10 73 *eP* **P 18 54 12.9 +4.4**
LSA pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
LSA Lhasa 49.10 73 *eP* **P 18 54 12.9 +4.4**
comp=Z,4.2nm,1.0s,mb4.4
GTA Gaotai 54.64 59 *eP* **P 18 54 51.0 +1.3**
GTA AP 18 54 55.1
GTA XP sP 18 54 58.4 +8.0
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.4
BOSA Boshof 55.91 190 P **P 18 54 56.4 -2.4**
comp=Z,3.9nm,0.9s,mb4.4,baz=325,slow=11,SNR=3.8
ZAK Zakamensk 56.17 46 *eP* **P 18 55 01.6 +1.1**
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
LZH Lanzhou 58.34 63 *eP* **P 18 55 18.1 +1.9**
LZH AP 18 55 21.5
LZH XP sP 18 55 23.1 +6.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,66nm,5.1s
SONM Songino Array 58.40 49 P **P 18 55 17.1 +0.8**
comp=Z,3.5nm,0.9s,mb4.4,baz=276,slow=7.6,SNR=20
ULN Ulaanbaatar 58.83 48 *eP* **P 18 55 23.3 +4.0**
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
ULN Ulaanbaatar 58.83 48 *eP* **P 18 55 23.3 +4.0**
comp=Z,3.0nm,1.0s,mb4.3
ULN Ulaanbaatar 58.83 48 *eP* **P 18 55 23.3 +4.0**
comp=Z,3.0nm,1.0s,mb4.3
CD2 Chengdu 59.47 68 *eP* **P 18 55 25.0 +1.0**
CD2 XP sP 18 55 32.2 +7.5
CD2 PP PP 18 57 37.6 +2.5
CD2 S **S 19 03 30.6 -3.8**
CD2 SS SS 19 07 26.5 -2.7
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,100nm,11.8s
CD2 LR LR
comp=Z,90nm,10.2s,MS4.2
BOD Bodaibo 61.93 37 *eP* **P 18 55 39.8 -0.5**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
GYA Guiyang 63.17 72 P **P 18 55 52.4 +3.2**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
HHC Hu-ho-hao-te 63.24 56 *eP* **P 18 55 52.6 +3.2**
HHC AP 18 55 57.7
HHC XP sP 18 56 00.0 +10
HHC PCP PcP 18 56 31.2 +4.4
HHC SCP ScP 19 00 30.7 +0.4
HHC S **S 19 04 20.7 -1.4**
HHC XS sS 19 04 27.3 +4.4
HHC SCS ScS 19 05 40.9 -2.8
HHC SS SS 19 08 26.9 -1.0
HHC AMB AMB
comp=Z,31nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,160nm,6.7s
HHC LR LR
comp=N,188nm,17.9s,MS4.5
HHC LR LR
comp=E,186nm,14.5s,MS4.5
HHC LR LR
comp=Z,162nm,14.4s,MS4.3
TIXI Tiksi 66.00 20⇓ *eP* **P 18 56 06.4 -0.5**
TIXI pmax pmax
comp=Z,5.0nm,1.7s,mb4.3
BJI Beijing 66.85 56 P **P 18 56 13.3 +0.4**
YAK Yakutsk 68.80 30⇑ *eP* **P 18 56 25.8 +1.0**
KSRS Korea Array 76.36 55 LR LR 19 36 37.8
comp=Z,40nm,19.2s,MS3.7,baz=242,slow=40
BILL Bilibino 78.80 17⇑ *eP* **P 18 57 24.4 +1.1**
JNU Nakatsue 80.35 58 LR LR 19 36 11.2
comp=Z,36nm,18.5s,MS3.8,baz=242,slow=38
MJAR Matsushiro Arr 84.15 52 P **P 18 57 53.5 +1.2**
comp=Z,2.6nm,1.0s,mb4.3,baz=306,slow=4.7,SNR=4.2
IMA2 Indian Mountai 87.17 4 *eP* **P 18 58 07.1 +0.4**
IMA2 Indian Mountai 87.17 4 *eP* **P 18 58 07.1 +0.4**
YKA Yellowknife Ar 87.74 346⇑ *eP* **P 18 58 08.5 -1.0**
YKA Yellowknife Ar 87.74 346 P **P 18 58 08.0 -1.6**
YKA LR LR 19 43 15.8
YKA Yellowknife Ar 87.74 346 P **P 18 58 08.0 -1.5**
comp=Z,0.7nm,0.7s,mb4.0,baz=25,slow=5.2,SNR=8.6
YKA LR LR 19 43 15.8
comp=Z,19nm,19.4s,MS3.5,baz=345,slow=40
EGAK Eagle 88.66 358 *eP* **P 18 58 13.9 0.0**
comp=Z,9.8nm,1.2s,mb5.0
ASAR Alice Springs 107.79 108 PP PP 19 04 10.8 +0.7
comp=Z,0.3nm,1.1s,baz=310,slow=6.4,SNR=4.0

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*ISCJB **09** 18:50:11.7±3.3,220N±0.1×1432E±03, h34km±31km, mb3.6/6, Error ellipse: s-maj=48.6km s-min=19.0km az=172.1*
*IDC **09** 18:50:14.4±4.2,2196N×143.19E, h40km±38km, mb3.4/7, mb1 3.6/8, mb1mx3.5/19, mbtmp3.5/8, ML3.4/1, Error ellipse: s-maj=42.6km s-min=18.8km az=87.0*
ISC 09 18:50:14.0±2.9, 219N±01×1432E±03, h38km±27km, n8, σ0 877/9, mb3.6/6, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.23**	**350**	P	**Pn**	**18 51 29.2**	**-0.4**
	3.0nm,0.3s,baz=95,slow=22,SNR=7.8						
CBIJ				S	**Sn**	**18 52 28.8**	**+0.2**
	2.1nm,0.3s,baz=262,slow=22,SNR=2.4						
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**18 54 48.1**	**+1.0**
	1.4nm,0.7s,baz=144,slow=9.5,SNR=5.7						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**18 57 38.3**	**+0.1**
	0.4nm,0.5s,mb3.4,baz=131,slow=7.6,SNR=4.2						
WRA	**Warramunga Arr**	**42.52**	**192**	P	**P**	**18 58 07.2**	**+1.3**
	0.7nm,0.9s,mb3.4,baz=16,slow=9.2,SNR=3.2						
ASAR	**Alice Springs**	**46.23**	**192**	P	**P**	**18 58 34.4**	**-1.1**
	0.7nm,1.1s,mb3.5,baz=17,slow=9.9,SNR=4.6						
ZALV	**Zalesovo Beam**	**54.05**	**322**	P	**P**	**18 59 33.5**	**-1.1**
	0.8nm,0.6s,mb3.9,baz=96,slow=9.1,SNR=4.5						
MKAR	**Makanchi Array**	**54.57**	**313**	P	**P**	**18 59 38.2**	**-0.2**
	0.4nm,0.7s,mb3.5,baz=97,slow=8.7,SNR=3.7						
YKA	**Yellowknife Ar**	**76.22**	**28**	P	**P**	**19 01 58.5**	**+0.3**
	0.6nm,0.7s,mb3.7,baz=293,slow=5.7,SNR=8.2						

IDC 09 19:16:17.6±3.1, 1291S×16740E, h0km, mb4.0/6, mb1 4.0/6, mb1mx3.9/14, mbtmp3.9/6, Error ellipse: s-maj=100.3km s-min=32.9km az=121.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.29**	**227**	P	P	19 22 32.3	+1.7
	0.9nm,0.5s,baz=32,slow=8.9,SNR=4.7						
WRA	**Warramunga Arr**	**32.43**	**253**	P	P	19 22 49.0	-0.7
	0.2nm,0.5s,baz=85,slow=9.3,SNR=7.5						
ASAR	**Alice Springs**	**33.47**	**247**	P	P	19 22 58.4	-0.4
	0.8nm,0.7s,baz=72,slow=10.0,SNR=18						
ASAR				PcP	PcP	19 25 38.5	-1.5
	0.3nm,0.6s,baz=66,slow=2.5,SNR=6.1						
SONM	**Songino Array**	**81.12**	**323**	P	P	19 28 36.2	+1.4
	0.3nm,0.7s,baz=104,slow=3.2,SNR=4.0						
MKAR	**Makanchi Array**	**95.98**	**317**	P	P	19 29 46.9	+0.2
	0.3nm,0.3s,baz=88,slow=7.0,SNR=7.2						
ZALV	**Zalesovo Beam**	**96.01**	**324**	P	P	19 29 45.8	-0.8
	0.7nm,0.5s,baz=92,slow=3.6,SNR=3.7						

IDC 09 19:27:25.0±9.9, 327N×12658E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.4/17, mbtmp3.7/3, Error ellipse: s-maj=160.9km s-min=146.6km az=152.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.29**	**162**	P	P	19 32 43.7	-0.6
	1.8nm,0.6s,baz=342,slow=10,SNR=18						
ASAR	**Alice Springs**	**27.71**	**165**	P	P	19 33 14.8	-0.3
	0.2nm,0.4s,baz=345,slow=7.5,SNR=7.5						
STKA	**Stephens Creek**	**37.75**	**159**	P	P	19 34 44.1	+1.3
	0.8nm,0.5s,baz=333,slow=13,SNR=3.5						

IDC 09 20:04:34.8±2.3, 464S×6858E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.6/20, mbtmp3.7/5, MS3.4/5, Ms1 3.4/5, ms1mx3.2/30, Error ellipse: s-maj=85.1km s-min=28.1km az=52.0, Chagos Archipelago region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**31.21**	**77**	LR	LR	20 20 47.5	
	comp=Z,103nm,19.1s,baz=126,slow=31						
KMBO	**Kilima Mbogo**	**31.47**	**275**	LR	LR	20 21 14.0	
	comp=Z,72nm,20.2s,baz=95,slow=32						
ZALV	**Zalesovo Beam**	**59.94**	**11**	P	P	20 14 41.8	-0.8
	0.8nm,0.7s,baz=233,slow=7.2,SNR=4.2						
ZALV				LR	LR	20 38 25.1	
	comp=Z,21nm,18.5s,baz=86,slow=34						
SONM	**Songino Array**	**61.89**	**28**	P	P	20 14 56.7	+0.8
	0.6nm,0.6s,baz=211,slow=1.7,SNR=3.9						
AKASG	**Malin Array Be**	**64.65**	**334**	P	P	20 15 13.5	-0.7
	0.7nm,0.7s,baz=132,slow=6.1,SNR=4.6						
ASAR	**Alice Springs**	**65.57**	**114**	P	P	20 15 20.5	-0.4
	0.5nm,0.8s,baz=265,slow=5.8,SNR=4.2						
WRA	**Warramunga Arr**	**65.66**	**110**	P	P	20 15 21.4	-0.1
	1.4nm,0.8s,baz=284,slow=6.3,SNR=7.9						
KSRS	**Korea Array**	**69.16**	**47**	LR	LR	20 45 53.7	
	comp=Z,19nm,19.0s,baz=245,slow=36						
SNAA	**Sanae**	**79.82**	**198**	LR	LR	20 44 58.0	
	comp=Z,36nm,19.0s,baz=106,slow=30						
NVAR	**Mina Array Bea**	**145.78**	**10**	PKPbc	PKPbc	20 24 17.6	+1.3
	1.6nm,0.8s,baz=2.2,slow=2.5,SNR=7.9						

IDC 09 20:07:50.8±3.8, 1003S×12487E, h56km±43km, mb3.3/1, mb1 3.5/4, mb1mx3.2/14, mbtmp3.3/4, ML3.5/3, Error ellipse: s-maj=57.6km s-min=17.5km az=47.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.21**	**261**	P	Pn	20 08 11.0	-0.4
	57nm,0.3s,baz=64,slow=4.0,SNR=242						
FITZ	**Fitzroy Crossi**	**8.06**	**175**	P	Pn	20 09 47.1	+1.9
	0.6nm,0.3s,baz=15,slow=13,SNR=26						
FITZ				S	Sn	20 11 14.7	-0.2
	0.4nm,0.3s,baz=30,slow=18,SNR=3.7						
WRA	**Warramunga Arr**	**13.44**	**138**	P	Pn	20 10 59.8	+1.1
	0.3nm,0.3s,baz=325,slow=14,SNR=12						
WRA				S	Sn	20 13 24.8	-1.7
	0.3nm,0.3s,baz=317,slow=24,SNR=3.7						
ASAR	**Alice Springs**	**16.07**	**149**	P	Pn	20 11 33.4	+0.2
	0.1nm,0.3s,baz=323,slow=12,SNR=16						
ASAR				S	S	20 14 29.4	-12
	0.1nm,0.3s,baz=312,slow=20,SNR=4.1						
MKAR	**Makanchi Array**	**68.13**	**330**	P	P	20 18 44.9	+0.1
	0.3nm,0.6s,baz=120,slow=6.5,SNR=4.5						

IDC 09 20:12:39.0±6.7, 755S×15745E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.8/13, mbtmp4.2/4, ML4.8/1, Error ellipse: s-maj=129.5km s-min=27.0km az=15.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.10**	**127**	Pn	Pn	20 13 29.6	+0.5
	109nm,0.3s,baz=255,slow=2.9,SNR=19						
HNR				Sn	Sn	20 14 06.0	-0.9
	202nm,0.3s,baz=91,slow=21,SNR=9.6						
WB2	**Warramunga Arr**	**25.55**	**239**	*e*P	P	20 18 10.9	+1.1
WRA	**Warramunga Arr**	**25.56**	**239**	P	P	20 18 10.6	+0.8
	5.2nm,0.9s,baz=65,slow=9.2,SNR=9.1						
ASAR	**Alice Springs**	**27.70**	**232**	P	P	20 18 27.9	-1.1
	0.7nm,1.0s,baz=59,slow=9.8,SNR=4.1						
STKA	**Stephens Creek**	**28.36**	**209**	*e*P	P	20 18 35.3	+0.4
	2.6nm,0.6s						
STKA	**Stephens Creek**	**28.36**	**209**	P	P	20 18 35.3	+0.5
	3.8nm,0.7s,baz=45,slow=14,SNR=12						

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*NEIC **09** 20:14:05.8, 32.10N×115.75W, h3km, ML3.0(PAS), ML2.8(ECX), After ECX.*
ECX 09 20:14:05.8±0.9, 3210N×11577W, h3km, MD2.7, ML2.8, 6C-1D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RDX	**Rancho Dowling**	**0.23**	**222**⇑	*i*P	Pg	20 14 09.8	-0.5
RDX				*e*S	Sg	20 14 12.9	-0.3
RDX				⇓*e*		20 14 13.3	
	comp=E,2μm,0.2s						
RDX	**Rancho Dowling**	**0.23**	**222**⇑	*i*P	Pg	20 14 09.8	-0.5
RDX				*e*S	Sg	20 14 12.9	-0.3
EMX	**El Mayor**	**0.46**	**104**	*e*P	Pg	20 14 13.6	-1.0
EMX				*e*S	Sg	20 14 20.5	-0.1
RMX	**La Rumorosa**	**0.56**	**332**	*e*P	Pg	20 14 16.0	-0.6
RMX				*e*S	Sg	20 14 23.6	-0.3
CBX	**Cerro Bola**	**0.79**	**286**⇑	*e*P	Pg	20 14 20.1	-0.8
CBX				*e*S	Sg	20 14 30.8	-0.4
CBX				⇑*e*		20 14 31.4	
	comp=N,723nm,0.2s						
CBX				*e*		20 14 31.6	
	comp=E,810nm,0.2s						
ENX	**Ensenada**	**0.80**	**254**⇑	*e*P	Pg	20 14 20.4	-0.6
ENX				*e*S	Sg	20 14 31.0	-0.4
ENX				*e*		20 14 34.3	
	comp=E,234nm,0.6s						
ENX	**Ensenada**	**0.80**	**254**⇑	*e*P	Pg	20 14 20.4	-0.6
ENX				*e*S	Sg	20 14 31.0	-0.4
ECNX	**Esteban Cantu**	**0.83**	**238**	*e*P	Pg	20 14 20.9	-0.9
ECNX				*e*S	Sg	20 14 32.3	-0.3
ECBX	**El Chinero**	**0.88**	**136**	*e*P	Pg	20 14 20.9	-1.7
ECBX				*e*S	Sg	20 14 32.9	-1.0
PBX	**Punta Banda**	**0.89**	**246**	*e*P	Pg	20 14 21.9	-1.0
PBX				*e*S	Sg	20 14 33.9	-0.5
SPX	**San Pedro Mart**	**1.08**	**166**	*e*P	Pg	20 14 25.0	-1.6
SPX				*e*S	Sg	20 14 39.7	-0.9
GLA	**Glamis**	**1.23**	**40**	*e*P	Pg	20 14 26.2	-3.3
PFO	**Pinyon Flat Ob**	**1.61**	**339**	*e*P	Pn	20 14 30.1	-5.0

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*ISCJB **09** 20:25:52.6±0.6, 2133S±004×6655W±005, h215km±5km, mb4.3/25, Error ellipse: s-maj=7.9km s-min=6.2km az=171.7*
*NEIC **09** 20:25:53.7±0.6, 2131S×6660W, h221km±7km, mb4.6/15, Error ellipse: s-maj=9.7km s-min=7.1km az=71.0*
*IDC **09** 20:25:54.4±1.0, 2128S×6655W, h223km±9km, mb4.0/13, mb1 4.0/21, mb1mx4.0/26, mbtmp3.9/21, Error ellipse: s-maj=14.9km s-min=8.7km az=69.0*
*BJI **09** 20:25:55.7, 2130S×6660W, h221km, mB4.8*
ISC 09 20:25:53.7±0.5, 2132S±004×6652W±005, h210km±4km, n225, σ0 974/212, mb4.3/25, 70C-82D, Southern Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.98**	**238**⇓	*e*P	**Pn**	**20 26 57.9**	**+2.3**
CEN1				*i* S		20 27 45.0	
ANCH	**Antofagasta**	**4.30**	**236**⇑	*i*P	**Pn**	**20 27 01.2**	**+1.7**
ANCH				*i* S		20 27 49.1	
CPN1	**Cerro Paranal**	**4.87**	**227**	*e*P	**Pn**	**20 27 06.0**	**-0.6**
CPN1				*i* S		20 27 59.7	
LPAZ	**La Paz**	**5.23**	**343**	*e*P	**Pn**	**20 27 13.4**	**+2.0**
	66nm,0.6s						
LPAZ	**La Paz**	**5.23**	**343**	P	**Pn**	**20 27 13.5**	**+2.2**
	13nm,0.3s,baz=155,slow=8.5,SNR=190						
LPAZ				S		20 28 13.8	
	6.4nm,0.3s,baz=294,slow=21,SNR=14						
ARE	**Arequipa**	**6.75**	**315**⇓	*i*P	**Pn**	**20 27 28.6**	**-2.2**
ARE				*i* S		20 28 41.7	
CPCH	**Copiapo**	**6.96**	**209**	*i* S		20 28 44.9	
SIV	**San Ignacio**	**7.40**	**45**	P	**Pn**	**20 27 40.3**	**+1.1**
	17nm,0.3s,baz=235,slow=12,SNR=628						
VACH	**Vallenar**	**8.19**	**207**	*i* S		20 29 14.2	
LCO	**Las Campanas**	**8.54**	**205**	*e*P	**Pn**	**20 27 51.8**	**-2.2**
	22nm,0.3s						
CPUP	**Villa Florida**	**9.78**	**122**	*e*P	**Pn**	**20 28 10.0**	**+0.1**
	77nm,0.8s						
CPUP	**Villa Florida**	**9.78**	**122**	P	**Pn**	**20 28 11.2**	**+1.4**
	0.3nm,0.3s,baz=273,slow=11,SNR=9.0						
CFAA	**Coronel Fontan**	**10.36**	**188**	P	**Pn**	**20 28 17.0**	**-0.3**
	0.5nm,0.3s,baz=16,slow=13,SNR=16						
CFAA				S		20 30 03.4	
	0.9nm,0.3s,baz=136,slow=21,SNR=13						
NNA	**Nana**	**13.56**	**312**	P	**Pn**	**20 28 56.7**	**-1.1**
	3.0nm,0.3s,baz=168,slow=14,SNR=4.9						
NNA				S	**S**	**20 31 19.6**	**-9.3**
	2.3nm,0.3s,baz=212,slow=20,SNR=3.5						
ATAH	**Atahualpa**	**18.29**	**319**	P	**P**	**20 29 52.6**	**+0.5**
	0.8nm,0.3s,baz=95,slow=6.1,SNR=6.5						
BDFB	**Brasilia**	**18.43**	**75**	P	**P**	**20 29 55.6**	**+2.0**
	0.6nm,0.3s,baz=239,slow=14,SNR=7.9						
PLCA	**Paso Flores**	**19.65**	**189**	*e*P	**P**	**20 30 06.0**	**-0.5**
PLCA	**Paso Flores**	**19.65**	**189**	P	**P**	**20 30 06.7**	**+0.2**
	0.8nm,0.3s,baz=9.7,slow=9.7,SNR=12						
SDV	**Santo Domingo**	**30.29**	**352**	*e*P	**P**	**20 31 43.1**	**-2.3**
	7.9nm,0.6s,mb4.5						
PCRV	**Puerto La Cruz**	**31.35**	**4**	P	**P**	**20 31 54.1**	**-0.6**
	18nm,0.6s,mb4.9,baz=207,slow=4.5,SNR=9.6						
BIM	**Bigot**	**36.01**	**9**	*e*P	**P**	**20 32 33.5**	**-1.4**
MVM	**Montagne Vaucl**	**36.07**	**9**	*e*P	**P**	**20 32 32.8**	**-2.7**
FDF	**Fort de France**	**36.21**	**9**	*i*P	**P**	**20 32 35.0**	**-1.6**
JTS	**JuntasAbangare**	**36.26**	**328**	P	**P**	**20 32 37.0**	**0.0**
	6.7nm,0.8s,mb4.2,baz=325,slow=20,SNR=3.9						
SJG	**San Juan**	**39.19**	**1**	*e*P	**P**	**20 32 58.1**	**-3.3**
	28nm,0.8s,mb4.8						
SDDR	**Presa de Saban**	**40.32**	**353**	*e*P	**P**	**20 33 10.3**	**-0.5**
	11nm,0.8s,mb4.3						
TEIG	**Tepich**	**46.45**	**331**	*e*P	**P**	**20 33 57.9**	**-1.8**
	12nm,0.6s,mb4.4						
PLAL	**Pickwick Lake**	**59.62**	**340**	*e*P	**P**	**20 35 32.9**	**-2.6**
	5.8nm,0.8s,mb4.3						
VNA1	**Neumayer--Stat**	**59.72**	**161**	*e*P	**P**	**20 35 37.3**	**+1.6**
VNA1				*e*		20 35 43.3	
VNA1				*e*		20 35 47.1	
VNA2	**Neumayer--Watz**	**60.09**	**161**	*e*P	**P**	**20 35 39.4**	**+1.1**
	baz=292,slow=6.1						
VNA2				*e*		20 35 45.6	
VNA2				*e*		20 35 48.5	
WVT	**Waverly**	**60.59**	**340**	*e*P	**P**	**20 35 39.6**	**-2.5**
	29nm,0.8s,mb5.0						
JCT	**Junction City**	**60.63**	**327**	*e*P	**P**	**20 35 41.3**	**-1.2**
	9.8nm,0.7s,mb4.5						

MIAR	Mount Ida	61.22 335	*e*P	P	20 35 44.7	-1.7
	24nm,1.1s,mb4.7					
SNAA	Sanae	61.73 161	*e*P	P	20 35 50.1	+0.8
SNAA			*e*		20 35 56.4	
SNAA			*e*		20 36 00.3	
SNAA	Sanae	61.73 161	P	P	20 35 49.8	+0.5
	1.7nm,0.7s,mb3.8,baz=289,slow=4.7,SNR=17					
TXAR	Lajitas Array	61.79 323	P	P	20 35 49.2	-1.0
	1.6nm,0.6s,mb3.8,baz=148,slow=7.9,SNR=16					
CCM	Cathedral Cave	63.47 338	*e*P	P	20 35 58.9	-2.3
	20nm,0.6s,mb4.9					
MNTX	Cornudas Mount	64.54 324	*e*P	P	20 36 06.3	-2.1
	3.9nm,0.9s,mb4.0					
319A	Douglas	66.53 321	⇓P	P	20 36 20.6	-0.5
	baz=67,SNR=5.2					
219A	White Tail Can	66.97 321	⇓P	P	20 36 23.7	-0.1
	baz=67,SNR=5.6					
318A	Bisbee	67.00 320	⇓P	P	20 36 23.9	-0.1
	baz=67,SNR=7.0					
218A	Dragoon	67.42 321	⇑P	P	20 36 26.8	+0.2
	baz=68					
119A	Ashpeak Ranch,	67.55 322	⇓P	P	20 36 27.4	-0.1
	baz=68					
217A	Green Valley	67.73 320	⇓P	P	20 36 28.6	0.0
	baz=68,SNR=6.5					
118A	Homack Ranch,	67.85 321	P	P	20 36 29.4	+0.1
	baz=68,SNR=5.7					
Z19A	T-Link Ranch,	67.91 322	⇓P	P	20 36 30.0	+0.2
	baz=68					
117A	Oracle	68.25 321	P	P	20 36 31.9	0.0
	baz=68,SNR=9.7					
216A	Three Points,	68.28 320	⇓P	P	20 36 32.2	+0.2
	baz=68,SNR=5.2					
Y19A	Nutrioso	68.39 323	⇑P	P	20 36 33.2	+0.5
	baz=69					
Y18A	Canyon Day Jun	68.71 322	⇑P	P	20 36 34.9	+0.3
	baz=69					
X19A	St. Johns	68.76 323	⇓P	P	20 36 34.9	0.0
	baz=69					
Y17A	Roosevelt	69.11 321	⇑P	P	20 36 37.4	+0.3
	baz=69					
X18A	Snowflake	69.20 323	⇓P	P	20 36 38.0	+0.4
	baz=69					
X16A	Lo Mia Camp, P	69.98 322	⇑P	P	20 36 42.8	+0.4
	baz=70					
Y15A	Casa Rosa Ranc	70.17 321	⇑P	P	20 36 43.8	+0.2
	baz=70					
MVCO	Mesa Verde	70.39 325	⇑P	P	20 36 44.6	-0.2
	baz=71					
X15A	Humboldt	70.49 321	⇑P	P	20 36 45.7	+0.2
	baz=71					
Y14A	Wickenburg	70.56 320	⇓P	P	20 36 45.9	-0.1
	baz=71					
X14A	Yava	70.86 321	⇓P	P	20 36 48.1	+0.4
	baz=71,SNR=5.2					
Y13A	Salome	70.97 320	⇑P	P	20 36 48.5	+0.1
	baz=71					
W15A	Williams	70.99 322	⇓P	P	20 36 49.0	+0.5
	baz=71					
GLA	Glamis	71.06 318	⇑P	P	20 36 49.6	+0.6
	baz=71					
Y12C	Blythe	71.34 319	⇓P	P	20 36 51.1	+0.4
	baz=72					
V15A	Kaibab Nationa	71.39 322	⇑P	P	20 36 51.7	+0.8
	baz=72					
W14A	Seligman	71.49 321	⇓P	P	20 36 52.0	+0.5
	baz=72					
X13A	Yucca	71.50 320	⇓P	P	20 36 51.8	+0.2
	baz=72,SNR=5.7					
V14A	Boquillas Ranc	71.80 321	⇑P	P	20 36 54.1	+0.7
	baz=72					
T16A	Glen Canyon Da	71.85 323	⇓P	P	20 36 53.4	-0.2
	baz=72					
BC3	Big Chuckw Mtn	71.85 319	⇓P	P	20 36 54.0	+0.3
	baz=72					
W13A	Hualapai Mount	71.89 321	⇓P	P	20 36 54.2	+0.4
	baz=72					
MONP	Monument Peak	71.94 317	⇑P	P	20 36 54.7	+0.5
	baz=72					
IRM	Iron Mountain	72.00 319	⇑P	P	20 36 54.9	+0.3
	baz=72					
T15A	Red Dirt Ranch	72.36 323	⇓P	P	20 36 57.4	+0.7
	baz=72					
U14A	Mt Trumbull	72.39 322	⇑P	P	20 36 57.1	+0.3
	baz=73,SNR=6.2					
V13A	Grand Canyon W	72.47 321	P	P	20 36 57.8	+0.5
	baz=73,SNR=5.8					
GMRC	Granite Mounta	72.73 319	P	P	20 36 59.4	+0.5
	baz=73,SNR=6.4					
T14A	Hurricane	72.79 323	⇑P	P	20 36 59.7	+0.5
	baz=73					
U13A	Pakoon Wash	72.84 322	⇓P	P	20 36 59.9	+0.5
	baz=73					
V12A	Nelson	72.89 321	⇑P	P	20 37 00.2	+0.4
	baz=73					
HEC	Hector,Ludlow	73.17 319	⇑P	P	20 37 01.9	+0.5
	baz=73					
CCUT	Cedar City	73.29 323	*e*P	P	20 37 01.9	-0.2
MSU	Marysvale	73.32 324	*e*P	P	20 37 02.5	+0.3
S13A	Holt Ranch, En	73.59 322	⇑P	P	20 37 04.4	+0.5
	baz=74					
GSC	Goldstone	73.78 319	⇓P	P	20 37 05.4	+0.4
	baz=74					
T11A	Corn Creek, Al	74.14 321	⇓P	P	20 37 07.6	+0.6
	baz=74,SNR=6.0					
EDW2	Edwards Air Fo	74.23 318	⇑P	P	20 37 07.5	-0.1
	baz=74					
JLU	Jordanelle	74.44 326	*e*P	P	20 37 08.8	+0.1
R12A	Pony Springs,	74.54 323	⇓P	P	20 37 10.0	+0.7
	baz=75,SNR=7.1					
TPNV	Topopah Spring	74.55 321	⇓P	P	20 37 10.0	+0.7
	baz=75					
FURC	Furnace Creek,	74.59 320	⇓P	P	20 37 09.9	+0.3
	baz=75					
MPMC	Manual Prospec	74.70 319	P	P	20 37 10.2	0.0
	baz=75,SNR=5.2					
DUG	Dugway	74.86 325	⇓P	P	20 37 11.5	+0.4
	baz=75					
P13A	Bates Ranch, G	74.99 324	⇓P	P	20 37 12.3	+0.5
	baz=75					
R11A	Troy Canyon, C	75.11 322	⇓P	P	20 37 13.0	+0.5
	baz=75,SNR=6.6					
Q12A	Willow Creek R	75.16 323	⇓P	P	20 37 13.1	+0.3
	baz=75					
TOA0	Torodi Ar. Sit	75.20 69	*e*P	P	20 37 12.3	-1.3
TORD	Torodi Ar. Bea	75.20 69	P	P	20 37 12.4	-1.2
	2.4nm,0.3s,mb4.3,baz=257,slow=5.7,SNR=87					
HWUT	Hardware Ranch	75.23 327	*e*P	P	20 37 12.6	-0.6
	4.5nm,0.9s,mb4.1					
PKM	Peak Mountain	75.39 317	⇓P	P	20 37 14.5	+0.3
	baz=76					
S10A	Tonopah Range,	75.41 321	⇑P	P	20 37 14.6	+0.3
	baz=76					
R10A	Warm Springs	75.48 322	⇓P	P	20 37 15.6	+0.9
	baz=76,SNR=5.9					
Q11A	Duckwater	75.49 322	P	P	20 37 15.2	+0.5
	baz=76,SNR=5.5					
P12A	McGill	75.50 323	⇓P	P	20 37 15.2	+0.4
	baz=76					
M15A	Larsen Ranch,	75.58 326	⇑P	P	20 37 14.9	-0.3
	baz=76					
SMMC	Simmler	75.77 317	⇑P	P	20 37 16.6	+0.2
	baz=76					
SCHQ	Schefferville	75.84 360	P	P	20 37 15.0	-1.3
	6.9nm,0.7s,mb4.4,baz=194,slow=5.0,SNR=14					
ULM	Lac du Bonnet	75.84 341	P	P	20 37 14.9	-1.5
	9.4nm,0.7s,mb4.5,baz=141,slow=6.3,SNR=14					
SYO	Syowa Base	75.88 159	⇑*e*P	P	20 37 15.2	-1.3
SYO	Syowa Base	75.88 159	⇓*e*X		20 37 21.0	
R09A	Tonopah	75.90 321	⇓P	P	20 37 17.1	+0.1
	baz=76					
Q10A	Clear Creek Ra	75.90 322	⇑P	P	20 37 17.8	+0.7
	baz=76					
O12A	Currie	75.96 324	⇓P	P	20 37 17.3	-0.1
	baz=76					
HELL	Mitchell Peak	76.04 319	⇓P	P	20 37 17.7	-0.2
	baz=76,SNR=6.1					
S08C	White Mtn Res	76.06 320	⇑P	P	20 37 18.4	+0.4
	baz=76					
M14A	Sheep Mountain	76.08 326	⇑P	P	20 37 18.0	0.0
	baz=76					
O11A	Cowboy Ranch,	76.37 323	⇑P	P	20 37 19.6	0.0
	baz=77					
M13A	Montello	76.41 325	⇓P	P	20 37 19.9	0.0
	baz=77					
P10A	Eureka	76.48 323	⇓P	P	20 37 20.5	+0.3
	baz=77					
K14A	Jones Ranch, D	76.74 326	⇓P	P	20 37 21.3	-0.4
	baz=77					
NVAR	Mina Array Bea	76.75 321	P	P	20 37 22.2	+0.4
	2.2nm,0.8s,mb3.8,baz=153,slow=5.8,SNR=11					
L13A	Double Diamond	76.81 326	⇑P	P	20 37 22.2	+0.2
	baz=77,SNR=7.1					
M12A	Wells	76.86 325	⇑P	P	20 37 22.4	+0.1
	baz=77					
U04C	Hernandez Rese	76.93 318	⇑P	P	20 37 23.6	+0.7
	baz=77					
R07C	Lee Vining	76.97 320	⇓P	P	20 37 23.6	+0.6
	baz=77					
V03C	Hunter Liggett	77.00 317	⇑P	P	20 37 22.8	-0.4
	baz=77					
L12A	House Creek Ra	77.42 325	⇑P	P	20 37 25.6	+0.2
	baz=78,SNR=6.0					
P08A	Dixie Valley	77.45 322	⇑P	P	20 37 26.2	+0.5
	baz=78					
K12A	Draper Farm, C	77.70 326	⇓P	P	20 37 27.5	+0.5
	baz=78					
M10A	I.L. Ranch, Tu	77.81 324	⇑P	P	20 37 27.9	+0.3
	baz=78					
L11A	Cat Creek Ranc	77.83 325	⇑P	P	20 37 28.0	+0.3
	baz=78					
J13A	Cove Ranch, Pi	77.86 327	⇑P	P	20 37 27.9	0.0
	baz=78					
R05C	Kirkwood Meado	77.98 320	⇓P	P	20 37 29.4	+0.7
	baz=78					
HLID	Hailey	78.10 327	P	P	20 37 29.9	+0.7
	baz=78,SNR=11					
L10A	Juniper Basin	78.15 324	P	P	20 37 29.9	+0.4
	baz=78,SNR=11					
I13A	Wildhorse Cree	78.20 327	⇓P	P	20 37 30.3	+0.6
	baz=78,SNR=5.8					
J12A	Stokes Ranch,	78.23 326	⇓P	P	20 37 30.2	+0.3
	baz=78					
M09A	Marrel Ranch,	78.25 323	⇓P	P	20 37 30.8	+0.7
	baz=78					
G15A	Dillon	78.29 329	⇑P	P	20 37 30.1	-0.1
	baz=78					
K11A	Parker Ranch,	78.39 325	⇓P	P	20 37 31.0	+0.2
	baz=79,SNR=5.3					
N07B	Gerlach	78.68 322	⇑P	P	20 37 32.5	+0.1
	baz=79					
H13A	Challis	78.73 327	⇓P	P	20 37 32.9	+0.3
	baz=79,SNR=6.1					
MFID	Camas Ranch	78.73 326	⇓P	P	20 37 32.9	+0.2
	baz=79					
F15A	Butte	78.78 329	⇑P	P	20 37 32.9	0.0
	baz=79					
K10A	MacKenzie Ranc	78.85 325	⇓P	P	20 37 33.6	+0.3
	baz=79					
H12A	Diamond D Ranc	79.02 327	⇑P	P	20 37 34.5	+0.3
	baz=79					
G13A	Cobalt	79.09 328	⇑P	P	20 37 34.9	+0.4
	baz=79,SNR=15					
N06A	Buffalo Meadow	79.16 322	⇓P	P	20 37 35.1	+0.1
	baz=79					
L08A	Fields	79.26 324	⇑P	P	20 37 35.6	+0.1
	baz=79					
K09A	Rome	79.26 324	⇑P	P	20 37 35.5	0.0
	baz=79					
E15A	Deer Lodge	79.28 330	⇓P	P	20 37 35.4	-0.2
	baz=80					
ORV	Oroville	79.38 320	⇑P	P	20 37 36.5	+0.3
	baz=80					
F13A	Darby	79.64 328	⇑P	P	20 37 37.5	0.0
	baz=80					
D15A	Lincoln	79.67 330	⇑P	P	20 37 37.6	0.0
	baz=80					
L07A	Adell	79.70 323	⇑P	P	20 37 38.3	+0.3
	baz=80					
J09A	Fry Pan Ranch,	79.71 325	⇓P	P	20 37 38.8	+0.9
	baz=80					
M06C	Likely Place G	79.82 322	⇓P	P	20 37 39.3	+0.7
	baz=80					
H10A	Noah's Angus R	80.02 326	⇓P	P	20 37 40.1	+0.5
	baz=80,SNR=5.3					
E13A	Victor	80.03 329	⇓P	P	20 37 39.6	0.0
	baz=80					
F12A	Elk City	80.07 328	⇑P	P	20 37 40.1	+0.3
	baz=80					
K07A	Rock Creek Ran	80.09 323	⇑P	P	20 37 41.0	+1.0
	baz=80					
J08A	Circle Bar Ran	80.11 324	⇑P	P	20 37 40.5	+0.5
	baz=80					
I09A	Lost Marbles R	80.12 325	P	P	20 37 40.3	+0.2
	baz=80,SNR=5.1					
HATC	Hat Creek Radi	80.15 321	⇑P	P	20 37 40.4	0.0
	baz=80					
GASB	Alder Springs	80.17 319	⇓P	P	20 37 40.5	0.0
	baz=80					
M05C	Lookout	80.31 321	⇑P	P	20 37 41.2	+0.1
	baz=80					
G11A	Walters Elk Ra	80.33 327	⇓P	P	20 37 41.2	-0.1
	baz=80					
BMO	Blue Mountains	80.49 326	*e*P	P	20 37 42.0	-0.1
	4.3nm,1.0s,mb4.0					
I08A	Drewsey	80.53 325	⇑P	P	20 37 42.4	+0.1
	baz=81					
F11A	Grangeville	80.61 327	⇑P	P	20 37 42.1	-0.7
	baz=81					
D13A	Huson	80.63 329	⇓P	P	20 37 42.5	-0.3
	baz=81,SNR=5.5					
G10A	Bishop Farm, J	80.69 326	⇓P	P	20 37 43.3	+0.1
	baz=81,SNR=7.8					
K06A	Valley Falls	80.72 323	⇑P	P	20 37 43.7	+0.3
	baz=81					
C14A	Swan Lake	80.78 330	⇓P	P	20 37 43.3	-0.2
	baz=81,SNR=5.8					
J06A	Christmas Vall	80.96 323	⇑P	P	20 37 44.4	-0.2
	baz=81,SNR=5.0					
E11A	Bogner Ranch,	80.97 328	⇓P	P	20 37 43.8	-0.7
	baz=81					
M04C	Macdoel	80.98 321	⇓P	P	20 37 44.5	-0.2
	baz=81					
H08A	Prairie City	80.99 325	⇑P	P	20 37 44.8	+0.1
	baz=81					
G09A	Cove	81.03 326	P	P	20 37 45.0	+0.1
	baz=81,SNR=10					
D12A	Red Ives Fores	81.03 329	⇓P	P	20 37 44.4	-0.5
	baz=81					
K05A	Summer Lake	81.03 323	⇑P	P	20 37 45.5	+0.5
	baz=81					
C13A	Hot Springs	81.10 329	⇓P	P	20 37 44.9	-0.4
	baz=81					
I07A	Izee	81.14 324	⇑P	P	20 37 46.0	+0.4
	baz=81					
F10A	Beach Ranch, E	81.22 327	⇑P	P	20 37 46.2	+0.3
	baz=81					
N02C	Big Bar	81.25 320	⇓P	P	20 37 46.4	+0.3
	baz=81					
YBH	Yreka Blue Hor	81.45 321	P	P	20 37 45.4	-1.8
	2.1nm,0.6s,mb3.9,baz=209,slow=6.0,SNR=3.6					
E10A	Myers Farm, Un	81.51 327	⇑P	P	20 37 47.3	-0.1
	baz=82					
H07A	Lands Inn, Kim	81.51 325	⇓P	P	20 37 47.3	-0.2
	baz=82					
B13A	Whitefish	81.55 330	⇑P	P	20 37 47.5	-0.1
	baz=82					
BOSA	Boshof	81.56 117	P	P	20 37 46.7	-1.5
BOSA	Boshof	81.56 117	P	P	20 37 46.7	-1.5
	3.7nm,0.7s,mb4.1,baz=285,slow=3.6,SNR=9.2					
J05A	Fort Rock	81.58 323	⇓P	P	20 37 47.9	0.0
	baz=82					
G08A	Pilot Rock	81.65 326	⇑P	P	20 37 47.9	-0.3
	baz=82					
A13A	Flathead Natio	81.92 330	⇓P	P	20 37 49.3	-0.2
	baz=82					
D10A	Wagner Farm, O	81.98 328	⇓P	P	20 37 49.3	-0.5
	baz=82					
G07A	Ruggs Ranch, H	82.01 325	⇓P	P	20 37 50.2	+0.2
	baz=82					
H06A	Lindquist Farm	82.02 324	⇓P	P	20 37 50.4	+0.2
	baz=82					
D09A	Jones Farm, Ri	82.50 327	⇓P	P	20 37 52.6	0.0
	baz=83					
D08A	Wollman Farm,	82.81 327	⇓P	P	20 37 54.1	-0.1
	baz=83					
A11A	Hall Mountain,	82.85 329	⇓P	P	20 37 54.0	-0.3
	baz=83					
FCC	Fort Churchill	82.98 346	*e*P	P	20 37 53.4	-1.3
C09A	Chrisman Ranch	82.98 328	⇓P	P	20 37 54.7	-0.3
	baz=83					
C08A	Higginbotham F	83.36 327	⇓P	P	20 37 56.9	0.0
	baz=84					
A10A	Northport	83.44 329	⇑P	P	20 37 57.0	-0.3
	baz=84					
D07A	Quincy	83.44 327	⇓P	P	20 37 57.7	+0.3
	baz=84					
E06A	Yakima	83.54 326	⇑P	P	20 37 58.0	+0.1
	baz=84					
C07A	Waterville	83.81 327	⇑P	P	20 37 58.7	-0.5
	baz=84					
MAW	Mawson	83.85 163	P	P	20 37 59.4	+0.2
	3.9nm,0.7s,mb4.2,baz=233,slow=3.9,SNR=8.6					
ESDC	Sonseca Array	84.15 44	P	P	20 38 01.3	+0.1
	2.5nm,1.0s,mb3.9,baz=247,slow=4.7,SNR=8.3					
A08A	Turner Farm, O	84.25 328	⇓P	P	20 38 00.8	-0.6
	baz=84					
B07A	Winthrop	84.35 327	⇑P	P	20 38 01.5	-0.4
	baz=84					
A07A	Ashnola River,	84.86 328	⇑P	P	20 38 04.2	-0.3
	baz=85					
A05A	Maple Falls	85.69 327	⇓P	P	20 38 07.7	-0.9
	baz=86					
YKA	Yellowknife Ar	91.77 340	P	P	20 38 35.9	-1.0
YKA	Yellowknife Ar	91.77 340	P	P	20 38 35.9	-1.0
	5.3nm,0.7s,mb4.6,baz=127,slow=4.5,SNR=122					
ASAR	Alice Springs	131.06 205	SKPbc	SKPbc	20 47 42.1	-3.7
	2.0nm,0.6s,baz=148,slow=3.4,SNR=21					
WRA	Warramunga Arr	134.20 208	SKPbc	SKPbc	20 47 51.7	-5.0
	1.7nm,0.7s,baz=157,slow=2.8,SNR=9.0					
ZALV	Zalesovo Beam	140.82 27	PKP	PKPdf	20 44 56.9	-1.2
	1.4nm,0.6s,baz=298,slow=3.2,SNR=6.4					
ZALV			SKPbc	SKPbc	20 48 12.1	-2.6
	0.9nm,0.5s,baz=321,slow=1.9,SNR=5.9					
MK31	Makanchi Array	144.16 37	*e*PKPdf	PKPdf	20 45 02.6	-1.6
MKAR	Makanchi Array	144.16 37	PKP	PKPdf	20 45 02.8	-1.5
	5.7nm,0.7s,baz=313,slow=3.9,SNR=31					
MKAR			SKPbc	SKPbc	20 48 21.6	-1.6
	0.5nm,0.5s,baz=322,slow=1.9,SNR=5.6					
WMQ	Urumqi	148.99 38	*e*PKP	PKPdf	20 45 10.0	-2.5
SONM	Songino Array	152.94 11	PKPbc	PKPbc	20 45 24.4	-1.4
	1.3nm,0.5s,baz=334,slow=2.0,SNR=5.0					
HHC	Hu-ho-hao-te	160.46 4	*e*PKP	PKPdf	20 45 25.3	-2.9
HHC			APKP		20 46 23.3	
HHC			XPKP		20 46 47.2	
HHC			PKS		20 48 58.4	
HHC			PP	PP	20 49 53.9	+1.5
HHC			SKS	SKSdf	20 52 07.0	-6.4
HHC			SKKS	SKKSac	20 56 18.1	-2.9
HHC			SS	SS	21 09 44.0	-1.3
HHC			PP	PP		
	comp=Z,105nm,5.7s					
HHC			LR	LR		
	comp=N,159nm,21.9s					
HHC			LR	LR		
	comp=E,143nm,22.3s					
HHC			LR	LR		
	comp=Z,120nm,19.2s					
LZH	Lanzhou	163.05 28	*e*PKP	PKPdf	20 45 27.6	-3.4
LZH			APKP		20 46 27.5	
LZH			XPKP		20 46 49.4	
LZH			LR	LR		
	comp=N,35nm,19.5s					
LZH			LR	LR		
	comp=Z,48nm,20.3s					
CD2	Chengdu	167.06 40	*e*PKP	PKPdf	20 45 31.0	-3.6
CD2			APKP		20 46 29.1	
CD2			XPKP		20 46 52.1	
CD2			PP	PP	20 50 27.7	-0.2
CD2			SKS	SKSdf	20 52 10.9	-7.8
CD2			SKKS	SKKSac	20 56 50.2	-4.9
CD2			SS	SS	21 10 50.0	-4.8
CD2			PP	PP		
	comp=Z,100nm,10.2s					
CD2			LR	LR		
	comp=N,120nm,24.2s					
CD2			LR	LR		
	comp=Z,110nm,22.8s					
GYA	Guiyang	171.93 49	PKP	PKPdf	20 45 33.2	-4.4
GYA			APKP		20 46 32.6	
GYA			XPKP		20 46 54.7	
GYA			PKP2	PKPab	20 47 01.2	-0.3
GYA			PKS		20 49 05.6	
GYA			PP	PP	20 50 52.8	+0.1
GYA			PP	PP		
	comp=Z,80nm,7.8s					

NEIC ***09*** *20:28:26.6, 3468N×24.14E, h32km, MD3.5(ATH), After ATH.*
CSEM ***09*** *20:28:26.6, 3468N×2414E, h32km, MD3.5/9, After ATH*

ATH 09 20:28:26.6, 3468N×2414E, h32km±2km, MD3.5/9, 1C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.17	345	*e*PB	Pb	20 28 32.5	-0.2
GVD				*e*SB	Sb	20 28 38.0	+1.1
VAM	Vamos	0.73	4	⇑*i*PN	Pn	20 28 41.8	+1.2
XRY	Khrisi	1.29	81	*e*PN	Pn	20 28 51.0	+2.6
NPS	Neapolis	1.34	64	*e*PN	Pn	20 28 51.2	+2.1
SANT	Santorini	2.00	32	*e*Pn	Pn	20 28 59.3	+1.2
VLI	Veliai	2.26	335	*e*PN	Pn	20 29 03.8	+2.1
KARP	Karpathos	2.62	70	*e*PN	Pn	20 29 08.2	+1.5
APE	Apeiranthos	2.64	25	*e*PN	Pn	20 29 07.7	+0.8
ITM	Ithomi	3.07	325	*e*PN	Pn	20 29 15.7	+2.8
ARG	Arkhangelos	3.60	64	*e*PN	Pn	20 29 22.0	+1.9

IDC 09 20:30:13.2±4.6, 1041S×16229E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, MS3.1/1, Ms1 3.1/1, ms1mx2.6/29, Error ellipse: s-maj=128.4km s-min=44.4km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	28.55	247	P	P	20 36 12.3	+1.4
	1.0nm,0.9s,baz=71,slow=8.3,SNR=3.5						
STKA	Stephens Creek	28.68	219	P	P	20 36 10.7	-1.3
	0.7nm,0.6s,baz=42,slow=12,SNR=3.2						
ASAR	Alice Springs	30.09	240	P	P	20 36 23.9	-0.6
	0.4nm,0.7s,baz=64,slow=9.0,SNR=4.6						
KSRS	Korea Array	57.48	328	LR	LR	21 00 31.1	
	comp=Z,18nm,20.7s,baz=60,slow=32						
MKAR	Makanchi Array	90.75	317	P	P	20 43 18.4	+0.3
	0.3nm,0.5s,baz=108,slow=4.7,SNR=6.1						

ATH ***09*** *20:35:50.8, 3420N×2397E, h16km±5km, MD3.8/16*
IDC ***09*** *20:35:52.3±1.5, 3451N×2369E, h0km, mb3.7/3, mb1 3.6/4, mb1mx3.4/21, mbtmp3.6/4, ML4.2/1, Error ellipse: s-maj=82.4km s-min=25.3km az=134.0*
NEIC ***09*** *20:35:53.0, 3427N×2395E, h10km, MD3.8(ATH), After ATH.*
ISCJB ***09*** *20:35:54.8±1.6, 3442N±009×2397E±005, h29km±8km, mb3.6/3, Error ellipse: s-maj=15.2km s-min=6.8km az=10.9*
THE ***09*** *20:35:57.6, 3454N×2403E, h18km, ML3.7*
CSEM ***09*** *20:35:58.4±0.5, 3462N×2409E, h40km, MD3.8, Error ellipse: s-maj=10.4km s-min=2.7km az=21.0*

ISC 09 20:35:55.3±1.7, 3444N±009×2404E±005, h18km±7km, n45, o0899/52, mb3.6/3, 2C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.40	6	*e*Pg	Pg	20 36 03.5	-0.1
GVD				*e*Sg	Sg	20 36 11.3	+2.0
SIVA	Sivas	0.86	47	*e*Pg	Pg	20 36 11.9	-0.2
SIVA				*e*Sg	Sg	20 36 22.6	-0.8
KARN	Karanos	0.97	354	*e*Pg	Pg	20 36 13.2	-1.0
VAM	Vamos	0.97	8	⇑*i*PN	Pn	20 36 13.2	-0.9
VAM				*e*SN	Sn	20 36 31.3	+3.9
VAM	Vamos	0.97	8	⇑*i*Pn	Pb	20 36 12.5	-1.2
IDI	Anoyia	1.10	39	P	Pb	20 36 17.4	+1.6
LAST	Lasithi	1.39	58	*e*Pg	Pn	20 36 19.9	+0.2
XRY	Khrisi	1.43	72	*e*PN	Pn	20 36 20.2	-0.1
NPS	Neapolis	1.53	57	*e*PN	Pn	20 36 22.5	+0.8
NPS				*e*SN	Sg	20 36 44.5	-0.3
NPS	Neapolis	1.53	57	*e*Pn	Pn	20 36 22.0	+0.3
ZKR	Zakros	1.92	69	*e*Pb	Pn	20 36 27.4	+0.4
ZKR				*e*Sb	Sn	20 36 50.8	+0.2
KYTH	Kithira	2.01	336	*e*PN	Pb	20 36 32.0	+0.7
SANT	Santorini	2.25	31

APE	Apeiranthos	2.89	24	ePn		Pn	20 36 39.2	-1.2
APE	Apeiranthos	2.89	24	ePn		Pn	20 36 38.9	-1.5
APE				eSn		Sn	20 37 09.3	-5.4
APE	Apeiranthos	2.89	24	ePn		Pn	20 36 42.3	+1.9
APE	Apeiranthos	2.89	24	ePn		Pn	20 36 39.2	-1.2
APE				eSn		Sn	20 37 09.3	-5.4
DID	Didima	3.13	348	ePn		Pn	20 36 43.1	-0.6
VLX	Vlachokerasia	3.22	336	ePn		Pn	20 36 45.8	+0.9
ITM	Ithomi	3.23	328	ePN		Pn	20 36 47.0	+1.9
ITM	Ithomi	3.23	328	ePn		Pn	20 36 46.4	+1.3
NAIG	Nisos Aigina	3.34	352	ePN		Pn	20 36 48.0	+1.4
KVR	Kavouri	3.39	356	ePN		Pn	20 36 48.0	+0.8
KVR	Kavouri	3.39	356	ePn		Pn	20 36 46.0	-1.2
PTL	Penteli	3.61	358	ePN		Pn	20 36 49.5	-0.7
LTK	Loutraki	3.68	347	ePn		Pn	20 36 50.4	-0.9
ARG	Arkhangelos	3.78	61	ePN		Pn	20 36 52.7	0.0
SMG	Samos	3.97	34	ePB		Pn	20 36 59.8	+4.5
SMG	Samos	3.97	34	ePn		Pn	20 36 53.8	-1.5
LKR	Lokris	4.29	349	ePn		Pn	20 36 58.9	-0.7
LKR	Lokris	4.29	349	ePn		Pn	20 36 58.8	-0.8
AOS	Alonnisos	4.72	358	ePn		Pn	20 37 03.9	-1.7
AGG	Agios Georgios	4.78	344	ePn		Pn	20 37 06.7	+0.4
EVR	Evrytania	4.82	339	ePn		Pn	20 37 07.7	+0.9
NEO	Neokhori	4.90	353	ePN		Pn	20 37 07.4	-0.6
NEO	Neokhori	4.90	353	ePn		Pn	20 37 07.7	-0.3
PRK	Paraskevi	5.12	20	P		Pn	20 37 11.4	+0.4
AKASG	Malin Array Be	16.69	12	Pn		Pn	20 39 46.6	-1.4
	0.8nm,0.3s,baz=203,slow=10,SNR=6.0							
TORD	Torodi Ar. Bea	29.32	229	P		P	20 41 55.2	-1.7
	0.4nm,0.5s,mb3.4,baz=32,slow=8.8,SNR=6.7							
MKAR	Makanchi Array	44.34	56	P		P	20 44 10.5	+1.5
	0.6nm,0.6s,mb3.6,baz=278,slow=7.9,SNR=6.5							
ZALV	Zalesovo Beam	46.17	46	P		P	20 44 19.6	+1.0
	0.5nm,0.3s,mb3.9,baz=283,slow=9.6,SNR=3.7							

*ISCJB **09** 20:47:47.5±0.6, 35.17N∧004×13693E±006, h32km±6km, Error ellipse: s-maj=8.9km s-min=5.6km az=30.1*
*JMA **09** 20:47:47.1, 35.19N×13697E, h40km±1km, M2.5*
ISC 09 20:47:47.7±0.6, 3516N±004×13692E±006, h30km±6km, n7, σ0s62/13, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	Obara	0.30	70	P	Pb	20 47 54.6	-0.5
JAO				S	Sb	20 48 00.4	+0.3
JGM	Miyama	0.56	343	P	Pb	20 47 58.4	-0.7
JGM				S	Sb	20 48 06.8	0.0
TSUJ	Tsu 2	0.61	222	P	Pb	20 47 59.8	-0.1
TSUJ				S	Sb	20 48 09.5	+1.3
JIE	Ise	0.79	193	P	Pn	20 48 02.3	-0.5
JIE				S	Sb	20 48 13.1	-0.2
JKG	Kaga	1.21	337	S	Sn	20 48 24.3	+0.4
JWT	Wachi	1.25	276	P	Pn	20 48 08.8	-0.3
JWT				S	Sn	20 48 24.8	-0.1
MAT	Matsushiro	1.73	37	P	Pn	20 48 14.9	-0.8
MAT				S	Sn	20 48 38.0	+1.2

*NIED **09** 20:49:00, 4680N×15340E, h11km, Mw4.2 Best double couple: M0=2.32000×10^15 NP1:φ=76.00000°, δ=74.00000°, λ=90.00000°. NP2:φ=255.00000°, δ=16.00000°, λ=89.00000°.*
*ISCJB **09** 20:49:18.8±1.0, 4649N±008×15333E±009, h33km±9km, mb4.3/21, Error ellipse: s-maj=15.5km s-min=6.8km az=146.1*
*NEIC **09** 20:49:19.5±6.3, 4661N×15336E, h24km±45km, mb4.2/1, Error ellipse: s-maj=15.5km s-min=12.8km az=152.0*
*MOS **09** 20:49:20.3±1.0, 4657N×15325E, h46km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=10.5km az=66.3*
*IDC **09** 20:49:24.5±4.3, 4660N×15326E, h67km±39km, mb3.7/12, mb1 3.9/14, mb1mx3.8/23, mbtmp3.7/14, ML3.6/2, MS2.8/1, Ms1 2.8/1, ms1mx2.4/34, Error ellipse: s-maj=20.1km s-min=17.4km az=110.0*
ISC 09 20:49:21.3±0.9, 4651N±008×15335E±009, h35km±8km, n63, σ1s28/75, mb4.3/21, 2C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	4.04	254	ePN	Pn	20 50 18.5	-2.0
KUR				eS	Sn	20 51 06.5	0.0
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,150nm,0.6s						
KUR				smax			
	comp=E,300nm,0.6s						
SKR	Severo-Kuril's	4.56	23	ePN	Pn	20 50 28.0	+0.3
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
NEM2	Nemuro 2	6.25	243	P	Pn	20 50 49.6	-1.2
NEM2				eS	Sn	20 51 57.4	-3.5
JRA	Rausu	6.35	249	P	Pn	20 50 53.7	+1.4
JRA				eS	Sn	20 52 06.2	+2.6
JNK	Nakash	6.77	248	P	Pn	20 50 58.9	+0.8
JNK				eS	Sn	20 52 15.2	+1.3
JAK	Akkeshi	7.09	243	P	Pn	20 51 01.0	-1.4
JAK				eS	Sn	20 52 18.7	-3.0
JTKR	Abashiri--Toko	7.13	253	P	Pn	20 51 04.6	+1.6
YSS	Yuzh-Sakhalins	7.29	277	i PN	Pn	20 51 11.8	+6.6
YSS				pmax	pmax		
	comp=Z,8.0nm,0.9s						
JAR	Ashorobuto	7.52	248	P	Pn	20 51 09.3	+1.0
JAR				eS	Sn	20 52 32.8	+0.5
JOB	Onbets	7.67	245	P	Pn	20 51 10.6	+0.1
JOB				eS	Sn	20 52 35.1	-1.0
JKK2	Kamakawa 2	7.94	254	P	Pn	20 51 16.3	+2.2
ASAJ	Asahikawa	7.95	256	PN	Pn	20 51 16.9	+2.7
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,70nm,18.8s						
ASAJ	Asahikawa	7.95	256	P	Pn	20 51 17.3	+3.1
ASAJ	Asahikawa	7.95	256	P	Pn	20 51 16.9	+2.7
	comp=Z,1.1nm,0.3s,baz=97,slow=15,SNR=10						
ASAJ				LR	LR	20 54 13.8	
	comp=Z,70nm,18.8s,baz=159,slow=37						
JCH	Churui	8.12	245	P	Pn	20 51 15.9	-0.7
JCH				eS	Sn	20 52 43.5	-3.6
ERM	Erimo	8.58	242	ePN	Pn	20 51 23.7	+0.8
JEM	Erimo	8.58	242	P	Pn	20 51 22.6	-0.3
JEM				eS	Sn	20 52 54.4	-3.9
JNBK	Urakawa-nobuka	8.68	245	P	Pn	20 51 23.1	-1.2
JNBK				eS	Sn	20 52 56.3	-4.6
JNB	Noboribetsu	9.68	250	eS	Sn	20 53 23.5	-1.8
JKB	Kayabe	9.97	247	P	Pn	20 51 40.6	-1.4
JKB				eS	Sn	20 53 25.8	-6.8
JANG	Nango	10.56	239	P	Pn	20 51 45.9	-4.1
JANG				eS	Sn	20 53 38.0	-8.9
JTM	Tenmabayashi	10.57	242	eS	Sn	20 53 39.5	-7.7
HABR	Khabarovsk	12.53	286	PN	Pn	20 52 18.5	+1.6
MJAR	Matsushiro Arr	15.06	234	P	Pn	20 52 51.8	+0.4
	comp=Z,0.2nm,0.3s,baz=24,slow=15,SNR=3.5						
KSRS	Korea Array	20.88	253	P	P	20 54 02.6	+2.4
	comp=Z,0.7nm,0.5s,baz=66,slow=9.1,SNR=2.8						
BILL	Bilibino	22.59	13	i P	P	20 54 19.0	+0.8
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
TIXI	Tiksi	27.75	344	i P	P	20 55 05.6	-0.4
TIXI				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb3.9						
ULN	Ulaanbaatar	31.13	290	i P	P	20 55 40.2	+3.9
INK	Inuvik	41.77	32	eP	P	20 57 05.6	-1.0
ZALV	Zalesovo Beam	42.88	306	P	P	20 57 13.7	-2.1
	comp=Z,0.4nm,0.3s,mb3.6,baz=60,slow=5.7,SNR=3.4						
ZAL	Zalesovo	42.90	306	P	P	20 57 13.7	-2.3
MKAR	Makanchi Array	47.20	298	P	P	20 57 49.4	-0.8
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
MKAR	Makanchi Array	47.20	298	P	P	20 57 49.5	-0.7
MKAR	Makanchi Array	47.20	298	P	P	20 57 49.5	-0.7
	comp=Z,0.6nm,0.4s,mb3.8,baz=66,slow=9.4,SNR=7.4						
KURK	Kurchatov	47.63	304	eP	P	20 57 52.7	-0.8
LSA	Lhasa	50.45	273	eP	P	20 58 18.0	+2.6
LSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LSA	Lhasa	50.45	273	eP	P	20 58 18.0	+2.6
	comp=Z,1.9nm,0.6s,mb4.3						
YKA	Yellowknife Ar	51.02	37	P	P	20 58 19.0	-0.2
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	Yellowknife Ar	51.02	37	P	P	20 58 19.0	-0.2
	comp=Z,2.1nm,0.7s,mb4.2,baz=295,slow=7.1,SNR=22						
BVAR	Borovoye Array	51.14	310	P	P	20 58 19.3	-0.9
	comp=Z,0.7nm,0.3s,mb4.0,baz=39,slow=6.8,SNR=4.9						
JIRN	Jiri	55.13	275	eP	P	20 58 51.1	+1.1
	comp=Z,11nm,0.8s,mb5.0						
GUN	Gumba	55.18	275	eP	P	20 58 51.8	+1.4
KKN	Kakani	55.67	276	eP	P	20 58 55.2	+1.3
	comp=Z,4.0nm,0.5s,mb4.7						
DMN	Daman	55.91	276	eP	P	20 58 55.9	+0.4
	comp=Z,5.5nm,0.6s,mb4.8						
GKN	Gorkha	55.98	276	eP	P	20 58 57.3	+1.2
	comp=Z,4.7nm,0.5s,mb4.8						
DANN	Dangsing	56.36	277	eP	P	20 59 00.6	+1.8
	comp=Z,8.7nm,0.6s,mb5.0						
KOLN	Koldanda	56.84	277	eP	P	20 59 01.4	-0.8
	comp=Z,11nm,0.8s,mb5.0						
NVAR	Mina Array Bea	62.40	62	P	P	20 59 40.4	0.0
	comp=Z,0.9nm,0.8s,mb4.0,baz=291,slow=7.4,SNR=6.2						
FINES	FINESS Array B	64.33	335	P	P	20 59 51.9	-0.8
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	FINESS Array B	64.33	335	P	P	20 59 52.0	-0.8
	comp=Z,1.8nm,0.6s,mb4.3,baz=44,slow=6.1,SNR=13						
TPNV	Topopah Spring	64.60	62	eP	P	20 59 54.3	-0.6
MOS	Moscow	64.73	326	eP	P	21 00 05.0	+10
MOS				pmax	pmax		
	comp=Z,44nm,1.6s,mb5.2						
WRA	Warramunga Arr	68.34	199	P	P	21 00 20.1	+1.3
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	68.34	199	P	P	21 00 18.3	-0.4
	comp=Z,1.3nm,0.9s,mb4.0,baz=17,slow=6.7,SNR=9.3						
NB2	NORSAR Subarra	68.51	341	P	P	21 00 19.0	-0.5
	comp=Z,1.3nm,0.6s,mb4.0,baz=27,slow=6.5						
NOA	NORSAR Array B	68.51	341	P	P	21 00 19.7	+0.2
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	68.51	341	P	P	21 00 19.0	-0.5
	comp=Z,1.5nm,0.6s,mb4.1,baz=28,slow=6.3,SNR=7.9						
ANMO	Albuquerque	71.82	58	eP	P	21 00 39.5	-0.7
AKASG	Malin Array Be	71.84	326	P	P	21 00 39.2	-0.8
AKASG	Malin Array Be	71.84	326	P	P	21 00 39.2	-0.8
	comp=Z,0.9nm,0.4s,mb4.1,baz=34,slow=6.2,SNR=8.2						
ASAR	Alice Springs	72.03	199	P	P	21 00 42.1	+0.8
	comp=Z,1.5nm,0.6s,mb4.1,baz=11,slow=5.6,SNR=26						
CLL	Collm	76.75	336	i P	P	21 01 08.7	+0.1
CLL				i pP	pP	21 01 16.1	-3.5
CLL				i pPcP		21 01 28.1	
TXAR	Lajitas Array	77.47	61	P	P	21 01 12.8	-0.2
	comp=Z,2.5nm,0.6s,mb4.3,baz=302,slow=4.6,SNR=24						

*ISK **09** 21:05:21.8, 3999N×4083E, h13km, MD3.0*
*ISCJB **09** 21:05:22.7±0.7, 400N±0.1×4086E±005, h21km±9km, Error ellipse: s-maj=21.9km s-min=5.5km az=7.6*
*CSEM **09** 21:05:22.2±0.1, 3992N×4073E, h12km, MD3.0, Error ellipse: s-maj=5.0km s-min=2.1km az=9.0*
*DDA **09** 21:05:22.7, 40.14N×4090E, h7km±5km, Md2.9*
ISC 09 21:05:22.7±0.7, 400N±01×4089E±005, h19km±7km, n8, σ0s76/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	Kop Dagi	0.30	269	i P	Pg	21 05 28.3	-0.9
KOPT				i S	Sg	21 05 34.0	+0.3
EZM	Erzurum	0.39	108	ePG	Pg	21 05 30.5	-0.2
EZM				eSG	Sg	21 05 37.2	+1.0
ERZM	Erzurum	0.39	108	i P	Pg	21 05 30.2	-0.5
ERZM				i S	Sg	21 05 37.4	+1.2
ERZM	Erzurum	0.39	108	i P	Pg	21 05 30.2	-0.6
HOMI	Horasan	0.78	88	i P	Pg	21 05 37.9	-0.1
HOMI				i S	Sg	21 05 47.3	-1.2
EZC	Erzincan	0.87	252	ePN	Pn	21 05 44.7	+4.9
GUMT	Gumushane	1.16	293	ePN	Pn	21 05 44.2	+0.4
GUMT				eSN	Sn	21 05 59.9	+0.8
PTK	Pertek	1.62	226	ePN	Pn	21 05 49.4	-0.7

IDC 09 21:06:14.0±2.5, 673S×15539E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/13, mbtmp3.6/4, Error ellipse: s-maj=83.4km s-min=32.2km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.29	235	P	P	21 11 33.9	+0.7
	0.3nm,0.5s,baz=62,slow=9.7,SNR=5.3						
ASAR	Alice Springs	26.64	229	P	P	21 11 54.0	-0.6
	0.3nm,0.3s,baz=60,slow=9.8,SNR=5.5						
STKA	Stephens Creek	28.14	205	P	P	21 12 09.0	+1.1
	1.4nm,0.8s,baz=58,slow=9.5,SNR=2.2						
MKAR	Makanchi Array	83.47	319	P	P	21 18 45.0	+1.4
	0.5nm,0.5s,baz=106,slow=5.2,SNR=7.5						
TORD	Torodi Ar. Bea	153.33	286	PKPbc	PKPbc	21 26 12.9	-2.3
	0.5nm,0.8s,baz=112,slow=2.5,SNR=3.0						

*ISCJB **09** 21:10:58.1±0.7, 1569N±008×9292W±004, h149km±9km, mb3.1/2, Error ellipse: s-maj=12.9km s-min=6.0km az=9.7*
*MEX **09** 21:11:00.8±0.5, 1566N×9294W, h141km±14km, MD4.5*
*NEIC **09** 21:11:00.9, 1565N×9294W, h140km, MD4.5(MEX), After MEX.*
*IDC **09** 21:11:00.1±1.4, 1576N×9253W, h136km±9km, mb3.0/2, mb1 3.7/5, mb1mx3.3/21, mbtmp3.4/5, Error ellipse: s-maj=23.5km s-min=17.4km az=25.0*
ISC 09 21:10:59.0±0.7, 1566N±008×9291W±004, h141km±9km, n26, σ1s44/43, mb3.1/2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCX	San Cristobal	1.10	14	i P	Pn	21 11 24.6	+0.7
SCX				i S	Sn	21 11 43.5	+0.6
TUIG	Tuzandepetl	2.77	329	i P	Pn	21 11 43.2	+0.1
TUIG				i S	Sn	21 12 16.9	-0.2
HUIG	Huatulco	3.08	272	i P	Pn	21 11 47.5	+0.5
HUIG				i S	Sn	21 12 23.1	-1.1
OXX	Oaxaca	3.92	292	i P	Pn	21 12 02.0	+4.0
OXX				i S	Sn	21 12 44.0	+0.2
VHO	Vista Hermosa	3.93	291	i P	Pn	21 12 01.4	+3.3
VHO				i S	Sn	21 12 44.1	+0.2
VHO	Vista Hermosa	3.93	291	eP	Pn	21 12 00.1	+2.0
VHO				i S	Sn	21 12 44.1	+0.2
TPIG	Tehuac#an	5.06	303	i S	Sn	21 13 11.7	+0.8
LVIG	Laguna Verde	5.24	321	i S	Sn	21 13 10.7	-4.5
LVIG	Laguna Verde	5.24	321	i S	Sn	21 13 12.6	-2.6
TGUH	Tegucigalpa,Un	5.68	106	eP	Pn	21 12 20.6	-0.8
TEIG	Tepich	6.33	43	P	Pn	21 12 27.8	-2.3
	14nm,0.3s,baz=246,slow=1.3,SNR=61						
TEIG				S	Sn	21 13 35.2	-6.1
	baz=125,slow=23,SNR=4.2						
PPM	Popocatepetl	6.42	303	i P	Pn	21 12 36.4	+5.0
PPM				eP		21 12 37.0	
PPM				i S	Sn	21 13 38.6	-4.9
PPM	Popocatepetl	6.42	303	i P	Pn	21 12 31.4	+0.1
PPM				eP		21 12 37.0	
PPM				i S	Sn	21 13 43.7	+0.2
MEIG	Mezcala	6.81	290	eP	Pn	21 12 38.3	+1.8
MEIG				i S	Sn	21 13 50.3	-2.5
ACX	Acapulco	6.83	281	i P	Pn	21 12 39.0	+2.1
PLIG	Platanillo	6.87	294	i P	Pn	21 12 40.9	+3.7
PLIG				i S	Sn	21 13 51.7	-2.4
PLIG	Platanillo	6.87	294	i P	Pn	21 12 37.9	+0.6
PLIG				i S	Sn	21 13 51.7	-2.4
CAIG	El Cayaco	7.20	282	i P	Pn	21 12 44.3	+2.6
CAIG				i S	Sn	21 13 59.6	-2.5
CAIG	El Cayaco	7.20	282	i P	Pn	21 12 41.9	+0.2
CAIG				i S	Sn	21 13 59.6	-2.5
ZIIG	Zihuatanejo	8.42	284	i P	Pn	21 13 01.6	+3.4
ZIIG				i S	Sn	21 14 35.3	+3.5
ZIIG	Zihuatanejo	8.42	284	i P	Pn	21 12 56.4	-1.8
ZIIG				i S	Sn	21 14 30.5	-1.2
JTS	JuntasAbangare	9.41	124	P	Pn	21 13 10.6	-0.8
	4.2nm,0.3s,baz=327,slow=17,SNR=12						
JTS				S	Sn	21 14 49.6	-6.1
	3.0nm,0.3s,baz=336,slow=20,SNR=6.5						
TXAR	Lajitas Array	16.83	326	P	Pn	21 14 50.0	+3.7
	0.2nm,0.3s,baz=149,slow=15,SNR=13						
NVAR	Mina Array Bea	31.84	320	P	P	21 17 14.3	+3.8
	0.6nm,0.6s,mb3.5,baz=132,slow=8.8,SNR=4.4						
NVAR				pP	pP	21 17 45.0	+4.2
	0.5nm,0.8s,baz=110,slow=7.9,SNR=1.9						
YKA	Yellowknife Ar	49.22	347	P	P	21 19 32.8	+0.1
YKA				pP	pP	21 20 04.9	-0.1
YKA				sP	sP	21 20 19.2	-1.5
YKA	Yellowknife Ar	49.22	347	P	P	21 19 32.8	+0.1
	0.1nm,0.4s,mb2.8,baz=195,slow=36,SNR=1.9						
YKA				pP	pP	21 20 04.9	-0.1
	0.2nm,0.3s,baz=122,slow=43,SNR=2.0						
YKA				sP	sP	21 20 19.2	-1.5
	0.6nm,0.8s,baz=151,slow=7.4,SNR=3.8						

*MAN **09** 21:14:06, 5.12N×124.15E, h32km, mb5.4, ML4.4, MS4.7*
*MOS **09** 21:14:06.3±1.4, 5.19N×12453E, h33km, mb4.8/10, Error ellipse: s-maj=19.2km s-min=8.5km az=111.3*
*ISCJB **09** 21:14:07.3±0.6, 507N±003×12435E±005, h38km±6km, mb4.5/49, MS3.7/24, Error ellipse: s-maj=8.2km s-min=4.8km az=2.3*
*BJI **09** 21:14:08.2, 5.15N×124.34E, h38km, mB4.8, mb4.5, Ms4.1, Msz3.8*
*NEIC **09** 21:14:09.5±1.1, 5.13N×124.45E, h44km±11km, mb4.7/15, Error ellipse: s-maj=10.0km s-min=6.1km az=76.0*
NEIC Felt [II PIVS] at General Santos.
*IDC **09** 21:14:12.7±4.6, 5.17N×12453E, h75km±45km, mb4.0/17, mb1 4.1/18, mb1mx4.1/25, mbtmp4.1/18, ML4.5/1, MS3.6/15, Ms1 3.6/15, ms1mx3.5/27, Error ellipse: s-maj=24.8km s-min=10.8km az=80.0*
ISC 09 21:14:09.4±0.5, 510N±003×12441E±005, h39km±5km, h46km±1.5km: pP-P, n101, σ1s16/102, mb4.5/49, MS3.7/24, 5C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	1.12	29	⇓i P	Pn	21 14 27.7	-0.9
GSPH				i S	Sn	21 14 43.0	+0.3
DMPH	Davao City--Mi	2.25	29	⇑i P	Pn	21 14 44.7	+0.6
DMPH				i S	Sn	21 15 13.4	+2.7
DAV	Davao City (W)	2.27	31	eP	Pn	21 14 45.4	+0.9
CGP	Cagayan de Oro	3.34	5	eP	Pn	21 14 59.1	-0.1
DCPH	Dipolog City	3.62	343	⇑i P	Pn	21 15 00.6	-2.3
BIPH	Bislig	3.62	32	⇑eP	Pn	21 15 03.7	+0.7
TBP	Tagbilaran	4.59	353	eP	Pn	21 15 15.1	-1.3
PCI	Palu	7.51	218	P	Pn	21 15 55.2	-1.3
	86nm,0.9s						
KKM	Kota Kinabalu	8.21	277	eP	Pn	21 16 05.0	-1.1
KDI	Kendari	9.17	191	P	Pn	21 16 19.8	+0.5
	305nm,0.8s						
AAI	Ambon	9.51	157	P	Pn	21 16 24.5	+0.6
	408nm,0.9s						
KSM	Kuching	14.53	256	eP	Pn	21 17 34.5	+1.9
BATI	Kupang	15.22	183	P	Pn	21 17 45.0	+3.4
	2.1nm,0.3s,baz=302,slow=1.2,SNR=19						
BJII	Banjamegara	19.18	230	P	Pn	21 18 32.7	+1.7
	84nm,1.4s						
KAKA	Kakadu	19.41	156	eP	Pn	21 18 31.0	-2.8
	30nm,0.6s						
YHNB	Yeheng	19.68	352	eP	Pn	21 18 34.1	-2.8
QIZ	Qiongzhong	19.84	315	P	Pn	21 18 38.2	-0.7
QIZ				S	S	21 22 20.9	+2.3
QIZ				AMB	AMB		
	comp=Z,31nm,1.8s						
QIZ				LR	LR		
	comp=N,497nm,23.3s						
QIZ				LR	LR		
	comp=E,337nm,25.2s						
QIZ				LR	LR		
	comp=Z,262nm,16.1s						
GUMO	Guam	21.86	66	LR	LR	21 26 00.8	
	comp=Z,100nm,21.8s,MS3.2,baz=271,slow=33						
JOW	Kunigami	21.92	9	P	P	21 19 00.1	+0.6
	comp=Z,19nm,0.9s,mb4.5,baz=169,slow=11,SNR=3.8						
JOW				LR	LR	21 27 58.7	
	comp=Z,130nm,19.8s,MS3.3,baz=257,slow=38						
FITZ	Fitzroy Crossi	23.09	177	eP	P	21 19 10.7	-1.2
	comp=Z,112nm,0.9s,mb5.3						
FITZ	Fitzroy Crossi	23.09	177	P	P	21 19 11.0	-0.8
	comp=Z,66nm,0.9s,mb5.0,baz=11,slow=11,SNR=77						
PSI	Prapat	25.53	266	P	P	21 19 36.8	+2.2
	comp=Z,8.0nm,0.7s,mb4.3,baz=139,slow=5.0,SNR=5.9						
PSI				LR	LR	21 30 11.4	
	comp=Z,83nm,19.1s,MS3.3,baz=220,slow=37						
PSI	Prapat	25.53	266	⇑eP	P	21 19 37.2	+2.5
SSE	Sheshan	26.04	354	P	P	21 19 40.4	+1.4
SSE				XP	sP	21 19 48.9	-5.6
SSE				S	S	21 24 10.8	+3.4
SSE				XS	sS	21 24 21.0	-4.4
SSE				AMB	AMB		
	comp=Z,35nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,71nm,4.4s						
SSE				LR	LR		
	comp=N,62nm,18.4s,MS3.6						
SSE				LR	LR		
	comp=E,161nm,18.4s,MS3.6						
SSE				LR	LR		
	comp=Z,90nm,18.1s,MS3.4						
MBWA	Marble Bar	26.50	190	eP	P	21 19 43.4	+0.2
WRAB	Tennant Creek	26.73	159	eP	P	21 19 45.1	-0.2
WRAB				pmax	pmax		
	comp=Z,30nm,0.9s,mb4.8						
WRAB	Tennant Creek	26.73	159	eP	P	21 19 45.1	-0.2
	comp=Z,30nm,0.9s,mb4.8						
WRA	Warramunga Arr	26.73	159	P	P	21 19 45.2	-0.2
	comp=Z,14nm,0.8s,mb4.5,baz=336,slow=10.0,SNR=34						
WB2	Warramunga Arr	26.73	159	⇑i P	P	21 19 45.1	-0.3
NJ2	Nanjing	27.31	350	eP	P	21 19 51.3	+0.8
NJ2				AP	pP	21 20 02.2	+0.9
NJ2				XP	sP	21 20 08.3	+2.3
NJ2				PP		21 20 39.6	
NJ2				PPP		21 20 51.7	
NJ2				S	S	21 24 27.5	-0.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,190nm,4.8s						
NJ2				LR	LR		
	comp=N,260nm,15.5s,MS4.0						
NJ2				LR	LR		
	comp=E,220nm,17.8s,MS4.0						
NJ2				LR	LR		
	comp=Z,220

comp=Z,145nm,21.4s,MS3.7,baz=205,slow=33
BJT Baijiatuau 35.55 349 P **P** **21 20 59.9 -2.9**
BJI Beijing 35.57 349 P **P** **21 21 01.5 -1.5**
BJI AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
BJI AMB AMB
comp=Z,62nm,4.2s
BJI LR LR
comp=N,130nm,20.2s,MS3.8
BJI LR LR
comp=E,123nm,21.7s,MS3.8
BJI LR LR
comp=Z,136nm,23.3s,MS3.6
FORT Forrest 35.84 175 *e*P **P** **21 21 05.8 +0.4**
comp=Z,15nm,0.6s,mb5.1
LZH Lanzhou 36.18 331 *e*P **P** **21 21 09.4 +1.1**
LZH AMB AMB
comp=Z,22nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,120nm,4.5s
NWAO Narrogin (SRO) 38.43 190 *e*P **P** **21 21 27.5 +0.2**
MDJ Mudanjiang 39.62 6 P **P** **21 21 37.3 +0.1**
MDJ AP pP 21 21 49.9 +1.7
MDJ XP sP 21 21 53.6 +0.8
MDJ PP PP 21 23 09.2 +0.5
MDJ S **S** **21 27 38.3 +0.8**
MDJ XS sS 21 27 59.7 +3.9
MDJ AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
MDJ AMB AMB
comp=Z,72nm,4.5s
MDJ LR LR
comp=N,65nm,24.9s,MS3.6
MDJ LR LR
comp=E,95nm,23.7s,MS3.6
MDJ LR LR
comp=Z,63nm,19.2s,MS3.5
LSA Lhasa 39.81 312 P **P** **21 21 41.0 +2.0**
LSA Lhasa 39.81 312 *e*P **P** **21 21 40.7 +1.7**
LSA pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
LSA Lhasa 39.81 312 *e*P **P** **21 21 40.7 +1.7**
comp=Z,9.3nm,0.6s,mb4.7
STKA Stephens Creek 40.25 157 *e*P **P** **21 21 43.5 +0.9**
comp=Z,14nm,0.9s,mb4.7
STKA Stephens Creek 40.25 157 P **P** **21 21 43.5 +1.0**
comp=Z,19nm,0.9s,mb4.8,baz=330,slow=8.2,SNR=29
STKA LR LR 21 38 01.6
comp=Z,94nm,21.8s,MS3.6,baz=20,slow=36
GTA Gaotai 40.76 330 *e*P **P** **21 21 47.0 +0.3**
GTA PP PP 21 23 28.8 +7.6
GTA SCP ScP 21 27 30.8 -3.4
GTA XS sS 21 28 13.6 +0.5
GTA AMB AMB
comp=Z,3.0nm,1.0s,mb3.9
GTA AMB AMB
comp=Z,83nm,6.8s
GTA LR LR
comp=N,180nm,21.3s,MS4.0
GTA LR LR
comp=E,124nm,18.6s,MS4.0
GTA LR LR
comp=Z,177nm,16.7s,MS4.0
JIRN Jiri 42.70 306 *e*P **P** **21 22 03.7 +0.9**
comp=Z,42nm,1.0s,mb5.1
GUN Gumba 43.06 306 *e*P **P** **21 22 06.8 +1.1**
comp=Z,37nm,0.7s,mb5.2
PKI Pulchoki 43.30 305 *e*P **P** **21 22 07.7 +0.1**
KKN Kakani 43.49 306 *e*P **P** **21 22 09.5 +0.3**
comp=Z,30nm,1.1s,mb4.9
DMN Daman 43.56 305 *e*P **P** **21 22 08.1 -1.6**
comp=Z,22nm,1.1s,mb4.8
GKN Gorkha 44.10 306 *e*P **P** **21 22 14.3 +0.2**
comp=Z,17nm,1.0s,mb4.7
KOLN Koldanda 44.85 305 *e*P **P** **21 22 18.3 -1.8**
comp=Z,50nm,0.9s,mb5.3
DANN Dangsing 44.95 306 *e*P **P** **21 22 21.3 +0.5**
comp=Z,37nm,0.7s,mb5.3
ULN Ulaanbaatar 45.13 344⇓ *e*P **P** **21 22 21.0 -1.0**
SONM Songino Array 45.30 343 P **P** **21 22 23.2 -0.1**
comp=Z,2.1nm,0.8s,mb4.0,baz=177,slow=7.4,SNR=6.9
SONM LR LR 21 43 06.9
comp=Z,80nm,19.1s,MS3.7,baz=243,slow=38
ZAK Zakamensk 48.50 342 *e*P **P** **21 22 55.1 +6.9**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb4.0
WMQ Urumqi 50.29 326 *e*P **P** **21 23 02.5 +0.4**
WMQ XP sP 21 23 20.5 +2.6
WMQ PP PP 21 24 58.5 +0.7
WMQ S **S** **21 30 10.5 -1.5**
WMQ SS SS 21 33 41.5 -4.6
WMQ AMB AMB
comp=Z,38nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,89nm,4.0s
WMQ LR LR
comp=N,135nm,15.0s,MS4.2
WMQ LR LR
comp=E,87nm,14.0s,MS4.2
WMQ LR LR
comp=Z,98nm,14.0s,MS4.0
BOD Bodaibo 53.21 353 *e*P **P** **21 23 23.4 -0.2**
BOD pmax pmax
comp=Z,3.0nm,1.6s,mb4.0
MK31 Makanchi Array 55.13 326 *e*P **P** **21 23 37.4 -0.3**
MKAR Makanchi Array 55.13 326 *i* P **P** **21 23 37.5 -0.2**
MKAR pmax pmax
comp=Z,2.0nm,0.8s
MKAR Makanchi Array 55.13 326 P **P** **21 23 37.5 -0.2**
comp=Z,1.9nm,0.8s,mb4.2,baz=128,slow=8.2,SNR=20
MKAR LR LR 21 48 11.5
comp=Z,59nm,18.8s,MS3.7,baz=121,slow=37
YAK Yakutsk 56.94 3 *i* P **P** **21 23 52.3 +1.9**
YAK pmax pmax
comp=Z,13nm,0.7s,mb5.1
YAK MLR MLR
comp=Z,100nm,24.0s,MS3.8
TKM2 Tokmak 2 57.20 319 *e*P **P** **21 23 51.6 -1.0**
TKM2 pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
TKM2 Tokmak 2 57.20 319 *e*P **P** **21 23 51.5 -1.1**
comp=Z,6.0nm,1.1s,mb4.5
UCH Uchtor 57.61 318 *e*P **P** **21 23 56.3 +0.7**
comp=Z,6.4nm,0.9s,mb4.7
AAK Ala-Archa 57.80 318 *e*P **P** **21 23 56.1 -0.8**
AAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.9
AAK Ala-Archa 57.80 318 *e*P **P** **21 23 56.1 -0.8**
comp=Z,1.4nm,0.8s,mb4.0
AAK Ala-Archa 57.80 318 P **P** **21 23 55.9 -0.9**
comp=Z,0.5nm,0.3s,mb4.1,baz=8.1,slow=7.1,SNR=2.2
AML Almayashu 58.12 317 *e*P **P** **21 23 59.8 +0.7**
comp=Z,161nm,0.8s
EKS2 Erkin-Say 58.29 318 *e*P **P** **21 24 00.3 0.0**
comp=Z,5.3nm,1.1s,mb4.5
ZALV Zalesovo Beam 58.34 334 P **P** **21 23 58.8 -1.6**
comp=Z,0.2nm,0.3s,mb3.6,baz=64,slow=3.4,SNR=3.1
ZALV LR LR 21 50 02.7
comp=Z,40nm,20.5s,MS3.5,baz=128,slow=37
ZAL Zalesovo 58.34 334 P **P** **21 23 58.8 -1.6**
KBL Kabul 58.86 307 *e*P **P** **21 24 05.9 +1.5**
KBL pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
KBL Kabul 58.86 307 *e*P **P** **21 24 05.9 +1.4**
comp=Z,7.8nm,0.7s,mb4.8
KURK Kurchatov 59.36 328 *e*P **P** **21 24 04.9 -2.6**
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
KURK Kurchatov 59.36 328 *e*P **P** **21 24 04.9 -2.7**
comp=Z,7.0nm,0.6s,mb4.9
BVAR Borovoye Array 64.92 327 P **P** **21 24 43.9 -0.9**
comp=Z,2.1nm,0.9s,mb4.2,baz=133,slow=6.3,SNR=11
BRVK Borovoye 65.00 327 *e*P **P** **21 24 44.2 -1.1**
BRVK pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BRVK Borovoye 65.00 327 *e*P **P** **21 24 44.2 -1.1**
comp=Z,7.7nm,0.9s,mb4.7
TIXI Tiksi 66.53 2 *i* P **P** **21 24 55.7 +0.9**
TIXI pmax pmax
comp=Z,3.0nm,1.2s,mb4.2
TIXI MLR MLR
comp=Z,100nm,29.0s,MS3.9
TIXI Tiksi 66.53 2 *e*P **P** **21 24 55.0 +0.2**
comp=Z,2.1nm,0.9s,mb4.2
BILL Bilibino 68.85 16 *e*P **P** **21 25 11.5 +2.0**
BILL *e* 21 25 35.7
BILL *e*SS SS 21 27 42.1
BILL *e*SS SS 21 38 42.2 +6.2
BILL pmax pmax
comp=Z,1.0nm,1.1s,mb3.7
IMA2 Indian Mountai 82.08 24 *e*P **P** **21 26 25.6 +0.2**
MCK McKinley 83.97 27 *e*P **P** **21 26 37.2 +1.9**
MCK pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
MCK McKinley 83.97 27 *e*P **P** **21 26 37.2 +1.9**
comp=Z,4.3nm,0.7s,mb4.7
OBN Obninsk 84.62 325 *i* P **P** **21 26 37.5 -1.2**
OBN pmax pmax
comp=Z,5.0nm,1.1s,mb4.6
VNDA Vanda 85.07 172 P **P** **21 26 40.1 -0.5**
comp=Z,0.9nm,1.0s,mb3.9,baz=324,slow=6.5,SNR=4.7
KMBO Kilima Mbogo 87.27 269 P **P** **21 26 53.4 +0.6**
comp=Z,1.3nm,0.9s,mb4.1,baz=45,slow=20,SNR=2.2
ARCES ARCESS Array B 88.37 340 LR LR 22 11 42.9
comp=Z,56nm,18.6s,MS4.0,baz=86,slow=39
AKASG Malin Array Be 89.38 321 P **P** **21 27 01.1 -0.8**
comp=Z,0.5nm,0.6s,mb4.0,baz=77,slow=3.7,SNR=3.8
FINES FINESS Array B 89.54 332 LR LR 22 11 37.6
comp=Z,58nm,18.5s,MS4.0,baz=340,slow=38
NOA NORSAR Array B 96.54 333 LR LR 22 12 08.9
comp=Z,58nm,19.0s,MS4.0,baz=290,slow=36
GERES GERESS Array B 99.58 321 LR LR 22 16 20.0
comp=Z,28nm,21.8s,MS3.7,baz=280,slow=37
TORD Torodi Ar. Bea 120.30 288 PKP PKPdf 21 32 55.9 -1.5
comp=Z,1.1nm,1.2s,baz=238,slow=2.3,SNR=3.6

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*ATH **09** 21:33:43.9,3836N×2039E,h9km±2km,MD3.4/6*
*NEIC **09** 21:33:43.9,3836N×2039E,h9km,MD3.4(ATH),After ATH.*
*ISCJB **09** 21:33:44.5±1.1,3836N±004×2041E±009,h6km±9km, Error ellipse: s-maj=12.3km s-min=5.2km az=159.4*
*CSEM **09** 21:33:45.1±0.2,3836N×2041E,h1km±2km,ML2.8,Error ellipse: s-maj=5.2km s-min=2.3km az=66.0*
*THE **09** 21:33:45.2,3836N×2044E,h5km,ML2.8*
ISC 09 21:33:44.7±1.1,3835N±004×2039E±009,h10km±8km,n11, σ0°80/16,1C,Greece
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
VLS Valsamata 0.23 137 *e*Pg **Pg** **21 33 49.3 -0.1**
VLS *e*Sg **Sg** **21 33 53.0 +0.4**
VLS Valsamata 0.23 137⇑ *i*Pg **Pg** **21 33 49.3 -0.1**
VLS *e*Sg **Sg** **21 33 52.7 +0.1**
KFL Anninata 0.39 127 *e*Pg **Pg** **21 33 52.2 -0.2**
LKD Levkas 0.42 30 *e*Pg **Pg** **21 33 52.4 -0.4**
LKD *e*Sg **Sg** **21 33 58.1 -0.2**
RLS Riolos of Patr 0.90 108 *e*PB **Pb** **21 34 02.1 -0.2**
IGT Igoumenitsa 1.19 358 *e*Pg **Pg** **21 34 07.3 -0.1**
IGT *e*Sg **Sg** **21 34 24.5 +1.7**
SELA Sela 1.19 93 *e*Pg **Pg** **21 34 06.5 -0.9**
SELA *e*Sg **Sg** **21 34 23.6 +0.8**
EVR Evrytania 1.25 62 *e*PB **Pb** **21 34 07.3 -1.0**
KEK Kerkira 1.44 342 *e*PB **Pb** **21 34 10.8 -0.8**
ITM Ithomi 1.69 133 *e*PB **Pb** **21 34 15.7 -0.1**
VLI Veliai 2.60 128 *e*PN **Pn** **21 34 28.4 +1.7**

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*ISCJB **09** 21:34:55.1±0.5,3758N±008×2409W±003,h10km,Error ellipse: s-maj=11.1km s-min=2.9km az=6.2*
*PDA **09** 21:35:05.9±1.2,3719N×2454W,h5km,MD4.1,ML3.7, Error ellipse: s-maj=8.1km s-min=4.8km az=84.0*
*CSEM **09** 21:35:05.9±1.2,3719N×2454W,h5km,ML3.7,Error ellipse: s-maj=8.1km s-min=4.8km az=84.0,After PDA*
ISC 09 21:34:56.9±0.5,3753N±007×2419W±003,h10km,n22, σ1°22/35,Azores Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
PSMN Pico do Norte, 0.88 233 *e*P **Pg** **21 35 13.7 -0.1**
PSMN *e*S **Sg** **21 35 19.8 -5.5**
CMLA Cha da Macela 1.09 283 *e*P **Pb** **21 35 21.4 +3.6**
CMLA *e*S **Sg** **21 35 32.2 +0.3**
CMLA A 21 35 34.6
811nm,0.4s
CMLA Cha da Macela 1.09 283 *e*P **Pb** **21 35 21.4 +3.6**
CMLA *e*S **Sg** **21 35 32.2 +0.3**
PDA Ponta Delgada 1.19 281 *e*P **Pb** **21 35 22.6 +3.0**
PDA *i* S **Sb** **21 35 34.7 -0.3**
PSET Sete Cidades 1.25 284 *e*P **Pn** **21 35 23.6 +3.2**
PSET *e*S **Sb** **21 35 37.1 +0.4**
PSET A 21 35 39.0
664nm,0.3s
PSET Sete Cidades 1.25 284 *e*P **Pn** **21 35 23.6 +3.2**
PSET *e*S **Sb** **21 35 37.1 +0.4**
PSCM Serra do Cume 2.59 298 *e*P **Pn** **21 35 42.6 +3.8**
PSCM *e*S **Sn** **21 36 11.1 +0.8**
PSCM A 21 36 13.4
151nm,0.2s
PSCM Serra do Cume 2.59 298 *e*P **Pn** **21 35 42.6 +3.8**
PSCM *e*S **Sn** **21 36 11.1 +0.8**
ADH Angra Heroismo 2.65 296 *e*S **Sn** **21 36 12.0 +0.1**
PMAN Manadas 3.27 291 *e*S **Sn** **21 36 26.3 -0.8**
PMAN A 21 36 29.8
54nm,0.3s
ROSA Rosais 3.41 292 *e*P **Pn** **21 35 54.3 +4.2**
ROSA *e*S **Sn** **21 36 29.1 -1.5**
PICO Pico 3.48 287 *e*P **Pn** **21 35 54.7 +3.6**
PICO *e*S **Sn** **21 36 31.0 -1.4**
HOR Horta 3.65 287 *e*S **Sn** **21 36 34.8 -1.6**
CALA Caldeira 3.71 288 *e*P **Pn** **21 35 57.9 +3.6**
CALA *e*S **Sn** **21 36 36.7 -1.4**
PMAR Madeira 7.65 127 *e*Pn **Pn** **21 36 54.9 +6.5**
PMAR *e*Sn **Sn** **21 38 14.7 -0.4**
PMAR A 21 38 23.3
15nm,0.4s
PMAR *e*T 21 44 22.0
PMPS Porto Santo 7.82 122 *e*Pn **Pn** **21 36 56.7 +6.0**
PMPS *e*Sn **Sn** **21 38 16.1 -3.2**
PMPS *e*T 21 44 46.4
EVO Evora 12.79 81 *e*Sn **Sn** **21 40 21.7 +0.4**
PBEJ Beja 12.93 83 *e*Sn **Sn** **21 40 24.7 +0.2**
PBEJ *e*T 21 50 24.6
PBDV Barranco-do-Ve 12.94 86 *e*Sn **Sn** **21 40 24.8 +0.1**
PBDV *e*T 21 50 23.7
PVAQ Vaqueiros 13.09 86 *e*Sn **Sn** **21 40 28.8 +0.3**
PVAQ *e*T 21 50 27.3
MTE Manteigas 13.27 72 *e*Sn **Sn** **21 40 31.5 -1.2**
PBAR Barrancos 13.57 82 *e*Sn **Sn** **21 40 40.2 0.0**

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*NEIC **09** 21:44:52.4,3240S×7138W,h15km,ML2.7(GUC),After GUC.*
GUC 09 21:44:52.4±0.8,3240S×7138W,h15km±4km,MD3.5, ML2.7,9C-3D,Near coast of central Chile
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
ROCH El Roble 0.65 152⇑ *i*P Pg 21 45 04.7 -0.5
ROCH *i* S Sg 21 45 13.8 0.0
JACH Jahuel 0.72 113⇓ *i*P Pg 21 45 06.1 -0.3
JACH *i* S Sg 21 45 16.4 +0.4
PEL Peldehue 0.95 142⇑ *i*P Pb 21 45 09.2 -1.3
PEL *i* S Sb 21 45 22.3 -0.6
RCDM Rinconada Maip 1.19 156 *e*P Pn 21 45 13.1 -1.4
RCDM *i* S Sb 21 45 28.5 -1.3
CLCH Cerro Calan 1.22 145⇓ *i*P Pn 21 45 14.2 -0.7
CLCH *i* S Sb 21 45 30.4 -0.4
CLCH AML AML 21 45 31.0
comp=N,337nm,0.4s
CMCH Combarbala 1.26 15⇑ *i*P Pn 21 45 14.2 -1.3
CMCH *i* S Sb 21 45 31.0 -0.9
FCH Farellones 1.30 136⇑ *i*P Pn 21 45 15.5 -0.6
FCH *i* S Sb 21 45 32.7 -0.4
FCH AML AML 21 45 33.1
comp=E,204nm,0.2s
TACH Talagante 1.31 164⇓ *i*P Pn 21 45 14.8 -1.3
TACH *i* S Sb 21 45 32.0 -1.2
PCH Pirque 1.42 149⇑ *i*P Pn 21 45 17.2 -0.4
PCH *i* S Sn 21 45 35.7 -0.3
LNV Longovilo 1.56 181⇑ *i*P Pn 21 45 18.6 -0.9
CHCH Chadas Angostu 1.65 159 *e*P Pn 21 45 20.8 0.0
CHCH *i* S Sn 21 45 41.6 -0.1
LMEL Las Melosas 1.75 146⇑ *i*P Pn 21 45 22.5 +0.3
LMEL *i* S Sn 21 45 45.0 +0.8
LMEL Las Melosas 1.75 146⇑ *i*P Pn 21 45 22.5 +0.3
LMEL *i* S Sn 21 45 45.0 +0.8
LMEL AML AML 21 45 47.2
comp=N,117nm,0.1s
CICH Cipreses 2.08 158⇑ *i*P Pn 21 45 27.6 +0.9
SFDO San Fernando 2.23 172 *e*P Pn 21 45 29.9 +1.1
SFDO *i* S Sn 21 45 58.6 +2.5

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*NEIC **09** 21:49:25.4±1.0,1921S×17749W,h300km,mb4.3/2,Error ellipse: s-maj=22.2km s-min=19.6km az=117.0*
IDC 09 21:49:25.2±19.0,1922S×17753W,h294km±186km, mb3.7/5,mb1 3.8/6,mb1mx3.4/17,mbtmp3.7/6,Error ellipse: s-maj=110.8km s-min=28.4km az=17.0,Fiji Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
URZ Urewera 19.54 193 P P 21 53 31.6 0.0
2.5nm,0.3s,baz=240,slow=2.6,SNR=8.7
CTA Charters Tower 34.08 262 P P 21 55 42.8 +0.1
1.9nm,0.4s,baz=73,slow=13,SNR=6.6
CTAO Charters Tower 34.08 262 *e*P P 21 55 43.3 +0.6
8.9nm,0.8s
STKA Stephens Creek 38.75 243 P P 21 56 22.0 0.0
1.1nm,0.5s,baz=75,slow=9.2,SNR=5.1
WRA Warramunga Arr 45.23 261 P P 21 57 13.3 -0.9
0.8nm,0.4s,baz=97,slow=7.1,SNR=12
ASAR Alice Springs 45.25 255 P P 21 57 14.4 +0.2
11nm,0.6s,baz=92,slow=8.2,SNR=153
FITZ Fitzroy Crossi 53.64 261 P P 21 58 17.7 +0.3
3.0nm,0.7s,baz=55,slow=4.1,SNR=11
MBWA Marble Bar 58.57 256 *e*P P 21 58 51.5 -0.6
7.8nm,0.8s
ARCES ARCESS Array B 127.74 350 PKP PKPdf 22 07 54.2 -0.9
7.8nm,1.2s,baz=8.5,slow=1.8,SNR=3.9
GERES GERESS Array B 149.08 345 PKPbc PKPbc 22 08 38.8 +0.1
0.4nm,0.6s,baz=78,slow=5.1,SNR=3.0

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*IDC **09** 21:52:53.1±7.9,2170N×14298E,h318km±48km,mb3.3/5, mb1 3.4/8,mb1mx3.1/22,mbtmp3.4/8,Error ellipse: s-maj=83.5km s-min=34.2km az=178.0*
ISC 09 21:52:54.3±5.4,218N±04×1430E±04,h324km±33km,n8, σ0°65/9,mb3.5/5,Mariana Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
CBIJ Chichi jima 5.35 352 P **Pn** **21 54 16.9 +0.2**
8.1nm,0.3s,baz=291,slow=17,SNR=8.9
CBIJ S **S** **21 55 22.4 -0.7**
7.3nm,0.3s,baz=284,slow=23,SNR=11
JHJ Hachijo jima 2 11.65 347 P **Pn** **21 55 32.7 +0.6**
5.9nm,0.3s,baz=232,slow=18,SNR=6.4
MJAR Matsushiro Arr 15.29 345 P **P** **21 56 14.0 +0.8**
0.6nm,0.3s,baz=158,slow=10,SNR=5.8
ZALV Zalesovo Beam 54.03 322 P **P** **22 01 46.3 +0.6**
0.5nm,0.4s,mb3.2,baz=116,slow=6.6,SNR=2.3
MKAR Makanchi Array 54.50 313 P **P** **22 01 48.3 -0.9**
0.1nm,0.2s,mb2.7,baz=155,slow=11,SNR=3.0
YKA Yellowknife Ar 76.48 28 P **P** **22 04 08.3 -0.3**
0.6nm,0.5s,mb3.5,baz=292,slow=5.5,SNR=10
ARCES ARCESS Array B 78.79 341 P **P** **22 04 21.8 +0.6**
4.0nm,0.9s,mb4.1,baz=65,slow=6.8,SNR=5.9
FINES FINESS Array B 83.03 334 P **P** **22 04 42.7 -0.8**
1.1nm,0.6s,mb3.9,baz=74,slow=6.3,SNR=8.6

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*ISCJB **09** 22:19:01.4±1.0,3830N×004×2643E±007,h12km±5km, Error ellipse: s-maj=9.4km s-min=5.3km az=154.4*
*CSEM **09** 22:19:02.2±0.1,3839N×2658E,h15km±1km,MD2.5,Error ellipse: s-maj=5.9km s-min=3.1km az=66.0*
*DDA **09** 22:19:02.4,3831N×2645E,h4km±2km,Md2.5*
*ATH **09** 22:19:02.0,3831N×2644E,h34km±6km,MD3.0/4*
*NEIC **09** 22:19:02.0,3831N×2644E,h34km,MD3.0(ATH),After ATH.*
ISC 09 22:19:01.9±0.9,3834N±004×2645E±008,h14km±5km,n9, σ0°87/16,Aegean Sea
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
URLA Izmir 0.12 78 *i* P **Pg** **22 19 05.1 -0.1**
URLA *i* S **Sg** **22 19 07.3 -0.2**
KDAG Bornova 0.65 84 *i* P **Pg** **22 19 13.9 -0.6**
KDAG *i* S **Sg** **22 19 22.7 -0.3**
SMG Samos 0.70 154 *e*PN **Pn** **22 19 15.6 -1.8**
SMG *e*SN **Sg** **22 19 26.1 +1.5**
PRK Paraskevi 0.92 351 *e*PN **Pn** **22 19 20.0 -0.5**
PRK *e*SN **Sn** **22 19 33.5 0.0**
AYVA Ayvalik 0.99 11 *i* P **Pb** **22 19 20.4 -0.5**
AYVA *i* S **Sb** **22 19 35.1 +1.3**
AYDN Tasoluk 1.31 120 *i* P **Pn** **22 19 25.3 -0.6**
AYDN *i* S **Sb** **22 19 44.0 +0.8**
APE Apeiranthos 1.46 210 *e*PN **Pn** **22 19 27.7 -0.2**
BOZC Bozcaada 1.54 348 *i* P **Pn** **22 19 30.6 +1.7**
BOZC *i* S **Sn** **22 19 48.1 -0.6**
LIA Limnos Island 1.85 328 *e*PN **Pn** **22 19 33.5 +0.3**

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*CSEM **09** 22:21:19.1,3870N×4012E,h12km,MD2.9,After ISK*
ISK 09 22:21:19.1,3870N×4012E,h12km,MD2.9,Turkey
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
BINT Bingol 0.34 58 PG Pg 22 21 26.4 +0.4
BINT SG Sg 22 21 31.8 +1.2
PTK Pertek 0.60 289 *e*PG Pg 22 21 30.6 -0.2
PTK *e*SG Sg 22 21 40.3 +1.6
SVRC Sivrice-ELAZID 0.71 244 *e*PG Pg 22 21 33.5 +0.7
EZC Erzincan 1.08 348 *e*PN Pn 22 21 42.3 +2.3
EZM Erzurum 1.55 38 *e*PN Pn 22 21 47.4 +1.0

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*MOS **09** 22:23:44.9±0.8,704S×13035E,h35km,mb5.3/19,Error ellipse: s-maj=16.1km s-min=6.5km az=109.8*
*BJI **09** 22:23:45.0,7425S×13065E,h70km,mB5.1,mb5.0,Ms4.7, Msz4.2*
*ISCJB **09** 22:23:47.8±0.8,7165S±004×13057E±005,h67km±8km, mb5.0/66,Error ellipse: s-maj=8.7km s-min=5.3km az=157.3*
*IDC **09** 22:23:48.2±2.9,7105S×13037E,h51km±26km,mb4.4/13, mb1 4.4/14,mb1mx4.4/16,mbtmp4.5/14,ML5.5/3,MS4.0/10, Ms1 4.0/10,ms1mx3.8/19,Error ellipse: s-maj=19.4km s-min=10.0km az=65.0*
*NEIC **09** 22:23:50.1±0.8,7155S×13047E,h72km±7km,mb5.0/24, Error ellipse: s-maj=10.2km s-min=5.3km az=72.0*
*GCMT **09** 22:23:50.1±0.2,7055S×13046E,h98km±2km,MW5.1/92, Moment Tensor Solution. s58,c66; s92,c137; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.58±.12; $M_{\theta\theta}$-0.63±.12; $M_{\phi\phi}$-1.96±.14; $M_{r\theta}$1.57±.08; $M_{\theta\phi}$4.83±.11; $M_{\phi r}$1.44±.10; Best double couple: $M_0$5.71900×10^{16} NP1:ϕ_s101.00000°,δ64.00000°,λ29.00000°. NP2: ϕ_s357.00000°,δ64.00000°,λ150.00000°. Principal axes: T 5.2690, Plg38.0000°, Azm319.0000°; N 0.8940, Plg52.0000°, Azm139.0000°; P -6.1690, Plg0.0000°, Azm49.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 09 22:23:49.7±0.7,7165S±003×13045E±004,h64km±6km, h63km±1.9km:pP-P,n215,σ1°12/207,mb5.1/66,18C-8D, Tanimbar Islands region
Code Station Name Δ° AZ° Phase ID Op ISC Time h m s ISC Res
AAI Ambon 4.11 327 P **Pn** **22 24 54.4 +4.3**
599nm,0.9s
KAKA Kakadu 5.86 161 *e*P **Pn** **22 25 16.5 +2.5**
1μm,0.6s
KAKA *e*S **Sn** **22 26 19.4 -0.4**
BATI Kupang 7.36 245 P **Pn** **22 25 38.9 +4.3**
664nm,0.3s,baz=112,slow=3.3,SNR=375
BATI S **Sn** **22 26 55.2 -1.5**
baz=109,slow=16,SNR=1.7
KDI Kendari 8.42 292 P **Pn** **22 25 58.0 +9.0**
71nm,1.2s
MMPI Merauke 9.93 98 P **Pn** **22 26 15.3 +5.6**
777nm,0.7s
JAY Jayapura 11.21 66 P **Pn** **22 26 29.2 +2.0**
159nm,1.5s
FITZ Fitzroy Crossi 11.85 203⇑ *i*P **Pn** **22 26 35.0 -0.9**
162nm,0.2s
FITZ *e*S **Sn** **22 28 38.5 -7.9**
FITZ Fitzroy Crossi 11.85 203 P **Pn** **22 26 35.2 -0.7**
45nm,0.3s,baz=30,slow=13,SNR=294

FITZ S **Sn** **22 28 37.6 -8.8**
46nm,0.3s,baz=116,slow=20,SNR=13
FITZ LR LR 22 31 50.9
comp=Z,662nm,20.8s,baz=224,slow=41
PCI Palu 12.27 300 P **Pn** **22 26 48.6 +6.9**
281nm,1.1s
WRAB Tennant Creek 13.25 164 Pn **Pn** **22 26 53.0 -2.0**
1µm,0.5s
WRAB Tennant Creek 13.25 164 *e*P **Pn** **22 26 53.5 -1.5**
WRAB pmax pmax
comp=Z,139nm,0.7s
WRAB Tennant Creek 13.25 164 *e*Pn **Pn** **22 26 53.5 -1.5**
comp=Z,139nm,0.7s
WRAB *e*Sn **Sn** **22 29 13.0 -7.7**
WRA Warramunga Arr 13.26 164 P **Pn** **22 26 53.5 -1.6**
WRA S **Sn** **22 29 10.7 -10**
WRA Warramunga Arr 13.26 164 P **Pn** **22 26 53.5 -1.6**
comp=Z,20nm,0.3s,baz=350,slow=13,SNR=92
WRA S **Sn** **22 29 10.7 -10**
comp=Z,15nm,0.3s,baz=349,slow=22,SNR=9.6
WB2 Warramunga Arr 13.26 164 *e*P **Pn** **22 26 53.0 -2.2**
WB2 *e*S **Sn** **22 29 08.2 -13**
DAV Davao City (W) 14.94 341 Pn **Pn** **22 27 19.7 +2.3**
DAV Sn **Sn** **22 29 55.9 -6.0**
ASAR Alice Springs 16.75 169 P **Pn** **22 27 40.4 +0.2**
comp=Z,11nm,0.3s,baz=349,slow=11,SNR=146
ASAR S **S** **22 30 38.8 -14**
comp=Z,10nm,0.3s,baz=346,slow=22,SNR=9.2
TSM Tawau 16.94 312 ⇑P **Pn** **22 27 44.7 +2.0**
MYLDM Lahad Datu 17.10 315 ⇓P **Pn** **22 27 48.2 +3.5**
MBWA Marble Bar 17.35 216 *e*P **Pn** **22 27 48.1 +0.4**
comp=Z,86nm,1.0s
SDKM Sandakan 18.34 314 ⇑P **Pn** **22 28 02.5 +2.7**
KKM Kota Kinabalu 19.33 312 *e*P **Pn** **22 28 10.9 -0.7**
KKM *e*S **S** **22 31 43.1 -2.4**
KKM Kota Kinabalu 19.33 312 ⇓P **Pn** **22 28 11.1 -0.5**
KDM Kudat 19.49 316 ⇑P **Pn** **22 28 13.3 -0.3**
CTA Charters Tower 20.00 132 *e*P **Pn** **22 28 20.5 +1.0**
comp=Z,16nm,0.8s
CTA Charters Tower 20.00 132 P **Pn** **22 28 19.5 0.0**
CTA S **S** **22 32 00.9 +2.0**
CTA pmax pmax
comp=Z,16nm,0.9s
CTA smax
comp=N,9.0nm,0.7s
CTA Charters Tower 20.00 132 P **Pn** **22 28 19.5 0.0**
comp=N,16nm,0.9s,baz=314,slow=14,SNR=13
CTA S **S** **22 32 00.8 +2.0**
comp=N,9.3nm,0.7s,baz=42,slow=22,SNR=3.4
CTAO Charters Tower 20.00 132 *e*P **Pn** **22 28 21.2 +1.7**
BTM Bintulu 20.16 300 ⇓P **P** **22 28 21.2 +2.2**
SBUM Sibu 20.54 297 ⇑P **P** **22 28 25.5 +2.3**
KSM Kuching 21.85 292 *e*P **P** **22 28 36.0 -1.2**
KSM S **S** **22 32 34.8 -0.5**
KSM Kuching 21.85 292 ⇑P **P** **22 28 38.7 +1.4**
FORT Forrest 23.61 185 *e*P **P** **22 28 55.9 +1.0**
comp=N,50nm,0.6s,mb5.1
FORT *e*S **S** **22 33 13.8 +9.1**
STKA Stephens Creek 26.70 159 *e*P **P** **22 29 23.7 +0.7**
comp=N,7.0nm,0.6s,mb4.4
STKA Stephens Creek 26.70 159 P **P** **22 29 24.0 +1.0**
comp=N,3.9nm,0.5s,mb4.2,baz=328,slow=8.2,SNR=8.2
STKA LR LR 22 40 15.0
comp=N,258nm,18.7s,baz=329,slow=37
KLBR Kellerberrin 27.05 204 *e*P **P** **22 29 27.4 +1.3**
comp=N,35nm,1.2s,mb4.8
MYKOM Kota Tinggi 27.99 288 ⇓P **P** **22 29 35.9 +1.1**
NWAO Narrogin (SRO) 28.43 204 *e*P **P** **22 29 38.7 +0.3**
NWAO pmax pmax
comp=Z,14nm,0.5s
NWAO Narrogin (SRO) 28.43 204 *e*P **P** **22 29 38.7 +0.3**
comp=Z,14nm,0.5s,mb4.8
NWAO LR LR 22 42 58.2
NWAO Narrogin (SRO) 28.43 204 P **P** **22 29 37.8 -0.7**
comp=Z,2.1nm,0.4s,mb4.2,baz=185,slow=11,SNR=2.0
NWAO LR LR 22 42 58.2
comp=Z,362nm,18.9s,baz=19,slow=40
KGM Kluang 28.57 288 ⇑P **P** **22 29 40.4 +0.5**
HNR Honiara 29.27 96 LR LR 22 40 11.4
comp=Z,188nm,21.9s,baz=184,slow=34
FRIM Kepong 30.56 289 ⇓P **P** **22 29 59.5 +1.9**
PPI Padang Panjang 30.70 281 P **P** **22 29 58.8 0.0**
comp=Z,37nm,0.9s,mb5.2
IPM Ipoh 31.56 291 ⇑P **P** **22 30 07.5 +1.1**
KULM Kulim 32.20 292 P **P** **22 30 13.5 +1.4**
NACB Ninganchiao 32.32 345 P **P** **22 30 11.6 -1.2**
YHNB Yeheng 32.85 345 *e*P **P** **22 30 16.5 -1.0**
PSI Prapat 32.98 286 P **P** **22 30 17.5 -1.4**
comp=Z,12nm,0.7s,mb5.0,baz=122,slow=2.8,SNR=7.7
QIZ Qiongzhong 33.01 322 P **P** **22 30 19.7 +0.7**
QIZ S **S** **22 35 34.8 +1.7**
QIZ AMB AMB
comp=Z,33nm,1.2s,mb5.1
QIZ LR LR
comp=N,87nm,23.0s
QIZ LR LR
comp=E,90nm,21.1s
QIZ LR LR
comp=Z,231nm,23.9s
QIZ Qiongzhong 33.01 322 *e*P **P** **22 30 19.7 +0.8**
comp=Z,41nm,1.1s,mb5.3
CBIJ Chichi jima 35.90 18 P **P** **22 30 42.8 -1.0**
comp=Z,27nm,0.3s,mb5.6,baz=230,slow=16,SNR=8.2
NANT Nan 39.06 312 ⇑P **P** **22 31 08.0 -2.7**
comp=Z,159nm,1.0s,mb5.7
CHG Chiang Mai 40.38 310 ⇑P **P** **22 31 21.0 -0.7**
comp=Z,36nm,1.1s,mb5.0
CHTO Chiang Mai 40.38 310 *e*P **P** **22 31 20.7 -1.0**
CHTO Chiang Mai 40.38 310 P **P** **22 31 21.5 -0.2**
SNR=5.3
CHTO Chiang Mai 40.38 310 P **P** **22 31 21.5 -0.2**
SNR=5.3
CHTO Chiang Mai 40.38 310 P **P** **22 31 21.5 -0.2**
SNR=5.3
NJ2 Nanjing 40.53 345 *e*P **P** **22 31 24.3 +1.6**
NJ2 AP pP 22 31 38.9 +0.2
NJ2 XP sP 22 31 46.1 0.0
NJ2 PP PP 22 33 02.7 +5.5
NJ2 S **S** **22 37 29.0 +1.7**
NJ2 AMB AMB
comp=Z,40nm,0.9s,mb5.0
NJ2 AMB AMB
comp=Z,160nm,10.0s
NJ2 LR LR
comp=N,700nm,28.0s
NJ2 LR LR
comp=E,310nm,22.5s
NJ2 LR LR
comp=Z,310nm,22.5s
GYA Guiyang 40.61 326 ⇑*i*P **P** **22 31 24.3 +0.8**
GYA AP pP 22 31 41.2 +1.7
GYA XP sP 22 31 47.6 +0.8
GYA PP PP 22 33 03.8 +5.6
GYA PCP PcP 22 33 26.7 +2.1
GYA SCP ScP 22 37 09.4 +0.7
GYA PCS PcS 22 37 16.2 +0.8
GYA S **S** **22 37 31.3 +2.6**
GYA XS sS 22 37 58.2 +2.3
GYA SS SS 22 40 27.7 -3.5
GYA SCS ScS 22 41 22.9 -0.5
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,120nm,6.2s
GYA LR LR
comp=N,550nm,18.8s
GYA LR LR
comp=E,480nm,18.6s
GYA LR LR
comp=Z,560nm,19.2s
KMI Kunming 41.92 321 P **P** **22 31 34.0 -0.2**
KMI AP pP 22 31 52.6 +2.3
KMI XP sP 22 32 01.1 +3.5
KMI PPP 22 33 47.1
KMI S **S** **22 37 47.4 -0.7**
KMI XS sS 22 38 22.0 +6.6
KMI SS SS 22 40 50.1 -7.0
KMI SSS 22 41 36.2
KMI AMB AMB
comp=Z,26nm,1.1s,mb4.8
KMI LR LR
comp=N,120nm,21.5s
KMI LR LR
comp=E,140nm,19.1s
KMI LR LR
comp=Z,118nm,23.5s
MJAR Matsushiro Arr 44.07 9 P **P** **22 31 50.1 -1.4**
comp=Z,31nm,0.9s,mb5.0,baz=188,slow=9.5,SNR=55
MJAR LR LR 22 47 40.8
comp=Z,77nm,19.3s,baz=210,slow=32
MAJO Matsushiro 44.07 9 *e*P **P** **22 31 50.1 -1.4**
MAJO pmax pmax
comp=Z,51nm,0.9s,mb5.2
MAJO Matsushiro 44.07 9 *e*P **P** **22 31 50.1 -1.4**
comp=Z,51nm,0.9s,mb5.2
MAT Matsushiro 44.07 9 P **P** **22 31 49.8 -1.7**
MAT S **S** **22 38 16.0 -3.4**
KSRS Korea Array 44.44 357 P **P** **22 31 53.7 -0.7**
comp=Z,2.8nm,0.7s,mb4.1,baz=171,slow=10,SNR=10
CD2 Chengdu 45.67 327 *e*P **P** **22 32 03.5 -0.8**
CD2 AP pP 22 32 19.0 -1.5
CD2 XP sP 22 32 26.1 -1.8
CD2 PP PP 22 33 51.8 -0.6
CD2 S **S** **22 38 42.5 -0.3**
CD2 XS sS 22 39 08.6 -1.7
CD2 SS SS 22 42 00.1 -7.9
CD2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CD2 AMB AMB
comp=Z,30nm,4.2s
CD2 LR LR
comp=N,320nm,13.2s
CD2 LR LR
comp=E,310nm,9.6s
CD2 LR LR
comp=Z,120nm,14.4s
XAN Xi'an 45.77 335 P **P** **22 32 03.5 -1.5**
XAN AMB AMB
comp=Z,17nm,0.9s,mb5.0
XAN AMB AMB
comp=Z,107nm,7.1s
BJT Baijiatuau 48.76 345 *e*P **P** **22 32 26.9 -1.2**
BJT pmax pmax
comp=Z,12nm,0.6s
BJT Baijiatuau 48.76 345 *e*P **P** **22 32 26.9 -1.2**
comp=Z,12nm,0.6s,mb5.1
BJI Beijing 48.78 345 P **P** **22 32 27.5 -0.8**
BJI AP pP 22 32 43.7 -1.0
BJI XP sP 22 32 49.7 -2.2
BJI PP PP 22 34 23.5 +1.4
BJI S **S** **22 39 29.4 +2.8**
BJI XS sS 22 39 54.5 +0.2
BJI SS SS 22 42 51.9 -6.2
BJI AMB AMB
comp=Z,16nm,1.1s,mb5.0
BJI LR LR
comp=N,177nm,26.5s
BJI LR LR
comp=E,98nm,25.9s
BJI LR LR
comp=Z,60nm,24.1s
LZH Lanzhou 49.75 332 *e*P **P** **22 32 35.6 -0.2**
LZH AP pP 22 32 51.1 -1.1
LZH XP sP 22 32 58.0 -1.5
LZH PP PP 22 34 32.0 +0.9
LZH SCP ScP 22 37 45.7 -0.5
LZH PCS PcS 22 37 51.5 -1.3
LZH *e*S **S** **22 39 39.2 -1.2**
LZH XS sS 22 40 06.5 -1.7
LZH SS SS 22 43 09.5 -4.4
LZH AMB AMB
comp=Z,28nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,120nm,4.3s
LZH LR LR
comp=N,401nm,16.9s
LZH LR LR
comp=Z,650nm,17.5s
VLA Vladivostok 50.05 1 *i*P **P** **22 32 38.2 +0.3**
VLA pmax pmax
comp=Z,114nm,1.8s,mb5.6
HHC Hu-ho-hao-te 50.83 342 *e*P **P** **22 32 46.9 +3.1**
HHC AP pP 22 33 02.7 +2.4
HHC XP sP 22 33 09.9 +2.3
HHC PP PP 22 34 45.7 +4.9
HHC S **S** **22 39 57.7 +2.5**
HHC XS sS 22 40 25.3 +2.2
HHC SCS ScS 22 42 28.3 -0.5
HHC SS SS 22 43 32.6 +1.7
HHC AMB AMB
comp=Z,24nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,107nm,5.4s
HHC LR LR
comp=N,183nm,13.4s
HHC LR LR
comp=E,189nm,13.7s
HHC LR LR
comp=Z,210nm,18.4s
CN2 Changchun 50.92 355 *e*P **P** **22 32 45.7 +1.2**
CN2 *e*S **S** **22 39 57.6 +1.2**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,100nm,15.0s
CN2 LR LR
comp=E,200nm,15.0s
CN2 LR LR
comp=Z,200nm,16.0s
MDJ Mudanjiang 51.54 359 P **P** **22 32 49.1 0.0**
MDJ AP pP 22 33 02.7 -2.9
MDJ PP PP 22 34 45.6 -1.5
MDJ PCS PcS 22 37 59.9 -0.2
MDJ S **S** **22 40 06.0 +1.1**
MDJ SS SS 22 43 38.8 -3.2
MDJ AMB AMB
comp=Z,12nm,1.0s,mb4.8
MDJ AMB AMB
comp=Z,41nm,3.5s
MDJ LR LR
comp=E,141nm,35.5s
MDJ LR LR
comp=Z,77nm,27.8s
MDJ Mudanjiang 51.54 359 *e*P **P** **22 32 49.1 +0.1**
comp=Z,17nm,1.0s,mb4.9
LSA Lhasa 52.62 316 P **P** **22 32 57.8 +0.4**
LSA Lhasa 52.62 316 *e*P **P** **22 32 57.5 +0.1**
LSA pmax pmax
comp=Z,22nm,0.8s,mb5.1
LSA Lhasa 52.62 316 *e*P **P** **22 32 57.5 +0.1**
comp=Z,22nm,0.8s,mb5.2
GTA Gaotai 54.32 331 *e*P **P** **22 33 09.2 -0.5**
GTA AP pP 22 33 24.7 -1.6
GTA XP sP 22 33 31.5 -2.1
GTA PCP PcP 22 34 13.9 +0.8
GTA PP PP 22 35 12.1 -0.3
GTA SCP ScP 22 38 04.7 -1.3
GTA S **S** **22 40 42.6 -0.4**
GTA SCS ScS 22 42 51.0 -2.3
GTA SS SS 22 44 21.6 -4.6
GTA AMB AMB
comp=Z,7.0nm,1.4s,mb4.4
GTA AMB AMB
comp=Z,92nm,9.5s
GTA LR LR
comp=N,90nm,19.8s
GTA LR LR
comp=E,189nm,21.3s
GTA LR LR
comp=Z,97nm,14.1s
YSS Yuzh-Sakhalins 54.97 10 ⇓*e*P **P** **22 33 14.1 -0.1**
YSS pmax pmax
comp=Z,42nm,1.6s,mb5.2
YSS Yuzh-Sakhalins 54.97 10 *e*P **P** **22 33 13.8 -0.4**
comp=Z,15nm,0.4s,mb5.4
JIRN Jiri 55.02 311 *e*P **P** **22 33 14.4 -0.6**
comp=Z,20nm,0.4s,mb5.5
GUN Gumba 55.39 311 *e*P **P** **22 33 17.1 -0.6**
comp=Z,87nm,0.8s,mb5.8
HABR Khabarovsk 55.54 4 *e*P **P** **22 33 17.2 -1.1**
HABR *e* 22 34 14.3
HABR *e* 22 35 22.6
HABR *e*S **S** **22 40 59.6 +0.7**
HABR *e* 22 44 46.7
PKI Pulchoki 55.56 310 *e*P **P** **22 33 18.0 -0.9**
comp=Z,18nm,0.5s,mb5.3
KKN Kakani 55.78 311 *e*P **P** **22 33 19.4 -1.0**
comp=Z,53nm,0.9s,mb5.6
DMN Daman 55.81 310 *e*P **P** **22 33 20.0 -0.7**
comp=Z,63nm,1.0s,mb5.6
GKN Gorkha 56.37 310 *e*P **P** **22 33 23.6 -1.1**
comp=Z,31nm,0.3s,mb5.9
KOLN Koldanda 57.04 310 *e*P **P** **22 33 28.7 -0.7**
comp=Z,46nm,0.7s,mb5.6
DANN Dangsing 57.22 310 *e*P **P** **22 33 29.7 -0.9**
comp=Z,23nm,0.5s,mb5.4
ULN Ulaanbaatar 58.55 342 *e*P **P** **22 33 39.8 +0.2**
ULN pmax pmax
comp=Z,12nm,0.7s,mb5.0
ULN Ulaanbaatar 58.55 342 *e*P **P** **22 33 39.8 +0.2**
comp=Z,12nm,0.7s,mb5.0
ULN Ulaanbaatar 58.55 342 P **P** **22 33 40.2 +0.7**
SNR=8.9
ULN Ulaanbaatar 58.55 342 P **P** **22 33 40.2 +0.7**
SNR=8.9
SONM Songino Array 58.73 341 P **P** **22 33 41.1 +0.3**
comp=Z,4.3nm,0.7s,mb4.6,baz=154,slow=7.4,SNR=27
SONM LR LR 22 58 21.9
comp=Z,96nm,20.4s,baz=66,slow=35
ZAK Zakamensk 61.96 341 *e*P **P** **22 34 02.4 -0.4**
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
WMQ Urumqi 63.77 327 *e*P **P** **22 34 15.0 0.0**
WMQ AP pP 22 34 31.0 -1.0
WMQ XP sP 22 34 38.0 -1.2
WMQ PP PP 22 36 37.0 +0.9
WMQ S **S** **22 42 43.0 -2.1**
WMQ SS SS 22 46 54.0 -0.3
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,65nm,5.0s
WMQ LR LR
comp=N,65nm,15.0s
WMQ LR LR
comp=E,84nm,15.0s
WMQ LR LR
comp=Z,58nm,15.0s
MOY Mondy 63.81 340 *e*P **P** **22 34 15.4 +0.3**
MOY pmax pmax
comp=Z,34nm,1.5s,mb5.2
BOD Bodaibo 66.12 350 *e*P **P** **22 34 28.9 -1.1**
BOD pmax pmax
comp=Z,18nm,1.2s,mb5.0
KSH Kashi 68.43 317 *e*P **P** **22 34 46.0 +1.0**
KSH *e*AP pP 22 35 02.1 -0.1
KSH *e*XP sP 22 35 09.2 -0.1
KSH *e*PCP PcP 22 35 11.1 +1.1
KSH *e*PP PP 22 37 19.3 +2.4
KSH *e*PPP 22 38 57.0
KSH *e*SCP 22 39 08.2
KSH *e*PCS 22 39 14.0
KSH *e*S S 22 43 39.2 -2.7
KSH *e*XS sS 22 44 09.1 -1.9
KSH *e*PS 22 44 14.1
KSH *e*SCS ScS 22 44 36.1 -3.2
KSH *e*SS SS 22 48 07.1 +0.1
KSH AMB AMB
comp=Z,459nm,3.7s
KSH LR LR
comp=N,556nm,4.8s
KSH LR LR
comp=E,339nm,5.5s
KSH LR LR
comp=Z,262nm,5.3s
MA2 Magadan 68.47 11 *i*P **P** **22 34 44.1 -0.7**
MA2 pmax pmax
comp=Z,17nm,1.1s,mb5.0
MK31 Makanchi Array 68.60 327 *i*P **P** **22 34 45.5 -0.4**
MK31 pmax pmax
comp=Z,3.0nm,0.3s,mb4.7
MK31 Makanchi Array 68.60 327 *e*P **P** **22 34 45.1 -0.8**
MKAR Makanchi Array 68.60 327 *i*P **P** **22 34 45.5 -0.4**
MKAR pmax pmax
comp=Z,6.0nm,0.4s
MKAR Makanchi Array 68.60 327 P **P** **22 34 45.6 -0.3**
comp=Z,6.1nm,0.4s,mb4.9,baz=116,slow=7.9,SNR=103
YAK Yakutsk 68.98 360 *e*P **P** **22 34 47.5 -0.4**
YAK *e* pP 22 35 03.2 -2.0
YAK *e**PP pP 22 35 10.4 +5.2
YAK *e* 22 37 16.7
YAK *e*S S 22 43 40.9 -6.7
YAK *e**SS sS 22 44 25.8 +9.1
YAK *e* 22 44 38.9
YAK pmax pmax
comp=Z,92nm,1.4s,mb5.5
YAK pmax pmax
comp=N,43nm,1.5s
YAK pmax pmax
comp=E,3.0nm,0.7s
YAK pmax pmax
comp=Z,61nm,2.2s,mb5.1
YAK pmax pmax
comp=N,17nm,1.3s
YAK smax
comp=N,78nm,2.8s
YAK smax
comp=E,60nm,3.5s
YAK Yakutsk 68.98 360 *e*P **P** **22 34 47.1 -0.9**
comp=E,59nm,0.9s,mb5.5
ULHL Ulahol 69.63 320 P **P** **22 34 54.0 +1.6**
SNR=7.0
KZA Kyzart 70.19 319 P **P** **22 34 56.9 +1.1**
SNR=41
TKM2 Tokmak 2 70.39 320 *e*P **P** **22 34 56.6 -0.4**
TKM2 pmax pmax
comp=Z,17nm,0.8s,mb5.0
TKM2 Tokmak 2 70.39 320 *e*P **P** **22 34 56.6 -0.4**
comp=Z,17nm,0.8s,mb5.0
TKM2 Tokmak 2 70.39 320 P **P** **22 34 57.3 +0.3**
SNR=21
KBK Karagaybulak 70.67 320 P **P** **22 34 59.3 +0.5**
SNR=14
UCH Uchtor 70.73 319 *e*P **P** **22 34 60.0 +0.8**
comp=Z,24nm,0.9s,mb5.1
UCH Uchtor 70.73 319 P **P** **22 35 00.2 +1.0**
SNR=35
AAK Ala-Archa 70.95 320 P **P** **22 35 00.7 +0.3**
comp=Z,134nm,1.0s,mb5.8,SNR=18
AAK Ala-Archa 70.95 320*c* *i*P **P** **22 35 00.0 -0.4**
AAK pmax pmax
comp=Z,30nm,1.4s,mb5.0
AAK Ala-Archa 70.95 320 *e*P **P** **22 34 59.2 -1.2**
AAK Ala-Archa 70.95 320 P **P** **22 35 00.6 +0.1**
SNR=12
AAK Ala-Archa 70.95 320 P **P** **22 35 00.6 +0.1**
SNR=12
AAK Ala-Archa 70.95 320 P **P** **22 35 00.6 +0.1**
SNR=12
AAK Ala-Archa 70.95 320 P **P** **22 35 01.1 +0.6**
SNR=23
CHMS Chumysh 70.96 320 P **P** **22 35 00.8 +0.3**
SNR=6.2
KBL Kabul 71.20 310 *e*P **P** **22 35 01.6 -0.5**
comp=Z,19nm,0.9s,mb5.0
AML Almayashu 71.22 319 *e*P **P** **22 35 02.8 +0.7**
comp=Z,40nm,0.9s,mb5.3
AML Almayashu 71.22 319 P **P** **22 35 03.0 +0.9**
SNR=45
USP Ospenovka 71.26 320 P **P** **22 35 02.4 +0.1**
SNR=45
EKS2 Erkin-Say 71.42 319 *e*P **P** **22 35 03.7 +0.4**
comp=Z,25nm,0.9s,mb5.1
EKS2 Erkin-Say 71.42 319 P **P** **22 35 03.7 +0.4**
SNR=31
SEY Seymchan 71.88 10 ⇑*e*P **P** **22 35 05.3 -0.3**
ZAA0 Zalesovo Array 71.92 334 *e*P **P** **22 35 05.0 -1.0**
ZALV Zalesovo Beam 71.92 334 P **P** **22 35 04.9 -1.1**
comp=Z,9.1nm,0.9s,mb4.7,baz=116,slow=5.1,SNR=37
ZAL Zalesovo 71.92 334 P **P** **22 35 04.9 -1.1**
VNDA Vanda 72.24 173 *e*P **P** **22 35 08.2 +0.6**
VNDA pP 22 35 25.9 +0.9
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 72.24 173 *e*P **P** **22 35 08.2 +0.6**
comp=Z,5.3nm,1.1s,mb4.4
VNDA PcP PcP 22 35 25.9 +0.4
VNDA LR LR 23 04 42.4
VNDA Vanda 72.24 173 P **P** **22 35 07.2 -0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=309,slow=7.7,SNR=16
VNDA LR LR 23 04 42.4
comp=Z,124nm,21.1s,baz=322,slow=34
KURK Kurchatov 72.88 328 P **P** **22 35 11.5 -0.3**
comp=Z,80nm,1.2s,mb5.5,SNR=14

KURK	**Kurchatov**	**72.88**	**328**	*e*P	**P**	**22 35 11.1 -0.7**
KURK				pmax	pmax	
comp=Z,16nm,1.0s,mb4.9						
KURK	**Kurchatov**	**72.88**	**328**	*e*P	**P**	**22 35 11.1 -0.7**
comp=Z,16nm,1.0s,mb4.9						
KURK	**Kurchatov**	**72.88**	**328**	P	**P**	**22 35 11.6 -0.2**
SNR=9.3						
KURK	**Kurchatov**	**72.88**	**328**	P	**P**	**22 35 11.6 -0.2**
SNR=9.3						
KURK	**Kurchatov**	**72.88**	**328**	P	**P**	**22 35 11.6 -0.2**
SNR=9.3						
SBA	**Scott Base**	**73.12**	**172**	*e*P	**P**	**22 35 13.1 +0.2**
NVS	**Novosibirsk**	**73.21**	**334**	*i* P	**P**	**22 35 12.1 -1.5**
NVS				*i* S	S	22 44 27.6 -9.1
NVS				pmax	pmax	
comp=N,11nm,1.3s						
NVS				pmax	pmax	
comp=Z,20nm,1.3s,mb4.9						
NVS				pmax	pmax	
comp=E,14nm,1.2s						
NVS				smax		
comp=N,15nm,2.1s						
NVS				smax		
comp=E,6.0nm,1.2s						
MAW	**Mawson**	**74.97**	**202**	P	**P**	**22 35 24.5 +0.7**
comp=E,2.9nm,0.6s,mb4.4,baz=96,slow=3.9,SNR=4.6						
MAW				LR	LR	23 02 28.4
comp=E,233nm,21.6s,baz=74,slow=31						
BIDO	**Bidbid**	**76.85**	**296**	P	**P**	**22 35 36.4 +1.0**
SNR=5.3						
BIDO	**Bidbid**	**76.85**	**296**	P	**P**	**22 35 36.4 +1.0**
SNR=5.3						
BIDO	**Bidbid**	**76.85**	**296**	P	**P**	**22 35 36.4 +1.0**
SNR=5.3						
HOQ	**Hoqain**	**77.59**	**296**	P	**P**	**22 35 40.6 +1.1**
SNR=5.7						
HOQ	**Hoqain**	**77.59**	**296**	P	**P**	**22 35 40.6 +1.1**
SNR=5.7						
HOQ	**Hoqain**	**77.59**	**296**	P	**P**	**22 35 40.6 +1.1**
SNR=5.7						
PPT	**Papeete**	**78.35**	**106**	LR	LR	23 03 07.2
comp=E,109nm,19.6s,baz=196,slow=30						
BRVK	**Borovoye**	**78.50**	**328**	P	**P**	**22 35 43.8 -0.1**
comp=E,64nm,1.0s,mb5.5,SNR=6.3						
BRVK	**Borovoye**	**78.50**	**328**	*e*P	**P**	**22 35 43.6 -0.3**
BRVK	**Borovoye**	**78.50**	**328**	P	**P**	**22 35 43.4 -0.5**
SNR=7.0						
BRVK	**Borovoye**	**78.50**	**328**	P	**P**	**22 35 43.4 -0.5**
SNR=7.0						
BRVK	**Borovoye**	**78.50**	**328**	P	**P**	**22 35 43.4 -0.5**
SNR=7.0						
TIXI	**Tiksi**	**78.65**	**359**⇓	*e*P	**P**	**22 35 43.6 -0.7**
TIXI				pmax	pmax	
comp=Z,14nm,1.0s,mb4.8						
TIXI	**Tiksi**	**78.65**	**359**	*e*P	**P**	**22 35 44.0 -0.3**
comp=Z,16nm,1.1s,mb4.9						
BANOM	**Banah**	**79.03**	**298**	P	**P**	**22 35 47.9 +0.5**
SNR=5.5						
BANOM	**Banah**	**79.03**	**298**	P	**P**	**22 35 47.9 +0.5**
SNR=5.5						
BANOM	**Banah**	**79.03**	**298**	P	**P**	**22 35 47.9 +0.5**
SNR=5.5						
BILL	**Bilibino**	**79.17**	**13**⇑	*e*P	**P**	**22 35 48.5 +1.3**
BILL				pmax	pmax	
comp=Z,7.0nm,1.7s,mb4.3						
QSPA	**South Pole Qui**	**82.82**	**180**	*e*P	**P**	**22 36 07.8 +1.2**
comp=Z,3.8nm,0.5s,mb4.7						
SYO	**Syowa Base**	**83.68**	**201**⇑	*e*P	**P**	**22 36 10.6 -0.6**
SYO	**Syowa Base**	**83.68**	**201**⇑	*e*PcP	PcP	22 36 16.0 +0.8
SYO	**Syowa Base**	**83.68**	**201**⇑	*e*sP	sP	22 36 33.0 -2.8
AKTO	**Aktyubinsk**	**84.47**	**322**	*i* P	**P**	**22 36 14.7 -0.8**
SVE	**Sverdlovsk**	**85.13**	**329**	*e*P	**P**	**22 36 18.3 -0.3**
SVE				pmax	pmax	
comp=Z,23nm,0.9s,mb5.3						
ARU	**Arti**	**86.07**	**328***c*	*i* P	**P**	**22 36 22.8 -0.5**
ARU				*e*		22 39 43.6
ARU				*e*S	S	22 46 42.6 -10
ARU				*e*SS	SS	22 52 31.5 -0.6
ARU				pmax	pmax	
comp=Z,20nm,1.1s,mb5.3						
ARU	**Arti**	**86.07**	**328**	*e*P	**P**	**22 36 22.6 -0.7**
comp=Z,17nm,1.0s,mb5.2						
GNI	**Garni**	**91.29**	**310**	P	**P**	**22 36 50.0 +1.5**
KMBO	**Kilima Mbogo**	**93.03**	**268**	*e*P	**P**	**22 36 56.8 -0.4**
KMBO				pmax	pmax	
comp=Z,6.0nm,1.3s						
KMBO	**Kilima Mbogo**	**93.03**	**268**	*e*P	**P**	**22 36 56.8 -0.4**
comp=Z,6.0nm,1.3s,mb4.9						
KMBO	**Kilima Mbogo**	**93.03**	**268**	P	**P**	**22 36 55.6 -1.6**
comp=Z,1.8nm,0.9s,mb4.5,baz=227,slow=23,SNR=3.0						
EGAK	**Eagle**	**95.73**	**25**	*e*P	**P**	**22 37 07.9 -0.4**
MALT	**Malatya**	**95.97**	**308**	*e*P	**P**	**22 37 10.0 0.0**
DAWY	**Dawson**	**96.45**	**26**	*e*P	**P**	**22 37 11.7 +0.1**
ANN	**Anapa**	**97.13**	**314**	*e*P	**P**	**22 37 06.8 -8.3**
ANN				pmax	pmax	
comp=Z,86nm,1.4s,mb6.0						
OBN	**Obninsk**	**98.04**	**325**⇓	*e*P	**P**	**22 37 18.1 -0.9**
OBN				*e*SS	SS	22 55 25.7 +1.7
OBN				pmax	pmax	
comp=Z,3.0nm,0.5s,mb5.1						
BOSA	**Boshof**	**99.77**	**239**	LR	LR	23 17 06.9
comp=Z,120nm,18.4s,baz=135,slow=32						
ARCES	**ARCESS Array B**	**101.88**	**340**	P	Pdif	22 37 34.5 -1.6
comp=Z,2.7nm,0.8s,baz=79,slow=6.3,SNR=8.2						
FINES	**FINESS Array B**	**103.11**	**331**	Pdiff	Pdif	22 37 39.9 -1.7
comp=Z,2.1nm,0.9s,baz=183,slow=34,SNR=2.7						
HINF	**Hinteralfeld**	**117.48**	**321**	*e*PKP1	PKPdf	22 42 26.5 -1.8
comp=Z,5.6nm,0.6s						
HAU	**Haudompre**	**117.73**	**321**	*e*PKP1	PKPdf	22 42 27.3 -1.5
HAU				*e*MLR	MLR	
comp=Z,62nm,21.8s						
HAU	**Haudompre**	**117.73**	**321**	*e*PKP	PKPdf	22 42 27.3 -1.5
HAU				LR	LR	
comp=Z,60nm,21.8s						
GIVF	**Givet**	**117.83**	**324**	*e*PKP1	PKPdf	22 42 28.3 -0.6
BAIF	**Baives**	**118.21**	**324**	*e*PKP1	PKPdf	22 42 28.7 -1.0
MEZF	**Maizieres J'vi**	**118.34**	**322**	*e*PKP1	PKPdf	22 42 29.1 -0.9
LPG	**La Plagne**	**118.37**	**318**	*e*PKP1	PKPdf	22 42 29.0 -1.1
comp=Z,4.7nm,0.7s						
LPL	**La Plagne**	**118.38**	**318**	*e*PKP1	PKPdf	22 42 29.1 -1.0
comp=Z,3.7nm,0.5s						
CABF	**La Chapelle**	**118.41**	**320**	*e*PKP1	PKPdf	22 42 29.6 -0.6
comp=Z,8.1nm,0.6s						
SBF	**Sospel**	**118.46**	**316**	*e*PKP1	PKPdf	22 42 29.1 -1.2
comp=Z,49nm,1.1s						
MBDF	**Montbardon**	**118.62**	**317**	*e*PKP1	PKPdf	22 42 29.4 -1.2
comp=Z,20nm,1.1s						
ORIF	**Oris-en-Rattie**	**119.15**	**318**	*e*PKP1	PKPdf	22 42 31.4 -0.2
comp=Z,8.1nm,0.9s						
ORIF				*e*MLR	MLR	
comp=Z,48nm,17.5s						
LOR	**Lormes**	**119.57**	**321**	*e*PKP1	PKPdf	22 42 32.0 -0.4
comp=Z,7.4nm,0.9s						
LOR				*e*MLR	MLR	
comp=Z,60nm,19.5s						
LOR	**Lormes**	**119.57**	**321**	*e*PKP	PKPdf	22 42 32.0 -0.4
LOR				LR	LR	
comp=Z,60nm,19.5s						
SMF	**Signal de Mont**	**119.83**	**320**	*e*PKP1	PKPdf	22 42 31.5 -1.4
SSF	**Saint Saulge**	**119.87**	**321**	*e*PKP1	PKPdf	22 42 32.3 -0.7
comp=Z,11nm,1.0s						
VIVF	**Saint-Julien-l**	**119.97**	**318**	*e*PKP1	PKPdf	22 42 31.9 -1.3
comp=Z,12nm,1.0s						
AVF	**Avril sur Loir**	**120.08**	**321**	*e*PKP1	PKPdf	22 42 31.6 -1.8
BGF	**Bois d'Agland**	**120.49**	**321**	*e*PKP1	PKPdf	22 42 33.6 -0.6
comp=Z,13nm,0.8s						
TCF	**Toulx Ste Croi**	**121.00**	**321**	*e*PKP1	PKPdf	22 42 35.2 0.0
comp=Z,56nm,1.6s						
CAF	**Calviac**	**121.66**	**319**	*e*PKP1	PKPdf	22 42 35.4 -1.1
comp=Z,4.1nm,0.8s						
GRR	**Gorron**	**121.93**	**324**	*e*PKP1	PKPdf	22 42 35.4 -1.5
MTLF	**Montolieu**	**122.19**	**317**	*e*PKP1	PKPdf	22 42 37.4 -0.1
comp=Z,9.9nm,0.9s						
MFF	**Saint Martin d**	**122.33**	**322**	*e*PKP1	PKPdf	22 42 36.1 -1.6
LFF	**La Frestale**	**122.51**	**320**	*e*PKP1	PKPdf	22 42 37.1 -1.0
SGMF	**Saint Gilles**	**122.98**	**324**	*e*PKP1	PKPdf	22 42 37.9 -1.0
EPF	**Esparros**	**123.57**	**318**	*e*PKP1	PKPdf	22 42 38.9 -1.3
TORD	**Torodi Ar. Bea**	**129.28**	**281**	PKP	PKPdf	22 42 51.9 0.0
comp=Z,4.0nm,0.7s,baz=70,slow=1.7,SNR=35						
CPUP	**Villa Florida**	**145.87**	**168**	PKPbc	PKPbc	22 43 23.3 +0.7
comp=Z,6.0nm,0.8s,baz=310,slow=0.2,SNR=13						
LPAZ	**La Paz**	**150.32**	**142**	PKPbc	PKPbc	22 43 36.5 +1.7
comp=Z,3.6nm,0.4s,baz=162,slow=4.4,SNR=30						

*ISCJB **09** 22:24:43.4±1.3, 376S±0.1×1767E±0.1, h246km±9km, Error ellipse: s-maj=18.2km s-min=14.8km az=137.0*
*WEL **09** 22:24:46.0±0.3, 3747S×17666E, h217km±2km, ML4.1/17, Error ellipse: s-maj=4.0km s-min=3.8km az=0.0*
*NEIC **09** 22:24:46.1, 3743S×17663E, h213km, MG4.1(WEL), After WEL.*

ISC 09 22:24:44.2±1.3, 376S±01×1767E±01, h243km±8km, n73, σ0§95/82, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.40**	**187**	P	**Pn**	**22 25 15.5**	**-0.3**
MARZ	**Manawahe**	**0.40**	**187**	PN	**Pn**	**22 25 15.5**	**-0.4**
MARZ				SN	**S**	**22 25 39.9**	**-0.9**
URZ	**Urewera**	**0.73**	**156**	P	**Pn**	**22 25 16.5**	**-0.5**
URZ	**Urewera**	**0.73**	**156**	PN	**Pn**	**22 25 16.5**	**-0.4**
URZ				SN	**S**	**22 25 40.2**	**-2.6**
MWZ	**Matawai**	**0.97**	**140**	P	**Pn**	**22 25 18.2**	**0.0**
MWZ				S	**S**	**22 25 43.2**	**-1.7**
MWZ	**Matawai**	**0.97**	**140**	PN	**Pn**	**22 25 18.2**	**+0.1**
MWZ				SN	**S**	**22 25 43.2**	**-1.8**
MXZ	**Matakaoa Point**	**1.25**	**89**	P	**Pn**	**22 25 19.5**	**-0.4**
MXZ	**Matakaoa Point**	**1.25**	**89**	PN	**Pn**	**22 25 19.5**	**-0.4**
PUZ	**Puketiti**	**1.30**	**112**	P	**Pn**	**22 25 20.7**	**+0.5**
PUZ				S	**S**	**22 25 46.9**	**-1.6**
PUZ	**Puketiti**	**1.30**	**112**	PN	**Pn**	**22 25 20.7**	**+0.5**
PUZ				SN	**S**	**22 25 46.9**	**-1.6**
BKZ	**Black Stump Fm**	**1.58**	**187**	PN	**Pn**	**22 25 23.0**	**+0.7**
KNZ	**Kokohu**	**1.60**	**153**	P	**Pn**	**22 25 24.0**	**+1.5**
KNZ				S	**S**	**22 25 53.0**	**+0.2**
KNZ	**Kokohu**	**1.60**	**153**	PN	**Pn**	**22 25 24.0**	**+1.5**
KNZ				SN	**S**	**22 25 53.0**	**+0.2**
WTVZ	**West Tongariro**	**1.77**	**210**	P	**Pn**	**22 25 24.6**	**+0.7**
WTVZ	**West Tongariro**	**1.77**	**210**	PN	**Pn**	**22 25 24.6**	**+0.8**
OTVZ	**Oturere**	**1.78**	**208**	PN	**Pn**	**22 25 25.1**	**+1.1**
TWVZ	**Taurewa**	**1.79**	**214**	P	**Pn**	**22 25 24.8**	**+0.7**
TWVZ	**Taurewa**	**1.79**	**214**	PN	**Pn**	**22 25 24.8**	**+0.8**
NGZ	**Ngauruhoe**	**1.81**	**209**	P	**Pn**	**22 25 25.2**	**+0.9**
NGZ	**Ngauruhoe**	**1.81**	**209**	PN	**Pn**	**22 25 25.2**	**+1.0**
WPVZ	**Whakapapa**	**1.86**	**210**	P	**Pn**	**22 25 25.6**	**+0.9**
WPVZ	**Whakapapa**	**1.86**	**210**	PN	**Pn**	**22 25 25.6**	**+0.9**
TUVZ	**Tukino**	**1.88**	**207**	P	**Pn**	**22 25 25.8**	**+1.0**
TUVZ	**Tukino**	**1.88**	**207**	PN	**Pn**	**22 25 25.8**	**+1.0**
FWVZ	**Far West T-bar**	**1.90**	**209**	P	**Pn**	**22 25 25.8**	**+0.8**
FWVZ	**Far West T-bar**	**1.90**	**209**	PN	**Pn**	**22 25 25.8**	**+0.7**
TRVZ	**Turoa**	**1.94**	**208**	PN	**Pn**	**22 25 26.4**	**+1.0**
WNVZ	**Wahianoa**	**1.95**	**207**	P	**Pn**	**22 25 26.4**	**+0.9**
WNVZ	**Wahianoa**	**1.95**	**207**	PN	**Pn**	**22 25 26.4**	**+0.9**
MOVZ	**Moawhango**	**1.97**	**203**	P	**Pn**	**22 25 26.1**	**+0.5**
MOVZ	**Moawhango**	**1.97**	**203**	PN	**Pn**	**22 25 26.1**	**+0.4**
PKVZ	**Pokaka**	**2.02**	**212**	PN	**Pn**	**22 25 26.8**	**+0.8**
PXZ	**Pawanui**	**2.44**	**178**	PN	**Pn**	**22 25 31.8**	**+1.7**
PXZ				SN	**S**	**22 26 06.6**	**+0.1**
WPHZ	**Waipukurau**	**2.48**	**185**	PN	**Pn**	**22 25 31.9**	**+1.3**
TSZ	**Takapari Road**	**2.54**	**194**	P	**Pn**	**22 25 32.0**	**+0.8**
TSZ	**Takapari Road**	**2.54**	**194**	PN	**Pn**	**22 25 32.0**	**+0.9**
WAZ	**Wanganui**	**2.56**	**212**	PN	**Pn**	**22 25 32.3**	**+0.9**
MRZ	**Mangatainoka R**	**3.19**	**196**	PN	**Pn**	**22 25 38.5**	**+0.3**
HOWZ	**Holdsworth Sta**	**3.43**	**196**	PN	**Pn**	**22 25 41.1**	**+0.2**
KIW	**Kapiti Island**	**3.56**	**203**	PN	**Pn**	**22 25 42.3**	**-0.1**
MTW	**Mount Morrison**	**3.69**	**195**	P	**Pn**	**22 25 43.7**	**-0.1**
MTW	**Mount Morrison**	**3.69**	**195**	PN	**Pn**	**22 25 43.7**	**-0.2**
CAW	**Cannon Point**	**3.74**	**200**	P	**Pn**	**22 25 44.4**	**-0.1**
CAW	**Cannon Point**	**3.74**	**200**	PN	**Pn**	**22 25 44.4**	**-0.1**
DUWZ	**D'Urville Isla**	**3.88**	**213**	PN	**Pn**	**22 25 45.6**	**-0.5**
TRWZ	**Traveller**	**3.89**	**192**	PN	**Pn**	**22 25 46.7**	**+0.5**
MRW	**Makara Radio**	**3.96**	**203**	P	**Pn**	**22 25 46.8**	**-0.2**
MRW	**Makara Radio**	**3.96**	**203**	PN	**Pn**	**22 25 46.8**	**-0.2**
MSWZ	**Moikau Station**	**3.99**	**196**	P	**Pn**	**22 25 47.4**	**+0.1**
MSWZ	**Moikau Station**	**3.99**	**196**	PN	**Pn**	**22 25 47.4**	**+0.1**
TCW	**Tory Channel**	**4.08**	**207**	PN	**Pn**	**22 25 48.1**	**-0.4**
PLWZ	**Palliser**	**4.13**	**196**	PN	**Pn**	**22 25 49.1**	**0.0**
TUWZ	**Tuamarina**	**4.40**	**209**	PN	**Pn**	**22 25 51.8**	**-0.5**
NNZ	**Nelson**	**4.46**	**215**	P	**Pn**	**22 25 52.0**	**-1.0**
NNZ	**Nelson**	**4.46**	**215**	PN	**Pn**	**22 25 52.0**	**-1.0**
QRZ	**Quartz Range**	**4.59**	**224**	P	**Pn**	**22 25 53.6**	**-1.0**
QRZ	**Quartz Range**	**4.59**	**224**	PN	**Pn**	**22 25 53.6**	**-1.1**
BSWZ	**Blackbirch Sta**	**4.67**	**207**	P	**Pn**	**22 25 55.7**	**+0.1**
BSWZ	**Blackbirch Sta**	**4.67**	**207**	PN	**Pn**	**22 25 55.7**	**+0.1**
THZ	**Tophouse**	**5.11**	**214**	P	**Pn**	**22 26 00.2**	**-0.7**
THZ	**Tophouse**	**5.11**	**214**	PN	**Pn**	**22 26 00.2**	**-0.7**
LTZ	**Lake Taylor**	**6.21**	**212**	P	**Pn**	**22 26 14.0**	**-0.6**
LTZ	**Lake Taylor**	**6.21**	**212**	PN	**Pn**	**22 26 14.0**	**-0.6**
MQZ	**McQueen's Vall**	**6.85**	**206**	P	**Pn**	**22 26 21.2**	**-1.5**
MQZ	**McQueen's Vall**	**6.85**	**206**	PN	**Pn**	**22 26 21.2**	**-1.5**
WVZ	**Waitaha Valley**	**7.14**	**218**	P	**Pn**	**22 26 25.3**	**-1.1**
WVZ	**Waitaha Valley**	**7.14**	**218**	PN	**Pn**	**22 26 25.3**	**-1.1**
RPZ	**Rata Peaks**	**7.48**	**213**	P	**Pn**	**22 26 27.9**	**-2.9**
RPZ	**Rata Peaks**	**7.48**	**213**	PN	**Pn**	**22 26 27.9**	**-2.9**
FOZ	**Fox Glacier**	**8.02**	**220**	P	**Pn**	**22 26 35.2**	**-2.3**
FOZ	**Fox Glacier**	**8.02**	**220**	PN	**Pn**	**22 26 35.2**	**-2.3**
ODZ	**Otahua Downs**	**8.74**	**210**	P	**Pn**	**22 26 46.5**	**-0.2**
ODZ	**Otahua Downs**	**8.74**	**210**	PN	**Pn**	**22 26 46.5**	**-0.2**

NEIC 09 23:01:09.8, 5355N×16588W, h58km, MG3.7(AEIC), After AEIC., Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.47**	**309**	P	Pn	23 01 22.2	+0.9
UNV				S	Sn	23 01 31.1	+1.5
AKUT	**Akutan**	**0.59**	**6**	P	Pn	23 01 23.0	+0.4
AKUT				S	Sn	23 01 32.3	+0.5
AKLV	**Akutan Long Va**	**0.61**	**356**	P	Pn	23 01 22.8	0.0
AKGG	**Akutan Green G**	**0.65**	**354**	P	Pn	23 01 23.3	0.0
AKGG				S	Sn	23 01 33.4	+0.3
NIKO	**Nikolski**	**1.88**	**253**	P	Pn	23 01 40.7	+1.3
FALS	**False Pass**	**1.95**	**47**	*e*Pn	Pn	23 01 40.9	+0.4
SVW2	**Sparrevohn**	**9.38**	**32**	*e*Pn	Pn	23 03 21.7	-0.4
SVW2				Sn	Sn	23 05 03.3	-2.6
TTA	**Tatalina**	**10.73**	**25**	Pn	Pn	23 03 36.5	-4.0
SLKM	**Skilak Lake**	**11.00**	**44**	*e*Pn	Pn	23 03 44.1	0.0
INK	**Inuvik**	**21.20**	**33**	*e*P	P	23 05 45.0	-5.1
21nm,0.4s							

*ISCJB **09** 23:05:45.9±0.5, 3953N±002×2595E±004, h8km±4km, Error ellipse: s-maj=5.1km s-min=3.4km az=175.2*
*CSEM **09** 23:05:46.2±0.1, 3955N×2604E, h12km, MD3.3, Error ellipse: s-maj=2.6km s-min=1.2km az=99.0*
*DDA **09** 23:05:46.6, 3952N×2590E, h5km±1km, Md2.9*
*ISK **09** 23:05:46.8, 3962N×2600E, h10km, MD3.3*
*THE **09** 23:05:47.4, 3950N×2596E, h13km, ML2.5*

ISC 09 23:05:46.5±0.5, 3953N±002×2596E±004, h10km±4km, n26, σ0§90/40, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**14**	*i* P	**Pg**	**23 05 53.2**	**+0.3**
BOZC				*i* S	**Sg**	**23 05 57.8**	**+0.7**
BOZC				*i* S	**Sg**	**23 05 57.8**	**+0.7**
PRK	**Paraskevi**	**0.38**	**140**	*e*Pg	**Pg**	**23 05 54.4**	**+0.4**
PRK				*e*Sg	**Sg**	**23 05 59.9**	**+1.0**
EZN	**Ezine**	**0.41**	**44**	*e*PG	**Pg**	**23 05 53.8**	**-0.8**
EZN				*e*SG	**Sg**	**23 05 59.2**	**-0.7**
AYVA	**Ayvalik**	**0.61**	**111**	*i* P	**Pg**	**23 05 58.3**	**-0.1**
AYVA				*i* S	**Sg**	**23 06 07.2**	**+0.9**
GADA	**Gvkgeada**	**0.66**	**356**	*e*PG	**Pg**	**23 05 58.6**	**-0.6**
LIA	**Limnos Island**	**0.70**	**302**	*e*Pg	**Pg**	**23 06 01.2**	**+1.1**
LIA				*e*Sg	**Sg**	**23 06 12.0**	**+2.9**
LOS	**Limnos**	**0.78**	**301**	*e*Pg	**Pg**	**23 06 02.6**	**+0.9**
LPK	**Lapseki**	**1.04**	**36**	*e*PG	**Pg**	**23 06 05.1**	**-1.5**
LPK				*e*SG	**Sg**	**23 06 19.2**	**-0.8**
CHOS	**Chios island**	**1.15**	**176**	*e*Pg	**Pg**	**23 06 07.8**	**-0.8**
CHOS				*e*Sg	**Sg**	**23 06 23.2**	**-0.2**
CHOS	**Chios island**	**1.15**	**176**	*e*Pg	**Pg**	**23 06 07.8**	**-0.8**
CHOS				*e*Sg	**Sg**	**23 06 23.2**	**-0.3**
ENEZ	**Enez**	**1.21**	**7**	*e*PN	**Pn**	**23 06 09.0**	**-0.5**
URLA	**Izmir**	**1.27**	**157**	*e*P	**Pn**	**23 06 10.0**	**-0.4**
URLA				*i* S	**Sb**	**23 06 26.5**	**-0.5**
ALN	**Alexandroupoli**	**1.36**	**3**	*e*Pg	**Pg**	**23 06 11.2**	**-1.5**
ALN				*e*Sg	**Sg**	**23 06 30.2**	**-0.1**
ALN	**Alexandroupoli**	**1.36**	**3**	*e*Pg	**Pg**	**23 06 11.2**	**-1.5**
ALN				*e*Sg	**Sg**	**23 06 30.2**	**-0.2**
RKY	**Sarkoy-Tekirda**	**1.48**	**39**	*e*PN	**Pn**	**23 06 12.7**	**-0.6**
SART	**Tekirdag**	**1.49**	**39**	*e*P	**Pn**	**23 06 13.5**	**+0.2**
SART				*i* S	**Sn**	**23 06 34.1**	**+1.3**
MFT	**Murefte**	**1.61**	**39**	*e*PN	**Pn**	**23 06 14.4**	**-0.7**
MRMT	**Marmara Adasi**	**1.65**	**49**	*e*PN	**Pn**	**23 06 15.5**	**-0.1**
EDC	**Edincik**	**1.68**	**60**	*e*PN	**Pn**	**23 06 16.1**	**+0.1**
OUR	**Ouranopolis**	**1.72**	**298**	*e*Pb	**Pb**	**23 06 16.1**	**-2.1**
DST	**Dursunbey**	**2.07**	**87**	*e*PN	**Pn**	**23 06 21.9**	**+0.6**
EDRB	**Edirne**	**2.39**	**14**	*e*PN	**Pn**	**23 06 25.8**	**+0.1**
APE	**Apeiranthos**	**2.48**	**188**	*e*Pn	**Pn**	**23 06 26.7**	**-0.3**
APE				*e*Sn	**Sn**	**23 06 56.6**	**-0.8**
YLV	**Yalova**	**2.82**	**67**	*e*PN	**Pn**	**23 06 33.1**	**+1.5**
IZI	**Iznik**	**2.82**	**72**	*e*PN	**Pn**	**23 06 33.0**	**+1.4**
KLYT	**Kilyos**	**2.92**	**53**	*e*PN	**Pn**	**23 06 33.7**	**+0.7**

NEIC 09 23:17:08.7, 5995N×15340W, h136km, mb4.4/3, After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	**Augustine Lava**	**0.56**	**182**	P	Pn	23 17 28.4	-0.3
AUL				S	Sn	23 17 43.8	0.0
SVW2	**Sparrevohn**	**1.58**	**318**	*e*Pn	Pn	23 17 36.5	-1.5
SVW2				*e*Sn	Sn	23 17 59.0	-1.5
SLKM	**Skilak Lake**	**1.68**	**69**	*e*Pn	Pn	23 17 37.7	-1.4
SLKM				*e*Sn	Sn	23 18 00.0	-2.4
SEW	**Seward**	**1.99**	**84**	P	Pn	23 17 42.0	-0.8
KDAK	**Kodiak Island**	**2.21**	**169**	*e*Pn	Pn	23 17 43.3	-2.1
KDAK				*e*Sn	Sn	23 18 12.2	-1.5
KNK	**Knik Glacier**	**2.84**	**57**	P	Pn	23 17 52.9	-0.5
SML	**Sawmill**	**3.10**	**51**	Pn	Pn	23 17 54.5	-2.1
TT01	**Tatalina**	**3.23**	**338**	P	Pn	23 17 56.8	-1.5
TTA	**Tatalina**	**3.25**	**338**	*e*Pn	Pn	23 17 56.7	-1.9
TTA				*e*Sn	Sn	23 18 30.8	-6.4
TRF	**Thorofare Moun**	**3.82**	**21**	P	Pn	23 18 04.8	-1.3
MCK	**McKinley**	**4.35**	**27**	P	Pn	23 18 11.9	-1.1
CHGN	**Chignik**	**4.52**	**218**	*e*P	Pn	23 18 14.1	-1.3
MENT	**Mentasta**	**5.53**	**53**	*e*P	Pn	23 18 27.9	-0.9
COLA	**College**	**5.58**	**25**	*e*Pn	Pn	23 18 27.3	-2.1
8.8nm,0.3s							
COLA				*e*Sn	Sn	23 19 27.3	-5.0
IMA2	**Indian Mountai**	**6.15**	**359**	*e*Pn	Pn	23 18 36.0	-1.0
BCA3	**Beaver Creek A**	**6.38**	**56**	P	Pn	23 18 39.5	-0.6
EGAK	**Eagle**	**7.47**	**44**	*e*Pn	Pn	23 18 52.5	-2.3
3.4nm,0.5s							
EGAK				*e*Sn	Sn	23 20 13.4	-4.4
DUG	**Dugway**	**31.97**	**110**	*e*P	P	23 23 18.9	-2.6
5.8nm,0.8s							

NEIC 09 23:21:34.0±0.7, 636N×9505E, h30km, mb4.0/4, Error ellipse: s-maj=21.7km s-min=10.9km az=224.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSM	**Kuching**	**15.98**	**107**	Pn	Pn	23 25 16.5	-0.4
KKM	**Kota Kinabalu**	**21.05**	**90**	*e*P	P	23 26 15.9	+0.2
LSA	**Lhasa**	**23.50**	**351**	P	P	23 26 43.0	+1.4
ENH	**Enshi**	**27.39**	**28**	P	P	23 27 17.2	+0.3
UCH	**Uchtor**	**40.09**	**336**	*e*P	P	23 29 08.2	+1.4
6.9nm,1.8s							
AAK	**Ala-Archa**	**40.44**	**336**	*e*P	P	23 29 08.4	-1.3
0.5nm,0.4s							
EKS2	**Erkin-Say**	**40.75**	**336**	P	P	23 29 12.5	+0.2
NWAO	**Narrogin (SRO)**	**44.40**	**153**	*e*P	P	23 29 40.9	-1.2
76nm,1.8s							
KURK	**Kurchatov**	**46.29**	**346**	P	P	23 29 56.9	+0.1
GNI	**Garni**	**56.13**	**315**	*e*P	P	23 31 11.0	+0.1
2.

*ISCJB **10** 00:49:15.8±0.3, 1274N±005×12590E±0.10, h11km, mb4.6/29, MS3.4/2, Error ellipse: s-maj=14.4km s-min=6.0km az=165.7*
*IDC **10** 00:49:16.1±0.5, 1274N×12581E, h0km, mb4.4/13, mb1 4.6/14, mb1mx4.4/21, mbtmp4.5/14, ML4.5/1, MS3.6/2, Ms1 3.6/2, ms1mx2.9/22, Error ellipse: s-maj=40.3km s-min=12.1km az=77.0*
*NEIC **10** 00:49:17.5±2.7, 1275N×12595E, h11km±16km, mb4.8/14, Error ellipse: s-maj=10.9km s-min=4.5km az=75.0*
*MAN **10** 00:49:20, 1274N×12587E, h24km, mb4.6, ML3.4, MS3.4*

ISC 10 00:49:19.1±3.0, 1275N±005×1259E±01, h21km±21km, n64, σ0°78/54, mb4.6/29, MS3.4/2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	Ninganchiao	12.08	341	Pn	Pn	00 52 10.2	0.0
YHNB	Yeheng	12.62	341	Pn	Pn	00 52 17.0	-0.5
JOW	Kunigami	14.19	9	Pn	Pn	00 52 39.6	+0.7
	4.4nm,0.3s,baz=151,slow=17,SNR=18						
BATI	Kupang	22.91	186	P	P	00 54 22.6	+0.7
	43nm,0.5s,mb5.1,baz=283,slow=2.7,SNR=9.2						
ENH	Enshi	23.14	321	P	P	00 54 23.2	-1.0
KSRS	Korea Array	24.67	4	P	P	00 54 39.0	+0.6
	4.3nm,0.8s,mb4.0,baz=182,slow=9.8,SNR=9.8						
KAKA	Kakadu	26.10	165	eP	P	00 54 51.2	-0.5
	22nm,0.6s,mb4.9						
MJAR	Matsushiro Arr	26.14	23	LR	LR	01 05 21.3	
	comp=Z,101nm,18.2s,MS3.4,baz=205,slow=37						
XAN	Xi'an	26.25	327	P	P	00 54 52.6	-0.3
XAN				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.0						
CD2	Chengdu	27.30	315	eP	P	00 55 02.6	+0.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
PSI	Prapat	28.49	252	LR	LR	01 05 27.1	
	comp=Z,115nm,19.9s,MS3.5,baz=245,slow=34						
FITZ	Fitzroy Crossi	30.65	181	eP	P	00 55 32.1	-0.2
	comp=Z,23nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	30.65	181	P	P	00 55 32.8	+0.5
	comp=Z,15nm,0.8s,mb4.9,baz=16,slow=8.7,SNR=32						
MDJ	Mudanjiang	31.91	5	P	P	00 55 40.8	-2.4
WRAB	Tennant Creek	33.52	166	eP	P	00 55 56.8	-0.6
WRA	Warramunga Arr	33.52	166	P	P	00 55 56.4	-1.0
	comp=Z,4.7nm,0.8s,mb4.5,baz=342,slow=10.0,SNR=14						
WRA				PcP	PcP	00 58 38.2	0.0
	comp=Z,1.0nm,0.9s,baz=345,slow=3.2,SNR=8.3						
WB2	Warramunga Arr	33.52	166	eP	P	00 55 56.4	-1.1
MBWA	Marble Bar	34.24	190	eP	P	00 56 04.1	+0.5
LSA	Lhasa	36.36	303	P	P	00 56 27.3	+5.4
ASAR	Alice Springs	37.02	168	P	P	00 56 27.8	+0.3
	comp=Z,5.9nm,0.6s,mb4.6,baz=344,slow=6.8,SNR=61						
ASAR				PcP	PcP	00 58 48.5	+0.2
	comp=Z,2.1nm,0.7s,baz=346,slow=2.6,SNR=7.3						
ULN	Ulaanbaatar	38.40	339	eP	P	00 56 39.4	+0.5
	comp=Z,2.2nm,0.6s,mb4.1						
SONM	Songino Array	38.60	339	P	P	00 56 41.1	+0.4
	comp=Z,2.5nm,0.8s,mb4.0,baz=148,slow=8.7,SNR=7.7						
FORT	Forrest	43.32	177	eP	P	00 57 20.5	+0.8
	comp=Z,46nm,0.5s,mb5.5						
STKA	Stephens Creek	46.84	162	eP	P	00 57 48.2	+0.5
	comp=Z,4.7nm,0.7s,mb4.5						
STKA	Stephens Creek	46.84	162	P	P	00 57 48.4	+0.7
	comp=Z,8.2nm,0.9s,mb4.7,baz=351,slow=7.6,SNR=13						
STKA				PcP	PcP	00 59 21.1	+0.5
	comp=Z,2.0nm,1.0s,baz=330,slow=8.0,SNR=3.5						
MKAR	Makanchi Array	49.88	322	P	P	00 58 11.6	+0.6
MKAR				PcP	PcP	00 59 31.6	+0.2
MKAR	Makanchi Array	49.88	322	P	P	00 58 11.6	+0.6
	comp=Z,4.6nm,0.8s,mb4.6,baz=114,slow=8.7,SNR=42						
MKAR				PcP	PcP	00 59 31.6	+0.2
	comp=Z,1.6nm,0.7s,baz=110,slow=5.3,SNR=4.0						
ZAA0	Zalesovo Array	52.31	331	eP	P	00 58 29.3	+0.1
ZALV	Zalesovo Beam	52.31	331	P	P	00 58 29.0	-0.2
	comp=Z,1.9nm,0.6s,mb4.2,baz=117,slow=7.4,SNR=11						
TKM2	Tokmak 2	52.68	315	eP	P	00 58 32.7	+0.6
	comp=Z,3.3nm,0.8s,mb4.3						
TKM2				ePcP	PcP	00 59 42.4	+0.6
UCH	Uchtor	53.22	314	eP	P	00 58 38.2	+2.1
	comp=Z,12nm,0.9s,mb4.8						
UCH				ePcP	PcP	00 59 45.0	+1.2
AAK	Ala-Archa	53.36	314	eP	P	00 58 37.0	-0.1
AML	Almayashu	53.77	313	eP	P	00 58 41.2	+1.1
	comp=Z,8.7nm,0.8s,mb4.7						
AML				ePcP	PcP	00 59 47.2	+1.2
KURK	Kurchatov	53.86	325	eP	P	00 58 41.1	+0.5
	comp=Z,9.0nm,0.8s,mb4.8						
KURK				ePcP	PcP	00 59 44.9	-1.2
EKS2	Erkin-Say	53.87	314	eP	P	00 58 41.5	+0.6
	comp=Z,5.3nm,0.9s,mb4.5						
TIXI	Tiksi	58.90	1	eP	P	00 59 15.7	-0.5
	comp=Z,7.1nm,1.1s,mb4.6						
BRVK	Borovoye	59.53	325	eP	P	00 59 20.8	-0.1
BRVK				epP	pP	00 59 33.4	+5.8
BILL	Bilibino	61.13	16	eP	P	00 59 31.7	+0.2
BILL				ePcP	PcP	01 00 15.2	+0.9
ARU	Arti	66.99	326	eP	P	01 00 09.7	-0.6
	comp=Z,5.0nm,0.5s,mb4.8						
UMR	Umm Al-Rimmam	73.67	297	eP	P	01 00 50.7	-0.9
RDF	Al-Radifah	73.87	297	eP	P	01 00 51.8	-1.1
RDF				AML	AML	01 01 05.4	
	comp=Z,16nm,0.5s						
MIB	Mutribah	73.97	298	eP	P	01 00 52.5	-1.0
MIB				AMb	AMB	01 01 05.8	
	comp=Z,36nm,0.6s,mb5.5						
NAY	Al-Naaiem	74.11	297	eP	P	01 00 52.9	-1.3
NAY				AML	AML	01 01 06.7	
	comp=Z,9.6nm,0.6s						
IMA2	Indian Mountai	74.54	25	eP	P	01 00 56.6	+0.6
MCK	McKinley	76.52	27	eP	P	01 01 07.5	+0.1
SML	Sawmill	76.86	29	eP	P	01 01 06.0	-3.4
MALT	Malatya	80.28	307	eP	P	01 01 29.8	+1.0
	comp=Z,1.9nm,0.8s,mb4.1						
ARCES	ARCESS Array B	81.77	340	P	P	01 01 36.0	-0.1
	comp=Z,7.1nm,0.9s,mb4.6,baz=38,slow=6.1,SNR=5.3						
ARE0	ARCESS Array S	81.77	340	eP	P	01 01 35.9	-0.1
INK	Inuvik	82.12	22	eP	P	01 01 38.1	+0.2
INK				PcP	PcP	01 01 44.1	+0.8
AKASG	Malin Array Be	84.45	321	P	P	01 01 49.3	-0.9
	comp=Z,1.1nm,0.8s,mb4.0,baz=67,slow=4.4,SNR=5.5						
CSS	Prodhromos	84.91	305	eP	P	01 01 53.5	+0.6
	comp=Z,12nm,0.8s,mb5.1						
CSS				ePcP	PcP	01 01 56.9	+0.6
DLBC	Dease Lake	86.45	31	eP	P	01 02 00.9	+0.8
RES	Resolute Bay	89.13	10	eP	P	01 02 12.5	-0.2
	comp=Z,78nm,0.7s,mb6.2						
YKA	Yellowknife Ar	91.64	24	P	P	01 02 24.5	0.0
	comp=Z,0.5nm,0.6s,mb4.0,baz=300,slow=4.6,SNR=13						
VNDA	Vanda	92.41	173	P	P	01 02 28.4	+0.7
	comp=Z,1.7nm,0.8s,mb4.4,baz=298,slow=6.1,SNR=8.7						
SDCO	Great Sand Dun	110.40	41	PKiKP	PKiKP	01 07 51.1	+0.8
ANMO	Albuquerque	111.35	44	PKiKP	PKiKP	01 07 53.6	+1.4
TXAR	Lajitas Array	116.45	48	PKP	PKPdf	01 08 02.6	+0.5
	comp=Z,0.1nm,0.6s,baz=200,slow=2.4,SNR=3.7						
WMOK	Wichita Mounta	116.53	40	ePKPdf	PKPdf	01 08 01.9	-0.2
TORD	Torodi Ar. Bea	119.02	293	PKP	PKPdf	01 08 06.4	-0.9
	comp=Z,0.6nm,0.8s,baz=155,slow=0.9,SNR=5.7						
PLCA	Paso Flores	148.59	156	PKPbc	PKPbc	01 09 05.2	+0.4
PLCA	Paso Flores	148.59	156	PKPbc	PKPbc	01 09 05.2	+0.4
	comp=Z,3.5nm,0.8s,baz=191,slow=6.1,SNR=5.5						
LPAZ	La Paz	165.94	106	PKPab	PKPab	01 10 26.3	+2.8
	comp=Z,0.6nm,0.7s,baz=286,slow=7.4,SNR=3.5						

*ISCJB **10** 01:21:43.8±2.2, 207S±0.1×686W±02, h127km±23km, mb3.5/2, Error ellipse: s-maj=33.1km s-min=19.6km az=164.9*
*IDC **10** 01:21:44.4±2.8, 2073S×6863W, h118km±24km, mb3.3/3, mb1 3.4/6, mb1mx3.3/17, mbtmp3.3/6, Error ellipse: s-maj=37.1km s-min=24.4km az=89.0*

ISC 10 01:21:45.2±2.0, 207S±01×686W±02, h125km±21km, n6, σ1°26/6, mb3.5/2, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	4.42	5	P	Pn	01 22 51.1	+0.6
	1.8nm,0.3s,baz=199,slow=9.9,SNR=48						
SIV	San Ignacio	8.53	58	P	Pn	01 23 44.7	-1.2
	0.7nm,0.3s,baz=249,slow=11,SNR=20						
CPUP	Villa Florida	11.72	121	P	Pn	01 24 29.4	+0.8
	0.5nm,0.3s,baz=276,slow=14,SNR=4.3						
PLCA	Paso Flores	20.03	184	P	P	01 26 07.7	-0.6
	2.9nm,0.7s,baz=358,slow=16,SNR=5.0						
TORD	Torodi Ar. Bea	76.79	70	P	P	01 33 24.1	+0.5
	0.6nm,0.5s,mb3.5,baz=254,slow=5.6,SNR=26						
YKA	Yellowknife Ar	90.56	340	P	P	01 34 32.5	-0.1
	0.3nm,0.9s,mb3.4,baz=149,slow=3.5,SNR=4.2						
YKA				pP	pP	01 35 02.0	-2.8
	0.2nm,0.5s,baz=132,slow=4.8,SNR=7.5						
YKA				sP	sP	01 35 14.9	-3.0
	0.4nm,0.8s,baz=134,slow=4.4,SNR=6.6						

*IDC **10** 02:01:32.1±1.0, 2182N×143.16E, h0km, mb3.8/7, mb1 4.0/7, mb1mx3.9/17, mbtmp3.8/7, MS2.8/3, Ms1 2.8/3, ms1mx2.5/33, Error ellipse: s-maj=35.4km s-min=22.6km az=86.0*
*ISCJB **10** 02:01:35.4±0.7, 218N±0.1×143.1E±02, h33km, mb3.9/7, MS2.5/2, Error ellipse: s-maj=24.7km s-min=16.3km az=171.6*
*NEIC **10** 02:01:37.4±0.5, 2180N×14307E, h35km, mb4.3/1, Error ellipse: s-maj=18.8km s-min=12.4km az=89.0*

ISC 10 02:01:37.5±0.7, 218N±01×1431E±02, h35km, n13, σ0°83/11, mb3.9/7, MS2.5/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	8.30	168	LR	LR	02 06 08.1	
	comp=Z,95nm,21.3s,baz=48,slow=33						
KSRS	Korea Array	20.43	323	P	P	02 06 14.3	+2.6
	1.9nm,0.6s,baz=142,slow=14,SNR=8.0						
KSRS				LR	LR	02 12 59.0	
	comp=Z,25nm,19.1s,MS2.6,baz=115,slow=34						
ASAJ	Asahikawa	22.29	359	LR	LR	02 16 13.5	
	comp=Z,15nm,19.0s,MS2.4,baz=286,slow=40						
SONM	Songino Array	39.26	320	P	P	02 09 02.3	-0.3
	1.3nm,0.8s,mb3.7,baz=126,slow=8.3,SNR=6.0						
WRA	Warramunga Arr	42.34	192	P	P	02 09 28.8	+0.6
	1.8nm,1.1s,mb3.6,baz=13,slow=7.8,SNR=2.9						
ASAR	Alice Springs	46.04	192	P	P	02 09 57.6	-0.3
	0.4nm,0.6s,baz=18,slow=9.4,SNR=8.7						
ZALV	Zalesovo Beam	54.13	322	P	P	02 10 58.3	-0.6
	1.1nm,0.6s,mb4.0,baz=107,slow=8.1,SNR=6.3						
MKAR	Makanchi Array	54.62	313	P	P	02 11 02.6	0.0
	0.5nm,0.5s,mb3.8,baz=86,slow=7.4,SNR=4.4						
KURK	Kurchatov	57.39	317	eP	P	02 11 21.4	-1.0
	3.6nm,1.1s,mb4.3						
INK	Inuvik	67.52	24	eP	P	02 12 30.1	+0.4
YKA	Yellowknife Ar	76.42	28	P	P	02 13 22.5	-0.6
	0.6nm,0.6s,mb3.7,baz=292,slow=5.7,SNR=10						
RES	Resolute Bay	77.02	13	eP	P	02 13 26.0	-0.4
	167nm,1.1s						
NVAR	Mina Array Bea	83.14	51	P	P	02 14 00.8	+0.7
	0.5nm,0.5s,mb3.8,baz=275,slow=7.3,SNR=5.4						

*NEIC **10** 02:10:08.8, 3263S×7155W, h15km±4km, ML2.6(GUC), After GUC.*

GUC 10 02:10:08.8±0.8, 3263S×7155W, h15km±4km, MD3.6, ML2.6, 11C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROCH	El Roble	0.57	127	⇑iP	Pg	02 10 20.1	0.0
ROCH				i S	Sg	02 10 28.3	+0.6
PTCH	Petorca	0.64	56	⇑iP	Pg	02 10 21.2	-0.1
PTCH				i S	Sg	02 10 30.2	+0.4
PTCH	Petorca	0.64	56	⇑iP	Pg	02 10 21.2	-0.1
PTCH				i S	Sg	02 10 30.2	+0.4
PTCH				AML	AML	02 10 30.5	
	comp=N,300nm,0.2s						
JACH	Jahuel	0.81	94	⇓iP	Pg	02 10 23.8	-0.8
JACH				i S	Sg	02 10 35.0	-0.2
LCCH	Las Cruces	0.84	181	⇑iP	Pb	02 10 23.9	-1.2
LCCH				i S	Sg	02 10 34.8	-1.5
RCDM	Rinconada Maip	1.06	144	⇑iP	Pb	02 10 27.6	-1.3
RCDM				i S	Sb	02 10 41.5	-1.1
RCDM	Rinconada Maip	1.06	144	⇑iP	Pb	02 10 27.6	-1.3
RCDM				i S	Sb	02 10 41.5	-1.1
RCDM				AML	AML	02 10 42.6	
	comp=E,452nm,0.2s						
DSCH	Colegio Aleman	1.13	133	i S	Sb	02 10 43.6	-0.9
TACH	Talagante	1.15	153	⇓iP	Pn	02 10 29.1	-1.2
TACH				i S	Sb	02 10 43.7	-1.3
CLCH	Cerro Calan	1.15	132	⇓iP	Pn	02 10 29.2	-1.1
CLCH				i S	Sb	02 10 44.2	-0.8
CLCH				AML	AML	02 10 45.4	
	comp=N,112nm,0.3s						
ANTU	Antumapu	1.22	141	i S	Sb	02 10 46.0	-0.9
ANTU				AML	AML	02 10 50.9	
	comp=E,133nm,0.5s						
FCH	Farellones	1.27	124	⇑iP	Pn	02 10 31.5	-0.5
FCH				i S	Sb	02 10 48.3	-0.3
FCH				AML	AML	02 10 48.8	
	comp=N,159nm,0.2s						
PCH	Pirque	1.32	139	⇓iP	Pn	02 10 31.9	-0.8
PCH				i S	Sb	02 10 49.5	-0.5
CMCH	Combarbala	1.52	18	⇑iP	Pn	02 10 34.8	-0.8
CMCH				i S	Sn	02 10 54.3	-0.8
CMCH	Combarbala	1.52	18	⇑iP	Pn	02 10 34.8	-0.8
CMCH				i S	Sn	02 10 54.3	-0.8
CMCH				AML	AML	02 10 58.0	
	comp=E,411nm,0.5s						
LMEL	Las Melosas	1.66	137	⇑iP	Pn	02 10 37.4	0.0
LMEL				i S	Sn	02 10 58.8	+0.4
LMEL	Las Melosas	1.66	137	⇑iP	Pn	02 10 37.4	0.0
LMEL				i S	Sn	02 10 58.8	+0.4
LMEL				AML	AML	02 11 03.4	
	comp=N,206nm,0.1s						
SFDO	San Fernando	2.03	167	eP	Pn	02 10 43.9	+1.5
SFDO				i S	Sn	02 11 09.5	+2.0

*ISCJB **10** 02:25:17.7±0.7, 320N±007×9856E±009, h157km±6km, mb3.7/13, Error ellipse: s-maj=15.0km s-min=12.2km az=179.1*
*NEIC **10** 02:25:18.9±0.6, 319N×9860E, h153km±5km, mb3.7/4, Error ellipse: s-maj=13.3km s-min=7.9km az=60.0*
*IDC **10** 02:25:18.2±0.5, 321N×9862E, h145km±4km, mb3.6/9, mb1 3.7/9, mb1mx3.5/21, mbtmp3.6/9, Error ellipse: s-maj=30.7km s-min=11.9km az=57.0*

ISC 10 02:25:19.1±0.7, 319N±007×9859E±009, h153km±5km, h147km±3.8km: pP-P, n20, σ0°42/23, mb3.7/13, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.51	140	P	Pn	02 25 41.0	+0.2
PSI				S	Sn	02 25 57.2	-0.2
PSI	Prapat	0.51	140	P	Pn	02 25 41.0	+0.2
	154nm,0.3s,baz=268,slow=16,SNR=954						
PSI				S	Sn	02 25 57.2	-0.2
	97nm,0.3s,baz=138,slow=16,SNR=26						
KULM	Kulim	2.92	44	ePn	Pn	02 26 05.8	+0.1
KULM				eSn	Sn	02 26 41.7	+0.1
KAPI	Kappang	22.66	111	P	P	02 30 07.9	+0.3
	3.7nm,0.6s,mb4.0,baz=324,slow=5.8,SNR=3.7						
ENH	Enshi	28.84	20	eP	P	02 31 03.0	0.0
	0.6nm,0.6s,mb3.5						
WRA	Warramunga Arr	41.96	125	P	P	02 32 55.3	+0.1
	3.7nm,0.8s,mb4.0,baz=301,slow=9.5,SNR=9.2						
WRA				pP	pP	02 33 27.8	-1.2
	1.5nm,0.7s,baz=302,slow=9.2,SNR=3.3						
ASAR	Alice Springs	43.53	130	P	P	02 33 06.8	-1.0
	0.4nm,0.5s,mb3.3,baz=303,slow=7.8,SNR=8.1						
AAK	Ala-Archa	44.77	335	eP	P	02 33 18.1	+0.8
	1.0nm,0.6s,mb3.6						
MK31	Makanchi Array	45.68	344	eP	P	02 33 24.7	+0.2
MKAR	Makanchi Array	45.68	344	P	P	02 33 24.5	+0.1
	0.4nm,0.4s,mb3.5,baz=158,slow=8.8,SNR=8.8						
MKAR				pP	pP	02 33 58.8	0.0
	0.7nm,0.7s,baz=147,slow=7.3,SNR=4.6						
ZALV	Zalesovo Beam	51.84	350	P	P	02 34 11.2	-0.1
	1.0nm,0.3s,mb3.9,baz=160,slow=6.7,SNR=6.0						
ZALV				pP	pP	02 34 43.1	-3.3
	0.7nm,0.4s,baz=151,slow=10,SNR=3.1						
STKA	Stephens Creek	53.69	134	P	P	02 34 25.6	+0.3
	1.4nm,0.7s,mb3.8,baz=339,slow=13,SNR=3.1						
RDF	Al-Radifah	54.77	303	eP	P	02 34 32.9	-0.2
BVAR	Borovoye Array	54.86	340	P	P	02 34 32.6	-0.7
	0.8nm,0.4s,mb3.8,baz=148,slow=9.9,SNR=5.6						
NAY	Al-Naaiem	55.12	304	eP	P	02 34 35.2	-0.5
BOSA	Boshof	76.97	240	P	P	02 36 56.1	+0.9
	1.2nm,0.4s,mb3.9,baz=87,slow=4.9,SNR=5.7						
FINES	FINESS Array B	78.89	332	P	P	02 37 04.8	-0.3
FINES	FINESS Array B	78.89	332	P	P	02 37 04.8	-0.3
	0.9nm,0.4s,mb3.8,baz=109,slow=6.1,SNR=11						
PSZ	Piszkesteto	80.06	318	eP	P	02 37 11.7	-0.1
	2.4nm,0.7s,mb3.9						
MORC	Moravsky Berou	81.79	320	eP	P	02 37 20.9	+0.1
	1.4nm,0.7s,mb3.7						

NEIC 10 02:36:22.7, 5180N×17824E, h127km, mb3.8/2, After AEIC., Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	0.79	122	P	Pn	02 36 42.9	-0.5
AMKA				S	Sn	02 36 57.7	-1.4
SMY	Shemya	2.71	292	P	Pn	02 37 04.7	-0.7
SMY				S	Sn	02 37 36.4	-1.8
ADK	Adak	3.15	86	P	Pn	02 37 09.7	-1.4
KDAK	Kodiak Island	17.77	59	eP	Pn	02 40 19.1	-2.6
	2.6nm,0.6s						
IMA2	Indian Mountai	20.09	34	eP	P	02 40 48.0	+2.2
EGAK	Eagle	24.46	42	eP	P	02 41 28.2	-1.2
	4.5nm,0.9s						
INK	Inuvik	28.19	36	eP	P	02 42 02.3	-0.5

*CSEM **10** 02:57:40.2±0.1, 3889N×3557E, h2km, MD3.5, Error ellipse: s-maj=1.6km s-min=1.4km az=48.0*
*ISK **10** 02:57:40.0, 3889N×3556E, h2km, MD3.5*
*ISCJB **10** 02:57:41.7±0.3, 3889N±003×3554E±003, h10km, Error ellipse: s-maj=4.0km s-min=3.5km az=147.7*

ISC 10 02:57:42.3±0.3, 3888N±003×3554E±004, h10km, n37, σ1°04/43, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	Bunyan	0.24	97	PG	Pg	02 57 45.0	-2.3
BNN				SG	Sg	02 57 49.1	-1.5
AVNT	Avonos	0.54	259	i P	Pg	02 57 50.6	-2.2
YOZ	Yozgat	0.78	347	PG	Pg	02 57 55.4	-1.9
YOZ				SG	Sg	02 58 07.0	-0.3
NIG	Nigde	1.06	224	ePG	Pg	02 58 00.7	-2.0
NIG				eSG	Sg	02 58 16.6	+0.1
CDAG	Cicekdag	1.17	310	i P	Pb	02 58 00.1	-4.5
CDAG				i S	Sb	02 58 17.7	-2.1
KOZT	Kozan	1.42	171	ePN	Pn	02 58 08.5	+0.4
ANDN	Andirin	1.45	154	i P	Pn	02 58 07.7	-0.8
ANDN	Andirin	1.45	154	i P	Pn	02 58 07.7	-0.8
ANDN				i S	Sn	02 58 29.2	+1.6
CORM	Corum	1.47	332	ePN	Pn	02 58 08.4	-0.5
KAMT	Kaman	1.50	289	ePN	Pn	02 58 09.0	-0.3
TOKT	Tokat	1.63	28	ePN	Pn	02 58 10.4	-0.7
KARA	Karaisali	1.66	193	ePN	Pn	02 58 11.0	-0.5
CTKT	Corum	1.83	342	i P	Pn	02 58 15.4	+1.5
CTKT	Corum	1.83	342	i P	Pn	02 58 15.4	+1.6
CTKT				i S	Sn	02 58 41.4	+4.3
GAZ	Gaziantep	2.16	142	ePN	Pn	02 58 18.4	+0.1
MERS	Mersin	2.17	202	ePN	Pn	02 58 18.7	+0.3
KVT	Kavak	2.23	10	ePN	Pn	02 58 19.1	-0.2
CANT	Cankiri	2.27	320	ePN	Pn	02 58 20.5	+0.6
MYA	Malataya	2.33	103	ePN	Pn	02 58 20.8	+0.2
ANTO	Ankara	2.34	296	ePN	Pn	02 58 21.3	+0.5
LOD	Lodumlu	2.37	296	ePN	Pn	02 58 21.9	+0.6
TOS	Tosya	2.44	332	ePN	Pn	02 58 22.9	+0.6
BOYT	Boyabat	2.58	349	i P	Pn	02 58 28.6	+4.5
BYBT	Boyabat	2.65	347	ePN	Pn	02 58 25.7	+0.6
KONT	Konya--Tatoy	2.67	250	ePN	Pn	02 58 26.4	+1.1
KDHN	Kadinhani	2.70	263	i P	Pn	02 58 25.9	+0.1
DIKM	Dikmen	2.77	356	ePN	Pn	02 58 27.4	+0.7
GRSN	GIRESUNGRSN	2.93	45	i P	Pn	02 58 32.6	+3.7
SVRC	Sivrice-ELAZID	2.99	99	ePN	Pn	02 58 30.2	+0.4
PTK	Pertek	3.01	89	ePN	Pn	02 58 30.2	+0.2
IKL	Isikli	3.02	210	ePN	Pn	02 58 30.8	+0.6
BALT	Daday	3.12	329	i P	Pn	02 58 33.0	+1.5
ESPY	Espiye-Giresun	3.19	49	ePN	Pn	02 58 32.6	+0.2
BZK	Bozkurt	3.29	340	ePN	Pn	02 58 34.4	+0.5
GUMT	Gumushane	3.43	61	ePN	Pn	02 58 36.4	+0.7
EZC	Erzincan	3.43	74	ePN	Pn	02 58 31.3	-4.5
ERZM	Erzurum	4.63	75	i P	Pg	02 59 05.4	-5.5

*CSEM **10** 03:08:40.7±0.1, 3874N×2801E, h8km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.9km az=18.0*
*ISK **10** 03:08:40.6, 3873N×2802E, h6km, MD2.6*
*ISCJB **10** 03:08:41.6±0.6, 3878N±004×2806E±004, h4km±7km, Error ellipse: s-maj=6.0km s-min=5.0km az=16.7*
*DDA **10** 03:08:41.2, 3878N×2803E, h7km±4km, Md2.7*

ISC 10 03:08:41.8±0.6, 3878N±004×2805E±004, h9km±9km, n9, σ0°67/17, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKHS	Akhisar	0.21	299	i P	Pg	03 08 45.9	-0.3
AKHS				i S	Sg	03 08 49.3	+0.2
AKS	Akhisar	0.21	299	PG	Pg	03 08 45.5	-0.7
AKS				eSG	Sg	03 08 49.0	-0.1
MANT	Manisa	0.49	126	i P	Pg	03 08 51.6	+0.2
KULA	Kula-Manisa	0.55	119	ePG	Pg	03 08 52.2	-0.2
KULA				eSG	Sg	03 08 59.1	-0.5
KDAG	Bornova	0.72	239	i P	Pg	03 08 54.8	-0.9
KDAG				i S	Sg	03 09 07.1	+2.0
DST	Dursunbey	0.94	28	ePG	Pg	03 09 00.1	+0.2
DST				eSG	Sn	03 09 14.4	-0.3

DID	Didima	2.46 193	*e*Pn	Pn	03 12 49.4	+0.9
DIM	Dimitrovgrad	2.46 29	*e*P	Pn	03 12 54.6	+6.1
VTS	Vitosha	2.73 349	*e*P	Pn	03 12 51.6	-0.6

*NEIC **10** 03:52:35.0±3.9, 304N×12593E, h92km±38km, mb4.4/8, Error ellipse: s-maj=42.1km s-min=10.1km az=65.0*
*ISCJB **10** 03:52:36.2±5.3, 29N±01×1258E±02, h117km±54km, mb4.5/16, Error ellipse: s-maj=38.0km s-min=13.5km az=152.7*
*IDC **10** 03:52:44.8±9.7, 2.75N×125.40E, h184km±101km, mb3.9/8, mb1 4.0/8, mb1mx3.8/17, mbtmp3.9/8, Error ellipse: s-maj=56.1km s-min=17.7km az=70.0*
ISC 10 03:52:37.2±5.1, 29N±01×1257E±02, h108km±51km, n27, σ0=67/27, mb4.5/16, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KAKA	Kakadu 5.5nm,0.4s	16.87	157	*e*P		Pn		03 56 25.9	-1.0
FITZ	Fitzroy Crossi 10nm,0.4s	20.86	180	*e*P		P		03 57 11.5	+0.9
FITZ	Fitzroy Crossi 6.9nm,0.5s,baz=14,slow=9.4,SNR=38	20.86	180	P		P		03 57 11.2	+0.6
WRAB	Tennant Creek 45nm,1.0s,mb4.8	24.21	160	*e*P		P		03 57 43.8	-0.1
WRA	Warramunga Arr 29nm,0.9s,mb4.6,baz=339,slow=10,SNR=52	24.21	160	P		P		03 57 43.9	0.0
WB2	Warramunga Arr	24.22	160	*e*P		P		03 57 44.0	0.0
WB2	Warramunga Arr	24.22	160	*e*P		P		03 57 43.7	-0.3
ASAR	Alice Springs 3.4nm,0.5s,mb4.2,baz=346,slow=7.5,SNR=65	27.57	164	P		P		03 58 14.6	+0.3
FORT	Forrest 2.4nm,0.7s,mb4.1	33.55	176	*e*P		P		03 59 06.8	-0.1
KSRS	Korea Array 0.9nm,0.5s,mb3.9,baz=179,slow=10,SNR=3.9	34.46	3	P		P		03 59 16.3	+1.7
STKA	Stephens Creek 9.6nm,0.7s,mb4.7,baz=337,slow=7.9,SNR=21	37.72	158	P		P		03 59 43.1	+0.7
JIRN	Jiri 17nm,0.7s,mb4.8	45.07	307	*e*P		P		04 00 43.2	+0.5
GUN	Gumba 19nm,0.5s,mb5.1	45.42	307	*e*P		P		04 00 45.8	+0.3
PKI	Pulchoki	45.65	307	*e*P		P		04 00 47.0	-0.3
KKN	Kakani	45.85	307	*e*P		P		04 00 48.8	0.0
DMN	Daman	45.91	306	*e*P		P		04 00 49.5	+0.2
GKN	Gorkha	46.45	307	*e*P		P		04 00 53.4	-0.2
KOLN	Koldanda 39nm,0.8s,mb5.2	47.19	306	*e*P		P		04 00 59.6	+0.3
DANN	Dangsing	47.30	307	*e*P		P		04 01 00.3	+0.1
MK31	Makanchi Array	57.68	326	*e*P		P		04 02 16.1	-0.3
MKAR	Makanchi Array 3.8nm,0.5s,mb4.7,baz=122,slow=8.4,SNR=37	57.68	326	P		P		04 02 15.8	-0.6
AML	Almayashu 1.2nm,0.5s,mb4.2	60.63	318	*e*P		P		04 02 38.0	+1.2
EKS2	Erkin-Say 1.2nm,0.5s,mb4.2	60.80	318	*e*P		P		04 02 38.7	+0.6
ZALV	Zalesovo Beam 0.7nm,0.5s,mb3.9,baz=138,slow=6.9,SNR=3.8	60.89	334	P		P		04 02 37.5	-0.9
KBL	Kabul 5.1nm,0.5s,mb4.8	61.25	308	*e*P		P		04 02 40.8	-0.4
KURK	Kurchatov 8.6nm,0.6s,mb5.0	61.92	328	*e*P		P		04 02 44.4	-1.0
BVAR	Borovoye Array 0.7nm,0.5s,mb3.8,baz=145,slow=10,SNR=5.5	67.48	327	P		P		04 03 20.1	-1.4

IDC 10 03:58:20.3±5.3, 670S×12981E, h188km±50km, mb3.3/1, mb1 3.1/4, mb1mx3.0/13, mbtmp2.9/4, Error ellipse: s-maj=81.5km s-min=22.4km az=71.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi 0.1nm,0.3s,baz=28,slow=14,SNR=5.5	12.04	199	P		Pn		04 01 06.5	+0.4
FITZ				S		Sn		04 03 13.3	-6.8
WRA	Warramunga Arr 0.2nm,0.3s,baz=339,slow=13,SNR=3.0	13.88	162	P		Pn		04 01 27.3	-1.9
WRA				S		Sn		04 03 53.0	-11
ASAR	Alice Springs 0.1nm,0.3s,baz=344,slow=9.5,SNR=4.7	17.32	167	P		Pn		04 02 11.2	+0.2
ASAR				S		S		04 05 20.4	+0.4
MKAR	Makanchi Array 0.5nm,0.5s,baz=119,slow=7.5,SNR=5.9	67.88	327	P		P		04 08 58.3	0.0

*ISCJB **10** 04:17:57.7±0.8, 1850S±006×69.19W±005, h100km±6km, mb4.3/37, Error ellipse: s-maj=11.5km s-min=6.6km az=31.4*
*IDC **10** 04:18:00.4±0.7, 1865S×69.25W, h119km±5km, mb4.1/10, mb1 4.3/13, mb1mx4.1/19, mbtmp4.1/13, Error ellipse: s-maj=14.7km s-min=12.0km az=104.0*
*NEIC **10** 04:18:01.6±0.9, 1859S×69.11W, h132km±9km, mb4.3/29, Error ellipse: s-maj=11.4km s-min=6.4km az=69.0*
*BJI **10** 04:18:03.7, 1874S×6836W, h126km, mB4.7*
ISC 10 04:17:59.1±0.7, 1854S±006×6920W±005, h96km±6km, h119km±1.2km; pP-P, n231, σ0=62/226, mb4.3/37, 69C-70D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	La Paz 24nm,0.3s,baz=220,slow=7.2,SNR=657	2.46	25	P		Pn		04 18 43.1	+5.6
LPAZ				S		Sn		04 19 15.2	+8.2
ARE	Arequipa	3.01	313	⇑*i*P		Pn		04 18 45.5	+0.6
ARE				*i*S		Sn		04 19 20.1	-0.1
SIV	San Ignacio 16nm,0.3s,baz=268,slow=10,SNR=320	8.16	73	P		Pn		04 19 55.7	+0.9
SIV				S		Sn		04 21 26.8	+1.3
NNA	Nana 1.1nm,0.3s,baz=148,slow=23,SNR=5.8	9.84	310	*e*Pn		Pn		04 20 16.4	-1.2
NNA				*e*Sn		Sn		04 21 58.3	-8.1
NNA	Nana 2.5nm,0.3s,baz=118,slow=14,SNR=6.0	9.84	310	P		Pn		04 20 15.3	-2.4
NNA				S		Sn		04 21 55.1	-11
LCO	Las Campanas 19nm,0.6s	10.51	187	*e*Pn		Pn		04 20 36.1	+9.3
LCO				*e*S		Sn		04 22 43.6	+21
CFAA	Coronel Fontan 0.1nm,0.3s,baz=350,slow=14,SNR=9.5	13.04	176	P		Pn		04 21 00.9	+0.3
CPUP	Villa Florida	13.43	127	P		Pn		04 21 04.8	-0.9
CPUP	Villa Florida 1.5nm,0.3s,baz=294,slow=12,SNR=20	13.43	127	P		Pn		04 21 04.8	-0.9
TRQA	Tornquist 54nm,0.9s	20.44	164	*e*P		P		04 22 28.0	-0.7
BDFB	Brasilia 20nm,0.5s,baz=251,slow=17,SNR=38	20.45	85	P		P		04 22 28.9	-0.2
PLCA	Paso Flores 3.7nm,0.7s,mb3.8,baz=6.7,slow=11,SNR=6.7	22.15	183	P		P		04 22 46.7	-0.2
TEIG	Tepich 9.2nm,0.8s,mb4.6,baz=152,slow=10,SNR=8.7	42.83	333	P		P		04 25 46.6	-1.2
NATX	Nacogdoches 12nm,0.7s,mb5.0	55.66	334	*e*P		P		04 27 24.1	-1.2
SWET	Sewanee	55.77	343	*e*P		P		04 27 23.8	-2.2
JCT	Junction City 5.0nm,0.7s,mb4.7	56.95	328	*e*P		P		04 27 33.0	-1.4
WVT	Waverly 3.9nm,0.6s,mb4.6	57.16	342	*e*P		P		04 27 33.4	-2.5
TXAR	Lajitas Array 0.9nm,0.6s,mb4.0,baz=148,slow=8.3,SNR=12	58.07	324	P		P		04 27 41.4	-1.0
SIUC	Southern Illin 6.5nm,0.5s,mb4.9	59.04	342	*e*P		P		04 27 47.4	-1.6
SIUC				*e*pP		pP		04 28 15.8	+3.1
FVM	French Village 18nm,0.6s,mb5.3	59.66	341	*e*P		P		04 27 51.6	-1.6
FVM				*e*pP		pP		04 28 19.1	+2.1
WMOK	Wichita Mounta 1.3nm,0.6s,mb4.1	59.99	332	*e*P		P		04 27 53.7	-1.8
MNTX	Cornudas Mount 5.0nm,1.0s,mb4.5	60.83	325	*e*P		P		04 27 59.3	-2.0
319A	Douglas baz=63,SNR=7.1	62.80	322	P		P		04 28 14.3	-0.2
219A	White Tail Can baz=63,SNR=6.7	63.24	322	⇑P		P		04 28 17.1	-0.4
318A	Bisbee baz=63,SNR=12	63.26	321	P		P		04 28 17.5	-0.2
BNM	Barren Site	63.37	326	*e*P		P		04 28 18.0	-0.3
LPM	Los Pinos Moun	63.50	326	*e*P		P		04 28 18.8	-0.3
119A	Ashpeak Ranch, baz=64	63.82	323	⇑P		P		04 28 20.9	-0.4
CBKS	Cedar Bluff 8.6nm,0.8s,mb4.6	63.83	334	*e*P		P		04 28 20.2	-1.0
ANMO	Albuquerque 2.0nm,0.8s,mb4.0	63.90	326	*e*P		P		04 28 20.8	-1.0
217A	Green Valley baz=64	63.99	321	⇓P		P		04 28 22.2	-0.3
SCIA	State Center 6.7nm,0.5s,mb4.7	64.11	340	*e*P		P		04 28 21.0	-2.0
118A	Homack Ranch, baz=64	64.12	322	⇑P		P		04 28 23.1	-0.1
TUC	Tucson 1.0nm,0.7s,mb3.8	64.36	321	*e*P		P		04 28 24.1	-0.7
117A	Oracle baz=64,SNR=5.2	64.52	322	P		P		04 28 25.6	-0.3
216A	Three Points, baz=64	64.54	321	⇓P		P		04 28 25.9	-0.2
Y19A	Nutrioso baz=64,SNR=11	64.67	324	P		P		04 28 27.3	+0.5
Z17A	San Carlos Hig baz=65	64.88	322	⇑P		P		04 28 28.0	-0.2
Y18A	Canyon Day Jun baz=65,SNR=5.1	64.98	323	⇑P		P		04 28 28.6	-0.2
X19A	St. Johns baz=65	65.03	324	⇓P		P		04 28 29.2	0.0
116A	Eloy baz=65	65.08	321	⇓P		P		04 28 29.4	-0.2
Y17A	Roosevelt baz=65,SNR=9.9	65.38	322	P		P		04 28 31.5	+0.1
X18A	Snowflake baz=65	65.48	324	⇓P		P		04 28 32.1	+0.1
115A	Sonoran Desert baz=65	65.49	321	⇑P		P		04 28 32.2	+0.1
SDCO	Great Sand Dun 7.9nm,1.1s,mb4.5	65.58	329	*e*P		P		04 28 32.1	-0.5
Y16A	Circle Bar Ran baz=66,SNR=5.4	65.88	322	P		P		04 28 35.0	+0.3
X16A	Lo Mia Camp, P baz=66,SNR=5.5	66.25	323	⇓P		P		04 28 37.0	+0.1
Y15A	Casa Rosa Ranc baz=66	66.44	322	⇓P		P		04 28 38.2	0.0
MVCO	Mesa Verde 4.9nm,0.9s,mb4.3	66.68	327	*e*P		P		04 28 39.2	-0.5
MVCO	Mesa Verde baz=66	66.68	327	⇑P		P		04 28 39.6	-0.1
X15A	Humboldt baz=67	66.76	322	⇑P		P		04 28 40.4	+0.2
Y14A	Wickenburg baz=67,SNR=5.1	66.82	321	P		P		04 28 40.4	-0.2
WUAZ	Wupatki 1.2nm,0.6s,mb3.9	67.00	323	*e*P		P		04 28 41.5	-0.2
WUAZ	Wupatki baz=67	67.00	323	⇓P		P		04 28 42.0	+0.3
X14A	Yava baz=67	67.13	322	⇓P		P		04 28 42.7	+0.1
Y13A	Salome baz=67	67.23	321	⇑P		P		04 28 43.2	0.0
ISCO	Idaho Springs 6.4nm,1.1s,mb4.4	67.25	330	*e*P		P		04 28 42.8	-0.5
SMCO	Snowmass 5.1nm,0.6s,mb4.5	67.42	329	*e*P		P		04 28 44.5	+0.2
V15A	Kaibab Nationa baz=68,SNR=5.3	67.67	323	⇑P		P		04 28 46.3	+0.4
W14A	Seligman baz=68,SNR=5.9	67.76	322	⇓P		P		04 28 46.9	+0.3
X13A	Yucca baz=68	67.77	321	⇓P		P		04 28 46.8	+0.2
V14A	Boquillas Ranc baz=68,SNR=6.0	68.07	322	⇑P		P		04 28 49.0	+0.5
BC3	Big Chuckw Mtn baz=68	68.11	320	⇓P		P		04 28 49.0	+0.2
T16A	Glen Canyon Da baz=68	68.13	324	⇑P		P		04 28 49.2	+0.4
W13A	Hualapai Mount baz=68	68.15	322	⇑P		P		04 28 49.5	+0.5
IRM	Iron Mountain baz=68	68.27	320	⇓P		P		04 28 49.9	+0.1
T15A	Red Dirt Ranch baz=68	68.64	324	⇑P		P		04 28 52.9	+0.9
U14A	Mt Trumbull baz=68,SNR=10	68.67	323	⇓P		P		04 28 52.8	+0.7
V13A	Grand Canyon W baz=69,SNR=8.2	68.73	322	P		P		04 28 53.0	+0.4
GMRC	Granite Mounta baz=69	68.99	320	⇓P		P		04 28 54.7	+0.5
U13A	Pakoon Wash baz=69	69.11	323	⇓P		P		04 28 55.3	+0.3
V12A	Nelson baz=69	69.15	321	⇑P		P		04 28 55.3	0.0
U12A	Valley of Fire baz=69	69.46	322	⇑P		P		04 28 57.3	+0.2
T13A	Saint George baz=69	69.50	323	⇑P		P		04 28 57.9	+0.6
V11A	Goodsprings baz=69	69.57	321	⇑P		P		04 28 58.3	+0.5
MSU	Marysvale	69.60	325	*e*P		P		04 28 57.9	0.0
S14A	Cedar City baz=69	69.61	324	⇑P		P		04 28 58.4	+0.4
ARUT	Antelope Range	69.78	324	*e*P		P		04 28 59.5	+0.4
BFSC	Mount Baldy St baz=70	69.87	319	⇑P		P		04 29 00.1	+0.5
S13A	Holt Ranch, En baz=70,SNR=8.2	69.87	324	P		P		04 29 00.5	+0.9
GSC	Goldstone baz=70	70.04	320	⇓P		P		04 29 00.8	+0.1
T11A	Corn Creek, Al baz=70,SNR=5.5	70.41	322	⇑P		P		04 29 03.3	+0.4
OSI	Osito Adit baz=71	70.78	318	⇑P		P		04 29 06.1	+0.9
TPNV	Topopah Spring 5.3nm,1.1s,mb4.3	70.81	322	*e*P		P		04 29 05.5	+0.2
TPNV				*e*				04 29 35.6	
TPNV	Topopah Spring baz=71	70.81	322	⇓P		P		04 29 06.0	+0.7
R12A	Pony Springs, baz=71,SNR=7.9	70.81	324	⇑P		P		04 29 06.0	+0.7
FURC	Furnace Creek, baz=71	70.85	321	⇓P		P		04 29 06.1	+0.5
Q13A	Wheeler Ranch, baz=71	70.93	324	⇓P		P		04 29 06.4	+0.4
DUG	Dugway 5.6nm,1.2s,mb4.3	71.16	326	*e*P		P		04 29 07.2	-0.1
DUG	Dugway baz=71	71.16	326	⇓P		P		04 29 07.7	+0.3
P13A	Bates Ranch, G baz=71	71.28	325	⇓P		P		04 29 08.6	+0.5
R11A	Troy Canyon, C baz=71,SNR=5.1	71.38	323	⇑P		P		04 29 09.0	+0.3
BW06	Boulder Array 1.2nm,0.6s,mb3.9	71.43	330	*e*P		P		04 29 07.1	-1.8
Q12A	Willow Creek R baz=71	71.43	324	⇑P		P		04 29 09.4	+0.3
HWUT	Hardware Ranch 2.4nm,0.8s,mb4.1	71.54	328	*e*P		P		04 29 08.9	-0.7
S10A	Tonopah Range, baz=72	71.67	322	⇓P		P		04 29 10.9	+0.4
R10A	Warm Springs baz=72,SNR=5.6	71.75	323	⇑P		P		04 29 11.8	+0.8
Q11A	Duckwater baz=72,SNR=5.3	71.76	323	P		P		04 29 11.4	+0.4
P12A	McGill baz=72	71.78	324	⇑P		P		04 29 11.2	+0.1
N14A	Grayback Hills baz=72,SNR=5.8	71.83	326	P		P		04 29 11.3	-0.1
M15A	Larsen Ranch, baz=72,SNR=7.8	71.89	327	⇓P		P		04 29 11.7	-0.1
S09A	Goldfield baz=72	71.91	322	⇑P		P		04 29 11.9	0.0
R09A	Tonopah baz=72	72.16	322	⇑P		P		04 29 13.8	+0.4
Q10A	Clear Creek Ra baz=72	72.17	323	⇓P		P		04 29 14.0	+0.5
O12A	Currie baz=72,SNR=7.6	72.25	325	⇑P		P		04 29 13.9	0.0
S08C	White Mtn Res baz=72	72.32	321	⇑P		P		04 29 14.9	+0.5
M14A	Sheep Mountain baz=72,SNR=8.4	72.38	327	⇑P		P		04 29 14.3	-0.4
ULM	Lac du Bonnet 5.6nm,0.6s,mb4.6,baz=144,slow=6.6,SNR=13	72.43	342	P		P		04 29 13.1	-1.7
ULM				pP 5.2nm,0.6s,baz=152,slow=6.2,SNR=6.7		pP		04 29 43.0	+3.8
SNOW	Snow King Moun	72.53	330	*e*P		P		04 29 15.0	-0.4
TPAW	Teton Pass 3.0nm,0.7s,mb4.2	72.64	329	*e*P		P		04 29 15.5	-0.7
O11A	Cowboy Ranch, baz=72	72.65	324	⇓P		P		04 29 16.5	+0.2
M13A	Montello baz=72	72.71	326	⇑P		P		04 29 16.4	-0.2
MOOW	Moose Ponds 1.2nm,0.5s,mb4.0	72.73	330	*e*P		P		04 29 16.2	-0.5
P10A	Eureka baz=73	72.75	324	⇑P		P		04 29 17.4	+0.5
IMW	Indian Meadow 3.1nm,0.6s,mb4.3	72.94	330	*e*P		P		04 29 16.7	-1.2
FLWY	Flagg Ranch 2.6nm,0.6s,mb4.2	72.97	330	*e*P		P		04 29 18.1	0.0
NVAR	Mina Array Bea	73.01	322	P		P		04 29 18.7	+0.2
NVAR				pP		pP		04 29 48.0	+5.0
NVAR	Mina Array Bea 1.3nm,0.9s,mb3.8,baz=140,slow=5.8,SNR=6.9	73.01	322	P		P		04 29 18.7	+0.2
NVAR				pP 1.3nm,0.8s,baz=148,slow=5.4,SNR=4.9		pP		04 29 48.0	+5.0
K14A	Jones Ranch, D baz=73	73.05	328	⇑P		P		04 29 18.4	-0.1
Q08A	Gabbs baz=73	73.08	322	⇓P		P		04 29 18.5	-0.3
L13A	Double Diamond baz=73,SNR=5.1	73.11	327	P		P		04 29 19.4	+0.4
M12A	Wells baz=73	73.15	326	⇑P		P		04 29 18.6	-0.6
N11A	Elko Archery C baz=73	73.17	325	⇑P		P		04 29 19.8	+0.4
U04C	Hernandez Rese baz=73	73.19	319	⇑P		P		04 29 19.5	-0.1
LKWY	Lake 1.9nm,0.3s,mb4.4	73.19	331	*e*P		P		04 29 20.4	+1.1
K13A	Stover Farm, H baz=73	73.59	327	⇑P		P		04 29 21.9	+0.2
M11A	Holland Ranch, baz=74	73.63	325	⇑P		P		04 29 22.4	+0.3
HAST	Hastings Reser baz=74	73.69	318	⇑P		P		04 29 22.7	+0.2
L12A	House Creek Ra baz=74,SNR=5.2	73.71	326	P		P		04 29 23.2	+0.7
K12A	Draper Farm, C baz=74,SNR=8.8	74.00	327	⇓P		P		04 29 24.5	+0.4
L11A	Cat Creek Ranc baz=74	74.12	326	⇓P		P		04 29 24.9	+0.1
J13A	Cove Ranch, Pi baz=74	74.17	328	⇑P		P		04 29 25.2	+0.1
R05C	Kirkwood Meado baz=74	74.24	321	⇑P		P		04 29 25.8	+0.1
HLID	Hailey baz=74,SNR=8.6	74.41	328	P		P		04 29 26.9	+0.4
L10A	Juniper Basin baz=74,SNR=7.1	74.44	325	P		P		04 29 27.1	+0.3
N08A	GE Springer Mi baz=74	74.48	324	⇓P		P		04 29 27.4	+0.4
O07A	Toulon baz=74	74.49	323	⇓P		P		04 29 27.2	+0.1
I13A	Wildhorse Cree baz=74,SNR=7.2	74.51	328	P		P		04 29 27.9	+0.8
J12A	Stokes Ranch, baz=74	74.54	327	⇑P		P		04 29 27.6	+0.3
BOZ	Bozeman (W) 1.5nm,0.8s,mb3.8	74.58	331	*e*P		P		04 29 26.2	-1.2
BOZ	Bozeman (W) baz=74	74.58	331	⇑P		P		04 29 27.3	-0.2
G15A	Dillon baz=74	74.62	330	⇓P		P		04 29 28.1	+0.3
K11A	Parker Ranch, baz=74	74.69	326	⇓P		P		04 29 28.2	+0.1
MFID	Camas Ranch baz=75,SNR=5.8	75.03	327	P		P		04 29 30.6	+0.4
H13A	Challis baz=75,SNR=5.5	75.05	328	P		P		04 29 30.8	+0.6
F15A	Butte baz=75	75.12	330	⇑P		P		04 29 30.8	+0.2
K10A	MacKenzie Ranc baz=75,SNR=6.9	75.14	326	P		P		04 29 31.1	+0.4
G14A	Jackson baz=75	75.15	329	⇓P		P		04 29 31.0	+0.2
H12A	Diamond D Ranc baz=75,SNR=5.0	75.33	328	P		P		04 29 32.1	+0.3
G13A	Cobalt baz=75,SNR=9.1	75.42	329	P		P		04 29 32.8	+0.5
N06A	Buffalo Meadow baz=75	75.42	323	⇓P		P		04 29 32.6	+0.1
I11A	Placerville baz=75	75.45	327	⇓P		P		04 29 32.9	+0.4
M07A	Soldier Meadow baz=75	75.47	323	⇓P		P		04 29 32.8	+0.1
L08A	Fields baz=75	75.54	325	⇑P		P		04 29 32.5	-0.5
K09A	Rome baz=75	75.54	325	⇓P		P		04 29 33.5	+0.4
O05C	Quincy baz=75	75.55	321	⇑P		P		04 29 33.3	+0.1
E15A	Deer Lodge baz=76	75.62	331	⇑P		P		04 29 33.7	+0.3
ORV	Oroville baz=76	75.64	321	⇑P		P		04 29 33.8	+0.1
PPT	Papeete 83nm,25.0s	75.76	256	*e*LR		LR		04 30 14.7	
WVOR	Wild Horse Val 1.2nm,0.5s,mb3.9	75.86	325	*e*P		P		04 29 34.2	-0.7
O04C	Chester baz=76	75.88	322	⇑P		P		04 29 35.5	+0.4
F13A	Darby baz=76	75.97	329	⇓P		P		04 29 35.4	0.0
L07A	Adell baz=76	75.98	324	⇓P		P		04 29 36.1	+0.6
J09A	Fry Pan Ranch, baz=76	76.00	326	⇓P		P		04 29 36.3	+0.6
E14A	Clinton baz=76	76.02	330	⇓P		P		04 29 36.0	+0.4
D15A	Lincoln baz=76	76.03	331	⇑P		P		04 29 36.2	+0.5
H11A	Donnelly baz=76	76.03	328	⇓P		P		04 29 35.7	-0.1
H10A	Noah's Angus R baz=76	76.32	327	⇓P		P		04 29 37.8	+0.3
E13A	Victor baz=76	76.37	330	⇑P		P		04 29 38.0	+0.4
K07A	Rock Creek Ran baz=76	76.37	324	⇓P		P		04 29 38.4	+0.6
F12A	Elk City baz=76	76.39	329	⇑P		P		04 29 38.1	+0.2
J08A	Circle Bar Ran baz=76	76.39	325	⇓P		P		04 29 38.0	+0.1
HATC	Hat Creek Radi baz=76	76.41	322	⇑P		P		04 29 38.1	0.0
I09A	Lost Marbles R baz=76	76.42	326	⇑P		P		04 29 38.4	+0.4
D14A	Greenough baz=76	76.51	331	⇑P		P		04 29 38.3	-0.1
TORD	Torodi Ar. Bea 5.6nm,0.4s,mb4.7,baz=254,slow=5.3,SNR=335	76.64	71	P		P		04 29 38.0	-1.9
G11A	Walters Elk Ra baz=76,SNR=6.6	76.64	328	P		P		04 29 39.6	+0.3
BMO	Blue Mountains 3.9nm,0.8s,mb4.2	76.79	327	*e*P		P		04 29 39.7	-0.4
I08A	Drewsey baz=77	76.82	326	⇓P		P		04 29 40.9	+0.6
J07A	Hines baz=77	76.86	325	⇓P		P		04 29 41.1	+0.6
F11A	Grangeville baz=77	76.93	328	⇓P		P		04 29 40.6	-0.3
D13A	Huson baz=77,SNR=5.2	76.97	330	P		P		04 29 41.1	0.0
G10A	Bishop Farm, J baz=77,SNR=13	77.00	327	P		P		04 29 41.7	+0.4
C14A	Swan Lake baz=77	77.13	331	⇓P		P		04 29 41.7	-0.2
J06A	Christmas Vall baz=77	77.24	324	⇑P		P		04 29 42.5	-0.1
M04C	Macdoel baz=77	77.25	322	⇓P		P		04 29 42.8	+0.1
H08A	Prairie City baz=77	77.28	326	⇓P		P		04 29 43.5	+0.6
E11A	Bogner Ranch, baz=77	77.29	329	⇑P		P		04 29 42.4	-0.5
K05A	Summer Lake baz=77	77.31	324	⇓P		P		04 29 43.8	+0.8
D12A	Red Ives Fores baz=77	77.36	330	⇓P		P		04 29 43.1	-0.1
I07A	Izee baz=77	77.43	325	⇓P		P		04 29 44.2	+0.5
C13A	Hot Springs baz=77	77.44	330	⇓P		P		04 29 44.0	+0.3
F10A	Beach Ranch, E baz=77	77.53	328	⇑P		P		04 29 44.5	+0.3
F09A	S2 Ranch, Elgi baz=78	77.69	327	⇓P		P		04 29 45.4	+0.3
I06A	Prineville baz=78	77.72	325	⇓P		P		04 29 46.1	+0.8

E10A	**Myers Farm, Un**	**77.82**	**328**	⇓P		**P**	**04 29 45.9**	**0.0**
	baz=78							
D11A	**Klaveano Farm,**	**77.83**	**329**	⇓P		**P**	**04 29 46.1**	**+0.3**
	baz=78							
G08A	**Pilot Rock**	**77.95**	**327**	⇓P		**P**	**04 29 46.4**	**-0.2**
	baz=78							
A13A	**Flathead Natio**	**78.28**	**331**	⇓P		**P**	**04 29 48.1**	**-0.2**
	baz=78							
G07A	**Ruggs Ranch, H**	**78.31**	**326**	⇓P		**P**	**04 29 48.8**	**+0.3**
	baz=78							
H06A	**Lindquist Farm**	**78.31**	**325**	⇓P		**P**	**04 29 49.3**	**+0.7**
	baz=78							
D09A	**Jones Farm, Ri**	**78.82**	**328**	⇑P		**P**	**04 29 51.6**	**+0.4**
	baz=79							
C10A	**Spilker Farm,**	**78.85**	**329**	⇑P		**P**	**04 29 51.4**	**0.0**
	baz=79							
A12A	**Yaak River Ran**	**78.85**	**331**	⇑P		**P**	**04 29 51.9**	**+0.5**
	baz=79							
A11A	**Hall Mountain,**	**79.19**	**331**	⇓P		**P**	**04 29 53.6**	**+0.3**
	baz=79							
C09A	**Chrisman Ranch**	**79.31**	**329**	⇓P		**P**	**04 29 54.0**	**+0.1**
	baz=79							
B09A	**Rice**	**79.67**	**329**	⇑P		**P**	**04 29 56.1**	**+0.2**
	baz=80							
D07A	**Quincy**	**79.75**	**328**	⇑P		**P**	**04 29 56.8**	**+0.5**
	baz=80							
C07A	**Waterville**	**80.12**	**328**	P		**P**	**04 29 58.3**	**0.0**
	baz=80,SNR=10							
B08A	**Colville Reser**	**80.21**	**329**	⇑P		**P**	**04 29 58.5**	**-0.2**
	baz=80							
F04A	**Amboy**	**80.21**	**325**	⇓P		**P**	**04 29 59.0**	**+0.1**
	baz=80							
A09A	**Danville**	**80.26**	**330**	⇑P		**P**	**04 29 58.4**	**-0.6**
	baz=80							
A08A	**Turner Farm, O**	**80.58**	**329**	P		**P**	**04 30 00.6**	**-0.2**
	baz=80,SNR=6.8							
B07A	**Winthrop**	**80.66**	**328**	⇓P		**P**	**04 30 00.7**	**-0.6**
	baz=80							
D05A	**Enumclaw**	**80.78**	**327**	⇓P		**P**	**04 30 01.6**	**-0.3**
	baz=81							
A07A	**Ashnola River,**	**81.19**	**329**	P		**P**	**04 30 04.1**	**+0.1**
	baz=81,SNR=6.7							
B06A	**Marblemount**	**81.39**	**328**	⇓P		**P**	**04 30 04.2**	**-0.9**
	baz=81							
B05A	**Bryant**	**81.53**	**327**	⇑P		**P**	**04 30 04.9**	**-1.0**
	baz=81							
ESDC	**Sonseca Array**	**83.93**	**45**	P		**P**	**04 30 18.5**	**0.0**
	2.6nm,0.7s,mb4.2,baz=253,slow=5.6,SNR=16							
ESDC				pP		pP	04 30 49.8	+6.2
	1.5nm,0.8s,baz=254,slow=5.5,SNR=3.0							
BOSA	**Boshof**	**85.08**	**118**	P		**P**	**04 30 23.7**	**-0.9**
	2.7nm,0.9s,mb4.2,baz=267,slow=6.5,SNR=3.2							
YKA	**Yellowknife Ar**	**88.32**	**341**	P		**P**	**04 30 38.3**	**-1.1**
	4.1nm,0.5s,mb4.7,baz=134,slow=4.8,SNR=114							
YKA				pP		pP	04 31 08.6	+3.8
	2.5nm,0.7s,baz=134,slow=4.8,SNR=7.9							
YKA				sP		sP	04 31 21.7	+6.7
	2.6nm,0.8s,baz=134,slow=4.6,SNR=4.2							
ASAR	**Alice Springs**	**132.38**	**209**	PKP		PKPdf	04 36 59.5	-3.4
	0.2nm,0.6s,baz=140,slow=1.6,SNR=4.5							
ASAR				SKPbc		SKPbc	04 40 18.1	-3.0
	0.7nm,0.6s,baz=147,slow=3.8,SNR=8.6							
WRA	**Warramunga Arr**	**135.33**	**212**	PKP		PKPdf	04 37 06.9	-1.6
	0.5nm,0.5s,baz=153,slow=1.4,SNR=3.4							
ZALV	**Zalesovo Beam**	**139.38**	**23**	SKPbc		SKPbc	04 40 39.9	-1.7
	0.9nm,0.6s,baz=329,slow=5.2,SNR=4.3							
MKAR	**Makanchi Array**	**143.36**	**33**	PKhKP			04 37 17.9	
	0.2nm,0.3s,baz=302,slow=2.9,SNR=3.4							
MKAR				PKP		PKPdf	04 37 20.2	-2.0
	0.3nm,0.3s,baz=299,slow=1.1,SNR=4.0							
MJAR	**Matsushiro Arr**	**149.96**	**312**	PKPbc		PKPbc	04 37 37.3	-1.3
	1.6nm,0.5s,baz=114,slow=1.9,SNR=4.5							
SONM	**Songino Array**	**150.56**	**6**	PKPbc		PKPbc	04 37 39.1	-0.5
	2.7nm,0.5s,baz=348,slow=1.8,SNR=7.8							
HHC	**Hu-ho-hao-te**	**157.76**	**358**	*e*PKP		PKPdf	04 37 46.0	+1.5
HHC				PKS			04 41 19.0	
HHC				PP		PP	04 41 58.3	+2.4
HHC				SKS		SKSdf	04 44 39.3	-2.5
HHC				SKKS		SKKSac	04 48 38.3	+1.2
HHC				PP		PP		
	comp=Z,50nm,6.3s							
HHC				LR		LR		
	comp=N,91nm,20.8s							
HHC				LR		LR		
	comp=E,212nm,21.6s							
HHC				LR		LR		
	comp=Z,144nm,20.3s							
LZH	**Lanzhou**	**161.47**	**18**	*e*PKP		PKPdf	04 37 52.5	+3.6
LZH				APKP			04 38 24.2	
LZH				XPKP			04 38 36.6	
LZH				LR		LR		
	comp=E,129nm,18.5s							
LZH				LR		LR		
	comp=Z,175nm,20.1s							
CD2	**Chengdu**	**166.13**	**26**	*e*PKP		PKPdf	04 37 54.6	+1.2
GYA	**Guiyang**	**171.24**	**25**	*e*PKP		PKPdf	04 37 54.9	-1.9
GYA				APKP			04 38 26.9	
GYA				XPKP			04 38 40.2	
GYA				PKP2		PKPab	04 39 17.8	+0.9
GYA				PKS			04 41 28.4	
GYA				PP		PP	04 43 09.8	+3.0
GYA				PP		PP		
	comp=Z,60nm,8.4s							

SZGRF ***10*** *04:36:01.6, 2080S×17420W, h33km, Tonga Islands*
ISCJB ***10*** *04:36:11.6±1.6, 1903S±008×17480W±006, h88km±14km, mb4.6/39, Error ellipse: s-maj=13.6km s-min=8.2km az=153.5*
NEIC ***10*** *04:36:13.9±0.9, 1899S×17475W, h99km±8km, mb4.7/25, Error ellipse: s-maj=9.2km s-min=5.0km az=155.0*
BJI ***10*** *04:36:13.9, 1900S×17480W, h99km, mB5.1, mb4.8*
MOS ***10*** *04:36:17.9±2.2, 1779S×17580W, h83km, mb4.8/6, Error ellipse: s-maj=14.9km s-min=12.9km az=139.5*
IDC ***10*** *04:36:20.3±3.0, 1901S×17481W, h151km±27km, mb4.3/12, mb1 4.5/12, mb1mx4.3/18, mbtmp4.3/12, Error ellipse: s-maj=21.9km s-min=12.4km az=144.0*
ISC 10 04:36:13.3±1.5, 1901S±008×17475W±006, h89km±13km, h101km±2.9km; pP-P, n141, σ0s85/73, mb4.6/39, 12C-3D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.81**	**30**	*e*P	**Pn**	**04 37 37.6**	**+0.5**
AFI				*e*		04 38 33.9	
AFI				pmax	pmax		
	comp=Z,760nm,0.6s						
AFI	**Afiamalu**	**5.81**	**30**	*e*Pn	**Pn**	**04 37 37.5**	**+0.5**
	comp=Z,760nm,0.6s						
AFI				*e*Sn	**Sn**	**04 38 33.9**	**-8.6**
RAR	**Rarotonga**	**14.24**	**101**	P	**Pn**	**04 39 29.8**	**-1.1**
	comp=Z,17nm,0.3s,baz=235,slow=15,SNR=4.8						
URZ	**Urewera**	**20.45**	**199**	P	**P**	**04 40 44.6**	**+1.0**
	comp=Z,25nm,0.6s,baz=17,slow=8.2,SNR=11						
PAE	**Paea**	**23.93**	**91**	*e*P	**P**	**04 41 19.5**	**+0.2**
	comp=Z,44nm,1.1s,mb4.7						
PPT	**Papeete**	**23.94**	**91**	*e*P	**P**	**04 41 19.9**	**+0.5**
	comp=Z,34nm,1.3s,mb4.5						
PMOR	**Pomariorio Rec**	**25.98**	**85**	*e*P	**P**	**04 41 36.7**	**-1.2**
	comp=Z,38nm,1.1s,mb4.7						
RPZ	**Rata Peaks**	**27.37**	**203**	P	**P**	**04 41 53.0**	**+2.9**
	comp=Z,17nm,0.6s,mb4.8,baz=4.8,slow=5.6,SNR=11						
CTA	**Charters Tower**	**36.71**	**262**	*e*P	**P**	**04 43 12.7**	**+0.7**
	comp=Z,34nm,0.6s,mb5.5						
CTA	**Charters Tower**	**36.71**	**262**	*e*P	**P**	**04 43 12.7**	**+0.7**
CTA				pmax	pmax		
	comp=Z,34nm,0.6s						
CTA	**Charters Tower**	**36.71**	**262**	P	**P**	**04 43 12.9**	**+0.9**
	comp=Z,33nm,0.5s,mb5.5,baz=98,slow=11,SNR=40						
CTAO	**Charters Tower**	**36.71**	**262**	*e*P	**P**	**04 43 12.4**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,50nm,0.8s,mb5.5						
CTAO	**Charters Tower**	**36.71**	**262**	*e*P	**P**	**04 43 12.4**	**+0.3**
	comp=Z,50nm,0.8s,mb5.5						
STKA	**Stephens Creek**	**41.19**	**243**	*e*P	**P**	**04 43 49.4**	**+0.1**
	comp=Z,6.1nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**41.19**	**243**	P	**P**	**04 43 49.5**	**+0.3**
	comp=Z,8.2nm,0.8s,mb4.6,baz=93,slow=7.4,SNR=16						
WB2	**Warramunga Arr**	**47.84**	**260**	*e*P	**P**	**04 44 41.5**	**-0.9**
WRAB	**Tennant Creek**	**47.84**	**260**	*e*P	**P**	**04 44 41.2**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**47.84**	**260**	*e*P	**P**	**04 44 41.1**	**-1.3**
	comp=Z,9.9nm,0.8s,mb4.7						
WRAB				*e*		04 46 05.8	

ASAR	**Alice Springs**	**47.85**	**255**	P		**P**	**04 44 42.1**	**-0.3**
	comp=Z,19nm,0.7s,mb5.0,baz=88,slow=8.5,SNR=162							
ASAR				PcP		PcP	04 46 09.8	-0.1
	comp=Z,2.5nm,0.7s,baz=102,slow=4.4,SNR=6.3							
ASAR				S		**S**	**04 51 28.6**	**-4.4**
	comp=Z,1.0nm,0.8s,baz=91,slow=15,SNR=7.4							
WRA	**Warramunga Arr**	**47.85**	**260**	P		**P**	**04 44 42.0**	**-0.5**
	comp=Z,4.3nm,0.3s,mb4.8,baz=96,slow=7.5,SNR=50							
KAKA	**Kakadu**	**51.03**	**269**	*e*P		**P**	**04 45 06.3**	**-0.5**
	comp=Z,21nm,0.6s,mb5.3							
FORT	**Forrest**	**52.69**	**245**	*e*P		**P**	**04 45 18.0**	**-0.9**
	comp=Z,26nm,0.9s,mb5.3							
FITZ	**Fitzroy Crossi**	**56.27**	**261**	*e*P		**P**	**04 45 44.9**	**-0.1**
	comp=Z,7.9nm,0.6s,mb4.9							
BATI	**Kupang**	**59.99**	**269**	P		**P**	**04 46 10.8**	**-0.2**
	comp=Z,20nm,0.5s,mb5.4,baz=102,slow=9.3,SNR=4.7							
MBWA	**Marble Bar**	**61.17**	**256**	*e*P		**P**	**04 46 17.6**	**-1.4**
	comp=Z,15nm,0.9s,mb5.0							
KLBR	**Kellerberrin**	**61.46**	**244**	*e*P		**P**	**04 46 20.2**	**-0.5**
	comp=Z,27nm,1.0s,mb5.2							
MJAR	**Matsushiro Arr**	**70.89**	**321**	P		**P**	**04 47 20.5**	**-0.3**
	comp=Z,6.3nm,0.7s,mb4.6,baz=157,slow=6.0,SNR=12							
MAJO	**Matsushiro**	**70.89**	**321**	*e*P		**P**	**04 47 21.0**	**+0.2**
MAT	**Matsushiro**	**70.89**	**321**	P		**P**	**04 47 20.9**	**+0.1**
QSPA	**South Pole Qui**	**71.06**	**180**	*e*P		**P**	**04 47 22.2**	**+1.0**
	comp=Z,4.3nm,0.8s,mb4.3							
KKM	**Kota Kinabalu**	**72.37**	**283**	*e*P		**P**	**04 47 30.3**	**0.0**
YSS	**Yuzh-Sakhalins**	**75.99**	**332**	*e*P		**P**	**04 47 51.8**	**+1.3**
YSS				pmax		pmax		
	comp=Z,28nm,1.2s,mb4.9							
KSRS	**Korea Array**	**77.85**	**317**	P		**P**	**04 48 03.0**	**+1.8**
	comp=Z,3.7nm,0.9s,mb4.1,baz=137,slow=5.9,SNR=10							
NVAR	**Mina Array Bea**	**77.86**	**42**	P		**P**	**04 48 01.6**	**+0.4**
	comp=Z,2.0nm,0.8s,mb3.9,baz=227,slow=9.4,SNR=14							
TUC	**Tucson**	**79.66**	**51**	*e*P		**P**	**04 48 11.7**	**+0.4**
TUC				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.7							
TUC	**Tucson**	**79.66**	**51**	*e*P		**P**	**04 48 11.7**	**+0.4**
	comp=Z,1.4nm,0.8s,mb3.8							
WVOR	**Wild Horse Val**	**80.04**	**39**	*e*P		**P**	**04 48 12.9**	**-0.2**
WVOR				pmax		pmax		
	comp=Z,2.0nm,0.8s,mb4.0							
WVOR	**Wild Horse Val**	**80.04**	**39**	*e*P		**P**	**04 48 12.9**	**-0.2**
	comp=Z,2.3nm,0.8s,mb4.1							
HABR	**Khabarovsk**	**80.71**	**329**	*e*P		**P**	**04 48 16.9**	**+0.4**
HABR				*e*			04 48 34.3	
HABR				*e*			04 51 19.4	
HABR				*e*S		S	04 58 19.1	+2.3
MDJ	**Mudanjiang**	**81.10**	**323**	P		**P**	**04 48 19.9**	**+1.2**
MDJ				AMB		AMB		
	comp=Z,8.0nm,1.4s,mb4.4							
MDJ				AMB		AMB		
	comp=Z,46nm,5.5s							
MSU	**Marysvale**	**81.89**	**45**	*e*P		**P**	**04 48 23.9**	**+0.9**
CN2	**Changchun**	**83.03**	**321**	*e*P		**P**	**04 48 30.8**	**+2.0**
CN2				*e*S		S	04 58 41.4	+0.5
MNTX	**Cornudas Mount**	**83.40**	**53**	*e*P		**P**	**04 48 30.8**	**-0.2**
	comp=Z,1.1nm,0.8s,mb3.7							
TXAR	**Lajitas Array**	**83.68**	**56**	P		**P**	**04 48 36.1**	**+3.6**
	comp=Z,0.2nm,0.7s,baz=242,slow=3.8,SNR=3.5							
ANMO	**Albuquerque**	**84.09**	**50**	*e*P		**P**	**04 48 34.7**	**+0.2**
ANMO				pmax		pmax		
	comp=Z,2.0nm,1.1s							
ANMO	**Albuquerque**	**84.09**	**50**	*e*P		**P**	**04 48 34.7**	**+0.2**
	comp=Z,2.2nm,1.1s,mb3.9							
ANMO	**Albuquerque**	**84.09**	**50**	P		**P**	**04 48 34.9**	**+0.4**
	comp=Z,1.1nm,0.7s,mb3.8,baz=235,slow=7.9,SNR=4.8							
MCMT	**McKenzie Canyo**	**84.86**	**39**	*e*P		**P**	**04 48 38.3**	**+0.3**
MCK	**McKinley**	**84.89**	**11**	*e*P		**P**	**04 48 37.0**	**-0.8**
MCK				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.9							
MCK	**McKinley**	**84.89**	**11**	*e*P		**P**	**04 48 37.0**	**-0.8**
	comp=Z,13nm,0.9s,mb4.8							
TPAW	**Teton Pass**	**85.30**	**41**	*e*P		**P**	**04 48 40.6**	**+0.3**
	comp=Z,1.3nm,0.6s,mb4.0							
SEY	**Seymchan**	**85.66**	**346**	*e*P		**P**	**04 48 41.4**	**-0.2**
BW06	**Boulder Array**	**85.80**	**42**	*e*P		**P**	**04 48 42.5**	**-0.3**
	comp=Z,1.6nm,0.9s,mb4.0							
BOZ	**Bozeman (W)**	**86.02**	**39**	*e*P		**P**	**04 48 43.1**	**-0.7**
BOZ				pmax		pmax		
	comp=Z,1.0nm,0.8s,mb3.8							
BOZ	**Bozeman (W)**	**86.02**	**39**	*e*P		**P**	**04 48 43.1**	**-0.8**
	comp=Z,1.1nm,0.8s,mb3.8							
COLA	**College**	**86.13**	**11**	*e*P		**P**	**04 48 43.0**	**-0.9**
COLA				pmax		pmax		
	comp=Z,14nm,0.8s,mb4.9							
COLA	**College**	**86.13**	**11**	*e*P		**P**	**04 48 43.0**	**-0.9**
	comp=Z,14nm,0.8s,mb4.9							
IMA2	**Indian Mountai**	**86.29**	**8**	*e*P		**P**	**04 48 44.4**	**-0.3**
DAWY	**Dawson**	**87.22**	**15**	*e*P		**P**	**04 48 49.1**	**-0.1**
EGAK	**Eagle**	**87.41**	**14**	*e*P		**P**	**04 48 49.3**	**-0.8**
	comp=Z,5.6nm,1.0s,mb4.5							
GYA	**Guiyang**	**88.60**	**298**	*e*P		**P**	**04 48 55.4**	**-1.3**
GYA				AP		pP	04 49 24.2	+3.7
GYA				XP		sP	04 49 34.8	+4.8
GYA				PP		PP	04 52 28.4	+1.9
GYA				SKS			04 59 14.6	
GYA				S		S	04 59 32.7	-3.4
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
GYA				AMB		AMB		
	comp=Z,40nm,6.4s							
HHC	**Hu-ho-hao-te**	**90.53**	**313**	*e*P		**P**	**04 49 05.4**	**0.0**
HHC				AP		pP	04 49 30.9	+1.7
HHC				XP		sP	04 49 42.1	+3.4
HHC				PP		PP	04 52 44.0	+2.4
HHC				SKS			04 59 25.5	
HHC				S		S	04 59 50.1	-3.3
HHC				XS		sS	05 00 34.7	+0.4
HHC				SS		SS	05 05 54.5	-2.4
HHC				AMB		AMB		
	comp=Z,31nm,1.2s,mb5.3							
HHC				AMB		AMB		
	comp=Z,189nm,5.1s							
HHC				LR		LR		
	comp=N,241nm,18.6s							
HHC				LR		LR		
	comp=E,252nm,18.1s							
HHC				LR		LR		
	comp=Z,132nm,17.1s							
INK	**Inuvik**	**92.06**	**14**	*e*P		**P**	**04 49 11.1**	**-0.7**
CD2	**Chengdu**	**92.58**	**302**	*e*P		**P**	**04 49 15.6**	**+0.4**
CD2				AP		pP	04 49 41.6	+2.6
CD2				XP		sP	04 49 52.1	+3.6
CD2				PP		PP	04 53 01.2	+3.1
CD2				SKS			04 59 38.7	
CD2				S		S	05 00 08.7	-3.7
CD2				XS		sS	05 00 54.0	+0.5
CD2				SS		SS	05 06 26.7	-0.2
CD2				AMB		AMB		
	comp=Z,10.0nm,0.9s,mb5.2							
CD2				AMB		AMB		
	comp=Z,20nm,8.4s							
CD2				LR		LR		
	comp=N,90nm,14.8s							
CD2				LR		LR		
	comp=Z,120nm,16.2s							
CHTO	**Chiang Mai**	**92.64**	**289**	*e*P		**P**	**04 49 15.8**	**+0.2**
CHTO				pmax		pmax		
	comp=Z,4.0nm,0.7s,mb4.9							
CHTO	**Chiang Mai**	**92.64**	**289**	*e*P		**P**	**04 49 15.8**	**+0.1**
	comp=Z,4.2nm,0.7s,mb4.9							
YKA	**Yellowknife Ar**	**93.90**	**24**	P		**P**	**04 49 19.8**	**-0.6**
	comp=Z,1.0nm,0.7s,mb4.2,baz=240,slow=4.5,SNR=23							
LZH	**Lanzhou**	**94.32**	**307**	*e*P		**P**	**04 49 25.0**	**+2.0**
LZH				AP		pP	04 49 51.3	+4.4
LZH				XP		sP	04 50 01.5	+5.1
LZH				*e*PP		PP	04 53 15.8	+4.3
LZH				AMB		AMB		
	comp=Z,17nm,1.1s,mb5.3							
LZH				AMB		AMB		
	comp=Z,118nm,6.8s							
LZH				LR		LR		
	comp=E,203nm,17.8s							
LZH				LR		LR		
	comp=Z,276nm,19.7s							
ULN	**Ulaanbaatar**	**96.26**	**318**	*e*P		**P**	**04 49 30.7**	**-0.8**
ULN				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb4.4							
ULN	**Ulaanbaatar**	**96.26**	**318**	*e*P		**P**	**04 49 30.7**	**-0.9**
	comp=Z,1.1nm,0.6s,mb4.5							
TIXI	**Tiksi**	**98.11**	**345**	*e*P		**P**	**04 49 39.2**	**-0.2**
TIXI				pmax		pmax		
	comp=Z,4.0nm,1.9s,mb4.6							
ZALV	**Zalesovo Beam**	**111.24**	**321**	PKiKP		PKiKP	04 54 34.1	-2.4

	comp=Z,0.7nm,0.6s,baz=55,slow=1.6,SNR=3.0							
MKAR	**Makanchi Array**	**112.39**	**314**	*i* PKIKP		PKiKP	04 54 38.2	-0.7
MKAR	**Makanchi Array**	**112.39**	**314**	PKiKP		PKiKP	04 54 37.5	-1.3
	comp=Z,0.2nm,0.2s,baz=338,slow=3.1,SNR=3.8							
KURK	**Kurchatov**	**114.96**	**318**	⇓*i*PKIKP		PKiKP	04 54 42.4	-1.3
TKM2	**Tokmak 2**	**116.96**	**309**	*e*PKIKP		PKPdf	04 54 46.6	-1.2
UCH	**Uchtor**	**117.75**	**308**	*e*PKPdf		PKPdf	04 54 49.4	+0.1
BRVK	**Borovoye**	**119.94**	**321**	*e*PKIKP		PKPdf	04 54 51.6	-1.6
ARU	**Arti**	**125.67**	**327**	*i* PKIKP		PKPdf	04 55 02.5	-1.6
ARU							05 01 59.3	
ARCES	**ARCESS Array B**	**127.97**	**351**	PKP		PKPdf	04 55 07.0	-1.1
	comp=Z,5.8nm,0.9s,baz=26,slow=6.7,SNR=4.4							
OBN	**Obninsk**	**136.83**	**334**	*e*PKIKP		PKPdf	04 55 24.5	-0.7
OBN				pmax		pmax		
	comp=Z,8.0nm,1.2s							
AKASG	**Malin Array Be**	**143.09**	**335**	PKhKP			04 55 26.6	
	comp=Z,0.3nm,0.3s,baz=40,slow=4.5,SNR=7.8							
SIM	**Simferopol'**	**144.72**	**324**	*i* PKHKP			04 55 39.2	
SIM				pmax		pmax		
	comp=Z,24nm,0.9s							
MALT	**Malatya**	**145.37**	**311**	⇑*i*P		PKPdf	04 55 42.1	+1.0
KSP	**Ksiaz**	**147.04**	**347**	*e*PKIKP		PKPdf	04 55 45.8	+2.3
STHS	**Stebnicka Huta**	**147.05**	**341**	*e*PKP		PKPdf	04 55 41.6	-1.9
STHS				*e*			04 55 45.6	
BURAR	**Bucovina Array**	**147.14**	**335**	⇑*i*P		PKPdf	04 55 47.3	+3.5
CLL	**Collm**	**147.19**	**351**	*e*PKPbc		PKPbc	04 55 45.9	-0.2
CLL	**Collm**	**147.19**	**351**	⇓*i*PKPbc		PKPbc	04 55 46.1	0.0
	comp=Z,28nm,1.3s							
CLL				*i* x		x	04 55 53.3	
UPC	**Upice**	**147.42**	**347**	*e*PKPbc		PKPbc	04 55 47.4	+0.7
BRG	**Berggiesshubel**	**147.46**	**350**	*e*PKPbc		PKPbc	04 55 46.5	-0.3
BRG	**Berggiesshubel**	**147.46**	**350**	*e*PKP		PKPbc	04 55 46.4	-0.4
	comp=Z,7.7nm,0.9s							
DPC	**Dobruska-Polom**	**147.50**	**347**	*e*PKPbc		PKPbc	04 55 47.3	+0.4
FBE	**Freiberg**	**147.51**	**350**	*e*PKPbc		PKPbc	04 55 47.0	+0.1
PVCC	**Panska Ves**	**147.68**	**349**	*e*PKPbc		PKPbc	04 55 47.2	-0.2
MORC	**Moravsky Berou**	**147.76**	**345**	*e*PKIKP		PKPdf	04 55 46.2	+1.5
WERD	**Werda**	**148.13**	**351**	*e*PKPbc		PKPbc	04 55 48.5	-0.1
HARR	**Harsova**	**148.16**	**329**	⇑*i*P		PKPbc	04 55 49.2	+0.3
GUNZ	**Gunzen**	**148.21**	**351**	*e*PKPbc		PKPbc	04 55 48.9	+0.1
PRU	**Pruhonice**	**148.21**	**349**	*e*PKPbc		PKPbc	04 55 48.9	+0.1
ANTO	**Ankara**	**148.47**	**317**	*e*PKIKP		PKPbc	04 55 49.5	-0.4
ANTO	**Ankara**	**148.47**	**317**	⇑*i*P		PKPbc	04 55 49.9	0.0
MLR	**Muntele Rosu**	**148.50**	**332**	⇑*i*P		PKPbc	04 55 50.4	+0.6
VYHS	**Vyhne**	**148.59**	**343**	*e*PKP		PKPbc	04 55 49.8	-0.1
MANZ	**Manzenberg**	**148.61**	**351**	*e*PKPbc		PKPbc	04 55 49.7	-0.2
DRGR		**148.80**	**337**	⇓*i*P		PKPbc	04 55 50.6	+0.1
ROTZ	**Rotzenmuhle**	**148.81**	**351**	*e*PKPbc		PKPbc	04 55 50.0	-0.4
GIVF	**Givet**	**148.97**	**1**	*e*PKP1		PKPbc	04 55 50.4	-0.4
BAIF	**Baives**	**149.01**	**1**	*e*PKP1		PKPbc	04 55 50.7	-0.2
	comp=Z,19nm,0.9s							
GRA1	**Grafenberg Arr**	**149.01**	**352**	*e*PKPbc		PKPbc	04 55 51.1	+0.2
GRF	**Grafenberg Arr**	**149.01**	**352**	*e*PKPbc		PKPbc	04 55 51.1	+0.2
MODS	**Modra-Piesok**	**149.12**	**344**	*e*PKP		PKPbc	04 55 51.6	+0.4
KHC	**Kasperske Hory**	**149.21**	**349**	⇑*i*PKIKP		PKPbc	04 55 51.5	+0.1
KHC	**Kasperske Hory**	**149.21**	**349**	*e*PKPbc		PKPbc	04 55 51.4	0.0
WLF	**Walferdange**	**149.40**	**359**	*e*PKIKP		PKPbc	04 55 50.9	-1.0
GEC2	**GERESS Array S**	**149.46**	**349**	*e*PKPbc		PKPbc	04 55 51.9	-0.1
GERES	**GERESS Array B**	**149.46**	**349**	PKPbc		PKPbc	04 55 52.2	+0.1
	comp=Z,2.6nm,0.6s,baz=48,slow=2.0,SNR=6.2							
CONA	**Conrad Observa**	**149.88**	**346**	⇑*i*PKiKP		PKiKP	04 55 53.0	-1.0
	comp=Z,10nm,1.1s							
CSNA	**Conrad Observa**	**149.88**	**346**	⇑*i*PKiKP		PKiKP	04 55 52.9	-1.1
	comp=Z,9.0nm,1.0s							
FLN	**La Foliniere**	**149.96**	**8**	*e*PKP1		PKPbc	04 55 52.6	-0.7
LDF	**La Druitiere**	**150.17**	**7**	*e*PKP1		PKPbc	04 55 53.1	-0.7
BZS	**Buzias**	**150.19**	**337**	⇑*i*P		PKPbc	04 55 52.7	-1.3
GRR	**Gorron**	**150.27**	**8**	*e*PK

VHO			*i* S		Sn	04 49 20.1	-6.0
VHO	**Vista Hermosa**	4.43 311	*i* P		Pn	04 48 32.5	-2.7
VHO			*i* S		Sn	04 49 14.7	-11
PPM	**Popocatepetl**	7.10 314	*i* P		Pn	04 49 11.2	-0.6
PPM			*i* S		Sn	04 50 25.4	-6.2
PPM	**Popocatepetl**	7.10 314	*i* P		Pn	04 49 08.0	-3.8
PPM			*i* S		Sn	04 50 22.1	-10
TEIG	**Tepich**	7.64 38	*e*Pn		Pn	04 49 17.2	-2.1
	30nm,0.9s						
TEIG	**Tepich**	7.64 38	P		Pn	04 49 17.5	-1.7
	3.1nm,0.3s,baz=229,slow=3.5,SNR=19						
TEIG			S		Sn	04 50 45.4	+0.4
	baz=336,slow=20,SNR=2.7						
TEIG			LR		LR	04 52 38.9	
	comp=Z,400nm,19.8s,baz=218,slow=43						
ZIIG	**Zihuatanejo**	8.63 294	*i* P		Pn	04 49 32.1	-0.8
ZIIG	**Zihuatanejo**	8.63 294	*i* P		Pn	04 49 28.1	-4.7
JCT	**Junction City**	17.31 341	*e*P		Pn	04 51 31.6	+2.1
	6.5nm,0.9s						
TXAR	**Lajitas Array**	17.90 329	P		Pn	04 51 40.0	+3.1
	0.1nm,0.3s,baz=154,slow=9.6,SNR=11						
TXAR			LR		LR	04 59 24.6	
	comp=Z,50nm,18.9s,baz=190,slow=40						
MNTX	**Cornudas Mount**	20.68 329	*e*P		P	04 52 08.5	+0.8
	8.0nm,1.2s						
ROSC	**El Rosal**	20.79 115	P		P	04 52 10.6	+1.6
	5.3nm,0.8s,baz=285,slow=10,SNR=5.2						
WMOK	**Wichita Mounta**	21.07 347	*e*P		P	04 52 10.9	-0.9
	2.5nm,1.0s,mb3.5						
AMTX	**Amarillo**	21.97 341	*e*P		P	04 52 21.3	-0.2
	12nm,0.8s,mb4.4						
SDV	**Santo Domingo**	22.74 101	*e*P		P	04 52 29.3	-0.7
	5.6nm,0.9s,mb4.0						
SDV	**Santo Domingo**	22.74 101	P		P	04 52 26.8	-3.1
	4.2nm,0.8s,mb3.9,baz=298,slow=7.1,SNR=6.5						
BNM	**Barren Site**	23.29 331	*e*P		P	04 52 38.2	+2.7
LPM	**Los Pinos Moun**	23.42 331	*e*P		P	04 52 38.6	+1.7
LAZ	**Ladron**	23.74 330	*e*P		P	04 52 40.8	+1.0
LAZ			*e*			04 52 53.0	
TUC	**Tucson**	24.14 321	*e*P		P	04 52 44.6	+1.1
	7.2nm,1.4s,mb3.9						
CBKS	**Cedar Bluff**	25.19 348	*e*P		P	04 52 52.3	-0.7
	16nm,1.0s,mb4.5						
SDCO	**Great Sand Dun**	25.88 337	*e*P		P	04 53 00.4	+1.2
	5.8nm,1.3s,mb4.0						
PFO	**Pinyon Flat Ob**	28.60 317	LR		LR	05 04 28.7	
	comp=Z,67nm,20.2s,MS3.2,baz=126,slow=35						
NVAR	**Mina Array Bea**	32.79 322	P		P	04 54 02.5	+1.8
NVAR	**Mina Array Bea**	32.79 322	P		P	04 54 02.5	+1.8
	1.3nm,0.8s,mb3.9,baz=142,slow=7.7,SNR=7.2						
LOHW	**Long Hollow**	32.89 336	*e*P		P	04 54 02.1	+0.6
	1.4nm,1.0s,mb3.9						
TPAW	**Teton Pass**	32.92 336	*e*P		P	04 54 02.7	+0.9
	4.4nm,1.2s,mb4.3						
MOOW	**Moose Ponds**	33.06 336	*e*P		P	04 54 03.2	+0.2
	2.5nm,1.1s,mb4.1						
AGMN	**Agassiz Refuge**	34.08 357	*e*P		P	04 54 09.6	-2.1
	2.5nm,0.8s,mb4.2						
WVOR	**Wild Horse Val**	35.68 327	*e*P		P	04 54 25.6	-0.2
	1.1nm,0.6s,mb4.0						
ULM	**Lac du Bonnet**	36.02 357	P		P	04 54 26.4	-2.2
	2.1nm,0.9s,mb4.1,baz=155,slow=8.8,SNR=4.7						
EDM	**Edmonton**	42.08 342	*e*P		P	04 55 18.1	-1.0
SIV	**San Ignacio**	43.69 132	P		P	04 55 32.1	-0.6
	1.0nm,0.9s,mb3.5,baz=296,slow=13,SNR=3.4						
SCHQ	**Schefferville**	45.46 21	LR		LR	05 16 32.7	
	comp=Z,77nm,18.1s,MS3.7,baz=67,slow=39						
YKA	**Yellowknife Ar**	50.58 347	P		P	04 56 25.1	-0.7
YKA	**Yellowknife Ar**	50.58 347	P		P	04 56 25.1	-0.6
	4.1nm,0.9s,mb4.4,baz=149,slow=7.5,SNR=49						
NOA	**NORSAR Array B**	84.54 28	P		P	04 59 58.0	-2.2
	1.1nm,0.8s,mb4.0,baz=291,slow=4.8,SNR=3.8						

*ISCJB **10** 04:49:54.9±0.3,3825N×002×2165E±002,h13km,Error ellipse: s-maj=3.4km s-min=2.7km az=171.6*
*CSEM **10** 04:49:55.5±0.1,3829N×2163E,h5km,ML3.5,Error ellipse: s-maj=2.8km s-min=2.4km az=168.0*
*ATH **10** 04:49:55.7,3828N×2165E,h13km±3km,MD3.7/9*
*NEIC **10** 04:49:55.5,3829N×2166E,h14km,MD3.7(ATH),After ATH.*
*THE **10** 04:49:55.7,3833N×2160E,h13km,ML3.5*
ISC 10 04:49:55.4±0.3,3827N±002×2163E±002,h13km±4km,n27,σ1§17/44,5C-5D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	0.20	89	*e*Pg	Pg	04 50 00.7	+0.7
SELA				*e*Sg	Sg	04 50 05.0	+2.0
RLS	**Riolos of Patr**	0.25	211	⇑*i*PG	Pg	04 50 01.4	+0.7
RLS				*e*SG	Sg	04 50 05.8	+1.6
EVR	**Evrytania**	0.66	12	⇓*i*PB	Pb	04 50 08.6	-0.2
EVR				*e*SB	Sb	04 50 17.6	-0.3
EVR	**Evrytania**	0.66	12	⇓Pb	Pb	04 50 08.4	-0.4
KFL	**Anninata**	0.69	257	*e*Pg	Pg	04 50 08.5	-0.2
VLS	**Valsamata**	0.83	264	*e*Pg	Pg	04 50 10.5	-0.9
VLS				*e*Sg	Sg	04 50 22.5	+0.3
VLS	**Valsamata**	0.83	264	⇓*i*PB	Pb	04 50 10.8	-0.9
VLS				*e*SB	Sb	04 50 24.2	+1.5
VLS	**Valsamata**	0.83	264	⇓Pb	Pb	04 50 10.8	-0.9
VLS				*e*Sg	Sg	04 50 22.5	+0.2
VLS				Sb	Sb	04 50 24.2	+1.5
LKD	**Levkas**	0.89	300	*e*Pg	Pg	04 50 11.4	-1.2
LKD				*e*Sg	Sg	04 50 24.2	+0.1
AGG	**Agios Georgios**	0.93	36	*e*Pg	Pg	04 50 12.6	-0.7
AGG				*e*Sg	Sg	04 50 25.2	-0.3
LTK	**Loutraki**	1.08	103	*e*Pg	Pg	04 50 15.5	-0.7
LTK				*e*Sg	Sg	04 50 31.8	+1.5
ITM	**Ithomi**	1.11	168	*e*PG	Pg	04 50 16.0	-0.9
ITM				*e*SB	Sb	04 50 32.5	+1.5
ITM	**Ithomi**	1.11	168	Pb	Pb	04 50 15.6	-1.0
ITM				Sb	Sb	04 50 32.8	+1.8
LKR	**Lokris**	1.14	70	*e*Pg	Pg	04 50 16.4	-1.0
LKR				*e*Sg	Sg	04 50 33.1	+0.9
LKR	**Lokris**	1.14	70	⇑Pg	Pg	04 50 16.3	-1.1
LKR	**Lokris**	1.14	70	⇑*i*PG	Pg	04 50 16.5	-0.8
LKR				*e*SB	Sb	04 50 32.5	+0.8
THL	**Klokotos Trika**	1.32	13	⇓*i*PB	Pb	04 50 21.5	+1.3
THL				*e*SB	Sb	04 50 37.7	+0.6
PYL	**PYLOS**	1.38	176	*e*Pg	Pg	04 50 21.1	-0.8
DID	**Didima**	1.48	121	*e*Pg	Pg	04 50 21.9	-2.0
DID				*e*Sg	Sg	04 50 42.9	-0.3
DID	**Didima**	1.48	121	*e*Pg	Pg	04 50 21.9	-2.0
DID				*e*Sg	Sg	04 50 42.8	-0.3
JAN	**Janina**	1.51	336	*e*PB	Pb	04 50 24.4	+1.0
XOR	**Xorichti**	1.64	48	*e*Pb	Pb	04 50 23.8	-1.7
VLI	**Veliai**	1.87	146	⇑*i*PG	Pg	04 50 30.2	-1.0
AOS	**Alonnisos**	1.97	62	*e*Pb	Pb	04 50 28.1	-3.2
KEK	**Kerkira**	2.03	316	⇑*i*PN	Pn	04 50 31.5	+2.2
KEK	**Kerkira**	2.03	316	Pb	Pb	04 50 30.5	-1.7
OHR	**Ohrid**	2.91	347	*e*Pn	Pb	04 50 50.7	+3.5

*ATH **10** 05:11:29.5,3753N×2145E,h20km±4km,MD3.4/4*
*NEIC **10** 05:11:29.0,3752N×2143E,h19km,MD3.4(ATH),After ATH.*
*CSEM **10** 05:11:30.8±0.2,3760N×2163E,h2km,MD3.4,Error ellipse: s-maj=6.7km s-min=2.7km az=70.0*
*THE **10** 05:11:30.5,3759N×2164E,h5km,ML3.0*
ISC 10 05:11:30.7±0.7,3759N±003×2161E±007,h2km±8km,n12,σ0§98/21,1C-3D,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	0.48	148	⇑*i*PN	Pg	05 11 39.9	+0.1
ITM				*e*SN	Sg	05 11 47.3	+1.3
ITM	**Ithomi**	0.48	148	Pn	Pg	05 11 39.8	0.0
ITM				Sn	Sg	05 11 47.3	+1.3
RLS	**Riolos of Patr**	0.48	347	*e*PN	Pg	05 11 39.7	-0.3
RLS				*e*SN	Sg	05 11 47.8	+1.5
RLS	**Riolos of Patr**	0.48	347	⇓Pn	Pg	05 11 39.1	-0.9
RLS				Sn	Sg	05 11 47.7	+1.4
VLX	**Vlachokerasia**	0.65	109	*e*Pg	Pg	05 11 42.3	-0.8
VLX				*e*Sg	Sg	05 11 51.6	+0.1
PYL	**PYLOS**	0.70	171	*e*Pg	Pg	05 11 43.6	-0.4
PYL				*e*Sg	Sg	05 11 54.1	+1.0
SELA	**Sela**	0.72	18	*e*Pg	Pg	05 11 43.7	-0.9
SELA				*e*Sg	Sg	05 11 54.9	+0.8
EVR	**Evrytania**	1.34	7	*e*PN	Pn	05 11 57.2	+0.8
EVR	**Evrytania**	1.34	7	Pn	Pn	05 11 57.3	+0.9
LKD	**Levkas**	1.35	326	*e*Pg	Pg	05 11 54.8	-1.8
LKD				*e*Sg	Sg	05 12 14.8	+0.7
VLI	**Veliai**	1.37	129	⇓*i*PN	Pn	05 11 56.0	-0.8
VLI	**Veliai**	1.37	129	⇓Pb	Pb	05 11 55.4	-1.6
VLI				Sn	Sn	05 12 16.3	+0.8

*IPEC **10** 05:12:34.9±0.3,5159N×1614E,h0km±1km,ML2.3/4,Error ellipse: s-maj=2.2km s-min=1.5km az=30.0*
*ISCJB **10** 05:12:34.3±0.7,5149N±003×1604E±004,h0km,Error ellipse: s-maj=5.3km s-min=2.8km az=20.4*
*PRU **10** 05:12:36.1,5153N×1605E,h0km*
*CSEM **10** 05:12:36.3±0.3,5152N×1605E,h0km,ML3.0/10,Error ellipse: s-maj=4.3km s-min=2.4km az=12.0*
*VIE **10** 05:12:38.2±0.4,5129N×1630E,h0km,mb2.1/3,ML2.6/4, Error ellipse: s-maj=2.7km s-min=2.2km az=96.0 54 km WNW of Wroclaw Suspected Mining induced.*
*WAR **10** 05:12:38.0,5154N×1603E,ML2.5,Mining Induced*
ISC 10 05:12:35.0±0.7,5154N±004×1606E±004,h0km,n21,σ0§77/44,3C-1D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	0.72	168	*e*Pg	Pg	05 12 49.7	+1.0
KSP				*e*Sg	Sg	05 12 59.3	+1.4
KSP	**Ksiaz**	0.72	168	*e*Pg	Pg	05 12 49.6	+0.9
KSP				*e*Sg	Sg	05 12 58.4	+0.4
UPC	**Upice**	1.04	182	*e*Pg	Pg	05 12 55.6	+0.7
DPC	**Dobruska-Polom**	1.21	172	*e*PG	Pg	05 12 58.4	+0.3
DPC				*e*SG	Sg	05 13 13.8	+0.1
	comp=Z,26nm,0.6s						
PVCC	**Panska Ves**	1.39	223	*e*Pg	Pg	05 13 01.7	+0.1
PVCC				*e*Sg	Sg	05 13 20.3	+0.8
PVCC	**Panska Ves**	1.39	223	*e*PG	Pg	05 13 01.6	0.0
BRG	**Berggiesshubel**	1.49	244	PG	Pg	05 13 03.7	+0.1
BRG				SG	Sg	05 13 23.9	+0.9
	comp=Z,39nm,0.3s						
PRU	**Pruhonice**	1.83	212	*e*PN	Pn	05 13 07.5	-0.2
PRU				*e*PN	Pg	05 13 09.4	-0.7
PRU				*e*SG	Sg	05 13 33.1	-0.7
	comp=Z,23nm,0.6s						
CLL	**Collm**	1.93	264	*i* Pn	Pn	05 13 08.4	-0.7
CLL				*e*Pg	Pg	05 13 11.0	-1.0
CLL				*i* x	x	05 13 15.5	
CLL				*i* Sg	Sg	05 13 37.4	+0.4
	comp=Z,17nm,0.7s						
MORC	**Moravsky Berou**	2.00	151	*e*Pn	Pn	05 13 09.9	-0.2
MORC				*e*Sg	Sg	05 13 38.3	-1.0
	comp=Z,19nm,0.5s						
OKC	**Ostrava-Krasne**	2.16	141	*e*Pg	Pg	05 13 16.2	-0.2
OKC				*e*Sg	Sg	05 13 45.1	+0.7
	comp=Z,28nm,0.7s						
VRAC	**Vranov**	2.26	171	*e*Pn	Pn	05 13 13.9	+0.3
VRAC				*e*Sg	Sg	05 13 46.4	-1.3
	comp=Z,12nm,0.3s						
KRUC	**Moravsky**	2.49	175	*e*Pn	Pn	05 13 17.2	+0.4
KRUC				*e*Sg	Sg	05 13 54.4	-0.7
	comp=Z,10nm,0.6s						
NKC	**Novy Kostel**	2.64	242	*e*PN	Pn	05 13 19.1	+0.3
NKC				*e*PG	Pg	05 13 24.2	-1.4
NKC				*e*SG	Sg	05 13 59.4	-0.3
	comp=Z,32nm,0.6s						
OJC	**Ojcow**	2.71	118	*e*Pg	Pg	05 13 26.2	-0.8
OJC				*e*Sg	Sg	05 14 02.5	+0.4
JAVC	**Velka Javorina**	2.88	158	*e*Pg	Pg	05 13 30.5	+0.3
JAVC				*e*Sg	Sg	05 14 07.7	+0.3
	comp=Z,14nm,1.1s						
KHC	**Kasperske Hory**	2.89	214	*e*PN	Pn	05 13 22.2	-0.1
KHC				*e*PG	Pg	05 13 28.7	-1.7
KHC				*e*SN	Sn	05 13 58.3	+0.6
KHC				*e*SG	Sg	05 14 07.5	-0.4
	comp=Z,13nm,0.8s						
MOX	**Moxa**	2.94	254	*e*PG	Pg	05 13 31.7	+0.3
MOX				*e*SG	Sg	05 14 10.7	+1.1
MODS	**Modra-Piesok**	3.27	166	*e*SG	Sg	05 14 23.1	+3.1
CONA	**Conrad Observa**	3.62	182	⇓*i*Pn	Pn	05 13 32.5	+0.2
CONA				⇑*i*Sg	Sg	05 14 30.0	-1.3
	comp=Z,11nm,0.5s						
MOA	**Molln**	3.88	198	⇑*i*Pn	Pn	05 13 36.6	+0.8
MOA				⇑*i*Sg	Sg	05 14 40.0	+0.4
	comp=Z,6.2nm,0.5s						

*ISCJB **10** 05:31:30.0±0.3,3257S±002×7138W±006,h75km±3km, mb4.5/48,Error ellipse: s-maj=8.8km s-min=3.6km az=170.1*
*IDC **10** 05:31:30.5±0.5,3256S×7147W,h66km±4km,mb4.2/12, mb1 4.3/16,mb1mx4.2/19,mbtmp4.2/16,MS3.7/5, Ms1 3.6/5,ms1mx3.2/21,Error ellipse: s-maj=12.8km s-min=10.7km az=154.0*
*GUC **10** 05:31:31.2±0.7,3262S×7137W,h59km±5km,ML5.0*
*BJI **10** 05:31:31.2,3260S×7140W,h59km,mB4.6,Ms4.8,Msz4.5*
*NEIC **10** 05:31:31.2,3262S×7137W,h59km,mb4.7/37,After GUC.*
NEIC Felt [IV] at Los Andes, Puchuncavi and San Felipe; [III] at La Ligua, Limache, Olmue, Papudo, Quillota, Quilpue, San Antonio, Santiago, Valparaiso, Vina del Mar and Zapallar; [II] at Illapel and Melipilla.
ISC 10 05:31:30.9±0.3,3257S±002×7138W±006,h67km±3km, h66km±.7km:pP-P,n137,σ0§72/116,mb4.5/48,16C-11D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PACH	**Papudo**	0.06	307	⇓*i*P	Pn	05 31 40.5	-0.2
PTCH	**Petorca**	0.49	51	⇓*i*P	Pn	05 31 43.5	+0.2
IHA	**Instituto Hidr**	0.50	206	⇑*i*P	Pn	05 31 42.8	-0.7
ROCH	**El Roble**	0.50	142	⇑*i*P	Pn	05 31 43.4	-0.1
JAHU	**Jahuel**	0.67	99	⇑*i*P	Pn	05 31 45.3	+0.1
PEL	**Peldehue**	0.82	134	⇓*i*P	Pn	05 31 47.1	+0.2
PEL				*i* S	Sn	05 31 58.8	-0.1
LCCH	**Las Cruces**	0.91	190	⇓*i*P	Pn	05 31 47.6	-0.6
RCDM	**Rinconada Maip**	1.03	152	*e*P	Pn	05 31 49.5	-0.2
RCDM				*i* S	Sn	05 32 03.1	-0.5
RCDM	**Rinconada Maip**	1.03	152	*e*P	Pn	05 31 49.5	-0.2
RCDM				*i* S	Sn	05 32 03.1	-0.5
RCDM				AML	AML	05 32 03.8	
	comp=E,44μm,0.1s						
SAN	**Santiago**	1.06	146	⇓*i*P	Pn	05 31 49.9	-0.2
SAN				*i* S	Sn	05 32 03.8	-0.6
DSCH	**Colegio Aleman**	1.07	141	⇑*i*P	Pn	05 31 49.4	-0.7
DSCH				*i* S	Sn	05 32 03.6	-0.8
CLCH	**Cerro Calan**	1.08	139	⇑*i*P	Pn	05 31 50.9	+0.6
CLCH				*i* S	Sn	05 32 05.4	+0.7
CLCH	**Cerro Calan**	1.08	139	⇑*i*P	Pn	05 31 50.4	+0.1
CLCH				⇑*i*P		05 31 50.9	
CLCH				*i* S	Sn	05 32 05.0	+0.2
CLCH				*i* S	Sn	05 32 05.4	+0.7
CLCH				AML	AML	05 32 07.3	
	comp=E,91μm,0.6s						
CLCH				AML	AML	05 32 07.9	
	comp=E,107μm,0.6s						
TACH	**Talagante**	1.14	161	⇑*i*P	Pn	05 31 51.0	0.0
FSR	**Penalolen**	1.15	142	⇑*i*P	Pn	05 31 51.3	+0.1
FSR				*i* S	Sn	05 32 06.3	0.0
FSR	**Penalolen**	1.15	142	⇑*i*P	Pn	05 31 51.3	+0.1
FSR				*i* S	Sn	05 32 06.3	0.0
FSR				AML	AML	05 32 08.2	
	comp=E,53μm,0.6s						
ANTU	**Antumapu**	1.17	148	⇑*i*P	Pn	05 31 51.4	-0.1
ANTU				*i* S	Sn	05 32 06.4	-0.4
ANTU	**Antumapu**	1.17	148	⇑*i*P	Pn	05 31 51.4	-0.1
ANTU				*i* S	Sn	05 32 06.4	-0.4
ANTU				AML	AML	05 32 09.4	
	comp=E,36μm,0.5s						
PCH	**Pirque**	1.27	145	⇓*i*P	Pn	05 31 52.6	-0.1
CMCH	**Combarbala**	1.43	13	⇑*i*P	Pn	05 31 54.8	-0.1
CMCH				*i* S	Sn	05 32 13.1	+0.2
CMCH	**Combarbala**	1.43	13	⇑*i*P	Pn	05 31 54.8	-0.1
CMCH				*i* S	Sn	05 32 13.1	+0.2
CMCH				AML	AML	05 32 18.6	
	comp=E,72μm,0.8s						
YECH	**El Yeso**	1.54	135	*e*P	Pn	05 31 56.9	+0.7
YECH				*i* S	Sn	05 32 16.7	+1.3
YECH				AML	AML	05 32 19.8	
	comp=N,26μm,0.3s						
LMEL	**Las Melosas**	1.61	142	⇑*i*P	Pn	05 31 57.6	+0.4
LMEL				*i* S	Sn	05 32 17.8	+0.7
CACH	**El Canelo**	1.67	157	⇓*i*P	Pn	05 31 58.6	+0.6
CICH	**Cipreses**	1.92	156	⇑*i*P	Pn	05 32 01.8	+0.5
OVCH	**Ovalle**	1.97	5	⇓*i*P	Pn	05 32 02.5	+0.5
OVCH				*i* S	Sn	05 32 26.6	+0.9
OVCH	**Ovalle**	1.97	5	⇓*i*P	Pn	05 32 02.5	+0.5
OVCH				*i* S	Sn	05 32 26.6	+0.9
OVCH				AML	AML	05 32 32.4	
	comp=N,13μm,0.2s						
NICH	**Los Niches**	2.43	177	⇓*i*P	Pn	05 32 08.0	-0.2
TLL	**Tololo Astrono**	2.45	12	AML	AML	05 32 55.6	
	comp=N,6μm,0.5s						
LSCH	**La Serena**	2.66	3	⇓*i*P	Pn	05 32 11.3	-0.1
LSCH				*i* S	Sn	05 32 42.7	+0.2
CFAA	**Coronel Fontan**	2.84	71	P	Pn	05 32 15.5	+1.7
	comp=N,20nm,0.3s,baz=241,slow=12,SNR=1287						
CFAA				S	Sn	05 32 50.3	+3.4
	comp=N,30nm,0.3s,baz=334,slow=23,SNR=6.8						
LCO	**Las Campanas**	3.60	10	*e*Pn	Pn	05 32 24.1	-0.1
LCO				*e*Sn	Sn	05 33 04.9	-0.6
PLCA	**Paso Flores**	8.17	176	*e*Pn	Pn	05 33 26.5	-0.2
	comp=N,13nm,0.5s						
PLCA	**Paso Flores**	8.17	176	P	Pn	05 33 26.5	-0.1
	comp=N,5.9nm,0.3s,baz=333,slow=9.8,SNR=72						
TRQA	**Tornquist**	9.43	128	*e*Pn	Pn	05 33 42.3	-1.6
CPUP	**Villa Florida**	13.73	67	*e*Pn	Pn	05 34 37.8	-4.6
	comp=N,53nm,0.5s						
CPUP	**Villa Florida**	13.73	67	P	Pn	05 34 38.1	-4.2
	comp=N,1.4nm,0.3s,baz=220,slow=13,SNR=12						
CPUP				LR	LR	05 40 10.9	
	comp=N,243nm,19.3s,baz=220,slow=38						
ARE	**Arequipa**	16.04	360	*e*P	pP	05 35 30.0	+1.6
LPAZ	**La Paz**	16.48	11	P	Pn	05 35 17.3	-0.5
	comp=N,0.4nm,0.3s,baz=186,slow=7.3,SNR=30						
SIV	**San Ignacio**	18.97	32	P	Pn	05 35 46.1	-2.1
	comp=N,2.2nm,0.3s,baz=221,slow=11,SNR=73						
USHA	**Ushuaia**	22.35	176	P	P	05 36 23.4	+0.5
	comp=N,24nm,0.7s,mb4.7,baz=317,slow=5.9,SNR=14						
USHA				LR	LR	05 46 18.4	
	comp=N,167nm,18.3s,baz=312,slow=40						
BDFB	**Brasilia**	27.09	57	P	P	05 37 06.6	-0.8
	comp=N,6.0nm,0.6s,mb4.3,baz=236,slow=13,SNR=32						
BDFB				LR	LR	05 48 46.5	
	comp=N,95nm,19.8s,baz=237,slow=38						
ROSC	**El Rosal**	37.33	355	P	P	05 38 40.7	+3.9
ROSC				*e*pP	pP	05 38 57.0	+3.7
SDV	**Santo Domingo**	41.23	1	P	P	05 39 16.5	+7.2
	comp=N,6.9nm,0.9s,mb4.5						
SDV	**Santo Domingo**	41.23	1	pP	pP	05 39 25.0	-1.1
	comp=N,6.1nm,0.8s,baz=286,slow=4.0,SNR=7.4						
RCBR	**Riachuelo**	42.43	59	P	P	05 39 18.5	-0.7
	comp=N,15nm,1.2s,mb4.6						
SNAA	**Sanae**	52.70	158	P	P	05 40 38.4	+0.3
	comp=N,2.9nm,0.6s,mb4.5,baz=280,slow=6.0,SNR=58						
RKT	**Rikitea**	56.30	262	*e*T		06 41 55.0	
	comp=N,3.8nm,0.2s						
QSPA	**South Pole Qui**	57.66	180	*e*P	P	05 41 14.2	+0.6
	comp=N,27nm,0.8s,mb5.3						
QSPA	**South Pole Qui**	57.66	180	P	P	05 41 14.6	+1.0
	comp=N,28nm,0.9s,mb5.3,baz=149,slow=2.8,SNR=105						
ASCN	**Ascension**	58.08	78	*e*P	P	05 41 17.1	-0.4
	comp=N,54nm,0.8s,mb5.6						
SBA	**Scott Base**	64.58	191	*e*P	P	05 42 01.4	+0.9
	comp=N,3.4nm,0.7s,mb4.3						
TBI	**Tubuai**	68.20	256	*e*T		06 56 38.0	
	comp=N,8.3nm,0.2s						
JCT	**Junction City**	68.35	234	*e*P	P	05 42 24.5	+0.1
	comp=N,9.0nm,1.2s,mb4.5						
TXAR	**Lajitas Array**	68.77	330	P	P	05 42 28.2	+0.6
TXAR				pP	pP	05 42 46.4	+0.7
TXAR	**Lajitas Array**	68.77	330	P	P	05 42 28.2	+0.6
	comp=N,1.5nm,0.6s,mb4.0,baz=154,slow=8.7,SNR=30						
TXAR				pP	pP	05 42 46.4	+0.7
	comp=N,1.5nm,0.5s,baz=154,slow=8.3,SNR=14						
SWET	**Sewanee**	68.80	347	*e*P	pP	05 42 45.3	-0.5
OXF	**Oxford**	68.85	344	*e*P	P	05 42 27.3	-0.8
	comp=N,20nm,0.9s,mb4.9						
OXF				*e*pP	pP	05 42 44.5	-1.6
PLAL	**Pickwick Lake**	69.00	345	*e*P	pP	05 42 45.5	-1.5
MEH	**Mehetia**	69.60	261	*e*T		06 58 39.7	
	comp=N,36nm,0.2s						
ELN	**Prospectdale**	69.99	352	*e*P	P	05 42 35.8	+0.8
ELN				*e*pP	pP	05 42 52.5	-0.6
WVT	**Waverly**	70.06	346	*e*P	P	05 42 34.8	-0.7
	comp=N,22nm,0.8s,mb5.0						
WVT				*e*pP	pP	05 42 52.6	-0.9
WVT				*e*sP	sP	05 42 59.6	-1.4
PPT	**Papeete**	71.00	261	*e*LR	LR	06

TORD	**Torodi Ar. Bea**	**83.20**	**70**	P	**P**		**05 43 50.0**	**-0.2**
TORD				pP	pP		05 44 07.8	-0.8
TORD				LR	LR		06 16 56.4	
TORD	**Torodi Ar. Bea**	**83.20**	**70**	P	**P**		**05 43 50.0**	**-0.2**
	comp=N,1.5nm,0.7s,mb3.9,baz=269,slow=4.7,SNR=9.1							
TORD				pP	pP		05 44 07.8	-0.8
	comp=N,4.3nm,0.8s,baz=269,slow=4.9,SNR=10.0							
TORD				LR	LR		06 16 56.4	
	comp=N,48nm,21.1s,baz=35,slow=33							
AGMN	**Agassiz Refuge**	**83.44**	**344**	*e*P	**P**		**05 43 49.9**	**-0.6**
	comp=N,6.2nm,0.6s,mb4.6							
AGMN				*e*pP	pP		05 44 07.8	-1.2
SNOW	**Snow King Moun**	**83.80**	**332**	*e*P	**P**		**05 43 52.6**	**+0.1**
	comp=N,4.7nm,0.9s,mb4.3							
SNOW				*e*pP	pP		05 44 10.8	-0.3
LOHW	**Long Hollow**	**83.87**	**332**	*e*P	**P**		**05 43 52.8**	**-0.1**
	comp=N,1.8nm,0.8s,mb4.0							
TPAW	**Teton Pass**	**83.90**	**332**	*e*P	**P**		**05 43 53.5**	**+0.5**
	comp=N,3.9nm,0.9s,mb4.2							
TPAW				*e*pP	pP		05 44 11.1	-0.4
MOOW	**Moose Ponds**	**84.04**	**332**	*e*P	**P**		**05 43 56.4**	**+2.7**
	comp=N,1.5nm,0.7s,mb3.9							
MOOW				*e*pP	pP		05 44 11.0	-1.2
IMW	**Indian Meadow**	**84.24**	**332**	*e*P	**P**		**05 43 54.5**	**-0.2**
	comp=N,32nm,2.3s,mb4.7							
IMW				*e*pP	pP		05 44 12.6	-0.7
FLWY	**Flagg Ranch**	**84.30**	**333**	*e*P	pP		05 44 13.9	+0.3
ULM	**Lac du Bonnet**	**85.27**	**345**	P	**P**		**05 43 59.1**	**-0.7**
	comp=N,2.0nm,0.8s,mb4.1,baz=117,slow=7.2,SNR=3.5							
ULM				pP	pP		05 44 16.8	-1.5
	comp=N,5.0nm,0.8s,baz=156,slow=5.5,SNR=6.4							
MCMT	**McKenzie Canyo**	**85.77**	**332**	*e*P	**P**		**05 44 03.1**	**+0.8**
MCMT				*e*pP	pP		05 44 21.5	+0.6
DGMT	**Dagmar**	**85.85**	**339**	*e*P	**P**		**05 44 03.2**	**+0.6**
	comp=N,5.4nm,0.5s,mb4.7							
DGMT				*e*pP	pP		05 44 20.8	-0.5
BOZ	**Bozeman (W)**	**85.97**	**333**	*e*P	**P**		**05 44 03.1**	**-0.3**
	comp=N,1.9nm,0.8s,mb4.1							
BOZ				*e*pP	pP		05 44 21.2	-0.8
LRM	**Limekiln Ridge**	**86.44**	**333**	*e*P	pP		05 44 24.4	+0.1
SCHQ	**Schefferville**	**87.14**	**3**	P	**P**		**05 44 08.2**	**-0.6**
	comp=N,1.2nm,0.7s,mb3.9,baz=174,slow=10,SNR=3.1							
SCHQ				pP	pP		05 44 25.8	-1.6
	comp=N,4.6nm,1.0s,baz=142,slow=10,SNR=4.4							
EGMT	**Eagleton**	**87.29**	**335**	*e*P	**P**		**05 44 10.5**	**+0.7**
	comp=N,8.6nm,1.0s,mb4.6							
EGMT				*e*pP	pP		05 44 27.3	-1.1
HKL	**Haleakala**	**96.77**	**290**	*e*PP	PP		05 49 04.4	+14
YKA	**Yellowknife Ar**	**100.89**	**341**	P	Pdif		05 45 10.2	-2.3
YKA				pP			05 45 28.8	
YKA	**Yellowknife Ar**	**100.89**	**341**	P	Pdif		05 45 10.2	-2.3
	comp=N,0.2nm,0.5s,baz=145,slow=4.7,SNR=6.3							
YKA				pP			05 45 28.8	
	comp=N,0.2nm,0.5s,baz=146,slow=4.7,SNR=3.8							
DLBC	**Dease Lake**	**102.98**	**333**	*e*P	Pdif		05 45 22.4	+0.6
ASAR	**Alice Springs**	**119.09**	**207**	PKP	PKPdf		05 50 11.0	-1.5
	comp=N,0.6nm,0.6s,baz=110,slow=1.9,SNR=6.2							
WRA	**Warramunga Arr**	**122.27**	**209**	PKP	PKPdf		05 50 17.5	-1.2
	comp=N,0.6nm,0.4s,baz=164,slow=1.4,SNR=7.2							
BRVK	**Borovoye**	**145.79**	**42**	*e*PKPdf	PKPdf		05 51 01.1	-0.1
POO	**Poona**	**145.82**	**106**	*e*P	pPKPdf		05 51 19.0	-2.8
EKS2	**Erkin-Say**	**150.80**	**60**	*e*PKPdf	PKPdf		05 51 11.2	+1.5
EKS2				*e*PKPbc	PKPbc		05 51 16.0	+0.6
UCH	**Uchtor**	**151.41**	**60**	*e*PKPbc	PKPbc		05 51 17.9	+1.1
KURK	**Kurchatov**	**151.46**	**42**	*e*PKPbc	PKPbc		05 51 16.0	-0.6
KULM	**Kulim**	**151.85**	**163**	*e*PKPbc	PKPbc		05 51 17.1	-1.6
TKM2	**Tokmak 2**	**152.08**	**59**	*e*PKPbc	PKPbc		05 51 18.4	+0.1
ZAA0	**Zalesovo Array**	**152.73**	**31**	*e*PKPbc	PKPbc		05 51 18.6	-0.8
ZALV	**Zalesovo Beam**	**152.73**	**31**	PKPbc	PKPbc		05 51 19.2	-0.1
	comp=N,7.3nm,0.6s,baz=299,slow=3.1,SNR=31							
ZALV				pPKPbc	pPKPbc		05 51 37.6	-1.1
	comp=N,6.0nm,0.7s,baz=299,slow=3.8,SNR=6.2							
MKAR	**Makanchi Array**	**155.40**	**47**	pPKPab	pPKPab		05 51 59.5	-1.4
	comp=N,2.0nm,0.6s,baz=293,slow=4.2,SNR=8.6							
KMI	**Kunming**	**170.97**	**144**	PKP	PKPdf		05 51 32.5	+0.8
NJ2	**Nanjing**	**171.32**	**269**	*e*PKP	PKPdf		05 51 35.6	+4.0
HHC	**Hu-ho-hao-te**	**171.41**	**345**	*e*PKP	PKPdf		05 51 31.1	-0.3
HHC				PKS			05 55 02.7	
HHC				PP	PP		05 56 45.5	+3.1
HHC				SKS	SKSdf		05 58 28.6	-0.2
HHC				SKKS	SKKSac		06 03 27.7	+4.1
HHC				PP	PP			
	comp=Z,148nm,5.7s							
HHC				LR	LR			
	comp=N,113nm,23.0s							
HHC				LR	LR			
	comp=E,185nm,19.5s							
HHC				LR	LR			
	comp=Z,100nm,19.4s							
LZH	**Lanzhou**	**174.72**	**47**	*e*PKP	PKPdf		05 51 33.5	+0.6
LZH				APKP			05 51 51.3	
LZH				XPKP			05 51 58.7	
LZH				LR	LR			
	comp=N,175nm,18.7s							
LZH				LR	LR			
	comp=Z,217nm,20.5s							
CD2	**Chengdu**	**175.54**	**111**	*e*PKP	PKPdf		05 51 30.2	-3.1
CD2				XPKP			05 51 57.2	
CD2				PP	PP		05 57 02.7	-1.4
CD2				SKS	SKSdf		05 58 28.0	-2.5
CD2				SKKS	SKKSac		06 03 43.9	-0.4
CD2				SS	SS		06 18 21.6	-3.8
CD2				PP	PP			
	comp=Z,80nm,10.2s							
CD2				LR	LR			
	comp=N,130nm,24.2s							
CD2				LR	LR			
	comp=Z,100nm,22.2s							

*CSEM **10** 05:32:12.6, 3491N×2261E, h36km, MD3.5/5, After ATH*
*NEIC **10** 05:32:12.6, 3491N×2261E, h36km, MD3.5(ATH), After ATH.*

ATH 10 05:32:13.7, 3496N×2269E, h57km, MD3.5/8, 4D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**1.16**	**96**	*e*P	Pn	05 32 35.0	+1.3
VAM	**Vamos**	**1.31**	**70**	*e*P	Pn	05 32 37.0	+1.2
VAM				*e*S	Sn	05 32 54.1	+1.8
VAM	**Vamos**	**1.31**	**70**	Pn	Pn	05 32 37.2	+1.4
KYTH	**Kithira**	**1.35**	**12**	*e*P	Pn	05 32 36.5	+0.2
KYTH	**Kithira**	**1.35**	**12**	*e*Pb	Pn	05 32 36.8	+0.5
VLI	**Veliai**	**1.77**	**6**	⇓*e*P	Pn	05 32 45.0	+3.1
VLI	**Veliai**	**1.77**	**6**	⇓Pb	Pn	05 32 45.2	+3.3
ITM	**Ithomi**	**2.30**	**345**	⇓*e*P	Pn	05 32 50.1	+0.9
XRY	**Khrisi**	**2.47**	**91**	⇓*e*P	Pn	05 32 53.0	+1.5
APE	**Apeiranthos**	**3.12**	**47**	*e*P	Pn	05 33 01.5	+1.1
KARP	**Karpathos**	**3.71**	**80**	*e*P	Pn	05 33 10.5	+2.1

*TIF **10** 05:32:15.9, 3858N×4364E, h7km±2km*
*ISK **10** 05:32:15.6, 3858N×4368E, h5km, MD3.3*
*ISCJB **10** 05:32:16.1±0.8, 3856N±003×4374E±005, h1km±7km, Error ellipse: s-maj=6.7km s-min=4.7km az=2.9*
*CSEM **10** 05:32:16.0±0.2, 3856N×4370E, h10km, MD3.3, Error ellipse: s-maj=4.3km s-min=2.7km az=105.0*
*DDA **10** 05:32:17.9, 3854N×4377E, h7km±5km, Md3.3*

ISC 10 05:32:16.8±0.7, 3856N±003×4374E±005, h5km±6km, n17, σ1§21/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.26**	**263**	*i* P	**Pg**	**05 32 20.5**	**-1.4**
TVAN				*i* S	**Sg**	**05 32 27.9**	**+2.6**
VANB	**Van**	**0.28**	**277**	*e*PG	**Pg**	**05 32 20.5**	**-1.6**
VANB				*e*SG	**Sg**	**05 32 26.3**	**+0.6**
VANT	**Van**	**0.30**	**247**	*e*PG	**Pg**	**05 32 23.3**	**+0.7**
CLDR	**Caldiran**	**0.60**	**14**	*e*PG	**Pg**	**05 32 28.4**	**+0.1**
CLDR				*e*SG	**Sg**	**05 32 37.5**	**+1.5**
DYDN	**Diyadin**	**0.98**	**358**	*i* P	**Pg**	**05 32 32.9**	**-2.7**
DYDN				*i* S	**Sg**	**05 32 50.4**	**+2.0**
HKR	**Hakkari**	**0.98**	**180**	*e*PG	**Pg**	**05 32 35.7**	**+0.1**
HAKT	**HAKKARI**	**1.00**	**181**	*i* P	**Pg**	**05 32 35.0**	**-1.0**
HAKT				*i* S	**Sg**	**05 32 49.8**	**+0.8**
AGRB	**Hanur-Agry**	**1.17**	**330**	*e*PN	**Pn**	**05 32 37.7**	**-2.1**
CUKT	**Cukurca**	**1.32**	**185**	*e*PN	**Pn**	**05 32 42.4**	**+0.6**
SIRT	**Sirnak**	**1.47**	**224**	*e*PN	**Pn**	**05 32 44.3**	**+0.3**
GNI	**Garni**	**1.77**	**26**	*e*PN	**Pb**	**05 32 49.5**	**-0.2**
HOMI	**Horasan**	**2.05**	**317**	*i* P	**Pn**	**05 32 52.2**	**+0.3**
HOMI				*i* S	**Sg**	**05 33 22.8**	**+0.1**
ERZM	**Erzurum**	**2.28**	**307**	*i* P	**Pb**	**05 32 56.6**	**-1.8**
ERZM				*i* S	**Sg**	**05 33 28.2**	**-1.8**
EZM	**Erzurum**	**2.28**	**307**	*e*PN	**Pn**	**05 32 55.8**	**+0.7**
KOPT	**Kop Dagi**	**2.90**	**301**	*i* P	**Pb**	**05 33 08.7**	**-0.4**
KOPT				*i* S	**Sb**	**05 33 46.4**	**+1.5**
PTK	**Pertek**	**3.41**	**277**	*e*PN	**Pn**	**05 33 11.4**	**+0.7**
SVRC	**Sivrice-ELAZID**	**3.48**	**268**	*e*PN	**Pn**	**05 33 11.6**	**0.0**

*HLW **10** 05:38:26.8, 3227N×3568E, h18km, Mb3.7*
*CSEM **10** 05:38:27.3±0.1, 3202N×3548E, h8km, ML3.3, Error ellipse: s-maj=4.0km s-min=1.8km az=121.0*
*ISCJB **10** 05:38:27.9±0.4, 3201N±002×3549E±004, h4km±3km, Error ellipse: s-maj=5.8km s-min=2.3km az=19.3*
*GRAL **10** 05:38:27.2±1.0, 3182N×3562E, h31km±112km, MD3.3*
*GII **10** 05:38:27.9±0.2, 3203N×3548E, h3km±1km, ML3.2/14*
*NSSC **10** 05:38:29.8, 3202N×3560E, h15km±3km*

ISC 10 05:38:28.5±0.4, 3201N±002×3552E±004, h5km±3km, n43, σ0§81/70, 4D, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HMDT	**Nahal Hemdat**	**0.24**	**1**	Pg	**Pg**	**05 38 33.1**	**0.0**
MMLI	**Mount Malkishu**	**0.43**	**349**	Pg	**Pg**	**05 38 36.7**	**-0.1**
MMLI				Sg	**Sg**	**05 38 44.0**	**+1.5**
DSI	**Dead Sea**	**0.46**	**195**	Pg	**Pg**	**05 38 37.2**	**-0.1**
SLTI	**Sal'it**	**0.47**	**299**	Pg	**Pg**	**05 38 36.9**	**-0.6**
SLTI				Sg	**Sg**	**05 38 44.4**	**+0.8**
MZDA	**Masada**	**0.71**	**191**	Pg	**Pg**	**05 38 42.4**	**+0.2**
MZDA				Sg	**Sg**	**05 38 52.7**	**+1.3**
YTIR	**Yattir**	**0.73**	**208**	Pg	**Pg**	**05 38 42.8**	**+0.3**
YTIR				Sg	**Sg**	**05 38 53.4**	**+1.3**
TCHB	**Talchebab**	**0.76**	**30**	⇑P	**Pg**	**05 38 43.3**	**+0.3**
TCHB				⇑S	**Sg**	**05 38 54.1**	**+1.2**
TCHB	**Talchebab**	**0.76**	**30**	⇑*i*P	**Pg**	**05 38 43.3**	**+0.3**
TCHB				⇑*i*S	**Sg**	**05 38 54.1**	**+1.2**
OFRI	**'Ofer**	**0.76**	**323**	Pg	**Pg**	**05 38 42.6**	**-0.4**
MMC4	**Mount Meron ar**	**1.00**	**355**	Pg	**Pg**	**05 38 47.1**	**-0.4**
KSHT	**Keshet**	**1.00**	**14**	Pg	**Pg**	**05 38 47.8**	**+0.2**
MMA0	**Mount Meron ar**	**1.00**	**354**	Pg	**Pg**	**05 38 47.4**	**-0.4**
MMA0				Sg	**Sg**	**05 39 01.4**	**+0.5**
MMA0B	**Mount Meron ar**	**1.00**	**354**	Pg	**Pg**	**05 38 47.4**	**-0.4**
HNTI	**Hanita**	**1.11**	**345**	Pg	**Pg**	**05 38 48.5**	**-1.3**
HNTI				Sg	**Sg**	**05 39 05.0**	**+0.9**
KSDI	**Kefar Szold**	**1.18**	**6**	Pg	**Pg**	**05 38 49.7**	**-1.4**
KSDI				Sg	**Sg**	**05 39 06.8**	**+0.2**
RTMI	**Retamim**	**1.19**	**217**	Pg	**Pg**	**05 38 50.6**	**-0.7**
SALA	**Sala**	**1.24**	**55**	⇑P	**Pg**	**05 38 51.3**	**-1.0**
SALA				⇑S	**Sg**	**05 39 07.6**	**-0.7**
SALA	**Sala**	**1.24**	**55**	⇑*i*P	**Pg**	**05 38 51.3**	**-1.0**
SALA				⇑*i*S	**Sg**	**05 39 07.6**	**-0.7**
HRI	**Mount Hermon**	**1.26**	**8**	Pg	**Pg**	**05 38 52.4**	**-0.3**
KZIT	**Kziot**	**1.46**	**221**	Pn	**Pn**	**05 38 55.1**	**-0.5**
KZIT				Sn	**Sn**	**05 39 15.0**	**-0.1**
MATL	**Matirih**	**1.48**	**354**	*e*P	**Pn**	**05 38 56.1**	**+0.2**
RCY	**Rachaya**	**1.49**	**10**	*e*P	**Pn**	**05 38 55.9**	**-0.1**
RCY				*e*S	**Sn**	**05 39 16.8**	**+1.0**
TOTH	**TOTAH**	**1.55**	**29**	⇓P	**Pn**	**05 38 56.4**	**-0.4**
TOTH				⇑S	**Sn**	**05 39 16.9**	**-0.3**
TOTH	**TOTAH**	**1.55**	**29**	⇓*i*P	**Pn**	**05 38 56.4**	**-0.3**
TOTH				⇑*i*S	**Sn**	**05 39 16.9**	**-0.3**
RMNI	**Mount Ramon**	**1.55**	**205**	Pn	**Pn**	**05 38 57.1**	**+0.3**
RMNI				Sn	**Sn**	**05 39 18.4**	**+1.1**
QASN	**Qassioun**	**1.64**	**23**	⇑P	**Pn**	**05 38 57.1**	**-0.9**
QASN				⇓S	**Sn**	**05 39 18.8**	**-0.8**
QASN	**Qassioun**	**1.64**	**23**	⇑*i*P	**Pn**	**05 38 57.1**	**-1.0**
QASN				⇓*i*S	**Sn**	**05 39 18.8**	**-0.8**
PRNI	**Paran**	**1.71**	**195**	Pn	**Pn**	**05 38 59.1**	**+0.1**
BHL	**Bhannes**	**1.89**	**3**	*e*P	**Pn**	**05 39 01.6**	**+0.1**
BHL				*e*S	**Sn**	**05 39 28.6**	**+2.9**
BHL	**Bhannes**	**1.89**	**3**	*e*P	**Pn**	**05 39 01.5**	**0.0**
BHL				*e*S	**Sn**	**05 39 28.6**	**+2.9**
KRMI	**Paran Flat**	**2.01**	**200**	Pn	**Pn**	**05 39 03.3**	**+0.2**
HRFI	**Mount Harif**	**2.01**	**192**	Pn	**Pn**	**05 39 02.9**	**-0.2**
HRFI				Sn	**Sn**	**05 39 29.8**	**+1.1**
MBH	**Mount Berech**	**2.27**	**193**	Pn	**Pn**	**05 39 06.4**	**-0.3**
MBH				Sn	**Sn**	**05 39 36.1**	**+1.0**
HWQ	**Hawqa**	**2.29**	**9**	*e*P	**Pn**	**05 39 09.2**	**+2.3**
HWQ				*e*S	**Sn**	**05 39 39.4**	**+3.9**
EIL	**Elat**	**2.39**	**192**	Pn	**Pn**	**05 39 07.8**	**-0.5**
EIL				Sn	**Sn**	**05 39 39.0**	**+1.0**
AMAG	**Maghara**	**2.40**	**236**	P	**Pn**	**05 39 07.8**	**-0.8**
HNKL	**Nakhl**	**2.46**	**213**	P	**Pn**	**05 39 08.9**	**-0.4**
HNKL				S	**Sn**	**05 39 39.8**	**0.0**
HBST	**Basata**	**2.87**	**194**	P	**Pn**	**05 39 15.2**	**+0.3**
SUZ		**3.17**	**228**	P	**Pn**	**05 39 18.8**	**-0.2**
SUZ				S	**Sn**	**05 39 55.9**	**-1.3**
HKAT	**Jabal Katrina**	**3.72**	**201**	P	**Pn**	**05 39 26.2**	**-0.4**
KOT	**Kottamia**	**3.79**	**238**	P	**Pn**	**05 39 26.5**	**-1.1**
KOT				S	**Sn**	**05 40 11.4**	**-1.2**
TR2		**3.94**	**204**	P	**Pn**	**05 39 29.1**	**-0.5**
GLL	**Jalalah**	**4.08**	**234**	P	**Pn**	**05 39 31.1**	**-0.5**

MEX 10 05:45:30.3±0.5, 1663N×9967W, h5km±11km, MD3.5, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.33**	**315**	*i* P	Pg	05 45 35.0	-1.8
ACX				*i* S	Sg	05 45 39.8	-1.3
CAIG	**El Cayaco**	**0.70**	**306**	*i* P	Pg	05 45 42.7	-1.1
CAIG				*i* S	Sg	05 45 52.7	-0.3
MEIG	**Mezcala**	**1.29**	**2**	*i* P	Pn	05 45 51.3	-3.7
MEIG				*i* S	Sg	05 46 07.6	-4.1
MZVM		**2.58**	**9**	*i* P	Pn	05 46 09.7	-3.0
PPM	**Popocatepetl**	**2.62**	**22**	*i* P	Pn	05 46 12.2	-1.0
PPM				*i* S	Sn	05 46 40.7	-4.8
VHO	**Vista Hermosa**	**2.85**	**81**	*i* S	Sn	05 46 47.8	-3.3
IIO	**Organos**	**3.08**	**17**	*i* P	Pn	05 46 20.6	+1.0

*ISCJB **10** 05:59:37.7±0.8, 3760N±003×2170E±009, h8km±8km, Error ellipse: s-maj=11.6km s-min=4.7km az=166.6*
*CSEM **10** 05:59:38.3±0.2, 3760N×2172E, h12km, MD3.4, Error ellipse: s-maj=7.7km s-min=3.2km az=77.0*
*ATH **10** 05:59:38.5, 3765N×2177E, h15km±11km, MD3.4/5*
*NEIC **10** 05:59:38.5, 3765N×2177E, h15km, MD3.4(ATH), After ATH.*
*THE **10** 05:59:38.2, 3758N×2180E, h15km, ML3.0*

ISC 10 05:59:38.2±0.7, 3760N±003×2170E±009, h15km±7km, n11, σ0§87/15, 3C-1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.46**	**157**	⇓*e*PB	**Pb**	**05 59 47.4**	**-0.5**
ITM				*e*SB	**Sb**	**05 59 55.0**	**+0.6**
RLS	**Riolos of Patr**	**0.49**	**338**	⇑*e*PB	**Pb**	**05 59 47.4**	**-1.1**
RLS				*e*SB	**Sb**	**05 59 55.4**	**-0.2**
SELA	**Sela**	**0.69**	**12**	*e*Pg	**Pg**	**05 59 51.3**	**-0.4**
SELA				*e*Sg	**Sg**	**06 00 02.1**	**+1.2**
PYL	**PYLOS**	**0.70**	**177**	*e*Pg	**Pg**	**05 59 51.1**	**-0.8**
PYL				*e*Sg	**Sg**	**06 00 01.4**	**+0.2**
VLS	**Valsamata**	**1.05**	**304**	*e*Pg	**Pg**	**05 59 58.6**	**+0.1**
VLS	**Valsamata**	**1.05**	**304**	⇑*e*PN	**Pn**	**05 59 59.2**	**+0.9**
VLS	**Valsamata**	**1.05**	**304**	Pn	**Pn**	**05 59 59.2**	**+0.9**
DID	**Didima**	**1.22**	**94**	*e*Pg	**Pn**	**05 59 58.8**	**-1.8**
EVR	**Evrytania**	**1.32**	**4**	*e*PN	**Pn**	**06 00 02.0**	**0.0**
VLI	**Veliai**	**1.32**	**131**	⇑*e*PN	**Pn**	**06 00 03.7**	**+1.7**
LKD	**Levkas**	**1.38**	**323**	*e*Pg	**Pn**	**06 00 03.0**	**+0.1**

*IDC **10** 06:14:02.8±2.0, 5426N×16246W, h0km, mb3.5/5, mb1 3.8/7, mb1mx3.6/24, mbtmp3.6/7, ML3.5/1, Error ellipse: s-maj=44.5km s-min=29.9km az=18.0*
*NEIC **10** 06:14:04.3, 5413N×16238W, h10km, ML3.1(AEIC), After AEIC.*
*ISCJB **10** 06:14:05.6±0.7, 5411N±009×16228W±007, h33km, mb3.5/5, Error ellipse: s-maj=12.5km s-min=5.7km az=172.0*

ISC 10 06:14:07.4±0.7, 5409N±008×16237W±007, h35km, n16, σ1§42/20, mb3.5/5, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**0.98**	**322**	P	**Pn**	**06 14 22.0**	**-2.6**
FALS				S	**Sn**	**06 14 37.9**	**+0.7**
SDPT	**Sand Point**	**1.67**	**40**	P	**Pn**	**06 14 33.2**	**-0.8**
SDPT				S	**Sn**	**06 14 57.4**	**+3.1**
AKUT	**Akutan**	**2.01**	**273**	P	**Pn**	**06 14 37.8**	**-0.9**
AKUT				S	**Sn**	**06 15 03.4**	**+0.9**
AKLV	**Akutan Long Va**	**2.11**	**273**	P	**Pn**	**06 14 39.3**	**-0.9**
UNV	**Unalaska Valle**	**2.46**	**266**	P	**Pn**	**06 14 43.7**	**-1.1**
UNV				S	**Sn**	**06 15 15.7**	**+2.0**
KDAK	**Kodiak Island**	**6.62**	**52**	Pn	**Pn**	**06 15 40.1**	**-1.9**
	1.0nm,0.3s,baz=217,slow=8.6,SNR=12						
SVW2	**Sparrevohn**	**7.91**	**25**	*e*Pn	**Pn**	**06 16 01.1**	**+1.4**
DAWY	**Dawson**	**15.37**	**40**	*e*P	**Pn**	**06 17 45.6**	**+4.4**
INK	**Inuvik**	**19.61**	**32**	P	**Pn**	**06 18 31.4**	**-2.4**
	0.1nm,0.3s,baz=238,slow=12,SNR=9.2						
YKA	**Yellowknife Ar**	**25.90**	**52**	P	**P**	**06 19 35.7**	**+0.1**
YKA	**Yellowknife Ar**	**25.90**	**52**	P	**P**	**06 19 35.7**	**+0.1**
	0.3nm,0.5s,mb3.0,baz=272,slow=9.4,SNR=5.6						
NVAR	**Mina Array Bea**	**33.63**	**100**	P	**P**	**06 20 46.6**	**+2.3**
	0.4nm,0.6s,mb3.5,baz=297,slow=8.8,SNR=4.1						
ULM	**Lac du Bonnet**	**39.61**	**67**	P	**P**	**06 21 34.7**	**-0.3**
ULM	**Lac du Bonnet**	**39.61**	**67**	P	**P**	**06 21 34.7**	**-0.3**
	2.1nm,0.8s,mb3.9,baz=326,slow=12,SNR=3.1						
TXAR	**Lajitas Array**	**48.62**	**96**	P	**P**	**06 22 48.3**	**+0.8**
	0.4nm,0.8s,mb3.5,baz=292,slow=5.7,SNR=6.7						
MKAR	**Makanchi Array**	**65.55**	**317**	P	**P**	**06 24 46.8**	**-0.2**
	0.2nm,0.5s,mb3.4,baz=36,slow=5.4,SNR=3.7						

*NNC **10** 06:28:30.8±4.4, 3819N×7063E, h0km, mb4.3, mpv4.7, Error ellipse: s-maj=44.4km s-min=21.1km az=169.0*
*IDC **10** 06:28:36.4±0.9, 3850N×7078E, h0km, mb4.1/9, mb1 4.2/12, mb1mx4.1/24, mbtmp4.1/12, ML3.9/3, MS3.3/7, Ms1 3.3/7, ms1mx3.1/25, Error ellipse: s-maj=16.7km s-min=14.8km az=73.0*
*ISCJB **10** 06:28:38.7±0.8, 3857N±003×7058E±006, h34km±9km, mb4.2/19, MS3.4/5, Error ellipse: s-maj=7.7km s-min=5.2km az=155.1*
*BJI **10** 06:28:41.4, 3919N×7033E, h44km, mb4.1, ML3.9*
*MOS **10** 06:28:43.3±1.1, 3893N×7061E, h57km, mb4.3/6, Error ellipse: s-maj=13.7km s-min=6.4km az=84.2*
*NEIC **10** 06:28:45.1±1.1, 3900N×7063E, h49km±13km, mb4.0/2, Error ellipse: s-maj=15.8km s-min=11.1km az=129.0*

ISC 10 06:28:42.9±0.8, 3879N±005×7050E±006, h45km±8km, n82, σ1§31/99, mb4.2/19, MS3.4/5, 10C-5D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.13**	**35**	*e*Pn	**Pn**	**06 29 44.3**	**+0.8**
AML				*e*Sn	**Sn**	**06 30 22.6**	**-8.0**
AML	**Almayashu**	**4.13**	**35**	P	**Pn**	**06 29 44.6**	**+1.1**
	SNR=37						
KK31	**Karatay Array**	**4.32**	**0**	⇑P	**Pn**	**06 29 47.8**	**+1.8**
	54nm,0.5s,baz=174,slow=12						
KK31				⇑S	**Sn**	**06 30 46.0**	**+11**
	112nm,0.7s,baz=174,slow=30,SNR=20						
KK31	**Karatay Array**	**4.32**	**0**	*i* PN	**Pn**	**06 29 48.7**	**+2.7**
KK31				pmax	pmax		
	comp=Z,131nm,0.5s						
KSH	**Kashi**	**4.32**	**79**	*e*P	**Pn**	**06 29 51.0**	**+5.0**
KSH				S	**Sn**	**06 30 42.1**	**+7.1**
KSH				Smax			
	comp=N,877nm,1.0s						
KSH				Smax			
	comp=E,951nm,1.1s						
KBL	**Kabul**	**4.39**	**196**	*e*Pn	**Pn**	**06 29 52.0**	**+4.9**
KBL				*e*Sn	**Sn**	**06 30 46.7**	**+10**
UCH	**Uchtor**	**4.60**	**40**	*e*Pn	**Pn**	**06 29 50.5**	**+0.6**
UCH				*e*Sg	**Sn**	**06 30 47.3**	**+5.3**
UCH	**Uchtor**	**4.60**	**40**	P	**Pn**	**06 29 50.7**	**+0.8**
	SNR=150						
EKS2	**Erkin-Say**	**4.60**	**32**	*e*Pn	**Pn**	**06 29 51.4**	**+1.5**
EKS2				*e*Sn	**Sn**	**06 30 34.9**	**-7.1**
EKS2	**Erkin-Say**	**4.60**	**32**	P	**Pn**	**06 29 51.6**	**+1.7**
	SNR=52						
KZA	**Kyzart**	**4.89**	**46**	P	**Pn**	**06 29 54.7**	**+0.8**
	SNR=147						
AAK	**Ala-Archa**	**4.90**	**37**	P	**Pn**	**06 29 55.1**	**+1.2**
	SNR=78						
FRU	**Bishkek**	**5.11**	**36**	⇑*e*PN	**Pn**	**06 29 59.0**	**+2.1**
FRU				*e*S

comp=Z,0.1nm,0.3s,baz=293,slow=17,SNR=1.8
AKTO LR LR 06 38 15.8
comp=Z,95nm,20.6s,baz=230,slow=39
DANN Dangsing 15.16 129 *eP* **Pn 06 32 09.3 -4.7**
comp=Z,19nm,0.6s
KOLN Koldanda 15.49 131 *eP* **Pn 06 32 11.9 -6.4**
comp=Z,10nm,0.6s
GKN Gorkha 15.95 128 *eP* **Pn 06 32 18.9 -5.3**
comp=Z,57nm,0.6s
KKN Kakani 16.50 127 *eP* **Pn 06 32 25.3 -5.8**
comp=Z,7.5nm,0.4s
DMN Daman 16.52 128 *eP* **Pn 06 32 25.8 -5.6**
comp=Z,25nm,0.9s
PKI Pulchoki 16.73 128 *eP* **Pn 06 32 28.5 -5.6**
comp=Z,5.4nm,0.3s
GUN Gumba 16.79 126 *eP* **Pn 06 32 29.4 -5.4**
comp=Z,8.8nm,0.5s
JIRN Jiri 17.16 126 *eP* **Pn 06 32 34.2 -5.2**
comp=Z,30nm,0.7s
ZAL Zalesovo 18.03 28 P **Pn 06 32 47.9 -2.0**
ZAA0 Zalesovo Array 18.05 28 *ePn* **Pn 06 32 47.8 -2.3**
ZALV Zalesovo Beam 18.05 28 P **Pn 06 32 47.9 -2.2**
comp=Z,0.5nm,0.3s,baz=225,slow=12,SNR=11
ZALV LR LR 06 40 24.2
comp=Z,22nm,20.7s,baz=235,slow=39
NVS Novosibirsk 18.22 24 *i* P **Pn 06 32 52.4 +0.1**
NVS *eS* **S 06 36 13.3 -4.8**
NVS pmax pmax
comp=Z,7.0nm,1.1s
ARU Arti 19.35 340c *iP* **Pn 06 33 05.1 -0.7**
ARU *eS* **S 06 36 40.0 -0.8**
ARU pmax pmax
comp=Z,15nm,1.2s
GNI Garni 19.92 282 *eP* **Pn 06 33 04.9 -7.8**
MIB Mutribah 21.09 252 *eP* **P 06 33 22.3 -1.2**
MIB AMb AMB 06 33 28.3
comp=Z,48nm,1.0s,mb4.8
RDF Al-Radifah 21.40 250 *eP* **P 06 33 25.8 -1.0**
RDF AMb AMB 06 33 31.5
comp=Z,31nm,1.0s,mb4.6
NAY Al-Naaiem 21.45 251 *eP* **P 06 33 26.9 -0.5**
NAY AMb AMB 06 33 34.7
comp=Z,28nm,1.0s,mb4.5
KIV Kislovodsk 21.45 293 *eP* **P 06 33 32.6 +5.3**
KIV pmax pmax
comp=Z,5.0nm,0.6s,mb4.0
KIV MLR MLR
comp=Z,36nm,15.0s,MS2.9
GTA Gaotai 22.72 79 *eP* **P 06 33 41.9 +1.1**
GTA AP 06 33 49.5
GTA XP sP 06 33 52.6 -4.7
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.2
ANN Anapa 25.26 294 *eP* **P 06 34 00.9 -3.8**
ANN pmax pmax
comp=Z,45nm,1.2s,mb4.9
ZAK Zakamensk 25.85 53 *eP* **P 06 34 09.9 -0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.5
SIM Simferopol' 27.62 295 *eP* **P 06 34 27.9 +1.9**
SIM pmax pmax
comp=Z,23nm,0.7s,mb4.9
ULN Ulaanbaatar 27.88 59 *eP* **P 06 34 27.8 -0.4**
ULN pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
ULN Ulaanbaatar 27.88 59 *eP* **P 06 34 27.8 -0.5**
comp=Z,1.1nm,0.6s,mb3.7
AKASG Malin Array Be 31.25 306 P **P 06 35 00.1 +2.1**
comp=Z,0.2nm,0.3s,mb3.4,baz=116,slow=8.2,SNR=4.6
BOD Bodaibo 33.86 41 *eP* **P 06 35 19.6 -1.3**
FINES FINESS Array B 35.38 324 P **P 06 35 35.2 +1.2**
comp=Z,2.3nm,0.9s,mb4.1,baz=116,slow=9.4,SNR=2.9
ARCES ARCESS Array B 38.89 337 P **P 06 36 05.4 +1.8**
comp=Z,13nm,1.2s,mb4.5,baz=108,slow=7.8,SNR=7.5
ARCES LR LR 06 53 33.1
comp=Z,68nm,21.7s,MS3.4,baz=113,slow=38
NB2 NORSAR Subarra 42.33 322 P **P 06 36 33.4 +1.3**
comp=Z,0.9nm,0.6s,mb3.6,baz=92,slow=8.6
NOA NORSAR Array B 42.33 322 P **P 06 36 33.6 +1.6**
comp=Z,1.8nm,0.8s,mb3.8,baz=93,slow=8.0,SNR=6.2
NOA LR LR 06 55 33.5
comp=Z,24nm,18.8s,MS3.1,baz=90,slow=38
TIXI Tiksi 43.82 23 *eP* **P 06 36 43.9 0.0**
TIXI pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
TIXI Tiksi 43.82 23 *eP* **P 06 36 43.9 -0.1**
comp=Z,5.3nm,1.0s,mb4.2
TORD Torodi Ar. Bea 65.40 267 P **P 06 39 22.8 +1.6**
comp=Z,2.2nm,0.9s,mb4.2,baz=46,slow=5.7,SNR=12
INK Inuvik 71.72 9 P **P 06 40 00.7 +1.0**
INK pmax pmax
comp=Z,1.0nm,0.6s
INK Inuvik 71.72 9 P **P 06 40 00.7 +1.0**
comp=Z,1.4nm,0.6s,mb4.0,baz=4.1,slow=7.3,SNR=15
YKA Yellowknife Ar 78.98 2 P **P 06 40 42.4 +0.9**
YKA pmax pmax
comp=Z,1.0nm,0.4s
YKA MLR MLR
comp=Z,19nm,18.8s
YKA Yellowknife Ar 78.98 2 P **P 06 40 42.4 +0.9**
comp=Z,0.9nm,0.4s,mb4.1,baz=351,slow=5.4,SNR=29
YKA LR LR 07 17 02.7
comp=Z,19nm,18.8s,MS3.5,baz=210,slow=37
WRA Warramunga Arr 83.53 122 P **P 06 41 05.5 -0.7**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 83.53 122 P **P 06 41 05.5 -0.7**
comp=Z,1.4nm,0.9s,mb4.1,baz=319,slow=4.6,SNR=3.5
ASAR Alice Springs 85.88 125 P **P 06 41 17.6 -0.3**
comp=Z,0.4nm,0.6s,mb3.9,baz=316,slow=6.1,SNR=5.1
ULM Lac du Bonnet 90.53 351 LR LR 07 24 01.9
comp=Z,40nm,20.1s,MS3.9,baz=253,slow=37

MOS 10 07:15:03.7±0.8, 4318N×4567E, h95km, mb3.8/1, 3C-1D, Error ellipse: s-maj=38.1km s-min=22.3km az=9.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	**Vladikavkaz**	**0.74**	**260**	*eP*	Pn	07 15 22.1	+1.1
VLKR				*eS*	Sn	07 15 35.5	+1.6
LACR	**Lac**	**1.07**	**251**	⇑*iP*	Pn	07 15 25.5	+1.0
LACR				*i* S	Sn	07 15 41.6	+1.5
PRTR	**Priterechnaya**	**1.16**	**300**	*eP*	Pn	07 15 24.4	-1.1
PRTR				*i* S	Sn	07 15 40.9	-1.1
KORR	**Kora**	**1.18**	**266**	⇑*iP*	Pn	07 15 26.9	+1.2
KORR				*i* S	Sn	07 15 43.9	+1.6
LSNR	**Lesken**	**1.36**	**275**	⇓*iP*	Pn	07 15 28.8	+0.9
LSNR				*eS*	Sn	07 15 48.0	+1.8
ZEI	**Tsey**	**1.36**	**253**	⇑*iP*	Pn	07 15 29.2	+1.2
ZEI				*eS*	Sn	07 15 47.8	+1.5
GOF	**Gofitskoye**	**2.67**	**316**	*eP*	Pn	07 15 54.4	+10

IDC ***10*** *07:20:23.9±0.6, 501S×15367E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/17, mbtmp4.4/16, ML3.9/1, MS3.6/8, Ms1 3.6/8, ms1mx3.4/20, Error ellipse: s-maj=23.4km s-min=14.8km az=89.0*
MOS ***10*** *07:20:27.5±0.6, 499S×15365E, h33km, mb4.8/5, Error ellipse: s-maj=18.8km s-min=13.6km az=79.3*
BJI ***10*** *07:20:30.9, 465S×15362E, h46km, mB5.1, mb5.0, Ms4.6, Msz4.2*
ISCJB ***10*** *07:20:31.5±0.5, 5.12S±0.06×1536E±0.1, h65km, mb4.5/27, Error ellipse: s-maj=15.0km s-min=8.0km az=8.3*
NEIC ***10*** *07:20:32.6±2.8, 5.11S×15359E, h65km±24km, mb5.0/9, Error ellipse: s-maj=12.6km s-min=8.8km az=69.0*
ISC 10 07:20:24.5±10.0**, 505S**±008×**1537E**±01**, h2**km±61km**, n59,** σ0°**94**/50**, mb4.6**/27**, MS3.6**/8**, 3C, New Ireland region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.61**	**205**	Pn	**Pn**	**07 24 20.4**	**+1.8**
	0.3nm,0.3s,baz=38,slow=16,SNR=5.4						
GUMO	**Guam**	**20.48**	**335**	LR	LR	07 32 36.8	
	comp=Z,41nm,19.0s,MS2.8,baz=119,slow=36						
KAKA	**Kakadu**	**22.32**	**249**	⇑*iP*	**P**	**07 25 23.3**	**-0.3**
	32nm,0.6s,mb4.9						
WRAB	**Tennant Creek**	**23.94**	**230**	*eP*	**P**	**07 25 39.6**	**-0.7**
WRAB				*e*		07 29 22.6	
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**23.94**	**230**	*eP*	**P**	**07 25 39.6**	**-0.7**
	comp=Z,16nm,0.8s,mb4.5						
WRAB				*ePcP*	PcP	07 29 22.6	-0.4
WB2	**Warramunga Arr**	**23.94**	**230**	*eP*	**P**	**07 25 39.7**	**-0.6**
WRA	**Warramunga Arr**	**23.95**	**230**	P	**P**	**07 25 40.1**	**-0.3**
	comp=Z,3.9nm,0.5s,mb4.1,baz=54,slow=9.6,SNR=21						
WRA				PcP	PcP	07 29 23.0	-0.1
	comp=Z,2.3nm,0.4s,baz=58,slow=2.4,SNR=7.3						
ASAR	**Alice Springs**	**26.57**	**224**	P	**P**	**07 26 03.9**	**-0.3**
	comp=Z,2.5nm,0.4s,mb4.1,baz=54,slow=8.8,SNR=57						
ASAR				PcP	PcP	07 29 28.9	0.0
	comp=Z,2.4nm,0.8s,baz=53,slow=1.5,SNR=6.7						
STKA	**Stephens Creek**	**29.00**	**202**	*eP*	**P**	**07 26 26.1**	**+0.3**
	comp=Z,3.3nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**29.00**	**202**	P	**P**	**07 26 25.9**	**+0.1**
	comp=Z,1.3nm,0.5s,mb3.9,baz=43,slow=14,SNR=5.3						
FITZ	**Fitzroy Crossi**	**30.32**	**242**	*eP*	**P**	**07 26 36.6**	**-1.1**
	comp=Z,10.0nm,0.5s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.32**	**242**	P	**P**	**07 26 36.9**	**-0.9**
	comp=Z,4.0nm,0.5s,mb4.4,baz=82,slow=10,SNR=20						
FITZ				LR	LR	07 40 30.3	
	comp=Z,95nm,18.4s,MS3.5,baz=217,slow=40						
FORT	**Forrest**	**35.16**	**220**	*eP*	**P**	**07 27 19.4**	**-0.5**
	comp=Z,22nm,0.7s,mb5.2						
URZ	**Urewera**	**39.33**	**150**	P	**P**	**07 27 56.2**	**+0.9**
	comp=Z,2.8nm,0.5s,mb4.3,baz=288,slow=3.2,SNR=8.0						
RPZ	**Rata Peaks**	**41.45**	**161**	P	**P**	**07 28 12.3**	**-0.4**
	comp=Z,4.7nm,0.6s,mb4.3,baz=333,slow=11,SNR=5.8						
KLBR	**Kellerberrin**	**42.78**	**227**	*eP*	**P**	**07 28 23.0**	**-0.8**
	comp=Z,88nm,1.9s,mb5.2						
MJAR	**Matsushiro Arr**	**43.83**	**342**	P	**P**	**07 28 31.6**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.8,baz=168,slow=8.6,SNR=3.4						
NWAO	**Narrogin (SRO)**	**43.85**	**226**	LR	LR	07 45 13.8	
	comp=Z,165nm,19.8s,MS4.0,baz=0.5,slow=34						
KSRS	**Korea Array**	**48.62**	**333**	P	**P**	**07 29 08.8**	**-1.1**
	comp=Z,3.5nm,0.9s,mb4.4,baz=149,slow=9.4,SNR=10						
KSRS				LR	LR	07 46 13.6	
	comp=Z,57nm,22.0s,MS3.5,baz=354,slow=32						
KLR	**Kul'dur**	**57.33**	**343**	*eP*	**P**	**07 30 11.2**	**-2.7**
CHTO	**Chiang Mai**	**58.89**	**295**	*eP*	**P**	**07 30 25.8**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.9						
CHTO	**Chiang Mai**	**58.89**	**295**	*eP*	**P**	**07 30 25.8**	**+0.3**
	comp=Z,18nm,1.3s,mb5.0						
HIA	**Hailar**	**61.62**	**335**	*eP*	**P**	**07 30 44.1**	**+0.5**
LZH	**Lanzhou**	**62.02**	**315**	⇑*iP*	**P**	**07 30 48.0**	**+1.4**
LZH				AP		07 31 04.7	
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,126nm,5.1s						
GTA	**Gaotai**	**66.44**	**317**	⇑P	**P**	**07 31 17.1**	**+1.6**
GTA				AP		07 31 28.6	
GTA				XP	sP	07 31 31.9	+16
GTA				AMB	AMB		
	comp=Z,17nm,1.1s,mb5.0						
SONM	**Songino Array**	**67.00**	**327**	P	**P**	**07 31 19.9**	**+1.0**
	comp=Z,2.4nm,0.5s,mb4.5,baz=136,slow=6.1,SNR=3.7						
ZAK	**Zakamensk**	**70.16**	**328**	*eP*	**P**	**07 31 38.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
BILL	**Bilibino**	**73.46**	**5**	*eP*	**P**	**07 31 56.7**	**-1.4**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
MK31	**Makanchi Array**	**81.09**	**319**	*eP*	**P**	**07 32 41.6**	**+0.2**
MKAR	**Makanchi Array**	**81.09**	**319**	P	**P**	**07 32 41.5**	**+0.1**
	comp=Z,3.8nm,0.5s,mb4.6,baz=93,slow=7.8,SNR=81						
MKAR				LR	LR	08 12 31.5	
	comp=Z,26nm,18.2s,MS3.6,baz=355,slow=39						
ZAA0	**Zalesovo Array**	**81.85**	**326**	*eP*	**P**	**07 32 44.2**	**-1.0**
ZALV	**Zalesovo Beam**	**81.85**	**326**	P	**P**	**07 32 44.1**	**-1.1**
	comp=Z,3.7nm,0.5s,mb4.6,baz=110,slow=6.1,SNR=16						
ZAL	**Zalesovo**	**81.86**	**326**	P	**P**	**07 32 44.1**	**-1.2**
NVS	**Novosibirsk**	**83.02**	**327**	*i* P	**P**	**07 32 49.8**	**-1.5**
ULHL	**Ulahol**	**84.13**	**313**	P	**P**	**07 32 58.3**	**+1.0**
	SNR=7.8						
KURK	**Kurchatov**	**84.51**	**322**	*eP*	**P**	**07 32 58.5**	**-0.5**
KURK				pmax	pmax		
	comp=Z,14nm,1.1s,mb5.0						
KURK	**Kurchatov**	**84.51**	**322**	*eP*	**P**	**07 32 58.5**	**-0.5**
	comp=Z,14nm,1.1s,mb5.0						
TKM2	**Tokmak 2**	**84.74**	**314**	P	**P**	**07 33 01.1**	**+0.7**
	SNR=16						
KZA	**Kyzart**	**84.82**	**313**	P	**P**	**07 33 02.7**	**+1.9**
	SNR=28						
QSPA	**South Pole Qui**	**84.91**	**180**	*eP*	**P**	**07 33 00.6**	**0.0**
	comp=Z,34nm,0.8s,mb5.5						
CHMS	**Chumysh**	**85.36**	**314**	P	**P**	**07 33 03.8**	**+0.3**
	SNR=6.3						
UCH	**Uchtor**	**85.38**	**313**	*eP*	**P**	**07 33 05.0**	**+1.4**
	comp=Z,20nm,1.2s,mb5.1						
UCH	**Uchtor**	**85.38**	**313**	P	**P**	**07 33 05.0**	**+1.3**
	SNR=19						
AAK	**Ala-Archa**	**85.47**	**313**	P	**P**	**07 33 04.9**	**+0.8**
	SNR=8.2						
USP	**Ospenovka**	**85.59**	**314**	P	**P**	**07 33 05.0**	**+0.3**
	SNR=12						
MAW	**Mawson**	**85.68**	**203**	P	**P**	**07 33 04.1**	**-0.5**
	comp=Z,10nm,0.5s,mb5.3,baz=109,slow=6.3,SNR=34						
AML	**Almayashu**	**85.97**	**313**	P	**P**	**07 33 07.7**	**+1.2**
	SNR=19						
EKS2	**Erkin-Say**	**86.00**	**313**	P	**P**	**07 33 07.6**	**+0.9**
	SNR=5.6						
INK	**Inuvik**	**88.37**	**21**	*eP*	**P**	**07 33 12.2**	**-5.4**
	comp=Z,183nm,1.4s						
BVAR	**Borovoye Array**	**89.97**	**323**	P	**P**	**07 33 24.4**	**-1.0**
	comp=Z,4.6nm,0.7s,mb4.9,baz=102,slow=6.2,SNR=22						
NVAR	**Mina Array Bea**	**91.54**	**52**	P	**P**	**07 33 33.2**	**+0.1**
	comp=Z,0.4nm,0.8s,mb3.8,baz=300,slow=3.8,SNR=4.2						
PFO	**Pinyon Flat Ob**	**92.64**	**57**	LR	LR	08 06 50.3	
	comp=Z,54nm,19.4s,MS4.0,baz=291,slow=30						
NEW	**Newport**	**93.19**	**42**	LR	LR	08 08 06.7	
	comp=Z,66nm,19.3s,MS4.1,baz=319,slow=31						
YKA	**Yellowknife Ar**	**95.23**	**28**	P	**P**	**07 33 49.3**	**-0.2**
	comp=Z,0.1nm,0.5s,mb3.5,baz=271,slow=4.9,SNR=4.2						
YKA				LR	LR	08 10 31.9	
	comp=Z,29nm,21.2s,MS3.7,baz=195,slow=32						
BDFB	**Brasilia**	**150.26**	**134**	PKPbc	PKPbc	07 40 16.3	-2.1
	comp=Z,1.1nm,0.5s,baz=224,slow=13,SNR=4.3						
TOA0	**Torodi Ar. Sit**	**151.22**	**288**	*ePKPbc*	PKPbc	07 40 19.5	-1.2
TOA0				*ePKPab*	PKPab	07 40 28.0	-0.6
TORD	**Torodi Ar. Bea**	**151.22**	**288**	PKPbc	PKPbc	07 40 19.5	-1.2
TORD	**Torodi Ar. Bea**	**151.22**	**288**	PKPbc	PKPbc	07 40 19.5	-1.2
	comp=Z,10nm,0.4s,baz=53,slow=2.2,SNR=289						
DBIC	**Dimbokro**	**158.59**	**275**	PKPab	PKPab	07 41 01.8	+1.8
	comp=Z,2.0nm,0.5s,baz=45,slow=1.2,SNR=5.6						

ISCJB ***10*** *07:37:06.3±6.8, 345N±03×818E±03, h36km±57km, mb3.5/6, Error ellipse: s-maj=50.6km s-min=28.4km az=40.6*
IDC ***10*** *07:37:11.0±5.7, 3450N×8171E, h65km±50km, mb3.3/7, mb1 3.5/8, mb1mx3.4/24, mbtmp3.4/8, ML3.3/1, Error ellipse: s-maj=39.6km s-min=24.9km az=44.0*
ISC 10 07:37:10.0±4.6**, 345N**±02×**818E**±03**, h54**km±39km**, n8,** σ0°**99**/8**, mb3.5**/6**, Xizang**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.30**	**2**	P	**Pn**	**07 40 01.6**	**-0.7**
	0.2nm,0.3s,baz=184,slow=13,SNR=14						
BVAR	**Borovoye Array**	**20.23**	**340**	P	**P**	**07 41 41.6**	**+1.3**
	3.2nm,0.7s,baz=128,slow=9.6,SNR=11						
AKTO	**Aktyubinsk**	**23.53**	**320**	P	**P**	**07 42 15.5**	**+0.4**
	0.8nm,0.5s,mb3.4,baz=108,slow=9.9,SNR=3.6						
WRA	**Warramunga Arr**	**73.67**	**129**	P	**P**	**07 48 38.5**	**+0.4**
	0.4nm,0.4s,mb3.7,baz=326,slow=5.7,SNR=5.5						
INK	**Inuvik**	**74.19**	**13**	P	**P**	**07 48 40.2**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=352,slow=7.1,SNR=3.6						
TORD	**Torodi Ar. Bea**	**74.56**	**275**	P	**P**	**07 48 42.6**	**-0.9**
	0.1nm,0.4s,mb3.1,baz=53,slow=5.5,SNR=3.5						
ASAR	**Alice Springs**	**76.12**	**132**	P	**P**	**07 48 52.5**	**+0.3**
	0.3nm,0.5s,mb3.5,baz=313,slow=5.4,SNR=5.4						
YKA	**Yellowknife Ar**	**82.47**	**8**	P	**P**	**07 49 25.4**	**-0.8**
	0.6nm,0.6s,mb3.7,baz=341,slow=5.3,SNR=11						

ISCJB ***10*** *08:04:44.0±0.6, 3843N±002×2360E±004, h6km±5km, Error ellipse: s-maj=5.7km s-min=3.7km az=164.6*
CSEM ***10*** *08:04:45.2±0.1, 3841N×2357E, h8km, ML3.1, Error ellipse: s-maj=1.9km s-min=1.3km az=70.0*
ATH ***10*** *08:04:45.6, 3837N×2345E, h16km±2km, MD3.4/9, ML3.1*
NEIC ***10*** *08:04:45.6, 3837N×2345E, h16km, ML3.5(THE), ML3.1(ATH), After ATH.*
THE ***10*** *08:04:45.2, 3840N×2359E, h2km, ML3.5*
ISC 10 08:04:44.8±0.5**, 3845N**±002×**2359E**±004**, h9**km±4km**, n23,** σ0°**93**/36**, 1D, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.45**	**151**	*e*PB	**Pg**	**08 04 54.0**	**+0.3**
PTL				*e*SB	**Sg**	**08 05 01.0**	**+1.4**
ATH	**Athens Observa**	**0.48**	**168**	*e*PB	**Pg**	**08 04 54.7**	**+0.5**
ATH				*e*SB	**Sg**	**08 05 00.3**	**-0.3**
LKR	**Lokris**	**0.50**	**294**	*e*Pg	**Pg**	**08 04 55.0**	**+0.4**
LKR				*e*Sg	**Sg**	**08 05 02.9**	**+1.6**
LKR	**Lokris**	**0.50**	**294**	*e*PB	**Pg**	**08 04 55.4**	**+0.8**
LKR				*e*SB	**Sg**	**08 05 00.9**	**-0.4**
LKR	**Lokris**	**0.50**	**294**	*e*Pb	**Pg**	**08 04 55.4**	**+0.8**
LKR				*e*Sb	**Sg**	**08 05 00.9**	**-0.4**
LKR				*e*Sg	**Sg**	**08 05 02.9**	**+1.6**
KVR	**Kavouri**	**0.63**	**167**	*e*PN	**Pg**	**08 04 56.5**	**-0.6**
LTK	**Loutraki**	**0.65**	**229**	*e*Pg	**Pg**	**08 04 56.4**	**-1.0**
LTK				*e*Sg	**Sg**	**08 05 05.9**	**+0.1**
LTK	**Loutraki**	**0.65**	**229**	*e*Pg	**Pg**	**08 04 56.3**	**-1.0**
LTK				*e*Sg	**Sg**	**08 05 05.9**	**+0.2**
NAIG	**Nisos Aigina**	**0.69**	**186**	*e*PN	**Pn**	**08 04 57.5**	**-3.2**
AOS	**Alonnisos**	**0.76**	**17**	*e*Pg	**Pg**	**08 05 00.4**	**+0.9**
NEO	**Neokhori**	**0.91**	**342**	*e*PN	**Pn**	**08 05 04.1**	**+0.4**
NEO				*e*SN	**Sn**	**08 05 16.8**	**-0.1**
XOR	**Xorichti**	**0.97**	**342**	*e*Pg	**Pg**	**08 05 04.0**	**+0.5**
DID	**Didima**	**0.98**	**197**	*e*Pg	**Pg**	**08 05 02.7**	**-0.9**
DID				*e*Sg	**Sg**	**08 05 16.7**	**+0.3**
AGG	**Agios Georgios**	**1.14**	**301**	*e*Pg	**Pg**	**08 05 06.5**	**-0.2**
AGG				*e*Sg	**Sg**	**08 05 24.2**	**+2.7**
SELA	**Sela**	**1.34**	**263**	*e*Pg	**Pg**	**08 05 09.9**	**-0.7**
VLX	**Vlachokerasia**	**1.44**	**222**	*e*Pg	**Pg**	**08 05 10.5**	**-1.9**
PAIG	**Paliouri**	**1.48**	**3**	*e*Pg	**Pg**	**08 05 12.2**	**-1.1**
RLS	**Riolos of Patr**	**1.71**	**258**	*e*PN	**Pn**	**08 05 15.0**	**+0.2**
VLI	**Veliai**	**1.80**	**197**	*e*PN	**Pn**	**08 05 15.9**	**-0.1**
ITM	**Ithomi**	**1.82**	**227**	⇓*i*PN	**Pn**	**08 05 17.4**	**+1.1**
ITM				*e*SN	**Sn**	**08 05 39.8**	**+0.3**
OUR	**Ouranopolis**	**1.91**	**9**	*e*Pb	**Pb**	**08 05 18.7**	**-1.2**
PLG	**Polygyros**	**1.93**	**357**	*e*Pb	**Pb**	**08 05 19.1**	**-1.0**
APE	**Apeiranthos**	**2.06**	**131**	*e*Pn	**Pn**	**08 05 19.7**	**+0.1**
APE				*e*Sn	**Sn**	**08 05 46.3**	**+0.8**

MEX 10 08:19:56.8±0.6**, 1631N×9861W, h15**km±14km**, MD3.5, Near coast of Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.47**	**80**	*i* P	Pg	08 20 05.0	-1.2
PNIG				*i* S	Sg	08 20 11.1	-1.4
ACX	**Acapulco**	**1.37**	**294**	*i* P	Pn	08 20 17.4	-4.0
ACX				*i* S	Sn	08 20 34.0	-5.3
MEIG	**Mezcala**	**1.88**	**329**	*i* P	Pn	08 20 26.4	-1.9
MEIG				*i* S	Sn	08 20 46.0	-5.7
VHO	**Vista Hermosa**	**1.95**	**67**	*i* P	Pn	08 20 27.8	-1.6
VHO				*i* S	Sn	08 20 49.7	-3.9
PPM	**Popocatepetl**	**2.74**	**360**	*i* S	Sn	08 21 10.6	-2.5

ISCJB ***10*** *08:49:13.6±0.6, 3978N±005×3313E±004, h5km, Error ellipse: s-maj=7.3km s-min=3.8km az=14.8*
CSEM ***10*** *08:49:13.9±0.1, 3977N×3305E, h5km, MD3.0, Error ellipse: s-maj=3.6km s-min=2.2km az=30.0*
ISK ***10*** *08:49:14.1, 3979N×3306E, h10km, MD3.0*
DDA ***10*** *08:49:16.4, 3952N×3327E, h7km±6km, Md3.1*
ISC 10 08:49:14.0±0.6**, 3976N**±005×**3311E**±004**, h1**km±10km**, n9,** σ0°**75**/14**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.27**	**293**	*e*PG	**Pg**	**08 49 19.1**	**0.0**
ANTO				*e*SG	**Sg**	**08 49 22.6**	**0.0**
LOD	**Lodumlu**	**0.29**	**295**	*e*PG	**Pg**	**08 49 19.6**	**-0.1**
LOD				*e*SG	**Sg**	**08 49 23.7**	**+0.3**
CDAG	**Cicekdag**	**0.98**	**98**	*i* P	**Pg**	**08 49 31.0**	**-1.9**
CDAG				*i* S	**Sg**	**08 49 45.3**	**-0.3**
CORM	**Corum**	**1.24**	**70**	*e*PN	**Pn**	**08 49 38.9**	**+0.4**
KDHN	**Kadinhani**	**1.46**	**212**	*i* P	**Pn**	**08 49 40.7**	**-0.8**
KDHN				*i* S	**Sg**	**08 50 01.1**	**+0.2**
CTKT	**Corum**	**1.55**	**56**	*i* P	**Pg**	**08 49 44.5**	**+0.8**
AVNT	**Avonos**	**1.68**	**125**	*i* P	**Pg**	**08 49 45.4**	**-0.7**
AVNT				*i* S	**Sg**	**08 50 09.4**	**+1.6**
YOZ	**Yozgat**	**1.71**	**93**	*e*PN	**Pn**	**08 49 45.0**	**+0.1**
KONT	**Konya--Tatoy**	**1.91**	**198**	*e*PN	**Pn**	**08 49 47.8**	**+0.2**

CSEM ***10*** *08:50:14.9, 3964N×2946E, h8km, MD2.7, After ISK*
ISK 10 08:50:14.9, 3964N×2946E, h8km, MD2.7, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.55**	**178**	*i* P	Pg	08 50 24.6	-0.8
DST	**Dursunbey**	**0.64**	**268**	*e*PG	Pg	08 50 28.1	+0.8
DST				*e*SG	Sg	08 50 37.4	+1.7
IZI	**Iznik**	**0.70**	**1**	*e*PG	Pg	08 50 28.2	-0.2
IZI				*e*SG	Sg	08 50 38.3	+0.8
YLV	**Yalova**	**0.93**	**356**	*e*PG	Pg	08 50 32.7	-0.1
YLV				*e*SG	Sg	08 50 47.5	+2.6
ESKT	**Eskisehir**	**1.08**	**96**	*e*PN	Pn	08 50 36.5	+0.1
ESKT	**Eskisehir**	**1.08**	**96**	*i* P	Pg	08 50 35.8	+0.2

NIED ***10*** *08:58:00, 2570N×12500E, h11km, Mw4.2 Best double couple: M0=2.08000×10^15 NP1:φs=36.00000°, δ74.00000°, λ-94.00000°. NP2:φs=231.00000°, δ17.00000°, λ-76.00000°.*
BJI ***10*** *08:58:52.0, 2494N×12538E, h35km, mB4.6, mb4.3, ML4.1, Ms4.1, Msz3.9*
JMA ***10*** *08:58:53.8±0.3, 2571N×12503E, h12km±3km, M3.9*
ISCJB ***10*** *08:58:57.7±0.5, 2556N±004×125.14E±005, h40km±8km, mb4.0/11, MS3.6/7, Error ellipse: s-maj=9.1km s-min=5.3km az=44.1*
NEIC ***10*** *08:58:59.9±1.4, 2565

CN2				LR	LR		
	comp=Z,200nm,13.0s						
CD2	**Chengdu**	**19.58**	**291**	*e*P	**Pn**	**09 03 25.4**	**0.0**
CD2				AMB	AMB		
	comp=Z,20nm,0.7s						
LZH	**Lanzhou**	**21.07**	**305**	*e*P	**P**	**09 03 42.1**	**+2.1**
LZH				AP		09 03 49.6	
LZH				XP	sP	09 03 54.7	+4.7
LZH				AMB	AMB		
	comp=Z,23nm,1.1s,mb4.4						
LZH				AMB	AMB		
	comp=Z,86nm,4.0s						
LZH				LR	LR		
	comp=E,265nm,10.5s						
LZH				LR	LR		
	comp=Z,301nm,13.7s,MS3.8						
ASAJ	**Asahikawa**	**23.35**	**33**	LR	LR	09 12 44.0	
	comp=Z,38nm,18.1s,MS2.9,baz=109,slow=35						
GTA	**Gaotai**	**25.36**	**309**	⇑P	**P**	**09 04 23.0**	**+0.3**
GTA				AP	pP	09 04 28.6	-1.5
GTA				XP	sP	09 04 32.0	-1.2
GTA				XS	sS	09 09 07.1	+7.3
GTA				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.2						
GTA				AMB	AMB		
	comp=Z,49nm,3.8s						
GTA				LR	LR		
	comp=N,222nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=E,191nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=Z,124nm,11.4s,MS3.7						
ULN	**Ulaanbaatar**	**26.47**	**332**	*e*P	**P**	**09 04 31.9**	**-0.9**
	comp=Z,6.9nm,1.0s,mb4.1						
SONM	**Songino Array**	**26.73**	**331**	P	**P**	**09 04 34.9**	**-0.2**
	comp=Z,1.0nm,0.5s,mb3.6,baz=145,slow=11,SNR=4.9						
SONM				LR	LR	09 16 32.3	
	comp=Z,118nm,20.3s,MS3.4,baz=48,slow=40						
MKAR	**Makanchi Array**	**39.96**	**313**	P	**P**	**09 06 29.4**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.7,baz=99,slow=10,SNR=10						
MKAR				LR	LR	09 24 26.4	
	comp=Z,67nm,18.1s,MS3.5,baz=165,slow=38						
ZAA0	**Zalesovo Array**	**41.16**	**324**	*e*P	**P**	**09 06 38.6**	**-1.2**
ZALV	**Zalesovo Beam**	**41.16**	**324**	P	**P**	**09 06 37.7**	**-2.1**
ZALV	**Zalesovo Beam**	**41.16**	**324**	P	**P**	**09 06 37.7**	**-2.1**
	comp=Z,4.9nm,0.8s,mb4.2,baz=109,slow=8.1,SNR=19						
UCH	**Uchtor**	**44.55**	**305**	*e*P	**P**	**09 07 08.8**	**+1.4**
	comp=Z,4.5nm,1.3s,mb4.1						
WRA	**Warramunga Arr**	**46.07**	**168**	P	**P**	**09 07 19.2**	**-0.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=350,slow=8.3,SNR=9.3						
ASAR	**Alice Springs**	**49.63**	**169**	P	**P**	**09 07 48.8**	**+1.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=353,slow=7.0,SNR=11						
CTA	**Charters Tower**	**49.76**	**154**	LR	LR	09 26 27.0	
	comp=Z,88nm,21.5s,MS3.7,baz=48,slow=33						
EGAK	**Eagle**	**68.77**	**27**	*e*P	**P**	**09 09 58.7**	**-0.5**
	comp=Z,181nm,1.2s						
NOA	**NORSAR Array B**	**78.70**	**333**	LR	LR	09 49 26.3	
	comp=Z,51nm,19.2s,MS3.9,baz=135,slow=38						
YKA	**Yellowknife Ar**	**80.32**	**24**	P	**P**	**09 11 05.8**	**-0.4**
YKA	**Yellowknife Ar**	**80.32**	**24**	P	**P**	**09 11 05.8**	**-0.4**
	comp=Z,1.6nm,0.9s,mb4.0,baz=310,slow=5.4,SNR=16						
GERES	**GERESS Array B**	**84.06**	**322**	P	**P**	**09 11 22.4**	**-3.8**
	comp=Z,0.7nm,0.4s,mb4.2,baz=72,slow=3.2,SNR=4.5						
EDM	**Edmonton**	**86.65**	**31**	*e*P	**P**	**09 11 38.1**	**-0.9**

*ISCJB **10** 09:03:44.9±0.5, 1800N±005×6401W±003, h23km±9km, Error ellipse: s-maj=9.5km s-min=4.1km az=21.8*
*NEIC **10** 09:03:46.4, 1804N×6399W, h11km, MD3.6(RSPR), After RSPR.*
*RSPR **10** 09:03:46.4, 1804N×6399W, h11km±5km, MD3.6/14, MD3.6/14*

ISC 10 09:03:44.5±0.6, 1801N±005×6400W±003, h16km±5km, n18, σ0°73/23, 9C-5D, Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBVI	**Tortola**	**0.71**	**305**	⇑*e*P	**Pg**	**09 03 57.6**	**-0.9**
TBVI				*e*S	**Sg**	**09 04 07.9**	**-0.1**
CDVI	**St. Croix**	**0.77**	**251**	⇑*e*P	**Pg**	**09 03 58.8**	**-0.8**
CDVI				*e*S	**Sg**	**09 04 10.7**	**+0.9**
ABV	**Anegada**	**0.79**	**337**	⇓*e*P	**Pg**	**09 03 59.6**	**-0.2**
ABV	**Anegada**	**0.79**	**337**	*e*S	**Sg**	**09 04 11.4**	**+1.2**
SABA	**Saba**	**0.82**	**118**	⇑*e*P	**Pg**	**09 04 00.1**	**-0.3**
SABA	**Saba**	**0.82**	**118**	*e*S	**Sg**	**09 04 11.3**	**0.0**
SMRT	**St. Maarten**	**0.88**	**87**	⇓*e*P	**Pb**	**09 04 00.9**	**-0.5**
SMRT	**St. Maarten**	**0.88**	**87**	*e*S	**Sb**	**09 04 13.0**	**0.0**
STVI	**Saint Thomas**	**0.97**	**291**	⇑*e*P	**Pb**	**09 04 01.8**	**-1.1**
STVI				*e*S	**Sb**	**09 04 14.7**	**-0.7**
SEUS	**St. Eustatius**	**1.10**	**118**	*e*S	**Sb**	**09 04 19.8**	**+0.6**
SEUS	**St. Eustatius**	**1.10**	**118**	⇓*e*P	**Pb**	**09 04 04.6**	**-0.5**
MTP	**Monte Pirata**	**1.48**	**274**	⇓*e*P	**Pn**	**09 04 10.2**	**-0.2**
MTP				*e*S	**Sn**	**09 04 28.1**	**-1.3**
CBYP	**Canovanas**	**1.78**	**279**	⇑*e*P	**Pn**	**09 04 15.3**	**+0.7**
CBYP				*e*S	**Sn**	**09 04 37.0**	**+0.1**
CPD	**Cerro la Pandu**	**1.82**	**271**	⇓*e*P	**Pn**	**09 04 15.3**	**+0.2**
SJG	**San Juan**	**2.05**	**273**	⇑*e*P	**Pn**	**09 04 18.4**	**+0.2**
CELP	**Cerrillos**	**2.45**	**272**	⇑*e*P	**Pn**	**09 04 25.4**	**+1.6**
LRS	**Lares**	**2.72**	**276**	⇑*e*P	**Pn**	**09 04 28.7**	**+1.2**
CRPR	**Cabo Rojo, PR**	**2.96**	**270**	⇑*e*P	**Pn**	**09 04 30.9**	**+0.1**

*ISCJB **10** 09:07:18.9±0.8, 515N±02×753E±0.1, h10km, Error ellipse: s-maj=27.7km s-min=4.7km az=23.8*
*IDC **10** 09:07:25.2±1.2, 5166N×7544E, h0km, mb3.9/1, mb1 4.0/2, mb1mx3.4/22, mbtmp3.6/2, ML2.8/3, Error ellipse: s-maj=27.5km s-min=12.1km az=27.0*
*NNC **10** 09:07:26.0±1.8, 5087N×7516E, h0km, mb3.1, mpv2.8, Error ellipse: s-maj=46.0km s-min=8.2km az=20.0*

ISC 10 09:07:21.4±0.9, 514N±02×753E±01, h10km, n8, σ1°26/12, 6C-4D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**2.22**	**111**	⇑P	**Pg**	**09 08 04.3**	**+0.4**
	0.5nm,0.3s						
KURBB				⇑S	**Sg**	**09 08 32.2**	**-0.4**
	3.8nm,0.5s						
KURK	**Kurchatov**	**2.23**	**108**	⇑P	**Pg**	**09 08 03.3**	**-1.0**
KURK				⇑S	**Sg**	**09 08 31.7**	**-1.5**
VOSK	**Vostochnaya**	**2.94**	**298**	⇓Pn	**Pg**	**09 08 17.9**	**+0.1**
	2.1nm,0.5s						
VOSK				⇓Sn	**Sg**	**09 08 54.7**	**-1.2**
	15nm,1.0s						
BVAR	**Borovoye Array**	**3.39**	**300**	Pn	**Pn**	**09 08 19.0**	**+4.7**
	0.5nm,0.3s,baz=112,slow=13,SNR=4.0						
BVAR				Lg		09 09 10.0	
	1.2nm,0.3s,baz=110,slow=29,SNR=6.5						
ZRNK	**Zerenda**	**4.14**	**294**	⇓Pn	**Pg**	**09 08 35.1**	**-5.6**
	0.9nm,0.5s						
ZRNK				⇑Sn	**Sg**	**09 09 28.0**	**-6.2**
	7.3nm,0.8s						
ZALV	**Zalesovo Beam**	**6.32**	**63**	Pn	**Pn**	**09 08 56.3**	**+1.8**
	0.5nm,0.3s,baz=255,slow=14,SNR=7.0						
ZALV				Lg		09 10 40.5	
	0.4nm,0.3s,baz=251,slow=30,SNR=3.4						
MK31	**Makanchi Array**	**6.55**	**133**	⇑Pn	**Pn**	**09 09 00.2**	**+2.5**
	2.9nm,1.2s,baz=306,slow=13,SNR=4.5						
MK31				⇓Lg		09 10 41.7	
	1.4nm,0.6s,baz=317,slow=26,SNR=4.8						
MKAR	**Makanchi Array**	**6.55**	**133**	Pn	**Pn**	**09 09 03.2**	**+5.5**
	0.1nm,0.3s,baz=310,slow=13,SNR=4.3						
MKAR				Lg		09 10 53.2	
	0.5nm,0.3s,baz=319,slow=26,SNR=9.0						

*IDC **10** 09:33:27.8±7.6, 3629N×7144E, h155km±66km, mb3.4/6, mb1 3.4/10, mb1mx3.2/24, mbtmp3.3/10, Error ellipse: s-maj=51.7km s-min=30.7km az=155.0*
*ISCJB **10** 09:33:31.7±0.4, 3668N±003×7145E±005, h190km±6km, mb3.6/6, Error ellipse: s-maj=7.1km s-min=3.7km az=148.8*
*NEIC **10** 09:33:33.0±1.0, 3665N×7143E, h187km±9km, mb4.3/5, Error ellipse: s-maj=25.5km s-min=8.8km az=129.0*
*NNC **10** 09:33:41.1±2.4, 3741N×7116E, h193km±26km, mb2.7, mpv4.1, Error ellipse: s-maj=21.9km s-min=13.6km az=26.0*

ISC 10 09:33:32.6±0.4, 3669N±003×7144E±006, h175km±6km, n47, σ1°20/66, mb3.6/6, 4C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.90**	**223**	*e*Pn	**Pn**	**09 34 21.1**	**+1.4**
KBL				*e*Sn	**Sn**	**09 34 56.5**	**+0.2**
THN	**Thein Dam**	**5.52**	**139**	*e*P	**Pn**	**09 34 54.6**	**+1.4**
THN				*ex*	x	09 35 56.8	
DLH	**Dalhousie**	**5.57**	**137**	*e*P	**Pn**	**09 34 53.0**	**-0.9**
DLH				*e*S	**Sn**	**09 35 56.0**	**-1.6**
AML	**Almayashu**	**5.71**	**17**	*e*Pn	**Pn**	**09 34 56.1**	**+0.6**
	69nm,0.5s						
AML				*e*Sn	**Sn**	**09 35 58.3**	**-2.5**
AML	**Almayashu**	**5.71**	**17**	P	**Pn**	**09 34 56.4**	**+0.9**
	SNR=52						
UCH	**Uchtor**	**6.02**	**22**	*e*Pn	**Pn**	**09 35 00.8**	**+1.2**
	15nm,0.6s						
UCH				*e*Sn	**Sn**	**09 36 06.4**	**-1.8**
UCH	**Uchtor**	**6.02**	**22**	P	**Pn**	**09 35 00.9**	**+1.3**
	SNR=16						
EKS2	**Erkin-Say**	**6.23**	**16**	*e*Pn	**Pn**	**09 35 03.3**	**+0.9**
	6.4nm,0.6s						
EKS2	**Erkin-Say**	**6.23**	**16**	P	**Pn**	**09 35 03.5**	**+1.0**
	SNR=12						
AAK	**Ala-Archa**	**6.39**	**21**	P	**Pn**	**09 35 06.2**	**+1.7**
	SNR=7.5						
KK31	**Karatay Array**	**6.45**	**354**	⇓P	**Pn**	**09 35 05.1**	**-0.1**
	7.9nm,0.3s,baz=176,slow=12,SNR=264						
KK31				⇑S	**Sn**	**09 36 10.7**	**-7.6**
	8.3nm,0.4s,baz=179,slow=18,SNR=16						
KBK	**Karagaybulak**	**6.54**	**23**	P	**Pn**	**09 35 08.6**	**+2.1**
	SNR=6.1						
SDNR	**Sundarnagar**	**6.91**	**137**	*e*P	**Pn**	**09 35 12.0**	**+0.5**
SDNR				*e*S	**Sn**	**09 36 26.6**	**-2.9**
TKM2	**Tokmak 2**	**7.00**	**26**	⇓P	**Pn**	**09 35 13.9**	**+1.4**
	9.0nm,0.6s						
TKM2				⇓S	**Sn**	**09 36 29.1**	**-2.2**
	6.6nm,0.8s						
TKM2	**Tokmak 2**	**7.00**	**26**	*e*Pn	**Pn**	**09 35 13.9**	**+1.4**
	11nm,0.5s						
TKM2				*e*Sn	**Sn**	**09 36 18.8**	**-13**
TKM2	**Tokmak 2**	**7.00**	**26**	P	**Pn**	**09 35 14.0**	**+1.5**
	SNR=16						
KLP	**Kalpa**	**7.63**	**130**	*e*P	**Pn**	**09 35 22.4**	**+1.4**
KLP				AMb	AMB	09 35 23.7	
	comp=Z,36nm,0.4s						
KLP				*e*S	**Sn**	**09 36 43.1**	**-3.6**
JOSI	**Joshimath**	**9.12**	**130**	*e*P	**Pn**	**09 35 40.6**	**0.0**
JOSI				AMb	AMB	09 35 43.9	
	comp=Z,97nm,1.5s						
JOSI				*ex*	x	09 37 15.4	
KHET	**Khetri**	**9.35**	**156**	*e*P	**Pn**	**09 35 42.3**	**-1.3**
KHET				AMb	AMB	09 35 43.3	
	comp=Z,17nm,0.5s						
KHET				*e*S	**Sn**	**09 37 19.9**	**-7.8**
SONA	**Sohna**	**9.67**	**149**	*e*P	**Pn**	**09 35 46.7**	**-1.1**
SONA				*e*S	**Sn**	**09 37 27.9**	**-7.5**
MKAR	**Makanchi Array**	**12.93**	**35**	P	**Pn**	**09 36 31.0**	**+1.2**
	comp=Z,0.1nm,0.3s,baz=213,slow=13,SNR=4.0						
DANN	**Dangsing**	**13.30**	**125**	*e*Pn	**Pn**	**09 36 34.6**	**-0.1**
DANN				*e*Sn	**Sn**	**09 38 55.6**	**-6.9**
	comp=Z,16nm,0.6s						
KOLN	**Koldanda**	**13.59**	**127**	*e*Pn	**Pn**	**09 36 38.0**	**-0.3**
GKN	**Gorkha**	**14.11**	**124**	*e*Pn	**Pn**	**09 36 45.2**	**+0.4**
GKN				*e*Sn	**Sn**	**09 39 13.4**	**-8.4**
	comp=Z,14nm,0.3s						
KKN	**Kakani**	**14.68**	**123**	*e*Pn	**Pn**	**09 36 52.3**	**+0.4**
KKN				*e*Sn	**Sn**	**09 39 28.1**	**-7.4**
	comp=Z,26nm,0.8s						
DMN	**Daman**	**14.68**	**124**	*e*Pn	**Pn**	**09 36 53.2**	**+1.3**
DMN				*e*Sn	**Sn**	**09 39 28.4**	**-7.1**
	comp=Z,15nm,0.6s						
PKI	**Pulchoki**	**14.91**	**124**	*e*Pn	**Pn**	**09 36 55.7**	**+1.0**
KURK	**Kurchatov**	**14.94**	**18**	⇑Lg		09 36 50.8	
	comp=Z,4.1nm,0.8s						
KURK	**Kurchatov**	**14.94**	**18**	*e*Pn	**Pn**	**09 36 50.9**	**-4.0**
	comp=Z,7.5nm,0.8s						
GUN	**Gumba**	**15.01**	**122**	*e*Pn	**Pn**	**09 36 57.5**	**+1.5**
AB31	**Akbulak array**	**15.10**	**330**	P	**Pn**	**09 36 54.8**	**-2.0**
	comp=Z,0.7nm,0.3s,baz=143,slow=12,SNR=44						
AB31				S	**S**	**09 39 34.5**	**-10**
	comp=Z,1.6nm,0.5s,baz=147,slow=24,SNR=8.0						
JIRN	**Jiri**	**15.38**	**122**	*e*Pn	**Pn**	**09 37 01.7**	**+1.2**
JIRN				*e*Sn	**Sn**	**09 39 44.0**	**-8.2**
	comp=Z,18nm,0.6s						
BVAR	**Borovoye Array**	**16.35**	**358**	P	**Pn**	**09 37 12.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=161,slow=9.2,SNR=5.4						
AKTK	**Aktyubinsk**	**16.80**	**329**	P	**Pn**	**09 37 17.2**	**-0.3**
AKTK				S	**S**	**09 40 15.3**	**-7.7**
AKTO	**Aktyubinsk**	**16.80**	**329**	⇑P	**Pn**	**09 37 17.0**	**-0.5**
	comp=Z,0.1nm,0.9s						
AKTO				⇑S	**S**	**09 40 15.6**	**-7.4**
	comp=Z,0.1nm,1.0s						
AKTO	**Aktyubinsk**	**16.80**	**329**	P	**Pn**	**09 37 17.2**	**-0.3**
	comp=Z,0.7nm,0.3s,baz=133,slow=9.9,SNR=11						
AKTO				S	**S**	**09 40 15.3**	**-7.7**
	comp=Z,0.1nm,0.3s,baz=125,slow=18,SNR=2.5						
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**P**	**09 37 47.2**	**+0.1**
ZALV	**Zalesovo Beam**	**19.60**	**24**	P	**P**	**09 37 47.2**	**+0.1**
	comp=Z,0.4nm,0.3s,baz=216,slow=12,SNR=9.0						
AKASG	**Malin Array Be**	**33.11**	**309**	P	**P**	**09 39 51.5**	**-0.2**
	comp=Z,0.3nm,0.4s,mb3.4,baz=81,slow=7.6,SNR=3.7						
FINES	**FINESS Array B**	**37.53**	**326**	P	**P**	**09 40 28.8**	**-0.5**
	comp=Z,2.3nm,0.9s,mb3.8,baz=131,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**41.11**	**337**	P	**P**	**09 40 58.5**	**-0.3**
	comp=Z,4.2nm,0.9s,mb4.1,baz=115,slow=8.2,SNR=2.9						
NB2	**NORSAR Subarra**	**44.45**	**323**	P	**P**	**09 41 25.3**	**-0.5**
	comp=Z,0.9nm,0.5s,mb3.7,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.45**	**323**	P	**P**	**09 41 25.5**	**-0.2**
NOA	**NORSAR Array B**	**44.45**	**323**	P	**P**	**09 41 25.5**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.1,baz=102,slow=7.5,SNR=4.9						
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**09 43 58.2**	**-2.9**
TORD	**Torodi Ar. Bea**	**66.08**	**269**	P	**P**	**09 43 58.2**	**-2.8**
	comp=Z,1.0nm,0.6s,mb3.8,baz=47,slow=5.2,SNR=11						
YKA	**Yellowknife Ar**	**81.04**	**3**	P	**P**	**09 45 27.5**	**0.0**
	comp=Z,0.2nm,0.4s,mb3.1,baz=351,slow=5.5,SNR=4.4						

IDC 10 09:37:26.7±51.0, 1902S×17693W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/14, mbtmp4.1/3, Error ellipse: s-maj=950.9km s-min=164.1km az=81.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**39.35**	**243**	P	P	09 44 58.3	+0.4
	0.8nm,0.6s,baz=90,slow=10,SNR=4.0						
WRA	**Warramunga Arr**	**45.82**	**260**	P	P	09 45 50.4	-0.3
	0.8nm,0.3s,baz=96,slow=8.4,SNR=15						
ASAR	**Alice Springs**	**45.85**	**255**	P	P	09 45 50.9	-0.1
	4.0nm,0.6s,baz=92,slow=8.1,SNR=39						

IDC 10 09:37:27.1±2.2, 2308S×17006E, h0km, mb4.0/6, mb1 4.1/6, mb1mx4.0/13, mbtmp4.0/6, MS3.3/1, Ms1 3.3/1, ms1mx2.6/23, Error ellipse: s-maj=48.4km s-min=36.2km az=49.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.29**	**160**	LR	LR	09 46 18.8	
	comp=Z,96nm,19.1s,baz=325,slow=33						
STKA	**Stephens Creek**	**26.67**	**245**	P	P	09 43 08.8	+1.0
	2.0nm,0.7s,baz=93,slow=12,SNR=5.9						
ASAR	**Alice Springs**	**33.15**	**262**	P	P	09 44 05.2	-0.2
	2.2nm,0.8s,baz=100,slow=10,SNR=26						
WRA	**Warramunga Arr**	**33.33**	**268**	P	P	09 44 05.8	-1.2
	0.6nm,0.7s,baz=102,slow=8.6,SNR=7.0						
FITZ	**Fitzroy Crossi**	**41.76**	**268**	P	P	09 45 18.8	+0.4
	2.4nm,0.7s,baz=81,slow=13,SNR=4.3						
VNDA	**Vanda**	**54.64**	**182**	P	P	09 46 56.9	-0.2
	0.5nm,0.7s,baz=358,slow=6.8,SNR=6.5						
SONM	**Songino Array**	**90.73**	**323**	P	P	09 50 32.1	+0.4
	0.7nm,0.6s,baz=108,slow=4.7,SNR=2.6						

*BJI **10** 09:44:14.5, 820S×112 40E, h125km, mB4.9, mb4.9*
*ISCJB **10** 09:44:16.0±0.8, 820S±006×112 45E±005, h141km±7km, mb4.7/45, Error ellipse: s-maj=11.0km s-min=6.7km az=35.3*
*MOS **10** 09:44:16.8±0.6, 810S×112 47E, h147km, mb4.5/11, Error ellipse: s-maj=22.3km s-min=11.4km az=105.4*
*NEIC **10** 09:44:16.5±0.3, 818S×112 40E, mb4.7/15, Error ellipse: s-maj=9.7km s-min=6.2km az=52.0*
NEIC Felt [II] at Malang.
*IDC **10** 09:44:18.3±2.8, 817S×112 43E, h140km±25km, mb4.2/13, mb1 4.2/14, mb1mx4.1/18, mbtmp4.1/14, Error ellipse: s-maj=19.5km s-min=11.4km az=69.0*

ISC 10 09:44:17.0±0.8, 823S±006×11246E±005, h132km±7km, n95, σ1°02/92, mb4.7/45, 1C-1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOGI	**Yogyakarta**	**2.18**	**281**	⇓*e*P	**Pn**	**09 44 57.9**	**+4.6**
YOGI				*e*S	**Sn**	**09 45 21.4**	**+0.3**
KAPI	**Kappang**	**7.92**	**67**	P	**Pn**	**09 46 11.1**	**+1.6**
KAPI	**Kappang**	**7.92**	**67**	P	**Pn**	**09 46 11.1**	**+1.6**
	1.5nm,0.3s,baz=229,slow=16,SNR=5.2						
KSM	**Kuching**	**9.87**	**347**	*e*Pn	**Pn**	**09 46 27.4**	**-8.3**
BATI	**Kupang**	**11.24**	**101**	P	**Pn**	**09 46 52.5**	**-1.3**
	3.4nm,0.3s,baz=238,slow=1.5,SNR=2.4						
BATI				S	**Sn**	**09 48 51.2**	**-6.7**
	7.7nm,0.3s,baz=22,slow=21,SNR=6.6						
MBWA	**Marble Bar**	**14.65**	**152**	*e*Pn	**Pn**	**09 47 35.3**	**-2.6**
	31nm,0.4s						
MBWA				*e*Sn	**Sn**	**09 50 05.5**	**-15**
KKM	**Kota Kinabalu**	**14.67**	**15**	*e*Pn	**Pn**	**09 47 36.6**	**-1.6**
COCO	**West Island**	**15.87**	**254**	*e*Pn	**Pn**	**09 47 47.6**	**-5.5**
	174nm,0.6s						
FITZ	**Fitzroy Crossi**	**16.15**	**129**	*e*P	**Pn**	**09 47 57.0**	**+0.5**
	8.0nm,0.4s						
FITZ				*e*S	**S**	**09 50 40.0**	**-17**
FITZ	**Fitzroy Crossi**	**16.15**	**129**	P	**Pn**	**09 47 55.5**	**-1.0**
	1.3nm,0.3s,baz=313,slow=6.8,SNR=21						
FITZ				S	**S**	**09 50 45.7**	**-11**
	1.4nm,0.3s,baz=181,slow=18,SNR=7.6						
KAKA	**Kakadu**	**20.15**	**104**	*e*P	**P**	**09 48 41.1**	**+0.1**
	9.0nm,0.8s						
KLBR	**Kellerberrin**	**23.76**	**169**	*e*P	pP	09 49 38.2	-5.7
	6.3nm,0.4s						
MUN	**Mundaring**	**23.89**	**172**	*e*P	pP	09 49 40.6	-4.6
WRA	**Warramunga Arr**	**24.17**	**121**	P	**P**	**09 49 21.1**	**-0.1**
WRA				*PP		09 49 46.4	
WRA	**Warramunga Arr**	**24.17**	**121**	P	**P**	**09 49 21.1**	**-0.1**
	2.6nm,0.6s,mb3.9,baz=296,slow=11,SNR=15						
WRA				pP		09 49 46.4	
	1.7nm,0.6s,baz=293,slow=12,SNR=3.7						
WRA				S	S	09 53 54.5	+25
	1.0nm,0.6s,baz=294,slow=25,SNR=6.7						
WRA				ScP	ScP	09 56 23.7	-1.4
	1.5nm,0.7s,baz=300,slow=2.2,SNR=5.7						
WB2	**Warramunga Arr**	**24.18**	**121**	*e*P	**P**	**09 49 21.7**	**+0.4**
WB2				*e*S	S	09 53 52.9	+23
NWAO	**Narrogin (SRO)**	**24.97**	**170**	pP	pP	09 49 55.4	-1.0
	3.7nm,0.4s,baz=340,slow=9.5,SNR=3.0						
NWAO				S	Sx	09 54 15.9	
	6.3nm,1.0s,baz=90,slow=22,SNR=2.5						
ASAR	**Alice Springs**	**25.65**	**129**	P	**P**	**09 49 35.1**	**+0.6**
ASAR				*PP	pP	09 50 02.6	0.0
ASAR						09 53 01.9	
ASAR	**Alice Springs**	**25.65**	**129**	P	**P**	**09 49 35.1**	**+0.6**
	6.4nm,0.6s,mb4.4,baz=303,slow=8.5,SNR=60						
ASAR				pP	pP	09 50 02.6	0.0
	3.6nm,0.8s,baz=306,slow=8.2,SNR=3.4						
ASAR				PcP	PcP	09 53 01.9	0.0
	0.9nm,0.4s,baz=312,slow=1.6,SNR=5.0						
ASAR				S	S	09 54 30.6	+37
	3.1nm,0.9s,baz=307,slow=21,SNR=12						
STKA	**Stephens Creek**	**35.88**	**135**	*e*P	**P**	**09 51 05.5**	**+1.2**
	12nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**35.88**	**135**	P	**P**	**09 51 05.5**	**+1.2**
	15nm,0.4s,mb4.9,baz=312,slow=8.7,SNR=78						
STKA				PcP	PcP	09 53 29.2	+0.5
	1.9nm,0.5s,baz=297,slow=6.8,SNR=3.2						
NJ2	**Nanjing**	**40.52**	**8**	*e*P	**P**	**09 51 41.2**	**-1.9**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
LSA	**Lhasa**	**42.92**	**332**	P	**P**	**09 52 04.4**	**+1.7**
LSA	**Lhasa**	**42.92**	**332**	*e*P	**P**	**09 52 04.8**	**+2.1**
LSA				pmax	pmax		
	comp=Z,24nm,0.6s,mb5.0						
LSA	**Lhasa**	**42.92**	**332**	*e*P	**P**	**09 52 04.8**	**+2.0**
	comp=Z,24nm,0.6s,mb5.0						
JIRN	**Jiri**	**43.81**	**325**	*e*P	**P**	**09 52 10.7**	**+0.8**
	comp=Z,93nm,0.6s,mb5.6						
JIRN	**Jiri**	**43.81**	**325**	*e*P	**P**	**09 52 10.7**	**+0.8**
	comp=Z,93nm,0.6s,mb5.6						
GUN	**Gumba**	**44.17**	**325**	*e*P	**P**	**09 52 13.6**	**+0.8**
	comp=Z,77nm,0.5s,mb5.6						
GUN	**Gumba**	**44.17**	**325**	*e*P	**P**	**09 52 13.7**	**+0.9**
	comp=Z,77nm,0.5s,mb5.6						
PKI	**Pulchoki**	**44.18**	**325**	*e*P	**P**	**09 52 13.1**	**+0.2**
PKI	**Pulchoki**	**44.18**	**325**	*e*P	**P**	**09 52 13.1**	**+0.2**
	comp=Z,9.3nm,0.5s,mb4.6						
DMN	**Daman**	**44.38**	**324**	*e*P	**P**	**09 52 14.8**	**+0.3**
	comp=Z,23nm,0.3s,mb5.3						
DMN	**Daman**	**44.38**	**324**	*e*P	**P**	**09 52 14.8**	**+0.3**
KKN	**Kakani**	**44.42**	**325**	*e*P

comp=Z,1.0nm,0.4s,mb4.0
OPO Ambohidratompo 64.03 253 P **P 09 54 37.4 +0.3**
comp=Z,1.7nm,0.6s,mb4.1,baz=87,slow=8.5,SNR=3.8
URZ Urewera 65.09 128 P **P 09 54 45.9 +2.3**
comp=Z,2.7nm,0.5s,mb4.3,baz=323,slow=5.1,SNR=3.9
KURK Kurchatov 65.61 337 *e*P **P 09 54 46.2 -0.4**
KURK pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
KURK Kurchatov 65.61 337 *e*P **P 09 54 46.2 -0.4**
comp=Z,5.0nm,0.8s,mb4.4
BOD Bodaibo 65.83 1 *e*P **P 09 54 48.0 +0.1**
BOD pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
ZAL Zalesovo 66.19 343 P **P 09 54 49.6 -0.6**
ZAA0 Zalesovo Array 66.19 343 *e*P **P 09 54 49.6 -0.7**
ZALV Zalesovo Beam 66.19 343 P **P 09 54 49.6 -0.6**
comp=Z,5.9nm,0.4s,mb4.7,baz=154,slow=4.4,SNR=27
MAW Mawson 67.84 198 P **P 09 55 01.2 +0.7**
comp=Z,2.6nm,0.5s,mb4.3,baz=64,slow=7.0,SNR=8.9
YAK Yakutsk 71.32 8 *e*P **P 09 55 21.7 -0.1**
YAK pmax pmax
comp=Z,9.0nm,1.0s,mb4.5
QRN Al-Qurain 72.20 304 *e*P **P 09 55 26.5 -1.4**
QRN AMb AMB 09 55 27.6
comp=Z,20nm,0.5s,mb5.1
RDF Al-Radifah 72.57 304 *e*P **P 09 55 28.8 -1.3**
RDF AMb AMB 09 55 34.1
comp=Z,12nm,0.8s,mb4.7
UMR Umm Al-Rimmam 72.65 304 *e*P **P 09 55 28.9 -1.6**
UMR AMb AMB 09 55 31.2
comp=Z,17nm,0.5s,mb5.1
NAY Al-Naaiem 72.93 304 *e*P **P 09 55 30.8 -1.4**
NAY AMb AMB 09 55 31.6
comp=Z,5.1nm,0.7s,mb4.4
MIB Mutribah 73.04 304 *e*P **P 09 55 31.7 -1.1**
MIB AMb AMB 09 55 32.6
comp=Z,13nm,0.6s,mb4.8
ARU Arti 78.12 333 *e*P **P 09 56 00.2 -1.0**
ARU *e* 09 58 55.4
ARU *e*S S 10 05 37.2 -7.2
TIXI Tiksi 80.45 5 *e*P **P 09 56 12.5 -1.0**
TIXI pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
TIXI Tiksi 80.45 5 *e*P **P 09 56 12.6 -0.9**
comp=Z,6.1nm,0.8s,mb4.3
QSPA South Pole Qui 81.76 180 *e*P **P 09 56 21.2 +0.7**
comp=Z,3.6nm,0.4s,mb4.3
BOSA Boshof 83.67 242 P **P 09 56 32.1 +0.8**
comp=Z,4.2nm,0.9s,mb4.2,baz=149,slow=5.9,SNR=3.1
OBN Obninsk 88.72 326 *e*P **P 09 56 53.5 -1.9**
OBN pmax pmax
comp=Z,12nm,1.0s,mb4.8
AKASG Malin Array Be 92.04 321 P **P 09 57 09.5 -1.4**
comp=Z,0.5nm,0.5s,mb3.8,baz=81,slow=4.4,SNR=3.6
HRY Holter Researc 126.21 37 *e*PKPdf PKPdf 10 03 07.7 +3.8
CPUP Villa Florida 144.24 196 *e*PKIKP PKPdf 10 03 37.4 -0.7
CPUP Villa Florida 144.24 196 PKP PKPdf 10 03 37.6 -0.4
comp=Z,5.7nm,0.4s,baz=143,slow=2.4,SNR=34
BDFB Brasilia 149.39 219 PKPbc PKPbc 10 03 52.0 +0.6
comp=Z,1.2nm,0.5s,baz=153,slow=9.0,SNR=4.8
LPAZ La Paz 155.63 179 PKPab PKPab 10 04 24.9 +2.5
comp=Z,0.9nm,0.5s,baz=213,slow=4.5,SNR=6.0

*ISCJB **10** 10:02:44.7±5.8,241S±0.1×1798E±02,h441km±66km, mb4.1/11,Error ellipse: s-maj=27.5km s-min=18.0km az=144.0*
*IDC **10** 10:02:49.5±2.2,243S×17988E,h487km±23km,mb3.5/7, mb1 3.7/8,mb1mx3.5/14,mbtmp3.5/8,Error ellipse: s-maj=36.2km s-min=18.3km az=164.0*
*NEIC **10** 10:02:50.9±4.5,2451S×17989E,h509km±59km,mb4.5/8, Error ellipse: s-maj=48.4km s-min=17.1km az=181.0*
ISC 10 10:02:48.3±4.3,243S±02×1799E±01,h472km±54km,n19, σ0=85/20,mb4.1/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.13**	**189**	P	**P**	**10 05 49.0**	**-0.5**
URZ	0.7nm,0.3s,baz=23,slow=7.7,SNR=6.5			S	**S**	**10 08 19.5**	**+0.3**
	0.7nm,0.3s,baz=259,slow=23,SNR=9.1						
CNB	**Canberra Magne**	**28.54**	**240**	*e*P	**P**	**10 08 06.5**	**+2.0**
	25nm,1.5s,mb4.4						
CTA	**Charters Tower**	**31.34**	**271**	*e*P	**P**	**10 08 30.7**	**+1.6**
	7.7nm,0.4s,mb4.5						
CTA	**Charters Tower**	**31.34**	**271**	P	**P**	**10 08 30.8**	**+1.7**
	11nm,0.5s,mb4.6,baz=92,slow=10,SNR=14						
CTAO	**Charters Tower**	**31.34**	**271**	*e*P	**P**	**10 08 30.1**	**+1.1**
	10nm,0.5s,mb4.5						
TOO	**Toolangi**	**32.13**	**237**	*e*P	**P**	**10 08 34.5**	**-1.1**
	73nm,1.1s,mb5.0						
STKA	**Stephens Creek**	**34.45**	**249**	*e*P	**P**	**10 08 56.1**	**+0.7**
	2.4nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**34.45**	**249**	*e*P	**P**	**10 08 56.0**	**+0.5**
	2.9nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**34.45**	**249**	P	**P**	**10 08 55.6**	**+0.2**
	3.2nm,0.6s,mb3.9,baz=95,slow=9.3,SNR=12						
ASAR	**Alice Springs**	**41.84**	**261**	P	**P**	**10 09 56.0**	**0.0**
	1.5nm,0.5s,mb3.7,baz=95,slow=7.1,SNR=32						
ASAR				ScP	ScP	10 14 43.7	-2.5
	0.2nm,0.7s,baz=112,slow=4.5,SNR=4.8						
WB2	**Warramunga Arr**	**42.23**	**267**	*e*P	**P**	**10 09 58.7**	**-0.4**
WRAB	**Tennant Creek**	**42.24**	**267**	*e*P	**P**	**10 09 58.5**	**-0.6**
	3.9nm,0.5s,mb4.1						
WRA	**Warramunga Arr**	**42.24**	**267**	P	**P**	**10 09 58.8**	**-0.4**
	4.8nm,0.5s,mb4.2,baz=101,slow=8.2,SNR=57						
WRA				ScP	ScP	10 14 46.3	-1.6
	2.0nm,0.9s,baz=101,slow=3.8,SNR=9.5						
FORT	**Forrest**	**46.05**	**250**	*e*P	**P**	**10 10 27.5**	**-1.1**
	7.5nm,0.5s,mb4.4						
FITZ	**Fitzroy Crossi**	**50.66**	**266**	*e*P	**P**	**10 11 02.5**	**-0.8**
	7.2nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**50.66**	**266**	*e*P	**P**	**10 11 03.9**	**+0.5**
	8.1nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**50.66**	**266**	P	**P**	**10 11 03.5**	**+0.2**
	4.9nm,0.8s,mb3.9,baz=130,slow=7.9,SNR=8.4						
NVAR	**Mina Array Bea**	**85.12**	**44**	P	**P**	**10 14 33.3**	**-0.3**
	0.8nm,0.8s,mb3.4,baz=221,slow=7.9,SNR=7.3						
TXAR	**Lajitas Array**	**90.75**	**58**	P	**P**	**10 15 00.9**	**+0.6**
	1.4nm,0.8s,mb4.0,baz=213,slow=6.7,SNR=22						

*ATH **10** 10:11:06.3,3530N×2310E,h30km±21km,MD3.6/8*
*ISCJB **10** 10:11:08.3±1.6,354N±0.1×232E±02,h56km±29km,Error ellipse: s-maj=30.2km s-min=8.1km az=136.8*
*NEIC **10** 10:11:12.2,3576N×2357E,h43km,MD3.6(ATH),After ATH.*
*CSEM **10** 10:11:12.2,3576N×2357E,h43km,MD3.6/6,After ATH*
ISC 10 10:11:06.8±1.8,353N±01×231E±01,h25km±10km,n18, σ0=90/20,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.93**	**85**	*e*PN	**Pb**	**10 11 25.0**	**+0.8**
VAM	**Vamos**	**0.93**	**85**	*e*P	**Pb**	**10 11 25.4**	**+1.2**
VAM				*e*S	**Sb**	**10 11 36.6**	**+0.5**
KYTH	**Kithira**	**0.95**	**358**	*e*PB	**Pb**	**10 11 24.5**	**-0.2**
KYTH	**Kithira**	**0.95**	**358**	*e*P	**Pn**	**10 11 25.0**	**+0.4**
GVD	**Gavdhos**	**0.96**	**120**	P	**Pn**	**10 11 24.2**	**-0.5**
GVD	**Gavdhos**	**0.96**	**120**	*e*PN	**Pn**	**10 11 24.5**	**-0.2**
VLI	**Veliai**	**1.40**	**356**	*e*PN	**Pb**	**10 11 32.5**	**+0.3**
VLI	**Veliai**	**1.40**	**356**	*e*P	**Pb**	**10 11 32.3**	**+0.1**
VLI				*e*S	**Sn**	**10 11 47.0**	**-1.2**
IDI	**Anoyia**	**1.49**	**91**	P	**Pb**	**10 11 33.1**	**-0.7**
LAST	**Lasithi**	**1.98**	**94**	P	**Pb**	**10 11 40.2**	**-1.9**
ITM	**Ithomi**	**2.07**	**334**	*e*PB	**Pb**	**10 11 42.0**	**-1.6**
ITM	**Ithomi**	**2.07**	**334**	*e*P	**Pb**	**10 11 45.5**	**+1.9**
NPS	**Neapolis**	**2.08**	**91**	*e*PN	**Pn**	**10 11 40.0**	**0.0**
NPS	**Neapolis**	**2.08**	**91**	*e*P	**Pn**	**10 11 39.7**	**-0.3**
XRY	**Khrisi**	**2.20**	**101**	*e*PN	**Pn**	**10 11 42.0**	**+0.4**
KARP	**Karpathos**	**3.35**	**85**	*e*PN	**Pn**	**10 11 58.5**	**+1.0**
KARP	**Karpathos**	**3.35**	**85**	*e*P	**Pn**	**10 11 57.7**	**+0.2**
NEO	**Neokhori**	**3.98**	**2**	P	**Pn**	**10 12 07.1**	**+1.0**

*IDC **10** 10:12:41.6±0.7,487S×10279E,h0km,mb4.4/14, mb1 4.5/14,mb1mx4.4/20,mbtmp4.5/14,Error ellipse: s-maj=31.5km s-min=13.7km az=56.0*
*MOS **10** 10:12:44.8±0.8,478S×10297E,h33km,mb4.8/10,Error ellipse: s-maj=20.8km s-min=10.1km az=105.8*
*ISCJB **10** 10:12:45.7±2.5,491S±009×1029E±0.1,h42km±23km, mb4.6/37,MS4.3/2,Error ellipse: s-maj=20.5km s-min=8.9km az=140.5*
*NEIC **10** 10:12:46.2±0.4,481S×10292E,h30km,mb4.6/9,Error ellipse: s-maj=19.7km s-min=5.7km az=53.0*
*BJI **10** 10:12:46.1,480S×10290E,h40km,mB4.9,mb4.8,Ms4.6, Msz4.5*
ISC 10 10:12:49.5±2.4,494S±009×10286E±010,h59km±23km, h60km±1.0km:pP-P,n62,σ0=78/57,mb4.6/37,MS4.3/2,1D, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**21.27**	**105**	P	**P**	**10 17 32.0**	**+0.9**
	16nm,0.4s,mb4.7,baz=308,slow=5.3,SNR=3.1						
CHTO	**Chiang Mai**	**23.91**	**351**	*e*P	**P**	**10 17 56.9**	**-1.1**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
CHTO	**Chiang Mai**	**23.91**	**351**	*e*P	**P**	**10 17 56.9**	**-1.1**
	comp=Z,5.2nm,0.6s,mb4.1						
FITZ	**Fitzroy Crossi**	**25.83**	**122**	*e*P	**P**	**10 18 15.5**	**0.0**
	comp=Z,5.6nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**25.83**	**122**	P	**P**	**10 18 15.2**	**-0.2**
	comp=Z,4.8nm,0.6s,mb4.2,baz=301,slow=6.9,SNR=19						
KMI	**Kunming**	**29.88**	**360**	P	**P**	**10 18 54.1**	**+2.6**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.4						
WRA	**Warramunga Arr**	**34.07**	**119**	P	**P**	**10 19 28.1**	**-0.3**
	comp=Z,3.0nm,0.4s,mb4.5,baz=292,slow=12,SNR=40						
WRA				PcP	PcP	10 22 05.3	+0.2
	comp=Z,1.6nm,0.6s,baz=303,slow=2.1,SNR=9.3						
WRAB	**Tennant Creek**	**34.08**	**119**	*e*P	**P**	**10 19 28.4**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.6						
WRAB	**Tennant Creek**	**34.08**	**119**	*e*P	**P**	**10 19 28.4**	**-0.1**
	comp=Z,4.2nm,0.5s,mb4.6						
WB2	**Warramunga Arr**	**34.08**	**119**	*e*P	**P**	**10 19 28.2**	**-0.4**
ASAR	**Alice Springs**	**35.24**	**125**	P	**P**	**10 19 39.0**	**+0.5**
	comp=Z,1.5nm,0.3s,mb4.4,baz=304,slow=8.3,SNR=76						
ASAR				PcP	PcP	10 22 09.4	+1.1
	comp=Z,1.5nm,0.5s,baz=305,slow=2.5,SNR=13						
CD2	**Chengdu**	**35.65**	**1**	*e*P	**P**	**10 19 43.2**	**+1.3**
CD2				PP	PP	10 21 05.7	+1.8
CD2				S	**S**	**10 25 15.5**	**+1.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
JIRN	**Jiri**	**36.18**	**334**	*e*P	**P**	**10 19 47.3**	**+0.8**
	comp=Z,28nm,0.7s,mb5.3						
GUN	**Gumba**	**36.53**	**334**	*e*P	**P**	**10 19 50.0**	**+0.6**
	comp=Z,26nm,0.6s,mb5.2						
DMN	**Daman**	**36.61**	**333**	*e*P	**P**	**10 19 50.6**	**+0.4**
	comp=Z,4.6nm,0.3s,mb4.8						
KKN	**Kakani**	**36.69**	**333**	*e*P	**P**	**10 19 51.2**	**+0.4**
GKN	**Gorkha**	**37.16**	**333**	*e*P	**P**	**10 19 55.5**	**+0.7**
KOLN	**Koldanda**	**37.45**	**331**	*e*P	**P**	**10 19 57.9**	**+0.6**
	comp=Z,22nm,0.8s,mb5.0						
DANN	**Dangsing**	**37.86**	**332**	*e*P	**P**	**10 20 01.3**	**+0.6**
	comp=Z,29nm,0.5s,mb5.3						
NJ2	**Nanjing**	**39.81**	**21**	*e*P	**P**	**10 20 16.6**	**-0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.8						
LZH	**Lanzhou**	**40.81**	**1**	*e*P	**P**	**10 20 26.2**	**+1.0**
LZH				AP	pP	10 20 41.5	+1.2
LZH				PP	PP	10 22 05.0	+4.6
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.6						
LZH				AMB	AMB		
	comp=Z,122nm,6.2s						
LZH				LR	LR		
	comp=N,437nm,13.9s						
LZH				LR	LR		
	comp=Z,653nm,17.8s,MS4.5						
NDI	**New Delhi**	**41.55**	**325**	*e*P	**P**	**10 20 31.0**	**-0.4**
STKA	**Stephens Creek**	**45.08**	**131**	*e*P	**P**	**10 21 00.8**	**+0.9**
	comp=Z,4.0nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**45.08**	**131**	P	**P**	**10 21 00.8**	**+1.0**
	comp=Z,5.0nm,0.5s,mb4.6,baz=304,slow=6.7,SNR=17						
HHC	**Hu-ho-hao-te**	**46.26**	**9**	*e*P	**P**	**10 21 09.8**	**+0.9**
HHC				AP	pP	10 21 25.0	+0.7
HHC				PCP	PcP	10 22 44.8	+1.2
HHC				PP	PP	10 22 59.5	+1.0
HHC				SCP	ScP	10 26 32.0	0.0
HHC				S	**S**	**10 27 53.0**	**+1.6**
HHC				SCS	ScS	10 30 56.8	-2.1
HHC				SS	SS	10 31 12.7	-5.0
HHC				AMB	AMB		
	comp=Z,37nm,1.3s,mb5.2						
HHC				AMB	AMB		
	comp=Z,107nm,5.7s						
HHC				LR	LR		
	comp=N,203nm,16.1s,MS4.3						
HHC				LR	LR		
	comp=E,172nm,14.4s,MS4.3						
HHC				LR	LR		
	comp=Z,140nm,15.9s,MS4.0						
KSRS	**Korea Array**	**48.20**	**27**	P	**P**	**10 21 24.2**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=229,slow=6.9,SNR=6.1						
WMQ	**Urumqi**	**50.42**	**346**	*e*P	**P**	**10 21 41.0**	**+0.1**
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
SONM	**Songino Array**	**52.64**	**3**	P	**P**	**10 21 58.0**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.4,baz=177,slow=8.5,SNR=9.7						
ULN	**Ulaanbaatar**	**52.70**	**4**	*e*P	**P**	**10 21 57.6**	**-0.3**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**52.70**	**4**	*e*P	**P**	**10 21 57.6**	**-0.3**
	comp=Z,4.8nm,1.1s,mb4.3						
MJAR	**Matsushiro Arr**	**52.86**	**36**	P	**P**	**10 21 57.5**	**-1.8**
	comp=Z,1.2nm,0.6s,mb4.0,baz=209,slow=8.0,SNR=5.0						
TKM2	**Tokmak 2**	**53.66**	**335**	*e*P	**P**	**10 22 04.8**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.8						
TKM2	**Tokmak 2**	**53.66**	**335**	*e*P	**P**	**10 22 04.8**	**-0.2**
	comp=Z,4.5nm,0.4s,mb4.8						
EKS2	**Erkin-Say**	**54.23**	**344**	*e*P	**P**	**10 22 09.3**	**+0.2**
	comp=Z,5.8nm,0.8s,mb4.6						
EKS2				*e*pP	pP	10 22 24.0	-0.8
EKS2				*e*sP	sP	10 22 28.8	-2.8
MK31	**Makanchi Array**	**54.63**	**343**	*e*P	**P**	**10 22 11.5**	**-0.5**
MKAR	**Makanchi Array**	**54.63**	**343**	P	**P**	**10 22 11.6**	**-0.4**
	comp=Z,8.6nm,0.5s,mb5.1,baz=151,slow=9.0,SNR=119						
HIA	**Hailar**	**55.95**	**13**	*e*P	**P**	**10 22 20.3**	**-1.1**
KURK	**Kurchatov**	**59.23**	**342**	*e*P	**P**	**10 22 43.5**	**-1.0**
KURK				*e**PP	pP	10 22 59.2	-1.2
KURK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**59.23**	**342**	*e*P	**P**	**10 22 43.5**	**-1.0**
	comp=Z,5.0nm,0.8s,mb4.6						
KURK				*e*pP	pP	10 22 59.2	-1.2
ZAL	**Zalesovo**	**60.58**	**348**	P	**P**	**10 22 53.0**	**-0.7**
ZAA0	**Zalesovo Array**	**60.59**	**348**	*e*P	**P**	**10 22 52.6**	**-1.1**
ZALV	**Zalesovo Beam**	**60.59**	**348**	P	**P**	**10 22 53.0**	**-0.7**
	comp=Z,6.4nm,0.4s,mb5.1,baz=170,slow=5.3,SNR=42						
YSS	**Yuzh-Sakhalins**	**62.52**	**30**	*e*P	**P**	**10 23 06.2**	**-0.7**
YSS				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.6						
BOD	**Bodaibo**	**63.19**	**7**	*e*P	**P**	**10 23 10.0**	**-1.2**
BRVK	**Borovoye**	**63.98**	**339**	*e*P	**P**	**10 23 15.7**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
BRVK	**Borovoye**	**63.98**	**339**	*e*P	**P**	**10 23 15.7**	**-0.7**
	comp=Z,2.5nm,0.4s,mb4.6						
YAK	**Yakutsk**	**69.89**	**13**	*e*P	**P**	**10 23 54.1**	**+0.3**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ARU	**Arti**	**71.03**	**336**	*d*iP	**P**	**10 24 00.2**	**-0.7**
ARU				*e*		10 26 34.4	
ARU				*e*S	S	10 33 13.4	+1.1
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
SOC	**Sochi**	**74.43**	**318**	*i*P	**P**	**10 24 22.0**	**+0.7**
VNDA	**Vanda**	**78.75**	**169**	P	**P**	**10 24 46.0**	**+0.8**
	comp=Z,0.5nm,0.7s,mb3.5,baz=338,slow=5.0						
OBN	**Obninsk**	**80.78**	**328**	*e*P	**P**	**10 24 55.9**	**-0.6**
OBN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
AKASG	**Malin Array Be**	**83.53**	**322**	P	**P**	**10 25 10.9**	**-0.1**
	comp=Z,0.4nm,0.2s,mb4.1,baz=88,slow=4.7,SNR=7.8						
BILL	**Bilibino**	**84.92**	**20**	*e*P	**P**	**10 25 17.2**	**-0.5**
BILL				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.0						
FINES	**FINESS Array B**	**88.02**	**332**	P	**P**	**10 25 32.8**	**-0.1**
	comp=Z,1.3nm,0.4s,mb4.5,baz=107,slow=6.4,SNR=7.7						
ARCES	**ARCESS Array B**	**90.19**	**340**	P	**P**	**10 25 42.8**	**-0.2**
	comp=Z,4.3nm,0.7s,mb4.9,baz=64,slow=5.5,SNR=6.7						
WMOK	**Wichita Mounta**	**144.21**	**31**	*e*PKIKP	PKPdf	10 32 16.2	-3.0
BDFB	**Brasilia**	**144.65**	**234**	PKP	PKPdf	10 32 21.0	+0.5
	comp=Z,2.9nm,0.4s,baz=136,slow=4.7,SNR=6.1						
TXAR	**Lajitas Array**	**145.09**	**43**	PKPbc	PKPbc	10 32 21.1	+0.7
	comp=Z,2.7nm,0.7s,baz=277,slow=1.3,SNR=40						
JCT	**Junction City**	**146.81**	**37**	*e*PKP2	PKPbc	10 32 25.6	0.0
WVT	**Waverly**	**147.44**	**16**	*e*PKP2	PKPbc	10 32 26.4	-0.8
PLAL	**Pickwick Lake**	**148.44**	**17**	*e*PKPbc	PKPbc	10 32 28.9	-1.0
PLAL				*e*PKPab	PKPab	10 32 32.3	-1.0
LPAZ	**La Paz**	**157.11**	**203**	PKP	PKPdf	10 32 41.4	+1.8
	comp=Z,1.5nm,0.3s,baz=242,slow=13,SNR=14						

*ISCJB **10** 10:24:12.9±0.3,134N±005×9890E±007,h92km,mb4.5/43, Error ellipse: s-maj=10.1km s-min=5.4km az=152.0*
*IDC **10** 10:24:14.7±0.7,136N×9910E,h91km±5km,mb4.1/19, mb1 4.2/19,mb1mx4.1/25,mbtmp4.1/19,Error ellipse: s-maj=19.4km s-min=10.1km az=50.0*
*NEIC **10** 10:24:14.8±0.4,135N×9895E,mb4.5/15,Error ellipse: s-maj=14.0km s-min=6.8km az=61.0*
NEIC Felt [II] at Sibolga.
*BJI **10** 10:24:14.8,130N×9900E,h91km,mB4.8,mb4.9*
*MOS **10** 10:24:17.4±1.0,149N×9906E,h133km,mb4.3/11,Error ellipse: s-maj=20.9km s-min=8.8km az=109.5*
ISC 10 10:24:14.8±0.3,132N±005×9892E±006,h94km, h94km±.9km:pP-P,n70,σ1=07/73,mb4.5/43,4C,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.19**	**351⇑**	*e*P	**Pn**	**10 24 54.5**	**+4.8**
TSI				*e*S	**Sn**	**10 25 13.0**	**-3.4**
KULM	**Kulim**	**4.30**	**24**	*e*Pn	**Pn**	**10 25 19.3**	**+1.3**
CM31	**Chiang Mai Arr**	**17.03**	**0**	*e*P	**Pn**	**10 28 07.2**	**0.0**
	12nm,0.9s						
CHTO	**Chiang Mai**	**17.38**	**0**	*e*P	**Pn**	**10 28 10.7**	**-0.8**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CHTO	**Chiang Mai**	**17.38**	**0**	*e*P	**Pn**	**10 28 10.7**	**-0.8**
	comp=Z,3.5nm,0.6s						
KKM	**Kota Kinabalu**	**17.88**	**74**	P	**Pn**	**10 28 19.6**	**+2.0**
KAPI	**Kappang**	**21.74**	**107**	P	**P**	**10 28 58.7**	**-0.2**
	comp=Z,5.8nm,0.4s,mb4.2,baz=295,slow=9.8,SNR=7.7						
BATI	**Kupang**	**27.16**	**115**	P	**P**	**10 29 48.0**	**-1.7**
	comp=Z,13nm,0.4s,mb4.8,baz=340,slow=4.0,SNR=3.6						
LSA	**Lhasa**	**29.17**	**346**	P	**P**	**10 30 08.2**	**+0.8**
LSA	**Lhasa**	**29.17**	**346**	*e*P	**P**	**10 30 08.4**	**+1.0**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**29.17**	**346**	*e*P	**P**	**10 30 08.4**	**+1.0**
	comp=Z,7.8nm,0.4s,mb4.7						
CD2	**Chengdu**	**29.78**	**8**	*e*P	**P**	**10 30 15.2**	**+2.5**
CD2				XP	sP	10 30 48.8	+3.9
CD2				PP	PP	10 31 16.6	-5.1
CD2				S	**S**	**10 35 04.7**	**+2.2**
CD2				SS	SS	10 36 48.6	-24
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
FITZ	**Fitzroy Crossi**	**32.62**	**128**	*e*P	**P**	**10 30 36.2**	**-1.7**
	comp=Z,4.5nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**32.62**	**128**	P	**P**	**10 30 36.0**	**-1.9**
	comp=Z,2.1nm,0.7s,mb4.1,baz=322,slow=14,SNR=3.0						
KAKA	**Kakadu**	**36.07**	**114**	*e*P	**P**	**10 31 06.4**	**-1.3**
	comp=Z,4.7nm,0.6s,mb4.6						
MUN	**Mundaring**	**36.95**	**155**	*e*P	**P**	**10 31 17.8**	**+2.8**
KLBR	**Kellerberrin**	**37.30**	**153**	*e*P	**P**	**10 31 19.9**	**+2.0**
	comp=Z,5.6nm,0.4s,mb4.8						
NWAO	**Narrogin (SRO)**	**38.20**	**155**	P	**P**	**10 31 27.2**	**+1.6**
	comp=Z,7.7nm,0.6s,mb4.8,baz=319,slow=8.4,SNR=8.9						
WRA	**Warramunga Arr**	**40.65**	**123**	P	**P**	**10 31 44.8**	**-1.3**
	comp=Z,16nm,0.6s,mb5.0,baz=304,slow=8.9,SNR=24						
WRA				PcP	PcP	10 33 46.4	0.0
	comp=Z,0.7nm,0.5s,baz=313,slow=2.6,SNR=4.5						
WRAB	**Tennant Creek**	**40.66**	**123**	*e*P	**P**	**10 31 45.3**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,19nm,0.7s,mb5.0						
WRAB	**Tennant Creek**	**40.66**	**123**	*e*P	**P**	**10 31 45.3**	**-0.9**
	comp=Z,19nm,0.7s,mb5.0						
WB2	**Warramunga Arr**	**40.66**	**123**	*e*P	**P**	**10 31 45.7**	**-0.5**
HHC	**Hu-ho-hao-te**	**40.98**	**15**	*e*P	**P**	**10 31 49.9**	**+1.4**
HHC				AP	pP	10 32 12.8	+2.4
HHC				XP	sP	10 32 25.0	+3.9
HHC				PP	PP	10 33 31.7	+6.9
HHC				PCP	PcP	10 33 48.2	+1.2
HHC				SCP	ScP	10 37 26.5	-1.9
HHC				S	**S**	**10 37 56.9**	**+3.3**
HHC				XS	sS	10 38 37.0	+5.6
HHC				SS	SS	10 40 59.9	+0.6
HHC				SCS	ScS	10 41 41.8	-2.0
HHC				AMB	AMB		
	comp=Z,25nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,202nm,5.7s						
HHC				LR	LR		
	comp=N,173nm,13.6s						
HHC				LR	LR		
	comp=E,177nm,15.7s						
HHC				LR	LR		
	comp=Z,137nm,13.7s						
ASAR	**Alice Springs**	**42.11**	**128**	P	**P**	**10 31 57.2**	**-0.8**
	comp=Z,3.4nm,0.5s,mb4.3,baz=303,slow=7.8,SNR=

ZAA0	**Zalesovo Array**	**53.73 350**	*e*P	**P**	**10 33 26.6**	**-0.5**
ZAA0			*e*pP	pP	10 33 48.6	-1.4
ZAA0			*e*sP	sP	10 33 59.0	-1.5
ZALV	**Zalesovo Beam**	**53.73 350**	P	**P**	**10 33 26.8**	**-0.3**
ZALV			pP	pP	10 33 49.2	-0.8
ZALV			sP	sP	10 33 59.2	-1.3
ZALV	**Zalesovo Beam**	**53.73 350**	P	**P**	**10 33 26.8**	**-0.3**
	comp=Z,10nm,0.4s,mb5.2,baz=175,slow=6.0,SNR=59					
ZALV			pP	pP	10 33 49.2	-0.8
	comp=Z,8.0nm,0.7s,baz=175,slow=6.4,SNR=5.6					
ZALV			sP	sP	10 33 59.2	-1.3
	comp=Z,3.7nm,0.6s,baz=171,slow=7.1,SNR=2.9					
NVS	**Novosibirsk**	**54.87 349**	*e*P	**P**	**10 33 34.2**	**-1.2**
RDF	**Al-Radifah**	**56.07 304**	*e*P	**P**	**10 33 43.5**	**-1.0**
RDF			AMb	AMB	10 33 45.4	
	comp=Z,14nm,0.7s,mb5.1					
NAY	**Al-Naaiem**	**56.44 305**	*e*P	**P**	**10 33 46.3**	**-0.8**
NAY			AMb	AMB	10 33 47.4	
	comp=Z,8.2nm,0.7s,mb4.9					
MIB	**Mutribah**	**56.54 305**	*e*P	**P**	**10 33 47.4**	**-0.5**
MIB			AMb	AMB	10 33 49.3	
	comp=Z,24nm,1.0s,mb5.2					
BRVK	**Borovoye**	**56.78 340**	*e*P	**P**	**10 33 48.1**	**-0.9**
BRVK			pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7					
BRVK	**Borovoye**	**56.78 340**	*e*P	**P**	**10 33 48.0**	**-1.0**
	comp=Z,4.4nm,0.5s,mb4.7					
YSS	**Yuzh-Sakhalins**	**59.29 33**	*e*P	**P**	**10 34 05.6**	**-1.1**
YSS			pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.5					
GNI	**Garni**	**62.41 315⇑**	*e*P	**P**	**10 34 27.2**	**-0.8**
GNI			pmax	pmax		
	comp=Z,7.0nm,1.3s					
ARU	**Arti**	**63.75 336**	*c i*P	**P**	**10 34 34.7**	**-1.8**
ARU			*e*		10 35 10.3	
ARU			*e*S	**S**	**10 43 07.7**	**+3.9**
ARU			*e*SS	SS	10 47 13.0	-0.4
ARU			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4					
KIV	**Kislovodsk**	**65.34 319⇑**	*e*P	**P**	**10 34 46.9**	**-0.3**
KIV			pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4					
SOC	**Sochi**	**67.19 317**	*i* P	**P**	**10 34 59.1**	**+0.1**
LSZ	**Lusaka**	**71.80 254**	P	**P**	**10 35 29.8**	**+1.9**
	comp=Z,2.2nm,0.6s,mb4.2,baz=83,slow=6.5,SNR=5.3					
TIXI	**Tiksi**	**72.77 10**	*e*P	**P**	**10 35 31.9**	**-0.7**
TIXI			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.0					
OBN	**Obninsk**	**73.42 328**	*e*P	**P**	**10 35 35.8**	**-0.9**
OBN			pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.4					
BOSA	**Boshof**	**76.33 240**	P	**P**	**10 35 55.7**	**+1.6**
	comp=Z,4.1nm,0.8s,mb4.2,baz=99,slow=16,SNR=5.8					
FINES	**FINESS Array B**	**80.69 332**	*i* P	**P**	**10 36 16.8**	**-0.5**
FINES			pmax	pmax		
	comp=Z,1.0nm,0.5s					
FINES	**FINESS Array B**	**80.69 332**	P	**P**	**10 36 16.9**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.0,baz=111,slow=8.4,SNR=6.6					
FINES			pP	pP	10 36 41.1	-0.7
	comp=Z,2.5nm,0.8s,baz=108,slow=6.2,SNR=1.6					
ARCES	**ARCESS Array B**	**83.00 340**	P	**P**	**10 36 29.2**	**-0.1**
	comp=Z,1.2nm,0.4s,mb4.1,baz=104,slow=4.0,SNR=15					
GERES	**GERESS Array B**	**85.86 319**	P	**P**	**10 36 44.9**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=333,slow=23,SNR=4.7					
NOA	**NORSAR Array B**	**87.74 331**	P	**P**	**10 36 52.9**	**-0.1**
	comp=Z,0.8nm,0.7s,mb3.9,baz=94,slow=4.8,SNR=3.0					
KEST	**Kesra**	**88.89 306**	P	**P**	**10 36 58.5**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=322,slow=14,SNR=3.6					
TORD	**Torodi Ar. Bea**	**96.74 283**	P	**P**	**10 37 36.6**	**+1.0**
	comp=Z,0.4nm,0.9s,mb3.9,baz=93,slow=5.2,SNR=4.4					
TPNV	**Topopah Spring**	**129.86 37**	*e*PKIKP	PKPdf	10 43 14.7	+0.8
TXAR	**Lajitas Array**	**142.64 34**	PKhKP		10 43 34.5	
	comp=Z,0.1nm,0.5s,baz=122,slow=0.1,SNR=7.3					

CSEM ***10*** *10:45:14.6±0.1, 34.84N×23.08E, h30km, ML3.8, Error ellipse: s-maj=3.9km s-min=2.5km az=59.0*
ISCJB ***10*** *10:45:14.1±1.1, 34.80N±004×23.09E±006, h28km±9km, Error ellipse: s-maj=9.5km s-min=5.0km az=148.0*
HLW ***10*** *10:45:15.5, 34.93N×23.05E, h33km, Mb3.6*
THE ***10*** *10:45:16.5, 35.19N×23.30E, h3km, ML3.8*
ATH ***10*** *10:45:23.5, 35.92N×24.07E, h19km±1km, MD3.7/5*
NEIC ***10*** *10:45:23.5, 35.92N×24.07E, h19km, MD3.7(ATH), After ATH.*

ISC 10 10:45:15.2±1.2, 3485N±004×2314E±006, h21km±10km, n26, σ1.9±28/34, 3C-1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.78**	**91**	*e*Pg	**Pb**	**10 45 31.1**	**+1.1**
GVD				*e*Sg	**Sb**	**10 45 41.9**	**+1.7**
GVD	**Gavdhos**	**0.78**	**91**	*e*Pg	**Pb**	**10 45 31.1**	**+1.1**
GVD				*e*Sg	**Sb**	**10 45 41.8**	**+1.7**
VAM	**Vamos**	**1.03**	**57**	*e*PN	**Pn**	**10 45 34.1**	**-0.3**
SIVA	**Sivas**	**1.38**	**83**	*e*Pg	**Pn**	**10 45 39.5**	**+0.3**
SIVA				*e*Sg	**Sn**	**10 45 58.1**	**+1.2**
KYTH	**Kithira**	**1.43**	**357**	*e*PN	**Pn**	**10 45 41.0**	**+1.1**
VLI	**Veliai**	**1.87**	**355**	*e*PN	**Pn**	**10 45 46.2**	**+0.3**
LAST	**Lasithi**	**1.94**	**80**	*e*Pb	**Pb**	**10 45 47.5**	**-2.3**
LAST				*e*Sb	**Sb**	**10 46 11.7**	**-2.0**
PYL	**PYLOS**	**2.33**	**331**	*e*Pn	**Pn**	**10 45 51.4**	**-1.0**
ITM	**Ithomi**	**2.52**	**337**	*e*PB	**Pb**	**10 45 59.7**	**-0.1**
ITM				*e*SN	**Sn**	**10 46 27.5**	**+2.5**
ZKR	**Zakros**	**2.54**	**83**	*e*Pn	**Pn**	**10 45 55.8**	**+0.6**
ZKR	**Zakros**	**2.54**	**83**	P	**Pn**	**10 45 56.9**	**+1.8**
DID	**Didima**	**2.65**	**2**	*e*Pn	**Pn**	**10 45 55.7**	**-1.0**
APE	**Apeiranthos**	**2.94**	**41**	*e*Pn	**Pn**	**10 45 58.4**	**-2.3**
KARP	**Karpathos**	**3.36**	**77**	*e*PN	**Pn**	**10 46 06.2**	**-0.3**
SLUM		**3.77**	**152⇑**	*e*P	**Pn**	**10 46 12.9**	**+0.8**
SLUM				S	**Sn**	**10 46 54.6**	**-1.2**
SLUM		**3.77**	**152**	P	**Pn**	**10 46 12.9**	**+0.8**
SLUM				S	**Sn**	**10 46 54.6**	**-1.3**
LKR	**Lokris**	**3.79**	**358**	*e*Pn	**Pn**	**10 46 11.6**	**-0.8**
LKR	**Lokris**	**3.79**	**358**	P	**Pn**	**10 46 12.4**	**0.0**
EVR	**Evrytania**	**4.20**	**346**	P	**Pn**	**10 46 20.4**	**+2.5**
AGG	**Agios Georgios**	**4.21**	**351**	*e*Pn	**Pn**	**10 46 17.6**	**-0.5**
NEO	**Neokhori**	**4.45**	**1**	P	**Pn**	**10 46 21.0**	**-0.4**
HMAT	**Matruh**	**5.01**	**137**	*e*P	**Pn**	**10 46 30.0**	**+1.0**
PAIG	**Paliouri**	**5.08**	**5**	*e*Pn	**Pn**	**10 46 28.5**	**-1.6**
SWA2		**5.93**	**160⇑**	*e*P	**Pn**	**10 46 42.6**	**+0.9**
SWA1		**5.98**	**158⇑**	*e*P	**Pn**	**10 46 43.4**	**+0.9**
SWA1				S	**Sn**	**10 47 47.8**	**-2.5**
HFRF	**Wahat Farafira**	**8.87**	**149**	P	**Pn**	**10 47 22.0**	**0.0**

BJI ***10*** *11:08:00.7, 707S×15593E, h22km, mB5.0, mb4.8, Ms5.0, Msz4.7*
NEIC ***10*** *11:08:03.6±0.2, 693S×15544E, h10km, mb4.9/19, Error ellipse: s-maj=11.3km s-min=5.8km az=126.0*
MOS ***10*** *11:08:06.7±0.9, 678S×15532E, h33km, mb4.9/10, Error ellipse: s-maj=13.0km s-min=9.6km az=89.8*
ISCJB ***10*** *11:08:09.3±1.9, 691S±007×15534E±006, h61km±19km, mb4.7/44, Error ellipse: s-maj=12.8km s-min=8.2km az=150.9*
IDC ***10*** *11:08:11.1±2.8, 692S×15530E, h62km±25km, mb4.1/12, mb1 4.3/14, mb1mx4.3/15, mbtmp4.2/14, ML4.1/2, Error ellipse: s-maj=17.0km s-min=15.5km az=95.0*

ISC 10 11:08:12.0±1.7, 695S±007×15536E±006, h71km±17km, h8km±5.7km: pP-P, n123, σ0.8±87/83, mb4.6/44, 4C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.17**	**119**	*e*P	**Pn**	**11 09 26.1**	**-0.8**
HNR				*e*		11 10 24.9	
HNR				pmax	pmax		
	comp=Z,356nm,0.8s						
HNR	**Honiara**	**5.17**	**119**	*e*Pn	**Pn**	**11 09 26.1**	**-0.8**
	comp=Z,356nm,0.8s						
HNR				*e*Sn	**Sn**	**11 10 24.9**	**-0.3**
HNR	**Honiara**	**5.17**	**119**	P	**Pn**	**11 09 26.6**	**-0.2**
	comp=Z,12nm,0.3s,baz=263,slow=3.1,SNR=15						
HNR				S	**Sn**	**11 10 26.9**	**+1.7**
	comp=Z,15nm,0.3s,baz=93,slow=7.2,SNR=2.9						
CTA	**Charters Tower**	**15.76**	**213**	P	**Pn**	**11 11 50.8**	**+1.0**
	comp=Z,0.3nm,0.3s,baz=51,slow=10,SNR=5.1						
KAKA	**Kakadu**	**23.28**	**254**	*e*P	**P**	**11 13 13.2**	**-0.5**
	comp=Z,9.0nm,0.6s,mb4.3						
WRAB	**Tennant Creek**	**24.12**	**236**	*e*P	**P**	**11 13 21.3**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,41nm,1.3s,mb4.6						
WRAB	**Tennant Creek**	**24.12**	**236**	*e*P	**P**	**11 13 21.3**	**-0.1**
	comp=Z,42nm,1.3s,mb4.6						
WB2	**Warramunga Arr**	**24.13**	**236**	*e*P	**P**	**11 13 21.1**	**-0.3**
WRA	**Warramunga Arr**	**24.14**	**236**	P	**P**	**11 13 21.6**	**+0.1**
	comp=Z,14nm,1.0s,mb4.2,baz=59,slow=9.5,SNR=30						
WRA				PcP	PcP	11 17 01.5	+0.5
	comp=Z,0.9nm,0.6s,baz=62,slow=2.0,SNR=4.1						
ASAR	**Alice Springs**	**26.47**	**229**	P	**P**	**11 13 42.1**	**-0.5**
	comp=Z,3.2nm,0.9s,mb3.8,baz=59,slow=9.2,SNR=17						
ASAR				PcP	PcP	11 17 06.8	+0.5
	comp=Z,1.3nm,0.8s,baz=50,slow=2.3,SNR=6.0						
STKA	**Stephens Creek**	**27.93**	**206**	*e*P	**P**	**11 13 54.6**	**-1.0**
	comp=Z,6.5nm,0.9s,mb4.2						
STKA	**Stephens Creek**	**27.93**	**206**	P	**P**	**11 13 55.0**	**-0.6**
	comp=Z,4.7nm,0.8s,mb4.0,baz=48,slow=10,SNR=7.5						
FITZ	**Fitzroy Crossi**	**31.00**	**246**	*e*P	**P**	**11 14 23.1**	**+0.1**
	comp=Z,19nm,0.8s,mb4.9						
FORT	**Forrest**	**34.87**	**224**	*e*P	**P**	**11 14 56.6**	**0.0**
	comp=Z,11nm,0.6s,mb4.9						
MBWA	**Marble Bar**	**37.22**	**244**	*e*P	**P**	**11 15 15.5**	**-1.2**
	comp=Z,8.1nm,0.9s,mb4.7						
KKM	**Kota Kinabalu**	**41.13**	**287**	*e*P	**P**	**11 15 47.9**	**-1.6**
KLBR	**Kellerberrin**	**42.79**	**230**	*e*P	**P**	**11 16 02.2**	**-0.6**
	comp=Z,29nm,1.1s,mb4.9						
MJAR	**Matsushiro Arr**	**46.16**	**341**	P	**P**	**11 16 28.7**	**-0.8**
	comp=Z,3.6nm,0.9s,mb4.1,baz=168,slow=8.2,SNR=5.2						
MJAR				PcP	PcP	11 18 04.9	+0.5
	comp=Z,5.2nm,0.8s,baz=158,slow=3.5,SNR=7.9						
MAT	**Matsushiro**	**46.16**	**341**	P	**P**	**11 16 26.3**	**-3.2**
KSRS	**Korea Array**	**51.07**	**332**	P	**P**	**11 17 06.5**	**-0.6**
	comp=Z,2.1nm,0.9s,mb4.2,baz=155,slow=8.8,SNR=8.5						
YSS	**Yuzh-Sakhalins**	**54.82**	**349**	*e*P	**P**	**11 17 37.0**	**+2.4**
YSS				*e*		11 17 48.7	
YSS				MLR	MLR		
	comp=Z,1μm,22.0s						
GYA	**Guiyang**	**57.71**	**307**	P	**P**	**11 17 56.4**	**+0.8**
GYA				PCP	PcP	11 18 49.8	+1.9
GYA				PP	PP	11 20 06.6	+2.2
GYA				SCP	ScP	11 22 48.3	+6.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,5.7s						
GYA				LR	LR		
	comp=N,580nm,19.8s						
GYA				LR	LR		
	comp=E,440nm,18.4s						
GYA				LR	LR		
	comp=Z,590nm,18.2s						
KLR	**Kul'dur**	**59.63**	**342**	*e*P	**P**	**11 18 03.4**	**-5.1**
NANT	**Nan**	**59.63**	**296**	⇑P	**P**	**11 18 07.5**	**-1.6**
	comp=Z,112nm,0.8s						
XAN	**Xi'an**	**59.92**	**316**	P	**P**	**11 18 10.7**	**-0.1**
XAN				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.8						
KMI	**Kunming**	**60.29**	**304**	P	**P**	**11 18 14.6**	**+1.1**
KMI				AP	pP	11 18 17.8	-14
KMI				PP	PP	11 20 30.1	+2.8
KMI				PPP		11 21 55.7	
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
KMI				AMB	AMB		
	comp=Z,85nm,3.7s						
KMI				LR	LR		
	comp=N,206nm,22.5s						
KMI				LR	LR		
	comp=E,245nm,27.8s						
KMI				LR	LR		
	comp=Z,158nm,17.2s						
CHG	**Chiang Mai**	**61.20**	**296**	⇑P	**P**	**11 18 20.5**	**+0.7**
	comp=Z,31nm,0.9s,mb5.3						
CHTO	**Chiang Mai**	**61.20**	**296**	*e*P	**P**	**11 18 20.8**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.9						
CHTO	**Chiang Mai**	**61.20**	**296**	*e*P	**P**	**11 18 20.8**	**+0.9**
	comp=Z,9.5nm,0.7s,mb4.9						
CD2	**Chengdu**	**62.06**	**310**	*e*P	**P**	**11 18 26.4**	**+1.0**
CD2				AP	pP	11 18 31.0	-13
CD2				XP	sP	11 18 34.2	-18
CD2				PP	PP	11 20 45.1	+2.3
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.4						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
HHC	**Hu-ho-hao-te**	**62.27**	**324**	*e*P	**P**	**11 18 27.9**	**+1.3**
HHC				XP	sP	11 18 35.0	-18
HHC				PCP	PcP	11 19 08.7	+2.9
HHC				PP	PP	11 20 47.7	+3.2
HHC				SCP	ScP	11 23 07.6	+5.9
HHC				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,68nm,5.8s						
HHC				LR	LR		
	comp=N,388nm,19.6s						
HHC				LR	LR		
	comp=E,545nm,19.4s						
HHC				LR	LR		
	comp=Z,422nm,18.8s						
LZH	**Lanzhou**	**64.53**	**315**	*e*P	**P**	**11 18 46.5**	**+4.8**
LZH				AP	pP	11 18 51.3	-9.0
LZH				XP	sP	11 18 53.6	-15
LZH				PP	PP	11 21 10.5	+6.0
LZH				AMB	AMB		
	comp=Z,23nm,1.4s,mb4.8						
LZH				AMB	AMB		
	comp=Z,138nm,6.7s						
LZH				LR	LR		
	comp=N,465nm,14.3s						
LZH				LR	LR		
	comp=Z,697nm,18.2s						
MA2	**Magadan**	**66.41**	**357⇑**	*e*P	**P**	**11 18 53.5**	**+0.2**
MA2				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.7						
MA2	**Magadan**	**66.41**	**357**	*e*P	**P**	**11 18 52.9**	**-0.3**
	comp=Z,11nm,0.9s,mb4.7						
ULN	**Ulaanbaatar**	**69.16**	**327**	*e*P	**P**	**11 19 10.9**	**+0.1**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**69.16**	**327**	*e*P	**P**	**11 19 10.9**	**+0.2**
	comp=Z,3.8nm,0.9s,mb4.2						
SONM	**Songino Array**	**69.49**	**327**	P	**P**	**11 19 13.6**	**+0.8**
	comp=Z,5.8nm,0.9s,mb4.4,baz=129,slow=5.8,SNR=18						
SEY	**Seymchan**	**69.72**	**359**	*e*P	**P**	**11 19 13.1**	**-0.8**
VNDA	**Vanda**	**70.62**	**179**	P	**P**	**11 19 19.4**	**+0.1**
	comp=Z,1.0nm,0.8s,mb3.7,baz=325,slow=4.4,SNR=6.9						
LSA	**Lhasa**	**71.54**	**304**	P	**P**	**11 19 27.0**	**+1.3**
YAK	**Yakutsk**	**71.59**	**348**	*e*P	**P**	**11 19 25.2**	**-0.1**
YAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
YAK				pmax	pmax		
	comp=N,2.0nm,0.7s						
YAK	**Yakutsk**	**71.59**	**348**	*e*P	**P**	**11 19 25.6**	**+0.2**
	comp=N,16nm,0.4s,mb5.2						
ZAK	**Zakamensk**	**72.64**	**328**	*e*P	**P**	**11 19 31.9**	**0.0**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
BOD	**Bodaibo**	**72.70**	**338**	*e*P	**P**	**11 19 31.3**	**-0.8**
JIRN	**Jiri**	**75.07**	**301**	*e*P	**P**	**11 19 47.6**	**+1.1**
	comp=Z,18nm,0.7s,mb4.9						
BILL	**Biiibino**	**75.21**	**4**	*e*P	**P**	**11 19 47.1**	**+0.6**
BILL				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
BILL	**Biiibino**	**75.21**	**4**	*e*P	**P**	**11 19 46.6**	**+0.2**
	comp=Z,15nm,1.0s,mb4.7						
GUN	**Gumba**	**75.40**	**301**	*e*P	**P**	**11 19 49.7**	**+1.2**
	comp=Z,33nm,0.7s,mb5.2						
PKI	**Pulchoki**	**75.71**	**301**	*e*P	**P**	**11 19 50.9**	**+0.7**
KKN	**Kakani**	**75.88**	**301**	*e*P	**P**	**11 19 52.2**	**+1.0**
	comp=Z,17nm,0.7s,mb4.9						
DMN	**Daman**	**75.98**	**301**	*e*P	**P**	**11 19 52.6**	**+0.8**
	comp=Z,40nm,0.8s,mb5.2						
GKN	**Gorkha**	**76.48**	**301**	*e*P	**P**	**11 19 55.0**	**+0.4**
	comp=Z,41nm,1.0s,mb5.1						
KOLN	**Koldanda**	**77.31**	**300**	*e*P	**P**	**11 19 59.5**	**+0.2**
	comp=Z,18nm,0.9s,mb4.8						
DANN	**Dangsing**	**77.32**	**301**	*e*P	**P**	**11 19 59.4**	**+0.1**
	comp=Z,14nm,0.7s,mb4.8						
SVW2	**Sparrevohn**	**77.82**	**22**	*e*P	**P**	**11 20 02.1**	**+0.8**
TTA	**Tatalina**	**78.86**	**20**	*e*P	**P**	**11 20 07.4**	**+0.4**
TTA				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.5						
TTA	**Tatalina**	**78.86**	**20**	*e*P	**P**	**11 20 07.4**	**+0.4**
	comp=Z,9.0nm,1.0s,mb4.5						
WMQ	**Urumqi**	**79.04**	**317**	*e*P	**P**	**11 20 08.0**	**-0.5**
SLKM	**Skilak Lake**	**79.55**	**24**	*e*P	**P**	**11 20 09.9**	**-1.0**
TIXI	**Tiksi**	**80.36**	**352**	*e*P	**P**	**11 20 13.2**	**-1.9**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb3.9						
TIXI	**Tiksi**	**80.36**	**352**	*e*P	**P**	**11 20 14.8**	**-0.2**
	comp=Z,3.6nm,0.7s,mb4.3						
SML	**Sawmill**	**81.04**	**24**	*e*P	**P**	**11 20 18.6**	**-0.3**
IMA2	**Indian Mountai**	**81.64**	**19**	*e*P	**P**	**11 20 22.2**	**+0.2**
MCK	**McKinley**	**81.88**	**22**	*e*P	**P**	**11 20 22.2**	**-1.1**
MCK				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.0						
MCK	**McKinley**	**81.88**	**22**	*e*P	**P**	**11 20 22.2**	**-1.1**
	comp=Z,20nm,0.8s,mb5.0						
COLA	**College**	**82.91**	**21**	*e*P	**P**	**11 20 27.4**	**-1.2**
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
COLA	**College**	**82.91**	**21**	*e*P	**P**	**11 20 27.4**	**-1.2**
	comp=Z,10nm,0.9s,mb4.7						
QSPA	**South Pole Qui**	**83.03**	**180**	*e*P	**P**	**11 20 29.6**	**+0.6**
	comp=Z,4.7nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**83.61**	**319**	*e*P	**P**	**11 20 32.0**	**-0.6**
MKAR	**Makanchi Array**	**83.61**	**319**	P	**P**	**11 20 32.6**	**0.0**
	comp=Z,6.1nm,0.7s,mb4.5,baz=103,slow=5.5,SNR=29						
ZALV	**Zalesovo Beam**	**84.34**	**326**	P	**P**	**11 20 34.4**	**-1.8**
	comp=Z,1.4nm,0.5s,mb4.1,baz=119,slow=5.4,SNR=8.4						
ZAL	**Zalesovo**	**84.35**	**326**	P	**P**	**11 20 34.4**	**-1.8**
MAW	**Mawson**	**84.58**	**203**	P	**P**	**11 20 37.2**	**+0.1**
	comp=Z,6.1nm,0.9s,mb4.5,baz=60,slow=4.4,SNR=7.5						
EGAK	**Eagle**	**85.34**	**23**	*e*P	**P**	**11 20 41.3**	**+0.4**
	comp=Z,5.5nm,0.6s,mb4.7						
DAWY	**Dawson**	**85.71**	**24**	*e*P	**P**	**11 20 43.5**	**+0.7**
KURK	**Kurchatov**	**87.02**	**322**	*e*P	**P**	**11 20 50.4**	**+0.9**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
KURK	**Kurchatov**	**87.02**	**322**	*e*P	**P**	**11 20 50.4**	**+0.9**
	comp=Z,1.2nm,0.4s,mb4.2						
DLBC	**Dease Lake**	**87.92**	**30**	*e*P	**P**	**11 20 53.5**	**-0.1**
INK	**Inuvik**	**89.55**	**21**	*e*P	**P**	**11 21 00.7**	**-0.4**
	comp=Z,200nm,0.6s						
NVAR	**Mina Array Bea**	**91.41**	**52**	P	**P**	**11 21 11.0**	**+0.5**
	comp=Z,1.0nm,0.8s,mb4.0,baz=264,slow=5.8,SNR=5.1						
YKA	**Yellowknife Ar**	**96.13**	**28**	P	**P**	**11 21 31.3**	**-0.3**
	comp=Z,1.5nm,0.5s,mb4.7,baz=266,slow=4.6,SNR=36						
ARCES	**ARCESS Array B**	**109.65**	**343**	PKPdf	PKiKP	11 26 34.2	+0.1
ARCES	**ARCESS Array B**	**109.65**	**343**	PKiKP	PKiKP	11 26 34.2	+0.1
	comp=Z,4.8nm,1.0s,baz=46,slow=3.9,SNR=4.3						
PLCA	**Paso Flores**	**116.54**	**142**	PKP	PKPdf	11 26 48.0	-0.1
	comp=Z,3.1nm,1.1s,baz=278,slow=6.8,SNR=5.5						
NB2	**NORSAR Subarra**	**119.78**	**341**	PKPdf	PKPdf	11 26 53.5	-0.2
	comp=Z,1.4nm,0.6s,baz=42,slow=2.0						
NOA	**NORSAR Array B**	**119.78**	**341**	PKP	PKPdf	11 26 53.5	-0.2
	comp=Z,1.4nm,0.6s,baz=46,slow=1.9,SNR=7.8						
BOSA	**Boshof**	**120.33**	**231**	PKP	PKPdf	11 26 55.8	0.0
	comp=Z,7.4nm,1.1s,baz=73,slow=22,SNR=3.5						
SCHQ	**Schefferville**	**121.58**	**27**	PKP	PKPdf	11 26 57.3	-0.1
	comp=Z,2.2nm,0.8s,baz=262,slow=9.7,SNR=4.8						
CLL	**Collm**	**125.94**	**332**	*i* PKPdf	PKPdf	11 27 07.0	+1.2
KHC	**Kasperske Hory**	**127.08**	**329**	*e*PKP	PKPdf	11 27 08.5	+0.4
GERES	**GERESS Array B**	**127.20**	**329**	PKP	PKPdf	11 27 09.2	+0.9
	comp=Z,2.0nm,0.7s,baz=197,slow=4.2,SNR=5.0						
BAIF	**Baives**	**130.72**	**336**	*e*PKIKP	PKPdf	11 27 14.9	-0.1
LPL	**La Plagne**	**132.95**	**330**	*e*PKIKP	PKPdf	11 27 19.7	+0.3
	comp=Z,22nm,1.2s						
LPG	**La Plagne**	**132.96**	**330**	*e*PKIKP	PKPdf	11 27 19.8	+0.4
	comp=Z,7.7nm,0.9s						
LOR	**Lormes**	**133.01**	**334**	*e*PKIKP	PKPdf	11 27 19.4	0.0
SSF	**Saint Saulge**	**133.33**	**334**	*e*PKIKP	PKPdf	11 27 20.0	0.0
GRR	**Gorron**	**134.04**	**338**	*e*PKIKP	PKPdf	11 27 21.7	+0.4
CPUP	**Villa Florida**	**134.17**	**137**	PKP	PKPdf	11 27 22.6	+0.3
	comp=Z,1.7nm,0.6s,baz=332,slow=4.2,SNR=7.6						
VIVF	**Saint-Julien-l**	**134.44**	**331**	*e*PKIKP	PKPdf	11 27 21.6	-0.6
TCF	**Toulx Ste Croi**	**134.49**	**334**	*e*PKIKP	PKPdf	11 27 22.5	+0.3
	comp=Z,12nm,0.9s						
MFF	**Saint Martin d**	**135.23**	**336**	*e*PKIKP	PKPdf	11 27 23.2	-0.4
CAF	**Calviac**	**135.61**	**333**	*e*PKIKP	PKPdf	11 27 24.0	-0.4
EQES	**Quesada**	**143.58**	**331**	PKP	PKPdf	11 27 37.8	-1.2
EADA	**Adamuz**	**144.00**	**333**	PKP	PKPdf	11 27 37.2	-2.5
ERON	**Agron**	**144.55**	**331**	PK

GUMO LR LR 11 28 02.6
comp=Z,1μm,21.0s,MS4.4,baz=38,slow=34
KAKA Kakadu 23.32 254 *e*P **P** **11 20 15.9 -0.4**
comp=Z,259nm,1.2s,mb5.5
KAKA *e*S **S** **11 24 25.4 -2.4**
ARMA Armidale 23.66 188 *e*P **P** **11 20 19.8 +0.4**
ARMA *e*S **S** **11 24 33.0 +0.1**
WRAB Tennant Creek 24.17 236 P **P** **11 20 24.0 -0.2**
comp=Z,511nm,1.0s,mb5.9,SNR=25
WRAB Tennant Creek 24.17 236 *e*P **P** **11 20 24.3 +0.1**
WRAB pmax pmax
comp=Z,91nm,1.0s,mb5.2
WRAB Tennant Creek 24.17 236 *e*P **P** **11 20 24.3 0.0**
comp=Z,91nm,1.0s,mb5.2
WB2 Warramunga Arr 24.18 236⇓*i*P **P** **11 20 24.1 -0.2**
WB2 *e*S **S** **11 24 37.6 -3.9**
WB2 *e*PCS PcS 11 27 44.4 -0.5
WB2 *e*SCS ScS 11 31 29.3 -0.7
WRA Warramunga Arr 24.18 236 P **P** **11 20 23.2 -1.2**
WRA S **S** **11 24 42.3 +0.6**
WRA Warramunga Arr 24.18 236 P **P** **11 20 23.2 -1.2**
WRA S **S** **11 24 42.3 +0.7**
WRA LR LR 11 29 51.5
WRA Warramunga Arr 24.18 236 P **P** **11 20 23.2 -1.2**
comp=Z,34nm,0.9s,mb4.8,baz=60,slow=9.4,SNR=37
WRA S **S** **11 24 42.3 +0.7**
comp=Z,2.7nm,1.0s,baz=57,slow=16,SNR=4.9
WRA LR LR 11 29 51.5
comp=Z,4μm,18.8s,MS4.9,baz=65,slow=36
ASAR Alice Springs 26.52 229 P **P** **11 20 44.8 -0.8**
ASAR 11 21 30.2
ASAR 11 24 09.3
ASAR Alice Springs 26.52 229 P **P** **11 20 44.8 -0.8**
ASAR PP 11 21 30.2
ASAR PcP PcP 11 24 09.3 -0.9
ASAR ScP ScP 11 27 49.0 -0.2
ASAR *e* 11 53 29.4
ASAR Alice Springs 26.52 229 P **P** **11 20 44.8 -0.8**
comp=Z,8.5nm,0.7s,mb4.4,baz=60,slow=9.4,SNR=41
ASAR PP 11 21 30.2
comp=Z,6.8nm,0.6s,baz=59,slow=9.3,SNR=4.2
ASAR PcP PcP 11 24 09.3 -0.9
comp=Z,6.8nm,1.0s,baz=54,slow=2.6,SNR=4.3
ASAR ScP ScP 11 27 49.0 -0.2
comp=Z,4.2nm,1.0s,baz=60,slow=3.2,SNR=4.9
ASAR P3KPbc 11 53 29.4
comp=Z,0.4nm,0.8s,baz=241,slow=4.4,SNR=6.2
RIV Riverview 27.08 188 *e*P **P** **11 20 50.8 +0.4**
STKA Stephens Creek 27.98 206 *e*P **P** **11 20 57.6 -1.0**
comp=Z,28nm,0.9s,mb4.9
STKA *e*S **S** **11 25 37.4 -4.3**
STKA Stephens Creek 27.98 206 P **P** **11 20 58.6 +0.1**
comp=Z,6.7nm,0.6s,mb4.5,baz=34,slow=13,SNR=13
STKA LR LR 11 32 12.9
comp=Z,6μm,18.4s,MS5.2,baz=18,slow=37
CNB Canberra Magne 28.81 190 *e*P **P** **11 21 06.2 +0.3**
comp=Z,27nm,1.2s,mb4.8
FITZ Fitzroy Crossi 31.04 246⇑*i*P **P** **11 21 25.8 -0.1**
comp=Z,44nm,0.7s,mb5.4
FITZ *e* 11 24 22.2
FITZ *e*S **S** **11 26 24.1 -6.0**
FITZ Fitzroy Crossi 31.04 246 LR LR 11 33 52.3
comp=Z,2μm,19.9s,MS4.8,baz=259,slow=36
AFI Afiamalu 33.01 105 *e*P **P** **11 21 41.9 -1.3**
AFI pmax pmax
comp=Z,38nm,0.8s,mb5.4
AFI Afiamalu 33.01 105 *e*P **P** **11 21 41.9 -1.4**
comp=Z,38nm,0.8s,mb5.4
RAO Raoul Island 33.58 135 LR LR 11 33 56.4
comp=Z,1μm,18.1s,MS4.7,baz=151,slow=34
FORT Forrest 34.92 224 *e*P **P** **11 21 58.6 -1.0**
comp=Z,51nm,0.7s,mb5.6
KAPI Kappang 35.48 271 P **P** **11 22 04.4 -0.3**
comp=Z,690nm,0.7s,SNR=13
CBIJ Chichi jima 36.13 340 LR LR 11 35 26.9
comp=Z,462nm,19.4s,MS4.3,baz=160,slow=34
URZ Urewera 36.90 151 P **P** **11 22 20.8 +4.3**
comp=Z,9.4nm,0.7s,mb4.7,baz=190,slow=3.6,SNR=6.9
URZ LR LR 11 36 20.5
comp=Z,3μm,18.1s,MS5.1,baz=161,slow=34
MBWA Marble Bar 37.26 244 *e*P **P** **11 22 19.4 -0.5**
comp=Z,77nm,1.1s,mb5.4
RPZ Rata Peaks 39.16 162 P **P** **11 22 37.2 +1.7**
comp=Z,8.7nm,0.7s,mb4.6,baz=37,slow=8.1,SNR=6.4
RPZ LR LR 11 36 52.2
comp=Z,3μm,20.8s,MS5.1,baz=57,slow=33
KKM Kota Kinabalu 41.15 287 *e*P **P** **11 22 52.5 +0.1**
KLBR Kellerberrin 42.84 230 *e*P **P** **11 23 05.0 -1.0**
comp=Z,42nm,0.9s,mb5.2
NWAO Narrogin (SRO) 43.84 229 *e*P **P** **11 23 14.4 +0.3**
NWAO pmax pmax
comp=Z,49nm,1.3s
NWAO Narrogin (SRO) 43.84 229 *e*P **P** **11 23 14.4 +0.3**
comp=Z,49nm,1.3s,mb5.1
MUN Mundaring 44.19 230 *e*P **P** **11 23 23.3 +6.4**
NACB Ninganchiao 45.17 314 *e*P **P** **11 23 24.3 -0.5**
RAR Rarotonga 45.59 113 LR LR 11 39 21.0
comp=Z,890nm,20.6s,MS4.7,baz=228,slow=32
YHNB Yeheng 45.63 315 *e*P **P** **11 23 28.6 +0.2**
KSM Kuching 45.74 279 *e*P **P** **11 23 29.1 -0.5**
MJAR Matsushiro Arr 46.12 341 P **P** **11 23 31.3 -0.8**
MJAR 11 25 07.6
MJAR Matsushiro Arr 46.12 341 P **P** **11 23 31.3 -0.7**
comp=Z,8.3nm,0.8s,mb4.7,baz=162,slow=8.0,SNR=16
MJAR PcP PcP 11 25 07.6 -0.4
comp=Z,17nm,0.8s,baz=161,slow=3.9,SNR=12
MJAR LR LR 11 41 58.4
comp=Z,246nm,19.7s,MS4.2,baz=165,slow=35
MAJO Matsushiro 46.12 341 *e*P **P** **11 23 31.4 -0.7**
MAJO pmax pmax
comp=Z,18nm,0.7s,mb5.1
MAJO Matsushiro 46.12 341 *e*P **P** **11 23 31.4 -0.7**
comp=Z,18nm,0.7s,mb5.1
MAT Matsushiro 46.12 341 P **P** **11 23 31.5 -0.6**
MAT S **S** **11 30 14.6 -2.3**
QZH Quanzhou 47.80 313⇓*i*P **P** **11 23 46.4 +1.0**
QZH S **S** **11 30 36.5 -4.7**
QZH AMB AMB
comp=Z,100nm,0.8s,mb5.9
QZH AMB AMB
comp=Z,950nm,3.4s
QZH LR LR
comp=N,1μm,16.3s,MS5.1
QZH LR LR
comp=E,1μm,17.0s,MS5.1
QZH LR LR
comp=Z,720nm,16.5s,MS4.7
SSE Sheshan 49.98 321 P **P** **11 24 02.7 +0.7**
SSE XP sP 11 24 07.2 -4.2
SSE S **S** **11 31 13.2 +1.5**
SSE XS sS 11 31 18.7 -4.0
SSE AMB AMB
comp=Z,23nm,0.8s,mb5.3
SSE AMB AMB
comp=Z,160nm,6.1s
SSE LR LR
comp=N,346nm,17.5s,MS4.6
SSE LR LR
comp=E,421nm,17.4s,MS4.6
SSE LR LR
comp=Z,646nm,13.9s,MS4.8
KSRS Korea Array 51.04 332 P **P** **11 24 09.8 -0.1**
comp=Z,8.7nm,0.9s,mb4.7,baz=149,slow=8.3,SNR=36
KSRS LR LR 11 41 13.5
comp=Z,305nm,21.4s,MS4.3,baz=136,slow=31
INCN Inchon 51.68 331 *e*P **P** **11 24 15.4 +0.7**
comp=Z,27nm,0.7s,mb5.3
QIZ Qiongzhong 51.74 301⇑P **P** **11 24 16.7 +1.2**
QIZ S **S** **11 31 39.1 +2.5**
QIZ AMB AMB
comp=Z,86nm,0.8s,mb5.7
QIZ AMB AMB
comp=Z,514nm,4.5s
QIZ LR LR
comp=E,845nm,20.6s
QIZ LR LR
comp=Z,1μm,20.9s,MS4.9
QIZ Qiongzhong 51.74 301 *e*P **P** **11 24 16.9 +1.4**
comp=Z,59nm,0.8s,mb5.6
NJ2 Nanjing 52.09 320 *e*P **P** **11 24 18.6 +0.7**
NJ2 AP pP 11 24 23.5 -1.2
NJ2 XP sP 11 24 26.6 -0.7
NJ2 PCP PcP 11 25 28.6 -1.2
NJ2 S **S** **11 31 41.0 +0.1**
NJ2 XS sS 11 31 49.0 -3.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,460nm,5.6s
NJ2 LR LR
comp=N,840nm,19.6s,MS5.0
NJ2 LR LR
comp=E,1μm,20.6s,MS5.0
NJ2 LR LR
comp=Z,1μm,20.5s,MS4.9
WHN Wuhan 54.14 316 P **P** **11 24 33.7 +0.6**
WHN S **S** **11 32 03.2 -5.7**
WHN LR LR
comp=Z,2μm,21.4s,MS5.0
VLA Vladivostok 54.17 339 *e*P **P** **11 24 34.3 +1.3**
VLA pmax pmax
comp=Z,14nm,0.8s,mb4.9
PPT Papeete 54.65 107 *e*S **S** **11 32 15.4 -0.9**
comp=Z,860nm,26.8s
PPT *e*LQ 11 38 20.8
comp=Z,2μm,30.5s
PPT *e*LR LR 11 40 44.3
comp=Z,677nm,22.0s,baz=279
PPT Papeete 54.65 107 P **P** **11 24 38.0 +1.0**
comp=Z,10nm,0.8s,mb4.9,baz=241,slow=10,SNR=2.4
PPT LR LR 11 44 10.9
comp=Z,629nm,18.1s,MS4.7,baz=274,slow=32
YSS Yuzh-Sakhalins 54.78 349⇑*e*P **P** **11 24 37.5 +0.1**
YSS *e* 11 24 56.0
YSS *e* 11 25 40.0
YSS *e*S **S** **11 32 10.0 -6.9**
YSS *e*PS 11 32 32.0
YSS *e* 11 34 16.0
YSS pmax pmax
comp=Z,20nm,0.7s,mb5.3
YSS MLR MLR
comp=Z,1μm,18.0s,MS5.0
YSS Yuzh-Sakhalins 54.78 349 *e*P **P** **11 24 38.4 +1.0**
comp=Z,31nm,0.8s,mb5.4
YSS *e*PcP PcP 11 25 40.3 +0.6
DL2 Dalian 55.29 328 P **P** **11 24 41.5 +0.3**
DL2 S **S** **11 32 27.0 +2.9**
DL2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
DL2 AMB AMB
comp=Z,120nm,8.7s
DL2 LR LR
comp=N,170nm,21.1s,MS4.3
DL2 LR LR
comp=E,240nm,24.9s,MS4.3
DL2 LR LR
comp=Z,460nm,22.9s,MS4.5
TBI Tubuai 55.36 114 *e*S **S** **11 32 28.1 +2.5**
comp=Z,637nm,31.2s
TBI *e*LQ 11 38 38.6
comp=Z,3μm,31.8s
TBI *e*LR LR 11 41 01.2
comp=Z,2μm,32.0s,baz=277
KULM Kulim 55.95 281 *e*P **P** **11 24 45.7 -0.8**
MDJ Mudanjiang 56.30 338 *e*P **P** **11 24 48.6 +0.3**
comp=Z,13nm,0.8s,mb5.0
SNY Shenyang 56.55 332⇓P **P** **11 24 51.2 +1.0**
SNY AMB AMB
comp=Z,9.0nm,0.7s,mb4.9
SNY AMB AMB
comp=Z,317nm,12.0s
SNY LR LR
comp=N,270nm,17.1s,MS4.6
SNY LR LR
comp=E,384nm,20.9s,MS4.6
SNY LR LR
comp=Z,441nm,17.8s,MS4.6
KKTK Khon Kaen 56.90 294 P **P** **11 24 54.0 +0.9**
CN2 Changchun 57.27 335 *e*P **P** **11 24 55.2 -0.1**
CN2 *e*S **S** **11 32 45.7 -4.5**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb5.0
CN2 AMB AMB
comp=Z,200nm,8.0s
CN2 LR LR
comp=N,500nm,20.0s,MS4.8
CN2 LR LR
comp=E,500nm,20.0s,MS4.8
CN2 LR LR
comp=Z,500nm,21.0s,MS4.6
SKR Severo-Kuril's 57.35 1 *e*P **P** **11 24 53.0 -2.7**
GYA Guiyang 57.70 307 P **P** **11 25 01.0 +2.3**
GYA PCP PcP 11 25 53.6 +2.1
GYA PP PP 11 27 11.4 +4.5
GYA PPP 11 28 32.3
GYA SCP ScP 11 29 52.0 +1.4
GYA S **S** **11 32 59.1 +2.6**
GYA PS 11 33 12.9
GYA SCS ScS 11 34 47.3 -0.1
GYA SS SS 11 36 51.2 +3.9
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,140nm,6.2s
GYA LR LR
comp=N,1μm,19.0s,MS5.2
GYA LR LR
comp=E,940nm,18.6s,MS5.2
GYA LR LR
comp=Z,1μm,18.9s,MS5.1
HABR Khabarovsk 57.97 344⇑*e*P **P** **11 25 00.3 +0.2**
HABR *e* 11 25 13.8
HABR *e* 11 25 49.5
HABR *e* 11 27 06.6
HABR *e*S **S** **11 32 56.8 -2.3**
HABR *e* 11 33 23.9
HABR *e* 11 34 44.3
HABR *e* 11 36 49.1
BJI Beijing 59.06 326 P **P** **11 25 08.2 +0.3**
BJI PP PP 11 27 19.8 +1.1
BJI S **S** **11 33 10.4 -3.3**
BJI SS SS 11 37 13.2 +5.0
BJI AMB AMB
comp=Z,11nm,0.7s,mb5.0
BJI AMB AMB
comp=Z,265nm,13.2s
BJI LR LR
comp=N,535nm,23.8s,MS4.8
BJI LR LR
comp=E,638nm,20.1s,MS4.8
BJI LR LR
comp=Z,1μm,22.4s,MS4.9
NST Nakhon Sawan 59.13 293 P **P** **11 25 09.0 +0.2**
comp=Z,133nm,0.6s,mb6.2
KLR Kul'dur 59.59 342 *e*P **P** **11 25 07.3 -4.1**
KLR *e*S **S** **11 33 11.0 -9.3**
NANT Nan 59.64 296⇑P **P** **11 25 11.0 -1.3**
comp=Z,425nm,1.0s,mb6.4
PET Petropavlovsk 59.76 2 *e*P **P** **11 25 13.5 +1.1**
PET *e*S **S** **11 33 33.3 +11**
PET pmax pmax
comp=Z,56nm,0.8s,mb5.7
PET pmax pmax
comp=Z,400nm,16.2s
PET pmax pmax
comp=Z,300nm,18.4s
PET Petropavlovsk 59.76 2 *e*P **P** **11 25 12.9 +0.5**
comp=Z,23nm,0.5s,mb5.5
TIY Taiyuan 59.76 321 P **P** **11 25 08.5 -4.3**
TIY AP pP 11 25 19.1 -0.5
TIY AMB AMB
comp=Z,330nm,6.6s
TIY LR LR
comp=N,725nm,18.1s
TIY LR LR
comp=E,295nm,11.1s
TIY LR LR
comp=Z,869nm,22.3s,MS4.8
XAN Xi'an 59.91 316 P **P** **11 25 13.8 -0.1**
XAN AMB AMB
comp=Z,38nm,0.7s,mb5.5
XAN AMB AMB
comp=Z,182nm,6.4s
KMI Kunming 60.28 304 P **P** **11 25 18.6 +2.0**
KMI AP pP 11 25 21.5 -2.0
KMI XP sP 11 25 22.9 -3.2
KMI PCP PcP 11 26 03.9 +2.1
KMI PP PP 11 27 32.6 +2.8
KMI PPP 11 29 00.2
KMI S **S** **11 33 31.5 +1.5**
KMI PS 11 33 47.2
KMI SS SS 11 37 31.9 +4.0
KMI SSS 11 40 05.3
KMI AMB AMB
comp=Z,31nm,0.7s,mb5.5
KMI AMB AMB
comp=Z,290nm,4.6s
KMI LR LR
comp=N,308nm,25.0s,MS4.6
KMI LR LR
comp=E,477nm,22.2s,MS4.6
KMI LR LR
comp=Z,750nm,19.7s,MS4.8
CM31 Chiang Mai Arr 61.09 295 *e*P **P** **11 25 23.6 +1.4**
comp=Z,79nm,0.8s,mb5.9
CHG Chiang Mai 61.21 296⇓P **P** **11 25 23.0 0.0**
comp=Z,120nm,0.7s,mb6.1
CHTO Chiang Mai 61.21 296 *e*P **P** **11 25 23.7 +0.7**
CHTO pmax pmax
comp=Z,29nm,0.6s,mb5.6
CHTO Chiang Mai 61.21 296 *e*P **P** **11 25 23.7 +0.7**
comp=Z,29nm,0.6s,mb5.6
CD2 Chengdu 62.05 310⇑*i*P **P** **11 25 29.7 +1.2**
CD2 AP pP 11 25 34.3 -1.0
CD2 XP sP 11 25 37.1 -0.8
CD2 PP PP 11 27 48.7 +3.4
CD2 PCS PcS 11 30 11.2 -0.8
CD2 S **S** **11 33 53.2 +0.9**
CD2 XS sS 11 34 00.9 -2.7
CD2 SCS ScS 11 35 17.5 -2.1
CD2 SS SS 11 37 57.5 +2.1
CD2 AMB AMB
comp=Z,40nm,0.5s,mb5.8
CD2 AMB AMB
comp=Z,320nm,5.2s
CD2 LR LR
comp=N,530nm,22.8s,MS4.9
CD2 LR LR
comp=E,750nm,21.0s,MS4.9
CD2 LR LR
comp=Z,740nm,23.7s,MS4.8
HHC Hu-ho-hao-te 62.25 324 *e*P **P** **11 25 33.0 +3.4**
HHC PCP PcP 11 26 11.9 +2.5
HHC SCP ScP 11 30 08.7 -1.7
HHC S **S** **11 33 53.3 -1.2**
HHC SCS ScS 11 35 15.4 -5.2
HHC SS SS 11 38 00.5 +2.3
HHC AMB AMB
comp=Z,35nm,1.2s,mb5.4
HHC AMB AMB
comp=Z,405nm,10.1s
HHC LR LR
comp=N,782nm,19.0s,MS5.0
HHC LR LR
comp=E,736nm,19.6s,MS5.0
HHC LR LR
comp=Z,1μm,19.0s,MS5.0
BTO Baotou 63.02 323 *e*P **P** **11 25 33.8 -0.9**
ADK Adak 63.26 19 *e*P **P** **11 25 36.2 +0.1**
ADK pmax pmax
comp=Z,65nm,0.8s,mb5.8
ADK Adak 63.26 19 *e*P **P** **11 25 36.2 +0.1**
comp=Z,65nm,0.8s,mb5.8
TAOE Nuku Hiva Isla 63.82 96 *e*LR LR 11 44 49.6
comp=Z,25μm,22.2s
HIA Hailar 64.00 335 *e*P **P** **11 25 42.0 +0.9**
HIA pmax pmax
comp=Z,24nm,0.8s
HIA Hailar 64.00 335 *e*P **P** **11 25 42.0 +0.9**
comp=Z,24nm,0.8s,mb5.3
LZH Lanzhou 64.52 315 *e*P **P** **11 25 45.0 +0.2**
LZH AP pP 11 25 49.8 -1.9
LZH XP sP 11 25 54.2 0.0
LZH PP PP 11 28 09.6 +2.7
LZH *e*S **S** **11 34 24.2 +1.2**
LZH XS sS 11 34 31.5 -2.9
LZH SS SS 11 38 37.3 +3.4
LZH AMB AMB
comp=Z,39nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,185nm,5.4s
LZH LR LR
comp=E,768nm,16.5s
LZH LR LR
comp=Z,1μm,18.7s,MS5.1
MA2 Magadan 66.37 357⇑*e*P **P** **11 25 56.8 +0.6**
MA2 pmax pmax
comp=Z,49nm,1.2s,mb5.4
MA2 Magadan 66.37 357 *e*P **P** **11 25 56.3 +0.1**
comp=Z,40nm,0.7s,mb5.6
NRGR Nerungri 68.16 342 *e*P **P** **11 26 04.4 -3.2**
CLNS Chul'man 68.25 343 *e*P **P** **11 26 08.8 +0.6**
CLNS pmax pmax
comp=N,12nm,0.7s
CLNS pmax pmax
comp=Z,36nm,0.7s,mb5.5
CLNS pmax pmax
comp=E,14nm,0.8s
RKT Rikitea 68.62 112 *e*LR LR 11 47 09.9
comp=E,2μm,25.2s,baz=280
GTA Gaotai 68.94 317 *e*P **P** **11 26 13.5 +0.6**
GTA AP pP 11 26 16.9 -2.9
GTA XP sP 11 26 19.8 -2.6
GTA PP PP 11 28 48.9 +3.5
GTA S S 11 35 17.7 +1.4
GTA XS sS 11 35 26.1 -1.7
GTA PS 11 35 46.2
GTA SS SS 11 39 46.5 +4.2
GTA AMB AMB
comp=Z,7.0nm,0.9s,mb4.6
GTA AMB AMB
comp=Z,238nm,4.9s
GTA LR LR
comp=N,358nm,21.7s,MS4.7
GTA LR LR
comp=E,347nm,19.4s,MS4.7
GTA LR LR
comp=Z,731nm,24.3s,MS4.8
ULN Ulaanbaatar 69.13 327 *e*P **P** **11 26 14.7 +0.8**
ULN pmax pmax
comp=Z,15nm,0.9s,mb4.9
ULN Ulaanbaatar 69.13 327 *e*P **P** **11 26 14.7 +0.8**
comp=Z,15nm,0.9s,mb4.9
SONM Songino Array 69.47 327 P **P** **11 26 16.6 +0.6**
comp=Z,22nm,0.9s,mb5.1,baz=126,slow=5.0,SNR=69
SONM PKPPKP 11 54 24.7
comp=Z,2.9nm,1.0s,baz=283,slow=3.5,SNR=12
SEY Seymchan 69.67 359⇑*e*P **P** **11 26 16.6 -0.3**
FALS False Pass 70.46 24 *e*P **P** **11 26 21.2 -0.7**
comp=Z,30nm,0.6s,mb5.4
VNDA Vanda 70.66 179 PKPPKP 11 54 22.5
comp=Z,1.0nm,0.9s,baz=249,slow=4.5,SNR=4.3
SBA Scott Base 71.16 177 *e*P **P** **11 26 26.2 +0.3**
SBA pmax pmax
comp=Z,100nm,2.0s,mb5.4
SBA Scott Base 71.16 177 *e*P **P** **11 26 26.2 +0.3**
comp=Z,100nm,2.0s,mb5.4
LSA Lhasa 71.54 304 P **P** **11 26 30.4 +1.4**
LSA AP pP 11 26 39.8 +3.8
LSA XP sP 11 26 43.4 +4.8
LSA PP PP 11 29 14.9 +6.8
LSA S S 11 35 44.6 -2.6
LSA AMB AMB
comp=Z,40nm,0.8s,mb5.4
LSA LR LR
comp=E,360nm,21.8s
LSA LR LR
comp=Z,530nm,22.5s,MS4.8
LSA Lhasa 71.54 304 *e*P **P** **11 26 30.2 +1.2**
LSA pmax pmax
comp=Z,28nm,0.8s,mb5.2
LSA Lhasa 71.54 304 *e*P **P** **11 26 30.2 +1.1**
comp=Z,28nm,0.8s,mb5.2
YAK Yakutsk 71.55 348*c i*P **P** **11 26 28.8 +0.4**
YAK *e* 11 26 44.9
YAK *e*S S 11 35 46.0 0.0
YAK *e* 11 36 24.5
YAK *e**SS SKSac 11 36 28.8 -1.4
YAK *e*SSS 11 43 33.0
YAK pmax pmax
comp=Z,48nm,1.0s,mb5.4
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,4.0nm,0.9s

YAK smax
comp=N,293nm,4.5s
YAK smax
comp=Z,147nm,4.1s
YAK smax
comp=E,215nm,4.8s
YAK MLR MLR
comp=Z,403nm,18.0s,MS4.7
YAK MLR MLR
comp=N,468nm,23.0s,MS4.7
YAK MLR MLR
comp=E,163nm,26.0s,MS4.7
YAK Yakutsk 71.55 348 *e*P **P 11 26 29.0 +0.6**
comp=E,59nm,0.8s,mb5.6
ZAK Zakamensk 72.62 328 *e*P **P 11 26 35.0 0.0**
ZAK pmax pmax
comp=Z,12nm,1.2s,mb4.7
BOD Bodaibo 72.67 338 *e*P **P 11 26 34.7 -0.5**
BOD pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
MIR Mirnyy 72.92 202⇑ *i*P pP 11 26 45.0 +1.4
MIR pmax pmax
comp=Z,300nm,1.8s,mb5.9
BOK Bokaro 74.30 297 *e*P **P 11 26 45.2 -0.3**
BOK AMb AMB 11 27 02.4
comp=Z,83nm,1.2s,mb5.5
MOY Mondy 74.54 328 *e*P **P 11 26 46.7 +0.4**
MOY pmax pmax
comp=Z,29nm,1.6s,mb5.0
GAMB Gambell 74.73 14 *e*P **P 11 26 47.6 +0.5**
comp=Z,22nm,0.7s,mb5.2
JIRN Jiri 75.07 301 *e*P **P 11 26 50.5 +0.6**
comp=Z,62nm,0.7s,mb5.6
BILL Bilibino 75.16 4 *c i*P **P 11 26 50.0 +0.4**
BILL pmax pmax
comp=Z,34nm,1.0s,mb5.2
BILL Bilibino 75.16 4 *e*P **P 11 26 49.8 +0.2**
comp=Z,35nm,1.0s,mb5.2
VIS Vishakhapatnam 75.20 290 *e*P **P 11 26 50.7 -0.1**
VIS AMb AMB 11 26 52.4
comp=Z,42nm,0.8s,mb5.4
GUN Gumba 75.40 301 *e*P **P 11 26 52.3 +0.5**
comp=Z,180nm,0.7s,mb6.1
PKI Pulchoki 75.71 301 *e*P **P 11 26 53.8 +0.2**
comp=Z,218nm,1.3s,mb5.9
KKN Kakani 75.88 301 *e*P **P 11 26 54.8 +0.2**
comp=Z,87nm,0.8s,mb5.8
DMN Daman 75.98 301 *e*P **P 11 26 55.5 +0.4**
comp=Z,148nm,0.9s,mb5.9
GKN Gorkha 76.48 301 *e*P **P 11 26 57.9 -0.1**
comp=Z,254nm,1.2s,mb6.0
KDAK Kodiak Island 76.92 26 *e*P **P 11 26 59.6 -0.1**
comp=Z,15nm,0.7s,mb5.0
KDAK Kodiak Island 76.92 26 P **P 11 26 59.2 -0.5**
comp=Z,13nm,0.7s,mb5.0,baz=292,slow=2.5,SNR=14
TNA Tin City 77.14 15 *e*P **P 11 27 01.0 +0.1**
comp=Z,18nm,0.8s,mb5.0
BLSP Bilaspur 77.26 294 *e*P **P 11 27 01.9 -0.6**
BLSP AMb AMB 11 27 19.9
comp=Z,88nm,2.4s,mb5.3
KOLN Koldanda 77.31 300 *e*P **P 11 27 02.5 -0.2**
comp=Z,118nm,1.0s,mb5.8
DANN Dangsing 77.32 301 *e*P **P 11 27 02.5 -0.2**
comp=Z,60nm,0.8s,mb5.6
SVW2 Sparrevohn 77.77 22 *e*P **P 11 27 05.2 +0.7**
TTA Tatalina 78.80 20 *e*P **P 11 27 10.7 +0.5**
WMQ Urumqi 79.02 317 *e*P **P 11 27 12.0 +0.2**
WMQ XP sP 11 27 19.0 -2.4
WMQ PP PP 11 30 12.0 +0.9
WMQ S S 11 37 09.0 -0.7
WMQ SCS ScS 11 37 30.0 -2.9
WMQ SS SS 11 42 17.0 +1.2
WMQ AMB AMB
comp=Z,22nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,138nm,8.0s
WMQ LR LR
comp=N,354nm,18.0s,MS5.0
WMQ LR LR
comp=E,467nm,18.0s,MS5.0
WMQ LR LR
comp=Z,598nm,18.0s,MS5.0
KOD Kodaikanal 79.43 282 *e*P **P 11 27 14.5 -0.1**
KOD AMb AMB 11 27 28.9
comp=Z,46nm,0.8s,mb5.5
SLKM Skilak Lake 79.50 24 *e*P **P 11 27 13.7 -0.3**
HYB Hyderabad 79.60 289 *e*P **P 11 27 15.0 -0.5**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.4
HYB Hyderabad 79.60 289 *e*P **P 11 27 15.0 -0.5**
comp=Z,50nm,1.0s,mb5.4
HYB Hyderabad 79.60 289⇑ *i*P **P 11 27 15.0 -0.5**
comp=Z,50nm,1.0s,mb5.4
HYB *e* pP 11 27 23.0 +0.4
HYB *e* 11 27 29.0
TRD Trivandrum 79.66 280 *e*P **P 11 27 15.5 -0.4**
NGP Nagpur 79.85 293 *e*P **P 11 27 16.8 0.0**
NGP AMb AMB 11 27 17.7
comp=Z,54nm,0.8s,mb5.5
TIXI Tiksi 80.32 352 *e*P **P 11 27 17.7 -0.6**
TIXI pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TIXI Tiksi 80.32 352 *e*P **P 11 27 17.3 -1.0**
comp=Z,7.3nm,0.6s,mb4.8
PMR Palmer 80.55 24 *e*P **P 11 27 19.3 -0.4**
PMR pmax pmax
comp=Z,25nm,0.8s,mb5.2
PMR MLR MLR
comp=Z,1μm,20.0s,MS5.2
PMR Palmer 80.55 24 *e*P **P 11 27 19.3 -0.4**
comp=Z,25nm,0.8s,mb5.2
PMR LR LR
comp=Z,1μm,20.0s,MS5.2
LGTI Lohaghat 80.58 301 *e*P **P 11 27 21.3 +0.7**
PTH Pithoragarh 80.62 301 *e*P **P 11 27 20.9 +0.1**
SML Sawmill 80.99 24 *e*P **P 11 27 22.1 +0.1**
IMA2 Indian Mountai 81.59 19 *e*P **P 11 27 25.5 +0.4**
AKL Akola 81.64 292 *e*P **P 11 27 25.2 -1.1**
DIV Divide 81.67 25 *e*P **P 11 27 25.7 0.0**
comp=Z,21nm,0.9s,mb5.1
BHPL Bhopal 81.74 295 *e*P **P 11 27 25.8 -1.1**
BHPL AMb AMB 11 27 44.0
comp=Z,77nm,2.4s,mb5.2
MCK McKinley 81.83 22 *e*P **P 11 27 25.8 -0.6**
MCK pmax pmax
comp=Z,66nm,0.8s,mb5.6
MCK McKinley 81.83 22 *e*P **P 11 27 25.8 -0.7**
comp=Z,66nm,0.8s,mb5.6
DDI Dehra Dun 82.62 302 *ex* x 11 27 27.0
COLA College 82.86 21 *e*P **P 11 27 30.6 -1.2**
COLA pmax pmax
comp=Z,33nm,0.8s,mb5.4
COLA College 82.86 21 *e*P **P 11 27 30.6 -1.2**
comp=Z,33nm,0.8s,mb5.4
QSPA South Pole Qui 83.07 180 *e*P **P 11 27 32.8 0.0**
comp=Z,42nm,1.0s,mb5.4
QSPA South Pole Qui 83.07 180 LR LR 12 03 04.8
comp=Z,666nm,18.0s,MS5.0,baz=7.4,slow=35
SMLA Simla 83.54 302 *e*P **P 11 27 35.8 -0.3**
SMLA AMb AMB 11 27 47.5
comp=Z,87nm,1.8s,mb5.6
MK31 Makanchi Array 83.59 319 *e*P **P 11 27 35.6 -0.4**
MKAR Makanchi Array 83.59 319 P **P 11 27 35.6 -0.4**
comp=Z,16nm,0.8s,mb5.2,baz=105,slow=5.3,SNR=123
MKAR PKKP PKKPbc 11 45 53.4 -2.5
comp=Z,0.8nm,0.7s,baz=291,slow=3.4,SNR=8.2
MKAR LR LR 12 03 12.9
comp=Z,385nm,21.3s,MS4.8,baz=105,slow=34
KAD Karad 83.70 288 *i* P **P 11 27 36.3 -0.9**
POO Poona 84.20 289 *e*P **P 11 27 38.6 -1.2**
POO AMb AMB 11 27 56.8
comp=Z,93nm,1.9s,mb5.6
ZAA0 Zalesovo Array 84.32 326 *e*P **P 11 27 38.1 -1.4**
ZALV Zalesovo Beam 84.32 326 P **P 11 27 38.1 -1.4**
comp=Z,5.3nm,0.5s,mb4.9,baz=109,slow=5.5,SNR=36
ZALV PKKP PKKPbc 11 45 51.9 -2.6
comp=Z,0.4nm,0.3s,baz=240,slow=1.2,SNR=4.5
ZALV PKPPKP 11 54 00.1
comp=Z,0.5nm,0.5s,baz=327,slow=2.5,SNR=3.7
ZALV LR LR 12 06 12.6
comp=Z,281nm,21.2s,MS4.6,baz=110,slow=36
ZAL Zalesovo 84.33 326 P **P 11 27 38.2 -1.4**
MAW Mawson 84.63 203 *e*P **P 11 27 40.4 -0.5**
comp=Z,18nm,0.9s,mb5.2
MAW Mawson 84.63 203 *e*P **P 11 27 40.4 -0.5**
MAW pmax pmax
comp=Z,18nm,0.9s
MAW Mawson 84.63 203 P **P 11 27 40.7 -0.2**
comp=Z,15nm,0.8s,mb5.2,baz=91,slow=7.1,SNR=23
MAW LR LR 12 04 31.8
comp=Z,393nm,19.0s,MS4.8,baz=95,slow=35
AJM Ajmer 84.82 297 *e*P **P 11 27 41.7 -1.1**
THN Thein Dam 85.02 303 *ex* x 11 27 41.6
EGAK Eagle 85.28 23 *e*P **P 11 27 44.5 +0.4**
comp=Z,18nm,0.7s,mb5.3
NVS Novosibirsk 85.49 326 *e*P **P 11 27 44.0 -1.4**
NVS *i* S S 11 38 02.2 -13
NVS pmax pmax
comp=Z,91nm,2.8s,mb5.4
NVS pmax pmax
comp=E,33nm,2.4s
NVS smax
comp=E,30nm,2.7s
SKAG Skagway 85.60 29 *e*P **P 11 27 46.4 +0.5**
comp=E,11nm,0.9s,mb5.1
SKAG LR LR
comp=Z,700nm,18.0s,MS5.1
DAWY Dawson 85.66 24 *e*P **P 11 27 46.5 +0.4**
WRAK Wrangell Islan 86.06 32 *e*P **P 11 27 48.1 -0.1**
comp=Z,43nm,1.4s,mb5.5
KSH Kashi 86.25 310 P **P 11 27 51.0 +1.5**
KSH *e*AP pP 11 28 02.1 +5.5
KSH *e*PPP 11 33 15.1
KSH *e*SKS 11 38 13.7
KSH *e*S S 11 38 24.3 +0.6
KSH AMB AMB
comp=Z,1μm,4.0s
KSH LR LR
comp=N,423nm,5.4s
KSH LR LR
comp=E,492nm,4.5s
KSH LR LR
comp=Z,350nm,4.9s
KURK Kurchatov 87.00 322 *e*P **P 11 27 51.4 -1.5**
KURK pmax pmax
comp=Z,3.0nm,0.6s,mb4.7
KURK Kurchatov 87.00 322 *e*P **P 11 27 51.4 -1.5**
comp=Z,3.3nm,0.6s,mb4.7
TKM2 Tokmak 2 87.23 314 *e*P **P 11 27 53.6 -0.7**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
TKM2 Tokmak 2 87.23 314 *e*P **P 11 27 53.6 -0.6**
comp=Z,5.8nm,0.6s,mb5.0
DLBC Dease Lake 87.87 30 *e*P **P 11 27 57.1 +0.2**
UCH Uchtor 87.88 313 *e*P **P 11 27 58.2 +0.8**
comp=Z,5.4nm,0.7s,mb4.9
FRU Bishkek 87.92 313 *e*P pP 11 28 09.0 +4.3
FRU *e* 11 28 24.0
AAK Ala-Archa 87.97 313 P **P 11 27 57.4 -0.4**
comp=Z,50nm,0.6s,mb5.9,SNR=5.3
AML Almayashu 88.45 313 *e*P **P 11 28 00.3 +0.2**
comp=Z,11nm,0.7s,mb5.2
EKS2 Erkin-Say 88.49 313 *e*P **P 11 28 00.1 -0.2**
comp=Z,6.4nm,0.8s,mb4.9
YBH Yreka Blue Hor 88.54 48 P **P 11 28 01.3 +0.8**
comp=Z,4.2nm,0.9s,mb4.8,baz=195,slow=8.0,SNR=4.4
INK Inuvik 89.50 21 *e*P **P 11 28 03.9 -0.5**
comp=Z,583nm,0.6s
GNW Green Mountain 89.53 42 *e*P **P 11 28 05.3 +0.2**
KBL Kabul 90.86 305 *e*P **P 11 28 10.6 -1.0**
comp=Z,7.1nm,0.7s,mb5.1
MWC Mount Wilson 91.00 56 *e*P **P 11 28 13.0 +0.8**
NVAR Mina Array Bea 91.36 52 P **P 11 28 14.2 +0.4**
comp=Z,4.6nm,0.8s,mb4.8,baz=252,slow=7.1,SNR=17
RPN Rapa Nui 91.57 117 LR LR 12 00 31.0
comp=Z,696nm,21.3s,MS5.1,baz=287,slow=30
WVOR Wild Horse Val 91.65 48 *e*P **P 11 28 14.7 -0.3**
WVOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.9
WVOR Wild Horse Val 91.65 48 *e*P **P 11 28 14.7 -0.4**
comp=Z,5.3nm,0.8s,mb4.9
GSC Goldstone 92.16 55 *e*P **P 11 28 17.8 +0.2**
GSC pmax pmax
comp=Z,4.0nm,0.9s,mb4.8
GSC Goldstone 92.16 55 *e*P **P 11 28 17.8 +0.2**
comp=Z,4.4nm,0.9s,mb4.8
BRVK Borovoye 92.52 323 *e*P **P 11 28 17.5 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
BRVK Borovoye 92.52 323 *e*P **P 11 28 17.5 -1.4**
comp=Z,4.7nm,0.8s,mb5.0
TPNV Topopah Spring 92.80 53 *e*P **P 11 28 20.7 +0.2**
TPNV pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
TPNV Topopah Spring 92.80 53 *e*P **P 11 28 20.7 +0.2**
comp=Z,3.3nm,0.8s,mb4.8
BMO Blue Mountains 92.91 45 *e*P **P 11 28 19.9 -0.9**
BMO pmax pmax
comp=Z,2.0nm,0.9s,mb4.5
BMO Blue Mountains 92.91 45 *e*P **P 11 28 19.9 -0.9**
comp=Z,2.3nm,0.9s,mb4.6
NEW Newport 93.43 42 *e*P **P 11 28 22.3 -0.8**
NEW pmax pmax
comp=Z,4.0nm,0.8s
NEW Newport 93.43 42 *e*P **P 11 28 22.3 -0.8**
comp=Z,3.6nm,0.8s,mb4.8
SHPR Sheep Range 93.62 54 *e*P **P 11 28 24.8 +0.5**
CCUT Cedar City 95.15 53 *e*P **P 11 28 31.9 +0.6**
WALA Waterton Lakes 95.62 41 *e*P **P 11 28 32.5 -0.7**
comp=Z,3.5nm,0.7s,mb4.9
MCMT McKenzie Canyo 96.07 46 *e*P **P 11 28 35.0 -0.3**
YKA Yellowknife Ar 96.08 28 P **P 11 28 34.6 -0.3**
YKA 11 32 22.8
YKA Yellowknife Ar 96.08 28 P **P 11 28 34.6 -0.3**
comp=Z,9.0nm,0.8s,mb5.2,baz=266,slow=4.4,SNR=89
YKA PP PP 11 32 22.8 -4.9
comp=Z,0.6nm,0.9s,baz=264,slow=6.9,SNR=3.8
YKA PKiKP PKiKP 11 33 11.7 -1.7
comp=Z,0.3nm,0.5s,baz=282,slow=1.4,SNR=4.3
YKA PKKP PKKPbc 11 45 20.7 -4.3
comp=Z,0.6nm,0.8s,baz=81,slow=2.9,SNR=10.0
YKA LR LR 12 08 28.9
comp=Z,378nm,20.1s,MS4.9,baz=245,slow=33
EDM Edmonton 96.23 37 *e*P **P 11 28 34.8 -1.0**
BOZ Bozeman (W) 96.97 45 *e*P **P 11 28 38.1 -1.3**
BOZ pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
BOZ Bozeman (W) 96.97 45 *e*P **P 11 28 38.1 -1.3**
comp=Z,1.2nm,0.8s,mb4.4
ARU Arti 99.48 326 *c i*P **P 11 28 48.4 -2.0**
ARU *e* 11 32 52.3
ARU *e*S SKSac 11 39 21.4 -6.2
ARU *e*SS SS 11 47 05.3 -6.7
ARU pmax pmax
comp=Z,4.0nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,359nm,20.0s,MS4.9
RES Resolute Bay 101.78 15 *e*Pdif Pdif 11 28 59.8 -0.9
comp=Z,141nm,0.8s
TXAR Lajitas Array 102.88 62 PP PP 11 33 22.0 +1.5
comp=Z,0.3nm,0.8s,baz=256,slow=4.8,SNR=3.5
TXAR PKKPbc PKKPbc 11 45 04.5 -0.1
comp=Z,0.3nm,0.7s,baz=123,slow=3.3,SNR=4.3
ULM Lac du Bonnet 107.24 40 PP PP 11 33 51.5 -0.6
comp=Z,1.9nm,0.7s,baz=92,slow=3.3,SNR=2.9
ARCES ARCESS Array B 109.61 343 PKiKP PKiKP 11 33 37.5 -0.3
comp=Z,8.8nm,0.8s,baz=74,slow=2.7,SNR=10.0
KIV Kislovodsk 111.06 314 *i* PKIKP PKiKP 11 33 42.7 +1.4
KIV *e* 11 34 19.4
KIV *e*PS PS 11 43 54.8 +3.2
KIV *e*SS SS 11 49 48.6 -2.2
KIV pmax pmax
comp=Z,5.0nm,0.7s
KIV MLR MLR
comp=Z,241nm,21.0s,MS4.8
SOC Sochi 113.24 315 *i* PKIKP PKiKP 11 33 51.1 +5.6
SOC *e* 11 34 45.1
SOC *e* 11 40 26.4
SOC *e*PS PS 11 44 06.3 -5.4
SOC MLR MLR
comp=Z,342nm,20.0s,MS4.9
FINES FINESS Array B 114.01 336 PKiKP PKiKP 11 33 45.7 -0.8
comp=Z,3.2nm,0.8s,baz=157,slow=5.8,SNR=6.3
ANN Anapa 114.53 316 *i* PKIKP PKiKP 11 33 49.5 +1.6
ANN pmax pmax
comp=Z,34nm,1.3s
PLCA Paso Flores 116.56 142 PKP PKPdf 11 33 51.7 -0.3
comp=Z,4.8nm,0.7s,baz=217,slow=3.0,SNR=10
AKASG Malin Array Be 117.69 325 PKP PKPdf 11 33 52.6 -1.2
comp=Z,5.6nm,0.8s,baz=65,slow=2.1,SNR=16
AKBB Malin Array Si 117.69 325 *e*PKIKP PKPdf 11 33 51.6 -2.2
KIEV Kiev 117.70 325 *e*PKIKP PKPdf 11 33 51.8 -2.1
NB2 NORSAR Subarra119.74 341 PKPdf PKPdf 11 33 56.4 -1.1
comp=Z,4.5nm,0.7s,baz=42,slow=2.0
NB2 NORSAR Subarra119.74 341 PKPdf PKPdf 11 33 56.4 -1.1
baz=42,slow=2.0
NOA NORSAR Array B119.74 341 PKP PKPdf 11 33 56.7 -0.8
comp=Z,5.1nm,0.7s,baz=45,slow=1.9,SNR=24
BOSA Boshof 120.38 231 PKP PKPdf 11 33 59.2 -0.5
comp=Z,4.1nm,0.8s,baz=141,slow=2.9,SNR=5.6
SCHQ Schefferville 121.52 27 PKP PKPdf 11 33 59.9 -1.2
SCHQ Schefferville 121.52 27 PKP PKPdf 11 33 59.9 -1.2
comp=Z,4.3nm,0.7s,baz=280,slow=1.8,SNR=14
SSPA Standing Stone 121.96 46 *e*PKPdf PKPdf 11 34 00.6 -1.8
KOLS Kolonicke sedl 122.49 325 *e*PKP PKPdf 11 34 03.6 +0.5
LONY Lake Ozonia 122.66 41 *e*PKPdf PKPdf 11 34 01.8 -1.8
CRVS Cervenica-Dubn 122.97 325 *e*PKP PKPdf 11 34 04.1 0.0
OJC Ojcow 123.17 328 *e*PKP PKPdf 11 34 03.3 -1.1
NCB Newcomb 123.17 41 *e*PKPdf PKPdf 11 34 02.7 -1.9
OKC Ostrava-Krasne 124.26 328 AMS AMS 12 29 40.0
comp=Z,400nm,19.3s
MORC Moravsky Berou 124.61 328 *e*PKIKP PKPdf 11 34 07.1 -0.1
VYHS Vyhne 124.65 326 *e*PKP PKPdf 11 34 06.8 -0.5
DPC Dobruska-Polom 124.90 329 *e*PKPdf PKPdf 11 34 08.4 +0.7
DPC AMS AMS 12 28 00.0
comp=Z,600nm,18.3s
BSEG Bad Segeberg 125.28 335 *e*PKPdf PKPdf 11 34 08.7 +0.4
MODS Modra-Piesok 125.58 327 *e*PKP PKPdf 11 34 08.9 -0.2
PVCC Panska Ves 125.67 330 *e*PKPdf PKPdf 11 34 09.5 +0.3
PVCC AMS AMS 12 28 50.0
comp=Z,500nm,25.0s
BRG Berggiesshubel 125.75 331 *e*PKPdf PKPdf 11 34 09.4 +0.1
BRG *ep*PKPdf pPKPdf 11 34 19.3 +2.7
BRG Berggiesshubel 125.75 331 *e*P PKPdf 11 34 09.2 -0.1
comp=Z,14nm,0.9s
BRG *e* 11 36 08.0
CLL Collm 125.92 332⇓ *i*PKIKP PKPdf 11 34 09.7 +0.1
CLL *e* 11 34 19.0
CLL *e* 11 36 06.0
CLL MLR MLR
comp=Z,300nm,22.0s,MS4.9
CLL Collm 125.92 332 *e*PKPdf PKPdf 11 34 09.7 +0.1
CLL Collm 125.92 332 *e*PKPpre 11 34 08.0
CLL ⇓ *i*PKPdf PKPdf 11 34 09.7 +0.1
comp=Z,18nm,0.8s
CLL *ex* x 11 34 19.0
CLL *e*PP PP 11 36 06.0 +3.8
comp=Z,100nm,20.6s
CLL *e*PPS 11 47 37.0
TREC Trest 125.97 329 AMS AMS 12 32 20.0
comp=Z,600nm,17.2s
FBE Freiberg 126.00 331 *e*PKPdf PKPdf 11 34 09.1 -0.7
FBE *ep*PKPdf pPKPdf 11 34 20.3 +3.2
PRU Pruhonice 126.02 330 *e*PKPdf PKPdf 11 34 10.4 +0.5
PRU AMS AMS 12 29 30.0
comp=Z,500nm,16.4s
CONA Conrad Observa 126.60 327⇑ *i*PKiKP PKiKP 11 34 11.5 0.0
comp=Z,4.1nm,0.9s
CSNA Conrad Observa 126.61 327⇑ *i*PKiKP PKiKP 11 34 11.4 -0.1
comp=Z,4.9nm,1.0s
CLZ Clausthal 126.75 334 *e*PKPdf PKPdf 11 34 11.7 +0.5
TANN Tannenbergstha 126.77 331 *e*PKPdf PKPdf 11 34 11.1 -0.2
KRUS Krusevo 126.80 318 *i* Pn PKPdf 11 34 11.2 -0.4
GUNZ Gunzen 126.86 331 *e*PKPdf PKPdf 11 34 11.8 +0.3
WERN Wernitzgruen 126.89 331 *e*PKPdf PKPdf 11 34 11.8 +0.3
NKC Novy Kostel 126.89 331 *e*PKPdf PKPdf 11 34 11.7 +0.2
NKC AMS AMS 12 30 10.0
comp=Z,400nm,15.8s
MOX Moxa 127.01 332 *e*PKPdf PKPdf 11 34 11.8 +0.1
KHC Kasperske Hory 127.05 329 *e*PKPdf PKPdf 11 34 11.9 0.0
KHC *ex* x 11 34 22.1
KHC AMS AMS 12 30 20.0
comp=Z,800nm,25.3s
GEC2 GERESS Array S 127.17 329 *e*PKPdf PKPdf 11 34 12.2 +0.1
GERES GERESS Array B 127.17 329 PKP PKPdf 11 34 12.0 -0.1
comp=Z,8.7nm,0.8s,baz=70,slow=1.6,SNR=20
MANZ Manzenberg 127.22 331 *e*PKPdf PKPdf 11 34 12.4 +0.2
MANZ *ep*PKPdf pPKPdf 11 34 22.6 +3.1
ROTZ Rotzenmuhle 127.32 331 *e*PKPdf PKPdf 11 34 11.8 -0.6
WET Wettzell 127.40 330 *e*PKPdf PKPdf 11 34 12.7 +0.2
WET *ep*PKPdf pPKPdf 11 34 22.8 +3.0
GRA1 Grafenberg Arr 127.84 331 *e*PKPdf PKPdf 11 34 13.7 +0.3
GRA1 *ep*PKPdf pPKPdf 11 34 25.1 +4.4
GRA1 LR LR
comp=Z,400nm,20.9s,MS5.1
GRF Grafenberg Arr 127.84 331 *e*PKPdf PKPdf 11 34 13.7 +0.3
GRF *ep*PKPdf pPKPdf 11 34 25.1 +4.4
GRF *e*L 12 31 04.2
comp=Z,405nm,20.9s
DAVA Damuels 130.13 330⇑ *i*P PKPdf 11 34 19.3 +1.5
comp=Z,5.0nm,0.8s
DAVA Damuels 130.13 330⇑ *i*pPKPdf PKPdf 11 34 19.3 +1.5
comp=Z,5.0nm,0.8s
GIVF Givet 130.40 335 *e*PKIKP PKPdf 11 34 17.5 -0.7
BAIF Baives 130.69 336 *e*PKIKP PKPdf 11 34 18.2 -0.6
LPAZ La Paz 131.16 119 PKP PKPdf 11 34 20.9 +0.3
LPAZ SKPbc SKPbc 11 37 43.6 -0.6
LPAZ La Paz 131.16 119 PKP PKPdf 11 34 20.9 +0.3
comp=Z,9.3nm,1.1s,baz=351,slow=1.0,SNR=19
LPAZ SKPbc SKPbc 11 37 43.6 -0.6
comp=Z,4.0nm,0.8s,baz=318,slow=1.8,SNR=10
HINF Hinteralfeld 131.22 332 *e*PKIKP PKPdf 11 34 18.9 -0.9
comp=Z,15nm,0.8s
HAU Haudompre 131.31 333 *e*PKIKP PKPdf 11 34 19.1 -0.9
comp=Z,24nm,0.8s
HAU *e*MLR MLR
comp=Z,556nm,21.5s,MS4.9
HAU Haudompre 131.31 333 *e*PKPdf PKPdf 11 34 19.1 -0.9
HAU LR LR
comp=Z,560nm,21.5s,MS5.2
MEZF Maizieres J'vi 131.52 334 *e*PKIKP PKPdf 11 34 20.0 -0.4
comp=Z,20nm,0.7s
CABF La Chapelle 132.45 332 *e*PKIKP PKPdf 11 34 21.3 -0.9
comp=Z,17nm,0.8s
LPL La Plagne 132.93 330 *e*PKIKP PKPdf 11 34 23.0 -0.1
comp=Z,19nm,1.0s
LPG La Plagne 132.93 330 *e*PKIKP PKPdf 11 34 23.0 -0.2
comp=Z,19nm,0.9s
LOR Lormes 132.98 334 *e*PKIKP PKPdf 11 34 22.7 -0.5
comp=Z,16nm,0.8s
LOR *e*MLR MLR
comp=Z,271nm,22.5s,MS4.6
LOR Lormes 132.98 334 *e*PKPdf PKPdf 11 34 22.7 -0.5
LOR LR LR
comp=Z,270nm,22.5s,MS4.9
BNI Bardonecchia 133.28 330 *e*PKIKP PKPdf 11 34 23.7 -0.1
SSF Saint Saulge 133.30 334 *e*PKIKP PKPdf 11 34 23.4 -0.4
comp=Z,16nm,0.9s
MBDF Montbardon 133.46 329 *e*PKIKP PKPdf 11 34 23.6 -0.6
comp=Z,9.2nm,0.7s
SMF Signal de Mont 133.47 333 *e*PKIKP PKPdf 11 34 23.5 -0.6
comp=Z,22nm,1.0s
FLN La Foliniere 133.56 338 *e*PKIKP PKPdf 11 34 23.6 -0.6
comp=Z,32nm,0.9s
FLN *e*MLR MLR
comp=Z,476nm,21.2s,MS4.9
FLN La Foliniere 133.56 338 *e*PKPdf PKPdf 11 34 23.6 -0.6
FLN LR LR
comp=Z,480nm,21.3s,MS5.2
LDF La Druitiere 133.56 338 *e*PKIKP PKPdf 11 34 23.6 -0.6
AVF Avril sur Loir 133.57 334 *e*PKIKP PKPdf 11 34 23.4 -0.9
SBF Sospel 133.72 328 *e*PKIKP PKPdf 11 34 23.9 -0.8
PGF Pioggiola 133.74 326 *e*PKIKP PKPdf 11 34 24.1 -0.7
comp=Z,40nm,1.0s
ORIF Oris-en-Rattie 133.78 330 *e*PKIKP PKPdf 11 34 24.2 -0.6
comp=Z,17nm,0.8s
ORIF *e*MLR MLR
comp=Z,510nm,21.2s,MS4.9
BGF Bois d'Agland 133.97 334 *e*PKIKP PKPdf 11 34 24.7 -0.4
GRR Gorron 134.01 338 *e*PKIKP PKPdf 11 34 24.7 -0.4
comp=Z,10.0nm,0.6s
CPUP Villa Florida 134.19 137 *e*PKIKP PKPdf 11 34 24.9 -1.2
CPUP Villa Florida 134.19 137 PKP PKPdf 11 34 25.4 -0.7
comp=Z,8.1nm,0.7s,baz=287,slow=1.9,SNR=19
CPUP SKPbc SKPbc 11 37 54.5 0.0
comp=Z,1.8nm,0.7s,baz=283,slow=6.1,SNR=3.2
SDV Santo Domingo 134.40 84 *e*PKPdf PKPdf 11 34 25.7 -1.1
VIVF Saint-Julien-I 134.41 331 *e*PKIKP PKPdf 11 34 25.5 -0.5
comp=Z,26nm,1.1s
TCF Toulx Ste Croi 134.46 334 *e*PKIKP PKPdf 11 34 25.8 -0.2
comp=Z,40nm,0.9s
LMR La Mourre 134.57 328 *e*PKIKP PKPdf 11 34 25.7 -0.6
SMRF Simiane la Rot 134.60 329 *e*PKIKP PKPdf 11 34 25.3 -1.0
comp=Z,18nm,0.9s
SGMF Saint Gilles 134.73 339 *e*PKIKP PKPdf 11 34 25.8 -0.6
comp=Z,88nm,1.2s
ROSF Rostrenen 134.91 340 *e*PKIKP PKPdf 11 34 26.1 -0.7

MFF	**Saint Martin d**	**135.20 336**	*e*PKIKP	PKPdf	11 34 26.2	-1.2
	comp=Z,20nm,0.9s					
QUIF	**Quistinic**	**135.23 340**	*e*PKIKP	PKPdf	11 34 26.9	-0.5
LASF	**Ste Croix**	**135.38 331**	*e*PKIKP	PKPdf	11 34 27.4	-0.4
	comp=Z,16nm,0.8s					
CAF	**Calviac**	**135.58 333**	*e*PKIKP	PKPdf	11 34 27.6	-0.5
MVO	**Moncorvo**	**142.45 338**	*e*PKP	PKPdf	11 34 36.4	-4.4
MVO			*e*LR	LR	12 25 28.9	
	comp=Z,242nm,20.0s					
ESDC	**Sonseca Array**	**142.46 333**	PKP	PKPdf	11 34 37.9	-3.0
	comp=Z,3.7nm,0.8s,baz=19,slow=3.1,SNR=11					
ESLA	**Sonseca Array**	**142.46 333**	*e*PKPdf	PKPdf	11 34 36.7	-4.2
PVIS	**Viseu**	**143.16 339**	*e*PKP	PKPdf	11 34 39.0	-3.1
MTE	**Manteigas**	**143.31 338**	*e*PKP	PKPdf	11 34 39.5	-2.9
MTE			*e*LR	LR	12 25 26.4	
	comp=Z,277nm,24.0s					
PCBR	**Castelo Branco**	**143.77 337**	*e*PKP	PKPdf	11 34 40.8	-2.4
PTOM	**Tomar**	**144.32 338**	*e*PKP	PKPdf	11 34 42.8	-1.3
PESTR	**Estremoz**	**144.66 337**	*e*PKP	PKPdf	11 34 43.1	-1.7
PESTR			*e*LR	LR	12 26 12.5	
	comp=Z,384nm,24.0s					
PBAR	**Barrancos**	**145.03 335**	*e*PKP	PKPdf	11 34 44.6	-0.8
PBAR			*e*LR	LR	12 28 00.2	
	comp=Z,320nm,22.0s					
EVO	**Evora**	**145.11 337⇑**	*i*PKIKP	PKIKPdf	11 34 45.3	-0.3
	comp=Z,80nm,0.8s					
EVO			*e*MLR	MLR		
	comp=Z,759nm,21.8s,MS5.1					
EVO	**Evora**	**145.11 337**	*e*PKP	PKPdf	11 34 45.1	-0.5
PMAFR	**Mafra**	**145.22 339**	*e*PKP	PKPdf	11 34 45.2	-0.5
PMAFR			*e*LR	LR	12 28 22.7	
	comp=Z,522nm,22.0s					
MOE	**Montemor**	**145.25 337**	*e*PKP	PKPdf	11 34 45.6	-0.2
PBEJ	**Beja**	**145.49 336**	*e*PKP	PKPdf	11 34 46.9	+0.7
PVAQ	**Vaqueiros**	**145.97 336**	*e*PKP	PKPdf	11 34 48.1	+1.0
PVAQ			*e*LR	LR	12 27 27.2	
	comp=Z,448nm,20.0s					
PBDV	**Barranco-do-Ve**	**146.19 336**	*e*PKP	PKPdf	11 34 49.0	+1.5
PBDV			*e*LR	LR	12 27 16.6	
	comp=Z,448nm,18.0s					
PTEO	**Sao Teotonio**	**146.25 337**	*e*PKP	PKPdf	11 34 49.3	+1.8
MORF	**Marmelete**	**146.43 337**	*e*PKP	PKPdf	11 34 49.5	+1.7
PFVI	**Vila Bisbo**	**146.65 337**	*e*PKP	PKPdf	11 34 50.1	+1.9
PFVI			*e*LR	LR	12 29 29.4	
	comp=Z,315nm,22.0s					
BDFB	**Brasilia**	**147.77 134**	PKPbc	PKPdf	11 34 50.9	+0.2
	comp=Z,28nm,0.7s,baz=282,slow=2.8,SNR=36					
BDFB			PKKP		11 43 50.9	
	comp=Z,6.1nm,0.8s,baz=333,slow=3.7,SNR=6.6					
PMAR	**Madeira**	**153.33 345**	*e*PKiKP	PKiKP	11 35 06.8	+0.3
TOA0	**Torodi Ar. Sit**	**153.37 286**	*e*PKPdf	PKPdf	11 34 58.1	-1.3
TOA0			*e*PKPbc	PKPbc	11 35 05.7	-1.3
TORD	**Torodi Ar. Bea**	**153.37 286**	PKP	PKPdf	11 34 58.0	-1.4
	comp=Z,1.8nm,0.8s,baz=36,slow=1.1,SNR=8.2					
TORD			PKPbc	PKPbc	11 35 05.8	-1.1
	comp=Z,5.9nm,0.7s,baz=70,slow=2.4,SNR=35					
DBIC	**Dimbokro**	**160.38 271**	*e*PKIKP	PKPdf	11 35 08.3	-0.1
DBIC			*e*		11 35 48.3	
DBIC	**Dimbokro**	**160.38 271**	PKP	PKPdf	11 35 07.0	-1.4
	comp=Z,5.2nm,1.0s,baz=121,slow=5.2,SNR=4.1					
DBIC			PKPab	PKPab	11 35 48.7	-0.6
	comp=Z,8.5nm,0.7s,baz=97,slow=3.1,SNR=10					

IDC 10 11:32:14.5±7.9, 2041S×17801W, h487km±95km, mb3.0/7, mb1 3.2/8, mb1mx3.1/15, mbtmp3.0/8, Error ellipse: s-maj=36.0km s-min=22.9km az=28.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.29**	**192**	P	P	11 35 57.7	-0.3
	1.5nm,0.3s,baz=308,slow=5.6,SNR=14						
CTA	**Charters Tower**	**33.49**	**264**	P	P	11 38 12.8	+0.1
	2.3nm,0.4s,baz=83,slow=13,SNR=4.7						
STKA	**Stephens Creek**	**37.82**	**244**	P	P	11 38 49.6	+1.0
	0.9nm,0.5s,baz=96,slow=12,SNR=4.9						
ASAR	**Alice Springs**	**44.53**	**257**	P	P	11 39 42.0	-0.2
	1.7nm,0.8s,baz=95,slow=7.7,SNR=21						
WRA	**Warramunga Arr**	**44.61**	**262**	P	P	11 39 42.2	-0.6
	0.4nm,0.3s,baz=97,slow=7.0,SNR=13						
VNDA	**Vanda**	**58.00**	**185**	P	P	11 41 19.1	-0.1
	0.5nm,0.7s,baz=349,slow=5.2,SNR=6.1						
NVAR	**Mina Array Bea**	**80.96**	**43**	P	P	11 43 37.8	+0.2
	0.2nm,0.4s,baz=225,slow=8.4,SNR=5.3						
TXAR	**Lajitas Array**	**87.01**	**57**	P	P	11 44 08.3	+0.5
	0.1nm,0.3s,baz=223,slow=6.8,SNR=4.0						

*ISCJB **10** 11:51:55.5±0.5, 42.16N±004×25.18E±004, h10km, Error ellipse: s-maj=6.3km s-min=4.2km az=10.7*
*CSEM **10** 11:51:55.3±0.1, 42.17N×2522E, h2km, MD2.7, Error ellipse: s-maj=2.1km s-min=1.8km az=10.0*
*SOF **10** 11:51:55.6, 42.18N×2525E, h7km, MD2.7*
*THE **10** 11:51:56.2, 42.10N×2521E, h3km*
ISC 10 11:51:55.8±0.7, 4217N±005×2522E±005, h5km±8km, n14, σ0§67/19, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIM	**Dimitrovgrad**	**0.26**	**118**	*i* Pg	**Pg**	11 52 02.3	+1.4
PLD	**Plovdiv**	**0.39**	**260**	*e*Pg	**Pg**	11 52 03.2	-0.2
PLD				*e*Sg	**Sg**	11 52 08.6	+0.2
PLD	**Plovdiv**	**0.39**	**260**	*i* Pg	**Pg**	11 52 03.4	+0.1
KDZ	**Kurdzhali**	**0.54**	**164**	*i* Pg	**Pg**	11 52 06.4	+0.2
RZN	**Rozhen**	**0.61**	**218**	*i* Pg	**Pg**	11 52 07.6	0.0
PGB	**Panagyurishte**	**0.87**	**296**	*i* Pg	**Pg**	11 52 13.4	+1.0
PVL	**Pavlikeni**	**1.05**	**5**	*i* Pg	**Pg**	11 52 14.6	-1.2
JMB	**Yambol**	**1.05**	**73**	*e*Pg	**Pn**	11 52 16.8	-0.3
JMB				*e*Sg	**Sn**	11 52 32.0	-0.1
SZH	**Strazhica**	**1.21**	**25**	*i* Pg	**Pn**	11 52 20.0	+0.7
MMB	**Musomiste**	**1.26**	**243**	*i* P	**Pn**	11 52 20.7	+0.8
ALN	**Alexandroupoli**	**1.42**	**154**	*e*Pg	**Pn**	11 52 21.5	-0.6
ALN				*e*Sg	**Sg**	11 52 40.5	-0.8
VTS	**Vitosha**	**1.55**	**286**	*e*Pg	**Pg**	11 52 25.0	-0.5
VTS				*e*Sg	**Sg**	11 52 45.1	-0.4
VTS	**Vitosha**	**1.55**	**286**	*i* P	**Pg**	11 52 25.6	+0.1
VTS				*e*Sg	**Sg**	11 52 45.2	-0.3
KKB	**Krupnik**	**1.62**	**260**	*i* P	**Pg**	11 52 26.2	-0.7

*ISCJB **10** 12:13:27.4±2.0, 44S±02×1550E±02, h521km±31km, mb3.7/10, Error ellipse: s-maj=34.0km s-min=17.8km az=136.5*
*IDC **10** 12:13:29.0±2.3, 448S×1550E, h528km±33km, mb3.2/10, mb1 3.4/12, mb1mx3.3/16, mbtmp3.3/12, Error ellipse: s-maj=26.3km s-min=15.7km az=128.0*
ISC 10 12:13:28.7±1.9, 45S±02×1550E±02, h524km±29km, n13, σ0§58/13, mb3.7/10, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.94**	**136**	P	**P**	12 15 15.1	-0.1
	20nm,0.3s,baz=249,slow=2.4,SNR=15						
CTA	**Charters Tower**	**17.75**	**208**	P	**P**	12 17 06.7	+1.1
	0.6nm,0.3s,baz=278,slow=18,SNR=4.6						
WB2	**Warramunga Arr**	**25.37**	**231**	*e*P	**P**	12 18 14.1	-0.1
WRA	**Warramunga Arr**	**25.38**	**231**	P	**P**	12 18 14.3	+0.1
	2.9nm,0.5s,mb4.2,baz=56,slow=9.2,SNR=44						
ASAR	**Alice Springs**	**27.95**	**225**	P	**P**	12 18 36.4	-0.4
	1.1nm,0.4s,mb3.8,baz=55,slow=9.0,SNR=40						
STKA	**Stephens Creek**	**30.07**	**203**	P	**P**	12 18 55.4	+0.2
	0.8nm,0.4s,mb3.6,baz=109,slow=5.2,SNR=5.7						
FITZ	**Fitzroy Crossi**	**31.80**	**242**	P	**P**	12 19 09.2	-1.0
	2.3nm,0.3s,mb4.1,baz=55,slow=9.7,SNR=49						
KSRS	**Korea Array**	**48.73**	**331**	P	**P**	12 21 25.5	+0.2
	1.5nm,0.7s,mb3.6,baz=150,slow=7.7,SNR=9.6						
SONM	**Songino Array**	**67.24**	**327**	P	**P**	12 23 31.6	+0.9
	1.0nm,0.3s,mb3.8,baz=147,slow=5.0,SNR=19						
MKAR	**Makanchi Array**	**81.54**	**318**	P	**P**	12 24 51.8	+0.4
	1.2nm,0.7s,mb3.4,baz=101,slow=6.3,SNR=8.7						
ZALV	**Zalesovo Beam**	**82.11**	**326**	P	**P**	12 24 53.2	-0.9
	0.9nm,0.6s,mb3.4,baz=93,slow=5.5,SNR=4.0						
NVAR	**Mina Array Bea**	**90.11**	**52**	P	**P**	12 25 32.5	-0.4
	0.3nm,0.7s,mb3.2,baz=256,slow=7.3,SNR=2.7						
YKA	**Yellowknife Ar**	**94.07**	**28**	P	**P**	12 25 50.5	0.0
	0.2nm,0.7s,mb3.4,baz=268,slow=4.8,SNR=3.3						

*ISCJB **10** 12:16:07.8±2.6, 110S±0.1×1662E±0.1, h190km±23km, mb3.9/13, Error ellipse: s-maj=23.8km s-min=17.5km az=169.0*
*IDC **10** 12:16:08.2±3.6, 1091S×16624E, h179km±33km, mb3.6/13, mb1 3.8/14, mb1mx3.7/18, mbtmp3.7/14, Error ellipse: s-maj=22.2km s-min=15.6km az=65.0*
ISC 10 12:16:08.6±2.6, 109S±01×1662E±01, h182km±23km, n15, σ0§49/16, mb3.9/13, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.35**	**283**	P	**Pn**	12 17 40.3	+0.1
	5.3nm,0.3s,baz=187,slow=1.2,SNR=6.7						
HNR				S	**Sn**	12 19 01.4	+8.9
	4.6nm,0.3s,baz=90,slow=20,SNR=2.9						
URZ	**Urewera**	**28.92**	**162**	P	**P**	12 21 50.4	-0.2
	6.4nm,0.4s,mb4.8,baz=4.8,slow=3.1,SNR=14						
STKA	**Stephens Creek**	**30.85**	**224**	P	**P**	12 22 07.8	+0.1
	2.0nm,0.6s,mb4.0,baz=38,slow=12,SNR=4.1						
WB2	**Warramunga Arr**	**31.95**	**250**	*e*P	**P**	12 22 17.4	-0.1
WRA	**Warramunga Arr**	**31.96**	**250**	P	**P**	12 22 17.8	+0.2
	2.4nm,0.4s,mb4.2,baz=84,slow=9.3,SNR=23						
RPZ	**Rata Peaks**	**32.95**	**174**	P	**P**	12 22 25.3	-0.5
	13nm,0.8s,mb4.7,baz=274,slow=13,SNR=4.4						
ASAR	**Alice Springs**	**33.27**	**243**	P	**P**	12 22 28.4	-0.5
	1.0nm,0.9s,mb3.6,baz=76,slow=9.0,SNR=6.9						
FITZ	**Fitzroy Crossi**	**39.86**	**255**	P	**P**	12 23 25.3	+0.5
	5.7nm,0.7s,mb4.3,baz=110,slow=7.9,SNR=8.1						
KSRS	**Korea Array**	**60.04**	**325**	P	**P**	12 25 56.1	-0.2
	0.4nm,0.5s,mb3.5,baz=136,slow=7.8,SNR=3.3						
VNDA	**Vanda**	**66.63**	**181**	P	**P**	12 26 39.4	+0.5
	0.8nm,0.6s,mb3.7,baz=347,slow=7.8,SNR=8.2						
SONM	**Songino Array**	**78.84**	**324**	P	**P**	12 27 50.9	-0.3
	0.3nm,0.3s,mb3.4,baz=133,slow=6.7,SNR=2.9						
NVAR	**Mina Array Bea**	**85.58**	**50**	P	**P**	12 28 27.6	+1.1
	0.4nm,0.7s,mb3.2,baz=242,slow=8.4,SNR=4.3						
ZALV	**Zalesovo Beam**	**93.73**	**324**	P	**P**	12 29 03.9	-0.5
	0.4nm,0.4s,mb3.9,baz=83,slow=4.5,SNR=2.5						
MKAR	**Makanchi Array**	**93.75**	**317**	P	**P**	12 29 05.2	+0.5
	1.0nm,0.7s,mb4.0,baz=91,slow=6.2,SNR=5.4						
YKA	**Yellowknife Ar**	**94.65**	**27**	P	**P**	12 29 07.6	-0.8
	0.1nm,0.5s,mb3.3,baz=259,slow=5.0,SNR=3.1						

IDC 10 12:27:36.0±3.5, 353S×15212E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.5/13, mbtmp3.8/3, Error ellipse: s-maj=116.7km s-min=50.8km az=120.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.81**	**225**	P	P	12 32 51.6	+0.7
	1.7nm,0.5s,baz=50,slow=9.8,SNR=39						
ASAR	**Alice Springs**	**26.66**	**220**	P	P	12 33 16.0	-0.8
	0.2nm,0.5s,baz=52,slow=8.9,SNR=4.9						
FITZ	**Fitzroy Crossi**	**29.70**	**239**	P	P	12 33 44.7	+0.7
	1.4nm,0.4s,baz=51,slow=11,SNR=17						
TORD	**Torodi Ar. Bea**	**149.26**	**290**	PKPbc	PKPbc	12 47 26.5	-1.4
	0.4nm,0.8s,baz=97,slow=2.2,SNR=2.3						

IDC 10 12:52:53.0±1.4, 2183N×14336E, h0km, mb3.4/4, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, Error ellipse: s-maj=49.2km s-min=27.2km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.51**	**323**	P	P	12 57 34.0	+1.3
	0.3nm,0.3s,baz=126,slow=12,SNR=3.1						
SONM	**Songino Array**	**39.34**	**320**	P	P	13 00 23.3	-0.6
	0.3nm,0.5s,baz=136,slow=9.1,SNR=3.3						
ASAR	**Alice Springs**	**46.14**	**192**	P	P	13 01 19.4	0.0
	0.3nm,0.6s,baz=17,slow=11,SNR=9.1						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	P	13 04 43.4	+0.2
	0.3nm,0.6s,baz=292,slow=5.8,SNR=7.2						

*CSEM **10** 13:25:22.8±0.1, 3998N×3963E, h10km, MD3.0, Error ellipse: s-maj=4.0km s-min=2.6km az=89.0*
*DDA **10** 13:25:22.3, 3987N×3943E, h14km±7km, Md3.1*
*ISK **10** 13:25:22.8, 3998N×3965E, h5km, MD3.0*
*ISCJB **10** 13:25:23.6±0.7, 3998N±003×3960E±005, h6km±6km, Error ellipse: s-maj=5.9km s-min=4.3km az=170.6*
ISC 10 13:25:23.7±0.7, 3997N±003×3961E±006, h8km±6km, n17, σ0§97/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.27**	**144**	PG	**Pg**	13 25 29.6	+0.5
GUMT	**Gumushane**	**0.50**	**349**	*e*PG	**Pg**	13 25 33.9	+0.4
GUMT				*e*SG	**Sg**	13 25 40.2	+0.2
KOPT	**Kop Dagi**	**0.69**	**86**	*i* P	**Pg**	13 25 35.5	-1.4
KOPT				*i* S	**Sb**	13 25 49.4	+1.9
KOPT	**Kop Dagi**	**0.69**	**86**	*i* P	**Pg**	13 25 35.5	-1.4
KOPT				*i* S	**Sb**	13 25 49.4	+1.9
MACK	**Trabzon**	**0.98**	**7**	*i* P	**Pg**	13 25 42.0	-0.7
MACK				*i* S	**Sg**	13 25 56.0	+0.7
MACK	**Trabzon**	**0.98**	**7**	*i* P	**Pg**	13 25 42.0	-0.6
MACK				*i* S	**Sg**	13 25 56.0	+0.6
KTUT	**Trabzon**	**1.02**	**7**	*e*PG	**Pg**	13 25 42.9	-0.5
KTUT				*e*SG	**Sg**	13 25 56.4	-0.3
PTK	**Pertek**	**1.09**	**189**	*e*PN	**Pn**	13 25 44.0	-1.2
BINT	**Bingol**	**1.29**	**148**	*e*PN	**Pn**	13 25 47.4	-0.5
EZM	**Erzurum**	**1.35**	**92**	*e*PN	**Pn**	13 25 48.8	-0.1
ERZM	**Erzurum**	**1.35**	**92**	*i* P	**Pn**	13 25 48.6	-0.3
ERZM				*i* S	**Sg**	13 26 11.0	+3.8
GRSN	**GIRESUNGRSN**	**1.40**	**314**	*i* P	**Pn**	13 25 49.0	-0.5
GRSN				*i* S	**Sn**	13 26 08.2	+0.1
GRSN	**GIRESUNGRSN**	**1.40**	**314**	*i* P	**Pn**	13 25 49.0	-0.5
GRSN				*i* S	**Sn**	13 26 08.2	+0.1
ELZG	**Elazig**	**1.55**	**198**	*i* P	**Pn**	13 25 49.5	-2.0
ELZG				*i* S	**Sg**	13 26 17.4	+4.0
MYA	**Malataya**	**1.88**	**210**	*e*PN	**Pn**	13 25 56.3	+0.2
MALT	**Malatya**	**1.89**	**209**	*e*PN	**Pn**	13 25 57.1	+0.8
SVSK	**Karacayir**	**2.01**	**269**	*e*PN	**Pn**	13 25 59.5	+1.7

*ISCJB **10** 13:29:39.3±0.7, 5934N±003×27.13E±009, h0km, Error ellipse: s-maj=6.6km s-min=3.7km az=5.8*
*BER **10** 13:29:41.6±4.8, 5931N×27.15E, h0km, ML2.4(NAO), Suspected explosion*
*HEL **10** 13:29:41.7±0.2, 5932N×2722E, h0km, ML2.0, ML2.4(NAO), Explosion*
*NAO **10** 13:29:41.2±1.1, 5930N×2702E, ML2.4*
*IDC **10** 13:29:43.7±1.2, 5941N×2698E, h0km, mb1 3.2/5, mb1mx3.0/23, mbtmp3.1/5, ML3.1/4, Error ellipse: s-maj=11.8km s-min=8.7km az=103.0*
ISC 10 13:29:40.5±0.6, 5934N±003×2716E±009, h0km, n21, σ1§13/39, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSU	**Vasula**	**0.91**	**194**	*i* P	**Pg**	13 29 57.8	-0.1
VSU				*i* S	**Sg**	13 30 09.3	-0.3
VJF	**Virojoki**	**1.22**	**9**	*e*P	**Pg**	13 30 03.3	-0.6
VJF				*e*SB	**Sb**	13 30 21.1	+0.4
VJF				MSG		13 30 21.1	
	comp=Z,7.8nm,0.2s						
MEF	**Metsahovi**	**1.65**	**303**	*e*PG	**Pg**	13 30 12.0	-0.1
MEF				*e*SG	**Sg**	13 30 33.6	+0.1
MEF				MSG		13 30 33.6	
	comp=Z,7.8nm,0.1s						
MTSE	**Matsula**	**1.84**	**251**	*e*P	**Pn**	13 30 13.5	+0.2
MTSE				*e*SG	**Sg**	13 30 39.6	+0.1
MTSE				MSG		13 30 39.6	
	comp=Z,18nm,0.1s						
FIA0	**FINESS Array S**	**2.18**	**346**	*e*P	**Pn**	13 30 19.2	+1.3
	baz=166						
FIA0				*e*SG	**Sg**	13 30 49.8	-0.6
FIA0				MSG		13 30 49.8	
	comp=Z,8.0nm,0.3s						
FIA0	**FINESS Array S**	**2.18**	**346**	Pn	**Pn**	13 30 19.4	+1.4
	baz=161,slow=18						
FIA0				Lg		13 30 50.4	
	baz=168,slow=28						
FIA0				Rg		13 31 02.6	
	baz=164,slow=37						
FINES	**FINESS Array B**	**2.18**	**346**	Pn	**Pn**	13 30 19.5	+1.5
	comp=Z,1.7nm,0.3s,baz=164,slow=15,SNR=39						
FINES				Pg	**Pg**	13 30 20.7	-1.5
	comp=Z,1.7nm,0.3s,baz=163,slow=17,SNR=37						
FINES				Sn	**Sn**	13 30 47.2	+1.7
	comp=Z,3.6nm,0.3s,baz=166,slow=24,SNR=22						
FINES				Lg		13 30 50.8	
	comp=Z,4.5nm,0.3s,baz=166,slow=31,SNR=29						
FINES				Rg		13 31 03.0	
	comp=Z,2.6nm,0.3s,baz=158,slow=26,SNR=4.4						
FIA1	**FINESS Array S**	**2.18**	**346**	*e*P	**Pn**	13 30 19.6	+1.7
FIA1				*e*SG	**Sg**	13 30 50.6	+0.2
KEF	**Keuruu**	**3.05**	**339**	*e*PB	**Pb**	13 30 34.5	-1.1
KEF				MSG		13 31 25.2	
	comp=Z,7.9nm,0.4s						
RAF	**Rauma**	**3.18**	**304**	*e*P	**Pn**	13 30 33.6	+1.9
	baz=117						
RAF				*e*SB	**Sb**	13 31 17.4	+0.4
RAF				MSG		13 31 17.4	
	comp=Z,5.9nm,0.4s						
SUF	**Sumiainen**	**3.43**	**352**	*e*P	**Pn**	13 30 37.8	+2.7
SUF				*e*SG	**Sg**	13 31 27.0	-3.5
SUF				MSG		13 31 27.0	
	comp=Z,6.5nm,0.4s						
HFS	**Hagfors**	**6.85**	**282**	*e*P	**Pn**	13 31 19.6	-2.5
HFS				*e*SG	**Sg**	13 33 13.6	-6.8
HFS	**Hagfors**	**6.85**	**282**	Pn	**Pn**	13 31 19.6	-2.5
	baz=129,slow=14						
HFS				Sn	**Sn**	13 32 34.9	-5.8
	baz=99,slow=28						
HFS				Lg		13 33 13.6	
	baz=95,slow=28						
HFS	**Hagfors**	**6.85**	**282**	Pn	**Pn**	13 31 21.6	-0.5
	comp=Z,0.2nm,0.3s,baz=103,slow=12,SNR=4.1						
HFS				Sn	**Sn**	13 32 35.4	-5.3
	comp=Z,0.1nm,0.3s,baz=176,slow=40,SNR=3.1						
HFS				Lg		13 33 13.4	
	comp=Z,0.9nm,0.3s,baz=98,slow=32,SNR=7.2						
NB2	**NORSAR Subarra**	**8.12**	**289**	*e*P	**Pn**	13 31 38.6	-0.9
NB2				*e*SG	**Sg**	13 33 52.9	-8.2
NB2	**NORSAR Subarra**	**8.12**	**289**	Pn	**Pn**	13 31 38.6	-0.9
NB2				Lg		13 33 52.9	
	baz=115,slow=37						
NOA	**NORSAR Array B**	**8.12**	**289**	Pn	**Pn**	13 31 38.7	-0.9
	comp=Z,0.2nm,0.3s,baz=90,slow=11,SNR=2.6						
NOA				Sn	**Sn**	13 33 06.0	-6.0
	comp=Z,0.2nm,0.3s,baz=179,slow=4.8,SNR=2.3						
NOA				Lg		13 33 52.8	
	comp=Z,0.5nm,0.3s,baz=225,slow=21,SNR=3.8						
AKASG	**Malin Array Be**	**8.74**	**171**	Pn	**Pn**	13 31 48.5	+0.5
	comp=Z,0.5nm,0.3s,baz=353,slow=13,SNR=2.9						
ARA0	**ARCESS Array S**	**10.26**	**357**	Pn	**Pn**	13 32 08.0	-0.7
	baz=176,slow=12						
ARA0				Sn	**Sn**	13 33 57.2	-7.1
	baz=176,slow=28						
ARA0	**ARCESS Array S**	**10.26**	**357**	*e*P	**Pn**	13 32 08.0	-0.7
ARA0				*e*S	**Sn**	13 33 57.2	-7.1
ARCES	**ARCESS Array B**	**10.26**	**357**	Pn	**Pn**	13 32 07.2	-1.6
	comp=Z,0.2nm,0.3s,baz=174,slow=13,SNR=5.0						
ARCES				Sn	**Sn**	13 33 59.5	-4.8
	comp=Z,0.2nm,0.3s,baz=174,slow=27,SNR=3.6						

*NEIC **10** 13:32:23.8, 1592N×9848W, h3km, MD3.8(MEX), After MEX.*
MEX 10 13:32:23.9±0.5, 1591N×9846W, h5km±5km, MD3.8, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.57**	**34**	*i* P	Pg	13 32 34.4	-0.5
PNIG				*i* S	Sg	13 32 43.0	+0.5
ACX	**Acapulco**	**1.69**	**304**	*i* P	Pn	13 32 49.5	-4.6
ACX				*i* S	Sn	13 33 11.0	-5.1
VHO	**Vista Hermosa**	**2.02**	**55**	*i* P	Pn	13 32 57.2	-1.3
VHO				*i* S	Sn	13 33 21.9	-2.3
VHO	**Vista Hermosa**	**2.02**	**55**	*e*P	Pn	13 32 55.6	-3.0
VHO				*i* S	Sn	13 33 19.6	-4.6
OXX	**Oaxaca**	**2.03**	**55**	*e*P	Pn	13 33 01.0	+2.3
MEIG	**Mezcala**	**2.29**	**331**	*i* P	Pn	13 33 00.5	-1.8
MEIG				*i* S	Sn	13 33 26.4	-4.5
PPM	**Popocatepetl**	**3.14**	**357**	*i* P	Pn	13 33 13.9	-0.1
PPM				*i* S	Sn	13 33 51.4	-0.6
PPM	**Popocatepetl**	**3.14**	**357**	*i* P	Pn	13 33 09.2	-4.8
PPM				*i* S	Sn	13 33 48.0	-3.9
ZIIG	**Zihuatanejo**	**3.34**	**301**	*i* S	Sn	13 33 57.0	+0.2
ZIIG	**Zihuatanejo**	**3.34**	**301**	*i* S	Sn	13 33 54.3	-2.5
MZVM		**3.34**	**347**	*i* P	Pn	13 33 15.1	-1.7
MZVM				*i* S	Sn	13 33 53.4	-3.4
CMIG	**Matias Romero**	**3.62**	**71**	*i* P	Pn	13 33 19.3	-1.4
CMIG				*i* S	Sn	13 33 60.0	-3.8
IIO	**Organos**	**3.67**	**356**	*i* P	Pn	13 33 16.7	-4.5
IIO	**Organos**	**3.67**	**356**	*i* P	Pn	13 33 19.1	-2.2

*CSEM **10** 13:42:18.9±0.1, 4128N×2004E, h2km±1km, ML3.0, Error ellipse: s-maj=2.3km s-min=1.8km az=39.0*
*ISCJB **10** 13:42:18.8±0.5, 4129N±003×2002E±003, h2km, Error ellipse: s-maj=5.2km s-min=2.5km az=33.8*
*TIR **10** 13:42:19.2±2.6, 4130N×2000E, h10km±12km*
*THE **10** 13:42:19.2, 4138N×2006E, h3km, ML3.0*
*NEIC **10** 13:42:20.7, 4

NKY				*i* SG	**Sg**	**13 43 15.2**	**+0.9**
GRG	**Griva**	**1.82**	**99**	*e*Pb	**Pb**	**13 42 51.5**	**-1.9**
BRY	**Bratogost**	**1.96**	**326**	⇑*i*Pn	**Pn**	**13 42 54.5**	**+0.9**
BRY				*e*Sn	**Sg**	**13 43 21.4**	**-0.8**
BRY	**Bratogost**	**1.96**	**326**	*i* PG	**Pg**	**13 42 54.6**	**-2.3**
UPM	**Unac-Piva**	**2.09**	**337**	*e*Pn	**Pn**	**13 42 56.8**	**+1.4**
UPM				*e*Sn	**Sg**	**13 43 24.6**	**-1.9**
PLE	**Pljevlja**	**2.10**	**347**	⇑*i*Pn	**Pn**	**13 42 56.3**	**+0.8**
PLE				*e*Sn	**Sg**	**13 43 24.8**	**-2.0**

*IDC **10** 13:44:42.9±4.1, 3.19N×9588E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/20, mbtmp3.6/4, Error ellipse: s-maj=161.6km s-min=27.6km az=58.0*
*ISCJB **10** 13:44:48.0±2.2, 35N±03×965E±03, h33km, mb3.6/4, Error ellipse: s-maj=53.3km s-min=19.4km az=38.5*

ISC 10 13:44:50.7±2.3, 36N±03×966E±03, h35km, n5, σ1§38/5, mb3.6/4, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**1.97**	**93**	‖*e*P	**Pn**	**13 45 21.0**	**-0.5**
WRA	**Warramunga Arr**	**43.83**	**124**	P	**P**	**13 52 54.1**	**+0.4**
	0.2nm,0.5s,mb3.1,baz=302,slow=9.1,SNR=2.7						
MKAR	**Makanchi Array**	**44.79**	**346**	P	**P**	**13 53 00.3**	**-0.6**
	0.7nm,0.5s,mb3.8,baz=158,slow=8.7,SNR=13						
SONM	**Songino Array**	**44.88**	**9**	P	**P**	**13 53 03.4**	**+1.8**
	0.5nm,0.6s,mb3.5,baz=188,slow=7.6,SNR=4.4						
ZALV	**Zalesovo Beam**	**51.12**	**351**	P	**P**	**13 53 48.9**	**-0.9**
	0.8nm,0.4s,mb4.0,baz=174,slow=7.4,SNR=5.5						

*ISCJB **10** 14:02:40.7±0.3, 763S±006×15562E±005, h10km, mb4.6/44, MS3.9/10, Error ellipse: s-maj=8.2km s-min=7.1km az=17.3*
*BJI **10** 14:02:40.5, 7615×15587E, h12km, mB5.1, mb4.8, Ms4.9, Msz4.5*
*NEIC **10** 14:02:41.8±0.3, 7685×15562E, h10km, mb4.7/24, Error ellipse: s-maj=10.3km s-min=7.7km az=132.0*
*MOS **10** 14:02:44.2±0.9, 7545×15569E, h33km, mb5.0/14, Error ellipse: s-maj=15.7km s-min=10.0km az=111.5*
*IDC **10** 14:02:47.6±2.9, 7745×15560E, h51km±28km, mb4.2/15, mb1 4.2/16, mb1mx4.2/18, mbtmp4.2/16, ML3.6/1, MS3.5/8, Ms1 3.5/8, ms1mx3.3/25, Error ellipse: s-maj=16.9km s-min=14.9km az=122.0*

ISC 10 14:02:42.4±0.3, 767S±006×15560E±005, h10km, n91, σ1§15/90, mb4.6/44, MS3.9/10, 1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.64**	**112**	P	**Pn**	**14 03 53.9**	**+1.4**
HNR				S	**Sn**	**14 04 47.9**	**+1.4**
HNR	**Honiara**	**4.64**	**112**	P	**Pn**	**14 03 53.9**	**+1.3**
	2.6nm,0.3s,baz=185,slow=1.7,SNR=2.9						
HNR				S	**Sn**	**14 04 47.9**	**+1.4**
	12nm,0.3s,baz=271,slow=15,SNR=2.8						
HNR				LR	LR	14 05 29.7	
	comp=Z,406nm,20.3s,baz=347,slow=35						
CTA	**Charters Tower**	**15.31**	**215**	*e*P	**Pn**	**14 06 26.2**	**+7.5**
	19nm,0.9s						
CTA	**Charters Tower**	**15.31**	**215**	*e*P	**Pn**	**14 06 26.2**	**+7.5**
CTA				pmax	pmax		
	comp=Z,19nm,0.9s						
CTA	**Charters Tower**	**15.31**	**215**	P	**Pn**	**14 06 26.4**	**+7.7**
	comp=Z,0.3nm,0.3s,baz=44,slow=13,SNR=7.7						
CTA				LR	LR	14 11 13.3	
	comp=Z,196nm,21.9s,baz=151,slow=33						
CTAO	**Charters Tower**	**15.31**	**215**	*e*P	**Pn**	**14 06 25.9**	**+7.2**
CTAO				pmax	pmax		
	comp=Z,33nm,1.0s						
CTAO	**Charters Tower**	**15.31**	**215**	*e*Pn	**Pn**	**14 06 25.9**	**+7.2**
	comp=Z,33nm,1.0s						
KAKA	**Kakadu**	**23.33**	**256**	*e*P	**P**	**14 07 51.3**	**+0.2**
	comp=Z,4.3nm,0.5s,mb4.1						
GUMO	**Guam**	**23.66**	**333**	LR	LR	14 15 46.6	
	comp=Z,73nm,19.4s,MS3.2,baz=89,slow=33						
WRAB	**Tennant Creek**	**23.93**	**237**	*e*P	**P**	**14 07 56.9**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
WRAB	**Tennant Creek**	**23.93**	**237**	*e*P	**P**	**14 07 56.9**	**+0.1**
	comp=Z,9.4nm,0.9s,mb4.2						
WB2	**Warramunga Arr**	**23.93**	**237**	*e*P	**P**	**14 07 56.6**	**-0.2**
WRA	**Warramunga Arr**	**23.95**	**237**	P	**P**	**14 07 57.0**	**0.0**
	comp=Z,7.1nm,0.9s,mb4.1,baz=61,slow=9.6,SNR=21						
ASAR	**Alice Springs**	**26.19**	**230**	P	**P**	**14 08 16.5**	**-0.9**
	comp=Z,4.4nm,0.9s,mb4.0,baz=62,slow=8.8,SNR=18						
ASAR				PcP	PcP	14 11 41.5	-2.9
	comp=Z,0.8nm,0.9s,baz=50,slow=4.1,SNR=4.4						
STKA	**Stephens Creek**	**27.39**	**207**	*e*P	**P**	**14 08 24.6**	**-3.5**
	comp=Z,4.5nm,1.0s,mb4.0						
STKA	**Stephens Creek**	**27.39**	**207**	P	**P**	**14 08 29.1**	**+1.0**
	comp=Z,4.9nm,0.9s,mb4.0,baz=24,slow=11,SNR=8.1						
STKA				LR	LR	14 18 05.4	
	comp=Z,184nm,20.1s,MS3.6,baz=25,slow=34						
FITZ	**Fitzroy Crossi**	**30.94**	**247**	*e*P	**P**	**14 08 58.6**	**-1.2**
	comp=Z,4.7nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.94**	**247**	P	**P**	**14 08 59.4**	**-0.4**
	comp=Z,2.2nm,0.6s,mb4.2,baz=85,slow=15,SNR=12						
CBIJ	**Chichi jima**	**36.93**	**340**	LR	LR	14 22 14.7	
	comp=Z,101nm,18.1s,MS3.6,baz=164,slow=32						
MBWA	**Marble Bar**	**37.13**	**245**	*e*P	**P**	**14 09 52.9**	**-0.6**
	comp=Z,32nm,1.3s,mb5.0						
NWAO	**Narrogin (SRO)**	**43.51**	**229**	P	**P**	**14 10 44.5**	**-1.7**
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.9s						
NWAO	**Narrogin (SRO)**	**43.51**	**229**	P	**P**	**14 10 44.5**	**-1.7**
	comp=Z,6.8nm,0.9s,mb4.4						
KSM	**Kuching**	**46.08**	**279**	*e*P	**P**	**14 11 07.3**	**+0.3**
JNU	**Nakatsue**	**46.89**	**331**	P	**P**	**14 11 13.4**	**+0.4**
	comp=Z,7.8nm,0.8s,mb4.7,baz=132,slow=8.8,SNR=4.9						
MJAR	**Matsushiro Arr**	**46.91**	**341**	P	**P**	**14 11 12.8**	**-0.3**
	comp=Z,7.6nm,0.7s,mb4.8,baz=163,slow=6.9,SNR=45						
MAJO	**Matsushiro**	**46.91**	**341**	*e*P	**P**	**14 11 12.7**	**-0.4**
MAJO				pmax	pmax		
	comp=Z,14nm,0.7s,mb5.0						
MAJO	**Matsushiro**	**46.91**	**341**	*e*P	**P**	**14 11 12.7**	**-0.4**
	comp=Z,14nm,0.7s,mb5.0						
MAT	**Matsushiro**	**46.91**	**341**	P	**P**	**14 11 12.9**	**-0.2**
KSRS	**Korea Array**	**51.81**	**332**	P	**P**	**14 11 51.4**	**+0.8**
	comp=Z,3.3nm,0.8s,mb4.3,baz=143,slow=7.2,SNR=18						
KSRS				LR	LR	14 30 12.7	
	comp=Z,38nm,21.1s,MS3.4,baz=199,slow=32						
NJ2	**Nanjing**	**52.82**	**320**	*e*P	**P**	**14 11 59.4**	**+1.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
ASAJ	**Asahikawa**	**52.87**	**348**	P	**P**	**14 11 59.0**	**+0.7**
	comp=Z,4.2nm,0.5s,mb4.6,baz=202,slow=23,SNR=5.5						
ASAJ				LR	LR	14 29 48.2	
	comp=Z,59nm,22.0s,MS3.6,baz=214,slow=31						
YSS	**Yuzh-Sakhalins**	**55.57**	**349**	*e*P	**P**	**14 12 18.0**	**+0.1**
YSS				*e*		14 12 26.5	
YSS	**Yuzh-Sakhalins**	**55.57**	**349**	*e*P	**P**	**14 12 18.4**	**+0.5**
	comp=Z,6.7nm,0.8s,mb4.7						
MDJ	**Mudanjiang**	**57.09**	**338**	P	**P**	**14 12 31.8**	**+3.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.7						
MDJ	**Mudanjiang**	**57.09**	**338**	*e*P	**P**	**14 12 30.3**	**+1.5**
	comp=Z,7.4nm,0.8s,mb4.8						
GYA	**Guiyang**	**58.34**	**307**	P	**P**	**14 12 40.5**	**+2.5**
GYA				PCP	PcP	14 13 28.9	-0.1
GYA				PP	PP	14 14 54.2	+6.9
GYA				PCS	PcS	14 17 29.4	-1.3
GYA				S	**S**	**14 20 34.6**	**-6.3**
GYA				SS	SS	14 24 31.1	-2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,6.7s						
GYA				LR	LR		
	comp=N,480nm,19.9s,MS4.7						
GYA				LR	LR		
	comp=E,340nm,18.7s,MS4.7						
GYA				LR	LR		
	comp=Z,390nm,18.6s,MS4.5						
HABR	**Khabarovsk**	**58.76**	**344**	*e*P	**P**	**14 12 41.1**	**+0.6**
HABR				*e*		14 13 24.6	
HABR				S	**S**	**14 20 36.3**	**-9.2**
HABR				pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0						
KLR	**Kul'dur**	**60.39**	**342**	*e*P	**P**	**14 12 47.3**	**-4.4**
KMI	**Kunming**	**60.89**	**304**	P	**P**	**14 12 57.8**	**+2.1**
KMI				S	**S**	**14 21 08.2**	**-5.7**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.3s,mb4.5						
KMI				LR	LR		
	comp=Z,47nm,17.6s,MS3.7						
HHC	**Hu-ho-hao-te**	**62.99**	**324**	*e*P	**P**	**14 13 13.7**	**+4.2**
HHC				S	**S**	**14 21 42.8**	**+2.9**
HHC				SS	SS	14 25 46.4	+0.7
HHC				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.2						
HHC				AMB	AMB		
	comp=Z,147nm,6.4s						
HHC				LR	LR		
	comp=N,221nm,16.8s,MS4.5						
HHC				LR	LR		
	comp=E,177nm,14.7s,MS4.5						
HHC				LR	LR		
	comp=Z,187nm,15.8s,MS4.4						
HIA	**Hailar**	**64.79**	**335**	*e*P	**P**	**14 13 19.7**	**-1.4**
HIA				pmax	pmax		
	comp=Z,9.0nm,0.8s						
HIA	**Hailar**	**64.79**	**335**	*e*P	**P**	**14 13 19.7**	**-1.4**
	comp=Z,8.7nm,0.8s,mb4.8						
LZH	**Lanzhou**	**65.22**	**316**	*e*P	**P**	**14 13 26.3**	**+2.1**
LZH				PP	PP	14 15 54.3	+6.4
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,125nm,6.2s						
LZH				LR	LR		
	comp=N,365nm,17.2s						
LZH				LR	LR		
	comp=Z,502nm,18.5s,MS4.8						
MA2	**Magadan**	**67.14**	**357**	*e*P	**P**	**14 13 35.9**	**-0.1**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MA2	**Magadan**	**67.14**	**357**	*e*P	**P**	**14 13 35.8**	**-0.2**
	comp=Z,7.7nm,0.8s,mb4.8						
CLNS	**Chul'man**	**69.05**	**343**	*e*P	**P**	**14 13 48.3**	**+0.2**
CLNS				pmax	pmax		
	comp=N,16nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.1						
CLNS				pmax	pmax		
	comp=E,11nm,0.6s						
VNDA	**Vanda**	**69.89**	**179**	P	**P**	**14 13 53.2**	**+0.1**
	comp=E,1.0nm,1.1s,mb3.7,baz=18,slow=2.7,SNR=3.6						
ULN	**Ulaanbaatar**	**69.89**	**327**	P	**P**	**14 13 55.6**	**+2.1**
ULN				*e*		14 14 08.6	
ULN				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
ULN	**Ulaanbaatar**	**69.89**	**327**	P	**P**	**14 13 55.6**	**+2.1**
	comp=Z,5.3nm,1.0s,mb4.4						
ULN				*e*		14 14 08.6	
SONM	**Songino Array**	**70.23**	**327**	P	**P**	**14 13 56.6**	**+1.1**
	comp=Z,3.1nm,0.8s,mb4.3,baz=147,slow=5.3,SNR=13						
SONM				LR	LR	14 42 54.5	
	comp=Z,47nm,18.7s,MS3.8,baz=62,slow=34						
SEY	**Seymchan**	**70.44**	**358**	‖*e*P	**P**	**14 13 55.5**	**-1.0**
LSA	**Lhasa**	**72.15**	**304**	P	**P**	**14 14 09.2**	**+1.6**
LSA	**Lhasa**	**72.15**	**304**	*e*P	**P**	**14 14 09.3**	**+1.7**
LSA				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.7						
LSA	**Lhasa**	**72.15**	**304**	*e*P	**P**	**14 14 09.3**	**+1.7**
	comp=Z,4.9nm,0.5s,mb4.7						
YAK	**Yakutsk**	**72.34**	**348**	*e*P	**P**	**14 14 08.3**	**+0.3**
YAK				pmax	pmax		
	comp=Z,24nm,1.0s,mb5.1						
YAK				pmax	pmax		
	comp=N,9.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,5.0nm,1.2s						
YAK	**Yakutsk**	**72.34**	**348**	*e*P	**P**	**14 14 08.4**	**+0.4**
	comp=E,14nm,0.8s,mb5.0						
ZAK	**Zakamensk**	**73.38**	**328**	*e*P	**P**	**14 14 13.7**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.8						
BOD	**Bodaibo**	**73.46**	**338**	*e*P	**P**	**14 14 15.1**	**+0.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
BILL	**Bilibino**	**75.91**	**4**	*e*P	**P**	**14 14 27.8**	**-0.9**
BILL				pmax	pmax		
	comp=Z,15nm,0.8s,mb5.0						
BILL	**Bilibino**	**75.91**	**4**	*e*P	**P**	**14 14 28.6**	**-0.2**
	comp=Z,15nm,0.8s,mb5.0						
SVW2	**Sparrevohn**	**78.39**	**22**	*e*P	**P**	**14 14 41.4**	**-1.5**
WMQ	**Urumqi**	**79.73**	**317**	*e*P	**P**	**14 14 52.0**	**+1.4**
TIXI	**Tiksi**	**81.11**	**352**	*e*P	**P**	**14 14 55.6**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.5s,mb4.3						
TIXI	**Tiksi**	**81.11**	**352**	*e*P	**P**	**14 14 56.9**	**-0.5**
	comp=Z,14nm,1.5s,mb4.7						
SML	**Sawmill**	**81.60**	**23**	*e*P	**P**	**14 14 58.0**	**-2.2**
MCK	**McKinley**	**82.46**	**22**	*e*P	**P**	**14 15 02.4**	**-2.2**
MCK				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.7						
MCK	**McKinley**	**82.46**	**22**	*e*P	**P**	**14 15 02.4**	**-2.3**
	comp=Z,8.7nm,0.9s,mb4.7						
COLA	**College**	**83.49**	**21**	*e*P	**P**	**14 15 08.2**	**-1.8**
COLA				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
COLA	**College**	**83.49**	**21**	*e*P	**P**	**14 15 08.2**	**-1.8**
	comp=Z,4.4nm,0.8s,mb4.5						
MK31	**Makanchi Array**	**84.31**	**319**	*e*P	**P**	**14 15 15.1**	**+0.5**
MKAR	**Makanchi Array**	**84.31**	**319**	P	**P**	**14 15 14.9**	**+0.3**
	comp=Z,9.4nm,0.7s,mb5.0,baz=103,slow=6.0,SNR=72						
ZAA0	**Zalesovo Array**	**85.07**	**326**	*e*P	**P**	**14 15 17.2**	**-1.0**
ZALV	**Zalesovo Beam**	**85.07**	**326**	P	**P**	**14 15 17.4**	**-0.9**
ZALV	**Zalesovo Beam**	**85.07**	**326**	P	**P**	**14 15 17.4**	**-0.8**
	comp=Z,3.5nm,0.5s,mb4.7,baz=108,slow=5.6,SNR=16						
ZAL	**Zalesovo**	**85.08**	**326**	P	**P**	**14 15 17.4**	**-0.9**
EGAK	**Eagle**	**85.91**	**23**	*e*P	**P**	**14 15 21.8**	**-0.4**
	comp=Z,3.1nm,0.9s,mb4.5						
KURK	**Kurchatov**	**87.73**	**322**	P	**P**	**14 15 30.4**	**-1.0**
TKM2	**Tokmak 2**	**87.92**	**314**	P	**P**	**14 15 31.9**	**-0.6**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.4						
TKM2	**Tokmak 2**	**87.92**	**314**	P	**P**	**14 15 31.9**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.4						
UCH	**Uchtor**	**88.55**	**313**	*e*P	**P**	**14 15 37.7**	**+2.2**
	comp=Z,2.2nm,1.0s,mb4.4						
AML	**Almayashu**	**89.13**	**313**	*e*P	**P**	**14 15 38.0**	**-0.2**
	comp=Z,3.8nm,0.9s,mb4.7						
INK	**Inuvik**	**90.14**	**21**	*e*P	**P**	**14 15 40.9**	**-1.5**
NVAR	**Mina Array Bea**	**91.66**	**52**	P	**P**	**14 15 51.0**	**+0.8**
NVAR	**Mina Array Bea**	**91.66**	**52**	P	**P**	**14 15 51.0**	**+0.8**
	comp=Z,0.9nm,0.5s,mb4.4,baz=265,slow=6.8,SNR=11						
BVAR	**Borovoye Array**	**93.19**	**323**	P	**P**	**14 15 55.7**	**-1.1**
	comp=Z,0.7nm,0.7s,mb4.2,baz=100,slow=4.4,SNR=3.0						
YKA	**Yellowknife Ar**	**96.65**	**28**	P	**P**	**14 16 11.5**	**-1.0**
	comp=Z,1.5nm,0.6s,mb4.6,baz=265,slow=4.5,SNR=19						
AKASG	**Malin Array Be**	**118.44**	**324**	PKP	PKPdf	14 21 29.5	-0.8
	comp=Z,0.5nm,0.5s,baz=71,slow=1.8,SNR=2.6						
NOA	**NORSAR Array B**	**120.53**	**341**	PKP	PKPdf	14 21 32.9	-1.1
	comp=Z,0.3nm,0.4s,baz=55,slow=2.4,SNR=3.6						
BDFB	**Brasília**	**147.08**	**135**	PKPbc	PKPbc	14 22 25.1	-1.5
	comp=Z,2.5nm,0.6s,baz=182,slow=12,SNR=5.6						
TORD	**Torodi Ar. Bea**	**153.78**	**284**	PKPbc	PKPbc	14 22 41.5	-1.4
	comp=Z,1.4nm,0.9s,baz=70,slow=1.5,SNR=6.1						
DBIC	**Dimbokro**	**160.59**	**268**	PKPab	PKPab	14 23 24.3	-0.9
	comp=Z,2.7nm,0.9s,baz=164,slow=7.4,SNR=2.8						

*CSEM **10** 14:03:30.5±0.1, 3869N×3575E, h2km, MD3.4, Error ellipse: s-maj=3.1km s-min=2.5km az=69.0*
*ISK **10** 14:03:31.7, 3870N×3576E, h9km, MD3.4*
*ISCJB **10** 14:03:32.3±0.6, 3870N±003×3573E±004, h8km±6km, Error ellipse: s-maj=6.4km s-min=4.6km az=38.1*
*DDA **10** 14:03:33.9, 3861N×3551E, h11km, Md3.2*

ISC 10 14:03:32.5±0.8, 3869N±004×3574E±004, h7km±7km, n16, σ1§02/22, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.19**	**28**	PG	**Pg**	**14 03 35.4**	**-0.8**
BNN				*e*SG	**Sg**	**14 03 38.6**	**-0.2**
AVNT	**Avonos**	**0.69**	**278**	*i* P	**Pg**	**14 03 44.7**	**-1.1**
AVNT				*i* S	**Sg**	**14 03 55.7**	**+0.9**
YOZ	**Yozgat**	**1.00**	**341**	*e*PG	**Pg**	**14 03 51.5**	**-0.3**
YOZ				*e*SG	**Sg**	**14 04 05.5**	**+0.7**
NIG	**Nigde**	**1.06**	**237**	*e*PN	**Pn**	**14 03 52.5**	**-1.1**
KOZT	**Kozan**	**1.21**	**177**	*e*PN	**Pn**	**14 03 56.4**	**+0.6**
CDAG	**Cicekdag**	**1.41**	**312**	*i* P	**Pn**	**14 03 56.5**	**-2.1**
CDAG				*i* S	**Sb**	**14 04 17.3**	**-0.1**
KARA	**Karaisali**	**1.52**	**201**	*e*PN	**Pn**	**14 03 59.5**	**-0.6**
SVSK	**Karacayir**	**1.57**	**38**	*e*PN	**Pn**	**14 03 59.7**	**-1.1**
CORM	**Corum**	**1.72**	**330**	*e*PN	**Pn**	**14 04 02.8**	**0.0**
GZT	**Gaziantep**	**1.96**	**132**	*i* P	**Pn**	**14 04 08.1**	**+2.0**
GZT				*i* S	**Sg**	**14 04 39.8**	**+4.3**
MERS	**Mersin**	**2.06**	**208**	*e*PN	**Pn**	**14 04 08.2**	**+0.8**
CTKT	**Corum**	**2.07**	**340**	*i* P	**Pn**	**14 04 09.1**	**+1.5**
CTKT				*i* S	**Sg**	**14 04 41.9**	**+3.0**
MYA	**Malataya**	**2.14**	**99**	*e*PN	**Pn**	**14 04 08.4**	**-0.2**
MALT	**Malatya**	**2.14**	**99**	*e*PN	**Pn**	**14 04 08.8**	**+0.2**
SVRC	**Sivrice-ELAZID**	**2.82**	**95**	*e*PN	**Pn**	**14 04 17.5**	**-0.4**
PTK	**Pertek**	**2.86**	**85**	*e*PN	**Pn**	**14 04 18.7**	**+0.2**

*BJI **10** 14:03:40.3, 2170N×143.10E, h30km, mB4.8, mb4.5, Ms4.2, Msz4.0*
*ISCJB **10** 14:03:41.6±0.7, 217N±0.1×143.1E±0.1, h33km, mb4.3/21, MS3.9/1, Error ellipse: s-maj=17.6km s-min=14.4km az=146.9*
*NEIC **10** 14:03:43.4±0.5, 2172N×14308E, h35km, mb4.4/8, Error ellipse: s-maj=16.4km s-min=13.2km az=66.0*
*IDC **10** 14:03:47.6±9.9, 2174N×14304E, h75km±89km, mb3.7/10, mb1 3.8/10, mb1mx3.8/20, mbtmp3.7/10, Error ellipse: s-maj=37.1km s-min=17.3km az=77.0*

ISC 10 14:03:47.8±6.7, 217N±01×1431E±02, h73km±61km, n28, σ1§02/25, mb4.2/21, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.47**	**323**	P	**P**	**14 08 18.4**	**-1.1**
	2.7nm,0.9s,baz=152,slow=11,SNR=5.2						
HHC	**Hu-ho-hao-te**	**32.78**	**313**	*e*P	**P**	**14 10 15.7**	**+1.8**
HHC				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,179nm,5.4s						
HHC				LR	LR		
	comp=N,148nm,17.6s						
HHC				LR	LR		
	comp=E,208nm,16.1s						
HHC				LR	LR		
	comp=Z,144nm,15.7s						
CD2	**Chengdu**	**36.30**	**293**	*e*P	**P**	**14 10 46.0**	**+1.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
LZH	**Lanzhou**	**36.99**	**302**	P	**P**	**14 10 50.2**	**0.0**
LZH				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,83nm,4.8s						
ULN	**Ulaanbaatar**	**38.92**	**321**	*e*P	**P**	**14 11 05.7**	**-0.6**
	comp=Z,2.0nm,0.8s,mb4.0						
SONM	**Songino Array**	**39.29**	**320**	P	**P**	**14 11 08.6**	**-0.8**
	comp=Z,1.6nm,0.6s,mb4.0,baz=129,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**42.28**	**192**	P	**P**	**14 11 34.4**	**+0.1**
	comp=Z,1.7nm,0.9s,mb3.8,baz=13,slow=8.3,SNR=4.7						
ASAR	**Alice Springs**	**45.99**	**192**	P	**P**	**14 12 03.0**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=18,slow=10.0,SNR=12						
WMQ	**Urumqi**	**50.53**	**309**	*e*P	**P**	**14 12 40.0**	**+1.3**
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**14 13 04.1**	**-1.3**
ZALV	**Zalesovo Beam**	**54.16**	**322**	P	**P**	**14 13 04.1**	**-1.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=105,slow=6.5,SNR=8.9						
MKAR	**Makanchi Array**	**54.65**	**313**	P	**P**	**14 13 08.8**	**-0.3**
	comp=Z,0.7nm,0.6s,mb3.9,baz=90,slow=9.2,SNR=13						
KURK	**Kurchatov**	**57.43**	**317**	*e*Pn	**P**	**14 13 28.0**	**-0.8**
	comp=Z,2.9nm,0.9s,mb4.3						
KURK				*e*		14 13 33.4	
TKM2	**Tokmak 2**	**59.29**	**308**	*e*P	**P**	**14 13 42.2**	**+0.3**
	comp=Z,2.2nm,0.8s,mb4.2						
UCH	**Uchtor**	**60.12**	**307**	*e*P	**P**	**14 13 48.9**	**+1.2**
	comp=Z,3.6nm,1.1s,mb4.3						
PMR	**Palmer**	**60.56**	**31**	P	**P**	**14 13 52.2**	**+2.0**
	comp=Z,2.2nm,1.0s,mb4.1						
AML	**Almayashu**	**60.74**	**307**	*e*P	**P**	**14 13 52.6**	**+0.8**
	comp=Z,2.7nm,0.9s,mb4.3						
AML				*e*		14 13 58.8	
BVAR	**Borovoye Array**	**62.62**	**319**	P	**P**	**14 14 04.1**	**-0.2**
	comp=Z,4.1nm,0.6s,mb4.5,baz=91,slow=7.6,SNR=18						
BRVK	**Borovoye**	**62.69**	**320**	*e*P	**P**	**14 14 04.4**	**-0.4**
	comp=Z,2.8nm,0.6s,mb4.4						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**14 15 28.9**	**-0.4**
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**14 15 28.9**	**-0.4**
	comp=Z,1.0nm,0.6s,mb3.7,baz=290,slow=5.8,SNR=13						
RES	**Resolute Bay**	**77.07**	**13**	*e*P	**P**	**14 15 31.8**	**-0.8**
	comp=Z,52nm,0.8s,mb5.3						
NVAR	**Mina Array Bea**	**83.17**	**51**	P	**P**	**14 16 07.0**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.6,baz=272,slow=5.9,SNR=4.5						
FFC	**Flin Flon**	**85.84**	**32**	*e*P	**P**	**14 16 19.1**	**-0.1**
	comp=Z,4.1nm,0.8s,mb4.4						
AKASG	**Malin Array Be**	**87.46**	**324**	P	**P**	**14 16 25.0**	**-2.2**
	comp=Z,0.3nm,0.3s,mb3.7,baz=51,slow=4.9,SNR=4.2						
DBIC	**Dimbokro**

IDC 10 15:37:09.0±1.3,2186N×14310E,h0km,mb3.4/6, mb1 3.6/6,mb1mx3.5/18,mbtmp3.4/6,Error ellipse: s-maj=51.7km s-min=22.3km az=81.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.16**	**320**	P	P	15 44 39.3	+0.9
	0.5nm,0.6s,baz=130,slow=7.1,SNR=4.3						
WRA	**Warramunga Arr**	**42.41**	**192**	P	P	15 45 04.9	-0.6
	0.2nm,0.3s,baz=22,slow=8.7,SNR=4.7						
ASAR	**Alice Springs**	**46.12**	**192**	P	P	15 45 35.6	+0.5
	0.3nm,0.6s,baz=14,slow=9.4,SNR=8.1						
ZALV	**Zalesovo Beam**	**54.03**	**322**	P	P	15 46 34.9	-0.1
	0.3nm,0.3s,baz=123,slow=5.3,SNR=2.8						
MKAR	**Makanchi Array**	**54.53**	**313**	P	P	15 46 38.1	-0.6
	0.2nm,0.7s,baz=98,slow=8.9,SNR=3.1						
YKA	**Yellowknife Ar**	**76.35**	**28**	P	P	15 48 59.7	0.0
	0.2nm,0.4s,baz=291,slow=5.6,SNR=4.0						

*BJI **10** 15:46:25.6,2193N×14356E,h24km,mB4.9,mb4.7,Ms4.5, Msz4.3*
*IDC **10** 15:46:25.7±0.6,2191N×14308E,h0km,mb4.4/13, mb1 4.5/14,mb1mx4.4/23,mbtmp4.3/14,ML3.4/1,MS3.4/9, Ms1 3.4/9,ms1mx3.3/25,Error ellipse: s-maj=24.6km s-min=13.7km az=89.0*
*NEIC **10** 15:46:27.4±0.2,2193N×143.13E,h10km,mb4.7/36,Error ellipse: s-maj=6.6km s-min=5.2km az=91.0*
*MOS **10** 15:46:29.0±1.0,2195N×14302E,h33km,mb5.0/33,Error ellipse: s-maj=13.3km s-min=6.8km az=103.0*
*ISCJB **10** 15:46:33.9±1.2,2190N±005×14308E±005,h76km±10km, mb4.6/75,Error ellipse: s-maj=7.7km s-min=7.1km az=15.1*

ISC 10 15:46:36.4±1.1,2190N±005×14309E±005,h83km±10km, n147,σ1§00/149,mb4.6/75,6C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.44**	**168**	LR	LR	15 51 03.6	
	comp=Z,164nm,21.9s,baz=227,slow=33						
JOW	**Kunigami**	**14.36**	**293**	LR	LR	15 54 40.7	
	comp=Z,226nm,18.7s,baz=139,slow=34						
MJAR	**Matsushiro Arr**	**15.20**	**345**	Pn	**Pn**	**15 49 59.8**	**-6.6**
	0.2nm,0.3s,baz=150,slow=10,SNR=5.3						
MAJO	**Matsushiro**	**15.20**	**345**	*e*P	**Pn**	**15 50 08.1**	**+1.7**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**15.20**	**345**	*e*Pn	**Pn**	**15 50 08.1**	**+1.7**
	comp=Z,13nm,0.9s						
MAT	**Matsushiro**	**15.20**	**345**	P	**Pn**	**15 50 06.6**	**+0.2**
JNU	**Nakatsue**	**15.55**	**319**	Pn	**Pn**	**15 50 17.8**	**+6.9**
	comp=Z,0.1nm,0.3s,baz=119,slow=15,SNR=5.4						
NACB	**Ninganchiao**	**19.91**	**281**	P	**Pn**	**15 51 02.7**	**-1.1**
YHNB	**Yeheng**	**20.13**	**282**	P	**P**	**15 51 07.3**	**+3.4**
KSRS	**Korea Array**	**20.30**	**323**	P	**P**	**15 51 03.7**	**-1.8**
	comp=Z,1.5nm,0.9s,baz=128,slow=9.1,SNR=3.3						
KSRS				LR	LR	15 57 50.5	
	comp=Z,110nm,19.2s,baz=163,slow=34						
INCN	**Inchon**	**21.06**	**321**	P	**P**	**15 51 12.7**	**-1.0**
ASAJ	**Asahikawa**	**22.16**	**359**	LR	LR	16 00 09.3	
	comp=Z,54nm,18.4s,baz=194,slow=37						
VLA	**Vladivostok**	**23.13**	**339**	*e*P	**P**	**15 51 33.6**	**-1.7**
VLA				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.2						
NJ2	**Nanjing**	**23.80**	**300**	*e*P	**P**	**15 51 42.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
YSS	**Yuzh-Sakhalins**	**25.00**	**359**	*e*P	**P**	**15 51 51.2**	**-1.1**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YSS	**Yuzh-Sakhalins**	**25.00**	**359**	*e*P	**P**	**15 51 51.4**	**-0.9**
	comp=Z,10nm,0.9s,mb4.3						
MDJ	**Mudanjiang**	**25.24**	**337**	P	**P**	**15 51 54.4**	**-0.2**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,50nm,5.2s						
MDJ	**Mudanjiang**	**25.24**	**337**	P	**P**	**15 51 54.2**	**-0.4**
	comp=Z,6.9nm,0.8s,mb4.1						
SNY	**Shenyang**	**25.76**	**325**	⇑P	**P**	**15 51 58.4**	**-0.9**
SNY				AMB	AMB		
	comp=Z,18nm,0.9s,mb4.5						
SNY				AMB	AMB		
	comp=Z,180nm,4.7s						
HABR	**Khabarovsk**	**27.28**	**348⇑**	*e*P	**P**	**15 52 12.9**	**0.0**
HABR				*e*		15 53 03.4	
HABR				*e*		15 55 27.3	
HABR				*e*S	**S**	**15 56 48.0**	**+1.8**
HABR				*e*		15 58 09.4	
HABR				*e*		16 02 51.8	
HABR				pmax	pmax		
	comp=Z,42nm,1.5s,mb4.8						
KLR	**Kul'dur**	**28.72**	**344**	*e*P	**P**	**15 52 20.7**	**-5.0**
KLR				pmax	pmax		
	comp=E,28nm,1.6s						
KLR				pmax	pmax		
	comp=Z,45nm,1.6s,mb4.8						
BJI	**Beijing**	**29.14**	**314**	P	**P**	**15 52 28.8**	**-0.8**
BJI				S	**S**	**15 57 15.7**	**0.0**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
BJI				LR	LR		
	comp=Z,80nm,23.5s						
HHC	**Hu-ho-hao-te**	**32.63**	**313**	*e*P	**P**	**15 53 01.3**	**+1.0**
HHC				PP	PP	15 54 13.4	-2.1
HHC				PCP	PcP	15 55 45.8	+1.2
HHC				S	**S**	**15 58 08.7**	**-1.5**
HHC				AMB	AMB		
	comp=Z,22nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,179nm,5.0s						
HHC				LR	LR		
	comp=N,204nm,13.7s						
HHC				LR	LR		
	comp=E,245nm,12.9s						
HHC				LR	LR		
	comp=Z,185nm,13.7s						
GYA	**Guiyang**	**33.46**	**285**	P	**P**	**15 53 08.4**	**+0.6**
GYA				PP	PP	15 54 24.3	-0.6
GYA				PCP	PcP	15 55 48.5	+1.3
GYA				S	**S**	**15 58 23.0**	**-0.5**
GYA				SCP	ScP	15 59 23.7	-0.7
GYA				PCS	PcS	15 59 33.4	+0.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,4.9s						
GYA				LR	LR		
	comp=N,480nm,18.9s						
GYA				LR	LR		
	comp=E,440nm,17.7s						
GYA				LR	LR		
	comp=Z,490nm,18.0s						
CD2	**Chengdu**	**36.20**	**293**	*e*P	**P**	**15 53 31.7**	**+0.4**
CD2				PP	PP	15 54 57.2	+2.2
CD2				S	**S**	**15 59 04.0**	**-1.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,4.6s						
CD2				LR	LR		
	comp=N,130nm,12.6s						
CD2				LR	LR		
	comp=Z,100nm,11.0s						
LZH	**Lanzhou**	**36.87**	**301**	⇓P	**P**	**15 53 38.5**	**+1.6**
LZH				PP	PP	15 55 07.4	+5.1
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,98nm,5.1s						
LZH				LR	LR		
	comp=E,497nm,13.5s						
LZH				LR	LR		
	comp=Z,619nm,17.6s						
KMI	**Kunming**	**37.04**	**283**	P	**P**	**15 53 40.6**	**+2.1**
KMI				S	**S**	**15 59 18.0**	**-0.4**
KMI				AMB	AMB		
	comp=Z,9.0nm,2.0s,mb4.3						
BATI	**Kupang**	**37.16**	**213**	P	**P**	**15 53 38.5**	**-1.0**
	comp=Z,7.8nm,0.7s,mb4.7,baz=163,slow=8.0,SNR=2.9						
KSM	**Kuching**	**37.81**	**242**	P	**P**	**15 53 45.7**	**+0.7**
MA2	**Magadan**	**38.04**	**6⇑**	*e*P	**P**	**15 53 45.9**	**-0.5**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
MA2	**Magadan**	**38.04**	**6**	*e*P	**P**	**15 53 43.9**	**-2.5**
	comp=Z,6.9nm,0.9s,mb4.5						
ULN	**Ulaanbaatar**	**38.75**	**321**	*e*P	**P**	**15 53 52.4**	**-0.2**
ULN				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
ULN	**Ulaanbaatar**	**38.75**	**321**	*e*P	**P**	**15 53 52.4**	**-0.1**
	comp=Z,11nm,1.0s,mb4.6						
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**15 53 55.2**	**-0.5**
	comp=Z,5.7nm,0.8s,mb4.5,baz=124,slow=6.7,SNR=41						
SONM				LR	LR	16 10 03.4	
	comp=Z,78nm,18.4s,baz=236,slow=36						
GTA	**Gaotai**	**40.68**	**305**	P	**P**	**15 54 09.3**	**+0.6**
GTA				PP	PP	15 55 47.5	+3.6
GTA				S	**S**	**16 00 13.7**	**+0.9**
GTA				SS	SS	16 03 15.8	-0.4
GTA				AMB	AMB		
	comp=Z,7.0nm,1.8s,mb4.2						
GTA				AMB	AMB		
	comp=Z,76nm,3.8s						
GTA				LR	LR		
	comp=N,184nm,17.1s						
GTA				LR	LR		
	comp=E,321nm,19.4s						
GTA				LR	LR		
	comp=Z,56nm,12.5s						
YAK	**Yakutsk**	**41.16**	**350**	*e*P	**P**	**15 54 10.7**	**-1.5**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=N,8.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,4.0nm,1.4s						
YAK	**Yakutsk**	**41.16**	**350**	*e*P	**P**	**15 54 10.0**	**-2.2**
	comp=E,13nm,0.8s,mb4.8						
SEY	**Seymchan**	**41.49**	**6⇑**	*e*P	**P**	**15 54 13.7**	**-1.3**
CTA	**Charters Tower**	**41.84**	**176**	P	**P**	**15 54 18.4**	**0.0**
	comp=E,12nm,1.0s,mb4.6,baz=19,slow=5.5,SNR=4.2						
CTAO	**Charters Tower**	**41.84**	**176**	*e*P	**P**	**15 54 18.4**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,21nm,1.0s,mb4.8						
CTAO	**Charters Tower**	**41.84**	**176**	*e*P	**P**	**15 54 18.4**	**+0.1**
	comp=Z,21nm,1.0s,mb4.8						
ZAK	**Zakamensk**	**42.13**	**322**	*e*P	**P**	**15 54 20.0**	**-0.4**
ZAK				*e*		15 56 34.0	
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.2s,mb4.4						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.8s,mb3.5						
WRAB	**Tennant Creek**	**42.44**	**192**	*e*P	**P**	**15 54 22.4**	**-0.8**
WRAB				pmax	pmax		
	comp=Z,21nm,1.4s,mb4.7						
WRAB	**Tennant Creek**	**42.44**	**192**	*e*P	**P**	**15 54 22.4**	**-0.8**
	comp=Z,21nm,1.4s,mb4.7						
WB2	**Warramunga Arr**	**42.45**	**192**	*e*P	**P**	**15 54 22.6**	**-0.7**
WRA	**Warramunga Arr**	**42.45**	**192**	P	**P**	**15 54 22.8**	**-0.5**
	comp=Z,4.5nm,0.9s,mb4.2,baz=14,slow=8.6,SNR=12						
IRK	**Irkutsk**	**42.49**	**325**	*e*P	**P**	**15 54 18.7**	**-4.6**
IRK				pmax	pmax		
	comp=Z,32nm,2.0s,mb4.7						
FITZ	**Fitzroy Crossi**	**43.27**	**205**	P	**P**	**15 54 28.9**	**-1.0**
	comp=Z,3.0nm,0.9s,mb4.0,baz=81,slow=11,SNR=2.8						
ASAR	**Alice Springs**	**46.16**	**192**	P	**P**	**15 54 51.5**	**-1.4**
	comp=Z,1.4nm,0.8s,mb3.7,baz=14,slow=9.0,SNR=20						
LSA	**Lhasa**	**47.08**	**291**	*e*P	**P**	**15 55 00.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
LSA	**Lhasa**	**47.08**	**291**	*e*P	**P**	**15 55 00.5**	**+0.4**
	comp=Z,6.3nm,0.9s,mb4.3						
BILL	**Bilibino**	**48.34**	**11**	*e*P	**P**	**15 55 07.4**	**-1.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
BILL	**Bilibino**	**48.34**	**11**	*e*P	**P**	**15 55 08.8**	**-0.5**
	comp=Z,4.0nm,1.0s,mb4.2						
WMQ	**Urumqi**	**50.38**	**309**	P	**P**	**15 55 26.0**	**+0.8**
WMQ				PP	PP	15 57 24.0	+2.6
WMQ				S	**S**	**16 02 30.0**	**-2.2**
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,98nm,4.0s						
WMQ				LR	LR		
	comp=N,68nm,15.0s						
WMQ				LR	LR		
	comp=E,51nm,15.0s						
WMQ				LR	LR		
	comp=Z,47nm,14.0s						
TIXI	**Tiksi**	**50.44**	**354**	*e*P	**P**	**15 55 23.4**	**-1.8**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.3						
TIXI	**Tiksi**	**50.44**	**354**	*e*P	**P**	**15 55 24.0**	**-1.2**
	comp=Z,9.2nm,1.4s,mb4.5						
JIRN	**Jiri**	**51.60**	**289**	*e*P	**P**	**15 55 35.1**	**+0.5**
	comp=Z,15nm,0.9s,mb5.0						
GUN	**Gumba**	**51.84**	**289**	*e*P	**P**	**15 55 37.0**	**+0.6**
	comp=Z,34nm,1.2s,mb5.3						
DMN	**Daman**	**52.56**	**289**	*e*P	**P**	**15 55 41.6**	**-0.1**
GKN	**Gorkha**	**52.92**	**289**	*e*P	**P**	**15 55 45.1**	**+0.7**
STKA	**Stephens Creek**	**53.49**	**182**	*e*P	**P**	**15 55 47.8**	**-0.4**
	comp=Z,5.1nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**53.49**	**182**	P	**P**	**15 55 47.9**	**-0.3**
	comp=Z,2.5nm,0.8s,mb4.3,baz=33,slow=19,SNR=2.8						
DANN	**Dangsing**	**53.65**	**290**	*e*P	**P**	**15 55 50.4**	**+0.7**
	comp=Z,42nm,0.8s,mb5.5						
KOLN	**Koldanda**	**53.87**	**289**	*e*P	**P**	**15 55 52.0**	**+0.7**
	comp=Z,9.5nm,0.9s,mb4.8						
ZAA0	**Zalesovo Array**	**54.00**	**322**	*e*P	**P**	**15 55 50.7**	**-1.1**
ZALV	**Zalesovo Beam**	**54.00**	**322**	P	**P**	**15 55 51.4**	**-0.4**
ZALV				LR	LR	16 20 55.9	
ZALV	**Zalesovo Beam**	**54.00**	**322**	P	**P**	**15 55 51.4**	**-0.4**
	comp=Z,10nm,0.9s,mb4.8,baz=101,slow=6.8,SNR=32						
ZALV				LR	LR	16 20 55.9	
	comp=Z,32nm,18.9s,baz=95,slow=38						
ZAL	**Zalesovo**	**54.01**	**322**	P	**P**	**15 55 51.4**	**-0.5**
MK31	**Makanchi Array**	**54.50**	**313**	*i* P	**P**	**15 55 55.2**	**-0.3**
MK31				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
MK31	**Makanchi Array**	**54.50**	**313**	*e*P	**P**	**15 55 55.7**	**+0.2**
MKAR	**Makanchi Array**	**54.50**	**313**	P	**P**	**15 55 55.6**	**+0.1**
	comp=Z,1.9nm,0.8s,mb4.2,baz=96,slow=8.9,SNR=24						
MKAR				LR	LR	16 18 58.9	
	comp=Z,22nm,18.2s,baz=174,slow=36						
NVS	**Novosibirsk**	**55.09**	**322**	*i* P	**P**	**15 55 58.9**	**-0.8**
NVS				pmax	pmax		
	comp=Z,25nm,1.9s,mb4.9						
NVS				pmax	pmax		
	comp=N,9.0nm,1.6s						
NVS				pmax	pmax		
	comp=E,16nm,1.7s						
KURK	**Kurchatov**	**57.27**	**317**	*e*P	**P**	**15 56 14.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
KURK	**Kurchatov**	**57.27**	**317**	*e*P	**P**	**15 56 14.6**	**-0.7**
	comp=Z,10nm,0.9s,mb4.9						
ULHL	**Ulahol**	**58.70**	**307**	P	**P**	**15 56 27.1**	**+1.6**
	SNR=10						
TKM2	**Tokmak 2**	**59.15**	**308**	*e*P	**P**	**15 56 29.8**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,79nm,1.2s,mb5.6						
TKM2	**Tokmak 2**	**59.15**	**308**	*e*P	**P**	**15 56 29.8**	**+1.3**
	comp=Z,79nm,1.2s,mb5.6						
TKM2	**Tokmak 2**	**59.15**	**308**	P	**P**	**15 56 30.2**	**+1.7**
	SNR=9.1						
IMA2	**Indian Mountai**	**59.39**	**25**	*e*P	**P**	**15 56 30.0**	**+0.3**
KZA	**Kyzart**	**59.44**	**307**	P	**P**	**15 56 32.7**	**+2.1**
	SNR=9.4						
KBK	**Karagaybulak**	**59.64**	**307**	P	**P**	**15 56 33.4**	**+1.5**
	SNR=6.1						
FRU	**Bishkek**	**59.87**	**308**	*e*P	**P**	**15 56 34.0**	**+0.5**
FRU				pmax	pmax		
	comp=Z,45nm,2.0s,mb5.2						
UCH	**Uchtor**	**59.98**	**307**	*e*P	**P**	**15 56 36.1**	**+1.9**
	comp=Z,16nm,1.3s,mb4.9						
UCH	**Uchtor**	**59.98**	**307**	P	**P**	**15 56 36.6**	**+2.4**
	SNR=13						
EKS2	**Erkin-Say**	**60.50**	**308**	*e*P	**P**	**15 56 38.7**	**+0.8**
AML	**Almayashu**	**60.60**	**307**	*e*P	**P**	**15 56 40.2**	**+1.7**
	comp=Z,9.1nm,1.0s,mb4.8						
AML	**Almayashu**	**60.60**	**307**	P	**P**	**15 56 40.6**	**+2.1**
	SNR=9.7						
SML	**Sawmill**	**60.83**	**30**	*e*P	**P**	**15 56 38.9**	**-0.8**
MCK	**McKinley**	**60.85**	**28**	*e*P	**P**	**15 56 38.9**	**-0.9**
MCK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
MCK	**McKinley**	**60.85**	**28**	*e*P	**P**	**15 56 38.9**	**-0.9**
	comp=Z,4.4nm,1.0s,mb4.4						
COLA	**College**	**61.51**	**27**	*e*P	**P**	**15 56 44.1**	**-0.1**
BRVK	**Borovoye**	**62.52**	**319**	*e*P	**P**	**15 56 51.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.9						
BRVK	**Borovoye**	**62.52**	**319**	*e*P	**P**	**15 56 51.1**	**-0.1**
	comp=Z,17nm,1.0s,mb4.9						
KK31	**Karatay Array**	**62.86**	**308**	*i* P	**P**	**15 56 53.7**	**0.0**
KK31				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
EGAK	**Eagle**	**64.34**	**27**	*e*P	**P**	**15 57 02.5**	**-0.6**
	comp=Z,2.6nm,0.9s,mb4.1						
DAWY	**Dawson**	**65.08**	**28**	*e*P	**P**	**15 57 07.9**	**+0.1**
KBL	**Kabul**	**65.16**	**299**	*e*P	**P**	**15 57 08.8**	**-0.1**
KBL				*e*		15 57 21.2	
KBL				pmax	pmax		
	comp=Z,25nm,1.4s,mb4.8						
KBL	**Kabul**	**65.16**	**299**	*e*P	**P**	**15 57 08.8**	**-0.1**
	comp=Z,25nm,1.4s,mb4.9						
KBL				*e*		15 57 21.2	
INK	**Inuvik**	**67.42**	**24**	*e*P	**P**	**15 57 22.3**	**-0.4**
	comp=Z,235nm,1.0s						
INK	**Inuvik**	**67.42**	**24**	P	**P**	**15 57 22.3**	**-0.4**
	comp=Z,5.3nm,1.0s,mb4.3,baz=272,slow=7.0,SNR=15						
SVE	**Sverdlovsk**	**67.86**	**324⇑**	*e*P	**P**	**15 57 25.5**	**-0.2**
SVE				*e*S	S	16 06 15.3	-2.2
SVE				pmax	pmax		
	comp=Z,18nm,1.0s,mb4.9						
ARU	**Arti**	**69.05**	**324**	*c i*P	**P**	**15 57 32.9**	**-0.2**
ARU				*e*		16 00 02.7	
ARU				*e*PPP		16 01 42.0	
ARU				*e*S	S	16 06 31.5	-0.1
ARU				*e*SS	SS	16 10 57.5	-0.9
ARU				pmax	pmax		
	comp=Z,23nm,1.7s,mb4.7						
ARU	**Arti**	**69.05**	**324**	*e*P	**P**	**15 57 32.6**	**-0.5**
	comp=Z,7.9nm,1.0s,mb4.5						
DLBC	**Dease Lake**	**70.01**	**34**	*e*P	**P**	**15 57 39.9**	**+1.0**
AKTO	**Aktyubinsk**	**70.36**	**317**	LR	LR	16 31 31.5	
	comp=Z,21nm,18.3s,baz=231,slow=38						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	**P**	**15 58 16.1**	**+0.1**
	comp=Z,3.4nm,0.8s,mb4.1,baz=291,slow=5.6,SNR=33						
RES	**Resolute Bay**	**76.90**	**13**	*e*P	**P**	**15 58 19.1**	**0.0**
	comp=Z,748nm,1.5s						
NEW	**Newport**	**80.19**	**42**	*e*P	**P**	**15 58 38.3**	**+0.6**
NEW				pmax	pmax		
	comp=Z,5.0nm,0.9s						
NEW	**Newport**	**80.19**	**42**	*e*P	**P**	**15 58 38.3**	**+0.6**
	comp=Z,5.0nm,0.9s,mb4.3						
OBN	**Obninsk**	**81.27**	**326**	*e*P	**P**	**15 58 41.7**	**-1.6**
OBN				*e*		16 01 51.1	
OBN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
OBN	**Obninsk**	**81.27**	**326**	P	**P**	**15 58 43.7**	**+0.3**
BMO	**Blue Mountains**	**81.35**	**45**	*e*P	**P**	**15 58 44.5**	**+0.5**
BMO				pmax	pmax		
	comp=Z,19nm,1.7s,mb4.7						
BMO	**Blue Mountains**	**81.35**	**45**	*e*P	**P**	**15 58 44.5**	**+0.6**
	comp=Z,19nm,1.7s,mb4.6						
WVOR	**Wild Horse Val**	**81.36**	**48**	*e*P	**P**	**15 58 44.8**	**+0.7**
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.1						
WVOR	**Wild Horse Val**	**81.36**	**48**	*e*P	**P**	**15 58 44.8**	**+0.8**
	comp=Z,2.7nm,1.0s,mb4.0						
VORD	**Divnogorie**	**81.53**	**322**	*e*P	**P**	**15 58 42.8**	**-2.0**
VORD				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.6						
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,20nm,0.9s						
WALA	**Waterton Lakes**	**81.84**	**40**	*e*P	**P**	**15 58 47.1**	**+0.7**
	comp=E,4.6nm,1.0s,mb4.3						
KIV	**Kislovodsk**	**82.22**	**314**	*e*P	**P**	**15 58 46.7**	**-1.9**
KIV				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.8						
KIV	**Kislovodsk**	**82.22**	**314**	*e*P	**P**	**15 58 48.7**	**+0.2**
	comp=Z,8.4nm,0.8s,mb4.6						
NVAR	**Mina Array Bea**	**83.09**	**51**	P	**P**	**15 58 54.4**	**+1.2**
	comp=Z,4.2nm,0.9s,mb4.3,baz=270,slow=6.0,SNR=26						
MIB	**Mutribah**	**84.12**	**300**	*e*P	**P**	**15 58 58.5**	**-0.1**
MIB				AMb	AMB	15 59 01.1	
	comp=Z,31nm,1.0s,mb5.1						
RDF	**Al-Radifah**	**84.27**	**299**	*e*P	**P**	**15 58 59.0**	**-0.4**
RDF				AMb	AMB	15 59 00.9	
	comp=Z,18nm,1.0s,mb4.9						
NAY	**Al-Naaiem**	**84.40**	**299**	*e*P	**P**	**15 58 59.8**	**-0.2**
NAY				AMb	AMB	15 59 02.5	
	comp=Z,20nm,1.2s,mb4.8						
TPNV	**Topopah Spring**	**85.17**	**52**	*e*P	**P**	**15 59 04.3**	**+0.5**
TPNV				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
TPNV	**Topopah Spring**	**85.17**	**52**	*e*P	**P**	**15 59 04.3**	**+0.5**
	comp=Z,7.4nm,1.1s,mb4.5						
QLMT	**Earthquake Lak**	**85.17**	**43**	*e*P	**P**	**15 59 04.9**	**+1.2**
FFC	**Flin Flon**	**85.70**	**32**	*e*P	**P**	**15 59 06.6**	**+0.5**
FFC				pmax	pmax		
	comp=Z,20nm,0.9s,mb5.0						
FFC	**Flin Flon**	**85.70**	**32**	*e*P	**P**	**15 59 06.6**	**+0.6**
	comp=Z,20nm,0.9s,mb5.0						
GCMT	**Greycliff**	**85.86**	**42**	*e*P	**P**	**15 59 07.8**	**+0.8**
FLWY	**Flagg Ranch**	**85.97**	**44**	*e*P	**P**	**15 59 09.5**	**+1.9**
	comp=Z,18nm,1.4s,mb4.8						
DUG	**Dugway**	**86.27**	**48**	*e*P	**P**	**15 59 09.8**	**+0.6**
DUG				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
DUG	**Dugway**	**86.27**	**48**	*e*P	**P**	**15 59 09.8**	**+0.7**
	comp=Z,17nm,1.4s,mb4.8						
HWUT	**Hardware Ranch**	**86.51**	**46**	*e*P	**P**	**15 59 11.0**	**+0.8**
	comp=Z,14nm,1.2s,mb4.8						
FCC	**Fort Churchill**	**86.90**	**26**	*e*P	**P**	**15 59 10.4**	**-1.4**
FCC				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
FCC	**Fort Churchill**	**86.90**	**26**	*e*P	**P**	**15 59 10.4**	**-1.5**
	comp=Z,9.0nm,1.0s,mb4.7						
AKASG	**Malin Array Be**	**87.29**	**324**	P	**P**	**15 59 12.7**	**-1.2**
	comp=Z,2.0nm,0.8s,mb4.1,baz=48,slow=4.8,SNR=11						
MSU	**Marysvale**	**87.44**	**49**	*e*P	**P**	**15 59 15.9**	**+1.0**
MALT

KSRS	Korea Array	20.45	323	P		P	16 15 24.2 +3.1
	4.8nm,0.9s,baz=142,slow=9.5,SNR=18						
KSRS				LR	LR		16 22 18.8
	comp=Z,105nm,18.5s,MS3.2,baz=170,slow=34						
SONM	Songino Array	39.28	320	P		P	16 18 11.9 0.0
	1.5nm,0.7s,mb3.9,baz=130,slow=7.6,SNR=12						
SONM				LR	LR		16 35 20.6
	comp=Z,51nm,19.3s,MS3.4,baz=62,slow=38						
WRAB	Tennant Creek	42.37	192	eP		P	16 18 37.3 -0.4
WRA	Warramunga Arr	42.38	192	P		P	16 18 38.5 +0.7
	1.1nm,0.9s,mb3.5,baz=15,slow=9.0,SNR=4.6						
ASAR	Alice Springs	46.09	192	P		P	16 19 07.7 +0.3
	1.0nm,0.6s,mb3.9,baz=17,slow=9.9,SNR=25						
STKA	Stephens Creek	53.39	182	P		P	16 20 02.2 -0.7
	1.3nm,0.7s,mb4.0,baz=319,slow=22,SNR=3.4						
STKA				LR	LR		16 39 23.2
	comp=Z,103nm,21.4s,MS3.9,baz=19,slow=32						
ZAA0	Zalesovo Array	54.15	322	eP		P	16 20 07.3 -0.9
ZALV	Zalesovo Beam	54.15	322	P		P	16 20 07.2 -1.1
	1.6nm,0.6s,mb4.1,baz=104,slow=7.3,SNR=8.4						
ZALV				LR	LR		16 45 14.1
	comp=Z,43nm,18.3s,MS3.5,baz=94,slow=38						
MK31	Makanchi Array	54.65	313	eP		P	16 20 11.3 -0.7
MKAR	Makanchi Array	54.65	313	P		P	16 20 12.2 +0.3
	0.7nm,0.6s,mb3.9,baz=90,slow=9.2,SNR=12						
MKAR				LR	LR		16 44 19.7
	comp=Z,42nm,18.5s,MS3.5,baz=260,slow=37						
KURK	Kurchatov	57.42	317	eP		P	16 20 31.2 -0.5
	1.8nm,0.8s,mb4.2						
TKM2	Tokmak 2	59.30	308	P		P	16 20 44.2 -0.9
UCH	Uchtor	60.13	307	eP		P	16 20 52.3 +1.6
	4.4nm,1.0s,mb4.4						
AML	Almayashu	60.75	307	eP		P	16 20 55.9 +1.0
	4.0nm,1.0s,mb4.5						
BRVK	Borovoye	62.68	319	eP		P	16 21 07.5 -0.2
	4.4nm,0.8s,mb4.6						
INK	Inuvik	67.46	24	P		P	16 21 35.2 -3.3
	37nm,0.9s,mb5.4						
YKA	Yellowknife Ar	76.35	28	P		P	16 22 32.3 +0.3
YKA	Yellowknife Ar	76.35	28	P		P	16 22 32.3 +0.4
	0.8nm,0.5s,mb3.9,baz=293,slow=5.5,SNR=12						
YKA				LR	LR		16 55 47.7
	comp=Z,37nm,19.8s,MS3.7,baz=35,slow=35						
PPT	Papeete	76.55	115	LR	LR		16 49 29.3
	comp=Z,87nm,21.8s,MS4.0,baz=269,slow=30						
RES	Resolute Bay	76.97	13	eP		P	16 22 35.3 0.0
	396nm,1.6s						
NVAR	Mina Array Bea	83.06	51	P		P	16 23 10.3 +1.5
	0.6nm,0.6s,mb3.8,baz=278,slow=5.5,SNR=5.8						
FFC	Flin Flon	85.72	32	P		P	16 23 22.4 +0.4
	4.4nm,0.9s,mb4.7						
TUC	Tucson	91.18	55	eP		P	16 23 45.1 -3.3
	1.7nm,0.6s,mb4.5						
TXAR	Lajitas Array	97.97	54	LR	LR		17 07 41.7
	comp=Z,25nm,19.5s,MS3.7,baz=155,slow=35						

*IDC **10** 16:13:46.8±1.0,2191N×14320E,h0km,mb3.6/7, mb1 3.9/7,mb1mx3.8/18,mbtmp3.6/7,Error ellipse: s-maj=38.9km s-min=22.3km az=86.0*
*NEIC **10** 16:13:48.4±0.7,2191N×14326E,h10km,mb4.1/2,Error ellipse: s-maj=22.0km s-min=14.1km az=77.0*
*ISCJB **10** 16:13:50.3±0.8,219N±0.1×1432E±02,h33km,mb3.7/9, Error ellipse: s-maj=27.3km s-min=16.6km az=163.9*

ISC 10 16:13:52.3±0.8,219N±01×1433E±02,h35km,n11, σ0°92/11,mb3.7/9,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.41	323	P		P	16 18 29.6 +3.3
	1.5nm,0.7s,baz=139,slow=12,SNR=8.0						
ULN	Ulaanbaatar	38.87	321	eP		P	16 21 13.4 -0.7
	1.4nm,0.7s,mb3.8						
SONM	Songino Array	39.24	320	P		P	16 21 16.4 -0.8
	0.6nm,0.5s,mb3.5,baz=121,slow=6.0,SNR=5.4						
WRA	Warramunga Arr	42.47	192	P		P	16 21 43.8 -0.3
	0.3nm,0.5s,mb3.2,baz=22,slow=7.3,SNR=4.5						
ASAR	Alice Springs	46.18	192	P		P	16 22 13.6 -0.1
	0.6nm,0.6s,mb3.7,baz=16,slow=9.2,SNR=12						
LSA	Lhasa	47.24	291	P		P	16 22 23.8 +1.7
	2.2nm,0.5s,mb4.3						
ZALV	Zalesovo Beam	54.11	322	P		P	16 23 12.6 -0.9
	0.3nm,0.3s,mb3.7,baz=111,slow=7.9,SNR=3.9						
MKAR	Makanchi Array	54.63	313	P		P	16 23 17.2 -0.2
	0.4nm,0.7s,mb3.6,baz=104,slow=9.1,SNR=3.2						
YKA	Yellowknife Ar	76.26	28	P		P	16 25 37.2 +0.2
YKA	Yellowknife Ar	76.26	28	P		P	16 25 37.2 +0.2
	0.4nm,0.5s,mb3.6,baz=292,slow=5.8,SNR=5.1						
NVAR	Mina Array Bea	82.98	52	P		P	16 26 14.5 +0.5
	0.3nm,0.7s,mb3.5,baz=245,slow=3.7,SNR=3.3						

*IDC **10** 16:14:44.0±0.9,2190N×143.17E,h0km,mb3.7/6, mb1 4.0/6,mb1mx3.8/18,mbtmp3.7/6,MS3.7/1,Ms1 3.7/1, ms1mx2.7/36,Error ellipse: s-maj=38.6km s-min=22.5km az=91.0*
*NEIC **10** 16:14:45.6±0.7,2188N×14323E,h10km,mb4.0/2,Error ellipse: s-maj=25.2km s-min=15.8km az=76.0*
*ISCJB **10** 16:14:47.5±0.8,218N±0.1×1432E±02,h33km,mb3.7/8, Error ellipse: s-maj=29.3km s-min=16.7km az=166.7*

ISC 10 16:14:49.4±0.8,219N±01×1432E±02,h35km,n14, σ0°94/11,mb3.7/8,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	11.61	346	LR	LR	16 21 33.7	
	comp=Z,360nm,18.9s,baz=346,slow=35						
KSRS	Korea Array	20.38	323	P		P	16 19 27.1 +4.0
	1.6nm,0.7s,baz=145,slow=8.5,SNR=8.7						
ULN	Ulaanbaatar	38.83	321	P		P	16 22 10.2 -0.8
	0.8nm,0.6s,mb3.6						
SONM	Songino Array	39.20	320	P		P	16 22 14.0 -0.1
	0.6nm,0.5s,mb3.6,baz=132,slow=6.8,SNR=5.6						
WRA	Warramunga Arr	42.44	192	P		P	16 22 41.0 0.0
	0.8nm,0.8s,mb3.4,baz=14,slow=8.9,SNR=3.4						
ASAR	Alice Springs	46.15	192	P		P	16 23 10.3 -0.3
	0.7nm,0.6s,mb3.8,baz=16,slow=10,SNR=8.8						
ZALV	Zalesovo Beam	54.07	322	P		P	16 24 09.6 -0.9
ZALV	Zalesovo Beam	54.07	322	P		P	16 24 09.6 -0.9
	0.7nm,0.6s,mb3.8,baz=77,slow=6.7,SNR=3.8						
UCH	Uchtor	60.07	307	P		P	16 24 55.8 +2.8
	3.0nm,1.0s,mb4.3						
YKA	Yellowknife Ar	76.31	28	P		P	16 26 34.2 -0.3
YKA	Yellowknife Ar	76.31	28	P		P	16 26 34.2 -0.3
	0.5nm,0.5s,mb3.7,baz=289,slow=5.6,SNR=5.2						
NVAR	Mina Array Bea	83.04	51	P		P	16 27 12.0 +0.5
	0.4nm,0.6s,mb3.6,baz=270,slow=4.7,SNR=4.1						
LPAZ	La Paz	149.93	85	PKPbc	PKPbc	16 34 37.7 +0.8	
LPAZ	La Paz	149.93	85	PKPbc	PKPbc	16 34 37.7 +0.8	
	0.6nm,0.6s,baz=30,slow=4.3,SNR=2.8						

IDC 10 16:42:13.1±14.0,2466S×17933W,h515km±146km, mb3.1/4,mb1 3.2/5,mb1mx3.0/14,mbtmp3.1/5,Error ellipse: s-maj=277.5km s-min=92.4km az=69.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	13.89	192	P		P	16 45 11.2 -0.2
	1.1nm,0.3s,baz=360,slow=1.0,SNR=9.1						
CTA	Charters Tower	32.10	271	P		P	16 47 58.5 +0.7
	6.3nm,1.0s,baz=123,slow=7.2,SNR=7.1						
STKA	Stephens Creek	35.02	249	P		P	16 48 21.6 -0.6
	0.7nm,0.5s,baz=82,slow=7.1,SNR=3.4						
ASAR	Alice Springs	42.52	261	P		P	16 49 23.2 0.0
	0.6nm,0.3s,baz=91,slow=7.8,SNR=31						
WRA	Warramunga Arr	42.97	267	P		P	16 49 26.4 -0.4
	1.0nm,0.4s,baz=102,slow=8.3,SNR=7.4						

*ISCJB **10** 16:57:36.6±0.2,3264S±003×7009W±006,h110km±2km, mb4.5/25,Error ellipse: s-maj=7.7km s-min=4.1km az=179.1*
*GUC **10** 16:57:37.0±0.6,3262S×70.13W,h105km±3km,ML4.9*
*BJI **10** 16:57:37.3,3270S×70.10W,h105km,mB5.1*
*NEIC **10** 16:57:37.4±0.2,3267S×7008W,mb4.7/24,Error ellipse: s-maj=5.3km s-min=3.3km az=101.0*
NEIC Felt [III] at Cabildo, Colima, La Ligua, Los Andes, Petorca, Quillota, San Felipe, Santiago, Tiltil, Valparaiso and Vina del Mar; [II] at Rancagua and San Fernando, Chile.
*IDC **10** 16:57:39.0±0.6,3259S×6999W,h113km±4km,mb4.2/9, mb1 4.2/11,mb1mx4.2/15,mbtmp4.2/11,MS3.5/3,*
Ms1 3.5/3,ms1mx3.0/24,Error ellipse: s-maj=16.7km s-min=8.8km az=145.0

ISC 10 16:57:37.6±0.2,3264S±002×7008W±005,h104km±2km, h106km±2.0km:pP-P,n111,σ0°86/99,mb4.5/25,12C-13D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.44	264	⇑iP		Pn	16 57 53.2 -0.1
FCH	Farellones	0.71	195	⇓iP		Pn	16 57 55.9 +0.4
FCH				i S		Sn	16 58 10.0 +1.2
FCH				AML	AML		16 58 10.9
	comp=N,37μm,0.6s						
PTCH	Petorca	0.81	297	⇑iP		Pn	16 57 56.4 0.0
PTCH				i S		Sn	16 58 10.8 +0.3
PTCH	Petorca	0.81	297	⇑iP		Pn	16 57 56.4 0.0
PTCH				i S		Sn	16 58 10.8 +0.3
PTCH				AML	AML		16 58 11.6
	comp=N,38μm,0.5s						
CLCH	Cerro Calan	0.85	207	⇑iP		Pn	16 57 56.7 -0.1
CLCH				i S		Sn	16 58 11.5 +0.4
CLCH				AML	AML		16 58 14.5
	comp=E,32μm,0.8s						
ROCH	El Roble	0.85	247	⇓iP		Pn	16 57 56.7 -0.1
DSCH	Colegio Aleman	0.86	208	i P		Pn	16 57 56.1 -0.8
DSCH				i S		Sn	16 58 11.1 -0.3
SAN	Santiago	0.95	211	⇓iP		Pn	16 57 57.6 -0.2
SAN				i S		Sn	16 58 13.0 +0.1
YECH	El Yeso	1.02	180	⇓eP		Pn	16 57 59.3 +0.7
YECH				i S		Sn	16 58 16.1 +1.7
ANTU	Antumapu	1.04	207	eP		Pn	16 57 58.7 0.0
ANTU				i S		Sn	16 58 14.9 +0.3
ANTU	Antumapu	1.04	207	eP		Pn	16 57 58.7 0.0
ANTU				i S		Sn	16 58 14.9 +0.3
ANTU				AML	AML		16 58 16.2
	comp=N,47μm,0.4s						
PCH	Pirque	1.04	200	⇓iP		Pn	16 57 58.8 0.0
RCDM	Rinconada Maip	1.04	216	⇑iP		Pn	16 57 58.5 -0.3
RCDM				i S		Sn	16 58 15.1 +0.3
RCDM	Rinconada Maip	1.04	216	⇑iP		Pn	16 57 58.5 -0.3
RCDM				i S		Sn	16 58 15.1 +0.3
RCDM				AML	AML		16 58 15.8
	comp=E,48μm,0.2s						
PACH	Papudo	1.15	275	⇑iP		Pn	16 57 59.4 -0.6
LMEL	Las Melosas	1.21	185	⇓iP		Pn	16 58 01.1 +0.4
LMEL				i S		Sn	16 58 19.1 +1.0
LMEL	Las Melosas	1.21	185	⇓iP		Pn	16 58 01.1 +0.4
LMEL				i S		Sn	16 58 19.1 +1.0
LMEL				AML	AML		16 58 26.1
	comp=N,25μm,0.4s						
TACH	Talagante	1.24	215	⇓iP		Pn	16 58 00.5 -0.5
IHA	Instituto Hidr	1.37	253	⇑iP		Pn	16 58 01.4 -1.1
CHCH	Chadas Angostu	1.38	200	⇓iP		Pn	16 58 02.5 -0.1
LCCH	Las Cruces	1.50	236	⇓iP		Pn	16 58 03.4 -0.7
CACH	El Canelo	1.54	196	⇓iP		Pn	16 58 04.9 +0.4
CMCH	Combarbala	1.66	332	⇓iP		Pn	16 58 06.0 0.0
CMCH				i S		Sn	16 58 27.9 +0.3
CMCH	Combarbala	1.66	332	⇓iP		Pn	16 58 06.0 0.0
CMCH				i S		Sn	16 58 27.9 +0.3
CMCH				AML	AML		16 58 29.2
	comp=N,79μm,0.7s						
CICH	Cipreses	1.70	190	⇑iP		Pn	16 58 06.7 +0.2
LNV	Longovilo	1.72	220	⇑iP		Pn	16 58 05.7 -1.1
CFAA	Coronel Fontan	1.87	57	P		Pn	16 58 09.3 +0.6
CFAA				S		Sn	16 58 32.9 +0.5
CFAA	Coronel Fontan	1.87	57	P		Pn	16 58 09.3 +0.6
	comp=N,40nm,0.3s,baz=227,slow=11,SNR=1209						
CFAA				S		Sn	16 58 32.9 +0.5
	comp=N,206nm,0.3s,baz=113,slow=9.6,SNR=62						
SFDO	San Fernando	2.12	201	⇑iP		Pn	16 58 11.1 -0.8
TLL	Tololo Astrono	2.54	346	P		Pn	16 58 18.0 +0.6
TLL				i S		Sn	16 58 48.1 +0.2
TLL	Tololo Astrono	2.54	346	eP		Pn	16 58 18.0 +0.6
TLL				i S		Sn	16 58 48.1 +0.2
TLL				AML	AML		16 58 57.2
	comp=E,3μm,0.3s						
NICH	Los Niches	2.54	202	eP		Pn	16 58 15.4 -2.0
LCO	Las Campanas	3.66	351	ePn		Pn	16 58 31.6 -0.6
LCO				eSn		Sn	16 59 12.0 -2.5
PLCA	Paso Flores	8.09	183	ePn		Pn	16 59 30.4 -1.7
	comp=E,7.9nm,0.4s						
PLCA	Paso Flores	8.09	183	P		Pn	16 59 30.9 -1.3
	comp=E,3.4nm,0.3s,baz=351,slow=12,SNR=31						
TRQA	Tornquist	8.54	132	ePn		Pn	16 59 36.5 -1.9
	comp=E,45nm,0.6s						
TRQA				eSn		Sn	17 01 08.6 -4.3
CPUP	Villa Florida	12.76	64	ePn		Pn	17 00 29.6 -5.6
	comp=E,49nm,0.4s						
CPUP	Villa Florida	12.76	64	P		Pn	17 00 29.6 -5.5
	comp=E,2.3nm,0.3s,baz=210,slow=11,SNR=14						
CPUP				LR	LR		17 05 25.5
	comp=E,142nm,18.2s,baz=74,slow=37						
LPAZ	La Paz	16.38	7	ePn		Pn	17 01 22.4 +1.1
	comp=E,16nm,1.2s						
LPAZ	La Paz	16.38	7	P		Pn	17 01 23.3 +1.9
	comp=E,0.4nm,0.3s,baz=170,slow=9.9,SNR=15						
SIV	San Ignacio	18.48	28	P		P	17 01 45.3 -0.2
	comp=E,1.5nm,0.3s,baz=204,slow=10,SNR=28						
EFI	East Falkland	20.95	159	eP		P	17 02 10.3 -1.7
	comp=E,124nm,1.2s						
NNA	Nana	21.47	342	P		P	17 02 20.2 +2.4
	comp=E,43nm,1.4s,mb4.6						
USHA	Ushuaia	22.22	177	P		P	17 02 26.1 +0.7
	comp=E,65nm,1.1s,mb4.9,baz=333,slow=7.4,SNR=13						
BDFB	Brasilia	26.21	55	eP		P	17 03 00.9 -2.0
	comp=E,17nm,0.8s,mb4.5						
BDFB	Brasilia	26.21	55	P		P	17 03 01.5 -1.3
	comp=E,7.9nm,0.5s,mb4.4,baz=220,slow=16,SNR=17						
ROSC	El Rosal	37.51	353	eP		P	17 04 41.6 +0.1
SDV	Santo Domingo	41.29	359	eP		P	17 05 12.8 -0.2
	comp=E,3.5nm,0.7s,mb4.3						
TEIG	Tepich	55.37	339	eP		P	17 07 01.1 +0.1
	comp=E,13nm,0.6s,mb5.1						
TEIG				e	pP		17 07 27.9 +1.9
TEIG				e			17 07 39.0
QSPA	South Pole Qui	57.60	180	eP		P	17 07 16.8 +0.7
	comp=E,17nm,0.6s,mb5.3						
SBA	Scott Base	64.73	191	eP		P	17 08 05.0 +0.8
	comp=E,1.9nm,0.8s,mb4.0						
VNDA	Vanda	65.75	191	P		P	17 08 12.4 +1.6
	comp=E,1.3nm,0.6s,mb4.0,baz=135,slow=6.0,SNR=16						
SYO	Syowa Base	66.52	158	eX			17 08 09.6
SWET	Sewanee	69.12	346	eP		P	17 08 32.0 -0.4
OXF	Oxford	69.22	343	eP		P	17 08 31.8 -1.3
	comp=E,20nm,0.5s,mb5.2						
TXAR	Lajitas Array	69.38	329	P		P	17 08 35.2 +1.0
	comp=E,1.1nm,0.6s,mb3.9,baz=150,slow=8.6,SNR=14						
TXAR				pP	pP		17 09 01.9 +1.6
	comp=E,0.7nm,0.7s,baz=163,slow=6.4,SNR=3.0						
TXAR				sP	sP		17 09 14.0 +2.4
	comp=E,2.2nm,1.0s,baz=153,slow=9.5,SNR=3.4						
ELN	Prospectdale	70.22	351	P		P	17 08 38.2 -1.0
ELN				e	pP		17 09 04.5 -0.8
MIAR	Mount Ida	70.38	340	P		P	17 08 40.7 +0.5
	comp=E,7.7nm,1.2s,mb4.4						
WVT	Waverly	70.40	345	eP		P	17 08 40.0 -0.2
	comp=E,12nm,0.7s,mb4.8						
WVT				e	pP		17 09 04.9 -1.5
WVT				e			17 09 19.8
DBIC	Dimbokro	73.18	70	eP		P	17 08 57.4 0.0
	comp=E,16nm,0.7s,mb5.0						
DBIC	Dimbokro	73.18	70	P		P	17 08 57.9 +0.4
	comp=E,14nm,0.7s,mb4.9,baz=215,slow=5.5,SNR=22						
DBIC				LR	LR		17 36 29.8
	comp=E,48nm,21.5s,baz=179,slow=32						
ACSO	Alum Creek Sta	73.48	350	P		P	17 08 58.0 -0.6
	comp=E,9.1nm,0.7s,mb4.7						
MAW	Mawson	74.01	163	eP		P	17 09 01.2 -0.3
	comp=E,3.7nm,0.6s,mb4.3						
MAW	Mawson	74.01	163	P		P	17 09 01.5 +0.1
	comp=E,1.7nm,0.5s,mb4.0,baz=222,slow=8.8,SNR=6.5						
LAZ	Ladron	75.24	329	P		P	17 09 10.3 +1.4
ANMO	Albuquerque	75.41	330	eP		P	17 09 11.2 +1.3
	comp=E,4.0nm,1.1s,mb4.1						
SDCO	Great Sand Dun	77.42	332	eP		P	17 09 22.0 +0.9
	comp=E,14nm,1.9s,mb4.4						
SDCO				e	pP		17 09 48.8 +1.1
SDCO				e			17 10 02.6
RAR	Rarotonga	78.62	252	LR	LR		17 34 57.6
	comp=E,33nm,18.6s,baz=93,slow=28						
PV01	Paradox Valley	79.01	330	eP		P	17 09 30.1 +0.2
PV01				e	pP		17 09 54.4 -2.2
PV01				e			17 10 11.4
BOSA	Boshof	79.24	117	P		P	17 09 31.8 +0.1
BOSA	Boshof	79.24	117	P		P	17 09 31.8 +0.1
	comp=E,4.7nm,0.8s,mb4.4,baz=188,slow=4.8,SNR=5.3						
ECSD	EROS,Sioux Fal	79.78	341	eP		P	17 09 33.0 -0.9
	comp=E,4.9nm,0.9s,mb4.3						
ECSD				e	pP		17 10 01.2 +0.5
ECSD				e			17 10 13.9
LBTB	Lobatse	81.37	114	eP		P	17 09 42.8 -0.4
	comp=E,35nm,1.5s,mb5.0						
TOA0	Torodi Ar. Sit	82.20	69	eP		P	17 09 47.3 -0.2
TOA0				e	pP		17 10 14.2 0.0
TORD	Torodi Ar. Bea	82.20	69	P		P	17 09 47.6 +0.2
	comp=E,9.4nm,0.6s,mb4.8,baz=287,slow=6.8,SNR=89						
TORD				pP	pP		17 10 16.1 +1.8
	comp=E,2.2nm,0.6s,baz=249,slow=4.7,SNR=3.7						
HWUT	Hardware Ranch	83.17	330	eP		P	17 09 52.1 +0.2
	comp=E,1.9nm,0.7s,mb4.0						
MCMT	McKenzie Canyo	86.35	331	eP		P	17 10 09.2 +1.4
SCHQ	Schefferville	87.16	2	P		P	17 10 10.6 -0.8
	comp=E,1.3nm,0.5s,mb4.1,baz=97,slow=9.6,SNR=4.5						
WALA	Waterton Lakes	90.22	333	eP		P	17 10 26.5 +0.4
	comp=E,4.2nm,1.0s,mb4.5						
FCC	Fort Churchill	93.23	348	eP		P	17 10 39.0 -0.8
	comp=E,4.3nm,0.6s,mb5.0						
YKA	Yellowknife Ar	101.31	341	P	Pdif		17 11 15.7 -1.1
YKA	Yellowknife Ar	101.31	341	P	Pdif		17 11 15.7 -1.1
	comp=E,0.2nm,0.6s,baz=139,slow=4.5,SNR=6.7						
CLL	Collm	110.73	42	ePKiKP	PKiKP		17 15 57.0 -0.7
ASAR	Alice Springs	119.51	205	PKP	PKPdf		17 16 13.5 -2.1
	comp=E,0.5nm,0.7s,baz=130,slow=1.6,SNR=7.5						
AKASG	Malin Array Be	120.06	46	PKP	PKPdf		17 16 14.3 -1.3
	comp=E,1.0nm,0.6s,baz=259,slow=2.8,SNR=11						
WRA	Warramunga Arr	122.74	208	PKPdf			17 16 21.2 -0.6
	comp=E,1.5nm,0.5s,baz=170,slow=1.4,SNR=11						
BRVK	Borovoye	145.10	42	ePKPdf	PKPdf		17 17 02.4 +0.1
BVAR	Borovoye Array	145.17	42	PKPbc	PKPbc		17 17 03.0 +0.8
	comp=E,5.9nm,0.6s,baz=284,slow=3.4,SNR=38						
BVAR				pPKPbc			17 17 33.4
	comp=E,1.2nm,0.5s,baz=262,slow=3.0,SNR=2.2						
HYB	Hyderabad	147.94	111	eP	PKPbc		17 17 11.5 +0.2
HYB	Hyderabad	147.94	111	i PKP	PKPbc		17 17 11.5 +0.2
YAK	Yakutsk	147.97	343	ePKPbc	PKPbc		17 17 09.4 -0.6
YAK				ePKPab	PKPab		17 17 13.1 +0.2
EKS2	Erkin-Say	149.88	60	ePKPdf	PKPdf		17 17 11.3 +0.8
EKS2				ePKPbc	PKPbc		17 17 16.2 +0.7
EKS2				e			17 17 45.9
EKS2	Erkin-Say	149.88	60	P	PKPbc		17 17 16.5 +1.0
	SNR=6.5						
USP	Ospenovka	150.32	59	P	PKPbc		17 17 17.1 +0.6
	SNR=7.6						
AAK	Ala-Archa	150.41	60	P	PKPbc		17 17 17.9 +1.2
	SNR=13						
UCH	Uchtor	150.48	61	ePKPbc	PKPbc		17 17 18.0 +1.1
UCH				e			17 17 48.2
UCH	Uchtor	150.48	61	P	PKPbc		17 17 18.5 +1.6
	SNR=13						
KBK	Karagaybulak	150.74	60	P	PKPbc		17 17 18.9 +1.3
	SNR=5.4						
KURK	Kurchatov	150.77	43	ePKPbc	PKPbc		17 17 17.1 -0.2
KZA	Kyzart	151.04	61	P	PKPbc		17 17 19.5 +1.2
	SNR=6.5						
TKM2	Tokmak 2	151.17	59	ePKPbc	PKPbc		17 17 18.7 +0.2
TKM2				e			17 17 49.1
TKM2	Tokmak 2	151.17	59	P	PKPbc		17 17 19.5 +1.0
	SNR=6.2						
ULHL	Ulahol	151.75	60	P	PKPbc		17 17 21.1 +1.2
	SNR=9.9						
ZAA0	Zalesovo Array	152.20	33	ePKPbc	PKPbc		17 17 20.5 +0.1
ZAA0				e			17 17 49.2
ZAA0				e			17 18 00.9
ZALV	Zalesovo Beam	152.20	33	PKP	PKPdf		17 17 12.3 -1.4
ZALV				PKPbc	PKPbc		17 17 20.5 0.0
ZALV				pPKPbc	pPKPbc		17 17 51.5 +2.7
ZALV	Zalesovo Beam	152.20	33	PKP	PKPdf		17 17 12.3 -1.4
	comp=E,0.6nm,0.5s,baz=315,slow=1.4,SNR=2.5						
ZALV				PKPbc	PKPbc		17 17 20.5 0.0
	comp=E,22nm,0.5s,baz=336,slow=3.3,SNR=3.8						
ZALV				pPKPbc	pPKPbc		17 17 51.5 +2.7
	comp=E,4.9nm,0.4s,baz=317,slow=3.0,SNR=4.0						
MK31	Makanchi Array	154.63	48	ePKPdf	PKPdf		17 17 18.1 +0.6
MK31				ePKPbc	PKPbc		17 17 25.6 -0.4
MK31				ePKPab	PKPab		17 17 41.0 -0.2
MKAR	Makanchi Array	154.63	48	PKP	PKPdf		17 17 17.6 +0.1
	comp=E,0.2nm,0.2s,baz=338,slow=1.6,SNR=2.7						
MKAR				PKPbc	PKPbc		17 17 25.9 -0.1
	comp=E,1.2nm,0.7s,baz=295,slow=2.0,SNR=11						
MKAR				PKPab	PKPab		17 17 41.6 +0.4
	comp=E,2.3nm,0.7s,baz=304,slow=4.0,SNR=13						
HHC	Hu-ho-hao-te	171.70	351	ePKP	PKPdf		17 17 33.8 0.0
HHC				XPKP			17 18 10.6
HHC				PP	PP		
	comp=Z,180nm,5.8s						
HHC				LR	LR		
	comp=N,153nm,23.9s						
HHC				LR	LR

MJAR Lg 17 13 20.4
185nm,0.3s,baz=281,slow=24,SNR=11
JNU Nakatsue 6.01 230 Pn Pn 17 13 57.1 +0.1
1.7nm,0.3s,baz=44,slow=7.7,SNR=15
JNU Lg 17 15 34.9
0.2nm,0.3s,baz=203,slow=13,SNR=2.3
JNU LR LR 17 16 17.3
comp=Z,481nm,18.6s,baz=39,slow=38
KSRS Korea Array 6.72 275 Pn Pn 17 14 06.7 -0.1
0.9nm,0.3s,baz=90,slow=14,SNR=15
KSRS Sn **Sn 17 15 24.2 +0.4**
0.5nm,0.3s,baz=84,slow=25,SNR=5.1
KSRS LR LR 17 16 31.1
comp=Z,498nm,19.0s,baz=268,slow=36
VLA Vladivostok 6.88 332 *e*P **Pn 17 14 05.7 -3.3**
VLA pmax pmax
comp=Z,19nm,0.8s
ASAJ Asahikawa 8.44 32 P **Pn 17 14 33.7 +3.4**
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,316nm,18.6s
ASAJ Asahikawa 8.44 32 Pn **Pn 17 14 33.7 +3.4**
comp=Z,1.1nm,0.3s,baz=235,slow=20,SNR=7.8
ASAJ LR LR 17 17 40.7
comp=Z,316nm,18.6s,baz=214,slow=37
YSS Yuzh-Sakhalins 10.90 24↑ *i*P **Pn 17 15 07.0 +3.0**
YSS pmax pmax
comp=N,90nm,1.0s
YSS pmax pmax
comp=Z,90nm,1.0s
YSS MLR MLR
comp=Z,500nm,12.0s
YSS Yuzh-Sakhalins 10.90 24 *e*Pn **Pn 17 15 07.3 +3.3**
comp=Z,88nm,1.0s
CBIJ Chichi jima 11.16 152 LR LR 17 19 04.2
comp=Z,178nm,22.0s,baz=260,slow=36
JOW Kunigami 12.34 216 LR LR 17 20 50.6
comp=Z,177nm,18.0s,baz=326,slow=41
KLR Kul'dur 12.54 346 *e*P **Pn 17 15 26.0 -0.5**
KLR MLR MLR
comp=N,1μm,13.0s
KLR MLR MLR
comp=E,500nm,12.0s
KLR MLR MLR
comp=Z,3μm,12.0s
BJT Baijiatuau 16.04 287 *e*P **Pn 17 16 16.2 +2.5**
HIA Hailar 17.09 320 P **Pn 17 16 29.1 +2.2**
HIA pmax pmax
comp=Z,15nm,1.1s
HIA Hailar 17.09 320 P **Pn 17 16 29.1 +2.2**
comp=Z,15nm,1.1s
HHC Hu-ho-hao-te 19.60 289 *e*P **Pn 17 17 03.0 +5.3**
HHC AMB AMB
comp=Z,22nm,1.1s
HHC AMB AMB
comp=Z,155nm,5.5s
ULN Ulaanbaatar 23.98 306 *e*P **P 17 17 44.0 +1.3**
ULN pmax pmax
comp=Z,6.0nm,1.0s,mb4.0
ULN Ulaanbaatar 23.98 306 *e*P **P 17 17 44.0 +1.3**
comp=Z,5.8nm,1.0s,mb4.0
MA2 Magadan 24.31 18 *e*P **P 17 17 45.3 -0.3**
MA2 pmax pmax
comp=Z,30nm,0.9s,mb4.7
MA2 Magadan 24.31 18 *e*P **P 17 17 44.4 -1.2**
comp=Z,15nm,0.9s,mb4.4
SONM Songino Array 24.39 305 P **P 17 17 47.9 +1.4**
comp=Z,7.6nm,1.0s,mb4.1,baz=106,slow=9.0,SNR=26
SONM LR LR 17 27 32.4
comp=Z,317nm,19.5s,MS3.8,baz=320,slow=37
GUMO Guam 24.65 160 LR LR 17 26 18.3
comp=Z,74nm,20.3s,MS3.2,baz=343,slow=34
LZH Lanzhou 26.05 278 *e*P **P 17 18 03.4 +1.7**
LZH AP pP 17 18 11.5 +8.3
LZH XP sP 17 18 14.2 +10
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,108nm,4.8s
ZAK Zakamensk 27.06 310 *e*P **P 17 18 11.5 +0.9**
ZAK pmax pmax
comp=Z,4.0nm,1.3s,mb3.8
SEY Seymchan 27.64 16↑ *e*P **P 17 18 12.5 -3.2**
TIXI Tiksi 34.80 356 *e*P **P 17 19 17.2 -1.4**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TIXI Tiksi 34.80 356 *e*P **P 17 19 17.1 -1.5**
comp=Z,4.7nm,0.8s,mb4.5
BILL Bilibino 35.16 19 *e*P **P 17 19 20.0 -1.8**
BILL pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
BILL Bilibino 35.16 19 *e*P **P 17 19 21.5 -0.3**
comp=Z,3.6nm,0.6s,mb4.5
ZALV Zalesovo Beam 38.85 312 P **P 17 19 51.6 -1.7**
comp=Z,0.8nm,0.7s,mb3.5,baz=91,slow=7.9,SNR=3.8
ZALV PcP PcP 17 22 03.3 -0.9
comp=Z,1.3nm,0.7s,baz=100,slow=2.3,SNR=3.8
ZALV LR LR 17 36 16.9
comp=Z,47nm,21.6s,MS3.3,baz=96,slow=37
ZAL Zalesovo 38.87 312 P **P 17 19 51.6 -1.8**
ZAL 17 22 03.3
MKAR Makanchi Array 40.62 301 P **P 17 20 07.3 -0.9**
comp=Z,0.2nm,0.3s,mb3.3,baz=90,slow=10,SNR=3.2
MKAR LR LR 17 38 30.1
comp=Z,36nm,19.4s,MS3.2,baz=356,slow=38
KURK Kurchatov 42.67 308 *e*P **P 17 20 23.5 -1.4**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
KURK Kurchatov 42.67 308 *e*P **P 17 20 23.5 -1.4**
comp=Z,4.3nm,0.9s,mb4.2
KAPI Kappang 44.70 204 P **P 17 20 41.9 +0.3**
comp=Z,5.9nm,0.6s,mb4.6,baz=56,slow=5.9,SNR=5.1
TKM2 Tokmak 2 46.00 297 *e*P **P 17 20 51.0 -0.6**
BVAR Borovoye Array 47.49 312 P **P 17 21 02.9 -0.3**
BVAR 17 22 32.4
BVAR Borovoye Array 47.49 312 P **P 17 21 02.9 -0.2**
comp=Z,1.0nm,0.8s,mb3.8,baz=89,slow=8.0,SNR=4.4
BVAR PcP PcP 17 22 32.4 -0.9
comp=Z,0.8nm,0.8s,baz=88,slow=4.9,SNR=3.3
BVAR LR LR 17 40 03.0
comp=Z,50nm,20.2s,MS3.5,baz=202,slow=35
AML Almayashu 47.56 296 *e*P **P 17 21 06.1 +2.2**
comp=Z,4.5nm,1.0s,mb4.5
COLA College 51.15 32 *e*P **P 17 21 31.0 0.0**
ARU Arti 53.58 318 *d i*P **P 17 21 48.3 -0.8**
ARU *e*S **S 17 29 13.5 -9.1**
ARU *e*SS SS 17 32 52.2 -10
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
AKTK Aktyubinsk 55.56 311 P **P 17 22 04.4 +0.8**
AKTO Aktyubinsk 55.56 311 P **P 17 22 04.4 +0.8**
comp=Z,0.9nm,0.6s,mb4.0,baz=65,slow=8.6,SNR=4.8
INK Inuvik 56.13 27 P **P 17 22 07.5 +0.1**
comp=Z,2.0nm,0.6s,mb4.3,baz=300,slow=7.4,SNR=3.1
WRA Warramunga Arr 56.80 182 P **P 17 22 12.1 -0.6**
comp=Z,1.5nm,0.5s,mb4.3,baz=358,slow=7.7,SNR=9.7
ASAR Alice Springs 60.52 183 P **P 17 22 39.1 +0.6**
comp=Z,0.6nm,0.6s,mb3.9,baz=12,slow=14,SNR=13
YKA Yellowknife Ar 65.71 29 P **P 17 23 12.4 -0.3**
YKA Yellowknife Ar 65.71 29 P **P 17 23 12.4 -0.2**
comp=Z,0.7nm,0.7s,mb3.8,baz=302,slow=6.7,SNR=5.4
FINES FINESS Array B 66.79 331 P **P 17 23 18.1 -1.5**
comp=Z,3.6nm,0.8s,mb4.4,baz=60,slow=7.7,SNR=6.9
FINES LR LR 17 55 47.9
comp=Z,51nm,18.6s,MS3.8,baz=22,slow=39
KIV Kislovodsk 67.73 309 *e*P **P 17 23 26.8 +0.9**
KIV pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KIV MLR MLR
comp=Z,84nm,19.0s,MS4.0
STKA Stephens Creek 68.83 175 P **P 17 23 31.5 -1.2**
comp=Z,1.8nm,0.9s,mb4.0,baz=36,slow=7.8,SNR=3.4
AKASG Malin Array Be 71.68 320 P **P 17 23 50.7 +0.6**
comp=Z,0.2nm,0.3s,mb3.5,baz=49,slow=6.0,SNR=6.4
NB2 NORSAR Subarra 72.47 335 P **P 17 23 54.0 -0.6**
comp=Z,1.2nm,0.9s,mb3.8,baz=44,slow=6.2
NOA NORSAR Array B 72.47 335 P **P 17 23 53.8 -0.8**
comp=Z,2.5nm,0.9s,mb4.1,baz=43,slow=6.1,SNR=4.5
NOA LR LR 17 55 22.4
comp=Z,28nm,21.0s,MS3.5,baz=5.0,slow=36
NVAR Mina Array Bea 78.12 51 P **P 17 24 27.3 -0.2**
comp=Z,1.4nm,0.6s,mb4.1,baz=298,slow=5.7,SNR=3.8
LPAZ La Paz 150.00 53 PKPbc PKPbc 17 32 20.1 +0.6
LPAZ La Paz 150.00 53 PKPbc PKPbc 17 32 20.1 +0.6
comp=Z,1.0nm,0.5s,baz=308,slow=5.0,SNR=7.2

BJI ***10*** *17:15:11.8,5397N×16643W,h42km,mB5.0,mb4.8,Ms4.7, Ms2.4*
MOS ***10*** *17:15:12.0±0.9,5358N×16607W,h55km,mb4.9/17,Error ellipse: s-maj=12.6km s-min=8.1km az=86.7*
IDC ***10*** *17:15:12.6±3.5,5362N×166.10W,h40km±29km,mb4.2/22, mb1 4.3/23,mb1mx4.2/30,mbtmp4.2/23,ML4.8/1,MS3.3/7, Ms1 3.3/7,ms1mx3.1/34,Error ellipse: s-maj=21.7km s-min=12.3km az=7.0*
ISCJB ***10*** *17:15:13.0±0.6,5341N±006×16602W±005,h69km±3km, mb4.6/64,Error ellipse: s-maj=9.9km s-min=4.6km az=164.5*
NEIC ***10*** *17:15:14.2±0.6,5346N×16606W,h64km±4km,mb4.6/20, ML4.2(AEIC),Error ellipse: s-maj=9.9km s-min=4.7km az=167.0*
NEIC Felt at Dutch Harbor and Unalaska.
ISC 10 17:15:14.0±0.6,5339N±006×16601W±005,h62km±3km, h62km±2.7km:pP-P,n143,σ0.98/148,mb4.7/64,4C,Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	ISC	Res
UNV	**Unalaska Valle**	**0.54**	**328**	P	**Pn**	**17 15 25.8**		**-0.7**
UNV				S	**Sn**	**17 15 36.0**		**+0.4**
AKUT	**Akutan**	**0.76**	**11**	P	**Pn**	**17 15 28.7**		**-0.3**
AKUT				S	**Sn**	**17 15 40.7**		**+0.6**
AKLV	**Akutan Long Va**	**0.78**	**2**	P	**Pn**	**17 15 28.9**		**-0.3**
AKLV				S	**Sn**	**17 15 41.0**		**+0.6**
AKGG	**Akutan Green G**	**0.81**	**1**	P	**Pn**	**17 15 29.7**		**0.0**
AKGG				S	**Sn**	**17 15 41.4**		**+0.2**
NIKO	**Nikolski**	**1.76**	**257**	P	**Pn**	**17 15 41.9**		**-0.2**
NIKO				S	**Sn**	**17 16 02.5**		**-1.0**
FALS	**False Pass**	**2.12**	**45**	P	**Pn**	**17 15 47.2**		**+0.2**
SDPT	**Sand Point**	**3.79**	**57**	P	**Pn**	**17 16 09.3**		**-0.4**
SDPT				S	**Sn**	**17 16 50.2**		**-2.8**
SPIA	**Saint Paul Isl**	**4.50**	**329**	P	**Pn**	**17 16 21.1**		**+1.6**
CHGN	**Chignik**	**5.27**	**53**	P	**Pn**	**17 16 30.0**		**0.0**
ADK	**Adak**	**6.67**	**261**	P	**Pn**	**17 16 50.1**		**+0.9**
KDAK	**Kodiak Island**	**8.78**	**55**	P	**Pn**	**17 17 15.7**		**-2.3**
KDAK	**Kodiak Island**	**8.78**	**55**	Pn	**Pn**	**17 17 15.7**		**-2.4**
KDAK				Sn	**Sn**	**17 18 47.9**		**-7.4**
AMKA	**Amchitka**	**9.21**	**263**	*e*Pn	**Pn**	**17 17 22.6**		**-1.3**
SVW2	**Sparrevohn**	**9.56**	**32**	*e*P	**Pn**	**17 17 28.9**		**+0.2**
GAMB	**Gambell**	**10.83**	**346**	*e*Pn	**Pn**	**17 17 48.1**		**+2.2**
TTA	**Tatalina**	**10.91**	**25**	*e*P	**Pn**	**17 17 47.0**		**0.0**
TTA				pmax	pmax			
TTA	**Tatalina**	**10.91**	**25**	*e*Pn	**Pn**	**17 17 47.0**		**-0.1**
SLKM	**Skilak Lake**	**11.17**	**44**	*e*P	**Pn**	**17 17 48.4**		**-2.2**
PMR	**Palmer**	**12.21**	**41**	P	**Pn**	**17 18 08.2**		**+3.4**
TNA	**Tin City**	**12.25**	**356**	*e*Pn	**Pn**	**17 18 07.1**		**+1.8**
SML	**Sawmill**	**12.65**	**41**	*e*P	**Pn**	**17 18 06.4**		**-4.3**
DIV	**Divide**	**13.37**	**47**	*e*Pn	**Pn**	**17 18 16.8**		**-3.8**
DIV				*e*Sn	**Sn**	**17 20 34.6**		**-13**
IMA2	**Indian Mountai**	**14.11**	**21**	*e*Pn	**Pn**	**17 18 30.4**		**0.0**
IMA2				*e*Sn	**Sn**	**17 21 12.0**		**+6.9**
COLA	**College**	**14.73**	**32**	P	**Pn**	**17 18 35.8**		**-2.7**
MENT	**Mentasta**	**15.07**	**42**	*e*Pn	**Pn**	**17 18 39.5**		**-3.5**
EGAK	**Eagle**	**16.98**	**38**	*e*Pn	**Pn**	**17 19 02.5**		**-4.4**
DAWY	**Dawson**	**17.32**	**41**	*e*Pn	**Pn**	**17 19 07.5**		**-3.6**
SIT	**Sitka**	**17.80**	**66**	*e*P	**Pn**	**17 19 17.2**		**+0.1**
SIT				pmax	pmax			
SIT	**Sitka**	**17.80**	**66**	*e*Pn	**Pn**	**17 19 17.2**		**+0.1**
SKAG	**Skagway**	**17.91**	**58**	*e*P	**Pn**	**17 19 19.4**		**+1.0**
CRAG	**Craig**	**19.15**	**71**	P	**Pn**	**17 19 33.5**		**+0.1**
BILL	**Bilibino**	**19.71**	**329**	*e*P	**Pn**	**17 19 41.0**		**+1.2**
BILL				pmax	pmax			
VIB	**Van Inlet**	**19.90**	**77**	T		17 40 27.8		
DIB	**Dawson Inlet,**	**19.95**	**77**	T		17 40 31.6		
DLBC	**Dease Lake**	**20.61**	**61**	*e*P	**P**	**17 19 49.9**		**+2.1**
DLBC	**Dease Lake**	**20.61**	**61**	P	**P**	**17 19 48.8**		**+1.1**
	baz=173,slow=19							
PET	**Petropavlovsk**	**21.04**	**283**↑	*e*P	**P**	**17 19 52.8**		**+0.4**
PET				pmax	pmax			
INK	**Inuvik**	**21.38**	**33**	*e*P	**P**	**17 19 52.9**		**-2.9**
INK	**Inuvik**	**21.38**	**33**	P	**P**	**17 19 53.3**		**-2.6**
INK				PcP	PcP	17 23 57.4		+0.3
INK				LR	LR	17 28 44.1		
MA2	**Magadan**	**24.29**	**302**↑	*e*P	**P**	**17 20 24.5**		**-0.6**
MA2				pmax	pmax			
MA2	**Magadan**	**24.29**	**302**	*e*P	**P**	**17 20 24.8**		**-0.3**
YKA	**Yellowknife Ar**	**28.03**	**51**	P	**P**	**17 20 59.9**		**+1.1**
YKA				PcP	PcP	17 24 12.4		
YKA	**Yellowknife Ar**	**28.03**	**51**	P	**P**	**17 20 59.9**		**+1.1**
YKA				PcP	PcP	17 24 12.4		+0.6
EDM	**Edmonton**	**30.88**	**69**	*e*P	**P**	**17 21 24.5**		**+0.4**
YBH	**Yreka Blue Hor**	**30.99**	**94**	P	**P**	**17 21 27.9**		**+2.7**
YBH				LR	LR	17 30 49.6		
YAK	**Yakutsk**	**34.04**	**311**	*e*P	**P**	**17 21 47.6**		**-4.0**
YAK				pmax	pmax			
YAK	**Yakutsk**	**34.04**	**311**	*e*P	**P**	**17 21 47.6**		**-4.1**
RES	**Resolute Bay**	**34.56**	**26**	*e*P	**P**	**17 21 54.8**		**-1.2**
MCMT	**McKenzie Canyo**	**35.10**	**82**	*e*P	**P**	**17 22 01.6**		**+0.6**
NVAR	**Mina Array Bea**	**35.69**	**95**	P	**P**	**17 22 08.2**		**+2.2**
NVAR				PcP	PcP	17 24 34.2		+1.1
NVAR	**Mina Array Bea**	**35.69**	**95**	P	**P**	**17 22 08.2**		**+2.2**
NVAR				PcP	PcP	17 24 34.2		+1.1
HABR	**Khabarovsk**	**36.55**	**287**	*e*P	**P**	**17 22 11.8**		**-1.5**
HABR				*e*		17 23 37.0		
HABR				*e*		17 24 31.8		
HABR				*e*S	**S**	**17 27 42.9**		**-8.1**
FCC	**Fort Churchill**	**38.71**	**52**	*e*P	**P**	**17 22 31.5**		**+0.1**
FCC				pmax	pmax			
FCC	**Fort Churchill**	**38.71**	**52**	*e*P	**P**	**17 22 31.5**		**+0.1**
MJAR	**Matsushiro Arr**	**41.76**	**269**	P	**P**	**17 22 56.4**		**-0.5**
MAJO	**Matsushiro**	**41.76**	**269**	*e*P	**P**	**17 22 56.1**		**-0.8**
MAJO				pmax	pmax			
MAJO	**Matsushiro**	**41.76**	**269**	*e*P	**P**	**17 22 56.1**		**-0.8**
MAT	**Matsushiro**	**41.76**	**269**	P	**P**	**17 22 56.2**		**-0.7**
BOD	**Bodaibo**	**42.93**	**309**	*e*P	**P**	**17 23 05.0**		**-1.1**
BOD				pmax	pmax			
CN2	**Changchun**	**44.69**	**287**	*e*P	**P**	**17 23 19.4**		**-1.0**
CN2				*e*S	**S**	**17 29 49.0**		**-3.1**
CN2				AMB	AMB			
CN2				LR	LR			
CN2				LR	LR			
KSRS	**Korea Array**	**47.29**	**278**	P	**P**	**17 23 41.8**		**+0.8**
KSRS				LR	LR	17 41 35.6		
INCN	**Inchon**	**48.03**	**279**	P	**P**	**17 23 46.7**		**0.0**
JNU	**Nakatsue**	**48.48**	**272**	P	**P**	**17 23 51.1**		**+0.9**
WMOK	**Wichita Mounta**	**49.83**	**84**	*e*P	**P**	**17 24 00.3**		**-0.1**
WMOK				pmax	pmax			
WMOK	**Wichita Mounta**	**49.83**	**84**	*e*P	**P**	**17 24 00.3**		**-0.2**
	comp=Z,1.2nm,0.6s,mb4.1							
LPIG	**La Paz**	**50.69**	**103**	LR	LR	17 40 57.0		
	comp=Z,38nm,20.5s,baz=32,slow=30							
TXAR	**Lajitas Array**	**50.73**	**92**	P	**P**	**17 24 08.0**		**+0.7**
	comp=Z,3.5nm,0.8s,mb4.3,baz=296,slow=5.7,SNR=24							
TXAR				PcP	PcP	17 25 23.6		-0.1
	comp=Z,0.6nm,0.5s,baz=228,slow=1.1,SNR=4.1							
ULN	**Ulaanbaatar**	**52.15**	**302**	*e*P	**P**	**17 24 17.1**		**-0.6**
ULN				pmax	pmax			
	comp=Z,4.0nm,0.4s,mb4.7							
ULN	**Ulaanbaatar**	**52.15**	**302**	*e*P	**P**	**17 24 17.1**		**-0.6**
	comp=Z,3.7nm,0.4s,mb4.7							
BJI	**Beijing**	**52.40**	**289**	P	**P**	**17 24 20.0**		**+0.4**
BJI				AMB	AMB			
	comp=Z,6.0nm,0.8s,mb4.6							
SONM	**Songino Array**	**52.51**	**302**	P	**P**	**17 24 19.8**		**-0.5**
SONM						17 25 30.7		
SONM	**Songino Array**	**52.51**	**302**	P	**P**	**17 24 19.8**		**-0.5**
	comp=Z,0.8nm,0.3s,mb4.2,baz=30,slow=7.1,SNR=9.3							
SONM				PcP	PcP	17 25 30.7		+0.7
	comp=Z,2.9nm,0.6s,baz=62,slow=2.8,SNR=9.6							
SONM				LR	LR	17 46 53.1		
	comp=Z,42nm,18.0s,baz=50,slow=36							
SCHQ	**Schefferville**	**53.28**	**45**	P	**P**	**17 24 25.8**		**-0.2**
	comp=Z,4.5nm,0.8s,mb4.4,baz=315,slow=9.4,SNR=7.4							
HHC	**Hu-ho-hao-te**	**54.43**	**292**	*e*P	**P**	**17 24 34.7**		**+0.1**
HHC				AP	pP	17 24 49.9		-0.8
HHC				PCP	PcP	17 25 38.6		+1.1
HHC				PP	PP	17 26 38.2		+1.4
HHC				S	**S**	**17 32 05.7**		**-2.6**
HHC				SCS	ScS	17 34 15.6		-2.2
HHC				SS	SS	17 35 47.5		-3.2
HHC				AMB	AMB			
	comp=Z,15nm,1.1s,mb4.8							
HHC				AMB	AMB			
	comp=Z,413nm,8.9s							
HHC				LR	LR			
	comp=N,152nm,16.7s							
HHC				LR	LR			
	comp=E,195nm,17.4s							
HHC				LR	LR			
	comp=Z,147nm,15.3s							
NJ2	**Nanjing**	**56.40**	**280**	*e*P	**P**	**17 24 50.9**		**+2.1**
NJ2				AP	pP	17 25 05.6		+0.6
NJ2				XP	sP	17 25 11.7		-0.3
NJ2				S	**S**	**17 32 33.5**		**-1.3**
NJ2				AMB	AMB			
	comp=Z,20nm,0.5s,mb5.4							
NJ2				AMB	AMB			
	comp=Z,240nm,9.4s							
NJ2				LR	LR			
	comp=N,350nm,19.4s							
NJ2				LR	LR			
	comp=E,190nm,19.2s							
NJ2				LR	LR			
	comp=Z,190nm,19.2s							
ARCES	**ARCESS Array B**	**57.10**	**355**	P	**P**	**17 24 52.3**		**-0.9**
	comp=Z,5.4nm,1.0s,mb4.5,baz=20,slow=7.8,SNR=5.8							
ARCES				PcP	PcP	17 25 47.4		+0.1
	comp=Z,1.8nm,0.6s,baz=0.0,slow=6.1,SNR=5.4							
ZALV	**Zalesovo Beam**	**58.02**	**319**	P	**P**	**17 24 59.4**		**-0.5**
	comp=Z,3.7nm,0.3s,mb4.8,baz=40,slow=7.1,SNR=25							
ZALV				LR	LR	17 49 37.9		
	comp=Z,26nm,18.9s,baz=83,slow=36							
ZAL	**Zalesovo**	**58.03**	**319**	P	**P**	**17 24 59.4**		**-0.6**
XAN	**Xi'an**	**60.73**	**288**	P	**P**	**17 25 18.7**		**-0.2**
XAN				AMB	AMB			
	comp=Z,8.0nm,0.7s,mb5.0							
LZH	**Lanzhou**	**62.07**	**294**	*e*P	**P**	**17 25 27.6**		**-0.3**
LZH				AP	pP	17 25 43.7		-0.7
LZH				PP	PP	17 27 45.4		+0.7
LZH				AMB	AMB			
	comp=Z,20nm,1.5s,mb5.0							
LZH				AMB	AMB			
	comp=Z,125nm,6.4s							
LZH				LR	LR			
	comp=N,456nm,16.9s							
LZH				LR	LR			
	comp=Z,631nm,18.6s							
KURK	**Kurchatov**	**62.94**	**320**	*e*P	**P**	**17 25 33.0**		**-0.4**
KURK				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.9							
KURK	**Kurchatov**	**62.94**	**320**	*e*P	**P**	**17 25 33.0**		**-0.4**
	comp=Z,5.4nm,0.5s,mb4.9							
JOF	**Joensuu**	**63.24**	**351**	*e*p	**P**	**17 25 33.8**		**-1.4**
	comp=Z,1.3nm,0.3s,mb4.5							
JOF	**Joensuu**	**63.24**	**351**	*e*P	**P**	**17 25 33.8**		**-1.4**
SVE	**Sverdlovsk**	**63.71**	**334**	*e*P	**P**	**17 25 38.9**		**+0.4**
SVE				pmax	pmax			
	comp=Z,12nm,0.6s,mb5.1							
BVAR	**Borovoye Array**	**64.03**	**326**	P	**P**	**17 25 41.0**		**+0.4**
	comp=Z,6.6nm,0.5s,mb5.0,baz=49,slow=6.7,SNR=27							
BVAR				PcP	PcP	17 26 15.6		+0.2
	comp=Z,2.0nm,0.7s,baz=44,slow=0.9,SNR=3.5							
BRVK	**Borovoye**	**64.03**	**326**	*e*P	**P**	**17 25 40.3**		**-0.3**
BRVK				pmax	pmax			
	comp=Z,11nm,1.0s,mb4.8							
BRVK	**Borovoye**	**64.03**	**326**	*e*P	**P**	**17 25 40.3**		**-0.3**
	comp=Z,11nm,1.0s,mb4.8							
WMQ	**Urumqi**	**64.48**	**310**	*e*P	**P**	**17 25 45.0**		**+1.3**
MK31	**Makanchi Array**	**64.55**	**315**	*i* P	**P**	**17 25 43.0**		**-1.1**
MK31				pmax	pmax			
	comp=Z,1.0nm,0.2s,mb4.5							
MK31	**Makanchi Array**	**64.55**	**315**	*e*P	**P**	**17 25 42.5**		**-1.6**
MKAR	**Makanchi Array**	**64.55**	**315**	P	**P**	**17 25 43.5**		**-0.6**
	comp=Z,4.4nm,0.7s,mb4.6,baz=45,slow=5.9,SNR=16							
MKAR				LR	LR	17 55 20.5		
	comp=Z,38nm,18.7s,baz=356,slow=37							
ARU	**Arti**	**64.61**	**334**↑	*e*P	**P**	**17 25 43.5**		**-0.8**
ARU				pmax	pmax			
	comp=Z,5.0nm,1.0s,mb4.5							
FINES	**FINESS Array B**	**65.11**	**354**	P	**P**	**17 25 46.7**		**-0.8**
	comp=Z,1.1nm,0.3s,mb4.4,baz=11,slow=6.1,SNR=15							
NB2	**NORSAR Subarra**	**65.90**	**1**	P	**P**	**17 25 52.2**		**-0.4**
	comp=Z,1.3nm,0.7s,mb4.1,baz=358,slow=6.5							
NOA	**NORSAR Array B**	**65.90**	**1**	P	**P**	**17 25 52.2**		**-0.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=359,slow=6.2,SNR=5.6							
CD2	**Chengdu**	**65.97**	**290**	*e*P	**P**	**17 25 53.2**		**-0.3**
CD2				PP	PP	17 28 20.3		+1.3
CD2				SS	SS	17 38 48.8		-2.9
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb4.9							
CD2				AMB	AMB			
	comp=Z,20nm,5.8s							
CD2				LR	LR			
	comp=N,120nm,12.4s							
CD2				LR	LR			
	comp=Z,110nm,13.6s							
HFS	**Hagfors**	**66.83**	**0**	P	**P**	**17 25 57.8**		**-0.7**
	comp=Z,3.8nm,0.4s,mb4.8,baz=46,slow=4.3,SNR=29							
GYA	**Guiyang**	**67.67**	**285**	P	**P**	**17 26 04.2**		**-0.2**
GYA				AP	pP	17 26 22.4		+1.3
GYA				PCP	PcP	17 26 32.7		+1.7
GYA				PP	PP	17 28 36.4		+2.5
GYA				SCP		17 30 29.6		
GYA				PCS		17 30 36.8		
GYA				S	S	17 34 55.7		-1.2
GYA				SKS		17 35 54.8		
GYA				SS	SS	17 39 18.4		+0.1
GYA				AMB	AMB			
	comp=Z,10.0nm,1.0s,mb4.8							
GYA				AMB	AMB			
	comp=Z,90nm,5.2s							
GYA				LR	LR			
	comp=N,460nm,19.9s							
GYA				LR	LR			
	comp=E,470nm,20.7s							
GYA				LR	LR			
	comp=Z,450nm,18.7s							
AKTK	**Aktyubinsk**	**70.11**	**332**	P	**P**	**17 26 19.6**		**+0.4**
AKTO	**Aktyubinsk**	**70.11**	**332**	P	**P**	**17 26 19.6**		**+0.4**
	comp=Z,14nm,0.7s,mb5.0,baz=45,slow=6.2,SNR=41							
TKM2	**Tokmak 2**	**70.48**	**317**	*e*P	**P**	**17 26 21.9**		**+0.3**
TKM2				pmax	pmax			
	comp=Z,5.0nm,0.5s,mb4.7							
TKM2	**Tokmak 2**	**70.48**	**317**	*e*P	**P**	**17 26 21.9**		**+0.4**
	comp=Z,5.0nm,0.5s,mb4.7							
TKM2	**Tokmak 2**	**70.48**	**317**	P	**P**	**17 26 22.2**		**+0.6**
	SNR=8.4							
USP	**Ospenovka**	**70.64**	**318**	P	**P**	**17 26 23.1**		**+0.5**
	SNR=17							
EKA	**Eskdalemuir Ar**	**70.72**	**10**	P	**P**	**17 26 23.1**		**+0.3**
	comp=Z,2.0nm,0.7s,mb4.2,baz=341,slow=4.6,SNR=5.9							
ULHL	**Ulahol**	**70.77**	**316**	P	**P**	**17 26 23.9**		**+0.6**
	SNR=6.2							
KMI	**Kunming**	**70.96**	**287**	P	**P**	**17 26 25.4**		**+0.7**
KMI				AMB	AMB			

comp=Z,7.0nm,1.5s,mb4.4
KBK Karagaybulak 70.97 317 P **P 17 26 25.2 +0.6**
SNR=9.4
AAK Ala-Archa 71.17 317 P **P 17 26 26.6 +0.8**
SNR=10
KZA Kyzart 71.32 316 P **P 17 26 27.8 +1.1**
SNR=11
EKS2 Erkin-Say 71.44 318 *e*P **P 17 26 27.9 +0.5**
comp=Z,8.0nm,0.8s,mb4.7
EKS2 *e*PP PP 17 29 06.0 +0.2
EKS2 Erkin-Say 71.44 318 P **P 17 26 28.1 +0.8**
SNR=13
UCH Uchtor 71.50 317 *e*P **P 17 26 27.2 -0.6**
comp=Z,1.9nm,0.7s,mb4.1
AML Almayashu 71.91 317 *e*P **P 17 26 31.3 +1.1**
comp=Z,6.2nm,0.7s,mb4.7
AML Almayashu 71.91 317 P **P 17 26 31.7 +1.5**
SNR=9.9
KK31 Karatay Array 72.35 320 *i* P **P 17 26 32.9 +0.1**
KK31 pmax pmax
comp=Z,17nm,0.6s,mb5.2
LSA Lhasa 73.80 298 *e*P **P 17 26 42.7 +1.1**
LSA pmax pmax
comp=Z,13nm,0.9s,mb4.9
LSA Lhasa 73.80 298 *e*P **P 17 26 42.7 +1.0**
comp=Z,13nm,0.9s,mb4.9
AKASG Malin Array Be 75.49 350 *i* P **P 17 26 50.0 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.4s
AKASG Malin Array Be 75.49 350 P **P 17 26 50.0 -1.0**
comp=Z,2.7nm,0.4s,mb4.5,baz=13,slow=5.9,SNR=25
GUN Gumba 77.99 301 *e*P **P 17 27 05.7 +0.2**
comp=Z,18nm,0.5s,mb5.3
JIRN Jiri 78.03 300 *e*P **P 17 27 06.4 +0.7**
comp=Z,17nm,0.3s,mb5.4
GERES GERESS Array B 78.14 0 P **P 17 27 06.1 +0.1**
comp=Z,0.3nm,0.3s,mb3.7,baz=4.8,slow=5.9,SNR=3.0
KKN Kakani 78.39 301 *e*P **P 17 27 08.3 +0.6**
comp=Z,9.1nm,0.5s,mb4.9
PKI Pulchoki 78.51 301 *e*P **P 17 27 08.5 +0.1**
comp=Z,17nm,0.6s,mb5.2
GKN Gorkha 78.55 302 *e*P **P 17 27 08.5 -0.1**
comp=Z,25nm,0.6s,mb5.3
DMN Daman 78.63 301 *e*P **P 17 27 09.2 +0.2**
comp=Z,15nm,0.6s,mb5.1
DANN Dangsing 78.71 303 *e*P **P 17 27 10.1 +0.6**
comp=Z,45nm,0.6s,mb5.6
KOLN Koldanda 79.27 302 *e*P **P 17 27 12.6 +0.1**
comp=Z,15nm,0.7s,mb5.0
KIV Kislovodsk 79.95 339⇑*e*P **P 17 27 16.3 +0.3**
KIV pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
KIV Kislovodsk 79.95 339 *e*P **P 17 27 16.0 0.0**
comp=Z,4.2nm,0.6s,mb4.5
KBL Kabul 80.28 317 *e*P **P 17 27 16.8 -1.1**
KBL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
KBL Kabul 80.28 317 *e*P **P 17 27 16.8 -1.2**
comp=Z,5.5nm,0.7s,mb4.6
MALT Malatya 86.25 341 *e*P **P 17 27 49.7 +1.2**
MALT pmax pmax
comp=Z,1.0nm,0.4s,mb4.4
MALT Malatya 86.25 341 *e*P **P 17 27 49.7 +1.2**
comp=Z,0.9nm,0.4s,mb4.3
WRA Warramunga Arr 89.24 234 P **P 17 28 01.9 -1.0**
comp=Z,0.6nm,0.7s,mb4.0,baz=37,slow=5.8,SNR=3.0
MMAI Mount Meron Ar 91.96 342 P **P 17 28 16.4 +0.8**
comp=Z,1.9nm,0.5s,mb4.7,baz=347,slow=6.9,SNR=4.5
TORD Torodi Ar. Bea 112.90 13 PKPdf PKiKP 17 33 43.2 -0.7
TORD Torodi Ar. Bea 112.90 13 PKiKP PKiKP 17 33 43.2 -0.7
comp=Z,0.3nm,0.5s,baz=15,slow=2.3,SNR=5.1
MAW Mawson 152.95 219 *e*P PKPdf 17 34 46.2 -9.0
BOSA Boshof 153.89 337 PKPbc PKPbc 17 35 06.0 +0.2
BOSA PKPab PKPab 17 35 19.8 +0.6
BOSA Boshof 153.89 337 PKPbc PKPbc 17 35 06.0 +0.2
comp=Z,6.4nm,1.1s,baz=90,slow=2.0,SNR=3.0
BOSA PKPab PKPab 17 35 19.8 +0.6
comp=Z,3.6nm,0.9s,baz=149,slow=20,SNR=4.4

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*SKHL **10** 17:16:41.9±1.2, 4928N×14938E, h532km±54km, mb4.8/6, Ms3.7/1, msh5.0/2*
*BJI **10** 17:16:43.8, 4958N×14893E, h528km, mB4.8, mb4.5*
*ISCJB **10** 17:16:44.7±0.3, 4976N±004×14882E±004, h527km±4km, mb4.1/77, Error ellipse: s-maj=6.3km s-min=3.3km az=165.9*
*MOS **10** 17:16:45.4±0.8, 4980N×14892E, h541km, mb4.3/19, Error ellipse: s-maj=11.2km s-min=7.8km az=85.9*
*NEIC **10** 17:16:45.1±0.5, 4975N×14887E, h525km±6km, mb4.4/33, Error ellipse: s-maj=6.7km s-min=4.4km az=157.0*
*IDC **10** 17:16:47.9±1.5, 4987N×14886E, h553km±17km, mb3.5/21, mb1 3.6/22, mb1mx3.6/27, mbtmp3.5/22, Error ellipse: s-maj=13.0km s-min=8.2km az=164.0*
ISC 10 17:16:45.4±0.3, **4983N**±004×**14875E**±004, **h520**km±4km, **h524**km±5.4km**:pP-P, n400,** σ0.67/417, **mb4.1**/77, **85C-64D,**
Northwest of Kuril Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
UGL Uglegorsk 4.42 263 *e*P **P 17 18 12.0 +3.5**
UGL *e*S **S 17 19 21.5 +5.2**
UGL pmax pmax
comp=Z,60nm,0.7s
UGL smax
comp=N,247nm,1.0s
UGL smax
comp=E,269nm,1.0s
UGL smax
comp=E,1μm,4.0s
UGL smax
comp=N,5μm,5.0s
UGL smax
comp=Z,500nm,4.0s
UGL MLR MLR
comp=N,400nm,14.0s
UGL MLR MLR
comp=E,500nm,14.0s
UGL MLR MLR
comp=Z,500nm,14.0s
UGL Uglegorsk 4.42 263 *e*P **P 17 18 12.0 +3.5**
UGL AMB AMB 17 18 13.0
comp=Z,60nm,0.7s
UGL *e*S **S 17 19 21.5 +5.2**
UGL A 17 19 23.5
comp=Z,247nm,1.0s
UGL A 17 19 23.5
comp=Z,269nm,1.0s
UGL A 17 19 25.0
comp=Z,900nm,5.0s
UGL A 17 19 25.0
comp=Z,1μm,4.0s
UGL A 17 19 25.0
comp=Z,500nm,4.0s
UGL AMS AMS 17 21 22.0
comp=Z,500nm,14.0s
UGL AMS AMS 17 21 22.0
comp=Z,400nm,14.0s
UGL AMS AMS 17 21 22.0
comp=Z,500nm,14.0s
KUR Kuril'sk 4.63 188 *e*P **P 17 18 06.0 -4.4**
KUR *e*S **S 17 19 13.2 -6.4**
KUR pmax pmax
comp=Z,320nm,0.8s
KUR smax
comp=N,230nm,1.0s
KUR smax
comp=E,190nm,1.0s
KUR Kuril'sk 4.63 188 *e*P **P 17 18 06.0 -4.4**
KUR AMB AMB 17 18 07.0
comp=E,323nm,0.8s
KUR *e*S **S 17 19 13.2 -6.4**
KUR A 17 19 20.0
comp=E,226nm,1.0s
KUR A 17 19 20.0
comp=E,189nm,1.0s
SKR Severo-Kuril's 4.80 77 *e*P **P 17 18 11.7 +0.1**
SKR *e*S **S 17 19 21.5 -0.7**
SKR pmax pmax
comp=Z,80nm,0.6s
SKR pmax pmax
comp=N,50nm,0.5s
SKR smax
comp=N,140nm,0.5s
SKR smax
comp=E,220nm,1.0s
SKR smax
comp=Z,60nm,0.5s
SKR Severo-Kuril's 4.80 77 *e*P **P 17 18 11.7 +0.1**
SKR AMB AMB 17 18 12.2
comp=Z,50nm,0.5s
SKR AMB AMB 17 18 12.2
comp=Z,80nm,0.6s
SKR *e*S **S 17 19 21.5 -0.7**
SKR A 17 19 24.6
comp=Z,140nm,0.5s
SKR A 17 19 24.6
comp=Z,60nm,0.5s
SKR A 17 19 24.6
comp=Z,220nm,1.0s
YSS Yuzh-Sakhalins 4.92 237⇑*i*P **P 17 18 15.0 +2.3**
YSS *e*S **S 17 19 27.0 +2.9**
YSS pmax pmax
comp=E,60nm,0.8s
YSS pmax pmax
comp=Z,120nm,0.8s
YSS Yuzh-Sakhalins 4.92 237⇑*i*P **P 17 18 15.3 +2.6**
YSS *e*S **S 17 19 25.1 +1.1**
YSS Yuzh-Sakhalins 4.92 237⇑*i*P **P 17 18 15.0 +2.3**
YSS AMB AMB 17 18 16.0
comp=Z,120nm,0.8s
YSS AMB AMB 17 18 16.0
comp=Z,60nm,0.8s
YSS *e*S **S 17 19 27.0 +2.9**
YSS AMS AMS 17 19 40.0
comp=Z,500nm,12.0s
OKH Okha 5.19 318 *e*P **P 17 18 20.2 +5.3**
OKH ⇓*i*P 17 18 20.7
OKH AMB AMB 17 18 20.9
comp=Z,200nm,0.5s
OKH *e*S **S 17 19 37.0 +8.7**
OKH ⇑*i*S **S 17 19 37.0 +8.7**
OKH A 17 19 38.2
comp=Z,2μm,4.2s
JWK2 Keihoku 6.47 228 P **P 17 18 29.9 +2.9**
JWK2 *e*S **S 17 19 54.9 +4.7**
JMP Maruseppu 6.89 214 P **P 17 18 31.0 -0.2**
JMP *e*S **S 17 19 57.4 -0.4**
PET Petropavlovsk 6.97 59 *e*P **P 17 18 32.8 +1.1**
PET pmax pmax
comp=Z,28nm,0.6s
PET Petropavlovsk 6.97 59 *e*P **P 17 18 31.5 -0.3**
comp=Z,11nm,0.3s
ASAJ Asahikawa 7.09 219 P **P 17 18 33.4 +0.2**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ Asahikawa 7.09 219 P **P 17 18 34.1 +0.9**
ASAJ Asahikawa 7.09 219 P **P 17 18 33.4 +0.2**
comp=Z,3.1nm,0.3s,baz=51,slow=4.9,SNR=26
JEW Eniwo 8.62 219 P **P 17 18 47.8 -0.8**
JEW S **S 17 20 25.8 -3.9**
JEM Erimo 8.73 209 P **P 17 18 47.7 -2.1**
JEM S **S 17 20 26.2 -5.6**
ERM Erimo 8.73 209 *e*P **P 17 18 48.3 -1.5**
ERM pmax pmax
comp=Z,63nm,0.6s
ERM Erimo 8.73 209 *e*P **P 17 18 48.3 -1.5**
comp=Z,63nm,0.6s
HABR Khabarovsk 9.08 267⇓*i*P **P 17 18 56.7 +3.4**
HABR *e*S **S 17 20 41.7 +3.3**
HABR pmax pmax
comp=Z,98nm,1.0s
JSH Shimam 9.38 223 P **P 17 18 56.9 +0.5**
MA2 Magadan 9.84 6 *e*P **P 17 19 01.8 +0.9**
MA2 pmax pmax
comp=Z,19nm,0.8s
MA2 Magadan 9.84 6 *e*P **P 17 19 01.8 +0.9**
comp=Z,19nm,0.8s
JOT Ohata 10.02 215 P **P 17 19 01.2 -1.9**
JOT *e*S **S 17 20 49.5 -6.8**
JTM Tenmabayashi 10.53 214 P **P 17 19 06.5 -2.0**
JTM *e*S **S 17 21 00.7 -5.5**
KLR Kul'dur 11.07 273⇑*i*P **P 17 19 12.3 -1.7**
KLR pmax pmax
comp=E,80nm,1.8s
KLR pmax pmax
comp=Z,100nm,1.8s
JMM Marumori 13.25 209 P **P 17 19 36.8 -0.3**
ZEA Zeya 13.86 295 *e*P **P 17 19 40.8 -2.3**
ZEA AMB AMB 17 19 43.1
comp=Z,20nm,0.7s
ZEA AMB AMB 17 19 43.1
comp=Z,30nm,0.7s
ZEA AMS AMS 17 23 36.0
comp=Z,500nm,12.0s
ZEA AMS AMS 17 23 36.0
comp=Z,300nm,11.0s
ZEA AMS AMS 17 23 36.0
comp=Z,300nm,10.0s
MDJ Mudanjiang 14.01 255 P **P 17 19 44.5 -0.4**
MDJ AMB AMB
comp=Z,19nm,0.8s
MDJ AMB AMB
comp=Z,192nm,9.6s
MDJ Mudanjiang 14.01 255 *e*P **P 17 19 44.0 -0.9**
comp=Z,14nm,0.8s
MAJO Matsushiro 15.32 214 *e*P **P 17 19 58.1 -0.5**
MAJO pmax pmax
comp=Z,11nm,0.6s
MAJO Matsushiro 15.32 214 *e*P **P 17 19 58.1 -0.5**
comp=Z,11nm,0.6s
MAT Matsushiro 15.32 214 P **P 17 19 58.2 -0.4**
MAT Matsushiro 15.32 214 P **P 17 19 53.6 -5.0**
MJAR Matsushiro Arr 15.32 214 P **P 17 19 58.5 -0.1**
comp=Z,0.5nm,0.3s,baz=23,slow=9.5,SNR=7.2
CLNS Chul'man 15.83 305 *e*P **P 17 20 04.1 +0.6**
CLNS pmax pmax
comp=Z,20nm,1.0s
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,16nm,1.2s
YAK Yakutsk 16.15 326*d i*P **P 17 20 06.7 -0.1**
YAK *i* S **S 17 22 51.4 -1.0**
YAK pmax pmax
comp=Z,32nm,0.8s
YAK pmax pmax
comp=N,5.0nm,1.0s
YAK pmax pmax
comp=E,6.0nm,0.6s
YAK smax
comp=N,82nm,1.5s
YAK smax
comp=Z,61nm,1.2s
YAK smax
comp=E,222nm,2.8s
YAK Yakutsk 16.15 326 *e*P **P 17 20 06.5 -0.3**
comp=E,50nm,0.6s
CN2 Changchun 17.02 258 ⇑P **P 17 20 13.8 -1.8**
CN2 *e*S **S 17 23 02.5 -4.7**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
HIA Hailar 18.78 279 *e*P **P 17 20 31.7 0.0**
HIA pmax pmax
comp=Z,14nm,0.6s
HIA Hailar 18.78 279 *e*P **P 17 20 31.7 0.0**
comp=Z,14nm,0.6s
KSRS Korea Array 19.42 238 P **P 17 20 39.2 +1.6**
comp=Z,0.5nm,0.3s,baz=43,slow=9.0,SNR=12
BILL Bilibino 20.23 19 *e*P **P 17 20 44.0 -0.6**
BILL pmax pmax
comp=Z,10.0nm,0.5s
BILL Bilibino 20.23 19 *e*P **P 17 20 44.0 -0.6**
comp=Z,9.5nm,0.5s
BOD Bodaibo 21.80 305 *e*P **P 17 20 58.8 -0.1**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
TIXI Tiksi 23.70 344 *e*P **P 17 21 15.8 +0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
TIXI Tiksi 23.70 344 *e*P **P 17 21 15.8 +0.1**
comp=Z,2.6nm,0.7s,mb4.0
BJT Baijiatuau 24.89 259 P **P 17 21 31.9 +5.2**
ULN Ulaanbaatar 27.26 282 *e*P **P 17 21 48.4 +1.0**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
ULN Ulaanbaatar 27.26 282 *e*P **P 17 21 48.4 +1.0**
comp=Z,8.8nm,0.9s,mb4.4
HHC Hu-ho-hao-te 27.39 265 *e*P **P 17 21 48.2 -0.5**
HHC AMB AMB
comp=Z,20nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,187nm,6.4s
UNV Unalaska Valle 27.59 64 *e*P **P 17 21 49.6 -0.6**
comp=Z,42nm,1.2s,mb5.0
SONM Songino Array 27.68 282 P **P 17 21 52.5 +1.3**
comp=Z,2.8nm,0.8s,mb3.9,baz=50,slow=11,SNR=14
NJ2 Nanjing 28.46 243 *e*P **P 17 21 56.3 -1.8**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.7
ZAK Zakamensk 28.82 289 *e*P **P 17 22 02.6 +1.5**
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.4
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.7
IMA2 Indian Mountai 33.14 39 *e*P **P 17 22 37.0 -0.9**
KDAK Kodiak Island 34.53 54 P **P 17 22 48.6 -1.0**
comp=Z,6.9nm,0.5s,mb4.5,baz=294,slow=6.1,SNR=12
KDAK PcP PcP 17 25 08.4 -1.2
comp=Z,4.2nm,0.8s,baz=225,slow=0.8,SNR=5.1
LZH Lanzhou 35.08 264 *e*P **P 17 22 54.9 +0.3**
LZH AP pP 17 24 25.3 +1.1
LZH PP PP 17 24 32.2 +1.4
LZH XP sP 17 25 24.1 +0.4
LZH AMB AMB
comp=Z,17nm,1.1s,mb4.5
LZH AMB AMB
comp=Z,89nm,4.5s
PMR Palmer 35.51 47 P **P 17 23 04.0 +6.2**
PMR pmax pmax
comp=Z,9.0nm,0.6s,mb4.5
PMR Palmer 35.51 47 P **P 17 23 04.0 +6.2**
comp=Z,9.3nm,0.6s,mb4.5
COLA College 35.63 41 *e*P **P 17 22 58.4 -0.3**
COLA pmax pmax
comp=Z,28nm,0.7s,mb4.9
COLA College 35.63 41 *e*P **P 17 22 58.4 -0.3**
comp=Z,28nm,0.7s,mb4.9
GTA Gaotai 35.77 272 *e*P **P 17 23 02.3 +2.0**
GTA S **S 17 28 06.3 +6.2**
GTA AMB AMB
comp=Z,10.0nm,0.9s,mb4.3
GTA AMB AMB
comp=Z,122nm,3.8s
SML Sawmill 35.85 46 *e*P **P 17 22 59.7 -0.9**
CD2 Chengdu 38.45 258 *e*P **P 17 23 20.5 -1.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 AMB AMB
comp=Z,30nm,4.2s
ZAA0 Zalesovo Array 38.48 301 *e*P **P 17 23 22.3 +0.1**
ZALV Zalesovo Beam 38.48 301 P **P 17 23 22.9 +0.6**
ZALV PcP PcP 17 25 21.0 -0.8
ZALV Zalesovo Beam 38.48 301 P **P 17 23 22.9 +0.7**
comp=Z,2.3nm,0.4s,mb4.1,baz=64,slow=7.6,SNR=19
ZALV PcP PcP 17 25 21.0 -0.8
comp=Z,1.3nm,0.6s,baz=74,slow=5.3,SNR=4.6
ZAL Zalesovo 38.49 301 P **P 17 23 22.9 +0.5**
ZAL 17 25 21.0
NVS Novosibirsk 39.03 303 *e*P **P 17 23 27.1 +0.4**
NVS *e* 17 28 47.3
NVS pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
NVS pmax pmax
comp=E,4.0nm,0.5s
DAWY Dawson 39.38 41 *e*P **P 17 23 28.3 -1.1**
GYA Guiyang 39.78 250 P **P 17 23 33.0 -0.1**
GYA AP pP 17 25 08.4 +2.9
GYA PP PP 17 25 19.6 -0.5
GYA PCP PcP 17 25 27.8 +1.3
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
INK Inuvik 40.67 34 P **P 17 23 39.2 -0.5**
INK pmax pmax
comp=Z,12nm,0.6s
INK Inuvik 40.67 34 *e*P **P 17 23 38.8 -0.9**
INK Inuvik 40.67 34 P **P 17 23 39.2 -0.4**
comp=Z,12nm,0.6s,mb4.6,baz=305,slow=6.8,SNR=26
SKAG Skagway 42.65 47 *e*P **P 17 23 55.5 +0.1**
comp=Z,2.1nm,0.4s,mb4.0
MK31 Makanchi Array 43.00 293 *e*P **P 17 23 59.1 +0.7**
MKAR Makanchi Array 43.00 293 P **P 17 23 59.4 +1.0**
MKAR pP 17 25 36.0 +3.4
MKAR Makanchi Array 43.00 293 P **P 17 23 59.4 +1.0**
MKAR PcP PcP 17 25 36.0 -0.9
MKAR ScP ScP 17 28 34.7 -3.5
MKAR Makanchi Array 43.00 293 P **P 17 23 59.4 +1.0**
comp=Z,5.9nm,0.7s,mb4.2,baz=66,slow=7.8,SNR=44
MKAR PcP PcP 17 25 36.0 -0.9
comp=Z,0.9nm,0.7s,baz=60,slow=5.7,SNR=3.9
MKAR ScP ScP 17 28 34.7 -3.5
comp=Z,0.5nm,0.3s,baz=64,slow=3.3,SNR=5.8
KMI Kunming 43.16 252 P **P 17 24 00.7 +0.8**
KMI AMB AMB
comp=Z,7.0nm,0.8s,mb4.2
SIT Sitka 43.60 50 P **P 17 24 03.2 +0.3**
SIT pmax pmax
comp=Z,26nm,0.9s,mb4.8
SIT Sitka 43.60 50 P **P 17 24 03.2 +0.3**
comp=Z,26nm,0.9s,mb4.8
DLBC Dease Lake 45.57 47 *e*P **P 17 24 18.6 +0.5**
DLBC Dease Lake 45.57 47 P **P 17 24 19.0 +0.9**
baz=302,slow=7.8
BVAR Borovoye Array 46.67 306 P **P 17 24 27.3 +0.8**
comp=Z,3.5nm,0.5s,mb4.2,baz=53,slow=7.8,SNR=17
BVAR ScP ScP 17 28 50.3 -3.0
comp=Z,0.6nm,0.6s,baz=108,slow=4.7,SNR=3.6
BRVK Borovoye 46.71 306 *e*P **P 17 24 27.3 +0.5**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
BRVK Borovoye 46.71 306 *e*P **P 17 24 27.3 +0.4**
comp=Z,4.6nm,0.6s,mb4.2
RES Resolute Bay 48.84 18 *e*P **P 17 24 41.2 -1.3**
comp=Z,1μm,0.6s
BBB Bella Bella 49.61 53 P **P 17 24 47.3 -1.1**
comp=Z,6.4nm,0.8s,mb4.1,baz=308,slow=10,SNR=6.1
YKA Yellowknife Ar 50.21 37 P **P 17 24 51.6 -1.0**
YKA 17 26 01.6
YKA pmax pmax
comp=Z,9.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 50.21 37 P **P 17 24 51.6 -1.0**
comp=Z,8.9nm,0.6s,mb4.4,baz=303,slow=7.1,SNR=58
YKA PcP PcP 17 26 01.6 -0.8
comp=Z,1.4nm,0.7s,baz=308,slow=3.5,SNR=7.2
EKS2 Erkin-Say 50.33 292 *e*P **P 17 24 54.5 +0.6**
comp=Z,3.2nm,1.0s,mb3.7
ARU Arti 50.77 314 *e*P **P 17 24 57.0 +0.1**
ARU pmax pmax
comp=Z,6.0nm,0.5s,mb4.2
ARU Arti 50.77 314 *e*P **P 17 24 57.0 +0.1**
comp=Z,5.6nm,0.5s,mb4.2
JIRN Jiri 51.93 269 *e*P **P 17 25 06.5 +0.7**
comp=Z,6.9nm,0.3s,mb4.5
GUN Gumba 51.96 270 *e*P **P 17 25 06.9 +0.9**
comp=Z,18nm,0.6s,mb4.6
KKN Kakani 52.43 270 *e*P **P 17 25 10.3 +1.0**
comp=Z,5.6nm,0.3s,mb4.4
PKI Pulchoki 52.50 270 *e*P **P 17 25 10.7 +0.9**
DMN Daman 52.67 270 *e*P **P 17 25 12.4 +1.4**
comp=Z,7.7nm,0.4s,mb4.4
GKN Gorkha 52.71 271 *e*P **P 17 25 12.0 +0.7**
comp=Z,14nm,0.4s,mb4.6
DANN Dangsing 53.04 272 *e*P **P 17 25 14.6 +0.9**
KOLN Koldanda 53.53 271 *e*P **P 17 25 18.0 +0.8**
NLWA Neilton Lookou 54.61 56 ⇓P **P 17 25 24.6 +0.1**
baz=54
C04A Brinnon 54.89 56 ⇑P **P 17 25 26.1 -0.3**
baz=55
B05A Bryant 55.02 55 ⇑P **P 17 25 27.1 -0.2**
baz=55
B06A Marblemount 55.19 54 ⇓P **P 17 25 28.2 -0.3**
baz=55
E03A Lebam 55.29 57 ⇑P **P 17 25 28.7 -0.6**
baz=55
A07A Ashnola River, 55.44 53 ⇑P **P 17 25 29.7 -0.5**
baz=55
C05A Tolt Reservoir 55.59 55 ⇑P **P 17 25 30.8 -0.4**
baz=55
B07A Winthrop 55.94 53 ⇓P **P 17 25 33.1 -0.6**
baz=56
A08A Turner Farm, O 56.07 53 ⇑P **P 17 25 34.0 -0.6**

baz=56,SNR=5.2
E05A Randle 56.26 56 ⇑P P 17 25 35.6 -0.3
baz=56
EDM Edmonton 56.27 46 eP P 17 25 34.8 -1.1
F04A Amboy 56.30 57 ⇑P P 17 25 36.0 -0.2
baz=56
A09A Danville 56.41 52 ⇓P P 17 25 36.6 -0.3
baz=56
B08A Colville Reser 56.41 53 ⇓P P 17 25 36.6 -0.4
baz=56
C07A Waterville 56.45 54 ⇓P P 17 25 37.1 -0.2
baz=56
H03A Soap Creek Ran 56.61 59 ⇑P P 17 25 38.6 +0.2
baz=56
E06A Yakima 56.69 56 ⇑P P 17 25 38.5 -0.4
baz=56
D07A Quincy 56.81 55 ⇓P P 17 25 39.3 -0.4
baz=57
F05A White Salmon 56.85 57 ⇑P P 17 25 39.7 -0.3
baz=57
C08A Higginbotham F 56.92 54 ⇑P P 17 25 39.7 -0.7
baz=57
B09A Rice 56.98 52 ⇓P P 17 25 40.7 -0.2
baz=57
H04A Detroit Lake 57.21 58 P P 17 25 42.6 0.0
baz=57,SNR=6.2
J02A Umpqua 57.28 60 ⇑P P 17 25 43.5 +0.5
baz=57
F06A Goldendale 57.29 56 ⇑P P 17 25 43.4 +0.4
baz=57
C09A Chrisman Ranch 57.31 53 ⇑P P 17 25 43.1 -0.1
baz=57
G05A Wamic 57.33 57 ⇑P P 17 25 43.6 +0.2
baz=57
D08A Wollman Farm, 57.45 54 ⇑P P 17 25 43.9 -0.2
baz=57
A11A Hall Mountain, 57.55 51 ⇓P P 17 25 45.1 +0.3
baz=57
I04A Tendick Farm, 57.66 59 ⇓P P 17 25 45.5 -0.1
baz=57
F07A Phinny Hill Vi 57.66 56 ⇑P P 17 25 45.5 -0.1
baz=57
G06A Carlson Farm, 57.71 57 ⇑P P 17 25 45.6 -0.3
baz=58
H05A Madras 57.76 58 P P 17 25 46.9 +0.6
baz=58,SNR=5.4
D09A Jones Farm, Ri 57.77 54 ⇓P P 17 25 46.0 -0.3
baz=58
B11A Sandpoint 57.88 52 ⇑P P 17 25 46.9 -0.2
baz=58
H06A Lindquist Farm 58.19 57 ⇑P P 17 25 49.3 +0.1
baz=58
G07A Ruggs Ranch, H 58.21 56 ⇑P P 17 25 49.0 -0.3
baz=58
E09A Wood Farm, Sta 58.21 54 ⇓P P 17 25 49.2 -0.1
baz=58
D10A Wagner Farm, O 58.31 53 ⇑P P 17 25 49.6 -0.4
baz=58
F08A Pendleton 58.34 55 ⇓P P 17 25 50.1 -0.1
baz=58
A13A Flathead Natio 58.54 50 ⇑P P 17 25 51.1 -0.4
baz=58
G08A Pilot Rock 58.57 56 ⇓P P 17 25 51.3 -0.5
baz=58
J05A Fort Rock 58.64 59 ⇓P P 17 25 52.7 +0.4
baz=58,SNR=5.3
H07A Lands Inn, Kim 58.70 57 ⇑P P 17 25 52.7 +0.1
baz=58
WALA Waterton Lakes 58.70 50 eP P 17 25 51.9 -0.7
comp=Z,7.3nm,0.6s,mb4.1
E10A Myers Farm, Un 58.77 54 ⇓P P 17 25 53.0 -0.1
baz=58
I06A Prineville 58.77 58 ⇓P P 17 25 53.5 +0.3
baz=58
D11A Klaveano Farm, 58.80 53 ⇑P P 17 25 53.2 0.0
baz=59
YBH Yreka Blue Hor 58.83 61 P P 17 25 53.7 +0.1
comp=Z,5.3nm,0.7s,mb3.9,baz=347,slow=4.2,SNR=9.7
YBH Yreka Blue Hor 58.83 61 ⇑P P 17 25 54.0 +0.5
baz=59
M02C Callahan 58.97 61 ⇓P P 17 25 55.0 +0.5
baz=59
L04A Klamath Falls 59.00 60 ⇓P P 17 25 55.0 +0.3
baz=59
F10A Beach Ranch, E 59.05 54 ⇑P P 17 25 55.4 +0.5
baz=59
I07A Izee 59.07 57 P P 17 25 55.8 +0.6
baz=59,SNR=5.8
K05A Summer Lake 59.20 59 P P 17 25 56.9 +0.9
baz=59,SNR=6.0
G09A Cove 59.21 55 ⇑P P 17 25 56.0 0.0
baz=59
H08A Prairie City 59.23 56 ⇑P P 17 25 56.7 +0.4
baz=59
J06A Christmas Vall 59.26 58 ⇑P P 17 25 56.9 +0.5
baz=59
C13A Hot Springs 59.29 51 ⇑P P 17 25 56.5 0.0
baz=59
M04C Macdoel 59.29 60 ⇑P P 17 25 56.9 +0.3
baz=59
D12A Red Ives Fores 59.30 52 ⇓P P 17 25 56.3 -0.4
baz=59
E11A Bogner Ranch, 59.33 53 ⇑P P 17 25 56.6 -0.1
baz=59
K06A Valley Falls 59.50 59 ⇓P P 17 25 58.5 +0.5
baz=59
G10A Bishop Farm, J 59.55 55 ⇑P P 17 25 58.6 +0.3
baz=59
C14A Swan Lake 59.64 51 ⇓P P 17 25 58.6 -0.3
baz=59
F11A Grangeville 59.66 54 ⇑P P 17 25 58.7 -0.4
baz=59
L05A Lakeview 59.68 60 ⇓P P 17 25 59.9 +0.7
baz=59
H09A Durkee 59.68 56 ⇑P P 17 25 59.6 +0.4
baz=59
WDC Whiskeytown Da 59.68 62 ⇓P P 17 25 59.2 -0.1
baz=60
D13A Huson 59.73 52 P P 17 25 59.0 -0.5
baz=60,SNR=6.9
O02C Red Bluff 59.81 62 ⇑P P 17 26 00.3 +0.2
baz=60
G11A Walters Elk Ra 59.93 54 P P 17 26 00.9 +0.1
baz=60,SNR=11
M05C Lookout 59.96 60 ⇓P P 17 26 01.6 +0.5
baz=60
FINES FINESS Array B 59.98 332 P P 17 26 00.6 -0.3
comp=Z,1.9nm,0.6s,mb3.6,baz=27,slow=9.0,SNR=4.5
MOD Modoc 60.07 59 ⇓P P 17 26 01.9 0.0
baz=60
I09A Lost Marbles R 60.10 56 P P 17 26 02.4 +0.4
baz=60,SNR=7.0
J08A Circle Bar Ran 60.11 57 P P 17 26 02.9 +0.8
baz=60,SNR=8.2
K07A Rock Creek Ran 60.13 58 P P 17 26 02.8 +0.6
baz=60,SNR=18
HATC Hat Creek Radi 60.14 61 ⇑P P 17 26 03.1 +0.7
baz=60
GASB Alder Springs 60.19 63 ⇑P P 17 26 03.4 +0.7
baz=60
H10A Noah's Angus R 60.22 55 P P 17 26 02.7 -0.1
baz=60,SNR=16
F12A Elk City 60.22 53 P P 17 26 03.1 +0.4
baz=60,SNR=5.8
FFC Flin Flon 60.22 39 eP P 17 26 01.6 -1.0
FFC pmax pmax
comp=Z,20nm,1.0s,mb4.4
FFC Flin Flon 60.22 39 eP P 17 26 01.6 -1.0
comp=Z,20nm,1.0s,mb4.4
D14A Greenough 60.23 51 P P 17 26 02.5 -0.3
baz=60,SNR=9.9
FCC Fort Churchill 60.25 32 eP P 17 26 01.3 -1.4
FCC pmax pmax
comp=Z,12nm,0.5s,mb4.5
FCC Fort Churchill 60.25 32 eP P 17 26 01.3 -1.5
comp=Z,12nm,0.5s,mb4.5
J09A Fry Pan Ranch, 60.51 57 P P 17 26 05.4 +0.7
baz=60,SNR=10
K08A Mann Creek Ran 60.52 58 P P 17 26 05.3 +0.5
baz=60,SNR=7.0
I10A Payette 60.52 56 ⇓P P 17 26 05.3 +0.5
baz=60
L07A Adell 60.53 59 ⇓P P 17 26 05.2 +0.3
baz=60
WVOR Wild Horse Val 60.64 58 eP P 17 26 05.3 -0.3
WVOR e 17 26 46.4
WVOR pmax pmax
comp=Z,11nm,0.9s,mb4.2
WVOR Wild Horse Val 60.64 58 eP P 17 26 05.3 -0.2
comp=Z,11nm,0.9s,mb4.2
WVOR ePcP PcP 17 26 46.4 +2.9
E14A Clinton 60.68 52 ⇑P P 17 26 05.5 -0.3
baz=60
O04C Chester 60.68 61 ⇓P P 17 26 06.2 +0.3
baz=60
ELFS Eagle Lake Fie 60.69 61 ⇓P P 17 26 06.2 +0.3
baz=60
D15A Lincoln 60.75 51 ⇓P P 17 26 06.5 +0.3
baz=60
MNRC McLaughlin Nat 60.87 63 ⇑P P 17 26 07.3 +0.2
baz=61
K09A Rome 60.96 57 P P 17 26 07.9 +0.2
baz=61,SNR=6.9
ORV Oroville 60.96 62 ⇓P P 17 26 06.8 -0.9
baz=61
L08A Fields 60.96 58 P P 17 26 08.4 +0.7
baz=61,SNR=6.4
O05C Quincy 61.02 61 ⇑P P 17 26 08.2 +0.1
baz=61
M07A Soldier Meadow 61.04 59 P P 17 26 08.9 +0.6
baz=61,SNR=13
N06A Buffalo Meadow 61.10 60 P P 17 26 08.9 +0.3
baz=61,SNR=6.7
E15A Deer Lodge 61.11 51 ⇑P P 17 26 08.4 -0.2
baz=61
F14A Wisdom 61.15 52 ⇑P P 17 26 08.5 -0.4
baz=61
G13A Cobalt 61.20 53 ⇓P P 17 26 08.6 -0.6
baz=61
H12A Diamond D Ranc 61.24 54 ⇓P P 17 26 10.0 +0.5
baz=61
K10A MacKenzie Ranc 61.37 57 P P 17 26 10.6 +0.2
baz=61,SNR=12
BEKR Beckwourth 61.40 61 ⇑P P 17 26 10.6 0.0
baz=61
EGMT Eagleton 61.44 49 eP P 17 26 06.7 -4.0
comp=Z,15nm,0.8s,mb4.4
EGMT Eagleton 61.44 49 ⇓P P 17 26 10.0 -0.7
baz=61
M08A Happy Creek Ra 61.44 59 P P 17 26 11.8 +0.9
baz=61,SNR=5.5
L09A Wilkinson Ranc 61.45 58 ⇑P P 17 26 11.3 +0.3
baz=61
MFID Camas Ranch 61.50 56 ⇓P P 17 26 11.2 -0.1
baz=61
O06A Flanigan 61.50 61 P P 17 26 11.4 +0.1
baz=61,SNR=6.0
H13A Challis 61.55 54 ⇓P P 17 26 11.6 0.0
baz=61
N07B Gerlach 61.56 60 ⇑P P 17 26 11.8 +0.1
baz=61
F15A Butte 61.58 52 P P 17 26 11.7 0.0
baz=61,SNR=6.4
P05C Yuba Gap, Truc 61.64 62 ⇓P P 17 26 11.8 -0.4
baz=61
K11A Parker Ranch, 61.83 56 P P 17 26 13.7 +0.3
baz=62,SNR=6.8
LAVA Lava Cap Winer 61.93 62 ⇓P P 17 26 13.8 -0.3
baz=62
M09A Marrel Ranch, 61.97 58 ⇑P P 17 26 15.2 +0.9
baz=62
N08A GE Springer Mi 62.03 59 P P 17 26 15.3 +0.6
baz=62,SNR=9.5
O07A Toulon 62.04 60 ⇑P P 17 26 15.4 +0.6
baz=62
G15A Dillon 62.05 52 P P 17 26 14.9 +0.2
baz=62,SNR=16
L10A Juniper Basin 62.06 57 P P 17 26 15.3 +0.4
baz=62,SNR=12
I13A Wildhorse Cree 62.06 54 P P 17 26 15.2 +0.3
baz=62,SNR=21
MCMT McKenzie Canyo 62.10 53 P P 17 26 13.1 -2.0
BOZ Bozeman (W) 62.15 51 ⇑P P 17 26 15.4 0.0
baz=62
N09A Rock Creek Ran 62.32 59 P P 17 26 17.0 +0.4
baz=62,SNR=6.5
R05C Kirkwood Meado 62.35 62 ⇑P P 17 26 16.9 +0.1
baz=62
J13A Cove Ranch, Pi 62.39 55 ⇓P P 17 26 17.6 +0.6
baz=62
L11A Cat Creek Ranc 62.39 57 P P 17 26 17.5 +0.5
baz=62,SNR=16
M10A I.L. Ranch, Tu 62.40 58 P P 17 26 18.1 +1.0
baz=62,SNR=9.4
K12A Draper Farm, C 62.52 56 ⇑P P 17 26 18.1 +0.2
baz=62
CMB Columbia Colle 62.63 63 eP P 17 26 17.9 -0.8
CMB pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
CMB Columbia Colle 62.63 63 eP P 17 26 17.9 -0.8
comp=Z,5.5nm,0.9s,mb4.0
CMB Columbia Colle 62.63 63 ⇑P P 17 26 18.3 -0.4
baz=62
L12A House Creek Ra 62.80 56 P P 17 26 20.2 +0.5
baz=63,SNR=5.9
PACP Pacheco Peak 62.81 64 ⇓P P 17 26 19.5 -0.4
baz=63
R06C Coleville 62.83 62 P P 17 26 20.6 +0.7
baz=63,SNR=5.1
M11A Holland Ranch, 62.88 57 P P 17 26 21.1 +0.9
baz=63,SNR=7.8
O09A Fish Creek Ran 62.97 59 ⇑P P 17 26 21.2 +0.3
baz=63
HAST Hastings Reser 63.08 65 ⇓P P 17 26 21.1 -0.5
baz=63
R07C Lee Vining 63.36 62 P P 17 26 23.9 +0.6
baz=63,SNR=6.4
M12A Wells 63.36 57 P P 17 26 24.0 +0.7
baz=63,SNR=6.8
Q08A Gabbs 63.46 61 ⇑P P 17 26 24.2 +0.2
baz=63
K14A Jones Ranch, D 63.51 55 P P 17 26 25.1 +0.8
baz=63,SNR=5.5
NVAR Mina Array Bea 63.55 61 P P 17 26 24.7 +0.1
NVAR Mina Array Bea 63.55 61 P P 17 26 24.7 +0.1
comp=Z,6.5nm,0.8s,mb4.1,baz=297,slow=6.5,SNR=30
N12A Clover Valley, 63.69 57 P P 17 26 26.4 +0.9
baz=63,SNR=10
R08A Mina 63.71 61 P P 17 26 25.8 +0.2
baz=64,SNR=5.1
KCC Kaiser Creek 63.73 63 ⇑P P 17 26 25.6 -0.1
baz=64
P10A Eureka 63.76 59 P P 17 26 26.7 +0.8
baz=64,SNR=6.5
M13A Montello 63.80 56 P P 17 26 26.4 +0.2
baz=64,SNR=8.0
PKD Parkfield 63.97 65 ⇓P P 17 26 27.1 -0.3
baz=64
N13A Wendover, West 64.14 57 ⇑P P 17 26 28.7 +0.4
baz=64
M14A Sheep Mountain 64.14 56 P P 17 26 28.7 +0.4
baz=64,SNR=6.4
REDW Red Top Meadow 64.15 53 eP P 17 26 28.1 -0.2
comp=Z,12nm,1.3s,mb4.2
O12A Currie 64.25 58 P P 17 26 29.3 +0.3
baz=64,SNR=7.3
S08C White Mtn Res 64.27 62 P P 17 26 29.8 +0.7
baz=64,SNR=5.3
NB2 NORSAR Subarra 64.34 339 P P 17 26 28.7 -0.5
comp=Z,12nm,1.2s,mb4.2,baz=27,slow=6.5
NOA NORSAR Array B 64.34 339 P P 17 26 29.2 0.0
comp=Z,2.5nm,0.5s,mb3.9,baz=28,slow=6.4,SNR=10
Q10A Clear Creek Ra 64.34 60 ⇑P P 17 26 29.6 0.0
baz=64
HELL Mitchell Peak 64.35 63 P P 17 26 29.0 -0.6
baz=64,SNR=13
R09A Toopah 64.38 61 P P 17 26 30.0 +0.2
baz=64,SNR=5.9
S09A Goldfield 64.65 61 ⇑P P 17 26 31.4 -0.2
baz=64
M15A Larsen Ranch, 64.65 55 P P 17 26 31.9 +0.3
baz=64,SNR=6.6
N14A Grayback Hills 64.69 56 ⇑P P 17 26 32.1 +0.4
baz=64
P12A McGill 64.72 58 P P 17 26 32.3 +0.3
baz=64,SNR=6.7
Q11A Duckwater 64.75 59 ⇓P P 17 26 32.3 +0.1
baz=64
R10A Warm Springs 64.77 60 ⇓P P 17 26 32.5 +0.1
baz=64
S10A Tonopah Range, 64.87 61 P P 17 26 32.8 -0.2
baz=65,SNR=5.5
HWUT Hardware Ranch 65.02 55 eP P 17 26 33.8 -0.1
comp=Z,9.8nm,1.0s,mb4.2
Q12A Willow Creek R 65.07 59 ⇑P P 17 26 34.6 +0.4
baz=65
GRAC Grapevine Rang 65.07 62 ⇓P P 17 26 34.5 +0.3
baz=65
PKM Peak Mountain 65.13 65 ⇑P P 17 26 34.6 -0.1
baz=65
R11A Troy Canyon, C 65.13 60 P P 17 26 34.8 +0.1
baz=65,SNR=7.2
P13A Bates Ranch, G 65.22 58 P P 17 26 35.5 +0.3
baz=65,SNR=5.9
DUG Dugway 65.35 56 ⇓P P 17 26 36.3 +0.3
baz=65
BORG Borgarnes 65.50 355 P P 17 26 37.5 +1.0
comp=Z,11nm,0.7s,mb4.5
S11A Rachel 65.54 60 P P 17 26 37.8 +0.6
baz=65,SNR=6.2
Q13A Wheeler Ranch, 65.57 58 P P 17 26 38.0 +0.6
baz=65,SNR=5.4
GOF Gofitskoye 65.59 311 eP P 17 26 44.2 +6.8
MPMC Manual Prospec 65.66 63 P P 17 26 37.9 -0.1
baz=65,SNR=5.6
R12A Pony Springs, 65.69 59 ⇑P P 17 26 38.1 0.0
baz=66
FURC Furnace Creek, 65.74 62 P P 17 26 38.7 +0.2
baz=66,SNR=8.9
TPNV Topopah Spring 65.75 61 eP P 17 26 38.1 -0.4
TPNV pmax pmax
comp=Z,12nm,0.8s,mb4.5
TPNV Topopah Spring 65.75 61 eP P 17 26 38.1 -0.4
comp=Z,12nm,0.8s,mb4.5
TPNV Topopah Spring 65.75 61 ⇓P P 17 26 38.6 +0.1
baz=66
LRMC Laurel Mountai 65.96 63 ⇑P P 17 26 39.5 -0.4
baz=66
ULM Lac du Bonnet 66.05 39 P P 17 26 38.4 -1.7
comp=Z,3.0nm,0.6s,mb4.0,baz=294,slow=2.2,SNR=3.3
S12A Delamar Landin 66.07 60 P P 17 26 41.0 +0.5
baz=66,SNR=5.3
T11A Corn Creek, Al 66.12 60 P P 17 26 40.7 -0.1
baz=66,SNR=14
EDW2 Edwards Air Fo 66.21 64 P P 17 26 41.3 -0.1
baz=66,SNR=6.0
GSC Goldstone 66.59 63 ⇑P P 17 26 43.6 -0.2
baz=66
S13A Holt Ranch, En 66.64 59 P P 17 26 44.5 +0.4
baz=66,SNR=6.5
BFSC Mount Baldy St 66.85 64 ⇑P P 17 26 45.0 -0.4
baz=67
MSU Marysvale 66.90 57 eP P 17 26 45.7 +0.1
V11A Goodsprings 67.00 61 ⇓P P 17 26 46.4 +0.1
baz=67
TUQ Turquoise Mtn. 67.00 62 P P 17 26 46.5 +0.2
baz=67,SNR=7.1
T13A Saint George 67.01 60 ⇓P P 17 26 47.0 +0.6
baz=67
HEC Hector,Ludlow 67.20 63 ⇓P P 17 26 47.6 +0.1
baz=67
AKASG Malin Array Be 67.35 323 P P 17 26 46.9 -1.3
comp=Z,1.7nm,0.6s,mb3.8,baz=14,slow=5.8,SNR=25
V12A Nelson 67.41 61 P P 17 26 48.8 0.0
baz=67,SNR=5.7
U13A Pakoon Wash 67.41 60 P P 17 26 49.5 +0.6
baz=67,SNR=14
GMRC Granite Mounta 67.62 62 P P 17 26 50.2 0.0
baz=67,SNR=5.2
W12A Cal Nev Ari 67.70 61 ⇑P P 17 26 50.8 +0.2
baz=68
V13A Grand Canyon W 67.81 60 P P 17 26 51.4 +0.1
baz=68,SNR=6.9
U14A Mt Trumbull 67.85 60 P P 17 26 51.7 +0.2
baz=68,SNR=9.9
T15A Red Dirt Ranch 67.86 59 ⇓P P 17 26 51.8 +0.2
baz=68
BELC Belle Mtn. 67.99 63 ⇑P P 17 26 51.4 -0.9
baz=68
IRM Iron Mountain 68.36 63 P P 17 26 54.4 -0.2
baz=68,SNR=7.8
T16A Glen Canyon Da 68.37 58 ⇑P P 17 26 54.5 -0.2
baz=68
W13A Hualapai Mount 68.41 61 P P 17 26 54.8 -0.1
baz=68,SNR=6.7
V14A Boquillas Ranc 68.46 60 P P 17 26 55.6 +0.4
baz=68,SNR=16
MONP Monument Peak 68.54 64 ⇓P P 17 26 55.2 -0.5
baz=68
BC3 Big Chuckw Mtn 68.55 63 ⇑P P 17 26 55.3 -0.5
baz=68
PV10 Paradox Valley 68.69 56 eP P 17 26 56.5 -0.1
W14A Seligman 68.78 60 P P 17 26 57.5 +0.4
baz=68,SNR=9.6
X13A Yucca 68.80 61 P P 17 26 57.0 -0.3
baz=69,SNR=11
PDMCI Parker Dam,Lak 68.84 62 ⇓P P 17 26 57.3 -0.2
baz=69
V15A Kaibab Nationa 68.85 59 P P 17 26 57.9 +0.3
baz=69,SNR=11
DVTC Desert V Tower 68.89 64 ⇓P P 17 26 57.7 -0.2
baz=69
Y12C Blythe 69.02 62 ⇓P P 17 26 58.5 -0.1
baz=69
SMCO Snowmass 69.19 54 eP P 17 26 59.3 -0.2
comp=Z,8.4nm,0.6s,mb4.5
W15A Williams 69.26 60 ⇑P P 17 27 00.3 +0.2
baz=69
GLA Glamis 69.34 63 ⇓P P 17 27 00.8 +0.2
baz=69
X14A Yava 69.42 61 P P 17 27 01.4 +0.3
baz=69,SNR=6.9
Y14A Wickenburg 69.75 61 P P 17 27 03.1 +0.1
baz=70,SNR=5.5
X15A Humboldt 69.78 60 P P 17 27 03.6 +0.4
baz=70,SNR=6.1
Y15A Casa Rosa Ranc 70.11 61 P P 17 27 05.5 +0.4
baz=70,SNR=5.7
X16A Lo Mia Camp, P 70.28 60 P P 17 27 06.9 +0.7
baz=70,SNR=5.5
WRA Warramunga Arr 70.62 194 P P 17 27 06.9 -1.2
comp=Z,1.1nm,0.7s,mb3.5,baz=17,slow=6.0,SNR=4.2
Y16A Circle Bar Ran 70.65 60 ⇑P P 17 27 09.1 +0.8
baz=70
SDCO Great Sand Dun 71.03 54 eP P 17 27 10.0 -0.5
comp=Z,4.0nm,1.1s,mb3.9
115A Sonoran Desert 71.09 62 ⇓P P 17 27 11.2 +0.2
baz=71
Y17A Roosevelt 71.14 60 ⇑P P 17 27 11.6 +0.3
baz=71
X19A St. Johns 71.47 59 P P 17 27 13.8 +0.7
baz=71,SNR=8.0
SCHQ Schefferville 71.53 21 P P 17 27 11.3 -1.8
SCHQ Schefferville 71.53 21 P P 17 27 11.3 -1.8
comp=Z,2.7nm,0.5s,mb3.9,baz=1.3,slow=6.6,SNR=9.9
Y18A Canyon Day Jun 71.54 59 ⇑P P 17 27 13.6 0.0
baz=71
Y19A Nutrioso 71.84 59 ⇓P P 17 27 16.0 +0.7
baz=72
117A Oracle 72.03 61 ⇑P P 17 27 16.8 +0.3
baz=72
216A Three Points, 72.05 62 ⇑P P 17 27 16.6 0.0
baz=72
Z19A T-Link Ranch, 72.33 59 ⇓P P 17 27 18.6 +0.5
baz=72
MORC Moravsky Berou 72.33 329 eP P 17 27 17.6 -0.3
MORC pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
MORC Moravsky Berou 72.33 329 eP P 17 27 17.6 -0.2
comp=Z,3.1nm,0.8s,mb3.8
118A Homack Ranch, 72.42 60 P P 17 27 18.7 0.0
baz=72,SNR=8.9
CLL Collm 72.42 333 iP P 17 27 17.6 -0.8
CLL pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
CLL Collm 72.42 333 iP P 17 27 17.6 -0.8
comp=Z,5.0nm,0.7s,mb4.0
217A Green Valley 72.58 61 P P 17 27 19.9 +0.3
baz=72,SNR=5.8
EKA Eskdalemuir Ar 72.61 344 P P 17 27 17.9 -1.5
comp=Z,2.0nm,0.6s,mb3.7,baz=19,slow=4.9,SNR=8.0
LAZ Ladron 72.67 57 eP P 17 27 20.1 0.0
119A Ashpeak Ranch, 72.70 60 ⇑P P 17 27 19.7 -0.6
baz=72
218A Dragoon 72.87 61 ⇓P P 17 27 21.5 +0.2
baz=73
PSZ Piszkesteto 73.11 327 P P 17 27 22.3 -0.1
219A White Tail Can 73.29 60 P P 17 27 23.7 0.0
baz=73,SNR=7.8
318A Bisbee 73.30 61 P P 17 27 23.7 -0.1
baz=73,SNR=5.8
319A Douglas 73.75 61 ⇑P P 17 27 26.3 0.0
baz=74
ASAR Alice Springs 74.34 194 P P 17 27 29.8 +0.2

comp=Z,1.2nm,0.7s,mb3.5,baz=7.8,slow=5.1,SNR=21
GERES **GERESS Array B 74.38 331** P **P** **17 27 29.2 -0.4**
comp=Z,1.1nm,0.6s,mb3.5,baz=25,slow=5.3,SNR=6.5
MBWA **Marble Bar 75.22 208** *e*P **P** **17 27 32.8 -1.7**
CDF **Champ du Feu 76.67 335** *e*P **P** **17 27 41.6 -0.7**
comp=Z,4.2nm,0.6s,mb3.8
HAU **Haudompre 77.29 335** *e*P **P** **17 27 44.7 -1.0**
CCM **Cathedral Cave 77.76 44** *e*P **P** **17 27 46.5 -1.9**
CCM pmax pmax
comp=Z,6.0nm,0.8s,mb4.0
CCM **Cathedral Cave 77.76 44** *e*P **P** **17 27 46.5 -1.9**
comp=Z,6.1nm,0.8s,mb4.0
FLN **La Foliniere 78.28 340** *e*P **P** **17 27 50.2 -0.9**
comp=Z,23nm,0.8s,mb4.3
LDF **La Druitiere 78.36 339** *e*P **P** **17 27 50.5 -1.0**
TXAR **Lajitas Array 78.43 58** P **P** **17 27 52.0 -0.2**
comp=Z,5.3nm,0.8s,mb3.9,baz=294,slow=4.6,SNR=25
MMAI **Mount Meron Ar 78.61 308** P **P** **17 27 53.6 +0.6**
comp=Z,0.7nm,0.5s,mb3.2,baz=57,slow=10,SNR=2.7
LOR **Lormes 78.63 336** *e*P **P** **17 27 52.1 -0.8**
comp=Z,9.4nm,0.7s,mb3.9
GRR **Gorron 78.72 340** *e*P **P** **17 27 52.8 -0.6**
SSF **Saint Saulge 78.91 337** *e*P **P** **17 27 54.3 -0.2**
comp=Z,6.2nm,0.8s,mb3.7
AVF **Avril sur Loir 79.20 337** *e*P **P** **17 27 55.3 -0.7**
comp=Z,3.9nm,0.5s,mb3.7
SMF **Signal de Mont 79.21 336** *e*P **P** **17 27 55.4 -0.6**
comp=Z,18nm,0.9s,mb4.1
SGMF **Saint Gilles 79.22 341** *e*P **P** **17 27 55.5 -0.5**
ROSF **Rostrenen 79.29 341** *e*P **P** **17 27 56.0 -0.4**
LPL **La Plagne 79.46 334** *e*P **P** **17 27 57.4 0.0**
comp=Z,11nm,0.9s,mb3.9
LPG **La Plagne 79.47 334** *e*P **P** **17 27 57.5 +0.1**
comp=Z,9.0nm,0.9s,mb3.8
BGF **Bois d'Agland 79.55 337** *e*P **P** **17 27 57.5 -0.3**
TCF **Toulx Ste Croi 79.96 337** *e*P **P** **17 28 00.3 +0.3**
comp=Z,20nm,1.1s,mb4.1
MFF **Saint Martin d 80.24 339** *e*P **P** **17 28 01.2 -0.3**
comp=Z,7.2nm,0.6s,mb3.9
ORIF **Oris-en-Rattie 80.25 334** *e*P **P** **17 28 01.3 -0.2**
comp=Z,6.8nm,0.6s,mb3.9
RJF **Les Rejaudoux 81.05 337** *e*P **P** **17 28 05.5 -0.2**
CAF **Calviac 81.27 337** *e*P **P** **17 28 06.8 0.0**
comp=Z,13nm,0.9s,mb4.1
FRF **La Foret Royal 81.27 333** *e*P **P** **17 28 06.5 -0.4**
comp=Z,20nm,1.1s,mb4.2
LASF **Ste Croix 81.59 335** *e*P **P** **17 28 08.3 -0.2**
comp=Z,4.7nm,0.8s,mb3.6
LFF **La Frestale 81.59 338** *e*P **P** **17 28 08.3 -0.2**
MTLF **Montolieu 82.71 336** *e*P **P** **17 28 14.0 -0.2**
comp=Z,8.5nm,0.8s,mb4.0
EPF **Esparros 83.48 337** *e*P **P** **17 28 17.3 -0.7**
comp=Z,9.7nm,0.9s,mb4.0
BDFB **Brasilia 143.28 28** PKP PKPdf 17 35 17.9 -2.5
comp=Z,4.6nm,0.8s,baz=82,slow=21,SNR=7.0
CFAA **Coronel Fontan 147.01 71** PKPbc PKPbc 17 35 27.6 -1.7
comp=Z,0.7nm,0.7s,baz=266,slow=3.8,SNR=13
CPUP **Villa Florida 149.11 50** PKPbc PKPbc 17 35 32.6 -2.2
comp=Z,1.7nm,0.4s,baz=338,slow=3.4,SNR=7.4
PLCA **Paso Flores 151.18 87** PKPbc PKPbc 17 35 38.0 -1.2
comp=Z,1.6nm,0.6s,baz=342,slow=3.2,SNR=4.1
PLCA PKPab PKPab 17 35 48.5 -1.0
comp=Z,7.8nm,1.4s,baz=72,slow=9.6,SNR=2.8

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*CSEM **10** 17:18:26.3±1.2, 37.25N×24.71W, h5km, ML3.8, Error ellipse: s-maj=8.2km s-min=3.6km az=83.0, Error ellipse: s-maj=8.2km s-min=3.6km az=83.0,*

PDA 10 17:18:26.3±1.2, 37.25N×24.71W, h5km, MD3.9, ML3.8, Error ellipse: s-maj=8.2km s-min=3.6km az=83.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.37**	**229**	*e*P	Pg	17 18 32.8	-0.7
PSMN				*e*S	Sg	17 18 38.1	-0.3
CMLA	**Cha da Macela**	**0.82**	**309**	*i* P	Pg	17 18 39.1	-3.0
CMLA				*e*S	Sg	17 18 49.8	-3.0
CMLA				A		17 18 58.1	
	1μm,0.3s						
PDA	**Ponta Delgada**	**0.90**	**304**	*e*P	Pg	17 18 40.6	-3.0
PDA				*e*S	Sg	17 18 51.6	-3.8
PSET	**Sete Cidades**	**0.98**	**306**	*e*P	Pg	17 18 41.7	-3.5
PSET				*e*S	Sg	17 18 53.4	-4.5
PSET				A		17 19 01.6	
	2μm,0.4s						
PSET	**Sete Cidades**	**0.98**	**306**	*e*P	Pg	17 18 41.7	-3.5
PSET				*e*S	Sg	17 18 53.4	-4.5
PSCM	**Serra do Cume**	**2.39**	**308**	*e*P	Pn	17 19 01.6	-4.5
PSCM				*e*S	Sn	17 19 27.4	-8.3
PSCM				A		17 19 33.5	
	457nm,0.4s						
PSCM	**Serra do Cume**	**2.39**	**308**	*e*P	Pn	17 19 01.6	-4.5
PSCM				*e*S	Sn	17 19 27.4	-8.3
ADH	**Angra Heroismo**	**2.44**	**306**	*e*P	Pn	17 19 02.7	-4.0
ADH				*e*S	Sn	17 19 29.1	-7.8
PMAN	**Manadas**	**3.00**	**298**	*e*P	Pn	17 19 10.2	-4.3
PMAN				*e*S	Sn	17 19 43.0	-7.9
PMAN				A		17 19 47.6	
	77nm,0.3s						
PMAN	**Manadas**	**3.00**	**298**	*e*P	Pn	17 19 10.2	-4.3
PMAN				*e*S	Sn	17 19 43.0	-7.9
ROSA	**Rosais**	**3.15**	**299**	*e*P	Pn	17 19 12.7	-3.8
ROSA				*e*S	Sn	17 19 46.4	-8.1
PICO	**Pico**	**3.19**	**294**	*e*P	Pn	17 19 13.2	-3.9
PICO				*e*S	Sn	17 19 47.0	-8.5
HOR	**Horta**	**3.35**	**294**	*e*P	Pn	17 19 14.6	-4.7
HOR				*e*S	Sn	17 19 50.3	-9.1
CALA	**Caldeira**	**3.42**	**294**	*e*P	Pn	17 19 16.3	-4.0
CALA				*e*S	Sn	17 19 52.8	-8.4
PMAR	**Madeira**	**7.83**	**123**	*e*Pn	Pn	17 20 17.1	-3.8
PMAR				*e*T		17 27 42.1	
PMPS	**Porto Santo**	**8.04**	**119**	*e*Pn	Pn	17 20 17.4	-6.3
PMPS				*e*T		17 27 54.5	
PTEO	**Sao Teotonio**	**12.72**	**84**	*e*S	Sn	17 23 28.1	-22
EVO	**Evora**	**13.26**	**79**	*e*S	Sn	17 23 41.5	-21
PBEJ	**Beja**	**13.38**	**82**	*e*S	Sn	17 23 45.6	-20
PVAQ	**Vaqueiros**	**13.53**	**84**	*e*S	Sn	17 23 49.2	-20
MTE	**Manteigas**	**13.75**	**72**	*e*S	Sn	17 23 50.4	-25
PBAR	**Barrancos**	**14.03**	**81**	*e*S	Sn	17 24 00.7	-21
MVO	**Moncorvo**	**14.26**	**69**	*e*S	Sn	17 24 03.9	-23

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*IDC **10** 17:21:45.2±3.1, 19.30S×169.00E, h0km, mb4.4/6, mb1 4.6/6, mb1mx4.2/15, mbtmp4.5/6, MS3.3/3, Ms1 3.3/3, ms1mx3.0/20, Error ellipse: s-maj=67.5km s-min=34.4km az=32.0*

*NEIC **10** 17:21:46.3±1.6, 19.37S×169.01E, h10km, mb4.9/5, Error ellipse: s-maj=37.0km s-min=16.1km az=213.0*

ISC 10 17:21:53.5±4.2, 19.8S±02×168.8E±02, h49km±31km, n16, σ0.85/15, mb4.6/10, MS3.2/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.19**	**224**	*e*P	**Pn**	**17 22 41.1**	**-0.1**
DZM				*e*S	**Sn**	**17 23 17.9**	**-0.2**
HNR	**Honiara**	**13.40**	**319**	LR	LR	17 29 06.0	
	comp=Z,103nm,20.2s,baz=180,slow=34						
URZ	**Urewera**	**19.77**	**160**	P	**Pn**	**17 26 21.3**	**-0.1**
	8.0nm,0.8s,baz=328,slow=13,SNR=4.4						
CTA	**Charters Tower**	**21.23**	**265**	*e*P	**P**	**17 26 37.6**	**+2.2**
	7.6nm,0.5s,mb4.3						
CTA	**Charters Tower**	**21.23**	**265**	P	**P**	**17 26 36.4**	**+0.9**
	13nm,0.8s,mb4.3,baz=86,slow=13,SNR=11						
CTA				LR	LR	17 33 58.4	
	comp=Z,62nm,21.1s,MS3.0,baz=219,slow=34						
STKA	**Stephens Creek**	**27.24**	**238**	*e*P	**P**	**17 27 34.3**	**+1.3**
	4.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.24**	**238**	P	**P**	**17 27 34.3**	**+1.3**
	5.0nm,0.6s,mb4.2,baz=64,slow=9.4,SNR=23						
STKA				LR	LR	17 37 55.5	
	comp=Z,128nm,20.7s,MS3.5,baz=27,slow=35						
WRAB	**Tennant Creek**	**32.40**	**264**	*e*P	**P**	**17 28 16.9**	**-2.0**
	5.9nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**32.41**	**264**	P	**P**	**17 28 18.1**	**-0.9**
	2.9nm,1.0s,mb4.1,baz=92,slow=9.5,SNR=6.6						
ASAR	**Alice Springs**	**32.63**	**257**	P	**P**	**17 28 20.9**	**+0.1**
	12nm,0.7s,mb4.9,baz=86,slow=8.9,SNR=230						
FITZ	**Fitzroy Crossi**	**40.81**	**265**	P	**P**	**17 29 30.7**	**+0.2**
	6.3nm,1.1s,mb4.2,baz=99,slow=8.6,SNR=3.5						
MBWA	**Marble Bar**	**45.88**	**259**	*e*P	**P**	**17 30 11.7**	**+0.3**
	26nm,1.2s,mb5.0						
NWAO	**Narrogin (SRO)**	**47.63**	**243**	*e*P	**P**	**17 30 24.6**	**-0.3**
	11nm,1.1s,mb4.8						
SBA	**Scott Base**	**58.12**	**181**	*e*P	**P**	**17 31 42.1**	**+0.5**
	15nm,1.6s,mb4.8						
CASY	**Casey**	**59.48**	**204**	*e*P	**P**	**17 31 50.5**	**-0.6**
	15nm,1.0s,mb5.0						
GERES	**GERESS Array B**	**144.78**	**331**	PKP	PKPdf	17 41 23.2	-1.6
	0.4nm,0.5s,baz=19,slow=3.3,SNR=5.5						

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*NEIC **10** 17:23:37.4, 31.25S×68.65W, h144km, mb3.4/1, MD3.8(GUC), After GUC.*

GUC 10 17:23:37.4±0.8, 31.25S×68.65W, h144km±37km, MD3.8, ML3.8, 1C, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**2.02**	**271**	*e*P	Pn	17 24 12.7	+0.4
CMCH				*i* S	Sn	17 24 40.3	+1.1
CMCH	**Combarbala**	**2.02**	**271**	*e*P	Pn	17 24 12.7	+0.4
CMCH				*i* S	Sn	17 24 40.3	+1.1
CMCH				AML	AML	17 24 43.1	
	comp=E,1μm,0.6s						
TLL	**Tololo Astrono**	**2.15**	**299**	*e*P	Pn	17 24 15.3	+1.4
TLL				*i* S	Sn	17 24 43.0	+1.1
TLL	**Tololo Astrono**	**2.15**	**299**	*e*P	Pn	17 24 15.3	+1.4
TLL				*i* S	Sn	17 24 43.0	+1.1
TLL				AML	AML	17 24 46.8	
	comp=E,320nm,0.3s						
FCH	**Farellones**	**2.50**	**213**	*e*P	Pn	17 24 19.7	+1.5
FCH				*i* S	Sn	17 24 51.4	+1.7
FCH				AML	AML	17 24 56.7	
	comp=E,95nm,0.2s						
PCH	**Pirque**	**2.85**	**213**	↑*i* P	Pn	17 24 23.1	+0.6
LCO	**Las Campanas**	**2.85**	**321**	*e*Pn	Pn	17 24 23.0	+0.4
LCO				*e*Sn	Sn	17 24 56.5	-1.0
RCDM	**Rinconada Maip**	**2.89**	**219**	*e*P	Pn	17 24 23.9	+0.8
RCDM				*i* S	Sn	17 24 59.1	+0.7
RCDM	**Rinconada Maip**	**2.89**	**219**	*e*P	Pn	17 24 23.9	+0.8
RCDM				*i* S	Sn	17 24 59.1	+0.7
RCDM				AML	AML	17 25 00.1	
	comp=N,183nm,0.4s						
TACH	**Talagante**	**3.08**	**218**	*i* P	Pn	17 24 26.0	+0.4
VACH	**Vallenar**	**3.23**	**325**	*i* S	Sn	17 25 06.5	+0.3
VACH				AML	AML	17 25 08.0	
	comp=E,684nm,0.2s						
TRQA	**Tornquist**	**8.73**	**143**	*e*Pn	Pn	17 25 37.8	-2.7
PLCA	**Paso Flores**	**9.59**	**189**	Pn	Pn	17 25 52.0	0.0
LPAZ	**La Paz**	**14.90**	**2**	*e*Pn	Pn	17 27 02.4	+1.5
	comp=E,1.4nm,0.7s						

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*NEIC **10** 17:26:06.2±1.2, 46.74N×152.89E, h10km, mb4.1/4, Error ellipse: s-maj=28.6km s-min=20.0km az=166.0*
*JMA **10** 17:26:08.8±0.9, 46.78N×152.95E, h30km, M4.4*
*ISCJB **10** 17:26:11.2±1.1, 46.70N±0.08×152.6E±0.1, h58km±9km, mb4.2/13, Error ellipse: s-maj=16.0km s-min=7.8km az=138.3*
*MOS **10** 17:26:13.8±2.0, 46.96N×152.44E, h76km, mb4.3/6, Error ellipse: s-maj=16.5km s-min=11.2km az=64.7*
*IDC **10** 17:26:17.4±4.3, 46.89N×152.49E, h98km±38km, mb3.5/8, mb1 3.6/10, mb1mx3.4/23, mbtmp3.5/10, Error ellipse: s-maj=29.5km s-min=23.2km az=118.0*

ISC 10 17:26:13.0±1.0, 46.68N±0.08×152.7E±01, h58km±7km, n53, σ1.39/60, mb4.2/13, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.63**	**248**	PN	**Pn**	**17 27 04.0**	**-2.7**
KUR				*e*S	**Sn**	**17 27 46.0**	**-2.3**
KUR				pmax	pmax		
	comp=Z,90nm,0.5s						
KUR				smax			
	comp=N,300nm,0.5s						
KUR				smax			
	comp=E,180nm,0.5s						
SKR	**Severo-Kuril's**	**4.62**	**29**	*e*PN	**Pn**	**17 27 20.2**	**0.0**
SKR				*e*S	**Sn**	**17 28 04.9**	**-7.5**
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,60nm,0.5s						
SKR				smax			
	comp=E,110nm,0.5s						
SKR				smax			
	comp=Z,50nm,0.5s						
NEM2	**Nemuro 2**	**5.91**	**238**	P	**Pn**	**17 27 36.9**	**-1.0**
NEM2				*e*S	**Sn**	**17 28 41.4**	**-2.8**
JRA	**Rausu**	**5.97**	**245**	P	**Pn**	**17 27 40.2**	**+1.4**
JNK	**Nakash**	**6.40**	**244**	P	**Pn**	**17 27 45.4**	**+0.7**
JTKR	**Abashiri--Toko**	**6.73**	**249**	P	**Pn**	**17 27 50.9**	**+1.8**
JAK	**Akkeshi**	**6.75**	**240**	*e*S	**Sn**	**17 29 02.7**	**-2.0**
YSS	**Yuzh-Sakhalins**	**6.79**	**276**	*e*PN	**Pn**	**17 27 49.5**	**-0.5**
YSS				*e*		17 29 06.6	
YSS				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YSS	**Yuzh-Sakhalins**	**6.79**	**276**	*e*Pn	**Pn**	**17 27 49.5**	**-0.5**
	comp=Z,7.0nm,0.5s						
YSS				*e*Sn	**Sn**	**17 29 06.6**	**+0.7**
JMP	**Maruseppu**	**7.07**	**251**	P	**Pn**	**17 27 56.2**	**+2.4**
JAR	**Ashorobuto**	**7.14**	**245**	P	**Pn**	**17 27 55.7**	**+0.9**
JSE	**Soyaes**	**7.24**	**260**	P	**Pn**	**17 27 58.8**	**+2.7**
ASAJ	**Asahikawa**	**7.53**	**254**	PN	**Pn**	**17 28 03.0**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**7.53**	**254**	P	**Pn**	**17 28 03.4**	**+3.4**
ASAJ	**Asahikawa**	**7.53**	**254**	P	**Pn**	**17 28 03.0**	**+3.0**
	comp=Z,1.5nm,0.3s,baz=66,slow=12,SNR=11						
JKK2	**Kamakawa 2**	**7.53**	**252**	P	**Pn**	**17 28 02.3**	**+2.3**
JCH	**Churui**	**7.77**	**242**	P	**Pn**	**17 28 02.5**	**-0.8**
JCH				*e*S	**Sn**	**17 29 26.3**	**-3.5**
JNBK	**Urakawa-nobuka**	**8.33**	**242**	P	**Pn**	**17 28 10.6**	**-0.4**
JNBK				*e*S	**Sn**	**17 29 39.7**	**-3.8**
JKB	**Kayabe**	**9.61**	**244**	P	**Pn**	**17 28 26.9**	**-1.6**
JKB				*e*S	**Sn**	**17 30 08.8**	**-6.0**
JANG	**Nango**	**10.24**	**236**	*e*S	**Sn**	**17 30 20.9**	**-10**
MA2	**Magadan**	**12.97**	**356**	*e*PN	**Pn**	**17 29 13.4**	**-0.8**
MAJO	**Matsushiro**	**14.78**	**232**	*e*P	**Pn**	**17 29 44.3**	**+5.7**
MJAR	**Matsushiro Arr**	**14.78**	**232**	P	**Pn**	**17 29 43.5**	**+4.9**
	comp=Z,0.3nm,0.3s,baz=36,slow=8.7,SNR=6.0						
YAK	**Yakutsk**	**20.21**	**328**	P	**P**	**17 30 42.6**	**-0.1**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.8s						
YAK	**Yakutsk**	**20.21**	**328**	P	**P**	**17 30 42.6**	**-0.2**
	comp=Z,9.3nm,0.8s						
KSRS	**Korea Array**	**20.47**	**252**	P	**P**	**17 30 47.8**	**+2.0**
	comp=Z,1.5nm,0.7s,baz=54,slow=10,SNR=11						
ULN	**Ulaanbaatar**	**30.62**	**289**	P	**P**	**17 32 23.8**	**+2.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**30.62**	**289**	P	**P**	**17 32 23.8**	**+2.5**
	comp=Z,2.2nm,0.8s,mb4.0						
INK	**Inuvik**	**41.88**	**32**	P	**P**	**17 33 56.6**	**-0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.5s						
INK	**Inuvik**	**41.88**	**32**	P	**P**	**17 33 55.9**	**-1.1**
INK	**Inuvik**	**41.88**	**32**	P	**P**	**17 33 56.6**	**-0.4**
	comp=Z,0.6nm,0.5s,mb3.5,baz=256,slow=6.4,SNR=3.8						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**17 34 32.8**	**-2.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**17 34 33.8**	**-1.9**
MKAR				PcP	PcP	17 36 07.8	-0.6
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**17 34 33.8**	**-1.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=69,slow=7.4,SNR=8.5						
MKAR				PcP	PcP	17 36 07.8	-0.6
	comp=Z,0.7nm,0.8s,baz=68,slow=3.7,SNR=4.4						
KURK	**Kurchatov**	**47.14**	**304**	P	**P**	**17 34 31.4**	**-7.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0						
KURK	**Kurchatov**	**47.14**	**304**	P	**P**	**17 34 31.4**	**-7.7**
	comp=Z,1.7nm,0.9s,mb4.0						
LSA	**Lhasa**	**49.96**	**273**	P	**P**	**17 35 00.4**	**-0.7**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.7						
LSA	**Lhasa**	**49.96**	**273**	P	**P**	**17 35 00.4**	**-0.7**
	comp=Z,3.4nm,0.4s,mb4.7						
JIRN	**Jiri**	**54.63**	**274**	*e*P	**P**	**17 35 36.1**	**+0.4**
	comp=Z,7.5nm,0.5s,mb5.0						
GUN	**Gumba**	**54.69**	**275**	*e*P	**P**	**17 35 36.7**	**+0.6**
	comp=Z,3.6nm,0.3s,mb4.9						
KKN	**Kakani**	**55.17**	**275**	*e*P	**P**	**17 35 40.5**	**+0.8**
PKI	**Pulchoki**	**55.23**	**275**	*e*P	**P**	**17 35 40.2**	**+0.2**
DMN	**Daman**	**55.41**	**275**	*e*P	**P**	**17 35 42.2**	**+0.9**
GKN	**Gorkha**	**55.48**	**276**	*e*P	**P**	**17 35 42.2**	**+0.3**
	comp=Z,7.0nm,0.5s,mb4.9						
DANN	**Dangsing**	**55.86**	**277**	*e*P	**P**	**17 35 45.0**	**+0.4**
KOLN	**Koldanda**	**56.34**	**276**	*e*P	**P**	**17 35 48.7**	**+0.7**
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**17 36 38.0**	**-1.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**63.97**	**335**	P	**P**	**17 36 38.1**	**-1.6**
	comp=Z,1.2nm,0.4s,mb4.3,baz=36,slow=7.3,SNR=11						
NB2	**NORSAR Subarra**	**68.19**	**341**	P	**P**	**17 37 05.3**	**-1.4**
	comp=Z,1.1nm,0.6s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.19**	**341**	P	**P**	**17 37 05.5**	**-1.2**
	comp=Z,1.3nm,0.6s,mb4.2,baz=28,slow=6.3,SNR=7.3						
AKASG	**Malin Array Be**	**71.43**	**326**	P	**P**	**17 37 25.2**	**-1.6**
	comp=Z,1.2nm,0.3s,mb4.3,baz=34,slow=6.0,SNR=12						
ASAR	**Alice Springs**	**72.04**	**198**	P	**P**	**17 37 31.2**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.6,baz=15,slow=6.0,SNR=5.5						
TXAR	**Lajitas Array**	**77.81**	**60**	P	**P**	**17 38 03.9**	**-0.2**
	comp=Z,0.1nm,0.5s,mb3.0,baz=284,slow=3.6,SNR=3.3						
TXAR				pP	pP	17 38 18.4	-1.9
	comp=Z,0.6nm,0.5s,baz=294,slow=4.5,SNR=9.0						

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*ISCJB **10** 17:29:26.9±2.9, 20.7S±02×178.5W±0.1, h570km±36km, mb3.8/11, Error ellipse: s-maj=26.1km s-min=20.4km az=13.6*
*NEIC **10** 17:29:27.8±5.2, 20.64S×178.41W, h579km±57km, mb4.0/4, Error ellipse: s-maj=36.8km s-min=20.5km az=217.0*
*IDC **10** 17:29:30.2±2.9, 20.98S×178.32W, h613km±38km, mb3.2/7, mb1 3.4/8, mb1mx3.2/16, mbtmp3.2/8, Error ellipse: s-maj=36.4km s-min=17.1km az=160.0*

ISC 10 17:29:27.6±3.2, 20.7S±02×178.5W±01, h563km±39km, n24, σ0.81/19, mb3.8/11, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.88**	**191**	P	**P**	**17 33 02.2**	**-1.3**
	0.7nm,0.3s,baz=331,slow=3.2,SNR=6.3						
CTA	**Charters Tower**	**33.00**	**265**	*e*P	**P**	**17 35 17.7**	**+0.7**
	5.7nm,0.8s,mb4.2						
CTA	**Charters Tower**	**33.00**	**265**	P	**P**	**17 35 17.8**	**+0.8**
	2.9nm,0.6s,mb4.0,baz=49,slow=8.2,SNR=7.2						
CTAO	**Charters Tower**	**33.00**	**265**	*e*P	**P**	**17 35 17.5**	**+0.6**
STKA	**Stephens Creek**	**37.26**	**244**	*e*P	**P**	**17 35 53.3**	**+1.0**
	1.0nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**37.26**	**244**	P	**P**	**17 35 52.3**	**0.0**
	1.3nm,0.5s,mb3.8,baz=101,slow=12,SNR=7.9						
ASAR	**Alice Springs**	**44.01**	**257**	P	**P**	**17 36 46.4**	**+0.4**
	4.7nm,0.5s,mb4.3,baz=92,slow=7.8,SNR=166						
ASAR				S	**S**	**17 42 36.9**	**-0.8**
	0.4nm,0.7s,baz=91,slow=16,SNR=4.8						
WB2	**Warramunga Arr**	**44.09**	**262**	*e*P	**P**	**17 36 46.2**	**-0.4**
WRAB	**Tennant Creek**	**44.09**	**262**	*e*P	**P**	**17 36 46.1**	**-0.6**
	7.2nm,0.9s,mb4.2						
WRA	**Warramunga Arr**	**44.10**	**262**	P	**P**	**17 36 46.9**	**+0.2**
	2.8nm,0.3s,mb4.3,baz=97,slow=7.4,SNR=36						
FITZ	**Fitzroy Crossi**	**52.53**	**263**	*e*P	**P**	**17 37 49.4**	**0.0**
	2.5nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**52.53**	**263**	P	**P**	**17 37 49.9**	**+0.5**
	1.3nm,0.5s,mb3.5,baz=137,slow=12,SNR=12						
MBWA	**Marble Bar**	**57.34**	**258**	P	**P**	**17 38 21.8**	**-1.1**
	5.3nm,0.6s,mb4.0						
SBA	**Scott Base**	**57.62**	**184**	*e*P	**P**	**17 38 25.8**	**+2.0**
	3.3nm,0.8s,mb3.6						
QSPA	**South Pole Qui**	**69.34**	**180**	*e*P	**P**	**17 39 38.5**	**-0.1**
	4.3nm,0.9s,mb4.0						
KSM	**Kuching**	**72.97**	**278**	*e*P	**P**	**17 40 01.4**	**+0.4**
KSRS	**Korea Array**	**76.74**	**319**	P	**P**	**17 40 21.9**	**+0.4**
	0.7nm,0.7s,mb3.2,baz=120,slow=5.1,SNR=4.1						
NVAR	**Mina Array Bea**	**81.51**	**44**	P	**P**	**17 40 46.0**	**-0.7**
	0.5nm,0.6s,mb3.1,baz=234,slow=7.6,SNR=3.7						
ARCES	**ARCESS Array B**	**129.06**	**349**	PKP	PKPdf	17 47 30.0	-1.2
ARCES	**ARCESS Array B**	**129.06**	**349**	PKP	PKPdf	17 47 30.0	-1.2
	5.6nm,0.9s,baz=318,slow=1.2,SNR=4.4						
AKASG	**Malin Array Be**	**142.98**	**331**	PKP	PKPdf	17 47 53.5	-3.9
AKASG	**Malin Array Be**	**142.98**	**331**	PKP	PKPdf	17 47 53.5	-3.9
	3.0nm,0.4s,baz=43,slow=4.2,SNR=41						
CLL	**Collm**	**148.17**	**346**	*e*PKPdf	PKPdf	17 48 06.0	-0.2
CLL				*e*PKPbc	PKPbc	17 48 09.0	-1.3
GERES	**GERESS Array B**	**150.29**	**344**	PKPbc	PKPbc	17 48 13.8	-1.6
	0.5nm,0.5s,baz=63,slow=6.1,SNR=6.0						

MAN 10 17:48:50.98N×124.82E, h41km, mb4.1, ML2.9, MS2.6, Mindanao

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*NEIC **10** 17:51:38.0±0.9, 29.26S×179.00W, h400km, Error ellipse: s-maj=28.5km s-min=20.2km az=118.0*

IDC 10 17:51:34.5±6.4, 29.06S×179.05W, h355km±58km, mb3.3/3, mb1 3.5/4, mb1mx3.2/13, mbtmp3.4/4, Error ellipse: s-maj=52.4km s-min=27.5km az=28.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**9.72**	**198**	P	Pn	17 53 50.2	+1.3
	3.0nm,0.3s,baz=52,slow=16,SNR=20						
URZ				S	S	17 55 34.6	-4.5
	1.7nm,0.3s,baz=256,slow=22,SNR=12						
STKA	**Stephens Creek**	**33.91**	**255**	P	P	17 57 45.9	+0.5
STKA	**Stephens Creek**	**33.91**

Error ellipse: s-maj=31.2km s-min=12.5km az=153.4
*MAN **10** 18:35:41, 1927N×12094E, h1km, mb4.8, ML3.7, MS3.7*
*NEIC **10** 18:35:42.5±4.4, 1889N×121.15E, h4km±24km, mb4.1/2, Error ellipse: s-maj=25.7km s-min=9.5km az=158.0*
*IDC **10** 18:35:42.2±2.8, 1898N×121.13E, h0km, mb4.0/8, mb1 4.1/11, mb1mx4.0/23, mbtmp4.1/11, ML3.8/3, MS3.0/1, Ms1 3.0/1, ms1mx2.6/39, Error ellipse: s-maj=61.9km s-min=30.9km az=171.0*

ISC 10 18:35:42.2±6.5, 189N±02×1212E±01, h2km±36km, n18, σ0s75/18, mb4.0/10, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YHNB	**Yeheng**	**5.73**	**2**	*eP*	**Pn**	**18 37 08.6**	**+0.3**
JOW	**Kunigami**	**10.24**	**38**	Pn	**Pn**	**18 38 11.1**	**+0.7**
	1.7nm,0.3s,baz=204,slow=18,SNR=5.7						
JOW				LR	LR	18 41 40.9	
	comp=Z,89nm,20.4s,baz=110,slow=35						
QIZ	**Qiongzhong**	**10.71**	**272**	*eP*	**Pn**	**18 38 16.5**	**-0.2**
JNU	**Nakatsue**	**16.61**	**30**	Pn	**Pn**	**18 39 36.1**	**-0.1**
	0.2nm,0.3s,baz=166,slow=16,SNR=3.6						
KSRS	**Korea Array**	**19.39**	**16**	P	**Pn**	**18 40 08.0**	**-2.5**
	0.5nm,0.3s,baz=195,slow=11,SNR=16						
BJT	**Baijiatuau**	**21.46**	**349**	*eP*	**P**	**18 40 32.4**	**+0.4**
	15nm,1.0s,mb4.3						
SONM	**Songino Array**	**31.25**	**341**	P	**P**	**18 42 02.9**	**-0.3**
	1.0nm,0.6s,mb3.8,baz=161,slow=9.2,SNR=7.6						
MK31	**Makanchi Array**	**42.22**	**320**	*eP*	**P**	**18 43 37.6**	**+0.9**
MKAR	**Makanchi Array**	**42.22**	**320**	P	**P**	**18 43 36.7**	**0.0**
MKAR	**Makanchi Array**	**42.22**	**320**	P	**P**	**18 43 36.7**	**+0.1**
	0.8nm,0.7s,mb3.4,baz=119,slow=9.6,SNR=8.5						
ZALV	**Zalesovo Beam**	**44.71**	**330**	P	**P**	**18 43 56.5**	**-0.2**
	1.4nm,0.6s,mb4.0,baz=124,slow=8.2,SNR=7.5						
KURK	**Kurchatov**	**46.20**	**323**	*eP*	**P**	**18 44 09.1**	**+0.6**
	1.0nm,0.8s,mb3.8						
BVAR	**Borovoye Array**	**51.80**	**323**	P	**P**	**18 44 52.0**	**+0.6**
	1.0nm,0.7s,mb3.8,baz=112,slow=10,SNR=3.9						
KDAK	**Kodiak Island**	**72.23**	**34**	P	**P**	**18 47 08.8**	**+0.1**
KDAK	**Kodiak Island**	**72.23**	**34**	P	**P**	**18 47 08.8**	**+0.1**
	2.6nm,0.7s,mb4.3,baz=270,slow=11,SNR=4.6						
ARCES	**ARCESS Array B**	**74.40**	**339**	P	**P**	**18 47 20.8**	**-0.6**
	4.3nm,1.0s,mb4.3,baz=77,slow=5.4,SNR=3.7						
AKASG	**Malin Array Be**	**76.80**	**319**	P	**P**	**18 47 34.3**	**-1.1**
	0.5nm,0.5s,mb3.7,baz=66,slow=5.1,SNR=3.2						
YKA	**Yellowknife Ar**	**87.81**	**23**	P	**P**	**18 48 33.3**	**+0.5**
	1.0nm,0.5s,mb4.3,baz=309,slow=4.6,SNR=20						

*IDC **10** 18:37:06.4±0.5, 555S×13384E, h0km, mb4.9/16, mb1 4.9/19, mb1mx4.9/21, mbtmp5.0/19, ML4.6/3, MS4.4/15, Ms1 4.4/15, ms1mx4.2/27, Error ellipse: s-maj=19.0km s-min=9.8km az=61.0*
*ISCJB **10** 18:37:09.6±0.2, 568S±003×13381E±004, h31km, mb5.3/93, MS4.4/30, Error ellipse: s-maj=5.7km s-min=3.9km az=164.4*
*BJI **10** 18:37:09.4, 559S×13396E, h33km, mB5.2, mb5.1, Ms4.7, Msz4.4*
*NEIC **10** 18:37:10.9±0.2, 561S×13384E, mb5.3/29, Error ellipse: s-maj=7.7km s-min=5.2km az=71.0*
NEIC Felt [II] in Kepulauan Aru.
*MOS **10** 18:37:10.0±0.9, 557S×13382E, h33km, mb5.5/24, MS4.2/4, Error ellipse: s-maj=13.7km s-min=7.2km az=111.9*
*GCMT **10** 18:37:10.9±0.2, 548S×13391E, h13km, MW5.1/71, Moment Tensor Solution. s49,c69; s71,c121; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=4.08±.17; Mθθ=0.24±.10; Mφφ=3.83±.14; Mrθ=2.05±.33; Mrφ=2.77±.10; Mθφ=.09±.32; Best double couple: M0=5.23600×10^16 NP1:φ=5.00000°, δ=44.00000°, λ=-127.00000°. NP2: φ=231.00000°, δ=56.00000°, λ=-60.00000°. Principal axes: T 5.4610, Plg7.0000°, Azm300.0000°; N -0.4540, Plg25.0000°, Azm33.0000°; P -5.0120, Plg64.0000°, Azm196.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 10 18:37:11.9±0.2, 565S±003×13383E±004, h33km, h33km±.6km: pP-P, n260, σ1s15/243, mb5.3/93, MS4.4/30, 11C-8D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
AAI	**Ambon**	**5.95**	**289**	P	**Pn**	**18 38 35.2**	**-2.5**
	972nm,0.7s						
MMPI	**Merauke**	**7.08**	**114**	P	**Pn**	**18 38 55.5**	**+2.3**
	4μm,1.2s						
KAKA	**Kakadu**	**7.15**	**191**	⇓*iP*	**Pn**	**18 38 53.6**	**-0.6**
	350nm,0.4s						
KAKA				*eS*	**Sn**	**18 40 15.8**	**+1.5**
BATI	**Kupang**	**11.04**	**245**	Pn	**Pn**	**18 39 45.9**	**-1.7**
	37nm,0.3s,baz=121,slow=2.8,SNR=98						
BATI				Sn	**Sn**	**18 41 40.9**	**-9.1**
	11nm,0.3s,baz=32,slow=19,SNR=2.0						
KDI	**Kendari**	**11.30**	**278**	P	**Pn**	**18 39 53.1**	**+2.0**
	141nm,1.2s						
KAPI	**Kappang**	**14.04**	**272**	Pn	**Pn**	**18 40 29.2**	**+0.7**
	476nm,1.0s,SNR=5.7						
KAPI	**Kappang**	**14.04**	**272**	Pn	**Pn**	**18 40 34.2**	**+5.7**
	SNR=12						
KAPI	**Kappang**	**14.04**	**272**	P	**Pn**	**18 40 34.2**	**+5.7**
	SNR=12						
KAPI	**Kappang**	**14.04**	**272**	P	**Pn**	**18 40 34.2**	**+5.7**
	SNR=12						
KAPI	**Kappang**	**14.04**	**272**	P	**Pn**	**18 40 34.2**	**+5.7**
	SNR=12						
KAPI	**Kappang**	**14.04**	**272**	Pn	**Pn**	**18 40 28.2**	**-0.4**
	0.3nm,0.3s,baz=96,slow=8.4,SNR=13						
WRAB	**Tennant Creek**	**14.21**	**178**	Pn	**Pn**	**18 40 26.0**	**-4.8**
	2μm,1.0s,SNR=43						
WRAB	**Tennant Creek**	**14.21**	**178**	*eP*	**Pn**	**18 40 25.9**	**-4.9**
WRAB				pmax	pmax		
	comp=Z,321nm,0.9s						
WRAB	**Tennant Creek**	**14.21**	**178**	*eP*	**Pn**	**18 40 25.9**	**-4.9**
	comp=Z,321nm,0.9s						
WB2	**Warramunga Arr**	**14.21**	**178**	*eP*	**Pn**	**18 40 25.3**	**-5.6**
WB2				*eS*	**Sn**	**18 42 55.4**	**-12**
WRA	**Warramunga Arr**	**14.21**	**178**	Pn	**Pn**	**18 40 25.2**	**-5.7**
	comp=Z,6.2nm,0.3s,baz=359,slow=13,SNR=45						
WRA				Sn	**Sn**	**18 42 59.1**	**-8.4**
	comp=Z,10nm,0.3s,baz=358,slow=22,SNR=5.6						
WRA				Lg		18 44 35.7	
	comp=Z,7.5nm,0.3s,baz=6.5,slow=26,SNR=6.0						
FITZ	**Fitzroy Crossi**	**14.74**	**212**	*eP*	**Pn**	**18 40 32.8**	**-5.3**
	comp=Z,112nm,0.4s						
FITZ	**Fitzroy Crossi**	**14.74**	**212**	Pn	**Pn**	**18 40 33.7**	**-4.4**
	comp=Z,12nm,0.3s,baz=42,slow=15,SNR=151						
FITZ				Sn	**Sn**	**18 43 10.9**	**-9.4**
	comp=Z,13nm,0.3s,baz=192,slow=12,SNR=8.1						
FITZ				Lg		18 45 17.5	
	comp=Z,5.1nm,0.3s,baz=86,slow=19,SNR=3.6						
FITZ				LR	LR	18 47 01.9	
	comp=Z,2μm,20.9s,baz=39,slow=40						
PCI	**Palu**	**14.74**	**288**	P	**Pn**	**18 40 35.9**	**-2.3**
	comp=Z,256nm,1.2s						
ASAR	**Alice Springs**	**17.91**	**180**	P	**Pn**	**18 41 15.7**	**-2.8**
ASAR				S	**Sn**	**18 44 29.4**	**-7.9**
ASAR	**Alice Springs**	**17.91**	**180**	P	**Pn**	**18 41 15.7**	**-2.8**
	comp=Z,6.7nm,0.3s,baz=4.8,slow=9.7,SNR=345						
ASAR				S	**Sn**	**18 44 29.4**	**-7.9**
	comp=Z,6.9nm,0.3s,baz=358,slow=27,SNR=6.1						
ASAR				Lg		18 46 34.5	
	baz=352,slow=33,SNR=4.9						
CTA	**Charters Tower**	**18.75**	**141**	*eP*	**Pn**	**18 41 30.2**	**+1.4**
	comp=Z,52nm,1.1s						
CTA				*eS*	**Sn**	**18 45 02.4**	**+4.6**
CTA	**Charters Tower**	**18.75**	**141**	*eP*	**Pn**	**18 41 30.2**	**+1.4**
CTA				*eS*	**Sn**	**18 45 02.4**	**+4.6**
	comp=Z,52nm,1.1s						
CTA				pmax	pmax		
CTA	**Charters Tower**	**18.75**	**141**	P	**Pn**	**18 41 29.0**	**+0.2**
	comp=Z,1.5nm,0.3s,baz=328,slow=12,SNR=14						
CTA				S	**Sn**	**18 45 01.1**	**+3.3**
	comp=Z,0.5nm,0.3s,baz=16,slow=8.8,SNR=2.5						
CTA				Lg		18 46 57.7	
	comp=Z,1.7nm,0.3s,baz=79,slow=23,SNR=3.5						
CTA				LR	LR	18 48 51.6	
	comp=Z,1μm,20.0s,baz=323,slow=38						
CTAO	**Charters Tower**	**18.75**	**141**	*eP*	**Pn**	**18 41 29.9**	**+1.1**
CTAO				pmax	pmax		
	comp=Z,113nm,1.1s						
CTAO	**Charters Tower**	**18.75**	**141**	*eP*	**Pn**	**18 41 29.9**	**+1.1**
	comp=Z,114nm,1.1s						
KMMI	**Kalianget**	**19.79**	**265**	P	**Pn**	**18 41 40.7**	**-0.6**
	comp=Z,820nm,1.4s						
MBWA	**Marble Bar**	**20.61**	**220**	*eP*	**P**	**18 41 48.5**	**+0.1**
	comp=Z,221nm,1.2s						
MBWA	**Marble Bar**	**20.61**	**220**	P	**P**	**18 41 49.7**	**+1.3**
	SNR=9.4						
MBWA	**Marble Bar**	**20.61**	**220**	P	**P**	**18 41 49.7**	**+1.3**
	SNR=9.4						
MBWA	**Marble Bar**	**20.61**	**220**	P	**P**	**18 41 49.7**	**+1.3**
	SNR=9.4						
MBWA	**Marble Bar**	**20.61**	**220**	P	**P**	**18 41 49.7**	**+1.3**
	SNR=9.4						
KKM	**Kota Kinabalu**	**21.08**	**303**	*eP*	**P**	**18 41 51.8**	**-1.8**
GUMO	**Guam**	**22.03**	**30**	LR	LR	18 50 15.8	
	comp=Z,552nm,20.2s,baz=208,slow=36						
SBUM	**Sibu**	**23.04**	**290**	⇑P	**P**	**18 42 15.9**	**+1.4**
BJII	**Banjamegara**	**24.03**	**265**	P	**P**	**18 42 22.8**	**-1.2**
	comp=Z,74nm,1.3s,mb5.0						
KSM	**Kuching**	**24.54**	**286**	*eP*	**P**	**18 42 28.7**	**0.0**
KSM	**Kuching**	**24.54**	**286**	⇓P	**P**	**18 42 30.4**	**+1.7**
FORT	**Forrest**	**25.58**	**192**	*eP*	**P**	**18 42 37.8**	**-0.2**
	comp=Z,484nm,0.6s,mb6.2						
EIDS	**Eidsvold**	**25.64**	**142**	*eP*	**P**	**18 42 38.4**	**-0.2**
	comp=Z,64nm,1.0s,mb5.1						
HNR	**Honiara**	**26.15**	**100**	P	**P**	**18 42 42.8**	**-0.6**
	comp=Z,65nm,0.8s,mb5.2,baz=123,slow=1.9,SNR=3.6						
TPI	**Tanjungpandan**	**26.27**	**275**	P	**P**	**18 42 45.2**	**+0.8**
	comp=Z,111nm,1.5s,mb5.2						
STKA	**Stephens Creek**	**27.08**	**165**	*eP*	**P**	**18 42 51.1**	**-0.5**
	comp=Z,33nm,0.9s,mb4.9						
STKA				*eS*	S	18 47 49.5	+22
STKA	**Stephens Creek**	**27.08**	**165**	P	**P**	**18 42 51.7**	**+0.2**
	comp=Z,32nm,0.9s,mb4.8,baz=341,slow=8.5,SNR=25						
STKA				LR	LR	18 55 14.7	
	comp=Z,1μm,20.1s,MS4.4,baz=149,slow=40						
KLBR	**Kellerberrin**	**29.88**	**208**	*eP*	**P**	**18 43 16.3**	**-0.2**
	comp=Z,52nm,1.2s,mb5.1						
MYKOM	**Kota Tinggi**	**30.84**	**283**	⇓P	**P**	**18 43 26.7**	**+1.5**
MUN	**Mundaring**	**30.95**	**210**	*eP*	**P**	**18 43 25.6**	**-0.3**
KSI	**Kapahiang**	**31.20**	**272**	P	**P**	**18 43 27.9**	**-0.5**
	comp=Z,70nm,1.5s,mb5.3						
NWAO	**Narrogin (SRO)**	**31.24**	**208**	P	**P**	**18 43 28.1**	**-0.4**
	comp=Z,7.0nm,0.7s,mb4.6,baz=11,slow=10,SNR=3.6						
NWAO				LR	LR	18 56 51.0	
	comp=Z,1μm,18.8s,MS4.7,baz=228,slow=38						
KGM	**Kluang**	**31.41**	**283**	⇑P	**P**	**18 43 32.1**	**+1.9**
KTGM	**Kuala Trenggan**	**32.53**	**289**	⇑P	**P**	**18 43 40.8**	**+0.6**
JOW	**Kunigami**	**32.73**	**351**	LR	LR	18 56 01.9	
	comp=Z,643nm,21.1s,MS4.3,baz=141,slow=35						
FRIM	**Kepong**	**33.36**	**285**	⇑P	**P**	**18 43 48.0**	**+0.6**
TOO	**Toolangi**	**33.51**	**163**	*eP*	**P**	**18 43 47.6**	**-0.7**
	comp=Z,161nm,1.4s,mb5.8						
TOO	**Toolangi**	**33.51**	**163**	*eP*	**P**	**18 43 47.6**	**-0.7**
TOO				pmax	pmax		
	comp=Z,161nm,1.4s,mb5.8						
PPI	**Padang Panjang**	**33.77**	**278**	P	**P**	**18 43 50.3**	**-0.7**
	comp=Z,131nm,1.0s,mb5.8						
QIZ	**Qiongzhong**	**34.06**	**317**	P	**P**	**18 43 52.6**	**-0.7**
QIZ				S	**S**	**18 49 18.0**	**+1.0**
QIZ				AMB	AMB		
	comp=Z,49nm,1.8s,mb5.1						
QIZ				LR	LR		
	comp=N,290nm,19.9s						
QIZ				LR	LR		
	comp=Z,407nm,38.0s						
IPM	**Ipoh**	**34.27**	**286**	⇑P	**P**	**18 43 55.9**	**+0.6**
KULM	**Kulim**	**34.87**	**288**	*eP*	**P**	**18 44 02.3**	**+1.9**
KULM	**Kulim**	**34.87**	**288**	⇑P	**P**	**18 44 02.7**	**+2.2**
PSI	**Prapat**	**35.86**	**283**	P	**P**	**18 44 07.8**	**-1.2**
	comp=Z,45nm,1.0s,mb5.4,baz=153,slow=3.8,SNR=29						
KKTK	**Khon Kaen**	**37.66**	**306**	⇑P	**P**	**18 44 23.0**	**-1.2**
	comp=Z,679nm,0.7s,mb6.5						
SSE	**Sheshan**	**38.49**	**342**	P	**P**	**18 44 33.4**	**+2.4**
SSE				XP	sP	18 44 46.3	+1.5
SSE				S	**S**	**18 50 28.0**	**+3.6**
SSE				XS	sS	18 50 42.8	+2.3
SSE				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.1						
SSE				AMB	AMB		
	comp=Z,28nm,4.1s						
SSE				LR	LR		
	comp=N,152nm,19.1s						
SSE				LR	LR		
	comp=E,122nm,19.1s						
SSE				LR	LR		
	comp=Z,183nm,15.8s						
JNU	**Nakatsue**	**38.66**	**356**	P	**P**	**18 44 31.6**	**-0.8**
	comp=Z,64nm,1.1s,mb5.3,baz=159,slow=12,SNR=15						
JNU				LR	LR	19 00 23.1	
	comp=Z,326nm,18.7s,MS4.2,baz=169,slow=36						
NST	**Nakhon Sawan**	**39.53**	**303**	P	**P**	**18 44 40.0**	**+0.1**
NJ2	**Nanjing**	**40.12**	**340**	*eP*	**P**	**18 44 44.2**	**-0.4**
NJ2				AP	pP	18 44 53.8	-0.6
NJ2				XP	sP	18 44 57.7	-0.7
NJ2				PP	PP	18 46 19.2	+1.9
NJ2				S	**S**	**18 50 46.0**	**-2.9**
NJ2				AMB	AMB		
	comp=Z,70nm,1.3s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,180nm,6.9s						
NJ2				LR	LR		
	comp=N,210nm,19.2s,MS4.2						
NJ2				LR	LR		
	comp=E,280nm,19.7s,MS4.2						
NJ2				LR	LR		
	comp=Z,280nm,19.7s,MS4.1						
NANT	**Nan**	**40.70**	**307**	⇓*iP*	**P**	**18 44 47.0**	**-2.6**
	comp=Z,531nm,0.9s,mb6.2						
GYA	**Guiyang**	**41.38**	**322**	⇑*iP*	**P**	**18 44 56.2**	**+1.1**
GYA				AP	pP	18 45 06.8	+1.9
GYA				XP	sP	18 45 10.2	+1.3
GYA				PP	PP	18 46 36.4	+5.3
GYA				PCP	PcP	18 46 54.8	+1.8
GYA				SCP	ScP	18 50 41.2	+0.5
GYA				PCS	PcS	18 50 45.6	+1.3
GYA				S	**S**	**18 51 10.4**	**+2.6**
GYA				XS	sS	18 51 25.7	+1.7
GYA				SS	SS	18 54 09.2	-3.5
GYA				SCS	ScS	18 54 56.0	-0.9
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,140nm,6.2s						
GYA				LR	LR		
	comp=N,1μm,19.0s,MS4.9						
GYA				LR	LR		
	comp=E,970nm,18.7s,MS4.9						
GYA				LR	LR		
	comp=Z,1μm,19.5s,MS4.8						
CHG	**Chiang Mai**	**42.11**	**306**	⇓P	**P**	**18 45 00.9**	**-0.3**
	comp=Z,100nm,1.2s,mb5.3						
CHTO	**Chiang Mai**	**42.11**	**306**	*eP*	**P**	**18 45 00.9**	**-0.3**
CHTO				pmax	pmax		
	comp=Z,80nm,1.3s,mb5.2						
CHTO	**Chiang Mai**	**42.11**	**306**	*eP*	**P**	**18 45 00.9**	**-0.3**
	comp=Z,80nm,1.3s,mb5.2						
CHTO	**Chiang Mai**	**42.11**	**306**	P	**P**	**18 45 01.2**	**+0.1**
	SNR=22						
CHTO	**Chiang Mai**	**42.11**	**306**	P	**P**	**18 45 01.2**	**+0.1**
	SNR=22						
CHTO	**Chiang Mai**	**42.11**	**306**	P	**P**	**18 45 01.2**	**+0.1**
	SNR=22						
CHTO	**Chiang Mai**	**42.11**	**306**	P	**P**	**18 45 01.2**	**+0.1**
	SNR=22						
MJAR	**Matsushiro Arr**	**42.17**	**5**	P	**P**	**18 44 58.5**	**-2.9**
MJAR						18 46 55.2	
MJAR	**Matsushiro Arr**	**42.17**	**5**	P	**P**	**18 44 58.5**	**-2.9**
MJAR				PcP	PcP	18 46 55.2	-0.1
MJAR				LR	LR	19 00 08.3	
MJAR	**Matsushiro Arr**	**42.17**	**5**	P	**P**	**18 44 58.5**	**-2.9**
	comp=Z,1.9nm,1.0s,baz=3.6,slow=40,SNR=3.2						
MJAR				PcP	PcP	18 46 55.2	-0.1
	comp=Z,3.5nm,0.8s,baz=172,slow=3.2,SNR=4.7						
MJAR				LR	LR	19 00 08.3	
	comp=Z,308nm,20.6s,MS4.2,baz=165,slow=33						
KMI	**Kunming**	**43.01**	**317**	P	**P**	**18 45 09.1**	**+0.7**
KMI				AP	pP	18 45 18.8	+0.5
KMI				XP	sP	18 45 22.1	-0.2
KMI				PP	PP	18 46 53.1	+4.3
KMI				PCP	PcP	18 46 58.2	-0.2
KMI				PPP		18 47 28.3	
KMI				SCP	ScP	18 50 44.6	-2.7
KMI				PCS	PcS	18 50 51.4	+0.5
KMI				S	**S**	**18 51 30.8**	**-1.2**
KMI				XS	sS	18 51 45.7	-2.5
KMI				SS	SS	18 54 38.9	-6.0
KMI				SCS	ScS	18 55 02.9	-4.1
KMI				SSS		18 55 23.7	
KMI				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.8						
KMI				AMB	AMB		
	comp=Z,114nm,3.1s						
KMI				LR	LR		
	comp=N,234nm,17.8s,MS4.3						
KMI				LR	LR		
	comp=E,235nm,18.5s,MS4.3						
KMI				LR	LR		
	comp=Z,345nm,17.6s,MS4.3						
KSRS	**Korea Array**	**43.23**	**353**	P	**P**	**18 45 09.7**	**-0.4**
	comp=Z,11nm,1.0s,mb4.5,baz=173,slow=10.0,SNR=37						
KSRS				LR	LR	19 01 56.3	
	comp=Z,357nm,21.2s,MS4.2,baz=176,slow=34						
TIA	**Tai'an**	**44.49**	**341**	*eP*	**P**	**18 45 19.7**	**-0.4**
XAN	**Xi'an**	**45.97**	**331**	P	**P**	**18 45 30.9**	**-1.0**
XAN				S	**S**	**18 52 11.8**	**-2.9**
XAN				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.2						
XAN				LR	LR		
	comp=N,81nm,17.2s						
XAN				LR	LR		
	comp=E,97nm,10.4s						
XAN				LR	LR		
	comp=Z,214nm,17.8s,MS4.1						
CD2	**Chengdu**	**46.35**	**323**	*eP*	**P**	**18 45 34.6**	**-0.4**
CD2				AP	pP	18 45 44.5	-0.4
CD2				XP	sP	18 45 48.4	-0.5
CD2				PCP	PcP	18 47 08.7	-1.1
CD2				PP	PP	18 47 23.5	-0.8
CD2				PCS	PcS	18 51 02.1	-2.4
CD2				S	**S**	**18 52 20.4**	**+0.1**
CD2				XS	sS	18 52 36.9	+0.2
CD2				SCS	ScS	18 55 24.2	-3.8
CD2				SS	SS	18 55 36.9	-10
CD2				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.3						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
CD2				LR	LR		
	comp=N,370nm,16.8s,MS4.8						
CD2				LR	LR		
	comp=E,970nm,21.6s,MS4.8						
CD2				LR	LR		
	comp=Z,280nm,19.2s,MS4.2						
BJT	**Baijiatuau**	**48.27**	**342**	*eP*	**P**	**18 45 49.6**	**-0.2**
BJT				pmax	pmax		
	comp=Z,54nm,1.4s						
BJT	**Baijiatuau**	**48.27**	**342**	*eP*	**P**	**18 45 49.6**	**-0.1**
	comp=Z,54nm,1.4s,mb5.4						
BJI	**Beijing**	**48.29**	**342**	P	**P**	**18 45 49.8**	**-0.1**
BJI				AP	pP	18 45 59.3	-0.6
BJI				XP	sP	18 46 03.5	-0.3
BJI				S	**S**	**18 52 45.9**	**-1.7**
BJI				XS	sS	18 53 06.0	+2.0
BJI				AMB	AMB		
	comp=Z,32nm,1.4s,mb5.2						
BJI				AMB	AMB		
	comp=Z,192nm,3.9s						
BJI				LR	LR		
	comp=N,206nm,17.0s,MS4.4						
BJI				LR	LR		
	comp=E,211nm,13.1s,MS4.4						
BJI				LR	LR		
	comp=Z,157nm,21.9s						
VLA	**Vladivostok**	**48.57**	**358**	*iP*	**P**	**18 45 53.5**	**+1.5**
VLA				pmax	pmax		
	comp=Z,66nm,1.3s,mb5.5						
CN2	**Changchun**	**49.80**	**352**	*eP*	**P**	**18 46 02.1**	**+0.7**
CN2				*e*XP	sP	18 46 11.0	-4.4
CN2				*eS*	**S**	**18 53 09.3**	**+0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=E,300nm,18.0s,MS4.4						
CN2				LR	LR		
	comp=Z,400nm,19.0s,MS4.4						
RPZ	**Rata Peaks**	**50.06**	**145**	P	**P**	**18 46 04.1**	**+0.6**
	comp=Z,15nm,1.0s,mb5.0,baz=281,slow=5.2,SNR=2.9						
LZH	**Lanzhou**	**50.15**	**328**	⇓P	**P**	**18 46 04.8**	**+0.6**
LZH				AP	pP	18 46 14.9	+0.7
LZH				XP	sP	18 46 18.7	+0.6
LZH				PP	PP	18 48 01.5	+1.8
LZH				*e*S	**S**	**18 53 14.0**	**+0.2**
LZH				PS		18 53 27.1	
LZH				XS	sS	18 53 30.7	+0.4
LZH				SS	SS	18 56 44.5	-3.1
LZH				AMB	AMB		
	comp=Z,83nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,185nm,5.4s						
LZH				LR	LR		
	comp=E,997nm,15.8s						
LZH				LR	LR		
	comp=Z,1μm,17.2s,MS5.0						
ASAJ	**Asahikawa**	**50.16**	**8**	LR	LR	19 04 34.2	
	comp=Z,188nm,19.2s,MS4.1,baz=265,slow=33						
MDJ	**Mudanjiang**	**50.18**	**356**	P	**P**	**18 46 05.2**	**+0.9**
MDJ				AP	pP	18 46 14.2	-0.1
MDJ				XP	sP	18 46 18.0	-0.2
MDJ				PCP	PcP	18 47 23.3	+0.1
MDJ				PP	PP	18 47 59.6	-0.3
MDJ				S	**S**	**18 53 14.4**	**+0.4**
MDJ				SCS	ScS	18 55 49.5	-3.5
MDJ				AMB	AMB		
	comp=Z,15nm,1.1s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,99nm,4.7s						
MDJ				LR	LR		
	comp=N,167nm,19.2s,MS4.1						
MDJ				LR	LR		
	comp=E,107nm,23.4s,MS4.1						
MDJ				LR	LR		
	comp=Z,195nm,18.6s,MS4.1						
MDJ	**Mudanjiang**	**50.18**	**356**	*eP*	**P**	**18 46 04.4**	**+0.1**
	comp=Z,30nm,1.0s,mb5.3						
MDJ				*e*pP	pP	18 46 12.9	-1.4
HHC	**Hu-ho-hao-te**	**50.59**	**338**	⇑P	**P**	**18 46 08.0**	**+0.6**
HHC				AP	pP	18 46 18.0	+0.6
HHC				XP	sP	18 46 21.3	-0.1
HHC				PCP	PcP	18 47 24.7	-0.1
HHC				PP	PP	18 48 06.8	+3.2
HHC				S	**S**	**18 53 20.7**	**+1.0**
HHC				XS	sS	18 53 36.5

LSA AMB AMB
comp=Z,30nm,1.0s,mb5.2
LSA LR LR
comp=E,210nm,12.1s
LSA LR LR
comp=Z,380nm,10.5s,MS4.7
LSA Lhasa 53.96 313 *e*P **P 18 46 34.0 +1.3**
LSA pmax pmax
comp=Z,23nm,0.8s,mb5.2
LSA Lhasa 53.96 313 *e*P **P 18 46 34.0 +1.3**
comp=Z,23nm,0.8s,mb5.2
KLR Kul'dur 54.68 358 *e*P **P 18 46 32.9 -4.7**
GTA Gaotai 54.75 328 P **P 18 46 38.9 +0.7**
GTA AP pP 18 46 48.7 +0.4
GTA XP sP 18 46 52.7 +0.4
GTA PP PP 18 48 44.6 +3.3
GTA S **S 18 54 16.2 -0.4**
GTA XS sS 18 54 32.9 -0.4
GTA AMB AMB
comp=Z,38nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,127nm,4.6s
GTA LR LR
comp=N,125nm,13.3s,MS4.3
GTA LR LR
comp=E,122nm,14.4s,MS4.3
GTA LR LR
comp=Z,189nm,14.8s,MS4.3
VIS Vishakhapatnam 54.99 296 *e*P **P 18 46 39.9 -0.5**
VIS AMb AMB 18 46 45.1
comp=Z,57nm,1.8s,mb5.3
BOK Bokaro 55.16 304 *e*P **P 18 46 41.8 +0.3**
BOK AMb AMB 18 46 44.1
comp=Z,30nm,0.9s,mb5.3
HIA Hailar 56.05 349 *e*P **P 18 46 44.5 -2.9**
JIRN Jiri 56.66 308 *e*P **P 18 46 52.6 +0.4**
comp=Z,70nm,1.0s,mb5.6
GUN Gumba 57.02 308 *e*P **P 18 46 54.7 -0.1**
comp=Z,104nm,1.0s,mb5.8
PKI Pulchoki 57.23 308 *e*P **P 18 46 56.5 +0.2**
comp=Z,17nm,0.6s,mb5.2
KKN Kakani 57.44 308 *e*P **P 18 46 57.5 -0.2**
comp=Z,90nm,1.1s,mb5.7
DMN Daman 57.49 308 *e*P **P 18 46 58.2 +0.1**
comp=Z,116nm,1.1s,mb5.8
BLSP Bilaspur 57.64 301 *e*P **P 18 46 59.1 -0.1**
BLSP AMb AMB 18 47 01.4
comp=Z,89nm,0.9s,mb5.8
GKN Gorkha 58.04 308 *e*P **P 18 47 01.8 -0.1**
comp=Z,143nm,1.1s,mb5.9
KOD Kodaikanal 58.31 286 *e*P **P 18 47 04.2 +0.1**
KOD AMb AMB 18 47 11.4
comp=Z,58nm,1.7s,mb5.3
SONM Songino Array 58.48 339 P **P 18 47 04.0 -0.6**
comp=Z,4.9nm,1.2s,mb4.4,baz=152,slow=6.7,SNR=17
SONM LR LR 19 15 08.3
comp=Z,177nm,19.9s,MS4.2,baz=331,slow=39
SONM PKPPKP 19 16 53.4
comp=Z,0.8nm,1.0s,baz=343,slow=3.1,SNR=3.6
KOLN Koldanda 58.75 307 *e*P **P 18 47 06.9 0.0**
comp=Z,244nm,1.4s,mb6.0
DANN Dangsing 58.88 308 *e*P **P 18 47 07.9 +0.1**
HYB Hyderabad 59.20 294 *e*P **P 18 47 10.5 +0.3**
HYB pmax pmax
comp=Z,64nm,1.2s,mb5.5
HYB Hyderabad 59.20 294 *e*P **P 18 47 10.5 +0.3**
comp=Z,64nm,1.2s,mb5.5
HYB Hyderabad 59.20 294 *i* P **P 18 47 10.5 +0.3**
comp=Z,64nm,1.2s,mb5.5
HYB *e* pP 18 47 19.0 -1.4
NGP Nagpur 59.96 298 *e*P **P 18 47 14.8 -0.6**
NGP AMb AMB 18 47 18.6
comp=Z,58nm,1.8s,mb5.3
AKL Akola 61.60 297 *e*P **P 18 47 25.4 -1.2**
AKL AMb AMB 18 47 29.4
comp=Z,75nm,1.3s,mb5.7
ZAK Zakamensk 61.73 338 *e*P **P 18 47 27.1 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,1.5s,mb4.5
BHPL Bhopal 62.09 300 *e*P **P 18 47 30.1 +0.2**
BHPL AMb AMB 18 47 33.7
comp=Z,58nm,1.5s,mb5.5
PTH Pithoragarh 62.20 308 *e*P **P 18 47 29.7 -0.7**
CLNS Chul'man 62.70 354 *e*P **P 18 47 41.8 +8.6**
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.2
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,10.0nm,0.9s
KAD Karad 63.16 292 *i* P **P 18 47 36.0 -1.1**
MOY Mondy 63.62 338 *e*P **P 18 47 40.2 +0.7**
MOY pmax pmax
comp=Z,34nm,2.4s,mb5.0
POO Poona 63.80 294 *e*P **P 18 47 41.1 -0.2**
POO AMb AMB 18 47 45.9
comp=Z,50nm,0.9s,mb5.5
DDI Dehra Dun 64.22 307 *i* P **P 18 47 43.8 -0.1**
NDI New Delhi 64.25 305 *e*P **P 18 47 43.0 -1.1**
WMQ Urumqi 64.43 325 P **P 18 47 46.0 +1.1**
WMQ AP pP 18 47 56.0 +0.8
WMQ XP sP 18 48 00.0 +0.9
WMQ PP PP 18 50 10.0 +3.0
WMQ S **S 18 56 21.0 -0.4**
WMQ SS SS 19 00 32.0 -0.1
WMQ AMB AMB
comp=Z,84nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,205nm,5.0s
WMQ LR LR
comp=N,201nm,18.0s,MS4.5
WMQ LR LR
comp=E,175nm,18.0s,MS4.5
WMQ LR LR
comp=Z,204nm,18.0s,MS4.4
SMLA Simla 65.25 308 *e*P **P 18 47 51.5 +0.9**
SMLA AMb AMB 18 47 54.6
comp=Z,221nm,1.3s,mb6.0
BOD Bodaibo 65.27 348 *e*P **P 18 47 49.1 -1.0**
BOD pmax pmax
comp=Z,14nm,1.8s,mb4.7
AJM Ajmer 65.58 302 *e*P **P 18 47 52.1 -0.6**
AJM AMb AMB 18 47 56.6
comp=Z,69nm,1.2s,mb5.5
MA2 Magadan 66.40 9 P **P 18 47 58.3 +1.0**
MA2 *e*S S 18 56 46.7 +1.8
MA2 *e* 18 57 47.6
MA2 pmax pmax
comp=Z,30nm,2.1s,mb5.0
MIR Mirnyy 66.98 197 *e*P **P 18 48 00.0 -1.0**
MIR pmax pmax
comp=Z,100nm,2.0s,mb5.5
YAK Yakutsk 67.56 358 *e*P **P 18 48 03.9 -0.8**
YAK *e**PP pP 18 48 14.1 -0.9
YAK *e* 18 48 20.7
YAK *e*S S 18 57 14.3 +15
YAK pmax pmax
comp=Z,29nm,0.7s,mb5.4
YAK pmax pmax
comp=N,9.0nm,1.2s
YAK pmax pmax
comp=E,2.0nm,0.8s
YAK smax
comp=E,192nm,5.6s
YAK smax
comp=N,83nm,4.1s
YAK MLR MLR
comp=N,88nm,17.0s
YAK MLR MLR
comp=Z,134nm,17.0s,MS4.2
YAK Yakutsk 67.56 358 *e*P **P 18 48 04.0 -0.6**
comp=Z,49nm,0.8s,mb5.6
MK31 Makanchi Array 69.26 325 *e*P **P 18 48 15.7 +0.1**
MK31 *e**PP pP 18 48 26.4 +0.5
MKAR Makanchi Array 69.26 325 P **P 18 48 15.6 0.0**
comp=Z,20nm,0.7s,mb5.2,baz=114,slow=7.7,SNR=105
KSH Kashi 69.66 316 *e*P **P 18 48 20.6 +2.3**
KSH *e*AP pP 18 48 31.3 +2.7
KSH *e*XP sP 18 48 35.2 +2.7
KSH *e*PCP PcP 18 48 42.0 +1.0
KSH *e*PP PP 18 50 58.3 +5.6
KSH *e*PPP 18 52 38.0
KSH *e*S S 18 57 25.2 +0.5
KSH *e*XS sS 18 57 46.3 +4.5
KSH *e*PS 18 58 00.3
KSH *e*SKS 18 58 15.2
KSH *e*SCS ScS 18 58 17.3 -0.4
KSH AMB AMB
comp=Z,281nm,1.2s,mb6.1
KSH LR LR
comp=Z,330nm,5.9s
SEY Seymchan 69.84 9 *e*P **P 18 48 18.2 -0.6**
ULHL Ulahol 70.70 318 P **P 18 48 26.5 +2.0**
SNR=17
KZA Kyzart 71.28 318 P **P 18 48 30.9 +2.8**
SNR=49
TKM2 Tokmak 2 71.43 319 *e*P **P 18 48 29.3 +0.3**
TKM2 *e**PP pP 18 48 39.6 +0.2
TKM2 pmax pmax
comp=Z,19nm,0.9s,mb5.0
TKM2 Tokmak 2 71.43 319 *e*P **P 18 48 29.3 +0.4**
comp=Z,19nm,0.9s,mb5.0
TKM2 *e*pP pP 18 48 39.6 +0.2
TKM2 Tokmak 2 71.43 319 P **P 18 48 30.9 +1.9**
SNR=16
KBK Karagaybulak 71.74 318 P **P 18 48 32.1 +1.3**
SNR=9.8
UCH Uchtor 71.84 318 *e*P **P 18 48 33.2 +1.8**
comp=Z,61nm,1.4s,mb5.3
UCH *e*pP pP 18 48 41.1 -0.7
UCH Uchtor 71.84 318 P **P 18 48 33.6 +2.1**
SNR=42
CHMS Chumysh 72.02 319 P **P 18 48 33.9 +1.4**
SNR=8.2
AAK Ala-Archa 72.03 318 P **P 18 48 33.0 +0.4**
comp=Z,100nm,1.3s,mb5.6,SNR=13
AAK Ala-Archa 72.03 318 P **P 18 48 34.6 +2.0**
SNR=16
FRU Bishkek 72.04 318 *e*P **P 18 48 34.0 +1.4**
FRU *e* 18 48 57.0
ZAA0 Zalesovo Array 72.12 332 *e*P **P 18 48 31.4 -1.5**
ZALV Zalesovo Beam 72.12 332 P **P 18 48 31.6 -1.3**
comp=Z,8.3nm,0.9s,mb4.7,baz=108,slow=4.8,SNR=36
ZALV LR LR 19 27 00.0
comp=Z,43nm,18.2s,baz=156,slow=42
ZAL Zalesovo 72.13 332 P **P 18 48 31.7 -1.2**
USP Ospenovka 72.30 319 P **P 18 48 35.9 +1.7**
SNR=35
AML Almayashu 72.35 317 *e*P **P 18 48 35.6 +1.1**
comp=Z,65nm,1.1s,mb5.5
AML *e*pP pP 18 48 44.6 -0.3
AML Almayashu 72.35 317 P **P 18 48 35.9 +1.3**
SNR=37
EKS2 Erkin-Say 72.52 318 *e*P **P 18 48 35.6 +0.1**
comp=Z,44nm,1.3s,mb5.2
EKS2 *e*pP pP 18 48 45.6 -0.3
EKS2 Erkin-Say 72.52 318 P **P 18 48 37.7 +2.2**
SNR=28
KBL Kabul 72.86 309 *e*P **P 18 48 37.6 -0.1**
comp=Z,12nm,0.9s,mb4.8
KBL *e*pP pP 18 48 47.9 -0.3
VNDA Vanda 73.35 174 P **P 18 48 39.6 -0.2**
comp=Z,23nm,0.8s,mb5.2,baz=317,slow=7.1
VNDA LR LR 19 19 26.1
comp=Z,585nm,19.0s,MS4.9,baz=345,slow=35
NVS Novosibirsk 73.40 332 *i* P **P 18 48 39.4 -1.1**
NVS *e* pP 18 48 48.3 -2.6
NVS *e*S S 18 58 04.8 -2.5
NVS pmax pmax
comp=Z,64nm,1.5s,mb5.3
NVS pmax pmax
comp=N,52nm,1.6s
NVS pmax pmax
comp=E,47nm,1.5s
NVS smax
comp=N,18nm,2.2s
KURK Kurchatov 73.41 327 P **P 18 48 40.4 -0.2**
comp=N,250nm,1.1s,mb6.1,SNR=13
KURK Kurchatov 73.41 327 *e*P **P 18 48 39.9 -0.7**
KURK *PP pP 18 48 49.7 -1.3
KURK pmax pmax
comp=Z,64nm,1.2s,mb5.4
KURK Kurchatov 73.41 327 *e*P **P 18 48 39.9 -0.7**
comp=Z,64nm,1.2s,mb5.4
KURK pP pP 18 48 49.7 -1.3
KURK Kurchatov 73.41 327 P **P 18 48 40.4 -0.3**
SNR=26
KURK Kurchatov 73.41 327 P **P 18 48 40.4 -0.3**
SNR=26
KURK Kurchatov 73.41 327 P **P 18 48 40.4 -0.3**
SNR=26
KURK Kurchatov 73.41 327 P **P 18 48 40.4 -0.3**
SNR=26
SBA Scott Base 74.18 173 *e*P **P 18 48 46.1 +1.3**
SBA *e**PP pP 18 48 55.8 +0.6
SBA pmax pmax
comp=Z,37nm,1.1s,mb5.2
SBA Scott Base 74.18 173 *e*P **P 18 48 46.1 +1.3**
comp=Z,37nm,1.1s,mb5.2
SBA *e*pP pP 18 48 55.8 +0.6
KK31 Karatay Array 74.89 317 *i* P **P 18 48 49.3 -0.1**
KK31 pmax pmax
comp=Z,37nm,1.2s,mb5.2
PPT Papeete 75.55 107 *e*SS SS 19 03 24.2 -0.1
comp=Z,196nm,27.5s
PPT *e*LR LR 19 12 10.2
comp=Z,772nm,36.0s
TBI Tubuai 75.59 113 *e*LR LR 19 12 11.6
comp=Z,243nm,34.5s
BILL Bilibino 76.98 12 *e*P **P 18 49 04.3 +3.5**
BILL pmax pmax
comp=Z,2.0nm,1.3s
TIXI Tiksi 77.22 358 *e*P **P 18 49 00.7 -1.4**
TIXI pmax pmax
comp=Z,12nm,0.9s,mb4.8
TIXI Tiksi 77.22 358 *e*P **P 18 49 00.3 -1.8**
comp=Z,18nm,0.9s,mb5.0
MAW Mawson 77.60 202 *e*P **P 18 49 05.3 +0.9**
MAW pmax pmax
comp=Z,56nm,1.1s
MAW Mawson 77.60 202 *e*P **P 18 49 05.3 +0.9**
comp=Z,56nm,1.1s,mb5.4
MAW Mawson 77.60 202 P **P 18 49 05.1 +0.7**
comp=Z,26nm,0.9s,mb5.1,baz=78,slow=7.7,SNR=30
MAW LR LR 19 20 56.6
comp=Z,775nm,18.0s,MS5.1,baz=229,slow=34
BVAR Borovoye Array 79.00 327 P **P 18 49 11.7 -0.6**
comp=Z,8.0nm,0.7s,mb4.7,baz=131,slow=7.9,SNR=24
BRVK Borovoye 79.07 327 P **P 18 49 13.9 +1.2**
comp=Z,221nm,0.9s,mb6.1,SNR=6.7
BRVK Borovoye 79.07 327 *e*P **P 18 49 11.8 -0.9**
BRVK pmax pmax
comp=Z,37nm,0.9s,mb5.3
BRVK Borovoye 79.07 327 *e*P **P 18 49 11.8 -1.0**
comp=Z,37nm,0.9s,mb5.3
BRVK Borovoye 79.07 327 P **P 18 49 12.5 -0.3**
SNR=16
BRVK Borovoye 79.07 327 P **P 18 49 12.5 -0.3**
SNR=16
BRVK Borovoye 79.07 327 P **P 18 49 12.5 -0.3**
SNR=16
BIDO Bidbid 79.24 295 P **P 18 49 15.8 +1.5**
SNR=8.8
BIDO Bidbid 79.24 295 P **P 18 49 15.8 +1.5**
SNR=8.8
BIDO Bidbid 79.24 295 P **P 18 49 15.8 +1.5**
SNR=8.8
BIDO Bidbid 79.24 295 P **P 18 49 15.8 +1.5**
SNR=8.8
HOQ Hoqain 79.99 295 P **P 18 49 20.4 +2.1**
SNR=8.2
HOQ Hoqain 79.99 295 P **P 18 49 20.4 +2.1**
SNR=8.2
HOQ Hoqain 79.99 295 P **P 18 49 20.4 +2.1**
SNR=8.2
HOQ Hoqain 79.99 295 P **P 18 49 20.4 +2.1**
SNR=8.2
ASHO Ashiyiah 81.31 296 P **P 18 49 27.0 +1.5**
SNR=7.4
ASHO Ashiyiah 81.31 296 P **P 18 49 27.0 +1.5**
SNR=7.4
ABKT Ailbek 82.28 309 P **P 18 49 32.0 +1.7**
comp=Z,111nm,1.7s,mb5.5,SNR=5.3
SVE Sverdlovsk 85.61 328 *e*P **P 18 49 47.7 +0.9**
SVE pmax pmax
comp=Z,23nm,1.1s,mb5.3
SVW2 Sparrevohn 85.69 27 *e*P **P 18 49 46.9 -0.2**
KDAK Kodiak Island 86.10 31 P **P 18 49 48.6 -0.6**
comp=Z,24nm,1.3s,mb5.3
KDAK Kodiak Island 86.10 31 P **P 18 49 47.6 -1.6**
comp=Z,6.8nm,0.7s,mb5.0,baz=227,slow=6.1,SNR=7.7
TTA Tatalina 86.12 26 *e*P **P 18 49 49.1 -0.1**
TTA pmax pmax
comp=Z,29nm,1.4s,mb5.3
TTA Tatalina 86.12 26 *e*P **P 18 49 49.0 -0.2**
comp=Z,29nm,1.4s,mb5.3
SYO Syowa Base 86.29 201 ‖ *e*P **P 18 49 48.0 -2.0**
SYO Syowa Base 86.29 201 ‖ *e*PcP PcP 18 49 51.0 -1.5
SLKM Skilak Lake 88.02 29 *e*P **P 18 49 57.2 -1.3**
IMA2 Indian Mountai 88.11 23 *e*P **P 18 49 58.0 -0.8**
SML Sawmill 89.22 28 *e*P **P 18 50 03.3 -0.8**
MCK McKinley 89.41 26 *e*P **P 18 50 03.6 -1.4**
MCK pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
MCK MLR MLR
comp=Z,77nm,22.0s,MS4.1
MCK McKinley 89.41 26 *e*P **P 18 50 03.6 -1.4**
comp=Z,9.0nm,0.6s,mb5.3
MCK LR LR
comp=Z,77nm,22.0s,MS4.1
RDF Al-Radifah 89.46 299 *e*P **P 18 50 03.8 -2.2**
RDF AMb AMB 18 50 19.9
comp=Z,27nm,1.1s,mb5.5
MIB Mutribah 89.74 300 *e*P **P 18 50 05.7 -1.6**
MIB AMb AMB 18 50 21.6
comp=Z,28nm,1.1s,mb5.5
NAY Al-Naaiem 89.76 299 *e*P **P 18 50 05.0 -2.4**
NAY AMb AMB 18 50 21.7
comp=Z,17nm,1.2s,mb5.3
DIV Divide 90.28 29 P **P 18 50 09.6 +0.5**
comp=Z,9.0nm,0.8s,mb5.2
KIV Kislovodsk 94.71 314 *e*P **P 18 50 29.0 -0.9**
KIV *e* 18 54 16.9
KIV *e* 19 01 02.9
KIV *e*SS SS 19 07 59.5 -5.7
KIV pmax pmax
comp=Z,4.0nm,1.1s,mb4.8
KIV MLR MLR
comp=Z,59nm,19.0s,MS4.1
MAIT Maitri 94.75 196 *e*P **P 18 50 30.2 +0.6**
INK Inuvik 96.19 22 PKKPbc PKKPbc 19 07 22.9 -2.8
comp=Z,1.6nm,0.9s,baz=95,slow=6.7,SNR=4.7
KMBO Kilima Mbogo 96.44 268 LR LR 19 31 11.6
comp=Z,117nm,18.1s,MS4.4,baz=94,slow=34
OBN Obninsk 98.76 325 *e*P **P 18 50 45.9 -2.1**
OBN pmax pmax
comp=Z,15nm,1.2s,mb5.4
CLL Collm 113.35 324 *e*PP PP 18 56 35.0 -2.0
CLL LmV 18 19 00.0
comp=Z,200nm,20.0s
GERES GERESS Array B 113.80 321 PKiKP PKiKP 18 55 45.2 -2.0
comp=Z,1.2nm,0.7s,baz=98,slow=2.7,SNR=10
HINF Hinteralfeld 118.41 322 *e*PKIKP PKPdf 18 55 55.1 -1.0
comp=Z,6.4nm,0.6s
PGF Pioggiola 119.08 316 *e*PKIKP PKPdf 18 55 56.6 -1.0
CABF La Chapelle 119.40 321 *e*PKIKP PKPdf 18 55 56.8 -1.3
LPG La Plagne 119.44 320 *e*PKIKP PKPdf 18 55 57.5 -0.7
comp=Z,6.4nm,0.7s
LPL La Plagne 119.45 320 *e*PKIKP PKPdf 18 55 57.1 -1.1
comp=Z,6.0nm,0.7s
SBF Sospel 119.65 318 *e*PKIKP PKPdf 18 55 57.3 -1.3
comp=Z,22nm,0.9s
MBDF Montbardon 119.75 319 *e*PKIKP PKPdf 18 55 57.6 -1.2
comp=Z,7.9nm,0.7s
ORIF Oris-en-Rattie 120.25 320 *e*PKIKP PKPdf 18 55 58.8 -0.9
comp=Z,7.3nm,0.7s
ORIF *e*MLR MLR
comp=Z,125nm,22.2s,MS4.2
FRF La Foret Royal 120.29 318 *e*PKIKP PKPdf 18 55 58.8 -1.1
comp=Z,20nm,1.1s
LOR Lormes 120.47 323 *e*PKIKP PKPdf 18 55 58.9 -1.2
comp=Z,11nm,0.9s
LOR *e*MLR MLR
comp=Z,108nm,22.1s,MS4.1
LOR Lormes 120.47 323 *e*PKPdf PKPdf 18 55 58.9 -1.2
LOR LR LR
comp=Z,110nm,22.0s,MS4.5
LMR La Mourre 120.48 318 *e*PKIKP PKPdf 18 55 59.0 -1.2
comp=Z,8.2nm,0.8s
SMF Signal de Mont 120.77 322 *e*PKIKP PKPdf 18 55 58.7 -2.0
SSF Saint Saulge 120.78 323 *e*PKIKP PKPdf 18 55 59.8 -0.9
comp=Z,19nm,1.2s
SMRF Simiane la Rot 120.84 319 *e*PKIKP PKPdf 18 55 59.6 -1.3
comp=Z,16nm,1.0s
TXAR Lajitas Array 120.97 59 PKP PKPdf 18 56 00.7 -0.9
comp=Z,0.5nm,0.8s,baz=45,slow=0.2,SNR=6.4
AVF Avril sur Loir 121.00 322 *e*PKIKP PKPdf 18 55 58.4 -2.7
TCF Toulx Ste Croi 121.93 322 *e*PKIKP PKPdf 18 56 01.9 -1.0
comp=Z,27nm,1.2s
MTLF Montolieu 123.31 319 *e*PKIKP PKPdf 18 56 04.4 -1.3
comp=Z,6.0nm,0.8s
JCT Junction City 123.97 57 *e*PKIKP PKPdf 18 56 06.2 -1.1
ETSF Etsaut 125.31 320 *e*PKIKP PKPdf 18 56 08.3 -1.2
comp=Z,16nm,0.9s
PLCA Paso Flores 128.70 156 PKP PKPdf 18 56 16.0 -0.1
comp=Z,4.1nm,1.0s,baz=188,slow=3.4,SNR=4.6
ESDC Sonseca Array 129.14 318 PP PP 18 58 27.6 +2.8
comp=Z,0.7nm,0.7s,baz=54,slow=7.5,SNR=4.2
TOA0 Torodi Ar. Sit 132.26 283 *e*PKPdf PKPdf 18 56 23.4 -0.2
TORD Torodi Ar. Bea 132.26 283 PKP PKPdf 18 56 23.5 0.0
TORD PP PP 18 58 51.8 +5.4
TORD Torodi Ar. Bea 132.26 283 PKP PKPdf 18 56 23.5 0.0
comp=Z,4.8nm,0.8s,baz=61,slow=1.9,SNR=28
TORD PP PP 18 58 51.8 +5.4
comp=Z,1.5nm,1.2s,baz=74,slow=5.3,SNR=3.5
CPUP Villa Florida 146.42 162 *e*PKP2 PKPab 18 56 50.0 -1.1
CPUP Villa Florida 146.42 162 PKPbc PKPbc 18 56 49.7 -0.5
comp=Z,23nm,0.8s,baz=196,slow=3.0,SNR=44
ARE Arequipa 146.68 132 *e*PKP2 PKPab 18 56 52.0 -0.4
LPAZ La Paz 149.22 135 *e*PKHKP 18 56 54.1
LPAZ La Paz 149.22 135 PKP PKPdf 18 56 55.0 +1.1
comp=Z,24nm,1.2s,baz=252,slow=2.5,SNR=23
LPAZ PKPbc PKPbc 18 56 59.0 +0.9
comp=Z,16nm,1.1s,baz=251,slow=1.7,SNR=23
ROSC El Rosal 151.94 90 PKPbc PKPbc 18 57 03.5 -1.2
comp=Z,5.7nm,0.5s,baz=269,slow=20,SNR=4.9
SDV Santo Domingo 155.52 81 *e*PKPdf PKPdf 18 57 02.5 -0.7

IDC ***10*** *18:45:34.5±4.0, 694S×1546 0E, h86km±39km, mb4.1/9, mb1 4.3/10, mb1mx4.1/15, mbtmp4.1/10, MS4.0/1, Ms1 4.0/1, ms1mx3.2/29, Error ellipse: s-maj=31.6km s-min=25.2km az=137.0*
ISCJB ***10*** *18:45:35.5±2.5, 70S±0.1×1547E±0.1, h108km±25km, mb4.4/24, Error ellipse: s-maj=24.7km s-min=16.1km az=158.2*
BJI ***10*** *18:45:36.3, 7.10S×1547 0E, h117km, mB5.0, mb4.7*
NEIC ***10*** *18:45:37.4±2.0, 709S×1547 3E, h117km±20km, mb4.2/7, Error ellipse: s-maj=20.3km s-min=12.9km az=146.0*
ISC 10 18:45:37.9±2.2, 71S±01×1548E±0.1, h119km±23km, n37, σ0 97/33, mb4.4/24, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HNR	**Honiara**	**5.61**	**115**	P		**Pn**	**18 46 59.5**	**+0.4**
2.9nm,0.3s,baz=270,slow=1.0,SNR=3.2								
WRA	**Warramunga Arr**	**23.59**	**235**	P		**P**	**18 50 36.7**	**-1.3**
17nm,1.1s,mb4.3,baz=62,slow=9.5,SNR=2.7								
ASAR	**Alice Springs**	**25.95**	**228**	P		**P**	**18 50 58.2**	**-1.1**
3.5nm,0.8s,mb3.9,baz=64,slow=11,SNR=2.5								
KAPI	**Kappang**	**34.90**	**271**	LR		LR	19 05 58.3	
comp=Z,258nm,21.7s,baz=211,slow=35								
KSRS	**Korea Array**	**50.93**	**332**	P		**P**	**18 54 24.8**	**-2.3**
2.3nm,0.8s,mb4.3,baz=147,slow=7.9,SNR=13								
XAN	**Xi'an**	**59.64**	**316**	P		**P**	**18 55 29.1**	**-0.5**
XAN				AMB		AMB		
comp=Z,9.0nm,0.8s,mb4.8								
GTA	**Gaotai**	**68.67**	**317**	*e*P		**P**	**18 56 29.9**	**+1.4**
GTA				AMB		AMB		
comp=Z,7.0nm,0.7s,mb4.6								
ULN	**Ulaanbaatar**	**68.98**	**328**	*e*P		**P**	**18 56 30.7**	**+0.4**
comp=Z,2.1nm,0.9s,mb4.0								
SONM	**Songino Array**	**69.31**	**327**	P		**P**	**18 56 32.0**	**-0.3**
comp=Z,2.0nm,0.7s,mb4.0,baz=131,slow=6.1,SNR=15								
LSA	**Lhasa**	**71.16**	**305**	P		**P**	**18 56 45.4**	**+1.4**
LSA	**Lhasa**	**71.16**	**305**	P		**P**	**18 56 45.3**	**+1.3**
comp=Z,3.5nm,0.7s,mb4.3								
GUN	**Gumba**	**75.00**	**301**	*e*P		**P**	**18 57 07.5**	**+0.9**
comp=Z,17nm,0.6s,mb4.9								
PKI	**Pulchoki**	**75.30**	**301**	*e*P		**P**	**18 57 09.3**	**+1.0**
KKN	**Kakani**	**75.47**	**301**	*e*P		**P**	**18 57 09.9**	**+0.6**
comp=Z,11nm,0.7s,mb4.7								
DMN	**Daman**	**75.57**	**301**	*e*P		**P**	**18 57 10.4**	**+0.5**
comp=Z,21nm,0.8s,mb5.0								
GKN	**Gorkha**	**76.08**	**301**	*e*P		**P**	**18 57 13.3**	**+0.5**
comp=Z,26nm,1.0s,mb4.9								

KOLN Koldanda 76.90 301 *eP* **P 18 57 16.9 -0.5**
comp=Z,11nm,0.8s,mb4.6
DANN Dangsing 76.92 301 *eP* **P 18 57 18.6 +1.1**
comp=Z,12nm,0.7s,mb4.7
SML Sawmill 81.40 24 *eP* **P 18 57 40.0 -1.1**
MCK McKinley 82.23 22 *eP* **P 18 57 44.4 -1.1**
comp=Z,3.9nm,0.8s,mb4.3
QSPA South Pole Qui 82.88 180 *eP* **P 18 57 49.3 +0.7**
MK31 Makanchi Array 83.35 319 *eP* **P 18 57 52.0 +0.5**
MKAR Makanchi Array 83.35 319 P **P 18 57 51.8 +0.2**
comp=Z,4.4nm,0.7s,mb4.4,baz=106,slow=5.2,SNR=24
ZALV Zalesovo Beam 84.15 326 P **P 18 57 54.1 -1.4**
comp=Z,1.3nm,0.5s,mb4.0,baz=121,slow=6.3,SNR=6.1
EGAK Eagle 85.69 23 *eP* **P 18 58 03.2 +0.3**
comp=Z,4.0nm,0.8s,mb4.4
KURK Kurchatov 86.78 322 P **P 18 58 05.9 -2.7**
comp=Z,0.8nm,0.6s,mb3.8
TKM2 Tokmak 2 86.94 314 *eP* **P 18 58 10.1 +0.4**
comp=Z,2.9nm,0.6s,mb4.4
EKS2 Erkin-Say 88.19 313 *eP* **P 18 58 16.6 +1.0**
comp=Z,2.1nm,0.8s,mb4.2
DLBC Dease Lake 88.33 31 *eP* **P 18 58 16.7 +0.8**
INK Inuvik 89.89 21 *eP* **P 18 58 22.7 -0.3**
NVAR Mina Array Bea 91.94 52 P **P 18 58 33.5 +0.3**
comp=Z,1.3nm,0.8s,mb4.2,baz=260,slow=5.7,SNR=7.3
BVAR Borovoye Array 92.25 323 P **P 18 58 33.2 -1.1**
comp=Z,1.2nm,0.9s,mb4.1,baz=100,slow=6.1,SNR=3.1
YKA Yellowknife Ar 96.52 28 P **P 18 58 53.0 -0.6**
YKA Yellowknife Ar 96.52 28 P **P 18 58 53.0 -0.6**
comp=Z,2.3nm,0.8s,mb4.7,baz=267,slow=4.6,SNR=28
GERES GERESS Array B 127.03 329 PKP PKPdf 19 04 28.5 +0.5
comp=Z,0.7nm,0.8s,baz=80,slow=3.1,SNR=5.0
TORD Torodi Ar. Bea 152.85 285 PKP PKPdf 19 05 15.2 +0.4
TORD PKPbc PKPbc 19 05 22.4 +0.4
TORD Torodi Ar. Bea 152.85 285 PKP PKPdf 19 05 15.2 +0.4
comp=Z,1.0nm,0.9s,baz=338,slow=0.8,SNR=4.2
TORD PKPbc PKPbc 19 05 22.4 +0.4
comp=Z,2.2nm,0.7s,baz=70,slow=2.4,SNR=13

BJI ***10*** *18:55:04.6, 22.08N×143.33E, h24km, mB5.0, mb4.6, Ms3.9, Msz3.8*
IDC ***10*** *18:55:04.3±2.5, 22.32N×143.26E, h0km, mb4.0/7, mb1 4.2/7, mb1mx4.1/19, mbtmp4.0/7, MS4.1/2, Ms1 4.1/2, ms1mx3.3/44, Error ellipse: s-maj=80.0km s-min=29.7km az=14.0*
NEIC ***10*** *18:55:05.7±0.9, 22.25N×143.23E, h10km, mb4.8/7, Error ellipse: s-maj=27.3km s-min=14.5km az=187.0*
ISCJB ***10*** *18:55:08.3±1.7, 22.4N±03.0×143.2E±01.3, h33km, mb4.5/17, MS4.0/3, Error ellipse: s-maj=44.0km s-min=19.4km az=177.2*

ISC 10 18:55:09.7±1.7, 22.3N±03.0×143.3E±01, h35km, n25, σ0.972/22, mb4.4/17, MS4.0/3, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.08**	**322**	P		**18 59 46.0**	**+5.8**
	2.8nm,0.7s,baz=141,slow=11,SNR=15						
HIA	**Hailar**	**32.73**	**331**	*eP*	**P**	**19 01 38.2**	**-0.7**
LZH	**Lanzhou**	**36.80**	**301**	*eP*	**P**	**19 02 15.0**	**+0.7**
LZH				AP	pP	19 02 20.6	-3.9
LZH				XP	sP	19 02 23.1	-5.6
LZH				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,108nm,4.8s						
BATI	**Kupang**	**37.58**	**213**	LR	LR	19 15 35.3	
	comp=Z,161nm,19.7s,MS3.8,baz=74,slow=33						
ULN	**Ulaanbaatar**	**38.55**	**320**	*eP*	**P**	**19 02 29.3**	**+0.3**
	comp=Z,7.2nm,1.0s,mb4.4						
SONM	**Songino Array**	**38.93**	**320**	P	**P**	**19 02 32.4**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.2,baz=134,slow=6.9,SNR=10						
GTA	**Gaotai**	**40.59**	**305**	*eP*	**P**	**19 02 46.5**	**+0.5**
GTA				AP	pP	19 02 53.0	-3.3
GTA				XP	sP	19 02 56.0	-4.5
GTA				PP	PP	19 04 23.9	+4.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.9						
GTA				AMB	AMB		
	comp=Z,61nm,5.7s						
GTA				LR	LR		
	comp=N,60nm,15.6s,MS3.8						
GTA				LR	LR		
	comp=E,83nm,16.3s,MS3.8						
GTA				LR	LR		
	comp=Z,104nm,14.8s,MS3.8						
CHTO	**Chiang Mai**	**41.53**	**274**	*eP*	**P**	**19 02 52.7**	**-1.3**
	comp=Z,29nm,2.1s,mb4.5						
WMQ	**Urumqi**	**50.26**	**309**	*eP*	**P**	**19 04 03.0**	**+0.5**
WMQ				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.2						
ZAA0	**Zalesovo Array**	**53.79**	**321**	P	**P**	**19 04 27.5**	**-1.2**
ZALV	**Zalesovo Beam**	**53.79**	**321**	P	**P**	**19 04 27.6**	**-1.1**
	comp=Z,2.0nm,0.7s,mb4.1,baz=93,slow=6.4,SNR=8.9						
KURK	**Kurchatov**	**57.09**	**317**	*eP*	**P**	**19 04 46.6**	**-5.8**
	comp=Z,14nm,1.2s,mb4.8						
TKM2	**Tokmak 2**	**59.03**	**308**	*eP*	**P**	**19 05 05.8**	**-0.4**
	comp=Z,6.7nm,0.9s,mb4.7						
TKM2				*e*		19 05 12.6	
UCH	**Uchtor**	**59.87**	**307**	*eP*	**P**	**19 05 13.3**	**+1.3**
	comp=Z,16nm,1.1s,mb5.0						
BVAR	**Borovoye Array**	**62.27**	**319**	P	**P**	**19 05 27.8**	**-0.2**
	comp=Z,7.6nm,0.7s,mb4.9,baz=93,slow=8.2,SNR=17						
BRVK	**Borovoye**	**62.33**	**319**	*eP*	**P**	**19 05 28.5**	**0.0**
	comp=Z,18nm,1.0s,mb5.2						
INK	**Inuvik**	**67.00**	**24**	P	**P**	**19 05 58.7**	**0.0**
INK	**Inuvik**	**67.00**	**24**	P	**P**	**19 05 58.7**	**0.0**
	comp=Z,1.3nm,0.8s,mb4.0,baz=280,slow=5.6,SNR=4.6						
YKA	**Yellowknife Ar**	**75.90**	**28**	P	**P**	**19 06 52.3**	**-0.2**
YKA	**Yellowknife Ar**	**75.90**	**28**	P	**P**	**19 06 52.3**	**-0.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=292,slow=5.7,SNR=12						
KIV	**Kislovodsk**	**82.06**	**314**	*eP*	**P**	**19 07 27.7**	**+1.2**
	comp=Z,7.8nm,1.0s,mb4.6						
NVAR	**Mina Array Bea**	**82.72**	**52**	P	**P**	**19 07 30.2**	**+0.1**
	comp=Z,0.5nm,0.8s,mb3.6,baz=288,slow=5.6,SNR=4.2						
AKASG	**Malin Array Be**	**87.06**	**324**	P	**P**	**19 07 51.8**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.8,baz=51,slow=24,SNR=3.8						
HFS	**Hagfors**	**88.21**	**337**	LR	LR	19 46 46.6	
	comp=Z,137nm,18.2s,MS4.4,baz=41,slow=35						
LPAZ	**La Paz**	**149.82**	**84**	PKPbc	PKPbc	19 14 57.8	+0.9
	comp=Z,0.5nm,0.5s,baz=277,slow=8.1,SNR=3.9						

IDC ***10*** *18:56:04.4±0.7, 57.3S×133.62E, h0km, mb4.5/10, mb1 4.7/14, mb1mx4.7/16, mbtmp4.6/14, ML4.8/4, MS3.8/1, Ms1 3.7/1, ms1mx3.0/27, Error ellipse: s-maj=31.4km s-min=12.7km az=76.0*
BJI ***10*** *18:56:05.6, 56.3S×133.95E, h25km, mB5.1, mb4.7, Ms4.9, Msz4.5*
ISCJB ***10*** *18:56:06.2±0.3, 56.6S±00.3×133.92E±0.06, h32km, mb4.7/35, MS4.2/4, Error ellipse: s-maj=8.6km s-min=4.3km az=173.4*
MOS ***10*** *18:56:07.2±1.2, 58.3S×133.59E, h33km, mb4.8/8, Error ellipse: s-maj=20.1km s-min=8.3km az=109.7*
NEIC ***10*** *18:56:08.0±4.7, 57.2S×133.74E, h23km±34km, mb4.6/14, Error ellipse: s-maj=17.4km s-min=10.2km az=57.0*

ISC 10 18:56:08.5±0.3, 58.9S±00.3×133.89E±0.05, h34km, h34km±3.6km: pP-P, n96, σ1.9±11/101, mb4.7/35, MS4.2/4, 6C-7D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**6.08**	**291**	P	**Pn**	**18 57 32.3**	**-3.8**
	296nm,0.6s						
KAKA	**Kakadu**	**6.92**	**192**	*eP*	**Pn**	**18 57 51.5**	**+3.8**
	117nm,0.4s						
KAKA				*eS*	**Sn**	**18 59 09.7**	**+4.4**
BATI	**Kupang**	**10.99**	**246**	Pn	**Pn**	**18 58 43.4**	**-0.1**
	31nm,0.3s,baz=104,slow=3.1,SNR=62						
BATI				Sn	**Sn**	**19 00 44.2**	**-1.2**
	5.0nm,0.3s,baz=194,slow=18,SNR=4.3						
KDI	**Kendari**	**11.39**	**279**	P	**Pn**	**18 58 51.0**	**+2.0**
	26nm,1.1s						
WRAB	**Tennant Creek**	**13.96**	**178**	*eP*	**Pn**	**18 59 23.9**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,110nm,0.8s						
WRAB	**Tennant Creek**	**13.96**	**178**	*eP*	**Pn**	**18 59 23.9**	**-0.2**
	comp=Z,110nm,0.8s						
WB2	**Warramunga Arr**	**13.97**	**178**	*eP*	**Pn**	**18 59 24.2**	**0.0**
WB2				*eS*	**Sn**	**19 01 55.8**	**-2.4**
WRA	**Warramunga Arr**	**13.97**	**178**	P	**Pn**	**18 59 24.3**	**+0.1**
WRA						19 01 57.6	
WRA	**Warramunga Arr**	**13.97**	**178**	Pn	**Pn**	**18 59 24.3**	**+0.1**
	comp=Z,4.8nm,0.3s,baz=0.5,slow=13,SNR=31						
WRA				Sn	**Sn**	**19 01 57.6**	**-0.6**
	comp=Z,4.4nm,0.3s,baz=355,slow=23,SNR=5.5						
WRA				Lg		19 03 36.5	
	comp=Z,1.7nm,0.3s,baz=14,slow=24,SNR=3.7						
KAPI	**Kappang 14.10 273**			Pn	**Pn**	**18 59 25.5**	**-0.5**
	comp=Z,1.0nm,0.3s,baz=79,slow=6.8,SNR=6.0						
FITZ	**Fitzroy Crossi 14.56 213**			*eP*	**Pn**	**18 59 31.8**	**-0.5**
	comp=Z,50nm,0.5s						
FITZ				*eS*	**Sn**	**19 02 09.9**	**-2.8**
FITZ	**Fitzroy Crossi 14.56 213**			Pn	**Pn**	**18 59 32.4**	**+0.1**
	comp=Z,6.3nm,0.3s,baz=37,slow=12,SNR=57						
FITZ				Sn	**Sn**	**19 02 07.9**	**-4.8**
	comp=Z,6.5nm,0.3s,baz=187,slow=17,SNR=9.2						
PCI	**Palu 14.87 289**			P	**Pn**	**18 59 35.8**	**-0.7**
	comp=Z,37nm,1.2s						
ASAR	**Alice Springs 17.67 180**			P	**Pn**	**19 00 13.2**	**+1.1**
ASAR				S	**Sn**	**19 03 24.5**	**-3.6**
ASAR	**Alice Springs 17.67 180**			P	**Pn**	**19 00 13.2**	**+1.1**
ASAR				S	**Sn**	**19 03 24.5**	**-3.5**
ASAR				Lg		19 05 31.5	
ASAR	**Alice Springs 17.67 180**			P	**Pn**	**19 00 13.2**	**+1.1**
	comp=Z,3.8nm,0.3s,baz=360,slow=7.9,SNR=204						
ASAR				S	**Sn**	**19 03 24.5**	**-3.5**
	comp=Z,1.6nm,0.3s,baz=0.5,slow=26,SNR=8.4						
ASAR				Lg		19 05 31.5	
	baz=358,slow=32,SNR=2.8						
CTA	**Charters Tower 18.53 141**			*eP*	**Pn**	**19 00 28.0**	**+5.3**
	comp=Z,11nm,0.7s						
CTA	**Charters Tower 18.53 141**			*eP*	**Pn**	**19 00 28.0**	**+5.3**
CTA				pmax	pmax		
	comp=Z,11nm,0.7s						
CTA	**Charters Tower 18.53 141**			P	**Pn**	**19 00 26.0**	**+3.3**
	comp=Z,1.3nm,0.3s,baz=315,slow=12,SNR=19						
CTA				Lg		19 06 00.3	
	comp=Z,1.0nm,0.3s,baz=241,slow=17,SNR=5.1						
CTAO	**Charters Tower 18.53 141**			*eP*	**Pn**	**19 00 27.7**	**+5.0**
CTAO				pmax	pmax		
	comp=Z,12nm,0.7s						
CTAO	**Charters Tower 18.53 141**			*eP*	**Pn**	**19 00 27.7**	**+5.0**
	comp=Z,12nm,0.7s						
MYLDM	**Lahad Datu 18.90 305**			⇑P	**Pn**	**19 00 28.0**	**+0.8**
TSM	**Tawau 18.93 302**			⇑P	**Pn**	**19 00 31.1**	**+3.6**
KMMI	**Kalianget 19.83 266**			P	**Pn**	**19 00 38.6**	**+0.3**
	comp=Z,159nm,1.1s						
SDKM	**Sandakan 20.23 304**			⇓P	**P**	**19 00 44.2**	**+3.3**
MBWA	**Marble Bar 20.46 221**			*eP*	**P**	**19 00 46.7**	**+3.3**
	comp=Z,34nm,0.9s						
KDM	**Kudat 21.25 307**			⇓P	**P**	**19 00 55.3**	**+3.3**
KKM	**Kota Kinabalu 21.26 304**			⇓P	**P**	**19 00 52.1**	**0.0**
BTM	**Bintulu 22.66 293**			⇑P	**P**	**19 01 08.6**	**+1.5**
SBUM	**Sibu 23.17 290**			⇓P	**P**	**19 01 13.4**	**+0.9**
KSM	**Kuching 24.66 287**			*eP*	**P**	**19 01 26.6**	**+0.2**
KSM	**Kuching 24.66 287**			⇓P	**P**	**19 01 27.0**	**+0.6**
FORT	**Forrest 25.35 192**			*eP*	**P**	**19 01 36.1**	**+3.6**
	comp=Z,185nm,0.7s,mb5.7						
STKA	**Stephens Creek 26.84 165**			*eP*	**P**	**19 01 47.9**	**+2.0**
	comp=Z,8.4nm,0.7s,mb4.4						
STKA	**Stephens Creek 26.84 165**			P	**P**	**19 01 48.3**	**+2.4**
	comp=Z,12nm,0.8s,mb4.5,baz=343,slow=8.5,SNR=14						
STKA				LR	LR	19 13 03.7	
	comp=Z,220nm,20.8s,MS3.7,baz=175,slow=38						
KGM	**Kluang 31.52 284**			⇑P	**P**	**19 02 29.1**	**+1.2**
KTGM	**Kuala Trenggan 32.67 289**			⇓P	**P**	**19 02 36.0**	**-1.8**
FRIM	**Kepong 33.47 285**			⇓P	**P**	**19 02 45.8**	**+0.9**
PPI	**Padang Panjang 33.86 278**			P	**P**	**19 02 47.9**	**-0.4**
	comp=Z,28nm,1.0s,mb5.1						
IPM	**Ipoh 34.40 287**			⇑P	**P**	**19 02 53.5**	**+0.6**
PSI	**Prapat 35.97 283**			P	**P**	**19 03 04.7**	**-1.8**
	comp=Z,4.5nm,0.5s,mb4.7,baz=110,slow=4.4,SNR=5.4						
JNU	**Nakatsue 38.91 356**			P	**P**	**19 03 29.6**	**-1.4**
	comp=Z,10nm,1.0s,mb4.5,baz=217,slow=5.1,SNR=3.1						
NJ2	**Nanjing 40.36 340**			*eP*	**P**	**19 03 41.9**	**-1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CHTO	**Chiang Mai 42.29 306**			*eP*	**P**	**19 03 58.3**	**-1.0**
CHTO				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.5						
CHTO	**Chiang Mai 42.29 306**			*eP*	**P**	**19 03 58.3**	**-1.0**
	comp=Z,16nm,1.2s,mb4.5						
MJAR	**Matsushiro Arr 42.41 5**			P	**P**	**19 04 00.2**	**+0.4**
	comp=Z,2.7nm,1.1s,mb3.8,baz=60,slow=5.0,SNR=3.0						
KMI	**Kunming 43.22 317**			P	**P**	**19 04 06.4**	**-0.3**
KMI				AMB	AMB		
	comp=Z,4.0nm,1.2s,mb4.0						
KSRS	**Korea Array 43.48 353**			P	**P**	**19 04 07.5**	**-1.1**
	comp=Z,1.5nm,0.7s,mb3.8,baz=183,slow=10,SNR=9.7						
LZH	**Lanzhou 50.38 328**			*eP*	**P**	**19 05 02.1**	**-0.4**
LZH				AP	pP	19 05 06.9	-5.7
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,127nm,6.7s						
LZH				LR	LR		
	comp=N,512nm,16.0s						
LZH				LR	LR		
	comp=Z,703nm,18.3s,MS4.7						
MDJ	**Mudanjiang 50.43 356**			P	**P**	**19 05 03.0**	**+0.3**
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,104nm,7.0s						
MDJ	**Mudanjiang 50.43 356**			P	**P**	**19 05 01.6**	**-1.1**
	comp=Z,8.8nm,1.0s,mb4.7						
HHC	**Hu-ho-hao-te 50.83 338**			*eP*	**P**	**19 05 07.2**	**+1.4**
HHC				AP	pP	19 05 12.1	-3.9
HHC				XP	sP	19 05 14.2	-5.7
HHC				PCP	PcP	19 06 24.8	+2.5
HHC				PP	PP	19 07 04.0	+1.6
HHC				S	**S**	**19 12 21.6**	**+1.9**
HHC				XS	sS	19 12 28.1	-8.2
HHC				SCS	ScS	19 14 54.9	+0.8
HHC				SS	SS	19 15 52.0	-2.9
HHC				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,162nm,8.1s						
HHC				LR	LR		
	comp=N,201nm,15.0s,MS4.5						
HHC				LR	LR		
	comp=E,323nm,15.6s,MS4.5						
HHC				LR	LR		
	comp=Z,345nm,15.6s,MS4.5						
YSS	**Yuzh-Sakhalins 53.20 8**			*eP*	**P**	**19 05 25.0**	**+1.6**
YSS				*e*		19 05 31.0	
LSA	**Lhasa 54.17 313**			*eP*	**P**	**19 05 31.4**	**+0.6**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.5						
LSA	**Lhasa 54.17 313**			*eP*	**P**	**19 05 31.4**	**+0.6**
	comp=Z,3.7nm,0.6s,mb4.5						
KLR	**Kul'dur 54.92 358**			*eP*	**P**	**19 05 36.4**	**+0.5**
GTA	**Gaotai 54.98 328**			P	**P**	**19 05 36.6**	**+0.1**
GTA				AP	pP	19 05 47.5	+0.8
GTA				XP	sP	19 05 50.6	-0.1
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
GTA				AMB	AMB		
	comp=Z,105nm,4.6s						
GTA				LR	LR		
	comp=N,60nm,16.0s,MS4.1						
GTA				LR	LR		
	comp=E,119nm,19.4s,MS4.1						
GTA				LR	LR		
	comp=Z,102nm,14.9s,MS4.0						
JIRN	**Jiri 56.85 308**			*eP*	**P**	**19 05 49.7**	**-0.5**
GUN	**Gumba 57.22 309**			*eP*	**P**	**19 05 52.4**	**-0.3**
	comp=Z,18nm,0.8s,mb5.2						
KKN	**Kakani 57.63 308**			*eP*	**P**	**19 05 55.1**	**-0.5**
	comp=Z,13nm,0.9s,mb5.0						
DMN	**Daman 57.68 308**			*eP*	**P**	**19 05 55.8**	**-0.2**
	comp=Z,32nm,1.2s,mb5.2						
GKN	**Gorkha 58.23 308**			*eP*	**P**	**19 05 58.8**	**-1.1**
	comp=Z,31nm,1.1s,mb5.2						
SONM	**Songino Array 58.72 339**			P	**P**	**19 06 02.3**	**-0.6**
	comp=Z,0.3nm,0.5s,mb3.6,baz=159,slow=7.2,SNR=3.4						
KOLN	**Koldanda 58.94 307**			*eP*	**P**	**19 06 04.7**	**-0.1**
	comp=Z,24nm,1.1s,mb5.2						
DANN	**Dangsing 59.08 308**			*eP*	**P**	**19 06 05.4**	**-0.4**
	comp=Z,14nm,0.8s,mb5.0						
WMQ	**Urumqi 64.66 325**			*eP*	**P**	**19 06 44.0**	**+1.0**
BOD	**Bodaibo 65.51 348**			*eP*	**P**	**19 06 42.9**	**-5.3**
YAK	**Yakutsk 67.80 358**			*eP*	**P**	**19 07 02.0**	**-0.8**
YAK				pmax	pmax		
	comp=Z,27nm,0.8s,mb5.3						
YAK	**Yakutsk 67.80 358**			*eP*	**P**	**19 07 02.0**	**-0.8**
	comp=Z,27nm,0.8s,mb5.3						
MK31	**Makanchi Array 69.48 325**			*eP*	**P**	**19 07 13.5**	**-0.1**
MK31				*e*	pP	19 07 24.2	+0.2
MKAR	**Makanchi Array 69.48 325**			*i P*	**P**	**19 07 14.3**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR	**Makanchi Array 69.48 325**			P	**P**	**19 07 13.3**	**-0.2**
	comp=Z,2.0nm,0.2s,mb4.6,baz=123,slow=7.6,SNR=17						
SEY	**Seymchan 70.07 9**			*eP*	**P**	**19 07 14.8**	**-2.0**
TKM2	**Tokmak 2 71.65 319**			*eP*	**P**	**19 07 27.1**	**+0.2**
TKM2				*e*	pP	19 07 37.9	+0.5
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
TKM2	**Tokmak 2 71.65 319**			*eP*	**P**	**19 07 27.1**	**+0.2**
	comp=Z,4.7nm,0.8s,mb4.5						
TKM2				*e*	pP	19 07 37.9	+0.5
UCH	**Uchtor 72.06 318**			*eP*	**P**	**19 07 31.2**	**+1.9**
	comp=Z,11nm,1.5s,mb4.5						
UCH	**Uchtor 72.06 318**			*e*	pP	19 07 41.6	+1.8
ZALV	**Zalesovo Beam 72.36 332**			P	**P**	**19 07 29.8**	**-1.2**
	comp=Z,2.1nm,0.7s,mb4.2,baz=116,slow=5.1,SNR=7.5						
ZAL	**Zalesovo 72.37 332**			P	**P**	**19 07 29.8**	**-1.1**
KURK	**Kurchatov 73.65 327**			*eP*	**P**	**19 07 38.0**	**-0.6**
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
KURK	**Kurchatov 73.65 327**			*eP*	**P**	**19 07 38.0**	**-0.6**
	comp=Z,5.3nm,1.1s,mb4.4						
KURK	**Kurchatov 73.65 327**			*e*	pP	19 07 48.1	-1.0
KK31	**Karatay Array 75.11 317**			*i P*	**P**	**19 07 46.6**	**-0.6**
KK31				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8						
MAW	**Mawson 77.40 202**			P	**P**	**19 08 01.3**	**+1.4**
	comp=Z,4.1nm,0.7s,mb4.5,baz=63,slow=7.9,SNR=7.0						
TIXI	**Tiksi 77.46 358**			*eP*	**P**	**19 07 58.9**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
TIXI	**Tiksi 77.46 358**			*eP*	**P**	**19 07 58.6**	**-1.4**
	comp=Z,8.3nm,0.9s,mb4.7						
BVAR	**Borovoye Array 79.23 327**			P	**P**	**19 08 10.0**	**-0.1**
	comp=Z,3.9nm,0.7s,mb4.5,baz=125,slow=7.4,SNR=12						
BRVK	**Borovoye 79.30 327**			*eP*	**P**	**19 08 10.2**	**-0.4**
BRVK				*e*	pP	19 08 21.1	-0.1
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye 79.30 327**			*eP*	**P**	**19 08 10.2**	**-0.4**
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK				*e*	pP	19 08 21.1	0.0
QSPA	**South Pole Qui 84.08 180**			*eP*	**P**	**19 08 36.1**	**+0.8**
	comp=Z,16nm,1.2s,mb5.0						
AKTK	**Aktyubinsk 85.59 322**			P	**P**	**19 08 43.5**	**+0.1**
AKTO	**Aktyubinsk 85.59 322**			P	**P**	**19 08 43.5**	**+0.1**
	comp=Z,1.8nm,0.8s,mb4.4,baz=114,slow=6.9,SNR=5.2						
SYO	**Syowa Base 86.08 201**			⇑*eP*	**P**	**19 08 47.0**	**+1.4**
TORD	**Torodi Ar. Bea 132.37 282**			PKP	PKPdf	19 15 21.2	+0.9
	comp=Z,1.2nm,0.7s,baz=47,slow=2.5,SNR=7.7						
CPUP	**Villa Florida 146.17 162**			PKPbc	PKPbc	19 15 48.1	+2.0
	comp=Z,6.5nm,0.7s,baz=204,slow=3.8,SNR=16						
LPAZ	**La Paz 149.01 136**			PKPbc	PKPbc	19 15 57.2	+3.1
	comp=Z,2.2nm,0.7s,baz=12,slow=0.5,SNR=5.8						

WEL 10 18:58:34.6±0.5, 45.26S×166.74E, h10km±3km, ML3.6/8, Error ellipse: s-maj=2.9km s-min=1.4km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.36**	**126**	P*	Pg	18 58 42.4	+0.6
DCZ				S*	Sg	18 58 46.8	+0.2
DCZ	**Deep Cove**	**0.36**	**126**	PG	Pg	18 58 42.4	+0.6
DCZ				SG	Sg	18 58 46.8	+0.2
PYZ	**Puysegur Point**	**0.90**	**182**	PN	Pn	18 58 51.5	-1.8
PYZ				SN	Sn	18 59 02.7	-3.7
PYZ	**Puysegur Point**	**0.90**	**182**	P*	Pb	18 58 51.5	-0.9
PYZ				S*	Sb	18 59 02.8	-1.7
MLZ	**Mavora Lakes**	**1.02**	**95**	PN	Pn	18 58 52.0	-2.9
MLZ				SN	Sn	18 59 03.8	-5.4
MSZ	**Milford Sound**	**1.03**	**55**	PN	Pn	18 58 53.4	-1.7
MSZ				SN	Sn	18 59 06.4	-3.2
MSZ	**Milford Sound**	**1.03**	**55**	P*	Pb	18 58 53.4	-1.1
MSZ				S*	Sb	18 59 06.6	-1.5
WHZ	**Wether Hill Ro**	**1.06**	**127**	PN	Pn	18 58 53.6	-1.8
WHZ				SN	Sn	18 59 07.0	-3.2
WKZ	**Wanaka**	**1.68**	**76**	PN	Pn	18 59 03.4	-0.5
WKZ				SN	Sn	18 59 26.4	+1.0
APZ	**The Paps**	**1.79**	**151**	PN	Pn	18 59 06.7	+1.1
APZ				SN	Sn	18 59 28.9	+0.5
EAZ	**Earnscleugh**	**1.82**	**90**	PN	Pn	18 59 05.4	-0.4
EAZ				SN	Sn	18 59 27.2	-1.7
JCZ	**Jackson Bay**	**1.87**	**51**	PN	Pn	18 59 07.8	+1.3
SYZ	**Scrubby Hill**	**2.11**	**128**	PN	Pn	18 59 09.0	-0.8
TUZ	**Tuapeka**	**2.15**	**110**	PN	Pn	18 59 09.4	-1.0
TUZ				SN	Sn	18 59 35.1	-2.0
LBZ	**Lake Benmore**	**2.60**	**72**	PN	Pn	18 59 15.5	-1.2
FOZ	**Fox Glacier**	**2.71**

MAJO Matsushiro 15.29 345 P Pn 19 22 57.2 +0.7
KSRS Korea Array 20.40 323 P P 19 23 53.6 -2.1
5.4nm,1.0s,baz=133,slow=11,SNR=4.2
NJ2 Nanjing 23.88 300 eP P 19 24 31.2 -0.5
NJ2 AP 19 24 35.6
NJ2 XP sP 19 24 39.5 -19
NJ2 PP 19 25 05.8
NJ2 PPP 19 25 15.6
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.6
NJ2 AMB AMB
comp=Z,190nm,3.8s
NJ2 LR LR
comp=N,1μm,12.3s
NJ2 LR LR
comp=E,1μm,12.9s
NJ2 LR LR
comp=Z,1μm,10.9s
YSS Yuzh-Sakhalins 25.08 359 eP P 19 24 47.8 +5.5
YSS e pP 19 25 03.5 +3.4
KLR Kul'dur 28.82 344 eP P 19 25 11.0 -4.8
QIZ Qiongzhong 31.30 271 P P 19 25 37.3 -0.8
QIZ AMB AMB
comp=Z,20nm,1.8s,mb4.5
QIZ AMB AMB
comp=Z,263nm,3.0s
QIZ LR LR
comp=E,516nm,22.1s
QIZ LR LR
comp=Z,748nm,21.9s
HHC Hu-ho-hao-te 32.72 313 eP P 19 25 50.7 +0.3
HHC XP sP 19 25 58.3 -19
HHC PP PP 19 27 01.7 -3.9
HHC AMB AMB
comp=Z,22nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,164nm,5.2s
HHC LR LR
comp=N,484nm,17.5s
HHC LR LR
comp=E,467nm,16.5s
HHC LR LR
comp=Z,569nm,18.2s
GYA Guiyang 33.53 285 P P 19 25 58.8 +1.1
GYA PP PP 19 27 11.6 -3.2
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
GYA AMB AMB
comp=Z,80nm,5.6s
GYA LR LR
comp=N,460nm,18.0s
GYA LR LR
comp=E,430nm,17.7s
GYA LR LR
comp=Z,450nm,18.5s
CD2 Chengdu 36.28 293 eP P 19 26 21.0 -0.2
CD2 XP sP 19 26 28.1 -20
CD2 PP PP 19 27 44.7 -0.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,20nm,3.8s
LZH Lanzhou 36.95 301 eP P 19 26 27.6 +0.7
LZH AP pP 19 26 32.3 -13
LZH XP sP 19 26 34.7 -19
LZH PP PP 19 27 54.2 +1.8
LZH AMB AMB
comp=Z,19nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,98nm,5.3s
LZH LR LR
comp=N,535nm,13.4s
LZH LR LR
comp=Z,786nm,17.5s
KMI Kunming 37.11 283 P P 19 26 30.6 +2.2
KMI AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
KMI LR LR
comp=N,287nm,22.2s
KMI LR LR
comp=E,245nm,20.4s
KMI LR LR
comp=Z,372nm,29.6s
ULN Ulaanbaatar 38.85 321 eP P 19 26 42.4 -0.3
ULN pmax pmax
comp=Z,3.0nm,1.0s,mb4.1
ULN Ulaanbaatar 38.85 321 eP P 19 26 42.4 -0.3
comp=Z,3.1nm,1.0s,mb4.1
SONM Songino Array 39.22 320 P P 19 26 45.9 +0.1
comp=Z,2.6nm,0.5s,mb4.3,baz=127,slow=7.2,SNR=24
GTA Gaotai 40.77 306 eP P 19 26 59.7 +0.9
GTA AP pP 19 27 03.8 -13
GTA XP sP 19 27 06.0 -20
GTA AMB AMB
comp=Z,4.0nm,1.2s,mb4.1
YAK Yakutsk 41.24 350 eP P 19 27 01.1 -1.2
YAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.7
YAK Yakutsk 41.24 350 eP P 19 27 01.1 -1.2
comp=Z,6.7nm,0.6s,mb4.7
CHTO Chiang Mai 41.45 274 eP P 19 27 05.5 +0.9
CHTO pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
CHTO Chiang Mai 41.45 274 eP P 19 27 05.5 +0.8
comp=Z,3.8nm,1.1s,mb4.1
CTA Charters Tower 41.76 176 P P 19 27 08.0 +1.0
comp=Z,9.8nm,1.1s,mb4.5,baz=3.7,slow=12,SNR=3.1
ZAK Zakamensk 42.23 322 eP P 19 27 10.8 +0.3
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.0
WRA Warramunga Arr 42.38 192 P P 19 27 11.5 -0.6
comp=Z,2.3nm,0.8s,mb4.0,baz=16,slow=9.4,SNR=12
ASAR Alice Springs 46.09 192 P P 19 27 40.6 -1.0
comp=Z,1.2nm,0.6s,mb3.8,baz=18,slow=9.9,SNR=34
LSA Lhasa 47.16 291 eP P 19 27 51.3 +1.2
WMQ Urumqi 50.47 309 eP P 19 28 16.0 +0.8
WMQ XP sP 19 28 23.0 -20
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,86nm,5.0s
WMQ LR LR
comp=N,156nm,15.0s
WMQ LR LR
comp=E,178nm,15.0s
WMQ LR LR
comp=Z,227nm,16.0s
STKA Stephens Creek 53.41 182 P P 19 28 35.2 -1.8
STKA Stephens Creek 53.41 182 P P 19 28 35.2 -1.8
comp=Z,3.0nm,1.0s,mb4.3,baz=76,slow=2.4,SNR=3.6
ZAA0 Zalesovo Array 54.09 322 eP P 19 28 40.7 -1.2
ZALV Zalesovo Beam 54.09 322 P P 19 28 40.3 -1.6
comp=Z,4.2nm,0.7s,mb4.6,baz=102,slow=7.4,SNR=20
ZAL Zalesovo 54.10 322 P P 19 28 40.3 -1.6
MK31 Makanchi Array 54.59 313 eP P 19 28 45.6 0.0
MKAR Makanchi Array 54.59 313 P P 19 28 45.1 -0.5
comp=Z,1.9nm,0.6s,mb4.3,baz=92,slow=8.9,SNR=23
NVS Novosibirsk 55.19 322 eP P 19 28 47.0 -2.7
NVS pmax pmax
comp=Z,16nm,1.9s,mb4.7
NVS pmax pmax
comp=E,9.0nm,1.4s
KURK Kurchatov 57.36 317 eP P 19 29 04.9 -0.4
KURK pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
KURK Kurchatov 57.36 317 eP P 19 29 04.9 -0.4
comp=Z,5.9nm,1.0s,mb4.6
TKM2 Tokmak 2 59.24 308 eP P 19 29 19.4 +0.9
TKM2 pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TKM2 Tokmak 2 59.24 308 eP P 19 29 19.4 +0.8
comp=Z,5.9nm,1.0s,mb4.6
UCH Uchtor 60.07 307 eP P 19 29 25.8 +1.6
comp=Z,10nm,1.2s,mb4.7
EKS2 Erkin-Say 60.59 308 eP P 19 29 28.3 +0.5
comp=Z,4.4nm,1.2s,mb4.4
AML Almayashu 60.69 307 eP P 19 29 30.4 +1.9
comp=Z,12nm,1.4s,mb4.7
MCK McKinley 60.90 28 eP P 19 29 29.6 +0.1
BRVK Borovoye 62.62 319 eP P 19 29 40.8 -0.4
BRVK pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 62.62 319 eP P 19 29 40.8 -0.5
comp=Z,5.9nm,0.6s,mb4.7
KBL Kabul 65.25 299 eP P 19 29 59.2 +0.4
KBL pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
KBL Kabul 65.25 299 eP P 19 29 59.1 +0.3
comp=Z,4.8nm,1.0s,mb4.3
INK Inuvik 67.48 24 eP P 19 30 12.6 +0.1
comp=Z,96nm,0.9s,mb5.6
INK Inuvik 67.48 24 P P 19 30 12.1 -0.3
comp=Z,2.1nm,0.7s,mb4.0,baz=283,slow=6.6,SNR=9.3
ARU Arti 69.15 324 eP P 19 30 23.1 0.0
ARU pmax pmax
comp=Z,23nm,1.6s,mb4.8
ARU Arti 69.15 324 eP P 19 30 23.1 0.0
comp=Z,24nm,1.6s,mb4.8
YKA Yellowknife Ar 76.37 28 P P 19 31 05.7 -0.1
YKA Yellowknife Ar 76.37 28 P P 19 31 05.7 0.0
comp=Z,3.6nm,0.7s,mb4.2,baz=292,slow=5.6,SNR=33
RES Resolute Bay 76.97 13 eP P 19 31 09.0 0.0
comp=Z,116nm,0.8s,mb5.7
ARCES ARCESS Array B 78.80 341 P P 19 31 18.6 -0.5
comp=Z,2.1nm,0.7s,mb4.1,baz=59,slow=7.2,SNR=3.9
BMO Blue Mountains 81.37 45 eP P 19 31 33.5 0.0
KIV Kislovodsk 82.31 314 eP P 19 31 40.7 +2.2
KIV pmax pmax
comp=Z,8.0nm,1.0s,mb4.5
FINES FINESS Array B 83.06 334 P P 19 31 40.6 -1.3
comp=Z,0.7nm,0.5s,mb3.8,baz=90,slow=5.7,SNR=8.5
NVAR Mina Array Bea 83.10 51 P P 19 31 43.5 +0.8
comp=Z,2.0nm,0.7s,mb4.1,baz=274,slow=5.8,SNR=16
QRN Al-Qurain 84.12 298 eP P 19 31 47.2 -0.9
QRN AMb AMB 19 31 48.5
comp=Z,6.5nm,0.6s,mb4.6
HRY Holter Researc 84.13 42 eP P 19 31 48.4 +0.7
MIB Mutribah 84.20 300 eP P 19 31 48.1 -0.4
MIB AMb AMB 19 31 50.5
comp=Z,14nm,0.8s,mb4.8
RDF Al-Radifah 84.35 299 eP P 19 31 48.6 -0.7
RDF AMb AMB 19 31 53.0
comp=Z,7.7nm,1.0s,mb4.5
NAY Al-Naaiem 84.48 299 eP P 19 31 49.8 -0.1
NAY AMb AMB 19 31 50.5
comp=Z,4.7nm,0.7s,mb4.5
FFC Flin Flon 85.75 32 eP P 19 31 56.0 +0.3
FFC pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
FFC Flin Flon 85.75 32 eP P 19 31 56.0 +0.3
comp=Z,7.4nm,1.0s,mb4.6
DUG Dugway 86.29 48 eP P 19 31 58.8 +0.1
DUG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
DUG Dugway 86.29 48 eP P 19 31 58.8 +0.1
comp=Z,3.2nm,0.5s,mb4.5
AKASG Malin Array Be 87.39 324 P P 19 32 01.9 -1.9
AKASG Malin Array Be 87.39 324 P P 19 32 01.9 -1.9
comp=Z,0.7nm,0.5s,mb3.9,baz=51,slow=4.7,SNR=5.6
SRU San Rafael 88.35 48 eP P 19 32 09.6 +1.0
TXAR Lajitas Array 98.02 54 P P 19 32 54.7 +1.4
comp=Z,0.2nm,0.5s,mb3.9,baz=298,slow=1.9,SNR=2.4
SWET Sewanee 106.64 40 eP Pdif 19 33 31.6 +0.4
TORD Torodi Ar. Bea 128.64 309 PKP PKPdf 19 38 23.6 -0.8
comp=Z,0.3nm,0.7s,baz=14,slow=1.8,SNR=5.9
PLCA Paso Flores 145.86 131 PKPbc PKPbc 19 38 54.7 -1.2
comp=Z,1.7nm,0.6s,baz=112,slow=5.2,SNR=3.8
LPAZ La Paz 149.97 85 PKPbc PKPbc 19 39 08.8 +1.3
comp=Z,1.0nm,0.6s,baz=332,slow=4.1,SNR=5.4

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*FUNV **10** 19:20:24.4, 1180N×6170W, h104km, MW3.1*
*ISCJB **10** 19:20:25.8±1.2, 1156N±009×6201W±005, h134km±8km, Error ellipse: s-maj=14.6km s-min=7.6km az=179.5*
*TRN **10** 19:20:27.3, 1131N×6175W, h159km, MD3.1*
*NEIC **10** 19:20:27.3, 1131N×6175W, h159km, MD3.1(TRN), After TRN.*
ISC 10 19:20:26.4±1.3**, 1158N**±009×**6200W**±005**, h131**km±9km**, n12,** σ0s**98**/21**, 1C-1D, Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
TCE	Chacachacare	0.91	165	eP	Pn	19 20 50.0	+1.4
TCE				eS	Sn	19 21 06.4	+0.9
GUIV	Guiria	0.96	193	eP	Pn	19 20 48.0	-1.0
GUIV				eS	Sn	19 21 05.2	-0.9
TRN	Trinidad (W)	1.10	148	eP	Pn	19 20 51.2	+0.9
TRN				eS	Sn	19 21 08.8	+0.3
ITEV	Isla Los Testi	1.13	259⇓	iP	Pn	19 20 49.6	-1.1
ITEV				eS	Sn	19 21 08.3	-0.8
TPR	Prospect	1.26	108	eP	Pn	19 20 51.8	-0.2
TPR				eS	Sn	19 21 10.9	-0.5
TBH	Brigand Hill	1.43	140	eP	Pn	19 20 54.2	+0.5
TBH				eS	Sn	19 21 13.1	-1.5
CRUV	Carupano	1.51	233⇑	iP	Pn	19 20 54.5	-0.2
CRUV				eS	Sn	19 21 17.8	+1.5
GUNV	Guanoco	1.69	213	eP	Pn	19 20 57.1	+0.3
GUNV				eS	Sn	19 21 21.4	+1.5
GURV	El Guri	3.95	196	eP	Pn	19 21 26.1	+0.5
GURV				eS	Sn	19 22 10.0	-1.4
CUPV	Cœpira	4.02	248	eP	Pn	19 21 27.7	+1.2
CAOV	Caicara del Or	6.01	226	eP	Pn	19 21 53.3	+0.2
BAUV	El Baul	6.50	247	eS	Sn	19 23 11.1	-1.5

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*IDC **10** 19:21:04.6±0.5, 2188N×14309E, h0km, mb4.6/22, mb1 4.7/24, mb1mx4.6/28, mbtmp4.5/24, ML4.2/2, MS4.2/15, Ms1 4.2/15, ms1mx4.1/22, Error ellipse: s-maj=19.1km s-min=11.5km az=97.0*
*ISCJB **10** 19:21:05.5±0.2, 2188N±004×14305E±003, h10km, mb4.8/101, MS4.3/31, Error ellipse: s-maj=5.4km s-min=3.5km az=12.3*
*BJI **10** 19:21:05.2, 2198N×14325E, h13km, mb4.8, mB5.1, Ms4.5, Msz4.3*
*GCMT **10** 19:21:06.6±0.2, 2182N×143.14E, h12km, MW5.1/92, Moment Tensor Solution. s35,c40; s92,c156; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-5.18±.10; Mθθ1.81±.08; Mφφ3.37±.10; Mrθ0.40±.35; Mθφ-2.18±.07; Mφr1.38±.31; Best double couple: M0 5.23200×10^16 NP1:φs314.00000°, δ41.00000°, λ-107.00000°. NP2: φs156.00000°, δ51.00000°, λ-76.00000°. Principal axes: T 4.9870, Plg5.0000°, Azm236.0000°; N 0.4890, Plg11.0000°, Azm327.0000°; P -5.4760, Plg78.0000°, Azm121.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **10** 19:21:06.6±0.2, 2188N×14309E, h10km, mb4.9/41 Error ellipse: s-maj=6.9km s-min=6.2km az=105.0*
*MOS **10** 19:21:08.7±1.0, 2193N×14300E, h33km, mb5.2/46, MS4.4/5, Error ellipse: s-maj=11.2km s-min=6.2km az=104.6*
ISC 10 19:21:06.1±1.2**, 2187N**±004×**14311E**±003**, h5**km±7km**, h16**km±1.3km**: pP-P, n377,** σ0s**84**/384**, mb4.8**/101**, MS4.3**/31**, 81C-75D, Mariana Islands region**

Code Station Name Δ° AZ° Phase ID (Op ISC) Time (h m s) Res (ISC)
CBIJ Chichi jima 5.28 351 Pn Pn 19 22 26.4 +0.8
24nm,0.3s,baz=294,slow=19,SNR=4.7
CBIJ Sn Sn 19 23 27.1 +0.2
17nm,0.3s,baz=282,slow=23,SNR=2.9
CBIJ LR LR 19 24 10.2
comp=Z,2μm,20.8s,baz=358,slow=35
GUMO Guam 8.40 168 LR LR 19 25 51.0
comp=Z,2μm,19.1s,baz=175,slow=34
JHJ Hachijo jima 2 11.59 346 LR LR 19 28 08.1
comp=Z,2μm,18.8s,baz=116,slow=37
JOW Kunigami 14.39 293 LR LR 19 29 11.9
comp=Z,2μm,19.1s,baz=250,slow=34
MJAR Matsushiro Arr 15.23 345 Pn Pn 19 24 39.5 -2.5
0.4nm,0.3s,baz=154,slow=11,SNR=4.4
MAJO Matsushiro 15.23 345 P Pn 19 24 40.3 -1.7
MAT Matsushiro 15.23 345 P Pn 19 24 46.8 +4.8
JNU Nakatsue 15.59 319 LR LR 19 29 55.0
comp=Z,302nm,21.9s,baz=126,slow=34
KSRS Korea Array 20.34 323 P P 19 25 45.9 +2.6
9.1nm,0.8s,baz=137,slow=12,SNR=21
KSRS LR LR 19 32 41.7
comp=Z,581nm,20.0s,MS3.9,baz=143,slow=34
SSE Sheshan 21.64 300 P P 19 25 57.3 -0.1
SSE S S 19 29 51.4 -6.1
SSE AMB AMB
comp=Z,37nm,0.7s,mb4.9
SSE AMB AMB
comp=Z,118nm,5.3s
SSE LR LR
comp=N,284nm,16.4s,MS4.0
SSE LR LR
comp=E,342nm,16.3s,MS4.0
SSE LR LR
comp=Z,573nm,16.4s,MS4.1
ASAJ Asahikawa 22.20 359 P P 19 26 07.3 +4.1
comp=Z,5.9nm,0.8s,mb4.1,baz=197,slow=14,SNR=3.7
ASAJ LR LR 19 34 51.0
comp=Z,392nm,21.1s,MS3.8,baz=187,slow=37
QZH Quanzhou 22.70 283 eP P 19 26 12.0 +3.2
QZH S S 19 30 19.8 +1.5
QZH AMB AMB
comp=Z,100nm,1.0s,mb5.2
QZH AMB AMB
comp=Z,1μm,3.0s
QZH LR LR
comp=Z,1μm,13.6s,MS4.4
VLA Vladivostok 23.17 339d iP P 19 26 14.3 +0.8
VLA pmax pmax
comp=Z,141nm,1.7s,mb5.1
NJ2 Nanjing 23.83 300 eP P 19 26 20.8 +0.5
NJ2 AP 19 26 25.0
NJ2 XP sP 19 26 28.2 +5.9
NJ2 PP 19 26 53.1
NJ2 PPP 19 27 03.0
NJ2 S S 19 30 36.0 -0.7
NJ2 XS sS 19 30 45.0 +6.0
NJ2 AMB AMB
comp=Z,60nm,1.4s,mb4.8
NJ2 AMB AMB
comp=Z,450nm,10.6s
NJ2 LR LR
comp=N,2μm,21.8s,MS4.5
NJ2 LR LR
comp=E,950nm,23.0s,MS4.5
NJ2 LR LR
comp=Z,800nm,21.8s,MS4.2
YSS Yuzh-Sakhalins 25.03 359 eP P 19 26 32.0 +0.9
YSS e*SP sP 19 26 42.0 +8.9
YSS e 19 27 12.0
YSS eS S 19 30 55.0 -0.6
YSS MLR MLR
comp=Z,500nm,16.0s,MS4.1
YSS Yuzh-Sakhalins 25.03 359 eP P 19 26 31.4 +0.4
comp=Z,35nm,1.4s,mb4.7
DL2 Dalian 25.04 318 iP P 19 26 31.6 +0.4
DL2 S S 19 30 59.0 +3.1
DL2 AMB AMB
comp=Z,30nm,1.4s,mb4.6
DL2 AMB AMB
comp=Z,160nm,5.0s
DL2 LR LR
comp=N,150nm,13.9s,MS3.9
DL2 LR LR
comp=E,220nm,15.1s,MS3.9
DL2 LR LR
comp=Z,170nm,16.2s,MS3.6
MDJ Mudanjiang 25.28 337 P P 19 26 34.0 +0.6
MDJ AP pP 19 26 36.9 +2.1
MDJ XP sP 19 26 38.2 +2.8
MDJ PCP PcP 19 30 05.6 -0.9
MDJ S S 19 31 01.3 +1.6
MDJ SCP ScP 19 33 44.8 -1.7
MDJ SCS ScS 19 37 32.5 -2.5
MDJ AMB AMB
comp=Z,15nm,1.7s,mb4.2
MDJ AMB AMB
comp=Z,183nm,5.0s
MDJ LR LR
comp=N,333nm,15.3s,MS4.1
MDJ LR LR
comp=E,430nm,17.9s,MS4.1
MDJ LR LR
comp=Z,556nm,18.7s,MS4.1
MDJ Mudanjiang 25.28 337 eP P 19 26 33.9 +0.5
comp=Z,27nm,1.3s,mb4.6
SNY Shenyang 25.80 325 ⇓P P 19 26 37.8 -0.3
SNY AMB AMB
comp=Z,27nm,1.7s,mb4.5
SNY AMB AMB
comp=Z,309nm,4.8s
SNY LR LR
comp=N,546nm,15.1s
SNY LR LR
comp=E,334nm,20.8s
SNY LR LR
comp=Z,546nm,22.9s
CN2 Changchun 26.33 330 eP P 19 26 42.9 0.0
CN2 eAP pP 19 26 48.5 +4.2
CN2 eS S 19 31 13.3 -2.9
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,600nm,19.0s,MS4.2
CN2 LR LR
comp=E,300nm,19.0s,MS4.2
CN2 LR LR
comp=Z,500nm,18.0s,MS4.1
TIA Tai'an 26.74 308 eP P 19 26 47.6 +0.9
HABR Khabarovsk 27.32 348⇓eP P 19 26 52.0 +0.2
HABR e 19 27 40.0
HABR e 19 30 06.5
HABR eS S 19 31 27.0 -4.8
HABR e 19 32 42.7
HABR e 19 37 32.9
HABR pmax pmax
comp=Z,110nm,1.6s,mb5.1
KLR Kul'dur 28.76 344 eP P 19 27 00.0 -4.6
KLR MLR MLR
comp=N,700nm,13.0s,MS4.6
KLR MLR MLR
comp=E,600nm,13.0s,MS4.6
KLR MLR MLR
comp=Z,2μm,13.0s,MS4.8
BJI Beijing 29.18 315 P P 19 27 07.2 -1.3
BJI AMB AMB
comp=Z,7.0nm,1.7s,mb4.1
BJI AMB AMB
comp=Z,254nm,6.3s
BJI LR LR
comp=N,313nm,12.2s,MS4.3
BJI LR LR
comp=E,316nm,14.1s,MS4.3
BJI LR LR
comp=Z,398nm,25.1s
TIY Taiyuan 30.78 308 eP P 19 27 20.5 -2.2
TIY S S 19 32 19.3 -7.2
TIY LR LR
comp=N,898nm,17.0s
TIY LR LR
comp=E,388nm,8.3s
TIY LR LR
comp=Z,369nm,19.6s,MS4.0
QIZ Qiongzhong 31.27 271 P P 19 27 25.7 -1.4
QIZ S S 19 32 32.3 -2.2
QIZ AMB AMB
comp=Z,34nm,2.2s,mb4.8
QIZ LR LR
comp=E,542nm,21.7s
QIZ LR LR
comp=Z,748nm,21.7s,MS4.3
HHC Hu-ho-hao-te 32.67 313 eP P 19 27 40.4 +1.1
HHC AP pP 19 27 45.8 +5.1
HHC XP sP 19 27 47.6 +6.3
HHC PP PP 19 28 51.2 -1.8
HHC PCP PcP 19 30 26.1 +1.0
HHC S S 19 32 56.5 +0.6
HHC XS sS 19 33 03.3 +5.0
HHC SS SS 19 34 54.3 -22
HHC AMB AMB
comp=Z,18nm,1.3s,mb4.8
HHC AMB AMB
comp=Z,360nm,6.9s
HHC LR LR
comp=N,485nm,15.5s,MS4.5
HHC LR LR
comp=E,491nm,15.3s,MS4.5
HHC LR LR
comp=Z,532nm,17.3s,MS4.3
HIA Hailar 33.03 332 eP P 19 27 42.4 +0.1
HIA pmax pmax
comp=Z,5.0nm,0.7s
HIA Hailar 33.03 332 eP P 19 27 42.4 +0.1
comp=Z,4.7nm,0.7s,mb4.5
GYA Guiyang 33.49 285 P P 19 27 47.9 +1.3
GYA PP PP 19 29 01.2 -1.1

GYA PCP PcP 19 30 29.8 +2.1
GYA S **S** **19 33 09.4 +0.3**
GYA SCP ScP 19 34 13.6 +0.5
GYA SS SS 19 35 11.8 -22
GYA SCS ScS 19 38 12.5 -1.7
GYA AMB AMB
comp=Z,20nm,0.8s,mb5.1
GYA AMB AMB
comp=Z,120nm,5.8s
GYA LR LR
comp=N,1µm,18.0s,MS4.8
GYA LR LR
comp=E,830nm,17.7s,MS4.8
GYA LR LR
comp=Z,1µm,18.5s,MS4.7
BTO Baotou 33.63 311 *e*P **P** **19 27 46.6 -1.1**
KAPI Kappang 35.17 223 P **P** **19 28 01.2 0.0**
comp=Z,13nm,1.0s,mb4.8,baz=298,slow=4.9,SNR=3.9
KAPI LR LR 19 39 58.5
comp=Z,354nm,21.4s,MS4.1,baz=93,slow=32
HNR Honiara 35.22 150 LR LR 19 41 07.9
comp=Z,342nm,19.3s,MS4.1,baz=358,slow=34
CD2 Chengdu 36.23 293 P **P** **19 28 10.9 +0.7**
CD2 AP pP 19 28 15.1 +3.4
CD2 XP sP 19 28 17.8 +5.5
CD2 PP PP 19 29 33.7 +1.2
CD2 PCP PcP 19 30 36.8 +1.2
CD2 S **S** **19 33 50.5 -0.7**
CD2 XS sS 19 33 56.6 +3.0
CD2 PCS PcS 19 34 22.4 -0.9
CD2 SS SS 19 36 11.8 -17
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,100nm,4.8s
CD2 LR LR
comp=N,560nm,16.8s,MS4.6
CD2 LR LR
comp=E,840nm,18.6s,MS4.6
CD2 LR LR
comp=Z,970nm,18.4s,MS4.6
LZH Lanzhou 36.90 301 *e*P **P** **19 28 16.7 +0.8**
LZH AP pP 19 28 21.3 +4.0
LZH XP sP 19 28 23.8 +5.9
LZH PP PP 19 29 42.5 +2.7
LZH *e*S **S** **19 34 00.4 -0.9**
LZH XS sS 19 34 07.8 +4.1
LZH SS SS 19 36 28.5 -14
LZH AMB AMB
comp=Z,45nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,157nm,6.5s
LZH LR LR
comp=E,425nm,13.3s
LZH LR LR
comp=Z,778nm,16.7s,MS4.6
KMI Kunming 37.07 283 P **P** **19 28 18.9 +1.4**
KMI AP pP 19 28 21.9 +3.0
KMI XP sP 19 28 22.9 +3.4
KMI PP PP 19 29 47.6 +5.7
KMI PPP 19 30 05.4
KMI PCP PcP 19 30 38.7 +0.5
KMI S **S** **19 34 06.5 +2.4**
KMI XS sS 19 34 10.2 +3.7
KMI PCS PcS 19 34 27.1 +0.5
KMI SS SS 19 36 31.7 -15
KMI AMB AMB
comp=Z,12nm,1.3s,mb4.6
KMI AMB AMB
comp=Z,136nm,3.6s
KMI LR LR
comp=N,275nm,20.0s,MS4.3
KMI LR LR
comp=E,353nm,17.2s,MS4.3
KMI LR LR
comp=Z,354nm,20.0s,MS4.2
BATI Kupang 37.15 213 P **P** **19 28 16.7 -1.5**
comp=Z,7.9nm,0.6s,mb4.7,baz=143,slow=6.6,SNR=4.8
BATI LR LR 19 42 18.8
comp=Z,477nm,20.3s,MS4.3,baz=54,slow=34
MA2 Magadan 38.07 6⇑ *e*P **P** **19 28 24.9 -0.5**
MA2 pmax pmax
comp=Z,11nm,1.6s,mb4.3
ULN Ulaanbaatar 38.79 321 *e*P **P** **19 28 31.9 +0.2**
ULN pmax pmax
comp=Z,12nm,0.6s,mb4.8
ULN Ulaanbaatar 38.79 321 *e*P **P** **19 28 31.9 +0.2**
comp=Z,12nm,0.6s,mb4.8
SONM Songino Array 39.17 320 P **P** **19 28 35.0 +0.1**
comp=Z,6.5nm,0.7s,mb4.5,baz=128,slow=7.1,SNR=30
SONM LR LR 19 45 04.3
comp=Z,405nm,18.5s,MS4.3,baz=92,slow=37
GTA Gaotai 40.72 305 *e*P **P** **19 28 49.0 +1.1**
GTA AP pP 19 28 53.2 +3.9
GTA XP sP 19 28 55.4 +5.5
GTA PP PP 19 30 27.0 +5.4
GTA S **S** **19 34 59.1 +0.3**
GTA XS sS 19 35 07.1 +5.9
GTA SS SS 19 37 57.4 -1.8
GTA AMB AMB
comp=Z,17nm,1.7s,mb4.4
GTA AMB AMB
comp=Z,153nm,3.8s
GTA LR LR
comp=N,269nm,17.9s,MS4.3
GTA LR LR
comp=E,232nm,16.4s,MS4.3
GTA LR LR
comp=Z,335nm,18.6s,MS4.2
NST Nakhon Sawan 41.05 269 P **P** **19 28 53.0 +2.1**
YAK Yakutsk 41.19 350 *d* *i*P **P** **19 28 50.6 -0.8**
YAK *e**PP pP 19 28 56.4 +3.5
YAK *e* 19 30 30.7
YAK *e* 19 30 48.1
YAK *e*PPP 19 31 02.6
YAK *e*S **S** **19 35 08.6 +3.4**
YAK *e* 19 38 38.9
YAK *e*SSS 19 38 52.2
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.7
YAK pmax pmax
comp=N,18nm,1.4s
YAK pmax pmax
comp=E,5.0nm,1.2s
YAK pmax pmax
comp=Z,104nm,4.6s
YAK pmax pmax
comp=N,97nm,3.2s
YAK pmax pmax
comp=E,88nm,4.3s
YAK smax
comp=E,165nm,7.1s
YAK smax
comp=N,108nm,5.3s
YAK MLR MLR
comp=Z,389nm,22.0s,MS4.2
YAK MLR MLR
comp=N,274nm,17.0s,MS4.3
YAK MLR MLR
comp=E,256nm,19.0s,MS4.3
YAK Yakutsk 41.19 350 *e*P **P** **19 28 49.9 -1.5**
comp=E,23nm,0.9s,mb4.8
CHG Chiang Mai 41.42 274 ⇑P **P** **19 28 55.6 +1.7**
CHTO Chiang Mai 41.42 274 *e*P **P** **19 28 55.2 +1.3**
CHTO pmax pmax
comp=Z,17nm,1.1s,mb4.6
CHTO Chiang Mai 41.42 274 *e*P **P** **19 28 55.2 +1.3**
comp=Z,17nm,1.1s,mb4.6
SEY Seymchan 41.53 6⇑ *e*P **P** **19 28 53.7 -0.5**
BOD Bodaibo 41.66 337 *e*P **P** **19 28 54.5 -0.8**
BOD pmax pmax
comp=Z,8.0nm,2.3s,mb3.9
CTA Charters Tower 41.81 176 *e*P **P** **19 28 57.9 +1.0**
comp=Z,24nm,1.2s,mb4.7
CTA Charters Tower 41.81 176 *e*P **P** **19 28 57.9 +1.0**
CTA pmax pmax
comp=Z,24nm,1.2s
CTA Charters Tower 41.81 176 P **P** **19 28 57.8 +0.8**
comp=Z,34nm,1.1s,mb4.9,baz=341,slow=5.6,SNR=5.5
CTA LR LR 19 43 20.5
comp=Z,403nm,20.8s,MS4.3,baz=343,slow=32
ZAK Zakamensk 42.17 322⇓ *i*P **P** **19 29 00.1 +0.5**
ZAK pmax pmax
comp=Z,18nm,1.5s,mb4.5
WRAB Tennant Creek 42.41 192 P **P** **19 29 01.4 -0.5**
comp=Z,110nm,1.5s,mb5.3,SNR=5.7
WRAB Tennant Creek 42.41 192 *e*P **P** **19 28 59.3 -2.6**
WRAB pmax pmax
comp=Z,30nm,1.2s,mb4.8
WRAB Tennant Creek 42.41 192 *e*P **P** **19 28 59.3 -2.5**
comp=Z,30nm,1.2s,mb4.8
WB2 Warramunga Arr 42.42 192⇑ *i*P **P** **19 29 01.3 -0.6**
WRA Warramunga Arr 42.43 192 P **P** **19 29 00.9 -1.0**
comp=Z,12nm,1.1s,mb4.4,baz=16,slow=8.9,SNR=15
IRK Irkutsk 42.53 325 *e*P **P** **19 29 01.8 -0.7**
IRK pmax pmax
comp=Z,80nm,2.1s,mb5.1
TLY Talaya 42.59 324 P **P** **19 29 03.1 +0.1**
comp=Z,73nm,1.1s,mb5.3,SNR=5.4
FITZ Fitzroy Crossi 43.25 205 *e*P **P** **19 29 09.7 +1.1**
comp=Z,5.6nm,1.1s,mb4.2
FITZ Fitzroy Crossi 43.25 205 P **P** **19 29 08.0 -0.6**
comp=Z,1.9nm,0.6s,mb4.0,baz=30,slow=8.1,SNR=5.0
FITZ LR LR 19 46 52.1
comp=Z,205nm,19.6s,MS4.0,baz=22,slow=36
MOY Mondy 44.04 323 *e*P **P** **19 29 14.6 -0.1**
MOY pmax pmax
comp=Z,45nm,2.4s,mb4.8
ASAR Alice Springs 46.13 192 P **P** **19 29 31.1 -0.5**
comp=Z,3.8nm,0.6s,mb4.5,baz=18,slow=9.8,SNR=32
PSI Prapat 46.90 252 P **P** **19 29 37.7 -0.2**
comp=Z,3.3nm,0.3s,mb4.7,baz=325,slow=4.7,SNR=4.2
LSA Lhasa 47.11 291 P **P** **19 29 42.0 +2.6**
LSA Lhasa 47.11 291 *e*P **P** **19 29 41.5 +2.1**
LSA pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LSA Lhasa 47.11 291 *e*P **P** **19 29 41.5 +2.0**
comp=Z,9.6nm,0.8s,mb4.8
BILL Bilibino 48.37 11 *e*P **P** **19 29 48.5 -0.1**
BILL pmax pmax
comp=Z,32nm,2.5s,mb4.9
BILL Bilibino 48.37 11 *e*P **P** **19 29 47.7 -0.9**
comp=Z,22nm,1.4s,mb5.0
WMQ Urumqi 50.42 309 P **P** **19 30 05.0 +0.4**
WMQ XP sP 19 30 12.0 +5.3
WMQ PP PP 19 32 02.0 +1.9
WMQ S **S** **19 37 17.0 -1.6**
WMQ AMB AMB
comp=Z,39nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,98nm,5.0s
WMQ LR LR
comp=N,189nm,15.0s,MS4.4
WMQ LR LR
comp=E,201nm,15.0s,MS4.4
WMQ LR LR
comp=Z,245nm,15.0s,MS4.3
TIXI Tiksi 50.48 354 *e*P **P** **19 30 03.6 -1.0**
TIXI pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
TIXI Tiksi 50.48 354 *e*P **P** **19 30 03.9 -0.7**
comp=Z,5.5nm,0.9s,mb4.6
STKA Stephens Creek 53.45 182 *e*P **P** **19 30 26.5 -0.7**
comp=Z,3.3nm,0.9s,mb4.3
STKA Stephens Creek 53.45 182 P **P** **19 30 25.6 -1.6**
comp=Z,5.2nm,0.8s,mb4.5,baz=355,slow=7.3,SNR=7.6
STKA LR LR 19 51 55.8
comp=Z,244nm,21.6s,MS4.2,baz=13,slow=35
ZAA0 Zalesovo Array 54.04 322 *e*P **P** **19 30 29.9 -1.5**
ZALV Zalesovo Beam 54.04 322 P **P** **19 30 30.3 -1.1**
comp=Z,13nm,0.9s,mb4.8,baz=100,slow=6.7,SNR=21
ZAL Zalesovo 54.05 322 P **P** **19 30 30.3 -1.1**
MK31 Makanchi Array 54.53 313 *i* P **P** **19 30 35.2 +0.1**
MK31 pmax pmax
comp=Z,13nm,0.9s,mb5.0
MK31 Makanchi Array 54.53 313 *e*P **P** **19 30 35.8 +0.7**
MKAR Makanchi Array 54.53 313 P **P** **19 30 35.0 -0.1**
comp=Z,4.9nm,0.8s,mb4.6,baz=93,slow=8.9,SNR=18
NVS Novosibirsk 55.13 322⇑ *i*P **P** **19 30 37.3 -2.0**
NVS pmax pmax
comp=Z,69nm,1.9s,mb5.4
NVS pmax pmax
comp=N,13nm,1.5s
NVS pmax pmax
comp=E,41nm,1.7s
SVW2 Sparrevohn 57.30 30 *e*P **P** **19 30 54.6 0.0**
KURK Kurchatov 57.31 317 P **P** **19 30 54.0 -0.9**
comp=E,99nm,1.0s,mb5.8,SNR=14
KURK Kurchatov 57.31 317 *e*P **P** **19 30 54.3 -0.6**
KURK pmax pmax
comp=Z,45nm,1.4s,mb5.3
KURK Kurchatov 57.31 317 *e*P **P** **19 30 54.3 -0.6**
comp=Z,45nm,1.4s,mb5.3
TTA Tatalina 57.58 28 *e*P **P** **19 30 57.1 +0.5**
TTA pmax pmax
comp=Z,15nm,1.4s,mb4.8
TTA Tatalina 57.58 28 *e*P **P** **19 30 57.1 +0.5**
comp=Z,15nm,1.4s,mb4.8
ULHL Ulahol 58.74 307 P **P** **19 31 06.2 +1.1**
SNR=17
KSH Kashi 59.08 304 *e*P **P** **19 31 10.1 +2.6**
KSH *e*AP pP 19 31 13.7 +4.7
KSH *e*XP sP 19 31 17.5 +7.9
KSH *e*PCP PcP 19 31 58.5 +2.2
KSH *e*PP PP 19 33 22.2 +4.3
KSH *e*PPP 19 34 47.6
KSH *e*SCP ScP 19 35 56.1 -1.7
KSH *e*PCS PcS 19 35 58.2 +0.1
KSH *e*S **S** **19 39 15.3 +0.1**
KSH *e*XS sS 19 39 23.3 +5.6
KSH *e*SCS ScS 19 40 55.2 -3.3
KSH *e*SS SS 19 43 11.6 +2.6
KSH AMB AMB
comp=Z,297nm,2.7s,mb5.8
KSH LR LR
comp=Z,430nm,5.9s
TKM2 Tokmak 2 59.19 308 *e*P **P** **19 31 09.5 +1.3**
TKM2 pmax pmax
comp=Z,11nm,0.9s,mb4.9
TKM2 Tokmak 2 59.19 308 *e*P **P** **19 31 09.5 +1.3**
comp=Z,11nm,0.9s,mb4.9
TKM2 Tokmak 2 59.19 308 P **P** **19 31 09.4 +1.2**
SNR=13
IMA2 Indian Mountai 59.41 25 *e*P **P** **19 31 09.7 +0.4**
KZA Kyzart 59.48 307 P **P** **19 31 12.7 +2.5**
SNR=9.0
KBK Karagaybulak 59.68 308 P **P** **19 31 13.0 +1.4**
SNR=11
CHMS Chumysh 59.81 308 P **P** **19 31 13.5 +1.0**
SNR=6.8
FRU Bishkek 59.91 308 *e*P **P** **19 31 14.0 +0.8**
FRU pmax pmax
comp=Z,70nm,2.0s,mb5.3
USP Ospenovka 59.98 308 P **P** **19 31 14.6 +0.9**
SNR=12
AAK Ala-Archa 60.01 307 P **P** **19 31 13.2 -0.7**
comp=Z,49nm,1.7s,mb5.3,SNR=6.1
AAK Ala-Archa 60.01 307 P **P** **19 31 15.1 +1.1**
SNR=8.1
UCH Uchtor 60.02 307 *e*P **P** **19 31 15.5 +1.5**
comp=Z,53nm,1.4s,mb5.4
UCH Uchtor 60.02 307 P **P** **19 31 15.6 +1.6**
SNR=30
EKS2 Erkin-Say 60.54 308 *e*P **P** **19 31 16.8 -0.8**
comp=Z,42nm,1.8s,mb5.3
EKS2 Erkin-Say 60.54 308 P **P** **19 31 18.7 +1.1**
SNR=12
AML Almayashu 60.63 307 *e*P **P** **19 31 19.3 +1.2**
comp=Z,13nm,0.9s,mb5.0
AML Almayashu 60.63 307 P **P** **19 31 20.2 +2.0**
SNR=14
SML Sawmill 60.85 30 *e*P **P** **19 31 18.5 -0.8**
MCK McKinley 60.88 28 *e*P **P** **19 31 19.0 -0.4**
MCK pmax pmax
comp=Z,16nm,1.3s,mb5.0
MCK McKinley 60.88 28 *e*P **P** **19 31 19.0 -0.4**
comp=Z,16nm,1.3s,mb5.0
BRVK Borovoye 62.56 319 P **P** **19 31 30.5 -0.5**
comp=Z,166nm,0.9s,SNR=14
BRVK Borovoye 62.56 319 *e*P **P** **19 31 30.3 -0.7**
BRVK pmax pmax
comp=Z,26nm,0.9s,mb5.4
BRVK Borovoye 62.56 319 *e*P **P** **19 31 30.3 -0.7**
comp=Z,26nm,0.9s,mb5.4
KK31 Karatay Array 62.90 308 *i* P **P** **19 31 33.2 -0.2**
KK31 pmax pmax
comp=Z,22nm,0.9s,mb5.3
EGAK Eagle 64.36 27 *e*P **P** **19 31 41.4 -1.3**
comp=Z,4.6nm,0.9s,mb4.5
KBL Kabul 65.20 299 *e*P **P** **19 31 48.2 -0.5**
KBL pmax pmax
comp=Z,51nm,1.6s,mb5.3
KBL Kabul 65.20 299 *e*P **P** **19 31 48.2 -0.5**
comp=Z,51nm,1.6s,mb5.3
INK Inuvik 67.44 24 *e*P **P** **19 32 02.0 -0.5**
comp=Z,355nm,1.1s
INK Inuvik 67.44 24 P **P** **19 32 02.0 -0.5**
comp=Z,8.3nm,1.0s,mb4.7,baz=257,slow=6.5,SNR=13
SVE Sverdlovsk 67.90 324⇓ *e*P **P** **19 32 05.7 +0.1**
SVE *e* 19 41 43.2
SVE pmax pmax
comp=Z,31nm,1.4s,mb5.2
SVE MLR MLR
comp=Z,325nm,19.0s,MS4.6
ARU Arti 69.09 324 *c* *i*P **P** **19 32 11.5 -1.5**
ARU *e* 19 32 30.6
ARU *e* 19 34 42.3
ARU *e*PPP 19 36 22.4
ARU *e*S S 19 41 10.7 -8.1
ARU *e*SS SS 19 45 34.0 -10
ARU pmax pmax
comp=Z,42nm,1.7s,mb5.1
ARU Arti 69.09 324 *e*P **P** **19 32 12.6 -0.4**
comp=Z,48nm,1.4s,mb5.2
DLBC Dease Lake 70.02 34 *e*P **P** **19 32 19.6 +0.8**
YKA Yellowknife Ar 76.34 28 P **P** **19 32 55.3 -0.7**
comp=Z,5.4nm,0.7s,mb4.6,baz=293,slow=5.4,SNR=32
PPT Papeete 76.66 115 *e*LR LR 19 56 42.8
comp=Z,1µm,30.5s,baz=305
TMCR Tamitsa 76.88 334 *e*P **P** **19 32 49.7 -9.3**
RES Resolute Bay 76.93 13 *e*P **P** **19 32 58.4 -0.8**
comp=Z,466nm,0.9s
G03A Yamhill 77.23 46⇓P **P** **19 33 01.3 -0.1**
baz=77
H03A Soap Creek Ran 77.42 47⇓P **P** **19 33 02.1 -0.3**
baz=77
A07A Ashnola River, 77.90 42⇓P **P** **19 33 05.0 0.0**
baz=78
B07A Winthrop 78.26 42⇑P **P** **19 33 07.3 +0.2**
baz=78
I04A Tendick Farm, 78.30 47⇑P **P** **19 33 07.1 -0.2**
baz=78
E06A Yakima 78.35 45⇓P **P** **19 33 07.2 -0.4**
baz=78
A08A Turner Farm, O 78.62 42⇓P **P** **19 33 07.9 -1.1**
baz=78
N02C Big Bar 78.64 51⇑P **P** **19 33 08.2 -1.1**
baz=78
ARCES ARCESS Array B 78.74 341 P **P** **19 33 10.1 +0.8**
comp=Z,9.3nm,0.9s,mb4.7,baz=36,slow=6.6,SNR=6.2
YBH Yreka Blue Hor 78.76 50 P **P** **19 33 10.0 0.0**
comp=Z,5.0nm,0.8s,mb4.5,baz=148,slow=0.1,SNR=7.3
YBH Yreka Blue Hor 78.76 50⇑P **P** **19 33 08.1 -1.8**
baz=79
M02C Callahan 78.77 50⇓P **P** **19 33 10.2 +0.1**
baz=79
B08A Colville Reser 78.79 42⇑P **P** **19 33 09.6 -0.4**
baz=79,SNR=5.9
G06A Carlson Farm, 79.02 46⇓P **P** **19 33 10.9 -0.4**
baz=79
A09A Danville 79.04 42⇑P **P** **19 33 11.4 +0.1**
baz=79
C08A Higginbotham F 79.17 43⇓P **P** **19 33 11.3 -0.8**
baz=79,SNR=5.7
O02C Red Bluff 79.22 51⇑P **P** **19 33 11.6 -0.9**
baz=79
WDC Whiskeytown Da 79.27 51⇑P **P** **19 33 12.9 +0.2**
baz=79
J05A Fort Rock 79.27 48⇓P **P** **19 33 12.5 -0.2**
baz=79,SNR=6.6
M04C Macdoel 79.36 49⇓P **P** **19 33 13.2 0.0**
baz=79
H06A Lindquist Farm 79.39 46⇑P **P** **19 33 12.4 -0.9**
baz=79
D08A Wollman Farm, 79.51 44⇑P **P** **19 33 12.7 -1.3**
baz=79
B09A Rice 79.51 42⇓P **P** **19 33 13.7 -0.2**
baz=79
TBI Tubuai 79.53 120 *e*LR LR 19 57 53.0
comp=Z,192nm,33.2s
G07A Ruggs Ranch, H 79.65 45⇓P **P** **19 33 14.5 -0.2**
baz=80
K05A Summer Lake 79.70 48⇑P **P** **19 33 15.0 -0.1**
baz=80,SNR=6.0
D09A Jones Farm, Ri 79.89 43⇑P **P** **19 33 15.7 -0.3**
baz=80
MNRC McLaughlin Nat 79.91 52⇑P **P** **19 33 15.4 -0.9**
baz=80
HATC Hat Creek Radi 79.96 50⇑P **P** **19 33 16.0 -0.5**
baz=80
L05A Lakeview 79.98 49⇓P **P** **19 33 16.6 0.0**
baz=80
M05C Lookout 80.00 50⇑P **P** **19 33 16.4 -0.3**
baz=80
J06A Christmas Vall 80.03 47⇑P **P** **19 33 15.9 -1.0**
baz=80
F08A Pendleton 80.05 45⇑P **P** **19 33 16.7 -0.2**
baz=80
G08A Pilot Rock 80.11 45⇑P **P** **19 33 17.8 +0.6**
baz=80
K06A Valley Falls 80.12 48⇑P **P** **19 33 17.9 +0.5**
baz=80
VRHR Novokhopersk 80.17 321 *e*P **P** **19 33 16.8 -0.6**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.2
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=E,30nm,0.5s
I07A Izee 80.18 46⇑P **P** **19 33 17.4 -0.2**
baz=80
NEW Newport 80.20 42 *e*P **P** **19 33 18.1 +0.4**
NEW pmax pmax
comp=Z,6.0nm,0.9s
NEW Newport 80.20 42 *e*P **P** **19 33 18.1 +0.4**
comp=Z,6.0nm,0.9s,mb4.5
ORV Oroville 80.36 51⇑P **P** **19 33 17.7 -1.1**
baz=80
O04C Chester 80.40 50⇓P **P** **19 33 18.5 -0.4**
baz=80
MOD Modoc 80.40 49⇓P **P** **19 33 18.4 -0.5**
baz=80
A11A Hall Mountain, 80.41 41⇑P **P** **19 33 18.5 -0.3**
baz=80
J07A Hines 80.56 47⇓P **P** **19 33 19.5 -0.2**
baz=80
H08A Prairie City 80.58 46⇑P **P** **19 33 19.4 -0.4**
baz=80
B11A Sandpoint 80.61 42⇑P **P** **19 33 19.1 -0.7**
baz=80
K07A Rock Creek Ran 80.85 48⇓P **P** **19 33 21.4 +0.1**
baz=81,SNR=8.1
E10A Myers Farm, Un 80.87 44⇓P **P** **19 33 21.5 +0.2**
baz=81
G09A Cove 80.89 45⇓P **P** **19 33 21.3 -0.1**
baz=81
F10A Beach Ranch, E 80.99 44⇑P **P** **19 33 21.8 -0.1**
baz=81
L07A Adell 81.03 48⇓P **P** **19 33 22.2 0.0**
baz=81
BEKR Beckwourth 81.08 51⇑P **P** **19 33 22.5 0.0**
baz=81
P05C Yuba Gap, Truc 81.10 51⇓P **P** **19 33 21.9 -0.8**
baz=81
J08A Circle Bar Ran 81.13 47⇓P **P** **19 33 22.5 -0.3**
baz=81,SNR=5.4
D11A Klaveano Farm, 81.15 43⇓P **P** **19 33 22.6 -0.2**
baz=81
H09A Durkee 81.19 45⇓P **P** **19 33 22.9 -0.1**
baz=81
LAVA Lava Cap Winer 81.20 52⇑P **P** **19 33 22.4 -0.8**
baz=81
S04C Ingram Canyon, 81.21 53⇓P **P** **19 33 23.1 -0.2**
baz=81
OBN Obninsk 81.31 326 *e*P **P** **19 33 21.3 -2.2**
OBN pmax pmax
comp=Z,13nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.7
G10A Bishop Farm, J 81.31 45⇓P **P** **19 33 23.4 -0.2**
baz=81,SNR=7.5
O06A Flanigan 81.35 50⇓P **P** **19 33 24.0 0.0**
baz=81,SNR=5.9
K08A Mann Creek Ran 81.36 48⇑P **P** **19 33 24.0 0.0**
baz=81
BMO Blue Mountains 81.36 45 *e*P **P** **19 33 24.1 +0.2**
BMO pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BMO Blue Mountains 81.36 45 *e*P **P** **19 33 24.1 +0.1**

comp=Z,7.4nm,1.0s,mb4.6
M07A Soldier Meadow 81.37 49 ⇓P **P 19 33 23.9 -0.2**
baz=81
PACP Pacheco Peak 81.41 54 ⇓P **P 19 33 24.1 -0.3**
baz=81
HAST Hastings Reser 81.43 54 ⇓P **P 19 33 23.9 -0.6**
baz=81
E11A Bogner Ranch, 81.50 43 P **P 19 33 24.8 +0.2**
baz=81,SNR=5.4
VRSR Storozhevoye 81.53 322 *e*P **P 19 33 23.8 -0.9**
VRSR pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
VRSR pmax pmax
comp=N,3.0nm,0.9s
VRSR pmax pmax
comp=E,4.0nm,0.9s
VORD Divnogorie 81.57 322 *e*P **P 19 33 22.9 -2.0**
VORD pmax pmax
comp=Z,30nm,1.9s,mb4.9
VORD pmax pmax
comp=N,9.0nm,0.9s
VORD pmax pmax
comp=E,20nm,0.8s
J09A Fry Pan Ranch, 81.62 47 ⇑P **P 19 33 25.2 -0.1**
baz=82
L08A Fields 81.65 48 ⇓P **P 19 33 25.4 -0.2**
baz=82,SNR=8.2
R05C Kirkwood Meado 81.70 52 ⇓P **P 19 33 25.3 -0.6**
baz=82
CMB Columbia Colle 81.72 52 *e*P **P 19 33 26.3 +0.3**
CMB pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CMB Columbia Colle 81.72 52 *e*P **P 19 33 26.2 +0.3**
comp=Z,8.8nm,0.9s,mb4.7
CMB Columbia Colle 81.72 52 ⇑P **P 19 33 25.4 -0.6**
baz=82,SNR=8.3
N07B Gerlach 81.74 49 ⇑P **P 19 33 25.8 -0.2**
baz=82
D12A Red Ives Fores 81.77 43 ⇑P **P 19 33 26.3 +0.3**
baz=82
B13A Whitefish 81.80 41 ⇑P **P 19 33 25.3 -0.9**
baz=82
H10A Noah's Angus R 81.83 45 P **P 19 33 26.5 +0.1**
baz=82,SNR=5.6
G11A Walters Elk Ra 81.83 44 P **P 19 33 26.1 -0.3**
baz=82,SNR=8.0
K09A Rome 81.89 47 ⇑P **P 19 33 26.4 -0.4**
baz=82
S05C Merced 82.01 53 ⇓P **P 19 33 27.2 -0.3**
baz=82
C13A Hot Springs 82.01 42 ⇓P **P 19 33 27.2 -0.1**
baz=82
U04C Hernandez Rese 82.02 54 ⇓P **P 19 33 27.9 +0.3**
baz=82
O07A Toulon 82.03 50 ⇓P **P 19 33 27.9 +0.3**
baz=82
R06C Coleville 82.22 52 ⇓P **P 19 33 28.2 -0.4**
baz=82
KIV Kislovodsk 82.26 314 P **P 19 33 28.6 -0.1**
comp=Z,141nm,1.2s,mb5.8,SNR=7.0
KIV Kislovodsk 82.26 314⇑ *e*P **P 19 33 28.2 -0.5**
KIV pmax pmax
comp=Z,21nm,1.2s,mb4.9
KIV Kislovodsk 82.26 314 *e*P **P 19 33 27.2 -1.5**
comp=Z,41nm,1.3s,mb5.2
GNI Garni 82.29 310⇑ *e*P **P 19 33 25.2 -3.7**
GNI pmax pmax
comp=Z,8.0nm,1.3s
GNI Garni 82.29 310 *e*P **P 19 33 30.1 +1.1**
comp=Z,47nm,1.5s,mb5.2
D13A Huson 82.31 42 ⇑P **P 19 33 29.1 +0.1**
baz=82
N08A GE Springer Mi 82.33 49 P **P 19 33 29.8 +0.7**
baz=82,SNR=6.1
F12A Elk City 82.34 44 P **P 19 33 30.2 +1.1**
baz=82,SNR=5.2
PKD Parkfield 82.36 54 ⇓P **P 19 33 29.7 +0.3**
baz=82
K10A MacKenzie Ranc 82.44 47 P **P 19 33 30.4 +0.7**
baz=82,SNR=8.0
C14A Swan Lake 82.48 42 ⇓P **P 19 33 30.0 +0.3**
baz=82
T06C Millerton Lake 82.59 53 ⇓P **P 19 33 30.1 -0.5**
baz=82
N09A Rock Creek Ran 82.73 49 ⇑P **P 19 33 31.0 -0.2**
baz=83
KCC Kaiser Creek 82.76 53 ⇓P **P 19 33 31.1 -0.4**
baz=83
MFID Camas Ranch 82.89 46 P **P 19 33 32.7 +0.7**
baz=83,SNR=5.8
F13A Darby 82.92 43 ⇑P **P 19 33 31.9 -0.3**
baz=83
L10A Juniper Basin 82.98 48 ⇑P **P 19 33 32.7 +0.1**
baz=83
FINES FINESS Array B 83.00 334 *i*P **P 19 33 31.7 -0.5**
FINES pmax pmax
comp=Z,4.0nm,0.8s
FINES FINESS Array B 83.00 334 P **P 19 33 30.3 -1.9**
FINES LR LR 20 15 43.9
FINES FINESS Array B 83.00 334 P **P 19 33 30.3 -1.9**
comp=Z,4.0nm,0.8s,mb4.5,baz=69,slow=6.2,SNR=9.6
FINES LR LR 20 15 43.9
comp=Z,102nm,20.3s,MS4.2,baz=162,slow=40
K11A Parker Ranch, 83.01 47 P **P 19 33 32.8 +0.2**
baz=83,SNR=6.8
H12A Diamond D Ranc 83.09 45 ⇑P **P 19 33 33.7 +0.7**
baz=83
NVAR Mina Array Bea 83.09 51 P **P 19 33 33.4 +0.2**
comp=Z,4.9nm,0.8s,mb4.6,baz=274,slow=5.6,SNR=17
M10A I.L. Ranch, Tu 83.16 48 ⇑P **P 19 33 34.0 +0.6**
baz=83
Q08A Gabbs 83.20 51 ⇓P **P 19 33 33.7 0.0**
baz=83
HELL Mitchell Peak 83.22 53 ⇑P **P 19 33 33.1 -0.8**
baz=83
O09A Fish Creek Ran 83.23 50 ⇓P **P 19 33 33.7 -0.2**
baz=83
G13A Cobalt 83.27 44 P **P 19 33 34.0 +0.1**
baz=83,SNR=7.3
PKM Peak Mountain 83.29 55 ⇑P **P 19 33 33.3 -1.0**
baz=83
L11A Cat Creek Ranc 83.44 47 ⇑P **P 19 33 35.7 +0.9**
baz=83
J12A Stokes Ranch, 83.45 46 ⇑P **P 19 33 34.0 -0.9**
baz=83
H13A Challis 83.47 45 P **P 19 33 35.6 +0.6**
baz=83,SNR=7.8
VES Vestal, Richgr 83.50 54 ⇓P **P 19 33 35.2 -0.1**
baz=83
S08C White Mtn Res 83.54 52 P **P 19 33 36.5 +1.0**
baz=83,SNR=7.5
M11A Holland Ranch, 83.71 48 ⇑P **P 19 33 36.2 -0.1**
baz=84
E15A Deer Lodge 83.73 42 P **P 19 33 36.3 0.0**
baz=84,SNR=6.4
HLID Hailey 83.78 46 ⇑P **P 19 33 36.6 +0.1**
baz=84
K12A Draper Farm, C 83.83 47 ⇓P **P 19 33 36.8 -0.1**
baz=84
I13A Wildhorse Cree 83.83 45 ⇓P **P 19 33 37.3 +0.4**
baz=84
L12A House Creek Ra 83.95 47 ⇑P **P 19 33 37.6 +0.1**
baz=84
N11A Elko Archery C 83.99 48 ⇓P **P 19 33 38.1 +0.3**
baz=84
J13A Cove Ranch, Pi 84.00 46 ⇓P **P 19 33 37.1 -0.6**
baz=84
QRN Al-Qurain 84.07 298 *e*P **P 19 33 37.3 -1.1**
QRN AMb AMB 19 33 40.5
comp=Z,32nm,1.0s,mb5.4
F15A Butte 84.07 43 P **P 19 33 38.5 +0.5**
baz=84,SNR=10.0
HRY Holter Researc 84.11 42 *e*P **P 19 33 37.9 -0.3**
S09A Goldfield 84.15 52 ⇓P **P 19 33 37.9 -0.7**
baz=84
MIB Mutribah 84.15 300 *e*P **P 19 33 37.6 -1.2**
MIB AMb AMB 19 33 41.6
comp=Z,56nm,0.9s,mb5.7
DLMT Dillon 84.21 43 *e*P **P 19 33 38.1 -0.6**
comp=Z,14nm,1.2s,mb5.0
RDF Al-Radifah 84.30 299 *e*P **P 19 33 37.9 -1.7**
RDF AMb AMB 19 33 41.8
comp=Z,33nm,1.1s,mb5.4
Q10A Clear Creek Ra 84.31 51 ⇓P **P 19 33 39.6 +0.1**
baz=84
M12A Wells 84.32 48 ⇑P **P 19 33 39.5 +0.2**
baz=84,SNR=5.1
G15A Dillon 84.36 44 ⇑P **P 19 33 40.0 +0.4**
baz=84
NAY Al-Naaiem 84.43 299 *e*P **P 19 33 38.5 -1.8**
NAY AMb AMB 19 33 43.0
comp=Z,30nm,1.0s,mb5.4
N12A Clover Valley, 84.46 48 ⇑P **P 19 33 40.4 +0.3**
baz=84
S10A Tonopah Range, 84.53 51 P **P 19 33 41.3 +0.7**
baz=84,SNR=5.3
MPMC Manual Prospec 84.60 53 ⇓P **P 19 33 41.1 +0.1**
baz=84
LRMC Laurel Mountai 84.68 54 ⇑P **P 19 33 40.6 -0.8**
baz=84
EDW2 Edwards Air Fo 84.69 55 ⇓P **P 19 33 41.2 -0.1**
baz=84
BOZ Bozeman (W) 84.70 43 *e*P **P 19 33 41.1 -0.1**
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
BOZ Bozeman (W) 84.70 43 *e*P **P 19 33 41.1 -0.1**
comp=Z,3.3nm,0.8s,mb4.5
BOZ Bozeman (W) 84.70 43 P **P 19 33 41.9 +0.7**
baz=84,SNR=7.4
L13A Double Diamond 84.70 47 ⇓P **P 19 33 41.7 +0.4**
baz=84
Q11A Duckwater 84.84 50 P **P 19 33 42.5 +0.4**
baz=85,SNR=5.5
M13A Montello 84.85 47 P **P 19 33 42.8 +0.7**
baz=85,SNR=7.9
O12A Currie 84.90 49 P **P 19 33 43.0 +0.6**
baz=85,SNR=5.6
FURC Furnace Creek, 84.91 53 ⇑P **P 19 33 42.9 +0.4**
baz=85
R11A Troy Canyon, C 85.09 51 P **P 19 33 44.0 +0.6**
baz=85,SNR=11
P12A McGill 85.11 49 ⇓P **P 19 33 44.0 +0.6**
baz=85
TPNV Topopah Spring 85.17 52 *e*P **P 19 33 44.1 +0.3**
TPNV pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TPNV Topopah Spring 85.17 52 *e*P **P 19 33 44.1 +0.3**
comp=Z,9.1nm,1.0s,mb4.9
TPNV Topopah Spring 85.17 52 P **P 19 33 44.3 +0.5**
baz=85,SNR=6.7
ANN Anapa 85.34 317 *e*P **P 19 33 50.6 +6.2**
ANN pmax pmax
comp=Z,50nm,1.7s,mb5.4
M14A Sheep Mountain 85.35 47 P **P 19 33 45.4 +0.8**
baz=85,SNR=13
GSC Goldstone 85.41 54 *e*P **P 19 33 45.2 +0.2**
GSC pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
GSC Goldstone 85.41 54 *e*P **P 19 33 45.2 +0.2**
comp=Z,2.8nm,0.5s,mb4.7
YNR Norris Junctio 85.72 43 *e*P **P 19 33 48.1 +1.8**
FFC Flin Flon 85.72 32 P **P 19 33 46.6 +0.5**
comp=Z,126nm,1.0s,mb6.1,SNR=14
FFC Flin Flon 85.72 32 *e*P **P 19 33 45.9 -0.2**
FFC pmax pmax
comp=Z,22nm,0.9s,mb5.4
FFC Flin Flon 85.72 32 *e*P **P 19 33 45.9 -0.3**
comp=Z,22nm,0.9s,mb5.4
YFT Old Faithful 85.73 44 *e*P **P 19 33 48.8 +2.4**
P13A Bates Ranch, G 85.75 49 P **P 19 33 47.2 +0.6**
baz=86,SNR=9.7
R12A Pony Springs, 85.80 50 P **P 19 33 47.7 +0.8**
baz=86,SNR=6.0
T11A Corn Creek, Al 85.81 52 ⇑P **P 19 33 46.4 -0.5**
baz=86
S12A Delamar Landin 85.92 51 ⇑P **P 19 33 47.6 +0.1**
baz=86
HEC Hector,Ludlow 85.96 54 ⇑P **P 19 33 46.9 -0.8**
baz=86
M15A Larsen Ranch, 85.98 47 P **P 19 33 47.9 +0.2**
baz=86,SNR=5.8
TUQ Turquoise Mtn. 86.02 53 ⇑P **P 19 33 47.3 -0.7**
baz=86
SPUT South Promonto 86.05 47 *e*P **P 19 33 48.3 +0.3**
N15A Stansbury Isla 86.18 47 ⇓P **P 19 33 48.7 0.0**
baz=86
DUG Dugway 86.28 48 *e*P **P 19 33 49.7 +0.5**
DUG pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
DUG Dugway 86.28 48 *e*P **P 19 33 49.7 +0.5**
comp=Z,6.2nm,0.6s,mb5.0
DUG Dugway 86.28 48 ⇑P **P 19 33 49.3 +0.1**
baz=86
PFO Pinyon Flat Ob 86.36 55 P **P 19 33 48.6 -1.2**
comp=Z,8.4nm,1.0s,mb4.9,baz=305,slow=3.0,SNR=5.2
PFO Pinyon Flat Ob 86.36 55 ⇓P **P 19 33 48.9 -0.8**
baz=86
GMRC Granite Mounta 86.48 54 P **P 19 33 50.9 +0.5**
baz=86,SNR=5.5
HWUT Hardware Ranch 86.51 46 *e*P **P 19 33 50.9 +0.5**
comp=Z,7.8nm,0.8s,mb5.0
S13A Holt Ranch, En 86.65 51 P **P 19 33 51.9 +0.8**
baz=86,SNR=5.0
MONP Monument Peak 86.67 56 ⇑P **P 19 33 51.6 +0.3**
baz=86
V12A Nelson 86.70 53 ⇑P **P 19 33 52.6 +1.2**
baz=86
T13A Saint George 86.85 51 ⇓P **P 19 33 52.5 +0.4**
baz=87
CCUT Cedar City 87.02 51 *e*P **P 19 33 52.7 -0.2**
JLU Jordanelle 87.03 47 *e*P **P 19 33 52.5 -0.4**
U13A Pakoon Wash 87.06 52 P **P 19 33 53.9 +0.8**
baz=87,SNR=7.8
BC3 Big Chuckw Mtn 87.10 55 P **P 19 33 53.7 +0.4**
baz=87,SNR=7.2
IRM Iron Mountain 87.12 54 ⇑P **P 19 33 53.1 -0.4**
baz=87
DAU Daniels Canyon 87.25 47 *e*P **P 19 33 53.6 -0.4**
V13A Grand Canyon W 87.29 52 P **P 19 33 54.8 +0.6**
baz=87,SNR=5.4
AKASG Malin Array Be 87.33 324 *i*P **P 19 33 52.2 -1.9**
AKASG pmax pmax
comp=Z,4.0nm,0.9s
AKASG Malin Array Be 87.33 324 P **P 19 33 51.5 -2.6**
comp=Z,3.8nm,0.9s,mb4.6,baz=47,slow=5.2,SNR=14
SIM Simferopol' 87.36 318 *e*P **P 19 33 45.9 -8.5**
SIM pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
T14A Hurricane 87.43 51 ⇓P **P 19 33 56.1 +1.2**
baz=87
MSU Marysvale 87.45 49 *e*P **P 19 33 55.7 +0.7**
U14A Mt Trumbull 87.64 52 P **P 19 33 56.5 +0.6**
baz=88,SNR=6.8
W13A Hualapai Mount 87.68 53 ⇓P **P 19 33 56.7 +0.5**
baz=88
PDMCI Parker Dam,Lak 87.82 54 ⇑P **P 19 33 56.8 0.0**
baz=88
GLA Glamis 87.83 55 *e*P **P 19 33 57.3 +0.4**
GLA pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
GLA Glamis 87.83 55 *e*P **P 19 33 57.3 +0.4**
comp=Z,9.4nm,0.9s,mb5.0
GLA Glamis 87.83 55 ⇓P **P 19 33 56.8 -0.1**
baz=88,SNR=7.0
X13A Yucca 87.93 54 ⇑P **P 19 33 57.2 -0.2**
baz=88,SNR=6.3
T15A Red Dirt Ranch 87.95 51 ⇓P **P 19 33 58.2 +0.8**
baz=88
V14A Boquillas Ranc 88.03 52 P **P 19 33 58.3 +0.5**
baz=88,SNR=11
W14A Seligman 88.22 53 ⇓P **P 19 33 59.0 +0.3**
baz=88,SNR=8.2
Y13A Salome 88.26 54 ⇓P **P 19 33 59.1 +0.1**
baz=88
SRU San Rafael 88.34 48 *e*P **P 19 33 58.7 -0.5**
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
SRU San Rafael 88.34 48 *e*P **P 19 33 58.7 -0.5**
comp=Z,5.6nm,0.9s,mb4.8
V15A Kaibab Nationa 88.63 52 P **P 19 34 01.8 +1.1**
baz=88,SNR=5.7
X14A Yava 88.69 53 ⇑P **P 19 34 01.4 +0.4**
baz=88
NB2 NORSAR Subarra 88.77 339 P **P 19 33 57.9 -2.8**
comp=Z,11nm,1.4s,mb5.0,baz=44,slow=4.8
NOA NORSAR Array B 88.77 339 P **P 19 33 58.2 -2.5**
comp=Z,0.6nm,0.8s,mb4.0,baz=51,slow=4.2,SNR=5.0
Y14A Wickenburg 88.83 54 P **P 19 34 02.2 +0.6**
baz=89,SNR=9.3
X15A Humboldt 89.17 53 P **P 19 34 04.1 +0.9**
baz=89,SNR=6.5
Y15A Casa Rosa Ranc 89.33 54 ⇓P **P 19 34 04.5 +0.5**
baz=89
WUAZ Wupatki 89.35 52 ⇑P **P 19 34 04.6 +0.6**
comp=Z,29nm,1.5s,mb5.4
WUAZ Wupatki 89.35 52 ⇑P **P 19 34 04.6 +0.5**
baz=89
PV10 Paradox Valley 89.71 48 *e*P **P 19 34 05.6 0.0**
115A Sonoran Desert 89.95 55 ⇑P **P 19 34 07.6 +0.6**
baz=90
Y16A Circle Bar Ran 90.00 53 ⇑P **P 19 34 08.0 +0.9**
baz=90
PV01 Paradox Valley 90.15 48 *e*P **P 19 34 07.1 -0.6**
SMCO Snowmass 90.75 47 *e*P **P 19 34 10.8 +0.4**
comp=Z,5.3nm,0.6s,mb5.0
216A Three Points, 90.84 55 ⇑P **P 19 34 11.8 +0.8**
baz=91
Y18A Canyon Day Jun 91.11 53 ⇓P **P 19 34 13.2 +0.9**
baz=91
117A Oracle 91.14 54 ⇓P **P 19 34 13.3 +0.9**
baz=91
X19A St. Johns 91.36 52 ⇑P **P 19 34 14.0 +0.5**
baz=91
RKT Rikitea 91.39 114 *e*LR LR 20 03 21.4
comp=Z,397nm,32.5s,baz=295
217A Green Valley 91.44 55 ⇑P **P 19 34 15.1 +1.2**
baz=91
Y19A Nutrioso 91.61 52 ⇓P **P 19 34 15.3 +0.7**
baz=91
118A Homack Ranch, 91.68 54 ⇑P **P 19 34 15.8 +0.9**
baz=92
218A Dragoon 91.93 54 ⇑P **P 19 34 17.0 +0.9**
baz=92
119A Ashpeak Ranch, 92.12 53 ⇓P **P 19 34 17.7 +0.7**
baz=92
318A Bisbee 92.21 55 ⇑P **P 19 34 17.9 +0.4**
baz=92
SDCO Great Sand Dun 92.46 48 *e*P **P 19 34 18.9 +0.4**
comp=Z,5.6nm,1.3s,mb4.7
219A White Tail Can 92.51 54 ⇓P **P 19 34 19.9 +1.1**
baz=92
ANMO Albuquerque 93.17 50⇑ *e*P **P 19 34 20.6 -1.2**
KHC Kasperske Hory 96.27 329 *e*P **P 19 34 32.8 -2.9**
GERES GERESS Array B 96.41 329 P **P 19 34 34.9 -1.4**
comp=Z,0.2nm,0.4s,mb3.9,baz=64,slow=9.1,SNR=4.6
TXAR Lajitas Array 98.01 54 P **P 19 34 43.9 -0.1**
comp=Z,0.4nm,0.7s,mb4.1,baz=191,slow=5.1,SNR=3.4
TORD Torodi Ar. Bea 128.58 309 PKP PKPdf 19 40 13.6 -1.7
TORD Torodi Ar. Bea 128.58 309 PKP PKPdf 19 40 13.6 -1.7
comp=Z,1.3nm,1.0s,baz=47,slow=0.9,SNR=7.5
PLCA Paso Flores 145.92 131 PKPbc PKPbc 19 40 45.7 -1.2
comp=Z,2.8nm,0.6s,baz=194,slow=4.5,SNR=6.3
LPAZ La Paz 149.99 85 *e*PKIKP PKPdf 19 40 53.5 -0.2
LPAZ La Paz 149.99 85 PKPbc PKPbc 19 40 57.5 -1.1
comp=Z,9.5nm,1.2s,baz=340,slow=2.8,SNR=8.8

IDC 10 19:22:36.9±24.0, 2048S×17938W, h650km±263km, mb3.0/4, mb1 3.2/4, mb1mx2.9/14, mbtmp3.0/4, Error ellipse: s-maj=183.9km s-min=104.5km az=85.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.20**	**265**	P	P	19 28 15.7	+0.8
	6.0nm,1.1s,baz=86,slow=12,SNR=5.7						
STKA	**Stephens Creek**	**36.63**	**244**	P	P	19 28 51.1	-0.2
	3.3nm,0.8s,baz=117,slow=6.8,SNR=4.2						
ASAR	**Alice Springs**	**43.26**	**257**	P	P	19 29 44.0	0.0
	1.7nm,0.6s,baz=89,slow=7.2,SNR=16						
WRA	**Warramunga Arr**	**43.32**	**262**	P	P	19 29 44.5	0.0
	1.0nm,0.3s,baz=97,slow=7.7,SNR=25						
HFS	**Hagfors**		**139.31**	**350**	PKhKP	19 40 44.4	
	1.1nm,0.9s,baz=71,slow=5.2,SNR=4.0						
AKASG	**Malin Array Be**		**142.36**	**330**	PKhKP	19 40 54.1	
	0.8nm,0.3s,baz=44,slow=4.3,SNR=12						
GERES	**GERESS Array B**		**149.81**	**343**	PKPbc PKPbc	19 41 15.2	0.0
	0.2nm,0.5s,baz=22,slow=5.4,SNR=4.0						

IDC 10 19:28:16.6±5.6, 2116N×14316E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.6/18, mbtmp3.5/5, Error ellipse: s-maj=151.3km s-min=42.7km az=10.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.94**	**324**	P	P	19 33 01.9	+0.9
	0.7nm,0.6s,baz=149,slow=11,SNR=4.1						
SONM	**Songino Array**	**39.74**	**321**	P	P	19 35 50.3	-0.5
	0.5nm,0.5s,baz=136,slow=7.4,SNR=5.7						
ZALV	**Zalesovo Beam**	**54.62**	**322**	P	P	19 37 45.9	-0.9
	0.6nm,0.6s,baz=83,slow=4.6,SNR=3.3						
MKAR	**Makanchi Array**	**55.05**	**313**	P	P	19 37 51.0	+0.9
	0.2nm,0.5s,baz=84,slow=12,SNR=3.2						
YKA	**Yellowknife Ar**	**76.94**	**28**	P	P	19 40 10.9	+0.2
	0.3nm,0.4s,baz=291,slow=5.9,SNR=3.6						

IDC 10 19:28:42.9±5.7, 2094N×14317E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.7/18, mbtmp3.7/5, Error ellipse: s-maj=154.4km s-min=43.1km az=11.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.12**	**324**	P	P	19 33 30.1	+0.9
	1.4nm,0.6s,baz=145,slow=8.7,SNR=7.3						
SONM	**Songino Array**	**39.91**	**321**	P	P	19 36 18.0	-0.7
	0.7nm,0.5s,baz=129,slow=6.9,SNR=6.7						
ZALV	**Zalesovo Beam**	**54.80**	**322**	P	P	19 38 14.0	-0.5
	1.3nm,0.8s,baz=103,slow=6.4,SNR=4.7						
MKAR	**Makanchi Array**	**55.20**	**313**	P	P	19 38 18.2	+0.7
	0.5nm,0.6s,baz=89,slow=9.8,SNR=5.6						
YKA	**Yellowknife Ar**	**77.13**	**28**	P	P	19 40 38.2	+0.1
	0.4nm,0.6s,baz=294,slow=5.8,SNR=3.9						

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*IDC **10** 19:28:57.4±0.7, 553S×13380E, h0km, mb4.4/10, mb1 4.4/11, mb1mx4.4/14, mbtmp4.4/11, ML5.0/2, MS4.1/1, Ms1 4.1/1, ms1mx3.2/26, Error ellipse: s-maj=30.9km s-min=14.4km az=70.0*

*ISCJB **10** 19:29:00.4±0.4, 579S±003×13380E±006, h34km, mb4.7/34, MS4.3/5, Error ellipse: s-maj=9.1km s-min=4.5km az=170.8*

*BJI **10** 19:29:01.8, 536S×13363E, h21km, mB5.0, mb4.7, Ms4.7, Msz4.5*

*NEIC **10** 19:29:02.8±0.3, 557S×13383E, mb4.5/11, Error ellipse: s-maj=12.3km s-min=6.2km az=73.0*

ISC 10 19:29:02.5±0.4, 579S±003×13381E±006, h36km, h36km±1.1km: pP-P, n76, σ1°30/78, mb4.7/34, MS4.3/5, 5C-5D, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**		**5.97**	**290**	P	**Pn**	**19 30 26.9**	**-1.6**
	298nm,0.8s						
KAKA	**Kakadu**		**7.01**	**191**	*e*P	**Pn**	**19 30 44.9**	**+2.2**
	46nm,0.2s						
KAKA				*e*S	**Sn**	**19 32 02.9**	**+1.7**
BATI	**Kupang**		**10.96**	**246**	Pn	**Pn**	**19 31 37.2**	**+0.2**
	28nm,0.3s,baz=107,slow=3.4,SNR=83						
BATI				Sn	**Sn**	**19 33 36.5**	**-1.9**
	4.2nm,0.3s,baz=344,slow=22,SNR=2.9						
WRAB	**Tennant Creek**		**14.07**	**178**	*e*P	**Pn**	**19 32 16.6**	**-2.8**
	51nm,0.6s						
WRA	**Warramunga Arr**		**14.08**	**178**	Pn	**Pn**	**19 32 17.4**	**-2.1**
	4.8nm,0.3s,baz=4.8,slow=13,SNR=80						
WRA				Sn	**Sn**	**19 34 47.3**	**-7.2**
	2.9nm,0.3s,baz=2.6,slow=23,SNR=7.6						
WRA				Lg		19 36 30.1	
	1.3nm,0.3s,baz=12,slow=24,SNR=3.3						
WB2	**Warramunga Arr**		**14.08**	**178**	*e*P	**Pn**	**19 32 17.0**	**-2.5**
WB2				*e*S	**Sn**	**19 34 47.0**	**-7.5**
FITZ	**Fitzroy Crossi**		**14.61**	**212**	*e*P	**Pn**	**19 32 24.6**	**-2.2**
	33nm,0.5s						
FITZ				*e*S	**Sn**	**19 34 59.6**	**-7.9**
FITZ	**Fitzroy Crossi**		**14.61**	**212**	Pn	**Pn**	**19 32 25.7**	**-1.0**
	5.2nm,0.3s,baz=33,slow=12,SNR=64						
FITZ				Sn	**Sn**	**19 35 01.2**	**-6.3**
	5.9nm,0.3s,baz=193,slow=15,SNR=10						
PCI	**Palu**		**14.77**	**289**	P	**Pn**	**19 32 29.2**	**+0.2**
	38nm,1.1s						
ASAR	**Alice Springs**		**17.77**	**180**	P	**Pn**	**19 33 06.7**	**-0.5**
	4.0nm,0.3s,baz=356,slow=15,SNR=132						
ASAR				S	**S**	**19 36 20.8**	**-10**
	1.3nm,0.3s,baz=1.4,slow=26,SNR=8.3						
ASAR				Lg		19 38 26.7	
	baz=357,slow=29,SNR=2.4						
CTA	**Charters Tower**		**18.66**	**141**	*e*P	**Pn**	**19 33 21.1**	**+3.0**

5.8nm,0.4s
CTA Charters Tower 18.66 141 P Pn 19 33 19.4 +1.4
1.4nm,0.3s,baz=329,slow=12,SNR=19
CTA Lg 19 38 53.9
0.9nm,0.3s,baz=64,slow=22,SNR=5.8
CTAO Charters Tower 18.66 141 *eP* **Pn 19 33 19.6 +1.5**
MYLDM Lahad Datu 18.77 305 ⇓P **Pn 19 33 21.3 +1.9**
KMMI Kalianget 19.76 265 P **Pn 19 33 32.2 +0.9**
213nm,1.1s
SDKM Sandakan 20.10 304 ⇑P **P 19 33 37.3 +4.0**
MBWA Marble Bar 20.48 220 *eP* **P 19 33 39.8 +2.4**
KDM Kudat 21.13 306 ⇓P **P 19 33 51.5 +7.0**
KKM Kota Kinabalu 21.14 304 ⇓P **P 19 33 44.6 +0.1**
BTM Bintulu 22.54 293 ⇑P **P 19 34 01.6 +2.0**
SBUM Sibu 23.06 290 ⇑P **P 19 34 06.4 +1.3**
KSM Kuching 24.55 286 *eP* **P 19 34 19.7 +0.5**
KSM Kuching 24.55 286 ⇑P **P 19 34 20.0 +0.8**
FORT Forrest 25.44 192 *eP* **P 19 34 29.2 +2.2**
82nm,0.6s,mb5.4
STKA Stephens Creek 26.95 165 *eP* **P 19 34 42.1 +1.4**
5.1nm,0.7s,mb4.2
STKA Stephens Creek 26.95 165 P **P 19 34 42.4 +1.6**
6.3nm,0.7s,mb4.2,baz=343,slow=9.1,SNR=12
FRIM Kepong 33.37 285 ⇓P **P 19 35 39.0 +1.2**
CBIJ Chichi jima 33.68 14 LR LR 19 46 25.7
comp=Z,343nm,21.4s,MS4.0,baz=351,slow=31
PPI Padang Panjang 33.77 278 P **P 19 35 40.5 -0.7**
26nm,0.9s,mb5.2
IPM Ipoh 34.29 287 ⇑P **P 19 35 45.4 -0.3**
KULM Kulim 34.89 288 ⇓P **P 19 35 48.5 -2.4**
PSI Prapat 35.87 283 P **P 19 35 58.2 -1.2**
6.0nm,0.5s,mb4.8,baz=108,slow=5.9,SNR=5.4
JNU Nakatsue 38.80 356 P **P 19 36 22.0 -1.9**
9.6nm,1.0s,mb4.5,baz=176,slow=22,SNR=4.6
NJ2 Nanjing 40.24 340 *eP* **P 19 36 36.0 +0.1**
NJ2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
KMI Kunming 43.09 317 P **P 19 36 59.5 +0.1**
KMI AMB AMB
comp=Z,7.0nm,0.5s,mb4.7
KSRS Korea Array 43.37 353 P **P 19 36 58.6 -2.8**
comp=Z,2.2nm,0.8s,mb3.9,baz=176,slow=10,SNR=11
XAN Xi'an 46.08 331 P **P 19 37 21.7 -1.4**
XAN AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
CD2 Chengdu 46.45 324 *eP* **P 19 37 27.7 +1.6**
CD2 AP pP 19 37 37.6 +0.9
CD2 XP sP 19 37 41.8 +0.8
CD2 PP PP 19 39 17.0 +1.3
CD2 S **S 19 44 13.2 +1.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,120nm,12.4s
CD2 LR LR
comp=Z,110nm,11.2s,MS4.1
LZH Lanzhou 50.25 328 *eP* **P 19 37 56.0 +0.7**
LZH AP pP 19 38 05.9 -0.1
LZH XP sP 19 38 10.2 -0.1
LZH PP PP 19 39 52.5 +1.5
LZH AMB AMB
comp=Z,18nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,115nm,6.5s
LZH LR LR
comp=N,413nm,16.3s
LZH LR LR
comp=Z,674nm,18.3s,MS4.7
MDJ Mudanjiang 50.32 356 P **P 19 37 57.1 +1.5**
MDJ AP pP 19 38 05.6 -0.7
MDJ XP sP 19 38 10.0 -0.6
MDJ AMB AMB
comp=Z,3.0nm,0.8s,mb4.4
MDJ AMB AMB
comp=Z,57nm,5.7s
MDJ Mudanjiang 50.32 356 *eP* pP 19 38 05.4 -0.9
HHC Hu-ho-hao-te 50.71 338 *eP* **P 19 38 00.1 +1.5**
HHC AP pP 19 38 10.7 +1.4
HHC PCP PcP 19 39 16.9 +1.4
HHC PP PP 19 39 57.9 +2.9
HHC S **S 19 45 12.2 +0.8**
HHC XS sS 19 45 26.8 -2.3
HHC SCS ScS 19 47 45.9 -0.8
HHC SS SS 19 48 44.0 -2.4
HHC AMB AMB
comp=Z,18nm,1.1s,mb4.9
HHC AMB AMB
comp=Z,351nm,7.4s
HHC LR LR
comp=N,214nm,15.3s,MS4.5
HHC LR LR
comp=E,335nm,14.9s,MS4.5
HHC LR LR
comp=Z,253nm,13.6s,MS4.4
LSA Lhasa 54.04 313 P **P 19 38 24.6 +1.0**
LSA Lhasa 54.04 313 *eP* **P 19 38 24.4 +0.8**
comp=Z,3.8nm,0.6s,mb4.5
GTA Gaotai 54.85 328 P **P 19 38 29.7 +0.4**
GTA AP pP 19 38 40.6 +0.5
GTA XP sP 19 38 44.1 -0.2
GTA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
JIRN Jiri 56.73 308 *eP* **P 19 38 42.3 -0.7**
comp=Z,7.0nm,0.5s,mb4.9
GUN Gumba 57.09 309 *eP* **P 19 38 45.6 0.0**
KKN Kakani 57.50 308 *eP* **P 19 38 48.2 -0.3**
comp=Z,14nm,0.9s,mb5.0
DMN Daman 57.55 308 *eP* **P 19 38 48.9 +0.1**
comp=Z,8.9nm,0.7s,mb4.9
GKN Gorkha 58.10 308 *eP* **P 19 38 52.6 -0.1**
comp=Z,16nm,0.8s,mb5.1
SONM Songino Array 58.60 339 P **P 19 38 55.0 -0.7**
comp=Z,0.6nm,0.8s,mb3.7,baz=151,slow=6.4,SNR=3.5
SONM PcP PcP 19 39 45.7 0.0
comp=Z,0.6nm,0.9s,baz=156,slow=1.4,SNR=2.8
KOLN Koldanda 58.82 307 *eP* **P 19 38 57.6 -0.1**
comp=Z,18nm,0.9s,mb5.1
DANN Dangsing 58.95 308 *eP* **P 19 38 57.7 -0.9**
WMQ Urumqi 64.53 325 P **P 19 39 37.0 +1.2**
WMQ AP pP 19 39 47.0 +0.2
WMQ XP sP 19 39 51.0 0.0
WMQ PP PP 19 42 01.0 +2.8
WMQ S **S 19 48 12.0 -0.6**
WMQ SS SS 19 52 23.0 -0.7
WMQ AMB AMB
comp=Z,28nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,75nm,6.0s
WMQ LR LR
comp=N,87nm,15.0s,MS4.2
WMQ LR LR
comp=E,78nm,15.0s,MS4.2
WMQ LR LR
comp=Z,56nm,14.0s,MS3.9
YAK Yakutsk 67.70 358 *eP* **P 19 39 54.1 -1.7**
comp=Z,16nm,0.8s,mb5.1
MK31 Makanchi Array 69.36 325 *eP* **P 19 40 06.6 +0.1**
MK31 *epP* pP 19 40 16.9 -0.7
MKAR Makanchi Array 69.36 325 P **P 19 40 06.5 0.0**
comp=Z,6.7nm,0.7s,mb4.7,baz=119,slow=7.9,SNR=56
TKM2 Tokmak 2 71.52 319 *eP* **P 19 40 19.9 +0.1**
comp=Z,3.6nm,0.8s,mb4.3
ZAA0 Zalesovo Array 72.24 332 *eP* **P 19 40 22.7 -1.2**
ZAA0 *epP* pP 19 40 33.4 -1.6
ZALV Zalesovo Beam 72.24 332 P **P 19 40 22.4 -1.5**
comp=Z,3.7nm,0.8s,mb4.3,baz=101,slow=4.0,SNR=9.7
AML Almayashu 72.44 317 *eP* **P 19 40 26.0 +0.7**
comp=Z,6.6nm,1.3s,mb4.4
AML *epP* pP 19 40 37.5 +1.1
EKS2 Erkin-Say 72.61 318 *eP* **P 19 40 27.1 +0.8**
comp=Z,2.9nm,0.9s,mb4.2
EKS2 *epP* pP 19 40 38.2 +0.8
VNDA Vanda 73.21 174 P **P 19 40 31.1 +1.8**
comp=Z,3.6nm,0.8s,mb4.4,baz=321,slow=6.0,SNR=23
KURK Kurchatov 73.52 327 *eP* **P 19 40 30.9 -0.6**
comp=Z,4.8nm,0.8s,mb4.5
KURK *epP* pP 19 40 42.0 -0.7
MAW Mawson 77.46 202 P **P 19 40 56.7 +2.8**
comp=Z,4.7nm,1.1s,mb4.3,baz=22,slow=7.8,SNR=3.6
BRVK Borovoye 79.17 327 *eP* **P 19 41 02.4 -1.2**
comp=Z,8.5nm,0.8s,mb4.7
BRVK *epP* pP 19 41 14.3 -0.5
QSPA South Pole Qui 84.18 180 *eP* **P 19 41 31.4 +1.9**
comp=Z,3.8nm,0.6s,mb4.7
QSPA *epP* pP 19 41 40.3 -0.5
AKTK Aktyubinsk 85.46 322 P **P 19 41 35.8 -0.7**
AKTO Aktyubinsk 85.46 322 P **P 19 41 35.8 -0.7**
comp=Z,2.7nm,0.8s,mb4.4,baz=109,slow=7.3,SNR=4.3
SLKM Skilak Lake 88.15 29 *eP* **P 19 41 48.6 -0.8**
TORD Torodi Ar. Bea 132.27 282 PKP PKPdf 19 48 12.2 -1.6
comp=Z,0.8nm,0.8s,baz=39,slow=2.3,SNR=4.2
BINY Binghamton 135.13 32 *ePKPdf* PKPdf 19 48 16.9 -1.5
CPUP Villa Florida 146.29 162 *ePKPbc* PKPbc 19 48 41.6 +1.5
CPUP Villa Florida 146.29 162 PKPbc PKPbc 19 48 41.1 +1.0
comp=Z,1.7nm,0.5s,baz=205,slow=2.6,SNR=8.9
LPAZ La Paz 149.14 136 *ePKPdf* PKPbc 19 48 50.8 +2.7
LPAZ La Paz 149.14 136 PKPbc PKPbc 19 48 50.7 +2.6
comp=Z,0.9nm,0.4s,baz=338,slow=1.6,SNR=6.9

IDC 10 19:29:33.6±5.5, 2081N×14308E, h0km, mb3.8/5, mb1 4.0/5, mb1mx3.8/18, mbtmp3.9/5, Error ellipse: s-maj=147.9km s-min=43.4km az=11.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.18**	**325**	P	P	19 34 21.4	+0.8
	2.0nm,0.6s,baz=141,slow=9.9,SNR=11						
SONM	**Songino Array**	**39.97**	**321**	P	P	19 37 09.4	-0.4
	0.9nm,0.5s,baz=124,slow=6.6,SNR=9.7						
ZALV	**Zalesovo Beam**	**54.85**	**322**	P	P	19 39 04.8	-0.8
	1.3nm,0.6s,baz=105,slow=6.5,SNR=6.1						
MKAR	**Makanchi Array**	**55.23**	**313**	P	P	19 39 09.1	+0.6
	0.7nm,0.7s,baz=106,slow=9.0,SNR=6.2						
YKA	**Yellowknife Ar**	**77.28**	**28**	P	P	19 41 29.8	+0.2
	0.7nm,0.5s,baz=292,slow=5.8,SNR=7.0						

PGC 10 19:33:40.7±0.3, 4755N×12873W, h10km, ML2.9/11, Mw3.5, 273km Wsw of Tofino, Bc Off Coast Of Washington, Off coast of Washington

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ETB	**Estevan Point**	**2.34**	**38**	Pn	Pn	19 34 18.1	-1.1
ETB				Sn	Sn	19 34 45.0	-2.8
EDB	**Eliza Dome**	**2.56**	**24**	Pn	Pn	19 34 20.3	-1.8
OZB	**Mount Ozzard**	**2.58**	**56**	Pn	Pn	19 34 20.9	-1.6
OZB				Sn	Sn	19 34 50.3	-3.6
BPBC	**Brooks Peninsu**	**2.68**	**13**	Pn	Pn	19 34 21.9	-2.0
BMSB	**Bamfield Mari**	**2.73**	**61**	Pn	Pn	19 34 22.8	-1.6
GDR	**Gold River**	**2.86**	**38**	Pn	Pn	19 34 25.3	-1.0
GDR				Sn	Sn	19 34 56.5	-4.2
BTB	**Buttle Lake**	**2.87**	**47**	Pn	Pn	19 34 25.2	-1.2
BTB				Sn	Sn	19 34 56.9	-4.0
WOSB	**Woss**	**2.98**	**28**	Pn	Pn	19 34 27.2	-0.7
WOSB				Sn	Sn	19 34 59.5	-4.1
MAYB	**Maynard**	**3.03**	**19**	Pn	Pn	19 34 27.4	-1.2
MAYB				Sn	Sn	19 35 02.1	-2.9
PFB	**Port Renfrew**	**3.05**	**69**	Pn	Pn	19 34 27.2	-1.7
PFB				Sn	Sn	19 35 02.0	-3.5
BBB	**Bella Bella**	**4.66**	**5**	Pn	Pn	19 34 50.2	-0.8
BBB				Sn	Sn	19 35 42.4	-2.6

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*ISK **10** 19:38:51.9, 3555N×2754E, h4km, MD3.3*
*ATH **10** 19:38:53.8, 3551N×2766E, h27km±4km, MD3.4/3*
*ISCJB **10** 19:38:54.8±1.5, 355N±0.1×2762E±0.10, h27km±8km, Error ellipse: s-maj=20.6km s-min=8.2km az=147.4*
*CSEM **10** 19:38:55.4±0.4, 3559N×2763E, h28km±1km, MD3.3, Error ellipse: s-maj=11.6km s-min=4.7km az=148.0*

ISC 10 19:38:55.1±1.5, 355N±01×2762E±010, h24km±9km, n9, σ0°90/13, 1C-2D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.38**	**273⇑**	*e*PB	**Pb**	**19 39 02.2**	**-0.9**
KARP				*e*SB	**Sb**	**19 39 09.7**	**+1.1**
ARG	**Arkhangelos**	**0.80**	**31⇓**	*e*PN	**Pb**	**19 39 09.6**	**-0.8**
ARG				*e*SN	**Sb**	**19 39 21.4**	**+0.6**
DAT	**Datca**	**1.20**	**358**	*e*PN	**Pn**	**19 39 15.2**	**-1.2**
DAT				*e*SN	**Sn**	**19 39 31.6**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.49**	**33**	*e*PN	**Pn**	**19 39 19.7**	**-0.6**
DALT				*e*SN	**Sn**	**19 39 41.7**	**+2.6**
BODT	**Bodrum**	**1.55**	**351**	*e*PN	**Pn**	**19 39 20.8**	**-0.4**
FETY	**Fethiye**	**1.62**	**47**	*e*PN	**Pn**	**19 39 22.5**	**+0.3**
NPS	**Neapolis**	**1.66**	**261⇓**	*e*PN	**Pn**	**19 39 23.5**	**+0.8**
YER	**Yerkesik**	**1.69**	**18**	*e*PN	**Pn**	**19 39 23.5**	**+0.3**
MLSB	**Milas**	**1.77**	**4**	*e*PN	**Pn**	**19 39 23.8**	**-0.5**

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*ISCJB **10** 19:51:20.9±3.0, 0.1S±02×1228E±02, h210km±31km, mb3.4/6, Error ellipse: s-maj=47.4km s-min=12.8km az=141.8*
*IDC **10** 19:51:20.2±2.8, 002S×12289E, h187km±25km, mb3.2/6, mb1 3.4/8, mb1mx3.3/18, mbtmp3.3/8, Error ellipse: s-maj=51.8km s-min=14.0km az=64.0*
*NEIC **10** 19:51:21.8±2.5, 0.11S×12278E, h202km±25km, mb4.5/1, Error ellipse: s-maj=33.9km s-min=8.1km az=54.0*

ISC 10 19:51:21.3±3.1, 01S±02×1229E±02, h195km±32km, n17, σ0°70/16, mb3.4/6, 1D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.82**	**212**	P	**Pn**	**19 52 45.3**	**-0.8**
	1.2nm,0.3s,baz=20,slow=6.5,SNR=12						
BATI	**Kupang**	**10.12**	**175**	P	**Pn**	**19 53 43.2**	**+1.1**
	2.5nm,0.3s,baz=347,slow=0.8,SNR=18						
KAKA	**Kakadu**	**15.76**	**143**	*e*P	**Pn**	**19 54 52.7**	**-0.4**
FITZ	**Fitzroy Crossi**	**18.14**	**171⇓**	*i*P	**P**	**19 55 19.2**	**+0.2**
	10nm,0.5s						
WRAB	**Tennant Creek**	**22.74**	**151**	*e*P	**P**	**19 56 06.9**	**+0.1**
WRA	**Warramunga Arr**	**22.74**	**151**	P	**P**	**19 56 06.5**	**-0.3**
	0.9nm,0.5s,mb3.6,baz=333,slow=8.2,SNR=13						
WB2	**Warramunga Arr**	**22.75**	**151**	*e*P	**P**	**19 56 07.6**	**+0.8**
ASAR	**Alice Springs**	**25.80**	**156**	P	**P**	**19 56 34.0**	**-0.5**
	0.5nm,0.6s,mb3.3,baz=344,slow=14,SNR=9.1						
ASAR				PcP	PcP	19 59 58.6	-0.3
	0.4nm,0.6s,baz=333,slow=1.6,SNR=7.9						
ASAR				ScP	ScP	20 03 21.9	+1.8
	0.8nm,0.7s,baz=356,slow=3.1,SNR=4.6						
STKA	**Stephens Creek**	**36.27**	**152**	P	**P**	**19 58 05.7**	**-0.4**
	0.7nm,0.4s,mb3.5,baz=335,slow=19,SNR=3.0						
LSA	**Lhasa**	**42.29**	**317**	*e*P	**P**	**19 58 57.5**	**+1.6**
SONM	**Songino Array**	**49.80**	**346**	P	**P**	**19 59 54.6**	**+0.5**
	0.9nm,0.8s,mb3.1,baz=166,slow=8.9,SNR=4.3						
MKAR	**Makanchi Array**	**58.58**	**328**	P	**P**	**20 00 57.5**	**-0.1**
MKAR				PcP	PcP	20 01 44.6	-1.0
MKAR	**Makanchi Array**	**58.58**	**328**	P	**P**	**20 00 57.5**	**-0.1**
	0.5nm,0.4s,mb3.5,baz=128,slow=8.4,SNR=9.2						
MKAR				PcP	PcP	20 01 44.6	-1.0
	0.2nm,0.5s,baz=128,slow=6.3,SNR=3.3						
KBL	**Kabul**	**60.87**	**310**	*e*P	**P**	**20 01 13.4**	**0.0**
ZALV	**Zalesovo Beam**	**62.30**	**336**	P	**P**	**20 01 21.6**	**-1.0**
	0.2nm,0.3s,mb3.2,baz=114,slow=7.1,SNR=2.5						
KURK	**Kurchatov**	**62.95**	**330**	*e*P	**P**	**20 01 26.2**	**-0.7**
TORD	**Torodi Ar. Bea**	**120.28**	**285**	PKP	PKPdf	20 09 49.1	-1.1
	0.4nm,0.6s,baz=79,slow=1.2,SNR=5.1						

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*ISCJB **10** 19:55:49.3±0.6, 7.14S±008×156.17E±0.10, h59km, mb4.4/14, MS3.3/4, Error ellipse: s-maj=13.7km s-min=12.0km az=169.6*
*NEIC **10** 19:55:50.5±0.6, 7.14S×156.17E, mb4.5/4, Error ellipse: s-maj=13.5km s-min=13.0km az=115.0*
*IDC **10** 19:55:50.1±0.8, 7.10S×156.18E, h58km±5km, mb4.0/9, mb1 4.1/11, mb1mx4.0/16, mbtmp4.0/11, MS3.3/6, Ms1 3.3/6, ms1mx3.2/23, Error ellipse: s-maj=23.2km s-min=15.9km az=107.0*

ISC 10 19:55:51.1±0.6, 716S±008×15616E±010, h61km, h61km±1.0km: pP-P, n34, σ0°71/27, mb4.4/14, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.37**	**121**	P	**Pn**	**19 56 55.6**	**+0.6**
	7.2nm,0.3s,baz=263,slow=4.4,SNR=4.5						
HNR				LR	LR	19 58 35.7	
	comp=Z,195nm,19.0s,baz=183,slow=38						
CTA	**Charters Tower**	**16.04**	**216**	P	**Pn**	**19 59 33.3**	**+0.4**
	0.2nm,0.3s,baz=36,slow=19,SNR=2.1						
CTA				LR	LR	20 04 06.9	
	comp=Z,99nm,21.4s,baz=165,slow=31						
GUMO Guam		**23.47**	**331**	LR	LR	20 08 56.6	
	comp=Z,68nm,19.0s,baz=102,slow=34						
KAKA Kakadu		**24.00**	**255**	*e*P	**P**	**20 01 00.1**	**-0.2**
	20nm,0.4s,mb4.9						
WRAB Tennant Creek		**24.67**	**237**	*e*P	**P**	**20 01 06.5**	**+0.1**
	10nm,0.8s,mb4.4						
WRAB				*e*		20 01 23.4	
WB2 Warramunga Arr		**24.68**	**237**	*e*P	**P**	**20 01 07.0**	**+0.6**
WRA Warramunga Arr		**24.68**	**237**	P	**P**	**20 01 07.2**	**+0.7**
	6.1nm,0.4s,mb4.4,baz=61,slow=9.8,SNR=100						
WRA				pP		20 01 20.6	
	6.8nm,0.7s,baz=61,slow=9.4,SNR=12						
WRA				PcP	PcP	20 04 42.3	-0.3
	1.2nm,0.8s,baz=62,slow=1.8,SNR=6.0						
WRA				pPcP		20 04 59.3	
	0.8nm,0.6s,baz=60,slow=2.8,SNR=8.4						
ASAR Alice Springs		**26.94**	**230**	P	**P**	**20 01 26.8**	**-0.2**
	2.2nm,0.6s,mb3.8,baz=57,slow=10,SNR=53						
ASAR				pP	pP	20 01 42.0	+0.1
	2.0nm,0.5s,baz=59,slow=9.6,SNR=8.3						
ASAR				PcP	PcP	20 04 47.7	0.0
	0.5nm,0.6s,baz=50,slow=2.4,SNR=4.7						
ASAR				pPcP		20 05 04.7	
	0.7nm,0.6s,baz=68,slow=2.5,SNR=6.7						
STKA Stephens Creek		**28.09**	**207**	*e*P	**P**	**20 01 34.3**	**-2.8**
	2.1nm,0.9s,mb3.8						
STKA Stephens Creek		**28.09**	**207**	P	**P**	**20 01 37.2**	**+0.1**
	2.3nm,0.8s,mb3.9,baz=356,slow=12,SNR=4.3						
STKA				LR	LR	20 12 35.1	
	comp=Z,75nm,18.8s,baz=25,slow=36						
FITZ Fitzroy Crossi		**31.65**	**247**	*e*P	**P**	**20 02 09.0**	**+0.2**
	5.8nm,0.6s,mb4.6						
FITZ Fitzroy Crossi		**31.65**	**247**	P	**P**	**20 02 07.5**	**-1.3**
	3.0nm,0.8s,mb4.2,baz=85,slow=10,SNR=8.5						
FITZ				pP	pP	20 02 22.3	-1.6
	2.7nm,0.6s,baz=72,slow=8.9,SNR=4.3						
KSRS Korea Array		**51.63**	**331**	LR	LR	20 24 34.5	
	comp=Z,17nm,18.4s,baz=230,slow=33						
SONM Songino Array		**70.10**	**327**	P	**P**	**20 06 57.2**	**+0.4**
	0.4nm,0.5s,mb3.6,baz=131,slow=5.6,SNR=5.0						
SONM				pP	pP	20 07 12.8	-0.7
	1.5nm,0.7s,baz=137,slow=6.2,SNR=6.8						
VNDA Vanda		**70.39**	**179**	P	**P**	**20 06 57.5**	**-0.6**
	0.9nm,0.8s,mb3.8,baz=354,slow=6.0,SNR=6.1						
LSA Lhasa		**72.32**	**304**	*e*P	**P**	**20 07 12.2**	**+1.6**
JIRN Jiri		**75.86**	**301**	*e*P	**P**	**20 07 31.9**	**+0.6**
GUN Gumba		**76.19**	**301**	*e*P	**P**	**20 07 33.5**	**+0.3**
KKN Kakani		**76.67**	**301**	*e*P	**P**	**20 07 35.7**	**-0.2**
	2.4nm,0.3s,mb4.6						
DMN Daman		**76.77**	**300**	*e*P	**P**	**20 07 37.1**	**+0.6**
GKN Gorkha		**77.28**	**301**	*e*P	**P**	**20 07 39.1**	**-0.2**
	9.7nm,0.7s,mb4.8						
KOLN Koldanda		**78.11**	**300**	*e*P	**P**	**20 07 43.3**	**-0.6**
	7.7nm,0.7s,mb4.7						
DANN Dangsing		**78.12**	**301**	*e*P	**P**	**20 07 43.7**	**-0.3**
MK31 Makanchi Array		**84.29**	**318**	*e*P	**P**	**20 08 16.5**	**+0.1**
MK31				*e*	pP	20 08 34.0	+0.5
MKAR Makanchi Array		**84.29**	**318**	P	**P**	**20 08 16.1**	**-0.3**
	3.5nm,0.7s,mb4.6,baz=101,slow=6.3,SNR=17						
MKAR				pP	pP	20 08 32.6	-0.9
	2.5nm,0.6s,baz=89,slow=8.6,SNR=9.4						
MAW Mawson		**84.69**	**203**	*e*P	**P**	**20 08 17.7**	**-0.3**
MAW Mawson		**84.69**	**203**	P	**P**	**20 08 17.2**	**-0.7**
	5.1nm,0.7s,mb4.8,baz=97,slow=7.0,SNR=9.8						
ZALV Zalesovo Beam		**84.97**	**326**	P	**P**	**20 08 17.9**	**-1.6**
ZALV				pP	pP	20 08 34.7	-2.1
ZALV Zalesovo Beam		**84.97**	**326**	P	**P**	**20 08 17.9**	**-1.6**
	1.1nm,0.4s,mb4.4,baz=112,slow=5.5,SNR=6.8						
ZALV				pP	pP	20 08 34.7	-2.1
	1.5nm,0.5s,baz=111,slow=5.9,SNR=4.8						
YBH Yreka Blue Hor		**88.14**	**48**	LR	LR	20 39 25.9	
	comp=Z,42nm,21.3s,baz=96,slow=30						
AKASG Malin Array Be		**118.34**	**325**	PKP	PKPdf	20 14 29.6	-2.0
	0.2nm,0.3s,baz=74,slow=1.3,SNR=3.5						
GERES GERESS Array B		**127.79**	**329**	PKP	PKPdf	20 14 49.6	-0.2
	0.3nm,0.6s,baz=112,slow=1.4,SNR=4.0						
BDFB Brasilia		**147.03**	**134**	PKPbc	PKPbc	20 15 26.7	-1.3
	3.3nm,0.9s,baz=196,slow=15,SNR=5.3						
TORD Torodi Ar. Bea		**154.19**	**285**	PKPbc	PKPbc	20 15 43.8	-1.4
	1.1nm,0.8s,baz=73,slow=2.7,SNR=7.2						
TORD				pPKPbc	pPKPbc	20 16 00.9	-2.2
	0.8nm,0.7s,baz=78,slow=2.7,SNR=3.9						

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*IDC **10** 20:13:46.6±3.0, 3040S×17938W, h299km±26km, mb3.2/4, mb1 3.6/5, mb1mx3.3/14, mbtmp3.4/5, Error ellipse: s-maj=27.9km s-min=23.1km az=41.0*
*ISCJB **10** 20:13:48.9±1.1, 31.1S±0.1×1792W±02, h365km±15km, mb3.4/5, Error ellipse: s-maj=30.3km s-min=13.0km az=23.4*
*NEIC **10** 20:14:01.4±3.1, 3161S×17928E, h368km±20km, mb4.2/1, Error ellipse: s-maj=48.0km s-min=23.5km az=53.0*

ISC 10 20:13:52.0±1.1, 3129S±010×1792W±02, h383km±13km, n53, σ1°28/62, mb3.5/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**6.60**	**198**	P	**Pn**	**20 15 33.5**	**+3.0**
MXZ				S	**S**	**20 16 50.2**	**-0.6**
MXZ	**Matakaoa Point**	**6.60**	**198**	*e*PN	**Pn**	**20 15 32.3**	**+1.9**
MXZ				SN	**S**	**20 16 50.2**	**-0.6**
PUZ	**Puketiti**	**7.09**	**197**	P	**Pn**	**20 15 39.5**	**+3.5**
PUZ				S	**S**	**20 16 59.7**	**-1.3**
PUZ	**Puketiti**	**7.09**	**197**	*e*PN	**Pn**	**20 15 39.2**	**+3.2**
PUZ				SN	**S**	**20 16 59.7**	**-1.4**
MWZ	**Matawai**	**7.54**	**200**	P	**Pn**	**20 15 41.2**	**+0.1**
MWZ				S	**S**	**20 17 11.5**	**+1.1**
MWZ	**Matawai**	**7.54**	**200**	*e*PN	**Pn**	**20 15 40.9**	**-0.3**
MWZ				SN	**S**	**20 17 11.5**	**+1.1**
URZ	**Urewera**	**7.60**	**203**	P	**Pn**	**20 15 42.7**	**+0.8**
URZ	**Urewera**	**7.60**	**203**	P	**Pn**	**20 15 42.7**	**+0.8**
	11nm,0.3s,baz=287,slow=2.2,SNR=36						
URZ				S	**S**	**20 17 13.5**	**+1.8**
	8.8nm,0.3s,baz=262,slow=22,SNR=20						
URZ	**Urewera**	**7.60**	**203**	PN	**Pn**	**20 15 42.5**	**+0.7**
URZ				SN	**S**	**20 17 12.2**	**+0.5**
KNZ	**Kokohu**	**8.14**	**198**	P	**Pn**	**20 15 50.5**	**+2.5**
KNZ				S	**S**	**20 17 25.3**	**+2.2**
KNZ	**Kokohu**	**8.14**	**198**	*e*PN	**Pn**	**20 15 50.4**	**+2.4**
KNZ				SN	**S**	**20 17 25.3**	**+2.2**
BKZ	**Black Stump Fm**	**8.63**	**203**	P	**Pn**	**20 15 52.6**	**-1.1**
BKZ				S	**S**	**20 17 33.2**	**-0.3**
BKZ	**Black Stump Fm**	**8.63**	**203**	*e*PN	**Pn**	**20 15 53.7**	**-0.1**
BKZ				SN	**S**	**20 17 33.2**	**-0.3**
FWVZ	**Far West T-bar**	**9.05**	**207**	P	**Pn**	**20 16 00.2**	**+1.6**
FWVZ	**Far West T-bar**	**9.05**	**207**	PN	**Pn**	**20 15 59.9**	**+1.3**
MOVZ	**Moawhango**	**9.10**	**206**	P	**Pn**	**20 15 59.4**	**+0.1**
MOVZ	**Moawhango**	**9.10**	**206**	*e*PN	**Pn**	**20 15 59.0**	**-0.2**
PXZ	**Pawanui**	**9.30**	**199**	*e*PN	**Pn**	**20 15 59.2**	**-2.4**
PXZ				SN	**S**	**20 17 46.7**	**-1.3**
TSZ	**Takapari Road**	**9.61**	**203**	P	**Pn**	**20 16 05.3**	**+0.1**
TSZ	**Takapari Road**	**9.61**	**203**	*e*PN	**Pn**	**20 16 02.4**	**-2.8**
WAZ	**Wanganui**	**9.70**	**208**	P	**Pn**	**20 16 07.2**	**+0.9**
WAZ	**Wanganui**	**9.70**	**208**	*e*PN	**Pn**	**20 16 07.8**	**+1.6**
BFZ	**Birch Farm**	**10.08**	**200**	P	**Pn**	**20 16 12.3**	**+1.6**
BFZ	**Birch Farm**	**10.08**	**200**	*e*PN	**Pn**	**20 16 12.3**	**+1.6**
KIW	**Kapiti Island**	**10.69**	**205**	P	**Pn**	**20 16 16.8**	**-1.0**
MTW	**

	1.0nm,1.0s,baz=111,slow=3.6,SNR=6.7						
QSPA	**South Pole Qui**	**58.82 180**	P	**P**	**20 23 20.6**	**+10**	
	3.5nm,0.6s,mb3.8,baz=72,slow=1.3,SNR=12						
NVAR	**Mina Array Bea**	**89.56 43**	P	**P**	**20 26 07.1**	**+0.3**	
	0.2nm,0.3s,mb3.4,baz=211,slow=5.2,SNR=4.2						
ARCES	**ARCESS Array B**	**139.24 347**	PKhKP		20 32 27.7		
	3.8nm,0.9s,baz=52,slow=5.0,SNR=3.8						
FINES	**FINESS Array B**	**145.63 339**	PKP	PKPdf	20 32 46.7	+2.3	
	14nm,0.8s,baz=51,slow=3.6,SNR=60						
NB2	**NORSAR Subarra**	**149.47 350**	PKP	PKPbc	20 32 57.5	+1.8	
	comp=Z,2.1nm,0.5s,baz=14,slow=2.5						
NOA	**NORSAR Array B**	**149.47 350**	PKPbc	PKPbc	20 32 57.7	+2.0	
	comp=Z,3.1nm,0.6s,baz=14,slow=4.1,SNR=15						
AKASG	**Malin Array Be**	**151.39 321**	PKPbc	PKPbc	20 33 02.5	+2.0	
	comp=Z,1.9nm,0.6s,baz=52,slow=2.7,SNR=14						

*IDC **10** 20:14:53.9±1.4, 1516S×17338W, h0km, mb4.0/6, mb1 4.2/6, mb1mx4.0/17, mbtmp4.0/6, Error ellipse: s-maj=44.4km s-min=29.7km az=164.0*
*NEIC **10** 20:14:54.9±0.6, 1505S×17334W, h10km, mb4.2/1, Error ellipse: s-maj=29.0km s-min=11.5km az=148.0*
*ISCJB **10** 20:14:56.1±0.7, 149S±02×1733W±02, h33km, mb4.0/7, Error ellipse: s-maj=35.9km s-min=9.0km az=146.9*

ISC 10 20:14:57.9±0.7, 149S±02×1733W±01, h35km, n10, σ1º02/11, mb4.0/7, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**1.73**	**57**	*e*P	**Pn**	**20 15 26.7**	**+1.1**
AFI				*e*S	**Sn**	**20 15 45.0**	**-1.5**
STKA	**Stephens Creek**	**44.41**	**240**	P	**P**	**20 23 04.2**	**-1.2**
STKA	**Stephens Creek**	**44.41**	**240**	P	**P**	**20 23 04.2**	**-1.2**
	2.6nm,0.9s,mb4.0,baz=72,slow=9.6,SNR=4.8						
WRAB	**Tennant Creek**	**50.08**	**256**	P	**P**	**20 23 50.0**	**+0.2**
	2.6nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**50.09**	**256**	P	**P**	**20 23 49.7**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=95,slow=8.0,SNR=6.6						
ASAR	**Alice Springs**	**50.40**	**251**	P	**P**	**20 23 52.0**	**-0.1**
	3.0nm,0.6s,mb4.5,baz=88,slow=8.0,SNR=20						
VNDA	**Vanda**	**63.91**	**186**	P	**P**	**20 25 26.9**	**+0.1**
	0.7nm,0.8s,mb3.8,baz=21,slow=8.6,SNR=3.4						
QSPA	**South Pole Qui**	**75.17**	**180**	P	**P**	**20 26 36.0**	**-0.2**
	2.8nm,0.9s,mb4.2,baz=50,slow=1.4,SNR=4.7						
TXAR	**Lajitas Array**	**80.22**	**56**	P	**P**	**20 27 08.1**	**+2.9**
TXAR	**Lajitas Array**	**80.22**	**56**	P	**P**	**20 27 08.1**	**+2.9**
	0.6nm,1.0s,mb3.5,baz=221,slow=8.0,SNR=4.4						

*ISCJB **10** 20:23:24.9±0.9, 117S±0.1×908W±02, h10km, mb4.0/12, MS3.6/2, Error ellipse: s-maj=28.9km s-min=11.6km az=143.6*
*IDC **10** 20:23:25.1±1.1, 1166S×9074W, h0km, mb4.1/10, mb1 4.3/10, mb1mx4.2/17, mbtmp4.1/10, MS3.6/3, Ms1 3.6/3, ms1mx3.1/22, Error ellipse: s-maj=35.1km s-min=17.8km az=51.0*
*NEIC **10** 20:23:26.8±0.6, 1169S×9070W, h10km, mb4.3/3, Error ellipse: s-maj=20.6km s-min=9.7km az=54.0*

ISC 10 20:23:27.1±0.8, 117S±01×907W±02, h10km, n18, σ0º86/15, mb4.0/12, MS3.6/2, Southeast of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	**Atahualpa**	**13.00**	**70**	LR	LR	20 30 21.9	
	comp=Z,266nm,21.5s,baz=231,slow=32						
LPAZ	**La Paz**	**22.37**	**104**	P	**P**	**20 28 26.2**	**+0.7**
	5.8nm,0.9s,mb4.0,baz=299,slow=10,SNR=21						
ROSC	**El Rosal**	**23.13**	**46**	P	**P**	**20 28 34.1**	**+0.4**
	6.7nm,0.3s,mb4.5,baz=261,slow=8.5,SNR=9.2						
SDV	**Santo Domingo**	**28.56**	**45**	LR	LR	20 39 00.6	
	comp=Z,110nm,21.6s,MS3.4,baz=170,slow=33						
SIV	**San Ignacio**	**29.07**	**102**	P	**P**	**20 29 28.3**	**+0.4**
	0.5nm,0.3s,mb3.7,baz=270,slow=14,SNR=4.1						
PLCA	**Paso Flores**	**33.94**	**152**	P	**P**	**20 30 10.8**	**+0.2**
	3.7nm,1.1s,mb4.2,baz=343,slow=11,SNR=3.8						
CPUP	**Villa Florida**	**34.62**	**120**	*e*P	**P**	**20 30 16.1**	**-0.5**
	28nm,1.4s,mb5.0						
CPUP	**Villa Florida**	**34.62**	**120**	P	**P**	**20 30 16.6**	**0.0**
	0.5nm,0.3s,mb3.9,baz=256,slow=9.2,SNR=4.8						
TRQA	**Tornquist**	**36.71**	**141**	P	**P**	**20 30 34.0**	**-0.5**
TXAR	**Lajitas Array**	**42.65**	**343**	P	**P**	**20 31 24.3**	**+0.4**
	1.0nm,1.1s,mb3.5,baz=156,slow=9.6,SNR=7.1						
JCT	**Junction City**	**42.82**	**348**	*e*P	**P**	**20 31 25.5**	**+0.2**
	3.2nm,0.6s,mb4.2						
TPNV	**Topopah Spring**	**54.01**	**335**	*e*P	**P**	**20 32 53.0**	**+1.5**
	0.8nm,0.6s,mb3.8						
NVAR	**Mina Array Bea**	**56.13**	**334**	P	**P**	**20 33 07.7**	**+0.8**
	0.3nm,0.4s,mb3.6,baz=160,slow=8.4,SNR=4.8						
ULM	**Lac du Bonnet**	**61.83**	**356**	P	**P**	**20 33 45.0**	**-1.2**
ULM	**Lac du Bonnet**	**61.83**	**356**	P	**P**	**20 33 45.0**	**-1.2**
	3.7nm,0.6s,mb4.7,baz=174,slow=6.4,SNR=4.5						
SCHQ	**Schefferville**	**69.25**	**14**	P	**P**	**20 34 32.1**	**-1.9**
	2.6nm,1.0s,mb4.1,baz=204,slow=12,SNR=4.0						
SCHQ				LR	LR	21 05 19.6	
	comp=Z,51nm,18.1s,MS3.8,baz=266,slow=36						
YKA	**Yellowknife Ar**	**76.25**	**349**	P	**P**	**20 35 14.6**	**-0.9**
	0.1nm,0.4s,mb3.1,baz=153,slow=5.2,SNR=6.9						
WRA	**Warramunga Arr**	**125.66**	**235**	PKP	PKPdf	20 42 28.7	-1.1
	1.4nm,1.2s,baz=134,slow=2.1,SNR=5.6						

*ISCJB **10** 20:54:17.2±0.5, 292S±006×1298E±0.1, h11km, mb4.3/10, Error ellipse: s-maj=15.8km s-min=6.0km az=156.8*
*IDC **10** 20:54:18.2±0.9, 287S×12966E, h0km, mb4.1/7, mb1 4.3/10, mb1mx4.2/18, mbtmp4.2/10, ML4.1/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/25, Error ellipse: s-maj=39.3km s-min=16.7km az=67.0*
*NEIC **10** 20:54:19.4±7.6, 292S×12972E, h11km±48km, mb4.0/4, Error ellipse: s-maj=24.7km s-min=9.3km az=48.0*

ISC 10 20:54:20.3±3.5, 292S±006×1297E±01, h16km±21km, n31, σ0º94/31, mb4.3/10, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**9.41**	**219**	Pn	**Pn**	**20 56 38.8**	**+3.5**
	2.1nm,0.3s,baz=55,slow=0.9,SNR=17						
BATI				LR	LR	21 00 21.3	
	comp=Z,391nm,20.9s,baz=246,slow=39						
KAKA	**Kakadu**	**10.09**	**165**	*e*P	**Pn**	**20 56 45.3**	**+0.7**
	7.1nm,0.3s						
KAKA				*e*S	**Sn**	**20 58 37.4**	**-0.2**
KAPI	**Kappang**	**10.16**	**258**	Pn	**Pn**	**20 56 46.9**	**+1.3**
KAPI	**Kappang**	**10.16**	**258**	Pn	**Pn**	**20 56 46.9**	**+1.3**
	1.0nm,0.3s,baz=111,slow=7.0,SNR=6.5						
FITZ	**Fitzroy Crossi**	**15.61**	**195**	*e*P	**Pn**	**20 58 00.2**	**+0.5**
	6.3nm,0.6s						
FITZ	**Fitzroy Crossi**	**15.61**	**195**	Pn	**Pn**	**20 58 00.5**	**+0.8**
	0.3nm,0.3s,baz=30,slow=16,SNR=8.5						
FITZ				LR	LR	21 03 43.2	
	comp=Z,64nm,20.5s,baz=358,slow=36						
WRAB	**Tennant Creek**	**17.50**	**165**	*e*P	**Pn**	**20 58 22.1**	**-1.7**
	8.9nm,0.6s						
WRA	**Warramunga Arr**	**17.51**	**165**	P	**Pn**	**20 58 23.1**	**-0.7**
	1.1nm,0.3s,baz=338,slow=13,SNR=30						
WB2	**Warramunga Arr**	**17.51**	**165**	*e*P	**Pn**	**20 58 23.1**	**-0.8**
KSM	**Kuching**	**19.89**	**282**	*e*P	**Pn**	**20 58 51.1**	**-1.8**
MBWA	**Marble Bar**	**20.57**	**207**	*e*P	**P**	**20 58 56.7**	**-1.8**
ASAR	**Alice Springs**	**21.02**	**169**	P	**P**	**20 59 04.6**	**+1.3**
	19nm,0.5s,mb4.7,baz=346,slow=10,SNR=312						
ASAR				S	**S**	**21 02 57.1**	**+0.2**
	1.4nm,0.8s,baz=346,slow=19,SNR=4.7						
ASAR				PcP	PcP	21 03 11.6	+1.2
	1.0nm,0.6s,baz=352,slow=1.7,SNR=5.5						
GUMO	**Guam**	**22.25**	**42**	LR	LR	21 07 32.8	
	comp=Z,31nm,18.9s,baz=252,slow=36						
STKA	**Stephens Creek**	**30.89**	**160**	*e*P	**P**	**21 00 37.0**	**+0.8**
	3.5nm,1.6s,mb3.9						
STKA	**Stephens Creek**	**30.89**	**160**	P	**P**	**21 00 37.1**	**+1.0**
	1.1nm,0.3s,mb4.1,baz=329,slow=14,SNR=7.8						
PSI	**Prapat**	**31.30**	**280**	P	**P**	**21 00 38.8**	**-1.2**
	3.7nm,0.5s,mb4.4,baz=98,slow=7.1,SNR=4.1						
JIRN	**Jiri**	**51.77**	**309**	*e*P	**P**	**21 03 28.2**	**+0.8**
GUN	**Gumba**	**52.13**	**309**	*e*P	**P**	**21 03 30.1**	**0.0**
	14nm,0.7s,mb5.0						
KKN	**Kakani**	**52.54**	**309**	*e*P	**P**	**21 03 33.7**	**+0.5**
DMN	**Daman**	**52.59**	**308**	*e*P	**P**	**21 03 34.2**	**+0.7**
GKN	**Gorkha**	**53.14**	**308**	*e*P	**P**	**21 03 37.3**	**-0.3**
KOLN	**Koldanda**	**53.85**	**308**	*e*P	**P**	**21 03 43.0**	**+0.2**
	13nm,0.8s,mb4.9						
DANN	**Dangsing**	**53.98**	**308**	*e*P	**P**	**21 03 43.5**	**-0.3**
SONM	**Songino Array**	**54.52**	**341**	P	**P**	**21 03 48.4**	**+1.1**
	0.4nm,0.5s,mb3.7,baz=144,slow=5.2,SNR=3.3						
MKAR	**Makanchi Array**	**64.70**	**326**	P	**P**	**21 04 57.5**	**0.0**
	1.2nm,0.8s,mb4.0,baz=117,slow=8.5,SNR=11						
ZAA0	**Zalesovo Array**	**67.83**	**333**	*e*P	**P**	**21 05 16.2**	**-1.3**
ZALV	**Zalesovo Beam**	**67.83**	**333**	P	**P**	**21 05 17.2**	**-0.3**
	1.6nm,0.6s,mb4.2,baz=113,slow=7.3,SNR=9.3						
KURK	**Kurchatov**	**68.92**	**328**	*e*P	**P**	**21 05 24.4**	**0.0**
	5.5nm,1.0s,mb4.4						
BRVK	**Borovoye**	**74.56**	**327**	*e*P	**P**	**21 05 58.3**	**0.0**
VNDA	**Vanda**	**76.50**	**173**	P	**P**	**21 06 09.8**	**+0.8**
	0.5nm,0.6s,mb3.6,baz=327,slow=6.1,SNR=5.5						
CPUP	**Villa Florida**	**150.13**	**167**	PKPbc	PKPbc	21 14 12.3	+1.1
	0.5nm,0.3s,baz=105,slow=3.6,SNR=4.0						

IDC 10 20:58:44.3±1.5, 113N×12766E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/15, mbtmp3.6/4, MS3.4/1, Ms1 3.4/1, ms1mx2.7/21, Error ellipse: s-maj=140.6km s-min=20.9km az=70.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.94**	**163**	P	P	21 03 39.7	+0.1
	3.4nm,0.7s,baz=341,slow=11,SNR=5.3						
WRA				LR	LR	21 11 52.4	
	comp=Z,94nm,20.9s,baz=330,slow=36						
ASAR	**Alice Springs**	**25.38**	**167**	P	P	21 04 13.5	+0.1
	0.4nm,0.6s,baz=350,slow=10,SNR=2.2						
SONM	**Songino Array**	**50.04**	**341**	P	P	21 07 40.4	-0.3
	0.4nm,0.6s,baz=138,slow=9.3,SNR=2.9						
MKAR	**Makanchi Array**	**60.21**	**326**	P	P	21 08 54.5	+0.3
	0.6nm,0.5s,baz=115,slow=7.9,SNR=16						

*ISCJB **10** 21:10:41.0±0.5, 3837N±002×2203E±004, h10km±4km, Error ellipse: s-maj=4.7km s-min=3.5km az=2.9*
*CSEM **10** 21:10:41.8±0.1, 3836N×2201E, h10km, ML2.8, Error ellipse: s-maj=1.8km s-min=1.5km az=97.0*
*ATH **10** 21:10:41.0, 3833N×2208E, h13km±3km, MD3.2/7*
*NEIC **10** 21:10:41.2, 3836N×2202E, h24km, MD3.2(ATH), After ATH.*
*THE **10** 21:10:41.6, 3838N×2203E, h3km, ML2.8*

ISC 10 21:10:41.4±0.5, 3836N±002×2203E±004, h14km±4km, n18, σ0º93/33, 1C-9D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.13**	**232**	*e*Pg	**Pg**	**21 10 44.4**	**-0.6**
SELA				*e*Sg	**Sg**	**21 10 47.0**	**-0.5**
RLS	**Riolos of Patr**	**0.53**	**236**	⇓*i*PB	**Pb**	**21 10 51.9**	**-0.6**
EVR	**Evrytania**	**0.58**	**343**	⇓*i*PG	**Pg**	**21 10 52.6**	**-0.2**
EVR				*e*SB	**Sb**	**21 11 01.5**	**0.0**
EVR	**Evrytania**	**0.58**	**343**	⇓Pn	**Pg**	**21 10 52.6**	**-0.2**
EVR				Sn	**Sg**	**21 11 02.4**	**+1.8**
AGG	**Agios Georgios**	**0.70**	**20**	*e*Pg	**Pg**	**21 10 54.1**	**-1.0**
AGG				*e*Sg	**Sg**	**21 11 05.1**	**+0.7**
LTK	**Loutraki**	**0.81**	**114**	*e*Pg	**Pg**	**21 10 56.8**	**-0.4**
LTK				*e*Sg	**Sg**	**21 11 09.0**	**+1.1**
LKR	**Lokris**	**0.82**	**69**	*e*Pg	**Pg**	**21 10 56.6**	**-0.7**
LKR				*e*Sg	**Sg**	**21 11 08.8**	**+0.8**
LKR	**Lokris**	**0.82**	**69**	⇓Pb	**Pb**	**21 10 56.4**	**-1.0**
LKR				Sn	**Sn**	**21 11 09.4**	**-1.0**
LKR	**Lokris**	**0.82**	**69**	⇓*i*PB	**Pb**	**21 10 56.4**	**-1.0**
LKR				*e*SB	**Sb**	**21 11 06.9**	**-1.3**
LKR	**Lokris**	**0.82**	**69**	*e*Pg	**Pg**	**21 10 56.6**	**-0.7**
LKR				*e*Sg	**Sg**	**21 11 08.8**	**+0.8**
LKR				Sn	**Sn**	**21 11 09.4**	**-1.0**
ITM	**Ithomi**	**1.18**	**184**	⇓*i*PN	**Pn**	**21 11 02.6**	**-0.9**
ITM				*e*SB	**Sb**	**21 11 18.3**	**-0.4**
ITM	**Ithomi**	**1.18**	**184**	⇓Pb	**Pn**	**21 11 02.6**	**-0.9**
ITM				Sn	**Sn**	**21 11 21.0**	**+1.7**
THL	**Klokotos Trika**	**1.20**	**360**	*e*Pg	**Pg**	**21 11 04.5**	**-0.1**
THL				*e*Sg	**Sg**	**21 11 20.6**	**+0.3**
THL	**Klokotos Trika**	**1.20**	**360**	⇑*i*PB	**Pg**	**21 11 04.5**	**-0.1**
THL				*e*SB	**Sb**	**21 11 20.6**	**+1.2**
DID	**Didima**	**1.28**	**131**	*e*Pg	**Pg**	**21 11 06.0**	**-0.1**
DID				*e*Sg	**Sg**	**21 11 24.2**	**+1.4**
NEO	**Neokhori**	**1.33**	**44**	⇓*i*PB	**Pb**	**21 11 06.5**	**+0.4**
XOR	**Xorichti**	**1.36**	**42**	*e*Pg	**Pg**	**21 11 06.1**	**-1.4**
VLI	**Veliai**	**1.79**	**156**	⇓*i*PN	**Pn**	**21 11 13.1**	**+1.2**

IDC 10 21:11:38.2±1.1, 4666N×15581E, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/21, mbtmp3.7/7, ML3.6/1, Error ellipse: s-maj=30.2km s-min=25.8km az=144.0, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	**Asahikawa**	**9.64**	**259**	Pn	Pn	21 13 58.4	+0.3
	0.6nm,0.3s,baz=84,slow=19,SNR=4.0						
KSRS	**Korea Array**	**22.56**	**256**	P	P	21 16 40.4	+0.6
	0.5nm,0.3s,baz=53,slow=9.8,SNR=4.4						
MKAR	**Makanchi Array**	**48.62**	**299**	P	P	21 20 23.3	-0.1
	0.3nm,0.8s,baz=76,slow=8.0,SNR=2.8						
FINES	**FINESS Array B**	**64.90**	**336**	P	P	21 22 18.6	-0.1
	1.0nm,0.9s,baz=40,slow=11,SNR=4.7						
WRA	**Warramunga Arr**	**69.07**	**202**	P	P	21 22 45.1	-0.6
	0.7nm,0.7s,baz=23,slow=7.1,SNR=4.8						
ASAR	**Alice Springs**	**72.75**	**201**	P	P	21 23 08.6	+0.6
	0.5nm,0.6s,baz=18,slow=5.6,SNR=8.2						
TXAR	**Lajitas Array**	**75.91**	**62**	P	P	21 23 27.0	+0.4
	0.2nm,0.4s,baz=305,slow=4.7,SNR=6.3						

*ISCJB **10** 21:18:39.6±1.3, 47.19N±009×1535E±0.1, h50km±11km, mb4.3/21, MS3.6/6, Error ellipse: s-maj=18.1km s-min=7.2km az=138.5*
*SKHL **10** 21:18:39.4±6.9, 4739N×15327E, h33km, mb4.7/1*
*MOS **10** 21:18:40.2±1.3, 47.14N×15346E, h60km, mb4.7/5, Error ellipse: s-maj=15.7km s-min=10.4km az=61.3*
*IDC **10** 21:18:44.4±3.9, 4705N×15336E, h84km±35km, mb3.7/12, mb1 3.9/14, mb1mx3.7/24, mbtmp3.7/14, MS3.3/5, Ms1 3.3/5, ms1mx3.0/41, Error ellipse: s-maj=21.1km s-min=15.5km az=119.0*
*BJI **10** 21:18:45.7, 4762N×15324E, h51km, mB4.6, mb4.6, Ms4.2, Msz4.1*
*NEIC **10** 21:18:46.6±1.7, 4709N×15343E, h105km±16km, mb4.6/4, Error ellipse: s-maj=19.8km s-min=11.5km az=141.0*

ISC 10 21:18:41.7±1.2, 4718N±009×1535E±01, h52km±10km, n46, σ1º06/50, mb4.3/21, MS3.6/6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.90**	**25**	*e*PN	**Pn**	**21 19 38.3**	**-0.7**
SKR				*e*S	**Sn**	**21 20 22.5**	**-1.0**
SKR				pmax	pmax		
	comp=Z,160nm,0.6s						
SKR				pmax	pmax		
	comp=N,90nm,0.5s						
SKR				smax			
	comp=N,380nm,0.2s						
SKR				smax			
	comp=E,140nm,0.5s						
SKR	**Severo-Kuril's**	**3.90**	**25**	*e*P	**Pn**	**21 19 38.3**	**-0.7**
SKR				AMB	AMB	21 19 40.8	
	comp=E,90nm,0.5s						
SKR				AMB	AMB	21 19 40.8	
	comp=E,160nm,0.6s						
SKR				*e*S	**Sn**	**21 20 22.5**	**-1.0**
SKR				A		21 20 45.0	
	comp=E,380nm,0.4s						
SKR				A		21 20 45.0	
	comp=E,140nm,0.4s						
SKR				A		21 20 45.0	
	comp=E,80nm,0.4s						
KUR	**Kuril'sk**	**4.37**	**246**	*e*S	**Sn**	**21 20 28.5**	**-6.5**
KUR				A		21 20 46.2	
	comp=E,608nm,0.6s						
KUR				A		21 20 46.2	
	comp=E,304nm,0.6s						
YUK	**Yuzh-Kuril'sk**	**6.21**	**242**	*e*P	**Pn**	**21 20 11.5**	**+0.8**
YUK				*e*S	**Sn**	**21 21 38.4**	**+18**
YUK				A		21 21 42.7	
	comp=E,420nm,0.5s						
YUK				A		21 21 42.7	
	comp=E,350nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.34**	**272**	*e*P	**Pn**	**21 20 29.0**	**+2.9**
YSS	**Yuzh-Sakhalins**	**7.34**	**272**	*e*P	**Pn**	**21 20 26.3**	**+0.1**
ASAJ	**Asahikawa**	**8.23**	**252**	PN	**Pn**	**21 20 38.9**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,153nm,19.4s						
ASAJ	**Asahikawa**	**8.23**	**252**	P	**Pn**	**21 20 38.9**	**+0.5**
	comp=Z,1.1nm,0.3s,baz=58,slow=19,SNR=2.7						
ASAJ				LR	LR	21 23 36.0	
	comp=Z,153nm,19.4s,baz=241,slow=36						
ERM	**Erimo**	**9.01**	**239**	*e*PN	**Pn**	**21 20 55.1**	**+6.2**
NKL	**Nikolayevsk**	**10.16**	**311**	*e*P	**Pn**	**21 21 04.0**	**-0.6**
KLR	**Kul'dur**	**14.64**	**286**	*e*P	**Pn**	**21 22 06.0**	**+0.5**
MJAR	**Matsushiro Arr**	**15.55**	**232**	P	**Pn**	**21 22 16.3**	**-1.1**
	comp=Z,0.5nm,0.3s,baz=29,slow=9.3,SNR=6.1						
MJAR				LR	LR	21 27 47.9	
	comp=Z,70nm,19.1s,baz=240,slow=35						
KSRS	**Korea Array**	**21.18**	**252**	P	**P**	**21 23 22.1**	**-0.4**
	comp=Z,1.0nm,0.5s,mb3.4,baz=57,slow=9.9,SNR=5.5						
KSRS				LR	LR	21 30 15.7	
	comp=Z,51nm,21.9s,MS2.9,baz=65,slow=33						
HHC	**Hu-ho-hao-te**	**30.53**	**274**	*e*P	**P**	**21 24 56.0**	**+6.2**
HHC				PP	PP	21 25 57.5	-1.8
HHC				PCP	PcP	21 27 53.9	+6.3
HHC				S	**S**	**21 29 58.8**	**+11**
HHC				AMB	AMB		
	comp=Z,16nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,149nm,6.0s						
HHC				LR	LR		
	comp=N,167nm,13.0s,MS4.0						
HHC				LR	LR		
	comp=E,158nm,13.0s,MS4.0						
HHC				LR	LR		
	comp=Z,264nm,15.8s,MS4.0						
TTA	**Tatalina**	**31.92**	**42**	*e*P	**P**	**21 25 03.1**	**+1.3**
TTA				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9						
TTA	**Tatalina**	**31.92**	**42**	*e*P	**P**	**21 25 03.1**	**+1.3**
	comp=Z,1.5nm,0.5s,mb4.1						
SVW2	**Sparrevohn**	**32.00**	**45**	*e*P	**P**	**21 25 03.1**	**+0.6**
IMA2	**Indian Mountai**	**33.30**	**36**	*e*P	**P**	**21 25 13.8**	**-0.1**
MCK	**McKinley**	**35.15**	**41**	*e*P	**P**	**21 25 30.5**	**+0.6**
MCK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
MCK	**McKinley**	**35.15**	**41**	*e*P	**P**	**21 25 30.5**	**+0.7**
	comp=Z,11nm,1.1s,mb4.7						
COLA	**College**	**35.63**	**39**	P	**P**	**21 25 34.2**	**+0.2**
COLA				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.0						
COLA	**College**	**35.63**	**39**	P	**P**	**21 25 34.2**	**+0.2**
	comp=Z,9.0nm,0.4s,mb5.0						
LZH	**Lanzhou**	**38.14**	**272**	*e*P	**P**	**21 26 02.0**	**+6.4**
LZH				AP	pP	21 26 12.5	+3.3
LZH				XP	sP	21 26 16.3	+1.0
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb4.5						
LZH				AMB	AMB		
	comp=Z,114nm,6.3s						
LZH				LR	LR		
	comp=N,403nm,16.4s						
LZH				LR	LR		
	comp=Z,597nm,18.5s,MS4.4						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**21 26 21.3**	**+1.1**
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	**41.14**	**33**	*e*P	**P**	**21 26 21.2**	**+1.0**
	comp=Z,196nm,0.9s,mb5.7						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**21 26 21.2**	**+1.1**
	comp=Z,2.9nm,0.5s,mb4.2,baz=295,slow=6.5,SNR=18						
CD2	**Chengdu**	**41.18**	**265**	*e*P	**P**	**21 26 25.4**	**+4.4**
CD2				PP	PP	21 28 04.5	+7.9
CD2				S	**S**	**21 32 38.9**	**+8.3**
CD2				SS	SS	21 35 37.1	+2.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
ZALV	**Zalesovo Beam**	**42.57**	**306**	LR	LR	21 45 30.2	
	comp=Z,36nm,20.7s,MS3.2,baz=108,slow=38						
WMQ	**Urumqi**	**45.02**	**291**	*e*P	**P**	**21 26 57.0**	**+5.2**
WMQ				PP	PP	21 28 43.0	+5.5
WMQ				S	**S**	**21 33 35.0**	**+8.5**
WMQ				AMB	AMB		
	comp=Z,26nm,0.8s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,54nm,5.0s						
WMQ				LR	LR		
	comp=N,52nm,14.0s,MS3.8						
WMQ				LR	LR		
	comp=E,48nm,14.0s,MS3.8						
WMQ				LR	LR		
	comp=Z,52nm,15.0s,MS3.6						
MKAR	**Makanchi Array**	**46.98**	**297**	P	**P**	**21 27 05.8**	**-1.4**
MKAR						21 28 38.1	
MKAR	**Makanchi Array**	**46.98**	**297**	P	**P**	**21 27 05.8**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=66,slow=7.2,SNR=8.6						
MKAR				PcP	PcP	21 28 38.1	-0.7
	comp=Z,0.3nm,0.5s,baz=72,slow=4.7,SNR=3.6						
MKAR				LR	LR	21 48 04.8	
	comp=Z,70nm,18.7s,MS3.6,baz=358,slow=38						
RES	**Resolute Bay**	**50.34**	**19**	*e*P	**P**	**21 27 33.7**	**+1.1**
YKA	**Yellowknife Ar**	**50.42**	**37**	P	**P**	**21 27 34.3**	**+1.0**
	comp=Z,2.7nm,0.7s,mb4.4,baz=298,slow=7.3,SNR=29						
LSA	**Lhasa**	**50.52**	**273**	P	**P**	**21 27 36.4**	**+1.9**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.5s,m

ϕ_s203.00000°, δ52.00000°, λ65.00000°. Principal axes: T 5.6540, Plg70.0000°, Azm52.0000°; N -0.1410, Plg20.0000°, Azm219.0000°; P -5.5130, Plg4.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

SZGRF ***10*** *21:54:52.2, 47.46N×15.08E, h42km, mb5.0, MS4.6, Kuril Islands, Russia*

IDC ***10*** *21:54:52.3±3.1, 47.10N×15.341E, h68km±27km, mb4.4/27, mb1 4.6/28, mb1mx4.6/29, mbtmp4.4/28, MS4.4/23, Ms1 4.4/23, ms1mx4.2/33, Error ellipse: s-maj=13.5km s-min=10.4km az=145.0*

ISC 10 21:54:48.7±0.8, 47.14N±003×153.41E±002, h31km±6km, h33km±2.4km: pP-P, n842, σ0.975/857, mb5.0/204, MS4.5/52, 138C-132D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.97**	**26**	*e*PN	**Pn**	**21 55 48.0**	**+0.6**
SKR				*e*S	**Sn**	**21 56 33.0**	**+0.1**
SKR				pmax	pmax		
	comp=E,2μm,1.0s						
SKR				pmax	pmax		
	comp=Z,3μm,1.0s						
SKR				pmax	pmax		
	comp=Z,1μm,0.7s						
SKR				pmax	pmax		
	comp=N,320nm,0.5s						
SKR				pmax	pmax		
	comp=E,1μm,1.0s						
SKR				smax			
	comp=N,8μm,4.0s						
SKR				smax			
	comp=E,6μm,4.0s						
SKR				smax			
	comp=N,1μm,0.7s						
SKR				smax			
	comp=E,3μm,0.7s						
SKR				MLR	MLR		
	comp=Z,6μm,10.0s						
SKR				MLR	MLR		
	comp=N,5μm,14.0s						
SKR				MLR	MLR		
	comp=E,9μm,14.0s						
SKR	**Severo-Kuril's**	**3.97**	**26**	*e*P	**Pn**	**21 55 48.0**	**+0.6**
SKR				AMB	AMB	21 55 50.0	
	comp=E,3μm,1.0s						
SKR				AMB	AMB	21 55 50.0	
	comp=E,2μm,1.0s						
SKR				AMB	AMB	21 55 51.2	
	comp=E,1μm,0.7s						
SKR				AMB	AMB	21 55 51.2	
	comp=E,1μm,1.0s						
SKR				AMB	AMB	21 55 51.2	
	comp=E,320nm,0.5s						
SKR				*e*S	**Sn**	**21 56 33.0**	**+0.1**
SKR				A		21 56 52.0	
	comp=E,2μm,2.0s						
SKR				A		21 56 52.0	
	comp=E,2μm,2.0s						
SKR				A		21 56 52.0	
	comp=E,8μm,4.0s						
SKR				A		21 56 52.0	
	comp=E,5μm,4.0s						
SKR				A		21 56 52.0	
	comp=E,8μm,4.0s						
SKR				A		21 56 52.0	
	comp=E,6μm,4.0s						
SKR				A		21 57 05.5	
	comp=E,1μm,0.7s						
SKR				A		21 57 05.5	
	comp=E,3μm,0.7s						
SKR				A		21 57 05.5	
	comp=E,2μm,1.0s						
SKR				AMS	AMS	21 57 39.0	
	comp=E,5μm,14.0s						
SKR				AMS	AMS	21 57 39.0	
	comp=E,9μm,14.0s						
SKR				AMS	AMS	21 57 39.0	
	comp=E,5μm,14.0s						
SKR				AMS	AMS	21 57 39.0	
	comp=E,8μm,14.0s						
SKR				AMS	AMS	21 57 39.0	
	comp=E,6μm,10.0s						
SKR				AMS	AMS	21 57 39.0	
	comp=E,6μm,10.0s						
KUR	**Kuril'sk**	**4.30**	**246**	*e*P	**Pn**	**21 55 48.5**	**-3.4**
KUR				AMB	AMB	21 55 50.8	
	comp=E,452nm,0.8s						
KUR				*i* S	**Sn**	**21 56 39.6**	**-1.4**
KUR				A		21 56 44.0	
	comp=E,18μm,4.0s						
KUR				A		21 56 44.0	
	comp=E,6μm,4.0s						
KUR				A		21 56 58.8	
	comp=E,2μm,0.8s						
KUR				A		21 56 58.8	
	comp=E,4μm,0.8s						
KUR				AMS	AMS	21 57 27.0	
	comp=E,8μm,14.0s						
KUR				AMS	AMS	21 57 27.0	
	comp=E,13μm,14.0s						
KUR				AMS	AMS	21 57 27.0	
	comp=E,14μm,14.0s						
YUK	**Yuzh-Kuril'sk**	**6.14**	**242**	*e*P	**Pn**	**21 56 19.1**	**+1.9**
YUK				AMB	AMB	21 56 27.3	
	comp=E,560nm,0.4s						
YUK				AMB	AMB	21 56 31.0	
	comp=E,3μm,2.0s						
YUK				AMB	AMB	21 56 31.0	
	comp=E,2μm,1.3s						
YUK				AMB	AMB	21 56 31.0	
	comp=E,3μm,1.3s						
YUK				*e*S	**Sn**	**21 57 26.0**	**-0.4**
YUK				A		21 57 52.2	
	comp=E,4μm,0.9s						
YUK				A		21 57 52.2	
	comp=E,3μm,0.9s						
YUK				A		21 57 56.0	
	comp=E,4μm,1.0s						
YUK				A		21 57 56.0	
	comp=E,5μm,1.0s						
YUK				AMS	AMS	21 58 39.0	
	comp=E,7μm,16.0s						
YUK				AMS	AMS	21 58 39.0	
	comp=E,6μm,16.0s						
NEM2	**Nemuro 2**	**6.60**	**238**	P	**Pn**	**21 56 22.9**	**-0.6**
NEM2				*e*S	**Sn**	**21 57 34.1**	**-3.5**
JRA	**Rausu**	**6.64**	**244**	P	**Pn**	**21 56 26.6**	**+2.5**
PET	**Petropavlovsk**	**6.79**	**28**	⇓*i*PN	**Pn**	**21 56 25.9**	**-0.2**
PET				pmax	pmax		
	comp=Z,72nm,1.3s						
PET				pmax	pmax		
	comp=N,64nm,1.1s						
PET				MLR	MLR		
	comp=Z,3μm,18.0s						
PET				MLR	MLR		
	comp=Z,2μm,12.0s						
PET	**Petropavlovsk**	**6.79**	**28**	*e*P	**Pn**	**21 56 24.9**	**-1.2**
	comp=Z,848nm,1.3s						
YSS	**Yuzh-Sakhalins**	**7.29**	**272**	*e*PN	**Pn**	**21 56 37.0**	**+4.1**
YSS				*e*S	**Sn**	**21 58 03.0**	**+8.5**
YSS				pmax	pmax		
	comp=Z,50nm,0.9s						
YSS				MLR	MLR		
	comp=E,6μm,18.0s						
YSS				MLR	MLR		
	comp=Z,6μm,18.0s						
YSS	**Yuzh-Sakhalins**	**7.29**	**272**	*e*P	**Pn**	**21 56 35.9**	**+3.0**
	comp=Z,87nm,0.6s						
YSS	**Yuzh-Sakhalins**	**7.29**	**272**	*e*P	**Pn**	**21 56 37.0**	**+4.1**
YSS				AMB	AMB	21 56 39.0	
	comp=Z,50nm,0.9s						
YSS				*e*S	**Sn**	**21 58 03.0**	**+8.5**
YSS				AMS	AMS	21 59 12.0	
	comp=Z,6μm,18.0s						
YSS				AMS	AMS	21 59 12.0	
	comp=Z,6μm,18.0s						
JTKR	**Abashiri--Toko**	**7.38**	**248**	P	**Pn**	**21 56 36.8**	**+2.5**
JAK	**Akkeshi**	**7.43**	**239**	*e*S	**Sn**	**21 57 54.4**	**-3.7**
JMP	**Maruseppu**	**7.72**	**250**	P	**Pn**	**21 56 41.3**	**+2.4**
JAR	**Ashorobuto**	**7.82**	**244**	P	**Pn**	**21 56 41.8**	**+1.6**
UGL	**Uglegorsk**	**7.84**	**288**	*e*PN	**Pn**	**21 56 46.0**	**+5.5**
UGL				*e*		21 58 25.0	
UGL				pmax	pmax		
	comp=Z,89nm,0.4s						
UGL				pmax	pmax		
	comp=Z,8μm,5.0s						
UGL	**Uglegorsk**	**7.84**	**288**	*e*P	**Pn**	**21 56 46.0**	**+5.5**
UGL				AMB	AMB	21 56 48.0	
	comp=Z,89nm,0.4s						
UGL				AMB	AMB	21 56 50.0	
	comp=Z,800nm,5.0s						
UGL				AMS	AMS	21 59 53.0	
	comp=Z,6μm,16.0s						
UGL				AMS	AMS	21 59 53.0	
	comp=Z,4μm,17.0s						
UGL				AMS	AMS	21 59 53.0	
	comp=Z,5μm,15.0s						
ASAJ	**Asahikawa**	**8.16**	**252**	PN	**Pn**	**21 56 49.2**	**+4.3**
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,4μm,19.6s						
ASAJ	**Asahikawa**	**8.16**	**252**	P	**Pn**	**21 56 49.2**	**+4.3**
	comp=Z,5.1nm,0.3s,baz=91,slow=18,SNR=25						
ASAJ				LR	LR	21 59 47.4	
	comp=Z,4μm,19.6s,baz=49,slow=36						
JKK2	**Kamakawa 2**	**8.17**	**250**	P	**Pn**	**21 56 49.2**	**+4.1**
JCH	**Churui**	**8.45**	**241**	P	**Pn**	**21 56 48.5**	**-0.4**
JCH				*e*S	**Sn**	**21 58 17.7**	**-5.4**
JFR	**Furan**	**8.62**	**246**	P	**Pn**	**21 56 54.3**	**+3.1**
JEM	**Erimo**	**8.93**	**239**	P	**Pn**	**21 56 56.0**	**+0.5**
ERM	**Erimo**	**8.93**	**239**	Pn	**Pn**	**21 56 57.1**	**+1.6**
	comp=Z,719nm,0.5s,SNR=13						
ERM	**Erimo**	**8.93**	**239**	*e*PN	**Pn**	**21 56 56.8**	**+1.3**
ERM	**Erimo**	**8.93**	**239**	*e*P	**Pn**	**21 56 56.0**	**+0.5**
	comp=Z,250nm,0.6s						
JNBK	**Urakawa-nobuka**	**9.01**	**241**	P	**Pn**	**21 56 56.3**	**-0.3**
JNBK				*e*S	**Sn**	**21 58 32.8**	**-4.1**
OKH	**Okha**	**9.27**	**318**	*e*P	**Pn**	**21 57 07.8**	**+7.7**
OKH				*e*LQ		21 59 38.0	
OKH				AMS	AMS	22 01 05.6	
	comp=Z,3μm,15.0s						
OKH				AMS	AMS	22 01 05.6	
	comp=Z,3μm,16.0s						
OKH				AMS	AMS	22 01 05.6	
	comp=Z,3μm,14.0s						
NKL	**Nikolayevsk**	**10.14**	**311**	*e*P	**Pn**	**21 57 12.0**	**0.0**
NKL				AMB	AMB	21 57 15.0	
	comp=Z,500nm,5.0s						
NKL				AMB	AMB	21 57 15.0	
	comp=Z,900nm,5.0s						
NKL				AMB	AMB	21 57 15.0	
	comp=Z,900nm,5.0s						
NKL				AMB	AMB	21 57 16.0	
	comp=Z,43nm,1.0s						
NKL				AMB	AMB	21 57 16.0	
	comp=Z,86nm,1.0s						
NKL				*e*S	**Sn**	**21 59 12.0**	**+7.4**
NKL				A		21 59 19.0	
	comp=Z,800nm,8.0s						
NKL				*e*L		22 00 10.0	
NKL				AMS	AMS	22 01 36.0	
	comp=Z,1μm,17.0s						
NKL				AMS	AMS	22 01 36.0	
	comp=Z,2μm,17.0s						
NKL				AMS	AMS	22 01 36.0	
	comp=Z,3μm,17.0s						
JKB	**Kayabe**	**10.28**	**244**	P	**Pn**	**21 57 12.8**	**-1.2**
JYM2	**Yakumo 2**	**10.56**	**246**	P	**Pn**	**21 57 18.0**	**+0.2**
JTM	**Tenmabayashi**	**10.92**	**239**	P	**Pn**	**21 57 20.6**	**-2.2**
JTM				*e*S	**Sn**	**21 59 13.3**	**-11**
JANG	**Nango**	**10.94**	**236**	P	**Pn**	**21 57 19.8**	**-3.2**
JANG				*e*S	**Sn**	**21 59 11.3**	**-13**
TEY	**Ternei**	**11.86**	**266**	*e*P	**Pn**	**21 57 41.0**	**+5.4**
TEY				AMS	AMS	22 02 34.0	
	comp=Z,1μm,14.0s						
TEY				AMS	AMS	22 02 34.0	
	comp=Z,1μm,14.0s						
JRG	**Rokugo**	**12.10**	**235**	P	**Pn**	**21 57 36.7**	**-2.2**
HABR	**Khabarovsk**	**12.42**	**283**	*e*PN	**Pn**	**21 57 40.6**	**-2.6**
MA2	**Magadan**	**12.56**	**354**	*e*PN	**Pn**	**21 57 46.9**	**+1.9**
MA2				pmax	pmax		
	comp=Z,40nm,0.8s						
MA2				MLR	MLR		
	comp=Z,2μm,17.0s						
MA2	**Magadan**	**12.56**	**354**	*e*P	**Pn**	**21 57 47.0**	**+2.0**
	comp=Z,35nm,0.6s						
KLR	**Kul'dur**	**14.60**	**286**	*e*P	**Pn**	**21 58 10.8**	**-2.1**
KLR				*e*S	**Sn**	**22 01 05.0**	**+12**
KLR				pmax	pmax		
	comp=E,57nm,1.6s						
KLR				pmax	pmax		
	comp=Z,50nm,1.6s						
KLR				smax			
	comp=N,1μm,12.0s						
KLR				smax			
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,900nm,12.5s						
MAJO	**Matsushiro**	**15.48**	**232**	*e*P	**Pn**	**21 58 21.7**	**-2.9**
MAJO				pmax	pmax		
	comp=Z,37nm,0.8s						
MAJO	**Matsushiro**	**15.48**	**232**	*e*P	**Pn**	**21 58 21.7**	**-3.0**
	comp=Z,37nm,0.8s						
MAT	**Matsushiro**	**15.48**	**232**	P	**Pn**	**21 58 22.9**	**-1.7**
MAT				S	**Sn**	**22 01 16.6**	**+1.5**
MJAR	**Matsushiro Arr**	**15.48**	**232**	P	**Pn**	**21 58 22.9**	**-1.7**
	comp=Z,0.5nm,0.3s,baz=29,slow=13,SNR=13						
SEY	**Seymchan**	**15.84**	**358**	*e*P	**Pn**	**21 58 28.5**	**-0.7**
MDJ	**Mudanjiang**	**16.77**	**270**	P	**Pn**	**21 58 44.1**	**+3.1**
MDJ				AP	pP	21 58 48.8	-2.3
MDJ				XP	sP	21 58 50.2	-4.8
MDJ				S	**Sn**	**22 01 55.3**	**+9.1**
MDJ				XS	sS	22 02 09.4	+0.3
MDJ				PCP	PcP	22 03 28.3	+0.1
MDJ				AMB	AMB		
	comp=Z,23nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,124nm,5.2s						
MDJ				LR	LR		
	comp=N,920nm,17.1s						
MDJ				LR	LR		
	comp=E,1μm,21.1s						
MDJ				LR	LR		
	comp=Z,2μm,19.6s						
MDJ	**Mudanjiang**	**16.77**	**270**	*e*P	**Pn**	**21 58 42.0**	**+0.9**
	comp=Z,26nm,0.8s						
JHJ	**Hachijo jima 2**	**17.42**	**221**	LR	LR	22 04 34.8	
	comp=Z,340nm,20.1s,baz=90,slow=34						
ZEA	**Zeya**	**17.86**	**301**	*e*P	**Pn**	**21 58 54.5**	**-0.1**
ZEA				AMB	AMB	21 58 56.2	
	comp=Z,58nm,1.0s						
ZEA				AMB	AMB	21 59 00.0	
	comp=Z,300nm,8.0s						
ZEA				AMB	AMB	21 59 00.0	
	comp=Z,400nm,8.0s						
ZEA				*e*S	**Sn**	**22 02 14.0**	**+1.4**
ZEA				A		22 02 16.0	
	comp=Z,500nm,12.0s						
CN2	**Changchun**	**19.85**	**271**	*e*P	**Pn**	**21 59 18.2**	**-0.5**
CN2				PP		21 59 36.9	
CN2				*e*S	**Sn**	**22 02 55.2**	**-5.5**
CN2				AMB	AMB		
	comp=Z,30nm,0.5s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,900nm,17.0s						
CN2				LR	LR		
	comp=E,1μm,17.0s						
CN2				LR	LR		
	comp=Z,2μm,18.0s						
CLNS	**Chul'man**	**19.93**	**310**	*e*P	**Pn**	**21 59 20.4**	**+0.9**
CLNS				*e*S	**Sn**	**22 02 57.4**	**-5.0**
CLNS				pmax	pmax		
	comp=N,63nm,1.1s						
CLNS				pmax	pmax		
	comp=Z,93nm,1.1s						
CLNS				pmax	pmax		
	comp=E,50nm,0.9s						
CLNS				smax			
	comp=N,315nm,14.6s						
CLNS				smax			
	comp=Z,356nm,15.3s						
CLNS				smax			
	comp=E,357nm,13.0s						
CLNS				MLR	MLR		
	comp=E,2μm,15.0s						
CLNS				MLR	MLR		
	comp=Z,3μm,15.0s						
CLNS				MLR	MLR		
	comp=N,1μm,16.0s						
YAK	**Yakutsk**	**20.11**	**327**	*e*P	**P**	**21 59 23.7**	**+4.1**
YAK				*e*		21 59 36.9	
YAK				*e*S	**S**	**22 02 59.9**	**-3.7**
YAK				*e*SS		22 03 40.9	
YAK				*e*		22 10 45.5	
YAK				pmax	pmax		
	comp=Z,71nm,0.9s						
YAK				pmax	pmax		
	comp=N,38nm,1.4s						
YAK				pmax	pmax		
	comp=E,55nm,1.3s						
YAK				pmax	pmax		
	comp=Z,77nm,1.1s						
YAK				pmax	pmax		
	comp=N,63nm,1.5s						
YAK				pmax	pmax		
	comp=E,137nm,1.6s						
YAK				smax			
	comp=E,162nm,3.1s						
YAK				smax			
	comp=Z,83nm,2.6s						
YAK				smax			
	comp=N,228nm,3.6s						
YAK				MLR	MLR		
	comp=Z,1μm,19.0s,MS4.2						
YAK				MLR	MLR		
	comp=N,873nm,17.0s,MS4.3						
YAK				MLR	MLR		
	comp=E,850nm,17.0s,MS4.3						
YAK	**Yakutsk**	**20.11**	**327**	*e*P	**P**	**21 59 20.0**	**+0.4**
	comp=E,84nm,0.8s						
KSRS	**Korea Array**	**21.11**	**252**	P	**P**	**21 59 32.1**	**+1.5**
	comp=E,12nm,0.5s,mb4.5,baz=54,slow=10,SNR=25						
KSRS				LR	LR	22 06 37.2	
	comp=E,997nm,20.1s,MS4.2,baz=41,slow=33						
SNY	**Shenyang**	**21.86**	**267**	⇑P	**P**	**21 59 39.5**	**+0.8**
SNY				S	**S**	**22 03 44.0**	**+5.5**
SNY				AMB	AMB		
	comp=Z,47nm,0.7s,mb5.0						
SNY				AMB	AMB		
	comp=Z,136nm,3.8s						
SNY				LR	LR		
	comp=E,2μm,18.1s						
SNY				LR	LR		
	comp=Z,2μm,19.8s,MS4.5						
CBIJ	**Chichi jima**	**21.87**	**208**	LR	LR	22 08 34.1	
	comp=Z,194nm,18.4s,baz=78,slow=38						
BILL	**Bilibino**	**21.97**	**13**	*e*P	**P**	**21 59 38.0**	**-1.6**
BILL				pmax	pmax		
	comp=Z,35nm,1.3s,mb4.6						
BILL				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.3						
BILL	**Bilibino**	**21.97**	**13**	*e*P	**P**	**21 59 37.7**	**-1.8**
	comp=Z,22nm,0.7s,mb4.7						
JNU	**Nakatsue**	**22.10**	**239**	P	**P**	**21 59 41.9**	**+0.7**
	comp=Z,6.3nm,0.5s,mb4.3,baz=45,slow=24,SNR=5.4						
JNU				LR	LR	22 08 52.6	
	comp=Z,525nm,20.9s,MS3.9,baz=39,slow=38						
HIA	**Hailar**	**22.44**	**288**	*e*P	**P**	**21 59 45.4**	**+0.6**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.6s						
HIA	**Hailar**	**22.44**	**288**	*e*P	**P**	**21 59 45.4**	**+0.6**
	comp=Z,9.7nm,0.6s,mb4.4						
DL2	**Dalian**	**24.52**	**262**	P	**P**	**22 00 07.1**	**+1.9**
DL2				S	**S**	**22 04 28.4**	**+4.7**
DL2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
DL2				AMB	AMB		
	comp=Z,130nm,4.7s						
DL2				LR	LR		
	comp=N,320nm,15.4s,MS4.0						
DL2				LR	LR		
	comp=E,210nm,18.7s,MS4.0						
DL2				LR	LR		
	comp=Z,330nm,17.4s,MS3.9						
GAMB	**Gambell**	**25.39**	**36**	*e*P	**P**	**22 00 12.9**	**+0.1**
	comp=Z,116nm,1.1s,mb5.3						
BOD	**Bodaibo**	**25.90**	**309**	*e*P	**P**	**22 00 16.4**	**-1.2**
BOD				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.4						
TIXI	**Tiksi**	**27.16**	**343**	*e*P	**P**	**22 00 27.2**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb4.1						
TIXI				MLR	MLR		
	comp=Z,549nm,12.0s,MS4.3						
TIXI	**Tiksi**	**27.16**	**343**	*e*P	**P**	**22 00 27.9**	**-0.9**
	comp=Z,13nm,1.1s,mb4.4						
TNA	**Tin City**	**27.60**	**34**	*e*P	**P**	**22 00 30.2**	**-2.5**
	comp=Z,22nm,0.8s,mb4.8						
BJI	**Beijing**	**27.69**	**269**	P	**P**	**22 00 35.7**	**+1.9**
BJI				S	**S**	**22 05 14.6**	**+0.7**
BJI				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.4						
BJI				LR	LR		
	comp=N,993nm,14.9s,MS4.7						
BJI				LR	LR		
	comp=E,2μm,17.5s,MS4.7						
BJI				LR	LR		
	comp=Z,2μm,19.6s,MS4.6						
SSE	**Sheshan**	**29.43**	**249**	P	**P**	**22 00 49.9**	**+0.5**
SSE				S	**S**	**22 05 42.3**	**+0.8**
SSE				AMB	AMB		
	comp=Z,56nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,21nm,4.5s						
SSE				LR	LR		
	comp=N,290nm,16.1s,MS4.2						
SSE				LR	LR		
	comp=E,334nm,16.1s,MS4.2						
SSE				LR	LR		
	comp=Z,551nm,15.0s,MS4.3						
NJ2	**Nanjing**	**30.31**	**253**	*e*P	**P**	**22 00 57.2**	**0.0**
NJ2				AP	pP	22 01 02.2	-3.9
NJ2				PP	PP	22 01 55.9	-10
NJ2				S	**S**	**22 05 54.0**	**-1.2**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,180nm,6.0s						
NJ2				LR	LR		
	comp=N,2μm,17.1s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,18.7s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,16.1s,MS4.7						
HHC	**Hu-ho-hao-te**	**30.47**	**274**	⇑P	**P**	**22 01 00.0**	**+1.4**
HHC				AP	pP	22 01 04.2	-3.2
HHC				XP	sP	22 01 07.0	-4.1
HHC				PP	PP	22 02 00.6	-6.9
HHC				S	**S**	**22 05 59.0**	**+1.4**
HHC				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,203nm,7.0s						
HHC				LR	LR		
	comp=N,1μm,14.4s,MS4.8						
HHC				LR	LR		
	comp=E,1μm,16.6s,MS4.8						
HHC				LR	LR		
	comp=Z,1μm,16.9s,MS4.7						
ULN	**Ulaanbaatar**	**30.97**	**289**	P	**P**	**22 01 04.6**	**+1.8**
ULN				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**30.97**	**289**	*e*P	**P**	**22 01 02.5**	**-0.3**
	comp=Z,6.6nm,1.0s,mb4.4						
SONM	**Songino Array**	**31.40**	**289**	P	**P**	**22 01 06.8**	**+0.2**
	comp=Z,2.1nm,0.9s,mb4.0,baz=61,slow=7.0,SNR=5.4						
SONM				LR	LR	22 14 53.6	
	comp=Z,2μm,18.3s,MS4.8,baz=55,slow=38						
TTA	**Tatalina**	**31.99**	**42**	*e*P	**P**	**22 01 11.9**	**+0.2**
TTA				pmax	pmax		
	comp=Z,120nm,1.2s,mb5.6						
TTA	**Tatalina**	**31.99**	**42**	*e*P	**P**	**22 01 11.9**	**+0.2**
	comp=Z,124nm,1.2s,mb5.6						
SVW2	**Sparrevohn**	**32.07**	**45**	*e*P	**P**	**22 01 12.8**	**+0.4**
ZAK	**Zakamensk**	**32.70**	**295**	*e*P	**P**	**22 01 18.2**	**+0.2**
ZAK				*e*		22 04 01.9	
IMA2	**Indian Mountai**	**33.37**	**36**	*e*P	**P**	**22 01 24.0**	**+0.3**
KDAK	**Kodiak Island**	**33.70**	**51**	*e*P	**P**	**22 01 24.8**	**-1.8**
	comp=Z,34nm,1.0s,mb5.2						
KDAK	**Kodiak Island**	**33.70**	**51**	P	**P**	**22 01 25.0**	**-1.6**
	comp=Z,22nm,0.9s,mb5.1,baz=288,slow=4.4,SNR=21						
SLKM	**Skilak Lake**	**34.71**	**46**	P	**P**	**22 01 34.8**	**-0.5**
SLKM	**Skilak Lake**	**34.71**	**46**	*e*P	**P**	**22 01 34.2**	**-1.1**
PMR	**Palmer**	**35.18**	**44**	*e*P	**P**	**22 01 39.2**	**-0.2**

PMR pmax pmax
comp=Z,46nm,1.0s,mb5.4
PMR MLR MLR
comp=Z,1μm,19.0s,MS4.6
PMR Palmer 35.18 44 *e*P **P 22 01 39.2 -0.2**
comp=Z,46nm,1.0s,mb5.4
PMR LR LR
comp=Z,1μm,19.0s,MS4.6
MCK McKinley 35.22 41 *e*P **P 22 01 39.6 -0.2**
MCK pmax pmax
comp=Z,110nm,1.0s,mb5.7
MCK McKinley 35.22 41 *e*P **P 22 01 39.6 -0.2**
comp=Z,105nm,1.1s,mb5.7
SML Sawmill 35.55 44 *e*P **P 22 01 42.1 -0.5**
COLA College 35.71 39 *e*P **P 22 01 44.0 +0.1**
COLA pmax pmax
comp=Z,130nm,1.0s,mb5.8
COLA College 35.71 39 *e*P **P 22 01 44.0 +0.1**
comp=Z,130nm,0.9s,mb5.9
XAN Xi'an 35.76 265 P **P 22 01 44.7 0.0**
XAN S **S 22 07 16.1 -3.6**
XAN AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
XAN AMB AMB
comp=Z,63nm,6.1s
XAN LR LR
comp=N,366nm,16.5s,MS4.4
XAN LR LR
comp=E,416nm,16.9s,MS4.4
XAN LR LR
comp=Z,871nm,19.0s,MS4.5
DIV Divide 36.83 45 *e*P **P 22 01 53.3 -0.2**
comp=Z,46nm,0.8s,mb5.4
LZH Lanzhou 38.08 272 *e*P **P 22 02 05.4 +1.0**
LZH AP pP 22 02 10.2 -3.2
LZH XP sP 22 02 12.5 -4.6
LZH PP PP 22 03 35.6 +4.0
LZH *e*S **S 22 07 55.7 +0.6**
LZH AMB AMB
comp=Z,29nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,149nm,6.4s
LZH LR LR
comp=E,1μm,16.7s
LZH LR LR
comp=Z,1μm,18.4s,MS4.8
EGAK Eagle 38.57 39 *e*P **P 22 02 07.6 -0.6**
comp=Z,104nm,1.1s,mb5.5
GTA Gaotai 39.11 279 *e*P **P 22 02 13.5 +0.4**
GTA AP pP 22 02 17.5 -4.6
GTA XP sP 22 02 21.0 -4.8
GTA PP PP 22 03 46.9 +4.0
GTA S **S 22 08 09.3 -1.3**
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
GTA AMB AMB
comp=Z,65nm,4.6s
GTA LR LR
comp=N,456nm,15.6s,MS4.7
GTA LR LR
comp=E,690nm,15.6s,MS4.7
GTA LR LR
comp=Z,781nm,13.3s,MS4.7
DAWY Dawson 39.41 40 *e*P **P 22 02 15.4 +0.2**
CD2 Chengdu 41.12 265 P **P 22 02 30.3 +0.5**
CD2 AP pP 22 02 34.9 -3.9
CD2 XP sP 22 02 37.8 -4.7
CD2 PP PP 22 04 07.6 +2.8
CD2 PCP PcP 22 04 30.8 +2.0
CD2 PCS PcS 22 08 20.5 +0.6
CD2 S **S 22 08 42.5 +1.8**
CD2 SS SS 22 11 41.2 -2.6
CD2 SCS ScS 22 12 32.4 +0.6
CD2 AMB AMB
comp=Z,30nm,0.9s,mb4.9
CD2 AMB AMB
comp=Z,120nm,3.5s
CD2 LR LR
comp=N,580nm,16.2s,MS4.8
CD2 LR LR
comp=E,780nm,14.6s,MS4.8
CD2 LR LR
comp=Z,840nm,18.0s,MS4.7
INK Inuvik 41.22 33 P **P 22 02 30.9 +0.8**
INK pmax pmax
comp=Z,56nm,0.9s
INK Inuvik 41.22 33 *e*P **P 22 02 30.5 +0.4**
comp=Z,2μm,0.9s
INK Inuvik 41.22 33 P **P 22 02 30.9 +0.8**
comp=Z,56nm,0.9s,mb5.2,baz=283,slow=6.8,SNR=167
GYA Guiyang 42.00 257 ⇓*i*P **P 22 02 36.9 -0.1**
GYA PP PP 22 04 17.8 +3.4
GYA PCP PcP 22 04 33.6 +1.8
GYA S **S 22 08 56.2 +2.3**
GYA SCS ScS 22 12 38.9 +1.6
GYA AMB AMB
comp=Z,20nm,0.8s,mb4.8
GYA AMB AMB
comp=Z,120nm,5.9s
GYA LR LR
comp=N,1μm,19.0s,MS4.9
GYA LR LR
comp=E,930nm,18.7s,MS4.9
GYA LR LR
comp=Z,1μm,19.5s,MS4.8
SKAG Skagway 42.25 46 *e*P **P 22 02 39.9 +1.3**
comp=Z,18nm,0.9s,mb4.7
SKAG LR LR
comp=Z,300nm,19.0s,MS4.2
ZAA0 Zalesovo Array 42.55 306 *e*P **P 22 02 39.9 -1.4**
ZALV Zalesovo Beam 42.55 306 P **P 22 02 40.2 -1.0**
ZALV PcP PcP 22 04 32.6 -0.5
ZALV LR LR 22 21 40.7
ZALV Zalesovo Beam 42.55 306 P **P 22 02 40.2 -1.0**
comp=Z,1.3nm,0.4s,mb4.0,baz=65,slow=6.9,SNR=9.5
ZALV PcP PcP 22 04 32.6 -0.5
comp=Z,6.8nm,0.8s,baz=64,slow=3.4,SNR=9.7
ZALV LR LR 22 21 40.7
comp=Z,792nm,20.0s,MS4.6,baz=86,slow=38
ZAL Zalesovo 42.57 306 P **P 22 02 40.2 -1.1**
ZAL 22 04 32.6
NVS Novosibirsk 43.12 307 *e*P **P 22 02 45.5 -0.3**
NVS *e* 22 04 31.5
NVS pmax pmax
comp=Z,41nm,2.8s,mb4.7
NVS pmax pmax
comp=E,28nm,2.9s
WRAK Wrangell Islan 44.72 49 P **P 22 02 59.5 +0.9**
comp=E,48nm,0.3s,mb5.8
WMQ Urumqi 44.98 291 *e*P **P 22 03 02.0 +1.2**
WMQ XP sP 22 03 09.0 -4.6
WMQ PP PP 22 04 48.0 +2.0
WMQ S **S 22 09 40.0 +2.9**
WMQ SS SS 22 12 53.0 -5.9
WMQ AMB AMB
comp=Z,32nm,0.9s,mb5.2
WMQ AMB AMB
comp=Z,79nm,5.0s
WMQ LR LR
comp=N,678nm,15.0s,MS4.8
WMQ LR LR
comp=E,597nm,15.0s,MS4.8
WMQ LR LR
comp=Z,915nm,15.0s,MS4.8
DLBC Dease Lake 45.18 46 *e*P **P 22 03 03.7 +1.5**
QIZ Qiongzhong 45.19 247 P **P 22 03 04.0 +1.2**
QIZ S **S 22 09 42.9 +2.3**
QIZ AMB AMB
comp=Z,236nm,2.8s,mb5.5
QIZ LR LR
comp=E,472nm,18.1s
QIZ LR LR
comp=Z,425nm,24.1s
KMI Kunming 45.52 259 P **P 22 03 06.3 +1.0**
KMI PP PP 22 04 53.0 +1.0
KMI PPP 22 05 33.0
KMI S **S 22 09 42.2 -3.0**
KMI SCS ScS 22 13 00.1 +0.7
KMI SS SS 22 13 01.6 -7.6
KMI SSS 22 14 02.4
KMI AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
KMI LR LR
comp=N,486nm,13.6s,MS4.7
KMI LR LR
comp=E,343nm,13.6s,MS4.7
KMI LR LR
comp=Z,359nm,17.8s,MS4.4
MK31 Makanchi Array 46.95 297 *i*P **P 22 03 15.0 -1.3**
MK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MK31 Makanchi Array 46.95 297 *e*P **P 22 03 14.7 -1.6**
MKAR Makanchi Array 46.95 297 *i*P **P 22 03 15.6 -0.7**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 46.95 297 P **P 22 03 15.7 -0.7**
comp=Z,3.1nm,0.7s,mb4.3,baz=68,slow=7.0,SNR=26
MKAR PcP PcP 22 04 47.9 -0.5
comp=Z,3.4nm,0.7s,baz=70,slow=2.3,SNR=5.5
MKAR LR LR 22 24 06.5
comp=Z,1μm,18.5s,MS4.9,baz=239,slow=37
KURK Kurchatov 47.32 303 P **P 22 03 18.3 -0.9**
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.8
KURK Kurchatov 47.32 303 *e*P **P 22 03 17.8 -1.4**
comp=Z,11nm,0.8s,mb4.8
ALE Alert 49.34 6 P **P 22 03 33.7 -0.6**
comp=Z,64nm,1.0s,mb5.6,SNR=6.3
RES Resolute Bay 50.40 19 *e*P **P 22 03 42.7 +0.2**
comp=Z,1μm,1.1s
LSA Lhasa 50.46 273 P **P 22 03 42.8 -0.7**
LSA AP pP 22 03 53.1 +0.4
LSA XP sP 22 03 55.7 -0.7
LSA PP PP 22 05 38.6 -0.5
LSA SS SS 22 14 25.7 -3.3
LSA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
LSA LR LR
comp=E,710nm,22.5s
LSA LR LR
comp=Z,460nm,19.1s,MS4.5
LSA Lhasa 50.46 273 *e*P **P 22 03 45.2 +1.7**
LSA pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
LSA Lhasa 50.46 273 *e*P **P 22 03 45.1 +1.6**
comp=Z,8.2nm,0.6s,mb4.9
YKA Yellowknife Ar 50.49 37 P **P 22 03 43.4 +0.1**
comp=Z,41nm,0.8s,mb5.5,baz=297,slow=7.2,SNR=311
BVAR Borovoye Array 50.77 309 P **P 22 03 44.7 -0.9**
comp=Z,3.2nm,0.6s,mb4.5,baz=59,slow=8.0,SNR=26
BVAR LR LR 22 27 13.1
comp=Z,793nm,18.3s,MS4.8,baz=72,slow=38
BRVK Borovoye 50.81 309 P **P 22 03 46.1 +0.3**
comp=Z,73nm,0.8s,mb5.7,SNR=5.4
BRVK Borovoye 50.81 309 P **P 22 03 46.5 +0.7**
BRVK pmax pmax
comp=Z,11nm,0.9s,mb4.8
BRVK Borovoye 50.81 309 *e*P **P 22 03 46.2 +0.3**
comp=Z,11nm,0.9s,mb4.8
NANT Nan 51.26 255 P **P 22 03 48.5 -1.1**
CHG Chiang Mai 52.41 257 ⇑P **P 22 03 58.6 +0.4**
comp=Z,36nm,0.9s,mb5.3
CHTO Chiang Mai 52.41 257 P **P 22 03 58.4 +0.2**
CHTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
CHTO Chiang Mai 52.41 257 *e*P **P 22 03 58.3 +0.1**
comp=Z,8.6nm,0.7s,mb4.8
TKM2 Tokmak 2 53.01 296 P **P 22 04 02.3 -0.1**
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TKM2 Tokmak 2 53.01 296 P **P 22 04 02.3 -0.1**
comp=Z,6.9nm,0.9s,mb4.6
NLWA Neilton Lookou 53.49 57 ⇓P **P 22 04 06.1 +0.2**
baz=53
SVE Sverdlovsk 53.69 317 *e*P **P 22 04 07.9 +0.8**
SVE *e*PPP 22 07 24.6
SVE *e*S **S 22 11 48.1 +9.4**
SVE pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SVE MLR MLR
comp=Z,536nm,16.0s,MS4.7
D03A Wishkah Elem. 53.70 57 ⇑P **P 22 04 07.7 +0.4**
baz=54
C04A Brinnon 53.83 56 ⇓P **P 22 04 08.6 +0.3**
baz=54
AAK Ala-Archa 53.85 296 P **P 22 04 07.5 -1.0**
comp=Z,33nm,0.5s,mb5.5,SNR=5.5
B05A Bryant 54.02 55 ⇑P **P 22 04 09.9 +0.2**
baz=54
E03A Lebam 54.13 58 ⇓P **P 22 04 10.4 -0.1**
baz=54
EKS2 Erkin-Say 54.27 297 *e*P **P 22 04 11.3 -0.3**
comp=Z,4.5nm,0.8s,mb4.5
A07A Ashnola River, 54.55 54 P **P 22 04 13.3 -0.2**
baz=54,SNR=6.7
C05A Tolt Reservoir 54.57 56 ⇑P **P 22 04 13.3 -0.4**
baz=54
AML Almayashu 54.62 296 *e*P **P 22 04 14.8 +0.6**
comp=Z,2.0nm,0.6s,mb4.3
D05A Enumclaw 54.68 56 ⇓P **P 22 04 14.4 -0.1**
baz=54
ARU Arti 54.87 317 P **P 22 04 14.3 -1.4**
comp=Z,140nm,0.5s,mb6.2,SNR=6.7
ARU Arti 54.87 317 *d*P **P 22 04 15.1 -0.6**
ARU *e* 22 05 16.5
ARU *e* 22 06 15.5
ARU *e*PPP 22 07 29.2
ARU *e*S **S 22 11 54.7 +0.1**
ARU *e*SS SS 22 15 31.4 -6.0
ARU pmax pmax
comp=Z,9.0nm,0.6s,mb5.0
ARU MLR MLR
comp=Z,715nm,19.0s,MS4.8
ARU Arti 54.87 317 *e*P **P 22 04 13.6 -2.1**
comp=Z,12nm,0.6s,mb5.1
G03A Yamhill 54.98 59 ⇑P **P 22 04 16.9 +0.2**
baz=55
B07A Winthrop 55.02 54 ⇓P **P 22 04 16.6 -0.3**
baz=55
JIRN Jiri 55.12 274 *e*P **P 22 04 18.8 +0.8**
E05A Randle 55.16 57 ⇑P **P 22 04 18.0 +0.1**
baz=55
GUN Gumba 55.17 275 *e*P **P 22 04 19.1 +0.8**
A08A Turner Farm, O 55.21 53 ⇓P **P 22 04 18.1 -0.3**
baz=55
D06A Cle Elum 55.32 56 ⇑P **P 22 04 18.9 -0.2**
baz=55
H03A Soap Creek Ran 55.33 59 ⇓P **P 22 04 19.7 +0.5**
baz=55
I02A Mapleton 55.39 60 ⇑P **P 22 04 19.9 +0.2**
baz=55
C07A Waterville 55.48 55 ⇑P **P 22 04 19.9 -0.4**
baz=55
G04A Mulino 55.51 59 ⇑P **P 22 04 20.6 +0.1**
baz=55
B08A Colville Reser 55.51 54 P **P 22 04 20.2 -0.3**
baz=55,SNR=7.8
A09A Danville 55.57 53 ⇑P **P 22 04 21.0 +0.1**
baz=55
E06A Yakima 55.61 57 P **P 22 04 21.8 +0.5**
baz=55,SNR=5.3
KKN Kakani 55.66 275 *e*P **P 22 04 22.6 +0.8**
comp=Z,36nm,0.7s,mb5.5
F05A White Salmon 55.71 57 ⇑P **P 22 04 22.0 0.0**
baz=56
PKI Pulchoki 55.71 275 *e*P **P 22 04 22.9 +0.7**
comp=Z,30nm,0.9s,mb5.3
I03A Eugene 55.74 60 ⇓P **P 22 04 22.4 +0.2**
baz=56
D07A Quincy 55.81 55 ⇓P **P 22 04 22.2 -0.5**
baz=56
DMN Daman 55.89 275 *e*P **P 22 04 24.7 +1.2**
comp=Z,98nm,1.1s,mb5.7
EDM Edmonton 55.90 46 *e*P **P 22 04 23.2 0.0**
J02A Umpqua 55.91 61 ⇑P **P 22 04 24.1 +0.6**
baz=56,SNR=6.2
GKN Gorkha 55.96 276 *e*P **P 22 04 24.8 +0.8**
comp=Z,42nm,0.7s,mb5.6
H04A Detroit Lake 55.97 59 ⇓P **P 22 04 23.7 -0.1**
baz=56,SNR=6.9
C08A Higginbotham F 55.99 54 ⇑P **P 22 04 23.9 -0.1**
baz=56
KK31 Karatay Array 55.99 299 *i*P **P 22 04 22.9 -1.1**
KK31 pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
B09A Rice 56.12 53 ⇓P **P 22 04 24.9 0.0**
baz=56
A10A Northport 56.13 53 ⇓P **P 22 04 24.8 0.0**
baz=56
G05A Wamic 56.16 58 ⇓P **P 22 04 25.6 +0.4**
baz=56
F06A Goldendale 56.17 57 ⇓P **P 22 04 25.2 0.0**
baz=56
E07A Sunnyside 56.24 56 ⇓P **P 22 04 25.4 -0.3**
baz=56
DAG Danmarks Havn 56.27 358 ⇑*i*P **P 22 04 25.1 -0.4**
DAG pmax pmax
comp=Z,3.0nm,0.4s,mb4.7
DAG Danmarks Havn 56.27 358 ⇑*i*P **P 22 04 25.1 -0.4**
comp=Z,2.5nm,0.4s,mb4.6
K02A Glendale 56.30 61 ⇓P **P 22 04 26.8 +0.6**
baz=56
DANN Dangsing 56.33 277 *e*P **P 22 04 27.8 +1.2**
comp=Z,58nm,0.7s,mb5.7
I04A Tendick Farm, 56.35 60 ⇑P **P 22 04 26.9 +0.3**
baz=56,SNR=7.1
C09A Chrisman Ranch 56.41 54 ⇓P **P 22 04 26.4 -0.6**
baz=56
M01C Crescent City 56.46 63 ⇑P **P 22 04 27.8 +0.4**
baz=56
D08A Wollman Farm, 56.48 55 ⇓P **P 22 04 27.2 -0.3**
baz=56
HAWA Hanford 56.52 56 *e*P **P 22 04 26.7 -1.0**
comp=Z,25nm,1.6s,mb5.0
H05A Madras 56.55 59 ⇓P **P 22 04 28.2 +0.2**
baz=56
G06A Carlson Farm, 56.56 58 ⇓P **P 22 04 27.9 -0.1**
baz=56,SNR=5.5
F07A Phinny Hill Vi 56.58 57 ⇓P **P 22 04 28.1 0.0**
baz=56
HUMO Hull Mountain 56.72 61 ⇑P **P 22 04 29.9 +0.7**
baz=56
E08A Dider Farm, El 56.73 56 ⇑P **P 22 04 29.1 -0.1**
baz=56
NEW Newport 56.78 53 P **P 22 04 29.3 -0.2**
NEW pmax pmax
comp=Z,2.0nm,0.5s
NEW Newport 56.78 53 *e*P **P 22 04 28.5 -1.0**
comp=Z,34nm,1.7s,mb5.1
NEW Newport 56.78 53 P **P 22 04 29.3 -0.2**
comp=Z,2.1nm,0.5s,mb4.4,baz=291,slow=6.9,SNR=11
I05A Bend 56.81 59 ⇑P **P 22 04 30.2 +0.4**
baz=57
KOLN Koldanda 56.81 276 *e*P **P 22 04 31.1 +1.0**
comp=Z,62nm,0.9s,mb5.7
H06A Lindquist Farm 57.02 58 P **P 22 04 31.6 +0.3**
baz=57,SNR=11
KEV Kevo 57.05 340 *e*p **P 22 04 29.0 -2.1**
comp=Z,17nm,0.9s,mb5.1
KEV Kevo 57.05 340 *e*P **P 22 04 29.0 -2.1**
KEV pmax pmax
comp=Z,17nm,0.9s,mb5.1
JCC Jacoby Creek 57.12 64 ⇓P **P 22 04 32.8 +0.8**
baz=57
E09A Wood Farm, Sta 57.23 55 ⇓P **P 22 04 32.5 -0.2**
baz=57
F08A Pendleton 57.29 56 ⇓P **P 22 04 33.8 +0.6**
baz=57
J05A Fort Rock 57.34 60 P **P 22 04 34.5 +0.9**
baz=57,SNR=14
YBH Yreka Blue Hor 57.38 62 *e*P **P 22 04 33.7 -0.2**
YBH pmax pmax
comp=Z,29nm,1.3s
YBH Yreka Blue Hor 57.38 62 *e*P **P 22 04 33.7 -0.2**
comp=Z,29nm,1.4s,mb5.1
YBH Yreka Blue Hor 57.38 62 P **P 22 04 34.1 +0.2**
comp=Z,10nm,1.0s,mb4.8,baz=274,slow=3.1,SNR=11
YBH LR LR 22 24 45.6
comp=Z,244nm,21.4s,MS4.3,baz=310,slow=31
YBH Yreka Blue Hor 57.38 62 P **P 22 04 35.2 +1.4**
baz=57,SNR=7.5
D10A Wagner Farm, O 57.40 54 ⇑P **P 22 04 33.4 -0.6**
baz=57
K04A Chilquin 57.45 61 ⇑P **P 22 04 34.9 +0.5**
baz=57
G08A Pilot Rock 57.49 57 P **P 22 04 34.8 +0.2**
baz=57,SNR=7.5
M02C Callahan 57.49 62 ⇑P **P 22 04 35.5 +0.8**
baz=57,SNR=5.5
ARCES ARCESS Array B 57.56 341 P **P 22 04 34.2 -0.5**
comp=Z,4.9nm,0.5s,mb4.8,baz=30,slow=6.7,SNR=26
ARCES LR LR 22 32 00.8
comp=Z,431nm,19.0s,MS4.6,baz=217,slow=39
I06A Prineville 57.56 59 ⇑P **P 22 04 35.6 +0.5**
baz=57
N02C Big Bar 57.56 63 ⇑P **P 22 04 35.8 +0.6**
baz=57
L04A Klamath Falls 57.61 61 ⇓P **P 22 04 35.9 +0.4**
baz=57
O01C Eel River Cons 57.65 64 ⇓P **P 22 04 36.8 +0.9**
baz=57
E10A Myers Farm, Un 57.83 55 ⇓P **P 22 04 36.5 -0.4**
baz=58
F09A S2 Ranch, Elgi 57.84 56 ⇑P **P 22 04 37.1 +0.1**
baz=58
BOK Bokaro 57.85 271 *e*P **P 22 04 36.2 -1.2**
M04C Macdoel 57.87 62 ⇑P **P 22 04 37.5 +0.1**
baz=58,SNR=5.2
K05A Summer Lake 57.88 60 ⇓P **P 22 04 38.2 +0.9**
baz=58,SNR=13
I07A Izee 57.89 58 P **P 22 04 37.9 +0.5**
baz=58,SNR=9.6
D11A Klaveano Farm, 57.92 54 ⇓P **P 22 04 36.8 -0.8**
baz=58
PTH Pithoragarh 57.96 280 *e*P **P 22 04 38.1 -0.1**
J06A Christmas Vall 58.00 59 ⇑P **P 22 04 38.9 +0.7**
baz=58,SNR=11
F10A Beach Ranch, E 58.06 55 ⇑P **P 22 04 38.4 -0.2**
baz=58
H08A Prairie City 58.11 57 P **P 22 04 39.5 +0.5**
baz=58,SNR=7.4
B13A Whitefish 58.15 52 ⇓P **P 22 04 39.0 -0.2**
baz=58
G09A Cove 58.16 56 ⇑P **P 22 04 39.7 +0.3**
baz=58,SNR=6.1
WDC Whiskeytown Da 58.17 63 *e*P **P 22 04 39.3 -0.1**
WDC pmax pmax
comp=Z,18nm,1.2s,mb5.0
WDC Whiskeytown Da 58.17 63 *e*P **P 22 04 39.3 -0.1**
comp=Z,18nm,1.2s,mb5.0
WDC Whiskeytown Da 58.17 63 ⇑P **P 22 04 39.7 +0.2**
baz=58,SNR=6.4
K06A Valley Falls 58.21 60 ⇑P **P 22 04 40.5 +0.8**
baz=58,SNR=15
O02C Red Bluff 58.26 64 ⇑P **P 22 04 40.6 +0.5**
baz=58,SNR=7.0
L05A Lakeview 58.32 61 ⇑P **P 22 04 41.1 +0.7**
baz=58,SNR=12
E11A Bogner Ranch, 58.40 54 P **P 22 04 40.7 -0.3**
baz=58,SNR=7.8
J07A Hines 58.42 59 ⇓P **P 22 04 41.4 +0.3**
baz=58,SNR=6.2
KTK1 Kautokeino 58.47 341 ⇑*i*P **P 22 04 42.9 +1.8**
KTK1 AMb AMB 22 04 47.0
comp=Z,52nm,1.7s,mb5.3
KTK1 Kautokeino 58.47 341 ⇑*i*P **P 22 04 42.9 +1.8**
comp=Z,52nm,1.7s,mb5.3
G10A Bishop Farm, J 58.53 56 P **P 22 04 42.1 +0.3**
baz=58,SNR=12
I08A Drewsey 58.53 58 ⇓P **P 22 04 42.0 +0.1**
baz=58
M05C Lookout 58.54 62 ⇑P **P 22 04 41.9 -0.1**
baz=58
H09A Durkee 58.60 57 ⇓P **P 22 04 42.5 +0.1**
baz=58,SNR=5.3
GASB Alder Springs 58.62 64 ⇑P **P 22 04 43.3 +0.7**
baz=58,SNR=5.6
AKTK Aktyubinsk 58.62 312 P **P 22 04 42.8 +0.4**
AKTK LR LR 22 32 23.2
AKTO Aktyubinsk 58.62 312 P **P 22 04 42.8 +0.4**
comp=Z,3.9nm,0.9s,mb4.4,baz=53,slow=7.8,SNR=7.1
AKTO LR LR 22 32 23.2
comp=Z,1μm,18.8s,MS5.0,baz=44,slow=38
HATC Hat Creek Radi 58.68 62 ⇑P **P 22 04 43.4 +0.4**
baz=58
BMO Blue Mountains 58.69 56 *e*P **P 22 04 43.0 0.0**
comp=Z,33nm,1.5s,mb5.1
F11A Grangeville 58.71 55 ⇓P **P 22 04 43.2 0.0**
baz=58,SNR=5.7
MOD Modoc 58.72 61 *e*P **P 22 04 43.8 +0.5**
comp=Z,26nm,1.1s,mb5.2
MOD Modoc 58.72 61 ⇑P **P 22 04 43.7 +0.4**
baz=58,SNR=8.7
K07A Rock Creek Ran 58.87 59 P **P 22 04 45.1 +0.8**
baz=59,SNR=9.4
TRO Tromso 58.87 343 *e*P **P 22 04 42.4 -1.5**
KSM Kuching 58.87 233 *e*P **P 22 04 44.8 +0.1**
J08A Circle Bar Ran 58.92 58 P **P 22 04 45.2 +0.6**
baz=59,SNR=9.7
DDI Dehra Dun 58.92 282 *e*P **P 22 04 45.0 +0.2**

D13A **Huson** 58.92 53 P P 22 04 44.9 +0.3
baz=59,SNR=12
G11A **Walters Elk Ra** 58.95 55 ⇑P P 22 04 44.8 0.0
baz=59,SNR=6.5
I09A **Lost Marbles R** 58.97 57 ⇑P P 22 04 45.1 +0.2
baz=59,SNR=8.0
M06C **Likely Place G** 59.04 61 ⇑P P 22 04 45.6 +0.1
baz=59
H10A **Noah's Angus R** 59.16 56 P P 22 04 46.4 +0.1
baz=59,SNR=14
O04C **Chester** 59.21 63 ⇓P P 22 04 47.1 +0.4
baz=59
L07A **Adell** 59.22 60 P P 22 04 47.9 +1.1
baz=59,SNR=8.4
ELFS **Eagle Lake Fie** 59.24 62 ⇓P P 22 04 47.5 +0.5
baz=59
MNRC **McLaughlin Nat** 59.26 65 ⇑P P 22 04 47.6 +0.5
baz=59
K08A **Mann Creek Ran** 59.29 59 ⇓P P 22 04 47.4 +0.2
baz=59,SNR=10.0
F12A **Elk City** 59.29 54 P P 22 04 47.5 +0.3
baz=59,SNR=11
J09A **Fry Pan Ranch,** 59.34 58 ⇓P P 22 04 47.9 +0.3
baz=59,SNR=12
MSO **Missoula** 59.36 53 *eP* P 22 04 47.4 -0.2
comp=Z,13nm,1.0s,mb4.9
ORV **Oroville** 59.42 63 P P 22 04 47.9 -0.3
baz=59,SNR=6.5
I10A **Payette** 59.44 57 ⇓P P 22 04 48.5 +0.3
baz=59
D14A **Greenough** 59.45 52 ⇓P P 22 04 47.8 -0.4
baz=59,SNR=10
E13A **Victor** 59.47 53 ⇑P P 22 04 48.2 -0.2
baz=59
H11A **Donnelly** 59.51 56 ⇓P P 22 04 48.5 -0.2
baz=59
O05C **Quincy** 59.53 63 ⇓P P 22 04 48.9 0.0
baz=59
OHCM **Honcut** 59.57 64 *eP* P 22 04 48.7 -0.5
CVS **Carmenet Viney** 59.58 65 ⇑P P 22 04 49.8 +0.5
baz=59
FARB **Farallon Islan** 59.64 66 ⇑P P 22 04 49.5 -0.2
baz=59
N06A **Buffalo Meadow** 59.70 61 ⇓P P 22 04 50.3 +0.2
baz=60,SNR=12
L08A **Fields** 59.70 59 ⇓P P 22 04 50.4 +0.3
baz=60,SNR=8.1
M07A **Soldier Meadow** 59.71 61 ⇓P P 22 04 50.5 +0.4
baz=60,SNR=16
K09A **Rome** 59.75 59 ⇓P P 22 04 50.7 +0.3
baz=60
E14A **Clinton** 59.86 53 ⇑P P 22 04 51.0 -0.1
baz=60,SNR=5.3
J10A **Berg Farm, Mel** 59.86 57 ⇑P P 22 04 50.8 -0.3
baz=60
BEKR **Beckwourth** 59.93 63 ⇑P P 22 04 51.5 -0.2
baz=60,SNR=6.8
D15A **Lincoln** 60.00 52 P P 22 04 51.5 -0.5
baz=60,SNR=14
I11A **Placerville** 60.03 57 ⇓P P 22 04 52.3 0.0
baz=60
O06A **Flanigan** 60.06 62 ⇑P P 22 04 52.5 -0.1
baz=60,SNR=9.6
P05C **Yuba Gap, Truc** 60.12 63 ⇓P P 22 04 53.1 +0.1
baz=60
M08A **Happy Creek Ra** 60.14 60 ⇑P P 22 04 53.3 +0.3
baz=60,SNR=13
N07B **Gerlach** 60.20 61 ⇑P P 22 04 53.6 +0.1
baz=60
K10A **MacKenzie Ranc** 60.20 58 ⇓P P 22 04 53.8 +0.4
baz=60,SNR=8.7
L09A **Wilkinson Ranc** 60.21 59 ⇑P P 22 04 53.8 +0.3
baz=60
G13A **Cobalt** 60.27 55 P P 22 04 53.7 -0.2
baz=60,SNR=13
F14A **Wisdom** 60.30 54 ⇓P P 22 04 53.9 -0.2
baz=60
FFC **Flin Flon** 60.31 40 P P 22 04 54.6 +0.6
comp=Z,136nm,1.5s,mb5.8,SNR=11
FFC **Flin Flon** 60.31 40 *eP* P 22 04 53.9 -0.1
FFC pmax pmax
comp=Z,23nm,1.0s,mb5.2
FFC **Flin Flon** 60.31 40 *eP* P 22 04 53.9 -0.2
comp=Z,23nm,1.0s,mb5.2
E15A **Deer Lodge** 60.32 53 ⇓P P 22 04 54.4 +0.2
baz=60
P06A **Stead Airport,** 60.32 62 ⇑P P 22 04 54.3 0.0
baz=60
MFID **Camas Ranch** 60.41 57 ⇑P P 22 04 55.2 +0.3
baz=60
NDI **New Delhi** 60.53 281 *eP* P 22 04 55.0 -0.9
HRY **Holter Researc** 60.58 52 *eP* P 22 04 56.4 +0.4
PAHR **Pah Rah Range** 60.62 62 *eP* P 22 04 56.0 -0.3
comp=Z,31nm,1.3s,mb5.3
O07A **Toulon** 60.64 61 P P 22 04 56.9 +0.4
baz=60,SNR=15
WCN **Washoe City** 60.64 63 ⇓P P 22 04 56.7 +0.1
baz=60
K11A **Parker Ranch,** 60.69 58 ⇓P P 22 04 57.0 +0.2
baz=60,SNR=5.0
N08A **GE Springer Mi** 60.70 61 ⇓P P 22 04 57.0 +0.1
baz=60,SNR=8.8
M09A **Marrel Ranch,** 60.70 60 P P 22 04 57.6 +0.7
baz=60,SNR=8.8
F15A **Butte** 60.76 53 ⇓P P 22 04 57.6 +0.3
baz=60,SNR=10
S04C **Ingram Canyon,** 60.80 65 ⇑P P 22 04 57.7 +0.1
baz=61
R05C **Kirkwood Meado** 60.82 63 ⇑P P 22 04 57.7 -0.1
baz=61,SNR=6.3
FCC **Fort Churchill** 60.83 33 P P 22 04 57.6 +0.1
FCC pmax pmax
comp=Z,51nm,1.1s,mb5.6
FCC **Fort Churchill** 60.83 33 *eP* P 22 04 56.7 -0.8
comp=Z,51nm,1.1s,mb5.6
EGMT **Eagleton** 60.85 50 ⇓P P 22 04 57.5 -0.4
baz=61
L10A **Juniper Basin** 60.87 58 ⇓P P 22 04 58.3 +0.3
baz=61,SNR=12
J12A **Stokes Ranch,** 60.93 57 ⇑P P 22 04 58.5 0.0
baz=61,SNR=7.1
N09A **Rock Creek Ran** 61.02 60 ⇓P P 22 04 59.1 0.0
baz=61,SNR=11
CMB **Columbia Colle** 61.05 64 *eP* P 22 04 59.1 -0.2
CMB pmax pmax
comp=Z,31nm,1.2s,mb5.3
CMB **Columbia Colle** 61.05 64 *eP* P 22 04 59.1 -0.3
comp=Z,31nm,1.3s,mb5.3
CMB **Columbia Colle** 61.05 64 ⇓P P 22 04 59.3 0.0
baz=61,SNR=6.2
I13A **Wildhorse Cree** 61.07 56 ⇑P P 22 04 59.7 +0.3
baz=61,SNR=9.1
JOF **Joensuu** 61.08 334 *ep* P 22 04 57.6 -1.5
comp=Z,4.8nm,0.4s,mb5.0
HLID **Hailey** 61.12 56 ⇓P P 22 05 00.1 +0.4
baz=61,SNR=10
PACP **Pacheco Peak** 61.14 66 ⇓P P 22 04 59.9 0.0
baz=61,SNR=7.8
M10A **I.L. Ranch, Tu** 61.17 59 ⇓P P 22 05 00.6 +0.5
baz=61,SNR=18
G15A **Dillon** 61.19 54 P P 22 05 00.6 +0.5
baz=61,SNR=8.6
LOF **Lofoten** 61.19 344 ⇓*iP* P 22 05 01.3 +1.5
L11A **Cat Creek Ranc** 61.23 58 P P 22 05 01.1 +0.6
baz=61,SNR=16
R06C **Coleville** 61.32 63 ⇓P P 22 05 01.4 +0.3
baz=61,SNR=11
BOZ **Bozeman (W)** 61.35 53 *eP* P 22 05 01.3 0.0
BOZ pmax pmax
comp=Z,16nm,1.1s,mb5.1
BOZ **Bozeman (W)** 61.35 53 *eP* P 22 05 01.3 0.0
comp=Z,16nm,1.1s,mb5.1
BOZ **Bozeman (W)** 61.35 53 ⇓P P 22 05 02.0 +0.7
baz=61
J13A **Cove Ranch, Pi** 61.36 56 ⇓P P 22 05 01.4 0.0
baz=61,SNR=5.8
HAST **Hastings Reser** 61.36 66 P P 22 05 01.6 +0.1
baz=61,SNR=7.5
P08A **Dixie Valley** 61.41 61 ⇑P P 22 05 02.3 +0.5
baz=61
K12A **Draper Farm, C** 61.42 57 ⇓P P 22 05 02.0 +0.2
baz=61
JMIC **Jan Mayen** 61.47 353 LR LR 22 28 38.6
comp=Z,165nm,19.7s,MS4.2,baz=60,slow=33
S05C **Merced** 61.52 65 ⇑P P 22 05 01.7 -0.8
baz=61
BLSP **Bilaspur** 61.52 272 *eP* P 22 05 01.6 -1.1
BLSP AMb AMB 22 05 03.6
comp=Z,16nm,1.0s,mb5.1
O09A **Fish Creek Ran** 61.64 61 ⇓P P 22 05 03.8 +0.5
baz=61,SNR=10
L12A **House Creek Ra** 61.67 58 ⇓P P 22 05 03.8 +0.4
baz=61
M11A **Holland Ranch,** 61.67 59 P P 22 05 04.4 +1.0
baz=61,SNR=16
R07C **Lee Vining** 61.84 63 ⇓P P 22 05 04.8 +0.2
baz=62
U04C **Hernandez Rese** 61.86 66 ⇑P P 22 05 05.1 +0.3
baz=62,SNR=7.4
QLMT **Earthquake Lak** 61.98 53 P P 22 05 06.2 +0.7
Q08A **Gabbs** 62.02 62 ⇑P P 22 05 06.0 +0.1
baz=62,SNR=11
P09A **Austin** 62.06 61 ⇓P P 22 05 06.5 +0.4
baz=62
NVAR **Mina Array Bea** 62.07 63 P P 22 05 06.3 +0.1
comp=Z,8.8nm,0.9s,mb4.9,baz=333,slow=3.3,SNR=51
N11A **Elko Archery C** 62.09 59 ⇑P P 22 05 06.5 +0.2
baz=62
T06C **Milleton Lake** 62.12 65 ⇓P P 22 05 06.1 -0.4
baz=62
KBL **Kabul** 62.12 292 *eP* P 22 05 06.6 0.0
comp=Z,6.4nm,0.7s,mb4.9
KCC **Kaiser Creek** 62.15 64 ⇓P P 22 05 06.6 -0.2
baz=62,SNR=8.7
M12A **Wells** 62.19 58 P P 22 05 07.8 +0.8
baz=62,SNR=16
MLAC **Mammoth Lakes** 62.26 64 ⇑P P 22 05 07.9 +0.5
baz=62
V04C **Ramage Ranch,** 62.27 67 ⇑P P 22 05 07.7 +0.1
baz=62
PKD **Parkfield** 62.27 66 ⇑P P 22 05 07.3 -0.3
baz=62,SNR=6.6
L13A **Double Diamond** 62.32 57 ⇓P P 22 05 08.2 +0.3
baz=62,SNR=7.0
GCMT **Greycliff** 62.32 52 P P 22 05 08.3 +0.5
P10A **Eureka** 62.42 61 ⇑P P 22 05 08.6 +0.1
baz=62,SNR=5.5
K14A **Jones Ranch, D** 62.47 56 ⇓P P 22 05 09.3 +0.5
baz=62,SNR=6.6
N12A **Clover Valley,** 62.48 59 ⇓P P 22 05 09.5 +0.6
baz=62,SNR=10
Q09A **Carvers** 62.49 62 ⇑P P 22 05 09.4 +0.3
baz=62
YFT **Old Faithful** 62.55 53 *eP* P 22 05 11.2 +1.9
MTUM **Tungsten Hills** 62.60 64 *eP* P 22 05 09.8 +0.1
M13A **Montello** 62.66 58 ⇑P P 22 05 10.5 +0.4
baz=62
PTRM **Twissleman Ran** 62.67 66 P P 22 05 10.6 +0.4
MOR8 **Moi Rana** 62.72 343 *eP* P 22 05 08.1 -1.9
MOR8 AMb AMB 22 05 09.8
comp=Z,52nm,0.8s,mb5.7
MOR8 **Moi Rana** 62.72 343 *eP* P 22 05 08.1 -1.9
comp=Z,52nm,0.8s,mb5.7
V05C **Boulder Hill,** 62.72 66 ⇑P P 22 05 10.3 -0.3
baz=62
S08C **White Mtn Res** 62.75 63 ⇓P P 22 05 11.1 +0.3
baz=62,SNR=15
HELL **Mitchell Peak** 62.75 65 P P 22 05 10.2 -0.5
baz=62,SNR=26
IMW **Indian Meadow** 62.85 54 *eP* P 22 05 11.4 +0.1
comp=Z,16nm,1.0s,mb5.1
STOK **Stokkvaagen** 62.86 343 *eP* P 22 05 10.7 -0.4
FLWY **Flagg Ranch** 62.86 54 *eP* P 22 05 11.0 -0.4
comp=Z,41nm,1.8s,mb5.2
R09A **Tonopah** 62.94 62 ⇓P P 22 05 11.9 -0.1
baz=63
N13A **Wendover, West** 62.96 58 ⇑P P 22 05 12.2 +0.1
baz=63,SNR=6.9
Q10A **Clear Creek Ra** 62.97 61 ⇑P P 22 05 12.2 0.0
baz=63,SNR=5.2
O12A **Currie** 63.02 59 P P 22 05 12.8 +0.2
baz=63,SNR=22
M14A **Sheep Mountain** 63.04 57 ⇓P P 22 05 13.0 +0.4
baz=63
MOOW **Moose Ponds** 63.05 54 *eP* P 22 05 13.6 +0.9
comp=Z,50nm,1.8s,mb5.3
TPAW **Teton Pass** 63.11 54 *eP* P 22 05 14.2 +1.1
comp=Z,29nm,1.1s,mb5.3
S09A **Goldfield** 63.18 63 ⇑P P 22 05 13.8 +0.2
baz=63
LOHW **Long Hollow** 63.22 54 *eP* P 22 05 14.8 +1.0
comp=Z,10nm,0.4s,mb5.3
SNOW **Snow King Moun** 63.23 54 *eP* P 22 05 14.9 +1.0
REDW **Red Top Meadow** 63.25 54 P P 22 05 14.3 +0.4
comp=Z,11nm,0.8s,mb5.0
VES **Vestal, Richgr** 63.25 65 ⇑P P 22 05 13.4 -0.7
baz=63
R10A **Warm Springs** 63.37 62 ⇑P P 22 05 14.6 -0.3
baz=63,SNR=6.0
DGMT **Dagmar** 63.39 47 *eP* P 22 05 14.5 -0.4
comp=Z,45nm,1.0s,mb5.5
PKM **Peak Mountain** 63.40 67 ⇓P P 22 05 15.6 +0.4
baz=63,SNR=5.8
Q11A **Duckwater** 63.40 61 ⇓P P 22 05 15.0 -0.1
baz=63,SNR=7.9
S10A **Tonopah Range,** 63.43 62 ⇑P P 22 05 15.3 0.0
baz=63,SNR=7.9
P12A **McGill** 63.44 60 P P 22 05 15.5 +0.2
baz=63,SNR=11
CWC **Cottonwood Cre** 63.48 64 ⇑P P 22 05 15.7 +0.1
baz=63
N14A **Grayback Hills** 63.55 58 ⇑P P 22 05 16.2 +0.2
baz=63
O13A **Hicks Ranch, I** 63.56 59 ⇑P P 22 05 16.2 +0.1
baz=63
M15A **Larsen Ranch,** 63.58 57 P P 22 05 16.4 +0.2
baz=63,SNR=29
BGU **Big Grassy Mou** 63.59 58 *eP* P 22 05 16.4 +0.1
SPUT **South Promonto** 63.68 57 *eP* P 22 05 17.4 +0.5
VIS **Vishakhapatnam** 63.72 268 *eP* P 22 05 16.7 -0.7
R11A **Troy Canyon, C** 63.76 61 P P 22 05 17.4 0.0
baz=64,SNR=28
Q12A **Willow Creek R** 63.76 60 ⇑P P 22 05 17.2 -0.3
baz=64,SNR=8.1
FINES **FINESS Array B** 63.78 335 *i* P P 22 05 16.3 -0.9
FINES pmax pmax
comp=Z,12nm,0.4s
FINES **FINESS Array B** 63.78 335 P P 22 05 16.4 -0.8
comp=Z,12nm,0.4s,mb5.3,baz=38,slow=7.0,SNR=184
FINES LR LR 22 36 04.0
comp=Z,419nm,19.1s,MS4.6,baz=199,slow=39
ARVC **Arvin** 63.87 66 ⇑P P 22 05 17.8 -0.4
baz=64
N15A **Stansbury Isla** 63.91 57 ⇑P P 22 05 18.6 +0.2
baz=64
P13A **Bates Ranch, G** 63.98 59 P P 22 05 18.9 0.0
baz=64,SNR=17
BHPL **Bhopal** 63.98 277 *eP* P 22 05 18.5 -0.6
BHPL AMb AMB 22 05 20.5
comp=Z,44nm,1.0s,mb5.4
HWUT **Hardware Ranch** 63.99 56 *eP* P 22 05 19.2 +0.3
comp=Z,18nm,1.2s,mb5.0
MPMC **Manual Prospec** 64.09 64 P P 22 05 19.5 -0.1
baz=64,SNR=32
S11A **Rachel** 64.12 62 ⇑P P 22 05 19.8 0.0
baz=64,SNR=7.2
DUG **Dugway** 64.19 58 *eP* P 22 05 20.4 +0.1
DUG pmax pmax
comp=Z,37nm,1.2s,mb5.3
DUG **Dugway** 64.19 58 *eP* P 22 05 20.4 +0.1
comp=Z,37nm,1.2s,mb5.3
DUG **Dugway** 64.19 58 ⇓P P 22 05 20.0 -0.3
baz=64
FURC **Furnace Creek,** 64.21 64 ⇑P P 22 05 20.2 -0.2
baz=64,SNR=12
TPNV **Topopah Spring** 64.27 63 *eP* P 22 05 20.6 -0.2
TPNV pmax pmax
comp=Z,50nm,1.3s,mb5.4
TPNV **Topopah Spring** 64.27 63 *eP* P 22 05 20.6 -0.2
comp=Z,50nm,1.3s,mb5.4
TPNV **Topopah Spring** 64.27 63 ⇑P P 22 05 20.9 +0.1
baz=64
R12A **Pony Springs,** 64.36 61 ⇓P P 22 05 20.9 -0.5
baz=64,SNR=8.7
PSI **Prapat** 64.43 244 P P 22 05 22.8 +0.6
comp=Z,2.0nm,0.3s,mb4.6,baz=286,slow=12,SNR=4.2
CTU **Camp Tracy** 64.48 57 *eP* P 22 05 22.0 -0.2
comp=Z,4.2nm,0.7s,mb4.6
EDW2 **Edwards Air Fo** 64.55 66 P P 22 05 22.4 -0.2
baz=64,SNR=31
S12A **Delamar Landin** 64.69 61 ⇓P P 22 05 23.6 +0.1
baz=64,SNR=11
T11A **Corn Creek, Al** 64.70 62 P P 22 05 23.6 -0.1
baz=64,SNR=22
JLU **Jordanelle** 64.71 57 *eP* P 22 05 24.2 +0.6
DECC **Green Verdugo** 64.75 66 ⇑P P 22 05 23.4 -0.6
baz=64
NLU **North Lily Min** 64.78 58 *eP* P 22 05 24.6 +0.5
DAU **Daniels Canyon** 64.95 57 *eP* P 22 05 25.7 +0.5
GSC **Goldstone** 65.01 64 *eP* P 22 05 25.2 -0.5
GSC pmax pmax
comp=Z,21nm,1.0s,mb5.1
GSC **Goldstone** 65.01 64 *eP* P 22 05 25.2 -0.4
comp=Z,21nm,1.0s,mb5.1
GSC **Goldstone** 65.01 64 P P 22 05 25.4 -0.2
baz=65,SNR=14
BFSC **Mount Baldy St** 65.18 66 ⇓P P 22 05 26.4 -0.4
baz=65,SNR=7.2
S13A **Holt Ranch, En** 65.29 61 ⇓P P 22 05 27.6 +0.1
baz=65,SNR=12
ARUT **Antelope Range** 65.41 60 *eP* P 22 05 28.6 +0.4
TUQ **Turquoise Mtn.** 65.46 64 ⇓P P 22 05 28.2 -0.4
baz=65
V11A **Goodsprings** 65.50 63 ⇑P P 22 05 28.5 -0.4
baz=65,SNR=9.2
S14A **Cedar City** 65.59 60 ⇑P P 22 05 29.0 -0.3
baz=65
CCUT **Cedar City** 65.61 61 *eP* P 22 05 29.6 +0.1
HEC **Hector,Ludlow** 65.61 65 ⇓P P 22 05 29.3 -0.2
baz=65,SNR=27
BBRC **Big Bear Sol-O** 65.62 65 ⇑P P 22 05 29.0 -0.7
baz=65
T13A **Saint George** 65.64 61 ⇑P P 22 05 30.0 +0.2
baz=65,SNR=5.7
MSU **Marysvale** 65.67 59 *eP* P 22 05 30.2 +0.3
MURC **Murrieta** 65.89 66 ⇓P P 22 05 30.7 -0.7
baz=66
V12A **Nelson** 65.92 63 ⇓P P 22 05 31.2 -0.4
baz=66,SNR=6.7
VRHR **Novokhopersk** 65.97 320 *eP* P 22 05 26.4 -5.2
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.5s
U13A **Pakoon Wash** 66.00 62 P P 22 05 32.5 +0.4
baz=66,SNR=23
GMRC **Granite Mounta** 66.06 64 P P 22 05 32.3 -0.2
baz=66,SNR=18
ULM **Lac du Bonnet** 66.09 41 P P 22 05 31.5 -0.9
ULM LR LR 22 38 08.1
ULM **Lac du Bonnet** 66.09 41 P P 22 05 31.5 -0.9
comp=N,4.0nm,0.8s,mb4.5,baz=300,slow=7.4,SNR=4.5
ULM LR LR 22 38 08.1
comp=N,248nm,19.4s,MS4.4,baz=15,slow=39
T14A **Hurricane** 66.10 61 ⇑P P 22 05 32.8 +0.1
baz=66,SNR=11
W12A **Cal Nev Ari** 66.19 63 ⇓P P 22 05 33.1 -0.2
baz=66
PFO **Pinyon Flat Ob** 66.34 66 *eP* P 22 05 33.7 -0.6
PFO pmax pmax
comp=Z,28nm,1.4s,mb5.1
PFO **Pinyon Flat Ob** 66.34 66 *eP* P 22 05 33.7 -0.6
comp=Z,28nm,1.4s,mb5.1
PFO **Pinyon Flat Ob** 66.34 66 ⇑P P 22 05 33.4 -0.9
baz=66,SNR=6.0
BELC **Belle Mtn.** 66.37 65 ⇓P P 22 05 33.4 -1.0
baz=66,SNR=9.2
V13A **Grand Canyon W** 66.37 62 P P 22 05 34.5 0.0
baz=66,SNR=30
109C **Camp Elliot, M** 66.42 67 ⇓P P 22 05 34.1 -0.6
baz=66
U14A **Mt Trumbull** 66.47 61 ⇑P P 22 05 35.4 +0.3
baz=66,SNR=14
T15A **Red Dirt Ranch** 66.55 60 P P 22 05 35.7 +0.2
baz=66,SNR=7.6
IRM **Iron Mountain** 66.78 64 ⇑P P 22 05 36.7 -0.4
baz=67,SNR=15
MONP **Monument Peak** 66.84 66 P P 22 05 37.5 0.0
baz=67,SNR=5.7
VRSR **Storozhevoye** 66.93 321 *eP* P 22 05 37.0 -0.7
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
VRSR pmax pmax
comp=E,5.0nm,0.9s
W13A **Hualapai Mount** 66.93 63 ⇑P P 22 05 37.8 -0.2
baz=67,SNR=14
V14A **Boquillas Ranc** 67.04 62 P P 22 05 39.1 +0.4
baz=67,SNR=33
T16A **Glen Canyon Da** 67.09 60 ⇓P P 22 05 38.0 -1.1
baz=67
SWSC **Sam W. Stewart** 67.20 66 ⇓P P 22 05 38.9 -0.8
baz=67
MOL **Molde** 67.30 344 *eP* P 22 05 41.2 +1.3
X13A **Yucca** 67.30 63 P P 22 05 40.1 -0.3
baz=67,SNR=30
PDMCI **Parker Dam,Lak** 67.31 64 ⇑P P 22 05 39.9 -0.5
baz=67,SNR=8.3
W14A **Seligman** 67.34 62 P P 22 05 40.9 +0.2
baz=67,SNR=22
Y12C **Blythe** 67.44 64 ⇓P P 22 05 41.0 -0.3
baz=67,SNR=7.0
V15A **Kaibab Nationa** 67.48 61 ⇑P P 22 05 41.7 +0.2
baz=67,SNR=20
DOMB **Dombas** 67.48 343 *eP* P 22 05 40.8 -0.3
PV10 **Paradox Valley** 67.59 57 *eP* P 22 05 42.3 +0.1
GLA **Glamis** 67.73 65 *eP* P 22 05 42.5 -0.6
GLA pmax pmax
comp=Z,42nm,1.1s,mb5.4
GLA **Glamis** 67.73 65 *eP* P 22 05 42.5 -0.6
comp=Z,42nm,1.1s,mb5.4
GLA **Glamis** 67.73 65 ⇓P P 22 05 42.8 -0.3
baz=68,SNR=13
Y13A **Salome** 67.83 64 P P 22 05 43.6 -0.1
baz=68,SNR=6.3
NB2 **NORSAR Subarra** 67.93 341 P P 22 05 43.5 -0.4
comp=Z,41nm,0.8s,mb5.5,baz=27,slow=6.5
NOA **NORSAR Array B** 67.93 341 P P 22 05 43.7 -0.2
NOA LR LR 22 41 41.0
NOA **NORSAR Array B** 67.93 341 P P 22 05 43.7 -0.2
comp=Z,28nm,0.7s,mb5.4,baz=26,slow=6.3,SNR=135
NOA LR LR 22 41 41.0
comp=Z,244nm,18.4s,MS4.5,baz=10.0,slow=41
X14A **Yava** 67.96 63 P P 22 05 45.0 +0.4
baz=68,SNR=17
PV01 **Paradox Valley** 68.02 57 *eP* P 22 05 44.7 -0.1
WUAZ **Wupatki** 68.16 61 *eP* P 22 05 45.9 +0.1
comp=Z,19nm,1.1s,mb5.0
WUAZ **Wupatki** 68.16 61 ⇓P P 22 05 45.8 0.0
baz=68
SMCO **Snowmass** 68.22 56 *eP* P 22 05 46.1 0.0
comp=Z,8.5nm,0.8s,mb4.8
Y14A **Wickenburg** 68.25 63 P P 22 05 46.1 -0.3
baz=68,SNR=16
X15A **Humboldt** 68.34 62 P P 22 05 47.4 +0.5
baz=68,SNR=17
ISCO **Idaho Springs** 68.55 54 *eP* P 22 05 48.5 +0.4
ISCO pmax pmax
comp=Z,18nm,1.2s,mb4.9
ISCO **Idaho Springs** 68.55 54 *eP* P 22 05 48.5 +0.3
comp=Z,18nm,1.2s,mb4.9
Y15A **Casa Rosa Ranc** 68.65 63 ⇑P P 22 05 48.8 0.0
baz=68,SNR=20
Z14A **Wintersburg** 68.67 64 ⇑P P 22 05 48.3 -0.7
baz=68
HYA **Hoyanger** 68.85 344 ⇓*iP* P 22 05 51.1 +1.4
HYA AMb AMB 22 05 52.5
comp=Z,52nm,1.3s,mb5.3
HYA **Hoyanger** 68.85 344 ⇓*iP* P 22 05 51.1 +1.4
comp=Z,52nm,1.3s,mb5.3
X16A **Lo Mia Camp, P** 68.87 62 ⇑P P 22 05 50.2 0.0
baz=69,SNR=13
WB2 **Warramunga Arr** 68.94 199 *eP* P 22 05 48.6 -2.0
WRA **Warramunga Arr** 68.94 199 P P 22 05 48.7 -1.9
WRA LR LR 22 33 51.8
WRA **Warramunga Arr** 68.94 199 P P 22 05 48.7 -1.9
comp=Z,1.4nm,0.5s,mb4.2,baz=16,slow=6.7,SNR=20
WRA LR LR 22 33 51.8
comp=Z,93nm,18.2s,MS4.1,baz=180,slow=34
Y16A **Circle Bar Ran** 69.22 62 ⇑P P 22 05 52.3 -0.1
baz=69,SNR=13
KONO **Kongsberg** 69.54 341 ⇑*eP* P 22 05 53.7 -0.2
115A **Sonoran Desert** 69.57 64 ⇑P P 22 05 54.5 -0.1
baz=69,SNR=13
FITZ **Fitzroy Crossi** 69.58 208 *eP* P 22 05 53.9 -0.7
comp=Z,15nm,1.1s,mb4.8
Z16A **Peralta Trail,** 69.61 63 ⇓P P 22 05 54.6 -0.3
baz=69
POO **Poona** 69.63 276 *eP* P 22 05 55.1 0.0
POO AMb AMB 22 05 56.8

comp=Z,33nm,1.6s,mb5.0
ASK Askoy 69.67 344 *e*P **P 22 05 55.3 +0.6**
X18A Snowflake 69.69 61 ⇓P **P 22 05 55.5 +0.2**
baz=70,SNR=6.4
RUND Rundenannen 69.70 344 ⇓*i*P **P 22 05 57.6 +2.7**
RUND AMb AMB 22 05 58.9
comp=Z,68nm,1.2s,mb5.5
RUND Rundenannen 69.70 344 ⇓*i*P **P 22 05 57.6 +2.7**
comp=Z,68nm,1.2s,mb5.5
Y17A Roosevelt 69.72 62 ⇓P **P 22 05 55.6 +0.1**
baz=70,SNR=16
BER Bergen 69.74 344 *e*P **P 22 05 56.2 +1.1**
EGD Espegrend 69.86 344 *e*P **P 22 05 57.0 +1.1**
ODD1 Odda 69.92 343 *e*P **P 22 05 56.3 +0.1**
116A Eloy 69.98 64 ⇓P **P 22 05 56.9 -0.2**
baz=70
SDCO Great Sand Dun 70.04 56 *e*P **P 22 05 57.3 -0.1**
comp=Z,17nm,1.5s,mb4.8
SDCO *e* pP 22 06 05.7 -1.3
X19A St. Johns 70.15 61 ⇑P **P 22 05 58.1 0.0**
baz=70,SNR=16
Y18A Canyon Day Jun 70.16 62 ⇓P **P 22 05 58.5 +0.3**
baz=70,SNR=5.4
Z17A San Carlos Hig 70.22 62 ⇑P **P 22 05 58.9 +0.3**
baz=70
BLS5 Blasjo 70.40 343 ⇑*i*P **P 22 06 00.8 +1.5**
BLS5 AMb AMB 22 06 05.4
comp=Z,31nm,1.1s,mb5.1
BLS5 Blasjo 70.40 343 ⇑*i*P **P 22 06 00.8 +1.5**
comp=Z,31nm,1.1s,mb5.2
ECSD EROS,Sioux Fal 70.47 46 *e*P **P 22 05 58.9 -1.0**
comp=Z,26nm,0.8s,mb5.2
ECSD *e* pP 22 06 06.8 -2.7
Y19A Nutrioso 70.50 61 ⇑P **P 22 06 00.6 +0.4**
baz=70,SNR=18
216A Three Points, 70.52 64 ⇓P **P 22 06 00.3 -0.2**
baz=70,SNR=10.0
117A Oracle 70.56 63 P **P 22 06 00.6 -0.1**
baz=70,SNR=12
KIV Kislovodsk 70.68 314 P **P 22 06 02.9 +1.7**
comp=Z,153nm,0.7s,mb6.0,SNR=9.5
KIV Kislovodsk 70.68 314 *e*P **P 22 06 01.1 -0.1**
KIV *e*S S 22 15 13.0 -0.1
KIV pmax pmax
comp=Z,24nm,1.0s,mb5.1
KIV Kislovodsk 70.68 314 *e*P **P 22 06 01.6 +0.4**
comp=Z,18nm,0.8s,mb5.1
KIV Kislovodsk 70.68 314 ⇑*i*P **P 22 06 01.5 +0.3**
TUC Tucson 70.72 63 *e*P **P 22 06 01.1 -0.5**
TUC pmax pmax
comp=Z,16nm,1.2s,mb4.8
TUC Tucson 70.72 63 *e*P **P 22 06 01.1 -0.6**
comp=Z,16nm,1.2s,mb4.8
SUW Suwalki 70.76 331 *e*P **P 22 06 00.2 -1.2**
SUW Suwalki 70.76 331 *e*P **P 22 06 00.2 -1.3**
Z19A T-Link Ranch, 70.95 62 ⇓P **P 22 06 03.1 0.0**
baz=71,SNR=6.0
118A Homack Ranch, 70.98 62 P **P 22 06 03.3 +0.1**
baz=71,SNR=29
217A Green Valley 71.07 64 P **P 22 06 03.7 -0.1**
baz=71,SNR=16
DGRG David-gareji 71.16 311 P **P 22 06 05.8 +1.6**
MTA Mtatsminda 71.28 311 P **P 22 06 05.7 +0.8**
TBLG Delisi 71.28 312 P **P 22 05 55.8 -9.1**
119A Ashpeak Ranch, 71.30 62 P **P 22 06 05.4 +0.3**
baz=71,SNR=7.5
ONI Oni 71.31 313 P **P 22 06 06.1 +1.1**
AKASG Malin Array Be 71.34 326 P **P 22 06 03.8 -1.3**
comp=Z,13nm,0.4s,mb5.2,baz=33,slow=6.2,SNR=92
AKASG LR LR 22 39 24.7
comp=Z,495nm,20.1s,MS4.8,baz=25,slow=37
AKBB Malin Array Si 71.34 326 *e*P **P 22 06 04.0 -1.1**
KIEV Kiev 71.35 326 *e*P **P 22 06 04.1 -1.1**
KIEV pmax pmax
comp=Z,30nm,0.8s,mb5.3
KIEV Kiev 71.35 326 *e*P **P 22 06 04.1 -1.1**
comp=Z,30nm,0.8s,mb5.3
218A Dragoon 71.40 63 ⇓P **P 22 06 05.5 -0.3**
baz=71,SNR=17
LAZ Ladron 71.44 59 *e*P **P 22 06 06.2 +0.2**
ANMO Albuquerque 71.45 59 *e*P **P 22 06 06.1 +0.1**
ANMO pmax pmax
comp=Z,10.0nm,1.1s
ANMO Albuquerque 71.45 59 *e*P **P 22 06 06.1 0.0**
comp=Z,10nm,1.1s,mb4.7
LPM Los Pinos Moun 71.80 59 *e*P **P 22 06 08.4 +0.3**
318A Bisbee 71.81 63 P **P 22 06 08.2 0.0**
baz=72,SNR=20
219A White Tail Can 71.86 62 P **P 22 06 08.5 0.0**
baz=72,SNR=36
BNM Barren Site 71.92 59 *e*P **P 22 06 08.7 -0.2**
COWI Conover 72.19 40 *e*P **P 22 06 08.3 -2.0**
comp=Z,12nm,0.7s,mb4.9
319A Douglas 72.28 63 ⇑P **P 22 06 10.9 -0.2**
baz=72,SNR=34
SOC Sochi 72.39 316 *e*P **P 22 06 11.1 -0.4**
SOC *e**SP sP 22 06 23.9 -0.8
SOC *e* 22 06 27.4
SOC *e* 22 08 54.0
SOC *e*PPP 22 10 35.2
SOC *e*S S 22 15 32.5 -0.4
SOC *e**SS sS 22 16 00.2 +12
SOC *e* 22 16 13.0
SOC *e*SS SS 22 20 12.6 +2.1
SOC pmax pmax
comp=Z,27nm,0.7s,mb5.3
GNI Garni 72.44 310 ⇑*e*P **P 22 06 12.7 +0.8**
GNI pmax pmax
comp=Z,12nm,0.9s
GNI Garni 72.44 310 *e*P **P 22 06 13.5 +1.6**
comp=Z,18nm,0.8s,mb5.0
CBKS Cedar Bluff 72.45 52 *e*P **P 22 06 10.7 -1.3**
ASAR Alice Springs 72.64 199 P **P 22 06 12.5 -0.5**
comp=Z,3.4nm,0.6s,mb4.5,baz=11,slow=5.8,SNR=50
SCHQ Schefferville 72.87 23 P **P 22 06 13.8 -0.3**
comp=Z,13nm,0.8s,mb5.0,baz=342,slow=6.4,SNR=23
SCHQ LR LR 22 42 27.3
comp=Z,192nm,20.4s,MS4.4,baz=96,slow=39
GKP Gorka Klasztor 73.24 334 *e*P **P 22 06 15.8 -0.6**
GKP Gorka Klasztor 73.24 334 *e*P **P 22 06 15.8 -0.6**
SCIA State Center 73.50 46 *e*P **P 22 06 17.5 -0.6**
comp=Z,25nm,0.7s,mb5.3
SCIA *e* pP 22 06 26.0 -1.7
SIM Simferopol' 73.91 320 *e*P **P 22 06 20.5 +0.1**
SIM *e*S S 22 15 47.0 -3.0
SIM pmax pmax
comp=Z,19nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,450nm,17.2s,MS4.8
LVV L'vov 73.97 329 *e*P **P 22 06 19.4 -1.4**
LVV MLR MLR
comp=Z,300nm,20.3s,MS4.6
AMTX Amarillo 74.24 56 *e*P **P 22 06 22.0 -0.6**
comp=Z,30nm,1.0s,mb5.2
MNTX Cornudas Mount 74.39 60 *e*P **P 22 06 22.7 -0.8**
comp=Z,44nm,1.8s,mb5.1
KIS Kishinev 74.49 324 ⇓*i*P **P 22 06 23.0 -0.8**
KIS *e* pP 22 06 34.0 +0.6
KIS *i* 22 06 39.0
KIS MLR MLR
comp=Z,300nm,17.0s,MS4.7
KIS MLR MLR
comp=N,300nm,16.0s
KIS MLR MLR
comp=Z,300nm,18.0s
KIS Kishinev 74.49 324 ⇓*i*P **P 22 06 23.0 -0.8**
KIS *e*L 22 34 00.0
KIS LRM 22 42 22.0
comp=Z,200nm,16.0s
KWP Kalwaria 74.60 329 *e*P **P 22 06 24.4 0.0**
KWP Kalwaria 74.60 329 *e*P **P 22 06 24.3 -0.1**
KWP pmax pmax
comp=Z,45nm,0.9s,mb5.4
KWP Kalwaria 74.60 329 *e*P **P 22 06 24.4 0.0**
KWP Kalwaria 74.60 329 ⇑*i*P **P 22 06 24.7 +0.3**
IAS Iasi 74.83 325 P **P 22 06 25.6 -0.2**
OJC Ojcow 75.08 331 *e*P **P 22 06 25.1 -2.1**
STHS Stebnicka Huta 75.28 330 *e*P **P 22 06 28.9 +0.5**
STHS pmax pmax
comp=Z,18nm,1.0s,mb5.0
STHS Stebnicka Huta 75.28 330 *e*P **P 22 06 28.9 +0.5**
comp=Z,18nm,1.0s,mb4.9
KOLS Kolonicke sedl 75.34 329 *e*P **P 22 06 28.4 -0.3**
BURAR Bucovina Array 75.38 327 ⇑*i*P **P 22 06 28.9 0.0**
UZH Uzhgorod 75.59 329 *e*P **P 22 06 29.0 -1.1**

NIE Niedzica 75.60 331 *e*P **P 22 06 30.6 +0.4**
KSP Ksiaz 75.65 334 *e*P **P 22 06 30.7 +0.3**
KSP Ksiaz 75.65 334 *e*P **P 22 06 29.6 -0.8**
KSP *e*pP pP 22 06 36.6 -3.4
KSP LR LR
comp=Z,1μm,19.7s,MS5.3
CRVS Cervenica-Dubn 75.65 330 *e*P **P 22 06 30.1 -0.4**
NRDL Niedersach Rie 75.91 338 *e*P **P 22 06 31.4 -0.5**
comp=Z,6.0nm,0.8s,mb4.6
OKC Ostrava-Krasne 75.95 332 *e*P **P 22 06 32.1 -0.1**
OKC AMS AMS 22 44 30.0
comp=Z,400nm,16.3s
WMOK Wichita Mounta 75.96 54 P **P 22 06 31.3 -1.2**
WMOK pmax pmax
comp=Z,15nm,1.0s,mb4.9
WMOK Wichita Mounta 75.96 54 *e*P **P 22 06 31.1 -1.4**
comp=Z,15nm,1.0s,mb4.9
UPC Upice 76.03 334 *e*P **P 22 06 32.6 0.0**
DPC Dobruska-Polom 76.07 333 *e*P **P 22 06 33.1 +0.3**
DPC AMS AMS 22 44 30.0
comp=Z,700nm,20.0s
MORC Moravsky Berou 76.19 332 *e*P **P 22 06 32.4 -1.1**
MORC pmax pmax
comp=Z,16nm,1.0s,mb4.9
MORC Moravsky Berou 76.19 332 *e*P **P 22 06 32.4 -1.1**
comp=Z,16nm,1.0s,mb4.9
MORC Moravsky Berou 76.19 332 ⇑*i*P **P 22 06 33.4 -0.1**
CLL Collm 76.20 336 ⇑*i*P **P 22 06 32.8 -0.8**
CLL *e* pP 22 06 40.0 -3.2
CLL *e* 22 06 45.0
CLL *e*S S 22 16 16.0 +0.7
CLL pmax pmax
comp=Z,34nm,1.2s,mb5.2
CLL MLR MLR
comp=Z,300nm,19.1s,MS4.6
CLL Collm 76.20 336 ⇑*i*P **P 22 06 32.8 -0.8**
comp=Z,34nm,1.2s,mb5.2
CLL *e* pP 22 06 40.0 -3.2
CLL *e* 22 06 45.0
CLL *e*S S 22 16 16.0 +0.7
CLL LR LR
comp=Z,300nm,19.1s,MS4.6
CLL Collm 76.20 336 *e*P **P 22 06 32.7 -0.8**
comp=Z,23nm,0.9s,mb5.1
CLL *e*pP pP 22 06 45.1 +1.9
CLL Collm 76.20 336 ⇑*i*P **P 22 06 32.8 -0.8**
comp=Z,34nm,1.2s,mb5.2
CLL *e*x x 22 06 40.0
CLL *e*sP sP 22 06 45.0 -1.7
CLL *e*S S 22 16 16.0 +0.7
CLL *e*SP 22 16 50.0
CLL *e*(SS) 22 21 48.0
CLL *e*x x 22 25 36.0
CLL LmV 22 43 00.0
comp=Z,300nm,19.1s
VRI Vrincioaia 76.25 325 ⇓*i*P **P 22 06 34.7 +0.8**
CFR Carcaliu 76.25 324 P **P 22 06 37.1 +3.1**
PLOR Plostina 76.29 325 ⇓*i*P **P 22 06 34.8 +0.6**
BRG Berggiesshubel 76.32 335 *e*P **P 22 06 33.0 -1.2**
comp=Z,7.0nm,0.9s,mb4.6
BRG Berggiesshubel 76.32 335 *e*P **P 22 06 33.5 -0.7**
comp=Z,9.0nm,1.1s,mb4.6
BRG
comp=N,289nm,16.8s
BRG
comp=E,189nm,15.5s
BRG
comp=Z,499nm,16.7s
HDIL Hopedale 76.42 44 *e*P **P 22 06 34.1 -0.9**
comp=Z,66nm,1.0s,mb5.5
CLZ Clausthal 76.43 337 *e*P **P 22 06 35.2 +0.3**
CLZ pmax pmax
comp=Z,27nm,1.1s,mb5.1
CLZ Clausthal 76.43 337 *e*P **P 22 06 35.2 +0.3**
comp=Z,27nm,1.1s,mb5.1
PVCC Panska Ves 76.44 334 *e*P **P 22 06 35.0 +0.1**
PVCC AMS AMS 22 43 00.0
comp=Z,600nm,18.3s
FBE Freiberg 76.44 335 *e*P **P 22 06 34.4 -0.6**
comp=Z,17nm,1.1s,mb4.9
TIRR Tirgusor 76.73 323 ⇓*i*P **P 22 06 36.7 0.0**
HARR Harsova 76.73 323 P **P 22 06 37.0 +0.3**
HARR Harsova 76.73 323 ⇓*i*P **P 22 06 37.3 +0.6**
MLR Muntele Rosu 76.87 325 P **P 22 06 38.0 +0.6**
MLR Muntele Rosu 76.87 325 P **P 22 06 37.5 +0.1**
comp=Z,14nm,0.5s,mb5.2,baz=199,slow=2.5,SNR=33
MLR Muntele Rosu 76.87 325 ⇓*i*P **P 22 06 38.8 +1.4**
VYHS Vyhne 76.89 331 *i*P **P 22 06 37.3 -0.2**
VYHS pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
VYHS Vyhne 76.89 331 *i*P **P 22 06 37.3 -0.2**
comp=Z,7.6nm,1.2s,mb4.5
VRAC Vranov 76.90 333 P **P 22 06 38.0 +0.4**
VRAC Vranov 76.90 333 ⇑*i*P **P 22 06 38.3 +0.7**
PRU Pruhonice 76.93 334 *e*P **P 22 06 37.7 0.0**
PRU AMS AMS 22 43 00.0
comp=Z,500nm,17.6s
KOLL Kolacno 76.96 331 *e*P **P 22 06 38.2 +0.3**
DRGR 77.00 328 P **P 22 06 38.0 -0.2**
DRGR 77.00 328 ⇑*i*P **P 22 06 37.8 -0.4**
PSZ Piszkesteto 77.03 330 P **P 22 06 37.7 -0.6**
PSZ pmax pmax
comp=Z,11nm,1.1s,mb4.7
PSZ Piszkesteto 77.03 330 *e*P **P 22 06 37.6 -0.8**
comp=Z,11nm,1.1s,mb4.7
PSZ Piszkesteto 77.03 330 ⇓*e*P **P 22 06 38.9 +0.6**
PSZ Piszkesteto 77.03 330 ⇓*i*P **P 22 06 38.9 +0.6**
MALT Malatya 77.04 313 P **P 22 06 38.8 +0.2**
MALT pmax pmax
comp=Z,20nm,0.8s,mb5.1
MALT Malatya 77.04 313 *e*P **P 22 06 39.5 +0.9**
comp=Z,20nm,0.8s,mb5.1
MALT Malatya 77.04 313 ⇓*i*P **P 22 06 40.0 +1.4**
TXAR Lajitas Array 77.12 61 P **P 22 06 38.7 -0.5**
comp=Z,21nm,0.9s,mb5.1,baz=296,slow=4.3,SNR=177
TANN Tannenbergstha 77.15 336 *e*P **P 22 06 37.3 -1.6**
comp=Z,20nm,1.7s,mb4.8
WERD Werda 77.17 336 *e*P **P 22 06 38.7 -0.3**
comp=Z,22nm,1.7s,mb4.8
MOX Moxa 77.18 336 *e*P **P 22 06 39.0 -0.1**
comp=Z,20nm,1.3s,mb4.9
MOX
comp=Z,200nm,20.0s
MOX Moxa 77.18 336 *e*P **P 22 06 39.0 -0.1**
MOX pmax pmax
comp=Z,20nm,1.3s,mb4.9
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.4
MOX Moxa 77.18 336 *e*P **P 22 06 38.5 -0.6**
WTSB Winterswijk 77.21 340 *e*P **P 22 06 38.9 -0.4**
comp=Z,17nm,0.7s,mb5.1
GUNZ Gunzen 77.23 336 *e*P **P 22 06 39.0 -0.4**
comp=Z,23nm,1.5s,mb4.9
TREC Trest 77.26 333 AMS AMS 22 45 10.0
comp=Z,600nm,20.6s
VOIR 77.26 326 P **P 22 06 40.2 +0.5**
VOIR 77.26 326 ⇓*i*P **P 22 06 40.4 +0.7**
WERN Wernitzgruen 77.29 336 *e*P **P 22 06 39.7 0.0**
comp=Z,7.0nm,0.8s,mb4.6
WERN *e*pP pP 22 06 51.9 +2.5
NKC Novy Kostel 77.32 336 *e*P **P 22 06 39.9 0.0**
NKC AMS AMS 22 47 00.0
comp=Z,300nm,17.6s
CCM Cathedral Cave 77.42 47 *e*P **P 22 06 39.5 -1.2**
CCM pmax pmax
comp=Z,11nm,1.0s,mb4.7
CCM Cathedral Cave 77.42 47 *e*P **P 22 06 39.5 -1.1**
comp=Z,11nm,1.0s,mb4.8
PSN Preselentsi 77.46 323 *i*P **P 22 06 40.8 0.0**
UBBA Unterbreizbach 77.46 337 *e*P **P 22 06 40.6 -0.1**
comp=Z,6.0nm,0.8s,mb4.6
SLM Saint Louis 77.47 46 P **P 22 06 40.2 -0.7**
MODS Modra-Piesok 77.50 332 *e*P **P 22 06 41.2 +0.2**
BUG Bochum--Univer 77.58 339 *e*P **P 22 06 41.7 +0.4**
comp=Z,11nm,0.9s,mb4.8
AAM Ann Arbor 77.61 40 P **P 22 06 41.1 -0.5**
MANZ Manzenberg 77.64 336 *e*P **P 22 06 41.3 -0.4**
comp=Z,10.0nm,1.3s,mb4.6
BUD Budapest 77.70 330 ⇓*e*P **P 22 06 42.6 +0.5**
ZST Bratislava 77.72 332 *e*P **P 22 06 43.5 +1.3**
ZST pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
ZST MLR MLR
comp=Z,300nm,20.4s,MS4.6
ZST Bratislava 77.72 332 *e*P **P 22 06 43.5 +1.3**

comp=Z,8.5nm,1.0s,mb4.6
ZST LR LR
comp=Z,300nm,20.4s,MS4.6
ROTZ Rotzenmuhle 77.81 335 *e*P **P 22 06 42.0 -0.6**
comp=Z,16nm,1.5s,mb4.7
ROTZ *e*pP pP 22 06 53.0 +0.7
KHC Kasperske Hory 77.98 334 *e*P **P 22 06 43.8 +0.2**
KHC *e*pP pP 22 06 55.5 +2.3
KHC AMS AMS 22 44 00.0
comp=Z,500nm,19.9s
GRA1 Grafenberg Arr 78.15 336 *e*P **P 22 06 44.7 +0.2**
comp=Z,12nm,0.8s,mb4.9
GRA1 *e*pP pP 22 06 56.8 +2.6
GRA1 LR LR
comp=Z,300nm,19.9s,MS4.6
GRF Grafenberg Arr 78.15 336 *e*P **P 22 06 44.7 +0.2**
GRF *e**PP pP 22 06 56.8 +2.6
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF MLR MLR
comp=Z,300nm,19.9s,MS4.6
GRF Grafenberg Arr 78.15 336 *e*P **P 22 06 44.7 +0.2**
GRF *e**PP pP 22 06 56.8 +2.6
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.9
GRF MLR MLR
comp=Z,300nm,19.9s,MS4.6
GRF Grafenberg Arr 78.15 336 *e*P **P 22 06 44.7 +0.2**
comp=Z,12nm,0.8s,mb4.9
GRF *e*pP pP 22 06 56.8 +2.6
GRF *e*L 22 44 41.3
comp=Z,288nm,19.9s
GRFO Grafenberg 78.15 336 *e*P **P 22 06 44.7 +0.2**
GRFO pmax pmax
comp=Z,34nm,1.0s,mb5.2
GRFO Grafenberg 78.15 336 *e*P **P 22 06 44.7 +0.1**
comp=Z,34nm,1.0s,mb5.2
GZR Gura Zlata 78.16 327 ⇑*i*P **P 22 06 45.0 +0.3**
WET Wettzell 78.17 335 *e*P **P 22 06 44.6 -0.1**
WET *e**PP pP 22 06 57.0 +2.7
WET pmax pmax
comp=Z,17nm,1.2s,mb4.8
WET Wettzell 78.17 335 *e*P **P 22 06 44.6 -0.1**
comp=Z,17nm,1.2s,mb4.8
WET *e*pP pP 22 06 57.0 +2.7
PRD Provadia 78.18 323 *i*P **P 22 06 44.8 0.0**
GEC2 GERESS Array S 78.20 334 *e*P **P 22 06 43.4 -1.4**
GEC2 pmax pmax
comp=Z,11nm,1.4s,mb4.6
GEC2 GERESS Array S 78.20 334 *e*P **P 22 06 43.4 -1.4**
comp=Z,11nm,1.4s,mb4.6
GERES GERESS Array B 78.20 334 P **P 22 06 44.6 -0.3**
comp=Z,1.8nm,0.4s,mb4.3,baz=35,slow=5.1,SNR=28
GERES LR LR 22 44 46.2
comp=Z,376nm,18.6s,MS4.8,baz=263,slow=38
SOP Sopron 78.34 332 ⇓*e*P **P 22 06 46.3 +0.7**
CONA Conrad Observa 78.35 332 ⇑*i*P **P 22 06 46.2 +0.5**
comp=Z,10nm,0.9s,mb4.8,SNR=7.2
CSNA Conrad Observa 78.35 332 ⇑*i*P **P 22 06 45.9 +0.2**
comp=Z,9.0nm,0.8s,mb4.8
BZS Buzias 78.40 328 P **P 22 06 45.9 -0.1**
BZS Buzias 78.40 328 ⇑*i*P **P 22 06 45.8 -0.2**
ANTO Ankara 78.53 317 *e*P **P 22 06 47.4 +0.6**
ANTO pmax pmax
comp=Z,18nm,0.7s,mb5.1
ANTO Ankara 78.53 317 *e*P **P 22 06 47.4 +0.6**
comp=Z,18nm,0.7s,mb5.1
ANTO Ankara 78.53 317 ⇓*i*P **P 22 06 47.6 +0.8**
HGN Heimansgroeve 78.53 340 *e*P **P 22 06 47.2 +0.5**
comp=Z,23nm,1.2s,mb5.0
HGN Heimansgroeve 78.53 340 *e*S S 22 16 40.8 +0.2
JCT Junction City 78.55 57 *e*P **P 22 06 46.1 -1.0**
JCT pmax pmax
comp=Z,42nm,1.1s,mb5.3
JCT Junction City 78.55 57 *e*P **P 22 06 46.1 -1.0**
comp=Z,42nm,1.2s,mb5.2
MIB Mutribah 78.64 302 *e*P **P 22 06 47.4 -0.2**
MIB AMb AMB 22 06 49.4
comp=Z,130nm,0.8s,mb5.9
MEM Membach 78.66 340 P **P 22 06 47.3 0.0**
SZH Strazhica 78.72 324 *i*P **P 22 06 46.8 -1.0**
TOD Tromm 78.88 337 *e*P **P 22 06 48.2 -0.4**
MSNY Massena 78.90 33 *e*P **P 22 06 47.1 -1.7**
MOA Molln 78.92 333 ⇑*i*P **P 22 06 49.7 +0.9**
comp=Z,7.7nm,0.8s,mb4.7,SNR=6.4
MIAR Mount Ida 78.92 51 *e*P **P 22 06 48.2 -0.9**
MIAR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MIAR Mount Ida 78.92 51 *e*P **P 22 06 48.2 -0.8**
comp=Z,9.0nm,0.8s,mb4.8
PKSM Moragy 78.94 330 ⇓P **P 22 06 48.1 -0.8**
PKSM Moragy 78.94 330 P **P 22 06 48.1 -0.8**
PKSM Moragy 78.94 330 ⇓*i*P **P 22 06 48.0 -0.9**
BCLA Clavier 79.00 340 P **P 22 06 48.6 -0.6**
PVL Pavlikeni 79.01 324 *i*P **P 22 06 49.3 -0.1**
QRN Al-Qurain 79.08 300 *e*P **P 22 06 49.8 -0.2**
QRN AMb AMB 22 06 51.5
comp=Z,81nm,0.9s,mb5.7
NAY Al-Naaiem 79.11 301 *e*P **P 22 06 49.9 -0.2**
NAY AMb AMB 22 06 52.0
comp=Z,49nm,0.9s,mb5.4
JMB Yambol 79.12 323 *e*P **P 22 06 50.8 +0.8**
JMB Yambol 79.12 323 *i*P **P 22 06 49.1 -0.9**
RDF Al-Radifah 79.16 301 *e*P **P 22 06 50.5 0.0**
RDF AMb AMB 22 06 52.1
comp=Z,110nm,0.8s,mb5.8
ERPA Erie 79.32 37 *e*P **P 22 06 49.2 -1.9**
comp=Z,34nm,1.2s,mb5.2
ERPA *e* 22 07 03.3
STKA Stephens Creek 79.37 190 P **P 22 06 49.5 -1.6**
comp=Z,2.5nm,1.0s,mb4.1,baz=349,slow=7.8,SNR=3.6
STKA LR LR 22 39 17.3
comp=Z,124nm,18.4s,MS4.3,baz=28,slow=34
GIVF Givet 79.41 340 *e*P **P 22 06 51.1 -0.3**
WLF Walferdange 79.50 339 *e*P **P 22 06 54.1 +2.2**
comp=Z,16nm,1.1s,mb4.9
FUR Furstenfeldbru 79.52 335 *e*P **P 22 06 51.8 -0.3**
FUR *e**PP pP 22 07 04.4 +2.7
FUR pmax pmax
comp=Z,22nm,1.3s,mb4.9
FUR Furstenfeldbru 79.52 335 *e*P **P 22 06 51.8 -0.3**
comp=Z,22nm,1.3s,mb4.9
FUR *e*pP pP 22 07 04.4 +2.7
BAIF Baives 79.59 340 *e*P **P 22 06 52.3 -0.1**
PERS Pernice 79.73 332 *i*P **P 22 06 53.3 +0.1**
KBA Koelnbreinsper 79.89 334 *i*P **P 22 06 54.7 +0.7**
comp=Z,32nm,1.1s,mb5.2,SNR=20
KBA Koelnbreinsper 79.89 334 *i*P **P 22 06 54.8 +0.7**
KBA pmax pmax
comp=Z,32nm,1.1s,mb5.2
DIM Dimitrovgrad 79.90 323 *i*P **P 22 06 54.2 -0.1**
OBKA Obir 80.02 333 ⇓*i*P **P 22 06 54.7 -0.1**
comp=Z,8.9nm,0.9s,mb4.7,SNR=8.3
BFO Black Forest 80.18 337 *e*P **P 22 06 57.3 +1.7**
BFO *e**PP pP 22 07 07.7 +2.4
BFO pmax pmax
comp=Z,18nm,1.0s,mb5.0
BFO Black Forest 80.18 337 *e*P **P 22 06 57.3 +1.7**
comp=Z,18nm,1.0s,mb5.0
BFO *e*pP pP 22 07 07.7 +2.4
WATA Walderalm 80.18 335 ⇑*i*P **P 22 06 56.0 +0.3**
comp=Z,15nm,0.9s,mb4.9
WATA Walderalm 80.18 335 ⇑*i*P **P 22 06 56.0 +0.3**
WATA pmax pmax
comp=Z,15nm,0.9s,mb4.9
WTTA Wattenberg 80.23 335 ⇑*i*P **P 22 06 56.4 +0.4**
comp=Z,36nm,1.3s,mb5.2,SNR=10
WTTA Wattenberg 80.23 335 ⇑*i*P **P 22 06 56.4 +0.5**
WTTA pmax pmax
comp=Z,36nm,1.3s,mb5.1
KDZ Kurdzhali 80.28 323 *i*P **P 22 06 56.0 -0.3**
DIVS Divibare 80.29 328 *e*P **P 22 06 55.8 -0.6**
MOTA Moosalm 80.31 335 ⇓*i*P **P 22 06 56.2 -0.2**
comp=Z,22nm,1.1s,mb5.0
MOTA Moosalm 80.31 335 ⇓*i*P **P 22 06 56.2 -0.2**
MOTA pmax pmax
comp=Z,22nm,1.1s,mb5.0
VTS Vitosha 80.37 325 *e*P **P 22 06 57.0 +0.2**
VTS Vitosha 80.37 325 P **P 22 06 56.7 -0.1**
VTS Vitosha 80.37 325 ⇑*i*P **P 22 06 57.0 +0.2**
VTS Vitosha 80.37 325 *i*P **P 22 06 56.3 -0.5**
CDF Champ du Feu 80.38 338 *e*P **P 22 06 56.7 0.0**
comp=Z,14nm,0.8s,mb4.6
CDF Champ du Feu 80.38 338 *e*P **P 22 06 56.7 0.0**
CDF pmax pmax

comp=Z,7.0nm,0.8s,mb4.6
CDF Champ du Feu 80.38 338 *e*P **P 22 06 56.7 0.0**
comp=Z,7.2nm,0.8s,mb4.7
SQTA Sankt Quirin 80.39 335⇑ *i*P **P 22 06 57.0 +0.2**
comp=Z,25nm,1.3s,mb5.0
SQTA Sankt Quirin 80.39 335⇑ *i*P **P 22 06 57.0 +0.2**
SQTA pmax pmax
comp=Z,25nm,1.3s,mb5.0
NATX Nacogdoches 80.47 53 *e*P **P 22 06 57.7 +0.1**
comp=Z,35nm,0.7s,mb5.4
PTCC Patocco-Chiusa 80.49 333 P **P 22 06 56.2 -1.1**
comp=Z,7.8nm,0.7s,mb4.8
FVI Forni Avoltri 80.49 334 P **P 22 06 58.3 +0.9**
RZN Rozhen 80.54 324 *i* P **P 22 06 57.2 -0.5**
VISS Visnje 80.56 332 *e*P **P 22 06 57.2 -0.5**
ECH Echery 80.59 338 *e*P **P 22 06 57.4 -0.4**
WVT Waverly 80.62 46 *e*P **P 22 06 56.6 -1.6**
WVT pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WVT Waverly 80.62 46 *e*P **P 22 06 56.6 -1.6**
comp=Z,8.2nm,0.8s,mb4.7
BOJS Bojanci 80.69 332 *i* P **P 22 06 57.1 -1.3**
JAVS Javornik 80.72 333 *i* P **P 22 06 58.0 -0.7**
ACCN Adirondack Com 80.72 33 *e*P **P 22 06 56.8 -1.9**
comp=Z,3.5nm,0.9s,mb4.3
MEZF Maizieres J'vi 80.85 339 *e*P **P 22 06 59.4 +0.2**
comp=Z,30nm,0.8s,mb5.0
MEZF Maizieres J'vi 80.85 339 *e*P **P 22 06 59.4 +0.2**
comp=Z,30nm,0.8s,mb5.3
THEF They Montfort 80.88 339 *e*P **P 22 06 58.4 -1.0**
HAU Haudompre 80.99 338 *e*P **P 22 06 59.7 -0.3**
HAU *e*MLR MLR
comp=Z,563nm,22.5s,MS4.6
HAU Haudompre 80.99 338 *e*P **P 22 06 59.7 -0.3**
HAU LR LR
comp=Z,560nm,22.5s,MS4.9
MMB Musomiste 81.02 324 *i* P **P 22 07 00.2 -0.1**
HINF Hinteralfeld 81.04 338 *e*P **P 22 06 59.7 -0.5**
comp=Z,13nm,0.9s,mb4.6
HINF Hinteralfeld 81.04 338 *e*P **P 22 06 59.7 -0.5**
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF Hinteralfeld 81.04 338 *e*P **P 22 06 59.7 -0.5**
comp=Z,6.6nm,0.9s,mb4.6
KKB Krupnik 81.04 325 *i* P **P 22 06 59.8 -0.6**
PMOR Pomariorio Ree 81.09 123 *e*P **P 22 07 00.5 -0.4**
comp=Z,55nm,1.2s,mb5.4
BRMO Bormio 81.31 335 P **P 22 07 03.2 +1.5**
KNT Kendrikon 81.71 325 *e*P **P 22 07 03.6 -0.3**
GRG Griva 82.08 325 *e*P **P 22 07 05.5 -0.4**
PLG Polygyros 82.16 324 *e*P **P 22 07 05.6 -0.7**
KRUS Krusevo 82.18 326 *e*Pg **P 22 07 06.6 +0.2**
LOR Lormes 82.29 340 *e*P **P 22 07 06.7 -0.2**
comp=Z,28nm,0.9s,mb4.9
LOR *e*MLR MLR
comp=Z,421nm,21.5s,MS4.5
LOR Lormes 82.29 340 *e*P **P 22 07 06.7 -0.2**
LOR pmax pmax
comp=Z,14nm,0.9s,mb4.9
LOR MLR MLR
comp=Z,420nm,21.5s,MS4.8
LOR Lormes 82.29 340 *e*P **P 22 07 06.7 -0.2**
comp=Z,14nm,0.9s,mb4.9
LOR LR LR
comp=Z,420nm,21.5s,MS4.8
CABF La Chapelle 82.35 338 *e*P **P 22 07 07.4 +0.2**
PAIG Paliouri 82.44 323 *e*P **P 22 07 06.9 -0.9**
SSF Saint Saulge 82.56 340 *e*P **P 22 07 08.1 -0.2**
comp=Z,10nm,0.8s,mb4.6
SSF Saint Saulge 82.56 340 *e*P **P 22 07 08.1 -0.2**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
SSF Saint Saulge 82.56 340 *e*P **P 22 07 08.1 -0.2**
comp=Z,5.1nm,0.8s,mb4.6
CHOS Chios island 82.75 321 *e*P **P 22 07 09.1 -0.3**
LIT Litokhoron 82.78 324 *e*P **P 22 07 10.0 +0.4**
AVF Avril sur Loir 82.86 340 *e*P **P 22 07 09.9 +0.1**
SMF Signal de Mont 82.88 339 *e*P **P 22 07 09.9 0.0**
comp=Z,22nm,0.8s,mb5.0
SMF Signal de Mont 82.88 339 *e*P **P 22 07 09.9 0.0**
SMF pmax pmax
comp=Z,11nm,0.8s,mb4.9
SMF Signal de Mont 82.88 339 *e*P **P 22 07 09.9 0.0**
comp=Z,11nm,0.8s,mb4.9
ELN Prospectdale 83.04 41 *e*P **P 22 07 09.8 -1.1**
FSSB Fossombrone 83.10 332 P **P 22 07 11.1 -0.1**
comp=Z,11nm,0.5s,mb5.1
XOR Xorichti 83.12 323 *e*P **P 22 07 09.4 -1.9**
BGF Bois d'Agland 83.19 340 *e*P **P 22 07 11.7 +0.1**
LPL La Plagne 83.20 337 *e*P **P 22 07 12.5 +0.9**
comp=Z,9.7nm,0.7s,mb4.7
LPL La Plagne 83.20 337 *e*P **P 22 07 12.5 +0.9**
LPL pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LPL La Plagne 83.20 337 *e*P **P 22 07 12.5 +0.9**
comp=Z,4.8nm,0.7s,mb4.6
SFI Santa Sofia 83.20 333 P **P 22 07 13.8 +2.1**
SFI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SFI Santa Sofia 83.20 333 P **P 22 07 13.8 +2.1**
comp=Z,10nm,0.7s,mb5.0
LPG La Plagne 83.21 337 *e*P **P 22 07 12.7 +1.0**
comp=Z,30nm,0.9s,mb5.0
LPG La Plagne 83.21 337 *e*P **P 22 07 12.7 +1.0**
LPG pmax pmax
comp=Z,15nm,0.9s,mb5.0
LPG La Plagne 83.21 337 *e*P **P 22 07 12.7 +1.0**
comp=Z,15nm,0.9s,mb5.0
VMG Vicchio 83.24 333 P **P 22 07 12.9 +1.0**
SNTG Esanatoglia 83.44 332 P **P 22 07 12.4 -0.5**
comp=Z,6.8nm,0.6s,mb4.8
PLDF La Plantade 83.56 339 *e*P **P 22 07 11.9 -1.6**
MURB Monte Urbino 83.57 332 P **P 22 07 18.5 +4.9**
comp=Z,25nm,1.0s,mb5.3
TCF Toulx Ste Croi 83.59 340 *e*P **P 22 07 13.8 +0.1**
AGO Saint Agoulin 83.60 340 *e*P **P 22 07 17.3 +3.6**
ARG Arkhangelos 83.63 318 P **P 22 07 15.6 +1.6**
NRCA Norcia 83.77 332 P **P 22 07 14.7 +0.1**
comp=Z,18nm,0.8s,mb5.2
MBDF Montbardon 83.92 337 *e*P **P 22 07 15.3 0.0**
ORIF Oris-en-Rattie 83.98 337 *e*P **P 22 07 16.4 +0.8**
comp=Z,18nm,0.8s,mb5.0
ORIF *e*MLR MLR
comp=Z,314nm,22.8s,MS4.3
ORIF Oris-en-Rattie 83.98 337 *e*P **P 22 07 16.4 +0.8**
ORIF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
ORIF Oris-en-Rattie 83.98 337 *e*P **P 22 07 16.4 +0.8**
comp=Z,9.2nm,0.8s,mb5.0
RGNG Rignano Grg 83.98 330 P **P 22 07 15.6 -0.1**
PZZ Prazzo 84.03 336 P **P 22 07 15.5 -0.4**
AQU L'Aquila 84.10 331 *e*P **P 22 07 16.1 -0.2**
AQU pmax pmax
comp=Z,17nm,1.0s,mb5.1
AQU L'Aquila 84.10 331 *e*P **P 22 07 16.1 -0.2**
comp=Z,17nm,0.9s,mb5.2
AQU L'Aquila 84.10 331⇑ *i*P **P 22 07 15.8 -0.5**
IGT Igoumenitsa 84.11 325 *e*P **P 22 07 17.0 +0.5**
VIVF Saint-Julien-I 84.34 338 *e*P **P 22 07 18.0 +0.5**
comp=Z,17nm,0.9s,mb4.9
VIVF Saint-Julien-I 84.34 338 *e*P **P 22 07 18.0 +0.5**
VIVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
VIVF Saint-Julien-I 84.34 338 *e*P **P 22 07 18.0 +0.5**
comp=Z,8.6nm,0.9s,mb4.9
SBF Sospel 84.53 336 *e*P **P 22 07 18.1 -0.4**
KARP Karpathos 84.62 319 P **P 22 07 19.5 +0.4**
LKD Levkas 84.70 325 *e*P **P 22 07 19.2 -0.3**
CAF Calviac 84.91 340 *e*P **P 22 07 20.2 -0.2**
SMRF Simiane la Rot 84.93 337 *e*P **P 22 07 20.7 +0.2**
FRF La Foret Royal 85.03 336 *e*P **P 22 07 20.6 -0.4**
comp=Z,59nm,1.5s,mb5.2
FRF La Foret Royal 85.03 336 *e*P **P 22 07 20.6 -0.4**
FRF pmax pmax
comp=Z,29nm,1.5s,mb5.2
FRF La Foret Royal 85.03 336 *e*P **P 22 07 20.6 -0.4**
comp=Z,29nm,1.5s,mb5.2
VLS Valsamata 85.18 325 *e*P **P 22 07 20.8 -1.1**
VLS Valsamata 85.18 325 P **P 22 07 22.6 +0.8**
LFF La Frestale 85.20 341 *e*P **P 22 07 21.3 -0.5**
LMR La Mourre 85.28 336 *e*P **P 22 07 22.2 0.0**
comp=Z,21nm,1.1s,mb4.9
LMR La Mourre 85.28 336 *e*P **P 22 07 22.2 0.0**
LMR pmax pmax
comp=Z,11nm,1.1s,mb4.9
LMR La Mourre 85.28 336 *e*P **P 22 07 22.2 0.0**
comp=Z,11nm,1.1s,mb4.9
LHS Liberty Hill 85.30 42 *e*P **P 22 07 26.9 +4.4**
ZKR Zakros 85.41 319 *e*P **P 22 07 22.5 -0.6**
ITM Ithomi 85.50 323 P **P 22 07 23.1 -0.4**
LAST Lasithi 85.70 320 *e*P **P 22 07 23.9 -0.6**
TIP Timpagrande 85.77 328 *e*P **P 22 07 23.7 -1.0**
comp=Z,13nm,1.0s,mb5.1
VAM Vamos 86.05 321 P **P 22 07 27.0 +0.8**
SIVA Sivas 86.11 320 *e*P **P 22 07 26.4 -0.2**
EPF Esparros 87.11 341 *e*P **P 22 07 31.0 -0.3**
ESDC Sonseca Array 91.25 343 LR LR 22 55 20.4
comp=Z,166nm,18.1s,MS4.5,baz=290,slow=40
KEST Kesra 91.43 331 P **P 22 07 52.4 +0.7**
comp=Z,1.9nm,1.0s,mb4.4,baz=2.5,slow=3.7,SNR=8.4
KEST LR LR 22 54 05.8
comp=Z,99nm,19.3s,MS4.3,baz=258,slow=39
TORD Torodi Ar. Bea 114.87 329 PKP PKiKP 22 13 24.7 -1.8
comp=Z,0.8nm,0.5s,baz=16,slow=2.3,SNR=27
TORD PP PP 22 14 19.8 -4.4
comp=Z,1.1nm,0.9s,baz=7.6,slow=6.7,SNR=4.1
TORD PKKPab PKKPab 22 24 07.0 -4.6
comp=Z,0.6nm,0.7s,baz=230,slow=3.5,SNR=4.1
DBIC Dimbokro 123.07 334 PKP PKPdf 22 13 41.1 -1.3
comp=Z,5.5nm,0.7s,baz=36,slow=1.7,SNR=8.5
VNDA Vanda 124.49 178 PKP PKPdf 22 13 41.9 -1.2
comp=Z,1.4nm,0.8s,baz=333,slow=3.4,SNR=7.4
MAW Mawson 132.64 211 PKP PKPdf 22 13 58.6 -0.2
comp=Z,3.1nm,0.7s,baz=288,slow=4.9,SNR=5.9
LPAZ La Paz 133.98 62 PKP PKPdf 22 14 04.8 +1.8
comp=Z,0.6nm,0.6s,baz=337,slow=9.0,SNR=4.1
BDFB Brasilia 143.91 37 PKP PKPdf 22 14 18.0 -3.1
comp=Z,3.8nm,0.9s,baz=354,slow=19,SNR=5.3
CFAA Coronel Fontan 144.72 79 PKP PKPdf 22 14 19.4 -2.6
comp=Z,2.4nm,0.6s,baz=279,slow=2.8,SNR=38
PLCA Paso Flores 148.03 95 PKP2 PKPbc 22 14 29.8 -0.7
PLCA pmax pmax
comp=Z,6.0nm,0.7s
PLCA Paso Flores 148.03 95 PKPbc PKPbc 22 14 29.8 -0.8
comp=Z,6.2nm,0.7s,baz=248,slow=3.4,SNR=11
CPUP Villa Florida 148.09 60 PKP2 PKPbc 22 14 29.8 -1.3
CPUP pmax pmax
comp=Z,6.0nm,0.9s
CPUP Villa Florida 148.09 60 PKPbc PKPbc 22 14 29.8 -1.4
comp=Z,5.5nm,0.9s,baz=268,slow=1.9,SNR=7.7
NVL N'lazarevskaya 150.07 204 *c* *i*PKIKP PKPbc 22 14 34.6 -0.1
NVL pmax pmax
comp=Z,37nm,1.2s
SNAA Sanae 152.98 196 PKIKP PKPbc 22 14 40.1 -1.3
SNAA pmax pmax
comp=Z,3.0nm,0.7s
SNAA Sanae 152.98 196 PKPbc PKPbc 22 14 40.1 -1.3
comp=Z,2.8nm,0.7s,baz=181,slow=1.8,SNR=21

NEIC ***10*** *21:58:04.6±0.7, 4709N×15359E, h35km, mb4.6/2, Error ellipse: s-maj=21.6km s-min=12.6km az=133.0*
ISCJB ***10*** *21:58:10.1±4.0, 470N±0.1×1535E±02, h108km±38km, mb4.0/15, Error ellipse: s-maj=25.0km s-min=15.8km az=137.7*
IDC ***10*** *21:58:11.0±6.5, 4700N×15343E, h100km±59km, mb3.7/13, mb1 3.9/14, mb1mx3.8/23, mbtmp3.7/14, ML3.7/1, Error ellipse: s-maj=22.9km s-min=17.5km az=113.0*
ISC 10 21:58:10.5±3.6, 470N±01×1535E±02, h94km±35km**, n21,** σ0°69/19**, mb4.0**/15**, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.43**	**233**	P	**Pn**	**22 01 43.4**	**+0.7**
	0.3nm,0.3s,baz=32,slow=8.6,SNR=4.3						
KSRS	**Korea Array**	**21.11**	**252**	P	**P**	**22 02 45.7**	**-1.6**
	1.5nm,0.7s,mb3.5,baz=57,slow=9.6,SNR=2.7						
MCK	**McKinley**	**35.30**	**41**	*e*P	**P**	**22 04 55.3**	**-0.5**
	2.8nm,0.6s,mb4.3						
COLA	**College**	**35.78**	**39**	*e*P	**P**	**22 05 00.1**	**+0.1**
	10nm,0.9s,mb4.8						
INK	**Inuvik**	**41.30**	**33**	*e*P	**P**	**22 05 46.1**	**0.0**
INK	**Inuvik**	**41.30**	**33**	P	**P**	**22 05 46.4**	**+0.3**
	6.5nm,0.8s,mb4.5,baz=315,slow=4.8,SNR=5.8						
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**22 06 33.5**	**+1.3**
MKAR	**Makanchi Array**	**47.04**	**297**	P	**P**	**22 06 33.5**	**+1.4**
	0.7nm,0.7s,mb3.5,baz=69,slow=8.0,SNR=2.7						
YKA	**Yellowknife Ar**	**50.57**	**37**	P	**P**	**22 06 59.1**	**+0.2**
	3.4nm,0.8s,mb4.4,baz=297,slow=7.0,SNR=5.7						
BVAR	**Borovoye Array**	**50.88**	**309**	P	**P**	**22 07 02.0**	**+0.7**
	0.8nm,0.6s,mb4.0,baz=64,slow=7.8,SNR=2.8						
FINES	**FINESS Array B**	**63.91**	**335**	P	**P**	**22 08 31.9**	**-0.9**
	1.6nm,0.6s,mb4.0,baz=40,slow=8.1,SNR=4.6						
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**22 08 59.3**	**-0.1**
NOA	**NORSAR Array B**	**68.06**	**341**	P	**P**	**22 08 59.3**	**0.0**
	2.1nm,0.7s,mb4.0,baz=26,slow=6.3,SNR=5.8						
HFS	**Hagfors**	**68.30**	**340**	P	**P**	**22 09 00.3**	**-0.6**
	2.7nm,0.4s,mb4.4,baz=57,slow=5.5,SNR=16						
WRA	**Warramunga Arr**	**68.84**	**199**	P	**P**	**22 09 04.1**	**-0.5**
	0.9nm,0.9s,mb3.6,baz=21,slow=6.6,SNR=4.0						
AKASG	**Malin Array Be**	**71.47**	**326**	P	**P**	**22 09 20.0**	**-0.3**
	0.6nm,0.4s,mb3.8,baz=34,slow=6.2,SNR=4.4						
ASAR	**Alice Springs**	**72.53**	**199**	P	**P**	**22 09 27.4**	**+0.5**
	1.5nm,0.6s,mb4.0,baz=11,slow=5.8,SNR=8.2						
TXAR	**Lajitas Array**	**77.15**	**61**	P	**P**	**22 09 54.0**	**+0.3**
	3.1nm,0.7s,mb4.1,baz=299,slow=4.6,SNR=13						
GERES	**GERESS Array B**	**78.33**	**334**	P	**P**	**22 10 00.5**	**+0.6**
	0.3nm,0.4s,mb3.4,baz=33,slow=3.8,SNR=3.4						
CFAA	**Coronel Fontan**	**144.71**	**79**	PKP	PKPdf	22 17 33.7	-2.1
CFAA	**Coronel Fontan**	**144.71**	**79**	PKP	PKPdf	22 17 33.7	-2.1
	0.5nm,0.7s,baz=252,slow=4.4,SNR=4.6						

BJI ***10*** *22:19:56.9, 62.18N×145.97W, h21km, mB5.1, mb4.7, Ms4.8, Msz4.6*
ISCJB ***10*** *22:20:01.4±0.3, 6131N±003×14691W±004, h51km±3km, mb4.3/32, MS3.9/3, Error ellipse: s-maj=4.5km s-min=3.4km az=12.5*
IDC ***10*** *22:20:02.5±1.7, 6149N×14693W, h39km±17km, mb3.9/14, mb1 4.0/17, mb1mx3.9/24, mbtmp3.9/17, ML3.5/3, MS3.6/3, Ms1 3.6/3, ms1mx3.3/34, Error ellipse: s-maj=15.5km s-min=12.9km az=166.0*
NEIC ***10*** *22:20:02.7, 6130N×14689W, h29km, mb4.4/17, ML4.4(PMR), ML4.2(AEIC), After AEIC.*
NEIC Felt [IV] at Valdez, [III] at Anchorage and [II] at Chugiak and Palmer. Also felt at Cordova and Eagle River.
ISC 10 22:20:02.7±0.3, 6129N±003×14694W±004, h44km±3km**, n104,** σ1°01/115**, mb4.3**/32**, MS3.9**/3**, Southern Alaska**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIV	**Divide**	**0.59**	**106**	*e*P	**Pn**	**22 20 13.1**	**-1.6**
DIV				*e*S	**Sn**	**22 20 22.3**	**-1.0**
KNK	**Knik Glacier**	**0.74**	**280**	P	**Pn**	**22 20 16.0**	**-0.7**
SML	**Sawmill**	**0.84**	**308**	*e*Pn	**Pn**	**22 20 17.0**	**-1.1**
SML				*e*S	**Sn**	**22 20 29.3**	**0.0**
GHO	**Glory Hole Cre**	**1.07**	**298**	P	**Pn**	**22 20 20.5**	**-0.6**
PMR	**Palmer**	**1.09**	**287**	P	**Pn**	**22 20 20.8**	**-0.6**
PMR				S	**Sn**	**22 20 35.7**	**+0.3**
BMRM	**Bremner River**	**1.18**	**105**	P	**Pn**	**22 20 21.5**	**-1.2**
BMRM				S	**Sn**	**22 20 37.6**	**+0.1**
RC01	**Rabbit Creek A**	**1.37**	**263**	P	**Pn**	**22 20 25.4**	**+0.1**
RC01				S	**Sn**	**22 20 44.1**	**+1.9**
RAGM	**Ragged Mountai**	**1.43**	**128**	P	**Pn**	**22 20 25.7**	**-0.4**
FIB	**Fire Island**	**1.57**	**267**	P	**Pn**	**22 20 28.9**	**+0.9**
SEW	**Seward**	**1.72**	**227**	P	**Pn**	**22 20 30.8**	**+0.8**
SLKM	**Skilak Lake**	**1.79**	**245**	P	**Pn**	**22 20 31.2**	**+0.3**
PAX	**Paxson**	**1.82**	**22**	P	**Pn**	**22 20 31.4**	**0.0**
PAX				S	**Sn**	**22 20 54.4**	**+1.1**
MID	**Middleton Isla**	**1.90**	**171**	P	**Pn**	**22 20 32.7**	**+0.3**
MENT	**Mentasta**	**2.24**	**41**	P	**Pn**	**22 20 36.0**	**-1.2**
MCK	**McKinley**	**2.62**	**340**	P	**Pn**	**22 20 43.0**	**+0.7**
MCK				S	**Sn**	**22 21 13.8**	**+1.0**
TRF	**Thorofare Moun**	**2.67**	**326**	P	**Pn**	**22 20 43.3**	**+0.3**
DOT	**Dot Lake**	**2.72**	**28**	P	**Pn**	**22 20 44.6**	**+1.0**
KTH	**Kantishna Hill**	**2.93**	**323**	P	**Pn**	**22 20 47.0**	**+0.4**
BCA3	**Beaver Creek A**	**3.00**	**51**	P	**Pn**	**22 20 47.9**	**+0.3**
IL1	**Eielson Array**	**3.49**	**0**	P	**Pn**	**22 20 53.9**	**-0.4**
COLA	**College**	**3.62**	**354**	*e*Pn	**Pn**	**22 20 56.7**	**+0.7**
COLA				*e*Sn	**Sn**	**22 21 37.1**	**-0.3**
AUL	**Augustine Lava**	**3.75**	**242**	P	**Pn**	**22 20 58.2**	**+0.3**
PNL	**Peninsula**	**4.07**	**110**	P	**Pn**	**22 21 01.0**	**-1.3**
SVW2	**Sparrevohn**	**4.19**	**271**	P	**Pn**	**22 21 02.8**	**-1.0**
EGAK	**Eagle**	**4.38**	**34**	P	**Pn**	**22 21 07.0**	**+0.5**
DAWY	**Dawson**	**4.45**	**48**	*e*Pn	**Pn**	**22 21 08.0**	**+0.4**
DAWY				*e*Sn	**Sn**	**22 21 59.7**	**+1.7**
KDAK	**Kodiak Island**	**4.54**	**222**	P	**Pn**	**22 21 08.5**	**-0.2**
KDAK	**Kodiak Island**	**4.54**	**222**	Pn	**Pn**	**22 21 08.4**	**-0.3**
	6.8nm,0.3s,baz=35,slow=11,SNR=101						
KDAK				Sn	**Sn**	**22 21 57.0**	**-3.1**
	16nm,0.3s,baz=140,slow=22,SNR=11						
KDAK				Lg		22 22 24.7	
	6.1nm,0.3s,baz=197,slow=20,SNR=3.5						
TT01	**Tatalina**	**4.56**	**295**	P	**Pn**	**22 21 07.2**	**-1.9**
TTA	**Tatalina**	**4.57**	**295**	*e*Pn	**Pn**	**22 21 07.9**	**-1.2**
TTA				*e*Sn	**Sn**	**22 22 01.5**	**+0.8**
IM3	**Indian Mountai**	**5.60**	**330**	P	**Pn**	**22 21 23.1**	**0.0**
IMA2	**Indian Mountai**	**5.65**	**331**	P	**Pn**	**22 21 24.4**	**+0.4**
WHY	**Whitehorse**	**5.91**	**91**	P	**Pn**	**22 21 26.0**	**-1.4**
SKAG	**Skagway**	**6.04**	**103**	*e*P	**Pn**	**22 21 30.1**	**+0.8**
COLD	**Coldfoot**	**6.13**	**348**	P	**Pn**	**22 21 30.5**	**+0.1**
CHGN	**Chignik**	**7.78**	**235**	*e*P	**Pn**	**22 21 53.0**	**-0.1**
DLBC	**Dease Lake**	**8.97**	**101**	*e*Pn	**Pn**	**22 22 09.4**	**0.0**
DLBC				*e*Sn	**Sn**	**22 23 49.6**	**+0.6**
DLBC	**Dease Lake**	**8.97**	**101**	Pn	**Pn**	**22 22 09.5**	**+0.1**
	baz=290,slow=10						
INK	**Inuvik**	**9.05**	**33**	*e*Pn	**Pn**	**22 22 10.6**	**+0.2**
INK				*e*Sn	**Sn**	**22 23 54.2**	**+3.4**
INK				Lg		22 24 36.4	
INK				LR	LR	22 26 17.3	
INK	**Inuvik**	**9.05**	**33**	Pn	**Pn**	**22 22 09.8**	**-0.6**
	0.2nm,0.3s,baz=220,slow=17,SNR=12						
INK				Lg		22 24 36.4	
	baz=269,slow=7.9,SNR=5.2						
INK				LR	LR	22 26 17.3	
	comp=Z,234nm,19.5s,baz=15,slow=42						
TNA	**Tin City**	**10.30**	**304**	*e*Pn	**Pn**	**22 22 29.3**	**+1.8**
	18nm,0.6s						
YKA	**Yellowknife Ar**	**15.20**	**71**	Pn	**Pn**	**22 23 32.9**	**-1.0**
	0.2nm,0.3s,baz=275,slow=12,SNR=12						
WALA	**Waterton Lakes**	**22.20**	**108**	*e*P	**P**	**22 24 56.4**	**+1.6**
	14nm,1.3s,mb4.2						
RES	**Resolute Bay**	**22.61**	**33**	P	**P**	**22 25 01.8**	**+2.9**
	106nm,0.7s,mb5.4						
YBH	**Yreka Blue Hor**	**24.45**	**132**	P	**P**	**22 25 20.1**	**+3.1**
	6.1nm,1.1s,mb4.0,baz=346,slow=3.7,SNR=5.4						
YBH				LR	LR	22 33 10.4	
	comp=Z,78nm,20.2s,MS3.2,baz=350,slow=32						
WDC	**Whiskeytown Da**	**25.53**	**133**	*e*P	**P**	**22 25 29.1**	**+2.3**
	6.0nm,0.9s,mb4.1						
MSU	**Marysvale**	**31.33**	**121**	*e*P	**P**	**22 26 20.9**	**+2.5**
SRU	**San Rafael**	**31.52**	**118**	*e*P	**P**	**22 26 21.3**	**+1.2**
	1.8nm,0.7s,mb4.0						
WUAZ	**Wupatki**	**34.22**	**122**	*e*P	**P**	**22 26 45.7**	**+2.0**
	4.2nm,0.9s,mb4.4						
SCHQ	**Schefferville**	**40.34**	**62**	P	**P**	**22 27 34.1**	**-1.2**
	1.9nm,0.6s,mb4.0,baz=343,slow=6.8,SNR=6.0						
WMOK	**Wichita Mounta**	**40.36**	**109**	*e*P	**P**	**22 27 36.5**	**+0.8**
	1.5nm,0.8s,mb3.8						
TXAR	**Lajitas Array**	**42.80**	**118**	P	**P**	**22 27 57.2**	**+1.5**
TXAR				PcP	PcP	22 29 45.9	-0.4
TXAR	**Lajitas Array**	**42.80**	**118**	P	**P**	**22 27 57.2**	**+1.5**
	1.9nm,0.7s,mb3.9,baz=331,slow=6.5,SNR=27						
TXAR				PcP	PcP	22 29 45.9	-0.4
	0.8nm,0.5s,baz=36,slow=2.3,SNR=13						
ARCES	**ARCESS Array B**	**49.35**	**3**	P	**P**	**22 28 45.5**	**-1.3**
ARCES	**ARCESS Array B**	**49.35**	**3**	P	**P**	**22 28 45.5**	**-1.3**
	3.0nm,0.6s,mb4.5,baz=18,slow=8.1,SNR=12						
CN2	**Changchun**	**51.79**	**293**	*e*P	**P**	**22 29 07.1**	**+1.6**
CN2				*e*AP	pP	22 29 15.0	-2.9
CN2				*e*S	**S**	**22 36 25.4**	**+1.4**
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=E,300nm,16.0s,MS4.5						
CN2				LR	LR		
	comp=Z,300nm,16.0s,MS4.4						
SONM	**Songino Array**	**56.37**	**309**	P	**P**	**22 29 38.8**	**0.0**
	comp=Z,1.2nm,0.7s,mb4.0,baz=32,slow=8.7,SNR=5.1						
NB2	**NORSAR Subarra**	**56.85**	**12**	P	**P**	**22 29 41.0**	**-1.0**
	comp=Z,0.7nm,0.7s,mb3.8,baz=347,slow=7.4						
NOA	**NORSAR Array B**	**56.85**	**12**	P	**P**	**22 29 41.2**	**-0.8**
NOA	**NORSAR Array B**	**56.85**	**12**	P	**P**	**22 29 41.2**	**-0.7**
	comp=Z,1.8nm,0.9s,mb4.1,baz=350,slow=6.8,SNR=5.0						
FINES	**FINESS Array B**	**57.47**	**4**	P	**P**	**22 29 45.6**	**-0.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=4.2,slow=8.7,SNR=21						
ZALV	**Zalesovo Beam**	**58.02**	**327**	P	**P**	**22 29 48.5**	**-1.8**
ZALV	**Zalesovo Beam**	**58.02**	**327**	P	**P**	**22 29 48.5**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=31,slow=7.5,SNR=8.3						
BVAR	**Borovoye Array**	**62.23**	**336**	P	**P**	**22 30 18.5**	**-0.6**
	comp=Z,0.5nm,0.4s,mb4.0,baz=55,slow=6.6,SNR=5.4						
BVAR				LR	LR	23 03 19.0	
	comp=Z,92nm,18.5s,MS4.0,baz=264,slow=42						
MKAR	**Makanchi Array**	**65.19**	**325**	P	**P**	**22 30 37.1**	**-1.6**
	comp=Z,1.6nm,0.4s,mb4.4,baz=31,slow=6.5,SNR=47						
BAIF	**Baives**	**66.61**	**20**	*e*P	**P**	**22 30 47.5**	**-0.3**
	comp=Z,4.4nm,0.5s,mb4.4						
BAIF	**Baives**	**66.61**	**20**	*e*P	**P**	**22 30 47.5**	**-0.3**
	comp=Z,2.2nm,0.5s,mb4.4						
AKTK	**Aktyubinsk**	**66.84**	**343**	P	**P**	**22 30 48.1**	**-1.1**
AKTO	**Aktyubinsk**	**66.84**	**343**	P	**P**	**22 30 48.1**	**-1.1**
	comp=Z,1.3nm,0.7s,mb4.1,baz=78,slow=2.5,SNR=3.9						
GRR	**Gorron**	**67.31**	**24**	*e*P	**P**	**22 30 52.0**	**-0.3**
AKASG	**Malin Array Be**	**68.32**	**3**	P	**P**	**22 30 57.4**	**-1.2**
	comp=Z,1.0nm,0.5s,mb4.1,baz=239,slow=18,SNR=9.3						
KHC	**Kasperske Hory**	**68.82**	**14**	*e*P	**P**	**22 31 02.0**	**+0.3**
HAU	**Haudompre**	**68.95**	**19**	*e*P	**P**	**22 31 02.0**	**-0.5**
	comp=Z,5.6nm,0.6s,mb4.3						
HAU	**Haudompre**	**68.95**	**19**	*e*P	**P**	**22 31 02.0**	**-0.5**
	comp=Z,2.8nm,0.6s,mb4.4						
GERES	**GERESS Array B**	**69.11**	**14**	P	**P**	**22 31 03.5**	**-0.1**
	comp=Z,0.5nm,0.6s,mb3.7,baz=348,slow=4.6,SNR=4.8						
HINF	**Hinteralfeld**	**69.21**	**19**	*e*P	**P**	**22 31 03.8**	**-0.4**
	comp=Z,6.7nm,0.7s,mb4.4						
HINF	**Hinteralfeld**	**69.21**	**19**	*e*P	**P**	**22 31 03.8**	**-0.4**
	comp=Z,3.3nm,0.7s,mb4.4						
LOR	**Lormes**	**69.25**	**21**	*e*P	**P**	**22 31 04.1**	**-0.4**
	comp=Z,5.

WTVZ	**West Tongariro**	**0.80 204**	P	Pn	22 27 27.0 +0.4
WTVZ	**West Tongariro**	**0.80 204**	PN	Pn	22 27 27.0 +0.4
BKZ	**Black Stump Fm**	**0.87 154**	P	Pn	22 27 27.4 +0.3
BKZ			S	Sn	22 27 46.9 -0.4
BKZ	**Black Stump Fm**	**0.87 154**	PN	Pn	22 27 27.4 +0.4
BKZ			SN	Sn	22 27 46.9 -0.4
URZ	**Urewera**	**0.88 82**	P	Pn	22 27 26.8 -0.3
URZ	**Urewera**	**0.88 82**	PN	Pn	22 27 26.8 -0.4
URZ			SN	Sn	22 27 46.5 -0.7
WPVZ	**Whakapapa**	**0.90 204**	P	Pn	22 27 27.6 +0.4
WPVZ	**Whakapapa**	**0.90 204**	PN	Pn	22 27 27.6 +0.3
FWVZ	**Far West T-bar**	**0.94 202**	P	Pn	22 27 27.9 +0.3
FWVZ	**Far West T-bar**	**0.94 202**	PN	Pn	22 27 27.9 +0.4
MOVZ	**Moawhango**	**1.04 191**	P	Pn	22 27 28.2 -0.1
MOVZ	**Moawhango**	**1.04 191**	PN	Pn	22 27 28.2 -0.1
MTVZ	**Mangateitei**	**1.08 203**	PN	Pn	22 27 28.9 +0.2
MWZ	**Matawai**	**1.20 88**	PN	Pn	22 27 29.6 0.0
VRZ	**Vera Road**	**1.23 232**	P	Pn	22 27 29.7 -0.1
VRZ	**Vera Road**	**1.23 232**	PN	Pn	22 27 29.7 -0.2
KNZ	**Kokohu**	**1.45 117**	P	Pn	22 27 32.3 +0.4
KNZ	**Kokohu**	**1.45 117**	PN	Pn	22 27 32.3 +0.5
WAZ	**Wanganui**	**1.58 210**	P	Pn	22 27 32.8 -0.4
WAZ	**Wanganui**	**1.58 210**	PN	Pn	22 27 32.8 -0.4
TSZ	**Takapari Road**	**1.67 181**	PN	Pn	22 27 33.8 -0.3
WPHZ	**Waipukurau**	**1.71 169**	PN	Pn	22 27 34.5 0.0
PXZ	**Pawanui**	**1.77 158**	PN	Pn	22 27 35.3 +0.2
PUZ	**Puketiti**	**1.80 81**	P	Pn	22 27 35.0 -0.4
PUZ	**Puketiti**	**1.80 81**	PN	Pn	22 27 35.0 -0.4
MXZ	**Matakaoa Point**	**1.99 66**	P	Pn	22 27 36.9 -0.6
MXZ	**Matakaoa Point**	**1.99 66**	PN	Pn	22 27 36.9 -0.6
MRZ	**Mangatainoka R**	**2.30 188**	P	Pn	22 27 39.5 -1.4
MRZ	**Mangatainoka R**	**2.30 188**	PN	Pn	22 27 39.5 -1.3
BFZ	**Birch Farm**	**2.30 175**	P	Pn	22 27 39.9 -1.0
BFZ	**Birch Farm**	**2.30 175**	PN	Pn	22 27 39.9 -1.0
HOWZ	**Holdsworth Sta**	**2.54 188**	PN	Pn	22 27 41.9 -1.7
KIW	**Kapiti Island**	**2.62 199**	P	Pn	22 27 42.7 -1.9
KIW	**Kapiti Island**	**2.62 199**	PN	Pn	22 27 42.7 -1.9
MTW	**Mount Morrison**	**2.80 188**	P	Pn	22 27 44.5 -2.2
MTW	**Mount Morrison**	**2.80 188**	PN	Pn	22 27 44.5 -2.2
CAW	**Cannon Point**	**2.82 195**	P	Pn	22 27 45.0 -1.9
CAW	**Cannon Point**	**2.82 195**	PN	Pn	22 27 45.0 -2.0
DUWZ	**D'Urville Isla**	**2.90 213**	PN	Pn	22 27 45.6 -2.4
MRW	**Makara Radio**	**3.02 199**	P	Pn	22 27 47.1 -2.3
MRW	**Makara Radio**	**3.02 199**	PN	Pn	22 27 47.1 -2.3
TRWZ	**Traveller**	**3.02 185**	PN	Pn	22 27 47.3 -2.2
MSWZ	**Moikau Station**	**3.08 191**	P	Pn	22 27 47.7 -2.5
MSWZ	**Moikau Station**	**3.08 191**	PN	Pn	22 27 47.7 -2.5
SNZO	**South Karori**	**3.09 199**	P	Pn	22 27 47.8 -2.5
SNZO	**South Karori**	**3.09 199**	PN	Pn	22 27 47.8 -2.5
TCW	**Tory Channel**	**3.12 205**	PN	Pn	22 27 48.2 -2.5
BHW	**Baring Head**	**3.15 196**	P	Pn	22 27 48.4 -2.6
BHW	**Baring Head**	**3.15 196**	PN	Pn	22 27 48.4 -2.5
PLWZ	**Palliser**	**3.23 190**	PN	Pn	22 27 49.3 -2.7
TUWZ	**Tuamarina**	**3.43 207**	PN	Pn	22 27 51.5 -3.0
NNZ	**Nelson**	**3.48 215**	P	Pn	22 27 51.9 -3.2
NNZ	**Nelson**	**3.48 215**	PN	Pn	22 27 51.9 -3.2
BSWZ	**Blackbirch Sta**	**3.71 206**	P	Pn	22 27 55.2 -2.8
BSWZ	**Blackbirch Sta**	**3.71 206**	PN	Pn	22 27 55.2 -2.8
THZ	**Tophouse**	**4.13 214**	P	Pn	22 28 00.2 -3.2
THZ	**Tophouse**	**4.13 214**	PN	Pn	22 28 00.2 -3.2
MQZ	**McQueen's Vall**	**5.89 204**	P	Pn	22 28 21.0 -5.3
MQZ	**McQueen's Vall**	**5.89 204**	PN	Pn	22 28 21.0 -5.2
WVZ	**Waitaha Valley**	**6.16 219**	P	Pn	22 28 25.5 -4.3
WVZ	**Waitaha Valley**	**6.16 219**	PN	Pn	22 28 25.5 -4.3
LBZ	**Lake Benmore**	**7.42 214**	P	Pn	22 28 41.4 -5.0
LBZ	**Lake Benmore**	**7.42 214**	PN	Pn	22 28 41.4 -5.0
ODZ	**Otahua Downs**	**7.77 209**	P	Pn	22 28 46.6 -4.4
ODZ	**Otahua Downs**	**7.77 209**	PN	Pn	22 28 46.6 -4.3

MAN 10 22:45:59, 1633N×12151E, h48km, mb4.3, ML3.1, MS2.9, Luzon

NIED ***10*** *22:47:00, 43.10N×147.00E, h32km, Mw4.4 Best double couple: M0=5.10000×10^15 NP1:φ=23.00000°, δ=56.00000°, λ=69.00000°. NP2:φ=238.00000°, δ=39.00000°, λ=118.00000°.*
IDC ***10*** *22:47:34.3±0.6, 43.21N×146.76E, h0km, mb4.4/19, mb1 4.5/22, mb1mx4.4/26, mbtmp4.3/22, ML3.7/3, MS3.7/10, Ms1 3.7/10, ms1mx3.4/32, Error ellipse: s-maj=17.5km s-min=14.7km az=152.0*
JMA ***10*** *22:47:37.7±0.2, 43.12N×146.96E, h44km±3km, M4.5*
JMA Felt I J1.
BJI ***10*** *22:47:38.9, 43.45N×146.97E, h59km, mB4.8, mb4.7, Ms4.1, Msz4.1*
ISCJB ***10*** *22:47:39.3±0.6, 43.14N±004×14683E±004, h48km±4km, mb4.6/73, MS4.0/15, Error ellipse: s-maj=7.0km s-min=4.4km az=150.2*
MOS ***10*** *22:47:40.5±1.0, 43.13N×146.65E, h56km, mb4.9/31, MS4.0/6, Error ellipse: s-maj=9.1km s-min=5.2km az=111.6*
SKHL ***10*** *22:47:41.9±0.8, 43.62N×146.78E, h55km±22km, mb4.8/5, Ms4.3/2*
NEIC ***10*** *22:47:41.2±0.7, 43.15N×146.76E, h49km±6km, mb4.6/25, Error ellipse: s-maj=6.9km s-min=4.8km az=153.0*
NEIC Recorded [1 JMA] in eastern Hokkaido.
ISC 10 22:47:40.9±0.6, 4319N±004×14680E±004, h45km±4km, h56km±5.6km:pP-P, n225, σ0°93/239, mb4.6/73, MS4.0/15, 9C-13D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**0.79**	**283**	P	**Pn**	**22 47 54.5**	**-1.2**
NEM2				*e*S	**Sn**	**22 48 06.9**	**+0.5**
YUK	**Yuzh-Kuril'sk**	**1.08**	**321**	⇓*i*PN	**Pn**	**22 47 58.2**	**-1.4**
YUK				*i* S	**Sn**	**22 48 11.0**	**-2.5**
YUK				pmax	pmax		
	comp=Z,2μm,0.4s						
YUK				pmax	pmax		
	comp=N,4μm,1.0s						
YUK				pmax	pmax		
	comp=E,3μm,1.0s						
YUK				pmax	pmax		
	comp=Z,8μm,1.0s						
YUK				smax			
	comp=N,16μm,0.5s						
YUK				smax			
	comp=E,37μm,0.7s						
YUK				smax			
	comp=N,58μm,1.0s						
YUK				smax			
	comp=E,30μm,1.0s						
YUK	**Yuzh-Kuril'sk**	**1.08**	**321**	⇓*i*P	**Pn**	**22 47 58.2**	**-1.4**
YUK				AMB	AMB	22 47 59.2	
	comp=E,2μm,0.3s						
YUK				AMB	AMB	22 48 02.4	
	comp=E,150nm,0.2s						
YUK				AMB	AMB	22 48 03.3	
	comp=E,4μm,1.0s						
YUK				AMB	AMB	22 48 03.3	
	comp=E,3μm,1.0s						
YUK				AMB	AMB	22 48 03.3	
	comp=E,8μm,1.0s						
YUK				*i* S	**Sn**	**22 48 11.0**	**-2.5**
YUK				A		22 48 31.0	
	comp=E,37μm,0.7s						
YUK				A		22 48 31.0	
	comp=E,16μm,0.5s						
YUK				A		22 48 32.0	
	comp=E,58μm,1.0s						
YUK				A		22 48 32.0	
	comp=E,30μm,1.0s						
JRA	**Rausu**	**1.43**	**302**	P	**Pn**	**22 48 03.9**	**-0.5**
JRA				*e*S	**Sn**	**22 48 22.7**	**+0.7**
JAK	**Akkeshi**	**1.56**	**263**	P	**Pn**	**22 48 05.2**	**-0.9**
JAK				*e*S	**Sn**	**22 48 25.2**	**+0.1**
JNK	**Nakash**	**1.57**	**285**	P	**Pn**	**22 48 05.4**	**-0.9**
JNK				*e*S	**Sn**	**22 48 25.4**	**0.0**
JOB	**Onbets**	**2.19**	**263**	P	**Pn**	**22 48 14.2**	**-0.7**
JOB				*e*S	**Sn**	**22 48 40.3**	**-0.5**
JAR	**Ashorobuto**	**2.22**	**274**	P	**Pn**	**22 48 14.7**	**-0.5**
JAR				*e*S	**Sn**	**22 48 42.9**	**+1.5**
JTKR	**Abashiri--Toko**	**2.24**	**291**	P	**Pn**	**22 48 15.8**	**+0.3**
JTKR				*e*S	**Sn**	**22 48 44.8**	**+2.9**
JCH	**Churui**	**2.59**	**258**	P	**Pn**	**22 48 19.9**	**-0.4**
JCH				*e*S	**Sn**	**22 48 52.4**	**+1.8**
JMP	**Maruseppu**	**2.63**	**289**	P	**Pn**	**22 48 21.5**	**+0.7**
ERM	**Erimo**	**2.94**	**248**	*e*Pn	**Pn**	**22 48 26.2**	**+1.1**
ERM				*e*Sn	**Sn**	**22 48 59.1**	**0.0**
JEM	**Erimo**	**2.94**	**248**	P	**Pn**	**22 48 25.0**	**-0.1**
JKK2	**Kamakawa 2**	**3.03**	**284**	P	**Pn**	**22 48 27.3**	**+1.0**
JFR	**Furan**	**3.08**	**271**	P	**Pn**	**22 48 27.1**	**+0.1**
JNBK	**Urakawa-nobuka**	**3.12**	**254**	P	**Pn**	**22 48 26.8**	**-0.8**
ASAJ	**Asahikawa**	**3.19**	**288**	PN	**Pn**	**22 48 29.8**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,22nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,1μm,22.0s						
ASAJ	**Asahikawa**	**3.19**	**288**	P	**Pn**	**22 48 29.7**	**+1.2**
ASAJ	**Asahikawa**	**3.19**	**288**	Pn	**Pn**	**22 48 29.8**	**+1.3**
	comp=Z,22nm,0.3s,baz=106,slow=12,SNR=52						
ASAJ				LR	LR	22 49 47.9	
	comp=Z,1μm,22.0s,baz=173,slow=42						
YSS	**Yuzh-Sakhalins**	**4.73**	**324**	⇓*i*PN	**Pn**	**22 48 50.7**	**+1.1**
YSS				*e*S	**Sn**	**22 49 41.7**	**-1.4**
YSS				pmax	pmax		
	comp=Z,30nm,0.5s						
YSS				smax			
	comp=N,70nm,0.9s						
YSS				MLR	MLR		
	comp=N,600nm,14.0s						
YSS				MLR	MLR		
	comp=E,800nm,14.0s						
YSS				MLR	MLR		
	comp=Z,1μm,14.0s						
YSS	**Yuzh-Sakhalins**	**4.73**	**324**	*e*Pn	**Pn**	**22 48 51.1**	**+1.5**
YSS	**Yuzh-Sakhalins**	**4.73**	**324**	⇓*i*P	**Pn**	**22 48 50.7**	**+1.1**
YSS				AMB	AMB	22 48 51.5	
	comp=Z,30nm,0.5s						
YSS				*e*S	**Sn**	**22 49 41.7**	**-1.4**
YSS				A		22 49 48.0	
	comp=Z,70nm,0.9s						
YSS				*e*LQ		22 50 25.0	
YSS				*e*LR	LR	22 50 40.0	
YSS				AMS	AMS	22 50 59.0	
	comp=Z,1μm,14.0s						
YSS				AMS	AMS	22 50 59.0	
	comp=Z,600nm,14.0s						
YSS				AMS	AMS	22 50 59.0	
	comp=Z,800nm,14.0s						
UGL	**Uglegorsk**	**6.74**	**332**	*e*PN	**Pn**	**22 49 19.5**	**+2.3**
UGL				*e*		22 50 43.5	
UGL				pmax	pmax		
	comp=Z,57nm,0.9s						
UGL				MLR	MLR		
	comp=N,550nm,14.0s						
UGL				MLR	MLR		
	comp=E,300nm,14.0s						
UGL				MLR	MLR		
	comp=Z,600nm,14.0s						
UGL	**Uglegorsk**	**6.74**	**332**	*e*P	**Pn**	**22 49 19.5**	**+2.3**
UGL				AMB	AMB	22 49 20.5	
	comp=Z,57nm,0.9s						
UGL				*e*L		22 51 16.0	
UGL				AMS	AMS	22 52 24.0	
	comp=Z,600nm,14.0s						
UGL				AMS	AMS	22 52 24.0	
	comp=Z,550nm,14.0s						
UGL				AMS	AMS	22 52 24.0	
	comp=Z,300nm,14.0s						
TEY	**Ternei**	**7.57**	**288**	*e*P	**Pn**	**22 49 31.0**	**+2.4**
TEY				AMS	AMS	22 52 40.0	
	comp=Z,700nm,14.0s						
TEY				AMS	AMS	22 52 40.0	
	comp=Z,1μm,15.0s						
MAJO	**Matsushiro**	**9.37**	**228**	*e*PN	**Pn**	**22 49 53.2**	**0.0**
MAT	**Matsushiro**	**9.37**	**228**	P	**Pn**	**22 49 53.7**	**+0.5**
MAT				S	**Sn**	**22 51 33.5**	**-3.6**
MJAR	**Matsushiro Arr**	**9.37**	**228**	Pn	**Pn**	**22 49 51.4**	**-1.8**
	comp=Z,0.5nm,0.3s,baz=27,slow=14,SNR=7.6						
MJAR				LR	LR	22 54 28.1	
	comp=Z,439nm,18.1s,baz=35,slow=44						
HABR	**Khabarovsk**	**9.75**	**307**	*e*PN	**Pn**	**22 50 00.9**	**+2.5**
HABR				*e*		22 51 51.1	
SKR	**Severo-Kuril's**	**9.83**	**37**	*e*P	**Pn**	**22 49 59.5**	**+0.1**
SKR				AMB	AMB	22 50 08.4	
	comp=Z,80nm,0.5s						
SKR				AMS	AMS	22 53 56.0	
	comp=Z,2μm,14.0s						
OKH	**Okha**	**10.68**	**347**	*e*P	**Pn**	**22 50 15.6**	**+4.6**
OKH				*e*LQ		22 53 40.0	
OKH				AMS	AMS	22 55 02.2	
	comp=Z,1μm,15.0s						
OKH				AMS	AMS	22 55 02.2	
	comp=Z,900nm,12.0s						
OKH				AMS	AMS	22 55 02.2	
	comp=Z,1μm,16.0s						
NKL	**Nikolayevsk**	**10.76**	**340**	*e*L		22 53 16.0	
NKL				AMS	AMS	22 54 44.0	
	comp=Z,500nm,15.0s						
NKL				AMS	AMS	22 54 44.0	
	comp=Z,600nm,15.0s						
NKL				AMS	AMS	22 54 44.0	
	comp=Z,1μm,15.0s						
KLR	**Kul'dur**	**12.04**	**305**	*e*PN	**Pn**	**22 50 29.3**	**-0.4**
KLR				pmax	pmax		
	comp=E,42nm,1.6s						
KLR				pmax	pmax		
	comp=Z,34nm,1.6s						
KLR				MLR	MLR		
	comp=E,500nm,12.0s						
KLR				MLR	MLR		
	comp=Z,2μm,12.0s						
MDJ	**Mudanjiang**	**12.50**	**282**	P	**Pn**	**22 50 36.1**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,9.0nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,92nm,8.0s						
PET	**Petropavlovsk**	**12.61**	**35**	*e*PN	**Pn**	**22 50 42.5**	**+5.1**
PET				MLR	MLR		
	comp=Z,400nm,15.0s						
PET				MLR	MLR		
	comp=Z,300nm,16.0s						
KSRS	**Korea Array**	**15.49**	**255**	Pn	**Pn**	**22 51 14.6**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=63,slow=13,SNR=7.2						
KSRS				LR	LR	22 57 04.2	
	comp=Z,195nm,21.1s,baz=269,slow=37						
CN2	**Changchun**	**15.51**	**280**	*e*P	**Pn**	**22 51 16.3**	**-0.1**
CN2				*e*AP	pP	22 51 26.6	-4.1
CN2				*e*S	**S**	**22 54 05.3**	**-16**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s						
CN2				LR	LR		
	comp=E,300nm,16.0s						
CN2				LR	LR		
	comp=Z,200nm,16.0s						
JNU	**Nakatsue**	**16.04**	**236**	Pn	**Pn**	**22 51 21.2**	**-2.0**
	comp=Z,0.3nm,0.3s,baz=76,slow=18,SNR=3.7						
JNU				LR	LR	22 57 58.2	
	comp=Z,232nm,18.3s,baz=27,slow=39						
INCN	**Inchon**	**16.39**	**256**	Pn	**Pn**	**22 51 26.4**	**-1.3**
MA2	**Magadan**	**16.59**	**7**	*e*P	**Pn**	**22 51 26.3**	**-3.6**
MA2				*e*S	**S**	**22 54 26.4**	**-16**
MA2				pmax	pmax		
	comp=Z,20nm,1.3s						
MA2				MLR	MLR		
	comp=Z,200nm,15.0s						
ZEA	**Zeya**	**16.66**	**316**	*e*P	**Pn**	**22 51 27.7**	**-3.2**
ZEA				AMB	AMB	22 51 31.3	
	comp=Z,36nm,1.6s						
SNY	**Shenyang**	**17.17**	**273**	⇓P	**Pn**	**22 51 39.2**	**+1.8**
SNY				AMB	AMB		
	comp=Z,14nm,0.6s						
SNY				AMB	AMB		
	comp=Z,116nm,3.5s						
SNY				LR	LR		
	comp=N,170nm,15.9s						
SNY				LR	LR		
	comp=Z,231nm,12.6s						
CLNS	**Chul'man**	**19.49**	**322**	*e*P	**Pn**	**22 52 12.7**	**+7.3**
CLNS				pmax	pmax		
	comp=Z,11nm,0.6s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.7s						
CLNS				MLR	MLR		
	comp=Z,400nm,15.0s						
CLNS				MLR	MLR		
	comp=N,200nm,15.0s						
CLNS				MLR	MLR		
	comp=E,200nm,14.0s						
HIA	**Hailar**	**19.62**	**297**	*e*P	**Pn**	**22 52 03.9**	**-3.1**
SEY	**Seymchan**	**20.04**	**7⇑**	*e*P	**P**	**22 52 07.0**	**-2.8**
BJI	**Beijing**	**23.05**	**273**	P	**P**	**22 52 40.3**	**-1.9**
BJI				AMB	AMB		
	comp=Z,13nm,0.9s,mb4.4						
BJI				LR	LR		
	comp=N,128nm,14.8s,MS3.8						
BJI				LR	LR		
	comp=E,225nm,14.8s,MS3.8						
BJI				LR	LR		
	comp=Z,130nm,24.3s						
BJT	**Baijiatuau**	**23.06**	**273**	*e*P	**P**	**22 52 40.4**	**-1.9**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BJT	**Baijiatuau**	**23.06**	**273**	*e*P	**P**	**22 52 40.4**	**-2.0**
	comp=Z,7.6nm,0.6s,mb4.3						
TIA	**Tai'an**	**23.79**	**263**	*e*P	**P**	**22 52 48.6**	**-0.8**
NJ2	**Nanjing**	**24.66**	**253**	*e*P	**P**	**22 52 58.3**	**+1.0**
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
BOD	**Bodaibo**	**25.16**	**317**	*e*P	**P**	**22 52 57.3**	**-4.3**
HHC	**Hu-ho-hao-te**	**26.17**	**277**	⇓P	**P**	**22 53 11.8**	**+0.9**
HHC				AP	pP	22 53 26.1	+3.3
HHC				XP	sP	22 53 33.4	+5.2
HHC				PP		22 53 56.0	
HHC				PCP	PcP	22 56 39.2	+2.3
HHC				S	**S**	**22 57 38.6**	**-0.9**
HHC				XS	sS	22 58 02.0	+2.4
HHC				SS		22 58 49.4	
HHC				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,145nm,5.6s						
HHC				LR	LR		
	comp=N,203nm,14.4s,MS4.0						
HHC				LR	LR		
	comp=E,248nm,14.3s,MS4.0						
HHC				LR	LR		
	comp=Z,350nm,17.0s,MS4.0						
BILL	**Bilibino**	**26.96**	**16**	*e*P	**P**	**22 53 15.2**	**-2.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.6						
BILL	**Bilibino**	**26.96**	**16**	*e*P	**P**	**22 53 18.1**	**+0.3**
BTO	**Baotou**	**27.36**	**277**	*e*P	**P**	**22 53 20.8**	**-0.8**
ULN	**Ulaanbaatar**	**28.01**	**294**	*e*P	**P**	**22 53 27.7**	**+0.3**
ULN				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
ULN	**Ulaanbaatar**	**28.01**	**294**	*e*P	**P**	**22 53 27.7**	**+0.3**
	comp=Z,12nm,1.0s,mb4.5						
SONM	**Songino Array**	**28.46**	**294**	P	**P**	**22 53 31.7**	**+0.3**
	comp=Z,5.8nm,0.7s,mb4.3,baz=83,slow=8.1,SNR=17						
SONM				LR	LR	23 05 59.2	
	comp=Z,403nm,19.3s,MS4.0,baz=45,slow=39						
ZAK	**Zakamensk**	**30.30**	**299**	*e*P	**P**	**22 53 47.7**	**+0.1**
ZAK				*e*		22 56 47.9	
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
XAN	**Xi'an**	**30.76**	**266**	P	**P**	**22 53 51.7**	**-0.2**
XAN				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.6						
LZH	**Lanzhou**	**33.54**	**273**	*e*P	**P**	**22 54 15.2**	**-1.1**
LZH				AP	pP	22 54 29.5	+1.2
LZH				PP	PP	22 55 28.8	-3.8
LZH				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,101nm,5.2s						
LZH				LR	LR		
	comp=N,412nm,12.8s						
LZH				LR	LR		
	comp=Z,635nm,16.9s,MS4.4						
GTA	**Gaotai**	**35.14**	**280**	*e*P	**P**	**22 54 30.7**	**+0.6**
GTA				AP	pP	22 54 44.4	+2.2
GTA				XP	sP	22 54 49.1	+1.6
GTA				PP	PP	22 55 52.6	+2.4
GTA				S	**S**	**23 00 00.8**	**+1.0**
GTA				XS	sS	23 00 21.3	+1.3
GTA				AMB	AMB		
	comp=Z,52nm,4.6s						
GTA				LR	LR		
	comp=N,88nm,12.9s,MS4.0						
GTA				LR	LR		
	comp=E,139nm,14.1s,MS4.0						
GTA				LR	LR		
	comp=Z,178nm,15.2s,MS3.9						
CD2	**Chengdu**	**36.10**	**265**	*e*P	**P**	**22 54 38.7**	**+0.3**
CD2				XP	sP	22 54 57.7	+1.9
CD2				PP	PP	22 56 01.5	+0.6
CD2				S	**S**	**23 00 13.6**	**-1.0**
CD2				XS	sS	23 00 36.7	+1.8
CD2				SS	SS	23 02 38.5	-15
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,120nm,12.7s						
CD2				LR	LR		
	comp=Z,130nm,10.8s,MS4.0						
GYA	**Guiyang**	**36.54**	**256**	P	**P**	**22 54 42.9**	**+0.7**
GYA				AP	pP	22 54 57.9	+3.6
GYA				XP	sP	22 55 03.6	+4.0
GYA				PP	PP	22 56 08.7	+2.8
GYA				PCP	PcP	22 57 07.0	+2.1
GYA				S	**S**	**23 00 21.3**	**-0.1**
GYA				XS	sS	23 00 45.0	+3.3
GYA				SCP	ScP	23 00 48.9	+1.2
GYA				SCS	ScS	23 04 53.2	-1.2
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,5.8s						
GYA				LR	LR		
	comp=N,450nm,18.2s,MS4.4						
GYA				LR	LR		
	comp=E,440nm,17.9s,MS4.4						
GYA				LR	LR		
	comp=Z,480nm,18.7s,MS4.3						
TTA	**Tatalina**	**38.02**	**39**	P	**P**	**22 54 54.8**	**+0.5**
TTA				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.5						
TTA	**Tatalina**	**38.02**	**39**	P	**P**	**22 54 54.8**	**+0.5**
	comp=Z,10nm,1.0s,mb4.5						
SVW2	**Sparrevohn**	**38.15**	**42**	*e*P	**P**	**22 54 56.3**	**+0.9**
IMA2	**Indian Mountai**	**39.28**	**34**	*e*P	**P**	**22 55 05.1**	**+0.3**
KDAK	**Kodiak Island**	**39.81**	**47**	P	**P**	**22 55 08.4**	**-0.9**
	comp=Z,2.2nm,0.6s,mb4.1,baz=276,slow=4.7,SNR=8.1						
KMI	**Kunming**	**40.15**	**258**	P	**P**	**22 55 12.9**	**+0.4**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
ZAA0	**Zalesovo Array**	**41.13**	**308**	*e*P	**P**	**22 55 19.4**	**-0.9**
ZALV	**Zalesovo Beam**	**41.13**	**308**	P	**P**	**22 55 18.8**	**-1.5**
ZALV				PcP	PcP	22 57 18.9	0.0
ZALV				LR	LR	23 14 31.4	
ZALV	**Zalesovo Beam**	**41.13**	**308**	P	**P**	**22 55 18.8**	**-1.5**
	comp=Z,1.6nm,0.5s,mb3.9,baz=92,slow=8.0,SNR=8.5						
ZALV				PcP	PcP	22 57 18.9	0.0
	comp=Z,0.9nm,0.5s,baz=70,slow=1.7,SNR=3.8						
ZALV				LR	LR	23 14 31.4	
	comp=Z,65nm,18.1s,MS3.5,baz=107,slow=39						
ZAL	**Zalesovo**	**41.15**	**307**	P	**P**	**22 55 18.8**	**-1.6**
ZAL						22 57 18.9	
MCK	**McKinley**	**41.23**	**37**	*e*P	**P**	**22 55 22.1**	**+1.2**
PMR	**Palmer**	**41.24**	**41**	P	**P**	**22 55 22.0**	**+0.9**
SML	**Sawmill**	**41.61**	**40**	*e*P	**P**	**22 55 24.6**	**+0.6**
**

comp=Z,17nm,0.8s
MKAR Makanchi Array 44.62 298 P **P** **22 55 48.6 0.0**
comp=Z,17nm,0.8s,mb5.0,baz=81,slow=9.0,SNR=100
MKAR LR LR 23 15 41.6
comp=Z,136nm,20.1s,MS3.9,baz=1.3,slow=38
KURK Kurchatov 45.63 304 *eP* **P** **22 55 55.7 -0.9**
KURK pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
KURK Kurchatov 45.63 304 *eP* **P** **22 55 55.7 -0.9**
comp=Z,9.3nm,0.6s,mb4.9
CHTO Chiang Mai 46.89 254 *eP* **P** **22 56 07.4 +0.6**
INK Inuvik 47.01 30 P **P** **22 56 07.6 +0.5**
INK pmax pmax
comp=Z,13nm,0.7s
INK Inuvik 47.01 30 *eP* **P** **22 56 07.5 +0.3**
comp=Z,413nm,0.7s
INK Inuvik 47.01 30 P **P** **22 56 07.6 +0.4**
comp=Z,13nm,0.7s,mb5.0,baz=289,slow=7.1,SNR=64
BVAR Borovoye Array 49.66 310 P **P** **22 56 27.5 -0.3**
comp=Z,1.5nm,0.5s,mb4.3,baz=77,slow=8.6,SNR=13
BRVK Borovoye 49.71 310 *eP* **P** **22 56 28.5 +0.4**
BRVK pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
BRVK Borovoye 49.71 310 *eP* **P** **22 56 28.5 +0.4**
comp=Z,2.8nm,0.7s,mb4.4
ULHL Ulahol 50.39 295 P **P** **22 56 34.0 +0.5**
SNR=17
TKM2 Tokmak 2 50.52 296 *eP* **P** **22 56 34.9 +0.5**
TKM2 pmax pmax
comp=Z,19nm,0.9s,mb5.0
TKM2 Tokmak 2 50.52 296 *eP* **P** **22 56 34.9 +0.5**
comp=Z,19nm,0.9s,mb5.0
TKM2 Tokmak 2 50.52 296 P **P** **22 56 35.3 +0.9**
SNR=22
JIRN Jiri 50.71 273 *eP* **P** **22 56 36.8 +0.7**
comp=Z,19nm,0.8s,mb5.0
GUN Gumba 50.80 273 *eP* **P** **22 56 37.1 +0.4**
comp=Z,44nm,0.8s,mb5.4
KBK Karagaybulak 51.06 296 P **P** **22 56 38.9 +0.4**
SNR=20
USP Ospenovka 51.09 297 P **P** **22 56 39.0 +0.4**
SNR=19
KZA Kyzart 51.12 295 P **P** **22 56 40.6 +1.6**
SNR=20
KKN Kakani 51.30 274 *eP* **P** **22 56 41.1 +0.6**
comp=Z,20nm,0.7s,mb5.2
PKI Pulchoki 51.33 273 *eP* **P** **22 56 41.0 +0.3**
AAK Ala-Archa 51.37 296 P **P** **22 56 41.0 +0.2**
SNR=9.2
DMN Daman 51.53 274 *eP* **P** **22 56 42.6 +0.4**
comp=Z,19nm,0.7s,mb5.1
UCH Uchtor 51.54 295 *eP* **P** **22 56 42.5 +0.4**
comp=Z,23nm,2.2s,mb4.7
GKN Gorkha 51.65 274 *eP* **P** **22 56 43.2 +0.1**
comp=Z,7.1nm,0.4s,mb5.0
EKS2 Erkin-Say 51.83 296 *eP* **P** **22 56 44.5 +0.2**
comp=Z,6.4nm,0.8s,mb4.6
EKS2 Erkin-Say 51.83 296 P **P** **22 56 44.6 +0.4**
SNR=14
DANN Dangsing 52.09 275 *eP* **P** **22 56 47.2 +0.8**
comp=Z,91nm,0.9s,mb5.7
AML Almayashu 52.13 296 *eP* **P** **22 56 47.0 +0.5**
comp=Z,4.0nm,0.6s,mb4.5
AML Almayashu 52.13 296 P **P** **22 56 47.6 +1.2**
SNR=11
KOLN Koldanda 52.54 275 *eP* **P** **22 56 50.0 +0.3**
comp=Z,32nm,0.8s,mb5.3
SVE Sverdlovsk 53.37 317⇓ *eP* **P** **22 56 55.6 +0.2**
SVE pmax pmax
comp=Z,13nm,0.9s,mb4.9
SVE MLR MLR
comp=Z,345nm,16.0s,MS4.5
KK31 Karatay Array 53.75 298 *iP* **P** **22 56 57.5 -0.9**
KK31 pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ARU Arti 54.58 317 *diP* **P** **22 57 03.0 -1.2**
ARU *e* 22 58 05.5
ARU *e* 22 59 04.0
ARU *eS* **S** **23 04 39.3 -0.9**
ARU *eSS* SS 23 08 18.1 -4.5
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
ARU Arti 54.58 317 *eP* **P** **22 57 03.2 -1.0**
comp=Z,4.3nm,0.8s,mb4.5
RES Resolute Bay 55.57 16 *eP* **P** **22 57 10.4 -0.7**
comp=Z,500nm,0.8s
YKW3 Yellowknife Ar 56.37 33 *eP* **P** **22 57 16.8 -0.1**
YKA Yellowknife Ar 56.41 33 P **P** **22 57 17.1 -0.1**
YKA pmax pmax
comp=Z,2.0nm,0.6s
YKA Yellowknife Ar 56.41 33 P **P** **22 57 17.1 -0.1**
comp=Z,1.8nm,0.6s,mb4.3,baz=299,slow=6.8,SNR=26
AKTK Aktyubinsk 57.71 311 P **P** **22 57 26.6 -0.1**
AKTO Aktyubinsk 57.71 311 P **P** **22 57 26.6 -0.1**
comp=Z,5.7nm,0.7s,mb4.7,baz=72,slow=6.9,SNR=17
KBL Kabul 59.14 290 *eP* **P** **22 57 35.9 -1.0**
comp=Z,13nm,0.9s,mb5.0
ARCES ARCESS Array B 59.68 340 P **P** **22 57 39.5 -0.6**
comp=Z,4.2nm,0.9s,mb4.5,baz=53,slow=8.2,SNR=4.0
JOF Joensuu 62.46 332 *ep* **P** **22 57 57.3 -1.7**
comp=Z,5.2nm,0.8s,mb4.7
WRAB Tennant Creek 63.85 193 *eP* **P** **22 58 09.3 +0.7**
WRAB pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
WRAB Tennant Creek 63.85 193 *eP* **P** **22 58 09.3 +0.7**
comp=Z,6.6nm,1.1s,mb4.6
WRA Warramunga Arr 63.86 193 P **P** **22 58 07.9 -0.8**
comp=Z,1.5nm,0.8s,mb4.1,baz=17,slow=7.2,SNR=5.7
WALA Waterton Lakes 64.15 46 *eP* **P** **22 58 08.3 -2.1**
comp=Z,3.4nm,1.0s,mb4.3
FIA1 FINESS Array S 65.25 333 *eP* **P** **22 58 16.1 -1.3**
FIA1 *ePP* PP 23 00 41.5 +0.8
FINES FINESS Array B 65.26 333 *iP* **P** **22 58 16.2 -1.2**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 65.26 333 P **P** **22 58 16.2 -1.1**
comp=Z,1.5nm,0.5s,mb4.3,baz=55,slow=7.1,SNR=14
FINES LR LR 23 29 11.5
comp=Z,45nm,19.4s,MS3.7,baz=86,slow=38
OBN Obninsk 65.61 324 *eP* **P** **22 58 18.1 -1.7**
OBN *e* 22 58 50.0
OBN *e* 23 00 42.5
OBN pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
FCC Fort Churchill 66.63 30 *eP* **P** **22 58 26.0 -0.3**
FCC pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FCC Fort Churchill 66.63 30 *eP* **P** **22 58 26.0 -0.3**
comp=Z,4.0nm,0.6s,mb4.6
ASAR Alice Springs 67.58 193 P **P** **22 58 32.2 -0.3**
comp=Z,1.1nm,0.8s,mb3.9,baz=9.9,slow=6.3,SNR=8.6
NVAR Mina Array Bea 68.09 58 P **P** **22 58 37.1 +1.3**
comp=Z,2.2nm,0.7s,mb4.3,baz=302,slow=7.3,SNR=8.0
KIV Kislovodsk 69.95 312 *eP* **P** **22 58 48.1 +0.8**
KIV pmax pmax
comp=Z,33nm,0.9s,mb5.3
KIV MLR MLR
comp=Z,174nm,19.0s,MS4.3
KIV Kislovodsk 69.95 312⇑ P **P** **22 58 48.5 +1.3**
KIV Kislovodsk 69.95 312⇑ *iP* **P** **22 58 48.5 +1.2**
NB2 NORSAR Subarra 70.03 339 P **P** **22 58 46.8 -0.7**
comp=Z,0.5nm,0.6s,mb3.6,baz=37,slow=6.5
NOA NORSAR Array B 70.03 339 P **P** **22 58 47.0 -0.5**
comp=Z,4.9nm,0.8s,mb4.5,baz=33,slow=6.2,SNR=16
NOA LR LR 23 34 21.0
comp=Z,43nm,18.5s,MS3.7,baz=40,slow=40
GNI Garni 71.28 308⇑ *eP* **P** **22 58 55.5 0.0**
GNI pmax pmax
comp=Z,9.0nm,1.3s
AKASG Malin Array Be 71.88 324 *iP* **P** **22 58 58.2 -0.7**
AKASG pmax pmax
comp=Z,7.0nm,0.7s
AKASG Malin Array Be 71.88 324 P **P** **22 58 58.3 -0.6**
comp=Z,7.2nm,0.7s,mb4.7,baz=40,slow=5.9,SNR=58
AKBB Malin Array Si 71.88 324 *eP* **P** **22 58 58.6 -0.3**
KIEV Kiev 71.89 324 *eP* **P** **22 58 58.3 -0.6**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV Kiev 71.89 324 *eP* **P** **22 58 58.3 -0.7**
comp=Z,9.6nm,0.8s,mb4.8
PV10 Paradox Valley 73.68 53 *eP* **P** **22 59 10.6 +0.9**
SIM Simferopol' 73.75 317 *eP* **P** **22 59 10.6 +0.6**
SIM pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
KWP Kalwaria 75.43 326 *eP* **P** **22 59 20.6 +0.9**
KWP Kalwaria 75.43 326 *eP* **P** **22 59 20.6 +0.9**
BURAR Bucovina Array 75.93 324⇓ *iP* **P** **22 59 23.1 +0.5**
OJC Ojcow 76.12 328 *eP* **P** **22 59 23.7 +0.1**
MALT Malatya 76.13 310⇑ *iP* **P** **22 59 25.5 +1.6**
KOLS Kolonicke sedl 76.15 326 *eP* **P** **22 59 23.6 -0.3**
STHS Stebnicka Huta 76.19 327 *eP* **P** **22 59 24.9 +0.9**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
STHS Stebnicka Huta 76.19 327 *eP* **P** **22 59 24.9 +0.9**
comp=Z,5.9nm,1.1s,mb4.4
MIB Mutribah 76.54 298 *eP* **P** **22 59 25.8 -0.6**
MIB AMb AMB 22 59 27.6
comp=Z,18nm,1.0s,mb5.0
NIE Niedzica 76.56 327 *eP* **P** **22 59 26.8 +0.7**
VRI Vrincioaia 76.60 322⇑ *iP* **P** **22 59 28.3 +1.9**
QRN Al-Qurain 76.87 297 *eP* **P** **22 59 27.8 -0.5**
QRN AMb AMB 22 59 28.9
comp=Z,27nm,0.6s,mb5.4
TIRR Tirgusor 76.88 320⇑ *iP* **P** **22 59 27.9 -0.1**
NAY Al-Naaiem 76.97 298 *eP* **P** **22 59 28.3 -0.5**
NAY AMb AMB 22 59 29.4
comp=Z,7.2nm,0.7s,mb4.7
RDF Al-Radifah 76.99 297 *eP* **P** **22 59 28.8 -0.2**
RDF AMb AMB 22 59 29.8
comp=Z,24nm,0.7s,mb5.3
OKC Ostrava-Krasne 77.06 329 *eP* **P** **22 59 30.0 +1.1**
MLR Muntele Rosu 77.24 322⇓ *iP* **P** **22 59 31.6 +1.6**
UPC Upice 77.30 330 *eP* **P** **22 59 31.1 +0.8**
UPC *ex* x 22 59 36.7
DPC Dobruska-Polom 77.32 330 *eP* **P** **22 59 30.7 +0.3**
DPC *ex* x 22 59 37.1
MORC Moravsky Berou 77.34 329⇓ *iP* **P** **22 59 30.8 +0.3**
VOIR 77.68 322⇑ *iP* **P** **22 59 33.9 +1.4**
CLL Collm 77.69 332 *iP* **P** **22 59 31.9 -0.6**
CLL *i* *PP pP 22 59 42.7 -3.0
CLL pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CLL Collm 77.69 332 *iP* **P** **22 59 31.9 -0.6**
comp=Z,8.0nm,0.7s,mb4.8
CLL *i* pP pP 22 59 42.7 -3.0
CLL Collm 77.69 332 *iP* **P** **22 59 31.9 -0.6**
comp=Z,8.0nm,0.7s,mb4.8
CLL *i* PcP PcP 22 59 42.7 +0.3
CLL *i* pP pP 22 59 47.8 +2.1
PVCC Panska Ves 77.80 331 *eP* **P** **22 59 32.9 -0.2**
VYHS Vyhne 77.88 328 *eP* **P** **22 59 33.1 -0.5**
VYHS Vyhne 77.88 328 *eP* **P** **22 59 33.0 -0.6**
ANTO Ankara 78.09 314⇑ *iP* **P** **22 59 36.2 +1.3**
SCHQ Schefferville 78.23 19 P **P** **22 59 35.0 -0.4**
comp=Z,3.5nm,0.9s,mb4.3,baz=245,slow=9.3,SNR=4.9
PRU Pruhonice 78.26 331 *eP* **P** **22 59 35.7 0.0**
PRU *ex* x 22 59 45.2
KHC Kasperske Hory 79.32 331 *eP* **P** **22 59 41.9 +0.4**
KHC *ex* x 22 59 52.6
GERES GERESS Array B 79.52 331 P **P** **22 59 42.7 +0.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=39,slow=5.1,SNR=6.9
GERES LR LR 23 36 58.9
comp=Z,76nm,18.8s,MS4.1,baz=5.8,slow=37
PKSM Moragy 79.81 326⇓ *iP* **P** **22 59 43.7 -0.5**
MNTX Cornudas Mount 80.45 55 *eP* **P** **22 59 48.1 +0.2**
comp=Z,2.9nm,0.8s,mb4.3
VTS Vitosha 80.73 321⇓ *iP* **P** **22 59 50.1 +0.9**
CDF Champ du Feu 82.07 334 *eP* **P** **22 59 55.8 -0.4**
TXAR Lajitas Array 83.17 56 P **P** **23 00 02.9 +0.7**
comp=Z,2.2nm,0.6s,mb4.4,baz=299,slow=4.0,SNR=31
PPT Papeete 83.95 121 *eLR* LR 23 00 10.6
comp=Z,260nm,27.0s
LOR Lormes 84.15 336 *eP* **P** **23 00 06.4 -0.6**
SSF Saint Saulge 84.44 336 *eP* **P** **23 00 08.0 -0.4**
SMF Signal de Mont 84.71 335 *eP* **P** **23 00 09.4 -0.4**
comp=Z,8.4nm,0.6s,mb4.8
SMF Signal de Mont 84.71 335 *eP* **P** **23 00 09.4 -0.4**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
SMF Signal de Mont 84.71 335 *eP* **P** **23 00 09.4 -0.4**
comp=Z,4.2nm,0.6s,mb4.8
AVF Avril sur Loir 84.73 336 *eP* **P** **23 00 09.6 -0.3**
comp=Z,5.6nm,0.8s,mb4.5
AVF Avril sur Loir 84.73 336 *eP* **P** **23 00 09.6 -0.3**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
AVF Avril sur Loir 84.73 336 *eP* **P** **23 00 09.6 -0.3**
comp=Z,2.8nm,0.8s,mb4.4
LPL La Plagne 84.80 333 *eP* **P** **23 00 10.4 +0.1**
comp=Z,6.4nm,0.9s,mb4.5
LPL La Plagne 84.80 333 *eP* **P** **23 00 10.4 +0.1**
LPL pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
LPL La Plagne 84.80 333 *eP* **P** **23 00 10.4 +0.1**
comp=Z,3.2nm,0.9s,mb4.5
LPG La Plagne 84.81 333 *eP* **P** **23 00 10.5 +0.2**
comp=Z,5.9nm,0.8s,mb4.5
LPG La Plagne 84.81 333 *eP* **P** **23 00 10.5 +0.2**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
LPG La Plagne 84.81 333 *eP* **P** **23 00 10.5 +0.2**
comp=Z,3.0nm,0.8s,mb4.5
MBDF Montbardon 85.48 333 *eP* **P** **23 00 13.1 -0.6**
ORIF Oris-en-Rattie 85.61 333 *eP* **P** **23 00 14.4 +0.1**
SBF Sospel 86.02 332 *eP* **P** **23 00 16.3 -0.1**
SMRF Simiane la Rot 86.55 333 *eP* **P** **23 00 19.1 +0.1**
FRF La Foret Royal 86.55 332 *eP* **P** **23 00 18.3 -0.7**
comp=Z,6.3nm,0.8s,mb4.6
FRF La Foret Royal 86.55 332 *eP* **P** **23 00 18.3 -0.7**
FRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
FRF La Foret Royal 86.55 332 *eP* **P** **23 00 18.3 -0.7**
comp=Z,3.2nm,0.8s,mb4.6
RJF Les Rejaudoux 86.62 336 *eP* **P** **23 00 19.3 0.0**
LMR La Mourre 86.80 332 *eP* **P** **23 00 19.6 -0.6**
comp=Z,11nm,0.8s,mb4.8
LMR La Mourre 86.80 332 *eP* **P** **23 00 19.6 -0.6**
LMR pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
LMR La Mourre 86.80 332 *eP* **P** **23 00 19.6 -0.6**
comp=Z,5.3nm,0.8s,mb4.8
CAF Calviac 86.80 336 *eP* **P** **23 00 20.7 +0.5**
MTLF Montolieu 88.19 335 *eP* **P** **23 00 27.2 +0.3**
TBI Tubuai 88.36 124 *eLR* LR 22 59 22.6
comp=Z,148nm,28.5s
SJPF Ste Jean 89.42 337 *eP* **P** **23 00 31.9 -0.8**
ESDC Sonseca Array 93.38 338 P **P** **23 00 51.0 -0.1**
comp=Z,1.3nm,0.8s,mb4.4,baz=297,slow=38,SNR=3.9
SIV San Ignacio 143.95 50 PKP PKPdf 23 07 10.6 -1.0
comp=Z,1.4nm,0.9s,baz=272,slow=6.2,SNR=7.9
SNAA Sanae 147.85 197 PKPbc PKPbc 23 07 20.0 +0.4
comp=Z,1.3nm,1.0s,baz=158,slow=4.9,SNR=4.8
BDFB Brasilia 149.76 29 PKPbc PKPbc 23 07 26.1 +0.1
comp=Z,0.5nm,0.4s,baz=139,slow=26,SNR=3.9
CPUP Villa Florida 154.14 57 PKPab PKPab 23 07 50.0 +0.5
comp=Z,1.0nm,0.6s,baz=359,slow=5.8,SNR=2.9

*ISCJB **10** 22:47:47.4±1.7, 27.17S±0.08×177.5W±0.1, h50km±17km, mb4.2/10, MS3.6/5, Error ellipse: s-maj=22.0km s-min=12.3km az=17.1*
*NEIC **10** 22:47:48.9±1.4, 27.16S×177.39W, h56km±13km, mb4.7/3, Error ellipse: s-maj=16.4km s-min=11.2km az=114.0*
*IDC **10** 22:47:48.6±3.8, 27.23S×177.32W, h48km±34km, mb3.7/7, mb1 4.0/7, mb1mx3.9/12, mbtmp3.7/7, MS3.6/7, Ms1 3.6/7, ms1mx3.4/17, Error ellipse: s-maj=30.4km s-min=25.8km az=54.0*
ISC 10 22:47:48.4±1.3, 27.18S±0.07×177.5W±0.1, h41km±14km, n29, σ0=89/15, mb4.2/10, MS3.6/5, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.10**	**191**	P	**Pn**	**22 48 21.5**	**+0.3**
	308nm,0.3s,baz=76,slow=21,SNR=10						
RAO				S	**Sn**	**22 48 46.1**	**0.0**
	494nm,0.3s,baz=82,slow=24,SNR=16						
AFI	**Afiamalu**	**14.23**	**23**	Pn	**Pn**	**22 51 07.2**	**-0.2**
RAR	**Rarotonga**	**17.20**	**74**	LR	LR	22 55 58.0	
	comp=Z,176nm,19.3s,baz=252,slow=29						
RPZ	**Rata Peaks**	**18.93**	**206**	LR		22 58 42.5	
	comp=Z,149nm,21.9s,baz=352,slow=34						
HNR	**Honiara**	**27.68**	**305**	LR	LR	23 02 32.5	
	comp=Z,142nm,20.1s,MS3.5,baz=182,slow=32						
CTA	**Charters Tower**	**33.88**	**274**	LR	LR	23 05 51.4	
	comp=Z,164nm,19.5s,MS3.8,baz=50,slow=32						
CTAO	**Charters Tower**	**33.88**	**274**	*eP*	**P**	**22 54 26.0**	**-1.4**
	42nm,1.6s,mb5.1						
STKA	**Stephens Creek**	**35.77**	**252**	P	**P**	**22 54 43.6**	**0.0**
	1.0nm,0.4s,mb4.1,baz=119,slow=16,SNR=3.7						
STKA				LR	LR	23 07 42.2	
	comp=Z,181nm,18.8s,MS3.9,baz=25,slow=33						
ASAR	**Alice Springs**	**43.84**	**263**	P	**P**	**22 55 51.4**	**+0.6**
	0.8nm,0.5s,mb3.7,baz=91,slow=6.5,SNR=19						
WB2	**Warramunga Arr**	**44.53**	**269**	*eP*	**P**	**22 55 56.3**	**0.0**
WRAB	**Tennant Creek**	**44.53**	**269**	*eP*	**P**	**22 55 55.2**	**-1.1**
	6.0nm,1.0s,mb4.4						
WRA	**Warramunga Arr**	**44.54**	**269**	P	**P**	**22 55 57.0**	**+0.6**
	1.1nm,0.5s,mb3.9,baz=108,slow=7.6,SNR=6.1						
SBA	**Scott Base**	**51.27**	**184**	P	**P**	**22 56 47.8**	**+0.2**
VNDA	**Vanda**	**51.34**	**186**	P	**P**	**22 56 49.1**	**+1.0**
	0.5nm,0.5s,mb3.7,baz=8.6,slow=8.6,SNR=5.0						
GUMO	**Guam**	**54.57**	**313**	LR	LR	23 17 18.2	
	comp=Z,53nm,19.3s,MS3.6,baz=108,slow=32						
QSPA	**South Pole Qui**	**62.92**	**180**	*eP*	**P**	**22 58 08.0**	**-2.0**
	5.8nm,1.0s,mb4.7						
MJAR	**Matsushiro Arr**	**75.88**	**325**	P	**P**	**22 59 30.7**	**+0.2**
	2.2nm,0.6s,mb4.3,baz=159,slow=5.8,SNR=5.1						
KSRS	**Korea Array**	**82.21**	**319**	P	**P**	**23 00 07.1**	**+2.0**
	2.1nm,0.9s,mb4.1,baz=139,slow=6.0,SNR=7.3						
KSRS				LR	LR	23 31 11.8	
	comp=Z,12nm,21.8s,MS3.2,baz=150,slow=32						
NVAR	**Mina Array Bea**	**85.56**	**43**	P	**P**	**23 00 22.0**	**-0.2**
	0.7nm,0.6s,mb4.1,baz=225,slow=6.6,SNR=4.2						
MKAR	**Makanchi Array**	**116.03**	**311**	PKP	PKPdf	23 06 24.1	-2.6
	0.6nm,0.7s,baz=50,slow=1.6,SNR=4.4						
KURK	**Kurchatov**	**119.13**	**315**	*e*PKPdf	PKPdf	23 06 30.5	-2.0
BVAR	**Borovoye Array**	**124.39**	**317**	PKP	PKPdf	23 06 40.6	-1.9
	1.5nm,0.8s,baz=57,slow=5.3,SNR=7.3						
BRVK	**Borovoye**	**124.46**	**317**	*e*PKPdf	PKPdf	23 06 40.7	-1.9
FINES	**FINESS Array B**	**142.26**	**342**	PKhKP		23 07 09.9	
	0.4nm,0.4s,baz=48,slow=2.8,SNR=6.7						
NB2	**NORSAR Subarra**	**145.64**	**353**	PKP	PKPdf	23 07 21.4	-0.2
	comp=Z,6.8nm,1.1s,baz=14,slow=3.2						
NOA	**NORSAR Array B**	**145.64**	**353**	PKPbc	PKPbc	23 07 20.1	-1.8
	comp=Z,2.0nm,0.8s,baz=16,slow=4.7,SNR=6.5						
AKASG	**Malin Array Be**	**148.95**	**326**	PKPbc	PKPbc	23 07 30.0	-1.5
	comp=Z,1.0nm,0.5s,baz=40,slow=3.5,SNR=15						
CLL	**Collm**	**154.63**	**345**	*e*PKPab	PKPab	23 07 58.0	-1.2
TORD	**Torodi Ar. Bea**	**166.02**	**177**	PKPab	PKPab	23 08 48.0	-1.7
	comp=Z,1.1nm,0.9s,baz=175,slow=3.4,SNR=5.4						

*SKO **10** 22:59:51.2, 41.42N×20.16E, h15km*
*ISCJB **10** 22:59:54.5±0.5, 41.37N±0.003×20.37E±0.003, h11km±6km, Error ellipse: s-maj=5.2km s-min=3.7km az=25.5*
*CSEM **10** 22:59:54.2±0.1, 41.42N×20.36E, h5km, ML2.7, Error ellipse: s-maj=2.9km s-min=2.4km az=3.0*
*THE **10** 22:59:54.5, 41.37N×20.34E, h1km, ML2.7*
*TIR **10** 22:59:55.7±2.1, 41.34N×20.23E, h20km±59km*
ISC 10 22:59:55.0±0.5, 41.36N±0.003×20.36E±0.003, h11km±6km, n23, σ1=24/41, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.37**	**269**	*e*Pg	**Pg**	**23 00 01.0**	**-1.3**
TIR				*e*Sg	**Sg**	**23 00 06.5**	**-0.8**
TIR	**Tirane**	**0.37**	**269**	*e*Pg	**Pg**	**23 00 01.4**	**-1.0**
TIR				*i* Sg	**Sg**	**23 00 07.4**	**+0.1**
QSH	**Qafa e Shtames**	**0.38**	**296**	*e*PG	**Pg**	**23 00 03.0**	**+0.5**
QSH				*i* SG	**Sg**	**23 00 08.0**	**+0.4**
OHR	**Ohrid**	**0.41**	**126**	*e*Pg	**Pg**	**23 00 02.6**	**-0.6**
OHR				*e*Sg	**Sg**	**23 00 08.9**	**+0.1**
OHR	**Ohrid**	**0.41**	**126**	*i* Pg	**Pg**	**23 00 02.7**	**-0.6**
OHR				*i* Sg	**Sg**	**23 00 09.9**	**+1.1**
OHR	**Ohrid**	**0.41**	**126**	*i* Pg	**Pg**	**23 00 02.6**	**-0.6**
OHR				*i* Sg	**Sg**	**23 00 09.8**	**+1.0**
KRUS	**Krusevo**	**0.67**	**89**	*i* Pg	**Pg**	**23 00 07.7**	**-0.4**
KRUS				*i* Sg	**Sg**	**23 00 18.5**	**+1.6**
KRUS	**Krusevo**	**0.67**	**89**	*i* Pg	**Pg**	**23 00 07.6**	**-0.5**
KRUS				*i* Sg	**Sg**	**23 00 18.5**	**+1.6**
KBN	**Korca**	**0.80**	**156**	*e*PG	**Pg**	**23 00 11.0**	**+0.5**
KBN				*i* SG	**Sg**	**23 00 24.3**	**+3.3**
BIA	**Bitola**	**0.81**	**114**	*e*Pg	**Pg**	**23 00 10.2**	**-0.4**
BIA				*e*Sg	**Sg**	**23 00 21.7**	**+0.6**
BIA	**Bitola**	**0.81**	**114**	*i* Pg	**Pg**	**23 00 09.6**	**-0.9**
BIA				*i* Sg	**Sg**	**23 00 21.4**	**+0.3**
BIA	**Bitola**	**0.81**	**114**	*i* Pg	**Pg**	**23 00 09.6**	**-1.0**
BIA				*e*Sg	**Sg**	**23 00 21.7**	**+0.6**
FNA	**Florina**	**0.96**	**126**	*e*Pg	**Pg**	**23 00 13.0**	**-0.6**
FNA				*e*Sg	**Sg**	**23 00 26.9**	**+0.9**
SKO	**Skopje**	**1.02**	**53**	*e*Pg	**Pg**	**23 00 12.2**	**-2.5**
SKO				*i* Sg	**Sg**	**23 00 28.4**	**+0.4**
SKO	**Skopje**	**1.02**	**53**	*e*Pg	**Pg**	**23 00 12.1**	**-2.6**
SKO				*i* Sg	**Sg**	**23 00 28.3**	**+0.4**
BCI	**Bajram Curri**	**1.03**	**348**	*e*PG	**Pg**	**23 00 17.3**	**+2.4**
BCI				*i* SG	**Sg**	**23 00 29.5**	**+1.2**
STIP	**Stip**	**1.42**	**76**	*e*Pg	**Pg**	**23 00 20.5**	**-1.7**
STIP	**Stip**	**1.42**	**76**	*i* Pn	**Pn**	**23 00 20.3**	**-0.4**
STIP	**Stip**	**1.42**	**76**	*i* Pn	**Pn**	**23 00 20.2**	**-0.4**
STIP	**Stip**	**1.42**	**76**	*e*Pg	**Pg**	**23 00 20.5**	**-1.7**
GRG	**Griva**	**1.60**	**104**	*e*Pg	**Pg**	**23 00 22.9**	**-2.7**
IGT	**Igoumenitsa**	**1.82**	**181**	*e*Pb	**Pb**	**23 00 26.5**	**-1.9**
IGT				*e*Sb	**Sb**	**23 00 50.8**	**-0.3**
LKD	**Levkas**	**2.66**	**175**	*e*Pn	**Pn**	**23 00 37.9**	**+0.2**
LKD				*e*Sn	**Sn**	**23 01 12.1**	**+2.2**

*CSEM **10** 23:03:30.5±0.1, 39.92N×40.01E, h2km, MD3.1, Error ellipse: s-maj=3.9km s-min=2.9km az=91.0*
*ISCJB **10** 23:03:31.5±0.9, 39.91N±0.004×40.06E±0.005, h5km±9km, Error ellipse: s-maj=6.9km s-min=5.3km az=136.9*
*ISK **10** 23:03:31.0, 39.92N×40.05E, h5km, MD3.0*
*DDA **10** 23:03:32.0, 39.88N×39.98E, h8km±5km, Md3.1*
ISC 10 23:03:32.5±0.7, 39.94N±0.004×40.06E±0.005, h15km±7km, n15, σ1=15/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.27**	**224**	*e*PG	**Pg**	**23 03 42.1**	**+3.8**
KOPT	**Kop Dagi**	**0.34**	**78**	*i* P	**Pg**	**23 03 39.3**	**-0.3**
KOPT				*i* S	**Sg**	**23 03 47.1**	**+2.8**
GUMT	**Gumushane**	**0.68**	**319**	*e*PG	**Pg**	**23 03 45.0**	**-0.8**
GUMT				*e*SG	**Sg**	**23 03 54.9**	**+0.1**
EZM	**Erzurum**	**1.00**	**92**	*e*PG	**Pg**	**23 03 51.0**	**-0.9**
EZM				*e*SG	**Sg**	**23 04 05.1**	**+0.1**
ERZM	**Erzurum**	**1.01**	**92**	*i* P	**Pb**	**23 03 50.6**	**-1.1**
ERZM				*i* S	**Sb**	**23 04 10.9**	**+6.2**
MACK	**Trabzon**	**1.02**	**348**	*i* P	**Pb**	**23 03 51.7**	**-0.3**
MACK				*i* S	**Sb**	**23 04 07.2**	**+2.0**
KTUT	**Trabzon**	**1.06**	**348**	*e*PN	**Pn**	**23 03 52.5**	**-0.5**
BINT	**Bingol**	**1.12**	**163**	*e*PN	**Pn**	**23 03 52.5**	**-1.2**
PTK	**Pertek**	**1.17**	**206**	*e*PN	**Pn**	**23 03 53.3**	**-1.1**
PTK				*e*SN	**Sn**	**23 04 09.7**	**-0.4**
BNGL	**BINGOL**	**1.30**	**139**	*i* P	**Pn**	**23 03 55.7**	**-0.5**
BNGL				*i* S	**Sb**	**23 04 16.3**	**+3.0**
HOMI	**Horasan**	**1.42**	**85**	*i* P	**Pn**	**23 03 57.0**	**-0.8**
HOMI				*i* S	**Sn**	**23 04 23.2**	**+6.9**
ELZG	**Elazig**	**1.67**	**210**	*i* P	**Pn**	**23 04 00.2**	**-1.0**
ELZG				*i* S	**Sn**	**23 04 25.4**	**+3.0**
SVRC	**Sivrice-ELAZID**	**1.67**	**201**	*e*PN	**Pn**	**23 04 01.8**	**+0.5**
MYA	**Malataya**	**2.06**	**219**	*e*PN	**Pn**	**23 04 07.3**	**+0.7**
MALT	**Malatya**	**2.06**	**218**	*e*PN	**Pn**	**23 04 07.5**	**+0.8**

*CSEM **10** 23:14:59.7±0.1, 40.32N×29.02E, h15km, MD2.7, Error ellipse: s-maj=3.3km s-min=2.4km az=149.0*
*ISK **10** 23:14:59.8, 40.32N×29.03E, h18km, MD2.7*

*MOS **10** 23:47:31.0±1.6, 5570N×110.17E, h20km, mb4.2/1, Error ellipse: s-maj=43.3km s-min=27.2km az=46.7*

BYKL 10 23:47:31.2±0.2, 5571N×11016E, h7km±4km, 4C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.36**	**281**	⇑*i*PG	Pg	23 47 38.2	+0.1
NIZ				*e*		23 47 43.8	
NIZ				pmax	pmax		
	comp=Z,424nm,0.3s						
NIZ				smax			
	comp=N,973nm,0.2s						
NIZ	**Nizh Angarsk**	**0.36**	**281**	⇑*i*Pg	Pg	23 47 38.3	+0.2
NIZ				*e*Sg	Sg	23 47 43.3	+0.5
NIZ				Pmax			
	comp=N,157nm,0.2s						
NIZ				Smax			
	comp=N,975nm,0.2s						
KMO	**Kumora**	**0.61**	**73**	⇑*i*Pg	Pg	23 47 41.8	-1.2
KMO				*e*Sg	Sg	23 47 49.8	-1.2
KMO				Pmax			
	comp=N,190nm,0.3s						
KMO				Smax			
	comp=N,347nm,0.2s						
YOA	**Uoyan**	**0.98**	**64**	*e*PG	Pg	23 47 48.4	-1.5
YOA				*e*		23 48 02.6	
YOA				pmax	pmax		
	comp=Z,151nm,0.2s						
YOA				smax			
	comp=N,592nm,0.4s						
YOA	**Uoyan**	**0.98**	**64**	*e*Sg	Sg	23 48 03.0	+0.4
YOA				Smax			
	comp=N,591nm,0.3s						
SVKR	**Severomuysk**	**1.96**	**77**	*e*PN	Pn	23 48 02.4	-2.3
SVKR				*e*		23 48 06.3	
SVKR				*e*		23 48 31.5	
SVKR				pmax	pmax		
	comp=Z,116nm,0.9s						
SVKR				smax			
	comp=N,867nm,0.8s						
SVKR	**Severomuysk**	**1.96**	**77**	*e*Pg	Pg	23 48 06.6	-2.1
SVKR				*e*Sg	Sg	23 48 31.8	-2.2
SVKR				Pmax			
	comp=N,125nm,0.2s						
SVKR				Smax			
	comp=N,887nm,0.4s						
SYVR	**Suvo**	**2.06**	**183**	*e*PN	Pn	23 48 07.6	+1.5
SYVR				*e*		23 48 36.2	
SYVR				pmax	pmax		
	comp=Z,66nm,0.6s						
SYVR				smax			
	comp=E,351nm,0.5s						
SYVR	**Suvo**	**2.06**	**183**	⇑*i*Pg	Pg	23 48 07.7	-2.9
SYVR				*e*Sg	Sg	23 48 35.5	-1.8
SYVR				Pmax			
	comp=E,65nm,0.6s						
SYVR				Smax			
	comp=E,349nm,0.5s						
OGRR	**Ongureny**	**2.55**	**217**	*e*Pn	Pn	23 48 14.3	+1.4
OGRR				*e*Pg	Pg	23 48 16.8	-3.2
OGRR				*e*Sg	Sg	23 48 49.4	-3.7
OGRR				Pmax			
	comp=E,16nm,0.2s						
OGRR				Smax			
	comp=E,85nm,0.2s						
MXMB	**Maximikha**	**2.59**	**199**	*e*Pn	Pn	23 48 13.6	+0.2
MXMB				*e*Pg	Pg	23 48 17.2	-3.5
MXMB				*e*Sg	Sg	23 48 52.1	-2.1
MXMB				Pmax			
	comp=E,21nm,0.3s						
MXMB				Smax			
	comp=E,190nm,0.4s						
BOD	**Bodaibo**	**2.99**	**43**	*e*Pn	Pn	23 48 19.9	+0.9
BOD				*e*Sn	Sn	23 48 55.6	+0.6
BOD				*e*Sg	Sg	23 49 02.4	-4.8
BOD				Smax			
	comp=E,73nm,0.3s						
ZRHB	**Zarechye**	**3.62**	**210**	*e*Sg	Sg	23 49 24.4	-3.1
ZRHB				Smax			
	comp=E,105nm,0.7s						
TRG	**Tyrgan**	**3.71**	**219**	*e*Pn	Pn	23 48 29.9	+1.1
TRG				*e*Sn	Sn	23 49 12.0	-0.6
TRG				*e*Sg	Sg	23 49 26.6	-3.5
TRG				Smax			
	comp=E,38nm,0.3s						
TRTB	**Turuntaevo**	**3.79**	**204**	*e*Pn	Pn	23 48 30.4	+0.4
TRTB				*e*Sg	Sg	23 49 29.6	-3.3
TRTB				Smax			
	comp=E,31nm,0.7s						
UUDB	**Ulan-Yde**	**4.12**	**202**	*e*Sg	Sg	23 49 39.7	-3.9
UUDB				Smax			
	comp=E,35nm,0.8s						
HRMR	**Khuramsha**	**4.51**	**206**	*e*Pn	Pn	23 48 40.5	+0.7
HRMR				*e*Sg	Sg	23 49 49.9	-6.1
HRMR				Smax			
	comp=E,107nm,0.6s						
CRS	**Chara**	**4.67**	**72**	*e*PN	Pn	23 48 53.1	+11
CRS				*e*		23 49 55.7	
CRS				pmax	pmax		
	comp=Z,26nm,0.9s						
CRS				smax			
	comp=N,53nm,1.0s						
CRS	**Chara**	**4.67**	**72**	*e*Pg	Pg	23 48 55.4	-5.2
CRS				*e*Sg	Sg	23 49 55.6	-5.5
CRS				Pmax			
	comp=N,26nm,0.9s						
CRS				Smax			
	comp=N,53nm,1.0s						
TLY	**Talaya**	**5.59**	**226**	*e*Sg	Sg	23 50 23.8	-6.8
TLY				Smax			
	comp=N,18nm,0.5s						
TUP	**Tupik**	**5.77**	**99**	*e*Pn	Pn	23 48 56.7	-0.5
TUP				*e*Pg	Pg	23 49 14.2	-7.5
TUP				*e*Sg	Sg	23 50 29.6	-6.8
TUP				Pmax			
	comp=N,9.0nm,0.5s						
TUP				Smax			
	comp=N,47nm,1.4s						
ARS	**Arshan**	**5.95**	**234**	*e*Pn	Pn	23 48 59.7	+0.1
ARS				*e*Sn	Sn	23 50 04.9	-3.0
ARS				*e*Sg	Sg	23 50 34.6	-7.5
ARS				Smax			
	comp=N,79nm,0.9s						
MOY	**Mondy**	**6.78**	**237**	*e*Pn	Pn	23 49 12.6	+1.6
MOY				*e*Sn	Sn	23 50 26.7	-1.7
MOY				*e*Sg	Sg	23 51 00.7	-8.1
MOY				Smax			
	comp=N,20nm,1.3s						
ORL	**Orlik**	**6.86**	**247**	*e*PN	Pn	23 49 13.5	+1.4
ORL				*e*		23 49 35.1	
ORL				*e*		23 51 02.3	
ORL				pmax	pmax		
	comp=Z,4.0nm,0.5s						
ORL				smax			
	comp=N,22nm,1.1s						
ORL	**Orlik**	**6.86**	**247**	*e*Pn	Pn	23 49 13.5	+1.4
ORL				*e*Sn	Sn	23 50 29.0	-1.3
ORL				*e*Sg	Sg	23 51 02.6	-8.7
ORL				Smax			
	comp=N,23nm,0.7s						

*IDC **10** 23:51:01.5±1.4, 571S×13373E, h0km, mb4.0/3, mb1 4.4/6, mb1mx4.1/13, mbtmp4.3/6, ML4.6/3, Error ellipse: s-maj=49.0km s-min=22.9km az=75.0*
*ISCJB **10** 23:51:04.1±0.6, 579S±005×13378E±009, h33km, mb4.2/6, Error ellipse: s-maj=13.6km s-min=6.7km az=171.4*
*NEIC **10** 23:51:06.1±0.7, 580S×13376E, h35km, mb4.3/6, Error ellipse: s-maj=20.2km s-min=9.8km az=75.0*

ISC 10 23:51:01.5±3.4, 579S±005×13386E±010, h3km±21km, n25, σ1§24/31, mb4.2/6, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.02**	**191**	*e*P	Pn	23 52 48.2	+3.0
	37nm,0.2s						
KAKA				*e*S	Sn	23 54 07.1	+1.5
BATI	**Kupang**	**11.00**	**246**	Pn	Pn	23 53 40.5	+0.6
	9.7nm,0.3s,baz=146,slow=2.9,SNR=5.7						
WRAB	**Tennant Creek**	**14.07**	**178**	*e*Pn	Pn	23 54 21.8	0.0
	10nm,0.5s						
WRAB				*e*Sn	Sn	23 56 51.7	-6.9
WRA	**Warramunga Arr**	**14.08**	**178**	Pn	Pn	23 54 20.4	-1.5
	2.2nm,0.3s,baz=353,slow=14,SNR=52						
WRA				Sn	Sn	23 56 54.9	-3.9
	1.5nm,0.3s,baz=2.3,slow=23,SNR=5.0						
WRA				Lg		23 58 33.1	
	baz=7.2,slow=30,SNR=5.6						
WB2	**Warramunga Arr**	**14.08**	**178**	*e*P	Pn	23 54 20.4	-1.5
WB2				*e*S	Sn	23 56 52.0	-6.8
FITZ	**Fitzroy Crossi**	**14.63**	**213**	*e*P	Pn	23 54 28.7	-0.8
	6.8nm,0.3s						
FITZ				*e*S	Sn	23 57 03.4	-9.0
FITZ	**Fitzroy Crossi**	**14.63**	**213**	Pn	Pn	23 54 29.0	-0.6
	1.9nm,0.3s,baz=41,slow=14,SNR=43						
FITZ				Sn	Sn	23 57 06.8	-5.6
	1.4nm,0.3s,baz=202,slow=20,SNR=4.6						
ASAR	**Alice Springs**	**17.77**	**180**	P	Pn	23 55 09.8	-0.3
	1.2nm,0.3s,baz=4.4,slow=9.3,SNR=50						
ASAR				S	Sn	23 58 25.3	-3.4
	0.4nm,0.3s,baz=358,slow=27,SNR=5.5						
ASAR				Lg		00 00 28.0	
	baz=7.9,slow=28,SNR=4.1						
CTA	**Charters Tower**	**18.64**	**141**	Lg		00 00 56.9	
	0.3nm,0.3s,baz=302,slow=6.5,SNR=3.2						
MBWA	**Marble Bar**	**20.52**	**221**	*e*P	P	23 55 43.5	+2.5
	7.6nm,0.6s						
KKM	**Kota Kinabalu**	**21.17**	**303**	P	P	23 55 47.4	-0.8
KSM	**Kuching**	**24.59**	**286**	P	P	23 56 22.3	-0.8
FORT	**Forrest**	**25.45**	**192**	*e*P	P	23 56 32.4	+1.7
	38nm,0.6s,mb5.1						
HNR	**Honiara**	**26.11**	**100**	P	P	23 56 36.7	-0.2
STKA	**Stephens Creek**	**26.95**	**165**	*e*P	P	23 56 45.9	+1.7
	1.7nm,0.6s,mb3.8						
STKA	**Stephens Creek**	**26.95**	**165**	P	P	23 56 45.9	+1.6
	0.7nm,0.3s,mb3.7,baz=7.1,slow=8.1,SNR=5.4						
MKAR	**Makanchi Array**	**69.38**	**325**	P	P	00 02 10.2	-0.5
	0.7nm,0.5s,mb3.9,baz=107,slow=8.2,SNR=12						
UCH	**Uchtor**	**71.96**	**318**	P	P	00 02 25.8	-0.6
EKS2	**Erkin-Say**	**72.63**	**318**	P	P	00 02 30.1	-0.4
VNDA	**Vanda**	**73.21**	**174**	*e*P	P	00 02 34.5	+1.2
	1.7nm,0.8s,mb4.0						
VNDA	**Vanda**	**73.21**	**174**	P	P	00 02 35.0	+1.7
	1.7nm,0.8s,mb4.0,baz=319,slow=6.9,SNR=7.8						
KURK	**Kurchatov**	**73.54**	**327**	*e*P	P	00 02 35.2	-0.4
	4.5nm,1.2s,mb4.3						
SBA	**Scott Base**	**74.05**	**173**	P	P	00 02 39.7	+1.5
BRVK	**Borovoye**	**79.20**	**327**	P	P	00 03 07.3	-0.5
QSPA	**South Pole Qui**	**84.18**	**180**	*e*P	P	00 03 34.7	+1.1
	2.7nm,0.8s,mb4.4						

*NEIC **11** 00:04:52.6, 3153S×6878W, h144km, MD3.7(GUC), After GUC.*

GUC 11 00:04:52.6±0.6, 3153S×6878W, h144km±20km, MD3.7, ML3.6, 2C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.92**	**233**	⇓*i*P	Pn	00 05 27.2	+0.7
JACH				*i* S	Sn	00 05 53.5	+1.1
CMCH	**Combarbala**	**1.93**	**280**	⇑*i*P	Pn	00 05 27.1	+0.5
CMCH				*i* S	Sn	00 05 53.1	+0.5
CMCH	**Combarbala**	**1.93**	**280**	⇑*i*P	Pn	00 05 27.1	+0.5
CMCH				*i* S	Sn	00 05 53.1	+0.5
CMCH				AML	AML	00 05 57.1	
	comp=N,2μm,0.9s						
PTCH	**Petorca**	**1.97**	**248**	*e*P	Pn	00 05 26.6	-0.4
PTCH				*i* S	Sn	00 05 53.0	-0.4
PTCH	**Petorca**	**1.97**	**248**	*e*P	Pn	00 05 26.6	-0.4
PTCH				*i* S	Sn	00 05 53.0	-0.4
PTCH				AML	AML	00 05 55.8	
	comp=N,180nm,0.5s						
FCH	**Farellones**	**2.21**	**215**	*e*P	Pn	00 05 30.9	+1.1
FCH				*i* S	Sn	00 06 02.2	+1.7
FCH				AML	AML	00 06 08.7	
	comp=E,227nm,0.2s						
TLL	**Tololo Astrono**	**2.21**	**307**	*e*P	Pn	00 05 30.9	+1.1
TLL				*i* S	Sn	00 06 00.2	+1.8
TLL	**Tololo Astrono**	**2.21**	**307**	*e*P	Pn	00 05 30.9	+1.1
TLL				*i* S	Sn	00 06 00.2	+1.8
TLL				AML	AML	00 06 01.8	
	comp=N,185nm,0.8s						
PEL	**Peldehue**	**2.28**	**224**	⇓*e*P	Pn	00 05 31.4	+0.7
PEL				*i* S	Sn	00 06 00.5	+0.4
PEL				AML	AML	00 06 02.3	
	comp=E,314nm,0.9s						
CLCH	**Cerro Calan**	**2.38**	**218**	*e*P	Pn	00 05 32.7	+0.7
CLCH				*e*S	Sn	00 06 03.2	+0.9
CLCH				AML	AML	00 06 09.9	
	comp=E,325nm,0.7s						
PCH	**Pirque**	**2.55**	**215**	*e*P	Pn	00 05 35.7	+1.6
RCDM	**Rinconada Maip**	**2.60**	**221**	*e*P	Pn	00 05 35.4	+0.8
RCDM				*i* S	Sn	00 06 08.2	+1.1
RCDM	**Rinconada Maip**	**2.60**	**221**	*e*P	Pn	00 05 35.4	+0.8
RCDM				*i* S	Sn	00 06 08.2	+1.1
RCDM				AML	AML	00 06 10.3	
	comp=N,354nm,0.1s						
LMEL	**Las Melosas**	**2.61**	**207**	*e*P	Pn	00 05 35.6	+0.9
LMEL				S	Sn	00 06 11.6	+4.3
LMEL	**Las Melosas**	**2.61**	**207**	*e*P	Pn	00 05 35.6	+0.9
LMEL				*i* S	Sn	00 06 11.6	+4.3
LMEL				AML	AML	00 06 22.2	
	comp=N,165nm,0.1s						
TACH	**Talagante**	**2.80**	**220**	*e*P	Pn	00 05 37.5	+0.3
TACH				*i* S	Sn	00 06 12.3	+0.8
CHCH	**Chadas Angostu**	**2.87**	**213**	⇓*i*P	Pn	00 05 39.1	+1.0
CICH	**Cipreses**	**3.11**	**206**	⇓*i*P	Pn	00 05 42.0	+1.0
LNV	**Longovilo**	**3.29**	**222**	⇓*i*P	Pn	00 05 42.6	-0.7

IDC 11 00:05:38.1±9.4, 1458N×9111W, h148km±58km, mb3.1/2, mb1 3.5/4, mb1mx3.2/20, mbtmp3.1/4, Error ellipse: s-maj=100.3km s-min=53.3km az=154.0, Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEIG	**Tepich**	**6.24**	**25**	P	Pn	00 07 07.8	-0.1
	20nm,0.3s,baz=219,slow=1.1,SNR=99						
TEIG				S	Sn	00 08 19.2	+0.9
	baz=322,slow=19,SNR=2.6						
TXAR	**Lajitas Array**	**18.72**	**324**	P	P	00 09 44.3	-1.0
	0.0nm,0.3s,baz=134,slow=10,SNR=2.9						
NVAR	**Mina Array Bea**	**33.78**	**320**	P	P	00 12 07.2	+1.4
	0.9nm,0.7s,baz=134,slow=7.7,SNR=5.0						
YKA	**Yellowknife Ar**	**50.67**	**346**	P	P	00 14 21.5	-0.5
	0.3nm,0.6s,baz=150,slow=7.3,SNR=7.3						

*NNC **11** 00:08:31.1±4.1, 4371N×8566E, h0km, mb3.7, mpv3.6, Error ellipse: s-maj=43.4km s-min=22.0km az=106.0*
*ISCJB **11** 00:08:32.1±0.6, 4392N±006×8571E±007, h10km, mb3.8/7, Error ellipse: s-maj=8.7km s-min=6.9km az=12.9*
*IDC **11** 00:08:32.1±1.1, 4386N×8588E, h0km, mb3.8/5, mb1 3.9/9, mb1mx3.7/24, mbtmp3.8/9, ML3.7/4, Error ellipse: s-maj=42.2km s-min=15.0km az=49.0*
*BJI **11** 00:08:35.2, 4392N×8580E, h18km, mb4.4, ML3.4*
*NEIC **11** 00:08:36.4±0.8, 4389N×8594E, h35km, mb4.2/2, Error ellipse: s-maj=13.4km s-min=11.5km az=190.0*

ISC 11 00:08:34.1±0.6, 4393N±005×8580E±006, h10km, n28, σ1§23/41, mb3.8/7, 10C-7D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.38**	**94**	PG	**Pg**	**00 09 01.5**	**+1.0**
WMQ				SG	**Sg**	**00 09 24.5**	**+6.2**
WMQ				Smax			
	comp=N,365nm,0.3s						
WMQ				Smax			
	comp=E,412nm,0.3s						
MK31	**Makanchi Array**	**3.79**	**320**	*e*Pn	**Pn**	**00 09 34.5**	**+2.1**
	comp=E,2.3nm,0.4s,baz=137,slow=14,SNR=532						
MK31				⇑Pg	**Pg**	**00 09 44.8**	**-1.8**
	comp=E,16nm,0.5s,baz=149,slow=17,SNR=40						
MK31				⇓Lg		00 10 31.6	
	comp=E,27nm,0.5s,baz=146,slow=30,SNR=5.6						
MK31	**Makanchi Array**	**3.79**	**320**	*e*Pn	**Pn**	**00 09 34.7**	**+2.2**
MK31				*e*Pg	**Pg**	**00 09 45.9**	**-0.7**
MK31				Sn	**Sn**	**00 10 18.4**	**+1.4**
MK31				*e*Sg	**Sg**	**00 10 32.1**	**-3.5**
MKAR	**Makanchi Array**	**3.79**	**320**	Pn	**Pn**	**00 09 35.0**	**+2.5**
MKAR				Pg	**Pg**	**00 09 43.1**	**-3.5**
MKAR				Sn	**Sn**	**00 10 19.2**	**+2.2**
MKAR				Lg		00 10 33.7	
MKAR	**Makanchi Array**	**3.79**	**320**	Pn	**Pn**	**00 09 35.0**	**+2.5**
	comp=E,2.4nm,0.3s,baz=134,slow=14,SNR=96						
MKAR				Pg	**Pg**	**00 09 43.1**	**-3.5**
	comp=E,11nm,0.3s,baz=132,slow=16,SNR=35						
MKAR				Sn	**Sn**	**00 10 19.2**	**+2.2**
	comp=E,10nm,0.3s,baz=151,slow=15,SNR=4.6						
MKAR				Lg		00 10 33.7	
	comp=E,15nm,0.3s,baz=140,slow=31,SNR=3.7						
TKM2	**Tokmak 2**	**7.50**	**266**	⇑Pn	**Pn**	**00 10 26.0**	**+2.6**
	comp=E,4.6nm,0.8s						
TKM2				⇓Lg		00 12 31.0	
	comp=E,18nm,1.1s						
KURBB	**Kurchatov Arra**	**8.32**	**326**	⇓Pn	**Pn**	**00 10 35.2**	**+0.5**
	comp=E,1.1nm,0.6s						
KURBB				⇑Lg		00 12 59.0	
	comp=E,8.1nm,0.7s						
KURK	**Kurchatov**	**8.36**	**327**	⇑Pn	**Pn**	**00 10 35.7**	**+0.6**
KURK				⇓Lg		00 12 57.4	
	comp=E,21nm,0.6s						
KURK	**Kurchatov**	**8.36**	**327**	*e*Pn	**Pn**	**00 10 35.9**	**+0.7**
	comp=E,4.2nm,0.4s						
KURK				*e*Sn	**Sn**	**00 12 13.6**	**+4.1**
UCH	**Uchtor**	**8.43**	**262**	*e*Pn	**Pn**	**00 10 35.7**	**-0.6**
	comp=E,2.5nm,0.7s						
UCH				Sn	**Sn**	**00 12 11.2**	**-0.3**
ZAA0	**Zalesovo Array**	**10.05**	**357**	*e*Pn	**Pn**	**00 10 58.4**	**0.0**
ZALV	**Zalesovo Beam**	**10.05**	**357**	Pn	**Pn**	**00 10 58.5**	**+0.2**
ZALV				Sn	**Sn**	**00 12 49.5**	**-1.6**
ZALV				Lg		00 13 59.2	
ZALV	**Zalesovo Beam**	**10.05**	**357**	Pn	**Pn**	**00 10 58.5**	**+0.1**
	comp=E,2.6nm,0.3s,baz=177,slow=13,SNR=61						
ZALV				Sn	**Sn**	**00 12 49.5**	**-1.6**
	comp=E,2.2nm,0.3s,baz=174,slow=25,SNR=9.4						
ZALV				Lg		00 13 59.2	
	baz=173,slow=36,SNR=2.3						
KK31	**Karatay Array**	**11.14**	**271**	⇑Pn	**Pn**	**00 11 11.0**	**-2.3**
	comp=E,0.4nm,0.6s						
KK31				⇓Lg		00 14 19.5	
	comp=E,1.3nm,0.5s,baz=75,slow=26,SNR=3.7						
VOSK	**Vostochnaya**	**13.20**	**317**	⇑Pn	**Pn**	**00 11 40.3**	**-1.1**
	comp=E,1.1nm,0.5s						
VOSK				⇑Lg		00 15 28.8	
	comp=E,7.4nm,1.1s						
BVA0	**Borovoye Array**	**13.66**	**317**	⇓Pn	**Pn**	**00 11 47.2**	**-0.6**
	comp=E,0.4nm,0.8s,baz=134,slow=11,SNR=4.4						
BVA0				⇑Lg		00 15 41.8	
	comp=E,1.0nm,1.1s,baz=239,slow=39,SNR=3.6						
BVAR	**Borovoye Array**	**13.66**	**317**	Pn	**Pn**	**00 11 47.3**	**-0.5**
	comp=E,0.4nm,0.3s,baz=112,slow=16,SNR=4.6						
BRVK	**Borovoye**	**13.73**	**317**	Pn	**Pn**	**00 11 49.1**	**+0.4**
ZRNK	**Zerenda**	**14.31**	**315**	⇓Pn	**Pn**	**00 11 55.8**	**-0.8**
	comp=E,2.9nm,0.6s						
ZRNK				⇑Lg		00 16 12.5	
	comp=E,7.0nm,1.1s						
SONM	**Songino Array**	**14.86**	**68**	Pn	**Pn**	**00 12 01.2**	**-2.9**
	comp=E,0.3nm,0.3s,baz=126,slow=7.5,SNR=3.6						
AB31	**Akbulak array**	**18.51**	**296**	⇑Pn	**Pn**	**00 12 50.6**	**+0.2**
	comp=E,0.1nm,0.3s,baz=0.0,slow=0.1,SNR=6.8						
KIV	**Kislovodsk**	**30.78**	**285**	P	**P**	**00 14 50.0**	**+0.4**
	comp=E,2.7nm,0.8s,mb4.1						
MALT	**Malatya**	**35.73**	**278**	*e*P	**P**	**00 15 32.6**	**-0.2**
	comp=E,1.3nm,0.4s,mb4.2						
FINES	**FINESS Array B**	**38.62**	**318**	P	**P**	**00 15 56.8**	**-0.3**
	comp=E,1.7nm,0.9s,mb3.8,baz=99,slow=9.0,SNR=3.3						
ARCES	**ARCESS Array B**	**39.37**	**331**	P	**P**	**00 16 03.9**	**+0.7**
	comp=E,3.8nm,1.0s,mb4.1,baz=93,slow=10.0,SNR=3.9						
NOA	**NORSAR Array B**	**45.78**	**319**	P	**P**	**00 16 55.7**	**+0.3**
	comp=E,0.8nm,0.8s,mb3.7,baz=75,slow=7.4,SNR=3.0						
TORD	**Torodi Ar. Bea**	**76.79**	**276**	P	**P**	**00 20 25.6**	**-0.5**
	comp=E,0.2nm,0.7s,mb3.2,baz=49,slow=3.3,SNR=6.8						
WRA	**Warramunga Arr**	**77.54**	**134**	P	**P**	**00 20 29.6**	**-0.5**
	comp=E,0.7nm,0.7s,mb3.7,baz=331,slow=5.1,SNR=3.7						

*IDC **11** 00:09:32.7±1.3, 1445N×94.12W, h0km, mb3.9/7, mb1 4.2/9, mb1mx4.0/22, mbtmp4.0/9, ML3.9/2, MS3.3/3, Ms1 3.4/3, ms1mx2.8/30, Error ellipse: s-maj=36.0km s-min=18.6km az=44.0*
*MEX **11** 00:09:36.9±1.0, 1443N×9459W, h16km±23km, MD4.2*
*NEIC **11** 00:09:36.8, 1443N×9458W, h16km, mb4.0/11, MD4.2(MEX), After MEX.*
*ISCJB **11** 00:09:39.7±1.4, 1483N±009×9427W±005, h34km±8km, mb4.0/14, MS3.3/3, Error ellipse: s-maj=15.2km s-min=7.0km az=9.1*

ISC 11 00:09:39.2±2.3, 1481N±006×9428W±004, h17km±15km, n140, σ0§95/147, mb4.0/14, MS3.3/3, 35C-45D, Off coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**2.00**	**299**	*i* P	**Pn**	**00 10 06.4**	**-6.0**
HUIG				*i* S	**Sn**	**00 10 28.7**	**-8.4**
CMIG	**Matias Romero**	**2.34**	**346**	*i* P	**Pn**	**00 10 16.6**	**-0.3**
CMIG				*i* S	**Sn**	**00 10 47.0**	**+1.7**
SCX	**San Cristobal**	**2.48**	**39**	*i* P	**Pn**	**00 10 20.4**	**+1.4**
SCX				*i* S	**Sn**	**00 10 56.0**	**+7.1**
CCIG	**Comitan**	**2.53**	**54**	*i* P	**Pn**	**00 10 20.7**	**+1.1**
CCIG				*i* S	**Sn**	**00 10 55.5**	**+5.4**
TUIG	**Tuzandepetl**	**3.21**	**358**	*i* P	**Pn**	**00 10 29.9**	**+1.0**
OXX	**Oaxaca**	**3.26**	**314**	*e*P	**Pn**	**00 10 28.0**	**-1.6**
OXX				*i* S	**Sn**	**00 11 06.0**	**-2.1**
VHO	**Vista Hermosa**	**3.26**	**314**	*i* P	**Pn**	**00 10 27.1**	**-2.5**
VHO				*i* S	**Sn**	**00 11 04.5**	**-3.5**
PPM	**Popocatepetl**	**5.93**	**316**	*i* P	**Pn**	**00 11 09.7**	**+3.3**
PPM				*i* S	**Sn**	**00 12 13.3**	**-0.8**
PPM	**Popocatepetl**	**5.93**	**316**	*i* P	**Pn**	**00 11 05.5**	**-0.9**
PPM				*i* S	**Sn**	**00 12 13.3**	**-0.8**
MEIG	**Mezcala**	**5.99**	**302**	*i* P	**Pn**	**00 10 59.3**	**-7.9**
IIO	**Organos**	**6.37**	**319**	*i* P	**Pn**	**00 11 14.9**	**+2.4**
IIO	**Organos**	**6.37**	**319**	*i* P	**Pn**	**00 11 11.2**	**-1.2**
MZVM		**6.43**	**313**	*i* P	**Pn**	**00 11 12.7**	**-0.6**
TEIG	**Tepich**	**7.86**	**46**	Pn	**Pn**	**00 11 31.3**	**-1.6**
TEIG				Sn	**Sn**	**00 13 02.4**	**+0.9**
TEIG	**Tepich**	**7.86**	**46**	Pn	**Pn**	**00 11 31.3**	**-1.6**
	4.3nm,0.3s,baz=35,slow=0.7,SNR=13						
TEIG				Sn	**Sn**	**00 13 02.4**	**+0.9**
	4.5nm,0.3s,baz=324,slow=19,SNR=3.8						
JCT	**Junction City**	**16.40**	**343**	*e*Pn	**Pn**	**00 13 28.0**	**-0.7**
	5.9nm,0.8s						
TXAR	**Lajitas Array**	**16.85**	**331**	P	**Pn**	**00 13 36.0**	**+1.5**
	0.1nm,0.3s,baz=154,slow=13,SNR=13						
MNTX	**Cornudas Mount**	**19.64**	**331**	*e*P	**Pn**	**00 14 07.0**	**-1.6**
	3.0nm,1.0s						
MIAR	**Mount Ida**	**19.66**	**2**	*e*P	**Pn**	**00 14 06.8**	**-2.0**
	3.9nm,0.7s						
WMOK	**Wichita Mounta**	**20.25**	**349**	*e*P	**P**	**00 14 14.1**	**+0.3**
	4.5nm,

Y17A	Roosevelt	24.05	324	⇑P	P	00 14 53.6	0.0
	baz=24						
Z16A	Peralta Trail,	24.13	323	⇓P	P	00 14 54.7	+0.3
	baz=24						
115A	Sonoran Desert	24.16	321	⇓P	P	00 14 55.8	+1.2
	baz=24						
X18A	Snowflake	24.19	327	⇓P	P	00 14 54.8	-0.1
	baz=24						
KSU1	Kansas State U	24.28	356	eP	P	00 14 55.0	-0.6
Y16A	Circle Bar Ran	24.55	324	⇓P	P	00 14 58.5	+0.4
	baz=25						
SDCO	Great Sand Dun	24.92	339	eP	P	00 15 01.2	-0.3
	2.3nm,1.0s,mb3.7						
X16A	Lo Mia Camp, P	24.92	325	⇓P	P	00 15 02.5	+1.0
	baz=25,SNR=7.8						
Z14A	Wintersburg	25.05	321	⇓P	P	00 15 03.7	+0.9
	baz=25						
Y15A	Casa Rosa Ranc	25.09	323	⇓P	P	00 15 03.6	+0.5
	baz=25						
X15A	Humboldt	25.42	324	⇓P	P	00 15 06.8	+0.7
	baz=26						
Y14A	Wickenburg	25.48	322	⇓P	P	00 15 06.9	+0.3
	baz=26						
MVCO	Mesa Verde	25.64	333	⇓P	P	00 15 05.8	-2.3
	baz=26						
WUAZ	Wupatki	25.70	326	eP	P	00 15 08.7	+0.1
	9.8nm,0.9s,mb4.3						
WUAZ	Wupatki	25.70	326	⇓P	P	00 15 08.9	+0.3
	baz=26						
X14A	Yava	25.78	323	⇓P	P	00 15 09.3	-0.2
	baz=26						
W15A	Williams	25.93	325	⇑P	P	00 15 10.6	-0.2
	baz=26						
V15A	Kaibab Nationa	26.35	326	⇓P	P	00 15 14.3	-0.2
	baz=27						
PDMCI	Parker Dam,Lak	26.42	321	⇑P	P	00 15 15.4	+0.2
	baz=27						
W14A	Seligman	26.42	324	⇑P	P	00 15 14.7	-0.5
	baz=27						
X13A	Yucca	26.43	322	⇓P	P	00 15 14.8	-0.4
	baz=27						
PV01	Paradox Valley	26.45	334	P	P	00 15 15.4	0.0
V14A	Boquillas Ranc	26.74	324	⇑P	P	00 15 18.7	+0.7
	baz=27						
PV10	Paradox Valley	26.85	334	P	P	00 15 18.2	-0.8
T16A	Glen Canyon Da	26.89	328	⇑P	P	00 15 19.6	+0.3
	baz=27						
SJG	San Juan	27.16	79	LR	LR	00 25 38.2	
	comp=Z,37nm,20.9s,MS2.9,baz=96,slow=36						
U14A	Mt Trumbull	27.35	325	⇓P	P	00 15 24.4	+0.9
	baz=28						
V13A	Grand Canyon W	27.39	323	⇓P	P	00 15 24.5	+0.6
	baz=28						
U13A	Pakoon Wash	27.78	324	⇓P	P	00 15 28.5	+1.1
	baz=28						
T13A	Saint George	28.18	325	⇑P	P	00 15 31.7	+0.8
	baz=28						
S13A	Holt Ranch, En	28.57	326	⇑P	P	00 15 35.7	+1.3
	baz=29						
DUG	Dugway	30.03	331	⇑P	P	00 15 48.1	+0.7
	baz=30						
P13A	Bates Ranch, G	30.05	329	⇓P	P	00 15 48.5	+1.0
	baz=30						
N14A	Grayback Hills	30.72	331	⇑P	P	00 15 53.5	+0.1
	baz=31						
Q10A	Clear Creek Ra	30.85	325	⇓P	P	00 15 55.8	+1.2
	baz=31						
M15A	Larsen Ranch,	30.88	333	⇑P	P	00 15 54.3	-0.5
	baz=31						
S08C	White Mtn Res	30.98	321	⇓P	P	00 15 56.3	+0.5
	baz=31						
HELL	Mitchell Peak	30.99	319	⇓P	P	00 15 55.8	-0.1
	baz=31						
O12A	Currie	31.03	329	⇓P	P	00 15 56.5	+0.4
	baz=31						
M14A	Sheep Mountain	31.31	332	P	P	00 15 59.0	+0.4
	baz=32,SNR=6.2						
KCC	Kaiser Creek	31.57	320	⇑P	P	00 16 01.3	+0.3
	baz=32						
M13A	Montello	31.58	331	P	P	00 16 01.7	+0.7
	baz=32,SNR=6.4						
N12A	Clover Valley,	31.61	329	⇓P	P	00 16 01.9	+0.5
	baz=32						
NVAR	Mina Array Bea	31.67	322	P	P	00 16 02.4	+0.6
NVAR	Mina Array Bea	31.67	322	P	P	00 16 02.4	+0.6
	1.8nm,0.8s,mb4.0,baz=142,slow=8.4,SNR=13						
REDW	Red Top Meadow	31.80	337	eP	P	00 16 03.2	+0.3
	10nm,1.3s,mb4.5						
O10A	Cortez Mining,	31.95	327	⇑P	P	00 16 04.8	+0.6
	baz=32						
M12A	Wells	31.98	330	⇓P	P	00 16 05.0	+0.5
	baz=32						
O09A	Fish Creek Ran	32.23	326	⇓P	P	00 16 06.9	+0.2
	baz=32						
M11A	Holland Ranch,	32.42	329	⇓P	P	00 16 08.4	0.0
	baz=33						
CMB	Columbia Colle	32.68	320	P	P	00 16 09.1	-1.7
M10A	I.L. Ranch, Tu	32.87	328	⇑P	P	00 16 18.9	+6.6
	baz=33						
N09A	Rock Creek Ran	32.89	327	⇑P	P	00 16 13.2	+0.7
	baz=33						
R05C	Kirkwood Meado	32.91	321	⇓P	P	00 16 15.0	+2.3
	baz=33						
L11A	Cat Creek Ranc	32.96	330	P	P	00 16 13.5	+0.4
	baz=33,SNR=7.4						
O07A	Toulon	33.16	324	⇑P	P	00 16 16.4	+1.5
	baz=33						
J13A	Cove Ranch, Pi	33.19	333	⇓P	P	00 16 14.8	-0.3
	baz=34						
L10A	Juniper Basin	33.24	329	⇓P	P	00 16 15.7	+0.1
	baz=34						
M09A	Marrel Ranch,	33.26	327	⇑P	P	00 16 16.5	+0.8
	baz=34						
BNLO	Ben Lomond (Sa	33.29	317	⇓P	P	00 16 18.4	+2.3
	baz=33						
HLID	Hailey	33.43	333	⇑P	P	00 16 16.8	-0.4
	baz=34						
K11A	Parker Ranch,	33.55	330	⇑P	P	00 16 17.8	-0.5
	baz=34						
I13A	Wildhorse Cree	33.58	334	⇓P	P	00 16 17.5	-1.0
	baz=34						
MCMT	McKenzie Canyo	33.81	336	eP	P	00 16 21.7	+1.2
G15A	Dillon	33.95	337	⇓P	P	00 16 21.6	-0.1
	baz=34						
N06A	Buffalo Meadow	34.09	324	⇑P	P	00 16 22.4	-0.5
	baz=34						
L08A	Fields	34.28	327	⇑P	P	00 16 24.4	-0.2
	baz=34						
K09A	Rome	34.33	329	P	P	00 16 25.3	+0.3
	baz=35,SNR=8.7						
I11A	Placerville	34.39	332	⇑P	P	00 16 25.7	+0.2
	baz=35						
H12A	Diamond D Ranc	34.41	334	P	P	00 16 26.2	+0.6
	baz=35,SNR=8.5						
F15A	Butte	34.52	337	⇑P	P	00 16 26.3	-0.3
	baz=35						
G13A	Cobalt	34.58	335	⇓P	P	00 16 27.8	+0.7
	baz=35						
K08A	Mann Creek Ran	34.74	328	⇑P	P	00 16 28.5	0.0
	baz=35						
M06C	Likely Place G	34.76	324	⇓P	P	00 16 29.4	+0.6
	baz=35						
J09A	Fry Pan Ranch,	34.82	329	⇑P	P	00 16 29.4	+0.2
	baz=35						
K07A	Rock Creek Ran	35.10	327	P	P	00 16 31.8	0.0
	baz=35,SNR=5.5						
MOD	Modoc	35.13	325	⇓P	P	00 16 32.7	+0.7
	baz=35						
J08A	Circle Bar Ran	35.19	329	⇓P	P	00 16 32.1	-0.3
	baz=35						
I09A	Lost Marbles R	35.28	330	⇑P	P	00 16 33.1	-0.1
	baz=36						
L05A	Lakeview	35.52	325	⇓P	P	00 16 35.5	+0.2
	baz=36						
F12A	Elk City	35.54	334	P	P	00 16 35.4	0.0
	baz=36,SNR=7.1						
G11A	Walters Elk Ra	35.69	333	⇓P	P	00 16 36.4	-0.3
	baz=36						
H08A	Prairie City	36.13	330	⇓P	P	00 16 40.7	+0.2
	baz=36						
D13A	Huson	36.31	337	⇑P	P	00 16 41.0	-1.1
	baz=37						
E11A	Bogner Ranch,	36.42	334	⇑P	P	00 16 40.4	-2.6
	baz=37						
NEW	Newport	38.32	335	eP	P	00 16 58.3	-0.7
C08A	Higginbotham F	38.75	333	⇓P	P	00 17 01.8	-0.9
	baz=39						
B09A	Rice	38.86	335	⇑P	P	00 17 03.1	-0.5
	baz=39						
LPAZ	La Paz	40.27	139	eP	P	00 17 09.3	-6.4
LPAZ	La Paz	40.27	139	P	P	00 17 09.4	-6.3
	1.3nm,0.9s,mb3.6,baz=344,slow=8.6,SNR=6.2						
SCHQ	Schefferville	45.27	22	LR	LR	00 36 39.7	
	comp=Z,55nm,19.7s,MS3.5,baz=258,slow=36						
YKA	Yellowknife Ar	49.75	348	P	P	00 18 29.0	-1.5
	0.8nm,0.7s,mb3.8,baz=154,slow=7.0,SNR=12						
YKA				PcP	PcP	00 19 47.6	-3.7
	0.2nm,0.7s,baz=149,slow=3.6,SNR=3.7						
INK	Inuvik	59.05	344	eP	P	00 19 36.3	-1.8
	175nm,1.2s						
RES	Resolute Bay	59.87	360	eP	P	00 19 42.3	-1.3
TRQA	Tornquist	60.70	151	P	P	00 19 43.5	-6.3
COLA	College	61.64	337	eP	P	00 19 53.0	-2.9
ESDC	Sonseca Array	80.94	51	P	P	00 21 50.7	-2.4
	2.3nm,0.9s,mb4.1,baz=283,slow=5.4,SNR=6.3						
NOA	NORSAR Array B	84.48	28	LR	LR	00 56 46.4	
	comp=Z,21nm,20.1s,MS3.5,baz=345,slow=33						
TORD	Torodi Ar. Bea	92.33	76	P	P	00 22 46.7	-2.8
	0.5nm,0.9s,mb3.9,baz=278,slow=4.6,SNR=5.5						

MOS **11** *00:21:09.4±0.9, 731S×12886E, h33km, mb5.2/12, Error ellipse: s-maj=16.3km s-min=7.0km az=108.2*
BJI **11** *00:21:09.7, 818S×129 35E, h97km, mB5.0, mb5.2*
IDC **11** *00:21:15.2±2.8, 742S×12877E, h72km±25km, mb4.4/13, mb1 4.5/15, mb1mx4.5/17, mbtmp4.5/15, MS3.4/2, Ms1 3.4/2, ms1mx2.9/27, Error ellipse: s-maj=22.7km s-min=11.4km az=75.0*
ISCJB **11** *00:21:16.8±0.9, 754S±004×12908E±006, h111km±8km, mb5.0/60, Error ellipse: s-maj=10.0km s-min=5.9km az=150.1*
NEIC **11** *00:21:17.6±1.2, 750S×12893E, h98km±11km, mb4.9/20, Error ellipse: s-maj=12.5km s-min=7.0km az=56.0*
ISC 11 00:21:19.0±0.8, 759S±005×12901E±005, h115km±8km, n145, σ1§21/150, mb5.0/60, 18C-11D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	Kupang	5.88	243	P	Pn	00 22 45.1	+1.3
	34nm,0.3s,baz=146,slow=3.3,SNR=35						
BATI				S	Sn	00 23 47.1	-2.8
	46nm,0.3s,baz=311,slow=19,SNR=16						
KAKA	Kakadu	6.11	147	⇓iP	Pn	00 22 49.0	+2.1
	980nm,0.6s						
KAKA				eS	Sn	00 23 54.3	-1.1
KAPI	Kappang	9.55	285	P	Pn	00 23 34.6	+1.1
	2.0nm,0.3s,baz=128,slow=9.5,SNR=5.8						
FITZ	Fitzroy Crossi	10.95	197	eP	Pn	00 23 49.5	-2.8
	51nm,0.3s						
FITZ				eS	Sn	00 25 42.8	-10
FITZ	Fitzroy Crossi	10.95	197	P	Pn	00 23 50.3	-2.0
	11nm,0.3s,baz=31,slow=12,SNR=126						
FITZ				S	Sn	00 25 42.8	-10
	18nm,0.3s,baz=77,slow=19,SNR=7.0						
FITZ				LR	LR	00 28 21.5	
	comp=Z,54nm,20.0s,baz=168,slow=39						
WRAB	Tennant Creek	13.32	158	c iP	Pn	00 24 22.4	-1.1
WRAB	Tennant Creek	13.32	158	ePn	Pn	00 24 22.5	-1.0
WRA	Warramunga Arr	13.32	158	P	Pn	00 24 22.7	-0.8
	28nm,0.3s,baz=344,slow=13,SNR=305						
WRA				S	Sn	00 26 41.7	-8.7
	34nm,0.3s,baz=336,slow=22,SNR=24						
WB2	Warramunga Arr	13.32	158	eP	Pn	00 24 22.4	-1.2
WB2				eS	Sn	00 26 43.4	-7.1
DAV	Davao City (W)	14.96	347	ePn	Pn	00 24 47.4	+2.7
	166nm,1.1s						
MBWA	Marble Bar	16.19	213	ePn	Pn	00 24 58.4	-1.6
	37nm,0.8s						
MBWA				eSn	Sn	00 27 47.5	-12
TSM	Tawau	16.21	316	⇓P	Pn	00 25 05.1	+4.9
MYLDM	Lahad Datu	16.46	320	⇓P	Pn	00 25 08.9	+5.7
ASAR	Alice Springs	16.66	164	P	Pn	00 25 06.3	+0.7
	10nm,0.3s,baz=330,slow=9.9,SNR=326						
ASAR				S	S	00 28 04.6	-7.0
	8.7nm,0.3s,baz=342,slow=22,SNR=9.2						
SDKM	Sandakan	17.65	318	⇓P	Pn	00 25 21.4	+3.6
KKM	Kota Kinabalu	18.61	316	eP	P	00 25 28.8	+1.3
KKM	Kota Kinabalu	18.61	316	⇑P	P	00 25 30.2	+2.6
KDM	Kudat	18.84	320	⇓P	P	00 25 37.5	+7.4
BTM	Bintulu	19.17	303	⇓P	P	00 25 36.7	+3.0
SBUM	Sibu	19.49	300	⇑P	P	00 25 40.3	+3.1
KSM	Kuching	20.71	295	eP	P	00 25 49.0	-1.4
KSM	Kuching	20.71	295	⇑P	P	00 25 51.6	+1.2
CTA	Charters Tower	20.82	128	eP	P	00 25 54.4	+2.9
	16nm,0.9s						
CTA	Charters Tower	20.82	128	eP	P	00 25 54.4	+2.9
CTA				pmax	pmax		
	comp=Z,16nm,0.9s						
CTA	Charters Tower	20.82	128	P	P	00 25 54.7	+3.3
	comp=Z,7.4nm,0.6s,baz=303,slow=14,SNR=13						
CTAO	Charters Tower	20.82	128	eP	P	00 25 53.2	+1.7
FORT	Forrest	23.08	182	eP	P	00 26 16.9	+2.3
	comp=Z,53nm,0.6s,mb5.0						
FORT				eS	S	00 30 26.2	+9.3
KLBR	Kellerberrin	26.08	202	eP	P	00 26 44.3	+2.4
	comp=Z,27nm,1.3s,mb4.5						
KLBR				eS	S	00 31 33.1	+28
STKA	Stephens Creek	26.86	156	⇓iP	P	00 26 51.5	+2.6
	comp=Z,7.1nm,0.5s,mb4.5						
STKA				eS	S	00 31 52.6	+36
STKA	Stephens Creek	26.86	156	P	P	00 26 51.5	+2.7
	comp=Z,15nm,0.9s,mb4.5,baz=326,slow=8.8,SNR=22						
KGM	Kluang	27.35	289	⇓P	P	00 26 48.6	-4.8
NWAO	Narrogin (SRO)	27.47	202	eP	P	00 26 54.9	+0.6
NWAO				pmax	pmax		
	comp=Z,10.0nm,0.8s						
NWAO	Narrogin (SRO)	27.47	202	eP	P	00 26 54.9	+0.5
	comp=Z,9.7nm,0.8s,mb4.4						
NWAO				eS	S	00 31 48.6	+22
NWAO	Narrogin (SRO)	27.47	202	P	P	00 26 56.3	+2.0
	comp=Z,4.9nm,0.5s,mb4.3,baz=134,slow=4.4,SNR=8.7						
KULM	Kulim	31.05	294	eP	P	00 27 24.0	-2.2
PSI	Prapat	31.74	288	P	P	00 27 30.1	-2.3
	comp=Z,15nm,0.9s,mb4.7,baz=126,slow=6.5,SNR=10.0						
QIZ	Qiongzhong	32.51	325	P	P	00 27 40.1	+1.2
QIZ				S	S	00 32 46.6	+0.9
QIZ				XS	sS	00 33 33.8	+3.7
QIZ				AMB	AMB		
	comp=Z,17nm,1.6s,mb4.6						
QIZ				AMB	AMB		
	comp=Z,280nm,3.0s						
TOO	Toolangi	33.38	156	eP	P	00 27 50.5	+4.1
	comp=Z,67nm,0.6s,mb5.7						
TOO	Toolangi	33.38	156	eP	P	00 27 50.5	+4.1
TOO				pmax	pmax		
	comp=Z,67nm,0.6s,mb5.7						
NANT	Nan	38.30	314	⇑P	P	00 28 28.5	-0.1
	comp=Z,316nm,1.0s						
CHG	Chiang Mai	39.59	312	⇑P	P	00 28 39.0	-0.3
	comp=Z,38nm,0.8s,mb5.3						
CHTO	Chiang Mai	39.59	312	eP	P	00 28 39.2	-0.1
GYA	Guiyang	40.20	328	⇑iP	P	00 28 45.8	+1.6
GYA				XP	sP	00 29 18.4	-5.1
GYA				PP	PP	00 30 25.7	+6.6
GYA				PCP	PcP	00 30 48.2	+1.9
GYA				SCP	ScP	00 34 23.4	-1.6
GYA				PCS	PcS	00 34 37.6	+0.7
GYA				S	S	00 34 44.4	+1.7
GYA				SCS	ScS	00 38 36.2	-2.8
GYA				AMB	AMB		
	comp=Z,30nm,0.7s,mb5.2						
GYA				AMB	AMB		
	comp=Z,120nm,4.8s						
GYA				LR	LR		
	comp=N,540nm,18.9s						
GYA				LR	LR		
	comp=E,460nm,18.4s						
GYA				LR	LR		
	comp=Z,560nm,19.2s						
WHN	Wuhan	40.44	340	⇓P	P	00 28 46.5	+0.3
WHN				AMB	AMB		
	comp=Z,68nm,1.0s,mb5.4						
NJ2	Nanjing	40.59	347	eP	P	00 28 47.7	+0.3
NJ2				PP	PP	00 30 25.7	+2.4
NJ2				S	S	00 34 47.0	-1.5
NJ2				XS	sS	00 35 35.5	+1.7
NJ2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,140nm,5.3s						
NJ2				LR	LR		
	comp=N,270nm,11.0s						
NJ2				LR	LR		
	comp=E,230nm,22.0s						
NJ2				LR	LR		
	comp=Z,210nm,19.8s						
KMI	Kunming	41.37	323	P	P	00 28 54.9	+1.0
KMI				XP	sP	00 29 25.7	-7.6
KMI				PP	PP	00 30 34.8	+3.0
KMI				S	S	00 35 00.8	+0.6
KMI				AMB	AMB		
	comp=Z,33nm,0.9s,mb5.2						
KMI				LR	LR		
	comp=N,166nm,17.6s						
KMI				LR	LR		
	comp=E,135nm,15.4s						
KMI				LR	LR		
	comp=Z,139nm,15.3s						
MAJO	Matsushiro	44.74	11	eP	P	00 29 20.0	-0.9
MAJO				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
MAJO	Matsushiro	44.74	11	eP	P	00 29 20.0	-0.9
	comp=Z,25nm,0.8s,mb5.0						
MAT	Matsushiro	44.74	11	P	P	00 29 20.0	-0.9
MJAR	Matsushiro Arr	44.74	11	P	P	00 29 19.8	-1.0
	comp=Z,16nm,0.8s,mb4.8,baz=188,slow=9.3,SNR=25						
KSRS	Korea Array	44.82	359	P	P	00 29 21.9	+0.4
	comp=Z,6.3nm,0.6s,mb4.5,baz=175,slow=9.4,SNR=35						
KSRS				PcP	PcP	00 31 01.8	+0.3
	comp=Z,2.8nm,0.6s,baz=172,slow=3.0,SNR=9.6						
CD2	Chengdu	45.29	329	⇑iP	P	00 29 24.9	-0.4
CD2				XP	sP	00 29 57.5	-7.4
CD2				PP	PP	00 31 16.5	+3.0
CD2				S	S	00 35 59.6	+2.5
CD2				SS	SS	00 39 18.2	-4.2
CD2				AMB	AMB		
	comp=Z,60nm,0.6s,mb5.5						
CD2				AMB	AMB		
	comp=Z,210nm,4.8s						
XAN	Xi'an	45.57	336	P	P	00 29 25.8	-1.7
XAN				XP	sP	00 30 00.0	-7.1
XAN				PP	PP	00 31 14.6	-1.9
XAN				AMB	AMB		
	comp=Z,38nm,0.9s,mb5.1						
XAN				AMB	AMB		
	comp=Z,56nm,6.0s						
BJI	Beijing	48.85	347	P	P	00 29 52.2	-0.6
BJI				AMB	AMB		
	comp=Z,23nm,0.9s,mb5.1						
LZH	Lanzhou	49.47	333	⇑P	P	00 29 57.5	-0.1
LZH				XP	sP	00 30 30.0	-7.5
LZH				PP	PP	00 31 54.6	+1.6
LZH				S	S	00 36 54.7	-1.6
LZH				SS	SS	00 40 25.5	-4.5
LZH				AMB	AMB		
	comp=Z,39nm,1.3s,mb5.2						
LZH				AMB	AMB		
	comp=Z,147nm,6.2s						
LZH				LR	LR		
	comp=E,423nm,16.3s						
LZH				LR	LR		
	comp=Z,607nm,18.5s						
PALK	Pallekele	50.38	286	P	P	00 30 03.5	-1.4
HHC	Hu-ho-hao-te	50.81	343	eP	P	00 30 10.4	+2.8
HHC				XP	sP	00 30 44.1	-3.5
HHC				PCP	PcP	00 31 24.6	+1.8
HHC				PP	PP	00 32 11.3	+6.3
HHC				S	S	00 37 16.2	+1.5
HHC				SCS	ScS	00 39 42.4	-4.4
HHC				SS	SS	00 40 52.3	+1.3
HHC				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,173nm,8.4s						
HHC				LR	LR		
	comp=N,151nm,15.9s						
HHC				LR	LR		
	comp=E,191nm,14.1s						
HHC				LR	LR		
	comp=Z,226nm,12.3s						
CN2	Changchun	51.25	357	eP	P	00 30 15.5	+4.7
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
LSA	Lhasa	51.95	317	P	P	00 30 17.6	+1.3
LSA				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
LSA	Lhasa	51.95	317	eP	P	00 30 17.1	+0.8
LSA				pmax	pmax		
	comp=Z,14nm,0.6s,mb5.2						
LSA	Lhasa	51.95	317	eP	P	00 30 17.1	+0.7
	comp=Z,14nm,0.6s,mb5.2						
MDJ	Mudanjiang	51.97	1	P	P	00 30 15.9	-0.3
MDJ				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,46nm,4.3s						
GTA	Gaotai	54.02	332	⇑P	P	00 30 31.7	+0.3
GTA				XP	sP	00 31 05.4	-6.2
GTA				PP	PP	00 32 37.0	+2.9
GTA				S	S	00 37 57.9	-0.7
GTA				SS	SS	00 41 42.7	+0.8
GTA				AMB	AMB		
	comp=Z,31nm,0.8s,mb5.4						
GTA				AMB	AMB		
	comp=Z,83nm,5.7s						
GTA				LR	LR		
	comp=N,49nm,13.7s						
GTA				LR	LR		
	comp=E,62nm,15.2s						
GTA				LR	LR		
	comp=Z,84nm,17.5s						
JIRN	Jiri	54.24	312	eP	P	00 30 32.8	-0.4
	comp=Z,31nm,0.6s,mb5.5						
GUN	Gumba	54.61	312	eP	P	00 30 35.5	-0.3
	comp=Z,59nm,0.7s,mb5.8						
PKI	Pulchoki	54.77	311	eP	P	00 30 36.1	-0.9
	comp=Z,15nm,0.5s,mb5.3						
KKN	Kakani	54.98	312	eP	P	00 30 37.9	-0.6
	comp=Z,20nm,0.6s,mb5.3						
DMN	Daman	55.01	311	eP	P	00 30 37.9	-0.9
	comp=Z,11nm,0.3s,mb5.3						
GKN	Gorkha	55.58	311	eP	P	00 30 42.1	-0.7
	comp=Z,43nm,0.4s,mb5.8						
YSS	Yuzh-Sakhalins	55.66	11	⇑iP	P	00 30 42.5	-0.5
YSS				pmax	pmax		
	comp=Z,20nm,0.8s,mb5.2						
YSS				MLR	MLR		
	comp=Z,400nm,13.0s						
YSS	Yuzh-Sakhalins	55.66	11	eP	P	00 30 42.1	-0.9
	comp=Z,15nm,0.6s,mb5.2						
HYB	Hyderabad	55.70	297	eP	P	00 30 52.0	+8.2
HYB	Hyderabad	55.70	297	i P	P	00 30 43.0	-0.8
KOLN	Koldanda	56.23	311	eP	P	00 30 46.9	-0.5
	comp=Z,53nm,0.8s,mb5.6						
DANN	Dangsing	56.41	311	eP	P	00 30 48.1	-0.7
	comp=Z,25nm,0.7s,mb5.3						
KLR	Kul'dur	56.63	2	eP	P	00 30 49.1	-0.8
HIA	Hailar	57.20	353	eP	P	00 30 52.5	-1.3
ULN	Ulaanbaatar	58.53	343	⇑eP	P	00 31 03.5	+0.3
ULN	Ulaanbaatar	58.53	343	eP	P	00 31 03.7	+0.6
	comp=Z,22nm,1.8s,mb4.9						
SONM	Songino Array	58.70	342	P	P	00 31 03.9	-0.5
	comp=Z,3.4nm,0.6s,mb4.5,baz=170,slow=6.8,SNR=13						
ZAK	Zakamensk	61.91	342	eP	P	00 31 25.7	-0.4
ZAK				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
WMQ	Urumqi	63.36	328	P	P	00 31 37.0	+1.1
WMQ				XP	sP	00 32 08.0	-8.8
WMQ				PP	PP	00 33 59.0	+2.2
WMQ				S	S	00 39 58.0	-1.3
WMQ				SCS	ScS

comp=Z,21nm,1.3s,mb4.8
BOD Bodaibo 66.32 351 *e*P **P 00 31 54.2 -0.7**
BOD pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
MKAR Makanchi Array 68.18 327⇑*e*P **P 00 32 07.0 +0.1**
MKAR Makanchi Array 68.18 327 P **P 00 32 06.9 0.0**
comp=Z,9.2nm,0.5s,mb4.9,baz=120,slow=8.1,SNR=201
ULHL Ulahol 69.05 321 P **P 00 32 13.0 +0.6**
SNR=7.8
MA2 Magadan 69.17 12 *e*P **P 00 32 13.7 +1.0**
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.1
MA2 Magadan 69.17 12 *e*P **P 00 32 13.8 +1.1**
comp=Z,15nm,0.9s,mb4.8
YAK Yakutsk 69.42 0 *e*P **P 00 32 14.1 -0.1**
YAK pmax pmax
comp=Z,55nm,0.8s,mb5.4
YAK pmax pmax
comp=N,14nm,1.0s
YAK Yakutsk 69.42 0 *e*P **P 00 32 13.9 -0.3**
comp=N,74nm,0.8s,mb5.6
KZA Kyzart 69.59 320 P **P 00 32 17.1 +1.4**
SNR=21
TKM2 Tokmak 2 69.82 321 *e*P **P 00 32 17.6 +0.6**
TKM2 pmax pmax
comp=Z,15nm,0.8s,mb4.9
TKM2 Tokmak 2 69.82 321 *e*P **P 00 32 17.6 +0.6**
comp=Z,15nm,0.8s,mb4.9
TKM2 Tokmak 2 69.82 321 P **P 00 32 17.7 +0.7**
SNR=15
KBK Karagaybulak 70.08 321 P **P 00 32 19.5 +0.8**
SNR=7.2
UCH Uchtor 70.14 320 *e*P **P 00 32 19.9 +0.9**
comp=Z,17nm,0.9s,mb4.9
UCH Uchtor 70.14 320 P **P 00 32 20.3 +1.3**
SNR=24
AAK Ala-Archa 70.36 320 P **P 00 32 21.2 +0.8**
SNR=23
AML Almayashu 70.61 320 *e*P **P 00 32 22.8 +0.9**
comp=Z,27nm,0.9s,mb5.1
AML Almayashu 70.61 320 P **P 00 32 23.0 +1.1**
SNR=31
USP Ospenovka 70.68 321 P **P 00 32 22.7 +0.4**
SNR=33
EKS2 Erkin-Say 70.83 320 *e*P **P 00 32 23.9 +0.7**
comp=Z,32nm,1.0s,mb5.1
EKS2 Erkin-Say 70.83 320 P **P 00 32 24.2 +1.0**
SNR=24
ZAA0 Zalesovo Array 71.68 334 *e*P **P 00 32 27.0 -1.0**
ZALV Zalesovo Beam 71.68 334 P **P 00 32 27.0 -1.1**
comp=Z,15nm,0.6s,mb5.0,baz=126,slow=5.2,SNR=61
ZAL Zalesovo 71.68 334 P **P 00 32 27.0 -1.1**
VNDA Vanda 71.98 173 P **P 00 32 31.6 +2.0**
comp=Z,1.1nm,0.6s,mb3.9,baz=318,slow=6.5,SNR=11
KURK Kurchatov 72.51 329⇑*e*P **P 00 32 32.9 -0.2**
KURK Kurchatov 72.51 329 *e*P **P 00 32 32.6 -0.5**
SEY Seymchan 72.57 11⇑*e*P **P 00 32 32.9 -0.3**
NVS Novosibirsk 72.97 334⇑*i*P **P 00 32 34.6 -1.1**
NVS pmax pmax
comp=Z,12nm,0.9s,mb4.7
NVS pmax pmax
comp=N,6.0nm,0.8s
NVS pmax pmax
comp=E,7.0nm,0.8s
MAW Mawson 74.04 201 P **P 00 32 44.0 +2.2**
comp=E,3.3nm,0.6s,mb4.2,baz=65,slow=4.9,SNR=4.9
BRVK Borovoye 78.11 328 *e*P **P 00 33 04.9 -0.2**
TIXI Tiksi 79.08 360 *e*P **P 00 33 08.9 -1.1**
TIXI pmax pmax
comp=Z,14nm,0.6s,mb5.0
TIXI Tiksi 79.08 360 *e*P **P 00 33 08.5 -1.5**
comp=Z,17nm,0.6s,mb5.0
BILL Bilibino 79.91 13 *e*P **P 00 33 13.8 -0.8**
BILL pmax pmax
comp=Z,2.0nm,1.3s
QSPA South Pole Qui 82.39 180 *e*P **P 00 33 29.7 +2.1**
comp=Z,5.5nm,0.6s,mb4.6
QSPA South Pole Qui 82.39 180 P **P 00 33 29.8 +2.1**
comp=Z,4.9nm,0.7s,mb4.5,baz=303,slow=1.5,SNR=40
QSPA LR LR 01 11 09.0
comp=Z,68nm,21.8s,baz=53,slow=36
SYO Syowa Base 82.75 201⇓*e*P **P 00 33 30.4 +0.7**
SVE Sverdlovsk 84.76 329 *e*P **P 00 33 40.0 -0.1**
SVE pmax pmax
comp=Z,15nm,1.0s,mb4.9
ARU Arti 85.69 328*d i*P **P 00 33 44.3 -0.4**
ARU *e* 00 37 03.6
ARU *e*S S 00 43 56.3 -11
ARU pmax pmax
comp=Z,12nm,1.0s,mb4.8
ARU Arti 85.69 328 *e*P **P 00 33 44.5 -0.3**
comp=Z,11nm,0.7s,mb4.9
QRN Al-Qurain 85.87 300 *e*P **P 00 33 44.8 -1.5**
QRN AMb AMB 00 33 46.2
comp=Z,20nm,0.6s,mb5.3
RDF Al-Radifah 86.22 300 *e*P **P 00 33 47.0 -1.0**
RDF AMb AMB 00 33 50.1
comp=Z,14nm,0.6s,mb5.0
NAY Al-Naaiem 86.54 300 *e*P **P 00 33 48.1 -1.4**
NAY AMb AMB 00 33 49.5
comp=Z,14nm,0.6s,mb5.0
MIB Mutribah 86.56 301 *e*P **P 00 33 48.5 -1.2**
MIB AMb AMB 00 33 49.7
comp=Z,17nm,0.6s,mb5.2
KMBO Kilima Mbogo 91.59 269⇑*e*P **P 00 34 15.3 +1.6**
KMBO Kilima Mbogo 91.59 269 P **P 00 34 13.3 -0.4**
comp=Z,1.6nm,0.8s,mb4.3,baz=47,slow=11,SNR=3.9
MCK McKinley 93.25 26 *e*P **P 00 34 20.1 -0.1**
DAWY Dawson 97.47 26 *e*P **P 00 34 38.7 -0.8**
AKASG Malin Array Be 102.03 320 P Pdif 00 34 58.4 -1.6
comp=Z,0.1nm,0.3s,baz=70,slow=5.4,SNR=3.4
YKA Yellowknife Ar 108.71 26 PKPdf PKiKP 00 39 34.5 +0.4
YKA PKKPbc PKKPbc 00 50 43.9 -1.9
YKA PKKPab PKKPab 00 50 56.7 +0.4
YKA Yellowknife Ar 108.71 26 PKiKP PKiKP 00 39 34.5 +0.4
comp=Z,0.4nm,0.6s,baz=295,slow=1.8,SNR=10
YKA PKKPbc PKKPbc 00 50 43.9 -1.8
comp=Z,0.5nm,0.6s,baz=114,slow=3.6,SNR=13
YKA PKKPab PKKPab 00 50 56.7 +0.4
comp=Z,0.3nm,0.6s,baz=110,slow=5.4,SNR=5.6
GERES GERESS Array B 112.24 320 PKiKP PKiKP 00 39 41.3 +0.2
comp=Z,0.8nm,0.5s,baz=50,slow=2.9,SNR=8.9
KEST Kesra 118.39 307 PKP PKPdf 00 39 54.4 +1.0
comp=Z,0.7nm,0.7s,baz=90,slow=6.1,SNR=4.0
TXAR Lajitas Array 126.08 59 PKP PKPdf 00 40 10.3 +2.0
comp=Z,0.4nm,0.5s,baz=123,slow=2.1,SNR=4.8
TORD Torodi Ar. Bea 127.95 281 PKP PKPdf 00 40 12.4 +0.1
comp=Z,1.9nm,0.8s,baz=54,slow=2.7,SNR=25
PLCA Paso Flores 128.65 161 PKP PKPdf 00 40 15.8 +2.8
comp=Z,3.4nm,0.8s,baz=219,slow=3.5,SNR=6.3
JCT Junction City 129.04 57 *e*PKiKP PKPdf 00 40 15.5 +1.5
SCHQ Schefferville 131.21 12 PKP PKPdf 00 40 18.1 +0.8
comp=Z,1.9nm,0.8s,baz=0.0,slow=4.0,SNR=3.4
DBIC Dimbokro 134.23 272 PKP PKPdf 00 40 25.9 +1.7
comp=Z,8.5nm,1.1s,baz=94,slow=7.6,SNR=6.8
CPUP Villa Florida 145.72 170 PKPbc PKPbc 00 40 46.6 +1.4
comp=Z,1.4nm,0.3s,baz=166,slow=1.2,SNR=11
LPAZ La Paz 150.83 145 PKP PKPdf 00 40 56.3 +3.0
comp=Z,1.8nm,0.9s,baz=45,slow=3.3,SNR=8.1
LPAZ PKPbc PKPbc 00 41 01.4 +2.4
comp=Z,6.4nm,0.7s,baz=219,slow=0.7,SNR=29
LPAZ PKPab PKPab 00 41 09.4 +3.1
comp=Z,4.6nm,0.5s,baz=161,slow=3.2,SNR=14

ISCJB ***11*** *00:30:45.8±0.6, 1127N±002×62.13W±003, h120km±5km, Error ellipse: s-maj=5.3km s-min=3.6km az=32.1*
FUNV ***11*** *00:30:46.3, 1135N×6200W, h115km, MW3.4*
TRN ***11*** *00:30:48.0, 1129N×62.11W, h108km, MD3.3*
NEIC ***11*** *00:30:48.0, 1129N×62.11W, h108km, MD3.3(TRN), After TRN.*
ISC 11 00:30:46.7±0.6,**1127N**±002×**6213W**±003,**h116**km±6km,
n30, σ0°**88**/54,**5C-3D,Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.63**	**188**	*e*P	**Pn**	**00 31 05.2**	**+0.1**
GUIV				*e*S	**Sn**	**00 31 18.4**	**-0.5**
TCE	**Chacachacare**	**0.68**	**147**	⇓*i*P	**Pn**	**00 31 06.6**	**+1.1**
TCE				*e*S	**Sn**	**00 31 19.7**	**+0.1**
TCE	**Chacachacare**	**0.68**	**147**	*e*	**Pn**	**00 31 13.2**	**+7.7**
TCE				*e*S	**Sn**	**00 31 19.7**	**+0.1**
TRN	**Trinidad (W)**	**0.94**	**131**	⇑*i*P	**Pn**	**00 31 08.8**	**+1.0**
TRN				*e*S	**Sn**	**00 31 23.0**	**-0.8**
GRGR	**Grenville**	**0.97**	**29**	*e*P	**Pn**	**00 31 08.2**	**+0.1**
GRGR				*e*S	**Sn**	**00 31 21.6**	**-2.6**
ITEV	**Isla Los Testi**	**0.99**	**275**	⇓*i*P	**Pn**	**00 31 08.6**	**+0.4**
ITEV				*e*S	**Sn**	**00 31 25.1**	**+0.6**
GRW	**Mount Saint Ca**	**0.99**	**27**	*e*P	**Pn**	**00 31 10.1**	**+1.8**
GRW				*e*S	**Sn**	**00 31 24.9**	**+0.2**
GRHS	**Sauteurs**	**1.06**	**27**	*e*P	**Pn**	**00 31 09.1**	**+0.1**
GRHS				*e*S	**Sn**	**00 31 25.3**	**-0.5**
GRSS	**Sisters**	**1.14**	**26**	*e*P	**Pn**	**00 31 09.8**	**0.0**
GRSS				*e*S	**Sn**	**00 31 26.8**	**-0.5**
GRIC	**Isle de Caille**	**1.14**	**28**	*e*P	**Pn**	**00 31 09.7**	**-0.1**
GRIC				*e*S	**Sn**	**00 31 26.6**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.16**	**145**	*e*P	**Pn**	**00 31 11.8**	**+1.8**
TPP				*e*S	**Sn**	**00 31 27.3**	**-0.4**
CRUV	**Carupano**	**1.24**	**241**	⇑*i*P	**Pn**	**00 31 11.4**	**+0.6**
CRUV				*e*S	**Sn**	**00 31 29.4**	**+0.2**
TBH	**Brigand Hill**	**1.30**	**127**	⇑*i*P	**Pn**	**00 31 12.6**	**+1.0**
TBH				*e*S	**Sn**	**00 31 30.4**	**-0.1**
TPR	**Prospect**	**1.33**	**94**	*e*P	**Pn**	**00 31 12.2**	**+0.3**
TPR				*e*S	**Sn**	**00 31 31.2**	**+0.2**
GUNV	**Guanoco**	**1.36**	**216**	*e*P	**Pn**	**00 31 13.2**	**+0.9**
GUNV				*e*S	**Sn**	**00 31 33.1**	**+1.4**
FCV	**Fort Charlotte**	**2.06**	**25**	*e*P	**Pn**	**00 31 21.4**	**+0.6**
FCV				*e*S	**Sn**	**00 31 45.7**	**-1.1**
SVB	**Belmont**	**2.16**	**23**	*e*P	**Pn**	**00 31 22.8**	**+0.8**
SVB				*e*S	**Sn**	**00 31 49.0**	**-0.1**
BHS	**Barnard House**	**2.24**	**26**	*e*P	**Pn**	**00 31 24.1**	**+1.2**
BHS				*e*S	**Sn**	**00 31 50.0**	**-0.7**
IBAV	**Isla La Blanqu**	**2.46**	**283**	⇑*i*P	**Pn**	**00 31 26.6**	**+0.8**
IBAV				*e*S	**Sn**	**00 31 54.8**	**-1.1**
PCRV	**Puerto La Cruz**	**2.69**	**246**	⇓*e*P	**Pn**	**00 31 29.6**	**+0.7**
PCRV				*e*S	**Sn**	**00 32 00.8**	**-0.5**
SLB	**Belfond**	**2.75**	**23**	*e*P	**Pn**	**00 31 30.3**	**+0.7**
SLB				*e*S	**Sn**	**00 32 02.1**	**-0.6**
RIOV	**Rio Grande**	**3.20**	**174**	*e*P	**Pn**	**00 31 35.4**	**-0.2**
RIOV				*e*S	**Sn**	**00 32 11.5**	**-1.7**
PRGV	**PARIAGUAN**	**3.52**	**225**	*e*P	**Pn**	**00 31 39.2**	**-0.6**
GURV	**El Guri**	**3.62**	**195**	*e*P	**Pn**	**00 31 40.9**	**-0.2**
CUPV	**Cœpira**	**3.79**	**252**	*e*P	**Pn**	**00 31 44.0**	**+0.5**
CUPV				*e*S	**Sn**	**00 32 26.8**	**-0.5**
BIRV	**Birongo**	**4.14**	**259**	*e*P	**Pn**	**00 31 49.1**	**+1.0**
MERV	**Las Mercedes**	**4.57**	**244**	*e*P	**Pn**	**00 31 53.0**	**-0.9**
LUEV	**Luepa**	**5.44**	**173**	⇑*e*P	**Pn**	**00 32 03.2**	**-2.4**
CAOV	**Caicara del Or**	**5.70**	**227**	*e*P	**Pn**	**00 32 08.1**	**-1.0**
BAUV	**El Baul**	**6.26**	**249**	*e*P	**Pn**	**00 32 15.2**	**-1.5**
BAUV				*e*S	**Sn**	**00 33 22.1**	**-4.9**

MOS ***11*** *00:42:32.8±0.9, 1907N×14555E, h122km, mb5.4/28, Error ellipse: s-maj=8.7km s-min=5.2km az=92.7*
ISCJB ***11*** *00:42:35.6±0.1, 1902N±003×14555E±003, h144km, mb5.1/125, Error ellipse: s-maj=3.6km s-min=3.4km az=170.2*
IDC ***11*** *00:42:36.9±0.7, 1901N×14565E, h149km±5km, mb4.7/26, mb1 4.8/28, mb1mx4.8/28, mbtmp4.7/28, MS3.9/14, Ms1 3.8/14, ms1mx3.6/27, Error ellipse: s-maj=11.2km s-min=5.8km az=90.0*
BJI ***11*** *00:42:37.1, 1932N×14589E, h159km, mB4.9, mb4.8*
NEIC ***11*** *00:42:38.6±1.0, 1903N×14561E, h160km±9km, mb5.3/55, Error ellipse: s-maj=4.8km s-min=3.9km az=104.0*
GCMT ***11*** *00:42:38.6±0.2, 1904N×14604E, h118km±2km, MW5.1/85, Moment Tensor Solution. s53,c61; s85,c135; Duration: 0 Moment tensor: Scale 10*^{16}*Nm; Mrr-3.05±.13; Mθθ4.22±.14; Mφφ-1.17±.16; Mrθ-2.32±.10; Mθφ-1.94±.16; Mφr2.09±.11; Best double couple: M0*5.15200×10^{16} *NP1:*ϕ_s*129.00000°,*δ*67.00000°,*λ*-66.00000°. NP2:*ϕ_s*260.00000°,*δ*33.00000°,*λ*-133.00000°. Principal axes: T 5.7870, Plg18.0000°, Azm201.0000°; N -1.2710, Plg22.0000°, Azm299.0000°; P -4.5170, Plg61.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 11 00:42:37.4±0.1,**1904N**±003×**14561E**±002,**h146**km,
h146km±3.1km:**pP-P,n660,** σ0°**69**/662,**mb5.1**/125,
109C-119D,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**5.46**	**188**	P	**Pn**	**00 43 56.1**	**-0.8**
GUMO				S	**Sn**	**00 44 55.2**	**-3.8**
CBIJ	**Chichi jima**	**8.62**	**339**	P	**Pn**	**00 44 36.4**	**-2.6**
CBIJ				S	**Sn**	**00 46 06.5**	**-8.2**
JOW	**Kunigami**	**17.74**	**299**	P	**Pn**	**00 46 36.6**	**+1.3**
JOW				LR	LR	00 51 41.9	
MJAR	**Matsushiro Arr**	**18.61**	**341**	P	**P**	**00 46 42.8**	**-0.8**
MJAR				S	**S**	**00 50 05.7**	**-2.3**
MAJO	**Matsushiro**	**18.61**	**341**	*e*P	**P**	**00 46 42.6**	**-0.9**
MAT	**Matsushiro**	**18.61**	**341**	P	**P**	**00 46 43.0**	**-0.5**
MAT				S	**S**	**00 50 05.0**	**-3.0**
JNU	**Nakatsue**	**19.25**	**320**	P	**P**	**00 46 50.9**	**+0.4**
NACB	**Ninganchiao**	**22.89**	**287**	*e*P	**P**	**00 47 29.9**	**+1.3**
ERM	**Erimo**	**23.00**	**355**	P	**P**	**00 47 31.9**	**+2.5**
YHNB	**Yeheng**	**23.16**	**288**	*e*P	**P**	**00 47 33.0**	**+2.0**
YHNB				*e*		00 48 01.0	
KSRS	**Korea Array**	**23.99**	**324**	P	**P**	**00 47 38.0**	**-0.5**
KSRS				ScP	ScP	00 54 40.9	-0.8
INCN	**Inchon**	**24.75**	**322**	*e*P	**P**	**00 47 45.7**	**+0.3**
ASAJ	**Asahikawa**	**25.13**	**355**	P	**P**	**00 47 49.7**	**+0.9**
ASAJ				LR	LR	00 56 11.1	
VLA	**Vladivostok**	**26.65**	**337**	*e*P	**P**	**00 48 01.2**	**-1.2**
VLA				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**27.94**	**356**	⇓*i*P	**P**	**00 48 13.2**	**-0.7**
YSS				*e*		00 48 54.0	
YSS				*e*		00 52 49.0	
YSS				pmax	pmax		
YSS	**Yuzh-Sakhalins**	**27.94**	**356**	*e*P	**P**	**00 48 13.8**	**-0.1**
MDJ	**Mudanjiang**	**28.80**	**336**	P	**P**	**00 48 22.8**	**+1.3**
MDJ				PCP	PcP	00 51 26.8	-0.9
MDJ				S	**S**	**00 53 01.8**	**+1.4**
MDJ				SCP	ScP	00 54 56.5	+0.9
MDJ				PCS	PcS	00 55 10.8	+0.5
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,54nm,5.0s						
MDJ				LR	LR		
	comp=N,126nm,27.1s						
MDJ				LR	LR		
	comp=E,188nm,22.8s						
MDJ				LR	LR		
	comp=Z,190nm,19.9s						
WHN	**Wuhan**	**30.50**	**298**	*e*P	**P**	**00 48 35.6**	**-1.2**
WHN				*e*S	**S**	**00 53 33.9**	**+6.4**
WHN				LR	LR		
	comp=Z,536nm,19.4s						
HABR	**Khabarovsk**	**30.58**	**346**	*e*P	**P**	**00 48 36.7**	**-0.5**
HABR				*e*		00 49 01.9	
HABR				*e*		00 51 30.9	
HABR				*e*S	**S**	**00 53 30.2**	**+1.9**
HABR				*e*		00 54 21.1	
HABR				*e*		00 55 23.6	
HABR				pmax	pmax		
	comp=Z,108nm,0.9s,mb5.6						
KKM	**Kota Kinabalu**	**31.39**	**250**	*e*P	**P**	**00 48 47.1**	**+2.3**
HNR	**Honiara**	**31.63**	**152**	LR	LR	00 59 28.4	
	comp=Z,186nm,18.7s,baz=358,slow=32						
KLR	**Kul'dur**	**32.12**	**343**	⇑*i*P	**P**	**00 48 46.2**	**-4.5**
KLR				pmax	pmax		
	comp=E,64nm,0.9s						
KLR				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.7						
BJT	**Baijiatuau**	**32.82**	**316**	*e*P	**P**	**00 48 57.0**	**0.0**
BJT				pmax	pmax		
	comp=Z,18nm,0.8s						
BJT	**Baijiatuau**	**32.82**	**316**	*e*P	**P**	**00 48 57.0**	**0.0**
	comp=Z,18nm,0.8s,mb4.8						
BJI	**Beijing**	**32.83**	**316**	P	**P**	**00 48 57.3**	**+0.3**
BJI				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.2						
BJI				LR	LR		
	comp=N,139nm,14.3s						
BJI				LR	LR		
	comp=E,84nm,14.3s						
BJI				LR	LR		
	comp=Z,150nm,31.3s						
QIZ	**Qiongzhong**	**33.77**	**276**	P	**P**	**00 49 08.5**	**+3.0**
QIZ				S	**S**	**00 54 23.5**	**+4.9**
QIZ				AMB	AMB		
	comp=Z,104nm,4.3s						
QIZ				LR	LR		
	comp=N,268nm,14.8s						
QIZ				LR	LR		
	comp=Z,224nm,23.5s						
KAKA	**Kakadu**	**34.11**	**203**	*e*P	**P**	**00 49 07.3**	**-1.1**
	comp=Z,25nm,0.6s,mb5.1						
KAPI	**Kappang**	**34.92**	**229**	P	**P**	**00 49 15.5**	**+0.1**
KAPI				pP	pP	00 49 46.5	-0.3
KAPI	**Kappang**	**34.92**	**229**	P	**P**	**00 49 15.5**	**+0.1**
	comp=Z,17nm,0.9s,mb4.7,baz=49,slow=6.6,SNR=7.9						
KAPI				pP	pP	00 49 46.5	-0.3
	comp=Z,25nm,0.9s,baz=65,slow=8.7,SNR=4.5						
PET	**Petropavlovsk**	**35.40**	**14**	*e*P	**P**	**00 49 19.1**	**+0.1**
PET				*e*PP	pP	00 49 49.9	-0.6
PET				*e*		00 51 43.3	
PET				*e*S	**S**	**00 54 46.6**	**+3.8**
PET				pmax	pmax		
	comp=Z,41nm,0.8s,mb5.1						
PET				MLR	MLR		
	comp=Z,200nm,18.0s						
PET	**Petropavlovsk**	**35.40**	**14**	*e*P	**P**	**00 49 18.9**	**-0.1**
	comp=Z,18nm,0.8s,mb4.8						
XAN	**Xi'an**	**35.84**	**302**	P	**P**	**00 49 22.2**	**-0.9**
XAN				PP	PP	00 50 46.2	-1.3
XAN				S	**S**	**00 54 48.4**	**-1.7**
XAN				SS	SS	00 57 19.2	-12
XAN				AMB	AMB		
	comp=Z,2.0nm,0.8s						
XAN				AMB	AMB		
	comp=Z,29nm,4.7s						
BATI	**Kupang**	**36.23**	**218**	P	**P**	**00 49 26.3**	**-0.2**
	comp=Z,31nm,0.6s,mb5.2,baz=177,slow=2.2,SNR=10						
HHC	**Hu-ho-hao-te**	**36.30**	**314**	⇑P	**P**	**00 49 27.9**	**+1.0**
HHC				PP	PP	00 50 55.7	+3.3
HHC				PCP	PcP	00 51 49.7	+1.1
HHC				S	**S**	**00 54 59.7**	**+2.9**
HHC				SCS	ScS	00 59 28.3	+0.4
HHC				AMB	AMB		
	comp=Z,40nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,195nm,5.1s						
HHC				LR	LR		
	comp=N,245nm,11.8s						
HHC				LR	LR		
	comp=E,215nm,13.9s						
HHC				LR	LR		
	comp=Z,251nm,13.7s						
GYA	**Guiyang**	**36.56**	**289**	P	**P**	**00 49 31.8**	**+2.5**
GYA				PP	PP	00 50 59.9	+4.4
GYA				PCP	PcP	00 51 52.3	+2.6
GYA				S	**S**	**00 55 03.8**	**+2.7**
GYA				PCS	PcS	00 55 39.2	+1.4
GYA				SS	SS	00 57 38.2	-8.9
GYA				SCS	ScS	00 59 31.0	+1.1
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.2						
GYA				AMB	AMB		
	comp=Z,220nm,5.8s						
GYA				LR	LR		
	comp=N,840nm,18.6s						
GYA				LR	LR		
	comp=E,760nm,18.0s						
GYA				LR	LR		
	comp=Z,860nm,19.6s						
HIA	**Hailar**	**36.62**	**331**	*e*P	**P**	**00 49 28.4**	**-1.1**
HIA				*e*PP	pP	00 50 06.1	+5.0
HIA				pmax	pmax		
	comp=Z,8.0nm,0.5s						
HIA	**Hailar**	**36.62**	**331**	*e*P	**P**	**00 49 28.4**	**-1.0**
	comp=Z,7.8nm,0.5s,mb4.6						
HIA				*e*pP	pP	00 50 06.1	+5.0
KSM	**Kuching**	**38.73**	**247**	*e*P	**P**	**00 49 49.1**	**+1.4**
CTA	**Charters Tower**	**38.89**	**179**	*e*P	**P**	**00 49 49.7**	**+0.9**
	comp=Z,12nm,0.9s,mb4.5						
CTA				*e*pP	pP	00 50 13.0	-7.7
CTA	**Charters Tower**	**38.89**	**179**	P	**P**	**00 49 49.5**	**+0.7**
	comp=Z,12nm,0.8s,mb4.5,baz=6.1,slow=8.7,SNR=5.5						
CTAO	**Charters Tower**	**38.89**	**179**	*e*P	**P**	**00 49 48.8**	**0.0**
CD2	**Chengdu**	**39.52**	**296**	*e*P	**P**	**00 49 54.4**	**+0.4**
CD2				PP	PP	00 51 31.0	+3.2
CD2				PCP	PcP	00 51 58.7	-0.1
CD2				S	**S**	**00 55 47.6**	**+1.9**
CD2				SS	SS	00 58 41.4	-4.9
CD2				SCS	ScS	00 59 46.3	-0.5
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
CD2				LR	LR		
	comp=N,410nm,19.2s						
CD2				LR	LR		
	comp=E,530nm,19.2s						
CD2				LR	LR		
	comp=Z,230nm,13.2s						
KMI	**Kunming**	**40.06**	**287**	P	**P**	**00 50 00.5**	**+2.0**
KMI				PP	PP	00 51 35.8	+2.1
KMI				S	**S**	**00 55 58.3**	**+4.5**
KMI				SS	SS	00 58 52.1	-5.0
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
KMI				LR	LR		
	comp=N,165nm,12.1s						
KMI				LR	LR		
	comp=E,135nm,14.5s						
KMI				LR	LR		
	comp=Z,169nm,13.1s						
WRAB	**Tennant Creek**	**40.27**	**197**	P	**P**	**00 50 00.0**	**-0.2**
	comp=Z,889nm,1.1s,mb6.3,SNR=57						
WRAB	**Tennant Creek**	**40.27**	**197***d i*P	**P**	**00 49 59.8**	**-0.4**
WRAB	**Tennant Creek**	**40.27**	**197** *e*P	**P**	**00 50 00.2**	**-0.1**
WB2	**Warramunga Arr**	**40.28**	**196** *e*P	**P**	**00 50 00.0**	**-0.3**
WB2				*e*SCP	ScP	00 55 36.2	-0.7
WB2				*e*S	**S**	**00 55 55.0**	**-2.0**
WRA	**Warramunga Arr**	**40.28**	**197**	P	**P**	**00 50 00.3**	**0.0**
	comp=Z,94nm,0.8s,mb5.5,baz=17,slow=9.0,SNR=162						
WRA				ScP	ScP	00 55 36.0	-0.9
	comp=Z,6.1nm,0.8s,baz=15,slow=4.1,SNR=11						
WRA				S	**S**	**00 55 55.2**	**-1.8**
	comp=Z,7.1nm,1.0s,baz=18,slow=16,SNR=6.2						
MA2	**Magadan**	**40.66**	**4***d i*P	**P**	**00 50 03.3**	**+0.3**
MA2				*e*PP	pP	00 50 33.9	-1.2
MA2				*i*		00 52 01.7	
MA2				*e*S	**S**	**00 56 05.0**	**+3.2**
MA2				pmax	pmax		
	comp=N,60nm,1.0s						
MA2				pmax	pmax		
	comp=Z,100nm,1.0s,mb5.4						
MA2	**Magadan**	**40.66**	**4** *e*P	**P**	**00 50 03.3**	**+0.4**
	comp=Z,72nm,0.9s,mb5.3						
CLNS	**Chul'man**	**40.78**	**343**	*e*P	**P**	**00 50 01.4**	**-2.6**
CLNS				pmax	pmax		
	comp=N,14nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,20nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=E,8.0nm,1.1s						
FITZ	**Fitzroy Crossi**	**41.80**	**209**	*e*P	**P**	**00 50 13.3**	**+0.5**
	comp=E,42nm,0.9s,mb5.1						
FITZ				*e*pP	pP	00 50 44.1	-0.9
FITZ				*e*S	**S**	**00 56 18.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**41.80**	**209**	P	**P**	**00 50 13.3**	**+0.6**
	comp=E,15nm,0.5s,mb4.9,baz=29,slow=12,SNR=86						
FITZ				pP	pP	00 50 44.3	-0.7
	comp=E,22nm,0.9s,baz=46,slow=7.7,SNR=4.4						
FITZ				S	**S**	**00 56 18.7**	**-0.8**
	comp=E,7.6nm,0.9s,baz=192,slow=19,SNR=8.5						
ULN	**Ulaanbaatar**	**42.45**	**322**	*e*P	**P**	**00 50 18.1**	**+0.4**
ULN				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.7						
ULN	**Ulaanbaatar**	**42.45**	**322**	*e*P	**P**	**00 50 18.1**	**+0.3**
	comp=Z,17nm,0.8s,mb4.7						
ULN				pP	pP	00 50 51.8	+1.7

ULN *e*sP sP 00 51 09.5 +3.0
SONM Songino Array 42.82 321 P **P** **00 50 21.2 +0.5**
comp=Z,14nm,0.6s,mb4.7,baz=135,slow=8.7,SNR=72
SONM ScP ScP 00 55 44.9 -1.8
comp=Z,1.0nm,0.7s,baz=132,slow=2.2,SNR=5.2
SONM LR LR 01 09 07.9
comp=Z,135nm,18.3s,baz=79,slow=37
ASAR Alice Springs 43.95 196 P **P** **00 50 29.4 -0.6**
ASAR 00 52 22.4
ASAR S **S** **00 56 50.2 -0.7**
ASAR Alice Springs 43.95 196 P **P** **00 50 29.4 -0.7**
comp=Z,12nm,0.7s,mb4.7,baz=18,slow=8.3,SNR=100
ASAR PP PP 00 52 22.4 +6.8
comp=Z,4.2nm,0.9s,baz=20,slow=8.2,SNR=4.5
ASAR ScP ScP 00 55 50.1 -1.4
comp=Z,3.2nm,1.0s,baz=13,slow=4.2,SNR=6.3
ASAR S **S** **00 56 50.2 -0.7**
comp=Z,5.5nm,1.0s,baz=15,slow=19,SNR=16
ADK Adak 44.08 33 *e*P **P** **00 50 30.6 -0.2**
ADK pmax pmax
comp=Z,160nm,1.1s,mb5.6
ADK Adak 44.08 33 *e*P **P** **00 50 30.6 -0.1**
comp=Z,161nm,1.1s,mb5.6
SEY Seymchan 44.10 4⇑*e*P **P** **00 50 31.3 +0.5**
GTA Gaotai 44.27 307 *e*P **P** **00 50 35.6 +3.1**
GTA PP PP 00 52 24.4 +5.8
GTA SCP ScP 00 55 53.0 +0.2
GTA S **S** **00 57 03.6 +8.3**
GTA SS SS 01 00 14.4 -4.3
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.0
GTA AMB AMB
comp=Z,52nm,4.9s
GTA LR LR
comp=N,285nm,17.5s
GTA LR LR
comp=E,151nm,16.7s
GTA LR LR
comp=Z,130nm,16.4s
YAK Yakutsk 44.37 349 *e*P **P** **00 50 32.8 -0.1**
YAK *e**PP pP 00 51 00.0 -5.5
YAK *e* 00 52 16.1
YAK *e* 00 52 19.8
YAK *e*PPP 00 52 57.6
YAK *e*S **S** **00 56 55.4 -0.7**
YAK *e**SS SS 01 00 11.1 -8.4
YAK *e* 01 00 21.3
YAK *e*SSS 01 01 08.6
YAK pmax pmax
comp=Z,330nm,1.1s,mb5.9
YAK pmax pmax
comp=N,105nm,1.2s
YAK pmax pmax
comp=E,38nm,1.2s
YAK pmax pmax
comp=Z,27nm,1.0s,mb4.8
YAK pmax pmax
comp=N,100nm,4.1s
YAK pmax pmax
comp=E,52nm,2.3s
YAK smax
comp=N,96nm,2.2s
YAK smax
comp=E,185nm,2.2s
YAK Yakutsk 44.37 349 *e*P **P** **00 50 32.7 -0.2**
BOD Bodaibo 45.16 337 *e*P **P** **00 50 38.1 -1.1**
BOD pmax pmax
comp=Z,5.0nm,1.3s,mb4.0
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
ZAK Zakamensk 45.83 323 *e*P **P** **00 50 44.3 -0.3**
ZAK *e* pP 00 51 15.1 -2.3
ZAK pmax pmax
comp=Z,8.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,7.0nm,1.2s,mb4.2
MBWA Marble Bar 47.30 214 *e*P **P** **00 50 57.3 +0.9**
MBWA pP pP 00 51 31.5 +2.1
MBWA *e*PcP PcP 00 52 23.7 -1.5
MOY Mondy 47.69 324 *e*P **P** **00 51 00.4 +1.3**
PSI Prapat 48.40 256 P **P** **00 51 06.4 +1.4**
comp=Z,3.9nm,0.5s,mb4.3,baz=170,slow=1.0,SNR=4.9
PSI pP pP 00 51 38.4 +0.2
comp=Z,27nm,1.1s,baz=51,slow=0.7,SNR=5.5
NIKO Nikolski 48.78 35 *e*P **P** **00 51 06.1 -1.3**
BILL Bilibino 50.70 10*d*/P **P** **00 51 21.7 0.0**
BILL pmax pmax
comp=Z,155nm,1.1s,mb5.5
BILL Bilibino 50.70 10 *e*P **P** **00 51 21.7 0.0**
comp=Z,99nm,0.8s,mb5.5
BILL *e*pP pP 00 51 57.4 +2.4
STKA Stephens Creek 50.77 184 *e*P **P** **00 51 20.9 -1.7**
comp=Z,5.0nm,0.5s,mb4.4
STKA Stephens Creek 50.77 184 P **P** **00 51 20.7 -1.9**
comp=Z,7.6nm,0.6s,mb4.5,baz=2.9,slow=8.2,SNR=20
STKA S **S** **00 58 23.4 -3.7**
comp=Z,2.5nm,0.9s,baz=136,slow=17,SNR=3.1
STKA LR LR 01 12 53.2
comp=Z,134nm,20.0s,baz=291,slow=36
FORT Forrest 52.33 199 *e*P **P** **00 51 34.7 +0.5**
comp=Z,27nm,0.7s,mb5.0
TIXI Tiksi 53.52 353 *e*P **P** **00 51 41.7 -0.8**
TIXI pmax pmax
comp=Z,26nm,0.8s,mb5.0
TIXI Tiksi 53.52 353 *e*P **P** **00 51 41.6 -0.9**
WMQ Urumqi 54.02 311 P **P** **00 51 47.0 +0.4**
WMQ PP PP 00 53 52.0 +2.6
WMQ S **S** **00 59 11.0 -0.3**
WMQ SCS ScS 01 01 20.0 -1.3
WMQ SS SS 01 02 54.0 -0.6
WMQ AMB AMB
comp=Z,34nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,85nm,5.0s
WMQ LR LR
comp=N,144nm,14.0s
WMQ LR LR
comp=E,89nm,14.0s
WMQ LR LR
comp=Z,75nm,13.0s
SDPT Sand Point 54.24 35 *e*P **P** **00 51 46.6 -1.3**
comp=Z,134nm,0.8s,mb5.7
SDPT LR LR
comp=Z,100nm,23.0s
JIRN Jiri 54.78 291 *e*P **P** **00 51 54.0 +1.7**
comp=Z,4.7nm,0.3s,mb4.6
GUN Gumba 55.04 291 *e*P **P** **00 51 55.8 +1.6**
comp=Z,7.8nm,0.4s,mb4.8
POHA Pohakuloa 55.27 79 *e*P **P** **00 51 55.3 -0.6**
PKI Pulchoki 55.48 291 *e*P **P** **00 51 58.0 +0.6**
comp=Z,14nm,0.7s,mb4.8
TNA Tin City 55.53 21 *e*P **P** **00 51 57.0 0.0**
comp=Z,47nm,0.9s,mb5.3
KKN Kakani 55.58 291 *e*P **P** **00 51 59.1 +1.1**
comp=Z,15nm,0.8s,mb4.9
CHGN Chignik 55.65 34 *e*P **P** **00 51 56.6 -1.4**
DMN Daman 55.75 291 *e*P **P** **00 51 59.9 +0.7**
GKN Gorkha 56.13 291 *e*P **P** **00 52 03.2 +1.3**
comp=Z,5.9nm,0.3s,mb4.9
TOO Toolangi 56.30 180 *e*P **P** **00 52 01.8 -1.0**
comp=Z,87nm,1.1s,mb5.5
TOO Toolangi 56.30 180 *e*P **P** **00 52 01.8 -1.0**
TOO pmax pmax
comp=Z,87nm,1.1s,mb5.5
DANN Dangsing 56.87 292 *e*P **P** **00 52 07.9 +0.7**
comp=Z,29nm,0.5s,mb5.3
KLBR Kellerberrin 56.99 208 *e*P **P** **00 52 07.8 0.0**
comp=Z,13nm,0.7s,mb4.9
KOLN Koldanda 57.06 291 *e*P **P** **00 52 08.9 +0.3**
comp=Z,16nm,0.9s,mb4.9
ZAA0 Zalesovo Array 57.69 322 *e*P **P** **00 52 11.7 -0.8**
ZALV Zalesovo Beam 57.69 322 P **P** **00 52 11.5 -1.0**
comp=Z,11nm,0.6s,mb4.9,baz=104,slow=7.2,SNR=50
ZALV pP pP 00 52 46.1 -0.6
comp=Z,9.2nm,0.8s,baz=95,slow=6.7,SNR=3.9
ZALV PcP PcP 00 53 02.9 -0.9
comp=Z,7.1nm,0.7s,baz=113,slow=5.9,SNR=4.5
ZALV ScP ScP 00 56 47.2 -2.9
comp=Z,0.7nm,0.5s,baz=104,slow=6.1,SNR=3.3
ZALV LR LR 01 16 29.9
comp=Z,48nm,20.6s,baz=117,slow=35
ZAL Zalesovo 57.70 322 P **P** **00 52 11.5 -1.1**
ZAL 00 53 02.9
MUN Mundaring 58.03 209 *e*P **P** **00 52 15.5 +0.4**
MK31 Makanchi Array 58.16 314 *e*P **P** **00 52 16.2 +0.2**
MK31 *e*pP pP 00 52 51.2 +1.0
MK31 *e*PcP PcP 00 53 05.7 -0.1
MKAR Makanchi Array 58.16 314 P **P** **00 52 15.7 -0.2**
MKAR 00 53 05.5
MKAR Makanchi Array 58.16 314 P **P** **00 52 15.7 -0.2**
comp=Z,4.5nm,0.5s,mb4.5,baz=89,slow=8.2,SNR=44
MKAR PcP PcP 00 53 05.5 -0.4
comp=Z,6.2nm,0.7s,baz=79,slow=3.6,SNR=6.8
MKAR LR LR 01 17 00.7
comp=Z,73nm,19.7s,baz=353,slow=36
NWAO Narrogin (SRO) 58.36 208 *e*P **P** **00 52 17.2 -0.1**
NWAO pmax pmax
comp=Z,10.0nm,0.8s
NWAO Narrogin (SRO) 58.36 208 *e*P **P** **00 52 17.2 -0.2**
comp=Z,10.0nm,0.8s,mb4.7
SVW2 Sparrevohn 58.57 29 *e*P **P** **00 52 18.7 +0.2**
NVS Novosibirsk 58.78 323 *e*P **P** **00 52 18.3 -1.8**
NVS *e* pP 00 52 56.5 +2.1
NVS pmax pmax
comp=E,9.0nm,1.2s
NVS pmax pmax
comp=Z,14nm,1.2s,mb4.7
TTA Tatalina 58.99 27 *e*P **P** **00 52 21.5 +0.2**
TTA Tatalina 58.99 27 *e*P **P** **00 52 21.3 0.0**
KDAK Kodiak Island 59.12 33 P **P** **00 52 21.0 -1.3**
comp=Z,476nm,0.8s,SNR=23
KDAK Kodiak Island 59.12 33 *e*P **P** **00 52 21.9 -0.5**
SLKM Skilak Lake 60.94 31 *e*P **P** **00 52 33.4 -1.3**
SLKM *e* 00 53 16.1
KURK Kurchatov 60.96 318 P **P** **00 52 34.8 -0.2**
comp=Z,69nm,0.5s,mb5.7,SNR=12
KURK Kurchatov 60.96 318⇑*e*P **P** **00 52 34.5 -0.5**
KURK Kurchatov 60.96 318 *e*P **P** **00 52 33.7 -1.3**
IMA2 Indian Mountai 61.00 24 *e*P **P** **00 52 35.0 0.0**
DDI Dehra Dun 61.62 295 *e*P pP 00 53 11.0 -3.5
TAU Tasmania Unive 61.66 179 *e*P **P** **00 52 39.2 -0.4**
PMR Palmer 61.70 30 *e*P **P** **00 52 38.7 -1.1**
PMR pmax pmax
comp=Z,104nm,1.1s,mb5.6
PMR MLR MLR
comp=Z,100nm,22.0s
PMR Palmer 61.70 30 *e*P **P** **00 52 38.7 -1.1**
comp=Z,104nm,1.1s,mb5.6
PMR LR LR
comp=Z,100nm,22.0s
SML Sawmill 62.12 29 *e*P **P** **00 52 42.1 -0.5**
MCK McKinley 62.28 27 *e*P **P** **00 52 42.5 -1.1**
MID Middleton Isla 62.65 32 *e*P **P** **00 52 46.6 +0.5**
TKM2 Tokmak 2 62.77 309 *e*P **P** **00 52 47.6 +0.4**
TKM2 *e* pP 00 53 18.4 -3.6
TKM2 pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
TKM2 Tokmak 2 62.77 309 *e*P **P** **00 52 47.5 +0.3**
comp=Z,6.2nm,0.9s,mb4.4
TKM2 *e* pP 00 53 18.4 -3.6
COLA College 63.00 26 *e*P **P** **00 52 47.6 -0.8**
COLA College 63.00 26 *e*P **P** **00 52 47.5 -0.9**
DIV Divide 63.20 30 *e*P **P** **00 52 49.8 +0.1**
UCH Uchtor 63.59 308 *e*P **P** **00 52 53.7 +1.0**
comp=Z,11nm,0.9s,mb4.7
UCH *e*PcP PcP 00 53 28.6 +0.8
AML Almayashu 64.20 308 *e*P **P** **00 52 54.8 -1.9**
comp=Z,12nm,0.9s,mb4.7
AML *e* pP 00 53 34.0 +2.4
URZ Urewera 64.22 153 P **P** **00 52 54.3 -2.3**
comp=Z,11nm,0.5s,mb4.9,baz=307,slow=3.5,SNR=13
EGAK Eagle 65.80 27 *e*P **P** **00 53 06.0 -0.6**
BVAR Borovoye Array 66.16 320 P **P** **00 53 08.7 -0.4**
comp=Z,15nm,0.7s,mb5.0,baz=92,slow=7.6,SNR=86
BRVK Borovoye 66.22 320 P **P** **00 53 09.3 -0.2**
comp=Z,110nm,0.7s,mb5.8,SNR=11
BRVK Borovoye 66.22 320 *e*P **P** **00 53 09.1 -0.4**
DAWY Dawson 66.49 28 *e*P **P** **00 53 11.0 0.0**
RAR Rarotonga 66.77 124 P **P** **00 53 12.3 -1.2**
comp=Z,25nm,0.7s,mb5.2,baz=256,slow=4.4,SNR=6.6
POO Poona 67.46 283 *e*P pP 00 53 46.5 -6.6
SKAG Skagway 68.26 33 *e*P **P** **00 53 22.3 +0.1**
SIT Sitka 68.31 35 *e*P **P** **00 53 22.5 0.0**
SIT pmax pmax
comp=Z,71nm,1.1s,mb5.3
SIT Sitka 68.31 35 *e*P **P** **00 53 22.5 0.0**
comp=Z,71nm,1.1s,mb5.3
INK Inuvik 69.10 23 *e*P **P** **00 53 26.7 -0.5**
INK Inuvik 69.10 23 P **P** **00 53 26.8 -0.5**
comp=Z,124nm,0.8s,mb5.7,baz=276,slow=6.2,SNR=504
CRAG Craig 69.62 37 *e*P **P** **00 53 30.7 +0.1**
comp=Z,38nm,0.8s,mb5.2
CRAG LR LR
comp=Z,100nm,18.0s
WRAK Wrangell Islan 69.98 36 *e*P **P** **00 53 33.1 +0.2**
comp=Z,22nm,0.7s,mb5.0
DIB Dawson Inlet, 70.18 39 T 02 11 11.5
SNR=3.8
DLBC Dease Lake 71.06 34 *e*P **P** **00 53 40.1 +0.7**
SVE Sverdlovsk 71.55 325⇑*e*P **P** **00 53 41.9 -0.4**
SVE *e*PPP 00 58 09.4
SVE pmax pmax
comp=Z,19nm,1.1s,mb4.7
ARU Arti 72.74 324⇑*e*P **P** **00 53 48.8 -0.6**
ARU pmax pmax
comp=Z,22nm,1.2s,mb4.8
PPT Papeete 73.34 116 P **P** **00 53 52.6 -1.0**
comp=Z,25nm,0.3s,mb5.4,baz=167,slow=10,SNR=4.3
PPT LR LR 01 20 55.8
comp=Z,116nm,20.7s,baz=291,slow=31
AKTK Aktyubinsk 74.06 318 P **P** **00 53 56.0 -1.2**
AKTO Aktyubinsk 74.06 318 P **P** **00 53 56.0 -1.2**
comp=Z,5.4nm,0.6s,mb4.4,baz=86,slow=7.9,SNR=26
C03A Quillayute Air 76.00 44 ⇑P **P** **00 54 09.5 +1.1**
baz=76
PGC Sidney 76.56 43 *e*P **P** **00 54 11.9 +0.3**
NLWA Neilton Lookou 76.58 44 *e*P **P** **00 54 12.6 +0.9**
NLWA Neilton Lookou 76.58 44 ⇓P **P** **00 54 12.6 +0.8**
baz=76,SNR=33
B04A Port Angeles 76.67 44 ⇓P **P** **00 54 13.0 +0.7**
baz=76,SNR=16
D03A Wishkah Elem. 76.71 45 ⇓P **P** **00 54 13.5 +1.0**
baz=76,SNR=15
E03A Lebam 76.99 45 ⇓P **P** **00 54 14.5 +0.5**
baz=77,SNR=25
A04A Legoe Bay, Lum 77.03 43 ⇓P **P** **00 54 14.7 +0.5**
baz=77,SNR=26
C04A Brinnon 77.10 44 P **P** **00 54 15.4 +0.8**
baz=77,SNR=34
F03A Seaside 77.14 46 ⇓P **P** **00 54 15.4 +0.5**
baz=77,SNR=8.6
H02A Toledo 77.14 47 ⇑P **P** **00 54 15.7 +0.7**
baz=77
GNW Green Mountain 77.23 44 *e*P **P** **00 54 15.7 +0.3**
K01A Sixes 77.26 49 ⇑P **P** **00 54 16.2 +0.5**
baz=77,SNR=6.0
KEBM Edson Butte 77.34 49 *e*P **P** **00 54 17.1 +1.0**
A05A Maple Falls 77.36 42 ⇓P **P** **00 54 16.0 0.0**
baz=77,SNR=11
D04A Dobbs Creek Ra 77.36 44 ⇓P **P** **00 54 17.0 +0.9**
baz=77
I02A Mapleton 77.42 48 ⇓P **P** **00 54 16.9 +0.4**
baz=77,SNR=7.2
G03A Yamhill 77.48 46 ⇑P **P** **00 54 17.2 +0.4**
baz=77,SNR=9.3
B05A Bryant 77.53 43 P **P** **00 54 17.5 +0.5**
baz=77,SNR=39
E04A Onalaska 77.54 45 ⇓P **P** **00 54 18.0 +0.9**
baz=77,SNR=17
KBO Bosley Butte 77.58 50 *e*P **P** **00 54 18.9 +1.4**
H03A Soap Creek Ran 77.63 47 ⇓P **P** **00 54 18.4 +0.7**
baz=77,SNR=26
COR Corvallis 77.64 47 *e*P **P** **00 54 18.4 +0.7**
YKW3 Yellowknife Ar 77.71 28 *e*P **P** **00 54 17.1 -0.6**
A06A Chilliwack 77.72 42 ⇑P **P** **00 54 18.0 0.0**
baz=78
YKA Yellowknife Ar 77.73 28 P **P** **00 54 17.5 -0.3**
comp=Z,79nm,0.7s,mb5.5,baz=290,slow=5.5,SNR=883
YKA LR LR 01 27 03.6
comp=Z,59nm,19.4s,baz=240,slow=34
M01C Crescent City 77.75 50 ⇓P **P** **00 54 18.8 +0.4**
baz=78,SNR=5.2
J02A Umpqua 77.76 48 ⇑P **P** **00 54 18.8 +0.4**
baz=78,SNR=19
ALE Alert 77.78 4 P **P** **00 54 18.0 +0.1**
comp=Z,607nm,0.8s,mb6.3,SNR=70
I03A Eugene 77.82 48 P **P** **00 54 19.3 +0.6**
baz=78,SNR=16
B06A Marblemount 77.86 43 ⇓P **P** **00 54 18.8 -0.1**
baz=78,SNR=7.3
D05A Enumclaw 77.88 44 ⇓P **P** **00 54 19.8 +0.8**
baz=78,SNR=27
F04A Amboy 77.91 46 ⇑P **P** **00 54 19.3 +0.1**
baz=78,SNR=31
C05A Tolt Reservoir 77.94 44 ⇓P **P** **00 54 19.5 +0.2**
baz=78,SNR=22
K02A Glendale 77.97 49 ⇓P **P** **00 54 19.8 +0.2**
baz=78,SNR=7.4
KRMB Red Mountain 77.99 50 *e*P **P** **00 54 20.0 +0.3**
L02A Cave Junction 78.05 49 ⇑P **P** **00 54 20.4 +0.4**
baz=78,SNR=12
G04A Mulino 78.06 46 ⇑P **P** **00 54 20.3 +0.3**
baz=78,SNR=21
JCC Jacoby Creek 78.08 51 ⇓P **P** **00 54 20.7 +0.5**
baz=78
E05A Randle 78.19 45 P **P** **00 54 20.5 -0.2**
baz=78,SNR=28
J03A Ideyld Park 78.19 48 ⇓P **P** **00 54 21.1 +0.3**
baz=78,SNR=12
KHMM Horse Mountain 78.28 51 *e*P **P** **00 54 22.3 +1.0**
H04A Detroit Lake 78.39 47 ⇓P **P** **00 54 21.8 -0.1**
baz=78,SNR=37
HUMO Hull Mountain 78.39 49 *e*P **P** **00 54 22.3 +0.4**
HUMO Hull Mountain 78.39 49 P **P** **00 54 22.3 +0.4**
baz=78,SNR=18
C06A Tall Timber Ra 78.40 43 ⇑P **P** **00 54 22.0 +0.2**
baz=78
O01C Eel River Cons 78.41 51 ⇑P **P** **00 54 22.8 +0.8**
baz=78,SNR=8.7
A07A Ashnola River, 78.42 42 P **P** **00 54 22.2 +0.3**
baz=78,SNR=57
I04A Tendick Farm, 78.47 48 P **P** **00 54 22.3 0.0**
baz=78,SNR=47
F05A White Salmon 78.57 45 P **P** **00 54 23.2 +0.4**
baz=78,SNR=24
HOOD Mount Hood Mea 78.59 46 *e*P **P** **00 54 23.6 +0.7**
N02C Big Bar 78.61 51 ⇓P **P** **00 54 23.5 +0.4**
baz=78,SNR=25
D06A Cle Elum 78.63 44 ⇓P **P** **00 54 23.3 +0.2**
baz=78,SNR=18
KCPM Cahto Peak 78.70 52 *e*P **P** **00 54 24.0 +0.3**
KCPM *e* pP 00 55 02.2 +2.4
E06A Yakima 78.71 45 ⇓P **P** **00 54 24.0 +0.4**
baz=78,SNR=76
KIPM Iron Peak 78.75 52 *e*P **P** **00 54 24.2 +0.3**
B07A Winthrop 78.75 43 P **P** **00 54 23.9 +0.2**
baz=78,SNR=48
M02C Callahan 78.79 50 ⇓P **P** **00 54 24.7 +0.6**
baz=79,SNR=30
YBH Yreka Blue Hor 78.80 50 *e*P **P** **00 54 24.6 +0.4**
YBH pmax pmax
comp=Z,60nm,1.0s
YBH Yreka Blue Hor 78.80 50 *e*P **P** **00 54 24.6 +0.5**
comp=Z,60nm,0.9s,mb5.2
YBH Yreka Blue Hor 78.80 50 P **P** **00 54 24.7 +0.5**
baz=79,SNR=42
G05A Wamic 78.84 46 ⇑P **P** **00 54 24.5 +0.2**
baz=79,SNR=18
KBS Kingsbay 78.94 352 P **P** **00 54 18.3 -6.0**
KBS pmax pmax
comp=Z,44nm,0.8s,mb5.1
KBS Kingsbay 78.94 352 *e*P **P** **00 54 24.5 +0.2**
P01C Double 8 Ranch 78.94 52 ⇓P **P** **00 54 25.1 +0.1**
baz=79,SNR=10
C07A Waterville 79.00 43 P **P** **00 54 24.9 -0.3**
baz=79,SNR=69
F06A Goldendale 79.06 45 ⇓P **P** **00 54 25.7 +0.2**
baz=79,SNR=16
H05A Madras 79.06 47 ⇑P **P** **00 54 25.6 +0.1**
baz=79,SNR=39
RES Resolute Bay 79.12 14 *e*P **P** **00 54 25.0 -0.3**
A08A Turner Farm, O 79.15 42 ⇓P **P** **00 54 26.0 +0.1**
baz=79,SNR=60
O02C Red Bluff 79.16 51 P **P** **00 54 26.8 +0.6**
baz=79,SNR=26
I05A Bend 79.17 47 ⇓P **P** **00 54 26.4 +0.3**
baz=79,SNR=9.3
D07A Quincy 79.20 44 P **P** **00 54 26.3 +0.1**
baz=79,SNR=31
WDC Whiskeytown Da 79.23 51 *e*P **P** **00 54 26.5 0.0**
WDC Whiskeytown Da 79.23 51 P **P** **00 54 26.6 +0.1**
baz=79,SNR=20
K04A Chilquin 79.26 49 ⇑P **P** **00 54 26.9 +0.2**
baz=79,SNR=15
HOPS Hopland 79.27 52 *e*P **P** **00 54 26.7 0.0**
comp=Z,93nm,1.3s,mb5.3
HOPS Hopland 79.27 52 ⇑P **P** **00 54 26.7 -0.1**
baz=79,SNR=5.2
L04A Klamath Falls 79.27 49 ⇓P **P** **00 54 26.9 +0.2**
baz=79,SNR=29
B08A Colville Reser 79.28 43 ⇓P **P** **00 54 26.6 -0.1**
baz=79,SNR=87
G06A Carlson Farm, 79.30 46 ⇑P **P** **00 54 26.7 -0.1**
baz=79,SNR=25
M03C McCloud 79.35 50 ⇓P **P** **00 54 27.3 +0.1**
baz=79,SNR=25
GASB Alder Springs 79.36 52 ⇓P **P** **00 54 27.9 +0.7**
baz=79,SNR=17
M04C Macdoel 79.42 49 P **P** **00 54 27.8 +0.3**
baz=79,SNR=52
J05A Fort Rock 79.43 48 P **P** **00 54 28.2 +0.6**
baz=79,SNR=143
E07A Sunnyside 79.45 44 ⇑P **P** **00 54 28.0 +0.3**
baz=79,SNR=17
A09A Danville 79.58 42 ⇑P **P** **00 54 28.5 +0.2**
baz=79,SNR=46
F07A Phinny Hill Vi 79.59 45 ⇓P **P** **00 54 28.6 +0.2**
baz=79,SNR=13
C08A Higginbotham F 79.63 43 P **P** **00 54 28.5 -0.1**
baz=79,SNR=53
MCCM Marconi Confer 79.65 53 ⇑P **P** **00 54 28.5 -0.4**
baz=79
H06A Lindquist Farm 79.65 46 P **P** **00 54 28.7 0.0**
baz=79,SNR=61
FARB Farallon Islan 79.68 54 ⇓P **P** **00 54 28.4 -0.6**
baz=80
HAWA Hanford 79.72 45 *e*P **P** **00 54 28.7 -0.4**
comp=Z,129nm,1.0s,mb5.5
NSHM Saint Helena R 79.75 53 *e*P **P** **00 54 29.2 -0.2**
O03C Acorn Hollow, 79.77 51 ⇓P **P** **00 54 29.4 -0.1**
baz=80
MNRC McLaughlin Nat 79.77 52 P **P** **00 54 30.1 +0.5**
baz=80,SNR=31
K05A Summer Lake 79.83 48 P **P** **00 54 30.4 +0.7**
baz=80,SNR=130
CVS Carmenet Viney 79.91 53 ⇑P **P** **00 54 29.9 -0.4**
baz=80,SNR=12
D08A Wollman Farm, 79.93 44 P **P** **00 54 30.2 +0.1**
baz=80,SNR=60
G07A Ruggs Ranch, H 79.95 46 P **P** **00 54 30.2 -0.1**
baz=80,SNR=38
HATC Hat Creek Radi 79.96 50 P **P** **00 54 30.7 +0.3**
baz=80,SNR=19
I06A Prineville 79.96 47 P **P** **00 54 30.8 +0.4**
baz=80,SNR=70
E08A Dider Farm, El 80.00 44 ⇓P **P** **00 54 30.6 +0.1**
baz=80,SNR=31
B09A Rice 80.02 42 P **P** **00 54 30.7 +0.1**
baz=80,SNR=56
M05C Lookout 80.03 50 ⇓P **P** **00 54 30.8 0.0**
baz=80,SNR=14
L05A Lakeview 80.06 49 P **P** **00 54 31.5 +0.5**
baz=80,SNR=37
C09A Chrisman Ranch 80.13 43 ⇑P **P** **00 54 31.1 -0.1**
baz=80,SNR=42
Q03C Winters 80.16 53 ⇓P **P** **00 54 32.2 +0.6**
baz=80,SNR=5.0
SUTB Sutter Butte 80.17 52 ⇓P **P** **00 54 30.9 -0.7**
baz=80
J06A Christmas Vall 80.20 48 P **P** **00 54 31.6 0.0**
baz=80,SNR=67
A10A Northport 80.23 42 ⇑P **P** **00 54 32.0 +0.3**
baz=80,SNR=13
K06A Valley Falls 80.26 48 P **P** **00 54 32.3 +0.2**
baz=80,SNR=47
ORV Oroville 80.29 52 P **P** **00 54 31.8 -0.4**
baz=80,SNR=56
D09A Jones Farm, Ri 80.32 44 P **P** **00 54 32.4 +0.1**
baz=80,SNR=65
JRSC Jasper Ridge 80.34 54 ⇓P **P** **00 54 32.1 -0.5**
baz=80,SNR=7.0
OHCM Honcut 80.36 52 *e*P **P** **00 54 32.1 -0.6**
O04C Chester 80.37 51 ⇓P **P** **00 54 33.0 +0.3**
baz=80,SNR=15
F08A Pendleton 80.39 45 ⇓P **P** **00 54 33.1 +0.4**
baz=80,SNR=37
I07A Izee 80.41 47 ⇑P **P** **00 54 32.8 0.0**
baz=80,SNR=32
G08A Pilot Rock 80.42 45 ⇓P **P** **00 54 32.8 -0.1**
baz=80,SNR=58

TMCR **Tamitsa** 80.42 335 eP P 00 54 30.6 -1.9
TMCR pmax pmax
comp=Z,77nm,0.8s,mb5.4
BDM **Black Diamond** 80.47 53 ⇓P P 00 54 33.1 -0.1
baz=80
BNLO **Ben Lomond (Sa** 80.47 54 ⇑P P 00 54 32.9 -0.4
baz=80
MOD **Modoc** 80.48 49 eP P 00 54 33.4 +0.1
MOD **Modoc** 80.48 49 ⇓P P 00 54 33.3 0.0
baz=80,SNR=36
ELFS **Eagle Lake Fie** 80.55 50 ⇑P P 00 54 33.9 +0.3
baz=80
M06C **Likely Place G** 80.56 50 P P 00 54 34.0 +0.3
baz=80,SNR=26
Q04C **Lincoln** 80.58 52 ⇓P P 00 54 33.7 -0.1
baz=80
E09A **Wood Farm, Sta** 80.60 44 P P 00 54 33.9 +0.2
baz=80,SNR=47
O05C **Quincy** 80.60 51 ⇑P P 00 54 33.7 -0.2
baz=80,SNR=13
B10A **Chitwood Farm,** 80.64 42 ⇓P P 00 54 34.0 +0.1
baz=80,SNR=6.5
WENL **Wente Brothers** 80.65 54 ⇑P P 00 54 34.1 -0.1
baz=80,SNR=7.3
APA **Apatity** 80.66 339 ⇓iP P 00 54 33.0 -0.7
APA i 00 55 14.4
APA pmax pmax
comp=Z,24nm,0.5s,mb5.1
NEW **Newport** 80.72 42 eP P 00 54 34.3 -0.1
NEW pmax pmax
comp=Z,96nm,0.8s
NEW **Newport** 80.72 42 eP P 00 54 34.3 -0.1
comp=Z,96nm,0.8s,mb5.5
C10A **Spilker Farm,** 80.74 43 ⇑P P 00 54 34.5 0.0
baz=80
J07A **Hines** 80.75 47 P P 00 54 35.1 +0.4
baz=80,SNR=66
H08A **Prairie City** 80.85 46 ⇓P P 00 54 35.2 0.0
baz=81,SNR=38
A11A **Hall Mountain,** 80.98 41 P P 00 54 36.6 +0.9
baz=81,SNR=40
K07A **Rock Creek Ran** 81.00 48 P P 00 54 36.2 +0.3
baz=81,SNR=124
F09A **S2 Ranch, Elgi** 81.00 45 P P 00 54 36.0 +0.1
baz=81,SNR=8.1
D10A **Wagner Farm, O** 81.00 43 ⇑P P 00 54 35.5 -0.4
baz=81,SNR=38
S04C **Ingram Canyon,** 81.01 54 ⇑P P 00 54 36.0 -0.2
baz=81,SNR=25
P05C **Yuba Gap, Truc** 81.02 52 ⇑P P 00 54 36.2 0.0
baz=81,SNR=41
BEKR **Beckwourth** 81.04 51 ⇑P P 00 54 36.1 -0.2
baz=81,SNR=34
R04C **Big Horse Ranc** 81.08 53 ⇓P P 00 54 35.8 -0.7
baz=81
LAVA **Lava Cap Winer** 81.08 52 ⇑P P 00 54 36.2 -0.3
baz=81,SNR=57
I08A **Drewsey** 81.10 47 ⇑P P 00 54 36.5 +0.1
baz=81,SNR=7.6
SAO **San Andreas Ge** 81.13 54 eP P 00 54 36.6 -0.2
SAO pmax pmax
comp=Z,48nm,1.2s,mb5.0
SAO **San Andreas Ge** 81.13 54 eP P 00 54 36.6 -0.2
comp=Z,48nm,1.2s,mb5.0
L07A **Adell** 81.13 49 P P 00 54 37.3 +0.6
baz=81,SNR=150
B11A **Sandpoint** 81.15 42 ⇑P P 00 54 36.8 +0.2
baz=81,SNR=36
N06A **Buffalo Meadow** 81.16 50 P P 00 54 37.0 +0.1
baz=81,SNR=83
HAST **Hastings Reser** 81.16 55 ⇑P P 00 54 36.9 -0.1
baz=81,SNR=22
PACP **Pacheco Peak** 81.18 54 ⇓P P 00 54 37.1 0.0
baz=81,SNR=17
J08A **Circle Bar Ran** 81.33 47 P P 00 54 37.9 +0.2
baz=81,SNR=74
O06A **Flanigan** 81.34 51 ⇑P P 00 54 37.9 +0.1
baz=81,SNR=44
EDM **Edmonton** 81.37 37 P P 00 54 37.1 -0.6
F10A **Beach Ranch, E** 81.37 44 ⇓P P 00 54 37.5 -0.3
baz=81,SNR=5.6
P06A **Stead Airport,** 81.43 51 ⇑P P 00 54 38.6 +0.3
baz=81,SNR=8.5
A12A **Yaak River Ran** 81.43 41 ⇑P P 00 54 38.8 +0.7
baz=81,SNR=15
M07A **Soldier Meadow** 81.44 49 ⇑P P 00 54 38.6 +0.3
baz=81,SNR=50
H09A **Durkee** 81.49 46 ⇓P P 00 54 38.6 +0.1
baz=81
WVOR **Wild Horse Val** 81.50 48 eP P 00 54 38.4 -0.2
WVOR pmax pmax
comp=Z,79nm,0.8s,mb5.4
WVOR **Wild Horse Val** 81.50 48 eP P 00 54 38.4 -0.3
comp=Z,79nm,0.8s,mb5.4
V03C **Hunter Liggett** 81.51 55 ⇑P P 00 54 39.1 +0.2
baz=81,SNR=14
K08A **Mann Creek Ran** 81.52 48 P P 00 54 38.9 +0.2
baz=81,SNR=48
CMB **Columbia Colle** 81.56 53 eP P 00 54 38.8 -0.2
CMB **Columbia Colle** 81.56 53 P P 00 54 38.9 -0.2
baz=81,SNR=74
KEV **Kevo** 81.58 342 ep P 00 54 36.7 -1.8
comp=Z,14nm,0.5s,mb4.8
KEV **Kevo** 81.58 342 eP P 00 54 36.7 -1.8
KEV pmax pmax
comp=Z,14nm,0.5s,mb4.8
R05C **Kirkwood Meado** 81.59 52 P P 00 54 39.2 +0.1
baz=81,SNR=25
D11A **Klaveano Farm,** 81.61 43 P P 00 54 38.7 -0.4
baz=81,SNR=69
B12A **Libby** 81.63 42 ⇓P P 00 54 39.5 +0.3
baz=81,SNR=13
I09A **Lost Marbles R** 81.65 46 P P 00 54 39.3 -0.1
baz=81,SNR=34
WCN **Washoe City** 81.65 51 ⇓P P 00 54 39.7 +0.3
baz=81,SNR=13
G10A **Bishop Farm, J** 81.66 45 P P 00 54 39.3 0.0
baz=81,SNR=127
BMO **Blue Mountains** 81.67 46 eP P 00 54 39.4 -0.1
BMO pmax pmax
comp=Z,170nm,1.3s,mb5.5
BMO **Blue Mountains** 81.67 46 eP P 00 54 39.4 -0.1
comp=Z,167nm,1.3s,mb5.5
U04C **Hernandez Rese** 81.76 54 ⇑P P 00 54 40.4 +0.2
baz=82,SNR=25
N07B **Gerlach** 81.77 50 ⇑P P 00 54 40.3 +0.2
baz=82,SNR=8.8
L08A **Fields** 81.79 48 P P 00 54 40.5 +0.3
baz=82,SNR=107
PAHR **Pah Rah Range** 81.80 51 eP P 00 54 40.2 -0.1
comp=Z,100nm,1.1s,mb5.4
S05C **Merced** 81.81 53 ⇑P P 00 54 39.9 -0.5
baz=82,SNR=13
J09A **Fry Pan Ranch,** 81.84 47 P P 00 54 40.4 +0.1
baz=82,SNR=93
V04C **Ramage Ranch,** 81.91 55 ⇑P P 00 54 41.2 +0.3
baz=82,SNR=11
E11A **Bogner Ranch,** 81.92 44 P P 00 54 40.2 -0.5
baz=82,SNR=131
M08A **Happy Creek Ra** 81.99 49 ⇓P P 00 54 41.4 +0.2
baz=82,SNR=45
O07A **Toulon** 82.03 50 ⇑P P 00 54 41.4 0.0
baz=82,SNR=53
K09A **Rome** 82.06 48 P P 00 54 41.4 -0.2
baz=82,SNR=81
PKD **Parkfield** 82.07 55 P P 00 54 41.7 0.0
baz=82,SNR=32
F11A **Grangeville** 82.11 44 ⇓P P 00 54 40.8 -0.9
baz=82,SNR=39
R06C **Coleville** 82.11 52 ⇑P P 00 54 42.3 +0.4
baz=82,SNR=53
H10A **Noah's Angus R** 82.13 46 ⇑P P 00 54 41.4 -0.5
baz=82,SNR=62
WAKR **Walker** 82.13 52 eP P 00 54 42.4 +0.4
ARCES **ARCESS Array B** 82.14 342 P P 00 54 40.9 -0.6
comp=Z,23nm,0.7s,mb5.0,baz=74,slow=7.0,SNR=94
ARCES LR LR 01 38 29.3
comp=Z,80nm,18.2s,baz=53,slow=41
G11A **Walters Elk Ra** 82.19 45 P P 00 54 41.5 -0.7
baz=82,SNR=112
A13A **Flathead Natio** 82.20 41 ⇓P P 00 54 42.7 +0.5
baz=82,SNR=33
P07A **Fallon** 82.22 51 ⇑P P 00 54 42.6 +0.2
baz=82
D12A **Red Ives Fores** 82.24 43 P P 00 54 42.2 -0.2
baz=82,SNR=52
I10A **Payette** 82.26 46 ⇓P P 00 54 42.6 +0.1
baz=82,SNR=8.8

U05C **Westside ANR,** 82.28 54 ⇑P P 00 54 43.2 +0.3
baz=82,SNR=7.2
L09A **Wilkinson Ranc** 82.32 48 ⇑P P 00 54 43.2 +0.3
baz=82,SNR=56
BSMT **Bassoo Peak** 82.34 42 eP P 00 54 42.5 -0.4
B13A **Whitefish** 82.36 42 P P 00 54 43.4 +0.4
baz=82,SNR=66
N08A **GE Springer Mi** 82.38 50 P P 00 54 43.5 +0.3
baz=82,SNR=110
T06C **Millerton Lake** 82.39 54 P P 00 54 42.9 -0.5
baz=82,SNR=79
WALA **Waterton Lakes** 82.47 41 eP P 00 54 44.0 +0.5
comp=Z,142nm,1.4s,mb5.4
J10A **Berg Farm, Mel** 82.49 47 ⇓P P 00 54 43.5 -0.3
baz=82,SNR=7.0
O08A **Rochester Mine** 82.52 50 ⇓P P 00 54 44.3 +0.3
baz=82
C13A **Hot Springs** 82.53 42 P P 00 54 43.9 0.0
baz=82,SNR=83
R07C **Lee Vining** 82.55 52 ⇓P P 00 54 44.6 +0.4
baz=82
KCC **Kaiser Creek** 82.59 53 ⇓P P 00 54 44.1 -0.3
baz=82,SNR=32
H11A **Donnelly** 82.59 45 P P 00 54 43.8 -0.5
baz=82,SNR=57
V05C **Boulder Hill,** 82.59 55 ⇑P P 00 54 44.6 +0.2
baz=82
K10A **MacKenzie Ranc** 82.63 47 P P 00 54 44.6 +0.1
baz=82,SNR=129
M09A **Marrel Ranch,** 82.66 49 ⇑P P 00 54 44.9 +0.2
baz=82,SNR=22
SMMC **Simmler** 82.69 55 ⇑P P 00 54 45.0 0.0
baz=82
F12A **Elk City** 82.74 44 P P 00 54 44.5 -0.6
baz=82,SNR=48
P08A **Dixie Valley** 82.76 51 ⇑P P 00 54 45.5 +0.3
baz=82
N09A **Rock Creek Ran** 82.79 49 ⇑P P 00 54 45.7 +0.3
baz=83,SNR=72
D13A **Huson** 82.81 43 P P 00 54 44.7 -0.6
baz=83,SNR=51
MLAC **Mammoth Lakes** 82.85 53 ⇑P P 00 54 45.9 +0.1
baz=83
I11A **Placerville** 82.89 46 P P 00 54 45.5 -0.3
baz=83,SNR=37
PKM **Peak Mountain** 82.96 56 ⇓P P 00 54 46.6 +0.3
baz=83,SNR=29
NVAR **Mina Array Bea** 83.00 52 P P 00 54 46.8 +0.3
comp=Z,102nm,0.7s,mb5.7,baz=280,slow=5.4,SNR=643
HELL **Mitchell Peak** 83.01 54 P P 00 54 46.0 -0.6
baz=83,SNR=41
C14A **Swan Lake** 83.02 42 P P 00 54 46.2 -0.2
baz=83,SNR=83
KTK1 **Kautokeino** 83.11 342 eP P 00 54 46.8 +0.4
KTK1 AMb AMB 00 54 49.2
comp=Z,49nm,1.7s,mb5.0
KTK1 **Kautokeino** 83.11 342 eP P 00 54 46.8 +0.4
comp=Z,49nm,1.7s,mb5.0
Q08A **Gabbs** 83.14 51 ⇑P P 00 54 47.1 -0.1
baz=83,SNR=62
L10A **Juniper Basin** 83.14 48 P P 00 54 47.3 +0.1
baz=83,SNR=96
MFID **Camas Ranch** 83.14 47 P P 00 54 47.2 +0.1
baz=83,SNR=113
MTUM **Tungsten Hills** 83.15 53 eP P 00 54 47.2 -0.1
R08A **Mina** 83.17 52 ⇑P P 00 54 47.6 +0.2
baz=83,SNR=27
SBC **Santa Barbara** 83.18 56 ⇓P P 00 54 47.6 0.0
baz=83
E13A **Victor** 83.20 43 ⇑P P 00 54 46.4 -1.0
baz=83,SNR=19
K11A **Parker Ranch,** 83.22 47 P P 00 54 47.6 0.0
baz=83,SNR=84
MSO **Missoula** 83.23 43 eP P 00 54 46.6 -0.9
VES **Vestal, Richgr** 83.23 55 ⇓P P 00 54 46.6 -1.1
baz=83,SNR=22
O09A **Fish Creek Ran** 83.26 50 ⇓P P 00 54 48.0 +0.2
baz=83,SNR=30
M10A **I.L. Ranch, Tu** 83.28 49 P P 00 54 48.1 +0.3
baz=83,SNR=22
BSC **Santa Cruz Isl** 83.38 56 ⇓P P 00 54 47.9 -0.7
baz=83
S08C **White Mtn Res** 83.40 53 P P 00 54 49.0 +0.4
baz=83,SNR=79
H12A **Diamond D Ranc** 83.42 45 P P 00 54 48.4 -0.2
baz=83,SNR=43
D14A **Greenough** 83.42 42 P P 00 54 47.5 -1.0
baz=83,SNR=21
P09A **Austin** 83.50 51 ⇑P P 00 54 49.0 0.0
baz=83,SNR=12
TIN **Tinemaha** 83.50 53 ⇓P P 00 54 49.2 +0.1
baz=83
N10A **Dunphy** 83.57 49 ⇑P P 00 54 49.7 +0.3
baz=83,SNR=14
L11A **Cat Creek Ranc** 83.61 48 P P 00 54 49.8 +0.2
baz=83,SNR=76
CHMT **Chamberlain Mo** 83.64 43 eP P 00 54 48.8 -0.8
G13A **Cobalt** 83.65 45 P P 00 54 49.4 -0.3
baz=83,SNR=164
ARVC **Arvin** 83.65 55 ⇓P P 00 54 49.5 -0.5
baz=83,SNR=7.0
E14A **Clinton** 83.67 43 ⇑P P 00 54 48.9 -0.9
baz=83,SNR=12
JOF **Josuu** 83.67 335 ep P 00 54 46.4 -3.0
comp=Z,58nm,0.5s,mb5.6
JOF **Joensuu** 83.67 335 eP P 00 54 46.4 -3.0
JOF pmax pmax
comp=Z,58nm,0.5s,mb5.6
Q09A **Carvers** 83.70 51 ⇑P P 00 54 50.0 -0.1
baz=84,SNR=6.8
J12A **Stokes Ranch,** 83.70 47 P P 00 54 50.1 +0.2
baz=84,SNR=34
SNCC **San Nicolas Is** 83.71 57 ⇓P P 00 54 49.7 -0.6
baz=84
O10A **Cortez Mining,** 83.72 50 P P 00 54 50.6 +0.5
baz=84,SNR=32
BLG **Laguna Peak** 83.80 56 ⇑P P 00 54 49.7 -1.0
baz=84
CWC **Cottonwood Cre** 83.81 54 ⇓P P 00 54 50.4 -0.3
baz=84
M11A **Holland Ranch,** 83.84 48 ⇓P P 00 54 51.1 +0.4
baz=84,SNR=22
OSI **Osito Adit** 83.90 56 ⇑P P 00 54 50.7 -0.5
baz=84
TRO **Tromso** 83.92 344 eP P 00 54 48.7 -1.9
TRO AMb AMB 00 55 08.0
comp=Z,90nm,1.7s,mb5.2
DAG **Danmarks Havn** 83.92 356 ⇑iP P 00 54 50.0 -0.5
DAG pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
DAG **Danmarks Havn** 83.92 356 ⇑iP P 00 54 50.0 -0.5
comp=Z,6.0nm,0.6s,mb4.5
F14A **Wisdom** 83.96 44 ⇓P P 00 54 50.7 -0.6
baz=84
P10A **Eureka** 83.97 50 ⇑P P 00 54 51.5 +0.1
baz=84,SNR=27
R09A **Tonopah** 83.98 52 ⇑P P 00 54 51.5 0.0
baz=84,SNR=15
S09A **Goldfield** 84.03 52 ⇓P P 00 54 51.8 0.0
baz=84,SNR=30
K12A **Draper Farm, C** 84.05 47 P P 00 54 52.0 +0.2
baz=84,SNR=37
HLID **Hailey** 84.06 46 P P 00 54 51.9 +0.1
baz=84,SNR=57
D15A **Lincoln** 84.06 42 P P 00 54 51.1 -0.6
baz=84,SNR=24
N11A **Elko Archery C** 84.09 49 ⇑P P 00 54 52.3 +0.3
baz=84,SNR=12
G14A **Jackson** 84.10 44 ⇓P P 00 54 51.2 -0.8
baz=84
I13A **Wildhorse Cree** 84.14 46 P P 00 54 52.4 +0.2
baz=84,SNR=51
L12A **House Creek Ra** 84.14 48 P P 00 54 52.8 +0.5
baz=84,SNR=81
GRAC **Grapevine Rang** 84.16 53 ⇓P P 00 54 52.2 -0.2
baz=84,SNR=15
E15A **Deer Lodge** 84.21 43 P P 00 54 52.4 -0.1
baz=84,SNR=58
Q10A **Clear Creek Ra** 84.28 51 P P 00 54 52.9 -0.2
baz=84,SNR=17
J13A **Cove Ranch, Pi** 84.28 46 P P 00 54 53.2 +0.2
baz=84,SNR=72
DECC **Green Verdugo** 84.33 56 ⇓P P 00 54 52.6 -0.8
baz=84
MPMC **Manual Prospec** 84.38 54 P P 00 54 53.6 0.0
baz=84,SNR=72
EDW2 **Edwards Air Fo** 84.39 55 ⇑P P 00 54 53.3 -0.3
baz=84,SNR=12

LRMC **Laurel Mountai** 84.42 55 ⇓P P 00 54 53.6 -0.2
baz=84,SNR=9.0
S10A **Tonopah Range,** 84.44 52 P P 00 54 53.9 +0.1
baz=84,SNR=138
M12A **Wells** 84.46 48 P P 00 54 54.3 +0.4
baz=84,SNR=74
P11A **Circle Ranch,** 84.50 50 ⇑P P 00 54 54.2 0.0
baz=84,SNR=10
F15A **Butte** 84.52 43 P P 00 54 54.0 -0.1
baz=84,SNR=135
FMP **Fort Macarthur** 84.53 56 ⇓P P 00 54 53.7 -0.7
baz=84
R10A **Warm Springs** 84.53 52 ⇑P P 00 54 54.5 +0.2
baz=84,SNR=48
MWC **Mount Wilson** 84.55 56 eP P 00 54 54.3 -0.2
LRM **Limekiln Ridge** 84.56 43 eP P 00 54 54.0 -0.2
N12A **Clover Valley,** 84.57 49 P P 00 54 54.7 +0.3
baz=84,SNR=40
K13A **Stover Farm, H** 84.61 47 P P 00 54 55.0 +0.5
baz=84,SNR=55
DLMT **Dillon** 84.63 44 eP P 00 54 54.3 -0.4
comp=Z,57nm,1.0s,mb5.3
MCMT **McKenzie Canyo** 84.66 44 eP P 00 54 54.8 0.0
FURC **Furnace Creek,** 84.73 53 ⇑P P 00 54 55.0 -0.3
baz=84,SNR=29
G15A **Dillon** 84.77 44 P P 00 54 55.1 -0.2
baz=84,SNR=57
Q11A **Duckwater** 84.82 51 P P 00 54 55.6 -0.1
baz=85,SNR=35
BFSC **Mount Baldy St** 84.86 56 ⇓P P 00 54 55.2 -0.9
baz=85,SNR=6.3
L13A **Double Diamond** 84.90 47 P P 00 54 56.8 +0.7
baz=85,SNR=42
OBN **Obninsk** 84.94 327 ⇑eP P 00 54 54.9 -1.1
OBN e*PP pP 00 55 39.9 +7.2
OBN pmax pmax
comp=Z,14nm,1.4s,mb4.5
O12A **Currie** 84.98 49 P P 00 54 56.6 0.0
baz=85,SNR=64
M13A **Montello** 85.01 48 P P 00 54 56.9 +0.2
baz=85,SNR=89
TPNV **Topopah Spring** 85.03 53 eP P 00 54 56.6 -0.2
TPNV pmax pmax
comp=Z,72nm,0.7s,mb5.5
TPNV **Topopah Spring** 85.03 53 eP P 00 54 56.6 -0.2
comp=Z,72nm,0.7s,mb5.5
TPNV **Topopah Spring** 85.03 53 ⇓P P 00 54 56.7 -0.1
baz=85
R11A **Troy Canyon, C** 85.04 51 P P 00 54 56.9 0.0
baz=85,SNR=39
RRX **Edison Barstow** 85.15 55 ⇑P P 00 54 57.4 -0.1
baz=85
BOZ **Bozeman (W)** 85.15 43 eP P 00 54 57.1 -0.2
BOZ **Bozeman (W)** 85.15 43 ⇑P P 00 54 57.2 0.0
baz=85
GSC **Goldstone** 85.16 54 eP P 00 54 57.2 -0.3
GSC pmax pmax
comp=Z,71nm,1.3s,mb5.2
GSC **Goldstone** 85.16 54 eP P 00 54 57.2 -0.3
comp=Z,71nm,1.4s,mb5.2
GSC **Goldstone** 85.16 54 P P 00 54 57.3 -0.3
baz=85,SNR=30
N13A **Wendover, West** 85.16 49 ⇓P P 00 54 57.3 -0.1
baz=85,SNR=15
S11A **Rachel** 85.16 52 P P 00 54 57.6 +0.1
baz=85,SNR=23
K14A **Jones Ranch, D** 85.27 47 P P 00 54 58.4 +0.5
baz=85,SNR=59
Q12A **Willow Creek R** 85.35 50 P P 00 54 58.6 +0.2
baz=85,SNR=41
SHOC **Shoshone** 85.36 54 ⇓P P 00 54 58.0 -0.5
baz=85,SNR=13
EGMT **Eagleton** 85.42 41 eP P 00 54 58.2 -0.4
comp=Z,67nm,1.0s,mb5.3
EGMT **Eagleton** 85.42 41 ⇓P P 00 54 58.2 -0.3
baz=85
MURC **Murrieta** 85.43 56 ⇓P P 00 54 58.0 -0.9
baz=85,SNR=7.1
M14A **Sheep Mountain** 85.53 48 P P 00 54 59.5 +0.2
baz=85,SNR=123
O13A **Hicks Ranch, I** 85.58 49 ⇓P P 00 54 59.5 0.0
baz=85
QLMT **Earthquake Lak** 85.59 44 eP P 00 55 00.1 +0.7
HEC **Hector,Ludlow** 85.69 55 ⇓P P 00 54 59.6 -0.5
baz=86,SNR=8.9
T11A **Corn Creek, Al** 85.70 52 ⇑P P 00 54 59.9 -0.2
baz=86,SNR=21
109C **Camp Elliot, M** 85.74 57 ⇓P P 00 54 59.6 -0.9
baz=86,SNR=5.3
R12A **Pony Springs,** 85.77 51 P P 00 55 00.7 +0.2
baz=86,SNR=37
TUQ **Turquoise Mtn.** 85.79 54 ⇓P P 00 55 00.3 -0.3
baz=86,SNR=10
P13A **Bates Ranch, G** 85.80 50 P P 00 55 00.7 +0.1
baz=86,SNR=33
HVU **Hansel Valley** 85.83 47 eP P 00 55 01.1 +0.4
S12A **Delamar Landin** 85.84 52 ⇑P P 00 55 01.2 +0.3
baz=86,SNR=16
U11A **Corn Creek** 85.86 53 ⇓P P 00 55 00.9 0.0
baz=86,SNR=7.4
N14A **Grayback Hills** 85.88 48 ⇓P P 00 55 00.9 -0.1
baz=86,SNR=70
KIV **Kislovodsk** 85.90 315 eP P 00 55 02.1 +1.1
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
KIV **Kislovodsk** 85.90 315 P P 00 55 00.7 -0.3
YMR **Madison River** 85.96 44 eP P 00 55 02.3 +1.0
comp=Z,224nm,0.8s,mb6.0
BGU **Big Grassy Mou** 85.97 48 eP P 00 55 00.9 -0.4
Q13A **Wheeler Ranch,** 85.97 50 ⇓P P 00 55 01.3 -0.2
baz=86
SHPR **Sheep Range** 86.00 53 eP P 00 55 01.7 +0.1
PFO **Pinyon Flat Ob** 86.01 56 P P 00 55 01.6 -0.1
comp=Z,231nm,1.0s,mb5.9,SNR=7.1
PFO **Pinyon Flat Ob** 86.01 56 eP P 00 55 01.2 -0.5
PFO pmax pmax
comp=Z,71nm,1.3s,mb5.2
PFO **Pinyon Flat Ob** 86.01 56 eP P 00 55 01.1 -0.6
comp=Z,71nm,1.3s,mb5.2
PFO **Pinyon Flat Ob** 86.01 56 ⇑P P 00 55 01.1 -0.6
baz=86,SNR=8.2
V11A **Goodsprings** 86.03 54 ⇓P P 00 55 01.7 -0.1
baz=86,SNR=25
YFT **Old Faithful** 86.13 44 eP P 00 55 04.3 +2.1
YNR **Norris Junctio** 86.13 44 eP P 00 55 04.1 +2.0
BAR **Barrett** 86.16 57 eP P 00 55 01.4 -1.1
M15A **Larsen Ranch,** 86.17 47 P P 00 55 02.3 -0.1
baz=86,SNR=90
GMRC **Granite Mounta** 86.22 55 ⇑P P 00 55 02.5 -0.3
baz=86,SNR=24
BELC **Belle Mtn.** 86.23 55 ⇓P P 00 55 02.0 -0.8
baz=86,SNR=10
DCID1 **Drake Creek** 86.23 45 eP P 00 55 03.7 +1.1
SPUT **South Promonto** 86.23 48 eP P 00 55 02.8 +0.1
T12A **Moapa** 86.26 53 ⇑P P 00 55 02.7 -0.2
baz=86
MONP **Monument Peak** 86.28 57 ⇓P P 00 55 02.6 -0.5
baz=86,SNR=16
N15A **Stansbury Isla** 86.34 48 ⇓P P 00 55 03.1 -0.1
baz=86,SNR=17
GCMT **Greycliff** 86.36 43 eP P 00 55 03.1 -0.1
LKWY **Lake** 86.38 44 eP P 00 55 05.9 +2.6
LKWY pmax pmax
comp=Z,25nm,0.8s,mb5.0
LKWY **Lake** 86.38 44 eP P 00 55 04.9 +1.6
comp=Z,26nm,0.8s,mb5.0
LOF **Lofoten** 86.38 344 eP P 00 55 03.4 +0.6
LOF AMb AMB 00 55 11.4
comp=Z,64nm,1.5s,mb5.1
LOF **Lofoten** 86.38 344 eP P 00 55 04.0 +1.2
comp=Z,64nm,1.5s,mb5.1
DUG **Dugway** 86.39 49 eP P 00 55 03.3 -0.2
DUG pmax pmax
comp=Z,76nm,0.9s,mb5.4
DUG **Dugway** 86.39 49 eP P 00 55 03.3 -0.2
comp=Z,76nm,0.8s,mb5.5
DUG **Dugway** 86.39 49 ⇑P P 00 55 03.5 0.0
baz=86
TPAW **Teton Pass** 86.43 45 eP P 00 55 04.0 +0.5
comp=Z,60nm,1.0s,mb5.3
MOOW **Moose Ponds** 86.47 45 eP P 00 55 04.1 +0.4
comp=Z,54nm,0.9s,mb5.3
V12A **Nelson** 86.51 54 P P 00 55 04.2 0.0
baz=86,SNR=52
FINES **FINESS Array B** 86.54 335 iP P 00 55 01.6 -2.1
FINES pmax pmax
comp=Z,14nm,0.4s

FINES FINESS Array B 86.54 335 P **P 00 55 01.6 -2.1**
comp=Z,14nm,0.4s,mb5.1,baz=77,slow=5.1,SNR=232
FINES LR LR 01 35 04.8
comp=Z,42nm,18.2s,baz=60,slow=36
REDW Red Top Meadow 86.54 45 *eP* **P 00 55 04.0 -0.1**
comp=Z,51nm,1.1s,mb5.3
SNOW Snow King Moun 86.57 45 *eP* **P 00 55 05.0 +0.8**
S13A Holt Ranch, En 86.59 51 P **P 00 55 04.8 +0.3**
baz=86,SNR=53
AHID Auburn Hatcher 86.61 46 *eP* **P 00 55 04.9 +0.5**
comp=Z,58nm,0.8s,mb5.5
LOHW Long Hollow 86.61 45 *eP* **P 00 55 05.1 +0.6**
DVTC Desert V Tower 86.61 57 ⇑P **P 00 55 04.2 -0.5**
baz=86,SNR=6.3
W12A Cal Nev Ari 86.65 54 ⇓P **P 00 55 04.5 -0.4**
baz=86
NOQ North Oquirrh 86.71 48 *eP* **P 00 55 05.2 +0.2**
HWUT Hardware Ranch 86.73 47 *eP* **P 00 55 05.0 -0.1**
T13A Saint George 86.76 52 ⇑P **P 00 55 05.7 +0.3**
baz=86,SNR=24
SWSC Sam W. Stewart 86.76 56 ⇑P **P 00 55 04.5 -1.0**
baz=86,SNR=6.3
BC3 Big Chuckw Mtn 86.78 56 P **P 00 55 05.1 -0.4**
baz=86,SNR=21
ARUT Antelope Range 86.82 51 P **P 00 55 05.8 +0.2**
ARUT Antelope Range 86.82 51 *eP* **P 00 55 05.7 +0.1**
IRM Iron Mountain 86.83 55 ⇓P **P 00 55 05.3 -0.5**
baz=87,SNR=11
FFC Flin Flon 86.86 32 P **P 00 55 05.0 -0.4**
comp=Z,478nm,1.1s,mb6.2,SNR=56
FFC Flin Flon 86.86 32 *eP* **P 00 55 05.0 -0.4**
U13A Pakoon Wash 86.93 53 ⇓P **P 00 55 06.4 +0.2**
baz=87,SNR=99
CTU Camp Tracy 86.95 48 *eP* **P 00 55 06.4 +0.2**
CCUT Cedar City 86.97 51 *eP* **P 00 55 06.9 +0.5**
NLU North Lily Min 87.00 49 *eP* **P 00 55 06.5 0.0**
NEE2 Needles Airpor 87.03 54 ⇑P **P 00 55 06.3 -0.4**
baz=87
S14A Cedar City 87.03 51 ⇑P **P 00 55 06.7 0.0**
baz=87,SNR=14
V13A Grand Canyon W 87.12 53 P **P 00 55 07.1 0.0**
baz=87,SNR=48
JLU Jordanelle 87.20 48 *eP* **P 00 55 07.5 +0.1**
MPU Maple Canyon 87.30 49 *eP* **P 00 55 07.8 -0.1**
T14A Hurricane 87.35 52 ⇓P **P 00 55 08.4 +0.2**
baz=87,SNR=5.6
DAU Daniels Canyon 87.41 48 *eP* **P 00 55 08.6 +0.2**
Y12C Blythe 87.47 55 ⇑P **P 00 55 08.4 -0.4**
baz=87,SNR=12
W13A Hualapai Mount 87.47 54 ⇑P **P 00 55 08.8 0.0**
baz=87,SNR=30
MSU Marysvale 87.48 50 *eP* **P 00 55 09.0 +0.2**
GLA Glamis 87.48 56 *eP* **P 00 55 08.6 -0.3**
GLA pmax pmax
comp=Z,100nm,1.6s,mb5.4
GLA Glamis 87.48 56 *eP* **P 00 55 08.6 -0.3**
comp=Z,102nm,1.6s,mb5.4
GLA Glamis 87.48 56 P **P 00 55 08.8 -0.1**
baz=87,SNR=20
MOR8 Moi Rana 87.52 342 *eP* **P 00 55 05.6 -2.8**
MOR8 AMb AMB 00 55 06.9
comp=Z,27nm,2.0s,mb4.7
MOR8 Moi Rana 87.52 342 *eP* **P 00 55 05.6 -2.8**
comp=Z,27nm,2.0s,mb4.7
U14A Mt Trumbull 87.52 52 P **P 00 55 09.4 +0.4**
baz=87,SNR=72
PDMCI Parker Dam,Lak 87.57 55 ⇑P **P 00 55 09.0 -0.3**
baz=87,SNR=24
BW06 Boulder Array 87.65 45 *eP* **P 00 55 08.8 -0.7**
X13A Yucca 87.70 54 P **P 00 55 09.8 -0.1**
baz=88,SNR=44
STOK Stokkvaagen 87.81 343 *eP* **P 00 55 06.0 -3.8**
STOK AMb AMB 00 55 16.4
comp=Z,70nm,1.5s,mb5.3
STOK Stokkvaagen 87.81 343 *eP* **P 00 55 06.0 -3.8**
comp=Z,70nm,1.5s,mb5.3
V14A Boquillas Ranc 87.87 53 P **P 00 55 11.2 +0.6**
baz=88,SNR=109
T15A Red Dirt Ranch 87.89 52 ⇓P **P 00 55 10.9 +0.1**
baz=88,SNR=18
Y13A Salome 87.98 55 ⇓P **P 00 55 11.3 0.0**
baz=88,SNR=9.2
W14A Seligman 88.04 53 ⇑P **P 00 55 12.0 +0.5**
baz=88,SNR=62
FCC Fort Churchill 88.40 27 *eP* **P 00 55 11.8 -0.9**
FCC pmax pmax
comp=Z,62nm,1.3s,mb5.3
FCC Fort Churchill 88.40 27 *eP* **P 00 55 11.8 -0.9**
comp=Z,62nm,1.3s,mb5.3
SRU San Rafael 88.44 49 *eP* **P 00 55 13.0 -0.3**
X14A Yava 88.46 54 P **P 00 55 14.2 +0.6**
baz=88,SNR=51
V15A Kaibab Nationa 88.50 53 P **P 00 55 14.3 +0.7**
baz=88,SNR=79
T16A Glen Canyon Da 88.55 51 ⇑P **P 00 55 13.5 -0.4**
baz=88,SNR=14
Y14A Wickenburg 88.57 55 P **P 00 55 14.2 +0.1**
baz=88,SNR=64
W15A Williams 88.67 53 P **P 00 55 15.4 +0.9**
baz=88,SNR=46
Z14A Wintersburg 88.83 55 ⇓P **P 00 55 15.2 0.0**
baz=89,SNR=12
X15A Humboldt 88.96 54 ⇑P **P 00 55 16.3 +0.5**
baz=89,SNR=68
Y15A Casa Rosa Ranc 89.09 54 P **P 00 55 16.8 +0.3**
baz=89,SNR=65
WUAZ Wupatki 89.22 53 *eP* **P 00 55 17.4 +0.4**
WUAZ Wupatki 89.22 53 ⇓P **P 00 55 17.4 +0.4**
baz=89
Z15A Gila River Ind 89.47 55 ⇑P **P 00 55 18.2 0.0**
baz=89
X16A Lo Mia Camp, P 89.59 54 P **P 00 55 19.4 +0.6**
baz=89,SNR=17
115A Sonoran Desert 89.64 56 ⇑P **P 00 55 19.3 +0.2**
baz=89,SNR=24
RWWY Rawlins 89.68 46 *eP* **P 00 55 18.8 -0.2**
comp=Z,55nm,1.1s,mb5.4
Y16A Circle Bar Ran 89.77 54 P **P 00 55 20.2 +0.6**
baz=90,SNR=64
PV10 Paradox Valley 89.80 49 *eP* **P 00 55 19.4 -0.2**
PV10 *e* pP 00 55 54.5 -2.1
Z16A Peralta Trail, 90.02 55 ⇓P **P 00 55 21.0 +0.2**
baz=90,SNR=5.2
116A Eloy 90.10 55 ⇑P **P 00 55 21.3 0.0**
baz=90,SNR=5.4
PV01 Paradox Valley 90.23 49 *eP* **P 00 55 21.4 -0.3**
Y17A Roosevelt 90.33 54 ⇑P **P 00 55 22.5 +0.3**
baz=90,SNR=23
216A Three Points, 90.51 56 ⇑P **P 00 55 23.5 +0.4**
baz=90,SNR=23
X18A Snowflake 90.68 53 P **P 00 55 24.1 +0.3**
baz=90,SNR=16
Z17A San Carlos Hig 90.77 54 ⇓P **P 00 55 25.0 +0.6**
baz=90,SNR=23
117A Oracle 90.85 55 P **P 00 55 25.1 +0.4**
baz=91,SNR=30
Y18A Canyon Day Jun 90.92 54 ⇑P **P 00 55 25.6 +0.7**
baz=91,SNR=26
TUC Tucson 90.92 55 *eP* **P 00 55 24.8 -0.2**
AKASG Malin Array Be 90.98 325 P **P 00 55 22.2 -2.6**
comp=Z,1.1nm,0.4s,mb4.2,baz=50,slow=5.5,SNR=11
AKASG LR LR 01 36 10.6
comp=Z,52nm,19.6s,baz=0.0,slow=35
PHWY Pilot Hill 91.04 45 *eP* **P 00 55 25.8 +0.4**
217A Green Valley 91.10 56 P **P 00 55 26.5 +0.6**
baz=91,SNR=42
MALT Malatya 91.12 311 *eP* **P 00 55 25.4 -0.4**
MALT pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
MALT Malatya 91.12 311 *eP* **P 00 55 25.4 -0.4**
comp=Z,2.3nm,0.5s,mb4.5
Z18A Geronimo 91.19 54 ⇓P **P 00 55 26.8 +0.5**
baz=91
X19A St. Johns 91.22 53 ⇓P **P 00 55 26.9 +0.5**
baz=91,SNR=39
118A Homack Ranch, 91.42 55 ⇓P **P 00 55 27.8 +0.4**
baz=91,SNR=26
Y19A Nutrioso 91.44 53 P **P 00 55 28.4 +1.1**
baz=91,SNR=58
ISCO Idaho Springs 91.60 47 *eP* **P 00 55 28.4 +0.4**
ISCO pmax pmax
comp=Z,27nm,1.0s,mb5.2
ISCO Idaho Springs 91.60 47 *eP* **P 00 55 28.4 +0.4**
comp=Z,26nm,1.0s,mb5.2
218A Dragoon 91.62 55 ⇓P **P 00 55 29.0 +0.7**
baz=91,SNR=20
Z19A T-Link Ranch, 91.70 54 ⇓P **P 00 55 29.2 +0.6**
baz=92,SNR=6.1
318A Bisbee 91.88 56 P **P 00 55 29.9 +0.4**
baz=92,SNR=28
119A Ashpeak Ranch, 91.88 54 ⇓P **P 00 55 30.0 +0.5**
baz=92,SNR=47
SUW Suwalki 92.16 330 *eP* **P 00 55 28.3 -2.0**
SUW Suwalki 92.16 330 *eP* **P 00 55 28.3 -2.0**
NB2 NORSAR Subarra 92.22 340 P **P 00 55 28.2 -2.2**
comp=Z,2.9nm,0.7s,mb4.4,baz=44,slow=5.1
NOA NORSAR Array B 92.22 340 P **P 00 55 28.4 -2.0**
NOA 00 59 13.2
NOA NORSAR Array B 92.22 340 P **P 00 55 28.4 -2.0**
comp=Z,2.4nm,0.6s,mb4.4,baz=46,slow=4.5,SNR=15
NOA PP PP 00 59 13.2 +1.2
comp=Z,1.4nm,0.7s,baz=37,slow=7.2,SNR=5.4
NOA LR LR 01 38 55.4
comp=Z,41nm,18.1s,baz=40,slow=37
219A White Tail Can 92.23 55 P **P 00 55 31.4 +0.3**
baz=92,SNR=26
ULM Lac du Bonnet 92.37 34 P **P 00 55 30.2 -1.1**
comp=Z,20nm,0.9s,mb5.2,baz=309,slow=5.7,SNR=20
ULM LR LR 01 34 36.4
comp=Z,74nm,21.9s,baz=306,slow=34
319A Douglas 92.46 56 ⇓P **P 00 55 32.5 +0.4**
baz=92,SNR=12
SDCO Great Sand Dun 92.59 49 *eP* **P 00 55 32.3 -0.3**
comp=Z,20nm,1.0s,mb5.2
LAZ Ladron 92.85 52 *eP* **P 00 55 33.6 -0.2**
LAZ *e* pP 00 56 08.3 -2.7
LENM Lemitar 93.07 52 *eP* **P 00 55 35.3 +0.4**
ANMO Albuquerque 93.12 52 ⇑*eP* **P 00 55 35.2 +0.1**
ANMO Albuquerque 93.12 52 *eP* **P 00 55 35.1 -0.1**
comp=Z,30nm,1.0s,mb5.4
Y22C IRIS PASSCAL I 93.15 52 ⇑P **P 00 55 35.6 +0.3**
baz=93
LPM Los Pinos Moun 93.26 52 *eP* **P 00 55 36.1 +0.3**
BNM Barren Site 93.34 52 *eP* **P 00 55 36.0 -0.2**
SFJD Kangerlussuaq 93.37 6 P **P 00 55 35.0 -0.6**
SFJD pmax pmax
comp=Z,28nm,1.2s,mb5.3
SFJD Kangerlussuaq 93.37 6 *eP* **P 00 55 34.7 -0.9**
comp=Z,28nm,1.2s,mb5.3
AGMN Agassiz Refuge 93.46 36 *eP* **P 00 55 35.5 -0.9**
MNTX Cornudas Mount 95.34 54 *eP* **P 00 55 45.0 -0.4**
comp=Z,23nm,1.3s,mb5.2
ECSD EROS,Sioux Fal 95.52 40 *eP* **P 00 55 44.7 -1.2**
GDL2 Guadalupe Moun 95.90 53 *eP* **P 00 55 48.2 +0.3**
AMTX Amarillo 96.64 50 *eP* **P 00 55 50.9 -0.4**
VNDA Vanda 96.83 176 P **P 00 55 50.6 -0.3**
comp=Z,0.6nm,0.7s,mb4.0,baz=89,slow=5.5,SNR=4.5
MORC Moravsky Berou 97.54 329 P **P 00 55 55.2 +0.3**
TXAR Lajitas Array 97.72 56 P **P 00 55 55.7 -0.5**
TXAR 00 59 54.5
TXAR Lajitas Array 97.72 56 P **P 00 55 55.6 -0.5**
TXAR PP PP 00 59 54.5 -1.2
TXAR PKKPbc PKKPbc 01 12 29.6 -1.6
TXAR Lajitas Array 97.72 56 P **P 00 55 55.6 -0.5**
comp=Z,2.5nm,0.7s,mb4.8,baz=298,slow=2.7,SNR=15
TXAR PP PP 00 59 54.5 -1.2
comp=Z,0.5nm,0.8s,baz=302,slow=5.2,SNR=3.6
TXAR PKKPbc PKKPbc 01 12 29.6 -1.6
comp=Z,0.4nm,0.8s,baz=132,slow=5.6,SNR=4.5
CLL Collm 98.60 332 *e*(P) **P 00 55 58.0 -1.6**
WMOK Wichita Mounta 98.79 49 *eP* **P 00 56 00.3 -0.6**
GERES GERESS Array B 100.02 330 PKKPbc PKKPbc 01 12 21.2 -4.3
comp=Z,0.5nm,0.8s,baz=202,slow=2.9,SNR=4.7
JCT Junction City 100.15 53 *eP* Pdif 00 56 06.6 +0.1
SCHQ Schefferville 101.39 18 P Pdif 00 56 11.4 -0.6
comp=Z,2.7nm,0.8s,baz=221,slow=3.7,SNR=3.9
QSPA South Pole Qui 108.85 180 PKKPbc PKKPbc 01 11 56.0 -4.1
comp=Z,1.2nm,0.6s,baz=191,slow=3.0,SNR=15
QSPA PKKPab PKKPab 01 12 08.9 +0.1
comp=Z,2.0nm,0.8s,baz=340,slow=0.2,SNR=7.7
ESDC Sonseca Array 115.05 334 PKKPbc PKKPbc 01 11 34.0 -4.5
comp=Z,0.2nm,0.6s,baz=186,slow=5.6,SNR=2.6
ESDC PKKPab PKKPab 01 11 43.3 -2.8
comp=Z,1.4nm,0.8s,baz=208,slow=4.0,SNR=7.9
LSZ Lusaka 120.35 263 *e*PKIKP PKPdf 01 01 11.4 -0.8
TORD Torodi Ar. Bea 132.17 309 PKP PKPdf 01 01 32.9 -2.0
comp=Z,1.3nm,0.5s,baz=20,slow=2.0,SNR=24
TORD SKPbc SKPbc 01 04 45.9 -2.1
comp=Z,6.6nm,0.8s,baz=41,slow=3.3,SNR=19
ROSC El Rosal 134.07 63 PKP PKPdf 01 01 38.5 0.0
comp=Z,9.7nm,0.6s,baz=100,slow=20,SNR=7.0
SDV Santo Domingo 134.76 55 *e*PKPdf PKPdf 01 01 39.2 -0.5
DBIC Dimbokro 141.27 308 PKhKP 01 01 44.0
comp=Z,3.0nm,0.5s,baz=14,slow=3.4,SNR=11
DBIC PKP PKPdf 01 01 52.3 +0.6
comp=Z,4.4nm,0.8s,baz=20,slow=3.2,SNR=7.8
PLCA Paso Flores 142.30 133 PKhKP 01 01 47.9
comp=Z,7.1nm,0.7s,baz=239,slow=3.3,SNR=9.5
PLCA PKP PKPdf 01 01 52.6 -0.1
comp=Z,4.5nm,0.7s,baz=215,slow=3.2,SNR=7.6
ARE Arequipa 144.62 92 *e*PKIKP PKPdf 01 01 57.0 -0.5
LMEL Las Melosas 144.91 122 ⇓*i*P PKPdf 01 01 56.7 -0.8
FCH Farellones 144.97 121 ⇓*i*P PKPdf 01 01 57.0 -0.7
LCO Las Campanas 145.50 114 *e*PKP PKPdf 01 01 58.8 +0.1
LCO *e* 01 02 32.9
LPAZ La Paz 147.76 91 PKPbc PKPbc 01 02 03.4 -2.4
comp=Z,31nm,0.8s,baz=284,slow=3.3,SNR=65
TRQA Tornquist 149.42 134 *e*PKPbc PKPbc 01 02 08.4 -1.1
CPUP Villa Florida 157.65 113 PKP PKPdf 01 02 14.2 -2.8
comp=Z,0.2nm,0.3s,baz=176,slow=15,SNR=2.2
CPUP PKPab PKPab 01 02 48.9 -1.1
comp=Z,15nm,0.8s,baz=247,slow=5.9,SNR=22
BDFB Brasília 166.56 78 PKPab PKPab 01 03 27.9 -1.4
comp=Z,2.4nm,0.6s,baz=63,slow=26,SNR=6.3

MOS ***11*** *01:41:38.1±1.5, 49.10N×15696E, h31km, mb4.4/1, Error ellipse: s-maj=77.1km s-min=14.7km az=79.7*
KRSC 11 01:41:38.1±1.1, 4910N×15696E, h31km±30km, ML4.3, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.68**	**341**	*e*PN	Pn	01 42 04.5	-0.7
SKR				*e*S	Sn	01 42 23.0	-2.6
SKR				pmax	pmax		
	comp=E,80nm,0.5s						
SKR				pmax	pmax		
	comp=Z,150nm,0.5s						
SKR				pmax	pmax		
	comp=N,140nm,0.2s						
SKR				smax			
	comp=N,250nm,0.5s						
SKR				smax			
	comp=E,610nm,0.3s						
ALID	**Alaid**	**1.99**	**333**	*e*P	Pn	01 42 10.1	+0.5
ALID				*e*S	Sn	01 42 33.2	-0.2
MIPR	**Malaya Ipel'ka**	**3.18**	**358**	*e*P	Pn	01 42 28.5	+2.6
RUS	**Russkaya**	**3.48**	**16**	*e*P	Pn	01 42 32.4	+2.4
RUS				*e*S	Sn	01 43 12.7	+2.6
GRL	**Gorelyy**	**3.53**	**11**	*e*P	Pn	01 42 34.2	+3.5
GRL				*e*S	Sn	01 43 16.0	+4.7
PET	**Petropavlovsk**	**4.07**	**15**	S	Sn	01 43 30.3	+5.6
AVH	**Avacha**	**4.32**	**14**	*e*P	Pn	01 42 45.9	+4.4
NLC	**Nalytchevo**	**4.34**	**19**	*e*P	Pn	01 42 46.1	+4.2
NLC				*e*S	Sn	01 43 36.0	+4.6
SPN	**Mys Shipunski**	**4.44**	**25**	*e*P	Pn	01 42 47.2	+3.9
SPN				*e*S	Sn	01 43 38.0	+4.1
GNL	**Ganaly**	**4.64**	**7**	*e*P	Pn	01 42 49.9	+3.9
MKZ	**Mys Kozlova**	**6.21**	**27**	*e*P	Pn	01 43 10.2	+2.7
MKZ				*e*S	Sn	01 44 19.0	+1.6
KBTR	**Krutoberegovo**	**7.96**	**24**	*e*P	Pn	01 43 34.7	+3.2

ISCJB ***11*** *01:46:08.0±0.8, 298N±0.1×139.1E±04, h400km±16km, mb3.3/9, Error ellipse: s-maj=55.3km s-min=10.3km az=161.1*
IDC ***11*** *01:46:08.8±0.8, 2988N×13931E, h398km±15km, mb3.0/9, mb1 3.1/12, mb1mx3.1/22, mbtmp3.1/12, Error ellipse: s-maj=48.2km s-min=10.0km az=73.0*
NEIC ***11*** *01:46:09.6±1.0, 2988N×139.18E, h405km±11km, MG3.6(JMA), Error ellipse: s-maj=38.0km s-min=12.5km az=77.0*
ISC 11 01:46:09.0±0.8, 299N±01×1393E±04, h399km±15km, n16, σ0s58/17, mb3.3/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**3.29**	**8**	P	**Pn**	**01 47 15.9**	**+1.5**
	13nm,0.3s,baz=114,slow=19,SNR=3.2						
JHJ				S	**S**	**01 48 06.7**	**-0.7**
	36nm,0.3s,baz=237,slow=21,SNR=4.8						
CBIJ	**Chichi jima**	**3.76**	**136**	P	**Pn**	**01 47 18.8**	**0.0**
	15nm,0.3s,baz=300,slow=20,SNR=3.6						
CBIJ				S	**S**	**01 48 14.6**	**-0.7**
	66nm,0.3s,baz=285,slow=23,SNR=13						
MJAR	**Matsushiro Arr**	**6.73**	**353**	P	**Pn**	**01 47 49.5**	**0.0**
	1.4nm,0.3s,baz=170,slow=11,SNR=5.2						
MAJO	**Matsushiro**		**6.73**	**353**	Pn	**Pn**	**01 47 50.1**	**+0.6**
SONM	**Songino Array**		**30.96**	**315**	P	**P**	**01 51 50.6**	**-0.3**
SONM	**Songino Array**		**30.96**	**315**	P	**P**	**01 51 50.7**	**-0.3**
	0.3nm,0.4s,mb3.0,baz=120,slow=8.1,SNR=3.1						
ZALV	**Zalesovo Beam**		**45.73**	**318**	P	**P**	**01 53 51.7**	**-0.5**
	0.5nm,0.4s,mb3.2,baz=120,slow=8.5,SNR=3.1						
MKAR	**Makanchi Array**		**46.76**	**308**	P	**P**	**01 53 59.5**	**-0.7**
	0.5nm,0.6s,mb3.0,baz=85,slow=11,SNR=3.7						
WRA	**Warramunga Arr**		**49.73**	**186**	P	**P**	**01 54 23.0**	**+0.3**
	0.4nm,0.3s,mb3.3,baz=0.7,slow=7.8,SNR=12						
ASAR	**Alice Springs**		**53.46**	**186**	P	**P**	**01 54 50.6**	**+0.7**
	0.3nm,0.4s,mb2.9,baz=20,slow=10,SNR=4.6						
ARCES	**ARCESS Array B**		**70.10**	**340**	P	**P**	**01 56 39.3**	**+0.4**
	6.7nm,1.1s,mb4.1,baz=50,slow=8.0,SNR=4.7						
FINES	**FINESS Array B**		**74.34**	**333**	P	**P**	**01 57 03.5**	**-0.3**
	0.4nm,0.3s,mb3.5,baz=69,slow=6.9,SNR=7.5						
HFS	**Hagfors**		**79.88**	**336**	P	**P**	**01 57 34.1**	**-0.2**
	1.2nm,0.6s,mb3.7,baz=48,slow=4.4,SNR=6.0						
NOA	**NORSAR Array B**		**80.10**	**337**	P	**P**	**01 57 35.2**	**-0.2**
NOA	**NORSAR Array B**		**80.10**	**337**	P	**P**	**01 57 35.2**	**-0.2**
	0.3nm,0.7s,mb3.0,baz=49,slow=5.9,SNR=2.7						
TORD	**Torodi Ar. Bea**		**120.85**	**310**	PKP	PKPdf	02 04 14.3	-1.0
	0.5nm,1.1s,baz=3.0,slow=2.2,SNR=2.8						

IDC ***11*** *01:46:29.0±2.8, 873S×111.44E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.9/16, mbtmp3.9/6, MS2.9/2, Ms1 2.9/2, ms1mx2.8/18, Error ellipse: s-maj=148.7km s-min=18.5km az=53.0*
ISCJB ***11*** *01:46:32.5±1.0, 86S±0.03×1116E±02, h33km, mb3.9/6, Error ellipse: s-maj=50.4km s-min=12.7km az=42.2*
ISC 11 01:46:34.2±1.1, 88S±03×1114E±03, h35km, n9, σ0s24/7, mb3.9/6, 1D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**2.22**	**310**	⇓*i*P	**Pn**	**01 47 08.5**	**0.0**
KAPI	**Kappang**	**9.09**	**66**	LR	LR	01 53 19.4	
	comp=Z,56nm,20.7s,baz=238,slow=45						
FITZ	**Fitzroy Crossi**	**16.64**	**125**	LR	LR	01 55 20.8	
	comp=Z,67nm,20.5s,baz=123,slow=32						
WRA	**Warramunga Arr**	**24.79**	**119**	P	**P**	**01 51 53.0**	**0.0**
	3.0nm,0.7s,mb3.9,baz=294,slow=11,SNR=21						
ASAR	**Alice Springs**	**26.12**	**127**	P	**P**	**01 52 05.3**	**+0.3**
	1.6nm,0.7s,mb3.7,baz=304,slow=9.2,SNR=21						
STKA	**Stephens Creek**	**36.23**	**134**	P	**P**	**01 53 33.6**	**-0.4**
	1.0nm,0.4s,mb4.1,baz=315,slow=7.1,SNR=4.7						
SONM	**Songino Array**	**56.54**	**356**	P	**P**	**01 56 12.7**	**-0.3**
	0.6nm,0.5s,mb3.9,baz=165,slow=8.2,SNR=5.8						
MKAR	**Makanchi Array**	**61.12**	**338**	P	**P**	**01 56 44.9**	**+0.1**
	0.6nm,0.4s,mb4.1,baz=150,slow=6.8,SNR=11						
ZALV	**Zalesovo Beam**	**66.42**	**343**	P	**P**	**01 57 19.8**	**+0.2**
	0.4nm,0.3s,mb3.9,baz=157,slow=6.2,SNR=4.3						

ISCJB ***11*** *02:22:19.6±1.1, 1691N±009×617W±0.1, h69km±13km, Error ellipse: s-maj=22.7km s-min=4.8km az=138.0*
TRN ***11*** *02:22:20.0, 1686N×6160W, h51km*
NEIC ***11*** *02:22:22.5, 1780N×6150W, h25km, MD3.8(RSPR), After RSPR.*
RSPR ***11*** *02:22:22.5, 1780N×6150W, h25km±58km, MD3.8/7, MD3.8/7*
ISC 11 02:22:20.4±1.1, 1694N±010×616W±01, h52km±28km, n20, σ0s74/28, 8C-4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LZG	**Guadaloupe-1**	**0.81**	**189**	⇓*e*P	**Pn**	**02 22 35.5**	**-0.1**
LZG				*e*S	**Sn**	**02 22 46.8**	**+0.1**
SFG	**Saint Francois**	**0.81**	**148**	*e*P	**Pn**	**02 22 35.6**	**+0.1**
BCG	**Bois Riant Cap**	**0.85**	**179**	⇓*e*P	**Pn**	**02 22 36.1**	**-0.1**
DOG	**Dongo Capester**	**0.91**	**179**	*e*P	**Pn**	**02 22 36.9**	**0.0**
SCG	**Saint Claude**	**0.91**	**182**	*e*P	**Pn**	**02 22 36.9**	**0.0**
HMG	**Houelmont**	**0.96**	**183**	*e*P	**Pn**	**02 22 37.9**	**+0.3**
MGG	**Marie-Galante**	**1.07**	**163**	⇑*e*P	**Pn**	**02 22 39.0**	**0.0**
MGG				*e*S	**Sn**	**02 22 52.5**	**-0.3**
TBG	**Guadaloupe-3**	**1.08**	**180**	*e*P	**Pn**	**02 22 39.3**	**0.0**
TBG				*e*S	**Sn**	**02 22 54.1**	**+0.8**
SEUS	**St. Eustatius**	**1.39**	**293**	⇑*e*P	**Pn**	**02 22 43.5**	**0.0**
SEUS	**St. Eustatius**	**1.39**	**293**	*e*S	**Sn**	**02 23 00.8**	**+0.1**
SABA	**Saba**	**1.67**	**294**	⇑*e*P	**Pn**	**02 22 47.7**	**+0.5**
SABA	**Saba**	**1.67**	**294**	*e*S	**Sn**	**02 23 06.9**	**-0.6**
FDF	**Fort de France**	**2.25**	**168**	⇑*i*P	**Pn**	**02 22 54.9**	**-0.3**
FDF				*e*S	**Sn**	**02 23 20.9**	**-0.8**
BIM	**Bigot**	**2.47**	**167**	*e*P	**Pn**	**02 22 58.8**	**+0.5**
MVM	**Montagne Vaucl**	**2.48**	**163**	⇑*e*P	**Pn**	**02 22 58.2**	**-0.1**
MVM				*e*S	**Sn**	**02 23 26.7**	**-0.7**
TBVI	**Tortola**	**3.19**	**298**	⇓*i*P	**Pn**	**02 23 07.6**	**-0.4**
TBVI				*e*S	**Sn**	**02 23 42.3**	**-2.6**
STVI	**Saint Thomas**	**3.46**	**294**	⇓*e*P	**Pn**	**02 23 12.1**	**+0.5**
STVI				*e*S	**Sn**	**02 23 49.5**	**-1.9**
MTP	**Monte Pirata**	**3.91**	**288**	⇑*e*P	**Pn**	**02 23 18.4**	**+0.6**
MTP				*e*S	**Sn**	**02 24 04.0**	**+1.6**
HUMP	**Col San Antoni**	**4.19**	**287**	⇑*e*P	**Pn**	**02 23 22.3**	**+0.6**
CBYP	**Canovanas**	**4.23**	**289**	⇑*e*P	**Pn**	**02 23 23.5**	**+1.2**

CSEM ***11*** *03:01:45.8±0.2, 3901N×27.15E, h8km, MD2.8, Error ellipse: s-maj=4.4km s-min=2.9km az=32.0*
ISCJB ***11*** *03:01:46.9±1.0, 3902N±006×27.17E±006, h10km±8km, Error ellipse: s-maj=12.0km s-min=5.6km az=29.0*
DDA ***11*** *03:01:47.4, 3905N×27.18E, h2km±16km, Md2.8*
ISK ***11*** *03:01:48.4, 3904N×2730E, h18km, MD2.8*
ISC 11 03:01:47.2±1.0, 3901N±007×2716E±006, h13km±7km, n9, σ0s37/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.47**	**310**	*i*P	**Pg**	**03 01 55.9**	**-0.6**
AYVA				*i*S	**Sg**	**03 02 03.2**	**+0.5**
AYVA	**Ayvalik**	**0.47**	**310**	*i*P	**Pg**	**03 01 55.8**	**-0.6**
AYVA				*i*S	**Sg**	**03 02 03.2**	**+0.5**
AKHS	**Akhisar**	**0.53**	**104**	*i*P	**Pg**	**03 01 57.1**	**-0.5**
AKHS				*i*S	**Sg**	**03 02 05.2**	**+0.6**
AKS	**Akhisar**	**0.53**	**104**	*e*PG	**Pg**	**03 01 57.8**	**+0.2**
AKS				*e*SG	**Sg**	**03 02 04.4**	**-0.2**
BALB	**Balikesir**	**0.84**	**42**	*e*PG	**Pg**	**03 02 03.4**	**-0.1**
BALB				*e*SG	**Sg**	**03 02 14.5**	**-0.1**
KULA	**Kula-Manisa**	**1.28**	**112**	*e*PN	**Pn**	**03 02 10.8**	**+0.1**
DST	**Dursunbey**	**1.29**	**62**	*e*PN	**Pn**	**03 02 10.4**	**-0.5**
EDC	**Edincik**	**1.44**	**22**	*e*PN	**Pn**	**03 02 13.2**	**+0.3**
KCT	**Karacabey**	**1.56**	**36**	*e*PN	**Pn**	**03 02 14.8**	**+0.2**

ISCJB ***11*** *03:09:42.9±0.6, 3927N±003×2169E±005, h7km±6km, Error ellipse: s-maj=6.9km s-min=4.6km az=20.1*
CSEM ***11*** *03:09:43.7±0.1, 3928N×2171E, h12km±1km, MD3.1, Error ellipse: s-maj=2.6km s-min=1.9km az=113.0*
ATH ***11*** *03:09:43.8, 3927N×2172E, h20km±6km, MD3.0/4*
THE ***11*** *03:09:43.9, 3928N×2174E, h3km, ML2.7*
ISC 11 03:09:43.7±0.6, 3928N±003×2170E±005, h14km±7km, n12, σ0s71/19, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.37**	**167**	*e*PB	**Pg**	**03 09 51.1**	**0.0**
EVR				*e*SB	**Sg**	**03 09 57.4**	**+1.3**
THL	**Klokotos Trika**	**0.38**	**40**	*e*Pg	**Pg**	**03 09 50.7**	**-0.6**
THL				*e*Sg	**Sg**	**03 09 56.6**	**+0.2**
THL	**Klokotos Trika**	**0.38**	**40**	*e*Pb	**Pg**	**03 09 51.0**	**-0.3**
THL	

CSEM ***11*** *03:14:38.8±0.3, 3795N×3090E, h20km, MD2.8, Error ellipse: s-maj=8.0km s-min=5.2km az=137.0*
ISK ***11*** *03:14:38.8, 3796N×3099E, h14km, MD2.8*
ISCJB ***11*** *03:14:39.1±0.7, 3800N±004×3098E±006, h9km±12km, Error ellipse: s-maj=7.9km s-min=6.0km az=155.4*
DDA ***11*** *03:14:39.4, 3791N×3098E, h6km±4km, Md3.0*

ISC 11 03:14:39.0±0.7, 3796N±004×3102E±006, h10km±11km, n11, σ0$63/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.42**	**254**	*e*PG	**Pg**	**03 14 46.4**	**-0.9**
ISP				*e*SG	**Sg**	**03 14 53.1**	**+0.2**
TKTP	**Tekketepe**	**0.56**	**278**	*i* P	**Pg**	**03 14 48.8**	**-1.1**
TKTP				*i* S	**Sg**	**03 14 57.5**	**+0.2**
BCK	**Bucak**	**0.61**	**215**	*e*PG	**Pg**	**03 14 50.4**	**-0.4**
BCK				*e*SG	**Sg**	**03 15 00.1**	**+1.4**
SHUT	**Suhut-Afyon**	**0.70**	**328**	*e*PG	**Pg**	**03 14 53.0**	**+0.5**
KDHN	**Kadinhani**	**1.03**	**57**	*i* P	**Pg**	**03 14 59.2**	**+0.4**
KDHN				*i* S	**Sg**	**03 15 16.7**	**+4.6**
KONT	**Konya--Tatoy**	**1.06**	**91**	*e*PN	**Pn**	**03 15 00.1**	**+0.2**
KIZT	**Kizilcal**	**1.14**	**36**	*e*PN	**Pn**	**03 15 01.0**	**-0.1**
ESKT	**Eskisehir**	**1.56**	**355**	*i* P	**Pn**	**03 15 07.1**	**+0.2**
ESKT				*i* S	**Sg**	**03 15 29.4**	**+0.2**
ESKT	**Eskisehir**	**1.56**	**355**	*e*Pn	**Pn**	**03 15 06.7**	**-0.2**
SEYT	**Eskypehyr**	**1.56**	**355**	*i* P	**Pn**	**03 15 07.1**	**+0.2**
SEYT				*i* S	**Sg**	**03 15 29.4**	**+0.2**
ERMK	**Ermenek**	**2.00**	**131**	*i* P	**Pg**	**03 15 16.7**	**-0.7**
ERMK				*i* S	**Sg**	**03 15 48.6**	**+5.2**

IDC ***11*** *03:38:37.6±2.2, 3395N×82.16E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.5/24, mbtmp3.7/8, ML3.8/1, Error ellipse: s-maj=45.3km s-min=29.7km az=150.0*
ISCJB ***11*** *03:38:38.6±1.6, 3411N±02×822E±02, h10km, mb3.5/5, Error ellipse: s-maj=24.9km s-min=20.0km az=0.9*
NEIC ***11*** *03:38:39.0±1.3, 3394N×82.19E, h10km, mb4.1/1, Error ellipse: s-maj=19.3km s-min=16.1km az=179.0*

ISC 11 03:38:39.2±1.6, 340N±02×822E±02, h10km, n13, σ0$61/13, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**10.24**	**326**	*e*Pn	**Pn**	**03 41 06.1**	**0.0**
	2.2nm,0.7s						
TKM2	**Tokmak 2**	**10.34**	**332**	*e*Pn	**Pn**	**03 41 08.7**	**+1.1**
	2.7nm,0.8s						
MKAR	**Makanchi Array**	**12.83**	**0**	Pn	**Pn**	**03 41 40.4**	**-1.2**
	0.5nm,0.3s,baz=182,slow=13,SNR=20						
ZALV	**Zalesovo Beam**	**20.08**	**5**	P	**P**	**03 43 13.6**	**+1.1**
	0.3nm,0.4s,baz=171,slow=10,SNR=2.1						
BVAR	**Borovoye Array**	**20.86**	**340**	P	**P**	**03 43 20.2**	**-0.8**
	3.5nm,0.8s,baz=140,slow=9.7,SNR=11						
BRVK	**Borovoye**	**20.91**	**340**	*e*P	**P**	**03 43 21.6**	**0.0**
	9.2nm,1.1s						
SONM	**Songino Array**	**22.84**	**45**	P	**P**	**03 43 42.4**	**+0.1**
	0.6nm,0.6s,mb3.2,baz=231,slow=13,SNR=2.7						
AKTK	**Aktyubinsk**	**24.18**	**320**	P	**P**	**03 43 55.4**	**0.0**
AKTO	**Aktyubinsk**	**24.18**	**320**	P	**P**	**03 43 55.4**	**0.0**
	1.4nm,0.6s,mb3.6,baz=112,slow=14,SNR=4.6						
FINES	**FINESS Array B**	**44.76**	**325**	P	**P**	**03 46 52.2**	**-0.2**
	0.8nm,0.7s,mb3.7,baz=96,slow=8.5,SNR=3.4						
TORD	**Torodi Ar. Bea**	**74.97**	**276**	P	**P**	**03 50 20.9**	**-0.2**
	0.5nm,0.7s,mb3.5,baz=47,slow=5.4,SNR=6.2						
YKA	**Yellowknife Ar**	**82.95**	**8**	P	**P**	**03 51 04.1**	**+0.2**
YKA	**Yellowknife Ar**	**82.95**	**8**	P	**P**	**03 51 04.1**	**+0.2**
	0.5nm,0.7s,mb3.7,baz=339,slow=5.3,SNR=9.0						

MAN 11 03:55:30, 1735N×12021E, h21km, mb3.7, ML2.5, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.56**	**58**	*e*P	Pb	03 55 42.4	+1.2
BOLP	**Bolinao**	**1.00**	**197**	*e*P	Pb	03 55 48.7	0.0
APYP	**Conner**	**1.11**	**62**	*e*P	Pn	03 55 50.5	+0.2
APYP				*e*S	Sb	03 56 06.0	+1.5

IDC ***11*** *04:04:34.7±1.7, 4809N×154.09E, h0km, mb3.6/4, mb1 3.9/5, mb1mx3.6/21, mbtmp3.7/5, ML3.6/1, MS3.1/2, Ms1 3.1/2, ms1mx2.6/22, Error ellipse: s-maj=77.0km s-min=23.6km az=153.0*
MOS ***11*** *04:04:35.9±0.8, 4774N×15427E, h25km, mb3.9/2, Error ellipse: s-maj=38.9km s-min=22.2km az=48.4*
ISCJB ***11*** *04:04:38.4±2.8, 479N±02×154.1E±03, h41km±23km, mb3.6/4, MS3.0/2, Error ellipse: s-maj=51.3km s-min=10.2km az=137.9*

ISC 11 04:04:40.6±2.6, 479N±02×1542E±03, h44km±21km, n11, σ0$57/10, mb3.6/4, MS3.0/2, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.04**	**24**	*e*PN	**Pn**	**04 05 26.0**	**-0.1**
SKR				*e*S	**Sn**	**04 06 01.2**	**-0.1**
SKR				pmax	pmax		
	comp=Z,130nm,0.6s						
SKR				pmax	pmax		
	comp=N,80nm,0.4s						
SKR				pmax	pmax		
	comp=E,30nm,0.4s						
SKR				smax			
	comp=E,170nm,0.5s						
SKR				smax			
	comp=N,180nm,0.3s						
YSS	**Yuzh-Sakhalins**	**7.79**	**267**	*e*PN	**Pn**	**04 06 32.3**	**+1.1**
ASAJ	**Asahikawa**	**8.90**	**249**	PN	**Pn**	**04 06 45.5**	**-0.9**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.90**	**249**	Pn	**Pn**	**04 06 45.5**	**-0.9**
	comp=Z,0.7nm,0.3s,baz=73,slow=19,SNR=3.9						
KSRS	**Korea Array**	**21.84**	**251**	P	**P**	**04 09 29.1**	**+0.1**
	comp=Z,3.7nm,1.0s,mb3.8,baz=52,slow=10.0,SNR=11						
JNU	**Nakatsue**	**22.94**	**238**	LR	LR	04 18 52.5	
	comp=Z,42nm,18.4s,MS2.9,baz=74,slow=37						
ZALV	**Zalesovo Beam**	**42.51**	**305**	LR	LR	04 29 47.3	
	comp=Z,27nm,18.5s,MS3.2,baz=273,slow=36						
YKA	**Yellowknife Ar**	**49.56**	**38**	P	**P**	**04 13 26.9**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**49.56**	**38**	P	**P**	**04 13 26.9**	**+0.4**
	comp=Z,0.5nm,0.9s,mb3.5,baz=296,slow=7.2,SNR=6.9						
TXAR	**Lajitas Array**	**76.30**	**61**	P	**P**	**04 16 24.9**	**+0.3**
	comp=Z,0.3nm,0.6s,mb3.4,baz=305,slow=4.4,SNR=9.1						
GERES	**GERESS Array B**	**77.70**	**334**	P	**P**	**04 16 31.5**	**-0.7**
	comp=Z,0.3nm,0.4s,mb3.6,baz=33,slow=8.2,SNR=4.1						

ISCJB ***11*** *04:06:07.8±0.3, 3834N±002×7350E±003, h106km±4km, mb4.2/42, Error ellipse: s-maj=4.3km s-min=2.6km az=176.0*
IDC ***11*** *04:06:07.4±4.7, 3826N×7331E, h85km±41km, mb3.9/13, mb1 4.1/17, mb1mx4.0/24, mbtmp4.0/17, MS2.8/2, Ms1 2.9/2, ms1mx2.5/23, Error ellipse: s-maj=28.1km s-min=13.7km az=14.0*
MOS ***11*** *04:06:09.5±1.1, 3848N×7338E, h113km, mb4.4/19, Error ellipse: s-maj=10.3km s-min=5.4km az=99.4*
BJI ***11*** *04:06:09.5, 3863N×7332E, h127km, mB4.5, mb4.5*
NEIC ***11*** *04:06:10.8±0.7, 3846N×7345E, h115km±6km, mb4.3/17, Error ellipse: s-maj=7.4km s-min=6.7km az=149.0*
NNC ***11*** *04:06:16.9±2.4, 3900N×7322E, h178km±19km, mb3.8, mpv4.9, Error ellipse: s-maj=21.8km s-min=10.3km az=179.0*

ISC 11 04:06:09.3±0.3, 3834N±002×7352E±003, h106km±3km, n166, σ1$41/209, mb4.2/42, 14C-10D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.24**	**58**	P	**Pn**	**04 06 48.9**	**+3.7**
KSH				S	**Sn**	**04 07 14.9**	**+2.2**
KSH				Smax			
	comp=N,29μm,1.0s						
KSH				Smax			
	comp=E,19μm,0.5s						
AML	**Almayashu**	**3.79**	**2**	*e*Pn	**Pn**	**04 07 06.8**	**+1.1**
AML				*e*Sn	**Sn**	**04 07 46.8**	**-2.5**
AML	**Almayashu**	**3.79**	**2**	P	**Pn**	**04 07 06.9**	**+1.2**
	SNR=2355						
UCH	**Uchtor**	**3.96**	**11**	*e*Pn	**Pn**	**04 07 09.5**	**+1.6**
UCH				*e*Sn	**Sn**	**04 07 52.4**	**-0.9**
UCH	**Uchtor**	**3.96**	**11**	P	**Pn**	**04 07 09.8**	**+1.8**
	SNR=462						
KZA	**Kyzart**	**3.96**	**19**	P	**Pn**	**04 07 09.6**	**+1.6**
	SNR=285						
EKS2	**Erkin-Say**	**4.32**	**2**	*e*Pn	**Pn**	**04 07 14.2**	**+1.4**
EKS2				*e*Sn	**Sn**	**04 07 60.0**	**-2.2**
EKS2	**Erkin-Say**	**4.32**	**2**	P	**Pn**	**04 07 14.2**	**+1.3**
	SNR=349						
AAK	**Ala-Archa**	**4.35**	**9**	P	**Pn**	**04 07 15.0**	**+1.8**
	SNR=267						
ULHL	**Ulahol**	**4.42**	**27**	P	**Pn**	**04 07 15.9**	**+1.7**
	SNR=76						
KBK	**Karagaybulak**	**4.45**	**14**	P	**Pn**	**04 07 16.4**	**+1.9**
	SNR=65						
FRU	**Bishkek**	**4.57**	**10**	*e*PN	**Pn**	**04 07 18.0**	**+1.9**
FRU				*e*S	**Sn**	**04 08 08.0**	**0.0**
FRU				pmax	pmax		
	comp=Z,150nm,2.0s						
FRU				smax			
	comp=E,2μm,1.9s						
CHCP	**Chirah Chowk**	**4.67**	**183**	⇓P	**Pn**	**04 07 21.9**	**+4.2**
CEP	**Cherat**	**4.69**	**197**	P	**Pn**	**04 07 21.1**	**+3.2**
CHMS	**Chumysh**	**4.75**	**11**	P	**Pn**	**04 07 20.0**	**+1.4**
	SNR=51						
TKM2	**Tokmak 2**	**4.84**	**18**	⇑P	**Pn**	**04 07 21.3**	**+1.5**
	comp=E,33nm,0.5s						
TKM2				⇓S	**Sn**	**04 08 14.0**	**-0.7**
	comp=E,353nm,0.8s						
TKM2	**Tokmak 2**	**4.84**	**18**	*e*Pn	**Pn**	**04 07 21.2**	**+1.4**
TKM2	**Tokmak 2**	**4.84**	**18**	P	**Pn**	**04 07 21.5**	**+1.7**
	SNR=89						
USP	**Ospenovka**	**4.98**	**8**	P	**Pn**	**04 07 22.9**	**+1.2**
	SNR=81						
KBL	**Kabul**	**5.24**	**225**	*e*Pn	**Pn**	**04 07 27.8**	**+2.6**
	comp=E,214nm,0.6s						
KBL				*e*Sn	**Sn**	**04 08 25.0**	**+0.6**
KK31	**Karatay Array**	**5.28**	**335**	⇑P	**Pn**	**04 07 25.2**	**-0.5**
	comp=E,447nm,0.7s,baz=150,slow=14,SNR=3316						
KK31				⇑S	**Sn**	**04 08 19.8**	**-5.5**
	comp=E,109nm,0.3s,baz=149,slow=22,SNR=11						
KK31	**Karatay Array**	**5.28**	**335**	*i* PN	**Pn**	**04 07 25.2**	**-0.6**
KK31				pmax	pmax		
	comp=Z,114nm,0.2s						
KKAR	**Karatay Array**	**5.28**	**335**	*e*PN	**Pn**	**04 07 25.2**	**-0.6**
THW	**Thamme Wali**	**5.72**	**195**	P	**Pn**	**04 07 34.3**	**+2.5**
JMU	**Jammu**	**5.72**	**168**	*ex*	**Pn**	**04 07 35.5**	**+3.7**
JMU				*e*S	**Sn**	**04 08 34.5**	**-1.6**
DLH	**Dalhousie**	**6.12**	**160**	*e*P	**Pn**	**04 07 37.0**	**-0.2**
DLH				*e*S	**Sn**	**04 08 42.0**	**-3.8**
THN	**Thein Dam**	**6.16**	**162**	*e*P	**Pn**	**04 07 39.9**	**+2.2**
THN				*e*S	**Sn**	**04 08 45.0**	**-1.8**
SARP	**Sargodha**	**6.44**	**186**	P	**Pn**	**04 07 43.1**	**+1.5**
DRP	**Derazinda**	**7.12**	**203**	⇑P	**Pn**	**04 07 53.3**	**+2.5**
SDNR	**Sundarnagar**	**7.38**	**156**	*e*P	**Pn**	**04 07 53.5**	**-0.9**
SDNR				*e*S	**Sn**	**04 09 10.5**	**-6.1**
SMLA	**Simla**	**7.79**	**156**	*e*P	**Pn**	**04 08 01.5**	**+1.6**
SMLA				*e*S	**Sn**	**04 09 21.6**	**-4.9**
KLP	**Kalpa**	**7.82**	**149**	*e*P	**Pn**	**04 08 01.3**	**+1.0**
KLP				AMb	AMB	04 08 03.1	
	comp=Z,64nm,0.6s						
KLP				*e*S	**Sn**	**04 09 24.1**	**-3.0**
DDI	**Dehra Dun**	**8.83**	**154**	*e*P	**Pn**	**04 08 14.6**	**+0.6**
DDI				*ex*	**Sn**	**04 09 52.6**	**+0.9**
JOSI	**Joshimath**	**9.22**	**146**	*e*P	**Pn**	**04 08 19.5**	**+0.2**
JOSI				*e*S	**Sn**	**04 09 55.6**	**-5.7**
NDI	**New Delhi**	**10.11**	**161**	*e*P	**Pn**	**04 08 32.2**	**+0.8**
NDI				*e*S	**Sn**	**04 10 17.2**	**-5.6**
PTH	**Pithoragarh**	**10.38**	**146**	*e*P	**Pn**	**04 08 34.0**	**-1.0**
PTH				*e*S	**Sn**	**04 10 23.0**	**-6.3**
KHET	**Khetri**	**10.41**	**169**	*e*P	**Pn**	**04 08 34.2**	**-1.3**
KHET				AMb	AMB	04 08 37.4	
	comp=Z,88nm,0.0s						
KHET				*e*S	**Sn**	**04 10 21.7**	**-8.5**
KHET				*e*S	**Sn**	**04 10 24.4**	**-5.9**
KUDL	**Kundal**	**10.46**	**165**	*e*P	**Pn**	**04 08 36.0**	**-0.3**
KUDL				*e*S	**Sn**	**04 10 25.4**	**-6.1**
MK31	**Makanchi Array**	**10.63**	**35**	P	**Pn**	**04 08 39.0**	**+0.7**
	comp=Z,4.0nm,0.6s,baz=212,slow=11,SNR=17						
MK31				⇑S	**Sn**	**04 10 34.0**	**-1.2**
	comp=Z,21nm,1.1s						
MK31	**Makanchi Array**	**10.63**	**35**	*i* P	**Pn**	**04 08 39.0**	**+0.6**
MK31				pmax	pmax		
	comp=Z,7.0nm,0.6s						
MK31	**Makanchi Array**	**10.63**	**35**	*e*Pn	**Pn**	**04 08 38.9**	**+0.5**
MKAR	**Makanchi Array**	**10.63**	**35**	P	**Pn**	**04 08 39.3**	**+0.9**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**10.63**	**35**	P	**Pn**	**04 08 39.3**	**+0.9**
	comp=Z,0.7nm,0.3s,baz=210,slow=15,SNR=20						
JASL	**Jaisalmer**	**11.59**	**192**	*e*P	**Pn**	**04 08 52.1**	**+0.7**
JASL				*e*S	**Sn**	**04 10 51.3**	**-7.6**
AGRA	**Agra**	**11.68**	**160**	*e*P	**Pn**	**04 08 53.7**	**+1.2**
AGRA				*e*S	**Sn**	**04 10 52.5**	**-8.6**
AJM	**Ajmer**	**11.86**	**175**	*e*P	**Pn**	**04 08 54.1**	**-0.8**
AJM				*e*S	**Sn**	**04 10 55.2**	**-10**
WMQ	**Urumqi**	**12.01**	**58**	P	**Pn**	**04 08 57.0**	**+0.2**
WMQ				XP		04 09 30.0	
WMQ				S	**Sn**	**04 11 09.0**	**+0.2**
WMQ				PCP	PcP	04 14 33.0	-0.1
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s						
WMQ				LR	LR		
	comp=N,54nm,5.0s						
WMQ				LR	LR		
	comp=E,69nm,5.0s						
WMQ				LR	LR		
	comp=Z,35nm,5.0s						
KURBB	**Kurchatov Arra**	**12.79**	**15**	⇓P	**Pn**	**04 09 04.3**	**-2.7**
	comp=Z,4.2nm,0.7s						
KURBB				⇑S	**Sn**	**04 11 20.8**	**-6.7**
	comp=Z,13nm,0.8s						
KURK	**Kurchatov**	**12.89**	**15**	⇓P	**Pn**	**04 09 05.6**	**-2.7**
KURK				⇑S	**Sn**	**04 11 23.1**	**-7.0**
	comp=Z,108nm,1.4s						
KURK	**Kurchatov**	**12.89**	**15**	*e*Pn	**Pn**	**04 09 05.8**	**-2.5**
	comp=Z,30nm,0.9s						
KURK				*e*P		04 09 14.5	
DANN	**Dangsing**	**13.12**	**136**	*e*P	**Pn**	**04 09 08.9**	**-2.6**
	comp=Z,201nm,0.5s						
KOLN	**Koldanda**	**13.50**	**138**	*e*P	**Pn**	**04 09 14.1**	**-2.3**
	comp=Z,78nm,0.4s						
GKN	**Gorkha**	**13.88**	**135**	*e*P	**Pn**	**04 09 18.8**	**-2.5**
	comp=Z,105nm,0.6s						
KKN	**Kakani**	**14.40**	**133**	*e*P	**Pn**	**04 09 25.3**	**-2.8**
	comp=Z,87nm,0.4s						
DMN	**Daman**	**14.44**	**134**	*e*P	**Pn**	**04 09 26.2**	**-2.4**
	comp=Z,67nm,0.4s						
VOSK	**Vostochnaya**	**14.49**	**354**	⇓P	**Pn**	**04 09 26.1**	**-3.0**
	comp=Z,36nm,0.8s						
PKI	**Pulchoki**	**14.64**	**134**	*e*P	**Pn**	**04 09 28.6**	**-2.6**
	comp=Z,60nm,0.3s						
AB31	**Akbulak array**	**14.65**	**323**	⇑P	**Pn**	**04 09 27.5**	**-3.5**
	comp=Z,23nm,0.5s,baz=140,slow=12,SNR=290						
AB31				S	**Sn**	**04 11 59.7**	**-13**
	comp=Z,19nm,0.7s,baz=134,slow=24,SNR=7.1						
GUN	**Gumba**	**14.66**	**132**	*e*P	**Pn**	**04 09 28.8**	**-2.6**
	comp=Z,86nm,0.4s						
BVA0	**Borovoye Array**	**14.85**	**353**	⇑P	**Pn**	**04 09 31.8**	**-1.7**
	comp=Z,14nm,0.6s,baz=164,slow=14,SNR=434						
BVAR	**Borovoye Array**	**14.85**	**353**	P	**Pn**	**04 09 31.4**	**-2.2**
BVAR				S	**Sn**	**04 12 08.0**	**-9.3**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**14.85**	**353**	P	**Pn**	**04 09 31.4**	**-2.2**
	comp=Z,1.6nm,0.3s,baz=162,slow=12,SNR=66						
BVAR				S	**Sn**	**04 12 08.0**	**-9.3**
	comp=Z,0.4nm,0.3s,baz=163,slow=26,SNR=5.0						
BRVK	**Borovoye**	**14.89**	**352**	*e*P	**Pn**	**04 09 32.1**	**-2.0**
BRVK				pmax	pmax		
	comp=Z,125nm,0.6s						
BRVK	**Borovoye**	**14.89**	**352**	*e*Pn	**Pn**	**04 09 32.1**	**-2.0**
	comp=Z,125nm,0.6s						
BRVK				*e*P		04 09 37.9	
ZRNK	**Zerenda**	**14.95**	**349**	⇓P	**Pn**	**04 09 32.6**	**-2.2**
	comp=Z,77nm,0.7s						
ZRNK	**Zerenda**	**14.95**	**349**	*i* P	**Pn**	**04 09 32.5**	**-2.3**
ZRNK				pmax	pmax		
	comp=Z,77nm,0.6s						
JIRN	**Jiri**	**15.03**	**131**	*e*P	**Pn**	**04 09 34.3**	**-1.7**
	comp=Z,113nm,0.4s						
BHPL	**Bhopal**	**15.41**	**166**	*ex*	x	04 09 31.1	
BHPL				AMb	AMB	04 09 55.9	
	comp=Z,24nm,0.6s						
AKTK	**Aktyubinsk**	**16.36**	**323**	P	**Pn**	**04 09 50.3**	**-2.2**
AKTK				S	**S**	**04 12 41.1**	**-18**
AKTO	**Aktyubinsk**	**16.36**	**323**	⇑P	**Pn**	**04 09 50.5**	**-2.0**
	comp=Z,1.2nm,0.7s						
AKTO				⇑S	**S**	**04 12 40.0**	**-19**
AKTO	**Aktyubinsk**	**16.36**	**323**	P	**Pn**	**04 09 50.3**	**-2.2**
AKTO				S	**S**	**04 12 41.1**	**-18**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.36**	**323**	P	**Pn**	**04 09 50.3**	**-2.2**
	comp=N,2.8nm,0.3s,baz=132,slow=13,SNR=68						
AKTO				S	**S**	**04 12 41.1**	**-18**
	comp=N,0.6nm,0.3s,baz=173,slow=24,SNR=4.2						
LSA	**Lhasa**	**16.94**	**115**	*e*P	**Pn**	**04 10 02.6**	**+2.8**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s						
LSA	**Lhasa**	**16.94**	**115**	*e*P	**Pn**	**04 10 02.5**	**+2.7**
	comp=Z,12nm,0.6s						
ZAL	**Zalesovo**	**17.41**	**23**	P	**Pn**	**04 10 04.9**	**-0.4**
ZAL				S	**S**	**04 13 14.6**	**-4.7**
ZAA0	**Zalesovo Array**	**17.43**	**23**	*e*P	**Pn**	**04 10 04.5**	**-0.9**
ZALV	**Zalesovo Beam**	**17.43**	**23**	P	**Pn**	**04 10 04.9**	**-0.6**
	comp=Z,12nm,0.3s,baz=216,slow=12,SNR=181						
ZALV				S	**S**	**04 13 14.6**	**-5.0**
	comp=Z,0.1nm,0.3s,baz=211,slow=13,SNR=3.7						
ZALV				LR	LR	04 17 31.6	
	comp=Z,21nm,18.5s,baz=165,slow=39						
BLSP	**Bilaspur**	**17.77**	**153**	*e*P	**Pn**	**04 10 08.6**	**-1.2**
BLSP				AMb	AMB	04 10 11.6	
	comp=Z,19nm,1.9s						
NVS	**Novosibirsk**	**17.77**	**19**	*e*P	**Pn**	**04 10 08.7**	**-0.9**
NVS				*e*S	**S**	**04 13 21.7**	**-5.9**
NVS				pmax	pmax		
	comp=N,27nm,0.7s						
NVS				pmax	pmax		
	comp=Z,30nm,0.7s						
NVS				smax			
	comp=N,73nm,1.8s						
NGP	**Nagpur**	**17.78**	**163**	*e*P	**Pn**	**04 10 09.4**	**-0.6**
NGP				AMb	AMB	04 10 16.9	
	comp=Z,33nm,0.7s						
SVE	**Sverdlovsk**	**20.37**	**339**	⇓*e*P	**P**	**04 10 37.0**	**-0.2**
SVE				pmax	pmax		
	comp=Z,38nm,0.6s						
GTA	**Gaotai**	**20.48**	**79**	*e*P	**P**	**04 10 41.8**	**+3.3**
GTA				AP		04 11 08.7	
GTA				PP		04 11 12.2	
GTA				XP	sP	04 11 21.8	+10
GTA				S	**S**	**04 14 24.7**	**+2.9**
GTA				AMB	AMB		
	comp=Z,11nm,1.2s						
GTA				AMB	AMB		
	comp=Z,71nm,4.2s						
GTA				LR	LR		
	comp=N,64nm,5.3s						
GTA				LR	LR		
	comp=E,75nm,6.5s						
GTA				LR	LR		
	comp=Z,74nm,8.0s						
ARU	**Arti**	**20.66**	**336**	*e*P	**P**	**04 10 39.9**	**-0.4**
ARU				pmax	pmax		
	comp=Z,45nm,1.3s						
ARU	**Arti**	**20.66**	**336**	*e*P	**P**	**04 10 40.2**	**-0.1**
	comp=Z,30nm,0.8s						
HYB	**Hyderabad**	**21.30**	**167**	*e*P	**P**	**04 10 49.0**	**+1.5**
HYB				*e*		04 11 22.0	
HYB				*e*S	**S**	**04 14 32.0**	**-6.1**
HYB	**Hyderabad**	**21.30**	**167**	*i* P	**P**	**04 10 49.0**	**+1.5**
HYB				*e*		04 11 22.0	
HYB				*e*S	**S**	**04 14 32.0**	**-6.1**
GNI	**Garni**	**22.33**	**284**	*e*P	**P**	**04 11 00.4**	**+2.2**
GNI				pmax	pmax		
	comp=Z,32nm,1.3s						
GNI	**Garni**	**22.33**	**284**	*e*P	**P**	**04 10 59.1**	**+0.9**
	comp=Z,20nm,0.9s,mb4.5						
MIB	**Mutribah**	**23.24**	**256**	*e*P	**P**	**04 11 06.6**	**-0.6**
MIB				AMb	AMB	04 11 12.0	
	comp=Z,15nm,0.7s,mb4.5						
QRN	**Al-Qurain**	**23.33**	**253**	*e*P	**P**	**04 11 07.4**	**-0.6**
QRN				AMb	AMB	04 11 16.0	
	comp=Z,11nm,0.6s,mb4.4						
RDF	**Al-Radifah**	**23.51**	**254**	*e*P	**P**	**04 11 09.5**	**-0.1**
RDF				AMb	AMB	04 11 11.4	
	comp=Z,15nm,0.6s,mb4.5						
NAY	**Al-Naaiem**	**23.59**	**255**	*e*P	**P**	**04 11 09.9**	**-0.5**
NAY				AMb	AMB	04 11 12.6	
	comp=Z,14nm,0.8s,mb4.4						
KIV	**Kislovodsk**	**23.81**	**293**	*e*P	**P**	**04 11 12.7**	**+0.5**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb3.8						
KIV	**Kislovodsk**	**23.81**	**293**	*e*P	**P**	**04 11 12.7**	**+0.5**
	comp=Z,11nm,0.6s,mb4.3						
LZH	**Lanzhou**	**24.20**	**86**	*e*P	**P**	**04 11 20.0**	**+4.1**
LZH				AP		04 11 41.2	
LZH				PP		04 11 59.5	
LZH				AMB	AMB		
	comp=Z,22nm,1.1s,mb4.4						
LZH				AMB	AMB		
	comp=Z,81nm,4.2s						
LZH				LR	LR		
	comp=N,312nm,10.2s						
LZH				LR	LR		
	comp=Z,535nm,13.0s						
ZAK	**Zakamensk**	**24.27**	**51**	*e*P	**P**	**04 11 18.8**	**+2.5**
ZAK				*e*		04 11 39.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.5						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.5						
SONM	**Songino Array**	**25.65**	**58**	P	**P**	**04 11 31.3**	**+2.5**
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM	**Song

comp=Z,6.0nm,0.4s,mb4.8
MLR Muntele Rosu 35.69 297 ⇓ *i* P P **04 12 59.1 +1.9**
BURAR Bucovina Array 36.02 301 ⇑ *i* P P **04 13 00.6 +0.6**
FIA1 FINESS Array S 37.13 324 *e* P P **04 13 08.8 -0.4**
FINES FINESS Array B 37.13 324 *i* P P **04 13 09.1 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.6s
FINES FINESS Array B 37.13 324 P P **04 13 09.2 0.0**
comp=Z,3.1nm,0.6s,mb4.4,baz=113,slow=9.7,SNR=17
NJ2 Nanjing 37.28 86 *e* P P **04 13 17.3 +6.4**
NJ2 AP pP 04 13 35.9 +1.0
NJ2 S S **04 18 58.0 +7.6**
NJ2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.0
NJ2 AMB AMB
comp=Z,290nm,4.0s
NJ2 LR LR
comp=N,220nm,12.9s
NJ2 LR LR
comp=E,240nm,21.4s
NJ2 LR LR
comp=Z,250nm,21.4s
CN2 Changchun 38.99 65 *e* P P **04 13 26.0 +0.9**
NIE Niedzica 39.16 304 *e* P P **04 13 27.8 +1.4**
OJC Ojcow 39.44 305 *e* P P **04 13 29.2 +0.5**
ARCES ARCESS Array B 40.25 336 P P **04 13 35.3 +0.1**
ARCES pmax pmax
comp=Z,10.0nm,0.7s
ARCES ARCESS Array B 40.25 336 P P **04 13 35.3 +0.2**
comp=Z,9.6nm,0.7s,mb4.8,baz=111,slow=8.4,SNR=36
MORC Moravsky Berou 40.93 305 *e* P P **04 13 40.3 -0.7**
MORC pmax pmax
comp=Z,1.0nm,0.6s,mb3.8
MORC Moravsky Berou 40.93 305 *e* P P **04 13 40.3 -0.7**
comp=Z,1.5nm,0.6s,mb4.0
YAK Yakutsk 41.30 36 *e* P P **04 13 44.4 +0.5**
YAK pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
CONA Conrad Observa 42.26 302 ⇓ *i* P P **04 13 52.7 +0.8**
comp=Z,8.1nm,1.2s,mb4.3
CSNA Conrad Observa 42.27 302 ⇓ *i* P P **04 13 52.6 +0.7**
comp=Z,7.2nm,1.3s,mb4.2
KSRS Korea Array 42.41 74 P P **04 13 55.2 +1.9**
comp=Z,0.5nm,0.3s,mb3.7,baz=273,slow=9.9,SNR=3.3
BRG Berggiesshubel 43.10 307 *e* P P **04 13 59.4 +0.8**
BRG *e* 04 23 51.0
BRG pmax pmax
comp=Z,6.0nm,1.4s,mb4.1
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
BRG MLR MLR
comp=N,181nm,27.8s
BRG MLR MLR
comp=E,100nm,14.7s
BRG MLR MLR
comp=Z,254nm,23.6s
BRG Berggiesshubel 43.10 307 *e* P P **04 13 59.4 +0.7**
comp=Z,5.7nm,1.4s,mb4.1
BRG *e* 04 23 51.0
BRG LR LR
comp=Z,250nm,23.6s
BRG Berggiesshubel 43.10 307 *e* P P **04 13 59.4 +0.7**
comp=Z,9.5nm,1.4s,mb4.3
TIXI Tiksi 43.32 22 *e* P P **04 14 00.3 +0.2**
TIXI pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
TIXI Tiksi 43.32 22 *e* P P **04 14 00.2 +0.1**
comp=Z,3.1nm,0.3s,mb4.5
GERES GERESS Array B 43.54 304 P P **04 14 03.4 +1.2**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 43.54 304 P P **04 14 03.4 +1.2**
comp=Z,0.9nm,0.7s,mb3.6,baz=68,slow=4.9,SNR=6.4
TIP Timpagrande 43.64 290 *e* P P **04 14 01.7 -1.5**
comp=Z,4.3nm,1.1s,mb4.1
NB2 NORSAR Subarra 44.15 322 P P **04 14 06.3 -0.6**
comp=Z,11nm,1.0s,mb4.5,baz=92,slow=8.6
NOA NORSAR Array B 44.15 322 P P **04 14 06.6 -0.3**
NOA pmax pmax
comp=Z,5.0nm,0.8s
NOA MLR MLR
comp=Z,15nm,19.5s
NOA NORSAR Array B 44.15 322 P P **04 14 06.5 -0.4**
comp=Z,4.9nm,0.8s,mb4.3,baz=92,slow=7.8,SNR=18
NOA LR LR 04 33 23.3
comp=Z,15nm,19.5s,baz=245,slow=37
DAVA Damuels 46.36 303 ⇑ *i* P P **04 14 24.7 +0.1**
comp=Z,6.7nm,0.6s,mb4.5
DAVA Damuels 46.36 303 ⇑ *i* P P **04 14 24.7 +0.1**
comp=Z,6.7nm,0.6s,mb4.5
LPG La Plagne 48.91 301 *e* P P **04 14 46.1 +1.8**
LPL La Plagne 48.92 301 *e* P P **04 14 45.4 +1.0**
comp=Z,2.4nm,0.3s,mb4.2
LPL La Plagne 48.92 301 *e* P P **04 14 45.4 +1.0**
LPL pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
LPL La Plagne 48.92 301 *e* P P **04 14 45.4 +1.0**
comp=Z,1.2nm,0.3s,mb4.3
AVF Avril sur Loir 50.80 303 *e* P P **04 14 57.6 -0.9**
comp=Z,12nm,0.8s,mb4.7
AVF Avril sur Loir 50.80 303 *e* P P **04 14 57.6 -0.9**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AVF Avril sur Loir 50.80 303 *e* P P **04 14 57.6 -0.9**
comp=Z,6.2nm,0.8s,mb4.7
ESDC Sonseca Array 58.38 298 P P **04 15 53.4 -0.1**
comp=Z,0.6nm,0.4s,mb3.9,baz=57,slow=7.2,SNR=6.2
TOA0 Torodi Ar. Sit 67.76 269 *e* P P **04 16 54.4 -1.5**
TORD Torodi Ar. Bea 67.76 269 P P **04 16 55.0 -0.8**
comp=Z,3.8nm,0.5s,mb4.5,baz=47,slow=5.5,SNR=165
INK Inuvik 71.76 10 *e* P P **04 17 19.8 +0.4**
comp=Z,406nm,1.3s
COLA College 72.14 17 *e* P P **04 17 21.3 -0.5**
COLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
COLA College 72.14 17 *e* P P **04 17 21.3 -0.5**
comp=Z,2.9nm,0.8s,mb4.2
DBIC Dimbokro 76.78 268 P P **04 17 48.5 -1.0**
DBIC pmax pmax
comp=Z,5.0nm,1.0s
DBIC Dimbokro 76.78 268 P P **04 17 48.5 -1.0**
comp=Z,4.5nm,0.9s,mb4.2,baz=84,slow=9.2,SNR=3.1
YKA Yellowknife Ar 79.30 4 *i* P P **04 18 03.0 +0.4**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 79.30 4 P P **04 18 03.1 +0.5**
comp=Z,3.3nm,0.7s,mb4.3,baz=348,slow=5.6,SNR=68
WRA Warramunga Arr 81.30 124 P P **04 18 14.5 +0.6**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 81.30 124 P P **04 18 14.5 +0.6**
comp=Z,0.6nm,0.7s,mb3.6,baz=323,slow=4.8,SNR=8.5
FCC Fort Churchill 82.71 354 *e* P P **04 18 21.4 +0.6**
FCC pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
FCC Fort Churchill 82.71 354 *e* P P **04 18 21.4 +0.6**
comp=Z,3.8nm,1.0s,mb4.2
ASAR Alice Springs 83.70 127 P P **04 18 27.9 +1.6**
comp=Z,0.4nm,0.6s,mb3.4,baz=311,slow=4.8,SNR=3.3
FFC Flin Flon 87.23 357 *e* P P **04 18 43.9 +0.5**
FFC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
FFC Flin Flon 87.23 357 *e* P P **04 18 43.9 +0.4**
comp=Z,2.6nm,0.9s,mb4.2
ULM Lac du Bonnet 91.30 353 *e* P P **04 19 02.3 -0.3**
comp=Z,2.1nm,0.8s,mb4.3

IDC 11 05:04:57.2±2.9, 2095S×6846W, h131km±36km, mb3.1/2, mb1 3.1/5, mb1mx3.0/18, mbtmp3.1/5, MS3.1/1, Ms1 3.1/1, ms1mx2.4/20, Error ellipse: s-maj=51.9km s-min=28.8km az=119.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.65**	**4**	P	Pn	05 06 06.6	+0.9
	0.5nm,0.3s,baz=194,slow=6.0,SNR=17						
LPAZ				S	Sn	05 06 55.7	-3.1
	0.2nm,0.3s,baz=183,slow=4.2,SNR=4.0						
SIV	**San Ignacio**	**8.57**	**56**	P	Pn	05 06 57.8	-0.7
	1.0nm,0.3s,baz=243,slow=13,SNR=25						
PLCA	**Paso Flores**	**19.80**	**185**	P	P	05 09 17.5	+0.2
	0.1nm,0.3s,baz=342,slow=12,SNR=3.7						
BDFB	**Brasilia**	**20.11**	**78**	P	P	05 09 21.4	+0.5
	1.3nm,0.5s,baz=235,slow=18,SNR=4.1						
ROSC	**El Rosal**	**26.28**	**347**	LR	LR	05 22 42.1	
	comp=Z,40nm,18.6s,baz=26,slow=40						
TORD	**Torodi Ar. Bea**	**76.77**	**70**	P	P	05 16 34.8	0.0
	0.3nm,0.5s,baz=249,slow=5.7,SNR=3.2						

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*NEIC **11** 05:47:34.7, 4760S×16542E, h33km, ML4.1(WEL), After WEL.*
WEL 11 05:47:33.9±0.8, 4760S×16534E, h33km, ML4.1/9, Error ellipse: s-maj=9.2km s-min=5.0km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.71**	**33**	PN	Pn	05 48 00.1	-1.1
PYZ				SN	Sn	05 48 20.7	-1.1
APZ	**The Paps**	**1.96**	**68**	PN	Pn	05 48 03.8	-0.9
APZ				SN	Sn	05 48 25.9	-2.2
DCZ	**Deep Cove**	**2.47**	**31**	P	Pn	05 48 11.9	+0.2
DCZ	**Deep Cove**	**2.47**	**31**	PN	Pn	05 48 11.9	+0.2
WHZ	**Wether Hill Ro**	**2.48**	**47**	P	Pn	05 48 11.1	-0.7
WHZ				S	Sn	05 48 39.4	-1.5
WHZ	**Wether Hill Ro**	**2.48**	**47**	PN	Pn	05 48 11.1	-0.7
WHZ				SN	Sn	05 48 39.4	-1.5
SYZ	**Scrubby Hill**	**2.81**	**69**	PN	Pn	05 48 16.1	-0.3
MLZ	**Mavora Lakes**	**2.99**	**42**	P	Pn	05 48 18.3	-0.5
MLZ				S	Sn	05 48 52.9	-0.5
MLZ	**Mavora Lakes**	**2.99**	**42**	PN	Pn	05 48 18.3	-0.5
MLZ				SN	Sn	05 48 52.9	-0.5
TUZ	**Tuapeka**	**3.38**	**62**	P	Pn	05 48 23.9	-0.3
TUZ	**Tuapeka**	**3.38**	**62**	PN	Pn	05 48 23.9	-0.3
MSZ	**Milford Sound**	**3.44**	**32**	PN	Pn	05 48 27.4	+2.4
EAZ	**Earnscleugh**	**3.63**	**51**	P	Pn	05 48 27.2	-0.4
EAZ	**Earnscleugh**	**3.63**	**51**	PN	Pn	05 48 27.2	-0.5
WKZ	**Wanaka**	**3.77**	**44**	P	Pn	05 48 30.6	+1.0
WKZ	**Wanaka**	**3.77**	**44**	PN	Pn	05 48 30.6	+1.0
HHSZ	**Highcliff Hill**	**4.00**	**66**	PN	Pn	05 48 33.0	+0.3
JCZ	**Jackson Bay**	**4.26**	**35**	P	Pn	05 48 38.7	+2.4
JCZ	**Jackson Bay**	**4.26**	**35**	PN	Pn	05 48 38.7	+2.4
ODZ	**Otahua Downs**	**4.48**	**57**	P	Pn	05 48 37.1	-2.2
ODZ	**Otahua Downs**	**4.48**	**57**	PN	Pn	05 48 37.1	-2.2
LBZ	**Lake Benmore**	**4.66**	**48**	P	Pn	05 48 40.2	-1.6
LBZ	**Lake Benmore**	**4.66**	**48**	PN	Pn	05 48 40.2	-1.6
FOZ	**Fox Glacier**	**5.06**	**39**	P	Pn	05 48 49.7	+2.4
FOZ	**Fox Glacier**	**5.06**	**39**	PN	Pn	05 48 49.7	+2.3
PLWZ	**Palliser**	**9.29**	**53**	PN		05 46 38.4	

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*TEH **11** 05:48:48.2, 3438N×5404E, h6km, ML4.5*
*IDC **11** 05:50:24.3±0.9, 3428N×5390E, h0km, mb3.9/14, mb1 4.1/15, mb1mx4.0/25, mbtmp3.9/15, ML3.8/1, MS3.1/9, Ms1 3.1/9, ms1mx2.9/30, Error ellipse: s-maj=23.8km s-min=16.5km az=159.0*
*BJI **11** 05:50:25.5, 34.10N×5381E, h25km, mB4.9, mb4.7, Ms4.8, Msz4.5*
*ISCJB **11** 05:50:27.0±0.7, 3437N±002×5407E±003, h18km±6km, mb4.1/24, MS3.5/7, Error ellipse: s-maj=3.9km s-min=3.8km az=135.8*
*NEIC **11** 05:50:27.2, 3438N×5404E, h6km, mb4.1/6, ML4.3(THR), MN4.5(TEH), After TEH.*
*THR **11** 05:50:27.9±2.2, 3435N×5379E, h14km±15km, ML4.2*
*CSEM **11** 05:50:27.1±0.1, 3437N×5401E, h25km, mb4.0/3, Error ellipse: s-maj=1.7km s-min=1.2km az=34.0*
ISC 11 05:50:26.3±0.7, 3440N±002×5403E±003, h1km±5km, n107, σ1§02/118, mb4.1/24, MS3.5/7, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IANJ	**Anjilo**	**1.07**	**355**	*e*Pg	**Pg**	**05 50 46.0**	**-0.8**
IANJ				*e*Sg	**Sg**	**05 51 00.9**	**+0.3**
IANJ				*e*		05 51 07.1	
	comp=Z,82μm,0.1s						
IANJ	**Anjilo**	**1.07**	**355**	*e*Pg	**Pg**	**05 50 46.0**	**-0.8**
IANJ				*e*Sg	**Sg**	**05 51 00.9**	**+0.3**
ILAS	**Lasjerd**	**1.31**	**318**	Pg	**Pg**	**05 50 51.4**	**-0.1**
ILAS				Sg	**Sg**	**05 51 09.4**	**+0.8**
ILAS	**Lasjerd**	**1.31**	**318**	*e*Pg	**Pg**	**05 50 51.4**	**-0.1**
ILAS				*e*Sg	**Sg**	**05 51 09.5**	**+0.9**
ILAS				*e*		05 51 17.2	
	comp=Z,61μm,0.1s						
ILAS	**Lasjerd**	**1.31**	**318**	*e*Pg	**Pg**	**05 50 51.4**	**-0.1**
ILAS				*e*Sg	**Sg**	**05 51 09.5**	**+0.9**
ISFB	**Sefidab**	**1.48**	**269**	*e*Pg	**Pg**	**05 50 53.8**	**-0.9**
ISFB				*e*		05 51 15.9	
	comp=Z,22μm,0.1s						
ISHM	**Shahmirzad**	**1.52**	**337**	Pg	**Pg**	**05 50 54.7**	**-0.9**
ISHM				Sg	**Sg**	**05 51 15.7**	**+0.4**
ISHM	**Shahmirzad**	**1.52**	**337**	*e*Pg	**Pg**	**05 50 54.7**	**-0.9**
ISHM				*e*Sg	**Sg**	**05 51 15.8**	**+0.5**
ISHM				*e*		05 51 18.5	
	comp=Z,64μm,0.2s						
ISHM	**Shahmirzad**	**1.52**	**337**	*e*Pg	**Pg**	**05 50 54.7**	**-0.9**
ISHM				*e*Sg	**Sg**	**05 51 15.8**	**+0.5**
IFIR	**Firoozkooh**	**1.62**	**320**	*e*Pn	**Pn**	**05 50 55.7**	**-0.2**
IFIR				*e*Sn	**Sn**	**05 51 18.6**	**+1.2**
IFIR				*e*		05 51 20.3	
	comp=Z,74μm,0.2s						
IFIR	**Firoozkooh**	**1.62**	**320**	*e*Pn	**Pn**	**05 50 55.7**	**-0.2**
IFIR				*e*Sn	**Sn**	**05 51 18.6**	**+1.2**
NASN	**Na'in**	**1.90**	**213**	*e*Pg	**Pn**	**05 50 60.0**	**+0.2**
NASN				AML	AML	05 51 27.9	
	comp=E,2μm,0.1s						
NASN				AML	AML	05 51 28.7	
	comp=N,2μm,0.3s						
IALA	**Alasht**	**1.95**	**330**	*e*Pn	**Pn**	**05 51 00.1**	**-0.4**
IALA				*e*		05 51 30.7	
	comp=Z,58μm,0.3s						
IDMV	**Damavand**	**2.02**	**306**	Pn	**Pn**	**05 51 01.6**	**+0.2**
IDMV	**Damavand**	**2.02**	**306**	*e*Pn	**Pn**	**05 51 01.7**	**+0.3**
IDMV				*e*		05 51 38.0	
	comp=Z,36μm,0.2s						
IZEF	**Zefreh**	**2.07**	**224**	Pn	**Pn**	**05 51 01.7**	**-0.4**
IZEF				Sn	**Sn**	**05 51 28.3**	**-0.1**
IZEF	**Zefreh**	**2.07**	**224**	*e*Pn	**Pn**	**05 51 01.7**	**-0.4**
IZEF				*e*Sn	**Sn**	**05 51 28.4**	**0.0**
IZEF				*e*		05 51 37.4	
	comp=Z,52μm,0.2s						
IZEF	**Zefreh**	**2.07**	**224**	*e*Pn	**Pn**	**05 51 01.7**	**-0.4**
IZEF				*e*Sn	**Sn**	**05 51 28.4**	**0.0**
DAMV	**Damavand**	**2.09**	**307**	Pg	**Pn**	**05 51 02.0**	**-0.4**
DAMV	**Damavand**	**2.09**	**307**	*e*Pg	**Pn**	**05 51 02.5**	**+0.2**
DAMV				*e*Sg	**Sn**	**05 51 30.4**	**+1.5**
DAMV				AML	AML	05 51 39.5	
	comp=E,2μm,0.0s						
DAMV				AML	AML	05 51 39.6	
	comp=N,2μm,0.7s						
DAMV	**Damavand**	**2.09**	**307**	*e*Pg	**Pn**	**05 51 02.5**	**+0.1**
	SNR=90						
DAMV				*e*Sg	**Sn**	**05 51 30.4**	**+1.5**
	SNR=90						
IGLO	**Ghaloghah**	**2.10**	**356**	*e*Pn	**Pn**	**05 51 03.7**	**+1.1**
IGLO				*e*		05 51 46.2	
	comp=Z,32μm,0.4s						
ICHK	**Chekchek**	**2.18**	**172**	*e*Pn	**Pn**	**05 51 03.6**	**0.0**
ICHK				*e*		05 51 45.9	
	comp=Z,48μm,0.3s						
GHVR	**GHOM**	**2.26**	**273**	*e*Pg	**Pn**	**05 51 05.6**	**+0.9**
GHVR				AML	AML	05 51 47.5	
	comp=N,2μm,0.2s						
GHVR				AML	AML	05 51 48.6	
	comp=E,3μm,1.0s						
IPRN	**Peran**	**2.30**	**323**	Pn	**Pn**	**05 51 06.1**	**+0.8**
IPRN	**Peran**	**2.30**	**323**	*e*Pn	**Pn**	**05 51 06.2**	**+0.9**
IPRN				*e*		05 51 47.8	
	comp=Z,38μm,0.2s						
IKLH	**Kolahrood**	**2.31**	**243**	*e*Pn	**Pn**	**05 51 04.3**	**-1.1**
IKLH				*e*		05 51 42.0	
	comp=Z,43μm,0.1s						
IAFJ	**Afjeh**	**2.39**	**308**	Pn	**Pn**	**05 51 07.3**	**+0.8**
IAFJ	**Afjeh**	**2.39**	**308**	*e*Pn	**Pn**	**05 51 07.4**	**+0.9**
IAFJ				*e*		05 51 47.4	
	comp=Z,30μm,0.2s						
IGAR	**Gharneh**	**2.60**	**220**	*e*Pn	**Pn**	**05 51 11.2**	**+1.8**
IGAR				*e*		05 51 47.6	
	comp=Z,23μm,0.2s						
CHTH	**Charan**	**2.81**	**303**	Pn	**Pn**	**05 51 13.0**	**+0.6**
CHTH	**Charan**	**2.81**	**303**	*e*Pn	**Pn**	**05 51 12.8**	**+0.5**
THKV	**Tehran--Karaj**	**2.99**	**301**	*e*Pn	**Pn**	**05 51 15.5**	**+0.7**
THKV				AML	AML	05 52 07.7	
	comp=N,1μm,0.4s						
THKV				AML	AML	05 52 08.4	
	comp=E,1μm,0.7s						
THKV	**Tehran--Karaj**	**2.99**	**301**	*e*P	**Pn**	**05 51 15.0**	**+0.2**
THKV	**Tehran--Karaj**	**2.99**	**301**	*e*Pn	**Pn**	**05 51 15.5**	**+0.7**
	SNR=47						
IMHD	**Mahdasht**	**3.04**	**296**	*e*Pn	**Pn**	**05 51 15.5**	**0.0**
IMHD				*e*		05 52 07.0	
	comp=Z,9μm,0.1s						
IMEH	**Mehriz**	**3.04**	**171**	*e*Pn	**Pn**	**05 51 15.6**	**+0.1**
IMEH				*e*		05 52 12.5	
	comp=Z,13μm,0.2s						
IBAF	**Bafgh**	**3.09**	**155**	*e*Pn	**Pn**	**05 51 16.3**	**+0.2**
IBAF				*e*		05 52 13.6	
	comp=Z,12μm,0.3s						
IPIR	**Pirpir**	**3.13**	**238**	Pn	**Pn**	**05 51 18.5**	**+1.8**
IPIR	**Pirpir**	**3.13**	**238**	*e*Pn	**Pn**	**05 51 18.6**	**+1.9**
IPIR				*e*		05 52 12.3	
	comp=Z,12μm,0.2s						
ASAO	**Ashtian**	**3.31**	**274**	*e*Pn	**Pn**	**05 51 19.8**	**+0.6**
ASAO				AML	AML	05 52 17.8	
	comp=N,494nm,0.6s						
ASAO				AML	AML	05 52 19.3	
	comp=E,396nm,0.5s						
IRAZ	**Razeghan**	**3.52**	**288**	*e*Pn	**Pn**	**05 51 21.8**	**-0.2**
IRAZ				*e*		05 52 34.5	
	comp=Z,14μm,0.2s						
MRVT	**Maraveh tapeh**	**3.65**	**27**	*e*Pn	**Pb**	**05 51 28.1**	**-3.5**
ITEG	**Tejag**	**4.21**	**110**	*e*Pn	**Pn**	**05 51 31.3**	**-0.3**
IKRD	**Kardeh**	**4.35**	**56**	Pn	**Pb**	**05 51 43.1**	**-0.5**
IKRD	**Kardeh**	**4.35**	**56**	*e*Pn	**Pb**	**05 51 43.2**	**-0.4**
IKRD				*e*		05 53 20.6	
	comp=Z,2μm,0.4s						
IPAY	**Payeh**	**4.54**	**62**	*e*Pn	**Pn**	**05 51 35.9**	**-0.2**
IPAY				*e*		05 53 18.8	
	comp=Z,2μm,0.4s						
IKOO	**Kooshah**	**4.61**	**114**	*e*Pn	**Pn**	**05 51 36.8**	**-0.2**
IPAR	**Pars**	**4.62**	**191**	Pn	**Pn**	**05 51 36.8**	**-0.4**
IPAR	**Pars**	**4.62**	**191**	*e*Pn	**Pn**	**05 51 36.9**	**-0.3**
IPAR				*e*		05 53 05.5	
	comp=Z,2μm,0.4s						
IMOG	**Moghan**	**4.67**	**67**	*e*Pn	**Pn**	**05 51 37.7**	**-0.1**
IMOG				*e*		05 52 03.8	
	comp=Z,2μm,0.5s						
IMON	**Monand**	**4.85**	**103**	*e*Pn	**Pn**	**05 51 40.6**	**+0.3**
SHGR	**Shooshtar-Gavs**	**4.94**	**244**	*e*Pn	**Pn**	**05 51 41.1**	**-0.6**
ISRV	**Sarvestan**	**5.07**	**189**	Pn	**Pn**	**05 51 45.5**	**+2.2**
ISRV	**Sarvestan**	**5.07**	**189**	*e*Pn	**Pn**	**05 51 45.6**	**+2.3**
ISRV				*e*		05 53 23.8	
	comp=Z,2μm,0.5s						
IDAH	**Dahanechah**	**5.15**	**107**	*e*Pn	**Pn**	**05 51 44.3**	**-0.2**
IMYA	**Miami**	**5.33**	**67**	*e*Pn	**Pn**	**05 51 47.4**	**+0.5**
IDHR	**Dehrash**	**6.31**	**275**	*e*Pn	**Pn**	**05 52 00.5**	**0.0**
IDHR				*e*		05 54 06.1	
	comp=Z,2μm,0.5s						
QRN	**Al-Qurain**	**7.68**	**224**	*e*P	**Pn**	**05 52 18.7**	**-0.5**
NAY	**Al-Naaiem**	**7.73**	**230**	*e*P	**Pn**	**05 52 19.6**	**-0.3**
NAY				AML	AML	05 53 33.7	
	comp=Z,6.1nm,0.5s						
NAY	**Al-Naaiem**	**7.73**	**230**	*e*P	**Pn**	**05 52 19.6**	**-0.3**
RDF	**Al-Radifah**	**7.76**	**227**	*e*P	**Pn**	**05 52 19.4**	**-1.0**
RDF				AML	AML	05 53 31.6	
	comp=Z,12nm,0.5s						
BOQSS		**9.41**	**207**	P	**Pn**	**05 52 43.8**	**+0.8**
BTHS		**10.69**	**196**	P	**Pn**	**05 53 02.0**	**+1.5**
ASF	**Jabal al Asfar**	**14.50**	**266**	LR	LR	06 00 23.8	
	comp=Z,43nm,18.7s,baz=108,slow=42						
AKTK	**Aktyubinsk**	**16.29**	**9**	Pn	**Pn**	**05 54 14.8**	**-1.3**
AKTK				LR	LR	06 02 13.4	
AKTK	**Aktyubinsk**	**16.29**	**9**	Pn	**Pn**	**05 54 14.8**	**-1.3**
AKTO	**Aktyubinsk**	**16.29**	**9**	Pn	**Pn**	**05 54 14.8**	**-1.3**
	comp=Z,0.4nm,0.3s,baz=179,slow=13,SNR=12						
AKTO				LR	LR	06 02 13.4	
	comp=Z,82nm,18.2s,baz=24,slow=43						
EIL	**Elat**	**16.85**	**259**	LR	LR	06 02 13.7	
	comp=Z,53nm,18.5s,baz=30,slow=42						
AML	**Almayashu**	**17.24**	**58**	*e*Pn	**Pn**	**05 54 28.1**	**-0.1**
	comp=Z,17nm,1.2s						
AML	**Almayashu**	**17.24**	**58**	*e*Pn	**Pn**	**05 54 28.1**	**-0.1**
	comp=Z,17nm,1.2s						
EKS2	**Erkin-Say**	**17.49**	**56**	*e*P	**Pn**	**05 54 33.3**	**+2.1**
	comp=Z,11nm,1.1s						
EKS2	**Erkin-Say**	**17.49**	**56**	*e*P	**Pn**	**05 54 33.3**	**+2.0**
	comp=Z,11nm,1.1s						
UCH	**Uchtor**	**17.84**	**58**	*e*P	**Pn**	**05 54 36.7**	**+1.0**
	comp=Z,13nm,1.1s						
BRVK	**Borovoye**	**21.94**	**27**	*e*P	**P**	**05 55 22.6**	**+1.6**
	comp=Z,7.1nm,0.8s,mb4.2						
BRVK	**Borovoye**	**21.94**	**27**	*e*P	**P**	**05 55 22.6**	**+1.5**
	comp=Z,7.1nm,0.8s,mb4.2						
BVAR	**Borovoye Array**	**21.96**	**27**	P	**P**	**05 55 20.9**	**-0.3**
	comp=Z,8.6nm,0.6s,mb4.4,baz=210,slow=11,SNR=46						
MLR	**Muntele Rosu**	**24.09**	**306**	P	**P**	**05 55 41.8**	**-1.3**
	comp=Z,2.8nm,0.6s,mb3.9,baz=191,slow=3.7,SNR=6.4						
KURK	**Kurchatov**	**24.20**	**40**	*e*P	**P**	**05 55 46.5**	**+2.4**
	comp=Z,20nm,1.5s,mb4.3						
AKASG	**Malin Array Be**	**24.31**	**320**	P	**P**	**05 55 43.7**	**-1.4**
AKASG	**Malin Array Be**	**24.31**	**320**	P	**P**	**05 55 43.7**	**-1.4**
	comp=Z,1.1nm,0.6s,mb3.5,baz=129,slow=8.2,SNR=5.3						
AKBB	**Malin Array Si**	**24.31**	**320**	*e*P	**P**	**05 55 44.6**	**-0.5**
AKBB	**Malin Array Si**	**24.31**	**320**	*e*P	**P**	**05 55 44.6**	**-0.5**
MKAR	**Makanchi Array**	**24.63**	**51**	P	**P**	**05 55 47.6**	**-0.4**
	comp=Z,1.6nm,0.8s,mb3.6,baz=246,slow=9.2,SNR=7.9						
MKAR				LR	LR	06 06 53.8	
	comp=Z,46nm,21.1s,MS3.0,baz=177,slow=40						
WMQ	**Urumqi**	**27.60**	**60**	P	**P**	**05 56 18.0**	**+3.0**
WMQ				PP		05 57 05.0	
WMQ				S	**S**	**06 00 58.0**	**+0.7**
WMQ				SS		06 02 14.0	
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,56nm,3.0s						
WMQ				LR	LR		
	comp=N,78nm,10.0s						
WMQ				LR	LR		
	comp=E,68nm,9.0s						
ZALV	**Zalesovo Beam**	**29.13**	**38**	P	**P**	**05 56 28.5**	**0.0**
	comp=E,1.0nm,0.6s,mb3.8,baz=225,slow=9.4,SNR=4.5						
ZALV				LR	LR	06 10 07.5	
	comp=E,29nm,18.7s,MS2.9,baz=114,slow=40						
FINES	**FINESS Array B**	**32.41**	**335**	P	**P**	**05 56 56.1**	**-1.3**
	comp=E,1.7nm,0.9s,mb3.9,baz=132,slow=8.4,SNR=3.5						
GERES	**GERESS Array B**	**33.00**	**308**	P	**P**	**05 57 00.2**	**-2.5**
	comp=E,1.7nm,0.8s,mb4.0,baz=112,slow=11,SNR=5.7						
GERES				PcP	PcP	05 59 45.3	-1.2
	comp=E,0.8nm,0.5s,baz=116,slow=2.3,SNR=5.6						
GERES	**GERESS Array B**	**33.00**	**308**	PcP	PcP	05 59 45.3	-1.2
GTA	**Gaotai**	**36.65**	**68**	*e*P	**P**	**05 57 35.4**	**+1.1**
GTA				AP		05 57 38.1	
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.2						
BNI	**Bardonecchia**	**37.46**	**301**	*e*P	**P**	**05 57 41.7**	**+0.6**
	comp=Z,3.6nm,0.7s,mb4.3						
NB2	**NORSAR Subarra**	**38.

HHC			LR	LR		
	comp=N,280nm,13.7s,MS4.7					
HHC			LR	LR		
	comp=E,445nm,12.8s,MS4.7					
HHC			LR	LR		
	comp=Z,352nm,12.2s,MS4.5					
GYA	**Guiyang**	**45.65**	**85**	P	**P**	**05 58 48.9 +0.4**
GYA				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.8					
TORD	**Torodi Ar. Bea**	**51.74**	**259**	P	**P**	**05 59 32.9 -2.6**
	comp=Z,1.6nm,0.8s,mb4.0,baz=50,slow=7.7,SNR=11					
KSRS	**Korea Array**	**58.46**	**64**	P	**P**	**06 00 22.1 -1.8**
	comp=Z,1.6nm,0.6s,mb4.3,baz=277,slow=6.4,SNR=3.3					
DBIC	**Dimbokro**	**60.70**	**257**	LR	LR	06 28 33.3
	comp=Z,43nm,18.1s,MS3.6,baz=210,slow=38					
BOSA	**Boshof**	**68.33**	**207**	P	**P**	**06 01 26.6 -2.5**
	comp=Z,3.2nm,0.7s,mb4.4,baz=23,slow=7.7,SNR=4.6					
INK	**Inuvik**	**77.45**	**3**	P	**P**	**06 02 21.9 -0.9**
	comp=Z,0.4nm,0.5s,mb3.6,baz=47,slow=11,SNR=5.5					
YKA	**Yellowknife Ar**	**83.01**	**355**	P	**P**	**06 02 51.0 -1.8**
YKA	**Yellowknife Ar**	**83.01**	**355**	P	**P**	**06 02 51.0 -1.8**
	comp=Z,0.6nm,0.8s,mb3.7,baz=6.8,slow=5.9,SNR=9.7					

MOS ***11*** *05:54:06.1±1.0,2185N×14296E,h46km,mb5.0/30,Error ellipse: s-maj=11.7km s-min=7.2km az=84.0*
ISCJB ***11*** *05:54:06.7±0.2,2176N±005×14304E±004,h50km, mb4.8/87,MS4.3/37,Error ellipse: s-maj=6.6km s-min=4.8km az=3.9*
BJI ***11*** *05:54:06.5,2176N×14333E,h69km,mB5.0,mb4.7,Ms4.6, Msz4.4*
NEIC ***11*** *05:54:08.0±0.2,2176N×14302E,mb5.1/48,Error ellipse: s-maj=6.9km s-min=5.1km az=119.0*
GCMT ***11*** *05:54:08.0±0.2,2180N×143.16E,h12km,MW5.1/96, Moment Tensor Solution. s25,c30; s96,c153; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-5.91±.24; $M_{\theta\theta}$0.88±.13; $M_{\phi\phi}$5.02±.17; $M_{r\theta}$0.98±.42; $M_{\theta\phi}$-2.25±.10; $M_{r\phi}$0.97±.38; Best double couple: $M_0$6.11400×10^{16} NP1:ϕ_s325.00000°,δ44.00000°,λ-107.00000°. NP2: ϕ_s168.00000°,δ49.00000°,λ-74.00000°. Principal axes: T 6.0290, Plg2.0000°, Azm247.0000°; N 0.1650, Plg12.0000°, Azm337.0000°; P -6.2000, Plg78.0000°, Azm145.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***11*** *05:54:18.8±4.9,2174N×14290E,h152km±45km,mb4.0/17, mb1 4.1/18,mb1mx4.0/26,mbtmp3.9/18,MS4.2/24, Ms1 4.2/24,ms1mx4.1/31 Error ellipse: s-maj=20.0km s-min=10.3km az=84.0*

ISC 11 05:54:08.5±0.2,2177N±005×14306E±004,h52km, h52km±.7km:pP-P,n191,σ0s93/180,mb4.8/87,MS4.3/37, 1C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
GUMO	**Guam**	**8.31**	**168**	LR	LR	05 59 12.4	
	comp=Z,824nm,19.4s,baz=22,slow=35						
JHJ	**Hachijo jima 2**	**11.67**	**346**	LR	LR	06 01 20.1	
	comp=Z,1μm,19.1s,baz=143,slow=36						
JOW	**Kunigami**	**14.39**	**293**	LR	LR	06 02 16.0	
	comp=Z,2μm,19.6s,baz=0.1,slow=34						
MJAR	**Matsushiro Arr**	**15.31**	**345**	P	**Pn**	**05 57 48.5 +7.2**	
	0.5nm,0.3s,baz=155,slow=15,SNR=3.4						
MJAR				LR	LR	06 03 24.7	
	comp=Z,1μm,18.1s,baz=165,slow=36						
JNU	**Nakatsue**	**15.63**	**319**	LR	LR	06 03 41.5	
	comp=Z,234nm,18.8s,baz=126,slow=36						
KSRS	**Korea Array**	**20.39**	**323**	P	**P**	**05 58 44.6 +3.6**	
	6.0nm,0.9s,baz=142,slow=11,SNR=20						
KSRS				LR	LR	06 05 45.3	
	comp=Z,644nm,18.2s,MS4.0,baz=141,slow=34						
SSE	**Sheshan**	**21.64**	**300**	P	**P**	**05 58 55.4 +0.8**	
SSE				AP		05 59 07.0	
SSE				AMB	AMB		
	comp=Z,28nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,134nm,6.6s						
SSE				LR	LR		
	comp=N,291nm,16.1s,MS4.0						
SSE				LR	LR		
	comp=E,412nm,16.1s,MS4.0						
SSE				LR	LR		
	comp=Z,604nm,16.1s,MS4.1						
ASAJ	**Asahikawa**	**22.29**	**359**	LR	LR	06 07 13.8	
	comp=Z,363nm,20.0s,MS3.8,baz=2.2,slow=35						
QZH	**Quanzhou**	**22.67**	**283**	P	**P**	**05 59 05.7 +0.1**	
QZH				S	**S**	**06 03 07.0 -3.5**	
QZH				AMB	AMB		
	comp=Z,1μm,2.8s,mb5.8						
QZH				LR	LR		
	comp=Z,1μm,21.4s,MS4.4						
VLA	**Vladivostok**	**23.24**	**339**	*e*P	**P**	**05 59 09.4 -1.9**	
VLA				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.6						
NJ2	**Nanjing**	**23.84**	**301**	*e*P	**P**	**05 59 17.6 +0.6**	
NJ2				AP		05 59 28.5	
NJ2				PP		05 59 52.0	
NJ2				S	**S**	**06 03 27.0 -2.3**	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,350nm,4.7s						
NJ2				LR	LR		
	comp=N,1μm,19.0s,MS4.4						
NJ2				LR	LR		
	comp=E,850nm,21.5s,MS4.4						
NJ2				LR	LR		
	comp=Z,850nm,21.4s,MS4.2						
DL2	**Dalian**	**25.08**	**318**	⇑P	**P**	**05 59 28.2 0.0**	
DL2				S	**S**	**06 03 53.7 +4.7**	
DL2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.5						
DL2				AMB	AMB		
	comp=Z,160nm,4.5s						
DL2				LR	LR		
	comp=N,190nm,12.9s,MS4.0						
DL2				LR	LR		
	comp=E,240nm,15.2s,MS4.0						
DL2				LR	LR		
	comp=Z,190nm,17.1s,MS3.7						
YSS	**Yuzh-Sakhalins**	**25.13**	**360**	*i* P	**P**	**05 59 27.9 -0.6**	
YSS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.3						
YSS	**Yuzh-Sakhalins**	**25.13**	**360**	*e*P	**P**	**05 59 29.7 +1.2**	
	comp=Z,21nm,1.3s,mb4.5						
MDJ	**Mudanjiang**	**25.35**	**337**	P	**P**	**05 59 31.2 +0.6**	
MDJ				AP	pP	05 59 42.4 -1.3	
MDJ				PCP	PcP	06 03 01.9 -0.2	
MDJ				S	**S**	**06 03 55.6 +2.4**	
MDJ				PCS	PcS	06 06 43.1 +0.7	
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
MDJ				AMB	AMB		
	comp=Z,73nm,5.5s						
MDJ				LR	LR		
	comp=N,228nm,17.6s,MS4.1						
MDJ				LR	LR		
	comp=E,470nm,18.8s,MS4.1						
MDJ				LR	LR		
	comp=Z,525nm,17.6s,MS4.1						
WHN	**Wuhan**	**27.15**	**295**	*e*P	**P**	**05 59 47.4 +0.4**	
WHN				LR	LR		
	comp=N,627nm,9.5s						
WHN				LR	LR		
	comp=E,983nm,9.5s						
WHN				LR	LR		
	comp=Z,1μm,13.4s,MS4.6						
KLR	**Kul'dur**	**28.84**	**345**	*e*P	**P**	**05 59 57.0 -4.8**	
KLR				MLR	MLR		
	comp=N,500nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=E,700nm,13.0s,MS4.5						
KLR				MLR	MLR		
	comp=Z,2μm,13.0s,MS4.8						
QIZ	**Qiongzhong**	**31.22**	**271**	P	**P**	**06 00 25.9 +2.7**	
QIZ				S	**S**	**06 05 30.7 +4.6**	
QIZ				AMB	AMB		
	comp=Z,14nm,2.2s,mb4.4						
QIZ				LR	LR		
	comp=E,467nm,21.3s						
QIZ				LR	LR		
	comp=Z,645nm,24.0s,MS4.2						
XAN	**Xi'an**	**32.40**	**300**	P	**P**	**06 00 31.4 -2.1**	
XAN				AP	pP	06 00 47.0 +0.2	
XAN				PP	PP	06 01 44.5 -2.9	
XAN				S	**S**	**06 05 47.0 +2.7**	
XAN				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.0						
XAN				AMB	AMB		
	comp=Z,80nm,5.8s						
XAN				LR	LR		
	comp=N,291nm,12.9s,MS4.4						
XAN				LR	LR		
	comp=E,471nm,17.1s,MS4.4						
XAN				LR	LR		
	comp=Z,695nm,16.3s,MS4.4						
HHC	**Hu-ho-hao-te**	**32.70**	**313**	*e*P	**P**	**06 00 37.4 +1.4**	
HHC				AP	pP	06 00 49.3 0.0	
HHC				PP	PP	06 01 48.0 -2.6	
HHC				PCP	PcP	06 03 22.7 +2.0	
HHC				S	**S**	**06 05 49.2 +0.4**	
HHC				SCP	ScP	06 07 01.3 +0.8	
HHC				SS	SS	06 07 48.3 -23	
HHC				AMB	AMB		
	comp=Z,31nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,144nm,5.2s						
HHC				LR	LR		
	comp=N,580nm,15.3s,MS4.9						
HHC				LR	LR		
	comp=E,2μm,14.7s,MS4.9						
HHC				LR	LR		
	comp=Z,692nm,13.3s,MS4.5						
PET	**Petropavlovsk**	**33.42**	**17**	*e*P	**P**	**06 00 46.7 +4.6**	
PET				*e*S	**S**	**06 06 05.5 +5.9**	
PET				MLR	MLR		
	comp=Z,300nm,13.0s,MS4.2						
GYA	**Guiyang**	**33.47**	**285**	P	**P**	**06 00 43.1 +0.2**	
GYA				AP	pP	06 00 57.4 +1.1	
GYA				PP	PP	06 01 57.2 -2.1	
GYA				PCP	PcP	06 03 24.6 +1.4	
GYA				S	**S**	**06 05 58.3 -2.8**	
GYA				SCP	ScP	06 07 03.8 +0.4	
GYA				PCS	PcS	06 07 09.3 +0.3	
GYA				SS	SS	06 08 06.2 -21	
GYA				SCS	ScS	06 11 03.1 -1.6	
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,160nm,4.4s						
GYA				LR	LR		
	comp=N,510nm,18.6s,MS4.4						
GYA				LR	LR		
	comp=E,510nm,18.4s,MS4.4						
GYA				LR	LR		
	comp=Z,410nm,19.2s,MS4.2						
KAPI	**Kappang**	**35.07**	**223**	P	**P**	**06 00 56.2 -0.6**	
	comp=Z,19nm,1.1s,mb4.9,baz=65,slow=7.3,SNR=4.1						
CD2	**Chengdu**	**36.22**	**293**	*e*P	**P**	**06 01 07.4 +0.8**	
CD2				AP	pP	06 01 19.5 -0.5	
CD2				PP	PP	06 02 32.3 +2.6	
CD2				PCP	PcP	06 03 33.2 +2.1	
CD2				S	**S**	**06 06 43.0 -0.3**	
CD2				PCS	PcS	06 07 19.1 +0.3	
CD2				SS	SS	06 09 09.0 -14	
CD2				SCS	ScS	06 11 18.8 -0.5	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,70nm,4.5s						
CD2				LR	LR		
	comp=N,1μm,16.6s,MS4.9						
CD2				LR	LR		
	comp=E,1μm,18.0s,MS4.9						
CD2				LR	LR		
	comp=Z,1μm,18.0s,MS4.8						
LZH	**Lanzhou**	**36.91**	**301**	*e*P	**P**	**06 01 13.5 +1.1**	
LZH				AP	pP	06 01 26.0 +0.2	
LZH				PP	PP	06 02 39.5 +2.3	
LZH				*e*S	**S**	**06 06 54.2 +0.5**	
LZH				*e*SS	SS	06 09 23.7 -13	
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,143nm,5.3s						
LZH				LR	LR		
	comp=E,879nm,13.2s						
LZH				LR	LR		
	comp=Z,998nm,17.4s,MS4.7						
BATI	**Kupang**	**37.04**	**213**	LR	LR	06 17 16.2	
	comp=Z,334nm,18.9s,MS4.2,baz=115,slow=37						
KMI	**Kunming**	**37.05**	**283**	P	**P**	**06 01 14.8 +1.1**	
KMI				AP	pP	06 01 27.3 +0.2	
KMI				PP	PP	06 02 41.2 +2.4	
KMI				S	**S**	**06 06 55.2 -0.8**	
KMI				SS	SS	06 09 25.1 -15	
KMI				SCS	ScS	06 11 22.5 -1.6	
KMI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,157nm,5.6s						
KMI				LR	LR		
	comp=N,277nm,18.8s,MS4.3						
KMI				LR	LR		
	comp=E,366nm,16.1s,MS4.3						
KMI				LR	LR		
	comp=Z,410nm,18.8s,MS4.2						
CLNS	**Chul'man**	**37.49**	**344**	*e*P	**P**	**06 01 23.7 +6.7**	
CLNS				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.7s						
MA2	**Magadan**	**38.17**	**6**	*e*P	**P**	**06 01 22.3 -0.4**	
MA2				pmax	pmax		
	comp=Z,18nm,1.8s,mb4.5						
SONM	**Songino Array**	**39.21**	**320**	P	**P**	**06 01 31.3 -0.2**	
	comp=Z,3.5nm,0.9s,mb4.1,baz=123,slow=8.5,SNR=12						
GTA	**Gaotai**	**40.74**	**306**	⇓P	**P**	**06 01 44.9 +0.5**	
GTA				AP	pP	06 02 00.0 +2.0	
GTA				PP	PP	06 03 22.3 +3.3	
GTA				S	**S**	**06 07 50.7 -0.5**	
GTA				SS	SS	06 10 46.8 -6.6	
GTA				AMB	AMB		
	comp=Z,7.0nm,1.5s,mb4.1						
GTA				AMB	AMB		
	comp=Z,144nm,5.3s						
GTA				LR	LR		
	comp=N,348nm,17.1s,MS4.4						
GTA				LR	LR		
	comp=E,347nm,17.5s,MS4.4						
GTA				LR	LR		
	comp=Z,411nm,18.6s,MS4.3						
YAK	**Yakutsk**	**41.28**	**350**	*e*P	**P**	**06 01 46.4 -2.1**	
YAK				pmax	pmax		
	comp=Z,20nm,0.7s,mb4.9						
CHTO	**Chiang Mai**	**41.38**	**274**	*e*P	**P**	**06 01 50.9 +1.0**	
CHTO				pmax	pmax		
	comp=Z,16nm,1.4s,mb4.5						
CHTO	**Chiang Mai**	**41.38**	**274**	*e*P	**P**	**06 01 50.9 +1.0**	
	comp=Z,16nm,1.4s,mb4.5						
SEY	**Seymchan**	**41.63**	**6**	*i* P	**P**	**06 01 50.3 -1.0**	
CTA	**Charters Tower**	**41.72**	**175**	*e*P	**P**	**06 01 53.2 +0.7**	
	comp=Z,20nm,1.2s,mb4.6						
CTA	**Charters Tower**	**41.72**	**175**	*e*P	**P**	**06 01 53.2 +0.7**	
CTA				pmax	pmax		
	comp=Z,20nm,1.2s						
CTA	**Charters Tower**	**41.72**	**175**	P	**P**	**06 01 53.1 +0.6**	
	comp=Z,23nm,1.1s,mb4.7,baz=296,slow=4.4,SNR=6.3						
CTA				LR	LR	06 18 23.5	
	comp=Z,221nm,21.8s,MS4.0,baz=148,slow=35						
CTAO	**Charters Tower**	**41.72**	**175**	*e*P	**P**	**06 01 53.2 +0.7**	
CTAO				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.9						
CTAO	**Charters Tower**	**41.72**	**175**	*e*P	**P**	**06 01 53.1 +0.7**	
	comp=Z,32nm,1.0s,mb4.9						
ZAK	**Zakamensk**	**42.22**	**322**	*e*P	**P**	**06 01 55.6 -0.7**	
ZAK				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**42.31**	**192**	P	**P**	**06 01 57.0 -0.3**	
	comp=Z,152nm,1.2s,mb5.5,SNR=5.0						
WRAB	**Tennant Creek**	**42.31**	**192**	⇑*i*P	**P**	**06 01 57.2 -0.1**	
WRAB	**Tennant Creek**	**42.31**	**192**	*e*P	**P**	**06 01 57.2 -0.2**	
	comp=Z,26nm,0.9s,mb4.9						
WB2	**Warramunga Arr**	**42.32**	**192**	*e*P	**P**	**06 01 56.5 -0.9**	
WRA	**Warramunga Arr**	**42.32**	**192**	P	**P**	**06 01 56.7 -0.7**	
	comp=Z,20nm,1.1s,mb4.7,baz=14,slow=8.7,SNR=31						
WRA				LR	LR	06 19 14.8	
	comp=Z,290nm,18.6s,MS4.2,baz=45,slow=35						
FITZ	**Fitzroy Crossi**	**43.14**	**205**	*e*P	**P**	**06 02 02.7 -1.4**	
	comp=Z,6.6nm,0.9s,mb4.4						
MOY	**Mondy**	**44.09**	**323**	*e*P	**P**	**06 02 18.0 +6.6**	
ASAR	**Alice Springs**	**46.03**	**192**	P	**P**	**06 02 26.3 -0.8**	
	comp=Z,2.7nm,0.6s,mb4.4,baz=17,slow=12,SNR=38						
PSI	**Prapat**	**46.82**	**253**	P	**P**	**06 02 33.1 -0.4**	
	comp=Z,9.8nm,0.9s,mb4.8,baz=78,slow=9.3,SNR=4.3						
BILL	**Bilibino**	**48.47**	**11**	*i* P	**P**	**06 02 45.3 -0.3**	
BILL				pmax	pmax		
	comp=Z,13nm,1.9s,mb4.6						
WMQ	**Urumqi**	**50.44**	**309**	P	**P**	**06 03 02.0 +1.0**	
WMQ				AP	pP	06 03 15.0 0.0	
WMQ				PP	PP	06 04 59.0 +2.1	
WMQ				S	**S**	**06 10 11.0 +0.1**	
WMQ				SS	SS	06 13 42.0 -3.1	
WMQ				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,78nm,4.0s						
WMQ				LR	LR		
	comp=N,169nm,15.0s,MS4.3						
WMQ				LR	LR		
	comp=E,112nm,14.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,142nm,14.0s,MS4.1						
TIXI	**Tiksi**	**50.57**	**354**	*e*P	**P**	**06 02 59.6 -1.9**	
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.9s,mb4.4						
TIXI	**Tiksi**	**50.57**	**354**	*e*P	**P**	**06 03 01.0 -0.5**	
ARMA	**Armidale**	**52.53**	**171**	*e*P	**P**	**06 03 18.1 +1.4**	
	comp=Z,1.0nm,1.2s						
STKA	**Stephens Creek**	**53.36**	**182**	*e*P	**P**	**06 03 21.9 -0.8**	
	comp=Z,7.7nm,0.9s,mb4.6						
STKA	**Stephens Creek**	**53.36**	**182**	P	**P**	**06 03 22.0 -0.6**	
	comp=Z,7.2nm,1.0s,mb4.6,baz=1.5,slow=6.8,SNR=8.1						
STKA				LR	LR	06 25 29.5	
	comp=Z,234nm,18.2s,MS4.3,baz=22,slow=35						
ZAA0	**Zalesovo Array**	**54.08**	**322**	*e*P	**P**	**06 03 26.2 -1.6**	
ZALV	**Zalesovo Beam**	**54.08**	**322**	P	**P**	**06 03 26.8 -1.0**	
	comp=Z,2.6nm,0.7s,mb4.3,baz=96,slow=7.4,SNR=11						
ZALV				LR	LR	06 27 15.6	
	comp=Z,212nm,19.4s,MS4.2,baz=94,slow=37						
ZAL	**Zalesovo**	**54.09**	**322**	P	**P**	**06 03 26.8 -1.1**	
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**	**06 03 30.4 -1.0**	
	comp=Z,1.9nm,0.9s,mb4.1,baz=91,slow=8.6,SNR=7.4						
MKAR				LR	LR	06 27 23.9	
	comp=Z,220nm,19.6s,MS4.2,baz=172,slow=36						
NVS	**Novosibirsk**	**55.18**	**322**	*e*P	**P**	**06 03 33.9 -1.8**	
NVS				pmax	pmax		
	comp=N,20nm,1.7s						
NVS				pmax	pmax		
	comp=Z,28nm,1.7s,mb5.0						
NVS				pmax	pmax		
	comp=E,30nm,1.9s						
KURK	**Kurchatov**	**57.34**	**317**	*e*P	**P**	**06 03 49.9 -1.3**	
SVW2	**Sparrevohn**	**57.41**	**30**	*e*P	**P**	**06 03 51.6 +0.1**	
SVW2				*ep*P	pP	06 04 04.8 -0.9	
TTA	**Tatalina**	**57.69**	**28**	*e*P	**P**	**06 03 52.7 -0.8**	
KDAK	**Kodiak Island**	**58.21**	**35**	*ep*P	pP	06 04 11.7 +0.3	
TKM2	**Tokmak 2**	**59.21**	**308**	*e*P	**P**	**06 04 05.0 +0.6**	
TKM2				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.8						
TKM2	**Tokmak 2**	**59.21**	**308**	*e*P	**P**	**06 04 05.0 +0.6**	
	comp=Z,13nm,1.2s,mb4.8						
IMA2	**Indian Mountai**	**59.52**	**25**	*e*P	**P**	**06 04 06.6 +0.5**	
IMA2				*ep*P	pP	06 04 20.2 -0.2	
FRU	**Bishkek**	**59.93**	**308**	*e*P	**P**	**06 04 10.0 +0.6**	
FRU				pmax	pmax		
	comp=Z,30nm,2.0s,mb5.0						
UCH	**Uchtor**	**60.04**	**307**	*e*P	**P**	**06 04 11.0 +0.9**	
	comp=Z,21nm,1.3s,mb5.0						
PMR	**Palmer**	**60.55**	**31**	*e*P	**P**	**06 04 11.9 -1.4**	
PMR				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
PMR	**Palmer**	**60.55**	**31**	*e*P	**P**	**06 04 11.9 -1.4**	
	comp=Z,4.0nm,0.9s,mb4.5						
EKS2	**Erkin-Say**	**60.56**	**308**	*e*P	**P**	**06 04 14.2 +0.5**	
	comp=Z,7.0nm,1.1s,mb4.7						
AML	**Almayashu**	**60.65**	**307**	*e*P	**P**	**06 04 15.6 +1.2**	
	comp=Z,8.8nm,1.0s,mb4.8						
SML	**Sawmill**	**60.96**	**30**	*e*P	**P**	**06 04 16.1 +0.1**	
SML				*e**PP	pP	06 04 30.0 -0.3	
MCK	**McKinley**	**60.98**	**28**	*e*P	**P**	**06 04 16.2 0.0**	
MCK				*e**PP	pP	06 04 29.9 -0.6	
MCK				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
MCK	**McKinley**	**60.98**	**28**	*e*P	**P**	**06 04 16.2 0.0**	
	comp=Z,12nm,1.1s,mb4.9						
MCK				*ep*P	pP	06 04 29.9 -0.6	
COLA	**College**	**61.64**	**27**	*e*P	**P**	**06 04 21.5 +0.9**	
COLA				*e**PP	pP	06 04 36.8 +1.9	
COLA				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.7						
COLA	**College**	**61.64**	**27**	*e*P	**P**	**06 04 21.5 +1.0**	
	comp=Z,5.8nm,1.0s,mb4.7						
COLA				*ep*P	pP	06 04 36.8 +1.9	
BVAR	**Borovoye Array**	**62.54**	**319**	P	**P**	**06 04 26.4 -0.4**	
	comp=Z,6.0nm,0.8s,mb4.8,baz=95,slow=7.4,SNR=25						
BVAR				LR	LR	06 33 40.2	
	comp=Z,171nm,18.2s,MS4.3,baz=224,slow=38						
BRVK	**Borovoye**	**62.60**	**320**	*e*P	**P**	**06 04 27.0 -0.3**	
BRVK				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.9						
BRVK	**Borovoye**	**62.60**	**320**	*e*P	**P**	**06 04 26.9 -0.3**	
	comp=Z,7.4nm,0.7s,mb4.9						
RAO	**Raoul Island**	**63.14**	**142**	LR	LR	06 26 24.6	
	comp=Z,120nm,20.5s,MS4.0,baz=107,slow=30						
EGAK	**Eagle**	**64.47**	**27**	*e*P	**P**	**06 04 40.6 +1.2**	
YKU2	**Yakutat**	**65.06**	**33**	*e*P	**P**	**06 04 42.4 -0.9**	
DAWY	**Dawson**	**65.21**	**28**	*e*P	**P**	**06 04 44.6 +0.4**	
DAWY				*ep*P	pP	06 04 58.6 -0.1	
SKAG	**Skagway**	**67.28**	**33**	*e*P	**P**	**06 04 55.1 -2.4**	
SKAG				*ep*P	pP	06 05 12.3 +0.3	
INK	**Inuvik**	**67.55**	**24**	*e*P	**P**	**06 04 59.0 -0.1**	
INK				*e**PP	pP	06 05 12.8 -0.8	
INK	**Inuvik**	**67.55**	**24**	P	**P**	**06 04 57.9 -1.2**	
	comp=Z,4.6nm,1.0s,mb4.5,baz=282,slow=6.5,SNR=13						
AKTO	**Aktyubinsk**	**70.44**	**317**	LR	LR	06 38 24.9	
	comp=Z,233nm,18.3s,MS4.5,baz=74,slow=38						
YKW3	**Yellowknife Ar**	**76.42**	**28**	*e*P	**P**	**06 05 52.3 0.0**	
YKW3				*ep*P	pP	06 06 06.6 -0.4	
YKA	**Yellowknife Ar**	**76.45**	**28**	*i* P	**P**	**06 05 51.0 -1.4**	
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**06 05 51.0 -1.4**	
YKA				LR	LR	06 37 38.8	
YKA	**Yellowknife Ar**	**76.45**	**28**	P	**P**	**06 05 51.0 -1.4**	
	comp=Z,1.9nm,0.6s,mb4.2,baz=293,slow=5.6,SNR=24						
YKA				LR	LR	06 37 38.8	
	comp=Z,131nm,21.0s,MS4.2,baz=225,slow=34						
PPT	**Papeete**	**76.67**	**115**	*e*LR	LR	06 29 04.5	
	comp=Z,374nm,23.2s,baz=310						
PPT	**Papeete**	**76.67**	**115**	LR	LR	06 32 30.9	
	comp=Z,312nm,19.6s,MS4.6,baz=283,slow=30						
PMOR	**Pomariorio Ree**	**76.92**	**112**	*e*P	**P**	**06 06 02.9 +7.1**	
	comp=Z,38nm,1.2s,mb5.2						
RES	**Resolute Bay**	**77.03**	**13**	*e*P	**P**	**06 05 54.7 -0.8**	
	comp=Z,529nm,1.0s						
RES				*ep*P	pP	06 06 10.0 -0.3	
TBI	**Tubuai**	**79.52**	**120**	*e*LR	LR	06 30 32.9	
	comp=Z,165nm,22.2s,baz=302						
NEW	**Newport**	**80.31**	**42**	*e*P	**P**	**06 06 13.8 -0.2**	
NEW				pmax	pmax		
	comp=Z,114nm

WVOR *ep*P pP 06 06 35.0 -0.2
VRSR Storozhevoye 81.58 322 *e*P **P 06 06 21.6 +0.9**
VRSR pmax pmax
comp=N,1.0nm,0.8s
VRSR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VRSR pmax pmax
comp=E,1.0nm,1.0s
CMB Columbia Colle 81.81 52 *e*P **P 06 06 22.0 -0.2**
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.7
CMB Columbia Colle 81.81 52 *e*P **P 06 06 22.0 -0.2**
comp=Z,11nm,1.0s,mb4.7
BSMT Bassoo Peak 81.91 42 *e*P **P 06 06 23.4 +0.9**
BSMT *ep*P pP 06 06 37.4 0.0
WALA Waterton Lakes 81.96 40 *e*P **P 06 06 23.3 +0.5**
comp=Z,96nm,2.6s,mb5.3
KIV Kislovodsk 82.29 314 *i* P **P 06 06 24.5 -0.1**
KIV pmax pmax
comp=Z,34nm,2.5s,mb4.8
GNI Garni 82.31 310 *e*P **P 06 06 25.1 +0.3**
GNI pmax pmax
comp=Z,11nm,1.4s
FINES FINESS Array B 83.07 334 *i* P **P 06 06 27.3 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 83.07 334 P **P 06 06 26.6 -1.7**
comp=Z,0.7nm,0.5s,mb3.9,baz=66,slow=6.5,SNR=3.8
FINES LR LR 06 48 46.5
comp=Z,116nm,19.1s,MS4.3,baz=20,slow=39
NVAR Mina Array Bea 83.19 51 P **P 06 06 29.7 +0.2**
NVAR Mina Array Bea 83.19 51 P **P 06 06 29.7 +0.3**
comp=Z,2.4nm,0.8s,mb4.3,baz=271,slow=5.8,SNR=14
CHMT Chamberlain Mo 83.25 42 *e*P **P 06 06 29.4 -0.2**
LRM Limekiln Ridge 84.21 43 *e*P **P 06 06 34.7 +0.2**
HRY Holter Researc 84.22 42 *e*P **P 06 06 34.6 +0.1**
DLMT Dillon 84.31 43 *e*P **P 06 06 35.5 +0.5**
comp=Z,86nm,2.3s,mb5.5
BOZ Bozeman (W) 84.81 43 *e*P **P 06 06 36.7 -0.8**
BOZ pmax pmax
comp=Z,15nm,1.6s,mb4.9
BOZ Bozeman (W) 84.81 43 *e*P **P 06 06 36.7 -0.8**
comp=Z,15nm,1.6s,mb4.9
EGMT Eagleton 84.90 40 *e*P **P 06 06 38.7 +0.8**
comp=Z,112nm,2.4s,mb5.6
TPNV Topopah Spring 85.27 52 *e*P **P 06 06 39.4 -0.6**
TPNV pmax pmax
comp=Z,71nm,1.8s,mb5.5
TPNV Topopah Spring 85.27 52 *e*P **P 06 06 39.4 -0.6**
comp=Z,71nm,1.8s,mb5.5
QLMT Earthquake Lak 85.29 43 *e*P **P 06 06 40.5 +0.6**
GSC Goldstone 85.51 54 *e*P **P 06 06 41.7 +0.5**
GSC *e**PP pP 06 06 56.0 -0.2
GSC pmax pmax
comp=Z,46nm,1.9s,mb5.4
GSC Goldstone 85.51 54 *e*P **P 06 06 41.7 +0.5**
comp=Z,46nm,1.9s,mb5.4
GSC *ep*P pP 06 06 56.0 -0.2
YMR Madison River 85.66 43 *e*P **P 06 06 42.9 +1.1**
comp=Z,19nm,0.9s,mb5.3
HVU Hansel Valley 85.72 47 *e*P **P 06 06 42.4 +0.2**
HVU *e**PP pP 06 06 57.1 0.0
YNR Norris Junctio 85.82 43 *e*P **P 06 06 41.9 -0.6**
YNR *ep*P pP 06 06 57.1 -0.4
FFC Flin Flon 85.83 32 P **P 06 06 42.1 -0.3**
comp=Z,99nm,0.9s,mb6.0,SNR=8.1
FFC Flin Flon 85.83 32 *e*P **P 06 06 42.6 +0.2**
FFC *e**PP pP 06 06 56.8 -0.6
FFC pmax pmax
comp=Z,39nm,1.2s,mb5.5
FFC Flin Flon 85.83 32 *e*P **P 06 06 42.5 +0.2**
comp=Z,39nm,1.2s,mb5.5
FFC *ep*P pP 06 06 56.8 -0.5
YFT Old Faithful 85.84 44 *e*P **P 06 06 43.6 +1.0**
IMW Indian Meadow 86.02 44 *e*P **P 06 06 43.2 -0.4**
LKWY Lake 86.06 43 *e*P **P 06 06 46.6 +2.8**
LKWY pmax pmax
comp=Z,6.0nm,0.7s,mb4.9
LKWY Lake 86.06 43 *e*P **P 06 06 46.6 +2.8**
comp=Z,5.8nm,0.7s,mb4.9
FLWY Flagg Ranch 86.09 44 *e*P **P 06 06 44.7 +0.8**
comp=Z,26nm,1.1s,mb5.4
SPUT South Promonto 86.15 47 *e*P **P 06 06 43.8 -0.5**
TPAW Teton Pass 86.19 45 *e*P **P 06 06 45.3 +0.9**
comp=Z,57nm,1.9s,mb5.5
TPAW *ep*P pP 06 06 59.4 0.0
MOOW Moose Ponds 86.21 44 *e*P **P 06 06 45.1 +0.6**
comp=Z,76nm,2.3s,mb5.5
SHPR Sheep Range 86.25 52 *e*P **P 06 06 45.4 +0.5**
REDW Red Top Meadow 86.31 45 *e*P **P 06 06 45.8 +0.8**
comp=Z,92nm,2.5s,mb5.6
REDW *ep*P pP 06 07 00.2 +0.2
SNOW Snow King Moun 86.33 44 *e*P **P 06 06 45.9 +0.8**
comp=Z,1.5nm,0.6s,mb4.4
SNOW *ep*P pP 06 07 00.4 +0.3
LOHW Long Hollow 86.36 44 *e*P **P 06 06 46.2 +0.9**
comp=Z,58nm,2.3s,mb5.4
DUG Dugway 86.38 48 *e*P **P 06 06 45.2 -0.2**
DUG pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
DUG Dugway 86.38 48 *e*P **P 06 06 45.2 -0.2**
comp=Z,6.7nm,0.8s,mb4.9
PFO Pinyon Flat Ob 86.45 55 P **P 06 06 46.1 +0.2**
comp=Z,2.7nm,0.8s,mb4.5,baz=234,slow=2.4,SNR=3.6
HWUT Hardware Ranch 86.62 46 *e*P **P 06 06 46.5 -0.1**
comp=Z,20nm,1.3s,mb5.2
LDFC Landfair 86.87 54 *e*P **P 06 06 48.0 +0.1**
LDFC *ep*P pP 06 07 02.8 -0.1
ARUT Antelope Range 86.96 50 *e*P **P 06 06 47.9 -0.4**
NLU North Lily Min 86.99 48 *e*P **P 06 06 48.9 +0.5**
NLU *ep*P pP 06 07 02.5 -0.9
FCC Fort Churchill 87.03 26 *e*P **P 06 06 47.3 -0.9**
FCC pmax pmax
comp=Z,23nm,1.3s,mb5.2
FCC Fort Churchill 87.03 26 *e*P **P 06 06 47.3 -0.9**
comp=Z,23nm,1.3s,mb5.2
CCUT Cedar City 87.12 51 *e*P **P 06 06 49.4 +0.3**
JLU Jordanelle 87.14 47 *e*P **P 06 06 48.6 -0.5**
DAU Daniels Canyon 87.35 47 *e*P **P 06 06 48.6 -1.6**
AKASG Malin Array Be 87.38 324 P **P 06 06 46.6 -3.4**
comp=Z,0.2nm,0.3s,mb3.9,baz=47,slow=5.2,SNR=4.3
BW06 Boulder Array 87.43 45 *e*P **P 06 06 51.6 +1.1**
BW06 *ep*P pP 06 07 05.9 +0.4
MSU Marysvale 87.55 49 *e*P **P 06 06 51.4 -0.2**
GLA Glamis 87.92 55 *e*P **P 06 06 53.1 +0.1**
GLA *e**PP pP 06 07 07.9 -0.2
GLA pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
GLA Glamis 87.92 55 *e*P **P 06 06 53.1 +0.1**
comp=Z,8.8nm,0.9s,mb5.0
GLA *ep*P pP 06 07 07.9 -0.2
SRU San Rafael 88.44 48 *e*P **P 06 06 55.3 -0.1**
SRU *e**PP pP 06 07 09.5 -0.9
SRU pmax pmax
comp=Z,3.0nm,0.7s,mb4.6
SRU San Rafael 88.44 48 *e*P **P 06 06 55.3 0.0**
comp=Z,2.6nm,0.7s,mb4.6
SRU *ep*P pP 06 07 09.5 -0.9
NOA NORSAR Array B 88.84 339 LR LR 06 51 10.9
comp=Z,82nm,18.2s,MS4.2,baz=70,slow=38
WUAZ Wupatki 89.44 52 *e*P **P 06 07 00.7 +0.5**
comp=Z,6.4nm,0.8s,mb5.0
PHWY Pilot Hill 90.81 45 *e*P **P 06 06 59.5 -6.9**
SMCO Snowmass 90.85 47 *e*P **P 06 07 05.6 -1.0**
comp=Z,42nm,1.8s,mb5.5
TUC Tucson 91.31 54 *e*P **P 06 07 08.9 0.0**
TUC pmax pmax
comp=Z,22nm,1.8s,mb5.2
TUC Tucson 91.31 54 *e*P **P 06 07 08.9 -0.1**
comp=Z,22nm,1.8s,mb5.2
RKT Rikitea 91.40 114 *e*LR LR 06 35 58.3
comp=Z,329nm,35.5s
ISCO Idaho Springs 91.46 46 *e*P **P 06 07 10.6 +1.2**
ISCO *e**PP pP 06 07 24.4 -0.1
ISCO pmax pmax
comp=Z,34nm,2.0s,mb5.3
ISCO Idaho Springs 91.46 46 *e*P **P 06 07 10.6 +1.1**
comp=Z,34nm,2.0s,mb5.3
ISCO *ep*P pP 06 07 24.4 -0.1
AGMN Agassiz Refuge 92.64 35 *e*P **P 06 07 14.4 -0.3**
comp=Z,6.5nm,0.9s,mb5.1
AGMN *ep*P pP 06 07 28.7 -1.1
ANMO Albuquerque 93.27 50 *e*P **P 06 07 18.0 +0.1**
comp=Z,9.8nm,1.6s,mb5.0
ANMO *ep*P pP 06 07 33.1 +0.1

MNTX Cornudas Mount 95.65 53 *e*P **P 06 07 36.1 +7.2**
comp=Z,15nm,1.8s,mb5.1
MNTX *ep*P pP 06 07 43.6 -0.4
GERES GERESS Array B 96.47 329 LR LR 06 53 23.9
comp=Z,163nm,20.0s,MS4.5,baz=55,slow=37
TXAR Lajitas Array 98.11 54 LR LR 06 54 44.4
comp=Z,85nm,18.1s,MS4.3,baz=270,slow=37
SCHQ Schefferville 99.53 17 LR LR 06 51 09.0
comp=Z,136nm,20.3s,MS4.4,baz=42,slow=34
VNDA Vanda 99.70 176 LR LR 06 52 04.8
comp=Z,182nm,20.8s,MS4.6,baz=288,slow=35
TORD Torodi Ar. Bea 128.61 309 PKP PKPdf 06 13 08.3 -2.4
comp=Z,0.5nm,0.9s,baz=29,slow=3.3,SNR=2.9
PLCA Paso Flores 145.89 131 PKPbc PKPbc 06 13 41.5 -0.8
comp=Z,2.2nm,1.1s,baz=308,slow=7.9,SNR=2.9
LPAZ La Paz 150.05 85 *e*PKPbc PKPbc 06 13 55.3 +1.1
LPAZ *e*PKPab PKPab 06 14 01.4 +1.2
LPAZ La Paz 150.05 85 PKPbc PKPbc 06 13 54.4 +0.2
comp=Z,2.4nm,0.8s,baz=285,slow=2.9,SNR=7.5
CFAA Coronel Fontan 150.46 116 PKPbc PKPbc 06 13 52.9 -1.9
CFAA PKPab PKPab 06 14 00.8 -0.7
CFAA Coronel Fontan 150.46 116 PKPbc PKPbc 06 13 52.9 -1.9
comp=Z,0.1nm,0.6s,baz=180,slow=3.0,SNR=2.6
CFAA PKPab PKPab 06 14 00.8 -0.7
comp=Z,0.3nm,0.8s,baz=250,slow=3.8,SNR=5.3

NEIC ***11*** *05:56:01.4, 3446S×7209W, h33km, ML3.0(GUC), After GUC.*
GUC 11 05:56:01.4±0.6, 3446S×7209W, h33km±2km, MD3.7, ML3.0, 7C-8D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**0.76**	**48**	⇓*i*P	Pn	05 56 15.6	-0.2
LNV				*i* S	Sn	05 56 26.1	0.0
NICH	**Los Niches**	**0.89**	**127**	⇓*i*P	Pn	05 56 17.8	+0.1
NICH				*i* S	Sn	05 56 29.9	+0.5
SFDO	**San Fernando**	**0.90**	**100**	⇑*i*P	Pn	05 56 18.1	+0.4
SFDO				*i* S	Sn	05 56 29.8	+0.1
TACH	**Talagante**	**1.25**	**50**	⇓*i*P	Pn	05 56 23.1	+0.5
TACH				*i* S	Sn	05 56 40.7	+2.3
CACH	**El Canelo**	**1.28**	**75**	*e*P	Pn	05 56 24.4	+1.3
CACH				*i* S	Sn	05 56 42.2	+3.2
CHCH	**Chadas Angostu**	**1.30**	**67**	⇑*i*P	Pn	05 56 24.1	+0.8
CHCH				*i* S	Sn	05 56 41.8	+2.2
CICH	**Cipreses**	**1.39**	**85**	*e*P	Pn	05 56 25.5	+1.0
CICH				*i* S	Sn	05 56 44.1	+2.4
RCDM	**Rinconada Maip**	**1.44**	**48**	⇑*i*P	Pn	05 56 25.9	+0.7
RCDM				*i* S	Sn	05 56 44.9	+1.9
RCDM	**Rinconada Maip**	**1.44**	**48**	⇑*i*P	Pn	05 56 25.9	+0.7
RCDM				*i* S	Sn	05 56 44.9	+1.9
RCDM				AML	AML	05 56 48.4	
	comp=E,339nm,0.4s						
ANTU	**Antumapu**	**1.50**	**54**	⇑*i*P	Pn	05 56 27.4	+1.4
ANTU				*i* S	Sn	05 56 47.1	+2.5
ANTU	**Antumapu**	**1.50**	**54**	⇑*i*P	Pn	05 56 27.4	+1.4
ANTU				*i* S	Sn	05 56 47.1	+2.5
ANTU				AML	AML	05 56 50.0	
	comp=N,372nm,0.3s						
PCH	**Pirque**	**1.56**	**58**	⇑*i*P	Pn	05 56 28.2	+1.5
PCH				*i* S	Sn	05 56 48.8	+3.0
FSR	**Penalolen**	**1.63**	**53**	*e*P	Pn	05 56 29.1	+1.4
FSR				*i* S	Sn	05 56 50.6	+3.0
FSR	**Penalolen**	**1.63**	**53**	*e*P	Pn	05 56 29.1	+1.4
FSR				*i* S	Sn	05 56 50.6	+3.0
FSR				AML	AML	05 56 53.4	
	comp=E,232nm,0.3s						
SJCH	**San Jose de Ma**	**1.66**	**61**	*e*P	Pn	05 56 30.1	+1.9
SJCH				*i* S	Sn	05 56 51.4	+3.0
SJCH	**San Jose de Ma**	**1.66**	**61**	*e*P	Pn	05 56 30.1	+1.9
SJCH				*i* S	Sn	05 56 51.4	+3.0
SJCH				AML	AML	05 56 53.9	
	comp=N,250nm,0.3s						
CLCH	**Cerro Calan**	**1.67**	**51**	⇓*i*P	Pn	05 56 30.0	+1.6
CLCH				*i* S	Sn	05 56 52.2	+3.4
CLCH				AML	AML	05 56 59.2	
	comp=E,225nm,0.7s						
LMEL	**Las Melosas**	**1.68**	**69**	⇓*i*P	Pn	05 56 30.3	+1.8
LMEL				*i* S	Sn	05 56 52.3	+3.4
LMEL	**Las Melosas**	**1.68**	**69**	⇓*i*P	Pn	05 56 30.3	+1.8
LMEL				*i* S	Sn	05 56 52.3	+3.4
LMEL				AML	AML	05 56 57.0	
	comp=N,417nm,0.2s						
PEL	**Peldehue**	**1.76**	**42**	⇓*i*P	Pn	05 56 31.4	+1.8
PEL				*i* S	Sn	05 56 53.5	+2.7
PEL				AML	AML	05 56 57.9	
	comp=N,343nm,0.5s						
FCH	**Farellones**	**1.88**	**53**	⇓*i*P	Pn	05 56 33.2	+2.0
FCH				*i* S	Sn	05 56 57.2	+3.5
FCH				AML	AML	05 57 08.9	
	comp=N,146nm,0.2s						

ISCJB ***11*** *06:00:06.7±0.7, 1024N±005×8630W±004, h10km, mb4.1/12, Error ellipse: s-maj=8.9km s-min=4.1km az=35.4*
CASC ***11*** *06:00:07.7±1.8, 1030N×8623W, h3km±7km, MD4.0, ML3.7, mb4.3(NEIC)*
IDC ***11*** *06:00:10.5±1.0, 1139N×8557W, h0km, mb4.0/6, mb1 4.2/6, mb1mx3.9/20, mbtmp4.0/6, MS3.4/2, Ms1 3.4/2, ms1mx2.7/27, Error ellipse: s-maj=53.7km s-min=20.8km az=56.0*
NEIC ***11*** *06:00:19.1±2.2, 1116N×8575W, h79km±19km, mb4.3/6, Error ellipse: s-maj=33.1km s-min=17.1km az=58.0*
ISC 11 06:00:06.3±1.3, 1026N±005×8629W±005, h2km±7km, n49, σ1§03/48, mb4.1/12, 9C-3D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VCR	**Vista de Mar**	**0.66**	**102**	⇑*e*P	**Pg**	**06 00 21.0**	**+2.0**
2RIO	**Dos Rios de Up**	**1.07**	**76**	⇑*i*P	**Pg**	**06 00 26.6**	**-0.4**
2RIO				*e*S	**Sg**	**06 00 40.9**	**0.0**
SSNN	**San Juan del S**	**1.11**	**23**	⇑*i*P	**Pg**	**06 00 27.8**	**+0.2**
SSNN				*i*		06 00 51.4	
	comp=Z,2μm,0.2s						
CUI		**1.17**	**70**	*i* P	**Pg**	**06 00 28.1**	**-0.6**
CUI				*e*S	**Sg**	**06 00 43.0**	**-0.9**
JCR	**Jicaral**	**1.23**	**109**	*e*P	**Pg**	**06 00 29.3**	**-0.7**
MADN	**Villa Maderas**	**1.36**	**33**	⇑*i*P	**Pn**	**06 00 32.1**	**-0.2**
CONN	**Concepcion**	**1.45**	**27**	⇓*e*P	**Pn**	**06 00 33.0**	**-0.5**
FORC	**Fortuna**	**1.61**	**82**	⇓*e*P	**Pn**	**06 00 35.3**	**-0.5**
FORC				*e*S	**Sn**	**06 00 58.2**	**+1.2**
APON	**Apoyo**	**1.66**	**8**	*e*P	**Pn**	**06 00 36.4**	**0.0**
CRUN	**El Crucero**	**1.71**	**360**	*e*P	**Pn**	**06 00 37.8**	**+0.6**
TICN	**Ticuantepe**	**1.76**	**2**	⇓*e*P	**Pn**	**06 00 38.1**	**+0.2**
CGA2	**Cerro Gallo 2**	**1.81**	**98**	⇓*e*P	**Pn**	**06 00 38.3**	**-0.2**
TISN	**Laguna Tiscapa**	**1.87**	**1**	*e*P	**Pn**	**06 00 39.6**	**+0.3**
MGAN	**Managua**	**1.87**	**1**	⇑*e*P	**Pn**	**06 00 39.4**	**+0.1**
MGAN				*e*S	**Sn**	**06 01 04.3**	**+0.8**
XAVN	**Gruta Xavier**	**1.88**	**359**	*e*P	**Pn**	**06 00 39.6**	**+0.3**
CSAN		**1.92**	**356**	*e*P	**Pn**	**06 00 40.2**	**+0.3**
COPN	**Copaltepe**	**1.93**	**351**	*e*P	**Pn**	**06 00 40.2**	**+0.1**
PRS1	**Puriscal**	**1.97**	**98**	*e*P	**Pn**	**06 00 40.0**	**-0.6**
HUEN		**2.07**	**3**	*e*P	**Pn**	**06 00 41.8**	**-0.2**
HUEN				⇑*e*P		06 00 41.9	
MOMJ	**Momotombo**	**2.15**	**354**	*e*P	**Pn**	**06 00 43.5**	**+0.4**
LAJ	**Bijagual**	**2.17**	**100**	*e*P	**Pn**	**06 00 38.4**	**-5.0**
SJS	**Escuela Geolog**	**2.23**	**98**	*e*P	**Pn**	**06 00 43.9**	**-0.3**
LCR2	**La Lucha 2**	**2.31**	**103**	*e*P	**Pn**	**06 00 45.0**	**-0.4**
TEL3	**Telica 3**	**2.36**	**347**	*e*P	**Pn**	**06 00 46.7**	**+0.7**
TELN	**Telica**	**2.39**	**347**	*e*P	**Pn**	**06 00 47.9**	**+1.4**
URSC	**Urasca**	**2.51**	**99**	*e*P	**Pn**	**06 00 49.0**	**+0.9**
BUS	**Buena Vista**	**2.59**	**105**	*e*P	**Pn**	**06 00 50.0**	**+0.7**
BAR1		**3.11**	**109**	*e*P	**Pn**	**06 00 57.4**	**+1.1**
CNCH	**Conchagua**	**3.36**	**333**	⇓*e*P	x	06 01 08.7	
CNCH				*e*S	x	06 01 49.4	
TGUH	**Tegucigalpa,Un**	**3.89**	**346**	*e*P	**Pn**	**06 01 07.5**	**+0.4**
TEIG	**Tepich**	**10.09**	**349**	LR	LR	06 06 41.4	
	comp=Z,254nm,19.0s,baz=328,slow=43						
CHI2		**13.63**	**113**	*e*P	Px	06 00 48.0	
LAPE	**La Pedrera**	**14.78**	**99**	⇑*i*P	Px	06 00 24.8	
LAPE				*e*S	Sx	06 00 37.8	
ATAH	**Atahualpa**	**18.86**	**155**	LR	LR	06 10 56.2	
	comp=Z,110nm,19.7s,baz=188,slow=33						
OXF	**Oxford**	**24.31**	**354**	*e*P	**P**	**06 05 21.6**	**-3.5**
	comp=Z,19nm,1.0s,mb4.5						
PLAL	**Pickwick Lake**	**24.66**	**356**	*e*P	**P**	**06 05 23.9**	**-4.5**
	comp=Z,3.4nm,0.6s,mb4.0						
SWET	**Sewanee**	**24.84**	**1**	*e*P	**P**	**06 05 27.7**	**-2.4**
TXAR	**Lajitas Array**	**24.98**	**322**	P	**P**	**06 05 32.2**	**+0.8**
TXAR				PcP	PcP	06 09 09.3	+2.4
TXAR	**Lajitas Array**	**24.98**	**322**	P	**P**	**06 05 32.2**	**+0.8**
	comp=Z,2.2nm,0.6s,mb3.9,baz=140,slow=9.6,SNR=27						
TXAR				PcP	PcP	06 09 09.3	+2.4
	comp=Z,0.7nm,0.7s,baz=141,slow=5.8,SNR=5.8						
UALR	**University of**	**25.02**	**348**	*e*P	**P**	**06 05 28.8**	**-2.9**
	comp=Z,8.2nm,0.8s,mb4.3						
MIAR	**Mount Ida**	**25.07**	**346**	*e*P	**P**	**06 05 29.3**	**-2.9**
	comp=Z,8.7nm,0.8s,mb4.3						
WMOK	**Wichita Mounta**	**26.90**	**337**	*e*P	**P**	**06 05 47.8**	**-0.9**
	comp=Z,8.5nm,0.9s,mb4.3						
BINY	**Binghamton**	**33.07**	**14**	*e*P	**P**	**06 06 39.4**	**-4.0**
	comp=Z,3.9nm,0.7s,mb4.5						
SIV	**San Ignacio**	**36.11**	**136**	P	**P**	**06 07 16.2**	**+6.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=311,slow=9.0,SNR=10						
SIV				PcP	PcP	06 09 44.3	+8.2
	comp=Z,1.0nm,0.8s,baz=280,slow=6.1,SNR=4.6						
NVAR	**Mina Array Bea**	**40.09**	**320**	P	**P**	**06 07 46.2**	**+3.0**
	comp=Z,3.5nm,0.7s,mb4.2,baz=132,slow=7.0,SNR=9.4						
NVAR				PcP	PcP	06 09 51.1	+3.0
	comp=Z,0.9nm,0.7s,baz=121,slow=3.5,SNR=4.7						
ULM	**Lac du Bonnet**	**40.65**	**351**	P	**P**	**06 07 43.1**	**-4.6**
	comp=Z,1.3nm,0.7s,mb3.7,baz=175,slow=6.3,SNR=3.0						
SCHQ	**Schefferville**	**47.06**	**15**	P	**P**	**06 08 35.2**	**-3.9**
	comp=Z,2.6nm,0.8s,mb4.2,baz=221,slow=9.3,SNR=5.4						
YKA	**Yellowknife Ar**	**56.01**	**345**	P	**P**	**06 09 42.7**	**-3.3**
YKA	**Yellowknife Ar**	**56.01**	**345**	P	**P**	**06 09 42.7**	**-3.3**
	comp=Z,0.4nm,0.7s,mb3.6,baz=139,slow=7.1,SNR=9.0						

ISCJB ***11*** *06:17:14.8±1.4, 2309N±007×1428E±02, h116km±12km, mb4.0/14, Error ellipse: s-maj=25.8km s-min=11.7km az=178.5*
NEIC ***11*** *06:17:15.8±2.6, 2302N×14285E, h108km±24km, mb4.5/1, Error ellipse: s-maj=19.9km s-min=9.5km az=90.0*
IDC ***11*** *06:17:16.5±2.2, 2303N×14281E, h111km±18km, mb3.8/13, mb1 3.9/16, mb1mx3.8/23, mbtmp3.8/16, Error ellipse: s-maj=21.8km s-min=12.3km az=85.0*
ISC 11 06:17:13.4±1.6, 2301N±007×1429E±02, h86km±14km, n37, σ1§12/40, mb4.0/14, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**3.67**	**349**	P	**Pn**	**06 18 11.8**	**+4.0**
JHHJ				S	**Sn**	**06 18 52.0**	**+2.0**
CBIJ	**Chichi jima**	**4.12**	**351**	P	**Pn**	**06 18 18.8**	**+4.8**
CBIJ				S	**Sn**	**06 19 02.5**	**+1.4**
CBIJ	**Chichi jima**	**4.12**	**351**	P	**Pn**	**06 18 19.0**	**+5.0**
	65nm,0.3s,baz=159,slow=5.7,SNR=16						
CBIJ				S	**Sn**	**06 19 03.0**	**+2.0**
	99nm,0.3s,baz=280,slow=20,SNR=6.6						
BSO1	**Boso 1**	**11.72**	**352**	P	**Pn**	**06 19 56.7**	**-0.9**
BSO3	**Boso 3**	**11.94**	**350**	P	**Pn**	**06 19 59.9**	**-0.5**
BSO3				S	**Sn**	**06 22 07.3**	**-4.3**
BSO4	**Boso 4**	**12.15**	**350**	P	**Pn**	**06 20 02.9**	**-0.4**
BSO4				*e*S	**Sn**	**06 22 06.6**	**-10**
JOD2	**Odawara 2**	**12.66**	**345**	P	**Pn**	**06 20 09.2**	**-0.9**
JAO	**Obara**	**13.17**	**339**	P	**Pn**	**06 20 11.0**	**-5.9**
JHU	**Hanno**	**13.18**	**347**	P	**Pn**	**06 20 15.2**	**-1.8**
JYT	**Yasato**	**13.38**	**350**	P	**Pn**	**06 20 16.5**	**-3.2**
JRY	**Ryogami san**	**13.42**	**346**	P	**Pn**	**06 20 18.8**	**-1.4**
JRY				*e*S	**Sn**	**06 22 39.0**	**-8.7**
MJAR	**Matsushiro Arr**	**14.09**	**344**	P	**Pn**	**06 20 29.9**	**+1.0**
	1.2nm,0.3s,baz=144,slow=12,SNR=5.0						
KSRS	**Korea Array**	**19.34**	**322**	P	**Pn**	**06 21 34.1**	**+0.4**
	0.4nm,0.3s,baz=139,slow=12,SNR=13						
SONM	**Songino Array**	**38.19**	**320**	P	**P**	**06 24 25.9**	**+1.4**
	1.0nm,0.5s,mb3.9,baz=125,slow=4.3,SNR=6.1						
WB2	**Warramunga Arr**	**43.51**	**192**	*e*P	**P**	**06 25 08.6**	**+0.2**
WRA	**Warramunga Arr**	**43.51**	**192**	P	**P**	**06 25 08.9**	**+0.5**
	4.7nm,0.3s,mb4.7,baz=8.2,slow=7.8,SNR=112						
FITZ	**Fitzroy Crossi**	**44.22**	**204**	*e*P	**P**	**06 25 14.3**	**+0.1**
	2.6nm,0.3s,mb4.4						
ASAR	**Alice Springs**	**47.22**	**191**	P	**P**	**06 25 37.8**	**+0.1**
	1.4nm,0.6s,mb3.9,baz=18,slow=10,SNR=26						
MKAR	**Makanchi Array**	**53.65**	**312**	P	**P**	**06 26 24.8**	**-1.1**
	0.4nm,0.4s,mb3.8,baz=87,slow=9.9,SNR=13						
MKAR				PcP	PcP	06 27 30.5	-0.8
	0.4nm,0.7s,baz=66,slow=4.7,SNR=2.5						
STKA	**Stephens Creek**	**54.59**	**181**	P	**P**	**06 26 33.7**	**+0.8**
STKA	**Stephens Creek**	**54.59**	**181**	P	**P**	**06 26 33.7**	**+0.8**
	2.4nm,0.5s,mb4.5,baz=5.4,slow=7.1,SNR=9.5						
BVAR	**Borovoye Array**	**61.53**	**319**	P	**P**	**06 27 20.8**	**-0.4**
	1.7nm,0.3s,mb4.5,baz=97,slow=7.9,SNR=11						
INK	**Inuvik**	**66.46**	**24**	P	**P**	**06 27 55.0**	**+1.8**
INK	**Inuvik**	**66.46**	**24**	P	**P**	**06 27 55.0**	**+1.8**
	1.1nm,1.0s,mb3.7,baz=282,slow=4.6,SNR=5.8						
AKTK	**Aktyubinsk**	**69.45**	**317**	P	**P**	**06 28 12.7**	**+0.5**
AKTO	**Aktyubinsk**	**69.45**	**317**	P	**P**	**06 28 12.7**	**+0.5**
	1.2nm,0.7s,mb3.8,baz=107,slow=14,SNR=3.2						
YKA	**Yellowknife Ar**	**75.41**	**28**	P	**P**	**06 28 48.8**	**+1.4**
YKA	**Yellowknife Ar**	**75.41**	**28**	P	**P**	**06 28 48.8**	**+1.4**
	0.8nm,0.5s,mb3.7,baz=292,slow=5.9,SNR=10						
ARCES	**ARCESS Array B**	**77.61**	**341**	P	**P**	**06 28 59.7**	**-0.1**
ARCES	**ARCESS Array B**	**77.61**	**341**	P	**P**	**06 28 59.7**	**-0.1**
	4.4nm,0.9s,mb4.2,baz=40,slow=7.1,SNR=3.8						
JOF	**Joensuu**	**79.03**	**334**	*e*p	**P**	**06 29 03.9**	**-3.8**
FINES	**FINESS Array B**	**81.90**	**334**	P	**P**	**06 29 21.6**	**-1.5**
	0.7nm,0.4s,mb3.8,baz=58,slow=5.1,SNR=5.7						
NVAR	**Mina Array Bea**	**82.51**	**52**	P	**P**	**06 29 26.1**	**-0.6**
	0.5nm,0.7s,mb3.4,baz=272,slow=5.8,SNR=4.0						
TXAR	**Lajitas Array**	**97.47**	**54**	P	**P**	**06 30 37.3**	**-0.7**
	0.1nm,0.7s,mb3.4,baz=278,slow=6.3,SNR=2.6						
DBIC	**Dimbokro**	**136.84**	**309**	PKP	PKPdf	06 36 26.5	-0.4
	1.3nm,0.5s,baz=63,slow=2.3,SNR=3.8						
PLCA	**Paso Flores**	**146.79**	**130**	PKPbc	PKPbc	06 36 45.5	-0.1
	2.6nm,0.6s,baz=270,slow=3.1,SNR=9.6						
LPAZ	**La Paz**	**150.03**	**83**	PKPbc	PKPbc	06 36 56.3	+1.6
	1.0nm,0.6s,baz=20,slow=9.5,SNR=8.4						

ISCJB ***11*** *06:42:14.2±0.4, 1070N±003×6243W±002, h107km±5km, Error ellipse: s-maj=4.8km s-min=3.7km az=151.5*
FUNV ***11*** *06:42:15.6,

BIRV	**Birongo**	**3.79 267**	*e*P	**Pn**	**06 43 13.2**	**+1.5**
BIRV			*e*S	**Sn**	**06 43 54.1**	**-1.3**
TIOV	**TMO PEDROTE**	**3.94 267**	*e*P	**Pn**	**06 43 13.7**	**0.0**
MERV	**Las Mercedes**	**4.08 250**	⇓*i*P	**Pn**	**06 43 16.1**	**+0.4**
MERV			*e*S	**Sn**	**06 44 01.7**	**-0.7**
LLAV	**El Llanito**	**4.32 267**	*e*P	**Pn**	**06 43 19.5**	**+0.6**
OCUV	**OCUMARITO**	**4.35 263**	*e*P	**Pn**	**06 43 19.8**	**+0.5**
FDCV	**FORTIN DE LA C**	**4.46 268**	*e*P	**Pn**	**06 43 21.4**	**+0.7**
IVIV	**IVIC**	**4.49 267**	*e*P	**Pn**	**06 43 22.4**	**+1.2**
BOTV	**Botiquin**	**4.73 267**	*e*P	**Pn**	**06 43 24.6**	**+0.3**
PAUV	**EL PAUJM**	**4.77 264**	*e*P	**Pn**	**06 43 25.7**	**+0.7**
LUEV	**Luepa**	**4.92 169**	⇓*e*P	**Pn**	**06 43 26.4**	**-0.5**
LUEV			*e*S	**Sn**	**06 44 19.2**	**-3.4**
CAOV	**Caicara del Or**	**5.11 229**	⇓*e*P	**Pn**	**06 43 29.1**	**-0.4**
CAOV			*e*S	**Sn**	**06 44 24.6**	**-2.7**
TURV	**Turiamo**	**5.34 268**	*e*P	**Pn**	**06 43 32.4**	**-0.2**
BAUV	**El Baul**	**5.81 253**	⇓*e*P	**Pn**	**06 43 38.3**	**-0.7**
BAUV			*e*S	**Sn**	**06 44 40.6**	**-3.8**
TEPV	**Terepaima**	**6.71 264**	*e*P	**Pn**	**06 43 49.9**	**-1.3**
SANV	**Sanarito**	**7.11 261**	⇓*i*P	**Pn**	**06 43 56.5**	**-0.2**
SIQV	**Siquisique**	**7.26 270**	*e*P	**Pn**	**06 43 57.4**	**-1.4**
CURV	**Curarigua**	**7.45 265**	*e*P	**Pn**	**06 44 00.9**	**-0.5**
ELOV	**Elorza**	**7.89 243**	*e*P	**Pn**	**06 44 06.3**	**-1.0**
SDV	**Santo Domingo**	**8.29 258**	*e*Pn	**Pn**	**06 44 10.8**	**-2.0**
SDV	3.7nm,0.6s		*e*Sn	**Sn**	**06 45 40.3**	**-4.6**
SOCV	**Socops**	**8.66 255**	⇑*e*P	**Pn**	**06 44 16.9**	**-1.0**

IDC 11 06:51:58.9±4.5,591S×15292E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/14, mbtmp3.7/5, Error ellipse: s-maj=128.4km s-min=27.1km az=109.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.82**	**231**	P	P	06 57 05.3	+1.8
	0.9nm,0.9s,baz=56,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**25.43**	**224**	P	P	06 57 27.7	-0.7
	1.0nm,0.8s,baz=58,slow=9.4,SNR=8.8						
FITZ	**Fitzroy Crossi**	**29.25**	**243**	P	P	06 58 02.3	-0.6
	1.1nm,0.6s,baz=42,slow=12,SNR=3.8						
SONM	**Songino Array**	**67.32**	**328**	P	P	07 02 55.7	+0.2
	0.6nm,0.5s,baz=142,slow=5.2,SNR=3.1						
MKAR	**Makanchi Array**	**81.24**	**319**	P	P	07 04 17.1	+0.3
	0.5nm,0.7s,baz=108,slow=4.7,SNR=3.0						

BJI 11 07:17:55.0, 3946N×7748E, h14km, ML3.0, 4C, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.17**	**273**	*e*PG	Pg	07 18 16.3	-1.2
KSH				SG	Sg	07 18 32.5	-0.2
KSH				Smax			
	comp=N,682nm,0.2s						
KSH				Smax			
	comp=E,571nm,0.2s						
TKM2	**Tokmak 2**	**3.74**	**338**	⇑Pn	Pn	07 18 54.5	+2.3
	comp=E,4.0nm,0.4s						
TKM2				⇑Lg		07 19 50.5	
	comp=E,2.4nm,0.3s						
KK31	**Karatay Array**	**6.39**	**307**	⇑Pn	Pb	07 19 44.9	-1.0
	comp=E,0.6nm,0.5s,baz=125,slow=17,SNR=6.1						
KK31				⇑Sn	Sg	07 21 12.5	-7.4
	comp=E,1.5nm,0.6s,baz=122,slow=26,SNR=4.7						

*ISCJB **11** 07:21:42.6±1.0, 1108S±008×7437W±009, h108km±14km, mb3.4/5, Error ellipse: s-maj=17.9km s-min=8.7km az=135.1*
*NEIC **11** 07:21:43.9±1.2, 1112S×7435W, h106km±16km, Error ellipse: s-maj=19.8km s-min=11.3km az=213.0*
*IDC **11** 07:21:44.2±1.7, 1115S×7440W, h108km±19km, mb3.3/6, mb1 3.4/10, mb1mx3.3/24, mbtmp3.3/10, Error ellipse: s-maj=19.2km s-min=13.6km az=52.0*
ISC 11 07:21:43.9±0.8, 1111S±008×7437W±008, h104km±13km, n14, σ0°79/16, mb3.4/5, Central Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.58**	**250**	P	**Pn**	**07 22 24.3**	**+0.2**
	33nm,0.3s,baz=75,slow=10,SNR=98						
NNA				S	**Sn**	**07 22 55.0**	**-0.1**
	144nm,0.3s,baz=331,slow=15,SNR=48						
ATAH	**Atahualpa**	**5.69**	**315**	P	**Pn**	**07 23 06.2**	**+0.2**
	3.1nm,0.3s,baz=161,slow=7.3,SNR=32						
ATAH				S	**Sn**	**07 24 09.8**	**-0.4**
	5.3nm,0.3s,baz=231,slow=22,SNR=7.5						
ARE	**Arequipa**	**6.01**	**153**	P	**Pn**	**07 23 09.0**	**-1.4**
LPAZ	**La Paz**	**7.96**	**131**	P	**Pn**	**07 23 38.8**	**+2.0**
	0.1nm,0.3s,baz=306,slow=9.2,SNR=5.9						
SIV	**San Ignacio**	**13.81**	**112**	P	**Pn**	**07 24 54.9**	**-0.4**
	0.1nm,0.3s,baz=312,slow=14,SNR=4.0						
ROSC	**El Rosal**	**15.86**	**0**	P	**Pn**	**07 25 26.1**	**+4.8**
	0.9nm,0.3s,baz=125,slow=12,SNR=3.9						
SDV	**Santo Domingo**	**20.20**	**11**	P	**P**	**07 26 10.4**	**-0.2**
	11nm,0.5s,baz=188,slow=7.9,SNR=26						
CFAA	**Coronel Fontan**	**21.17**	**165**	P	**P**	**07 26 20.9**	**0.0**
CFAA	**Coronel Fontan**	**21.17**	**165**	P	**P**	**07 26 20.9**	**0.0**
	0.4nm,0.9s,mb2.8,baz=5.7,slow=10,SNR=4.9						
TXAR	**Lajitas Array**	**49.14**	**326**	P	**P**	**07 30 22.7**	**+1.4**
	0.3nm,0.5s,mb3.5,baz=155,slow=8.0,SNR=7.8						
ULM	**Lac du Bonnet**	**63.92**	**345**	P	**P**	**07 32 05.2**	**-0.4**
	1.8nm,0.7s,mb4.0,baz=135,slow=4.3,SNR=2.7						
TORD	**Torodi Ar. Bea**	**79.22**	**74**	P	**P**	**07 33 37.8**	**-0.5**
	0.5nm,0.7s,mb3.4,baz=242,slow=4.6,SNR=4.3						
YKA	**Yellowknife Ar**	**79.72**	**342**	P	**P**	**07 33 39.8**	**-0.1**
YKA	**Yellowknife Ar**	**79.72**	**342**	P	**P**	**07 33 39.8**	**-0.1**
	0.2nm,0.6s,mb3.2,baz=140,slow=6.1,SNR=4.7						

IDC 11 07:30:22.4±3.0, 3323S×17901W, h0km, mb3.6/2, mb1 3.9/3, mb1mx3.7/14, mbtmp3.7/3, ML3.5/1, Error ellipse: s-maj=69.1km s-min=45.7km az=118.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.92**	**211**	Pn	Pn	07 31 50.9	-0.4
	1.3nm,0.3s,baz=89,slow=3.6,SNR=12						
URZ				Sn	Sn	07 32 53.5	-6.4
	1.5nm,0.3s,baz=284,slow=23,SNR=6.7						
ASAR	**Alice Springs**	**42.19**	**271**	P	P	07 38 16.9	-0.1
	0.4nm,0.4s,baz=108,slow=7.5,SNR=8.9						
WRA	**Warramunga Arr**	**43.43**	**276**	P	P	07 38 27.2	+0.1
	0.4nm,0.3s,baz=116,slow=7.9,SNR=19						
FINES	**FINESS Array B**	**147.47**	**338**	PKPbc	PKPbc	07 50 06.8	-0.7
	0.4nm,0.4s,baz=35,slow=7.0,SNR=5.3						

*ISCJB **11** 07:41:28.3±1.1, 69S±02×1253E±02, h551km±18km, mb3.9/3, Error ellipse: s-maj=45.6km s-min=14.3km az=140.3*
*NEIC **11** 07:41:29.2±0.9, 694S×12533E, h552km±12km, mb3.9/3, Error ellipse: s-maj=34.1km s-min=10.6km az=50.0*
*IDC **11** 07:41:29.3±2.3, 701S×12512E, h548km±29km, mb3.4/3, mb1 3.4/8, mb1mx3.2/18, mbtmp3.3/8, Error ellipse: s-maj=83.6km s-min=14.4km az=57.0*
ISC 11 07:41:29.1±1.1, 70S±02×1253E±02, h544km±16km, n13, σ0°82/13, mb3.9/3, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.60**	**207**	P	**P**	**07 42 48.6**	**+1.0**
	24nm,0.3s,baz=68,slow=1.3,SNR=13						
BATI				S	**S**	**07 43 50.0**	**-1.4**
	13nm,0.3s,baz=62,slow=24,SNR=5.2						
KAPI	**Kappang**	**5.85**	**289**	P	**P**	**07 43 07.1**	**+1.0**
	3.2nm,0.3s,baz=101,slow=5.2,SNR=10						
KAKA	**Kakadu**	**9.05**	**130**	*e*P	**P**	**07 43 37.5**	**+0.2**
	6.4nm,0.6s						
FITZ	**Fitzroy Crossi**	**11.07**	**178**	*e*P	**P**	**07 43 58.1**	**+0.2**
	4.8nm,1.2s						
FITZ	**Fitzroy Crossi**	**11.07**	**178**	P	**P**	**07 43 58.3**	**+0.4**
	0.3nm,0.3s,baz=74,slow=8.1,SNR=20						
WRA	**Warramunga Arr**	**15.59**	**147**	P	**P**	**07 44 44.1**	**-0.6**
	2.1nm,0.3s,baz=333,slow=8.1,SNR=112						
WB2	**Warramunga Arr**	**15.60**	**147**	*e*P	**P**	**07 44 44.1**	**-0.7**
ASAR	**Alice Springs**	**18.54**	**154**	P	**P**	**07 45 12.9**	**+0.7**
	1.5nm,0.3s,baz=345,slow=15,SNR=121						
STKA	**Stephens Creek**	**29.07**	**151**	*e*P	**P**	**07 46 46.6**	**+0.8**
	3.1nm,1.1s,mb3.9						
STKA	**Stephens Creek**	**29.07**	**151**	P	**P**	**07 46 46.7**	**+0.8**
	2.4nm,0.5s,mb4.1,baz=326,slow=10,SNR=11						
MKAR	**Makanchi Array**	**75.62**	**329**	P	**P**	**07 51 19.8**	**-0.3**
	0.9nm,0.4s,mb3.6,baz=129,slow=7.1,SNR=15						
ZALV	**Zalesovo Beam**	**69.57**	**336**	P	**P**	**07 51 42.4**	**-1.1**
	2.0nm,0.4s,mb4.0,baz=142,slow=5.8,SNR=7.2						
TORD	**Torodi Ar. Bea**	**124.23**	**281**	PKP	PKPdf	07 59 26.5	-0.7
	0.3nm,0.5s,baz=85,slow=1.4,SNR=3.2						

*ISCJB **11** 07:46:23.4±4.7, 30S±01×1392E±04, h14km±26km, mb3.7/2, Error ellipse: s-maj=74.2km s-min=21.6km az=1.6*
*IDC **11** 07:46:23.5±3.5, 297S×13903E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.7/12, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=116.5km s-min=27.2km az=91.0*
ISC 11 07:46:31.4±3.9, 31S±01×1390E±05, h60km±27km, n7, σ1°12/8, mb3.7/2, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.52**	**214**	*e*P	**Pn**	**07 49 13.6**	**+0.4**
	11nm,0.3s						
WB2	**Warramunga Arr**	**17.33**	**195**	*e*P	**Pn**	**07 50 29.6**	**+0.3**
WB2				*e*S	Sx	07 53 32.7	
WRA	**Warramunga Arr**	**17.33**	**195**	P	**Pn**	**07 50 28.3**	**-1.1**
	0.5nm,0.3s,baz=16,slow=13,SNR=19						
WRA				S	Sx	07 53 33.4	
	0.2nm,0.3s,baz=48,slow=34,SNR=4.4						
FITZ	**Fitzroy Crossi**	**19.82**	**220**	*e*P	**Pn**	**07 51 00.4**	**+1.1**
	8.3nm,1.5s						
FITZ				*e*		07 54 32.1	
FITZ	**Fitzroy Crossi**	**19.82**	**220**	P	**Pn**	**07 50 57.3**	**-1.9**
	0.1nm,0.3s,baz=39,slow=15,SNR=3.0						
FITZ				S	Sx	07 54 31.5	
	0.2nm,0.3s,baz=170,slow=14,SNR=4.3						
ASAR	**Alice Springs**	**21.02**	**193**	P	**P**	**07 51 10.8**	**+0.6**
	1.1nm,0.4s,mb3.5,baz=20,slow=10,SNR=25						
ASAR				S	**S**	**07 55 01.2**	**+0.1**
	0.4nm,0.7s,baz=17,slow=26,SNR=3.5						
MKAR	**Makanchi Array**	**70.26**	**322**	P	**P**	**07 57 38.3**	**0.0**
	0.7nm,0.5s,mb3.8,baz=123,slow=8.0,SNR=8.7						

IDC 11 07:52:03.2±1.1, 611S×15455E, h0km, mb3.9/6, mb1 4.1/6, mb1mx3.9/14, mbtmp3.8/6, MS3.3/2, Ms1 3.3/2, ms1mx2.8/21, Error ellipse: s-maj=59.4km s-min=24.0km az=135.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.29**	**122**	LR	LR	07 55 48.1	
	comp=Z,144nm,20.1s,baz=352,slow=36						
WRA	**Warramunga Arr**	**23.97**	**233**	P	P	07 57 20.6	+1.1
	1.5nm,0.8s,baz=59,slow=9.9,SNR=5.0						
WRA				PcP	PcP	08 01 01.6	-0.5
	1.1nm,0.8s,baz=57,slow=2.2,SNR=8.4						
ASAR	**Alice Springs**	**26.44**	**227**	P	P	07 57 42.0	+0.1
	0.5nm,0.5s,baz=57,slow=9.3,SNR=7.0						
ASAR				PcP	PcP	08 01 07.0	-0.6
	1.1nm,0.8s,baz=63,slow=2.0,SNR=7.4						
STKA	**Stephens Creek**	**28.35**	**204**	LR	LR	08 09 58.8	
	comp=Z,112nm,18.8s,baz=26,slow=38						
FITZ	**Fitzroy Crossi**	**30.61**	**245**	P	P	07 58 19.3	0.0
	1.8nm,0.7s,baz=84,slow=10,SNR=3.5						
SONM	**Songino Array**	**68.36**	**327**	P	P	08 03 07.3	+0.8
	0.3nm,0.5s,baz=141,slow=4.8,SNR=2.7						
NVAR	**Mina Array Bea**	**91.53**	**52**	P	P	08 05 13.2	+1.1
	2.2nm,1.0s,baz=254,slow=4.9,SNR=10						
YKA	**Yellowknife Ar**	**95.77**	**28**	P	P	08 05 30.6	-0.3
	0.1nm,0.5s,baz=265,slow=4.9,SNR=3.5						
TORD	**Torodi Ar. Bea**	**152.36**	**287**	PKPbc	PKPbc	08 12 00.9	-1.4
	1.1nm,0.7s,baz=71,slow=1.8,SNR=7.7						
TORD				PKPab	PKPab	08 12 11.7	-0.5
	0.9nm,0.9s,baz=71,slow=2.7,SNR=3.9						

MAN 11 07:53:13, 908N×12253E, h30km, mb4.1, ML2.9, MS2.6, 2D, Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	**Sibulan**	**0.75**	**70**	⇓*i*P	Pn	07 53 28.0	+0.5
DCPH	**Dipolog City**	**0.95**	**121**	⇓*e*P	Pn	07 53 29.5	-0.8
DCPH				*e*S	Sn	07 53 42.3	-0.6
TBP	**Tagbilaran**	**1.45**	**65**	*e*P	Pn	07 53 38.5	+1.3
TBP				*e*S	Sn	07 53 56.2	+1.0
PAGZ	**Pagadian**	**1.49**	**145**	*e*P	Pn	07 53 39.3	+1.6
GUIM	**Jordan**	**1.54**	**2**	*e*P	Pn	07 53 40.0	+1.6
GUIM				*e*S	Sn	07 53 59.2	+1.9
CUYO	**Cuyo Island**	**2.30**	**320**	*e*P	Pn	07 53 49.8	+0.9
ENPP	**El Nido**	**3.71**	**305**	*e*P	Pn	07 54 09.6	+1.2

*ISCJB **11** 07:54:02.4±0.6, 313S±02×587E±01, h10km, mb4.2/9, MS4.0/19, Error ellipse: s-maj=26.3km s-min=16.0km az=13.7*
*IDC **11** 07:54:02.7±0.7, 3126S×5871E, h0km, mb4.2/8, mb1 4.3/8, mb1mx4.0/25, mbtmp4.2/8, MS3.9/19, Ms1 3.9/19, ms1mx3.8/34, Error ellipse: s-maj=31.3km s-min=18.5km az=17.0*
*NEIC **11** 07:54:04.2±0.4, 3125S×5867E, h10km, mb4.4/1, Error ellipse: s-maj=19.5km s-min=12.7km az=194.0*
ISC 11 07:54:04.4±0.6, 312S±02×587E±01, h10km, n34, σ0°66/12, mb4.1/9, MS4.0/19, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**29.04**	**266**	P	**P**	**08 00 05.3**	**+0.6**
BOSA				LR	LR	08 10 58.4	
BOSA	**Boshof**	**29.04**	**266**	P	**P**	**08 00 05.3**	**+0.6**
	3.4nm,1.0s,mb4.0,baz=62,slow=5.7,SNR=3.6						
BOSA				LR	LR	08 10 58.4	
	comp=Z,129nm,18.4s,MS3.6,baz=276,slow=35						
KMBO	**Kilima Mbogo**	**36.17**	**322**	LR	LR	08 13 53.0	
	comp=Z,166nm,18.4s,MS3.8,baz=95,slow=33						
MAW	**Mawson**	**36.50**	**177**	LR	LR	08 12 54.7	
	comp=Z,187nm,21.3s,MS3.8,baz=174,slow=31						
TSUM	**Tsumeb**	**38.87**	**278**	P	**P**	**08 01 28.8**	**-1.3**
TSUM	**Tsumeb**	**38.87**	**278**	P	**P**	**08 01 28.8**	**-1.2**
	4.2nm,0.9s,mb4.2,baz=72,slow=9.6,SNR=5.8						
PSI	**Prapat**	**51.08**	**56**	LR	LR	08 18 35.3	
	comp=Z,324nm,19.6s,MS4.3,baz=79,slow=29						
QSPA	**South Pole Qui**	**58.94**	**180**	P	**P**	**08 04 03.7**	**+0.5**
	3.1nm,0.5s,mb4.6,baz=276,slow=3.0,SNR=11						
EIL	**Elat**	**64.63**	**337**	LR	LR	08 27 42.3	
	comp=Z,114nm,21.1s,MS4.0,baz=282,slow=31						
ASAR	**Alice Springs**	**66.02**	**104**	P	**P**	**08 04 51.1**	**-0.3**
	1.3nm,0.8s,mb4.0,baz=242,slow=6.4,SNR=14						
ASF	**Jabal al Asfar**	**66.35**	**340**	LR	LR	08 32 35.8	
	comp=Z,78nm,19.4s,MS3.9,baz=186,slow=35						
MMAI	**Mount Meron Ar**	**67.58**	**339**	LR	LR	08 32 19.2	
	comp=Z,56nm,18.3s,MS3.8,baz=145,slow=34						
WRA	**Warramunga Arr**	**67.99**	**101**	P	**P**	**08 05 03.1**	**-0.9**
	2.4nm,0.8s,mb4.3,baz=244,slow=5.4,SNR=11						
STKA	**Stephens Creek**	**68.82**	**115**	P	**P**	**08 05 09.5**	**+0.4**
STKA				LR	LR	08 29 16.9	
STKA	**Stephens Creek**	**68.82**	**115**	P	**P**	**08 05 09.5**	**+0.4**
	3.6nm,0.9s,mb4.3,baz=217,slow=2.9,SNR=5.1						
STKA				LR	LR	08 29 16.9	
	comp=Z,154nm,18.7s,MS4.3,baz=209,slow=31						
TORD	**Torodi Ar. Bea**	**70.25**	**300**	P	**P**	**08 05 18.1**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=130,slow=4.5,SNR=3.7						
TORD				LR	LR	08 37 08.0	
	comp=Z,170nm,18.5s,MS4.3,baz=120,slow=37						
DBIC	**Dimbokro**	**71.37**	**290**	LR	LR	08 33 32.4	
	comp=Z,43nm,19.1s,MS3.7,baz=280,slow=33						
CTA	**Charters Tower**	**77.85**	**106**	LR	LR	08 37 04.3	
	comp=Z,150nm,18.6s,MS4.3,baz=235,slow=33						
KEST	**Kesra**	**81.14**	**321**	LR	LR	08 42 30.7	
	comp=Z,61nm,19.4s,MS4.0,baz=212,slow=36						
KURK	**Kurchatov**	**83.46**	**13**	*e*P	**P**	**08 06 31.8**	**+0.1**
	3.0nm,1.1s,mb4.2						
BVAR	**Borovoye Array**	**84.51**	**7**	P	**P**	**08 06 37.8**	**+0.8**
	0.8nm,0.6s,mb4.0,baz=168,slow=7.4,SNR=4.6						
ZALV	**Zalesovo Beam**	**87.79**	**15**	LR	LR	08 43 12.7	
	comp=Z,41nm,20.1s,MS3.8,baz=84,slow=34						
SONM	**Songino Array**	**89.58**	**30**	LR	LR	08 44 57.8	
	comp=Z,126nm,19.5s,MS4.3,baz=350,slow=34						
KSRS	**Korea Array**	**94.05**	**48**	LR	LR	08 46 51.5	
	comp=Z,62nm,18.7s,MS4.1,baz=346,slow=34						
PLCA	**Paso Flores**	**94.39**	**216**	LR	LR	08 44 44.8	
	comp=Z,73nm,18.4s,MS4.2,baz=152,slow=32						
FINES	**FINESS Array B**	**96.07**	**345**	LR	LR	08 50 54.8	
	comp=Z,30nm,18.1s,MS3.8,baz=210,slow=36						
CPUP	**Villa Florida**	**96.30**	**234**	LR	LR	08 44 22.0	
	comp=Z,73nm,19.5s,MS4.2,baz=295,slow=31						
NOA	**NORSAR Array B**	**99.72**	**339**	LR	LR	08 53 01.7	
	comp=Z,24nm,18.8s,MS3.7,baz=110,slow=36						
DAWY	**Dawson**	**145.22**	**14**	*e*PKPbc	PKPbc	08 13 41.1	+0.1
KDAK	**Kodiak Island**	**145.87**	**30**	PKPbc	PKPbc	08 13 44.3	+1.0
	2.3nm,0.7s,baz=224,slow=3.8,SNR=6.7						
FCC	**Fort Churchill**	**146.86**	**334**	*e*PKPdf	PKPdf	08 13 44.4	+0.1
YKA	**Yellowknife Ar**	**148.42**	**354**	PKPbc	PKPbc	08 13 49.6	-0.7
	2.1nm,0.7s,baz=359,slow=2.5,SNR=43						
ULM	**Lac du Bonnet**	**153.15**	**322**	PKPbc	PKPbc	08 14 00.9	-1.0
	2.5nm,0.9s,baz=108,slow=2.4,SNR=5.6						
TXAR	**Lajitas Array**	**164.65**	**267**	PKPab	PKPab	08 15 05.6	+1.4
	0.3nm,1.0s,baz=101,slow=6.5,SNR=4.1						

*IDC **11** 08:06:42.5±0.8, 3421N×8184E, h0km, mb3.9/9, mb1 4.0/11, mb1mx3.9/24, mbtmp3.9/11, ML3.7/2, MS2.7/1, Ms1 2.7/1, ms1mx2.4/34, Error ellipse: s-maj=29.4km s-min=17.5km az=55.0*
*NEIC **11** 08:06:44.8±1.0, 3425N×8191E, h10km, mb4.2/2, Error ellipse: s-maj=21.8km s-min=12.1km az=47.0*
*ISCJB **11** 08:06:45.6±5.5, 343N±01×819E±01, h30km±40km, mb3.8/9, Error ellipse: s-maj=26.5km s-min=12.2km az=39.8*
*BJI **11** 08:06:45.1, 3436N×8227E, h10km, mb4.7, ML3.3, Ms3.8, Msz3.5*
ISC 11 08:06:49.6±2.1, 343N±01×819E±01, h49km±19km, n19, σ0°78/17, mb3.8/9, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**5.03**	**237**	*ex*	x	08 08 01.4	
SDNR				*ex*	x	08 09 02.0	
DLH	**Dalhousie**	**5.29**	**252**	*ex*	x	08 08 04.0	
UCH	**Uchtor**	**9.81**	**326**	*e*Pn	**Pn**	**08 09 08.3**	**+0.4**
	3.8nm,0.7s						
WMQ	**Urumqi**	**10.49**	**24**	P	**Pn**	**08 09 18.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,34nm,1.0s						
MKAR	**Makanchi Array**	**12.46**	**1**	Pn	**Pn**	**08 09 42.7**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=181,slow=13,SNR=25						
ZALV	**Zalesovo Beam**	**19.73**	**5**	P	**Pn**	**08 11 14.7**	**-2.1**
	comp=Z,0.2nm,0.3s,baz=193,slow=10,SNR=8.1						
ZALV				LR	LR	08 18 58.9	
	comp=Z,22nm,20.9s,baz=43,slow=37						
KMI	**Kunming**	**20.23**	**111**	P	**P**	**08 11 20.9**	**+0.2**
KMI				AMB	AMB		
	comp=Z,19nm,0.5s						
KMI				LR	LR		
	comp=N,130nm,15.9s						
KMI				LR	LR		
	comp=E,162nm,12.9s						
KMI				LR	LR		
	comp=Z,152nm,17.0s						
BVAR	**Borovoye Array**	**20.43**	**340**	P	**P**	**08 11 23.2**	**+0.7**
	comp=Z,6.3nm,0.7s,baz=144,slow=11,SNR=21						
BRVK	**Borovoye**	**20.49**	**340**	*e*P	**P**	**08 11 24.3**	**+1.1**
	comp=Z,13nm,0.9s						
CHTO	**Chiang Mai**	**21.63**	**131**	*e*P	**P**	**08 11 35.3**	**-0.4**
	comp=Z,4.8nm,0.6s,mb4.1						
SONM	**Songino Array**	**22.73**	**46**	P	**P**	**08 11 48.0**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.3,baz=228,slow=7.6,SNR=4.1						
AKTK	**Aktyubinsk**	**23.75**	**320**	P	**P**	**08 11 57.7**	**+0.5**
AKTO	**Aktyubinsk**	**23.75**	**320**	P	**P**	**08 11 57.7**	**+0.5**
	comp=Z,2.4nm,0.7s,mb3.7,baz=123,slow=13,SNR=7.0						
FINES	**FINESS Array B**	**44.32**	**325**	P	**P**	**08 14 54.0**	**-0.4**
	comp=Z,1.2nm,0.8s,mb3.7,baz=79,slow=9.9,SNR=3.9						
NOA	**NORSAR Array B**	**51.44**	**324**	P	**P**	**08 15 49.1**	**-0.4**
	comp=Z,0.7nm,0.8s,mb3.7,baz=87,slow=7.3,SNR=3.4						
WRA	**Warramunga Arr**	**73.46**	**129**	P	**P**	**08 18 17.0**	**0.0**
	comp=Z,1.1nm,0.6s,mb4.0,baz=326,slow=5.6,SNR=17						
TORD	**Torodi Ar. Bea**	**74.72**	**276**	P	**P**	**08 18 24.0**	**-0.6**
	comp=Z,1.0nm,0.7s,mb3.9,baz=50,slow=5.0,SNR=8.1						
ASAR	**Alice Springs**	**75.91**	**132**	P	**P**	**08 18 31.5**	**+0.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=314,slow=5.6,SNR=13						
YKA	**Yellowknife Ar**	**82.61**	**8**	P	**P**	**08 19 06.8**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.3,baz=340,slow=5.3,SNR=30						

IDC 11 08:11:52.8±0.9, 2995S×17888W, h216km±8km, mb3.4/4, mb1 3.7/4, mb1mx3.5/12, mbtmp3.4/4, Error ellipse: s-maj=44.3km s-min=19.4km az=164.0, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.08**	**51**	P	Pn	08 12 25.8	+1.1
	488nm,0.3s,baz=87,slow=22,SNR=15						
RAO				S	S	08 12 49.6	0.0
	328nm,0.3s,baz=62,slow=22,SNR=6.5						
STKA	**Stephens Creek**	**33.84**	**256**	P	P	08 18 14.6	-0.3
	1.0nm,0.4s,baz=104,slow=11,SNR=4.6						
ASAR	**Alice Springs**	**42.37**	**267**	P	P	08 19 26.2	+0

az=126.0

ISC 11 08:22:32.0±7.4, 222S±03×1703E±01, h14km±49km, n7, σ1§10/7, mb3.7/5, MS3.5/1, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**3.56**	**271**	*eP*	**Pn**	**08 23 27.0**	**+0.1**
DZM				*eS*	**Sn**	**08 24 08.9**	**+0.1**
RPZ	**Rata Peaks**	**21.51**	**178**	LR	LR	08 34 45.3	
	comp=Z,201nm,19.2s,MS3.5,baz=2.8,slow=34						
STKA	**Stephens Creek**	**27.26**	**243**	P	**P**	**08 28 16.8**	**+0.8**
	1.6nm,1.1s,mb3.5,baz=96,slow=7.4,SNR=3.8						
ASAR	**Alice Springs**	**33.49**	**260**	P	**P**	**08 29 11.2**	**+0.1**
	0.6nm,0.9s,mb3.5,baz=84,slow=9.1,SNR=4.5						
WRA	**Warramunga Arr**	**33.57**	**267**	P	**P**	**08 29 10.3**	**-1.6**
	0.5nm,0.9s,mb3.5,baz=100,slow=8.5,SNR=5.3						
KSRS	**Korea Array**	**71.45**	**326**	P	**P**	**08 33 53.0**	**+1.0**
	0.7nm,0.4s,mb3.9,baz=120,slow=7.4,SNR=5.3						
SONM	**Songino Array**	**90.13**	**323**	P	**P**	**08 35 31.0**	**-0.6**
	0.7nm,0.7s,mb4.1,baz=108,slow=4.8,SNR=4.6						

ISCJB 11 08:33:00.7±3.1, 176S±0.1×179.1W±0.1, h549km±39km, mb4.0/14, Error ellipse: s-maj=21.9km s-min=19.1km az=154.8
NEIC 11 08:33:01.4±0.7, 1761S×17901W, h550km, mb4.4/5, Error ellipse: s-maj=19.0km s-min=14.1km az=93.0
IDC 11 08:33:02.0±2.9, 1763S×17908W, h548km±33km, mb3.4/9, mb1 3.6/9, mb1mx3.4/15, mbtmp3.4/9, Error ellipse: s-maj=20.5km s-min=16.3km az=149.0

ISC 11 08:33:02.1±3.4, 176S±01×1791W±01, h550km±41km, n23, σ0§87/20, mb4.0/14, 1C-2D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.86**	**188**	P	**P**	**08 37 03.4**	**-2.4**
	9.6nm,0.7s,baz=184,slow=19,SNR=11						
STKA	**Stephens Creek**	**38.21**	**241**	*eP*	**P**	**08 39 36.5**	**+1.2**
	3.1nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**38.21**	**241**	P	**P**	**08 39 36.5**	**+1.2**
	2.6nm,0.4s,mb4.2,baz=89,slow=9.9,SNR=26						
STKA				PcP	PcP	08 41 36.0	+0.6
	0.5nm,0.4s,baz=255,slow=2.2,SNR=3.2						
WB2	**Warramunga Arr**	**44.03**	**259**	*eP*	**P**	**08 40 21.2**	**-0.4**
WRA	**Warramunga Arr**	**44.05**	**259**	P	**P**	**08 40 21.3**	**-0.5**
	2.1nm,0.7s,mb3.8,baz=94,slow=7.8,SNR=56						
WRA				PcP	PcP	08 41 55.0	-0.1
	1.4nm,0.7s,baz=87,slow=3.5,SNR=6.6						
ASAR	**Alice Springs**	**44.25**	**254**	P	**P**	**08 40 23.7**	**+0.5**
ASAR				PcP	PcP	08 41 56.1	+0.4
ASAR	**Alice Springs**	**44.25**	**254**	P	**P**	**08 40 23.7**	**+0.5**
	14nm,0.4s,mb4.8,baz=88,slow=8.1,SNR=298						
ASAR				PcP	PcP	08 41 56.1	+0.4
	1.2nm,0.4s,baz=105,slow=4.0,SNR=9.4						
ASAR				S	**S**	**08 46 16.6**	**-0.6**
	1.0nm,1.0s,baz=81,slow=16,SNR=4.8						
KAKA	**Kakadu**	**46.93**	**269**	⇓*iP*	**P**	**08 40 44.4**	**+0.6**
	13nm,0.4s,mb4.8						
FORT	**Forrest**	**49.55**	**244**	*eP*	**P**	**08 41 03.0**	**-0.1**
	13nm,0.5s,mb4.6						
FITZ	**Fitzroy Crossi**	**52.44**	**260**	*eP*	**P**	**08 41 25.1**	**+0.9**
	2.2nm,0.3s,mb4.0						
KLBR	**Kellerberrin**	**58.38**	**243**	*eP*	**P**	**08 42 05.2**	**-0.1**
	9.0nm,0.5s,mb4.3						
VNDA	**Vanda**	**60.71**	**185**	P	**P**	**08 42 20.4**	**+0.5**
	1.1nm,0.9s,mb3.2,baz=9.3,slow=8.5,SNR=4.0						
MJAR	**Matsushiro Arr**	**67.26**	**324**	P	**P**	**08 43 02.3**	**0.0**
	2.4nm,0.6s,mb3.9,baz=156,slow=6.3,SNR=6.3						
MAJO	**Matsushiro**	**67.26**	**324**	*eP*	**P**	**08 43 02.1**	**-0.2**
	2.2nm,0.3s,mb4.2						
QSPA	**South Pole Qui**	**72.46**	**180**	*eP*	**P**	**08 43 32.9**	**+0.4**
	1.7nm,0.5s,mb3.7						
TXAR	**Lajitas Array**	**86.38**	**58**	P	**P**	**08 44 48.0**	**+1.4**
	0.4nm,0.8s,mb3.1,baz=235,slow=4.4,SNR=5.5						
SONM	**Songino Array**	**92.88**	**319**	P	**P**	**08 45 15.1**	**-1.2**
SONM	**Songino Array**	**92.88**	**319**	P	**P**	**08 45 15.1**	**-1.2**
	0.2nm,0.3s,mb3.6,baz=80,slow=7.9,SNR=2.2						
YKA	**Yellowknife Ar**	**94.32**	**25**	P	**P**	**08 45 21.6**	**-0.9**
	0.3nm,0.8s,mb3.5,baz=244,slow=4.5,SNR=5.6						
BURAR	**Bucovina Array**	**144.03**	**332**	⇓*iP*	PKPdf	08 51 36.3	+1.1
CLL	**Collm**	**145.01**	**347**	*i* PKPbc	PKPdf	08 51 37.6	+0.8
	comp=Z,9.0nm,0.6s						
MLR	**Muntele Rosu**	**145.22**	**329**	⇑*iP*	PKPdf	08 51 40.0	+2.7
GERES	**GERESS Array B**	**147.13**	**344**	PKPbc	PKPbc	08 51 43.4	-0.2
	comp=Z,1.9nm,0.6s,baz=23,slow=4.4,SNR=6.5						

IDC 11 08:47:30.2±2.4, 5371N×8806E, h0km, mb1 2.6/1, mb1mx2.6/22, mbtmp2.6/1, ML2.7/1, Error ellipse: s-maj=22.1km s-min=4.7km az=97.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.94**	**278**	Pg	Pg	08 48 04.9	-2.4
	1.0nm,0.3s,baz=92,slow=11,SNR=14						
ZALV				Lg		08 48 32.1	
	2.6nm,0.3s,baz=98,slow=27,SNR=14						
ZALV				*i*		09 00 33.9	
	0.7nm,0.3s,baz=96,slow=293,SNR=7.4						
MKAR	**Makanchi Array**	**7.85**	**210**	Pn	Pn	08 49 26.9	+1.4
	0.1nm,0.3s,baz=28,slow=13,SNR=4.0						

ISCJB 11 08:59:02.8±0.8, 6468N±004×307E±02, h0km, Error ellipse: s-maj=10.1km s-min=4.8km az=11.0
NAO 11 08:59:04.9±0.8, 6456N×3111E, ML2.2
HEL 11 08:59:05.3±0.1, 6468N×3072E, h0km, ML2.2, ML2.2(NAO), Explosion
IDC 11 08:59:05.8±2.1, 6463N×3107E, h0km, mb1 3.2/4, mb1mx3.0/22, mbtmp3.1/4, ML2.5/4, Error ellipse: s-maj=27.9km s-min=7.8km az=101.0
BER 11 08:59:06.1±5.0, 6456N×3101E, h0km, ML2.2(NAO), Suspected explosion

ISC 11 08:59:04.2±0.8, 6471N±003×308E±02, h0km, n20, σ0§98/30, Finland-Karelia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**1.37**	**345**	*eP*	**Pg**	**08 59 30.3**	**-0.1**
KU6				*e*SB	**Sb**	**08 59 49.0**	**+0.3**
KU6				MSG		08 59 54.6	
	comp=Z,29nm,0.2s						
MSF	**Maaselka**	**1.41**	**330**	*eP*	**Pn**	**08 59 30.7**	**-0.3**
MSF				*e*SN	**Sn**	**08 59 50.7**	**+0.4**
KJN	**Kajaani**	**1.47**	**246**	*eP*	**Pn**	**08 59 31.0**	**-0.8**
KJN				MSG		09 00 01.1	
	comp=Z,26nm,0.2s						
JOF	**Joensuu**	**1.81**	**172**	*e*PG	**Pg**	**08 59 37.5**	**-1.4**
OUL	**Oulu**	**2.11**	**283**	*e*PB	**Pb**	**08 59 42.2**	**-1.1**
SUF	**Sumiainen**	**2.86**	**228**	*eP*	**Pn**	**08 59 52.7**	**+1.7**
APA0	**Apatity Array**	**3.05**	**16**	Pn	**Pn**	**08 59 55.1**	**+1.6**
	baz=195,slow=14						
APA0				Sn	**Sb**	**09 00 35.2**	**-1.6**
	baz=194,slow=28						
APA0	**Apatity Array**	**3.05**	**16**	*eP*	**Pn**	**08 59 55.1**	**+1.6**
APA0				*e*SB	**Sb**	**09 00 35.2**	**-1.6**
SGF	**Sodankyl**	**3.24**	**330**	*eP*	**Pn**	**08 59 57.6**	**+1.4**
FIA0	**FINESS Array S**	**3.91**	**215**	*eP*	**Pn**	**09 00 06.2**	**+0.9**
FIA0				*e*SG		09 01 04.2	
FIA0	**FINESS Array S**	**3.91**	**215**	Pn	**Pn**	**09 00 06.2**	**+0.9**
	baz=34,slow=14						
FIA0				Lg		09 01 04.2	
	baz=39,slow=28						
FINES	**FINESS Array B**	**3.91**	**215**	Pn	**Pn**	**09 00 06.2**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=4.9						
FINES				Pg	**Pg**	**09 00 13.5**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=32,slow=14,SNR=14						
FINES				Lg		09 01 07.0	
	comp=Z,0.6nm,0.3s,baz=36,slow=27,SNR=5.4						
ARA0	**ARCESS Array S**	**5.26**	**339**	Pn	**Pn**	**09 00 24.6**	**+0.7**
	baz=150,slow=14						
ARA0				Sn	**Sn**	**09 01 24.2**	**-0.9**
	baz=158,slow=28						
ARA0	**ARCESS Array S**	**5.26**	**339**	*eP*	**Pn**	**09 00 24.6**	**+0.7**
ARA0				*e*S	**Sn**	**09 01 24.2**	**-0.9**
ARCES	**ARCESS Array B**	**5.26**	**339**	Pn	**Pn**	**09 00 24.6**	**+0.7**
	comp=Z,0.4nm,0.3s,baz=152,slow=14,SNR=28						
ARCES				Pg	**Pg**	**09 00 38.6**	**-6.2**
	comp=Z,0.3nm,0.3s,baz=153,slow=14,SNR=7.7						
ARCES				Sn	**Sn**	**09 01 25.2**	**0.0**
	comp=Z,0.5nm,0.3s,baz=167,slow=22,SNR=6.9						
ARCES				Lg		09 01 52.4	
	comp=Z,0.8nm,0.3s,baz=162,slow=32,SNR=6.1						
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 01 15.6**	**-1.4**
	baz=81,slow=12						
HFS	**Hagfors**	**9.13**	**248**	Pn	**Pn**	**09 01 17.3**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=74,slow=12,SNR=3.5						
NB2	**NORSAR Subarra**	**9.64**	**257**	Pn	**Pn**	**09 01 25.4**	**+1.4**
	baz=50,slow=16						
NB2				Sn	**Sn**	**09 03 11.9**	**-0.8**
NOA	**NORSAR Array B**	**9.64**	**257**	Pn	**Pn**	**09 01 23.8**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=71,slow=14,SNR=2.3						
NOA				Lg		09 04 10.3	
	comp=Z,0.2nm,0.3s,baz=358,slow=14,SNR=3.7						
SPA0	**Spitsbergen Ar**	**14.21**	**348**	Pn	**Pn**	**09 02 25.6**	**-0.6**
	baz=144,slow=14						

IDC 11 09:03:04.0±2.4, 5362N×8785E, h0km, mb1 3.4/2, mb1mx3.2/23, mbtmp3.4/2, ML3.4/2, Error ellipse: s-maj=20.6km s-min=11.3km az=77.0
NNC 11 09:03:08.5±4.0, 5329N×8732E, h0km, mb3.5, mpv3.1, Error ellipse: s-maj=31.9km s-min=20.1km az=61.0

ISC 11 09:03:09.5±1.8, 536N±01×872E±02, h1km±16km, n9, σ1§17/17, 10C-5D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.45**	**286**	Pg	**Pg**	**09 03 36.5**	**-0.7**
	9.1nm,0.3s,baz=98,slow=15,SNR=70						
ZALV				Lg		09 04 02.3	
	14nm,0.3s,baz=106,slow=25,SNR=20						
ZALV				*i*		09 15 17.4	
	1.9nm,0.3s,baz=90,slow=335,SNR=11						
KURK	**Kurchatov**	**5.99**	**245**	⇑Pn	**Pn**	**09 04 39.7**	**+0.4**
KURK				⇑Sn	**Sn**	**09 05 49.2**	**+0.8**
	3.6nm,0.9s						
KURK				⇓Lg		09 06 24.0	
	13nm,0.8s						
KURBB	**Kurchatov Arra**	**6.09**	**244**	⇓Pn	**Pn**	**09 04 41.2**	**+0.6**
	0.7nm,0.3s						
KURBB				⇑Sn	**Sn**	**09 05 52.4**	**+1.6**
	1.4nm,0.7s						
KURBB				⇓Lg		09 06 27.7	
	1.9nm,0.6s						
MK31	**Makanchi Array**	**7.47**	**207**	⇑Pn	**Pn**	**09 04 58.4**	**-1.2**
	0.6nm,0.5s,baz=27,slow=13,SNR=24						
MK31				⇓Sn	**Sn**	**09 06 24.5**	**-0.4**
	3.1nm,0.8s						
MK31				⇑Lg		09 06 58.0	
	1.9nm,0.6s,baz=32,slow=31,SNR=3.6						
MKAR	**Makanchi Array**	**7.47**	**207**	Pn	**Pn**	**09 04 58.5**	**-1.1**
	0.5nm,0.3s,baz=26,slow=13,SNR=16						
MKAR				Sn	**Sn**	**09 06 24.9**	**-0.1**
	0.3nm,0.3s,baz=29,slow=33,SNR=5.4						
MKAR				Lg		09 07 06.7	
	0.2nm,0.3s,baz=20,slow=30,SNR=5.8						
VOSK	**Vostochnaya**	**9.77**	**272**	⇑Pn	**Pn**	**09 05 32.9**	**+1.9**
	1.1nm,0.6s						
VOSK				⇑Sn	**Sn**	**09 07 21.3**	**+0.1**
	3.8nm,0.8s						
BVA0	**Borovoye Array**	**10.06**	**274**	⇓Pn	**Pn**	**09 05 34.9**	**-0.1**
	0.7nm,1.4s,baz=70,slow=14,SNR=5.4						
BVA0				⇑Sn	**Sn**	**09 07 24.3**	**-4.2**
	0.4nm,0.7s,baz=82,slow=24,SNR=4.1						
BVAR	**Borovoye Array**	**10.06**	**274**	Pn	**Pn**	**09 05 34.9**	**-0.2**
	0.4nm,0.3s,baz=75,slow=17,SNR=4.7						
BVAR				Sn	**Sn**	**09 07 27.2**	**-1.3**
	0.3nm,0.3s,baz=74,slow=17,SNR=3.9						
ZRNK	**Zerenda**	**10.90**	**274**	⇑Pn	**Pn**	**09 05 48.9**	**+2.4**
	0.3nm,0.4s						
ZRNK				⇑Sn	**Sn**	**09 07 46.4**	**-2.6**
	1.9nm,0.8s						

IDC 11 09:08:18.8±2.7, 5360N×8797E, h0km, mb1 2.7/1, mb1mx2.7/22, mbtmp2.7/1, ML2.7/1, 3C-1D, Error ellipse: s-maj=23.7km s-min=13.5km az=81.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.90**	**282**	Pg	Pg	09 08 53.3	-1.9
	1.3nm,0.3s,baz=102,slow=16,SNR=8.3						
ZALV				Lg		09 09 19.2	
	3.8nm,0.3s,baz=104,slow=27,SNR=12						
ZALV				*i*		09 20 48.6	
	0.8nm,0.3s,baz=115,slow=354,SNR=6.2						
KURK	**Kurchatov**	**6.44**	**247**	⇑Lg		09 11 40.8	
	7.3nm,1.7s						
KURBB	**Kurchatov Arra**	**6.53**	**247**	⇑Pn	Pn	09 09 56.1	+0.1
	0.3nm,0.8s,baz=60,slow=13						
KURBB				⇑Sn	Sn	09 11 06.6	-4.6
	0.4nm,0.7s						
KURBB				⇓Lg		09 11 42.9	
	0.8nm,0.8s						
MKAR	**Makanchi Array**	**7.73**	**210**	Pn	Pn	09 10 13.8	+1.3
	0.1nm,0.3s,baz=30,slow=15,SNR=3.3						

IDC 11 09:10:36.0±1.6, 2230N×12148E, h0km, mb3.9/7, mb1 4.1/7, mb1mx3.8/19, mbtmp3.9/7, MS3.0/1, Ms1 3.0/1, ms1mx2.6/33, Error ellipse: s-maj=183.5km s-min=16.7km az=63.0
NEIC 11 09:10:38.6±0.5, 2184N×12055E, h10km, Error ellipse: s-maj=19.5km s-min=8.7km az=83.0
ISCJB 11 09:10:41.8±1.6, 2188N±007×12062E±008, h50km±16km, mb3.9/7, Error ellipse: s-maj=12.4km s-min=12.3km az=160.9
JMA 11 09:10:43.0±0.4, 2188N×12081E, h159km, M3.2

ISC 11 09:10:42.7±1.7, 2188N±008×12056E±009, h39km±18km, n17, σ0§67/22, mb3.9/7, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.48**	**23**	*e*Pn	**Pn**	**09 11 19.3**	**-1.2**
YHNB	**Yeheng**	**2.88**	**15**	*e*Pn	**Pn**	**09 11 25.8**	**-0.2**
YHNB				*e*Sn	**Sn**	**09 11 58.6**	**-0.8**
YOJ	**Yonaguni jima**	**3.42**	**41**	P	**Pn**	**09 11 34.7**	**+1.2**
YOJ				*e*S	**Sn**	**09 12 13.6**	**+0.7**
HATJ	**Hateruma jima**	**3.70**	**53**	P	**Pn**	**09 11 37.5**	**+0.2**
HATJ				S	**Sn**	**09 12 19.4**	**-0.2**
IRIF	**Iriomote-Funau**	**3.81**	**49**	P	**Pn**	**09 11 39.1**	**+0.2**
IRIF				*e*S	**Sn**	**09 12 23.7**	**+1.3**
JKRS	**Kuro-shima**	**3.95**	**53**	P	**Pn**	**09 11 41.3**	**+0.5**
JKRS				S	**Sn**	**09 12 25.9**	**-0.1**
JIJ	**Ishigaki jima**	**4.13**	**52**	P	**Pn**	**09 11 42.9**	**-0.3**
JIJ				S	**Sn**	**09 12 30.0**	**-0.2**
JTJ	**Tarama**	**4.70**	**53**	*e*S	**Sn**	**09 12 43.3**	**-1.1**
GUMO	**Guam**	**24.56**	**106**	LR	LR	09 24 51.7	
	comp=Z,34nm,18.9s,baz=148,slow=36						
MKAR	**Makanchi Array**	**39.62**	**318**	P	**P**	**09 18 11.2**	**+0.7**
	0.6nm,0.6s,mb3.5,baz=114,slow=10,SNR=5.1						
ZALV	**Zalesovo Beam**	**41.88**	**329**	P	**P**	**09 18 29.0**	**0.0**
	1.9nm,0.7s,mb3.9,baz=111,slow=8.1,SNR=8.7						
WRA	**Warramunga Arr**	**43.69**	**161**	P	**P**	**09 18 43.4**	**-0.6**
	3.8nm,0.8s,mb4.2,baz=344,slow=8.9,SNR=18						
WRA				PcP	PcP	09 20 30.6	0.0
	0.7nm,0.9s,baz=350,slow=3.8,SNR=4.1						
WB2	**Warramunga Arr**	**43.70**	**161**	*eP*	**P**	**09 18 43.7**	**-0.3**
ASAR	**Alice Springs**	**47.10**	**163**	P	**P**	**09 19 11.4**	**+0.5**
	1.1nm,0.5s,mb4.1,baz=346,slow=7.0,SNR=36						
BVAR	**Borovoye Array**	**49.11**	**322**	P	**P**	**09 19 26.9**	**+0.8**
	0.8nm,0.6s,mb3.9,baz=116,slow=10,SNR=3.8						
STKA	**Stephens Creek**	**57.12**	**159**	P	**P**	**09 20 24.9**	**-0.4**
	1.3nm,0.8s,mb4.0,baz=333,slow=8.4,SNR=5.2						
NOA	**NORSAR Array B**	**79.98**	**332**	P	**P**	**09 22 46.9**	**-0.7**
	0.5nm,0.8s,mb3.5,baz=268,slow=3.6,SNR=2.5						

ATH 11 09:28:28.8, 3976N×2190E, h24km±1km, ML3.7
ISCJB 11 09:28:29.2±0.6, 3978N±003×2193E±004, h17km±7km, Error ellipse: s-maj=5.5km s-min=4.4km az=158.5
CSEM 11 09:28:29.9±0.1, 3976N×2194E, h20km, ML3.7, Error ellipse: s-maj=2.7km s-min=1.8km az=54.0
NEIC 11 09:28:31.0, 3983N×2190E, h10km, ML3.2(ATH), After ATH.

ISC 11 09:28:29.7±0.5, 3978N±003×2197E±005, h16km±4km, n46, σ1§26/60, 3C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.21**	**172**	*eP*	**Pg**	**09 28 34.8**	**+0.1**
THL				*e*S	**Sg**	**09 28 38.8**	**+0.8**
THL	**Klokotos Trika**	**0.21**	**172**	⇑*iP*b	**Pg**	**09 28 34.7**	**0.0**
THL				*e*Sb	**Sg**	**09 28 39.0**	**+1.0**
LIT	**Litokhoron**	**0.51**	**50**	*eP*	**Pg**	**09 28 39.5**	**-0.4**
KZN	**Kozani**	**0.55**	**344**	P	**Pg**	**09 28 40.7**	**0.0**
KZN	**Kozani**	**0.55**	**344**	⇑*iP*N	**Pg**	**09 28 40.3**	**-0.4**
KZN				*e*SN	**Sg**	**09 28 49.0**	**+0.9**
EVR	**Evrytania**	**0.87**	**189**	P	**Pb**	**09 28 45.7**	**-0.7**
EVR	**Evrytania**	**0.87**	**189**	⇑*e*PN	**Pn**	**09 28 45.4**	**-1.8**
JAN	**Janina**	**0.87**	**263**	*e*PB	**Pb**	**09 28 44.1**	**-2.4**
JAN				*e*SN	**Sn**	**09 28 55.7**	**-4.0**
NEO	**Neokhori**	**1.07**	**115**	*e*Pn	**Pn**	**09 28 50.3**	**+0.2**
NEO				P		09 28 53.9	
NEO				*e*Sn	**Sn**	**09 29 05.8**	**+1.2**
KBN	**Korca**	**1.24**	**313**	*e*PN	**Pn**	**09 29 01.6**	**+9.2**
PLG	**Polygyros**	**1.28**	**62**	P	**Pn**	**09 28 54.5**	**+1.6**
PLG	**Polygyros**	**1.28**	**62**	*e*PN	**Pn**	**09 28 53.2**	**+0.3**
BIA	**Bitola**	**1.34**	**338**	*e*Pn	**Pn**	**09 28 52.1**	**-1.7**
BIA				*e*Sn	**Sn**	**09 29 12.0**	**+0.8**
BIA	**Bitola**	**1.34**	**338**	*e*Pn	**Pn**	**09 28 52.0**	**-1.7**
BIA				*e*Sn	**Sn**	**09 29 12.0**	**+0.8**
LKR	**Lokris**	**1.38**	**144**	*e*PN	**Pn**	**09 28 54.5**	**+0.3**
SRN	**Sarande**	**1.52**	**275**	*e*PN	**Pn**	**09 28 56.9**	**+0.7**
SRN				*i* SN	**Sn**	**09 29 17.6**	**+1.9**
OHR	**Ohrid**	**1.61**	**326**	*e*Pn	**Pn**	**09 28 56.5**	**-0.9**
OHR				*e*Sn	**Sn**	**09 29 16.1**	**-1.7**
OHR	**Ohrid**	**1.61**	**326**	*e*Pn	**Pn**	**09 28 56.5**	**-0.9**
OHR				*e*Sn	**Sn**	**09 29 16.0**	**-1.8**
VAY	**Valandovo**	**1.61**	**16**	*e*Pn	**Pn**	**09 28 55.7**	**-1.7**
VAY				*e*Sn	**Sn**	**09 29 14.2**	**-3.6**
VAY	**Valandovo**	**1.61**	**16**	*e*Pn	**Pn**	**09 28 55.7**	**-1.7**
VAY				*e*Sn	**Sn**	**09 29 14.2**	**-3.6**
KEK	**Kerkira**	**1.68**	**269**	*e*PN	**Pn**	**09 28 58.4**	**0.0**
KEK	**Kerkira**	**1.68**	**269**	P	**Pn**	**09 28 59.7**	**+1.3**
KRUS	**Krusevo**	**1.69**	**341**	*e*Pn	**Pn**	**09 28 58.3**	**-0.2**
KRUS				*e*Sn	**Sn**	**09 29 19.4**	**-0.3**
KRUS	**Krusevo**	**1.69**	**341**	*e*Pn	**Pn**	**09 28 58.3**	**-0.2**
KRUS				*e*Sn	**Sn**	**09 29 19.4**	**-0.3**
RLS	**Riolos of Patr**	**1.76**	**193**	P	**Pn**	**09 29 02.8**	**+3.3**
RLS	**Riolos of Patr**	**1.76**	**193**	*e*PN	**Pn**	**09 29 00.9**	**+1.4**
STIP	**Stip**	**1.92**	**5**	*e*Pn	**Pn**	**09 29 01.9**	**+0.1**
VLS	**Valsamata**	**1.93**	**215**	*e*PN	**Pn**	**09 29 02.5**	**+0.7**
VLS	**Valsamata**	**1.93**	**215**	P	**Pn**	**09 29 04.4**	**+2.6**
NVR	**Nevrokopi**	**2.13**	**42**	*e*PN	**Pn**	**09 29 05.1**	**+0.5**
SKO	**Skopje**	**2.23**	**350**	*e*Pn	**Pn**	**09 29 08.8**	**+2.9**
SKO	**Skopje**	**2.23**	**350**	*e*Pn	**Pn**	**09 29 08.8**	**+2.8**
PHP	**Peshkopia**	**2.23**	**329**	*i* PN	**Pn**	**09 29 07.9**	**+1.9**
TIR	**Tirane**	**2.25**	**315**	*e*PN	**Pn**	**09 29 09.9**	**+3.7**
ATH	**Athens Observa**	**2.26**	**142**	*e*PB	**Pb**	**09 29 07.6**	**-2.5**
NAIG	**Nisos Aigina**	**2.34**	**149**	*e*PB	**Pb**	**09 29 10.0**	**-1.4**
QSH	**Qafa e Shtames**	**2.35**	**319**	*e*PN	**Pn**	**09 29 12.2**	**+4.6**
KVR	**Kavouri**	**2.40**	**144**	*e*PN	**Pn**	**09 29 09.0**	**+0.7**
ITM	**Ithomi**	**2.59**	**181**	*e*Pb	**Pb**	**09 29 12.2**	**-3.6**
ITM				P		09 29 18.0	
BCI	**Bajram Curri**	**2.96**	**332**	*e*PN	**Pn**	**09 29 19.9**	**+3.9**
VTS	**Vitosha**	**2.96**	**18**	P	**Pn**	**09 29 16.6**	**+0.5**
VLI	**Veliai**	**3.15**	**166**	*e*PN	**Pn**	**09 29 18.6**	**+0.1**
VLI	**Veliai**	**3.15**	**166**	P	**Pn**	**09 29 19.2**	**+0.7**
MGR	**Morigerati**	**4.95**	**276**	Pn	**Pn**	**09 29 43.4**	**+0.1**
SGO	**Sicignano**	**5.17**	**281**	Pn	**Pn**	**09 29 45.4**	**-0.9**
	9.6nm,0.4s						
NB2	**NORSAR Subarra**	**22.31**	**346**	P	**P**	**09 33 25.2**	**-0.9**
	comp=Z,0.5nm,0.6s,baz=159,slow=11						

ISCJB 11 09:29:30.6±0.4, 3983N±002×2186E±003, h8km±4km, Error ellipse: s-maj=3.9km s-min=3.0km az=2.8
CSEM 11 09:29:31.5±0.1, 3982N×2186E, h15km, MD3.3, Error ellipse: s-maj=1.7km s-min=1.5km az=143.0
ATH 11 09:29:31.1, 3975N×2184E, h25km±1km, MD3.3/6
NEIC 11 09:29:31.1, 3975N×2184E, h25km, MD3.3(ATH), After ATH.
THE 11 09:29:31.9, 3983N×2189E, h2km, ML3.7

ISC 11 09:29:31.6±0.4, 3981N±002×2187E±003, h11km±5km, n26, σ0§87/44, 2C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THL	**Klokotos Trika**	**0.27**	**156**	*e*Pg	**Pg**	**09 29 37.0**	**-0.1**
THL				*e*Sg	**Sg**	**09 29 41.6**	**+0.8**
THL	**Klokotos Trika**	**0.27**	**156**	⇑*i*PB	**Pg**	**09 29 37.1**	**0.0**
THL				*e*SB	**Sg**	**09 29 41.3**	**+0.5**
THL	**Klokotos Trika**	**0.27**	**156**	*e*Pg	**Pg**	**09 29 37.0**	**-0.1**
THL				*e*Sg	**Sg**	**09 29 41.6**	**+0.8**
MEV	**Metsovon**	**0.50**	**267**	*e*Pg	**Pg**	**09 29 41.4**	**+0.1**
KZN	**Kozani**	**0.50**	**351**	⇑*i*PN	**Pg**	**09 29 42.7**	**+1.4**
KZN				*e*SN	**Sg**	**09 29 51.3**	**+3.4**
LIT	**Litokhoron**	**0.55**	**59**	*e*Pg	**Pg**	**09 29 42.1**	**-0.2**
LIT				*e*Sg	**Sg**	**09 29 50.4**	**+0.7**
JAN	**Janina**	**0.

ms1mx3.1/14, Error ellipse: s-maj=38.1km s-min=28.9km az=28.0
*NEIC **11** 09:57:20.3±1.0, 3285S×17846W, h10km, Error ellipse: s-maj=24.3km s-min=19.9km az=108.0*

ISC 11 09:57:26.8±1.8, 3297S±009×1789W±03, h35km, n18, σ0°77/10, mb4.3/5, MS3.6/2, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.22**	**211**	Pn	**Pn**	**09 58 54.4**	**-1.6**
	1.8nm,0.3s,baz=5.5,slow=23,SNR=19						
URZ				Sn	**Sn**	**10 00 06.6**	**+0.7**
	3.6nm,0.3s,baz=152,slow=18,SNR=3.4						
TBI	**Tubuai**	**27.55**	**77**	*e*T		10 31 53.4	
	3.8nm,0.3s						
PAE	**Paea**	**30.40**	**67**	*e*T		10 35 24.0	
	7.2nm,0.2s						
PPT	**Papeete**	**30.46**	**67**	*e*LR	LR	10 11 04.5	
	77nm,28.8s						
PPT	**Papeete**	**30.46**	**67**	LR	LR	10 13 50.6	
	comp=Z,141nm,18.4s,MS3.6,baz=270,slow=33						
STKA	**Stephens Creek**	**33.27**	**261**	P	**P**	**10 04 01.3**	**+0.4**
	1.9nm,1.0s,mb4.0,baz=53,slow=5.1,SNR=2.7						
STKA				LR	LR	10 16 49.1	
	comp=Z,96nm,21.1s,MS3.5,baz=189,slow=35						
CTA	**Charters Tower**	**33.59**	**284**	P	**P**	**10 04 04.7**	**+0.9**
CTA	**Charters Tower**	**33.59**	**284**	P	**P**	**10 04 04.7**	**+0.9**
	4.8nm,0.6s,mb4.6,baz=103,slow=14,SNR=4.4						
ASAR	**Alice Springs**	**42.32**	**270**	P	**P**	**10 05 17.1**	**-0.3**
	2.1nm,0.7s,mb3.9,baz=112,slow=7.5,SNR=42						
WB2	**Warramunga Arr**	**43.53**	**275**	*e*P	**P**	**10 05 27.0**	**-0.2**
WRA	**Warramunga Arr**	**43.54**	**275**	P	**P**	**10 05 26.7**	**-0.6**
	3.8nm,0.4s,mb4.5,baz=114,slow=8.0,SNR=135						
QSPA	**South Pole Qui**	**57.15**	**180**	P	**P**	**10 07 10.0**	**+0.6**
QSPA	**South Pole Qui**	**57.15**	**180**	P	**P**	**10 07 10.0**	**+0.6**
	2.8nm,0.7s,mb4.4,baz=33,slow=1.8,SNR=19						
ZAA0	**Zalesovo Array**	**119.45**	**318**	*e*PKPdf	PKPdf	10 16 08.1	-3.9
FINES	**FINESS Array B**	**147.28**	**338**	PKPbc	PKPbc	10 17 02.9	-2.8
	2.5nm,0.5s,baz=49,slow=5.8,SNR=12						
NB2	**NORSAR Subarra151.16**	**350**		PKP	PKPdf	10 17 12.7	+3.1
	comp=Z,0.9nm,0.7s,baz=13,slow=2.4						
NOA	**NORSAR Array B151.16**	**350**		PKPbc	PKPbc	10 17 12.9	-2.5
	comp=Z,0.8nm,0.9s,baz=22,slow=4.6,SNR=5.9						
AKASG	**Malin Array Be**	**152.83**	**319**	PKPbc	PKPbc	10 17 16.9	-2.6
	comp=Z,0.2nm,0.3s,baz=40,slow=2.7,SNR=4.4						

IDC 11 10:10:43.6±2.1, 928N×8984E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/21, mbtmp3.6/5, MS3.3/2, Ms1 3.4/2, ms1mx2.9/25, Error ellipse: s-maj=84.1km s-min=22.6km az=67.0, Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**3.71**	**50**	*e*P	x	10 11 40.1	
PBA				*e*S	x	10 11 54.6	
PBA				*e*x	x	10 12 47.9	
	comp=E,2μm,0.8s						
PBA				*e*x	x	10 12 47.9	
	comp=N,1μm,0.8s						
MKAR	**Makanchi Array**	**37.94**	**352**	P	P	10 18 03.2	+0.5
	comp=N,0.1nm,0.4s,baz=121,slow=40,SNR=2.8						
MKAR				LR	LR	10 35 30.0	
	comp=N,26nm,19.8s,baz=358,slow=39						
SONM	**Songino Array**	**40.90**	**17**	P	P	10 18 27.3	-0.2
	comp=N,1.3nm,0.8s,baz=151,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**52.55**	**124**	P	P	10 19 58.1	-1.2
	comp=N,1.3nm,0.7s,baz=300,slow=9.7,SNR=19						
ASAR	**Alice Springs**	**54.10**	**128**	P	P	10 20 11.3	+0.7
	comp=N,0.8nm,0.8s,baz=302,slow=7.2,SNR=6.5						
STKA	**Stephens Creek**	**64.17**	**132**	P	P	10 21 21.6	+1.3
	comp=N,0.7nm,0.6s,baz=318,slow=17,SNR=3.1						
NOA	**NORSAR Array B**	**76.43**	**331**	LR	LR	10 56 18.9	
	comp=N,25nm,18.3s,baz=240,slow=36						
CPUP	**Villa Florida**	**144.58**	**237**	PKP	PKPdf	10 30 21.0	-1.9
	comp=N,0.6nm,0.5s,baz=260,slow=6.1,SNR=3.9						

IDC 11 10:55:37.1±1.2, 2634S×17727W, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.9/12, mbtmp3.8/4, Error ellipse: s-maj=64.8km s-min=27.7km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**44.12**	**262**	P	P	11 03 47.4	-0.1
	0.8nm,0.8s,baz=96,slow=7.8,SNR=7.7						
WRA	**Warramunga Arr**	**44.75**	**268**	P	P	11 03 53.5	+1.0
	0.6nm,0.5s,baz=105,slow=8.0,SNR=9.0						
FITZ	**Fitzroy Crossi**	**53.13**	**266**	P	P	11 04 57.3	+0.4
	1.2nm,0.8s,baz=104,slow=8.3,SNR=2.9						
NVAR	**Mina Array Bea**	**84.83**	**43**	P	P	11 08 15.8	+2.3
	1.0nm,0.7s,baz=224,slow=7.6,SNR=10						
NB2	**NORSAR Subarra144.84**	**353**		PKP	PKPdf	11 15 11.7	-3.7
	comp=Z,2.0nm,0.8s,baz=11,slow=3.6						
NOA	**NORSAR Array B144.84**	**353**		PKP	PKPdf	11 15 13.1	-2.4
	comp=Z,3.2nm,0.8s,baz=13,slow=2.4,SNR=11						
AKASG	**Malin Array Be**	**148.36**	**327**	PKPbc	PKPbc	11 15 22.4	-2.8
	comp=Z,0.3nm,0.3s,baz=47,slow=3.4,SNR=3.3						
TORD	**Torodi Ar. Bea**	**166.84**	**176**	PKP	PKPdf	11 15 43.2	-2.3
	comp=Z,0.6nm,0.9s,baz=240,slow=4.8,SNR=3.7						
TORD				PKPab	PKPab	11 16 48.5	+0.3
	comp=Z,0.8nm,0.8s,baz=169,slow=3.5,SNR=3.1						

*NIED **11** 11:00:00, 2730N×12840E, h56km, Mw3.9 Best double couple: M0:8.89000×10^14 NP1:φ0=201.00000°, δ53.00000°, λ100.00000°. NP2:φ0=5.00000°, δ38.00000°, λ77.00000°.*

JMA 11 11:00:18.8±0.1, 2731N×12843E, h45km±3km, M3.6, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIH	**Iheya**	**0.49**	**236**	P	Pn	11 00 29.7	0.0
JIH				S	Sn	11 00 37.2	-0.2
JOW	**Kunigami**	**0.50**	**196**	P	Pn	11 00 29.6	-0.1
JOW				S	Sn	11 00 37.2	-0.2
JTK	**Tokunoshima**	**0.66**	**44**	P	Pn	11 00 32.0	+0.1
JTK				S	Sn	11 00 41.0	-0.2
JAGN	**Aguni-jima**	**1.28**	**236**	P	Pn	11 00 40.1	-0.1
JAGN				S	Sn	11 00 55.5	-0.7
NAH1	**Naha**	**1.29**	**211**	S	Sn	11 00 57.1	+0.8
JJT2	**Tamagusuku 2**	**1.32**	**208**	P	Pn	11 00 41.8	+1.1
JAM	**Amami Oshima**	**1.51**	**43**	P	Pn	11 00 43.7	+0.3
JZK	**Kikaishima**	**1.69**	**53**	P	Pn	11 00 47.3	+1.4
JKE	**Kume jima 2**	**1.77**	**237**	P	Pn	11 00 46.6	-0.3
JKE				*e*S	Sn	11 01 07.1	-1.1
JNN	**Nakanoshima**	**2.82**	**26**	P	Pn	11 01 01.6	+0.2
JNN				*e*S	Sn	11 01 33.2	-1.0
JKC	**Kuchinoerabu**	**3.50**	**26**	P	Pn	11 01 11.3	+0.6
JKC				*e*S	Sn	11 01 49.6	-1.3

*IDC **11** 11:03:07.0±2.1, 3393S×17874W, h0km, mb4.2/3, mb1 4.4/4, mb1mx4.0/13, mbtmp4.3/4, ML4.3/1, MS3.7/1, Ms1 3.7/1, ms1mx2.8/24, Error ellipse: s-maj=64.5km s-min=35.2km az=143.0*
*NEIC **11** 11:03:07.8±1.0, 3398S×17867W, h10km, mb4.3/1, Error ellipse: s-maj=28.4km s-min=16.1km az=129.0*

ISC 11 11:03:12.1±5.2, 341S±02×1788W±08, h35km, n9, σ0°45/6, mb4.1/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.34**	**217**	Pn	**Pn**	**11 04 29.3**	**0.0**
	10nm,0.3s,baz=22,slow=4.4,SNR=84						
URZ				Sn	**Sn**	**11 05 29.5**	**0.0**
	9.3nm,0.3s,baz=132,slow=23,SNR=13						
STKA	**Stephens Creek**	**33.19**	**263**	P	**P**	**11 09 45.8**	**+0.4**
	0.9nm,0.7s,mb3.8,baz=100,slow=11,SNR=3.0						
ASAR	**Alice Springs**	**42.40**	**271**	P	**P**	**11 11 03.6**	**+0.3**
	3.6nm,0.7s,mb4.1,baz=112,slow=7.3,SNR=29						
WRAB	**Tennant Creek**	**43.72**	**276**	*e*P	**P**	**11 11 13.4**	**-0.5**
	4.5nm,0.8s,mb4.2						
WRA	**Warramunga Arr**	**43.72**	**276**	P	**P**	**11 11 13.9**	**-0.2**
	3.7nm,0.6s,mb4.3,baz=117,slow=7.6,SNR=57						
FITZ	**Fitzroy Crossi**	**51.81**	**273**	LR	LR	11 34 36.3	
	comp=Z,69nm,20.4s,baz=167,slow=36						
JOF	**Joensuu**	**145.55**	**336**	*e*p	PKPdf	11 22 44.7	-0.9
	2.6nm,0.5s						
FINES	**FINESS Array B**	**148.33**	**337**	PKPbc	PKPbc	11 22 53.5	-0.2
	2.5nm,0.6s,baz=44,slow=3.6,SNR=12						
NOA	**NORSAR Array B152.26**	**350**		PKPbc	PKPbc	11 23 03.3	+0.1
	0.9nm,0.6s,baz=17,slow=4.2,SNR=4.2						

IDC 11 11:06:08.0±11.0, 650S×12981E, h190km±96km, mb3.2/1, mb1 3.4/4, mb1mx3.1/14, mbtmp3.2/4, Error ellipse: s-maj=88.0km s-min=65.5km az=5.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.22**	**199**	P	Pn	11 08 56.4	+0.3
	0.3nm,0.3s,baz=22,slow=14,SNR=17						
FITZ				S	Sn	11 11 12.3	+0.2
	0.2nm,0.3s,baz=82,slow=19,SNR=4.3						
WRA	**Warramunga Arr**	**14.07**	**162**	P	Pn	11 09 18.5	-0.7
	0.6nm,0.3s,baz=344,slow=13,SNR=28						
WRA				S	Sn	11 11 55.4	-0.8
	0.6nm,0.3s,baz=340,slow=23,SNR=5.2						
ASAR	**Alice Springs**	**17.51**	**167**	P	Pn	11 10 01.1	+0.2
	1.2nm,0.3s,baz=344,slow=9.3,SNR=106						
STKA	**Stephens Creek**	**27.54**	**158**	P	P	11 11 36.5	-0.6
	0.5nm,0.4s,baz=333,slow=11,SNR=4.1						

*CSEM **11** 11:08:10.4±0.3, 3001N×3658E, h30km, ML3.1, Error ellipse: s-maj=7.7km s-min=5.5km az=104.0*
*HLW **11** 11:08:10.1, 3007N×3675E, h25km, Mb3.1*
*ISCJB **11** 11:08:11.7±0.9, 2987N±003×3632E±006, h0km, Error ellipse: s-maj=7.1km s-min=4.6km az=14.7*
*SGS **11** 11:08:12.2, 3002N×3631E, h6km*
*GII **11** 11:08:12.4±0.7, 2984N×3623E, h0km, ML2.5/10*

ISC 11 11:08:11.7±0.9, 2987N±003×3635E±006, h0km, n20, σ0°69/32, 2C-3D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.15**	**279**	Pg	**Pg**	**11 08 32.7**	**-1.1**
HRFI				Sg	**Sg**	**11 08 48.9**	**+0.1**
EIL	**Elat**	**1.23**	**261**	Pg	**Pg**	**11 08 34.6**	**-0.7**
EIL				Sg	**Sg**	**11 08 51.4**	**0.0**
MBH	**Mount Berech**	**1.25**	**267**	Pg	**Pg**	**11 08 35.0**	**-0.7**
MBH				Sg	**Sg**	**11 08 51.9**	**-0.1**
HQLS		**1.26**	**244**	P	**Pg**	**11 08 35.0**	**-0.8**
HQLS		**1.26**	**244**	P	**Pg**	**11 08 35.0**	**-0.8**
HQLS				S	**Sg**	**11 08 52.0**	**-0.2**
PRNI	**Paran**	**1.26**	**293**	Pg	**Pg**	**11 08 35.0**	**-0.9**
JLOS		**1.36**	**214**	P	**Pg**	**11 08 37.3**	**-0.5**
JLOS		**1.36**	**214**	P	**Pg**	**11 08 37.3**	**-0.4**
JLOS				S	**Sg**	**11 08 56.1**	**+0.8**
KRMI	**Paran Flat**	**1.43**	**280**	Pn	**Pn**	**11 08 38.3**	**-0.7**
KRMI				Sn	**Sn**	**11 08 58.3**	**-0.2**
HBST	**Basata**	**1.55**	**246**↑	*e*P	**Pn**	**11 08 40.3**	**-0.3**
HBST				S	**Sn**	**11 09 02.5**	**+1.1**
MZDA	**Masada**	**1.67**	**330**	Pn	**Pn**	**11 08 42.6**	**+0.4**
MZDA				Sn	**Sn**	**11 09 05.4**	**+1.1**
YTIR	**Yattir**	**1.83**	**325**	Pn	**Pn**	**11 08 44.9**	**+0.5**
RTMI	**Retamim**	**1.86**	**310**	Pn	**Pn**	**11 08 45.1**	**+0.4**
DSI	**Dead Sea**	**1.89**	**334**	Pn	**Pn**	**11 08 46.3**	**+1.0**
HDHB	**Dhahab**	**1.90**	**233**↓	*e*P	**Pn**	**11 08 45.7**	**+0.4**
HDHB				S	**Sn**	**11 09 10.5**	**+0.5**
KZIT	**Kziot**	**1.98**	**302**	Pn	**Pn**	**11 08 46.4**	**0.0**
KZIT				Sn	**Sn**	**11 09 12.3**	**+0.3**
RSHS		**2.07**	**221**	P	**Pn**	**11 08 46.9**	**-0.8**
HKAT	**Jabal Katrina**	**2.46**	**238**↑	*e*P	**Pn**	**11 08 53.1**	**0.0**
HKAT				S	**Sn**	**11 09 25.0**	**+1.2**
TR2		**2.73**	**238**	↓P	**Pn**	**11 08 56.6**	**-0.3**
TR2				S	**Sn**	**11 09 31.4**	**+0.8**
AMAG	**Maghara**	**2.83**	**287**↓	*e*P	**Pn**	**11 08 56.7**	**-1.4**

IDC 11 11:16:13.4±1.0, 018N×12610E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.8/16, mbtmp3.9/6, Error ellipse: s-maj=96.2km s-min=17.2km az=71.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.57**	**158**	P	P	11 21 05.0	+0.2
	2.7nm,0.7s,baz=338,slow=11,SNR=30						
ASAR	**Alice Springs**	**24.89**	**163**	P	P	11 21 39.6	+1.6
	2.2nm,0.7s,baz=348,slow=11,SNR=26						
STKA	**Stephens Creek**	**35.10**	**157**	P	P	11 23 06.8	-1.7
	0.9nm,0.5s,baz=335,slow=14,SNR=3.5						
KSRS	**Korea Array**	**37.12**	**2**	P	P	11 23 26.1	+0.3
	1.1nm,0.7s,baz=180,slow=9.2,SNR=4.0						
SONM	**Songino Array**	**50.46**	**343**	P	P	11 25 12.8	-0.1
	0.6nm,0.6s,baz=156,slow=8.2,SNR=4.6						
MKAR	**Makanchi Array**	**60.12**	**327**	P	P	11 26 22.6	-0.1
	0.8nm,0.4s,baz=117,slow=8.2,SNR=16						

IDC 11 11:16:51.6±28.0, 2169S×17354W, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/15, mbtmp4.0/4, Error ellipse: s-maj=515.0km s-min=156.8km az=77.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.53**	**265**	P	P	11 24 08.7	+1.1
	12nm,1.2s,baz=96,slow=12,SNR=6.1						
STKA	**Stephens Creek**	**41.07**	**246**	P	P	11 24 35.2	-1.9
	0.7nm,0.4s,baz=149,slow=18,SNR=4.5						
ASAR	**Alice Springs**	**48.31**	**257**	P	P	11 25 34.9	-0.2
	0.7nm,0.7s,baz=91,slow=7.2,SNR=10.0						
WRA	**Warramunga Arr**	**48.57**	**262**	P	P	11 25 37.6	+0.5
	0.7nm,0.4s,baz=94,slow=8.4,SNR=30						

*ISCJB **11** 11:18:02.7±0.9, 3734N±004×2020E±004, h20km±7km, Error ellipse: s-maj=7.4km s-min=4.5km az=35.4*
*CSEM **11** 11:18:02.9±0.1, 3733N×2036E, h5km, MD3.8, Error ellipse: s-maj=3.2km s-min=2.1km az=56.0*
*THE **11** 11:18:02.3, 3733N×2030E, h3km, ML4.0*
*ATH **11** 11:18:04.0, 3741N×2048E, h19km±3km, MD3.8/9*
*NEIC **11** 11:18:04.0, 3741N×2048E, h19km, MD3.8(ATH), After ATH.*

ISC 11 11:18:02.2±0.9, 3733N±004×2026E±004, h4km±5km, n43, σ1°05/66, 2C, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.88**	**28**	*e*Pg	**Pg**	**11 18 18.8**	**-0.3**
VLS	**Valsamata**	**0.88**	**17**	*e*Pg	**Pg**	**11 18 18.7**	**-0.4**
VLS				*e*Sg	**Sg**	**11 18 31.6**	**+1.1**
VLS	**Valsamata**	**0.88**	**17**	*e*PN	**Pg**	**11 18 18.5**	**-0.6**
VLS				*e*SN	**Sg**	**11 18 30.5**	**-0.1**
VLS	**Valsamata**	**0.88**	**17**	*e*Pg	**Pg**	**11 18 18.7**	**-0.4**
VLS				*e*Sn	**Sg**	**11 18 30.5**	**-0.1**
VLS				*e*Sg	**Sg**	**11 18 31.6**	**+1.0**
RLS	**Riolos of Patr**	**1.20**	**53**↑	*i*PN	**Pn**	**11 18 23.6**	**-2.1**
PYL	**PYLOS**	**1.26**	**110**	*e*Pg	**Pg**	**11 18 25.0**	**-1.4**
PYL				*e*Sg	**Sg**	**11 18 43.1**	**+0.4**
ITM	**Ithomi**	**1.34**	**96**	*e*PN	**Pn**	**11 18 26.5**	**-1.1**
ITM				*e*SN	**Sn**	**11 18 42.5**	**-3.3**
LKD	**Levkas**	**1.41**	**13**	*e*Pg	**Pg**	**11 18 28.1**	**-1.0**
LKD				*e*Sg	**Sg**	**11 18 48.8**	**+1.4**
SELA	**Sela**	**1.60**	**53**	*e*Pg	**Pn**	**11 18 31.3**	**+0.2**
SELA				*e*Sg	**Sg**	**11 18 52.7**	**-0.9**
VLX	**Vlachokerasia**	**1.69**	**88**	*e*Pb	**Pn**	**11 18 31.6**	**-0.8**
VLX				*e*Sb	**Sb**	**11 18 55.0**	**-0.3**
EVR	**Evrytania**	**2.00**	**37**	*e*PN	**Pn**	**11 18 37.3**	**+0.6**
VLI	**Veliai**	**2.23**	**105**	*e*PB	**Pn**	**11 18 39.9**	**+0.1**
AGG	**Agios Georgios**	**2.35**	**43**	*e*Pn	**Pn**	**11 18 42.0**	**+0.6**
AGG				*e*Sn	**Sn**	**11 19 11.5**	**+0.8**
JAN	**Janina**	**2.37**	**11**	*e*PB	**Pn**	**11 18 43.5**	**+1.8**
DID	**Didima**	**2.38**	**85**	*e*Pn	**Pn**	**11 18 42.3**	**+0.4**
DID				*e*Sn	**Sn**	**11 19 12.2**	**+0.7**
KEK	**Kerkira**	**2.40**	**351**	*e*PN	**Pn**	**11 18 43.5**	**+1.3**
KYTH	**Kithira**	**2.46**	**114**	*e*PB	**Pn**	**11 18 44.5**	**+1.4**
LKR	**Lokris**	**2.53**	**58**	*e*Pn	**Pn**	**11 18 43.5**	**-0.5**
LKR				*e*Sn	**Sn**	**11 19 15.4**	**+0.2**
MEV	**Metsovon**	**2.56**	**17**	*e*Pn	**Pn**	**11 18 44.2**	**-0.3**
THL	**Klokotos Trika**	**2.62**	**31**	*e*Pn	**Pn**	**11 18 45.4**	**+0.2**
THL	**Klokotos Trika**	**2.62**	**31**↑	*i*PB	**Pn**	**11 18 46.0**	**+0.8**
NEO	**Neokhori**	**3.05**	**49**	*e*PN	**Pn**	**11 18 50.5**	**-0.7**
XOR	**Xorichti**	**3.07**	**48**	*e*Pn	**Pn**	**11 18 50.9**	**-0.5**
KZN	**Kozani**	**3.19**	**21**	*e*PN	**Pn**	**11 18 54.3**	**+1.2**
LIT	**Litokhoron**	**3.27**	**32**	*e*Pn	**Pn**	**11 18 54.2**	**0.0**
LIT				*e*Sn	**Sn**	**11 19 34.7**	**+1.3**
FNA	**Florina**	**3.55**	**14**	*e*Pn	**Pn**	**11 18 58.8**	**+0.7**
BIA	**Bitola**	**3.77**	**12**	*e*Pn	**Pn**	**11 19 01.8**	**+0.7**
BIA				*e*Sn	**Sn**	**11 19 42.2**	**-3.7**
BIA	**Bitola**	**3.77**	**12**	*e*Pn	**Pn**	**11 19 01.7**	**+0.6**
BIA				*e*Sn	**Sn**	**11 19 42.1**	**-3.8**
OHR	**Ohrid**	**3.80**	**6**	*e*Pn	**Pn**	**11 19 00.6**	**-0.8**
OHR				*e*Sn	**Sn**	**11 19 42.4**	**-4.0**
OHR	**Ohrid**	**3.80**	**6**	*e*Pn	**Pn**	**11 19 00.5**	**-0.9**
OHR				*e*Sn	**Sn**	**11 19 42.3**	**-4.1**
THE	**Thessaloniki**	**3.91**	**32**	*e*Pn	**Pn**	**11 19 03.4**	**+0.5**
HORT	**Hortiatis**	**3.94**	**33**	*e*Pn	**Pn**	**11 19 03.0**	**-0.3**
GRG	**Griva**	**3.98**	**24**	*e*Pn	**Pn**	**11 19 03.6**	**-0.3**
KRUS	**Krusevo**	**4.10**	**10**	*e*Pn	**Pn**	**11 19 06.6**	**+1.0**
KRUS				*e*Sn	**Sn**	**11 19 52.7**	**-1.3**
KRUS	**Krusevo**	**4.10**	**10**	*e*Pn	**Pn**	**11 19 06.6**	**+1.0**
KRUS				*e*Sn	**Sn**	**11 19 52.6**	**-1.4**
PE1	**Pezze di Greco**	**4.11**	**328**	*e*Pn	**Pn**	**11 19 07.5**	**+1.8**
PE1				*e*Sn	**Sn**	**11 19 52.2**	**-2.0**
HAVL	**Avola**	**4.12**	**266**	Pn	**Pn**	**11 19 07.4**	**+1.6**
SOH	**Sokhos**	**4.23**	**34**	*e*Pn	**Pn**	**11 19 07.7**	**+0.3**
KNT	**Kendrikon**	**4.34**	**27**	*e*Pn	**Pn**	**11 19 09.1**	**+0.3**
VAY	**Valandovo**	**4.37**	**24**	*e*Pn	**Pn**	**11 19 03.9**	**-5.3**
VAY				*e*Sn	**Sn**	**11 19 54.8**	**-5.7**
VAY	**Valandovo**	**4.37**	**24**	*e*Pn	**Pn**	**11 19 03.8**	**-5.4**
VAY				*e*Sn	**Sn**	**11 19 54.8**	**-5.7**
SG1	**Sgolgore (BA)**	**4.47**	**323**	*e*Pn	**Pn**	**11 19 08.9**	**-1.8**
SG1				*e*Sn	**Sn**	**11 20 01.0**	**-2.2**
SGO	**Sicignano**	**5.03**	**311**	Pn	**Pn**	**11 19 22.9**	**+4.6**
	14nm,0.4s						

IDC 11 11:40:18.4±3.2, 5418N×8748E, h0km, mb1 2.9/1, mb1mx2.8/21, mbtmp2.9/1, ML2.5/1, Error ellipse: s-maj=25.9km s-min=12.6km az=72.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.59**	**263**	Pg	Pg	11 40 45.6	-3.1
	2.8nm,0.3s,baz=78,slow=15,SNR=29						
ZALV				Lg		11 41 09.8	
	3.0nm,0.3s,baz=85,slow=27,SNR=11						
MKAR	**Makanchi Array**	**8.10**	**206**	Pn	Pn	11 42 18.6	+1.5
	0.1nm,0.3s,baz=26,slow=14,SNR=5.4						
MKAR				Lg		11 44 37.4	
	0.1nm,0.3s,baz=16,slow=32,SNR=3.1						

*ISCJB **11** 11:44:33.4±3.0, 3014N±006×1310E±0.1, h33km±23km, mb3.7/9, MS3.3/5, Error ellipse: s-maj=21.1km s-min=9.9km az=6.2*
*NEIC **11** 11:44:35.8±1.1, 3014N×13096E, h36km±11km, mb4.4/1, Error ellipse: s-maj=16.9km s-min=9.9km az=103.0*
*IDC **11** 11:44:36.2±2.6, 3016N×13094E, h38km±24km, mb3.5/8, mb1 3.6/12, mb1mx3.6/24, mbtmp3.5/12, ML3.2/4, MS3.4/6, Ms1 3.4/6, ms1mx3.1/21, Error ellipse: s-maj=30.0km s-min=15.9km az=84.0*

ISC 11 11:44:35.9±1.2, 3015N±007×1310E±01, h36km±12km, n18, σ0°78/15, mb3.7/9, MS3.3/5, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNU	**Nakatsue**	**2.96**	**358**	Pn	**Pn**	**11 45 21.6**	**+1.2**
	5.2nm,0.3s,baz=192,slow=8.9,SNR=32						
JNU				Sn	**Sn**	**11 45 53.9**	**-0.9**
	3.0nm,0.3s,baz=176,slow=9.6,SNR=5.3						
JOW	**Kunigami**	**4.07**	**216**	Pn	**Pn**	**11 45 35.1**	**-0.6**
	3.2nm,0.3s,baz=75,slow=13,SNR=24						
JOW				Sn	Sx	11 46 19.8	
	13nm,0.3s,baz=243,slow=30,SNR=13						
KSRS	**Korea Array**	**7.72**	**342**	Pn	**Pn**	**11 46 26.6**	**+0.9**
	0.2nm,0.3s,baz=157,slow=14,SNR=8.3						
MJAR	**Matsushiro Arr**	**8.78**	**42**	Pn	**Pn**	**11 46 39.8**	**-0.5**
	0.3nm,0.3s,baz=239,slow=14,SNR=3.4						
ASAJ	**Asahikawa**	**16.71**	**30**	LR	LR	11 55 27.6	
	comp=Z,108nm,18.3s,baz=176,slow=39						
GUMO	**Guam**	**20.89**	**139**	LR	LR	11 55 36.8	
	comp=Z,46nm,19.6s,MS2.9,baz=274,slow=32						
SONM	**Songino Array**	**25.85**	**320**	P	**P**	**11 50 03.8**	**-0.1**
	0.9nm,0.6s,mb3.5,baz=121,slow=9.3,SNR=6.7						
SONM				LR	LR	12 00 10.4	
	comp=Z,119nm,18.1s,MS3.5,baz=232,slow=36						
ZALV	**Zalesovo Beam**	**40.74**	**319**	LR	LR	12 10 54.6	
	comp=Z,46nm,18.3s,MS3.4,baz=96,slow=39						
MKAR	**Makanchi Array**	**40.89**	**308**	P	**P**	**11 52 12.5**	**-2.0**
	0.7nm,0.7s,mb3.4,baz=89,slow=12,SNR=4.3						
MKAR				LR	LR	12 10 57.7	
	comp=Z,30nm,19.6s,MS3.2,baz=360,slow=39						
BVAR	**Borovoye Array**	**49.07**	**316**	P	**P**	**11 53 19.7**	**+0.4**
	2.0nm,0.6s,mb4.3,baz=87,slow=9.1,SNR=7.9						
BRVK	**Borovoye**	**49.13**	**316**	P	**P**	**11 53 20.5**	**+0.6**
	3.2nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**49.91**	**176**	P	**P**	**11 53 25.9**	**-0.1**
	0.4nm,0.7s,mb3.6,baz=355,slow=8.2,SNR=3.

comp=Z,2.0nm,1.0s
BVAR Borovoye Array 20.47 340 P **P** **11 50 28.3 +1.4**
BVAR pmax pmax
comp=Z,10.0nm,0.9s
BVAR Borovoye Array 20.47 340 P **P** **11 50 28.3 +1.4**
comp=Z,9.5nm,0.9s,baz=141,slow=9.6,SNR=15
BRVK Borovoye 20.53 340 *e*P **P** **11 50 28.7 +1.1**
BRVK pmax pmax
comp=Z,3.0nm,0.8s
BRVK Borovoye 20.53 340 *e*P **P** **11 50 28.7 +1.1**
comp=Z,3.4nm,0.8s
ZRNK Zerenda 20.83 338 P **P** **11 50 30.4 -0.3**
ZRNK pmax pmax
comp=Z,14nm,1.3s
AB31 Akbulak array 22.09 319 *i* P **P** **11 50 43.2 -1.1**
AB31 pmax pmax
comp=Z,5.0nm,0.8s,mb3.9
ZAK Zakamensk 22.42 38 *e*P **P** **11 50 47.2 -0.6**
ZAK pmax pmax
comp=Z,1.0nm,1.1s,mb3.1
GYA Guiyang 22.68 103 P **P** **11 50 54.8 +4.1**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.1
SONM Songino Array 22.77 46 P **P** **11 50 54.1 +2.6**
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM Songino Array 22.77 46 P **P** **11 50 54.1 +2.7**
comp=Z,1.6nm,0.8s,mb3.4,baz=238,slow=10.0,SNR=8.7
AKTK Aktyubinsk 23.79 320 P **P** **11 50 59.7 -1.5**
AKTO Aktyubinsk 23.79 320 P **P** **11 50 59.7 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,0.5s,mb3.4
AKTO Aktyubinsk 23.79 320 P **P** **11 50 59.7 -1.5**
comp=Z,1.2nm,0.5s,mb3.5,baz=131,slow=11,SNR=4.0
KSRS Korea Array 37.13 71 LR LR 12 10 01.6
comp=Z,65nm,18.1s,baz=306,slow=39
AKASG Malin Array Be 41.27 310 P **P** **11 53 33.1 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 41.27 310 P **P** **11 53 33.1 -0.2**
comp=Z,0.5nm,0.4s,mb3.7,baz=79,slow=7.6,SNR=5.3
FINES FINESS Array B 44.36 325 P **P** **11 53 58.8 +0.6**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 44.36 325 P **P** **11 53 58.8 +0.6**
comp=Z,0.6nm,0.5s,mb3.6,baz=120,slow=8.2,SNR=3.2
GERES GERESS Array B 51.41 308 P **P** **11 54 52.4 -0.5**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 51.41 308 P **P** **11 54 52.4 -0.5**
comp=Z,1.1nm,0.5s,mb4.2,baz=57,slow=9.4,SNR=2.8
NOA NORSAR Array B 51.48 324 P **P** **11 54 53.5 +0.3**
NOA pmax pmax
comp=Z,1.0nm,0.7s
NOA NORSAR Array B 51.48 324 P **P** **11 54 53.5 +0.2**
comp=Z,0.7nm,0.7s,mb3.8,baz=88,slow=7.4,SNR=3.4
HINF Hinteralfeld 56.10 308 *e*P **P** **11 55 27.5 +0.4**
comp=Z,13nm,0.8s,mb4.7
HAU Haudompre 56.37 309 *e*P **P** **11 55 29.3 +0.2**
LPG La Plagne 56.81 306 *e*P **P** **11 55 33.1 +0.9**
comp=Z,26nm,1.1s,mb4.9
LPL La Plagne 56.82 306 *e*P **P** **11 55 33.2 +0.9**
comp=Z,18nm,0.8s,mb4.9
SMF Signal de Mont 58.40 308 *e*P **P** **11 55 43.2 -0.2**
comp=Z,13nm,0.9s,mb4.6
TCF Toulx Ste Croi 59.58 308 *e*P **P** **11 55 51.9 +0.3**
WRA Warramunga Arr 73.43 129 P **P** **11 57 18.4 -1.7**
WRA pmax pmax
comp=Z,1.0nm,0.7s
WRA Warramunga Arr 73.43 129 P **P** **11 57 18.4 -1.7**
comp=Z,1.0nm,0.7s,mb3.7,baz=327,slow=5.7,SNR=5.8
INK Inuvik 74.36 13 P **P** **11 57 25.7 +0.7**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 74.36 13 P **P** **11 57 25.7 +0.7**
INK Inuvik 74.36 13 P **P** **11 57 25.7 +0.7**
comp=Z,1.0nm,0.8s,mb3.6,baz=10,slow=5.4,SNR=4.5
TORD Torodi Ar. Bea 74.72 276 P **P** **11 57 27.6 -0.3**
comp=Z,2.0nm,0.8s,mb3.9,baz=47,slow=5.4,SNR=12
ASAR Alice Springs 75.88 132 P **P** **11 57 34.3 +0.1**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 75.88 132 P **P** **11 57 34.2 0.0**
comp=Z,0.7nm,0.8s,mb3.5,baz=316,slow=6.6,SNR=8.0
BOSA Boshof 82.36 228 P **P** **11 58 08.4 -1.1**
BOSA pmax pmax
comp=Z,3.0nm,0.9s,mb4.1
BOSA Boshof 82.36 228 P **P** **11 58 08.4 -1.1**
comp=Z,2.7nm,0.9s,mb4.1,baz=45,slow=15,SNR=4.2
YKA Yellowknife Ar 82.66 8 P **P** **11 58 11.1 +0.4**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 82.66 8 P **P** **11 58 11.1 +0.4**
comp=Z,1.2nm,0.7s,mb3.9,baz=338,slow=5.4,SNR=18
LPAZ La Paz 147.72 296 PKPbc PKPbc 12 05 34.9 +2.4
comp=Z,0.4nm,0.4s,baz=68,slow=8.0,SNR=3.9

IDC 11 12:01:13.5±51.0, 1589S×17515W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/13, mbtmp3.8/3, Error ellipse: s-maj=969.2km s-min=170.2km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**42.33**	**240**	P	P	12 09 09.9	+0.5
	0.7nm,0.4s,baz=90,slow=10,SNR=2.4						
WRA	**Warramunga Arr**	**48.09**	**257**	P	P	12 09 54.9	-0.5
	0.3nm,0.9s,baz=95,slow=7.3,SNR=4.6						
ASAR	**Alice Springs**	**48.35**	**252**	P	P	12 09 57.1	-0.2
	1.7nm,0.5s,baz=89,slow=7.9,SNR=70						

IDC 11 12:36:17.7±1.9, 760S×12983E, h0km, mb3.5/1, mb1 3.6/4, mb1mx3.4/14, mbtmp3.4/4, ML3.2/3, Error ellipse: s-maj=59.9km s-min=24.0km az=80.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**11.21**	**201**	Pn	Pn	12 39 00.6	+1.2
	0.1nm,0.3s,baz=17,slow=14,SNR=14						
FITZ				Sn	Sn	12 41 04.5	-1.0
	0.1nm,0.3s,baz=320,slow=17,SNR=3.3						
WRA	**Warramunga Arr**	**13.03**	**161**	Pn	Pn	12 39 25.2	+0.9
	0.2nm,0.3s,baz=340,slow=12,SNR=13						
WRA				Sn	Sn	12 41 52.5	+2.5
	0.1nm,0.3s,baz=339,slow=21,SNR=5.6						
ASAR	**Alice Springs**	**16.45**	**167**	Pn	Pn	12 40 08.2	-1.8
	0.1nm,0.3s,baz=346,slow=10,SNR=15						
MKAR	**Makanchi Array**	**68.63**	**327**	P	P	12 47 22.8	+0.1
	0.2nm,0.4s,baz=120,slow=8.5,SNR=2.8						

*IDC **11** 12:51:47.1±1.1, 27.18S×177.26W, h0km, mb4.0/5, mb1 4.3/6, mb1mx4.1/12, mbtmp4.1/6, ML4.7/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/17, Error ellipse: s-maj=37.3km s-min=22.7km az=116.0*
*NEIC **11** 12:51:48.1±0.8, 27.13S×177.28W, h10km, Error ellipse: s-maj=28.9km s-min=16.9km az=110.0*
*ISCJB **11** 12:51:51.6±1.1, 27.10S±007×1775W±02, h33km, mb3.9/5, MS3.2/2, Error ellipse: s-maj=30.3km s-min=10.4km az=3.4*
ISC 11 12:51:53.3±1.1, 2712S±008×1774W±02, h35km, n17, σ1§24/9, mb3.9/5, MS3.2/2, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.17**	**192**	Pn	Pn	12 52 24.8	-2.1
RAO				Sn	Sn	12 52 53.8	+1.4
RAO	**Raoul Island**	**2.17**	**192**	Pn	Pn	12 52 24.8	-2.1
	247nm,0.3s,baz=255,slow=14,SNR=5.8						
RAO				Sn	Sn	12 52 53.8	+1.4
	290nm,0.3s,baz=73,slow=23,SNR=6.8						
TBI	**Tubuai**	**25.54**	**88**	*e*LR	LR	13 03 23.5	
	175nm,30.5s						
TBI	**Tubuai**	**25.54**	**88**	*e*T		13 23 12.8	
	3.4nm,0.3s						
PAE	**Paea**	**27.35**	**76**	*e*T		13 25 24.7	
	6.0nm,0.2s						
PPT	**Papeete**	**27.39**	**76**	*e*LR	LR	13 04 21.5	
	114nm,26.2s						
PPT	**Papeete**	**27.39**	**76**	LR	LR	13 05 25.4	
	comp=Z,79nm,19.1s,MS3.3,baz=226,slow=30						
HNR	**Honiara**	**27.70**	**305**	LR	LR	13 07 04.0	
	comp=Z,45nm,18.2s,MS3.1,baz=181,slow=33						
ASAR	**Alice Springs**	**43.90**	**263**	P	**P**	**12 59 55.9**	**-0.8**
	0.5nm,0.8s,mb3.3,baz=92,slow=7.1,SNR=8.4						
ASAR				PcP	PcP	13 01 43.2	+0.7
	0.6nm,1.0s,baz=78,slow=4.2,SNR=4.0						
WRA	**Warramunga Arr**	**44.60**	**269**	P	**P**	**13 00 01.7**	**-0.6**
	1.2nm,0.8s,mb3.8,baz=105,slow=7.8,SNR=6.8						
MJAR	**Matsushiro Arr**	**75.87**	**324**	P	**P**	**13 03 36.8**	**+0.8**
	3.7nm,0.9s,mb4.3,baz=155,slow=6.4,SNR=7.7						
KSRS	**Korea Array**	**82.21**	**319**	P	**P**	**13 04 12.4**	**+1.8**
	1.9nm,0.8s,mb4.1,baz=131,slow=6.2,SNR=8.1						
NVAR	**Mina Array Bea**	**85.48**	**43**	P	**P**	**13 04 26.9**	**-0.5**
	1.0nm,0.8s,mb4.0,baz=224,slow=9.2,SNR=8.2						
NB2	**NORSAR Subarra**	**145.59**	**353**	PKP	PKPdf	13 11 26.9	-0.2
	comp=Z,0.2nm,0.4s,baz=14,slow=3.2						
NOA	**NORSAR Array B**	**145.59**	**353**	PKPbc	PKPbc	13 11 25.4	-1.9
	comp=Z,0.8nm,0.7s,baz=16,slow=4.8,SNR=4.0						
HFS	**Hagfors**	**146.13**	**350**	PKPbc	PKPbc	13 11 26.9	-2.2
	comp=Z,2.8nm,1.0s,baz=56,slow=3.6,SNR=3.8						
AKASG	**Malin Array Be**	**148.94**	**326**	PKPbc	PKPbc	13 11 35.6	-1.4
	comp=Z,0.8nm,0.5s,baz=45,slow=3.5,SNR=5.3						

*IDC **11** 12:56:32.5±1.9, 42.10S×173.36E, h0km, mb3.7/2, mb1 4.0/4, mb1mx3.8/13, mbtmp3.8/4, ML3.8/2, Error ellipse: s-maj=44.9km s-min=29.8km az=136.0*
*ISCJB **11** 12:56:35.0±0.3, 42.43S±003×173.71E±004, h51km±6km, mb3.5/2, Error ellipse: s-maj=6.9km s-min=2.8km az=135.5*
*NEIC **11** 12:56:36.7, 42.35S×173.63E, h30km, ML4.4(WEL), After WEL.*
*WEL **11** 12:56:36.5±0.1, 42.35S×173.64E, h28km±1km, ML4.4/55, Error ellipse: s-maj=1.5km s-min=1.1km az=90.0*
WEL Felt in the Canterbury region, maximum reported intensity MM 4.
ISC 11 12:56:35.9±0.4, 4240S±003×17369E±004, h32km±3km, n162, σ0§91/233, mb3.5/2, 5C-27D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KHZ	**Kahutara**	**0.11**	**258**	⇑P	**Pb**	**12 56 42.0**	**+0.4**
KHZ				S	**Sb**	**12 56 45.6**	**+0.2**
KHZ	**Kahutara**	**0.11**	**258**	⇓P*	**Pb**	**12 56 42.0**	**+0.4**
KHZ				S*	**Sb**	**12 56 45.6**	**+0.1**
KHZ				S*	**Sb**	**12 56 45.6**	**+0.2**
KHZ	**Kahutara**	**0.11**	**258**	⇓P*	**Pb**	**12 56 42.0**	**+0.4**
KHZ				S*	**Sb**	**12 56 45.6**	**+0.1**
KHZ				S*	**Sb**	**12 56 45.6**	**+0.2**
BSWZ	**Blackbirch Sta**	**0.69**	**12**	P	**Pn**	**12 56 49.5**	**0.0**
BSWZ				S	**Sb**	**12 56 58.5**	**-0.4**
BSWZ	**Blackbirch Sta**	**0.69**	**12**	⇑P*	**Pb**	**12 56 49.5**	**-0.1**
BSWZ				S*	**Sb**	**12 56 58.6**	**-0.3**
BSWZ	**Blackbirch Sta**	**0.69**	**12**	⇑P*	**Pb**	**12 56 49.5**	**-0.1**
BSWZ				S*	**Sb**	**12 56 58.6**	**-0.3**
CMWZ	**Cape Campbell**	**0.76**	**32**	P	**Pn**	**12 56 51.3**	**+0.9**
CMWZ				S	**Sb**	**12 57 03.8**	**+3.2**
CMWZ	**Cape Campbell**	**0.76**	**32**	P*	**Pb**	**12 56 51.3**	**+0.6**
CMWZ	**Cape Campbell**	**0.76**	**32**	P*	**Pb**	**12 56 51.3**	**+0.6**
CMWZ				P*	**Pb**	**12 56 51.4**	**+0.8**
CMWZ				S*	**Sb**	**12 57 03.8**	**+3.2**
THZ	**Tophouse**	**0.86**	**317**	P	**Pn**	**12 56 50.9**	**-0.9**
THZ				S	**Sn**	**12 57 02.4**	**-0.8**
THZ	**Tophouse**	**0.86**	**317**	⇑P*	**Pb**	**12 56 51.1**	**-1.3**
THZ	**Tophouse**	**0.86**	**317**	⇑P*	**Pb**	**12 56 51.1**	**-1.3**
TUWZ	**Tuamarina**	**0.98**	**11**	⇓P*	**Pb**	**12 56 53.8**	**-0.7**
TUWZ				S*	**Sb**	**12 57 06.6**	**-0.4**
TUWZ	**Tuamarina**	**0.98**	**11**	⇓P*	**Pb**	**12 56 53.8**	**-0.7**
TUWZ				S*	**Sb**	**12 57 06.6**	**-0.4**
LTZ	**Lake Taylor**	**1.11**	**249**	⇓P	**Pn**	**12 56 56.1**	**+0.8**
LTZ				S	**Sn**	**12 57 09.5**	**-0.1**
LTZ	**Lake Taylor**	**1.11**	**249**	⇓PN	**Pn**	**12 56 56.1**	**+0.8**
LTZ	**Lake Taylor**	**1.11**	**249**	⇓PN	**Pn**	**12 56 56.1**	**+0.8**
NNZ	**Nelson**	**1.20**	**349**	P	**Pn**	**12 56 56.5**	**0.0**
NNZ	**Nelson**	**1.20**	**349**	PN	**Pn**	**12 56 56.5**	**0.0**
NNZ	**Nelson**	**1.20**	**349**	PN	**Pn**	**12 56 56.5**	**0.0**
TCW	**Tory Channel**	**1.26**	**21**	⇓P	**Pn**	**12 56 57.5**	**+0.2**
TCW	**Tory Channel**	**1.26**	**21**	⇓P*	**Pb**	**12 56 57.5**	**-1.6**
TCW	**Tory Channel**	**1.26**	**21**	⇓P*	**Pb**	**12 56 57.5**	**-1.6**
BHW	**Baring Head**	**1.32**	**42**	⇓P	**Pn**	**12 56 58.5**	**+0.3**
BHW	**Baring Head**	**1.32**	**42**	⇓P*	**Pn**	**12 56 58.5**	**+0.3**
BHW	**Baring Head**	**1.32**	**42**	⇓PN	**Pn**	**12 56 58.5**	**+0.3**
SNZO	**South Karori**	**1.32**	**35**	P	**Pn**	**12 56 58.3**	**+0.1**
SNZO	**South Karori**	**1.32**	**35**	P*	**Pb**	**12 56 58.3**	**-1.9**
SNZO	**South Karori**	**1.32**	**35**	P*	**Pb**	**12 56 58.3**	**-1.9**
WEL	**Wellington**	**1.37**	**37**	PN	**Pn**	**12 56 59.3**	**+0.4**
WEL	**Wellington**	**1.37**	**37**	PN	**Pn**	**12 56 59.3**	**+0.4**
MRW	**Makara Radio**	**1.39**	**33**	⇓P	**Pn**	**12 56 59.4**	**+0.3**
MRW	**Makara Radio**	**1.39**	**33**	⇓PN	**Pn**	**12 56 59.4**	**+0.3**
MRW	**Makara Radio**	**1.39**	**33**	⇓PN	**Pn**	**12 56 59.4**	**+0.3**
CRLZ	**Canterbury Las**	**1.42**	**213**	P	**Pn**	**12 56 59.6**	**+0.1**
CRLZ	**Canterbury Las**	**1.42**	**213**	PN	**Pn**	**12 56 59.6**	**+0.1**
CRLZ	**Canterbury Las**	**1.42**	**213**	PN	**Pn**	**12 56 59.6**	**+0.1**
MQZ	**McQueen's Vall**	**1.52**	**210**	P	**Pn**	**12 57 00.8**	**0.0**
MQZ	**McQueen's Vall**	**1.52**	**210**	PN	**Pn**	**12 57 00.8**	**0.0**
MQZ	**McQueen's Vall**	**1.52**	**210**	PN	**Pn**	**12 57 00.8**	**0.0**
MSWZ	**Moikau Station**	**1.52**	**51**	⇓PN	**Pn**	**12 57 01.1**	**+0.2**
MSWZ	**Moikau Station**	**1.52**	**51**	⇓PN	**Pn**	**12 57 01.1**	**+0.2**
DSZ	**Denniston Nort**	**1.54**	**294**	P	**Pn**	**12 57 01.6**	**+0.4**
DSZ	**Denniston Nort**	**1.54**	**294**	PN	**Pn**	**12 57 01.7**	**+0.4**
DSZ	**Denniston Nort**	**1.54**	**294**	PN	**Pn**	**12 57 01.7**	**+0.4**
DUWZ	**D'Urville Isla**	**1.60**	**6**	PN	**Pn**	**12 57 02.3**	**+0.3**
DUWZ	**D'Urville Isla**	**1.60**	**6**	PN	**Pn**	**12 57 02.3**	**+0.3**
PAWZ	**Paruwai Farm**	**1.65**	**53**	⇓P	**Pn**	**12 57 02.6**	**0.0**
PAWZ	**Paruwai Farm**	**1.65**	**53**	⇓PN	**Pn**	**12 57 02.6**	**-0.1**
PAWZ	**Paruwai Farm**	**1.65**	**53**	⇓PN	**Pn**	**12 57 02.6**	**-0.1**
CAW	**Cannon Point**	**1.65**	**39**	⇓P	**Pn**	**12 57 02.9**	**+0.2**
CAW	**Cannon Point**	**1.65**	**39**	⇓PN	**Pn**	**12 57 02.9**	**+0.2**
CAW	**Cannon Point**	**1.65**	**39**	⇓PN	**Pn**	**12 57 02.9**	**+0.2**
KIW	**Kapiti Island**	**1.79**	**31**	⇓P	**Pn**	**12 57 04.9**	**+0.4**
KIW				S	**Sn**	**12 57 25.2**	**-0.9**
KIW	**Kapiti Island**	**1.79**	**31**	⇓PN	**Pn**	**12 57 04.9**	**+0.4**
KIW				S*	**Sb**	**12 57 25.0**	**-4.9**
KIW	**Kapiti Island**	**1.79**	**31**	⇓PN	**Pn**	**12 57 04.9**	**+0.4**
KIW				PN	**Pn**	**12 57 05.0**	**+0.5**
KIW				S*	**Sb**	**12 57 25.0**	**-4.9**
KIW				S*	**Sb**	**12 57 25.2**	**-4.7**
QRZ	**Quartz Range**	**1.79**	**331**	P	**Pn**	**12 57 05.5**	**+0.9**
QRZ				S	**Sn**	**12 57 27.2**	**+1.0**
QRZ	**Quartz Range**	**1.79**	**331**	PN	**Pn**	**12 57 05.5**	**+0.9**
QRZ				SN	**Sn**	**12 57 26.1**	**-0.1**
QRZ	**Quartz Range**	**1.79**	**331**	PN	**Pn**	**12 57 05.5**	**+0.9**
QRZ				PN	**Pn**	**12 57 05.7**	**+1.1**
QRZ				SN	**Sn**	**12 57 26.1**	**-0.1**
QRZ				SN	**Sn**	**12 57 27.2**	**+1.0**
TRWZ	**Traveller**	**1.79**	**57**	PN	**Pn**	**12 57 04.4**	**-0.3**
TRWZ				S*	**Sb**	**12 57 26.1**	**-4.1**
TRWZ	**Traveller**	**1.79**	**57**	PN	**Pn**	**12 57 04.4**	**-0.3**
TRWZ				PN	**Pn**	**12 57 04.4**	**-0.2**
TRWZ				S*	**Sb**	**12 57 26.1**	**-4.1**
MTW	**Mount Morrison**	**1.84**	**48**	P	**Pn**	**12 57 04.9**	**-0.3**
MTW				S	**Sn**	**12 57 26.2**	**-1.2**
MTW	**Mount Morrison**	**1.84**	**48**	PN	**Pn**	**12 57 04.9**	**-0.4**
MTW				S*	**Sb**	**12 57 26.2**	**-5.2**
MTW	**Mount Morrison**	**1.84**	**48**	PN	**Pn**	**12 57 04.9**	**-0.4**
MTW				PN	**Pn**	**12 57 04.9**	**-0.3**
MTW				S*	**Sb**	**12 57 26.2**	**-5.2**
HOWZ	**Holdsworth Sta**	**2.03**	**43**	PN	**Pn**	**12 57 07.5**	**-0.4**
HOWZ				S*	**Sb**	**12 57 31.0**	**-6.0**
HOWZ	**Holdsworth Sta**	**2.03**	**43**	PN	**Pn**	**12 57 07.5**	**-0.4**
HOWZ				PN	**Pn**	**12 57 07.5**	**-0.3**
HOWZ				S*	**Sb**	**12 57 31.0**	**-6.0**
MRZ	**Mangatainoka R**	**2.24**	**40**	P	**Pn**	**12 57 10.4**	**-0.4**
MRZ				S	**Sn**	**12 57 36.2**	**-1.1**
MRZ	**Mangatainoka R**	**2.24**	**40**	PN	**Pn**	**12 57 10.4**	**-0.4**
MRZ				S*	**Sb**	**12 57 36.1**	**-6.9**
MRZ	**Mangatainoka R**	**2.24**	**40**	PN	**Pn**	**12 57 10.4**	**-0.4**
MRZ				PN	**Pn**	**12 57 10.5**	**-0.3**
MRZ				S*	**Sb**	**12 57 36.1**	**-6.9**
MRZ				S*	**Sb**	**12 57 36.2**	**-6.8**
WVZ	**Waitaha Valley**	**2.28**	**252**	P	**Pn**	**12 57 12.2**	**+0.9**
WVZ				S	**Sn**	**12 57 38.2**	**0.0**
WVZ	**Waitaha Valley**	**2.28**	**252**	PN	**Pn**	**12 57 12.2**	**+0.9**
WVZ				SN	**Sn**	**12 57 37.1**	**-1.2**
WVZ	**Waitaha Valley**	**2.28**	**252**	PN	**Pn**	**12 57 12.2**	**+0.9**
WVZ				PN	**Pn**	**12 57 12.2**	**+0.9**
WVZ				SN	**Sn**	**12 57 37.1**	**-1.2**
WVZ				SN	**Sn**	**12 57 38.2**	**-0.1**
TIWZ	**Tintock**	**2.31**	**46**	*e*PN	**Pn**	**12 57 11.0**	**-0.7**
TIWZ	**Tintock**	**2.31**	**46**	*e*PN	**Pn**	**12 57 11.0**	**-0.7**
TIWZ				PN	**Pn**	**12 57 11.1**	**-0.6**
RPZ	**Rata Peaks**	**2.34**	**235**	P	**Pn**	**12 57 12.1**	**0.0**
RPZ	**Rata Peaks**	**2.34**	**235**	Pn	**Pn**	**12 57 12.3**	**+0.1**
	47nm,0.3s,baz=82,slow=2.2,SNR=209						
RPZ				Sn	**Sn**	**12 57 39.1**	**-0.7**
	153nm,0.3s,baz=28,slow=21,SNR=74						
RPZ	**Rata Peaks**	**2.34**	**235**	PN	**Pn**	**12 57 11.9**	**-0.2**
RPZ	**Rata Peaks**	**2.34**	**235**	PN	**Pn**	**12 57 11.9**	**-0.2**
RPZ				PN	**Pn**	**12 57 12.1**	**0.0**
BFZ	**Birch Farm**	**2.57**	**49**	P	**Pn**	**12 57 14.6**	**-0.8**
BFZ	**Birch Farm**	**2.57**	**49**	PN	**Pn**	**12 57 14.6**	**-0.7**
WAZ	**Wanganui**	**2.81**	**21**	P	**Pn**	**12 57 20.6**	**+1.9**
WAZ	**Wanganui**	**2.81**	**21**	PN	**Pn**	**12 57 20.3**	**+1.6**
WAZ	**Wanganui**	**2.81**	**21**	PN	**Pn**	**12 57 20.3**	**+1.6**
WAZ				PN	**Pn**	**12 57 20.3**	**+1.9**
TSZ	**Takapari Road**	**2.90**	**37**	P	**Pn**	**12 57 19.2**	**-0.6**
TSZ	**Takapari Road**	**2.90**	**37**	PN	**Pn**	**12 57 19.1**	**-0.7**
TSZ	**Takapari Road**	**2.90**	**37**	PN	**Pn**	**12 57 19.1**	**-0.7**
TSZ				PN	**Pn**	**12 57 19.2**	**-0.6**
FOZ	**Fox Glacier**	**3.16**	**247**	P	**Pn**	**12 57 23.1**	**-0.3**
FOZ	**Fox Glacier**	**3.16**	**247**	*e*PN	**Pn**	**12 57 22.7**	**-0.7**
FOZ	**Fox Glacier**	**3.16**	**247**	*e*PN	**Pn**	**12 57 22.7**	**-0.7**
FOZ				PN	**Pn**	**12 57 23.1**	**-0.3**
PKE	**Pukeiti**	**3.20**	**4**	P	**Pn**	**12 57 26.6**	**+2.5**
PKE	**Pukeiti**	**3.20**	**4**	PN	**Pn**	**12 57 26.6**	**+2.5**
LBZ	**Lake Benmore**	**3.24**	**231**	P	**Pn**	**12 57 24.8**	**+0.3**
LBZ	**Lake Benmore**	**3.24**	**231**	*e*PN	**Pn**	**12 57 24.4**	**-0.1**
LBZ	**Lake Benmore**	**3.24**	**231**	*e*PN	**Pn**	**12 57 24.4**	**-0.1**
LBZ				PN	**Pn**	**12 57 24.8**	**+0.3**
MTVZ	**Mangateitei**	**3.30**	**25**	*e*PN	**Pn**	**12 57 26.6**	**+1.3**
MTVZ	**Mangateitei**	**3.30**	**25**	*e*PN	**Pn**	**12 57 26.6**	**+1.3**
MTVZ				PN	**Pn**	**12 57 26.7**	**+1.4**
PKVZ	**Pokaka**	**3.35**	**23**	*e*PN	**Pn**	**12 57 26.9**	**+0.9**
PKVZ	**Pokaka**	**3.35**	**23**	*e*PN	**Pn**	**12 57 26.9**	**+0.9**
PKVZ				PN	**Pn**	**12 57 27.2**	**+1.2**
VRZ	**Vera Road**	**3.37**	**14**	P	**Pn**	**12 57 27.8**	**+1.5**
VRZ	**Vera Road**	**3.37**	**14**	PN	**Pn**	**12 57 27.8**	**+1.6**
VRZ	**Vera Road**	**3.37**	**14**	PN	**Pn**	**12 57 27.8**	**+1.6**
MOVZ	**Moawhango**	**3.37**	**28**	P	**Pn**	**12 57 26.6**	**+0.3**
MOVZ	**Moawhango**	**3.37**	**28**	*e*PN	**Pn**	**12 57 26.2**	**-0.1**
MOVZ	**Moawhango**	**3.37**	**28**	*e*PN	**Pn**	**12 57 26.2**	**-0.1**
MOVZ				PN	**Pn**	**12 57 26.6**	**+0.3**
TRVZ	**Turoa**	**3.40**	**25**	PN	**Pn**	**12 57 27.8**	**+1.0**
TRVZ	**Turoa**	**3.40**	**25**	PN	**Pn**	**12 57 27.8**	**+1.0**
TRVZ				PN	**Pn**	**12 57 28.0**	**+1.2**
FWVZ	**Far West T-bar**	**3.44**	**25**	P	**Pn**	**12 57 27.3**	**0.0**
FWVZ	**Far West T-bar**	**3.44**	**25**	PN	**Pn**	**12 57 27.3**	**0.0**
ODZ	**Otahua Downs**	**3.45**	**219**	P	**Pn**	**12 57 27.3**	**-0.1**
ODZ	**Otahua Downs**	**3.45**	**219**	PN	**Pn**	**12 57 27.1**	**-0.3**
ODZ	**Otahua Downs**	**3.45**	**219**	PN	**Pn**	**12 57 27.1**	**-0.3**
ODZ				PN	**Pn**	**12 57 27.3**	**-0.1**
TUVZ	**Tukino**	**3.46**	**26**	P	**Pn**	**12 57 28.5**	**+0.9**
TUVZ	**Tukino**	**3.46**	**26**	*e*PN	**Pn**	**12 57 28.0**	**+0.4**
TUVZ	**Tukino**	**3.46**	**26**	*e*PN	**Pn**	**12 57 28.0**	**+0.4**
TUVZ				PN	**Pn**	**12 57 28.5**	**+0.9**
WPVZ	**Whakapapa**	**3.48**	**25**	P	**Pn**	**12 57 29.2**	**+1.3**
WPVZ	**Whakapapa**	**3.48**	**25**	*e*PN	**Pn**	**12 57 28.6**	**+0.7**
WPVZ	**Whakapapa**	**3.48**	**25**	*e*PN	**Pn**	**12 57 28.6**	**+0.7**
WPVZ				PN	**Pn**	**12 57 29.2**	**+1.3**
NGZ	**Ngauruhoe**	**3.53**	**25**	P	**Pn**	**12 57 29.8**	**+1.3**
NGZ	**Ngauruhoe**	**3.53**	**25**	PN	**Pn**	**12 57 29.5**	**+1.0**
NGZ	**Ngauruhoe**	**3.53**	**25**	PN	**Pn**	**12 57 29.5**	**+1.0**
NGZ				PN	**Pn**	**12 57 29.8**	**+1.3**
TWVZ	**Taurewa**	**3.58**	**22**	P	**Pn**	**12 57 30.0**	**+0.8**
TWVZ	**Taurewa**	**3.58**	**22**	*e*PN	**Pn**	**12 57 29.8**	**+0.7**
TWVZ	**Taurewa**	**3.58**	**22**	*e*PN	**Pn**	**12 57 29.8**	**+0.7**
TWVZ				PN	**Pn**	**12 57 30.0**	**+0.9**
BKZ	**Black Stump Fm**	**3.86**	**34**	P	**Pn**	**12 57 31.9**	**-1.2**
BKZ	**Black Stump Fm**	**3.86**	**34**	*e*PN	**Pn**	**12 57 31.4**	**-1.7**
BKZ	**Black Stump Fm**	**3.86**	**34**	*e*PN	**Pn**	**12 57 31.4**	**-1.7**
BKZ				PN	**Pn**	**12 57 31.9**	**-1.2**
JCZ	**Jackson Bay**	**3.97**	**243**	P	**Pn**	**12 57 35.2**	**+0.6**
JCZ	**Jackson Bay**	**3.97**	**243**	*e*PN	**Pn**	**12 57 34.9**	**+0.3**
JCZ	**Jackson Bay**	**3.97**	**243**	*e*PN	**Pn**	**12 57 34.9**	**+0.3**
JCZ				PN	**Pn**	**

8.9nm,1.2s,mb4.7,baz=65,slow=9.0,SNR=3.7
BOSA LR LR 13 41 41.1
comp=Z,323nm,18.8s,MS4.3,baz=57,slow=33
ZAA0 Zalesovo Array 54.34 13 *eP* **P 13 24 02.0 -0.4**
ZALV Zalesovo Beam 54.34 13 P **P 13 24 02.1 -0.3**
4.8nm,0.9s,mb4.4,baz=198,slow=9.0,SNR=14
ZALV LR LR 13 47 16.3
comp=Z,49nm,18.6s,MS3.6,baz=234,slow=36
SONM Songino Array 57.44 31 P **P 13 24 25.9 +1.2**
2.1nm,1.0s,mb4.1,baz=223,slow=6.6,SNR=10
SONM LR LR 13 49 21.3
comp=Z,165nm,20.9s,MS4.1,baz=172,slow=36
BATI Kupang 57.77 103 LR LR 13 45 12.0
comp=Z,375nm,21.0s,MS4.5,baz=251,slow=32
TORD Torodi Ar. Bea 65.43 284 P **P 13 25 19.2 -0.2**
TORD LR LR 13 53 38.4
TORD Torodi Ar. Bea 65.43 284 P **P 13 25 19.2 -0.2**
1.2nm,1.1s,mb3.8,baz=94,slow=5.8,SNR=3.5
TORD LR LR 13 53 38.4
comp=Z,105nm,18.2s,MS4.1,baz=105,slow=36
FINES FINESS Array B 67.24 340 LR LR 13 55 59.9
comp=Z,21nm,18.3s,MS3.4,baz=18,slow=37
WRA Warramunga Arr 69.49 112 P **P 13 25 44.8 -0.2**
2.1nm,0.8s,mb4.1,baz=288,slow=6.0,SNR=13
ASAR Alice Springs 69.75 116 P **P 13 25 46.0 -0.6**
1.8nm,1.0s,mb4.0,baz=279,slow=5.6,SNR=11
DBIC Dimbokro 71.61 276 LR LR 13 55 37.3
comp=Z,62nm,18.2s,MS3.9,baz=275,slow=34
TIXI Tiksi 80.03 17 *eP* **P 13 26 44.7 -0.4**
6.3nm,1.3s,mb4.4
CTA Charters Tower 80.62 111 LR LR 13 58 42.6
comp=Z,111nm,18.2s,MS4.2,baz=31,slow=33

IDC 11 13:18:27.8±6.8, 777S×15781E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.6/14, mbtmp3.8/4, ML4.5/1, Error ellipse: s-maj=135.1km s-min=26.0km az=16.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.69**	**128**	Pn	Pn	13 19 11.9	-0.4
	87nm,0.3s,baz=262,slow=4.2,SNR=15						
HNR				Sn	Sn	13 19 47.3	+1.8
	162nm,0.3s,baz=266,slow=22,SNR=12						
WRA	**Warramunga Arr**	**25.75**	**240**	P	P	13 23 59.5	-0.9
	1.2nm,0.7s,baz=67,slow=9.4,SNR=12						
ASAR	**Alice Springs**	**27.84**	**233**	P	P	13 24 20.0	+0.9
	0.7nm,0.9s,baz=61,slow=11,SNR=5.1						
STKA	**Stephens Creek**	**28.34**	**210**	P	P	13 24 24.1	+0.5
	0.8nm,0.5s,baz=26,slow=13,SNR=4.1						

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*IDC **11** 13:22:57.6±0.6, 855S×15756E, h0km, mb4.6/12, mb1 4.7/14, mb1mx4.7/16, mbtmp4.6/14, ML4.2/2, MS4.1/12, Ms1 4.1/12, ms1mx3.9/19, Error ellipse: s-maj=17.9km s-min=17.4km az=127.0*
*ISCJB **11** 13:22:58.2±0.2, 861S±005×15757E±004, h10km, mb4.9/62, MS4.3/24, Error ellipse: s-maj=6.9km s-min=6.1km az=168.5*
*BJI **11** 13:22:58.5, 830S×15773E, h10km, mB5.3, mb5.0, Ms5.0, Ms24.5*
*NEIC **11** 13:22:59.6±0.2, 858S×15760E, h10km, mb5.0/31, Error ellipse: s-maj=8.3km s-min=5.6km az=136.0*
*GCMT **11** 13:22:59.6±0.2, 889S×15763E, h14km, MW5.1/80, Moment Tensor Solution. s50,c65; s80,c119; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}4.21±.16; $M_{\theta\theta}$-2.24±.12; $M_{\phi\phi}$-1.97±.13; $M_{r\theta}$2.06±.25; $M_{r\phi}$1.76±.08; $M_{\theta\phi}$-1.28±.27; Best double couple: $M_0$4.71000×10^{16} NP1:ϕ_s317.00000°, δ30.00000°, λ99.00000°. NP2: ϕ_s128.00000°, δ60.00000°, λ85.00000°. Principal axes: T 4.8970, Plg74.0000°, Azm25.0000°; N -0.3740, Plg4.0000°, Azm130.0000°; P -4.5230, Plg15.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **11** 13:23:01.3±1.0, 862S×15764E, h33km, mb5.1/15 Error ellipse: s-maj=12.2km s-min=9.7km az=53.3*
ISC 11 13:22:59.9±0.3, 863S±005×15759E±004, h10km, (h23km±1.4km:pP-P), n126, σ1§03/125, mb4.9/62, MS4.3/24, 6C-2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.46**	**109**	*eP*	**Pn**	**13 23 37.2**	**-2.8**
HNR	**Honiara**	**2.46**	**109**	Pn	**Pn**	**13 23 37.8**	**-2.3**
	74nm,0.3s,baz=257,slow=1.4,SNR=20						
HNR				Sn	**Sn**	**13 24 12.8**	**+2.6**
	1μm,0.3s,baz=86,slow=23,SNR=10						
CTA	**Charters Tower**	**15.81**	**223**	*eP*	**Pn**	**13 26 44.9**	**+2.1**
	16nm,0.8s						
CTA	**Charters Tower**	**15.81**	**223**	*eP*	**Pn**	**13 26 44.9**	**+2.1**
CTA				pmax	pmax		
	comp=Z,16nm,0.8s						
CTA	**Charters Tower**	**15.81**	**223**	Pn	**Pn**	**13 26 42.5**	**-0.2**
	comp=Z,0.5nm,0.3s,baz=57,slow=13,SNR=6.2						
CTAO	**Charters Tower**	**15.81**	**223**	*eP*	**Pn**	**13 26 45.0**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,66nm,1.4s						
CTAO	**Charters Tower**	**15.81**	**223**	*eP*	**Pn**	**13 26 45.0**	**+2.2**
	comp=Z,66nm,1.4s						
EIDS	**Eidsvold**	**17.77**	**200**	*eP*	**Pn**	**13 27 08.1**	**+0.7**
	comp=Z,18nm,1.1s						
ARMA	**Armidale**	**22.39**	**194**	*eP*	**P**	**13 28 00.4**	**+2.0**
KAKA	**Kakadu**	**25.04**	**258**	*eP*	**P**	**13 28 24.7**	**+0.2**
	comp=Z,31nm,0.9s,mb4.8						
WRAB	**Tennant Creek**	**25.14**	**241**	P	**P**	**13 28 25.0**	**-0.3**
	comp=Z,338nm,0.9s,mb5.9,SNR=16						
WRAB	**Tennant Creek**	**25.14**	**241**	*eP*	**P**	**13 28 25.3**	**0.0**
WRAB	**Tennant Creek**	**25.14**	**241**	*eP*	**P**	**13 28 25.1**	**-0.3**
	comp=Z,53nm,0.9s,mb5.1						
WB2	**Warramunga Arr**	**25.14**	**241**	⇓*iP*	**P**	**13 28 25.2**	**-0.1**
WRA	**Warramunga Arr**	**25.15**	**241**	P	**P**	**13 28 25.4**	**0.0**
WRA						13 31 59.8	
WRA	**Warramunga Arr**	**25.15**	**241**	P	**P**	**13 28 25.4**	**-0.1**
	comp=Z,31nm,0.9s,mb4.8,baz=67,slow=9.2,SNR=86						
WRA				PcP	PcP	13 31 59.8	+0.2
	comp=Z,2.1nm,0.8s,baz=65,slow=2.3,SNR=6.8						
WRA				LR	LR	13 37 45.0	
	comp=Z,793nm,21.1s,MS4.2,baz=70,slow=35						
ASAR	**Alice Springs**	**27.16**	**234**	P	**P**	**13 28 42.5**	**-1.1**
	comp=Z,6.0nm,0.9s,mb4.1,baz=64,slow=9.1,SNR=40						
ASAR				PcP	PcP	13 32 03.9	-0.3
	comp=Z,1.4nm,0.8s,baz=41,slow=2.2,SNR=5.9						
STKA	**Stephens Creek**	**27.50**	**211**	*eP*	**P**	**13 28 46.6**	**0.0**
	comp=Z,11nm,0.7s,mb4.6						
STKA	**Stephens Creek**	**27.50**	**211**	P	**P**	**13 28 46.3**	**-0.3**
	comp=Z,12nm,0.7s,mb4.6,baz=32,slow=12,SNR=32						
STKA				LR	LR	13 39 29.9	
	comp=Z,359nm,19.1s,MS4.0,baz=20,slow=36						
CNB	**Canberra Magne**	**27.61**	**195**	*eP*	**P**	**13 28 40.9**	**-6.6**
	comp=Z,48nm,1.7s,mb4.8						
TOO	**Toolangi**	**30.83**	**199**	*eP*	**P**	**13 29 12.3**	**-3.7**
	comp=Z,140nm,0.9s,mb5.8						
TOO	**Toolangi**	**30.83**	**199**	*eP*	**P**	**13 29 12.3**	**-3.7**
TOO				pmax	pmax		
	comp=Z,140nm,0.9s,mb5.8						
FITZ	**Fitzroy Crossi**	**32.44**	**250**	*eP*	**P**	**13 29 30.0**	**-0.5**
	comp=Z,12nm,1.2s,mb4.6						
FORT	**Forrest**	**35.28**	**227**	*eP*	**P**	**13 29 51.6**	**-3.5**
	comp=Z,26nm,0.9s,mb5.2						
RPZ	**Rata Peaks**	**36.88**	**164**	LR	LR	13 43 47.4	
	comp=Z,343nm,18.9s,MS4.2,baz=331,slow=34						
KAPI	**Kappang**	**37.73**	**273**	P	**P**	**13 30 14.6**	**-1.7**
	comp=Z,12nm,0.8s,mb4.6,baz=110,slow=7.1,SNR=5.5						
MBWA	**Marble Bar**	**38.54**	**247**	*eP*	**P**	**13 30 22.6**	**-0.4**
	comp=Z,35nm,1.3s,mb4.9						
KKM	**Kota Kinabalu**	**43.75**	**288**	*eP*	**P**	**13 31 05.2**	**-0.8**
NWAO	**Narrogin (SRO)**	**44.41**	**231**	*eP*	**P**	**13 31 08.9**	**-2.1**
NWAO				pmax	pmax		
	comp=Z,21nm,1.3s						
NWAO	**Narrogin (SRO)**	**44.41**	**231**	*eP*	**P**	**13 31 08.9**	**-2.1**
	comp=Z,21nm,1.3s,mb4.7						
NWAO	**Narrogin (SRO)**	**44.41**	**231**	LR	LR	13 49 06.8	
	comp=Z,477nm,19.6s,MS4.4,baz=57,slow=35						
KSM	**Kuching**	**48.18**	**280**	*eP*	**P**	**13 31 39.8**	**-1.2**
MJAR	**Matsushiro Arr**	**48.48**	**339**	LR	LR	13 50 05.2	
	comp=Z,197nm,19.1s,MS4.1,baz=180,slow=34						
MAT	**Matsushiro**	**48.48**	**339**	P	**P**	**13 31 41.6**	**-1.2**
PPT	**Papeete**	**52.08**	**105**	*eS*	**S**	**13 39 31.4**	**-3.3**
	comp=Z,335nm,29.5s						
PPT				*e*LQ		13 45 21.4	
	comp=Z,420nm,28.2s						
PPT				*e*LR	LR	13 47 12.6	
	comp=Z,490nm,28.5s,baz=289						
PPT	**Papeete**	**52.08**	**105**	LR	LR	13 48 06.1	
	comp=Z,254nm,20.2s,MS4.2,baz=283,slow=29						
TVO	**Taravao**	**52.39**	**106**	*eP*	**P**	**13 32 13.4**	**+0.6**
	comp=Z,66nm,1.4s,mb5.4						
TVO	**Taravao**	**52.39**	**106**	*eP*	**P**	**13 32 13.4**	**+0.6**
TVO				pmax	pmax		
	comp=Z,66nm,1.4s,mb5.4						
TBI	**Tubuai**	**52.67**	**113**	*e*LQ		13 45 16.7	
	comp=Z,731nm,30.8s						
TBI				*e*LR	LR	13 47 29.7	
	comp=Z,183nm,31.0s						
KSRS	**Korea Array**	**53.59**	**331**	P	**P**	**13 32 18.1**	**-3.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=150,slow=7.6,SNR=12						
PMOR	**Pomariorio Ree**	**53.62**	**102**	*eP*	**P**	**13 32 22.5**	**+0.6**
	comp=Z,64nm,1.3s,mb5.4						
QIZ	**Qiongzhong**	**54.50**	**301**	P	**P**	**13 32 28.4**	**+0.1**
QIZ				S	**S**	**13 40 09.0**	**+1.3**
QIZ				AMB	AMB		
	comp=Z,25nm,2.2s,mb4.9						
QIZ				AMB	AMB		
	comp=Z,186nm,3.3s						
QIZ				LR	LR		
	comp=Z,247nm,16.4s,MS4.4						
NJ2	**Nanjing**	**54.81**	**319**	*eP*	**P**	**13 32 30.4**	**+0.1**
NJ2				PCP	PcP	13 33 31.6	-1.0
NJ2				S	**S**	**13 40 07.0**	**-4.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,260nm,5.7s						
NJ2				LR	LR		
	comp=N,350nm,12.4s						
NJ2				LR	LR		
	comp=E,360nm,22.8s						
NJ2				LR	LR		
	comp=Z,380nm,24.2s						
YSS	**Yuzh-Sakhalins**	**56.89**	**348**	*eP*	**P**	**13 32 51.0**	**+6.1**
WHN	**Wuhan**	**56.90**	**315**	P	**P**	**13 32 46.6**	**+1.3**
KULM	**Kulim**	**58.44**	**282**	*eP*	**P**	**13 32 55.5**	**-1.0**
MDJ	**Mudanjiang**	**58.72**	**337**	P	**P**	**13 32 58.2**	**+0.4**
MDJ				AP	pP	13 33 03.1	+2.1
MDJ				PCP	PcP	13 33 48.3	+0.7
MDJ				PP	PP	13 35 08.4	+0.5
MDJ				PCS	PcS	13 37 48.1	-1.0
MDJ				S	**S**	**13 41 04.4**	**+1.8**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,136nm,5.1s						
MDJ				LR	LR		
	comp=N,71nm,23.0s,MS3.8						
MDJ				LR	LR		
	comp=E,46nm,19.8s,MS3.8						
MDJ				LR	LR		
	comp=Z,117nm,24.3s,MS3.9						
MDJ	**Mudanjiang**	**58.72**	**337**	*eP*	**P**	**13 32 58.2**	**+0.4**
	comp=Z,5.1nm,0.7s,mb4.7						
CN2	**Changchun**	**59.77**	**334**	*eP*	**P**	**13 33 05.3**	**+0.2**
CN2				*e*AP	pP	13 33 12.0	+3.7
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
GYA	**Guiyang**	**60.48**	**307**	P	**P**	**13 33 11.1**	**+0.7**
GYA				PCP	PcP	13 33 56.8	+1.7
GYA				PP	PP	13 35 28.2	+4.3
GYA				S	**S**	**13 41 27.2**	**+1.1**
GYA				SCS	ScS	13 42 59.6	-2.1
GYA				SS	SS	13 45 27.0	+2.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,290nm,6.1s						
GYA				LR	LR		
	comp=N,480nm,19.6s,MS4.8						
GYA				LR	LR		
	comp=E,460nm,20.4s,MS4.8						
GYA				LR	LR		
	comp=Z,470nm,22.2s,MS4.6						
PET	**Petropavlovsk**	**61.41**	**1**	*eP*	**P**	**13 33 20.8**	**+4.7**
PET				*e*S	**S**	**13 41 41.6**	**+4.6**
PET				pmax	pmax		
	comp=Z,100nm,14.0s						
PET				pmax	pmax		
	comp=Z,21nm,1.3s,mb5.1						
TAOE	**Nuku Hiva Isla**	**61.47**	**95**	*e*LR	LR	13 51 28.9	
	comp=Z,6μm,29.1s						
KLR	**Kul'dur**	**61.91**	**341**	*eP*	**P**	**13 33 11.7**	**-7.8**
XAN	**Xi'an**	**62.66**	**315**	P	**P**	**13 33 24.5**	**-0.4**
XAN				AP	pP	13 33 32.5	+4.3
XAN				PP	PP	13 35 46.5	+3.5
XAN				S	**S**	**13 41 50.2**	**-3.3**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.7						
XAN				AMB	AMB		
	comp=Z,78nm,4.7s						
XAN				LR	LR		
	comp=N,91nm,17.1s,MS4.2						
XAN				LR	LR		
	comp=E,115nm,16.2s,MS4.2						
XAN				LR	LR		
	comp=Z,192nm,18.3s,MS4.3						
KMI	**Kunming**	**63.06**	**304**	⇑P	**P**	**13 33 29.1**	**+1.4**
KMI				AP	pP	13 33 33.6	+2.6
KMI				PP	PP	13 35 51.2	+4.6
KMI				S	**S**	**13 42 01.8**	**+3.0**
KMI				XS	sS	13 42 05.6	+1.5
KMI				AMB	AMB		
	comp=Z,18nm,1.4s,mb5.0						
KMI				AMB	AMB		
	comp=Z,213nm,4.5s						
KMI				LR	LR		
	comp=N,153nm,18.7s,MS4.4						
KMI				LR	LR		
	comp=E,154nm,17.0s,MS4.4						
KMI				LR	LR		
	comp=Z,154nm,16.4s,MS4.3						
CHTO	**Chiang Mai**	**63.93**	**296**	*eP*	**P**	**13 33 33.9**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
CHTO	**Chiang Mai**	**63.93**	**296**	*eP*	**P**	**13 33 33.9**	**+0.3**
	comp=Z,14nm,1.0s,mb4.9						
CD2	**Chengdu**	**64.83**	**310**	⇑*iP*	**P**	**13 33 40.2**	**+0.9**
CD2				AP	pP	13 33 48.5	+6.0
CD2				PP	PP	13 36 05.8	+3.7
CD2				PCS		13 38 15.9	
CD2				S	**S**	**13 42 20.1**	**-0.5**
CD2				SCS	ScS	13 43 31.2	-3.3
CD2				SS	SS	13 46 33.8	+1.5
CD2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.7						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,130nm,15.6s						
CD2				LR	LR		
	comp=Z,180nm,16.8s,MS4.3						
HHC	**Hu-ho-hao-te**	**64.93**	**323**	*eP*	**P**	**13 33 42.6**	**+2.9**
HHC				AP	pP	13 33 49.8	+6.8
HHC				PCP	PcP	13 34 15.3	+2.4
HHC				PP	PP	13 36 07.6	+4.8
HHC				S	**S**	**13 42 25.5**	**+4.0**
HHC				SCS	ScS	13 43 32.1	-2.7
HHC				AMB	AMB		
	comp=Z,24nm,1.3s,mb5.1						
HHC				AMB	AMB		
	comp=Z,180nm,5.0s						
HHC				LR	LR		
	comp=N,305nm,16.9s,MS4.7						
HHC				LR	LR		
	comp=E,308nm,15.0s,MS4.7						
HHC				LR	LR		
	comp=Z,219nm,16.1s,MS4.4						
LZH	**Lanzhou**	**67.28**	**315**	*eP*	**P**	**13 33 55.7**	**+0.8**
LZH				AP	pP	13 34 02.8	+4.6
LZH				PP	PP	13 36 26.5	+3.1
LZH				*e*S	S	13 42 49.7	-0.6
LZH				*e*SS	SS	13 47 11.3	+1.1
LZH				AMB	AMB		
	comp=Z,25nm,1.6s,mb5.0						
LZH				AMB	AMB		
	comp=Z,153nm,9.2s						
LZH				LR	LR		
	comp=E,498nm,17.2s						
LZH				LR	LR		
	comp=Z,695nm,19.5s,MS4.9						
MA2	**Magadan**	**68.20**	**356**	*eP*	**P**	**13 33 58.9**	**-1.3**
MA2				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
MA2	**Magadan**	**68.20**	**356**	*eP*	**P**	**13 33 58.9**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.4						
VNDA	**Vanda**	**68.90**	**179**	P	**P**	**13 34 04.0**	**-0.4**
	comp=Z,1.8nm,0.8s,mb4.0,baz=355,slow=3.9,SNR=7.0						
VNDA				LR	LR	14 00 12.8	
	comp=Z,162nm,18.8s,MS4.3,baz=354,slow=32						
CLNS	**Chul'man**	**70.56**	**342**	*eP*	**P**	**13 34 14.4**	**-0.5**
CLNS				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
CLNS				pmax	pmax		
	comp=N,11nm,1.2s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
SEY	**Seymchan**	**71.46**	**357**	*i*P	**P**	**13 34 19.1**	**-1.1**
GTA	**Gaotai**	**71.69**	**316**	*eP*	**P**	**13 34 23.2**	**+1.1**
GTA				AP	pP	13 34 30.2	+4.8
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,114nm,5.0s						
GTA				LR	LR		
	comp=N,127nm,15.7s,MS4.5						
GTA				LR	LR		
	comp=E,165nm,15.3s,MS4.5						
GTA				LR	LR		
	comp=Z,207nm,18.7s,MS4.4						
ULN	**Ulaanbaatar**	**71.76**	**327**	⇑*iP*	**P**	**13 34 23.1**	**+0.7**
ULN	**Ulaanbaatar**	**71.76**	**327**	*eP*	**P**	**13 34 23.1**	**+0.7**
	comp=Z,9.0nm,1.3s,mb4.5						
SONM	**Songino Array**	**72.10**	**327**	P	**P**	**13 34 25.1**	**+0.7**
	comp=Z,3.3nm,0.8s,mb4.3,baz=136,slow=5.0,SNR=20						
SONM				LR	LR	14 04 23.9	
	comp=Z,95nm,21.5s,MS4.0,baz=133,slow=34						
MIR	**Mirnyy**	**72.15**	**202**	⇑*iP*	**P**	**13 34 29.0**	**+4.5**
MIR				*i*		13 34 36.0	
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
YAK	**Yakutsk**	**73.71**	**347**	*eP*	**P**	**13 34 33.4**	**-0.2**
YAK				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
LSA	**Lhasa**	**74.31**	**304**	*eP*	**P**	**13 34 39.4**	**+1.5**
LSA	**Lhasa**	**74.31**	**304**	*eP*	**P**	**13 34 38.4**	**+0.5**
LSA				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
LSA	**Lhasa**	**74.31**	**304**	*eP*	**P**	**13 34 38.4**	**+0.5**
	comp=Z,22nm,1.0s,mb5.0						
BOD	**Bodaibo**	**75.08**	**338**	*eP*	**P**	**13 34 41.1**	**-0.6**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb4.2						
ZAK	**Zakamensk**	**75.24**	**327**	*eP*	**P**	**13 34 42.0**	**-0.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
BILL	**Bilibino**	**76.73**	**3**	⇑*iP*	**P**	**13 34 50.8**	**-0.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
BILL	**Bilibino**	**76.73**	**3**	*eP*	**P**	**13 34 50.5**	**-0.4**
	comp=Z,26nm,1.1s,mb5.1						
KDAK	**Kodiak Island**	**77.53**	**25**	P	**P**	**13 34 55.0**	**-0.6**
	comp=Z,100nm,0.8s,mb5.8,SNR=6.0						
KDAK	**Kodiak Island**	**77.53**	**25**	*eP*	**P**	**13 34 54.9**	**-0.7**
	comp=Z,12nm,0.8s,mb4.9						
GUN	**Gumba**	**78.16**	**301**	*eP*	**P**	**13 35 00.7**	**+0.9**
	comp=Z,28nm,0.8s,mb5.3						
PKI	**Pulchoki**	**78.47**	**300**	*eP*	**P**	**13 35 02.2**	**+0.7**
	comp=Z,12nm,0.6s,mb5.0						
SVW2	**Sparrevohn**	**78.55**	**21**	*eP*	**P**	**13 35 02.2**	**+0.9**
KKN	**Kakani**	**78.64**	**301**	*eP*	**P**	**13 35 03.2**	**+0.7**
DMN	**Daman**	**78.73**	**300**	*eP*	**P**	**13 35 04.0**	**+1.0**
	comp=Z,32nm,0.8s,mb5.3						
GKN	**Gorkha**	**79.24**	**301**	*eP*	**P**	**13 35 06.1**	**+0.3**
	comp=Z,28nm,1.0s,mb5.1						
TTA	**Tatalina**	**79.66**	**20**	*eP*	**P**	**13 35 07.9**	**+0.6**
KOLN	**Koldanda**	**80.08**	**301**	*eP*	**P**	**13 35 10.6**	**+0.3**
	comp=Z,24nm,0.7s,mb5.2						
DANN	**Dangsing**	**80.08**	**301**	*eP*	**P**	**13 35 10.4**	**0.0**
	comp=Z,18nm,0.8s,mb5.1						
PMR	**Palmer**	**81.26**	**23**	*eP*	**P**	**13 35 15.5**	**-0.4**
PMR				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
PMR				MLR	MLR		
	comp=Z,100nm,18.0s,MS4.2						
PMR	**Palmer**	**81.26**	**23**	*eP*	**P**	**13 35 15.5**	**-0.4**
	comp=Z,24nm,0.8s,mb5.2						
PMR				LR	LR		
	comp=Z,100nm,18.0s,MS4.2						
SML	**Sawmill**	**81.70**	**23**	*eP*	**P**	**13 35 18.1**	**-0.1**
WMQ	**Urumqi**	**81.77**	**317**	*eP*	**P**	**13 35 20.0**	**+1.0**
WMQ				AP	pP	13 35 27.0	+4.7
WMQ				PP	PP	13 38 29.0	+2.8
WMQ				S	S	13 45 31.0	-1.2
WMQ				SS	SS	13 50 52.0	+1.6
WMQ				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,75nm,6.0s						
WMQ				LR	LR		
	comp=N,46nm,18.0s,MS4.1						
WMQ				LR	LR		
	comp=E,61nm,18.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,65nm,18.0s,MS4.0						
TIXI	**Tiksi**	**82.34**	**351**	⇓*iP*	**P**	**13 35 20.9**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5						
TIXI	**Tiksi**	**82.34**	**351**	*eP*	**P**	**13 35 20.3**	**-1.1**
	comp=Z,15nm,1.5s,mb4.7						
IMA2	**Indian Mountai**	**82.53**	**18**	*eP*	**P**	**13 35 22.5**	**0.0**
MCK	**McKinley**	**82.62**	**21**	*eP*	**P**	**13 35 22.0**	**-1.0**
MCK				pmax	pmax		
	comp=Z,60nm,0.9s,mb5.6						
MCK	**McKinley**	**82.62**	**21**	*eP*	**P**	**13 35 22.0**	**-1.0**
	comp=Z,60nm,0.9s,mb5.6						
COLA	**College**	**83.68**	**20**	*c iP*	**P**	**13 35 27.3**	**-1.2**
COLA	**College**	**83.68**	**20**	*eP*	**P**	**13 35 27.3**	**-1.2**
	comp=Z,26nm,0.8s,mb5.4						
MAW	**Mawson**	**83.89**	**203**	*eP*	**P**	**13 35 29.1**	**-0.5**
	comp=Z,9.3nm,1.4s,mb4.7						
MAW	**Mawson**	**83.89**	**203**	*eP*	**P**	**13 35 29.1**	**-0.5**
MAW				pmax	pmax		
	comp=Z,9.0nm,1.4s						
MAW	**Mawson**	**83.89**	**203**	P	**P**	**13 35 29.2**	**-0.4**
	comp=Z,7.5nm,0.9s,mb4.8,baz=95,slow=5.2,SNR=9.3						
MAW				LR	LR	14 07 47.1	
	comp=Z,103nm,19.3s,MS4.2,baz=253,slow=32						
EGAK	**Eagle**	**86.03**	**22**	*eP*	**P**	**13 35 40.4**	**+0.1**
	comp=Z,12nm,0.8s,mb5.2						
SKAG	**Skagway**	**86.07**	**28**	*eP*	**P**	**13 35 41.2**	**+0.6**
	comp=Z,24nm,1.1s,mb5.3						
SKAG				LR	LR		
	comp=Z,200nm,20.0s,MS4.5						
MKAR	**Makanchi Array**	**86.33**	**318**	*i* P	**P**	**13 35 42.0**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**86.33**	**318**	P	**P**	**13 35 41.0**	**-1.2**
	comp=Z,3.2nm,0.7s,mb4.7,baz=100,slow=5.9,SN

BMO	Blue Mountains	92.56	45	*e*P	P	13 36 11.3	-0.4
	comp=Z,1.7nm,0.8s,mb4.5						
YKA	Yellowknife Ar	96.57	28	P	P	13 36 28.4	-1.2
	comp=Z,1.6nm,0.7s,mb4.6,baz=264,slow=4.7,SNR=27						
YKA				LR	LR	14 16 11.6	
	comp=Z,113nm,19.2s,MS4.4,baz=270,slow=33						
ALLY	Alegheny Colle	119.62	47	*e*PKPdf	PKPdf	13 41 46.8	-3.6
LPAZ	La Paz	128.42	119	PKP	PKPdf	13 42 08.6	+0.7
	comp=Z,2.2nm,1.0s,baz=351,slow=4.6,SNR=5.2						
ESDC	Sonseca Array	144.96	335	PKP	PKPdf	13 42 36.7	-1.1
	comp=Z,0.7nm,0.4s,baz=24,slow=3.5,SNR=5.1						
BDFB	Brasilia	145.00	133	PKPbc	PKPdf	13 42 37.3	-1.2
	comp=Z,7.2nm,0.8s,baz=211,slow=12,SNR=14						
TORD	Torodi Ar. Bea	155.92	283	PKP	PKPdf	13 42 54.1	-1.3
	comp=Z,0.7nm,0.8s,baz=41,slow=0.5,SNR=2.9						

IDC 11 13:40:05.6±5.3, 826S×15747E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/14, mbtmp3.8/4, ML4.1/1, Error ellipse: s-maj=116.6km s-min=24.9km az=6.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.71	116	Pn	Pn	13 40 50.1	-0.2
	36nm,0.3s,baz=257,slow=4.7,SNR=9.1						
HNR				Sn	Sn	13 41 24.6	+0.8
	71nm,0.3s,baz=268,slow=21,SNR=9.3						
WRA	Warramunga Arr	25.22	240	P	P	13 45 33.1	-0.2
	1.3nm,0.8s,baz=68,slow=9.1,SNR=4.6						
ASAR	Alice Springs	27.28	233	P	P	13 45 51.7	-0.2
	0.3nm,0.8s,baz=65,slow=8.9,SNR=3.5						
STKA	Stephens Creek	27.75	210	P	P	13 45 56.7	+0.6
	1.5nm,0.7s,baz=40,slow=12,SNR=3.3						

*NEIC **11** 13:40:36.1, 3783S×176.19E, h178km, MG3.7(WEL), After WEL.*

WEL 11 13:40:36.1±0.8, 3783S×17619E, h178km±6km, ML3.7/4, Error ellipse: s-maj=10.4km s-min=7.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.84	121	P	Pn	13 41 02.4	0.0
URZ	Urewera	0.84	121	PN	Pn	13 41 02.4	0.0
URZ				SN	Sn	13 41 22.8	+0.1
MWZ	Matawai	1.17	116	P	Pn	13 41 04.9	0.0
MWZ				S	Sn	13 41 25.8	-1.2
MWZ	Matawai	1.17	116	PN	Pn	13 41 04.9	0.0
MWZ				SN	Sn	13 41 25.8	-1.3
BKZ	Black Stump Fm	1.35	170	P	Pn	13 41 06.8	+0.3
BKZ	Black Stump Fm	1.35	170	PN	Pn	13 41 06.8	+0.4
KNZ	Kokohu	1.66	136	P	Pn	13 41 09.7	+0.3
KNZ	Kokohu	1.66	136	PN	Pn	13 41 09.7	+0.2
TIWZ	Tintock	2.95	184	PN	Pn	13 41 24.4	+0.4
CAW	Cannon Point	3.39	195	P	Pn	13 41 29.5	+0.2
CAW	Cannon Point	3.39	195	PN	Pn	13 41 29.5	+0.2

IDC 11 13:46:58.0±14.0, 726S×12942E, h158km±153km, mb2.8/1, mb1 2.7/4, mb1mx2.6/14, mbtmp2.6/4, ML2.7/2, Error ellipse: s-maj=104.8km s-min=56.7km az=30.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.39	199	P	Pn	13 49 36.1	-0.1
	0.0nm,0.3s,baz=26,slow=13,SNR=6.1						
FITZ				S	Sn	13 51 35.9	-6.4
	0.1nm,0.3s,baz=330,slow=20,SNR=2.9						
WRA	Warramunga Arr	13.48	160	P	Pn	13 50 02.0	-1.1
	0.0nm,0.3s,baz=338,slow=13,SNR=4.8						
WRA				S	Sn	13 52 23.3	-9.3
	0.2nm,0.3s,baz=336,slow=25,SNR=8.1						
ASAR	Alice Springs	16.88	166	P	Pn	13 50 45.5	+0.6
	0.0nm,0.3s,baz=346,slow=9.6,SNR=6.2						
MKAR	Makanchi Array	68.12	327	P	P	13 57 40.9	+0.1
	0.1nm,0.5s,baz=113,slow=7.8,SNR=2.9						

*NEIC **11** 14:17:29.9, 3827S×176.17E, h182km, MG3.9(WEL), After WEL.*

WEL 11 14:17:29.9±0.6, 3827S×17617E, h182km±5km, ML3.8/21, Error ellipse: s-maj=2.5km s-min=2.5km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMRZ	Omania	0.23	45	PN	Pn	14 17 54.2	+0.1
KARZ	Kaharoa	0.25	14	P	Pn	14 17 54.2	0.0
KARZ	Kaharoa	0.25	14	PN	Pn	14 17 54.2	0.0
TGRZ	Tauranga	0.54	8	P	Pn	14 17 55.1	0.0
TGRZ	Tauranga	0.54	8	PN	Pn	14 17 55.1	-0.1
RATZ	Rangitukua	0.67	207	P	Pn	14 17 55.9	+0.2
RATZ	Rangitukua	0.67	207	PN	Pn	14 17 55.9	+0.2
URZ	Urewera	0.74	90	P	Pn	14 17 55.8	-0.3
URZ	Urewera	0.74	90	PN	Pn	14 17 55.8	-0.3
BKZ	Black Stump Fm	0.93	164	P	Pn	14 17 57.1	-0.2
BKZ	Black Stump Fm	0.93	164	PN	Pn	14 17 57.1	-0.2
TWVZ	Taurewa	0.98	215	P	Pn	14 17 57.8	+0.1
TWVZ	Taurewa	0.98	215	PN	Pn	14 17 57.8	+0.2
NGZ	Ngauruhoe	1.01	206	P	Pn	14 17 57.9	+0.1
NGZ	Ngauruhoe	1.01	206	PN	Pn	14 17 57.9	0.0
WPVZ	Whakapapa	1.05	207	P	Pn	14 17 58.4	+0.2
WPVZ	Whakapapa	1.05	207	PN	Pn	14 17 58.4	+0.2
HIZ	Hauiti	1.06	256	P	Pn	14 17 58.3	+0.1
HIZ				S	Sn	14 18 20.0	-0.1
HIZ	Hauiti	1.06	256	PN	Pn	14 17 58.3	+0.1
HIZ				SN	Sn	14 18 20.0	-0.1
MWZ	Matawai	1.07	94	PN	Pn	14 17 58.5	+0.2
TUVZ	Tukino	1.08	202	P	Pn	14 17 58.7	+0.4
TUVZ	Tukino	1.08	202	PN	Pn	14 17 58.7	+0.4
FWVZ	Far West T-bar	1.10	206	P	Pn	14 17 58.5	0.0
FWVZ	Far West T-bar	1.10	206	PN	Pn	14 17 58.5	0.0
TRVZ	Turoa	1.14	205	PN	Pn	14 17 59.4	+0.6
MOVZ	Moawhango	1.18	196	P	Pn	14 17 59.0	-0.2
MOVZ	Moawhango	1.18	196	PN	Pn	14 17 59.0	-0.2
PKVZ	Pokaka	1.21	212	PN	Pn	14 17 59.4	0.0
MTVZ	Mangateitei	1.24	206	PN	Pn	14 17 59.8	+0.2
VRZ	Vera Road	1.40	232	P	Pn	14 18 01.2	+0.2
VRZ				S	Sn	14 18 25.7	+0.6
VRZ	Vera Road	1.40	232	PN	Pn	14 18 01.2	+0.1
VRZ				SN	Sn	14 18 25.7	+0.6
KNZ	Kokohu	1.40	123	P	Pn	14 18 01.7	+0.7
KNZ	Kokohu	1.40	123	PN	Pn	14 18 01.7	+0.7
PUZ	Puketiti	1.66	84	P	Pn	14 18 03.8	+0.3
PUZ	Puketiti	1.66	84	PN	Pn	14 18 03.8	+0.3
WAZ	Wanganui	1.75	211	P	Pn	14 18 04.3	-0.1
WAZ	Wanganui	1.75	211	PN	Pn	14 18 04.3	-0.1
TSZ	Takapari Road	1.79	185	P	Pn	14 18 04.9	0.0
TSZ	Takapari Road	1.79	185	PN	Pn	14 18 04.9	0.0
WPHZ	Waipukurau	1.81	173	PN	Pn	14 18 05.2	+0.2
MXZ	Matakaoa Point	1.83	68	P	Pn	14 18 06.0	+0.7
MXZ	Matakaoa Point	1.83	68	PN	Pn	14 18 06.0	+0.7
PXZ	Pawanui	1.84	163	PN	Pn	14 18 05.7	+0.4
BFZ	Birch Farm	2.41	179	P	Pn	14 18 11.0	-0.6
BFZ	Birch Farm	2.41	179	PN	Pn	14 18 11.0	-0.6
MRZ	Mangatainoka R	2.43	191	P	Pn	14 18 11.0	-0.8
MRZ	Mangatainoka R	2.43	191	PN	Pn	14 18 11.0	-0.9
TIWZ	Tintock	2.51	185	PN	Pn	14 18 12.1	-0.7
HOWZ	Holdsworth Sta	2.67	191	PN	Pn	14 18 13.4	-1.2
KIW	Kapiti Island	2.77	200	P	Pn	14 18 14.3	-1.4
KIW	Kapiti Island	2.77	200	PN	Pn	14 18 14.3	-1.4
MTW	Mount Morrison	2.93	190	P	Pn	14 18 16.1	-1.6
MTW	Mount Morrison	2.93	190	PN	Pn	14 18 16.1	-1.6
CAW	Cannon Point	2.96	196	P	Pn	14 18 16.6	-1.5
CAW	Cannon Point	2.96	196	PN	Pn	14 18 16.6	-1.5
DUWZ	D'Urville Isla	3.07	214	PN	Pn	14 18 17.8	-1.5
TRWZ	Traveller	3.15	187	PN	Pn	14 18 18.9	-1.4
PAWZ	Paruwai Farm	3.16	190	P	Pn	14 18 18.7	-1.8
PAWZ	Paruwai Farm	3.16	190	PN	Pn	14 18 18.7	-1.8
MRW	Makara Radio	3.17	200	P	Pn	14 18 18.8	-1.8
MRW	Makara Radio	3.17	200	PN	Pn	14 18 18.8	-1.7
WEL	Wellington	3.20	199	P	Pn	14 18 19.1	-1.9
WEL	Wellington	3.20	199	PN	Pn	14 18 19.1	-1.8
MSWZ	Moikau Station	3.22	192	P	Pn	14 18 19.3	-1.9
MSWZ	Moikau Station	3.22	192	PN	Pn	14 18 19.3	-1.9
SNZO	South Karori	3.24	200	P	Pn	14 18 19.5	-2.0
SNZO	South Karori	3.24	200	PN	Pn	14 18 19.5	-2.0
TCW	Tory Channel	3.28	206	P	Pn	14 18 20.1	-1.9
TCW	Tory Channel	3.28	206	PN	Pn	14 18 20.1	-1.9
BHW	Baring Head	3.29	197	P	Pn	14 18 20.1	-2.0
BHW	Baring Head	3.29	197	PN	Pn	14 18 20.1	-2.0
TUWZ	Tuamarina	3.59	208	PN	Pn	14 18 23.7	-2.1
NNZ	Nelson	3.65	215	P	Pn	14 18 24.1	-2.4
NNZ				S	Sn	14 19 07.3	-3.5
NNZ	Nelson	3.65	215	PN	Pn	14 18 24.1	-2.4
NNZ				SN	Sn	14 19 07.3	-3.5
QRZ	Quartz Range	3.80	227	P	Pn	14 18 25.4	-3.0
QRZ	Quartz Range	3.80	227	PN	Pn	14 18 25.4	-3.0
BSWZ	Blackbirch Sta	3.87	206	P	Pn	14 18 27.2	-2.0
BSWZ	Blackbirch Sta	3.87	206	PN	Pn	14 18 27.2	-2.1
THZ	Tophouse	4.30	215	P	Pn	14 18 32.2	-2.5
THZ	Tophouse	4.30	215	PN	Pn	14 18 32.2	-2.5
KHZ	Kahutara	4.60	205	P	Pn	14 18 36.5	-2.2
KHZ	Kahutara	4.60	205	PN	Pn	14 18 36.5	-2.2
DSZ	Denniston Nort	4.83	223	P	Pn	14 18 38.0	-3.5
DSZ	Denniston Nort	4.83	223	PN	Pn	14 18 38.0	-3.5
LTZ	Lake Taylor	5.40	212	P	Pn	14 18 45.5	-3.4
LTZ	Lake Taylor	5.40	212	PN	Pn	14 18 45.5	-3.4
MQZ	McQueen's Vall	6.05	205	PN	Pn	14 18 53.5	-3.9
RPZ	Rata Peaks	6.67	214	PN	Pn	14 19 02.3	-3.3
LBZ	Lake Benmore	7.59	214	P	Pn	14 19 13.5	-4.1
LBZ	Lake Benmore	7.59	214	PN	Pn	14 19 13.5	-4.1
ODZ	Otahua Downs	7.93	210	P	Pn	14 19 18.9	-3.2
ODZ	Otahua Downs	7.93	210	PN	Pn	14 19 18.9	-3.2

*NEIC **11** 14:26:41.3, 2948S×71.11W, h49km, MD4.2(GUC), After GUC.*
NEIC Felt at La Serena.

GUC 11 14:26:41.3±1.1, 2948S×7111W, h49km±13km, MD4.2, ML4.0, 2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	La Serena	0.45	196	*e*P	Pn	14 26 52.4	+0.5
LSCH				*i* S	Sn	14 26 59.9	+0.5
LCO	Las Campanas	0.58	37	*e*Pn	Pn	14 26 54.3	+0.8
LCO				*e*Sn	Sn	14 27 02.8	+0.5
TLL	Tololo Astrono	0.74	159	P	Pn	14 26 57.2	+1.7
TLL				*i* S	Sn	14 27 08.2	+2.4
TLL	Tololo Astrono	0.74	159	*e*P	Pn	14 26 57.2	+1.7
TLL				*i* S	Sn	14 27 08.2	+2.4
TLL				AML	AML	14 27 09.6	
	comp=E,3μm,0.5s						
VACH	Vallenar	0.95	19	||*i*P	Pn	14 26 59.1	+0.8
VACH				*i* S	Sn	14 27 11.6	+0.9
VACH	Vallenar	0.95	19	||*i*P	Pn	14 26 59.1	+0.8
VACH				*i* S	Sn	14 27 11.6	+0.9
VACH				AML	AML	14 27 13.0	
	comp=E,28μm,0.1s						
OVCH	Ovalle	1.13	184	*e*P	Pn	14 27 01.2	+0.5
OVCH				AML	AML	14 27 18.5	
	comp=N,2μm,0.2s						
CMCH	Combarbala	1.69	177	*e*P	Pn	14 27 09.1	+0.7
CMCH				*i* S	Sn	14 27 29.9	+1.0
CPCH	Copiapo	2.21	18	*e*P	Pn	14 27 15.8	+0.2
CPCH				*i* S	Sn	14 27 42.7	+1.1
CPCH	Copiapo	2.21	18	*e*P	Pn	14 27 15.8	+0.2
CPCH				*i* S	Sn	14 27 42.7	+1.1
CPCH				AML	AML	14 27 50.7	
	comp=E,7μm,0.1s						
JACH	Jahuel	3.23	172	*e*P	Pn	14 27 30.9	+1.5
PEL	Peldehue	3.67	174	*e*P	Pn	14 27 38.1	+2.5
FCH	Farellones	3.90	170	*e*P	Pn	14 27 41.5	+2.8
FCH				*i* S	Sn	14 28 28.3	+5.0
PCH	Pirque	4.16	173	*e*P	Pn	14 27 46.1	+3.8
TACH	Talagante	4.17	178	*e*P	Pn	14 27 44.7	+2.4
LMEL	Las Melosas	4.43	170	*e*P	Pn	14 27 50.1	+4.3
CHCH	Chadas Angostu	4.46	175	*e*P	Pn	14 27 49.4	+3.0

*CSEM **11** 14:39:39.7, 3486N×422W, h0km, MD3.5, After CNRM*

CNRM 11 14:39:39.7, 3486N×422W, h0km, MD3.5, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOU	Touzarine	0.40	75	*i* P	Pg	14 39 46.7	-0.6
TOU				*i* S	Sg	14 39 53.5	+1.1
MPAL	Palemas	0.43	32	*i* P	Pg	14 39 46.7	-1.3
MPAL				*i* S	Sg	14 39 53.5	0.0
DKH	Dar Kharkhour	1.12	304	*e*P	Pg	14 39 59.0	-2.3
DKH				*i* S	Sg	14 40 16.0	+0.1
CZD	Col de Zad	1.95	201	*e*P	Pn	14 40 14.0	0.0
CZD				*i* S	Sn	14 40 37.0	-2.1
ZFT	Errachidia	2.82	182	*e*P	Pn	14 40 25.0	-1.0
ZFT				*i* S	Sn	14 40 58.0	-2.7

*ISCJB **11** 14:40:38.6±0.8, 6957N±006×1445W±01, h10km, Error ellipse: s-maj=8.4km s-min=6.2km az=166.4*
*NEIC **11** 14:40:40.2, 6974N×14483W, h32km, ML3.7(PGC), ML3.7(AEIC), After AEIC.*
*PGC **11** 14:40:41.4±2.4, 6971N×14478W, h10km, ML3.7/1, 148km east of Prudhoe Bay, Ak Alaska*

ISC 11 14:40:40.9±0.9, 6959N±006×1446W±01, h10km, n28, σ1°09/36, Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	Burnt Mountain	2.18	180	P	Pn	14 41 16.8	-0.3
COLD	Coldfoot	3.15	224	P	Pn	14 41 29.4	-1.0
INK	Inuvik	4.19	103	*e*Pn	Pn	14 41 45.1	+0.3
INK	Inuvik	4.19	103	Pn	Pn	14 41 45.4	+0.7
INK				Sn	Sn	14 42 33.6	-0.1
COLA	College	4.90	197	P	Pn	14 41 54.5	0.0
IL1	Eielson Array	4.92	192	P	Pn	14 41 54.6	-0.1
IMA2	Indian Mountai	4.93	229	*e*P	Pn	14 41 55.1	+0.2
EGAK	Eagle	5.01	163	P	Pn	14 41 55.7	-0.2
EGAK				S	Sn	14 42 52.2	-1.6
IM3	Indian Mountai	5.02	228	P	Pn	14 41 53.6	-2.4
DAWY	Dawson	5.91	157	P	Pn	14 42 08.7	+0.4
DAWY				S	Sn	14 43 17.2	+1.2
DAWY	Dawson	5.91	157	Pn	Pn	14 42 08.8	+0.5
DAWY				Sn	Sn	14 43 15.2	-0.8
DOT	Dot Lake	5.97	178	P	Pn	14 42 10.3	+1.2
MCK	McKinley	6.13	198	P	Pn	14 42 11.3	0.0
KTH	Kantishna Hill	6.56	206	P	Pn	14 42 16.7	-0.6
TRF	Thorofare Moun	6.57	203	P	Pn	14 42 17.0	-0.3
BCA3	Beaver Creek A	6.64	169	P	Pn	14 42 18.6	+0.2
PAX	Paxson	6.66	183	P	Pn	14 42 19.3	+0.7
PAX				S	Sn	14 43 33.0	-1.3
MENT	Mentasta	6.69	177	P	Pn	14 42 19.3	+0.3
SML	Sawmill	7.96	193	*e*Pn	Pn	14 42 35.0	-1.4
HYT	Haines Junctio	9.28	158	Pn	Pn	14 42 55.0	+0.6
HYT				Sn	Sn	14 44 34.4	-4.3
SVW2	Sparrevohn	9.66	214	*e*P	Pn	14 43 02.0	+2.3
WHY	Whitehorse	9.83	151	Pn	Pn	14 43 02.5	+0.5
WHY				Sn	Sn	14 44 47.7	-4.6
PLBC	Pleasant Camp	10.75	157	Pn	Pn	14 43 16.6	+1.9
SKAG	Skagway	10.90	154	*e*Pn	Pn	14 43 17.0	+0.4
GAMB	Gambell	12.13	255	*e*Pn	Pn	14 43 35.7	+2.3
DLBC	Dease Lake	12.83	143	*e*Pn	Pn	14 43 43.2	+0.3
RES	Resolute Bay	15.62	49	*e*Pn	Pn	14 44 18.0	-2.6
RES				*e*Sn	Sn	14 46 58.6	-15
FCC	Fort Churchill	23.72	92	P	P	14 45 48.3	-4.3

*IDC **11** 14:42:31.9±1.3, 7.17S×15538E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.8/15, mbtmp3.9/7, ML4.2/1, Error ellipse: s-maj=34.0km s-min=25.2km az=122.0*
*NEIC **11** 14:42:32.7±0.6, 7.18S×15553E, h10km, mb4.0/2, Error ellipse: s-maj=14.8km s-min=13.1km az=181.0*
*ISCJB **11** 14:42:39.6±4.3, 7.4S±02×1558E±02, h90km±47km, mb3.6/8, Error ellipse: s-maj=38.3km s-min=17.9km az=142.5*

ISC 11 14:42:40.1±4.2, 74S±02×1557E±02, h78km±48km, n12, σ0°61/16, mb3.6/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.67	116	*e*Pn	Pn	14 43 47.0	-1.3
HNR				Pn	Pn	14 43 48.6	+0.4
HNR				Sn	Sn	14 44 41.0	-0.3
HNR				*e*Sn	Sn	14 44 42.2	+0.9
HNR	Honiara	4.67	116	Pn	Pn	14 43 48.6	+0.4
	9.9nm,0.3s,baz=108,slow=2.0,SNR=4.8						
HNR				Sn	Sn	14 44 41.0	-0.3
	7.9nm,0.3s,baz=274,slow=23,SNR=3.5						
WRAB	Tennant Creek	24.17	237	*e*P	P	14 47 49.3	0.0
	4.6nm,0.8s,mb3.9						
WB2	Warramunga Arr	24.17	237	*e*P	P	14 47 49.9	+0.5
WRA	Warramunga Arr	24.18	237	P	P	14 47 50.1	+0.7
	2.8nm,0.7s,mb3.7,baz=61,slow=9.9,SNR=31						
WRA				pP		14 48 03.8	
	0.5nm,0.5s,baz=61,slow=9.3,SNR=5.7						
ASAR	Alice Springs	26.45	230	P	P	14 48 09.2	-0.8
	0.3nm,0.5s,mb3.0,baz=62,slow=9.2,SNR=6.3						
ASAR				pP	pP	14 48 25.0	-3.0
	0.3nm,0.3s,baz=60,slow=9.4,SNR=12						
STKA	Stephens Creek	27.70	206	P	P	14 48 21.3	+0.2
	1.4nm,0.8s,mb3.5						
FITZ	Fitzroy Crossi	31.14	247	P	P	14 48 51.2	-0.6
	1.0nm,0.7s,mb3.7,baz=52,slow=10,SNR=4.3						
SONM	Songino Array	70.03	327	P	P	14 53 44.6	+1.1
	0.8nm,0.5s,mb3.8,baz=139,slow=5.5,SNR=9.5						
MK31	Makanchi Array	84.15	319	*e*P	P	14 55 02.1	-0.6
MKAR	Makanchi Array	84.15	319	P	P	14 55 02.7	0.0
	0.8nm,0.6s,mb3.7,baz=106,slow=7.1,SNR=6.6						
ZALV	Zalesovo Beam	84.88	326	P	P	14 55 05.8	-0.4
	0.5nm,0.5s,mb3.7,baz=96,slow=5.8,SNR=2.6						

*TEH **11** 14:49:07.7, 3685N×4929E, h5km, ML4.3*
*THR **11** 14:50:07.8±0.7, 3699N×4931E, h14km±5km, ML4.1*
*CSEM **11** 14:50:08.6±0.1, 3697N×4939E, h16km, mb3.7/3, Error ellipse: s-maj=2.2km s-min=1.3km az=38.0*
*NEIC **11** 14:50:09.7, 3685N×4929E, h5km, mb4.0/3, ML4.1(THR), MN4.3(TEH), After TEH.*
*ISCJB **11** 14:50:10.4±1.3, 3700N±004×4934E±004, h25km±13km, mb3.6/5, Error ellipse: s-maj=7.5km s-min=4.5km az=40.6*
*NNC **11** 14:50:24.0±12.0, 3760N×5132E, h0km, mb3.6, Error ellipse: s-maj=219.9km s-min=91.7km az=90.0*

ISC 11 14:50:08.7±1.1, 3692N±003×4928E±004, h2km±9km, n80, σ1°28/95, mb3.6/5, 5C-2D, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	Razeghan	1.60	161	*e*Pg	Pn	14 50 37.1	-0.8
IRAZ				*e*Sg	Sn	14 50 57.2	-1.9
IRAZ				*e*		14 51 05.1	
	comp=Z,45μm,0.2s						
IRAZ	Razeghan	1.60	161	*e*Pg	Pn	14 50 37.1	-0.8
IRAZ				*e*Sg	Sn	14 50 57.2	-1.9
THKV	Tehran--Karaj	1.63	127	*e*Pg	Pn	14 50 38.7	+0.2
THKV				*e*Sg	Sn	14 51 00.4	+0.4
THKV				AML	AML	14 51 01.9	
	comp=N,3μm,0.5s						
THKV				AML	AML	14 51 05.4	
	comp=E,4μm,0.5s						
THKV	Tehran--Karaj	1.63	127	Pg	Pn	14 50 38.0	-0.4
THKV				Sg	Sn	14 51 00.0	0.0
IMHD	Mahdasht	1.66	137	*e*Pn	Pn	14 50 38.7	-0.2
IMHD				*e*		14 50 39.5	
	comp=Z,46μm,0.1s						
IMHD				*e*Sn	Sn	14 51 00.9	+0.1
IMHD	Mahdasht	1.66	137	Pn	Pn	14 50 38.6	-0.3
IMHD				*e*Sn	Sn	14 51 00.9	+0.1
CHTH	Charan	1.80	123	Pg	Pn	14 50 41.0	+0.3
CHTH	Charan	1.80	123	*e*Pg	Pn	14 50 41.3	+0.6
IBST	Bostanabad	2.06	293	*e*Pn	Pn	14 50 44.8	+0.5
IBST				*e*		14 51 15.0	
	comp=Z,44μm,0.1s						
GRMI	Germi	2.19	330	Pg	Pn	14 50 46.0	-0.1
GRMI	Germi	2.19	330	*e*Pg	Pn	14 50 46.4	+0.3
GRMI				AML	AML	14 51 16.0	
	comp=N,637nm,0.3s						
GRMI				AML	AML	14 51 19.9	
	comp=E,817nm,0.3s						
IAFJ	Afjeh	2.23	118	*e*Pn	Pn	14 50 49.0	+2.3
IAFJ				*e*		14 51 21.3	
	comp=Z,13μm,0.3s						
IAFJ	Afjeh	2.23	118	Pn	Pn	14 50 48.9	+2.2
IHRS	Heris	2.26	309	*e*Pn	Pn	14 50 48.4	+1.3
IHRS				*e*		14 50 51.4	
	comp=Z,29μm,0.1s						
ASAO	Ashtian	2.44	165	Pn	Pn	14 50 50.0	+0.5
ASAO				Sg	Sg	14 51 26.0	-1.0
ASAO	Ashtian	2.44	165	*e*Pn	Pn	14 50 50.5	+1.0
ASAO				*e*Sg	Sg	14 51 26.4	-0.7
DAMV	Damavand	2.52	120	*e*Pg	Pn	14 50 53.8	+3.1
DAMV				AML	AML	14 51 30.1	
	comp=E,574nm,0.6s						
DAMV				AML	AML	14 51 30.8	
	comp=N,968nm,0.5s						
IPRN	Peran	2.55	104	Pn	Pn	14 50 51.3	+0.2
IPRN	Peran	2.55	104	*e*Pn	Pn	14 50 51.4	+0.3
IPRN				*e*		14 51 39.9	
	comp=Z,17μm,0.2s						
IDMV	Damavand	2.59	120	*e*Pn	Pn	14 50 53.1	+1.4
IDMV				*e*		14 51 34.0	
	comp=Z,5μm,0.2s						
IAZR	Azarshahr	2.74	287	*e*Pn	Pn	14 50 54.6	+0.9
IAZR				*e*		14 51 38.1	
	comp=Z,13μm,0.1s						
IAZR	Azarshahr	2.74	287	Pn	Pn	14 50 54.5	+0.8
ILIN	Lien	2.74	224	Pn	Pb	14 50 58.1	-0.3
ILIN	Lien	2.74	224	*e*Pn	Pb	14 50 58.2	-0.2
ILIN				*e*		14 51 43.6	
	comp=Z,4μm,0.4s						
ITBZ	Tabriz	2.81	299	Pn	Pn	14 50 55.6	+0.9
ITBZ				Sg	Sg	14 51 39.3	+0.1
ITBZ	Tabriz	2.81	299	*e*Pn	Pn	14 50 55.7	+1.0
ITBZ				*e*		14 51

IZEF					*e*			14 52 44.0
	comp=Z,609nm,0.2s							
IZEF	**Zefreh**	**4.73**	**147**		Pn	**Pn**	**14 51 20.6**	**-0.4**
GNI	**Garni**	**4.80**	**314**		*e*Pn	**Pn**	**14 51 19.8**	**-2.3**
GNI					*e*Pg	**Pg**	**14 51 36.6**	**-4.2**
MSL	**Mosul**	**5.02**	**265**		*ex*	x	14 51 25.0	
MSL					*ex*	x	14 51 48.0	
MSL					*ex*	x	14 52 25.0	
MSL					*ex*	x	14 52 58.0	
NASN	**Na'in**	**5.03**	**144**		*e*Pn	**Pn**	**14 51 26.0**	**+0.9**
IGAR	**Gharneh**	**5.04**	**152**		*e*Pn	**Pn**	**14 51 22.2**	**-3.1**
ISFR	**Sfrayin**	**6.98**	**86**		*e*Pn	**Pn**	**14 51 52.7**	**+0.7**
ISFR	**Sfrayin**	**6.98**	**86**		Pn	**Pn**	**14 51 52.6**	**+0.6**
MIB	**Mutribah**	**7.28**	**193**		*e*P	**Pn**	**14 51 52.3**	**-3.7**
MIB					AML	AML	14 53 15.8	
	comp=Z,6.9nm,0.6s							
IEMG	**Emamgholi**	**7.50**	**83**		*e*Pn	**Pn**	**14 51 58.0**	**-1.1**
IEMG	**Emamgholi**	**7.50**	**83**		Pn	**Pn**	**14 51 57.9**	**-1.2**
NAY	**Al-Naaiem**	**7.83**	**193**		*e*P	**Pn**	**14 52 00.2**	**-3.5**
NAY					AML	AML	14 53 29.0	
	comp=Z,2.0nm,0.5s							
RDF	**Al-Radifah**	**8.10**	**191**		*e*P	**Pn**	**14 52 03.9**	**-3.5**
RDF					AML	AML	14 53 38.8	
	comp=Z,3.0nm,0.3s							
IMYA	**Miami**	**8.72**	**91**		*e*Pn	**Pn**	**14 52 16.3**	**+0.5**
IMYA	**Miami**	**8.72**	**91**		Pn	**Pn**	**14 52 16.2**	**+0.4**
AB31	**Akbulak array**	**14.57**	**29**		⇑Pn	**Pn**	**14 53 30.2**	**-5.5**
	comp=Z,0.3nm,0.3s,baz=205,slow=12,SNR=14							
AB31					⇓Sn	**Sn**	**14 56 05.6**	**-12**
	comp=Z,1.0nm,0.5s,baz=198,slow=22,SNR=7.7							
AKTO	**Aktyubinsk**	**14.90**	**22**		⇑Pn	**Pn**	**14 53 34.8**	**-5.4**
AKTO					⇑Sn	**Sn**	**14 56 11.1**	**-15**
	comp=Z,0.1nm,0.7s							
KK31	**Karatay Array**	**17.38**	**63**		⇑P	**Pn**	**14 54 10.7**	**-1.6**
	comp=Z,4.4nm,1.2s,baz=286,slow=16,SNR=8.1							
ARU	**Arti**	**20.50**	**15**		P	**P**	**14 54 45.9**	**-1.9**
	comp=Z,15nm,1.1s							
ZRNK	**Zerenda**	**21.15**	**34**		⇑P	**P**	**14 54 53.8**	**-1.1**
	comp=Z,3.1nm,0.9s,mb3.6							
BRVK	**Borovoye**	**21.81**	**36**		*e*P	**P**	**14 55 00.6**	**-1.4**
	comp=Z,5.0nm,0.8s,mb4.0							
BRVK	**Borovoye**	**21.81**	**36**		*e*P	**P**	**14 55 00.6**	**-1.3**
	comp=Z,5.0nm,0.8s,mb4.0							
BVA0	**Borovoye Array**	**21.84**	**36**		⇓P	**P**	**14 55 00.5**	**-1.7**
	comp=Z,1.4nm,0.8s,mb3.4,baz=229,slow=9.3,SNR=25							
BVA0					S	**S**	**14 58 55.3**	**-8.7**
	baz=119,slow=42,SNR=5.9							
KURK	**Kurchatov**	**25.07**	**47**		P	**P**	**14 55 29.1**	**-5.2**
MK31	**Makanchi Array**	**26.32**	**58**		P	**P**	**14 55 46.4**	**+0.6**
	comp=Z,1.5nm,0.8s,mb3.6,baz=88,slow=9.3,SNR=4.5							
MK31	**Makanchi Array**	**26.32**	**58**		*e*P	**P**	**14 55 44.1**	**-1.7**
MK31	**Makanchi Array**	**26.32**	**58**		*e*P	**P**	**14 55 44.1**	**-1.6**
ULN	**Ulaanbaatar**	**43.12**	**56**		P	**P**	**14 58 10.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.6							
ULN	**Ulaanbaatar**	**43.12**	**56**		P	**P**	**14 58 10.2**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.6							

NIED ***11*** *14:56:00,2060N×12170E,h5km,Mw4.2 Best double couple: M0 2.14000×10^15 NP1:φs333.00000°,δ77.00000°, λ-33.00000°. NP2:φs71.00000°,δ58.00000°, λ-164.00000°.*

BJI ***11*** *14:56:03.9,2050N×12156E,h2km,mB4.7,mb4.5,ML4.0, Ms4.0,Msz3.9*

NEIC ***11*** *14:56:04.8±2.8,2044N×12152E,h2km±18km,mb4.6/21, Error ellipse: s-maj=7.4km s-min=4.8km az=81.0*

NEIC Felt [II PIVS] at Basco. Also felt [II PIVS] at Sanchez Mira, Luzon.

IDC ***11*** *14:56:04.3±0.6,2041N×12149E,h0km,mb4.3/14, mb1 4.4/17,mb1mx4.3/23,mbtmp4.3/17,ML4.0/3,MS3.6/9, Ms1 3.6/9,ms1mx3.4/25,Error ellipse: s-maj=25.8km s-min=11.1km az=77.0*

MOS ***11*** *14:56:07.9±1.1,2051N×12158E,h34km,mb4.8/13,Error ellipse: s-maj=15.4km s-min=7.1km az=109.1*

ISCJB ***11*** *14:56:08.3±0.4,2050N±002×12168E±003,h39km±4km, mb4.4/41,MS3.7/12,Error ellipse: s-maj=5.1km s-min=2.8km az=7.7*

MAN ***11*** *14:56:09,2040N×12143E,h65km,mb5.6,ML4.6,MS4.6*

JMA ***11*** *14:56:10.8±0.3,2064N×12168E,h129km,M4.1*

ISC 11 14:56:10.3±0.3,2048N±002×12167E±003,h40km±4km, n129,σ1°09/152,mb4.4/41,MS3.7/12,5C-1D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.26**	**171**	*e*P	**Pn**	**14 56 44.7**	**-0.5**
SGCP				*e*S	**Sn**	**14 57 12.0**	**+0.2**
CVP	**Callao Caves**	**2.77**	**177**	*e*P	**Pn**	**14 56 52.8**	**+0.6**
ABRA	**Dolores**	**2.96**	**198**	*e*P	**Pn**	**14 56 53.3**	**-1.5**
PALP	**Palanan**	**3.48**	**168**	*e*P	**Pn**	**14 57 03.2**	**+1.3**
PALP				*e*S	**Sn**	**14 57 45.5**	**+3.7**
PALP	**Palanan**	**3.48**	**168**	⇑*e*P	**Pn**	**14 57 03.8**	**+1.9**
PALP				*i* S	**Sn**	**14 57 50.6**	**+8.8**
CAUP	**Cauayan**	**3.52**	**178**	*e*P	**Pn**	**14 57 04.4**	**+1.8**
NACB	**Ninganchiao**	**3.67**	**359**	*e*Pn	**Pn**	**14 57 03.7**	**-0.9**
NACB				*e*Sn	**Sn**	**14 57 43.4**	**-3.3**
HATJ	**Hateruma jima**	**4.07**	**29**	P	**Pn**	**14 57 10.5**	**+0.5**
HATJ				S	**Sn**	**14 57 56.0**	**-0.4**
YOJ	**Yonaguni jima**	**4.15**	**17**	P	**Pn**	**14 57 11.3**	**+0.2**
YOJ				S	**Sn**	**14 57 58.2**	**-0.2**
YHNB	**Yeheng**	**4.18**	**356**	*e*Pn	**Pn**	**14 57 10.2**	**-1.4**
YHNB				*e*Sn	**Sn**	**14 58 00.4**	**+1.3**
BCPH	**Baguio City Da**	**4.21**	**194**	⇑*e*P	**Pn**	**14 57 12.0**	**0.0**
IRIF	**Iriomote-Funau**	**4.28**	**26**	P	**Pn**	**14 57 13.3**	**+0.3**
IRIF				*e*S	**Sn**	**14 58 02.4**	**+0.8**
JKRS	**Kuro-shima**	**4.32**	**30**	P	**Pn**	**14 57 13.9**	**+0.4**
JKRS				S	**Sn**	**14 58 02.1**	**-0.5**
BOLP	**Bolinao**	**4.41**	**203**	*e*P	**Pn**	**14 57 13.2**	**-1.6**
TATO	**Taipei**	**4.47**	**358**	*e*Pn	**Pn**	**14 57 14.9**	**-0.7**
TATO				*e*Sn	**Sn**	**14 58 01.0**	**-5.4**
JIJ	**Ishigaki jima**	**4.49**	**30**	P	**Pn**	**14 57 15.7**	**-0.1**
JIJ				S	**Sn**	**14 58 05.1**	**-1.7**
BALP	**Baler**	**4.72**	**181**	*e*P	**Pn**	**14 57 19.4**	**+0.4**
PCPH	**Palayan**	**4.92**	**187**	⇓*e*P	**Pn**	**14 57 22.5**	**+0.6**
SCZP	**Santa Cruz**	**4.97**	**200**	*e*P	**Pn**	**14 57 21.3**	**-1.2**
JTJ	**Tarama**	**5.00**	**34**	P	**Pn**	**14 57 22.9**	**+0.1**
JTJ				*e*S	**Sn**	**14 58 19.5**	**+0.2**
QZH	**Quanzhou**	**5.27**	**328**	⇑*i*P	**Pn**	**14 57 22.5**	**-4.1**
QZH				S	**Sn**	**14 58 18.2**	**-7.9**
QZH				Smax			
	comp=N,90nm,0.5s						
QZH				Smax			
	comp=E,120nm,0.7s						
QZH				LR	LR		
	comp=N,1μm,14.7s						
QZH				LR	LR		
	comp=E,540nm,7.9s						
QZH				LR	LR		
	comp=Z,860nm,12.7s						
JOGS	**Gusukube**	**5.48**	**38**	P	**Pn**	**14 57 29.8**	**+0.4**
JOGS				*e*S	**Sn**	**14 58 31.2**	**0.0**
POLP	**Polilio Island**	**5.73**	**177**	*e*P	**Pn**	**14 57 33.7**	**+0.8**
LUBP	**Lubang**	**6.85**	**192**	*e*P	**Pn**	**14 57 49.7**	**+1.4**
PVCP	**Virac**	**7.25**	**161**	*e*P	**Pn**	**14 57 54.7**	**+1.0**
JKE	**Kume jima 2**	**7.47**	**38**	P	**Pn**	**14 57 57.3**	**+0.5**
JJT2	**Tamagusuku 2**	**7.93**	**44**	P	**Pn**	**14 57 59.8**	**-3.2**
JAGN	**Aguni-jima**	**7.94**	**39**	P	**Pn**	**14 58 04.2**	**+1.0**
BUSP	**Coron**	**8.55**	**190**	*e*P	**Pn**	**14 58 11.3**	**-0.3**
JIH	**Iheya**	**8.70**	**40**	P	**Pn**	**14 58 13.7**	**0.0**
JOW	**Kunigami**	**8.75**	**42**	P	**Pn**	**14 58 13.8**	**-0.5**
JOW	**Kunigami**	**8.75**	**42**	Pn	**Pn**	**14 58 13.9**	**-0.4**
	comp=Z,10nm,0.3s,baz=204,slow=12,SNR=39						
JTK	**Tokunoshima**	**9.85**	**41**	P	**Pn**	**14 58 28.4**	**-0.9**
JMZ	**Minamidaito 2**	**10.26**	**57**	P	**Pn**	**14 58 34.9**	**-0.1**
JAM	**Amami Oshima**	**10.70**	**41**	P	**Pn**	**14 58 40.4**	**-0.6**
QIZ	**Qiongzhong**	**11.23**	**265**	P	**Pn**	**14 58 46.6**	**-1.8**
QIZ				S	**Sn**	**15 00 53.1**	**+0.4**
QIZ				AMB	AMB		
	comp=Z,23nm,1.7s						
QIZ				LR	LR		
	comp=N,424nm,13.9s						
QIZ				LR	LR		
	comp=Z,261nm,12.2s						
QIZ	**Qiongzhong**	**11.23**	**265**	*e*Pn	**Pn**	**14 58 43.6**	**-4.8**
QIZ				*e*Sn	**Sn**	**15 00 37.2**	**-15**
NJ2	**Nanjing**	**11.79**	**348**	*e*P	**Pn**	**14 58 57.2**	**+1.2**
NJ2				AP		14 59 00.8	
NJ2				XP		14 59 03.2	
NJ2				PP		14 59 07.1	
NJ2				S	**Sn**	**15 01 08.5**	**+2.2**
NJ2				XS		15 01 13.0	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,320nm,5.0s						
NJ2				LR	LR		
	comp=N,500nm,15.4s						
NJ2				LR	LR		
	comp=E,470nm,17.5s						
NJ2				LR	LR		
	comp=Z,510nm,17.7s						
WHN	**Wuhan**	**12.00**	**328**	*e*P	**Pn**	**14 59 00.5**	**+1.7**
GYA	**Guiyang**	**15.00**	**296**	P	**Pn**	**14 59 37.6**	**-1.9**
GYA				PP		14 59 51.0	
GYA				S	**Sn**	**15 02 26.4**	**+1.9**
GYA				SS		15 02 43.7	
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA				AMB	AMB		
	comp=Z,140nm,4.2s						
GYA				LR	LR		
	comp=N,520nm,11.6s						
GYA				LR	LR		
	comp=E,490nm,12.4s						
GYA				LR	LR		
	comp=Z,540nm,11.2s						
JNU	**Nakatsue**	**15.02**	**31**	Pn	**Pn**	**14 59 39.9**	**+0.1**
	comp=Z,0.2nm,0.3s,baz=141,slow=18,SNR=5.5						
JNU				LR	LR	15 05 30.2	
	comp=Z,204nm,19.7s,baz=11,slow=37						
KKM	**Kota Kinabalu**	**15.30**	**201**	*e*Pn	**Pn**	**14 59 47.2**	**+3.6**
XAN	**Xi'an**	**17.61**	**323**	P	**Pn**	**15 00 10.6**	**-2.0**
XAN				AP	pP	15 00 13.0	-10
XAN				PP		15 00 25.4	
XAN				S	**S**	**15 03 22.5**	**-12**
XAN				XS	sS	15 03 30.4	-19
XAN				SS		15 03 49.3	
XAN				AMB	AMB		
	comp=Z,5.0nm,1.4s						
XAN				AMB	AMB		
	comp=Z,88nm,5.6s						
XAN				LR	LR		
	comp=N,113nm,10.4s						
XAN				LR	LR		
	comp=E,125nm,11.3s						
XAN				LR	LR		
	comp=Z,219nm,12.6s						
KSRS	**Korea Array**	**17.76**	**16**	P	**Pn**	**15 00 14.8**	**+0.2**
	comp=Z,0.4nm,0.3s,baz=200,slow=11,SNR=8.4						
KSRS				LR	LR	15 07 48.5	
	comp=Z,144nm,18.7s,baz=33,slow=39						
KMI	**Kunming**	**18.05**	**288**	P	**Pn**	**15 00 19.2**	**+1.0**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.4s						
TIY	**Taiyuan**	**18.95**	**337**	P	**Pn**	**15 00 30.1**	**+1.1**
TIY				S	**S**	**15 04 02.7**	**+1.5**
TIY				LR	LR		
	comp=N,799nm,14.7s						
TIY				LR	LR		
	comp=E,458nm,11.5s						
TIY				LR	LR		
	comp=Z,776nm,13.9s						
CD2	**Chengdu**	**19.17**	**306**	P	**Pn**	**15 00 29.9**	**-1.7**
CD2				XP	sP	15 00 38.1	-7.4
CD2				PP		15 00 48.0	
CD2				S	**S**	**15 04 01.4**	**-4.3**
CD2				XS	sS	15 04 06.8	-15
CD2				SS		15 04 23.2	
CD2				AMB	AMB		
	comp=Z,30nm,0.9s						
CD2				AMB	AMB		
	comp=Z,50nm,3.8s						
CD2				LR	LR		
	comp=N,400nm,14.4s						
CD2				LR	LR		
	comp=E,700nm,13.2s						
CD2				LR	LR		
	comp=Z,340nm,12.0s						
BJT	**Baijiatuau**	**20.04**	**348**	*e*P	**P**	**15 00 37.7**	**-2.1**
BJT				pmax	pmax		
	comp=Z,32nm,0.8s						
BJT	**Baijiatuau**	**20.04**	**348**	*e*P	**P**	**15 00 37.6**	**-2.2**
	comp=Z,32nm,0.8s						
BJI	**Beijing**	**20.05**	**348**	P	**P**	**15 00 39.7**	**-0.3**
BJI				AMB	AMB		
	comp=Z,33nm,0.6s						
BJI				LR	LR		
	comp=N,234nm,19.5s,MS3.8						
BJI				LR	LR		
	comp=E,318nm,16.2s,MS3.8						
BJI				LR	LR		
	comp=Z,166nm,23.1s						
MJAR	**Matsushiro Arr**	**21.56**	**39**	P	**P**	**15 00 59.0**	**+2.7**
	comp=Z,2.2nm,1.1s,mb3.5,baz=231,slow=11,SNR=2.8						
KSM	**Kuching**	**21.91**	**212**	*e*P	**P**	**15 00 57.4**	**-2.9**
LZH	**Lanzhou**	**22.04**	**319**	*e*P	**P**	**15 01 01.0**	**-0.5**
LZH				AP		15 01 05.1	
LZH				XP	sP	15 01 08.2	-8.4
LZH				PP		15 01 27.3	
LZH				*e*S	**S**	**15 04 58.7**	**-3.6**
LZH				XS	sS	15 05 05.5	-13
LZH				*e*SS		15 05 37.2	
LZH				AMB	AMB		
	comp=Z,35nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,105nm,4.3s						
LZH				LR	LR		
	comp=E,487nm,10.5s						
LZH				LR	LR		
	comp=Z,798nm,13.6s,MS4.3						
HHC	**Hu-ho-hao-te**	**22.05**	**339**	*e*P	**P**	**15 01 03.0**	**+1.4**
HHC				AP		15 01 07.3	
HHC				XP	sP	15 01 10.4	-6.3
HHC				PP		15 01 29.3	
HHC				S	**S**	**15 05 03.9**	**+1.4**
HHC				XS	sS	15 05 08.4	-10
HHC				SS		15 05 41.7	
HHC				AMB	AMB		
	comp=Z,39nm,1.2s,mb4.7						
HHC				AMB	AMB		
	comp=Z,168nm,5.1s						
HHC				LR	LR		
	comp=N,505nm,14.9s,MS4.2						
HHC				LR	LR		
	comp=E,514nm,14.9s,MS4.2						
HHC				LR	LR		
	comp=Z,407nm,15.3s,MS4.0						
GUMO	**Guam**	**23.20**	**104**	P	**P**	**15 01 13.6**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,38nm,0.8s,mb4.9						
GUMO	**Guam**	**23.20**	**104**	P	**P**	**15 01 13.6**	**-0.3**
	comp=Z,38nm,0.8s,mb4.9						
CN2	**Changchun**	**23.46**	**7**	*e*P	**P**	**15 01 17.0**	**+0.7**
KAPI	**Kappang**	**25.41**	**184**	P	**P**	**15 01 33.9**	**-0.3**
	comp=Z,18nm,0.8s,mb4.6,baz=346,slow=15,SNR=7.9						
KAPI				LR	LR	15 11 31.5	
	comp=Z,172nm,21.7s,MS3.5,baz=355,slow=37						
GTA	**Gaotai**	**26.61**	**320**	⇑P	**P**	**15 01 45.0**	**+0.1**
GTA				AP	pP	15 01 48.7	-7.2
GTA				XP	sP	15 01 51.6	-9.1
GTA				PP		15 02 28.8	
GTA				S	**S**	**15 06 19.2**	**+2.1**
GTA				XS	sS	15 06 27.3	-8.1
GTA				SS		15 07 29.4	
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb3.9						
GTA				AMB	AMB		
	comp=Z,91nm,3.8s						
GTA				LR	LR		
	comp=N,165nm,15.3s,MS3.8						
GTA				LR	LR		
	comp=E,149nm,16.0s,MS3.8						
GTA				LR	LR		
	comp=Z,160nm,13.4s,MS3.7						
PSI	**Prapat**	**28.30**	**235**	LR	LR	15 12 19.9	
	comp=Z,270nm,18.3s,MS3.9,baz=91,slow=35						
HIA	**Hailar**	**28.76**	**357**	*e*P	**P**	**15 02 05.2**	**+1.2**
LSA	**Lhasa**	**29.05**	**295**	*e*P	**P**	**15 02 08.4**	**+1.5**
LSA	**Lhasa**	**29.05**	**295**	*e*P	**P**	**15 02 07.4**	**+0.5**
LSA				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6						
LSA	**Lhasa**	**29.05**	**295**	*e*P	**P**	**15 02 07.4**	**+0.5**
	comp=Z,12nm,1.0s,mb4.6						
ASAJ	**Asahikawa**	**29.30**	**32**	LR	LR	15 12 28.5	
	comp=Z,80nm,20.3s,MS3.3,baz=237,slow=33						
ULN	**Ulaanbaatar**	**29.77**	**340**	⇑*i*P	**P**	**15 02 13.3**	**+0.3**
ULN	**Ulaanbaatar**	**29.77**	**340**	*e*P	**P**	**15 02 12.7**	**-0.3**
	comp=Z,6.1nm,0.6s,mb4.5						
KLR	**Kul'dur**	**29.79**	**13**	*e*P	**P**	**15 02 11.9**	**-1.3**
SONM	**Songino Array**	**29.96**	**339**	P	**P**	**15 02 14.5**	**-0.1**
	comp=Z,3.0nm,0.5s,mb4.3,baz=157,slow=9.1,SNR=24						
SONM				LR	LR	15 15 49.9	
	comp=Z,192nm,18.5s,MS3.8,baz=150,slow=40						
BATI	**Kupang**	**30.56**	**176**	P	**P**	**15 02 19.2**	**-1.0**
	comp=Z,31nm,0.7s,mb5.2,baz=18,slow=1.5,SNR=13						
YSS	**Yuzh-Sakhalins**	**31.49**	**28**	*e*P	**P**	**15 02 28.7**	**+0.5**
YSS				pmax	pmax		
	comp=Z,15nm,1.6s,mb4.6						
YSS	**Yuzh-Sakhalins**	**31.49**	**28**	P	**P**	**15 02 28.4**	**+0.2**
	comp=Z,11nm,1.0s,mb4.6						
ZAK	**Zakamensk**	**33.20**	**338**	*e*P	**P**	**15 02 41.7**	**-1.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.0						
MOY	**Mondy**	**35.07**	**337**	*e*P	**P**	**15 02 59.5**	**+0.2**
WMQ	**Urumqi**	**36.60**	**317**	*e*P	**P**	**15 03 13.0**	**+0.4**
WMQ				XP	sP	15 03 20.0	-8.6
WMQ				PP	PP	15 04 38.0	+1.6
WMQ				S	**S**	**15 08 55.0**	**+2.3**
WMQ				SS	SS	15 11 21.0	-13
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,66nm,4.0s						
WMQ				LR	LR		
	comp=N,74nm,15.0s,MS3.7						
WMQ				LR	LR		
	comp=E,51nm,14.0s,MS3.7						
WMQ				LR	LR		
	comp=Z,46nm,14.0s,MS3.4						
BOD	**Bodaibo**	**37.71**	**353**	*e*P	**P**	**15 03 20.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**38.54**	**174**	*e*P	**P**	**15 03 28.7**	**-0.5**
	comp=Z,12nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**38.54**	**174**	P	**P**	**15 03 28.1**	**-1.1**
	comp=Z,7.6nm,0.8s,mb4.5,baz=10,slow=7.0,SNR=18						
MK31	**Makanchi Array**	**41.35**	**319**	*e*P	**P**	**15 03 51.9**	**-0.4**
MKAR	**Makanchi Array**	**41.35**	**319**	P	**P**	**15 03 52.0**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.0,baz=108,slow=10.0,SNR=19						
MKAR				LR	LR	15 21 46.4	
	comp=Z,46nm,18.1s,MS3.4,baz=2.9,slow=37						
MBWA	**Marble Bar**	**41.43**	**183**	*e*P	**P**	**15 03 51.9**	**-1.2**
	comp=Z,21nm,1.2s,mb4.6						
WRAB	**Tennant Creek**	**42.04**	**162**	*e*P	**P**	**15 03 57.6**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.5						
WRAB	**Tennant Creek**	**42.04**	**162**	*e*P	**P**	**15 03 57.6**	**-0.5**
	comp=Z,8.4nm,0.6s,mb4.5						
WRA	**Warramunga Arr**	**42.05**	**162**	P	**P**	**15 03 57.1**	**-1.1**
	comp=Z,4.4nm,0.5s,mb4.3,baz=343,slow=9.0,SNR=132						
WB2	**Warramunga Arr**	**42.05**	**162**	*e*P	**P**	**15 03 57.2**	**-1.0**
ZAA0	**Zalesovo Array**	**43.61**	**329**	*e*P	**P**	**15 04 09.7**	**-0.9**
ZALV	**Zalesovo Beam**	**43.61**	**329**	P	**P**	**15 04 09.7**	**-0.8**
	comp=Z,2.8nm,0.5s,mb4.3,baz=117,slow=8.8,SNR=13						
ZALV				LR	LR	15 22 50.3	
	comp=Z,37nm,18.3s,MS3.3,baz=120,slow=37						
ZAL	**Zalesovo**	**43.62**	**329**	P	**P**	**15 04 09.7**	**-0.9**
MA2	**Magadan**	**44.24**	**21**	*e*P	**P**	**15 04 16.5**	**+1.0**
MA2				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.2						
MA2	**Magadan**	**44.24**	**21**	*e*P	**P**	**15 04 16.9**	**+1.4**
	comp=Z,5.5nm,1.2s,mb4.2						
TKM2	**Tokmak 2**	**44.46**	**311**	*e*P	**P**	**15 04 18.2**	**+0.7**
TKM2				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.2						
TKM2	**Tokmak 2**	**44.46**	**311**	*e*P	**P**	**15 04 18.2**	**+0.7**
	comp=Z,6.2nm,1.1s,mb4.2						
NVS	**Novosibirsk**	**44.88**	**329**	*e*P	**P**	**15 04 14.9**	**-5.8**
KURK	**Kurchatov**	**45.25**	**322**	*e*P	**P**	**15 04 23.6**	**-0.1**
KURK	**Kurchatov**	**45.25**	**322**	*e*P	**P**	**15 04 22.3**	**-1.4**
	comp=Z,4.2nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**45.47**	**164**	P	**P**	**15 04 25.6**	**-0.1**
	comp=Z,5.8nm,0.6s,mb4.6,baz=352,slow=7.1,SNR=244						
CTAO	**Charters Tower**	**46.95**	**148**	*e*P	**P**	**15 04 39.8**	**+2.4**
CTAO				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
CTAO	**Charters Tower**	**46.95**	**148**	*e*P	**P**	**15 04 39.8**	**+2.4**
	comp=Z,17nm,1.1s,mb4.9						
BVAR	**Borovoye Array**	**50.84**	**323**	P	**P**	**15 05 06.7**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=109,slow=8.3,SNR=4.3						
BVAR				PcP	PcP	15 06 21.9	-1.2
	comp=Z,0.5nm,0.5s,baz=108,slow=3.6,SNR=2.0						
BRVK	**Borovoye**	**50.91**	**323**	*e*P	**P**	**15 05 06.3**	**-1.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
BRVK	**Borovoye**	**50.91**	**323**	*e*P	**P**	**15 05 06.3**	**-1.1**
	comp=Z,3.7nm,0.8s,mb4.4						
FORT	**Forrest**	**51.33**	**173**	*e*P	**P**	**15 05 11.2**	**+0.5**
	comp=Z,25nm,0.7s,mb5.2						
TIXI	**Tiksi**	**51.35**	**3**	*e*P	**P**	**15 05 07.8**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,11nm,1.9s,mb4.5						
TIXI	**Tiksi**	**51.35**	**3**	*e*P	**P**	**15 05 08.7**	**-1.7**
	comp=Z,2.0nm,0.4s,mb4.4						
KLBR	**Kellerberrin**	**51.91**	**184**	*e*P	**P**	**15 05 14.7**	**-0.3**
	comp=Z,14nm,0.7s,mb5.0						
NWAO	**Narrogin (SRO)**	**53.28**	**185**	*e*P	**P**	**15 05 24.9**	**-0.2**
BILL	**Bilibino**	**55.01**	**19**	*e*P	**P**	**15 05 38.8**	**+1.5**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
BILL	**Bilibino**	**55.01**	**19**	*e*P	**P**	**15 05 37.5**	**+0.2**
	comp=Z,3.2nm,0.6s,mb4.5						
STKA	**Stephens Creek**	**55.45**	**159**	*e*P	**P**	**15 05 41.1**	**+0.1**
	comp=Z,2.5nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**55.45**	**159**	P	**P**	**15 05 40.9**	**-0.1**
	comp=Z,3.1nm,0.6s,mb4.5,baz=317,slow=7.7,SNR=7.8						
CNB	**Canberra Magne**	**61.40**	**154**	*e*P	**P**	**15 06 23.1**	**+0.7**
	comp=Z,8.5nm,1.0s,mb4.8						
TOO	**To

WRA	Warramunga Arr	47.11	262	P	P	15 06 29.1	-0.6
	2.0nm,0.3s,baz=94,slow=8.5,SNR=19						
FITZ	Fitzroy Crossi	55.54	262	P	P	15 07 33.6	+0.6
	1.8nm,0.8s,baz=90,slow=12,SNR=4.7						

*ISCJB **11** 15:13:45.5±1.2,22N±0.1×963E±0.1,h26km,mb3.6/6,Error ellipse: s-maj=23.4km s-min=15.4km az=35.7*
*NEIC **11** 15:13:47.8±0.9,2.16N×9637E,h30km,mb4.0/1,Error ellipse: s-maj=17.9km s-min=11.4km az=217.0*
*IDC **11** 15:13:47.8±1.6,221N×9642E,h26km±6km,mb3.4/5,mb1 3.5/6,mb1mx3.3/21,mbtmp3.4/6,ML2.9/1,Error ellipse: s-maj=55.7km s-min=17.6km az=54.0*

ISC 11 15:13:47.7±1.2,22N±01×964E±01,h28km,h28km±1.3km:pP-P,n8,σ0§29/8,mb3.6/6,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.62	76	Pn	Pn	15 14 28.1	-0.1
	2.2nm,0.3s,baz=307,slow=11,SNR=7.6						
KULM	Kulim	5.27	54	ePn	Pn	15 15 04.7	0.0
KULM				e		15 15 10.7	
WRA	Warramunga Arr	43.23	122	P	P	15 21 47.1	+0.1
	0.2nm,0.5s,mb3.1,baz=306,slow=8.9,SNR=3.1						
WRA				pP	pP	15 21 54.7	-0.6
	0.3nm,0.5s,baz=302,slow=9.0,SNR=2.9						
ASAR	Alice Springs	44.62	127	P	P	15 21 58.0	-0.1
	0.3nm,0.9s,mb3.1,baz=292,slow=7.9,SNR=4.1						
ASAR				pP	pP	15 22 06.7	+0.2
	0.2nm,0.7s,baz=299,slow=8.0,SNR=2.2						
TKM2	Tokmak 2	44.62	338	P	P	15 21 57.5	-0.2
	1.0nm,0.4s,mb4.0						
MKAR	Makanchi Array	46.12	347	P	P	15 22 09.8	+0.3
	0.9nm,0.4s,mb4.1,baz=156,slow=8.8,SNR=19						
MKAR				pP	pP	15 22 17.1	-0.8
	0.5nm,0.4s,baz=151,slow=9.2,SNR=4.0						
SONM	Songino Array	46.31	9	P	P	15 22 11.5	+0.5
	0.2nm,0.5s,mb3.3,baz=190,slow=8.1,SNR=3.6						
ZALV	Zalesovo Beam	52.49	351	P	P	15 22 57.5	-0.5
	1.0nm,0.4s,mb4.1,baz=173,slow=6.7,SNR=6.7						

*DDA **11** 15:30:05.8,3870N×2518E,h7km±2km,Md3.0*
*ISCJB **11** 15:30:06.1±0.6,3871N±004×2524E±005,h10km,Error ellipse: s-maj=6.1km s-min=4.8km az=145.1*
*CSEM **11** 15:30:06.1±0.1,3873N×2529E,h10km,ML3.3,Error ellipse: s-maj=4.8km s-min=3.2km az=159.0*
*ATH **11** 15:30:06.3,3874N×2527E,h29km±7km,MD3.3/7,ML3.3*
*NEIC **11** 15:30:06.3,3874N×2527E,h29km,ML3.3(ATH),After ATH.*

ISC 11 15:30:05.4±1.0,3873N±004×2524E±005,h4km±8km,n13,σ0§69/19,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.95	57	ePN	Pn	15 30 24.7	-0.9
URLA	Izmir	1.12	109	iP	Pg	15 30 27.0	+0.1
URLA				iS	Sg	15 30 41.8	+0.3
AYVA	Ayvalik	1.27	62	iP	Pg	15 30 30.1	+0.4
AYVA				iS	Sg	15 30 47.3	+1.1
PTL	Penteli	1.28	238	ePN	Pn	15 30 30.0	0.0
BOZC	Bozcaada	1.28	29	iP	Pg	15 30 29.5	-0.5
BOZC				iS	Sg	15 30 46.9	+0.3
ATH	Athens Observa	1.42	238	ePN	Pn	15 30 32.2	+0.2
KVR	Kavouri	1.47	233	ePN	Pn	15 30 33.5	+0.9
SMG	Samos	1.61	128	ePB	Pn	15 30 33.9	-0.8
SMG				eSN	Sn	15 30 55.8	-0.1
KDAG	Bornova	1.62	101	iP	Pn	15 30 34.7	-0.1
KDAG				iS	Sn	15 30 56.7	+0.6
APE	Apeiranthos	1.67	172	ePB	Pb	15 30 35.2	-1.5
NAIG	Nisos Aigina	1.69	236	ePN	Pn	15 30 36.5	+0.8
RDO	Rodhopi	2.43	5	ePN	Pn	15 30 45.7	-0.2
SART	Tekirdag	2.46	37	iP	Pb	15 30 50.9	+0.6
SART				iS	Sg	15 31 23.5	-1.1

*ISCJB **11** 15:40:24.4±0.7,496S±0.1×1183E±03,h10km,mb4.1/9,MS3.8/4,Error ellipse: s-maj=32.2km s-min=11.8km az=16.4*
*IDC **11** 15:40:24.8±1.0,4960S×11837E,h0km,mb3.9/6,mb1 4.1/7,mb1mx3.9/14,mbtmp4.0/7,ML2.1/1,MS3.8/5,Ms1 3.8/5,ms1mx3.5/17,Error ellipse: s-maj=53.1km s-min=17.8km az=115.0*
*NEIC **11** 15:40:25.4±0.6,4968S×11834E,h10km,mb4.2/5,Error ellipse: s-maj=36.5km s-min=11.3km az=104.0*

ISC 11 15:40:26.4±0.7,496S±01×1183E±03,h10km,n25,σ0§56/13,mb4.1/9,MS3.8/4,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.66	357	ePn	Pn	15 44 19.4	-0.6
	31nm,1.4s						
NWAO				LR	LR	15 49 13.2	
NWAO	Narrogin (SRO)	16.66	357	Pn	Pn	15 44 20.1	+0.2
	0.3nm,0.3s,baz=154,slow=7.2,SNR=5.5						
NWAO				LR	LR	15 49 13.2	
	comp=Z,187nm,21.5s,baz=200,slow=32						
CASY	Casey	17.21	191	ePn	Pn	15 44 21.9	-4.7
	21nm,1.3s						
STKA	Stephens Creek	24.84	53	eP	P	15 45 42.5	-6.2
	6.0nm,1.2s,mb4.0						
STKA				LR	LR	15 53 43.0	
STKA	Stephens Creek	24.84	53	P	P	15 45 48.8	0.0
	1.1nm,0.9s,mb3.4,baz=225,slow=11,SNR=1.8						
STKA				LR	LR	15 53 43.0	
	comp=Z,183nm,22.0s,MS3.5,baz=206,slow=32						
ASAR	Alice Springs	28.63	31	P	P	15 46 23.1	+0.2
	0.7nm,0.8s,mb3.5,baz=205,slow=6.8,SNR=7.7						
WRA	Warramunga Arr	32.24	29	P	P	15 46 54.7	-0.1
	0.7nm,0.7s,mb3.6,baz=199,slow=12,SNR=4.8						
WRAB	Tennant Creek	32.25	29	eP	P	15 46 55.9	+0.9
	4.2nm,0.9s,mb4.3						
VNDA	Vanda	32.48	164	P	P	15 46 56.1	-0.3
	4.1nm,0.8s,mb4.3,baz=308,slow=11,SNR=3.5						
MAW	Mawson	32.56	216	P	P	15 46 57.6	+0.4
	4.1nm,0.8s,mb4.4,baz=91,slow=8.9,SNR=7.5						
RPZ	Rata Peaks	36.06	101	LR	LR	15 57 48.7	
	comp=Z,159nm,20.5s,MS3.8,baz=316,slow=29						
CTA	Charters Tower	36.92	47	LR	LR	16 01 16.7	
	comp=Z,149nm,18.4s,MS3.8,baz=231,slow=34						
BATI	Kupang	39.51	8	LR	LR	16 02 11.4	
	comp=Z,327nm,18.3s,MS4.2,baz=188,slow=33						
QSPA	South Pole Qui	40.54	180	eP	P	15 48 09.5	+4.4
	4.6nm,0.9s,mb4.1						
SNAA	Sanae	52.14	200	P	P	15 49 36.3	+0.1
	1.9nm,1.1s,mb3.9,baz=81,slow=3.5,SNR=5.8						
MAJO	Matsushiro	87.55	16	P	P	15 53 13.0	-1.0
	22nm,1.4s,mb5.2						
NVAR	Mina Array Bea	138.72	84	PKP	PKPdf	15 59 51.2	-0.8
	0.2nm,0.3s,baz=151,slow=3.4,SNR=3.6						
TXAR	Lajitas Array	142.44	107	PKP	PKPdf	16 00 00.3	+1.2
TXAR	Lajitas Array	142.44	107	PKP	PKPdf	16 00 00.3	+1.2
	0.6nm,0.8s,baz=206,slow=8.1,SNR=5.1						
SRU	San Rafael	144.14	88	ePKPdf	PKPdf	15 59 59.5	-2.3
SRU				e		16 00 07.0	
HWUT	Hardware Ranch	144.78	84	ePKPdf	PKPdf	16 00 01.8	-1.0
HWUT				e		16 00 08.2	
CHMT	Chamberlain Mo	146.13	74	ePKPdf	PKPdf	16 00 05.0	+0.1
CHMT				e		16 00 12.8	
IMW	Indian Meadow	146.29	81	ePKPbc	PKPbc	16 00 05.9	-0.6
BOZ	Bozeman (W)	146.62	77	ePKPbc	PKPbc	16 00 06.0	-1.5
BOZ				e		16 00 14.3	
YKA	Yellowknife Ar	148.73	46	PKPbc	PKPbc	16 00 10.7	-1.9
	0.5nm,0.8s,baz=255,slow=2.1,SNR=7.1						

IDC 11 15:47:13.3±2.6,956S×15690E,h0km,mb3.6/4,mb1 3.8/4,mb1mx3.6/13,mbtmp3.6/4,Error ellipse: s-maj=70.0km s-min=34.6km az=114.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.11	242	P	P	15 52 31.0	+0.1
	1.0nm,0.7s,baz=69,slow=9.6,SNR=9.5						
ASAR	Alice Springs	26.06	235	P	P	15 52 48.2	-0.5
	0.5nm,0.6s,baz=63,slow=11,SNR=11						
STKA	Stephens Creek	26.35	210	P	P	15 52 51.7	+0.5
	1.2nm,0.6s,baz=41,slow=15,SNR=6.0						
MKAR	Makanchi Array	86.56	318	P	P	15 59 58.7	+0.3
	0.3nm,0.5s,baz=90,slow=7.4,SNR=3.6						

MEX 11 15:48:49.0±0.3,1563N×9681W,h13km±8km,MD3.7,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.69	78	iP	Pg	15 49 00.4	-2.0
HUIG				iS	Sg	15 49 09.3	-2.3
VHO	Vista Hermosa	1.44	3	iP	Pn	15 49 11.0	-3.7
VHO				iS	Sn	15 49 28.7	-4.7
OXX	Oaxaca	1.45	3	eP	Pn	15 49 11.5	-3.3
OXX				iS	Sn	15 49 27.5	-6.2
CMIG	Matias Romero	2.35	52	iP	Pn	15 49 23.9	-3.4
CMIG				iS	Sn	15 49 51.6	-4.4
MEIG	Mezcala	3.53	311	iS	Sn	15 50 21.6	-3.5
PPM	Popocatepetl	3.83	333	iP	Pn	15 49 44.9	-2.8
PPM				iS	Sn	15 50 29.5	-3.1

IDC 11 16:01:09.8±2.7,4941S×11711E,h0km,mb3.8/4,mb1 4.0/4,mb1mx3.8/12,mbtmp3.8/4,MS3.8/5,Ms1 3.8/5,ms1mx3.5/17,Error ellipse: s-maj=97.9km s-min=27.8km az=102.0,Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	Narrogin (SRO)	16.47	0	Pn	Pn	16 05 08.2	+6.0
	0.3nm,0.3s,baz=177,slow=13,SNR=3.8						
NWAO				LR	LR	16 09 49.4	
	comp=Z,304nm,20.9s,baz=168,slow=32						
STKA	Stephens Creek	25.36	55	P	P	16 06 37.8	-0.6
	1.7nm,0.8s,baz=211,slow=8.5,SNR=4.7						
STKA				LR	LR	16 14 10.9	
	comp=Z,173nm,21.1s,baz=205,slow=31						
ASAR	Alice Springs	28.89	33	P	P	16 07 10.7	+0.5
	0.7nm,0.8s,baz=198,slow=8.1,SNR=8.2						
WRA	Warramunga Arr	32.47	31	P	P	16 07 42.0	+0.1
	0.8nm,0.6s,baz=203,slow=8.9,SNR=6.2						
VNDA	Vanda	32.86	164	P	P	16 07 44.7	0.0
	1.0nm,0.7s,baz=292,slow=9.3,SNR=5.4						
JOW	Kunigami	76.55	10	LR	LR	16 44 42.0	
	comp=Z,37nm,18.5s,baz=98,slow=34						
KSRS	Korea Array	87.02	9	LR	LR	16 58 00.3	
	comp=Z,33nm,18.0s,baz=170,slow=39						
PLCA	Paso Flores	89.98	174	LR	LR	16 55 09.7	
	comp=Z,81nm,18.3s,baz=180,slow=36						
YKA	Yellowknife Ar	149.15	45	PKPbc	PKPbc	16 20 58.3	-0.4
	0.4nm,0.8s,baz=291,slow=2.3,SNR=5.6						

*ISCJB **11** 16:20:54.6±1.1,4439N±006×1225E±005,h33km±5km,Error ellipse: s-maj=10.7km s-min=6.0km az=170.5*
*CSEM **11** 16:20:54.0±0.2,4437N×1225E,h30km,MD2.4/10,Error ellipse: s-maj=3.5km s-min=2.1km az=171.0*
*ROM **11** 16:20:55.0±0.3,4433N×1223E,h31km±2km,Md2.4/10,Ml2.1/8,Error ellipse: s-maj=3.7km s-min=2.1km az=156.0*
*NEIC **11** 16:20:55.0,4433N×1223E,h31km,ML2.7(ZAG),ML2.1(ROM),After ROM.*

ISC 11 16:20:55.0±1.1,4437N±007×1225E±005,h32km±5km,n12,σ0§55/21,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSM	Repubblica di	0.47	162	Pg	Pb	16 21 04.9	0.0
RSM				Sg	Sb	16 21 11.5	-0.3
	17nm,0.8s						
SFI	Santa Sofia	0.55	212	Pg	Pb	16 21 05.7	-0.6
SFI				Sg	Sb	16 21 13.4	-0.5
	135nm,0.3s						
PESA	Pesaro	0.61	135	Pg	Pb	16 21 07.1	-0.1
PESA				Sg	Sb	16 21 16.7	+1.2
	172nm,0.4s						
VMG	Vicchio	0.65	231	Pg	Pb	16 21 07.5	-0.4
VMG				Sg	Sb	16 21 17.5	+0.8
	29nm,0.2s						
FSSB	Fossombrone	0.78	150	Pg	Pn	16 21 09.3	-0.5
FSSB				Sg	Sb	16 21 20.6	+0.2
	126nm,0.4s						
CRE	Capresse Michel	0.78	196	Pg	Pn	16 21 09.1	-0.7
	31nm,0.3s						
PIEI	Pieia	0.86	166	Pg	Pn	16 21 09.9	-1.0
PIEI				Sg	Sn	16 21 22.1	-0.2
	115nm,0.4s						
BADI	Badiali	0.86	180	Pg	Pn	16 21 10.5	-0.4
BADI				Sg	Sn	16 21 22.6	+0.2
	14μm,16.0s						
ARVD	Arcevia	1.01	150	Pg	Pn	16 21 13.0	+0.1
	14μm,8.2s						
CRMI	Carmignano	1.09	238	Pg	Pn	16 21 14.2	+0.2
CRMI				Sg	Sn	16 21 29.0	+1.1
SNTG	Esanatoglia	1.23	156	Pg	Pn	16 21 16.4	+0.5
	11nm,0.2s						
NVLJ	Novalja	1.89	83	ePn	Pn	16 21 25.3	+0.3
NVLJ				Sn	Sn	16 21 47.7	0.0

IDC 11 16:35:06.8±1.4,714S×15591E,h0km,mb3.7/5,mb1 3.8/6,mb1mx3.7/15,mbtmp3.8/6,ML3.7/1,Error ellipse: s-maj=29.7km s-min=27.9km az=16.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.60	120	Pn	Pn	16 36 16.6	-1.1
	3.6nm,0.3s,baz=260,slow=6.1,SNR=3.0						
HNR				Sn	Sn	16 37 13.0	+1.1
	7.4nm,0.3s,baz=270,slow=19,SNR=3.3						
WRA	Warramunga Arr	24.48	237	P	P	16 40 28.5	+0.6
	1.4nm,0.5s,baz=61,slow=9.6,SNR=17						
ASAR	Alice Springs	26.76	230	P	P	16 40 48.3	-0.2
	0.2nm,0.5s,baz=57,slow=10,SNR=10						
FITZ	Fitzroy Crossi	31.43	247	P	P	16 41 30.1	0.0
	1.2nm,0.7s,baz=40,slow=23,SNR=3.4						
SONM	Songino Array	69.95	327	P	P	16 46 20.4	+0.4
	0.7nm,0.6s,baz=134,slow=6.2,SNR=6.4						
MKAR	Makanchi Array	84.11	318	P	P	16 47 39.7	0.0
	0.5nm,0.6s,baz=97,slow=6.7,SNR=4.2						

IDC 11 16:35:51.5±3.3,660S×10659E,h0km,mb3.4/4,mb1 3.6/4,mb1mx3.4/18,mbtmp3.4/4,Error ellipse: s-maj=146.9km s-min=23.8km az=53.0,Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	30.02	119	P	P	16 42 02.1	-0.3
	0.5nm,0.4s,baz=301,slow=9.7,SNR=6.7						
ASAR	Alice Springs	31.25	126	P	P	16 42 13.6	+0.4
	0.3nm,0.8s,baz=301,slow=7.3,SNR=5.3						
SONM	Songino Array	54.20	360	P	P	16 45 20.4	+1.7
	0.2nm,0.4s,baz=181,slow=6.5,SNR=2.9						
MKAR	Makanchi Array	57.37	340	P	P	16 45 40.5	-1.0
	0.4nm,0.5s,baz=149,slow=8.1,SNR=8.0						
TXAR	Lajitas Array	143.61	48	PKP	PKPdf	16 55 27.4	-1.7
	0.3nm,0.5s,baz=243,slow=0.2,SNR=4.8						

*CSEM **11** 16:35:49.8±0.6,3886N×2637E,h17km±8km,MD2.7,Error ellipse: s-maj=26.4km s-min=12.7km az=94.0*
*ISCJB **11** 16:35:51.0±1.0,3899N±003×2615E±007,h9km±7km,Error ellipse: s-maj=9.7km s-min=5.1km az=176.1*
*DDA **11** 16:35:53.5,3904N×2624E,h20km±6km,Md2.7*

ISC 11 16:35:51.4±0.8,3899N±003×2617E±007,h9km±8km,n8,σ0§88/15,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.52	52	iP	Pg	16 36 01.4	-0.1
AYVA				iS	Sg	16 36 08.7	+0.3
AYVA	Ayvalik	0.52	52	iP	Pg	16 36 01.5	0.0
AYVA				iS	Sg	16 36 08.6	+0.3
CHOS	Chios island	0.61	188	eP	Pg	16 36 01.4	-1.7
CHOS				eS	Sg	16 36 12.4	+1.3
URLA	Izmir	0.71	152	iP	Pg	16 35 55.7	-9.4
URLA				iS	Sg	16 36 14.3	-0.2
BOZC	Bozcaada	0.86	354	iP	Pg	16 36 07.2	-0.7
BOZC				iS	Sg	16 36 19.8	+0.7
BLCB	Balcova	0.91	131	eP	Pg	16 36 03.6	-5.4
KDAG	Bornova	1.04	124	iP	Pb	16 36 12.7	+1.1
KDAG				iS	Sg	16 36 24.4	-0.6
ALN	Alexandroupoli	1.91	357	eP	Pn	16 36 24.9	+0.7
ALN				eS	Sn	16 36 47.4	-0.9

IDC 11 16:45:07.0±1.8,838S×15580E,h0km,mb3.4/3,mb1 3.5/4,mb1mx3.4/14,mbtmp3.5/4,ML3.7/1,Error ellipse: s-maj=49.8km s-min=27.0km az=176.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.23	105	Pn	Pn	16 46 11.3	-1.4
	4.2nm,0.3s,baz=276,slow=17,SNR=2.8						
HNR				Sn	Sn	16 47 05.5	+2.7
	6.4nm,0.3s,baz=90,slow=19,SNR=2.6						
WRA	Warramunga Arr	23.73	239	P	P	16 50 20.7	-0.4
	1.7nm,0.9s,baz=60,slow=9.4,SNR=7.0						
ASAR	Alice Springs	25.89	232	P	P	16 50 40.5	-0.3
	0.2nm,0.8s,baz=59,slow=10,SNR=4.2						
MKAR	Makanchi Array	84.97	319	P	P	16 57 45.2	+1.1
	0.4nm,0.7s,baz=93,slow=5.8,SNR=2.7						

*CSEM **11** 17:13:44.5,3753N×2044E,h12km,MD3.7/4,After ATH*
*NEIC **11** 17:13:44.5,3753N×2044E,h12km,MD3.7(ATH),After ATH.*

ATH 11 17:13:44.5,3753N×2044E,h12km±4km,MD3.7/4,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	Valsamata	0.66	10	ePB	Pb	17 13 57.6	-0.3
RLS	Riolos of Patr	0.97	57	ePG	Pg	17 14 02.6	-0.6
RLS				eSB	Sb	17 14 16.5	+0.5
ITM	Ithomi	1.23	106	ePB	Pb	17 14 07.9	+0.2
EVR	Evrytania	1.75	37	ePG	Pg	17 14 17.6	-0.6
KEK	Kerkira	2.24	347	ePN	Pn	17 14 23.6	+2.3
THL	Klokotos Trika	2.38	31	ePB	Pb	17 14 24.9	-2.3

*ATH **11** 17:16:58.7,3745N×2032E,h9km±2km,MD4.0/13,ML4.2*
*IDC **11** 17:16:58.9±0.8,3762N×2056E,h0km,mb3.9/15,mb1 3.9/20,mb1mx3.8/30,mbtmp3.8/20,ML3.5/5,MS3.8/1,Ms1 3.8/1,ms1mx2.0/47,Error ellipse: s-maj=17.8km s-min=13.7km az=136.0*
*ISCJB **11** 17:16:59.9±0.3,3758N±002×2035E±002,h10km,mb3.8/18,Error ellipse: s-maj=3.0km s-min=2.6km az=21.1*
*CSEM **11** 17:17:01.7±0.1,3748N×2048E,h15km,ML4.6,Error ellipse: s-maj=2.3km s-min=1.5km az=15.0*
*NEIC **11** 17:17:02.2±1.0,3752N×2052E,h20km±9km,mb3.9/3,ML4.2(ATH),ML4.1(PDG),Error ellipse: s-maj=6.8km s-min=4.9km az=210.0*
*MOS **11** 17:17:02.3±1.1,3756N×2053E,h33km,mb4.1/9,Error ellipse: s-maj=11.1km s-min=5.2km az=91.4*
*THE **11** 17:17:03.6,3760N×2055E,h14km,ML4.6*
*PDG **11** 17:17:03.6±0.1,3773N×2019E,h11km±11km,ML4.1/10,Error ellipse: s-maj=85.5km s-min=15.8km az=90.0*

ISC 11 17:17:01.4±0.3,3755N±002×2043E±002,h10km,n142,σ1§26/179,mb3.8/18,11C-5D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.63	27	ePg	Pg	17 17 13.6	0.0
VLS	Valsamata	0.65	12	iPB	Pg	17 17 13.9	+0.1
VLS				eSg	Sg	17 17 23.8	+1.5
VLS	Valsamata	0.65	12	iPB	Pg	17 17 13.9	0.0
VLS				eSB	Sg	17 17 23.5	+1.2
RLS	Riolos of Patr	0.97	58	ePG	Pg	17 17 19.1	-1.0
RLS				eSB	Sg	17 17 34.7	+2.0
LKD	Levkas	1.17	9	ePg	Pg	17 17 23.3	-0.6
LKD				eSg	Sg	17 17 39.4	+0.2
PYL	PYLOS	1.23	121	ePg	Pg	17 17 24.6	-0.5
PYL				eSg	Sn	17 17 41.2	-0.1
ITM	Ithomi	1.25	106	ePB	Pb	17 17 24.1	-0.8
SELA	Sela	1.37	57	ePg	Pn	17 17 26.4	-0.1
SELA				eSg	Sn	17 17 42.9	-1.8
VLX	Vlachokerasia	1.56	96	ePg	Pn	17 17 29.2	0.0
VLX	Vlachokerasia	1.56	96	ePg	Pn	17 17 29.2	0.0
EVR	Evrytania	1.75	38	iPG	Pg	17 17 34.1	-0.8
EVR				eSN	Sg	17 17 59.0	+1.4
IGT	Igoumenitsa	1.99	358	ePb	Pn	17 17 35.4	+0.4
LTK	Loutraki	2.07	76	ePb	Pn	17 17 36.2	+0.1
LTK	Loutraki	2.07	76	ePb	Pn	17 17 36.2	+0.1
AGG	Agios Georgios	2.10	45	ePn	Pn	17 17 37.5	+0.9
JAN	Janina	2.13	9	ePN	Pn	17 17 39.0	+1.9
VLI	Veliai	2.17	112	ePn	Pn	17 17 38.3	+0.8
VLI				P		17 17 47.5	
KEK	Kerkira	2.22	347	ePN	Pn	17 17 39.2	+1.0
DID	Didima	2.24	90	ePn	Pn	17 17 38.1	-0.4
DID				eSn	Sn	17 18 05.5	-0.6
LKR	Lokris	2.31	61	ePB	Pb	17 17 40.0	+0.5
LKR				eSN	Sn	17 18 11.8	+3.8
LKR	Lokris	2.31	61	ePn	Pn	17 17 39.6	+0.1
LKR	Lokris	2.31	61	ePb	Pn	17 17 40.0	+0.5
THL	Klokotos Trika	2.37	31	iPN	Pn	17 17 41.5	+1.2
NAIG	Nisos Aigina	2.44	84	ePN	Pn	17 17 42.0	+0.7
ATH	Athens Observa	2.64	80	ePB	Pn	17 17 44.3	+0.3
KVR	Kavouri	2.67	83	ePN	Pn	17 17 46.0	+1.6
PTL	Penteli	2.77	78	ePN	Pn	17 17 46.0	+0.2
NEO	Neokhori	2.81	50	ePN	Pn	17 17 46.3	-0.1
XOR	Xorichti	2.83	49	ePn	Pn	17 17 45.8	-0.9
KZN	Kozani	2.95	20	ePN	Pn	17 17 49.7	+1.4
LIT	Litokhoron	3.02	32	ePn	Pn	17 17 49.3	+0.1
LIT				eSn	Sn	17 18 24.9	-0.5
KBN	Korca	3.09	5	ePN	Pg	17 18 03.0	+2.5
AOS	Alonnisos	3.16	58	ePn	Pn	17 17 50.0	-1.2
TIP	Timpagrande	3.31	301	ePn	Pn	17 17 53.3	+0.1
FNA	Florina	3.32	13	ePn	Pn	17 17 54.3	+1.0
FNA				eSn	Sn	17 18 32.6	-0.2
LCI	Lecce	3.32	328	Pn	Pn	17 17 55.2	+1.9
PAIG	Paliouri	3.48	46	ePn	Pn	17 17 54.9	-0.7
SOI	Samo	3.50	280	Pn	Pn	17 17 56.7	+0.9
BIA	Bitola	3.54	11	ePn	Pn	17 17 57.8	+1.5
BIA	Bitola	3.54	11	ePn	Pn	17 17 57.4	+1.0
OHR	Ohrid	3.57	5	ePn	Pn	17 17 59.5	+2.6
OHR				eSn	Sn	17 18 36.5	-2.6
OHR	Ohrid	3.57	5	ePn	Pn	17 17 59.4	+2.6
OHR				eSn	Sn	17 18 36.5	-2.6
PLG	Polygyros	3.68	39	ePn	Pn	17 17 58.0	-0.3
PLG	Polygyros	3.68	39	ePn	Pn	17 17 58.7	+0.5
HORT	Hortiatis	3.69	33	ePn	Pn	17 17 58.4	0.0
GRG	Griva	3.74	24	ePn	Pn	17 17 59.5	+0.4
TIR	Tirane	3.82	354	ePN	Pn	17 18 03.4	+3.2
KRUS	Krusevo	3.87	9	ePn	Pn	17 18 02.1	+1.2
KRUS				eSn	Sn	17 18 35.3	-11
OUR	Ouranopolis	3.93	44	ePn	Pn	17 18 01.7	0.0
SOH	Sokhos	3.99	34	ePn	Pn	17 18 03.5	+1.0
QSH	Qafa e Shtames	3.99	354	ePN	Pn	17 18 07.0	+4.4
PE1	Pezze di Greco	4.00	325	ePn	Pn	17 18 04.4

SGO	**Sicignano**	**4.99**	**309**	P	**Pn**	**17 18 19.8**	**+3.5**
SGO				pmax	pmax		
	comp=Z,42nm,0.4s						
SGO	**Sicignano**	**4.99**	**309**	Pn	**Pn**	**17 18 19.8**	**+3.5**
	comp=Z,42nm,0.4s						
PVY	**Plav**	**5.06**	**356**	*e*Pn	**Pn**	**17 18 18.4**	**+1.2**
PVY				*e*Sn	**Sn**	**17 19 14.7**	**-0.9**
HCY	**Herceg Novi**	**5.12**	**344**	*e*Pn	**Pn**	**17 18 18.6**	**+0.6**
HCY				*e*Sn	**Sn**	**17 19 14.6**	**-2.5**
IVA	**Berane**	**5.34**	**356**	⇑*i*Pn	**Pn**	**17 18 22.0**	**+1.0**
IVA				*e*Sn	**Sn**	**17 19 21.6**	**-0.9**
NKY	**Niksic**	**5.37**	**349**	⇑*i*Pn	**Pn**	**17 18 22.3**	**+0.7**
NKY				*e*Sn	**Sn**	**17 19 21.7**	**-1.8**
VTS	**Vitosha**	**5.47**	**22**	P	**Pn**	**17 18 24.5**	**+1.6**
BRY	**Bratogost**	**5.54**	**346**	*e*Pn	**Pn**	**17 18 24.7**	**+0.9**
BRY				*e*Sn	**Sn**	**17 19 25.3**	**-2.2**
STON	**Ston**	**5.71**	**339**	*e*Pn	**Pn**	**17 18 25.8**	**-0.4**
STON				Sn	**Sn**	**17 19 25.7**	**-6.2**
UPM	**Unac-Piva**	**5.77**	**349**	*e*Pn	**Pn**	**17 18 27.7**	**+0.7**
UPM				*e*Sn	**Sn**	**17 19 31.1**	**-2.1**
PLE	**Pljevlja**	**5.83**	**353**	*e*Pn	**Pn**	**17 18 28.5**	**+0.7**
PLE				*e*Sn	**Sn**	**17 19 33.1**	**-1.6**
SGG	**Gregorio Mates**	**6.05**	**311**	Pn	**Pn**	**17 18 35.4**	**+4.6**
	comp=Z,32nm,0.5s						
AQU	**L'Aquila**	**7.22**	**314**	Pn	**Pn**	**17 18 47.9**	**+1.0**
NVLJ	**Novalja**	**8.17**	**331**	*e*Pn	**Pn**	**17 19 01.7**	**+1.8**
NVLJ				Sn	**Sn**	**17 20 27.3**	**-4.9**
NVLJ	**Novalja**	**8.17**	**331**	*e*Pn	**Pn**	**17 19 01.6**	**+1.7**
BOJS	**Bojanci**	**8.85**	**336**	*i* Pn	**Pn**	**17 19 10.2**	**+1.1**
BOJS				*i* Sn	**Sn**	**17 20 45.7**	**-3.2**
MLR	**Muntele Rosu**	**8.95**	**26**	Pn	**Pn**	**17 19 09.3**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=272,slow=22,SNR=2.3						
MLR	**Muntele Rosu**	**8.95**	**26**	⇑*i*P	**Pn**	**17 19 15.3**	**+4.7**
KEST	**Kesra**	**9.09**	**262**	Pn	**Pn**	**17 19 12.9**	**+0.4**
	comp=Z,0.1nm,0.3s,baz=313,slow=16,SNR=2.7						
KEST				Sn	**Sn**	**17 20 53.1**	**-1.8**
	comp=Z,0.1nm,0.3s,baz=11,slow=23,SNR=2.2						
SKDS	**Skadanscina**	**9.32**	**331**	*i* Pn	**Pn**	**17 19 16.6**	**+0.8**
SKDS				*i* Sn	**Sn**	**17 20 53.4**	**-7.2**
VNDS	**Vrh nad Dolski**	**9.55**	**335**	*i* Pn	**Pn**	**17 19 20.5**	**+1.6**
VRI	**Vrincioaia**	**9.55**	**28**	⇓*i*P	**Pn**	**17 19 21.1**	**+2.2**
JAVS	**Javornik**	**9.60**	**332**	*i* Pn	**Pn**	**17 19 21.9**	**+2.4**
JAVS				*i* Sn	**Sn**	**17 21 01.7**	**-5.7**
VOY	**Vojsko**	**9.78**	**332**	*e*Pn	**Pn**	**17 19 25.7**	**+3.7**
VOY				*e*Sn	**Sn**	**17 21 06.9**	**-4.9**
PERS	**Pernice**	**9.90**	**338**	*i* Pn	**Pn**	**17 19 24.4**	**+0.8**
PERS				*i* Sn	**Sn**	**17 21 05.2**	**-10**
OBKA	**Obir**	**9.96**	**336**	⇑*i*Pn	**Pn**	**17 19 25.3**	**+0.8**
OBKA				⇓*i*Sn	**Sn**	**17 21 10.9**	**-5.4**
ARSA	**Arzberg**	**10.35**	**341**	⇑*i*Pn	**Pn**	**17 19 30.2**	**+0.4**
PSZ	**Piszkesteto**	**10.38**	**358**	*e*P	**Pn**	**17 19 32.1**	**+2.0**
PSZ				pmax	pmax		
	comp=Z,7.0nm,0.7s						
PSZ	**Piszkesteto**	**10.38**	**358**	*e*Pn	**Pn**	**17 19 32.1**	**+2.0**
	comp=Z,6.7nm,0.7s						
PSZ	**Piszkesteto**	**10.38**	**358**	*e*Pn	**Pn**	**17 19 32.1**	**+2.0**
	comp=Z,6.7nm,0.7s						
BURAR	**Bucovina Array**	**10.66**	**18**	⇓*i*P	**Pn**	**17 19 33.5**	**-0.6**
CSS	**Prodhromos**	**10.73**	**100**	*e*Pn	**Pn**	**17 19 32.9**	**-2.3**
MOA	**Molln**	**11.25**	**338**	⇑*i*Pn	**Pn**	**17 19 42.8**	**+0.8**
MOA				⇑*i*Sn	**Sn**	**17 21 42.3**	**-5.5**
GERES	**GERESS Array B**	**12.31**	**339**	Pn	**Pn**	**17 19 56.2**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=163,slow=14,SNR=6.3						
GERES				Sn	**Sn**	**17 22 05.5**	**-8.2**
	comp=Z,0.3nm,0.3s,baz=160,slow=21,SNR=3.4						
AKASG	**Malin Array Be**	**14.58**	**23**	Pn	**Pn**	**17 20 25.1**	**-2.4**
	comp=Z,0.3nm,0.3s,baz=215,slow=12,SNR=4.1						
MDT	**Midelt**	**20.98**	**265**	P	**P**	**17 21 44.1**	**-0.6**
	comp=Z,2.0nm,0.8s,baz=91,slow=11,SNR=5.5						
HFS	**Hagfors**	**23.01**	**351**	P	**P**	**17 22 05.2**	**-1.0**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
HFS	**Hagfors**	**23.01**	**351**	P	**P**	**17 22 05.2**	**-1.0**
	comp=Z,2.8nm,0.5s,mb3.9,baz=156,slow=11,SNR=15						
EKA	**Eskdalemuir Ar**	**23.90**	**326**	P	**P**	**17 22 14.7**	**-0.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**23.90**	**326**	P	**P**	**17 22 14.7**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.3,baz=141,slow=5.4,SNR=3.4						
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**17 22 15.4**	**-2.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**24.18**	**7**	P	**P**	**17 22 15.4**	**-2.2**
	comp=Z,1.8nm,0.5s,mb3.7,baz=166,slow=9.7,SNR=16						
NB2	**NORSAR Subarra**	**24.22**	**349**	P	**P**	**17 22 17.5**	**-0.4**
	comp=Z,0.9nm,0.6s,mb3.4,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**24.22**	**349**	P	**P**	**17 22 16.7**	**-1.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**24.22**	**349**	P	**P**	**17 22 16.7**	**-1.2**
	comp=Z,1.1nm,0.6s,mb3.5,baz=162,slow=10,SNR=7.5						
JOF	**Joensuu**	**26.26**	**11**	*ep*	**P**	**17 22 32.7**	**-3.7**
	comp=Z,0.4nm,0.3s,mb3.4						
TORD	**Torodi Ar. Bea**	**29.49**	**219**	P	**P**	**17 23 06.0**	**+0.3**
	comp=Z,1.9nm,0.8s,mb3.9,baz=30,slow=9.1,SNR=11						
AKTK	**Aktyubinsk**	**29.62**	**52**	P	**P**	**17 23 04.2**	**-2.4**
AKTO	**Aktyubinsk**	**29.62**	**52**	P	**P**	**17 23 04.2**	**-2.4**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
AKTO	**Aktyubinsk**	**29.62**	**52**	P	**P**	**17 23 04.2**	**-2.4**
	comp=Z,0.6nm,0.4s,mb3.7,baz=228,slow=12,SNR=2.0						
ARCES	**ARCESS Array B**	**32.17**	**3**	P	**P**	**17 23 27.2**	**-1.6**
ARCES				pmax	pmax		
	comp=Z,6.0nm,1.0s						
ARCES	**ARCESS Array B**	**32.17**	**3**	P	**P**	**17 23 27.2**	**-1.6**
	comp=Z,6.4nm,0.9s,mb4.4,baz=49,slow=15,SNR=2.6						
BRVK	**Borovoye**	**37.52**	**49**	P	**P**	**17 24 15.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
BRVK	**Borovoye**	**37.52**	**49**	P	**P**	**17 24 15.2**	**0.0**
	comp=Z,1.9nm,0.8s,mb3.9						
BRVK	**Borovoye**	**37.52**	**49**	P	**P**	**17 24 15.2**	**-0.1**
	comp=Z,1.9nm,0.8s,mb3.9						
DBIC	**Dimbokro**	**38.38**	**223**	P	**P**	**17 24 23.1**	**+0.3**
DBIC				pmax	pmax		
	comp=Z,5.0nm,0.9s						
DBIC	**Dimbokro**	**38.38**	**223**	P	**P**	**17 24 23.1**	**+0.2**
	comp=Z,4.6nm,0.9s,mb4.2,baz=342,slow=4.4,SNR=3.5						
EKS2	**Erkin-Say**	**40.56**	**66**	P	**P**	**17 24 42.8**	**+1.9**
	comp=Z,2.5nm,0.9s,mb3.8						
KURK	**Kurchatov**	**42.72**	**53**	P	**P**	**17 24 51.1**	**-7.3**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KURK	**Kurchatov**	**42.72**	**53**	P	**P**	**17 24 51.1**	**-7.3**
	comp=Z,2.0nm,0.8s,mb3.9						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**17 25 19.8**	**-2.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**45.70**	**58**	P	**P**	**17 25 19.8**	**-2.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=280,slow=6.5,SNR=17						
ZAL	**Zalesovo**	**46.16**	**48**	P	**P**	**17 25 23.5**	**-2.4**
ZALV	**Zalesovo Beam**	**46.17**	**48**	P	**P**	**17 25 23.5**	**-2.5**
	comp=Z,1.7nm,0.4s,mb4.3,baz=264,slow=7.6,SNR=8.5						
SCHQ	**Schefferville**	**58.87**	**318**	P	**P**	**17 26 58.7**	**-1.3**
	comp=Z,2.5nm,0.6s,mb4.4,baz=90,slow=8.1,SNR=3.6						
SONM	**Songino Array**	**60.92**	**50**	P	**P**	**17 27 12.4**	**-1.8**
	comp=Z,0.2nm,0.5s,mb3.5,baz=275,slow=7.3,SNR=3.0						
YKA	**Yellowknife Ar**	**73.96**	**340**	P	**P**	**17 28 35.3**	**-1.1**
	comp=Z,0.1nm,0.4s,mb3.1,baz=32,slow=5.8,SNR=4.1						
YKA	**Yellowknife Ar**	**73.96**	**340**	P	**P**	**17 28 35.3**	**-1.2**
KSRS	**Korea Array**	**79.79**	**50**	P	**P**	**17 29 09.2**	**-0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=313,slow=4.2,SNR=4.9						
ASAJ	**Asahikawa**	**83.33**	**38**	LR	LR	18 11 42.0	
	comp=Z,50nm,18.1s,baz=336,slow=40						

IDC 11 17:23:40.2±38.0, 635S×10604E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.5/18, mbtmp3.8/3, Error ellipse: s-maj=665.7km s-min=174.6km az=133.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.62**	**119**	P	P	17 29 57.1	+0.7
	0.6nm,0.7s,baz=292,slow=11,SNR=3.2						
ASAR	**Alice Springs**	**31.84**	**126**	P	P	17 30 06.5	-0.6
	0.3nm,0.8s,baz=298,slow=7.7,SNR=4.0						
STKA	**Stephens Creek**	**41.78**	**132**	P	P	17 31 31.5	-0.1
	4.0nm,0.7s,baz=305,slow=9.4,SNR=14						

*ISCJB **11** 17:33:35.9±0.5, 1989N×009×457W±0.1, h10km, mb4.0/15, MS3.6/13, Error ellipse: s-maj=14.6km s-min=13.0km az=26.3*
*NEIC **11** 17:33:37.3±0.6, 1991N×4569W, h10km, mb4.3/6, Error ellipse: s-maj=16.3km s-min=14.2km az=109.0*
*IDC **11** 17:33:37.4±0.8, 1986N×4591W, h0km, mb4.0/10, mb1 4.1/10, mb1mx3.9/26, mbtmp4.0/10, MS3.6/14, Ms1 3.6/14, ms1mx3.4/27, Error ellipse: s-maj=23.7km s-min=19.9km az=133.0*
ISC 11 17:33:38.4±0.5, 1985N±009×458W±01, h10km, n31, σ1§27/22, mb4.0/15, MS3.6/13, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJG	**San Juan**	**19.31**	**268**	LR	LR	17 43 53.8	
	comp=Z,132nm,20.9s,baz=97,slow=32						
SDV	**Santo Domingo**	**26.35**	**249**	P	**P**	**17 39 14.8**	**-0.1**
	4.7nm,1.0s,mb4.0						
SDV				LR	LR	17 49 01.6	
SDV	**Santo Domingo**	**26.35**	**249**	P	**P**	**17 39 15.9**	**+1.0**
	3.1nm,0.8s,mb3.9,baz=326,slow=10.0,SNR=3.1						
SDV				LR	LR	17 49 01.6	
	comp=Z,50nm,18.3s,MS3.1,baz=62,slow=35						
BBTS	**Babate**	**28.41**	**96**	LR	LR	17 47 47.5	
	comp=Z,113nm,20.2s,MS3.5,baz=81,slow=30						
BDFB	**Brasilia**	**35.33**	**184**	LR	LR	17 53 31.1	
	comp=Z,98nm,19.3s,MS3.6,baz=1.5,slow=34						
SCHQ	**Schefferville**	**38.40**	**340**	LR	LR	17 55 13.6	
	comp=Z,84nm,19.8s,MS3.6,baz=105,slow=34						
SIV	**San Ignacio**	**38.64**	**204**	P	**P**	**17 41 02.6**	**+0.5**
	0.5nm,0.4s,mb3.6,baz=78,slow=7.4,SNR=5.9						
ESLA	**Sonseca Array**	**40.91**	**52**	P	**P**	**17 41 17.4**	**-3.6**
	4.1nm,1.4s,mb3.9						
DBIC	**Dimbokro**	**41.84**	**103**	LR	LR	17 55 32.2	
	comp=Z,117nm,19.3s,MS3.8,baz=248,slow=31						
LPAZ	**La Paz**	**42.07**	**213**	P	**P**	**17 41 31.7**	**+1.1**
	2.8nm,1.1s,mb3.8,baz=31,slow=12,SNR=7.5						
LPAZ				LR	LR	17 58 35.0	
	comp=Z,47nm,21.3s,MS3.3,baz=281,slow=36						
MIAR	**Mount Ida**	**44.53**	**299**	P	**P**	**17 41 50.6**	**+0.2**
	6.5nm,1.2s,mb4.3						
TOA0	**Torodi Ar. Sit**	**45.92**	**91**	*e*P	**P**	**17 41 59.7**	**-2.0**
TORD	**Torodi Ar. Bea**	**45.92**	**91**	P	**P**	**17 42 02.5**	**+0.7**
TORD				LR	LR	17 59 37.3	
TORD	**Torodi Ar. Bea**	**45.92**	**91**	P	**P**	**17 42 02.5**	**+0.8**
	1.8nm,0.8s,mb4.1,baz=294,slow=7.6,SNR=11						
TORD				LR	LR	17 59 37.3	
	comp=Z,84nm,18.1s,MS3.7,baz=280,slow=34						
CPUP	**Villa Florida**	**47.24**	**194**	P	**P**	**17 42 10.4**	**-1.3**
	2.1nm,0.8s,mb4.1,baz=2.0,slow=7.5,SNR=4.8						
FCC	**Fort Churchill**	**52.08**	**330**	*e*P	**P**	**17 42 48.5**	**+0.2**
	4.4nm,1.3s,mb4.2						
TXAR	**Lajitas Array**	**53.00**	**292**	P	**P**	**17 42 56.3**	**+0.7**
	0.4nm,0.9s,mb3.3,baz=114,slow=9.0,SNR=3.3						
TXAR				LR	LR	18 06 06.7	
	comp=Z,36nm,19.1s,MS3.4,baz=0.0,slow=37						
LCO	**Las Campanas**	**54.19**	**207**	P	**P**	**17 43 02.2**	**-2.0**
	8.4nm,0.6s,mb4.8						
NOA	**NORSAR Array B**	**57.04**	**29**	LR	LR	18 04 23.6	
	comp=Z,13nm,20.2s,MS3.0,baz=270,slow=32						
RES	**Resolute Bay**	**60.71**	**347**	P	**P**	**17 43 45.9**	**-3.7**
	96nm,1.3s						
YKA	**Yellowknife Ar**	**62.80**	**331**	P	**P**	**17 44 03.0**	**-0.9**
YKA				LR	LR	18 09 08.7	
YKA	**Yellowknife Ar**	**62.80**	**331**	P	**P**	**17 44 03.0**	**-0.9**
	0.7nm,0.7s,mb3.9,baz=101,slow=7.5,SNR=13						
YKA				LR	LR	18 09 08.7	
	comp=Z,31nm,18.6s,MS3.5,baz=155,slow=34						
NEW	**Newport**	**63.09**	**315**	*e*P	**P**	**17 44 05.0**	**-1.0**
	3.0nm,0.8s,mb4.5						
PLCA	**Paso Flores**	**64.51**	**201**	P	**P**	**17 44 15.9**	**+0.6**
	0.9nm,0.5s,mb4.1,baz=25,slow=14,SNR=3.9						
INK	**Inuvik**	**70.89**	**337**	*e*P	**P**	**17 44 54.8**	**-0.5**
	79nm,0.9s						
INK	**Inuvik**	**70.89**	**337**	LR	LR	18 14 46.2	
	comp=Z,66nm,18.8s,MS3.9,baz=46,slow=35						
AKTK	**Aktyubinsk**	**83.37**	**39**	P	**P**	**17 46 07.4**	**+1.6**
AKTO	**Aktyubinsk**	**83.37**	**39**	P	**P**	**17 46 07.4**	**+1.6**
	1.5nm,0.8s,mb4.1,baz=296,slow=5.4,SNR=4.2						
BOSA	**Boshof**	**83.82**	**123**	LR	LR	18 18 29.2	
	comp=Z,86nm,20.7s,MS4.1,baz=194,slow=32						
KMBO	**Kilima Mbogo**	**83.86**	**93**	P	**P**	**17 46 11.9**	**+2.9**
	1.0nm,0.8s,mb4.0,baz=231,slow=19,SNR=3.7						
MKAR	**Makanchi Array**	**98.86**	**33**	LR	LR	18 32 31.6	
	comp=Z,38nm,18.0s,MS3.9,baz=0.7,slow=36						

MAN 11 17:52:34, 1256N×12349E, h51km, mb3.7, ML2.5, MS2.0, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**1.15**	**92**	*e*P	Pn	17 52 54.5	+0.7
PVCP	**Virac**	**1.22**	**32**	*e*P	Pn	17 52 55.8	+1.0
PVCP				*e*S	Sn	17 53 13.2	+3.0
RCP	**Roxas**	**1.23**	**216**	⇑*e*P	Pn	17 52 56.3	+1.5
RCP				*e*S	Sn	17 53 12.4	+2.1
OTRP	**Odiongan**	**1.44**	**262**	*e*P	Pn	17 52 58.6	+0.8
GUIM	**Jordan**	**2.11**	**205**	*e*P	Pn	17 53 09.3	+2.4

*IDC **11** 18:00:18.9±0.8, 4580N×154.19E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, MS2.6/1, Ms1 2.6/1, ms1mx2.3/35, Error ellipse: s-maj=26.0km s-min=22.1km az=78.0*
*ISCJB **11** 18:00:22.4±0.8, 460N±0.1×1542E±02, h33km, mb3.8/13, Error ellipse: s-maj=17.6km s-min=13.1km az=136.7*
*MOS **11** 18:00:24.0±1.9, 4606N×154.05E, h38km, mb4.1/8, Error ellipse: s-maj=21.7km s-min=13.3km az=93.3*
ISC 11 18:00:21.6±6.6, 460N±01×1543E±02, h14km±40km, n26, σ1§16/23, mb3.8/13, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.88**	**14**	*e*PN	**Pn**	**18 01 33.4**	**-1.1**
ASAJ	**Asahikawa**	**8.48**	**262**	Pn	**Pn**	**18 02 25.5**	**+1.6**
	0.2nm,0.3s,baz=48,slow=30,SNR=2.2						
KSRS	**Korea Array**	**21.36**	**256**	LR	LR	18 11 60.0	
	comp=Z,17nm,21.4s,baz=220,slow=33						
YAK	**Yakutsk**	**21.41**	**327**	*e*P	**P**	**18 05 07.3**	**-1.5**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.1						
BILL	**Bilibino**	**22.98**	**12**	*e*P	**P**	**18 05 28.3**	**+2.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.7						
ZAK	**Zakamensk**	**33.74**	**296**	*e*P	**P**	**18 07 02.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.5						
ZALV	**Zalesovo Beam**	**43.72**	**307**	P	**P**	**18 08 24.8**	**-1.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=70,slow=8.5,SNR=4.2						
MKAR	**Makanchi Array**	**48.02**	**298**	*i* P	**P**	**18 08 59.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**48.02**	**298**	P	**P**	**18 08 59.6**	**-0.4**
	comp=Z,0.8nm,0.7s,mb3.8,baz=67,slow=7.0,SNR=8.8						
KURK	**Kurchatov**	**48.47**	**305**	*e*P	**P**	**18 09 02.6**	**-0.8**
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**18 09 22.9**	**-0.2**
	comp=Z,0.2nm,0.6s,mb3.3,baz=298,slow=10,SNR=5.7						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**18 09 29.6**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**51.98**	**310**	P	**P**	**18 09 29.6**	**-0.4**
	comp=Z,0.7nm,0.4s,mb4.0,baz=55,slow=7.1,SNR=9.9						
FINES	**FINESS Array B**	**65.09**	**335**	*i* P	**P**	**18 11 02.7**	**+1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**65.09**	**335**	P	**P**	**18 11 01.8**	**+0.6**
	comp=Z,0.6nm,0.4s,mb4.0,baz=34,slow=8.2,SNR=11						
WRA	**Warramunga Arr**	**68.05**	**200**	*i* P	**P**	**18 11 20.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**68.05**	**200**	P	**P**	**18 11 19.5**	**-1.0**
	comp=Z,0.9nm,0.8s,mb3.9,baz=21,slow=6.8,SNR=5.0						
NOA	**NORSAR Array B**	**69.23**	**342**	P	**P**	**18 11 29.2**	**+1.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=26,slow=6.3,SNR=3.1						
ASAR	**Alice Springs**	**71.73**	**200**	*e*P	**P**	**18 11 43.6**	**+0.5**
ASAR	**Alice Springs**	**71.73**	**200**	P	**P**	**18 11 41.1**	**-2.0**
	comp=Z,0.7nm,0.8s,mb3.6,baz=19,slow=6.8,SNR=6.7						
AKASG	**Malin Array Be**	**72.64**	**327**	*i* P	**P**	**18 11 50.2**	**+1.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.64**	**327**	P	**P**	**18 11 48.8**	**+0.4**
	comp=Z,0.9nm,0.5s,mb4.0,baz=34,slow=5.9,SNR=6.1						
TXAR	**Lajitas Array**	**77.17**	**61**	P	**P**	**18 12 15.3**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**77.17**	**61**	P	**P**	**18 12 15.2**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=293,slow=3.5,SNR=5.6						
PLCA	**Paso Flores**	**147.32**	**97**	PKP2	PKPbc	18 20 04.3	+0.1
PLCA				pmax	pmax		
	comp=Z,3.0nm,1.1s						
PLCA	**Paso Flores**	**147.32**	**97**	PKPbc	PKPbc	18 20 04.3	+0.1
	comp=Z,2.6nm,1.1s,baz=36,slow=21,SNR=3.3						

IDC 11 18:01:14.2±13.0, 547S×10728E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/19, mbtmp3.9/4, 1C, Error ellipse: s-maj=223.3km s-min=169.5km az=157.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**3.04**	**128**	⇑*e*P	Pn	18 02 08.6	+5.0
BJII				*e*S	Sn	18 02 47.5	+6.7
BATI	**Kupang**	**16.90**	**107**	Pn	Pn	18 05 17.7	+5.4
	0.8nm,0.3s,baz=236,slow=12,SNR=2.1						
FITZ	**Fitzroy Crossi**	**21.89**	**127**	P	P	18 06 09.2	+0.2
	1.6nm,0.7s,baz=315,slow=11,SNR=3.3						
WRA	**Warramunga Arr**	**29.99**	**121**	P	P	18 07 24.2	-0.5
	0.7nm,0.8s,baz=293,slow=11,SNR=4.1						
ASAR	**Alice Springs**	**31.37**	**128**	P	P	18 07 37.1	+0.2
	0.8nm,0.8s,baz=300,slow=7.7,SNR=8.9						
STKA	**Stephens Creek**	**41.47**	**134**	P	P	18 09 03.2	+0.2
	5.4nm,0.7s,baz=308,slow=9.8,SNR=15						

*IDC **11** 18:35:15.1±1.8, 055N×9738E, h0km, mb3.9/6, mb1 3.9/7, mb1mx3.7/21, mbtmp3.8/7, ML2.9/1, MS2.9/1, Ms1 2.9/1, ms1mx2.7/24, Error ellipse: s-maj=51.3km s-min=21.7km az=62.0*
*ISCJB **11** 18:35:18.3±1.4, 06N±01×974E±02, h33km, mb3.9/6, Error ellipse: s-maj=30.7km s-min=16.3km az=167.9*
ISC 11 18:35:21.1±1.4, 07N±01×976E±02, h35km, n8, σ0§18/8, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.53**	**33**	Pn	**Pn**	**18 35 59.6**	**0.0**
	2.4nm,0.3s,baz=284,slow=11,SNR=8.2						
PSI				LR	LR	18 36 57.1	
	comp=Z,187nm,18.2s,baz=203,slow=39						
TSI	**Tuntungan**	**3.00**	**20**	*e*P	**Pn**	**18 36 06.0**	**-0.1**
WRA	**Warramunga Arr**	**41.44**	**122**	P	**P**	**18 43 04.5**	**-0.2**
	0.4nm,0.7s,mb3.1,baz=308,slow=9.4,SNR=5.5						
ASAR	**Alice Springs**	**42.78**	**127**	P	**P**	**18 43 15.7**	**+0.1**
	0.5nm,0.8s,mb3.3,baz=300,slow=7.9,SNR=5.5						
KSRS	**Korea Array**	**46.09**	**34**	P	**P**	**18 43 42.0**	**+0.1**
	3.1nm,0.8s,mb4.3,baz=219,slow=9.1,SNR=12						
SONM	**Songino Array**	**47.61**	**8**	P	**P**	**18 43 53.9**	**+0.3**
	1.0nm,0.8s,mb3.9,baz=186,slow=9.4,SNR=10						
MKAR	**Makanchi Array**	**47.85**	**346**	P	**P**	**18 43 55.4**	**0.0**
	1.9nm,0.8s,mb4.2,baz=164,slow=9.0,SNR=15						
ZALV	**Zalesovo Beam**	**54.15**	**351**	P	**P**	**18 44 42.3**	**-0.3**
	2.2nm,0.6s,mb4.3,baz=174,slow=6.0,SNR=12						

*ISCJB **11** 18:48:12.5±1.1, 4248N±003×4863E±005, h11km±7km, Error ellipse: s-maj=6.9km s-min=5.3km az=156.4*
*MOS **11** 18:48:12.7±0.5, 4239N×4865E, h36km, mb4.0/1, Error ellipse: s-maj=27.5km s-min=24.0km az=14.7*
*TIF **11** 18:48:13.1, 4237N×4859E, h16km±2km*
*CSEM **11** 18:48:14.9±0.2, 4235N×4831E, h15km, mb4.0, Error ellipse: s-maj=7.3km s-min=5.5km az=64.0*
ISC 11 18:48:14.6±0.9, 4244N±003×4853E±006, h17km±5km, n20, σ1§35/33, 3C-2D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**1.67**	**289**	*e*P	Pn	19 18 40.1	+1.4
KBTR				*i* S	Sn	19 19 00.3	+1.5
MKZ	**Mys Kozlova**	**2.53**	**244**	*e*P	Pn	19 18 53.4	+2.9
MKZ				*i* S	Sn	19 19 24.7	+4.7
SPN	**Mys Shipunski**	**4.20**	**234**	*e*P	Pn	19 19 17.0	+3.6
SPN				*i* S	Sn	19 20 05.3	+4.1
NLC	**Nalytchevo**	**4.47**	**238**	P	Pn	19 19 23.6	+6.4
NLC				*i* S	Sn	19 20 13.8	+5.9
AVH	**Avacha**	**4.72**	**242**	*e*P	Pn	19 19 25.4	+4.9
AVH				*i* S	Sn	19 20 19.0	+5.1
GNL	**Ganaly**	**4.91**	**249**	*e*P	Pn	19 19 28.3	+5.2
RUS	**Russkaya**	**5.33**	**235**	*e*P	Pn	19 19 32.8	+3.8
RUS				*i* S	Sn	19 20 30.7	+1.7

NNC ***11*** *19:34:33.1±5.2, 4025N×7252E, h28km±24km, mb3.2, mpv2.7, Error ellipse: s-maj=42.5km s-min=38.1km az=35.0*

ISC 11 19:34:26.0±2.9,**397N**±02×**721E**±01,**h10**km,**n11**,σ**1**§**13**/13, **5C-2D, Kyrgyzstan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**2.74**	**26**	P	**Pn**	**19 35 09.8**	**-0.2**
	SNR=48						
UCH	**Uchtor**	**3.15**	**35**	P	**Pn**	**19 35 15.2**	**-0.3**
	SNR=9.8						
EKS2	**Erkin-Say**	**3.25**	**23**	P	**Pn**	**19 35 18.1**	**+1.1**
	SNR=11						
KZA	**Kyzart**	**3.40**	**44**	P	**Pn**	**19 35 18.9**	**-0.1**
	SNR=7.9						
AAK	**Ala-Archa**	**3.47**	**31**	P	**Pn**	**19 35 21.3**	**+1.2**
	SNR=8.4						
KK31	**Karatay Array**	**3.63**	**341**	⇑Pn	**Pn**	**19 35 24.8**	**+2.6**
	0.4nm,0.2s,baz=141,slow=14,SNR=124						
KK31				⇓Pg	**Pg**	**19 35 32.9**	**-2.6**
	1.3nm,0.2s,baz=151,slow=15,SNR=26						
KK31				⇑Sn	**Sn**	**19 36 05.7**	**+0.6**
	3.0nm,0.2s,baz=128,slow=20,SNR=6.4						
KK31				⇑Lg		19 36 14.7	
	13nm,0.4s,baz=158,slow=31,SNR=7.1						
KBK	**Karagaybulak**	**3.68**	**35**	P	**Pb**	**19 35 30.1**	**-1.0**
	SNR=5.5						
CHMS	**Chumysh**	**3.88**	**30**	P	**Pn**	**19 35 26.3**	**+0.6**
	SNR=8.1						
ULHL	**Ulahol**	**4.06**	**49**	P	**Pn**	**19 35 27.2**	**-1.0**
	SNR=5.8						
TKM2	**Tokmak 2**	**4.19**	**38**	⇑Lg		19 36 24.1	
	6.4nm,0.4s						
AB31	**Akbulak array**	**12.91**	**322**	⇑Pn	**Pn**	**19 37 28.8**	**-0.6**
	0.2nm,0.3s,baz=290,slow=26,SNR=5.6						
AB31				⇓Sn	**Sn**	**19 39 45.0**	**-8.0**
	0.4nm,0.4s,baz=129,slow=23,SNR=2.9						

IDC ***11*** *19:52:40.8±1.8, 3958N×144.11E, h0km, mb3.4/2, mb1 3.6/4, mb1mx3.4/21, mbtmp3.4/4, ML3.5/2, Error ellipse: s-maj=46.4km s-min=26.0km az=91.0*

ISCJB ***11*** *19:52:45.7±1.0, 3974N±005×14364E±009, h58km±15km, mb3.5/2, Error ellipse: s-maj=12.9km s-min=5.8km az=27.4*

JMA ***11*** *19:52:47.1±0.2, 3978N×14353E, h49km, M3.7*

ISC 11 19:52:47.0±1.0,**3973N**±005×**14362E**±009,**h45**km±17km, **n17**,σ**0**§**99**/27,**mb3.5**/2,**Off east of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTH	**Tanohata**	**1.37**	**279**	P	**Pn**	**19 53 09.1**	**-0.5**
MIYJ	**Miyakonagasawa**	**1.40**	**264**	P	**Pn**	**19 53 10.0**	**0.0**
JANG	**Nango**	**1.74**	**292**	P	**Pn**	**19 53 14.3**	**-0.4**
JANG				S	**Sn**	**19 53 34.2**	**-1.4**
JOM	**Ohasama**	**1.82**	**263**	P	**Pn**	**19 53 16.2**	**+0.5**
JOM				*e*S	**Sn**	**19 53 37.5**	**0.0**
JMK	**Ichinoseki**	**2.02**	**248**	P	**Pn**	**19 53 18.6**	**+0.2**
JOT	**Ohata**	**2.56**	**311**	P	**Pn**	**19 53 26.7**	**+0.7**
JOT				*e*S	**Sn**	**19 53 55.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**2.63**	**346**	P	**Pn**	**19 53 27.6**	**+0.7**
JYK	**Kaneyama**	**2.66**	**253**	P	**Pn**	**19 53 27.8**	**+0.6**
JYK				*e*S	**Sn**	**19 53 58.6**	**+0.5**
JMM	**Marumori**	**2.89**	**231**	P	**Pn**	**19 53 29.5**	**-0.9**
JMM				*e*S	**Sn**	**19 54 01.2**	**-2.6**
JCH	**Churui**	**2.89**	**356**	P	**Pn**	**19 53 30.6**	**+0.1**
JCH				S	**Sn**	**19 54 02.9**	**-1.1**
JKB	**Kayabe**	**2.92**	**319**	P	**Pn**	**19 53 31.5**	**+0.7**
JAK	**Akkeshi**	**3.37**	**14**	P	**Pn**	**19 53 36.3**	**-0.7**
JAK				S	**Sn**	**19 54 13.3**	**-2.3**
JEW	**Eniwo**	**3.51**	**333**	P	**Pn**	**19 53 41.0**	**+2.0**
JEW				*e*S	**Sn**	**19 54 20.0**	**+0.7**
ASAJ	**Asahikawa**	**4.45**	**350**	Pn	**Pn**	**19 53 53.1**	**+1.2**
	3.4nm,0.3s,baz=197,slow=10,SNR=17						
ASAJ				Sn	**Sn**	**19 54 46.6**	**+4.3**
	0.3nm,0.3s,baz=90,slow=30,SNR=2.0						
MJAR	**Matsushiro Arr**	**5.32**	**235**	Pn	**Pn**	**19 54 04.9**	**+1.1**
	0.5nm,0.3s,baz=37,slow=14,SNR=8.8						
MJAR				Sn	**Sn**	**19 55 09.8**	**+6.0**
	0.5nm,0.3s,baz=141,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**59.99**	**190**	P	**P**	**20 02 47.8**	**-0.9**
	0.4nm,0.5s,mb3.7,baz=7.9,slow=7.0,SNR=16						
ASAR	**Alice Springs**	**63.71**	**190**	P	**P**	**20 03 14.4**	**+0.7**
	0.2nm,0.6s,mb3.3,baz=3.7,slow=7.0,SNR=4.4						

IDC ***11*** *20:01:18.4±1.7, 4060N×5194E, h0km, mb3.8/6, mb1 4.0/10, mb1mx3.7/24, mbtmp3.9/10, ML4.5/3, MS3.2/4, Ms1 3.2/4, ms1mx2.6/29, Error ellipse: s-maj=30.9km s-min=12.3km az=149.0*

ISCJB ***11*** *20:01:19.8±1.7, 4075N±005×5203E±004, h23km±16km, mb3.8/9, MS3.4/2, Error ellipse: s-maj=8.0km s-min=5.0km az=168.4*

MOS ***11*** *20:01:20.6±1.2, 4103N×5196E, h12km, mb4.3/4, Error ellipse: s-maj=11.1km s-min=9.4km az=87.2*

CSEM ***11*** *20:01:21.8±0.1, 4064N×5194E, h50km, mb3.7/1, ML3.6/4, Error ellipse: s-maj=2.7km s-min=2.3km az=126.0*

THR ***11*** *20:01:23.8±0.4, 4028N×5175E, h15km, ML4.3*

NEIC ***11*** *20:01:24.2±1.0, 4083N×5199E, h41km±11km, mb3.8/6, Error ellipse: s-maj=14.8km s-min=5.2km az=179.0*

NNC ***11*** *20:01:27.8±2.9, 4100N×5339E, h0km, mb3.6, Error ellipse: s-maj=24.8km s-min=22.1km az=162.0*

ISC 11 20:01:24.9±0.7,**4095N**±005×**5205E**±004,**h38**km±9km,**n73**, σ**0**§**96**/90,**mb3.8**/9,**MS3.4**/2,**8C-4D, Turkmenistan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	**Germi**	**3.84**	**238**	*e*Pn	**Pn**	**20 02 17.2**	**-4.3**
GRMI				AML	AML	20 02 59.7	
	comp=N,506nm,0.2s						
MRVT	**Maraveh tapeh**	**4.54**	**135**	*e*Pn	**Pn**	**20 02 30.4**	**-0.7**
MRVT				AML	AML	20 03 20.3	
	comp=E,168nm,0.3s						
DGRG	**David-gareji**	**5.06**	**278**	P	**Pn**	**20 02 39.0**	**+0.8**
DGRG				S	**Sn**	**20 03 37.0**	**+1.6**
CHTH	**Charan**	**5.08**	**188**	*e*Pn	**Pn**	**20 02 32.1**	**-6.5**
THKV	**Tehran--Karaj**	**5.11**	**191**	*e*Pn	**Pn**	**20 02 32.6**	**-6.3**
THKV				AML	AML	20 03 27.5	
	comp=N,414nm,0.5s						
THKV				AML	AML	20 03 28.5	
	comp=E,290nm,0.3s						
DAMV	**Damavand**	**5.31**	**181**	*e*Pn	**Pn**	**20 02 35.9**	**-5.7**
DAMV				AML	AML	20 03 32.9	
	comp=N,367nm,0.8s						
DAMV				AML	AML	20 03 34.7	
	comp=E,236nm,0.4s						
MTA	**Mtatsminda**	**5.51**	**280**	P	**Pn**	**20 02 43.7**	**-0.8**
MTA				S	**Sn**	**20 03 46.7**	**+0.2**
TBLG	**Delisi**	**5.56**	**280**	P	**Pn**	**20 02 34.7**	**-10**
TBLG				S	**Sn**	**20 03 37.5**	**-10**
GNI	**Garni**	**5.62**	**264**	*e*P	**Pn**	**20 02 47.9**	**+2.0**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.6s						
GNI	**Garni**	**5.62**	**264**	Pn	**Pn**	**20 02 45.1**	**-0.8**
	comp=Z,0.6nm,0.3s,baz=180,slow=20,SNR=2.4						
MAKU	**Maku**	**5.86**	**257**	*e*Pn	**Pn**	**20 02 48.0**	**-1.3**
ASAO	**Ashtian**	**6.58**	**195**	*e*Pn	**Pn**	**20 02 52.9**	**-6.3**
KIV	**Kislovodsk**	**7.55**	**297**	*e*P	**Pn**	**20 03 13.0**	**+0.7**
KIV				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KIV	**Kislovodsk**	**7.55**	**297**	*e*P	**Pn**	**20 03 13.0**	**+0.7**
	comp=Z,3.0nm,1.2s						
AB31	**Akbulak array**	**10.00**	**31**	Pn	**Pn**	**20 03 46.0**	**0.0**
	comp=Z,0.5nm,0.2s,baz=204,slow=13,SNR=20						
AB31				⇑Sn	**Sn**	**20 05 35.7**	**-1.1**
	comp=Z,4.4nm,0.3s,baz=208,slow=24,SNR=19						
AKTK	**Aktyubinsk**	**10.36**	**22**	Pn	**Pn**	**20 03 52.2**	**+1.3**
AKTK				Sn	**Sn**	**20 05 45.0**	**-0.6**
AKTK	**Aktyubinsk**	**10.36**	**22**	P	**Pn**	**20 03 52.2**	**+1.3**
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**10.36**	**22**	P	**Pn**	**20 03 52.2**	**+1.3**
AKTO						20 05 45.0	
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,5.0nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,47nm,18.9s						
AKTO	**Aktyubinsk**	**10.36**	**22**	Pn	**Pn**	**20 03 52.2**	**+1.3**
	comp=Z,1.4nm,0.3s,baz=198,slow=9.9,SNR=22						
AKTO				Sn	**Sn**	**20 05 45.0**	**-0.6**
	comp=Z,5.4nm,0.3s,baz=224,slow=23,SNR=15						
AKTO				LR	LR	20 09 10.2	
	comp=Z,47nm,18.9s,baz=267,slow=44						
AKTO	**Aktyubinsk**	**10.36**	**22**	Pn	**Pn**	**20 03 52.5**	**+1.6**
AKTO				Sn	**Sn**	**20 05 44.2**	**-1.4**
	comp=Z,0.2nm,0.4s						
KK31	**Karatay Array**	**13.90**	**75**	Pn	**Pn**	**20 04 36.5**	**-2.7**
	comp=Z,0.3nm,0.3s,baz=272,slow=13,SNR=9.2						
KK31				⇑Sn	**Sn**	**20 07 02.5**	**-10**
	comp=Z,1.7nm,0.6s,baz=269,slow=24,SNR=5.2						
ARU	**Arti**	**16.07**	**13**	*c i*P	**Pn**	**20 05 08.0**	**+0.2**
ARU				*e*S	**S**	**20 08 05.9**	**-11**
ARU				pmax	pmax		
	comp=Z,4.0nm,1.2s						
ARU	**Arti**	**16.07**	**13**	*i* P	**Pn**	**20 05 08.0**	**+0.2**
	comp=Z,4.0nm,1.2s						
EKS2	**Erkin-Say**	**16.29**	**77**	*e*P	**Pn**	**20 05 10.7**	**0.0**
	comp=Z,1.6nm,0.6s						
EKS2	**Erkin-Say**	**16.29**	**77**	*e*P	**Pn**	**20 05 10.7**	**0.0**
	comp=Z,1.6nm,0.6s						
ZRNK	**Zerenda**	**16.63**	**38**	⇓Pn	**Pn**	**20 05 14.8**	**-0.1**
	comp=Z,2.3nm,0.7s						
ZRNK				⇓Sn	**Sn**	**20 08 11.3**	**-7.0**
	comp=Z,11nm,1.1s						
BRVK	**Borovoye**	**17.30**	**39**	*e*P	**Pn**	**20 05 23.2**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
BRVK	**Borovoye**	**17.30**	**39**	*e*P	**Pn**	**20 05 23.2**	**-0.1**
	comp=Z,3.7nm,0.6s						
BRVK	**Borovoye**	**17.30**	**39**	*e*P	**Pn**	**20 05 23.2**	**-0.1**
	comp=Z,3.7nm,0.6s						
BVA0	**Borovoye Array**	**17.33**	**40**	Pn	**Pn**	**20 05 25.1**	**+1.4**
	comp=Z,0.8nm,0.6s,baz=223,slow=12,SNR=52						
BVA0				Sn	**Sn**	**20 08 27.1**	**-8.2**
	comp=Z,0.7nm,0.7s,baz=228,slow=28,SNR=12						
BVAR	**Borovoye Array**	**17.33**	**40**	P	**Pn**	**20 05 24.6**	**+0.9**
BVAR				S	**S**	**20 08 25.8**	**-17**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,46nm,19.0s						
BVAR	**Borovoye Array**	**17.33**	**40**	P	**Pn**	**20 05 24.6**	**+0.9**
BVAR				S	**S**	**20 08 25.8**	**-17**
BVAR	**Borovoye Array**	**17.33**	**40**	P	**Pn**	**20 05 24.6**	**+0.9**
	comp=Z,1.5nm,0.3s,baz=226,slow=11,SNR=41						
BVAR				S	**S**	**20 08 25.8**	**-17**
	comp=Z,0.3nm,0.3s,baz=234,slow=28,SNR=6.6						
BVAR				LR	LR	20 13 35.3	
	comp=Z,46nm,19.0s,baz=120,slow=42						
VOSK	**Vostochnaya**	**17.45**	**41**	⇑Pn	**Pn**	**20 05 26.9**	**+1.8**
	comp=Z,1.7nm,0.6s						
VOSK				⇓Sn	**Sn**	**20 08 28.7**	**-9.4**
	comp=Z,2.8nm,0.6s						
TKM2	**Tokmak 2**	**17.62**	**76**	*e*P	**Pn**	**20 05 27.1**	**-0.3**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**17.62**	**76**	*e*P	**Pn**	**20 05 27.1**	**-0.2**
	comp=Z,1.8nm,0.6s						
TKM2	**Tokmak 2**	**17.62**	**76**	*e*P	**Pn**	**20 05 27.1**	**-0.3**
	comp=Z,1.8nm,0.6s						
AKASG	**Malin Array Be**	**18.59**	**309**	*e*P	**Pn**	**20 05 38.4**	**-0.7**
AKASG	**Malin Array Be**	**18.59**	**309**	P	**Pn**	**20 05 38.4**	**-0.7**
	comp=Z,3.3nm,0.3s,baz=100,slow=8.2,SNR=19						
AKBB	**Malin Array Si**	**18.59**	**309**	*e*P	**Pn**	**20 05 37.1**	**-2.0**
KIEV	**Kiev**	**18.60**	**309**	*e*P	**Pn**	**20 05 37.3**	**-1.9**
KIEV				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KIEV	**Kiev**	**18.60**	**309**	*e*P	**Pn**	**20 05 37.3**	**-1.9**
	comp=Z,7.3nm,0.5s						
KIEV	**Kiev**	**18.60**	**309**	*e*P	**Pn**	**20 05 37.3**	**-1.9**
	comp=Z,7.3nm,0.5s						
KURBB	**Kurchatov Arra**	**20.75**	**53**	⇓Pn	**P**	**20 06 02.4**	**+0.3**
	comp=Z,0.5nm,0.7s						
KURBB				⇑Sn	**S**	**20 09 50.2**	**-1.3**
	comp=Z,0.3nm,0.6s						
KURK	**Kurchatov**	**20.83**	**53**	⇑Pn	**P**	**20 06 02.9**	**-0.1**
KURK				⇑Sn	**S**	**20 09 47.6**	**-5.6**
	comp=Z,4.3nm,1.3s						
KURK	**Kurchatov**	**20.83**	**53**	*e*P	**P**	**20 06 03.6**	**+0.6**
	comp=Z,4.6nm,0.7s						
KURK	**Kurchatov**	**20.83**	**53**	*e*P	**P**	**20 06 03.8**	**+0.8**
KURK				Sn	**S**	**20 09 47.6**	**-5.5**
	comp=Z,4.3nm,1.3s						
MK31	**Makanchi Array**	**22.49**	**65**	⇑Pn	**P**	**20 06 21.2**	**+0.4**
	comp=Z,1.4nm,0.7s,mb3.5,baz=262,slow=9.3,SNR=8.4						
MK31	**Makanchi Array**	**22.49**	**65**	*e*P	**P**	**20 06 20.6**	**-0.2**
MK31	**Makanchi Array**	**22.49**	**65**	*e*P	**P**	**20 06 20.6**	**-0.2**
MK31	**Makanchi Array**	**22.49**	**65**	Pn	**P**	**20 06 21.2**	**+0.4**
	comp=Z,1.4nm,0.7s,mb3.5,SNR=8.4						
MKAR	**Makanchi Array**	**22.49**	**65**	P	**P**	**20 06 21.5**	**+0.7**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	**Makanchi Array**	**22.49**	**65**	P	**P**	**20 06 21.5**	**+0.7**
MKAR	**Makanchi Array**	**22.49**	**65**	P	**P**	**20 06 21.5**	**+0.8**
	comp=Z,1.8nm,0.8s,mb3.5,baz=263,slow=8.4,SNR=9.8						
JOF	**Joensuu**	**25.22**	**338**	*e*p	**P**	**20 06 46.3**	**-0.4**
	comp=Z,5.8nm,0.5s,mb4.4						
JOF	**Joensuu**	**25.22**	**338**	*e*P	**P**	**20 06 46.3**	**-0.4**
JOF				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.4						
ZAL	**Zalesovo**	**25.42**	**48**	P	**P**	**20 06 49.2**	**+0.5**
ZAA0	**Zalesovo Array**	**25.44**	**48**	*e*P	**P**	**20 06 48.9**	**+0.1**
ZAA0	**Zalesovo Array**	**25.44**	**48**	*e*P	**P**	**20 06 48.8**	**0.0**
ZALV	**Zalesovo Beam**	**25.44**	**48**	P	**P**	**20 06 49.2**	**+0.4**
ZALV	**Zalesovo Beam**	**25.44**	**48**	P	**P**	**20 06 49.2**	**+0.4**
	comp=Z,1.4nm,0.6s,mb3.7,baz=249,slow=11,SNR=8.0						
ZALV				LR	LR	20 18 30.3	
	comp=Z,21nm,19.5s,MS2.7,baz=136,slow=40						
FINES	**FINESS Array B**	**25.87**	**331**	P	**P**	**20 06 53.2**	**+0.6**
	comp=Z,1.1nm,0.3s,mb3.9,baz=144,slow=12,SNR=19						
FINES	**FINESS Array B**	**25.87**	**331**	*e*P	**P**	**20 06 52.9**	**+0.2**
GERES	**GERESS Array B**	**28.05**	**299**	P	**P**	**20 07 11.6**	**-0.8**
	comp=Z,0.4nm,0.5s,mb3.3,baz=94,slow=8.0,SNR=5.9						
KHC	**Kasperske Hory**	**28.14**	**300**	*e*P	**P**	**20 07 13.2**	**0.0**
ARCES	**ARCESS Array B**	**31.85**	**343**	P	**P**	**20 07 46.7**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	**ARCESS Array B**	**31.85**	**343**	P	**P**	**20 07 46.6**	**+0.9**
	comp=Z,2.6nm,1.0s,mb4.0,baz=141,slow=10,SNR=6.8						
NB2	**NORSAR Subarra**	**31.87**	**323**	P	**P**	**20 07 45.4**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=106,slow=9.3						
NOA	**NORSAR Array B**	**31.87**	**323**	*e*P	**P**	**20 07 45.4**	**-0.6**
NOA	**NORSAR Array B**	**31.87**	**323**	P	**P**	**20 07 45.6**	**-0.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=119,slow=8.3,SNR=4.4						
ULN	**Ulaanbaatar**	**39.18**	**61**	*e*P	**P**	**20 08 48.9**	**0.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
ULN	**Ulaanbaatar**	**39.18**	**61**	*e*P	**P**	**20 08 48.9**	**0.0**
	comp=Z,2.7nm,0.9s,mb4.0						
LBTB	**Lobatse**	**70.07**	**205**	LR	LR	20 44 38.0	
	comp=Z,104nm,19.2s,MS4.1,baz=284,slow=37						

ISCJB ***11*** *20:05:59.8±1.9, 472N±01×1535E±02, h41km±16km, mb3.9/10, Error ellipse: s-maj=30.0km s-min=10.7km az=38.7*

MOS ***11*** *20:06:01.6±1.7, 4716N×15350E, h61km, mb4.4/3, Error ellipse: s-maj=27.5km s-min=12.4km az=74.9*

IDC ***11*** *20:06:10.5±4.0, 4720N×15328E, h124km±37km, mb3.6/9, mb1 3.8/10, mb1mx3.5/22, mbtmp3.7/10, Error ellipse: s-maj=26.2km s-min=18.2km az=126.0*

ISC 11 20:06:02.3±1.6,**472N**±01×**1536E**±02,**h47**km±13km,**n24**, σ**1**§**13**/25,**mb3.9**/10,**Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.91**	**24**	*e*PN	**Pn**	**20 06 59.0**	**-0.7**
SKR				*e*S	**Sn**	**20 07 43.4**	**-0.9**
SKR				pmax	pmax		
	comp=Z,40nm,0.4s						
SKR				smax			
	comp=N,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
ASAJ	**Asahikawa**	**8.27**	**252**	PN	**Pn**	**20 08 04.1**	**+4.6**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.27**	**252**	P	**Pn**	**20 08 04.1**	**+4.6**
	comp=Z,0.9nm,0.3s,baz=91,slow=13,SNR=8.6						
ERM	**Erimo**	**9.03**	**239**	*e*PN	**Pn**	**20 08 08.9**	**-1.1**
MA2	**Magadan**	**12.56**	**353**	*e*PN	**Pn**	**20 08 59.6**	**+1.6**
MA2				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KSRS	**Korea Array**	**21.22**	**252**	P	**P**	**20 10 46.1**	**+2.1**
	comp=Z,1.5nm,0.6s,mb3.5,baz=50,slow=11,SNR=7.0						
BILL	**Bilibino**	**21.93**	**13**	*e*P	**P**	**20 10 52.3**	**+1.1**
BILL				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb3.8						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**20 13 42.6**	**+1.3**
INK				pmax	pmax		
	comp=Z,2.0nm,0.6s						
INK	**Inuvik**	**41.14**	**33**	P	**P**	**20 13 42.6**	**+1.3**
	comp=Z,1.9nm,0.6s,mb3.9,baz=283,slow=5.8,SNR=13						
YKA	**Yellowknife Ar**	**50.41**	**37**	*e*P	**P**	**20 14 55.2**	**+0.8**
YKA	**Yellowknife Ar**	**50.41**	**37**	P	**P**	**20 14 55.2**	**+0.8**
	comp=Z,1.2nm,0.6s,mb4.1,baz=296,slow=7.1,SNR=17						
ARCES	**ARCESS Array B**	**57.58**	**341**	P	**P**	**20 15 46.2**	**-0.3**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES	**ARCESS Array B**	**57.58**	**341**	P	**P**	**20 15 46.2**	**-0.3**
	comp=Z,3.9nm,0.9s,mb4.4,baz=31,slow=7.6,SNR=3.2						
FINES	**FINESS Array B**	**63.81**	**335**	*e*P	**P**	**20 16 28.0**	**-1.1**
FINES	**FINESS Array B**	**63.81**	**335**	P	**P**	**20 16 27.1**	**-1.9**
	comp=Z,0.9nm,0.3s,mb4.2,baz=40,slow=7.2,SNR=20						
NB2	**NORSAR Subarra**	**67.95**	**341**	P	**P**	**20 16 55.1**	**-0.6**
	comp=Z,1.0nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.95**	**341**	*e*P	**P**	**20 16 55.0**	**-0.7**
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**20 16 55.2**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=27,slow=6.3,SNR=7.8						
AKASG	**Malin Array Be**	**71.39**	**326**	*e*P	**P**	**20 17 15.5**	**-1.5**
AKASG	**Malin Array Be**	**71.39**	**326**	P	**P**	**20 17 15.5**	**-1.5**
	comp=Z,1.7nm,0.5s,mb4.2,baz=34,slow=6.2,SNR=7.7						
ASAR	**Alice Springs**	**72.69**	**199**	*e*P	**P**	**20 17 24.3**	**-0.7**
ASAR	**Alice Springs**	**72.69**	**199**	P	**P**	**20 17 24.4**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=11,slow=5.8,SNR=9.5						
TXAR	**Lajitas Array**	**77.02**	**61**	*e*P	**P**	**20 17 50.4**	**+0.2**
TXAR	**Lajitas Array**	**77.02**	**61**	P	**P**	**20 17 50.4**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=284,slow=4.3,SNR=3.8						

ISCJB ***11*** *20:33:28.2±5.0, 559S±01×276W±02, h51km±47km, mb4.7/13, MS3.8/10, Error ellipse: s-maj=22.2km s-min=11.2km az=139.4*

NEIC ***11*** *20:33:34.1±2.1, 5594S×2778W, h92km±18km, mb5.0/8, Error ellipse: s-maj=11.9km s-min=7.2km az=51.0*

IDC ***11*** *20:33:35.6±2.0, 5597S×2782W, h103km±16km, mb4.3/9, mb1 4.4/10, mb1mx4.1/19, mbtmp4.3/10, MS3.7/11, Ms1 3.7/11, ms1mx3.6/21, Error ellipse: s-maj=21.3km s-min=13.5km az=56.0*

ISC 11 20:33:29.9±3.5,**559S**±01×**277W**±02,**h50**km±35km,**n44**, σ**0**§**73**/22,**mb4.7**/13,**MS3.8**/10,**2D, South Sandwich Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EFI	**East Falkland**	**18.36**	**271**	*e*P	**Pn**	**20 37 40.5**	**-0.1**
	73nm,1.0s						
SNAA	**Sanae**	**18.96**	**156**	P	**Pn**	**20 37 47.5**	**-0.1**
	3.8nm,0.3s,baz=308,slow=10,SNR=525						
SNAA				LR	LR	20 43 39.6	
	comp=Z,96nm,21.0s,baz=304,slow=32						
SNAA				ScP	ScP	20 45 35.2	-5.9
	0.0nm,0.3s,baz=338,slow=3.4,SNR=8.7						
MAIT	**Maitri**	**22.48**	**147**	*e*P	**P**	**20 38 24.0**	**-0.5**
USHA	**Ushuaia**	**22.95**	**256**	P	**P**	**20 38 29.2**	**-0.3**
	14nm,0.9s,mb4.4,baz=78,slow=6.6,SNR=3.6						
USHA				LR	LR	20 45 28.9	
	comp=Z,151nm,20.5s,MS3.4,baz=78,slow=31						
PLCA	**Paso Flores**	**31.71**	**280**	LR	LR	20 51 22.0	
	comp=Z,121nm,21.9s,MS3.5,baz=128,slow=34						
SYO	**Syowa Base**	**31.85**	**141**	‖*e*P	**P**	**20 39 48.0**	**-1.4**
SYO	**Syowa Base**	**31.85**	**141**	‖*i*P	**P**	**20 39 49.2**	**-0.2**
QSPA	**South Pole Qui**	**34.32**	**180**	*e*P	**P**	**20 40 11.9**	**+

EGAK	**Eagle**	**147.46 313**	*e*PKPdf	PKPdf	20 53 04.6	+0.7
DIV	**Divide**	**148.36 305**	*e*PKPbc	PKPbc	20 53 08.2	-0.9
SLKM	**Skilak Lake**	**150.25 303**	*e*PKPbc	PKPbc	20 53 12.6	-1.2
MCK	**McKinley**	**150.49 309**	*e*PKPbc	PKPbc	20 53 13.6	-0.7
KDAK	**Kodiak Island**	**150.52 297**	*e*PKPbc	PKPbc	20 53 13.4	-1.2
SONM	**Songino Array**	**150.99 87**	PKPbc	PKPbc	20 53 15.3	-0.7
	3.2nm,0.5s,baz=227,slow=3.1,SNR=32					
IMA2	**Indian Mountai**	**152.84 314**	*e*PKPbc	PKPbc	20 53 18.6	-1.0

CRAAG ***11*** *20:36:10.8, 36.09N×272E, Ml3.6*
CSEM ***11*** *20:36:12.3±0.1, 36.25N×271E, h15km, ML3.6, Error ellipse: s-maj=3.6km s-min=2.7km az=34.0*
NEIC ***11*** *20:36:12.8, 36.15N×272E, h0km, MG3.9(MDD), After MDD.*
ISCJB ***11*** *20:36:13.2±0.6, 36.21N±0.05×274E±0.05, h27km±9km, Error ellipse: s-maj=9.0km s-min=6.5km az=144.5*
MDD ***11*** *20:36:13.6±0.7, 36.12N×274E, h8km±8km, mb3.9/5, Error ellipse: s-maj=8.2km s-min=6.4km az=174.0, PRXIMO*
ISC 11 20:36:13.2±0.8, 3617N±005×275E±006, h17km±8km, n31, σ0.90/48, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.17**	**79**	P	**Pg**	**20 36 17.0**	**-0.6**
ADJB	**Djebel Djouab**	**0.56**	**91**	P	**Pg**	**20 36 23.8**	**-0.6**
ABA	**Alger-Bouzarea**	**0.67**	**20**	P	**Pb**	**20 36 27.7**	**+1.1**
AKET	**Djebel Ketaf**	**0.93**	**97**	P	**Pb**	**20 36 31.7**	**+0.8**
EBNR	**Beni Rached**	**0.99**	**277**	P	**Pb**	**20 36 31.3**	**-0.6**
ECHA	**Ech Chlef**	**1.12**	**269**	P	**Pn**	**20 36 33.6**	**-0.5**
ECHF	**Ech Chlef**	**1.14**	**270**	P	**Pn**	**20 36 33.6**	**-0.8**
EANR	**'Ain N'Sour**	**1.35**	**261**	P	**Pn**	**20 36 38.2**	**+0.9**
ETRT	**Tiaret**	**1.41**	**237**	P	**Pn**	**20 36 37.9**	**-0.2**
SET	**Setif**	**2.15**	**88**	P	**Pn**	**20 36 47.0**	**-1.3**
EIBI	**Ibiza**	**3.06**	**339**	P	**Pn**	**20 37 01.6**	**+0.8**
	2.9nm,0.2s,SNR=15						
EIBI				S	**Sn**	**20 37 36.2**	**-0.9**
	9.7nm,0.3s						
EIBI	**Ibiza**	**3.06**	**339**	P	**Pn**	**20 37 01.6**	**+0.7**
	2.9nm,0.2s,SNR=15						
EIBI				S	**Sn**	**20 37 36.2**	**-0.9**
	9.7nm,0.3s						
EBEN	**Beniarda**	**3.46**	**318**	P	**Pn**	**20 37 06.2**	**-0.1**
	0.9nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**20 37 46.8**	**-0.2**
	1.5nm,0.4s,SNR=7.9						
EBEN	**Beniarda**	**3.46**	**318**	P	**Pn**	**20 37 06.2**	**-0.2**
	0.9nm,0.1s,SNR=7.9						
EBEN				S	**Sn**	**20 37 46.8**	**-0.2**
	1.5nm,0.4s,SNR=7.9						
ETOS	**Mallorca**	**3.59**	**1**	P	**Pn**	**20 37 09.3**	**+1.1**
	3.6nm,0.2s,SNR=16						
ETOS				S	**Sn**	**20 37 48.9**	**-1.3**
	1.8nm,0.3s						
ETOS	**Mallorca**	**3.59**	**1**	P	**Pn**	**20 37 09.3**	**+1.1**
	3.6nm,0.2s,SNR=16						
ETOS				S	**Sn**	**20 37 48.9**	**-1.3**
	1.8nm,0.3s						
EMUR	**La Murta**	**3.60**	**299**	P	**Pn**	**20 37 08.1**	**-0.2**
	0.2nm,0.2s,SNR=4.0						
EMUR	**La Murta**	**3.60**	**299**	P	**Pn**	**20 37 08.1**	**-0.2**
	0.2nm,0.2s,SNR=4.0						
ETOB	**Tobarra**	**4.22**	**307**	P	**Pn**	**20 37 17.5**	**+0.8**
	1.2nm,0.2s,SNR=12						
ETOB				S	**Sn**	**20 38 05.5**	**-0.1**
	3.4nm,0.4s						
ETOB	**Tobarra**	**4.22**	**307**	P	**Pn**	**20 37 17.5**	**+0.8**
	1.2nm,0.2s,SNR=12						
ETOB				S	**Sn**	**20 38 05.5**	**-0.1**
	3.4nm,0.4s						
EBER	**Berja**	**4.60**	**281**	P	**Pn**	**20 37 21.2**	**-0.7**
	1.4nm,0.2s,SNR=7.4						
EBER				S	**Sn**	**20 38 15.1**	**+0.2**
	2.7nm,0.4s						
EBER	**Berja**	**4.60**	**281**	P	**Pn**	**20 37 21.2**	**-0.7**
	1.4nm,0.2s,SNR=7.4						
EBER				S	**Sn**	**20 38 15.1**	**+0.2**
	2.7nm,0.4s						
EMOS	**Mosqueruela**	**4.89**	**330**	P	**Pn**	**20 37 27.4**	**+1.4**
	1.7nm,0.2s,SNR=14						
EMOS				S	**Sn**	**20 38 20.7**	**-1.6**
	1.3nm,0.3s						
EMOS	**Mosqueruela**	**4.89**	**330**	P	**Pn**	**20 37 27.4**	**+1.4**
	1.7nm,0.2s,SNR=14						
EMOS				S	**Sn**	**20 38 20.7**	**-1.6**
	1.3nm,0.3s						
EQES	**Quesada**	**4.93**	**291**	P	**Pn**	**20 37 27.3**	**+0.7**
EQES				S	**Sn**	**20 38 25.3**	**+2.0**
EQES	**Quesada**	**4.93**	**291**	P	**Pn**	**20 37 27.3**	**+0.7**
	0.6nm,0.1s,SNR=4.6						
EQES				S	**Sn**	**20 38 21.4**	**-1.9**
	3.6nm,0.4s,SNR=4.0						
EQES	**Quesada**	**4.93**	**291**	P	**Pn**	**20 37 27.3**	**+0.7**
	0.6nm,0.1s,SNR=4.6						
EQES				S	**Sn**	**20 38 25.3**	**+2.0**
	3.6nm,0.4s,SNR=4.0						
EQUE	**Quentar**	**5.08**	**284**	P	**Pn**	**20 37 28.5**	**-0.1**
	0.4nm,0.2s,SNR=36						
EMIR	**Miracle**	**5.82**	**351**	P	**Pn**	**20 37 40.0**	**+1.3**
	0.6nm,0.1s,SNR=4.9						
EMIR				S	**Sn**	**20 38 45.3**	**+0.3**
	0.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.82**	**351**	P	**Pn**	**20 37 40.0**	**+1.3**
	0.6nm,0.1s,SNR=4.9						
EMIR				S	**Sn**	**20 38 45.3**	**+0.3**
	0.7nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**6.08**	**276**	P	**Pn**	**20 37 38.3**	**-4.0**

BGS ***11*** *20:41:58.1±2.1, 38.04N×54.56E, h33km, mb5.0*
IDC ***11*** *20:42:19.3±0.7, 40.52N×52.02E, h0km, mb4.1/17, mb1 4.3/21, mb1mx4.2/28, mbtmp4.2/21, ML5.0/3, MS3.2/9, Ms1 3.2/9, ms1mx3.0/28, Error ellipse: s-maj=15.0km s-min=10.3km az=143.0*
MOS ***11*** *20:42:23.4±0.9, 40.78N×52.02E, h35km, mb4.6/34, Error ellipse: s-maj=7.5km s-min=4.9km az=128.2*
BJI ***11*** *20:42:23.4, 40.87N×51.65E, h60km, mB4.9, mb4.6, Ms4.4, Msz4.2*
ISCJB ***11*** *20:42:24.6±0.5, 40.97N±0.04×52.06E±0.02, h38km±5km, mb4.4/59, MS3.1/11, Error ellipse: s-maj=6.2km s-min=3.0km az=170.4*
NEIC ***11*** *20:42:25.3±0.8, 40.72N×52.05E, h37km±7km, mb4.4/31, Error ellipse: s-maj=9.5km s-min=3.6km az=175.0*
THR ***11*** *20:42:25.9±0.8, 40.29N×51.76E, h15km, ML4.5*
CSEM ***11*** *20:42:25.0±0.1, 40.55N×52.13E, h58km±1km, mb4.4/3, ML4.2/5, Ms2.9, Error ellipse: s-maj=2.2km s-min=1.7km az=154.0*
NNC ***11*** *20:42:30.5±2.8, 41.10N×53.37E, h0km, mb4.1, Error ellipse: s-maj=24.5km s-min=20.5km az=173.0*
ISC 11 20:42:26.1±0.5, 4086N±004×5209E±003, h40km±4km, h46km±2.9km: pP-P, n237, σ0.98/279, mb4.4/59, MS3.1/11, 15C-12D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GALA	**Gala**	**1.54**	**254**	P	**Pn**	**20 42 57.9**	**+6.9**
GALA				S	**Sn**	**20 43 18.4**	**+8.7**
NDR	**Nardaran**	**1.62**	**261**	P	**Pn**	**20 42 57.8**	**+5.6**
	SNR=4.3						
NDR				S	**Sn**	**20 43 21.6**	**+10**
GOBA	**Gobu**	**1.85**	**257**	S	**Sn**	**20 43 23.4**	**+6.0**
SIZA	**Siyzn**	**2.42**	**276**	P	**Pn**	**20 43 05.9**	**+2.7**
	SNR=24						
SIZA				S	**Sn**	**20 43 35.7**	**+4.1**
ALIB	**Ii-Bayraml**	**2.52**	**250**	P	**Pn**	**20 43 06.0**	**+1.5**
	SNR=5.4						
ALIB				S	**Sn**	**20 43 33.8**	**-0.1**
PQL	**Pirkuli**	**2.65**	**270**	P	**Pn**	**20 43 07.8**	**+1.4**
	SNR=9.7						
PQL				S	**Sn**	**20 43 39.1**	**+1.8**
SEKA	**Sheki**	**3.71**	**277**	P	**Pn**	**20 43 22.0**	**+1.0**
	SNR=37						
SEKA				S	**Sn**	**20 44 04.1**	**+0.7**
BRDA	**Brd**	**3.79**	**263**	P	**Pn**	**20 43 22.1**	**+0.2**
	SNR=4.4						
BRDA				S	**Sn**	**20 44 03.8**	**-1.4**
GRMI	**Germi**	**3.82**	**239**	*e*Pn	**Pn**	**20 43 19.4**	**-3.1**
GRMI				AML	AML	20 44 00.9	
	comp=E,733nm,0.2s						
GRMI				AML	AML	20 44 01.9	
	comp=N,1μm,0.2s						
MAK	**Makhachkala**	**4.01**	**303**	⇓*i*P	**Pn**	**20 43 28.8**	**+3.7**
MAK				*e*		20 44 18.4	
MAK				pmax	pmax		
	comp=Z,183nm,0.8s						
MAK	**Makhachkala**	**4.01**	**303**	*i* P	**Pn**	**20 43 28.8**	**+3.7**
	comp=Z,183nm,0.8s						
MAK				*e*S	**Sn**	**20 44 18.4**	**+7.6**
GANJ	**Ganja**	**4.38**	**269**	P	**Pn**	**20 43 28.9**	**-1.2**
	SNR=19						
MRVT	**Maraveh tapeh**	**4.45**	**134**	*e*Pn	**Pn**	**20 43 32.6**	**+1.4**
MRVT				AML	AML	20 44 23.0	
	comp=E,407nm,0.4s						
CHTH	**Charan**	**5.00**	**189**	*e*Pn	**Pn**	**20 43 34.2**	**-4.3**
CHTH				AML	AML	20 44 29.6	
	comp=N,282nm,0.3s						
THKV	**Tehran--Karaj**	**5.02**	**191**	*e*Pn	**Pn**	**20 43 34.9**	**-4.1**
THKV				AML	AML	20 44 29.3	
	comp=N,1μm,0.6s						
THKV				AML	AML	20 44 30.6	
	comp=E,624nm,0.3s						
DGRG	**David-gareji**	**5.10**	**279**	S	**Sn**	**20 44 38.7**	**+1.1**
DAMV	**Damavand**	**5.22**	**181**	*e*Pn	**Pn**	**20 43 38.0**	**-3.6**
DAMV				AML	AML	20 44 35.0	
	comp=N,747nm,0.5s						
DAMV				AML	AML	20 44 36.7	
	comp=E,522nm,0.4s						
MTA	**Mtatsminda**	**5.56**	**281**	P	**Pn**	**20 43 46.7**	**+0.4**
MTA				S	**Sn**	**20 44 48.8**	**-0.1**
TBLG	**Delisi**	**5.61**	**281**	P	**Pn**	**20 43 37.6**	**-9.3**
TBLG				S	**Sn**	**20 44 39.1**	**-11**
GNI	**Garni**	**5.64**	**265**	*e*Pn	**Pn**	**20 43 47.9**	**+0.4**
	comp=E,35nm,0.9s						
GNI	**Garni**	**5.64**	**265**	Pn	**Pn**	**20 43 47.8**	**+0.4**
	comp=E,1.3nm,0.3s,baz=149,slow=19,SNR=4.5						
GNI	**Garni**	**5.64**	**265**	*i* P	**Pn**	**20 43 47.8**	**+0.4**
MAKU	**Maku**	**5.87**	**258**	*e*Pn	**Pn**	**20 43 50.3**	**-0.3**
GOR	**Gori**	**6.10**	**283**	S	**Sn**	**20 45 02.9**	**+0.6**
GHVR	**GHOM**	**6.39**	**186**	*e*Pn	**Pn**	**20 43 54.0**	**-3.7**
ASAO	**Ashtian**	**6.50**	**195**	*e*Pn	**Pn**	**20 43 55.4**	**-3.9**
KIV	**Kislovodsk**	**7.62**	**297**	*i* P	**Pn**	**20 44 13.3**	**-1.2**
KIV				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KIV	**Kislovodsk**	**7.62**	**297**	*e*Pn	**Pn**	**20 44 14.8**	**+0.4**
	comp=Z,14nm,0.6s						
KIV	**Kislovodsk**	**7.62**	**297**	*e*Pn	**Pn**	**20 44 14.8**	**+0.3**
	comp=Z,14nm,0.6s						
NASN	**Na'in**	**8.06**	**176**	*e*Pn	**Pn**	**20 44 16.8**	**-3.9**
AB31	**Akbulak array**	**10.07**	**31**	⇓Pn	**Pn**	**20 44 48.1**	**+0.1**
	comp=Z,2.0nm,0.3s,baz=207,slow=13,SNR=111						
AB31				⇓Sn	**Sn**	**20 46 38.0**	**-1.6**
	comp=Z,16nm,0.3s,baz=211,slow=24,SNR=8.2						
AKTK	**Aktyubinsk**	**10.44**	**21**	Pn	**Pn**	**20 44 53.9**	**+0.8**
AKTK				Sn	**Sn**	**20 46 47.0**	**-1.5**
AKTK	**Aktyubinsk**	**10.44**	**21**	Pn	**Pn**	**20 44 53.9**	**+0.8**
AKTK				Sn	**Sn**	**20 46 47.0**	**-1.6**
AKTO	**Aktyubinsk**	**10.44**	**21**	P	**Pn**	**20 44 53.9**	**+0.8**
AKTO						20 46 47.0	
AKTO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
AKTO				smax			
	comp=N,18nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,117nm,18.6s						
AKTO	**Aktyubinsk**	**10.44**	**21**	Pn	**Pn**	**20 44 53.9**	**+0.9**
	comp=Z,4.0nm,0.3s,baz=205,slow=12,SNR=56						
AKTO				Sn	**Sn**	**20 46 47.0**	**-1.6**
	comp=Z,18nm,0.3s,baz=41,slow=22,SNR=16						
AKTO				LR	LR	20 50 23.3	
	comp=Z,117nm,18.6s,baz=162,slow=45						
AKTO	**Aktyubinsk**	**10.44**	**21**	Pn	**Pn**	**20 44 54.0**	**+0.9**
	comp=Z,0.1nm,0.6s						
AKTO				Sn	**Sn**	**20 46 46.9**	**-1.7**
	comp=Z,1.0nm,0.5s						
ANN	**Anapa**	**11.46**	**295**	*e*P	**Pn**	**20 45 00.7**	**-6.4**
VRSR	**Storozhevoye**	**13.67**	**324**	*e*P	**Pn**	**20 45 36.1**	**-1.2**
VRSR				*e*S	**Sn**	**20 47 59.6**	**-8.1**
VRSR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,3.0nm,1.3s						
VRSR				smax			
	comp=E,10.0nm,0.9s						
VRSR				smax			
	comp=Z,2.0nm,0.5s						
VRSR				smax			
	comp=N,10.0nm,1.0s						
KK31	**Karatay Array**	**13.89**	**75**	⇓Pn	**Pn**	**20 45 38.9**	**-1.4**
	comp=N,9.3nm,0.9s,baz=263,slow=16,SNR=30						
KK31				⇑Sn	**Sn**	**20 48 05.6**	**-7.5**
	comp=N,5.5nm,0.5s,baz=269,slow=23,SNR=6.5						
KK31	**Karatay Array**	**13.89**	**75**	*i* P	**Pn**	**20 45 38.9**	**-1.4**
KK31				pmax	pmax		
	comp=Z,5.0nm,0.4s						
KK31	**Karatay Array**	**13.89**	**75**	Pn	**Pn**	**20 45 38.9**	**-1.4**
	comp=Z,9.3nm,0.9s,SNR=30						
KK31				Sn	**Sn**	**20 48 05.6**	**-7.5**
	comp=Z,5.5nm,0.5s,SNR=6.5						
ARU	**Arti**	**16.15**	**13**	*e*P	**Pn**	**20 46 08.7**	**-1.3**
ARU				*e*S	**S**	**20 49 04.8**	**-15**
ARU				pmax	pmax		
	comp=Z,13nm,0.5s						
ARU	**Arti**	**16.15**	**13**	*e*P	**Pn**	**20 46 08.7**	**-1.3**
	comp=Z,14nm,0.5s						
ARU				*e*S	**S**	**20 49 04.8**	**-15**
EKS2	**Erkin-Say**	**16.28**	**76**	*e*P	**Pn**	**20 46 12.2**	**+0.5**
	comp=Z,5.3nm,0.6s						
EKS2				*e*S	**S**	**20 49 09.5**	**-13**
EKS2	**Erkin-Say**	**16.28**	**76**	*e*P	**Pn**	**20 46 12.2**	**+0.4**
	comp=Z,5.3nm,0.6s						
EKS2				*e*S	**S**	**20 49 09.5**	**-13**
ZRNK	**Zerenda**	**16.68**	**38**	⇑Pn	**Pn**	**20 46 15.8**	**-0.9**
	comp=Z,6.6nm,0.6s						
ZRNK				⇑Sn	**Sn**	**20 49 12.2**	**-8.5**
	comp=Z,31nm,0.9s						
UCH	**Uchtor**	**16.84**	**78**	*e*P	**Pn**	**20 46 18.5**	**-0.3**
	comp=Z,4.4nm,0.7s						
UCH				*e*S	**S**	**20 49 23.9**	**-10**
UCH	**Uchtor**	**16.84**	**78**	*e*P	**Pn**	**20 46 18.5**	**-0.3**
	comp=Z,4.4nm,0.7s						
UCH				*e*S	**S**	**20 49 23.9**	**-10**
FRU	**Bishkek**	**16.90**	**76**	⇓*e*P	**Pn**	**20 46 23.0**	**+3.5**
FRU				*e*		20 49 35.0	
FRU				pmax	pmax		
	comp=Z,50nm,2.0s						
SVE	**Sverdlovsk**	**16.92**	**16**	*e*P	**Pn**	**20 46 24.6**	**+4.9**
SVE				*e*S	**S**	**20 49 18.7**	**-17**
SVE				pmax	pmax		
	comp=Z,13nm,0.9s						
SVE	**Sverdlovsk**	**16.92**	**16**	*e*P	**Pn**	**20 46 24.6**	**+4.9**
	comp=Z,13nm,0.9s						
BRVK	**Borovoye**	**17.35**	**39**	*e*P	**Pn**	**20 46 20.8**	**-4.2**
BRVK				*e*S	**S**	**20 49 26.5**	**-18**
BRVK				pmax	pmax		
	comp=Z,10.0nm,0.4s						
BRVK	**Borovoye**	**17.35**	**39**	*e*P	**Pn**	**20 46 20.8**	**-4.3**
	comp=Z,10.0nm,0.4s						
BRVK				*e*S	**S**	**20 49 26.5**	**-18**
BVA0	**Borovoye Array**	**17.38**	**39**	⇑Pn	**Pn**	**20 46 26.1**	**+0.7**
	comp=Z,3.6nm,0.7s,baz=234,slow=39,SNR=99						
BVA0				⇑Sn	**Sn**	**20 49 29.5**	**-8.2**
	comp=Z,2.0nm,0.6s,baz=232,slow=26,SNR=14						
BVAR	**Borovoye Array**	**17.38**	**39**	P	**Pn**	**20 46 25.9**	**+0.5**
BVAR				S	**S**	**20 49 28.2**	**-17**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BVAR				smax			
	comp=N,1.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,124nm,19.2s						
BVAR	**Borovoye Array**	**17.38**	**39**	P	**Pn**	**20 46 25.9**	**+0.5**
BVAR				S	**S**	**20 49 28.2**	**-17**
BVAR	**Borovoye Array**	**17.38**	**39**	P	**Pn**	**20 46 25.9**	**+0.5**
	comp=Z,5.3nm,0.3s,baz=228,slow=9.6,SNR=70						
BVAR				S	**S**	**20 49 28.2**	**-17**
	comp=Z,1.3nm,0.3s,baz=224,slow=18,SNR=6.4						
BVAR				LR	LR	20 54 27.6	
	comp=Z,124nm,19.2s,baz=350,slow=41						
VOSK	**Vostochnaya**	**17.49**	**41**	⇓Pn	**Pn**	**20 46 26.0**	**-0.8**
	comp=Z,7.2nm,0.6s						
VOSK				⇑Sn	**Sn**	**20 49 29.6**	**-11**
	comp=Z,9.0nm,0.6s						
OBN	**Obninsk**	**17.59**	**329**	*e*P	**Pn**	**20 46 26.3**	**-1.6**
OBN				*i* S	**S**	**20 49 38.7**	**-10**
OBN				pmax	pmax		
	comp=Z,34nm,1.6s						
TKM2	**Tokmak 2**	**17.62**	**76**	⇑Pn	**Pn**	**20 46 28.7**	**+0.3**
	comp=Z,23nm,1.8s						
TKM2				⇓Sn	**Sn**	**20 49 33.5**	**-10**
	comp=Z,8.2nm,1.0s						
TKM2	**Tokmak 2**	**17.62**	**76**	*e*P	**Pn**	**20 46 27.6**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,7.0nm,0.8s						
TKM2	**Tokmak 2**	**17.62**	**76**	*e*P	**Pn**	**20 46 27.6**	**-0.8**
	comp=Z,7.3nm,0.8s						
TKM2	**Tokmak 2**	**17.62**	**76**	*e*P	**Pn**	**20 46 27.6**	**-0.8**
	comp=Z,7.2nm,0.8s						
TKM2	**Tokmak 2**	**17.62**	**76**	Pn	**Pn**	**20 46 28.7**	**+0.3**
	comp=Z,23nm,1.8s						
TKM2				Sn	**Sn**	**20 49 33.5**	**-10**
	comp=Z,8.2nm,1.0s						
MOS	**Moscow**	**17.67**	**332**	*e*P	**Pn**	**20 46 27.7**	**-1.3**
TIRR	**Tirgusor**	**17.77**	**290**	⇓*i*P	**Pn**	**20 46 27.3**	**-2.9**
EIL	**Elat**	**17.86**	**237**	LR	LR	20 54 34.8	
	comp=Z,70nm,18.1s,baz=298,slow=42						
AKASG	**Malin Array Be**	**18.67**	**309**	P	**Pn**	**20 46 39.9**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,9.0nm,0.3s						
AKASG	**Malin Array Be**	**18.67**	**309**	P	**Pn**	**20 46 39.9**	**-1.3**
AKASG	**Malin Array Be**	**18.67**	**309**	P	**Pn**	**20 46 39.9**	**-1.3**
	comp=Z,9.0nm,0.3s,baz=101,slow=8.2,SNR=59						
AKBB	**Malin Array Si**	**18.67**	**309**	*e*P	**Pn**	**20 46 39.6**	**-1.6**
KIEV	**Kiev**	**18.68**	**309**	*e*P	**Pn**	**20 46 38.9**	**-2.4**
KIEV				pmax	pmax		
	comp=Z,25nm,0.6s						
KIEV	**Kiev**	**18.68**	**309**	*e*P	**Pn**	**20 46 38.9**	**-2.4**
	comp=Z,25nm,0.6s						
VRI	**Vrincioaia**	**19.07**	**294**	⇓*i*P	**Pn**	**20 46 47.3**	**+1.2**
PLOR	**Plostina**	**19.12**	**294**	⇑*i*P	**Pn**	**20 46 46.9**	**+0.2**
MLR	**Muntele Rosu**	**19.58**	**292**	LR	LR	20 54 55.2	
	comp=Z,32nm,19.4s,baz=130,slow=38						
MLR	**Muntele Rosu**	**19.58**	**292**	⇓*i*P	**Pn**	**20 46 52.8**	**+0.6**
VOIR		**20.21**	**292**	⇑*i*P	**P**	**20 46 58.6**	**+1.2**
BURAR	**Bucovina Array**	**20.34**	**298**	⇓*i*P	**P**	**20 46 58.7**	**-0.1**
KURBB	**Kurchatov Arra**	**20.78**	**53**	⇓Pn	**P**	**20 47 05.0**	**+1.4**
	comp=Z,3.1nm,1.2s						
KURBB				⇑Sn	**S**	**20 50 50.4**	**-2.7**
	comp=Z,1.7nm,0.7s						
KURK	**Kurchatov**	**20.86**	**53**	⇑Pn	**P**	**20 47 06.2**	**+1.8**
KURK				⇑Sn	**S**	**20 50 48.1**	**-6.6**
	comp=Z,9.4nm,0.8s						
KURK	**Kurchatov**	**20.86**	**53**	*e*P	**P**	**20 47 05.9**	**+1.5**
KURK				*e*S	**S**	**20 50 50.3**	**-4.4**
KURK				pmax	pmax		
	comp=Z,15nm,0.6s						
KURK	**Kurchatov**	**20.86**	**53**	*e*P	**P**	**20 47 05.9**	**+1.4**
	comp=Z,15nm,0.6s						
KURK				*e*S	**S**	**20 50 50.3**	**-4.4**
KURK	**Kurchatov**	**20.86**	**53**	*e*P	**P**	**20 47 05.9**	**+1.5**
	comp=Z,15nm,0.6s						
KURK	**Kurchatov**	**20.86**	**53**	Pn	**P**	**20 47 06.2**	**+1.8**
KURK				Sn	**S**	**20 50 48.1**	**-6.6**
	comp=Z,9.4nm,0.8s						
MK31	**Makanchi Array**	**22.50**	**65**	⇑Pn	**P**	**20 47 22.5**	**+0.6**
	comp=Z,9.0nm,0.8s,mb4.2,baz=255,slow=7.4,SNR=29						
MK31				⇑Sn	**S**	**20 51 32.8**	**+6.2**
	comp=Z,2.6nm,0.8s,baz=248,slow=50,SNR=3.1						
MK31	**Makanchi Array**	**22.50**	**65**	*e*P	**P**	**20 47 22.6**	**+0.7**
MK31				*e*S	**S**	**20 51 31.5**	**+4.9**
MK31	**Makanchi Array**	**22.50**	**65**	*e*P	**P**	**20 47 22.6**	**+0.6**
MKAR	**Makanchi Array**	**22.50**	**65**	⇑*e*P	**P**	**20 47 23.1**	**+1.1**
MKAR	**Makanchi Array**	**22.50**	**65**	P	**P**	**20 47 23.1**	**+1.1**
	comp=Z,6.6nm,0.8s,mb4.1,baz=261,slow=8.4,SNR=32						
MKAR				LR	LR	20 56 59.2	
	comp=Z,46nm,18.5s,MS2.9,baz=69,slow=39						
OJC	**Ojcow**	**24.31**	**304**	*e*P	**P**	**20 47 39.6**	**-0.1**
TMCR	**Tamitsa**	**24.75**	**345**	*e*P	**P**	**20 47 44.1**	**+0.6**
NVS	**Novosibirsk**	**24.90**	**45**	*e*P	**P**	**20 47 46.3**	**+1.3**
NVS				pmax	pmax		
	comp=N,10.0nm,1.5s						
NVS				pmax	pmax		
	comp=Z,16nm,1.5s,mb4.3						
NVS				pmax	pmax		
	comp=E,5.0nm,1.2s						
JOF	**Joensuu**	**25.31**	**338**	*e*p	**P**	**20 47 48.7**	**0.0**
	comp=E,18nm,0.5s,mb4.8						
JOF	**Joensuu**	**25.31**	**338**	*e*P	**P**	**20 47 48.7**	**0.0**
JOF				pmax	pmax		
	comp=Z,18nm,0.5s,mb4.9						
ZAL	**Zalesovo**	**25.46**	**48**	P	**P**	**20 47 51.4**	**+1.3**
ZAA0	**Zalesovo Array**	**25.47**	**48**	*e*P	**P**	**20 47 50.7**	**+0.5**
ZALV	**Zalesovo Beam**	**25.47**	**48**	P	**P**	**20 47 51.4**	**+1.2**
	comp=Z,6.4nm,0.7s,mb4.3,baz=265,slow=11,SNR=27						
ZALV				LR	LR	20 59 24.1	
	comp=Z,65nm,19.5s,MS3.2,baz=267,slow=40						
FINES	**FINESS Array B**	**25.97**	**331**	*i* P	**P**	**20 47 55.0**	**+0.4**
FINES				pmax	pmax		
	comp=Z,4.0nm,0.4s						
FINES	**FINESS Array B**	**25.97**	**331**	P	**P**	**20 47 55.1**	**+0.5**
	comp=Z,3.8nm,0.4s,mb4.2,baz=140,slow=12,SNR=44						
VRAC	**Vranov**	**26.25**	**301**	LR	LR	20 58 48.5	
	comp=Z,39nm,18.2s,MS3.0,baz=110,slow=38						
WMQ	**Urumqi**	**26.36**	**72**	*e*P	**P**	**20 47 59.0**	**+0.6**
WMQ				AP	pP	20 48 11.0	+1.7
WMQ				PP		20 48

comp=Z,33nm,18.9s,MS3.0,baz=105,slow=39
PGF Pioggiola 31.96 288 *eP* **P 20 48 47.7 -0.4**
comp=Z,39nm,1.2s,mb4.8
PGF Pioggiola 31.96 288 *eP* **P 20 48 47.7 -0.4**
PGF pmax pmax
comp=Z,20nm,1.2s,mb4.8
PGF Pioggiola 31.96 288 *eP* **P 20 48 47.7 -0.4**
comp=Z,20nm,1.2s,mb4.8
NAO01 NORSAR Array S 32.05 323 *eP* **P 20 48 48.1 -0.5**
comp=Z,1.3nm,0.4s,mb4.1
NAO01 NORSAR Array S 32.05 323 *eP* **P 20 48 48.1 -0.5**
comp=Z,1.3nm,0.4s,mb4.1
CDF Champ du Feu 32.38 299 *eP* **P 20 48 51.7 0.0**
comp=Z,3.3nm,0.7s,mb4.0
CDF Champ du Feu 32.38 299 *eP* **P 20 48 51.7 0.0**
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
CDF Champ du Feu 32.38 299 *eP* **P 20 48 51.7 0.0**
comp=Z,1.6nm,0.7s,mb4.0
HINF Hinteralfeld 32.71 298 *eP* **P 20 48 54.8 +0.2**
comp=Z,5.2nm,0.7s,mb4.3
HINF Hinteralfeld 32.71 298 *eP* **P 20 48 54.8 +0.2**
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
HINF Hinteralfeld 32.71 298 *eP* **P 20 48 54.8 +0.2**
comp=Z,2.6nm,0.7s,mb4.3
SBF Sospel 32.83 290 *eP* **P 20 48 55.4 -0.3**
HAU Haudompre 33.03 298 *eP* **P 20 48 56.9 -0.5**
comp=Z,14nm,0.9s,mb4.6
HAU *e*MLR MLR
comp=Z,40nm,17.5s,MS2.9
HAU Haudompre 33.03 298 *eP* **P 20 48 56.9 -0.5**
HAU pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HAU MLR MLR
comp=Z,40nm,17.5s,MS3.2
HAU Haudompre 33.03 298 *eP* **P 20 48 56.9 -0.5**
comp=Z,7.1nm,0.9s,mb4.6
HAU LR LR
comp=Z,40nm,17.5s,MS3.2
LPG La Plagne 33.05 293 *eP* **P 20 48 57.5 -0.1**
LPL La Plagne 33.05 293 *eP* **P 20 48 57.6 0.0**
MBDF Montbardon 33.15 292 *eP* **P 20 48 58.4 -0.1**
comp=Z,7.8nm,0.7s,mb4.5
MBDF Montbardon 33.15 292 *eP* **P 20 48 58.4 -0.1**
MBDF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MBDF Montbardon 33.15 292 *eP* **P 20 48 58.4 -0.1**
comp=Z,3.9nm,0.7s,mb4.5
CABF La Chapelle 33.35 296 *eP* **P 20 49 00.0 -0.2**
comp=Z,13nm,0.8s,mb4.6
CABF La Chapelle 33.35 296 *eP* **P 20 49 00.0 -0.2**
CABF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CABF La Chapelle 33.35 296 *eP* **P 20 49 00.0 -0.2**
comp=Z,6.4nm,0.8s,mb4.6
FRF La Foret Royal 33.45 290 *eP* **P 20 49 00.8 -0.3**
LMR La Mourre 33.59 290 *eP* **P 20 49 01.8 -0.6**
ORIF Oris-en-Rattie 33.74 293 *eP* **P 20 49 03.6 0.0**
ORIF *e*MLR MLR
comp=Z,34nm,17.5s,MS2.8
GIVF Givet 33.90 302 *eP* **P 20 49 05.1 +0.2**
SMRF Simiane la Rot 34.13 291 *eP* **P 20 49 06.6 -0.4**
BAIF Baives 34.30 302 *eP* **P 20 49 08.6 +0.2**
comp=Z,14nm,1.1s,mb4.5
BAIF Baives 34.30 302 *eP* **P 20 49 08.6 +0.2**
BAIF pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
BAIF Baives 34.30 302 *eP* **P 20 49 08.6 +0.2**
comp=Z,6.8nm,1.1s,mb4.5
VIVF Saint-Julien-l 34.60 293 *eP* **P 20 49 10.9 -0.2**
LOR Lormes 34.79 297 *eP* **P 20 49 12.3 -0.3**
comp=Z,6.7nm,0.8s,mb4.3
LOR *e*MLR MLR
comp=Z,39nm,17.8s,MS2.9
LOR Lormes 34.79 297 *eP* **P 20 49 12.3 -0.3**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR MLR MLR
comp=Z,40nm,17.8s,MS3.2
LOR Lormes 34.79 297 *eP* **P 20 49 12.3 -0.3**
comp=Z,3.3nm,0.8s,mb4.3
LOR LR LR
comp=Z,40nm,17.8s,MS3.2
SMF Signal de Mont 34.88 296 *eP* **P 20 49 12.7 -0.8**
SSF Saint Saulge 35.05 297 *eP* **P 20 49 14.9 0.0**
comp=Z,6.0nm,0.8s,mb4.3
SSF Saint Saulge 35.05 297 *eP* **P 20 49 14.9 0.0**
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
SSF Saint Saulge 35.05 297 *eP* **P 20 49 14.9 0.0**
comp=Z,3.0nm,0.8s,mb4.3
AVF Avril sur Loir 35.20 296 *eP* **P 20 49 15.4 -0.8**
comp=Z,5.6nm,0.6s,mb4.3
AVF Avril sur Loir 35.20 296 *eP* **P 20 49 15.4 -0.8**
AVF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
AVF Avril sur Loir 35.20 296 *eP* **P 20 49 15.4 -0.8**
comp=Z,2.8nm,0.6s,mb4.3
LASF Ste Croix 35.32 292 *eP* **P 20 49 17.0 -0.3**
BGF Bois d'Agland 35.58 296 *eP* **P 20 49 19.1 -0.3**
TCF Toulx Ste Croi 36.05 296 *eP* **P 20 49 23.4 -0.1**
comp=Z,36nm,1.3s,mb4.8
TCF Toulx Ste Croi 36.05 296 *eP* **P 20 49 23.4 -0.1**
TCF pmax pmax
comp=Z,18nm,1.3s,mb4.8
TCF Toulx Ste Croi 36.05 296 *eP* **P 20 49 23.4 -0.1**
comp=Z,18nm,1.3s,mb4.8
ZAK Zakamensk 36.40 57 *eP* **P 20 49 17.4 -9.0**
ZAK pmax pmax
comp=Z,1.0nm,1.2s,mb3.6
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
RJF Les Rejaudoux 36.71 294 *eP* **P 20 49 28.8 -0.4**
comp=Z,23nm,1.2s,mb4.6
RJF *e*MLR MLR
comp=Z,45nm,19.2s,MS3.0
RJF Les Rejaudoux 36.71 294 *eP* **P 20 49 28.8 -0.4**
RJF pmax pmax
comp=Z,12nm,1.2s,mb4.6
RJF MLR MLR
comp=Z,40nm,19.3s,MS3.2
RJF Les Rejaudoux 36.71 294 *eP* **P 20 49 28.8 -0.4**
comp=Z,12nm,1.2s,mb4.6
RJF LR LR
comp=Z,40nm,19.3s,MS3.2
LDF La Druitiere 37.26 300 *eP* **P 20 49 33.4 -0.4**
LFF La Frestale 37.32 294 *eP* **P 20 49 33.9 -0.5**
FLN La Foliniere 37.47 300 *eP* **P 20 49 35.2 -0.4**
FLN *e*MLR MLR
comp=Z,31nm,18.5s,MS2.8
FLN La Foliniere 37.47 300 *eP* **P 20 49 35.2 -0.4**
FLN LR LR
comp=Z,30nm,18.5s,MS3.1
MFF Saint Martin d 37.60 297 *eP* **P 20 49 36.4 -0.3**
comp=Z,12nm,0.8s,mb4.4
MFF Saint Martin d 37.60 297 *eP* **P 20 49 36.4 -0.3**
MFF pmax pmax
comp=Z,6.0nm,0.8s,mb4.4
MFF Saint Martin d 37.60 297 *eP* **P 20 49 36.4 -0.3**
comp=Z,6.2nm,0.8s,mb4.4
GRR Gorron 37.77 300 *eP* **P 20 49 37.9 -0.2**
XAL Allendale 38.04 310 *eP* **P 20 49 40.5 +0.3**
XAL Allendale 38.04 310 *eP* **P 20 49 40.5 +0.2**
XSO Sourhope Farm 38.05 311 *eP* **P 20 49 40.5 +0.1**
EBL Broad Law 38.49 312 *eP* **P 20 49 44.5 +0.4**
EBL Broad Law 38.49 312 *eP* **P 20 49 44.5 +0.4**
comp=Z,66nm,2.2s,mb5.0
EKA Eskdalemuir Ar 38.57 311 P **P 20 49 44.9 +0.2**
EKA pmax pmax
comp=Z,7.0nm,0.4s
EKA Eskdalemuir Ar 38.57 311 P **P 20 49 44.9 +0.1**
comp=Z,6.5nm,0.4s,mb4.7,baz=96,slow=8.5,SNR=69
EKA Eskdalemuir Ar 38.57 311 P **P 20 49 44.8 +0.1**
ESK Eskdalemuir 38.60 311 *eP* **P 20 49 44.8 -0.2**
ESK AMb AMB 20 49 46.2
comp=Z,56nm,1.7s,mb5.0
MCH1 Michaelchurch 38.69 306 *eP* **P 20 49 45.1 -0.6**
MCH1 AMb AMB 20 49 49.4
comp=Z,66nm,2.2s,mb5.0
EBH Black Hill 38.75 313 *eP* **P 20 49 46.6 +0.4**
SONM Songino Array 38.77 61 P **P 20 49 47.7 +1.2**
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 38.77 61 P **P 20 49 47.7 +1.2**
comp=Z,0.5nm,0.6s,mb3.4,baz=284,slow=9.2,SNR=5.4

SGMF Saint Gilles 38.91 300 *eP* **P 20 49 47.5 -0.2**
comp=Z,35nm,0.9s,mb4.8
SGMF Saint Gilles 38.91 300 *eP* **P 20 49 47.5 -0.2**
SGMF pmax pmax
comp=Z,18nm,0.9s,mb4.8
SGMF Saint Gilles 38.91 300 *eP* **P 20 49 47.5 -0.2**
comp=Z,18nm,0.9s,mb4.8
ULN Ulaanbaatar 39.20 61 *eP* **P 20 49 50.8 +0.7**
ULN *e* pP 20 50 00.7 -0.6
ULN pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
ULN Ulaanbaatar 39.20 61 *eP* **P 20 49 50.8 +0.7**
comp=Z,4.3nm,0.9s,mb4.2
ULN *e* pP 20 50 00.7 -0.6
ULN Ulaanbaatar 39.20 61 *eP* **P 20 49 50.8 +0.7**
EAB Aberfoyle 39.21 313 *eP* **P 20 49 49.9 -0.2**
EAB Aberfoyle 39.21 313 *eP* **P 20 49 49.9 -0.2**
comp=Z,70nm,1.6s,mb5.1
PGBU Glenifferbraes 39.31 312 *eP* **P 20 49 51.0 +0.1**
PGBU AMb AMB 20 49 51.3
comp=Z,66nm,1.7s,mb5.1
ROSF Rostrenen 39.37 300 *eP* **P 20 49 51.3 -0.2**
comp=Z,12nm,0.6s,mb4.5
ROSF Rostrenen 39.37 300 *eP* **P 20 49 51.3 -0.2**
ROSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
ROSF Rostrenen 39.37 300 *eP* **P 20 49 51.3 -0.2**
comp=Z,6.2nm,0.6s,mb4.5
GAL1 Galloway 39.48 310 *eP* **P 20 49 52.3 -0.1**
GAL1 AMb AMB 20 49 59.4
comp=Z,70nm,1.6s,mb5.1
BOD Bodaibo 42.14 45 *eP* **P 20 50 14.1 -0.1**
BOD *e* pP 20 50 26.7 +1.2
BOD pmax pmax
comp=Z,5.0nm,0.8s,mb4.2
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
ESDC Sonseca Array 42.16 287 P **P 20 50 14.4 -0.2**
comp=Z,0.2nm,0.2s,mb3.3,baz=56,slow=7.0,SNR=3.3
CD2 Chengdu 42.49 87 *eP* **P 20 50 17.3 -0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,20nm,4.2s
HHC Hu-ho-hao-te 44.21 70 *eP* **P 20 50 31.5 +0.3**
HHC AP pP 20 50 44.3 +1.8
HHC XP sP 20 50 49.4 +2.2
HHC PP PP 20 52 16.8 +2.3
HHC SCP ScP 20 56 03.4 -0.5
HHC S **S 20 57 01.0 -0.7**
HHC SS SS 21 00 10.9 -9.3
HHC SCS ScS 21 00 24.0 -2.1
HHC AMB AMB
comp=Z,32nm,1.2s,mb4.9
HHC AMB AMB
comp=Z,135nm,6.9s
HHC LR LR
comp=N,181nm,16.3s,MS4.2
HHC LR LR
comp=E,176nm,14.3s,MS4.2
HHC LR LR
comp=Z,209nm,14.1s,MS4.2
KMI Kunming 44.68 94 P **P 20 50 35.5 +0.4**
KMI AP pP 20 50 47.3 +0.9
KMI XP sP 20 50 52.2 +1.0
KMI AMB AMB
comp=Z,5.0nm,1.3s,mb4.2
GYA Guiyang 46.93 90 P **P 20 50 52.9 0.0**
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
HIA Hailar 47.06 56 *eP* **P 20 50 54.7 +1.2**
HIA pmax pmax
comp=Z,4.0nm,0.8s
HIA Hailar 47.06 56 *eP* **P 20 50 54.7 +1.2**
comp=Z,4.2nm,0.8s,mb4.4
TIXI Tiksi 47.70 25 *eP* **P 20 50 57.8 -0.4**
TIXI pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
TIXI Tiksi 47.70 25 *eP* **P 20 50 59.0 +0.8**
comp=Z,1.3nm,0.3s,mb4.4
TIXI *e* pP 20 51 12.3 +2.7
WHN Wuhan 50.65 81 *eP* **P 20 51 20.4 -1.0**
TORD Torodi Ar. Bea 51.80 253 P **P 20 51 26.7 -3.5**
comp=Z,0.3nm,0.5s,mb3.5,baz=30,slow=7.3,SNR=6.0
NJ2 Nanjing 53.26 77 *eP* **P 20 51 42.3 +1.5**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb5.0
KSRS Korea Array 57.16 67 P **P 20 52 08.2 -0.7**
comp=Z,1.1nm,0.5s,mb4.2,baz=293,slow=7.5,SNR=4.7
SEY Seymchan 58.84 32 *eP* **P 20 52 21.9 +1.7**
MA2 Magadan 59.83 36 *eP* **P 20 52 28.9 +1.9**
MA2 pmax pmax
comp=Z,8.0nm,1.6s,mb4.5
BILL Bilibino 60.86 23 *eP* **P 20 52 35.2 +1.2**
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
BILL Bilibino 60.86 23 *eP* **P 20 52 34.8 +0.9**
comp=Z,2.2nm,0.3s,mb4.8
RES Resolute Bay 62.67 351 *eP* **P 20 52 45.4 -0.7**
comp=Z,96nm,1.0s
LBTB Lobatse 70.00 206 *eP* **P 20 53 30.9 -2.6**
LBTB pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
LBTB Lobatse 70.00 206 *eP* **P 20 53 30.9 -2.6**
comp=Z,4.9nm,0.6s,mb4.6
LBTB Lobatse 70.00 206 P **P 20 53 31.4 -2.1**
comp=Z,4.0nm,0.5s,mb4.6,baz=14,slow=7.2,SNR=18
BOSA Boshof 73.46 204 P **P 20 53 51.5 -2.7**
BOSA pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
BOSA Boshof 73.46 204 P **P 20 53 51.5 -2.7**
comp=Z,2.0nm,0.7s,mb4.2,baz=52,slow=11,SNR=4.3
YKA Yellowknife Ar 76.44 354 P **P 20 54 10.9 -0.2**
YKA Yellowknife Ar 76.44 354 P **P 20 54 10.9 -0.2**
comp=Z,0.3nm,0.5s,mb3.5,baz=9.3,slow=5.6,SNR=4.9
WRA Warramunga Arr 97.17 110 P **P 20 55 52.7 -1.7**
comp=Z,0.4nm,0.8s,mb3.9,baz=321,slow=4.0,SNR=3.4

MEX 11 20:43:10.4±0.6, 1716N×10043W, h20km±271km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.57**	**120**	*eP*	Pb	20 43 20.7	-1.1
ACX				*i* S	Sb	20 43 27.2	-2.2
ZIIG	**Zihuatanejo**	**1.08**	**294**	*i* P	Pn	20 43 27.4	-3.0
ZIIG				*i* S	Sb	20 43 40.2	-3.9
MEIG	**Mezcala**	**1.09**	**45**	*i* P	Pn	20 43 26.9	-3.6
MEIG				*e*S	Sb	20 43 39.8	-4.5
PLIG	**Platanillo**	**1.51**	**36**	*i* P	Pn	20 43 34.4	-2.0
PLIG				*e*S	Sn	20 43 53.2	-2.2
PPM	**Popocatepetl**	**2.56**	**42**	*eP*	Pn	20 43 47.5	-3.2

ATH ***11*** *20:44:36.7, 3952N×2494E, h11km±4km, MD3.5/8*
NEIC ***11*** *20:44:36.7, 3952N×2494E, h11km, MD3.5(ATH), MD3.2(ISK), After ATH.*
ISCJB ***11*** *20:44:38.7±0.5, 3959N±002×2474E±003, h5km±4km, Error ellipse: s-maj=4.4km s-min=3.1km az=152.8*
CSEM ***11*** *20:44:39.3±0.1, 3953N×2477E, h5km, ML3.5, Error ellipse: s-maj=2.3km s-min=1.6km az=135.0*
SOF ***11*** *20:44:40.1, 3976N×2488E, h9km, MD2.9*
THE ***11*** *20:44:40.0, 3958N×2480E, h13km, ML3.5*
ISK ***11*** *20:44:44.5, 3978N×2497E, h5km, MD3.6*

ISC 11 20:44:39.6±0.5, 3960N±002×2475E±003, h11km±4km, n56, σ0:90/72, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	**Limnos**	**0.42**	**37**	*eP*g	**Pg**	**20 44 48.4**	**+0.4**
AOS	**Alonnisos**	**0.80**	**238**	*eP*g	**Pg**	**20 44 55.2**	**+0.2**
AOS	**Alonnisos**	**0.80**	**238**	*eP*g	**Pg**	**20 44 55.2**	**+0.2**
PAIG	**Paliouri**	**0.89**	**292**	*eP*g	**Pg**	**20 44 57.4**	**+0.6**
PAIG				*e*Sg	**Sg**	**20 45 10.7**	**+2.2**
PAIG	**Paliouri**	**0.89**	**292**	*eP*g	**Pg**	**20 44 57.4**	**+0.6**
PAIG				*e*Sg	**Sg**	**20 45 10.6**	**+2.2**
OUR	**Ouranopolis**	**0.95**	**321**	*eP*g	**Pg**	**20 44 58.5**	**+0.6**
GADA	**Gvkgeada**	**1.06**	**56**	*eP*G	**Pg**	**20 45 00.8**	**+0.8**
GADA				*e*SG	**Sg**	**20 45 13.5**	**-0.5**
GADA	**Gvkgeada**	**1.06**	**56**	Pg	**Pg**	**20 44 59.7**	**-0.4**
GADA				Sg	**Sg**	**20 45 03.7**	**-10**
NEO	**Neokhori**	**1.22**	**257**	*eP*B	**Pb**	**20 45 02.2**	**-0.4**
NEO				*e*SB	**Sb**	**20 45 20.7**	**+2.3**
XOR	**Xorichti**	**1.23**	**260**	*eP*g	**Pg**	**20 45 01.4**	**-1.8**
EZN	**Ezine**	**1.23**	**79**	Pg	**Pg**	**20 45 03.4**	**0.0**
EZN	**Ezine**	**1.23**	**79**	Pg	**Pg**	**20 45 03.4**	**0.0**
PLG	**Polygyros**	**1.27**	**308**	*eP*g	**Pg**	**20 45 02.9**	**-1.1**
PLG				*e*Sg	**Sg**	**20 45 20.7**	**+0.2**
PLG	**Polygyros**	**1.27**	**308**	*eP*B	**Pb**	**20 45 02.9**	**-0.6**
PLG				*e*SB	**Sg**	**20 45 22.6**	**+2.1**
ENEZ	**Enez**	**1.56**	**43**	*eP*N	**Pg**	**20 45 09.9**	**+0.2**
ENEZ				*e*SN	**Sg**	**20 45 30.6**	**+0.6**
HORT	**Hortiatis**	**1.61**	**309**	*eP*b	**Pb**	**20 45 08.2**	**-1.2**
SOH	**Sokhos**	**1.63**	**319**	*eP*b	**Pb**	**20 45 08.5**	**-1.2**
SOH				*e*Sb	**Sb**	**20 45 30.0**	**-0.2**
ALN	**Alexandroupoli**	**1.63**	**37**	*eP*g	**Pn**	**20 45 07.3**	**-1.0**
ALN				*e*Sg	**Sn**	**20 45 28.6**	**-0.7**
LKR	**Lokris**	**1.66**	**236**	*eP*b	**Pn**	**20 45 08.4**	**-0.2**
LKR				*e*Sb	**Sb**	**20 45 30.8**	**-0.3**
LKR	**Lokris**	**1.66**	**236**	*eP*n	**Pn**	**20 45 08.6**	**0.0**
RDO	**Rodhopi**	**1.66**	**21**	*eP*N	**Pn**	**20 45 08.2**	**-0.4**
RDO				*e*SB	**Sb**	**20 45 31.8**	**+0.7**
PTL	**Penteli**	**1.69**	**204**	*eP*G	**Pn**	**20 45 08.0**	**-1.1**
LPK	**Lapseki**	**1.73**	**63**	*eP*N	**Pg**	**20 45 12.6**	**-0.2**
LPK	**Lapseki**	**1.73**	**63**	Pg	**Pn**	**20 45 11.1**	**+1.5**
LPK	**Lapseki**	**1.73**	**63**	Pg	**Pn**	**20 45 11.1**	**+1.6**
LPK	**Lapseki**	**1.73**	**63**	*eP*n	**Pg**	**20 45 12.6**	**-0.2**
ATH	**Athens Observa**	**1.81**	**207**	*eP*B	**Pn**	**20 45 08.6**	**-2.1**
LIT	**Litokhoron**	**1.81**	**287**	*eP*b	**Pn**	**20 45 10.9**	**+0.2**
NVR	**Nevrokopi**	**1.88**	**339**	*eP*N	**Pn**	**20 45 11.9**	**+0.3**
KVR	**Kavouri**	**1.93**	**204**	*eP*G	**Pn**	**20 45 12.0**	**-0.3**
AGG	**Agios Georgios**	**1.96**	**254**	*eP*n	**Pn**	**20 45 13.0**	**+0.2**
AGG				*e*Sn	**Sn**	**20 45 38.0**	**+0.6**
NAIG	**Nisos Aigina**	**2.08**	**209**	*eP*N	**Pn**	**20 45 14.5**	**0.0**
RZN	**Rozhen**	**2.09**	**359**	P	**Pn**	**20 45 14.9**	**+0.4**
LTK	**Loutraki**	**2.10**	**222**	*eP*n	**Pn**	**20 45 14.3**	**-0.4**
KNT	**Kendrikon**	**2.11**	**318**	*eP*n	**Pn**	**20 45 15.5**	**+0.7**
KDZ	**Kurdzhali**	**2.11**	**14**	P	**Pn**	**20 45 14.3**	**-0.6**
KDZ				Pg	**Pg**	**20 45 17.9**	**-2.2**
THL	**Klokotos Trika**	**2.12**	**270**	*eP*n	**Pn**	**20 45 15.3**	**+0.5**
THL	**Klokotos Trika**	**2.12**	**270**	*eP*B	**Pn**	**20 45 15.5**	**+0.6**
MMB	**Musomiste**	**2.14**	**339**	P	**Pn**	**20 45 15.5**	**+0.3**
RKY	**Sarkoy-Tekirda**	**2.15**	**59**	*eP*N	**Pb**	**20 45 19.0**	**+0.3**
GRG	**Griva**	**2.25**	**308**	*eP*n	**Pn**	**20 45 17.6**	**+0.8**
EVR	**Evrytania**	**2.38**	**254**	*eP*N	**Pn**	**20 45 19.8**	**+1.2**
VAY	**Valandovo**	**2.40**	**317**	*eP*n	**Pg**	**20 45 25.6**	**+0.1**
VAY				*e*Sn	**Sn**	**20 45 46.7**	**-1.4**
DID	**Didima**	**2.40**	**210**	*eP*n	**Pn**	**20 45 18.5**	**-0.4**
DID				*e*Sn	**Sn**	**20 45 48.2**	**0.0**
MRMT	**Marmara Adasi**	**2.40**	**64**	*eP*N	**Pb**	**20 45 23.4**	**+0.6**
BALB	**Balikesir**	**2.42**	**88**	*eP*N	**Pb**	**20 45 24.6**	**+1.5**
EDC	**Edincik**	**2.51**	**72**	*eP*N	**Pb**	**20 45 24.6**	**0.0**
PLD	**Plovdiv**	**2.51**	**359**	P	**Pg**	**20 45 27.7**	**0.0**
DIM	**Dimitrovgrad**	**2.52**	**13**	P	**Pg**	**20 45 27.4**	**-0.6**
KKB	**Krupnik**	**2.60**	**331**	P	**Pn**	**20 45 22.3**	**+0.8**
EDRB	**Edirne**	**2.71**	**33**	*eP*N	**Pb**	**20 45 27.7**	**-0.4**
EDRB	**Edirne**	**2.71**	**33**	Pn	**Pb**	**20 45 28.8**	**+0.7**
PGB	**Panagyurishte**	**2.98**	**352**	*eP*	**Pg**	**20 45 35.3**	**-1.5**
KULA	**Kula-Manisa**	**3.23**	**108**	*eP*N	**Pb**	**20 45 37.5**	**+0.6**
YLV	**Yalova**	**3.67**	**73**	*eP*N	**Pn**	**20 45 41.6**	**+5.3**
IZI	**Iznik**	**3.70**	**77**	*eP*N	**Pn**	**20 45 41.8**	**+5.0**

NIED ***11*** *21:37:00, 4630N×15370E, h11km, Mw4.7 Best double couple: M0 1.38000×10^16 NP1:ϕs234.00000°, δ59.00000°, λ139.00000°. NP2:ϕs348.00000°, δ55.00000°, λ38.00000°.*
ISCJB ***11*** *21:37:43.0±0.1, 4632N±003×15328E±002, h10km, mb5.1/238, MS4.5/58, Error ellipse: s-maj=3.7km s-min=1.7km az=163.5*
IDC ***11*** *21:37:43.0±0.5, 4640N×153.19E, h0km, mb4.8/24, mb1 4.9/25, mb1mx4.9/26, mbtmp4.8/25, ML3.5/1, MS4.4/17, Ms1 4.4/17, ms1mx4.2/23, Error ellipse: s-maj=15.0km s-min=12.1km az=136.0*
BJI ***11*** *21:37:43.1, 4668N×153.17E, h7km, mB5.0, mb5.2, Ms4.7, Msz4.5*
SKHL ***11*** *21:37:43.9±1.9, 4627N×15363E, h64km±26km, mb5.7/5, mbh5.5/4, Ms5.1/6, msh5.9/2*
JMA ***11*** *21:37:43.8±0.9, 4632N×15368E, h30km, M5.4*
NEIC ***11*** *21:37:44.7±0.1, 4638N×15322E, h10km, mb5.2/160, Error ellipse: s-maj=4.3km s-min=2.6km az=165.0*
GCMT ***11*** *21:37:44.7±0.3, 4638N×15346E, h17km±1km, MW4.9/70, Moment Tensor Solution. s35,c53; s70,c112; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr2.57±.14; Mθθ-1.13±.09; Mϕϕ-1.45±.09; Mrθ0.43±.23; Mrϕ-1.45±.05; Mθϕ1.75±.24; Best double couple: M0 3.21600×10^16 NP1:ϕs237.00000°, δ31.00000°, λ116.00000°. NP2: ϕs27.00000°, δ62.00000°, λ75.00000°. Principal axes: T 3.2280, Plg69.0000°, Azm266.0000°; N -0.0340, Plg13.0000°, Azm34.0000°; P -3.2040, Plg16.0000°, Azm128.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***11*** *21:37:47.3±0.9, 4655N×153.14E, h31km, mb5.4/106, MS4.7/36 Error ellipse: s-maj=7.5km s-min=3.8km az=105.8*
SZGRF ***11*** *21:37:49.0, 4624N×15328E, h33km, mb5.4, MS4.5, Kuril Islands, Russia*

ISC 11 21:37:45.8±0.1, 4639N±002×15320E±002, h15km, h15km±1.8km: pP-P, n984, σ0:89/1006, mb5.1/238, MS4.5/58, 248C-89D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**255**	*eP*	**Pn**	**21 38 43.7**	**-1.5**
KUR				AMB	AMB	21 38 44.4	
	7μm,1.6s						
KUR				AMB	AMB	21 38 44.8	
	1μm,0.8s						
KUR				AMB	AMB	21 38 44.8	
	537nm,0.8s						
KUR				AMB	AMB	21 38 44.8	
	4μm,0.8s						
KUR				*i* S	**Sn**	**21 39 30.0**	**-0.7**
KUR				A		21 39 42.0	
	17μm,2.0s						
KUR				A		21 39 42.0	
	10μm,2.0s						
KUR				A		21 39 46.7	
	1μm,0.8s						
KUR				A		21 39 46.7	
	4μm,0.8s						
KUR				AMS	AMS	21 40 16.0	
	11μm,1.6s						
KUR				AMS	AMS	21 40 16.0	
	12μm,1.6s						
KUR				AMS	AMS	21 40 16.0	
	9μm,1.6s						
SKR	**Severo-Kuril's**	**4.71**	**23**	*eP*	**Pn**	**21 38 54.4**	**-1.9**
SKR				AMB	AMB	21 38 58.1	
	70nm,0.6s						
SKR				AMB	AMB	21 38 58.1	
	100nm,0.6s						
SKR				AMB	AMB	21 38 58.1	
	160nm,0.6s						
SKR				*e*S	**Sn**	**21 39 44.0**	**-6.7**
SKR				A		21 39 55.0	
	3μm,2.0s						
SKR				A		21 39 55.0	
	5μm,6.0s						
SKR				A		21 39 55.0	
	3μm,6.0s						
SKR				A		21 39 58.0	
	840nm,1.0s						
SKR				A		21 39 58.0	
	1μm,1.0s						
SKR				A		21 39 58.0	
	900nm,1.0s						
SKR				AMS	AMS	21 40 46.0	
	3μm,14.0s						
SKR				AMS	AMS	21 40 46.0	
	4μm,12.0s						
SKR				AMS	AMS	21 40 46.0	
	5μm,12.0s						
SKR				AMS	AMS	21 40 46.0	
	3μm,14.0s						
SKR				AMS	AMS	21 40 46.0	
	2μm,12.0s						
SKR				AMS	AMS	21 40 46.0	
	5μm,12.0s						
NEM2	**Nemuro 2**	**6.10**	**243**	P	**Pn**	**21 39 14.9**	**-0.4**
NEM2				*e*S	**Sn**	**21 40 21.8**	**-3.0**
JRA	**Rausu**	**6.21**	**250**	P	**Pn**	**21 39 19.2**	**+2.3**
JNK	**Nakash**	**6.63**	**248**	P	**Pn**	**21 39 24.4**	**+1.7**

JAK	**Akkeshi**	**6.94 244**	P	**Pn**	**21 39 26.7 -0.2**
JAK			*e*S	**Sn**	**21 40 42.4 -3.2**
JTKR	**Abashiri--Toko**	**7.00 253**	P	**Pn**	**21 39 30.1 +2.5**
YSS	**Yuzh-Sakhalins**	**7.21 278**	*αe*PN	**Pn**	**21 39 35.4 +4.9**
YSS			*e*S	**Sn**	**21 40 57.6 +5.5**
YSS	comp=N,110nm,1.0s		pmax	pmax	
YSS	comp=E,250nm,1.0s		pmax	pmax	
YSS	comp=Z,220nm,1.0s		pmax	pmax	
YSS	comp=N,1μm,14.0s		MLR	MLR	
YSS	comp=E,3μm,16.0s		MLR	MLR	
YSS	comp=Z,3μm,16.0s		MLR	MLR	
YSS	**Yuzh-Sakhalins**	**7.21 278**	*e*Pn	**Pn**	**21 39 35.3 +4.7**
YSS	**Yuzh-Sakhalins**	**7.21 278⇑**	*e*P	**Pn**	**21 39 35.4 +4.9**
YSS	comp=Z,220nm,1.0s		AMB	AMB	21 39 38.0
YSS	comp=Z,110nm,1.0s		AMB	AMB	21 39 38.0
YSS	comp=Z,250nm,1.0s		AMB	AMB	21 39 38.0
YSS			*e*S	**Sn**	**21 40 57.6 +5.5**
YSS			*e*LQ		21 41 27.0
YSS			*e*LR	LR	21 41 50.0
YSS	comp=Z,1μm,14.0s		AMS	AMS	21 42 22.0
YSS	comp=Z,3μm,16.0s		AMS	AMS	21 42 22.0
YSS	comp=Z,3μm,16.0s		AMS	AMS	21 42 22.0
JMP	**Maruseppu**	**7.35 255**	P	**Pn**	**21 39 35.1 +2.6**
JAR	**Ashorobuto**	**7.38 249**	P	**Pn**	**21 39 34.5 +1.6**
JAR			*e*S	**Sn**	**21 40 55.6 -0.7**
PET	**Petropavlovsk**	**7.52 26**	*e*PN	**Pn**	**21 39 33.0 -1.8**
PET	comp=Z,200nm,1.2s		pmax	pmax	
PET	comp=Z,100nm,1.6s		pmax	pmax	
PET	comp=Z,184nm,1.0s		pmax	pmax	
PET	comp=Z,1μm,19.0s		MLR	MLR	
PET	comp=Z,1μm,12.0s		MLR	MLR	
PET	**Petropavlovsk**	**7.52 26**	*e*Pn	**Pn**	**21 39 32.4 -2.5**
PET			*e*Sn	**Sn**	**21 40 54.8 -5.0**
JOB	**Onbets**	**7.53 246**	P	**Pn**	**21 39 35.4 +0.4**
JOB			*e*S	**Sn**	**21 40 58.5 -1.6**
JSE	**Soyaes**	**7.57 263**	P	**Pn**	**21 39 40.1 +4.6**
JKK2	**Kamakawa 2**	**7.81 255**	P	**Pn**	**21 39 41.8 +3.0**
ASAJ	**Asahikawa**	**7.82 257**	PN	**Pn**	**21 39 42.6 +3.7**
ASAJ					21 41 19.1
ASAJ	comp=Z,7.0nm,0.3s		pmax	pmax	
ASAJ	comp=N,1.0nm,0.3s		smax		
ASAJ	comp=Z,2μm,18.1s		MLR	MLR	
ASAJ	**Asahikawa**	**7.82 257**	P	**Pn**	**21 39 42.5 +3.6**
ASAJ	**Asahikawa**	**7.82 257**	Pn	**Pn**	**21 39 42.6 +3.7**
ASAJ	comp=Z,6.9nm,0.3s,baz=89,slow=16,SNR=54		Sn	**Sn**	**21 41 19.1 +12**
ASAJ	comp=Z,1.0nm,0.3s,baz=118,slow=17,SNR=2.1		LR	LR	21 42 42.9
JWK2	**Keihoku**	**7.96 266**	P	**Pn**	**21 39 47.1 +6.2**
UGL	**Uglegorsk**	**7.97 294⇑**	*i*PN	**Pn**	**21 39 46.4 +5.4**
UGL			S	**Sn**	**21 41 20.8 +10**
UGL	comp=Z,230nm,0.7s		pmax	pmax	
UGL	comp=Z,700nm,1.5s		pmax	pmax	
UGL	comp=N,180nm,0.7s		smax		
UGL	comp=E,170nm,0.7s		smax		
UGL	comp=N,900nm,12.0s		MLR	MLR	
UGL	comp=E,3μm,15.0s		MLR	MLR	
UGL	comp=Z,4μm,15.0s		MLR	MLR	
UGL	**Uglegorsk**	**7.97 294**	*e*P	**Pn**	**21 39 46.4 +5.4**
UGL		⇑	*i*P		21 39 46.4
UGL	comp=Z,230nm,0.7s		AMB	AMB	21 39 47.5
UGL	comp=Z,350nm,1.5s		AMB	AMB	21 39 48.0
UGL	comp=Z,400nm,1.5s		AMB	AMB	21 39 48.0
UGL	comp=Z,700nm,1.5s		AMB	AMB	21 39 48.0
UGL			*e*S	**Sn**	**21 41 20.8 +10**
UGL			A		21 41 27.0
UGL	comp=Z,180nm,0.7s		A		21 41 27.0
UGL	comp=Z,170nm,0.7s				
UGL			*e*L		21 41 48.0
UGL	comp=Z,900nm,12.0s		AMS	AMS	21 43 00.0
UGL	comp=Z,3μm,15.0s		AMS	AMS	21 43 00.0
UGL	comp=Z,4μm,15.0s		AMS	AMS	21 43 00.0
JCH	**Churui**	**7.98 245**	P	**Pn**	**21 39 40.6 -0.5**
JCH			*e*S	**Sn**	**21 41 06.8 -4.3**
JFR	**Furan**	**8.20 251**	P	**Pn**	**21 39 46.1 +1.9**
TYV	**Tymovskoe**	**8.29 307**	*e*P	**Pn**	**21 39 49.5 +4.1**
TYV	comp=Z,84nm,1.0s		AMB	AMB	21 39 53.0
TYV	comp=Z,106nm,1.0s		AMB	AMB	21 39 53.0
TYV	comp=Z,176nm,1.0s		AMB	AMB	21 39 53.0
TYV	comp=Z,800nm,5.0s		AMB	AMB	21 39 59.0
TYV	comp=Z,1μm,5.0s		AMB	AMB	21 39 59.0
TYV	comp=Z,1μm,8.0s		AMB	AMB	21 39 59.0
TYV	comp=Z,4μm,15.0s		AMS	AMS	21 43 19.0
TYV	comp=Z,6μm,16.0s		AMS	AMS	21 43 19.0
JAB	**Ashibetsu**	**8.30 254**	P	**Pn**	**21 39 48.5 +2.9**
ERM	**Erimo**	**8.43 242**	Pn	**Pn**	**21 39 49.1 +1.7**
ERM	comp=Z,1μm,1.1s,SNR=19 **Erimo**	**8.43 242**	*i* PN	**Pn**	**21 39 48.6 +1.2**
ERM	**Erimo**	**8.43 242**	*e*Pn	**Pn**	**21 39 48.6 +1.3**
ERM	comp=Z,235nm,0.6s		*e*S	**Sn**	**21 41 19.0 -3.2**
JEM	**Erimo**	**8.43 242**	P	**Pn**	**21 39 48.8 +1.4**
JEM			*e*S	**Sn**	**21 41 20.9 -1.3**
JBT2	**Biratori 2**	**8.53 249**	P	**Pn**	**21 39 49.8 +1.1**
JNBK	**Urakawa-nobuka**	**8.54 245**	*e*S	**Sn**	**21 41 22.0 -2.8**
JEW	**Eniwo**	**9.10 251**	P	**Pn**	**21 39 58.5 +2.0**
JNB	**Noboribetsu**	**9.54 250**	P	**Pn**	**21 40 03.2 +0.7**
JNB			*e*S	**Sn**	**21 41 45.1 -4.3**
OKH	**Okha**	**9.74 321⇑**	*i*PN	**Pn**	**21 40 11.0 +5.7**
OKH			*e*S	**Sn**	**21 41 58.0 +3.6**
OKH	comp=Z,2μm,4.4s		pmax	pmax	
OKH	**Okha**	**9.74 321⇑**	*i*P	**Pn**	**21 40 11.0 +5.7**
OKH			*e*P		21 40 11.0
OKH	comp=Z,100nm,1.0s		AMB	AMB	21 40 12.1
OKH	comp=Z,2μm,4.4s		AMB	AMB	21 40 14.2
OKH	comp=Z,2μm,4.4s		AMB	AMB	21 40 14.2
OKH	comp=Z,1μm,6.0s		AMB	AMB	21 40 14.2
OKH			*e*S	**Sn**	**21 41 58.0 +3.6**
OKH			*e*LQ		21 42 52.2
OKH	comp=Z,4μm,15.0s		AMS	AMS	21 44 54.4
OKH	comp=Z,2μm,13.0s		AMS	AMS	21 44 54.4
OKH	comp=Z,3μm,13.0s		AMS	AMS	21 44 54.4
JKB	**Kayabe**	**9.83 247**	P	**Pn**	**21 40 06.1 -0.4**
JKB			*e*S	**Sn**	**21 41 49.9 -6.7**
JOT	**Ohata**	**10.09 245**	P	**Pn**	**21 40 08.7 -1.4**
JSH	**Shimam**	**10.11 253**	P	**Pn**	**21 40 12.0 +1.6**
JYM2	**Yakumo 2**	**10.14 250**	P	**Pn**	**21 40 11.0 +0.2**
JANG	**Nango**	**10.41 239**	P	**Pn**	**21 40 11.6 -2.8**
JANG			*e*S	**Sn**	**21 42 00.5 -10**
JSR	**Shiriuchi**	**10.41 247**	P	**Pn**	**21 40 13.7 -0.8**
JTM	**Tenmabayashi**	**10.42 242**	P	**Pn**	**21 40 13.1 -1.6**
JTM			*e*S	**Sn**	**21 42 02.7 -8.4**
JTH	**Tanohata**	**10.49 236**	P	**Pn**	**21 40 12.3 -3.2**
JTH			*e*S	**Sn**	**21 42 00.3 -12**
NKL	**Nikolayevsk**	**10.54 314**	*i* P	**Pn**	**21 40 17.0 +0.8**
NKL	comp=Z,60nm,1.0s		AMB	AMB	21 40 22.6
NKL	comp=Z,100nm,1.0s		AMB	AMB	21 40 22.6
NKL	comp=Z,70nm,1.1s		AMB	AMB	21 40 22.6
NKL	comp=Z,600nm,5.0s		AMB	AMB	21 40 23.0
NKL	comp=Z,700nm,5.0s		AMB	AMB	21 40 23.0
NKL	comp=Z,1μm,5.0s		AMB	AMB	21 40 23.0
NKL			*e*L		21 43 06.0
NKL	comp=Z,5μm,15.0s		AMS	AMS	21 45 22.0
NKL	comp=Z,2μm,15.0s		AMS	AMS	21 45 22.0
NKL	comp=Z,6μm,15.0s		AMS	AMS	21 45 22.0
JOSM	**Okushiri--Mats**	**10.74 251**	P	**Pn**	**21 40 18.8 -0.2**
JOM	**Ohasama**	**11.12 236**	P	**Pn**	**21 40 21.0 -3.2**
JOM			*e*S	**Sn**	**21 42 17.8 -11**
OFUJ	**Ofunato**	**11.18 233**	P	**Pn**	**21 40 22.0 -3.0**
OFUJ			*e*S	**Sn**	**21 42 19.4 -10**
TEY	**Ternei**	**11.68 269**	*e*P	**Pn**	**21 40 35.0 +3.1**
TEY	comp=Z,1μm,5.0s		AMB	AMB	21 40 40.0
TEY	comp=Z,1μm,5.0s		AMB	AMB	21 40 40.0
TEY	comp=Z,2μm,16.0s		AMS	AMS	21 45 19.0
TEY	comp=Z,1μm,15.0s		AMS	AMS	21 45 19.0
TEY	comp=Z,1μm,14.0s		AMS	AMS	21 45 19.0
JIO	**Ouri**	**11.80 232**	P	**Pn**	**21 40 29.7 -3.8**
JIO			*e*S	**Sn**	**21 42 31.6 -13**
HABR	**Khabarovsk**	**12.46 286⇓**	*i*PN	**Pn**	**21 40 48.6 +6.1**
HABR			*e*		21 43 13.0
HABR	comp=Z,59nm,1.2s		pmax	pmax	
JYA	**Atsumi**	**12.63 237**	P	**Pn**	**21 40 43.6 -1.2**
JFK	**Kawauchi**	**12.85 230**	P	**Pn**	**21 40 46.4 -1.5**
JFT	**Otama**	**13.03 232**	P	**Pn**	**21 40 48.5 -1.8**
MA2	**Magadan**	**13.29 355**	*c i*PN	**Pn**	**21 40 53.3 -0.4**
MA2	comp=Z,1μm,18.0s		MLR	MLR	
MA2	**Magadan**	**13.29 355**	*e*Pn	**Pn**	**21 40 53.9 +0.2**
JFY	**Yanaizu**	**13.46 233**	P	**Pn**	**21 40 54.0 -2.1**
JFY			*e*S	**Sn**	**21 43 19.7 -5.7**
JSD	**Sado**	**13.85 238**	P	**Pn**	**21 40 58.7 -2.7**
JAG	**Ashikaga**	**14.31 231**	P	**Pn**	**21 41 05.0 -2.8**
KLR	**Kul'dur**	**14.68 289**	*e*P	**Pn**	**21 41 12.0 -0.7**
KLR	comp=E,140nm,1.2s		pmax	pmax	
KLR	comp=Z,120nm,1.2s		pmax	pmax	
KLR	comp=E,800nm,9.5s		pmax	pmax	
KLR	comp=Z,1μm,9.5s		pmax	pmax	
KLR	comp=E,2μm,14.0s		MLR	MLR	
KLR	comp=Z,5μm,14.0s		MLR	MLR	
MAJO	**Matsushiro**	**14.91 234**	*e*P	**Pn**	**21 41 13.5 -2.4**
MAT	**Matsushiro**	**14.91 234**	P	**Pn**	**21 41 13.2 -2.7**
MAT			S	**Sn**	**21 44 06.1 +5.3**
MJAR	**Matsushiro Arr**	**14.91 234**	Pn	**Pn**	**21 41 13.6 -2.4**
JRY	comp=Z,0.2nm,0.3s,baz=30,slow=12,SNR=16 **Ryogami san**	**14.91 231**	P	**Pn**	**21 41 13.0 -3.0**
JRY			S	**Sn**	**21 43 49.0 -12**
VLA	**Vladivostok**	**15.48 266**	*e*P	**Pn**	**21 41 24.4 +1.0**
VLA	comp=Z,37nm,0.7s		pmax	pmax	
VLA	comp=Z,1μm,17.0s		MLR	MLR	
AJI	**Ajiro2**	**15.55 228**	P	**Pn**	**21 41 29.9 +5.5**
SEY	**Seymchan**	**16.59 359**	*e*P	**Pn**	**21 41 35.6 -1.9**
MDJ	**Mudanjiang**	**16.63 272**	P	**Pn**	**21 41 37.4 -0.8**
MDJ			AP	pP	21 41 42.9 -1.9
MDJ			XP	sP	21 41 44.7 -2.0
MDJ			S	**Sn**	**21 44 41.7 -0.9**
MDJ			PCP	PcP	21 46 29.3 +1.7
MDJ			SCP	ScP	21 50 02.1 +0.5
MDJ			PCS	PcS	21 50 03.3 0.0
MDJ			SCS	ScS	21 53 41.2 +0.5
MDJ	comp=Z,93nm,1.0s		AMB	AMB	
MDJ	comp=Z,175nm,6.3s		AMB	AMB	
MDJ	comp=N,679nm,16.2s		LR	LR	
MDJ	comp=E,629nm,16.2s		LR	LR	
MDJ	comp=Z,1μm,15.2s		LR	LR	
MDJ	**Mudanjiang**	**16.63 272**	*e*P	**Pn**	**21 41 38.8 +0.6**
JWT	comp=Z,80nm,0.8s **Wachi**	**17.41 237**	P	**Pn**	**21 41 46.9 -1.1**
ZEA	**Zeya**	**18.14 303**	*e*P	**Pn**	**21 41 53.6 -3.3**
ZEA	comp=Z,36nm,1.2s		AMB	AMB	21 41 56.5
ZEA	comp=Z,500nm,6.0s		AMB	AMB	21 42 01.0
ZEA	comp=Z,600nm,8.0s		AMB	AMB	21 42 01.0
JHS	**Saijyo**	**18.95 240**	P	**Pn**	**21 42 05.0 -1.9**
CN2	**Changchun**	**19.72 273**	*e*P	**Pn**	**21 42 12.7 -3.4**
CN2			*e*XP	sP	21 42 20.0 -0.7
CN2			*e*S	**Sn**	**21 45 46.5 -11**
CN2	comp=Z,40nm,1.1s		AMB	AMB	
CN2	comp=Z,200nm,5.0s		AMB	AMB	
CN2	comp=N,1μm,16.0s		LR	LR	
CN2	comp=E,400nm,16.0s		LR	LR	
CN2	comp=Z,2μm,17.0s		LR	LR	
CLNS	**Chul'man**	**20.30 311**	*d i*P	**P**	**21 42 22.9 +2.1**
CLNS			*e*		21 42 36.3
CLNS			*e*PPP		21 42 48.5
CLNS			*e*S	**S**	**21 46 04.6 -3.2**
CLNS			*e*		21 53 51.5
CLNS	comp=Z,48nm,1.2s		pmax	pmax	
CLNS	comp=N,36nm,1.3s		pmax	pmax	
CLNS	comp=E,34nm,1.3s		pmax	pmax	
CLNS	comp=N,24nm,0.9s		pmax	pmax	
CLNS	comp=E,26nm,0.9s		pmax	pmax	
CLNS	comp=Z,32nm,0.9s		pmax	pmax	
CLNS	comp=N,92nm,13.1s		smax		
CLNS	comp=E,104nm,15.4s		smax		
CLNS	comp=N,2μm,15.0s,MS4.7		MLR	MLR	
CLNS	comp=Z,3μm,15.0s,MS4.8		MLR	MLR	
CLNS	comp=E,2μm,14.0s,MS4.7		MLR	MLR	
NRGR	**Nerungri**	**20.33 311**	*e*P	**P**	**21 42 23.3 +2.1**
YAK	**Yakutsk**	**20.66 328**	*d i*P	**P**	**21 42 24.0 -0.6**
YAK			*e*		21 42 42.5
YAK			*e*S	**S**	**21 46 13.9 -0.9**
YAK			*e*		21 46 34.2
YAK			*e*SS		21 46 35.2
YAK			*e*SSS		21 46 47.8
YAK			*e*		21 53 50.2
YAK	comp=Z,65nm,1.0s		pmax	pmax	
YAK	comp=N,31nm,1.6s		pmax	pmax	
YAK	comp=E,20nm,1.1s		pmax	pmax	
YAK	comp=Z,89nm,1.6s		pmax	pmax	
YAK	comp=N,89nm,1.5s		pmax	pmax	
YAK	comp=E,70nm,1.3s		pmax	pmax	
YAK	comp=E,167nm,2.1s		smax		
YAK	comp=N,169nm,2.0s		smax		
YAK	comp=N,817nm,17.0s,MS4.3		MLR	MLR	
YAK	comp=Z,702nm,17.0s,MS4.1		MLR	MLR	
YAK	comp=E,644nm,14.0s,MS4.3		MLR	MLR	
YAK	**Yakutsk**	**20.66 328**	*e*P	**P**	**21 42 24.3 -0.3**
KSRS	comp=E,77nm,0.9s **Korea Array**	**20.75 254**	P	**P**	**21 42 26.8 +1.0**
KSRS	comp=E,30nm,0.8s,baz=59,slow=10,SNR=81		LR	LR	21 49 25.1
JTU	**Tsushima**	**21.55 245**	P	**P**	**21 42 35.1 +0.6**
JNU	**Nakatsue**	**21.59 240**	P	**P**	**21 42 34.9 0.0**
JNU	**Nakatsue**	**21.59 240**	P	**P**	**21 42 35.4 +0.5**
JNU	comp=E,32nm,0.8s,mb4.8,baz=120,slow=12,SNR=13		LR	LR	21 51 05.8
INCN	comp=E,376nm,21.0s,MS3.8,baz=33,slow=37 **Inchon**	**21.59 255**	*e*P	**P**	**21 42 36.9 +1.9**
INCN	comp=E,102nm,0.9s,mb5.3 **Inchon**	**21.59 255**	P	**P**	**21 42 37.2 +2.3**
INCN	SNR=7.2 **Inchon**	**21.59 255**	P	**P**	**21 42 37.2 +2.3**
INCN	SNR=7.2 **Inchon**	**21.59 255**	P	**P**	**21 42 37.2 +2.3**
INCN	SNR=7.2 **Inchon**	**21.59 255**	P	**P**	**21 42 37.2 +2.3**
INCN	SNR=7.2 **Inchon**	**21.59 255**	P	**P**	**21 42 37.2 +2.3**
SNY	SNR=7.2 **Shenyang**	**21.68 269**	⇑P	**P**	**21 42 36.1 +0.2**
SNY			AP		21 42 40.5
SNY			XP	sP	21 42 43.4 +1.4
SNY			S	**S**	**21 46 38.3 +3.0**
SNY	comp=Z,50nm,1.0s,mb4.9		AMB	AMB	
SNY	comp=Z,220nm,3.5s		AMB	AMB	
SNY	comp=E,917nm,16.7s		LR	LR	
SNY	comp=Z,967nm,17.1s,MS4.3		LR	LR	
HIA	**Hailar**	**22.54 290**	*e*P	**P**	**21 42 42.5 -2.4**
HIA	comp=Z,19nm,0.8s		pmax	pmax	
HIA	**Hailar**	**22.54 290**	*e*P	**P**	**21 42 42.5 -2.5**
BILL	comp=Z,19nm,0.8s,mb4.6 **Bilibino**	**22.73 13**	*c i*P	**P**	**21 42 45.3 -1.5**
BILL	comp=Z,71nm,1.7s,mb4.8		pmax	pmax	
BILL	comp=Z,600nm,14.0s,MS4.2		MLR	MLR	
BILL	**Bilibino**	**22.73 13**	*e*P	**P**	**21 42 45.0 -1.8**
JSU	comp=Z,21nm,0.6s,mb4.8 **Suzuyama**	**22.99 238**	P	**P**	**21 42 50.1 +0.3**
JFU	**Fukue jima 2**	**23.20 242**	P	**P**	**21 42 53.3 +1.2**
DL2	**Dalian**	**24.28 263⇑**	*i*P	**P**	**21 43 02.8 +0.5**
DL2			S	**S**	**21 47 25.6 +5.1**
DL2	comp=Z,50nm,1.0s,mb4.9		AMB	AMB	
DL2	comp=Z,230nm,5.5s		AMB	AMB	
DL2	comp=N,220nm,17.1s,MS3.8		LR	LR	
DL2	comp=E,190nm,16.0s,MS3.8		LR	LR	
DL2	comp=Z,220nm,16.6s,MS3.7		LR	LR	
BOD	**Bodaibo**	**26.26 310**	*e*P	**P**	**21 43 18.3 -1.8**
BOD	comp=Z,18nm,1.2s,mb4.5		pmax	pmax	
BJI	**Beijing**	**27.53 270**	P	**P**	**21 43 32.7 +1.0**
BJI	comp=Z,70nm,0.9s,mb5.3		AMB	AMB	
BJI	comp=Z,390nm,5.7s		AMB	AMB	
BJI	comp=N,442nm,13.9s,MS4.6		LR	LR	
BJI	comp=E,1μm,15.9s,MS4.6		LR	LR	
BJI	comp=Z,875nm,17.1s,MS4.4		LR	LR	
BJT	**Baijiatuau**	**27.55 270**	*e*P	**P**	**21 43 32.5 +0.6**
BJT	comp=Z,60nm,0.8s		pmax	pmax	
BJT	**Baijiatuau**	**27.55 270**	*e*P	**P**	**21 43 32.5 +0.6**
JOW	comp=Z,60nm,0.8s,mb5.3 **Kunigami**	**27.76 234**	P	**P**	**21 43 33.9 +0.1**
TIXI	comp=Z,22nm,0.9s,mb4.8,baz=36,slow=7.7,SNR=9.5 **Tiksi**	**27.83 344**	*e*P	**P**	**21 43 29.6 -4.5**
TIXI			*e*		21 46 46.4
TIXI	comp=Z,20nm,1.6s,mb4.5		pmax	pmax	
TIXI	comp=Z,887nm,14.0s,MS4.5		MLR	MLR	
TIXI	**Tiksi**	**27.83 344**	*e*P	**P**	**21 43 31.5 -2.6**
TIXI	comp=Z,20nm,1.7s,mb4.5		*e*PcP	PcP	21 46 48.9 -0.7
SSE	**Sheshan**	**29.02 250**	P	**P**	**21 43 43.5 -1.6**
SSE			S	**S**	**21 48 35.7 -0.1**
SSE			XS	sS	21 48 49.6 +6.4
SSE	comp=Z,27nm,0.8s,mb5.0		AMB	AMB	
SSE	comp=Z,112nm,5.8s		AMB	AMB	
SSE	comp=N,333nm,16.9s,MS4.1		LR	LR	
SSE	comp=E,236nm,16.9s,MS4.1		LR	LR	
SSE	comp=Z,340nm,13.0s,MS4.2		LR	LR	
NJ2	**Nanjing**	**29.95 254**	*e*P	**P**	**21 43 54.2 +0.9**
NJ2			AP	pP	21 43 58.0 +0.2
NJ2			XP	sP	21 44 01.3 +1.7
NJ2			PP	PP	21 44 52.2 -8.6
NJ2			S	**S**	**21 48 52.0 +1.7**
NJ2			XS	sS	21 49 00.5 +2.8
NJ2	comp=Z,30nm,1.0s,mb5.0		AMB	AMB	
NJ2	comp=Z,130nm,7.9s		AMB	AMB	
NJ2	comp=N,1μm,19.1s,MS4.6		LR	LR	
NJ2	comp=E,810nm,15.9s,MS4.6		LR	LR	
NJ2	comp=Z,830nm,19.2s,MS4.4		LR	LR	
HHC	**Hu-ho-hao-te**	**30.38 275**	⇑P	**P**	**21 43 58.2 +1.2**
HHC			AP	pP	21 44 02.6 +1.1
HHC			XP	sP	21 44 05.2 +1.8
HHC			PP	PP	21 44 57.7 -7.8
HHC			PCP	PcP	21 46 57.4 +0.8
HHC			S	**S**	**21 48 58.4 +1.5**
HHC			XS	sS	21 49 04.7 +0.4
HHC			SS	SS	21 50 34.6 -32
HHC	comp=Z,159nm,1.3s,mb5.6		AMB	AMB	
HHC	comp=Z,320nm,7.8s		AMB	AMB	
HHC	comp=N,2μm,15.2s,MS4.9		LR	LR	
HHC	comp=E,1μm,15.1s,MS4.9		LR	LR	
HHC	comp=Z,2μm,15.6s,MS4.9		LR	LR	
ULN	**Ulaanbaatar**	**31.07 290**	*e*P	**P**	**21 44 02.5 -0.6**
ULN			pmax	pmax	

comp=Z,18nm,0.9s,mb4.9
ULN Ulaanbaatar 31.07 290 *e*P **P 21 44 02.5 -0.6**
comp=Z,18nm,0.9s,mb4.9
ULN *e*PcP PcP 21 46 44.7 -14
TIY Taiyuan 31.20 269 ⇑P **P 21 44 06.2 +1.9**
TIY LR LR
comp=N,457nm,15.7s,MS4.5
TIY LR LR
comp=E,640nm,14.1s,MS4.5
TIY LR LR
comp=Z,804nm,22.2s
SONM Songino Array 31.51 290 P **P 21 44 06.6 -0.3**
SONM 21 46 59.3
SONM pmax pmax
comp=Z,7.0nm,0.8s
SONM MLR MLR
comp=Z,1μm,18.3s
SONM Songino Array 31.51 290 P **P 21 44 06.6 -0.3**
comp=Z,6.5nm,0.8s,mb4.5,baz=65,slow=8.4,SNR=56
SONM PcP PcP 21 46 59.3 -0.1
comp=Z,5.0nm,0.9s,baz=83,slow=2.0,SNR=7.5
SONM LR LR 21 57 51.2
comp=Z,1μm,18.2s,MS4.5,baz=76,slow=38
IRK Irkutsk 31.92 299 *e*P **P 21 44 08.6 -1.9**
IRK pmax pmax
comp=Z,22nm,1.3s,mb4.8
TTA Tatalina 32.65 41 *e*P **P 21 44 17.0 +0.2**
SVW2 Sparrevohn 32.71 44 *e*P **P 21 44 17.9 +0.6**
ZAK Zakamensk 32.88 296 ⇑*i*P **P 21 44 18.6 -0.3**
ZAK *e* 21 47 03.2
ZAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
WHN Wuhan 33.90 256 ⇓P **P 21 44 28.9 +0.9**
WHN S **S 21 49 55.0 +3.1**
WHN AMB AMB
comp=Z,75nm,1.1s,mb5.5
WHN AMB AMB
comp=Z,318nm,7.3s
WHN LR LR
comp=N,609nm,12.4s
WHN LR LR
comp=E,975nm,20.4s
WHN LR LR
comp=Z,1μm,15.8s,MS4.6
MOY Mondy 34.02 298 *e*P **P 21 44 28.5 -0.3**
MOY pmax pmax
comp=Z,17nm,1.7s,mb4.7
IMA2 Indian Mountai 34.06 36 *e*P **P 21 44 29.2 +0.2**
QZH Quanzhou 34.93 244 P **P 21 44 43.1 +6.2**
QZH S **S 21 50 16.7 +8.8**
SLKM Skilak Lake 35.33 46 *e*P **P 21 44 37.6 -2.5**
XAN Xi'an 35.54 266 P **P 21 44 42.9 +0.7**
XAN AP pP 21 44 47.5 +0.8
XAN PP PP 21 45 57.5 -5.3
XAN S **S 21 50 13.5 -3.7**
XAN XS sS 21 50 24.2 -0.5
XAN SS SS 21 52 33.1 -19
XAN AMB AMB
comp=Z,20nm,0.8s,mb5.1
XAN AMB AMB
comp=Z,112nm,6.3s
XAN LR LR
comp=N,217nm,14.8s,MS4.4
XAN LR LR
comp=E,402nm,15.4s,MS4.4
XAN LR LR
comp=Z,452nm,16.0s,MS4.3
PMR Palmer 35.82 44 *e*P **P 21 44 44.1 -0.1**
comp=Z,20nm,1.1s,mb5.0
MCK McKinley 35.89 40 *e*P **P 21 44 44.4 -0.4**
MCK pmax pmax
comp=Z,27nm,1.2s,mb5.0
MCK McKinley 35.89 40 *e*P **P 21 44 44.4 -0.4**
comp=Z,27nm,1.2s,mb5.1
COLA College 36.38 38 *c i*P **P 21 44 47.9 -1.1**
COLA College 36.38 38 *e*P **P 21 44 49.0 -0.1**
comp=Z,19nm,0.8s,mb5.1
MID Middleton Isla 37.37 47 *e*P **P 21 45 00.2 +2.7**
DIV Divide 37.47 44 *e*P **P 21 44 58.4 +0.2**
comp=Z,39nm,1.2s,mb5.1
LZH Lanzhou 37.96 272 ⇑P **P 21 45 04.5 +1.8**
LZH AP pP 21 45 09.3 +2.0
LZH XP sP 21 45 11.6 +2.5
LZH PP PP 21 46 33.5 +4.1
LZH *e*S **S 21 50 50.3 -3.7**
LZH XS sS 21 51 01.8 +0.3
LZH SS SS 21 53 29.6 -11
LZH AMB AMB
comp=Z,56nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,286nm,6.3s
LZH LR LR
comp=E,566nm,13.5s
LZH LR LR
comp=Z,759nm,17.2s,MS4.6
MENT Mentasta 38.27 41 *e*P **P 21 45 05.0 0.0**
GTA Gaotai 39.09 280 ⇑P **P 21 45 13.5 +1.3**
GTA PP PP 21 46 46.6 +5.0
GTA PCP PcP 21 47 23.3 +1.5
GTA S **S 21 51 02.9 -8.1**
GTA SCP ScP 21 51 08.0 -1.5
GTA PCS PcS 21 51 12.7 +1.4
GTA AMB AMB
comp=Z,55nm,1.1s,mb5.2
GTA AMB AMB
comp=Z,222nm,4.9s
GTA LR LR
comp=N,499nm,13.7s,MS4.6
GTA LR LR
comp=E,394nm,13.7s,MS4.6
GTA LR LR
comp=Z,554nm,13.7s,MS4.5
EGAK Eagle 39.25 38 *e*P **P 21 45 12.5 -0.7**
comp=Z,20nm,0.9s,mb4.8
EGAK *e*pP pP 21 45 26.7 +8.9
DAWY Dawson 40.08 39 *e*P **P 21 45 19.0 -1.1**
CD2 Chengdu 40.91 266 P **P 21 45 28.8 +1.4**
CD2 AP pP 21 45 32.6 +0.6
CD2 XP sP 21 45 36.0 +2.2
CD2 PP PP 21 47 05.7 +4.1
CD2 PCP PcP 21 47 29.7 +2.0
CD2 S **S 21 51 38.4 0.0**
CD2 XS sS 21 51 45.8 -0.1
CD2 SS SS 21 54 34.4 -5.5
CD2 SCS ScS 21 55 30.8 -1.0
CD2 AMB AMB
comp=Z,90nm,0.8s,mb5.5
CD2 AMB AMB
comp=Z,120nm,4.8s
CD2 LR LR
comp=N,360nm,20.4s,MS4.5
CD2 LR LR
comp=E,510nm,20.4s,MS4.5
CD2 LR LR
comp=Z,420nm,16.8s,MS4.4
GYA Guiyang 41.70 258 ⇑*i*P **P 21 45 34.9 +1.0**
GYA AP pP 21 45 39.2 +0.7
GYA XP sP 21 45 42.3 +2.0
GYA PP PP 21 47 14.6 +4.4
GYA PCP PcP 21 47 32.6 +2.2
GYA SCP ScP 21 51 21.6 +1.7
GYA S **S 21 51 51.8 +1.6**
GYA SS SS 21 54 50.2 -5.4
GYA SCS ScS 21 55 36.7 0.0
GYA AMB AMB
comp=Z,20nm,0.9s,mb4.8
GYA LR LR
comp=N,580nm,19.2s,MS4.6
GYA LR LR
comp=E,490nm,20.0s,MS4.6
GYA LR LR
comp=Z,670nm,21.3s,MS4.5
INK Inuvik 41.93 32 *e*P **P 21 45 35.6 +0.4**
comp=Z,568nm,0.8s
INK Inuvik 41.93 32 P **P 21 45 35.6 +0.4**
comp=Z,18nm,0.8s,mb4.7,baz=293,slow=7.1,SNR=66
ZAA0 Zalesovo Array 42.87 306 *e*P **P 21 45 41.8 -1.3**
ZAA0 *e*PcP PcP 21 47 33.8 0.0
ZALV Zalesovo Beam 42.87 306 P **P 21 45 41.8 -1.4**
ZALV PcP PcP 21 47 33.9 +0.1
ZALV LR LR 22 04 43.6
ZALV Zalesovo Beam 42.87 306 P **P 21 45 41.8 -1.4**
comp=Z,9.4nm,0.7s,mb4.7,baz=61,slow=7.4,SNR=45
ZALV PcP PcP 21 47 33.9 +0.1
comp=Z,11nm,0.9s,baz=82,slow=3.1,SNR=13
ZALV LR LR 22 04 43.6
comp=Z,1μm,19.0s,MS4.7,baz=83,slow=38
ZAL Zalesovo 42.89 306 P **P 21 45 41.8 -1.5**
ZAL 21 47 33.9
NVS Novosibirsk 43.46 308 *e*P **P 21 45 46.2 -1.6**
NVS pmax pmax
comp=N,11nm,1.6s
NVS pmax pmax
comp=E,16nm,1.3s
NVS pmax pmax
comp=Z,21nm,1.3s,mb4.7
QIZ Qiongzhong 44.76 247 P **P 21 46 00.8 +2.1**
QIZ S **S 21 52 37.4 +2.2**
QIZ AMB AMB
comp=Z,18nm,1.4s,mb4.7
QIZ AMB AMB
comp=Z,125nm,6.7s
QIZ LR LR
comp=N,357nm,16.9s,MS4.5
QIZ LR LR
comp=E,262nm,17.4s,MS4.5
QIZ LR LR
comp=Z,287nm,17.4s,MS4.3
WMQ Urumqi 45.11 292 *e*P **P 21 46 02.0 +0.7**
WMQ XP sP 21 46 09.0 +1.3
WMQ PP PP 21 47 48.0 +1.4
WMQ S **S 21 52 40.0 +0.2**
WMQ SS SS 21 55 53.0 -8.9
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,78nm,4.0s
WMQ LR LR
comp=N,514nm,15.0s,MS4.7
WMQ LR LR
comp=E,356nm,15.0s,MS4.7
WMQ LR LR
comp=Z,509nm,15.0s,MS4.6
KMI Kunming 45.23 260 ⇑P **P 21 46 03.8 +1.4**
KMI AP pP 21 46 06.7 -0.4
KMI XP sP 21 46 07.6 -1.3
KMI PCP PcP 21 47 44.1 +1.8
KMI PP PP 21 47 49.1 +0.9
KMI PCS PcS 21 51 36.6 +0.3
KMI S **S 21 52 41.5 -0.5**
KMI AMB AMB
comp=Z,52nm,1.0s,mb5.3
KMI LR LR
comp=N,358nm,17.8s,MS4.5
KMI LR LR
comp=E,388nm,18.9s,MS4.5
KMI LR LR
comp=Z,349nm,14.2s,MS4.4
DLBC Dease Lake 45.81 46 *e*P **P 21 46 08.1 +1.6**
MK31 Makanchi Array 47.16 298 *i* P **P 21 46 16.6 -0.7**
MK31 pmax pmax
comp=Z,66nm,0.9s,mb5.6
MK31 Makanchi Array 47.16 298 *e*P **P 21 46 16.7 -0.7**
MKAR Makanchi Array 47.16 298 P **P 21 46 16.8 -0.5**
MKAR 21 47 48.3
MKAR pmax pmax
comp=Z,39nm,0.9s
MKAR MLR MLR
comp=Z,1μm,18.2s
MKAR Makanchi Array 47.16 298 P **P 21 46 16.8 -0.6**
MKAR PcP PcP 21 47 48.3 -0.5
MKAR LR LR 22 07 16.3
MKAR Makanchi Array 47.16 298 P **P 21 46 16.8 -0.6**
comp=Z,39nm,0.9s,mb5.3,baz=66,slow=7.3,SNR=204
MKAR PcP PcP 21 47 48.3 -0.4
comp=Z,6.5nm,0.9s,baz=74,slow=2.1,SNR=3.8
MKAR LR LR 22 07 16.3
comp=Z,1μm,18.2s,MS5.0,baz=68,slow=38
KURK Kurchatov 47.61 304 P **P 21 46 19.8 -1.0**
comp=Z,375nm,1.0s,SNR=46
KURK Kurchatov 47.61 304 *c i*P **P 21 46 19.4 -1.4**
KURK Kurchatov 47.61 304 *e*P **P 21 46 19.6 -1.2**
comp=Z,61nm,0.9s,mb5.6
KURK Kurchatov 47.61 304 P **P 21 46 19.9 -0.9**
SNR=21
KURK Kurchatov 47.61 304 P **P 21 46 19.9 -0.9**
SNR=21
KURK Kurchatov 47.61 304 P **P 21 46 19.9 -0.9**
SNR=21
KURK Kurchatov 47.61 304 P **P 21 46 19.9 -0.9**
SNR=21
KURK Kurchatov 47.61 304 P **P 21 46 19.9 -0.9**
SNR=21
ALE Alert 50.10 6 P **P 21 46 39.0 -0.5**
comp=Z,146nm,0.8s,SNR=16
LSA Lhasa 50.35 273 P **P 21 46 44.6 +2.5**
LSA S **S 21 53 59.8 +5.3**
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
LSA AMB AMB
comp=Z,330nm,3.0s
LSA LR LR
comp=N,150nm,16.0s,MS4.4
LSA LR LR
comp=E,230nm,16.0s,MS4.4
LSA LR LR
comp=Z,360nm,18.0s,MS4.4
LSA Lhasa 50.35 273 *e*P **P 21 46 44.3 +2.2**
LSA pmax pmax
comp=Z,26nm,0.7s,mb5.4
LSA Lhasa 50.35 273 *e*P **P 21 46 44.3 +2.2**
comp=Z,26nm,0.7s,mb5.4
CHRT Chiangrai 50.79 257 ⇑P **P 21 46 47.0 +1.5**
comp=Z,408nm,0.8s
NANT Nan 50.92 255 ⇓P **P 21 46 47.1 +0.6**
comp=Z,165nm,1.0s
BVAR Borovoye Array 51.13 310 P **P 21 46 46.6 -1.1**
BVAR 21 48 03.2
BVAR pmax pmax
comp=Z,9.0nm,0.5s
BVAR Borovoye Array 51.13 310 P **P 21 46 46.6 -1.0**
comp=Z,9.4nm,0.5s,mb5.0,baz=60,slow=8.8,SNR=70
BVAR PcP PcP 21 48 03.2 +0.1
comp=Z,4.9nm,0.7s,baz=93,slow=3.1,SNR=6.3
YKW3 Yellowknife Ar 51.14 36 *e*P **P 21 46 47.1 -0.5**
RES Resolute Bay 51.16 18 *e*P **P 21 46 47.7 +0.1**
comp=Z,611nm,0.8s
BRVK Borovoye 51.17 310 P **P 21 46 47.0 -1.0**
comp=Z,204nm,0.6s,SNR=11
BRVK Borovoye 51.17 310 *e*P **P 21 46 47.4 -0.6**
BRVK pmax pmax
comp=Z,29nm,0.8s,mb5.3
BRVK Borovoye 51.17 310 *e*P **P 21 46 47.4 -0.6**
comp=Z,29nm,0.8s,mb5.3
BRVK Borovoye 51.17 310 P **P 21 46 47.2 -0.7**
SNR=12
BRVK Borovoye 51.17 310 P **P 21 46 47.2 -0.7**
SNR=12
BRVK Borovoye 51.17 310 P **P 21 46 47.2 -0.7**
SNR=12
BRVK Borovoye 51.17 310 P **P 21 46 47.2 -0.7**
SNR=12
BRVK Borovoye 51.17 310 P **P 21 46 47.2 -0.7**
SNR=12
YKA Yellowknife Ar 51.18 37 P **P 21 46 47.7 -0.2**
YKA pmax pmax
comp=Z,12nm,0.9s
YKA MLR MLR
comp=Z,74nm,18.5s
YKA Yellowknife Ar 51.18 37 P **P 21 46 47.7 -0.1**
YKA LR LR 22 11 55.3
YKA Yellowknife Ar 51.18 37 P **P 21 46 47.7 -0.1**
comp=Z,12nm,0.9s,mb4.8,baz=298,slow=7.3,SNR=90
YKA LR LR 22 11 55.3
comp=Z,74nm,18.5s,MS3.7,baz=220,slow=40
KKTK Khon Kaen 51.27 251 P **P 21 46 50.5 +1.4**
KKM Kota Kinabalu 51.29 230 *e*P **P 21 46 48.2 -1.1**
ZRNK Zerenda 51.90 310 *i* P **P 21 46 52.1 -1.3**
ZRNK pmax pmax
comp=Z,17nm,0.6s,mb5.2
CHG Chiang Mai 52.09 257 ⇑P **P 21 46 56.7 +1.5**
comp=Z,108nm,0.9s
CHTO Chiang Mai 52.09 257 *e*P **P 21 46 56.8 +1.5**
comp=Z,48nm,0.9s,mb5.4
CHTO Chiang Mai 52.09 257 P **P 21 46 57.0 +1.8**
SNR=12
CHTO Chiang Mai 52.09 257 P **P 21 46 57.0 +1.8**
SNR=12
CHTO Chiang Mai 52.09 257 P **P 21 46 57.0 +1.8**
SNR=12
CHTO Chiang Mai 52.09 257 P **P 21 46 57.0 +1.8**
SNR=12
CHTO Chiang Mai 52.09 257 P **P 21 46 57.0 +1.8**
SNR=12
KBS Kingsbay 52.86 351 *e*P **P 21 46 59.5 -0.7**
KBS Kingsbay 52.86 351 *e*P **P 21 46 59.7 -0.6**
comp=Z,22nm,1.0s,mb5.0
ULHL Ulahol 53.17 295 P **P 21 47 03.5 +0.6**
SNR=73
TKM2 Tokmak 2 53.21 296 *e*P **P 21 47 03.5 +0.3**
TKM2 pmax pmax
comp=Z,22nm,0.9s,mb5.1
TKM2 Tokmak 2 53.21 296 *e*P **P 21 47 03.5 +0.3**
comp=Z,22nm,0.9s,mb5.1
TKM2 Tokmak 2 53.21 296 P **P 21 47 03.7 +0.4**
SNR=25
CHMS Chumysh 53.69 297 P **P 21 47 06.6 -0.2**
SNR=13
USP Ospenovka 53.70 297 P **P 21 47 07.1 +0.3**
SNR=121
KBK Karagaybulak 53.76 296 P **P 21 47 07.8 +0.5**
SNR=23
FRU Bishkek 53.86 297 ⇑*i*P **P 21 47 09.0 +1.0**
FRU pmax pmax
comp=Z,50nm,1.0s,mb5.4
FRU MLR MLR
comp=Z,1μm,17.0s,MS5.1
KZA Kyzart 53.88 296 P **P 21 47 09.8 +1.6**
SNR=43
AAK Ala-Archa 54.05 297 P **P 21 47 08.7 -0.7**
comp=Z,235nm,0.9s,SNR=28
AAK Ala-Archa 54.05 297 P **P 21 47 09.7 +0.3**
SNR=41
SVE Sverdlovsk 54.14 317 ⇑*e*P **P 21 47 09.4 -0.4**
SVE pmax pmax
comp=Z,30nm,0.9s,mb5.2
SVE MLR MLR
comp=Z,907nm,23.0s,MS4.8
UCH Uchtor 54.26 296 *e*P **P 21 47 11.3 +0.4**
comp=Z,7.1nm,0.9s,mb4.6
UCH Uchtor 54.26 296 P **P 21 47 11.8 +0.9**
SNR=7.1
EKS2 Erkin-Say 54.48 297 *e*P **P 21 47 12.9 +0.4**
comp=Z,35nm,0.8s,mb5.3
EKS2 Erkin-Say 54.48 297 P **P 21 47 12.9 +0.4**
SNR=60
AML Almayashu 54.82 297 *e*P **P 21 47 15.8 +0.7**
comp=Z,21nm,0.8s,mb5.2
AML Almayashu 54.82 297 P **P 21 47 16.2 +1.1**
SNR=28
KSH Kashi 54.84 293 *e*P **P 21 47 16.5 +1.3**
KSH *e*AP pP 21 47 21.1 +1.2
KSH *e*XP sP 21 47 23.4 +1.7
KSH *e*PCP PcP 21 48 18.5 +1.2
KSH *e*PP PP 21 49 19.3 +1.5
KSH *e*SCP ScP 21 52 15.2 0.0
KSH *e*PCS PcS 21 52 17.0 -0.1
KSH *e*S **S 21 54 54.1 -1.6**
KSH *e*XS sS 21 55 03.5 +0.1
KSH *e*SCS ScS 21 57 02.6 -1.2
KSH *e*SS SS 21 58 38.0 -0.5
KSH AMB AMB
comp=Z,267nm,1.7s
KSH LR LR
comp=N,855nm,6.6s
KSH LR LR
comp=E,1μm,9.9s
KSH LR LR
comp=Z,2μm,16.6s,MS5.3
JIRN Jiri 55.03 275 *e*P **P 21 47 18.8 +2.0**
comp=Z,14nm,0.2s,mb5.6
GUN Gumba 55.09 275 *e*P **P 21 47 18.9 +1.7**
A07A Ashnola River, 55.12 53 ⇑P **P 21 47 16.7 -0.3**
baz=55
ARU Arti 55.32 318 P **P 21 47 17.5 -0.9**
comp=Z,213nm,0.7s,SNR=8.7
ARU Arti 55.32 318 *c i*P **P 21 47 17.2 -1.2**
ARU pmax pmax
comp=Z,54nm,1.5s,mb5.4
ARU MLR MLR
comp=Z,500nm,20.0s,MS4.6
ARU Arti 55.32 318 *e*P **P 21 47 17.3 -1.1**
comp=Z,57nm,1.1s,mb5.5
KKN Kakani 55.58 276 *e*P **P 21 47 22.3 +1.6**
comp=Z,124nm,0.7s
B07A Winthrop 55.58 54 ⇓P **P 21 47 19.7 -0.7**
baz=55
PKI Pulchoki 55.63 275 *e*P **P 21 47 22.6 +1.6**
comp=Z,62nm,0.8s,mb5.7
A08A Turner Farm, O 55.78 53 ⇑P **P 21 47 21.5 -0.3**
baz=56
DMN Daman 55.81 276 *e*P **P 21 47 24.3 +1.9**
comp=Z,155nm,0.8s
GKN Gorkha 55.89 276 *e*P **P 21 47 24.6 +1.7**
comp=Z,8.2nm,0.9s,mb4.8
C07A Waterville 56.04 54 ⇓P **P 21 47 22.5 -1.2**
baz=56
B08A Colville Reser 56.07 53 ⇓P **P 21 47 23.1 -0.8**
baz=56
A09A Danville 56.15 52 P **P 21 47 24.4 0.0**
baz=56,SNR=6.3
KK31 Karatay Array 56.23 299 *i* P **P 21 47 24.2 -0.9**
KK31 pmax pmax
comp=Z,22nm,0.9s,mb5.2
DANN Dangsing 56.27 277 *e*P **P 21 47 27.9 +2.2**
comp=Z,169nm,0.6s
J02A Umpqua 56.41 60 ⇓P **P 21 47 25.7 -0.7**
baz=56
H04A Detroit Lake 56.49 58 ⇓P **P 21 47 26.6 -0.3**
baz=56
EDM Edmonton 56.52 46 *e*P **P 21 47 27.2 +0.1**
EDM Edmonton 56.52 46 *e*P **P 21 47 26.6 -0.5**
C08A Higginbotham F 56.55 54 ⇓P **P 21 47 26.6 -0.8**
baz=56
B09A Rice 56.69 53 ⇓P **P 21 47 27.7 -0.7**
baz=56
KOLN Koldanda 56.75 277 *e*P **P 21 47 30.8 +1.8**
comp=Z,172nm,0.9s
DAG Danmarks Havn 57.01 358 ⇓*i*P **P 21 47 29.3 -0.9**
DAG pmax pmax
comp=Z,19nm,0.8s,mb5.2
DAG Danmarks Havn 57.01 358 ⇓*i*P **P 21 47 29.3 -0.9**
comp=Z,19nm,0.8s,mb5.2
NEW Newport 57.35 53 *e*P **P 21 47 32.8 -0.2**
comp=Z,14nm,1.1s,mb4.9
A11A Hall Mountain, 57.37 52 ⇓P **P 21 47 32.6 -0.5**
baz=57
H06A Lindquist Farm 57.55 57 ⇓P **P 21 47 33.8 -0.6**
baz=57
B11A Sandpoint 57.66 52 ⇑P **P 21 47 35.0 -0.2**
baz=57
APA Apatity 57.69 337 ⇑*e*P **P 21 47 33.0 -2.1**
APA pmax pmax
comp=Z,18nm,1.0s,mb5.1
KEV Kevo 57.70 341 *e*p **P 21 47 32.7 -2.5**
comp=Z,5.8nm,0.5s,mb4.9
KEV Kevo 57.70 341 *e*P **P 21 47 32.7 -2.5**
KEV pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
BOK Bokaro 57.72 272 *e*P **P 21 47 36.3 +0.4**
BOK AMb AMB 21 47 39.2
comp=Z,41nm,1.3s,mb5.3
E09A Wood Farm, Sta 57.78 55 ⇑P **P 21 47 35.8 -0.3**
baz=58
J05A Fort Rock 57.85 59 ⇓P **P 21 47 36.8 +0.2**
baz=58
PTH Pithoragarh 57.95 281 *e*P **P 21 47 39.0 +1.5**
M02C Callahan 57.98 62 ⇓P **P 21 47 37.2 -0.3**
baz=58
G08A Pilot Rock 58.02 56 ⇑P **P 21 47 37.4 -0.4**
baz=58
I06A Prineville 58.08 58 ⇓P **P 21 47 37.7 -0.5**
baz=58
ARCES ARCESS Array B 58.21 341 P **P 21 47 38.7 -0.1**
ARCES pmax pmax
comp=Z,9.0nm,0.8s
ARCES MLR MLR
comp=Z,345nm,19.1s
ARCES ARCESS Array B 58.21 341 P **P 21 47 38.7 -0.1**
ARCES LR LR 22 16 01.4
ARCES ARCESS Array B 58.21 341 P **P 21 47 38.7 -0.1**
comp=Z,9.1nm,0.8s,mb4.9,baz=27,slow=7.2,SNR=24
ARCES LR LR 22 16 01.4
comp=Z,345nm,19.1s,MS4.5,baz=243,slow=40
M04C Macdoel 58.36 61 ⇑P **P 21 47 39.7 -0.5**
baz=58
E10A Myers Farm, Un 58.38 54 ⇓P **P 21 47 39.8 -0.4**
baz=58

F09A	S2 Ranch, Elgi	58.38	55	⇑P	P	21 47 39.6	-0.7
	baz=58						
K05A	Summer Lake	58.38	60	⇓P	P	21 47 40.0	-0.3
	baz=58						
I07A	Izee	58.41	58	⇑P	P	21 47 40.3	-0.2
	baz=58						
D11A	Klaveano Farm,	58.49	53	⇑P	P	21 47 40.2	-0.8
	baz=58						
J06A	Christmas Vall	58.51	59	⇑P	P	21 47 40.8	-0.5
	baz=58						
F10A	Beach Ranch, E	58.61	55	⇑P	P	21 47 41.1	-0.8
	baz=58						
WALA	Waterton Lakes	58.63	50	eP	P	21 47 42.2	+0.3
	comp=Z,14nm,1.1s,mb4.9						
H08A	Prairie City	58.64	57	⇓P	P	21 47 41.9	-0.2
	baz=58						
WDC	Whiskeytown Da	58.64	63	⇑P	P	21 47 42.2	0.0
	baz=58						
TMCR	Tamitsa	58.68	332	eP	P	21 47 39.8	-2.3
TMCR				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
G09A	Cove	58.71	56	⇑P	P	21 47 42.4	-0.1
	baz=58						
K06A	Valley Falls	58.72	59	⇓P	P	21 47 43.0	+0.3
	baz=58						
O02C	Red Bluff	58.73	63	⇓P	P	21 47 43.2	+0.4
	baz=58						
B13A	Whitefish	58.73	51	⇑P	P	21 47 42.2	-0.5
	baz=58,SNR=6.5						
L05A	Lakeview	58.81	60	⇑P	P	21 47 43.7	+0.3
	baz=59						
DDI	Dehra Dun	58.93	283	i P	P	21 47 45.4	+1.0
J07A	Hines	58.94	58	⇑P	P	21 47 44.5	+0.3
	baz=59						
E11A	Bogner Ranch,	58.96	54	⇑P	P	21 47 43.9	-0.4
	baz=59						
DLH	Dalhousie	58.96	286	eP	P	21 47 42.0	-2.5
AKTK	Aktyubinsk	59.01	312	P	P	21 47 43.9	-0.7
AKTO	Aktyubinsk	59.01	312	i P	P	21 47 43.3	-1.3
AKTO	Aktyubinsk	59.01	312	P	P	21 47 43.9	-0.7
	comp=Z,5.5nm,0.7s,mb4.7,baz=44,slow=6.1,SNR=14						
M05C	Lookout	59.03	61	⇓P	P	21 47 45.2	+0.3
	baz=59						
I08A	Drewsey	59.06	57	⇑P	P	21 47 45.4	+0.4
	baz=59						
G10A	Bishop Farm, J	59.08	55	⇑P	P	21 47 45.2	+0.1
	baz=59						
C13A	Hot Springs	59.08	52	⇑P	P	21 47 45.2	0.0
	baz=59						
H09A	Durkee	59.13	56	⇓P	P	21 47 45.0	-0.5
	baz=59						
HATC	Hat Creek Radi	59.16	62	⇓P	P	21 47 45.8	0.0
	baz=59						
MOD	Modoc	59.22	60	eP	P	21 47 46.3	+0.1
	comp=Z,14nm,1.1s,mb4.9						
MOD				epP	pP	21 47 58.0	+7.1
MOD	Modoc	59.22	60	⇓P	P	21 47 46.1	-0.1
	baz=59						
BMO	Blue Mountains	59.23	56	eP	P	21 47 46.8	+0.6
BMO				pmax	pmax		
	comp=Z,23nm,1.5s,mb5.0						
BMO	Blue Mountains	59.23	56	eP	P	21 47 46.8	+0.6
	comp=Z,23nm,1.5s,mb5.0						
F11A	Grangeville	59.27	54	⇓P	P	21 47 46.5	+0.1
	baz=59						
K07A	Rock Creek Ran	59.38	59	⇓P	P	21 47 47.1	-0.2
	baz=59						
J08A	Circle Bar Ran	59.44	58	⇑P	P	21 47 47.4	-0.2
	baz=59						
D13A	Huson	59.49	52	⇓P	P	21 47 47.6	-0.3
	baz=59,SNR=5.2						
G11A	Walters Elk Ra	59.49	55	⇓P	P	21 47 47.7	-0.3
	baz=59,SNR=10						
I09A	Lost Marbles R	59.50	57	⇑P	P	21 47 48.2	+0.1
	baz=59						
H10A	Noah's Angus R	59.71	56	⇑P	P	21 47 49.2	-0.3
	baz=60,SNR=9.4						
L07A	Adell	59.73	60	⇓P	P	21 47 49.7	+0.1
	baz=60						
K08A	Mann Creek Ran	59.81	58	⇑P	P	21 47 50.1	-0.1
	baz=60						
F12A	Elk City	59.85	54	⇑P	P	21 47 50.5	+0.1
	baz=60,SNR=17						
J09A	Fry Pan Ranch,	59.87	58	⇑P	P	21 47 50.4	-0.2
	baz=60,SNR=7.5						
WVOR	Wild Horse Val	59.90	59	eP	P	21 47 51.5	+0.7
WVOR				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
WVOR	Wild Horse Val	59.90	59	eP	P	21 47 51.5	+0.7
	comp=Z,12nm,1.1s,mb4.8						
MSO	Missoula	59.94	52	eP	P	21 47 51.5	+0.4
	comp=Z,9.7nm,1.0s,mb4.8						
D14A	Greenough	60.02	52	⇑P	P	21 47 51.4	-0.2
	baz=60,SNR=14						
E13A	Victor	60.03	53	⇑P	P	21 47 51.5	-0.2
	baz=60						
H11A	Donnelly	60.06	55	⇓P	P	21 47 51.9	0.0
	baz=60,SNR=5.5						
FARB	Farallon Islan	60.08	65	⇓P	P	21 47 52.7	+0.5
	baz=60						
N06A	Buffalo Meadow	60.19	61	⇓P	P	21 47 53.3	+0.4
	baz=60						
M07A	Soldier Meadow	60.21	60	⇓P	P	21 47 53.0	0.0
	baz=60						
L08A	Fields	60.22	59	⇑P	P	21 47 53.1	+0.1
	baz=60						
CHMT	Chamberlain Mo	60.26	52	eP	P	21 47 53.1	-0.2
CHMT				epP	pP	21 48 04.8	+6.7
K09A	Rome	60.27	58	⇑P	P	21 47 53.4	0.0
	baz=60,SNR=7.5						
F13A	Darby	60.35	54	P	P	21 47 53.8	-0.1
	baz=60,SNR=8.4						
BEKR	Beckwourth	60.41	62	⇑P	P	21 47 54.7	+0.3
	baz=60						
E14A	Clinton	60.43	53	P	P	21 47 54.8	+0.3
	baz=60,SNR=6.5						
NDI	New Delhi	60.53	282	eP	P	21 47 55.4	0.0
O06A	Flanigan	60.55	61	⇓P	P	21 47 55.9	+0.5
	baz=60						
D15A	Lincoln	60.58	52	⇓P	P	21 47 55.5	+0.1
	baz=60						
P05C	Yuba Gap, Truc	60.60	63	⇑P	P	21 47 55.9	+0.2
	baz=60						
M08A	Happy Creek Ra	60.64	60	⇓P	P	21 47 56.1	+0.1
	baz=60						
L09A	Wilkinson Ranc	60.72	59	⇑P	P	21 47 57.0	+0.6
	baz=60						
K10A	MacKenzie Ranc	60.73	58	⇑P	P	21 47 56.7	+0.1
	baz=60,SNR=10						
H12A	Diamond D Ranc	60.81	55	P	P	21 47 57.6	+0.6
	baz=61,SNR=6.0						
G13A	Cobalt	60.83	54	⇓P	P	21 47 57.1	-0.1
	baz=61,SNR=15						
F14A	Wisdom	60.87	53	⇓P	P	21 47 57.4	-0.1
	baz=61						
E15A	Deer Lodge	60.89	52	⇑P	P	21 47 57.4	-0.2
	baz=61,SNR=9.1						
MFID	Camas Ranch	60.94	56	⇓P	P	21 47 58.0	0.0
	baz=61						
KULM	Kulim	60.97	245	eP	P	21 47 59.5	+1.0
FFC	Flin Flon	60.98	40	P	P	21 47 58.4	+0.4
	comp=Z,158nm,0.8s,SNR=9.7						
FFC	Flin Flon	60.98	40	eP	P	21 47 57.9	-0.1
FFC				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.3						
FFC	Flin Flon	60.98	40	eP	P	21 47 57.9	-0.2
	comp=Z,22nm,0.9s,mb5.3						
PAHR	Pah Rah Range	61.10	62	eP	P	21 47 59.7	+0.6
	comp=Z,6.3nm,0.9s,mb4.8						
O07A	Toulon	61.13	61	⇓P	P	21 47 59.6	+0.3
	baz=61						
K11A	Parker Ranch,	61.22	57	⇓P	P	21 47 59.7	-0.1
	baz=61						
R05C	Kirkwood Meado	61.29	63	⇑P	P	21 48 00.4	0.0
	baz=61						
F15A	Butte	61.33	53	⇓P	P	21 48 00.4	-0.2
	baz=61,SNR=7.1						
LRM	Limekiln Ridge	61.37	53	eP	P	21 48 01.2	+0.4
L10A	Juniper Basin	61.39	58	⇓P	P	21 48 01.0	0.0
	baz=61						
BLSP	Bilaspur	61.41	273	eP	P	21 48 00.9	-0.5
EGMT	Eagleton	61.45	49	eP	P	21 48 00.1	-1.2
	comp=Z,25nm,1.2s,mb5.2						
J12A	Stokes Ranch,	61.47	56	⇑P	P	21 48 01.4	-0.1
	baz=61,SNR=7.3						
CMB	Columbia Colle	61.51	64	eP	P	21 48 02.4	+0.4
	comp=Z,6.6nm,1.0s,mb4.7						
CMB	Columbia Colle	61.51	64	⇓P	P	21 48 02.0	+0.1
	baz=61						
N09A	Rock Creek Ran	61.52	60	⇑P	P	21 48 01.7	-0.2
	baz=61						
FCC	Fort Churchill	61.53	33	eP	P	21 48 00.8	-0.9
FCC				pmax	pmax		
	comp=Z,17nm,1.1s,mb5.1						
FCC	Fort Churchill	61.53	33	eP	P	21 48 00.8	-0.9
	comp=Z,17nm,1.1s,mb5.1						
DLMT	Dillon	61.57	53	eP	P	21 48 01.9	-0.3
	comp=Z,18nm,1.5s,mb5.0						
PACP	Pacheco Peak	61.58	65	⇑P	P	21 48 03.0	+0.6
	baz=61						
I13A	Wildhorse Cree	61.62	55	⇓P	P	21 48 02.6	+0.1
	baz=61,SNR=14						
HLID	Hailey	61.66	56	P	P	21 48 03.5	+0.7
	baz=61,SNR=7.9						
JOF	Joensuu	61.68	334	ep	P	21 48 01.0	-1.7
	comp=Z,7.4nm,0.5s,mb5.1						
JOF	Joensuu	61.68	334	eP	P	21 48 01.0	-1.7
JOF				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
M10A	I.L. Ranch, Tu	61.69	59	P	P	21 48 04.2	+1.1
	baz=62,SNR=6.1						
L11A	Cat Creek Ranc	61.75	58	P	P	21 48 04.1	+0.6
	baz=62,SNR=11						
G15A	Dillon	61.76	53	⇓P	P	21 48 03.9	+0.4
	baz=62						
MCMT	McKenzie Canyo	61.77	54	eP	P	21 48 03.2	-0.3
R06C	Coleville	61.79	63	⇓P	P	21 48 04.6	+0.9
	baz=62						
WAKR	Walker	61.81	63	eP	P	21 48 04.8	+0.9
LOF	Lofoten	61.87	344	eP	P	21 48 05.7	+1.9
LOF				AMb	AMB	21 48 10.3	
	comp=Z,104nm,1.5s,mb5.7						
LOF	Lofoten	61.87	344	eP	P	21 48 05.7	+1.9
	comp=Z,104nm,1.5s,mb5.7						
J13A	Cove Ranch, Pi	61.90	56	P	P	21 48 05.2	+0.8
	baz=62,SNR=5.8						
BOZ	Bozeman (W)	61.93	52	eP	P	21 48 04.8	+0.2
BOZ				pmax	pmax		
	comp=Z,29nm,1.4s,mb5.2						
BOZ	Bozeman (W)	61.93	52	eP	P	21 48 04.8	+0.2
	comp=Z,29nm,1.4s,mb5.2						
BOZ	Bozeman (W)	61.93	52	⇑P	P	21 48 04.5	-0.1
	baz=62						
K12A	Draper Farm, C	61.96	57	⇓P	P	21 48 05.5	+0.6
	baz=62						
S05C	Merced	61.97	64	⇑P	P	21 48 05.4	+0.4
	baz=62						
O09A	Fish Creek Ran	62.14	60	⇑P	P	21 48 06.7	+0.6
	baz=62						
M11A	Holland Ranch,	62.19	58	⇓P	P	21 48 06.7	+0.3
	baz=62,SNR=6.2						
L12A	House Creek Ra	62.20	57	⇑P	P	21 48 06.5	0.0
	baz=62,SNR=7.8						
KBL	Kabul	62.26	292	eP	P	21 48 06.5	-0.5
	comp=Z,71nm,0.9s						
Q08A	Gabbs	62.51	62	P	P	21 48 09.3	+0.7
	baz=62,SNR=6.4						
NVAR	Mina Array Bea	62.55	62	P	P	21 48 09.1	+0.2
NVAR	Mina Array Bea	62.55	62	P	P	21 48 09.1	+0.2
	comp=Z,3.4nm,0.8s,mb4.5,baz=295,slow=6.6,SNR=19						
QLMT	Earthquake Lak	62.55	53	eP	P	21 48 07.9	-0.8
T06C	Millerton Lake	62.57	64	⇓P	P	21 48 09.1	0.0
	baz=62						
KCC	Kaiser Creek	62.62	64	⇑P	P	21 48 09.5	+0.1
	baz=62						
V04C	Ramage Ranch,	62.70	66	⇓P	P	21 48 09.9	0.0
	baz=62						
M12A	Wells	62.71	58	⇑P	P	21 48 10.1	+0.2
	baz=62						
L13A	Double Diamond	62.85	57	⇓P	P	21 48 11.5	+0.6
	baz=63						
P10A	Eureka	62.92	60	⇑P	P	21 48 11.9	+0.6
	baz=63						
N12A	Clover Valley,	62.99	58	⇑P	P	21 48 11.8	0.0
	baz=63						
K14A	Jones Ranch, D	63.01	56	⇓P	P	21 48 12.1	+0.2
	baz=63						
O11A	Cowboy Ranch,	63.08	59	⇑P	P	21 48 13.1	+0.7
	baz=63						
YFT	Old Faithful	63.12	53	eP	P	21 48 13.7	+1.1
M13A	Montello	63.19	57	⇓P	P	21 48 13.4	+0.3
	baz=63						
HELL	Mitchell Peak	63.20	64	P	P	21 48 13.2	0.0
	baz=63,SNR=6.4						
S08C	White Mtn Res	63.22	63	⇑P	P	21 48 13.6	+0.3
	baz=63						
MOR8	Moi Rana	63.38	343	eP	P	21 48 12.2	-1.8
MOR8				AMb	AMB	21 48 14.1	
	comp=Z,99nm,1.1s						
MOR8	Moi Rana	63.38	343	eP	P	21 48 12.2	-1.8
	comp=Z,99nm,1.1s						
IMW	Indian Meadow	63.41	54	eP	P	21 48 14.8	+0.3
	comp=Z,16nm,1.0s,mb5.1						
FLWY	Flagg Ranch	63.43	53	eP	P	21 48 15.9	+1.3
	comp=Z,11nm,0.9s,mb5.0						
Q10A	Clear Creek Ra	63.46	61	⇑P	P	21 48 15.5	+0.6
	baz=63						
N13A	Wendover, West	63.48	58	⇑P	P	21 48 15.1	0.0
	baz=63						
O12A	Currie	63.54	59	⇑P	P	21 48 15.5	+0.1
	baz=63,SNR=9.1						
VIS	Vishakhapatnam	63.55	268	eP	P	21 48 16.4	+0.6
VIS				AMb	AMB	21 48 18.8	
	comp=Z,49nm,1.0s,mb5.5						
M14A	Sheep Mountain	63.57	57	⇓P	P	21 48 15.6	0.0
	baz=63						
MOOW	Moose Ponds	63.62	54	eP	P	21 48 16.7	+0.8
	comp=Z,12nm,1.1s,mb4.8						
TPAW	Teton Pass	63.67	54	eP	P	21 48 17.7	+1.5
	comp=Z,37nm,1.1s,mb5.3						
AJM	Ajmer	63.69	281	eP	P	21 48 16.4	-0.2
HVU	Hansel Valley	63.73	56	eP	P	21 48 16.1	-0.5
	comp=Z,8.8nm,1.0s,mb4.7						
HVU				epP	pP	21 48 28.1	+6.8
SNOW	Snow King Moun	63.80	54	eP	P	21 48 18.6	+1.5
	comp=Z,19nm,1.0s,mb5.1						
REDW	Red Top Meadow	63.80	54	eP	P	21 48 17.6	+0.5
	comp=Z,31nm,1.1s,mb5.2						
PKM	Peak Mountain	63.84	66	⇓P	P	21 48 17.4	-0.1
	baz=64						
R10A	Warm Springs	63.86	61	⇑P	P	21 48 18.2	+0.6
	baz=64						
Q11A	Duckwater	63.90	60	⇓P	P	21 48 18.3	+0.5
	baz=64						
S10A	Tonopah Range,	63.91	62	⇑P	P	21 48 17.9	0.0
	baz=64						
BHPL	Bhopal	63.92	277	eP	P	21 48 18.7	+0.6
P12A	McGill	63.95	59	⇓P	P	21 48 18.7	+0.6
	baz=64						
N14A	Grayback Hills	64.08	57	⇓P	P	21 48 18.9	-0.1
	baz=64						
M15A	Larsen Ranch,	64.12	56	⇑P	P	21 48 19.1	-0.1
	baz=64,SNR=14						
NGP	Nagpur	64.19	274	eP	P	21 48 20.8	+0.8
NGP				AMb	AMB	21 48 22.0	
	comp=Z,68nm,1.1s,mb5.6						
SPUT	South Promonto	64.21	57	eP	P	21 48 20.1	+0.2
R11A	Troy Canyon, C	64.25	61	⇓P	P	21 48 20.6	+0.4
	baz=64						
FIA1	FINESS Array S	64.39	335	eP	P	21 48 19.7	-0.9
FINES	FINESS Array B	64.39	335	i P	P	21 48 20.1	-0.6
FINES				pmax	pmax		
	comp=Z,28nm,0.7s						
FINES	FINESS Array B	64.39	335	P	P	21 48 19.8	-0.9
	comp=Z,28nm,0.7s,mb5.4,baz=36,slow=8.0,SNR=191						
FINES				LR	LR	22 19 13.1	
	comp=Z,353nm,19.1s,MS4.6,baz=202,slow=39						
N15A	Stansbury Isla	64.44	57	⇑P	P	21 48 21.1	-0.2
	baz=64						
P13A	Bates Ranch, G	64.49	59	⇓P	P	21 48 21.2	-0.4
	baz=64						
HWUT	Hardware Ranch	64.53	56	eP	P	21 48 21.9	0.0
	comp=Z,14nm,1.1s,mb4.9						
HWUT				epP	pP	21 48 33.4	+6.7
MPMC	Manual Prospec	64.55	64	P	P	21 48 22.5	+0.3
	baz=64,SNR=13						
S11A	Rachel	64.61	61	⇓P	P	21 48 22.7	+0.2
	baz=64						
FURC	Furnace Creek,	64.68	63	⇑P	P	21 48 23.2	+0.3
	baz=64						
DUG	Dugway	64.72	58	eP	P	21 48 23.8	+0.6
	comp=Z,9.8nm,0.7s,mb5.0						
TPNV	Topopah Spring	64.75	62	eP	P	21 48 23.8	+0.4
TPNV				pmax	pmax		
	comp=Z,17nm,1.2s,mb5.0						
TPNV	Topopah Spring	64.75	62	eP	P	21 48 23.8	+0.3
	comp=Z,17nm,1.2s,mb5.0						
MOS	Moscow	64.77	326	eP	P	21 48 22.0	-1.2
R12A	Pony Springs,	64.86	60	⇓P	P	21 48 24.3	+0.2
	baz=65						
BW06	Boulder Array	64.91	54	eP	P	21 48 24.1	-0.3
	comp=Z,12nm,1.0s,mb4.9						
EDW2	Edwards Air Fo	65.00	65	⇑P	P	21 48 24.9	-0.2
	baz=65,SNR=6.4						
S12A	Delamar Landin	65.18	61	⇓P	P	21 48 26.3	+0.1
	baz=65						
T11A	Corn Creek, Al	65.19	62	⇓P	P	21 48 26.3	0.0
	baz=65,SNR=6.9						
JLU	Jordanelle	65.25	57	eP	P	21 48 27.0	+0.4
NLU	North Lily Min	65.31	57	eP	P	21 48 27.5	+0.5
GSC	Goldstone	65.47	64	eP	P	21 48 28.6	+0.5
GSC	Goldstone	65.47	64	eP	P	21 48 27.6	-0.5
	comp=Z,12nm,1.3s,mb4.8						
GSC	Goldstone	65.47	64	⇑P	P	21 48 28.3	+0.2
	baz=65						
DAU	Daniels Canyon	65.48	57	eP	P	21 48 28.8	+0.7
DAU				e*PP	pP	21 48 42.2	+9.3
DAU	Daniels Canyon	65.48	57	eP	P	21 48 28.5	+0.3
OBN	Obninsk	65.64	326	d iP	P	21 48 27.8	-1.1
OBN				e		21 49 00.0	
OBN				e		21 50 51.8	
OBN				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.1						
OBN				MLR	MLR		
	comp=Z,600nm,20.0s,MS4.8						
SHPR	Sheep Range	65.70	62	eP	P	21 48 30.2	+0.6
S13A	Holt Ranch, En	65.79	60	⇓P	P	21 48 30.0	-0.1
	baz=66,SNR=8.5						
AKL	Akola	65.89	275	eP	P	21 48 32.1	+1.0
AKL				AMb	AMB	21 48 33.3	
	comp=Z,50nm,1.1s,mb5.5						
TUQ	Turquoise Mtn.	65.93	63	⇓P	P	21 48 30.9	-0.2
	baz=66						
CCUT	Cedar City	66.11	60	eP	P	21 48 32.9	+0.6
T13A	Saint George	66.13	61	⇑P	P	21 48 32.7	+0.3
	baz=66						
MSU	Marysvale	66.19	59	eP	P	21 48 33.6	+0.9
MSU	Marysvale	66.19	59	eP	P	21 48 33.1	+0.4
V12A	Nelson	66.40	63	⇑P	P	21 48 34.0	-0.1
	baz=66						
U13A	Pakoon Wash	66.49	61	⇑P	P	21 48 34.4	-0.2
	baz=66,SNR=7.2						
GMRC	Granite Mounta	66.52	64	⇑P	P	21 48 35.3	+0.4
	baz=66						
VSU	Vasula	66.56	333	c iP	P	21 48 34.2	-0.6
T14A	Hurricane	66.60	60	⇓P	P	21 48 35.6	+0.2
	baz=66						
W12A	Cal Nev Ari	66.67	63	⇑P	P	21 48 35.9	+0.1
	baz=66						
ULM	Lac du Bonnet	66.76	41	P	P	21 48 35.3	-0.8
	comp=Z,5.9nm,0.8s,mb4.7,baz=321,slow=7.1,SNR=12						
SRU	San Rafael	66.76	57	eP	P	21 48 36.8	+0.4
SRU	San Rafael	66.76	57	eP	P	21 48 36.6	+0.2
	comp=Z,12nm,0.9s,mb4.9						
ABKT	Ailbek	66.84	301	P	P	21 48 37.7	+0.8
	comp=Z,141nm,0.9s,SNR=8.4						
V13A	Grand Canyon W	66.85	62	⇑P	P	21 48 36.9	-0.1
	baz=67,SNR=11						
U14A	Mt Trumbull	66.96	61	⇑P	P	21 48 37.6	-0.1
	baz=67,SNR=7.5						
T15A	Red Dirt Ranch	67.05	60	⇑P	P	21 48 38.2	0.0
	baz=67						
HYB	Hyderabad	67.06	271	eP	P	21 48 39.0	+0.4
HYB	Hyderabad	67.06	271	⇑i P	P	21 48 39.0	+0.4
IRM	Iron Mountain	67.24	64	⇑P	P	21 48 39.4	-0.1
	baz=67						
BC3	Big Chuckw Mtn	67.39	65	⇑P	P	21 48 39.5	-0.9
	baz=67						
W13A	Hualapai Mount	67.41	62	⇓P	P	21 48 40.1	-0.4
	baz=67						
VRSR	Storozhevoye	67.42	322	eP	P	21 48 39.6	-0.7
VRSR				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
VRSR				pmax	pmax		
	comp=N,1.0nm,0.4s						
VRSR				pmax	pmax		
	comp=E,2.0nm,1.0s						
V14A	Boquillas Ranc	67.53	62	⇑P	P	21 48 40.9	-0.3
	baz=67,SNR=9.0						
VORD	Divnogorie	67.56	321	eP	P	21 48 40.4	-0.8
VORD				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
VORD				pmax	pmax		
	comp=N,10.0nm,1.0s						
VORD				pmax	pmax		
	comp=E,10.0nm,1.2s						
T16A	Glen Canyon Da	67.60	60	⇑P	P	21 48 40.7	-1.0
	baz=67						
X13A	Yucca	67.77	63	P	P	21 48 42.8	0.0
	baz=68,SNR=7.5						
PDMCI	Parker Dam,Lak	67.78	63	⇑P	P	21 48 42.9	0.0
	baz=68						
W14A	Seligman	67.82	62	P	P	21 48 43.9	+0.7
	baz=68,SNR=7.4						
V15A	Kaibab Nationa	67.97	61	P	P	21 48 45.0	+1.0
	baz=68,SNR=11						
MOL	Molde	67.98	344	eP	P	21 48 44.2	+0.5
MOL				AMb	AMB	21 48 46.0	
	comp=Z,42nm,1.2s,mb5.3						
MOL	Molde	67.98	344	eP	P	21 48 44.2	+0.5
	comp=Z,42nm,1.2s,mb5.3						
PV10	Paradox Valley	68.12	57	eP	P	21 48 43.9	-1.1
PV10				epP	pP	21 48 57.1	+7.3
AGMN	Agassiz Refuge	68.16	42	eP	P	21 48 44.0	-1.1
	comp=Z,35nm,1.5s,mb5.2						
WRAB	Tennant Creek	68.18	199	eP	P	21 48 44.5	-0.8
WRAB	Tennant Creek	68.18	199	eP	P	21 48 44.1	-1.3
	comp=Z,14nm,1.0s,mb5.0						
GLA	Glamis	68.18	65	eP	P	21 48 46.0	+0.6
GLA	Glamis	68.18	65	eP	P	21 48 45.4	0.0
	comp=Z,11nm,0.9s,mb4.9						
GLA	Glamis	68.18	65	⇑P	P	21 48 45.7	+0.3
	baz=68						
WB2	Warramunga Arr	68.19	199	eP	P	21 48 44.2	-1.2
WRA	Warramunga Arr	68.19	199	i P	P	21 48 44.2	-1.2
WRA				pmax	pmax		
	comp=Z,4.0nm,1.0s						
WRA	Warramunga Arr	68.19	199	P	P	21 48 44.2	-1.2
	comp=Z,4.3nm,0.9s,mb4.5,baz=16,slow=6.8,SNR=17						
W15A	Williams	68.34	61	⇓P	P	21 48 46.9	+0.5
	baz=68						
X14A	Yava	68.43	62	⇓P	P	21 48 46.9	-0.1
	baz=68,SNR=5.5						
PV01	Paradox Valley	68.55	57	eP	P	21 48 47.6	-0.1
NB2	NORSAR Subarra	68.59	341

comp=Z,27nm,0.8s,mb5.2
MAK MLR MLR
comp=Z,1µm,17.0s,MS5.2
X16A Lo Mia Camp, P 69.36 62 ⇊P P 21 48 53.0 +0.3
baz=69,SNR=7.6
HYA Hoyanger 69.53 344 *e*P **P 21 48 54.1 +0.7**
HYA AMb AMB 21 48 57.5
comp=Z,67nm,1.5s,mb5.3
HYA Hoyanger 69.53 344 *e*P **P 21 48 54.1 +0.7**
comp=Z,67nm,1.5s,mb5.3
POO Poona 69.55 276 *e*P **P 21 48 54.4 +0.3**
Y16A Circle Bar Ran 69.70 62 ⇊P P 21 48 55.2 +0.3
baz=70,SNR=6.4
Z16A Peralta Trail, 70.09 62 ⇊P P 21 48 57.9 +0.6
baz=70
KAD Karad 70.16 274 *i* P **P 21 48 58.3 +0.4**
X18A Snowflake 70.18 61 ⇊P P 21 48 58.2 +0.3
baz=70
KONO Kongsberg 70.20 341 P **P 21 48 57.7 +0.2**
KONO pmax pmax
comp=Z,33nm,0.8s,mb5.3
KONO Kongsberg 70.20 341 *e*P **P 21 48 56.8 -0.6**
comp=Z,33nm,0.8s,mb5.3
Y17A Roosevelt 70.21 62 ⇊P P 21 48 58.1 +0.1
baz=70,SNR=8.4
RUND Rundenannen 70.38 344 *e*P **P 21 49 01.0 +2.5**
RUND AMb AMB 21 49 03.2
comp=Z,82nm,1.0s,mb5.6
RUND Rundenannen 70.38 344 *e*P **P 21 49 01.0 +2.5**
comp=Z,82nm,1.0s,mb5.6
EYMN Ely 70.41 40 *e*P **P 21 48 57.7 -1.2**
comp=Z,16nm,1.1s,mb4.8
SDCO Great Sand Dun 70.59 56 *e*P **P 21 49 00.5 +0.3**
comp=Z,3.8nm,1.0s,mb4.3
ODD1 Odda 70.59 343 *e*P **P 21 48 59.2 -0.7**
ODD1 AMb AMB 21 49 01.4
comp=Z,63nm,0.9s,mb5.5
ODD1 Odda 70.59 343 *e*P **P 21 48 59.2 -0.7**
comp=Z,63nm,0.9s,mb5.5
X19A St. Johns 70.65 60 ⇊P P 21 49 01.0 +0.3
baz=70,SNR=14
Y19A Nutrioso 70.99 61 ⇑P P 21 49 02.7 -0.1
baz=71,SNR=9.9
117A Oracle 71.04 63 ⇊P P 21 49 03.3 +0.2
baz=71,SNR=7.7
BLS5 Blasjo 71.07 343 *e*P **P 21 49 03.6 +0.8**
BLS5 AMb AMB 21 49 05.7
comp=Z,31nm,0.8s,mb5.3
BLS5 Blasjo 71.07 343 *e*P **P 21 49 03.6 +0.8**
comp=Z,31nm,0.8s,mb5.3
KIV Kislovodsk 71.09 314 P **P 21 49 04.9 +1.7**
comp=Z,134nm,1.9s,mb5.5,SNR=6.4
KIV Kislovodsk 71.09 314*c i*P **P 21 49 03.7 +0.5**
KIV pmax pmax
comp=Z,50nm,1.7s,mb5.2
KIV Kislovodsk 71.09 314 *e*P **P 21 49 04.5 +1.3**
comp=Z,24nm,0.9s,mb5.1
KIV Kislovodsk 71.09 314 P **P 21 49 04.3 +1.1**
SNR=13
KIV Kislovodsk 71.09 314 P **P 21 49 04.3 +1.1**
SNR=13
KIV Kislovodsk 71.09 314 P **P 21 49 04.3 +1.1**
SNR=13
KIV Kislovodsk 71.09 314 P **P 21 49 04.3 +1.1**
SNR=13
KIV Kislovodsk 71.09 314⇑*i*P **P 21 49 03.9 +0.7**
ECSD EROS,Sioux Fal 71.09 46 *e*P **P 21 49 02.3 -1.0**
comp=Z,18nm,1.0s,mb4.9
SUW Suwalki 71.34 332 *e*P **P 21 49 03.3 -1.2**
Z19A T-Link Ranch, 71.44 61 ⇊P P 21 49 05.2 -0.3
baz=71
118A Homack Ranch, 71.46 62 ⇑P P 21 49 05.5 -0.2
baz=71,SNR=15
KMY Karmoy 71.51 343 *e*P **P 21 49 06.8 +1.3**
KMY AMb AMB 21 49 08.1
comp=Z,63nm,0.9s,mb5.6
KMY Karmoy 71.51 343 *e*P **P 21 49 06.8 +1.3**
comp=Z,63nm,0.9s,mb5.5
217A Green Valley 71.54 63 ⇑P P 21 49 06.1 0.0
baz=71
MTA Mtatsminda 71.67 312 P **P 21 49 07.7 +1.0**
TBLG Delisi 71.67 312 P **P 21 48 58.2 -8.6**
ONI Oni 71.71 313 P **P 21 49 08.1 +1.1**
119A Ashpeak Ranch, 71.78 62 ⇑P P 21 49 07.3 -0.3
baz=72
GOR Gori 71.81 312 P **P 21 49 09.9 +2.3**
218A Dragoon 71.88 63 ⇑P P 21 49 07.7 -0.4
baz=72,SNR=10
AKASG Malin Array Be 71.88 326 P **P 21 49 07.1 -0.7**
AKASG pmax pmax
comp=Z,36nm,0.5s
AKASG MLR MLR
comp=Z,317nm,19.3s
AKASG Malin Array Be 71.88 326 P **P 21 49 07.1 -0.8**
AKASG LR LR 22 22 52.6
AKASG Malin Array Be 71.88 326 P **P 21 49 07.1 -0.8**
comp=Z,36nm,0.5s,mb5.5,baz=34,slow=6.3,SNR=258
AKASG LR LR 22 22 52.6
comp=Z,317nm,19.2s,MS4.6,baz=35,slow=38
AKBB Malin Array Si 71.88 326 *e*P **P 21 49 07.0 -0.8**
ASAR Alice Springs 71.88 199 P **P 21 49 08.3 +0.3**
ASAR pmax pmax
comp=Z,4.0nm,0.9s
ASAR Alice Springs 71.88 199 P **P 21 49 08.3 +0.3**
comp=Z,4.0nm,0.9s,mb4.3,baz=15,slow=5.7,SNR=32
KIEV Kiev 71.89 326 P **P 21 49 07.2 -0.7**
KIEV pmax pmax
comp=Z,67nm,0.8s,mb5.6
KIEV Kiev 71.89 326 *e*P **P 21 49 06.7 -1.2**
comp=Z,67nm,0.8s,mb5.6
LAZ Ladron 71.95 59 *e*P **P 21 49 08.7 +0.2**
ANMO Albuquerque 71.97 58 *e*P **P 21 49 09.1 +0.4**
comp=Z,19nm,1.4s,mb4.8
318A Bisbee 72.28 63 ⇑P P 21 49 10.6 +0.1
baz=72,SNR=8.7
219A White Tail Can 72.34 62 ⇊P P 21 49 10.5 -0.4
baz=72,SNR=15
BNM Barren Site 72.43 59 *e*P **P 21 49 11.0 -0.5**
BNM *ep*P pP 21 49 23.8 +7.5
PALK Pallekele 72.70 262 *e*P **P 21 49 13.6 +0.3**
comp=Z,34nm,1.0s,mb5.2
PALK *ep*P pP 21 49 25.2 +7.1
319A Douglas 72.76 63 ⇊P P 21 49 13.5 +0.1
baz=72,SNR=13
GNI Garni 72.81 310*c i*P **P 21 49 14.6 +1.0**
GNI pmax pmax
comp=Z,56nm,1.5s
GNI MLR MLR
comp=Z,500nm,18.0s
GNI Garni 72.81 310 *e*P **P 21 49 15.3 +1.7**
comp=Z,33nm,0.9s,mb5.3
GNI Garni 72.81 310 P **P 21 49 15.9 +2.3**
SNR=14
GNI Garni 72.81 310 P **P 21 49 15.9 +2.3**
SNR=14
GNI Garni 72.81 310 P **P 21 49 15.9 +2.3**
SNR=14
SOC Sochi 72.82 316*c i*P **P 21 49 13.6 0.0**
SOC *e* 21 49 31.0
SOC *e*S S 21 58 39.5 +0.7
SOC *e* 21 59 23.3
SOC *e*SS SS 22 03 17.4 -0.4
SOC *e*SSS 22 06 30.6
SOC pmax pmax
comp=Z,42nm,0.9s,mb5.4
SOC pmax pmax
comp=Z,157nm,2.1s,mb5.6
SOC MLR MLR
comp=Z,630nm,19.0s,MS4.9
KOD Kodaikanal 72.82 267 *e*P **P 21 49 14.6 +0.6**
KOD AMb AMB 21 49 19.2
comp=Z,50nm,1.3s,mb5.3
BSD Bornholm Skovb 72.91 336 *i* P **P 21 49 13.2 -0.7**
BSD pmax pmax
comp=Z,41nm,1.0s,mb5.3
BSD Bornholm Skovb 72.91 336 *i* P **P 21 49 13.2 -0.7**
comp=Z,41nm,1.0s,mb5.3
ANN Anapa 72.99 318 *e*P **P 21 49 13.7 -0.8**
ANN *e*S S 21 58 42.5 +1.8
ANN pmax pmax
comp=Z,61nm,1.7s,mb5.2
CBKS Cedar Bluff 73.03 51 P **P 21 49 15.6 +0.7**
CBKS pmax pmax
comp=Z,29nm,1.0s,mb5.2
COP Copenhagen 73.07 338 *e*P **P 21 49 09.2 -5.6**
COP pmax pmax
comp=Z,30nm,0.8s,mb5.3
COP Copenhagen 73.07 338 *i* P **P 21 49 09.2 -5.6**
comp=Z,30nm,0.8s,mb5.3
SCHQ Schefferville 73.62 23 P **P 21 49 17.2 -0.8**
comp=Z,3.6nm,0.7s,mb4.4,baz=18,slow=9.6,SNR=2.0
SCHQ LR LR 22 25 37.8
comp=Z,125nm,18.4s,MS4.2,baz=105,slow=39
SIM Simferopol' 74.38 320*c i*P **P 21 49 22.8 +0.1**
SIM pmax pmax
comp=Z,43nm,0.9s,mb5.4
SIM MLR MLR
comp=Z,500nm,20.0s,MS4.8
LVV L'vov 74.53 329 *e*P **P 21 49 22.2 -1.3**
AMTX Amarillo 74.79 55 *e*P **P 21 49 24.7 -0.5**
comp=Z,19nm,1.0s,mb5.0
MNTX Cornudas Mount 74.90 60 *e*P **P 21 49 24.7 -1.3**
comp=Z,12nm,1.3s,mb4.7
KIS Kishinev 75.01 324 *e*P **P 21 49 25.0 -1.3**
KIS *e* 21 49 36.0
KIS *e* 21 49 39.0
KIS pmax pmax
comp=Z,140nm,1.2s
KIS MLR MLR
comp=Z,700nm,16.0s,MS5.0
KIS MLR MLR
comp=N,500nm,17.0s
KIS MLR MLR
comp=Z,700nm,17.0s
KIS Kishinev 75.01 324 *e*P **P 21 49 25.0 -1.3**
comp=Z,100nm,1.2s,mb5.6
KIS LRM 22 25 32.0
comp=Z,700nm,17.0s
KWP Kalwaria 75.16 329 *e*P **P 21 49 27.6 +0.4**
KWP Kalwaria 75.16 329 *e*P **P 21 49 27.6 +0.4**
KWP Kalwaria 75.16 329⇑*i*P **P 21 49 27.7 +0.5**
BSEG Bad Segeberg 75.19 338 *e*P **P 21 49 27.2 0.0**
BSEG pmax pmax
comp=Z,35nm,0.9s,mb5.3
BSEG Bad Segeberg 75.19 338 *e*P **P 21 49 27.2 0.0**
comp=Z,35nm,0.9s,mb5.3
IAS Iasi 75.36 325 P **P 21 49 28.4 +0.1**
OJC Ojcow 75.67 331 *i* P **P 21 49 30.1 +0.1**
OJC *ep*P pP 21 49 40.8 +5.9
STHS Stebnicka Huta 75.86 330 *i* P **P 21 49 31.8 +0.6**
STHS pmax pmax
comp=Z,17nm,0.8s,mb5.0
STHS Stebnicka Huta 75.86 330 *i* P **P 21 49 31.8 +0.6**
comp=Z,17nm,0.8s,mb5.0
BURAR Bucovina Array 75.92 327⇑*i*P **P 21 49 32.0 +0.4**
UZH Uzhgorod 76.15 329 *e*P **P 21 49 32.8 0.0**
UZH *e*PPP 21 54 12.0
UZH *e*S S 21 59 16.0 0.0
UZH MLR MLR
comp=Z,650nm,18.0s,MS5.0
NIE Niedzica 76.18 330 *e*P **P 21 49 33.7 +0.7**
BANOM Banah 76.18 293 P **P 21 49 34.2 +0.9**
SNR=17
BANOM Banah 76.18 293 P **P 21 49 34.2 +0.9**
SNR=17
BANOM Banah 76.18 293 P **P 21 49 34.2 +0.9**
SNR=17
BANOM Banah 76.18 293 P **P 21 49 34.2 +0.9**
SNR=17
BANOM Banah 76.18 293 P **P 21 49 34.2 +0.9**
SNR=17
CRVS Cervenica-Dubn 76.22 330 *e*P **P 21 49 33.5 +0.3**
KSP Ksiaz 76.25 334 *e*P **P 21 49 33.4 0.0**
KSP Ksiaz 76.25 334 *e*P **P 21 49 32.6 -0.8**
RAC Raciborz 76.31 332 *e*P **P 21 49 34.3 +0.6**
RAC MLR MLR
comp=Z,500nm,20.0s,MS4.8
TRPA Tarpa 76.49 328⇑*i*P **P 21 49 35.3 +0.5**
MSL Mosul 76.52 309 *ex* x 21 49 36.5
WMOK Wichita Mounta 76.53 54 *e*P **P 21 49 33.8 -1.4**
WMOK *e*PP pP 21 49 45.4 +5.3
WMOK pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
WMOK Wichita Mounta 76.53 54 *e*P **P 21 49 33.8 -1.5**
comp=Z,7.1nm,0.9s,mb4.6
WMOK *ep*P pP 21 49 45.4 +5.4
OKC Ostrava-Krasne 76.54 332⇑*e*P **P 21 49 34.8 -0.2**
OKC AMS AMS 22 27 50.0
comp=Z,300nm,16.6s
UPC Upice 76.63 334⇑*e*P **P 21 49 35.6 +0.1**
DPC Dobruska-Polom 76.67 333 *e*P **P 21 49 36.1 +0.3**
DPC AMS AMS 22 27 20.0
comp=Z,500nm,17.7s
BIDO Bidbid 76.69 290 P **P 21 49 38.0 +1.7**
SNR=7.1
BIDO Bidbid 76.69 290 P **P 21 49 38.0 +1.7**
SNR=7.1
BIDO Bidbid 76.69 290 P **P 21 49 38.0 +1.7**
SNR=7.1
BIDO Bidbid 76.69 290 P **P 21 49 38.0 +1.7**
SNR=7.1
VRI Vrincioaia 76.77 325 P **P 21 49 37.6 +1.2**
VRI Vrincioaia 76.77 325⇊*i*P **P 21 49 37.2 +0.8**
MORC Moravsky Berou 76.79 332 P **P 21 49 36.9 +0.5**
MORC pmax pmax
comp=Z,32nm,0.9s,mb5.2
MORC Moravsky Berou 76.79 332 *e*P **P 21 49 36.4 0.0**
comp=Z,32nm,0.9s,mb5.2
MORC Moravsky Berou 76.79 332⇑*i*P **P 21 49 36.7 +0.3**
PLOR Plostina 76.82 325 P **P 21 49 36.8 +0.1**
CLL Collm 76.82 336⇑*i*P **P 21 49 36.1 -0.5**
CLL *i* *SP sP 21 49 46.5 +3.3
CLL pmax pmax
comp=Z,47nm,0.7s,mb5.5
CLL MLR MLR
comp=Z,300nm,17.7s,MS4.7
CLL Collm 76.82 336⇑*i*P **P 21 49 36.1 -0.5**
comp=Z,47nm,0.7s,mb5.5
CLL *i* pP pP 21 49 43.4 +2.0
CLL *i* sP sP 21 49 46.5 +3.3
CLL LR LR
comp=Z,300nm,17.7s,MS4.7
CLL Collm 76.82 336⇑*i*P **P 21 49 36.0 -0.6**
comp=Z,48nm,0.7s,mb5.5
CLL *ep*P pP 21 49 40.5 -0.9
CLL *es*P sP 21 49 43.2 0.0
CLL *e*PcP PcP 21 49 46.6 -1.2
CLL *e*(PP) 21 52 35.4
CLL Collm 76.82 336⇑*i*P **P 21 49 36.1 -0.5**
comp=Z,47nm,0.7s,mb5.5
CLL *ep*P pP 21 49 41.0 -0.4
CLL *i* sP sP 21 49 43.4 +0.2
CLL *i* PcP PcP 21 49 46.5 -1.3
BRG Berggiesshubel 76.93 335 *e*P **P 21 49 37.0 -0.2**
BRG *e* 21 49 47.0
BRG pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
BRG MLR MLR
comp=N,124nm,14.6s,MS4.6
BRG MLR MLR
comp=E,194nm,14.7s,MS4.6
BRG MLR MLR
comp=Z,202nm,16.9s,MS4.5
BRG Berggiesshubel 76.93 335 *e*P **P 21 49 37.0 -0.3**
comp=Z,10nm,1.2s,mb4.6
BRG *e* 21 49 47.0
BRG LR LR
comp=Z,200nm,16.9s,MS4.5
BRG Berggiesshubel 76.93 335 *e*P **P 21 49 36.8 -0.4**
BRG Berggiesshubel 76.93 335 *e*P **P 21 49 37.0 -0.3**
comp=Z,17nm,1.2s,mb4.8
BRG *e* 21 49 47.0
comp=Z,16nm,1.1s
BRG
comp=Z,337nm,16.8s
BRG
comp=N,207nm,14.6s
BRG
comp=E,324nm,14.6s
PVCC Panska Ves 77.05 334⇑*e*P **P 21 49 38.1 +0.2**
PVCC AMS AMS 22 26 30.0
comp=E,300nm,12.5s
HATD Hatta, Dubai 77.06 292 P **P 21 49 39.8 +1.4**
SNR=13
HATD Hatta, Dubai 77.06 292 P **P 21 49 39.8 +1.4**
SNR=13
HATD Hatta, Dubai 77.06 292 P **P 21 49 39.8 +1.4**
SNR=13
HATD Hatta, Dubai 77.06 292 P **P 21 49 39.8 +1.4**
SNR=13
HATD Hatta, Dubai 77.06 292 P **P 21 49 39.8 +1.4**
SNR=13
CLZ Clausthal 77.06 337 *e*P **P 21 49 38.1 +0.2**
CLZ pmax pmax
comp=Z,46nm,1.0s,mb5.4
CLZ Clausthal 77.06 337 *e*P **P 21 49 38.1 +0.2**
comp=Z,46nm,1.0s,mb5.4
HOQ Hoqain 77.17 291 P **P 21 49 40.4 +1.3**
SNR=10
HOQ Hoqain 77.17 291 P **P 21 49 40.4 +1.3**
SNR=10
HOQ Hoqain 77.17 291 P **P 21 49 40.4 +1.3**
SNR=10
HOQ Hoqain 77.17 291 P **P 21 49 40.4 +1.3**
SNR=10
ASHO Ashiyiah 77.20 292 P **P 21 49 40.2 +1.0**
SNR=12
ASHO Ashiyiah 77.20 292 P **P 21 49 40.2 +1.0**
SNR=12
TIRR Tirgusor 77.23 323 P **P 21 49 39.7 +0.6**
TIRR Tirgusor 77.23 323⇑*i*P **P 21 49 39.3 +0.3**
HARR Harsova 77.25 323 P **P 21 49 39.0 -0.1**
IBBN Ibbenburen 77.31 339 *e*P **P 21 49 39.3 0.0**
comp=Z,42nm,0.9s,mb5.4
MLR Muntele Rosu 77.39 325 P **P 21 49 40.7 +0.8**
MLR Muntele Rosu 77.39 325⇑*i*P **P 21 49 40.3 +0.4**
MALT Malatya 77.44 313 *e*P **P 21 49 41.7 +1.4**
MALT pmax pmax
comp=Z,32nm,0.9s,mb5.2
MALT Malatya 77.44 313 *e*P **P 21 49 41.7 +1.4**
comp=Z,32nm,0.9s,mb5.2
MALT Malatya 77.44 313⇑*i*P **P 21 49 42.1 +1.8**
VYHS Vyhne 77.47 331 *i* P **P 21 49 40.7 +0.4**
VYHS pmax pmax
comp=Z,15nm,1.0s,mb4.9
VYHS Vyhne 77.47 331 *i* P **P 21 49 40.7 +0.4**
comp=Z,15nm,1.0s,mb4.9
VRAC Vranov 77.50 333⇑*i*P **P 21 49 41.0 +0.6**
JMDO Jabal Madar 77.51 289 P **P 21 49 42.5 +1.6**
SNR=6.0
JMDO Jabal Madar 77.51 289 P **P 21 49 42.5 +1.6**
SNR=6.0
JMDO Jabal Madar 77.51 289 P **P 21 49 42.5 +1.6**
SNR=6.0
JMDO Jabal Madar 77.51 289 P **P 21 49 42.5 +1.6**
SNR=6.0
PRU Pruhonice 77.54 334⇑*i*P **P 21 49 40.7 +0.1**
PRU AMS AMS 22 27 20.0
comp=Z,500nm,17.0s
KOLL Kolacno 77.54 331 *i* P **P 21 49 41.2 +0.5**
DRGR 77.55 328 P **P 21 49 41.1 +0.4**
DRGR 77.55 328⇑*i*P **P 21 49 40.9 +0.1**
PSZ Piszkesteto 77.60 330 P **P 21 49 41.7 +0.7**
PSZ Piszkesteto 77.60 330 *e*P **P 21 49 41.2 +0.1**
comp=Z,22nm,0.9s,mb5.1
PSZ Piszkesteto 77.60 330⇑*e*P **P 21 49 41.6 +0.6**
PSZ Piszkesteto 77.60 330⇑*i*P **P 21 49 41.2 +0.2**
TXAR Lajitas Array 77.62 61 P **P 21 49 41.4 -0.1**
TXAR pmax pmax
comp=Z,9.0nm,0.6s
TXAR Lajitas Array 77.62 61 P **P 21 49 41.4 -0.1**
comp=Z,9.0nm,0.6s,mb4.8,baz=299,slow=4.2,SNR=86
TANN Tannenbergstha 77.77 336 *e*P **P 21 49 41.8 -0.1**
comp=Z,8.0nm,1.0s,mb4.6
VOIR 77.79 325 P **P 21 49 42.8 +0.6**
VOIR 77.79 325⇑*i*P **P 21 49 42.9 +0.8**
MOX Moxa 77.81 336 *e*P **P 21 49 42.1 0.0**
comp=Z,29nm,1.1s,mb5.1
MOX
comp=Z,200nm,20.0s
MOX Moxa 77.81 336 *e*P **P 21 49 42.1 0.0**
MOX pmax pmax
comp=Z,29nm,1.1s,mb5.1
MOX MLR MLR
comp=Z,200nm,20.0s,MS4.4
MOX Moxa 77.81 336 *e*P **P 21 49 42.0 -0.1**
comp=Z,29nm,1.0s,mb5.2
BSY Bisya 77.84 290 P **P 21 49 44.3 +1.6**
SNR=11
BSY Bisya 77.84 290 P **P 21 49 44.3 +1.6**
SNR=11
BSY Bisya 77.84 290 P **P 21 49 44.3 +1.6**
SNR=11
TREC Trest 77.86 333⇑*e*P **P 21 49 42.3 -0.1**
TREC AMS AMS 22 28 30.0
comp=Z,500nm,19.2s
WTSB Winterswijk 77.86 339 *e*P **P 21 49 42.0 -0.4**
comp=Z,51nm,1.1s,mb5.3
NKC Novy Kostel 77.94 335⇑*e*P **P 21 49 42.9 0.0**
BHD Baghdad 78.05 306 *ex* x 21 49 40.0
UBBA Unterbreizbach 78.09 337 *e*P **P 21 49 43.3 -0.4**
comp=Z,12nm,1.2s,mb4.7
MODS Modra-Piesok 78.09 332 *e*P **P 21 49 44.6 +0.8**
BUG Bochum--Univer 78.23 339 *e*P **P 21 49 44.3 -0.1**
comp=Z,37nm,1.0s,mb5.3
BUD Budapest 78.28 330⇑*e*P **P 21 49 45.5 +0.7**
ZST Bratislava 78.31 332 *e*P **P 21 49 43.9 -1.0**
comp=Z,25nm,0.9s,mb5.2
ZST LR LR
comp=Z,200nm,18.5s,MS4.5
ROTZ Rotzenmuhle 78.42 335 *e*P **P 21 49 45.6 0.0**
comp=Z,23nm,0.9s,mb5.1
KHC Kasperske Hory 78.59 334⇑*i*P **P 21 49 46.9 +0.4**
KHC *ep*P pP 21 49 53.5 +2.2
KHC AMS AMS 22 27 40.0
comp=Z,400nm,17.5s
STKA Stephens Creek 78.60 190 *e*P **P 21 49 45.6 -0.9**
comp=Z,4.8nm,1.0s,mb4.4
STKA Stephens Creek 78.60 190 P **P 21 49 46.3 -0.2**
comp=Z,4.0nm,1.0s,mb4.3,baz=322,slow=10,SNR=5.1
STKA LR LR 22 25 18.6
comp=Z,141nm,18.1s,MS4.3,baz=23,slow=36
GZR Gura Zlata 78.70 327 P **P 21 49 47.3 +0.1**
GZR Gura Zlata 78.70 327⇊*i*P **P 21 49 47.7 +0.5**
GRA1 Grafenberg Arr 78.77 336 *e*P **P 21 49 47.8 +0.3**
comp=Z,66nm,0.9s,mb5.6
GRA1 LR LR
comp=Z,200nm,19.3s,MS4.5
GRF Grafenberg Arr 78.77 336 *e*P **P 21 49 47.8 +0.3**
GRF pmax pmax
comp=Z,66nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,200nm,19.3s,MS4.5
GRF Grafenberg Arr 78.77 336 *e*P **P 21 49 47.8 +0.3**
GRF pmax pmax
comp=Z,66nm,0.9s,mb5.6
GRF MLR MLR
comp=Z,200nm,19.3s,MS4.5
GRF Grafenberg Arr 78.77 336 *e*P **P 21 49 47.8 +0.3**
comp=Z,66nm,0.9s,mb5.6
GRF *e*L 22 27 51.1
comp=Z,219nm,19.3s
GRFO Grafenberg 78.78 336 P **P 21 49 47.4 -0.1**
GRFO pmax pmax
comp=Z,53nm,0.9s,mb5.5
GRFO Grafenberg 78.78 336 *e*P **P 21 49 47.2 -0.3**
comp=Z,54nm,0.9s,mb5.5
WET Wettzell 78.79 335 *e*P **P 21 49 47.8 +0.2**
WET pmax pmax
comp=Z,30nm,0.9s,mb5.2
WET Wettzell 78.79 335 *e*P **P 21 49 47.8 +0.2**
comp=Z,30nm,0.9s,mb5.2
GEC2 GERESS Array S 78.81 334 *e*P **P 21 49 47.2 -0.5**
GEC2 pmax pmax
comp=Z,15nm,0.9s,mb4.9
GEC2 GERESS Array S 78.81 334 *e*P **P 21 49 47.2 -0.5**
comp=Z,15nm,0.9s,mb4.9
GERES GERESS Array B 78.81 334 P **P 21 49 47.7 0.0**
GERES pmax pmax
comp=Z,11nm,0.8s
GERES MLR MLR
comp=Z,430nm,18.2s
GERES GERESS Array B 78.81 334 P **P 21 49 47.7 0.0**
comp=Z,11nm,0.8s,mb4.8,baz=35,slow=5.0,SNR=67
GERES LR LR 22 28 23.9
comp=Z,430nm,18.2s,MS4.8,baz=279,slow=39
CONA Conrad Observa 78.94 332⇑*i*pP pP 21 49 49.1 -4.2
comp=Z,31nm,1.1s,SNR=16
CSNA Conrad Observa 78.94 332⇑*i*pP pP 21 49 49.0 -4.3
comp=Z,29nm,1.1s
ANTO Ankara 78.98 317 P **P 21 49 50.3 +1.5**
ANTO pmax pmax
comp=Z,24nm,0.9s,mb5.1
ANTO Ankara 78.98 317 *e*P **P 21 49 49.5 +0.7**
comp=Z,24nm,0.9s,mb5.1
ANTO Ankara 78.98 317 P **P 21 49 50.0 +1.2**
SNR=9.4
ANTO Ankara 78.98 317 P **P 21 49 50.0 +1.2**

SNR=9.4
ANTO Ankara 78.98 317 P **P 21 49 50.0 +1.2**
SNR=9.4
ANTO Ankara 78.98 317⇑ *i*P **P 21 49 50.0 +1.2**
JCT Junction City 79.08 57 *e*P **P 21 49 49.0 -0.5**
JCT pmax pmax
comp=Z,26nm,1.2s,mb5.0
JCT Junction City 79.08 57 *e*P **P 21 49 48.0 -1.5**
comp=Z,26nm,1.3s,mb5.0
ZIMR 79.14 324 P **P 21 49 49.9 +0.3**
HGN Heimansgroeve 79.18 340 *e*P **P 21 49 49.4 -0.3**
comp=Z,38nm,1.2s,mb5.2
BEBN Eben Emael 79.21 340 P **P 21 49 48.9 -1.0**
BEBN AP pP 21 49 50.8 -3.9
BEBN XP sP 21 49 51.5 -5.0
MEM Membach 79.31 339 P **P 21 49 50.5 +0.1**
MEM PCP PcP 21 49 57.1 -1.5
MEM E 21 50 06.8
PKSM Moragy 79.51 330 P **P 21 49 51.0 -0.6**
PKSM Moragy 79.51 330⇑ *i*P **P 21 49 51.1 -0.5**
TOD Tromm 79.52 337 *e*P **P 21 49 51.5 0.0**
MOA Molln 79.52 333⇑ *i*P **P 21 49 51.6 0.0**
comp=Z,19nm,0.9s,mb5.0,SNR=20
MOA Molln 79.52 333⇑ *i*pP **P 21 49 51.6 0.0**
comp=Z,19nm,0.9s,mb5.0,SNR=20
UCC Uccle 79.52 340 AP pP 21 49 53.3 -3.1
ABH Alteburg 79.59 338 *e*P **P 21 49 51.7 -0.3**
ARSA Arzberg 79.65 332⇑ *i*P **P 21 49 52.7 +0.4**
comp=Z,19nm,1.1s,mb4.9,SNR=11
ARSA Arzberg 79.65 332⇑ *i*pP **P 21 49 52.7 +0.4**
comp=Z,19nm,1.1s,mb4.9,SNR=11
BCLA Clavier 79.65 340 P **P 21 49 51.8 -0.4**
comp=Z,18nm,1.1s,mb4.9
BCLA XP sP 21 49 57.2 -1.7
RUP Ruppelstein 79.88 338 *e*P **P 21 49 53.2 -0.3**
GIVF Givet 80.06 340⇑ *i*P **P 21 49 54.3 -0.2**
FORT Forrest 80.11 202 *e*P **P 21 49 55.1 +0.3**
comp=Z,23nm,0.8s,mb5.2
DOU Dourbes 80.12 340 P **P 21 49 54.2 -0.6**
comp=Z,5.5nm,1.1s,mb4.4
DOU AP pP 21 49 56.6 -3.1
DOU XP sP 21 49 58.7 -2.8
FUR Furstenfeldbru 80.13 335 *e*P **P 21 49 55.3 +0.4**
FUR pmax pmax
comp=Z,49nm,1.0s,mb5.4
FUR Furstenfeldbru 80.13 335 *e*P **P 21 49 55.3 +0.4**
comp=Z,49nm,1.0s,mb5.4
STU Stuttgart 80.17 337 *e*P **P 21 49 55.0 -0.1**
comp=Z,40nm,1.1s,mb5.3
BAIF Baives 80.25 340⇑ *i*P **P 21 49 55.3 -0.2**
comp=Z,27nm,1.0s,mb4.8
BAIF Baives 80.25 340⇑ *i*P **P 21 49 55.3 -0.2**
BAIF pmax pmax
comp=Z,13nm,1.0s,mb4.8
BAIF Baives 80.25 340⇑ *i*P **P 21 49 55.3 -0.2**
comp=Z,13nm,1.0s,mb4.8
PERS Pernice 80.32 332 *i*P **P 21 49 55.9 0.0**
LANF Langenberg 80.35 338 *e*P **P 21 49 55.6 -0.5**
KBA Koelnbreinsper 80.49 333⇑ *i*P **P 21 49 57.8 +0.9**
comp=Z,66nm,0.9s,mb5.5,SNR=56
KBA Koelnbreinsper 80.49 333⇑ *i*pP **P 21 49 57.8 +0.9**
comp=Z,66nm,0.9s,mb5.5,SNR=56
KBA Koelnbreinsper 80.49 333⇑ *i*P **P 21 49 57.8 +0.9**
KBA pmax pmax
comp=Z,66nm,0.9s,mb5.6
OBKA Obir 80.62 332⇑ *i*P **P 21 49 57.6 0.0**
comp=Z,6.6nm,0.9s,mb4.5,SNR=6,9
OBKA Obir 80.62 332⇑ *i*pP **P 21 49 57.6 0.0**
comp=Z,6.6nm,0.9s,mb4.5,SNR=6.9
TAOE Nuku Hiva Isla 80.75 113 *e*LR LR 22 14 34.4
comp=Z,6µm,22.0s
WATA Walderalm 80.79 335⇑ *i*P **P 21 49 59.1 +0.6**
comp=Z,31nm,0.7s,mb5.3,SNR=10
WATA Walderalm 80.79 335⇑ *i*pP **P 21 49 59.1 +0.6**
comp=Z,31nm,0.7s,mb5.3,SNR=10
WATA Walderalm 80.79 335⇑ *i*P **P 21 49 59.1 +0.6**
WATA pmax pmax
comp=Z,31nm,0.7s,mb5.3
BFO Black Forest 80.81 337 P **P 21 49 58.3 -0.3**
comp=Z,161nm,1.0s,SNR=11
BFO Black Forest 80.81 337 P **P 21 49 58.4 -0.2**
BFO pmax pmax
comp=Z,26nm,1.0s,mb5.1
BFO Black Forest 80.81 337 *e*P **P 21 49 58.2 -0.4**
comp=Z,35nm,1.2s,mb5.2
WTTA Wattenberg 80.84 335⇑ *i*P **P 21 49 59.4 +0.7**
comp=Z,84nm,1.0s,mb5.6,SNR=28
WTTA Wattenberg 80.84 335⇑ *i*pP **P 21 49 59.4 +0.7**
comp=Z,84nm,1.0s,mb5.6,SNR=28
WTTA Wattenberg 80.84 335⇑ *i*P **P 21 49 59.4 +0.7**
WTTA pmax pmax
comp=Z,84nm,1.0s,mb5.6
DIVS Divibare 80.85 328 *e*P **P 21 49 58.4 -0.5**
SPAK Spaichingen-Ko 80.89 337 *e*P **P 21 49 58.2 -0.8**
RETA Reutte 80.90 335⇑ *i*pP **P 21 49 59.2 +0.1**
comp=Z,28nm,1.0s,mb5.2,SNR=18
VTS Vitosha 80.90 325 *e*P **P 21 49 59.5 +0.4**
VTS Vitosha 80.90 325 P **P 21 49 59.7 +0.6**
VTS Vitosha 80.90 325⇑ *i*P **P 21 49 59.5 +0.3**
MOTA Moosalm 80.92 335⇑ *i*P **P 21 49 59.6 +0.5**
comp=Z,68nm,1.1s,mb5.5,SNR=37
MOTA Moosalm 80.92 335⇑ *i*pP **P 21 49 59.6 +0.5**
comp=Z,68nm,1.1s,mb5.5,SNR=37
MOTA Moosalm 80.92 335⇑ *i*P **P 21 49 59.6 +0.4**
MOTA pmax pmax
comp=Z,68nm,1.1s,mb5.5
GORS Gorjuse 80.96 333 *i*P **P 21 49 59.1 -0.3**
SQTA Sankt Quirin 81.01 335⇑ *i*P **P 21 50 00.2 +0.6**
comp=Z,40nm,1.0s,mb5.3,SNR=26
SQTA Sankt Quirin 81.01 335⇑ *i*pP **P 21 50 00.2 +0.6**
comp=Z,40nm,1.0s,mb5.3,SNR=26
SQTA Sankt Quirin 81.01 335⇑ *i*P **P 21 50 00.2 +0.6**
SQTA pmax pmax
comp=Z,40nm,1.0s,mb5.3
CDF Champ du Feu 81.01 338⇑ *i*P **P 21 49 59.7 +0.1**
comp=Z,71nm,1.1s,mb5.2
CDF Champ du Feu 81.01 338⇑ *i*P **P 21 49 59.7 +0.1**
CDF pmax pmax
comp=Z,36nm,1.1s,mb5.2
CDF Champ du Feu 81.01 338⇑ *i*P **P 21 49 59.7 +0.1**
comp=Z,36nm,1.1s,mb5.2
RZN Rozhen 81.05 324 P **P 21 50 00.3 +0.3**
VISS Visnje 81.15 332 *e*P **P 21 49 59.7 -0.8**
ALN Alexandroupoli 81.15 322 *e*P **P 21 49 57.2 -3.4**
ECH Echery 81.22 338 *e*P **P 21 50 00.3 -0.5**
WVT Waverly 81.25 46 P **P 21 50 00.5 -0.6**
WVT pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
WVT Waverly 81.25 46 *e*P **P 21 49 59.8 -1.3**
comp=Z,8.9nm,0.9s,mb4.7
BOJS Bojanci 81.28 332 *i*P **P 21 50 00.7 -0.4**
FELD Feldberg im Sc 81.31 337 *e*P **P 21 50 00.4 -0.8**
JAVS Javornik 81.32 332 *i*P **P 21 49 59.7 -1.6**
FETA Feichten 81.33 335⇑ *i*pP **P 21 50 01.7 +0.3**
comp=Z,12nm,0.9s,mb4.8,SNR=21
DAVA Damuels 81.33 336⇑ *i*P **P 21 50 01.7 +0.3**
comp=Z,27nm,1.2s,mb5.0,SNR=13
DAVA Damuels 81.33 336⇑ *i*pP **P 21 50 01.7 +0.3**
comp=Z,27nm,1.2s,mb5.0,SNR=13
MEZF Maizieres J'vi 81.50 339⇑ *i*P **P 21 50 02.4 +0.2**
comp=Z,70nm,0.9s,mb5.3
MEZF Maizieres J'vi 81.50 339⇑ *i*P **P 21 50 02.4 +0.2**
comp=Z,70nm,0.9s,mb5.6
THEF They Montfort 81.52 339 *e*P **P 21 50 02.2 -0.1**
MMB Musomiste 81.54 324 P **P 21 50 03.3 +0.8**
KKB Krupnik 81.56 325 *e*P **P 21 50 04.9 +2.2**
MOF Molkenrain 81.57 338 *e*P **P 21 50 01.7 -0.9**
HAU Haudompre 81.63 338⇑ *i*P **P 21 50 02.7 -0.2**
comp=Z,61nm,1.2s,mb5.1
HAU *e*MLR MLR
comp=Z,314nm,17.8s,MS4.4
HAU Haudompre 81.63 338⇑ *i*P **P 21 50 02.7 -0.2**
HAU pmax pmax
comp=Z,30nm,1.2s,mb5.1
HAU MLR MLR
comp=Z,310nm,17.8s,MS4.7
HAU Haudompre 81.63 338⇑ *i*P **P 21 50 02.7 -0.2**
comp=Z,30nm,1.2s,mb5.1
HAU LR LR
comp=Z,310nm,17.8s,MS4.7
HINF Hinteralfeld 81.67 338⇑ *i*P **P 21 50 02.7 -0.4**
comp=Z,22nm,0.9s,mb4.8
HINF Hinteralfeld 81.67 338⇑ *i*P **P 21 50 02.7 -0.4**
HINF pmax pmax
comp=Z,11nm,0.9s,mb4.8
HINF Hinteralfeld 81.67 338⇑ *i*P **P 21 50 02.7 -0.4**
comp=Z,11nm,0.9s,mb4.8
PLE Pljevlja 81.73 328⇑ *i*P **P 21 50 04.3 +0.8**
BBS Basel-Blauen 81.82 337 *e*P **P 21 50 03.4 -0.6**
PPT Papeete 81.90 126 *e*LR LR 22 15 01.9
comp=Z,400nm,24.8s,baz=327
PPT Papeete 81.90 126 LR LR 22 19 31.4
comp=Z,219nm,19.3s,MS4.5,baz=5.0,slow=31
BRMO Bormio 81.92 335 P **P 21 50 05.6 +1.1**
comp=Z,11nm,0.8s,mb4.8
IVA Berane 81.94 327⇑ *i*P **P 21 50 04.9 +0.3**
SRS Serrai 81.99 324 *e*P **P 21 50 05.1 +0.2**
UPM Unac-Piva 82.02 328⇑ *i*P **P 21 50 05.2 +0.1**
STIP Stip 82.06 325 *e*P **P 21 50 05.1 -0.3**
STIP Stip 82.06 325 *e*P **P 21 50 05.0 -0.3**
LOMF Lomont 82.11 338 *e*P **P 21 50 05.4 -0.1**
SKO Skopje 82.12 326 *e*P **P 21 50 06.2 +0.6**
PVY Plav 82.15 327⇑ *i*P **P 21 50 05.7 0.0**
TUE Stuetta 82.22 336 P **P 21 50 06.6 +0.5**
VAY Valandovo 82.23 325 *e*P **P 21 50 05.7 -0.5**
VAY Valandovo 82.23 325 *e*P **P 21 50 05.6 -0.6**
KNT Kendrikon 82.23 324 *e*P **P 21 50 05.9 -0.3**
NKY Niksic 82.32 328⇑ *i*P **P 21 50 06.1 -0.6**
SOH Sokhos 82.33 324 *e*P **P 21 50 06.5 -0.3**
BRY Bratogost 82.41 328⇑ *i*P **P 21 50 06.4 -0.7**
OUR Ouranopolis 82.49 323 *e*P **P 21 50 06.7 -0.8**
FLN La Foliniere 82.50 343⇑ *i*P **P 21 50 07.2 -0.3**
comp=Z,35nm,0.9s,mb5.0
FLN *e*MLR MLR
comp=Z,243nm,18.5s,MS4.3
FLN La Foliniere 82.50 343⇑ *i*P **P 21 50 07.2 -0.3**
FLN pmax pmax
comp=Z,18nm,0.9s,mb5.0
FLN MLR MLR
comp=Z,240nm,18.5s,MS4.6
FLN La Foliniere 82.50 343⇑ *i*P **P 21 50 07.2 -0.3**
comp=Z,18nm,0.9s,mb5.0
FLN LR LR
comp=Z,240nm,18.5s,MS4.6
TTG Podgorica 82.56 327⇑ *i*P **P 21 50 07.3 -0.6**
LDF La Druitiere 82.58 343⇑ *i*P **P 21 50 07.5 -0.4**
comp=Z,40nm,1.0s,mb5.1
LDF La Druitiere 82.58 343⇑ *i*P **P 21 50 07.5 -0.4**
LDF pmax pmax
comp=Z,20nm,1.0s,mb5.1
LDF La Druitiere 82.58 343⇑ *i*P **P 21 50 07.5 -0.4**
comp=Z,20nm,1.0s,mb5.1
GRG Griva 82.60 325 *e*P **P 21 50 08.0 -0.2**
CSS Prodhromos 82.61 314 *e*P **P 21 50 08.5 +0.2**
comp=Z,29nm,0.9s,mb5.3
THE Thessaloniki 82.65 324 *e*P **P 21 50 08.0 -0.5**
PLG Polygyros 82.67 324 *e*P **P 21 50 08.0 -0.5**
KRUS Krusevo 82.71 326 *e*P **P 21 50 08.9 +0.2**
BUM Brajici-Budva 82.80 328⇑ *i*P **P 21 50 09.5 +0.3**
HCY Herceg Novi 82.82 328⇑ *i*P **P 21 50 08.8 -0.5**
SWET Sewanee 82.91 45 *e*P **P 21 50 08.4 -1.4**
GRR Gorron 82.93 343⇑ *i*P **P 21 50 09.5 -0.2**
comp=Z,110nm,1.1s,mb5.5
GRR Gorron 82.93 343⇑ *i*P **P 21 50 09.5 -0.2**
GRR pmax pmax
comp=Z,55nm,1.1s,mb5.5
GRR Gorron 82.93 343⇑ *i*P **P 21 50 09.5 -0.2**
comp=Z,55nm,1.1s,mb5.5
LOR Lormes 82.94 340⇑ *i*P **P 21 50 09.6 -0.2**
comp=Z,42nm,0.9s,mb5.2
LOR *e*MLR MLR
comp=Z,248nm,18.8s,MS4.3
LOR Lormes 82.94 340⇑ *i*P **P 21 50 09.6 -0.2**
LOR pmax pmax
comp=Z,21nm,0.9s,mb5.2
LOR MLR MLR
comp=Z,250nm,18.8s,MS4.6
LOR Lormes 82.94 340⇑ *i*P **P 21 50 09.6 -0.2**
comp=Z,21nm,0.9s,mb5.2
LOR LR LR
comp=Z,250nm,18.8s,MS4.6
VAI Varese 82.94 336 P **P 21 50 09.7 -0.1**
VAI pmax pmax
comp=Z,18nm,0.7s,mb5.2
VAI Varese 82.94 336 P **P 21 50 09.7 -0.1**
comp=Z,18nm,0.7s,mb5.2
PAIG Paliouri 82.95 323 *e*P **P 21 50 09.4 -0.6**
ULC Ulcinj 82.96 327⇑ *i*P **P 21 50 09.9 -0.1**
CABF La Chapelle 82.99 338⇑ *i*P **P 21 50 10.3 +0.3**
comp=Z,24nm,0.9s,mb4.9
CABF La Chapelle 82.99 338⇑ *i*P **P 21 50 10.3 +0.3**
CABF pmax pmax
comp=Z,12nm,0.9s,mb4.9
CABF La Chapelle 82.99 338⇑ *i*P **P 21 50 10.3 +0.3**
comp=Z,12nm,0.9s,mb4.9
OHR Ohrid 83.11 326 *e*P **P 21 50 09.7 -1.0**
FNA Florina 83.16 325 *e*P **P 21 50 10.8 -0.2**
SSF Saint Saulge 83.22 340⇑ *i*P **P 21 50 11.2 0.0**
comp=Z,24nm,0.8s,mb5.0
SSF Saint Saulge 83.22 340⇑ *i*P **P 21 50 11.2 0.0**
SSF pmax pmax
comp=Z,12nm,0.8s,mb5.0
SSF Saint Saulge 83.22 340⇑ *i*P **P 21 50 11.2 0.0**
comp=Z,12nm,0.8s,mb5.0
HYF Humbligny 83.23 340 *e*P **P 21 50 11.5 +0.2**
CHOS Chios island 83.23 321 *e*P **P 21 50 12.1 +0.6**
SGMF Saint Gilles 83.39 344 *e*P **P 21 50 11.9 -0.2**
comp=Z,82nm,1.1s,mb5.4
SGMF Saint Gilles 83.39 344 *e*P **P 21 50 11.9 -0.2**
SGMF pmax pmax
comp=Z,41nm,1.1s,mb5.4
SGMF Saint Gilles 83.39 344 *e*P **P 21 50 11.9 -0.2**
comp=Z,41nm,1.1s,mb5.4
CPCT Cooper Cave 83.40 44 *e*P **P 21 50 11.1 -1.3**
CPCT *e*pP pP 21 50 23.4 +6.1
ROSF Rostrenen 83.45 344 *e*P **P 21 50 12.3 -0.1**
comp=Z,112nm,1.1s,mb5.5
ROSF Rostrenen 83.45 344 *e*P **P 21 50 12.3 -0.1**
ROSF pmax pmax
comp=Z,56nm,1.1s,mb5.5
ROSF Rostrenen 83.45 344 *e*P **P 21 50 12.3 -0.1**
comp=Z,56nm,1.1s,mb5.5
AVF Avril sur Loir 83.51 340⇑ *i*P **P 21 50 12.7 0.0**
comp=Z,91nm,1.1s,mb5.5
AVF Avril sur Loir 83.51 340⇑ *i*P **P 21 50 12.7 0.0**
AVF pmax pmax
comp=Z,46nm,1.1s,mb5.5
AVF Avril sur Loir 83.51 340⇑ *i*P **P 21 50 12.7 0.0**
comp=Z,46nm,1.1s,mb5.5
AOS Alonnisos 83.51 323 *e*P **P 21 50 12.2 -0.7**
SMF Signal de Mont 83.52 339⇑ *i*P **P 21 50 12.9 +0.1**
comp=Z,142nm,1.1s,mb5.7
SMF Signal de Mont 83.52 339⇑ *i*P **P 21 50 12.9 +0.1**
SMF pmax pmax
comp=Z,71nm,1.1s,mb5.7
SMF Signal de Mont 83.52 339⇑ *i*P **P 21 50 12.9 +0.1**
comp=Z,71nm,1.1s,mb5.7
FSSB Fossombrone 83.70 332 P **P 21 50 14.0 +0.2**
ELN Prospectdale 83.71 40 *e*P **P 21 50 12.6 -1.3**
GSCL Gusciola 83.79 334 P **P 21 50 15.5 +1.3**
comp=Z,20nm,0.9s,mb5.2
SFI Santa Sofia 83.80 333 P **P 21 50 15.1 +0.8**
SFI pmax pmax
comp=Z,47nm,1.1s,mb5.5
SFI Santa Sofia 83.80 333 P **P 21 50 15.1 +0.8**
comp=Z,47nm,1.1s,mb5.5
LPL La Plagne 83.83 337⇑ *i*P **P 21 50 15.2 +0.8**
comp=Z,21nm,0.8s,mb5.0
LPL La Plagne 83.83 337⇑ *i*P **P 21 50 15.2 +0.8**
LPL pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
LPL La Plagne 83.83 337⇑ *i*P **P 21 50 15.2 +0.8**
comp=Z,10nm,0.8s,mb5.0
LPG La Plagne 83.84 337⇑ *i*P **P 21 50 15.4 +0.9**
comp=Z,43nm,1.0s,mb5.2
LPG La Plagne 83.84 337⇑ *i*P **P 21 50 15.4 +0.9**
LPG pmax pmax
comp=Z,22nm,1.0s,mb5.2
LPG La Plagne 83.84 337⇑ *i*P **P 21 50 15.4 +0.9**
comp=Z,22nm,1.0s,mb5.2
BGF Bois d'Agland 83.84 340⇑ *i*P **P 21 50 14.5 0.0**
comp=Z,19nm,0.9s,mb4.9
BGF Bois d'Agland 83.84 340⇑ *i*P **P 21 50 14.5 0.0**
BGF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
BGF Bois d'Agland 83.84 340⇑ *i*P **P 21 50 14.5 0.0**
comp=Z,9.5nm,0.9s,mb4.9
KLBR Kellerberrin 83.97 210 *e*P **P 21 50 14.2 -0.9**
comp=Z,32nm,1.1s,mb5.4
SNTG Esanatoglia 84.03 332 P **P 21 50 15.7 +0.2**
comp=Z,14nm,0.6s,mb5.3
BDI Bagni Di Lucca 84.05 334 P **P 21 50 16.5 +1.0**
MURB Monte Urbino 84.16 332 P **P 21 50 17.9 +1.8**
PLDF La Plantade 84.21 339 *e*P **P 21 50 16.2 -0.1**
TCF Toulx Ste Croi 84.25 340⇑ *i*P **P 21 50 16.6 +0.1**
comp=Z,34nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.25 340⇑ *i*P **P 21 50 16.6 +0.1**
TCF pmax pmax
comp=Z,17nm,0.9s,mb5.2
TCF Toulx Ste Croi 84.25 340⇑ *i*P **P 21 50 16.6 +0.1**
comp=Z,17nm,0.9s,mb5.2
AGO Saint Agoulin 84.25 340 *e*P **P 21 50 16.5 0.0**
BNI Bardonecchia 84.27 337 P **P 21 50 17.3 +0.6**
BNI pmax pmax
comp=Z,12nm,1.0s,mb5.0
BNI Bardonecchia 84.27 337 *e*P **P 21 50 16.8 +0.2**
comp=Z,12nm,0.9s,mb5.0
LKR Lokris 84.31 323 *e*P **P 21 50 15.8 -1.3**
TERO Teramo 84.38 331 P **P 21 50 17.3 0.0**
MFF Saint Martin d 84.48 342⇑ *i*P **P 21 50 17.8 +0.1**
comp=Z,28nm,0.9s,mb5.1
MFF Saint Martin d 84.48 342⇑ *i*P **P 21 50 17.8 +0.1**
MFF pmax pmax
comp=Z,14nm,0.9s,mb5.1
MFF Saint Martin d 84.48 342⇑ *i*P **P 21 50 17.8 +0.1**
comp=Z,14nm,0.9s,mb5.1
MBDF Montbardon 84.55 337 *e*P **P 21 50 18.2 +0.1**
comp=Z,26nm,0.9s,mb5.1
MBDF Montbardon 84.55 337 *e*P **P 21 50 18.2 +0.1**
MBDF pmax pmax
comp=Z,13nm,0.9s,mb5.1
MBDF Montbardon 84.55 337 *e*P **P 21 50 18.2 +0.1**
comp=Z,13nm,0.9s,mb5.1
PYM Petit Puy Mans 84.56 340 *e*P **P 21 50 16.8 -1.3**
ORIF Oris-en-Rattie 84.61 337 *e*P **P 21 50 19.0 +0.6**
comp=Z,52nm,1.0s,mb5.3
ORIF *e*MLR MLR
comp=Z,229nm,18.0s,MS4.3
ORIF Oris-en-Rattie 84.61 337 *e*P **P 21 50 19.0 +0.6**
ORIF pmax pmax
comp=Z,26nm,1.0s,mb5.3
ORIF Oris-en-Rattie 84.61 337 *e*P **P 21 50 19.0 +0.6**
comp=Z,26nm,1.0s,mb5.3
AQU L'Aquila 84.69 331 *e*P **P 21 50 19.5 +0.7**
AQU pmax pmax
comp=Z,48nm,1.0s,mb5.6
AQU L'Aquila 84.69 331 *e*P **P 21 50 19.4 +0.6**
comp=Z,48nm,1.0s,mb5.6
AQU L'Aquila 84.69 331⇑ *i*P **P 21 50 19.2 +0.4**
VIVF Saint-Julien-l 84.98 338 *e*P **P 21 50 20.8 +0.5**
comp=Z,62nm,1.1s,mb5.3
VIVF Saint-Julien-l 84.98 338 *e*P **P 21 50 20.8 +0.5**
VIVF pmax pmax
comp=Z,31nm,1.1s,mb5.3
VIVF Saint-Julien-l 84.98 338 *e*P **P 21 50 20.8 +0.5**
comp=Z,31nm,1.1s,mb5.3
LBL Lubilhac 84.99 339 *e*P **P 21 50 20.4 +0.1**
FG5 Orsara di Pugl 85.00 330 P **P 21 50 20.6 +0.2**
FG5 pmax pmax
comp=Z,48nm,1.0s,mb5.6
FG5 Orsara di Pugl 85.00 330 P **P 21 50 20.6 +0.2**
comp=Z,48nm,1.0s,mb5.6
AUTN L'Aution 85.04 336 *e*P **P 21 50 19.9 -0.7**
TOUF Mont Tournerai 85.07 336 *e*P **P 21 50 20.5 -0.2**
SDI San Donato 85.13 331 P **P 21 50 20.5 -0.5**
SDI pmax pmax
comp=Z,11nm,0.8s,mb5.0
SDI San Donato 85.13 331 P **P 21 50 20.5 -0.5**
comp=Z,11nm,0.8s,mb5.0
LUCF Luceram 85.16 336 *e*P **P 21 50 20.3 -0.8**
SBF Sospel 85.16 336 *e*P **P 21 50 20.9 -0.3**
comp=Z,69nm,0.9s,mb5.5
SBF Sospel 85.16 336 *e*P **P 21 50 20.9 -0.3**
SBF pmax pmax
comp=Z,35nm,0.9s,mb5.5
SBF Sospel 85.16 336 *e*P **P 21 50 20.9 -0.3**
comp=Z,35nm,0.9s,mb5.5
DID Didima 85.18 322 *e*P **P 21 50 20.3 -1.1**
MVIF Mont Vial 85.21 336 *e*P **P 21 50 20.7 -0.7**
SGG Gregorio Mates 85.22 330 P **P 21 50 22.4 +0.9**
REVF Revere 85.29 336 *e*P **P 21 50 19.8 -2.0**
RJF Les Rejaudoux 85.34 340 *e*P **P 21 50 21.9 -0.1**
comp=Z,38nm,1.1s,mb5.1
RJF *e*MLR MLR
comp=Z,248nm,20.0s,MS4.3
RJF Les Rejaudoux 85.34 340 *e*P **P 21 50 21.9 -0.1**
RJF pmax pmax
comp=Z,19nm,1.1s,mb5.1
RJF MLR MLR
comp=Z,250nm,20.0s,MS4.6
RJF Les Rejaudoux 85.34 340 *e*P **P 21 50 21.9 -0.1**
comp=Z,19nm,1.1s,mb5.1
RJF LR LR
comp=Z,250nm,20.0s,MS4.6
CALN Calern 85.41 336 *e*P **P 21 50 21.4 -1.0**
RFI Roccamonfina 85.43 330 P **P 21 50 23.2 +0.6**
comp=Z,12nm,1.4s,mb4.8
SMRF Simiane la Rot 85.56 337⇑ *i*P **P 21 50 23.6 +0.4**
comp=Z,54nm,1.2s,mb5.3
SMRF Simiane la Rot 85.56 337⇑ *i*P **P 21 50 23.6 +0.4**
comp=Z,54nm,1.2s,mb5.7
CAF Calviac 85.57 340⇑ *i*P **P 21 50 23.1 -0.1**
comp=Z,33nm,1.1s,mb5.2
CAF Calviac 85.57 340⇑ *i*P **P 21 50 23.1 -0.1**
CAF pmax pmax
comp=Z,16nm,1.1s,mb5.2
CAF Calviac 85.57 340⇑ *i*P **P 21 50 23.1 -0.1**
comp=Z,16nm,1.1s,mb5.2
FRF La Foret Royal 85.66 336⇑ *i*P **P 21 50 23.5 -0.2**
comp=Z,81nm,1.6s,mb5.4
FRF La Foret Royal 85.66 336⇑ *i*P **P 21 50 23.5 -0.2**
FRF pmax pmax
comp=Z,40nm,1.5s,mb5.4
FRF La Foret Royal 85.66 336⇑ *i*P **P 21 50 23.5 -0.2**
comp=Z,40nm,1.5s,mb5.4
TAVF Tavernes 85.77 337 *e*P **P 21 50 23.1 -1.1**
PRAF Pradon 85.83 337 *e*P **P 21 50 24.3 -0.2**
LFF La Frestale 85.86 341 *e*P **P 21 50 24.1 -0.5**
comp=Z,29nm,1.0s,mb5.2
LFF La Frestale 85.86 341 *e*P **P 21 50 24.1 -0.5**
LFF pmax pmax
comp=Z,14nm,1.0s,mb5.2
LFF La Frestale 85.86 341 *e*P **P 21 50 24.1 -0.5**
comp=Z,14nm,1.0s,mb5.2
ZKR Zakros 85.88 319 *e*P **P 21 50 25.2 +0.3**
LMR La Mourre 85.91 336 *e*P **P 21 50 25.0 +0.1**
comp=Z,88nm,1.1s,mb5.6
LMR La Mourre 85.91 336 *e*P **P 21 50 25.0 +0.1**
LMR pmax pmax
comp=Z,44nm,1.1s,mb5.6
LMR La Mourre 85.91 336 *e*P **P 21 50 25.0 +0.1**
comp=Z,44nm,1.1s,mb5.6
PGF Pioggiola 85.91 334⇑ *i*P **P 21 50 24.6 -0.3**
comp=Z,56nm,1.2s,mb5.4
PGF Pioggiola 85.91 334⇑ *i*P **P 21 50 24.6 -0.3**
PGF pmax pmax
comp=Z,28nm,1.2s,mb5.4
PGF Pioggiola 85.91 334⇑ *i*P **P 21 50 24.6 -0.3**
comp=Z,28nm,1.2s,mb5.4
LASF Ste Croix 85.92 338 *e*P **P 21 50 25.0 0.0**
comp=Z,57nm,1.4s,mb5.3
LAST Lasithi 86.17 319 *e*P **P 21 50 26.2 -0.1**
TIP Timpagrande 86.32 328 *e*P **P 21 50 26.8 -0.2**
comp=Z,17nm,1.0s,mb5.2
PYL PYLOS 86.33 323 *e*P **P 21 50 22.2 -4.9**
SIVA Sivas 86.59 320 *e*P **P 21 50 29.2 +0.8**
TBI Tubuai 86.62 129 *e*LR LR 22 17 10.6
comp=Z,190nm,26.5s,baz=324
MTLF Montolieu 87.02 339⇑ *i*P **P 21 50 29.9 -0.5**
comp=Z,19nm,1.0s,mb5.0
MTLF Montolieu 87.02 339⇑ *i*P **P 21 50 29.9 -0.5**
MTLF pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
MTLF Montolieu 87.02 339⇑ *i*P **P 21 50 29.9 -0.5**
comp=Z,9.6nm,1.0s,mb5.0
EPF Esparros 87.76 340⇑ *i*P **P 21 50 33.7 -0.3**
comp=Z,17nm,1.2s,mb4.9
EPF Esparros 87.76 340⇑ *i*P **P 21 50 33.7 -0.3**
EPF pmax pmax
comp=Z,9.0nm,1.2s,mb4.9
EPF Esparros 87.76 340⇑ *i*P **P 21 50 33.7 -0.3**
comp=Z,8.7nm,1.2s,mb4.9
SJPF Ste Jean 88.04 342 *e*P **P 21 50 35.1 -0.2**
ETSF Etsaut 88.09 341 *e*P **P 21 50 35.6 +0.1**
comp=Z,12nm,0.8s,mb4.9
ETSF Etsaut 88.09 341 *e*P **P 21 50 35.6 +0.1**
ETSF pmax pmax

comp=Z,6.0nm,0.8s,mb4.9
ETSF Etsaut 88.09 341 *e*P **P 21 50 35.6 +0.1**
comp=Z,6.2nm,0.8s,mb4.9
VSL Villasalto 88.58 333 *e*P **P 21 50 39.5 +1.6**
comp=Z,16nm,0.9s,mb5.3
ESDC Sonseca Array 91.92 343 P **P 21 50 52.0 -1.5**
comp=Z,2.5nm,0.9s,mb4.5,baz=12,slow=4.9,SNR=6.9
ESDC LR LR 22 39 47.7
comp=Z,141nm,18.1s,MS4.5,baz=75,slow=40
KEST Kesra 92.02 331 P **P 21 50 54.2 +0.2**
comp=Z,4.2nm,0.8s,mb4.8,baz=333,slow=3.2,SNR=19
KEST LR LR 22 37 04.9
comp=Z,96nm,19.2s,MS4.3,baz=91,slow=39
TORD Torodi Ar. Bea 115.43 329 PKP PKPdf 21 56 26.3 -1.0
comp=Z,1.4nm,0.7s,baz=19,slow=0.9,SNR=15
DBIC Dimbokro 123.67 334 PKIKP PKPdf 21 56 42.5 -0.7
DBIC pmax pmax
comp=Z,9.0nm,0.9s
DBIC Dimbokro 123.67 334 PKP PKPdf 21 56 42.5 -0.7
DBIC Dimbokro 123.67 334 PKP PKPdf 21 56 42.5 -0.7
comp=Z,8.9nm,0.9s,baz=83,slow=1.5,SNR=6.1
LPAZ La Paz 134.46 63 PKIKP PKPdf 21 57 04.0 +0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.6s
LPAZ La Paz 134.46 63 *e*PKPdf PKPdf 21 57 03.6 +0.2
LPAZ La Paz 134.46 63 PKP PKPdf 21 57 04.0 +0.5
comp=Z,1.0nm,0.6s,baz=8.5,slow=8.1,SNR=6.7
QSPA South Pole Qui 136.12 180 *e*PKPdf PKPdf 21 57 05.2 +0.5
BDFB Brasilia 144.59 37 PKIKP PKPdf 21 57 19.8 -2.1
BDFB pmax pmax
comp=Z,5.0nm,1.0s
BDFB Brasilia 144.59 37 PKP PKPdf 21 57 19.8 -2.1
comp=Z,5.4nm,1.0s,baz=34,slow=7.8,SNR=6.9
PLCA Paso Flores 148.12 96 PKP2 PKPbc 21 57 30.2 -0.2
PLCA pmax pmax
comp=Z,15nm,1.1s
PLCA Paso Flores 148.12 96 *e*PKPbc PKPbc 21 57 29.8 -0.6
PLCA Paso Flores 148.12 96 PKPbc PKPbc 21 57 30.2 -0.2
comp=Z,15nm,1.1s,baz=255,slow=4.0,SNR=11
CPUP Villa Florida 148.59 61 *e*PKPdf PKPdf 21 57 27.5 -0.8
CPUP *e*PKPbc PKPbc 21 57 30.9 -1.2
CPUP Villa Florida 148.59 61 PKPbc PKPbc 21 57 31.1 -1.0
comp=Z,9.5nm,0.7s,baz=294,slow=2.8,SNR=22
MAIT Maitri 149.35 204 *e*PKPdf PKPdf 21 57 29.3 +1.1
SNAA Sanae 152.22 196 PKIKP PKPbc 21 57 37.7 -1.6
SNAA pmax pmax
comp=Z,2.0nm,1.0s
SNAA Sanae 152.22 196 PKPbc PKPbc 21 57 37.7 -1.6
comp=Z,2.3nm,0.9s,baz=319,slow=2.0,SNR=13

*ISCJB **11** 21:50:29.4±1.2,3835N±004×2036E±009, h9km±9km, Error ellipse: s-maj=12.9km s-min=5.5km az=158.3*
*ATH **11** 21:50:29.3,3837N×2034E, h4km, MD3.6/4*
*NEIC **11** 21:50:29.3,3837N×2034E, h4km, MD3.6(ATH), After ATH.*
*CSEM **11** 21:50:30.3±0.2,3838N×2038E, h2km, ML3.1, Error ellipse: s-maj=4.4km s-min=1.7km az=61.0*
*THE **11** 21:50:30.1,3835N×2037E, h8km, ML3.1*
ISC 11 21:50:29.5±1.2,3834N±005×2033E±010,h14km±8km,n12, σ0°61/18,2C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**128**	*e*Pg	**Pg**	**21 50 34.9**	**-0.1**
VLS				*e*Sg	**Sg**	**21 50 38.9**	**+0.1**
VLS	**Valsamata**	**0.26**	**128**	⇑*i*PG	**Pg**	**21 50 35.1**	**+0.1**
VLS				*e*SG	**Sg**	**21 50 39.3**	**+0.5**
VLS	**Valsamata**	**0.26**	**128**	⇑*i*Pg	**Pg**	**21 50 35.1**	**+0.1**
VLS				*e*Sg	**Sg**	**21 50 38.9**	**+0.1**
KFL	**Anninata**	**0.42**	**122**	*e*Pg	**Pg**	**21 50 38.1**	**+0.1**
KLD	**Levkas**	**0.45**	**34**	*e*Pg	**Pg**	**21 50 37.8**	**-0.6**
LKD				*e*Sg	**Sg**	**21 50 44.6**	**+0.1**
RLS	**Riolos of Patr**	**0.94**	**107**	*e*PG	**Pg**	**21 50 47.3**	**-0.3**
IGT	**Igoumenitsa**	**1.20**	**0**	*e*Pg	**Pg**	**21 50 52.0**	**-0.5**
IGT				*e*Sg	**Sg**	**21 51 09.3**	**+1.1**
SELA	**Sela**	**1.23**	**92**	*e*Pg	**Pg**	**21 50 52.0**	**-1.2**
SELA				*e*Sg	**Sg**	**21 51 09.5**	**+0.3**
EVR	**Evrytania**	**1.29**	**63**	*e*PB	**Pn**	**21 50 52.7**	**-0.4**
KEK	**Kerkira**	**1.44**	**343**	*e*PB	**Pb**	**21 50 55.7**	**-0.3**
ITM	**Ithomi**	**1.71**	**132**	*e*PB	**Pb**	**21 51 01.8**	**+1.1**
THL	**Klokotos Trika**	**1.80**	**46**	*e*PB	**Pb**	**21 51 02.5**	**+0.3**

*NIED **11** 22:21:00,3940N×14430E, h8km, Mw3.8 Best double couple: M0:5.44000×10^14 NP1:φs:169.00000°, δ64.00000°, λ-96.00000°. NP2:φs:2.00000°, δ26.00000°, λ-78.00000°.*
*IDC **11** 22:21:36.8±1.2,3919N×14464E, h0km, mb3.7/7, mb1 3.8/10, mb1mx3.7/21, mbtmp3.7/10, ML3.7/3, MS3.2/1, Ms1 3.2/1, ms1mx2.6/42, Error ellipse: s-maj=29.3km s-min=23.4km az=107.0*
*ISCJB **11** 22:21:39.1±1.5,3945N±003×14434E±005, h15km±12km, mb3.8/9, Error ellipse: s-maj=7.6km s-min=4.6km az=36.2*
*JMA **11** 22:21:41.2±0.2,3942N×14435E, h48km, M4.0*
*MOS **11** 22:21:41.3±1.1,3935N×14438E, h33km, mb4.5/4, Error ellipse: s-maj=19.1km s-min=10.9km az=93.4*
*NEIC **11** 22:21:42.2±0.8,3920N×14455E, h35km, mb4.5/1, MW3.8(NIED), Error ellipse: s-maj=17.0km s-min=9.8km az=119.0*
ISC 11 22:21:41.6±1.5,3941N±003×14429E±005,h22km±13km, n51,σ1°11/69,mb3.8/9,3D,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.92**	**276**	P	**Pn**	**22 22 13.1**	**+0.2**
MIYJ				*e*S	**Sn**	**22 22 36.0**	**-0.4**
JTH	**Tanohata**	**1.95**	**286**	P	**Pn**	**22 22 13.2**	**-0.1**
JTH				*e*S	**Sn**	**22 22 37.4**	**+0.4**
OFUJ	**Ofunato**	**2.06**	**262**	P	**Pn**	**22 22 14.8**	**-0.1**
OFUJ				*e*S	**Sn**	**22 22 39.7**	**-0.2**
JOM	**Ohasama**	**2.32**	**272**	P	**Pn**	**22 22 19.0**	**+0.5**
JOM				*e*S	**Sn**	**22 22 46.2**	**-0.1**
JANG	**Nango**	**2.34**	**295**	P	**Pn**	**22 22 18.6**	**-0.1**
JMK	**Ichinoseki**	**2.43**	**260**	P	**Pn**	**22 22 20.1**	**+0.2**
JMK				*e*S	**Sn**	**22 22 48.4**	**-0.6**
ERM	**Erimo**	**2.74**	**342**	*e*Pn	**Pn**	**22 22 26.1**	**+1.9**
ERM				*e*Sn	**Sn**	**22 22 56.1**	**-0.5**
JNBK	**Urakawa-nobuka**	**3.09**	**338**	P	**Pn**	**22 22 29.0**	**-0.1**
JNBK				*e*S	**Sn**	**22 23 05.5**	**+0.2**
JYK	**Kaneyama**	**3.10**	**262**	P	**Pn**	**22 22 29.7**	**+0.6**
JMM	**Marumori**	**3.15**	**242**	P	**Pn**	**22 22 28.5**	**-1.2**
JMM				*e*S	**Sn**	**22 23 04.1**	**-2.5**
JOT	**Ohata**	**3.16**	**310**	P	**Pn**	**22 22 30.8**	**+0.8**
JOT				*e*S	**Sn**	**22 23 07.6**	**+0.5**
JCH	**Churui**	**3.28**	**348**	P	**Pn**	**22 22 30.7**	**-0.9**
JCH				*e*S	**Sn**	**22 23 07.6**	**-2.2**
JKB	**Kayabe**	**3.50**	**316**	P	**Pn**	**22 22 35.2**	**+0.5**
JKB				*e*S	**Sn**	**22 23 15.5**	**+0.1**
JAK	**Akkeshi**	**3.59**	**5**	P	**Pn**	**22 22 34.3**	**-1.6**
JAK				*e*S	**Sn**	**22 23 14.5**	**-3.2**
NEM2	**Nemuro 2**	**4.10**	**15**	P	**Pn**	**22 22 40.1**	**-2.7**
NEM2				*e*S	**Sn**	**22 23 25.3**	**-4.8**
JOSM	**Okushiri--Mats**	**4.53**	**308**	P	**Pn**	**22 22 49.5**	**+0.7**
JTKR	**Abashiri--Toko**	**4.56**	**357**	P	**Pn**	**22 22 48.5**	**-0.8**
JTKR				*e*S	**Sn**	**22 23 38.9**	**-2.7**
ASAJ	**Asahikawa**	**4.87**	**345**	P	**Pn**	**22 22 53.9**	**+0.5**
ASAJ						22 23 49.9	
ASAJ				pmax	pmax		
comp=Z,3.0nm,0.3s							
ASAJ				smax			
comp=N,3.0nm,0.3s							
ASAJ	**Asahikawa**	**4.87**	**345**	Pn	**Pn**	**22 22 53.9**	**+0.5**
comp=N,2.9nm,0.3s,baz=199,slow=14,SNR=11							
ASAJ				Sn	**Sn**	**22 23 49.9**	**+0.8**
comp=N,3.4nm,0.3s,baz=306,slow=33,SNR=3.6							
BSO1	**Boso 1**	**5.44**	**210**	P	**Pn**	**22 22 57.6**	**-3.7**
BSO1				*e*S	**Sn**	**22 23 57.1**	**-6.1**
JRY	**Ryogami san**	**5.45**	**233**	P	**Pn**	**22 23 00.0**	**-1.5**
JRY				*e*S	**Sn**	**22 24 01.2**	**-2.3**
MJAR	**Matsushiro Arr**	**5.59**	**241**	*e*P	**Pn**	**22 23 03.9**	**+0.5**
MJAR	**Matsushiro Arr**	**5.59**	**241**	Pn	**Pn**	**22 23 03.9**	**+0.5**
comp=N,4.2nm,0.3s,baz=69,slow=12,SNR=45							
MAJO	**Matsushiro**	**5.59**	**241**	*e*P	**Pn**	**22 23 03.7**	**+0.3**
MAJO						22 24 12.0	
MAJO				pmax	pmax		
comp=Z,18nm,0.4s							
MAJO	**Matsushiro**	**5.59**	**241**	*e*Pn	**Pn**	**22 23 03.7**	**+0.3**
comp=Z,18nm,0.4s							
MAJO				Sn	**Sn**	**22 24 12.0**	**+4.9**
MAT	**Matsushiro**	**5.59**	**241**	P	**Pn**	**22 23 04.0**	**+0.6**
MAT				*e*S	**Sn**	**22 24 14.6**	**+7.6**
JNU	**Nakatsue**	**12.51**	**244**	LR	LR	22 29 28.8	
comp=Z,101nm,18.5s,baz=51,slow=37							
KSRS	**Korea Array**	**12.98**	**267**	Pn	**Pn**	**22 24 45.7**	**+1.0**
comp=Z,0.2nm,0.3s,baz=93,slow=13,SNR=5.0							
MA2	**Magadan**	**20.60**	**9**	*e*P	**P**	**22 26 19.9**	**+1.0**
MA2				pmax	pmax		
comp=Z,6.0nm,0.9s							
SEY	**Seymchan**	**24.05**	**9**	*e*P	**P**	**22 26 54.6**	**-0.2**
YAK	**Yakutsk**	**24.35**	**343**	*e*P	**P**	**22 26 57.6**	**+0.1**
YAK				pmax	pmax		
comp=Z,11nm,0.5s,mb4.5							
ULN	**Ulaanbaatar**	**28.02**	**300**	*e*P	**P**	**22 27 34.6**	**+3.8**
SONM	**Songino Array**	**28.46**	**300**	*e*P	**P**	**22 27 41.0**	**+6.3**
SONM	**Songino Array**	**28.46**	**300**	P	**P**	**22 27 37.2**	**+2.5**
comp=Z,0.4nm,0.6s,mb3.2,baz=70,slow=6.5,SNR=3.5							
ZALV	**Zalesovo Beam**	**42.04**	**311**	P	**P**	**22 29 32.9**	**+1.7**
comp=Z,0.7nm,0.5s,mb3.5,baz=101,slow=7.2,SNR=4.1							
ZAL	**Zalesovo**	**42.06**	**310**	P	**P**	**22 29 32.9**	**+1.6**
MKAR	**Makanchi Array**	**44.82**	**301**	*e*P	**P**	**22 29 54.7**	**+1.0**
MKAR	**Makanchi Array**	**44.82**	**301**	P	**P**	**22 29 55.0**	**+1.3**
MKAR	**Makanchi Array**	**44.82**	**301**	P	**P**	**22 29 55.0**	**+1.3**
comp=Z,0.7nm,0.8s,mb3.5,baz=92,slow=9.7,SNR=5.2							
KURK	**Kurchatov**	**46.29**	**307**	*e*P	**P**	**22 30 14.1**	**+8.8**
WRA	**Warramunga Arr**	**59.77**	**191**	*e*P	**P**	**22 31 46.6**	**+1.8**
WRA	**Warramunga Arr**	**59.77**	**191**	P	**P**	**22 31 42.2**	**-2.6**
comp=Z,0.4nm,0.6s,mb3.6,baz=8.0,slow=7.0,SNR=4.8							
YKA	**Yellowknife Ar**	**60.61**	**32**	*e*P	**P**	**22 31 50.0**	**-0.2**
YKA	**Yellowknife Ar**	**60.61**	**32**	P	**P**	**22 31 49.6**	**-0.6**
comp=Z,0.5nm,0.7s,mb3.7,baz=302,slow=6.6,SNR=8.4							
FINES	**FINESS Array B**	**67.76**	**333**	P	**P**	**22 32 37.9**	**+0.9**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**67.76**	**333**	P	**P**	**22 32 37.9**	**+0.9**
comp=Z,1.0nm,0.6s,mb4.0,baz=57,slow=7.0,SNR=9.9							
NOA	**NORSAR Array B**	**72.85**	**338**	*e*P	**P**	**22 33 08.9**	**+0.7**
NOA	**NORSAR Array B**	**72.85**	**338**	P	**P**	**22 33 08.6**	**+0.3**
comp=Z,1.0nm,0.8s,mb3.8,baz=37,slow=5.8,SNR=3.5							
CLL	**Collm**	**80.13**	**331**	⇓*i*P	**P**	**22 33 49.9**	**+0.3**
CLL				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
CLL	**Collm**	**80.13**	**331**	⇓*i*P	**P**	**22 33 49.9**	**+0.3**
comp=Z,5.0nm,0.9s,mb4.4							
CLL				*e*		22 34 18.0	
CLL	**Collm**	**80.13**	**331**	⇓*i*P	**P**	**22 33 49.9**	**+0.3**
comp=Z,5.0nm,0.9s,mb4.4							

*IDC **11** 22:27:60.0±1.0,1403N×12087E, h0km, mb3.8/6, mb1 4.0/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=91.7km s-min=18.7km az=68.0*
*NEIC **11** 22:28:05.3±1.0,1404N×12057E, h35km, mb4.7/3, Error ellipse: s-maj=36.2km s-min=17.4km az=65.0*
*ISCJB **11** 22:28:11.8±0.5,1395N±005×12043E±009, h112km±5km, mb4.2/9, Error ellipse: s-maj=14.9km s-min=8.1km az=175.8*
*MAN **11** 22:28:12,1396N×12042E, h96km, mb4.2, ML3.0, MS2.8*
ISC 11 22:28:12.8±0.5,1395N±005×12046E±009,h106km±5km, n20,σ0°69/22,mb4.2/9,2C,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LUBP	**Lubang**	**0.30**	**224**	*e*P	**Pn**	**22 28 28.0**	**-0.1**
TGY	**Tagaytay City**	**0.49**	**72**	⇑*e*P	**Pn**	**22 28 29.3**	**+0.2**
TGY				*i* S	**Sn**	**22 28 42.4**	**+0.9**
PGP	**Puerto Galera**	**0.66**	**133**	*e*P	**Pn**	**22 28 30.0**	**-0.4**
POLP	**Polilio Island**	**1.63**	**61**	*e*P	**Pn**	**22 28 41.6**	**+0.6**
PCPH	**Palayan**	**1.72**	**21**	⇑*e*P	**Pn**	**22 28 41.0**	**-1.1**
PCPH				*e*S	**Sn**	**22 29 03.3**	**-1.1**
SCZP	**Santa Cruz**	**1.89**	**344**	*e*P	**Pn**	**22 28 43.9**	**-0.4**
BALP	**Baler**	**2.08**	**31**	*e*P	**Pn**	**22 28 47.0**	**+0.3**
OTRP	**Odiongan**	**2.19**	**136**	*e*P	**Pn**	**22 28 48.4**	**+0.3**
BOLP	**Bolinao**	**2.47**	**348**	*e*P	**Pn**	**22 28 51.6**	**-0.1**
ENPP	**El Nido**	**2.91**	**200**	*e*P	**Pn**	**22 28 57.8**	**+0.3**
CUYO	**Cuyo Island**	**3.13**	**170**	*e*P	**Pn**	**22 29 00.2**	**-0.2**
GUMO	**Guam**	**23.71**	**88**	*e*P	**P**	**22 33 16.0**	**+0.9**
229nm,1.4s,mb5.3							
SONM	**Songino Array**	**35.75**	**344**	P	**P**	**22 35 02.2**	**+0.9**
2.3nm,0.6s,mb4.3,baz=164,slow=9.5,SNR=25							
WRA	**Warramunga Arr**	**36.34**	**158**	P	**P**	**22 35 04.8**	**-1.8**
0.6nm,0.4s,mb3.9,baz=334,slow=9.7,SNR=8.1							
ASAR	**Alice Springs**	**39.63**	**160**	P	**P**	**22 35 33.8**	**-0.4**
0.4nm,0.3s,mb3.7,baz=338,slow=7.2,SNR=9.1							
MKAR	**Makanchi Array**	**45.69**	**324**	P	**P**	**22 36 23.6**	**+0.6**
0.7nm,0.8s,mb3.5,baz=113,slow=9.3,SNR=6.1							
ZALV	**Zalesovo Beam**	**48.73**	**333**	P	**P**	**22 36 46.3**	**-0.1**
0.8nm,0.4s,mb4.0,baz=116,slow=5.9,SNR=5.4							
KURK	**Kurchatov**	**49.85**	**326**	*e*P	**P**	**22 36 55.6**	**+0.6**
4.7nm,0.8s,mb4.5							
BRVK	**Borovoye**	**55.51**	**326**	*e*P	**P**	**22 37 37.0**	**+0.4**
2.0nm,0.5s,mb4.4							
YKA	**Yellowknife Ar**	**92.64**	**22**	P	**P**	**22 41 11.6**	**-0.7**
0.3nm,0.5s,mb3.9,baz=307,slow=4.3,SNR=5.3							

THE 11 22:35:13.6,3833N×2055E, h14km, ML1.8, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.15**	**169**	*e*Pg	Pg	22 35 17.1	-0.2
VLS				*e*Sg	Sg	22 35 20.4	+0.4
KFL	**Anninata**	**0.28**	**139**	*e*Pg	Pg	22 35 19.4	-0.1
LKD	**Levkas**	**0.39**	**11**	*e*Pn	Pg	22 35 21.0	-0.4
LKD	**Levkas**	**0.39**	**11**	*e*Pg	Pg	22 35 21.5	+0.1
LKD				*e*Sg	Sg	22 35 27.2	+0.5

*ATH **11** 22:35:12.2,3772N×2310E, h32km±1km, MD2.7/4, ML2.6*
*NEIC **11** 22:35:12.2,3772N×2310E, h32km, ML2.6(ATH), After ATH.*
*ISCJB **11** 22:35:14.2±0.5,3785N±004×2325E±005, h17km±8km, Error ellipse: s-maj=7.0km s-min=5.9km az=36.7*
*CSEM **11** 22:35:14.6±0.1,3783N×2315E, h12km, ML2.2, Error ellipse: s-maj=1.6km s-min=1.5km az=8.0*
*THE **11** 22:35:14.4,3784N×2321E, h3km, ML2.2*
ISC 11 22:35:14.5±0.6,3784N±003×2314E±003,h19km±7km,n14, σ0°72/20,Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	**Loutraki**	**0.23**	**324**	*e*Pg	**Pg**	**22 35 19.3**	**-0.7**
LTK				*e*Sg	**Sg**	**22 35 23.7**	**-0.1**
NAIG	**Nisos Aigina**	**0.28**	**105**	*e*PB	**Pg**	**22 35 20.0**	**-0.8**
NAIG				*e*SB	**Sg**	**22 35 26.0**	**+0.9**
DID	**Didima**	**0.34**	**167**	*e*Pg	**Pg**	**22 35 20.9**	**-0.7**
DID				*e*Sg	**Sg**	**22 35 25.9**	**-0.6**
ATH	**Athens Observa**	**0.47**	**73**	*e*PN	**Pg**	**22 35 23.7**	**-0.4**
ATH				*e*SN	**Sg**	**22 35 32.2**	**+1.6**
KVR	**Kavouri**	**0.50**	**91**	*e*PN	**Pg**	**22 35 24.0**	**-0.5**
KVR				*e*SN	**Sg**	**22 35 31.5**	**+0.3**
PTL	**Penteli**	**0.61**	**69**	*e*PN	**Pg**	**22 35 26.0**	**-0.6**
VLX	**Vlachokerasia**	**0.76**	**233**	*e*Pg	**Pg**	**22 35 29.3**	**-0.2**
VLX				*e*Sg	**Sg**	**22 35 41.2**	**+1.6**
LKR	**Lokris**	**0.82**	**352**	*e*Pg	**Pg**	**22 35 30.0**	**-0.6**
LKR	**Lokris**	**0.82**	**352**	*e*Pn	**Pg**	**22 35 30.2**	**-0.4**
SELA	**Sela**	**1.08**	**294**	*e*Pg	**Pg**	**22 35 36.0**	**+0.6**
AGG	**Agios Georgios**	**1.35**	**332**	*e*Pg	**Pg**	**22 35 40.5**	**0.0**
AOS	**Alonnisos**	**1.45**	**23**	*e*Pg	**Pn**	**22 35 40.1**	**+0.4**
PYL	**PYLOS**	**1.46**	**230**	*e*Pg	**Pg**	**22 35 41.9**	**-0.6**
NEO	**Neokhori**	**1.47**	**2**	*e*PB	**Pn**	**22 35 39.8**	**-0.2**

*IDC **11** 22:44:02.0±1.2,283S×12963E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.9/16, mbtmp3.9/6, ML3.9/2, Error ellipse: s-maj=81.4km s-min=20.3km az=75.0*
*ISCJB **11** 22:44:04.1±0.7,298S×007×1297E±02, h33km, mb4.2/5, Error ellipse: s-maj=24.2km s-min=6.4km az=158.4*
*NEIC **11** 22:44:06.3±0.6,295S×12970E, h35km, mb4.2/5, Error ellipse: s-maj=20.9km s-min=7.4km az=69.0*
ISC 11 22:44:06.2±0.7,304S±007×1297E±02,h35km,n17, σ1°05/19,mb4.2/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.48**	**194**	*e*P	**Pn**	**22 47 43.2**	**+1.2**
4.8nm,0.8s							
FITZ	**Fitzroy Crossi**	**15.48**	**194**	Pn	**Pn**	**22 47 42.3**	**+0.3**
0.2nm,0.3s,baz=340,slow=24,SNR=8.1							
KKM	**Kota Kinabalu**	**16.18**	**304**	Pn	**Pn**	**22 47 49.7**	**-1.3**
WRAB	**Tennant Creek**	**17.40**	**165**	*e*Pn	**Pn**	**22 48 06.7**	**+0.2**
5.0nm,0.6s							
WRAB				*e*Sn	**Sn**	**22 51 17.8**	**-1.4**
WRA	**Warramunga Arr**	**17.41**	**165**	P	**Pn**	**22 48 07.3**	**+0.8**
0.7nm,0.3s,baz=346,slow=12,SNR=22							
WRA				S	**Sn**	**22 51 17.1**	**-2.2**
0.2nm,0.3s,baz=341,slow=20,SNR=3.2							
WB2	**Warramunga Arr**	**17.41**	**165**	*e*P	**Pn**	**22 48 07.5**	**+0.9**
WB2	**Warramunga Arr**	**17.41**	**165**	*e*Pn	**Pn**	**22 48 07.3**	**+0.8**
KSM	**Kuching**	**19.85**	**283**	*e*P	**Pn**	**22 48 36.2**	**0.0**
MBWA	**Marble Bar**	**20.44**	**207**	P	**P**	**22 48 41.4**	**+0.7**
9.1nm,0.9s							
ASAR	**Alice Springs**	**20.91**	**169**	P	**P**	**22 48 48.9**	**+3.0**
5.6nm,0.5s,baz=350,slow=10,SNR=70							
ASAR				PcP	PcP	22 52 55.5	+2.3
0.5nm,0.7s,baz=8.5,slow=1.9,SNR=4.6							
SONM	**Songino Array**	**54.60**	**341**	P	**P**	**22 53 31.4**	**+0.2**
0.1nm,0.3s,mb3.3,baz=132,slow=4.1,SNR=2.6							
MKAR	**Makanchi Array**	**64.76**	**326**	P	**P**	**22 54 41.1**	**0.0**
1.5nm,0.7s,mb4.2,baz=119,slow=8.3,SNR=18							
AML	**Almayashu**	**67.63**	**318**	*e*P	**P**	**22 55 00.8**	**+1.1**
7.1nm,1.2s,mb4.6							
ZAA0	**Zalesovo Array**	**67.91**	**333**	*e*P	**P**	**22 55 00.4**	**-0.8**
ZALV	**Zalesovo Beam**	**67.91**	**333**	P	**P**	**22 55 00.5**	**-0.6**
ZALV	**Zalesovo Beam**	**67.91**	**333**	P	**P**	**22 55 00.5**	**-0.6**
1.6nm,0.7s,mb4.1,baz=117,slow=5.2,SNR=6.7							
KURK	**Kurchatov**	**68.99**	**328**	*e*P	**P**	**22 55 07.5**	**-0.5**
7.6nm,0.8s,mb4.7							

WEL 11 22:51:59.2±0.3,3742S×17768E,h114km±2km,ML3.5/5, Error ellipse: s-maj=1.4km s-min=1.1km az=0.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**0.52**	**106**	PN	Pn	22 52 16.5	-0.1
MXZ				SN	Sn	22 52 29.6	-0.1
PUZ	**Puketiti**	**0.79**	**145**	PN	Pn	22 52 18.8	0.0
PUZ				SN	Sn	22 52 33.3	-0.3
MWZ	**Matawai**	**0.92**	**188**	PN	Pn	22 52 20.0	+0.1
MWZ				SN	Sn	22 52 35.6	0.0
URZ	**Urewera**	**0.95**	**208**	PN	Pn	22 52 20.1	-0.1
MARZ	**Manawahe**	**0.98**	**234**	PN	Pn	22 52 20.6	+0.1
OPRZ	**Ohinepanea**	**0.99**	**244**	PN	Pn	22 52 20.7	+0.1
TAZ	**Tarawera**	**1.23**	**229**	PN	Pn	22 52 24.3	+1.1
KNZ	**Kokohu**	**1.60**	**180**	PN	Pn	22 52 27.1	-0.3
BKZ	**Black Stump Fm**	**1.98**	**208**	PN	Pn	22 52 32.4	+0.3
MTVZ	**Mangateitei**	**2.62**	**221**	PN	Pn	22 52 39.8	-0.5
PXZ	**Pawanui**	**2.69**	**194**	PN	Pn	22 52 39.6	-1.5
BFZ	**Birch Farm**	**3.44**	**199**	PN	Pn	22 52 49.5	-1.6
MRZ	**Mangatainoka R**	**3.63**	**206**	PN	Pn	22 52 51.1	-2.5
HOWZ	**Holdsworth Sta**	**3.86**	**205**	PN	Pn	22 52 53.8	-2.9
KIW	**Kapiti Island**	**4.06**	**211**	PN	Pn	22 52 56.8	-2.6

IDC 11 22:56:17.7±4.9,749S×15540E,h0km,mb3.8/4,mb1 3.8/4, mb1mx3.6/13,mbtmp3.8/4,MS4.8/1,Ms1 4.8/1, ms1mx3.4/25,Error ellipse: s-maj=140.9km s-min=37.0km az=119.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.87**	**237**	P	P	23 01 32.5	-0.6
0.4nm,0.5s,baz=60,slow=9.4,SNR=5.9							
BATI	**Kupang**	**31.46**	**263**	LR	LR	23 13 20.3	
comp=Z,2μm,21.6s,baz=118,slow=32							
SONM	**Songino Array**	**69.97**	**327**	P	P	23 07 31.5	+0.6
0.3nm,0.5s,baz=119,slow=5.1,SNR=2.7							
MKAR	**Makanchi Array**	**84.04**	**319**	P	P	23 08 51.2	+1.0
1.1nm,0.7s,baz=98,slow=5.7,SNR=4.3							
ZALV	**Zalesovo Beam**	**84.81**	**326**	P	P	23 08 53.1	-0.8
0.8nm,0.5s,baz=111,slow=7.9,SNR=3.7							

*ISCJB **11** 23:00:35.5±0.2,888N±002×12700E±002, h34km, mb5.1/121, MS4.7/50, Error ellipse: s-maj=3.3km s-min=2.9km az=168.1*
*MAN **11** 23:00:36,879N×12695E, h93km, mb5.7, ML4.8, MS5.2*
*MOS **11** 23:00:36.6±1.1,893N×12655E, h33km, mb5.3/39, MS4.7/9, Error ellipse: s-maj=11.1km s-min=5.6km az=112.1*
*BJI **11** 23:00:37.6,886N×12668E, h51km, mB5.1, mb5.1, Ms5.0, Msz4.9*
*IDC **11** 23:00:37.6±0.5,880N×12675E, h35km±3km, mb4.7/31, mb1 4.7/34, mb1mx4.7/35, mbtmp4.7/34, ML4.0/2, MS4.6/19, Ms1 4.6/19, ms1mx4.4/29, Error ellipse: s-maj=17.3km s-min=7.9km az=72.0*
*NEIC **11** 23:00:40.1±0.9,879N×12668E, h56km±8km, mb5.2/40, MS4.6/3, Error ellipse: s-maj=7.2km s-min=4.0km az=75.0*
NEIC Felt [II PIVS] at Bislig and [I PIVS] at Butuan and Davao.
*GCMT **11** 23:00:40.1±0.2,881N×12687E, h23km, MW5.2/96, Moment Tensor Solution. s72,c102; s96,c158; Duration: 1s0 Moment tensor: Scale 10^16Nm; Mrr-1.89±.16; Mθθ6.32±.12; Mφφ-4.43±.14; Mrθ3.85±.23; Mrφ-1.09±.10

KKM Kota Kinabalu 11.01 256 ⇑P **Pn 23 03 17.5 +4.7**
BTM Bintulu 14.89 249 ⇓P **Pn 23 04 10.9 +5.1**
KAPI Kappang 15.54 208 Pn **Pn 23 04 13.7 -0.6**
KAPI Kappang 15.54 208 Pn **Pn 23 04 13.7 -0.6**
1.3nm,0.3s,baz=64,slow=2.2,SNR=6.0
SBUM Sibu 15.98 247 ⇓P **Pn 23 04 23.2 +3.3**
YHNB Yeheng 16.59 342 *e*Pn **Pn 23 04 29.2 +1.6**
QZH Quanzhou 17.86 335 *i* P **Pn 23 04 45.2 +1.8**
QZH S **S 23 08 03.6 -3.7**
QZH AMB AMB
comp=Z,120nm,1.2s
QZH AMB AMB
comp=Z,1μm,8.2s
QZH LR LR
comp=N,6μm,18.0s
QZH LR LR
comp=E,2μm,17.3s
QZH LR LR
comp=Z,3μm,16.7s
JOW Kunigami 17.91 4 P **Pn 23 04 46.5 +2.5**
comp=Z,0.7nm,0.3s,baz=180,slow=9.0,SNR=15
JOW LR LR 23 11 44.6
comp=Z,144nm,19.2s,baz=169,slow=37
KSM Kuching 18.12 247 *e*P **Pn 23 04 44.1 -2.6**
KSM Kuching 18.12 247 ⇑P **Pn 23 04 49.7 +3.0**
GUMO Guam 18.19 73 LR LR 23 10 19.9
comp=Z,1μm,20.1s,baz=241,slow=32
BATI Kupang 19.23 190 P **Pn 23 04 59.5 -0.6**
comp=Z,26nm,0.3s,baz=7.8,slow=0.7,SNR=33
GZH Guangzhou 19.23 319 P **Pn 23 05 01.6 +1.5**
GZH S **S 23 08 32.4 -2.7**
GZH LR LR
comp=N,3μm,17.6s
GZH LR LR
comp=E,3μm,17.3s
GZH LR LR
comp=Z,6μm,18.2s
QIZ Qiongzhong 19.41 303 P **Pn 23 05 00.0 -2.3**
QIZ XP sP 23 05 16.8 +2.0
QIZ S **S 23 08 36.6 -2.1**
QIZ AMB AMB
comp=Z,37nm,1.3s
QIZ AMB AMB
comp=Z,815nm,11.4s
QIZ LR LR
comp=E,3μm,16.1s
QIZ LR LR
comp=Z,5μm,16.3s
QIZ Qiongzhong 19.41 303 *e*P **Pn 23 04 58.7 -3.6**
comp=Z,44nm,0.9s
KAKA Kakadu 22.12 166 *e*P **P 23 05 29.3 -0.9**
comp=Z,59nm,0.6s,mb5.2
SSE Sheshan 22.76 347 P **P 23 05 37.2 +0.3**
SSE S **S 23 09 41.9 -1.7**
SSE SCP ScP 23 12 55.8 -7.4
SSE AMB AMB
comp=Z,116nm,0.8s,mb5.4
SSE AMB AMB
comp=Z,499nm,6.5s
SSE LR LR
comp=N,2μm,15.0s,MS4.6
SSE LR LR
comp=E,613nm,15.1s,MS4.6
SSE LR LR
comp=Z,2μm,17.1s,MS4.6
KTGM Kuala Trenggan 23.89 263 ⇑P **P 23 05 49.3 +1.0**
MYKOM Kota Tinggi 24.03 254 ⇑P **P 23 05 50.3 +0.7**
NJ2 Nanjing 24.26 343 *e*P **P 23 05 50.6 -0.9**
NJ2 AP 23 06 08.4
NJ2 PP 23 06 27.9
NJ2 S **S 23 10 02.5 -5.5**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb4.9
NJ2 AMB AMB
comp=Z,660nm,8.2s
NJ2 LR LR
comp=N,2μm,14.1s,MS4.9
NJ2 LR LR
comp=E,2μm,14.9s,MS4.9
NJ2 LR LR
comp=Z,2μm,15.0s,MS4.7
JNU Nakatsue 24.41 8 P **P 23 05 53.8 +1.0**
comp=Z,69nm,1.1s,mb5.0,baz=165,slow=9.6,SNR=14
JNU LR LR 23 14 55.4
comp=Z,832nm,18.7s,MS4.2,baz=333,slow=35
KGM Kluang 24.47 255 ⇑P **P 23 05 55.3 +1.7**
WHN Wuhan 24.57 333 ⇑P **P 23 05 51.5 -2.8**
WHN S **S 23 10 14.0 +1.1**
WHN LR LR
comp=N,985nm,10.0s,MS5.0
WHN LR LR
comp=E,2μm,12.2s,MS5.0
WHN LR LR
comp=Z,6μm,18.6s
KKTK Khon Kaen 24.67 290 PG **P 23 05 55.0 -0.4**
FRIM Kepong 25.79 259 ⇓P **P 23 06 07.5 +1.9**
GYA Guiyang 26.00 315 P **P 23 06 06.9 -0.5**
GYA PP 23 06 50.4
GYA PCP PcP 23 09 33.3 -1.9
GYA S **S 23 10 26.0 -10**
GYA SS 23 11 40.2
GYA SCP ScP 23 13 08.2 -4.1
GYA PCS PcS 23 13 16.8 +0.7
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,210nm,9.0s
GYA LR LR
comp=N,3μm,17.4s,MS4.9
GYA LR LR
comp=E,1μm,17.7s,MS4.9
GYA LR LR
comp=Z,4μm,15.6s,MS5.1
IPM Ipoh 26.11 262 ⇓P **P 23 06 09.7 +1.2**
SNG Songkhla 26.12 268 PG **P 23 06 10.0 +1.3**
KULM Kulim 26.33 264 *e*P **P 23 06 09.2 -1.4**
KULM Kulim 26.33 264 ⇑P **P 23 06 12.1 +1.5**
FITZ Fitzroy Crossi 26.83 183 *e*P **P 23 06 14.3 -0.6**
comp=Z,64nm,0.9s,mb5.2
FITZ *e*S **S 23 10 55.4 +6.4**
FITZ Fitzroy Crossi 26.83 183 P **P 23 06 14.2 -0.7**
comp=Z,28nm,0.7s,mb4.9,baz=11,slow=10,SNR=21
JHJ Hachijo jima 2 26.89 24 LR LR 23 15 49.4
comp=Z,775nm,19.2s,MS4.3,baz=55,slow=34
NNT Nongplab 26.98 280 PG **P 23 06 18.8 +2.4**
NST Nakhon Sawan 27.04 287 PG **P 23 06 13.0 -3.9**
NANT Nan 27.29 294 ⇓P **P 23 06 17.9 -1.2**
comp=Z,331nm,0.9s,mb5.9
KMI Kunming 28.15 308 P **P 23 06 30.7 +4.0**
KMI XP sP 23 06 47.7 +6.4
KMI PCP PcP 23 09 39.2 -1.1
KMI S **S 23 11 07.0 -2.9**
KMI PCS PcS 23 13 22.8 +0.1
KMI AMB AMB
comp=Z,15nm,0.8s,mb4.7
KMI AMB AMB
comp=Z,236nm,8.6s
KMI LR LR
comp=N,1μm,12.4s,MS4.9
KMI LR LR
comp=E,2μm,17.1s,MS4.9
KMI LR LR
comp=Z,2μm,17.9s,MS4.8
KSRS Korea Array 28.47 2 P **P 23 06 30.9 +1.5**
comp=Z,12nm,0.9s,mb4.5,baz=173,slow=9.7,SNR=20
KSRS LR LR 23 16 40.0
comp=Z,544nm,20.5s,MS4.1,baz=198,slow=34
PSI Prapat 28.51 259 P **P 23 06 29.8 -0.3**
comp=Z,17nm,0.7s,mb4.9,baz=244,slow=4.2,SNR=9.7
PSI Prapat 28.51 259⇑*e*P **P 23 06 30.7 +0.6**
PSI Prapat 28.51 259⇑*e*P **P 23 06 30.7 +0.6**
TIA Tai'an 28.65 343 *e*P **P 23 06 30.7 -0.3**
CHG Chiang Mai 28.89 293 ⇓P **P 23 06 42.5 +9.1**
comp=Z,39nm,1.0s,mb5.1
CHTO Chiang Mai 28.89 293 *e*P **P 23 06 32.3 -1.1**
MJAR Matsushiro Arr 29.39 19 P **P 23 06 37.6 0.0**
MJAR 23 13 25.0
MJAR Matsushiro Arr 29.39 19 P **P 23 06 37.6 0.0**
comp=Z,3.7nm,0.8s,mb4.1,baz=195,slow=9.5,SNR=8.9
MJAR ScP ScP 23 13 24.9 +2.5
comp=Z,1.2nm,0.7s,baz=141,slow=2.6,SNR=4.7
MJAR LR LR 23 17 56.1
comp=Z,788nm,18.1s,MS4.4,baz=205,slow=35
MAT Matsushiro 29.39 19 P **P 23 06 37.7 +0.1**
MAT S **S 23 11 25.0 -4.0**

WRAB Tennant Creek 29.53 166 P **P 23 06 37.9 -1.1**
comp=Z,136nm,0.9s,mb5.7,SNR=7.2
WRAB Tennant Creek 29.53 166 *e*P **P 23 06 37.4 -1.6**
WRAB pmax pmax
comp=Z,63nm,1.4s,mb5.2
WRAB Tennant Creek 29.53 166 *e*P **P 23 06 37.4 -1.6**
comp=Z,63nm,1.4s,mb5.2
WRA Warramunga Arr 29.54 166 P **P 23 06 37.5 -1.6**
comp=Z,5.3nm,0.7s,mb4.4,baz=346,slow=9.1,SNR=22
WB2 Warramunga Arr 29.54 166 *e*P **P 23 06 38.1 -1.0**
XAN Xi'an 30.04 329 P **P 23 06 41.3 -2.1**
XAN AP pP 23 06 51.2 -2.4
XAN PP PP 23 07 41.2 -10
XAN S **S 23 11 30.6 -8.8**
XAN SS SS 23 13 10.7 -37
XAN AMB AMB
comp=Z,13nm,0.7s,mb4.8
XAN AMB AMB
comp=Z,128nm,8.8s
XAN LR LR
comp=N,676nm,13.2s,MS4.6
XAN LR LR
comp=E,700nm,14.2s,MS4.6
XAN LR LR
comp=Z,1μm,16.7s,MS4.6
DL2 Dalian 30.29 352 ⇑P **P 23 06 47.1 +1.6**
DL2 S **S 23 11 41.6 -1.5**
DL2 AMB AMB
comp=Z,50nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,170nm,6.3s
DL2 LR LR
comp=N,410nm,15.7s,MS4.4
DL2 LR LR
comp=E,530nm,16.6s,MS4.4
DL2 LR LR
comp=Z,750nm,15.6s,MS4.4
MBWA Marble Bar 30.67 193 *e*P **P 23 06 48.7 -0.3**
comp=Z,46nm,1.0s,mb5.3
CD2 Chengdu 30.79 319 *e*P **P 23 06 51.4 +1.3**
CD2 PP PP 23 07 55.6 -4.4
CD2 PCP PcP 23 09 47.2 +0.2
CD2 S **S 23 11 48.5 -2.7**
CD2 SCS ScS 23 17 17.5 -6.3
CD2 AMB AMB
comp=Z,10.0nm,0.5s,mb4.9
CD2 AMB AMB
comp=Z,230nm,4.2s
CD2 LR LR
comp=N,3μm,16.8s,MS5.2
CD2 LR LR
comp=E,2μm,15.6s,MS5.2
CD2 LR LR
comp=Z,3μm,16.2s,MS5.0
BJT Baijiatuau 32.48 344 *e*P **P 23 07 04.7 -0.1**
BJT pmax pmax
comp=Z,41nm,0.9s
BJT Baijiatuau 32.48 344 *e*P **P 23 07 04.7 -0.1**
comp=Z,41nm,0.9s,mb5.3
BJI Beijing 32.49 345 P **P 23 07 04.7 -0.2**
BJI S **S 23 12 18.1 +0.5**
BJI AMB AMB
comp=Z,31nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,345nm,4.1s
BJI LR LR
comp=N,689nm,20.2s
BJI LR LR
comp=E,851nm,14.6s
BJI LR LR
comp=Z,531nm,18.4s,MS4.3
SNY Shenyang 32.96 355 ⇓P **P 23 07 10.5 +1.5**
SNY S **S 23 12 20.5 -4.2**
SNY XS sS 23 12 48.4 +6.7
SNY AMB AMB
comp=Z,110nm,1.1s,mb5.7
SNY AMB AMB
comp=Z,470nm,3.5s
SNY LR LR
comp=E,944nm,13.5s
SNY LR LR
comp=Z,826nm,17.7s,MS4.5
ASAR Alice Springs 33.04 168 P **P 23 07 08.7 -1.2**
comp=Z,6.0nm,0.9s,mb4.5,baz=349,slow=7.2,SNR=45
ASAR PcP PcP 23 09 53.5 +0.4
comp=Z,2.1nm,0.6s,baz=344,slow=3.3,SNR=4.3
LZH Lanzhou 34.30 326 ⇓P **P 23 07 21.6 +0.8**
LZH PP PP 23 08 40.5 +1.6
LZH PCP PcP 23 09 55.2 -1.3
LZH S **S 23 12 42.0 -3.7**
LZH SCP ScP 23 13 31.0 -8.1
LZH SCS ScS 23 17 32.1 -9.4
LZH AMB AMB
comp=Z,49nm,1.3s,mb5.3
LZH AMB AMB
comp=Z,152nm,5.4s
LZH LR LR
comp=E,423nm,13.3s
LZH LR LR
comp=Z,627nm,16.5s,MS4.4
CTA Charters Tower 34.48 147 *e*P **P 23 07 24.0 +1.5**
comp=Z,17nm,0.9s,mb5.0
CTA Charters Tower 34.48 147 *e*P **P 23 07 24.0 +1.5**
CTA pmax pmax
comp=Z,17nm,0.9s
CTA Charters Tower 34.48 147 P **P 23 07 22.2 -0.2**
comp=Z,13nm,0.6s,mb5.0,baz=334,slow=9.4,SNR=14
CTAO Charters Tower 34.48 147 *e*P **P 23 07 24.2 +1.7**
CTAO pmax pmax
comp=Z,38nm,1.0s,mb5.3
CTAO Charters Tower 34.48 147 *e*P **P 23 07 24.2 +1.7**
comp=Z,38nm,1.0s,mb5.3
HHC Hu-ho-hao-te 34.66 339 ⇑P **P 23 07 23.9 +0.2**
HHC AP pP 23 07 42.0 +8.0
HHC PP PP 23 08 43.2 +0.5
HHC PCP PcP 23 09 57.3 -0.1
HHC S **S 23 12 48.5 -2.5**
HHC SS SS 23 15 06.6 -16
HHC AMB AMB
comp=Z,507nm,7.0s
HHC LR LR
comp=N,2μm,15.9s,MS5.0
HHC LR LR
comp=E,1μm,13.7s,MS5.0
HHC LR LR
comp=Z,1μm,14.4s,MS4.9
CN2 Changchun 34.82 358 *e*P **P 23 07 26.3 +1.2**
CN2 *e*AP pP 23 07 44.5 +9.1
CN2 *e*PP PP 23 08 47.2 +2.7
CN2 *e*S **S 23 12 51.5 -2.0**
CN2 AMB AMB
comp=Z,30nm,1.1s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,900nm,17.0s,MS4.6
CN2 LR LR
comp=E,500nm,17.0s,MS4.6
CN2 LR LR
comp=Z,1μm,18.0s,MS4.7
BTO Baotou 35.01 337 *e*P **P 23 07 26.2 -0.6**
MDJ Mudanjiang 35.69 3 P **P 23 07 35.0 +2.4**
MDJ AP pP 23 07 51.7 +8.8
MDJ PP PP 23 08 55.4 +1.3
MDJ PCP PcP 23 10 01.3 +0.9
MDJ S **S 23 13 09.3 +2.5**
MDJ SCP ScP 23 13 41.2 -2.6
MDJ PCS PcS 23 13 48.8 +1.3
MDJ SCS ScS 23 17 48.3 -0.3
MDJ AMB AMB
comp=Z,53nm,1.1s,mb5.4
MDJ AMB AMB
comp=Z,93nm,3.7s
MDJ LR LR
comp=N,322nm,16.9s,MS4.3
MDJ LR LR
comp=E,293nm,16.5s,MS4.3
MDJ LR LR
comp=Z,657nm,14.7s,MS4.5
MDJ Mudanjiang 35.69 3 *e*P **P 23 07 34.5 +2.0**
comp=Z,225nm,1.5s,mb5.9
HNR Honiara 37.55 118 LR LR 23 21 37.7
comp=Z,800nm,19.4s,MS4.5,baz=359,slow=33
GTA Gaotai 38.91 326 *e*P **P 23 08 00.0 0.0**
GTA PP PP 23 09 31.9 +2.4
GTA S **S 23 13 54.3 -1.6**

GTA SS SS 23 16 32.8 -16
GTA AMB AMB
comp=Z,11nm,0.7s,mb4.7
GTA AMB AMB
comp=Z,155nm,3.8s
GTA LR LR
comp=N,1μm,19.0s,MS5.0
GTA LR LR
comp=E,2μm,16.4s,MS5.0
GTA LR LR
comp=Z,2μm,17.9s,MS5.1
LSA Lhasa 39.39 307 P **P 23 08 03.4 -0.7**
LSA XP sP 23 08 24.0 +5.2
LSA PP PP 23 09 37.0 +2.1
LSA S **S 23 13 52.6 -11**
LSA AMB AMB
comp=Z,20nm,1.0s,mb4.8
LSA AMB AMB
comp=Z,150nm,14.0s
LSA LR LR
comp=N,490nm,18.0s,MS4.6
LSA LR LR
comp=E,490nm,15.0s,MS4.6
LSA LR LR
comp=Z,1μm,17.0s,MS4.7
LSA Lhasa 39.39 307 *e*P **P 23 08 03.8 -0.3**
LSA pmax pmax
comp=Z,31nm,0.6s,mb5.2
LSA Lhasa 39.39 307 *e*P **P 23 08 03.8 -0.3**
comp=Z,31nm,0.6s,mb5.2
FORT Forrest 39.43 178 *e*P **P 23 08 04.5 +0.1**
comp=Z,77nm,0.6s,mb5.6
HABR Khabarovsk 40.06 8 *e*P **P 23 08 10.1 +0.7**
HABR *e* 23 09 44.6
HABR *e* 23 10 13.5
HABR *e*S **S 23 14 12.7 -0.2**
HABR *e* 23 17 12.7
HABR *e* 23 17 41.1
HABR *e* 23 18 08.1
HABR pmax pmax
comp=Z,24nm,0.3s,mb5.4
YSS Yuzh-Sakhalins 40.28 17⇓*e*P **P 23 08 13.0 +1.8**
YSS *e* 23 08 31.5
YSS *e*S **S 23 14 15.0 -1.2**
YSS pmax pmax
comp=Z,20nm,0.9s,mb4.8
YSS MLR MLR
comp=N,400nm,19.0s,MS4.5
YSS MLR MLR
comp=E,500nm,19.0s,MS4.5
YSS MLR MLR
comp=Z,500nm,19.0s,MS4.4
YSS Yuzh-Sakhalins 40.28 17 *e*P **P 23 08 13.0 +1.8**
comp=Z,18nm,0.8s,mb4.8
KLR Kul'dur 40.43 5 *e*P **P 23 08 09.3 -3.2**
KLR *e*S **S 23 14 12.5 -5.9**
KLR pmax pmax
comp=Z,45nm,1.6s,mb5.0
KLR MLR MLR
comp=N,1μm,14.0s,MS4.9
KLR MLR MLR
comp=E,500nm,14.0s,MS4.9
KLR MLR MLR
comp=Z,2μm,14.0s,MS5.0
HIA Hailar 40.72 353 *e*P **P 23 08 16.0 +1.2**
HIA pmax pmax
comp=Z,28nm,1.0s
HIA Hailar 40.72 353 *e*P **P 23 08 16.0 +1.1**
comp=Z,28nm,1.0s,mb4.8
KLBR Kellerberrin 41.18 192 *e*P **P 23 08 18.8 0.0**
comp=Z,34nm,0.8s,mb5.0
EIDS Eidsvold 41.36 146 *e*P **P 23 08 21.0 +0.6**
MUN Mundaring 41.89 194 *e*P **P 23 08 24.9 +0.2**
BOK Bokaro 41.93 296 *e*P **P 23 08 23.4 -1.8**
BOK AMb AMB 23 08 36.7
comp=Z,72nm,1.1s,mb5.2
ULN Ulaanbaatar 42.36 340 *e*P **P 23 08 28.0 -0.3**
ULN Ulaanbaatar 42.36 340 *e*P **P 23 08 28.5 +0.2**
comp=Z,14nm,0.8s,mb4.7
ULN Ulaanbaatar 42.36 340 P **P 23 08 29.0 +0.7**
SNR=9.4
SONM Songino Array 42.56 340 P **P 23 08 29.9 0.0**
comp=Z,7.6nm,0.8s,mb4.5,baz=157,slow=7.7,SNR=33
SONM ScP ScP 23 14 12.4 +2.2
comp=Z,2.5nm,0.9s,baz=145,slow=3.2,SNR=5.7
SONM LR LR 23 27 45.7
comp=Z,907nm,18.8s,MS4.7,baz=152,slow=38
NWAO Narrogin (SRO) 42.58 192 *e*P **P 23 08 29.7 -0.6**
NWAO pmax pmax
comp=Z,61nm,0.9s
NWAO Narrogin (SRO) 42.58 192 *e*P **P 23 08 29.7 -0.6**
comp=Z,61nm,0.9s,mb5.3
NWAO Narrogin (SRO) 42.58 192 P **P 23 08 28.7 -1.6**
comp=Z,52nm,0.8s,mb5.3,baz=21,slow=8.8,SNR=29
STKA Stephens Creek 42.87 162 *e*P **P 23 08 32.3 -0.3**
comp=Z,14nm,0.7s,mb4.8
STKA Stephens Creek 42.87 162 P **P 23 08 32.5 -0.1**
comp=Z,16nm,0.7s,mb4.9,baz=342,slow=8.3,SNR=46
STKA LR LR 23 29 01.0
comp=Z,396nm,19.4s,MS4.3,baz=100,slow=40
VIS Vishakhapatnam 43.26 286 *e*P **P 23 08 34.5 -1.6**
VIS AMb AMB 23 08 47.1
comp=Z,72nm,0.8s,mb5.4
BLSP Bilaspur 44.98 292 *e*P **P 23 08 48.4 -1.5**
BLSP AMb AMB 23 08 55.2
comp=Z,53nm,1.6s,mb5.1
ARMA Armidale 45.69 150 *e*P **P 23 08 56.8 +1.5**
ZAK Zakamensk 45.80 339 *e*P **P 23 08 54.8 -1.1**
ZAK *e* 23 10 30.6
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
TLY Talaya 46.77 340 P **P 23 09 04.3 +0.8**
comp=Z,94nm,0.8s,mb5.8,SNR=13
IRK Irkutsk 47.04 341 *e*P **P 23 09 01.2 -4.4**
IRK *e* 23 10 54.6
IRK pmax pmax
comp=Z,18nm,1.4s,mb4.8
NGP Nagpur 47.67 290 *e*P **P 23 09 09.6 -1.4**
NGP AMb AMB 23 09 17.8
comp=Z,80nm,1.4s,mb5.5
MOY Mondy 47.69 338 *e*P **P 23 09 11.0 +0.4**
MOY pmax pmax
comp=Z,18nm,1.1s,mb5.0
NRGR Nerungri 47.70 358 *e*P **P 23 09 12.8 +2.2**
NRGR S **S 23 16 07.2 +3.1**
NRGR smax
comp=N,19nm,0.4s
HYB Hyderabad 47.78 285 *e*P **P 23 09 11.5 -0.4**
HYB *e* pP 23 09 21.5 -1.0
HYB pmax pmax
comp=Z,110nm,1.0s,mb5.8
HYB Hyderabad 47.78 285 *e*P **P 23 09 11.5 -0.4**
comp=Z,110nm,1.0s,mb5.8
HYB *e* pP 23 09 21.5 -1.0
HYB Hyderabad 47.78 285⇑*i*P **P 23 09 11.5 -0.4**
comp=Z,110nm,1.0s,mb5.8
HYB *e* pP 23 09 21.5 -1.0
CLNS Chul'man 47.88 358 *e*P **P 23 09 12.8 +0.8**
CLNS *e*PP pP 23 09 30.2 +7.6
CLNS *e* 23 10 36.6
CLNS *e* 23 11 02.3
CLNS *e*PPP 23 11 50.1
CLNS *e*S **S 23 16 06.2 -0.4**
CLNS *e*SS SS 23 19 33.0 -2.5
CLNS pmax pmax
comp=Z,42nm,1.1s,mb5.4
CLNS pmax pmax
comp=N,36nm,1.3s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
CLNS pmax pmax
comp=N,10.0nm,1.0s
CLNS pmax pmax
comp=E,6.0nm,0.7s
CLNS smax
comp=N,161nm,18.8s

CLNS			smax			
	comp=Z,56nm,10.8s					
CLNS			smax			
	comp=E,222nm,12.6s					
PTH	**Pithoragarh**	**48.29 302**	*e*P	**P**	**23 09 15.0**	**-0.7**
PTH			*e*P		23 09 15.3	
WMQ	**Urumqi**	**48.73 322**	P	**P**	**23 09 19.0**	**+0.2**
WMQ			XP	sP	23 09 38.0	+4.3
WMQ			PP	PP	23 11 13.0	+0.8
WMQ			S	**S**	**23 16 15.0**	**-4.1**
WMQ			SS	SS	23 19 42.0	-7.8
WMQ			AMB	AMB		
	comp=Z,52nm,1.0s,mb5.5					
WMQ			AMB	AMB		
	comp=Z,102nm,5.0s					
WMQ			LR	LR		
	comp=N,1µm,15.0s,MS5.2					
WMQ			LR	LR		
	comp=E,987nm,15.0s,MS5.2					
WMQ			LR	LR		
	comp=Z,1µm,15.0s,MS5.0					
KOD	**Kodaikanal**	**48.78 276**	*e*P	**P**	**23 09 18.6**	**-1.0**
KOD			AMb	AMB	23 09 41.9	
	comp=Z,47nm,1.9s,mb5.2					
CNB	**Canberra Magne**	**48.78 156**	*e*P	**P**	**23 09 20.8**	**+1.6**
	comp=Z,23nm,1.0s,mb5.2					
TOO	**Toolangi**	**49.35 161**	*e*P	**P**	**23 09 25.3**	**+1.7**
	comp=Z,201nm,1.5s,mb5.9					
TOO	**Toolangi**	**49.35 161**	*e*P	**P**	**23 09 25.3**	**+1.7**
TOO			pmax	pmax		
	comp=Z,201nm,1.5s,mb5.9					
BHPL	**Bhopal**	**49.45 293**	*e*P	**P**	**23 09 22.8**	**-1.9**
BHPL			AMb	AMB	23 09 35.7	
	comp=Z,54nm,1.1s,mb5.5					
AKL	**Akola**	**49.51 290**	*e*P	**P**	**23 09 24.1**	**-1.0**
AKL			AMb	AMB	23 09 36.1	
	comp=Z,147nm,1.3s,mb5.8					
BOD	**Bodaibo**	**49.85 351**	*e*P	**P**	**23 09 27.8**	**+0.7**
BOD			pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3					
DDI	**Dehra Dun**	**50.30 302**	*e*P	**P**	**23 09 30.0**	**-1.0**
NDI	**New Delhi**	**50.63 300**	*e*P	**P**	**23 09 31.0**	**-2.5**
NDI			*e*P		23 09 31.5	
NDI			AMb	AMB	23 09 43.2	
	comp=Z,43nm,0.5s,mb5.6					
PET	**Petropavlovsk**	**50.96 24**	*e*P	**P**	**23 09 40.9**	**+5.3**
PET			*e*S	**S**	**23 16 54.0**	**+4.1**
PET			*e*SS	SS	23 20 23.1	-2.0
PET			MLR	MLR		
	comp=Z,300nm,19.0s,MS4.3					
KAD	**Karad**	**51.94 285**	*i* P	**P**	**23 09 42.1**	**-1.4**
POO	**Poona**	**52.31 287**	*e*P	**P**	**23 09 44.0**	**-2.3**
POO			AMb	AMB	23 09 57.0	
	comp=Z,48nm,1.4s,mb5.2					
AJM	**Ajmer**	**52.45 297**	*e*P	**P**	**23 09 45.3**	**-1.9**
AJM			AMb	AMB	23 09 58.0	
	comp=Z,52nm,1.7s,mb5.2					
THN	**Thein Dam**	**52.77 304**	*e*P	**P**	**23 09 47.6**	**-1.9**
YAK	**Yakutsk**	**53.10 2**	*e*P	**P**	**23 09 51.8**	**+0.5**
YAK			*i* *PP	pP	23 10 02.6	+0.5
YAK			*e*		23 10 59.7	
YAK			*e*		23 11 51.6	
YAK			*e*PPP		23 12 59.5	
YAK			*e*S	**S**	**23 17 18.1**	**-0.9**
YAK			*e**SS	sS	23 17 38.3	+1.7
YAK			*e*		23 19 35.2	
YAK			*e*SS	SS	23 21 03.1	+4.5
YAK			*e*SSS		23 22 52.1	
YAK			pmax	pmax		
	comp=Z,48nm,1.0s,mb5.4					
YAK			pmax	pmax		
	comp=N,26nm,1.3s					
YAK			pmax	pmax		
	comp=E,9.0nm,1.2s					
YAK			pmax	pmax		
	comp=Z,12nm,0.6s,mb5.0					
YAK			smax			
	comp=E,135nm,2.9s					
YAK			smax			
	comp=N,190nm,3.1s					
YAK	**Yakutsk**	**53.10 2**	*e*P	**P**	**23 09 52.0**	**+0.7**
	comp=N,34nm,0.8s,mb5.3					
MK31	**Makanchi Array**	**53.54 323**	*i* P	**P**	**23 09 53.4**	**-1.5**
MK31			pmax	pmax		
	comp=Z,63nm,0.8s,mb5.6					
MKAR	**Makanchi Array**	**53.54 323**	P	**P**	**23 09 54.5**	**-0.4**
MKAR			S	**S**	**23 17 26.2**	**+0.7**
MKAR	**Makanchi Array**	**53.54 323**	P	**P**	**23 09 54.5**	**-0.3**
	comp=Z,44nm,0.8s,mb5.5,baz=122,slow=8.1,SNR=170					
MKAR			ScP	ScP	23 14 57.9	+1.3
	comp=Z,2.7nm,1.0s,baz=133,slow=6.1,SNR=4.8					
MKAR			S	**S**	**23 17 26.2**	**+0.7**
	comp=Z,1.9nm,1.1s,baz=126,slow=14,SNR=5.1					
MKAR			LR	LR	23 34 32.9	
	comp=Z,1µm,20.6s,MS4.9,baz=129,slow=38					
MA2	**Magadan**	**53.71 15**	*e*P	**P**	**23 09 57.7**	**+1.9**
MA2			pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9					
MA2	**Magadan**	**53.71 15**	*e*P	**P**	**23 09 58.1**	**+2.3**
KSH	**Kashi**	**54.66 313**	*e*P	**P**	**23 10 04.1**	**+0.9**
KSH			*e*AP	pP	23 10 22.1	+8.2
KSH			PCP	PcP	23 11 06.1	+0.3
KSH			*e*PP	PP	23 12 08.0	+2.0
KSH			*e*SCP	ScP	23 14 56.1	-5.6
KSH			*e*PCS	PcS	23 15 05.0	-0.4
KSH			*e*S	**S**	**23 17 33.5**	**-7.4**
KSH			*e*SCS	ScS	23 19 42.2	-7.7
KSH			AMB	AMB		
	comp=Z,293nm,4.2s					
KSH			LR	LR		
	comp=N,2µm,14.6s,MS5.7					
KSH			LR	LR		
	comp=E,4µm,14.5s,MS5.7					
KSH			LR	LR		
	comp=Z,3µm,14.9s,MS5.5					
ULHL	**Ulahol**	**55.44 316**	P	**P**	**23 10 08.3**	**-0.4**
	SNR=30					
KZA	**Kyzart**	**56.07 315**	P	**P**	**23 10 13.6**	**+0.3**
	SNR=26					
TKM2	**Tokmak 2**	**56.13 316**	*e*P	**P**	**23 10 13.0**	**-0.7**
TKM2			pmax	pmax		
	comp=Z,14nm,0.8s,mb5.0					
TKM2	**Tokmak 2**	**56.13 316**	*e*P	**P**	**23 10 12.9**	**-0.8**
	comp=Z,14nm,0.8s,mb5.0					
TKM2	**Tokmak 2**	**56.13 316**	P	**P**	**23 10 13.2**	**-0.5**
	SNR=11					
ZAA0	**Zalesovo Array**	**56.17 331**	*e*P	**P**	**23 10 12.5**	**-1.3**
ZALV	**Zalesovo Beam**	**56.17 331**	P	**P**	**23 10 12.5**	**-1.3**
	comp=Z,16nm,0.7s,mb5.2,baz=119,slow=6.8,SNR=60					
ZALV			S	**S**	**23 17 58.3**	**-2.2**
	comp=Z,0.3nm,0.3s,baz=119,slow=12,SNR=2.5					
ZALV			LR	LR	23 35 28.0	
	comp=Z,560nm,20.6s,MS4.6,baz=279,slow=37					
ZAL	**Zalesovo**	**56.17 331**	P	**P**	**23 10 12.5**	**-1.3**
ZAL			S	**S**	**23 17 58.3**	**-2.3**
KBK	**Karagaybulak**	**56.48 316**	P	**P**	**23 10 16.2**	**0.0**
	SNR=16					
BHJ	**Bhuj**	**56.55 292**	*e*x	pP	23 10 27.3	-0.6
UCH	**Uchtor**	**56.63 315**	*e*P	**P**	**23 10 17.4**	**+0.2**
	comp=Z,44nm,0.9s,mb5.5					
UCH	**Uchtor**	**56.63 315**	P	**P**	**23 10 17.6**	**+0.3**
	SNR=39					
CHMS	**Chumysh**	**56.74 316**	P	**P**	**23 10 17.3**	**-0.7**
	SNR=10					
FRU	**Bishkek**	**56.77 316**	*e*P	**P**	**23 10 18.0**	**-0.3**
FRU			*e*	pP	23 10 27.0	-2.1
FRU			*e*		23 11 13.0	
FRU			MLR	MLR		
	comp=Z,1µm,21.0s,MS5.0					
USP	**Ospenovka**	**57.01 316**	P	**P**	**23 10 19.1**	**-0.9**
	SNR=24					
SEY	**Seymchan**	**57.01 14⇑**	*e*P	**P**	**23 10 22.0**	**+2.4**
AML	**Almayashu**	**57.17 315**	*e*P	**P**	**23 10 21.0**	**-0.1**
	comp=Z,31nm,0.9s,mb5.3					
AML	**Almayashu**	**57.17 315**	P	**P**	**23 10 21.4**	**+0.3**
	SNR=20					
EKS2	**Erkin-Say**	**57.29 315**	*e*P	**P**	**23 10 21.5**	**-0.5**
	comp=Z,26nm,0.9s,mb5.3					
EKS2	**Erkin-Say**	**57.29 315**	P	**P**	**23 10 21.6**	**-0.3**
	SNR=19					
NVS	**Novosibirsk**	**57.45 332⇓**	*i* P	**P**	**23 10 21.4**	**-1.4**
NVS			*e*S	**S**	**23 18 12.6**	**-4.7**
NVS			*e*		23 20 04.9	
NVS			pmax	pmax		
	comp=N,20nm,1.1s					
NVS			pmax	pmax		
	comp=E,24nm,1.1s					
NVS			pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4					
NVS			smax			
	comp=N,25nm,1.9s					
NVS			smax			
	comp=E,21nm,1.9s					
KURK	**Kurchatov**	**57.59 326**	P	**P**	**23 10 23.1**	**-0.8**
	comp=E,583nm,0.8s,SNR=82					
KURK	**Kurchatov**	**57.59 326⇓**	*i*P	**P**	**23 10 22.9**	**-1.0**
KURK	**Kurchatov**	**57.59 326**	*e*P	**P**	**23 10 23.1**	**-0.8**
KURK	**Kurchatov**	**57.59 326**	P	**P**	**23 10 23.5**	**-0.4**
	SNR=38					
KK31	**Karatay Array**	**59.71 315**	*i* P	**P**	**23 10 37.1**	**-1.7**
KK31			pmax	pmax		
	comp=Z,8.0nm,0.5s,mb5.0					
TIXI	**Tiksi**	**62.73 1**	*d i*P	**P**	**23 10 59.3**	**+0.5**
TIXI			pmax	pmax		
	comp=Z,57nm,1.0s,mb5.7					
TIXI	**Tiksi**	**62.73 1**	*e*P	**P**	**23 10 59.5**	**+0.7**
BVAR	**Borovoye Array**	**63.19 326**	P	**P**	**23 11 01.5**	**-0.6**
	comp=Z,15nm,0.8s,mb5.1,baz=120,slow=8.8,SNR=33					
BRVK	**Borovoye**	**63.26 326**	P	**P**	**23 11 02.5**	**-0.1**
	comp=Z,326nm,0.8s,SNR=14					
BRVK	**Borovoye**	**63.26 326**	*e*P	**P**	**23 11 01.9**	**-0.7**
BRVK	**Borovoye**	**63.26 326**	P	**P**	**23 11 02.4**	**-0.2**
	SNR=22					
BILL	**Bilibino**	**64.57 15**	*e*P	**P**	**23 11 12.3**	**+1.4**
BILL			pmax	pmax		
	comp=Z,40nm,2.9s,mb4.9					
BILL	**Bilibino**	**64.57 15**	*e*P	**P**	**23 11 11.2**	**+0.2**
	comp=Z,15nm,0.8s,mb5.1					
RPZ	**Rata Peaks**	**65.86 146**	P	**P**	**23 11 18.9**	**-0.7**
	comp=Z,30nm,0.7s,mb5.4,baz=78,slow=2.9,SNR=9.5					
URZ	**Urewera**	**66.18 139**	P	**P**	**23 11 22.3**	**+0.5**
	comp=Z,19nm,0.9s,mb5.1,baz=318,slow=6.6,SNR=5.0					
URZ			LR	LR	23 37 03.7	
	comp=Z,652nm,19.9s,MS4.8,baz=295,slow=33					
ABKT	**Ailbek**	**67.92 307**	P	**P**	**23 11 33.2**	**+0.2**
	comp=Z,366nm,0.9s,SNR=22					
ASHO	**Ashiyiah**	**69.03 293**	P	pP	23 11 49.1	-2.1
	SNR=5.2					
SVE	**Sverdlovsk**	**69.74 328⇓**	*e*P	**P**	**23 11 43.6**	**-0.4**
SVE			*e*S	S	23 20 47.0	-3.4
SVE			pmax	pmax		
	comp=Z,49nm,0.9s,mb5.4					
SVE			MLR	MLR		
	comp=Z,718nm,19.0s,MS4.9					
AKTK	**Aktyubinsk**	**69.82 321**	P	**P**	**23 11 44.0**	**-0.6**
AKTO	**Aktyubinsk**	**69.82 321**	*i* P	**P**	**23 11 43.0**	**-1.6**
AKTO			pmax	pmax		
	comp=Z,1.0nm,1.3s					
AKTO	**Aktyubinsk**	**69.82 321**	P	**P**	**23 11 44.0**	**-0.6**
	comp=Z,7.8nm,0.8s,mb4.7,baz=98,slow=6.5,SNR=21					
ARU	**Arti**	**70.76 327**	P	**P**	**23 11 49.0**	**-1.2**
	comp=Z,252nm,0.6s,mb6.3,SNR=12					
ARU	**Arti**	**70.76 327**	*d i*P	**P**	**23 11 48.8**	**-1.4**
ARU			pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2					
ARU	**Arti**	**70.76 327**	*e*P	**P**	**23 11 48.8**	**-1.4**
	comp=Z,44nm,1.0s,mb5.3					
CASY	**Casey**	**75.91 187**	*e*P	**P**	**23 12 20.0**	**-0.2**
	comp=Z,13nm,0.7s,mb5.0					
QRN	**Al-Qurain**	**76.21 297**	*e*P	**P**	**23 12 20.4**	**-2.4**
QRN			AMb	AMB	23 12 32.6	
	comp=Z,44nm,0.8s,mb5.5					
SVW2	**Sparrevohn**	**76.23 29**	*e*P	**P**	**23 12 25.3**	**+3.0**
TTA	**Tatalina**	**76.26 27**	*e*P	**P**	**23 12 25.5**	**+3.1**
RDF	**Al-Radifah**	**76.52 298**	*e*P	**P**	**23 12 22.2**	**-2.4**
RDF			AMb	AMB	23 12 35.1	
	comp=Z,61nm,0.6s,mb5.7					
MIB	**Mutribah**	**76.66 299**	*e*P	**P**	**23 12 23.2**	**-2.2**
MIB			AMb	AMB	23 12 35.5	
	comp=Z,71nm,0.7s,mb5.7					
NAY	**Al-Naaiem**	**76.78 298**	*e*P	**P**	**23 12 23.6**	**-2.4**
NAY			AMb	AMB	23 12 35.8	
	comp=Z,26nm,0.9s,mb5.2					
KDAK	**Kodiak Island**	**77.47 33**	*e*P	**P**	**23 12 31.9**	**+2.6**
	comp=Z,24nm,0.9s,mb5.1					
IMA2	**Indian Mountai**	**77.63 24**	*e*P	**P**	**23 12 32.9**	**+2.8**
DGRG	**David-gareji**	**77.89 310**	P	**P**	**23 12 33.1**	**+1.1**
MTA	**Mtatsminda**	**78.32 311**	P	**P**	**23 12 33.9**	**-0.5**
TBLG	**Delisi**	**78.36 311**	P	**P**	**23 12 34.7**	**+0.1**
GNI	**Garni**	**78.40 309**	*i* P	**P**	**23 12 33.7**	**-1.2**
GNI			pmax	pmax		
	comp=Z,36nm,1.2s					
GNI	**Garni**	**78.40 309**	P	**P**	**23 12 36.3**	**+1.4**
	SNR=9.1					
GNI	**Garni**	**78.40 309**	P	**P**	**23 12 35.2**	**+0.3**
	comp=Z,3.1nm,0.4s,mb4.5,baz=190,slow=15,SNR=6.3					
SLKM	**Skilak Lake**	**78.81 30**	*e*P	**P**	**23 12 36.6**	**-0.1**
GOR	**Gori**	**78.82 311**	P	**P**	**23 12 37.7**	**+0.5**
MIR	**Mirnyy**	**79.18 193⇓**	*i*P	**P**	**23 12 38.5**	**0.0**
MIR			*i*		23 12 46.0	
MIR			*i*	pP	23 12 51.0	+1.4
MIR			pmax	pmax		
	comp=Z,200nm,1.0s,mb6.0					
ONI	**Oni**	**79.29 312**	P	**P**	**23 12 39.9**	**+0.2**
PMR	**Palmer**	**79.36 29**	*e*P	**P**	**23 12 40.9**	**+1.2**
PMR			pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0					
PMR			MLR	MLR		
	comp=Z,100nm,20.0s,MS4.2					
PMR	**Palmer**	**79.36 29**	*e*P	**P**	**23 12 40.9**	**+1.2**
	comp=Z,24nm,1.1s,mb5.0					
PMR			LR	LR		
	comp=Z,100nm,20.0s,MS4.2					
MCK	**McKinley**	**79.50 27**	*e*P	**P**	**23 12 41.2**	**+0.8**
MCK			pmax	pmax		
	comp=Z,20nm,0.6s,mb5.2					
MCK	**McKinley**	**79.50 27**	*e*P	**P**	**23 12 41.2**	**+0.8**
	comp=Z,20nm,0.6s,mb5.2					
KIV	**Kislovodsk**	**79.79 313**	P	**P**	**23 12 42.3**	**-0.1**
	comp=Z,100nm,0.9s,mb5.7,SNR=6.5					
KIV	**Kislovodsk**	**79.79 313**	*i* P	**P**	**23 12 39.8**	**-2.6**
KIV			pmax	pmax		
	comp=Z,23nm,1.2s,mb5.0					
KIV	**Kislovodsk**	**79.79 313**	*e*P	**P**	**23 12 42.1**	**-0.3**
	comp=Z,29nm,0.8s,mb5.3					
KIV	**Kislovodsk**	**79.79 313**	P	**P**	**23 12 42.6**	**+0.2**
	SNR=10					
COLA	**College**	**79.99 26**	*e*P	**P**	**23 12 44.4**	**+1.4**
TMCR	**Tamitsa**	**81.61 334**	*e*P	**P**	**23 12 50.1**	**-1.6**
TMCR			*e*	pP	23 12 59.6	-3.3
VRSR	**Storozhevoye**	**81.76 321**	*e*P	**P**	**23 12 51.3**	**-1.4**
VRSR			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2					
VRSR			pmax	pmax		
	comp=N,1.0nm,0.5s					
VRSR			pmax	pmax		
	comp=E,2.0nm,1.0s					
SOC	**Sochi**	**81.96 313**	*e*P	**P**	**23 12 54.2**	**+0.2**
SOC			*e*		23 13 01.0	
SOC			*e**PP	pP	23 13 06.7	+1.5
SOC			*e*S	S	23 22 56.9	-8.7
SOC			pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8					
MOS	**Moscow**	**82.36 325**	*e*P	**P**	**23 13 04.7**	**+8.9**
EGAK	**Eagle**	**82.86 26**	*e*P	**P**	**23 13 00.3**	**+2.1**
	comp=Z,17nm,1.0s,mb5.0					
OBN	**Obninsk**	**83.02 325**	*i* P	**P**	**23 12 58.8**	**-0.4**
OBN			*i*	pP	23 13 08.8	-1.7
OBN			*e*S	S	23 23 13.8	-2.1
OBN			*e*SS	SS	23 28 31.7	-7.9
OBN			pmax	pmax		
	comp=Z,17nm,1.0s,mb5.0					
OBN			MLR	MLR		
	comp=Z,400nm,17.0s,MS4.9					
ABPO	**Ambohimpanom**	**83.27 250**	*e*P	pP	23 13 08.4	-4.0
	comp=Z,11nm,0.8s					
MALT	**Malatya**	**83.42 308**	*e*P	**P**	**23 13 01.2**	**-0.5**
MALT			pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0					
MALT	**Malatya**	**83.42 308**	*e*P	**P**	**23 13 01.2**	**-0.5**
	comp=Z,15nm,0.9s,mb5.0					
ANN	**Anapa**	**83.48 314**	*e*P	**P**	**23 12 59.3**	**-2.6**
ANN			*e*S	S	23 23 10.9	-10
ANN			pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2					
ANN			MLR	MLR		
	comp=N,620nm,21.0s,MS5.0					
ANN			MLR	MLR		
	comp=E,295nm,21.0s,MS5.0					
ANN			MLR	MLR		
	comp=Z,558nm,21.0s,MS4.9					
DAWY	**Dawson**	**83.70 26**	*e*P	**P**	**23 13 04.6**	**+2.1**
JOF	**Joensuu**	**84.73 333**	*e*p	**P**	**23 13 06.2**	**-1.7**
	comp=Z,17nm,0.8s,mb5.2					
JOF	**Joensuu**	**84.73 333**	*e*P	**P**	**23 13 06.2**	**-1.7**
JOF			pmax	pmax		
	comp=Z,17nm,0.8s,mb5.2					
KEV	**Kevo**	**85.17 340**	*e*p	**P**	**23 13 09.0**	**-0.9**
	comp=Z,12nm,0.8s,mb5.1					
KEV	**Kevo**	**85.17 340**	*e*P	**P**	**23 13 09.0**	**-0.9**
KEV			pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1					
INK	**Inuvik**	**85.33 22**	*e*P	**P**	**23 13 12.3**	**+1.5**
	comp=Z,1µm,1.3s					
ASF	**Jabal al Asfar**	**85.39 302**	P	**P**	**23 13 12.0**	**+0.2**
	comp=Z,5.6nm,0.8s,mb4.8,baz=309,slow=1.7,SNR=10					
ARCES	**ARCESS Array B**	**85.73 340**	P	**P**	**23 13 13.4**	**+0.7**
	comp=Z,7.9nm,0.7s,mb5.0,baz=79,slow=6.3,SNR=15					
ARCES			LR	LR	23 57 41.8	
	comp=Z,398nm,18.5s,MS4.8,baz=99,slow=40					
SIM	**Simferopol'**	**85.80 315**	*c i*P	**P**	**23 13 12.7**	**-0.9**
SIM			*e*S	S	23 23 38.0	-6.2
SIM			pmax	pmax		
	comp=Z,16nm,0.9s,mb5.2					
SIM			MLR	MLR		
	comp=Z,400nm,23.0s,MS4.8					
KBS	**Kingsbay**	**86.02 350**	*e*SKS		23 23 33.2	
KBS			AMS	AMS	23 59 14.0	
	comp=Z,205nm,14.0s,MS4.7					
PPT	**Papeete**	**86.49 108**	*e*P	**P**	**23 13 22.1**	**+4.6**
	comp=Z,36nm,1.5s,mb5.4					
PPT	**Papeete**	**86.49 108**	*e*S	S	23 23 51.0	-0.8
	comp=Z,178nm,23.8s					
PPT	**Papeete**	**86.49 108**	*e*LR	LR	23 40 44.4	
	comp=Z,527nm,23.5s,baz=296					
PPT	**Papeete**	**86.49 108**	*e*P	**P**	**23 13 22.1**	**+4.6**
PPT			*e*S	S	23 23 51.0	-0.8
PPT	**Papeete**	**86.49 108**	LR	LR	23 44 09.5	
	comp=Z,288nm,21.6s,MS4.6,baz=283,slow=30					
PAE	**Paea**	**86.51 108**	*e*P	**P**	**23 13 21.9**	**+4.3**
	comp=Z,22nm,1.1s,mb5.3					
MMAI	**Mount Meron Ar**	**86.52 303**	P	**P**	**23 13 17.6**	**+0.2**
	comp=Z,27nm,1.1s,mb5.4,baz=84,slow=7.6,SNR=14					
MMAI			pP	pP	23 13 28.2	-0.5
	comp=Z,8.9nm,0.7s,baz=87,slow=8.4,SNR=7.9					
TVO	**Taravao**	**86.84 108**	*e*P	**P**	**23 13 23.8**	**+4.6**
	comp=Z,70nm,1.3s,mb5.7					
EIL	**Elat**	**87.39 299**	P	**P**	**23 13 21.2**	**-0.5**
	comp=Z,11nm,0.9s,mb5.1,baz=28,slow=5.6,SNR=9.8					
EIL			pP	pP	23 13 31.6	-1.5
	comp=Z,19nm,0.9s,baz=346,slow=5.6,SNR=11					
FINES	**FINESS Array B**	**87.43 332**	*i* P	**P**	**23 13 20.3**	**-0.9**
FINES			pmax	pmax		
	comp=Z,2.0nm,0.4s					
FINES	**FINESS Array B**	**87.43 332**	P	**P**	**23 13 20.4**	**-0.8**
	comp=Z,2.1nm,0.4s,mb4.7,baz=70,slow=4.2,SNR=24					
FINES			LR	LR	23 56 08.0	
	comp=Z,429nm,19.5s,MS4.9,baz=255,slow=38					
PMOR	**Pomariorio Ree**	**87.64 105**	*e*P	**P**	**23 13 27.7**	**+4.6**
	comp=Z,52nm,1.0s,mb5.7					
TBI	**Tubuai**	**87.65 114**	*e*LR	LR	23 41 21.0	
	comp=Z,607nm,26.5s,baz=293					
VSU	**Vasula**	**87.81 329**	*e*P	**P**	**23 13 21.9**	**-1.2**
TRO	**Tromso**	**87.91 341**	*e*SKS		23 23 42.7	
TRO			*e*		23 23 50.7	
TRO			AMS	AMS	23 59 35.4	
	comp=Z,225nm,19.4s,MS4.6					
CSS	**Prodhromos**	**87.93 305**	*e*P	**P**	**23 13 22.9**	**-1.3**
	comp=Z,16nm,0.8s,mb5.3					
AKASG	**Malin Array Be**	**88.07 321**	*i* P	**P**	**23 13 23.2**	**-1.3**
AKASG			pmax	pmax		
	comp=Z,2.0nm,0.6s					
AKASG	**Malin Array Be**	**88.07 321**	P	**P**	**23 13 23.1**	**-1.3**
	comp=Z,1.8nm,0.6s,mb4.5,baz=66,slow=4.8,SNR=13					
AKASG			LR	LR	23 58 28.3	
	comp=Z,362nm,20.0s,MS4.8,baz=75,slow=39					
KIEV	**Kiev**	**88.08 321**	*e*P	**P**	**23 13 23.3**	**-1.2**
KIEV			pmax	pmax		
	comp=Z,28nm,1.5s,mb5.3					
KIEV	**Kiev**	**88.08 321**	*e*P	**P**	**23 13 23.3**	**-1.2**
	comp=Z,28nm,1.5s,mb5.3					
VNDA	**Vanda**	**88.46 173**	P	**P**	**23 13 26.1**	**+0.4**
VNDA			LR	LR	23 49 50.9	
VNDA	**Vanda**	**88.46 173**	P	**P**	**23 13 26.1**	**+0.4**
	comp=Z,5.7nm,0.9s,mb4.8,baz=314,slow=5.7,SNR=14					
VNDA			LR	LR	23 49 50.9	
	comp=Z,278nm,19.9s,MS4.7,baz=337,slow=33					
MAW	**Mawson**	**88.62 200**	P	**P**	**23 13 26.5**	**-0.1**
	comp=Z,3.3nm,0.8s,mb4.7,baz=103,slow=9.5,SNR=3.9					
MAW			LR	LR	23 50 50.1	
	comp=Z,140nm,20.2s,MS4.4,baz=63,slow=34					
ALE	**Alert**	**88.64 1**	P	**P**	**23 13 28.6**	**+2.0**
	comp=Z,53nm,1.3s,mb5.7,SNR=6.2					
KMBO	**Kilima Mbogo**	**89.87 269**	P	**P**	**23 13 33.4**	**-0.3**
	comp=Z,2.2nm,0.8s,mb4.5,baz=43,slow=6.5,SNR=7.5					
KMBO			pP	pP	23 13 43.7	-1.3
	comp=Z,15nm,1.1s,baz=45,slow=4.7,SNR=14					
MLR	**Muntele Rosu**	**91.36 316**	P	**P**	**23 13 39.5**	**-0.6**
	comp=Z,3.3nm,1.0s,mb4.6,baz=54,slow=6.7					
LVV	**L'vov**	**91.51 321**	*e*P	**P**	**23 13 39.4**	**-1.2**
DAG	**Danmarks Havn**	**92.22 353⇓**	*i*P	**P**	**23 13 43.3**	**-0.1**
DAG			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.7					
DAG	**Danmarks Havn**	**92.22 353⇓**	*i*P	**P**	**23 13 43.3**	**-0.1**
	comp=Z,2.1nm,0.5s,mb4.7					
KWP	**Kalwaria**	**92.39 321**	*e*P	**P**	**23 13 44.5**	**-0.2**
KWP			pmax	pmax		
	comp=Z,37nm,1.1s,mb5.6					
KWP	**Kalwaria**	**92.39 321**	*e*P	**P**	**23 13 44.5**	**-0.1**
	comp=Z,37nm,1.1s,mb5.6					
RES	**Resolute Bay**	**92.75 10**	*e*P	**P**	**23 13 47.2**	**+1.4**
	comp=Z,864nm,0.9s					
UZH	**Uzhgorod**	**92.94 320**	*e*P	**P**	**23 13 46.6**	**-0.6**
UZH			*e*	pP	23 13 57.6	-1.0
UZH			*e*		23 17 35.0	
UZH			*e*		23 24 15.0	
UZH			*e*S	S	23 24 42.0	-8.7
UZH			*e*SS	SS	23 30 56.0	-8.5
UZH			*e*SSS		23 34 34.0	
STHS	**Stebnicka Huta**	**93.36 321**	*e*P	**P**	**23 13 50.2**	**+1.0**
STHS			*e*	pP	23 14 00.0	-0.5
STHS			pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.8					
STHS	**Stebnicka Huta**	**93.36 321**	*e*P	**P**	**23

PRU			*ex*	x		23 14 17.5	
PRU			AMS	AMS		23 59 30.0	
	comp=Z,200nm,19.5s						
BRG	**Berggiesshubel**	**97.25 324**	*e*P	pP		23 14 16.9	-1.3
BRG			*e*			23 24 41.0	
BRG			pmax	pmax			
	comp=Z,9.0nm,1.5s,mb5.0						
BRG	**Berggiesshubel**	**97.25 324**	*e*P	pP		23 14 16.9	-1.4
BRG			*e*			23 24 41.0	
BRG			*e*			23 26 47.0	
BRG	**Berggiesshubel**	**97.25 324**	*e*P	pP		23 14 16.9	-1.4
	comp=Z,15nm,1.5s						
BRG			SKS			23 24 41.0	
BRG			*e*			23 26 47.0	
SYO	**Syowa Base**	**97.26 201**	⇓*e*P	**P**		**23 14 05.0**	**-1.4**
SYO	**Syowa Base**	**97.26 201**	⇓*e*pP	pP		23 14 27.6	+10
CLL	**Collm**	**97.62 325**	*e*P	pP		23 14 19.0	-0.9
CLL			*e*			23 24 44.0	
CLL			*e*S	S		23 25 32.0	+0.8
CLL			MLR	MLR			
	comp=Z,400nm,18.0s,MS5.0						
CLL	**Collm**	**97.62 325**	*e*P	pP		23 14 18.0	-1.9
CLL			*e*SKS			23 24 44.0	
CLL			*e*S	S		23 25 32.0	+0.8
CLL			LR	LR			
	comp=Z,400nm,18.0s,MS5.0						
CLL	**Collm**	**97.62 325**	*e*P	**P**		**23 14 08.0**	**-0.5**
CLL			*ex*	x		23 14 19.0	
CLL			*e*SKS			23 24 44.0	
CLL			*e*(S)	S		23 25 32.0	+0.8
CLL			*e*SP	SP		23 26 41.0	-12
CLL			*e*PPS			23 27 51.0	
CLL			*e*SKKSdf	SKKSdf		23 37 53.0	-3.5
CLL			*ex*	x		23 40 06.0	
CLL			LmV			00 04 00.0	
	comp=Z,400nm,18.0s						
KHC	**Kasperske Hory**	**98.16 322**	*e*P	**P**		**23 14 10.6**	**-0.4**
KHC			*ex*	x		23 14 21.2	
GERES	**GERESS Array B**	**98.20 322**	P	**P**		**23 14 10.5**	**-0.7**
	comp=Z,1.9nm,1.0s,mb4.6,baz=63,slow=6.1,SNR=13						
GERES			LR	LR		00 01 45.5	
	comp=Z,335nm,21.0s,MS4.8,baz=340,slow=37						
RKT	**Rikitea**	**100.82 112**	*e*LR	LR		23 47 19.9	
	comp=Z,390nm,26.2s						
NVAR	**Mina Array Bea**	**103.31 47**	Pdiff	Pdif		23 14 36.9	+3.1
	comp=Z,1.3nm,0.9s,baz=271,slow=8.2,SNR=6.0						
LPG	**La Plagne**	**103.93 321**	*e*PP	PP		23 18 48.9	-4.9
	comp=Z,16nm,1.0s						
LPL	**La Plagne**	**103.93 321**	*e*PP	PP		23 18 49.0	-4.8
	comp=Z,17nm,1.1s						
ORIF	**Oris-en-Rattie**	**104.75 321**	*e*PP	PP		23 18 54.7	-5.2
FRF	**La Foret Royal**	**104.91 319**	*e*PP	PP		23 18 55.4	-5.8
VIVF	**Saint-Julien-l**	**105.53 321**	*e*PP	PP		23 19 00.3	-5.4
TCF	**Toulx Ste Croi**	**106.27 324**	*e*PP	PP		23 19 05.9	-5.2
	comp=Z,26nm,1.2s						
LDF	**La Druitiere**	**106.32 326**	*e*PP	PP		23 19 06.4	-4.9
FLN	**La Foliniere**	**106.42 327**	*e*PP	PP		23 19 07.0	-5.0
LASF	**Ste Croix**	**106.42 321**	*e*PP	PP		23 19 06.8	-5.5
TXAR	**Lajitas Array**	**118.22 50**	PKP	PKPdf		23 19 23.7	+1.9
	comp=Z,0.9nm,0.6s,baz=162,slow=0.7,SNR=10						
TXAR			pPKP	pPKPdf		23 19 35.1	+1.6
	comp=Z,1.2nm,0.6s,baz=251,slow=1.2,SNR=7.9						
JCT	**Junction City**	**120.48 47**	*e*PKIKP	PKPdf		23 19 27.7	+1.6
TORD	**Torodi Ar. Bea**	**121.40 291**	PKP	PKPdf		23 19 27.2	-1.0
	comp=Z,2.2nm,0.7s,baz=45,slow=2.1,SNR=17						
TORD			pPKP	pPKPdf		23 19 38.5	-1.4
	comp=Z,3.9nm,0.8s,baz=42,slow=1.9,SNR=11						
TORD			PKKPab	PKKPab		23 29 32.2	+2.0
	comp=Z,0.8nm,0.7s,baz=277,slow=4.2,SNR=7.7						
MIAR	**Mount Ida**	**122.25 39**	*e*PKIKP	PKPdf		23 19 32.1	+2.7
WVT	**Waverly**	**124.56 34**	*e*PKIKP	PKPdf		23 19 34.2	+0.4
DBIC	**Dimbokro**	**129.54 286**	PKP	PKPdf		23 19 44.3	+0.4
	comp=Z,7.3nm,1.1s,baz=112,slow=5.4,SNR=3.0						
DBIC			pPKP	pPKPdf		23 19 55.2	-0.4
	comp=Z,4.8nm,0.8s,baz=222,slow=1.9,SNR=2.7						
PLCA	**Paso Flores**	**144.66 157**	PKP	PKPdf		23 20 11.1	+0.1
	comp=Z,7.6nm,0.9s,baz=191,slow=3.7,SNR=9.9						
SDDR	**Presa de Saban**	**147.00 33**	*e*PKPbc	PKPbc		23 20 18.0	+0.5
TRQA	**Tornquist**	**149.84 166**	*e*PKPbc	PKPbc		23 20 24.4	-0.1
CPD	**Cerro la Pandu**	**150.40 25**	*e*PKIKP	PKPbc		23 20 27.3	+0.9
MTP	**Monte Pirata**	**150.50 25**	*e*PKPbc	PKPbc		23 20 27.9	+1.3
SDV	**Santo Domingo**	**155.15 45**	*e*PKPdf	PKPdf		23 20 28.5	+0.4
SDV			*e*PKPbc	PKPdf		23 20 38.3	+10
CPUP	**Villa Florida**	**162.16 167**	PKPab	PKPab		23 21 23.2	+0.5
	comp=Z,2.1nm,0.8s,baz=169,slow=5.2,SNR=4.5						
LPAZ	**La Paz**	**163.55 118**	PKP	PKPdf		23 20 39.6	+1.9
	comp=Z,1.5nm,0.7s,baz=11,slow=3.2,SNR=7.6						
LPAZ			PKPab	PKPab		23 21 33.4	+4.1
	comp=Z,2.0nm,0.8s,baz=237,slow=8.2,SNR=3.9						

*IDC **11** 23:01:46.0±2.1, 4090N×8879E, h0km, mb3.5/2, mb1 3.8/4, mb1mx3.5/22, mbtmp3.7/4, ML3.7/2, Error ellipse: s-maj=51.5km s-min=30.1km az=57.0*
*BJI **11** 23:01:49.4, 4107N×8847E, h16km, ML3.1*
ISC 11 23:01:50.8±3.2, 411N±02×887E±03, h21km±20km, n6, σ0§82/9, mb3.4/2, 1C-1D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.80**	**346**	*e*PG	**Pb**	**23 02 38.8**	**-1.2**
WMQ				S	**Sb**	**23 03 14.0**	**+0.2**
WMQ				Smax			
	comp=N,224nm,0.8s						
WMQ				Smax			
	comp=E,198nm,0.7s						
MK31	**Makanchi Array**	**7.30**	**323**	⇓Pn	**Pn**	**23 03 37.4**	**+1.3**
	comp=E,1.4nm,0.3s,baz=139,slow=14						
MK31				⇑Sn	**Sn**	**23 04 58.0**	**-0.4**
	comp=E,2.9nm,0.5s,baz=140,slow=25						
MKAR	**Makanchi Array**	**7.30**	**323**	Pn	**Pn**	**23 03 37.4**	**+1.3**
	comp=E,1.5nm,0.3s,baz=138,slow=14,SNR=90						
MKAR				Sn	**Sn**	**23 04 57.9**	**-0.4**
	comp=E,0.9nm,0.3s,baz=135,slow=22,SNR=9.3						
MKAR				Lg		23 05 44.8	
	comp=E,0.5nm,0.3s,baz=138,slow=26,SNR=4.3						
ZALV	**Zalesovo Beam**	**13.10**	**350**	Pn	**Pn**	**23 04 55.8**	**+0.4**
	comp=E,0.3nm,0.3s,baz=166,slow=13,SNR=8.1						
YKA	**Yellowknife Ar**	**75.06**	**11**	P	**P**	**23 13 30.4**	**-0.1**
	comp=E,0.2nm,0.3s,mb3.5,baz=341,slow=5.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**79.22**	**278**	P	**P**	**23 13 53.7**	**-1.0**
	comp=E,0.5nm,0.9s,mb3.4,baz=49,slow=5.0,SNR=4.1						

IDC 11 23:03:16.4±4.6, 2731S×17701W, h0km, mb4.0/4, mb1 4.3/4, mb1mx4.0/12, mbtmp4.0/4, Error ellipse: s-maj=196.7km s-min=47.2km az=8.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.09**	**202**	Sn	Sn	23 04 20.8	+1.5
	275nm,0.3s,baz=48,slow=24,SNR=9.2						
MJAR	**Matsushiro Arr**	**76.23**	**324**	P	P	23 15 06.8	+0.1
	1.0nm,0.5s,baz=172,slow=6.2,SNR=4.8						
KSRS	**Korea Array**	**82.58**	**319**	P	P	23 15 42.2	+1.0
	1.1nm,0.7s,baz=147,slow=7.1,SNR=4.5						
NVAR	**Mina Array Bea**	**85.39**	**42**	P	P	23 15 54.9	-0.7
	0.9nm,0.7s,baz=232,slow=8.5,SNR=4.5						
TXAR	**Lajitas Array**	**89.99**	**57**	P	P	23 16 19.4	+1.4
	0.3nm,0.6s,baz=231,slow=5.7,SNR=3.4						
NOA	**NORSAR Array B**	**145.82**	**353**	PKPbc	PKPbc	23 22 54.8	-2.1
	0.6nm,0.7s,baz=16,slow=5.0,SNR=3.5						
AKASG	**Malin Array Be**	**149.29**	**327**	PKPbc	PKPbc	23 23 05.8	-1.0
	1.0nm,0.6s,baz=41,slow=3.6,SNR=4.9						

*IDC **11** 23:30:33.7±2.7, 925N×12791E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.6/4, Error ellipse: s-maj=227.2km s-min=21.4km az=69.0*
*ISCJB **11** 23:30:40.3±5.4, 89N±02×1270E±03, h58km±49km, mb3.7/4, Error ellipse: s-maj=49.2km s-min=23.6km az=147.6*
ISC 11 23:30:41.2±5.9, 89N±02×1270E±03, h43km±55km, n5, σ0§87/6, mb3.7/4, 1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CGP	**Cagayan de Oro**	**2.31**	**260**	⇓*e*P	**Pn**	**23 31 16.8**	**+0.1**
CGP				*i* S	**Sn**	**23 31 43.9**	**-0.1**
WRA	**Warramunga Arr**	**29.54**	**166**	P	**P**	**23 36 42.1**	**+0.3**
	0.3nm,0.5s,mb3.3,baz=349,slow=9.3,SNR=2.4						
ASAR	**Alice Springs**	**33.04**	**168**	P	**P**	**23 37 12.3**	**-0.3**
	0.3nm,0.4s,mb3.6,baz=348,slow=7.5,SNR=6.6						
MKAR	**Makanchi Array**	**53.56**	**323**	P	**P**	**23 39 58.5**	**+0.8**
	1.2nm,0.6s,mb4.0,baz=119,slow=7.5,SNR=14						
ZALV	**Zalesovo Beam**	**56.18**	**331**	P	**P**	**23 40 15.7**	**-0.8**
	0.4nm,0.3s,mb3.9,baz=123,slow=5.3,SNR=2.6						

IDC 11 23:34:58.5±18.0, 553S×1025W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.7/22, mbtmp4.0/4, MS3.1/1, Ms1 3.1/1, ms1mx2.8/33, Error ellipse: s-maj=691.6km s-min=99.7km az=142.0, Ascension Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**13.26**	**24**	LR	LR	23 41 45.9	
	comp=Z,87nm,20.6s,baz=40,slow=31						
TORD	**Torodi Ar. Bea**	**22.02**	**33**	P	P	23 39 54.2	-0.5
	6.4nm,0.9s,baz=223,slow=10,SNR=12						
KEST	**Kesra**	**44.98**	**23**	P	P	23 43 16.8	+1.2
	1.2nm,0.8s,baz=222,slow=3.6,SNR=5.9						
GERES	**GERESS Array B**	**58.06**	**18**	P	P	23 44 53.1	-0.2
	2.8nm,0.7s,baz=191,slow=6.5,SNR=24						
FINES	**FINESS Array B**	**72.46**	**17**	P	P	23 46 26.4	-0.2
	1.4nm,1.0s,baz=237,slow=7.6,SNR=3.5						

*CSEM **11** 23:38:27.4±0.1, 3031N×5063E, h10km, ML2.9, Error ellipse: s-maj=6.0km s-min=3.5km az=80.0*
*ISCJB **11** 23:38:28.2±0.5, 3027N±004×5074E±007, h10km, Error ellipse: s-maj=8.9km s-min=5.4km az=178.9*
*THR **11** 23:38:28.1±0.9, 3034N×5066E, h15km, ML2.9*
ISC 11 23:38:29.8±0.5, 3030N±004×5071E±007, h10km, n18, σ0§86/20, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**2.43**	**318**	*e*Pn	**Pn**	**23 39 08.8**	**-0.7**
SHGR				AML	AML	23 40 00.6	
	comp=E,119nm,0.7s						
GHIR	**Ghir-Karzin**	**2.83**	**135**	*e*Pn	**Pn**	**23 39 15.6**	**+0.5**
GHIR				AML	AML	23 40 17.7	
	comp=E,31nm,1.0s						
GHIR				AML	AML	23 40 21.1	
	comp=N,35nm,0.6s						
MIB	**Mutribah**	**2.96**	**261**	*e*P	**Pn**	**23 39 17.4**	**+0.6**
MIB				AML	AML	23 39 54.5	
	comp=Z,19nm,0.4s						
NASN	**Na'in**	**3.07**	**35**	*e*Pn	**Pn**	**23 39 18.2**	**0.0**
RDF	**Al-Radifah**	**3.07**	**244**	*e*P	**Pn**	**23 39 19.5**	**+1.1**
RDF				AML	AML	23 39 56.6	
	comp=Z,24nm,0.3s						
NAY	**Al-Naaiem**	**3.19**	**252**	*e*P	**Pn**	**23 39 21.1**	**+1.1**
NAY				AML	AML	23 39 60.0	
	comp=Z,12nm,0.4s						
NAY	**Al-Naaiem**	**3.19**	**252**	*e*P	**Pn**	**23 39 21.0**	**+1.0**
GHVR	**GHOM**	**4.19**	**7**	*e*Pn	**Pn**	**23 39 33.2**	**-0.5**
ASAO	**Ashtian**	**4.27**	**352**	*e*Pn	**Pn**	**23 39 34.8**	**0.0**
BOQSS		**4.57**	**195**	P	**Pn**	**23 39 39.9**	**+1.0**
KRBR	**Kerman**	**5.25**	**92**	*e*Pn	**Pn**	**23 39 49.2**	**+0.8**
SLWS		**5.49**	**181**	P	**Pn**	**23 39 52.1**	**+0.6**
SLWS		**5.49**	**181**	P	**Pn**	**23 39 52.1**	**+0.6**
SLWS				S	**Sn**	**23 40 54.2**	**-0.5**
SNGE	**Sanandaj**	**5.55**	**330**	*e*Pn	**Pn**	**23 39 50.8**	**-1.6**
BTHS		**6.24**	**179**	P	**Pn**	**23 40 02.1**	**+0.3**
BTHS		**6.24**	**179**	P	**Pn**	**23 40 02.1**	**+0.3**
BTHS				S	**Sn**	**23 41 12.3**	**-0.9**
HRDDS		**7.43**	**189**	S	**Sn**	**23 41 40.7**	**-1.9**
HRDDS		**7.43**	**189**	P	**Pn**	**23 40 18.2**	**-0.1**

*IDC **11** 23:42:38.0±0.9, 879N×12675E, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.0/20, mbtmp4.0/11, Error ellipse: s-maj=64.9km s-min=14.8km az=74.0*
*MAN **11** 23:42:42, 874N×12694E, h94km, mb4.8, ML3.7, MS3.7*
*ISCJB **11** 23:42:43.2±1.1, 884N±004×12696E±007, h53km±10km, mb4.1/16, Error ellipse: s-maj=12.6km s-min=6.2km az=161.3*
*NEIC **11** 23:42:43.1±0.4, 887N×12697E, h35km, mb4.4/6, Error ellipse: s-maj=17.1km s-min=6.6km az=81.0*
ISC 11 23:42:44.4±1.2, 883N±004×12696E±008, h46km±11km, n37, σ0§79/42, mb4.1/16, 2C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**1.74**	**303**	*e*P	**Pn**	**23 43 10.6**	**-1.5**
SCPH				*e*S	**Sn**	**23 43 31.8**	**-1.2**
MATI	**Mati**	**1.99**	**201**	*e*P	**Pn**	**23 43 14.2**	**-1.5**
MATI				*e*S	**Sn**	**23 43 40.4**	**+1.0**
BUKP	**Musuan**	**2.10**	**244**	*e*P	**Pn**	**23 43 17.6**	**+0.5**
DAV	**Davao City (W)**	**2.22**	**218**	*e*Pn	**Pn**	**23 43 18.9**	**+0.2**
CGP	**Cagayan de Oro**	**2.27**	**261**	⇓*e*P	**Pn**	**23 43 18.7**	**-0.8**
CGP				*i* S	**Sn**	**23 43 46.3**	**+0.1**
MSLP	**Maasin**	**2.45**	**302**	*e*P	**Pn**	**23 43 22.2**	**+0.4**
MSLP				*e*S	**Sn**	**23 43 54.0**	**+3.4**
TBP	**Tagbilaran**	**3.18**	**286**	*e*P	**Pn**	**23 43 31.9**	**0.0**
TBP				*e*S	**Sn**	**23 44 09.0**	**+0.4**
LLP	**Lapu-Lapu**	**3.31**	**297**	⇓*e*P	**Pn**	**23 43 33.9**	**+0.3**
LLP				*e*S	**Sn**	**23 44 12.1**	**+0.4**
DCPH	**Dipolog City**	**3.58**	**266**	⇑*e*P	**Pn**	**23 43 36.7**	**-0.6**
DCPH				*e*S	**Sn**	**23 44 18.4**	**-0.1**
CNP	**Catarman**	**4.30**	**329**	*e*P	**Pn**	**23 43 48.9**	**+1.5**
GUIM	**Jordan**	**4.67**	**293**	*e*P	**Pn**	**23 43 52.6**	**+0.3**
RCP	**Roxas**	**4.96**	**304**	⇑*e*P	**Pn**	**23 43 56.8**	**+0.4**
FITZ	**Fitzroy Crossi**	**26.79**	**183**	*e*P	**P**	**23 48 20.0**	**-0.2**
	9.2nm,1.5s,mb4.1						
FITZ	**Fitzroy Crossi**	**26.79**	**183**	P	**P**	**23 48 17.8**	**-2.5**
	1.5nm,0.5s,mb3.8,baz=34,slow=7.3,SNR=3.7						
WRA	**Warramunga Arr**	**29.49**	**166**	P	**P**	**23 48 43.8**	**-0.6**
	1.0nm,0.5s,mb3.8,baz=347,slow=9.3,SNR=7.3						
WB2	**Warramunga Arr**	**29.50**	**166**	*e*P	**P**	**23 48 43.7**	**-0.7**
ASAR	**Alice Springs**	**33.00**	**168**	P	**P**	**23 49 14.9**	**-0.2**
	0.5nm,0.4s,mb3.8,baz=12,slow=13,SNR=13						
FORT	**Forrest**	**39.39**	**179**	*e*P	**P**	**23 50 10.1**	**+0.4**
	11nm,0.9s,mb4.6						
KLBR	**Kellerberrin**	**41.14**	**192**	*e*P	**P**	**23 50 24.4**	**+0.2**
	8.2nm,0.5s,mb4.6						
MUN	**Mundaring**	**41.85**	**194**	*e*P	**P**	**23 50 30.6**	**+0.5**
NWAO	**Narrogin (SRO)**	**42.54**	**192**	P	**P**	**23 50 36.3**	**+0.7**
	7.0nm,0.8s,mb4.4,baz=16,slow=4.5,SNR=5.3						
SONM	**Songino Array**	**42.60**	**340**	P	**P**	**23 50 36.0**	**0.0**
	0.5nm,0.8s,mb3.3,baz=156,slow=8.0,SNR=4.6						
STKA	**Stephens Creek**	**42.82**	**162**	P	**P**	**23 50 38.7**	**+0.8**
STKA	**Stephens Creek**	**42.82**	**162**	P	**P**	**23 50 38.7**	**+0.8**
	2.7nm,0.6s,mb4.2,baz=333,slow=7.4,SNR=8.0						
ARMA	**Armidale**	**45.65**	**150**	*e*P	**P**	**23 50 56.2**	**-4.4**
	0.6nm,0.5s,mb3.8						
MK31	**Makanchi Array**	**53.58**	**323**	*e*P	**P**	**23 51 59.9**	**-1.0**
MKAR	**Makanchi Array**	**53.58**	**323**	P	**P**	**23 52 00.3**	**-0.5**
MKAR	**Makanchi Array**	**53.58**	**323**	P	**P**	**23 52 00.3**	**-0.5**
	1.9nm,0.6s,mb4.2,baz=126,slow=8.0,SNR=21						
ZALV	**Zalesovo Beam**	**56.21**	**331**	P	**P**	**23 52 18.6**	**-1.1**
	1.1nm,0.7s,mb4.0,baz=116,slow=6.8,SNR=4.9						
UCH	**Uchtor**	**56.67**	**315**	*e*P	**P**	**23 52 23.1**	**-0.1**
	1.7nm,0.6s,mb4.2						
TIXI	**Tiksi**	**62.78**	**1**	*e*P	**P**	**23 53 05.3**	**+0.7**
	2.4nm,0.6s,mb4.5						
FINES	**FINESS Array B**	**87.48**	**332**	P	**P**	**23 55 27.0**	**+0.1**
FINES	**FINESS Array B**	**87.48**	**332**	P	**P**	**23 55 27.0**	**+0.1**
	2.1nm,1.0s,mb4.3,baz=76,slow=5.9,SNR=4.2						
VNDA	**Vanda**	**88.42**	**173**	P	**P**	**23 55 31.7**	**+0.7**
	0.5nm,0.6s,mb3.9,baz=326,slow=5.6,SNR=5.2						
YKA	**Yellowknife Ar**	**94.79**	**24**	P	**P**	**23 56 01.8**	**+0.9**
	0.3nm,0.7s,mb3.8,baz=304,slow=4.4,SNR=3.5						
TORD	**Torodi Ar. Bea**	**121.43**	**291**	PKP	PKPdf	00 01 33.1	-0.6
TORD	**Torodi Ar. Bea**	**121.43**	**291**	PKP	PKPdf	00 01 33.1	-0.6
	0.4nm,0.7s,baz=44,slow=1.8,SNR=3.5						

*ISCJB **11** 23:53:55.4±3.8, 131N±02×907W±02, h71km±26km, mb3.8/7, Error ellipse: s-maj=46.2km s-min=17.8km az=39.1*
*NEIC **11** 23:53:58.6±3.3, 1314N×9057W, h83km±22km, mb3.9/2, Error ellipse: s-maj=40.1km s-min=14.7km az=219.0*
*IDC **11** 23:54:01.0±5.8, 1318N×9061W, h102km±42km, mb3.4/7, mb1 3.6/8, mb1mx3.5/21, mbtmp3.5/8, MS3.9/1, Ms1 3.9/1, ms1mx2.7/21, Error ellipse: s-maj=61.6km s-min=21.8km az=34.0*
ISC 11 23:53:59.0±3.4, 132N±02×906W±02, h83km±23km, n16, σ1§03/15, mb3.8/7, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.31**	**74**	*e*Pn	**Pn**	**23 54 46.9**	**-1.8**
TEIG	**Tepich**	**7.36**	**17**	P	**Pn**	**23 55 45.1**	**+1.4**
TEIG	**Tepich**	**7.36**	**17**	P	**Pn**	**23 55 45.1**	**+1.4**
	4.4nm,0.3s,baz=220,slow=3.6,SNR=10						
SDV	**Santo Domingo**	**20.01**	**100**	P	**P**	**23 58 26.8**	**+1.6**
SDV	**Santo Domingo**	**20.01**	**100**	P	**P**	**23 58 26.8**	**+1.6**
	3.5nm,0.5s,baz=308,slow=7.0,SNR=11						
TXAR	**Lajitas Array**	**20.18**	**325**	P	**P**	**23 58 28.1**	**+1.3**
	0.8nm,0.6s,baz=149,slow=9.9,SNR=7.0						
MIAR	**Mount Ida**	**21.46**	**353**	*e*P	**P**	**23 58 39.1**	**-1.6**
	7.6nm,1.1s,mb3.9						
SWET	**Sewanee**	**22.35**	**10**	*e*P	**P**	**23 58 50.8**	**+0.7**
TZTN	**Tazewell**	**24.12**	**14**	*e*P	**P**	**23 59 06.8**	**-0.2**
	2.1nm,0.5s,mb3.7						
NVAR	**Mina Array Bea**	**35.20**	**321**	P	**P**	**00 00 44.6**	**-0.6**
	1.6nm,0.8s,mb3.9,baz=130,slow=9.9,SNR=3.6						
ULM	**Lac du Bonnet**	**37.24**	**354**	P	**P**	**00 01 01.8**	**-0.6**
	1.1nm,0.5s,mb4.1,baz=186,slow=12,SNR=4.1						
SCHG	**Schefferville**	**45.53**	**19**	P	**P**	**00 02 10.5**	**+0.3**
	5.0nm,0.6s,mb4.4,baz=216,slow=8.5,SNR=12						
CPUP	**Villa Florida**	**50.84**	**141**	LR	LR	00 26 15.3	
	comp=Z,135nm,20.6s,baz=197,slow=38						
YKA	**Yellowknife Ar**	**52.16**	**346**	P	**P**	**00 03 00.3**	**-0.5**
YKA	**Yellowknife Ar**	**52.16**	**346**	P	**P**	**00 03 00.3**	**-0.5**
	0.1nm,0.4s,mb3.2,baz=140,slow=7.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**89.21**	**77**	P	**P**	**00 06 46.0**	**-0.2**
	0.4nm,0.8s,mb3.5,baz=274,slow=4.6,SNR=3.5						

*ISCJB **12** 00:04:11.3±1.2, 3834N±004×2038E±010, h13km±6km, Error ellipse: s-maj=13.3km s-min=5.5km az=162.4*
*THE **12** 00:04:12.2, 3836N×2040E, h3km, ML3.3*
*ATH **12** 00:04:14.0, 3822N×2064E, h15km±2km, MD3.7/5*
*NEIC **12** 00:04:14.0, 3822N×2064E, h15km, MD3.7(ATH), After ATH.*
*CSEM **12** 00:04:15.5±0.2, 3827N×2068E, h10km, MD3.7, Error ellipse: s-maj=4.7km s-min=3.7km az=109.0*
ISC 12 00:04:11.2±1.4, 3832N±004×203E±01, h10km±9km, n15, σ0§97/22, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.26**	**124**	*e*Pg	**Pg**	**00 04 16.6**	**+0.2**
VLS				*e*Sg	**Sg**	**00 04 20.6**	**+0.7**
VLS	**Valsamata**	**0.26**	**124**	⇑*i*PB	**Pg**	**00 04 16.7**	**+0.3**
VLS				*e*SB	**Sg**	**00 04 19.9**	**0.0**
VLS	**Valsamata**	**0.26**	**124**	*e*Pg	**Pg**	**00 04 16.6**	**+0.2**
VLS				*e*Sb	**Sg**	**00 04 19.9**	**0.0**
VLS				*e*Sg	**Sg**	**00 04 20.6**	**+0.7**
KFL	**Anninata**	**0.43**	**120**	*e*Pg	**Pg**	**00 04 19.5**	**0.0**
KFL				*e*Sg	**Sg**	**00 04 26.1**	**+0.9**
LKD	**Levkas**	**0.46**	**34**	*e*Pg	**Pg**	**00 04 19.5**	**-0.8**
LKD				*e*Sg	**Sg**	**00 04 26.2**	**-0.2**
RLS	**Riolos of Patr**	**0.94**	**106**	*e*PN	**Pg**	**00 04 27.4**	**-1.9**
IGT	**Igoumenitsa**	**1.21**	**0**	*e*Pg	**Pg**	**00 04 35.0**	**+0.6**
SELA	**Sela**	**1.24**	**92**	*e*Pg	**Pg**	**00 04 33.5**	**-1.4**
SELA				*e*Sg	**Sg**	**00 04 52.1**	**+1.0**
SELA	**Sela**	**1.24**	**92**	*e*Pg	**Pg**	**00 04 33.5**	**-1.5**
EVR	**Evrytania**	**1.31**	**63**	*e*PN	**Pn**	**00 04 35.9**	**+0.3**
JAN	**Janina**	**1.40**	**17**	*e*PN	**Pg**	**00 04 40.9**	**+2.9**
KEK	**Kerkira**	**1.45**	**344**	*e*PN	**Pg**	**00 04 44.7**	**+5.7**
ITM	**Ithomi**	**1.71**	**131**	*e*PN	**Pn**	**00 04 41.4**	**+0.3**
THL	**Klokotos Trika**	**1.81**	**46**	*e*PN	**Pg**	**00 04 45.1**	**-0.9**
PYL	**PYLOS**	**1.82**	**141**	*e*Pb	**Pb**	**00 04 44.3**	**-0.3**

*NEIC **12** 00:37:49.7, 3262S×7176W, h10km, ML3.0(GUC), After GUC.*
GUC 12 00:37:49.7±0.7, 3262S×7176W, h10km±2km, MD3.8, ML3.0, 9C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.42**	**166**	⇓*i*P	Pg	00 37 58.5	+0.5
IHA				*i* S	Sg	00 38 05.1	+1.5
ROCH	**El Roble**	**0.72**	**120**	⇑*i*P	Pg	00 38 04.0	+0.2
ROCH				*i* S	Sg	00 38 14.6	+1.3
PTCH	**Petorca**	**0.79**	**64**	⇓*i*P	Pg	00 38 04.7	-0.2
PTCH				*i* S	Sg	00 38 16.0	+0.9
JACH	**Jahuel**	**0.99**	**94**	⇑*i*P	Pg	00 38 07.8	-0.9
JACH				*i* S	Sg	00 38 21.9	+0.3
PEL	**Peldehue**	**1.05**	**121**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLKR	Vladikavkaz	2.25	359	eP	Pn	00 49 32.9	+3.9
VLKR				eS	Sn	00 50 03.9	+7.0
SNJR	Sundja	2.28	1	eP	Pn	00 49 33.2	+3.9
SNJR				eS	Sn	00 50 04.5	+7.1
DIGR	Digorskoe uzhe	2.28	338	eP	Pn	00 49 33.4	+4.1
DIGR				eS	Sn	00 50 04.0	+6.5
KORR	Kora	2.35	348	eP	Pn	00 49 33.9	+3.6
KORR				eS	Sn	00 50 05.6	+6.4
ARNR	Ardon	2.42	352	eP	Pn	00 49 35.1	+3.8
ARNR				eS	Sn	00 50 07.4	+6.4

IDC ***12*** *00:49:22.9±2.1, 5039N×130.13W, h0km, mb4.0/3, mb1 4.2/8, mb1mx3.8/26, mbtmp4.0/8, ML3.4/5, MS3.4/15, Ms1 3.4/15, ms1mx3.2/43, Error ellipse: s-maj=32.1km s-min=11.1km az=71.0*
PGC ***12*** *00:49:23.2±1.6, 5039N×13023W, h10km, ML3.7/13, 201km west of Pt. Hardy, Bc Vancouver Island Region*
BJI ***12*** *00:49:23.9, 5070N×12970W, h10km, mB5.0, mb5.0, Ms4.5, Msz4.3*
ISCJB ***12*** *00:49:25.4±0.4, 5060N±003×12965W±006, h10km, mb4.4/11, MS3.6/11, Error ellipse: s-maj=6.0km s-min=3.5km az=147.6*
NEIC ***12*** *00:49:28.0±0.7, 5066N×12970W, h10km, mb4.1/10, ML3.7(PGC), Error ellipse: s-maj=11.6km s-min=5.4km az=65.0*

ISC 12 00:49:27.7±1.3, 5065N±003×12967W±006, h11km±8km, n153, σ1°±17/157, mb4.4/11, MS3.6/11, 21C-42D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOLB	Holberg	0.98	90	⇓P	Pg	00 49 46.2	-0.3
BPBC	Brooks Peninsu	1.31	111	⇓Pn	Pn	00 49 49.0	-2.9
PHC	Port Hardy	1.42	87	⇓Pn	Pn	00 49 52.6	-0.8
PHC				⇓Sn	Sn	00 50 13.1	+1.1
MAYB	Maynard	1.61	98	⇓Pn	Pn	00 49 54.6	-1.4
EDB	Eliza Dome	1.81	115	⇓Pn	Pn	00 49 55.5	-3.2
BBB	Bella Bella	1.82	32	Pn	Pn	00 49 58.7	-0.1
	33nm,0.3s,baz=231,slow=15,SNR=1000						
BBB				Sn	Sn	00 50 21.9	+0.2
	69nm,0.3s,baz=242,slow=18,SNR=14						
BBB				LR	LR	00 51 00.5	
	comp=Z,333nm,18.3s,baz=44,slow=44						
BBB	Bella Bella	1.82	32	⇑Pn	Pn	00 49 58.9	+0.1
BBB				⇑Sn	Sn	00 50 22.6	+0.9
WOSB	Woss	2.04	103	⇑Pn	Pn	00 50 00.7	-1.2
ETB	Estevan Point	2.39	121	⇓Pn	Pn	00 50 03.4	-3.3
GDR	Gold River	2.49	109	⇑Pn	Pn	00 50 06.1	-2.0
MOBC	Moresby Island	2.88	331	⇑Pn	Pn	00 50 08.5	-4.9
MOBC				⇓Sn	Sn	00 50 42.9	-5.0
BTB	Buttle Lake	2.92	112	⇑Pn	Pn	00 50 12.1	-1.9
BTB				⇑Sn	Sn	00 50 46.6	-2.4
DIB	Dawson Inlet,	3.09	327	⇑Pn	Pn	00 50 11.1	-5.2
DIB				⇓Sn	Sn	00 50 48.1	-5.1
VIB	Van Inlet	3.15	327	⇑Pn	Pn	00 50 11.6	-5.6
VIB				⇑Sn	Sn	00 50 48.1	-6.6
C03A	Quillayute Air	4.30	127	⇓Pn	Pn	00 50 32.3	-0.5
	baz=4.3						
PGC	Sidney	4.51	114	ePn	Pn	00 50 34.5	-1.3
B04A	Port Angeles	4.79	120	⇓Pn	Pn	00 50 39.0	-0.7
	baz=4.8						
A04A	Legoe Bay, Lum	4.91	110	⇓Pn	Pn	00 50 41.2	-0.2
	baz=4.9						
A04A				⇓Sn	Sn	00 51 37.6	-0.5
	baz=4.9						
NLWA	Neilton Lookou	5.02	128	ePn	Pn	00 50 42.2	-0.6
NLWA	Neilton Lookou	5.02	128	⇑Pn	Pn	00 50 41.8	-1.0
	baz=5.0						
NLWA				⇑Sn	Sn	00 51 38.2	-2.5
	baz=5.0						
A05A	Maple Falls	5.18	106	⇓Pn	Pn	00 50 44.9	-0.1
	baz=5.2,SNR=149						
D03A	Wishkah Elem.	5.26	130	⇓Pn	Pn	00 50 45.5	-0.6
	baz=5.3						
C04A	Brinnon	5.28	121	⇑Pn	Pn	00 50 46.2	-0.2
	baz=5.3						
GNW	Green Mountain	5.45	122	ePn	Pn	00 50 48.0	-0.8
B05A	Bryant	5.48	113	⇑Pn	Pn	00 50 49.1	-0.1
	baz=5.5,SNR=76						
A06A	Chilliwack	5.52	103	⇓Pn	Pn	00 50 50.3	+0.6
	baz=5.5,SNR=7.5						
B06A	Marblemount	5.73	109	⇑Pn	Pn	00 50 52.8	+0.2
	baz=5.7,SNR=28						
E03A	Lebam	5.77	133	⇑Pn	Pn	00 50 52.3	-0.8
	baz=5.8						
WRAK	Wrangell Islan	6.00	346	ePn	Pn	00 50 53.5	-2.7
	11nm,0.7s						
WRAK				eSn	Sn	00 52 02.5	-2.2
C05A	Tolt Reservoir	6.01	116	⇑Pn	Pn	00 50 56.6	+0.2
	baz=6.0						
A07A	Ashnola River,	6.21	101	⇓Pn	Pn	00 50 59.5	+0.3
	baz=6.2						
B07A	Winthrop	6.59	106	⇓Pn	Pn	00 51 04.6	+0.3
	baz=6.6,SNR=194						
E05A	Randle	6.65	125	⇓Pn	Pn	00 51 05.2	0.0
	baz=6.6						
D06A	Cle Elum	6.76	117	⇓Pn	Pn	00 51 06.6	-0.1
	baz=6.7						
G03A	Yamhill	6.84	139	⇓Pn	Pn	00 51 07.1	-0.8
	baz=6.8						
A08A	Turner Farm, O	6.94	100	⇓Pn	Pn	00 51 09.6	+0.4
	baz=6.9						
C07A	Waterville	6.96	112	⇑Pn	Pn	00 51 09.3	-0.1
	baz=6.9,SNR=35						
E06A	Yakima	7.07	122	⇑Pn	Pn	00 51 10.9	-0.2
	baz=7.1						
B08A	Colville Reser	7.11	105	⇓Pn	Pn	00 51 11.9	+0.4
	baz=7.1,SNR=41						
D07A	Quincy	7.26	115	⇓Pn	Pn	00 51 13.9	+0.3
	baz=7.2,SNR=5.7						
A09A	Danville	7.36	99	⇓Pn	Pn	00 51 15.6	+0.6
	baz=7.3						
C08A	Higginbotham F	7.52	108	⇑Pn	Pn	00 51 16.8	-0.3
	baz=7.5,SNR=5.5						
DLBC	Dease Lake	7.80	359	ePn	Pn	00 51 22.2	+1.2
DLBC	Dease Lake	7.80	359	Pn	Pn	00 51 21.7	+0.7
DLBC				Sn	Sn	00 52 52.2	+3.0
H04A	Detroit Lake	7.82	137	⇓Pn	Pn	00 51 20.8	-0.4
	baz=7.8						
B09A	Rice	7.82	102	⇑Pn	Pn	00 51 21.5	+0.3
	baz=7.8,SNR=6.6						
D08A	Wollman Farm,	7.95	113	⇑Pn	Pn	00 51 22.3	-0.6
	baz=7.9,SNR=18						
HAWA	Hanford	7.96	118	ePn	Pn	00 51 23.1	-0.1
C09A	Chrisman Ranch	7.98	107	⇓Pn	Pn	00 51 23.0	-0.5
	baz=8.0,SNR=5.5						
D09A	Jones Farm, Ri	8.30	111	⇓Pn	Pn	00 51 27.0	-0.9
	baz=8.3,SNR=17						
NEW	Newport	8.51	101	ePn	Pn	00 51 31.8	+1.1
NEW	Newport	8.51	101	Pn	Pn	00 51 30.6	-0.1
	1.1nm,0.3s,baz=298,slow=11,SNR=10						
NEW				LR	LR	00 54 51.7	
	comp=Z,440nm,19.7s,baz=287,slow=38						
C10A	Spilker Farm,	8.57	105	⇑Pn	Pn	00 51 31.8	+0.3
	baz=8.5,SNR=18						
E09A	Wood Farm, Sta	8.69	114	⇓Pn	Pn	00 51 33.0	-0.1
	baz=8.7						
A11A	Hall Mountain,	8.77	96	⇓Pn	Pn	00 51 36.1	+1.8
	baz=8.7						
D10A	Wagner Farm, O	8.93	109	⇑Pn	Pn	00 51 36.3	-0.1
	baz=8.9						
B11A	Sandpoint	8.93	99	⇓Pn	Pn	00 51 37.3	+0.9
	baz=8.9						
HUMO	Hull Mountain	9.27	148	ePn	Pn	00 51 43.0	+1.9
E10A	Myers Farm, Un	9.31	112	⇑Pn	Pn	00 51 40.9	-0.8
	baz=9.3,SNR=14						
D11A	Klaveano Farm,	9.50	107	⇓Pn	Pn	00 51 43.7	-0.6
	baz=9.5,SNR=8.5						
G09A	Cove	9.61	119	⇑Pn	Pn	00 51 45.4	-0.4
	baz=9.6						
H08A	Prairie City	9.63	125	⇑Pn	Pn	00 51 45.5	-0.5
	baz=9.6						
J06A	Christmas Vall	9.85	135	⇓Pn	Pn	00 51 46.7	-2.4
	baz=9.8						
E11A	Bogner Ranch,	9.91	111	⇑Pn	Pn	00 51 49.0	-0.8
	baz=9.9,SNR=20						
G10A	Bishop Farm, J	9.97	118	⇑Pn	Pn	00 51 51.2	+0.5
	baz=9.9						
D12A	Red Ives Fores	10.10	105	⇓Pn	Pn	00 51 52.0	-0.4
	baz=10,SNR=10						
BSMT	Bassoo Peak	10.12	100	ePn	Pn	00 51 54.1	+1.3
YBH	Yreka Blue Hor	10.13	149	ePn	Pn	00 51 55.0	+2.0
YBH	Yreka Blue Hor	10.13	149	LR	LR	00 55 02.4	
	comp=Z,126nm,21.5s,baz=330,slow=34						
BMO	Blue Mountains	10.14	120	ePn	Pn	00 51 53.4	+0.4
B13A	Whitefish	10.14	97	⇓Pn	Pn	00 51 52.7	-0.4
	baz=10						
F11A	Grangeville	10.19	113	⇓Pn	Pn	00 51 53.3	-0.4
	baz=10						
WALA	Waterton Lakes	10.30	93	ePn	Pn	00 51 58.5	+3.2
C13A	Hot Springs	10.32	101	⇓Pn	Pn	00 51 55.1	-0.4
	baz=10						
D13A	Huson	10.63	104	⇓Pn	Pn	00 51 59.7	-0.1
	baz=11						
F12A	Elk City	10.79	111	⇓Pn	Pn	00 52 01.6	-0.3
	baz=11,SNR=8.3						
J09A	Fry Pan Ranch,	10.92	127	⇓Pn	Pn	00 52 02.2	-1.6
	baz=11						
E13A	Victor	11.09	106	⇓Pn	Pn	00 52 04.9	-1.1
	baz=11						
WVOR	Wild Horse Val	11.18	133	ePn	Pn	00 52 07.9	+0.6
	7.0nm,1.1s						
D14A	Greenough	11.22	102	⇑Pn	Pn	00 52 07.2	-0.7
	baz=11						
WDC	Whiskeytown Da	11.23	151	ePn	Pn	00 52 09.6	+1.6
CHMT	Chamberlain Mo	11.45	103	ePn	Pn	00 52 11.2	+0.2
G13A	Cobalt	11.75	112	⇓Pn	Pn	00 52 14.9	-0.2
	baz=12,SNR=5.7						
F15A	Butte	12.41	106	⇑Pn	Pn	00 52 23.5	-0.6
	baz=12						
HRY	Holter Researc	12.42	102	ePn	Pn	00 52 25.0	+0.7
LRM	Limekiln Ridge	12.45	106	ePn	Pn	00 52 25.2	+0.7
DLMT	Dillon	12.59	108	ePn	Pn	00 52 26.9	+0.4
MCMT	McKenzie Canyo	12.72	111	ePn	Pn	00 52 28.2	-0.1
BOZ	Bozeman (W)	13.03	106	ePn	Pn	00 52 33.7	+1.1
EGMT	Eagleton	13.24	94	ePn	Pn	00 52 38.2	+2.8
IMW	Indian Meadow	14.38	111	ePn	Pn	00 52 49.0	-1.9
DCID1	Drake Creek	14.40	112	ePn	Pn	00 53 00.6	+9.3
FLWY	Flagg Ranch	14.41	110	ePn	Pn	00 52 53.7	+2.2
YKA	Yellowknife Ar	14.43	29	Pn	Pn	00 52 51.2	-0.3
YKA				Sn	Sn	00 55 26.4	-4.9
YKA				LR	LR	00 58 10.0	
YKA	Yellowknife Ar	14.43	29	Pn	Pn	00 52 51.2	-0.3
	0.2nm,0.3s,baz=222,slow=12,SNR=24						
YKA				Sn	Sn	00 55 26.4	-4.9
	0.1nm,0.3s,baz=220,slow=22,SNR=4.3						
YKA				LR	LR	00 58 10.0	
	comp=Z,49nm,18.7s,baz=200,slow=36						
YKW3	Yellowknife Ar	14.48	29	ePn	Pn	00 52 51.8	-0.4
MOOW	Moose Ponds	14.57	111	ePn	Pn	00 52 56.3	+2.7
TPAW	Teton Pass	14.60	112	ePn	Pn	00 52 57.1	+3.1
NVAR	Mina Array Bea	14.64	142	Pn	Pn	00 52 52.6	-1.9
	0.1nm,0.3s,baz=315,slow=25,SNR=2.5						
SNOW	Snow King Moun	14.73	112	eP	Pn	00 53 04.4	+8.6
REDW	Red Top Meadow	14.74	112	ePn	Pn	00 53 00.6	+4.8
LOHW	Long Hollow	14.74	111	ePn	Pn	00 52 58.9	+3.1
EGAK	Eagle	15.39	341	eP	Pn	00 53 09.7	+5.2
HWUT	Hardware Ranch	15.43	119	ePn	Pn	00 53 08.4	+3.3
DUG	Dugway	15.75	125	ePn	Pn	00 53 11.3	+2.0
	12nm,1.1s						
BW06	Boulder Array	15.85	112	ePn	Pn	00 53 13.2	+2.7
	18nm,1.1s						
NLU	North Lily Min	16.31	124	ePn	Pn	00 53 19.6	+3.1
DGMT	Dagmar	16.64	88	eP	Pn	00 53 23.8	+3.1
MCK	McKinley	16.66	329	ePn	Pn	00 53 23.5	+2.8
TPNV	Topopah Spring	16.74	140	ePn	Pn	00 53 23.1	+1.2
	58nm,2.1s						
FFC	Flin Flon	17.22	66	ePn	Pn	00 53 27.5	-0.4
MSU	Marysvale	17.34	128	ePn	Pn	00 53 30.8	+1.3
SHPR	Sheep Range	17.57	138	ePn	Pn	00 53 33.3	+1.0
INK	Inuvik	17.81	355	ePn	Pn	00 53 34.3	-0.8
INK	Inuvik	17.81	355	P	Pn	00 53 34.7	-0.4
	0.0nm,0.3s,baz=168,slow=11,SNR=9.9						
INK				LR	LR	01 00 41.3	
	comp=Z,141nm,20.4s,baz=188,slow=38						
RWWY	Rawlins	17.89	111	ePn	Pn	00 53 33.3	-3.0
	14nm,1.0s						
GSC	Goldstone	17.95	144	eP	Pn	00 53 38.9	+1.8
PHWY	Pilot Hill	19.17	110	eP	Pn	00 53 51.7	-0.2
PV01	Paradox Valley	19.51	122	eP	Pn	00 53 54.9	-1.1
SMCO	Snowmass	19.66	117	eP	Pn	00 53 57.4	-0.3
IMA2	Indian Mountai	19.73	331	ePn	Pn	00 53 59.4	+1.0
ISCO	Idaho Springs	20.03	114	ePn	P	00 54 01.8	+1.5
WUAZ	Wupatki	20.10	132	eP	P	00 54 02.5	+1.3
	7.3nm,1.0s						
MVCO	Mesa Verde	20.23	124	eP	P	00 54 03.0	+0.5
GLA	Glamis	20.70	143	eP	P	00 54 08.2	+0.5
	8.6nm,0.8s						
ULM	Lac du Bonnet	21.42	78	P	P	00 54 15.6	+0.2
	9.4nm,0.6s,mb4.3,baz=292,slow=11,SNR=15						
ULM				LR	LR	01 02 53.1	
	comp=Z,135nm,18.7s,MS3.4,baz=282,slow=37						
SDCO	Great Sand Dun	21.48	118	eP	P	00 54 16.7	+0.6
	4.6nm,0.8s,mb3.9						
FCC	Fort Churchill	21.87	54	eP	P	00 54 21.4	+1.3
	8.7nm,0.8s,mb4.2						
AGMN	Agassiz Refuge	21.98	83	eP	P	00 54 22.3	+1.0
ANMO	Albuquerque	23.01	124	P	P	00 54 30.0	-2.4
	3.1nm,1.1s,mb3.7,baz=326,slow=9.9,SNR=7.2						
TUC	Tucson	23.03	136	eP	P	00 54 33.3	+0.7
ECSD	EROS,Sioux Fal	23.36	94	eP	P	00 54 35.3	-0.7
EYMN	Ely	24.86	81	eP	P	00 54 50.8	+0.9
AMTX	Amarillo	25.68	117	eP	P	00 54 58.0	+0.5
MNTX	Cornudas Mount	26.12	127	eP	P	00 55 01.4	0.0
	4.4nm,0.9s,mb4.0						
WMOK	Wichita Mounta	27.45	114	eP	P	00 55 13.7	+0.2
	6.0nm,0.8s,mb4.2						
TXAR	Lajitas Array	28.90	128	P	P	00 55 24.5	-1.8
TXAR				LR	LR	01 07 49.0	
TXAR	Lajitas Array	28.90	128	P	P	00 55 24.5	-1.8
	2.5nm,1.0s,mb3.9,baz=316,slow=7.0,SNR=12						
TXAR				LR	LR	01 07 49.0	
	comp=Z,51nm,20.9s,MS3.1,baz=180,slow=38						
OXF	Oxford	33.27	103	eP	P	00 56 04.0	-0.8
	34nm,1.2s,mb5.2						
SCHQ	Scheffervilla	37.14	58	LR	LR	01 12 34.7	
	comp=Z,112nm,18.3s,MS3.7,baz=72,slow=37						
LHS	Liberty Hill	38.69	96	eP	P	00 56 52.7	+1.5
ASAJ	Asahikawa	56.42	300	LR	LR	01 24 19.2	
	comp=Z,36nm,18.5s,MS3.5,baz=14,slow=37						
ARCES	ARCESS Array B	58.75	10	LR	LR	01 25 33.9	
	comp=Z,43nm,20.0s,MS3.6,baz=330,slow=37						
MDJ	Mudanjiang	62.93	308	P	P	00 59 52.7	-1.0
MDJ				AMB	AMB		
	comp=Z,103nm,4.8s						
CN2	Changchun	65.58	310	eP	P	01 00 10.1	-1.0
KSRS	Korea Array	69.02	304	LR	LR	01 30 47.7	
	comp=Z,14nm,20.4s,MS3.2,baz=225,slow=36						
ZALV	Zalesovo Beam	71.83	339	LR	LR	01 37 16.8	
	comp=Z,30nm,19.6s,MS3.6,baz=32,slow=40						
HHC	Hu-ho-hao-te	74.33	316	eP	P	01 01 06.5	+1.6
HHC				PCP	PcP	01 01 21.8	+2.1
HHC				PP	PP	01 03 53.8	+3.5
HHC				S	S	01 10 36.4	-2.3
HHC				XS	sS	01 10 53.5	+8.6
HHC				SS	SS	01 15 22.8	-0.8
HHC				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,128nm,6.1s						
HHC				LR	LR		
	comp=N,151nm,19.9s,MS4.6						
HHC				LR	LR		
	comp=E,230nm,18.0s,MS4.6						
HHC				LR	LR		
	comp=Z,228nm,20.8s,MS4.5						
VRAC	Vranov	76.31	22	LR	LR	01 37 49.5	
	comp=Z,34nm,18.4s,MS3.7,baz=10,slow=38						
AKTO	Aktyubinsk	79.08	355	LR	LR	01 40 37.2	
	comp=Z,30nm,20.9s,MS3.6,baz=132,slow=39						
MLR	Muntele Rosu	81.93	17	LR	LR	01 37 47.9	
	comp=Z,40nm,20.2s,MS3.8,baz=233,slow=35						
CD2	Chengdu	86.09	316	eP	P	01 02 07.9	-0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.1						
GYA	Guiyang	88.55	312	P	P	01 02 19.8	-0.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						

NEIC ***12*** *01:00:10.0±0.6, 2192N×143.15E, h35km, mb4.0/1, Error ellipse: s-maj=25.7km s-min=15.3km az=90.0*
IDC ***12*** *01:00:24.7±7.4, 2179N×14297E, h170km±69km, mb3.5/12, mb1 3.7/12, mb1mx3.6/20, mbtmp3.5/12, MS2.9/2, Ms1 2.9/2, ms1mx2.6/22, Error ellipse: s-maj=28.0km s-min=14.3km az=83.0*
ISCJB ***12*** *01:00:28.3±8.0, 218N±0.1×1429E±03, h220km±76km, mb3.6/12, Error ellipse: s-maj=38.7km s-min=16.5km az=170.3*

ISC 12 01:00:29.9±6.7, 218N±01×1429E±02, h221km±64km, n17, σ0°±76/15, mb3.6/12, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.26	345	LR	LR	01 08 48.2	
	comp=Z,64nm,18.7s,baz=270,slow=33						
KSRS	Korea Array	20.29	324	P	P	01 04 48.7	-0.1
	3.5nm,0.8s,baz=142,slow=8.1,SNR=10						
KSRS				LR	LR	01 11 19.2	
	comp=Z,22nm,18.6s,baz=225,slow=32						
SONM	Songino Array	39.10	321	P	P	01 07 35.2	-0.6
	1.2nm,0.6s,mb3.6,baz=118,slow=6.4,SNR=11						
WRAB	Tennant Creek	42.30	192	eP	P	01 08 02.8	+0.7
	2.1nm,0.7s,mb3.7						
WRA	Warramunga Arr	42.31	192	P	P	01 08 01.7	-0.5
	1.0nm,0.7s,mb3.4,baz=18,slow=9.0,SNR=6.8						
ASAR	Alice Springs	46.02	191	P	P	01 08 31.2	-0.3
	0.6nm,0.6s,mb3.1,baz=14,slow=9.2,SNR=14						
ZALV	Zalesovo Beam	53.98	322	P	P	01 09 31.1	+0.2
	2.0nm,0.7s,mb3.7,baz=96,slow=7.7,SNR=9.1						
MKAR	Makanchi Array	54.45	313	P	P	01 09 35.7	+1.3
MKAR	Makanchi Array	54.45	313	P	P	01 09 35.7	+1.3
	0.8nm,0.6s,mb3.4,baz=92,slow=8.8,SNR=9.1						
INK	Inuvik	67.59	24	P	P	01 11 01.9	-0.4
	1.4nm,0.7s,mb3.7,baz=299,slow=5.7,SNR=9.7						
YKA	Yellowknife Ar	76.50	28	P	P	01 11 55.6	+0.5
	1.8nm,0.7s,mb3.8,baz=293,slow=5.8,SNR=29						
FINES	FINESS Array B	82.99	334	P	P	01 12 30.0	0.0
	1.1nm,0.9s,mb3.6,baz=90,slow=5.7,SNR=4.5						
NVAR	Mina Array Bea	83.29	51	P	P	01 12 33.5	+1.4
	1.3nm,0.7s,mb3.8,baz=272,slow=4.6,SNR=9.6						
AKASG	Malin Array Be	87.28	324	P	P	01 12 51.0	-0.5
	0.1nm,0.3s,mb3.1,baz=53,slow=5.1,SNR=5.6						
ULM	Lac du Bonnet	91.51	33	P	P	01 13 09.8	-1.5
ULM	Lac du Bonnet	91.51	33	P	P	01 13 09.8	-1.5
	0.7nm,0.4s,mb4.0,baz=291,slow=10,SNR=2.8						
LPAZ	La Paz	150.19	85	PKPbc	PKPbc	01 19 58.8	+3.4
	0.7nm,0.7s,baz=337,slow=3.4,SNR=3.9						

BJI ***12*** *01:12:11.2, 2242N×10139E, h28km, ML3.4, Ms3.5, Msz3.0*

ISC 12 01:12:11.9±1.1, 2245N±010×1013E±02, h5km±13km, n5, σ0°±78/11, 2D, Myanmar-China border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHRT	Chiangrai	2.92	209	⇓PN	Pb	01 13 04.0	-0.5
CHRT				PG	Pg	01 13 07.0	-0.9
CHRT				SG	Sg	01 13 50.0	+4.1
KMI	Kunming	2.98	26	PG	Pn	01 13 03.6	+3.9
KMI				SG	Sg	01 13 47.8	+0.3
KMI				Smax			
	comp=N,44nm,1.1s						
KMI				Smax			
	comp=E,29nm,1.2s						
KMI				LR	LR		
	comp=N,191nm,8.7s						
KMI				LR	LR		
	comp=E,276nm,7.7s						
NANT	Nan	3.67	189	PN	Pb	01 13 17.5	+0.2
NANT				PG	Pg	01 13 22.4	+0.1
NANT				SG	Sg	01 14 02.5	-7.4
CHG	Chiang Mai	4.23	212	⇓P	Sg	01 14 28.7	+0.9
	comp=E,64nm,0.8s						
CD2	Chengdu	8.71	14	eP	Pn	01 14 17.5	-1.0
CD2				S	Sn	01 15 57.7	+0.6
CD2				LR	LR		
	comp=N,210nm,15.6s						
CD2				LR	LR		
	comp=Z,110nm,12.0s						

NEIC ***12*** *01:50:31.0, 3342S×7007W, h5km, ML3.0(GUC), After GUC.*

GUC 12 01:50:31.0±0.6, 3342S×7007W, h5km±2km, MD3.8, ML3.0, 5C-8D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.20	296	⇓iP	Pg	01 50 35.5	+0.5
FCH				i S	Sg	01 50 38.5	+0.8
FCH				AML	AML	01 50 38.6	
	comp=N,7μm,0.1s						
YECH	El Yeso	0.25	182	eP	Pg	01 50 36.4	+0.5
YECH				i S	Sg	01 50 40.5	+1.3
YECH				AML	AML	01 50 41.3	
	comp=N,4μm,0.3s						
SJCH	San Jose de Ma	0.32	226	⇓iP	Pg	01 50 37.6	+0.3
SJCH				i S	Sg	01 50 42.4	+0.8
SJCH	San Jose de Ma	0.32	226	⇓iP	Pg	01 50 37.6	+0.3
SJCH				i S	Sg	01 50 42.4	+0.8
SJCH				AML	AML	01 50 44.0	
	comp=N,2μm,0.5s						
FSR	Penalolen	0.39	261	⇑iP	Pg	01 50 38.8	+0.4
FSR				i S	Sg	01 50 44.4	+1.0
FSR	Penalolen	0.39	261	⇑iP	Pg	01 50 38.8	+0.4
FSR				i S	Sg	01 50 44.4	+1.0
FSR				AML	AML	01 50 45.2	
	comp=E,4μm,0.4s						
CLCH	Cerro Calan	0.39	273	⇓iP	Pg	01 50 38.8	+0.3
CLCH				i S	Sg	01 50 44.6	+1.0
CLCH				AML	AML	01 50 45.7	
	comp=N,2μm,0.7s						
DSCH	Colegio Aleman	0.41	272	⇑iP	Pg	01 50 38.4	-0.6
DSCH				i S	Sg	01 50 44.8	+0.3
PCH	Pirque	0.42	241	⇑iP	Pg	01 50 39.6	+

RLS				*e*SB	**Sb**	**01 57 01.5**	**0.0**
SELA	**Sela**	**1.13**	**95**	*e*Pg	**Pg**	**01 56 53.9**	**-1.0**
SELA				*e*Sg	**Sg**	**01 57 10.6**	**+1.0**
IGT	**Igoumenitsa**	**1.15**	**355**	*e*Pg	**Pg**	**01 56 54.1**	**-1.0**
IGT				*e*Sg	**Sg**	**01 57 11.7**	**+1.6**
EVR	**Evrytania**	**1.18**	**63**	*e*PN	**Pn**	**01 56 54.7**	**-0.8**
JAN	**Janina**	**1.30**	**13**	*e*PB	**Pb**	**01 56 57.5**	**-0.1**
KEK	**Kerkira**	**1.42**	**339**	*e*PB	**Pb**	**01 56 59.4**	**-0.2**
AGG	**Agios Georgios**	**1.59**	**66**	*e*Pg	**Pg**	**01 57 02.1**	**-1.6**
ITM	**Ithomi**	**1.68**	**136**	*e*PB	**Pb**	**01 57 04.3**	**+0.4**
THL	**Klokotos Trika**	**1.69**	**45**	*e*PN	**Pn**	**01 57 04.4**	**+1.9**
PYL	**PYLOS**	**1.81**	**145**	*e*Pb	**Pb**	**01 57 05.3**	**-0.9**
PYL				*e*Sb	**Sb**	**01 57 29.8**	**+1.0**

ISCJB ***12*** *02:12:24.5±2.6, 3303S±007×1788W±0.1, h6km±17km, mb4.7/15, MS4.0/9, Error ellipse: s-maj=20.0km s-min=9.7km az=17.0*

IDC ***12*** *02:12:24.2±0.8, 3279S×17876W, h0km, mb4.4/6, mb1 4.7/8, mb1mx4.4/15, mbtmp4.5/8, ML4.7/2, MS3.9/7, Ms1 3.9/7, ms1mx3.6/24, Error ellipse: s-maj=21.3km s-min=20.7km az=79.0*

BJI ***12*** *02:12:27.6, 3302S×17901W, h22km, mB5.2, mb5.4, Ms4.9, Msz4.6*

NEIC ***12*** *02:12:28.9±0.5, 3304S×17854W, h35km, mb4.9/8, Error ellipse: s-maj=16.0km s-min=9.1km az=117.0*

ISC 12 02:12:26.8±3.0, 3295S±007×1788W±01, h10km±19km, n53, σ1§02/32, mb4.7/15, MS4.0/9, 2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.75**	**11**	*e*Pn	**Pn**	**02 13 25.2**	**+0.4**
RAO	**Raoul Island**	**3.75**	**11**	Pn	**Pn**	**02 13 22.0**	**-2.8**
	110nm,0.3s,baz=80,slow=19,SNR=2.6						
URZ	**Urewera**	**6.28**	**211**	Pn	**Pn**	**02 13 59.0**	**-0.5**
	10nm,0.3s,baz=38,slow=4.2,SNR=42						
URZ				Sn	**Sn**	**02 15 11.7**	**+0.5**
	13nm,0.3s,baz=142,slow=20,SNR=9.2						
SNZO	**South Karori**	**9.84**	**210**	*e*Pn	**Pn**	**02 14 48.7**	**+0.4**
SNZO				*e*Sn	**Sn**	**02 16 29.3**	**-9.4**
RPZ	**Rata Peaks**	**13.38**	**214**	Pn	**Pn**	**02 15 34.7**	**-2.0**
	0.6nm,0.3s,baz=49,slow=15,SNR=2.7						
RPZ				Sn	**Sn**	**02 17 52.1**	**-13**
	1.0nm,0.3s,baz=235,slow=18,SNR=3.0						
RAR	**Rarotonga**	**20.52**	**60**	LR	LR	02 22 46.2	
	comp=Z,182nm,21.8s,MS3.4,baz=218,slow=30						
TBI	**Tubuai**	**27.48**	**77**	*e*LR	LR	02 24 57.3	
	248nm,29.0s						
PPT	**Papeete**	**30.39**	**67**	*e*LR	LR	02 26 30.1	
	193nm,24.2s,baz=233						
PPT	**Papeete**	**30.39**	**67**	LR	LR	02 28 57.3	
	comp=Z,301nm,18.9s,MS4.0,baz=128,slow=33						
STKA	**Stephens Creek**	**33.35**	**261**	*e*P	**P**	**02 19 04.5**	**-0.7**
STKA				PcP	PcP	02 21 44.0	-2.9
STKA				LR	LR	02 31 55.2	
STKA	**Stephens Creek**	**33.35**	**261**	P	**P**	**02 19 07.5**	**+2.3**
	1.8nm,0.7s,mb4.1,baz=94,slow=12,SNR=4.5						
STKA				PcP	PcP	02 21 44.0	-2.9
	1.2nm,0.7s,baz=192,slow=3.3,SNR=3.5						
STKA				LR	LR	02 31 55.2	
	comp=Z,376nm,19.3s,MS4.1,baz=290,slow=35						
CTA	**Charters Tower**	**33.66**	**284**	*e*P	**P**	**02 19 10.4**	**+2.5**
	8.0nm,0.6s,mb4.8						
CTA	**Charters Tower**	**33.66**	**284**	P	**P**	**02 19 09.7**	**+1.7**
	8.9nm,0.7s,mb4.8,baz=116,slow=13,SNR=9.2						
CTAO	**Charters Tower**	**33.66**	**284**	*e*P	**P**	**02 19 09.9**	**+1.9**
	9.2nm,0.7s,mb4.8						
RKT	**Rikitea**	**39.64**	**87**	*e*LR	LR	02 30 49.1	
	353nm,29.5s						
ASAR	**Alice Springs**	**42.39**	**270**	P	**P**	**02 20 21.9**	**+0.3**
	5.1nm,0.7s,mb4.2,baz=112,slow=8.0,SNR=97						
ASAR				PcP	PcP	02 22 13.6	-1.3
	0.6nm,0.6s,baz=116,slow=5.6,SNR=3.1						
ASAR				S	**S**	**02 26 41.6**	**-1.5**
	0.9nm,0.9s,baz=113,slow=16,SNR=5.1						
WB2	**Warramunga Arr**	**43.60**	**275**	*e*P	**P**	**02 20 31.7**	**+0.3**
WRAB	**Tennant Creek**	**43.60**	**275**	*e*P	**P**	**02 20 31.5**	**0.0**
	29nm,1.0s,mb5.0						
WRA	**Warramunga Arr**	**43.61**	**275**	P	**P**	**02 20 31.8**	**+0.3**
	14nm,0.5s,mb4.9,baz=116,slow=7.6,SNR=156						
WRA				PcP	PcP	02 22 16.7	-2.3
	0.7nm,0.7s,baz=125,slow=5.9,SNR=1.9						
WRA				LR	LR	02 38 57.5	
	comp=Z,88nm,20.4s,MS3.7,baz=165,slow=36						
FORT	**Forrest**	**44.81**	**258**	*e*P	**P**	**02 20 40.6**	**-0.5**
	12nm,0.6s,mb4.9						
VNDA	**Vanda**	**45.50**	**186**	P	**P**	**02 20 47.4**	**+1.5**
VNDA				LR	LR	02 36 06.8	
VNDA	**Vanda**	**45.50**	**186**	P	**P**	**02 20 47.4**	**+1.5**
	1.3nm,1.1s,mb3.8,baz=17,slow=2.9,SNR=3.1						
VNDA				LR	LR	02 36 06.8	
	comp=Z,128nm,18.9s,MS3.9,baz=181,slow=31						
FITZ	**Fitzroy Crossi**	**51.75**	**272**	*e*P	**P**	**02 21 34.6**	**-0.2**
	8.9nm,0.7s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.75**	**272**	P	**P**	**02 21 34.7**	**-0.1**
	4.8nm,0.7s,mb4.5,baz=166,slow=8.9,SNR=13						
CASY	**Casey**	**52.59**	**209**	*e*P	**P**	**02 21 39.5**	**-0.9**
	10nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**57.17**	**180**	*e*P	**P**	**02 22 13.9**	**+0.6**
	18nm,0.9s,mb5.1						
QSPA	**South Pole Qui**	**57.17**	**180**	P	**P**	**02 22 14.3**	**+1.0**
	11nm,1.0s,mb4.8,baz=36,slow=2.6,SNR=23						
SYO	**Syowa Base**	**74.50**	**193**	⇓*e*P	**P**	**02 24 01.7**	**-3.3**
SYO	**Syowa Base**	**74.50**	**193**	⇓*e*pP	pP	02 24 15.4	+7.2
PLCA	**Paso Flores**	**81.25**	**133**	LR	LR	02 52 13.7	
	comp=Z,94nm,20.8s,MS4.1,baz=172,slow=29						
KSRS	**Korea Array**	**85.87**	**320**	P	**P**	**02 25 06.0**	**-0.6**
	1.3nm,0.7s,mb4.3,baz=157,slow=6.7,SNR=4.9						
NJ2	**Nanjing**	**87.41**	**311**	*e*P	**P**	**02 25 13.2**	**-1.1**
NJ2				AP	pP	02 25 26.6	+9.0
NJ2				XP	sP	02 25 31.3	+13
NJ2				S	S	02 35 45.0	-10
NJ2				XS	sS	02 36 12.0	+12
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,260nm,11.4s						
NJ2				LR	LR		
	comp=N,2μm,18.8s						
NJ2				LR	LR		
	comp=E,3μm,23.8s						
NJ2				LR	LR		
	comp=Z,3μm,23.8s						
TUC	**Tucson**	**91.20**	**52**	*e*P	**P**	**02 25 32.3**	**+0.1**
	comp=Z,0.8nm,0.6s,mb4.2						
KMI	**Kunming**	**94.39**	**297**	P	**P**	**02 25 47.5**	**+0.4**
KMI				XP	sP	02 26 02.2	+11
KMI				AMB	AMB		
	comp=Z,11nm,0.7s,mb5.4						
KMI				LR	LR		
	comp=Z,132nm,27.9s,MS4.2						
CD2	**Chengdu**	**96.89**	**302**	*e*P	**P**	**02 25 58.9**	**+0.6**
CD2				AP	pP	02 26 12.4	+11
CD2				PP	PP	02 29 57.5	+3.4
CD2				SKS		02 36 30.9	
CD2				S	S	02 37 14.6	-6.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,20nm,8.8s						
CD2				LR	LR		
	comp=N,190nm,15.6s						
CD2				LR	LR		
	comp=Z,170nm,13.2s,MS4.7						
LPAZ	**La Paz**	**97.69**	**115**	LR	LR	02 59 19.7	
	comp=Z,55nm,21.7s,MS4.0,baz=344,slow=29						
WMQ	**Urumqi**	**114.27**	**308**	*e*PKP	PKiKP	02 31 06.0	-0.4
MKAR	**Makanchi Array**	**118.89**	**309**	PKP	PKPdf	02 31 12.8	-2.4
	comp=Z,1.9nm,1.2s,baz=90,slow=1.2,SNR=4.0						
TKM2	**Tokmak 2**	**122.26**	**303**	*e*PKPdf	PKPdf	02 31 21.1	-0.7
KURK	**Kurchatov**	**122.31**	**313**	*e*PKPdf	PKPdf	02 31 19.6	-2.0
UCH	**Uchtor**	**122.83**	**302**	*e*PKPdf	PKPdf	02 31 22.1	-0.8
EKS2	**Erkin-Say**	**123.47**	**302**	*e*PKPdf	PKPdf	02 31 22.6	-1.5
ARCES	**ARCESS Array B**	**140.92**	**347**	PKhKP		02 31 48.3	
	comp=Z,4.4nm,0.9s,baz=358,slow=3.6,SNR=4.0						
JOF	**Joensuu**	**144.51**	**337**	*e*p	PKPdf	02 31 59.6	-3.0
	comp=Z,3.1nm,0.5s						
FIA1	**FINESS Array S**	**147.28**	**338**	*e*PKPbc	PKPbc	02 32 07.8	-2.0
FINES	**FINESS Array B**	**147.28**	**338**	PKPbc	PKPbc	02 32 07.9	-1.8
	comp=Z,7.9nm,0.6s,baz=46,slow=4.1,SNR=87						
MALT	**Malatya**	**149.44**	**291**	*e*PKPbc	PKPbc	02 32 14.6	-1.6
MALT				*e*		02 32 30.1	
NB2	**NORSAR Subarra**	**151.15**	**350**	PKP	PKPbc	02 32 17.6	-1.9
	comp=Z,4.6nm,0.7s,baz=16,slow=2.6						
NOA	**NORSAR Array B**	**151.15**	**350**	PKPbc	PKPbc	02 32 17.3	-2.2
	comp=Z,2.7nm,0.8s,baz=20,slow=4.7,SNR=28						
NAO01	**NORSAR Array S**	**151.38**	**350**	*e*PKPbc	PKPbc	02 32 17.1	-3.0
AKASG	**Malin Array Be**	**152.86**	**319**	PKPbc	PKPbc	02 32 21.8	-1.9
	comp=Z,1.6nm,0.6s,baz=52,slow=2.2,SNR=13						
TORD	**Torodi Ar. Bea**	**160.29**	**181**	PKPab	PKPab	02 33 04.8	-2.7
	comp=Z,0.6nm,0.7s,baz=170,slow=2.8,SNR=5.9						
GERES	**GERESS Array B**	**161.57**	**333**	PKPab	PKPab	02 33 10.8	-1.5
	comp=Z,0.8nm,0.6s,baz=42,slow=4.2,SNR=8.1						

CASC 12 02:32:22.3±3.3, 1254N×8784W, h54km±42km, MD4.1, ML4.2, 10C-9D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNCH	**Conchagua**	**0.73**	**0**	⇓*e*P	x	02 32 52.5	
CNCH				*e*S	x	02 33 04.0	
CRIN	**San Cristobal**	**0.79**	**78**	⇑*e*P	Pn	02 32 37.7	+0.3
CRIN				*e*S	Sn	02 32 50.0	+1.7
TEL3	**Telica 3**	**0.97**	**88**	⇑*e*P	Pn	02 32 39.5	-0.2
TEL3				*e*S	Sn	02 32 54.7	+2.0
BLLM	**Bellamira**	**0.97**	**337**	⇓*e*P	x	02 32 54.7	
BLLM				*e*S	x	02 33 10.4	
TELN	**Telica**	**0.99**	**86**	⇑*e*P	Pn	02 32 39.6	-0.4
TELN				*e*S	Sn	02 32 54.8	+1.8
CNGN	**Cerro Negro**	**1.12**	**92**	⇑*e*P	Pn	02 32 41.1	-0.6
CNGN				*e*S	Sn	02 32 56.3	+0.3
COPN	**Copaltepe**	**1.27**	**106**	*e*P	Pn	02 32 43.2	-0.6
COPN				*e*S	Sn	02 33 00.1	+0.3
CAHU	**Cacacuatique**	**1.27**	**344**	⇓*e*P	x	02 32 59.0	
CAHU				*e*S	x	02 33 18.7	
MOMJ	**Momotombo**	**1.28**	**96**	⇑*e*P	Pn	02 32 43.4	-0.4
MOMJ				*e*S	Sn	02 33 00.6	+0.6
CSAN		**1.43**	**104**	⇓*e*P	Pn	02 32 46.0	0.0
CSAN				*e*S	Sn	02 33 06.7	+3.0
SNVI	**San Vicente**	**1.44**	**318**	⇑*e*P	x	02 33 00.8	
SNVI				⇓*e*S	x	02 33 18.2	
SNVI				*e*S	x	02 33 18.6	
XAVN	**Gruta Xavier**	**1.53**	**105**	*e*P	Pn	02 32 47.1	-0.2
XAVN				*e*S	Sn	02 33 06.1	0.0
LCBS	**La Ceiba**	**1.57**	**315**	⇑*e*P	x	02 33 02.4	
LCBS				*e*S	x	02 33 20.4	
TISN	**Laguna Tiscapa**	**1.59**	**104**	⇑*i*P	Pn	02 32 47.9	-0.2
TISN				*e*S	Sn	02 33 07.1	-0.3
LFRS	**El Faro**	**1.60**	**312**	⇓*e*P	x	02 33 02.8	
LFRS				*e*S	x	02 33 22.2	
CRUN	**El Crucero**	**1.60**	**110**	*e*P	Pn	02 32 48.4	+0.1
CRUN				*e*S	Sn	02 33 08.9	+1.0
	comp=Z,4μm,0.5s						
MGAN	**Managua**	**1.60**	**104**	⇓*e*P	Pn	02 32 48.0	-0.3
MGAN				*e*S	Sn	02 33 08.3	+0.4
HUEN		**1.64**	**97**	*e*P	Pn	02 32 48.5	-0.3
TICN	**Ticuantepe**	**1.65**	**108**	*e*P	Pn	02 32 48.6	-0.3
TICN				*e*S	Sn	02 33 08.1	-1.0
MASN	**Masaya**	**1.74**	**108**	*e*P	Pn	02 32 49.6	-0.5
MASN				*e*S	Sn	02 33 10.9	-0.3
PICS	**Picacho**	**1.82**	**311**	⇓*i*P	x	02 32 52.4	
BOQS	**Boqueron**	**1.84**	**310**	⇓*e*P	x	02 33 06.4	
BOQS				*e*S	x	02 33 28.4	
APON	**Apoyo**	**1.84**	**110**	*e*P	Pn	02 32 50.9	-0.6
APON				*e*S	Sn	02 33 13.9	+0.2
BOAB	**BOACO BROADBAN**	**2.12**	**92**	⇑*i*P	Pn	02 32 54.7	-0.7
BOAB				*e*S	Sn	02 33 20.7	+0.1
SNJE	**San Jose**	**2.17**	**308**	*e*P	x	02 33 11.1	
SNJE				*e*S	x	02 33 35.8	
RTR	**El Retiro**	**2.21**	**308**	*e*P	x	02 33 12.0	
SSNN	**San Juan del S**	**2.31**	**122**	*e*P	Pn	02 32 59.0	+1.1
JCR	**Jicaral**	**3.79**	**135**	*e*P	Pn	02 33 18.6	+0.4
CGA2	**Cerro Gallo 2**	**4.16**	**127**	*e*P	Pn	02 33 24.4	+1.1
PRS1	**Puriscal**	**4.29**	**126**	*e*P	Pn	02 33 27.9	+2.8
LAJ	**Bijagual**	**4.52**	**126**	*e*P	Pn	02 33 27.1	-1.1
LCR2	**La Lucha 2**	**4.68**	**126**	⇑*e*P	Pn	02 33 32.2	+1.8
URSC	**Urasca**	**4.81**	**124**	*e*P	Pn	02 33 35.3	+3.1
URSC				*e*S	Sn	02 34 29.7	+3.1
BUS	**Buena Vista**	**4.99**	**126**	*e*P	Pn	02 33 37.0	+2.4
BAR1		**5.53**	**126**	*e*P	Pn	02 33 44.1	+2.0
CHI2		**15.99**	**118**	*e*P		02 32 37.3	
CHI2				*e*S		02 32 49.5	

BJI ***12*** *02:34:15.3, 2017N×14552E, h107km, mB4.9, mb4.8*

ISCJB ***12*** *02:34:16.2±0.1, 2019N±003×14529E±002, h97km, mb4.9/129, Error ellipse: s-maj=4.1km s-min=3.0km az=11.3*

IDC ***12*** *02:34:17.0±0.7, 2012N×14537E, h102km±5km, mb4.5/20, mb1 4.6/25, mb1mx4.6/27, mbtmp4.5/25, MS3.8/15, Ms1 3.8/15, ms1mx3.7/25, Error ellipse: s-maj=16.3km s-min=10.6km az=76.0*

MOS ***12*** *02:34:16.4±0.9, 2022N×14522E, h104km, mb5.0/37, Error ellipse: s-maj=9.9km s-min=5.8km az=94.6*

GCMT ***12*** *02:34:17.1±0.3, 2012N×14548E, h78km±2km, MW5.0/79, Moment Tensor Solution. s43,c56; s79,c116; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.03±.12; Mθθ=3.32±.10; Mφφ=-1.30±.12; Mrθ=0.41±.08; Mrφ=1.14±.10; Mθφ=-1.61±.08; Best double couple: M=3.53100×10^16 NP1:φ=44.00000°, δ=57.00000°, λ=-141.00000°; NP2: φ=290.00000°, δ=58.00000°, λ=-39.00000°; Principal axes: T 3.5860, Plg0.0000°, Azm347.0000°; N -0.1200, Plg41.0000°, Azm77.0000°; P -3.4760, Plg49.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***12*** *02:34:17.1±0.1, 2016N×14535E, mb4.9/74 Error ellipse: s-maj=4.8km s-min=4.1km az=133.0*

ISC 12 02:34:17.9±0.1, 2020N±003×14533E±002, h99km, h99km±1.2km: pP-P, n497, σ0§81/508, mb4.9/129, 70C-137D, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**6.59**	**184**	*e*P	**Pn**	**02 35 53.0**	**+0.8**
GUMO				*e*		02 37 07.4	
GUMO				pmax	pmax		
	comp=Z,2μm,1.2s						
GUMO	**Guam**	**6.59**	**184**	*e*Pn	**Pn**	**02 35 53.0**	**+0.8**
	comp=Z,2μm,1.2s						
GUMO				*e*Sn	**Sn**	**02 37 07.4**	**+1.5**
GUMO	**Guam**	**6.59**	**184**	P	**Pn**	**02 35 53.3**	**+1.1**
	comp=Z,62nm,0.3s,baz=70,slow=0.9,SNR=38						
GUMO				S	**Sn**	**02 37 11.3**	**+5.4**
	comp=Z,18nm,0.3s,baz=116,slow=23,SNR=2.0						
GUMO				LR	LR	02 38 17.9	
	comp=Z,956nm,18.4s,baz=315,slow=37						
CBIJ	**Chichi jima**	**7.45**	**338**	P	**Pn**	**02 36 02.5**	**-1.4**
	comp=Z,29nm,0.3s,baz=287,slow=22,SNR=9.7						
CBIJ				S	**Sn**	**02 37 23.1**	**-3.5**
	comp=Z,71nm,0.3s,baz=293,slow=22,SNR=6.7						
JHJ	**Hachijo jima 2**	**13.79**	**340**	P	**Pn**	**02 37 30.6**	**+1.5**
	comp=Z,4.8nm,0.3s,baz=86,slow=15,SNR=2.0						
JWZ	**Kozaga**	**15.80**	**329**	P	**Pn**	**02 37 52.9**	**-1.7**
JOD2	**Odawara 2**	**15.98**	**341**	P	**Pn**	**02 37 55.2**	**-1.7**
JIE	**Ise**	**16.07**	**333**	P	**Pn**	**02 37 57.4**	**-0.6**
JRY	**Ryogami san**	**16.74**	**342**	P	**Pn**	**02 38 04.6**	**-1.7**
JGF	**Kuroka**	**16.87**	**337**	P	**Pn**	**02 38 05.7**	**-2.2**
JMN	**Monobe**	**16.89**	**325**	P	**Pn**	**02 38 09.0**	**+0.9**
JOW	**Kunigami**	**16.97**	**296**	P	**Pn**	**02 38 09.8**	**+0.6**
	comp=Z,2.7nm,0.3s,baz=118,slow=14,SNR=5.2						
JOW				LR	LR	02 43 38.3	
	comp=Z,400nm,20.0s,baz=132,slow=33						
JWT	**Wachi**	**17.39**	**332**	P	**Pn**	**02 38 13.7**	**-0.5**
MJAR	**Matsushiro Arr**	**17.44**	**341**	P	**Pn**	**02 38 13.5**	**-1.2**
MJAR				S	**S**	**02 41 30.4**	**+1.1**
MJAR	**Matsushiro Arr**	**17.44**	**341**	P	**Pn**	**02 38 13.5**	**-1.3**
	comp=Z,2.6nm,0.3s,baz=160,slow=9.9,SNR=75						
MJAR				S	**S**	**02 41 30.4**	**+1.1**
	comp=Z,0.8nm,0.3s,baz=180,slow=28,SNR=4.9						
MAJO	**Matsushiro**	**17.44**	**341**	*e*P	**Pn**	**02 38 14.5**	**-0.3**
MAJO				*e*S	**S**	**02 41 30.3**	**+0.9**
MAJO				pmax	pmax		
	comp=Z,38nm,0.8s						
MAJO	**Matsushiro**	**17.44**	**341**	*e*P	**Pn**	**02 38 14.5**	**-0.3**
	comp=Z,38nm,0.8s						
MAJO				*e*S	**S**	**02 41 30.3**	**+1.0**
MAT	**Matsushiro**	**17.44**	**341**	P	**Pn**	**02 38 14.4**	**-0.4**
MAT				S	**S**	**02 41 30.6**	**+1.2**
MAT	**Matsushiro**	**17.44**	**341**	P	**Pn**	**02 38 14.3**	**-0.5**
JAD	**Aida**	**17.69**	**328**	P	**Pn**	**02 38 17.6**	**-0.2**
JMM	**Marumori**	**18.04**	**348**	P	**Pn**	**02 38 21.0**	**-1.0**
JNU	**Nakatsue**	**18.21**	**318**	P	**Pn**	**02 38 24.7**	**+0.6**
JNU	**Nakatsue**	**18.21**	**318**	P	**Pn**	**02 38 24.3**	**+0.2**
	comp=Z,1.0nm,0.3s,baz=116,slow=6.6,SNR=9.3						
JSD	**Sado**	**18.80**	**342**	P	**Pn**	**02 38 29.7**	**-1.4**
JYA	**Atsumi**	**18.96**	**346**	P	**Pn**	**02 38 33.6**	**+0.6**
JOM	**Ohasama**	**19.52**	**351**	P	**Pn**	**02 38 38.6**	**-1.0**
JTM	**Tenmabayashi**	**20.84**	**351**	P	**P**	**02 38 53.2**	**+1.6**
JOT	**Ohata**	**21.43**	**351**	P	**P**	**02 38 59.0**	**+1.2**
YHNB	**Yeheng**	**22.58**	**286**	*e*P	**P**	**02 39 10.5**	**+0.3**
KSRS	**Korea Array**	**22.92**	**322**	P	**P**	**02 39 13.4**	**0.0**
	comp=Z,29nm,0.6s,mb4.8,baz=142,slow=9.1,SNR=82						
KSRS				PcP	PcP	02 42 58.8	-1.7
	comp=Z,4.6nm,1.1s,baz=147,slow=0.9,SNR=4.5						
KSRS				ScP	ScP	02 46 27.9	-1.6
	comp=Z,2.4nm,0.9s,baz=138,slow=3.2,SNR=6.4						
KSRS				LR	LR	02 47 51.5	
	comp=Z,131nm,19.8s,baz=140,slow=35						
JMP	**Maruseppu**	**23.80**	**356**	P	**P**	**02 39 21.7**	**+0.3**
ASAJ	**Asahikawa**	**23.96**	**355**	P	**P**	**02 39 24.7**	**+1.9**
ASAJ	**Asahikawa**	**23.96**	**355**	P	**P**	**02 39 23.1**	**+0.3**
	comp=Z,23nm,0.8s,mb4.5,baz=208,slow=15,SNR=7.0						
ASAJ				LR	LR	02 48 27.1	
	comp=Z,148nm,20.6s,baz=144,slow=35						
SSE	**Sheshan**	**24.27**	**301**	P	**P**	**02 39 25.9**	**+0.1**
SSE				S	**S**	**02 43 35.7**	**-1.9**
SSE				XS	sS	02 44 14.2	-1.5
SSE				AMB	AMB		
	comp=Z,42nm,0.8s,mb4.8						
SSE				AMB	AMB		
	comp=Z,76nm,4.9s						
SSE				LR	LR		
	comp=N,123nm,24.0s						
SSE				LR	LR		
	comp=E,153nm,24.3s						
SSE				LR	LR		
	comp=Z,138nm,19.3s						
NJ2	**Nanjing**	**26.47**	**302**	*e*P	**P**	**02 39 47.2**	**+1.5**
NJ2				AP	pP	02 40 07.6	-0.2
NJ2				XP	sP	02 40 20.0	+0.6
NJ2				PP		02 40 35.5	
NJ2				S	**S**	**02 44 12.5**	**+0.1**
NJ2				XS	sS	02 44 48.5	-2.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,170nm,12.0s						
NJ2				LR	LR		
	comp=N,2μm,19.5s						
NJ2				LR	LR		
	comp=E,2μm,26.7s						
NJ2				LR	LR		
	comp=Z,2μm,26.7s						
YSS	**Yuzh-Sakhalins**	**26.77**	**356**	*e*P	**P**	**02 39 48.0**	**-0.3**
YSS				*e*	pP	02 40 13.0	+2.7
YSS				*e*		02 40 23.0	
MDJ	**Mudanjiang**	**27.64**	**335**	P	**P**	**02 39 56.8**	**+0.7**
MDJ				AP	pP	02 40 17.1	-1.1
MDJ				XP	sP	02 40 27.9	-1.9
MDJ				PCP	PcP	02 43 11.0	0.0
MDJ				S	**S**	**02 44 32.7**	**+2.2**
MDJ				XS	sS	02 45 09.5	+0.3
MDJ				PCS	PcS	02 46 53.0	+0.2
MDJ				SCS	ScS	02 50 35.1	+0.5
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,71nm,5.3s						
MDJ				LR	LR		
	comp=N,188nm,30.8s						
MDJ				LR	LR		
	comp=E,114nm,33.5s						
MDJ				LR	LR		
	comp=Z,259nm,32.6s						
DL2	**Dalian**	**27.66**	**317**	P	**P**	**02 39 58.3**	**+1.9**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CN2	**Changchun**	**28.80**	**329**	*e*P	**P**	**02 40 05.9**	**-0.5**
CN2				*e*XP	sP	02 40 39.3	-0.9
CN2				PCP	PcP	02 43 13.1	-0.8
CN2				*e*S	**S**	**02 44 47.7**	**-1.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s						
CN2				LR	LR		
	comp=E,200nm,17.0s						
CN2				LR	LR		
	comp=Z,300nm,18.0s						
HABR	**Khabarovsk**	**29.40**	**346**	*e*P	**P**	**02 40 09.8**	**-1.8**
HABR				*e*	pP	02 40 31.3	-2.6
HABR				*e*		02 40 43.3	
HABR				*e*		02 41 08.2	
HABR				*e*		02 43 14.4	
HABR				*e*S	**S**	**02 44 56.1**	**-2.0**
HABR				*e*		02 45 35.2	
HABR				*e*		02 46 33.3	
HABR				*e*		02 50 40.5	
KLR	**Kul'dur**	**30.94**	**343**	*e*P	**P**	**02 40 21.0**	**-4.2**
KLR				*e

comp=N,130nm,12.2s
CD2 LR LR
comp=Z,100nm,11.6s
KSM Kuching 38.95 246 *e*P **P** **02 41 34.9 +0.3**
KMI Kunming 39.49 285 P **P** **02 41 37.5 -1.4**
KMI S **S** **02 47 32.7 -1.2**
KMI AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
MA2 Magadan 39.53 4 *e*P **P** **02 41 38.3 -0.4**
MA2 *e**PP pP 02 42 04.0 +2.4
MA2 *e* 02 43 44.1
MA2 *e*S **S** **02 47 33.3 -0.2**
MA2 *e*SS SS 02 50 22.4 -10
MA2 pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
LZH Lanzhou 39.54 303 *e*P **P** **02 41 40.6 +1.4**
LZH AP pP 02 42 03.5 +1.4
LZH XP sP 02 42 15.3 +1.8
LZH PP PP 02 43 17.8 +6.0
LZH *e*S **S** **02 47 36.2 +1.8**
LZH XS sS 02 48 15.4 +1.4
LZH *e*SS SS 02 50 28.5 -4.4
LZH AMB AMB
comp=Z,31nm,1.3s,mb5.0
LZH AMB AMB
comp=Z,112nm,4.7s
LZH LR LR
comp=E,512nm,13.7s
LZH LR LR
comp=Z,745nm,17.6s
CTAO Charters Tower 40.05 179 *e*P **P** **02 41 41.8 -1.6**
WRAB Tennant Creek 41.31 196 *d i*P **P** **02 41 52.7 -1.1**
WRAB Tennant Creek 41.31 196 *e*P **P** **02 41 52.6 -1.2**
comp=Z,27nm,0.8s,mb5.1
WB2 Warramunga Arr 41.32 196⇑ *i*P **P** **02 41 53.2 -0.7**
WRA Warramunga Arr 41.32 196 P **P** **02 41 52.9 -1.0**
WRA 02 43 50.0
WRA Warramunga Arr 41.32 196 P **P** **02 41 52.9 -1.0**
comp=Z,23nm,0.8s,mb5.1,baz=24,slow=8.6,SNR=90
WRA PcP PcP 02 43 50.0 -0.7
comp=Z,0.9nm,0.4s,baz=18,slow=3.1,SNR=3.3
WRA LR LR 02 59 35.4
comp=Z,96nm,18.6s,baz=315,slow=37
ULN Ulaanbaatar 41.39 321 *e*P **P** **02 41 54.2 0.0**
ULN pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ULN Ulaanbaatar 41.39 321 *e*P **P** **02 41 54.2 0.0**
comp=Z,4.5nm,0.6s,mb4.5
SONM Songino Array 41.77 321 P **P** **02 41 57.1 -0.2**
SONM 02 43 51.8
SONM Songino Array 41.77 321 P **P** **02 41 57.1 -0.2**
SONM PcP PcP 02 43 51.8 0.0
SONM ScP ScP 02 47 31.6 -1.5
SONM LR LR 03 00 24.5
SONM Songino Array 41.77 321 P **P** **02 41 57.1 -0.2**
comp=Z,6.1nm,0.4s,mb4.7,baz=130,slow=7.7,SNR=53
SONM PcP PcP 02 43 51.8 0.0
comp=Z,5.8nm,0.6s,baz=131,slow=2.7,SNR=7.0
SONM ScP ScP 02 47 31.6 -1.5
comp=Z,1.1nm,0.8s,baz=116,slow=3.4,SNR=4.2
SONM LR LR 03 00 24.5
comp=Z,61nm,19.5s,baz=0.2,slow=38
FITZ Fitzroy Crossi 42.69 208⇓ *i*P **P** **02 42 04.6 -0.4**
comp=Z,35nm,0.3s,mb5.6
SEY Seymchan 42.98 5 *e*P **P** **02 42 07.1 +0.3**
NST Nakhon Sawan 43.14 272 P **P** **02 42 09.5 +0.6**
comp=Z,88nm,0.7s,mb5.6
YAK Yakutsk 43.19 349 *e*P **P** **02 42 08.3 -0.3**
YAK *e**PP pP 02 42 33.6 +1.8
YAK *e* 02 43 46.4
YAK *e* 02 43 55.6
YAK *e*PPP 02 44 25.1
YAK *i* S **S** **02 48 26.1 -1.5**
YAK *e**SS sS 02 49 06.0 -1.7
YAK *e*SS SS 02 51 41.9 -2.1
YAK *e* 02 51 57.4
YAK pmax pmax
comp=Z,67nm,0.8s,mb5.4
YAK pmax pmax
comp=N,24nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.2s
YAK pmax pmax
comp=Z,21nm,1.0s,mb4.8
YAK smax
comp=N,188nm,2.8s
YAK smax
comp=E,77nm,1.7s
YAK Yakutsk 43.19 349 *e*P **P** **02 42 08.2 -0.4**
comp=E,34nm,0.5s,mb5.3
GTA Gaotai 43.37 306⇑ *i*P **P** **02 42 11.1 +0.7**
GTA AP pP 02 42 34.1 +0.4
GTA XP sP 02 42 45.0 0.0
GTA PP PP 02 43 56.9 +3.8
GTA PCP PcP 02 43 57.6 +0.3
GTA SCP ScP 02 47 39.9 +0.1
GTA PCS PcS 02 47 48.9 -1.1
GTA S **S** **02 48 32.5 +1.5**
GTA XS sS 02 49 11.7 +0.7
GTA SS SS 02 51 40.8 -7.6
GTA AMB AMB
comp=Z,15nm,1.2s,mb4.6
GTA AMB AMB
comp=Z,55nm,8.4s
GTA LR LR
comp=N,162nm,18.3s
GTA LR LR
comp=E,147nm,15.6s
GTA LR LR
comp=Z,152nm,21.3s
CHG Chiang Mai 43.64 276⇓ P **P** **02 42 13.8 +1.0**
comp=Z,36nm,0.6s,mb5.3
CHTO Chiang Mai 43.64 276 *e*P **P** **02 42 13.5 +0.7**
CHTO pmax pmax
comp=Z,17nm,1.1s,mb4.7
CHTO Chiang Mai 43.64 276 *e*P **P** **02 42 13.5 +0.7**
comp=Z,17nm,1.1s,mb4.7
BOD Bodaibo 44.00 336 *e*P **P** **02 42 12.7 -2.5**
BOD pmax pmax
comp=Z,3.0nm,1.8s,mb3.7
ZAK Zakamensk 44.75 322 *e*P **P** **02 42 20.3 -1.0**
ZAK *e* 02 44 01.3
ZAK pmax pmax
comp=Z,3.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,5.0nm,1.5s,mb4.0
ASAR Alice Springs 45.00 195 P **P** **02 42 22.2 -1.3**
comp=Z,6.7nm,0.6s,mb4.5,baz=16,slow=7.5,SNR=73
KULM Kulim 45.86 257⇓ *i*P **P** **02 42 32.3 +1.8**
MOY Mondy 46.61 323 *e*P **P** **02 42 38.1 +2.2**
MBWA Marble Bar 48.13 213 *e*P **P** **02 42 47.0 -1.0**
comp=Z,24nm,0.9s,mb5.0
SHL Shillong 49.27 287 *e*P **P** **02 42 57.8 +1.0**
BILL Bilibino 49.61 10κ *e*P **P** **02 42 59.3 +0.6**
BILL *PP pP 02 43 21.0 -1.5
BILL 02 44 18.0
BILL pmax pmax
comp=Z,23nm,1.0s,mb5.1
BILL Bilibino 49.61 10 *e*P **P** **02 42 58.8 +0.1**
comp=Z,26nm,1.1s,mb5.1
LSA Lhasa 49.65 292 *e*P **P** **02 43 01.7 +2.0**
LSA Lhasa 49.65 292 *e*P **P** **02 43 01.1 +1.4**
LSA pmax pmax
comp=Z,14nm,0.6s,mb5.1
LSA Lhasa 49.65 292 *e*P **P** **02 43 01.1 +1.5**
comp=Z,14nm,0.6s,mb5.1
STKA Stephens Creek 51.90 184 *e*P **P** **02 43 13.9 -2.4**
comp=Z,2.5nm,0.5s,mb4.5
STKA Stephens Creek 51.90 184 P **P** **02 43 13.8 -2.6**
comp=Z,3.7nm,0.5s,mb4.7,baz=334,slow=4.6,SNR=7.9
STKA LR LR 03 03 55.2
comp=Z,166nm,20.2s,baz=212,slow=34
TIXI Tiksi 52.35 353 *e*P **P** **02 43 17.7 -1.5**
TIXI pmax pmax
comp=Z,12nm,1.3s,mb4.8
TIXI Tiksi 52.35 353 *e*P **P** **02 43 18.3 -0.9**
comp=Z,5.1nm,0.6s,mb4.7
WMQ Urumqi 53.08 310 P **P** **02 43 26.0 +1.0**
WMQ AP pP 02 43 50.0 +1.0
WMQ XP sP 02 44 01.0 +0.9
WMQ PP PP 02 45 29.0 +3.3
WMQ S **S** **02 50 47.0 -0.6**
WMQ SS SS 02 54 28.0 0.0
WMQ AMB AMB
comp=Z,75nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,102nm,5.0s
WMQ LR LR
comp=N,108nm,14.0s
WMQ LR LR
comp=E,98nm,14.0s
WMQ LR LR
comp=Z,109nm,14.0s
FORT Forrest 53.34 199 *e*P **P** **02 43 26.1 -0.8**
comp=Z,23nm,0.8s,mb5.3
JIRN Jiri 54.14 290 *e*P **P** **02 43 34.6 +1.6**
comp=Z,12nm,0.2s,mb5.5
GUN Gumba 54.39 290 *e*P **P** **02 43 35.9 +1.1**
comp=Z,22nm,0.3s,mb5.7
PKI Pulchoki 54.84 290 *e*P **P** **02 43 39.2 +1.1**
comp=Z,20nm,0.4s,mb5.5
BOK Bokaro 54.90 285 *e*P **P** **02 43 39.1 +0.6**
BOK AMb AMB 02 43 41.4
comp=Z,55nm,1.0s,mb5.5
KKN Kakani 54.93 290 *e*P **P** **02 43 39.4 +0.7**
comp=Z,14nm,0.3s,mb5.4
DMN Daman 55.10 290 *e*P **P** **02 43 41.1 +1.1**
comp=Z,31nm,0.4s,mb5.7
GKN Gorkha 55.47 291 *e*P **P** **02 43 43.7 +1.1**
comp=Z,60nm,0.4s,mb6.0
DANN Dangsing 56.20 291 *e*P **P** **02 43 49.1 +1.2**
comp=Z,218nm,0.4s
KOLN Koldanda 56.41 290 *e*P **P** **02 43 50.1 +0.8**
comp=Z,15nm,0.3s,mb5.5
ZAA0 Zalesovo Array 56.62 322⇓ *i*P **P** **02 43 49.2 -1.1**
ZALV Zalesovo Beam 56.62 322 P **P** **02 43 49.6 -0.8**
comp=Z,17nm,0.5s,mb5.3,baz=102,slow=6.9,SNR=12
ZALV LR LR 03 08 11.4
comp=Z,47nm,18.1s,baz=110,slow=36
ZAL Zalesovo 56.63 322 P **P** **02 43 49.6 -0.8**
MK31 Makanchi Array 57.18 313 *e*P **P** **02 43 54.2 -0.3**
MK31 *e* 02 44 46.8
MKAR Makanchi Array 57.18 313 P **P** **02 43 54.6 +0.1**
MKAR 02 44 47.4
MKAR Makanchi Array 57.18 313 P **P** **02 43 54.6 +0.2**
comp=Z,18nm,0.7s,mb5.2,baz=91,slow=8.9,SNR=95
MKAR PcP PcP 02 44 47.4 -0.6
comp=Z,8.1nm,0.6s,baz=78,slow=3.6,SNR=7.8
MKAR LR LR 03 09 14.6
comp=Z,64nm,18.1s,baz=341,slow=37
SVW2 Sparrevohn 57.69 30 *e*P **P** **02 43 57.6 -0.2**
NVS Novosibirsk 57.71 323 *e*P **P** **02 43 56.9 -1.1**
NVS *e*S **S** **02 51 50.0 +1.1**
NVS pmax pmax
comp=N,7.0nm,1.2s
NVS pmax pmax
comp=E,24nm,1.2s
NVS pmax pmax
comp=Z,23nm,1.2s,mb5.1
NVS smax
comp=N,14nm,2.0s
NVS smax
comp=E,6.0nm,1.4s
KLBR Kellerberrin 57.89 208 *e*P **P** **02 43 57.9 -1.6**
comp=E,22nm,0.7s,mb5.3
VIS Vishakhapatnam 58.39 279 *e*P **P** **02 44 03.6 +0.2**
VIS AMb AMB 02 44 05.9
comp=Z,41nm,1.1s,mb5.4
BLSP Bilaspur 58.59 284 *e*P **P** **02 44 04.7 0.0**
BLSP AMb AMB 02 44 06.7
comp=Z,59nm,0.9s,mb5.6
MUN Mundaring 58.91 209 *e*P **P** **02 44 06.0 -0.6**
PTH Pithoragarh 59.15 293 *e*P **P** **02 44 08.9 +0.4**
KURK Kurchatov 59.93 318 *d i*P **P** **02 44 12.8 -0.7**
KURK Kurchatov 59.93 318⇓ *i*P **P** **02 44 12.7 -0.8**
comp=Z,44nm,0.9s,mb5.5
KURK Kurchatov 59.93 318 P **P** **02 44 13.3 -0.1**
SNR=13
KURK Kurchatov 59.93 318 P **P** **02 44 13.3 -0.1**
SNR=13
KURK Kurchatov 59.93 318 P **P** **02 44 13.3 -0.1**
SNR=13
KURK Kurchatov 59.93 318 P **P** **02 44 13.3 -0.1**
SNR=13
IMA2 Indian Mountai 60.05 24 *e*P **P** **02 44 14.4 +0.4**
PMR Palmer 60.83 30 *e*P **P** **02 44 18.0 -1.4**
PMR pmax pmax
comp=Z,2.0nm,0.3s,mb4.6
PMR MLR MLR
comp=Z,100nm,22.0s
PMR Palmer 60.83 30 *e*P **P** **02 44 18.0 -1.4**
comp=Z,2.4nm,0.3s,mb4.7
PMR LR LR
comp=Z,100nm,22.0s
MCK McKinley 61.37 28 *e*P **P** **02 44 22.2 -0.8**
MCK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
MCK McKinley 61.37 28 *e*P **P** **02 44 22.2 -0.8**
comp=Z,5.1nm,0.9s,mb4.5
ULHL Ulahol 61.39 308 P **P** **02 44 24.8 +1.2**
SNR=48
NGP Nagpur 61.59 284 *e*P **P** **02 44 25.8 +0.6**
NGP AMb AMB 02 44 27.7
comp=Z,31nm,0.8s,mb5.4
KSH Kashi 61.73 305 *e*P **P** **02 44 28.0 +2.1**
KSH *e*AP pP 02 44 52.1 +1.6
KSH *e*XP sP 02 45 03.0 +1.5
KSH *e*PCP PcP 02 45 07.1 +0.8
KSH *e*PP PP 02 46 47.0 +4.3
KSH *e*SCP ScP 02 48 59.1 +0.1
KSH *e*PCS PcS 02 49 09.1 -0.2
KSH *e*S **S** **02 52 40.2 -0.9**
KSH *e*XS sS 02 53 23.0 -0.3
KSH *e*SCS ScS 02 54 06.0 -2.4
KSH *e*SS SS 02 56 46.0 +1.8
KSH LR LR
comp=N,404nm,7.9s
KSH LR LR
comp=E,559nm,4.4s
KSH LR LR
comp=Z,349nm,5.6s
TKM2 Tokmak 2 61.84 309⇓ *i*P **P** **02 44 27.6 +1.0**
TKM2 pmax pmax
comp=Z,52nm,0.9s,mb5.6
TKM2 Tokmak 2 61.84 309⇓ *i*P **P** **02 44 27.6 +1.0**
comp=Z,52nm,0.9s,mb5.6
TKM2 Tokmak 2 61.84 309 P **P** **02 44 27.8 +1.2**
SNR=48
NDI New Delhi 61.87 292 *e*P **P** **02 44 26.5 -0.5**
NDI *e*P 02 44 27.1
COLA College 62.08 26 *e*P **P** **02 44 28.2 +0.5**
COLA College 62.08 26 *e*P **P** **02 44 27.8 +0.1**
comp=Z,4.4nm,0.8s,mb4.5
KZA Kyzart 62.14 308 P **P** **02 44 30.7 +2.2**
SNR=49
KBK Karagaybulak 62.33 308 P **P** **02 44 32.1 +2.2**
SNR=6.2
CHMS Chumysh 62.46 309 P **P** **02 44 31.6 +0.9**
SNR=10.0
USP Ospenovka 62.63 309 P **P** **02 44 32.1 +0.3**
SNR=26
BHPL Bhopal 62.64 286 *e*P **P** **02 44 32.1 -0.1**
BHPL AMb AMB 02 44 32.8
comp=Z,39nm,0.9s,mb5.3
AAK Ala-Archa 62.67 308 P **P** **02 44 32.8 +0.7**
SNR=15
UCH Uchtor 62.67 308⇓ *i*P **P** **02 44 33.8 +1.6**
comp=Z,54nm,1.0s,mb5.4
UCH Uchtor 62.67 308 P **P** **02 44 34.1 +2.0**
SNR=68
HYB Hyderabad 62.89 280 *e*P **P** **02 44 34.0 0.0**
HYB Hyderabad 62.89 280 *i* P **P** **02 44 34.0 0.0**
EKS2 Erkin-Say 63.20 308⇓ *i*P **P** **02 44 36.0 +0.4**
comp=Z,17nm,0.9s,mb5.0
EKS2 Erkin-Say 63.20 308 P **P** **02 44 36.0 +0.5**
SNR=22
AML Almayashu 63.29 308⇓ *i*P **P** **02 44 37.5 +1.3**
comp=Z,43nm,0.9s,mb5.4
AML Almayashu 63.29 308 P **P** **02 44 37.9 +1.7**
SNR=48
AJM Ajmer 64.49 290 *e*P **P** **02 44 44.4 0.0**
EGAK Eagle 64.89 27 *e*P **P** **02 44 45.4 -0.9**
comp=Z,6.3nm,1.0s,mb4.4
BRVK Borovoye 65.17 320⇓ *i*P **P** **02 44 47.9 -0.4**
BRVK pmax pmax
comp=Z,41nm,0.8s,mb5.3
BRVK Borovoye 65.17 320⇓ *i*P **P** **02 44 47.9 -0.4**
comp=Z,41nm,0.8s,mb5.3
BRVK Borovoye 65.17 320 P **P** **02 44 48.0 -0.2**
SNR=17
BRVK Borovoye 65.17 320 P **P** **02 44 48.0 -0.2**
SNR=17
BRVK Borovoye 65.17 320 P **P** **02 44 48.0 -0.2**
SNR=17
DAWY Dawson 65.59 28 *e*P **P** **02 44 50.8 0.0**
DAWY *e*pP pP 02 45 16.2 +0.5
KOD Kodaikanal 65.86 272 *e*P **P** **02 44 52.9 -0.5**
KOD AMb AMB 02 45 06.4
comp=Z,30nm,1.5s,mb4.9
POO Poona 66.96 282 *e*P **P** **02 44 60.0 -0.3**
POO AMb AMB 02 45 01.6
comp=Z,43nm,0.9s,mb5.3
SNZO South Karori 66.99 156 *e*P **P** **02 44 59.6 -0.3**
SKAG Skagway 67.43 33 *e*P **P** **02 45 02.7 +0.1**
comp=Z,9.1nm,0.9s,mb4.6
SKAG LR LR
comp=Z,100nm,21.0s
KBL Kabul 67.82 300⇓ *i*P **P** **02 45 05.9 +0.4**
KBL pmax pmax
comp=Z,77nm,0.8s,mb5.6
KBL Kabul 67.82 300⇓ *i*P **P** **02 45 05.8 +0.3**
comp=Z,77nm,0.8s,mb5.6
INK Inuvik 68.14 23 *e*P **P** **02 45 05.9 -1.0**
INK *e**PP pP 02 45 31.4 -0.5
INK pmax pmax
comp=Z,491nm,1.0s
INK Inuvik 68.14 23 *e*P **P** **02 45 05.9 -1.0**
comp=Z,491nm,1.0s
INK *e*pP pP 02 45 31.4 -0.5
INK Inuvik 68.14 23 P **P** **02 45 06.2 -0.6**
comp=Z,6.6nm,0.8s,mb4.5,baz=280,slow=6.2,SNR=26
DLBC Dease Lake 70.24 34⇓ *i*P **P** **02 45 20.4 +0.4**
DLBC *e*pP pP 02 45 44.7 -0.5
ARU Arti 71.65 324 *e*P **P** **02 45 27.8 -0.8**
ARU pmax pmax
comp=Z,15nm,0.7s,mb4.9
ARU Arti 71.65 324 *e*P **P** **02 45 27.8 -0.8**
comp=Z,15nm,0.7s,mb4.9
PPT Papeete 74.07 116 LR LR 03 16 06.6
comp=Z,155nm,18.9s,baz=36,slow=34
OSD Olympics--Snow 75.94 44 P **P** **02 45 55.0 +1.1**
YKA Yellowknife Ar 76.83 28 P **P** **02 45 58.1 -0.5**
YKA *PP pP 02 46 23.6 -0.5
YKA Yellowknife Ar 76.83 28 P **P** **02 45 58.1 -0.5**
YKA pP pP 02 46 23.6 -0.5
YKA LR LR 03 16 00.0
YKA Yellowknife Ar 76.83 28 P **P** **02 45 58.1 -0.5**
comp=Z,5.3nm,0.6s,mb4.5,baz=291,slow=5.4,SNR=59
YKA pP pP 02 46 23.6 -0.5
comp=Z,9.0nm,0.8s,baz=291,slow=5.5,SNR=5.3
YKA LR LR 03 16 00.0
comp=Z,68nm,20.4s,baz=235,slow=33
KBS Kingsbay 77.76 352 *e*P **P** **02 46 03.0 -0.5**
O01C Eel River Cons 77.89 52⇓ P **P** **02 46 04.9 0.0**
baz=78
TWW Teanaway 77.98 44 P **P** **02 46 06.2 +0.9**
RES Resolute Bay 78.06 14⇓ *i*P **P** **02 46 05.1 -0.1**
RES pmax pmax
comp=Z,1μm,1.1s
RES Resolute Bay 78.06 14⇓ *i*P **P** **02 46 05.1 -0.1**
comp=Z,1μm,1.1s
E06A Yakima 78.07 45⇑ P **P** **02 46 06.2 +0.4**
baz=78
B07A Winthrop 78.08 43⇑ P **P** **02 46 06.2 +0.4**
baz=78
N02C Big Bar 78.08 51⇑ P **P** **02 46 06.5 +0.5**
baz=78
TBM Table Mountain 78.14 44 P **P** **02 46 06.8 +0.7**
G05A Wamic 78.22 46⇑ P **P** **02 46 07.0 +0.4**
baz=78
EBG Ellensburg 78.24 44⇑ P **P** **02 46 07.6 +0.9**
YBH Yreka Blue Hor 78.25 50⇓ P **P** **02 46 07.4 +0.5**
baz=78
C07A Waterville 78.34 43⇓ P **P** **02 46 06.8 -0.4**
baz=78
P01C Double 8 Ranch 78.44 52⇑ P **P** **02 46 08.4 +0.4**
baz=78
A08A Turner Farm, O 78.47 42⇓ P **P** **02 46 08.2 +0.3**
baz=78
B08A Colville Reser 78.61 43⇑ P **P** **02 46 08.7 -0.1**
baz=78,SNR=5.1
O02C Red Bluff 78.64 51⇓ P **P** **02 46 09.5 +0.4**
baz=78
EPH Ephrata 78.74 44 P **P** **02 46 09.4 0.0**
J05A Fort Rock 78.85 48⇓ P **P** **02 46 10.5 +0.4**
baz=79,SNR=5.9
C08A Higginbotham F 78.97 43⇓ P **P** **02 46 10.7 0.0**
baz=79,SNR=6.5
H06A Lindquist Farm 79.04 46⇑ P **P** **02 46 11.2 0.0**
baz=79
K05A Summer Lake 79.25 48⇑ P **P** **02 46 13.2 +0.8**
baz=79,SNR=7.6
TMCR Tamitsa 79.27 335 *e*P **P** **02 46 10.8 -1.2**
G07A Ruggs Ranch, H 79.33 46⇑ P **P** **02 46 12.8 +0.1**
baz=79
B09A Rice 79.34 42⇓ P **P** **02 46 12.9 +0.2**
baz=79,SNR=5.3
I06A Prineville 79.36 47⇑ P **P** **02 46 13.4 +0.4**
baz=79,SNR=6.4
HATC Hat Creek Radi 79.42 50⇑ P **P** **02 46 13.6 +0.3**
baz=79
APA Apatity 79.49 339⇑ *e*P **P** **02 46 09.0 -4.2**
APA pmax pmax
comp=Z,40nm,1.2s,mb5.1
LBCM Butte Creek Ri 79.49 50 P **P** **02 46 13.8 +0.1**
J06A Christmas Vall 79.61 48⇓ P **P** **02 46 14.2 -0.1**
baz=79
D09A Jones Farm, Ri 79.67 44⇓ P **P** **02 46 14.6 +0.1**
baz=80,SNR=6.0
K06A Valley Falls 79.68 48⇑ P **P** **02 46 15.0 +0.3**
baz=80
F08A Pendleton 79.76 45⇓ P **P** **02 46 15.5 +0.4**
baz=80
ORV Oroville 79.77 52⇓ P **P** **02 46 15.1 -0.1**
baz=80,SNR=6.5
G08A Pilot Rock 79.80 46⇑ P **P** **02 46 15.0 -0.2**
baz=80,SNR=5.8
I07A Izee 79.80 47⇓ P **P** **02 46 15.4 +0.1**
baz=80
MOD Modoc 79.92 49 *e*P **P** **02 46 15.4 -0.6**
comp=Z,14nm,1.3s,mb4.6
MOD Modoc 79.92 49⇓ P **P** **02 46 16.1 +0.1**
baz=80
E09A Wood Farm, Sta 79.95 44⇑ P **P** **02 46 16.4 +0.3**
baz=80
NEW Newport 80.04 42 *e*P **P** **02 46 16.3 -0.2**
NEW pmax pmax
comp=Z,15nm,1.1s
NEW Newport 80.04 42 *e*P **P** **02 46 16.3 -0.2**
comp=Z,15nm,1.1s,mb4.7
K07A Rock Creek Ran 80.42 48⇑ P **P** **02 46 18.9 +0.3**
baz=80,SNR=13
HOQ Hoqain 80.43 292 P **P** **02 46 19.7 +0.6**
SNR=8.4
HOQ Hoqain 80.43 292 P **P** **02 46 19.7 +0.6**
SNR=8.4
HOQ Hoqain 80.43 292 P **P** **02 46 19.7 +0.6**
SNR=8.4
HOQ Hoqain 80.43 292 P **P** **02 46 19.7 +0.6**
SNR=8.4
P05C Yuba Gap, Truc 80.51 52⇓ P **P** **02 46 19.3 +0.1**
baz=80,SNR=6.0
BEKR Beckwourth 80.51 51⇑ P **P** **02 46 19.3 +0.1**
baz=80,SNR=6.9
S04C Ingram Canyon, 80.53 54⇓ P **P** **02 46 19.2 -0.1**
baz=80,SNR=5.4
L07A Adell 80.57 49⇑ P **P** **02 46 20.0 +0.6**
baz=80,SNR=15
LAVA Lava Cap Winer 80.58 52 P **P** **02 46 19.7 +0.1**
baz=80,SNR=5.4
G09A Cove 80.59 45⇑ P **P** **02 46 19.4 -0.1**
baz=80
BANOM Banah 80.59 294 P **P** **02 46 21.2 +1.3**
SNR=5.3
BANOM Banah 80.59 294 P **P** **02 46 21.2 +1.3**
SNR=5.3
BANOM Banah 80.59 294 P **P** **02 46 21.2 +1.3**
SNR=5.3
EDM Edmonton 80.59 37 *e*P **P** **02 46 18.6 -0.8**
N06A Buffalo Meadow 80.62 50⇑ P **P** **02 46 19.8 0.0**
baz=80,SNR=14
J08A Circle Bar Ran 80.74 47⇓ P **P** **02 46 20.5 +0.1**
baz=81,SNR=8.0
BSY Bisya 80.78 291 P **P** **02 46 22.0 +1.0**
SNR=5.6
BSY Bisya 80.78 291 P **P** **02 46 22.0 +1.0**

SNR=5.6
BSY Bisya 80.78 291 P P 02 46 22.0 +1.0
SNR=5.6
BSY Bisya 80.78 291 P P 02 46 22.0 +1.0
SNR=5.6
H09A Durkee 80.87 46 ⇓P P 02 46 21.2 +0.2
baz=81
WVOR Wild Horse Val 80.93 48 eP P 02 46 21.4 0.0
WVOR e*PP pP 02 46 46.4 -0.7
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
WVOR Wild Horse Val 80.93 48 eP P 02 46 21.4 0.0
comp=Z,4.5nm,1.0s,mb4.2
WVOR epP pP 02 46 46.4 -0.7
K08A Mann Creek Ran 80.94 48 ⇓P P 02 46 21.6 +0.2
baz=81,SNR=7.6
D11A Klaveano Farm, 80.95 43 ⇓P P 02 46 20.5 -0.8
baz=81,SNR=5.7
ARCES ARCESS Array B 80.97 342 P P 02 46 19.9 -1.1
comp=Z,9.6nm,0.8s,mb4.7,baz=25,slow=3.2,SNR=5.8
ARCES LR LR 03 23 21.7
comp=Z,72nm,20.8s,baz=258,slow=36
G10A Bishop Farm, J 81.02 45 ⇑P P 02 46 21.8 0.0
baz=81,SNR=14
BMO Blue Mountains 81.05 46 ⇓iP P 02 46 21.7 -0.2
BMO pmax pmax
comp=Z,15nm,1.1s,mb4.7
BMO Blue Mountains 81.05 46 ⇓iP P 02 46 21.7 -0.2
comp=Z,15nm,1.1s,mb4.7
CMB Columbia Colle 81.07 53 ⇓iP P 02 46 21.7 -0.5
CMB e*PP pP 02 46 47.6 -0.4
CMB pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
CMB Columbia Colle 81.07 53 ⇓iP P 02 46 21.6 -0.6
comp=Z,8.3nm,0.8s,mb4.6
CMB epP pP 02 46 47.6 -0.4
CMB Columbia Colle 81.07 53 ⇓P P 02 46 22.2 0.0
baz=81,SNR=14
HATD Hatta, Dubai 81.07 293 P P 02 46 23.3 +0.8
SNR=7.0
HATD Hatta, Dubai 81.07 293 P P 02 46 23.3 +0.8
SNR=7.0
HATD Hatta, Dubai 81.07 293 P P 02 46 23.3 +0.8
SNR=7.0
HATD Hatta, Dubai 81.07 293 P P 02 46 23.3 +0.8
SNR=7.0
R05C Kirkwood Meado 81.09 52 ⇓P P 02 46 22.3 0.0
baz=81
ASHO Ashiyiah 81.18 293 P P 02 46 23.8 +0.7
SNR=7.4
ASHO Ashiyiah 81.18 293 P P 02 46 23.8 +0.7
SNR=7.4
ASHO Ashiyiah 81.18 293 P P 02 46 23.8 +0.7
SNR=7.4
ASHO Ashiyiah 81.18 293 P P 02 46 23.8 +0.7
SNR=7.4
L08A Fields 81.21 48 ⇑P P 02 46 23.3 +0.5
baz=81,SNR=12
N07B Gerlach 81.23 50 ⇑P P 02 46 23.2 +0.2
baz=81,SNR=15
J09A Fry Pan Ranch, 81.24 47 ⇓P P 02 46 23.1 +0.1
baz=81,SNR=11
E11A Bogner Ranch, 81.26 44 ⇓P P 02 46 22.7 -0.4
baz=81,SNR=7.9
H10A Noah's Angus R 81.51 46 ⇓P P 02 46 24.0 -0.5
baz=81,SNR=11
G11A Walters Elk Ra 81.55 45 ⇑P P 02 46 24.0 -0.6
baz=81,SNR=21
R06C Coleville 81.61 52 ⇑P P 02 46 25.5 +0.5
baz=81,SNR=9.1
PKD Parkfield 81.62 55 ⇓P P 02 46 25.1 0.0
baz=82,SNR=5.3
B13A Whitefish 81.67 42 ⇓P P 02 46 25.7 +0.5
baz=82,SNR=16
L09A Wilkinson Ranc 81.74 48 ⇑P P 02 46 26.1 +0.4
baz=82,SNR=6.1
WALA Waterton Lakes 81.77 41 eP P 02 46 25.7 0.0
comp=Z,19nm,1.1s,mb4.8
WALA epP pP 02 46 50.1 -1.4
C13A Hot Springs 81.85 42 ⇓P P 02 46 26.2 +0.1
baz=82,SNR=11
H11A Donnelly 81.96 45 ⇓P P 02 46 26.3 -0.5
baz=82,SNR=13
K10A MacKenzie Ranc 82.04 47 ⇓P P 02 46 27.4 +0.2
baz=82,SNR=11
F12A Elk City 82.09 44 ⇓P P 02 46 27.5 0.0
baz=82,SNR=7.4
M09A Marrel Ranch, 82.10 49 ⇓P P 02 46 27.6 0.0
baz=82,SNR=5.2
KCC Kaiser Creek 82.10 53 ⇓P P 02 46 27.8 +0.1
baz=82,SNR=7.3
D13A Huson 82.13 43 ⇑P P 02 46 27.4 -0.3
baz=82,SNR=6.0
N09A Rock Creek Ran 82.24 49 ⇓P P 02 46 28.8 +0.5
baz=82,SNR=7.4
I11A Placerville 82.28 46 ⇓P P 02 46 28.3 -0.1
baz=82
C14A Swan Lake 82.34 42 ⇑P P 02 46 28.4 -0.3
baz=82
NVAR Mina Array Bea 82.49 52 P P 02 46 30.0 +0.4
comp=Z,14nm,0.8s,mb4.8,baz=273,slow=6.2,SNR=97
NVAR pP pP 02 46 55.7 +0.2
comp=Z,9.5nm,0.7s,baz=270,slow=5.4,SNR=8.1
PKM Peak Mountain 82.52 56 ⇓P P 02 46 30.2 +0.4
baz=82,SNR=6.3
JOF Joensuu 82.52 335 ep P 02 46 27.0 -2.3
comp=Z,25nm,0.9s,mb5.0
MFID Camas Ranch 82.54 47 ⇓P P 02 46 29.8 0.0
baz=82,SNR=16
HELL Mitchell Peak 82.54 54 ⇑P P 02 46 29.4 -0.6
baz=82,SNR=9.9
L10A Juniper Basin 82.56 48 ⇑P P 02 46 29.4 -0.5
baz=82,SNR=11
K11A Parker Ranch, 82.62 47 ⇓P P 02 46 30.3 0.0
baz=82,SNR=8.4
MTUM Tungsten Hills 82.66 53 eP P 02 46 30.5 -0.1
F13A Darby 82.69 44 ⇑P P 02 46 29.9 -0.7
baz=82
O09A Fish Creek Ran 82.71 50 ⇑P P 02 46 31.1 +0.3
baz=82,SNR=8.1
DAG Danmarks Havn 82.76 356 ⇓iP P 02 46 30.0 -0.3
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
DAG Danmarks Havn 82.76 356 ⇓iP P 02 46 30.0 -0.3
comp=Z,2.0nm,0.6s,mb4.1
H12A Diamond D Ranc 82.79 45 P P 02 46 31.0 -0.1
baz=83,SNR=7.3
S08C White Mtn Res 82.90 53 ⇑P P 02 46 32.3 +0.5
baz=83,SNR=19
CHMT Chamberlain Mo 82.97 43 eP P 02 46 31.4 -0.6
G13A Cobalt 83.00 45 ⇓P P 02 46 31.9 -0.3
baz=83,SNR=16
MOS Moscow 83.02 327 eP P 02 46 31.0 -1.0
MOS pmax pmax
comp=Z,59nm,1.1s,mb5.3
L11A Cat Creek Ranc 83.03 48 ⇓P P 02 46 32.6 +0.2
baz=83,SNR=7.5
M11A Holland Ranch, 83.27 48 ⇓P P 02 46 34.1 +0.5
baz=83,SNR=8.3
P10A Eureka 83.43 50 ⇑P P 02 46 34.7 +0.2
baz=83
HLID Hailey 83.44 46 ⇓P P 02 46 34.6 +0.2
baz=83,SNR=8.8
K12A Draper Farm, C 83.45 47 ⇑P P 02 46 34.7 +0.2
baz=83,SNR=6.7
R09A Tonopah 83.47 52 ⇓P P 02 46 34.7 0.0
baz=83,SNR=21
I13A Wildhorse Cree 83.52 46 ⇑P P 02 46 35.1 +0.3
baz=83,SNR=5.4
S09A Goldfield 83.53 52 ⇓P P 02 46 35.2 +0.2
baz=83,SNR=19
E15A Deer Lodge 83.54 43 P P 02 46 34.6 -0.3
baz=83,SNR=11
L12A House Creek Ra 83.55 48 ⇓P P 02 46 35.4 +0.4
baz=83,SNR=7.9
J13A Cove Ranch, Pi 83.67 46 ⇓P P 02 46 35.9 +0.3
baz=84,SNR=7.6
GRAC Grapevine Rang 83.67 53 ⇑P P 02 46 35.8 -0.1
baz=84
O11A Cowboy Ranch, 83.82 50 ⇓P P 02 46 36.6 +0.1
baz=84,SNR=6.3
OBN Obninsk 83.84 327κ iP P 02 46 35.2 -1.0
OBN *PP pP 02 47 03.0 +0.8
OBN pmax pmax
comp=Z,74nm,1.7s,mb5.2
OBN Obninsk 83.84 327 eP P 02 46 35.2 -1.1
comp=Z,71nm,1.4s,mb5.3
F15A Butte 83.86 43 ⇑P P 02 46 36.9 +0.3
baz=84,SNR=12
M12A Wells 83.89 48 ⇓P P 02 46 36.8 0.0
baz=84,SNR=13
MPMC Manual Prospec 83.91 54 ⇓P P 02 46 36.9 -0.1
baz=84,SNR=18
S10A Tonopah Range, 83.93 52 ⇑P P 02 46 37.2 +0.1
baz=84,SNR=22
HRY Holter Researc 83.95 42 eP P 02 46 37.2 +0.2
P11A Circle Ranch, 83.96 50 ⇑P P 02 46 37.6 +0.3
baz=84,SNR=5.1
N12A Clover Valley, 84.00 49 ⇓P P 02 46 37.7 +0.3
baz=84
K13A Stover Farm, H 84.01 47 ⇑P P 02 46 37.9 +0.5
baz=84,SNR=7.8
R10A Warm Springs 84.02 52 ⇑P P 02 46 37.8 +0.3
baz=84,SNR=7.7
DGRG David-gareji 84.02 312 P P 02 46 36.9 -0.6
DGRG S sP 02 47 18.4 +4.4
VRSR Storozhevoye 84.11 323 eP P 02 46 36.5 -1.2
VRSR pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,1.0nm,0.8s
G15A Dillon 84.12 44 ⇓P P 02 46 37.6 -0.3
baz=84,SNR=8.1
Q11A Duckwater 84.29 51 ⇓P P 02 46 38.7 -0.2
baz=84,SNR=6.6
MTA Mtatsminda 84.33 312 P P 02 46 38.5 -0.5
O12A Currie 84.42 49 ⇓P P 02 46 39.7 +0.1
baz=84
M13A Montello 84.43 48 ⇑P P 02 46 39.7 +0.1
baz=84,SNR=12
BOZ Bozeman (W) 84.49 43 eP P 02 46 38.9 -0.9
BOZ e*PP pP 02 47 05.8 +0.1
BOZ pmax pmax
comp=Z,12nm,1.3s,mb4.6
BOZ Bozeman (W) 84.49 43 eP P 02 46 38.9 -0.8
comp=Z,12nm,1.3s,mb4.6
BOZ epP pP 02 47 05.8 +0.1
BOZ Bozeman (W) 84.49 43 ⇓P P 02 46 40.0 +0.2
baz=84,SNR=14
R11A Troy Canyon, C 84.52 51 ⇓P P 02 46 40.0 0.0
baz=84,SNR=15
TPNV Topopah Spring 84.53 53 ⇓iP P 02 46 40.0 -0.2
TPNV e*PP pP 02 47 06.1 0.0
TPNV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
TPNV Topopah Spring 84.53 53 ⇓iP P 02 46 40.0 -0.1
comp=Z,8.6nm,0.8s,mb4.7
TPNV epP pP 02 47 06.1 -0.1
TPNV Topopah Spring 84.53 53 ⇑P P 02 46 40.1 0.0
baz=84,SNR=14
N13A Wendover, West 84.59 49 ⇓P P 02 46 40.4 0.0
baz=84
K14A Jones Ranch, D 84.67 47 ⇑P P 02 46 41.2 +0.5
baz=84,SNR=9.5
GSC Goldstone 84.70 54 eP P 02 46 40.8 -0.2
GSC e*PP pP 02 47 06.6 -0.4
GSC pmax pmax
comp=Z,13nm,1.3s,mb4.7
GSC Goldstone 84.70 54 eP P 02 46 40.8 -0.3
comp=Z,13nm,1.3s,mb4.7
GSC epP pP 02 47 06.6 -0.4
GSC Goldstone 84.70 54 P P 02 46 40.9 -0.2
baz=84,SNR=5.6
EGMT Eagleton 84.71 41 eP P 02 46 40.5 -0.3
comp=Z,16nm,1.1s,mb4.9
EGMT epP pP 02 47 07.2 +0.4
EGMT Eagleton 84.71 41 P P 02 46 40.8 -0.1
baz=84,SNR=6.9
KIV Kislovodsk 84.90 315 P P 02 46 42.0 +0.1
KIV 02 57 04.0
KIV pmax pmax
comp=Z,12nm,1.1s,mb4.7
KIV Kislovodsk 84.90 315 eP P 02 46 42.9 +1.0
comp=Z,5.2nm,0.6s,mb4.6
GNI Garni 84.94 311 iP P 02 46 41.9 -0.3
GNI pmax pmax
comp=Z,23nm,1.4s
GNI Garni 84.94 311 eP P 02 46 42.8 +0.7
comp=Z,20nm,1.1s,mb5.0
GNI Garni 84.94 311 P P 02 46 43.5 +1.3
SNR=5.3
GNI Garni 84.94 311 P P 02 46 43.5 +1.3
SNR=5.3
QLMT Earthquake Lak 84.94 44 eP P 02 46 41.9 -0.2
M14A Sheep Mountain 84.95 48 P P 02 46 42.5 +0.4
baz=85,SNR=29
T11A Corn Creek, Al 85.19 52 ⇓P P 02 46 43.3 -0.2
baz=85,SNR=11
HVU Hansel Valley 85.23 47 eP P 02 46 43.9 +0.3
HVU pmax pmax
comp=Z,22nm,1.2s,mb5.0
HVU Hansel Valley 85.23 47 eP P 02 46 43.9 +0.3
comp=Z,22nm,1.2s,mb5.0
R12A Pony Springs, 85.24 51 ⇑P P 02 46 43.8 +0.1
baz=85,SNR=13
P13A Bates Ranch, G 85.25 50 ⇓P P 02 46 43.8 +0.1
baz=85,SNR=17
N14A Grayback Hills 85.31 48 ⇑P P 02 46 43.9 -0.1
baz=85,SNR=22
YMR Madison River 85.31 44 eP P 02 46 44.6 +0.7
comp=Z,33nm,1.0s,mb5.2
S12A Delamar Landin 85.33 52 ⇑P P 02 46 44.1 0.0
baz=85
FIA1 FINESS Array S 85.38 335 eP P 02 46 42.3 -1.6
FINES FINESS Array B 85.39 335 P P 02 46 42.2 -1.7
comp=Z,11nm,0.3s,mb5.3,baz=64,slow=5.2,SNR=198
BGU Big Grassy Mou 85.39 48 eP P 02 46 43.8 -0.6
YNR Norris Junctio 85.48 44 eP P 02 46 45.8 +1.1
YNR epP pP 02 47 09.4 -1.3
YFT Old Faithful 85.48 44 eP P 02 46 46.7 +1.9
V11A Goodsprings 85.55 54 ⇓P P 02 46 45.1 -0.1
baz=85
PFO Pinyon Flat Ob 85.58 56 eP P 02 46 44.3 -1.1
PFO pmax pmax
comp=Z,11nm,1.1s,mb4.7
PFO Pinyon Flat Ob 85.58 56 eP P 02 46 44.3 -1.2
comp=Z,10nm,1.1s,mb4.7
PFO Pinyon Flat Ob 85.58 56 P P 02 46 44.4 -1.0
comp=Z,7.1nm,0.9s,mb4.6,baz=304,slow=3.5,SNR=5.0
PFO Pinyon Flat Ob 85.58 56 ⇓P P 02 46 45.4 0.0
baz=85
M15A Larsen Ranch, 85.58 47 ⇑P P 02 46 45.4 +0.1
baz=85,SNR=12
DCID1 Drake Creek 85.60 45 eP P 02 46 45.2 -0.2
IMW Indian Meadow 85.64 45 eP P 02 46 44.9 -0.6
comp=Z,28nm,1.2s,mb5.1
SPUT South Promonto 85.64 48 ⇓iP P 02 46 45.5 -0.1
GCMT Greycliff 85.69 43 eP P 02 46 45.9 +0.1
FLWY Flagg Ranch 85.72 45 ⇓iP P 02 46 46.9 +0.9
comp=Z,46nm,1.2s,mb5.3
LKWY Lake 85.72 44 eP P 02 46 47.4 +1.5
LKWY pmax pmax
comp=Z,17nm,1.2s,mb4.8
LKWY Lake 85.72 44 eP P 02 46 47.4 +1.5
comp=Z,17nm,1.2s,mb4.8
N15A Stansbury Isla 85.76 48 ⇓P P 02 46 46.3 +0.1
baz=86,SNR=5.8
GMRC Granite Mounta 85.77 55 ⇓P P 02 46 46.0 -0.3
baz=86,SNR=5.1
TPAW Teton Pass 85.80 45 ⇓iP P 02 46 46.9 +0.6
comp=Z,17nm,1.2s,mb4.8
DUG Dugway 85.82 49 ⇓iP P 02 46 46.5 0.0
DUG pmax pmax
comp=Z,17nm,0.9s,mb5.0
DUG Dugway 85.82 49 ⇓iP P 02 46 46.5 0.0
comp=Z,17nm,0.9s,mb5.0
DUG Dugway 85.82 49 ⇓P P 02 46 46.5 0.0
baz=86
MOOW Moose Ponds 85.83 45 eP P 02 46 46.8 +0.4
comp=Z,13nm,1.1s,mb4.8
MOOW epP pP 02 47 11.5 -1.0
REDW Red Top Meadow 85.91 45 eP P 02 46 47.3 +0.4
comp=Z,14nm,1.2s,mb4.8
SNOW Snow King Moun 85.94 45 eP P 02 46 47.6 +0.6
LOHW Long Hollow 85.98 45 eP P 02 46 47.0 -0.2
comp=Z,11nm,1.1s,mb4.7
FFC Flin Flon 86.02 32 ⇓iP P 02 46 46.7 -0.5
FFC e*PP pP 02 47 12.7 -0.5
FFC pmax pmax
comp=Z,35nm,1.1s,mb5.2
FFC Flin Flon 86.02 32 ⇓iP P 02 46 46.7 -0.5
comp=Z,35nm,1.1s,mb5.2
FFC epP pP 02 47 12.7 -0.5
V12A Nelson 86.03 53 ⇑P P 02 46 47.8 +0.2
baz=86,SNR=11
HWUT Hardware Ranch 86.14 47 ⇓iP P 02 46 47.9 -0.2
comp=Z,26nm,1.0s,mb5.1
ARUT Antelope Range 86.30 51 eP P 02 46 49.0 +0.1
BC3 Big Chuckw Mtn 86.34 56 P P 02 46 49.1 -0.1
baz=86,SNR=9.5
CTU Camp Tracy 86.37 48 eP P 02 46 49.4 +0.1
comp=Z,20nm,1.1s,mb5.0
U13A Pakoon Wash 86.44 53 ⇓P P 02 46 49.9 +0.2
baz=86,SNR=12
NLU North Lily Min 86.44 49 ⇓iP P 02 46 49.3 -0.2
CCUT Cedar City 86.45 51 ⇓iP P 02 46 49.9 +0.3
CCUT epP pP 02 47 15.7 0.0
JLU Jordanelle 86.62 48 ⇓iP P 02 46 50.4 0.0
V13A Grand Canyon W 86.64 53 ⇓P P 02 46 50.5 -0.1
baz=86,SNR=11
MPU Maple Canyon 86.72 49 eP P 02 46 50.2 -0.7
comp=Z,13nm,1.0s,mb4.8
MIB Mutribah 86.78 300 eP P 02 46 50.1 -1.3
MIB AMb AMB 02 46 52.9
comp=Z,84nm,0.8s,mb5.7
VSU Vasula 86.81 332 eP P 02 46 48.9 -2.1
DAU Daniels Canyon 86.83 48 eP P 02 46 51.5 0.0
T14A Hurricane 86.84 52 ⇓P P 02 46 51.9 +0.3
baz=87,SNR=8.7
RDF Al-Radifah 86.92 300 eP P 02 46 50.3 -1.9
RDF AMb AMB 02 46 53.7
comp=Z,69nm,0.8s,mb5.6
MSU Marysvale 86.93 50 eP P 02 46 52.3 +0.3
W13A Hualapai Mount 87.00 54 ⇑P P 02 46 52.4 +0.1
baz=87,SNR=6.1
BW06 Boulder Array 87.02 45 eP P 02 46 52.0 -0.3
comp=Z,4.0nm,1.0s,mb4.3
GLA Glamis 87.05 56 eP P 02 46 52.4 -0.3
GLA e*PP pP 02 47 18.5 -0.3
GLA pmax pmax
comp=Z,14nm,1.2s,mb4.8
GLA Glamis 87.05 56 eP P 02 46 52.4 -0.3
comp=Z,14nm,1.2s,mb4.8
GLA epP pP 02 47 18.5 -0.2
GLA Glamis 87.05 56 ⇓P P 02 46 52.6 -0.1
baz=87
NAY Al-Naaiem 87.06 300 eP P 02 46 51.3 -1.5
NAY AML AML 02 46 53.4
comp=Z,21nm,0.4s
X13A Yucca 87.23 54 ⇓P P 02 46 53.6 0.0
baz=87,SNR=11
T15A Red Dirt Ranch 87.38 52 ⇓P P 02 46 54.2 0.0
baz=87,SNR=5.1
V14A Boquillas Ranc 87.38 53 ⇑P P 02 46 54.7 +0.5
baz=87,SNR=25
FCC Fort Churchill 87.48 27 ⇓iP P 02 46 53.5 -0.7
FCC e*PP pP 02 47 19.4 -0.9
FCC pmax pmax
comp=Z,32nm,1.1s,mb5.2
FCC Fort Churchill 87.48 27 ⇓iP P 02 46 53.5 -0.8
comp=Z,32nm,1.1s,mb5.2
FCC epP pP 02 47 19.4 -0.9
Y13A Salome 87.53 55 ⇓P P 02 46 55.3 +0.3
baz=87,SNR=7.0
W14A Seligman 87.56 53 ⇓P P 02 46 55.5 +0.4
baz=87,SNR=15
SRU San Rafael 87.88 49 ⇓iP P 02 46 56.3 -0.2
SRU pmax pmax
comp=Z,11nm,0.9s,mb4.9
SRU San Rafael 87.88 49 ⇓iP P 02 46 56.3 -0.2
comp=Z,12nm,0.9s,mb4.9
ANN Anapa 87.97 317 eP P 02 46 54.4 -2.4
ANN e*PP pP 02 47 24.4 +1.4
ANN pmax pmax
comp=Z,19nm,1.2s,mb5.0
113A Mohawk Valley, 87.98 56 ⇓P P 02 46 56.6 -0.6
baz=88,SNR=8.1
V15A Kaibab Nationa 88.00 53 ⇑P P 02 46 57.7 +0.5
baz=88,SNR=13
T16A Glen Canyon Da 88.03 51 ⇓P P 02 46 57.2 -0.1
baz=88
Y14A Wickenburg 88.11 55 ⇓P P 02 46 57.8 +0.1
baz=88,SNR=25
W15A Williams 88.19 53 ⇓P P 02 46 58.7 +0.6
baz=88,SNR=9.3
X15A Humboldt 88.48 54 ⇓P P 02 47 00.1 +0.6
baz=88,SNR=21
Y15A Casa Rosa Ranc 88.62 54 ⇑P P 02 47 00.6 +0.4
baz=88,SNR=23
WUAZ Wupatki 88.72 53 ⇓iP P 02 47 00.8 +0.3
comp=Z,21nm,1.1s,mb5.1
WUAZ Wupatki 88.72 53 ⇑P P 02 47 01.4 +0.8
baz=88,SNR=13
W16A Flagstaff 88.77 53 ⇓P P 02 47 01.7 +0.9
baz=89,SNR=6.4
X16A Lo Mia Camp, P 89.11 54 ⇑P P 02 47 03.0 +0.5
baz=89,SNR=6.0
115A Sonoran Desert 89.20 55 ⇓P P 02 47 03.3 +0.4
baz=89
PV10 Paradox Valley 89.24 49 eP P 02 47 02.7 -0.3
Y16A Circle Bar Ran 89.30 54 ⇓P P 02 47 04.0 +0.6
baz=89,SNR=12
116A Eloy 89.66 55 ⇑P P 02 47 05.2 +0.2
baz=90,SNR=6.0
PV01 Paradox Valley 89.67 49 eP P 02 47 04.6 -0.4
Y17A Roosevelt 89.86 54 ⇑P P 02 47 06.2 +0.2
baz=90,SNR=7.4
AKASG Malin Array Be 89.88 325 iP P 02 47 03.5 -2.2
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 89.88 325 P P 02 47 03.2 -2.5
comp=Z,1.0nm,0.4s,mb4.3,baz=47,slow=5.0,SNR=18
216A Three Points, 90.08 56 ⇓P P 02 47 07.5 +0.5
baz=90,SNR=7.4
MVCO Mesa Verde 90.12 50 eP P 02 47 06.9 -0.2
comp=Z,7.0nm,0.9s,mb4.8
MVCO epP pP 02 47 32.9 -0.4
MALT Malatya 90.17 311 eP P 02 47 06.9 -0.4
MALT pmax pmax
comp=Z,11nm,0.9s,mb5.0
MALT Malatya 90.17 311 eP P 02 47 06.8 -0.4
comp=Z,11nm,0.9s,mb5.0
MALT Malatya 90.17 311 ⇑iP P 02 47 07.4 +0.1
X18A Snowflake 90.19 53 ⇑P P 02 47 07.8 +0.3
baz=90
Z17A San Carlos Hig 90.31 54 ⇓P P 02 47 08.7 +0.7
baz=90
SMCO Snowmass 90.34 48 ⇓iP P 02 47 08.2 +0.1
comp=Z,13nm,1.2s,mb4.9
117A Oracle 90.40 55 ⇑P P 02 47 09.0 +0.5
baz=90,SNR=12
PHWY Pilot Hill 90.41 45 eP P 02 47 08.4 0.0
Y18A Canyon Day Jun 90.44 54 ⇑P P 02 47 09.3 +0.6
baz=90,SNR=8.1
TUC Tucson 90.47 55 eP P 02 47 09.2 +0.4
TUC pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
TUC Tucson 90.47 55 eP P 02 47 09.2 +0.3
comp=Z,9.8nm,1.2s,mb4.8
TUC epP pP 02 47 31.6 -3.5
217A Green Valley 90.67 56 ⇓P P 02 47 10.3 +0.5
baz=90,SNR=19
X19A St. Johns 90.73 53 ⇑P P 02 47 10.4 +0.4
baz=91,SNR=7.1
Y19A Nutrioso 90.95 53 ⇑P P 02 47 11.9 +0.9
baz=91,SNR=8.5
118A Homack Ranch, 90.96 55 ⇓P P 02 47 11.6 +0.5
baz=91,SNR=10
ISCO Idaho Springs 91.00 47 ⇓iP P 02 47 11.4 +0.3
ISCO pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
ISCO Idaho Springs 91.00 47 ⇓iP P 02 47 11.4 +0.3
comp=Z,8.6nm,1.1s,mb4.8
SUW Suwalki 91.03 330 eP P 02 47 09.5 -1.4
SUW Suwalki 91.03 330 eP P 02 47 09.5 -1.4
NB2 NORSAR Subarra 91.05 340 P P 02 47 09.0 -1.9
comp=Z,5.6nm,0.9s,mb4.7,baz=42,slow=4.6
NOA NORSAR Array B 91.05 340 P P 02 47 09.0 -1.9
NOA *PP pP 02 47 36.9 -0.2
NOA NORSAR Array B 91.05 340 P P 02 47 09.0 -1.9
NOA pP pP 02 47 36.9 -0.2
NOA LR LR 03 28 27.1
NOA NORSAR Array B 91.05 340 P P 02 47 09.0 -1.9
comp=Z,5.8nm,1.1s,mb4.6,baz=43,slow=4.6,SNR=9.4
NOA pP pP 02 47 36.9 -0.2
comp=Z,1.6nm,0.9s,baz=47,slow=4.8,SNR=2.0
NOA LR LR 03 28 27.1
comp=Z,55nm,21.8s,baz=10.0,slow=36

218A Dragoon 91.18 55 ⇑P P 02 47 12.8 +0.7
baz=91,SNR=6.2
119A Ashpeak Ranch, 91.42 54 ⇓P P 02 47 13.8 +0.6
baz=91,SNR=8.5
318A Bisbee 91.45 56 ⇑P P 02 47 13.7 +0.3
baz=91,SNR=12
ULM Lac du Bonnet 91.56 34 *e*P **P 02 47 12.4 -1.1**
comp=Z,5.0nm,0.8s,mb4.8
ULM *e*pP pP 02 47 39.7 0.0
ULM Lac du Bonnet 91.56 34 P P 02 47 12.7 -0.8
comp=Z,9.6nm,0.8s,mb5.1,baz=300,slow=4.7,SNR=17
ULM pP pP 02 47 39.0 -0.7
comp=Z,6.5nm,0.8s,baz=272,slow=2.6,SNR=5.4
ULM LR LR 03 24 36.3
comp=Z,96nm,20.0s,baz=94,slow=33
219A White Tail Can 91.78 55 ⇓P P 02 47 15.3 +0.4
baz=92,SNR=10
SDCO Great Sand Dun 92.02 49 *e*P **P 02 47 15.8 -0.1**
comp=Z,5.4nm,1.3s,mb4.6
319A Douglas 92.03 56 ⇓P P 02 47 16.4 +0.4
baz=92,SNR=6.7
ANMO Albuquerque 92.60 51 *e*P **P 02 47 18.3 -0.3**
ANMO *e**PP pP 02 47 41.3 -3.6
ANMO pmax pmax
comp=Z,8.0nm,1.1s
ANMO Albuquerque 92.60 51 *e*P **P 02 47 18.3 -0.4**
comp=Z,8.5nm,1.1s,mb5.0
ANMO *e*pP pP 02 47 41.3 -3.6
ANMO Albuquerque 92.60 51 P P 02 47 18.4 -0.3
comp=Z,5.3nm,0.9s,mb4.9,baz=251,slow=4.5,SNR=11
AGMN Agassiz Refuge 92.68 36 *e*P **P 02 47 17.4 -1.3**
comp=Z,12nm,0.9s,mb5.2
AGMN *e*pP pP 02 47 43.6 -1.3
BURAR Bucovina Array 93.79 324 ⇓*i*P **P 02 47 21.3 -2.5**
ECSD EROS,Sioux Fal 94.80 40 *e*P **P 02 47 26.8 -1.8**
comp=Z,5.4nm,1.2s,mb4.8
MNTX Cornudas Mount 94.87 54 *e*P **P 02 47 28.6 -0.5**
comp=Z,5.7nm,1.1s,mb4.9
MNTX *e*pP pP 02 47 51.3 -4.1
TXAR Lajitas Array 97.28 55 P P 02 47 39.7 -0.4
comp=Z,0.5nm,0.6s,mb4.1,baz=291,slow=2.3,SNR=7.2
CLL Collm 97.46 332 *i* P **P 02 47 38.6 -1.8**
CLL pmax pmax
comp=Z,9.0nm,1.2s,mb5.1
CLL Collm 97.46 332 *i* P **P 02 47 38.6 -1.8**
comp=Z,9.0nm,1.2s,mb5.1
WMOK Wichita Mounta 98.22 48 *e*P **P 02 47 43.2 -1.0**
WMOK pmax pmax
comp=Z,2.0nm,0.9s,mb4.7
WMOK Wichita Mounta 98.22 48 *e*P **P 02 47 43.2 -1.0**
comp=Z,2.0nm,0.9s,mb4.7
GERES GERESS Array B 98.89 330 P P 02 47 45.2 -1.7
comp=Z,0.6nm,0.6s,mb4.3,baz=54,slow=6.8,SNR=6.2
GERES LR LR 03 33 39.9
comp=Z,57nm,18.1s,baz=283,slow=36
MDT Midelt 119.96 331 PKP PKPdf 02 52 57.0 -0.3
comp=Z,3.8nm,0.8s,baz=48,slow=2.1,SNR=11
LSZ Lusaka 120.23 264 *e*PKIKP PKPdf 02 52 56.8 -1.3
BOSA Boshof 125.27 249 PKP PKPdf 02 53 05.3 -2.2
comp=Z,1.8nm,0.8s,baz=159,slow=10,SNR=3.4
TORD Torodi Ar. Bea 131.24 310 PKP PKPdf 02 53 17.0 -2.2
comp=Z,2.7nm,0.5s,baz=39,slow=1.2,SNR=59
SDV Santo Domingo 134.31 54 *e*PKPdf PKPdf 02 53 23.5 -1.6
SDV Santo Domingo 134.31 54 PKP PKPdf 02 53 21.6 -3.4
comp=Z,12nm,0.7s,baz=321,slow=3.4,SNR=18
DBIC Dimbokro 140.35 309 PKhKP 02 53 27.1
comp=Z,3.6nm,0.5s,baz=98,slow=7.2,SNR=11
PLCA Paso Flores 143.26 132 PKP PKPdf 02 53 36.7 -3.9
comp=Z,4.0nm,0.4s,baz=248,slow=3.4,SNR=12
LCO Las Campanas 146.19 112 *e*PKPbc PKPbc 02 53 46.5 -0.7
LPAZ La Paz 148.01 89 PKPbc PKPbc 02 53 50.1 -2.5
comp=Z,18nm,0.9s,baz=317,slow=2.3,SNR=23
TRQA Tornquist 150.40 133 *e*PKPbc PKPbc 02 53 56.3 -1.7
CPUP Villa Florida 158.32 111 PKP PKPdf 02 54 02.9 -1.1
comp=Z,1.2nm,0.8s,baz=335,slow=5.9,SNR=4.5
BDFB Brasilia 166.51 73 PKP PKPdf 02 54 11.5 -0.9
comp=Z,4.4nm,0.9s,baz=20,slow=23,SNR=9.3

JMA 12 02:43:16.3, 3508N×13576E, h13km, M2.9, Western Honshu

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.36**	**305**	P	Pg	02 43 23.6	+0.1
JWT				S	Sg	02 43 28.3	0.0
JHE	**Heguri**	**0.43**	**188**	P	Pg	02 43 24.7	-0.1
JHE				S	Sg	02 43 30.6	0.0
MAT	**Matsushiro**	**2.47**	**53**	P	Pn	02 43 54.9	-1.3
MAT				*e*S	Sn	02 44 32.6	+6.4

IDC 12 03:07:02.2±3.0, 3282S×17885W, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.6/14, mbtmp3.5/3, ML3.6/1, Error ellipse: s-maj=67.8km s-min=35.9km az=112.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.35**	**210**	Pn	Pn	03 08 38.0	+0.9
URZ	1.5nm,0.3s,baz=342,slow=13,SNR=8.6			Sn	Sn	03 09 48.5	-1.8
	0.8nm,0.3s,baz=146,slow=20,SNR=4.2						
ASAR	**Alice Springs**	**42.32**	**270**	P	P	03 14 56.9	-1.0
	0.2nm,0.5s,baz=106,slow=8.8,SNR=3.5						
WRA	**Warramunga Arr**	**43.53**	**275**	P	P	03 15 08.7	+0.9
	0.5nm,0.4s,baz=116,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**147.13**	**338**	PKPbc	PKPbc	03 26 45.5	-0.9
	1.2nm,0.9s,baz=48,slow=5.7,SNR=6.2						

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*MOS **12** 03:13:05.4±0.1, 4860N×15864E, h6km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=31.0km az=89.5*

KRSC 12 03:13:19.2±1.8, 4959N×15916E, h5km±5km, ML4.1, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.24**	**300**	*e*PN	Pn	03 13 50.4	-6.5
RUS	**Russkaya**	**2.88**	**352**	*e*P	Pn	03 14 06.8	+1.2
RUS				*i* S	Sn	03 14 41.6	+1.0
GRL	**Gorelyy**	**3.04**	**347**	*e*P	Pn	03 14 09.6	+1.7
GRL				*i* S	Sn	03 14 46.2	+1.5
AVH	**Avacha**	**3.69**	**356**	*e*P	Pn	03 14 18.8	+2.0
GNL	**Ganaly**	**4.18**	**350**	*e*P	Pn	03 14 25.9	+2.4
MKZ	**Mys Kozlova**	**5.22**	**17**	*e*P	Pn	03 14 40.6	+2.8
MKZ				*i* S	Sn	03 15 39.5	+1.2
KBTR	**Krutoberegovo**	**6.99**	**17**	*e*P	Pn	03 15 05.6	+3.5

IDC 12 03:18:20.1±2.2, 649S×12984E, h0km, mb4.0/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.6/3, ML3.5/2, Error ellipse: s-maj=151.4km s-min=30.6km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.07**	**162**	Pn	Pn	03 21 41.4	+0.6
	0.3nm,0.3s,baz=345,slow=12,SNR=14						
WRA				Sn	Sn	03 24 01.3	-16
	1.1nm,0.3s,baz=337,slow=22,SNR=8.8						
ASAR	**Alice Springs**	**17.52**	**168**	P	Pn	03 22 25.4	-0.4
	0.1nm,0.3s,baz=344,slow=11,SNR=8.8						
ASAR				S	Sn	03 25 25.2	-16
	0.3nm,0.3s,baz=343,slow=24,SNR=6.3						
MKAR	**Makanchi Array**	**67.72**	**327**	P	P	03 29 19.5	+0.1
	0.7nm,0.4s,baz=120,slow=7.7,SNR=13						

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*NEIC **12** 03:33:06.5±4.2, 3310S×17825W, h9km±26km, mb4.6/5, Error ellipse: s-maj=22.1km s-min=11.8km az=107.0*
*IDC **12** 03:33:06.7±1.0, 3282S×17844W, h0km, mb4.6/4, mb1 4.8/6, mb1mx4.2/17, mbtmp4.7/6, ML4.7/2, MS4.2/1, Ms1 4.2/1, ms1mx3.4/20, Error ellipse: s-maj=28.7km s-min=21.6km az=94.0*
*ISCJB **12** 03:33:08.0±1.0, 3308S±006×1783W±02, h33km, mb4.8/10, MS4.1/2, Error ellipse: s-maj=25.0km s-min=4.3km az=16.5*
*BJI **12** 03:33:07.6, 3261S×17778W, h15km, mB5.5, mb5.1, Ms4.6, Msz4.2*

ISC 12 03:33:10.3±1.1, 3304S±006×1783W±02, h35km, n49, σ0§93/41, mb4.8/10, MS4.1/2, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.79**	**4**	*e*Pn	**Pn**	**03 34 05.8**	**-0.3**
RAO	**Raoul Island**	**3.79**	**4**	Pn	**Pn**	**03 34 04.6**	**-1.6**
	95nm,0.3s,baz=105,slow=20,SNR=3.4						
RAO				Sn	**Sn**	**03 34 48.9**	**-0.6**
	61nm,0.3s,baz=161,slow=21,SNR=2.9						
MXZ	**Matakaoa Point**	**5.32**	**211**	*e*P	**Pn**	**03 34 26.6**	**-0.5**
MXZ				S	**Sn**	**03 35 28.3**	**+1.2**
MXZ	**Matakaoa Point**	**5.32**	**211**	*e*PN	**Pn**	**03 34 26.6**	**-0.6**
MXZ				SN	**Sn**	**03 35 28.3**	**+1.1**
PUZ	**Puketiti**	**5.77**	**209**	*e*P	**Pn**	**03 34 32.4**	**-1.0**
PUZ				S	**Sn**	**03 35 37.8**	**-0.5**
PUZ	**Puketiti**	**5.77**	**209**	*e*PN	**Pn**	**03 34 32.4**	**-1.0**
PUZ				SN	**Sn**	**03 35 37.8**	**-0.5**
MWZ	**Matawai**	**6.30**	**212**	*e*P	**Pn**	**03 34 40.4**	**-0.2**
MWZ				S	**Sn**	**03 35 51.7**	**+0.4**
MWZ	**Matawai**	**6.30**	**212**	*e*PN	**Pn**	**03 34 40.4**	**-0.2**
MWZ				SN	**Sn**	**03 35 51.7**	**+0.3**
URZ	**Urewera**	**6.43**	**215**	*e*P	**Pn**	**03 34 42.5**	**+0.1**
URZ	**Urewera**	**6.43**	**215**	Pn	**Pn**	**03 34 42.8**	**+0.4**
	11nm,0.3s,baz=47,slow=3.0,SNR=49						
URZ				Sn	**Sn**	**03 35 54.4**	**-0.2**
	11nm,0.3s,baz=132,slow=21,SNR=9.1						
URZ	**Urewera**	**6.43**	**215**	*e*PN	**Pn**	**03 34 42.5**	**+0.1**
URZ				SN	**Sn**	**03 35 54.6**	**0.0**
BFZ	**Birch Farm**	**8.81**	**208**	*e*P	**Pn**	**03 35 10.9**	**-4.1**
BFZ				S	Sx	03 36 48.2	
BFZ	**Birch Farm**	**8.81**	**208**	*e*PN	**Pn**	**03 35 10.9**	**-4.1**
BFZ				SN	Sx	03 36 48.2	
MRZ	**Mangatainoka R**	**9.07**	**211**	*e*P	**Pn**	**03 35 14.7**	**-3.9**
MRZ				S	Sx	03 36 50.7	
MRZ	**Mangatainoka R**	**9.07**	**211**	*e*PN	**Pn**	**03 35 14.7**	**-3.9**
MRZ				SN	Sx	03 36 50.7	
SNZO	**South Karori**	**9.98**	**212**	*e*Pn	**Pn**	**03 35 30.7**	**-0.4**
SNZO				*e*Sn	Sx	03 37 14.6	
THZ	**Tophouse**	**11.19**	**216**	*e*PN	**Pn**	**03 35 42.6**	**-5.0**
THZ				SN	Sx	03 37 42.3	
RPZ	**Rata Peaks**	**13.55**	**215**	Pn	**Pn**	**03 36 16.9**	**-3.0**
	1.0nm,0.3s,baz=315,slow=16,SNR=3.6						
CTA	**Charters Tower**	**34.10**	**283**	P	**Pn**	**03 39 52.4**	**+0.7**
	6.4nm,0.6s,mb4.7,baz=114,slow=9.8,SNR=8.7						
CTAO	**Charters Tower**	**34.10**	**283**	*e*P	**Pn**	**03 39 52.3**	**+0.6**
	4.6nm,0.6s,mb4.6						
ASAR	**Alice Springs**	**42.82**	**270**	P	**P**	**03 41 05.0**	**+0.1**
	2.8nm,0.5s,mb4.2,baz=110,slow=7.4,SNR=64						
WB2	**Warramunga Arr**	**44.04**	**275**	*e*P	**P**	**03 41 14.8**	**0.0**
WRAB	**Tennant Creek**	**44.04**	**275**	*e*P	**P**	**03 41 14.4**	**-0.4**
	3.3nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**44.05**	**275**	P	**P**	**03 41 14.9**	**+0.1**
	9.2nm,0.4s,mb4.8,baz=114,slow=7.9,SNR=239						
FORT	**Forrest**	**45.22**	**258**	*e*P	**P**	**03 41 23.6**	**-0.5**
	9.4nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**52.19**	**272**	*e*P	**P**	**03 42 17.6**	**-0.2**
	6.2nm,0.6s,mb4.7						
QSPA	**South Pole Qui**	**57.08**	**180**	*e*P	**P**	**03 42 56.8**	**+4.4**
	4.5nm,0.9s,mb4.5						
QSPA	**South Pole Qui**	**57.08**	**180**	P	**P**	**03 42 57.2**	**+4.8**
	8.1nm,0.9s,mb4.7,baz=30,slow=3.6,SNR=20						
PMSA	**Palmer Station**	**69.96**	**155**	LR	LR	04 10 41.8	
	comp=Z,174nm,21.7s,MS4.3,baz=284,slow=32						
SYO	**Syowa Base**	**74.50**	**193**⇑	*e*P	**P**	**03 44 46.0**	**+1.3**
NJ2	**Nanjing**	**87.80**	**311**	*e*P	**P**	**03 45 57.2**	**+1.4**
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.2						
KMI	**Kunming**	**94.82**	**297**	P	**P**	**03 46 30.6**	**+2.0**
KMI				AP	pP	03 46 34.9	-4.8
KMI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb5.0						
KMI				LR	LR		
	comp=Z,54nm,25.5s,MS3.9						
CD2	**Chengdu**	**97.31**	**302**	*e*P	**P**	**03 46 44.1**	**+4.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,20nm,9.6s						
WMQ	**Urumqi**	**114.67**	**307**	*e*PKP	PKiKP	03 51 50.0	+3.4
MKAR	**Makanchi Array**	**119.28**	**309**	PKP	PKPdf	03 51 56.4	+1.1
MKAR	**Makanchi Array**	**119.28**	**309**	PKP	PKPdf	03 51 56.4	+1.1
	comp=Z,0.2nm,0.6s,baz=144,slow=3.4,SNR=2.9						
BRVK	**Borovoye**	**128.19**	**314**	*e*PKPdf	PKPdf	03 52 14.7	+2.5
ARCES	**ARCESS Array B**	**141.11**	**347**	PKhKP		03 52 34.3	
	comp=Z,4.6nm,1.0s,baz=29,slow=2.8,SNR=4.3						
JOF	**Joensuu**	**144.77**	**337**	*e*p	PKPdf	03 52 41.3	-1.2
	comp=Z,3.2nm,0.6s						
FIA1	**FINESS Array S**	**147.53**	**338**	*e*PKPbc	PKPbc	03 52 50.6	+0.7
FINES	**FINESS Array B**	**147.53**	**338**	PKPbc	PKPbc	03 52 51.0	+1.2
	comp=Z,4.8nm,0.5s,baz=45,slow=4.3,SNR=65						
MALT	**Malatya**	**149.88**	**291**	*e*PKPbc	PKPbc	03 52 57.5	+0.9
NB2	**NORSAR Subarra**	**151.32**	**350**	PKP	PKPbc	03 53 00.7	+1.4
	comp=Z,3.4nm,0.8s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.32**	**350**	PKPbc	PKPbc	03 53 00.5	+1.2
NOA	**NORSAR Array B**	**151.32**	**350**	PKPbc	PKPbc	03 53 00.5	+1.2
	comp=Z,2.7nm,0.7s,baz=14,slow=4.1,SNR=18						
NAO01	**NORSAR Array S**	**151.55**	**351**	*e*PKPdf	PKPdf	03 52 55.9	+2.3
NAO01				*e*PKPbc	PKPbc	03 53 01.6	+1.7
NAO01				*e*PKPab	PKPab	03 53 09.5	+1.1
AKASG	**Malin Array Be**	**153.22**	**319**	PKPbc	PKPbc	03 53 03.8	-0.1
	comp=Z,0.4nm,0.3s,baz=60,slow=2.0,SNR=8.1						
CLL	**Collm**	**159.97**	**339**	*e*PKPab	PKPab	03 53 45.0	+0.2
TORD	**Torodi Ar. Bea**	**160.20**	**180**	PKPab	PKPab	03 53 48.5	+1.9
	comp=Z,0.5nm,0.6s,baz=176,slow=4.5,SNR=5.6						

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*IDC **12** 03:34:58.7±0.7, 3259S×17880W, h0km, mb4.5/9, mb1 4.7/10, mb1mx4.5/16, mbtmp4.5/10, ML4.4/1, MS4.2/7, Ms1 4.2/7, ms1mx3.8/22, Error ellipse: s-maj=18.8km s-min=18.1km az=32.0*
*ISCJB **12** 03:35:01.5±2.0, 3303S±005×1787W±0.1, h28km±15km, mb4.8/17, MS4.2/9, Error ellipse: s-maj=19.4km s-min=6.1km az=19.4*
*MOS **12** 03:35:03.1±1.4, 3259S×17871W, h33km, mb4.9/5, Error ellipse: s-maj=19.6km s-min=17.4km az=94.9*
*NEIC **12** 03:35:04.8±1.8, 3259S×17857W, h46km±14km, mb5.0/9, Error ellipse: s-maj=15.5km s-min=10.7km az=143.0*
*BJI **12** 03:35:04.0, 3233S×17852W, h41km, mB5.3, mb5.3, Ms5.3, Msz4.9*

ISC 12 03:35:02.5±2.2, 3297S±005×1787W±0.1, h24km±16km, h34km±3km; pP-P, n87, σ1§35/50, mb4.8/17, MS4.2/9, 2C-2D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**3.76**	**10**	Pn	**Pn**	**03 35 54.6**	**-4.5**
RAO				Sn	**Sn**	**03 36 46.0**	**+3.4**
RAO	**Raoul Island**	**3.76**	**10**	Pn	**Pn**	**03 35 54.6**	**-4.5**
	34nm,0.3s,baz=255,slow=23,SNR=2.1						
RAO				Sn	**Sn**	**03 36 46.0**	**+3.4**
	69nm,0.3s,baz=261,slow=23,SNR=4.3						
MXZ	**Matakaoa Point**	**5.20**	**207**	PN	**Pn**	**03 36 17.3**	**-1.5**
MXZ				SN	**Sn**	**03 37 17.1**	**-0.9**
PUZ	**Puketiti**	**5.67**	**205**	PN	**Pn**	**03 36 24.0**	**-1.3**
PUZ				SN	**Sn**	**03 37 30.4**	**+0.9**
KUZ	**Kuaotunu**	**5.94**	**229**	*e*PN	**Pn**	**03 36 32.0**	**+3.0**
MWZ	**Matawai**	**6.17**	**209**	PN	**Pn**	**03 36 33.4**	**+1.2**
MWZ				SN	**Sn**	**03 37 43.7**	**+1.7**
URZ	**Urewera**	**6.29**	**212**	Pn	**Pn**	**03 36 33.6**	**-0.2**
	5.8nm,0.3s,baz=153,slow=20,SNR=4.2						
URZ				Sn	**Sn**	**03 37 45.3**	**+0.5**
	38nm,0.3s,baz=139,slow=17,SNR=7.0						
URZ	**Urewera**	**6.29**	**212**	*e*PN	**Pn**	**03 36 33.4**	**-0.3**
URZ				SN	**Sn**	**03 37 45.8**	**+1.0**
THZ	**Tophouse**	**11.03**	**215**	*e*PN	**Pn**	**03 37 36.1**	**-2.6**
THZ				SN	**Sn**	**03 39 33.2**	**-8.1**
RPZ	**Rata Peaks**	**13.40**	**214**	Pn	**Pn**	**03 38 08.2**	**-3.0**
	3.2nm,0.3s,baz=23,slow=7.0,SNR=7.9						
RPZ				Sn	**Sn**	**03 40 26.1**	**-13**
	1.8nm,0.3s,baz=318,slow=17,SNR=6.6						
RAR	**Rarotonga**	**20.48**	**60**	LR	LR	03 45 22.1	
	comp=Z,287nm,21.7s,MS3.6,baz=229,slow=31						
CNB	**Canberra Magne**	**26.48**	**256**	*e*P	**P**	**03 40 40.7**	**+2.8**
	14nm,1.0s,mb4.4						
TBI	**Tubuai**	**27.43**	**77**	*e*LR	LR	03 47 36.8	
	531nm,28.0s						
TBI	**Tubuai**	**27.43**	**77**	*e*T		04 09 03.5	
	12nm,0.4s						
PAE	**Paea**	**30.29**	**67**	*e*T		04 12 47.8	
	14nm,0.3s						
PPT	**Papeete**	**30.34**	**67**	*e*LR	LR	03 49 02.1	
	410nm,24.2s						
PPT	**Papeete**	**30.34**	**67**	*e*T		04 12 52.0	
	8.4nm,0.4s						
PPT	**Papeete**	**30.34**	**67**	LR	LR	03 50 07.8	
	comp=Z,410nm,18.4s,MS4.1,baz=241,slow=30						
STKA	**Stephens Creek**	**33.40**	**261**	*e*P	**P**	**03 41 40.6**	**+1.4**
	4.2nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**33.40**	**261**	P	**P**	**03 41 40.0**	**+0.7**
	3.5nm,0.8s,mb4.3,baz=101,slow=9.1,SNR=6.1						
STKA				LR	LR	03 53 49.6	
	comp=Z,826nm,20.4s,MS4.4,baz=282,slow=34						
CTA	**Charters Tower**	**33.72**	**284**	*e*P	**P**	**03 41 44.3**	**+2.2**
	13nm,0.7s,mb5.0						
CTA	**Charters Tower**	**33.72**	**284**	*e*P	**P**	**03 41 44.3**	**+2.2**
CTA				pmax	pmax		
	comp=Z,13nm,0.7s						
CTA	**Charters Tower**	**33.72**	**284**	P	**P**	**03 41 42.3**	**+0.2**
	comp=Z,16nm,0.7s,mb5.1,baz=94,slow=10,SNR=10						
CTAO	**Charters Tower**	**33.72**	**284**	*e*P	**P**	**03 41 43.1**	**+1.0**
CTAO				pmax	pmax		
	comp=Z,22nm,0.9s,mb5.1						
CTAO	**Charters Tower**	**33.72**	**284**	*e*P	**P**	**03 41 43.1**	**+1.0**
	comp=Z,22nm,0.9s,mb5.1						
RKT	**Rikitea**	**39.58**	**87**	*e*LR	LR	03 53 11.7	
	comp=Z,767nm,34.0s						
RKT				*e*LR	LR	03 53 11.7	
	comp=Z,767nm,34.0s						
ASAR	**Alice Springs**	**42.44**	**270**	P	**P**	**03 42 55.6**	**0.0**
	comp=Z,8.2nm,0.7s,mb4.5,baz=114,slow=7.8,SNR=18						
ASAR				S	**S**	**03 49 14.9**	**-1.3**
	comp=Z,1.1nm,0.9s,baz=115,slow=16,SNR=5.3						
WB2	**Warramunga Arr**	**43.65**	**275**	⇓*i*P	**P**	**03 43 05.5**	**0.0**
WRAB	**Tennant Creek**	**43.66**	**275**	P	**P**	**03 43 05.6**	**+0.1**
	comp=Z,187nm,1.2s,mb5.7,SNR=13						
WRAB	**Tennant Creek**	**43.66**	**275**	*e*P	**P**	**03 43 05.4**	**-0.1**
WRAB				pmax	pmax		
	comp=Z,26nm,0.9s,mb5.0						
WRAB	**Tennant Creek**	**43.66**	**275**	*e*P	**P**	**03 43 05.4**	**-0.1**
	comp=Z,26nm,0.9s,mb5.0						
WRA	**Warramunga Arr**	**43.66**	**275**	*e*P	**P**	**03 43 05.4**	**-0.2**
	comp=Z,15nm,0.5s,mb5.0,baz=114,slow=7.8,SNR=33						
WRA				PcP	PcP	03 44 53.5	+0.9
	comp=Z,1.1nm,0.8s,baz=122,slow=4.8,SNR=2.4						
WRA				S	**S**	**03 49 32.2**	**-2.0**
	comp=Z,1.1nm,1.0s,baz=115,slow=16,SNR=3.3						
FORT	**Forrest**	**44.87**	**258**	*e*P	**P**	**03 43 14.2**	**-0.9**
	comp=Z,18nm,0.7s,mb5.0						
VNDA	**Vanda**	**45.49**	**186**	P	**P**	**03 43 22.7**	**+3.3**
	comp=Z,0.8nm,0.7s,mb3.6,baz=18,slow=11,SNR=2.9						
VNDA				LR	LR	03 59 13.0	
	comp=Z,208nm,19.4s,MS4.1,baz=41,slow=32						
FITZ	**Fitzroy Crossi**	**51.81**	**272**	*e*P	**P**	**03 44 08.2**	**-0.6**
	comp=Z,11nm,0.8s,mb4.8						
QSPA	**South Pole Qui**	**57.15**	**180**	*e*P	**P**	**03 44 48.5**	**+1.7**
	comp=Z,23nm,0.9s,mb5.2						
QSPA	**South Pole Qui**	**57.15**	**180**	P	**P**	**03 44 48.6**	**+1.8**
	comp=Z,21nm,0.9s,mb5.2,baz=34,slow=3.0,SNR=17						
MAW	**Mawson**	**69.70**	**201**	P	**P**	**03 46 13.7**	**+3.8**
	comp=Z,3.4nm,0.8s,mb4.4,baz=142,slow=4.3,SNR=4.1						
SYO	**Syowa Base**	**74.49**	**193**⇑	*e*P	**P**	**03 46 37.1**	**-1.4**
SYO	**Syowa Base**	**74.49**	**193**⇓	*e*X		03 46 45.0	
KSRS	**Korea Array**	**85.92**	**320**	P	**P**	**03 47 39.4**	**-1.0**
	comp=Z,1.9nm,0.8s,mb4.4,baz=146,slow=5.6,SNR=8.2						
KSRS				LR	LR	04 24 24.3	
	comp=Z,81nm,18.7s,MS4.2,baz=105,slow=35						
LPIG	**La Paz**	**86.39**	**58**	LR	LR	04 18 53.6	
	comp=Z,100nm,18.2s,MS4.2,baz=191,slow=30						
YSS	**Yuzh-Sakhalins**	**86.80**	**335**	P	**P**	**03 47 43.0**	**-1.4**
YSS	**Yuzh-Sakhalins**	**86.80**	**335**	*e*P	**P**	**03 47 44.1**	**-0.3**
	comp=Z,11nm,0.6s,mb5.2						
NJ2	**Nanjing**	**87.46**	**311**	*e*P	**P**	**03 47 48.1**	**0.0**
NJ2				AP	pP	03 47 58.3	+2.5
NJ2				XP	sP	03 48 02.6	+4.0
NJ2				SKS		03 58 10.0	
NJ2				S	S	03 58 26.0	-1.7
NJ2				XS	sS	03 58 47.0	+6.5
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,340nm,12.0s						
NJ2				LR	LR		
	comp=N,2μm,23.2s						
NJ2				LR	LR		
	comp=E,1μm,34.3s						
NJ2				LR	LR		
	comp=Z,1μm,34.3s						
YBH	**Yreka Blue Hor**	**90.41**	**38**	LR	LR	04 23 44.0	
	comp=Z,126nm,18.9s,MS4.4,baz=196,slow=32						
NVAR	**Mina Array Bea**	**90.52**	**43**	P	**P**	**03 48 01.2**	**-1.1**
NVAR	**Mina Array Bea**	**90.52**	**43**	P	**P**	**03 48 01.2**	**-1.1**
	comp=Z,0.6nm,0.8s,mb4.0,baz=225,slow=7.9,SNR=4.7						
KMI	**Kunming**	**94.44**	**297**	P	**P**	**03 48 21.6**	**+0.8**
KMI				AP	pP	03 48 31.9	+3.3
KMI				XP	sP	03 48 36.5	+5.2
KMI				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.9						
KMI				LR	LR		
	comp=Z,54nm,21.0s,MS4.0						
CD2	**Chengdu**	**96.94**	**302**	*e*P	**P**	**03 48 33.0**	**+0.9**
CD2				AP	pP	03 48 43.6	+3.8
CD2				XP	sP	03 48 47.9	+5.3
CD2				PP	PP	03 52 31.5	+3.4
CD2				SKS		03 59 06.2	
CD2				S	S	03 59 49.8	-3.4
CD2				XS	sS	04 00 07.6	+1.5
CD2				SS	SS	04 06 30.5	+0.3
CD2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb5.1						
CD2				AMB	AMB		
	comp=Z,30nm,6.8s						
CD2				LR	LR		
	comp=N,140nm,18.0s						
CD2				LR	LR		
	comp=Z,150nm,14.4s,MS4.6						
WMQ	**Ur

DPC	**Dobruska-Polom**	**159.39**	**332**	*e*PKPab	PKPab	03 55 34.9	-1.3
CLL	**Collm**	**159.77**	**338**	*i* PKP2	PKPab	03 55 36.2	-1.6
CLL				pmax	pmax		
	comp=Z,6.0nm,0.9s						
CLL	**Collm**	**159.77**	**338**	*i* PKPab	PKPab	03 55 36.2	-1.6
	comp=Z,6.0nm,0.9s						
BRG	**Berggiesshubel**	**159.84**	**336**	*e*P	PKPab	03 55 37.0	-1.1
	comp=Z,9.7nm,1.3s						
PVCC	**Panska Ves**	**159.91**	**335**	*e*PKPab	PKPab	03 55 35.2	-3.2
TORD	**Torodi Ar. Bea**	**160.27**	**181**	PKPab	PKPab	03 55 40.2	-0.6
	comp=Z,1.4nm,0.6s,baz=169,slow=3.3,SNR=6.5						
NKC	**Novy Kostel**	**160.88**	**338**	*e*PKPab	PKPab	03 55 41.9	-0.8
KHC	**Kasperske Hory**	**161.42**	**334**	*e*PKPab	PKPab	03 55 44.1	-1.0
GERES	**GERESS Array B**	**161.61**	**333**	PKPab	PKPab	03 55 44.3	-1.6
	comp=Z,2.0nm,1.0s,baz=35,slow=4.9,SNR=9.1						

BJI ***12*** *03:54:50.9, 2343S×17963W, h506km, mB4.9, mb4.7*
NEIC ***12*** *03:54:52.0±2.4, 2309S×17960W, h499km±26km, mb4.4/12, Error ellipse: s-maj=16.9km s-min=12.2km az=203.0*
ISCJB ***12*** *03:54:53.3±3.2, 2325±0.1×1797W±0.1, h522km±36km, mb4.3/23, Error ellipse: s-maj=21.8km s-min=16.0km az=32.1*
IDC ***12*** *03:54:53.4±2.9, 2302S×17965W, h510km±31km, mb3.6/10, mb1 3.8/10, mb1mx3.6/16, mbtmp3.6/10, Error ellipse: s-maj=20.1km s-min=18.2km az=4.0*

ISC 12 03:54:52.3±3.0, 231S±01×1796W±01, h499km±33km, n40, σ0§85/32, mb4.3/23, 2C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.33**	**190**	P	**P**	**03 58 04.2**	**-1.6**
	2.0nm,0.3s,baz=195,slow=5.8,SNR=17						
RPZ	**Rata Peaks**	**21.92**	**198**	P	**P**	**03 59 08.5**	**+0.4**
	17nm,0.9s,mb4.6,baz=328,slow=1.5,SNR=5.3						
CNB	**Canberra Magne**	**29.53**	**239**	*e*P	**P**	**04 00 17.5**	**+2.0**
	12nm,1.0s,mb4.3						
CTA	**Charters Tower**	**31.82**	**269**	P	**P**	**04 00 36.6**	**+1.2**
	12nm,0.4s,mb4.7,baz=98,slow=11,SNR=22						
CTAO	**Charters Tower**	**31.82**	**269**	*e*P	**P**	**04 00 36.4**	**+0.9**
	14nm,0.5s,mb4.6						
TOO	**Toolangi**	**33.15**	**236**	*e*P	**P**	**04 00 47.5**	**+0.9**
	58nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**35.32**	**247**	*e*P	**P**	**04 01 05.6**	**+0.7**
	5.4nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.32**	**247**	P	**P**	**04 01 05.9**	**+1.0**
	6.2nm,0.6s,mb4.2,baz=93,slow=9.7,SNR=15						
ASAR	**Alice Springs**	**42.50**	**260**	P	**P**	**04 02 03.4**	**+0.2**
	8.6nm,0.8s,mb4.3,baz=95,slow=8.0,SNR=79						
WB2	**Warramunga Arr**	**42.79**	**265**	*e*P	**P**	**04 02 05.0**	**-0.6**
WRA	**Warramunga Arr**	**42.80**	**265**	P	**P**	**04 02 05.2**	**-0.4**
	7.4nm,0.7s,mb4.2,baz=91,slow=8.4,SNR=113						
WRA				ScP	ScP	04 06 48.6	-0.5
	2.0nm,1.0s,baz=98,slow=3.7,SNR=5.9						
KAKA	**Kakadu**	**46.58**	**274**	*e*P	**P**	**04 02 34.2**	**-0.7**
	6.0nm,0.4s,mb4.4						
FORT	**Forrest**	**46.90**	**249**	*e*P	**P**	**04 02 36.5**	**-0.6**
	34nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**51.23**	**265**	*e*P	**P**	**04 03 09.7**	**+0.3**
	5.6nm,0.6s,mb4.1						
VNDA	**Vanda**	**55.16**	**185**	P	**P**	**04 03 38.2**	**+1.7**
	1.7nm,0.5s,mb3.6,baz=360,slow=6.6,SNR=23						
KLBR	**Kellerberrin**	**55.59**	**247**	*e*P	**P**	**04 03 39.9**	**-0.4**
	8.9nm,0.5s,mb4.3						
MBWA	**Marble Bar**	**55.84**	**259**	*e*P	**P**	**04 03 41.3**	**-0.9**
	8.4nm,0.6s,mb4.2						
MUN	**Mundaring**	**56.84**	**246**	*e*P	**P**	**04 03 48.8**	**-0.2**
CASY	**Casey**	**60.94**	**206**	*e*P	**P**	**04 04 15.2**	**-0.7**
	6.4nm,0.7s,mb4.2						
QSPA	**South Pole Qui**	**66.94**	**180**	*e*P	**P**	**04 04 55.0**	**+1.0**
	20nm,1.2s,mb4.6						
KKM	**Kota Kinabalu**	**69.01**	**287**	*e*P	**P**	**04 05 07.2**	**-0.5**
KSM	**Kuching**	**72.31**	**279**	*e*P	**P**	**04 05 26.8**	**-0.6**
MAW	**Mawson**	**78.58**	**200**	P	**P**	**04 06 00.8**	**-0.5**
	4.1nm,1.1s,mb3.9,baz=94,slow=20,SNR=3.6						
NJ2	**Nanjing**	**80.42**	**311**	*e*P	**P**	**04 06 11.7**	**+0.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
YBH	**Yreka Blue Hor**	**83.28**	**39**	P	**P**	**04 06 26.2**	**+0.2**
	comp=Z,0.7nm,0.5s,mb3.4,baz=230,slow=7.9,SNR=3.8						
SYO	**Syowa Base**	**83.83**	**193⇑**	*e*P	**P**	**04 06 25.8**	**-2.5**
SYO	**Syowa Base**	**83.83**	**193⇑**	*e*PcP	PcP	04 06 30.2	-1.0
NVAR	**Mina Array Bea**	**83.97**	**44**	P	**P**	**04 06 29.5**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.2,baz=235,slow=7.4,SNR=4.2						
KMI	**Kunming**	**89.21**	**298**	P	**P**	**04 06 55.0**	**+0.3**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.5						
CHTO	**Chiang Mai**	**89.72**	**291**	*e*P	**P**	**04 06 57.7**	**+0.4**
	comp=Z,1.5nm,0.4s,mb4.2						
TXAR	**Lajitas Array**	**89.74**	**58**	P	**P**	**04 06 57.5**	**+0.3**
TXAR	**Lajitas Array**	**89.74**	**58**	P	**P**	**04 06 57.5**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.6,baz=213,slow=5.9,SNR=8.3						
CD2	**Chengdu**	**90.94**	**303**	*e*P	**P**	**04 07 02.5**	**-0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,8.8s						
ARCES	**ARCESS Array B**	**131.21**	**349**	PKP	PKPdf	04 13 05.1	-1.3
	comp=Z,2.2nm,0.8s,baz=48,slow=2.7,SNR=4.0						
FINES	**FINESS Array B**	**137.83**	**342**	PKhKP		04 13 08.1	
	comp=Z,0.5nm,0.7s,baz=31,slow=1.1,SNR=3.5						
NOA	**NORSAR Array B**	**141.38**	**352**	PKhKP		04 13 19.2	
	comp=Z,0.7nm,0.7s,baz=16,slow=4.6,SNR=3.4						
AKASG	**Malin Array Be**	**144.51**	**328**	PKP	PKPdf	04 13 29.6	-1.6
	comp=Z,1.7nm,0.4s,baz=44,slow=4.1,SNR=18						
STHS	**Stebnicka Huta**	**149.04**	**333**	*e*PKP	PKPbc	04 13 43.6	+0.1
CLL	**Collm**	**150.22**	**344**	*i* PKPbc	PKPbc	04 13 45.5	-0.7
	comp=Z,5.0nm,0.8s						
CLL				*e*PKPab	PKPab	04 13 54.0	-0.5
GERES	**GERESS Array B**	**152.25**	**341**	PKPbc	PKPbc	04 13 50.1	-0.8
	comp=Z,0.3nm,0.4s,baz=84,slow=4.2,SNR=4.3						

NEIC 12 03:57:59.4, 5952N×15285W, h10km, ML3.6(PMR), ML3.3(AEIC), After AEIC., Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLKM	**Skilak Lake**	**1.65**	**52**	P	Pn	03 58 25.6	-2.8
KDAK	**Kodiak Island**	**1.75**	**175**	P	Pn	03 58 27.6	-2.1
SEW	**Seward**	**1.82**	**70**	P	Pn	03 58 27.9	-2.7
SVW2	**Sparrevohn**	**2.09**	**321**	P	Pn	03 58 33.0	-1.3
FIB	**Fire Island**	**2.12**	**38**	P	Pn	03 58 34.4	-0.4
RC01	**Rabbit Creek A**	**2.21**	**43**	P	Pn	03 58 34.2	-1.8
PMR	**Palmer**	**2.77**	**40**	P	Pn	03 58 43.2	-0.6
GHO	**Glory Hole Cre**	**2.97**	**39**	P	Pn	03 58 46.1	-0.4
SML	**Sawmill**	**3.20**	**42**	*e*Pn	Pn	03 58 48.6	-1.0
SML				*e*Pg	Pg	03 58 56.7	-3.8
SML				*e*Sn	Sn	03 59 25.5	-2.1
TT01	**Tatalina**	**3.73**	**337**	P	Pn	03 58 56.0	-0.9
TTA	**Tatalina**	**3.75**	**337**	*e*P	Pn	03 58 55.8	-1.3
DIV	**Divide**	**3.87**	**62**	P	Pn	03 58 57.3	-1.6
MCK	**McKinley**	**4.62**	**22**	*e*Pn	Pn	03 59 09.9	+0.8
MENT	**Mentasta**	**5.58**	**48**	*e*P	Pn	03 59 20.8	-1.5
COLA	**College**	**5.86**	**21**	*e*Pn	Pn	03 59 26.5	+0.4
	8.1nm,0.5s						
IMA2	**Indian Mountai**	**6.58**	**357**	*e*Pn	Pn	03 59 35.7	-0.3
PNL	**Peninsula**	**6.83**	**83**	P	Pn	03 59 37.7	-1.8
EGAK	**Eagle**	**7.59**	**41**	*e*Pn	Pn	03 59 48.8	-1.1
	166nm,1.1s						
EGAK				*e*Sg	Sg	04 02 00.1	-2.6
DAWY	**Dawson**	**7.83**	**49**	*e*Pn	Pn	03 59 52.0	-1.2

IDC ***12*** *04:02:08.1±1.2, 1613S×17283W, h0km, mb4.2/8, mb1 4.4/8, mb1mx4.2/16, mbtmp4.2/8, MS3.9/3, Ms1 3.9/3, ms1mx3.5/24, Error ellipse: s-maj=38.8km s-min=23.8km az=106.0*
ISCJB ***12*** *04:02:11.3±0.6, 1615±0.1×1729W±02, h33km, mb4.3/12, MS3.8/3, Error ellipse: s-maj=25.6km s-min=15.0km az=30.7*
NEIC ***12*** *04:02:13.3±0.5, 1607S×17290W, h35km, mb4.7/4, Error ellipse: s-maj=23.2km s-min=12.9km az=120.0*

ISC 12 04:02:13.3±0.6, 161S±01×1729W±02, h35km, n22, σ1§02/15, mb4.3/12, MS3.8/3, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.41**	**26**	*e*Pn	**Pn**	**04 02 44.1**	**-6.2**
PPT	**Papeete**	**22.34**	**97**	*e*LR	LR	04 06 45.9	
	120nm,26.5s						
PPT	**Papeete**	**22.34**	**97**	LR	LR	04 12 34.5	
	comp=Z,318nm,21.3s,MS3.7,baz=58,slow=28						
URZ	**Urewera**	**23.78**	**200**	P	**P**	**04 07 24.2**	**+1.5**
	8.0nm,0.6s,mb4.3,baz=345,slow=14,SNR=5.2						
HNR	**Honiara**	**27.31**	**281**	LR	LR	04 17 20.6	
	comp=Z,279nm,19.3s,MS3.9,baz=181,slow=33						
STKA	**Stephens Creek**	**44.14**	**241**	P	**P**	**04 10 19.0**	**+0.3**
STKA	**Stephens Creek**	**44.14**	**241**	P	**P**	**04 10 19.0**	**+0.3**
	1.4nm,0.4s,mb4.1,baz=100,slow=8.7,SNR=4.3						
WRA	**Warramunga Arr**	**50.19**	**257**	P	**P**	**04 11 04.8**	**-1.2**
	2.8nm,1.0s,mb4.3,baz=92,slow=6.2,SNR=10						
ASAR	**Alice Springs**	**50.39**	**252**	P	**P**	**04 11 06.7**	**-0.8**
	12nm,0.8s,mb5.0,baz=86,slow=8.5,SNR=87						
VNDA	**Vanda**	**62.74**	**186**	P	**P**	**04 12 33.8**	**-0.7**
	0.5nm,0.7s,mb3.8,baz=29,slow=7.7,SNR=3.9						
MJAR	**Matsushiro Arr**	**69.80**	**320**	P	**P**	**04 13 20.9**	**+0.6**
	0.6nm,0.3s,mb4.0,baz=146,slow=5.5,SNR=4.5						
QSPA	**South Pole Qui**	**73.95**	**180**	*e*P	**P**	**04 13 44.2**	**-0.3**
	12nm,1.4s,mb4.6						
KSRS	**Korea Array**	**77.01**	**315**	P	**P**	**04 14 05.4**	**+2.7**
	1.5nm,0.7s,mb4.0,baz=140,slow=6.7,SNR=7.3						
MSU	**Marysvale**	**78.56**	**44**	*e*P	**P**	**04 14 12.1**	**+0.8**
TXAR	**Lajitas Array**	**80.57**	**56**	LR	LR	04 44 05.5	
	comp=Z,51nm,18.2s,MS3.9,baz=200,slow=31						
MCK	**McKinley**	**81.70**	**11**	*e*P	**P**	**04 14 27.8**	**+0.2**
	8.4nm,1.2s,mb4.5						
COLA	**College**	**82.94**	**10**	*e*P	**P**	**04 14 33.0**	**-1.1**
	15nm,1.4s,mb4.8						
YKA	**Yellowknife Ar**	**90.53**	**23**	P	**P**	**04 15 10.0**	**-1.3**
	0.4nm,0.9s,mb3.7,baz=236,slow=4.4,SNR=5.3						
FFC	**Flin Flon**	**92.40**	**33**	*e*P	**P**	**04 15 20.4**	**+0.3**
	2.1nm,0.9s,mb4.5						
MALT	**Malatya**	**144.72**	**315**	*e*PKPdf	PKPdf	04 21 47.8	+1.1
MORC	**Moravsky Berou**	**145.36**	**348**	*e*PKPdf	PKPdf	04 21 48.0	+0.6
GERES	**GERESS Array B**	**146.90**	**352**	PKPbc	PKPbc	04 21 52.3	+0.3
	0.5nm,0.7s,baz=43,slow=4.4,SNR=4.6						

MOS ***12*** *04:05:35.3±0.7, 5505N×11172E, h8km, mb4.4/1, Error ellipse: s-maj=16.6km s-min=8.6km az=74.1*
BYKL ***12*** *04:05:36.5±0.3, 5505N×11172E, h7km±10km*
IDC ***12*** *04:05:38.0±8.5, 5512N×111.12E, h0km, mb1 3.2/3, mb1mx3.1/22, mbtmp3.2/3, ML3.2/3, Error ellipse: s-maj=109.3km s-min=37.2km az=82.0*

ISC 12 04:05:33.8±0.4, 5497N±002×11176E±004, h10km, n41, σ1§63/75, 3C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMO	**Kumora**	**0.97**	**341**	*e*PG	**Pg**	**04 05 52.4**	**-0.1**
KMO				*e*		04 06 03.5	
KMO				pmax	pmax		
	comp=Z,197nm,0.4s						
KMO				smax			
	comp=N,613nm,1.4s						
KMO	**Kumora**	**0.97**	**341⇑**	*i* Pg	**Pg**	**04 05 52.4**	**-0.1**
KMO				*i* Sg	**Sg**	**04 06 04.3**	**-0.9**
KMO				Pmax			
	comp=N,197nm,0.5s						
KMO				Smax			
	comp=N,835nm,0.9s						
YOA	**Uoyan**	**1.17**	**359**	*e*PG	**Pg**	**04 05 56.7**	**+0.5**
YOA				*i*		04 06 11.8	
YOA				pmax	pmax		
	comp=Z,299nm,0.3s						
YOA				smax			
	comp=N,2μm,0.6s						
YOA	**Uoyan**	**1.17**	**359**	*e*Pg	**Pg**	**04 05 55.8**	**-0.4**
YOA				*e*Sg	**Sg**	**04 06 10.2**	**-1.2**
YOA				Pmax			
	comp=N,312nm,0.5s						
YOA				Smax			
	comp=N,2μm,0.9s						
NIZ	**Nizh Angarsk**	**1.50**	**303**	*e*PG	**Pg**	**04 06 02.1**	**-0.5**
NIZ				*e*		04 06 21.9	
NIZ				pmax	pmax		
	comp=Z,139nm,0.7s						
NIZ				smax			
	comp=N,462nm,0.8s						
NIZ	**Nizh Angarsk**	**1.50**	**303⇑**	*i* Pg	**Pg**	**04 06 02.2**	**-0.4**
NIZ				*e*Sg	**Sg**	**04 06 21.9**	**-0.2**
NIZ				Pmax			
	comp=N,140nm,0.6s						
NIZ				Smax			
	comp=N,461nm,0.7s						
SVKR	**Severomuysk**	**1.54**	**41**	*e*PG	**Pg**	**04 06 04.2**	**+0.9**
SVKR				*e*		04 06 24.7	
SVKR				pmax	pmax		
	comp=Z,228nm,0.6s						
SVKR				smax			
	comp=N,2μm,0.7s						
SVKR	**Severomuysk**	**1.54**	**41**	*e*Pg	**Pg**	**04 06 04.6**	**+1.3**
SVKR				*e*Sg	**Sg**	**04 06 25.4**	**+2.1**
SVKR				Pmax			
	comp=N,235nm,0.5s						
SVKR				Smax			
	comp=N,2μm,0.6s						
SYVR	**Suvo**	**1.67**	**219**	*e*PN	**Pg**	**04 06 07.4**	**+1.6**
SYVR				*e*		04 06 30.5	
SYVR				pmax	pmax		
	comp=Z,171nm,0.5s						
SYVR				smax			
	comp=E,394nm,1.0s						
SYVR	**Suvo**	**1.67**	**219**	*e*Pg	**Pg**	**04 06 06.9**	**+1.1**
SYVR				*e*		04 06 10.3	
SYVR				*e*Sg	**Sg**	**04 06 30.5**	**+3.1**
SYVR				max			
	comp=E,170nm,0.6s						
SYVR				Smax			
	comp=E,387nm,1.0s						
MXMB	**Maximikha**	**2.46**	**227**	*e*Sn	**Sn**	**04 06 48.9**	**+4.9**
MXMB				*i* Sg	**Sg**	**04 06 55.1**	**+2.2**
MXMB				Smax			
	comp=E,624nm,0.8s						
OGRR	**Ongureny**	**2.78**	**243**	*e*PN	**Pn**	**04 06 21.9**	**+3.6**
OGRR				*e*		04 06 26.8	
OGRR				*e*S	**Sn**	**04 06 55.5**	**+3.7**
OGRR				*e*		04 07 02.6	
OGRR				pmax	pmax		
	comp=Z,21nm,0.4s						
OGRR				smax			
	comp=E,136nm,0.4s						
OGRR	**Ongureny**	**2.78**	**243**	*e*Pn	**Pn**	**04 06 21.8**	**+3.5**
OGRR				*e*Pg	**Pg**	**04 06 25.8**	**-1.2**
OGRR				*e*Sn	**Sn**	**04 06 55.7**	**+3.9**
OGRR				*e*Sg	**Sg**	**04 07 02.5**	**-0.4**
OGRR				Pmax			
	comp=E,22nm,0.4s						
OGRR				Smax			
	comp=E,139nm,0.6s						
BOD	**Bodaibo**	**3.12**	**23**	*e*PN	**Pn**	**04 06 24.3**	**+1.4**
BOD				*e*		04 06 29.9	
BOD				*e*S	**Sn**	**04 06 59.5**	**-0.7**
BOD	**Bodaibo**	**3.12**	**23**	*e*Pn	**Pn**	**04 06 25.0**	**+2.1**
BOD				*e*Pg	**Pg**	**04 06 30.2**	**-3.3**
BOD				*e*Sn	**Sn**	**04 07 02.2**	**+2.0**
BOD				*e*Sg	**Sg**	**04 07 09.9**	**-4.0**
BOD				Pmax			
	comp=E,21nm,0.3s						
BOD				Smax			
	comp=E,178nm,1.4s						
ZRHB	**Zarechye**	**3.65**	**230**	*e*Pg	**Pg**	**04 06 42.2**	**-1.5**
ZRHB				*e*Sg	**Sg**	**04 07 31.6**	**+0.7**
ZRHB				Pmax			
	comp=E,29nm,0.7s						
ZRHB				Smax			
	comp=E,251nm,1.0s						
TRTB	**Turuntaevo**	**3.69**	**224**	*e*Pn	**Pn**	**04 06 36.0**	**+5.3**
TRTB				*e*Pg	**Pg**	**04 06 42.4**	**-1.9**
TRTB				*e*Sg	**Sg**	**04 07 31.9**	**-0.1**
TRTB				Pmax			
	comp=E,27nm,0.8s						
TRTB				Smax			
	comp=E,101nm,1.1s						
TRG	**Tyrgan**	**3.89**	**238**	*e*Pn	**Pn**	**04 06 37.1**	**+3.5**
TRG				*e*Pg	**Pg**	**04 06 45.5**	**-2.8**
TRG				*e*		04 06 48.9	
TRG				*e*Sn	**Sn**	**04 07 20.6**	**+1.3**
TRG				*e*Sg	**Sg**	**04 07 36.3**	**-2.4**
TRG				max			
	comp=E,10.0nm,0.9s						
TRG				Smax			
	comp=E,48nm,0.5s						
UUDB	**Ulan-Yde**	**3.96**	**220**	*e*Pg	**Pg**	**04 06 48.7**	**-0.8**
UUDB				*i* Sg	**Sg**	**04 07 41.3**	**+0.5**
UUDB				*e*SgSg		04 07 47.3	
UUDB				Pmax			
	comp=E,35nm,0.6s						
UUDB				max			
	comp=E,120nm,1.6s						
CRS	**Chara**	**4.14**	**59**	*e*PN	**Pn**	**04 06 40.5**	**+3.5**
CRS				*e*		04 06 50.8	
CRS				*e*		04 07 44.2	
CRS				pmax	pmax		
	comp=Z,38nm,1.1s						
CRS				smax			
	comp=E,167nm,1.5s						
CRS	**Chara**	**4.14**	**59**	*e*Pn	**Pn**	**04 06 40.5**	**+3.5**
CRS				*e*Pg	**Pg**	**04 06 51.0**	**-2.1**
CRS				*i* Sg	**Sg**	**04 07 44.6**	**-2.1**
CRS				Pmax			
	comp=E,32nm,1.0s						
CRS				Smax			
	comp=E,166nm,1.5s						
HRMR	**Khuramsha**	**4.42**	**223**	*e*Pn	**Pn**	**04 06 45.6**	**+4.8**
HRMR				*e*Pg	**Pg**	**04 06 57.4**	**-0.9**
HRMR				*e*Sg	**Sg**	**04 07 55.6**	**+0.1**
HRMR				Pmax			
	comp=E,39nm,0.8s						
HRMR				Smax			
	comp=E,306nm,0.6s						
TUP	**Tupik**	**4.79**	**93**	*e*PN	**Pn**	**04 06 49.3**	**+3.5**
TUP				*e*		04 07 01.6	
TUP				*e*S	**Sn**	**04 07 42.9**	**+1.6**
TUP				*e*		04 08 04.0	
TUP				pmax	pmax		
	comp=Z,13nm,0.5s						
TUP				smax			
	comp=N,221nm,0.9s						
TUP	**Tupik**	**4.79**	**93⇑**	*i* Pn	**Pn**	**04 06 49.6**	**+3.8**
TUP				*e*		04 06 53.4	
TUP				*e*Pg	**Pg**	**04 07 01.5**	**-3.9**
TUP				*e*		04 07 47.8	
TUP				*e*Sg	**Sg**	**04 08 05.2**	**-2.1**
TUP				Pmax			
	comp=N,26nm,1.4s						
TUP				Smax			
	comp=N,220nm,0.9s						
KHNR	**Khani**	**5.02**	**64**	*e*Sg	**Sg**	**04 08 10.6**	**-4.1**
LSTR	**Listvyanka**	**5.18**	**236**	*e*Sg	**Sg**	**04 08 17.0**	**-2.9**
LSTR				Smax			
	comp=N,44nm,1.3s						
KPC	**Khapcheranga**	**5.29**	**176**	*e*Pg	**Pg**	**04 07 11.7**	**-3.3**
KPC				*e*		04 08 12.1	
KPC				*e*Sg	**Sg**	**04 08 22.0**	**-1.4**
KPC				Pmax			
	comp=N,7.0nm,0.5s						
KPC				Smax			
	comp=N,146nm,0.9s						
TLY	**Talaya**	**5.87**	**239**	*e*Sg	**Sg**	**04 08 39.5**	**-2.6**
TLY				Smax			
	comp=N,29nm,1.1s						
ARS	**Arshan**	**6.36**	**245**	*e*Sg	**Sg**	**04 08 52.8**	**-4.9**
ARS				Smax			
	comp=N,160nm,0.9s						
ZAK	**Zakamensk**	**6.90**	**232**	*e*Sg	**Sg**	**04 09 12.7**	**-2.5**
ZAK				Smax			
	comp=N,17nm,1.1s						
MOY	**Mondy**	**7.25**	**247**	*e*PN	**Pn**	**04 07 23.8**	**+4.2**
MOY				*e*		04 07 48.2	
MOY				*e*S	**Sn**	**04 08 43.9**	**+2.0**
MOY				*e*		04 09 19.5	
MOY				pmax	pmax		
	comp=Z,3.0nm,0.5s						
MOY				smax			
	comp=E,71nm,1.7s						
MOY	**Mondy**	**7.25**	**247**	*e*Pn	**Pn**	**04 07 23.8**	**+4.2**
MOY				*e*Sn	**Sn**	**04 08 44.4**	**+2.5**
MOY				*e*Sg	**Sg**	**04 09 20.8**	**-5.4**
MOY				Smax			
	comp=E,70nm,1.4s						
ORL	**Orlik**	**7.49**	**256**	*e*PN	**Pn**	**04 07 26.9**	**+3.9**
ORL				*e*		04 07 51.6	
ORL				*e*		04 09 28.1	
ORL				pmax	pmax		
	comp=Z,6.0nm,1.1s						
ORL				smax			
	comp=N,65nm,1.8s						
ORL	**Orlik**	**7.49**	**256**	*e*Pn	**Pn**	**04 07 26.7**	**+3.7**
ORL				*e*Sn	**Sn**	**04 08 48.2**	**+0.3**
ORL				*e*Sg	**Sg**	**04 09 28.2**	**-5.8**
ORL				max			
	comp=N,4.0nm,0.9s						
ORL				Smax			
	comp=N,92nm,1.6s						
ULN	**Ulaanbaatar**	**7.70**	**204**	*i* PN	**Pn**	**04 07 31.8**	**+6.0**
SONM	**Songino Array**	**7.89**	**207**	*e*PN	**Pn**	**04 07 33.3**	**+4.8**
SONM	**Songino Array**	**7.89**	**207**	Pn	**Pn**	**04 07 33.3**	**+4.8**
	comp=N,0.4nm,0.3s,baz=19,slow=14,SNR=6.3						
SONM				Pg	Pn	04 08 03.0	+35
	comp=N,0.5nm,0.3s,baz=21,slow=16,SNR=5.9						
SONM				Lg		04 09 47.5	
	comp=N,1.4nm,0.3s,baz=21,slow=28,SNR=12						
TDJR	**Todzha**	**9.64**	**261**	*e*Sn	**Sn**	**04 09 39.8**	**-0.9**
TDJR				*e*Sg	Sn	04 10 33.4	+53
ZALV	**Zalesovo Beam**	**15.67**	**277**	Pn	**Pn**	**04 09 15.0**	**+0.7**
	comp=N,0.1nm,0.3s,baz=82,slow=12,SNR=2.4						
ZAL	**Zalesovo**	**15.68**	**277**	*e*P	**Pn**	**04 09 21.7**	**+7.2**
MKAR	**Makanchi Array**	**20.19**	**258**	P	**P**	**04 10 10.3**	**+2.0**
	comp=N,0.0nm,0.3s,baz=56,slow=11,SNR=2.1						

NEIC ***12*** *04:11:12.4, 3782S×17675E, h5km, ML3.8(WEL), After WEL.*

WEL 12 04:11:12.4±0.5, 3782S×17675E, h5km±3km, ML3.9/8, Error ellipse: s-maj=2.4km s-min=2.1km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.15**	**260**	PG	Pg	04 11 15.9	+0.4
OPRZ				SG	Sg	04 11 18.3	+0.8
MARZ	**Manawahe**	**0.18**	**198**	P	Pg	04 11 16.4	+0.5
MARZ				S	Sg	04 11 19.3	+1.0
MARZ	**Manawahe**	**0.18**	**198**	PG	Pg	04 11 16.4	+0.5
MARZ				SG	Sg	04 11 19.3	+1.0
MKRZ	**Makatiti**	**0.39**	**214**	P	Pg	04 11 21.0	+1.0
MKRZ	**Makatiti**	**0.39**	**214**	PG	Pg	04 11 21.0	+1.0
TGRZ	**Tauranga**	**0.39**	**283**	P	Pg	04 11 20.7

KEK	**Kerkira**	**1.51**	**346**	*e*PB	**Pb**	**04 14 56.4 +1.0**
ITM	**Ithomi**	**1.69**	**129**	*e*PB	**Pb**	**04 14 58.0 -0.5**
THL	**Klokotos Trika**	**1.89**	**45**	*e*PN	**Pg**	**04 15 02.2 -1.0**

ISCJB ***12*** *04:23:13.8±0.8,3608N±007×2734E±008, h92km±15km, Error ellipse: s-maj=13.8km s-min=9.0km az=143.6*
HLW ***12*** *04:23:13.7,3617N×2747E, h33km, Mb3.3*
ISK ***12*** *04:23:13.7,3603N×2718E, h26km, MD3.2*
CSEM ***12*** *04:23:14.1±0.1,3631N×2729E, h80km, MD3.2, Error ellipse: s-maj=4.2km s-min=2.6km az=133.0*
ATH ***12*** *04:23:14.7,3646N×2712E, h47km, MD3.3/4*
ISC 12 04:23:15.1±0.9,3610N±006×2732E±008, h81km±16km, n23, σ0=97/27, 8C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**193**	⇑*iP*	**Pn**	**04 23 32.0**	**+2.4**
ARG	**Arkhangelos**	**0.66**	**80**	*e*P	**Pn**	**04 23 31.4**	**+0.9**
DAT	**Datca**	**0.66**	**18**	*e*PG	**Pn**	**04 23 30.0**	**-0.4**
DAT				*e*SG	**Sn**	**04 23 41.1**	**-0.7**
BODT	**Bodrum**	**0.96**	**359**	*e*PG	**Pn**	**04 23 33.2**	**-0.6**
BODT				*e*SG	**Sn**	**04 23 46.0**	**-1.6**
MLSB	**Milas**	**1.25**	**17**	*e*PN	**Pn**	**04 23 37.0**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.25**	**57**	*e*PN	**Pn**	**04 23 37.8**	**+0.5**
YER	**Yerkesik**	**1.29**	**37**	*e*PN	**Pn**	**04 23 38.0**	**+0.2**
FETY	**Fethiye**	**1.52**	**69**	*e*PN	**Pn**	**04 23 41.3**	**+0.6**
NPS	**Neapolis**	**1.62**	**240**	*e*P	**Pn**	**04 23 43.3**	**+1.2**
ELL	**Elmali**	**2.18**	**72**	*e*PN	**Pn**	**04 23 50.7**	**+1.2**
VAM	**Vamos**	**2.63**	**256**	*e*P	**Pn**	**04 23 55.7**	**+0.2**
HMAT	**Matruh**	**5.00**	**182**	P	**Pn**	**04 24 28.1**	**+0.5**
HMAT				S	**Sn**	**04 25 21.2**	**-2.8**
SWA1		**6.95**	**192**	⇑P	**Pn**	**04 24 54.9**	**+0.6**
SWA1				S	**Sn**	**04 26 09.5**	**-2.3**
SWA2		**7.01**	**193**	⇑P	**Pn**	**04 24 55.7**	**+0.5**
AMAG	**Maghara**	**7.34**	**136**	P	**Pn**	**04 24 58.2**	**-1.3**
HSAF	**As Saff**	**7.38**	**150**	⇑P	**Pn**	**04 24 59.5**	**-0.6**
GLL	**Jalalah**	**7.48**	**149**	⇑P	**Pn**	**04 25 01.4**	**-0.1**
SUZ		**7.77**	**142**	P	**Pn**	**04 25 05.2**	**-0.3**
AWBH		**7.87**	**170**	⇑P	**Pn**	**04 25 07.3**	**+0.4**
ZAF		**8.10**	**146**	⇑P	**Pn**	**04 25 09.7**	**-0.3**
HFRF	**Wahat Farafira**	**8.96**	**174**	P	**Pn**	**04 25 22.1**	**+0.3**
TR2		**9.41**	**143**	⇑P	**Pn**	**04 25 27.6**	**-0.2**
HKAT	**Jabal Katrina**	**9.43**	**141**	P	**Pn**	**04 25 28.5**	**+0.4**

IDC 12 04:33:08.7±3.1,523S×15158E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=108.7km s-min=44.8km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**22.25**	**227**	*e*P	P	04 38 08.4	+1.1
WRA	**Warramunga Arr**	**22.25**	**227**	P	P	04 38 08.6	+1.2
	1.3nm,0.6s,baz=53,slow=10.0,SNR=17						
ASAR	**Alice Springs**	**25.02**	**221**	P	P	04 38 34.1	-0.5
	0.6nm,0.7s,baz=59,slow=8.7,SNR=9.9						
FITZ	**Fitzroy Crossi**	**28.39**	**241**	*e*P	P	04 39 07.0	+2.0
	2.5nm,0.7s						
FITZ	**Fitzroy Crossi**	**28.39**	**241**	P	P	04 39 04.3	-0.7
	1.0nm,0.3s,baz=66,slow=9.2,SNR=20						
TORD	**Torodi Ar. Bea**	**149.27**	**287**	PKPbc	PKPbc	04 53 00.3	-0.1
	0.3nm,0.3s,baz=77,slow=2.0,SNR=12						

WEL 12 04:37:10.0±0.6,4576S×16662E, h5km, ML3.8/7, Error ellipse: s-maj=6.4km s-min=2.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.41**	**174**	PG	Pg	04 37 18.3	+0.3
PYZ				SG	Sg	04 37 23.6	+0.3
DCZ	**Deep Cove**	**0.47**	**54**	PG	Pg	04 37 19.4	+0.4
DCZ				SG	Sg	04 37 25.6	+0.5
WHZ	**Wether Hill Ro**	**0.94**	**99**	*e*P*	Pb	04 37 28.9	+0.2
WHZ				S*	Sb	04 37 40.4	-1.1
MLZ	**Mavora Lakes**	**1.17**	**70**	P*	Pb	04 37 30.6	-2.0
MLZ				S*	Sb	04 37 45.2	-2.9
MSZ	**Milford Sound**	**1.43**	**41**	PN	Pn	04 37 36.7	+0.2
EAZ	**Earnscleugh**	**1.96**	**75**	PN	Pn	04 37 45.0	+1.1
TUZ	**Tuapeka**	**2.12**	**96**	PN	Pn	04 37 46.6	+0.6
JCZ	**Jackson Bay**	**2.27**	**43**	PN	Pn	04 37 50.8	+2.7
ODZ	**Otahua Downs**	**2.92**	**77**	PN	Pn	04 37 56.9	-0.2

ISCJB ***12*** *04:38:22.5±1.3,748S±004×15605E±003, h4km±8km, mb5.1/77, MS4.3/26, Error ellipse: s-maj=7.2km s-min=5.5km az=179.9*
BJI ***12*** *04:38:22.2,733S×156.18E, h6km, mB5.2, mb5.1, Ms4.8, Msz4.3*
NEIC ***12*** *04:38:24.2±0.1,749S×156.13E, h10km, mb5.0/34, Error ellipse: s-maj=5.3km s-min=4.6km az=114.0*
GCMT ***12*** *04:38:24.2±0.2,770S×156.15E, h29km, MW5.0/59, Moment Tensor Solution. s51,c66; s59,c88; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr4.08±.18; Mθθ-2.76±.12; Mφφ-1.31±.13; Mrθ0.68±.19; Mθφ2.79±.09; Mφr-1.11±.22; Best double couple: M0=4.69100×10^16 NP1:φs=300.00000°, δ38.00000°, λ78.00000°. NP2: φs=135.00000°, δ53.00000°, λ99.00000°. Principal axes: T 4.3020, Plg79.0000°, Azm83.0000°; N 0.7870, Plg7.0000°, Azm309.0000°; P -5.0790, Plg8.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=50s. nsta2 refers to surface waves, cutoff=40s.*
MOS ***12*** *04:38:27.0±0.9,738S×156.13E, h33km, mb5.3/21 Error ellipse: s-maj=9.7km s-min=7.7km az=94.4*
IDC ***12*** *04:38:29.8±2.6,756S×156.13E, h50km±23km, mb4.7/18, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, ML4.7/2, MS4.2/12, Ms1 4.2/12, ms1mx4.0/24, Error ellipse: s-maj=14.9km s-min=12.4km az=62.0*
ISC 12 04:38:26.9±1.4,751S±004×15609E±003, h23km±10km, h15km±1.2km: pP-P, n323, σ0=78/233, mb5.1/77, MS4.3/26, 40C-41D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.26**	**117**	*e*Pn	**Pn**	**04 39 31.0**	**+0.5**
HNR				*e*Sn	**Sn**	**04 40 13.5**	**-6.1**
HNR	**Honiara**	**4.26**	**117**	P	**Pn**	**04 39 32.0**	**+1.5**
	68nm,0.3s,baz=256,slow=7.3,SNR=8.0						
HNR				S	**Sn**	**04 40 27.2**	**+7.7**
	276nm,0.3s,baz=273,slow=17,SNR=5.7						
HNR				LR	LR	04 41 06.7	
	comp=Z,7μm,18.3s,baz=345,slow=37						
CTA	**Charters Tower**	**15.72**	**216**	*e*P	**Pn**	**04 42 09.9**	**+2.8**
	28nm,0.9s						
CTA	**Charters Tower**	**15.72**	**216**	*e*P	**Pn**	**04 42 09.9**	**+2.8**
CTA				pmax	pmax		
	comp=Z,28nm,0.9s						
CTA	**Charters Tower**	**15.72**	**216**	P	**Pn**	**04 42 09.4**	**+2.3**
	comp=Z,1.2nm,0.3s,baz=45,slow=14,SNR=19						
CTA				LR	LR	04 47 28.3	
	comp=Z,1000nm,19.7s,baz=46,slow=34						
CTAO	**Charters Tower**	**15.72**	**216**	*e*P	**Pn**	**04 42 09.8**	**+2.7**
CTAO				pmax	pmax		
	comp=Z,277nm,1.9s						
CTAO	**Charters Tower**	**15.72**	**216**	*e*P	**Pn**	**04 42 09.8**	**+2.7**
	comp=Z,277nm,1.9s						
EIDS	**Eidsvold**	**18.39**	**195**	*e*Pn	**Pn**	**04 42 46.2**	**+5.7**
ARMA	**Armidale**	**23.17**	**190**	*e*P	**P**	**04 43 31.8**	**-0.2**
GUMO	**Guam**	**23.74**	**332**	LR	LR	04 51 05.5	
	comp=Z,337nm,21.1s,MS3.8,baz=134,slow=32						
KAKA	**Kakadu**	**23.84**	**256**	⇓*iP*	**P**	**04 43 39.3**	**+0.6**
	comp=Z,59nm,0.8s,mb5.1						
WRAB	**Tennant Creek**	**24.42**	**237**	P	**P**	**04 43 44.5**	**+0.5**
	comp=Z,290nm,1.2s,mb5.6,SNR=16						
WRAB	**Tennant Creek**	**24.42**	**237**	*c iP*	**P**	**04 43 44.1**	**+0.1**
WRAB	**Tennant Creek**	**24.42**	**237**	*e*P	**P**	**04 43 44.4**	**+0.4**
	comp=Z,260nm,1.7s,mb5.4						
WB2	**Warramunga Arr**	**24.43**	**237**	*e*P	**P**	**04 43 44.4**	**+0.4**
WB2				*e*PCP	PcP	04 47 22.9	0.0
WB2				*e*PCS	PcS	04 51 02.1	-0.9
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**04 43 44.6**	**+0.5**
WRA						04 47 22.9	
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**04 43 44.6**	**+0.5**
WRA				PcP	PcP	04 47 22.9	-0.1
WRA				LR	LR	04 53 18.5	
WRA	**Warramunga Arr**	**24.44**	**237**	P	**P**	**04 43 44.6**	**+0.5**
	comp=Z,18nm,0.6s,mb4.7,baz=61,slow=9.5,SNR=64						
WRA				PcP	PcP	04 47 22.9	-0.1
	comp=Z,11nm,0.9s,baz=59,slow=2.1,SNR=12						
WRA				LR	LR	04 53 18.5	
	comp=Z,1μm,18.3s,MS4.3,baz=60,slow=36						
WRA				PKiKP	PKiKP	04 55 03.2	-2.2
	comp=Z,0.6nm,0.7s,baz=318,slow=1.0,SNR=6.4						
ASAR	**Alice Springs**	**26.66**	**230**	P	**P**	**04 44 03.8**	**-0.5**
ASAR						04 47 27.7	
ASAR	**Alice Springs**	**26.66**	**230**	P	**P**	**04 44 03.8**	**-0.5**
	comp=Z,6.5nm,0.7s,mb4.2,baz=61,slow=8.7,SNR=53						
ASAR				PcP	PcP	04 47 27.7	-0.3
	comp=Z,3.8nm,0.8s,baz=48,slow=3.1,SNR=7.8						
ASAR				PKiKP	PKiKP	04 55 04.4	-2.2
	comp=Z,0.4nm,0.7s,baz=87,slow=0.9,SNR=4.3						
STKA	**Stephens Creek**	**27.75**	**207**	*e*P	**P**	**04 44 14.0**	**0.0**
	comp=Z,6.0nm,0.8s,mb4.3						
STKA				*e*		04 44 26.2	
STKA				*e*PCP	PcP	04 47 29.6	-0.8
STKA	**Stephens Creek**	**27.75**	**207**	P	**P**	**04 44 12.4**	**-1.5**
	comp=Z,3.4nm,0.8s,mb4.0,baz=32,slow=14,SNR=8.0						
CNB	**Canberra Magne**	**28.35**	**192**	*e*P	**P**	**04 44 18.9**	**-0.4**
	comp=Z,21nm,1.1s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.45**	**247**	*e*P	**P**	**04 44 46.9**	**-0.1**
	comp=Z,20nm,0.9s,mb4.9						
FITZ				*e*		04 44 57.6	
FITZ				*e*PCP	PcP	04 47 39.8	-0.3
FITZ	**Fitzroy Crossi**	**31.45**	**247**	P	**P**	**04 44 46.9**	**-0.1**
	comp=Z,12nm,0.8s,mb4.7,baz=97,slow=9.2,SNR=23						
FITZ				PcP	PcP	04 47 39.8	-0.3
	comp=Z,8.8nm,0.9s,baz=156,slow=2.0,SNR=4.5						
FITZ				LR	LR	04 57 41.1	
	comp=Z,362nm,19.1s,MS4.1,baz=250,slow=37						
BATI	**Kupang**	**32.14**	**263**	P	**P**	**04 44 54.5**	**+1.4**
	comp=Z,8.0nm,0.4s,mb4.9,baz=98,slow=3.5,SNR=4.0						
BATI				LR	LR	04 59 50.8	
	comp=Z,1μm,18.1s,MS4.6,baz=108,slow=40						
FORT	**Forrest**	**34.98**	**225**	*e*P	**P**	**04 45 16.7**	**-0.9**
	comp=Z,35nm,0.6s,mb5.5						
URZ	**Urewera**	**36.03**	**151**	P	**P**	**04 45 25.9**	**-0.6**
	comp=Z,13nm,1.0s,mb4.8,baz=342,slow=9.6,SNR=3.1						
MBWA	**Marble Bar**	**37.63**	**245**	*e*P	**P**	**04 45 39.8**	**-0.6**
	comp=Z,20nm,1.1s,mb4.8						
RPZ	**Rata Peaks**	**38.37**	**162**	P	**P**	**04 45 45.3**	**-1.0**
	comp=Z,41nm,0.8s,mb5.2,baz=27,slow=1.7,SNR=10						
KKM	**Kota Kinabalu**	**42.00**	**288**	*e*P	**P**	**04 46 16.7**	**-0.1**
KLBR	**Kellerberrin**	**42.99**	**231**	*e*P	**P**	**04 46 24.0**	**-0.7**
	comp=Z,27nm,0.7s,mb5.1						
RAR	**Rarotonga**	**44.71**	**113**	P	**P**	**04 46 37.3**	**-1.3**
	comp=Z,18nm,0.9s,mb4.9,baz=253,slow=4.1,SNR=7.4						
KSM	**Kuching**	**46.53**	**279**	*e*P	**P**	**04 46 53.3**	**+0.1**
YHNB	**Yeheng**	**46.56**	**314**	*e*P	**P**	**04 46 53.8**	**+0.6**
MJAR	**Matsushiro Arr**	**46.93**	**340**	P	**P**	**04 46 54.5**	**-1.3**
	comp=Z,5.0nm,1.0s,mb4.4,baz=160,slow=9.1,SNR=7.0						
MJAR				PcP	PcP	04 48 27.2	-1.1
	comp=Z,7.1nm,0.7s,baz=159,slow=4.2,SNR=5.4						
MAJO	**Matsushiro**	**46.93**	**340**	*e*P	**P**	**04 46 54.7**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MAJO	**Matsushiro**	**46.93**	**340**	*e*P	**P**	**04 46 54.7**	**-1.2**
	comp=Z,9.8nm,0.9s,mb4.7						
MAT	**Matsushiro**	**46.93**	**340**	P	**P**	**04 46 55.3**	**-0.5**
JNU	**Nakatsue**	**46.99**	**331**	P	**P**	**04 46 56.8**	**+0.4**
	comp=Z,48nm,0.8s,mb5.5,baz=112,slow=7.4,SNR=12						
QZH	**Quanzhou**	**48.73**	**313**	⇓*iP*	**P**	**04 47 10.7**	**+0.7**
QZH				AMB	AMB		
	comp=Z,80nm,0.9s,mb5.8						
SSE	**Sheshan**	**50.89**	**321**	P	**P**	**04 47 27.3**	**+0.9**
SSE				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.2						
SSE				AMB	AMB		
	comp=Z,63nm,5.3s						
SSE				LR	LR		
	comp=N,58nm,20.4s,MS3.6						
SSE				LR	LR		
	comp=E,26nm,20.7s,MS3.6						
SSE				LR	LR		
	comp=Z,89nm,17.0s,MS3.9						
KSRS	**Korea Array**	**51.90**	**331**	P	**P**	**04 47 34.2**	**+0.4**
	comp=Z,5.7nm,0.6s,mb4.7,baz=149,slow=7.4,SNR=26						
KSRS				LR	LR	05 06 18.6	
	comp=Z,86nm,19.0s,MS3.8,baz=344,slow=32						
QIZ	**Qiongzhong**	**52.66**	**301**	P	**P**	**04 47 36.9**	**-2.9**
QIZ				S	**S**	**04 55 05.0**	**-1.4**
QIZ				AMB	AMB		
	comp=Z,14nm,2.4s,mb4.5						
QIZ				LR	LR		
	comp=N,256nm,17.3s,MS4.4						
QIZ				LR	LR		
	comp=E,240nm,19.0s,MS4.4						
QIZ				LR	LR		
	comp=Z,360nm,24.4s						
NJ2	**Nanjing**	**53.01**	**320**	*e*P	**P**	**04 47 43.2**	**+1.1**
NJ2				AP	pP	04 47 47.6	-1.7
NJ2				XP	sP	04 47 51.4	-0.7
NJ2				PCP	PcP	04 48 51.2	+0.5
NJ2				S	**S**	**04 55 11.5**	**+0.8**
NJ2				XS	sS	04 55 19.0	-3.6
NJ2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,150nm,5.5s						
NJ2				LR	LR		
	comp=N,360nm,20.0s,MS4.5						
NJ2				LR	LR		
	comp=E,340nm,24.6s,MS4.5						
NJ2				LR	LR		
	comp=Z,450nm,24.6s,MS4.4						
PPT	**Papeete**	**53.81**	**106**	*e*S	**S**	**04 55 20.8**	**-1.4**
	comp=Z,81nm,27.0s						
PPT				*e*LQ		05 01 10.7	
	comp=Z,602nm,31.0s						
PPT				*e*LR	LR	05 03 31.6	
	comp=Z,157nm,24.8s						
PPT	**Papeete**	**53.81**	**106**	LR	LR	05 06 28.7	
	comp=Z,166nm,18.9s,MS4.1,baz=278,slow=31						
PAE	**Paea**	**53.81**	**106**	*e*P	**P**	**04 47 47.9**	**-0.4**
	comp=Z,31nm,1.0s,mb5.2						
TBI	**Tubuai**	**54.48**	**113**	*e*LQ		05 01 26.9	
	comp=Z,625nm,30.2s						
TBI				*e*LR	LR	05 03 47.6	
	comp=Z,462nm,30.8s,baz=281						
WHN	**Wuhan**	**55.07**	**316**	*e*P	**P**	**04 47 57.9**	**+0.7**
PMOR	**Pomariorio Ree**	**55.32**	**103**	*e*P	**P**	**04 47 59.5**	**+0.2**
	comp=Z,166nm,1.1s,mb6.0						
YSS	**Yuzh-Sakhalins**	**55.51**	**349**	*e*P	**P**	**04 47 59.0**	**-1.0**
YSS				MLR	MLR		
	comp=Z,400nm,17.0s,MS4.6						
YSS	**Yuzh-Sakhalins**	**55.51**	**349**	*e*P	**P**	**04 47 59.6**	**-0.4**
KULM	**Kulim**	**56.76**	**281**	*e*P	**P**	**04 48 08.9**	**-0.8**
MDJ	**Mudanjiang**	**57.12**	**338**	P	**P**	**04 48 11.2**	**-0.4**
MDJ				AMB	AMB		
	comp=Z,11nm,2.2s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,166nm,12.3s						
MDJ				LR	LR		
	comp=N,47nm,30.1s,MS3.6						
MDJ				LR	LR		
	comp=E,60nm,33.2s,MS3.6						
MDJ				LR	LR		
	comp=Z,69nm,22.4s						
SNY	**Shenyang**	**57.41**	**332**	⇓P	**P**	**04 48 13.8**	**+0.1**
SNY				AMB	AMB		
	comp=Z,12nm,1.3s,mb4.8						
CN2	**Changchun**	**58.12**	**334**	*e*P	**P**	**04 48 19.0**	**+0.3**
CN2				*e*XP	sP	04 48 26.0	-2.7
CN2				PCP	PcP	04 49 10.5	+0.3
CN2				*e*S	**S**	**04 56 19.5**	**+0.9**
CN2				AMB	AMB		
	comp=Z,20nm,1.2s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=E,200nm,17.0s,MS4.5						
CN2				LR	LR		
	comp=Z,200nm,18.0s,MS4.3						
GYA	**Guiyang**	**58.63**	**307**	*e*P	**P**	**04 48 22.3**	**-0.3**
GYA				AP	pP	04 48 26.8	-3.1
GYA				XP	sP	04 48 29.6	-3.0
GYA				PCP	PcP	04 49 13.7	+1.1
GYA				PP	PP	04 50 36.2	+3.6
GYA				SCP	ScP	04 53 12.9	+1.0
GYA				S	**S**	**04 56 27.4**	**+1.5**
GYA				SCS	ScS	04 58 10.5	-1.0
GYA				SS	SS	05 00 21.6	+2.4
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB	AMB		
	comp=Z,140nm,6.8s						
GYA				LR	LR		
	comp=N,810nm,20.4s,MS5.0						
GYA				LR	LR		
	comp=E,650nm,19.7s,MS5.0						
GYA				LR	LR		
	comp=Z,820nm,21.6s,MS4.8						
HABR	**Khabarovsk**	**58.74**	**344**	*e*P	**P**	**04 48 21.8**	**-1.1**
HABR				*e*		04 49 09.3	
HABR				*e*		04 50 32.3	
HABR				*e*		04 51 54.4	
HABR				*e*S	**S**	**04 56 21.1**	**-5.4**
HABR				*e*		04 58 04.0	
HABR				*e*		05 00 18.2	
BJI	**Beijing**	**59.96**	**325**	P	**P**	**04 48 31.1**	**-0.4**
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.0						
BJI				LR	LR		
	comp=N,231nm,19.8s,MS4.4						
BJI				LR	LR		
	comp=E,164nm,20.4s,MS4.4						
BJI				LR	LR		
	comp=Z,137nm,19.0s,MS4.1						
PET	**Petropavlovsk**	**60.34**	**2**	*e*P	**P**	**04 48 41.0**	**+7.2**
PET				*e*S	**S**	**04 56 55.5**	**+8.5**
PET				pmax	pmax		
	comp=Z,200nm,4.7s						
KLR	**Kul'dur**	**60.39**	**342**	*e*P	**P**	**04 48 29.7**	**-4.5**
XAN	**Xi'an**	**60.83**	**316**	P	**P**	**04 48 37.7**	**+0.1**
XAN				AP	pP	04 48 41.5	-3.4
XAN				XP	sP	04 48 44.2	-3.5
XAN				PP	PP	04 50 54.3	+2.4
XAN				S	**S**	**04 56 52.8**	**-1.2**
XAN				SS	SS	05 00 52.0	-1.5
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.8						
XAN				LR	LR		
	comp=N,83nm,17.0s,MS4.2						
XAN				LR	LR		
	comp=E,146nm,19.3s,MS4.2						
XAN				LR	LR		
	comp=Z,205nm,20.6s,MS4.3						
KMI	**Kunming**	**61.20**	**304**	P	**P**	**04 48 41.9**	**+1.6**
KMI				AP	pP	04 48 45.2	-2.4
KMI				XP	sP	04 48 46.6	-3.8
KMI				PP	PP	04 50 58.1	+2.7
KMI				S	**S**	**04 57 00.5**	**+1.4**
KMI				XS	sS	04 57 05.5	-5.6
KMI				SS	SS	05 01 02.3	+2.6
KMI				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.3						
KMI				AMB	AMB		
	comp=Z,96nm,3.1s						
KMI				LR	LR		
	comp=N,181nm,16.9s,MS4.4						
KMI				LR	LR		
	comp=E,190nm,19.3s,MS4.4						
KMI				LR	LR		
	comp=Z,247nm,20.5s,MS4.3						
CHTO	**Chiang Mai**	**62.10**	**296**	*e*P	**P**	**04 48 47.3**	**+0.8**
CD2	**Chengdu**	**62.98**	**310**	P	**P**	**04 48 52.4**	**+0.3**
CD2				AP	pP	04 48 57.8	-1.6
CD2				XP	sP	04 49 00.5	-1.7
CD2				PP	PP	04 51 13.1	+2.2
CD2				PCS	PcS	04 53 32.7	-0.9
CD2				S	**S**	**04 57 21.2**	**-0.1**
CD2				XS	sS	04 57 29.0	-4.3
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.7						
CD2				AMB	AMB		
	comp=Z,60nm,6.8s						
CD2				LR	LR		
	comp=E,160nm,16.8s						
CD2				LR	LR		
	comp=Z,140nm,13.8s,MS4.3						
TAOE	**Nuku Hiva Isla**	**63.06**	**96**	*e*LR	LR	05 07 39.4	
	comp=Z,3μm,21.9s						
HHC	**Hu-ho-hao-te**	**63.15**	**323**	⇑P	**P**	**04 48 53.3**	**+0.2**
HHC				AP	pP	04 48 58.0	-2.4
HHC				XP	sP	04 49 00.4	-2.7
HHC				PCP	PcP	04 49 29.6	-0.9
HHC				PP	PP	04 51 14.5	+2.2
HHC				SCP	ScP	04 53 31.2	-0.4
HHC				S	**S**	**04 57 23.5**	**+0.4**
HHC				XS	sS	04 57 31.6	-3.6
HHC				SCS	ScS	04 58 41.9	-2.9
HHC				SS	SS	05 01 32.7	+3.1
HHC				AMB	AMB		
	comp=Z,47nm,1.1s,mb5.5						
HHC				AMB	AMB		
	comp=Z,166nm,5.8s						
HHC				LR	LR		
	comp=N,374nm,23.3s,MS5.1						
HHC				LR	LR		
	comp=E,1μm,23.7s,MS5.1						
HHC				LR	LR		
	comp=Z,407nm,19.2s,MS4.6						
HIA	**Hailar**	**64.85**	**335**	*e*P	**P**	**04 49 04.0**	**0.0**
HIA				pmax	pmax		
	comp=Z,12nm,0.8s						
HIA	**Hailar**	**64.85**	**335**	*e*P	**P**	**04 49 04.0**	**0.0**
	comp=Z,12nm,0.8s,mb5.0						
LZH	**Lanzhou**	**65.44**	**315**	⇑P	**P**	**04 49 07.8**	**-0.4**
LZH				AP	pP	04 49 18.3	+2.7
LZH				XP	sP	04 49 22.1	+3.8
LZH				PP	PP	04 51 33.9	+1.4
LZH				*e*S	S	04 57 49.0	-2.7
LZH				XS	sS	04 58 04.2	+0.4
LZH				AMB	AMB		
	comp=Z,41nm,1.3s,mb5.3						
LZH				AMB	AMB		
	comp=Z,143nm,7.0s						
LZH				LR	LR		
	comp=E,798nm,16.5s						
LZH				LR	LR		
	comp=Z,997nm,19.2s,MS5.0						
MA2	**Magadan**	**67.00**	**357**	*e*P	**P**	**04 49 16.7**	**-1.0**
MA2				*e*		05 05 20.7	
MA2				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.3						
MA2	**Magadan**	**67.00**	**357**	*e*P	**P**	**04 49 16.9**	**-0.8**
	comp=Z,17nm,0.9s,mb5.1						
RKT	**Rikitea**	**67.74**	**112**	*e*LR	LR	05 09 55.1	
	comp=Z,353nm,22.8s						
GTA	**Gaotai**	**69.86**	**317**	P	**P**	**04 49 36.6**	**+0.6**
GTA				AP	pP	04 49 41.1	-2.3
GTA				XP	sP	04 49 43.7	-2.4
GTA				PP	PP	04 52 14.7	+3.9
GTA				S	S	04 58 47.1	+2.6
GTA				XS	sS	04 58 57.4	+0

LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 72.46 304 *e*P **P 04 49 53.1 +1.1**
LSA pmax pmax
comp=Z,19nm,0.9s,mb5.0
LSA Lhasa 72.46 304 *e*P **P 04 49 53.1 +1.1**
comp=Z,19nm,0.9s,mb5.0
MIR Mirnyy 72.62 202⇑*i*P **P 04 49 53.0 +0.8**
MIR *i* 04 50 17.0
MIR pmax pmax
comp=Z,200nm,1.8s,mb5.8
BOD Bodaibo 73.50 338⇓*i*P **P 04 49 56.5 -1.0**
BOD pmax pmax
comp=Z,20nm,1.3s,mb4.9
ZAK Zakamensk 73.50 328⇓*i*P **P 04 49 57.2 -0.5**
ZAK pmax pmax
comp=Z,28nm,1.2s,mb5.1
TLY Talaya 74.06 329 P **P 04 50 01.2 +0.3**
comp=Z,181nm,1.1s,mb5.9,SNR=7.7
IRK Irkutsk 74.07 330 *e*P **P 04 49 59.8 -1.2**
IRK pmax pmax
comp=Z,77nm,1.3s,mb5.5
MOY Mondy 75.42 328 *e*P **P 04 50 09.8 +1.0**
MOY pmax pmax
comp=Z,59nm,1.3s,mb5.4
BILL Bilibino 75.72 4*oe*P **P 04 50 09.7 -0.5**
BILL 04 50 19.3
BILL pmax pmax
comp=Z,39nm,1.1s,mb5.2
BILL MLR MLR
comp=Z,100nm,16.0s,MS4.2
BILL Bilibino 75.72 4 *e*P **P 04 50 09.9 -0.3**
comp=Z,38nm,1.1s,mb5.2
GUN Gumba 76.31 301 *e*P **P 04 50 14.5 0.0**
comp=Z,62nm,0.9s,mb5.5
PKI Pulchoki 76.62 301 *e*P **P 04 50 15.8 -0.4**
KKN Kakani 76.79 301 *e*P **P 04 50 17.0 -0.2**
DMN Daman 76.89 301 *e*P **P 04 50 17.5 -0.2**
comp=Z,63nm,1.1s,mb5.5
GKN Gorkha 77.40 301 *e*P **P 04 50 20.0 -0.6**
SVW2 Sparrevohn 78.07 22 *e*P **P 04 50 23.4 -0.2**
KOLN Koldanda 78.22 300 *e*P **P 04 50 23.9 -1.3**
comp=Z,31nm,0.9s,mb5.2
DANN Dangsing 78.23 301 *e*P **P 04 50 23.6 -1.6**
comp=Z,23nm,0.8s,mb5.2
TTA Tatalina 79.13 20 *e*P **P 04 50 28.8 -0.5**
TTA pmax pmax
comp=Z,17nm,1.3s,mb4.8
TTA Tatalina 79.13 20 *e*P **P 04 50 28.8 -0.5**
comp=Z,17nm,1.3s,mb4.8
SLKM Skilak Lake 79.77 24 *e*P **P 04 50 31.7 -1.2**
WMQ Urumqi 79.94 317 P **P 04 50 34.0 -0.2**
WMQ XP sP 04 50 41.0 -3.5
WMQ PP PP 04 53 37.0 +0.8
WMQ S S 05 00 36.0 -0.7
WMQ SS SS 05 05 49.0 +2.1
WMQ AMB AMB
comp=Z,56nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,102nm,6.0s
WMQ LR LR
comp=N,78nm,18.0s,MS4.3
WMQ LR LR
comp=E,98nm,18.0s,MS4.3
WMQ LR LR
comp=Z,112nm,18.0s,MS4.2
PMR Palmer 80.83 23 *e*P **P 04 50 36.2 -2.4**
PMR pmax pmax
comp=Z,11nm,0.9s,mb4.8
PMR Palmer 80.83 23 *e*P **P 04 50 36.2 -2.4**
comp=Z,11nm,0.9s,mb4.8
TIXI Tiksi 81.02 352 *e*P **P 04 50 37.9 -1.5**
TIXI pmax pmax
comp=Z,21nm,1.6s,mb4.8
TIXI MLR MLR
comp=Z,142nm,19.0s,MS4.3
TIXI Tiksi 81.02 352 *e*P **P 04 50 38.3 -1.2**
comp=Z,6.8nm,0.8s,mb4.6
IMA2 Indian Mountai 81.94 18 *e*P **P 04 50 44.1 -0.3**
MCK McKinley 82.13 22 *e*P **P 04 50 44.2 -1.2**
QSPA South Pole Qui 82.47 180 *e*P **P 04 50 46.8 -0.2**
COLA College 83.17 21 *e*P **P 04 50 48.9 -1.9**
COLA pmax pmax
comp=Z,11nm,0.8s,mb4.9
COLA College 83.17 21 *e*P **P 04 50 48.9 -2.0**
comp=Z,11nm,0.8s,mb5.0
MAW Mawson 84.34 203 *e*P **P 04 50 56.6 -0.3**
MAW pmax pmax
comp=Z,30nm,0.9s
MAW Mawson 84.34 203 *e*P **P 04 50 56.6 -0.3**
comp=Z,30nm,0.9s,mb5.4
MAW Mawson 84.34 203 P **P 04 50 56.5 -0.3**
comp=Z,15nm,0.7s,mb5.2,baz=94,slow=6.9,SNR=22
MK31 Makanchi Array 84.51 318 *e*P **P 04 50 57.8 -0.3**
MKAR Makanchi Array 84.51 318⇑*e*P **P 04 50 57.9 -0.2**
MKAR Makanchi Array 84.51 318 P **P 04 50 57.9 -0.2**
comp=Z,57nm,0.8s,mb5.8,baz=100,slow=6.3,SNR=237
MKAR LR LR 05 31 04.6
comp=Z,76nm,19.4s,MS4.1,baz=272,slow=37
ZAA0 Zalesovo Array 85.22 326 *e*P **P 04 50 00.4 -1.0**
ZALV Zalesovo Beam 85.22 326 P **P 04 50 00.7 -0.8**
comp=Z,27nm,0.6s,mb5.6,baz=114,slow=6.6,SNR=45
ZAL Zalesovo 85.22 326 P **P 04 50 00.7 -0.8**
EGAK Eagle 85.57 22 *e*P **P 04 50 02.6 -0.4**
comp=Z,12nm,1.3s,mb5.0
NVS Novosibirsk 86.38 326⇑*i*P **P 04 50 05.5 -1.7**
NVS pmax pmax
comp=N,22nm,1.4s
NVS pmax pmax
comp=E,45nm,1.4s
NVS pmax pmax
comp=Z,62nm,1.4s,mb5.7
KSH Kashi 87.17 310 *e*P **P 04 51 13.1 +1.6**
KSH *e*AP pP 04 51 17.1 -1.9
KSH *e*XP sP 04 51 20.1 -1.6
KSH *e*PP PP 04 54 41.2 +5.7
KSH *e*SKS 05 01 38.2
KSH *e*S S 05 01 51.9 +1.9
KSH *e*XS sS 05 02 01.2 -1.3
KSH AMB AMB
comp=Z,673nm,3.6s
KSH LR LR
comp=N,468nm,6.8s
KSH LR LR
comp=E,421nm,5.6s
ULHL Ulahol 87.55 313 P **P 04 51 14.8 +1.5**
SNR=6.7
KURK Kurchatov 87.91 322 P **P 04 51 14.3 -0.4**
comp=E,97nm,1.0s,mb6.0,SNR=7.8
KURK Kurchatov 87.91 322*c i*P **P 04 51 13.4 -1.3**
KURK Kurchatov 87.91 322 *e*P **P 04 51 13.4 -1.4**
comp=E,23nm,1.1s,mb5.3
TKM2 Tokmak 2 88.16 314 *e*P **P 04 51 16.0 -0.1**
TKM2 pmax pmax
comp=Z,8.0nm,0.8s,mb5.0
TKM2 Tokmak 2 88.16 314 *e*P **P 04 51 16.0 -0.1**
comp=Z,8.4nm,0.8s,mb5.0
TKM2 Tokmak 2 88.16 314 P **P 04 51 16.3 +0.2**
SNR=8.2
KZA Kyzart 88.24 313 P **P 04 51 18.8 +2.3**
SNR=18
UCH Uchtor 88.80 313 *e*P **P 04 51 20.0 +0.9**
comp=Z,6.7nm,1.0s,mb4.9
UCH Uchtor 88.80 313 P **P 04 51 21.2 +2.0**
SNR=12
AAK Ala-Archa 88.89 313 P **P 04 51 20.9 +1.3**
SNR=6.8
USP Ospenovka 89.01 314 P **P 04 51 20.1 -0.1**
SNR=9.5
AML Almayashu 89.38 312 *e*P **P 04 51 22.6 +0.7**
comp=Z,11nm,0.8s,mb5.2
AML Almayashu 89.38 312 P **P 04 51 23.7 +1.8**
SNR=14
EKS2 Erkin-Say 89.42 313 *e*P **P 04 51 22.0 -0.1**
comp=Z,5.9nm,0.9s,mb4.9
EKS2 Erkin-Say 89.42 313 P **P 04 51 23.4 +1.4**
SNR=8.5
INK Inuvik 89.82 21 LR LR 05 31 46.9
comp=Z,186nm,18.7s,MS4.5,baz=87,slow=36
KCC Kaiser Creek 90.22 53⇑P **P 04 51 26.1 +0.1**
baz=90
MOD Modoc 90.23 48⇑P **P 04 51 26.1 +0.2**
baz=90
HELL Mitchell Peak 90.36 53⇓P **P 04 51 26.4 -0.2**
baz=90,SNR=6.2
N06A Buffalo Meadow 90.38 49⇓P **P 04 51 26.2 -0.4**
baz=90
K06A Valley Falls 90.42 47⇓P **P 04 51 27.0 +0.3**
baz=90
J06A Christmas Vall 90.57 47⇑P **P 04 51 27.6 +0.2**
baz=91
MWC Mount Wilson 90.76 56 *e*P **P 04 51 29.2 +0.7**
MTUM Tungsten Hills 90.82 53 *e*P **P 04 51 29.1 +0.4**
EDW2 Edwards Air Fo 90.91 55⇓P **P 04 51 29.5 +0.3**
baz=91,SNR=6.0
L07A Adell 90.96 48⇓P **P 04 51 29.6 +0.3**
baz=91
M07A Soldier Meadow 90.98 49⇓P **P 04 51 29.6 +0.2**
baz=91
N07B Gerlach 91.03 49⇓P **P 04 51 29.8 +0.2**
baz=91
BFSC Mount Baldy St 91.09 56⇓P **P 04 51 30.2 +0.2**
baz=91
K07A Rock Creek Ran 91.13 47⇑P **P 04 51 30.5 +0.4**
baz=91
NVAR Mina Array Bea 91.19 52 P **P 04 51 30.9 +0.5**
comp=Z,5.4nm,0.9s,mb4.9,baz=250,slow=5.8,SNR=28
LRMC Laurel Mountai 91.24 55⇑P **P 04 51 30.8 +0.1**
baz=91
MPMC Manual Prospec 91.49 54⇓P **P 04 51 32.3 +0.4**
baz=92,SNR=12
Q08A Gabbs 91.54 51⇑P **P 04 51 32.8 +0.8**
baz=92,SNR=5.6
N08A GE Springer Mi 91.66 49⇑P **P 04 51 32.6 0.0**
baz=92,SNR=6.4
L08A Fields 91.71 48⇑P **P 04 51 32.2 -0.6**
baz=92
J08A Circle Bar Ran 91.79 47⇑P **P 04 51 32.7 -0.4**
baz=92
S09A Goldfield 91.93 52⇓P **P 04 51 34.0 +0.1**
baz=92,SNR=15
GSC Goldstone 91.93 55 *e*P **P 04 51 34.4 +0.5**
FURC Furnace Creek, 92.05 54⇓P **P 04 51 34.8 +0.3**
baz=92,SNR=16
R09A Tonopah 92.12 52⇓P **P 04 51 34.9 +0.2**
baz=92,SNR=10
SYO Syowa Base 92.19 199⇑*e*P **P 04 51 32.0 -2.5**
SYO Syowa Base 92.19 199⇓*e*sP sP 04 51 39.8 -5.0
K09A Rome 92.24 47⇑P **P 04 51 34.9 -0.2**
baz=92
M09A Marrel Ranch, 92.27 49⇑P **P 04 51 35.6 +0.3**
baz=92
O09A Fish Creek Ran 92.29 50⇓P **P 04 51 36.0 +0.5**
baz=92
J09A Fry Pan Ranch, 92.31 47 P **P 04 51 36.1 +0.6**
baz=92,SNR=5.2
BELC Belle Mtn. 92.42 56⇓P **P 04 51 36.7 +0.4**
baz=92
SHOC Shoshone 92.44 54⇓P **P 04 51 36.2 -0.1**
baz=92,SNR=7.8
S10A Tonopah Range, 92.45 52 P **P 04 51 36.5 +0.2**
baz=92,SNR=14
D09A Jones Farm, Ri 92.45 43⇑P **P 04 51 36.2 +0.1**
baz=92
TPNV Topopah Spring 92.60 53 *e*P **P 04 51 37.2 +0.2**
TPNV pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
TPNV Topopah Spring 92.60 53 *e*P **P 04 51 37.2 +0.2**
comp=Z,9.8nm,1.0s,mb5.2
TPNV Topopah Spring 92.60 53⇑P **P 04 51 37.2 +0.2**
baz=93
TUQ Turquoise Mtn. 92.67 55⇓P **P 04 51 37.5 +0.2**
baz=93
Q10A Clear Creek Ra 92.72 51⇓P **P 04 51 37.8 +0.3**
baz=93,SNR=6.1
GMRC Granite Mounta 92.80 55⇓P **P 04 51 38.4 +0.4**
baz=93,SNR=9.4
F10A Beach Ranch, E 93.04 44⇓P **P 04 51 37.5 -1.3**
baz=93
L10A Juniper Basin 93.08 48 P **P 04 51 39.3 +0.2**
baz=93,SNR=5.8
IRM Iron Mountain 93.14 56⇑P **P 04 51 40.4 +0.8**
baz=93
LDFC Landfair 93.28 55 *e*P **P 04 51 41.0 +0.8**
R11A Troy Canyon, C 93.29 52⇓P **P 04 51 40.2 0.0**
baz=93,SNR=10
Q11A Duckwater 93.30 51⇑P **P 04 51 40.5 +0.3**
baz=93,SNR=7.6
SHPR Sheep Range 93.41 54 *e*P **P 04 51 41.2 +0.4**
NEW Newport 93.41 42 *e*P **P 04 51 39.7 -0.7**
NEW pmax pmax
comp=Z,1.0nm,0.5s
NEW Newport 93.41 42 *e*P **P 04 51 39.7 -0.8**
comp=Z,1.4nm,0.5s,mb4.7
BRVK Borovoye 93.43 323 P **P 04 51 39.4 -1.0**
comp=Z,77nm,1.1s,mb6.0,SNR=5.6
BRVK Borovoye 93.43 323 *e*P **P 04 51 38.9 -1.5**
BRVK pmax pmax
comp=Z,28nm,1.4s,mb5.5
BRVK Borovoye 93.43 323 *e*P **P 04 51 38.9 -1.5**
comp=Z,28nm,1.4s,mb5.5
T11A Corn Creek, Al 93.45 53⇓P **P 04 51 40.6 -0.3**
baz=93,SNR=9.9
O11A Cowboy Ranch, 93.45 50⇓P **P 04 51 41.4 +0.6**
baz=93,SNR=5.9
N11A Elko Archery C 93.47 49⇑P **P 04 51 41.3 +0.4**
baz=94
K11A Parker Ranch, 93.49 47⇑P **P 04 51 41.2 +0.2**
baz=94
M11A Holland Ranch, 93.50 49⇑P **P 04 51 41.8 +0.8**
baz=94,SNR=6.4
V12A Nelson 93.57 55⇓P **P 04 51 41.9 +0.4**
baz=94
L11A Cat Creek Ranc 93.62 48⇑P **P 04 51 42.2 +0.6**
baz=94,SNR=5.3
P12A McGill 93.95 51⇑P **P 04 51 43.6 +0.4**
baz=94,SNR=6.7
N12A Clover Valley, 94.00 49 P **P 04 51 44.0 +0.6**
baz=94,SNR=7.0
R12A Pony Springs, 94.06 52⇓P **P 04 51 44.2 +0.5**
baz=94,SNR=8.3
M12A Wells 94.16 49 P **P 04 51 44.2 +0.2**
baz=94,SNR=5.0
O12A Currie 94.16 50⇓P **P 04 51 44.5 +0.4**
baz=94
L12A House Creek Ra 94.16 48 P **P 04 51 44.5 +0.5**
baz=94,SNR=8.6
J12A Stokes Ranch, 94.22 47⇑P **P 04 51 44.3 0.0**
baz=94
V13A Grand Canyon W 94.28 55⇑P **P 04 51 45.1 +0.3**
baz=94
W13A Hualapai Mount 94.28 55⇑P **P 04 51 45.0 +0.2**
baz=94
K12A Draper Farm, C 94.30 48⇓P **P 04 51 44.5 -0.2**
baz=94
T13A Saint George 94.47 53⇑P **P 04 51 45.6 +0.1**
baz=94
P13A Bates Ranch, G 94.63 51⇑P **P 04 51 46.7 +0.4**
baz=95,SNR=5.8
M13A Montello 94.71 49⇑P **P 04 51 46.5 -0.1**
baz=95,SNR=7.4
T14A Hurricane 95.13 53⇓P **P 04 51 49.2 +0.6**
baz=95
DUG Dugway 95.62 50 *e*P **P 04 51 50.8 0.0**
DUG pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
DUG Dugway 95.62 50 *e*P **P 04 51 50.8 -0.1**
comp=Z,1.2nm,0.8s,mb4.4
MSU Marysvale 95.97 52 *e*P **P 04 51 52.5 +0.1**
YKA Yellowknife Ar 96.28 28 P **P 04 51 52.4 -0.9**
YKA PKKP PKKPbc 05 08 37.5 -4.3
YKA LR LR 05 33 13.7
YKA Yellowknife Ar 96.28 28 P **P 04 51 52.4 -0.9**
comp=Z,2.6nm,0.8s,mb4.7,baz=265,slow=4.7,SNR=39
YKA PKKP PKKPbc 05 08 37.5 -4.3
comp=Z,0.3nm,0.7s,baz=75,slow=2.7,SNR=6.2
YKA LR LR 05 33 13.7
comp=Z,60nm,18.5s,MS4.1,baz=220,slow=34
BOZ Bozeman (W) 96.91 45 *e*P **P 04 51 56.5 0.0**
BOZ pmax pmax
comp=Z,1.0nm,0.8s,mb4.3
BOZ Bozeman (W) 96.91 45 *e*P **P 04 51 56.5 0.0**
comp=Z,0.7nm,0.8s,mb4.1
TPAW Teton Pass 97.26 47 *e*P **P 04 51 57.7 -0.4**
comp=Z,7.4nm,1.4s,mb4.9
BW06 Boulder Array 98.24 48 *e*P **P 04 52 03.2 +0.6**
comp=Z,1.3nm,0.8s,mb4.5
FINES FINESS Array B 114.85 336 PKP PKiKP 04 57 04.0 -1.4
comp=Z,0.8nm,0.6s,baz=121,slow=2.9,SNR=9.6
MALT Malatya 116.25 309 *e*PKIKP PKPdf 04 57 08.4 -0.5
AKASG Malin Array Be 118.59 325 PKP PKPdf 04 57 11.6 -1.4
comp=Z,3.2nm,0.6s,baz=62,slow=2.2,SNR=19
AKBB Malin Array Si 118.59 325 *e*PKIKP PKPdf 04 57 10.7 -2.3
BOSA Boshof 120.54 231 *e*PKIKP PKPdf 04 57 16.8 -0.7
BOSA Boshof 120.54 231 PKP PKPdf 04 57 17.3 -0.2
comp=Z,3.1nm,0.7s,baz=66,slow=1.5,SNR=9.3
NB2 NORSAR Subarra 120.54 341 PKKP PKKPbc 05 07 21.7 -2.6
comp=Z,1.2nm,0.7s,baz=222,slow=3.7
NOA NORSAR Array B 120.54 341 PKP PKPdf 04 57 14.9 -1.5
comp=Z,0.7nm,0.7s,baz=43,slow=1.8,SNR=3.6
SUR Sutherland 121.80 224 *e*PKPdf PKPdf 04 57 19.2 -0.6
LBTB Lobatse 121.98 234 *e*PKIKP PKPdf 04 57 19.7 -0.6
BURAR Bucovina Array 122.32 323⇓*i*P PKPdf 04 57 20.3 0.0
TRQA Tornquist 122.44 145 *e*PKPdf PKPdf 04 57 19.9 -1.0
MLR Muntele Rosu 122.82 320⇓*i*P PKPdf 04 57 20.4 -0.9
KOLS Kolonicke sedl 123.39 325 *e*PKP PKPdf 04 57 21.9 -0.4
LSZ Lusaka 123.63 246 *e*PKIKP PKPdf 04 57 23.3 -0.4
STHS Stebnicka Huta 123.71 326 *e*PKP PKPdf 04 57 22.4 -0.5
ATAH Atahualpa 123.78 104 PKP PKPdf 04 57 24.8 +0.7
comp=Z,6.3nm,3.4s,baz=118,slow=10,SNR=6.7
CRVS Cervenica-Dubn 123.86 326 *e*PKP PKPdf 04 57 23.1 -0.1
BCIP Isla Barro Col 124.68 84 *e*PKPdf PKPdf 04 57 23.9 -1.9
PSZ Piszkesteto 125.27 325 *e*PKIKP PKPdf 04 57 24.8 -1.1
PSZ Piszkesteto 125.27 325⇑*i*P PKPdf 04 57 31.9 +6.0
MORC Moravsky Berou 125.50 328⇓*i*P PKPdf 04 57 26.2 -0.1
DPC Dobruska-Polom 125.78 329 *e*PKPdf PKPdf 04 57 26.5 -0.3
UPC Upice 125.84 330 *e*PKPdf PKPdf 04 57 26.5 -0.4
VTS Vitosha 125.86 318⇓*i*P PKPdf 04 57 26.9 -0.3
BSEG Bad Segeberg 126.12 336 *e*PKPbc PKPdf 04 57 26.7 -0.6
MODS Modra-Piesok 126.47 327 *e*PKP PKPdf 04 57 28.0 -0.2
PVCC Panska Ves 126.54 330 *e*PKPdf PKPdf 04 57 28.0 -0.3
BRG Berggiesshubel 126.62 331 *e*PKIKP PKPdf 04 57 28.4 0.0
BRG Berggiesshubel 126.62 331 *e*PKPbc PKPdf 04 57 26.4 -2.0
BRG Berggiesshubel 126.62 331 *e*PKP PKPdf 04 57 27.4 -1.0
comp=Z,15nm,1.3s
CLL Collm 126.78 332⇓*i*PKIKP PKPdf 04 57 26.5 -2.2
CLL *i* 04 57 31.4
CLL pmax pmax
comp=Z,9.0nm,1.0s
CLL Collm 126.78 332⇓*i*PKP PKPdf 04 57 26.5 -2.2
CLL *i* 04 57 31.4
CLL *i* SKP 05 00 52.4
CLL Collm 126.78 332 *e*PKPbc PKPdf 04 57 28.7 0.0
CLL Collm 126.78 332⇓*i*PKPdf PKPdf 04 57 26.5 -2.2
comp=Z,9.0nm,1.0s
CLL *i* pPKPdf pPKPdf 04 57 31.4 -5.1
CLL *ex* x 05 00 53.0
TREC Trest 126.86 329 *e*PKPdf PKPdf 04 57 28.6 -0.3
PRU Pruhonice 126.90 330 *e*PKPdf PKPdf 04 57 28.6 -0.4
PKSM Moragy 126.92 324⇓*i*P PKPdf 04 57 28.3 -0.8
CLZ Clausthal 127.60 334 *e*PKPbc PKPdf 04 57 30.1 -0.1
TANN Tannenbergstha 127.63 331 *e*PKPbc PKPdf 04 57 30.2 -0.1
GUNZ Gunzen 127.73 331 *e*PKPbc PKPdf 04 57 30.2 -0.3
WERN Wernitzgruen 127.76 331 *e*PKPbc PKPdf 04 57 29.7 -0.9
KHC Kasperske Hory 127.93 330 *e*PKPdf PKPdf 04 57 30.4 -0.6
GEC2 GERESS Array S 128.05 329 *e*PKPbc PKPdf 04 57 30.6 -0.6
GERES GERESS Array B 128.05 329 PKP PKPdf 04 57 30.9 -0.3
comp=Z,3.9nm,0.8s,baz=90,slow=1.3,SNR=21
MANZ Manzenberg 128.09 331 *e*PKPbc PKPdf 04 57 31.0 -0.2
WET Wettzell 128.27 330 *e*PKPbc PKPdf 04 57 30.6 -1.0
GRA1 Grafenberg Arr 128.71 331 *e*PKPbc PKPdf 04 57 31.8 -0.6
GRF Grafenberg Arr 128.71 331 *e*PKPbc PKPdf 04 57 31.8 -0.6
BOJS Bojanci 129.27 325 *i* PKPdf PKPdf 04 57 33.8 +0.1
VISS Visnje 129.33 326 *e*PKPdf PKPdf 04 57 34.2 +0.4
ROSC El Rosal 129.82 90 *e*PKPdf PKPdf 04 57 34.7 -0.9
ROSC El Rosal 129.82 90 PKP PKPdf 04 57 35.4 -0.3
comp=Z,8.8nm,0.8s,baz=138,slow=3.6,SNR=9.1
LPAZ La Paz 130.26 119 *e*PKIKP PKPdf 04 57 36.1 -0.2
LPAZ La Paz 130.26 119 PKP PKPdf 04 57 36.5 +0.1
comp=Z,8.7nm,0.9s,baz=252,slow=0.9,SNR=36
STU Stuttgart 130.31 332 *e*PKPbc PKPdf 04 57 35.7 +0.2
WLF Walferdange 131.02 334 *e*PKIKP PKPdf 04 57 34.4 -2.4
TSUM Tsumeb 131.26 236 *e*PKPdf PKPdf 04 57 38.4 +0.3
CDF Champ du Feu 131.45 333 *e*PKIKP PKPdf 04 57 35.4 -2.3
HINF Hinteralfeld 132.08 332 *e*PKIKP PKPdf 04 57 36.7 -2.2
comp=Z,24nm,1.2s
CPUP Villa Florida 133.27 137 *e*PKIKP PKPdf 04 57 40.7 -1.1
CPUP Villa Florida 133.27 137 PKP PKPdf 04 57 41.1 -0.7
comp=Z,3.5nm,0.9s,baz=228,slow=1.9,SNR=4.3
SDV Santo Domingo 133.76 85 *e*PKPdf PKPdf 04 57 41.8 -1.2
SDV Santo Domingo 133.76 85 PKP PKPdf 04 57 41.7 -1.3
comp=Z,14nm,0.7s,baz=286,slow=5.1,SNR=22
LPL La Plagne 133.80 330 *e*PKIKP PKPdf 04 57 40.9 -1.3
comp=Z,12nm,1.0s
LPG La Plagne 133.81 330 *e*PKIKP PKPdf 04 57 40.9 -1.3
comp=Z,3.5nm,0.6s
LOR Lormes 133.84 334 *e*PKIKP PKPdf 04 57 40.6 -1.6
comp=Z,23nm,1.3s
SSF Saint Saulge 134.15 334 *e*PKIKP PKPdf 04 57 41.3 -1.5
TCF Toulx Ste Croi 135.31 334 *e*PKIKP PKPdf 04 57 43.5 -1.5
comp=Z,19nm,1.1s
SIV San Ignacio 136.42 123 PKhKP 04 57 35.4
baz=270,slow=6.1
SIV PKP PKPdf 04 57 46.8 -1.2
comp=Z,4.3nm,0.9s,baz=255,slow=2.3
SJG San Juan 137.58 71 PKP PKPdf 04 57 50.1 +0.1
baz=328,slow=7.8
KEST Kesra 138.60 318 PKP PKPdf 04 57 52.6 +1.2
comp=Z,1.0nm,0.7s,baz=314,slow=2.1,SNR=4.0
ESDC Sonseca Array 143.32 334 PKP PKPdf 04 57 56.3 -3.5
comp=Z,5.2nm,0.9s,baz=22,slow=3.0,SNR=15
ESLA Sonseca Array 143.32 334 *e*PKPdf PKPdf 04 57 56.0 -3.8
PVIS Viseu 143.98 339 *e*PKPdf PKPdf 04 57 58.7 -2.2
MTE Manteigas 144.13 338 *e*PKPdf PKPdf 04 57 58.6 -2.6
MTE Manteigas 144.13 338 *e*PKPdf PKPdf 04 57 59.1 -2.1
PCBR Castelo Branco 144.60 338 *e*PKPdf PKPdf 04 58 00.5 -1.5
PTOM Tomar 145.14 339 *e*PKPdf PKPdf 04 58 02.1 -0.9
CAM4 Nova Friburgo 145.14 149 (P) PKPbc 04 58 01.1 -1.9
CAM4 *i* 04 58 07.1
CAM4 *i* 04 58 16.3
CAM4 *i* 04 58 26.3
PESTR Estremoz 145.49 337 *e*PKPab PKPab 04 58 03.0 -0.8
PBAR Barrancos 145.87 336 *e*PKPab PKPab 04 58 04.5 -0.8
EVO Evora 145.94 337⇑*i*PKIKP PKPdf 04 58 04.7 +0.3
comp=Z,141nm,1.4s
EVO Evora 145.94 337 *e*PKPab PKPab 04 58 04.6 -0.9
PMAFR Mafra 146.03 339 *e*PKPab PKPab 04 58 05.0 -0.8
MOE Montemor 146.08 338 *e*PKPab PKPab 04 58 05.8 -0.2
PBEJ Beja 146.33 337 *e*PKPab PKPab 04 58 06.3 -0.7
PVAQ Vaqueiros 146.81 336 *e*PKPab PKPab 04 58 07.5 -1.4
BDFB Brasilia 146.84 134 PKPbc PKPbc 04 58 06.5 -1.8
comp=Z,13nm,0.8s,baz=91,slow=1.7,SNR=30
PTEO Sao Teotonio 147.08 337 *e*PKPab PKPab 04 58 08.5 -1.4
TOA0 Torodi Ar. Sit 154.21 285 *e*PKPbc PKPbc 04 58 24.8 -1.4
TOA0 *e*PKPab PKPab 04 58 38.6 -1.4
TORD Torodi Ar. Bea 154.21 285 PKP PKPdf 04 58 16.7 -1.3
TORD PKPbc PKPbc 04 58 24.8 -1.4
TORD PKPab PKPab 04 58 37.4 -2.6
TORD Torodi Ar. Bea 154.21 285 PKP PKPdf 04 58 16.7 -1.3
comp=Z,1.1nm,0.8s,baz=47,slow=0.8,SNR=6.4
TORD PKPbc PKPbc 04 58 24.8 -1.4
comp=Z,4.5nm,0.8s,baz=69,slow=1.7,SNR=18
TORD PKPab PKPab 04 58 37.4 -2.6
comp=Z,2.3nm,0.6s,baz=93,slow=3.2,SNR=12
DBIC Dimbokro 161.07 269 *e*PKP2 PKPab 04 59 08.3 -1.5
DBIC Dimbokro 161.07 269 PKPab PKPab 04 59 09.6 -0.2
comp=Z,15nm,0.9s,baz=82,slow=4.3,SNR=11

NIED ***12*** *04:42:00, 3720N×13640E, h5km, Mw3.8 Best double couple: M0:5.09000×10^14 NP1:φ0=26.00000°, δ46.00000°, λ104.00000°. NP2:φ0=185.00000°, δ46.00000°, λ75.00000°.*
IDC ***12*** *04:42:43.6±0.8, 37.19N×13648E, h0km, mb3.6/8, mb1 3.8/9, mb1mx3.7/21, mbtmp3.6/9, ML2.8/1, MS2.7/3, Ms1 2.7/3, ms1mx2.5/31, Error ellipse: s-maj=24.1km s-min=11.7km az=30.0*
ISCJB ***12*** *04:42:44.6±0.9, 37.18N±004×13647E±005, h17km±7km, mb3.7/10, Error ellipse: s-maj=7.3km s-min=7.0km az=15.4*
JMA ***12*** *04:42:44.6±0.1, 37.17N×13650E, h6km±2km, M3.8*
JMA Felt I J1.
NEIC ***12*** *04:42:48.2±5.1, 37.16N×13658E, h32km±38km, mb4.0/3, Error ellipse: s-maj=19.2km s-min=13.1km az=51.0*
ISC 12 04:42:44.9±0.8, 3717N±004×13652E±005, h8km±5km, n23, σ0:68/25, mb3.7/10, 3D, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.32**	**139**	⇓P	**Pg**	**04 42 51.4**	**+0.1**
JJH				S	**Sg**	**04 42 55.7**	**+0.1**
JSZ	**Suzu**	**0.73**	**67**	⇓P	**Pg**	**04 42 58.5**	**-0.4**
JSZ				S	**Sg**	**04 43 09.2**	**+0.8**
JHG	**Hegura jima**	**0.75**	**25**	P	**Pg**	**04 42 58.9**	**-0.4**

JTT	Ttatey	0.86 131	⇓P		Pg	04 43 01.3	-0.2
JTT			S		Sg	04 43 13.7	+1.0
JKG	Kaga	0.91 190	P		Pg	04 43 01.8	-0.5
JKG			S		Sg	04 43 14.2	+0.2
MAJO	Matsushiro	1.49 114	*e*Pn		Pn	04 43 11.5	-0.5
MAT	Matsushiro	1.49 114	P		Pn	04 43 12.1	+0.2
MAT			S		Sn	04 43 31.2	-0.4
MJAR	Matsushiro Arr	1.50 114	Pg		Pg	04 43 12.6	-1.0
	27nm,0.3s,baz=290,slow=13,SNR=103						
MJAR			Lg			04 43 34.3	
	40nm,0.3s,baz=301,slow=31,SNR=16						
JNU	Nakatsue	6.14 230	LR		LR	04 46 22.6	
	comp=Z,62nm,20.7s,baz=346,slow=36						
KSRS	Korea Array	6.86 275	Pn		Pn	04 44 25.7	0.0
	0.2nm,0.3s,baz=92,slow=15,SNR=2.7						
KSRS			LR		LR	04 46 52.1	
	comp=Z,103nm,18.6s,baz=95,slow=36						
ASAJ	Asahikawa	8.33 32	LR		LR	04 48 16.4	
	comp=Z,32nm,20.6s,baz=283,slow=40						
HIA	Hailar	17.15 320	*e*P		Pn	04 46 51.4	+6.7
	2.7nm,0.6s						
SONM	Songino Array	24.48 305	P		P	04 48 05.9	+1.7
	1.1nm,0.6s,mb3.5,baz=107,slow=9.5,SNR=7.0						
TIXI	Tiksi	34.77 356	*e*P		P	04 49 35.9	+0.6
	2.7nm,0.6s,mb4.3						
MKAR	Makanchi Array	40.72 301	P		P	04 50 26.6	+0.7
	0.5nm,0.7s,mb3.2,baz=72,slow=9.3,SNR=4.2						
KURK	Kurchatov	42.76 308	*e*P		P	04 50 41.9	-0.5
	2.2nm,0.8s,mb3.9						
WRA	Warramunga Arr	56.84 182	P		P	04 52 28.9	-0.9
	0.5nm,0.5s,mb3.8,baz=358,slow=7.7,SNR=9.7						
ASAR	Alice Springs	60.56 183	P		P	04 52 56.6	+1.0
	0.2nm,0.4s,mb3.6,baz=11,slow=14,SNR=4.2						
YKA	Yellowknife Ar	65.62 29	P		P	04 53 29.3	+0.4
	0.3nm,0.6s,mb3.5,baz=308,slow=7.1,SNR=3.9						
FINES	FINESS Array B	66.82 331	P		P	04 53 35.3	-1.4
	1.2nm,0.7s,mb4.1,baz=98,slow=7.9,SNR=4.4						
AKASG	Malin Array Be	71.74 320	P		P	04 54 07.0	-0.3
	0.4nm,0.5s,mb3.6,baz=52,slow=5.2,SNR=4.7						
NVAR	Mina Array Bea	77.99 51	P		P	04 54 43.6	-0.1
	0.4nm,0.7s,mb3.5,baz=258,slow=2.7,SNR=3.5						
ULM	Lac du Bonnet	81.47 31	LR		LR	05 33 55.7	
	comp=Z,143nm,21.3s,baz=317,slow=38						

IDC 12 04:43:29.4±5.7,3032S×17780W,h53km±41km,mb3.7/3, mb1 3.8/3,mb1mx3.6/13,mbtmp3.7/3,Error ellipse: s-maj=64.8km s-min=34.3km az=124.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.07 354		P	Pn	04 43 47.8	-0.3
	136nm,0.3s,baz=254,slow=23,SNR=4.4						
RAO				S	Sn	04 44 02.3	+0.3
	549nm,0.3s,baz=272,slow=22,SNR=9.8						
STKA	Stephens Creek	34.67 257		P	P	04 50 14.4	+0.5
	1.2nm,0.4s,baz=83,slow=6.3,SNR=3.2						
ASAR	Alice Springs	43.29 267		P	P	04 51 26.4	+0.4
	0.7nm,0.6s,baz=104,slow=7.1,SNR=7.0						
WRA	Warramunga Arr	44.27 272		P	P	04 51 33.2	-0.8
	0.7nm,0.3s,baz=111,slow=8.1,SNR=14						
FINES	FINESS Array B	145.13 340		PKPbc	PKPbc	05 02 59.0	-0.7
	1.2nm,0.6s,baz=64,slow=4.8,SNR=11						

ISCJB 12 04:58:40.7±0.8,55S±02×805W±03,h37km,mb3.7/10, MS3.3/1,Error ellipse: s-maj=46.7km s-min=9.6km az=142.1
NEIC 12 04:58:42.6±0.5,542S×8036W,mb4.0/5,ML4.4(LIM), Error ellipse: s-maj=31.1km s-min=6.7km az=52.0
NEIC Felt [III] at Sechura.
IDC 12 04:58:42.6±1.3,543S×8036W,h35km±5km,mb3.3/6, mb1 3.6/8,mb1mx3.5/19,mbtmp3.4/8,ML3.7/2,MS3.2/2, Ms1 3.2/2,ms1mx2.6/16,Error ellipse: s-maj=61.6km s-min=17.5km az=46.0

ISC 12 04:58:43.2±0.8,55S±02×804W±02,h39km, h39km±3.6km:pP-P,n18,σ0§64/16,mb3.7/10,MS3.3/1, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	2.52 127		Pn	Pn	04 59 25.1	+3.4
	31nm,0.3s,baz=310,slow=7.2,SNR=110						
ATAH				Lg		05 00 03.8	
	118nm,0.3s,baz=336,slow=16,SNR=14						
NNA	Nana	7.38 152		Pn	Pn	05 00 28.1	-0.3
	3.0nm,0.3s,baz=324,slow=10,SNR=9.6						
LPAZ	La Paz	16.15 133		*e*P	Pn	05 02 27.8	+0.3
	2.6nm,0.7s						
LPAZ	La Paz	16.15 133		Pn	Pn	05 02 27.1	-0.4
	0.1nm,0.3s,baz=329,slow=12,SNR=2.8						
LPAZ				LR	LR	05 08 59.2	
	comp=Z,48nm,21.8s,baz=70,slow=38						
SIV	San Ignacio	21.67 120		P	P	05 03 30.5	-0.3
	2.0nm,0.7s,mb3.7,baz=304,slow=14,SNR=11						
PCRV	Puerto La Cruz	22.12 45		LR	LR	05 13 32.0	
	comp=Z,102nm,18.9s,MS3.3,baz=223,slow=40						
TXAR	Lajitas Array	41.19 328		P	P	05 06 24.8	+0.6
	0.1nm,0.5s,mb2.7,baz=138,slow=6.1,SNR=2.4						
TXAR				pP	pP	05 06 34.0	-1.2
	0.3nm,0.8s,baz=144,slow=9.2,SNR=3.6						
ANMO	Albuquerque	47.10 331		*e*P	P	05 07 11.3	-0.1
	1.6nm,0.8s,mb4.0						
TUC	Tucson	47.39 324		*e*P	P	05 07 13.5	-0.2
	1.2nm,0.8s,mb3.9						
SDCO	Great Sand Dun	48.93 334		*e*P	P	05 07 26.4	+0.8
	1.7nm,0.9s,mb4.1						
SDCO				*e*pP	pP	05 07 40.6	+3.8
HWUT	Hardware Ranch	54.81 332		*e*P	P	05 08 09.3	0.0
	0.8nm,0.7s,mb3.9						
NVAR	Mina Array Bea	56.05 324		P	P	05 08 18.5	+0.2
NVAR				pP	pP	05 08 29.8	+0.1
NVAR	Mina Array Bea	56.05 324		P	P	05 08 18.5	+0.2
	0.5nm,0.6s,mb3.7,baz=122,slow=6.8,SNR=4.8						
NVAR				pP	pP	05 08 29.8	+0.1
	0.8nm,0.9s,baz=152,slow=6.7,SNR=3.2						
ULM	Lac du Bonnet	57.09 348		P	P	05 08 25.1	-0.3
	1.4nm,0.8s,mb4.1,baz=216,slow=8.7,SNR=3.7						
YKA	Yellowknife Ar	72.64 344		P	P	05 10 05.5	-1.0
YKA				pP	pP	05 10 16.1	-2.0
YKA				sP	sP	05 10 22.2	-0.4
YKA	Yellowknife Ar	72.64 344		P	P	05 10 05.4	-1.0
	0.1nm,0.5s,mb3.0,baz=143,slow=6.3,SNR=4.5						
YKA				pP	pP	05 10 16.1	-2.0
	0.2nm,0.6s,baz=145,slow=6.1,SNR=3.8						
YKA				sP	sP	05 10 22.2	-0.4
	0.2nm,0.7s,baz=140,slow=5.2,SNR=4.0						
TORD	Torodi Ar. Bea	83.60 76		P	P	05 11 08.0	-0.2
	0.3nm,0.5s,mb3.7,baz=258,slow=2.6,SNR=6.4						
TORD				pP	pP	05 11 18.2	-1.8
	0.5nm,0.6s,baz=275,slow=4.9,SNR=3.0						
WRA	Warramunga Arr	137.49 233		PKP	PKPdf	05 18 02.1	-1.7
	0.5nm,0.7s,baz=127,slow=2.1,SNR=4.2						

MOS 12 05:05:17.4±1.5,3642N×7101E,h33km,mb4.1/4,Error ellipse: s-maj=24.3km s-min=9.6km az=80.3
IDC 12 05:05:22.4±6.0,3661N×7120E,h57km±52km,mb3.4/7, mb1 3.7/11,mb1mx3.5/24,mbtmp3.6/11,ML4.0/4,Error ellipse: s-maj=36.3km s-min=21.7km az=25.0
ISCJB 12 05:05:26.4±0.5,3684N±002×7141E±005,h108km±7km, mb3.5/8,Error ellipse: s-maj=7.3km s-min=4.1km az=173.1
NEIC 12 05:05:27.5±0.9,3683N×7128E,h101km±9km,mb3.8/2, Error ellipse: s-maj=14.3km s-min=8.9km az=121.0
BJI 12 05:05:27.2,3684N×7125E,h107km,mb3.7

ISC 12 05:05:27.8±0.5,3682N±003×7139E±006,h107km±6km, n57,σ1§20/68,mb3.5/8,4C,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	Kabul	2.97 221		*e*Pn	Pn	05 06 13.0	-0.3
KBL				*e*Sn	Sn	05 06 48.7	+0.4
KSH	Kashi	4.50 52		*e*P	Pn	05 06 38.6	+4.9
KSH				S	Sn	05 07 21.5	-3.5
KSH				Smax			
	comp=N,398nm,0.8s						
KSH				Smax			
	comp=E,328nm,0.6s						
AML	Almayashu	5.59 18		*e*Pn	Pn	05 06 48.6	+0.2
	comp=E,52nm,0.5s						
AML				*e*Sn	Sn	05 07 49.9	-1.5
AML	Almayashu	5.59 18		P	Pn	05 06 49.0	+0.5
	SNR=103						
THN	Thein Dam	5.64 140		*e*P	Pn	05 06 49.9	+0.7
THN				*e*S	Sn	05 07 53.6	+0.9
DLH	Dalhousie	5.69 137		*e*x	Pn	05 06 51.0	+1.1
DLH				*e*x	Sn	05 07 55.0	+1.1
UCH	Uchtor	5.91 23		*e*Pn	Pn	05 06 53.2	+0.4
	comp=E,13nm,0.3s						
UCH				*e*Sn	Sn	05 07 57.8	-1.4
UCH	Uchtor	5.91 23		P	Pn	05 06 53.2	+0.4
	SNR=33						
KZA	Kyzart	6.04 28		P	Pn	05 06 55.8	+1.2
	SNR=13						
EKS2	Erkin-Say	6.12 17		*e*Pn	Pn	05 06 55.9	+0.4
	comp=E,19nm,0.6s						
EKS2				*e*Sn	Sn	05 08 01.9	-2.2
EKS2	Erkin-Say	6.12 17		P	Pn	05 06 56.4	+0.9
	SNR=33						
AAK	Ala-Archa	6.28 21		P	Pn	05 06 58.7	+0.9
	SNR=26						
KK31	Karatay Array	6.31 354		⇑Pn	Pn	05 06 56.4	-1.8
	comp=E,3.1nm,0.3s,baz=180,slow=13						
KK31				⇑Sn	Sn	05 08 04.5	-4.3
	comp=E,12nm,0.4s,baz=183,slow=23						
KBK	Karagaybulak	6.44 24		P	Pn	05 07 02.0	+2.0
	SNR=7.0						
ULHL	Ulahol	6.59 33		P	Pn	05 07 04.1	+2.2
	SNR=8.4						
CHMS	Chumysh	6.69 22		P	Pn	05 07 03.8	+0.5
	SNR=17						
USP	Ospenovka	6.87 19		P	Pn	05 07 05.5	-0.2
	SNR=18						
TKM2	Tokmak 2	6.90 27		⇑Pn	Pn	05 07 06.8	+0.6
	comp=E,13nm,0.5s						
TKM2				⇑Sn	Sn	05 08 23.6	+0.5
	comp=E,15nm,1.0s						
TKM2	Tokmak 2	6.90 27		*e*P	Pn	05 07 06.6	+0.5
TKM2				pmax	pmax		
	comp=Z,16nm,0.5s						
TKM2	Tokmak 2	6.90 27		*e*Pn	Pn	05 07 06.6	+0.5
	comp=Z,16nm,0.5s						
TKM2	Tokmak 2	6.90 27		P	Pn	05 07 07.0	+0.8
	SNR=39						
SDNR	Sundarnagar	7.04 137		*e*x	Pn	05 07 07.5	-0.6
SDNR				*e*x	Sn	05 08 22.0	-4.6
DDI	Dehra Dun	8.54 137		*e*x	Pn	05 07 29.5	+1.0
DDI				*e*x	Sn	05 09 08.0	+5.0
MK31	Makanchi Array	12.85 36		*e*P	Pn	05 08 26.0	-0.2
MKAR	Makanchi Array	12.85 36		P	Pn	05 08 26.4	+0.2
	comp=Z,0.4nm,0.3s,baz=221,slow=14,SNR=22						
DANN	Dangsing	13.41 126		*e*P	Pn	05 08 31.7	-2.0
	comp=Z,18nm,0.4s						
KOLN	Koldanda	13.70 128		*e*P	Pn	05 08 36.0	-1.5
	comp=Z,6.2nm,0.5s						
GKN	Gorkha	14.22 124		*e*P	Pn	05 08 42.1	-2.1
	comp=Z,23nm,0.6s						
KKN	Kakani	14.78 124		*e*P	Pn	05 08 50.2	-1.2
	comp=Z,12nm,0.5s						
DMN	Daman	14.79 124		*e*P	Pn	05 08 50.0	-1.4
KURK	Kurchatov	14.83 18		*e*P	Pn	05 08 54.5	+2.7
KURK				pmax	pmax		
	comp=E,5.0nm,0.8s						
KURK	Kurchatov	14.83 18		*e*P	Pn	05 08 54.5	+2.7
	comp=Z,5.4nm,0.8s						
PKI	Pulchoki	15.01 124		*e*P	Pn	05 08 53.3	-1.0
	comp=Z,8.0nm,0.3s						
GUN	Gumba	15.11 122		*e*P	Pn	05 08 54.7	-0.8
JIRN	Jiri	15.48 122		*e*P	Pn	05 08 59.7	-0.5
	comp=Z,12nm,0.3s						
BVAR	Borovoye Array	16.22 358		P	Pn	05 09 07.1	-2.0
	comp=Z,0.3nm,0.3s,baz=170,slow=12,SNR=17						
BRVK	Borovoye	16.26 358		*e*P	Pn	05 09 10.5	+0.9
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BRVK	Borovoye	16.26 358		*e*P	Pn	05 09 10.5	+0.9
	comp=Z,5.2nm,0.7s						
AKTK	Aktyubinsk	16.66 329		P	Pn	05 09 13.6	-1.0
AKTO	Aktyubinsk	16.66 329		P	Pn	05 09 13.6	-1.0
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	16.66 329		P	Pn	05 09 13.6	-1.0
	comp=Z,1.0nm,0.3s,baz=137,slow=9.0,SNR=12						
ZAL	Zalesovo	19.48 24		P	P	05 09 46.6	+0.6
ZAA0	Zalesovo Array	19.49 24		*e*P	P	05 09 46.0	-0.2
ZALV	Zalesovo Beam	19.49 24		P	P	05 09 46.5	+0.4
	comp=Z,1.1nm,0.3s,baz=224,slow=9.9,SNR=9.5						
GTA	Gaotai	22.47 75		*e*P	P	05 10 21.6	+3.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.1s,mb3.7						
SONM	Songino Array	27.89 56		P	P	05 11 09.9	+2.5
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	Songino Array	27.89 56		P	P	05 11 09.9	+2.5
	comp=Z,1.0nm,0.8s,mb3.4,baz=257,slow=9.3,SNR=5.3						
ARCES	ARCESS Array B	40.97 337		P	P	05 13 00.4	+0.9
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ARCES	ARCESS Array B	40.97 337		P	P	05 13 00.4	+0.9
	comp=Z,3.5nm,0.8s,mb4.2,baz=104,slow=8.9,SNR=11						
NB2	NORSAR Subarra	44.32 323		P	P	05 13 26.6	-0.1
	comp=Z,0.4nm,0.5s,mb3.4,baz=96,slow=7.9						
NOA	NORSAR Array B	44.32 323		P	P	05 13 27.0	+0.3
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	44.32 323		P	P	05 13 26.9	+0.3
	comp=Z,0.5nm,0.6s,mb3.5,baz=94,slow=7.8,SNR=4.7						
TORD	Torodi Ar. Bea	66.04 269		P	P	05 16 02.4	-0.9
	comp=Z,0.4nm,0.8s,mb3.3,baz=51,slow=5.4,SNR=4.3						
YKA	Yellowknife Ar	80.91 3		P	P	05 17 30.9	+1.2
	comp=Z,0.3nm,0.6s,mb3.3,baz=352,slow=5.5,SNR=8.3						
WRA	Warramunga Arr	81.89 122		P	P	05 17 35.4	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,1.2s						
WRA	Warramunga Arr	81.89 122		P	P	05 17 35.4	-0.1
	comp=Z,1.1nm,1.2s,mb3.6,baz=318,slow=4.5,SNR=3.7						
ASAR	Alice Springs	84.18 125		P	P	05 17 48.1	+0.9
	comp=Z,0.1nm,0.4s,mb3.0,baz=307,slow=5.2,SNR=3.4						

IDC 12 05:10:29.8±1.3,2184N×14377E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/20,mbtmp3.7/5,Error ellipse: s-maj=42.4km s-min=26.7km az=81.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.74 322		P	P	05 15 13.6	+1.6
	1.0nm,0.7s,baz=136,slow=11,SNR=7.0						
WRA	Warramunga Arr	42.53 193		P	P	05 18 27.5	+0.2
	0.5nm,0.7s,baz=16,slow=9.5,SNR=9.4						
MKAR	Makanchi Array	55.01 313		P	P	05 20 02.8	-0.2
	0.4nm,0.7s,baz=95,slow=7.1,SNR=3.5						
BVAR	Borovoye Array	62.92 319		P	P	05 20 57.1	-0.7
	1.5nm,0.4s,baz=91,slow=7.3,SNR=9.4						
YKA	Yellowknife Ar	76.08 28		P	P	05 22 19.2	+0.2
	0.7nm,0.5s,baz=292,slow=5.8,SNR=13						

CSEM 12 05:12:14.5±0.1,3998N×4161E,h2km,MD3.7,Error ellipse: s-maj=2.0km s-min=1.8km az=164.0
ISCJB 12 05:12:15.6±0.7,3995N±003×4165E±003,h5km±6km, Error ellipse: s-maj=5.4km s-min=3.9km az=145.6
DDA 12 05:12:15.2,3991N×4170E,h17km,Md3.5
ISK 12 05:12:15.2,3994N×4163E,h5km,MD3.7

ISC 12 05:12:15.8±0.6,3996N±003×4165E±004,h4km±5km,n34, σ0§99/44,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOMI	Horasan	0.21 66		*i* P	Pg	05 12 20.0	+0.1
HOMI				*i* S	Sg	05 12 23.5	+0.8
EZM	Erzurum	0.23 256		PG	Pg	05 12 20.3	0.0
KOPT	Kop Dagi	0.89 274		*i* P	Pg	05 12 32.5	-0.3
KOPT				*i* S	Sg	05 12 48.7	+4.3
KOPT	Kop Dagi	0.89 274		*i* P	Pg	05 12 32.5	-0.4
KOPT				*i* S	Sg	05 12 48.7	+4.3
BNGL	BINGOL	1.08 201		*i* P	Pg	05 12 34.5	-2.1
BNGL				*i* S	Sg	05 12 51.1	+0.6
AGRB	Hanur-Agry	1.10 110		*e*PN	Pn	05 12 36.0	-2.1
AGRB				*e*SN	Sn	05 12 52.2	-1.5
ARTV	Artvin	1.24 10		*i* P	Pg	05 12 38.8	-0.9
ARTV				*i* S	Sg	05 12 57.1	+1.4
KARS	Kars	1.28 59		*e*PN	Pn	05 12 40.4	-0.1
KARS				*e*SN	Sn	05 12 59.4	+1.3
PZAR	Pazar-Rize	1.34 335		*e*PN	Pn	05 12 41.4	0.0
BINT	Bingol	1.41 220		*e*PN	Pn	05 12 40.8	-1.5
EZC	Erzincan	1.43 262		*e*PN	Pg	05 12 46.9	+3.6
BCA	Borcka	1.48 359		*e*PN	Pn	05 12 42.6	-0.7
GUMT	Gumushane	1.74 287		*e*PN	Pn	05 12 46.7	-0.1
KTUT	Trabzon	1.77 306		*e*PN	Pn	05 12 47.5	+0.3
BTMT	Batman	1.77 184		*e*PN	Pn	05 12 47.4	+0.1
VANB	Van	1.92 135		*e*PN	Pn	05 12 50.1	+0.9
CLDR	Caldiran	1.93 114		*e*PN	Pn	05 12 50.3	+0.9
VANT	Van	2.03 138		*e*PN	Pn	05 12 51.1	+0.3
PTK	Pertek	2.05 239		*e*PN	Pn	05 12 50.2	-0.9
DIY	Diyarbakir	2.34 209		*e*PN	Pn	05 12 55.4	+0.3
GNI	Garni	2.38 84		*e*PN	Pn	05 12 56.3	+0.7
SVRC	Sivrice-ELAZID	2.41 230		*e*PN	Pn	05 12 56.4	+0.3
ESPY	Espiye-Giresun	2.43 294		*e*PN	Pn	05 12 55.6	-0.7
SIRT	Sirnak	2.53 166		*e*PN	Pn	05 12 58.1	+0.3
GOR	Gori	2.75 42		P	Pg	05 13 07.6	-0.9
GOR				S	Sn	05 13 32.5	-1.8
TBLG	Delisi	2.93 52		P	Pn	05 12 55.5	-7.7
TBLG				S	Pg	05 13 11.1	-1.0
MTA	Mtatsminda	2.94 53		P	Pn	05 13 06.0	+2.6
MTA				S	Pg	05 13 19.4	+7.2
MYA	Malataya	2.99 238		*e*PN	Pn	05 13 04.5	+0.4
MALT	Malatya	3.00 238		*e*PN	Pn	05 13 04.6	+0.4
CUKT	Cukurca	3.11 150		*e*PN	Pn	05 13 06.8	+1.2
CUKT	Cukurca	3.11 150		*e*Pn	Pn	05 13 06.8	+1.1
DGRG	David-gareji	3.20 61		P	Pn	05 13 00.2	-6.6
DGRG				S		05 13 08.0	
URFA	Urfa	3.35 222		*e*PN	Pn	05 13 09.4	+0.4
SVSK	Karacayir	3.58 271		*e*PN	Pn	05 13 13.0	+0.8

MOS 12 05:20:31.9±2.2,4732N×1544E,h90km,mb3.5/1,Error ellipse: s-maj=26.4km s-min=15.1km az=57.9
ISCJB 12 05:20:32.4±1.8,474N±01×1543E±02,h83km±16km, mb3.4/6,Error ellipse: s-maj=32.4km s-min=9.5km az=41.1
IDC 12 05:20:36.4±5.0,4707N×1540 4E,h118km±46km,mb3.2/6, mb1 3.5/7,mb1mx3.3/21,mbtmp3.3/7,Error ellipse: s-maj=35.4km s-min=19.3km az=108.0

ISC 12 05:20:34.0±1.6,474N±01×1544E±02,h81km±14km,n18, σ1§12/19,mb3.4/6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	3.51 19		*e*PN	Pn	05 21 24.3	-1.9
SKR				*e*S	Sn	05 22 07.3	+0.8
SKR				smax			
	comp=E,220nm,1.0s						
SKR				smax			
	comp=N,30nm,0.5s						
ASAJ	Asahikawa	8.84 253		PN	Pn	05 22 38.0	-0.9
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	Asahikawa	8.84 253		P	Pn	05 22 38.0	-0.9
	comp=Z,0.8nm,0.3s,baz=63,slow=7.5,SNR=4.1						
ERM	Erimo	9.60 240		*i* PN	Pn	05 22 50.8	+1.6
HABR	Khabarovsk	12.99 282		*e*PN	Pn	05 23 35.1	0.0
MJAR	Matsushiro Arr	16.13 234		*e*P	Pn	05 24 16.4	+0.7
YKA	Yellowknife Ar	49.92 37		P	P	05 29 19.4	+0.5
	comp=Z,0.1nm,0.6s,mb2.9,baz=297,slow=6.9,SNR=3.2						
FINES	FINESS Array B	63.83 335		*e*P	P	05 30 56.7	-0.5
FINES	FINESS Array B	63.83 335		P	P	05 30 56.8	-0.4
	comp=Z,0.6nm,0.4s,mb3.8,baz=43,slow=6.8,SNR=11						
NB2	NORSAR Subarra	67.90 342		P	P	05 31 23.3	0.0
	comp=Z,0.6nm,0.7s,mb3.5,baz=27,slow=6.5						
NOA	NORSAR Array B	67.90 342		*e*P	P	05 31 23.5	+0.2
NOA	NORSAR Array B	67.90 342		P	P	05 31 23.5	+0.2
	comp=Z,1.2nm,0.9s,mb3.7,baz=27,slow=6.2,SNR=4.6						
WRA	Warramunga Arr	69.39 200		P	P	05 31 27.8	-5.1
WRA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
WRA	Warramunga Arr	69.39 200		P	P	05 31 27.8	-5.2
	comp=Z,0.6nm,1.1s,mb3.4,baz=21,slow=6.9,SNR=3.5						
ASAR	Alice Springs	73.08 200		*e*P	P	05 31 53.2	-1.9
ASAR	Alice Springs	73.08 200		P	P	05 31 52.6	-2.5
	comp=Z,0.5nm,0.7s,mb3.5,baz=8.4,slow=5.7,SNR=7.0						
TXAR	Lajitas Array	76.45 61		*e*P	P	05 32 16.1	+1.3
TXAR	Lajitas Array	76.45 61		P	P	05 32 16.1	+1.3
	comp=Z,0.4nm,0.6s,mb3.3,baz=300,slow=4.6,SNR=6.9						

ISCJB 12 05:45:34.4±0.7,3485N±005×13721E±004,h44km±13km, Error ellipse: s-maj=8.1km s-min=5.2km az=160.0
JMA 12 05:45:34.6,3490N×13725E,h41km±1km,M2.7 Broadband fault plane solution: P waves. NP1: φs270.00000°,δ62.00000°,λ24.00000°. NP2: φs168.00000°,δ69.00000°,λ150.00000°. Principal axes: T Plg36.0000°, Azm127.0000°; N Plg54.0000°, Azm315.0000°; P Plg4.0000°, Azm220.0000°;

ISC 12 05:45:34.8±0.7,3485N±005×13721E±004,h44km±12km, n10,σ0§48/19,2C-4D,Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAA	Atsumi	0.22 195		⇓P	Pn	05 45 42.5	-0.1
JAA				S	Sn	05 45 48.0	0.0
JIE	Ise	0.61 223		⇓P	Pn	05 45 47.2	+0.1
JIE				S	Sn	05 45 56.2	+0.2
TSUJ	Tsu 2	0.67 259		P	Pn	05 45 47.7	-0.1
TSUJ				S	Sn	05 45 57.4	+0.2
TK04	Tokai 4	0.71 130		⇑P	Pn	05 45 48.3	-0.1
TK04				S	Sn	05 45 58.7	+0.4
SHZ3	Shizuoka 3	0.85 75		⇓P	Pn	05 45 49.1	-1.2
SHZ3				S	Sn	05 46 01.3	-0.3
JGM	Miyama	0.94 335		⇑P	Pn	05 45 51.3	-0.3
JGM				S	Sn	05 46 03.3	-0.6
JKN2	Miekihoku	0.98 232		⇓P	Pn	05 45 52.1	0.0
JKN2				S	Sn	05 46 04.9	+0.1
JYN	Shimob	1.27 59		P	Pn	05 45 56.1	+0.1
JHE	Heguri	1.27 262		P	Pn	05 45 55.8	-0.2
JHE				S	Sn	05 46 12.1	+0.2
MAT	Matsushiro	1.88 25		P	Pn	05 46 04.5	+0.

KUR	Kuril'sk	3.89	254	*e*PN	Pn	07 00 00.5	-4.6
KUR				pmax	pmax		
comp=Z,140nm,0.5s							
SKR	Severo-Kuril's	4.70	23	*e*PN	Pn	07 00 09.5	-6.5
YSS	Yuzh-Sakhalins	7.19	278	PN	Pn	07 00 50.2	+0.1
YSS	Yuzh-Sakhalins	7.19	278	*e*Pn	Pn	07 00 51.2	+1.1
ASAJ	Asahikawa	7.81	257	PN	Pn	07 00 58.5	0.0
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ	Asahikawa	7.81	257	P	Pn	07 00 58.5	-0.1
comp=Z,0.8nm,0.3s,baz=77,slow=18,SNR=3.5							
MA2	Magadan	13.27	355	*e*PN	Pn	07 02 12.7	-0.1
KLR	Kul'dur	14.66	289	*e*P	Pn	07 02 30.0	-1.2
MJAR	Matsushiro Arr	14.91	234	P	Pn	07 02 38.2	+3.6
comp=Z,0.4nm,0.3s,baz=36,slow=9.0,SNR=6.3							
KSRS	Korea Array	20.74	253	P	P	07 03 44.4	+1.8
comp=Z,1.4nm,0.6s,baz=60,slow=10,SNR=5.0							
SONM	Songino Array	31.49	290	P	P	07 05 22.1	-0.5
comp=Z,0.4nm,0.6s,mb3.3,baz=116,slow=6.6,SNR=2.7							
INK	Inuvik	41.92	32	P	P	07 06 50.9	0.0
INK				pmax	pmax		
comp=Z,1.0nm,0.5s							
INK	Inuvik	41.92	32	P	P	07 06 50.9	0.0
INK	Inuvik	41.92	32	P	P	07 06 50.9	0.0
comp=Z,0.6nm,0.5s,mb3.6,baz=286,slow=1.1,SNR=7.3							
ZALV	Zalesovo Beam	42.84	306	LR	LR	07 25 59.1	
comp=Z,59nm,18.2s,baz=12,slow=38							
MKAR	Makanchi Array	47.13	298	*e*P	P	07 07 32.3	-0.5
MKAR	Makanchi Array	47.13	298	P	P	07 07 32.3	-0.5
comp=Z,1.9nm,0.8s,mb3.9,baz=64,slow=8.7,SNR=14							
MKAR				LR	LR	07 28 32.5	
comp=Z,69nm,18.1s,baz=174,slow=37							
KURK	Kurchatov	47.59	304	‖*e*P	P	07 07 35.2	-1.0
BVAR	Borovoye Array	51.11	310	P	P	07 08 02.7	-0.3
BVAR				pmax	pmax		
comp=Z,1.0nm,0.3s							
BVAR	Borovoye Array	51.11	310	P	P	07 08 02.7	-0.2
comp=Z,0.6nm,0.3s,mb4.1,baz=37,slow=7.9,SNR=3.1							
YKA	Yellowknife Ar	51.17	37	*e*P	P	07 08 03.4	+0.1
YKA	Yellowknife Ar	51.17	37	P	P	07 08 03.4	+0.1
YKA	Yellowknife Ar	51.17	37	P	P	07 08 03.4	+0.1
comp=Z,0.6nm,0.6s,mb3.8,baz=297,slow=7.1,SNR=8.5							
GUN	Gumba	55.07	275	*e*P	P	07 08 26.0	-6.5
KKN	Kakani	55.56	276	*e*P	P	07 08 31.7	-4.3
comp=Z,3.2nm,0.2s,mb5.0							
PKI	Pulchoki	55.61	275	*e*P	P	07 08 32.1	-4.3
DMN	Daman	55.80	276	*e*P	P	07 08 34.6	-3.1
comp=Z,7.6nm,0.6s,mb4.9							
GKN	Gorkha	55.87	276	*e*P	P	07 08 37.5	-0.7
comp=Z,7.9nm,0.6s,mb5.0							
DANN	Dangsing	56.26	277	*e*P	P	07 08 43.4	+2.4
comp=Z,14nm,0.6s,mb5.2							
KOLN	Koldanda	56.73	277	*e*P	P	07 08 46.8	+2.5
comp=Z,10nm,0.7s,mb5.0							
ARCES	ARCESS Array B	58.19	341	P	P	07 08 54.0	+0.1
ARCES				pmax	pmax		
comp=Z,3.0nm,0.8s							
ARCES	ARCESS Array B	58.19	341	P	P	07 08 54.0	+0.1
comp=Z,2.7nm,0.8s,mb4.3,baz=19,slow=9.0,SNR=4.6							
FINES	FINESS Array B	64.36	335	*e*P	P	07 09 35.6	-0.2
FINES	FINESS Array B	64.36	335	P	P	07 09 35.6	-0.1
comp=Z,1.9nm,0.6s,mb4.1,baz=42,slow=8.3,SNR=12							
WRA	Warramunga Arr	68.20	199	P	P	07 09 59.2	-1.5
WRA				pmax	pmax		
comp=Z,1.0nm,1.1s							
WRA	Warramunga Arr	68.20	199	P	P	07 09 59.2	-1.5
WRA	Warramunga Arr	68.20	199	P	P	07 09 59.2	-1.5
comp=Z,0.8nm,1.1s,mb3.5,baz=16,slow=6.6,SNR=3.3							
NB2	NORSAR Subarra	68.56	341	P	P	07 10 02.6	+0.1
comp=Z,1.1nm,0.5s,mb3.9,baz=27,slow=6.5							
NOA	NORSAR Array B	68.56	341	*e*P	P	07 10 03.0	+0.5
NOA	NORSAR Array B	68.56	341	P	P	07 10 03.0	+0.5
comp=Z,1.3nm,0.5s,mb4.0,baz=28,slow=6.4,SNR=10							
AKASG	Malin Array Be	71.85	326	*e*P	P	07 10 22.5	-0.3
AKASG	Malin Array Be	71.85	326	P	P	07 10 22.5	-0.3
AKASG	Malin Array Be	71.85	326	P	P	07 10 22.5	-0.3
comp=Z,2.4nm,0.5s,mb4.3,baz=32,slow=6.2,SNR=11							
ASAR	Alice Springs	71.90	199	P	P	07 10 23.1	-0.2
comp=Z,0.4nm,0.9s,mb3.2,baz=9.7,slow=6.6,SNR=4.1							
CLL	Collm	76.79	336	*e*P	P	07 10 53.0	+1.5
CLL				pmax	pmax		
comp=Z,4.0nm,0.7s,mb4.3							
CLL	Collm	76.79	336	*e*P	P	07 10 53.0	+1.5
comp=Z,4.0nm,0.7s,mb4.3							
TXAR	Lajitas Array	77.62	61	*e*P	P	07 10 56.8	+0.3
TXAR	Lajitas Array	77.62	61	P	P	07 10 56.9	+0.3
comp=Z,0.7nm,0.6s,mb3.5,baz=306,slow=4.5,SNR=11							
GERES	GERESS Array B	78.78	334	P	P	07 11 02.6	0.0
comp=Z,0.4nm,0.3s,mb3.8,baz=51,slow=7.0,SNR=3.6							

KRSC 12 07:05:12.4±0.7, 5514N×16237E, h33km±33km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	Mys Kozlova	0.69	213	*e*P	Pn	07 05 27.3	+1.5
MKZ				*i* S	Sb	07 05 37.5	+2.2
KBTR	Krutoberegovo	1.10	13	*e*P	Pn	07 05 33.2	+1.8
KBTR				*i* S	Sn	07 05 47.7	+2.2
TUMR	Tumrok	1.28	277	*e*P	Pn	07 05 35.3	+1.4
TUMR				*i* S	Sn	07 05 51.7	+1.7
KMNR	Kamenistaya	1.36	298	*e*P	Pn	07 05 36.9	+1.9
KMNR				*i* S	Sn	07 05 54.1	+2.2
KLY	Klyuchi	1.52	321	*e*P	Pn	07 05 38.1	+0.8
BDR	Baidarnaya	1.57	336	*e*P	Pn	07 05 40.6	+2.6
BDR				*i* S	Sn	07 06 00.9	+3.7
SRKR	Sorokina	1.66	336	*e*P	Pn	07 05 41.6	+2.4
SRKR				*i* S	Sn	07 06 02.6	+3.3
KOZ	Kozyrevsk	1.69	304	*e*P	Pn	07 05 41.7	+2.2
KOZ				*i* S	Sn	07 06 03.4	+3.4
SRDR	Sredinnyy	1.91	309	*e*P	Pn	07 05 44.3	+1.8
SRDR				*i* S	Sn	07 06 07.2	+1.8
KII	Karymskiy	2.03	238	*e*P	Pn	07 05 46.2	+2.0
KII				*i* S	Sn	07 06 11.0	+2.7
SPN	Mys Shipunski	2.47	215	*e*P	Pn	07 05 51.6	+1.4
SPN				*i* S	Sn	07 06 19.9	+0.7
NLC	Nalytchevo	2.66	223	*e*P	Pn	07 05 54.7	+1.9
NLC				*i* S	Sn	07 06 26.1	+2.3
AVH	Avacha	2.84	230	*e*P	Pn	07 05 58.1	+2.7
AVH				*i* S	Sn	07 06 31.6	+3.2
GNL	Ganaly	2.96	243	*e*P	Pn	07 05 59.6	+2.5
PET	Petropavlovsk	3.05	227	*e*P	Pn	07 06 01.1	+2.9
PET				*i* S	Sn	07 06 36.5	+3.0
RUS	Russkaya	3.55	222	*e*P	Pn	07 06 08.1	+3.0
RUS				*i* S	Sn	07 06 48.0	+2.2
GRL	Gorelyy	3.63	226	*e*P	Pn	07 06 09.9	+3.7
GRL				*i* S	Sn	07 06 50.8	+2.9

*IDC **12** 07:40:59.9±1.1, 4061S×176.16E, h0km, mb4.2/3, mb1 4.3/5, mb1mx4.0/15, mbtmp4.1/5, ML3.7/2, Error ellipse: s-maj=34.5km s-min=22.9km az=135.0*
*ISCJB **12** 07:41:01.9±0.7, 4079S×004×17647E±009, h52km±6km, mb4.2/3, Error ellipse: s-maj=12.1km s-min=3.7km az=26.6*
*WEL **12** 07:41:04.9±0.1, 4060S×176.12E, h17km±1km, ML4.4/57, Error ellipse: s-maj=2.2km s-min=0.8km az=90.0*
WEL Felt from Taranaki to Wellington, maximum reported intensity MM 5.
*NEIC **12** 07:41:04.9, 4061S×176.16E, h21km, mb4.4/1, ML4.4(WEL), After WEL.*
NEIC Felt throughout Wairarapa.

ISC 12 07:41:03.7±0.6, 4072S±003×17632E±007, h32km±3km, n127, σ0§92/129, mb4.2/3, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFZ	Birch Farm	0.07	301	P	Pb	07 41 10.2	+1.1
BFZ				S	Sb	07 41 11.9	-0.9
BFZ	Birch Farm	0.07	301	P*	Pb	07 41 10.2	+1.0
BFZ				S*	Sb	07 41 11.9	-1.0
TIWZ	Tintock	0.34	259	P*	Pb	07 41 12.6	+0.8
MRZ	Mangatainoka R	0.56	275	P	Pb	07 41 13.4	-1.8
MRZ	Mangatainoka R	0.56	275	P*	Pb	07 41 13.4	-1.8
HOWZ	Holdsworth Sta	0.64	253	P*	Pb	07 41 17.1	+0.6
WPHZ	Waipukurau	0.66	8	P*	Pb	07 41 16.2	-0.6
WPHZ				S*	Sb	07 41 24.8	-0.8
TSZ	Takapari Road	0.71	337	P	Pn	07 41 14.1	-3.3
TSZ				S	Sb	07 41 21.9	-5.2
TSZ	Takapari Road	0.71	337	P*	Pb	07 41 14.1	-3.5
TSZ				S*	Sb	07 41 21.9	-5.2
MTW	Mount Morrison	0.76	234	P	Pn	07 41 19.9	+1.7
MTW	Mount Morrison	0.76	234	P*	Pb	07 41 19.9	+1.4
PXZ	Pawanui	0.80	31	P*	Pb	07 41 19.2	+0.1
PXZ				S*	Sb	07 41 32.2	+2.7
TRWZ	Traveller	0.83	215	P*	Pb	07 41 21.8	+2.1
PAWZ	Paruwai Farm	0.95	225	P	Pn	07 41 22.7	+2.0
PAWZ	Paruwai Farm	0.95	225	P*	Pb	07 41 22.7	+1.1
CAW	Cannon Point	1.03	247	P	Pn	07 41 22.9	+1.1
CAW	Cannon Point	1.03	247	P*	Pb	07 41 22.9	0.0
MSWZ	Moikau Station	1.07	229	P	Pn	07 41 23.9	+1.5
MSWZ	Moikau Station	1.07	229	P*	Pb	07 41 23.9	+0.3
KIW	Kapiti Island	1.08	262	P	Pn	07 41 23.2	+0.7
KIW	Kapiti Island	1.08	262	P*	Pb	07 41 23.2	-0.6
BHW	Baring Head	1.30	237	P	Pn	07 41 26.6	+1.1
BHW	Baring Head	1.30	237	P*	Pb	07 41 26.6	-0.9
WEL	Wellington	1.30	244	P	Pn	07 41 26.6	+1.0
WEL	Wellington	1.30	244	P*	Pb	07 41 26.6	-1.0
MRW	Makara Radio	1.33	247	P	Pn	07 41 26.8	+0.8
MRW	Makara Radio	1.33	247	P*	Pb	07 41 26.8	-1.2
SNZO	South Karori	1.36	244	P	Pn	07 41 26.9	+0.5
SNZO	South Karori	1.36	244	P*	Pb	07 41 26.9	-1.6
MOVZ	Moawhango	1.38	341	P	Pn	07 41 26.3	-0.3
MOVZ	Moawhango	1.38	341	PN	Pn	07 41 26.3	-0.3
WAZ	Wanganui	1.40	313	P	Pn	07 41 27.2	+0.3
WAZ	Wanganui	1.40	313	PN	Pn	07 41 27.2	+0.3
MTVZ	Mangateitei	1.48	334	PN	Pn	07 41 28.1	+0.1
WNVZ	Wahianoa	1.49	338	P	Pn	07 41 28.4	+0.2
WNVZ	Wahianoa	1.49	338	PN	Pn	07 41 28.4	+0.2
TRVZ	Turoa	1.53	337	PN	Pn	07 41 29.1	+0.3
TUVZ	Tukino	1.53	340	P	Pn	07 41 29.1	+0.3
TUVZ	Tukino	1.53	340	PN	Pn	07 41 29.1	+0.3
DRZ	Dome Shelter	1.55	338	P	Pn	07 41 29.7	+0.7
DRZ	Dome Shelter	1.55	338	PN	Pn	07 41 29.7	+0.7
BKZ	Black Stump Fm	1.55	5	P	Pn	07 41 28.8	-0.2
BKZ	Black Stump Fm	1.55	5	PN	Pn	07 41 28.8	-0.2
FWVZ	Far West T-bar	1.57	338	P	Pn	07 41 29.5	+0.2
FWVZ	Far West T-bar	1.57	338	PN	Pn	07 41 29.5	+0.2
PKVZ	Pokaka	1.61	332	PN	Pn	07 41 30.0	+0.2
WPVZ	Whakapapa	1.62	338	P	Pn	07 41 30.2	+0.2
WPVZ	Whakapapa	1.62	338	PN	Pn	07 41 30.2	+0.3
TCW	Tory Channel	1.62	252	P	Pn	07 41 30.5	+0.5
TCW	Tory Channel	1.62	252	PN	Pn	07 41 30.5	+0.5
OTVZ	Oturere	1.63	342	PN	Pn	07 41 30.4	+0.3
NGZ	Ngauruhoe	1.63	340	P	Pn	07 41 30.3	+0.2
NGZ	Ngauruhoe	1.63	340	PN	Pn	07 41 30.3	+0.2
WTVZ	West Tongariro	1.69	340	P	Pn	07 41 31.4	+0.4
WTVZ	West Tongariro	1.69	340	PN	Pn	07 41 31.4	+0.4
KRVZ	Karewarewa	1.70	342	PN	Pn	07 41 31.8	+0.7
RITZ	Rihia Road	1.77	348	P	Pn	07 41 32.6	+0.6
RITZ	Rihia Road	1.77	348	PN	Pn	07 41 32.6	+0.6
TWVZ	Taurewa	1.78	337	P	Pn	07 41 32.2	+0.1
TWVZ	Taurewa	1.78	337	PN	Pn	07 41 32.2	+0.1
KATZ	Kakaramea	1.80	344	P	Pn	07 41 33.1	+0.6
KATZ	Kakaramea	1.80	344	PN	Pn	07 41 33.1	+0.6
DUWZ	D'Urville Isla	1.82	266	PN	Pn	07 41 32.9	+0.1
HATZ	Hinemaiaia	1.83	354	P	Pn	07 41 32.6	-0.2
HATZ	Hinemaiaia	1.83	354	PN	Pn	07 41 32.6	-0.2
RATZ	Rangitukua	1.89	347	PN	Pn	07 41 34.0	+0.3
CMWZ	Cape Campbell	1.89	236	P	Pn	07 41 34.9	+1.2
CMWZ	Cape Campbell	1.89	236	PN	Pn	07 41 34.9	+1.1
TUWZ	Tuamarina	1.93	248	PN	Pn	07 41 34.3	0.0
KNZ	Kokohu	1.99	32	P	Pn	07 41 34.6	-0.4
KNZ	Kokohu	1.99	32	PN	Pn	07 41 34.6	-0.4
VRZ	Vera Road	1.99	322	P	Pn	07 41 35.0	-0.1
VRZ	Vera Road	1.99	322	PN	Pn	07 41 35.0	0.0
WATZ	Wairara	2.05	347	P	Pn	07 41 35.8	-0.1
WATZ	Wairara	2.05	347	PN	Pn	07 41 35.8	-0.1
WHTZ	Whakaora	2.06	352	P	Pn	07 41 36.3	+0.2
WHTZ	Whakaora	2.06	352	PN	Pn	07 41 36.3	+0.3
BSWZ	Blackbirch Sta	2.10	241	P	Pn	07 41 36.9	+0.4
BSWZ	Blackbirch Sta	2.10	241	PN	Pn	07 41 36.9	+0.4
NNZ	Nelson	2.28	256	P	Pn	07 41 39.4	+0.3
NNZ	Nelson	2.28	256	PN	Pn	07 41 39.4	+0.3
PKE	Pukeiti	2.35	310	PN	Pn	07 41 40.9	+0.9
NWEZ	Newall Road	2.37	307	PN	Pn	07 41 41.5	+1.2
URZ	Urewera	2.53	14	Pn	Pn	07 41 41.3	-1.2
11nm,0.3s,baz=212,slow=9.5,SNR=87							
URZ				Sn	Sn	07 42 11.2	-0.9
21nm,0.3s,baz=268,slow=9.4,SNR=8.1							
KHZ	Kahutara	2.69	230	P	Pn	07 41 44.7	0.0
KHZ	Kahutara	2.69	230	PN	Pn	07 41 44.7	0.0
THZ	Tophouse	2.78	247	P	Pn	07 41 45.6	-0.3
THZ	Tophouse	2.78	247	PN	Pn	07 41 45.6	-0.3
QRZ	Quartz Range	2.88	267	P	Pn	07 41 46.9	-0.4
QRZ	Quartz Range	2.88	267	PN	Pn	07 41 46.9	-0.3
PUZ	Puketiti	3.04	30	PN	Pn	07 41 48.1	-1.3
MXZ	Matakaoa Point	3.51	27	P	Pn	07 41 55.3	-0.6
MXZ	Matakaoa Point	3.51	27	PN	Pn	07 41 55.3	-0.6
DSZ	Denniston Nort	3.56	252	P	Pn	07 41 56.1	-0.5
DSZ	Denniston Nort	3.56	252	PN	Pn	07 41 56.1	-0.5
LTZ	Lake Taylor	3.67	234	P	Pn	07 41 57.5	-0.6
LTZ	Lake Taylor	3.67	234	PN	Pn	07 41 57.5	-0.6
CRLZ	Canterbury Las	3.97	223	PN	Pn	07 42 01.1	-1.1
MQZ	McQueen's Vall	4.04	221	P	Pn	07 42 02.4	-0.9
MQZ	McQueen's Vall	4.04	221	PN	Pn	07 42 02.4	-0.9
WVZ	Waitaha Valley	4.79	239	PN	Pn	07 42 12.4	-1.1
RPZ	Rata Peaks	4.93	231	P	Pn	07 42 14.3	-1.1
RPZ	Rata Peaks	4.93	231	Pn	Pn	07 42 14.6	-0.8
4.6nm,0.3s,baz=34,slow=15,SNR=24							
RPZ				Sn	Sn	07 43 08.8	-2.5
4.7nm,0.3s,baz=297,slow=16,SNR=15							
RPZ	Rata Peaks	4.93	231	PN	Pn	07 42 14.3	-1.1
FOZ	Fox Glacier	5.69	238	P	Pn	07 42 23.5	-2.4
FOZ	Fox Glacier	5.69	238	PN	Pn	07 42 23.5	-2.4
LBZ	Lake Benmore	5.83	229	P	Pn	07 42 27.2	-0.6
LBZ	Lake Benmore	5.83	229	PN	Pn	07 42 27.2	-0.5
ODZ	Otahua Downs	6.01	222	P	Pn	07 42 30.0	-0.2
ODZ	Otahua Downs	6.01	222	PN	Pn	07 42 30.0	-0.2
JCZ	Jackson Bay	6.53	237	P	Pn	07 42 35.7	-1.7
JCZ	Jackson Bay	6.53	237	PN	Pn	07 42 35.7	-1.6
EAZ	Earnscleugh	6.84	226	P	Pn	07 42 41.5	-0.2
EAZ	Earnscleugh	6.84	226	PN	Pn	07 42 41.5	-0.2
TUZ	Tuapeka	7.15	221	P	Pn	07 42 45.7	-0.3
TUZ	Tuapeka	7.15	221	PN	Pn	07 42 45.7	-0.2
ASAR	Alice Springs	39.30	282	P	P	07 48 29.6	0.0
2.0nm,0.5s,mb4.1,baz=124,slow=6.9,SNR=43							
ASAR				PcP	PcP	07 50 38.0	0.0
0.3nm,0.4s,baz=118,slow=4.1,SNR=4.3							
WB2	Warramunga Arr	41.24	287	*e*P	P	07 48 45.2	-0.5
WRA	Warramunga Arr	41.24	287	P	P	07 48 45.4	-0.3
3.5nm,0.5s,mb4.2,baz=126,slow=8.3,SNR=72							
FITZ	Fitzroy Crossi	48.79	282	*e*P	P	07 49 45.4	-0.4
3.9nm,0.9s,mb4.4							
FITZ	Fitzroy Crossi	48.79	282	P	P	07 49 45.4	-0.3
2.0nm,0.9s,mb4.2,baz=122,slow=9.5,SNR=5.5							
YKA	Yellowknife Ar	116.71	29	PKP	PKPdf	07 59 45.6	+2.2
0.1nm,0.3s,baz=228,slow=2.5,SNR=4.0							
MKAR	Makanchi Array	120.58	307	PKP	PKPdf	07 59 51.5	+0.1
0.2nm,0.5s,baz=127,slow=2.0,SNR=3.7							
BVAR	Borovoye Array	130.08	311	PKP	PKPdf	08 00 09.4	0.0
0.4nm,0.5s,baz=121,slow=2.4,SNR=2.5							
ARCES	ARCESS Array B	147.32	341	PKPbc	PKPbc	08 00 43.6	+1.0
2.8nm,0.8s,baz=55,slow=2.4,SNR=12							
TORD	Torodi Ar. Bea	152.14	191	PKPdf	PKPdf	08 00 51.0	+1.5
0.3nm,0.8s,baz=212,slow=5.1,SNR=3.1							
TORD				PKPbc	PKPbc	08 00 57.2	+1.0
0.2nm,0.5s,baz=156,slow=3.4,SNR=6.3							
FINES	FINESS Array B	152.49	329	PKPbc	PKPbc	08 00 57.5	+1.9
0.9nm,0.8s,baz=38,slow=3.4,SNR=4.8							

*ATH **12** 07:49:58.7, 3854N×2176E, h37km±1km, MD3.0/4*
*ISCJB **12** 07:50:00.9±0.5, 3851N±004×2165E±004, h23km±6km, Error ellipse: s-maj=6.9km s-min=5.1km az=153.2*
*CSEM **12** 07:50:00.9±0.1, 3853N×2164E, h2km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.5km az=1.0*
*THE **12** 07:50:01.0, 3851N×2164E, h14km, ML2.7*

ISC 12 07:50:01.1±0.5, 3854N±003×2165E±004, h20km±7km, n11, σ1§17/21, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	Sela	0.33	144	*e*Pg	Pb	07 50 06.9	-1.3
SELA				*e*Sg	Sb	07 50 12.2	-0.9
SELA	Sela	0.33	144	*e*Pg	Pb	07 50 06.9	-1.3
SELA				*e*Sg	Sb	07 50 12.1	-0.9
EVR	Evrytania	0.40	18	*e*PB	Pb	07 50 08.0	-1.5
EVR				*e*SB	Sb	07 50 14.9	-0.3
RLS	Riolos of Patr	0.50	197	*e*PN	Pb	07 50 10.2	-1.0
RLS				*e*SN	Sb	07 50 18.9	+0.8
AGG	Agios Georgios	0.72	48	*e*Pg	Pb	07 50 15.2	+0.2
AGG				*e*Sg	Sb	07 50 26.4	+2.0
LKD	Levkas	0.80	283	*e*Pg	Pb	07 50 15.6	-0.8
LKD				*e*Sg	Sb	07 50 28.4	+1.7
VLS	Valsamata	0.91	247	*e*Pg	Pb	07 50 17.4	-0.8
VLS				*e*Sg	Sb	07 50 30.9	+1.2
VLS	Valsamata	0.91	247	*e*Pn	Pb	07 50 17.8	-0.4
VLS				*e*Sg	Sb	07 50 31.0	+1.2
LKR	Lokris	1.06	84	*e*Pg	Pn	07 50 20.6	-0.3
LKR				*e*Sg	Sb	07 50 36.0	+1.7
THL	Klokotos Trika	1.06	15	*e*PN	Pn	07 50 18.5	-2.4
LTK	Loutraki	1.16	116	*e*Pg	Pn	07 50 22.5	+0.3
LTK				*e*Sg	Sn	07 50 38.0	+0.6

*ISCJB **12** 07:52:12.9±1.4, 5370N±009×878E±0.1, h10km, Error ellipse: s-maj=14.4km s-min=11.9km az=146.6*
*IDC **12** 07:52:14.9±2.7, 5361N×8790E, h0km, mb1 3.2/2, mb1mx3.1/23, mbtmp3.2/2, ML3.2/2, Error ellipse: s-maj=24.4km s-min=15.4km az=47.0*

ISC 12 07:52:14.9±1.5, 5379N±010×877E±01, h10km, n4, σ1§00/7, 2C-1D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	Zalesovo Beam	1.73	276	Pg	Pg	07 52 48.3	+0.2
3.8nm,0.3s,baz=99,slow=17,SNR=16							
ZALV				Lg		07 53 14.2	
7.3nm,0.3s,baz=103,slow=26,SNR=18							
MK31	Makanchi Array	7.82	209	⇑Pn	Pn	07 54 05.8	-2.9
0.5nm,0.5s,baz=31,slow=14,SNR=9.3							
MK31				⇑Sn	Sn	07 55 38.0	+0.8
1.7nm,0.7s,baz=30,slow=22,SNR=4.1							
MK31				⇓Lg		07 56 19.6	
8.3nm,1.1s,baz=27,slow=31,SNR=5.5							
MKAR	Makanchi Array	7.82	209	Pn	Pn	07 54 09.3	+0.6
0.3nm,0.3s,baz=31,slow=14,SNR=12							
MKAR				Pg	Pn	07 54 27.1	+18
0.2nm,0.3s,baz=31,slow=14,SNR=4.6							
MKAR				Sn	Sn	07 55 36.9	-0.3
0.2nm,0.3s,baz=30,slow=22,SNR=3.6							
MKAR				Lg		07 56 19.6	
0.4nm,0.3s,baz=29,slow=31,SNR=6.5							
SONM	Songino Array	13.20	109	Pn	Pn	07 55 22.5	+0.2
0.1nm,0.3s,baz=280,slow=8.6,SNR=2.8							

WEL 12 08:00:05.4±0.7, 3778S×17971E, h12km, ML3.5/4, Error ellipse: s-maj=5.5km s-min=4.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.14	280	P*	Pb	08 00 25.7	-1.3
MXZ				S*	Sb	08 00 41.5	-0.2
MXZ	Matakaoa Point	1.14	280	PN	Pn	08 00 25.7	-1.4
MXZ				SN	Sn	08 00 41.5	-1.2
PUZ	Puketiti	1.19	255	P*	Pb	08 00 26.9	-1.0
PUZ	Puketiti	1.19	255	PN	Pn	08 00 26.9	-1.0
PUZ				SN	Sn	08 00 43.5	-0.4
MWZ	Matawai	1.81	251	PN	Pn	08 00 35.3	-1.1
MWZ				SN	Sn	08 00 57.6	-1.8
MWZ	Matawai	1.81	251	PN	Pn	08 00 35.3	-1.1
MWZ				SN	Sn	08 00 57.7	-1.6
KNZ	Kokohu	2.03	232	PN	Pn	08 00 38.5	-0.9
KNZ	Kokohu	2.03	232	PN	Pn	08 00 38.5	-0.9
URZ	Urewera	2.11	256	PN	Pn	08 00 40.3	-0.2
URZ	Urewera	2.11	256	PN	Pn	08 00 40.3	-0.2
URZ				SN	Sn	08 01 05.9	-0.8
BKZ	Black Stump Fm	2.88	240	PN	Pn	08 00 50.6	-0.6
BKZ	Black Stump Fm	2.88	240	PN	Pn	08 00 50.6	-0.6
BKZ				SN	Sn	08 01 24.4

ARA0			eSG			08 13 22.9
ARA0	**ARCESS Array S**	**3.67 305**	Pn	**Pn**	**08 12 30.2**	**+2.9**
	baz=122,slow=16					
ARA0			Pg	**Pg**	**08 12 37.7**	**-1.9**
	baz=120,slow=16					
ARA0			Sn	**Sn**	**08 13 11.6**	**+0.4**
	baz=127,slow=28					
ARA0			Lg		08 13 22.9	
	baz=127,slow=37					
ARCES	**ARCESS Array B**	**3.67 305**	Pn	**Pn**	**08 12 27.2**	**-0.1**
	comp=Z,8.1nm,0.3s,baz=122,slow=15,SNR=125					
ARCES			Pg	**Pg**	**08 12 30.2**	**-9.5**
	comp=Z,8.1nm,0.3s,baz=122,slow=15,SNR=190					
ARCES			Lg		08 13 12.6	
	comp=Z,3.9nm,0.3s,baz=123,slow=25,SNR=9.1					
ARCES			Rg		08 13 27.4	
	comp=Z,13nm,0.4s,baz=118,slow=34,SNR=14					
HEF	**Hetta**	**3.99 286**	*e*P	**Pn**	**08 12 32.2**	**+0.5**
HEF			eS	**Sn**	**08 13 18.3**	**-0.7**
OUL	**Oulu**	**4.18 236**	*e*P	**Pn**	**08 12 35.5**	**+1.1**
OUL			eSB	**Sb**	**08 13 34.0**	**-0.7**
JOF	**Joensuu**	**4.89 195**	*e*P	**Pn**	**08 12 44.1**	**0.0**
JOF			eS	**Sn**	**08 13 39.5**	**-1.9**
FIA0	**FINESS Array S**	**7.12 213**	Pn	**Pn**	**08 13 17.0**	**+2.4**
	baz=27,slow=14					
FIA0			Sn	**Sn**	**08 14 35.2**	**-0.9**
	baz=26,slow=22					
FIA0			Lg		08 15 07.2	
	baz=22,slow=28					
FIA0	**FINESS Array S**	**7.12 213**	*e*P	**Pn**	**08 13 17.0**	**+2.4**
FIA0			eS	**Sn**	**08 14 35.2**	**-0.9**
FIA0			eSG		08 15 07.2	
FINES	**FINESS Array B**	**7.12 213**	Pn	**Pn**	**08 13 17.1**	**+2.4**
	comp=Z,0.1nm,0.3s,baz=32,slow=12,SNR=7.8					
FINES			Sn	**Sn**	**08 14 38.4**	**+2.4**
	comp=Z,0.3nm,0.3s,baz=35,slow=22,SNR=4.1					
FINES			Lg		08 15 16.6	
	comp=Z,0.6nm,0.3s,baz=20,slow=29,SNR=4.3					
HFS	**Hagfors**	**11.66 240**	Pn	**Pn**	**08 14 17.4**	**+0.5**
	baz=52,slow=11					
HFS			Sn	**Sn**	**08 16 22.1**	**-5.5**
	baz=49,slow=28					
HFS	**Hagfors**	**11.66 240**	*e*P	**Pn**	**08 14 17.4**	**+0.5**
HFS			eS	**Sn**	**08 16 22.1**	**-5.5**
HFS	**Hagfors**	**11.66 240**	Pn	**Pn**	**08 14 16.1**	**-0.8**
	comp=Z,0.1nm,0.3s,baz=40,slow=11,SNR=9.3					
SPA0	**Spitsbergen Ar**	**11.69 342**	Pn	**Pn**	**08 14 16.0**	**-1.2**
	baz=147,slow=18					
SPA0	**Spitsbergen Ar**	**11.69 342**	*e*P	**Pn**	**08 14 16.0**	**-1.2**
NB2	**NORSAR Subarra**	**11.85 247**	Pn	**Pn**	**08 14 19.5**	**0.0**
	baz=52,slow=12					
NB2	**NORSAR Subarra**	**11.85 247**	*e*P	**Pn**	**08 14 19.5**	**0.0**
NOA	**NORSAR Array B**	**11.85 247**	Pn	**Pn**	**08 14 19.2**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=38,slow=15,SNR=2.3					

*ISCJB **12** 08:17:27.0±1.3, 2728N±007×5466E±005, h9km±11km, Error ellipse: s-maj=11.6km s-min=7.4km az=175.4*
*THR **12** 08:17:27.5±0.9, 2708N×5463E, h46km±9km, ML3.5*
*CSEM **12** 08:17:27.5, 2708N×5463E, h46km, ML3.5, After THR*
ISC 12 08:17:28.3±1.4**, 2727N**±007×**5469E**±005**, h4**km±11km**, n13,** σ0.9**98**/15**, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.33**	**84**	*e*Pg	**Pg**	**08 17 53.5**	**-0.2**
BNDS				AML	AML	08 18 14.9	
	comp=N,837nm,0.4s						
GHIR	**Ghir-Karzin**	**1.81**	**304**	*e*Pg	**Pg**	**08 18 01.6**	**-1.4**
GHIR				*e*Sg	**Sg**	**08 18 26.9**	**+0.3**
GHIR				AML	AML	08 18 35.1	
	comp=E,540nm,0.5s						
GHIR				AML	AML	08 18 35.9	
	comp=N,463nm,0.4s						
GHIR	**Ghir-Karzin**	**1.81**	**304**	*e*Pg	**Pg**	**08 18 01.6**	**-1.4**
	SNR=99						
GHIR				*e*Sg	**Sg**	**08 18 26.9**	**+0.3**
	comp=N,463nm,0.4s,SNR=99						
KRBR	**Kerman**	**3.26**	**34**	*e*Pn	**Pn**	**08 18 20.2**	**0.0**
KRBR				AML	AML	08 19 18.7	
	comp=N,74nm,0.7s						
BTHS		**4.72**	**228**	S	**Sn**	**08 19 35.0**	**-0.6**
BTHS		**4.72**	**228**	P	**Pn**	**08 18 42.2**	**+1.9**
NASN	**Na'in**	**5.74**	**344**	*e*Pn	**Pn**	**08 18 53.7**	**-0.6**
ZHSF	**Zahedan**	**5.85**	**65**	*e*Pn	**Pn**	**08 18 55.5**	**-0.2**
HRDDS		**6.41**	**229**	S	**Sn**	**08 20 15.2**	**-2.0**
HRDDS		**6.41**	**229**	P	**Pn**	**08 19 04.9**	**+1.3**
RDF	**Al-Radifah**	**6.51**	**286**	*e*P	**Pn**	**08 19 05.7**	**+0.8**
RDF				AML	AML	08 20 16.4	
	comp=Z,12nm,0.3s						
NAY	**Al-Naaiem**	**6.85**	**288**	*e*P	**Pn**	**08 19 09.9**	**+0.3**
NAY				AML	AML	08 20 25.1	
	comp=Z,7.0nm,0.4s						
MIB	**Mutribah**	**6.94**	**293**	*e*P	**Pn**	**08 19 11.3**	**+0.6**
MIB				AML	AML	08 20 29.6	
	comp=Z,18nm,0.5s						

*NEIC **12** 08:18:17.1, 3157S×7158W, h38km, MD3.7(GUC), After GUC.*
GUC 12 08:18:17.1±0.7**, 3157S**×**7158W, h38**km±3km**, MD3.7, ML2.9, 4C-1D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.63**	**52**	⇑*i*P	Pn	08 18 29.4	-0.2
CMCH				*i* S	Sn	08 18 39.4	+1.0
CMCH	**Combarbala**	**0.63**	**52**	⇑*i*P	Pn	08 18 29.4	-0.2
CMCH				*i* S	Sn	08 18 39.4	+1.0
CMCH				AML	AML	08 18 42.3	
	comp=E,1μm,0.5s						
PTCH	**Petorca**	**0.89**	**142**	⇑*i*P	Pn	08 18 33.2	+0.1
PTCH				*i* S	Sn	08 18 45.7	+0.9
JACH	**Jahuel**	**1.39**	**143**	⇑*i*P	Pn	08 18 41.9	+1.9
JACH				*i* S	Sn	08 19 00.5	+3.3
TLL	**Tololo Astrono**	**1.55**	**26**	*e*P	Pn	08 18 43.9	+1.8
TLL				*i* S	Sn	08 19 04.6	+3.6
TLL	**Tololo Astrono**	**1.55**	**26**	*e*P	Pn	08 18 43.9	+1.8
TLL				*i* S	Sn	08 19 04.6	+3.6
TLL				AML	AML	08 19 08.2	
	comp=E,127nm,0.3s						
PEL	**Peldehue**	**1.75**	**154**	*e*P	Pn	08 18 47.2	+2.4
PEL				*i* S	Sn	08 19 08.1	+2.2
PEL				AML	AML	08 19 12.8	
	comp=E,243nm,0.5s						
RCDM	**Rinconada Maip**	**2.02**	**161**	*e*P	Pn	08 18 49.9	+1.2
RCDM				*i* S	Sn	08 19 14.9	+2.1
RCDM	**Rinconada Maip**	**2.02**	**161**	*e*P	Pn	08 18 49.9	+1.2
RCDM				*i* S	Sn	08 19 14.9	+2.1
RCDM				AML	AML	08 19 21.4	
	comp=N,122nm,0.5s						
CLCH	**Cerro Calan**	**2.03**	**154**	*e*P	Pn	08 18 50.1	+1.4
CLCH				*i* S	Sn	08 19 15.4	+2.6
CLCH				AML	AML	08 19 26.7	
	comp=N,168nm,0.5s						
FCH	**Farellones**	**2.07**	**148**	⇓⇓*i*P	Pn	08 18 51.2	+1.9
FCH				*i* S	Sn	08 19 17.0	+3.2
FCH				AML	AML	08 19 27.1	
	comp=E,92nm,0.3s						
TACH	**Talagante**	**2.15**	**166**	*e*P	Pn	08 18 51.7	+1.3
LMEL	**Las Melosas**	**2.55**	**153**	*e*P	Pn	08 18 57.9	+1.9
LMEL				AML	AML	08 19 37.3	
	comp=N,92nm,0.1s						

IDC 12 08:39:21.6±5.6**, 5655S**×**14755W, h0**km**, mb3.8**/3**, mb1 4.0**/3**, mb1mx3.7**/13**, mbtmp3.8**/3**, MS3.9**/6**, Ms1 3.9**/6**, ms1mx3.6**/20**, Error ellipse: s-maj=1017.0km s-min=90.1km az=171.0, Pacific-Antarctic Ridge**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**29.00**	**278**	LR	LR	08 54 39.3	
	comp=Z,258nm,20.4s,baz=176,slow=32						
URZ	**Urewera**	**29.65**	**293**	LR	LR	08 56 02.4	
	comp=Z,237nm,18.1s,baz=86,slow=34						
TBI	**Tubuai**	**33.20**	**357**	*e*LR	LR	08 54 47.9	
	198nm,29.0s						
QSPA	**South Pole Qui**	**33.60**	**180**	LR	LR	08 56 48.4	
	comp=Z,199nm,20.1s,baz=94,slow=31						
RKT	**Rikitea**	**34.65**	**21**	*e*LR	LR	08 55 25.6	
	213nm,27.0s						
RAR	**Rarotonga**	**36.44**	**341**	LR	LR	08 58 37.4	
	comp=Z,149nm,19.0s,baz=214,slow=32						
PPT	**Papeete**	**38.95**	**357**	*e*S	S	08 52 49.2	+0.7
	72nm,25.8s						
PPT				*e*LR	LR	08 57 30.8	
	183nm,26.8s						
PPT	**Papeete**	**38.95**	**357**	LR	LR	08 58 07.2	
	comp=Z,88nm,20.5s,baz=291,slow=29						
TAOE	**Nuku Hiva Isla**	**47.93**	**10**	*e*LR	LR	09 01 33.5	
	4μm,30.1s						
PLCA	**Paso Flores**	**50.51**	**106**	LR	LR	09 03 24.6	
	comp=Z,220nm,21.4s,baz=188,slow=29						
STKA	**Stephens Creek**	**53.69**	**266**	P	P	08 48 45.7	+0.8
	1.6nm,0.7s,baz=124,slow=3.6,SNR=3.8						
ASAR	**Alice Springs**	**64.33**	**266**	P	P	08 49 58.6	-0.2
	0.8nm,0.7s,baz=144,slow=5.6,SNR=8.2						
WRA	**Warramunga Arr**	**67.07**	**268**	P	P	08 50 16.2	-0.4
	1.7nm,0.9s,baz=146,slow=5.6,SNR=5.3						
MKAR	**Makanchi Array**	**148.25**	**274**	PKPbc	PKPbc	08 59 08.2	-0.3
	3.8nm,0.9s,baz=109,slow=3.5,SNR=17						

*NEIC **12** 08:46:28.6, 1705N×9499W, h120km, MD4.1(MEX), After MEX.*
MEX 12 08:46:28.7±1.3**, 1705N**×**9498W, h120**km±10km**, MD4.1, 1C-2D, Chiapas**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.10**	**69**	⇓⇓*i*P	Pn	08 46 44.1	-0.9
CMIG				*i* S	Sn	08 46 55.5	-1.9
TUIG	**Tuzandepetl**	**1.11**	**29**	⇓⇓*i*P	Pn	08 46 50.3	-1.5
TUIG				*i* S	Sn	08 47 05.8	-3.5
OXX	**Oaxaca**	**1.67**	**271**	*i* P	Pn	08 46 56.4	-1.6
OXX				*i* S	Sn	08 47 18.4	-2.0
HUIG	**Huatulco**	**1.67**	**220**	⇑⇑*i*P	Pn	08 46 55.7	-2.5
HUIG				*i* S	Sn	08 47 18.4	-2.2
VHO	**Vista Hermosa**	**1.68**	**271**	*i* P	Pn	08 46 57.6	-0.6
VHO				*i* S	Sn	08 47 20.1	-0.5
SCX	**San Cristobal**	**2.27**	**98**	*i* P	Pn	08 47 04.5	-1.0
SCX				*i* S	Sn	08 47 32.5	-1.3
TPIG	**Tehuac#an**	**2.64**	**301**	*e*P	Pn	08 47 09.8	-0.6
CCIG	**Comitan**	**2.83**	**105**	*i* P	Pn	08 47 11.9	-0.9
CCIG				*i* S	Sn	08 47 46.5	-0.3
PPM	**Popocatepetl**	**4.00**	**301**	*e*P	Pn	08 47 26.5	-1.8
IIO	**Organos**	**4.36**	**306**	*e*P	Pn	08 47 32.0	-1.0
IIO				*i* S	Sn	08 48 25.4	+2.5
IIO	**Organos**	**4.36**	**306**	*e*P	Pn	08 47 32.0	-1.0
IIO				*i* S	Sn	08 48 20.1	-2.9
MZVM		**4.56**	**298**	*i* P	Pn	08 47 36.6	+0.8
MZVM				*i* S	Sn	08 48 23.8	-4.1
PBVM	**Pinon**	**4.56**	**302**	*e*P	Pn	08 47 46.9	+11
ACX	**Acapulco**	**4.73**	**268**	*e*P	Pn	08 47 38.4	+0.5

IDC 12 08:53:58.1±3.1**, 3294S**×**17851W, h0**km**, mb3.6**/2**, mb1 3.9**/3**, mb1mx3.7**/12**, mbtmp3.7**/3**, ML3.6**/1**, Error ellipse: s-maj=71.5km s-min=36.6km az=115.0, South of Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.39**	**213**	Pn	Pn	08 55 33.8	+0.4
	1.3nm,0.3s,baz=125,slow=4.3,SNR=7.7						
URZ				Sn	Sn	08 56 47.0	-0.1
	0.7nm,0.3s,baz=286,slow=11,SNR=5.0						
ASAR	**Alice Springs**	**42.60**	**270**	P	P	09 01 56.1	+0.1
	0.4nm,0.7s,baz=111,slow=7.4,SNR=6.9						
WRA	**Warramunga Arr**	**43.82**	**275**	P	P	09 02 05.8	-0.1
	0.9nm,0.6s,baz=117,slow=8.1,SNR=13						
FINES	**FINESS Array B**	**147.36**	**338**	PKPbc	PKPbc	09 13 42.1	-0.8
	0.9nm,0.7s,baz=48,slow=2.1,SNR=4.8						

*CSEM **12** 08:56:39.7±0.3, 4032N×4020E, h0km±3km, MD2.8, Error ellipse: s-maj=8.2km s-min=5.2km az=62.0*
*ISK **12** 08:56:40.7, 4029N×4018E, h12km, MD2.9*
*ISCJB **12** 08:56:41.2±0.6, 4028N±005×4017E±006, h4km±7km, Error ellipse: s-maj=11.5km s-min=4.3km az=39.8*
*DDA **12** 08:56:41.8, 4033N×4024E, h7km±1km, Md2.8*
ISC 12 08:56:41.8±0.6**, 4027N**±006×**4017E**±007**, h9**km±8km**, n10,** σ1.9**06**/17**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.36**	**135**	*i* P	**Pg**	**08 56 47.7**	**-1.1**
KOPT				*i* S	**Sg**	**08 56 55.0**	**+1.4**
GUMT	**Gumushane**	**0.56**	**290**	PG	**Pg**	**08 56 51.7**	**-0.8**
GUMT				*e*SG	**Sg**	**08 57 00.6**	**+0.8**
EZC	**Erzincan**	**0.59**	**207**	*e*PG	**Pg**	**08 56 58.1**	**+5.0**
MACK	**Trabzon**	**0.73**	**336**	*i* P	**Pg**	**08 56 55.0**	**-0.9**
MACK				*i* S	**Sg**	**08 57 06.7**	**+1.2**
MACK	**Trabzon**	**0.73**	**336**	*i* P	**Pg**	**08 56 55.0**	**-0.9**
MACK				*i* S	**Sg**	**08 57 06.7**	**+1.2**
KTUT	**Trabzon**	**0.78**	**337**	*e*PG	**Pg**	**08 56 56.2**	**-0.5**
KTUT				*e*SG	**Sg**	**08 57 07.0**	**+0.2**
EZM	**Erzurum**	**0.99**	**111**	*e*PG	**Pg**	**08 56 60.0**	**-0.8**
ERZM	**Erzurum**	**0.99**	**111**	*i* P	**Pg**	**08 56 59.2**	**-1.5**
ERZM				*i* S	**Sg**	**08 57 15.8**	**+2.2**
ESPY	**Espiye-Giresun**	**1.27**	**301**	*e*PN	**Pn**	**08 57 04.7**	**-0.9**
GRSN	**GIRESUNGRSN**	**1.58**	**295**	*i* P	**Pn**	**08 57 10.4**	**+0.5**
GRSN				*i* S	**Sn**	**08 57 31.3**	**+0.7**

*NEIC **12** 09:14:36.0, 3607N×2596E, h10km, ML3.2(ATH), After ATH.*
*CSEM **12** 09:14:43.2, 3483N×2548E, h27km, MD3.5/5, After ATH*
ATH 12 09:14:43.2, 3483N×**2548E, h27**km**, MD3.5**/5**, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.18**	**76**	*e*PB	Pb	09 14 48.9	+0.1
NPS	**Neapolis**	**0.45**	**14**	*e*PB	Pb	09 14 52.4	-0.2
IDI	**Anoyia**	**0.67**	**314**	P	Pb	09 14 57.3	+1.1
GVD	**Gavdhos**	**1.15**	**271**	*e*PN	Pn	09 15 05.0	+1.6
VAM	**Vamos**	**1.20**	**299**	*e*PN	Pn	09 15 06.0	+1.9
KARP	**Karpathos**	**1.55**	**62**	*e*PN	Pn	09 15 11.1	+2.1

*IDC **12** 09:53:26.1±3.4, 274S×13873E, h0km, mb3.6/2, mb1 3.8/4, mb1mx3.6/11, mbtmp3.6/4, ML3.6/2, Error ellipse: s-maj=115.7km s-min=25.9km az=90.0*
*ISCJB **12** 09:53:30.3±2.4, 28S±01×1384E±05, h33km, mb3.7/2, Error ellipse: s-maj=64.7km s-min=21.0km az=0.4*
ISC 12 09:53:32.4±2.3**, 28S**±01×**1384E**±04**, h35**km**, n6,** σ1.9**40/6, mb3.7**/2**, Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**11.49**	**211**	*e*P	**Pn**	**09 56 15.9**	**+1.8**
	5.7nm,0.5s						
WB2	**Warramunga Arr**	**17.49**	**193**	*e*P	**Pn**	**09 57 33.7**	**0.0**
WRA	**Warramunga Arr**	**17.50**	**193**	P	**Pn**	**09 57 33.4**	**-0.4**
	0.3nm,0.3s,baz=16,slow=12,SNR=13						
FITZ	**Fitzroy Crossi**	**19.70**	**219**	P	**Pn**	**09 57 58.9**	**-1.7**
	0.1nm,0.3s,baz=35,slow=11,SNR=2.1						
ASAR	**Alice Springs**	**21.20**	**192**	P	**P**	**09 58 15.2**	**+0.1**
	1.4nm,0.7s,mb3.4,baz=17,slow=11,SNR=12						
MKAR	**Makanchi Array**	**69.69**	**323**	P	**P**	**10 04 38.8**	**+0.2**
	0.8nm,0.4s,mb4.0,baz=126,slow=7.3,SNR=16						

*NIED **12** 10:15:00, 2620N×14140E, h89km, Mw3.8 Best double couple: M0 6.30000×10^14 NP1:φs 347.00000°, δ 86.00000°, λ 63.00000°. NP2:φs 250.00000°, δ 28.00000°, λ 171.00000°.*
*ISCJB **12** 10:15:19.4±0.6, 2614N±005×1415E±01, h122km±7km, mb4.2/12, Error ellipse: s-maj=18.7km s-min=6.2km az=165.7*
*JMA **12** 10:15:21.2, 2616N×14150E, h108km, M4.4*
*NEIC **12** 10:15:21.1±0.5, 2616N×14153E, mb4.6/6, MW3.8(NIED), Error ellipse: s-maj=18.6km s-min=8.1km az=85.0*
*IDC **12** 10:15:21.2±0.7, 2619N×14150E, h115km±6km, mb3.6/6, mb1 3.7/9, mb1mx3.5/18, mbtmp3.5/9, Error ellipse: s-maj=22.4km s-min=11.2km az=103.0*
ISC 12 10:15:20.8±0.6**, 2616N**±005×**1416E**±01**, h119**km±7km**, h125**km±4.6km**: pP-P, n36,** σ0.9**83**/40**, mb4.2**/12**, Bonin Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**0.70**	**48**	P	**Pn**	**10 15 40.1**	**+0.1**
JHHJ				S	**Sn**	**10 15 54.3**	**-0.3**
CBIJ	**Chichi jima**	**1.07**	**30**	P	**Pn**	**10 15 43.7**	**+0.3**
CBIJ				S	**Sn**	**10 16 00.5**	**-0.1**
CBIJ	**Chichi jima**	**1.07**	**30**	P	**Pn**	**10 15 43.8**	**+0.4**
	685nm,0.3s,baz=199,slow=2.3,SNR=264						
CBIJ				S	**Sn**	**10 16 00.5**	**-0.1**
	637nm,0.3s,baz=312,slow=23,SNR=14						
BSO1	**Boso 1**	**8.48**	**357**	P	**Pn**	**10 17 20.6**	**-0.1**
BSO3	**Boso 3**	**8.66**	**354**	P	**Pn**	**10 17 22.1**	**-1.0**
BSO4	**Boso 4**	**8.86**	**353**	P	**Pn**	**10 17 27.0**	**+1.1**
BSO4				*e*S	**Sn**	**10 19 03.4**	**-0.5**
HMMJ	**Hamamatsu 2**	**9.28**	**340**	P	**Pn**	**10 17 34.5**	**+2.9**
JOD2	**Odawara 2**	**9.32**	**347**	P	**Pn**	**10 17 32.0**	**-0.1**
JOD2				*e*S	**Sn**	**10 19 14.4**	**-0.6**
JNY	**Yasuok**	**9.71**	**342**	P	**Pn**	**10 17 39.6**	**+2.3**
JHU	**Hanno**	**9.86**	**349**	P	**Pn**	**10 17 37.8**	**-1.5**
JRY	**Ryogami san**	**10.09**	**347**	P	**Pn**	**10 17 41.4**	**-1.0**
JRY				*e*S	**Sn**	**10 19 34.2**	**+0.6**
MJAR	**Matsushiro Arr**	**10.74**	**345**	P	**Pn**	**10 17 50.9**	**-0.2**
	2.5nm,0.3s,baz=159,slow=11,SNR=28						
MAJO	**Matsushiro**	**10.74**	**345**	*e*Pn	**Pn**	**10 17 51.4**	**+0.3**
	10.0nm,0.5s						
MAT	**Matsushiro**	**10.74**	**345**	P	**Pn**	**10 17 51.7**	**+0.6**
MAT				*e*S	**Sn**	**10 19 48.9**	**-0.5**
KSRS	**Korea Array**	**16.16**	**317**	P	**Pn**	**10 19 01.1**	**+0.2**
	0.2nm,0.3s,baz=127,slow=12,SNR=4.4						
ASAJ	**Asahikawa**	**17.93**	**2**	P	**Pn**	**10 19 22.9**	**+0.6**
	0.2nm,0.3s,baz=209,slow=13,SNR=2.7						
YHNB	**Yeheng**	**18.32**	**270**	*e*P	**P**	**10 19 25.4**	**-0.4**
CTAO	**Charters Tower**	**46.20**	**174**	*e*P	**P**	**10 23 33.8**	**0.0**
	1.4nm,0.3s,mb4.2						
WRAB	**Tennant Creek**	**46.36**	**189**	*e*P	**P**	**10 23 35.0**	**0.0**
	8.7nm,0.4s,mb4.8						
WB2	**Warramunga Arr**	**46.37**	**189**	*e*P	**P**	**10 23 34.7**	**-0.4**
WRA	**Warramunga Arr**	**46.37**	**189**	P	**P**	**10 23 35.1**	**0.0**
	12nm,0.4s,mb5.0,baz=11,slow=8.7,SNR=220						
FITZ	**Fitzroy Crossi**	**46.65**	**201**	*e*P	**P**	**10 23 37.3**	**0.0**
	5.3nm,0.5s,mb4.5						
ASAR	**Alice Springs**	**50.09**	**189**	P	**P**	**10 24 03.7**	**+0.1**
	1.0nm,0.5s,mb4.0,baz=12,slow=13,SNR=32						
ASAR				PcP	PcP	10 25 22.3	+0.7
	0.4nm,0.7s,baz=12,slow=4.7,SNR=3.2						
MKAR	**Makanchi Array**	**50.66**	**310**	P	**P**	**10 24 07.7**	**-0.1**
	0.1nm,0.4s,mb3.2,baz=70,slow=8.3,SNR=3.0						
STKA	**Stephens Creek**	**57.71**	**180**	*e*P	**P**	**10 24 58.9**	**0.0**
	3.2nm,0.4s,mb4.7						
STKA				pP	pP	10 25 29.1	+1.6
STKA	**Stephens Creek**	**57.71**	**180**	P	**P**	**10 24 59.2**	**+0.3**
	3.1nm,0.4s,mb4.7,baz=354,slow=6.2,SNR=11						
STKA				pP	pP	10 25 29.1	+1.6
	0.8nm,0.4s,baz=315,slow=10.0,SNR=1.3						
FORT	**Forrest**	**58.08**	**194**	*e*P	**P**	**10 25 01.3**	**-0.2**
	2.3nm,0.3s,mb4.7						
YKA	**Yellowknife Ar**	**73.21**	**28**	P	**P**	**10 26 40.6**	**+2.3**
YKA				pP	pP	10 27 09.7	+1.6
YKA	**Yellowknife Ar**	**73.21**	**28**	P	**P**	**10 26 40.6**	**+2.3**
	0.7nm,0.6s,mb3.7,baz=296,slow=6.1,SNR=19						
YKA				pP	pP	10 27 09.7	+1.6
	0.5nm,0.4s,baz=296,slow=6.3,SNR=6.6						
FINES	**FINESS Array B**	**78.55**	**334**	P	**P**	**10 27 07.7**	**-0.9**
	0.6nm,0.4s,mb3.8,baz=58,slow=5.4,SNR=8.8						
FINES				pP	pP	10 27 40.1	+1.3
	0.8nm,0.5s,baz=74,slow=6.6,SNR=2.3						
NVAR	**Mina Array Bea**	**81.51**	**51**	pP	pP	10 27 58.5	+3.0
	0.1nm,0.3s,baz=272,slow=5.1,SNR=4.4						
NOA	**NORSAR Array B**	**84.28**	**338**	P	**P**	**10 27 39.2**	**+0.4**
	0.4nm,0.4s,mb3.6,baz=44,slow=4.9,SNR=3.4						
MSU	**Marysvale**	**85.71**	**49**	*e*P	**P**	**10 27 51.0**	**+4.5**
SRU	**San Rafael**	**86.52**	**48**	*e*P	**P**	**10 27 49.0**	**-1.5**
	3.1nm,0.9s,mb4.2						
PLCA	**Paso Flores**	**149.69**	**127**	PKPbc	PKPbc	10 34 58.6	+2.2
	1.6nm,0.7s,baz=160,slow=23,SNR=5.3						
LPAZ	**La Paz**	**150.67**	**76**	PKPbc	PKPbc	10 35 02.9	+3.4
	1.1nm,0.6s,baz=302,slow=3.3,SNR=6.4						

*GUC **12** 10:16:28.8±0.7, 2279S×6871W, h130km, ML4.9*
*ISCJB **12** 10:16:29.3±0.8, 2269S±005×6868W±008, h109km±9km, mb4.2/10, Error ellipse: s-maj=12.8km s-min=8.8km az=176.5*
*NEIC **12** 10:16:29.7±0.8, 2267S×6873W, h100km±15km, MG4.9(GUC), Error ellipse: s-maj=15.2km s-min=10.8km az=104.0*
*IDC **12** 10:16:30.4±0.5, 2253S×6864W, h98km±3km, mb4.0/11, mb1 4.0/15, mb1mx3.9/21, mbtmp3.9/15, MS3.2/1, Ms1 3.1/1, ms1mx2.4/24, Error ellipse: s-maj=17.7km s-min=12.0km az=61.0*
ISC 12 10:16:30.3±0.7**, 2270S**±005×**6866W**±007**, h100**km±8km**, h99**km±.6km**: pP-P, n29,** σ1.9**08**/30**, mb4.2**/10**, 1C-1D, Northern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**1.58**	**244**	⇓⇓*i*P	**Pn**	**10 16 59.4**	**+2.0**
CEN1				*i* S	**Sn**	**10 17 23.0**	**+4.9**
CEN1				AML	AML	10 17 28.5	
	comp=N,13μm,0.7s						
ANCH	**Antofagasta**	**1.89**	**238**	*e*P	**Pn**	**10 17 01.0**	**-0.3**
ANCH				*i* S	**Sn**	**10 17 25.2**	**+0.1**
ANCH	**Antofagasta**	**1.89**	**238**	*e*P	**Pn**	**10 17 01.0**	**-0.3**
ANCH				*i* S	**Sn**	**10 17 25.2**	**+0.1**
ANCH				AML	AML	10 17 34.8	
	comp=N,12μm,0.6s						
CPN1	**Cerro Paranal**	**2.50**	**219**	*e*P	**Pn**	**10 17 09.8**	**+0.5**
CPN1				*i* S	**Sn**	**10 17 40.2**	**+0.9**
CPN1				AML	AML	10 17 48.3	
	comp=E,5μm,0.7s						
CPCH	**Copiapo**	**4.89**	**198**	⇑⇑

	comp=E,0.7nm,0.7s,baz=131,slow=1.8,SNR=12						
ASAR				pPKP	pPKPdf	10 35 54.1	-0.4
	comp=E,0.5nm,0.9s,baz=153,slow=2.6,SNR=3.5						
WRA	Warramunga Arr	132.04	210	PKP	PKPdf	10 35 33.6	+0.7
	comp=E,1.0nm,0.7s,baz=156,slow=1.7,SNR=20						
WRA				pPKP	pPKPdf	10 36 00.0	-0.4
	comp=E,0.5nm,0.7s,baz=153,slow=1.6,SNR=2.6						
MKAR	Makanchi Array	146.45	37	PKPbc	PKPbc	10 35 59.4	-0.2
	comp=E,1.1nm,0.6s,baz=309,slow=2.9,SNR=12						
MKAR				pPKPbc	pPKPbc	10 36 24.9	-1.9
	comp=E,1.3nm,0.7s,baz=323,slow=2.5,SNR=5.1						
MJAR	Matsushiro Arr	152.98	307	PKPbc	PKPbc	10 36 17.0	+0.8
	comp=E,0.7nm,0.6s,baz=122,slow=0.9,SNR=5.8						
MJAR				pPKPbc	pPKPbc	10 36 43.8	+0.2
	comp=E,0.6nm,0.4s,baz=221,slow=6.2,SNR=6.5						
SONM	Songino Array	154.61	8	pPKPbc	pPKPbc	10 36 44.3	-2.4
	comp=E,0.7nm,0.5s,baz=318,slow=1.7,SNR=5.4						

IDC 12 11:20:15.3±14.0, 671S×12972E, h160km±156km, mb3.2/1, mb1 3.0/4, mb1mx2.8/13, mbtmp2.8/4, ML3.4/3, MS2.8/1, Ms1 2.8/1, ms1mx2.5/17, Error ellipse: s-maj=97.1km s-min=54.6km az=29.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BATI	Kupang	6.92	239	LR	LR	11 24 52.8	
	comp=Z,75nm,19.7s,baz=145,slow=40						
FITZ	Fitzroy Crossi	12.00	199	P	Pn	11 23 03.3	+1.9
	0.1nm,0.3s,baz=15,slow=12,SNR=8.6						
FITZ				S	Sn	11 25 12.1	-2.2
	0.2nm,0.3s,baz=0.0,slow=19,SNR=4.6						
WRA	Warramunga Arr	13.90	162	P	Pn	11 23 24.4	-1.2
	0.2nm,0.3s,baz=343,slow=13,SNR=16						
WRA				S	Sn	11 25 51.2	-8.7
	0.3nm,0.3s,baz=353,slow=23,SNR=8.3						
ASAR	Alice Springs	17.34	167	P	Pn	11 24 07.0	-0.6
	0.2nm,0.3s,baz=347,slow=11,SNR=4.7						
MKAR	Makanchi Array	67.83	327	P	P	11 30 56.0	0.0
	0.3nm,0.4s,baz=124,slow=7.7,SNR=3.6						

BJI 12 11:30:54.1, 6.19S×146.95E, h43km, mB5.6, mb5.4, Ms5.3, Msz5.1

IDC 12 11:30:58.7±1.8, 5.53S×146.38E, h17km±10km, mb5.3/24, mb1 5.3/25, mb1mx5.3/25, mbtmp5.3/25, ML5.1/1, MS5.1/18, Ms1 5.1/18, ms1mx5.1/23, Error ellipse: s-maj=12.3km s-min=7.2km az=112.0

MOS 12 11:31:00.3±0.9, 5.42S×146.13E, h33km, mb5.8/54, MS5.2/37, Error ellipse: s-maj=8.5km s-min=6.1km az=95.5

ISCJB 12 11:31:02.9±0.1, 5.52S±0.02×146.12E±0.02, h51km, mb5.6/136, MS5.3/187, Error ellipse: s-maj=3.6km s-min=2.8km az=152.0

NEIC 12 11:31:03.0±0.1, 5.46S×146.11E, mb5.7/70, MS5.3/147, MW5.8, Error ellipse: s-maj=5.9km s-min=4.3km az=74.0, Moment Tensor Solution. s32 Moment tensor: Scale 10^{17}Nm; M_{rr}6.72; $M_{\theta\theta}$-4.11; $M_{\phi\phi}$-2.60; $M_{r\theta}$0.95; $M_{\theta\phi}$3.34; $M_{\phi r}$-0.66; Best double couple: $M_0$6.80000×10^{17} NP1: ϕ_s309.00000°, δ40.00000°, λ91.00000°. NP2: ϕ_s128.00000°, δ50.00000°, λ89.00000°. Principal axes: T 6.8200, Plg85.0000°, Azm31.0000°; N 0.0600, Plg1.0000°, Azm129.0000°; P -6.8800, Plg5.0000°, Azm219.0000°;

NEIC Felt at Kainantu and Madang.

GCMT 12 11:31:03.0±0.1, 5.55S×146.21E, h60km, MW5.9/113, Moment Tensor Solution. s113,c233; s109,c324; Duration: 2s1 Moment tensor: Scale 10^{18}Nm; M_{rr}0.79±.01; $M_{\theta\theta}$-0.72±.01; $M_{\phi\phi}$-0.06±.01; $M_{r\theta}$-0.06±.01; $M_{\theta\phi}$0.35±.00; $M_{\phi r}$0.01±.01; Best double couple: $M_0$0.83400×10^{18} NP1:ϕ_s115.00000°, δ43.00000°, λ91.00000°. NP2:ϕ_s293.00000°, δ47.00000°, λ89.00000°. Principal axes: T 0.7890, Plg88.0000°, Azm179.0000°; N 0.0900, Plg1.0000°, Azm294.0000°; P -0.8790, Plg2.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

ISC 12 11:31:04.8±0.1, 5.51S±0.02×146.16E±0.02, h53km, h53km±2.3km:pP-P, n661, σ1s00/487, mb5.6/136, MS5.3/187, 67C-35D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	14.22	107	P	Pn	11 34 22.4	-1.0
HNR					Sn	11 37 00.9	+1.2
HNR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
HNR				MLR	MLR		
	comp=Z,2μm,19.2s						
HNR	Honiara	14.22	107	ePn	Pn	11 34 23.0	-0.4
	comp=Z,786nm,0.8s						
HNR				eS	Sn	11 37 18.5	+19
HNR	Honiara	14.22	107	Pn	Pn	11 34 22.4	-1.0
	comp=Z,6.1nm,0.3s,baz=186,slow=0.6,SNR=16						
HNR				Sn	Sn	11 37 00.9	+1.2
	baz=280,slow=11,SNR=1.7						
HNR				LR	LR	11 39 13.0	
	comp=Z,2μm,19.2s,baz=351,slow=35						
CTA	Charters Tower	14.49	180	eP	Pn	11 34 29.4	+2.4
	comp=Z,176nm,0.4s						
CTA				eS	Sn	11 37 06.9	+0.5
CTA	Charters Tower	14.49	180	P	Pn	11 34 28.7	+1.7
CTA						11 37 09.3	
CTA				pmax	pmax		
	comp=Z,20nm,0.3s						
CTA				smax			
	comp=N,5.0nm,0.3s						
CTA	Charters Tower	14.49	180	Pn	Pn	11 34 28.7	+1.7
	comp=N,20nm,0.3s,baz=359,slow=14,SNR=72						
CTA				Sn	Sn	11 37 09.3	+2.8
	comp=N,4.5nm,0.3s,baz=290,slow=21,SNR=3.4						
CTAO	Charters Tower	14.49	180	eP	Pn	11 34 28.0	+1.0
CTAO				pmax	pmax		
	comp=Z,272nm,0.7s						
CTAO	Charters Tower	14.49	180	ePn	Pn	11 34 28.0	+1.0
	comp=Z,272nm,0.7s						
KAKA	Kakadu	15.31	241	⇓iP	Pn	11 34 37.6	-0.1
	comp=Z,3μm,1.5s						
WRAB	Tennant Creek	18.37	218	eP	Pn	11 35 14.9	-1.0
WRAB				pmax	pmax		
	comp=Z,550nm,1.4s						
WRAB	Tennant Creek	18.37	218	eP	Pn	11 35 14.9	-1.0
	comp=Z,554nm,1.4s						
WB2	Warramunga Arr	18.38	218	⇓iP	Pn	11 35 14.4	-1.5
WB2				eS	S	11 38 35.4	-6.4
WB2				eSCS	ScS	11 47 01.7	+4.4
WRA	Warramunga Arr	18.39	218	P	Pn	11 35 15.7	-0.3
WRA				S	S	11 38 42.9	+1.0
WRA				pmax	pmax		
	comp=Z,7.0nm,0.3s						
WRA				smax			
	comp=N,2.0nm,0.3s						
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				MLR	MLR		
	comp=Z,13μm,18.1s						
WRA	Warramunga Arr	18.39	218	P	Pn	11 35 15.7	-0.4
	comp=Z,6.8nm,0.3s,baz=41,slow=12,SNR=143						
WRA				S	S	11 38 42.9	+0.9
	comp=Z,2.0nm,0.3s,baz=51,slow=23,SNR=5.4						
WRA				PcP	PcP	11 39 44.7	-0.4
	comp=Z,3.2nm,0.3s,baz=14,slow=1.8,SNR=6.6						
WRA				LR	LR	11 43 29.7	
	comp=Z,13μm,18.1s,baz=45,slow=41						
GUMO	Guam	19.01	356	eP	Pn	11 35 24.5	+0.9
GUMO				pmax	pmax		
	comp=Z,2μm,1.3s						
GUMO	Guam	19.01	356	ePn	Pn	11 35 24.5	+0.9
	comp=Z,2μm,1.3s						
GUMO	Guam	19.01	356	P	Pn	11 35 22.6	-1.0
	comp=Z,12nm,0.3s,baz=200,slow=10,SNR=13						
GUMO				LR	LR	11 40 24.0	
	comp=Z,4μm,20.4s,baz=155,slow=30						
EIDS	Eidsvold	20.31	167	eP	P	11 35 36.5	+0.1
	comp=Z,38nm,0.6s						
ASAR	Alice Springs	21.57	212	P	P	11 35 50.1	0.0
ASAR				S	S	11 39 49.3	+3.1
ASAR				pmax	pmax		
	comp=Z,29nm,0.7s						
ASAR				smax			
	comp=N,26nm,0.8s						
ASAR	Alice Springs	21.57	212	P	P	11 35 50.1	0.0
	comp=N,29nm,0.7s,mb4.8,baz=42,slow=9.3,SNR=80						
ASAR				S	S	11 39 49.3	+3.1
	comp=N,26nm,0.8s,baz=27,slow=20,SNR=7.0						
BATI	Kupang	22.76	257	P	P	11 36 04.2	+1.4
	comp=N,331nm,0.7s,mb5.9,baz=156,slow=1.5,SNR=72						
BATI				S	S	11 40 15.6	+7.4
	comp=N,69nm,1.0s,baz=285,slow=20,SNR=4.2						
FITZ	Fitzroy Crossi	23.63	236	⇓iP	P	11 36 09.6	-1.8
	comp=N,535nm,0.8s,mb6.0						
FITZ				eS	S	11 40 17.6	-4.7
FITZ	Fitzroy Crossi	23.63	236	P	P	11 36 10.3	-1.0
	comp=N,146nm,0.6s,mb5.6,baz=56,slow=12,SNR=211						
FITZ				S	S	11 40 28.3	+6.0
	comp=N,23nm,0.9s,baz=225,slow=21,SNR=2.5						
FITZ				ScP	ScP	11 43 28.3	-0.8
	comp=N,28nm,0.9s,baz=89,slow=21,SNR=2.2						
FITZ				LR	LR	11 46 28.0	
	comp=N,11μm,21.6s,MS5.3,baz=58,slow=39						
DAV	Davao City (W)	24.04	301	P	P	11 36 17.1	+1.9
DAV	Davao City (W)	24.04	301	⇑eP	P	11 36 12.6	-2.6
ARMA	Armidale	25.31	169	eP	P	11 36 26.4	-0.2
ARMA				eS	S	11 40 50.1	+1.1
DZM	Mont Dzumac	25.62	132	eP	P	11 36 28.4	-1.0
KAPI	Kappang	26.30	270	P	P	11 36 36.1	+0.4
	SNR=13						
KAPI	Kappang	26.30	270	P	P	11 36 36.1	+0.4
	SNR=13						
KAPI	Kappang	26.30	270	P	P	11 36 36.1	+0.4
	SNR=13						
KAPI	Kappang	26.30	270	P	P	11 36 36.1	+0.4
	SNR=13						
KAPI	Kappang	26.30	270	P	P	11 36 36.1	+0.4
	SNR=13						
KAPI	Kappang	26.30	270	P	P	11 36 35.1	-0.6
	comp=N,82nm,0.5s,mb5.5,baz=114,slow=5.0,SNR=39						
STKA	Stephens Creek	26.58	189	eP	P	11 36 37.1	-0.9
	comp=N,63nm,0.6s,mb5.3						
STKA				eS	S	11 41 05.9	-3.1
STKA	Stephens Creek	26.58	189	P	P	11 36 37.2	-0.9
	comp=N,41nm,0.6s,mb5.2,baz=351,slow=8.5,SNR=86						
STKA				LR	LR	11 47 49.0	
	comp=N,11μm,20.5s,MS5.4,baz=9.1,slow=38						
MYLDM	Lahad Datu	29.59	291	⇑P	P	11 37 08.3	+3.2
CNB	Canberra Magne	29.81	175	⇑iP	P	11 37 06.5	-0.3
	comp=N,30nm,0.7s,mb5.1						
TSM	Tawau	29.88	288	⇓P	P	11 37 10.4	+2.7
MBWA	Marble Bar	29.97	236	eP	P	11 37 07.8	-0.7
	comp=N,57nm,0.8s,mb5.3						
MBWA	Marble Bar	29.97	236	P	P	11 37 06.6	-1.8
	SNR=8.3						
MBWA	Marble Bar	29.97	236	P	P	11 37 06.6	-1.8
	SNR=8.3						
MBWA	Marble Bar	29.97	236	P	P	11 37 06.6	-1.8
	SNR=8.3						
MBWA	Marble Bar	29.97	236	P	P	11 37 06.6	-1.8
	SNR=8.3						
MBWA	Marble Bar	29.97	236	P	P	11 37 06.6	-1.8
	SNR=8.3						
FORT	Forrest	30.36	212	eP	P	11 37 10.0	-1.7
	comp=N,132nm,0.6s,mb5.8						
FORT				eS	S	11 42 21.1	+13
SDKM	Sandakan	30.96	290	⇓P	P	11 37 19.7	+2.4
TOO	Toolangi	31.92	181	⇑iP	P	11 37 25.4	0.0
	comp=N,1μm,1.6s,mb6.4						
TOO				ePCP	PcP	11 40 15.0	+0.2
TOO				eS	S	11 42 33.1	+0.3
TOO				eSCP	ScP	11 43 56.3	+2.3
TOO	Toolangi	31.92	181	⇑iP	P	11 37 25.4	0.0
TOO				e		11 40 15.0	
TOO				eS	S	11 42 33.1	+0.3
TOO				pmax	pmax		
	comp=Z,1μm,1.6s,mb6.4						
KKM	Kota Kinabalu	32.02	291	eP	P	11 37 26.6	+0.1
KKM	Kota Kinabalu	32.02	291	⇑P	P	11 37 27.5	+0.9
CBIJ	Chichi jima	32.63	353	LR	LR	11 47 13.5	
	comp=Z,3μm,21.8s,MS4.9,baz=180,slow=30						
BTM	Bintulu	34.15	284	⇓P	P	11 37 48.8	+3.6
SBUM	Sibu	34.81	282	⇓P	P	11 37 53.0	+2.2
KSM	Kuching	36.47	280	eP	P	11 38 05.0	-0.1
KSM	Kuching	36.47	280	⇑P	P	11 38 07.0	+1.9
KLBR	Kellerberrin	37.16	222	eP	P	11 38 10.0	-0.8
	comp=Z,32nm,0.5s,mb5.4						
KLBR				e		11 38 12.6	
TAU	Tasmania Unive	37.26	179	eP	P	11 38 08.6	-2.8
TAU				pmax	pmax		
	comp=Z,82nm,1.3s,mb5.4						
TAU				MLR	MLR		
	comp=Z,5μm,19.0s,MS5.4						
TAU	Tasmania Unive	37.26	179	eP	P	11 38 08.6	-2.8
	comp=Z,82nm,1.3s,mb5.4						
TAU				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
NACB	Ninganchiao	37.99	322	eP	P	11 38 18.4	+0.6
NACB				epP	pP	11 38 31.1	-0.4
NWAO	Narrogin (SRO)	38.34	221	eP	P	11 38 20.4	-0.3
	comp=Z,41nm,0.6s,mb5.3						
NWAO				LR	LR		
	comp=Z,9μm,20.0s,MS5.6						
NWAO	Narrogin (SRO)	38.34	221	P	P	11 38 19.6	-1.1
	comp=Z,26nm,0.8s,mb5.0,baz=59,slow=7.4,SNR=18						
MUN	Mundaring	38.44	223	eP	P	11 38 21.6	0.0
MUN				eS	S	11 44 12.2	-1.0
YHNB	Yeheng	38.49	322	eP	P	11 38 22.0	-0.1
TATO	Taipei	38.65	323	eP	P	11 38 22.2	-1.2
	comp=Z,371nm,1.0s,mb6.1						
TATO				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
TATO	Taipei	38.65	323	P	P	11 38 25.5	+2.2
	SNR=11						
TATO	Taipei	38.65	323	P	P	11 38 25.5	+2.2
	SNR=11						
TATO	Taipei	38.65	323	P	P	11 38 25.5	+2.2
	SNR=11						
TATO	Taipei	38.65	323	P	P	11 38 25.5	+2.2
	SNR=11						
TATO	Taipei	38.65	323	P	P	11 38 25.5	+2.2
	SNR=11						
TATO	Taipei	38.65	323	P	P	11 38 25.5	+2.2
	SNR=11						
JHJ	Hachijo jima 2	38.88	351	LR	LR	11 53 05.3	
	comp=Z,1μm,18.5s,MS4.8,baz=241,slow=34						
WCZ	Waipu Caves	39.85	143	P	P	11 38 32.8	-0.5
WCZ	Waipu Caves	39.85	143	PN	P	11 38 33.8	+0.5
QZH	Quanzhou	40.44	320	P	P	11 38 38.3	0.0
QZH				AMB	AMB		
	comp=Z,960nm,1.7s,mb6.2						
QZH				LR	LR		
	comp=N,3μm,18.2s,MS5.3						
QZH				LR	LR		
	comp=E,2μm,13.5s,MS5.3						
QZH				LR	LR		
	comp=Z,3μm,33.2s						
JNU	Nakatsue	41.06	340	P	P	11 38 42.9	-0.4
	comp=Z,243nm,1.2s,mb5.7,baz=140,slow=5.6,SNR=3.7						
JNU				LR	LR	11 53 15.8	
	comp=Z,4μm,19.8s,MS5.2,baz=161,slow=32						
RAO	Raoul Island	41.34	129	eP	P	11 38 46.0	+0.3
	comp=Z,406nm,0.8s,mb6.1						
RAO				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
HIZ	Hauiti	41.92	146	P	P	11 38 52.9	+2.6
HIZ	Hauiti	41.92	146	PN	P	11 38 51.9	+1.6
AFI	Afiamalu	42.24	105	eP	P	11 38 52.2	-1.0
AFI				pmax	pmax		
	comp=Z,226nm,0.9s,mb5.8						
AFI				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
AFI	Afiamalu	42.24	105	eP	P	11 38 52.2	-1.0
	comp=Z,226nm,0.9s,mb5.8						
AFI				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
QRZ	Quartz Range	42.37	150	P	P	11 38 54.8	+0.9
QRZ	Quartz Range	42.37	150	PN	P	11 38 54.7	+0.8
MJAR	Matsushiro Arr	42.48	351	P	P	11 38 54.1	-0.7
MJAR				S	S	11 45 18.5	+5.3
MJAR				pmax	pmax		
	comp=Z,72nm,1.2s						
MJAR				pmax	pmax		
	comp=N,7.0nm,1.1s						
MJAR				smax			
	comp=N,7.0nm,1.3s						
MJAR	Matsushiro Arr	42.48	351	P	P	11 38 54.0	-0.8
MJAR				ScP	ScP	11 44 32.9	-0.5
MJAR				S	S	11 45 18.5	+5.4
MJAR				LR	LR	11 54 43.5	
MJAR	Matsushiro Arr	42.48	351	P	P	11 38 54.0	-0.8
	comp=N,72nm,1.2s,mb5.2,baz=179,slow=8.6,SNR=38						
MJAR				ScP	ScP	11 44 32.9	-0.5
	comp=N,7.0nm,1.1s,baz=184,slow=4.6,SNR=5.2						
MJAR				S	S	11 45 18.5	+5.4
	comp=N,7.1nm,1.3s,baz=99,slow=20,SNR=5.1						
MJAR				LR	LR	11 54 43.5	
	comp=N,2μm,20.8s,MS4.9,baz=155,slow=34						
MAJO	Matsushiro	42.48	351	eP	P	11 38 53.9	-0.9
MAJO				pmax	pmax		
	comp=Z,290nm,1.4s,mb5.7						
MAJO	Matsushiro	42.48	351	eP	P	11 38 54.1	-0.7
	comp=Z,291nm,1.4s,mb5.7						
MAJO				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
MAT	Matsushiro	42.48	351	P	P	11 38 54.0	-0.8
MAT				S	S	11 45 09.0	-4.2
DSZ	Denniston Nort	42.71	151	P	P	11 38 58.0	+1.3
DSZ	Denniston Nort	42.71	151	PN	P	11 38 57.3	+0.6
WPVZ	Whakapapa	42.79	146	P	P	11 38 58.8	+1.5
WPVZ	Whakapapa	42.79	146	PN	P	11 38 58.8	+1.5
FWVZ	Far West T-bar	42.83	146	P	P	11 38 59.2	+1.6
FWVZ	Far West T-bar	42.83	146	PN	P	11 38 59.5	+1.9
GZH	Guangzhou	42.84	313	P	P	11 38 59.5	+1.5
GZH				S	S	11 45 23.3	+4.5
GZH				LR	LR		
	comp=N,806nm,19.7s,MS4.8						
GZH				LR	LR		
	comp=E,721nm,19.7s,MS4.8						
GZH				LR	LR		
	comp=Z,1μm,16.0s,MS4.9						
MYKOM	Kota Tinggi	42.87	279	⇓P	P	11 39 00.3	+1.9
URZ	Urewera	43.05	144	P	P	11 38 59.3	-0.1
URZ	Urewera	43.05	144	P	P	11 38 56.4	-3.0
	comp=Z,85nm,0.8s,mb5.5,baz=320,slow=4.5,SNR=29						
URZ				LR	LR	11 55 08.9	
	comp=Z,4μm,20.6s,MS5.3,baz=320,slow=34						
URZ	Urewera	43.05	144	PN	P	11 38 59.0	-0.4
NNZ	Nelson	43.09	150	P	P	11 38 59.9	+0.2
NNZ	Nelson	43.09	150	PN	P	11 38 59.8	+0.1
JCZ	Jackson Bay	43.24	156	P	P	11 39 02.0	+1.1
JCZ	Jackson Bay	43.24	156	PN	P	11 39 01.8	+0.9
THZ	Tophouse	43.26	151	P	P	11 39 01.0	-0.1
THZ	Tophouse	43.26	151	PN	P	11 39 00.9	-0.2
QIZ	Qiongzhong	43.29	305	P	P	11 39 01.9	+0.3
QIZ				S	S	11 45 23.3	-2.2
QIZ				AMB	AMB		
	comp=Z,32nm,2.0s,mb4.7						
QIZ				AMB	AMB		
	comp=Z,458nm,10.8s						
QIZ				LR	LR		
	comp=N,1μm,20.0s,MS4.9						
QIZ				LR	LR		
	comp=E,1μm,25.0s,MS4.9						
QIZ				LR	LR		
	comp=Z,2μm,30.7s						
QIZ	Qiongzhong	43.29	305	PFAKE		11 39 10.0	+8.4
QIZ				LR	LR		
	comp=Z,1μm,21.0s,MS4.7						
MXZ	Matakaoa Point	43.31	142	P	P	11 39 03.1	+1.5
MXZ	Matakaoa Point	43.31	142	PN	P	11 39 02.8	+1.2
MWZ	Matawai	43.34	143	P	P	11 39 02.1	+0.3
MWZ	Matawai	43.34	143	PN	P	11 39 02.0	+0.2
KGM	Kluang	43.43	279	⇓P	P	11 39 05.5	+2.5
SSE	Sheshan	43.52	328	P	P	11 39 03.5	+0.2
SSE				PP	PP	11 40 45.7	+0.2
SSE				S	S	11 45 28.0	-0.6
SSE				SS	SS	11 48 45.1	+0.2
SSE				AMB	AMB		
	comp=Z,32nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,243nm,3.2s						
SSE				LR	LR		
	comp=N,1μm,18.6s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,18.6s,MS5.0						
SSE				LR	LR		
	comp=Z,2μm,19.3s,MS5.0						
TCW	Tory Channel	43.54	149	eP	P	11 39 03.3	0.0
TCW	Tory Channel	43.54	149	ePN	P	11 39 03.3	-0.1
PUZ	Puketiti	43.61	143	P	P	11 39 03.8	-0.2
PUZ	Puketiti	43.61	143	PN	P	11 39 03.9	-0.1
TSZ	Takapari Road	43.61	146	P	P	11 39 03.9	-0.1
TSZ	Takapari Road	43.61	146	PN	P	11 39 04.3	+0.3
LTZ	Lake Taylor	43.73	152	P	P	11 39 05.2	+0.3
LTZ	Lake Taylor	43.73	152	PN	P	11 39 04.7	-0.2
MRZ	Mangatainoka R	43.83	147	P	P	11 39 05.2	-0.5
MRZ	Mangatainoka R	43.83	147	PN	P	11 39 05.4	-0.3
SNZO	South Karori	43.83	149	eP	P	11 39 04.3	-1.4
	comp=Z,289nm,1.1s,mb5.9						
SNZO				LR	LR		
	comp=Z,3μm,21.0s,MS5.2						
RPZ	Rata Peaks	43.92	154	P	P	11 39 05.9	-0.4
RPZ	Rata Peaks	43.92	154	P	P	11 39 03.4	-2.9
	comp=Z,332nm,0.8s,mb6.1,baz=327,slow=1.4,SNR=51						
RPZ				LR	LR	11 55 02.2	
	comp=Z,4μm,21.3s,MS5.3,baz=314,slow=33						
RPZ	Rata Peaks	43.92	154	PN	P	11 39 05.9	-0.5
KHZ	Kahutara	44.06	151	P	P	11 39 06.1	-1.4
KHZ	Kahutara	44.06	151	PN	P	11 39 06.5	-1.0
MTW	Mount Morrison	44.14	148	eP	P	11 39 07.4	-0.8
MTW	Mount Morrison	44.14	148	ePN	P	11 39 07.3	-0.8
BFZ	Birch Farm	44.20	147	P	P	11 39 08.4	-0.3
BFZ	Birch Farm	44.20	147	PN	P	11 39 08.3	-0.4
KTGM	Kuala Trenggan	44.29	283	⇓P	P	11 39 13.2	+3.4
TUZ	Tuapeka	45.15	157	P	P	11 39 15.8	-0.3
TUZ	Tuapeka	45.15	157	PN	P	11 39 15.7	-0.4
FRIM	Kepong	45.32	280	⇑P	P	11 39 19.1	+1.0
NJ2	Nanjing	45.51	327	eP	P	11 39 20.3	+1.1
NJ2				S	S	11 45 58.0	+0.6
NJ2				AMB	AMB		
	comp=Z,330nm,1.3s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,880nm,6.2s						
NJ2				LR	LR		
	comp=N,6μm,27.6s						
NJ2				LR	LR		
	comp=E,4μm,35.0s						
NJ2				LR	LR		
	comp=Z,4μm,35.0s						
KSRS	Korea Array	46.00	340	P	P	11 39 23.4	+0.5
	comp=Z,80nm,0.9s,mb5.7,baz=157,slow=8.8,SNR=60						
KSRS				S	S	11 46 09.7	+5.4
	comp=Z,5.1nm,1.1s,baz=165,slow=17,SNR=5.8						
KSRS				LR	LR	11 55 59.0	
	comp=Z,4μm,21.3s,MS5.3,baz=154,slow=32						
IPM	Ipoh	46.15	282	⇑P	P	11 39 25.4	+0.8
INCN	Inchon	46.48	338	⇑eP	P	11 39 27.2	+0.5
	comp=Z,300nm,1.1s,mb6.1						
INCN				LR	LR		
	comp=Z,4μm,22.0s,MS5.4						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
INCN	Inchon	46.48	338	P	P	11 39 30.6	+3.9
	SNR=5.8						
KULM	Kulim	46.69	283	eP	P	11 39 28.3	-0.5
KULM	Kulim	46.69	283	⇑P	P	11 39 29.6	+0.8
WHN	Wuhan	47.03	322	eP	P	11 39 32.2	+1.1
WHN				PP	PP	11 41 23.7	+1.3
WHN				S	S	11 46 26.2	+7.0
WHN				LR	LR		
	comp=N,2μm,11.2s,MS5.4						
WHN				LR	LR		
	comp=E,2μm,16.1s,MS5.4						
WHN				LR	LR		
	comp=Z,2μm,20.8s,MS5.1						
KKTK	Khon Kaen	48.05	298	P	P	11 39 41.5	+2.2
	comp=Z,247nm,0.8s,mb6.3						
MIDW	Midway	48.58	44	PFAKE		11 39 50.0	+6.8
MIDW				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
COCO	West Island	49.13	259	PFAKE		11 40 00.0	+12
COCO				LR	LR		
	comp=Z,2μm,19.0s,MS5.2						
ASAJ	Asahikawa	49.50	357	P	P	11 39 51.6	+1.7
ASAJ				pmax	pmax		
	comp=Z,61nm,1.1s						
ASAJ	Asahikawa	49.50	357	P	P	11 39 51.6	+1.7

comp=Z,61nm,1.1s,mb5.5,baz=222,slow=15,SNR=10
DL2 Dalian 49.69 335 ⇑P **P 11 39 51.8 +0.3**
DL2 AP pP 11 40 08.7 +3.0
DL2 S **S 11 46 56.5 0.0**
DL2 AMB AMB
comp=Z,50nm,1.5s,mb5.3
DL2 AMB AMB
comp=Z,280nm,7.0s
DL2 LR LR
comp=N,1μm,21.6s,MS4.9
DL2 LR LR
comp=E,600nm,20.2s,MS4.9
DL2 LR LR
comp=Z,2μm,21.1s,MS5.0
GYA Guiyang 49.73 312 ⇑*i*P **P 11 39 51.9 -0.1**
GYA AP pP 11 40 09.0 +2.8
GYA PP PP 11 41 49.8 +2.7
GYA S **S 11 46 58.4 +0.9**
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,260nm,9.3s
GYA LR LR
comp=N,3μm,18.7s,MS5.3
GYA LR LR
comp=E,1μm,19.4s,MS5.3
GYA LR LR
comp=Z,3μm,20.1s,MS5.3
VLA Vladivostok 50.10 346 ⇑*e*P **P 11 39 55.2 +0.7**
VLA pmax pmax
comp=Z,258nm,1.5s,mb6.0
VLA Vladivostok 50.10 346 ⇑*e*P **P 11 39 55.3 +0.8**
NST Nakhon Sawan 50.19 296 P **P 11 39 52.0 -3.7**
comp=Z,100nm,0.6s,mb6.0
NANT Nan 50.88 300 ⇑P **P 11 40 01.1 +0.2**
comp=Z,312nm,0.8s,mb6.3
SNY Shenyang 51.42 338 ⇓P **P 11 40 05.2 +0.7**
SNY S **S 11 47 15.4 -5.0**
SNY AMB AMB
comp=Z,94nm,2.3s,mb5.3
SNY AMB AMB
comp=Z,1μm,3.5s
SNY LR LR
comp=N,3μm,19.8s,MS5.4
SNY LR LR
comp=E,2μm,19.8s,MS5.4
SNY LR LR
comp=Z,5μm,22.2s,MS5.5
KMI Kunming 52.03 308 P **P 11 40 10.6 +1.2**
KMI AP pP 11 40 27.0 +3.3
KMI PP PP 11 42 10.9 +2.8
KMI S **S 11 47 32.6 +3.1**
KMI SS SS 11 51 08.3 +0.9
KMI AMB AMB
comp=Z,30nm,1.3s,mb5.1
KMI AMB AMB
comp=Z,527nm,4.8s
KMI LR LR
comp=N,1μm,15.7s,MS5.0
KMI LR LR
comp=E,824nm,20.5s,MS5.0
KMI LR LR
comp=Z,2μm,23.2s,MS5.1
MDJ Mudanjiang 52.07 345 P **P 11 40 09.7 +0.4**
MDJ S **S 11 47 30.8 +1.5**
MDJ AMB AMB
comp=Z,75nm,1.8s,mb5.3
MDJ AMB AMB
comp=Z,334nm,5.2s
MDJ LR LR
comp=N,2μm,33.6s,MS5.0
MDJ LR LR
comp=E,1μm,33.6s,MS5.0
MDJ LR LR
comp=Z,3μm,32.1s,MS5.1
MDJ Mudanjiang 52.07 345 *e*P **P 11 40 09.4 +0.2**
comp=Z,138nm,1.4s,mb5.7
CHRT Chiangrai 52.10 300 ⇑P **P 11 40 15.0 +5.0**
comp=Z,368nm,0.8s,mb6.4
YSS Yuzh-Sakhalins 52.32 357 ⇑*i*P **P 11 40 10.5 -0.6**
YSS *e* pP 11 40 21.2 -4.1
YSS *e**PP pP 11 40 27.0 +1.7
YSS *e* 11 41 21.8
YSS *e*PPP 11 43 12.0
YSS *i* S **S 11 47 30.0 -2.6**
YSS *e*PS 11 47 42.0
YSS pmax pmax
comp=Z,120nm,1.1s,mb5.7
YSS pmax pmax
comp=N,50nm,0.9s
YSS smax
comp=N,1μm,10.0s
YSS MLR MLR
comp=Z,800nm,17.0s,MS4.8
YSS MLR MLR
comp=N,800nm,16.0s
YSS Yuzh-Sakhalins 52.32 357 *e*P **P 11 40 11.2 +0.1**
comp=N,48nm,0.4s,mb5.8
YSS *e*pP pP 11 40 22.9 -2.4
YSS LR LR
comp=Z,1μm,21.0s,MS4.9
CHG Chiang Mai 52.41 299 ⇑P pP 11 40 26.4 -0.2
comp=Z,93nm,0.8s
CHTO Chiang Mai 52.41 299 *e*P **P 11 40 12.6 +0.3**
CHTO pmax pmax
comp=Z,46nm,1.0s,mb5.4
CHTO MLR MLR
comp=Z,899nm,21.0s,MS4.8
CHTO Chiang Mai 52.41 299 *e*P **P 11 40 12.6 +0.3**
comp=Z,46nm,1.0s,mb5.4
CHTO LR LR
comp=Z,899nm,21.0s,MS4.8
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CHTO Chiang Mai 52.41 299 P **P 11 40 13.0 +0.7**
SNR=14
CN2 Changchun 52.52 341 *e*P **P 11 40 12.9 +0.3**
CN2 PCP PcP 11 41 22.5 0.0
CN2 *e*S **S 11 47 34.6 -0.9**
CN2 AMB AMB
comp=Z,50nm,1.3s,mb5.3
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,1μm,22.0s,MS5.2
CN2 LR LR
comp=E,2μm,22.0s,MS5.2
CN2 LR LR
comp=Z,3μm,21.0s,MS5.3
XAN Xi'an 52.77 321 P **P 11 40 14.0 -0.7**
XAN AP pP 11 40 28.4 -0.6
XAN PP PP 11 42 13.7 -0.9
XAN S **S 11 47 35.9 -3.4**
XAN AMB AMB
comp=Z,22nm,1.5s,mb4.9
XAN AMB AMB
comp=Z,562nm,10.8s
XAN LR LR
comp=N,715nm,19.8s,MS4.9
XAN LR LR
comp=E,665nm,18.4s,MS4.9
XAN LR LR
comp=Z,1μm,17.5s,MS4.9
BJT Baijiatuau 53.05 331 *e*P **P 11 40 15.9 -0.7**
BJT pmax pmax
comp=Z,250nm,1.5s
BJT MLR MLR
comp=Z,3μm,21.0s
BJT Baijiatuau 53.05 331 *e*P **P 11 40 15.9 -0.8**
comp=Z,250nm,1.5s,mb5.9
BJT LR LR
comp=Z,3μm,21.0s,MS5.3
BJI Beijing 53.07 331 P **P 11 40 15.9 -0.8**
BJI AP pP 11 40 32.1 +1.0
BJI XP sP 11 40 38.4 +1.3
BJI SS SS 11 51 27.0 +3.8
BJI LR LR
comp=N,1μm,19.6s
BJI LR LR
comp=E,2μm,26.4s
BJI LR LR
comp=Z,3μm,24.4s,MS5.3
TIY Taiyuan 53.23 327 ⇑*i*P **P 11 40 17.4 -0.6**
TIY AMB AMB
comp=Z,452nm,3.6s
TIY LR LR
comp=N,616nm,13.9s,MS5.2
TIY LR LR
comp=E,1μm,15.8s,MS5.2
TIY LR LR
comp=Z,2μm,21.2s
CD2 Chengdu 54.33 314 P **P 11 40 27.6 +1.4**
CD2 AP pP 11 40 43.4 +2.9
CD2 PCP PcP 11 41 30.9 +1.2
CD2 PP PP 11 42 30.1 +1.4
CD2 PCS PcS 11 45 29.0 -0.3
CD2 S **S 11 47 58.3 -2.2**
CD2 SCS ScS 11 50 09.5 -1.7
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
CD2 AMB AMB
comp=Z,470nm,4.3s
CD2 LR LR
comp=N,1μm,16.8s,MS5.3
CD2 LR LR
comp=E,2μm,15.6s,MS5.3
CD2 LR LR
comp=Z,1μm,18.6s,MS4.9
RAR Rarotonga 54.60 112 P **P 11 40 27.6 -0.7**
RAR pmax pmax
comp=Z,139nm,0.9s
RAR Rarotonga 54.60 112 P **P 11 40 27.6 -0.7**
comp=Z,139nm,0.9s,mb6.0,baz=248,slow=5.8,SNR=35
HABR Khabarovsk 54.63 351 ⇑*i*P **P 11 40 28.6 +0.6**
HABR *e* pP 11 40 41.9 -0.4
HABR *e* 11 41 29.4
HABR *e* 11 42 28.7
HABR *e* 11 43 37.8
HABR *e*S **S 11 48 04.6 +0.8**
HABR *e* 11 50 10.6
HABR *e* 11 51 45.3
HABR pmax pmax
comp=Z,245nm,1.8s,mb5.9
HABR pmax pmax
comp=Z,628nm,2.5s,mb6.2
KLR Kul'dur 55.94 349 *e*P **P 11 40 33.0 -4.4**
KLR *e* 11 41 29.8
KLR *e*S **S 11 48 15.0 -6.4**
KLR pmax pmax
comp=N,70nm,1.8s
KLR pmax pmax
comp=E,100nm,1.8s
KLR pmax pmax
comp=Z,420nm,1.8s,mb6.2
KLR MLR MLR
comp=N,600nm,13.5s
KLR MLR MLR
comp=Z,1μm,13.5s,MS5.2
HHC Hu-ho-hao-te 55.98 329 ⇑P **P 11 40 37.9 +0.1**
HHC AP pP 11 40 54.1 +1.8
HHC PP PP 11 42 45.7 +2.5
HHC SCP ScP 11 45 29.2 -1.5
HHC S **S 11 48 19.2 -3.0**
HHC SCS ScS 11 50 17.9 -4.6
HHC AMB AMB
comp=Z,91nm,1.5s,mb5.6
HHC AMB AMB
comp=Z,659nm,6.2s
HHC LR LR
comp=N,3μm,19.9s,MS5.4
HHC LR LR
comp=E,2μm,20.6s,MS5.4
HHC LR LR
comp=Z,5μm,23.5s,MS5.5
BTO Baotou 56.61 327 *e*P **P 11 40 41.5 -0.9**
BTO AMB AMB
comp=Z,14nm,0.7s,mb5.1
LZH Lanzhou 57.29 320 ⇑P **P 11 40 48.1 +0.8**
LZH AP pP 11 41 02.2 +0.5
LZH PCP PcP 11 41 41.3 +0.2
LZH PP PP 11 42 57.5 +2.4
LZH S **S 11 48 44.9 +5.1**
LZH AMB AMB
comp=Z,145nm,1.3s,mb5.8
LZH AMB AMB
comp=Z,147nm,6.2s
LZH LR LR
comp=E,2μm,14.9s
LZH LR LR
comp=Z,3μm,18.3s,MS5.4
IMP Imphal 59.03 303 *e*P **P 11 41 01.0 +1.3**
HIA Hailar 59.20 340 *e*P **P 11 41 00.2 -0.2**
HIA pmax pmax
comp=Z,344nm,1.8s
HIA MLR MLR
comp=Z,2μm,22.0s
HIA Hailar 59.20 340 *e*P **P 11 41 00.2 -0.1**
comp=Z,344nm,1.8s,mb6.1
HIA LR LR
comp=Z,2μm,22.0s,MS5.2
PET Petropavlovsk 59.26 9 *e*P **P 11 41 00.0 -0.7**
PET *e*S **S 11 49 06.2 +1.4**
PET pmax pmax
comp=Z,300nm,13.7s
PET pmax pmax
comp=Z,200nm,11.4s
PET MLR MLR
comp=Z,700nm,20.0s,MS4.8
PET Petropavlovsk 59.26 9 *i* P **P 11 41 00.9 +0.2**
PET LR LR
comp=Z,896nm,21.0s,MS4.9
KIP Kipapa 60.90 62 PFAKE 11 41 20.0 +7.4
KIP LR LR
comp=Z,3μm,21.0s,MS5.4
SHL Shillong 61.05 303 *e*P **P 11 41 13.5 0.0**
SHL *e*S **S 11 49 27.5 -1.2**
DRV Dumont d'Urvil 61.20 183 P **P 11 41 21.0 +7.2**
DRV S **S 11 49 47.0 +18**
DRV SS SS 11 53 59.0 +29
DRV L 11 56 00.0
DRV R 12 00 00.0
GTA Gaotai 61.83 321 ⇑P **P 11 41 19.1 +0.6**
GTA AP pP 11 41 34.4 +1.3
GTA PCP PcP 11 41 58.3 -0.8
GTA PP PP 11 43 39.8 +4.6
GTA SCP ScP 11 45 53.6 -3.0
GTA PCS PcS 11 45 58.8 -3.3
GTA S **S 11 49 38.7 +0.6**
GTA XS sS 11 50 06.1 +3.4
GTA AMB AMB
comp=Z,16nm,1.4s,mb5.0
GTA AMB AMB
comp=Z,535nm,6.8s
GTA LR LR
comp=N,786nm,19.0s,MS5.0
GTA LR LR
comp=E,725nm,22.8s,MS5.0
GTA LR LR
comp=Z,1μm,33.5s
SMY Shemya 62.67 19 *e*P **P 11 41 23.1 -0.7**
SMY *e**PP pP 11 41 35.5 -2.9
SMY pmax pmax
comp=Z,403nm,1.5s,mb6.3
SMY MLR MLR
comp=Z,2μm,21.0s,MS5.3
SMY Shemya 62.67 19 *e*P **P 11 41 23.1 -0.7**
comp=Z,403nm,1.5s,mb6.3
SMY *e*pP pP 11 41 35.5 -2.9
SMY LR LR
comp=Z,2μm,21.0s,MS5.3
LSA Lhasa 63.27 307 P **P 11 41 29.3 +1.0**
LSA XS sS 11 50 25.9 +4.6
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.2
LSA AMB AMB
comp=Z,550nm,12.0s
LSA LR LR
comp=N,420nm,32.0s,MS4.8
LSA LR LR
comp=E,760nm,28.0s,MS4.8
LSA LR LR
comp=Z,1μm,32.0s,MS4.9
LSA Lhasa 63.27 307 *e*P **P 11 41 28.8 +0.5**
LSA pmax pmax
comp=Z,54nm,0.6s,mb5.8
LSA MLR MLR
comp=Z,799nm,21.0s,MS4.9
LSA Lhasa 63.27 307 *e*P **P 11 41 28.8 +0.4**
comp=Z,54nm,0.6s,mb5.8
LSA LR LR
comp=Z,799nm,21.0s,MS4.9
ULN Ulaanbaatar 63.28 332 *e*P **P 11 41 28.4 +0.4**
ULN pmax pmax
comp=Z,31nm,0.7s,mb5.5
ULN MLR MLR
comp=Z,1μm,20.0s,MS5.1
ULN Ulaanbaatar 63.28 332 *e*P **P 11 41 28.4 +0.5**
comp=Z,31nm,0.7s,mb5.5
ULN LR LR
comp=Z,1μm,20.0s,MS5.1
ULN Ulaanbaatar 63.28 332 P **P 11 41 28.9 +0.9**
SNR=43
ULN Ulaanbaatar 63.28 332 P **P 11 41 28.9 +0.9**
SNR=43
ULN Ulaanbaatar 63.28 332 P **P 11 41 28.9 +0.9**
SNR=43
ULN Ulaanbaatar 63.28 332 P **P 11 41 28.9 +0.9**
SNR=43
ULN Ulaanbaatar 63.28 332 P **P 11 41 28.9 +0.9**
SNR=43
SONM Songino Array 63.57 331 P **P 11 41 30.2 +0.3**
comp=Z,14nm,0.6s,mb5.1,baz=154,slow=6.2,SNR=42
SONM PKPPKP 12 10 27.8
comp=Z,0.6nm,0.8s,baz=280,slow=4.4,SNR=3.6
SONM LR LR 12 10 41.0
comp=Z,2μm,20.2s,MS5.2,baz=135,slow=37
PAE Paea 63.84 107 *e*P **P 11 41 32.7 +0.4**
comp=Z,81nm,1.1s,mb5.7
PAE Paea 63.84 107 *e*P **P 11 41 32.7 +0.4**
PAE pmax pmax
comp=Z,81nm,1.1s,mb5.7
PPT Papeete 63.84 107 *e*P **P 11 41 33.0 +0.7**
comp=Z,48nm,1.1s,mb5.4
PPT *e*S **S 11 50 03.5 -0.6**
comp=Z,4μm,26.8s
PPT *e*LQ 11 57 54.0
comp=Z,3μm,26.8s
PPT *e*LR LR 12 00 46.0
comp=Z,2μm,30.2s
PPT Papeete 63.84 107 P **P 11 41 31.1 -1.2**
PPT pmax pmax
comp=Z,30nm,0.8s
PPT Papeete 63.84 107 P **P 11 41 31.1 -1.2**
comp=Z,30nm,0.8s,mb5.4,baz=32,slow=5.5,SNR=8.8
TVO Taravao 64.16 107 *e*P **P 11 41 35.2 +0.8**
comp=Z,152nm,1.1s,mb5.9
TVO Taravao 64.16 107 *e*P **P 11 41 35.2 +0.8**
TVO pmax pmax
comp=Z,152nm,1.1s,mb5.9
TBI Tubuai 64.33 113 *e*P **P 11 41 36.0 +0.5**
comp=Z,262nm,0.8s,mb6.3
TBI *e*S **S 11 50 10.8 +0.7**
comp=Z,3μm,28.0s
TBI Tubuai 64.33 113 *e*LR LR 12 00 54.7
comp=Z,5μm,36.2s
NRGR Nerungri 64.39 347 *e*P **P 11 41 35.4 +0.3**
NRGR S **S 11 50 12.4 +2.9**
NRGR smax
comp=N,88nm,0.7s
CLNS Chul'man 64.52 347 *e*P **P 11 41 35.5 -0.4**
CLNS *e**PP pP 11 41 41.7 -8.9
CLNS *e* 11 42 15.7
CLNS *e*S **S 11 50 09.9 -1.1**
CLNS *e*PS 11 50 30.4
CLNS pmax pmax
comp=Z,198nm,1.8s,mb5.8
CLNS pmax pmax
comp=N,61nm,0.8s
CLNS pmax pmax
comp=E,21nm,0.8s
CLNS pmax pmax
comp=N,31nm,1.0s
CLNS pmax pmax
comp=Z,19nm,1.0s,mb5.1
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS smax
comp=N,366nm,10.8s
CLNS smax
comp=Z,402nm,13.9s
CLNS smax
comp=E,104nm,10.6s
MA2 Magadan 64.98 3*d i*P **P 11 41 39.0 +0.1**
MA2 *i* S **S 11 50 15.0 -1.6**
MA2 *i* SS SS 11 54 22.2 -7.3
MA2 pmax pmax
comp=Z,100nm,1.1s,mb5.8
MA2 MLR MLR
comp=Z,300nm,17.1s,MS4.5
MEH Mehetia 65.29 107 *e*P **P 11 41 42.2 +0.4**
comp=Z,53nm,0.8s,mb5.6
ADK Adak 65.36 24 *e*P **P 11 41 43.1 +1.6**
ADK pmax pmax
comp=Z,158nm,1.3s,mb5.9
ADK MLR MLR
comp=Z,2μm,20.0s,MS5.2
ADK Adak 65.36 24 *e*P **P 11 41 43.1 +1.6**
comp=Z,158nm,1.3s,mb5.9
ADK LR LR
comp=Z,2μm,20.0s,MS5.2
PMOR Pomariorio Ree 65.38 104 *e*P **P 11 41 42.9 +0.5**
comp=Z,299nm,1.1s,mb6.2
CASY Casey 65.51 195 ⇑*i*P **P 11 41 41.7 -0.6**
CASY *e*S S 11 50 22.7 -0.4
CASY Casey 65.51 195 ⇑*i*P **P 11 41 41.7 -0.6**
CASY *e*S S 11 50 22.7 -0.4
CASY LR LR
comp=Z,3μm,20.0s,MS5.5
BOK Bokaro 65.55 299 *e*P **P 11 41 42.3 -1.0**
BOK AMb AMB 11 41 48.9
comp=Z,80nm,1.1s,mb5.7
VIS Vishakhapatnam 66.14 292 *e*P **P 11 41 47.2 0.0**
VIS AMb AMB 11 41 53.7
comp=Z,181nm,1.6s,mb5.9
PALK Pallekele 66.53 280 *e*P **P 11 41 50.7 +0.8**
comp=Z,74nm,0.9s,mb5.7
PALK *e*pP pP 11 42 02.4 -2.2
PALK *e*sP sP 11 42 07.8 -2.8
PALK LR LR
comp=Z,831nm,21.0s,MS4.9
JIRN Jiri 66.55 303 *e*P **P 11 41 50.2 +0.5**
comp=Z,138nm,0.4s,mb6.3
ZAK Zakamensk 66.81 332 ⇓*i*P **P 11 41 50.4 -0.4**
ZAK *e* 11 50 40.1
ZAK pmax pmax
comp=Z,40nm,1.6s,mb5.2
ZAK pmax pmax
comp=Z,2.0nm,1.2s
GUN Gumba 66.90 303 *e*P **P 11 41 52.3 +0.4**
comp=Z,405nm,0.4s,mb6.8
PKI Pulchoki 67.17 303 *e*P **P 11 41 53.6 -0.1**
comp=Z,64nm,0.5s,mb5.9
KKN Kakani 67.36 303 *e*P **P 11 41 54.9 +0.1**
comp=Z,167nm,0.6s,mb6.3
DMN Daman 67.44 303 *e*P **P 11 41 55.6 +0.3**
comp=Z,254nm,0.5s,mb6.5
IRK Irkutsk 67.63 334 ⇑*i*P **P 11 41 55.2 -0.8**
IRK *e*S S 11 50 54.1 +5.0
IRK pmax pmax
comp=Z,105nm,2.2s,mb5.5
GKN Gorkha 67.96 303 *e*P **P 11 41 58.5 -0.1**
comp=Z,216nm,0.6s,mb6.4
BOD Bodaibo 68.25 342 *e*P **P 11 41 58.5 -1.3**
BOD pmax pmax
comp=Z,58nm,1.7s,mb5.3
SEY Seymchan 68.41 3*ce*P **P 11 42 00.7 0.0**
SEY Seymchan 68.41 3⇑*e*P **P 11 42 00.8 +0.1**
YAK Yakutsk 68.53 352*c i*P **P 11 42 00.9 -0.5**
YAK *e**PP pP 11 42 10.0 -6.3
YAK *e* 11 42 25.8
YAK *e* 11 44 29.8
YAK *e*S S 11 51 00.7 +1.3
YAK *e**SS sS 11 51 19.9 -4.4
YAK *e* 11 51 43.8
YAK *e*SS SS 11 55 19.6 -4.9
YAK pmax pmax
comp=Z,167nm,1.7s,mb5.7

YAK pmax pmax
comp=N,129nm,1.9s
YAK pmax pmax
comp=E,37nm,1.8s
YAK pmax pmax
comp=Z,49nm,1.7s,mb5.2
YAK pmax pmax
comp=N,128nm,2.2s
YAK pmax pmax
comp=E,56nm,2.0s
YAK smax
comp=E,114nm,1.5s
YAK smax
comp=N,857nm,6.1s
YAK Yakutsk 68.53 352 *e*P **P 11 42 00.8 -0.6**
comp=N,263nm,1.5s,mb5.9
MOY Mondy 68.74 332 *e*P **P 11 42 02.8 -0.2**
MOY pmax pmax
comp=Z,194nm,2.2s,mb5.7
KOLN Koldanda 68.75 302 *e*P **P 11 42 03.4 -0.2**
comp=Z,172nm,0.6s,mb6.1
DANN Dangsing 68.81 303 *e*P **P 11 42 03.5 -0.4**
comp=Z,161nm,0.5s,mb6.2
KOD Kodaikanal 70.17 283 *e*P **P 11 42 12.6 0.0**
KOD AMb AMB 11 42 16.7
comp=Z,230nm,1.7s,mb5.8
TRD Trivandrum 70.39 281 *e*P **P 11 42 14.3 +0.4**
TRD AMb AMB 11 42 19.6
comp=Z,306nm,1.4s,mb6.0
HYB Hyderabad 70.50 291 *e*P **P 11 42 13.5 -1.0**
HYB *e*S S 11 51 20.0 -4.3
HYB pmax pmax
comp=Z,100nm,1.0s,mb5.7
HYB Hyderabad 70.50 291 *e*P **P 11 42 13.5 -1.0**
comp=Z,100nm,1.0s,mb5.7
HYB *e*S S 11 51 20.0 -4.3
HYB Hyderabad 70.50 291⇑*i*P **P 11 42 13.5 -1.0**
comp=Z,100nm,1.0s,mb5.7
HYB *e*pP pP 11 42 27.0 -2.4
HYB *e*S S 11 51 20.0 -4.3
NGP Nagpur 70.90 294 *e*P **P 11 42 16.2 -0.6**
NGP AMb AMB 11 42 21.8
comp=Z,112nm,1.5s,mb5.6
MIR Mirnyy 70.95 200⇑*i*P **P 11 42 16.0 -0.4**
MIR *i* pP 11 42 26.5 -4.7
MIR *i* 11 42 43.0
MIR pmax pmax
comp=Z,400nm,1.5s,mb6.1
UNV Unalaska Valle 71.16 27 PFAKE 11 42 30.0 +12
UNV LR LR
comp=Z,3μm,20.0s,MS5.5
WMQ Urumqi 71.87 320 P **P 11 42 22.0 -0.3**
WMQ AP pP 11 42 39.0 +1.8
WMQ PP PP 11 45 04.0 +1.4
WMQ S S 11 51 37.0 -2.2
WMQ AMB AMB
comp=Z,58nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,104nm,6.0s
WMQ LR LR
comp=N,925nm,18.0s,MS5.2
WMQ LR LR
comp=E,904nm,18.0s,MS5.2
WMQ LR LR
comp=Z,1μm,18.0s,MS5.1
PTH Pithoragarh 72.13 303 *e*x x 11 42 26.1
AKL Akola 72.64 294 *i* P **P 11 42 25.5 -1.8**
AKL *e*x x 11 42 31.2
comp=Z,178nm,1.1s
BHPL Bhopal 72.86 296 *e*P **P 11 42 27.9 -0.7**
BHPL AMb AMB 11 42 31.0
comp=Z,61nm,0.5s,mb5.8
TAOE Nuku Hiva Isla 73.10 98 *e*S S 11 51 53.7 -0.6
comp=Z,35μm,28.9s
TAOE Nuku Hiva Isla 73.10 98 *e*LR LR 12 05 02.0
comp=Z,28μm,21.4s
SBA Scott Base 73.11 176 *e*P **P 11 42 29.6 +0.5**
SBA *e* pP 11 42 44.2 +0.2
SBA pmax pmax
comp=Z,31nm,0.9s,mb5.2
SBA MLR MLR
comp=Z,3μm,22.0s,MS5.5
SBA Scott Base 73.11 176 *e*P **P 11 42 29.6 +0.5**
comp=Z,31nm,0.9s,mb5.2
SBA *e* pP 11 42 44.2 +0.2
SBA LR LR
comp=Z,3μm,22.0s,MS5.5
DGAR Diego Garcia 73.19 264 *e*P **P 11 42 30.9 +0.1**
DGAR *e**PP pP 11 42 44.3 -1.4
DGAR pmax pmax
comp=Z,183nm,0.9s,mb6.0
DGAR Diego Garcia 73.19 264 *e*P **P 11 42 30.9 +0.1**
comp=Z,183nm,0.9s,mb6.0
DGAR *e*pP pP 11 42 44.3 -1.4
DGAR *e*sP sP 11 42 50.3 -1.3
DDI Dehra Dun 74.15 303 *e*P **P 11 42 36.0 -0.1**
DDI *e*S S 11 52 06.0 +0.4
NDI New Delhi 74.41 302 *e*P **P 11 42 35.7 -1.9**
NDI *e*S S 11 52 06.5 -2.1
KAD Karad 74.57 290 *i* P **P 11 42 37.7 -1.0**
BILL Bilibino 74.73 8α*i*P **P 11 42 38.7 +0.1**
BILL pP 11 42 50.0 -3.6
BILL *i* S S 11 52 12.0 +1.3
BILL *e* 11 52 44.3
BILL SS SS 11 57 05.0 +5.7
BILL pmax pmax
comp=Z,76nm,1.5s,mb5.4
BILL MLR MLR
comp=Z,500nm,19.0s,MS4.8
SDPT Sand Point 74.87 28 *e*P **P 11 42 40.2 +0.6**
comp=Z,81nm,0.8s,mb5.7
SMLA Simla 75.11 304 *e*P **P 11 42 41.0 -0.6**
POO Poona 75.11 291 *e*P **P 11 42 41.7 -0.2**
POO AMb AMB 11 42 46.0
comp=Z,120nm,1.2s,mb5.7
AJM Ajmer 76.08 299 *e*P **P 11 42 46.6 -0.7**
AJM AMb AMB 11 42 49.7
comp=Z,84nm,1.2s,mb5.5
DLH Dalhousie 76.47 305 *e*P **P 11 42 47.0 -2.4**
MKAR Makanchi Array 76.58 321 *i* P **P 11 42 49.0 -0.7**
MKAR pmax pmax
comp=Z,11nm,0.6s
MKAR Makanchi Array 76.58 321 P **P 11 42 49.0 -0.7**
MKAR S S 11 52 35.0 +3.1
MKAR P'P' 12 10 04.7
MKAR LR LR 12 17 47.8
MKAR Makanchi Array 76.58 321 P **P 11 42 49.0 -0.7**
comp=Z,11nm,0.6s,mb5.0,baz=100,slow=7.5,SNR=38
MKAR S S 11 52 35.0 +3.1
comp=Z,1.8nm,1.0s,baz=106,slow=13,SNR=5.9
MKAR PKPPKP 12 10 04.7
comp=Z,1.2nm,1.0s,baz=325,slow=1.9,SNR=4.3
MKAR LR LR 12 17 47.8
comp=Z,621nm,21.9s,MS4.9,baz=109,slow=37
THN Thein Dam 76.65 305 *e*P **P 11 42 48.2 -2.2**
RKT Rikitea 77.64 112 *e*P **P 11 42 56.0 -0.1**
comp=Z,182nm,1.0s,mb6.0
RKT *e*S S 11 52 43.5 -0.9
comp=Z,399nm,31.8s
RKT Rikitea 77.64 112 *e*LR LR 12 07 04.6
comp=Z,5μm,36.5s
RKT Rikitea 77.64 112 *e*P **P 11 42 56.0 -0.1**
RKT *e*S S 11 52 43.5 -0.9
RKT pmax pmax
comp=Z,182nm,1.0s,mb6.0
TIXI Tiksi 77.84 354 *e*P **P 11 42 54.0 -2.2**
TIXI *e*S S 11 52 39.9 -4.7
TIXI pmax pmax
comp=Z,42nm,1.5s,mb5.2
TIXI MLR MLR
comp=Z,879nm,19.0s,MS5.1
TIXI Tiksi 77.84 354⇑*e*P **P 11 42 54.3 -1.9**
TIXI LR LR
comp=Z,861nm,19.0s,MS5.1
ZAA0 Zalesovo Array 78.15 328 *e*P **P 11 42 56.3 -1.9**
ZALV Zalesovo Beam 78.15 328 P **P 11 42 56.5 -1.8**
ZALV S S 11 52 49.8 +1.2
ZALV PKKPbc PKKPbc 12 01 58.7 -1.2
ZALV LR LR 12 15 44.7
ZALV Zalesovo Beam 78.15 328 P **P 11 42 56.5 -1.8**
comp=Z,10nm,0.5s,mb5.0,baz=115,slow=6.2,SNR=12
ZALV S S 11 52 49.8 +1.2
comp=Z,0.8nm,0.3s,baz=104,slow=9.3,SNR=4.6
ZALV PKKPbc PKKPbc 12 01 58.7 -1.2
comp=Z,1.6nm,0.5s,baz=29,slow=3.4,SNR=4.1
ZALV LR LR 12 15 44.7
comp=Z,1μm,22.0s,MS5.2,baz=117,slow=34
ZAL Zalesovo 78.16 328 P **P 11 42 56.5 -1.8**
ZAL S S 11 52 49.8 +1.1
TNA Tin City 78.38 18 *e*P **P 11 42 59.8 +0.5**
comp=Z,41nm,1.0s,mb5.3
TNA LR LR
comp=Z,1μm,22.0s,MS5.2
KSH Kashi 78.43 312 P **P 11 43 01.0 +0.9**
KSH *e*PCP PcP 11 43 10.0 +0.8
KSH *e*AP pP 11 43 15.0 -0.2
KSH *e*PP PP 11 46 01.1 +3.0
KSH *e*S S 11 52 49.3 -2.9
KSH *e*SCS ScS 11 53 14.0 -2.6
KSH *e*SS SS 11 58 01.1 +4.8
KSH AMB AMB
comp=Z,1μm,3.2s
KSH LR LR
comp=N,754nm,4.5s
KSH LR LR
comp=E,471nm,7.9s
KSH LR LR
comp=Z,780nm,6.6s
ULHL Ulahol 79.05 315 P **P 11 43 06.1 +2.6**
SNR=6.6
NVS Novosibirsk 79.38 328⇑*i*P **P 11 43 03.3 -1.7**
NVS *e* 11 46 00.3
NVS *i* S S 11 53 02.5 +0.9
NVS pmax pmax
comp=N,57nm,1.9s
NVS pmax pmax
comp=E,90nm,1.9s
NVS pmax pmax
comp=Z,118nm,1.9s,mb5.5
NVS pmax pmax
comp=Z,29nm,2.0s,mb4.9
NVS pmax pmax
comp=N,90nm,1.9s
NVS smax
comp=N,33nm,2.6s
NVS smax
comp=E,117nm,2.9s
KZA Kyzart 79.70 314 P **P 11 43 07.8 +0.7**
SNR=65
TKM2 Tokmak 2 79.71 315 *e*P **P 11 43 06.6 -0.5**
TKM2 pmax pmax
comp=Z,16nm,0.7s,mb5.1
TKM2 MLR MLR
comp=Z,831nm,19.0s,MS5.1
TKM2 Tokmak 2 79.71 315 *e*P **P 11 43 06.6 -0.5**
comp=Z,16nm,0.7s,mb5.1
TKM2 LR LR
comp=Z,831nm,19.0s,MS5.1
TKM2 Tokmak 2 79.71 315 P **P 11 43 06.7 -0.4**
SNR=14
KDAK Kodiak Island 79.87 28 P **P 11 43 07.0 -0.6**
KDAK LR LR
comp=Z,279nm,20.0s,MS4.6
KDAK Kodiak Island 79.87 28 P **P 11 43 07.0 -0.6**
comp=Z,11nm,0.6s,mb5.0,baz=225,slow=4.5,SNR=13
SVW2 Sparrevohn 80.15 25 *e*P **P 11 43 09.0 0.0**
UCH Uchtor 80.27 314 *e*P **P 11 43 10.4 +0.3**
comp=Z,44nm,0.9s,mb5.4
UCH LR LR
comp=Z,716nm,19.0s,MS5.0
UCH Uchtor 80.27 314 P **P 11 43 10.6 +0.4**
SNR=28
KURK Kurchatov 80.31 323⇓*e*P **P 11 43 08.7 -1.5**
KURK Kurchatov 80.31 323 *e*P **P 11 43 09.0 -1.2**
comp=Z,23nm,0.9s,mb5.1
KURK LR LR
comp=Z,1μm,22.0s,MS5.2
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
KURK Kurchatov 80.31 323 P **P 11 43 09.3 -0.9**
SNR=25
CHMS Chumysh 80.32 315 P **P 11 43 12.3 +2.0**
SNR=6.3
FRU Bishkek 80.37 315 *e*P **P 11 43 11.0 +0.4**
FRU *e* pP 11 43 26.0 +0.2
FRU pmax pmax
comp=Z,100nm,2.0s,mb5.4
FRU MLR MLR
comp=Z,700nm,18.0s,MS5.0
AAK Ala-Archa 80.40 315 P **P 11 43 10.4 -0.4**
SNR=15
USP Ospenovka 80.58 315 P **P 11 43 10.9 -0.9**
SNR=23
AML Almayashu 80.83 314 *e*P **P 11 43 13.0 -0.1**
comp=Z,113nm,1.0s,mb5.8
AML LR LR
comp=Z,746nm,20.0s,MS5.0
AML Almayashu 80.83 314 P **P 11 43 13.4 +0.3**
SNR=28
EKS2 Erkin-Say 80.91 315 *e*P **P 11 43 13.2 -0.4**
comp=Z,60nm,1.0s,mb5.5
EKS2 LR LR
comp=Z,597nm,20.0s,MS4.9
EKS2 Erkin-Say 80.91 315 P **P 11 43 16.2 +2.6**
SNR=8.7
TTA Tatalina 80.92 23 *e*P **P 11 43 11.7 -1.4**
TTA pmax pmax
comp=Z,59nm,1.4s,mb5.3
TTA Tatalina 80.92 23 *e*P **P 11 43 11.7 -1.5**
comp=Z,59nm,1.4s,mb5.3
SLKM Skilak Lake 82.18 27 *e*P **P 11 43 20.0 +0.2**
MAW Mawson 82.38 203⇑*i*P **P 11 43 20.3 -0.5**
comp=Z,56nm,0.8s,mb5.5
MAW Mawson 82.38 203⇑*i*P **P 11 43 20.3 -0.5**
MAW pmax pmax
comp=Z,56nm,0.8s
MAW Mawson 82.38 203 P **P 11 43 18.2 -2.6**
comp=Z,63nm,0.7s,mb5.6,baz=91,slow=7.0,SNR=53
MAW LR LR 12 20 24.0
comp=Z,2μm,19.2s,MS5.6,baz=72,slow=36
PMR Palmer 83.13 26 *e*P **P 11 43 23.2 -1.5**
PMR pmax pmax
comp=Z,28nm,1.1s,mb5.2
PMR MLR MLR
comp=Z,1μm,23.0s,MS5.1
PMR Palmer 83.13 26 *e*P **P 11 43 23.2 -1.6**
comp=Z,28nm,1.1s,mb5.2
PMR LR LR
comp=Z,1μm,23.0s,MS5.1
IMA2 Indian Mountai 83.39 21 *e*P **P 11 43 25.7 -0.3**
SML Sawmill 83.56 26 *e*P **P 11 43 26.2 -0.8**
MCK McKinley 84.12 24 *e*P **P 11 43 28.3 -1.5**
MCK pmax pmax
comp=Z,70nm,0.9s,mb5.8
MCK MLR MLR
comp=Z,935nm,22.0s,MS5.1
MCK McKinley 84.12 24 *e*P **P 11 43 28.3 -1.4**
comp=Z,70nm,0.9s,mb5.8
MCK LR LR
comp=Z,935nm,22.0s,MS5.1
DIV Divide 84.43 27 *e*P **P 11 43 30.5 -0.8**
comp=Z,80nm,1.2s,mb5.7
QSPA South Pole Qui 84.46 180 *e*P **P 11 43 30.6 -0.7**
comp=Z,102nm,0.6s,mb6.1
QSPA LR LR
comp=Z,3μm,20.0s,MS5.7
QSPA South Pole Qui 84.46 180 P **P 11 43 29.9 -1.4**
comp=Z,73nm,0.6s,mb6.0,baz=320,slow=1.1,SNR=78
QSPA LR LR 12 19 11.8
comp=Z,806nm,20.3s,MS5.1,baz=183,slow=34
COLA College 85.02 23 *e*P **P 11 43 32.6 -1.7**
comp=Z,35nm,0.8s,mb5.5
COLA LR LR
comp=Z,1μm,20.0s,MS5.3
BVAR Borovoye Array 85.88 324 P **P 11 43 37.0 -1.8**
BVAR pmax pmax
comp=Z,20nm,0.7s
BVAR pmax pmax
comp=Z,2.0nm,0.8s
BVAR Borovoye Array 85.88 324 P **P 11 43 37.0 -1.8**
comp=Z,20nm,0.7s,mb5.5,baz=114,slow=5.5,SNR=42
BVAR PKKPbc PKKPbc 12 01 40.6 -1.4
comp=Z,1.7nm,0.8s,baz=267,slow=3.0,SNR=5.3
BRVK Borovoye 85.95 324 *e*P **P 11 43 37.5 -1.7**
BRVK *e**PP pP 11 43 50.5 -3.9
BRVK pmax pmax
comp=Z,22nm,1.0s,mb5.3
BRVK MLR MLR
comp=Z,843nm,21.0s,MS5.1
BRVK Borovoye 85.95 324 *e*P **P 11 43 37.5 -1.7**
comp=Z,22nm,1.0s,mb5.3
BRVK *e*pP pP 11 43 50.5 -3.9
BRVK LR LR
comp=Z,843nm,21.0s,MS5.1
BRVK Borovoye 85.95 324 P **P 11 43 38.1 -1.1**
SNR=8.8
BRVK Borovoye 85.95 324 P **P 11 43 38.1 -1.1**
SNR=8.8
BRVK Borovoye 85.95 324 P **P 11 43 38.1 -1.1**
SNR=8.8
BRVK Borovoye 85.95 324 P **P 11 43 38.1 -1.1**
SNR=8.8
BRVK Borovoye 85.95 324 P **P 11 43 38.1 -1.1**
SNR=8.8
BRVK Borovoye 85.95 324 P **P 11 43 38.1 -1.1**
SNR=8.8
MENT Mentasta 85.98 26 *e*P **P 11 43 39.4 +0.3**
EGAK Eagle 87.66 24 *e*P **P 11 43 46.3 -1.0**
comp=Z,52nm,1.1s,mb5.7
EGAK LR LR
comp=Z,1μm,21.0s,MS5.4
DAWY Dawson 88.18 25 *e*P **P 11 43 49.5 -0.2**
SIT Sitka 88.37 32 PFAKE 11 44 00.0 +9.2
SIT LR LR
comp=Z,2μm,21.0s,MS5.4
SKAG Skagway 88.89 30 *e*P **P 11 43 54.2 +1.0**
comp=Z,246nm,2.3s,mb6.1
WRAK Wrangell Islan 89.85 33 *e*P **P 11 43 58.4 +0.7**
comp=Z,195nm,2.0s,mb6.1
WRAK LR LR
comp=Z,1μm,19.0s,MS5.3
MSEY Mahe Island 90.23 265 *e*P **P 11 43 59.8 -0.7**
comp=Z,132nm,1.8s,mb6.0
MSEY LR LR
comp=Z,658nm,21.0s,MS5.0
SYO Syowa Base 90.77 200⇓*i*P **P 11 43 59.6 -2.2**
SYO Syowa Base 90.77 200⇑*i*P **P 11 44 02.0 +0.2**
SYO Syowa Base 90.77 200 *e*SH 11 54 49.0
DLBC Dease Lake 91.41 32 P **P 11 44 03.0 -2.0**
DLBC Dease Lake 91.41 32 P **P 11 44 03.0 -2.0**
INK Inuvik 91.50 22 *e*P **P 11 44 03.5 -1.7**
INK PKKPbc PKKPbc 12 01 24.6 -3.9
INK Inuvik 91.50 22 P **P 11 44 03.4 -1.8**
comp=Z,5.7nm,0.6s,mb5.1,baz=262,slow=6.4,SNR=33
INK PKKPbc PKKPbc 12 01 24.6 -3.9
comp=Z,1.9nm,0.5s,baz=22,slow=1.0,SNR=11
BBB Bella Bella 91.69 38 P **P 11 44 06.0 -0.4**
comp=Z,11nm,0.8s,mb5.2,baz=195,slow=14,SNR=3.9
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
BANOM Banah 92.25 296 P **P 11 44 11.1 +1.5**
SNR=6.8
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
HATD Hatta, Dubai 92.30 295 P **P 11 44 09.1 -0.8**
SNR=5.3
ASHO Ashiyiah 92.36 294 P **P 11 44 11.2 +1.0**
SNR=5.8
ASHO Ashiyiah 92.36 294 P **P 11 44 11.2 +1.0**
SNR=5.8
ASHO Ashiyiah 92.36 294 P **P 11 44 11.2 +1.0**
SNR=5.8
ASHO Ashiyiah 92.36 294 P **P 11 44 11.2 +1.0**
SNR=5.8
AKTO Aktyubinsk 93.02 320 PKKPbc PKKPbc 12 01 22.2 -1.9
comp=Z,1.5nm,0.7s,baz=53,slow=3.5,SNR=5.2
ARU Arti 93.21 326*c i*P **P 11 44 12.1 -1.2**
ARU *e* 11 47 56.4
ARU *e*PPP 11 49 55.1
ARU *e*S SKSac 11 54 40.6 -2.3
ARU *e*SP SP 11 56 31.9 +3.4
ARU *e*PS PS 11 56 39.3 +3.6
ARU *e*SSS 12 05 06.8
ARU pmax pmax
comp=Z,38nm,2.5s,mb5.4
ARU MLR MLR
comp=Z,1μm,21.0s,MS5.3
ARU Arti 93.21 326⇓*e*P **P 11 44 12.1 -1.2**
ARU LR LR
comp=Z,1μm,20.0s,MS5.3
KCPM Cahto Peak 93.68 51 *e*P **P 11 44 15.3 -0.5**
KIPM Iron Peak 93.76 51 *e*P **P 11 44 16.4 +0.1**
NLWA Neilton Lookou 93.99 43 PFAKE 11 44 30.0 +13
NLWA LR LR
comp=Z,717nm,21.0s,MS5.1
HOPS Hopland 94.02 51 PFAKE 11 44 30.0 +13
HOPS LR LR
comp=Z,1μm,20.0s,MS5.4
MCCM Marconi Confer 94.12 52 PFAKE 11 44 30.0 +12
MCCM LR LR
comp=Z,1μm,19.0s,MS5.4
COR Corvallis 94.21 46 PFAKE 11 44 30.0 +12
COR LR LR
comp=Z,868nm,19.0s,MS5.2
O02C Red Bluff 94.32 50⇓P **P 11 44 19.5 +0.7**
baz=94,SNR=16
HUMO Hull Mountain 94.34 48 PFAKE 11 44 30.0 +11
HUMO LR LR
comp=Z,2μm,20.0s,MS5.5
GASB Alder Springs 94.34 51⇑P **P 11 44 20.4 +1.4**
baz=94,SNR=8.6
YBH Yreka Blue Hor 94.47 49 *e*P **P 11 44 19.5 0.0**
YBH pmax pmax
comp=Z,52nm,1.6s
YBH MLR MLR
comp=Z,1μm,22.0s
YBH Yreka Blue Hor 94.47 49 *e*P **P 11 44 19.4 0.0**
comp=Z,52nm,1.6s,mb5.7
YBH LR LR
comp=Z,1μm,22.0s,MS5.3
YBH Yreka Blue Hor 94.47 49 P **P 11 44 19.2 -0.3**
comp=Z,5.5nm,0.6s,mb5.2,baz=215,slow=6.7,SNR=8.4
WDC Whiskeytown Da 94.53 50 *e*P **P 11 44 18.9 -0.9**
WDC pmax pmax
comp=Z,79nm,1.7s,mb5.9
WDC MLR MLR
comp=Z,1μm,20.0s,MS5.4
WDC Whiskeytown Da 94.53 50 *e*P **P 11 44 18.9 -0.9**
comp=Z,79nm,1.7s,mb5.9
WDC LR LR
comp=Z,1μm,20.0s,MS5.4
WDC Whiskeytown Da 94.53 50⇑P **P 11 44 20.3 +0.5**
baz=95,SNR=9.7
M03C McCloud 94.89 49⇑P **P 11 44 22.7 +1.3**
baz=95,SNR=5.8
SAO San Andreas Ge 95.18 54 PFAKE 11 44 30.0 +7.2
SAO LR LR
comp=Z,1μm,20.0s,MS5.4
ORV Oroville 95.27 51⇑P **P 11 44 23.3 +0.1**
baz=95,SNR=13
OHCM Honcut 95.28 51 *e*P **P 11 44 22.9 -0.4**
S04C Ingram Canyon, 95.31 53⇓P **P 11 44 24.0 +0.6**
baz=95,SNR=5.8
M05C Lookout 95.62 49⇑P **P 11 44 25.7 +0.9**
baz=96
O04C Chester 95.63 50⇑P **P 11 44 25.9 +1.1**
baz=96,SNR=6.7
LAVA Lava Cap Winer 95.83 52⇓P **P 11 44 25.9 +0.2**
baz=96,SNR=9.6

P05C Yuba Gap, Truc 95.95 51 ⇓P **P** **11 44 27.0 +0.7**
baz=96,SNR=5.9
CMB Columbia Colle 96.08 52 *e*P **P** **11 44 26.9 0.0**
CMB pmax pmax
comp=Z,39nm,1.8s,mb5.5
CMB MLR MLR
comp=Z,1μm,19.0s,MS5.4
CMB Columbia Colle 96.08 52 *e*P **P** **11 44 26.9 -0.1**
comp=Z,39nm,1.8s,mb5.5
CMB LR LR
comp=Z,1μm,19.0s,MS5.4
CMB Columbia Colle 96.08 52 P **P** **11 44 26.8 -0.1**
baz=96,SNR=8.2
PTRM Twissleman Ran 96.12 55 *e*P **P** **11 44 26.5 -0.7**
BEKR Beckwourth 96.17 51 ⇑P **P** **11 44 27.4 +0.2**
baz=96,SNR=6.8
MOD Modoc 96.28 49 *e*P **P** **11 44 27.5 -0.2**
comp=Z,50nm,1.8s,mb5.6
MOD LR LR
comp=Z,1μm,19.0s,MS5.4
R05C Kirkwood Meado 96.35 52 ⇓P **P** **11 44 28.4 +0.2**
baz=96,SNR=6.2
T06C Milleton Lake 96.58 53 ⇑P **P** **11 44 29.1 -0.1**
baz=97,SNR=5.4
N06A Buffalo Meadow 96.59 50 ⇑P **P** **11 44 30.2 +1.0**
baz=97,SNR=7.5
SNCC San Nicolas Is 96.59 57 PFAKE 11 44 40.0 +11
SNCC LR LR
comp=Z,1μm,22.0s,MS5.3
WCN Washoe City 96.61 51 ⇑P **P** **11 44 30.3 +1.0**
baz=97,SNR=5.5
ABPO Ambohimpanom 96.62 250 *e*P **P** **11 44 29.4 -0.4**
comp=Z,22nm,0.9s,mb5.6
ABPO LR LR
comp=Z,2μm,21.0s,MS5.6
PAHR Pah Rah Range 96.91 51 *e*P **P** **11 44 30.9 +0.2**
comp=Z,37nm,1.9s,mb5.5
HAWA Hanford 96.92 44 PFAKE 11 44 40.0 +9.4
HAWA LR LR
comp=Z,906nm,20.0s,MS5.2
B08A Colville Reser 97.08 42 ⇓P **P** **11 44 32.0 +0.8**
baz=97
M07A Soldier Meadow 97.11 49 ⇓P **P** **11 44 32.7 +1.2**
baz=97
A08A Turner Farm, O 97.12 41 ⇑P **P** **11 44 32.1 +0.7**
baz=97
G08A Pilot Rock 97.31 45 ⇑P **P** **11 44 33.5 +1.2**
baz=97
D08A Wollman Farm, 97.35 43 ⇑P **P** **11 44 33.3 +0.8**
baz=97
MTUM Tungsten Hills 97.50 53 *e*P **P** **11 44 34.0 +0.6**
H08A Prairie City 97.52 46 ⇑P **P** **11 44 33.3 0.0**
baz=98
WVOR Wild Horse Val 97.52 48 *e*P **P** **11 44 33.5 +0.1**
WVOR pmax pmax
comp=Z,69nm,2.1s,mb5.8
WVOR MLR MLR
comp=Z,1μm,21.0s,MS5.3
WVOR Wild Horse Val 97.52 48 *e*P **P** **11 44 33.5 +0.1**
comp=Z,70nm,2.1s,mb5.8
WVOR LR LR
comp=Z,1μm,21.0s,MS5.3
NVAR Mina Array Bea 97.73 52 P **P** **11 44 33.2 -1.2**
NVAR PP PP 11 48 33.4 +0.5
NVAR PKKP PKKPbc 12 01 10.7 -0.2
NVAR Mina Array Bea 97.73 52 P **P** **11 44 33.2 -1.1**
comp=Z,1.9nm,0.7s,mb4.7,baz=252,slow=7.0,SNR=17
NVAR PP PP 11 48 33.4 +0.5
comp=Z,2.7nm,1.2s,baz=255,slow=8.9,SNR=4.4
NVAR PKKP PKKPbc 12 01 10.7 -0.2
comp=Z,0.5nm,0.5s,baz=67,slow=5.5,SNR=4.2
S08C White Mtn Res 97.82 53 ⇑P **P** **11 44 35.7 +0.9**
baz=98,SNR=5.6
CWC Cottonwood Cre 97.87 54 ⇓P **P** **11 44 35.4 +0.3**
baz=98
EDW2 Edwards Air Fo 97.92 56 ⇓P **P** **11 44 35.0 -0.3**
baz=98
Q08A Gabbs 98.02 52 ⇓P **P** **11 44 36.1 +0.4**
baz=98
MAIT Maitri 98.10 194 *e*P **P** **11 44 34.9 -0.5**
G09A Cove 98.15 45 ⇑P **P** **11 44 36.2 +0.1**
baz=98
LRMC Laurel Mountai 98.17 55 ⇓P **P** **11 44 36.8 +0.4**
baz=98
MPMC Manual Prospec 98.34 54 ⇓P **P** **11 44 36.9 -0.3**
baz=98,SNR=6.6
D10A Wagner Farm, O 98.48 43 ⇑P **P** **11 44 37.3 -0.2**
baz=98
BMO Blue Mountains 98.49 46 *e*P **P** **11 44 37.7 +0.1**
BMO pmax pmax
comp=Z,16nm,1.4s,mb5.4
BMO MLR MLR
comp=Z,637nm,22.0s,MS5.1
BMO Blue Mountains 98.49 46 *e*P **P** **11 44 37.7 +0.1**
comp=Z,16nm,1.4s,mb5.3
BMO LR LR
comp=Z,637nm,22.0s,MS5.1
F10A Beach Ranch, E 98.53 44 ⇓P **P** **11 44 37.0 -0.8**
baz=99
NEW Newport 98.55 42 *e*P **P** **11 44 37.3 -0.5**
NEW pmax pmax
comp=Z,27nm,1.5s
NEW MLR MLR
comp=Z,786nm,21.0s
NEW Newport 98.55 42 *e*P **P** **11 44 37.3 -0.5**
comp=Z,28nm,1.5s,mb5.6
NEW LR LR
comp=Z,786nm,21.0s,MS5.2
S09A Goldfield 98.57 53 ⇓P **P** **11 44 38.7 +0.5**
baz=99,SNR=6.5
H10A Noah's Angus R 98.89 46 ⇑P **P** **11 44 39.6 +0.2**
baz=99
GSC Goldstone 98.89 55 *e*P **P** **11 44 40.2 +0.5**
GSC pmax pmax
comp=Z,35nm,1.8s,mb5.6
GSC MLR MLR
comp=Z,972nm,22.0s,MS5.3
GSC Goldstone 98.89 55 *e*P **P** **11 44 40.2 +0.5**
comp=Z,35nm,1.8s,mb5.6
GSC LR LR
comp=Z,972nm,22.0s,MS5.3
S10A Tonopah Range, 99.07 53 ⇑P **P** **11 44 41.4 +1.0**
baz=99,SNR=5.5
YKA Yellowknife Ar 99.13 28 P **P** **11 44 36.7 -3.4**
YKA PP PP 11 48 34.2 -8.7
YKA PKKPbc PKKPbc 12 01 04.2 -3.6
YKA P'P' 12 09 20.2
YKA LR LR 12 26 11.4
YKA Yellowknife Ar 99.13 28 P **P** **11 44 36.7 -3.4**
comp=Z,2.1nm,0.8s,mb4.7,baz=276,slow=4.6,SNR=19
YKA PP PP 11 48 34.2 -8.7
comp=Z,1.8nm,1.0s,baz=277,slow=6.1,SNR=3.7
YKA PKKPbc PKKPbc 12 01 04.2 -3.6
comp=Z,2.7nm,0.7s,baz=91,slow=2.8,SNR=22
YKA PKPPKP 12 09 20.2
comp=Z,0.3nm,1.0s,baz=92,slow=2.3,SNR=3.5
YKA LR LR 12 26 11.4
comp=Z,671nm,21.6s,MS5.1,baz=215,slow=33
PFO Pinyon Flat Ob 99.17 57 PFAKE 11 44 50.0 +9.1
PFO LR LR
comp=Z,1μm,20.0s,MS5.3
E11A Bogner Ranch, 99.23 44 ⇑P **P** **11 44 40.7 -0.2**
baz=99
HEC Hector,Ludlow 99.28 56 ⇓P **P** **11 44 41.4 0.0**
baz=99
SHOC Shoshone 99.32 55 ⇓P **P** **11 44 41.7 +0.1**
baz=99
TPNV Topopah Spring 99.35 54 *e*P **P** **11 44 42.0 +0.3**
TPNV pmax pmax
comp=Z,42nm,2.0s,mb5.6
TPNV MLR MLR
comp=Z,888nm,19.0s,MS5.3
TPNV Topopah Spring 99.35 54 *e*P **P** **11 44 42.0 +0.3**
comp=Z,42nm,2.0s,mb5.6
TPNV LR LR
comp=Z,888nm,19.0s,MS5.3
K11A Parker Ranch, 99.44 48 ⇑P **P** **11 44 42.3 +0.4**
baz=100
D12A Red Ives Fores 99.79 43 ⇑P Pdif 11 44 43.8 +0.5
baz=100
Q11A Duckwater 99.80 52 ⇑P Pdif 11 44 43.8 +0.5
baz=100
GMRC Granite Mounta 99.83 56 ⇑P Pdif 11 44 44.1 +0.7
baz=100,SNR=6.9
BC3 Big Chuckw Mtn 100.00 57 ⇑P Pdif 11 44 45.7 +1.6
baz=100,SNR=6.1
T11A Corn Creek, Al 100.17 53 ⇑P Pdif 11 44 45.3 +0.4
baz=100
L12A House Creek Ra 100.21 48 ⇑P Pdif 11 44 46.0 +0.9
baz=100
IRM Iron Mountain 100.25 56 ⇓P Pdif 11 44 46.7 +1.4
baz=100,SNR=9.7
M12A Wells 100.31 49 ⇑P Pdif 11 44 46.2 +0.7
baz=100
SNAA Sanae 100.34 190 P Pdif 11 44 43.8 -1.9
SNAA 11 48 49.9
SNAA pmax pmax
comp=Z,3.0nm,0.8s
SNAA pmax pmax
comp=Z,4.0nm,0.9s
SNAA Sanae 100.34 190 P Pdif 11 44 43.8 -1.9
comp=Z,2.8nm,0.8s,baz=185,slow=5.1,SNR=21
SNAA PP PP 11 48 49.9 -1.6
comp=Z,4.0nm,0.9s,baz=142,slow=8.1,SNR=8.4
GLA Glamis 100.53 58 PFAKE 11 45 00.0 +13
GLA LR LR
comp=Z,888nm,21.0s,MS5.2
F13A Darby 100.56 45 ⇓P Pdif 11 44 46.9 +0.3
baz=101
MSO Missoula 100.77 44 PFAKE 11 45 00.0 +12
MSO LR LR
comp=Z,594nm,20.0s,MS5.1
MCMT McKenzie Canyo 101.66 46 *e*Pdif Pdif 11 44 51.5 -0.1
DUG Dugway 101.95 50 *e*P Pdif 11 44 52.8 0.0
DUG pmax pmax
comp=Z,5.0nm,1.4s
DUG MLR MLR
comp=Z,935nm,22.0s,MS5.3
DUG Dugway 101.95 50 *e*Pdif Pdif 11 44 52.8 0.0
comp=Z,5.1nm,1.4s
DUG LR LR
comp=Z,935nm,22.0s,MS5.3
GNI Garni 102.25 310 *i* P Pdif 11 44 54.0 -0.2
GNI pmax pmax
comp=Z,10.0nm,1.6s
GNI Garni 102.25 310 PFAKE 11 45 10.0 +16
GNI LR LR
comp=Z,344nm,22.0s,MS4.8
BOZ Bozeman (W) 102.45 45 PFAKE 11 45 10.0 +15
BOZ LR LR
comp=Z,527nm,21.0s,MS5.0
HWUT Hardware Ranch 102.81 49 PFAKE 11 45 10.0 +13
HWUT LR LR
comp=Z,981nm,20.0s,MS5.3
MPU Maple Canyon 102.87 50 PFAKE 11 45 10.0 +13
MPU LR LR
comp=Z,1μm,20.0s,MS5.4
JLU Jordanelle 102.97 50 *e*P Pdif 11 44 58.1 +0.8
YMR Madison River 103.01 46 PFAKE 11 45 10.0 +12
YMR LR LR
comp=Z,1μm,21.0s,MS5.4
AHID Auburn Hatcher 103.07 48 PFAKE 11 45 10.0 +12
AHID LR LR
comp=Z,963nm,19.0s,MS5.3
KBS Kingsbay 103.16 352 *e*PP PP 11 49 08.8 -4.0
KBS *e*SKS 11 55 36.3
KBS *e*SS SS 12 03 51.9 +0.9
KBS AMS AMS 12 26 33.9
comp=Z,224nm,24.0s,MS4.6
KBS Kingsbay 103.16 352 PFAKE 11 45 10.0 +12
KBS LR LR
comp=Z,575nm,21.0s,MS5.1
WUAZ Wupatki 103.32 55 PFAKE 11 45 10.0 +11
WUAZ LR LR
comp=Z,930nm,22.0s,MS5.3
EGMT Eagleton 103.49 42 PFAKE 11 45 10.0 +10
EGMT LR LR
comp=Z,597nm,20.0s,MS5.1
KIV Kislovodsk 103.50 314 PFAKE 11 45 10.0 +10
KIV LR LR
comp=Z,635nm,22.0s,MS5.1
KIV Kislovodsk 103.50 314 P PKiKP 11 49 17.7 -0.8
SNR=7.8
TUC Tucson 103.95 58 PFAKE 11 45 10.0 +8.3
TUC LR LR
comp=Z,1μm,20.0s,MS5.4
BW06 Boulder Array 104.20 47 PFAKE 11 45 10.0 +7.2
BW06 LR LR
comp=Z,1μm,20.0s,MS5.4
ARCES ARCESS Array B 105.53 342 P Pdif 11 45 06.9 -1.8
ARCES pmax pmax
comp=Z,4.0nm,0.6s
ARCES pmax pmax
comp=Z,4.0nm,0.5s
ARCES ARCESS Array B 105.53 342 Pdiff Pdif 11 45 06.9 -1.8
comp=Z,4.1nm,0.6s,baz=67,slow=9.3,SNR=13
ARCES PKKPbc PKKPbc 12 00 44.4 -4.9
comp=Z,3.6nm,0.5s,baz=249,slow=2.3,SNR=29
OBN Obninsk 105.65 326 PFAKE 11 49 30.0 +7.9
OBN LR LR
comp=Z,682nm,20.0s,MS5.2
SMCO Snowmass 106.53 51 *e*P PKiKP 11 49 20.6 -3.6
FFC Flin Flon 107.02 34 PFAKE 11 49 40.0 +15
FFC LR LR
comp=Z,918nm,20.0s,MS5.3
DGMT Dagmar 107.09 41 PFAKE 11 49 40.0 +15
DGMT LR LR
comp=Z,942nm,19.0s,MS5.4
ANMO Albuquerque 107.38 55 PFAKE 11 49 40.0 +14
ANMO LR LR
comp=Z,735nm,22.0s,MS5.2
TRO Tromso 107.47 343 *e*PP PP 11 49 43.0 -1.8
TRO *e*SS SS 12 04 47.2 -2.7
TRO AMS AMS 12 34 01.0
comp=Z,797nm,25.7s,MS5.2
ISCO Idaho Springs 107.50 50 PFAKE 11 49 40.0 +14
ISCO LR LR
comp=Z,1μm,21.0s,MS5.5
SDCO Great Sand Dun 107.84 52 PFAKE 11 49 40.0 +13
SDCO LR LR
comp=Z,853nm,20.0s,MS5.3
MNTX Cornudas Mount 108.57 59 PFAKE 11 49 40.0 +12
MNTX LR LR
comp=Z,787nm,20.0s,MS5.3
KMBO Kilima Mbogo 108.70 267 P Pdif 11 45 24.6 +1.8
KMBO pmax pmax
comp=Z,2.0nm,0.6s
KMBO Kilima Mbogo 108.70 267 Pdiff Pdif 11 45 24.6 +1.8
comp=Z,1.8nm,0.6s,baz=64,slow=5.4,SNR=5.1
FINES FINESS Array B 108.86 334 P Pdif 11 45 22.4 -1.2
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 108.86 334 Pdif Pdif 11 45 22.4 -1.1
FINES PKPdif PKiKP 11 49 27.5 -0.4
FINES PKKPbc PKKPbc 12 00 36.5 -2.1
FINES FINESS Array B 108.86 334 Pdiff Pdif 11 45 22.4 -1.1
comp=Z,0.9nm,0.6s,baz=72,slow=8.2,SNR=7.1
FINES PKiKP PKiKP 11 49 27.5 -0.4
comp=Z,1.2nm,0.6s,baz=59,slow=5.4,SNR=4.3
FINES PKKPbc PKKPbc 12 00 36.5 -2.1
comp=Z,1.7nm,0.8s,baz=259,slow=1.9,SNR=5.0
TXAR Lajitas Array 110.26 61 *i* PKIKP PKiKP 11 49 28.9 -2.6
TXAR 12 00 32.4
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 110.26 61 PKiKP PKiKP 11 49 28.9 -2.6
comp=Z,0.7nm,0.8s,baz=282,slow=1.2,SNR=6.1
TXAR PKKPbc PKKPbc 12 00 32.4 -0.6
comp=Z,1.1nm,0.5s,baz=111,slow=5.5,SNR=20
AKASG Malin Array Be 111.12 323 PP PP 11 50 09.5 -2.3
comp=Z,0.2nm,0.3s,baz=40,slow=6.3,SNR=8.8
AKASG PKKPbc PKKPbc 12 00 27.9 -3.1
comp=Z,1.1nm,0.5s,baz=257,slow=4.4,SNR=7.7
KIEV Kiev 111.13 323 PFAKE 11 49 40.0 +7.5
KIEV LR LR
comp=Z,947nm,20.0s,MS5.4
AMTX Amarillo 111.28 55 PFAKE 11 49 40.0 +6.7
AMTX LR LR
comp=Z,928nm,19.0s,MS5.4
ANTO Ankara 111.39 311 PFAKE 11 49 40.0 +6.6
ANTO LR LR
comp=Z,349nm,22.0s,MS4.9
ULM Lac du Bonnet 111.89 38 PP PP 11 50 10.2 -7.2
comp=Z,1.4nm,0.6s,baz=0.0,slow=2.0,SNR=3.0
ULM PKKPbc PKKPbc 12 00 25.1 -3.4
comp=Z,1.6nm,0.5s,baz=92,slow=3.0,SNR=5.5
CBKS Cedar Bluff 112.16 50 PFAKE 11 49 50.0 +15
CBKS LR LR
comp=Z,1μm,22.0s,MS5.4
AGMN Agassiz Refuge 112.51 40 PFAKE 11 49 50.0 +15
AGMN LR LR
comp=Z,1μm,20.0s,MS5.4
JMIC Jan Mayen 112.64 351 *e*PP PP 11 50 22.5 +0.5
JMIC *e*SS SS 12 06 02.6 +3.7
ECSD EROS,Sioux Fal 113.32 45 PFAKE 11 49 50.0 +13
ECSD LR LR
comp=Z,956nm,20.0s,MS5.4
JCT Junction City 113.47 59 PFAKE 11 49 50.0 +12
JCT LR LR
comp=Z,1μm,22.0s,MS5.5
WMOK Wichita Mounta 113.66 55 PFAKE 11 49 50.0 +12
WMOK LR LR
comp=Z,846nm,22.0s,MS5.3
BOSA Boshof 113.83 236 PKIKP PKiKP 11 49 37.1 -1.3
BOSA pmax pmax
comp=Z,3.0nm,0.5s
BOSA Boshof 113.83 236 PKP PKiKP 11 49 37.1 -1.3
comp=Z,2.5nm,0.5s,baz=99,slow=2.0,SNR=8.8
KSU1 Kansas State U 114.48 49 PFAKE 11 49 50.0 +11
KSU1 LR LR
comp=Z,957nm,19.0s,MS5.4
HFS Hagfors 114.76 336 PKKPbc PKKPbc 12 00 15.2 -3.8
comp=Z,2.6nm,0.8s,baz=157,slow=5.8,SNR=5.6
MLR Muntele Rosu 114.84 318 PKKPbc PKKPbc 12 00 15.0 -3.3
comp=Z,3.4nm,0.6s,baz=256,slow=6.2,SNR=6.1
MLR Muntele Rosu 114.84 318 ⇓ *i* P PKKPbc 12 00 19.0 +0.7
NB2 NORSAR Subarra 115.18 338 PKKP PKKPbc 12 00 15.2 -2.4
comp=Z,1.0nm,0.7s,baz=231,slow=3.5
NOA NORSAR Array B 115.18 338 PKKPbc PKKPbc 12 00 14.5 -3.1
comp=Z,1.9nm,0.8s,baz=53,slow=3.3,SNR=13
LSZ Lusaka 115.19 250 *e*PKIKP PKiKP 11 49 41.5 +0.2
LSZ MLR MLR
comp=Z,2μm,22.0s,MS5.6
EYMN Ely 115.38 39 PFAKE 11 49 50.0 +9.3
EYMN LR LR
comp=Z,971nm,19.0s,MS5.4
MOL Molde 115.49 340 AMS AMS 12 39 48.7
comp=Z,1μm,23.8s,MS5.5
KVTX Kingsville 115.51 62 PFAKE 11 49 50.0 +8.4
KVTX LR LR
comp=Z,813nm,21.0s,MS5.3
SUR Sutherland 115.88 230 *e*PKPdf PKPdf 11 49 42.7 +0.5
SUR LR LR
comp=Z,2μm,20.0s,MS5.7
SUR Sutherland 115.88 230 PKP PKPdf 11 49 42.0 -0.2
comp=Z,4.8nm,0.5s,baz=146,slow=6.8,SNR=10
UZH Uzhgorod 116.06 322 *e* PS 12 00 30.0 +0.7
KONO Kongsberg 116.69 337 *e* PKKPbc 12 00 21.9 +10
KONO Kongsberg 116.69 337 PFAKE 11 49 50.0 +7.1
KONO LR LR
comp=Z,1μm,21.0s,MS5.5
SFJD Kangerlussuaq 117.53 7 PFAKE 11 50 00.0 +16
SFJD LR LR
comp=Z,511nm,21.0s,MS5.1
COWI Conover 117.57 40 PFAKE 11 50 00.0 +15
COWI LR LR
comp=Z,1μm,19.0s,MS5.5
NATX Nacogdoches 117.61 57 PFAKE 11 50 00.0 +14
NATX LR LR
comp=Z,859nm,21.0s,MS5.3
BER Bergen 117.78 339 *e*SS SS 12 07 09.6 +3.0
BER AMS AMS 12 43 58.9
comp=Z,1μm,22.2s,MS5.5
SANT Santorini 117.80 308 *e*PKPdf PKPdf 11 49 42.9 -2.8
MIAR Mount Ida 117.90 54 PFAKE 11 50 00.0 +14
MIAR LR LR
comp=Z,999nm,21.0s,MS5.4
JFWS Jewell Farm 117.99 44 PFAKE 11 50 00.0 +14
JFWS LR LR
comp=Z,1μm,21.0s,MS5.4
OKC Ostrava-Krasne 118.00 325 AMS AMS 12 40 30.0
comp=Z,600nm,20.3s
DPC Dobruska-Polom 118.80 326 *e*PKIKP PKPdf 11 49 49.3 +2.1
DPC *e* 11 51 08.7
DPC MLR MLR
comp=Z,1μm,24.9s,MS5.3
DPC Dobruska-Polom 118.80 326 *e*PKP PKPdf 11 49 49.3 +2.1
DPC *e*PP PP 11 51 08.7 +2.9
DPC *e*x x 12 01 05.5
DPC AMS AMS 12 41 20.0
comp=Z,1μm,24.9s
CCM Cathedral Cave 118.81 49 *e*PKIKP PKPdf 11 49 44.2 -3.4
CCM MLR MLR
comp=Z,771nm,20.0s,MS5.3
UPC Upice 118.89 326 *e*PP PP 11 51 10.3 +3.8
HDIL Hopedale 119.46 46 PFAKE 11 50 00.0 +11
HDIL LR LR
comp=Z,849nm,19.0s,MS5.4
TREC Trest 119.79 325 AMS AMS 12 42 20.0
comp=Z,1μm,22.8s
BRG Berggiesshubel 119.84 327 *e*P pPKPdf 11 50 09.7 +4.6
BRG *e* 11 51 51.3
BRG S PS 12 01 16.0 +13
BRG SS SS 12 07 46.0 +12
BRG LR LR
comp=Z,1μm,22.3s,MS5.4
BRG Berggiesshubel 119.84 327 *e*P pPKPdf 11 50 09.7 +4.6
comp=Z,4.8nm,1.0s
BRG Berggiesshubel 119.84 327 S PS 12 01 16.0 +13
BRG SS SS 12 07 46.0 +12
BRG
comp=Z,2μm,22.3s
BRG
comp=N,1μm,22.7s
BRG
comp=E,768nm,22.7s
PRU Pruhonice 119.97 326 *e*PKP PKPdf 11 49 49.5 0.0
PRU *e*PP PP 11 51 15.4 +1.5
PRU AMS AMS 12 43 20.0
comp=E,1μm,22.7s
CLL Collm 120.10 328 *e*PKIKP PKPdf 11 49 50.0 +0.3
CLL *e* 11 51 21.0
CLL pmax pmax
comp=Z,6.0nm,0.7s
CLL MLR MLR
comp=Z,2μm,23.4s,MS5.7
CLL Collm 120.10 328 *e*PKP PKPdf 11 49 50.0 +0.3
CLL *e*PP PP 11 51 21.0 +6.3
CLL LR LR
comp=Z,2μm,23.4s,MS5.7
CLL Collm 120.10 328 *e*PKPdf PKPdf 11 49 49.7 0.0
comp=Z,6.0nm,0.7s
CLL *e*PP PP 11 51 14.6 -0.1
CLL *e*SKSac SKSac 11 56 40.4 -1.9
CLL *e*PS PS 12 01 01.8 -3.8
CLL *e*SS SS 12 07 40.2 +2.9
CLL *e*SSS 12 12 05.0
CLL *e*LR LR 12 29 35.4
CLL Collm 120.10 328 *e*PKiKP PKiKP 11 49 50.0 +0.2
comp=Z,6.0nm,0.7s
CLL *e*PP PP 11 51 21.0 +6.3
CLL *e*PPP 11 53 54.0
CLL *e*SKKSac SKKSac 11 58 00.0 -10
CLL *e*PS PS 12 01 04.0 -1.6
CLL *e*PPS 12 02 36.0
CLL *e*SS SS 12 07 41.0 +3.7
CLL *e*x x 12 08 51.0
VBMS Vicksburg 120.94 56 PFAKE 11 50 00.0 +8.1
VBMS LR LR
comp=Z,985nm,20.0s,MS5.5
KHC Kasperske Hory 120.95 326 *e*PKP PKPdf 11 49 51.3 -0.1
KHC *e*x x 11 50 35.0
KHC *e*PP PP 11 51 22.2 +1.6
KHC *e*SP SP 12 01 09.4 +3.3
KHC AMS AMS 12 42 30.0
comp=Z,900nm,19.7s
NKC Novy Kostel 120.98 327 AMS AMS 12 41 40.0
comp=Z,2μm,25.7s
GERES GERESS Array B 121.03 325 PKIKP PKPdf 11 49 48.8 -2.8
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 121.03 325 PKP PKPdf 11 49 48.8 -2.7
comp=Z,2.2nm,0.5s,baz=70,slow=1.6,SNR=16
GERES PKKPbc PKKPbc 11 59 54.9 -1.3
comp=Z,1.4nm,0.5s,baz=221,slow=3.7,SNR=12
OXF Oxford 121.24 53 PFAKE 11 50 00.0 +7.6
OXF LR LR
comp=Z,1μm,22.0s,MS5.5
PERS Pernice 121.30 323 *i* PKPdf PKPdf 11 49 53.8 +1.6
BOJS Bojanci 121.75 321 *i* PKPdf PKPdf 11 49 53.8 +0.7

GRF Grafenberg Arr 121.94 327 *e*PKKP PKKPbc 11 59 52.5 -0.2
GRFO Grafenberg 121.94 327 PFAKE 11 50 00.0 +6.7
GRFO LR LR
comp=Z,2μm,22.0s,MS5.6
WVT Waverly 121.99 51 PFAKE 11 50 00.0 +6.2
WVT LR LR
comp=Z,963nm,20.0s,MS5.5
PLAL Pickwick Lake 122.15 52 PFAKE 11 50 10.0 +16
PLAL LR LR
comp=Z,1μm,21.0s,MS5.5
AAM Ann Arbor 122.71 42 PFAKE 11 50 10.0 +15
AAM LR LR
comp=Z,1μm,22.0s,MS5.5
PLCA Paso Flores 122.99 147 PKIKP PKPdf 11 49 55.2 -0.5
PLCA pmax pmax
comp=Z,12nm,0.7s
PLCA Paso Flores 122.99 147 PKP PKPdf 11 49 55.2 -0.5
PLCA Paso Flores 122.99 147 PKP PKPdf 11 49 55.2 -0.5
comp=Z,12nm,0.7s,baz=224,slow=2.1,SNR=23
LRAL Lakeview Retre 123.58 54 PFAKE 11 50 10.0 +13
LRAL LR LR
comp=Z,961nm,20.0s,MS5.5
TSUM Tsumeb 123.74 243 *e*PKPdf PKPdf 11 49 57.8 +0.1
TSUM LR LR
comp=Z,1μm,20.0s,MS5.6
ACSO Alum Creek Sta 124.05 44 PFAKE 11 50 10.0 +12
ACSO LR LR
comp=Z,865nm,19.0s,MS5.4
BRAL Brewton 124.10 56 PFAKE 11 50 10.0 +12
BRAL LR LR
comp=Z,972nm,21.0s,MS5.4
SCHQ Schefferville 124.11 22 PKP PKPdf 11 49 56.5 -0.8
comp=Z,3.0nm,0.4s,baz=246,slow=12,SNR=7.8
SCHQ PKKPbc PKKPbc 11 59 43.1 -1.2
comp=Z,6.4nm,0.6s,baz=150,slow=3.2,SNR=12
BFO Black Forest 124.28 327 PFAKE 11 50 10.0 +12
BFO LR LR
comp=Z,845nm,21.0s,MS5.4
DAVOX Davos/Dischmat 124.31 325 PKP PKPdf 11 49 57.6 -0.4
comp=Z,2.9nm,0.5s,baz=301,slow=2.5,SNR=7.8
DAVOX PKKPbc PKKPbc 11 59 41.3 -2.1
comp=Z,7.3nm,0.8s,baz=180,slow=6.8,SNR=8.2
EKA Eskdalemuir Ar 124.57 339 PKIKP PKPdf 11 49 56.1 -2.1
EKA pmax pmax
comp=Z,3.0nm,0.6s
EKA pmax pmax
comp=Z,2.0nm,0.6s
EKA Eskdalemuir Ar 124.57 339 PKP PKPdf 11 49 56.0 -2.1
comp=Z,2.5nm,0.6s,baz=20,slow=2.7,SNR=14
EKA PKKPbc 11 59 40.4
comp=Z,1.6nm,0.6s,baz=216,slow=3.3,SNR=7.9
ESK Eskdalemuir 124.60 339 PFAKE 11 50 10.0 +12
ESK LR LR
comp=Z,980nm,20.0s,MS5.5
CDF Champ du Feu 124.80 328 *e*PKIKP PKPdf 11 49 56.4 -2.4
GIVF Givet 124.99 331 *e*PKIKP PKPdf 11 49 56.6 -2.5
TZTN Tazewell 125.09 49 *e*PKPdf PKPdf 11 49 59.9 +0.1
TZTN LR LR
comp=Z,1μm,22.0s,MS5.5
TEIG Tepich 125.20 69 PFAKE 11 50 10.0 +10
TEIG LR LR
comp=Z,1μm,20.0s,MS5.5
ERPA Erie 125.23 41 PFAKE 11 50 10.0 +10
ERPA LR LR
comp=Z,1μm,19.0s,MS5.6
BAIF Baives 125.32 331 *e*PKIKP PKPdf 11 49 57.1 -2.7
HINF Hinteralfeld 125.39 327 *e*PKIKP PKPdf 11 49 57.5 -2.5
comp=Z,13nm,0.8s
HAU Haudompre 125.54 328 *e*PKIKP PKPdf 11 49 57.5 -2.8
comp=Z,14nm,0.7s
HAU *e*MLR MLR
comp=Z,1μm,21.5s,MS5.2
HAU Haudompre 125.54 328 *e*PKPdf PKPdf 11 49 57.5 -2.8
HAU LR LR
comp=Z,1μm,21.5s,MS5.5
MEZF Maizieres J'vi 125.91 329 *e*PKIKP PKPdf 11 49 58.3 -2.6
comp=Z,5.7nm,0.5s
GOGA Godfrey 126.27 52 PFAKE 11 50 10.0 +7.9
GOGA LR LR
comp=Z,1μm,20.0s,MS5.5
MCWV Mont Chateau 126.47 44 PFAKE 11 50 10.0 +7.7
MCWV LR LR
comp=Z,1μm,20.0s,MS5.6
CABF La Chapelle 126.53 327 *e*PKIKP PKPdf 11 49 59.3 -2.9
comp=Z,31nm,1.2s
TGUH Tegucigalpa,Un 126.77 77 PFAKE 11 50 10.0 +6.5
TGUH LR LR
comp=Z,620nm,21.0s,MS5.3
LPG La Plagne 126.83 325 *e*PKIKP PKPdf 11 50 00.5 -2.3
comp=Z,4.2nm,0.5s
LPL La Plagne 126.83 325 *e*PKIKP PKPdf 11 50 00.4 -2.4
PGF Pioggiola 127.13 321 *e*PKIKP PKPdf 11 50 00.8 -2.7
comp=Z,61nm,1.3s
BLA Blacksburg 127.13 47 PFAKE 11 50 10.0 +6.3
BLA LR LR
comp=Z,1μm,19.0s,MS5.6
LONY Lake Ozonia 127.25 36 PFAKE 11 50 10.0 +6.4
LONY LR LR
comp=Z,860nm,19.0s,MS5.5
MBDF Montbardon 127.27 324 *e*PKIKP PKPdf 11 50 01.2 -2.5
LOR Lormes 127.31 328 *e*PKIKP PKPdf 11 50 01.1 -2.6
comp=Z,6.3nm,0.7s
LOR *e*MLR MLR
comp=Z,815nm,22.2s,MS5.1
LOR Lormes 127.31 328 *e*PKPdf PKPdf 11 50 01.1 -2.6
LOR LR LR
comp=Z,820nm,22.3s,MS5.4
SSPA Standing Stone 127.33 42 PFAKE 11 50 10.0 +6.1
SSPA LR LR
comp=Z,866nm,19.0s,MS5.5
SBF Sospel 127.37 323 *e*PKIKP PKPdf 11 50 01.0 -2.9
comp=Z,16nm,0.6s
SSF Saint Saulge 127.63 328 *e*PKIKP PKPdf 11 50 01.7 -2.6
comp=Z,12nm,1.0s
ORIF Oris-en-Rattie 127.67 325 *e*PKIKP PKPdf 11 50 02.0 -2.4
comp=Z,8.9nm,0.7s
ORIF *e*MLR MLR
comp=Z,1μm,23.0s,MS5.3
SMF Signal de Mont 127.72 328 *e*PKIKP PKPdf 11 50 01.8 -2.7
BINY Binghamton 127.75 39 PFAKE 11 50 20.0 +15
BINY LR LR
comp=Z,1μm,20.0s,MS5.6
NCB Newcomb 127.84 36 PFAKE 11 50 20.0 +15
NCB LR LR
comp=Z,877nm,20.0s,MS5.4
AVF Avril sur Loir 127.89 328 *e*PKIKP PKPdf 11 50 02.0 -2.8
LMR La Mourre 128.22 323 *e*PKIKP PKPdf 11 50 02.8 -2.7
comp=Z,42nm,1.2s
BGF Bois d'Algard 128.30 328 *e*PKIKP PKPdf 11 50 03.1 -2.5
comp=Z,7.0nm,0.5s
LDF La Druitiere 128.39 332 *e*PKIKP PKPdf 11 50 02.8 -2.9
VIVF Saint-Julien-l 128.39 326 *e*PKIKP PKPdf 11 50 03.2 -2.6
SMRF Simiane la Rot 128.40 324 *e*PKIKP PKPdf 11 50 03.4 -2.5
FLN La Foliniere 128.43 332 *e*PKIKP PKPdf 11 50 03.1 -2.7
FLN *e*MLR MLR
comp=Z,1μm,19.8s,MS5.4
FLN La Foliniere 128.43 332 *e*PKPdf PKPdf 11 50 03.1 -2.7
FLN LR LR
comp=Z,1μm,19.8s,MS5.7
TCF Toulx Ste Croi 128.81 328 *e*PKIKP PKPdf 11 50 04.0 -2.6
comp=Z,11nm,0.7s
CBN Corbin 128.85 44 PFAKE 11 50 20.0 +13
CBN LR LR
comp=Z,1μm,22.0s,MS5.5
GRR Gorron 128.88 332 *e*PKIKP PKPdf 11 50 03.9 -2.7
comp=Z,29nm,0.8s
NHSC New Hope 128.95 51 PFAKE 11 50 20.0 +13
NHSC LR LR
comp=Z,646nm,21.0s,MS5.3
LBNH Lisbon 129.01 35 PFAKE 11 50 20.0 +13
LBNH LR LR
comp=Z,1μm,20.0s,MS5.6
TRQA Tornquist 129.38 151 PFAKE 11 50 20.0 +12
TRQA LR LR
comp=Z,980nm,21.0s,MS5.5
DWPF Disney 129.62 58 PFAKE 11 50 20.0 +11
DWPF LR LR
comp=Z,689nm,20.0s,MS5.3
SGMF Saint Gilles 129.75 333 *e*PKIKP PKPdf 11 50 05.6 -2.7
MFF Saint Martin d 129.80 330 *e*PKIKP PKPdf 11 50 05.7 -2.7
PKME Peaks-Kenny Pk 129.81 32 PFAKE 11 50 20.0 +12
PKME LR LR
comp=Z,863nm,22.0s,MS5.4
CNNC Cliffs of the 129.82 48 PFAKE 11 50 20.0 +11
CNNC LR LR
comp=Z,956nm,20.0s,MS5.5

ROSF Rostrenen 130.01 334 *e*PKIKP PKPdf 11 50 06.0 -2.8
comp=Z,40nm,0.9s
KEST Kesra 130.24 313 PKP PKPdf 11 50 08.6 -1.1
comp=Z,0.5nm,0.4s,baz=301,slow=3.4,SNR=3.7
HRV Adam Dziewonsk 130.28 36 PFAKE 11 50 20.0 +11
HRV LR LR
comp=Z,816nm,19.0s,MS5.4
WES Weston 130.49 36 PFAKE 11 50 20.0 +10
WES LR LR
comp=Z,1μm,21.0s,MS5.5
CFAA Coronel Fontan 130.63 141 PKP PKPdf 11 50 08.4 -2.1
comp=Z,1.9nm,0.6s,baz=219,slow=3.2,SNR=12
LCO Las Campanas 130.67 136 PFAKE 11 50 20.0 +9.3
LCO LR LR
comp=Z,512nm,21.7s,MS5.2
NNA Nana 133.84 112 PFAKE 11 50 30.0 +13
NNA LR LR
comp=Z,520nm,22.0s,MS5.2
BCIP Isla Barro Col 134.26 83 PFAKE
BCIP LR LR
comp=Z,988nm,20.0s,MS5.5
ROSC El Rosal 139.68 89 PKhKP 11 50 24.2
comp=Z,7.6nm,0.5s,baz=104,slow=21,SNR=4.1
LPAZ La Paz 139.76 123 PKHKP 11 50 19.9
LPAZ pmax pmax
comp=Z,9.0nm,0.7s
LPAZ La Paz 139.76 123 PKhKP 11 50 19.9
comp=Z,8.8nm,0.7s,baz=266,slow=1.1,SNR=30
CPUP Villa Florida 141.01 145 PKHKP 11 50 21.9
CPUP pmax pmax
comp=Z,8.0nm,0.6s
CPUP Villa Florida 141.01 145 PKhKP 11 50 21.9
comp=Z,8.0nm,0.6s,baz=231,slow=1.6,SNR=20
SDV Santo Domingo 143.36 83 *e*PKPdf PKPdf 11 50 30.0 -4.4
TORD Torodi Ar. Bea 144.16 285 PKP PKPdf 11 50 32.4 -3.4
comp=Z,23nm,0.8s,baz=74,slow=2.5,SNR=61
TORD SKP 11 54 08.0
comp=Z,4.5nm,0.9s,baz=81,slow=2.2,SNR=2.9
CPD Cerro la Pandu 146.30 66 *e*PKPdf PKPdf 11 50 38.0 -1.4
CPD *e*PKPab PKPab 11 50 41.6 +0.2
MTP Monte Pirata 146.61 65 *e*PKPdf PKPdf 11 50 39.1 -0.8
MTP *e*PKPab PKPab 11 50 42.2 -0.4
LZG Guadaloupe-1 150.64 67 *e*P PKPbc 11 50 51.1 -0.9
CAM4 Nova Friburgo 151.02 163 ⇑*i*P PKPbc 11 50 52.4 -0.4
CAM4 *i* 11 50 53.0
CAM4 *i* 11 50 54.9
CAM4 *i* 11 50 57.5
CAM4 *i* 11 51 10.9
MGG Marie-Galante 151.13 67 *e*P PKPbc 11 50 52.3 -0.8
DBIC Dimbokro 151.16 274 PKIKP PKPbc 11 50 51.8 -1.5
DBIC 11 51 00.1
DBIC pmax pmax
comp=Z,22nm,0.5s
DBIC pmax pmax
comp=Z,47nm,0.6s
DBIC Dimbokro 151.16 274 PKPbc PKPbc 11 50 51.8 -1.5
DBIC PKPab PKPab 11 51 00.1 -1.1
DBIC LR LR
comp=Z,935nm,20.4s,MS5.6
DBIC Dimbokro 151.16 274 PKPbc PKPbc 11 50 51.8 -1.5
comp=Z,22nm,0.5s,baz=73,slow=2.3,SNR=31
DBIC PKPab PKPab 11 51 00.1 -1.1
comp=Z,47nm,0.6s,baz=91,slow=3.0,SNR=12
BDFB Brasilia 154.73 146 PKIKP PKPdf 11 50 52.4 -0.1
BDFB 11 51 00.5
BDFB pmax pmax
comp=Z,1.0nm,0.4s
BDFB pmax pmax
comp=Z,22nm,1.0s
BDFB Brasilia 154.73 146 PKP PKPdf 11 50 52.4 -0.1
comp=Z,1.4nm,0.4s,baz=144,slow=9.0,SNR=6.2
BDFB PKPbc PKPbc 11 51 00.5 -0.6
comp=Z,22nm,0.9s,baz=188,slow=2.8,SNR=24
RCBR Riachuelo 168.56 170 PFAKE 11 51 20.0 +13
RCBR LR LR
comp=Z,1μm,20.8s

SKHL ***12*** *11:38:46.8±1.4,4862N×15539E,h54km±13km,mb5.7/1, msh4.7/1*
ISCJB ***12*** *11:38:49.4±0.9,4889N±006×1549E±01,h58km±8km, mb4.4/30,Error ellipse: s-maj=14.6km s-min=5.4km az=43.5*
MOS ***12*** *11:38:50.6±1.4,4904N×15478E,h65km,mb4.6/13,Error ellipse: s-maj=17.4km s-min=8.7km az=68.7*
NEIC ***12*** *11:38:51.0±1.3,4885N×15481E,h59km±12km,mb4.5/10, Error ellipse: s-maj=12.0km s-min=7.6km az=134.0*
IDC ***12*** *11:38:55.6±3.6,4890N×15470E,h99km±33km,mb4.0/22, mb1 4.2/23,mb1mx4.1/27,mbtmp4.0/23,Error ellipse: s-maj=15.9km s-min=11.0km az=124.0*
ISC 12 11:38:51.4±0.9,4891N±006×1549E±01,h58km±7km, h56km±7.4km:pP-P,n85,σ1°07/83,mb4.4/30,1C-2D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**1.96**	**24**	*e*PN	**Pn**	**11 39 20.0**	**-2.2**
SKR				*i* S	**Sn**	**11 39 43.9**	**-1.7**
SKR				pmax	pmax		
SKR	comp=Z,230nm,0.5s			pmax	pmax		
SKR	comp=N,180nm,0.4s			pmax	pmax		
SKR	comp=E,80nm,0.4s			smax			
SKR	comp=N,690nm,0.5s			smax			
SKR	comp=E,2μm,0.5s			smax			
SKR	comp=N,3μm,4.0s			smax			
SKR	comp=E,3μm,4.0s						
SKR	**Severo-Kuril's**	**1.96**	**24**	*e*P	**Pn**	**11 39 20.0**	**-2.2**
SKR				AMB	AMB	11 39 23.9	
SKR	comp=E,230nm,0.5s			AMB	AMB	11 39 23.9	
SKR	comp=E,180nm,0.4s			AMB	AMB	11 39 23.9	
SKR	comp=E,80nm,0.4s						
SKR				*e*rx	rx	11 39 29.1	
SKR				A		11 39 37.0	
SKR	comp=E,690nm,0.5s			A		11 39 37.0	
SKR	comp=E,2μm,0.5s			A		11 39 37.0	
SKR	comp=E,320nm,0.5s						
SKR				*i* S	**Sn**	**11 39 43.9**	**-1.7**
SKR				A		11 40 02.0	
SKR	comp=E,3μm,4.0s			A		11 40 02.0	
SKR	comp=E,3μm,4.0s						
PET	**Petropavlovsk**	**4.77**	**29**	*e*PN	**Pn**	**11 40 00.8**	**+0.2**
PET				*e*S	**Sn**	**11 40 56.1**	**+1.6**
PET				pmax	pmax		
PET	comp=Z,36nm,0.5s			MLR	MLR		
PET	comp=Z,700nm,12.0s						
PET	**Petropavlovsk**	**4.77**	**29**	*e*Pn	**Pn**	**11 40 00.6**	**0.0**
PET				*e*Sn	**Sn**	**11 40 55.5**	**+1.0**
KUR	**Kuril'sk**	**6.02**	**235**	⇓*i*P	**Pn**	**11 40 16.6**	**-1.2**
KUR				AMB	AMB	11 40 17.2	
KUR	comp=Z,91nm,0.6s			AMB	AMB	11 40 17.2	
KUR	comp=Z,182nm,0.6s			*e*S	**Sn**	**11 41 25.0**	**-0.3**
KUR				A		11 41 46.4	
KUR	comp=Z,323nm,0.8s			A		11 41 46.4	
KUR	comp=Z,194nm,0.8s						
YSS	**Yuzh-Sakhalins**	**8.36**	**261**	⇓*e*P	**Pn**	**11 40 52.5**	**+2.8**
YSS				AMB	AMB	11 40 53.5	
YSS	comp=Z,70nm,0.5s						
OKH	**Okha**	**8.81**	**306**	*e*P	**Pn**	**11 41 02.2**	**+6.4**
OKH				*e*P		11 41 02.9	
OKH				AMB	AMB	11 41 03.5	
OKH	comp=Z,200nm,1.1s			AMB	AMB	11 41 03.8	
OKH	comp=Z,1μm,4.0s						
ASAJ	**Asahikawa**	**9.71**	**245**	PN	**Pn**	**11 41 11.5**	**+3.3**
ASAJ				pmax	pmax		
ASAJ	comp=Z,10.0nm,0.3s						
ASAJ	**Asahikawa**	**9.71**	**245**	P	**Pn**	**11 41 11.4**	**+3.2**
ASAJ	comp=Z,10.0nm,0.3s,baz=76,slow=15,SNR=27						
MA2	**Magadan**	**10.95**	**349**	*e*Pn	**Pn**	**11 41 26.9**	**+1.8**

MAT Matsushiro 17.34 231 P **Pn 11 42 44.5 -4.7**
MJAR Matsushiro Arr 17.34 231 *e*P **Pn 11 42 51.1 +1.9**
MJAR Matsushiro Arr 17.34 231 P **Pn 11 42 46.1 -3.1**
comp=Z,0.4nm,0.3s,baz=25,slow=13,SNR=7.1
BILL Bilibino 20.03 13 *ce*P **P 11 43 17.8 -1.2**
BILL pmax pmax
comp=Z,38nm,1.2s
KSRS Korea Array 22.61 250 P **P 11 43 47.5 +0.6**
comp=Z,9.0nm,0.7s,mb4.3,baz=48,slow=10,SNR=21
JNU Nakatsue 23.85 237 P **P 11 43 59.1 0.0**
comp=Z,9.6nm,0.7s,mb4.3,baz=48,slow=11,SNR=6.2
SONM Songino Array 31.78 287 PcP PcP 11 48 00.1 +0.5
comp=Z,1.2nm,0.7s,baz=88,slow=3.1,SNR=3.4
COLA College 33.72 40 *e*P **P 11 45 27.5 +0.9**
INK Inuvik 39.20 34 P **P 11 46 13.1 -0.1**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 39.20 34 P **P 11 46 13.1 -0.1**
INK Inuvik 39.20 34 P **P 11 46 13.1 -0.1**
comp=Z,4.1nm,0.6s,mb4.3,baz=258,slow=5.4,SNR=8.4
DLBC Dease Lake 43.26 48 P **P 11 46 48.2 +1.6**
DLBC Dease Lake 43.26 48 P **P 11 46 48.2 +1.6**
baz=286,slow=9.7
MKAR Makanchi Array 47.02 296 P **P 11 47 16.0 -0.5**
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR Makanchi Array 47.02 296 P **P 11 47 16.0 -0.5**
comp=Z,1.0nm,0.7s,mb3.9,baz=62,slow=8.6,SNR=4.3
YKA Yellowknife Ar 48.50 38 *e*P **P 11 47 28.3 +0.6**
YKA Yellowknife Ar 48.50 38 P **P 11 47 28.4 +0.6**
comp=Z,4.1nm,0.8s,mb4.5,baz=297,slow=7.3,SNR=15
BVAR Borovoye Array 50.41 309 P **P 11 47 41.9 -0.5**
BVAR 11 48 59.3
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 50.41 309 P **P 11 47 41.9 -0.5**
comp=Z,1.3nm,0.5s,mb4.2,baz=57,slow=7.1,SNR=4.9
BVAR PcP PcP 11 48 59.3 -0.7
comp=Z,1.2nm,0.5s,baz=77,slow=3.1,SNR=3.7
CHTO Chiang Mai 53.76 257 *e*P **P 11 48 08.8 +1.1**
CHTO pmax pmax
comp=Z,19nm,1.0s,mb5.0
CHTO Chiang Mai 53.76 257 *e*P **P 11 48 08.8 +1.0**
comp=Z,19nm,1.0s,mb5.0
ARCES ARCESS Array B 56.20 341 P **P 11 48 23.5 -1.2**
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES ARCESS Array B 56.20 341 P **P 11 48 23.5 -1.2**
ARCES ARCESS Array B 56.20 341 P **P 11 48 23.5 -1.1**
comp=Z,4.8nm,0.9s,mb4.5,baz=60,slow=7.2,SNR=6.5
MSO Missoula 57.53 54 *e*P **P 11 48 35.0 +0.5**
comp=Z,2.3nm,1.0s,mb4.2
MSO *e* pP 11 48 53.7 +3.7
AKTO Aktyubinsk 58.17 312 PcP PcP 11 49 29.4 -0.4
comp=Z,1.7nm,0.8s,baz=31,slow=6.6,SNR=3.5
NVAR Mina Array Bea 60.42 64 P **P 11 48 55.7 +1.2**
comp=Z,2.3nm,0.8s,mb4.3,baz=286,slow=7.7,SNR=5.3
DUG Dugway 62.45 60 *e*P **P 11 49 03.0 -5.2**
DUG pmax pmax
comp=Z,20nm,1.5s,mb5.0
DUG Dugway 62.45 60 *e*P **P 11 49 03.0 -5.2**
comp=Z,20nm,1.5s,mb5.0
FINES FINESS Array B 62.59 335 *e*P **P 11 49 07.9 -0.9**
FINES FINESS Array B 62.59 335 P **P 11 49 08.0 -0.8**
comp=Z,1.9nm,0.5s,mb4.5,baz=40,slow=7.6,SNR=14
ULM Lac du Bonnet 64.13 42 P **P 11 49 19.2 +0.1**
comp=Z,2.4nm,0.7s,mb4.3,baz=309,slow=7.4,SNR=7.0
OBN Obninsk 64.19 326 *e*P **P 11 49 23.8 +4.3**
OBN *e* pP 11 49 36.4 +1.1
SRU San Rafael 64.48 59 *e*P **P 11 49 19.7 -2.0**
SRU pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
SRU San Rafael 64.48 59 *e*P **P 11 49 19.7 -1.9**
comp=Z,4.9nm,0.9s,mb4.5
PV10 Paradox Valley 65.83 59 *e*P **P 11 49 29.9 -0.6**
NB2 NORSAR Subarra 66.56 342 P **P 11 49 34.4 -0.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=24,slow=6.5
NB2 NORSAR Subarra 66.56 342 P **P 11 49 34.4 -0.3**
NOA NORSAR Array B 66.56 342 P **P 11 49 34.0 -0.7**
NOA NORSAR Array B 66.56 342 P **P 11 49 34.0 -0.7**
comp=Z,0.9nm,0.6s,mb4.0,baz=25,slow=6.4,SNR=7.8
ISCO Idaho Springs 66.74 56 *e*P **P 11 49 37.1 +0.9**
ISCO *e*PP pP 11 49 51.7 -0.4
ISCO pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
ISCO Idaho Springs 66.74 56 *e*P **P 11 49 37.1 +1.0**
comp=Z,3.7nm,1.0s,mb4.4
ISCO *e*pP pP 11 49 51.7 -0.4
HFS Hagfors 66.84 340 P **P 11 49 36.2 -0.3**
comp=Z,2.0nm,0.5s,mb4.4,baz=60,slow=3.6,SNR=12
HYB Hyderabad 68.12 272 *i* P **P 11 49 45.0 -0.2**
ANMO Albuquerque 69.72 60 *e*P **P 11 49 55.8 +0.9**
ANMO pmax pmax
comp=Z,9.0nm,1.4s
ANMO Albuquerque 69.72 60 *e*P **P 11 49 55.8 +0.9**
comp=Z,9.4nm,1.4s,mb4.5
AKASG Malin Array Be 70.40 327 P **P 11 49 58.2 -0.6**
comp=Z,1.0nm,0.4s,mb4.1,baz=32,slow=6.5,SNR=3.9
SCHQ Schefferville 70.86 24 P **P 11 50 02.3 +0.8**
comp=Z,3.6nm,0.5s,mb4.6,baz=345,slow=6.1,SNR=14
WB2 Warramunga Arr 70.94 200 *e*P **P 11 50 01.4 -0.9**
WRA Warramunga Arr 70.94 200 *e*P **P 11 50 01.3 -1.0**
WRA Warramunga Arr 70.94 200 P **P 11 50 01.4 -1.0**
comp=Z,3.0nm,0.7s,mb4.3,baz=17,slow=6.7,SNR=18
FITZ Fitzroy Crossi 71.60 209 *e*P **P 11 50 06.6 +0.3**
comp=Z,7.0nm,1.1s,mb4.5
FITZ Fitzroy Crossi 71.60 209 P **P 11 50 06.1 -0.3**
comp=Z,3.4nm,0.7s,mb4.4,baz=37,slow=15,SNR=6.4
STHS Stebnicka Huta 74.23 331 *e*P **P 11 50 21.4 -0.2**
STHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 74.23 331 *e*P **P 11 50 21.4 -0.2**
comp=Z,3.7nm,0.9s,mb4.3
KOLS Kolonicke sedl 74.31 330 *e*P **P 11 50 27.5 +5.4**
EKA Eskdalemuir Ar 74.51 347 P **P 11 50 22.7 -0.5**
EKA pmax pmax
comp=Z,4.0nm,0.7s
EKA Eskdalemuir Ar 74.51 347 P **P 11 50 22.6 -0.5**
comp=Z,4.2nm,0.7s,mb4.5,baz=18,slow=5.3,SNR=7.7
ASAR Alice Springs 74.63 200 *e*P **P 11 50 24.2 +0.1**
ASAR Alice Springs 74.63 200 P **P 11 50 23.5 -0.6**
comp=Z,2.4nm,0.5s,mb4.4,baz=11,slow=5.3,SNR=22
TXAR Lajitas Array 75.43 62 P **P 11 50 29.1 +0.2**
TXAR pmax pmax
comp=Z,3.0nm,0.8s
TXAR Lajitas Array 75.43 62 P **P 11 50 29.1 +0.2**
comp=Z,3.3nm,0.8s,mb4.3,baz=301,slow=4.2,SNR=16
ZST Bratislava 76.61 332 *e*P **P 11 50 37.2 +1.9**
ZST pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZST Bratislava 76.61 332 *e*P **P 11 50 37.2 +1.9**
comp=Z,5.5nm,1.0s,mb4.4
ZST Bratislava 76.61 332 *e*P **P 11 50 37.1 +1.8**
GERES GERESS Array B 77.02 335 P **P 11 50 36.3 -1.3**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 77.02 335 P **P 11 50 36.3 -1.3**
comp=Z,0.9nm,0.5s,mb4.0,baz=64,slow=2.3,SNR=2.8
STKA Stephens Creek 81.29 191 *e*P **P 11 51 00.5 -0.4**
comp=Z,6.5nm,1.7s,mb4.3
STKA Stephens Creek 81.29 191 P **P 11 51 00.2 -0.6**
comp=Z,1.7nm,0.6s,mb4.1,baz=309,slow=6.5,SNR=4.8
MMAI Mount Meron Ar 82.25 312 P **P 11 51 07.1 +0.9**
comp=Z,2.8nm,0.5s,mb4.5,baz=49,slow=6.7,SNR=9.3
CPUP Villa Florida 146.37 60 PKP2 PKPab 11 58 24.9 -1.5
CPUP pmax pmax
comp=Z,3.0nm,0.6s
CPUP Villa Florida 146.37 60 PKPbc PKPbc 11 58 24.9 -0.5
comp=Z,3.2nm,0.6s,baz=275,slow=2.1,SNR=6.4
PLCA Paso Flores 147.19 93 PKP2 PKPbc 11 58 26.2 -1.1
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA Paso Flores 147.19 93 PKPbc PKPbc 11 58 26.2 -1.2
PLCA Paso Flores 147.19 93 PKPbc PKPbc 11 58 26.2 -1.2
comp=Z,3.1nm,0.9s,baz=196,slow=3.2,SNR=4.8

IDC 12 11:47:41.3±3.2,1701S×17992W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.8/13,mbtmp3.9/3,Error ellipse: s-maj=158.5km s-min=49.0km az=147.0,Fiji Islands region

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

STKA Stephens Creek 37.81 240 P P 11 54 60.0 +0.4
0.6nm,0.4s,baz=90,slow=13,SNR=5.3
WRA Warramunga Arr 43.38 259 P P 11 55 45.7 -0.1
0.2nm,0.3s,baz=92,slow=8.0,SNR=20
ASAR Alice Springs 43.66 253 P P 11 55 47.6 -0.4
2.2nm,0.5s,baz=88,slow=8.4,SNR=42
ARCES ARCESS Array B 125.18 349 PKP PKPdf 12 06 43.0 -0.1
9.3nm,1.1s,baz=11,slow=1.9,SNR=4.0

IDC **12** *12:30:23.5±1.4, 5491N×16250E, h0km, mb3.4/5, mb1 3.8/5, mb1mx3.5/21, mbtmp3.4/5, Error ellipse: s-maj=116.9km s-min=23.8km az=137.0*
KRSC **12** *12:30:26.4±0.6, 5506N×16241E, h33km±33km, ML4.4*
MOS **12** *12:30:26.7±0.7, 5504N×16250E, h32km, mb4.5/1, Error ellipse: s-maj=23.8km s-min=10.7km az=72.0*
ISCJB **12** *12:30:27.2±0.8, 5503N±003×1625E±0.01, h37km±11km, mb3.3/5, Error ellipse: s-maj=10.4km s-min=4.3km az=22.2*
ISC 12 12:30:27.4±1.7, **5507N**±003×**16246E**±008, **h25**km±14km, **n29**, σ**0°82**/43, **mb3.3**/5, **Near east coast of Kamchatka Peninsula**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KBTR Krutoberegovo 1.16 10 eP Pn 12 30 47.1 -0.8
KBTR iS Sn 12 31 03.3 +0.5
ZLN Zelenaya 1.33 316 eP Pn 12 30 50.2 -0.2
ZLN iS Sn 12 31 07.3 0.0
TUMR Tumrok 1.34 280 eP Pn 12 30 50.0 -0.5
TUMR iS Sn 12 31 07.4 -0.1
KMNR Kamenistaya 1.44 299 eP Pn 12 30 51.7 -0.1
KMNR iS Sn 12 31 09.6 -0.3
KIRR Kirishev 1.49 307 P Pn 12 30 53.1 +0.6
KIRR iS Sn 12 31 12.7 +1.5
KPT Kopyto 1.56 306 P Pn 12 30 53.7 +0.3
KRSR Krestovskiy 1.57 318 P Pn 12 30 53.4 -0.2
KLY Klyuchi 1.61 321 eP Pn 12 30 52.2 -1.9
KLY iS Sn 12 31 10.5 -3.6
SMKR Semkarok 1.61 340 P Pn 12 30 54.1 +0.0
BDR Baidarnaya 1.66 335 eP Pn 12 30 55.0 +0.2
SRKR Sorokina 1.74 336 eP Pn 12 30 56.2 +0.2
KOZR Kozyr 1.77 305 PN Pn 12 30 56.5 +0.2
KOZ Kozyrevsk 1.77 305 eP Pn 12 30 56.5 +0.2
SRDR Sredinnyy 1.99 310 eP Pn 12 30 59.1 -0.3
KII Karymskiy 2.04 241 eP Pn 12 30 59.9 -0.1
KII iS Sn 12 31 24.0 -0.6
SPN Mys Shipunski 2.45 217 eP Pn 12 31 03.9 -1.7
SPN iS Sn 12 31 31.2 -3.5
NLC Nalytchevo 2.65 225 eP Pn 12 31 08.0 -0.4
NLC iS Sn 12 31 38.3 -1.3
AVH Avacha 2.84 232 eP Pn 12 31 12.0 +0.9
AVH iS Sn 12 31 44.7 +0.3
GNL Ganaly 2.98 244 eP Pn 12 31 13.3 +0.3
PET Petropavlovsk 3.04 229 ePN Pn 12 31 14.6 +0.8
PET eS Sn 12 31 50.0 +0.6
PET pmax pmax
comp=Z,127nm,0.4s
PET smax
comp=E,191nm,0.4s
PET smax
comp=N,248nm,0.5s
PET Petropavlovsk 3.04 229 eP Pn 12 31 14.5 +0.7
PET iS Sn 12 31 49.2 -0.2
RUS Russkaya 3.53 223 eP Pn 12 31 21.1 +0.5
RUS iS Sn 12 32 02.1 +0.6
GRL Gorelyy 3.63 228 eP Pn 12 31 23.8 +2.0
GRL iS Sn 12 32 04.7 +0.9
MJAR Matsushiro Arr 24.87 232 P P 12 35 47.0 -0.8
comp=N,0.3nm,0.6s,mb3.0,baz=20,slow=5.7,SNR=3.8
YKA Yellowknife Ar 40.77 45 P P 12 38 06.0 +0.2
YKA Yellowknife Ar 40.77 45 P P 12 38 06.0 +0.3
comp=N,0.2nm,0.6s,mb3.0,baz=299,slow=7.8,SNR=4.9
TXAR Lajitas Array 68.60 69 P P 12 41 29.0 +1.0
comp=N,0.3nm,0.6s,mb3.4,baz=302,slow=5.2,SNR=4.8
WRA Warramunga Arr 78.47 207 P P 12 42 25.1 -0.8
comp=N,0.4nm,0.8s,mb3.4,baz=22,slow=5.9,SNR=3.8
ASAR Alice Springs 82.15 206 P P 12 42 45.3 -0.2
comp=N,0.4nm,0.5s,mb3.6,baz=16,slow=5.0,SNR=9.6

MAN 12 12:51:11, 1764N×12001E, h27km, mb4.3, ML3.1, MS2.9, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
ABRA Dolores 0.67 89 eP Pb 12 51 24.5 +0.3
APYP Conner 1.20 79 eP Pn 12 51 32.1 +0.1
APYP eS Sn 12 51 47.9 +0.5
CAUP Cauayan 1.87 111 eP Pn 12 51 42.3 +1.1
BALP Baler 2.41 141 eP Pn 12 51 49.2 +0.5

NEIC **12** *12:55:46.7, 1896N×6837W, h134km, MD3.5(RSPR), After RSPR.*
RSPR 12 12:55:46.7, 1896N×6837W, h134km±3km, **MD3.5**/9, **MD3.5**/9, **6C-2D, Mona Passage**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AGPR Aguadilla, PR 1.29 112⇓eP Pn 12 56 13.1 +0.4
AGPR eS Sn 12 56 33.2 +0.6
LRS Lares 1.59 115⇑eP Pn 12 56 16.2 +0.1
LRS eS Sn 12 56 38.4 -0.1
AOPR Arecibo Observ 1.65 112⇑eP Pn 12 56 16.5 -0.2
AOPR eS Sn 12 56 40.5 +0.8
CELP Cerrillos 1.91 117⇑eP Pn 12 56 20.0 +0.2
CELP eS Sn 12 56 45.0 -0.2
CBYP Canovanas 2.48 106⇑eP Pn 12 56 26.2 -0.5
CBYP eS Sn 12 56 58.5 +0.9
CPD Cerro la Pandu 2.50 111⇑eP Pn 12 56 26.5 -0.6
CPD eS Sn 12 56 58.1 -0.1
HUMP Col San Antoni 2.52 108⇓eP Pn 12 56 27.9 +0.5
HUMP eS Sn 12 56 58.4 -0.3
MTP Monte Pirata 2.81 107⇑eP Pn 12 56 31.6 +0.7
MTP eS Sn 12 57 05.2 +0.2

BJI **12** *12:58:00.1, 445S×12789E, h58km, mB5.3, mb5.4, Ms4.8, Msz4.5*
MOS **12** *12:58:07.5±1.1, 339S×12709E, h37km, mb5.7/34, MS4.4/5, Error ellipse: s-maj=11.1km s-min=5.4km az=108.7*
ISCJB **12** *12:58:09.1±0.2, 347S±002×12729E±003, h58km, mb5.5/125, MS4.4/42, Error ellipse: s-maj=4.3km s-min=2.9km az=156.7*
IDC **12** *12:58:09.3±2.1, 350S×127.17E, h42km±19km, mb5.1/22, mb1 5.1/23, mb1mx5.0/26, mbtmp5.1/23, ML4.7/2, MS4.4/19, Ms1 4.4/19, ms1mx4.3/28, Error ellipse: s-maj=17.6km s-min=7.7km az=72.0*
NEIC **12** *12:58:11.0±0.1, 346S×12725E, mb5.5/58, MW5.3, Error ellipse: s-maj=5.4km s-min=3.3km az=72.0, Moment Tensor Solution. s12 Moment tensor: Scale 10^17Nm; Mrr1.23; Mθθ-1.12; Mφφ-0.11; Mrθ0.37; Mθφ0.01; Mφr-0.35; Best double couple: Mo1.30000×10^17 NP1:φs259.00000°, δ37.00000°, λ69.00000°. NP2:φs104.00000°, δ55.00000°, λ105.00000°. Principal axes: T 1.3600, Plg74.0000°, Azm58.0000°; N -0.1900, Plg12.0000°, Azm275.0000°; P -1.1800, Plg9.0000°, Azm183.0000°;*
NEIC Felt [V] at Namlea, Buru.
GCMT **12** *12:58:11.0±0.2, 333S×12723E, h52km±1km, MW5.3/94, Moment Tensor Solution. s72,c110; s94,c165; Duration: 1°1 Moment tensor: Scale 10^17Nm; Mrr0.85±.04; Mθθ-0.97±.02; Mφφ0.11±.03; Mrθ0.74±.02; Mθφ-0.28±.02; Mφr0.00±.02; Best double couple: Mo1.20600×10^17 NP1:φs244.00000°, δ27.00000°, λ70.00000°. NP2:φs86.00000°, δ64.00000°, λ100.00000°. Principal axes: T 1.1270, Plg69.0000°, Azm16.0000°; N 0.1590, Plg9.0000°, Azm262.0000°; P -1.2860, Plg19.0000°, Azm169.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 12 12:58:11.1±0.1, **348S**±002×**12732E**±003, **h60**km±1.3km**:pP-P, n489**, σ**1°14**/377, **mb5.5**/125, **41C-15D, Seram**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
AAI Ambon 0.90 103 P Pn 12 58 27.6 -0.3
34μm,1.0s
KDI Kendari 4.71 264 P Pn 12 59 19.4 -0.3
781nm,1.1s
BATI Kupang 7.60 208 P Pn 13 00 03.5 +4.2
12nm,0.3s,baz=56,slow=0.6,SNR=40
BATI LR LR 13 02 27.1
comp=Z,2μm,19.9s,baz=20,slow=34
KAPI Kappang 7.70 258 Pn Pn 13 00 03.9 +3.3
3μm,0.6s,SNR=53
KAPI Kappang 7.70 258 P Pn 13 00 02.1 +1.6
KAPI S Sn 13 01 27.1 +0.7
KAPI Kappang 7.70 258 P Pn 13 00 03.1 +2.6
SNR=39
KAPI Kappang 7.70 258 P Pn 13 00 03.1 +2.6
SNR=39
KAPI Kappang 7.70 258 P Pn 13 00 03.1 +2.6
SNR=39
KAPI Kappang 7.70 258 Pn Pn 13 00 03.1 +2.6
SNR=39
KAPI Kappang 7.70 258 P Pn 13 00 02.2 +1.6
72nm,0.3s,baz=112,slow=6.3,SNR=101
KAPI S Sn 13 01 27.1 +0.7
12nm,0.3s,baz=45,slow=22,SNR=3.6
KAKA Kakadu 10.48 151 eP Pn 13 00 40.1 +1.4
213nm,0.6s
DAV Davao City (W) 10.62 351 ePn Pn 13 00 39.5 -1.1
DAV eSn Sn 13 02 40.5 +2.4
DAV Davao City (W) 10.62 351 P Pn 13 00 40.1 -0.5
SNR=7.1
DAV Davao City (W) 10.62 351 P Pn 13 00 40.1 -0.5
SNR=7.1
DAV Davao City (W) 10.62 351 P Pn 13 00 40.1 -0.5
SNR=7.1
DAV Davao City (W) 10.62 351 Pn Pn 13 00 40.1 -0.5
SNR=7.1
DAV Davao City (W) 10.62 351⇓eP Pn 13 00 36.7 -3.9
TSM Tawau 12.19 309 ⇑P Pn 13 01 00.3 -1.8
MYLDM Lahad Datu 12.31 314 ⇓P Pn 13 01 04.4 +0.8
KHKI Kahang-Kahang 12.61 247 P Pn 13 01 12.4 +4.6
292nm,1.2s
SCPH Surigao 13.30 352 eP Pn 13 01 15.7 -1.5
TBP Tagbilaran 13.53 345 eP Pn 13 01 29.6 +9.3
SDKM Sandakan 13.57 312 ⇓P Pn 13 01 21.1 +0.2
KMMI Kalianget 13.76 255 P Pn 13 01 27.7 +4.4
354nm,1.2s
KKM Kota Kinabalu 14.57 310 ePn Pn 13 01 36.0 +1.9
KKM eSn Sn 13 04 14.3 -0.1
KKM Kota Kinabalu 14.57 310 ⇑P Pn 13 01 34.6 +0.6
FITZ Fitzroy Crossi 14.63 186 eP Pn 13 01 33.1 -1.7
142nm,0.8s
FITZ eS Sn 13 04 13.2 -2.5
FITZ Fitzroy Crossi 14.63 186 P Pn 13 01 34.3 -0.5
0.7nm,0.3s,baz=19,slow=14,SNR=57
FITZ S Sn 13 04 12.9 -2.8
baz=123,slow=20,SNR=3.2
FITZ LR LR 13 07 52.0
comp=Z,2μm,20.3s,baz=5.9,slow=40
KDM Kudat 14.70 315 ⇑P Pn 13 01 38.5 +2.7
BATP Bataraza 15.45 322 eP Pn 13 01 45.1 -0.3
KRKI Karangkates 15.50 252 P Pn 13 01 50.7 +4.6
600nm,2.3s
CUYO Cuyo Island 15.55 336 eP Pn 13 01 49.6 +2.9
SBUM Sibu 16.20 291 ⇑P Pn 13 01 57.6 +2.6
OTRP Odiongan 16.59 342 eP Pn 13 02 01.7 +1.9
PVCP Virac 17.25 350 eP Pn 13 02 09.7 +1.7
KSM Kuching 17.70 286 eP Pn 13 02 15.2 +1.6
KSM Kuching 17.70 286 ⇑P Pn 13 02 15.3 +1.7
WRAB Tennant Creek 17.74 158 P Pn 13 02 13.0 -1.0
3μm,0.7s,SNR=30
WRAB Tennant Creek 17.74 158c iP Pn 13 02 13.3 -0.7
WRAB Tennant Creek 17.74 158 eP Pn 13 02 13.7 -0.3
468nm,0.9s
WRA Warramunga Arr 17.74 158 P Pn 13 02 13.6 -0.5
WRA S S 13 05 29.2 -6.0
WRA Warramunga Arr 17.74 158 P Pn 13 02 13.6 -0.4
5.6nm,0.3s,baz=341,slow=12,SNR=192
WRA S S 13 05 29.2 -6.1
baz=328,slow=21,SNR=4.2
WRA LR LR 13 09 46.5
comp=Z,1μm,18.1s,baz=330,slow=39
WB2 Warramunga Arr 17.75 158 eP Pn 13 02 13.5 -0.6
WB2 eS S 13 05 34.5 -0.8
BJII Banjamegara 17.94 257 P Pn 13 02 18.6 +2.1
447nm,1.2s
LUBP Lubang 18.48 338 eP Pn 13 02 23.4 +0.3
POLP Polilio Island 18.86 344 eP Pn 13 02 27.4 -0.1
MBWA Marble Bar 19.06 202 eP Pn 13 02 29.4 -0.5
61nm,0.9s
MBWA Marble Bar 19.06 202 P Pn 13 02 30.2 +0.2
SNR=10
MBWA Marble Bar 19.06 202 P Pn 13 02 30.2 +0.2
SNR=10
MBWA Marble Bar 19.06 202 P Pn 13 02 30.2 +0.2
SNR=10
MBWA Marble Bar 19.06 202 P Pn 13 02 30.2 +0.2
SNR=10
MBWA Marble Bar 19.06 202 P Pn 13 02 30.2 +0.2
SNR=10
TPI Tanjungpandan 19.64 272 P Pn 13 02 38.1 +1.1
117nm,1.0s
BALP Baler 19.92 344 eP Pn 13 02 37.7 -2.5
BCPH Baguio City Da 20.82 342⇓eP P 13 02 48.4 +0.6
ASAR Alice Springs 21.06 163 P P 13 02 51.3 +1.0
379nm,0.9s,mb5.7,baz=344,slow=10,SNR=612
ASAR S S 13 06 42.3 +0.9
136nm,1.1s,baz=345,slow=22,SNR=21
MYKOM Kota Tinggi 24.03 282 ⇑P P 13 03 22.3 +1.6
GUMO Guam 24.31 45 LR LR 13 11 55.4
comp=Z,631nm,20.6s,baz=233,slow=34
KGM Kluang 24.60 282 ⇓P P 13 03 27.7 +1.8
KSI Kapahiang 24.67 269 P P 13 03 27.9 +1.3
238nm,1.1s,mb5.6
CTA Charters Tower 24.77 133 eP P 13 03 29.4 +2.0
41nm,0.6s,mb5.1
CTA eS S 13 07 55.0 +9.3
CTA Charters Tower 24.77 133 eP P 13 03 29.4 +2.0
CTA eS S 13 07 55.0 +9.3
CTA pmax pmax
comp=Z,41nm,0.6s
CTA Charters Tower 24.77 133 P P 13 03 29.6 +2.2
comp=Z,49nm,0.7s,mb5.1,baz=315,slow=11,SNR=52
CTA LR LR 13 13 31.7
comp=Z,764nm,19.9s,baz=316,slow=37
CTAO Charters Tower 24.77 133 eP P 13 03 29.0 +1.6
CTAO pmax pmax
comp=Z,41nm,0.6s,mb5.1
CTAO Charters Tower 24.77 133 eP P 13 03 29.0 +1.6
comp=Z,41nm,0.6s,mb5.1
KTGM Kuala Trenggan 25.69 290 ⇑P P 13 03 37.1 +1.3
FRIM Kepong 26.53 284 ⇑P P 13 03 44.9 +1.5
PPI Padang Panjang 27.07 276 P P 13 03 48.6 +0.4
comp=Z,203nm,1.5s,mb5.4
FORT Forrest 27.16 179 eP P 13 03 49.0 +0.1
comp=Z,79nm,0.5s,mb5.5
IPM Ipoh 27.43 287 ⇓P P 13 03 52.8 +1.3
KULM Kulim 28.02 288 eP P 13 03 57.4 +0.6
KULM Kulim 28.02 288 ⇑P P 13 03 58.6 +1.8
NACB Ninganchiao 28.04 349 eP P 13 03 55.4 -1.4
QIZ Qiongzhong 28.21 323 P P 13 04 01.6 +3.2
QIZ AP pP 13 04 15.3 +2.1
QIZ XP sP 13 04 24.3 +3.9
QIZ S S 13 08 36.9 -3.1
QIZ XS sS 13 09 06.8 +1.4
QIZ AMB AMB
comp=Z,258nm,8.7s
YHNB Yeheng 28.57 349 eP P 13 04 00.5 -0.9
UBT Ubonrachathani 28.87 311 ⇓P pP 13 04 20.5 +1.3
PSI Prapat 29.05 282 P P 13 04 05.8 -0.1
comp=Z,66nm,0.8s,mb5.4,baz=96,slow=6.1,SNR=49
PSI LR LR 13 15 27.9
comp=Z,778nm,21.8s,baz=111,slow=36
KLBR Kellerberrin 29.38 197 eP P 13 04 08.4 -0.2
comp=Z,21nm,0.7s,mb5.0
QZH Quanzhou 29.49 344⇑iP P 13 04 10.2 +0.5
QZH S S 13 09 00.0 0.0
QZH AMB AMB
comp=Z,160nm,0.9s,mb5.8
QZH AMB AMB
comp=Z,490nm,2.7s,mb5.8
QZH LR LR
comp=Z,1μm,36.2s
GZH Guangzhou 29.71 333 P P 13 04 14.7 +3.0
GZH S S 13 09 12.0 +8.5
GZH LR LR
comp=N,540nm,22.5s
GZH LR LR
comp=E,535nm,22.2s
GZH LR LR
comp=Z,961nm,29.6s
JOW Kunigami 30.14 2 P P 13 04 16.3 +0.9
comp=Z,114nm,0.9s,mb5.6,baz=186,slow=7.1,SNR=31
JOW LR LR 13 14 56.9
comp=Z,1μm,21.1s,baz=127,slow=33
MUN Mundaring 30.21 199 eP P 13 04 15.1 -0.9
NWAO Narrogin (SRO) 30.78 197 eP P 13 04 20.6 -0.4
comp=Z,20nm,0.6s,mb5.1
NWAO Narrogin (SRO) 30.78 197 P P 13 04 20.3 -0.7
comp=Z,37nm,0.9s,mb5.2,baz=25,slow=8.4,SNR=14
NWAO LR LR 13 17 40.9
comp=Z,567nm,20.3s,baz=14,slow=38
KKTK Khon Kaen 31.20 310 ⇓P PP 13 05 26.1 -10
comp=Z,556nm,1.0s
STKA Stephens Creek 31.28 156 eP P 13 04 25.7 +0.3
comp=Z,32nm,0.6s,mb5.3
STKA Stephens Creek 31.28 156 P P 13 04 26.1 +0.7
comp=Z,38nm,0.6s,mb5.4,baz=326,slow=8.6,SNR=98
STKA LR LR 13 17 57.4
comp=Z,1μm,21.1s,baz=314,slow=38
EIDS Eidsvold 31.56 136 eP P 13 04 27.4 -0.6
comp=Z,9.3nm,0.8s,mb4.7
HNR Honiara 32.94 102 eP P 13 04 40.1 -0.1
HNR pmax pmax
comp=Z,134nm,0.8s,mb5.9
HNR Honiara 32.94 102 eP P 13 04 40.1 -0.1
comp=Z,134nm,0.8s,mb5.9
HNR Honiara 32.94 102 P P 13 04 40.8 +0.6
comp=Z,191nm,1.0s,mb6.0,baz=167,slow=1.2,SNR=5.1
NST Nakhon Sawan 32.95 306 P P 13 04 38.2 -2.0
CBIJ Chichi jima 33.62 24 P P 13 04 45.8 -0.1
comp=Z,228nm,0.8s,mb6.1,baz=110,slow=2.3,SNR=8.9
CBIJ LR LR 13 16 03.3
comp=Z,391nm,18.7s,baz=195,slow=32
NANT Nan 34.30 311 ⇓P P 13 04 52.9 +0.9
comp=Z,375nm,1.0s,mb6.3
SSE Sheshan 34.87 351 P P 13 04 56.2 -0.5
SSE XP sP 13 05 17.3 -1.6
SSE S S 13 10 21.5 -2.1
SSE AMB AMB
comp=Z,41nm,1.1s,mb5.3
SSE AMB AMB
comp=Z,134nm,6.0s
SSE LR LR
comp=N,361nm,23.7s
SSE LR LR
comp=E,162nm,23.4s
SSE LR LR
comp=Z,457nm,16.7s
ARMA Armidale 35.30 142 eP P 13 05 01.7 +1.2
CHG Chiang Mai 35.65 309 ⇑P P 13 05 04.1 +0.6
comp=Z,92nm,0.8s,mb5.8
CHTO Chiang Mai 35.65 309 eP P 13 05 04.2 +0.7
comp=Z,36nm,1.0s,mb5.3
CHTO epP pP 13 05 18.9 +0.2
CHTO Chiang Mai 35.65 309 P P 13 05 05.0 +1.5
SNR=8.7
CHTO Chiang Mai 35.65 309 P P 13 05 05.0 +1.5
SNR=8.7
CHTO Chiang Mai 35.65 309 P P 13 05 05.0 +1.5
SNR=8.7
CHTO Chiang Mai 35.65 309 P P 13 05 05.0 +1.5
SNR=8.7
CHTO Chiang Mai 35.65 309 P P 13 05 05.0 +1.5
SNR=8.7
GYA Guiyang 35.84 327⇑iP P 13 05 06.5 +1.4
GYA AP pP 13 05 22.0 +1.7
GYA XP sP 13 05 29.7 +2.4
GYA PP PP 13 06 31.3 +3.7
GYA S S 13 10 41.3 +2.6
GYA XS sS 13 11 07.5 +3.1
GYA AMB AMB
comp=Z,50nm,1.0s,mb5.4
GYA AMB AMB
comp=Z,230nm,3.9s
GYA LR LR
comp=N,920nm,19.0s
GYA LR LR
comp=E,880nm,19.4s
GYA LR LR
comp=Z,670nm,18.5s
WHN Wuhan 36.03 341 ⇓P P 13 05 08.2 +1.6
WHN AP pP 13 05 22.4 +0.6
WHN S S 13 10 43.8 +2.4
WHN LR LR
comp=Z,629nm,20.4s
NJ2 Nanjing 36.24 348 eP P 13 05 09.5 +1.1
NJ2 AP pP 13 05 24.6 +1.1
NJ2 XP sP 13 05 31.0 +0.4
NJ2 PP PP 13 06 33.4 +1.5
NJ2 S S 13 10 42.5 -2.0
NJ2 AMB AMB
comp=Z,110nm,0.9s,mb5.8
NJ2 AMB AMB
comp=Z,400nm,5.2s
NJ2 LR LR
comp=N,2μm,27.3s
NJ2 LR LR
comp=E,870nm,26.0s
NJ2 LR LR
comp=Z,870nm,26.0s
JNU Nakatsue 36.55 5 P P 13 05 11.2 +0.1
comp=Z,23nm,0.9s,mb5.0,baz=206,slow=7.9,SNR=7.5
JNU LR LR 13 18 57.1
comp=Z,913nm,20.8s,baz=162,slow=34
KMI Kunming 37.11 321 ⇑P P 13 05 17.9 +1.9
KMI AP pP 13 05 32.2 +1.0
KMI XP sP 13 05 40.4 +2.2
KMI PP PP 13 06 47.2 +5.6
KMI S S 13 10 59.9 +1.8
KMI AMB AMB
comp=Z,30nm,1.3s,mb5.0
KMI AMB AMB
comp=Z,252nm,3.3s
KMI LR LR
comp=N,408nm,13.6s
KMI LR LR
comp=E,404nm,11.8s
KMI LR LR
comp=Z,507nm,21.9s
CNB Canberra Magne 37.69 150 eP P 13 05 22.3 +1.5
comp=Z,16nm,0.6s,mb4.9
TOO Toolangi 37.80 156 eP P 13 05 23.5 +1.9
comp=Z,424nm,1.0s,mb6.1
TOO Toolangi 37.80 156 eP P 13 05 23.5 +1.9
TOO pmax pmax
comp=Z,424nm,1.0s,mb6.1
JHJ Hachijo jima 2 38.26 17 LR LR 13 19 49.7
comp=Z,362nm,21.7s,baz=87,slow=34
KSRS Korea Array 40.73 1 P P 13 05 46.5 +0.5
comp=Z,50nm,0.8s,mb5.2,baz=179,slow=9.7,SNR=111
KSRS PcP PcP 13 07 47.5 +1.0
comp=Z,12nm,0.8s,baz=188,slow=3.2,SNR=13
KSRS LR LR 13 20 46.0
comp=Z,712nm,21.4s,baz=162,slow=33
INCN Inchon 40.76 359 eP P 13 05 47.1 +0.8
comp=Z,54nm,0.8s,mb5.2
CD2 Chengdu 40.92 328⇑iP P 13 05 48.4 +0.7
CD2 AP pP 13 06 03.3 +0.2
CD2 XP sP 13 06 10.9 +0.8
CD2 PP PP 13 07 27.1 +4.0
CD2 PCS PcS 13 11 37.7 -0.6
CD2 S S 13 11 54.5 -0.7
CD2 AMB AMB
comp=Z,90nm,0.5s,mb5.7
CD2 AMB AMB
comp=Z,150nm,4.2s
CD2 LR LR
comp=N,610nm,17.0s
CD2 LR LR
comp=E,720nm,15.8s
CD2 LR LR
comp=Z,590nm,16.2s
MJAR Matsushiro Arr 41.09 13 P P 13 05 48.4 -0.6
MJAR 13 07 48.6
MJAR Matsushiro Arr 41.09 13 P P 13 05 48.4 -0.6
comp=Z,38nm,0.9s,mb5.0,baz=185,slow=10,SNR=110
MJAR PcP PcP 13 07 48.6 +0.9
comp=Z,11nm,1.0s,baz=193,slow=2.8,SNR=8.0
MJAR ScP ScP 13 11 33.2 +0.6
comp=Z,1.3nm,0.8s,baz=181,slow=5.9,SNR=5.2
MJAR LR LR 13 20 10.5
comp=Z,491nm,20.7s,baz=205,slow=32

MAJO Matsushiro 41.09 13 *e*P **P 13 05 48.5 -0.5**
MAJO pmax pmax
comp=Z,82nm,1.0s,mb5.3
MAJO Matsushiro 41.09 13 *e*P **P 13 05 48.5 -0.5**
comp=Z,82nm,1.0s,mb5.3
MAJO *e*PcP PcP 13 07 47.6 -0.1
MAT Matsushiro 41.09 13 P **P 13 05 47.8 -1.2**
XAN Xi'an 41.15 337 P **P 13 05 49.3 -0.3**
XAN AP pP 13 06 03.6 -1.3
XAN PP PP 13 07 29.0 +3.4
XAN S **S 13 11 57.4 -1.1**
XAN XS sS 13 12 25.6 +1.0
XAN AMB AMB
comp=Z,104nm,0.9s,mb5.5
XAN AMB AMB
comp=Z,105nm,7.0s
XAN LR LR
comp=N,201nm,18.4s
XAN LR LR
comp=E,154nm,18.4s
XAN LR LR
comp=Z,432nm,19.4s
DL2 Dalian 42.50 353 P **P 13 06 00.6 +0.1**
DL2 *e*S **S 13 12 19.2 +0.9**
DL2 XS sS 13 12 49.2 +4.8
DL2 AMB AMB
comp=Z,30nm,1.0s,mb4.9
DL2 LR LR
comp=N,240nm,21.8s
DL2 LR LR
comp=E,150nm,23.3s
DL2 LR LR
comp=Z,300nm,21.7s
IMP Imphal 42.90 313 *e*P **P 13 06 04.0 0.0**
TAU Tasmania Unive 43.11 158 *e*P **P 13 06 06.6 +1.2**
TAU pmax pmax
comp=Z,18nm,0.7s,mb4.9
TAU Tasmania Unive 43.11 158 *e*P **P 13 06 06.6 +1.1**
comp=Z,18nm,0.7s,mb4.9
TIY Taiyuan 43.25 343⇑*i*P **P 13 06 05.3 -1.3**
TIY XP sP 13 06 28.6 -0.4
TIY S **S 13 12 26.6 -2.8**
TIY AMB AMB
comp=Z,376nm,5.2s
TIY LR LR
comp=N,494nm,15.0s
TIY LR LR
comp=E,266nm,12.2s
TIY LR LR
comp=Z,866nm,29.9s
BJT Baijiatuau 44.48 348 *e*P **P 13 06 16.1 -0.3**
BJT pmax pmax
comp=Z,84nm,1.2s
BJT Baijiatuau 44.48 348 *e*P **P 13 06 16.1 -0.3**
comp=Z,84nm,1.2s,mb5.3
BJI Beijing 44.50 348 P **P 13 06 16.3 -0.2**
BJI AP pP 13 06 32.0 -0.1
BJI XP sP 13 06 37.5 -1.5
BJI S **S 13 12 51.9 +4.4**
BJI AMB AMB
comp=Z,82nm,1.2s,mb5.3
BJI LR LR
comp=N,310nm,25.5s
BJI LR LR
comp=E,222nm,18.7s
BJI LR LR
comp=Z,757nm,31.2s
SHL Shillong 44.87 312⇑*i*P **P 13 06 19.5 -0.2**
LZH Lanzhou 45.06 333 ⇑P **P 13 06 22.2 +1.1**
LZH AP pP 13 06 32.3 -4.4
LZH PP PP 13 08 08.9 +1.4
LZH S **S 13 12 59.0 +3.2**
LZH AMB AMB
comp=Z,145nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,613nm,5.8s
LZH LR LR
comp=E,928nm,14.5s
LZH LR LR
comp=Z,2μm,18.2s
HHC Hu-ho-hao-te 46.41 343 ⇑P **P 13 06 32.0 +0.4**
HHC AP pP 13 06 47.8 +0.6
HHC XP sP 13 06 54.6 +0.4
HHC PCP PcP 13 08 05.0 -0.7
HHC PP PP 13 08 22.2 +0.6
HHC SCP ScP 13 11 53.0 -1.1
HHC S **S 13 13 15.8 +0.8**
HHC XS sS 13 13 42.5 +1.1
HHC AMB AMB
comp=Z,69nm,1.3s,mb5.4
HHC AMB AMB
comp=Z,810nm,6.8s
HHC LR LR
comp=N,652nm,17.7s
HHC LR LR
comp=E,433nm,15.2s
HHC LR LR
comp=Z,1μm,20.1s
VLA Vladivostok 46.56 5*d i*P **P 13 06 33.1 +0.3**
VLA pmax pmax
comp=Z,148nm,1.3s,mb5.8
VLA Vladivostok 46.56 5 *i* P **P 13 06 33.1 +0.3**
BTO Baotou 46.64 342 *e*P **P 13 06 31.9 -1.6**
CN2 Changchun 47.09 358 *e*P **P 13 06 36.2 -0.7**
CN2 *e*XP sP 13 06 58.4 -1.1
CN2 *e*S **S 13 13 24.3 -0.4**
CN2 AMB AMB
comp=Z,10.0nm,1.2s,mb4.6
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,500nm,22.0s
CN2 LR LR
comp=E,400nm,22.0s
CN2 LR LR
comp=Z,500nm,22.0s
LSA Lhasa 47.82 316 P **P 13 06 43.6 +0.7**
LSA AP pP 13 06 56.3 -2.2
LSA S **S 13 13 33.0 -2.5**
LSA SS SS 13 17 12.0 +7.1
LSA AMB AMB
comp=Z,50nm,1.0s,mb5.5
LSA AMB AMB
comp=Z,70nm,5.0s
LSA LR LR
comp=N,100nm,19.0s
LSA LR LR
comp=E,160nm,19.0s
LSA LR LR
comp=Z,220nm,20.0s
LSA Lhasa 47.82 316 *e*P **P 13 06 44.3 +1.4**
LSA pmax pmax
comp=Z,109nm,1.4s,mb5.7
LSA Lhasa 47.82 316 *e*P **P 13 06 44.3 +1.5**
comp=Z,109nm,1.4s,mb5.7
MDJ Mudanjiang 47.92 2 P **P 13 06 44.2 +0.9**
MDJ AP pP 13 06 57.6 -1.4
MDJ XP sP 13 07 03.8 -2.2
MDJ S **S 13 13 41.0 +4.6**
MDJ XS sS 13 14 01.6 -1.3
MDJ AMB AMB
comp=Z,138nm,1.1s,mb5.9
MDJ AMB AMB
comp=Z,94nm,6.8s
MDJ LR LR
comp=N,705nm,27.3s
MDJ LR LR
comp=E,151nm,30.7s
MDJ LR LR
comp=Z,907nm,26.8s
MDJ Mudanjiang 47.92 2 *e*P **P 13 06 43.6 +0.3**
comp=Z,156nm,1.1s,mb6.0
GTA Gaotai 49.62 332⇑*i*P **P 13 06 56.6 +0.1**
GTA AP pP 13 07 13.0 +0.7
GTA XP sP 13 07 19.1 -0.1
GTA PP PP 13 08 52.7 +1.2
GTA PCS PcS 13 12 13.5 -0.4
GTA S **S 13 14 00.3 -0.2**
GTA SCS ScS 13 16 42.6 -0.2
GTA AMB AMB
comp=Z,53nm,1.1s,mb5.5
GTA AMB AMB
comp=Z,312nm,8.4s
GTA LR LR
comp=N,326nm,15.6s
GTA LR LR
comp=E,363nm,12.9s
GTA LR LR
comp=Z,449nm,31.9s
JIRN Jiri 50.27 311 *e*P **P 13 07 02.2 +0.5**
comp=Z,50nm,0.7s,mb5.7
GUN Gumba 50.64 311 *e*P **P 13 07 04.8 +0.4**
comp=Z,144nm,0.7s,mb6.0
PKI Pulchoki 50.82 310 *e*P **P 13 07 05.7 -0.1**
comp=Z,123nm,1.2s,mb5.7
KKN Kakani 51.03 310 *e*P **P 13 07 07.4 0.0**
comp=Z,124nm,1.0s,mb5.8
DMN Daman 51.07 310 *e*P **P 13 07 07.5 -0.2**
comp=Z,167nm,1.0s,mb5.9
GKN Gorkha 51.63 310 *e*P **P 13 07 11.3 -0.6**
comp=Z,137nm,0.8s,mb5.9
YSS Yuzh-Sakhalins 52.03 13⇓*e*P **P 13 07 15.1 +0.6**
YSS pmax pmax
comp=Z,49nm,1.6s,mb5.2
YSS Yuzh-Sakhalins 52.03 13 *e*P **P 13 07 14.6 +0.2**
comp=Z,22nm,0.4s,mb5.5
YSS *e*PcP PcP 13 08 26.5 +0.5
HABR Khabarovsk 52.17 7⇑*i*P **P 13 07 15.6 +0.1**
HABR *e* pP 13 07 32.7 +1.3
HABR *e* 13 08 25.5
HABR *e*S **S 13 14 36.8 +1.3**
HABR *e* 13 16 58.4
HABR pmax pmax
comp=Z,99nm,0.9s,mb5.7
KOLN Koldanda 52.31 309 *e*P **P 13 07 17.1 +0.2**
comp=Z,211nm,0.8s,mb6.1
HYB Hyderabad 52.39 295 *e*P **P 13 07 17.5 -0.2**
HYB *e* pP 13 07 32.0 -1.5
HYB pmax pmax
comp=Z,60nm,1.0s,mb5.5
HYB Hyderabad 52.39 295 *e*P **P 13 07 17.5 -0.2**
comp=Z,60nm,1.0s,mb5.5
HYB *e* pP 13 07 32.0 -1.5
HYB Hyderabad 52.39 295 *i* P **P 13 07 17.5 -0.2**
comp=Z,60nm,1.0s,mb5.5
HYB *e* pP 13 07 32.5 -1.0
DANN Dangsing 52.47 310 *e*P **P 13 07 18.0 -0.1**
comp=Z,289nm,0.8s,mb6.3
KLR Kul'dur 52.63 4 *e*P **P 13 07 14.8 -4.1**
KLR *e* 13 08 24.0
KLR *e*S **S 13 14 50.0 +8.2**
KLR pmax pmax
comp=N,28nm,1.6s
KLR pmax pmax
comp=Z,140nm,1.6s,mb5.6
HIA Hailar 52.94 354 *e*P **P 13 07 21.2 +0.1**
HIA *e**PP pP 13 07 39.2 +2.2
HIA *e* 13 08 30.3
HIA pmax pmax
comp=Z,10.0nm,0.8s
HIA Hailar 52.94 354 *e*P **P 13 07 21.1 0.0**
comp=Z,10.0nm,0.8s,mb4.8
HIA *e*pP pP 13 07 39.2 +2.2
HIA *e*PcP PcP 13 08 30.2 +0.9
ULN Ulaanbaatar 54.13 343 *e*P **P 13 07 30.0 +0.1**
ULN pmax pmax
comp=Z,71nm,0.9s,mb5.6
ULN Ulaanbaatar 54.13 343 *e*P **P 13 07 30.0 +0.1**
comp=Z,71nm,0.9s,mb5.6
SONM Songino Array 54.29 343 P **P 13 07 31.2 +0.1**
SONM 13 08 35.1
SONM Songino Array 54.29 343 P **P 13 07 31.2 +0.2**
comp=Z,40nm,1.0s,mb5.3,baz=160,slow=7.7,SNR=171
SONM PcP PcP 13 08 35.1 +0.6
comp=Z,13nm,0.9s,baz=123,slow=3.5,SNR=6.3
SONM LR LR 13 31 40.0
comp=Z,247nm,21.7s,baz=134,slow=37
QRZ Quartz Range 55.05 139 PN **P 13 07 37.1 +0.4**
RPZ Rata Peaks 55.64 143 LR LR 13 32 28.6
comp=Z,355nm,20.1s,baz=309,slow=37
KAD Karad 56.34 293 *i* P **P 13 07 45.1 -1.3**
KHZ Kahutara 56.51 140 *e*PN **P 13 07 47.6 +0.5**
JOSI Joshimath 56.74 310 *e*P **P 13 07 49.2 +0.1**
JOSI AMb AMB 13 07 51.0
comp=Z,732nm,0.6s
BKZ Black Stump Fm 56.96 135 *e*PN **P 13 07 50.9 +0.5**
POO Poona 56.99 295 *ex* **P 13 07 48.0 -3.0**
URZ Urewera 57.02 134 P **P 13 07 50.5 -0.4**
comp=Z,20nm,0.6s,mb5.3,baz=266,slow=4.5,SNR=3.2
ASOR Ausora 57.32 307 *e*P **P 13 07 52.7 -0.5**
ASOR AMb AMB 13 07 53.3
comp=Z,290nm,1.4s,mb6.1
ZAK Zakamensk 57.49 342 *e*P **P 13 07 53.7 -0.2**
ZAK *e* 13 08 46.6
ZAK pmax pmax
comp=Z,11nm,1.3s,mb4.7
ZAK pmax pmax
comp=Z,13nm,1.0s,mb4.9
BISR Bishrakh 57.51 307 *ex* **P 13 07 52.2 -2.3**
BISR AMb AMB 13 07 53.1
comp=Z,2.6nm,0.3s,mb4.7
SONA Sohna 57.66 307 *e*P **P 13 07 54.6 -0.9**
SONA AMb AMB 13 07 55.2
comp=Z,88nm,1.1s,mb5.7
NDI New Delhi 57.73 307 *e*P **P 13 07 54.5 -1.6**
DDI Dehra Dun 57.79 309 *e*P **P 13 07 56.5 +0.1**
KUDL Kundal 58.09 306 *e*P **P 13 07 57.4 -1.2**
KUDL AMb AMB 13 07 58.3
comp=Z,85nm,1.0s,mb5.7
OKH Okha 58.31 11 *e*P **P 13 08 02.4 +2.8**
OKH pmax pmax
comp=Z,600nm,5.0s
KHET Khetri 58.62 306 *e*P **P 13 08 01.0 -1.2**
KHET AMb AMB 13 08 02.7
comp=Z,65nm,1.0s,mb5.6
IRK Irkutsk 58.85 344⇑*i*P **P 13 08 03.1 -0.3**
IRK pmax pmax
comp=Z,58nm,2.0s,mb5.3
AJM Ajmer 58.95 304⇑*i*P **P 13 08 03.0 -1.6**
WMQ Urumqi 59.00 327⇓*i*P **P 13 08 05.0 +0.4**
WMQ AP pP 13 08 21.0 +0.3
WMQ XP sP 13 08 28.0 +0.4
WMQ PP PP 13 10 18.0 +2.3
WMQ S **S 13 16 05.0 -1.7**
WMQ AMB AMB
comp=Z,85nm,1.2s,mb5.7
WMQ AMB AMB
comp=Z,143nm,5.0s
WMQ LR LR
comp=N,445nm,15.0s
WMQ LR LR
comp=E,302nm,15.0s
WMQ LR LR
comp=Z,387nm,15.0s
MOY Mondy 59.33 341 *e*P **P 13 08 07.2 +0.5**
MOY pmax pmax
comp=Z,73nm,1.7s,mb5.4
CLNS Chul'man 60.15 358 *e*P **P 13 08 11.2 -1.0**
CLNS *e**PP pP 13 08 17.5 -11
CLNS *e* 13 08 56.4
CLNS *e*S **S 13 16 18.8 -2.1**
CLNS *e*SSS 13 22 51.0
CLNS pmax pmax
comp=Z,50nm,0.9s,mb5.5
CLNS pmax pmax
comp=N,39nm,1.2s
CLNS pmax pmax
comp=E,11nm,1.2s
CLNS pmax pmax
comp=N,8.0nm,0.9s
CLNS pmax pmax
comp=E,9.0nm,0.9s
CLNS pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
CLNS smax
comp=N,113nm,13.8s
CLNS smax
comp=Z,94nm,10.5s
CLNS smax
comp=E,109nm,15.0s
CLNS MLR MLR
comp=N,100nm,17.0s
CLNS MLR MLR
comp=Z,200nm,17.0s
CLNS MLR MLR
comp=E,100nm,13.0s
THN Thein Dam 60.52 310 *e*P **P 13 08 13.5 -1.7**
BOD Bodaibo 62.03 352 *e*P **P 13 08 24.8 -0.2**
BOD pmax pmax
comp=Z,77nm,1.2s,mb5.7
PET Petropavlovsk 62.16 21 *e*P **P 13 08 27.2 +1.3**
PET *e**PP pP 13 08 42.2 0.0
PET *e*S **S 13 16 45.6 -1.1**
PET pmax pmax
comp=Z,96nm,1.1s,mb5.8
PET pmax pmax
comp=Z,200nm,17.6s
PET Petropavlovsk 62.16 21 *e*P **P 13 08 26.4 +0.5**
comp=Z,114nm,1.1s,mb5.9
KSH Kashi 63.63 318 P **P 13 08 36.5 +0.5**
KSH *e*AP pP 13 08 52.0 -0.3
KSH *e*XP sP 13 09 00.1 +1.0
KSH *e*PCP PcP 13 09 12.0 +0.1
KSH *e*PP PP 13 10 58.3 +1.7
KSH *e*SCP 13 13 07.5
KSH *e*PCS 13 13 14.6
KSH *e*S **S 13 17 01.2 -4.4**
KSH *e*XS sS 13 17 31.3 -1.9
KSH *e*SCS ScS 13 18 20.1 -4.2
KSH AMB AMB
comp=Z,680nm,1.8s,mb6.4
KSH LR LR
comp=N,561nm,4.8s
KSH LR LR
comp=E,577nm,5.7s
KSH LR LR
comp=Z,419nm,6.7s
DRV Dumont d'Urvil 63.69 174 PP PP 13 10 42.0 -15
DRV R 13 29 00.0
CASY Casey 63.79 187 *e*P **P 13 08 35.9 -0.6**
comp=Z,5.3nm,0.8s,mb4.6
MKAR Makanchi Array 63.83 327 P **P 13 08 36.4 -0.8**
comp=Z,36nm,0.8s,mb5.5,baz=128,slow=7.5,SNR=226
MKAR LR LR 13 35 01.5
comp=Z,214nm,21.5s,baz=158,slow=35
YAK Yakutsk 65.35 1*c i*P **P 13 08 46.8 +0.1**
YAK *e* 13 09 17.9
YAK *e* 13 11 09.6
YAK *e*PPP 13 12 46.1
YAK *e*S S 13 17 21.8 -4.2
YAK *e**SS sS 13 17 55.1 +1.5
YAK *e* 13 18 34.7
YAK pmax pmax
comp=Z,303nm,1.0s,mb6.3
YAK pmax pmax
comp=N,143nm,1.5s
YAK pmax pmax
comp=E,51nm,1.4s
YAK pmax pmax
comp=Z,13nm,0.9s,mb5.0
YAK smax
comp=E,38nm,8.3s
YAK Yakutsk 65.35 1 *e*P **P 13 08 46.6 -0.1**
comp=E,236nm,0.8s,mb6.3
KZA Kyzart 65.38 320 P **P 13 08 48.5 +1.1**
SNR=31
MA2 Magadan 65.53 13*c i*P **P 13 08 48.8 +0.9**
MA2 *e**PP pP 13 09 21.0 +17
MA2 *e*S S 13 17 21.0 -7.3
MA2 *e*SS SS 13 21 43.8 +0.7
MA2 pmax pmax
comp=N,40nm,0.8s
MA2 pmax pmax
comp=Z,100nm,0.8s,mb5.9
MA2 MLR MLR
comp=Z,300nm,20.8s
MA2 Magadan 65.53 13 *e*P **P 13 08 49.2 +1.2**
comp=Z,62nm,0.8s,mb5.7
MA2 *e*PcP PcP 13 09 20.4 +1.2
TKM2 Tokmak 2 65.58 321 *e*P **P 13 08 48.3 -0.3**
TKM2 pmax pmax
comp=Z,34nm,0.9s,mb5.4
TKM2 Tokmak 2 65.58 321 *e*P **P 13 08 48.3 -0.3**
comp=Z,34nm,0.9s,mb5.4
TKM2 Tokmak 2 65.58 321 P **P 13 08 48.7 +0.1**
SNR=34
KBK Karagaybulak 65.86 320 P **P 13 08 51.0 +0.5**
SNR=11
UCH Uchtor 65.93 320 *e*P **P 13 08 51.5 +0.6**
comp=Z,40nm,1.1s,mb5.4
UCH Uchtor 65.93 320 P **P 13 08 52.0 +1.1**
SNR=38
AAK Ala-Archa 66.14 320 P **P 13 08 51.9 -0.3**
comp=Z,164nm,1.1s,mb6.0,SNR=13
AAK Ala-Archa 66.14 320 P **P 13 08 52.8 +0.5**
SNR=18
FRU Bishkek 66.16 320 *e*P **P 13 08 52.0 -0.4**
FRU *e* pP 13 09 09.0 +0.2
FRU pmax pmax
comp=Z,60nm,2.0s,mb5.3
AML Almayashu 66.41 319 *e*P **P 13 08 54.2 +0.2**
comp=Z,48nm,1.0s,mb5.5
AML *e*pP pP 13 09 09.9 -0.5
AML Almayashu 66.41 319 P **P 13 08 54.5 +0.5**
SNR=40
USP Ospenovka 66.45 321 P **P 13 08 54.3 +0.1**
SNR=38
EKS2 Erkin-Say 66.61 320 *e*P **P 13 08 55.3 0.0**
comp=Z,58nm,1.2s,mb5.5
EKS2 *e*pP pP 13 09 12.1 +0.5
EKS2 Erkin-Say 66.61 320 P **P 13 08 56.0 +0.7**
SNR=21
ZAA0 Zalesovo Array 67.27 334 *e*P **P 13 08 58.0 -1.1**
ZAA0 *e*pP pP 13 09 14.1 -1.5
ZALV Zalesovo Beam 67.27 334 P **P 13 08 58.0 -1.2**
ZALV Zalesovo Beam 67.27 334 P **P 13 08 58.0 -1.2**
comp=Z,39nm,0.9s,mb5.4,baz=116,slow=5.1,SNR=88
ZAL Zalesovo 67.27 334 P **P 13 08 58.0 -1.2**
KURK Kurchatov 68.14 329 P **P 13 09 03.9 -0.8**
comp=Z,644nm,0.9s,mb6.7,SNR=62
KURK Kurchatov 68.14 329 *e*P **P 13 09 03.7 -1.1**
comp=Z,137nm,1.0s,mb5.9
KURK *e*pP pP 13 09 20.2 -0.9
KURK Kurchatov 68.14 329 P **P 13 09 04.5 -0.2**
SNR=48
KURK Kurchatov 68.14 329 P **P 13 09 04.5 -0.2**
SNR=48
KURK Kurchatov 68.14 329 P **P 13 09 04.5 -0.2**
SNR=48
KURK Kurchatov 68.14 329 P **P 13 09 04.5 -0.2**
SNR=48
KURK Kurchatov 68.14 329 P **P 13 09 04.5 -0.2**
SNR=48
NVS Novosibirsk 68.55 334⇑*i*P **P 13 09 06.0 -1.2**
NVS *e* pP 13 09 21.6 -2.1
NVS *e*S S 13 18 00.0 -4.8
NVS pmax pmax
comp=N,54nm,1.2s
NVS pmax pmax
comp=E,47nm,1.2s
NVS pmax pmax
comp=Z,78nm,1.2s,mb5.5
NVS smax
comp=N,19nm,2.2s
NVS smax
comp=E,29nm,2.2s
SEY Seymchan 68.90 12⇑*i*P **P 13 09 10.6 +1.4**
AMKA Amchitka 70.22 32 *e*P **P 13 09 18.3 +0.7**
SMDO Samad 72.42 295 P **P 13 09 31.3 -0.2**
SNR=5.2
SMDO Samad 72.42 295 P **P 13 09 31.3 -0.2**
SNR=5.2
SMDO Samad 72.42 295 P **P 13 09 31.3 -0.2**
SNR=5.2
SMDO Samad 72.42 295 P **P 13 09 31.3 -0.2**
SNR=5.2
SMDO Samad 72.42 295 P **P 13 09 31.3 -0.2**
SNR=5.2
BIDO Bidbid 72.44 296 P **P 13 09 31.5 -0.1**
SNR=6.3
BIDO Bidbid 72.44 296 P **P 13 09 31.5 -0.1**
SNR=6.3
BIDO Bidbid 72.44 296 P **P 13 09 31.5 -0.1**
SNR=6.3
BIDO Bidbid 72.44 296 P **P 13 09 31.5 -0.1**
SNR=6.3
BIDO Bidbid 72.44 296 P **P 13 09 31.5 -0.1**
SNR=6.3
BIDO Bidbid 72.44 296 P **P 13 09 31.5 -0.1**
SNR=6.3
ADK Adak 72.62 33 *e*P **P 13 09 32.4 +0.3**
ADK pmax pmax
comp=Z,43nm,0.8s,mb5.4
ADK Adak 72.62 33 *e*P **P 13 09 32.4 +0.4**

comp=Z,43nm,0.8s,mb5.4
HOQ Hoqain 73.19 296 P **P 13 09 36.1 0.0**
SNR=8.2
HOQ Hoqain 73.19 296 P **P 13 09 36.1 0.0**
SNR=8.2
HOQ Hoqain 73.19 296 P **P 13 09 36.1 0.0**
SNR=8.2
HOQ Hoqain 73.19 296 P **P 13 09 36.1 0.0**
SNR=8.2
HOQ Hoqain 73.19 296 P **P 13 09 36.1 0.0**
SNR=8.2
HOQ Hoqain 73.19 296 P **P 13 09 36.1 0.0**
SNR=8.2
BVAR Borovoye Array 73.68 328 P **P 13 09 37.6 -0.7**
comp=Z,27nm,0.9s,mb5.2,baz=132,slow=6.6,SNR=98
BRVK Borovoye 73.75 328 P **P 13 09 38.7 0.0**
comp=Z,292nm,0.9s,mb6.2,SNR=19
BRVK Borovoye 73.75 328 *e*P **P 13 09 38.1 -0.6**
comp=Z,52nm,1.0s,mb5.4
BRVK Borovoye 73.75 328 P **P 13 09 38.4 -0.2**
SNR=24
BRVK Borovoye 73.75 328 P **P 13 09 38.4 -0.2**
SNR=24
BRVK Borovoye 73.75 328 P **P 13 09 38.4 -0.2**
SNR=24
BRVK Borovoye 73.75 328 P **P 13 09 38.4 -0.2**
SNR=24
BRVK Borovoye 73.75 328 P **P 13 09 38.4 -0.2**
SNR=24
HATD Hatta, Dubai 74.49 297 P **P 13 09 43.1 -0.5**
SNR=9.0
HATD Hatta, Dubai 74.49 297 P **P 13 09 43.1 -0.5**
SNR=9.0
HATD Hatta, Dubai 74.49 297 P **P 13 09 43.1 -0.5**
SNR=9.0
HATD Hatta, Dubai 74.49 297 P **P 13 09 43.1 -0.5**
SNR=9.0
HATD Hatta, Dubai 74.49 297 P **P 13 09 43.1 -0.5**
SNR=9.0
HATD Hatta, Dubai 74.49 297 P **P 13 09 43.1 -0.5**
SNR=9.0
ASHO Ashiyiah 74.53 297 P **P 13 09 43.9 0.0**
SNR=8.5
ASHO Ashiyiah 74.53 297 P **P 13 09 43.9 0.0**
SNR=8.5
ASHO Ashiyiah 74.53 297 P **P 13 09 43.9 0.0**
SNR=8.5
ASHO Ashiyiah 74.53 297 P **P 13 09 43.9 0.0**
SNR=8.5
ASHO Ashiyiah 74.53 297 P **P 13 09 43.9 0.0**
SNR=8.5
BANOM Banah 74.56 298 P **P 13 09 44.5 +0.5**
SNR=7.5
BANOM Banah 74.56 298 P **P 13 09 44.5 +0.5**
SNR=7.5
BANOM Banah 74.56 298 P **P 13 09 44.5 +0.5**
SNR=7.5
BANOM Banah 74.56 298 P **P 13 09 44.5 +0.5**
SNR=7.5
BANOM Banah 74.56 298 P **P 13 09 44.5 +0.5**
SNR=7.5
BANOM Banah 74.56 298 P **P 13 09 44.5 +0.5**
SNR=7.5
TIXI Tiksi 74.99 1 *e*P **P 13 09 44.6 -1.0**
TIXI pmax pmax
comp=Z,59nm,0.9s,mb5.5
TIXI Tiksi 74.99 1 *e*P **P 13 09 44.7 -0.9**
comp=Z,77nm,1.1s,mb5.5
BILL Bilibino 76.34 14α *i*P **P 13 09 53.3 0.0**
BILL 13 10 04.0
BILL *e**PP pP 13 10 09.9 -0.1
BILL pmax pmax
comp=Z,30nm,1.7s,mb5.0
BILL MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 76.34 14 *e*P **P 13 09 53.2 -0.1**
comp=Z,17nm,1.0s,mb4.9
SBA Scott Base 77.16 172 *e*P **P 13 09 58.1 +0.3**
comp=Z,30nm,1.0s,mb5.2
MAW Mawson 77.25 201 LR LR 13 39 07.9
comp=Z,442nm,18.8s,baz=54,slow=32
UNV Unalaska Valle 79.03 34 *e*P **P 13 10 08.6 0.0**
comp=Z,179nm,1.5s,mb5.8
AKTK Aktyubinsk 79.67 323 P **P 13 10 11.3 -0.8**
AKTO Aktyubinsk 79.67 323 P **P 13 10 11.3 -0.8**
comp=Z,20nm,0.9s,mb5.1,baz=110,slow=6.5,SNR=48
SVE Sverdlovsk 80.39 329⇑ *e*P **P 13 10 15.4 -0.5**
SVE pmax pmax
comp=Z,65nm,1.3s,mb5.4
GAMB Gambell 80.73 23 *e*P **P 13 10 18.9 +1.3**
comp=Z,74nm,1.1s,mb5.5
FALS False Pass 81.08 33 *e*P **P 13 10 20.3 +0.7**
comp=Z,115nm,0.6s,mb6.0
ARU Arti 81.32 328 P **P 13 10 19.5 -1.4**
comp=Z,296nm,1.0s,mb6.2,SNR=7.3
ARU Arti 81.32 328c *i*P **P 13 10 19.4 -1.5**
ARU *e* 13 13 26.1
ARU *e*PPP 13 15 14.1
ARU *e*S S 13 20 25.8 -1.0
ARU *e*SS SS 13 25 41.4 -2.4
ARU Arti 81.32 328 *e*P **P 13 10 19.9 -1.0**
comp=Z,61nm,1.1s,mb5.5
PAE Paea 82.39 107 *e*P **P 13 10 30.1 +2.8**
comp=Z,25nm,1.0s,mb5.1
PAE Paea 82.39 107 *e*P **P 13 10 30.1 +2.8**
PAE pmax pmax
comp=Z,25nm,1.0s,mb5.1
PPT Papeete 82.40 107 *e*LR LR 13 36 31.2
comp=Z,482nm,28.8s
TBI Tubuai 82.42 113 *e*LR LR 13 36 34.1
comp=Z,256nm,28.2s
UMR Umm Al-Rimmam 82.68 300 *e*P **P 13 10 27.3 -1.3**
UMR AMb AMB 13 10 29.5
comp=Z,54nm,1.0s,mb5.5
TVO Taravao 82.70 107 *e*P **P 13 10 31.5 +2.6**
comp=Z,43nm,1.1s,mb5.4
TVO Taravao 82.70 107 *e*P **P 13 10 31.5 +2.6**
TVO pmax pmax
comp=Z,43nm,1.1s,mb5.4
RDF Al-Radifah 82.73 300 *e*P **P 13 10 27.5 -1.4**
RDF AMb AMB 13 10 29.1
comp=Z,38nm,0.9s,mb5.4
SDPT Sand Point 82.83 33 *e*P **P 13 10 29.2 +0.4**
comp=Z,215nm,0.6s,mb6.3
TNA Tin City 82.98 22 *e*P **P 13 10 30.9 +1.6**
comp=Z,64nm,1.1s,mb5.6
MIB Mutribah 83.04 300 *e*P **P 13 10 29.2 -1.2**
MIB AMb AMB 13 10 31.2
comp=Z,55nm,1.0s,mb5.6
NAY Al-Naaiem 83.04 300 *e*P **P 13 10 29.1 -1.4**
NAY AMb AMB 13 10 31.0
comp=Z,26nm,0.9s,mb5.3
PMOR Pomariorio Ree 84.08 105 *e*P **P 13 10 38.8 +2.7**
comp=Z,46nm,1.1s,mb5.5
SYO Syowa Base 85.96 201⇑ *e*P **P 13 10 43.0 -1.4**
SYO Syowa Base 85.96 201⇑ *e*PcP PcP 13 10 47.2 +0.2
BHD Baghdad 85.99 304 *e*x x 13 10 40.0
QSPA South Pole Qui 86.48 180 *e*P **P 13 10 45.9 -0.9**
comp=Z,36nm,0.9s,mb5.6
GNI Garni 86.55 310c *i*P **P 13 10 48.3 +0.4**
GNI pmax pmax
comp=Z,32nm,1.7s
GNI Garni 86.55 310 P **P 13 10 48.7 +0.8**
comp=Z,3.1nm,0.4s,mb4.9,baz=184,slow=16,SNR=4.2
SVW2 Sparrevohn 86.81 28 *e*P **P 13 10 49.7 +1.0**
TTA Tatalina 87.04 26 *e*P **P 13 10 50.8 +1.1**
KDAK Kodiak Island 87.65 32 P **P 13 10 54.9 +2.1**
comp=Z,462nm,1.1s,mb6.6,SNR=8.7
KDAK Kodiak Island 87.65 32 *e*P **P 13 10 53.3 +0.5**
comp=Z,73nm,0.9s,mb5.9
KIV Kislovodsk 88.52 314αe P **P 13 10 57.0 -0.2**
KIV *e* pP 13 11 09.9 -4.5
KIV pmax pmax
comp=Z,39nm,2.0s,mb5.4
KIV MLR MLR
comp=Z,100nm,18.0s
KIV Kislovodsk 88.52 314 *e*P **P 13 10 56.3 -0.9**
comp=Z,17nm,1.0s,mb5.3
KIV Kislovodsk 88.52 314 P **P 13 10 57.1 -0.2**
SNR=7.7
KIV Kislovodsk 88.52 314 P **P 13 10 57.1 -0.2**
SNR=7.7
IMA2 Indian Mountai 88.70 24 *e*P **P 13 10 58.1 +0.5**
SLKM Skilak Lake 89.29 29 *e*P **P 13 11 00.1 -0.4**
PMR Palmer 89.96 28 *e*P **P 13 11 03.7 +0.1**

PMR pmax pmax
comp=Z,60nm,1.3s,mb5.8
PMR Palmer 89.96 28 *e*P **P 13 11 02.9 -0.7**
comp=Z,62nm,1.4s,mb5.8
VRHR Novokhopersk 89.97 321 *e*P **P 13 11 02.8 -1.1**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.9
VRHR pmax pmax
comp=N,50nm,1.2s
VRHR pmax pmax
comp=E,20nm,0.7s
KMBO Kilima Mbogo 90.00 269 *e*P **P 13 11 05.7 +0.8**
KMBO *e**PP pP 13 11 22.4 +0.4
KMBO pmax pmax
comp=Z,5.0nm,1.1s
KMBO Kilima Mbogo 90.00 269 *e*P **P 13 11 05.7 +0.8**
comp=Z,4.9nm,1.1s,mb4.8
KMBO *e*pP pP 13 11 22.4 +0.4
KMBO Kilima Mbogo 90.00 269 P **P 13 11 05.9 +1.1**
comp=Z,1.2nm,0.5s,baz=14,slow=22,SNR=4.3
KMBO LR LR 13 49 56.2
comp=Z,225nm,19.5s,baz=274,slow=35
MCK McKinley 90.32 26 *e*P **P 13 11 05.1 -0.1**
MCK McKinley 90.32 26 *e*P **P 13 11 04.2 -1.0**
comp=Z,34nm,0.9s,mb5.7
SML Sawmill 90.36 28 *e*P **P 13 11 05.6 +0.1**
SOC Sochi 90.63 313 *e*P **P 13 11 05.3 -1.8**
SOC *e**PP pP 13 11 25.1 +0.8
SOC *e* 13 14 43.9
SOC *e*S S 13 21 29.2 -29
SOC *e*SS SS 13 27 57.9 -3.1
SOC pmax pmax
comp=Z,22nm,1.0s,mb5.4
COLA College 90.92 25 *i*P **P 13 11 06.6 -1.4**
COLA College 90.92 25 *e*P **P 13 11 06.2 -1.8**
comp=Z,9.5nm,0.7s,mb5.2
VRSR Storozhevoye 91.51 321 *e*P **P 13 11 09.4 -1.6**
VRSR pmax pmax
comp=Z,9.0nm,1.2s,mb5.0
VRSR pmax pmax
comp=N,5.0nm,1.4s
VRSR pmax pmax
comp=E,4.0nm,1.1s
DIV Divide 91.52 29 *e*P **P 13 11 11.8 +0.9**
comp=E,106nm,1.0s,mb6.1
TAOE Nuku Hiva Isla 91.97 99 *e*LR LR 13 41 00.3
comp=E,9μm,26.9s
ANN Anapa 92.34 315 *e*P **P 13 11 12.9 -2.1**
ANN *e**PP pP 13 11 32.3 +0.1
ANN *e* 13 21 36.0
ANN pmax pmax
comp=Z,65nm,1.3s,mb5.8
MOS Moscow 92.67 326 *e*P **P 13 11 14.3 -2.0**
TMCR Tamitsa 92.79 334 *e*P **P 13 11 14.3 -2.4**
OBN Obninsk 93.25 325⇓ *i*P **P 13 11 17.8 -1.2**
OBN *PP pP 13 11 35.0 -1.1
OBN *e* 13 17 03.8
OBN pmax pmax
comp=Z,65nm,1.6s,mb5.8
OBN MLR MLR
comp=Z,200nm,17.0s
OBN Obninsk 93.25 325 *e*P **P 13 11 17.6 -1.4**
comp=Z,38nm,0.7s,mb5.9
OBN *e*pP pP 13 11 34.3 -1.8
EGAK Eagle 93.78 25 *e*P **P 13 11 21.4 +0.2**
comp=Z,42nm,1.1s,mb5.8
DAWY Dawson 94.55 26 *e*P **P 13 11 25.6 +0.8**
APA Apatity 94.69 337⇑ *e*P **P 13 11 23.6 -1.7**
APA pmax pmax
comp=Z,18nm,1.0s,mb5.5
JOF Joensuu 95.82 333 *e*p **P 13 11 27.7 -2.9**
comp=Z,25nm,0.9s,mb5.7
JOF Joensuu 95.82 333 *e*P **P 13 11 27.7 -2.9**
JOF pmax pmax
comp=Z,25nm,0.9s,mb5.6
INK Inuvik 96.61 22 *e*P **P 13 11 33.2 -0.8**
comp=Z,458nm,0.6s
SKAG Skagway 96.72 31 *e*P **P 13 11 35.6 +0.8**
comp=Z,35nm,1.2s,mb5.7
ARCES ARCESS Array B 97.37 340 P **P 13 11 36.3 -1.2**
comp=Z,24nm,0.8s,mb5.7,baz=78,slow=6.4,SNR=27
AKASG Malin Array Be 97.81 321 P **P 13 11 38.5 -1.4**
comp=Z,2.3nm,0.8s,mb4.8,baz=76,slow=4.1,SNR=19
KBS Kingsbay 98.15 350⇑ *e*P **P 13 11 40.2 -0.7**
KIS Kishinev 98.33 317 *e*P **P 13 11 40.0 -2.3**
FINES FINESS Array B 98.41 332 *i*P **P 13 11 40.5 -1.8**
FINES pmax pmax
comp=Z,4.0nm,0.9s
FINES FINESS Array B 98.41 332 P **P 13 11 40.5 -1.9**
FINES FINESS Array B 98.41 332 P **P 13 11 40.5 -1.8**
comp=Z,3.5nm,0.9s,mb4.9,baz=52,slow=3.1,SNR=8.0
WRAK Wrangell Islan 98.61 34 *e*P **P 13 11 44.0 +0.7**
comp=Z,9.9nm,0.8s,mb5.4
TIRR Tirgusor 98.78 314⇑ *i*P **P 13 11 41.5 -2.9**
MLR Muntele Rosu 100.44 315 P Pdif 13 11 51.6 +0.1
comp=Z,8.8nm,1.0s,baz=42,slow=5.5,SNR=11
MLR Muntele Rosu 100.44 315⇑ *i*P Pdif 13 11 51.8 +0.3
BURAR Bucovina Array 100.71 318⇓ *i*P Pdif 13 11 53.0 +0.3
KWP Kalwaria 102.09 320 *e*P Pdif 13 11 59.0 +0.2
KWP Kalwaria 102.09 320 *e*P Pdif 13 11 59.0 +0.1
KWP Kalwaria 102.09 320⇑ *i*P Pdif 13 11 59.4 +0.5
KOLS Kolonicke sedl 102.48 319 *e*P Pdif 13 12 00.7 +0.1
KOLS Kolonicke sedl 102.48 319 PDIF Pdif 13 12 00.7 +0.1
DRGR 102.52 317⇑ *i*P Pdif 13 12 01.3 +0.5
UZH Uzhgorod 102.52 319 *e*P Pdif 13 12 00.0 -0.8
UZH *e* 13 16 08.5
UZH *e* 13 22 30.0
UZH *e*S Sdif 13 23 31.0 -9.3
UZH *e*PS PS 13 25 12.0 -10
CRVS Cervenica-Dubn 103.01 319 *e*P Pdif 13 12 04.6 +1.6
CRVS Cervenica-Dubn 103.01 319 PDIF Pdif 13 12 04.6 +1.6
STHS Stebnicka Huta 103.07 320 *e*P Pdif 13 12 04.3 +1.1
STHS Stebnicka Huta 103.07 320 PDIF Pdif 13 12 04.3 +1.1
HFS Hagfors 104.61 332 Pdiff Pdif 13 12 08.2 -1.9
comp=Z,9.6nm,1.2s,baz=52,slow=9.6,SNR=5.2
RES Resolute Bay 104.75 11 *e*P Pdif 13 12 11.0 +0.3
RES Resolute Bay 104.75 11 *e*Pdif Pdif 13 12 10.3 -0.4
VYHS Vyhne 104.80 319 *e*P Pdif 13 12 09.8 -1.1
VYHS *e* 13 16 27.2
VYHS Vyhne 104.80 319 PDIF Pdif 13 12 09.8 -1.1
VYHS *e*PP PP 13 16 27.2 -4.2
NB2 NORSAR Subarra105.45 333 Pdif Pdif 13 12 12.1 -1.7
comp=Z,9.4nm,1.0s,baz=68,slow=4.4
NOA NORSAR Array B 105.45 333 Pdif Pdif 13 12 12.1 -1.7
NOA PKPdf PKiKP 13 16 26.8 -0.2
NOA NORSAR Array B 105.45 333 Pdiff Pdif 13 12 12.1 -1.7
comp=Z,5.0nm,1.0s,baz=69,slow=4.5,SNR=11
NOA PKiKP PKiKP 13 16 26.8 -0.2
comp=Z,1.3nm,0.9s,baz=51,slow=2.1,SNR=6.4
YKA Yellowknife Ar 105.75 25 Pdif Pdif 13 12 15.5 +0.3
YKA PKPdf PKiKP 13 16 27.5 0.0
YKA Yellowknife Ar 105.75 25 Pdiff Pdif 13 12 15.5 +0.3
comp=Z,2.1nm,0.7s,baz=295,slow=4.6,SNR=20
YKA PKiKP PKiKP 13 16 27.5 0.0
comp=Z,2.0nm,0.8s,baz=296,slow=1.9,SNR=18
MODS Modra-Piesok 105.84 319 *e*P Pdif 13 12 15.8 +0.3
MODS Modra-Piesok 105.84 319 PDIF Pdif 13 12 15.8 +0.3
DPC Dobruska-Polom 105.98 322 *e*PP PP 13 16 40.8 +0.8
UPC Upice 106.14 322 *e*PP PP 13 16 44.7 +3.5
BRG Berggiesshubel 107.31 322 *e*PKP PP 13 16 53.0 +3.3
comp=Z,10nm,1.6s
CLL Collm 107.75 323 *e*Pdif Pdif 13 12 24.0 0.0
GERES GERESS Array B 108.02 320 PKiKP PKiKP 13 16 32.4 +0.2
comp=Z,1.3nm,0.6s,baz=7.6,slow=3.0,SNR=6.8
NVAR Mina Array Bea 111.16 50 PKiKP PKiKP 13 16 39.7 +1.3
comp=Z,0.9nm,0.6s,baz=258,slow=1.9,SNR=5.1
CHMT Chamberlain Mo 112.34 40 *e*PKPdf PKiKP 13 16 40.2 -0.1
HINF Hinteralfeld 112.68 321 *e*PKIKP PKiKP 13 16 40.0 -0.9
PGF Pioggiola 112.98 315 *e*PKIKP PKiKP 13 16 41.4 -0.3
LPG La Plagne 113.57 319 *e*PKIKP PKiKP 13 16 42.8 +0.1
comp=Z,9.6nm,0.9s
LPL La Plagne 113.57 319 *e*PKIKP PKiKP 13 16 42.7 0.0
comp=Z,5.9nm,0.7s
CABF La Chapelle 113.60 320 *e*PKIKP PKiKP 13 16 42.3 -0.5
comp=Z,12nm,0.8s
MBDF Montbardon 113.82 318 *e*PKIKP PKiKP 13 16 43.0 -0.2
comp=Z,9.8nm,1.0s
BOZ Bozeman (W) 113.84 41 *e*PKIKP PKiKP 13 16 44.4 +1.2
BOZ Bozeman (W) 113.84 41 *e*PKPdf PKiKP 13 16 44.1 +0.9
FRF La Foret Royal 114.30 317 *e*PKIKP PKiKP 13 16 43.7 -0.5
comp=Z,12nm,0.9s
HVU Hansel Valley 114.35 45 *e*PKIKP PKiKP 13 16 45.4 +1.1
HVU Hansel Valley 114.35 45 *e*PKPdf PKiKP 13 16 44.9 +0.5
ORIF Oris-en-Rattie 114.35 318 *e*PKIKP PKiKP 13 16 43.8 -0.4

ORIF *e*MLR MLR
comp=Z,156nm,21.0s
LOR Lormes 114.76 321 *e*PKIKP PKiKP 13 16 44.6 -0.4
LOR *e*MLR MLR
comp=Z,189nm,22.2s
LOR Lormes 114.76 321 *e*PKPdf PKiKP 13 16 44.6 -0.4
LOR LR LR
comp=Z,190nm,22.3s
DUG Dugway 114.81 47 *e*PKIKP PKiKP 13 16 46.7 +1.4
DUG Dugway 114.81 47 *e*PKPdf PKiKP 13 16 45.8 +0.5
IMW Indian Meadow 114.92 43 *e*PKPdf PKiKP 13 16 45.9 +0.5
TPAW Teton Pass 115.05 43 *e*PKPdf PKiKP 13 16 46.7 +1.1
SSF Saint Saulge 115.07 321 *e*PKIKP PKiKP 13 16 45.3 -0.2
comp=Z,18nm,1.0s
MOOW Moose Ponds 115.10 43 *e*PKPdf PKiKP 13 16 46.9 +1.2
REDW Red Top Meadow 115.16 43 *e*PKPdf PKiKP 13 16 47.0 +1.1
SNOW Snow King Moun 115.19 43 *e*PKPdf PKiKP 13 16 47.3 +1.4
LOHW Long Hollow 115.25 43 *e*PKPdf PKPdf 13 16 46.9 +0.9
FFC Flin Flon 115.26 29 *e*PKIKP PKPdf 13 16 45.7 0.0
FFC Flin Flon 115.26 29 *e*PKPdf PKPdf 13 16 45.5 -0.2
HWUT Hardware Ranch 115.26 45 *e*PKPdf PKPdf 13 16 46.5 +0.4
AVF Avril sur Loir 115.27 321 *e*PKIKP PKPdf 13 16 45.4 -0.6
BGF Bois d'Agland 115.69 321 *e*PKIKP PKPdf 13 16 46.4 -0.4
MSU Marysvale 115.78 49 *e*PKIKP PKPdf 13 16 49.4 +2.2
MSU Marysvale 115.78 49 *e*PKPdf PKPdf 13 16 48.6 +1.4
LASF Ste Croix 116.00 318 *e*PKIKP PKPdf 13 16 47.3 -0.1
comp=Z,24nm,1.1s
TCF Toulx Ste Croi 116.20 321 *e*PKIKP PKPdf 13 16 47.3 -0.5
comp=Z,38nm,1.3s
BW06 Boulder Array 116.26 43 *e*PKPdf PKPdf 13 16 48.0 0.0
SRU San Rafael 116.82 48 *e*PKIKP PKPdf 13 16 50.2 +1.0
SRU San Rafael 116.82 48 *e*PKPdf PKPdf 13 16 49.5 +0.4
CAF Calviac 116.85 319 *e*PKIKP PKPdf 13 16 49.0 -0.1
WUAZ Wupatki 117.26 52 *e*PKPdf PKPdf 13 16 51.3 +1.1
MTLF Montolieu 117.38 318 *e*PKIKP PKPdf 13 16 49.7 -0.4
comp=Z,4.5nm,0.7s
MFF Saint Martin d 117.53 322 *e*PKIKP PKPdf 13 16 49.9 -0.4
comp=Z,30nm,1.0s
PV10 Paradox Valley 118.16 48 *e*PKPdf PKPdf 13 16 52.7 +0.9
RWWY Rawlins 118.28 44 *e*PKPdf PKPdf 13 16 52.4 +0.5
PV01 Paradox Valley 118.59 48 *e*PKPdf PKPdf 13 16 54.0 +1.4
TUC Tucson 118.60 55 *e*PKIKP PKPdf 13 16 54.3 +1.5
TUC Tucson 118.60 55 *e*PKPdf PKPdf 13 16 54.0 +1.2
EPF Esparros 118.76 318 *e*PKIKP PKPdf 13 16 52.5 -0.3
MVCO Mesa Verde 118.95 49 *e*PKPdf PKPdf 13 16 55.1 +1.8
SMCO Snowmass 119.39 46 *e*PKPdf PKPdf 13 16 55.1 +0.9
ETSF Etsaut 119.42 318 *e*PKIKP PKPdf 13 16 53.5 -0.6
comp=Z,41nm,1.4s
SJPF Ste Jean 119.77 319 *e*PKIKP PKPdf 13 16 54.3 -0.4
ISCO Idaho Springs 120.13 45 *e*PKIKP PKPdf 13 16 56.5 +1.0
ULM Lac du Bonnet 120.89 31 *e*PKPdf PKPdf 13 16 56.0 -0.7
ULM Lac du Bonnet 120.89 31 PKP PKPdf 13 16 56.4 -0.3
comp=Z,9.8nm,0.7s,baz=308,slow=3.3,SNR=25
SDCO Great Sand Dun 121.00 47 *e*PKPdf PKPdf 13 16 58.6 +1.3
ANMO Albuquerque 121.26 51 *e*PKIKP PKPdf 13 16 59.5 +1.6
ANMO Albuquerque 121.26 51 *e*PKPdf PKPdf 13 16 59.0 +1.2
AGMN Agassiz Refuge 122.07 33 *e*PKPdf PKPdf 13 16 57.9 -1.1
ESDC Sonseca Array 123.13 316 PKP PKPdf 13 17 01.4 +0.1
comp=Z,0.2nm,0.4s,baz=33,slow=3.0,SNR=6.0
MNTX Cornudas Mount 123.17 54 *e*PKPdf PKPdf 13 17 02.4 +0.8
ECSD EROS,Sioux Fal 124.24 37 *e*PKPdf PKPdf 13 17 03.3 0.0
MVO Moncorvo 124.49 319 *e*PKPdf PKPdf 13 17 05.0 +1.1
EYMN Ely 124.58 31 *e*PKPdf PKPdf 13 17 03.9 +0.1
AMTX Amarillo 124.94 49 *e*PKPdf PKPdf 13 17 05.7 +0.8
TXAR Lajitas Array 125.32 56 PKP PKPdf 13 17 06.6 +0.8
comp=Z,4.4nm,0.9s,baz=226,slow=1.4,SNR=20
PCBR Castelo Branco 125.44 318 *e*PKPdf PKPdf 13 17 06.7 +1.0
TORD Torodi Ar. Bea 125.44 284 PKP PKPdf 13 17 05.9 -0.5
comp=Z,7.8nm,0.9s,baz=56,slow=1.9,SNR=26
TORD PKKPab 13 26 45.3
comp=Z,2.0nm,1.0s,baz=290,slow=4.1,SNR=7.2
PBAR Barrancos 125.95 316 *e*PKPdf PKPdf 13 17 07.7 +1.0
EVO Evora 126.45 317 *e*PKIKP PKPdf 13 17 07.3 -0.4
comp=Z,18nm,1.1s
EVO *e*MLR MLR
comp=Z,181nm,21.5s
KSU1 Kansas State U 126.67 42 *e*PKPdf PKPdf 13 17 08.5 +0.4
COWI Conover 127.01 31 *e*PKPdf PKPdf 13 17 08.7 +0.1
PBDV Barranco-do-Ve 127.01 315 *e*PKPdf PKPdf 13 17 11.0 +2.2
WMOK Wichita Mounta 127.17 48 *e*PKPdf PKPdf 13 17 09.7 +0.5
SCHQ Schefferville 127.53 10 PKP PKPdf 13 17 09.7 +0.5
comp=Z,5.6nm,0.5s,baz=74,slow=0.7,SNR=8.5
JCT Junction City 128.08 53 *e*PKIKP PKPdf 13 17 12.0 +0.9
JFWS Jewell Farm 128.47 35 *e*PKIKP PKPdf 13 17 11.6 +0.2
JFWS Jewell Farm 128.47 35 *e*PKPdf PKPdf 13 17 11.3 -0.2
CCM Cathedral Cave 130.78 41 *e*PKIKP PKPdf 13 17 16.5 +0.5
CCM Cathedral Cave 130.78 41 *e*PKPdf PKPdf 13 17 16.4 +0.4
MIAR Mount Ida 131.06 46 *e*PKIKP PKPdf 13 17 17.9 +1.3
MIAR Mount Ida 131.06 46 *e*PKPdf PKPdf 13 17 17.3 +0.7
FVM French Village 131.35 40 *e*PKIKP PKPdf 13 17 17.8 +0.8
DBIC Dimbokro 132.27 276 PKP PKPdf 13 17 20.5 +1.0
comp=Z,3.9nm,0.8s,baz=130,slow=9.2,SNR=4.8
BLO Bloomington 133.03 36 *e*PKIKP PKPdf 13 17 20.0 -0.2
WVT Waverly 134.12 40 *e*PKIKP PKPdf 13 17 22.9 +0.6
ACSO Alum Creek Sta 134.31 33 *e*PKPdf PKPdf 13 17 23.5 +0.9
PLAL Pickwick Lake 134.63 42 *e*PKPdf PKPdf 13 17 23.8 +0.5
LRAL Lakeview Retre 136.49 43 *e*PKPdf PKPdf 13 17 27.6 +0.8
TZTN Tazewell 136.53 37 *e*PKPdf PKPdf 13 17 28.4 +1.6
CPCT Cooper Cave 136.65 39 *e*PKPdf PKPdf 13 17 27.3 +0.2
MVL Millersville 137.81 27 *e*PKPdf PKPdf 13 17 30.0 +0.9
TGUH Tegucigalpa,Un 144.29 71 *e*PKPdf PKPdf 13 17 40.3 -1.1
SOR Soroa 144.92 54 *e*P PKPdf 13 17 41.4 -1.0
MGV Manicaragua 147.69 53 *e*P PKPdf 13 17 48.7 +1.7
BBSR BB Station 149.13 20 *e*PKPdf PKPbc 13 17 53.6 +0.3
BBSR *e*PKPab PKPab 13 17 58.6 +1.0
CCCC Cccc 149.91 52 *e*P PKPbc 13 17 57.0 +1.4
CPUP Villa Florida 150.03 172 PKPbc PKPbc 13 17 55.4 -0.3
comp=Z,6.1nm,0.6s,baz=134,slow=0.6,SNR=19
HLGC Holguin 151.42 51 *e*P PKPbc 13 18 00.8 +1.7
NNA Nana 151.49 123 *e*PKPbc PKPbc 13 17 59.9 +0.5
BCIP Isla Barro Col 152.44 77 *e*PKPdf PKPdf 13 17 54.3 -0.4
BCIP *e*PKPbc PKPbc 13 18 01.4 -0.2
LPAZ La Paz 155.12 143 PKP PKPdf 13 18 00.2 +1.8
comp=Z,3.7nm,0.9s,baz=52,slow=2.9,SNR=13
LPAZ PKPab PKPab 13 18 25.5 +2.4
comp=Z,6.6nm,0.6s,baz=268,slow=3.6,SNR=12
ROSC El Rosal 158.37 86 PKP PKPdf 13 18 03.7 +1.0
comp=Z,7.8nm,0.4s,baz=102,slow=22,SNR=5.1
ROSC PKPab PKPab 13 18 40.5 +3.1
comp=Z,12nm,0.5s,baz=88,slow=6.6,SNR=5.4
AOPR Arecibo Observ 159.80 42 *e*PKPab PKPab 13 18 43.5 +0.3
HUMP Col San Antoni 160.54 41 *e*PKPdf PKPdf 13 18 05.4 +0.4
MTP Monte Pirata 160.77 40 *e*PKPab PKPab 13 18 48.3 +0.8
SDV Santo Domingo 161.37 72 *e*PKPdf PKPdf 13 18 05.7 -0.4
SDV *e*PKPdif 13 18 20.2
SDV *e*PKPab PKPab 13 18 51.6 +1.2

SZGRF ***12*** *13:01:52.1,2168S×174.13W,h33km, Tonga Islands*
MOS ***12*** *13:02:07.9±0.8, 1851S×17574W,h70km,mb5.0/22, Error ellipse: s-maj=15.8km s-min=11.2km az=64.6*
ISCJB ***12*** *13:02:08.2±1.5,2011S±005×17597W±005,h129km±13km, mb4.6/60, Error ellipse: s-maj=9.7km s-min=5.5km az=135.6*
NEIC ***12*** *13:02:10.7±1.1,2009S×17594W,h144km±10km,mb4.7/44, Error ellipse: s-maj=8.3km s-min=4.5km az=135.0*
BGS ***12*** *13:02:10.7±7.1,2009S×17594W,h144km,mb4.7(NEIC)*
BJI ***12*** *13:02:10.7,2010S×17590W,h143km,mB5.2,mb5.0*
IDC ***12*** *13:02:20.4±0.9,2047S×17588W,h231km±7km,mb4.3/12, mb1 4.5/14,mb1mx4.4/17,mbtmp4.3/14, Error ellipse: s-maj=13.3km s-min=8.9km az=134.0*
ISC 12 13:02:10.0±1.3,2012S±005×17597W±005,h132km±12km, h139km±2.8km:pP-P,n541,o0964/394,mb4.6/60,92C-96D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.36**	**34**	*e*P	**Pn**	**13 03 53.9**	**-1.0**
AFI				pmax	pmax		
comp=Z,121nm,0.5s							
AFI	**Afiamalu**	**7.36**	**34**	*e*Pn	**Pn**	**13 03 53.9**	**-1.0**
comp=Z,121nm,0.5s							
AFI				*e*Sn	**Sn**	**13 05 09.4**	**-7.5**
RAO	**Raoul Island**	**9.27**	**191**	S	**Sn**	**13 06 04.1**	**+1.1**
comp=Z,299nm,0.3s,baz=63,slow=21,SNR=11							
RAR	**Rarotonga**	**15.20**	**97**	P	**Pn**	**13 05 40.5**	**+2.8**
comp=Z,20nm,0.3s,baz=261,slow=9.6,SNR=12							
MWZ	**Matawai**	**19.01**	**196**	P	**P**	**13 06 22.0**	**+0.6**
MWZ	**Matawai**	**19.01**	**196**	*e*PN	**Pn**	**13 06 19.0**	**-4.6**
URZ	**Urewera**	**19.05**	**197**	P	**P**	**13 06 21.0**	**-0.9**
URZ	**Urewera**	**19.05**	**197**	P	**P**	**13 06 20.5**	**-1.4**

comp=Z,27nm,0.3s,baz=313,slow=2.8,SNR=132
URZ S S 13 09 38.9 -12
comp=Z,1.7nm,0.3s,baz=266,slow=18,SNR=8.1
URZ Urewera 19.05 197 ePN Pn 13 06 20.3 -3.8
BKZ Black Stump Fm 20.07 197 P P 13 06 31.4 -1.5
BKZ Black Stump Fm 20.07 197 PN P 13 06 30.7 -2.1
PXZ Pawanui 20.78 196 PN P 13 06 40.3 -0.2
TSZ Takapari Road 21.05 197 P P 13 06 41.9 -1.4
TSZ Takapari Road 21.05 197 PN P 13 06 41.8 -1.6
SNZO South Karori 22.57 199 eP P 13 06 58.0 -1.2
comp=Z,51nm,0.8s,mb5.0
QRZ Quartz Range 22.86 203 ePN P 13 07 03.2 +1.3
NNZ Nelson 22.91 201 P P 13 07 00.8 -1.5
NNZ Nelson 22.91 201 ePN P 13 07 00.6 -1.7
THZ Tophouse 23.55 201 P P 13 07 08.0 -0.2
THZ Tophouse 23.55 201 ePN P 13 07 07.7 -0.5
KHZ Kahutara 23.93 199 P P 13 07 11.7 0.0
KHZ Kahutara 23.93 199 PN P 13 07 11.7 0.0
LTZ Lake Taylor 24.68 201 PN P 13 07 18.0 -0.5
PAE Paea 25.08 89 eP P 13 07 20.9 -1.5
comp=Z,16nm,0.9s,mb4.6
PAE Paea 25.08 89 eP P 13 07 20.9 -1.5
PAE pmax pmax
comp=Z,16nm,0.9s,mb4.5
PPT Papeete 25.10 89 eP P 13 07 21.7 -0.8
comp=Z,42nm,1.4s,mb4.8
PPT Papeete 25.10 89 eP P 13 07 21.7 -0.8
PPT pmax pmax
comp=Z,42nm,1.4s
PPT Papeete 25.10 89 P P 13 07 20.2 -2.3
comp=Z,8.7nm,0.6s,mb4.5,baz=215,slow=8.1,SNR=4.3
WVZ Waitaha Valley 25.47 203 P P 13 07 26.7 +1.0
WVZ Waitaha Valley 25.47 203 ePN P 13 07 26.3 +0.6
RPZ Rata Peaks 25.92 202 P P 13 07 30.0 +0.3
comp=Z,53nm,0.7s,mb5.3,baz=351,slow=2.9,SNR=44
CTA Charters Tower 35.43 263 eP P 13 08 55.4 +1.9
comp=Z,11nm,0.3s,mb5.0
CTA Charters Tower 35.43 263 eP P 13 08 55.4 +1.9
CTA pmax pmax
comp=Z,11nm,0.3s
CTA Charters Tower 35.43 263 P P 13 08 55.6 +2.1
comp=Z,16nm,0.4s,mb5.0,baz=89,slow=9.9,SNR=23
CTAO Charters Tower 35.43 263 eP P 13 08 55.3 +1.8
CTAO pmax pmax
comp=Z,92nm,1.2s,mb5.3
CTAO Charters Tower 35.43 263 eP P 13 08 55.2 +1.7
comp=Z,92nm,1.2s,mb5.3
STKA Stephens Creek 39.67 244 P P 13 09 30.8 +1.6
STKA PcP PcP 13 11 33.9 +0.4
STKA Stephens Creek 39.67 244 P P 13 09 30.8 +1.6
comp=Z,8.5nm,0.8s,mb4.4,baz=81,slow=15,SNR=3.8
STKA PcP PcP 13 11 33.9 +0.4
comp=Z,2.9nm,0.5s,baz=106,slow=5.4,SNR=2.9
POHA Pohakuloa 44.40 28 eP P 13 10 06.9 -0.6
comp=Z,84nm,0.8s,mb5.4
ASAR Alice Springs 46.46 256 P P 13 10 25.0 +1.1
comp=Z,6.2nm,0.6s,mb4.4,baz=88,slow=8.8,SNR=13
ASAR pP pP 13 11 13.4 +19
comp=Z,6.4nm,0.8s,baz=83,slow=8.5,SNR=4.2
ASAR PcP PcP 13 11 56.0 -0.4
comp=Z,2.0nm,0.5s,baz=109,slow=3.8,SNR=5.2
ASAR S S 13 16 55.3 -6.9
comp=Z,0.8nm,0.6s,baz=89,slow=16,SNR=6.1
WB2 Warramunga Arr 46.53 261 eP P 13 10 24.4 -0.1
WRAB Tennant Creek 46.53 261 eP P 13 10 25.2 +0.7
WRAB Tennant Creek 46.53 261 eP P 13 10 24.6 +0.2
comp=Z,7.8nm,0.4s,mb4.7
WRA Warramunga Arr 46.54 261 P P 13 10 24.8 +0.3
comp=Z,8.1nm,0.3s,mb4.9,baz=95,slow=7.4,SNR=157
WRA pP pP 13 11 13.5 +19
comp=Z,6.8nm,1.0s,baz=97,slow=7.9,SNR=3.4
WRA PcP PcP 13 11 56.4 -0.4
comp=Z,1.5nm,0.6s,baz=88,slow=3.6,SNR=3.0
WRA S S 13 16 55.5 -7.9
comp=Z,0.6nm,0.7s,baz=95,slow=15,SNR=4.7
KAKA Kakadu 49.88 270 eP P 13 10 50.5 +0.3
comp=Z,6.2nm,0.4s,mb4.6
GUMO Guam 51.05 308 eP P 13 10 56.2 -2.7
GUMO pmax pmax
comp=Z,152nm,1.0s,mb5.6
GUMO Guam 51.05 308 eP P 13 10 56.2 -2.7
comp=Z,152nm,1.0s,mb5.6
FITZ Fitzroy Crossi 54.97 262 eP P 13 11 29.4 +1.6
comp=Z,3.2nm,0.3s,mb4.5
FITZ Fitzroy Crossi 54.97 262 P P 13 11 29.4 +1.6
comp=Z,1.6nm,0.3s,mb4.2,baz=80,slow=9.4,SNR=9.7
SBA Scott Base 58.39 184 eP P 13 11 52.3 +1.3
SBA pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
SBA Scott Base 58.39 184 eP P 13 11 52.3 +1.3
comp=Z,6.2nm,0.9s,mb4.4
MBWA Marble Bar 59.80 257 eP P 13 12 01.6 0.0
comp=Z,8.4nm,0.9s,mb4.6
QSPA South Pole Qui 69.95 180 eP P 13 13 06.7 +0.3
MJAR Matsushiro Arr 71.05 322 P P 13 13 13.4 -0.2
comp=Z,2.2nm,0.5s,mb4.2,baz=155,slow=5.8,SNR=24
MAJO Matsushiro 71.05 322 eP P 13 13 13.0 -0.6
MAJO pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
MAJO Matsushiro 71.05 322 eP P 13 13 13.0 -0.6
comp=Z,3.9nm,0.5s,mb4.4
MAT Matsushiro 71.05 322 P P 13 13 13.4 -0.2
MAT S S 13 22 18.0 -1.3
HAST Hastings Reser 76.16 43 ⇓P P 13 13 44.0 +0.6
baz=76
YSS Yuzh-Sakhalins 76.42 332⇑eP P 13 13 44.6 -0.1
YSS pmax pmax
comp=Z,21nm,1.4s,mb4.6
U04C Hernandez Rese 76.63 43 ⇑P P 13 13 47.1 +1.0
baz=77,SNR=5.5
S04C Ingram Canyon, 76.98 42 ⇑P P 13 13 48.3 +0.2
baz=77
O01C Eel River Cons 77.14 38 ⇑P P 13 13 49.7 +0.8
baz=77
MNRC McLaughlin Nat 77.15 40 ⇓P P 13 13 49.6 +0.6
baz=77
VES Vestal, Richgr 77.42 44 ⇑P P 13 13 50.3 -0.3
baz=78,SNR=5.5
BFSC Mount Baldy St 77.44 46 ⇓P P 13 13 50.6 -0.1
baz=78
MONP Monument Peak 77.53 48 ⇑P P 13 13 51.2 -0.1
baz=78
EDW2 Edwards Air Fo 77.58 46 P P 13 13 51.5 0.0
baz=78,SNR=9.3
T06C Millerton Lake 77.70 43 ⇓P P 13 13 51.8 -0.3
baz=78,SNR=11
O02C Red Bluff 77.77 39 ⇓P P 13 13 53.1 +0.6
baz=78,SNR=12
KSRS Korea Array 77.88 317 P P 13 13 54.1 +1.1
comp=Z,1.0nm,0.5s,mb3.7,baz=127,slow=6.2,SNR=5.0
CMB Columbia Colle 77.90 42 eP P 13 13 52.4 -0.8
CMB pmax pmax
comp=Z,16nm,1.3s,mb4.5
CMB Columbia Colle 77.90 42 eP P 13 13 52.4 -0.8
comp=Z,16nm,1.3s,mb4.5
CMB Columbia Colle 77.90 42 ⇑P P 13 13 52.7 -0.5
baz=78,SNR=8.3
PFO Pinyon Flat Ob 77.91 47 ⇑P P 13 13 53.4 +0.1
baz=78
HELL Mitchell Peak 77.95 44 P P 13 13 53.1 -0.4
baz=78,SNR=12
SWSC Sam W. Stewart 77.99 48 ⇑P P 13 13 53.6 -0.2
baz=78
LAVA Lava Cap Winer 78.12 41 ⇓P P 13 13 53.7 -0.7
baz=78
LRMC Laurel Mountai 78.13 45 P P 13 13 54.6 +0.1
baz=78,SNR=5.4
KCC Kaiser Creek 78.14 43 ⇓P P 13 13 54.5 -0.1
baz=78,SNR=6.4
ORV Oroville 78.15 40 P P 13 13 54.2 -0.3
baz=78,SNR=7.3
WDC Whiskeytown Da 78.17 39 eP P 13 13 54.3 -0.3
WDC pmax pmax
comp=Z,17nm,1.3s,mb4.5
WDC Whiskeytown Da 78.17 39 eP P 13 13 54.3 -0.3
comp=Z,17nm,1.3s,mb4.5
WDC Whiskeytown Da 78.17 39 ⇓P P 13 13 54.7 0.0
baz=78,SNR=5.4
CWC Cottonwood Cre 78.42 44 ⇓P P 13 13 56.4 +0.3
baz=78
BELC Belle Mtn. 78.44 47 P P 13 13 56.5 +0.2
baz=79,SNR=10
R05C Kirkwood Meado 78.50 41 P P 13 13 56.6 +0.1
baz=79,SNR=7.9
M02C Callahan 78.51 38 ⇓P P 13 13 57.0 +0.6
baz=79,SNR=5.5
P05C Yuba Gap, Truc 78.53 41 P P 13 13 56.8 +0.1
baz=79,SNR=7.1
MPMC Manual Prospec 78.59 45 ⇓P P 13 13 57.1 0.0
baz=79,SNR=16
GSC Goldstone 78.62 46 eP P 13 13 57.1 -0.1
GSC pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
GSC Goldstone 78.62 46 eP P 13 13 57.1 -0.1
comp=Z,5.2nm,1.0s,mb4.1
GSC Goldstone 78.62 46 ⇓P P 13 13 57.1 -0.1
baz=79,SNR=6.3
BC3 Big Chuckw Mtn 78.63 48 ⇑P P 13 13 57.4 +0.1
baz=79,SNR=5.6
112A Yuma 78.63 49 ⇓P P 13 13 57.4 +0.1
baz=79
HEC Hector,Ludlow 78.67 46 P P 13 13 57.4 -0.1
baz=79,SNR=12
TIN Tinemaha 78.69 44 ⇑P P 13 13 57.7 +0.2
baz=79
GLA Glamis 78.73 49 eP P 13 13 58.4 +0.5
GLA pmax pmax
comp=Z,10.0nm,1.1s,mb4.4
GLA Glamis 78.73 49 eP P 13 13 58.4 +0.4
comp=Z,10nm,1.1s,mb4.4
GLA Glamis 78.73 49 ⇓P P 13 13 58.6 +0.7
baz=79,SNR=6.2
O05C Quincy 78.75 40 ⇓P P 13 13 58.0 +0.2
baz=79
R07C Lee Vining 78.77 42 P P 13 13 58.4 +0.4
baz=79,SNR=19
R06C Coleville 78.78 42 ⇑P P 13 13 58.4 +0.4
baz=79,SNR=6.3
YBH Yreka Blue Hor 78.81 38 eP P 13 13 58.0 -0.1
YBH pmax pmax
comp=Z,11nm,1.0s
YBH Yreka Blue Hor 78.81 38 eP P 13 13 58.0 -0.1
comp=Z,11nm,1.0s,mb4.4
YBH Yreka Blue Hor 78.81 38 ⇑P P 13 13 58.5 +0.4
baz=79,SNR=6.0
M03C McCloud 78.86 38 P P 13 13 58.7 +0.3
baz=79,SNR=5.4
O04C Chester 78.87 40 ⇓P P 13 13 58.6 +0.1
baz=79,SNR=11
HATC Hat Creek Radi 78.96 39 ⇓P P 13 13 59.2 +0.3
baz=79,SNR=5.4
S08C White Mtn Res 78.98 43 P P 13 13 59.9 +0.7
baz=79,SNR=26
BEKR Beckwourth 79.03 40 P P 13 13 59.5 +0.1
baz=79,SNR=10.0
WCN Washoe City 79.06 41 P P 13 13 59.8 +0.3
baz=79,SNR=11
GMRC Granite Mounta 79.10 47 ⇑P P 13 13 59.3 -0.5
baz=79,SNR=6.0
IRM Iron Mountain 79.11 47 P P 13 14 00.2 +0.3
baz=79,SNR=11
GRAC Grapevine Rang 79.22 44 ⇑P P 13 14 00.9 +0.5
baz=79,SNR=7.8
FURC Furnace Creek, 79.25 45 ⇓P P 13 14 00.5 -0.1
baz=79
ELFS Eagle Lake Fie 79.27 40 ⇑P P 13 14 00.8 +0.1
baz=79
TUQ Turquoise Mtn. 79.29 46 ⇓P P 13 14 01.0 +0.1
baz=79
SHOC Shoshone 79.31 46 ⇓P P 13 14 00.7 -0.2
baz=79
Y12C Blythe 79.33 48 ⇓P P 13 14 01.2 +0.1
baz=79
113A Mohawk Valley, 79.33 49 P P 13 14 01.2 0.0
baz=79,SNR=8.6
M04C Macdoel 79.34 38 P P 13 14 01.6 +0.5
baz=80,SNR=6.0
J02A Umpqua 79.38 36 P P 13 14 01.8 +0.6
baz=80
NVAR Mina Array Bea 79.45 42 P P 13 14 01.7 +0.1
comp=Z,15nm,0.7s,mb4.7,baz=225,slow=8.3,SNR=74
M05C Lookout 79.48 39 P P 13 14 01.9 +0.1
baz=80,SNR=12
R08A Mina 79.52 43 ⇓P P 13 14 01.9 -0.2
baz=80,SNR=5.7
PAHR Pah Rah Range 79.53 41 eP P 13 14 01.9 -0.2
comp=Z,16nm,1.0s,mb4.6
O06A Flanigan 79.54 40 ⇓P P 13 14 02.0 -0.1
baz=80,SNR=21
L04A Klamath Falls 79.56 38 ⇑P P 13 14 02.5 +0.4
baz=80
S09A Goldfield 79.73 44 ⇑P P 13 14 02.8 -0.4
baz=80,SNR=7.8
M06C Likely Place G 79.78 39 P P 13 14 03.9 +0.5
baz=80,SNR=5.4
V11A Goodsprings 79.85 46 ⇑P P 13 14 03.9 0.0
baz=80
Y13A Salome 79.85 48 P P 13 14 04.4 +0.4
baz=80,SNR=5.8
N06A Buffalo Meadow 79.89 40 ⇓P P 13 14 04.0 0.0
baz=80,SNR=12
PDMCI Parker Dam,Lak 79.89 48 ⇑P P 13 14 04.3 +0.2
baz=80,SNR=5.8
TPNV Topopah Spring 79.92 45 eP P 13 14 03.9 -0.4
TPNV pmax pmax
comp=Z,13nm,0.8s,mb4.6
TPNV Topopah Spring 79.92 45 eP P 13 14 03.9 -0.4
comp=Z,13nm,0.8s,mb4.6
TPNV Topopah Spring 79.92 45 ⇓P P 13 14 04.2 -0.1
baz=80
Q08A Gabbs 79.94 42 P P 13 14 04.2 -0.1
baz=80,SNR=8.4
I03A Eugene 79.94 36 ⇑P P 13 14 04.7 +0.5
baz=80
L05A Lakeview 80.09 38 P P 13 14 05.4 +0.4
baz=80,SNR=7.0
O07A Toulon 80.12 41 ⇑P P 13 14 05.2 -0.1
baz=80,SNR=43
R09A Tonopah 80.12 43 ⇑P P 13 14 05.2 -0.1
baz=80,SNR=6.3
V12A Nelson 80.18 46 ⇓P P 13 14 05.8 +0.1
baz=80,SNR=11
Z14A Wintersburg 80.23 49 ⇓P P 13 14 06.5 +0.5
baz=80,SNR=7.1
S10A Tonopah Range, 80.25 44 ⇓P P 13 14 05.8 -0.2
baz=80,SNR=16
X13A Yucca 80.26 48 ⇑P P 13 14 06.2 +0.1
baz=80,SNR=16
MOD Modoc 80.32 39 eP P 13 14 05.9 -0.4
comp=Z,10.0nm,0.7s,mb4.5
MOD Modoc 80.32 39 P P 13 14 06.3 +0.1
baz=80,SNR=11
115A Sonoran Desert 80.40 50 ⇑P P 13 14 07.2 +0.2
baz=80,SNR=5.4
K05A Summer Lake 80.48 38 P P 13 14 07.5 +0.4
baz=81,SNR=9.9
Y14A Wickenburg 80.49 49 P P 13 14 07.6 +0.2
baz=81,SNR=13
W13A Hualapai Mount 80.50 47 P P 13 14 07.8 +0.4
baz=81,SNR=7.3
216A Three Points, 80.60 51 ⇓P P 13 14 08.6 +0.6
baz=81
J05A Fort Rock 80.64 37 P P 13 14 08.4 +0.5
baz=81,SNR=15
S11A Rachel 80.64 44 ⇑P P 13 14 08.5 +0.4
baz=81
R10A Warm Springs 80.65 44 P P 13 14 08.6 +0.4
baz=81,SNR=13
M07A Soldier Meadow 80.67 40 P P 13 14 08.3 +0.2
baz=81,SNR=7.6
116A Eloy 80.71 50 P P 13 14 08.9 +0.3
baz=81,SNR=10.0
T11A Corn Creek, Al 80.77 45 P P 13 14 09.1 +0.4
baz=81,SNR=16
U12A Valley of Fire 80.78 46 P P 13 14 09.1 +0.3
baz=81,SNR=8.3
T12A Moapa 80.82 46 ⇓P P 13 14 09.5 +0.4
baz=81
V13A Grand Canyon W 80.84 47 P P 13 14 09.3 +0.2
baz=81,SNR=12
X14A Yava 80.85 48 ⇓P P 13 14 09.8 +0.5
baz=81,SNR=6.3
Q10A Clear Creek Ra 80.89 43 ⇓P P 13 14 09.6 +0.2
baz=81
K06A Valley Falls 80.90 38 ⇓P P 13 14 09.1 -0.2
baz=81,SNR=9.0
N08A GE Springer Mi 80.94 41 ⇓P P 13 14 09.3 -0.3
baz=81,SNR=13
L07A Adell 80.96 39 P P 13 14 10.0 +0.3
baz=81,SNR=15
217A Green Valley 80.96 51 P P 13 14 10.3 +0.4
baz=81,SNR=16
Y15A Casa Rosa Ranc 80.98 49 P P 13 14 10.4 +0.5
baz=81,SNR=20
W14A Seligman 81.11 48 P P 13 14 11.4 +0.8
baz=81,SNR=24
R11A Troy Canyon, C 81.14 44 ⇓P P 13 14 10.6 -0.1
baz=81,SNR=5.1
U13A Pakoon Wash 81.15 46 P P 13 14 11.4 +0.6
baz=81,SNR=16
O09A Fish Creek Ran 81.16 42 ⇓P P 13 14 10.7 -0.1
baz=81,SNR=7.3
I05A Bend 81.17 36 ⇓P P 13 14 10.9 +0.1
baz=81
M08A Happy Creek Ra 81.19 40 ⇓P P 13 14 10.7 -0.2
baz=81,SNR=5.5
S12A Delamar Landin 81.22 45 ⇓P P 13 14 11.6 +0.5
baz=81,SNR=9.2
J06A Christmas Vall 81.24 38 ⇓P P 13 14 10.6 -0.5
baz=81,SNR=12
TUC Tucson 81.25 51 eP P 13 14 11.6 +0.2
TUC pmax pmax
comp=Z,13nm,0.9s,mb4.6
TUC Tucson 81.25 51 eP P 13 14 11.6 +0.2
comp=Z,13nm,0.9s,mb4.6
P10A Eureka 81.30 42 ⇓P P 13 14 11.4 -0.2
baz=81,SNR=5.5
Z16A Peralta Trail, 81.31 50 P P 13 14 12.3 +0.5
baz=81,SNR=12
MDJ Mudanjiang 81.31 324 P P 13 14 12.5 +1.0
MDJ AP pP 13 14 44.8 0.0
MDJ AMB AMB
comp=Z,15nm,2.5s,mb4.2
MDJ AMB AMB
comp=Z,139nm,4.5s
V14A Boquillas Ranc 81.32 47 P P 13 14 12.4 +0.7
baz=81,SNR=22
X15A Humboldt 81.32 49 P P 13 14 12.4 +0.6
baz=81,SNR=22
N09A Rock Creek Ran 81.36 41 ⇑P P 13 14 12.0 +0.2
baz=82
Q11A Duckwater 81.38 43 ⇑P P 13 14 11.9 -0.1
baz=82,SNR=9.9
318A Bisbee 81.40 52 P P 13 14 12.5 +0.2
baz=82,SNR=9.4
117A Oracle 81.41 51 ⇑P P 13 14 12.7 +0.4
baz=82,SNR=16
K07A Rock Creek Ran 81.42 39 P P 13 14 12.2 +0.1
baz=82,SNR=12
Y16A Circle Bar Ran 81.55 49 ⇑P P 13 14 13.4 +0.4
baz=82,SNR=21
WVOR Wild Horse Val 81.62 39 eP P 13 14 12.9 -0.3
WVOR pmax pmax
comp=Z,17nm,1.1s,mb4.6
WVOR Wild Horse Val 81.62 39 eP P 13 14 12.9 -0.2
comp=Z,17nm,1.1s,mb4.6
218A Dragoon 81.62 52 ⇑P P 13 14 14.3 +0.9
baz=82
I06A Prineville 81.63 37 P P 13 14 13.6 +0.4
baz=82,SNR=12
L08A Fields 81.65 39 P P 13 14 13.3 0.0
baz=82,SNR=14
W15A Williams 81.66 48 ⇑P P 13 14 14.7 +1.2
baz=82
O10A Cortez Mining, 81.67 42 ⇓P P 13 14 13.7 +0.3
baz=82
F04A Amboy 81.67 35 ⇓P P 13 14 13.1 -0.2
baz=82
U14A Mt Trumbull 81.69 46 P P 13 14 14.3 +0.7
baz=82,SNR=23
P11A Circle Ranch, 81.72 43 ⇑P P 13 14 13.8 +0.1
baz=82
M09A Marrel Ranch, 81.74 40 P P 13 14 14.2 +0.4
baz=82,SNR=7.1
R12A Pony Springs, 81.77 44 P P 13 14 14.2 +0.1
baz=82,SNR=9.9
J07A Hines 81.80 38 ⇑P P 13 14 14.2 +0.2
baz=82,SNR=8.7
X16A Lo Mia Camp, P 81.85 49 P P 13 14 15.3 +0.8
baz=82,SNR=38
S13A Holt Ranch, En 81.86 45 ⇓P P 13 14 15.2 +0.7
baz=82
NLWA Neilton Lookou 81.87 33 ⇑P P 13 14 14.1 -0.2
baz=82
K08A Mann Creek Ran 81.89 39 P P 13 14 14.8 +0.3
baz=82,SNR=11
319A Douglas 81.90 53 P P 13 14 15.6 +0.7
baz=82,SNR=9.2
N10A Dunphy 81.91 41 ⇓P P 13 14 15.0 +0.4
baz=82
Y17A Roosevelt 81.91 50 P P 13 14 15.3 +0.4
baz=82,SNR=11
E04A Onalaska 81.94 34 ⇑P P 13 14 15.9 +1.2
baz=82
L09A Wilkinson Ranc 81.95 40 P P 13 14 14.9 0.0
baz=82,SNR=7.4
Z17A San Carlos Hig 81.97 50 ⇓P P 13 14 15.9 +0.7
baz=82
118A Homack Ranch, 82.01 51 P P 13 14 16.0 +0.5
baz=82,SNR=23
H06A Lindquist Farm 82.05 36 ⇑P P 13 14 15.0 -0.3
baz=82,SNR=16
V15A Kaibab Nationa 82.06 47 P P 13 14 16.4 +0.8
baz=82,SNR=25
T14A Hurricane 82.10 46 ⇓P P 13 14 16.1 +0.3
baz=82,SNR=6.4
O11A Cowboy Ranch, 82.10 42 P P 13 14 15.8 +0.1
baz=82,SNR=13
I07A Izee 82.12 37 ⇑P P 13 14 15.4 -0.3
baz=82,SNR=11
W16A Flagstaff 82.13 48 ⇓P P 13 14 16.6 +0.6
baz=82,SNR=12
F05A White Salmon 82.16 35 ⇓P P 13 14 15.4 -0.5
baz=82
CCUT Cedar City 82.17 45 eP P 13 14 16.5 +0.3
G06A Carlson Farm, 82.20 36 ⇓P P 13 14 16.1 0.0
baz=82,SNR=5.4
P12A McGill 82.21 43 ⇓P P 13 14 16.6 +0.2
baz=82,SNR=6.3
219A White Tail Can 82.22 52 ⇑P P 13 14 16.9 +0.4
baz=82,SNR=12
D04A Dobbs Creek Ra 82.23 33 ⇑P P 13 14 16.5 +0.3
baz=82
ARUT Antelope Range 82.25 45 eP P 13 14 16.8 +0.2
X17A Forest Lakes 82.26 49 ⇑P P 13 14 17.6 +0.9
baz=82
J08A Circle Bar Ran 82.27 38 P P 13 14 16.5 0.0
baz=82,SNR=7.4
K09A Rome 82.32 39 P P 13 14 16.9 +0.1
baz=82,SNR=26
M10A I.L. Ranch, Tu 82.35 41 P P 13 14 17.4 +0.4
baz=82,SNR=12
H07A Lands Inn, Kim 82.39 37 P P 13 14 17.2 0.0
baz=82,SNR=13
S14A Cedar City 82.42 45 ⇑P P 13 14 18.2 +0.7
baz=82
E05A Randle 82.43 34 ⇓P P 13 14 16.9 -0.4
baz=83,SNR=6.9
WUAZ Wupatki 82.46 48 eP P 13 14 17.9 +0.1
comp=Z,28nm,1.1s,mb4.8
WUAZ Wupatki 82.46 48 ⇓P P 13 14 18.4 +0.6
baz=83
B04A Port Angeles 82.50 32 ⇑P P 13 14 18.2 +0.6
baz=83
Q13A Wheeler Ranch, 82.50 44 ⇑P P 13 14 17.9 +0.1
baz=83
Y18A Canyon Day Jun 82.53 50 P P 13 14 19.1 +1.0
baz=83,SNR=20
C04A Brinnon 82.54 33 ⇓P P 13 14 18.2 +0.4
baz=83
I08A Drewsey 82.55 38 ⇑P P 13 14 17.9 -0.1
baz=83,SNR=7.8
T15A Red Dirt Ranch 82.55 46 P P 13 14 18.6 +0.5
baz=83,SNR=32
119A Ashpeak Ranch, 82.56 51 ⇑P P 13 14 18.9 +0.6
baz=83,SNR=8.7
MAW Mawson 82.56 199 P P 13 14 17.1 -0.7
comp=Z,6.8nm,0.6s,mb4.6,baz=143,slow=5.1,SNR=15
J09A Fry Pan Ranch, 82.69 39 ⇑P P 13 14 18.7 0.0
baz=83,SNR=14
D05A Enumclaw 82.71 34 ⇑P P 13 14 18.8 +0.1
baz=83
L10A Juniper Basin 82.71 40 P P 13 14 18.8 0.0
baz=83,SNR=19
G07A Ruggs Ranch, H 82.75 36 ⇑P P 13 14 18.6 -0.3
baz=83,SNR=8.6
M11A Holland Ranch, 82.76 41 P P 13 14 19.5 +0.4
baz=83,SNR=8.3
O12A Currie 82.76 43 P P 13 14 19.1 0.0
baz=83,SNR=8.9
P13A Bates Ranch, G 82.78 44 ⇓P P 13 14 19.4 +0.1
baz=83,SNR=7.3
R14A James Farms, M 82.80 45 ⇑P P 13 14 19.1 -0.3

baz=83
E06A Yakima 82.83 35 ⇓P P 13 14 18.7 -0.7
baz=83,SNR=6.5
H08A Prairie City 82.86 37 ⇓P P 13 14 19.4 -0.1
baz=83
K10A MacKenzie Ranc 82.88 40 P P 13 14 19.8 +0.1
baz=83,SNR=15
N12A Clover Valley, 82.90 42 P P 13 14 19.9 +0.1
baz=83,SNR=12
PGC Sidney 82.92 32 *eP* **P 13 14 18.9 -0.9**
comp=Z,22nm,0.5s,mb5.2
X18A Snowflake 82.97 49 P P 13 14 21.0 +0.6
baz=83,SNR=15
RMW Rattlesnake Mo 82.98 34 P P 13 14 21.0 +0.9
F07A Phinny Hill Vi 83.00 36 ⇓P P 13 14 20.4 +0.2
baz=83
I09A Lost Marbles R 83.07 38 ⇑P P 13 14 20.5 -0.1
baz=83
T16A Glen Canyon Da 83.13 47 P P 13 14 21.9 +0.7
baz=83,SNR=16
G08A Pilot Rock 83.16 37 P P 13 14 21.2 +0.1
baz=83,SNR=27
O13A Hicks Ranch, I 83.17 43 ⇓P P 13 14 22.0 +0.8
baz=83
CN2 Changchun 83.17 322 *eP* **P 13 14 22.0 +0.8**
CN2 *ePP* PP 13 17 37.1 +2.5
CN2 *eS* S 13 24 29.2 -1.0
Y19A Nutrioso 83.18 50 P P 13 14 22.6 +1.2
baz=83,SNR=25
C05A Tolt Reservoir 83.19 34 P P 13 14 21.0 -0.1
baz=83,SNR=7.3
L11A Cat Creek Ranc 83.20 41 P P 13 14 21.5 +0.1
baz=83,SNR=20
M12A Wells 83.29 42 P P 13 14 22.0 +0.2
baz=83,SNR=13
D06A Cle Elum 83.31 34 ⇓P P 13 14 22.0 +0.2
baz=84
J10A Berg Farm, Mel 83.32 39 ⇑P P 13 14 22.3 +0.4
baz=83
B05A Bryant 83.35 33 ⇓P P 13 14 22.1 +0.2
baz=84
K11A Parker Ranch, 83.38 40 P P 13 14 22.4 +0.1
baz=84,SNR=10
X19A St. Johns 83.39 50 P P 13 14 23.2 +0.7
baz=84,SNR=22
W18A Petrified Fore 83.41 49 ⇓P P 13 14 23.1 +0.4
baz=84,SNR=5.3
N13A Wendover, West 83.43 42 P P 13 14 22.8 +0.3
baz=84,SNR=9.3
E07A Sunnyside 83.45 35 ⇓P P 13 14 22.7 +0.2
baz=84
MSU Marysvale 83.48 45 *eP* **P 13 14 23.4 +0.5**
HAWA Hanford 83.52 35 *eP* **P 13 14 22.4 -0.4**
comp=Z,40nm,1.4s,mb5.0
H09A Durkee 83.52 38 ⇑P P 13 14 22.8 -0.1
baz=84,SNR=8.4
L12A House Creek Ra 83.64 41 ⇓P P 13 14 24.1 +0.5
baz=84
W19A Sanders 83.66 49 P P 13 14 24.9 +1.0
baz=84,SNR=12
I10A Payette 83.68 39 ⇑P P 13 14 24.3 +0.5
baz=84
GBL Gable Mountain 83.69 35 P P 13 14 25.0 +1.3
M13A Montello 83.73 42 P P 13 14 24.1 0.0
baz=84,SNR=20
G09A Cove 83.82 37 ⇓P P 13 14 24.1 -0.3
baz=84
BMO Blue Mountains 83.84 38 *eP* **P 13 14 23.5 -1.1**
BMO pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
BMO Blue Mountains 83.84 38 *eP* **P 13 14 23.5 -1.0**
comp=Z,3.9nm,0.6s,mb4.3
E08A Dider Farm, El 83.84 36 ⇓P P 13 14 24.7 +0.2
baz=84
MFID Camas Ranch 83.87 39 P P 13 14 24.6 -0.2
baz=84,SNR=12
MA2 Magadan 83.94 344 *eP* **P 13 14 23.5 -1.2**
MA2 pmax pmax
comp=Z,1.0nm,0.7s,mb3.6
MA2 Magadan 83.94 344 *eP* **P 13 14 23.6 -1.0**
comp=Z,3.2nm,0.6s,mb4.2
DUG Dugway 83.96 43 *eP* **P 13 14 24.2 -1.1**
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
DUG Dugway 83.96 43 *eP* **P 13 14 24.2 -1.1**
comp=Z,2.7nm,0.8s,mb4.0
DUG Dugway 83.96 43 ⇑P P 13 14 24.7 -0.5
baz=84
K12A Draper Farm, C 83.98 40 ⇓P P 13 14 25.1 -0.3
baz=84,SNR=6.3
H10A Noah's Angus R 84.01 38 P P 13 14 24.9 -0.5
baz=84,SNR=19
C07A Waterville 84.04 34 ⇓P P 13 14 24.8 -0.7
baz=84,SNR=7.5
I11A Placerville 84.08 39 ⇑P P 13 14 25.4 -0.4
baz=84,SNR=10.0
G10A Bishop Farm, J 84.20 37 ⇓P P 13 14 25.8 -0.6
baz=84,SNR=11
J12A Stokes Ranch, 84.21 40 ⇑P P 13 14 26.3 -0.2
baz=84,SNR=18
PMR Palmer 84.22 13 *eP* **P 13 14 24.8 -1.3**
PMR pmax pmax
comp=Z,7.0nm,0.4s,mb4.7
PMR Palmer 84.22 13 *eP* **P 13 14 24.8 -1.3**
comp=Z,6.7nm,0.4s,mb4.7
D08A Wollman Farm, 84.26 35 P P 13 14 26.7 0.0
baz=84,SNR=11
L13A Double Diamond 84.27 41 ⇓P P 13 14 26.9 +0.1
baz=84
M14A Sheep Mountain 84.32 42 P P 13 14 27.0 -0.1
baz=84,SNR=17
E09A Wood Farm, Sta 84.36 36 ⇑P P 13 14 26.7 -0.4
baz=84
B07A Winthrop 84.49 34 ⇑P P 13 14 27.4 -0.4
baz=85,SNR=7.6
K13A Stover Farm, H 84.49 41 ⇓P P 13 14 28.0 +0.1
baz=85,SNR=10.0
H11A Donnelly 84.50 38 P P 13 14 27.6 -0.3
baz=85,SNR=15
DIV Divide 84.53 14 *eP* **P 13 14 27.1 -0.6**
comp=Z,29nm,1.1s,mb4.9
F10A Beach Ranch, E 84.54 37 P P 13 14 27.5 -0.6
baz=85,SNR=16
D09A Jones Farm, Ri 84.59 35 ⇓P P 13 14 28.2 -0.1
baz=85,SNR=6.8
C08A Higginbotham F 84.64 35 ⇓P P 13 14 28.0 -0.5
baz=85,SNR=6.8
A07A Ashnola River, 84.72 33 ⇓P P 13 14 28.9 0.0
baz=85,SNR=5.4
G11A Walters Elk Ra 84.75 38 P P 13 14 28.7 -0.5
baz=85,SNR=21
HLID Hailey 84.80 40 P P 13 14 29.6 +0.1
baz=85,SNR=22
B08A Colville Reser 84.84 34 P P 13 14 28.8 -0.7
baz=85,SNR=13
J13A Cove Ranch, Pi 84.85 40 P P 13 14 29.9 +0.2
baz=85,SNR=12
M15A Larsen Ranch, 84.87 42 ⇓P P 13 14 30.0 +0.2
baz=85
SRU San Rafael 84.89 45 *eP* **P 13 14 29.7 -0.3**
SRU pmax pmax
comp=Z,19nm,1.1s,mb4.7
SRU San Rafael 84.89 45 *eP* **P 13 14 29.7 -0.3**
comp=Z,19nm,1.1s,mb4.7
E10A Myers Farm, Un 84.91 36 ⇑P P 13 14 29.9 0.0
baz=85
MNTX Cornudas Mount 84.98 54 *eP* **P 13 14 30.4 -0.3**
comp=Z,14nm,0.8s,mb4.8
K14A Jones Ranch, D 85.00 41 P P 13 14 30.7 +0.3
baz=85,SNR=7.2
C09A Chrisman Ranch 85.06 35 ⇑P P 13 14 30.5 -0.1
baz=85
DAU Daniels Canyon 85.08 44 *eP* **P 13 14 31.2 +0.3**
H12A Diamond D Ranc 85.09 39 P P 13 14 30.5 -0.4
baz=85,SNR=11
F11A Grangeville 85.10 37 ⇑P P 13 14 29.4 -1.5
baz=85
D10A Wagner Farm, O 85.16 36 P P 13 14 30.4 -0.7
baz=85,SNR=11
I13A Wildhorse Cree 85.17 40 P P 13 14 31.7 +0.4
baz=85,SNR=6.8
A08A Turner Farm, O 85.24 34 P P 13 14 31.3 -0.2
baz=85,SNR=12
TXAR Lajitas Array 85.25 57 P P 13 14 31.9 -0.1
TXAR pP pP 13 15 29.0 +23
TXAR Lajitas Array 85.25 57 P P 13 14 31.9 -0.1
comp=Z,8.8nm,0.8s,mb4.5,baz=215,slow=8.0,SNR=84
TXAR pP pP 13 15 29.0 +23
comp=Z,0.3nm,0.6s,baz=224,slow=2.5,SNR=0.9
MVCO Mesa Verde 85.32 48 P P 13 14 32.0 -0.2
baz=85
E11A Bogner Ranch, 85.34 37 ⇓P P 13 14 30.7 -1.4
baz=86,SNR=5.6
B09A Rice 85.50 34 P P 13 14 32.3 -0.5
baz=86,SNR=9.0
F12A Elk City 85.54 38 P P 13 14 32.6 -0.5
baz=86,SNR=14
A09A Danville 85.61 34 P P 13 14 33.0 -0.3
baz=86,SNR=12
D11A Klaveano Farm, 85.67 36 P P 13 14 32.8 -0.9
baz=86,SNR=6.3
ANMO Albuquerque 85.68 51 *eP* **P 13 14 33.9 -0.1**
ANMO pmax pmax
comp=Z,9.0nm,0.9s
ANMO Albuquerque 85.68 51 *eP* **P 13 14 33.9 -0.2**
comp=Z,9.0nm,0.9s,mb4.5
PV01 Paradox Valley 85.72 47 *eP* **P 13 14 33.7 -0.5**
G13A Cobalt 85.76 39 ⇑P P 13 14 33.7 -0.5
baz=86
NEW Newport 85.96 35 *eP* **P 13 14 33.7 -1.4**
NEW pmax pmax
comp=Z,3.0nm,0.7s
NEW Newport 85.96 35 *eP* **P 13 14 33.6 -1.4**
comp=Z,2.8nm,0.7s,mb4.1
F13A Darby 86.09 38 ⇑P P 13 14 34.9 -0.9
baz=86
MCK McKinley 86.20 12 *eP* **P 13 14 34.8 -1.1**
MCK pmax pmax
comp=Z,39nm,0.9s,mb5.1
MCK McKinley 86.20 12 *eP* **P 13 14 34.8 -1.1**
comp=Z,39nm,0.9s,mb5.1
D12A Red Ives Fores 86.23 37 ⇓P P 13 14 35.7 -0.7
baz=86
MCMT McKenzie Canyo 86.44 39 *eP* **P 13 14 37.3 -0.2**
SEY Seymchan 86.45 346⇑ *eP* **P 13 14 36.4 -0.7**
B11A Sandpoint 86.47 35 P P 13 14 37.1 -0.5
baz=87,SNR=12
E13A Victor 86.54 38 ⇓P P 13 14 37.1 -0.9
baz=87
D13A Huson 86.75 37 ⇓P P 13 14 37.8 -1.2
baz=87,SNR=5.5
A11A Hall Mountain, 86.77 35 ⇑P P 13 14 39.1 +0.1
baz=87,SNR=9.0
G15A Dillon 86.83 39 ⇓P P 13 14 39.1 -0.3
baz=87,SNR=8.2
E14A Clinton 86.93 38 ⇓P P 13 14 39.5 -0.4
baz=87,SNR=7.5
C13A Hot Springs 87.02 36 ⇓P P 13 14 39.3 -1.0
baz=87
IMW Indian Meadow 87.10 41 *eP* **P 13 14 39.8 -1.0**
comp=Z,3.7nm,0.6s,mb4.4
D14A Greenough 87.29 37 P P 13 14 40.4 -1.1
baz=87,SNR=5.9
SMCO Snowmass 87.32 47 *eP* **P 13 14 41.5 -0.5**
comp=Z,10nm,0.9s,mb4.7
CHMT Chamberlain Mo 87.34 38 *eP* **P 13 14 40.5 -1.4**
COLA College 87.44 12 *i*⇓*P* **P 13 14 40.6 -1.2**
COLA College 87.44 12 *eP* **P 13 14 40.5 -1.3**
comp=Z,15nm,0.8s,mb4.9
B13A Whitefish 87.47 36 P P 13 14 41.5 -0.9
baz=88,SNR=5.5
SYO Syowa Base 87.51 192⇑ *eP* **P 13 14 40.3 -2.1**
C14A Swan Lake 87.53 37 ⇓P P 13 14 41.4 -1.3
baz=88
IMA2 Indian Mountai 87.56 9 *eP* **P 13 14 41.7 -0.7**
BOZ Bozeman (W) 87.60 39 *eP* **P 13 14 42.6 -0.5**
BOZ pmax pmax
comp=Z,7.0nm,1.2s,mb4.4
BOZ Bozeman (W) 87.60 39 *eP* **P 13 14 42.6 -0.5**
comp=Z,6.7nm,1.2s,mb4.3
BOZ Bozeman (W) 87.60 39 ⇑P P 13 14 42.3 -0.8
baz=88
SDCO Great Sand Dun 87.67 48 *eP* **P 13 14 42.9 -0.7**
comp=Z,4.8nm,1.1s,mb4.2
D15A Lincoln 87.83 38 ⇓P P 13 14 43.6 -0.6
baz=88,SNR=8.3
HRY Holter Researc 88.05 38 *eP* **P 13 14 44.2 -1.0**
GYA Guiyang 88.12 299 *eP* **P 13 14 46.8 +0.8**
GYA AP pP 13 15 22.4 +2.5
GYA XP sP 13 15 37.6 +3.8
GYA PP PP 13 18 17.2 +2.2
GYA SKS 13 24 59.8
GYA S S 13 25 16.6 -2.8
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
GYA AMB AMB
comp=Z,70nm,6.8s
GYA LR LR
comp=N,320nm,21.0s
GYA LR LR
comp=E,280nm,20.4s
GYA LR LR
comp=Z,470nm,22.5s
WALA Waterton Lakes 88.16 36 *eP* **P 13 14 44.8 -0.8**
comp=Z,8.3nm,0.8s,mb4.6
SNAA Sanae 88.33 178 *i P* **P 13 14 43.7 -2.5**
DAWY Dawson 88.58 15 *eP* **P 13 14 46.9 -0.4**
GCMT Greycliff 88.85 40 *eP* **P 13 14 49.0 0.0**
BILL Bilibino 88.86 353⇓ *eP* **P 13 14 47.6 -0.9**
BILL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BILL Bilibino 88.86 353 *eP* **P 13 14 47.2 -1.3**
comp=Z,2.7nm,0.6s,mb4.3
HIA Hailar 89.50 324 *i P* **P 13 14 53.2 +1.3**
HHC Hu-ho-hao-te 90.46 314 *eP* **P 13 14 57.1 +0.5**
HHC AP pP 13 15 33.2 +2.7
HHC XP sP 13 15 47.3 +2.9
HHC PP PP 13 18 36.4 +3.1
HHC SKS 13 25 13.5
HHC S S 13 25 37.4 -3.1
HHC XS sS 13 26 40.8 +1.7
HHC SS SS 13 31 46.4 +1.7
HHC AMB AMB
comp=Z,26nm,1.0s,mb5.1
HHC AMB AMB
comp=Z,169nm,6.5s
HHC LR LR
comp=N,227nm,21.2s
HHC LR LR
comp=E,336nm,18.9s
HHC LR LR
comp=Z,200nm,19.8s
KMI Kunming 90.88 296 P P 13 14 58.2 -0.8
KMI AMB AMB
comp=Z,6.0nm,0.8s,mb4.7
CD2 Chengdu 92.19 302 *eP* **P 13 15 05.0 +0.1**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,20nm,8.4s
INK Inuvik 93.41 15 *eP* **P 13 15 08.5 -1.1**
LZH Lanzhou 94.06 307 P P 13 15 14.3 +0.9
LZH AP pP 13 15 50.4 +3.1
LZH XP sP 13 16 05.5 +4.3
LZH *ePP* PP 13 19 05.7 +4.0
LZH AMB AMB
comp=Z,20nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,126nm,6.3s
LZH LR LR
comp=N,176nm,18.2s
LZH LR LR
comp=Z,203nm,19.6s
YKA Yellowknife Ar 95.38 24 P P 13 15 17.5 -1.2
comp=Z,2.3nm,0.7s,mb4.5,baz=241,slow=4.6,SNR=34
YKA PKKPbc PKKPbc 13 32 09.1 -4.4
comp=Z,0.3nm,0.5s,baz=37,slow=2.2,SNR=7.9
ECSD EROS,Sioux Fal 96.30 46 *eP* **P 13 15 21.8 -1.6**
comp=Z,17nm,1.3s,mb5.2
ZALV Zalesovo Beam 111.39 321 PKiKP PKiKP 13 20 25.9 -2.1
comp=Z,1.6nm,0.7s,baz=143,slow=3.1,SNR=5.2
ZAL Zalesovo 111.40 321 PKiKP PKiKP 13 20 26.0 -2.1
MKAR Makanchi Array 112.32 313 PKPdf PKiKP 13 20 28.1 -2.0
MKAR PKKPbc PKKPbc 13 31 18.9 -3.0
MKAR Makanchi Array 112.32 313 PKiKP PKiKP 13 20 28.1 -2.0
comp=Z,1.2nm,0.5s,baz=200,slow=0.7,SNR=23
MKAR PKKPbc PKKPbc 13 31 18.9 -3.0
comp=Z,0.5nm,0.7s,baz=304,slow=2.4,SNR=4.4
KURK Kurchatov 115.00 317 *i* PKiKP PKiKP 13 20 32.8 -2.2
TKM2 Tokmak 2 116.76 309 *e*PKiKP PKPdf 13 20 37.0 -1.7
BVAR Borovoye Array 120.01 320 PKP PKPdf 13 20 43.2 -1.4
comp=Z,3.2nm,0.7s,baz=56,slow=0.5,SNR=15
BOSA Boshof 127.40 204 PKP PKPdf 13 20 59.5 -0.1
comp=Z,1.7nm,0.6s,baz=235,slow=17,SNR=7.2
AKTO Aktyubinsk 128.04 319 PKP PKPdf 13 20 59.4 -0.7
comp=Z,2.0nm,0.7s,baz=110,slow=3.7,SNR=5.5
ARCES ARCESS Array B 128.87 350 PKP PKPdf 13 20 59.9 -1.3
comp=Z,1.5nm,0.4s,baz=32,slow=0.6,SNR=26
JOF Joensuu 133.33 343 *ep* PKPdf 13 21 06.4 -3.3
comp=Z,3.3nm,0.5s
JOF Joensuu 133.33 343 *e*PKIKP PKPdf 13 21 06.4 -3.3
JOF pmax pmax
comp=Z,3.0nm,0.5s
FINES FINESS Array B 135.92 345 PKhKP 13 21 01.8
comp=Z,1.4nm,0.9s,baz=48,slow=2.8,SNR=4.2
FINES PKP PKPdf 13 21 12.1 -2.6
comp=Z,1.4nm,0.6s,baz=90,slow=3.8,SNR=6.3
NB2 NORSAR Subarra138.80 355 PKPdf PKPdf 13 21 17.8 -2.2
comp=Z,4.6nm,1.2s,baz=10,slow=1.9
NB2 NORSAR Subarra138.80 355 PKhK 13 21 09.9
comp=Z,0.4nm,0.7s,baz=10,slow=1.9
NOA NORSAR Array B 138.80 355 PKP PKPdf 13 21 20.9 +0.9
comp=Z,1.5nm,0.8s,baz=14,slow=4.0,SNR=6.2
HFS Hagfors 139.43 353 PKhKP 13 21 10.9
comp=Z,1.3nm,0.4s,baz=96,slow=4.5,SNR=16
KAC Achnashellach 142.04 8 *eP* PKPdf 13 21 18.9 -7.0
MCD Coleburn Disti 142.20 6 *eP* PKPdf 13 21 19.4 -6.8
MDO Dochfour 142.21 7 *eP* PKPdf 13 21 20.5 -5.7
EAB Aberfoyle 143.44 8 *eP* PKPdf 13 21 24.8 -3.7
EBH Black Hill 143.48 7⇑ *eP* PKPdf 13 21 24.0 -4.5
MUD Monsted U'grnd 143.51 355 *i* PKHKP 13 21 24.9
MUD pmax pmax
comp=Z,10.0nm,0.5s
MUD Monsted U'grnd 143.51 355 *i* P PKPdf 13 21 24.9 -3.6
comp=Z,9.6nm,0.5s
AKASG Malin Array Be 143.57 333 *i* PKIKP PKPdf 13 21 31.7 +2.9
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 143.57 333 PKhKP 13 21 24.8
comp=Z,3.7nm,0.3s,baz=40,slow=4.4,SNR=48
KIEV Kiev 143.58 333 *e*PKHKP 13 21 24.5
EAU Auchinoon 143.88 7 *eP* PKPdf 13 21 25.8 -3.4
ESY Stoneypath 143.91 6 *eP* PKPdf 13 21 24.6 -4.7
EBL Broad Law 144.00 7 *eP* PKPdf 13 21 25.8 -3.6
BSD Bornholm Skovb 144.10 349⇑ *i*PKHKP 13 21 26.2
BSD pmax pmax
comp=Z,13nm,0.6s
BSD Bornholm Skovb 144.10 349⇑ *i*P PKPdf 13 21 26.2 -3.4
comp=Z,13nm,0.6s
XSO Sourhope Farm 144.36 6 *eP* PKPdf 13 21 27.4 -2.7
ESK Eskdalemuir 144.43 7 *eP* PKPdf 13 21 27.4 -2.8
ESK AMb AMB 13 21 32.5
comp=Z,55nm,1.7s
GAL1 Galloway 144.68 9 *eP* PKPdf 13 21 28.4 -2.2
GAL1 AMb AMB 13 21 29.1
comp=Z,64nm,0.9s
SIM Simferopol' 144.90 322 *ce*PKHKP 13 21 30.7
SIM pmax pmax
comp=Z,55nm,0.7s
XAL Allendale 144.99 6⇑ *eP* PKPdf 13 21 29.4 -1.7
CKE Keswick 145.16 7 *eP* PKPbc 13 21 29.9 -1.4
MALT Malatya 145.19 309 *e*PKPdf PKPdf 13 21 32.1 +0.1
MALT Malatya 145.19 309⇑ *i*P PKPbc 13 21 32.5 +0.5
BSEG Bad Segeberg 145.90 353 *e*PKPbc PKPbc 13 21 32.8 -0.8
HPK Haverah Park 145.94 6 *eP* PKPdf 13 21 31.5 -1.3
HPK AMb AMB 13 21 40.7
comp=Z,141nm,2.0s
LHO Holmfirth 146.32 6 *eP* PKPdf 13 21 33.7 +0.2
LVV L'vov 146.35 336 *e*PKHKP 13 21 34.0
SBD1 Bryn Du 146.79 8 *eP* PKPdf 13 21 35.1 +0.8
KWE Weaver Farm 146.85 6 *eP* PKPdf 13 21 33.6 -0.8
KWP Kalwaria 146.99 338 *e*PKHKP 13 21 36.1
KWP Kalwaria 146.99 338⇑ *i*P PKPdf 13 21 34.9 +0.2
CWF Charnwood Fore 147.18 6 *eP* PKPdf 13 21 35.1 +0.2
CWF AMb AMB 13 21 39.0
comp=Z,40nm,1.6s
OJC Ojcow 147.46 341 *e*PKP PKPdf 13 21 37.4 +1.9
HTR Trewern Hill 147.59 8 *eP* PKPbc 13 21 37.9 -0.6
BURAR Bucovina Array 147.63 333⇑ *i*P PKPbc 13 21 39.4 +0.7
STHS Stebnicka Huta 147.69 339 *e*PKP PKPbc 13 21 38.5 -0.3
STHS *e* 13 21 43.0
MCH1 Michaelchurch 147.71 8⇑ *eP* PKPdf 13 21 37.0 +1.2
MCH1 ⇑*eP* 13 21 37.0
MCH1 AMb AMB 13 21 41.5
comp=Z,51nm,1.8s
KOLS Kolonicke sedl 147.73 337 *e*PKP PKPbc 13 21 38.5 -0.5
KOLS *e* 13 21 41.8
KSP Ksiaz 147.84 345 *e*PKIKP PKPbc 13 21 38.5 -0.7
SSW Stow on the Wo 147.88 7 *eP* PKPdf 13 21 37.8 +1.6
CLZ Clausthal 147.95 353 *e*PKPbc PKPbc 13 21 38.8 -0.7
UZH Uzhgorod 147.98 337⇓ *i*PKIKP PKPbc 13 21 39.1 -0.5
CRVS Cervenica-Dubn 148.05 338 *e*PKP PKPbc 13 21 39.2 -0.6
CRVS *e* 13 21 43.0
CLL Collm 148.08 349⇑ *i*PKIKP PKPbc 13 21 39.0 -0.8
CLL *i* 13 21 42.1
CLL pmax pmax
comp=Z,18nm,0.6s
CLL pmax pmax
comp=Z,20nm,0.8s
CLL Collm 148.08 349 *e*PKPbc PKPbc 13 21 38.8 -1.0
CLL Collm 148.08 349⇑ *i*PKPbc PKPbc 13 21 39.0 -0.8
comp=Z,18nm,0.6s
CLL ⇓*i*PKPab PKPab 13 21 42.1 -0.8
comp=Z,20nm,0.8s
HGH Gray Hill 148.09 8 *eP* PKPdf 13 21 38.0 +1.5
UPC Upice 148.22 345 *e*PKPbc PKPbc 13 21 39.8 -0.4
VRI Vrincioaia 148.25 329⇑ *i*P PKPbc 13 21 40.1 -0.3
ASF Jabal al Asfar 148.27 299 PKPbc PKPbc 13 21 41.3 +0.3
comp=Z,11nm,0.7s,baz=334,slow=3.6,SNR=17
OKC Ostrava-Krasne 148.28 343 *e*PKPbc PKPbc 13 21 40.3 -0.1
DPC Dobruska-Polom 148.29 345 *e*PKPbc PKPbc 13 21 40.2 -0.2
DPC *e*PKPab PKPab 13 21 44.0 +0.2
TRPA Tarpa 148.30 336⇓ *i*P PKPdf 13 21 39.7 +2.7
BRG Berggiesshubel 148.32 348 *e*PKPbc PKPbc 13 21 39.6 -0.9
BRG Berggiesshubel 148.32 348 *e*PKP PKPdf 13 21 39.9 +3.0
comp=Z,11nm,0.6s
BRG *i* 13 21 43.3
comp=Z,10.0nm,0.8s
BRG *e* 13 22 32.2
comp=Z,5.5nm,1.0s
BRG
comp=Z,267nm,26.2s
BRG
comp=N,214nm,28.8s
BRG
comp=E,220nm,28.8s
TIRR Tirgusor 148.38 326⇓ *i*P PKPbc 13 21 40.3 -0.5
FBE Freiberg 148.39 349 *e*PKPbc PKPbc 13 21 40.1 -0.5
ANTO Ankara 148.46 315 *e*PKPbc PKPbc 13 21 40.8 -0.5
ANTO Ankara 148.46 315⇓ *i*P PKPbc 13 21 41.5 +0.3
HARR Harsova 148.48 326⇑ *i*P PKPbc 13 21 40.8 -0.3
MORC Moravsky Berou 148.50 343 *e*PKPdf PKPdf 13 21 36.1 -1.1
MORC *e*PKPbc PKPbc 13 21 40.6 -0.3
MORC Moravsky Berou 148.50 343 *i*P PKPbc 13 21 40.7 -0.3
BUG Bochum–Univer 148.63 356 *e*PKPbc PKPbc 13 21 39.9 -1.3
MLR Muntele Rosu 148.90 329 PKPbc PKPbc 13 21 41.2 -0.9
comp=E,9.1nm,0.7s,baz=334,slow=8.4,SNR=19
MLR Muntele Rosu 148.90 329 *i*P PKPbc 13 21 41.2 -0.9
MOX Moxa 148.95 351 *e*PKP PKPdf 13 21 41.4 +3.5
MOX Moxa 148.95 351 *e*PKPbc PKPbc 13 21 40.9 -1.2
UBBA Unterbreizbach 149.00 353 *e*PKPbc PKPbc 13 21 40.8 -1.4
WERD Werda 149.03 350 *e*PKPbc PKPbc 13 21 41.2 -1.1
TANN Tannenbergstha 149.03 349 *e*PKPbc PKPbc 13 21 41.4 -0.9
PRU Pruhonice 149.04 347 *e*PKPbc PKPbc 13 21 41.8 -0.5
PRU *e*PKPab PKPab 13 21 46.9 +0.1
GUNZ Gunzen 149.11 350 *e*PKPbc PKPbc 13 21 41.9 -0.6
WERN Wernitzgruen 149.17 350 *e*PKPbc PKPbc 13 21 41.9 -0.7
VRAC Vranov 149.19 344 PKPbc PKPbc 13 21 42.1 -0.6
comp=E,6.5nm,0.8s,baz=270,slow=2.3,SNR=7.0
VRAC Vranov 149.19 344 *i*P PKPbc 13 21 42.4 -0.3
NKC Novy Kostel 149.21 349 *e*PKPbc PKPbc 13 21 42.1 -0.6
NKC *e*PKPab PKPab 13 21 47.0 -0.5
VYHS Vyhne 149.28 341 *e*PKP PKPbc 13 21 42.5 -0.5
VYHS *e* 13 21 47.8
DRGR 149.32 334⇓ *i*P PKPbc 13 21 42.8 -0.3
VOIR 149.36 330⇑ *i*P PKPbc 13 21 42.1 -1.2
PSZ Piszkesteto 149.43 339 *e*PKPbc PKPbc 13 21 42.0 -1.4
PSZ Piszkesteto 149.43 339⇑ *i*P PKPbc 13 21 42.6 -0.8
MANZ Manzenberg 149.51 350 *e*PKPbc PKPbc 13 21 42.8 -0.7
MEM Membach 149.53 358 PKPbc PKPbc 13 21 42.6 -0.9
ROTZ Rotzenmuhle 149.70 349 *e*PKPbc PKPbc 13 21 43.1 -0.9
BCLA Clavier 149.74 358 PKPab PKPab 13 21 48.6 -1.1
MODS Modra-Piesok 149.85 342 *e*PKP PKPbc 13 21 44.3 -0.1
GRF Grafenberg Arr 149.94 351 *e*PKPbc PKPbc 13 21 44.1 -0.4
KHC Kasperske Hory 150.06 347 *e*PKPbc PKPbc 13 21 44.3 -0.5
KHC *e*PKPab PKPab 13 21 51.3 +0.3
ZST Bratislava 150.06 342 *e*PKP PKPbc 13 21 45.0 +0.1

GIVF	Givet	150.07	359	*e*PKP1	PKPbc	13 21 44.1	-0.7
	comp=E,23nm,0.6s						
DOU	Dourbes	150.08	359	PKPbc	PKPbc	13 21 44.0	-0.8
DOU				PKPab	PKPab	13 21 50.0	-1.1
BAIF	Baives	150.12	360	*e*PKP1	PKPbc	13 21 44.3	-0.7
	comp=E,49nm,1.0s						
WET	Wettzell	150.18	348	*e*PKPbc	PKPbc	13 21 44.2	-0.9
CSS	Prodhromos	150.24	306	*e*PKPbc	PKPbc	13 21 44.6	-1.1
GEC2	GERESS Array S	150.30	347	*e*PKPbc	PKPbc	13 21 44.4	-1.0
GERES	GERESS Array B	150.30	347	PKPbc	PKPbc	13 21 44.8	-0.7
	comp=E,10nm,0.8s,baz=42,slow=2.2,SNR=42						
GZR	Gura Zlata	150.42	333	⇑*i*P	PKPbc	13 21 44.7	-1.1
WLF	Walferdange	150.47	357	PKPbc	PKPbc	13 21 45.7	-0.1
WLF				PKPab	PKPab	13 21 55.5	+2.8
WLF	Walferdange	150.47	357	*e*PKPbc	PKPbc	13 21 44.3	-1.5
CONA	Conrad Observa	150.65	344	⇑*i*PKPdf	PKPdf	13 21 40.1	-0.6
	comp=E,1.4nm,0.6s						
CONA				⇑*i*PKiKP	PKiKP	13 21 45.9	-1.0
	comp=E,11nm,0.7s						
BZS	Buzias	150.72	334	⇓*i*P	PKPbc	13 21 45.2	-1.3
STU	Stuttgart	151.11	353	*e*PKPbc	PKPbc	13 21 46.5	-0.8
MOA	Molln	151.12	346	⇑*i*P	PKPdf	13 21 41.9	+0.5
	comp=E,1.0nm,0.5s						
MOA				⇑*i*		13 21 46.5	
	comp=E,4.5nm,0.6s						
MOA	Molln	151.12	346	⇑*i*PKPdf	PKPdf	13 21 39.6	-1.8
	comp=E,1.0nm,0.5s						
MOA				⇑*i*PKPbc	PKPbc	13 21 46.5	-0.9
	comp=E,4.5nm,0.6s						
FLN	La Foliniere	151.19	6	*e*PKP1	PKPbc	13 21 46.3	-1.2
	comp=E,29nm,0.6s						
ROSF	Rostrenen	151.23	10	*e*PKP1	PKPbc	13 21 46.1	-1.5
	comp=E,30nm,0.9s						
PKSM	Moragy	151.34	339	⇑*i*P	PKPbc	13 21 46.6	-1.4
LDF	La Druitiere	151.39	6	*e*PKP1	PKPbc	13 21 46.6	-1.4
	comp=E,24nm,0.6s						
FUR	Furstenfeldbru	151.41	350	*e*PKPbc	PKPbc	13 21 46.9	-1.1
SGMF	Saint Gilles	151.43	9	*e*PKP1	PKPbc	13 21 46.7	-1.4
	comp=E,21nm,0.6s						
GRR	Gorron	151.52	7	*e*PKP1	PKPbc	13 21 47.2	-1.1
	comp=E,33nm,0.5s						
BFO	Black Forest	151.64	354	*e*PKPbc	PKPbc	13 21 47.1	-1.5
CDF	Champ du Feu	151.65	355	*e*PKP1	PKPbc	13 21 47.9	-0.7
	comp=E,24nm,0.7s						
MEZF	Maizieres J'vi	151.67	359	*e*PKP1	PKPbc	13 21 48.0	-0.6
	comp=E,25nm,0.7s						
HAU	Haudompre	152.11	357	*e*PKP1	PKPbc	13 21 48.7	-0.9
	comp=E,23nm,0.6s						
HINF	Hinteralfeld	152.27	356	*e*PKP1	PKPbc	13 21 48.9	-1.1
	comp=E,14nm,0.6s						
HYF	Humbligny	152.89	2	*e*PKP1	PKPbc	13 21 50.9	-0.5
LOR	Lormes	152.91	0	*e*PKP1	PKPbc	13 21 50.5	-1.0
	comp=E,19nm,0.7s						
DAVOX	Davos/Dischmat	152.98	351	PKPbc	PKPbc	13 21 51.0	-0.6
	comp=E,9.0nm,0.6s,baz=227,slow=3.5,SNR=13						
SSF	Saint Saulge	153.12	1	*e*PKP1	PKPbc	13 21 51.1	-0.8
	comp=E,17nm,0.9s						
MFF	Saint Martin d	153.36	6	*e*PKP1	PKPbc	13 21 51.2	-1.3
	comp=E,6.1nm,0.5s						
AVF	Avril sur Loir	153.39	1	*e*PKP1	PKPbc	13 21 51.2	-1.3
CABF	La Chapelle	153.52	357	*e*PKP1	PKPbc	13 21 52.4	-0.4
	comp=E,19nm,0.9s						
BGF	Bois d'Agland	153.61	2	*e*PKP1	PKPbc	13 21 51.9	-1.1
	comp=E,12nm,0.5s						
TCF	Toulx Ste Croi	153.85	3	*e*PKP1	PKPbc	13 21 52.3	-1.2
	comp=E,8.7nm,0.6s						
LPG	La Plagne	154.59	356	*e*PKP1	PKPbc	13 21 55.1	0.0
RJF	Les Rejaudoux	154.79	4	*e*PKP1	PKPbc	13 21 55.1	-0.5
ORIF	Oris-en-Rattie	155.22	357	*e*PKP1	PKPdf	13 21 54.8	+7.4
VIVF	Saint-Julien-l	155.32	359	*e*PKP1	PKPdf	13 21 56.0	+8.4
MBDF	Montbardon	155.35	355	*e*PKP1	PKPdf	13 21 56.2	+8.6
LASF	Ste Croix	156.11	0	*e*PKP1	PKPdf	13 21 55.7	+7.0
	comp=E,16nm,1.1s						
MTLF	Montolieu	156.79	3	*e*PKP1	PKPdf	13 21 58.7	+9.1
ESDC	Sonseca Array	159.33	18	PKPab	PKPab	13 22 30.5	-0.3
	comp=E,2.4nm,0.6s,baz=329,slow=3.7,SNR=16						
TORD	Torodi Ar. Bea	172.72	162	PKP	PKPdf	13 22 01.1	-3.0
	comp=E,1.5nm,0.9s,baz=327,slow=1.2,SNR=4.2						
TORD				PKPab	PKPab	13 23 29.1	-1.1
	comp=E,1.0nm,0.7s,baz=175,slow=3.9,SNR=3.9						

CSEM ***12*** *13:06:39.9±0.1, 3640N×3567E, h5km, Mw3.4, Error ellipse: s-maj=1.6km s-min=1.2km az=79.0*
ISCJB ***12*** *13:06:40.5±0.4, 3640N±001×3564E±002, h9km±3km, mb3.3/2, Error ellipse: s-maj=2.8km s-min=2.4km az=5.7*
NEIC ***12*** *13:06:40.0, 3639N×3563E, h8km, ML3.8(ISK), After ISK.*
ISK ***12*** *13:06:40.0, 3638N×3564E, h6km, MD3.9*
IDC ***12*** *13:06:40.7±1.5, 3645N×3554E, h0km, mb3.5/3, mb1 3.8/8, mb1mx3.5/24, mbtmp3.6/8, ML3.7/5, MS3.1/1, Ms1 3.1/1, ms1mx2.7/35, Error ellipse: s-maj=34.9km s-min=17.2km az=82.0*
NIC ***12*** *13:06:41.5±0.5, 3724N×3497E, h40km, mb4.2, ML3.9, MW3.4*
NSSC ***12*** *13:06:41.0, 3642N×3569E, h8km±1km*
DDA ***12*** *13:06:41.1, 3634N×3566E, h2km±1km, Md3.6*
GRAL ***12*** *13:06:42.6±0.5, 3636N×3568E, h0km±999km, MD3.7*
GII ***12*** *13:06:44.6±0.6, 3646N×3558E, h25km±6km, mb4.3/7, ML4.2/7*

ISC 12 13:06:41.2±0.4, 3641N±001×3565E±002, h5km±3km, n98, σ1§03/147, mb3.3/2, 9D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HTY	Hatay	0.49	126	*e*PG	Pg	13 06 49.9	-0.8
HTY				*e*SG	Sg	13 06 57.1	0.0
COBT	Iskenderun	0.50	78	*i* P	Pg	13 06 50.6	-0.3
COBT				*i* S	Sg	13 06 57.9	+0.5
CEYT	Ceyhan	0.60	8	*e*PG	Pg	13 06 52.6	-0.2
CEYT				*e*SG	Sg	13 07 02.3	+1.7
ARNB	Al Arnab	0.61	154	⇑P	Pg	13 06 52.6	-0.4
ARNB				⇓S	Sg	13 07 01.5	+0.6
BTCH	Batrach	0.76	120	⇑P	Pg	13 06 54.3	-1.5
BTCH				⇑S	Sg	13 07 06.6	+1.0
BTCH	Batrach	0.76	120	⇑*i*P	Pg	13 06 54.3	-1.4
BTCH				⇑*i*S	Sg	13 07 06.6	+1.1
DRWC	Darouich	0.85	76	⇑P	Pg	13 06 56.5	-1.0
DRWC				⇑S	Sg	13 07 08.7	+0.2
DRWC	Darouich	0.85	76	⇑*i*P	Pg	13 06 56.5	-1.0
DRWC				⇑*i*S	Sg	13 07 08.7	+0.2
SLNF	Slenfeh	0.94	150	⇑P	Pg	13 06 58.4	-0.9
SLNF				⇓S	Sg	13 07 12.5	+1.0
SLNF	Slenfeh	0.94	150	⇑*i*P	Pg	13 06 58.4	-0.9
SLNF				⇓*i*S	Sg	13 07 12.5	+1.0
KARA	Karaisali	0.97	331	*e*PG	Pg	13 06 58.7	-1.1
MERS	Mersin	1.01	297	*e*PG	Pg	13 06 59.6	-1.0
KOZT	Kozan	1.07	8	*e*PN	Pn	13 07 01.8	-1.1
WRDH	Warideh	1.10	145	⇑P	Pg	13 07 01.3	-0.9
WRDH	Warideh	1.10	145	⇑*i*P	Pg	13 07 01.3	-0.9
ANDN	Andirin	1.29	25	*i* P	Pn	13 07 05.7	-0.2
ANDN				*i* S	Sg	13 07 23.9	+1.1
GAZ	Gaziantep	1.47	58	*e*PN	Pn	13 07 07.1	-1.2
KMRS	Kahramanmaras	1.48	42	*e*PN	Pn	13 07 08.3	-0.2
EREN	Erenkoy	1.49	234	*e*PN	Pn	13 07 08.3	-0.3
BIDA	Albida	1.50	158	⇓P	Pn	13 07 07.4	-1.3
BIDA				⇑S	Sn	13 07 27.6	-1.1
BIDA	Albida	1.50	158	⇓*i*P	Pn	13 07 07.4	-1.4
BIDA				⇑*i*S	Sn	13 07 27.6	-1.1
KFRA	Kufra	1.52	142	⇑P	Pn	13 07 08.4	-0.7
KFRA				⇓S	Sn	13 07 28.4	-0.8
KFRA	Kufra	1.52	142	⇑*i*P	Pn	13 07 08.4	-0.6
KFRA				⇓*i*S	Sn	13 07 28.4	-0.8
IKL	Isikli	1.59	264	*e*PN	Pn	13 07 08.6	-1.5
GZT	Gaziantep	1.80	58	*i* P	Pn	13 07 12.1	-0.8
GZT				*i* S	Sn	13 07 39.6	+3.5
NIG	Nigde	1.89	334	*e*PN	Pn	13 07 14.3	+0.2
PHNC	Paralimni	1.93	224	P	Pg	13 07 17.5	-0.6
	19nm,1.0s						
PHNC				S	Sg	13 07 47.1	+4.0
HWQ	Hawqa	2.15	173	*e*P	Pn	13 07 17.3	-0.3
HWQ				*e*S	Sn	13 07 43.5	-1.1
ERMK	Ermenek	2.21	277	*i* P	Pg	13 07 22.0	-1.7
ERMK				*i* S	Sg	13 07 54.3	+1.9
MAMC	Mammari	2.33	239	P	Pn	13 07 20.7	+0.5
ATAB	Bozova	2.37	63	*i* P	Pg	13 07 25.2	-1.4
ATAB				*i* S	Sg	13 07 58.0	+0.7
CSS	Prodhromos	2.38	233	P	Pn	13 07 21.4	+0.6
	4.8nm,0.6s						
CSS				S	Sn	13 07 53.7	+3.3
CSS	Prodhromos	2.38	233	*e*Pn	Pn	13 07 19.4	-1.4
CSS	Prodhromos	2.38	233	P	Pn	13 07 21.4	+0.6
	4.8nm,0.6s						
CSS				S	Sn	13 07 53.7	+3.3
BNN	Bunyan	2.44	4	*e*PN	Pn	13 07 21.9	+0.2
AVNT	Avonos	2.44	345	*i* P	Pn	13 07 21.2	-0.5
AVNT				*i* S	Sg	13 07 58.4	-1.3
AVNT	Avonos	2.44	345	*i* P	Pn	13 07 21.2	-0.5
BHL	Bhannes	2.50	180	*e*P	Pn	13 07 22.4	-0.2
BHL				*e*S	Sn	13 07 51.8	-1.6
BEYL	Beyrouth	2.54	183	*e*P	Pn	13 07 23.2	+0.1
LEF	Lefka	2.59	241	*e*PN	Pn	13 07 22.9	-0.8
ROOS	tl_alroos	2.61	149	⇑P	Pn	13 07 23.1	-1.0
ROOS	tl_alroos	2.61	149	⇑*i*P	Pn	13 07 23.1	-0.9
URFA	Urfa	2.74	67	*e*PN	Pn	13 07 25.8	-0.1
ALFC	Alevga	2.78	244	P	Pn	13 07 25.0	-1.3
	6.3nm,0.3s						
ALFC				S	Sn	13 07 57.8	-2.4
SZAC	Souni-Zanaja	2.80	235	P	Pn	13 07 29.5	+2.9
	8.7nm,0.6s						
SZAC				S	Sn	13 08 07.2	+6.5
MALT	Malatya	2.92	49	*e*PN	Pn	13 07 28.2	0.0
MALT	Malatya	2.92	49	*e*Pn	Pn	13 07 28.3	+0.1
MALT				*e*Sg	Sg	13 08 14.8	-0.1
MALT	Malatya	2.92	49	Pn	Pn	13 07 28.4	+0.2
MALT	Malatya	2.92	49	*e*Pn	Pn	13 07 28.2	0.0
MALT				*e*Sg	Sg	13 08 14.8	-0.1
QASN	Qassioun	2.92	170	⇑P	Pn	13 07 27.6	-0.7
QASN	Qassioun	2.92	170	⇑*i*P	Pn	13 07 27.6	-0.7
MYA	Malataya	2.92	48	*e*PN	Pn	13 07 28.7	+0.3
RCY	Rachaya	2.93	177	*e*P	Pn	13 07 28.5	+0.2
RCY				*e*S	Sn	13 08 02.4	-1.5
KONT	Konya--Tatoy	3.04	301	*e*PN	Pn	13 07 30.7	+0.8
PPCY	Paphos	3.09	241	P	Pn	13 07 33.8	+3.1
TOTH	TOTAH	3.11	168	⇑P	Pn	13 07 30.9	0.0
TOTH				⇑S	Sn	13 08 08.6	+0.2
TOTH	TOTAH	3.11	168	⇑*i*P	Pn	13 07 30.9	0.0
TOTH				⇑*i*S	Sn	13 08 08.6	+0.1
HRI	Mount Hermon	3.14	179	Pn	Pn	13 07 32.3	+1.0
KSDI	Kefar Szold	3.21	180	Pn	Pn	13 07 32.8	+0.5
KSDI				Sn	Sn	13 08 10.3	-0.7
YOZ	Yozgat	3.23	356	*e*PN	Pn	13 07 33.0	+0.4
HNTI	Hanita	3.35	187	Pn	Pn	13 07 35.2	+1.1
MMC3	Mount Meron ar	3.39	183	Pn	Pn	13 07 34.9	+0.1
MMA0B	Mount Meron ar	3.40	183	Pn	Pn	13 07 35.2	+0.3
MMA0B				Sn	Sn	13 08 15.4	-0.1
MMAI	Mount Meron Ar	3.40	183	Pn	Pn	13 07 35.0	+0.1
	25nm,0.3s,baz=16,slow=12,SNR=46						
MMAI				Sn	Sn	13 08 14.6	-0.9
	47nm,0.3s,baz=8.7,slow=31,SNR=22						
KSHT	Keshet	3.43	178	Pn	Pn	13 07 36.0	+0.8
KSHT				Sn	Sn	13 08 15.4	-0.8
SVRC	Sivrice-ELAZID	3.51	55	*e*PN	Pn	13 07 36.7	+0.3
SFNV	Sufian	3.60	89	⇑P	Pn	13 07 36.5	-1.1
SFNV				⇓S	Sn	13 08 20.1	-0.5
SFNV	Sufian	3.60	89	⇑*i*P	Pn	13 07 36.5	-1.1
SFNV				⇓*i*S	Sn	13 08 20.1	-0.4
SVSK	Karacayir	3.66	17	*e*PN	Pn	13 07 39.0	+0.6
SALA	Sala	3.80	166	⇑P	Pn	13 07 40.4	0.0
SALA				⇑S	Sn	13 08 26.8	+1.3
SALA	Sala	3.80	166	⇑*i*P	Pn	13 07 40.4	0.0
SALA				⇑*i*S	Sn	13 08 26.8	+1.3
PTK	Pertek	3.87	49	*e*PN	Pn	13 07 43.1	+1.9
KIZT	Kizilcal	3.87	311	*e*PN	Pn	13 07 42.0	+0.6
DIY	Diyarbakir	3.94	67	*e*PN	Pn	13 07 43.1	+0.8
MMLI	Mount Malkishu	3.97	183	Pn	Pn	13 07 43.5	+0.8
MMLI				Sn	Sn	13 08 30.1	+0.4
ANTO	Ankara	4.12	328	*e*PN	Pn	13 07 46.6	+1.8
HMDT	Nahal Hemdat	4.15	181	Pn	Pn	13 07 46.5	+1.3
HMDT				Sn	Sn	13 08 34.4	+0.3
BCK	Bucak	4.18	286	*e*PN	Pn	13 07 46.5	+0.8
SLTI	Sal'it	4.19	187	Pn	Pn	13 07 46.7	+0.9
SLTI				Sn	Sn	13 08 34.7	-0.4
ASF	Jabal al Asfar	4.36	166	Pn	Pn	13 07 48.4	+0.4
	0.8nm,0.3s,baz=297,slow=18,SNR=2.0						
ASF				Lg		13 08 53.6	
	12nm,0.3s,baz=33,slow=22,SNR=12						
BINT	Bingol	4.56	56	*e*PN	Pn	13 07 53.0	+2.1
ELL	Elmali	4.63	276	*e*PN	Pn	13 07 53.2	+1.4
EZC	Erzincan	4.68	43	*e*PN	Pn	13 07 49.8	-2.6
DSI	Dead Sea	4.84	183	Pn	Pn	13 07 55.2	+0.5
DSI				Sn	Sn	13 08 51.1	+0.1
BTMT	Batman	4.98	67	*e*PN	Pn	13 07 56.5	-0.1
YTIR	Yattir	5.06	185	Pn	Pn	13 07 58.8	+1.1
MZDA	Masada	5.10	183	Sn	Sn	13 08 58.4	+1.0
FETY	Fethiye	5.29	274	*e*PN	Pn	13 08 02.4	+1.6
KZIT	Kziot	5.59	191	Pn	Pn	13 08 06.6	+1.6
KZIT				Sn	Sn	13 09 09.4	-0.2
HRFI	Mount Harif	6.38	185	Pn	Pn	13 08 16.8	+0.9
HRFI				Sn	Sn	13 09 29.8	+0.7
EIL	Elat	6.75	185	Pn	Pn	13 08 23.3	+2.3
EIL				Sn	Sn	13 09 39.9	+1.7
EIL	Elat	6.75	185	Pn	Pn	13 08 23.3	+2.3
	0.7nm,0.3s,baz=201,slow=19,SNR=4.1						
EIL				Sn	Sn	13 09 39.9	+1.7
	1.2nm,0.3s,baz=134,slow=21,SNR=3.3						
EIL	Elat	6.75	185	Pn	Pn	13 08 21.9	+1.0
EIL				Sn	Sn	13 09 39.1	+0.8
IDI	Anoyia	8.81	266	Pn	Pn	13 08 47.6	-1.5
	1.1nm,0.3s,baz=74,slow=7.4,SNR=4.4						
IDI				Sn	Sn	13 10 26.5	-2.3
	0.8nm,0.3s,baz=334,slow=19,SNR=3.4						
IDI				LR	LR	13 12 53.5	
	comp=Z,118nm,21.4s,baz=272,slow=43						
AKASG	Malin Array Be	15.01	344	Pn	Pn	13 10 13.0	-0.9
	0.5nm,0.3s,baz=156,slow=14,SNR=3.3						
GERES	GERESS Array B	20.29	315	P	P	13 11 16.7	-0.9
	1.1nm,0.4s,baz=122,slow=12,SNR=12						
TORD	Torodi Ar. Bea	38.24	242	P	P	13 14 02.5	+0.1
	0.6nm,0.7s,mb3.4,baz=35,slow=7.8,SNR=4.2						
YKA	Yellowknife Ar	78.56	346	P	P	13 18 42.9	-0.4
	0.2nm,0.6s,mb3.3,baz=16,slow=5.5,SNR=4.2						

IDC 12 13:10:29.4±1.0, 1264N×14379E, h0km, mb3.7/5, mb1 4.0/5, mb1mx3.7/17, mbtmp3.7/5, Error ellipse: s-maj=39.6km s-min=19.7km az=114.0, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.42	48	Pn	Pn	13 10 56.6	+0.2
	14nm,0.3s,baz=178,slow=22,SNR=7.1						
WRA	Warramunga Arr	33.68	196	P	P	13 17 12.2	-0.1
	1.5nm,0.6s,baz=21,slow=9.6,SNR=17						
ASAR	Alice Springs	37.35	195	P	P	13 17 43.9	+0.1
	0.5nm,0.6s,baz=18,slow=12,SNR=8.2						
SONM	Songino Array	46.91	326	P	P	13 19 01.6	-0.1
	0.8nm,0.6s,baz=144,slow=5.2,SNR=8.6						
YKA	Yellowknife Ar	84.19	27	P	P	13 23 01.6	-0.8
	0.2nm,0.8s,baz=285,slow=4.9,SNR=3.5						
NVAR	Mina Array Bea	88.33	51	P	P	13 23 24.5	+1.1
	0.3nm,0.6s,baz=287,slow=5.5,SNR=3.9						

BJI ***12*** *13:17:11.3, 1173N×14444E, h10km, mB5.2, mb4.7*
IDC ***12*** *13:17:21.6±0.7, 1272N×14364E, h0km, mb3.8/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.8/8, Error ellipse: s-maj=23.7km s-min=16.5km az=112.0*
NEIC ***12*** *13:17:22.7±0.5, 1269N×14363E, h10km, mb4.5/3, Error ellipse: s-maj=15.1km s-min=10.4km az=103.0*
ISCJB ***12*** *13:17:24.4±0.6, 1264N±008×14362E±008, h33km, mb4.1/14, Error ellipse: s-maj=13.8km s-min=8.8km az=139.4*

ISC 12 13:17:26.4±0.6, 1266N±008×14368E±008, h35km, n18, σ0§87/18, mb4.1/14, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	1.48	51	*e*Pn	Pn	13 17 49.1	-1.5
GUMO	Guam	1.48	51	Pn	Pn	13 17 49.3	-1.3
	17nm,0.3s,baz=200,slow=10,SNR=8.9						
GUMO				Sn	Sn	13 18 09.2	+0.5
	41nm,0.3s,baz=34,slow=22,SNR=12						
MJAR	Matsushiro Arr	24.28	349	P	P	13 22 39.0	-1.4
	1.7nm,0.8s,mb3.5,baz=169,slow=8.9,SNR=5.3						
WRAB	Tennant Creek	33.67	196	*e*P	P	13 24 03.0	-1.1
	5.3nm,0.7s,mb4.6						
WRA	Warramunga Arr	33.68	196	P	P	13 24 04.1	-0.1
	3.9nm,0.7s,mb4.5,baz=19,slow=9.7,SNR=35						
BJI	Beijing	36.47	323	P	P	13 24 28.1	0.0
BJI				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
ASAR	Alice Springs	37.35	195	P	P	13 24 36.5	+0.7
	comp=Z,1.1nm,0.7s,mb3.8,baz=16,slow=12,SNR=19						
ASAR				PcP	PcP	13 26 55.3	+0.8
	comp=Z,0.2nm,0.3s,baz=35,slow=3.9,SNR=3.5						
LZH	Lanzhou	42.71	310	*e*P	P	13 25 20.6	+0.4
LZH				AP	pP	13 25 25.4	-5.1
LZH				XP	sP	13 25 27.8	-6.9
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,82nm,4.0s						
ULN	Ulaanbaatar	46.49	326	*e*P	P	13 25 50.3	+0.1
	comp=Z,2.1nm,0.8s,mb4.1						
SONM	Songino Array	46.83	326	P	P	13 25 53.2	+0.4
	comp=Z,0.9nm,0.6s,mb3.9,baz=147,slow=8.0,SNR=9.7						
GTA	Gaotai	46.93	313	*e*P	P	13 25 54.7	+1.0
GTA				AP	pP	13 26 03.0	-1.2
GTA				XP	sP	13 26 07.1	-1.2
GTA				AMB	AMB		
	comp=Z,3.0nm,1.3s,mb4.1						
MKAR	Makanchi Array	61.35	317	P	P	13 27 38.4	-0.3
MKAR	Makanchi Array	61.35	317	P	P	13 27 38.4	-0.3
	comp=Z,1.3nm,1.0s,mb4.0,baz=98,slow=8.0,SNR=5.6						
KURK	Kurchatov	64.55	320	*e*P	P	13 27 58.4	-1.5
	comp=Z,4.8nm,0.8s,mb4.6						
BVAR	Borovoye Array	69.93	322	P	P	13 28 34.5	+0.5
	comp=Z,1.0nm,0.5s,mb4.0,baz=94,slow=7.7,SNR=7.7						
YKA	Yellowknife Ar	84.21	27	P	P	13 29 55.3	+1.3
	comp=Z,0.3nm,0.9s,mb3.4,baz=284,slow=5.3,SNR=4.0						
NVAR	Mina Array Bea	88.40	51	P	P	13 30 16.0	+0.9
	comp=Z,0.4nm,0.7s,mb3.8,baz=263,slow=6.3,SNR=4.0						
LPAZ	La Paz	149.01	101	PKPbc	PKPbc	13 37 13.4	+1.7
	comp=Z,1.7nm,0.9s,baz=229,slow=7.4,SNR=8.4						

WEL 12 13:21:34.3±0.9, 3705S×17748E, h172km±6km, ML3.6/12, Error ellipse: s-maj=7.7km s-min=7.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.84	128	*e*PN	Pn	13 21 59.3	-0.7
PUZ	Puketiti	1.19	149	PN	Pn	13 22 02.7	-0.1
PUZ				SN	Sn	13 22 23.5	-1.2
URZ	Urewera	1.24	194	PN	Pn	13 22 03.3	+0.1
MWZ	Matawai	1.28	178	PN	Pn	13 22 03.7	+0.2
MWZ				SN	Sn	13 22 26.5	+0.3
KNZ	Kokohu	1.98	176	PN	Pn	13 22 10.9	+0.4
BKZ	Black Stump Fm	2.25	200	PN	Pn	13 22 13.9	+0.3
PXZ	Pawanui	3.02	189	PN	Pn	13 22 22.2	-0.6
TSZ	Takapari Road	3.23	201	PN	Pn	13 22 24.7	-0.7
WAZ	Wanganui	3.34	215	PN	Pn	13 22 27.1	+0.4
MRZ	Mangatainoka R	3.90	202	PN	Pn	13 22 32.3	-1.5

ISCJB ***12*** *13:26:15.5±2.5, 1411N±007×9227W±005, h20km±17km, mb4.2/16, MS4.8/2, Error ellipse: s-maj=11.8km s-min=8.1km az=6.3*
MEX ***12*** *13:26:15.1±0.8, 1363N×9269W, h33km±358km, MD4.6*
IDC ***12*** *13:26:18.4±8.6, 1403N×9237W, h33km±65km, mb3.9/5, mb1 4.2/8, mb1mx3.8/24, mbtmp4.1/8, ML4.4/2, Error ellipse: s-maj=45.3km s-min=16.3km az=48.0*
NEIC ***12*** *13:26:20.4±0.7, 1415N×9229W, mb4.2/16, MD4.6(MEX), Error ellipse: s-maj=14.3km s-min=8.6km az=222.0*
BJI ***12*** *13:26:20.3, 1410N×9230W, h47km, mB5.3, Ms5.1, Msz4.7*
CASC ***12*** *13:26:39.7±1.4, 1433N×9231W, h87km, MD4.5, mb4.2(NEIC)*

ISC 12 13:26:17.3±2.8, 1408N±006×9232W±005, h19km±18km, n114, σ1§02/104, mb4.2/16, MS4.8/2, 24C-27D, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	2.20	5	*i* P	Pn	13 26 54.1	+1.2
CCIG				*i* S	Sn	13 27 26.5	+6.8
RBDL	Robledal	2.55	89	*e*P	x	13 27 20.2	
SBLS	San Blas	2.63	95	*e*P	x	13 27 20.8	
SBLS				*e*S	x	13 27 52.3	
SNJE	San Jose	2.64	94	*e*P	x	13 27 21.2	
SNJE				*e*S	x	13 27 53.2	
SCX	San Cristobal	2.66	353	*i* P	Pn	13 27 01.0	+1.7
SCX				*i* S	S

baz=25
SDCO **Great Sand Dun** 26.33 336 *e*P P 13 31 52.1 0.0
1.7nm,1.0s,mb3.5
X16A **Lo Mia Camp, P** 26.63 323 ⇑P P 13 31 55.1 +0.2
baz=26
MVCO **Mesa Verde** 27.18 331 *e*P P 13 32 00.3 +0.5
18nm,1.1s,mb4.5
MVCO **Mesa Verde** 27.18 331 ⇑P P 13 32 00.8 +1.0
baz=27
PV01 **Paradox Valley** 27.96 332 *e*P P 13 32 07.2 +0.4
T15A **Red Dirt Ranch** 29.03 326 ⇓P P 13 32 16.7 +0.5
baz=29
U14A **Mt Trumbull** 29.05 324 ⇓P P 13 32 17.1 +0.7
baz=29
V13A **Grand Canyon W** 29.13 322 ⇓P P 13 32 18.0 +0.8
baz=29
GMRC **Granite Mounta** 29.47 318 ⇓P P 13 32 21.8 +1.6
baz=29
V12A **Nelson** 29.57 321 ⇑P P 13 32 21.7 +0.6
baz=29
DAU **Daniels Canyon** 31.03 331 *e*P P 13 32 34.5 +0.5
R11A **Troy Canyon, C** 31.76 324 ⇓P P 13 32 40.4 -0.1
baz=32
HWUT **Hardware Ranch** 32.12 332 *e*P P 13 32 44.4 +0.9
2.9nm,0.8s,mb4.2
Q11A **Duckwater** 32.14 324 ⇑P P 13 32 44.2 +0.5
baz=32
R09A **Tonopah** 32.56 322 ⇓P P 13 32 48.2 +0.8
baz=32
O12A **Currie** 32.66 327 ⇓P P 13 32 49.5 +1.3
baz=32
M14A **Sheep Mountain** 32.88 330 P P 13 32 51.2 +1.1
baz=33,SNR=15
O11A **Cowboy Ranch,** 33.04 326 ⇑P P 13 32 51.3 -0.3
baz=33
M13A **Montello** 33.17 329 ⇓P P 13 32 53.1 +0.4
baz=33,SNR=7.6
REDW **Red Top Meadow** 33.24 335 *e*P P 13 32 53.1 -0.2
17nm,1.1s,mb4.9
LOHW **Long Hollow** 33.35 336 *e*P P 13 32 54.0 -0.3
1.9nm,0.7s,mb4.1
NVAR **Mina Array Bea** 33.42 321 P P 13 32 56.2 +1.2
NVAR **Mina Array Bea** 33.42 321 P P 13 32 56.2 +1.2
1.9nm,0.7s,mb4.1,baz=131,slow=8.1,SNR=16
M12A **Wells** 33.59 329 ⇓P P 13 32 57.1 +0.8
baz=33,SNR=5.8
K14A **Jones Ranch, D** 33.60 332 ⇓P P 13 32 56.6 +0.1
baz=33
O09A **Fish Creek Ran** 33.91 325 ⇓P P 13 33 00.2 +0.9
baz=34
K12A **Draper Farm, C** 34.49 330 ⇓P P 13 33 04.5 +0.4
baz=34
L11A **Cat Creek Ranc** 34.56 329 ⇑P P 13 33 05.0 +0.1
baz=34,SNR=5.1
J13A **Cove Ranch, Pi** 34.72 332 ⇑P P 13 33 06.1 -0.1
baz=34
HLID **Hailey** 34.96 331 ⇓P P 13 33 07.8 -0.5
baz=35,SNR=7.0
J12A **Stokes Ranch,** 35.05 330 ⇑P P 13 33 10.1 +1.1
baz=35
I13A **Wildhorse Cree** 35.10 332 ⇑P P 13 33 10.3 +0.9
baz=35,SNR=8.7
MCMT **McKenzie Canyo** 35.27 334 *e*P P 13 33 11.5 +0.6
O06A **Flanigan** 35.43 322 ⇑P P 13 33 13.0 +0.6
baz=35
MFID **Camas Ranch** 35.52 330 ⇓P P 13 33 13.7 +0.6
baz=35
H12A **Diamond D Ranc** 35.93 332 ⇑P P 13 33 16.3 -0.2
baz=36,SNR=13
I11A **Placerville** 35.95 330 ⇑P P 13 33 17.2 +0.4
baz=36,SNR=22
K09A **Rome** 35.96 327 ⇑P P 13 33 17.1 +0.3
baz=36
G13A **Cobalt** 36.07 333 ⇓P P 13 33 17.8 0.0
baz=36
H11A **Donnelly** 36.58 331 ⇑P P 13 33 21.3 -0.7
baz=36
F13A **Darby** 36.67 334 ⇑P P 13 33 22.0 -0.9
baz=36
J08A **Circle Bar Ran** 36.81 328 ⇓P P 13 33 24.3 +0.2
baz=36,SNR=11
H10A **Noah's Angus R** 36.84 330 ⇑P P 13 33 24.2 -0.1
baz=36
I09A **Lost Marbles R** 36.87 329 ⇓P P 13 33 24.1 -0.5
baz=37,SNR=12
F12A **Elk City** 37.04 333 P P 13 33 25.8 -0.3
baz=37,SNR=16
E13A **Victor** 37.13 335 ⇓P P 13 33 26.3 -0.5
baz=37
G11A **Walters Elk Ra** 37.22 332 ⇓P P 13 33 27.0 -0.6
baz=37,SNR=11
G10A **Bishop Farm, J** 37.54 331 ⇑P P 13 33 29.7 -0.6
baz=37
J06A **Christmas Vall** 37.63 326 ⇑P P 13 33 30.9 -0.2
baz=37
E11A **Bogner Ranch,** 37.93 333 ⇑P P 13 33 32.4 -1.1
baz=38,SNR=5.2
F10A **Beach Ranch, E** 38.10 332 ⇑P P 13 33 34.2 -0.8
baz=38,SNR=6.8
D12A **Red Ives Fores** 38.10 334 ⇓P P 13 33 33.5 -1.5
baz=38
D09A **Jones Farm, Ri** 39.41 332 ⇓P P 13 33 45.6 -0.3
baz=39
A07A **Ashnola River,** 41.81 332 ⇓P P 13 34 05.7 -0.1
baz=42
SIV **San Ignacio** 42.97 133 P P 13 34 14.4 -1.1
2.1nm,0.7s,mb4.0,baz=308,slow=9.5,SNR=12
YKA **Yellowknife Ar** 50.88 347 P P 13 35 14.6 -2.3
YKA PcP PcP 13 36 31.4 -1.8
YKA **Yellowknife Ar** 50.88 347 P P 13 35 14.5 -2.3
3.4nm,0.6s,mb4.4,baz=151,slow=7.3,SNR=58
YKA PcP PcP 13 36 31.4 -1.8
0.3nm,0.5s,baz=152,slow=3.7,SNR=4.9
DLBC **Dease Lake** 52.46 336 *e*P P 13 35 29.1 +0.4
INK **Inuvik** 60.28 344 *e*P P 13 36 22.2 -2.1
256nm,1.1s
BILL **Bilibino** 81.28 338 *e*P P 13 38 30.7 -1.3
13nm,1.3s,mb4.7
TIXI **Tiksi** 90.12 348 *e*P P 13 39 13.3 -2.6
3.2nm,0.9s,mb4.7
CN2 **Changchun** 112.88 331 *e*PKP PKiKP 13 44 51.1 -2.2
HHC **Hu-ho-hao-te** 121.04 339 *e*PKP PKPdf 13 45 07.1 -2.0
HHC PP PP 13 46 38.9 +1.5
HHC PKS 13 48 42.4
HHC PP PP
comp=Z,223nm,7.6s
HHC LR LR
comp=N,138nm,21.3s,MS4.8
HHC LR LR
comp=E,200nm,20.0s,MS4.8
HHC LR LR
comp=Z,175nm,20.8s,MS4.7
LZH **Lanzhou** 127.82 343 *e*PKP PKPdf 13 45 19.0 -3.3
LZH LR LR
comp=E,157nm,18.0s
LZH LR LR
comp=Z,182nm,20.3s,MS4.8
STKA **Stephens Creek** 127.83 241 PKP PKPdf 13 45 20.0 -2.3
comp=Z,1.1nm,0.7s,baz=80,slow=6.9,SNR=3.3
CD2 **Chengdu** 132.68 341 *e*PKP PKPdf 13 45 29.1 -2.5
WRA **Warramunga Arr** 135.11 256 PKP PKPdf 13 45 34.5 -1.9
comp=Z,0.3nm,0.6s,baz=84,slow=2.4,SNR=5.6
GYA **Guiyang** 135.68 335 *e*PDIF Pdif 13 42 37.2 -2.7
GYA PP PP 13 48 16.4 +2.7
GYA PP PP
comp=Z,80nm,7.6s

ISCJB ***12*** *13:30:26.8±4.9, 56S±01×1463E±01, h105km±47km, mb3.8/7, Error ellipse: s-maj=33.5km s-min=23.7km az=161.5*
IDC ***12*** *13:30:28.3±6.5, 560S×146.13E, h99km±56km, mb3.6/7, mb1 3.7/9, mb1mx3.7/15, mbtmp3.6/9, Error ellipse: s-maj=36.8km s-min=20.9km az=77.0*
ISC 12 13:30:28.9±4.5, 56S±01×1462E±02, h107km±44km, n17, σ0°66/14, mb3.8/7, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	14.38	180	*e*P	Pn	13 33 47.6	+0.1
5.7nm,0.3s							
CTA	**Charters Tower**	14.38	180	P	Pn	13 33 47.4	-0.2
2.4nm,0.3s,baz=355,slow=14,SNR=19							
KAKA	**Kakadu**	15.28	242	*e*P	Pn	13 33 59.0	0.0
13nm,0.4s							
WB2	**Warramunga Arr**	18.31	218	*e*P	P	13 34 35.9	+1.2
WRA	**Warramunga Arr**	18.31	218	P	P	13 34 33.3	-1.5
0.1nm,0.3s,baz=44,slow=11,SNR=5.8							
WRA				PcP	PcP	13 39 03.5	+1.2
0.1nm,0.3s,baz=22,slow=1.8,SNR=5.7							
ASAR	**Alice Springs**	21.49	212	P	P	13 35 09.4	+0.3
1.0nm,0.4s,mb3.5,baz=53,slow=9.0,SNR=25							
BATI	**Kupang**	22.76	257	P	P	13 35 23.1	+0.5
13nm,0.7s,mb4.4,baz=88,slow=3.6,SNR=3.8							
FITZ	**Fitzroy Crossi**	23.59	237	*e*P	P	13 35 29.3	-0.8
5.3nm,0.4s,mb4.2							
FITZ	**Fitzroy Crossi**	23.59	237	P	P	13 35 29.7	-0.4
3.1nm,0.5s,mb3.9,baz=57,slow=9.0,SNR=19							
STKA	**Stephens Creek**	26.47	189	*e*P	P	13 35 56.3	+0.2
2.8nm,1.0s,mb3.6							
STKA	**Stephens Creek**	26.47	189	P	P	13 35 56.4	+0.2
1.2nm,0.5s,mb3.6,baz=4.5,slow=12,SNR=5.2							
KSRS	**Korea Array**	46.11	340	P	P	13 38 42.2	-0.2
1.1nm,0.6s,mb3.8,baz=155,slow=8.3,SNR=5.9							
SONM	**Songino Array**	63.68	331	P	P	13 40 49.3	+0.5
0.5nm,0.5s,mb3.6,baz=154,slow=5.0,SNR=4.6							
MKAR	**Makanchi Array**	76.69	321	P	P	13 42 07.9	-0.4
0.5nm,0.6s,mb3.4,baz=100,slow=8.5,SNR=5.5							
TORD	**Torodi Ar. Bea**	144.21	285	PKP	PKPdf	13 49 51.6	-1.7
0.5nm,0.3s,baz=73,slow=3.1,SNR=23							
SIV	**San Ignacio**	145.52	129	PKPbc	PKPbc	13 49 55.8	-0.1
8.3nm,0.7s,baz=235,slow=2.7,SNR=41							
DBIC	**Dimbokro**	151.19	274	PKPbc	PKPbc	13 50 09.8	-1.1
3.9nm,0.7s,baz=84,slow=4.0,SNR=3.6							

IDC ***12*** *13:32:09.4±0.6, 557N×7847W, h0km, mb4.1/13, mb1 4.4/17, mb1mx4.2/25, mbtmp4.2/17, ML4.4/4, MS3.7/4, Ms1 3.7/4, ms1mx3.3/25, Error ellipse: s-maj=21.9km s-min=12.9km az=55.0*
ISCJB ***12*** *13:32:13.4±0.3, 571N±005×7828W±004, h33km, mb4.2/22, MS4.3/3, Error ellipse: s-maj=7.6km s-min=4.8km az=24.9*
NEIC ***12*** *13:32:15.4±1.6, 580N×7821W, h41km±17km, mb4.3/14, Error ellipse: s-maj=15.8km s-min=8.2km az=61.0*
BJI ***12*** *13:32:15.4, 580N×7820W, h40km, mB5.2, Ms4.9, Msz4.6*
ISC 12 13:32:15.4±0.3, 564N±005×7834W±004, h35km, n103, σ1°06/100, mb4.2/22, MS4.3/3, 22C-22D, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	3.80	337	*e*Pn	Pn	13 33 06.2	-5.4
BCIP				*e*Sn	Sn	13 33 49.2	-5.8
ROSC	**El Rosal**	4.07	101	Pn	Pn	13 33 15.1	-0.2
1.6nm,0.3s,baz=94,slow=20,SNR=2.1							
ROSC				Sn	Sn	13 34 10.6	+8.9
7.6nm,0.3s,baz=73,slow=22,SNR=4.4							
ROSC				LR	LR	13 34 54.6	
comp=Z,672nm,21.6s,baz=25,slow=39							
BAR1		6.09	306	*e*P	Pn	13 33 39.3	-3.7
URSC	**Urasca**	6.81	308	*e*P	Pn	13 33 50.0	-2.9
LCR2	**La Lucha 2**	6.93	306	*e*P	Pn	13 33 51.7	-2.8
LCR2				*e*S	Sn	13 35 10.7	-1.5
LAJ	**Bijagual**	7.10	307	*e*P	Pn	13 33 58.7	+1.9
JCR	**Jicaral**	7.90	302	*e*P	Pn	13 34 05.0	-2.9
SDV	**Santo Domingo**	8.30	67	*e*Pn	Pn	13 34 12.5	-0.9
81nm,0.9s							
SDV	**Santo Domingo**	8.30	67	Pn	Pn	13 34 12.8	-0.6
5.6nm,0.3s,baz=266,slow=9.5,SNR=40							
SDV				Sn	Sn	13 35 46.2	+0.2
2.7nm,0.3s,baz=271,slow=23,SNR=3.1							
SDV				LR	LR	13 37 35.6	
comp=Z,914nm,18.3s,baz=63,slow=39							
ATAH	**Atahualpa**	12.56	180	Pn	Pn	13 35 11.0	-0.7
1.3nm,0.3s,baz=354,slow=8.3,SNR=7.1							
PCRV	**Puerto La Cruz**	14.30	71	Pn	Pn	13 35 36.1	+0.6
1.9nm,0.3s,baz=31,slow=2.7,SNR=5.6							
SDDR	**Presa de Saban**	14.94	27	*e*Pn	Pn	13 35 43.9	-0.2
30nm,0.6s							
SJG	**San Juan**	17.19	43	*e*P	Pn	13 36 09.1	-3.8
13nm,0.6s							
SJG	**San Juan**	17.19	43	P	Pn	13 36 09.6	-3.3
4.6nm,0.3s,baz=243,slow=9.0,SNR=5.2							
CPD	**Cerro la Pandu**	17.29	44	*e*P	Pn	13 36 10.8	-3.4
33nm,0.9s							
TEIG	**Tepich**	17.42	327	*e*P	Pn	13 36 16.6	+0.8
TEIG	**Tepich**	17.42	327	P	Pn	13 36 17.9	+2.1
0.5nm,0.3s,baz=152,slow=8.7,SNR=6.1							
TEIG				LR	LR	13 43 23.1	
comp=Z,359nm,18.6s,baz=99,slow=39							
NNA	**Nana**	17.58	175	*e*P	Pn	13 36 21.1	+3.3
31nm,0.8s							
NNA	**Nana**	17.58	175	P	Pn	13 36 17.1	-0.7
1.3nm,0.3s,baz=345,slow=5.4,SNR=4.1							
MTP	**Monte Pirata**	17.59	44	*e*P	Pn	13 36 13.6	-4.3
ARE	**Arequipa**	22.98	163	P	P	13 37 19.0	+1.8
LPAZ	**La Paz**	24.02	155	P	P	13 37 28.3	+1.1
7.6nm,0.7s,mb4.2,baz=342,slow=12,SNR=17							
SIV	**San Ignacio**	27.46	142	P	P	13 37 56.7	-1.7
4.9nm,0.9s,mb4.0,baz=324,slow=9.5,SNR=16							
TXAR	**Lajitas Array**	33.58	318	P	P	13 38 49.9	-2.4
TXAR	**Lajitas Array**	33.58	318	P	P	13 38 49.9	-2.4
1.6nm,0.9s,mb4.0,baz=126,slow=6.4,SNR=5.0							
MNTX	**Cornudas Mount**	36.23	319	*e*P	P	13 39 13.3	-1.9
5.7nm,1.1s,mb4.4							
BDFB	**Brasilia**	36.73	126	P	P	13 39 18.1	-1.5
2.8nm,0.8s,mb4.1,baz=275,slow=18,SNR=5.1							
BDFB				LR	LR	13 53 46.4	
comp=Z,85nm,21.6s,MS3.5,baz=292,slow=35							
CPUP	**Villa Florida**	37.75	148	P	P	13 39 26.0	-2.2
0.8nm,0.5s,mb3.7,baz=322,slow=7.2,SNR=3.7							
319A	**Douglas**	38.67	315	⇑P	P	13 39 37.0	+1.1
baz=39							
219A	**White Tail Can**	39.02	316	⇓P	P	13 39 40.0	+1.2
baz=39							
ANMO	**Albuquerque**	39.04	322	*e*P	P	13 39 38.1	-0.8
3.4nm,0.9s,mb4.1							
ANMO	**Albuquerque**	39.04	322	P	P	13 39 38.5	-0.4
2.7nm,0.9s,mb4.0,baz=136,slow=12,SNR=3.7							
318A	**Bisbee**	39.21	315	⇓P	P	13 39 41.4	+1.0
baz=39							
119A	**Ashpeak Ranch,**	39.50	317	⇑P	P	13 39 43.5	+0.7
baz=40							
Y19A	**Nutrioso**	40.18	319	⇓P	P	13 39 49.7	+1.3
baz=40,SNR=5.3							
TUC	**Tucson**	40.25	315	*e*P	P	13 39 49.4	+0.3
3.2nm,0.8s,mb4.1							
117A	**Oracle**	40.37	316	⇓P	P	13 39 50.0	-0.1
baz=40							
SDCO	**Great Sand Dun**	40.40	326	*e*P	P	13 39 51.1	+0.9
2.3nm,0.9s,mb3.9							
X19A	**St. Johns**	40.49	319	⇓P	P	13 39 51.7	+0.7
baz=40							
Z17A	**San Carlos Hig**	40.60	317	⇑P	P	13 39 51.0	-1.0
baz=41							
X18A	**Snowflake**	40.98	319	⇑P	P	13 39 55.8	+0.7
baz=41							
Y16A	**Circle Bar Ran**	41.62	317	⇓P	P	13 40 01.4	+1.0
baz=42,SNR=5.8							
PV01	**Paradox Valley**	42.42	324	*e*P	P	13 40 07.0	+0.2
X15A	**Humboldt**	42.49	317	⇑P	P	13 40 07.9	+0.5
baz=42							
WUAZ	**Wupatki**	42.51	319	*e*P	P	13 40 08.2	+0.6
6.0nm,0.8s,mb4.4							
WUAZ	**Wupatki**	42.51	319	⇓P	P	13 40 08.4	+0.8
baz=42							
X14A	**Yava**	42.92	317	⇑P	P	13 40 11.3	+0.4
baz=43							
V15A	**Kaibab Nationa**	43.21	319	⇓P	P	13 40 14.1	+0.8
baz=43,SNR=12							
W14A	**Seligman**	43.47	317	⇑P	P	13 40 16.1	+0.7
baz=43,SNR=7.4							
V14A	**Boquillas Ranc**	43.72	318	⇓P	P	13 40 18.6	+1.2
baz=44,SNR=12							
W13A	**Hualapai Mount**	43.95	317	⇑P	P	13 40 20.0	+0.8
baz=44							
SRU	**San Rafael**	44.22	324	*e*P	P	13 40 20.1	-1.2
2.1nm,0.8s,mb3.9							
U14A	**Mt Trumbull**	44.22	319	⇓P	P	13 40 22.0	+0.6
baz=44							
V13A	**Grand Canyon W**	44.44	317	⇑P	P	13 40 23.4	+0.4
baz=44							
U13A	**Pakoon Wash**	44.74	318	⇑P	P	13 40 25.9	+0.4
baz=45							
V12A	**Nelson**	44.95	317	⇓P	P	13 40 26.6	-0.6
baz=45							
S13A	**Holt Ranch, En**	45.34	320	⇑P	P	13 40 31.7	+1.4
baz=45							
DUG	**Dugway**	46.27	323	*e*P	P	13 40 37.2	-0.3
5.4nm,1.1s,mb4.4							
HWUT	**Hardware Ranch**	46.45	325	*e*P	P	13 40 38.5	-0.5
2.6nm,0.8s,mb4.2							
PLCA	**Paso Flores**	46.70	172	*e*P	P	13 40 40.5	-0.3
4.4nm,1.0s,mb4.3							
PLCA	**Paso Flores**	46.70	172	P	P	13 40 39.0	-1.8
2.6nm,1.0s,mb4.1,baz=6.9,slow=10.0,SNR=3.0							
ULM	**Lac du Bonnet**	46.83	345	P	P	13 40 40.2	-1.5
ULM	**Lac du Bonnet**	46.83	345	P	P	13 40 40.2	-1.5
1.2nm,0.6s,mb4.0,baz=160,slow=8.7,SNR=4.2							
R11A	**Troy Canyon, C**	46.90	319	⇑P	P	13 40 43.1	+0.6
baz=47							
Q11A	**Duckwater**	47.22	320	⇑P	P	13 40 45.6	+0.5
baz=47							
REDW	**Red Top Meadow**	47.24	328	*e*P	P	13 40 44.5	-0.5
7.2nm,1.3s,mb4.4							
REDW				*e*pP	pP	13 40 55.5	0.0
S10A	**Tonopah Range,**	47.32	318	P	P	13 40 46.8	+1.0
baz=47,SNR=5.7							
R10A	**Warm Springs**	47.33	319	⇓P	P	13 40 46.0	+0.1
baz=47							
M14A	**Sheep Mountain**	47.41	324	⇑P	P	13 40 46.1	-0.3
baz=47,SNR=7.9							
O12A	**Currie**	47.48	322	⇓P	P	13 40 47.6	+0.6
baz=47,SNR=6.5							
R09A	**Tonopah**	47.81	318	⇑P	P	13 40 49.7	0.0
baz=48							
O11A	**Cowboy Ranch,**	47.97	321	⇑P	P	13 40 50.4	-0.4
baz=48							
K14A	**Jones Ranch, D**	47.97	325	⇓P	P	13 40 50.5	-0.3
baz=48							
P10A	**Eureka**	48.18	320	⇓P	P	13 40 52.5	0.0
baz=48							
Q08A	**Gabbs**	48.31	319	⇓P	P	13 40 55.9	-0.6
baz=49							
NVAR	**Mina Array Bea**	48.73	318	P	P	13 40 57.4	+0.7
2.4nm,0.7s,mb4.3,baz=126,slow=6.7,SNR=17							
O09A	**Fish Creek Ran**	48.95	320	⇓P	P	13 40 59.0	+0.6
baz=49							
L11A	**Cat Creek Ranc**	49.23	323	⇑P	P	13 41 00.9	+0.4
baz=49							
MCMT	**McKenzie Canyo**	49.29	328	*e*P	P	13 41 03.2	+2.4
K10A	**MacKenzie Ranc**	50.26	323	⇑P	P	13 41 07.7	-0.5
baz=50							
K09A	**Rome**	50.72	323	⇑P	P	13 41 11.4	-0.4
baz=51,SNR=7.6							
L08A	**Fields**	50.81	322	⇓P	P	13 41 11.8	-0.6
baz=51							
J09A	**Fry Pan Ranch,**	51.12	323	⇓P	P	13 41 14.0	-0.7
baz=51							
WVOR	**Wild Horse Val**	51.12	322	*e*P	P	13 41 14.4	-0.5
5.8nm,0.9s,mb4.5							
F12A	**Elk City**	51.18	327	⇑P	P	13 41 14.3	-0.9
baz=51							
K08A	**Mann Creek Ran**	51.20	322	⇑P	P	13 41 14.4	-0.9
baz=51							
L07A	**Adell**	51.33	321	⇓P	P	13 41 16.3	-0.1
baz=51							
ORV	**Oroville**	51.45	317	⇓P	P	13 41 17.7	+0.4
baz=51,SNR=5.7							
ELFS	**Eagle Lake Fie**	51.47	319	⇑P	P	13 41 17.4	0.0
baz=51							
D11A	**Klaveano Farm,**	52.58	328	⇓P	P	13 41 24.9	-0.7
baz=52							
YKA	**Yellowknife Ar**	62.67	342	P	P	13 42 34.7	-1.5
YKA	**Yellowknife Ar**	62.67	342	P	P	13 42 34.7	-1.5
1.1nm,0.8s,mb4.0,baz=131,slow=7.2,SNR=19							
DLBC	**Dease Lake**	65.94	333	*e*P	P	13 42 57.6	-0.2
DBIC	**Dimbokro**	73.01	85	P	P	13 43 43.1	+0.7
7.9nm,1.2s,mb4.5,baz=232,slow=18,SNR=2.0							
ESDC	**Sonseca Array**	74.40	51	P	P	13 43 51.8	+1.8
3.9nm,1.2s,mb4.2,baz=263,slow=6.5,SNR=3.5							
TORD	**Torodi Ar. Bea**	79.06	78	P	P	13 44 17.5	+0.7
1.1nm,1.1s,mb3.7,baz=279,slow=5.6,SNR=3.6							
CN2	**Changchun**	126.30	339	*e*PKP	PKPdf	13 51 12.9	-1.8
HHC	**Hu-ho-hao-te**	132.85	350	*e*PKP	PKPdf	13 51 27.9	+0.6
HHC				XPKP		13 51 42.2	
HHC				PP	PP	13 53 58.5	+7.4
HHC				PKS		13 55 02.8	
HHC				SKS	SKSdf	13 58 33.6	-2.6
HHC				PP	PP		
comp=Z,166nm,9.6s							
HHC				LR	LR		
comp=N,114nm,21.2s,MS4.8							
HHC				LR	LR		
comp=E,186nm,22.9s,MS4.8							
HHC				LR	LR		
comp=Z,97nm,18.4s,MS4.5							
LZH	**Lanzhou**	138.44	357	*e*PKP	PKPdf	13 51 35.0	-2.8
LZH				XPKP		13 51 49.5	
LZH				LR	LR		
comp=N,125nm,18.7s							
LZH				LR	LR		
comp=Z,158nm,20.5s,MS4.7							
CD2	**Chengdu**	143.60	357	*e*PKP	PKPdf	13 51 44.3	-3.0
ASAR	**Alice Springs**	144.17	237	PKP	PKPdf	13 51 45.7	-2.7
comp=Z,1.2nm,0.7s,baz=120,slow=3.7,SNR=13							
WRA	**Warramunga Arr**	145.20	243	PKPbc	PKPbc	13 51 49.7	-0.3
comp=Z,1.3nm,0.8s,baz=102,slow=3.2,SNR=5.1							
GYA	**Guiyang**	147.72	352	*e*PKP	PKPdf	13 51 52.8	-1.6
GYA				PKP2	PKPab	13 51 59.3	-0.1
GYA				APKP		13 52 01.4	
GYA				XPKP		13 52 04.8	
GYA				PP	PP	13 55 24.6	+2.3
GYA				PP	PP		
comp=Z,70nm,7.8s							

DDA ***12*** *13:38:36.7, 3950N×2554E, h7km±2km, Md2.9*
ISCJB ***12*** *13:38:37.4±0.5, 3949N±002×2574E±003, h1km±4km, Error ellipse: s-maj=3.7km s-min=2.9km az=145.2*
ISK ***12*** *13:38:37.9, 3948N×2579E, h8km, MD3.4*
NEIC ***12*** *13:38:38.0, 3946N×2582E, h10km, MD3.6(ATH), MD3.4(ISK), After ISK.*
THE ***12*** *13:38:38.6, 3951N×2577E, h3km, ML3.7*
CSEM ***12*** *13:38:38.4±0.1, 3951N×2584E, h8km, MD3.6, Error ellipse: s-maj=1.4km s-min=1.3km az=31.0*
ATH ***12*** *13:38:39.5, 3958N×2616E, h32km±3km, MD3.6/4*
ISC 12 13:38:38.3±0.4, 3949N±002×2574E±003, h4km±3km, n49, σ0°99/65, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	0.42	35	*i* P	Pg	13 38 46.8	+0.3
BOZC				*i* S	Sg	13 38 53.6	+1.6
PRK	**Paraskevi**	0.48	121	*e*PB	Pg	13 38 47.9	+0.3
PRK				*e*SB	Sg	13 38 54.5	+0.7
EZN	**Ezine**	0.56	54	PG	Pg	13 38 49.2	+0.1
EZN				*e*SG	Sg	13 38 56.6	+0.2
LOS	**Limnos**	0.67	311	*e*Pg	Pg	13 38 51.8	+0.7
GADA	**Gvkgeada**	0.71	10	PG	Pg	13 38 51.5	-0.4
GADA				*e*SG	Sg	13 39 02.4	+1.4
AYVA	**Ayvalik**	0.76	104	*i* P	Pg	13 38 52.9	0.0
AYVA				*i* S	Sg	13 39 04.0	+1.3
CHOS	**Chios island**	1.13	167	*e*Pg	Pg	13 38 59.9	-0.1
CHOS				*e*Sg	Sg	13 39 16.9	+2.2
LPK	**Lapseki**	1.18	42	*e*PN	Pn	13 39 00.8	-0.8
ENEZ	**Enez**	1.28	14	*e*PN	Pn	13 39 02.7	-0.2
URLA	**Izmir**	1.31	149	*i* P	Pn	13 39 02.2	-1.2
URLA				*i* S	Sg	13 39 19.5	-1.0
ALN	**Alexandroupoli**	1.42	9	*e*Pg	Pg	13 39 04.5	-1.1
ALN				*e*Sg	Sg	13 39 24.1	+0.1
AOS	**Alonnisos**	1.48	258	*e*Pg	Pg	13 39 05.3	-1.2
AOS	**Alonnisos**	1.48	258	*e*Pg	Pg	13 39 05.3	-1.3
BLCB	**Balcova**	1.50	137	*e*PN	Pn	13 39 05.5	-0.5
BLCB	**Balcova**	1.50	137	*e*Pg	Pg	13 39 05.5	-1.6
BLCB				*e*Sg	Sg	13 39 27.3	+0.7
OUR	**Ouranopolis**	1.59	302	*e*Pg	Pg	13 39 07.1	-1.7
KDAG	**Bornova**	1.61	132	*i* P	Pn	13 39 07.0	-0.6
KDAG

PLG	**Polygyros**	**1.97 297**	*e*PN	**Pn**	**13 39 16.7**	**+4.3**
PLG	**Polygyros**	**1.97 297**	*e*Pb	**Pb**	**13 39 17.3**	**+2.6**
PLG			*e*Sn	**Sn**	**13 39 39.4**	**+1.8**
SMG	**Samos**	**1.98 154**	*e*PB	**Pb**	**13 39 12.6**	**-2.3**
KCT	**Karacabey**	**2.16 68**	*e*PN	**Pn**	**13 39 14.1**	**-0.9**
DST	**Dursunbey**	**2.24 86**	*e*PN	**Pn**	**13 39 15.4**	**-0.7**
NVR	**Nevrokopí**	**2.34 323**	*e*PN	**Pn**	**13 39 17.9**	**+0.3**
NVR	**Nevrokopi**	**2.34 323**	*e*Pn	**Pn**	**13 39 17.7**	**+0.1**
APE	**Apeiranthos**	**2.43 184**	*e*Pn	**Pn**	**13 39 19.3**	**+0.6**
APE	**Apeiranthos**	**2.43 184**	*e*PN	**Pn**	**13 39 20.3**	**+1.6**
EDRB	**Edirne**	**2.47 18**	*e*PN	**Pn**	**13 39 19.3**	**0.0**
KULA	**Kula-Manisa**	**2.48 112**	*e*PN	**Pn**	**13 39 18.8**	**-0.6**
CTT	**Catalca**	**2.64 50**	*e*PN	**Pn**	**13 39 22.3**	**+0.7**
AGG	**Agios Georgios**	**2.69 261**	*e*Pn	**Pn**	**13 39 23.0**	**+0.7**
DID	**Didima**	**2.79 225**	*e*Pn	**Pn**	**13 39 24.0**	**+0.3**
THL	**Klokotos Trika**	**2.88 273**	*e*Pn	**Pn**	**13 39 25.7**	**+0.7**
ISK	**Istanbul-Kandi**	**2.99 57**	*e*PN	**Pn**	**13 39 26.4**	**0.0**
YLV	**Yalova**	**2.99 68**	*e*PN	**Pn**	**13 39 26.0**	**-0.5**
IZI	**Iznik**	**2.99 72**	*e*PN	**Pn**	**13 39 26.2**	**-0.3**
KLYT	**Kilyos**	**3.08 54**	*e*PN	**Pn**	**13 39 28.4**	**+0.7**
ESKT	**Eskisehir**	**3.96 88**	*e*PN	**Pn**	**13 39 39.5**	**-0.2**

WEL 12 13:44:52.1±1.6, 4501S×16580E, h57km, ML3.6/8, Error ellipse: s-maj=19.8km s-min=6.5km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**1.32**	**152**	PN	Pn	13 45 14.1	-0.1
MSZ	**Milford Sound**	**1.55**	**78**	PN	Pn	13 45 16.6	-0.7
MLZ	**Mavora Lakes**	**1.71**	**102**	PN	Pn	13 45 18.5	-1.1
WHZ	**Wether Hill Ro**	**1.75**	**121**	PN	Pn	13 45 19.7	-0.5
EAZ	**Earnscleugh**	**2.50**	**96**	PN	Pn	13 45 31.6	+1.4
FOZ	**Fox Glacier**	**3.14**	**64**	PN	Pn	13 45 40.1	+1.0
ODZ	**Otahua Downs**	**3.44**	**92**	PN	Pn	13 45 43.4	+0.3
RPZ	**Rata Peaks**	**3.98**	**73**	PN	Pn	13 45 50.6	+0.1

*NEIC **12** 13:45:47.2, 4222N×27.14E, h15km, ML3.8(BUC), After BUC.*
*SOF **12** 13:45:52.1, 4285N×2675E, h15km, MD3.2*
*BEO **12** 13:45:52.5±1.0, 4291N×2680E, h5km±4km, ML3.7/9*
*THE **12** 13:45:52.5, 4283N×2686E, h11km, ML4.0*
*CSEM **12** 13:45:54.3±0.1, 4273N×2680E, h20km, MD3.2, Error ellipse: s-maj=1.7km s-min=1.3km az=72.0*
*ISCJB **12** 13:45:54.3±0.5, 4275N±002×2675E±003, h21km±5km, Error ellipse: s-maj=4.1km s-min=3.1km az=173.8*

ISC 12 13:45:52.9±0.5, 4278N±002×2673E±003, h1km±3km, n82, σ1§05/113, 7C-15D, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMB	**Yambol**	**0.33 199**	*e*Pg	**Pg**	**13 46 00.7**	**+1.6**
JMB			*e*Sg	**Sg**	**13 46 06.7**	**+3.3**
JMB	**Yambol**	**0.33 199**	*i* Pg	**Pg**	**13 46 00.7**	**+1.6**
JMB			*e*Sg	**Sg**	**13 46 06.7**	**+3.4**
PRD	**Provadia**	**0.65 49**	*i* Pg	**Pg**	**13 46 04.8**	**-0.6**
EDRB	**Edirne**	**0.93 179**	*e*PG	**Pg**	**13 46 10.8**	**+0.1**
EDRB			*e*SG	**Sg**	**13 46 22.8**	**+0.1**
PVL	**Pavlikeni**	**1.11 294**	*i* Pg	**Pg**	**13 46 16.4**	**+2.2**
DIM	**Dimitrovgrad**	**1.14 231**	*i* Pg	**Pg**	**13 46 15.8**	**+1.0**
ZIMR		**1.33 312**	⇑P	**Pg**	**13 46 18.7**	**+0.3**
ZIMR		**1.33 312**	⇑*i*P	**Pg**	**13 46 18.7**	**+0.3**
ZIMR		**1.33 312**	S	**Sg**	**13 46 37.5**	**+1.9**
PSN	**Preselentsi**	**1.40 49**	*i* Pg	**Pn**	**13 46 17.3**	**-2.2**
PLD	**Plovdiv**	**1.64 247**	*e*Pb	**Pn**	**13 46 22.0**	**-0.9**
PLD			*e*Sb	**Sb**	**13 46 44.9**	**-0.2**
PLD	**Plovdiv**	**1.64 247**	*i* Pg	**Pg**	**13 46 24.5**	**+0.2**
BUC1	**Bucharest**	**1.65 342**	S	**Sn**	**13 46 46.3**	**+1.4**
ALN	**Alexandroupoli**	**1.94 195**	*e*Pn	**Pn**	**13 46 26.0**	**-1.1**
ALN			*e*Sn	**Sn**	**13 46 52.1**	**0.0**
MFT	**Murefte**	**2.03 168**	*e*PN	**Pn**	**13 46 28.4**	**+0.2**
TIRR	**Tirgusor**	**2.08 35**	⇓P	**Pn**	**13 46 26.0**	**-3.0**
TIRR			S	**Sn**	**13 46 56.1**	**+0.7**
TIRR	**Tirgusor**	**2.08 35**	⇓*i*P	**Pn**	**13 46 26.0**	**-2.9**
TIRR			S	**Sn**	**13 46 56.2**	**+0.7**
ENEZ	**Enez**	**2.08 192**	*e*PN	**Pn**	**13 46 28.3**	**-0.7**
HARR	**Harsova**	**2.10 24**	P	**Pn**	**13 46 29.7**	**+0.5**
HARR	**Harsova**	**2.10 24**	⇓*i*P	**Pn**	**13 46 27.9**	**-1.3**
HARR	**Harsova**	**2.10 24**	P	**Pn**	**13 46 29.7**	**+0.5**
RKY	**Sarkoy-Tekirda**	**2.11 171**	*e*PN	**Pn**	**13 46 29.6**	**+0.2**
KLYT	**Kilyos**	**2.30 131**	*e*PN	**Pn**	**13 46 32.5**	**+0.5**
LPK	**Lapseki**	**2.40 179**	*e*PN	**Pn**	**13 46 33.0**	**-0.3**
ISK	**Istanbul-Kandi**	**2.44 134**	*e*PN	**Pn**	**13 46 33.2**	**-0.7**
MMB	**Musomiste**	**2.52 243**	P	**Pn**	**13 46 40.6**	**+5.6**
EDC	**Edincik**	**2.57 160**	*e*PN	**Pn**	**13 46 35.9**	**+0.2**
BNT	**Bandirma**	**2.58 159**	*e*PN	**Pn**	**13 46 35.4**	**-0.4**
VTS	**Vitosha**	**2.60 267**	*e*Pn	**Pn**	**13 46 35.7**	**-0.4**
VTS			*e*Sn	**Sn**	**13 47 08.3**	**-0.1**
VTS	**Vitosha**	**2.60 267**	⇓P	**Pn**	**13 46 32.4**	**-3.7**
VTS			S	**Sn**	**13 47 09.3**	**+1.0**
VTS	**Vitosha**	**2.60 267**	*e*Pn	**Pn**	**13 46 36.5**	**+0.4**
VTS			*e*Sn	**Sn**	**13 47 08.4**	**+0.1**
VTS	**Vitosha**	**2.60 267**	⇓*i*P	**Pn**	**13 46 32.4**	**-3.7**
VTS	**Vitosha**	**2.60 267**	*i* P	**Pn**	**13 46 36.3**	**+0.2**
VTS			*i* Pg	**Pg**	**13 46 41.9**	**-0.8**
VTS	**Vitosha**	**2.60 267**	*i* P	**Pn**	**13 46 36.3**	**+0.2**
VTS	**Vitosha**	**2.60 267**	*i* Pg	**Pg**	**13 46 41.9**	**-0.8**
VTS			*e*Sn	**Sn**	**13 47 08.3**	**-0.1**
VTS			S	**Sn**	**13 47 09.3**	**+0.9**
CRAR	**CRAIOVA**	**2.63 307**	S	**Sg**	**13 47 16.4**	**-1.1**
GADA	**Gvkgeada**	**2.66 194**	*e*PN	**Pn**	**13 46 36.8**	**-0.1**
MLR	**Muntele Rosu**	**2.77 349**	⇓P	**Pn**	**13 46 40.1**	**+1.7**
MLR			S	**Sg**	**13 47 20.2**	**-1.7**
MLR	**Muntele Rosu**	**2.77 349**	⇓*i*P	**Pn**	**13 46 40.1**	**+1.6**
MLR	**Muntele Rosu**	**2.77 349**	S	**Sg**	**13 47 20.2**	**-1.7**
VOIR		**2.92 336**	⇑P	**Pn**	**13 46 41.6**	**+1.1**
VOIR			S	**Sg**	**13 47 24.8**	**-2.0**
VOIR		**2.92 336**	⇑*i*P	**Pn**	**13 46 41.6**	**+1.1**
VOIR		**2.92 336**	S	**Sg**	**13 47 24.8**	**-2.0**
HRT	**Hereke**	**2.94 131**	*e*PN	**Pn**	**13 46 42.0**	**+1.3**
YLV	**Yalova**	**2.97 137**	*e*PN	**Pn**	**13 46 40.9**	**-0.2**
PLOR	**Plostina**	**3.08 359**	⇑*i*P	**Pn**	**13 46 43.5**	**+0.9**
PLOR			S	**Sn**	**13 47 20.7**	**+0.7**
VRI	**Vrincioaia**	**3.09 360**	⇓P	**Pn**	**13 46 43.9**	**+1.1**
VRI			S	**Sb**	**13 47 27.4**	**+0.5**
VRI	**Vrincioaia**	**3.09 360**	⇓*i*P	**Pn**	**13 46 43.9**	**+1.1**
VRI	**Vrincioaia**	**3.09 360**	S	**Sb**	**13 47 27.4**	**+0.6**
IZI	**Iznik**	**3.19 139**	*e*PN	**Pn**	**13 46 43.8**	**-0.4**
SOH	**Sokhos**	**3.19 233**	*e*Pn	**Pn**	**13 46 50.0**	**-0.1**
OUR	**Ouranopolis**	**3.19 221**	*e*Pn	**Pn**	**13 46 43.2**	**-1.0**
BALB	**Balikesir**	**3.25 164**	*e*PN	**Pn**	**13 46 44.7**	**-0.3**
KNT	**Kendrikon**	**3.28 242**	*e*Pn	**Pn**	**13 46 45.5**	**+0.1**
VAY	**Valandovo**	**3.42 246**	*e*Pn	**Pg**	**13 46 58.5**	**+0.1**
VAY			*e*Sn	**Sg**	**13 47 43.1**	**+0.3**
PLG	**Polygyros**	**3.44 227**	*e*Pn	**Pn**	**13 46 47.3**	**-0.3**
PLG			*e*Sn	**Sn**	**13 47 30.5**	**+1.5**
DST	**Dursunbey**	**3.48 155**	*e*PN	**Pn**	**13 46 48.6**	**+0.4**
HORT	**Hortiatis**	**3.48 233**	*e*Pn	**Pn**	**13 46 48.1**	**-0.1**
STIP	**Stip**	**3.54 254**	*e*Pn	**Pn**	**13 46 49.1**	**+0.1**
STIP			*e*Sn	**Sn**	**13 47 30.4**	**-1.1**
STIP			*e*Sg	**Sg**	**13 47 47.3**	**+0.7**
STIP	**Stip**	**3.54 254**	*e*Pn	**Pb**	**13 46 59.1**	**+2.7**
STIP			*e*Sn	**Sg**	**13 47 45.0**	**-1.6**
DJES	**Djerdap**	**3.59 303**	*e*Pg	**Pb**	**13 46 55.6**	**-1.5**
DJES			*e*Sg	**Sg**	**13 47 45.0**	**-3.1**
BARS	**Barje**	**3.62 272**	*i* Pn	**Pn**	**13 46 50.4**	**+0.4**
BARS			*e*Sn	**Sn**	**13 47 33.9**	**+0.5**
BARS			*e*Sg	**Sg**	**13 47 49.6**	**+0.6**
BOLS	**Boljevac**	**3.64 288**	*i* Pn	**Pn**	**13 46 49.5**	**-0.9**
BOLS			*e*Sg	**Sg**	**13 47 49.6**	**-0.2**
PAIG	**Paliouri**	**3.66 220**	*e*Pn	**Pn**	**13 46 49.4**	**-1.2**
GRG	**Griva**	**3.71 242**	*e*Pn	**Pn**	**13 46 51.2**	**0.0**
GRG	**Griva**	**3.71 242**	*e*Pn	**Pn**	**13 46 51.2**	**-0.1**
GZR	**Gura Zlata**	**3.87 314**	⇑P	**Pn**	**13 46 55.4**	**+1.9**
GZR	**Gura Zlata**	**3.87 314**	⇑*i*P	**Pn**	**13 46 55.3**	**+1.8**
GZR	**Gura Zlata**	**3.87 314**	S	**Sb**	**13 47 50.4**	**+1.2**
LIT	**Litokhoron**	**4.16 231**	*e*Pn	**Pn**	**13 46 57.7**	**+0.2**
AOS	**Alonnisos**	**4.20 212**	*e*Pn	**Pn**	**13 46 56.8**	**-1.3**
GRUS	**Gruza**	**4.53 286**	*i* Pn	**Pn**	**13 47 01.4**	**-1.1**
GRUS			*e*Sn	**Sn**	**13 47 53.4**	**-2.4**
BZS	**Buzias**	**4.64 309**	*e*Pn	**Pn**	**13 47 02.3**	**-1.9**
BZS			*e*Sg	**Sg**	**13 48 17.3**	**-4.7**
BZS	**Buzias**	**4.64 309**	⇓*i*P	**Pn**	**13 47 02.5**	**-1.7**
BZS	**Buzias**	**4.64 309**	S	**Sg**	**13 48 17.5**	**-4.5**
DRGR		**4.93 326**	⇓P	**Pn**	**13 47 09.4**	**+1.3**
DRGR			S	**Sn**	**13 48 13.1**	**+7.4**
DRGR		**4.93 326**	⇓*i*P	**Pn**	**13 47 09.4**	**+1.3**
DRGR		**4.93 326**	⇓P	**Pn**	**13 47 09.4**	**+1.3**
DRGR			S	**Sn**	**13 48 13.1**	**+7.4**
BURAR	**Bucovina Array**	**4.96 348**	⇓P	**Pn**	**13 47 08.7**	**+0.3**
BURAR	**Bucovina Array**	**4.96 348**	⇓*i*P	**Pn**	**13 47 08.7**	**+0.3**
DIVS	**Divibare**	**5.08 287**	*e*Pn	**Pn**	**13 47 09.7**	**-0.5**
DIVS			*e*Sn	**Sn**	**13 48 09.7**	**+0.3**
DIVS	**Divibare**	**5.08 287**	*i* Pn	**Pn**	**13 47 09.6**	**-0.6**

*ISCJB **12** 13:46:26.0±1.4, 3725N±004×1367E±0.1, h7km±13km, Error ellipse: s-maj=15.4km s-min=6.6km az=9.0*
*JMA **12** 13:46:26.1, 3724N×13674E, h3km±1km, M3.1*
JMA Felt II J1.

ISC 12 13:46:26.4±1.4, 3724N±004×1367E±01, h11km±11km, n4, σ0§37/8, Near west coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JJH	**Hakui**	**0.32**	**174**	P	**Pg**	**13 46 32.5**	**-0.3**
JJH				S	**Sg**	**13 46 37.4**	**+0.3**
JSZ	**Suzu**	**0.54**	**68**	P	**Pg**	**13 46 36.5**	**-0.4**
JSZ				S	**Sg**	**13 46 44.0**	**0.0**
JHG	**Hegura jima**	**0.62**	**13**	P	**Pg**	**13 46 38.2**	**-0.2**
JHG				S	**Sg**	**13 46 47.0**	**+0.4**
MAT	**Matsushiro**	**1.37**	**120**	P	**Pn**	**13 46 51.4**	**0.0**
MAT				S	**Sb**	**13 47 09.6**	**+0.1**

*ATH **12** 14:22:16.3, 4137N×1989E, h36km±33km, MD3.5/3*
*TIR **12** 14:22:16.0±3.1, 4095N×1989E, h6km±9km*
*THE **12** 14:22:17.7, 4099N×2011E, h3km, ML3.2*
*CSEM **12** 14:22:18.6±0.1, 4111N×2021E, h5km, ML2.4, Error ellipse: s-maj=1.7km s-min=1.0km az=44.0*
*ISCJB **12** 14:22:19.1±0.3, 4106N±002×2021E±002, h10km, Error ellipse: s-maj=3.1km s-min=2.0km az=43.3*
*SKO **12** 14:22:19.7, 4110N×2020E, h4km, M2.2, ML2.4*
*NEIC **12** 14:22:20.5, 4107N×1982E, h8km, MD3.5(ATH), ML2.9(PDG), After PDG.*
*BEO **12** 14:22:20.6±0.9, 4096N×2030E, h5km±3km, ML2.5/7*
*PDG **12** 14:22:20.5±0.1, 4107N×1982E, h8km, ML2.9/10, Error ellipse: s-maj=0.4km s-min=0.6km az=0.0*

ISC 12 14:22:19.7±0.3, 4107N±002×2020E±002, h10km, n57, σ1§29/102, 5C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	**Tirane**	**0.38**	**318**	*e*Pg	**Pg**	**14 22 25.2**	**-2.0**
TIR				*e*Sg	**Sg**	**14 22 31.5**	**-0.7**
TIR	**Tirane**	**0.38**	**318**	*e*PG	**Pg**	**14 22 25.3**	**-1.8**
TIR				*i* SG	**Sg**	**14 22 32.0**	**-0.2**
TIR	**Tirane**	**0.38**	**318**	*e*Pg	**Pg**	**14 22 25.3**	**-1.8**
TIR				*e*Sg	**Sg**	**14 22 31.5**	**-0.7**
OHR	**Ohrid**	**0.46**	**84**	*e*Pg	**Pg**	**14 22 27.1**	**-1.5**
OHR				*e*Sg	**Sg**	**14 22 35.5**	**+0.9**
OHR	**Ohrid**	**0.46**	**84**	*i* Pg	**Pg**	**14 22 27.3**	**-1.3**
OHR				*e*Sg	**Sg**	**14 22 34.7**	**+0.1**
OHR	**Ohrid**	**0.46**	**84**	*e*Pg	**Pg**	**14 22 27.0**	**-1.6**
OHR				*e*Sg	**Sg**	**14 22 34.8**	**+0.2**
OHR				*e*Lg		14 22 35.5	
	comp=N,325nm,0.3s						
OHR				*e*Lg		14 22 35.5	
	comp=E,602nm,1.0s						
OHR	**Ohrid**	**0.46**	**84**	*e*Pg	**Pg**	**14 22 27.1**	**-1.5**
OHR				*e*Sg	**Sg**	**14 22 34.8**	**+0.2**
QSH	**Qafa e Shtames**	**0.51**	**334**	*e*PG	**Pg**	**14 22 30.0**	**+0.5**
QSH				*i* SG	**Sg**	**14 22 36.0**	**-0.2**
KBN	**Korca**	**0.63**	**135**	*e*PG	**Pg**	**14 22 30.2**	**-1.7**
KBN				*i* SG	**Sg**	**14 22 41.9**	**+1.8**
PHP	**Peshkopia**	**0.64**	**16**	*e*Pg	**Pg**	**14 22 30.1**	**-2.1**
PHP				*i* Sg	**Sg**	**14 22 40.5**	**-0.1**
KRUS	**Krusevo**	**0.85**	**69**	*e*Pg	**Pg**	**14 22 35.2**	**-0.8**
KRUS				*e*Sg	**Sg**	**14 22 46.5**	**-0.6**
KRUS	**Krusevo**	**0.85**	**69**	*e*Pg	**Pg**	**14 22 35.1**	**-0.9**
KRUS				*e*Sg	**Sg**	**14 22 46.4**	**-0.7**
BIA	**Bitola**	**0.85**	**93**	*e*Pg	**Pg**	**14 22 35.0**	**-1.1**
BIA				*e*Sg	**Sg**	**14 22 46.9**	**-0.3**
BIA				*e*Lg		14 22 47.2	
	comp=N,98nm,0.8s						
BIA				*e*Lg		14 22 48.3	
	comp=E,104nm,0.6s						
BIA	**Bitola**	**0.85**	**93**	*e*Pg	**Pg**	**14 22 34.8**	**-1.3**
BIA				*e*Sg	**Sg**	**14 22 48.4**	**+1.2**
FNA	**Florina**	**0.94**	**107**	*e*Pg	**Pg**	**14 22 36.1**	**-1.6**
FNA				*e*Sg	**Sg**	**14 22 51.1**	**+1.2**
ULC	**Ulcinj**	**1.15**	**322**	⇓*i*Pg	**Pg**	**14 22 38.9**	**-2.8**
ULC				*e*Sg	**Sg**	**14 22 54.2**	**-2.4**
ULC	**Ulcinj**	**1.15**	**322**	*i* PG	**Pg**	**14 22 38.8**	**-2.9**
ULC				*i* SG	**Sg**	**14 22 54.1**	**-2.5**
SRN	**Sarande**	**1.20**	**187**	*e*Pg	**Pg**	**14 22 41.7**	**-0.9**
SKO	**Skopje**	**1.30**	**45**	*e*Pg	**Pg**	**14 22 44.5**	**-0.2**
SKO	**Skopje**	**1.30**	**45**	*i* Pg	**Pg**	**14 22 44.5**	**-0.1**
SKO				*e*Sg	**Sg**	**14 23 02.2**	**+0.7**
SKO	**Skopje**	**1.30**	**45**	*e*Pn	**Pn**	**14 22 44.0**	**+0.2**
SKO				*e*Sn	**Sn**	**14 23 01.9**	**+0.6**
SKO				*e*Lg		14 23 03.2	
	comp=N,145nm,0.5s						
SKO				*e*Lg		14 23 03.9	
	comp=E,185nm,0.9s						
SKO	**Skopje**	**1.30**	**45**	*e*Pg	**Pg**	**14 22 44.5**	**-0.1**
SKO				*e*Sn	**Sn**	**14 23 01.9**	**+0.6**
BCI	**Bajram Curri**	**1.30**	**356**	*e*PN	**Pn**	**14 22 44.6**	**+0.7**
BCI				*i* SN	**Sg**	**14 23 05.6**	**+4.0**
KEK	**Kerkira**	**1.39**	**193**	*e*PN	**Pn**	**14 22 44.6**	**-0.5**
KEK				*e*SN	**Sg**	**14 23 05.5**	**+1.2**
KZN	**Kozani**	**1.42**	**122**	*e*PN	**Pg**	**14 22 46.6**	**-0.3**
KZN				*e*SN	**Sg**	**14 23 08.7**	**+3.5**
JAN	**Janina**	**1.49**	**160**	*e*PN	**Pg**	**14 22 47.8**	**-0.5**
PDG	**Podgorica**	**1.53**	**333**	*i* PG	**Pn**	**14 22 46.5**	**-0.6**
PDG				*i* SG	**Sg**	**14 23 09.2**	**+0.2**
TTG	**Podgorica**	**1.53**	**333**	⇑*i*Pg	**Pn**	**14 22 46.5**	**-0.6**
TTG				*e*Sg	**Sg**	**14 23 09.2**	**+0.2**
PVY	**Plav**	**1.54**	**354**	⇓*i*Pg	**Pg**	**14 22 48.7**	**-0.5**
PVY				*e*Sg	**Sg**	**14 23 11.9**	**+2.8**
PVY	**Plav**	**1.54**	**354**	*i* PG	**Pg**	**14 22 48.7**	**-0.5**
PVY				*i* SG	**Sg**	**14 23 11.9**	**+2.8**
BUM	**Brajici-Budva**	**1.57**	**322**	⇑*i*Pg	**Pn**	**14 22 46.5**	**-1.1**
BUM				*e*Sg	**Sg**	**14 23 08.8**	**-1.4**
BUM	**Brajici-Budva**	**1.57**	**322**	*i* PG	**Pn**	**14 22 46.5**	**-1.1**
BUM				*i* SG	**Sg**	**14 23 08.8**	**-1.4**
STIP	**Stip**	**1.62**	**67**	*e*Pg	**Pg**	**14 22 49.4**	**-1.4**
STIP				*e*Sg	**Sg**	**14 23 10.7**	**-1.2**
STIP	**Stip**	**1.62**	**67**	*e*Pn	**Pn**	**14 22 49.2**	**+0.9**
STIP				*e*Sn	**Sn**	**14 23 11.9**	**+2.6**
STIP				*e*Lg		14 23 12.1	
	comp=E,19nm,0.7s						
STIP				*e*Lg		14 23 12.4	
	comp=N,36nm,1.0s						
STIP	**Stip**	**1.62**	**67**	*e*Pn	**Pn**	**14 22 49.2**	**+0.9**
STIP				*e*Sn	**Sn**	**14 23 11.8**	**+2.5**
GRG	**Griva**	**1.67**	**93**	*e*Pb	**Pn**	**14 22 48.5**	**-0.5**
VAY	**Valandovo**	**1.81**	**81**	*e*Pg	**Pg**	**14 22 52.7**	**-1.7**
VAY				*e*Sg	**Sg**	**14 23 17.4**	**-0.4**
VAY	**Valandovo**	**1.81**	**81**	*e*Pn	**Pn**	**14 22 52.1**	**+1.3**
VAY				*e*Sn	**Sn**	**14 23 16.7**	**+2.9**
VAY				*e*Lg		14 23 17.4	
	comp=N,46nm,0.8s						
VAY				*e*Lg		14 23 19.7	
	comp=E,49nm,0.9s						
VAY	**Valandovo**	**1.81**	**81**	*e*Pn	**Pn**	**14 22 52.1**	**+1.2**
VAY				*e*Sn	**Sn**	**14 23 16.7**	**+2.9**
BEY	**Berane**	**1.82**	**353**	*i* PG	**Pg**	**14 22 53.0**	**-1.6**
BEY				*i* SG	**Sg**	**14 23 18.5**	**+0.4**
IVA	**Berane**	**1.82**	**353**	⇓*i*Pn	**Pg**	**14 22 53.0**	**-1.6**
IVA				*e*Sn	**Sg**	**14 23 18.5**	**+0.4**
HCY	**Herceg Novi**	**1.88**	**318**	⇑*i*Pn	**Pn**	**14 22 51.5**	**-0.3**
HCY				*e*Sn	**Sn**	**14 23 16.2**	**+0.7**
HCY	**Herceg Novi**	**1.88**	**318**	*i* PG	**Pn**	**14 22 51.5**	**-0.3**
HCY				*i* SG	**Sn**	**14 23 16.2**	**+0.7**
NKY	**Niksic**	**1.96**	**333**	⇓*i*Pn	**Pn**	**14 22 53.6**	**+0.6**
NKY				*e*Sn	**Sn**	**14 23 19.8**	**+2.2**
NKY	**Niksic**	**1.96**	**333**	*i* PG	**Pn**	**14 22 53.6**	**+0.6**
NKY				*i* SG	**Sn**	**14 23 19.8**	**+2.2**
KNT	**Kendrikon**	**2.04**	**86**	*e*Pn	**Pn**	**14 22 53.9**	**-0.2**
THL	**Klokotos Trika**	**2.04**	**137**	*e*PN	**Pn**	**14 22 55.3**	**+1.2**
BARS	**Barje**	**2.12**	**34**	*i* Pn	**Pn**	**14 22 56.7**	**+1.5**
BARS				*e*Sn	**Sg**	**14 23 26.0**	**-2.0**
BRY	**Bratogost**	**2.21**	**327**	⇑*i*Pn	**Pn**	**14 22 56.5**	**+0.1**
BRY				*e*Sn	**Sn**	**14 23 24.7**	**+1.0**
PLE	**Pljevlja**	**2.34**	**345**	⇓*i*Pn	**Pn**	**14 22 59.5**	**+1.3**
PLE				*e*Sn	**Sn**	**14 23 30.3**	**+3.3**
UPM	**Unac-Piva**	**2.34**	**336**	⇑*i*Pn	**Pn**	**14 22 59.3**	**+1.1**
UPM				*e*Sn	**Sn**	**14 23 29.0**	**+2.0**
VTS	**Vitosha**	**2.72**	**55**	*e*Sn	**Sn**	**14 23 36.8**	**+0.5**
GRUS	**Gruza**	**2.85**	**8**	*i* Pn	**Pn**	**14 23 08.3**	**+3.2**
GRUS	**Gruza**	**2.85**	**8**	*e*Sn	**Sn**	**14 23 44.2**	**+4.7**
GRUS	**Gruza**	**2.85**	**8**	*e*Pn	**Sn**	**14 23 37.2**	**-2.3**
PAIG	**Paliouri**	**2.89**	**112**	*e*Pn	**Pn**	**14 23 04.8**	**-0.9**
DIVS	**Divibare**	**3.03**	**357**	*e*Pn	**Pn**	**14 23 10.1**	**+2.4**

WEL 12 14:46:13.5±1.0, 3767S×17993E, h37km, ML3.7/5, Error ellipse: s-maj=11.6km s-min=4.3km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.29**	**274**	PN	Pn	14 46 34.7	-0.2
PUZ	**Puketiti**	**1.38**	**253**	PN	Pn	14 46 35.7	-0.5
PUZ				SN	Sn	14 46 52.8	-0.5
MWZ	**Matawai**	**2.01**	**250**	PN	Pn	14 46 44.1	-0.7
MWZ				SN	Sn	14 47 07.7	-1.0
URZ	**Urewera**	**2.30**	**254**	PN	Pn	14 46 49.3	+0.4
BKZ	**Black Stump Fm**	**3.08**	**240**	PN	Pn	14 46 59.2	-0.4
BKZ				SN	Sn	14 47 33.8	-1.5
PXZ	**Pawanui**	**3.36**	**224**	PN	Pn	14 47 01.9	-1.5
KUZ	**Kuaotunu**	**3.48**	**284**	PN	Pn	14 47 04.7	-0.4
TSZ	**Takapari Road**	**3.91**	**231**	PN	Pn	14 47 09.3	-1.7

IDC 12 15:24:24.5±1.7, 996N×9357E, h27km±5km, mb3.6/7, mb1 3.7/7, mb1mx3.4/21, mbtmp3.6/7, 1D, Error ellipse: s-maj=73.9km s-min=16.5km az=60.0, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.87**	**334**	⇓*ex*	x	15 24 30.1	
	comp=E,163nm,0.5s						
PBA				*e*P	x	15 25 05.2	
PBA				*e*S	x	15 25 19.5	
PBA				*ex*	x	15 25 28.6	
	comp=N,116nm,0.4s						
PSI	**Prapat**	**8.88**	**143**	Pn	Pn	15 26 37.1	+6.0
	comp=N,0.5nm,0.3s,baz=320,slow=17,SNR=2.6						
MKAR	**Makanchi Array**	**37.94**	**347**	P	P	15 31 38.9	-0.8
	comp=N,0.5nm,0.7s,baz=163,slow=8.9,SNR=4.7						
MKAR				pP	pP	15 31 47.1	-0.6
	comp=N,0.7nm,0.7s,baz=169,slow=7.0,SNR=4.5						
SONM	**Songino Array**	**39.27**	**14**	P	P	15 31 50.7	-0.1
	comp=N,0.2nm,0.6s,baz=207,slow=6.1,SNR=3.7						
SONM				pP	pP	15 31 59.3	+0.5
	comp=N,0.7nm,0.9s,baz=208,slow=8.1,SNR=4.7						
SONM				PcP	PcP	15 34 00.0	+0.7
	comp=N,0.3nm,0.6s,baz=208,slow=2.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**44.42**	**353**	P	P	15 32 32.8	0.0
	comp=N,1.1nm,0.4s,baz=170,slow=9.0,SNR=5.7						
ZALV				pP	pP	15 32 41.1	+0.2
	comp=N,0.6nm,0.3s,baz=166,sl

SNR=5.5
MKAR Makanchi Array 12.97 37 Pn **Pn 15 51 18.1 -1.0**
0.0nm,0.3s,baz=218,slow=16,SNR=2.1
BVAR Borovoye Array 16.17 359 P **Pn 15 51 58.8 -0.6**
0.1nm,0.3s,baz=165,slow=12,SNR=3.7
AKTO Aktyubinsk 16.50 329 P **Pn 15 52 04.5 +1.1**
0.3nm,0.3s,baz=128,slow=15,SNR=5.3
ZALV Zalesovo Beam 19.57 25 P **P 15 52 37.7 +0.3**
0.8nm,0.3s,baz=214,slow=10,SNR=4.6
NOA NORSAR Array B 44.13 323 LR LR 16 15 21.4
comp=Z,18nm,19.5s,baz=220,slow=36
TORD Torodi Ar. Bea 65.78 269 P **P 15 58 47.3 -4.2**
0.5nm,1.1s,mb3.3,baz=82,slow=4.5,SNR=2.3
YKA Yellowknife Ar 80.89 3 P **P 16 00 20.2 +0.9**
0.3nm,0.5s,mb3.3,baz=350,slow=5.3,SNR=4.9

*MOS **12** 16:41:10.9±1.8, 4247N×4547E, h2^km^, mb3.9/1, Error ellipse: s-maj=24.3km s-min=12.2km az=156.7*
*CSEM **12** 16:41:10.9, 4247N×4547E, h2^km^, mb3.9, After OBN*
*ISCJB **12** 16:41:13.7±0.5, 4238N±004×4563E±003, h10^km^, Error ellipse: s-maj=5.8km s-min=2.9km az=152.4*
*TIF **12** 16:41:13.7, 4224N×4568E, h16^km^±3^km^*
ISC 12 16:41:13.9±0.5,**4233N**±004×**4567E**±004,**h10**^km^,**n19,**
σ**1**§**16/37,Eastern Caucasus**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTLR	**Botlikh**	**0.53**	**51**	*e*Pg	**Pg**	**16 41 23.5**	**-0.7**
BTLR				*i* S	**Sg**	**16 41 32.0**	**+0.8**
BTLR				pmax	pmax		
	comp=Z,102nm,0.1s						
BTLR	**Botlikh**	**0.53**	**51**	*e*Pg	**Pg**	**16 41 23.5**	**-0.7**
	comp=Z,102nm,0.1s						
BTLR				*i* Sg	**Sg**	**16 41 32.0**	**+0.8**
XNZR	**Khunzakh**	**0.80**	**75**	*e*PG	**Pg**	**16 41 30.1**	**+0.8**
XNZR				*e*S	**Sg**	**16 41 41.9**	**+2.2**
XNZR				pmax	pmax		
	comp=Z,117nm,0.1s						
XNZR	**Khunzakh**	**0.80**	**75**	*e*Pg	**Pg**	**16 41 30.1**	**+0.8**
	comp=Z,117nm,0.1s						
XNZR				*e*Sg	**Sg**	**16 41 41.9**	**+2.2**
DGRG	**David-gareji**	**0.91**	**194**	P	**Pg**	**16 41 31.3**	**-0.1**
DGRG				S	**Sg**	**16 41 44.9**	**+1.6**
MTA	**Mtatsminda**	**0.91**	**226**	P	**Pg**	**16 41 30.5**	**-1.0**
MTA				S	**Sg**	**16 41 42.6**	**-0.7**
TBLG	**Delisi**	**0.92**	**229**	S	**Pg**	**16 41 32.6**	**+1.0**
UNCR	**Uncukul**	**0.92**	**65**	*e*PG	**Pg**	**16 41 30.7**	**-0.9**
UNCR				*i* S	**Sg**	**16 41 44.0**	**+0.5**
UNCR				pmax	pmax		
	comp=Z,34nm,0.2s						
UNCR	**Uncukul**	**0.92**	**65**	*e*Pg	**Pg**	**16 41 30.7**	**-0.9**
	comp=Z,34nm,0.2s						
UNCR				*i* Sg	**Sg**	**16 41 44.0**	**+0.5**
KRNR	**Karanay**	**1.04**	**61**	*e*PG	**Pg**	**16 41 33.0**	**-1.0**
KRNR				*i* S	**Sg**	**16 41 46.2**	**-1.3**
KRNR				pmax	pmax		
	comp=Z,17nm,0.2s						
KRNR	**Karanay**	**1.04**	**61**	*e*Pg	**Pg**	**16 41 33.0**	**-1.0**
	comp=Z,17nm,0.2s						
KRNR				*i* Sg	**Sg**	**16 41 46.2**	**-1.3**
KMKR	**Kumukh**	**1.08**	**100**	*e*PG	**Pb**	**16 41 32.0**	**-2.8**
KMKR				*i* S	**Sg**	**16 41 48.5**	**-0.3**
KMKR				pmax	pmax		
	comp=Z,35nm,0.2s						
KMKR	**Kumukh**	**1.08**	**100**	*e*Pg	**Pb**	**16 41 32.0**	**-2.8**
	comp=Z,35nm,0.2s						
KMKR				*i* Sg	**Sg**	**16 41 48.5**	**-0.3**
DBC	**Dubki**	**1.10**	**51**	*i* PG	**Pb**	**16 41 33.0**	**-2.0**
DBC				*i* S	**Sg**	**16 41 50.0**	**+0.6**
DBC				pmax	Sg		
	comp=Z,52nm,0.2s						
DBC	**Dubki**	**1.10**	**51**	*i* Pg	**Pb**	**16 41 33.0**	**-2.0**
	comp=Z,52nm,0.2s						
DBC				*i* Sg	**Sg**	**16 41 50.0**	**+0.6**
BUJR	**Buynaksk**	**1.17**	**65**	*e*Pg	**Pg**	**16 41 38.5**	**+2.0**
BUJR				*e*Sg	**Sg**	**16 41 56.8**	**+5.1**
GOR	**Gori**	**1.21**	**254**	P	**Pn**	**16 41 36.3**	**-0.5**
GOR				S	**Sb**	**16 41 52.6**	**+0.1**
KIV	**Kislovodsk**	**2.72**	**308**	PG	**Sn**	**16 42 20.0**	**-10**
KIV				S	**Sg**	**16 42 42.0**	**+0.8**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.5s						
KIV				smax			
	comp=N,5.0nm,0.6s						
KIV	**Kislovodsk**	**2.72**	**308**	Pg	**Sn**	**16 42 20.0**	**-10**
	comp=N,2.0nm,0.5s						
KIV				Sg	**Sg**	**16 42 42.0**	**+0.8**
	comp=N,5.0nm,0.6s						

IDC 12 16:47:09.4±2.6,**418S**×**15271E,h0**^km^,**mb3.7**/4,**mb1 3.9**/4, **mb1mx3.7**/13,**mbtmp3.7**/4,**Error ellipse: s-maj=87.8km s-min=23.4km az=118.0,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.79**	**227**	P	P	16 52 25.1	+0.9
	3.2nm,0.8s,baz=53,slow=9.7,SNR=20						
WRA				S	S	16 56 40.9	+0.2
	1.0nm,0.8s,baz=47,slow=17,SNR=5.0						
ASAR	**Alice Springs**	**26.55**	**221**	P	P	16 52 50.0	+0.8
	0.9nm,0.9s,baz=54,slow=9.0,SNR=14						
FITZ	**Fitzroy Crossi**	**29.88**	**240**	P	P	16 53 19.7	+0.7
	0.9nm,0.7s,baz=70,slow=12,SNR=4.1						
SONM	**Songino Array**	**65.76**	**328**	P	P	16 57 56.8	+0.6
	0.5nm,0.7s,baz=146,slow=5.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**150.03**	**289**	PKPbc	PKPbc	17 07 01.7	-1.4
	3.4nm,0.8s,baz=77,slow=1.8,SNR=16						

IDC 12 17:00:13.5±6.9,**3125S**×**17777W,h0**^km^,**mb3.6**/2, **mb1 3.9**/2,**mb1mx3.7**/12,**mbtmp3.6**/2,**Error ellipse: s-maj=295.4km s-min=56.2km az=157.0,Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.27**	**268**	P	P	17 08 17.2	+0.2
	0.5nm,0.6s,baz=108,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**44.34**	**273**	P	P	17 08 25.2	-0.4
	0.6nm,0.5s,baz=112,slow=8.0,SNR=11						
FINES	**FINESS Array B**	**146.01**	**340**	PKPbc	PKPbc	17 19 53.8	-0.7
	0.7nm,0.5s,baz=42,slow=5.9,SNR=6.6						

IDC 12 17:48:00.6±1.9,**526S**×**13412E,h0**^km^,**mb3.7**/2,**mb1 3.8**/6, **mb1mx3.7**/13,**mbtmp3.7**/6,**ML3.6**/4,**Error ellipse: s-maj=49.7km s-min=24.6km az=96.0,Aru Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**11.47**	**244**	Pn	Pn	17 50 47.2	+1.4
	1.6nm,0.3s,baz=72,slow=8.2,SNR=4.6						
BATI				Sn	Sn	17 52 54.0	-0.7
	0.7nm,0.3s,baz=274,slow=19,SNR=2.9						
WRA	**Warramunga Arr**	**14.60**	**179**	Pn	Pn	17 51 26.6	-2.0
	0.1nm,0.3s,baz=354,slow=14,SNR=13						
WRA				Sn	Sn	17 54 07.1	-4.1
	0.2nm,0.3s,baz=355,slow=24,SNR=5.0						
FITZ	**Fitzroy Crossi**	**15.22**	**212**	Pn	Pn	17 51 37.5	+0.5
	0.3nm,0.3s,baz=69,slow=15,SNR=9.5						
FITZ				Sn	Sn	17 54 17.8	-8.6
	0.3nm,0.3s,baz=203,slow=19,SNR=6.8						
ASAR	**Alice Springs**	**18.30**	**181**	P	Pn	17 52 16.6	+0.5
	0.2nm,0.3s,baz=4.1,slow=10,SNR=48						
SONM	**Songino Array**	**58.22**	**338**	P	P	17 57 57.1	+0.5
	0.2nm,0.5s,baz=160,slow=8.1,SNR=2.4						
MKAR	**Makanchi Array**	**69.10**	**325**	P	P	17 59 08.2	-0.3
	0.9nm,0.8s,baz=124,slow=6.5,SNR=4.4						

*NIED **12** 17:50:00, 2490N×12170E, h50^km^, Mw4.0 Best double couple: M0 1.21000×10^15^ NP1:φ=324.00000°, δ81.00000°, λ-14.00000°. NP2:φ=57.00000°, δ76.00000°, λ-171.00000°.*
*ISCJB **12** 17:50:09.5±0.4, 2457N±005×12162E±003, h55^km^±4^km^, mb3.6/8, Error ellipse: s-maj=9.2km s-min=4.2km az=5.9*
*BJI **12** 17:50:09.5, 2472N×12175E, h2^km^, mB4.8, mb4.4, ML4.0, Ms4.4, Msz3.6*
*NEIC **12** 17:50:10.4±0.5, 2454N×12162E, h45^km^±5^km^, mb3.8/1, Error ellipse: s-maj=11.6km s-min=7.9km az=88.0*

NEIC Recorded [3 TAP] in I-lan; [2 TAP] in Hua-lien, Miao-li, T'ai-chung, T'ai-pei and T'ao-yuan; [1 TAP] in Hsin-chu Counties.
*IDC **12** 17:50:12.3±4.6, 2453N×12177E, h66^km^±44^km^, mb3.3/7, mb1 3.4/10, mb1mx3.3/21, mbtmp3.3/10, ML3.6/3, Error ellipse: s-maj=30.6km s-min=17.6km az=61.0*
ISC 12 17:50:10.6±0.4,**2453N**±005×**12161E**±003,**h47**^km^±5^km^,
n33,σ**0**§**91/43,mb3.6/8,2D,Taiwan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**0.26**	**303**	*e*Pn	**Pn**	**17 50 18.7**	**-0.4**
YHNB				*e*Sn	**Sn**	**17 50 25.1**	**+0.1**
NACB	**Ninganchiao**	**0.36**	**182**	*e*Pn	**Pn**	**17 50 19.4**	**-0.6**
TATO	**Taipei**	**0.46**	**346**	*e*Pn	**Pn**	**17 50 20.9**	**-0.3**
YOJ	**Yonaguni jima**	**1.28**	**93**	P	**Pn**	**17 50 31.8**	**-0.2**
YOJ				S	**Sn**	**17 50 47.3**	**-0.7**
IRIF	**Iriomote-Funau**	**1.94**	**95**	P	**Pn**	**17 50 40.6**	**-0.5**
IRIF				S	**Sn**	**17 51 03.5**	**-0.8**
HATJ	**Hateruma jima**	**2.06**	**103**	P	**Pn**	**17 50 44.4**	**+1.7**
HATJ				S	**Sn**	**17 51 08.4**	**+1.2**
JKRS	**Kuro-shima**	**2.21**	**97**	P	**Pn**	**17 50 44.7**	**-0.1**
JKRS				*e*S	**Sn**	**17 51 11.0**	**+0.2**
JIJ	**Ishigaki jima**	**2.31**	**94**	P	**Pn**	**17 50 45.5**	**-0.7**
JIJ				S	**Sn**	**17 51 12.4**	**-1.1**
QZH	**Quanzhou**	**2.78**	**279**	⇓*i* P	**Pn**	**17 50 53.0**	**+0.4**
QZH				S	**Sn**	**17 51 23.1**	**-1.8**
QZH				Smax			
	comp=N,740nm,0.9s						
QZH				Smax			
	comp=E,540nm,1.0s						
JTJ	**Tarama**	**2.82**	**87**	P	**Pn**	**17 50 53.3**	**+0.2**
JMJ	**Miyako jima 2**	**3.36**	**84**	P	**Pn**	**17 51 01.5**	**+0.9**
JOGS	**Gusukube**	**3.46**	**85**	P	**Pn**	**17 51 03.0**	**+1.0**
JOGS				*e*S	**Sn**	**17 51 40.7**	**-1.0**
JKE	**Kume jima 2**	**5.01**	**68**	P	**Pn**	**17 51 25.3**	**+2.1**
JAGN	**Aguni-jima**	**5.48**	**67**	P	**Pn**	**17 51 31.5**	**+1.8**
JIH	**Iheya**	**6.25**	**65**	P	**Pn**	**17 51 41.3**	**+1.0**
JOW	**Kunigami**	**6.43**	**68**	P	**Pn**	**17 51 42.6**	**-0.2**
JOW	**Kunigami**	**6.43**	**68**	P	**Pn**	**17 51 43.0**	**+0.2**
	comp=E,4.7nm,0.3s,baz=239,slow=12,SNR=28						
JOW				S	**Sn**	**17 52 54.0**	**-1.0**
	baz=93,slow=19,SNR=1.8						
JTK	**Tokunoshima**	**7.35**	**62**	P	**Pn**	**17 51 55.5**	**+0.2**
JAM	**Amami Oshima**	**8.14**	**60**	P	**Pn**	**17 52 05.6**	**-0.6**
WHN	**Wuhan**	**8.80**	**315**	⇓P	**Pn**	**17 52 21.0**	**+5.8**
WHN				*e*S	**Sn**	**17 53 47.1**	**-5.8**
WHN				Smax			
	comp=N,98nm,1.0s						
WHN				Smax			
	comp=E,93nm,1.0s						
WHN				LR	LR		
	comp=N,875nm,7.3s						
WHN				LR	LR		
	comp=E,618nm,3.7s						
GYA	**Guiyang**	**13.64**	**281**	P	**Pn**	**17 53 23.0**	**+1.6**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s						
GYA				AMB	AMB		
	comp=Z,110nm,5.3s						
GYA				LR	LR		
	comp=N,350nm,4.8s						
GYA				LR	LR		
	comp=E,280nm,4.9s						
GYA				LR	LR		
	comp=Z,270nm,4.3s						
KSRS	**Korea Array**	**13.97**	**21**	P	**Pn**	**17 53 25.1**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=207,slow=14,SNR=5.3						
MJAR	**Matsushiro Arr**	**18.61**	**46**	P	**Pn**	**17 54 24.5**	**-0.3**
	comp=Z,0.1nm,0.3s,baz=228,slow=11,SNR=2.5						
KKM	**Kota Kinabalu**	**19.10**	**197**	P	**Pn**	**17 54 30.4**	**-0.3**
KSM	**Kuching**	**25.39**	**207**	*e*P	**P**	**17 55 34.6**	**+0.8**
ULN	**Ulaanbaatar**	**25.99**	**337**	P	**P**	**17 55 37.6**	**-1.3**
	comp=Z,3.0nm,0.9s,mb3.8						
SONM	**Songino Array**	**26.20**	**336**	P	**P**	**17 55 42.2**	**+1.4**
	comp=Z,0.8nm,0.6s,mb3.4,baz=151,slow=9.2,SNR=10.0						
MKAR	**Makanchi Array**	**38.36**	**315**	P	**P**	**17 57 28.1**	**+1.0**
	comp=Z,0.7nm,0.7s,mb3.5,baz=103,slow=10,SNR=7.8						
ZALV	**Zalesovo Beam**	**40.17**	**327**	P	**P**	**17 57 41.7**	**-0.3**
	comp=Z,0.8nm,0.6s,mb3.6,baz=113,slow=9.7,SNR=3.0						
WRA	**Warramunga Arr**	**45.91**	**163**	P	**P**	**17 58 27.8**	**-0.9**
	comp=Z,0.7nm,0.5s,mb3.9,baz=346,slow=8.8,SNR=5.4						
ASAR	**Alice Springs**	**49.37**	**165**	P	**P**	**17 58 55.4**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=338,slow=6.6,SNR=4.7						
FINES	**FINESS Array B**	**71.34**	**330**	P	**P**	**18 01 24.9**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=69,slow=7.6,SNR=2.6						
YKA	**Yellowknife Ar**	**82.50**	**23**	P	**P**	**18 02 27.2**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.5,baz=310,slow=5.0,SNR=4.3						

*CSEM **12** 17:58:33.4±0.1, 4063N×3558E, h2^km^, MD3.0, Error ellipse: s-maj=2.8km s-min=1.7km az=139.0*
*ISCJB **12** 17:58:34.0±0.5, 4060N±003×3560E±004, h2^km^, Error ellipse: s-maj=5.2km s-min=3.5km az=151.5*
*ISK **12** 17:58:34.2, 4063N×3559E, h8^km^, MD2.6*
*DDA **12** 17:58:36.2, 4051N×3551E, h12^km^±1^km^, Md3.0*
ISC 12 17:58:35.2±0.6,**4061N**±004×**3559E**±004,**h10**^km^±7^km^,**n10,**
σ**0**§**71/17,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KVT	**Kavak**	**0.58**	**37**	*e*PG	**Pg**	**17 58 45.6**	**-0.9**
KVT				*e*SG	**Sg**	**17 58 54.0**	**-0.1**
CTKT	**Corum**	**0.61**	**271**	*i* P	**Pg**	**17 58 46.5**	**-0.4**
CTKT				*i* S	**Sg**	**17 58 54.9**	**0.0**
CORM	**Corum**	**0.85**	**240**	*e*PG	**Pg**	**17 58 50.7**	**-0.8**
CORM				*e*SG	**Sg**	**17 59 03.5**	**+0.9**
YOZ	**Yozgat**	**0.99**	**192**	*e*PG	**Pg**	**17 58 54.3**	**0.0**
TOS	**Tosya**	**1.26**	**290**	*e*PN	**Pn**	**17 58 58.9**	**+0.1**
SVSK	**Karacayir**	**1.28**	**122**	*e*PN	**Pn**	**17 58 59.1**	**0.0**
CDAG	**Cicekdag**	**1.36**	**224**	*i* P	**Pn**	**17 58 58.2**	**-2.0**
CDAG				*i* S	**Sb**	**17 59 18.8**	**+0.7**
BALT	**Daday**	**1.90**	**300**	*i* P	**Pn**	**17 59 08.4**	**+0.8**
BALT				*i* S	**Sg**	**17 59 36.6**	**+0.4**
AVNT	**Avonos**	**1.92**	**197**	*i* P	**Pg**	**17 59 11.2**	**-0.7**
AVNT				*i* S	**Sg**	**17 59 37.1**	**+0.4**
GRSN	**GIRESUNGRSN**	**2.06**	**80**	*i* P	**Pg**	**17 59 15.2**	**+0.5**
GRSN				*i* S	**Sg**	**17 59 42.1**	**+0.8**

*CSEM **12** 18:15:01.6±0.1, 3892N×3548E, h2^km^, MD3.1, Error ellipse: s-maj=1.9km s-min=1.7km az=156.0*
*DDA **12** 18:15:01.3, 3893N×3556E, h7^km^±2^km^, Md3.2*
*ISCJB **12** 18:15:02.6±0.4, 3889N±003×3553E±004, h2^km^, Error ellipse: s-maj=5.0km s-min=3.2km az=138.4*
*ISK **12** 18:15:03.0, 3890N×3559E, h6^km^, MD3.1*
ISC 12 18:15:03.1±0.6,**3888N**±003×**3552E**±004,**h2**^km^±7^km^,**n16,**
σ**0**§**96/23,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	**Bunyan**	**0.26**	**96**	*e*PG	**Pg**	**18 15 07.4**	**-0.6**
BNN				*e*SG	**Sg**	**18 15 11.1**	**-0.2**
AVNT	**Avonos**	**0.53**	**259**	*i* P	**Pg**	**18 15 12.6**	**-0.6**
AVNT				*i* S	**Sg**	**18 15 20.8**	**+0.8**
YOZ	**Yozgat**	**0.78**	**349**	*e*PG	**Pg**	**18 15 17.9**	**-0.1**
YOZ				*e*SG	**Sg**	**18 15 29.8**	**+1.7**
NIG	**Nigde**	**1.05**	**223**	*e*PN	**Pn**	**18 15 24.3**	**-0.5**
CDAG	**Cicekdag**	**1.16**	**310**	*i* P	**Pg**	**18 15 22.9**	**-2.5**
CDAG				*i* S	**Sg**	**18 15 39.7**	**-0.7**
KOZT	**Kozan**	**1.42**	**170**	*e*PN	**Pn**	**18 15 31.1**	**+1.2**
ANDN	**Andirin**	**1.45**	**153**	*i* P	**Pn**	**18 15 29.9**	**-0.4**
ANDN				*i* S	**Sg**	**18 15 50.1**	**+0.4**
CORM	**Corum**	**1.47**	**332**	*e*PN	**Pn**	**18 15 30.7**	**0.0**
SVSK	**Karacayir**	**1.55**	**47**	*e*PN	**Pn**	**18 15 30.5**	**-1.2**
TOKT	**Tokat**	**1.64**	**28**	*e*PN	**Pn**	**18 15 32.2**	**-0.8**
KARA	**Karaisali**	**1.66**	**193**	*e*PN	**Pn**	**18 15 33.4**	**+0.2**
KMRS	**Kahramanmaras**	**1.75**	**141**	*e*PN	**Pn**	**18 15 34.8**	**+0.3**
CTKT	**Corum**	**1.83**	**342**	*i* P	**Pg**	**18 15 38.1**	**-0.1**
CTKT				*i* S	**Sg**	**18 16 04.2**	**+2.3**
GAZ	**Gaziantep**	**2.16**	**141**	*e*PN	**Pn**	**18 15 40.6**	**+0.5**
GZT	**Gaziantep**	**2.22**	**133**	*i* P	**Pg**	**18 15 44.1**	**-1.4**
GZT				*i* S	**Sg**	**18 16 15.4**	**+1.1**
MALT	**Malatya**	**2.35**	**103**	*e*PN	**Pn**	**18 15 43.2**	**+0.5**

*IDC **12** 18:21:15.8±1.0, 4665N×15561E, h0^km^, mb3.5/7, mb1 3.7/7, mb1mx3.5/20, mbtmp3.5/7, Error ellipse: s-maj=35.4km s-min=23.3km az=83.0*
*NEIC **12** 18:21:17.3±0.8, 4675N×15567E, h10^km^, mb4.1/3, Error ellipse: s-maj=17.8km s-min=12.6km az=136.0*

*ISCJB **12** 18:21:19.0±0.8, 467N±0.1×1555E±02, h33^km^, mb3.8/11, Error ellipse: s-maj=18.7km s-min=15.2km az=156.0*
*MOS **12** 18:21:18.7±1.7, 4682N×15558E, h33^km^, mb4.3/4, Error ellipse: s-maj=25.5km s-min=15.2km az=93.2*
ISC 12 18:21:21.2±0.8,**467N**±01×**1556E**±02,**h35**^km^,**n19,**
σ**0**§**73/19,mb3.8/11,East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PET	**Petropavlovsk**	**6.62**	**16**	PN	**Pn**	**18 22 51.7**	**-4.2**
YSS	**Yuzh-Sakhalins**	**8.79**	**276**	PN	**Pn**	**18 23 24.9**	**-0.6**
BILL	**Bilibino**	**22.08**	**11**	P	**P**	**18 26 12.1**	**-0.6**
BILL				pmax	pmax		
	comp=Z,11nm,1.7s,mb4.0						
BILL	**Bilibino**	**22.08**	**11**	P	**P**	**18 26 12.1**	**-0.6**
	comp=Z,11nm,1.7s,mb4.0						
INK	**Inuvik**	**40.78**	**33**	P	**P**	**18 28 58.1**	**-0.2**
	comp=Z,63nm,1.1s,mb5.2						
ZALV	**Zalesovo Beam**	**43.99**	**307**	P	**P**	**18 29 24.5**	**-0.2**
	comp=Z,0.5nm,0.4s,mb3.6,baz=69,slow=9.4,SNR=2.8						
ZAL	**Zalesovo**	**44.01**	**307**	P	**P**	**18 29 24.5**	**-0.3**
MKAR	**Makanchi Array**	**48.45**	**298**	P	**P**	**18 29 59.3**	**-0.5**
	comp=Z,0.2nm,0.6s,mb3.3,baz=69,slow=7.4,SNR=4.3						
KURK	**Kurchatov**	**48.78**	**305**	P	**P**	**18 30 03.2**	**+0.9**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
KURK	**Kurchatov**	**48.78**	**305**	P	**P**	**18 30 03.2**	**+0.9**
	comp=Z,1.8nm,0.9s,mb4.1						
BRVK	**Borovoye**	**52.21**	**310**	*e*P	**P**	**18 30 28.5**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BRVK	**Borovoye**	**52.21**	**310**	*e*P	**P**	**18 30 28.5**	**+0.3**
	comp=Z,2.1nm,0.6s,mb4.2						
FINES	**FINESS Array B**	**64.78**	**336**	P	**P**	**18 31 57.4**	**+1.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.78**	**336**	P	**P**	**18 31 57.4**	**+1.9**
	comp=Z,0.7nm,0.4s,mb4.0,baz=33,slow=7.4,SNR=11						
NOA	**NORSAR Array B**	**68.79**	**342**	P	**P**	**18 32 21.0**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=26,slow=6.3,SNR=2.9						
WRA	**Warramunga Arr**	**69.06**	**201**	P	**P**	**18 32 22.4**	**-0.8**
	comp=Z,0.3nm,1.1s,mb3.2,baz=20,slow=7.1,SNR=2.5						
ASAR	**Alice Springs**	**72.74**	**201**	P	**P**	**18 32 46.2**	**+0.7**
	comp=Z,0.3nm,0.6s,mb3.4,baz=11,slow=5.8,SNR=7.9						
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**18 33 04.7**	**-0.1**
TXAR	**Lajitas Array**	**76.03**	**62**	P	**P**	**18 33 04.7**	**-0.1**
	comp=Z,0.2nm,0.6s,mb3.2,baz=286,slow=3.3,SNR=5.0						

*ISCJB **12** 18:31:01.0±0.8, 3836N±003×2057E±007, h2^km^, Error ellipse: s-maj=7.6km s-min=4.6km az=173.6*
*ATH **12** 18:31:00.6, 3835N×2053E, h5^km^±2^km^, MD3.5/4*
*NEIC **12** 18:31:00.6, 3835N×2053E, h5^km^, MD3.5(ATH), After ATH.*
*CSEM **12** 18:31:01.6±0.2, 3835N×2057E, h2^km^, ML3.2, Error ellipse: s-maj=4.6km s-min=2.8km az=81.0*
*THE **12** 18:31:01.5, 3834N×2057E, h3^km^, ML3.2*
ISC 12 18:31:00.9±0.9,**3834N**±004×**2053E**±008,**h9**^km^±7^km^,**n12,**
σ**0**§**70/18,Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.17**	**164**	*e*Pg	**Pg**	**18 31 04.5**	**-0.1**
VLS				*e*Sg	**Sg**	**18 31 07.4**	**+0.3**
VLS	**Valsamata**	**0.17**	**164**	*e*PG	**Pg**	**18 31 04.3**	**-0.3**
VLS				*e*SG	**Sg**	**18 31 07.5**	**+0.5**
KFL	**Anninata**	**0.31**	**139**	*e*Pg	**Pg**	**18 31 07.2**	**+0.1**
LKD	**Levkas**	**0.38**	**14**	*e*Pg	**Pg**	**18 31 08.2**	**-0.2**
LKD				*e*Sg	**Sg**	**18 31 14.4**	**+1.0**
RLS	**Riolos of Patr**	**0.79**	**111**	*e*PB	**Pb**	**18 31 16.3**	**-0.5**
RLS				*e*SB	**Sb**	**18 31 28.2**	**+0.6**
SELA	**Sela**	**1.07**	**93**	*e*Pg	**Pg**	**18 31 20.7**	**-0.9**
SELA				*e*Sg	**Sg**	**18 31 36.2**	**+0.7**
SELA	**Sela**	**1.07**	**93**	*e*Pg	**Pg**	**18 31 20.7**	**-0.9**
SELA				*e*Sg	**Sg**	**18 31 36.2**	**+0.7**
EVR	**Evrytania**	**1.15**	**60**	*e*PG	**Pg**	**18 31 22.1**	**-1.0**
KEK	**Kerkira**	**1.48**	**338**	*e*PB	**Pb**	**18 31 28.9**	**+0.3**
AGG	**Agios Georgios**	**1.56**	**64**	*e*Pg	**Pg**	**18 31 30.1**	**-0.8**
ITM	**Ithomi**	**1.60**	**136**	*e*PB	**Pb**	**18 31 31.8**	**+1.1**
PYL	**PYLOS**	**1.73**	**146**	*e*Pb	**Pb**	**18 31 32.1**	**-0.8**

*CSEM **12** 19:06:39.8±0.1, 4567N×2644E, h145^km^, mb4.1/5, Error ellipse: s-maj=1.6km s-min=1.4km az=157.0*
*SOF **12** 19:06:39.4, 4567N×2632E, h15^km^, MD3.2*
*ISCJB **12** 19:06:40.0±0.2, 4568N±002×2645E±003, h147^km^±2^km^, mb3.9/18, Error ellipse: s-maj=3.7km s-min=3.3km az=170.9*
*MOS **12** 19:06:39.8±0.8, 4568N×2642E, h143^km^, mb3.9/9, Error ellipse: s-maj=8.4km s-min=6.6km az=100.5*
*IDC **12** 19:06:41.0±0.4, 4577N×2626E, h142^km^±3^km^, mb3.4/9, mb1 3.3/13, mb1mx3.2/24, mbtmp3.3/13, Error ellipse: s-maj=18.8km s-min=10.4km az=128.0*
*BUC **12** 19:06:40.2±0.6, 4565N×2644E, h153^km^±6^km^, MD4.6/2, Error ellipse: s-maj=4.1km s-min=3.6km az=338.0*
*NEIC **12** 19:06:41.1, 4559N×2647E, h142^km^, mb4.1/6, After BUC.*
ISC 12 19:06:41.1±0.2,**4568N**±002×**2645E**±003,**h144**^km^±2^km^,
n127,σ**0**§**88/182,mb3.9/18,28C-14D,Romania**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.23**	**39**	P	**Pn**	**19 07 00.7**	**+0.1**
PLOR				S	**Sn**

BUC1	**Bucharest**	**1.36**	**193**	⇓P		**Pn**	**19 07 08.7**	**0.0**
BUC1				S		**Sn**	**19 07 29.3**	**-0.5**
BUC1	**Bucharest**	**1.36**	**193**	P		**Pn**	**19 07 08.8**	**+0.1**
BUC1				S		**Sn**	**19 07 29.7**	**-0.1**
BUC1	**Bucharest**	**1.36**	**193**	⇑*i*P		**Pn**	**19 07 08.7**	**0.0**
BUC1				S		**Sn**	**19 07 29.7**	**-0.1**
BERR	**Berezeni**	**1.37**	**60**	⇑*i*P		**Pn**	**19 07 09.1**	**+0.4**
BERR				*i* S		**Sn**	**19 07 29.5**	**-0.4**
HARR	**Harsova**	**1.44**	**133**	⇑P		**Pn**	**19 07 09.4**	**-0.1**
HARR				S		**Sn**	**19 07 29.7**	**-1.5**
HARR	**Harsova**	**1.44**	**133**	P		**Pn**	**19 07 09.4**	**-0.1**
HARR	**Harsova**	**1.44**	**133**	⇓*i*P		**Pn**	**19 07 09.4**	**-0.1**
HARR				*i* S		**Sn**	**19 07 29.7**	**-1.5**
IAS	**Iasi**	**1.70**	**27**	P		**Pn**	**19 07 12.5**	**+0.2**
IAS				S		**Sn**	**19 07 36.1**	**-0.3**
IAS	**Iasi**	**1.70**	**27**	⇑*i*P		**Pn**	**19 07 12.4**	**+0.1**
IAS				*i* S		**Sn**	**19 07 35.4**	**-1.0**
IAS	**Iasi**	**1.70**	**27**	⇑*i*P		**Pn**	**19 07 12.4**	**+0.1**
IAS				S		**Sn**	**19 07 36.1**	**-0.3**
TLCR		**1.74**	**106**	⇓*i*P		**Pn**	**19 07 12.8**	**0.0**
TLCR				*i* S		**Sn**	**19 07 36.6**	**-0.4**
TIRR	**Tirgusor**	**1.85**	**130**	⇑P		**Pn**	**19 07 13.8**	**-0.3**
TIRR				S		**Sn**	**19 07 37.4**	**-1.9**
TIRR	**Tirgusor**	**1.85**	**130**	P		**Pn**	**19 07 13.9**	**-0.2**
TIRR				S		**Sn**	**19 07 38.7**	**-0.6**
TIRR	**Tirgusor**	**1.85**	**130**	⇓*i*P		**Pn**	**19 07 13.8**	**-0.3**
TIRR				*i* S		**Sn**	**19 07 37.5**	**-1.8**
TIRR	**Tirgusor**	**1.85**	**130**	⇓*i*P		**Pn**	**19 07 13.8**	**-0.3**
TIRR				S		**Sn**	**19 07 38.7**	**-0.6**
KIS	**Kishinev**	**2.11**	**50**	*e*P		**Pn**	**19 07 15.0**	**-2.0**
KIS				*i* S		**Sn**	**19 07 42.5**	**-2.2**
KIS	**Kishinev**	**2.11**	**50**	*e*P		**Pn**	**19 07 15.0**	**-2.0**
KIS				*i* S		**Sn**	**19 07 42.5**	**-2.2**
BURAR	**Bucovina Array**	**2.12**	**337**	⇓*i*P		**Pn**	**19 07 18.3**	**+1.2**
BURAR				*i* S		**Sn**	**19 07 47.0**	**+2.1**
BURAR	**Bucovina Array**	**2.12**	**337**	⇑P		**Pn**	**19 07 18.2**	**+1.1**
ZIMR		**2.16**	**201**	⇑P		**Pn**	**19 07 17.4**	**-0.3**
ZIMR				S		**Sn**	**19 07 44.3**	**-1.6**
ZIMR		**2.16**	**201**	⇓*i*P		**Pn**	**19 07 17.4**	**-0.3**
ZIMR				*i* S		**Sn**	**19 07 44.3**	**-1.6**
CRAR	**CRAIOVA**	**2.31**	**235**	⇓P		**Pn**	**19 07 19.1**	**-0.4**
CRAR				S		**Sn**	**19 07 47.2**	**-1.9**
CRAR	**CRAIOVA**	**2.31**	**235**	⇓*i*P		**Pn**	**19 07 19.1**	**-0.4**
CRAR				*i* S		**Sn**	**19 07 48.0**	**-1.1**
PSN	**Preselentsi**	**2.35**	**148**	P		**Pn**	**19 07 20.2**	**+0.2**
SZH	**Strazhica**	**2.44**	**189**	P		**Pn**	**19 07 20.5**	**-0.6**
PRD	**Provadia**	**2.57**	**164**	P		**Pn**	**19 07 23.1**	**+0.4**
PVL	**Pavlikeni**	**2.58**	**198**	P		**Pn**	**19 07 23.9**	**+1.0**
GZR	**Gura Zlata**	**2.59**	**265**	P		**Pn**	**19 07 23.0**	**0.0**
GZR	**Gura Zlata**	**2.59**	**265**	⇑*i*P		**Pn**	**19 07 23.3**	**+0.3**
GZR				*i* S		**Sn**	**19 07 57.0**	**+1.7**
GZR	**Gura Zlata**	**2.59**	**265**	P		**Pn**	**19 07 23.0**	**0.0**
DRGR		**2.82**	**295**	P		**Pn**	**19 07 25.7**	**-0.2**
DRGR		**2.82**	**295**	⇑*i*P		**Pn**	**19 07 25.8**	**0.0**
JMB	**Yambol**	**3.21**	**178**	P		**Pn**	**19 07 30.1**	**-0.8**
BZS	**Buzias**	**3.39**	**271**	⇓P		**Pn**	**19 07 32.7**	**-0.4**
BZS	**Buzias**	**3.39**	**271**	⇑*i*P		**Pn**	**19 07 32.7**	**-0.4**
VTS	**Vitosha**	**3.87**	**218**	*e*P		**Pn**	**19 07 41.0**	**+1.6**
UZH	**Uzhgorod**	**4.09**	**318**	*e*P		**Pn**	**19 07 41.7**	**-0.6**
UZH				*e*S		**Sn**	**19 08 29.3**	**-0.6**
KDZ	**Kurdzhali**	**4.09**	**191**	P		**Pn**	**19 07 42.1**	**-0.3**
RZN	**Rozhen**	**4.18**	**198**	P		**Pn**	**19 07 43.2**	**-0.3**
KOLS	**Kolonicke sedl**	**4.32**	**320**	*e*PN		**Pn**	**19 07 45.6**	**+0.3**
CRVS	**Cervenica-Dubn**	**4.68**	**315**	*e*PN		**Pn**	**19 07 49.9**	**-0.1**
PSZ	**Piszkesteto**	**5.03**	**299**	*e*Pn		**Pn**	**19 07 51.8**	**-2.8**
STHS	**Stebnicka Huta**	**5.14**	**319**	*e*PN		**Pn**	**19 07 56.3**	**+0.2**
STHS	**Stebnicka Huta**	**5.14**	**319**	*e*Pn		**Pn**	**19 07 56.4**	**+0.3**
SEV	**Sevastopol'**	**5.24**	**100**	*e*P		**Pn**	**19 07 56.7**	**-0.7**
SEV				*e*S		**Sn**	**19 08 57.5**	**+0.5**
SEV				pmax	pmax			
	comp=Z,5.0nm,0.3s							
SEV				smax				
	comp=N,7.0nm,0.3s							
SEV				smax				
	comp=E,3.0nm,0.3s							
SEV	**Sevastopol'**	**5.24**	**100**	*e*P		**Pn**	**19 07 56.7**	**-0.7**
	comp=E,5.0nm,0.3s							
SEV				*e*S		**Sn**	**19 08 57.5**	**+0.5**
KIEV	**Kiev**	**5.35**	**19**	*e*P		**Pn**	**19 07 58.2**	**-0.7**
KIEV				pmax	pmax			
	comp=Z,11nm,0.3s							
KIEV	**Kiev**	**5.35**	**19**	*e*P		**Pn**	**19 07 58.2**	**-0.7**
	comp=Z,11nm,0.3s							
KIEV	**Kiev**	**5.35**	**19**	*e*P		**Pn**	**19 07 58.2**	**-0.7**
	comp=Z,11nm,0.3s							
AKASG	**Malin Array Be**	**5.36**	**19**	P		**Pn**	**19 07 58.1**	**-0.9**
AKASG				S		**Sn**	**19 08 56.1**	**-3.8**
AKASG				pmax	pmax			
	comp=Z,10.0nm,0.3s							
AKASG				smax				
	comp=N,3.0nm,0.3s							
AKASG	**Malin Array Be**	**5.36**	**19**	P		**Pn**	**19 07 58.1**	**-0.9**
	comp=N,9.6nm,0.3s,baz=204,slow=12,SNR=52							
AKASG				S		**Sn**	**19 08 56.1**	**-3.8**
	comp=N,2.7nm,0.3s,baz=213,slow=24,SNR=8.3							
ALU	**Alushta**	**5.71**	**97**	*e*P		**Pn**	**19 08 03.2**	**-0.6**
ALU				*e*S		**Sn**	**19 09 09.0**	**+0.6**
ALU				pmax	pmax			
	comp=Z,15nm,0.3s							
ALU				smax				
	comp=N,20nm,0.5s							
ALU	**Alushta**	**5.71**	**97**	*e*P		**Pn**	**19 08 03.2**	**-0.6**
	comp=N,15nm,0.3s							
ALU				*e*S		**Sn**	**19 09 09.0**	**+0.6**
	comp=N,20nm,0.5s							
VYHS	**Vyhne**	**5.91**	**301**	*e*PN		**Pn**	**19 08 05.7**	**-0.7**
VYHS				*e*			19 08 21.1	
SUDU	**Sudak**	**6.09**	**94**	*e*P		**Pn**	**19 08 08.0**	**-0.8**
SUDU				*e*S		**Sn**	**19 09 17.8**	**+0.4**
SUDU				pmax	pmax			
	comp=Z,1.0nm,0.2s							
SUDU				smax				
	comp=N,10.0nm,0.7s							
SUDU				smax				
	comp=E,3.0nm,0.7s							
SUDU	**Sudak**	**6.09**	**94**	*e*P		**Pn**	**19 08 08.0**	**-0.8**
	comp=E,1.0nm,0.2s							
SUDU				*e*S		**Sn**	**19 09 17.8**	**+0.4**
GERES	**GERESS Array B**	**9.23**	**295**	P		**Pn**	**19 08 50.1**	**-0.6**
	comp=E,0.1nm,0.3s,baz=101,slow=14,SNR=7.5							
VLC	**Villacollemand**	**11.49**	**268**	Pn		**Pn**	**19 09 26.0**	**+5.3**
FINES	**FINESS Array B**	**15.80**	**359**	P		**Pn**	**19 10 10.3**	**-5.0**
	comp=E,0.1nm,0.3s,baz=171,slow=14,SNR=5.7							
HFS	**Hagfors**	**16.35**	**337**	P		**Pn**	**19 10 19.2**	**-2.7**
	comp=E,0.1nm,0.3s,baz=131,slow=10,SNR=5.9							
NB2	**NORSAR Subarra**	**17.80**	**335**	P		**Pn**	**19 10 37.8**	**-1.6**
	comp=Z,0.7nm,0.5s,baz=141,slow=11							
NOA	**NORSAR Array B**	**17.80**	**335**	P		**Pn**	**19 10 38.1**	**-1.2**
	comp=Z,0.2nm,0.3s,baz=146,slow=11,SNR=4.6							
AKTK	**Aktyubinsk**	**21.54**	**66**	P		**P**	**19 11 19.6**	**+1.1**
AKTK	**Aktyubinsk**	**21.54**	**66**	P		**P**	**19 11 19.5**	**+1.0**
AKTO	**Aktyubinsk**	**21.54**	**66**	P		**P**	**19 11 19.6**	**+1.1**
AKTO				pmax	pmax			
	comp=Z,1.0nm,0.5s,mb3.5							
AKTO	**Aktyubinsk**	**21.54**	**66**	P		**P**	**19 11 19.6**	**+1.1**
	comp=Z,1.4nm,0.5s,mb3.7,baz=279,slow=9.8,SNR=8.0							
ARU	**Arti**	**22.66**	**50**	*e*P		**P**	**19 11 29.3**	**-0.6**
ARU				pmax	pmax			
	comp=Z,3.0nm,0.4s,mb4.1							
ARU	**Arti**	**22.66**	**50**	*e*P		**P**	**19 11 29.2**	**-0.6**
	comp=Z,3.3nm,0.4s,mb4.1							
ARU	**Arti**	**22.66**	**50**	*e*P		**P**	**19 11 29.3**	**-0.6**
	comp=Z,3.0nm,0.4s,mb4.1							
ARCES	**ARCESS Array B**	**23.93**	**359**	P		**P**	**19 11 42.4**	**+1.1**
ARCES				pmax	pmax			
	comp=Z,2.0nm,0.9s							
ARCES	**ARCESS Array B**	**23.93**	**359**	P		**P**	**19 11 42.4**	**+1.1**
	comp=Z,2.3nm,0.9s,mb3.7,baz=178,slow=11,SNR=3.3							
BRVK	**Borovoye**	**29.10**	**59**	P		**P**	**19 12 27.6**	**-0.2**
BRVK				pmax	pmax			
	comp=Z,2.0nm,0.6s,mb4.0							
BRVK	**Borovoye**	**29.10**	**59**	P		**P**	**19 12 27.6**	**-0.2**
	comp=Z,2.2nm,0.6s,mb4.1							
BVAR	**Borovoye Array**	**29.17**	**59**	P		**P**	**19 12 29.5**	**+1.1**
	comp=Z,0.3nm,0.5s,mb3.3,baz=297,slow=9.4,SNR=4.2							
EKS2	**Erkin-Say**	**33.70**	**78**	P		**P**	**19 13 09.9**	**+1.7**
	comp=Z,1.6nm,0.7s,mb3.9							
EKS2	**Erkin-Say**	**33.70**	**78**	P		**P**	**19 13 09.9**	**+1.7**
	comp=Z,1.6nm,0.7s,mb3.9							
KURK	**Kurchatov**	**34.54**	**62**	*e*P		**P**	**19 13 15.6**	**+0.3**
KURK				pmax	pmax			
	comp=Z,1.0nm,0.3s,mb3.9							
KURK	**Kurchatov**	**34.54**	**62**	*e*P		**P**	**19 13 15.6**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.1							
KURK	**Kurchatov**	**34.54**	**62**	*e*P		**P**	**19 13 15.6**	**+0.3**
	comp=Z,1.4nm,0.3s,mb4.1							
ZAL	**Zalesovo**	**37.58**	**56**	P		**P**	**19 13 41.9**	**+0.8**
ZALV	**Zalesovo Beam**	**37.58**	**56**	P		**P**	**19 13 41.9**	**+0.7**
	comp=Z,1.6nm,0.3s,mb4.1,baz=288,slow=8.3,SNR=7.8							
ZALV	**Zalesovo Beam**	**37.58**	**56**	P		**P**	**19 13 41.8**	**+0.6**
MKAR	**Makanchi Array**	**37.95**	**68**	P		**P**	**19 13 45.2**	**+0.9**
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.4s							
MKAR	**Makanchi Array**	**37.95**	**68**	P		**P**	**19 13 45.1**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.5,baz=272,slow=8.1,SNR=20							
TORD	**Torodi Ar. Bea**	**38.61**	**221**	P		**P**	**19 13 49.9**	**-0.3**
	comp=Z,0.6nm,0.4s,mb3.5,baz=22,slow=8.8,SNR=15							
DBIC	**Dimbokro**	**47.36**	**225**	P		**P**	**19 14 58.9**	**-1.6**
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.8s							
DBIC	**Dimbokro**	**47.36**	**225**	P		**P**	**19 14 58.9**	**-1.6**
	comp=Z,2.4nm,0.8s,mb3.9,baz=24,slow=7.9,SNR=9.2							
DANN	**Dangsing**	**47.89**	**91**	*e*P		**P**	**19 15 04.3**	**-0.2**
	comp=Z,3.0nm,0.3s,mb4.4							
GKN	**Gorkha**	**48.72**	**90**	*e*P		**P**	**19 15 10.5**	**-0.3**
	comp=Z,6.7nm,0.5s,mb4.5							
DMN	**Daman**	**49.28**	**90**	*e*P		**P**	**19 15 14.2**	**-1.0**
	comp=Z,2.8nm,0.4s,mb4.3							
KKN	**Kakani**	**49.30**	**90**	*e*P		**P**	**19 15 15.1**	**-0.1**
	comp=Z,5.5nm,0.5s,mb4.5							
JIRN	**Jiri**	**50.01**	**90**	*e*P		**P**	**19 15 20.7**	**0.0**
	comp=Z,2.5nm,0.3s,mb4.3							
LSA	**Lhasa**	**52.26**	**84**	P		**P**	**19 15 38.7**	**+1.3**
LSA				pmax	pmax			
	comp=Z,2.0nm,0.7s,mb3.9							
LSA	**Lhasa**	**52.26**	**84**	P		**P**	**19 15 38.6**	**+1.3**
	comp=Z,2.5nm,0.7s,mb4.0							
LSA	**Lhasa**	**52.26**	**84**	P		**P**	**19 15 38.7**	**+1.3**
	comp=Z,2.5nm,0.7s,mb4.0							
SONM	**Songino Array**	**52.46**	**57**	P		**P**	**19 15 39.8**	**+1.2**
SONM				pmax	pmax			
	comp=Z,1.0nm,0.4s							
SONM	**Songino Array**	**52.46**	**57**	P		**P**	**19 15 39.8**	**+1.2**
	comp=Z,0.6nm,0.4s,mb3.6,baz=300,slow=8.5,SNR=9.4							
YAK	**Yakutsk**	**56.42**	**33**	*e*P		**P**	**19 16 00.0**	**-6.9**
YAK				pmax	pmax			
	comp=N,3.0nm,0.7s							
YAK				pmax	pmax			
	comp=Z,19nm,0.7s							
YAK				pmax	pmax			
	comp=E,5.0nm,0.6s							
YAK				pmax	pmax			
	comp=Z,38nm,0.8s							
YAK				pmax	pmax			
	comp=N,4.0nm,0.7s							
YAK				pmax	pmax			
	comp=E,6.0nm,0.5s							
YKA	**Yellowknife Ar**	**67.77**	**342**	P		**P**	**19 17 22.1**	**-0.5**
	comp=E,0.1nm,0.4s,baz=22,slow=5.5,SNR=3.4							

IDC 12 19:15:56.5±2.9, 3918N×11074E, h0km, mb3.2/2, mb1 3.5/3, mb1mx3.2/20, mbtmp3.4/3, ML2.7/1, Error ellipse: s-maj=52.9km s-min=37.6km az=54.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.20**	**341**	Pn	Pn	19 18 11.9	+1.5
	0.1nm,0.3s,baz=154,slow=12,SNR=18						
SONM				Sn	Sn	19 19 53.8	-0.8
	0.0nm,0.3s,baz=154,slow=21,SNR=3.5						
SONM				Lg		19 20 48.9	
	0.1nm,0.3s,baz=166,slow=25,SNR=8.2						
MKAR	**Makanchi Array**	**22.07**	**299**	P	P	19 20 52.9	+0.1
	1.4nm,1.1s,baz=101,slow=13,SNR=5.5						
YKA	**Yellowknife Ar**	**72.32**	**20**	P	P	19 27 23.3	-0.1
	0.1nm,0.3s,baz=323,slow=5.9,SNR=3.7						

KRSC 12 19:16:32.8±0.2, 5451N×16215E, h34km±25km, ML3.8, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.25**	**281**	*e*P	Pb	19 16 39.7	-0.3
MKZ				*i* S	Sb	19 16 44.3	-0.6
TUMR	**Tumrok**	**1.39**	**305**	*e*P	Pn	19 16 56.8	+1.0
TUMR				*i* S	Sn	19 17 14.3	+1.4
KII	**Karymskiy**	**1.65**	**254**	*e*P	Pn	19 17 00.5	+1.1
KII				*e*S	Sn	19 17 21.4	+2.0
KMNR	**Kamenistaya**	**1.66**	**319**	*e*P	Pn	19 17 01.4	+1.9
KMNR				*i* S	Sn	19 17 21.8	+2.2
KBTR	**Krutoberegovo**	**1.74**	**12**	*e*P	Pn	19 17 02.7	+2.1
KBTR				*i* S	Sn	19 17 24.2	+2.6
SPN	**Mys Shipunski**	**1.90**	**223**	*e*P	Pn	19 17 03.7	+1.0
SPN				*i* S	Sn	19 17 26.2	+0.9
KLY	**Klyuchi**	**2.00**	**335**	P	Pn	19 17 05.1	+1.0
BDR	**Baidarnaya**	**2.13**	**346**	P	Pn	19 17 08.3	+2.4
NLC	**Nalytchevo**	**2.14**	**232**	*e*P	Pn	19 17 07.5	+1.5
NLC				*i* S	Sn	19 17 33.6	+2.3
AVH	**Avacha**	**2.37**	**240**	*e*P	Pn	19 17 11.3	+2.1
AVH				*i* S	Sn	19 17 39.3	+2.2
PET	**Petropavlovsk**	**2.55**	**236**	*e*P	Pn	19 17 14.2	+2.5
PET				*i* S	Sn	19 17 43.2	+1.6
GNL	**Ganaly**	**2.61**	**253**	*e*P	Pn	19 17 14.6	+2.1
RUS	**Russkaya**	**3.01**	**228**	*e*P	Pn	19 17 20.3	+2.3
RUS				*i* S	Sn	19 17 55.3	+2.5
GRL	**Gorelyy**	**3.12**	**233**	*e*P	Pn	19 17 22.4	+2.8

*IDC **12** 19:17:37.8±1.5, 1155S×11693E, h0km, mb3.7/4, mb1 3.9/8, mb1mx3.8/16, mbtmp3.8/8, ML3.8/4, Error ellipse: s-maj=47.1km s-min=19.8km az=45.0*
*ISCJB **12** 19:17:45.2±2.2, 113S±0.1×1174E±0.1, h72km±20km, mb3.8/4, Error ellipse: s-maj=23.1km s-min=8.7km az=40.3*
*NEIC **12** 19:17:47.8±1.9, 1120S×11736E, h72km±20km, Error ellipse: s-maj=22.6km s-min=8.7km az=54.0*
ISC 12 19:17:43.3±1.2, 1149S±007×11719E±008, h35km±15km, n21, σ0°93/30, mb3.9/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.49**	**79**	Pn	**Pn**	**19 19 16.7**	**+0.4**
	1.7nm,0.3s,baz=247,slow=15,SNR=8.4						
BATI				Sn	**Sn**	**19 20 27.6**	**-1.6**
	7.8nm,0.3s,baz=63,slow=22,SNR=15						
KAPI	**Kappang**	**6.91**	**22**	Pn	**Pn**	**19 19 22.6**	**+0.5**
KAPI				Sn	**Sn**	**19 20 32.5**	**-7.1**
KAPI	**Kappang**	**6.91**	**22**	Pn	**Pn**	**19 19 22.6**	**+0.5**
	1.1nm,0.3s,baz=207,slow=8.5,SNR=11						
KAPI				Sn	**Sn**	**19 20 32.5**	**-7.1**
	9.4nm,0.3s,baz=172,slow=21,SNR=18						
MBWA	**Marble Bar**	**9.92**	**166**	*e*Pn	**Pn**	**19 20 02.2**	**-1.2**
	18nm,0.3s						
MBWA				*e*Sn	**Sn**	**19 21 43.4**	**-10**
FITZ	**Fitzroy Crossi**	**10.49**	**130**	*e*P	**Pn**	**19 20 10.0**	**-1.2**
	7.7nm,0.6s						
FITZ				*e*S	**Sn**	**19 21 59.0**	**-8.5**
FITZ	**Fitzroy Crossi**	**10.49**	**130**	*e*Pn	**Pn**	**19 20 10.3**	**-0.9**
FITZ	**Fitzroy Crossi**	**10.49**	**130**	Pn	**Pn**	**19 20 10.7**	**-0.5**
	1.2nm,0.3s,baz=319,slow=11,SNR=43						
FITZ				Sn	**Sn**	**19 21 59.0**	**-8.4**
	1.4nm,0.3s,baz=6.0,slow=19,SNR=6.2						
KSM	**Kuching**	**14.58**	**332**	Pn	**Pn**	**19 21 08.1**	**+1.0**
WRA	**Warramunga Arr**	**18.51**	**119**	P	**Pn**	**19 21 57.7**	**+0.6**
	0.3nm,0.3s,baz=287,slow=14,SNR=30						
WRA				S	Sx	19 25 09.9	
	0.3nm,0.3s,baz=284,slow=25,SNR=6.4						
WRAB	**Tennant Creek**	**18.52**	**119**	*e*P	**Pn**	**19 21 58.5**	**+1.3**
WB2	**Warramunga Arr**	**18.52**	**119**	*e*P	**Pn**	**19 21 58.1**	**+0.9**
WB2				*e*S	Sx	19 25 09.1	
ASAR	**Alice Springs**	**19.99**	**130**	P	**Pn**	**19 22 15.6**	**+0.8**
ASAR				S	**S**	**19 25 47.1**	**-8.8**
ASAR	**Alice Springs**	**19.99**	**130**	P	**Pn**	**19 22 15.6**	**+0.8**
	1.1nm,0.6s,baz=299,slow=9.8,SNR=19						
ASAR				S	**S**	**19 25 47.1**	**-8.8**
	1.4nm,0.6s,baz=302,slow=22,SNR=8.0						
MUN	**Mundaring**	**20.41**	**182**	*e*P	**P**	**19 22 25.0**	**+7.6**
MUN				*e*S	Sx	19 25 51.0	
NWAO	**Narrogin (SRO)**	**21.34**	**180**	P	**P**	**19 22 33.1**	**+5.7**
NWAO				*e*P		19 22 34.8	
NWAO				*e*S	Sx	19 26 10.9	
NWAO				S	Sx	19 26 12.1	
NWAO	**Narrogin (SRO)**	**21.34**	**180**	P	**P**	**19 22 33.1**	**+5.7**
	4.8nm,0.4s,mb4.2,baz=23,slow=15,SNR=12						
NWAO				S	**S**	**19 26 12.1**	**-10**
	5.6nm,0.5s,baz=240,slow=23,SNR=6.4						
KULM	**Kulim**	**23.42**	**315**	P	**P**	**19 22 48.2**	**-1.5**
SONM	**Songino Array**	**59.83**	**352**	P	**P**	**19 27 44.8**	**-0.2**
	0.4nm,0.9s,mb3.5,baz=149,slow=6.7,SNR=3.7						
MKAR	**Makanchi Array**	**65.88**	**334**	P	**P**	**19 28 25.7**	**+0.4**
	0.7nm,0.4s,mb4.0,baz=149,slow=6.9,SNR=23						
ZALV	**Zalesovo Beam**	**70.74**	**340**	P	**P**	**19 28 54.9**	**-0.7**
ZALV	**Zalesovo Beam**	**70.74**	**340**	P	**P**	**19 28 54.9**	**-0.7**
	0.9nm,0.5s,mb4.0,baz=145,slow=5.4,SNR=6.6						

CASC 12 19:18:50.7±1.6, 1047N×8698W, h20km±46km, MD4.0, 1C-2D, Off coast of Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CONN	**Concepcion**	**1.71**	**51**	*e*P	Pn	19 19 20.7	+1.3
TICN	**Ticuantepe**	**1.71**	**25**	*e*P	Pn	19 19 19.7	+0.2
COPN	**Copaltepe**	**1.74**	**13**	⇑*e*P	Pn	19 19 19.5	-0.3
COPN				*e*S	Sn	19 19 42.2	+0.9
CSAN		**1.79**	**18**	*e*P	Pn	19 19 20.3	-0.1
MOMJ	**Momotombo**	**1.97**	**13**	*e*P	Pn	19 19 22.5	-0.5
MOMJ				*e*S	Sn	19 19 47.5	+0.3
CGA2	**Cerro Gallo 2**	**2.51**	**100**	*e*P	Pn	19 19 31.3	+0.9
CGA2				*e*S	Sn	19 20 01.2	+0.6
PRS1	**Puriscal**	**2.67**	**100**	*e*P	Pn	19 19 32.8	+0.2
LAJ	**Bijagual**	**2.88**	**102**	*e*P	Pn	19 19 29.4	-6.0
LCR2	**La Lucha 2**	**3.02**	**104**	⇓*e*P	Pn	19 19 37.1	-0.3
LCR2				*e*S	Sn	19 20 14.0	+1.0
URSC	**Urasca**	**3.21**	**101**	⇓*e*P	Pn	19 19 40.7	+0.7
URSC				*e*S	Sn	19 20 20.2	+2.4
BAR1		**3.81**	**108**	*e*P	Pn	19 19 48.6	+0.3

*CSEM **12** 19:28:38.4±0.1, 3775N×3148E, h2km, MD3.0, Error ellipse: s-maj=2.0km s-min=1.4km az=166.0*
*ISCJB **12** 19:28:39.4±0.8, 3772N±004×3148E±004, h5km±8km, Error ellipse: s-maj=7.0km s-min=4.8km az=161.4*
*DDA **12** 19:28:39.2, 3767N×3150E, h7km±2km, Md2.8*
*ISK **12** 19:28:39.1, 3772N×3151E, h8km, MD3.0*
ISC 12 19:28:40.1±0.7, 3773N±004×3148E±004, h8km±6km, n14, σ0°63/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KONT	**Konya--Tatoy**	**0.73**	**72**	*e*PG	**Pg**	**19 28 53.2**	**-1.0**
KONT				*e*SG	**Sg**	**19 29 03.8**	**+0.1**
BCK	**Bucak**	**0.76**	**250**	*e*PG	**Pg**	**19 28 53.5**	**-1.1**
BCK				*e*SG	**Sg**	**19 29 05.5**	**+1.0**
KDHN	**Kadinhani**	**0.94**	**32**	*i* P	**Pg**	**19 28 57.9**	**-0.3**
KDHN				*i* S	**Sg**	**19 29 12.0**	**+1.6**
TKTP	**Tekketepe**	**0.97**	**289**	*i* P	**Pg**	**19 28 58.4**	**-0.3**
TKTP				*i* S	**Sg**	**19 29 16.9**	**+5.5**
ANTB	**Antalya**	**1.05**	**219**	*e*PG	**Pg**	**19 29 00.6**	**+0.2**
SHUT	**Suhut-Afyon**	**1.10**	**319**	*e*PN	**Pn**	**19 29 01.5**	**-0.3**
KIZT	**Kizilcal**	**1.19**	**15**	*e*PN	**Pn**	**19 29 02.6**	**-0.5**
ERMK	**Ermenek**	**1.58**	**133**	*i* P	**Pn**	**19 29 08.4**	**+0.1**
ERMK				*i* S	**Sn**	**19 29 29.3**	**+0.4**
ELL	**Elmali**	**1.59**	**233**	*e*PN	**Pn**	**19 29 08.8**	**+0.3**
KHL	**Karahalli**	**1.66**	**292**	*e*PN	**Pn**	**19 29 09.6**	**+0.2**
ALT	**Altintas**	**1.71**	**321**	*e*PN	**Pn**	**19 29 10.1**	**-0.1**
FETY	**Fethiye**	**2.20**	**241**	*e*PN	**Pn**	**19 29 17.4**	**+0.5**
IKL	**Isikli**	**2.31**	**129**	*e*PN	**Pn**	**19 29 18.1**	**-0.3**
KULA	**Kula-Manisa**	**2.36**	**290**	*e*PN	**Pn**	**19 29 18.6**	**-0.4**

*IDC **12** 19:32:52.5±3.4, 727S×12973E, h135km±27km, mb3.3/1, mb1

1.3nm,0.7s,mb3.6,baz=353,slow=15,SNR=4.9
WRA Warrumunga Arr 29.45 166 P **P 19 51 08.4 -0.2**
0.3nm,0.5s,mb3.3,baz=347,slow=9.3,SNR=6.8
MBWA Marble Bar 30.62 193 *e*P **P 19 51 18.9 -0.2**
2.9nm,0.6s,mb4.3
ASAR Alice Springs 32.95 168 P **P 19 51 39.8 +0.3**
0.3nm,0.5s,mb3.5,baz=349,slow=6.7,SNR=10
LSA Lhasa 39.51 307 P **P 19 52 35.4 -0.2**
4.1nm,1.0s,mb4.1
SONM Songino Array 42.66 339 P **P 19 53 00.6 -0.6**
SONM Songino Array 42.66 339 P **P 19 53 00.6 -0.6**
0.3nm,0.7s,mb3.2,baz=163,slow=5.6,SNR=3.1
STKA Stephens Creek 42.77 162 P **P 19 53 01.7 -0.6**
0.7nm,0.4s,mb3.8,baz=328,slow=9.5,SNR=4.3
MKAR Makanchi Array 53.66 323 P **P 19 54 24.9 -1.5**
2.1nm,0.6s,mb4.2,baz=125,slow=8.2,SNR=24
ZALV Zalesovo Beam 56.28 331 P **P 19 54 43.6 -1.5**
0.6nm,0.4s,mb4.0,baz=120,slow=6.0,SNR=4.7
UCH Uchtor 56.75 315 *e*P **P 19 54 48.5 -0.3**
1.2nm,0.6s,mb4.1
EKS2 Erkin-Say 57.41 315 *e*P **P 19 54 51.8 -1.6**
1.8nm,0.7s,mb4.2
KURK Kurchatov 57.71 326 *e*P **P 19 54 53.6 -1.8**
3.0nm,0.8s,mb4.4
TIXI Tiksi 62.80 1 *e*P **P 19 55 30.2 +0.3**
1.6nm,0.7s,mb4.3
RES Resolute Bay 92.80 10 P **P 19 58 17.0 +0.1**
57nm,0.9s

*IDC **12** 20:08:39.7±2.7, 43.16N×105.11W, h0km, mb3.8/6, mb1 3.9/7, mb1mx3.7/22, mbtmp3.9/7, ML3.0/1, Error ellipse: s-maj=75.3km s-min=27.1km az=149.0*
*ISCJB **12** 20:08:41.3±0.4, 4378N±004×105.19W±006, h0km, mb3.9/6, Error ellipse: s-maj=6.3km s-min=5.5km az=0.2*
*NEIC **12** 20:08:43.1±0.3, 4377N×10521W, h0km, ML3.2, Error ellipse: s-maj=4.6km s-min=4.0km az=85.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
ISC 12 20:08:43.3±0.4, 4377N±004×10520W±006, h0km, n40, σ0§82/41, mb3.9/6, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PHWY	**Pilot Hill**	**2.47**	**184**	*e*Pn	**Pn**	**20 09 23.7**	**-1.0**
RWWY	**Rawlins**	**2.55**	**216**	*e*Pn	**Pn**	**20 09 26.1**	**+0.2**
BW06	**Boulder Array**	**3.33**	**254**	*e*Pn	**Pn**	**20 09 36.3**	**-0.4**
GCMT	**Greycliff**	**3.77**	**304**	*e*Pn	**Pn**	**20 09 42.5**	**-0.1**
LOHW	**Long Hollow**	**3.92**	**270**	*e*Pn	**Pn**	**20 09 45.2**	**+0.5**
ISCO	**Idaho Springs**	**3.97**	**185**	*e*Pn	**Pn**	**20 09 46.2**	**+0.8**
MOOW	**Moose Ponds**	**4.02**	**272**	*e*Pn	**Pn**	**20 09 47.2**	**+1.2**
SNOW	**Snow King Moun**	**4.04**	**268**	*e*Pn	**Pn**	**20 09 49.6**	**+3.3**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn	**Pn**	**20 09 48.0**	**+0.5**
IMW	**Indian Meadow**	**4.15**	**274**	*e*Pn	**Pn**	**20 09 48.3**	**+0.4**
TPAW	**Teton Pass**	**4.18**	**268**	*e*Pn	**Pn**	**20 09 48.3**	**0.0**
YMR	**Madison River**	**4.24**	**284**	Pn	**Pn**	**20 09 55.9**	**+6.8**
SMCO	**Snowmass**	**4.77**	**197**	*e*Pn	**Pn**	**20 09 56.0**	**-0.4**
BOZ	**Bozeman (W)**	**4.95**	**295**	*e*Pn	**Pn**	**20 09 57.6**	**-1.2**
HWUT	**Hardware Ranch**	**5.16**	**247**	*e*Pn	**Pn**	**20 10 01.1**	**-0.7**
EGMT	**Eagleton** 7.2nm,0.4s	**5.31**	**325**	*e*Pn	**Pn**	**20 10 03.2**	**-0.6**
DLMT	**Dillon** 3.3nm,0.4s	**5.52**	**289**	*e*Pn	**Pn**	**20 10 07.4**	**+0.7**
HRY	**Holter Researc**	**5.53**	**304**	*e*Pn	**Pn**	**20 10 06.8**	**0.0**
MCMT	**McKenzie Canyo**	**5.59**	**284**	Pn	**Pn**	**20 10 12.6**	**+4.9**
DAU	**Daniels Canyon**	**5.61**	**235**	Pn	**Pn**	**20 10 07.7**	**-0.2**
JLU	**Jordanelle**	**5.62**	**238**	*e*Pn	**Pn**	**20 10 07.6**	**-0.3**
CTU	**Camp Tracy**	**5.75**	**240**	*e*Pn	**Pn**	**20 10 09.3**	**-0.5**
SDCO	**Great Sand Dun**	**6.02**	**182**	*e*Pn	**Pn**	**20 10 15.2**	**+1.7**
PV10	**Paradox Valley**	**6.11**	**210**	*e*Pn	**Pn**	**20 10 15.2**	**+0.3**
SRU	**San Rafael**	**6.13**	**223**	*e*Pn	**Pn**	**20 10 13.8**	**-1.3**
PV01	**Paradox Valley**	**6.18**	**206**	*e*Pn	**Pn**	**20 10 16.0**	**+0.3**
ECSD	**EROS,Sioux Fal** 6.2nm,0.3s	**6.22**	**87**	*e*Pn	**Pn**	**20 10 17.6**	**+1.4**
CHMT	**Chamberlain Mo**	**6.49**	**302**	*e*Pn	**Pn**	**20 10 20.0**	**0.0**
MSO	**Missoula**	**6.88**	**299**	*e*Pn	**Pn**	**20 10 25.3**	**-0.1**
WALA	**Waterton Lakes**	**8.01**	**314**	*e*Pn	**Pn**	**20 10 40.5**	**-0.3**
ULM	**Lac du Bonnet**	**9.09**	**41**	*e*Pn	**Pn**	**20 10 54.6**	**-0.9**
ULM				Pn	Pn	**20 10 55.3**	**-0.2**
ULM	**Lac du Bonnet** 2.2nm,0.3s,baz=234,slow=12,SNR=15	**9.09**	**41**	Pn	**Pn**	**20 10 55.3**	**-0.2**
AMTX	**Amarillo**	**9.28**	**162**	*e*Pn	**Pn**	**20 10 57.3**	**-0.9**
YKA	**Yellowknife Ar** 0.2nm,0.3s,baz=156,slow=8.9,SNR=5.4	**19.55**	**347**	P	**Pn**	**20 13 15.1**	**+1.7**
ARCES	**ARCESS Array B** 4.9nm,0.9s,mb4.6,baz=336,slow=5.6,SNR=5.3	**61.38**	**18**	P	**P**	**20 18 59.6**	**-0.8**
FINES	**FINESS Array B** 0.2nm,0.3s,mb3.8,baz=331,slow=6.8,SNR=6.7	**67.99**	**23**	P	**P**	**20 19 43.6**	**-0.1**
AKASG	**Malin Array Be** 0.2nm,0.3s,mb3.7,baz=332,slow=5.6,SNR=3.0	**77.91**	**28**	P	**P**	**20 20 41.6**	**-1.0**
ZALV	**Zalesovo Beam** 0.4nm,0.3s,mb4.0,baz=15,slow=6.0,SNR=3.0	**82.29**	**354**	P	**P**	**20 21 05.0**	**-1.3**
SONM	**Songino Array** 0.1nm,0.4s,mb3.4,baz=355,slow=2.6,SNR=3.0	**84.63**	**339**	P	**P**	**20 21 18.6**	**+0.2**
MKAR	**Makanchi Array** 0.4nm,0.7s,mb3.8,baz=15,slow=4.5,SNR=2.5	**89.58**	**355**	P	**P**	**20 21 43.3**	**+0.8**

*ISCJB **12** 20:10:06.8±0.5, 2788N±003×12974E±005, h53km±8km, Error ellipse: s-maj=8.5km s-min=4.0km az=31.3*
*JMA **12** 20:10:07.8±0.2, 2802N×12961E, h57km±3km, M3.5*
*IDC **12** 20:10:10.1±1.3, 2866N×12832E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.6/4, ML3.4/1, Error ellipse: s-maj=60.6km s-min=22.9km az=92.0*
ISC 12 20:10:07.9±0.5, 2787N±003×12973E±005, h40km±13km, n16, σ0§72/26, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.49**	**26**	P	**Pn**	**20 10 18.8**	**+0.3**
JZK				S	**Sn**	**20 10 27.8**	**+1.9**
JAM	**Amami Oshima**	**0.55**	**349**	P	**Pn**	**20 10 18.4**	**-0.9**
JAM				S	**Sn**	**20 10 26.0**	**-1.3**
JTK	**Tokunoshima**	**0.69**	**263**	P	**Pn**	**20 10 21.1**	**-0.1**
JTK				*e*S	**Sn**	**20 10 30.5**	**-0.3**
JOW	**Kunigami**	**1.66**	**232**	P	**Pn**	**20 10 34.9**	**+0.5**
JOW				*e*S	**Sn**	**20 10 55.1**	**+0.6**
JIH	**Iheya**	**1.77**	**242**	P	**Pn**	**20 10 36.2**	**+0.2**
JIH				*e*S	**Sn**	**20 10 57.2**	**-0.1**
JNN	**Nakanoshima**	**1.97**	**4**	P	**Pn**	**20 10 38.6**	**-0.1**
JNN				S	**Sn**	**20 11 02.3**	**+0.2**
JMZ	**Minamidaito 2**	**2.44**	**147**	P	**Pn**	**20 10 45.2**	**0.0**
JMZ				*e*S	**Sn**	**20 11 12.5**	**-1.3**
JJT2	**Tamagusuku 2**	**2.47**	**226**	P	**Pn**	**20 10 46.2**	**+0.6**
JJT2				*e*S	**Sn**	**20 11 14.2**	**-0.3**
JAGN	**Aguni-jima**	**2.56**	**241**	P	**Pn**	**20 10 47.2**	**+0.4**
JAGN				*e*S	**Sn**	**20 11 16.2**	**-0.4**
JKC	**Kuchinoerabu**	**2.61**	**9**	P	**Pn**	**20 10 47.6**	**0.0**
JKC				*e*S	**Sn**	**20 11 17.3**	**-0.8**
JTN	**Tanegashima 3**	**2.98**	**21**	P	**Pn**	**20 10 52.7**	**+0.1**
JTN				*e*S	**Sn**	**20 11 26.9**	**-0.2**
JKE	**Kume jima 2**	**3.04**	**240**	P	**Pn**	**20 10 53.5**	**0.0**
JNU	**Nakatsue** 1.6nm,0.3s,baz=142,slow=33,SNR=59	**5.33**	**10**	Pn	**Pn**	**20 11 26.7**	**+1.9**
JNU				Sn	**Sn**	**20 12 24.2**	**-0.7**
	0.5nm,0.3s,baz=53,slow=43,SNR=2.8						
WRA	**Warrumunga Arr** 0.4nm,0.8s,baz=354,slow=8.2,SNR=4.5	**47.74**	**174**	P	sP	20 18 56.8	-0.3
ASAR	**Alice Springs** 0.2nm,0.5s,baz=9.3,slow=12,SNR=8.2	**51.40**	**175**	P	sP	20 19 22.8	-2.1
FINES	**FINESS Array B** 0.7nm,0.6s,baz=69,slow=7.6,SNR=6.2	**72.09**	**331**	P	**P**	**20 21 28.1**	**+0.3**

*ISCJB **12** 20:16:05.9±1.5, 3523N±005×1415E±01, h21km±8km, mb3.6/2, Error ellipse: s-maj=14.4km s-min=7.7km az=1.1*
*JMA **12** 20:16:09.2±0.2, 3527N×14129E, h32km±3km, M2.9*
*IDC **12** 20:16:09.8±4.2, 3530N×14156E, h37km±35km, mb3.3/2, mb1 3.5/5, mb1mx3.2/22, mbtmp3.5/5, ML3.3/3, MS2.9/2, Ms1 2.9/2, ms1mx2.6/16, Error ellipse: s-maj=51.8km s-min=24.9km az=84.0*
ISC 12 20:16:07.7±1.5, 3523N±004×14139E±010, h16km±8km, n15, σ1§06/18, mb3.6/2, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.64**	**317**	P	**Pg**	**20 16 20.4**	**+0.1**
CHOJ				S	**Sg**	**20 16 28.1**	**-0.7**
BSO1	**Boso 1**	**0.67**	**211**	P	**Pg**	**20 16 21.8**	**+0.9**
BSO3	**Boso 3**	**0.84**	**239**	P	**Pb**	**20 16 23.8**	**-0.1**
BSO3				S	**Sb**	**20 16 34.6**	**-0.4**
KTR	**Katsuura**	**0.89**	**265**	P	**Pb**	**20 16 24.1**	**-0.6**
BSO4	**Boso 4**	**0.90**	**255**	P	**Pb**	**20 16 24.7**	**-0.2**
JCN	**Nagara**	**0.99**	**281**	P	**Pb**	**20 16 26.4**	**-0.1**
JYT	**Yasato**	**1.39**	**316**	P	**Pn**	**20 16 31.9**	**-0.5**
JIM2	**Oshima 3**	**1.69**	**253**	P	**Pn**	**20 16 34.3**	**-2.2**
JHJ	**Hachijo jima 2** 10nm,0.3s,baz=75,slow=20,SNR=5.5	**2.50**	**213**	Pn	**Pn**	**20 16 49.4**	**+1.7**
JHJ				Sn	**Sn**	**20 17 16.8**	**-0.9**
	27nm,0.3s,baz=259,slow=23,SNR=3.8						
JHJ				LR	LR	20 17 25.0	
	comp=Z,472nm,20.6s,baz=253,slow=29						
MJAR	**Matsushiro Arr** 2.4nm,0.3s,baz=98,slow=14,SNR=36	**2.90**	**298**	Pn	**Pn**	**20 16 54.4**	**+1.3**
MAT	**Matsushiro**	**2.90**	**298**	P	**Pn**	**20 16 55.0**	**+1.9**
MAT				*e*S	**Sn**	**20 17 30.8**	**+3.2**
ASAJ	**Asahikawa** 0.5nm,0.3s,baz=26,slow=8.8,SNR=4.5	**8.92**	**6**	Pn	**Pn**	**20 18 14.8**	**-1.0**
KSRS	**Korea Array** comp=Z,24nm,18.1s,baz=240,slow=38	**11.09**	**285**	LR	LR	20 23 20.5	
MKAR	**Makanchi Array** 0.3nm,0.6s,mb3.3,baz=90,slow=9.0,SNR=3.6	**45.08**	**304**	P	**P**	**20 24 22.5**	**-0.3**
WRA	**Warrumunga Arr** 0.5nm,0.5s,mb3.8,baz=6.0,slow=7.9,SNR=6.5	**55.28**	**188**	P	**P**	**20 25 40.1**	**-0.1**

*SZGRF **12** 20:16:05.4, 1953S×17841W, h33km, Fiji Islands region*
*BJI **12** 20:17:08.4, 18.10S×17773W, h603km, mB5.0, mb4.4*
*ISCJB **12** 20:17:10.9±0.9, 181S±01×1786W±01, h602km±13km, mb4.0/25, Error ellipse: s-maj=21.9km s-min=9.2km az=145.5*
*BGS **12** 20:17:10.4±2.5, 1800S×17855W, h575km, mb4.2(NEIC)*
*NEIC **12** 20:17:10.1±1.2, 1800S×17855W, h574km±12km, mb4.2/11, Error ellipse: s-maj=21.6km s-min=10.4km az=152.0*
*IDC **12** 20:17:14.0±1.9, 18.16S×17853W, h623km±22km, mb3.4/15, mb1 3.5/15, mb1mx3.5/19, mbtmp3.4/15, Error ellipse: s-maj=16.0km s-min=10.2km az=148.0*
ISC 12 20:17:11.5±0.8, 181S±01×1785W±01, h594km±12km, n145, σ1§02/37, mb4.0/25, 13C-14D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu** 85nm,1.0s	**7.68**	**58**	*e*P	**P**	**20 19 06.5**	**-1.1**
AFI				*e*S	**S**	**20 20 43.2**	**+0.6**
URZ	**Urewera** 6.6nm,0.8s,baz=353,slow=19,SNR=3.4	**20.46**	**190**	P	**P**	**20 21 08.2**	**-1.2**
CTA	**Charters Tower** 3.7nm,0.8s,mb4.1,baz=85,slow=12,SNR=4.3	**33.34**	**261**	P	**P**	**20 23 02.6**	**+0.6**
CTAO	**Charters Tower**	**33.34**	**261**	*e*P	**P**	**20 22 59.0**	**-3.0**
STKA	**Stephens Creek** 2.4nm,1.4s,mb3.5	**38.48**	**241**	*e*P	**P**	**20 23 43.7**	**-0.4**
STKA	**Stephens Creek** 0.8nm,0.3s,mb3.8,baz=82,slow=10,SNR=9.1	**38.48**	**241**	P	**P**	**20 23 45.5**	**+1.5**
WB2	**Warrumunga Arr**	**44.51**	**260**	*e*P	**P**	**20 24 31.7**	**0.0**
WRAB	**Tennant Creek** 11nm,1.3s,mb4.2	**44.52**	**260**	*e*P	**P**	**20 24 31.9**	**+0.1**
WRA	**Warrumunga Arr** 1.2nm,0.3s,mb3.9,baz=96,slow=7.8,SNR=98	**44.52**	**260**	P	**P**	**20 24 31.9**	**+0.1**
WRA				PcP	PcP	20 26 02.3	+0.5
	0.9nm,0.4s,baz=90,slow=3.8,SNR=8.0						
WRA				S	**S**	**20 30 23.0**	**-2.3**
	0.9nm,0.9s,baz=99,slow=12,SNR=3.9						
ASAR	**Alice Springs** 5.2nm,0.5s,mb4.3,baz=89,slow=8.4,SNR=137	**44.67**	**254**	P	**P**	**20 24 33.8**	**+0.9**
ASAR				PcP	PcP	20 26 02.6	+0.3
	2.1nm,0.5s,baz=102,slow=3.9,SNR=14						
ASAR				S	**S**	**20 30 25.7**	**-1.5**
	1.7nm,1.0s,baz=91,slow=15,SNR=9.8						
KAKA	**Kakadu** 8.4nm,0.6s,mb4.5	**47.50**	**269**	*e*P	**P**	**20 24 54.7**	**+0.3**
FITZ	**Fitzroy Crossi** 1.6nm,0.4s,mb3.7	**52.92**	**261**	*e*P	**P**	**20 25 34.5**	**+0.7**
MBWA	**Marble Bar** 11nm,1.1s,mb3.9	**57.96**	**256**	*e*P	**P**	**20 26 08.3**	**-0.2**
DAV	**Davao City (W)**	**60.59**	**289**	P	**P**	**20 26 23.0**	**-3.2**
MJAR	**Matsushiro Arr** 4.0nm,0.5s,mb4.1,baz=154,slow=5.8,SNR=26	**68.01**	**323**	P	**P**	**20 27 12.2**	**-0.3**
MAJO	**Matsushiro** 8.6nm,0.7s,mb4.3	**68.01**	**323**	*e*P	**P**	**20 27 12.0**	**-0.6**
JOW	**Kunigami** 4.5nm,0.7s,mb4.0,baz=118,slow=22,SNR=3.9	**68.28**	**310**	P	**P**	**20 27 15.5**	**+1.1**
KKM	**Kota Kinabalu**	**68.71**	**284**	*e*P	**P**	**20 27 16.9**	**-0.4**
ASAJ	**Asahikawa** 6.9nm,0.7s,mb4.3,baz=35,slow=6.2,SNR=5.6	**71.40**	**331**	P	**P**	**20 27 33.3**	**+0.8**
KSM	**Kuching**	**72.63**	**277**	*e*P	**P**	**20 27 41.1**	**+0.8**
KSRS	**Korea Array** 1.1nm,0.6s,mb3.5,baz=132,slow=6.9,SNR=6.4	**74.78**	**318**	P	**P**	**20 27 53.0**	**+1.0**
MDJ	**Mudanjiang** 7.3nm,0.7s,mb4.2	**78.29**	**325**	P	**P**	**20 28 11.5**	**+0.6**
KDAK	**Kodiak Island** 3.2nm,0.8s,mb3.7,baz=327,slow=21,SNR=3.0	**78.59**	**14**	P	**P**	**20 28 11.7**	**-0.6**
YBH	**Yreka Blue Hor** 3.3nm,0.8s,mb3.7,baz=288,slow=0.6,SNR=4.7	**78.71**	**39**	P	**P**	**20 28 14.5**	**+1.3**
NVAR	**Mina Array Bea** 1.1nm,0.6s,mb3.4,baz=223,slow=8.4,SNR=8.1	**79.61**	**44**	P	**P**	**20 28 18.9**	**+0.9**
MAW	**Mawson** 0.9nm,0.4s,mb3.7,baz=158,slow=5.4,SNR=5.8	**83.66**	**200**	P	**P**	**20 28 39.3**	**+1.1**
MCK	**McKinley** 8.7nm,1.1s,mb4.3	**84.73**	**13**	*e*P	**P**	**20 28 41.6**	**-1.7**
NEW	**Newport** 1.7nm,0.8s,mb3.7	**85.70**	**36**	P	**P**	**20 28 47.4**	**-0.9**
COLA	**College** 4.3nm,0.5s,mb4.3	**85.97**	**13**	*e*P	**P**	**20 28 47.8**	**-1.4**
TXAR	**Lajitas Array** 2.2nm,0.8s,mb3.8,baz=220,slow=6.0,SNR=26	**86.16**	**58**	P	**P**	**20 28 52.6**	**+1.7**
XAN	**Xi'an**	**86.31**	**307**	P	**P**	**20 28 52.5**	**+0.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.3						
BILL	**Bilibino** comp=Z,2.0nm,0.6s,mb4.0	**86.60**	**354**	P	**P**	**20 28 52.0**	**-0.1**
INK	**Inuvik** comp=Z,128nm,1.0s	**92.08**	**15**	*e*P	**P**	**20 29 16.0**	**-1.5**
YKA	**Yellowknife Ar** comp=Z,0.4nm,0.5s,mb3.8,baz=237,slow=4.3,SNR=7.4	**94.53**	**25**	P	**P**	**20 29 28.0**	**-0.8**
ZALV	**Zalesovo Beam** comp=Z,0.4nm,0.4s,baz=192,slow=1.9,SNR=2.7	**108.33**	**322**	PKiKP	PKiKP	20 34 31.0	-1.8
MKAR	**Makanchi Array** comp=Z,0.5nm,0.4s,baz=166,slow=0.7,SNR=16	**109.21**	**314**	PKiKP	PKiKP	20 34 33.5	-1.1
BVAR	**Borovoye Array** comp=Z,1.5nm,0.4s,baz=117,slow=1.8,SNR=20	**116.94**	**321**	PKP	PKPdf	20 34 48.6	-0.7
ARCES	**ARCESS Array B** comp=Z,6.2nm,0.9s,baz=32,slow=3.3,SNR=7.4	**126.48**	**350**	PKP	PKPdf	20 35 06.4	-0.7
BOSA	**Boshof** comp=Z,1.2nm,0.8s,baz=263,slow=11,SNR=2.7	**128.20**	**207**	PKP	PKPdf	20 35 10.9	-0.8
JOF	**Joensuu** comp=Z,3.0nm,0.5s	**130.71**	**343**	*e*p	PKPdf	20 35 14.1	-1.2
FINES	**FINESS Array B** comp=Z,1.0nm,0.6s,baz=100,slow=2.9,SNR=10	**133.34**	**344**	PKP	PKPdf	20 35 18.7	-1.6
NOA	**NORSAR Array B** comp=Z,0.4nm,0.5s,baz=14,slow=3.7,SNR=3.2	**136.55**	**353**	PKP	PKPdf	20 35 27.2	+0.9
AKASG	**Malin Array Be** comp=Z,0.6nm,0.5s,baz=45,slow=4.3,SNR=6.6	**140.63**	**332**	PKhKP		20 35 26.9	
AKASG				PKP	PKPdf	20 35 35.8	+1.7
	comp=Z,0.7nm,0.3s,baz=40,slow=3.3,SNR=5.6						
MALT	**Malatya**	**142.07**	**310**	||P	PKPdf	20 35 36.4	-0.6
MALT	**Malatya**	**142.07**	**310**	||*i*P	PKPdf	20 35 36.4	-0.6
BSEG	**Bad Segeberg**	**143.58**	**351**	*e*PKPbc	PKPdf	20 35 37.5	-1.7
HPK	**Haverah Park**	**144.12**	**3**	*e*P	PKPdf	20 35 39.1	-1.0
LHO	**Holmfirth**	**144.52**	**3**	*e*P	PKPdf	20 35 40.2	-0.6
BURAR	**Bucovina Array**	**144.74**	**332**	||P	PKPdf	20 35 43.0	+1.6
BURAR	**Bucovina Array**	**144.74**	**332**	||*i*P	PKPdf	20 35 43.0	+1.6
OJC	**Ojcow**	**144.76**	**340**	*e*PX	PKPdf	20 35 41.9	+0.6
KBI1	**Birley Grange**	**144.83**	**3**	*e*P	PKPdf	20 35 41.5	+0.2
STHS	**Stebnicka Huta**	**144.93**	**337**	*e*PKP	PKPdf	20 35 42.7	+1.1
KWE	**Weaver Farm**	**145.05**	**4**	*e*P	PKPdf	20 35 42.3	+0.6
SBD1	**Bryn Du**	**145.06**	**5**	*e*P	PKPdf	20 35 41.3	-0.4
NIE	**Niedzica**	**145.26**	**338**	*e*PXc	PKPbc	20 35 44.0	+0.6
KSP	**Ksiaz**	**145.26**	**344**	*e*PKPdf	PKPbc	20 35 43.5	+0.1
CRVS	**Cervenica-Dubn**	**145.27**	**337**	*e*PKP	PKPbc	20 35 43.7	+0.3
VRI	**Vrincioaia**	**145.29**	**328**	||P	PKPbc	20 35 43.6	0.0
VRI	**Vrincioaia**	**145.29**	**328**	||*i*P	PKPbc	20 35 43.7	+0.1
PLOR	**Plostina**	**145.34**	**329**	||*i*P	PKPbc	20 35 43.8	0.0
ANTO	**Ankara**	**145.35**	**315**	*e*PKPdf	PKPbc	20 35 43.9	-0.1
ANTO	**Ankara**	**145.35**	**315**	||*i*P	PKPbc	20 35 44.5	+0.5
CWF	**Charnwood Fore**	**145.35**	**3**	*e*P	PKPdf	20 35 42.9	+0.7
HARR	**Harsova**	**145.48**	**326**	||P	PKPbc	20 35 44.6	+0.5
HARR	**Harsova**	**145.48**	**326**	||*i*P	PKPbc	20 35 44.6	+0.4
TRPA	**Tarpa**	**145.48**	**335**	||P	PKPbc	20 35 43.9	-0.2
IBBN	**Ibbenburen**	**145.50**	**353**	*e*PKPbc	PKPbc	20 35 44.3	+0.3
CLZ	**Clausthal**	**145.60**	**350**	*e*PKPbc	PKPbc	20 35 44.4	+0.1
OKC	**Ostrava-Krasne**	**145.62**	**341**	*e*PKP	PKPdf	20 35 43.4	+0.6
CLL	**Collm**	**145.62**	**347**	*e*PKPbc	PKPbc	20 35 44.2	-0.2
CLL	**Collm** comp=Z,16nm,0.8s	**145.62**	**347**	||*i*PKPbc	PKPbc	20 35 44.3	-0.1
UPC	**Upice**	**145.64**	**344**	*e*PKP	PKPbc	20 35 44.8	+0.3
DPC	**Dobruska-Polom**	**145.70**	**343**	*e*PKP	PKPbc	20 35 45.1	+0.5
BRG	**Berggiesshubel**	**145.82**	**346**	*e*P	PKPbc	20 35 45.0	0.0
BRG	**Berggiesshubel**	**145.82**	**346**	*e*PKPbc	PKPbc	20 35 44.8	-0.2
BRG	**Berggiesshubel** comp=Z,6.0nm,0.7s	**145.82**	**346**	*e*PKP	PKPbc	20 35 45.0	0.0
MORC	**Moravsky Berou**	**145.86**	**341**	*e*PKPdf	PKPbc	20 35 44.7	-0.3
MORC	**Moravsky Berou**	**145.86**	**341**	||*i*P	PKPbc	20 35 45.3	+0.2
FBE	**Freiberg**	**145.91**	**347**	*e*PKPbc	PKPbc	20 35 45.2	0.0
MLR	**Muntele Rosu**	**145.95**	**329**	||P	PKPbc	20 35 45.7	+0.2
MLR	**Muntele Rosu**	**145.95**	**329**	||*i*P	PKPbc	20 35 45.7	+0.2
NEUB	**Neuenburg**	**145.97**	**348**	*e*PKPbc	PKPbc	20 35 45.3	0.0
MCH1	**Michaelchurch**	**145.98**	**5**	*e*P	PKPdf	20 35 44.4	+1.0
MCH1				*e*P		20 35 44.4	
DRGR		**146.47**	**333**	||P	PKPbc	20 35 47.3	+0.4
DRGR		**146.47**	**333**	||*i*P	PKPbc	20 35 47.3	+0.4
PRU	**Pruhonice**	**146.50**	**345**	*e*PKP	PKPbc	20 35 46.9	+0.1
MOX	**Moxa**	**146.53**	**348**	*e*PKP	PKPbc	20 35 46.8	-0.1
MOX	**Moxa**	**146.53**	**348**	*e*PKPbc	PKPbc	20 35 46.7	-0.2
VRAC	**Vranov**	**146.56**	**342**	||P	PKPbc	20 35 47.2	+0.2
VRAC	**Vranov**	**146.56**	**342**	||*i*P	PKPbc	20 35 47.2	+0.2
VYHS	**Vyhne**	**146.56**	**339**	*i* PKP	PKPbc	20 35 47.4	+0.3
TANN	**Tannenbergstha**	**146.58**	**347**	*e*PKPbc	PKPbc	20 35 47.1	+0.1
WERD	**Werda**	**146.58**	**347**	*e*PKPbc	PKPbc	20 35 47.1	0.0
KOLL	**Kolacno**	**146.63**	**339**	*e*PKP	PKPbc	20 35 47.5	+0.2
GUNZ	**Gunzen**	**146.66**	**347**	*e*PKPbc	PKPbc	20 35 47.3	0.0
PSZ	**Piszkesteto**	**146.67**	**337**	||P	PKPdf	20 35 45.6	+1.0
PSZ	**Piszkesteto**	**146.67**	**337**	||*i*P	PKPdf	20 35 45.6	+1.0
NKC	**Novy Kostel**	**146.76**	**347**	*e*PKP	PKPab	20 35 50.6	0.0
TREC	**Trest**	**146.89**	**343**	*e*PKP	PKPbc	20 35 47.7	-0.2
MODS	**Modra-Piesok**	**147.18**	**340**	*e*PKP	PKPbc	20 35 48.0	-0.7
ROTZ	**Rotzenmuhle**	**147.25**	**347**	*e*PKPbc	PKPbc	20 35 48.9	+0.1
ZST	**Bratislava**	**147.39**	**341**	*e*PKP	PKPbc	20 35 49.3	0.0
GRA1	**Grafenberg Arr**	**147.52**	**348**	*e*PKPbc	PKPbc	20 35 49.9	+0.4
GRF	**Grafenberg Arr**	**147.52**	**348**	*e*PKPbc	PKPbc	20 35 49.9	+0.4
KHC	**Kasperske Hory**	**147.53**	**345**	*e*PKP	PKPbc	20 35 49.8	+0.2
KHC				*ex*	x	20 35 54.4	
GEC2	**GERESS Array S**	**147.77**	**345**	*e*PKPbc	PKPbc	20 35 50.2	0.0
GERES	**GERESS Array B** comp=Z,5.0nm,0.6s,baz=24,slow=2.9,SNR=54	**147.77**	**345**	PKPbc	PKPbc	20 35 50.3	+0.1
BZS	**Buzias**	**147.86**	**333**	||P	PKPbc	20 35 50.4	-0.1
BZS	**Buzias**	**147.86**	**333**	||*i*P	PKPbc	20 35 50.4	-0.1
GIVF	**Givet**	**147.96**	**356**	*e*PKP1	PKPbc	20 35 50.7	+0.1
DOU	**Dourbes**	**147.97**	**356**	PKPbc	PKPbc	20 35 50.8	+0.1
BAIF	**Baives** comp=Z,8.7nm,0.6s	**148.03**	**357**	*e*PKP1	PKPbc	20 35 51.0	+0.2
WLF	**Walferdange**	**148.28**	**354**	PKPbc	PKPbc	20 35 51.7	+0.2
WLF				PKPab	PKPab	20 35 55.2	-1.6
WLF	**Walferdange**	**148.28**	**354**	*e*PKPbc	PKPbc	20 35 51.8	+0.3
PKSM	**Moragy**	**148.57**	**337**	||P	PKPbc	20 35 51.8	-0.5
PKSM

*KRSC **12** 21:29:59.3±2.6, 5200N×15362E, h583km±43km, ML4.6*
*ISCJB **12** 21:30:04.5±0.4, 525N±0.1×1526E±02, h493km±9km, mb3.5/15, Error ellipse: s-maj=19.8km s-min=10.9km az=43.0*
*MOS **12** 21:30:04.3±0.9, 5259N×15255E, h491km, mb3.6/5, Error ellipse: s-maj=22.5km s-min=13.3km az=65.6*
*NEIC **12** 21:30:05.8±0.7, 5246N×15253E, h496km±9km, mb3.9/3, Error ellipse: s-maj=13.0km s-min=8.8km az=123.0*
*IDC **12** 21:30:06.6±3.1, 5246N×15249E, h506km±36km, mb2.8/9, mb1 3.1/11, mb1mx2.9/22, mbtmp2.8/11, Error ellipse: s-maj=21.7km s-min=13.3km az=95.0*

ISC 12 21:30:05.4±0.4, 525N±01×1527E±02, h491km±9km, n35, σ0°70/41, mb3.5/15, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**3.42**	**67**	*eP*	**P**	**21 31 19.7**	**+1.3**
RUS	**Russkaya**	**3.59**	**88**	*eP*	**P**	**21 31 20.0**	**+0.3**
RUS				*i S*	**S**	**21 32 19.2**	**-1.2**
PET	**Petropavlovsk**	**3.69**	**79**	*e*Pn	**P**	**21 31 21.8**	**+1.3**
PET	**Petropavlovsk**	**3.69**	**79**	*eP*	**P**	**21 31 22.0**	**+1.5**
PET				*i S*	**S**	**21 32 22.1**	**+0.2**
AVH	**Avacha**	**3.78**	**75**	*eP*	**P**	**21 31 22.8**	**+1.6**
NLC	**Nalytchevo**	**4.12**	**77**	*eP*	**P**	**21 31 24.2**	**+0.2**
NLC				*i S*	**S**	**21 32 26.7**	**-1.6**
SPN	**Mys Shipunski**	**4.52**	**79**	*eP*	**P**	**21 31 26.5**	**-0.9**
SPN				*i S*	**S**	**21 32 29.4**	**-5.0**
MKZ	**Mys Kozlova**	**5.81**	**65**	P	**P**	**21 31 39.1**	**-0.1**
MKZ				*i S*	**S**	**21 32 50.9**	**-5.2**
KBTR	**Krutoberegovo**	**7.03**	**54**	*eP*	**P**	**21 31 50.7**	**-0.6**
KBTR				*i S*	**S**	**21 33 12.0**	**-6.2**
ASAJ	**Asahikawa**	**10.69**	**223**	P	**P**	**21 32 30.2**	**+0.3**
	0.4nm,0.3s,baz=159,slow=29,SNR=3.6						
MAJO	**Matsushiro**	**18.90**	**218**	*eP*	**P**	**21 33 54.1**	**-0.3**
MAJO				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MAJO	**Matsushiro**	**18.90**	**218**	*eP*	**P**	**21 33 54.1**	**-0.3**
	comp=Z,6.6nm,0.5s						
MJAR	**Matsushiro Arr**	**18.90**	**218**	P	**P**	**21 33 54.5**	**+0.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**18.90**	**218**	P	**P**	**21 33 54.5**	**+0.1**
	comp=Z,1.3nm,0.3s,baz=19,slow=10,SNR=31						
INK	**Inuvik**	**37.10**	**36**	*eP*	**P**	**21 36 33.1**	**+0.5**
	comp=Z,28nm,0.3s						
KURK	**Kurchatov**	**44.15**	**299**	*eP*	**P**	**21 37 29.1**	**-0.1**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.6						
KURK	**Kurchatov**	**44.15**	**299**	*eP*	**P**	**21 37 29.1**	**-0.1**
	comp=Z,1.4nm,0.4s,mb3.7						
MKAR	**Makanchi Array**	**44.28**	**292**	P	**P**	**21 37 30.4**	**+0.1**
	comp=Z,0.3nm,0.4s,mb3.1,baz=63,slow=7.5,SNR=12						
YKA	**Yellowknife Ar**	**46.61**	**40**	P	**P**	**21 37 48.3**	**+0.4**
	comp=Z,0.3nm,0.3s,mb3.2,baz=304,slow=7.1,SNR=4.8						
EKS2	**Erkin-Say**	**51.60**	**293**	*eP*	**P**	**21 38 24.7**	**-0.5**
	comp=Z,1.1nm,0.6s,mb3.4						
ARCES	**ARCESS Array B**	**52.38**	**339**	P	**P**	**21 38 29.7**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,4.0nm,1.0s						
ARCES	**ARCESS Array B**	**52.38**	**339**	P	**P**	**21 38 29.7**	**-0.7**
	comp=Z,3.7nm,1.0s,mb3.7,baz=40,slow=8.6,SNR=3.4						
KKN	**Kakani**	**54.87**	**271**	*eP*	**P**	**21 38 48.8**	**0.0**
	comp=Z,6.2nm,0.4s,mb4.2						
DMN	**Daman**	**55.11**	**271**	*eP*	**P**	**21 38 50.5**	**+0.1**
	comp=Z,5.8nm,0.5s,mb4.2						
GKN	**Gorkha**	**55.11**	**272**	*eP*	**P**	**21 38 50.6**	**+0.2**
	comp=Z,5.9nm,0.5s,mb4.1						
DANN	**Dangsing**	**55.40**	**273**	*eP*	**P**	**21 38 52.6**	**+0.2**
	comp=Z,7.0nm,0.5s,mb4.2						
FINES	**FINESS Array B**	**58.77**	**333**	P	**P**	**21 39 14.6**	**-0.4**
	comp=Z,0.4nm,0.4s,mb3.1,baz=30,slow=9.0,SNR=11						
NOA	**NORSAR Array B**	**62.74**	**340**	P	**P**	**21 39 41.0**	**-0.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	**NORSAR Array B**	**62.74**	**340**	P	**P**	**21 39 41.0**	**-0.2**
	comp=Z,0.6nm,0.9s,mb3.1,baz=7,3,slow=8.9,SNR=2.9						
GERES	**GERESS Array B**	**73.21**	**333**	P	**P**	**21 40 45.1**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.0,baz=30,slow=6.2,SNR=4.3						
WRA	**Warramunga Arr**	**73.84**	**198**	P	**P**	**21 40 48.3**	**-0.9**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**73.84**	**198**	P	**P**	**21 40 48.3**	**-0.9**
	comp=Z,0.7nm,0.6s,mb3.4,baz=13,slow=6.2,SNR=7.3						
TXAR	**Lajitas Array**	**74.98**	**61**	P	**P**	**21 40 56.9**	**+1.1**
	comp=Z,0.1nm,0.5s,mb2.6,baz=343,slow=2.8,SNR=2.7						
ASAR	**Alice Springs**	**77.55**	**198**	P	**P**	**21 41 09.8**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR	**Alice Springs**	**77.55**	**198**	P	**P**	**21 41 09.8**	**0.0**
	comp=Z,0.9nm,0.5s,mb3.5,baz=10,slow=4.9,SNR=31						

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*NIED **12** 21:39:00, 2790N×13030E, h32km, Mw3.8 Best double couple: M0 5.87000×10^14 NP1:φs 13.00000°, δ59.00000°, λ61.00000°. NP2:φs 240.00000°, δ42.00000°, λ129.00000°.*
*IDC **12** 21:39:10.7±1.0, 2804N×13008E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/19, mbtmp3.8/8, ML3.3/1, Error ellipse: s-maj=34.9km s-min=16.9km az=95.0*
*JMA **12** 21:39:12.8±0.1, 2791N×13031E, h39km±2km, M3.5*
*ISCJB **12** 21:39:13.3±0.5, 2791N±003×13027E±004, h33km, mb3.8/7, Error ellipse: s-maj=5.6km s-min=4.1km az=19.3*
*NEIC **12** 21:39:14.4±3.4, 2801N×13007E, h24km±24km, MG3.8(JMA), Error ellipse: s-maj=23.2km s-min=10.3km az=101.0*

ISC 12 21:39:13.7±1.0, 2792N±003×13026E±005, h26km±7km, n19, σ0°80/30, mb3.8/7, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	**Kikaishima**	**0.47**	**328**	P	**Pb**	**21 39 23.3**	**-0.1**
JZK				S	**Sb**	**21 39 31.3**	**+1.3**
JAM	**Amami Oshima**	**0.76**	**311**	P	**Pb**	**21 39 37.7**	**-0.5**
JAM				S	**Sb**	**21 39 37.7**	**-0.5**
JTK	**Tokunoshima**	**1.16**	**264**	P	**Pn**	**21 39 33.9**	**-0.3**
JTK				*e*S	**Sn**	**21 39 49.8**	**+0.5**
JNN	**Nakanoshima**	**1.95**	**350**	P	**Pn**	**21 39 45.5**	**+0.5**
JNN				*e*S	**Sn**	**21 40 09.3**	**+0.7**
JOW	**Kunigami**	**2.06**	**239**	P	**Pn**	**21 39 46.5**	**-0.2**
JOW				*e*S	**Sn**	**21 40 11.9**	**+0.3**
JOW	**Kunigami**	**2.06**	**239**	Pn	**Pn**	**21 39 46.5**	**-0.2**
	24nm,0.3s,baz=90,slow=16,SNR=155						
JOW				Sn	**Sn**	**21 40 11.1**	**-0.5**
	32nm,0.3s,baz=113,slow=29,SNR=7.1						
JIH	**Iheya**	**2.21**	**247**	P	**Pn**	**21 39 48.4**	**-0.3**
JIH				S	**Sn**	**21 40 14.0**	**-1.2**
JMZ	**Minamidaito 2**	**2.26**	**157**	P	**Pn**	**21 39 49.2**	**-0.1**
JMZ				*e*S	**Sn**	**21 40 15.3**	**-1.1**
JTN	**Tanegashima 3**	**2.80**	**13**	P	**Pn**	**21 39 56.5**	**-0.3**
JTN				*e*S	**Sn**	**21 40 29.3**	**-0.4**
JKE	**Kume jima 2**	**3.47**	**244**	P	**Pn**	**21 40 05.7**	**-0.3**
JKE				S	**Sn**	**21 40 46.6**	**+0.3**
JNU	**Nakatsue**	**5.22**	**6**	Pn	**Pn**	**21 40 30.0**	**0.0**
	1.3nm,0.3s,baz=133,slow=26,SNR=10						
JNU				Sn	**Sn**	**21 41 27.3**	**-2.0**
	0.4nm,0.3s,baz=21,slow=43,SNR=2.1						
WRA	**Warramunga Arr**	**47.74**	**175**	P	**P**	**21 47 49.8**	**+1.3**
	0.3nm,0.7s,mb3.4,baz=353,slow=8.5,SNR=2.9						
ASAR	**Alice Springs**	**51.40**	**176**	P	**P**	**21 48 19.0**	**+2.6**
	0.2nm,0.5s,mb3.4,baz=11,slow=10,SNR=3.4						
ARCES	**ARCESS Array B**	**69.10**	**339**	P	**P**	**21 50 17.3**	**+0.3**
	12nm,1.1s,mb4.7,baz=78,slow=9.3,SNR=3.3						
FINES	**FINESS Array B**	**72.28**	**331**	P	**P**	**21 50 36.4**	**-0.1**
	1.1nm,0.5s,mb4.1,baz=69,slow=6.8,SNR=20						
AKASG	**Malin Array Be**	**75.42**	**320**	P	**P**	**21 50 55.1**	**0.0**
	0.8nm,0.4s,mb4.0,baz=55,slow=5.7,SNR=4.1						
NB2	**NORSAR Subarra**	**78.59**	**334**	P	**P**	**21 51 12.4**	**-0.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**78.59**	**334**	P	**P**	**21 51 12.7**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=50,slow=5.5,SNR=4.4						
GERES	**GERESS Array B**	**84.93**	**324**	P	**P**	**21 51 47.4**	**+1.1**
	comp=Z,0.1nm,0.3s,mb3.4,baz=46,slow=2.8,SNR=3.9						

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*NEIC **12** 21:44:47.6, 3147S×7165W, h22km, ML3.2(GUC), After GUC.*

GUC 12 21:44:47.6±0.6, 3147S×7165W, h22km±2km, MD4.0, ML3.2, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.63**	**63**	⇑*iP*	Pb	21 44 59.5	-0.4
CMCH				*i S*	Sb	21 45 08.9	+0.6
CMCH	**Combarbala**	**0.63**	**63**	⇑*iP*	Pb	21 44 59.5	-0.4
CMCH				*i S*	Sb	21 45 08.9	+0.6
CMCH				AML	AML	21 45 15.4	
	comp=E,2μm,0.7s						
OVCH	**Ovalle**	**0.94**	**25**	⇑*iP*	Pb	21 45 04.5	-0.7
OVCH				*i S*	Sb	21 45 17.1	-0.1
PTCH	**Petorca**	**1.01**	**142**	⇑*iP*	Pb	21 45 05.5	-0.9
PTCH				*i S*	Sb	21 45 18.7	-0.5
TLL	**Tololo Astrono**	**1.49**	**30**	*eP*	Pn	21 45 13.6	+0.6
TLL				*i S*	Sn	21 45 33.4	+1.8
TLL	**Tololo Astrono**	**1.49**	**30**	*eP*	Pn	21 45 13.6	+0.6
TLL				*i S*	Sn	21 45 33.4	+1.8
TLL				AML	AML	21 45 37.9	
	comp=E,278nm,0.3s						
JACH	**Jahuel**	**1.51**	**144**	*eP*	Pn	21 45 13.9	+0.7
JACH				*i S*	Sn	21 45 33.5	+1.3
ROCH	**El Roble**	**1.60**	**160**	*eP*	Pn	21 45 15.2	+0.7
ROCH				*i S*	Sn	21 45 36.6	+2.2
PEL	**Peldehue**	**1.86**	**154**	⇑*iP*	Pn	21 45 19.1	+0.9
PEL				*i S*	Sn	21 45 43.1	+2.2
PEL				AML	AML	21 45 46.2	
	comp=E,599nm,0.4s						
RCDM	**Rinconada Maip**	**2.14**	**161**	*eP*	Pn	21 45 23.1	+1.2
RCDM				*i S*	Sn	21 45 50.4	+2.6
RCDM	**Rinconada Maip**	**2.14**	**161**	*eP*	Pn	21 45 23.1	+1.2
RCDM				*i S*	Sn	21 45 50.4	+2.6
RCDM				AML	AML	21 45 57.8	
	comp=E,200nm,0.5s						
CLCH	**Cerro Calan**	**2.14**	**154**	*eP*	Pn	21 45 23.5	+1.5
CLCH				*i S*	Sn	21 45 50.8	+2.9
CLCH				AML	AML	21 45 59.3	
	comp=E,290nm,0.7s						
FCH	**Farellones**	**2.19**	**149**	*eP*	Pn	21 45 23.8	+1.2
FCH				*i S*	Sn	21 45 51.5	+2.6
FCH				AML	AML	21 45 56.0	
	comp=E,159nm,0.3s						
TACH	**Talagante**	**2.26**	**165**	*eP*	Pn	21 45 25.3	+1.6
TACH				*i S*	Sn	21 45 53.5	+2.7
LMEL	**Las Melosas**	**2.67**	**153**	*i P*	Pn	21 45 30.4	+1.2
LMEL				*i S*	Sn	21 46 03.8	+2.9
LMEL	**Las Melosas**	**2.67**	**153**	*i P*	Pn	21 45 30.4	+1.2
LMEL				*i S*	Sn	21 46 03.8	+2.9
LMEL				AML	AML	21 46 10.0	
	comp=N,158nm,0.2s						

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*ISCJB **12** 22:00:53.3±0.8, 3725N±003×2158E±005, h3km±8km, Error ellipse: s-maj=7.8km s-min=4.9km az=147.7*
*ATH **12** 22:00:53.2, 37.19N×2153E, h6km±3km, MD3.3/4*
*NEIC **12** 22:00:53.2, 37.19N×2153E, h6km, MD3.3(ATH), After ATH.*
*CSEM **12** 22:00:54.2±0.1, 3725N×2157E, h2km, MD3.3, Error ellipse: s-maj=3.2km s-min=1.9km az=48.0*
*THE **12** 22:00:54.1, 3725N×2157E, h7km, ML3.1*

ISC 12 22:00:53.8±0.8, 3724N±004×2154E±005, h5km±9km, n11, σ0°74/17, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.31**	**101**	*e*PB	**Pg**	**22 00 59.5**	**-0.3**
ITM				*e*SB	**Sg**	**22 01 03.8**	**-0.1**
PYL	**PYLOS**	**0.38**	**155**	*e*Pg	**Pg**	**22 01 01.2**	**+0.1**
PYL				*e*Sg	**Sg**	**22 01 07.1**	**+1.1**
VLX	**Vlachokerasia**	**0.68**	**79**	*e*Pg	**Pg**	**22 01 06.4**	**-0.4**
VLX				*e*Sg	**Sg**	**22 01 16.1**	**+0.4**
RLS	**Riolos of Patr**	**0.82**	**356**	*e*PB	**Pb**	**22 01 09.6**	**-0.9**
RLS				*e*SB	**Sb**	**22 01 22.1**	**+0.3**
KFL	**Anninata**	**1.05**	**326**	*e*Pg	**Pg**	**22 01 14.1**	**+0.1**
SELA	**Sela**	**1.07**	**15**	*e*Pg	**Pg**	**22 01 13.9**	**-0.4**
SELA				*e*Sg	**Sg**	**22 01 29.3**	**+1.1**
VLS	**Valsamata**	**1.20**	**321**	*e*Pg	**Pg**	**22 01 16.3**	**-0.5**
VLI	**Veliai**	**1.23**	**115**	*e*PB	**Pb**	**22 01 16.7**	**-0.8**
DID	**Didima**	**1.38**	**78**	*e*Pg	**Pn**	**22 01 19.0**	**-0.6**
DID				*e*Sg	**Sg**	**22 01 37.4**	**-0.5**
EVR	**Evrytania**	**1.69**	**7**	*e*PN	**Pg**	**22 01 25.9**	**-0.2**
NEO	**Neokhori**	**2.45**	**32**	*e*PN	**Pn**	**22 01 36.5**	**+2.1**

FUNV 12 22:02:53.3, 760N×7330W, h144km, MW4.2, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.01**	**75**	⇑*iP*	Pn	22 03 17.3	-0.3
CAPV				*e*S	Sn	22 03 34.8	-1.3
VIGV	**El Vigia**	**2.27**	**57**	*e*P	Pn	22 03 31.5	+0.1
VIGV				*e*S	Sn	22 03 58.2	-2.5
SOCV	**Socops**	**2.51**	**74**	*e*P	Pn	22 03 32.7	-1.6
SOCV				*e*S	Sn	22 04 03.2	-2.7
VIRV	**Villa del Rosa**	**3.01**	**17**	*e*P	Pn	22 03 39.9	-0.7
VIRV				*e*S	Sn	22 04 13.2	-4.1
QARV	**Quebrada Arrib**	**3.77**	**46**	*e*P	Pn	22 03 48.8	-1.6
QARV				*e*S	Sn	22 04 30.6	-4.2
CURV	**Curarigua**	**4.08**	**54**	*e*P	Pn	22 03 53.5	-0.9
BAUV	**El Baul**	**5.37**	**75**	*e*P	Pn	22 04 09.0	-2.6

IDC 12 22:11:05.9±2.8, 3276S×17851W, h0km, mb4.0/2, mb1 4.2/3, mb1mx3.9/13, mbtmp4.0/3, ML3.9/1, Error ellipse: s-maj=67.9km s-min=43.1km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.55**	**212**	Pn	Pn	22 12 42.5	-0.9
	2.5nm,0.3s,baz=291,slow=2.6,SNR=28						
URZ				Sn	Sn	22 13 53.4	-5.4
	2.4nm,0.3s,baz=131,slow=24,SNR=7.6						
ASAR	**Alice Springs**	**42.60**	**270**	P	P	22 19 03.9	0.0
	0.4nm,0.3s,baz=108,slow=7.9,SNR=8.8						
WRA	**Warramunga Arr**	**43.80**	**275**	P	P	22 19 13.8	+0.1
	1.6nm,0.4s,baz=114,slow=7.8,SNR=40						
FINES	**FINESS Array B**	**147.19**	**338**	PKPbc	PKPbc	22 30 49.4	-0.8
	1.5nm,0.7s,baz=52,slow=5.0,SNR=17						

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*ISCJB **12** 22:59:58.3±2.3, 126N±0.1×1427E±02, h111km±24km, mb3.7/9, Error ellipse: s-maj=33.9km s-min=16.8km az=6.5*
*NEIC **12** 23:00:00.7±1.5, 1264N×14274E, h120km±16km, mb3.9/1, Error ellipse: s-maj=22.9km s-min=10.5km az=94.0*
*IDC **12** 23:00:00.3±2.3, 1265N×14279E, h116km±24km, mb3.4/8, mb1 3.6/9, mb1mx3.5/18, mbtmp3.4/9, Error ellipse: s-maj=28.3km s-min=14.4km az=96.0*

ISC 12 23:00:00.6±2.1, 126N±01×1428E±02, h117km±23km, n10, σ0°43/11, mb3.7/9, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.25**	**65**	P	**Pn**	**23 00 37.6**	**+0.6**
	13nm,0.3s,baz=325,slow=2.0,SNR=23						
GUMO				S	**Sn**	**23 01 04.7**	**-0.4**
	46nm,0.3s,baz=177,slow=23,SNR=12						
WRAB	**Tennant Creek**	**33.41**	**194**	*eP*	**P**	**23 06 28.2**	**0.0**
	1.0nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**33.42**	**194**	P	**P**	**23 06 28.4**	**+0.1**
	1.7nm,0.6s,mb4.0,baz=23,slow=9.5,SNR=23						
ASAR	**Alice Springs**	**37.11**	**194**	P	**P**	**23 06 59.9**	**+0.1**
	0.9nm,0.4s,mb4.1,baz=22,slow=12,SNR=23						
STKA	**Stephens Creek**	**44.28**	**181**	P	**P**	**23 07 58.0**	**-0.5**
	1.1nm,0.4s,mb4.0,baz=360,slow=9.8,SNR=6.6						
SONM	**Songino Array**	**46.35**	**326**	P	**P**	**23 08 14.2**	**-0.7**
	0.2nm,0.5s,mb3.1,baz=123,slow=9.9,SNR=2.6						
MKAR	**Makanchi Array**	**60.76**	**317**	P	**P**	**23 10 00.4**	**+0.4**
	0.1nm,0.3s,mb3.3,baz=89,slow=8.7,SNR=4.4						
ZALV	**Zalesovo Beam**	**61.21**	**325**	P	**P**	**23 10 02.9**	**0.0**
	0.5nm,0.5s,mb3.8,baz=90,slow=7.6,SNR=2.6						
YKA	**Yellowknife Ar**	**84.64**	**27**	P	**P**	**23 12 20.4**	**-0.4**
	0.2nm,0.6s,mb3.3,baz=283,slow=4.6,SNR=3.1						
NVAR	**Mina Array Bea**	**89.11**	**51**	P	**P**	**23 12 43.7**	**+0.7**
	0.4nm,0.5s,mb3.7,baz=308,slow=4.4,SNR=3.2						

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*NEIC **12** 23:02:52.8, 3144S×7166W, h33km, ML2.7(GUC), After GUC.*

GUC 12 23:02:52.8±0.5, 3144S×7166W, h33km±4km, MD3.9, ML2.7, 5C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.62**	**65**	⇑*iP*	Pb	23 03 04.8	-0.5
CMCH				*i S*	Sb	23 03 14.2	+0.4
CMCH	**Combarbala**	**0.62**	**65**	⇑*iP*	Pb	23 03 04.8	-0.5
CMCH				*i S*	Sb	23 03 14.2	+0.4
CMCH				AML	AML	23 03 22.5	
	comp=E,817nm,0.7s						
OVCH	**Ovalle**	**0.92**	**25**	⇑*iP*	Pn	23 03 09.4	0.0
OVCH				*i S*	Sn	23 03 22.3	+0.8
TLL	**Tololo Astrono**	**1.47**	**30**	⇑*iP*	Pn	23 03 18.8	+1.8
TLL				*i S*	Sn	23 03 38.3	+3.3
TLL	**Tololo Astrono**	**1.47**	**30**	⇑*iP*	Pn	23 03 18.8	+1.8
TLL				*i S*	Sn	23 03 38.3	+3.3
TLL				AML	AML	23 03 43.0	
	comp=E,163nm,0.3s						
JACH	**Jahuel**	**1.53**	**144**	*i S*	Sn	23 03 39.7	+3.1
PEL	**Peldehue**	**1.89**	**154**	*eP*	Pn	23 03 24.2	+1.5
PEL				*i S*	Sn	23 03 48.2	+2.8
PEL				AML	AML	23 03 52.5	
	comp=E,207nm,0.2s						
RCDM	**Rinconada Maip**	**2.16**	**161**	*i S*	Sn	23 03 54.9	+2.6
FCH	**Farellones**	**2.21**	**149**	*eP*	Pn	23 03 29.1	+1.9
FCH				*i S*	Sn	23 03 57.0	+3.7
FCH				AML	AML	23 04 01.0	
	comp=E,47nm,0.3s						
TACH	**Talagante**	**2.29**	**165**	*eP*	Pn	23 03 29.7	+1.5

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*NIED **12** 23:13:00, 3500N×13280E, h8km, Mw4.3 Best double couple: M0 3.11000×10^15 NP1:φs 56.00000°, δ86.00000°, λ152.00000°. NP2:φs 148.00000°, δ62.00000°, λ4.00000°.*
*BJI **12** 23:13:53.5, 3494N×13321E, h22km, mB4.7, mb4.5, Ms4.1, Msz3.9*
*JMA **12** 23:13:54.7, 3501N×13279E, h9km±1km, M4.6 Broadband fault plane solution: P waves. NP1: φs 150.00000°, δ64.00000°, λ17.00000°. NP2:φs 52.00000°, δ74.00000°, λ153.00000°. Principal axes: T Plg30.0000°, Azm9.0000°; N Plg59.0000°, Azm205.0000°; P Plg7.0000°, Azm103.0000°;*
JMA Felt IV J1.
*NEIC **12** 23:13:54.8, 3501N×13279E, h10km, mb4.8/13, MW4.3(NIED), After JMA.*
NEIC Recorded [4 JMA] in Shimane; [3 JMA] in Hiroshima; [2 JMA] in Tottori and Yamaguchi; [1 JMA] in Hyogo and Okayama Prefectures. Also recorded [2 JMA] in Ehime and [1 JMA] in Kagawa and Kochi Prefectures, Shikoku.
*ISCJB **12** 23:13:54.9±0.4, 3502N±003×13280E±003, h18km±3km, mb4.4/38, MS3.9/13, Error ellipse: s-maj=4.4km s-min=4.0km az=173.2*
*IDC **12** 23:13:57.0±4.7, 3512N×13279E, h25km±32km, mb4.0/13, mb1 4.1/16, mb1mx4.0/23, mbtmp4.0/16, ML3.8/3, MS3.6/11, Ms1 3.6/11, ms1mx3.4/35, Error ellipse: s-maj=16.2km s-min=14.0km az=67.0*
*MOS **12** 23:13:56.3±1.2, 3495N×13274E, h33km, mb4.8/12, Error ellipse: s-maj=12.0km s-min=7.5km az=106.2*

ISC 12 23:13:55.3±0.5, 3502N±002×13280E±003, h8km±3km, h32km±3.4km: pP-P, n100, σ1°28/118, mb4.4/38, MS3.9/13, 6C-11D, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHS	**Saijyo**	**0.26**	**93**	⇓P	**Pg**	**23 14 00.2**	**-0.2**
JHS				S	**Sg**	**23 14 04.0**	**+0.1**
JGT	**Gotsu**	**0.39**	**272**	⇓P	**Pg**	**23 14 02.3**	**-0.5**
JGT				S	**Sg**	**23 14 07.5**	**-0.4**
JJG	**Jouge**	**0.47**	**142**	⇓P	**Pg**	**23 14 04.1**	**-0.3**
JJG				S	**Sg**	**23 14 10.6**	**0.0**
JHT	**Toyohira**	**0.47**	**222**	⇑P	**Pg**	**23 14 03.6**	**-0.8**
JHT				S	**Sg**	**23 14 09.9**	**-0.7**
JNM	**Ikuma**	**0.51**	**21**	⇑P	**Pg**	**23 14 05.2**	**-0.1**
JNM				S	**Sg**	**23 14 12.7**	**+0.7**
JNU	**Nakatsue**	**2.47**	**221**	Pn	**Pn**	**23 14 36.4**	**+0.5**
	29nm,0.3s,baz=28,slow=11,SNR=85						
JNU				Sn	**Sn**	**23 15 08.4**	**+2.2**
	64nm,0.3s,baz=148,slow=8.0,SNR=6.6						
JNU				LR	LR	23 15 40.8	
	comp=Z,873nm,18.7s,baz=37,slow=41						
KSRS	**Korea Array**	**4.64**	**303**	Pn	**Pn**	**23 15 05.5**	**-0.1**
	2.8nm,0.3s,baz=124,slow=14,SNR=24						
KSRS				Sn	**Sn**	**23 15 58.5**	**-1.0**
	8.2nm,0.3s,baz=122,slow=24,SNR=8.4						
KSRS				LR	LR	23 16 58.6	
	comp=Z,524nm,19.1s,baz=141,slow=40						
MAJO	**Matsushiro**	**4.65**	**69**	*eP*	**Pn**	**23 15 07.7**	**+1.9**
MAT	**Matsushiro**	**4.65**	**69**	P	**Pn**	**23 15 07.5**	**+1.7**
MAT				S	**Sg**	**23 16 22.5**	**-2.1**
MJAR	**Matsushiro Arr**	**4.65**	**69**	Pn	**Pn**	**23 15 07.5**	**+1.7**
	6.7nm,0.3s,baz=247,slow=13,SNR=54						
MJAR				Lg		23 16 22.8	
	3.3nm,0.3s,baz=233,slow=29,SNR=11						
MJAR				LR	LR	23 17 00.8	
	comp=Z,642nm,22.0s,baz=260,slow=40						
JHJ	**Hachijo jima 2**	**6.09**	**106**	LR	LR	23 17 58.7	
	comp=Z,339nm,18.5s,baz=97,slow=39						
JOW	**Kunigami**	**9.04**	**207**	LR	LR	23 19 53.2	
	comp=Z,180nm,20.2s,baz=23,slow=39						
DL2	**Dalian**	**9.75**	**297**	P	**Pn**	**23 16 22.3**	**+6.5**
DL2				S	**Sn**	**23 18 14.1**	**+8.7**
DL2				AMB	AMB		
	comp=Z,10.0nm,1.0s						
DL2				AMB	AMB		
	comp=Z,120nm,4.5s						
DL2				LR	LR		
	comp=N,600nm,10.4s						
DL2				LR	LR		
	comp=E,390nm,10.1s						
DL2				LR	LR		
	comp=Z,500nm,10.5s						
MDJ	**Mudanjiang**	**

NJ2				LR	LR		
	comp=N,790nm,10.7s						
NJ2				LR	LR		
	comp=E,390nm,21.2s						
NJ2				LR	LR		
	comp=Z,390nm,19.1s						
HABR	**Khabarovsk**	**13.55**	**6**	*e*P	**Pn**	**23 17 11.8**	**+4.1**
HABR				*e*		23 19 42.2	
HABR				pmax	pmax		
	comp=Z,26nm,1.6s						
YSS	**Yuzh-Sakhalins**	**14.08**	**29**	*i* P	**Pn**	**23 17 16.9**	**+2.0**
BJI	**Beijing**	**14.11**	**296**	P	**Pn**	**23 17 18.9**	**+3.5**
BJI				AMB	AMB		
	comp=Z,15nm,1.5s						
BJI				LR	LR		
	comp=N,360nm,10.7s						
BJI				LR	LR		
	comp=E,407nm,10.7s						
BJI				LR	LR		
	comp=Z,199nm,17.1s						
BJT	**Baijiatuau**	**14.11**	**296**	*e*P	**Pn**	**23 17 18.2**	**+2.8**
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**14.11**	**296**	*e*P	**Pn**	**23 17 18.2**	**+2.8**
	comp=Z,15nm,0.8s						
KLR	**Kul'dur**	**14.23**	**357**	*e*P	**Pn**	**23 17 16.0**	**-0.9**
KLR				MLR	MLR		
	comp=E,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
HIA	**Hailar**	**17.19**	**330**	*e*P	**Pn**	**23 17 57.6**	**+2.0**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**17.19**	**330**	*e*P	**Pn**	**23 17 57.6**	**+2.1**
	comp=Z,15nm,1.0s						
HHC	**Hu-ho-hao-te**	**17.72**	**295**	⇑P	**Pn**	**23 18 05.5**	**+3.2**
HHC				AP	pP	23 18 13.4	+7.9
HHC				XP	sP	23 18 17.9	+11
HHC				PP		23 18 20.5	
HHC				S	**Sn**	**23 21 20.5**	**+0.6**
HHC				XS	sS	23 21 31.3	+0.4
HHC				SS		23 21 41.2	
HHC				AMB	AMB		
	comp=Z,31nm,1.2s						
HHC				AMB	AMB		
	comp=Z,262nm,6.6s						
HHC				LR	LR		
	comp=N,939nm,14.7s						
HHC				LR	LR		
	comp=E,493nm,13.3s						
HHC				LR	LR		
	comp=Z,494nm,11.3s						
BTO	**Baotou**	**18.83**	**294**	*e*P	**Pn**	**23 18 16.6**	**+0.7**
XAN	**Xi'an**	**19.70**	**274**	P	**Pn**	**23 18 27.6**	**+1.2**
XAN				AP	pP	23 18 32.9	+5.7
XAN				PP		23 18 45.5	
XAN				S	**Sn**	**23 22 00.0**	**-7.7**
XAN				AMB	AMB		
	comp=Z,12nm,1.3s						
XAN				AMB	AMB		
	comp=Z,97nm,5.8s						
XAN				LR	LR		
	comp=N,149nm,11.0s						
XAN				LR	LR		
	comp=E,181nm,11.9s						
XAN				LR	LR		
	comp=Z,251nm,14.9s						
ULN	**Ulaanbaatar**	**23.06**	**312**	⇓*e*P	**P**	**23 19 01.2**	**+0.2**
ULN	**Ulaanbaatar**	**23.06**	**312**	*e*P	**P**	**23 19 01.3**	**+0.3**
	comp=Z,13nm,0.8s,mb4.4						
SONM	**Songino Array**	**23.45**	**311**	P	**P**	**23 19 04.5**	**-0.6**
SONM				pmax	pmax		
	comp=Z,13nm,0.9s						
SONM				MLR	MLR		
	comp=Z,150nm,18.0s						
SONM	**Songino Array**	**23.45**	**311**	P	**P**	**23 19 04.5**	**-0.6**
	comp=Z,13nm,0.9s,mb4.4,baz=122,slow=8.1,SNR=54						
SONM				LR	LR	23 28 54.1	
	comp=Z,150nm,18.0s,MS3.5,baz=115,slow=38						
LZH	**Lanzhou**	**23.55**	**281**	*e*P	**P**	**23 19 07.5**	**+1.2**
LZH				AP		23 19 16.5	
LZH				XP	sP	23 19 21.3	+12
LZH				PP		23 19 39.6	
LZH				*e*S	**S**	**23 23 14.8**	**-5.4**
LZH				XS	sS	23 23 29.6	+5.3
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,103nm,4.5s						
LZH				LR	LR		
	comp=E,357nm,11.2s						
LZH				LR	LR		
	comp=Z,545nm,14.0s,MS4.2						
GUMO	**Guam**	**23.96**	**150**	*e*P	**P**	**23 19 19.5**	**+9.4**
GYA	**Guiyang**	**23.98**	**256**	*e*P	**P**	**23 19 12.2**	**+1.9**
GYA				AP		23 19 21.8	
GYA				XP	sP	23 19 25.9	+12
GYA				PP		23 19 45.4	
GYA				PCP	PcP	23 22 55.3	+2.9
GYA				S	**S**	**23 23 22.5**	**-4.8**
GYA				XS	sS	23 23 39.0	+7.7
GYA				SS		23 24 14.3	
GYA				SCP	ScP	23 26 29.4	-1.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
GYA				AMB	AMB		
	comp=Z,90nm,4.8s						
GYA				LR	LR		
	comp=N,450nm,17.8s,MS4.2						
GYA				LR	LR		
	comp=E,480nm,16.9s,MS4.2						
GYA				LR	LR		
	comp=Z,470nm,17.3s,MS4.0						
CD2	**Chengdu**	**24.67**	**269**	*e*P	**P**	**23 19 16.5**	**-0.1**
CD2				AP		23 19 26.3	
CD2				XP	sP	23 19 31.0	+11
CD2				PP		23 19 53.5	
CD2				S	**S**	**23 23 33.2**	**-5.2**
CD2				XS	sS	23 23 48.4	+6.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,390nm,9.6s						
CD2				LR	LR		
	comp=E,530nm,13.2s						
CD2				LR	LR		
	comp=Z,430nm,10.8s,MS4.2						
QIZ	**Qiongzhong**	**25.83**	**238**	P	**P**	**23 19 27.1**	**0.0**
QIZ				S	**S**	**23 23 56.6**	**-0.3**
QIZ				AMB	AMB		
	comp=Z,28nm,2.0s,mb4.5						
QIZ				LR	LR		
	comp=N,386nm,13.1s						
QIZ				LR	LR		
	comp=Z,193nm,14.4s,MS3.8						
BOD	**Bodaibo**	**26.06**	**337**	*e*P	**P**	**23 19 27.3**	**-1.6**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1						
ZAK	**Zakamensk**	**26.36**	**315**	*e*P	**P**	**23 19 30.7**	**-0.9**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.5						
GTA	**Gaotai**	**26.55**	**289**	*e*P	**P**	**23 19 31.7**	**-1.8**
GTA				AP	pP	23 19 43.0	+7.0
GTA				XP	sP	23 19 47.6	+11
GTA				S	**S**	**23 24 00.2**	**-7.9**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.0						
GTA				AMB	AMB		
	comp=Z,48nm,6.1s						
GTA				LR	LR		
	comp=N,193nm,11.8s,MS4.0						
GTA				LR	LR		
	comp=E,174nm,15.3s,MS4.0						
GTA				LR	LR		
	comp=Z,293nm,14.5s,MS4.0						
IRK	**Irkutsk**	**26.64**	**319**	*e*P	**P**	**23 19 35.0**	**+0.8**
IRK				pmax	pmax		
	comp=Z,28nm,2.3s,mb4.4						
YAK	**Yakutsk**	**27.11**	**357**	⇓*e*P	**P**	**23 19 37.4**	**-0.9**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.6						
KMI	**Kunming**	**27.73**	**257**	P	**P**	**23 19 47.5**	**+3.2**
KMI				AP	pP	23 19 54.5	+7.8
KMI				XP	sP	23 20 00.4	+13
KMI				S	**S**	**23 24 24.5**	**-2.4**
KMI				XS	sS	23 24 40.4	+9.4
KMI				SS		23 25 43.4	
KMI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
KMI				AMB	AMB		
	comp=Z,166nm,4.6s						
KMI				LR	LR		
	comp=N,263nm,11.6s,MS4.2						
KMI				LR	LR		
	comp=E,319nm,12.2s,MS4.2						
KMI				LR	LR		
	comp=Z,319nm,12.2s,MS4.1						
SEY	**Seymchan**	**30.49**	**18**	⇓*e*P	**P**	**23 20 08.8**	**+0.4**
WMQ	**Urumqi**	**35.57**	**298**	*e*P	**P**	**23 20 54.0**	**+1.1**
WMQ				AP	pP	23 21 04.0	+8.6
WMQ				XP	sP	23 21 08.0	+12
WMQ				PP	PP	23 22 14.0	+0.4
WMQ				S	**S**	**23 26 26.0**	**-2.8**
WMQ				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,62nm,4.0s						
WMQ				LR	LR		
	comp=N,146nm,14.0s,MS4.1						
WMQ				LR	LR		
	comp=E,210nm,14.0s,MS4.1						
WMQ				LR	LR		
	comp=Z,104nm,13.0s,MS3.8						
BILL	**Bilibino**	**38.11**	**20**	⇓*e*P	**P**	**23 21 14.9**	**+0.6**
BILL				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.4						
BILL	**Bilibino**	**38.11**	**20**	*e*P	**P**	**23 21 13.8**	**-0.4**
	comp=Z,2.9nm,0.3s,mb4.5						
ZAA0	**Zalesovo Array**	**38.24**	**315**	*e*P	**P**	**23 21 14.6**	**-0.9**
ZALV	**Zalesovo Beam**	**38.24**	**315**	P	**P**	**23 21 14.4**	**-1.0**
	comp=Z,2.3nm,0.6s,mb4.1,baz=75,slow=7.8,SNR=13						
ZAL	**Zalesovo**	**38.25**	**315**	P	**P**	**23 21 14.5**	**-1.1**
MKAR	**Makanchi Array**	**39.32**	**303**	⇑*e*P	**P**	**23 21 23.8**	**-0.9**
MKAR	**Makanchi Array**	**39.32**	**303**	P	**P**	**23 21 23.9**	**-0.8**
MKAR				LR	LR	23 38 29.5	
MKAR	**Makanchi Array**	**39.32**	**303**	P	**P**	**23 21 23.9**	**-0.7**
	comp=Z,1.7nm,0.8s,mb3.8,baz=91,slow=10,SNR=13						
MKAR				LR	LR	23 38 29.5	
	comp=Z,107nm,18.5s,MS3.7,baz=119,slow=38						
KURK	**Kurchatov**	**41.73**	**309**	⇑*e*P	**P**	**23 21 42.6**	**-2.0**
KURK	**Kurchatov**	**41.73**	**309**	*e*P	**P**	**23 21 43.4**	**-1.2**
TKM2	**Tokmak 2**	**44.43**	**298**	*e*P	**P**	**23 22 06.4**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
TKM2	**Tokmak 2**	**44.43**	**298**	*e*P	**P**	**23 22 06.4**	**-0.1**
	comp=Z,6.9nm,1.0s,mb4.3						
AML	**Almayashu**	**45.96**	**297**	*e*P	**P**	**23 22 18.6**	**0.0**
	comp=Z,6.9nm,0.8s,mb4.6						
IMA2	**Indian Mountai**	**51.94**	**30**	*e*P	**P**	**23 23 05.3**	**+1.1**
SVE	**Sverdlovsk**	**52.02**	**318**	*e*P	**P**	**23 23 04.0**	**-1.0**
SVE				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ARU	**Arti**	**53.22**	**318**	*c i*P	**P**	**23 23 12.0**	**-1.8**
ARU				*e*		23 25 09.2	
ARU				*e*PPP		23 26 22.2	
ARU				*e*S	**S**	**23 30 40.8**	**-4.0**
ARU				*e*SS	SS	23 34 18.4	-5.5
ARU				pmax	pmax		
	comp=Z,24nm,1.6s,mb4.9						
ARU	**Arti**	**53.22**	**318**	*e*P	**P**	**23 23 12.1**	**-1.7**
FITZ	**Fitzroy Crossi**	**53.26**	**189**	*e*P	**P**	**23 23 16.4**	**+2.0**
	comp=Z,11nm,0.8s,mb4.8						
FITZ				*e*pP	pP	23 23 24.1	+7.1
FITZ				*e*sP	sP	23 23 30.5	+12
WRAB	**Tennant Creek**	**54.66**	**178**	⇓*e*P	**P**	**23 23 24.5**	**-0.2**
WRAB	**Tennant Creek**	**54.66**	**178**	*e*P	**P**	**23 23 25.5**	**+0.8**
	comp=Z,10nm,0.8s,mb4.9						
WB2	**Warramunga Arr**	**54.67**	**178**	*e*P	**P**	**23 23 25.6**	**+0.8**
WRA	**Warramunga Arr**	**54.67**	**178**	P	**P**	**23 23 24.3**	**-0.5**
WRA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
WRA	**Warramunga Arr**	**54.67**	**178**	P	**P**	**23 23 24.3**	**-0.5**
	comp=Z,8.3nm,0.8s,mb4.8,baz=354,slow=8.0,SNR=64						
QIS	**Mount Isa**	**55.64**	**172**	*e*P	**P**	**23 23 32.6**	**+0.9**
	comp=Z,14nm,0.8s,mb5.0						
ASAR	**Alice Springs**	**58.37**	**179**	P	**P**	**23 23 50.9**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**58.37**	**179**	P	**P**	**23 23 50.9**	**-0.2**
	comp=Z,0.5nm,0.9s,mb3.5,baz=6.4,slow=6.8,SNR=4.1						
HKL	**Haleakala**	**63.14**	**83**	*e*P	**P**	**23 24 16.9**	**-6.9**
ARCES	**ARCESS Array B**	**63.33**	**338**	LR	LR	23 54 46.4	
	comp=Z,62nm,19.9s,MS3.8,baz=82,slow=39						
FORT	**Forrest**	**65.59**	**184**	*e*P	**P**	**23 24 39.4**	**-0.1**
	comp=Z,15nm,0.6s,mb5.2						
KIV	**Kislovodsk**	**66.81**	**308**	*c i*P	**P**	**23 24 46.7**	**-0.6**
KIV				*e*		23 25 00.7	
KIV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.2						
KIV	**Kislovodsk**	**66.81**	**308**	*e*P	**P**	**23 24 46.7**	**-0.6**
	comp=Z,7.6nm,0.8s,mb4.8						
STKA	**Stephens Creek**	**67.05**	**172**	*e*P	**P**	**23 24 51.0**	**+2.2**
	comp=Z,9.5nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**67.05**	**172**	P	**P**	**23 24 48.7**	**-0.1**
	comp=Z,9.7nm,0.6s,mb5.0,baz=341,slow=6.1,SNR=47						
FINES	**FINESS Array B**	**67.21**	**330**	P	**P**	**23 24 47.1**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**67.21**	**330**	P	**P**	**23 24 47.0**	**-2.5**
	comp=Z,0.7nm,0.5s,mb3.9,baz=55,slow=7.2,SNR=4.4						
YKA	**Yellowknife Ar**	**68.93**	**27**	P	**P**	**23 24 58.9**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**68.93**	**27**	P	**P**	**23 24 58.9**	**-1.5**
YKA	**Yellowknife Ar**	**68.93**	**27**	P	**P**	**23 24 58.9**	**-1.5**
	comp=Z,1.2nm,0.8s,mb3.9,baz=304,slow=6.1,SNR=12						
ANN	**Anapa**	**69.73**	**311**	*e*P	**P**	**23 25 04.7**	**-1.0**
ANN				pmax	pmax		
	comp=Z,22nm,1.2s,mb5.0						
AKASG	**Malin Array Be**	**71.44**	**319**	P	**P**	**23 25 13.6**	**-2.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**71.44**	**319**	P	**P**	**23 25 13.6**	**-2.4**
AKASG	**Malin Array Be**	**71.44**	**319**	P	**P**	**23 25 13.6**	**-2.4**
	comp=Z,1.1nm,0.5s,mb4.0,baz=54,slow=6.4,SNR=14						
NOA	**NORSAR Array B**	**73.16**	**334**	P	**P**	**23 25 22.9**	**-3.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,40nm,18.5s						
NOA	**NORSAR Array B**	**73.16**	**334**	P	**P**	**23 25 22.9**	**-3.2**
	comp=Z,0.7nm,0.8s,mb3.6,baz=48,slow=5.8,SNR=3.3						
NOA				LR	LR	00 00 38.5	
	comp=Z,40nm,18.5s,MS3.7,baz=240,slow=38						
FCC	**Fort Churchill**	**78.75**	**23**	*e*P	**P**	**23 25 58.1**	**+0.1**
FCC				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
FCC	**Fort Churchill**	**78.75**	**23**	*e*P	**P**	**23 25 58.1**	**+0.1**
	comp=Z,7.5nm,1.0s,mb4.6						
CLL	**Collm**	**79.13**	**326**	*e*P	**P**	**23 25 58.0**	**-2.2**
GERES	**GERESS Array B**	**80.50**	**324**	P	**P**	**23 26 06.3**	**-1.4**
	comp=Z,0.2nm,0.6s,mb3.2,baz=20,slow=3.1,SNR=3.2						
GERES				LR	LR	00 04 39.0	
	comp=Z,53nm,19.1s,MS3.9,baz=64,slow=38						
NVAR	**Mina Array Bea**	**81.67**	**49**	P	**P**	**23 26 14.1**	**-0.1**
	comp=Z,0.2nm,0.5s,mb3.3,baz=317,slow=55,SNR=3.0						
REDW	**Red Top Meadow**	**82.81**	**41**	*e*P	**P**	**23 26 19.0**	**-1.0**
	comp=Z,11nm,0.6s,mb5.1						
ULM	**Lac du Bonnet**	**84.84**	**29**	P	**P**	**23 26 29.5**	**-0.7**
ULM	**Lac du Bonnet**	**84.84**	**29**	P	**P**	**23 26 29.5**	**-0.7**
	comp=Z,2.0nm,0.7s,mb4.4,baz=325,slow=6.8,SNR=3.2						
LPAZ	**La Paz**	**153.57**	**50**	PKPbc	PKPbc	23 33 55.1	+0.2
	comp=Z,0.4nm,0.5s,baz=225,slow=2.9,SNR=3.8						

IDC ***12*** *23:40:27.5±15.0, 1798S×17856W, h616km±142km, mb3.3/4, mb1 3.5/4, mb1mx3.1/13, mbtmp3.3/4, Error ellipse: s-maj=129.3km s-min=37.6km az=104.0*
ISCJB ***12*** *23:40:33.2±1.5, 177S±03×1794W±03, h650km, mb4.1/8, Error ellipse: s-maj=45.5km s-min=17.4km az=44.9*
NEIC ***12*** *23:40:38.2±2.5, 1781S×17936W, h722km±35km, mb4.2/3, Error ellipse: s-maj=41.5km s-min=18.6km az=138.0*
ISC 12 23:40:35.0±1.5,**177S**±03×**1794W**±03,**h650**km,**n12,**
σ0§**77**/10,**mb4.1**/8,**Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTAO	**Charters Tower**	**32.52**	**260**	*e*P	**P**	**23 46 16.8**	**+1.2**
	2.7nm,0.6s,mb4.0						
TAU	**Tasmania Unive**	**37.76**	**221**	*e*P	**P**	**23 46 58.7**	**+0.3**
	288nm,2.4s,mb5.3						
STKA	**Stephens Creek**	**37.88**	**241**	P	**P**	**23 46 58.4**	**-1.1**
STKA	**Stephens Creek**	**37.88**	**241**	P	**P**	**23 46 58.4**	**-1.1**
	1.6nm,0.6s,mb3.6,baz=72,slow=9.6,SNR=4.2						
WB2	**Warramunga Arr**	**43.70**	**259**	*e*P	**P**	**23 47 44.0**	**-1.4**
WRAB	**Tennant Creek**	**43.70**	**259**	*e*P	**P**	**23 47 45.8**	**+0.3**
	4.4nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**43.71**	**259**	P	**P**	**23 47 46.1**	**+0.6**
	2.2nm,0.7s,mb3.6,baz=95,slow=7.3,SNR=34						
WRA				PcP	PcP	23 49 15.5	-1.9
	0.3nm,0.6s,baz=100,slow=3.5,SNR=3.3						
ASAR	**Alice Springs**	**43.91**	**254**	P	**P**	**23 47 47.4**	**+0.4**
	8.3nm,0.7s,mb4.2,baz=86,slow=8.7,SNR=81						
ASAR				PcP	PcP	23 49 16.1	-2.0
	0.5nm,0.5s,baz=96,slow=3.6,SNR=4.4						
POHA	**Pohakuloa**	**43.99**	**33**	P	**P**	**23 47 47.8**	**+0.2**
	57nm,0.7s,mb5.0						
MJAR	**Matsushiro Arr**	**67.14**	**324**	P	**P**	**23 50 26.1**	**-0.4**
	1.6nm,0.5s,mb3.6,baz=156,slow=6.0,SNR=6.4						
CLL	**Collm**	**145.02**	**346**	*i* PKPbc	PKPbc	23 58 57.3	-3.6
	comp=Z,5.0nm,0.7s						
GERES	**GERESS Array B**	**147.13**	**344**	PKPbc	PKPbc	23 59 03.4	-3.3
	comp=Z,0.9nm,0.6s,baz=18,slow=3.3,SNR=11						

NEIC ***12*** *23:45:23.1, 1604N×9755W, h16km, mb4.5/1, MD4.0(MEX), After MEX.*
MEX 12 23:45:23.1±0.8,**1604N×9755W,h16**km±14km,**MD4.0, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.66**	**303**	*i* P	Pg	23 45 33.7	-2.3
PNIG				*i* S	Sg	23 45 41.9	-2.9
OXX	**Oaxaca**	**1.31**	**37**	*i* P	Pn	23 45 43.6	-3.1
OXX				*i* S	Sn	23 45 58.1	-5.7
HUIG	**Huatulco**	**1.41**	**101**	*e*P	Pn	23 45 43.9	-4.3
HUIG				*i* S	Sn	23 46 01.1	-5.3
TPIG	**Tehuac#an**	**2.38**	**4**	*e*P	Pn	23 46 00.2	-1.2
TPIG				*i* S	Sn	23 46 28.5	-1.8
ACX	**Acapulco**	**2.42**	**290**	*e*P	Pn	23 45 58.7	-3.2
ACX				*i* S	Sn	23 46 28.3	-3.0
CMIG	**Matias Romero**	**2.76**	**67**	*e*P	Pn	23 46 04.5	-2.3
CMIG				*i* S	Sn	23 46 34.0	-5.7
CAIG	**El Cayaco**	**2.79**	**291**	*e*P	Pn	23 46 05.0	-2.1
CAIG				*i* S	Sn	23 46 37.4	-3.1
MZVM		**3.52**	**333**	*i* P	Pn	23 46 16.3	-0.8
MZVM				*i* S	Sn	23 46 53.8	-4.7
IIO	**Organos**	**3.71**	**343**	*e*P	Pn	23 46 22.5	+2.7
IIO				*i* S	Sn	23 47 03.6	+0.4
IIO	**Organos**	**3.71**	**343**	*i* P	Pn	23 46 19.1	-0.6
IIO				*i* S	Sn	23 46 57.5	-5.6
TEIG	**Tepich**	**9.75**	**63**	*e*Pn	Pn	23 47 39.9	-2.9
	64nm,1.7s						
SDV	**Santo Domingo**	**27.20**	**102**	*e*P	P	23 51 05.5	-0.9
	2.3nm,0.2s						

NIED ***12*** *23:51:00, 4690N×15330E, h32km, Mw4.2 Best double couple: M0=2.17000×10^15 NP1:φ0=128.00000°, δ83.00000°, λ-32.00000°. NP2:φ0=222.00000°, δ58.00000°, λ-172.00000°.*
SKHL ***12*** *23:51:24.7±0.3, 4651N×15354E, h64km±33km, mb4.9/5, msh5.7/1*
SZGRF ***12*** *23:51:30.5, 4740N×15348E, h33km, mb4.5, Kuril Islands, Russia*
ISCJB ***12*** *23:51:31.5±0.6, 4711N±005×15279E±006, h67km±6km, mb4.3/49, Error ellipse: s-maj=9.6km s-min=4.6km az=148.6*
MOS ***12*** *23:51:31.0±0.8, 4715N×15266E, h63km, mb4.6/11, Error ellipse: s-maj=14.5km s-min=7.5km az=71.7*
IDC ***12*** *23:51:32.9±0.6, 4714N×15268E, h64km±4km, mb3.8/16, mb1 4.0/17, mb1mx3.9/22, mbtmp3.8/17, MS3.4/8, Ms1 3.4/8, ms1mx3.1/36, Error ellipse: s-maj=16.3km s-min=13.7km az=156.0*
BJI ***12*** *23:51:34.1, 4739N×15272E, h76km, mB4.6, mb4.7, Ms4.0, Msz4.0*
NEIC ***12*** *23:51:34.1±0.7, 4709N×15270E, h77km±6km, mb4.4/10, Error ellipse: s-maj=10.3km s-min=6.0km az=159.0*
ISC 12 23:51:33.9±0.6,**4716N**±005×**15277E**±006,**h71**km±5km,
h67km±1.9km:**pP-P,n165,**σ1§**15**/160,**mb4.3**/49,**4C-1D, Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.91**	**242**	*e*PN	**Pn**	**23 52 29.0**	**-2.5**
KUR				*e*S	**Sn**	**23 53 17.0**	**+0.8**
KUR				pmax	pmax		
	comp=Z,150nm,0.5s						
KUR				smax			
	comp=N,300nm,0.6s						
KUR				smax			
	comp=E,230nm,0.6s						
KUR	**Kuril'sk**	**3.91**	**242**	*e*P	**Pn**	**23 52 29.0**	**-2.5**
KUR				AMB	AMB	23 52 30.5	
	comp=E,152nm,0.5s						
KUR				*e*S	**Sn**	**23 53 17.0**	**+0.8**
KUR				A		23 53 35.0	
	comp=E,304nm,0.6s						
KUR				A		23 53 35.0	
	comp=E,228nm,0.6s						
SKR	**Severo-Kuril's**	**4.16**	**31**	*e*PN	**Pn**	**23 52 33.5**	**-1.3**
SKR				*e*S	**Sn**	**23 53 20.0**	**-2.1**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,70nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,320nm,0.6s						
SKR				smax			
	comp=N,220nm,0.5s						
SKR	**Severo-Kuril's**	**4.16**	**31**	*e*P	**Pn**	**23 52 33.5**	**-1.3**
SKR				AMB	AMB	23 52 36.5	
	comp=N,60nm,0.5s						
SKR				AMB	AMB	23 52 36.5	
	comp=N,70nm,0.5s						
SKR				AMB	AMB	23 52 36.5	
	comp=N,80nm,0.5s						
SKR				*e*S	**Sn**	**23 53 20.0**	**-2.1**
SKR				A		23 53 29.5	
	comp=N,220nm,0.5s						
SKR				A		23 53 29.5	
	comp=N,320nm,0.5s						
SKR				A		23 53 29.5	
	comp=N,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.77**	**240**	PN	**Pn**	**23 53 03.0**	**+6.2**
YUK	**Yuzh-Kuril'sk**	**5.77**	**240**	*e*rx	rx	23 53 03.0	
YUK				A		23 54 20.5	
	comp=N,230nm,0.5s						
YUK				A		23 54 20.5	
	comp=N,610nm,0.9s						
YUK				A		23 54 48.5	
	comp=N,2μm,2.0s						
YUK				A		23 54 48.5	
	comp=N,2μm,2.0s						
NEM2	**Nemuro 2**	**6.24**	**235**	P	**Pn**	**23 53 01.2**	**-2.2**
NEM2				*e*S	**Sn**	**23 54 09.5**	**-3.7**
JRA	**Rausu**	**6.26**	**242**	P	**Pn**	**23 53 04.6**	**+1.0**
JNK	**Nakash**	**6.70**	**241**	P	**Pn**	**23 53 09.7**	**+0.1**
JNK				*e*S	**Sn**	**23 54 25.0**	**+0.5**
YSS	**Yuzh-Sakhalins**	**6.84**	**272**

PET	**Petropavlovsk**	**6.98**	**31**	*e*PN	**Pn**	**23 53 12.7**	**-0.7**
PET				pmax	pmax		
	comp=Z,15nm,0.5s						
PET				MLR	MLR		
	comp=N,100nm,19.0s						
PET				MLR	MLR		
	comp=E,100nm,20.0s						
JTKR	**Abashiri--Toko**	**6.99**	**246**	P	**Pn**	**23 53 15.4**	**+1.9**
JAK	**Akkeshi**	**7.07**	**237**	P	**Pn**	**23 53 12.6**	**-2.0**
JAK				*e*S	**Sn**	**23 54 29.4**	**-4.1**
JMP	**Maruseppu**	**7.32**	**248**	P	**Pn**	**23 53 20.5**	**+2.5**
UGL	**Uglegorsk**	**7.42**	**289**	*e*P	**Pn**	**23 53 23.0**	**+3.7**
UGL				AMB	AMB	23 53 24.5	
	comp=E,160nm,0.9s						
JAR	**Ashorobuto**	**7.43**	**242**	P	**Pn**	**23 53 20.5**	**+0.9**
TYV	**Tymovskoe**	**7.61**	**303**	*e*P	**Pn**	**23 53 24.8**	**+2.8**
TYV				AMB	AMB	23 53 26.0	
	comp=E,11nm,0.8s						
TYV				AMB	AMB	23 53 26.0	
	comp=E,18nm,0.8s						
TYV				AMB	AMB	23 53 26.0	
	comp=E,24nm,0.8s						
JOB	**Onbets**	**7.62**	**239**	P	**Pn**	**23 53 21.4**	**-0.8**
ASAJ	**Asahikawa**	**7.75**	**251**	PN	**Pn**	**23 53 26.9**	**+3.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,181nm,21.3s						
ASAJ	**Asahikawa**	**7.75**	**251**	P	**Pn**	**23 53 26.8**	**+2.9**
ASAJ	**Asahikawa**	**7.75**	**251**	P	**Pn**	**23 53 26.9**	**+2.9**
	comp=Z,1.1nm,0.3s,baz=71,slow=14,SNR=13						
ASAJ				LR	LR	23 56 13.9	
	comp=Z,181nm,21.3s,baz=232,slow=37						
JWK2	**Keihoku**	**7.76**	**260**	P	**Pn**	**23 53 29.3**	**+5.2**
JKK2	**Kamakawa 2**	**7.77**	**249**	P	**Pn**	**23 53 26.0**	**+1.8**
JCH	**Churui**	**8.08**	**239**	P	**Pn**	**23 53 27.1**	**-1.3**
ERM	**Erimo**	**8.57**	**237**	*i* PN	**Pn**	**23 53 34.8**	**-0.4**
JNBK	**Urakawa-nobuka**	**8.64**	**239**	P	**Pn**	**23 53 33.8**	**-2.3**
JNB	**Noboribetsu**	**9.56**	**245**	P	**Pn**	**23 53 48.2**	**-0.5**
JYM2	**Yakumo 2**	**10.17**	**245**	P	**Pn**	**23 53 55.5**	**-1.5**
JSR	**Shiriuchi**	**10.48**	**242**	P	**Pn**	**23 53 58.6**	**-2.6**
JTM	**Tenmabayashi**	**10.56**	**237**	P	**Pn**	**23 53 58.5**	**-3.8**
JANG	**Nango**	**10.59**	**234**	P	**Pn**	**23 53 57.8**	**-4.9**
HABR	**Khabarovsk**	**11.98**	**283**	*e*PN	**Pn**	**23 54 26.2**	**+4.5**
HABR						23 56 41.3	
MA2	**Magadan**	**12.49**	**355**	*e*PN	**Pn**	**23 54 29.5**	**+1.0**
MA2				pmax	pmax		
	comp=N,20nm,0.6s						
MA2				pmax	pmax		
	comp=Z,30nm,0.6s						
MA2	**Magadan**	**12.49**	**355**	*e*Pn	**Pn**	**23 54 29.8**	**+1.3**
KLR	**Kul'dur**	**14.17**	**286**	*e*P	**Pn**	**23 54 54.8**	**+3.9**
MAJO	**Matsushiro**	**15.15**	**231**	*e*P	**Pn**	**23 55 07.3**	**+3.6**
MAJO				pmax	pmax		
	comp=Z,24nm,1.1s						
MAJO	**Matsushiro**	**15.15**	**231**	*e*Pn	**Pn**	**23 55 07.3**	**+3.6**
	comp=Z,24nm,1.1s						
MJAR	**Matsushiro Arr**	**15.15**	**231**	*e*P	**Pn**	**23 55 01.0**	**-2.7**
MJAR	**Matsushiro Arr**	**15.15**	**231**	P	**Pn**	**23 55 00.4**	**-3.3**
	comp=Z,0.2nm,0.3s,baz=34,slow=14,SNR=6.2						
JHJ	**Hachijo jima 2**	**17.15**	**220**	LR	LR	00 02 12.0	
	comp=Z,242nm,18.3s,baz=46,slow=37						
CN2	**Changchun**	**19.41**	**270**	*e*P	**Pn**	**23 55 53.8**	**-2.1**
CN2				*e*S	**S**	**23 59 23.5**	**-6.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
YAK	**Yakutsk**	**19.85**	**327**	*e*P	**Pn**	**23 56 01.9**	**+1.0**
YAK				pmax	pmax		
	comp=Z,14nm,0.8s						
KSRS	**Korea Array**	**20.70**	**251**	P	**P**	**23 56 10.3**	**+2.2**
	comp=Z,4.8nm,0.8s,baz=52,slow=11,SNR=9.9						
KSRS				LR	LR	00 03 02.8	
	comp=Z,45nm,20.9s,baz=95,slow=33						
SNY	**Shenyang**	**21.42**	**266**	P	**P**	**23 56 14.8**	**-1.1**
SNY				AMB	AMB		
	comp=Z,99nm,3.6s						
SNY				LR	LR		
	comp=N,206nm,24.6s						
SNY				LR	LR		
	comp=E,269nm,16.8s						
SNY				LR	LR		
	comp=Z,127nm,15.0s						
JNU	**Nakatsue**	**21.73**	**238**	LR	LR	00 04 29.9	
	comp=Z,124nm,18.8s,baz=47,slow=36						
BILL	**Bilibino**	**22.05**	**14**	*i* P	**P**	**23 56 21.7**	**-0.5**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.9s,mb3.6						
NJ2	**Nanjing**	**29.90**	**252**	*e*P	**P**	**23 57 38.5**	**+3.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9						
HHC	**Hu-ho-hao-te**	**30.03**	**273**	*e*P	**P**	**23 57 38.7**	**+2.8**
HHC				AP	pP	23 57 56.4	+3.6
HHC				XP	sP	23 58 06.1	+4.9
HHC				PP	PP	23 58 40.5	-4.1
HHC				AMB	AMB		
	comp=Z,24nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,186nm,7.3s						
HHC				LR	LR		
	comp=N,236nm,13.0s						
HHC				LR	LR		
	comp=E,220nm,12.4s						
HHC				LR	LR		
	comp=Z,255nm,12.5s						
SONM	**Songino Array**	**30.98**	**289**	P	**P**	**23 57 44.1**	**0.0**
SONM						00 00 38.6	
SONM				pmax	pmax		
	comp=Z,1.0nm,0.8s						
SONM	**Songino Array**	**30.98**	**289**	P	**P**	**23 57 44.1**	**0.0**
	comp=Z,0.6nm,0.8s,mb3.4,baz=47,slow=6.0,SNR=5.1						
SONM				PcP	PcP	00 00 38.6	+0.1
	comp=Z,0.4nm,0.6s,baz=74,slow=5.2,SNR=3.5						
SVW2	**Sparrevohn**	**32.37**	**45**	*e*P	**P**	**23 57 57.4**	**+1.2**
IMA2	**Indian Mountai**	**33.61**	**36**	*e*P	**P**	**23 58 06.5**	**-0.5**
KDAK	**Kodiak Island**	**34.03**	**51**	P	**P**	**23 58 09.7**	**-1.0**
	comp=Z,12nm,1.0s,mb4.7,baz=255,slow=5.5,SNR=4.8						
MCK	**McKinley**	**35.49**	**41**	*e*P	**P**	**23 58 24.1**	**+0.9**
SML	**Sawmill**	**35.84**	**44**	*e*P	**P**	**23 58 26.2**	**0.0**
COLA	**College**	**35.96**	**39**	*e*P	**P**	**23 58 27.8**	**+0.6**
COLA				*e*PP	pP	23 58 43.9	-0.5
COLA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
COLA	**College**	**35.96**	**39**	*e*P	**P**	**23 58 27.8**	**+0.6**
	comp=Z,10.0nm,0.9s,mb4.8						
COLA				*e*pP	pP	23 58 43.9	-0.5
GTA	**Gaotai**	**38.67**	**278**	*e*P	**P**	**23 58 50.9**	**+0.5**
GTA				AP	pP	23 59 08.1	+0.3
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.0						
GTA				AMB	AMB		
	comp=Z,93nm,4.6s						
GTA				LR	LR		
	comp=N,66nm,12.6s						
GTA				LR	LR		
	comp=E,115nm,14.8s						
GTA				LR	LR		
	comp=Z,160nm,16.0s						
EGAK	**Eagle**	**38.83**	**39**	*e*P	**P**	**23 58 51.4**	**+0.1**
EGAK				*e*pP	pP	23 59 04.2	-4.5
CD2	**Chengdu**	**40.68**	**264**	*e*P	**P**	**23 59 09.3**	**+2.1**
CD2				XP	sP	23 59 35.1	+2.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
CD2				LR	LR		
	comp=N,90nm,15.6s						
CD2				LR	LR		
	comp=Z,260nm,14.4s						
INK	**Inuvik**	**41.43**	**33**	P	**P**	**23 59 13.6**	**+0.7**
INK				pmax	pmax		
	comp=Z,6.0nm,0.9s						
INK	**Inuvik**	**41.43**	**33**	P	**P**	**23 59 13.6**	**+0.7**
	comp=Z,5.5nm,0.9s,mb4.4,baz=306,slow=8.2,SNR=26						
GYA	**Guiyang**	**41.58**	**257**	P	**P**	**23 59 17.8**	**+3.2**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
ZALV	**Zalesovo Beam**	**42.18**	**305**	P	**P**	**23 59 19.9**	**+0.7**
ZALV				PcP	PcP	00 01 12.1	0.0
ZALV	**Zalesovo Beam**	**42.18**	**305**	P	**P**	**23 59 19.9**	**+0.7**
	comp=Z,0.3nm,0.3s,mb3.5,baz=64,slow=9.8,SNR=2.6						
ZALV				PcP	PcP	00 01 12.1	0.0
	comp=Z,3.4nm,0.7s,baz=61,slow=3.1,SNR=15						
ZAL	**Zalesovo**	**42.20**	**305**	P	**P**	**23 59 19.9**	**+0.6**
ZAL						00 01 12.1	
WMQ	**Urumqi**	**44.56**	**291**	*e*P	**P**	**23 59 41.0**	**+2.6**
WMQ				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
WMQ				LR	LR		
	comp=N,58nm,14.0s						
WMQ				LR	LR		
	comp=E,62nm,14.0s						
WMQ				LR	LR		
	comp=Z,54nm,14.0s						
QIZ	**Qiongzhong**	**44.80**	**246**	*e*P	**P**	**23 59 33.2**	**-7.4**
	comp=Z,146nm,1.6s						
KMI	**Kunming**	**45.09**	**259**	P	**P**	**23 59 47.6**	**+4.7**
KMI				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.5						
DLBC	**Dease Lake**	**45.48**	**46**	*e*P	**P**	**23 59 46.3**	**+0.8**
MKAR	**Makanchi Array**	**46.54**	**297**	P	**P**	**23 59 53.8**	**-0.3**
MKAR						00 01 27.2	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**46.54**	**297**	P	**P**	**23 59 53.8**	**-0.3**
MKAR				PcP	PcP	00 01 27.2	0.0
MKAR	**Makanchi Array**	**46.54**	**297**	P	**P**	**23 59 53.8**	**-0.3**
	comp=Z,0.7nm,1.0s,mb3.4,baz=67,slow=8.6,SNR=4.7						
MKAR				PcP	PcP	00 01 27.2	0.0
	comp=Z,1.3nm,0.6s,baz=71,slow=1.7,SNR=14						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**00 00 22.6**	**-1.1**
BVAR						00 01 40.8	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
BVAR				MLR	MLR		
	comp=Z,42nm,19.3s						
BVAR	**Borovoye Array**	**50.41**	**309**	P	**P**	**00 00 22.6**	**-1.1**
	comp=Z,0.6nm,0.5s,mb3.8,baz=51,slow=9.6,SNR=5.3						
BVAR				PcP	PcP	00 01 40.8	-0.3
	comp=Z,1.6nm,0.5s,baz=73,slow=2.7,SNR=10.0						
BVAR				LR	LR	00 22 45.1	
	comp=Z,42nm,19.3s,baz=306,slow=37						
YKA	**Yellowknife Ar**	**50.74**	**37**	*i* P	**P**	**00 00 26.2**	**+0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**00 00 26.2**	**+0.2**
YKA				pP	pP	00 00 43.0	-1.0
YKA				PcP	PcP	00 01 41.7	-0.4
YKA	**Yellowknife Ar**	**50.74**	**37**	P	**P**	**00 00 26.2**	**+0.2**
	comp=Z,1.1nm,0.5s,mb4.2,baz=299,slow=7.0,SNR=18						
YKA				pP	pP	00 00 43.0	-1.0
	comp=Z,3.6nm,0.7s,baz=296,slow=7.1,SNR=18						
YKA				PcP	PcP	00 01 41.7	-0.4
	comp=Z,0.4nm,0.5s,baz=303,slow=3.7,SNR=5.1						
CHTO	**Chiang Mai**	**51.99**	**256**	*e*P	**P**	**00 00 36.2**	**+0.3**
ARU	**Arti**	**54.55**	**317**	*e*P	**P**	**00 00 53.9**	**-0.3**
EDM	**Edmonton**	**56.20**	**46**	*e*P	**P**	**00 01 06.5**	**+0.4**
HNR	**Honiara**	**56.70**	**172**	LR	LR	00 25 44.2	
	comp=Z,52nm,18.4s,baz=179,slow=36						
ARCES	**ARCESS Array B**	**57.39**	**341**	P	**P**	**00 01 14.4**	**+0.2**
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				MLR	MLR		
	comp=Z,54nm,20.7s						
ARCES	**ARCESS Array B**	**57.39**	**341**	P	**P**	**00 01 14.4**	**+0.2**
	comp=Z,4.3nm,0.9s,mb4.5,baz=24,slow=7.3,SNR=3.2						
ARCES				LR	LR	00 28 51.5	
	comp=Z,54nm,20.7s,baz=65,slow=39						
WALA	**Waterton Lakes**	**58.36**	**50**	*e*P	**P**	**00 01 22.1**	**+0.7**
MSO	**Missoula**	**59.70**	**53**	*e*P	**P**	**00 01 31.4**	**+0.8**
	comp=Z,5.8nm,1.2s,mb4.5						
MSO				*e*pP	pP	00 01 48.7	-0.4
JOF	**Joensuu**	**60.86**	**333**	*e*p	**P**	**00 01 31.4**	**-6.9**
HRY	**Holter Researc**	**60.91**	**52**	*e*P	**P**	**00 01 40.1**	**+1.2**
LRM	**Limekiln Ridge**	**61.13**	**53**	*e*P	**P**	**00 01 41.5**	**+1.0**
BOZ	**Bozeman (W)**	**61.69**	**52**	*e*P	**P**	**00 01 45.4**	**+1.2**
BOZ				pmax	pmax		
	comp=Z,77nm,2.8s,mb5.2						
BOZ	**Bozeman (W)**	**61.69**	**52**	*e*P	**P**	**00 01 45.4**	**+1.2**
	comp=Z,77nm,2.8s,mb5.2						
NVAR	**Mina Array Bea**	**62.45**	**62**	P	**P**	**00 01 50.2**	**+0.8**
	comp=Z,1.3nm,0.5s,mb4.2,baz=296,slow=8.1,SNR=9.8						
NVAR				pP	pP	00 02 07.7	-0.3
	comp=Z,2.1nm,0.7s,baz=295,slow=6.6,SNR=8.9						
TPAW	**Teton Pass**	**63.45**	**54**	*e*pP	pP	00 02 15.3	+0.7
FINES	**FINESS Array B**	**63.57**	**335**	P	**P**	**00 01 56.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**63.57**	**335**	P	**P**	**00 01 56.1**	**-0.3**
	comp=Z,2.4nm,0.6s,mb4.2,baz=40,slow=7.9,SNR=17						
DUG	**Dugway**	**64.56**	**58**	*e*P	**P**	**00 02 04.3**	**+1.0**
DUG				*e*PP	pP	00 02 22.1	+0.2
DUG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
DUG	**Dugway**	**64.56**	**58**	*e*P	**P**	**00 02 04.3**	**+1.0**
	comp=Z,4.3nm,0.9s,mb4.3						
DUG				*e*pP	pP	00 02 22.1	+0.2
BW06	**Boulder Array**	**64.69**	**54**	*e*P	**P**	**00 02 04.9**	**+0.8**
SRU	**San Rafael**	**66.59**	**57**	*e*P	**P**	**00 02 17.2**	**+0.8**
NB2	**NORSAR Subarra**	**67.76**	**341**	P	**P**	**00 02 22.5**	**-0.9**
	comp=Z,0.9nm,0.6s,mb3.8,baz=27,slow=6.5						
NOA	**NORSAR Array B**	**67.76**	**341**	*e*P	**P**	**00 02 23.2**	**-0.2**
NOA	**NORSAR Array B**	**67.76**	**341**	P	**P**	**00 02 22.7**	**-0.7**
	comp=Z,9.3nm,1.2s,mb4.5,baz=26,slow=6.3,SNR=9.7						
NOA				LR	LR	00 36 06.1	
	comp=Z,12nm,21.5s,baz=40,slow=40						
PV10	**Paradox Valley**	**67.94**	**57**	*e*P	**P**	**00 02 25.1**	**+0.2**
PV10				*e*pP	pP	00 02 43.3	-0.5
SMCO	**Snowmass**	**68.56**	**55**	*e*P	**P**	**00 02 29.7**	**+0.9**
	comp=Z,4.0nm,0.8s,mb4.3						
WRA	**Warramunga Arr**	**68.83**	**199**	*e*P	**P**	**00 02 29.5**	**-1.0**
WRA	**Warramunga Arr**	**68.83**	**199**	P	**P**	**00 02 29.5**	**-1.0**
	comp=Z,0.4nm,0.5s,mb3.5,baz=17,slow=7.0,SNR=6.7						
ISCO	**Idaho Springs**	**68.89**	**54**	*e*P	**P**	**00 02 31.9**	**+1.1**
ISCO				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
ISCO	**Idaho Springs**	**68.89**	**54**	*e*P	**P**	**00 02 31.9**	**+1.1**
	comp=Z,3.8nm,1.0s,mb4.2						
ECSD	**EROS,Sioux Fal**	**70.77**	**46**	*e*pP	pP	00 02 55.4	-5.9
AKASG	**Malin Array Be**	**71.07**	**326**	*e*P	**P**	**00 02 42.9**	**-1.1**
AKASG	**Malin Array Be**	**71.07**	**326**	P	**P**	**00 02 42.9**	**-1.1**
AKASG	**Malin Array Be**	**71.07**	**326**	P	**P**	**00 02 42.9**	**-1.1**
	comp=Z,2.5nm,0.7s,mb4.2,baz=35,slow=6.1,SNR=14						
ANMO	**Albuquerque**	**71.81**	**58**	*e*P	**P**	**00 02 49.7**	**+0.9**
ASAR	**Alice Springs**	**72.52**	**198**	*e*P	**P**	**00 02 53.3**	**+0.4**
ASAR	**Alice Springs**	**72.52**	**198**	P	**P**	**00 02 53.4**	**+0.5**
	comp=Z,1.9nm,0.7s,mb4.0,baz=15,slow=6.3,SNR=22						
SCHQ	**Schefferville**	**73.02**	**23**	P	**P**	**00 02 55.2**	**-0.4**
	comp=Z,2.6nm,0.8s,mb4.1,baz=268,slow=14,SNR=3.4						
AMTX	**Amarillo**	**74.59**	**55**	*e*P	**P**	**00 03 05.9**	**+0.8**
CLL	**Collm**	**75.99**	**335**	*i* P	**P**	**00 03 10.6**	**-2.3**
CLL				*i*		00 03 38.0	
CLL				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.3						
CLL	**Collm**	**75.99**	**335**	*i* P	**P**	**00 03 10.6**	**-2.3**
	comp=Z,10.0nm,1.4s,mb4.3						
CLL				*i*		00 03 38.0	
CLL	**Collm**	**75.99**	**335**	⇓ *i* P	**P**	**00 03 12.4**	**-0.5**
	comp=Z,10.0nm,1.4s,mb4.3						
TXAR	**Lajitas Array**	**77.50**	**60**	*e*P	**P**	**00 03 21.8**	**+0.1**
TXAR	**Lajitas Array**	**77.50**	**60**	P	**P**	**00 03 21.8**	**+0.1**
	comp=Z,6.0nm,0.6s,mb4.5,baz=300,slow=4.4,SNR=92						
TXAR				pP	pP	00 03 39.6	-1.3
	comp=Z,3.5nm,0.7s,baz=299,slow=4.2,SNR=9.5						
KHC	**Kasperske Hory**	**77.77**	**334**	*e*P	**P**	**00 03 22.5**	**-0.4**
GRA1	**Grafenberg Arr**	**77.95**	**336**	*e*P	**P**	**00 03 23.6**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**77.95**	**336**	*e*P	**P**	**00 03 23.6**	**-0.3**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**77.95**	**336**	*e*P	**P**	**00 03 23.6**	**-0.3**
GRF				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**77.95**	**336**	*e*P	**P**	**00 03 23.6**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.2						
GRF	**Grafenberg Arr**	**77.95**	**336**	*e*P	**P**	**00 03 23.6**	**-0.3**
	comp=Z,4.0nm,0.9s,mb4.2						
GERES	**GERESS Array B**	**77.98**	**334**	P	**P**	**00 03 23.9**	**-0.2**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**77.98**	**334**	P	**P**	**00 03 23.9**	**-0.2**
	comp=Z,0.8nm,0.5s,mb3.7,baz=32,slow=5.5,SNR=13						
JCT	**Junction City**	**78.90**	**57**	*e*P	**P**	**00 03 29.4**	**-0.1**
DOU	**Dourbes**	**79.29**	**340**	P	**P**	**00 03 30.7**	**-0.5**
BAIF	**Baives**	**79.42**	**340**	*e*P	**P**	**00 03 31.3**	**-0.6**
	comp=Z,4.7nm,0.7s,mb4.1						
CDF	**Champ du Feu**	**80.19**	**337**	*e*P	**P**	**00 03 35.8**	**-0.3**
	comp=Z,7.2nm,0.8s,mb4.3						
MEZF	**Maizieres J'vi**	**80.67**	**339**	*e*P	**P**	**00 03 38.2**	**-0.5**
	comp=Z,15nm,0.9s,mb4.5						
HAU	**Haudompre**	**80.80**	**338**	*e*P	**P**	**00 03 39.1**	**-0.3**
HAU				*e*MLR	MLR		
	comp=Z,68nm,18.8s						
HINF	**Hinteralfeld**	**80.84**	**338**	*e*P	**P**	**00 03 38.9**	**-0.8**
	comp=Z,5.8nm,0.9s,mb4.1						
LOR	**Lormes**	**82.11**	**339**	*e*P	**P**	**00 03 45.9**	**-0.4**
	comp=Z,8.1nm,0.7s,mb4.4						
LOR				*e*MLR	MLR		
	comp=Z,57nm,18.0s						
CABF	**La Chapelle**	**82.16**	**338**	*e*P	**P**	**00 03 45.9**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.2						
SSF	**Saint Saulge**	**82.39**	**339**	*e*P	**P**	**00 03 47.2**	**-0.6**
	comp=Z,0.9nm,0.3s,mb3.8						
SGMF	**Saint Gilles**	**82.57**	**344**	*e*P	**P**	**00 03 48.1**	**-0.6**
ROSF	**Rostrenen**	**82.62**	**344**	*e*P	**P**	**00 03 48.6**	**-0.4**
AVF	**Avril sur Loir**	**82.68**	**339**	*e*P	**P**	**00 03 48.6**	**-0.7**
	comp=Z,5.6nm,0.9s,mb4.1						
SMF	**Signal de Mont**	**82.69**	**339**	*e*P	**P**	**00 03 48.8**	**-0.6**
	comp=Z,12nm,0.9s,mb4.4						
LPL	**La Plagne**	**83.00**	**337**	*e*P	**P**	**00 03 50.8**	**-0.2**
LPG	**La Plagne**	**83.01**	**337**	*e*P	**P**	**00 03 50.9**	**-0.2**
	comp=Z,5.1nm,0.7s,mb4.2						
TCF	**Toulx Ste Croi**	**83.42**	**340**	*e*P	**P**	**00 03 52.5**	**-0.7**
	comp=Z,13nm,1.1s,mb4.3						
MBDF	**Montbardon**	**83.72**	**336**	*e*P	**P**	**00 03 54.0**	**-0.7**
ORIF	**Oris-en-Rattie**	**83.78**	**337**	*e*P	**P**	**00 03 54.4**	**-0.6**
	comp=Z,6.1nm,0.7s,mb4.2						
ORIF				*e*MLR	MLR		
	comp=Z,71nm,21.5s						
VIVF	**Saint-Julien-l**	**84.16**	**338**	*e*P	**P**	**00 03 56.3**	**-0.6**
	comp=Z,7.2nm,0.8s,mb4.2						
FRF	**La Foret Royal**	**84.83**	**336**	*e*P	**P**	**00 03 59.3**	**-1.1**
	comp=Z,38nm,1.5s,mb4.8						
LFF	**La Frestale**	**85.03**	**340**	*e*P	**P**	**00 04 00.6**	**-0.8**
	comp=Z,74nm,1.5s,mb5.1						
LMR	**La Mourre**	**85.08**	**336**	*e*P	**P**	**00 04 00.5**	**-1.1**
	comp=Z,16nm,0.9s,mb4.6						
MTLF	**Montolieu**	**86.19**	**339**	*e*P	**P**	**00 04 05.8**	**-1.3**
TORD	**Torodi Ar. Bea**	**114.62**	**329**	PKP	PKiKP	00 10 04.9	-1.2
TORD				pPKP		00 10 22.9	
TORD	**Torodi Ar. Bea**	**114.62**	**329**	PKP	PKiKP	00 10 04.9	-1.2
	comp=Z,1.0nm,1.2s,baz=13,slow=2.3,SNR=4.4						
TORD				pPKP		00 10 22.9	
	comp=Z,0.5nm,0.7s,baz=22,slow=1.5,SNR=3.2						
BDFB	**Brasilia**	**144.15**	**36**	PKIKP	PKPdf	00 10 58.8	-2.8
BDFB				pmax	pmax		
	comp=Z,2.0nm,0.8s						
BDFB	**Brasilia**	**144.15**	**36**	PKP	PKPdf	00 10 58.8	-2.8
	comp=Z,1.8nm,0.8s,baz=194,slow=25,SNR=5.4						
CFAA	**Coronel Fontan**	**145.15**	**78**	PKPbc	PKPbc	00 11 01.4	-1.1
	comp=Z,0.1nm,0.5s,baz=297,slow=3.4,SNR=7.5						
CFAA				pPKPbc	pPKPbc	00 11 19.7	-3.0
	comp=Z,0.7nm,0.8s,baz=275,slow=3.3,SNR=4.4						
CPUP	**Villa Florida**	**148.46**	**59**	PKP2	PKPbc	00 11 11.6	-0.6
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.5s						
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CPUP	**Villa Florida**	**148.46**	**59**	PKPbc	PKPbc	00 11 11.6	-0.7
	comp=Z,1.5nm,0.5s,baz=305,slow=4.3,SNR=5.3						
CPUP				pPKPbc	pPKPbc	00 11 29.8	-2.7
	comp=Z,1.9nm,0.6s,baz=319,slow=3.4,SNR=4.3						
PLCA	**Paso Flores**	**148.48**	**94**	PKP2	PKPbc	00 11 12.1	+0.3
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,4.0nm,1.1s						
PLCA	**Paso Flores**	**148.48**	**94**	PKPbc	PKPbc	00 11 12.1	+0.2
	comp=Z,2.4nm,0.8s,baz=234,slow=2.7,SNR=6.3						
PLCA				pPKPbc	pPKPbc	00 11 29.6	-2.5
	comp=Z,4.2nm,1.1s,baz=274,slow=5.6,SNR=4.7						

*ISCJB **12** 23:54:43.9±0.5, 4146N±004×142.03E±005, h67km±4km, mb3.4/7, Error ellipse: s-maj=7.1km s-min=4.3km az=136.5*

*NEIC **12** 23:54:44.5, 4148N×142.03E, h62km, MG3.0(JMA), After JMA.*

*IDC **12** 23:54:44.3±3.9, 4140N×142.13E, h60km±35km, mb3.2/7, mb1 3.3/8, mb1mx3.2/22, mbtmp3.2/8, ML3.3/1, Error ellipse: s-maj=30.6km s-min=25.7km az=85.0*

*JMA **12** 23:54:44.5±0.1, 4149N×142.03E, h

JOW	**Kunigami**	**2.08**	**239**	P	**Pn**	**00 01 04.5**	**+0.1**
	23nm,0.3s,baz=96,slow=18,SNR=48						
JOW				S	**Sn**	**00 01 33.6**	**+4.3**
	27nm,0.3s,baz=117,slow=27,SNR=7.1						
JIH	**Iheya**	**2.23**	**247**	P	**Pn**	**00 01 06.1**	**-0.4**
JIH				*e*S	**Sn**	**00 01 32.2**	**-0.8**
JMZ	**Minamidaito 2**	**2.27**	**158**	P	**Pn**	**00 01 06.7**	**-0.4**
JMZ				*e*S	**Sn**	**00 01 32.3**	**-1.8**
JKC	**Kuchinoerabu**	**2.52**	**359**	P	**Pn**	**00 01 10.5**	**-0.1**
JKC				*e*S	**Sn**	**00 01 39.6**	**-0.8**
JTN	**Tanegashima 3**	**2.79**	**13**	P	**Pn**	**00 01 14.7**	**+0.5**
JTN				*e*S	**Sn**	**00 01 46.2**	**-0.6**
JAGN	**Aguni-jima**	**3.00**	**244**	P	**Pn**	**00 01 18.1**	**+0.9**
JKE	**Kume jima 2**	**3.48**	**244**	P	**Pn**	**00 01 23.4**	**-0.4**
JNU	**Nakatsue**	**5.20**	**6**	P	**Pn**	**00 01 48.9**	**+1.5**
	3.2nm,0.3s,baz=144,slow=6.0,SNR=15						
JNU				S	**Sn**	**00 02 43.8**	**-2.7**
	0.7nm,0.3s,baz=72,slow=20,SNR=3.1						
CBIJ	**Chichi jima**	**10.62**	**92**	LR	LR	00 07 17.7	
	comp=Z,98nm,18.1s,baz=53,slow=37						
WRA	**Warramunga Arr**	**47.75**	**175**	P	**P**	**00 09 07.7**	**+1.7**
	1.0nm,0.8s,mb3.9,baz=352,slow=8.3,SNR=6.4						
ASAR	**Alice Springs**	**51.42**	**176**	P	**P**	**00 09 34.6**	**+0.7**
	0.8nm,0.9s,mb3.7,baz=352,slow=7.0,SNR=7.8						
FINES	**FINESS Array B**	**72.28**	**331**	P	**P**	**00 11 53.8**	**-0.1**
	1.3nm,0.5s,mb4.2,baz=75,slow=6.2,SNR=21						
AKASG	**Malin Array Be**	**75.41**	**320**	P	**P**	**00 12 12.7**	**+0.2**
	1.6nm,0.5s,mb4.2,baz=60,slow=6.4,SNR=6.0						
YKA	**Yellowknife Ar**	**76.22**	**26**	P	**P**	**00 12 18.7**	**+1.8**
	0.2nm,0.6s,mb3.2,baz=293,slow=5.3,SNR=2.9						
NB2	**NORSAR Subarra**	**78.58**	**334**	P	**P**	**00 12 29.6**	**-0.5**
	comp=Z,1.0nm,0.7s,mb3.9,baz=51,slow=5.6						
NOA	**NORSAR Array B**	**78.58**	**334**	P	**P**	**00 12 30.1**	**0.0**
	comp=Z,1.5nm,0.8s,mb4.0,baz=51,slow=5.5,SNR=6.8						
GERES	**GERESS Array B**	**84.93**	**324**	P	**P**	**00 13 04.8**	**+1.0**
	comp=Z,0.4nm,0.7s,mb3.7,baz=42,slow=4.2,SNR=5.3						

*ISCJB **13** 00:10:03.8±4.7, 196S×0.1×178.0W±0.2, h404km±50km, mb4.1/13, Error ellipse: s-maj=27.8km s-min=16.4km az=179.3*
*IDC **13** 00:10:06.8±4.7, 1986S×17788W, h425km±48km, mb3.6/5, mb1 3.8/6, mb1mx3.5/13, mbtmp3.5/6, Error ellipse: s-maj=29.1km s-min=15.8km az=100.0*
*NEIC **13** 00:10:08.5±6.2, 1986S×17794W, h447km±71km, mb4.3/9, Error ellipse: s-maj=33.0km s-min=19.0km az=204.0*

ISC 13 00:10:06.7±4.1, 198S±01×1779W±02, h426km±44km, n20, σ0°64/19, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**18.91**	**192**	P	**P**	**00 13 58.7**	**-0.6**
	1.0nm,0.3s,baz=50,slow=2.0,SNR=8.3						
URZ				S	**S**	**00 17 09.7**	**+0.1**
	0.4nm,0.3s,baz=332,slow=17,SNR=5.3						
CNB	**Canberra Magne**	**32.70**	**235**	*e*P	**P**	**00 16 03.2**	**+1.3**
	4.0nm,0.6s,mb3.9						
CTA	**Charters Tower**	**33.65**	**263**	*e*P	**P**	**00 16 11.2**	**+1.0**
	13nm,0.4s,mb4.6						
CTAO	**Charters Tower**	**33.65**	**263**	*e*P	**P**	**00 16 10.7**	**+0.5**
	14nm,0.5s,mb4.5						
TOO	**Toolangi**	**36.38**	**233**	*e*P	**P**	**00 16 33.1**	**+0.1**
	66nm,0.8s,mb5.0						
STKA	**Stephens Creek**	**38.17**	**243**	*e*P	**P**	**00 16 48.4**	**+0.5**
	5.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.17**	**243**	P	**P**	**00 16 48.5**	**+0.5**
	6.5nm,0.5s,mb4.2,baz=90,slow=9.8,SNR=28						
ASAR	**Alice Springs**	**44.77**	**256**	P	**P**	**00 17 41.0**	**+0.3**
	17nm,0.6s,mb4.5,baz=92,slow=8.2,SNR=285						
WB2	**Warramunga Arr**	**44.77**	**261**	*e*P	**P**	**00 17 40.6**	**-0.2**
WRAB	**Tennant Creek**	**44.78**	**261**	*e*P	**P**	**00 17 39.5**	**-1.3**
	3.4nm,0.4s,mb4.0						
WRA	**Warramunga Arr**	**44.78**	**261**	P	**P**	**00 17 40.7**	**-0.2**
	3.2nm,0.3s,mb4.1,baz=95,slow=6.1,SNR=153						
KAKA	**Kakadu**	**48.05**	**271**	*e*P	**P**	**00 18 06.1**	**+0.1**
	5.1nm,0.3s,mb4.3						
KAKA	**Kakadu**	**48.05**	**271**	*e*P	**P**	**00 18 05.1**	**-0.8**
FORT	**Forrest**	**49.65**	**246**	*e*P	**P**	**00 18 17.1**	**-0.7**
	11nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.21**	**262**	*e*P	**P**	**00 18 44.5**	**+0.6**
	3.7nm,0.5s,mb3.9						
MBWA	**Marble Bar**	**58.09**	**257**	*e*P	**P**	**00 19 17.4**	**-0.7**
	8.6nm,0.6s,mb4.3						
MJAR	**Matsushiro Arr**	**69.69**	**323**	P	**P**	**00 20 32.5**	**+0.3**
	1.0nm,0.7s,mb3.4,baz=150,slow=6.0,SNR=4.3						
TXAR	**Lajitas Array**	**86.61**	**57**	P	**P**	**00 22 04.0**	**+0.2**
	0.3nm,0.7s,mb3.1,baz=206,slow=8.3,SNR=5.0						
CLL	**Collm**	**147.39**	**347**	*e*PKPbc	PKPbc	00 29 01.0	-0.2
GERES	**GERESS Array B**	**149.54**	**345**	PKPbc	PKPbc	00 29 07.4	+0.7
	0.5nm,0.7s,baz=5.7,slow=1.3,SNR=7.2						

*BJI **13** 00:41:18.1, 33.11N×82.15E, h19km, mB5.0, mb4.7*
*ISCJB **13** 00:41:30.9±0.8, 3425N±0.10×819E±0.1, h10km, mb3.6/11, Error ellipse: s-maj=15.9km s-min=12.9km az=144.5*
*IDC **13** 00:41:30.9±0.8, 34.18N×8184E, h0km, mb3.7/11, mb1 3.9/13, mb1mx3.8/24, mbtmp3.7/13, ML3.6/2, Error ellipse: s-maj=27.2km s-min=16.8km az=48.0*
*NEIC **13** 00:41:32.4±0.6, 34.15N×8181E, h10km, mb4.2/2, Error ellipse: s-maj=14.8km s-min=10.6km az=58.0*

ISC 13 00:41:36.4±2.9, 343N±02×819E±01, h35km±23km, n23, σ0°86/23, mb3.6/11, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**9.85**	**326**	*e*Pn	**Pn**	**00 43 56.1**	**+0.7**
	3.3nm,0.8s						
WMQ	**Urumqi**	**10.54**	**23**	*e*P	**Pn**	**00 44 03.3**	**-1.5**
MKAR	**Makanchi Array**	**12.52**	**1**	Pn	**Pn**	**00 44 31.2**	**-0.7**
MKAR	**Makanchi Array**	**12.52**	**1**	Pn	**Pn**	**00 44 31.2**	**-0.7**
	0.4nm,0.3s,baz=182,slow=13,SNR=33						
KURK	**Kurchatov**	**16.61**	**353**	*e*Pn	**Pn**	**00 45 28.5**	**+2.1**
	12nm,0.9s						
ZALV	**Zalesovo Beam**	**19.78**	**5**	P	**Pn**	**00 46 04.3**	**-0.7**
	0.1nm,0.3s,baz=192,slow=13,SNR=5.2						
BVAR	**Borovoye Array**	**20.48**	**340**	P	**P**	**00 46 11.7**	**+0.8**
	7.6nm,0.8s,baz=139,slow=8.9,SNR=34						
BRVK	**Borovoye**	**20.54**	**340**	*e*Pn	**P**	**00 46 12.7**	**+1.3**
	20nm,1.1s						
SONM	**Songino Array**	**22.78**	**46**	P	**P**	**00 46 36.6**	**+1.0**
	0.5nm,1.0s,mb2.9,baz=231,slow=9.1,SNR=3.2						
AKTK	**Aktyubinsk**	**23.79**	**320**	P	**P**	**00 46 44.7**	**-0.9**
AKTO	**Aktyubinsk**	**23.79**	**320**	P	**P**	**00 46 44.7**	**-0.8**
	0.8nm,0.4s,mb3.5,baz=114,slow=12,SNR=4.1						
AKASG	**Malin Array Be**	**41.26**	**310**	P	**P**	**00 49 17.7**	**-0.2**
	0.2nm,0.3s,mb3.2,baz=79,slow=7.8,SNR=4.2						
JOF	**Joensuu**	**42.37**	**328**	*e*p	**P**	**00 49 26.0**	**-0.7**
	2.0nm,0.5s,mb4.0						
FINES	**FINESS Array B**	**44.36**	**325**	P	**P**	**00 49 42.5**	**-0.4**
FINES	**FINESS Array B**	**44.36**	**325**	P	**P**	**00 49 42.5**	**-0.4**
	0.7nm,0.6s,mb3.5,baz=101,slow=9.9,SNR=6.5						
GERES	**GERESS Array B**	**51.41**	**308**	P	**P**	**00 50 38.3**	**+0.7**
	0.6nm,0.8s,mb3.5,baz=20,slow=4.3,SNR=5.2						
NOA	**NORSAR Array B**	**51.48**	**324**	P	**P**	**00 50 37.9**	**0.0**
NOA	**NORSAR Array B**	**51.48**	**324**	P	**P**	**00 50 37.9**	**0.0**
	0.5nm,0.8s,mb3.5,baz=87,slow=7.5,SNR=3.7						
WRA	**Warramunga Arr**	**73.43**	**129**	P	**P**	**00 53 05.3**	**+0.2**
	0.8nm,0.6s,mb3.9,baz=326,slow=5.6,SNR=17						
TORD	**Torodi Ar. Bea**	**74.72**	**276**	P	**P**	**00 53 12.5**	**-0.4**
	0.8nm,0.9s,mb3.6,baz=47,slow=5.2,SNR=7.9						
ASAR	**Alice Springs**	**75.88**	**132**	P	**P**	**00 53 19.6**	**+0.4**
	0.7nm,0.6s,mb3.8,baz=316,slow=5.8,SNR=12						
YKA	**Yellowknife Ar**	**82.66**	**8**	P	**P**	**00 53 55.2**	**-0.5**
YKA	**Yellowknife Ar**	**82.66**	**8**	P	**P**	**00 53 55.2**	**-0.5**
	1.2nm,0.6s,mb4.1,baz=341,slow=5.3,SNR=15						

NEIC 13 00:45:03.1, 5703N×15768W, h126km, mb4.1/2, After AEIC., Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	**Chignik**	**0.83**	**209**	P	Pn	00 45 23.2	-1.0
CHGN				S	Sn	00 45 40.0	-0.1
SDPT	**Sand Point**	**2.29**	**224**	P	Pn	00 45 38.9	-1.6
KDAK	**Kodiak Island**	**2.86**	**72**	P	Pn	00 45 46.4	-1.3
SVW2	**Sparrevohn**	**4.23**	**14**	*e*Pn	Pn	00 46 03.6	-2.1
SVW2				*e*Sn	Sn	00 46 52.7	-1.5
SLKM	**Skilak Lake**	**5.22**	**45**	P	Pn	00 46 18.3	-0.7
SEW	**Seward**	**5.30**	**51**	P	Pn	00 46 19.1	-0.9
RC01	**Rabbit Creek A**	**5.78**	**42**	P	Pn	00 46 25.2	-1.2
UNV	**Unalaska Valle**	**5.94**	**241**	*e*Pn	Pn	00 46 26.5	-2.2
TT01	**Tatalina**	**5.96**	**7**	P	Pn	00 46 27.0	-1.9
TTA	**Tatalina**	**5.98**	**7**	*e*Pn	Pn	00 46 28.4	-0.8
	5.3nm,0.7s						
MID	**Middleton Isla**	**6.46**	**63**	*e*P	Pn	00 46 33.7	-1.9
KTH	**Kantishna Hill**	**7.36**	**24**	P	Pn	00 46 45.6	-2.0
DIV	**Divide**	**7.38**	**51**	P	Pn	00 46 45.9	-2.2
TRF	**Thorofare Moun**	**7.42**	**27**	P	Pn	00 46 46.1	-2.4
BMRM	**Bremner River**	**7.82**	**54**	P	Pn	00 46 51.5	-2.5
MCK	**McKinley**	**8.00**	**29**	P	Pn	00 46 54.5	-1.9
BCA3	**Beaver Creek A**	**9.97**	**46**	P	Pn	00 47 19.9	-3.0
EGAK	**Eagle**	**11.15**	**39**	*e*Pn	Pn	00 47 34.0	-4.6
	3.4nm,0.5s						
DAWY	**Dawson**	**11.40**	**44**	*e*Pn	Pn	00 47 39.3	-2.6
INK	**Inuvik**	**15.70**	**34**	*e*Pn	Pn	00 48 34.4	-2.4
	143nm,1.0s						

IDC 13 00:58:45.2±7.1, 1759S×17871W, h637km±78km, mb2.7/3, mb1 3.0/3, mb1mx2.8/13, mbtmp2.7/3, Error ellipse: s-maj=125.9km s-min=38.8km az=154.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**44.41**	**259**	P	P	01 06 01.8	-0.1
	0.4nm,0.4s,baz=94,slow=7.2,SNR=19						
WRA				PcP	PcP	01 07 30.9	-0.3
	0.2nm,0.3s,baz=90,slow=3.7,SNR=7.2						
ASAR	**Alice Springs**	**44.60**	**254**	P	P	01 06 03.6	+0.3
	1.4nm,0.6s,baz=88,slow=8.2,SNR=19						
ASAR				PcP	PcP	01 07 31.4	-0.4
	0.5nm,0.6s,baz=96,slow=3.7,SNR=6.0						
TXAR	**Lajitas Array**	**86.07**	**58**	P	P	01 10 20.5	-0.1
	0.5nm,1.0s,baz=225,slow=5.1,SNR=4.0						
GERES	**GERESS Array B**	**147.24**	**345**	PKPbc	PKPbc	01 17 18.6	+0.2
	0.4nm,0.6s,baz=8.1,slow=2.8,SNR=5.1						

*NNC **13** 01:08:24.4±8.5, 4465N×8839E, h0km, mb3.1, mpv2.6, Error ellipse: s-maj=59.1km s-min=50.4km az=103.0*

BJI 13 01:08:23.5, 4379N×8797E, h7km, ML3.1, 2C-2D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**0.20**	**279**	⇑*i*PG	Pg	01 08 28.8	+1.3
WMQ				SG	Sg	01 08 32.8	+2.5
WMQ				Smax			
	comp=N,9μm,0.3s						
WMQ				Smax			
	comp=E,9μm,0.3s						
MK31	**Makanchi Array**	**5.01**	**309**	⇓PPn	Pn	01 09 38.4	-0.6
	comp=E,0.4nm,0.3s,baz=122,slow=14,SNR=48						
MK31				⇑Sn	Sn	01 10 34.9	-2.1
	comp=E,5.5nm,0.5s,baz=120,slow=25						
MK31				⇓Lg		01 10 57.5	
	comp=E,5.6nm,0.6s,baz=109,slow=29						
KURBB	**Kurchatov Arra**	**9.38**	**320**	Sn	Sn	01 12 16.6	-7.9
KURBB				Lg		01 13 08.2	
KURK	**Kurchatov**	**9.40**	**321**	Pn	Pn	01 10 33.5	-5.7
KURK				Sn	Sn	01 12 17.2	-7.8
KURK				Lg		01 13 09.1	

*NEIC **13** 01:10:54.0±3.6, 738S×129.19E, h126km±39km, mb3.8/2, Error ellipse: s-maj=33.9km s-min=29.9km az=48.0*
*IDC **13** 01:10:54.3±7.7, 734S×12937E, h133km±81km, mb2.9/1, mb1 3.4/5, mb1mx3.2/14, mbtmp3.2/5, Error ellipse: s-maj=69.5km s-min=26.0km az=35.0*
*ISCJB **13** 01:10:57.6±1.7, 77S±01×12925E±008, h182km±19km, Error ellipse: s-maj=19.5km s-min=9.5km az=30.3*

ISC 13 01:10:58.8±1.6, 77S±01×12926E±008, h178km±16km, n9, σ1°00/16, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.85**	**148**	*e*Pn	**Pn**	**01 12 23.0**	**-0.9**
	46nm,0.4s						
KAKA				*e*Sn	**Sn**	**01 13 30.7**	**-0.2**
BATI	**Kupang**	**6.05**	**246**	P	**Pn**	**01 12 26.9**	**+0.4**
	11nm,0.3s,baz=104,slow=3.3,SNR=11						
BATI				S	**Sn**	**01 13 35.4**	**0.0**
	19nm,0.3s,baz=167,slow=2.5,SNR=15						
FITZ	**Fitzroy Crossi**	**10.89**	**199**	*e*Pn	**Pn**	**01 13 30.4**	**+0.4**
	1.0nm,0.5s						
FITZ				*e*Sn	**Sn**	**01 15 27.8**	**-3.2**
FITZ	**Fitzroy Crossi**	**10.89**	**199**	P	**Pn**	**01 13 30.9**	**+0.9**
	0.2nm,0.3s,baz=45,slow=15,SNR=20						
FITZ				S	**Sn**	**01 15 27.0**	**-4.1**
	0.4nm,0.3s,baz=306,slow=19,SNR=4.1						
WRAB	**Tennant Creek**	**13.09**	**158**	*e*Pn	**Pn**	**01 13 59.5**	**+1.2**
	2.4nm,0.5s						
WRAB				*e*Sn	**Sn**	**01 16 23.1**	**-0.7**
WRA	**Warramunga Arr**	**13.10**	**158**	P	**Pn**	**01 13 59.0**	**+0.7**
	0.6nm,0.3s,baz=346,slow=13,SNR=34						
WRA				S	**Sn**	**01 16 19.3**	**-4.6**
	1.1nm,0.3s,baz=330,slow=22,SNR=9.9						
ASAR	**Alice Springs**	**16.46**	**165**	P	**Pn**	**01 14 43.0**	**+3.2**
	0.2nm,0.3s,baz=348,slow=9.8,SNR=13						
ASAR				S	**S**	**01 17 42.4**	**0.0**
	0.2nm,0.3s,baz=344,slow=22,SNR=4.4						
MKAR	**Makanchi Array**	**68.44**	**327**	P	**P**	**01 21 40.2**	**-1.2**
MKAR	**Makanchi Array**	**68.44**	**327**	P	**P**	**01 21 40.2**	**-1.2**
	0.1nm,0.5s,baz=122,slow=7.6,SNR=4.5						

*ISCJB **13** 01:13:01.4±1.1, 1056N±005×6103W±008, h77km±6km, Error ellipse: s-maj=12.6km s-min=7.0km az=164.8*
*TRN **13** 01:13:03.3, 1078N×6089W, h22km, MD2.9*
*NEIC **13** 01:13:03.3, 1078N×6089W, h22km, MD2.9(TRN), After TRN.*
*FUNV **13** 01:13:05.0, 1057N×6110W, h67km, MW3.0*

ISC 13 01:13:02.8±1.1, 1058N±005×6104W±008, h69km±7km, n19, σ1°15/31, 1C-2D, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBH	**Brigand Hill**	**0.10**	**196**	⇓*i*P	**Pn**	**01 13 10.9**	**-2.0**
TBH				*e*S	**Sn**	**01 13 21.1**	**+0.8**
TRN	**Trinidad (W)**	**0.36**	**281**	⇓*i*P	**Pn**	**01 13 13.3**	**-1.0**
TRN				*e*S	**Sn**	**01 13 21.9**	**-0.9**
TPP	**Pointe-a-Pierr**	**0.48**	**237**	*e*P	**Pn**	**01 13 18.4**	**+3.0**
TPR	**Prospect**	**0.66**	**23**	⇑*i*P	**Pn**	**01 13 11.5**	**-5.6**
TPR				*e*S	**Sn**	**01 13 19.3**	**-8.3**
TCE	**Chacachacare**	**0.71**	**279**	*e*P	**Pn**	**01 13 19.4**	**+1.7**
TCE				*e*S	**Sn**	**01 13 31.8**	**+3.0**
GUIV	**Guiria**	**1.17**	**273**	*e*P	**Pn**	**01 13 24.7**	**+1.4**
GUIV				*e*S	**Sn**	**01 13 38.1**	**-0.6**
GRW	**Mount Saint Ca**	**1.69**	**339**	*e*P	**Pn**	**01 13 29.2**	**-1.0**
GRW				*e*S	**Sn**	**01 13 50.4**	**-0.5**
GUNV	**Guanoco**	**1.92**	**258**	*e*P	**Pn**	**01 13 34.8**	**+1.5**
CRUV	**Carupano**	**2.16**	**273**	*e*P	**Pn**	**01 13 37.3**	**+0.7**
ITEV	**Isla Los Testi**	**2.19**	**291**	*e*P	**Pn**	**01 13 37.5**	**+0.4**
ITEV				*e*S	**Sn**	**01 14 01.8**	**-1.5**
RIOV	**Rio Grande**	**2.61**	**197**	*e*P	**Pn**	**01 13 43.6**	**+0.9**
RIOV				*e*S	**Sn**	**01 14 12.9**	**-0.4**
GURV	**El Guri**	**3.46**	**216**	*e*P	**Pn**	**01 13 55.3**	**+1.1**
GURV				*e*S	**Sn**	**01 14 31.6**	**-2.3**
PCRV	**Puerto La Cruz**	**3.56**	**264**	*e*P	**Pn**	**01 13 55.5**	**-0.2**
PCRV				*e*S	**Sn**	**01 14 32.0**	**-4.6**
IBAV	**Isla La Blanqu**	**3.69**	**290**	*e*P	**Pn**	**01 13 57.9**	**+0.6**
CUPV	**Cœpira**	**4.70**	**264**	*e*P	**Pn**	**01 14 11.6**	**+0.3**
CUPV				*e*S	**Sn**	**01 15 00.1**	**-4.4**
LUEV	**Luepa**	**4.72**	**185**	*e*P	**Pn**	**01 14 10.8**	**-0.8**
BIRV	**Birongo**	**5.14**	**269**	*e*P	**Pn**	**01 14 17.1**	**-0.2**
CAOV	**Caicara del Or**	**6.14**	**239**	*e*P	**Pn**	**01 14 30.4**	**-0.6**
CAOV				*e*S	**Sn**	**01 15 33.7**	**-6.1**
BAUV	**El Baul**	**7.09**	**257**	*e*P	**Pn**	**01 14 43.8**	**-0.2**

*ISCJB **13** 01:23:35.0±1.7, 3530N±007×2226E±007, h1km±11km, Error ellipse: s-maj=14.9km s-min=5.6km az=37.7*
*THE **13** 01:23:36.9, 3527N×2224E, h9km, ML2.9*
*CSEM **13** 01:23:37.8±0.2, 3544N×2243E, h2km, MD3.6, Error ellipse: s-maj=6.0km s-min=1.8km az=46.0*
*ATH **13** 01:23:38.5, 3547N×2253E, h13km±3km, MD3.6/6*
*NEIC **13** 01:23:38.5, 3547N×2253E, h13km, MD3.6(ATH), After ATH.*

ISC 13 01:23:35.6±1.9, 3528N±007×2224E±008, h1km±12km, n22, σ0°75/28, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.19**	**33**	*e*PB	**Pn**	**01 23 56.0**	**-3.3**
KARN	**Karanos**	**1.37**	**85**	*e*Pg	**Pn**	**01 24 00.4**	**-1.5**
KARN				*e*Sg	**Sg**	**01 24 20.0**	**+0.3**
VLI	**Veliai**	**1.54**	**21**	*e*PG	**Pn**	**01 24 02.5**	**-1.6**
GVD	**Gavdhos**	**1.58**	**106**	*e*PG	**Pn**	**01 24 05.0**	**+0.3**
VAM	**Vamos**	**1.60**	**85**	*e*PB	**Pn**	**01 24 04.6**	**-0.4**
PYL	**PYLOS**	**1.66**	**346**	*e*Pb	**Pn**	**01 24 05.7**	**-0.1**
PYL				*e*Sb	**Sb**	**01 24 28.6**	**+0.2**
ITM	**Ithomi**	**1.91**	**352**	*e*PN	**Pb**	**01 24 11.1**	**-0.1**
SIVA	**Sivas**	**2.12**	**96**	*e*Pn	**Pn**	**01 24 12.2**	**+0.1**
DID	**Didima**	**2.36**	**20**	*e*Pn	**Pn**	**01 24 14.9**	**-0.5**
DID				*e*Sn	**Sn**	**01 24 45.8**	**+0.8**
LAST	**Lasithi**	**2.65**	**92**	*e*Pn	**Pn**	**01 24 19.9**	**+0.4**
LAST				*e*Sn	**Sn**	**01 24 52.2**	**0.0**
LAST	**Lasithi**	**2.65**	**92**	*e*Pn	**Pn**	**01 24 19.9**	**+0.5**
LAST				*e*Sn	**Sn**	**01 24 52.2**	**0.0**
NPS	**Neapolis**	**2.76**	**89**	*e*PN	**Pn**	**01 24 21.6**	**+0.7**
LTK	**Loutraki**	**2.79**	**12**	*e*Pn	**Pn**	**01 24 22.3**	**+0.9**
VLS	**Valsamata**	**3.18**	**336**	*e*Pn	**Pn**	**01 24 27.1**	**+0.4**
VLS				*e*Sn	**Sn**	**01 25 04.9**	**-0.3**
APE	**Apeiranthos**	**3.20**	**55**	*e*Pn	**Pn**	**01 24 26.2**	**-0.7**
APE	**Apeiranthos**	**3.20**	**55**	*e*Pn	**Pn**	**01 24 26.5**	**-0.5**
ZKR	**Zakros**	**3.26**	**92**	*e*Pn	**Pn**	**01 24 28.5**	**+0.7**
LKR	**Lokris**	**3.42**	**10**	*e*Pn	**Pn**	**01 24 29.7**	**-0.2**
LKD	**Levkas**	**3.65**	**340**	*e*Pn	**Pn**	**01 24 34.0**	**+0.8**
AGG	**Agios Georgios**	**3.73**	**1**	*e*Pn	**Pn**	**01 24 35.4**	**+1.1**
IGT	**Igoumenitsa**	**4.51**	**341**	*e*Pn	**Pn**	**01 24 44.5**	**-0.5**
LIT	**Litokhoron**	**4.81**	**2**	*e*Pn	**Pn**	**01 24 48.9**	**-0.3**

*ISCJB **13** 01:33:33.8±0.7, 1547S±008×7138W±009, h130km±9km, mb3.7/8, Error ellipse: s-maj=17.6km s-min=8.8km az=137.1*
*IDC **13** 01:33:35.0±2.3, 1548S×7125W, h120km±21km, mb3.5/6, mb1 3.6/10, mb1mx3.5/22, mbtmp3.5/10, Error ellipse: s-maj=23.9km s-min=15.9km az=47.0*
*NEIC **13** 01:33:36.6±0.8, 1550S×7136W, h142km±8km, mb4.2/6, Error ellipse: s-maj=14.7km s-min=10.3km az=51.0*

ISC 13 01:33:35.1±0.7, 1548S±008×7133W±009, h127km±8km, n27, σ1°05/25, mb3.7/8, 1C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.99**	**189**	⇓*i*P	**Pn**	**01 34 00.4**	**+2.6**
ARE				*i* S	**Sn**	**01 34 13.8**	**-1.1**
LPAZ	**La Paz**	**3.18**	**105**	⇑*i*Pn	**Pn**	**01 34 29.7**	**+5.7**
LPAZ	**La Paz**	**3.18**	**105**	P	**Pn**	**01 34 29.9**	**+5.9**
	4.8nm,0.3s,baz=299,slow=12,SNR=118						
NNA	**Nana**	**6.38**	**302**	*e*Pn	**Pn**	**01 35 07.6**	**+0.8**
	18nm,0.6s						
NNA				*e*Sn	**Sn**	**01 36 15.5**	**-2.9**
NNA	**Nana**	**6.38**	**302**	P	**Pn**	**01 35 07.6**	**+0.7**
	18nm,0.3s,baz=127,slow=11,SNR=28						
NNA				S	**Sn**	**01 36 15.8**	**-2.7**
	12nm,0.3s,baz=191,slow=21,SNR=6.3						
SIV	**San Ignacio**	**9.89**	**94**	P	**Pn**	**01 35 54.5**	**+0.4**
	0.5nm,0.3s,baz=280,slow=12,SNR=14						
CFAA	**Coronel Fontan**	**16.30**	**171**	P	**Pn**	**01 37 16.2**	**-0.5**
CFAA	**Coronel Fontan**	**16.30**	**171**	P	**Pn**	**01 37 16.2**	**-0.5**
	0.1nm,0.3s,baz=352,slow=14,SNR=10						
CPUP	**Villa Florida**	**16.94**	**132**	*e*P	**Pn**	**01 37 24.5**	**-0.1**
	5.5nm,0.6s						
CPUP	**Villa Florida**	**16.94**	**132**	P	**Pn**	**01 37 24.2**	**-0.3**
	0.6nm,0.3s,baz=316,slow=11,SNR=5.2						
BDFB	**Brasilia**	**22.46**	**94**	P	**P**	**01 38 23.5**	**-0.6**
	0.7nm,0.5s,mb3.2,baz=256,slow=19,SNR=3.6						
TRQA	**Tornquist**	**23.96**	**162**	*e*P	**P**	**01 38 37.1**	**-0.6**
	1.9nm,0.8s,mb3.5						
SDV	**Santo Domingo**	**24.22**	**2**	*e*P	**P**	**01 38 39.8**	**-0.4**
	13nm,0.8s,mb4.3						
SDV	**Santo Domingo**	**24.22**	**2**	P	**P**	**01 38 40.1**	**-0.1**
	8.5nm,0.4s,mb4.4,baz=186,slow=13,SNR=22						
PLCA	**Paso Flores**	**25.17**	**179**	*e*P	**P**	**01 38 49.0**	**+0.4**
	2.5nm,0.9s,mb3.6						
PLCA	**Paso Flores**	**25.17**	**179**	P	**P**	**01 38 48.8**	**+0.2**
	2.8nm,0.9s,mb3.7,baz=329,slow=13,SNR=3.5						
SJG	**San Juan**	**33.76**	**9**	*e*P	**P**	**01 40 03.1**	**-1.7**
	3.5nm,0.4s,mb4.5						
ELN	**Prospectdale**	**53.17**	**351**	*e*Pn	**P**	**01 42 40.9**	**+0.9**
TXAR	**Lajitas Array**	**54.40**	**325**	P	**P**	**01 42 50.4**	**+1.2**
	0.1nm,0.5s,mb3.1,baz=152,slow=10,SNR=2.8						
TORD	**Torodi Ar. Bea**	**77.62**	**73**

25nm,0.1s,SNR=14
RETA ⇓*i*Sg **Sg** **01 46 09.4 +0.2**
22nm,0.1s
SCE Schlegeis 0.42 108 ⇓*i*Pg **Pg** **01 46 04.3 +0.4**
SCE *i* Sg **Sg** **01 46 10.3 +0.8**
OBER Oberstdorf 0.62 293 ⇓*i*Pg **Pg** **01 46 07.7 0.0**
OBER *i* Sg **Sg** **01 46 17.0 +1.2**
APPI Appiano 0.69 174 Pn **Pn** **01 46 09.6 -1.7**
APPI Sn **Sg** **01 46 18.3 +0.2**
67nm,0.5s
FUORN Ofenpass-Fuorn 0.81 228 ⇑*i*Pg **Pg** **01 46 10.9 -0.3**
58nm,0.4s
FUORN Ofenpass-Fuorn 0.81 228 Pn **Pn** **01 46 11.0 -1.9**
FUORN Sn **Sn** **01 46 23.1 -1.7**
SEST Monte Rota 0.85 119 Pn **Pn** **01 46 12.6 -1.0**
SEST Sn **Sn** **01 46 24.5 -1.5**
42nm,0.4s
DAVA Damuels 0.86 279 *e*Pg **Pg** **01 46 12.0 -0.3**
SNR=7.3
DAVA *e*Sg **Sg** **01 46 25.0 +1.5**
DAVA Damuels 0.86 279 ⇑*e*Pg **Pg** **01 46 11.9 -0.4**
3.6nm,0.2s,SNR=61
DAVA ⇓*i*Sg **Sg** **01 46 23.3 -0.1**
51nm,0.2s
DAVA Damuels 0.86 279 ⇑*e*Pg **Pg** **01 46 11.9 -0.4**
DAVA *i* Sg **Sg** **01 46 23.3 -0.1**
BRMO Bormio 0.86 217 Pn **Pn** **01 46 11.8 -1.9**
BRMO Sn **Sn** **01 46 22.5 -3.7**
37nm,0.6s
DAVOX Davos/Dischmat 0.94 246 Pn **Pn** **01 46 13.1 -1.6**
DAVOX Sn **Sn** **01 46 26.1 -1.9**
DAVOX Davos/Dischmat 0.94 246 ⇑*i*Pg **Pg** **01 46 13.2 -0.5**
117nm,0.4s
DAVOX Sn **Sn** **01 46 26.1 -1.9**
FUR Furstenfeldbru 1.00 6 *e*Pg **Pg** **01 46 16.2 +1.1**
SNR=7.4
FUR *e*Sg **Sg** **01 46 29.8 +1.7**
ABTA Abfaltersbach 1.04 113 ⇓*e*Pg **Pg** **01 46 15.7 +0.1**
6.6nm,0.2s,SNR=27
ABTA ⇓*i*Sg **Sg** **01 46 29.2 +0.1**
12nm,0.2s
BERNI Berninapass 1.07 226 *e*Pg **Pg** **01 46 15.6 -0.7**
45nm,0.3s
LIENZ Kamor/St.Gall 1.12 277 ⇑*i*P*P 01 46 17.6
131nm,0.2s
LIENZ Kamor/St.Gall 1.12 277 *i* PmP 01 46 19.3
131nm,0.2s
CTI Castel Tesino 1.18 162 Pn **Pn** **01 46 18.1 +0.2**
CTI Sn **Sn** **01 46 34.1 +0.2**
38nm,0.2s
MABI Malga Bissina 1.19 201 Pn **Pn** **01 46 18.5 +0.4**
MABI Sn **Sn** **01 46 32.8 -1.4**
16nm,0.3s
PLONS Plons/SG 1.20 265 *e*Pn **Pn** **01 46 18.9 +0.6**
219nm,0.5s
PLONS Plons/SG 1.20 265 *i* PmP 01 46 20.6
219nm,0.5s
CSMI Casera Mimoias 1.23 121 ⇓*i*Pg **Pg** **01 46 19.4 0.0**
FVI Forni Avoltri 1.27 116 Pn **Pn** **01 46 20.0 +0.8**
FVI Sn **Sn** **01 46 36.5 +0.3**
29nm,0.5s
RJOB Jochberg 1.27 63 ⇓*i*Pn **Pn** **01 46 21.5 +2.2**
BGLD Berchtesgaden 1.37 68 ⇓*i*Pn **Pn** **01 46 22.9 +2.3**
TUE Stuetta 1.41 241 Pn **Pn** **01 46 21.9 +0.8**
TUE Sn **Sn** **01 46 40.1 +0.5**
WEIN Weingarten 1.50 285 *e*PmP 01 46 24.6
93nm,0.2s
KBA Koelnbreinsper 1.52 92 *e*Pg **Pg** **01 46 24.2 -0.6**
SNR=12
KBA *e*Sg **Sg** **01 46 43.3 -1.2**
KBA Koelnbreinsper 1.52 92 ⇑*i*Pn **Pn** **01 46 22.7 0.0**
KBA ⇑*e*Pg **Pg** **01 46 24.2 -0.6**
4.1nm,0.1s,SNR=20
KBA ⇑*i*Sn **Sn** **01 46 43.7 +1.3**
WILA Wila 1.53 280 *e*PmP 01 46 25.2
455nm,0.5s
NORI Noerdlinger Ri 1.59 348 ⇑*i*Pn **Pn** **01 46 26.3 +2.6**
NORI *i* Sn **Sn** **01 46 44.2 0.0**
SLE Schleitheim 1.89 289 *e*P* **Pb** **01 46 28.7 -1.3**
125nm,0.4s
BFO Black Forest 2.22 303 *e*Pn **Pn** **01 46 33.2 +0.9**
SNR=3.7
BFO *e*Pg **Pg** **01 46 37.7 -0.5**
SNR=7.0
BFO *e*Sg **Sg** **01 47 06.8 -0.1**
BFO Black Forest 2.22 303 *e*Pn **Pn** **01 46 33.2 +0.9**
BFO *e*Pg **Pg** **01 46 38.1 -0.1**
BFO Black Forest 2.22 303 *e*Pg **Pg** **01 46 38.1 -0.1**
VOY Vojsko 2.22 120 *e*Pn **Pn** **01 46 35.7 +3.4**
VOY *e*Sn **Sn** **01 47 05.7 +6.0**
MOA Molln 2.23 71 *e*Pg **Pg** **01 46 37.5 -1.0**
SNR=12
MOA *e*Sg **Sg** **01 47 07.9 +0.4**
MOA Molln 2.23 71 ⇑*e*Pg **Pg** **01 46 37.4 -1.1**
1.7nm,0.1s,SNR=17
MOA ⇓*i*Sg **Sg** **01 47 08.7 +1.2**
4.0nm,0.1s
WET Wettzell 2.30 30 *e*Pn **Pn** **01 46 34.2 +0.8**
SNR=33
WET *e*Sg **Sg** **01 47 08.8 -0.7**
WET Wettzell 2.30 30 *e*Pn **Pn** **01 46 33.4 0.0**
GEC2 GERESS Array S 2.41 45 *e*Pn **Pn** **01 46 35.7 +0.8**
SNR=7.2
GEC2 *e*Pg **Pg** **01 46 41.2 -0.7**
SNR=13
GEC2 *e*Sg **Sg** **01 47 13.1 0.0**
GRF Grafenberg Arr 2.53 1 *e*Pg **Pg** **01 46 44.3 +0.2**
SNR=2.0
GRF *e*Sg **Sg** **01 47 16.1 -0.8**
KHC Kasperske Hory 2.56 39 *e*Pg **Pg** **01 46 43.4 -1.4**
KHC *e*Sg **Sg** **01 47 16.8 -1.1**
9.8nm,0.3s
KHC Kasperske Hory 2.56 39 *e*PN **Pn** **01 46 38.1 +1.1**
KHC *e*PG **Pg** **01 46 43.4 -1.4**
KHC *e*SN **Sn** **01 47 10.5 +2.4**
KHC *e*SG **Sg** **01 47 16.8 -1.1**
comp=Z,9.8nm,0.3s
CDF Champ du Feu 2.88 297 *e*Pg **Pg** **01 46 50.2 -0.7**
CDF *e*Sg **Sg** **01 47 29.6 +1.4**
comp=Z,6.1nm,0.4s
CDF Champ du Feu 2.88 297 *e*Pn **Pn** **01 46 42.2 +0.8**
CDF *e*Pg **Pg** **01 46 50.2 -0.7**
CDF *e*Sg **Sg** **01 47 29.6 +1.4**
CDF Champ du Feu 2.88 297 *e*Pg **Pg** **01 46 50.2 -0.7**
CDF *e*Sg **Sg** **01 47 29.6 +1.4**
comp=Z,3.0nm,0.4s
HINF Hinteralfeld 2.97 284 *e*Pn **Pn** **01 46 44.0 +1.4**
HINF *e*Sn **Sn** **01 47 17.1 -1.1**
HINF *e*Sg **Sg** **01 47 32.0 +1.0**
comp=Z,6.8nm,0.3s
HINF Hinteralfeld 2.97 284 *e*Pn **Pn** **01 46 44.0 +1.4**
HINF *e*Sn **Sn** **01 47 17.1 -1.1**
HINF *e*Sg **Sg** **01 47 32.0 +1.0**
comp=Z,3.4nm,0.3s
ARSA Arzberg 3.00 87 *e*Pg **Pg** **01 46 51.8 -1.3**
SNR=2.7
ARSA *e*Sg **Sg** **01 47 31.8 -0.1**
NKC Novy Kostel 3.19 15 *e*Pg **Pg** **01 46 55.2 -1.6**
NKC *e*Sg **Sg** **01 47 36.9 -1.3**
comp=Z,12nm,0.3s
GUNZ Gunzen 3.30 14 *e*Pg **Pg** **01 46 58.1 -0.8**
SNR=1.9
GUNZ *e*Sn **Sn** **01 47 26.2 0.0**
GUNZ *e*Sg **Sg** **01 47 40.6 -0.9**
HAU Haudompre 3.34 286 *e*Pn **Pn** **01 46 49.5 +1.8**
HAU *e*Sn **Sn** **01 47 26.1 -1.2**
HAU *e*Sg **Sg** **01 47 44.1 +1.1**
comp=Z,7.4nm,0.3s
HAU Haudompre 3.34 286 *e*Pn **Pn** **01 46 49.5 +1.8**
HAU *e*Sn **Sn** **01 47 26.1 -1.2**
HAU *e*Sg **Sg** **01 47 44.1 +1.1**
comp=Z,3.7nm,0.3s
LPG La Plagne 3.46 243 *e*P **Pn** **01 46 53.0 +3.6**
LPG *e*Sn **Sn** **01 47 29.2 -1.1**
LPG *e*Sg **Sg** **01 47 47.5 +0.7**
comp=Z,2.1nm,0.5s
LPG La Plagne 3.46 243 *e*Pn **Pn** **01 46 49.9 +0.5**
LPG *e*P 01 46 53.0
LPG *e*Sn **Sn** **01 47 29.2 -1.1**
LPG *e*Sg **Sg** **01 47 47.5 +0.7**
LPG La Plagne 3.46 243 *e*P **Pn** **01 46 53.0 +3.6**
LPG *e*Sn **Sn** **01 47 29.2 -1.1**
LPG *e*Sg **Sg** **01 47 47.5 +0.7**
comp=Z,1.0nm,0.5s
LPL La Plagne 3.46 243 *e*Sg **Sg** **01 47 47.8 +1.0**
comp=Z,1.2nm,0.3s
LPL La Plagne 3.46 243 *e*Sg **Sg** **01 47 47.8 +1.0**
comp=Z,0.6nm,0.3s
MOX Moxa 3.50 5 *e*Sn **Sn** **01 47 30.0 -1.1**
MOX *e*Sg **Sg** **01 47 47.2 -0.7**
MOX Moxa 3.50 5 *e*SN **Sn** **01 47 30.1 -1.1**
MOX *e*SG **Sg** **01 47 47.6 -0.3**
CABF La Chapelle 3.50 263 *e*Pn **Pn** **01 46 49.8 -0.1**
CABF *e*Sn **Sn** **01 47 30.4 -0.8**
PRU Pruhonice 3.62 37 *e*Pg **Pg** **01 46 59.6 -5.4**
PRU *e*Sg **Sg** **01 47 48.0 -3.9**
MBDF Montbardon 3.90 233 *e*Pn **Pn** **01 46 55.8 +0.4**
RFYF Reffroy 4.08 293 *e*Sg **Sg** **01 48 05.8 -0.7**
comp=Z,3.8nm,0.2s
RFYF Reffroy 4.08 293 *e*Sg **Sg** **01 48 05.8 -0.7**
comp=Z,1.9nm,0.2s
SFTF Sexfontaines 4.24 286 *e*Pn **Pn** **01 47 00.6 +0.5**
baz=108
SFTF *e*Sg **Sg** **01 48 11.1 -0.7**
comp=Z,2.4nm,0.4s
SFTF Sexfontaines 4.24 286 *e*Pn **Pn** **01 47 00.6 +0.5**
SFTF *e*Sg **Sg** **01 48 11.1 -0.7**
comp=Z,1.2nm,0.4s
ORIF Oris-en-Rattie 4.29 240 *e*P **Pn** **01 47 04.8 +4.0**
ORIF Oris-en-Rattie 4.29 240 *e*Pn **Pn** **01 47 01.5 +0.7**
ORIF *e*P 01 47 04.8
ORIF Oris-en-Rattie 4.29 240 *e*P **Pn** **01 47 04.8 +4.0**
CLL Collm 4.32 16 *e*Sg **Sg** **01 48 12.0 -2.4**
DPC Dobruska-Polom 4.69 45 *e*Sg **Sg** **01 48 22.5 -3.5**
FRF La Foret Royal 4.79 223 *e*P **Pn** **01 47 11.6 +3.9**
FRF La Foret Royal 4.79 223 *e*Pn **Pn** **01 47 06.9 -0.8**
FRF *e*P 01 47 11.6
FRF La Foret Royal 4.79 223 *e*P **Pn** **01 47 11.6 +3.9**
LOR Lormes 4.95 274 *e*Pn **Pn** **01 47 10.6 +0.7**
LOR *e*Sn **Sn** **01 48 05.3 -1.8**
LOR *e*Sg **Sg** **01 48 33.1 -1.5**
comp=Z,1.4nm,0.3s
LOR Lormes 4.95 274 *e*Pn **Pn** **01 47 10.6 +0.7**
LOR *e*Sn **Sn** **01 48 05.3 -1.8**
LOR *e*Sg **Sg** **01 48 33.1 -1.5**
comp=Z,0.7nm,0.3s
SMF Signal de Mont 5.02 267 *e*Pn **Pn** **01 47 12.1 +1.3**
LMR La Mourre 5.03 222 *e*Pn **Pn** **01 47 10.7 -0.3**
VIVF Saint-Julien-l 5.05 245 *e*Pn **Pn** **01 47 12.2 +0.9**
SSF Saint Saulge 5.20 272 *e*Pn **Pn** **01 47 13.8 +0.5**
AVF Avril sur Loir 5.33 269 *e*Pn **Pn** **01 47 16.3 +1.2**
BAIF Baives 5.42 305 *e*Pn **Pn** **01 47 18.3 +1.9**
BGF Bois d'Agland 5.71 267 *e*Pn **Pn** **01 47 21.7 +1.4**
LASF Ste Croix 5.96 241 *e*Pn **Pn** **01 47 23.4 -0.3**
TCF Toulx Ste Croi 6.19 265 *e*Pn **Pn** **01 47 27.8 +0.9**
CAF Calviac 6.69 254 *e*Pn **Pn** **01 47 34.1 +0.3**

*IDC **13** 02:26:08.1±4.5, 4270N×1260 3W, h0km, mb2.9/2, mb1 3.5/4, mb1mx3.2/24, mbtmp3.0/4, ML3.3/2, MS2.9/1, Ms1 2.9/1, ms1mx2.2/26, Error ellipse: s-maj=83.5km s-min=27.1km az=60.0*
*NEIC **13** 02:26:09.2±1.9, 4260N×126.15W, h10km, ML2.6, Error ellipse: s-maj=23.3km s-min=13.2km az=82.0*
ISC 13 02:26:07.7±1.8,**4239N**±004×**1263W**±01,**h4**km±12km,**n58,**
σ1º**00**/61,**mb3.5**/3,**25C-17D**,**Off coast of Oregon**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
K01A	**Sixes**	**1.38**	**72**	⇑P	**Pn**	**02 26 32.9**	**-0.8**
baz=1.6							
KEBM	**Edson Butte**	**1.49**	**71**	*e*Pg	**Pn**	**02 26 34.1**	**-1.2**
M01C	**Crescent City**	**1.67**	**108**	⇑P	**Pn**	**02 26 36.5**	**-1.2**
baz=1.9,SNR=21							
KRMB	**Red Mountain**	**1.95**	**116**	*e*Pn	**Pn**	**02 26 40.1**	**-1.5**
L02A	**Cave Junction**	**1.98**	**96**	⇑P	**Pn**	**02 26 41.0**	**-1.0**
baz=2.2,SNR=7.6							
K02A	**Glendale**	**2.07**	**79**	⇓Pn	**Pn**	**02 26 42.7**	**-0.6**
baz=2.3,SNR=77							
J02A	**Umpqua**	**2.19**	**63**	⇓Pn	**Pn**	**02 26 44.1**	**-0.8**
baz=2.4,SNR=19							
JCC	**Jacoby Creek**	**2.29**	**133**	⇑Pn	**Pn**	**02 26 44.0**	**-2.2**
baz=2.5							
I02A	**Mapleton**	**2.39**	**47**	⇓Pn	**Pn**	**02 26 46.6**	**-1.0**
baz=2.6							
I02A				⇓Sn	**Sn**	**02 27 17.4**	**0.0**
baz=2.6							
HUMO	**Hull Mountain**	**2.44**	**84**	*e*Pn	**Pn**	**02 26 48.0**	**-0.4**
HUMO	**Hull Mountain**	**2.44**	**84**	Pn	**Pn**	**02 26 48.4**	**+0.1**
baz=2.7,SNR=56							
J03A	**Ideyld Park**	**2.61**	**67**	⇓Pn	**Pn**	**02 26 50.2**	**-0.4**
baz=2.8,SNR=37							
I03A	**Eugene**	**2.69**	**53**	⇑Pn	**Pn**	**02 26 51.0**	**-0.7**
baz=2.9,SNR=16							
I03A				⇑Sn	**Sn**	**02 27 26.1**	**+1.5**
baz=2.9							
N02C	**Big Bar**	**2.71**	**124**	⇑Pn	**Pn**	**02 26 51.5**	**-0.5**
baz=2.9							
YBH	**Yreka Blue Hor**	**2.72**	**103**	*e*Pn	**Pn**	**02 26 52.3**	**+0.2**
YBH				*e*Pg	**Pg**	**02 27 00.1**	**+0.3**
YBH				*e*Sn	**Sn**	**02 27 23.1**	**-2.2**
YBH	**Yreka Blue Hor**	**2.72**	**103**	Pn	**Pn**	**02 26 52.7**	**+0.6**
1.6nm,0.3s,baz=290,slow=10.0,SNR=30							
YBH	**Yreka Blue Hor**	**2.72**	**103**	⇑Pn	**Pn**	**02 26 52.5**	**+0.4**
baz=2.9,SNR=17							
M02C	**Callahan**	**2.73**	**110**	⇓Pn	**Pn**	**02 26 51.9**	**-0.3**
baz=2.9,SNR=5.1							
COR	**Corvallis**	**3.07**	**43**	*e*Pn	**Pn**	**02 26 55.6**	**-1.3**
H03A	**Soap Creek Ran**	**3.14**	**42**	⇓Pn	**Pn**	**02 26 56.9**	**-1.0**
baz=3.3							
I04A	**Tendick Farm,**	**3.14**	**62**	⇑Pn	**Pn**	**02 26 58.2**	**+0.2**
baz=3.3							
J04A	**Umpqua Nationa**	**3.16**	**73**	⇓Pn	**Pn**	**02 26 59.9**	**+1.7**
baz=3.4							
L04A	**Klamath Falls**	**3.24**	**92**	⇑Pn	**Pn**	**02 27 01.2**	**+1.9**
baz=3.5							
M03C	**McCloud**	**3.28**	**109**	⇑Pn	**Pn**	**02 27 01.3**	**+1.4**
baz=3.5							
WDC	**Whiskeytown Da**	**3.32**	**122**	*e*Pn	**Pn**	**02 27 00.5**	**+0.1**
WDC	**Whiskeytown Da**	**3.32**	**122**	⇑Pn	**Pn**	**02 27 00.1**	**-0.3**
baz=3.5							
O02C	**Red Bluff**	**3.42**	**129**	⇓Pn	**Pn**	**02 27 01.3**	**-0.5**
baz=3.6							
H04A	**Detroit Lake**	**3.74**	**51**	⇑Pn	**Pn**	**02 27 06.0**	**-0.2**
baz=3.9,SNR=6.7							
J05A	**Fort Rock**	**3.79**	**75**	⇓Pn	**Pn**	**02 27 06.2**	**-0.7**
baz=4.0							
GASB	**Alder Springs**	**3.82**	**134**	⇑Pn	**Pn**	**02 27 06.9**	**-0.4**
baz=4.0							
G04A	**Mulino**	**3.92**	**43**	⇑Pn	**Pn**	**02 27 08.6**	**0.0**
baz=4.1,SNR=15							
L05A	**Lakeview**	**4.04**	**93**	⇓Pn	**Pn**	**02 27 09.7**	**-0.6**
baz=4.3							
H05A	**Madras**	**4.29**	**57**	⇑Pn	**Pn**	**02 27 13.9**	**+0.1**
baz=4.5							
K06A	**Valley Falls**	**4.45**	**83**	⇑Pn	**Pn**	**02 27 16.1**	**+0.2**
baz=4.7							
MOD	**Modoc**	**4.45**	**94**	*e*Pn	**Pn**	**02 27 15.1**	**-0.8**
F04A	**Amboy**	**4.49**	**37**	⇓Pn	**Pn**	**02 27 16.6**	**+0.2**
baz=4.6							
J06A	**Christmas Vall**	**4.57**	**77**	⇑Pn	**Pn**	**02 27 17.4**	**-0.2**
baz=4.8							
ORV	**Oroville**	**4.58**	**127**	⇑Pn	**Pn**	**02 27 18.0**	**+0.3**
baz=4.8							
H06A	**Lindquist Farm**	**4.89**	**59**	⇓Pn	**Pn**	**02 27 22.6**	**+0.6**
baz=5.1							
F05A	**White Salmon**	**4.91**	**43**	⇑Pn	**Pn**	**02 27 22.3**	**+0.1**
baz=5.1							
G06A	**Carlson Farm,**	**4.96**	**53**	⇑Pn	**Pn**	**02 27 23.1**	**+0.2**
baz=5.1							
L07A	**Adell**	**5.15**	**92**	⇓Pn	**Pn**	**02 27 26.3**	**+0.8**
baz=5.4							
K07A	**Rock Creek Ran**	**5.18**	**84**	⇓Pn	**Pn**	**02 27 26.1**	**+0.1**
baz=5.4,SNR=9.5							
E05A	**Randle**	**5.26**	**36**	⇓Pn	**Pn**	**02 27 26.9**	**-0.1**
baz=5.4							
G07A	**Ruggs Ranch, H**	**5.56**	**57**	⇑Pn	**Pn**	**02 27 31.9**	**+0.7**
baz=5.8,SNR=6.4							
E06A	**Yakima**	**5.61**	**40**	⇑Pn	**Pn**	**02 27 32.3**	**+0.5**
baz=5.8							
H08A	**Prairie City**	**5.91**	**66**	⇓Pn	**Pn**	**02 27 37.0**	**+1.0**
baz=6.1							
G08A	**Pilot Rock**	**6.02**	**59**	⇑Pn	**Pn**	**02 27 38.4**	**+1.0**
baz=6.2							
CMB	**Columbia Colle**	**6.25**	**132**	*e*Pn	**Pn**	**02 27 42.8**	**+2.2**
K09A	**Rome**	**6.30**	**84**	⇑Pn	**Pn**	**02 27 40.6**	**-0.8**
baz=6.5							
BMO	**Blue Mountains**	**6.94**	**66**	*e*Pn	**Pn**	**02 27 51.1**	**+1.0**
2.0nm,0.7s							
NVAR	**Mina Array Bea**	**7.24**	**120**	Pn	**Pn**	**02 27 55.9**	**+1.6**
0.2nm,0.3s,baz=295,slow=13,SNR=6.3							
NEW	**Newport**	**8.70**	**44**	LR	LR	02 31 56.1	
comp=Z,85nm,19.9s,baz=291,slow=42							
BGU	**Big Grassy Mou**	**10.00**	**94**	*e*Pn	**Pn**	**02 28 33.4**	**+1.3**
YKA	**Yellowknife Ar**	**21.28**	**15**	P	**P**	**02 30 51.5**	**-3.3**
YKA	**Yellowknife Ar**	**21.28**	**15**	P	**P**	**02 30 51.5**	**-3.3**
0.7nm,0.8s,mb3.0,baz=201,slow=11,SNR=4.2							
TXAR	**Lajitas Array**	**22.38**	**118**	P	**P**	**02 31 09.7**	**+2.8**
0.4nm,0.7s,mb3.0,baz=307,slow=8.7,SNR=5.9							
TEIG	**Tepich**	**38.81**	**113**	P	**P**	**02 33 34.7**	**+1.1**
7.9nm,1.1s,mb4.4,baz=342,slow=13,SNR=4.0							

*ISCJB **13** 02:30:25.8±0.6, 683N×006×7698W±005, h39km±7km, mb3.8/16, Error ellipse: s-maj=11.9km s-min=5.2km az=32.4*
*CASC **13** 02:30:26.5±2.7, 675N×77 04W, h60km±30km, mb4.0(NEIC)*
*IDC **13** 02:30:26.9±0.6, 681N×76 92W, h38km±5km, mb3.5/8, mb1 3.8/10, mb1mx3.6/22, mbtmp3.7/10, ML3.9/3, MS3.2/3, Ms1 3.2/3, ms1mx2.9/23, Error ellipse: s-maj=23.3km s-min=14.9km az=36.0*
*NEIC **13** 02:30:28.0±1.1, 677N×76 93W, h49km±10km, mb4.0/9, Error ellipse: s-maj=14.7km s-min=7.7km az=215.0*
ISC 13 02:30:27.3±0.6,**680N**±006×**7699W**±004,**h35**km±7km,**n38,**
σ0º**97**/40,**mb3.8**/16,**1C**,**Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TOLC	**Tolima**	**2.74**	**143**	*e*P	**Pn**	**02 31 09.2**	**+0.4**
TOLC				*e*S	**Sn**	**02 31 39.5**	**-1.2**
ROSC	**El Rosal**	**3.28**	**126**	Pn	**Pn**	**02 31 17.6**	**+1.4**
36nm,0.3s,baz=70,slow=3.0,SNR=54							
ROSC				Sn	**Sn**	**02 31 54.7**	**+0.7**
25nm,0.3s,baz=96,slow=23,SNR=3.8							
ROSC				LR	LR	02 32 46.5	
comp=Z,255nm,19.2s,baz=334,slow=43							
ROSC	**El Rosal**	**3.28**	**126**	*e*P	**Pn**	**02 31 17.6**	**+1.5**
UPIG		**3.33**	**311**	⇑*i*P	**Pn**	**02 31 16.4**	**-0.4**
UPIG				*e*S	**Sn**	**02 31 54.0**	**-1.1**
AZU	**Azuero**	**3.40**	**287**	*e*P	**Pn**	**02 31 18.4**	**+0.6**
AZU				*e*S	**Sn**	**02 31 55.4**	**-1.6**
BCIP	**Isla Barro Col**	**3.67**	**310**	*e*Pn	**Pn**	**02 31 21.5**	**-0.1**
BARC	**Barichara**	**3.79**	**92**	*e*P	**Pn**	**02 31 23.9**	**+0.7**
OCAC	**Ocana**	**3.92**	**68**	*e*P	**Pn**	**02 31 25.5**	**+0.6**
SDV	**Santo Domingo**	**6.63**	**71**	*e*Pn	**Pn**	**02 32 02.4**	**+0.1**
110nm,0.6s							
SDV				*e*Sn	**Sn**	**02 33 11.0**	**-5.7**
SDV	**Santo Domingo**	**6.63**	**71**	Pn	**Pn**	**02 32 02.8**	**+0.5**
22nm,0.3s,baz=257,slow=8.9,SNR=209							
SDV				Sn	**Sn**	**02 33 14.3**	**-2.5**
8.1nm,0.3s,baz=68,slow=19,SNR=3.4							
SDV				LR	LR	02 35 01.5	
comp=Z,420nm,20.8s,baz=7.1,slow=42							
PCRV	**Puerto La Cruz**	**12.68**	**74**	Pn	**Pn**	**02 33 23.4**	**-1.8**
1.8nm,0.3s,baz=231,slow=8.0,SNR=8.9							
SDDR	**Presa de Saban**	**13.32**	**24**	*e*Pn	**Pn**	**02 33 35.5**	**+1.5**
70nm,0.8s							
SJG	**San Juan**	**15.43**	**42**	*e*Pn	**Pn**	**02 33 57.4**	**-5.0**
14nm,0.4s							
SJG	**San Juan**	**15.43**	**42**	Pn	**Pn**	**02 33 57.8**	**-4.7**
4.4nm,0.3s,baz=236,slow=13,SNR=12							
MTP	**Monte Pirata**	**15.83**	**44**	*e*Pn	**Pn**	**02 34 01.1**	**-6.4**
SIV	**San Ignacio**	**27.59**	**145**	P	**P**	**02 36 11.2**	**-0.1**
0.5nm,0.6s,mb3.3,baz=336,slow=15,SNR=2.6							
TXAR	**Lajitas Array**	**33.68**	**315**	P	**P**	**02 37 05.7**	**+0.7**
TXAR				LR	LR	02 52 02.6	
TXAR	**Lajitas Array**	**33.68**	**315**	P	**P**	**02 37 05.7**	**+0.7**
0.7nm,0.8s,mb3.6,baz=128,slow=9.7,SNR=6.5							
TXAR				LR	LR	02 52 02.6	
comp=Z,39nm,21.2s,baz=0.0,slow=38							
MNTX	**Cornudas Mount**	**36.27**	**317**	*e*P	**P**	**02 37 27.7**	**+0.3**
2.0nm,0.8s,mb4.1							
SDCO	**Great Sand Dun**	**40.23**	**324**	*e*P	**P**	**02 38 02.0**	**+1.4**
1.0nm,0.8s,mb3.6							
SDCO				*e*pP	pP	02 38 17.0	+6.0
TUC	**Tucson**	**40.41**	**313**	*e*P	**P**	**02 38 02.8**	**+0.6**
2.2nm,1.2s,mb3.8							
JLU	**Jordanelle**	**45.60**	**323**	*e*P	**P**	**02 38 44.5**	**+0.5**
DUG	**Dugway**	**46.18**	**322**	*e*P	**P**	**02 38 49.4**	**+0.8**
1.8nm,0.7s,mb4.1							
HWUT	**Hardware Ranch**	**46.29**	**324**	*e*P	**P**	**02 38 49.6**	**+0.2**
1.8nm,0.7s,mb4.1							
TPAW	**Teton Pass**	**47.15**	**326**	*e*P	**P**	**02 38 56.0**	**-0.1**
2.5nm,0.8s,mb4.2							
MOOW	**Moose Ponds**	**47.20**	**327**	*e*P	**P**	**02 38 56.9**	**+0.3**
0.7nm,0.5s,mb3.9							
PLCA	**Paso Flores**	**47.67**	**173**	*e*P	pP	02 39 10.8	+0.1
PLCA	**Paso Flores**	**47.67**	**173**	pP	pP	02 39 10.9	+0.2
2.2nm,0.7s,baz=359,slow=9.6,SNR=4.0							
NVAR	**Mina Array Bea**	**48.80**	**316**	P	**P**	**02 39 10.6**	**+1.5**
0.9nm,0.6s,mb4.0,baz=141,slow=5.4,SNR=7.3							
BOZ	**Bozeman (W)**	**48.93**	**328**	*e*P	**P**	**02 39 10.2**	**+0.3**
1.3nm,0.8s,mb4.0							
YKA	**Yellowknife Ar**	**62.00**	**341**	P	**P**	**02 40 42.8**	**-0.8**
YKA				pP	pP	02 40 54.2	-0.2
YKA	**Yellowknife Ar**	**62.00**	**341**	P	**P**	**02 40 42.8**	**-0.8**
0.4nm,0.6s,mb3.7,baz=132,slow=6.8,SNR=12							
YKA				pP	pP	02 40 54.2	-0.2
0.9nm,0.7s,baz=132,slow=6.8,SNR=9.0							
DBIC	**Dimbokro**	**71.57**	**85**	P	**P**	**02 41 44.4**	**-1.2**
3.0nm,0.8s,mb4.3,baz=273,slow=10,SNR=3.4							
INK	**Inuvik**	**71.77**	**341**	P	**P**	**02 41 45.2**	**-0.5**
0.2nm,0.5s,mb3.3,baz=168,slow=4.0,SNR=2.7							
TORD	**Torodi Ar. Bea**	**77.51**	**78**	P	**P**	**02 42 18.2**	**-1.8**
0.5nm,0.6s,mb3.6,baz=275,slow=6.7,SNR=4.9							
GERES	**GERESS Array B**	**85.39**	**42**	P	**P**	**02 42 59.9**	**-1.2**
0.3nm,0.8s,mb3.5,baz=326,slow=6.9,SNR=3.7							
ASAR	**Alice Springs**	**145.92**	**237**	PKPbc	PKPbc	02 50 01.9	-2.0
0.5nm,0.6s,baz=124,slow=3.1,SNR=6.7							
ASAR				pPKPbc	pPKPbc	02 50 15.2	-0.1
4.1nm,0.8s,baz=118,slow=3.4,SNR=26							
WRA	**Warramunga Arr**	**146.91**	**244**	PKPbc	PKPbc	02 50 04.6	-2.3
0.3nm,0.7s,baz=95,slow=3.0,SNR=3.6							
WRA				pPKPbc	pPKPbc	02 50 16.8	-1.6
1.7nm,0.9s,baz=94,slow=2.0,SNR=7.3							

IDC 13 02:38:10.4±1.4,**2388N**×**4585W**,**h0**km,**mb3.6**/3,
mb1 3.8/3,**mb1mx3.3**/23,**mbtmp3.6**/3,**MS3.6**/3,**Ms1 3.6**/3,
ms1mx3.0/27,**Error ellipse: s-maj=40.3km**
s-min=35.7km az=32.0,**Northern Mid-Atlantic Ridge**

| Code | Station Name | Δ° | AZ

BALT	**Daday**	**1.81**	**12**	*i* P	**Pn**	**02 55 35.2**	**-0.5**
BALT				*i* S	**Sn**	**02 56 00.5**	**+1.1**
AVNT	**Avonos**	**1.82**	**122**	*i* P	**Pn**	**02 55 36.1**	**+0.2**
AVNT				*i* S	**Sn**	**02 56 01.5**	**+1.9**

MOS ***13*** *02:55:34.1±2.2, 4748N×15335E, h53km, mb4.2/3, Error ellipse: s-maj=21.7km s-min=10.1km az=57.3*
ISCJB ***13*** *02:55:36.0±1.3, 4749N±010×1533E±01, h71km±11km, mb3.6/10, Error ellipse: s-maj=19.2km s-min=7.3km az=142.9*
IDC ***13*** *02:55:40.3±4.5, 4739N×15294E, h100km±41km, mb3.4/7, mb1 3.6/9, mb1mx3.4/22, mbtmp3.4/9, MS2.9/1, Ms1 2.9/1, ms1mx2.5/21, Error ellipse: s-maj=33.8km s-min=18.5km az=101.0*
NEIC ***13*** *02:55:41.6±1.6, 4739N×15300E, h114km±16km, mb3.9/3, Error ellipse: s-maj=18.1km s-min=11.5km az=127.0*
ISC 13 02:55:38.1±1.1, 4750N±010×1533E±01, h73km±10km, n33, σ1§18/35, mb3.6/10, 1C, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.68**	**29**	*e*PN	**Pn**	**02 56 32.0**	**-0.5**
SKR				*e*S	**Sn**	**02 57 13.5**	**-1.2**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=E,80nm,0.5s						
SKR				smax			
	comp=N,180nm,0.3s						
KUR	**Kuril'sk**	**4.40**	**241**	*e*PN	**Pn**	**02 56 36.8**	**-5.5**
KUR				pmax	pmax		
	comp=Z,110nm,0.8s						
PET	**Petropavlovsk**	**6.50**	**30**	*e*PN	**Pn**	**02 57 05.6**	**-5.4**
PET				MLR	MLR		
	comp=Z,100nm,13.0s						
YSS	**Yuzh-Sakhalins**	**7.21**	**270**	⇑*i*PN	**Pn**	**02 57 21.1**	**+0.4**
YSS				*e*S	**Sn**	**02 58 42.0**	**+1.0**
YSS				pmax	pmax		
	comp=Z,30nm,0.6s						
YSS				smax			
	comp=N,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.21**	**270**	*e*Pn	**Pn**	**02 57 21.4**	**+0.7**
	comp=N,20nm,0.6s						
ASAJ	**Asahikawa**	**8.21**	**250**	P	**Pn**	**02 57 33.3**	**-1.2**
	comp=N,0.3nm,0.3s,baz=110,slow=15,SNR=2.8						
ASAJ				LR	LR	03 00 26.4	
	comp=N,76nm,18.2s,baz=324,slow=36						
ERM	**Erimo**	**9.07**	**236**	*e*PN	**Pn**	**02 57 47.4**	**+1.3**
MJAR	**Matsushiro Arr**	**15.65**	**231**	*e*P	**Pn**	**02 59 15.5**	**+1.3**
MJAR	**Matsushiro Arr**	**15.65**	**231**	P	**Pn**	**02 59 10.8**	**-3.4**
	comp=N,0.0nm,0.3s,baz=35,slow=9.6,SNR=3.1						
IMA2	**Indian Mountai**	**33.12**	**37**	*e*P	**P**	**03 02 07.7**	**+0.9**
COLA	**College**	**35.47**	**39**	*e*P	**P**	**03 02 27.8**	**+0.8**
COLA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
COLA	**College**	**35.47**	**39**	*e*P	**P**	**03 02 27.8**	**+0.8**
	comp=Z,3.2nm,0.7s,mb4.3						
INK	**Inuvik**	**40.95**	**33**	*e*P	**P**	**03 03 14.2**	**+1.3**
KURK	**Kurchatov**	**47.06**	**303**	*e*P	**P**	**03 04 00.5**	**-1.6**
KURK				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
KURK	**Kurchatov**	**47.06**	**303**	*e*P	**P**	**03 04 00.5**	**-1.6**
	comp=Z,1.1nm,0.7s,mb3.7						
YKA	**Yellowknife Ar**	**50.24**	**37**	*e*P	**P**	**03 04 27.3**	**+1.0**
YKA	**Yellowknife Ar**	**50.24**	**37**	P	**P**	**03 04 27.3**	**+1.0**
	comp=Z,0.3nm,0.4s,mb3.6,baz=298,slow=7.0,SNR=7.7						
FINES	**FINESS Array B**	**63.42**	**335**	*e*P	**P**	**03 05 59.1**	**-0.4**
FINES	**FINESS Array B**	**63.42**	**335**	P	**P**	**03 05 58.4**	**-1.1**
FINES	**FINESS Array B**	**63.42**	**335**	P	**P**	**03 05 58.4**	**-1.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=43,slow=7.3,SNR=23						
DUG	**Dugway**	**64.06**	**58**	*e*P	**P**	**03 06 05.0**	**+0.9**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.8						
DUG	**Dugway**	**64.06**	**58**	*e*P	**P**	**03 06 05.0**	**+0.9**
	comp=Z,0.8nm,0.7s,mb3.7						
NB2	**NORSAR Subarra**	**67.56**	**341**	P	**P**	**03 06 26.3**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.7,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**67.56**	**341**	*e*P	**P**	**03 06 26.7**	**+0.5**
NOA	**NORSAR Array B**	**67.56**	**341**	P	**P**	**03 06 26.5**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.8,baz=27,slow=6.4,SNR=7.6						
WRA	**Warramunga Arr**	**69.27**	**199**	P	**P**	**03 06 34.8**	**-2.5**
	comp=Z,0.2nm,0.5s,mb3.2,baz=15,slow=6.9,SNR=4.1						
AKASG	**Malin Array Be**	**71.00**	**326**	*e*P	**P**	**03 06 49.6**	**+2.0**
AKASG	**Malin Array Be**	**71.00**	**326**	P	**P**	**03 06 46.0**	**-1.5**
	comp=Z,0.3nm,0.3s,mb3.5,baz=33,slow=6.4,SNR=4.6						
ASAR	**Alice Springs**	**72.96**	**199**	*e*P	**P**	**03 06 58.4**	**-1.1**
ASAR	**Alice Springs**	**72.96**	**199**	P	**P**	**03 06 58.4**	**-1.1**
	comp=Z,0.9nm,0.8s,mb3.6,baz=9.6,slow=6.5,SNR=9.3						
CLL	**Collm**	**75.84**	**336**	*e*P	**P**	**03 07 15.0**	**-1.0**
TXAR	**Lajitas Array**	**77.01**	**61**	*e*P	**P**	**03 07 23.9**	**+0.9**
TXAR	**Lajitas Array**	**77.01**	**61**	P	**P**	**03 07 23.9**	**+0.9**
	comp=Z,0.2nm,0.6s,mb3.0,baz=297,slow=3.2,SNR=3.4						

SZGRF ***13*** *03:11:51.4, 994N×8162W, h33km, mb4.9, Panama*
ISCJB ***13*** *03:11:51.6±0.2, 1035N±006×8422W±005, h108km±3km, mb4.2/37, Error ellipse: s-maj=11.7km s-min=4.0km az=40.3*
CASC ***13*** *03:11:52.3±4.6, 1024N×8431W, h100km±13km, MD4.0, ML3.6, mb4.4(NEIC)*
NEIC ***13*** *03:11:54.2±1.0, 1041N×8424W, h119km±9km, mb4.4/23, Error ellipse: s-maj=12.8km s-min=6.5km az=223.0*
NEIC Felt in the Alajuela-Cartago-San Jose area.
BJI ***13*** *03:11:54.1, 1040N×8420W, h119km, mB4.9*
IDC ***13*** *03:11:55.7±3.1, 1051N×8417W, h129km±28km, mb3.9/15, mb1 4.0/19, mb1mx4.0/23, mbtmp3.9/19, MS3.0/4, Ms1 3.0/4, ms1mx2.6/40, Error ellipse: s-maj=19.9km s-min=11.4km az=62.0*
ISC 13 03:11:52.4±0.2, 1027N±006×8426W±005, h106km±3km, n121, σ1§01/109, mb4.2/37, 13C-13D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRS1	**Puriscal**	**0.29**	**189**	⇑*i*P	**Pn**	**03 12 07.2**	**-0.5**
PRS1				*e*S	**Sn**	**03 12 20.8**	**+1.7**
CGA2	**Cerro Gallo 2**	**0.32**	**218**	⇑*i*P	**Pn**	**03 12 06.7**	**-1.1**
SJS	**Escuela Geolog**	**0.39**	**148**	⇑*e*P	**Pn**	**03 12 07.3**	**-0.8**
SJS				*e*S	**Sn**	**03 12 19.8**	**-0.1**
LAJ	**Bijagual**	**0.43**	**161**	⇓*i*P	**Pn**	**03 12 09.3**	**+0.9**
FORC	**Fortuna**	**0.45**	**297**	⇑*i*P	**Pn**	**03 12 07.6**	**-0.8**
FORC				*i* S	**Sn**	**03 12 19.5**	**-1.1**
LCR2	**La Lucha 2**	**0.59**	**154**	⇑*i*P	**Pn**	**03 12 08.6**	**-0.9**
LCR2				*e*S	**Sn**	**03 12 21.8**	**-0.4**
URSC	**Urasca**	**0.65**	**132**	⇑*i*P	**Pn**	**03 12 09.4**	**-0.5**
URSC				⇑*e*S	**Sn**	**03 12 25.1**	**+1.9**
BUS	**Buena Vista**	**0.87**	**145**	⇑*i*P	**Pn**	**03 12 11.4**	**-0.5**
BUS				*e*S	**Sn**	**03 12 26.7**	**0.0**
JCR	**Jicaral**	**0.93**	**243**	⇓*i*P	**Pn**	**03 12 11.7**	**-0.9**
CUI		**0.98**	**294**	⇓*i*P	**Pn**	**03 12 12.4**	**-0.7**
CUI				*i* S	**Sn**	**03 12 27.8**	**-0.8**
2RIO	**Dos Rios de Up**	**0.99**	**285**	⇓*i*P	**Pn**	**03 12 15.6**	**+2.5**
2RIO				*i* S	**Sn**	**03 12 34.4**	**+5.6**
LIM1	**Limonal**	**1.06**	**294**	⇓*i*P	**Pn**	**03 12 13.3**	**-0.6**
VCR	**Vista de Mar**	**1.35**	**264**	⇑*i*P	**Pn**	**03 12 16.5**	**-0.8**
BAR1		**1.39**	**137**	⇓*i*P	**Pn**	**03 12 17.2**	**-0.4**
MADN	**Villa Maderas**	**1.68**	**312**	⇓*e*P	**Pn**	**03 12 20.6**	**-0.6**
CONN	**Concepcion**	**1.85**	**314**	*e*P	**Pn**	**03 12 22.6**	**-0.7**
SSNN	**San Juan del S**	**1.86**	**303**	⇓*e*P	**Pn**	**03 12 23.1**	**-0.3**
CNI	**Changuinola**	**1.92**	**116**	⇓*i*P	**Pn**	**03 12 23.6**	**-0.6**
APON	**Apoyo**	**2.41**	**313**	⇑*e*P	**Pn**	**03 12 30.3**	**-0.2**
DVD	**David**	**2.56**	**135**	*e*P	**Pn**	**03 12 29.2**	**-3.2**
TICN	**Ticuantepe**	**2.61**	**312**	*e*P	**Pn**	**03 12 34.0**	**+0.9**
CRUN	**El Crucero**	**2.62**	**311**	⇓*e*P	**Pn**	**03 12 33.9**	**+0.6**
CRUN				*e*S	**Sn**	**03 13 07.2**	**+2.4**
MGAN	**Managua**	**2.69**	**314**	*e*S	**Sn**	**03 13 09.5**	**+3.0**
MGAN				*i*		03 13 12.3	
	comp=N,475nm,0.8s						
TISN	**Laguna Tiscapa**	**2.71**	**314**	⇓*e*P	**Pn**	**03 12 34.5**	**+0.1**
XAVN	**Gruta Xavier**	**2.75**	**313**	⇑*e*P	**Pn**	**03 12 35.1**	**+0.1**
APYN	**Apoyeque**	**2.83**	**314**	*e*P	**Pn**	**03 12 36.4**	**+0.5**
COPN	**Copaltepe**	**2.97**	**310**	⇑*e*P	**Pn**	**03 12 38.0**	**+0.2**
MOMJ	**Momotombo**	**3.08**	**314**	*e*P	**Pn**	**03 12 39.9**	**+0.5**
TEL3	**Telica 3**	**3.41**	**312**	⇑*e*P	**Pn**	**03 12 44.4**	**+0.7**
BCIP	**Isla Barro Col**	**4.50**	**104**	*e*Pn	**Pn**	**03 12 57.9**	**-0.5**
AZU	**Azuero**	**4.65**	**122**	*e*P	**Pn**	**03 13 01.5**	**+1.1**
TGUH	**Tegucigalpa,Un**	**4.78**	**322**	*e*Pn	**Pn**	**03 13 02.7**	**+0.6**
BLLM	**Bellamira**	**5.01**	**309**	*e*P	x	03 13 35.3	
SNVI	**San Vicente**	**5.57**	**307**	*e*P	x	03 13 42.9	
LCBS	**La Ceiba**	**5.71**	**307**	*e*P	x	03 13 43.5	
LCBS				*e*S	x	03 14 41.4	
LFRS	**El Faro**	**5.76**	**306**	*e*P	x	03 13 44.3	
LFRS				*e*S	x	03 14 42.1	
BOQS	**Boqueron**	**5.99**	**306**	*e*P	x	03 13 48.2	
SBLS	**San Blas**	**6.33**	**305**	*e*P	x	03 13 52.5	
SNJE	**San Jose**	**6.33**	**305**	*e*P	x	03 13 52.1	
TEIG	**Tepich**	**10.63**	**339**	LR	LR	03 18 28.7	
	comp=N,98nm,20.4s,baz=257,slow=38						
ROSC	**El Rosal**	**11.22**	**118**	P	**Pn**	**03 14 33.6**	**+4.0**
	comp=N,0.9nm,0.3s,baz=107,slow=19,SNR=4.0						
LAPE	**La Pedrera**	**12.82**	**101**	⇓*i*P	Px	03 12 15.4	
SDV	**Santo Domingo**	**13.51**	**95**	*e*Pn	**Pn**	**03 15 01.0**	**+1.1**
	comp=N,19nm,0.6s						
SDV	**Santo Domingo**	**13.51**	**95**	P	**Pn**	**03 15 01.3**	**+1.4**
	comp=N,0.8nm,0.3s,baz=276,slow=6.0,SNR=21						
SDV				S	**Sn**	**03 17 22.9**	**-5.8**
	comp=N,0.1nm,0.3s,baz=47,slow=19,SNR=2.1						
SDV				LR	LR	03 21 20.8	
	comp=N,37nm,18.4s,baz=331,slow=42						
ATAH	**Atahualpa**	**18.13**	**161**	P	**P**	**03 16 00.3**	**+4.0**
	comp=N,0.3nm,0.3s,baz=14,slow=6.1,SNR=2.6						
ATAH				LR	LR	03 22 38.1	
	comp=N,56nm,19.0s,baz=126,slow=35						
SJG	**San Juan**	**19.20**	**64**	*e*P	**P**	**03 16 08.8**	**+0.8**
	comp=N,35nm,0.8s						
SJG	**San Juan**	**19.20**	**64**	P	**P**	**03 16 08.3**	**+0.3**
	comp=N,1.7nm,0.3s,baz=262,slow=5.3,SNR=13						
SJG				LR	LR	03 23 17.7	
	comp=N,53nm,20.4s,baz=176,slow=36						
CPD	**Cerro la Pandu**	**19.38**	**64**	*e*P	**P**	**03 16 10.4**	**+0.4**
	comp=N,31nm,0.8s						
PTP	**Ponta Puerca**	**19.72**	**64**	*e*P	Px	03 12 31.9	
MTP	**Monte Pirata**	**19.73**	**65**	*e*P	**P**	**03 16 13.6**	**-0.1**
BRAL	**Brewton**	**20.80**	**353**	*e*P	**P**	**03 16 28.6**	**+3.5**
	comp=N,59nm,1.1s						
LRAL	**Lakeview Retre**	**22.79**	**354**	*e*P	**P**	**03 16 47.0**	**+0.8**
	comp=N,26nm,1.0s,mb4.5						
JSC	**Jenkinsville**	**24.06**	**6**	*e*P	**P**	**03 16 59.1**	**+1.4**
PLAL	**Pickwick Lake**	**24.84**	**353**	*e*P	**P**	**03 17 05.2**	**+0.4**
	comp=N,13nm,1.0s,mb4.3						
SWET	**Sewanee**	**24.88**	**357**	*e*P	**P**	**03 17 06.5**	**+1.3**
CPCT	**Cooper Cave**	**25.06**	**360**	*e*P	**P**	**03 17 08.4**	**+1.5**
WVT	**Waverly**	**25.95**	**353**	*e*P	**P**	**03 17 14.4**	**-0.4**
	comp=N,5.2nm,1.1s,mb3.9						
TXAR	**Lajitas Array**	**26.25**	**319**	P	**P**	**03 17 19.2**	**+1.5**
TXAR				PcP	PcP	03 20 43.7	+2.0
TXAR	**Lajitas Array**	**26.25**	**319**	P	**P**	**03 17 19.2**	**+1.6**
	comp=N,0.5nm,0.6s,mb3.1,baz=138,slow=10,SNR=7.0						
TXAR				PcP	PcP	03 20 43.7	+2.0
	comp=N,0.4nm,0.6s,baz=151,slow=2.9,SNR=3.9						
CCM	**Cathedral Cave**	**28.37**	**348**	*e*P	**P**	**03 17 35.9**	**-0.6**
	comp=N,15nm,1.1s,mb4.4						
MNTX	**Cornudas Mount**	**28.93**	**321**	*e*P	**P**	**03 17 40.2**	**-1.4**
	comp=N,0.9nm,0.7s,mb3.5						
LPAZ	**La Paz**	**30.84**	**149**	P	**P**	**03 18 02.1**	**+3.6**
	comp=N,0.8nm,0.5s,mb3.7,baz=24,slow=2.7,SNR=7.2						
HWUT	**Hardware Ranch**	**39.37**	**327**	*e*P	**P**	**03 19 12.6**	**+1.1**
	comp=N,1.8nm,0.8s,mb4.0						
TPAW	**Teton Pass**	**40.41**	**330**	*e*P	**P**	**03 19 20.2**	**+0.2**
	comp=N,1.5nm,0.6s,mb4.0						
ULM	**Lac du Bonnet**	**41.00**	**349**	P	**P**	**03 19 22.4**	**-2.3**
	comp=N,5.5nm,0.9s,mb4.4,baz=168,slow=6.7,SNR=9.0						
ULM				PcP	PcP	03 21 22.1	-0.8
	comp=N,1.5nm,0.8s,baz=180,slow=7.1,SNR=2.5						
NVAR	**Mina Array Bea**	**41.39**	**318**	P	**P**	**03 19 29.8**	**+1.6**
	comp=N,0.7nm,0.4s,mb3.8,baz=145,slow=8.2,SNR=4.5						
BOZ	**Bozeman (W)**	**42.32**	**331**	*e*P	**P**	**03 19 33.8**	**-1.8**
	comp=N,1.0nm,0.8s,mb3.6						
BDFB	**Brasilia**	**44.18**	**125**	P	**P**	**03 19 52.3**	**+1.3**
	comp=N,4.2nm,0.6s,mb4.3,baz=281,slow=15,SNR=12						
CFAA	**Coronel Fontan**	**44.38**	**160**	P	**P**	**03 19 55.2**	**+2.9**
	comp=N,0.3nm,0.6s,mb3.2,baz=318,slow=7.0,SNR=7.7						
FFC	**Flin Flon**	**46.52**	**346**	*e*P	**P**	**03 20 08.7**	**-0.2**
	comp=N,4.9nm,1.1s,mb4.2						
SCHQ	**Schefferville**	**46.55**	**14**	P	**P**	**03 20 08.2**	**-0.9**
	comp=N,5.1nm,0.6s,mb4.4,baz=216,slow=6.6,SNR=11						
NEW	**Newport**	**46.83**	**330**	*e*P	**P**	**03 20 10.7**	**-0.7**
	comp=N,3.1nm,0.9s,mb4.0						
FCC	**Fort Churchill**	**48.96**	**353**	*e*P	**P**	**03 20 26.8**	**-0.9**
	comp=N,7.6nm,1.0s,mb4.6						
PLCA	**Paso Flores**	**52.31**	**167**	P	**P**	**03 20 55.2**	**+2.2**
	comp=N,3.0nm,0.9s,mb4.3,baz=341,slow=8.0,SNR=6.1						
YKA	**Yellowknife Ar**	**56.55**	**344**	P	**P**	**03 21 21.9**	**-1.5**
YKA	**Yellowknife Ar**	**56.55**	**344**	P	**P**	**03 21 21.9**	**-1.5**
	comp=N,2.6nm,0.7s,mb4.4,baz=139,slow=7.0,SNR=38						
RES	**Resolute Bay**	**64.67**	**357**	*e*P	**P**	**03 22 17.0**	**-1.4**
	comp=N,98nm,0.7s						
INK	**Inuvik**	**66.22**	**342**	*e*P	**P**	**03 22 28.2**	**-0.3**
	comp=N,232nm,1.0s						
MCK	**McKinley**	**69.76**	**335**	*e*P	**P**	**03 22 48.9**	**-1.8**
	comp=N,2.4nm,0.7s,mb4.1						
ESDC	**Sonseca Array**	**76.08**	**52**	P	**P**	**03 23 28.7**	**+0.1**
	comp=N,3.8nm,0.9s,mb4.1,baz=279,slow=5.6,SNR=15						
DBIC	**Dimbokro**	**78.45**	**85**	P	**P**	**03 23 42.5**	**+0.2**
	comp=N,14nm,0.9s,mb4.7,baz=290,slow=6.3,SNR=15						
WLF	**Walferdange**	**82.53**	**41**	*e*P	**P**	**03 24 01.6**	**-1.8**
	comp=N,8.0nm,0.9s,mb4.5						
WLF	**Walferdange**	**82.53**	**41**	*e*P	**P**	**03 24 02.1**	**-1.3**
	comp=Z,20nm,1.3s,mb4.8						
NB2	**NORSAR Subarra**	**83.74**	**29**	P	**P**	**03 24 09.1**	**-0.3**
	comp=Z,0.4nm,0.6s,mb3.4,baz=280,slow=5.1						
NOA	**NORSAR Array B**	**83.74**	**29**	P	**P**	**03 24 08.8**	**-0.6**
	comp=Z,3.3nm,1.1s,mb4.1,baz=281,slow=5.1,SNR=4.2						
TORD	**Torodi Ar. Bea**	**83.82**	**78**	P	**P**	**03 24 10.4**	**-0.3**
	comp=Z,2.5nm,0.7s,mb4.2,baz=288,slow=3.8,SNR=32						
CLZ	**Clausthal**	**84.86**	**38**	*e*P	**P**	**03 24 15.2**	**0.0**
	comp=Z,1.1nm,1.1s,mb4.7						
GRA1	**Grafenberg Arr**	**85.78**	**40**	*e*P	**P**	**03 24 19.8**	**0.0**
	comp=Z,5.0nm,1.1s,mb4.4						
GRF	**Grafenberg Arr**	**85.78**	**40**	*e*P	**P**	**03 24 19.8**	**0.0**
	comp=Z,5.0nm,1.1s,mb4.4						
NEUB	**Neuenburg**	**85.84**	**39**	*e*P	**P**	**03 24 19.5**	**-0.6**
MOX	**Moxa**	**85.85**	**39**	*e*P	**P**	**03 24 19.6**	**-0.5**
	comp=Z,6.0nm,1.4s,mb4.3						
WERD	**Werda**	**86.32**	**40**	*e*P	**P**	**03 24 22.3**	**-0.2**
GUNZ	**Gunzen**	**86.35**	**40**	*e*P	**P**	**03 24 21.5**	**-1.1**
ROTZ	**Rotzenmuhle**	**86.39**	**40**	*e*P	**P**	**03 24 23.3**	**+0.5**
	comp=Z,22nm,2.0s,mb4.7						
WERN	**Wernitzgruen**	**86.39**	**40**	*e*P	**P**	**03 24 23.0**	**+0.2**
TANN	**Tannenbergstha**	**86.42**	**40**	*e*P	**P**	**03 24 23.2**	**+0.2**
	comp=Z,8.0nm,1.1s,mb4.6						
NKC	**Novy Kostel**	**86.45**	**40**	*e*P	**P**	**03 24 23.7**	**+0.6**
CLL	**Collm**	**86.57**	**39**	*e*P	**P**	**03 24 23.4**	**-0.3**
	comp=Z,8.0nm,1.2s,mb4.5						
CLL	**Collm**	**86.57**	**39**	⇓*i*P	**P**	**03 24 23.4**	**-0.3**
	comp=Z,8.0nm,1.2s,mb4.5						
FBE	**Freiberg**	**86.87**	**39**	*e*P	**P**	**03 24 25.2**	**0.0**
WET	**Wettzell**	**86.95**	**41**	*e*P	**P**	**03 24 24.8**	**-0.8**
	comp=Z,17nm,1.4s,mb4.8						
KEST	**Kesra**	**86.99**	**54**	P	**P**	**03 24 27.0**	**+0.9**
	comp=Z,1.7nm,0.9s,mb4.0,baz=267,slow=5.9,SNR=9.4						
BRG	**Berggiesshubel**	**87.25**	**39**	*e*(P)	**P**	**03 24 27.4**	**+0.4**
	comp=Z,6.7nm,1.5s,mb4.4						
KHC	**Kasperske Hory**	**87.40**	**41**	*e*P	**P**	**03 24 27.8**	**0.0**
GEC2	**GERESS Array S**	**87.54**	**41**	*e*P	**P**	**03 24 27.8**	**-0.6**
	comp=Z,8.0nm,1.4s,mb4.6						
GERES	**GERESS Array B**	**87.54**	**41**	P	**P**	**03 24 28.2**	**-0.2**
	comp=Z,2.0nm,1.1s,mb4.1,baz=277,slow=2.2,SNR=13						
PRU	**Pruhonice**	**87.82**	**40**	*e*P	**P**	**03 24 28.9**	**-0.8**
UPC	**Upice**	**88.61**	**39**	*e*P	**P**	**03 24 34.0**	**+0.5**
FINES	**FINESS Array B**	**90.52**	**27**	P	**P**	**03 24 41.3**	**-0.8**
	comp=Z,0.5nm,0.5s,mb3.9,baz=270,slow=1.9,SNR=7.2						
CN2	**Changchun**	**119.78**	**336**	*e*PKP	PKPdf	03 30 27.3	-3.0
MKAR	**Makanchi Array**	**121.94**	**11**	PKP	PKPdf	03 30 32.4	-2.0
	comp=Z,0.3nm,0.7s,baz=353,slow=3.5,SNR=2.6						
WMQ	**Urumqi**	**125.67**	**7**	*e*PKP	PKPdf	03 30 41.0	-0.7
HHC	**Hu-ho-hao-te**	**127.08**	**345**	*e*PKP	PKPdf	03 30 41.6	-2.8
HHC				PP	PP	03 32 47.3	+4.5
HHC				PKS		03 34 17.1	
HHC				SKS	SKSdf	03 37 42.6	-4.1
HHC				SKKS	SKKSac	03 39 28.0	-3.6
HHC				PP	PP		
	comp=Z,181nm,9.3s						
HHC				LR	LR		
	comp=N,142nm,22.0s						
HHC				LR	LR		
	comp=E,129nm,20.8s						
HHC				LR	LR		
	comp=Z,150nm,20.3s						
LZH	**Lanzhou**	**133.26**	**351**	*e*PKP	PKPdf	03 30 57.0	+0.7
CD2	**Chengdu**	**138.34**	**350**	*e*PKP	PKPdf	03 31 00.8	-5.1
ASAR	**Alice Springs**	**141.28**	**245**	PKhKP		03 31 05.8	
	comp=Z,0.7nm,0.6s,baz=110,slow=3.0,SNR=6.2						
WB2	**Warramunga Arr**	**141.58**	**251**	*e*PKP	PKPdf	03 31 07.0	-5.0
WRA	**Warramunga Arr**	**141.59**	**251**	PKhKP		03 31 07.2	
	comp=Z,0.8nm,0.6s,baz=94,slow=3.2,SNR=17						
GYA	**Guiyang**	**141.98**	**344**	*e*PKP	PKPdf	03 31 07.9	-4.7
GYA				APKP		03 31 40.6	
GYA				XPKP		03 31 52.9	
GYA				PP	PP	03 34 18.8	+1.7
GYA				PP	PP		
	comp=Z,70nm,8.9s						
KAKA	**Kakadu**	**143.97**	**263**	*e*PKP	PKPdf	03 31 15.5	-0.9
	comp=Z,12nm,1.2s						
FITZ	**Fitzroy Crossi**	**150.02**	**252**	*e*PKP	PKPbc	03 31 32.2	+0.8
	comp=Z,7.8nm,0.9s						

MOS ***13*** *03:23:51.9±1.1, 4141S×8907W, h10km, mb5.2/18, Error ellipse: s-maj=20.0km s-min=11.1km az=98.2*
IDC ***13*** *03:23:51.8±0.7, 4147S×8903W, h0km, mb4.5/13, mb1 4.5/14, mb1mx4.5/19, mbtmp4.4/14, ML3.2/1, MS4.2/17, Ms1 4.2/17, ms1mx4.1/26, Error ellipse: s-maj=23.6km s-min=17.5km az=94.0*
ISCJB ***13*** *03:23:52.4±0.3, 4143S±007×8885W±007, h10km, mb4.8/45, MS4.3/16, Error ellipse: s-maj=10.5km s-min=7.2km az=11.3*
GCMT ***13*** *03:23:53.4±0.2, 4128S×89.14W, h12km, MW5.0/76, Moment Tensor Solution. s38,c41; s76,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=3.62±.19; Mθθ=0.44±.12; Mφφ=3.17±.14; Mrθ=1.15±.39; Mφθ=-1.13±.08; Mφr=0.54±.34; Best double couple: M0=3.79800×10^16 NP1:φs=324.00000°, δ47.00000°, λ=-114.00000°. NP2: φs=177.00000°, δ49.00000°, λ=-67.00000°. Principal axes: T 3.5790, Plg1.0000°, Azm251.0000°; N 0.4300, Plg17.0000°, Azm341.0000°; P -4.0170, Plg73.0000°, Azm157.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***13*** *03:23:53.4±0.4, 4140S×8907W, h10km, mb5.1/35 Error ellipse: s-maj=11.0km s-min=7.3km az=21.0*
BJI ***13*** *03:23:53.3, 4140S×89.10W, h10km, mB5.1, Ms5.5, Msz5.3*
ISC 13 03:23:54.0±0.3, 4144S±007×8890W±007, h10km, n287, σ0§64/250, mb4.8/45, MS4.3/16, 74C-69D, West Chile Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**13.86**	**93**	Pn	**Pn**	**03 27 14.6**	**+4.1**
	0.1nm,0.3s,baz=268,slow=12,SNR=12						
PLCA				LR	LR	03 31 23.3	
	comp=Z,3μm,19.8s,baz=274,slow=32						
LMEL	**Las Melosas**	**16.62**	**69**	*e*P	**Pn**	**03 27 47.9**	**+1.0**
FCH	**Farellones**	**16.84**	**67**	*e*P	**Pn**	**03 27 51.2**	**+1.4**
USHA	**Ushuaia**	**19.04**	**142**	LR	LR	03 34 36.2	
	comp=Z,917nm,21.6s,baz=282,slow=34						
CFAA	**Coronel Fontan**	**19.25**	**66**	P	**Pn**	**03 28 18.6**	**-0.8**
	0.1nm,0.3s,baz=235,slow=10.0,SNR=34						
CFAA				LR	LR	03 34 08.3	
	comp=Z,202nm,20.2s,baz=264,slow=32						
LCO	**Las Campanas**	**19.32**	**56**	*e*P	**Pn**	**03 28 19.1**	**-1.1**
	41nm,1.1s						
TRQA	**Tornquist**	**20.94**	**90**	*e*P	**P**	**03 28 38.2**	**+1.3**
	89nm,1.3s						

116A	Eloy	76.58	340	⇊P		P	03 35 44.8 +0.4
	baz=77,SNR=8.6						
115A	Sonoran Desert	76.84	340	⇊P		P	03 35 46.3 +0.5
	baz=77,SNR=18						
AMTX	Amarillo	76.86	349	eP		P	03 35 45.0 -0.9
	comp=Z,16nm,0.9s,mb5.0						
WVT	Waverly	77.20	1	eP		P	03 35 45.4 -2.3
WVT				pmax	pmax		
	comp=Z,62nm,2.1s,mb5.2						
WVT	Waverly	77.20	1	eP		P	03 35 45.4 -2.3
	comp=Z,62nm,2.1s,mb5.2						
Z16A	Peralta Trail,	77.25	341	⇊P		P	03 35 48.4 +0.3
	baz=78						
113A	Mohawk Valley,	77.32	339	⇊P		P	03 35 48.6 +0.2
	baz=78,SNR=7.2						
112A	Yuma	77.32	338	⇑P		P	03 35 48.7 +0.2
	baz=78						
Y19A	Nutrioso	77.33	343	P		P	03 35 49.0 +0.5
	baz=78,SNR=15						
Y18A	Canyon Day Jun	77.33	342	⇊P		P	03 35 49.1 +0.6
	baz=78						
Y17A	Roosevelt	77.45	341	⇊P		P	03 35 49.4 +0.3
	baz=78,SNR=12						
Z14A	Wintersburg	77.66	340	⇑P		P	03 35 50.7 +0.4
	baz=78						
ANMO	Albuquerque	77.71	345	eP		P	03 35 50.2 -0.4
ANMO				pmax	pmax		
	comp=Z,4.0nm,0.8s						
ANMO	Albuquerque	77.71	345	eP		P	03 35 50.2 -0.5
	comp=Z,4.0nm,0.8s,mb4.4						
ANMO	Albuquerque	77.71	345	P		P	03 35 50.6 0.0
	comp=Z,6.1nm,0.8s,mb4.6,baz=180,slow=8.0,SNR=18						
Y16A	Circle Bar Ran	77.78	341	P		P	03 35 51.3 +0.3
	baz=78,SNR=13						
GLA	Glamis	77.88	338	eP		P	03 35 51.7 +0.1
GLA				pmax	pmax		
	comp=Z,28nm,1.4s,mb5.0						
GLA	Glamis	77.88	338	eP		P	03 35 51.7 +0.1
	comp=Z,28nm,1.4s,mb5.0						
GLA	Glamis	77.88	338	⇑P		P	03 35 52.0 +0.4
	baz=78,SNR=5.6						
DVTC	Desert V Tower	77.88	337	⇑P		P	03 35 51.9 +0.3
	baz=78						
X18A	Snowflake	78.04	342	⇊P		P	03 35 53.0 +0.5
	baz=78,SNR=5.9						
X17A	Forest Lakes	78.05	342	⇑P		P	03 35 53.0 +0.4
	baz=78						
SWSC	Sam W. Stewart	78.05	337	⇑P		P	03 35 52.6 0.0
	baz=78						
Y15A	Casa Rosa Ranc	78.06	340	⇊P		P	03 35 53.0 +0.4
	baz=78,SNR=10						
MONP	Monument Peak	78.19	337	⇊P		P	03 35 53.6 +0.2
	baz=78						
Y14A	Wickenburg	78.22	340	P		P	03 35 53.5 0.0
	baz=78,SNR=14						
X16A	Lo Mia Camp, P	78.28	341	⇊P		P	03 35 54.0 +0.2
	baz=78,SNR=21						
Y13A	Salome	78.32	339	⇑P		P	03 35 54.3 +0.3
	baz=79,SNR=7.3						
109C	Camp Elliot, M	78.39	336	⇑P		P	03 35 54.3 -0.1
	baz=79						
Y12C	Blythe	78.45	338	⇊P		P	03 35 55.0 +0.3
	baz=79,SNR=7.6						
X15A	Humboldt	78.54	340	P		P	03 35 55.7 +0.5
	baz=79,SNR=28						
BC3	Big Chuckw Mtn	78.62	338	⇑P		P	03 35 56.1 +0.3
	baz=79,SNR=5.8						
X14A	Yava	78.69	340	⇊P		P	03 35 56.6 +0.5
	baz=79,SNR=7.5						
PDMCI	Parker Dam,Lak	78.86	339	⇊P		P	03 35 57.4 +0.4
	baz=79						
PFO	Pinyon Flat Ob	78.87	337	P		P	03 35 57.1 +0.1
	comp=Z,7.0nm,1.0s,mb4.6,baz=137,slow=2.7,SNR=7.3						
PFO	Pinyon Flat Ob	78.87	337	⇊P		P	03 35 57.7 +0.6
	baz=79						
W16A	Flagstaff	78.95	341	⇑P		P	03 35 58.3 +0.8
	baz=79,SNR=11						
IRM	Iron Mountain	79.01	338	⇑P		P	03 35 58.2 +0.3
	baz=79						
X13A	Yucca	79.06	339	⇑P		P	03 35 58.5 +0.4
	baz=79,SNR=16						
MURC	Murrieta	79.08	336	⇊P		P	03 35 58.3 +0.1
	baz=79						
BELC	Belle Mtn.	79.10	337	P		P	03 35 59.1 +0.8
	baz=79,SNR=6.9						
W15A	Williams	79.21	341	⇊P		P	03 35 60.0 +1.1
	baz=80						
WUAZ	Wupatki	79.31	341	eP		P	03 35 59.8 +0.4
	comp=Z,38nm,1.6s,mb5.1						
WUAZ	Wupatki	79.31	341	⇊P		P	03 36 00.0 +0.6
	baz=80						
W14A	Seligman	79.45	340	⇑P		P	03 36 01.1 +0.9
	baz=80,SNR=11						
W13A	Hualapai Mount	79.55	339	P		P	03 36 01.1 +0.4
	baz=80,SNR=17						
GMRC	Granite Mounta	79.73	338	⇊P		P	03 36 02.1 +0.3
	baz=80,SNR=8.8						
V15A	Kaibab Nationa	79.80	341	⇑P		P	03 36 02.2 +0.1
	baz=80,SNR=11						
BFSC	Mount Baldy St	79.82	336	⇊P		P	03 36 02.4 +0.2
	baz=80						
V14A	Boquillas Ranc	79.85	340	⇊P		P	03 36 02.9 +0.5
	baz=80,SNR=20						
HEC	Hector,Ludlow	79.97	337	⇑P		P	03 36 03.7 +0.6
	baz=80						
W12A	Cal Nev Ari	80.00	339	⇊P		P	03 36 03.7 +0.5
	baz=80						
SDCO	Great Sand Dun	80.26	347	eP		P	03 36 03.8 -0.7
	comp=Z,4.2nm,1.0s,mb4.3						
BLO	Bloomington	80.26	2	eP		P	03 36 02.5 -2.0
BLO				pmax	pmax		
	comp=Z,28nm,0.9s,mb5.2						
BLO	Bloomington	80.26	2	eP		P	03 36 02.5 -2.0
	comp=Z,28nm,0.9s,mb5.2						
V13A	Grand Canyon W	80.29	340	P		P	03 36 04.8 0.0
	baz=80,SNR=9.7						
MVCO	Mesa Verde	80.30	344	⇑P		P	03 36 05.1 +0.3
	baz=81						
V12A	Nelson	80.40	339	⇑P		P	03 36 05.5 +0.1
	baz=81,SNR=9.5						
TUQ	Turquoise Mtn.	80.42	338	⇑P		P	03 36 05.6 +0.1
	baz=81,SNR=5.8						
KSU1	Kansas State U	80.47	354	eP		P	03 36 04.5 -1.2
	comp=Z,14nm,0.9s,mb4.9						
CBKS	Cedar Bluff	80.48	351	eP		P	03 36 04.9 -0.8
CBKS				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
CBKS	Cedar Bluff	80.48	351	eP		P	03 36 04.9 -0.8
	comp=Z,6.9nm,0.6s,mb4.8						
OSI	Osito Adit	80.49	335	⇊P		P	03 36 05.8 -0.1
	baz=81						
EDW2	Edwards Air Fo	80.51	336	⇑P		P	03 36 05.6 -0.4
	baz=81						
GSC	Goldstone	80.55	337	eP		P	03 36 06.1 -0.1
GSC				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.7						
GSC	Goldstone	80.55	337	eP		P	03 36 06.1 -0.1
	comp=Z,11nm,1.2s,mb4.7						
GSC	Goldstone	80.55	337	P		P	03 36 06.3 +0.1
	baz=81,SNR=5.9						
U14A	Mt Trumbull	80.61	340	P		P	03 36 06.8 +0.4
	baz=81,SNR=14						
V11A	Goodsprings	80.66	338	⇑P		P	03 36 07.1 +0.4
	baz=81						
T16A	Glen Canyon Da	80.74	342	⇑P		P	03 36 07.7 +0.6
	baz=81						
U13A	Pakoon Wash	80.81	340	⇊P		P	03 36 07.8 +0.3
	baz=81,SNR=5.3						
SHOC	Shoshone	80.96	338	⇊P		P	03 36 08.3 0.0
	baz=81						
LRMC	Laurel Mountai	80.98	337	⇑P		P	03 36 08.6 +0.2
	baz=81						
U12A	Valley of Fire	80.98	339	⇊P		P	03 36 08.7 +0.3
	baz=81						
T15A	Red Dirt Ranch	80.99	341	P		P	03 36 08.8 +0.3
	baz=81,SNR=12						
PKM	Peak Mountain	81.10	335	⇑P		P	03 36 09.1 0.0
	baz=81						
T14A	Hurricane	81.20	341	⇊P		P	03 36 09.9 +0.3
	baz=82						
PV01	Paradox Valley	81.21	344	eP		P	03 36 09.4 -0.2
T13A	Saint George	81.37	340	⇊P		P	03 36 10.3 -0.2
	baz=82,SNR=10.0						
MPMC	Manual Prospec	81.46	337	⇊P		P	03 36 11.1 +0.1
	baz=82						
PV10	Paradox Valley	81.54	344	eP		P	03 36 10.6 -0.7
CCUT	Cedar City	81.73	341	eP		P	03 36 12.8 +0.4
S14A	Cedar City	81.88	341	P		P	03 36 13.9 +0.7
	baz=82,SNR=15						
S13A	Holt Ranch, En	81.89	340	P		P	03 36 13.6 +0.4
	baz=82,SNR=9.5						
T11A	Corn Creek, Al	81.92	339	⇊P		P	03 36 14.1 +0.7
	baz=82						
TPNV	Topopah Spring	81.93	338	eP		P	03 36 13.6 +0.1
TPNV				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.9						
TPNV	Topopah Spring	81.93	338	eP		P	03 36 13.6 +0.2
	comp=Z,29nm,1.7s,mb4.9						
TPNV	Topopah Spring	81.93	338	⇑P		P	03 36 14.1 +0.6
	baz=82						
ARUT	Antelope Range	81.98	341	eP		P	03 36 13.5 -0.2
GRAC	Grapevine Rang	82.30	337	⇊P		P	03 36 16.0 +0.6
	baz=82						
MSU	Marysvale	82.36	342	eP		P	03 36 15.8 +0.1
HELL	Mitchell Peak	82.49	336	⇑P		P	03 36 15.9 -0.5
	baz=83,SNR=7.0						
SRU	San Rafael	82.56	343	eP		P	03 36 16.1 -0.6
SRU				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
SRU	San Rafael	82.56	343	eP		P	03 36 16.1 -0.6
	comp=Z,11nm,1.4s,mb4.7						
TIN	Tinemaha	82.60	337	⇊P		P	03 36 17.1 +0.2
	baz=83						
U04C	Hernandez Rese	82.75	335	⇊P		P	03 36 17.9 +0.2
	baz=83						
R12A	Pony Springs,	82.78	340	P		P	03 36 18.6 +0.7
	baz=83,SNR=13						
S09A	Goldfield	82.93	338	⇑P		P	03 36 18.4 -0.3
	baz=83,SNR=13						
S10A	Tonopah Range,	82.94	338	⇊P		P	03 36 18.4 -0.3
	baz=83,SNR=7.2						
S08C	White Mtn Res	83.00	337	⇑P		P	03 36 18.9 -0.1
	baz=83,SNR=13						
T06C	Millerton Lake	83.01	336	⇑P		P	03 36 18.0 -1.1
	baz=83						
R11A	Troy Canyon, C	83.06	339	⇊P		P	03 36 19.6 +0.3
	baz=83,SNR=12						
KCC	Kaiser Creek	83.18	336	⇑P		P	03 36 19.9 -0.1
	baz=83						
R10A	Warm Springs	83.20	339	⇑P		P	03 36 20.3 +0.3
	baz=84						
Q13A	Wheeler Ranch,	83.23	341	⇊P		P	03 36 20.7 +0.5
	baz=84,SNR=14						
R09A	Tonopah	83.37	338	P		P	03 36 21.1 +0.1
	baz=84,SNR=13						
Q11A	Duckwater	83.55	339	⇑P		P	03 36 22.1 +0.3
	baz=84,SNR=6.3						
MPU	Maple Canyon	83.67	343	eP		P	03 36 22.3 -0.1
	comp=Z,27nm,1.1s,mb5.3						
P13A	Bates Ranch, G	83.70	341	⇊P		P	03 36 22.7 +0.1
	baz=84,SNR=23						
NLU	North Lily Min	83.71	342	eP		P	03 36 23.1 +0.5
Q10A	Clear Creek Ra	83.73	339	⇑P		P	03 36 23.2 +0.5
	baz=84,SNR=6.0						
R08A	Mina	83.76	337	⇑P		P	03 36 23.4 +0.5
	baz=84,SNR=5.1						
S06C	San Francisco	83.85	336	P		P	03 36 23.4 0.0
	baz=84						
NVAR	Mina Array Bea	83.90	337	P		P	03 36 23.8 +0.2
NVAR	Mina Array Bea	83.90	337	P		P	03 36 23.8 +0.2
	comp=Z,9.8nm,0.8s,mb5.0,baz=172,slow=6.2,SNR=50						
P12A	McGill	83.94	340	⇑P		P	03 36 23.8 0.0
	baz=84						
DAU	Daniels Canyon	83.96	343	eP		P	03 36 23.9 0.0
S04C	Ingram Canyon,	83.97	335	⇑P		P	03 36 24.3 +0.2
	baz=84						
DUG	Dugway	84.11	342	eP		P	03 36 24.2 -0.5
DUG				pmax	pmax		
	comp=Z,25nm,1.0s,mb5.3						
DUG	Dugway	84.11	342	eP		P	03 36 24.2 -0.4
	comp=Z,25nm,1.0s,mb5.3						
DUG	Dugway	84.11	342	⇑P		P	03 36 24.9 +0.2
	baz=84						
CMB	Columbia Colle	84.16	336	eP		P	03 36 24.4 -0.6
CMB				pmax	pmax		
	comp=Z,12nm,1.0s,mb5.0						
CMB	Columbia Colle	84.16	336	eP		P	03 36 24.4 -0.6
	comp=Z,12nm,1.0s,mb5.0						
CMB	Columbia Colle	84.16	336	⇊P		P	03 36 25.0 +0.1
	baz=84						
Q08A	Gabbs	84.19	338	⇑P		P	03 36 25.1 0.0
	baz=84,SNR=7.7						
R06C	Coleville	84.32	336	⇑P		P	03 36 25.9 +0.1
	baz=85,SNR=7.6						
O13A	Hicks Ranch, I	84.33	341	⇑P		P	03 36 26.2 +0.4
	baz=85						
RWWY	Rawlins	84.39	346	eP		P	03 36 25.9 -0.2
	comp=Z,14nm,1.1s,mb5.0						
P10A	Eureka	84.49	339	⇊P		P	03 36 26.9 +0.3
	baz=85						
O12A	Currie	84.65	340	⇑P		P	03 36 27.5 +0.1
	baz=85,SNR=10						
R05C	Kirkwood Meado	84.68	336	⇊P		P	03 36 28.0 +0.4
	baz=85,SNR=7.0						
N15A	Stansbury Isla	84.70	342	⇊P		P	03 36 27.3 -0.4
	baz=85						
O11A	Cowboy Ranch,	84.75	340	⇊P		P	03 36 28.3 +0.4
	baz=85,SNR=6.2						
N14A	Grayback Hills	84.82	342	⇊P		P	03 36 28.0 -0.2
	baz=85,SNR=11						
LAVA	Lava Cap Winer	84.93	336	⇊P		P	03 36 28.7 -0.1
	baz=85,SNR=6.2						
ECSD	EROS,Sioux Fal	85.07	354	eP		P	03 36 27.8 -1.6
	comp=Z,88nm,1.9s,mb5.6						
SPUT	South Promonto	85.09	342	eP		P	03 36 28.6 -0.9
WCN	Washoe City	85.13	336	⇊P		P	03 36 30.3 +0.5
	baz=85						
HWUT	Hardware Ranch	85.17	343	eP		P	03 36 29.0 -1.0
	comp=Z,23nm,1.6s,mb5.1						
O09A	Fish Creek Ran	85.20	339	⇊P		P	03 36 30.2 +0.1
	baz=86,SNR=6.4						
M15A	Larsen Ranch,	85.23	342	P		P	03 36 29.7 -0.6
	baz=86,SNR=23						
N12A	Clover Valley,	85.27	340	⇊P		P	03 36 30.7 +0.1
	baz=86,SNR=5.1						
P05C	Yuba Gap, Truc	85.39	336	⇊P		P	03 36 31.4 +0.2
	baz=86						
M14A	Sheep Mountain	85.48	342	P		P	03 36 30.9 -0.6
	baz=86,SNR=21						
M13A	Montello	85.54	341	⇊P		P	03 36 31.4 -0.4
	baz=86,SNR=7.0						
HVU	Hansel Valley	85.61	342	eP		P	03 36 31.7 -0.5
HVU				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
HVU	Hansel Valley	85.61	342	eP		P	03 36 31.7 -0.5
	comp=Z,8.6nm,0.9s,mb5.0						
O07A	Toulon	85.67	337	⇊P		P	03 36 32.4 -0.1
	baz=86						
M12A	Wells	85.77	341	⇑P		P	03 36 32.8 -0.2
	baz=86						
BEKR	Beckwourth	85.83	336	⇊P		P	03 36 33.4 0.0
	baz=86,SNR=6.1						
BW06	Boulder Array	85.87	345	eP		P	03 36 32.2 -1.2
	comp=Z,42nm,1.8s,mb5.4						
O05C	Quincy	86.09	336	⇊P		P	03 36 35.2 +0.6
	baz=86						
SADO	Sadowa	86.27	7	P		P	03 36 33.5 -1.8
	baz=235,slow=5.8						
K14A	Jones Ranch, D	86.43	342	⇊P		P	03 36 35.7 -0.5
	baz=87,SNR=5.5						
L12A	House Creek Ra	86.49	341	⇑P		P	03 36 36.6 +0.1
	baz=87						
N06A	Buffalo Meadow	86.49	337	⇑P		P	03 36 36.6 +0.1
	baz=87,SNR=9.7						
L11A	Cat Creek Ranc	86.69	340	P		P	03 36 37.5 0.0
	baz=87,SNR=11						
M08A	Happy Creek Ra	86.72	338	⇊P		P	03 36 37.7 0.0
	baz=87						
K13A	Stover Farm, H	86.74	342	⇑P		P	03 36 37.9 +0.2
	baz=87						
SNOW	Snow King Moun	86.78	344	eP		P	03 36 37.5 -0.4
	comp=Z,18nm,1.4s,mb5.1						
TPAW	Teton Pass	86.85	344	eP		P	03 36 37.9 -0.3
	comp=Z,11nm,0.8s,mb5.2						
M07A	Soldier Meadow	86.89	338	⇊P		P	03 36 38.8 +0.4
	baz=87						
LOHW	Long Hollow	86.89	344	eP		P	03 36 38.0 -0.4
	comp=Z,5.7nm,0.9s,mb4.8						
K12A	Draper Farm, C	86.92	341	⇊P		P	03 36 38.9 +0.3
	baz=87						
MOOW	Moose Ponds	87.05	344	eP		P	03 36 38.8 -0.4
	comp=Z,7.4nm,1.4s,mb4.7						
M06C	Likely Place G	87.10	337	⇊P		P	03 36 39.7 +0.2
	baz=87						
K11A	Parker Ranch,	87.33	340	⇑P		P	03 36 40.3 -0.3
	baz=88						
FLWY	Flagg Ranch	87.36	344	eP		P	03 36 40.8 0.0
	comp=Z,12nm,0.8s,mb5.2						
M05C	Lookout	87.44	336	⇑P		P	03 36 41.1 -0.1
	baz=88						
J13A	Cove Ranch, Pi	87.47	342	P		P	03 36 41.4 +0.1
	baz=88,SNR=13						
BOSA	Boshof	87.50	127	P		P	03 36 41.2 -0.9
BOSA				LR	LR		04 09 19.1
BOSA	Boshof	87.50	127	P		P	03 36 41.2 -0.9
	comp=Z,3.0nm,0.8s,mb4.6,baz=243,slow=4.7,SNR=6.5						
BOSA				LR	LR		04 09 19.1
	comp=Z,126nm,19.5s,MS4.3,baz=183,slow=31						
L07A	Adell	87.52	338	⇑P		P	03 36 41.4 -0.1
	baz=88						
J12A	Stokes Ranch,	87.55	341	P		P	03 36 41.3 -0.4
	baz=88,SNR=6.5						
K10A	MacKenzie Ranc	87.55	340	⇑P		P	03 36 41.5 -0.1
	baz=88						
HLID	Hailey	87.68	342	P		P	03 36 42.1 -0.2
	baz=88,SNR=17						
MFID	Camas Ranch	87.88	341	⇑P		P	03 36 43.1 -0.1
	baz=88						
I13A	Wildhorse Cree	87.94	342	P		P	03 36 43.6 +0.1
	baz=88,SNR=6.7						
K07A	Rock Creek Ran	88.11	338	⇊P		P	03 36 44.7 +0.4
	baz=88						
J09A	Fry Pan Ranch,	88.31	339	⇑P		P	03 36 45.7 +0.4
	baz=89,SNR=5.3						
J08A	Circle Bar Ran	88.52	339	⇑P		P	03 36 46.6 +0.3
	baz=89						
H13A	Challis	88.59	342	⇑P		P	03 36 47.2 +0.6
	baz=89						
G15A	Dillon	88.77	344	⇊P		P	03 36 47.6 +0.2
	baz=89						
J06A	Christmas Vall	88.89	338	⇑P		P	03 36 47.8 -0.1
	baz=89,SNR=5.6						
BOZ	Bozeman (W)	89.05	344	eP		P	03 36 48.6 -0.1
BOZ				pmax	pmax		
	comp=Z,20nm,1.9s,mb5.1						
BOZ	Bozeman (W)	89.05	344	eP		P	03 36 48.6 -0.1
	comp=Z,20nm,1.9s,mb5.1						
BOZ	Bozeman (W)	89.05	344	⇑P		P	03 36 48.8 +0.2
	baz=89						
I08A	Drewsey	89.06	339	⇊P		P	03 36 48.5 -0.2
	baz=89						
G13A	Cobalt	89.09	342	⇑P		P	03 36 48.8 0.0
	baz=89						
H11A	Donnelly	89.14	341	P		P	03 36 48.8 -0.4
	baz=89,SNR=5.8						
H10A	Noah's Angus R	89.21	341	⇑P		P	03 36 49.6 +0.2
	baz=90						
J05A	Fort Rock	89.23	337	⇑P		P	03 36 49.4 -0.2
	baz=90						
K02A	Glendale	89.44	335	⇑P		P	03 36 50.8 +0.2
	baz=90						
I07A	Izee	89.47	338	⇑P		P	03 36 50.8 +0.1
	baz=90,SNR=7.4						
I06A	Prineville	89.54	338	⇊P		P	03 36 51.0 0.0
	baz=90,SNR=6.0						
G11A	Walters Elk Ra	89.86	341	⇊P		P	03 36 52.5 0.0
	baz=90						
DBIC	Dimbokro	89.92	81	LR	LR		04 13 07.5
	comp=Z,142nm,18.4s,MS4.4,baz=179,slow=33						
F12A	Elk City	89.95	342	⇊P		P	03 36 52.0 -0.9
	baz=90						
G10A	Bishop Farm, J	89.97	341	⇑P		P	03 36 53.8 +0.8
	baz=90,SNR=7.7						
G09A	Cove	90.12	340	⇑P		P	03 36 53.5 -0.2
	baz=90						
F11A	Grangeville	90.29	341	⇊P		P	03 36 53.9 -0.5
	baz=90						
H06A	Lindquist Farm	90.30	338	⇑P		P	03 36 54.7 +0.1
	baz=91,SNR=5.9						
G08A	Pilot Rock	90.44	339	⇊P		P	03 36 55.7 +0.5
	baz=91,SNR=8.0						
D15A	Lincoln	90.57	344	⇑P		P	03 36 56.7 +1.0
	baz=91						
G07A	Ruggs Ranch, H	90.61	339	⇊P		P	03 36 56.6 +0.6
	baz=91,SNR=5.8						
ULM	Lac du Bonnet	91.51	356	P		P	03 36 57.8 -2.3
	comp=Z,0.5nm,0.4s,mb4.2,baz=198,slow=3.2,SNR=5.0						
STKA	Stephens Creek	93.46	221	LR	LR		04 09 06.0
	comp=Z,166nm,18.8s,MS4.5,baz=63,slow=29						
SCHQ	Schefferville	97.74	13	LR	LR		04 18 35.8
	comp=Z,155nm,20.4s,MS4.5,baz=79,slow=34						
TORD	Torodi Ar. Bea	99.01	80	LR	LR		04 16 12.3
	comp=Z,203nm,21.4s,MS4.6,baz=290,slow=32						
GERES	GERESS Array B	127.11	54	PKP	PKPdf		03 42 55.4 -2.3
	comp=Z,0.7nm,0.6s,baz=222,slow=1.8,SNR=6.9						
MORC	Moravsky Berou	129.79	54	ePKIKP	PKPdf		03 43 02.1 -0.7
SEY	Seymchan	138.73	323	iPKIKP	PKPdf		03 43 18.4 -0.7
MALT	Malatya	139.97	77	ePKIKP	PKPdf		03 43 21.6 -0.6
ANN	Anapa	141.28	66	iPKIKP	PKPdf		03 43 29.1 +4.8
ANN				pmax	pmax		
	comp=Z,19nm,1.1s						
OBN	Obninsk	142.22	50	iPKHKP			03 43 19.4
OBN				pmax	pmax		
	comp=Z,10.0nm,1.2s						
YSS	Yuzh-Sakhalins	143.12	296	ePKHKP			03 43 20.5
MJAR	Matsushiro Arr	143.41	278	PKhKP			03 43 22.9
	comp=Z,1.3nm,0.7s,baz=148,slow=4.7,SNR=4.1						
TIXI	Tiksi	144.45	341	ePKIKP	PKPdf		03 43 24.9 -4.3
KIV	Kislovodsk	144.73	69	iPKIKP	PKPdf		03 43 28.4 -2.1
KIV				pmax	pmax		
	comp=Z,9.0nm,0.9s						
KIV				MLR	MLR		
	comp=Z,78nm,20.0s,MS4.5						
KIV	Kislovodsk	144.73	69	ePKPdf	PKPdf		03 43 28.6 -1.9
GNI	Garni	145.21	76	iPKIKP	PKPdf		03 43 30.5 -0.9
GNI	Garni	145.21	76	ePKPbc	PKPbc		03 43 30.5 -0.6
HABR	Khabarovsk	148.47	298	ePKP2	PKPbc		03 43 37.9 -2.3
YAK	Yakutsk	149.16	325	ePKIKP	PKPdf		03 43 38.6 +1.3
YAK				pmax	pmax		
	comp=Z,23nm,0.8s						
YAK				pmax	pmax		
	comp=N,2.0nm,1.1s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.2s						
YAK	Yakutsk	149.16	325	ePKPbc	PKPbc		03 43 39.2 -2.4
KLR	Kul'dur	150.67	299	ePKIKP	PKPdf		03 43 39.2 -0.9
KLR				pmax	pmax		
	comp=Z,33nm,1.4s						
KSRS	Korea Array	151.43	274	PKPbc	PKPbc		03 43 46.4 -1.4
	comp=Z,6.3nm,0.7s,baz=112,slow=3.0,SNR=20						
MDJ	Mudanjiang

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
CD2				XPKP		03 44 02.8	
CD2				PKP2	PKPab	03 44 52.0	-4.4
CD2				PP	PP		
	comp=Z,150nm,10.2s						
CD2				LR	LR		
	comp=N,150nm,22.4s						
CD2				LR	LR		
	comp=E,180nm,20.6s						
CD2				LR	LR		
	comp=Z,130nm,24.2s						
LZH	Lanzhou	168.71	246	ePKP	PKPdf	03 44 00.0	-0.9
WMQ	Urumqi	176.54	45	ePKP	PKPdf	03 44 05.0	+1.1

*MOS **13** 03:36:12.2±1.6, 21.43S×179.22W, h574km, mb4.9/24, Error ellipse: s-maj=9.9km s-min=8.1km az=151.3*

*ISCJB **13** 03:36:14.1±0.1, 21.76S±0.03×179.25W±0.03, h605km, mb4.9/102, Error ellipse: s-maj=4.3km s-min=2.5km az=40.6*

*BJI **13** 03:36:14.2, 21.51S×178.48W, h633km, mB4.9, mb4.9*

*SZGRF **13** 03:36:14.1, 22.50S×178.50W, h617km, South of Fiji Islands*

*NEIC **13** 03:36:15.0±0.1, 21.68S×179.21W, mb5.0/64, Error ellipse: s-maj=4.7km s-min=3.0km az=125.0*

*GCMT **13** 03:36:15.0±0.3, 21.44S×179.20W, h613km±2km, MW5.5/68, Moment Tensor Solution. s68,c94; Duration: 1.3s Moment tensor: Scale 10^{17}Nm; M_{rr}-0.34±.04; $M_{\theta\theta}$-0.10±.06; $M_{\phi\phi}$0.43±.06; $M_{r\theta}$-0.05±.06; $M_{\theta\phi}$-0.09±.06; $M_{\phi r}$-1.83±.05; Best double couple: $M_0$1.87400×10^{17} NP1:ϕ_s153.00000°,δ7.00000°,λ-118.00000°. NP2: ϕ_s1.00000°,δ84.00000°,λ-87.00000°. Principal axes: T 1.9210, Plg39.0000°, Azm89.0000°; N -0.0940, Plg3.0000°, Azm181.0000°; P -1.8280, Plg51.0000°, Azm275.0000°; nsta1 refers to body waves, cutoff=40s.*

*IDC **13** 03:36:15.2±0.5, 21.61S×179.26W, h603km±5km, mb4.3/30, mb1 4.4/33, mb1mx4.4/33, mbtmp4.3/33 Error ellipse: s-maj=8.7km s-min=7.1km az=170.0*

ISC 13 03:36:15.5±0.1, **21.77S**±0.03×**179.21W**±0.03, **h606**km, **h606**km±1.1km**:pP-P, n727, σ0.65**/579, **mb4.9**/101, **144C-140D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
RAO	Raoul Island	7.54	171	P	P	03 38 10.2	-0.4
	99nm,0.3s,baz=90,slow=19,SNR=4.2						
RAO				S	S	03 39 43.7	-1.2
	120nm,0.3s,baz=104,slow=23,SNR=11						
AFI	Afiamalu	10.54	43	eP	P	03 38 33.6	-6.2
AFI				eS	S	03 40 22.4	-16
AFI				pmax	pmax		
	comp=Z,383nm,0.8s						
AFI	Afiamalu	10.54	43	eP	P	03 38 33.6	-6.2
	comp=Z,383nm,0.8s						
AFI				eS	S	03 40 22.4	-16
MKAZ	Moumakai	16.05	196	P	P	03 39 35.5	+2.7
MKAZ	Moumakai	16.05	196	PN	P	03 39 35.2	+2.4
PUZ	Puketiti	16.40	187	PN	P	03 39 36.3	+0.3
TOZ	Tahuroa Road	16.55	195	P	P	03 39 40.5	+3.1
TOZ	Tahuroa Road	16.55	195	PN	P	03 39 40.5	+3.0
URZ	Urewera	16.74	190	P	P	03 39 38.3	-0.8
URZ	Urewera	16.74	190	P	P	03 39 38.3	-0.8
	comp=Z,35nm,0.3s,baz=259,slow=2.6,SNR=125						
URZ				S	S	03 42 21.0	-3.8
	comp=Z,3.4nm,0.3s,baz=193,slow=22,SNR=9.6						
URZ	Urewera	16.74	190	PN	P	03 39 37.5	-1.6
MWZ	Matawai	16.75	189	P	P	03 39 37.9	-1.3
MWZ	Matawai	16.75	189	PN	P	03 39 37.8	-1.4
BKZ	Black Stump Fm	17.73	191	P	P	03 39 47.3	-0.8
BKZ	Black Stump Fm	17.73	191	PN	P	03 39 46.4	-1.8
TUVZ	Tukino	17.99	193	P	P	03 39 50.6	+0.1
TUVZ	Tukino	17.99	193	PN	P	03 39 50.6	+0.1
FWVZ	Far West T-bar	18.00	193	P	P	03 39 51.2	+0.6
FWVZ	Far West T-bar	18.00	193	PN	P	03 39 51.2	+0.6
WNVZ	Wahianoa	18.06	193	P	P	03 39 51.6	+0.5
WNVZ	Wahianoa	18.06	193	PN	P	03 39 51.4	+0.3
RAR	Rarotonga	18.10	92	P	P	03 39 50.7	-1.1
	comp=Z,4.6nm,0.3s,baz=247,slow=6.9,SNR=28						
PXZ	Pawanui	18.51	190	ePN	P	03 39 55.0	-0.3
BFZ	Birch Farm	19.25	191	P	P	03 40 01.3	-0.6
BFZ	Birch Farm	19.25	191	ePN	P	03 40 00.8	-1.1
MRZ	Mangatainoka R	19.35	192	P	P	03 40 01.2	-1.6
MRZ	Mangatainoka R	19.35	192	ePN	P	03 40 00.9	-1.9
HOWZ	Holdsworth Sta	19.59	192	ePN	P	03 40 04.2	-0.8
KIW	Kapiti Island	19.68	193	P	P	03 40 06.1	+0.3
KIW	Kapiti Island	19.68	193	ePN	P	03 40 05.4	-0.4
MTW	Mount Morrison	19.84	192	P	P	03 40 06.8	-0.5
MTW	Mount Morrison	19.84	192	ePN	P	03 40 06.5	-0.8
DUWZ	D'Urville Isla	19.85	196	ePN	P	03 40 07.8	+0.4
CAW	Cannon Point	19.88	193	P	P	03 40 07.2	-0.4
CAW	Cannon Point	19.88	193	ePN	P	03 40 07.0	-0.6
MRW	Makara Radio	20.07	193	P	P	03 40 09.4	0.0
MRW	Makara Radio	20.07	193	ePN	P	03 40 09.3	-0.1
SNZO	South Karori	20.15	193	P	P	03 40 09.9	-0.2
SNZO	South Karori	20.15	193	ePN	P	03 40 09.9	-0.2
TCW	Tory Channel	20.15	194	P	P	03 40 10.0	-0.1
TCW	Tory Channel	20.15	194	ePN	P	03 40 09.6	-0.5
QRZ	Quartz Range	20.25	198	ePN	P	03 40 11.9	+0.9
NNZ	Nelson	20.38	196	P	P	03 40 12.6	+0.5
NNZ	Nelson	20.38	196	ePN	P	03 40 11.7	-0.4
TUWZ	Tuamarina	20.44	195	ePN	P	03 40 11.8	-0.8
BSWZ	Blackbirch Sta	20.72	195	P	P	03 40 15.8	+0.6
BSWZ	Blackbirch Sta	20.72	195	ePN	P	03 40 15.7	+0.5
THZ	Tophouse	21.01	197	P	P	03 40 17.7	-0.1
THZ				S	S	03 43 30.4	-2.7
THZ	Tophouse	21.01	197	ePN	P	03 40 17.6	-0.2
THZ				SN	S	03 43 30.4	-2.7
DSZ	Denniston Nort	21.31	199	P	P	03 40 21.8	+1.4
DSZ				S	S	03 43 34.9	-2.8
DSZ	Denniston Nort	21.31	199	ePN	P	03 40 21.5	+1.0
DSZ				SN	S	03 43 34.9	-2.8
KHZ	Kahutara	21.47	195	P	P	03 40 21.8	-0.1
KHZ	Kahutara	21.47	195	PN	P	03 40 21.1	-0.8
LTZ	Lake Taylor	22.13	197	P	P	03 40 26.7	-1.1
LTZ				S	S	03 43 47.7	-3.0
LTZ	Lake Taylor	22.13	197	PN	P	03 40 26.7	-1.0
LTZ				SN	S	03 43 47.7	-3.0
WVZ	Waitaha Valley	22.84	199	P	P	03 40 34.5	+0.4
WVZ	Waitaha Valley	22.84	199	PN	P	03 40 34.3	+0.2
RPZ	Rata Peaks	23.34	198	P	P	03 40 39.5	+1.1
	comp=Z,19nm,0.4s,mb5.1,baz=14,slow=5.3,SNR=27						
HNR	Honiara	23.48	298	eP	P	03 40 38.0	-2.2
HNR				pmax	pmax		
	comp=Z,176nm,0.9s,mb5.7						
HNR	Honiara	23.48	298	eP	P	03 40 38.0	-2.2
	comp=Z,176nm,0.9s,mb5.7						
HNR	Honiara	23.48	298	P	P	03 40 38.3	-1.9
	comp=Z,106nm,0.4s,mb5.8,baz=114,slow=3.8,SNR=9.3						
FOZ	Fox Glacier	23.62	200	P	P	03 40 40.3	-0.6
FOZ	Fox Glacier	23.62	200	ePN	P	03 40 40.1	-0.8
LBZ	Lake Benmore	24.20	199	P	P	03 40 45.6	-0.5
LBZ	Lake Benmore	24.20	199	PN	P	03 40 45.5	-0.6
JCZ	Jackson Bay	24.38	201	P	P	03 40 48.9	+1.3
JCZ	Jackson Bay	24.38	201	ePN	P	03 40 48.1	+0.4
WHZ	Wether Hill Ro	26.26	201	P	P	03 41 05.1	+1.0
WHZ	Wether Hill Ro	26.26	201	PN	P	03 41 04.9	+0.8
EIDS	Eidsvold	27.44	257	eP	P	03 41 15.5	+0.7
	comp=Z,42nm,0.6s,mb5.2						
ARMA	Armidale	27.51	246	eP	P	03 41 17.0	+1.7
PAE	Paea	28.17	87	eP	P	03 41 20.1	-1.2
	comp=Z,130nm,1.2s,mb5.4						
PAE				epP		03 42 47.2	
	comp=Z,436nm,2.0s						
PPT	Papeete	28.20	87	eP	P	03 41 20.6	-0.9
	comp=Z,114nm,1.6s,mb5.3						
PPT				epP		03 42 47.7	
	comp=Z,138nm,1.8s						
PPT	Papeete	28.20	87	P	P	03 41 20.6	-0.9
	comp=Z,56nm,0.8s,mb5.2,baz=233,slow=2.4,SNR=11						
TVO	Taravao	28.45	87	eP	P	03 41 22.6	-1.1
	comp=Z,132nm,0.7s,mb5.7						
TVO				epP		03 42 49.0	
	comp=Z,316nm,1.7s						
RIV	Riverview	28.73	239	eP	P	03 41 27.9	+2.0
MEH	Mehetia	29.53	88	eP	P	03 41 32.2	-0.8
	comp=Z,125nm,1.2s,mb5.4						
PMOR	Pomariorio Ree	30.43	83	eP	P	03 41 39.6	-1.2
	comp=Z,224nm,0.9s,mb5.8						
PMOR				epP		03 43 07.1	
	comp=Z,276nm,1.9s						
PMOR				eScP	ScP	03 47 07.9	+1.3
	comp=Z,59nm,1.0s						
CNB	Canberra Magne	30.59	237	eP	P	03 41 43.3	+1.5
	comp=Z,90nm,0.6s,mb5.6						
CNB				eSCP	ScP	03 47 10.7	+3.9
CTA	Charters Tower	32.26	267	eP	P	03 41 56.4	+0.1
	comp=Z,118nm,0.4s,mb5.9						
CTA				eS	S	03 46 23.1	-5.4
CTA				eSCP	ScP	03 47 15.9	+3.1
CTA	Charters Tower	32.26	267	eP	P	03 41 56.4	+0.1
CTA				eS	S	03 46 23.1	-5.4
CTA				pmax	pmax		
	comp=Z,118nm,0.4s						
CTA	Charters Tower	32.26	267	P	P	03 41 56.5	+0.3
	comp=Z,136nm,0.4s,mb5.9,baz=92,slow=10,SNR=352						
CTA				ScP	ScP	03 47 15.9	+3.2
	comp=Z,18nm,1.0s,baz=22,slow=0.7,SNR=6.2						
CTAO	Charters Tower	32.26	267	eP	P	03 41 56.3	0.0
CTAO				pmax	pmax		
	comp=Z,140nm,0.5s,mb5.8						
CTAO	Charters Tower	32.26	267	eP	P	03 41 56.3	+0.1
	comp=Z,140nm,0.5s,mb5.8						
CTAO				eScP	ScP	03 47 15.7	+3.0
TAU	Tasmania Unive	34.93	225	eP	P	03 42 19.1	+0.9
TAU				pmax	pmax		
	comp=Z,23nm,0.6s,mb5.0						
TAU	Tasmania Unive	34.93	225	eP	P	03 42 19.1	+0.8
	comp=Z,23nm,0.6s,mb5.0						
STKA	Stephens Creek	36.23	245	eP	P	03 42 29.9	+0.8
	comp=Z,51nm,0.4s,mb5.4						
STKA				eS	S	03 47 26.6	-1.1
STKA	Stephens Creek	36.23	245	P	P	03 42 30.1	+1.0
	comp=Z,59nm,0.5s,mb5.4,baz=90,slow=9.3,SNR=275						
STKA				S	S	03 47 28.2	+0.5
	comp=Z,8.5nm,0.9s,baz=328,slow=9.0,SNR=5.2						
TAOE	Nuku Hiva Isla	39.68	77	eP	P	03 42 55.8	-1.4
	comp=Z,11µm,1.0s						
RKT	Rikitea	40.80	101	eP	P	03 43 05.6	-0.4
	comp=Z,170nm,1.3s,mb5.4						
RKT	Rikitea	40.80	101	eP	P	03 43 05.6	-0.4
RKT				pmax	pmax		
	comp=Z,170nm,1.3s,mb5.4						
ASAR	Alice Springs	43.14	258	P	P	03 43 24.4	+0.1
	comp=Z,116nm,0.5s,mb5.7,baz=91,slow=7.9,SNR=1989						
ASAR				ScP	ScP	03 47 57.5	+3.3
	comp=Z,11nm,0.9s,baz=109,slow=3.9,SNR=18						
ASAR				S	S	03 49 07.2	-1.1
	comp=Z,12nm,0.8s,baz=93,slow=14,SNR=24						
WB2	Warramunga Arr	43.31	264	eP	P	03 43 24.9	-0.8
WB2				eSCP	ScP	03 47 58.1	+3.1
WB2				eS	S	03 49 06.9	-3.8
WRAB	Tennant Creek	43.31	264	eP	P	03 43 24.9	-0.8
WRAB				pmax	pmax		
	comp=Z,152nm,0.9s,mb5.5						
WRAB	Tennant Creek	43.31	264	eP	P	03 43 24.9	-0.8
	comp=Z,152nm,0.9s,mb5.5						
WRA	Warramunga Arr	43.32	264	P	P	03 43 24.9	-0.9
WRA						03 45 01.1	
WRA				S	S	03 49 09.4	-1.5
WRA	Warramunga Arr	43.32	264	P	P	03 43 24.9	-0.9
	comp=Z,109nm,0.7s,mb5.5,baz=97,slow=7.3,SNR=1282						
WRA				PcP	PcP	03 45 01.1	+0.6
	comp=Z,2.6nm,0.4s,baz=94,slow=3.8,SNR=5.3						
WRA				ScP	ScP	03 47 58.6	+3.6
	comp=Z,14nm,1.1s,baz=95,slow=4.2,SNR=15						
WRA				S	S	03 49 09.4	-1.5
	comp=Z,8.0nm,0.9s,baz=97,slow=13,SNR=13						
KAKA	Kakadu	46.89	273	eP	P	03 43 52.0	-1.0
	comp=Z,141nm,0.4s,mb5.8						
KAKA				eSCP	ScP	03 48 12.2	+2.3
KAKA				eS	S	03 50 00.7	-0.1
FORT	Forrest	47.76	248	eP	P	03 43 59.1	-0.2
	comp=Z,111nm,0.4s,mb5.7						
FORT				eSCP	ScP	03 48 15.9	+2.5
FORT				eS	S	03 49 50.1	-22
GUMO	Guam	49.77	312	P	P	03 44 13.5	-0.7
	comp=Z,61nm,0.4s,mb5.4,baz=196,slow=22,SNR=6.9						
FITZ	Fitzroy Crossi	51.75	264	eP	P	03 44 28.4	-0.2
	comp=Z,49nm,0.3s,mb5.3						
FITZ				eS	S	03 51 06.8	+0.1
FITZ	Fitzroy Crossi	51.75	264	S	S	03 51 07.2	+0.5
	comp=Z,4.6nm,1.1s,baz=258,slow=19,SNR=5.4						
MBWA	Marble Bar	56.48	258	eP	P	03 45 00.9	-0.8
	comp=Z,121nm,0.5s,mb5.4						
KLBR	Kellerberrin	56.50	246	eP	P	03 45 01.9	+0.2
	comp=Z,37nm,0.4s,mb5.0						
SBA	Scott Base	56.54	184	eP	P	03 45 04.9	+3.8
SBA				pmax	pmax		
	comp=Z,93nm,1.3s,mb4.8						
SBA	Scott Base	56.54	184	eP	P	03 45 04.9	+3.8
	comp=Z,93nm,1.3s,mb4.9						
NWAO	Narrogin (SRO)	56.80	244	eP	P	03 45 03.9	+0.2
NWAO				pmax	pmax		
	comp=Z,25nm,0.8s						
NWAO	Narrogin (SRO)	56.80	244	eP	P	03 45 03.9	+0.3
	comp=Z,25nm,0.8s,mb4.5						
MUN	Mundaring	57.76	245	eP	P	03 45 10.6	+0.4
CBIJ	Chichi jima	61.28	321	P	P	03 45 32.2	-1.3
	comp=Z,61nm,0.4s,mb5.2,baz=294,slow=20,SNR=7.8						
KAPI	Kappang	61.28	276	P	P	03 45 32.6	-1.3
	baz=146,slow=3.8						
CASY	Casey	62.34	205	eP	P	03 45 41.0	+1.3
MYLDM	Lahad Datu	66.58	286	⇑P	P	03 46 08.9	+1.5
TSM	Tawau	66.76	285	⇑P	P	03 46 09.0	+0.5
JHJ	Hachijo jima 2	67.16	323	P	P	03 46 09.4	-1.0
	comp=Z,63nm,0.4s,mb5.4,baz=68,slow=20,SNR=4.8						
SDKM	Sandakan	67.95	286	⇓P	P	03 46 16.5	+0.8
QSPA	South Pole Qui	68.31	180	eP	P	03 46 18.3	+1.6
	comp=Z,33nm,0.5s,mb5.0						
QSPA	South Pole Qui	68.31	180	P	P	03 46 18.9	+2.2
	comp=Z,36nm,0.7s,mb4.9,baz=37,slow=1.6,SNR=178						
KKM	Kota Kinabalu	69.00	286	eP	P	03 46 21.8	-0.3
KKM	Kota Kinabalu	69.00	286	⇓P	P	03 46 22.1	+0.1
JOW	Kunigami	70.12	311	P	P	03 46 28.1	-0.3
	comp=Z,21nm,0.5s,mb4.9,baz=134,slow=7.9,SNR=13						
MJAR	Matsushiro Arr	70.57	325	P	P	03 46 29.6	-1.3
	comp=Z,14nm,0.8s,mb4.5,baz=153,slow=5.3,SNR=40						
MJAR				pP	pP	03 48 32.0	-1.4
	comp=Z,5.5nm,1.2s,baz=125,slow=7.6,SNR=2.0						
MAJO	Matsushiro	70.57	325	eP	P	03 46 29.4	-1.4
MAJO				pmax	pmax		
	comp=Z,23nm,1.0s,mb4.7						
MAJO	Matsushiro	70.57	325	eP	P	03 46 29.4	-1.4
	comp=Z,23nm,1.0s,mb4.7						
MAT	Matsushiro	70.57	325	P	P	03 46 29.6	-1.2
MAT				eS	S	03 54 56.0	-1.3
BTM	Bintulu	70.63	282	⇓P	P	03 46 32.5	+0.8
SBUM	Sibu	71.11	281	⇓P	P	03 46 35.2	+0.6
JNU	Nakatsue	72.43	318	P	P	03 46 40.9	-0.9
	comp=Z,37nm,1.1s,mb4.8,baz=17,slow=9.9,SNR=6.8						
KSM	Kuching	72.48	279	eP	P	03 46 42.0	-0.4
KSM	Kuching	72.48	279	⇓P	P	03 46 42.7	+0.2
ASAJ	Asahikawa	74.31	332	P	P	03 46 52.7	+0.6
	comp=Z,16nm,0.7s,mb4.6,baz=212,slow=8.7,SNR=14						
QZH	Quanzhou	76.17	304	⇑iP	P	03 47 03.3	+0.4
QZH				AMB	AMB		
	comp=Z,120nm,1.0s,mb5.3						
YSS	Yuzh-Sakhalins	76.53	334	⇑eP	P	03 47 04.0	-0.3
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb4.8						
YSS	Yuzh-Sakhalins	76.53	334	eP	P	03 47 04.0	-0.3
	comp=Z,21nm,0.9s,mb4.6						
PET	Petropavlovsk	76.92	346	eP	P	03 47 02.5	-3.8
PET				eS	S	03 56 04.1	-1.7
PET				eSS	SS	04 01 20.2	-0.9
PET				eSSS		04 04 41.5	
PET				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.3						
KSRS	Korea Array	77.09	319	P	P	03 47 07.8	+0.2
	comp=Z,5.2nm,0.9s,mb3.9,baz=144,slow=6.8,SNR=14						
MYKOM	Kota Tinggi	78.55	277	⇑P	P	03 47 17.0	+1.0
KGM	Kluang	79.12	277	⇑P	P	03 47 19.8	+0.7
HAST	Hastings Reser	79.43	44	⇑P	P	03 47 20.7	+0.6
	baz=80						
NJ2	Nanjing	79.82	310	eP	P	03 47 21.3	-1.0
NJ2				PCP	PcP	03 47 27.6	+0.1
NJ2				PP	PP	03 50 36.5	+1.0
NJ2				S	S	03 56 33.0	-3.9
NJ2				AMB	AMB		
	comp=Z,70nm,1.3s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,240nm,9.9s						
PACP	Pacheco Peak	79.97	44	⇑P	P	03 47 23.5	+0.6
	baz=80						
MAW	Mawson	79.99	200	eP	P	03 47 24.3	+1.7
	comp=Z,5.4nm,0.5s,mb4.1						
MAW	Mawson	79.99	200	eP	P	03 47 24.3	+1.7
MAW				pmax	pmax		
	comp=Z,5.0nm,0.5s						
MAW	Mawson	79.99	200	P	P	03 47 24.6	+2.0
	comp=Z,5.9nm,0.5s,mb4.2,baz=128,slow=4.3,SNR=20						
WENL	Wente Brothers	80.04	43	⇑P	P	03 47 23.5	+0.2
	baz=80						
P01C	Double 8 Ranch	80.20	41	⇑P	P	03 47 24.5	+0.5
	baz=80						
S04C	Ingram Canyon,	80.24	43	⇓P	P	03 47 24.7	+0.4
	baz=80,SNR=6.9						
T05C	Eagle Field, D	80.30	44	⇑P	P	03 47 25.5	+0.9
	baz=80						
O01C	Eel River Cons	80.33	40	⇑P	P	03 47 25.6	+0.9
	baz=80,SNR=8.2						
MNRC	McLaughlin Nat	80.38	41	⇑P	P	03 47 25.5	+0.5
	baz=80,SNR=15						
109C	Camp Elliot, M	80.41	49	⇑P	P	03 47 25.3	0.0
	baz=80						
ARVC	Arvin	80.48	46	⇓P	P	03 47 25.9	+0.2
	baz=80,SNR=6.0						
Q03C	Winters	80.49	42	⇑P	P	03 47 26.4	+0.8
	baz=80						
KTGM	Kuala Trenggan	80.57	280	⇑P	P	03 47 28.0	+1.4
PMSA	Palmer Station	80.58	157	eP	P	03 47 27.2	+1.6
	comp=Z,241nm,1.4s,mb5.4						
GASB	Alder Springs	80.69	41	⇓P	P	03 47 27.7	+1.1
	baz=81,SNR=13						
VES	Vestal, Richgr	80.72	46	⇑P	P	03 47 26.4	-0.5
	baz=81,SNR=7.6						
MURC	Murrieta	80.73	48	⇓P	P	03 47 27.0	0.0
	baz=81,SNR=8.8						
BFSC	Mount Baldy St	80.77	48	⇑P	P	03 47 27.0	-0.2
	baz=81,SNR=5.1						
S05C	Merced	80.78	44	⇓P	P	03 47 27.1	0.0
	baz=81						
RCTC	Rector, Farmer	80.89	45	⇑P	P	03 47 27.6	-0.1
	baz=81						
MONP	Monument Peak	80.89	49	⇑P	P	03 47 28.2	+0.5
	baz=81,SNR=11						
EDW2	Edwards Air Fo	80.91	47	⇑P	P	03 47 28.0	+0.1
	baz=81,SNR=13						
MDJ	Mudanjiang	80.91	326	P	P	03 47 27.8	+0.2
MDJ				PP	PP	03 50 42.8	-1.3
MDJ				S	S	03 56 49.4	+2.1
MDJ				AMB	AMB		
	comp=Z,19nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,45nm,3.0s						
O02C	Red Bluff	80.97	40	⇓P	P	03 47 29.0	+1.0
	baz=81,SNR=19						
T06C	Millerton Lake	80.99	44	⇓P	P	03 47 28.0	-0.2
	baz=81,SNR=22						
DVTC	Desert V Tower	80.99	50	⇓P	P	03 47 28.8	+0.5
	baz=81						
HABR	Khabarovsk	80.99	331	eP	P	03 47 27.2	-0.7
HABR				e		03 50 39.3	
HABR				eS	S	03 56 47.8	-0.1
HABR				eSS	SS	04 02 18.8	-2.7
HABR				pmax	pmax		
	comp=Z,89nm,1.6s,mb5.0						
SUTB	Sutter Butte	81.00	42	⇑P	P	03 47 27.8	-0.3
	baz=81						
Q04C	Lincoln	81.01	42	⇑P	P	03 47 28.4	+0.1
	baz=81						
N02C	Big Bar	81.06	40	⇓P	P	03 47 29.1	+0.6
	baz=81,SNR=8.6						
KRMB	Red Mountain	81.15	39	eP	P	03 47 29.4	+0.5
FRIM	Kepong	81.15	277	⇓P	P	03 47 30.0	+0.4
CMB	Columbia Colle	81.16	43	eP	P	03 47 28.3	-0.7
CMB				pmax	pmax		
	comp=Z,52nm,1.4s,mb4.8						
CMB	Columbia Colle	81.16	43	eP	P	03 47 28.3	-0.7
	comp=Z,52nm,1.4s,mb4.8						
CMB	Columbia Colle	81.16	43	⇓P	P	03 47 29.0	0.0
	baz=81,SNR=16						
HELL	Mitchell Peak	81.24	45	⇑P	P	03 47 29.2	-0.3
	baz=81,SNR=15						
PFO	Pinyon Flat Ob	81.26	49	eP	P	03 47 28.7	-0.9
PFO				pmax	pmax		
	comp=Z,129nm,2.2s,mb5.0						
PFO	Pinyon Flat Ob	81.26	49	eP	P	03 47 28.7	-1.0
	comp=Z,129nm,2.2s,mb5.0						
PFO	Pinyon Flat Ob	81.26	49	P	P	03 47 29.1	-0.6
	comp=Z,6.3nm,0.8s,mb4.1,baz=234,slow=3.7,SNR=7.9						
PFO	Pinyon Flat Ob	81.26	49	⇑P	P	03 47 29.5	-0.1
	baz=81						
O03C	Acorn Hollow,	81.31	41	P	P	03 47 30.0	+0.2
	baz=81,SNR=8.6						
SWSC	Sam W. Stewart	81.36	50	⇓P	P	03 47 30.4	+0.2
	baz=81,SNR=8.9						
LAVA	Lava Cap Winer	81.36	42	⇑P	P	03 47 29.8	-0.3
	baz=81,SNR=5.9						
KSXB	Camp Six Broad	81.36	38	P	P	03 47 30.9	+0.9
WDC	Whiskeytown Da	81.37	40	eP	P	03 47 30.2	+0.2
WDC				pmax	pmax		
	comp=Z,65nm,1.3s,mb4.9						
WDC	Whiskeytown Da	81.37	40	eP	P	03 47 30.2	+0.2
	comp=Z,65nm,1.3s,mb4.9						
WDC	Whiskeytown Da	81.37	40	⇓P	P	03 47 30.3	+0.3
	baz=81,SNR=22						
ORV	Oroville	81.37	41	P	P	03 47 30.2	+0.2
	baz=81,SNR=16						
S06C	San Francisco	81.41	44	⇑P	P	03 47 30.3	0.0
	baz=82						
KCC	Kaiser Creek	81.42	44	P	P	03 47 30.3	-0.1
	baz=82,SNR=13						
LRMC	Laurel Mountai	81.45	47	⇓P	P	03 47 30.7	+0.1
	baz=82,SNR=6.3						
RRX	Edison Barstow	81.58	47	⇑P	P	03 47 31.8	+0.6
	baz=82						
K01A	Sixes	81.65	37	⇓P	P	03 47 31.4	0.0
	baz=82						
M02C	Callahan	81.68	39	P	P	03 47 32.6	+0.9
	baz=82,SNR=23						
KTRM	Thompson Ridge	81.70	39	P	P	03 47 32.8	+1.1
CWC	Cottonwood Cre	81.73	46	P	P	03 47 32.0	0.0
	baz=82,SNR=8.4						
L02A	Cave Junction	81.73	38	⇑P	P	03 47 32.6	+0.7
	baz=82						
R05C	Kirkwood Meado	81.75	43	⇑P	P	03 47 32.4	+0.4
	baz=82,SNR=19						
P05C	Yuba Gap, Truc	81.77	42	⇑P	P	03 47 32.5	+0.4
	baz=82,SNR=19						
BELC	Belle Mtn.	81.79	49	⇓P	P	03 47 32.8	+0.5
	baz=82,SNR=15						
MPMC	Manual Prospec	81.91	46	⇑P	P	03 47 32.6	-0.2
	baz=82,SNR=21						
MTUM	Tungsten Hills	81.93	45	eP	P	03 47 32.8	-0.2
GSC	Goldstone	81.95	47	eP	P	03 47 32.4	-0.7
GSC				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.7						
GSC	Goldstone	81.95	47	eP	P	03 47 32.4	-0.7
	comp=Z,30nm,1.2s,mb4.7						
GSC	Goldstone	81.95	47	⇓P	P	03 47 33.0	-0.1
	baz=82,SNR=14						
O05C	Quincy	81.97	41	⇓P	P	03 47 33.4	+0.3
	baz=82,SNR=10						
YBH	Yreka Blue Hor	81.98	39	P	P	03 47 32.9	-0.2
	comp=Z,17nm,0.8s,mb4.6,baz=192,slow=0.3,SNR=28						
YBH	Yreka Blue Hor	81.98	39	⇑P	P	03 47 33.9	+0.8
	baz=82,SNR=21						
TIN	Tinemaha	81.98	45	P	P	03 47 33.8	+0.5
	baz=82,SNR=8.9						
BC3	Big Chuckw Mtn	81.98	49	⇓P	P	03 47 33.9	+0.6
	baz=82,SNR=12						
112A	Yuma	82.01	50	⇑P	P	03 47 34.3	+0.8
	baz=82,SNR=12						
HEC	Hector,Ludlow	82.01	48	⇑P	P	03 47 33.6	+0.1
	baz=82,SNR=11						
R06C	Coleville	82.04	43	⇑P	P	03 47 33.9	+0.4
	baz=82,SNR=13						
M03C	McCloud	82.04	40	⇑P	P	03 47 33.9	+0.4
	baz=82,SNR=17						
O04C	Chester	82.09	41	⇓P	P	03 47 34.0	+0.3
	baz=82,SNR=11						
GLA	Glamis	82.10	50	eP	P	03 47 34.6	+0.6
GLA				pmax	pmax		
	comp=Z,138nm,1.5s,mb5.3						
GLA	Glamis	82.10	50	eP	P	03 47 34.6	+0.7
	comp=Z,138nm,1.5s,mb5.3						
GLA	Glamis	82.10	50	⇓P	P	03 47 34.8	+0.8
	baz=82,SNR=12						
HATC	Hat Creek Radi	82.16	40	⇓P	P	03 47 34.5	+0.5
	baz=82,SNR=16						
IPM	Ipoh	82.18	278	⇓P	P	03 47 35.6	+0.8
K02A	Glendale	82.18	38	⇓P	P	03 47 34.4	+0.3
	baz=82,SNR=6.1						

LHEM	Herd Peak	82.20	39	⇓P		P	03 47 34.8	+0.6
LBCM	Butte Creek Ri	82.24	40	P		P	03 47 34.5	+0.1
BEKR	Beckwourth	82.26	42	⇑P		P	03 47 34.0	-0.6
	baz=82,SNR=21							
S08C	White Mtn Res	82.27	45	P		P	03 47 35.4	+0.7
	baz=82,SNR=33							
WHN	Wuhan	82.29	307	⇓P		P	03 47 35.0	0.0
WCN	Washoe City	82.30	42	⇓P		P	03 47 34.4	-0.4
	baz=82,SNR=12							
HUMO	Hull Mountain	82.38	38	eP		P	03 47 35.5	+0.3
	comp=Z,63nm,1.3s,mb5.0							
HUMO	Hull Mountain	82.38	38	⇑P		P	03 47 34.9	-0.3
	baz=82,SNR=17							
P06A	Stead Airport,	82.44	42	⇑P		P	03 47 35.9	+0.5
	baz=82,SNR=5.5							
GMRC	Granite Mounta	82.45	48	⇓P		P	03 47 35.9	+0.2
	baz=82,SNR=12							
IRM	Iron Mountain	82.47	49	⇑P		P	03 47 35.6	-0.2
	baz=82,SNR=22							
J02A	Umpqua	82.51	37	⇑P		P	03 47 36.0	+0.2
	baz=83,SNR=7.4							
GRAC	Grapevine Rang	82.52	45	⇑P		P	03 47 36.3	+0.3
	baz=83,SNR=7.4							
M04C	Macdoel	82.52	39	⇓P		P	03 47 36.3	+0.4
	baz=83,SNR=8.2							
FURC	Furnace Creek,	82.56	46	⇓P		P	03 47 36.1	0.0
	baz=83							
LASM	Arnica Sink	82.57	40	P		P	03 47 36.6	+0.6
BUOR	Burton Butte	82.59	39	P		P	03 47 36.6	+0.4
CN2	Changchun	82.62	323	eP		P	03 47 36.0	-0.3
CN2				eAP		pP	03 49 44.1	-0.2
CN2				AMB		AMB		
	comp=Z,40nm,1.2s,mb4.8							
TUQ	Turquoise Mtn.	82.62	47	⇑P		P	03 47 36.7	+0.2
	baz=83,SNR=12							
SHOC	Shoshone	82.63	47	⇑P		P	03 47 36.4	-0.2
	baz=83							
M05C	Lookout	82.68	40	⇑P		P	03 47 36.7	+0.1
	baz=83,SNR=11							
Y12C	Blythe	82.69	49	P		P	03 47 37.2	+0.3
	baz=83,SNR=13							
113A	Mohawk Valley,	82.71	51	⇓P		P	03 47 37.4	+0.3
	baz=83,SNR=23							
NVAR	Mina Array Bea	82.72	44	P		P	03 47 36.9	0.0
	comp=Z,16nm,0.8s,mb4.6,baz=225,slow=8.5,SNR=44							
NVAR				pP		pP	03 49 43.8	-1.2
	comp=Z,1.0nm,0.7s,baz=232,slow=8.6,SNR=4.2							
L04A	Klamath Falls	82.73	39	P		P	03 47 37.2	+0.4
	baz=83,SNR=8.0							
O06A	Flanigan	82.77	42	⇓P		P	03 47 37.4	+0.3
	baz=83,SNR=11							
I02A	Mapleton	82.77	37	⇑P		P	03 47 37.9	+0.8
	baz=83							
PAHR	Pah Rah Range	82.77	42	eP		P	03 47 37.0	-0.1
	comp=Z,39nm,1.1s,mb4.8							
R08A	Mina	82.80	44	⇑P		P	03 47 37.5	+0.2
	baz=83							
KULM	Kulim	82.83	279	eP		P	03 47 38.2	+0.1
KULM	Kulim	82.83	279	⇑P		P	03 47 39.1	+1.0
J03A	Ideyld Park	82.86	38	P		P	03 47 38.3	+0.8
	baz=83,SNR=5.9							
M06C	Likely Place G	82.99	41	⇑P		P	03 47 38.7	+0.5
	baz=83,SNR=6.5							
S09A	Goldfield	83.02	45	P		P	03 47 38.1	-0.4
	baz=83,SNR=7.6							
KLR	Kul'dur	83.05	330	eP		P	03 47 33.8	-4.5
KLR				pmax		pmax		
	comp=Z,56nm,1.8s,mb4.8							
I03A	Eugene	83.06	37	⇑P		P	03 47 38.8	+0.3
	baz=83							
N06A	Buffalo Meadow	83.11	41	⇑P		P	03 47 38.3	-0.5
	baz=83,SNR=15							
NEE2	Needles Airpor	83.16	49	⇑P		P	03 47 39.5	+0.2
	baz=83,SNR=5.4							
V11A	Goodsprings	83.18	47	P		P	03 47 39.2	-0.1
	baz=83,SNR=11							
Q08A	Gabbs	83.20	44	P		P	03 47 39.1	-0.2
	baz=83,SNR=19							
Y13A	Salome	83.21	50	P		P	03 47 40.1	+0.6
	baz=83,SNR=26							
TPNV	Topopah Spring	83.23	46	eP		P	03 47 39.4	-0.1
TPNV				pmax		pmax		
	comp=Z,23nm,1.0s,mb4.7							
TPNV	Topopah Spring	83.23	46	eP		P	03 47 39.4	-0.1
	comp=Z,22nm,1.0s,mb4.7							
TPNV	Topopah Spring	83.23	46	⇓P		P	03 47 39.7	+0.2
	baz=83,SNR=19							
PDMCI	Parker Dam,Lak	83.25	49	⇓P		P	03 47 40.1	+0.5
	baz=83,SNR=11							
J04A	Umpqua Nationa	83.26	38	⇓P		P	03 47 40.3	+0.8
	baz=83							
W12A	Cal Nev Ari	83.27	48	⇑P		P	03 47 40.1	+0.4
	baz=83							
L05A	Lakeview	83.28	40	P		P	03 47 40.5	+0.9
	baz=83,SNR=13							
O07A	Toulon	83.35	42	P		P	03 47 40.1	+0.1
	baz=83,SNR=16							
R09A	Tonopah	83.41	44	P		P	03 47 40.2	-0.1
	baz=84,SNR=13							
I04A	Tendick Farm,	83.44	38	⇓P		P	03 47 40.2	-0.2
	baz=84,SNR=6.6							
PSI	Prapat	83.48	276	P		P	03 47 40.8	-0.5
	comp=Z,13nm,0.6s,mb4.7,baz=205,slow=5.2,SNR=12							
H03A	Soap Creek Ran	83.50	36	⇓P		P	03 47 41.1	+0.4
	baz=84							
MOD	Modoc	83.51	40	eP		P	03 47 40.7	0.0
	comp=Z,14nm,1.0s,mb4.5							
MOD	Modoc	83.51	40	⇓P		P	03 47 41.1	+0.4
	baz=84							
V12A	Nelson	83.51	48	⇓P		P	03 47 41.1	+0.2
	baz=84,SNR=13							
HBO	Huckleberry Mo	83.52	38	P		P	03 47 41.5	+0.7
S10A	Tonopah Range,	83.54	45	⇑P		P	03 47 41.1	+0.1
	baz=84,SNR=42							
Z14A	Wintersburg	83.61	50	⇓P		P	03 47 42.2	+0.7
	baz=84,SNR=6.0							
X13A	Yucca	83.62	49	⇓P		P	03 47 41.7	+0.2
	baz=84,SNR=22							
K05A	Summer Lake	83.66	39	P		P	03 47 42.1	+0.7
	baz=84,SNR=17							
N07B	Gerlach	83.66	42	⇑P		P	03 47 41.7	+0.2
	baz=84							
USHA	Ushuaia	83.69	147	P		P	03 47 42.8	+1.2
	comp=Z,14nm,1.0s,mb4.4,baz=210,slow=10,SNR=3.7							
115A	Sonoran Desert	83.79	51	⇓P		P	03 47 42.7	+0.4
	baz=84,SNR=11							
J05A	Fort Rock	83.80	39	⇑P		P	03 47 42.8	+0.6
	baz=84,SNR=29							
W13A	Hualapai Mount	83.85	49	⇑P		P	03 47 43.1	+0.5
	baz=84,SNR=20							
Y14A	Wickenburg	83.86	50	P		P	03 47 42.7	0.0
	baz=84,SNR=19							
M07A	Soldier Meadow	83.89	41	⇓P		P	03 47 42.8	+0.1
	baz=84							
WIFE	Three Sisters-	83.94	38	P		P	03 47 43.5	+0.7
R10A	Warm Springs	83.94	45	⇓P		P	03 47 42.8	-0.2
	baz=84,SNR=19							
S11A	Rachel	83.95	46	⇑P		P	03 47 43.1	+0.1
	baz=84,SNR=6.0							
216A	Three Points,	84.00	52	⇑P		P	03 47 44.0	+0.6
	baz=84,SNR=11							
K06A	Valley Falls	84.08	39	⇑P		P	03 47 43.6	0.0
	baz=84,SNR=10.0							
T11A	Corn Creek, Al	84.08	46	⇑P		P	03 47 43.6	-0.1
	baz=84							
116A	Eloy	84.10	52	⇑P		P	03 47 43.8	-0.1
	baz=84,SNR=14							
U12A	Valley of Fire	84.11	47	⇓P		P	03 47 44.0	+0.2
	baz=84,SNR=8.6							
H04A	Detroit Lake	84.11	37	P		P	03 47 43.4	-0.3
	baz=84,SNR=6.7							
L07A	Adell	84.16	40	⇓P		P	03 47 43.5	-0.4
	baz=84,SNR=16							
Q10A	Clear Creek Ra	84.17	44	⇑P		P	03 47 43.7	-0.4
	baz=84,SNR=9.1							
N08A	GE Springer Mi	84.17	42	P		P	03 47 44.0	-0.1
	baz=84,SNR=8.3							
V13A	Grand Canyon W	84.18	48	⇑P		P	03 47 44.2	0.0
	baz=84,SNR=26							
X14A	Yava	84.22	50	⇓P		P	03 47 44.8	+0.4
	baz=84,SNR=16							
I05A	Bend	84.31	38	⇓P		P	03 47 44.6	0.0
	baz=84,SNR=6.6							
Y15A	Casa Rosa Ranc	84.35	50	⇑P		P	03 47 45.4	+0.3
	baz=84,SNR=24							
217A	Green Valley	84.36	53	⇓P		P	03 47 45.6	+0.4
	baz=84,SNR=34							
J06A	Christmas Vall	84.41	39	P		P	03 47 44.8	-0.3
	baz=84,SNR=21							
M08A	Happy Creek Ra	84.41	41	⇑P		P	03 47 44.8	-0.4
	baz=84,SNR=8.4							
O09A	Fish Creek Ran	84.42	43	P		P	03 47 45.3	0.0
	baz=84,SNR=8.6							
R11A	Troy Canyon, C	84.44	45	⇓P		P	03 47 45.2	-0.2
	baz=84,SNR=6.2							
W14A	Seligman	84.47	49	⇑P		P	03 47 45.7	+0.1
	baz=84,SNR=28							
U13A	Pakoon Wash	84.49	47	P		P	03 47 45.6	-0.1
	baz=84,SNR=24							
S12A	Delamar Landin	84.53	46	⇑P		P	03 47 46.4	+0.5
	baz=85,SNR=8.9							
E03A	Lebam	84.53	35	⇑P		P	03 47 45.9	+0.3
	baz=85							
P10A	Eureka	84.57	44	⇑P		P	03 47 45.9	-0.1
	baz=85							
N09A	Rock Creek Ran	84.59	42	⇑P		P	03 47 46.0	-0.1
	baz=85							
K07A	Rock Creek Ran	84.61	40	⇓P		P	03 47 46.4	+0.2
	baz=85,SNR=18							
H05A	Madras	84.63	37	⇑P		P	03 47 46.4	+0.2
	baz=85							
TUC	Tucson	84.65	52	eP		P	03 47 46.6	0.0
TUC				pmax		pmax		
	comp=Z,31nm,1.2s,mb4.8							
TUC	Tucson	84.65	52	eP		P	03 47 46.6	0.0
	comp=Z,31nm,1.2s,mb4.8							
TUC				epP		pP	03 49 57.1	+1.7
Q11A	Duckwater	84.67	45	⇓P		P	03 47 46.1	-0.4
	baz=85,SNR=14							
V14A	Boquillas Ranc	84.67	48	⇓P		P	03 47 46.9	+0.3
	baz=85,SNR=26							
X15A	Humboldt	84.69	50	⇓P		P	03 47 47.0	+0.3
	baz=85,SNR=25							
Z16A	Peralta Trail,	84.69	51	⇓P		P	03 47 46.8	+0.1
	baz=85,SNR=7.1							
MA2	Magadan	84.71	345	⇑eP		P	03 47 45.2	-1.0
MA2				pmax		pmax		
	comp=Z,27nm,1.6s,mb4.6							
F04A	Amboy	84.76	36	⇓P		P	03 47 46.5	-0.2
	baz=85							
I06A	Prineville	84.79	38	⇓P		P	03 47 47.3	+0.3
	baz=85,SNR=22							
WISH	Wishkah	84.79	34	P		P	03 47 47.7	+0.8
318A	Bisbee	84.81	53	⇑P		P	03 47 47.7	+0.4
	baz=85,SNR=43							
117A	Oracle	84.81	52	⇑P		P	03 47 47.7	+0.3
	baz=85,SNR=21							
WVOR	Wild Horse Val	84.82	40	eP		P	03 47 46.3	-0.9
WVOR				pmax		pmax		
	comp=Z,15nm,1.2s,mb4.5							
WVOR	Wild Horse Val	84.82	40	eP		P	03 47 46.2	-0.9
	comp=Z,15nm,1.2s,mb4.5							
T13A	Saint George	84.85	47	⇓P		P	03 47 47.3	-0.1
	baz=85,SNR=11							
L08A	Fields	84.86	41	P		P	03 47 47.5	+0.1
	baz=85,SNR=13							
VIPM	Ingram Point	84.89	38	P		P	03 47 47.5	0.0
C03A	Quillayute Air	84.91	33	⇑P		P	03 47 47.7	+0.2
	baz=85							
NLWA	Neilton Lookou	84.91	34	⇑P		P	03 47 48.1	+0.6
	baz=85							
O10A	Cortez Mining,	84.92	43	⇓P		P	03 47 48.1	+0.4
	baz=85							
Y16A	Circle Bar Ran	84.92	51	P		P	03 47 48.3	+0.4
	baz=85,SNR=30							
M09A	Marrel Ranch,	84.97	42	⇓P		P	03 47 48.4	+0.5
	baz=85							
J07A	Hines	84.97	39	⇑P		P	03 47 48.1	+0.2
	baz=85							
P11A	Circle Ranch,	84.99	44	⇓P		P	03 47 48.2	+0.1
	baz=85							
W15A	Williams	85.02	49	⇓P		P	03 47 48.1	-0.2
	baz=85							
218A	Dragoon	85.03	53	P		P	03 47 49.3	+0.9
	baz=85,SNR=29							
U14A	Mt Trumbull	85.03	48	P		P	03 47 48.6	+0.3
	baz=85,SNR=29							
STD	Studebaker Rid	85.06	36	P		P	03 47 48.7	+0.5
R12A	Pony Springs,	85.08	45	P		P	03 47 48.5	0.0
	baz=85,SNR=9.3							
K08A	Mann Creek Ran	85.09	40	⇓P		P	03 47 48.3	-0.1
	baz=85,SNR=6.8							
TDL	Tradedollar La	85.14	36	P		P	03 47 49.5	+1.0
N10A	Dunphy	85.16	43	⇓P		P	03 47 48.9	+0.1
	baz=85							
L09A	Wilkinson Ranc	85.17	41	⇑P		P	03 47 48.9	0.0
	baz=85,SNR=6.6							
S13A	Holt Ranch, En	85.18	46	⇓P		P	03 47 49.0	0.0
	baz=85,SNR=7.1							
H06A	Lindquist Farm	85.19	38	P		P	03 47 48.9	0.0
	baz=85,SNR=15							
X16A	Lo Mia Camp, P	85.22	50	P		P	03 47 49.9	+0.6
	baz=85,SNR=26							
SYO	Syowa Base	85.25	193	⇑eP		P	03 47 47.2	-1.6
SYO	Syowa Base	85.25	193	⇑ePcP		PcP	03 47 51.2	+0.4
I07A	Izee	85.28	39	P		P	03 47 49.6	+0.3
	baz=85,SNR=16							
Y17A	Roosevelt	85.29	51	P		P	03 47 50.0	+0.4
	baz=85,SNR=9.5							
319A	Douglas	85.31	54	P		P	03 47 50.8	+1.0
	baz=85,SNR=33							
G06A	Carlson Farm,	85.32	37	⇓P		P	03 47 49.3	-0.2
	baz=85,SNR=5.6							
VTHM	Trough	85.33	37	P		P	03 47 50.2	+0.6
Z17A	San Carlos Hig	85.36	52	⇓P		P	03 47 49.4	-0.6
	baz=85							
O11A	Cowboy Ranch,	85.37	44	P		P	03 47 49.9	+0.1
	baz=85,SNR=11							
118A	Homack Ranch,	85.41	52	P		P	03 47 50.7	+0.5
	baz=86,SNR=26							
V15A	Kaibab Nationa	85.42	49	P		P	03 47 50.7	+0.5
	baz=86,SNR=18							
T14A	Hurricane	85.43	47	P		P	03 47 50.4	+0.2
	baz=86,SNR=11							
J08A	Circle Bar Ran	85.46	40	⇓P		P	03 47 49.9	-0.3
	baz=86,SNR=8.9							
CCUT	Cedar City	85.50	47	eP		P	03 47 50.8	+0.3
CCUT				epP		pP	03 50 01.3	+1.5
P12A	McGill	85.50	44	⇑P		P	03 47 50.2	-0.3
	baz=86,SNR=7.9							
W16A	Flagstaff	85.50	50	⇓P		P	03 47 50.5	-0.1
	baz=86,SNR=9.7							
E05A	Randle	85.51	36	⇓P		P	03 47 50.2	-0.2
	baz=86,SNR=6.6							
K09A	Rome	85.53	41	⇑P		P	03 47 50.5	0.0
	baz=86,SNR=22							
H07A	Lands Inn, Kim	85.55	38	⇑P		P	03 47 50.7	+0.1
	baz=86							
ARUT	Antelope Range	85.57	46	eP		P	03 47 50.7	-0.2
M10A	I.L. Ranch, Tu	85.59	42	⇓P		P	03 47 51.2	+0.3
	baz=86,SNR=12							
C04A	Brinnon	85.59	34	⇓P		P	03 47 50.5	-0.2
	baz=86							
219A	White Tail Can	85.62	53	P		P	03 47 51.9	+0.6
	baz=86,SNR=29							
X17A	Forest Lakes	85.64	51	⇑P		P	03 47 52.0	+0.7
	baz=86							
N11A	Elko Archery C	85.70	43	⇑P		P	03 47 51.5	+0.1
	baz=86							
WPW	White Pass	85.71	36	P		P	03 47 51.4	+0.1
I08A	Drewsey	85.72	39	P		P	03 47 51.6	+0.2
	baz=86,SNR=8.5							
S14A	Cedar City	85.74	47	⇑P		P	03 47 51.7	0.0
	baz=86,SNR=5.2							
D05A	Enumclaw	85.78	35	⇑P		P	03 47 51.7	+0.1
	baz=86,SNR=11							
Q13A	Wheeler Ranch,	85.80	45	⇓P		P	03 47 51.4	-0.6
	baz=86							
WUAZ	Wupatki	85.82	49	eP		P	03 47 52.2	+0.1
	comp=Z,20nm,1.1s,mb4.7							
WUAZ				epP		pP	03 50 00.9	-0.6
WUAZ	Wupatki	85.82	49	⇓P		P	03 47 52.1	0.0
	baz=86							
J09A	Fry Pan Ranch,	85.88	40	P		P	03 47 52.6	+0.4
	baz=86,SNR=21							
G07A	Ruggs Ranch, H	85.89	38	⇑P		P	03 47 52.0	-0.2
	baz=86,SNR=10							
T15A	Red Dirt Ranch	85.89	48	⇓P		P	03 47 53.0	+0.5
	baz=86,SNR=17							
Y18A	Canyon Day Jun	85.92	51	⇑P		P	03 47 53.1	+0.4
	baz=86,SNR=26							
E06A	Yakima	85.93	36	⇓P		P	03 47 52.1	-0.3
	baz=86,SNR=7.8							
L10A	Juniper Basin	85.94	42	⇓P		P	03 47 52.0	-0.5
	baz=86,SNR=16							
119A	Ashpeak Ranch,	85.96	52	⇑P		P	03 47 52.7	-0.2
	baz=86,SNR=14							
BJT	Baijiatuau	86.00	316	eP		P	03 47 52.7	-0.1
BJT				pmax		pmax		
	comp=Z,16nm,1.0s							
BJT	Baijiatuau	86.00	316	eP		P	03 47 52.7	-0.2
	comp=Z,16nm,1.0s,mb4.6							
BJI	Beijing	86.00	316	P		P	03 47 52.6	-0.3
BJI				SKS			03 57 16.6	
BJI				S		S	03 57 35.6	-1.6
BJI				AMB		AMB		
	comp=Z,19nm,0.8s,mb4.8							
M11A	Holland Ranch,	86.00	42	⇑P		P	03 47 52.8	0.0
	baz=86,SNR=9.2							
H08A	Prairie City	86.02	39	⇓P		P	03 47 52.9	0.0
	baz=86,SNR=7.5							
O12A	Currie	86.03	44	⇑P		P	03 47 52.6	-0.4
	baz=86							
P13A	Bates Ranch, G	86.07	45	⇓P		P	03 47 53.0	-0.2
	baz=86,SNR=14							
K10A	MacKenzie Ranc	86.09	41	P		P	03 47 53.1	-0.1
	baz=86,SNR=15							
F07A	Phinny Hill Vi	86.12	37	⇑P		P	03 47 53.4	+0.1
	baz=86							
N12A	Clover Valley,	86.16	43	P		P	03 47 53.6	+0.1
	baz=86,SNR=11							
Z19A	T-Link Ranch,	86.24	52	⇑P		P	03 47 54.0	-0.2
	baz=86							
C05A	Tolt Reservoir	86.25	35	P		P	03 47 53.7	-0.1
	baz=86,SNR=7.6							
GYA	Guiyang	86.30	300	⇑iP		P	03 47 55.8	+1.2
GYA				AP		pP	03 50 05.6	+1.5
GYA				XP		sP	03 51 05.3	+0.6
GYA				PP		PP	03 51 29.9	+2.3
GYA				SKS			03 57 22.8	
GYA				S		S	03 57 39.8	-0.8
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.4							
GYA				AMB		AMB		
	comp=Z,110nm,6.7s							
G08A	Pilot Rock	86.31	38	P		P	03 47 54.6	+0.4
	baz=86,SNR=21							
X18A	Snowflake	86.35	51	P		P	03 47 55.1	+0.5
	baz=86,SNR=10.0							
EBG	Ellensburg	86.37	36	P		P	03 47 54.9	+0.4
B05A	Bryant	86.39	34	P		P	03 47 54.5	0.0
	baz=86,SNR=8.5							
D06A	Cle Elum	86.40	36	⇑P		P	03 47 54.8	+0.2
	baz=86							
L11A	Cat Creek Ranc	86.43	42	⇓P		P	03 47 54.5	-0.3
	baz=86,SNR=11							
T16A	Glen Canyon Da	86.47	48	P		P	03 47 55.9	+0.7
	baz=86,SNR=12							
J10A	Berg Farm, Mel	86.52	40	⇓P		P	03 47 55.3	+0.1
	baz=87,SNR=5.0							
M12A	Wells	86.55	43	⇑P		P	03 47 55.1	-0.3
	baz=87,SNR=12							
E07A	Sunnyside	86.55	36	⇓P		P	03 47 55.5	+0.2
	baz=87							
Y19A	Nutrioso	86.57	51	⇑P		P	03 47 56.6	+0.9
	baz=87,SNR=10.0							
K11A	Parker Ranch,	86.60	41	⇑P		P	03 47 55.8	+0.2
	baz=87,SNR=16							
RSW	Rattlesnake Hi	86.60	37	P		P	03 47 56.3	+0.8
HAWA	Hanford	86.63	37	eP		P	03 47 55.5	-0.2
	comp=Z,62nm,1.4s,mb5.2							
HAWA				epP		pP	03 50 03.7	-1.7
H09A	Durkee	86.69	39	P		P	03 47 56.0	0.0
	baz=87,SNR=15							
N13A	Wendover, West	86.69	44	⇓P		P	03 47 56.2	+0.1
	baz=87,SNR=5.5							
X19A	St. Johns	86.77	51	⇑P		P	03 47 56.4	-0.2
	baz=87,SNR=6.6							
SNAA	Sanae	86.78	179	⇑eP		P	03 47 55.3	-0.7
SNAA	Sanae	86.78	179	P		P	03 47 55.7	-0.3
	comp=Z,1.5nm,0.5s,mb4.0,baz=206,slow=6.2,SNR=67							
W18A	Petrified Fore	86.79	50	⇓P		P	03 47 56.3	-0.4
	baz=87							
MSU	Marysvale	86.80	46	eP		P	03 47 56.8	+0.2
A05A	Maple Falls	86.86	34	⇓P		P	03 47 56.6	0.0
	baz=87							
I10A	Payette	86.87	40	⇑P		P	03 47 57.5	+0.7
	baz=87							
B06A	Marblemount	86.87	34	⇓P		P	03 47 56.8	+0.1
	baz=87							
D07A	Quincy	86.87	36	⇑P		P	03 47 56.6	-0.1
	baz=87							
L12A	House Creek Ra	86.88	42	P		P	03 47 57.2	+0.2
	baz=87,SNR=15							
E08A	Dider Farm, El	86.96	37	⇑P		P	03 47 57.1	-0.1
	baz=87							
G09A	Cove	86.97	38	⇑P		P	03 47 57.4	+0.1
	baz=87							
M13A	Montello	86.99	43	P		P	03 47 57.5	0.0
	baz=87,SNR=15							
BMO	Blue Mountains	87.01	39	eP		P	03 47 56.8	-0.7
BMO				pmax		pmax		
	comp=Z,43nm,1.6s,mb4.9							
BMO	Blue Mountains	87.01	39	eP		P	03 47 56.8	-0.7
	comp=Z,43nm,1.6s,mb4.9							
BMO				epP		pP	03 50 06.9	-0.5
W19A	Sanders	87.03	50	P		P	03 47 58.4	+0.5
	baz=87,SNR=6.0							
MFID	Camas Ranch	87.08	41	⇓P		P	03 47 57.9	0.0
	baz=87,SNR=22							
C07A	Waterville	87.12	36	⇓P		P	03 47 57.2	-0.7
	baz=87,SNR=7.2							
F09A	S2 Ranch, Elgi	87.15	38	⇑P		P	03 47 58.2	+0.1
	baz=87,SNR=6.5							
H10A	Noah's Angus R	87.18	39	P		P	03 47 57.8	-0.5
	baz=87,SNR=26							
WTV	Waterville	87.18	36	P		P	03 47 57.7	-0.6
K12A	Draper Farm, C	87.22	42	⇓P		P	03 47 58.7	+0.2
	baz=87,SNR=13							
DUG	Dugway	87.25	45	eP		P	03 47 58.5	-0.2
DUG				pmax		pmax		
	comp=Z,10.0nm,1.4s,mb4.3							
DUG	Dugway	87.25	45	eP		P	03 47 58.5	-0.2

M15A	**Larsen Ranch,**	**88.14**	**44**	P		**P**	**03 48 02.6**	**-0.3**
	baz=88,SNR=18							
C09A	**Chrisman Ranch**	**88.16**	**36**	⇓P		**P**	**03 48 02.6**	**-0.1**
	baz=88							
CTU	**Camp Tracy**	**88.20**	**45**	*e*P		**P**	**03 48 03.1**	**-0.1**
	comp=Z,12nm,0.9s,mb4.6							
SRU	**San Rafael**	**88.21**	**46**	*e*P		**P**	**03 48 02.5**	**-0.8**
SRU				pmax		pmax		
	comp=Z,34nm,1.3s,mb4.9							
SRU	**San Rafael**	**88.21**	**46**	*e*P		**P**	**03 48 02.5**	**-0.7**
	comp=Z,34nm,1.3s,mb4.9							
SRU				*ep*P		pP	03 50 13.3	-0.2
K14A	**Jones Ranch, D**	**88.24**	**43**	P		**P**	**03 48 03.2**	**-0.1**
	baz=88,SNR=16							
F11A	**Grangeville**	**88.26**	**39**	⇑P		**P**	**03 48 01.7**	**-1.6**
	baz=88,SNR=8.8							
D10A	**Wagner Farm, O**	**88.28**	**37**	⇑P		**P**	**03 48 02.8**	**-0.6**
	baz=88,SNR=12							
H12A	**Diamond D Ranc**	**88.29**	**40**	⇓P		**P**	**03 48 03.6**	**+0.1**
	baz=88							
A08A	**Turner Farm, O**	**88.30**	**35**	P		**P**	**03 48 03.3**	**-0.1**
	baz=88,SNR=17							
JLU	**Jordanelle**	**88.35**	**45**	*e*P		**P**	**03 48 03.3**	**-0.5**
DAU	**Daniels Canyon**	**88.38**	**45**	*e*P		**P**	**03 48 04.0**	**0.0**
I13A	**Wildhorse Cree**	**88.39**	**41**	⇓P		**P**	**03 48 04.2**	**+0.2**
	baz=88,SNR=11							
MNTX	**Cornudas Mount**	**88.40**	**55**	*e*P		**P**	**03 48 04.0**	**-0.3**
	comp=Z,26nm,1.0s,mb4.9							
MNTX				*ep*P		pP	03 50 14.9	+0.2
E11A	**Bogner Ranch,**	**88.49**	**38**	⇓P		**P**	**03 48 03.6**	**-0.8**
	baz=88							
B09A	**Rice**	**88.59**	**36**	P		**P**	**03 48 04.3**	**-0.5**
	baz=89,SNR=16							
H13A	**Challis**	**88.66**	**40**	⇓P		**P**	**03 48 05.5**	**+0.3**
	baz=89							
MVCO	**Mesa Verde**	**88.67**	**49**	⇓P		**P**	**03 48 04.9**	**-0.6**
	baz=89							
A09A	**Danville**	**88.68**	**35**	P		**P**	**03 48 05.2**	**+0.1**
	baz=89,SNR=9.1							
TXAR	**Lajitas Array**	**88.69**	**58**	P		**P**	**03 48 05.5**	**-0.2**
TXAR				pP		pP	03 50 16.2	+0.1
TXAR				PKKPbc		PKKPbc	04 05 44.0	+1.2
TXAR	**Lajitas Array**	**88.69**	**58**	P		**P**	**03 48 05.5**	**-0.2**
	comp=Z,19nm,0.9s,mb4.9,baz=224,slow=5.2,SNR=93							
TXAR				pP		pP	03 50 16.2	+0.1
	comp=Z,2.7nm,1.0s,baz=193,slow=4.9,SNR=7.0							
TXAR				PKKPbc		PKKPbc	04 05 44.0	+1.2
	comp=Z,0.4nm,0.5s,baz=153,slow=2.7,SNR=8.8							
F12A	**Elk City**	**88.71**	**39**	⇑P		**P**	**03 48 05.2**	**-0.2**
	baz=89,SNR=27							
HWUT	**Hardware Ranch**	**88.78**	**44**	*e*P		**P**	**03 48 05.2**	**-0.6**
	comp=Z,6.9nm,0.8s,mb4.5							
HWUT				*ep*P		pP	03 50 16.9	+0.7
D11A	**Klaveano Farm,**	**88.81**	**38**	⇓P		**P**	**03 48 05.0**	**-0.9**
	baz=89,SNR=9.8							
PV10	**Paradox Valley**	**88.86**	**48**	*e*P		**P**	**03 48 05.7**	**-0.6**
KMI	**Kunming**	**88.92**	**298**	P		**P**	**03 48 08.1**	**+1.2**
KMI				S		S	03 58 03.3	-1.6
KMI				AMB		AMB		
	comp=Z,18nm,1.4s,mb4.7							
G13A	**Cobalt**	**88.95**	**40**	P		**P**	**03 48 06.6**	**+0.1**
	baz=89,SNR=13							
NEW	**Newport**	**89.06**	**36**	*e*P		**P**	**03 48 06.0**	**-0.9**
NEW				pmax		pmax		
	comp=Z,23nm,1.8s							
NEW	**Newport**	**89.06**	**36**	*e*P		**P**	**03 48 06.0**	**-0.9**
	comp=Z,23nm,1.8s,mb4.7							
NEW	**Newport**	**89.06**	**36**	P		**P**	**03 48 05.9**	**-1.1**
	comp=Z,3.3nm,0.9s,mb4.2,baz=242,slow=3.7,SNR=6.1							
ANMO	**Albuquerque**	**89.07**	**52**	*e*P		**P**	**03 48 07.3**	**-0.1**
ANMO				*e*PP		pP	03 50 16.9	-1.0
ANMO				pmax		pmax		
	comp=Z,23nm,1.2s							
ANMO	**Albuquerque**	**89.07**	**52**	*e*P		**P**	**03 48 07.3**	**-0.1**
	comp=Z,22nm,1.2s,mb4.9							
ANMO				*ep*P		pP	03 50 16.9	-1.0
ANMO	**Albuquerque**	**89.07**	**52**	P		**P**	**03 48 07.2**	**-0.2**
	comp=Z,18nm,1.1s,mb4.8,baz=222,slow=5.1,SNR=27							
ANMO				pP		pP	03 50 17.6	-0.3
	comp=Z,0.5nm,0.6s,baz=220,slow=7.1,SNR=2.7							
PLCA	**Paso Flores**	**89.22**	**134**	P		**P**	**03 48 09.4**	**+1.4**
	comp=Z,10nm,1.0s,mb4.6,baz=229,slow=5.6,SNR=13							
F13A	**Darby**	**89.27**	**39**	⇓P		**P**	**03 48 07.6**	**-0.4**
	baz=89							
D12A	**Red Ives Fores**	**89.37**	**38**	⇓P		**P**	**03 48 07.9**	**-0.5**
	baz=89							
HHC	**Hu-ho-hao-te**	**89.43**	**315**	⇓P		**P**	**03 48 09.3**	**+0.4**
HHC				AP		pP	03 50 19.8	+0.3
HHC				PP		PP	03 51 53.5	+1.5
HHC				SKS			03 57 41.6	
HHC				S		S	03 58 05.4	-3.4
HHC				SS		SS	04 04 26.3	+2.3
HHC				AMB		AMB		
	comp=Z,59nm,1.0s,mb5.4							
HHC				AMB		AMB		
	comp=Z,250nm,5.9s							
CHG	**Chiang Mai**	**89.61**	**290**	⇓P		**P**	**03 48 11.3**	**+1.1**
	comp=Z,30nm,0.9s,mb5.1							
CHTO	**Chiang Mai**	**89.61**	**290**	*e*P		**P**	**03 48 11.2**	**+1.0**
CHTO				pmax		pmax		
	comp=Z,13nm,0.9s,mb4.8							
CHTO	**Chiang Mai**	**89.61**	**290**	*e*P		**P**	**03 48 11.2**	**+1.0**
	comp=Z,13nm,0.9s,mb4.8							
MCMT	**McKenzie Canyo**	**89.65**	**41**	*e*P		**P**	**03 48 09.8**	**+0.1**
COLA	**College**	**89.68**	**13**	⇓*e*P		**P**	**03 48 07.6**	**-1.8**
E13A	**Victor**	**89.71**	**39**	⇓P		**P**	**03 48 08.9**	**-1.1**
	baz=90							
A11A	**Hall Mountain,**	**89.87**	**36**	⇓P		**P**	**03 48 10.5**	**-0.2**
	baz=90,SNR=5.4							
B12A	**Libby**	**90.02**	**37**	⇓P		**P**	**03 48 11.5**	**+0.1**
	baz=90							
G15A	**Dillon**	**90.04**	**41**	⇑P		**P**	**03 48 10.9**	**-0.7**
	baz=90,SNR=11							
DLMT	**Dillon**	**90.08**	**40**	*e*P		**P**	**03 48 10.8**	**-0.9**
	comp=Z,18nm,1.3s,mb4.7							
DLMT				*ep*P		pP	03 50 22.1	-0.4
E14A	**Clinton**	**90.10**	**39**	P		**P**	**03 48 11.5**	**-0.3**
	baz=90,SNR=7.5							
REDW	**Red Top Meadow**	**90.13**	**43**	*e*P		**P**	**03 48 11.8**	**-0.2**
	comp=Z,43nm,1.1s,mb5.2							
REDW				*ep*P		pP	03 50 22.0	-0.8
TPAW	**Teton Pass**	**90.13**	**43**	*e*P		**P**	**03 48 12.0**	**0.0**
	comp=Z,25nm,1.1s,mb5.0							
TPAW				*ep*P		pP	03 50 24.1	+1.3
C13A	**Hot Springs**	**90.16**	**38**	⇑P		**P**	**03 48 11.5**	**-0.6**
	baz=90							
BILL	**Bilibino**	**90.18**	**355**	*e*P		**P**	**03 48 10.5**	**-1.2**
BILL				pmax		pmax		
	comp=Z,11nm,1.6s,mb4.4							
BILL	**Bilibino**	**90.18**	**355**	*e*P		**P**	**03 48 10.4**	**-1.3**
	comp=Z,2.4nm,0.6s,mb4.2							
SNOW	**Snow King Moun**	**90.24**	**43**	*e*P		**P**	**03 48 12.9**	**+0.4**
	comp=Z,32nm,1.0s,mb5.1							
IMW	**Indian Meadow**	**90.34**	**42**	*e*P		**P**	**03 48 12.2**	**-0.9**
	comp=Z,27nm,1.1s,mb5.0							
IMW				*ep*P		pP	03 50 23.2	-0.6
F15A	**Butte**	**90.39**	**40**	⇓P		**P**	**03 48 13.0**	**-0.2**
	baz=90,SNR=5.8							
MOOW	**Moose Ponds**	**90.39**	**42**	*e*P		**P**	**03 48 13.0**	**-0.3**
	comp=Z,11nm,1.3s,mb4.5							
MOOW				*ep*P		pP	03 50 23.1	-1.0
LOHW	**Long Hollow**	**90.41**	**43**	*e*P		**P**	**03 48 12.7**	**-0.6**
	comp=Z,28nm,1.6s,mb4.8							
LOHW				*ep*P		pP	03 50 24.3	+0.1
D14A	**Greenough**	**90.45**	**39**	⇓P		**P**	**03 48 12.3**	**-1.1**
	baz=90,SNR=7.6							
CHMT	**Chamberlain Mo**	**90.50**	**39**	*e*P		**P**	**03 48 12.4**	**-1.3**
CHMT				*ep*P		pP	03 50 23.7	-0.8
QLMT	**Earthquake Lak**	**90.51**	**41**	*e*P		**P**	**03 48 13.9**	**+0.1**
CD2	**Chengdu**	**90.52**	**303**	*e*P		**P**	**03 48 14.8**	**+0.6**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
CD2				AMB		AMB		
	comp=Z,30nm,9.2s							
FLWY	**Flagg Ranch**	**90.58**	**42**	*e*P		**P**	**03 48 14.3**	**+0.2**
	comp=Z,36nm,1.3s,mb5.2							
FLWY				*ep*P		pP	03 50 24.5	-0.5
E15A	**Deer Lodge**	**90.61**	**39**	⇑P		**P**	**03 48 13.5**	**-0.7**
	baz=91							
BW06	**Boulder Array**	**90.65**	**44**	*e*P		**P**	**03 48 13.5**	**-1.0**
	comp=Z,15nm,1.0s,mb4.9							
SMCO	**Snowmass**	**90.66**	**48**	*e*P		**P**	**03 48 14.4**	**-0.2**
	comp=Z,8.2nm,0.9s,mb4.7							
C14A	**Swan Lake**	**90.67**	**38**	⇓P		**P**	**03 48 13.6**	**-0.8**
	baz=91							
BOZ	**Bozeman (W)**	**90.81**	**40**	*e*P		**P**	**03 48 14.5**	**-0.6**
BOZ				*e*PP		pP	03 50 25.2	-0.8
BOZ				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.6							
BOZ	**Bozeman (W)**	**90.81**	**40**	*e*P		**P**	**03 48 14.5**	**-0.6**
	comp=Z,7.6nm,1.0s,mb4.6							
BOZ				*ep*P		pP	03 50 25.2	-0.8
BOZ	**Bozeman (W)**	**90.81**	**40**	⇑P		**P**	**03 48 14.9**	**-0.2**
	baz=91,SNR=12							
A13A	**Flathead Natio**	**90.92**	**37**	⇑P		**P**	**03 48 14.7**	**-0.8**
	baz=91							
DAWY	**Dawson**	**90.98**	**16**	*e*P		**P**	**03 48 14.3**	**-1.2**
D15A	**Lincoln**	**91.00**	**39**	⇓P		**P**	**03 48 15.3**	**-0.7**
	baz=91,SNR=5.9							
JCT	**Junction City**	**92.21**	**58**	*e*P		**P**	**03 48 20.4**	**-1.6**
JCT				pmax		pmax		
	comp=Z,7.0nm,1.0s,mb4.7							
JCT	**Junction City**	**92.21**	**58**	*e*P		**P**	**03 48 20.4**	**-1.5**
	comp=Z,6.9nm,1.0s,mb4.6							
AMTX	**Amarillo**	**92.57**	**53**	*e*P		**P**	**03 48 23.0**	**-0.5**
LZH	**Lanzhou**	**92.64**	**308**	*e*P		**P**	**03 48 24.5**	**+0.7**
LZH				AMB		AMB		
	comp=Z,38nm,1.4s,mb5.2							
LZH				AMB		AMB		
	comp=Z,192nm,5.0s							
YAK	**Yakutsk**	**92.86**	**338**	*i* P		**P**	**03 48 22.6**	**-1.6**
YAK				pmax		pmax		
	comp=Z,23nm,1.0s,mb5.2							
EGMT	**Eagleton**	**93.11**	**39**	⇓P		**P**	**03 48 24.5**	**-1.2**
	baz=93							
WMOK	**Wichita Mounta**	**94.70**	**55**	*e*P		**P**	**03 48 32.2**	**-1.0**
WMOK				pmax		pmax		
	comp=Z,3.0nm,1.2s,mb4.3							
WMOK	**Wichita Mounta**	**94.70**	**55**	*e*P		**P**	**03 48 32.2**	**-1.0**
	comp=Z,3.0nm,1.2s,mb4.3							
CFAA	**Coronel Fontan**	**95.26**	**127**	P		**P**	**03 48 36.3**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.9,baz=248,slow=4.7,SNR=11							
ULN	**Ulaanbaatar**	**95.58**	**319**	⇑*e*P		**P**	**03 48 36.0**	**-0.8**
ULN	**Ulaanbaatar**	**95.58**	**319**	*e*P		**P**	**03 48 36.1**	**-0.7**
	comp=Z,2.0nm,0.8s,mb4.4							
INK	**Inuvik**	**95.79**	**16**	*e*P		**P**	**03 48 35.5**	**-1.8**
SONM	**Songino Array**	**95.97**	**319**	P		**P**	**03 48 37.8**	**-0.8**
SONM				*PP		pP	03 50 48.3	-1.6
SONM							03 52 37.6	
SONM	**Songino Array**	**95.97**	**319**	P		**P**	**03 48 37.8**	**-0.8**
	comp=Z,0.7nm,0.8s,mb4.0,baz=119,slow=3.4,SNR=4.0							
SONM				pP		pP	03 50 48.3	-1.7
	comp=Z,1.5nm,1.1s,baz=117,slow=5.4,SNR=2.9							
SONM				PP		PP	03 52 37.6	-4.5
	comp=Z,1.6nm,1.1s,baz=117,slow=8.8,SNR=3.7							
SONM				PKKP		PKKPbc	04 05 24.0	-0.8
	comp=Z,0.5nm,0.8s,baz=300,slow=2.9,SNR=4.9							
GTA	**Gaotai**	**96.90**	**310**	*e*P		**P**	**03 48 43.3**	**+0.3**
GTA				AP		pP	03 50 55.0	+0.6
GTA				SKS			03 58 23.1	
GTA				AMB		AMB		
	comp=Z,5.0nm,1.8s,mb4.4							
GTA				AMB		AMB		
	comp=Z,147nm,5.7s							
YKA	**Yellowknife Ar**	**98.13**	**25**	P		Pdif	03 48 46.3	-2.1
YKA							03 52 51.7	
YKA	**Yellowknife Ar**	**98.13**	**25**	P		Pdif	03 48 46.3	-2.1
YKA				pP		pP	03 50 59.4	-0.1
YKA				PP		PP	03 52 51.7	-6.3
YKA				PKKPbc		PKKPbc	04 05 16.6	-2.9
YKA	**Yellowknife Ar**	**98.13**	**25**	P		Pdif	03 48 46.3	-2.1
	comp=Z,0.5nm,0.9s,baz=242,slow=4.6,SNR=6.8							
YKA				pP		pP	03 50 59.4	-0.1
	comp=Z,0.4nm,0.9s,baz=244,slow=4.5,SNR=3.5							
YKA				PP		PP	03 52 51.7	-6.3
	comp=Z,0.4nm,0.9s,baz=232,slow=7.0,SNR=4.5							
YKA				PKKPbc		PKKPbc	04 05 16.6	-2.9
	comp=Z,0.3nm,0.4s,baz=35,slow=2.5,SNR=11							
TIXI	**Tiksi**	**99.68**	**345**	*e*P		Pdif	03 48 53.6	-1.7
RES	**Resolute Bay**	**109.33**	**16**	*e*PKP		PKiKP	03 53 36.5	-0.4
ZALV	**Zalesovo Beam**	**110.76**	**321**	PKiKP		PKiKP	03 53 39.3	-0.9
	comp=Z,1.3nm,0.5s,baz=198,slow=1.5,SNR=4.9							
ZAL	**Zalesovo**	**110.77**	**321**	PKIKP		PKiKP	03 53 39.3	-0.9
MKAR	**Makanchi Array**	**111.24**	**313**	PKPdf		PKiKP	03 53 39.7	-1.6
MKAR				PKKPbc		PKKPbc	04 04 39.2	-0.6
MKAR				PKKPab		PKKPab	04 04 50.4	+0.3
MKAR	**Makanchi Array**	**111.24**	**313**	PKiKP		PKiKP	03 53 39.7	-1.6
	comp=Z,0.7nm,0.4s,baz=200,slow=1.1,SNR=12							
MKAR				PKKPbc		PKKPbc	04 04 39.2	-0.6
	comp=Z,1.1nm,0.8s,baz=276,slow=4.5,SNR=10.0							
MKAR				PKKPab		PKKPab	04 04 50.4	+0.3
	comp=Z,1.4nm,1.0s,baz=276,slow=3.5,SNR=6.4							
KURK	**Kurchatov**	**114.15**	**317**	*e*PKIKP		PKiKP	03 53 45.8	-0.9
TKM2	**Tokmak 2**	**115.41**	**308**	*e*PKIKP		PKPdf	03 53 48.0	-1.4
BVAR	**Borovoye Array**	**119.31**	**320**	PKP		PKPdf	03 53 55.3	-1.2
	comp=Z,3.7nm,0.4s,baz=138,slow=1.5,SNR=18							
BVAR				SKP			03 56 35.9	
	comp=Z,2.1nm,0.9s,baz=129,slow=2.1,SNR=4.4							
SCHQ	**Schefferville**	**120.36**	**38**	PKP		PKPdf	03 53 56.5	-2.1
	comp=Z,2.4nm,0.9s,baz=207,slow=6.6,SNR=3.9							
SUR	**Sutherland**	**122.85**	**200**	*e*PKPdf		PKPdf	03 54 05.1	+0.9
BOSA	**Boshof**	**124.63**	**206**	PKP		PKPdf	03 54 07.8	+0.1
	comp=Z,1.9nm,0.7s,baz=93,slow=5.5,SNR=8.0							
ARU	**Arti**	**125.59**	**325**	*i* PKIKP		PKPdf	03 54 07.9	-0.6
ARU							03 56 07.9	
ARU	**Arti**	**125.59**	**325**	*e*PKPdf		PKPdf	03 54 07.5	-1.0
AKTK	**Aktyubinsk**	**127.24**	**318**	PKP		PKPdf	03 54 11.2	-0.6
AKTO	**Aktyubinsk**	**127.24**	**318**	PKP		PKPdf	03 54 11.2	-0.6
	comp=Z,1.7nm,0.7s,baz=72,slow=5.1,SNR=5.4							
KEV	**Kevo**	**129.49**	**349**	*e*pkp		PKPdf	03 54 14.0	-1.6
ARCES	**ARCESS Array B**	**129.95**	**349**	PKhKP			03 54 04.9	
	comp=Z,7.1nm,1.1s,baz=64,slow=5.5,SNR=4.4							
ARCES				PKP		PKPdf	03 54 15.9	-0.5
	comp=Z,3.7nm,0.6s,baz=354,slow=1.4,SNR=21							
ARCES				SKPbc		SKPbc	03 56 44.8	+1.3
	comp=Z,2.4nm,0.5s,baz=19,slow=2.6,SNR=16							
JOF	**Joensuu**	**133.97**	**341**	*e*pkp		PKPdf	03 54 22.1	-2.1
LSZ	**Lusaka**	**134.42**	**218**	*e*PKIKP		PKPdf	03 54 28.2	+1.7
TSUM	**Tsumeb**	**136.09**	**203**	*e*PKPdf		PKPdf	03 54 30.5	+0.9
FINES	**FINESS Array B**	**136.65**	**343**	PKP			03 54 15.6	
FINES				SKPbc		SKPbc	03 57 06.0	+0.2
FINES	**FINESS Array B**	**136.65**	**343**	PKhKP			03 54 15.6	
	comp=Z,0.3nm,0.4s,baz=58,slow=3.5,SNR=8.2							
FINES				SKPbc		SKPbc	03 57 06.0	+0.2
	comp=Z,3.6nm,0.6s,baz=90,slow=4.4,SNR=11							
OBN	**Obninsk**	**137.31**	**330**	*i* PKIKP		PKPdf	03 54 29.5	-1.1
OBN				*e*SS		SS	04 14 43.0	-1.3
OBN				pmax		pmax		
	comp=Z,23nm,1.8s							
KMBO	**Kilima Mbogo**	**137.75**	**242**	PKhKP			03 54 23.8	
	comp=Z,0.9nm,0.4s,baz=156,slow=10.0,SNR=4.7							
KMBO				SKPbc		SKPbc	03 57 13.2	+2.7
	comp=Z,6.2nm,1.0s,baz=298,slow=5.3,SNR=5.9							
NB2	**NORSAR Subarra**	**140.09**	**352**	PKP			03 54 27.5	
	comp=Z,3.9nm,1.0s,baz=10,slow=3.2							
NOA	**NORSAR Array B**	**140.09**	**352**	PKHKP			03 54 27.8	
NOA							03 54 36.1	
NOA	**NORSAR Array B**	**140.09**	**352**	PKhKP			03 54 27.8	
	comp=Z,2.0nm,0.8s,baz=16,slow=4.6,SNR=10							
NOA				PKP		PKPdf	03 54 36.0	+0.5
	comp=Z,0.9nm,0.5s,baz=14,slow=3.7,SNR=6.3							
NOA				SKPbc		SKPbc	03 57 15.8	+0.6
	comp=Z,1.1nm,0.6s,baz=14,slow=4.2,SNR=6.6							
ANN	**Anapa**	**142.18**	**316**	*i* PKHKP			03 54 31.6	
ANN				pmax		pmax		
	comp=Z,35nm,1.6s							
AKASG	**Malin Array Be**	**143.55**	**329**	PKP		PKPdf	03 54 39.3	-2.7
	comp=Z,3.9nm,0.3s,baz=42,slow=4.4,SNR=97							
AKASG				SKPbc		SKPbc	03 57 24.4	+0.3
	comp=Z,1.6nm,0.5s,baz=46,slow=2.6,SNR=8.1							
AKBB	**Malin Array Si**	**143.55**	**329**	*e*PKPdf		PKPdf	03 54 39.2	-2.8
AKBB				*e*SKPbc		SKPbc	03 57 23.8	-0.4
KIEV	**Kiev**	**143.56**	**329**	*e*PKPdf		PKPdf	03 54 39.2	-2.8
KIEV				*e*SKPbc		SKPbc	03 57 24.1	-0.2
SUW	**Suwalki**	**143.60**	**338**	*e*PKP		PKPdf	03 54 39.9	-2.0
SUW	**Suwalki**	**143.60**	**338**	*e*PKP		PKPdf	03 54 39.9	-2.1
MALT	**Malatya**	**143.77**	**306**	*e*PKPdf		PKPdf	03 54 42.4	-0.4
MALT	**Malatya**	**143.77**	**306**	⇓*i* P		PKPdf	03 54 42.5	-0.3
SIM	**Simferopol'**	**144.21**	**318**	*d*/PKIKP		PKPdf	03 54 42.9	-0.4
SIM				pmax		pmax		
	comp=Z,40nm,1.4s							
GKP	**Gorka Klasztor**	**146.12**	**342**	*e*PKP		PKPdf	03 54 48.0	+1.7
GKP	**Gorka Klasztor**	**146.12**	**342**	*e*PKP		PKPdf	03 54 48.0	+1.7
ESK	**Eskdalemuir**	**146.37**	**4**	*e*PKIKP		PKPdf	03 54 47.0	+0.4
LVV	**L'vov**	**146.53**	**332**	*e*PKIKP		PKPdf	03 54 48.3	+1.2
HWQ	**Hawqa**	**146.72**	**300**	*e*P		PKPdf	03 54 49.6	+1.7
BHL	**Bhannes**	**147.04**	**299**	*e*P		PKPdf	03 54 50.8	+2.3
BSEG	**Bad Segeberg**	**147.07**	**350**	*e*PKPbc		PKPbc	03 54 50.0	-1.1
KWP	**Kalwaria**	**147.23**	**333**	*e*PKPbc		PKPbc	03 54 51.0	-0.6
KWP				*e*PKPab		PKPab	03 54 54.4	-1.0
ANTO	**Ankara**	**147.36**	**311**	*e*PKPbc		PKPbc	03 54 51.8	-0.4
ANTO				*ep*PKPdf		pPKPdf	03 57 11.1	+2.1
ANTO	**Ankara**	**147.36**	**311**	P		PKPbc	03 54 52.3	0.0
	SNR=13							
ANTO	**Ankara**	**147.36**	**311**	P		PKPbc	03 54 52.3	0.0
	SNR=13							
ANTO	**Ankara**	**147.36**	**311**	⇓*i* P		PKPbc	03 54 52.0	-0.3
BURAR	**Bucovina Array**	**147.58**	**329**	⇑*i* P		PKPbc	03 54 52.1	-0.5
OJC	**Ojcow**	**147.90**	**337**	*e*PKP		PKPbc	03 54 52.6	-0.7
TIRR	**Tirgusor**	**147.90**	**321**	⇓*i* P		PKPbc	03 54 53.0	-0.5
VRI	**Vrincioaia**	**147.98**	**325**	⇓*i* P		PKPbc	03 54 53.4	-0.2
STHS	**Stebnicka Huta**	**147.99**	**334**	*e*PKP		PKPbc	03 54 53.5	-0.1
STHS				*e*			03 57 16.1	
HARR	**Harsova**	**148.04**	**322**	PKP2		PKPbc	03 54 53.6	-0.2
UZH	**Uzhgorod**	**148.17**	**333**	⇑*i*/PKHKP			03 54 53.0	
CRVS	**Cervenica-Dubn**	**148.31**	**334**	*e*PKP		PKPbc	03 54 54.1	-0.3
CRVS				*e*			03 55 22.7	
CRVS				*e*			03 57 17.9	
CRVS	**Cervenica-Dubn**	**148.31**	**334**	*e*PKP		PKPbc	03 54 54.1	-0.3
CRVS				*e*			03 55 22.6	
CRVS				*e*			03 57 17.9	
NIE	**Niedzica**	**148.36**	**335**	*e*PKP		PKPbc	03 54 54.6	+0.1
TRPA	**Tarpa**	**148.44**	**332**	⇓*i* P		PKPdf	03 54 54.0	+3.7
KSP	**Ksiaz**	**148.54**	**341**	*e*PKP		PKPbc	03 54 54.8	-0.1
KSP	**Ksiaz**	**148.54**	**341**	*e*PKP		PKPbc	03 54 54.7	-0.2
KSP				*e*			03 55 00.5	
KSP				*ep*PKP		pPKPdf	03 57 12.1	+1.5
MLR	**Muntele Rosu**	**148.64**	**325**	P		PKPbc	03 54 54.6	-0.7
MLR	**Muntele Rosu**	**148.64**	**325**	⇓*i* P		PKPbc	03 54 54.5	-0.8
CSS	**Prodhromos**	**148.64**	**302**	*e*PKPbc		PKPbc	03 54 54.5	-1.1
OKC	**Ostrava-Krasne**	**148.81**	**338**	*e*PKHKP		PKPbc	03 54 55.1	-0.4
OKC				*e*			03 55 01.5	
OKC	**Ostrava-Krasne**	**148.81**	**338**	*e*PKP		PKPbc	03 54 55.1	-0.4
OKC				*e*			03 55 01.5	
OKC				*e*			03 57 15.9	
OKC	**Ostrava-Krasne**	**148.81**	**338**	⇑*e*PKP		PKPbc	03 54 55.1	-0.4
OKC				*e*PKPab		PKPab	03 55 01.5	-0.4
OKC				*ep*PKP		pPKPdf	03 57 15.9	+4.8
UPC	**Upice**	**148.92**	**341**	*e*PKP		PKPbc	03 54 55.6	-0.2
UPC				*e*			03 57 18.3	
UPC	**Upice**	**148.92**	**341**	⇑*e*PKP		PKPbc	03 54 55.6	-0.2
UPC				*ep*PKP		pPKPdf	03 57 18.3	+7.0
DPC	**Dobruska-Polom**	**148.96**	**341**	*e*PKHKP		PKPbc	03 54 55.8	-0.1
DPC				*e*			03 55 02.2	
DPC	**Dobruska-Polom**	**148.96**	**341**	*e*PKP		PKPbc	03 54 55.8	-0.1
DPC				*e*			03 55 02.2	
DPC				*e*			03 57 14.1	
DPC	**Dobruska-

ZST			*e*			03 55 09.2	
ZST			*e*			03 57 17.0	
ROTZ	**Rotzenmuhle**	**150.63 345**	*e*PKPbc	PKPbc		03 54 59.0	-0.8
ROTZ			*e*pPKPbc	pPKPbc		03 57 19.4	+0.7
BZS	**Buzias**	**150.74 329**	PKIKP	PKPbc		03 54 59.7	-0.5
BZS	**Buzias**	**150.74 329**	⇑*i*P	PKPbc		03 54 59.3	-0.9
HGN	**Heimansgroeve**	**150.78 353**	*e*PKP	PKPbc		03 54 59.1	-1.0
	comp=Z,14nm,1.4s						
KHC	**Kasperske Hory**	**150.86 343**	*e*PKIKP	PKPbc		03 54 59.8	-0.6
KHC			*e*			03 55 10.3	
KHC	**Kasperske Hory**	**150.86 343**	*e*PKP	PKPbc		03 54 59.8	-0.6
KHC			*e*			03 55 10.3	
KHC			*e*			03 57 19.1	
KHC			*e*			03 57 22.0	
KHC	**Kasperske Hory**	**150.86 343**	⇑*e*PKP	PKPbc		03 54 59.8	-0.6
KHC			*e*PKPAB	PKPab		03 55 10.3	-0.2
KHC			*e*pPKP	pPKPdf		03 57 19.1	+4.7
KHC			*e*x	x		03 57 22.0	
UCC	**Uccle**	**150.89 355**	PKPbc	PKPbc		03 54 59.5	-0.8
UCC			PKPab	PKPab		03 55 09.3	-1.3
MEM	**Membach**	**150.92 353**	PKPbc	PKPbc		03 54 59.9	-0.6
GRA1	**Grafenberg Arr**	**150.93 346**	*e*PKPbc	PKPbc		03 55 00.3	-0.2
GRF	**Grafenberg Arr**	**150.93 346**	*e*PKPbc	PKPbc		03 55 00.3	-0.2
WET	**Wettzell**	**151.04 343**	*e*PKPbc	PKPbc		03 54 59.8	-1.0
GEC2	**GERESS Array S**	**151.08 342**	*e*PKIKP	PKPbc		03 55 00.1	-0.8
GEC2			*e*			03 55 09.8	
GEC2	**GERESS Array S**	**151.08 342**	*e*PKPbc	PKPbc		03 55 00.5	-0.4
GERES	**GERESS Array B**	**151.08 342**	PKPbc	PKPbc		03 55 00.4	-0.5
	comp=Z,2.8nm,0.5s,baz=25,slow=2.2,SNR=43						
GERES			pPKPbc	pPKPbc		03 57 19.3	-0.6
	comp=Z,1.9nm,1.0s,baz=85,slow=2.8,SNR=5.0						
BCLA	**Clavier**	**151.18 354**	PKPab	PKPab		03 55 10.4	-1.4
CONA	**Conrad Observa**	**151.22 339**	⇑*i*PKPdf	PKPdf		03 54 54.5	-0.2
	comp=Z,5.4nm,1.7s						
CONA			⇑*i*PKPbc	PKPbc		03 55 00.7	-0.5
	comp=Z,20nm,1.1s						
CONA			⇑*i*PKPab	PKPab		03 55 12.3	+0.2
	comp=Z,11nm,0.8s						
GIVF	**Givet**	**151.54 355**	*e*PKP1	PKPbc		03 55 00.5	-1.4
DOU	**Dourbes**	**151.57 355**	PKPbc	PKPbc		03 55 01.8	-0.1
DOU			APKPab			03 57 22.7	
PKSM	**Moragy**	**151.61 333**	P	PKPbc		03 55 01.6	-0.6
PKSM	**Moragy**	**151.61 333**	⇓*i*P	PKPdf		03 54 54.5	-0.8
PKSM	**Moragy**	**151.61 333**	⇓*i*P	pPKPbc		03 57 23.0	+1.8
BAIF	**Baives**	**151.64 355**	*e*PKP1	PKPbc		03 55 01.1	-1.0
	comp=Z,33nm,0.9s						
WLF	**Walferdange**	**151.84 353**	*e*PKPdf	PKPdf		03 54 55.4	-0.1
WLF			*e*PKPbc	PKPbc		03 55 02.5	0.0
WLF			*e*PKPab	PKPab		03 55 13.3	-1.3
WLF	**Walferdange**	**151.84 353**	PKPbc	PKPbc		03 55 01.9	-0.7
WLF			APKPab			03 57 23.8	
WLF	**Walferdange**	**151.84 353**	*e*PKPbc	PKPbc		03 55 02.1	-0.4
WLF			*e*pPKPbc	pPKPbc		03 57 21.2	-0.4
VTS	**Vitosha**	**152.03 323**	⇑*i*P	PKPbc		03 55 02.8	-0.4
STU	**Stuttgart**	**152.23 348**	*e*PKPbc	PKPbc		03 55 03.0	-0.4
FUR	**Furstenfeldbru**	**152.35 345**	*e*PKPbc	PKPbc		03 55 03.0	-0.7
BFO	**Black Forest**	**152.81 349**	*e*PKPbc	PKPbc		03 55 03.7	-1.0
BFO			*e*pPKPbc	pPKPbc		03 57 24.6	+0.7
CDF	**Champ du Feu**	**152.91 350**	*e*PKP1	PKPbc		03 55 03.5	-1.4
	comp=Z,4.3nm,0.5s						
FLN	**La Foliniere**	**153.04 2**	*e*PKP1	PKPbc		03 55 03.6	-1.6
	comp=Z,23nm,0.9s						
MEZF	**Maizieres J'vi**	**153.11 354**	*e*PKP1	PKPbc		03 55 04.1	-1.2
LDF	**La Druitiere**	**153.22 1**	*e*PKP1	PKPbc		03 55 04.2	-1.4
	comp=Z,16nm,0.7s						
ABTA	**Abfaltersbach**	**153.32 342**	⇑*i*PKPdf	PKPdf		03 54 56.5	-1.2
	comp=Z,5.7nm,1.2s						
ABTA			⇑*i*PKPbc	PKPbc		03 55 05.0	-0.8
	comp=Z,15nm,1.4s						
ABTA			⇑*i*PKPab	PKPab		03 55 20.2	-0.8
	comp=Z,9.7nm,1.1s						
GRR	**Gorron**	**153.41 2**	*e*PKP1	PKPbc		03 55 04.5	-1.5
	comp=Z,18nm,0.9s						
SGMF	**Saint Gilles**	**153.44 5**	*e*PKP1	PKPbc		03 55 04.5	-1.6
	comp=Z,18nm,0.9s						
LOR	**Lormes**	**154.44 355**	*e*PKP1	PKPbc		03 55 06.7	-1.5
	comp=Z,6.2nm,0.8s						
BNI	**Bardonecchia**	**156.28 350**	*e*PKP2	PKPab		03 55 33.1	-0.7
AQU	**L'Aquila**	**156.91 336**	*e*PKP2	PKPab		03 55 36.5	-0.1
DBIC	**Dimbokro**	**164.03 159**	PKP	PKPdf		03 55 10.4	-0.8
	comp=Z,4.3nm,0.7s,baz=70,slow=5.4,SNR=11						
DBIC			PKPab	PKPab		03 56 09.3	+0.8
	comp=Z,4.7nm,0.6s,baz=145,slow=5.3,SNR=9.4						
KEST	**Kesra**	**164.20 334**	PKPab	PKPab		03 56 08.3	-0.4
	comp=Z,2.1nm,0.8s,baz=311,slow=0.9,SNR=16						
TOA0	**Torodi Ar. Sit**	**171.38 186**	*e*PKPdf	PKPdf		03 55 14.8	-1.3
TOA0			*e*PKPab	PKPab		03 56 41.2	+0.3
TORD	**Torodi Ar. Bea**	**171.38 186**	PKP	PKPdf		03 55 15.3	-0.8
	comp=Z,2.7nm,0.8s,baz=0.6,slow=0.8,SNR=23						
TORD			PKPab	PKPab		03 56 41.8	+0.9
	comp=Z,2.9nm,0.7s,baz=175,slow=4.7,SNR=19						

*ISCJB **13** 04:02:59.1±0.5,3124S±002×6951W±005,h121km±7km, Error ellipse: s-maj=7.7km s-min=4.1km az=177.5*
*GUC **13** 04:02:59.2±0.7,3128S×6993W,h158km±7km,MD3.8, ML3.8*
*NEIC **13** 04:02:59.2,3128S×6993W,h158km,mb3.6/1, MD3.8(GUC),After GUC.*
*IDC **13** 04:02:59.7±2.6,3135S×6949W,h119km±16km,mb3.4/1, mb1 3.4/4,mb1mx3.3/16,mbtmp3.3/4,MS3.1/1,Ms1 3.1/1, ms1mx2.6/12,Error ellipse: s-maj=40.9km s-min=28.7km az=101.0*

ISC 13 04:03:00.0±0.5,3124S±003×6950W±005,h117km±7km, n32,σ0°83/50,10C-7D,San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**1.14 109**		P	**Pn**	**04 03 23.4**	**+0.2**
	31nm,0.3s,baz=289,slow=9.0,SNR=5270						
CFAA				S	**Sn**	**04 03 40.1**	**-0.7**
	28nm,0.3s,baz=283,slow=13,SNR=167						
CMCH	**Combarbala**	**1.28 272**		⇓*i*P	**Pn**	**04 03 24.8**	**0.0**
CMCH				*i* S	**Sn**	**04 03 43.9**	**+0.4**
TLL	**Tololo Astrono**	**1.55 313**		⇑*i*P	**Pn**	**04 03 28.3**	**+0.5**
TLL				*i* S	**Sn**	**04 03 50.8**	**+1.9**
TLL	**Tololo Astrono**	**1.55 313**		⇑*i*P	**Pn**	**04 03 28.3**	**+0.5**
TLL				*i* S	**Sn**	**04 03 50.8**	**+1.9**
TLL				AML	AML	04 03 52.1	
	comp=N,754nm,0.4s						
OVCH	**Ovalle**	**1.59 293**		⇓*i*P	**Pn**	**04 03 27.8**	**-0.5**
OVCH				*i* S	**Sn**	**04 03 48.8**	**-0.9**
OVCH	**Ovalle**	**1.59 293**		⇓*i*P	**Pn**	**04 03 27.8**	**-0.5**
OVCH				*i* S	**Sn**	**04 03 48.8**	**-0.9**
OVCH				AML	AML	04 03 51.6	
	comp=N,2μm,0.5s						
PTCH	**Petorca**	**1.59 230**		*e*P	**Pn**	**04 03 27.8**	**-0.4**
PTCH				*i* S	**Sn**	**04 03 49.0**	**-0.8**
PTCH	**Petorca**	**1.59 230**		*e*P	**Pn**	**04 03 27.8**	**-0.4**
PTCH				*i* S	**Sn**	**04 03 49.0**	**-0.8**
PTCH				AML	AML	04 03 51.1	
	comp=N,536nm,0.3s						
JACH	**Jahuel**	**1.71 212**		⇑*i*P	**Pn**	**04 03 30.1**	**+0.3**
JACH				*i* S	**Sn**	**04 03 53.0**	**+0.6**
PEL	**Peldehue**	**2.15 207**		⇑*i*P	**Pn**	**04 03 34.9**	**-0.3**
PEL				*e*S	**Sn**	**04 04 02.1**	**0.0**
PEL				AML	AML	04 04 04.9	
	comp=E,804nm,0.2s						
ROCH	**El Roble**	**2.15 216**		⇑*i*P	**Pn**	**04 03 34.8**	**-0.4**
ROCH				*i* S	**Sn**	**04 04 01.9**	**-0.2**
FCH	**Farellones**	**2.19 198**		⇓*i*P	**Pn**	**04 03 36.8**	**+1.1**
FCH				*i* S	**Sn**	**04 04 05.3**	**+2.2**
FCH				AML	AML	04 04 08.4	
	comp=E,508nm,0.2s						
CLCH	**Cerro Calan**	**2.32 202**		⇓*i*P	**Pn**	**04 03 37.5**	**0.0**
CLCH				*i* S	**Sn**	**04 04 06.3**	**+0.2**
CLCH				AML	AML	04 04 10.4	
	comp=N,586nm,0.4s						
FSR	**Penalolen**	**2.40 201**		AML	AML	04 04 10.2	
	comp=E,649nm,0.7s						
LCO	**Las Campanas**	**2.45 335**		*e*Pn	**Pn**	**04 03 38.8**	**-0.3**
LCO				*e*Sn	**Sn**	**04 04 08.4**	**-0.6**
RCDM	**Rinconada Maip**	**2.50 206**		⇑*i*P	**Pn**	**04 03 39.2**	**-0.5**
RCDM				*i* S	**Sn**	**04 04 09.6**	**-0.6**
RCDM	**Rinconada Maip**	**2.50 206**		⇑*i*P	**Pn**	**04 03 39.2**	**-0.5**
RCDM				*i* S	**Sn**	**04 04 09.6**	**-0.6**
RCDM				AML	AML	04 04 11.0	
	comp=E,648nm,0.3s						
SJCH	**San Jose de Ma**	**2.50 196**		⇑*i*P	**Pn**	**04 03 40.3**	**+0.6**
SJCH				AML	AML	04 04 13.6	
	comp=E,215nm,0.3s						
PCH	**Pirque**	**2.52 199**		*e*P	**Pn**	**04 03 40.1**	**+0.1**
PCH				*i* S	**Sn**	**04 04 10.9**	**+0.2**
LMEL	**Las Melosas**	**2.67 193**		⇓*i*P	**Pn**	**04 03 42.2**	**+0.4**
LMEL				*i* S	**Sn**	**04 04 15.7**	**+1.6**
LMEL	**Las Melosas**	**2.67 193**		⇓*i*P	**Pn**	**04 03 42.2**	**+0.4**
LMEL				*i* S	**Sn**	**04 04 15.7**	**+1.6**
LMEL				AML	AML	04 04 23.3	
	comp=N,215nm,0.2s						
TACH	**Talagante**	**2.70 206**		⇑*i*P	**Pn**	**04 03 41.0**	**-1.2**
TACH				*i* S	**Sn**	**04 04 13.4**	**-1.3**
CHCH	**Chadas Angostu**	**2.86 200**		*e*P	**Pn**	**04 03 43.7**	**-0.6**
VACH	**Vallenar**	**2.87 337**		⇑*i*P	**Pn**	**04 03 43.9**	**-0.6**
VACH				*i* S	**Sn**	**04 04 18.8**	**0.0**
TRQA	**Tornquist**	**9.20 140**		*e*Pn	**Pn**	**04 05 08.2**	**-1.5**
	comp=N,21nm,0.9s						
CPUP	**Villa Florida**	**11.74 68**		P	**Pn**	**04 05 45.0**	**+1.2**
	comp=N,0.3nm,0.3s,baz=200,slow=17,SNR=3.2						
LPAZ	**La Paz**	**14.94 5**		*e*P	**Pn**	**04 06 26.7**	**+1.4**
	comp=N,2.5nm,0.8s						
LPAZ	**La Paz**	**14.94 5**		P	**Pn**	**04 06 27.2**	**+2.0**
	comp=N,0.3nm,0.3s,baz=188,slow=6.7,SNR=13						
SIV	**San Ignacio**	**17.02 29**		P	**Pn**	**04 06 50.1**	**-0.8**
	comp=N,0.5nm,0.3s,baz=208,slow=10,SNR=18						
ATAH	**Atahualpa**	**25.51 339**		LR	LR	04 18 17.4	
	comp=N,37nm,18.9s,baz=122,slow=36						
TORD	**Torodi Ar. Bea**	**81.24 69**		P	**P**	**04 15 03.3**	**-0.1**
	comp=N,0.6nm,0.6s,baz=258,slow=6.1,SNR=19						
WRA	**Warramunga Arr**	**124.20 207**		PKP	PKPdf	04 21 43.7	-1.8
	comp=N,0.6nm,1.1s,baz=157,slow=1.8,SNR=4.8						

*ISCJB **13** 04:27:07.4±3.8,786S±010×15667E±006,h3km±23km, mb4.3/11,MS3.8/4,Error ellipse: s-maj=16.5km s-min=8.8km az=12.5*
*BJI **13** 04:27:08.3,780S×15670E,h10km,mB5.3,mb4.4,Ms4.5, Msz4.2*
*IDC **13** 04:27:08.6±0.8,796S×15662E,h0km,mb4.0/9, mb1 4.2/10,mb1mx4.1/15,mbtmp4.1/10,ML5.1/1,MS3.8/4, Ms1 3.8/4,ms1mx3.3/22,Error ellipse: s-maj=22.6km s-min=19.8km az=78.0*
*NEIC **13** 04:27:09.7±0.6,780S×15670E,h10km,mb4.3/4,Error ellipse: s-maj=14.1km s-min=11.8km az=167.0*

ISC 13 04:27:11.0±4.5,79S±01×15670E±006,h16km±28km,n25, σ0°99/24,mb4.3/11,MS3.8/4,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.55 116**		Pn	**Pn**	**04 28 05.6**	**+0.2**
	151nm,0.3s,baz=251,slow=2.2,SNR=21						
HNR				Sn	**Sb**	**04 28 56.0**	**-0.2**
	413nm,0.3s,baz=84,slow=20,SNR=11						
HNR				LR	LR	04 29 27.6	
	comp=Z,2μm,18.6s,baz=313,slow=39						
CTA	**Charters Tower**	**15.78 219**		Pn	**Pn**	**04 30 54.7**	**+2.1**
CTA	**Charters Tower**	**15.78 219**		Pn	**Pn**	**04 30 54.7**	**+2.1**
	0.1nm,0.3s,baz=39,slow=13,SNR=1.9						
KAKA	**Kakadu**	**24.34 257**		*e*P	**P**	**04 32 28.1**	**-0.1**
	10nm,0.6s,mb4.4						
GUMO	**Guam**	**24.38 331**		LR	LR	04 40 03.6	
	comp=Z,101nm,18.9s,MS3.3,baz=143,slow=32						
WRAB	**Tennant Creek**	**24.73 239**		*e*P	**P**	**04 32 30.8**	**-1.0**
	5.4nm,0.9s,mb4.1						
WB2	**Warramunga Arr**	**24.74 239**		*e*P	**P**	**04 32 31.3**	**-0.5**
WRA	**Warramunga Arr**	**24.75 239**		P	**P**	**04 32 30.9**	**-1.0**
	5.1nm,0.9s,mb4.0,baz=65,slow=9.8,SNR=16						
ASAR	**Alice Springs**	**26.89 232**		P	**P**	**04 32 50.1**	**-1.2**
	0.4nm,0.8s,baz=25,slow=6.2,SNR=3.3						
STKA	**Stephens Creek**	**27.69 209**		*e*P	**P**	**04 33 00.1**	**+1.7**
	3.5nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.69 209**		P	**P**	**04 32 58.0**	**-0.4**
	3.3nm,0.6s,mb4.2,baz=36,slow=14,SNR=8.6						
FITZ	**Fitzroy Crossi**	**31.87 248**		*e*P	**P**	**04 33 37.4**	**+1.8**
	3.2nm,0.8s,mb4.2						
FITZ	**Fitzroy Crossi**	**31.87 248**		P	**P**	**04 33 35.3**	**-0.3**
	1.1nm,0.7s,mb3.8,baz=163,slow=17,SNR=3.6						
URZ	**Urewera**	**35.40 152**		P	**P**	**04 34 06.6**	**+0.5**
	3.8nm,0.5s,mb4.6,baz=288,slow=3.2,SNR=5.2						
URZ				LR	LR	04 46 55.3	
	comp=Z,170nm,18.2s,MS3.8,baz=13,slow=34						
RPZ	**Rata Peaks**	**37.82 163**		LR	LR	04 48 05.2	
	comp=Z,186nm,19.8s,MS3.9,baz=228,slow=33						
KKM	**Kota Kinabalu**	**42.70 288**		*e*P	**P**	**04 35 06.8**	**-0.7**
KSRS	**Korea Array**	**52.54 331**		P	**P**	**04 36 24.4**	**+0.9**
	3.1nm,1.1s,mb4.2,baz=274,slow=38,SNR=3.6						
HHC	**Hu-ho-hao-te**	**63.83 323**		*e*P	**P**	**04 37 43.8**	**+1.2**
HHC				AP	pP	04 37 48.5	+0.6
HHC				XP	sP	04 37 50.9	+1.0
HHC				PCP	PcP	04 38 19.5	+1.2
HHC				PP	PP	04 40 05.8	+2.6
HHC				SCP		04 42 20.1	
HHC				S	**S**	**04 46 18.1**	**+0.9**
HHC				XS	sS	04 46 24.8	-1.2
HHC				SCS	ScS	04 47 34.4	-1.3
HHC				SS	SS	04 50 26.8	+1.0
HHC				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.2						
HHC				AMB	AMB		
	comp=Z,146nm,8.1s						
HHC				LR	LR		
	comp=N,179nm,18.9s,MS4.4						
HHC				LR	LR		
	comp=E,189nm,18.9s,MS4.4						
HHC				LR	LR		
	comp=Z,143nm,18.2s,MS4.2						
SONM	**Songino Array**	**71.02 327**		P	**P**	**04 38 28.4**	**+0.5**
	comp=Z,3.3nm,0.7s,mb4.4,baz=137,slow=6.2,SNR=16						
WMQ	**Urumqi**	**80.64 317**		*e*P	**P**	**04 39 22.0**	**-1.1**
MK31	**Makanchi Array**	**85.20 318**		*e*P	**P**	**04 39 46.9**	**+0.3**
MKAR	**Makanchi Array**	**85.20 318**		P	**P**	**04 39 46.6**	**0.0**
	comp=Z,1.3nm,0.7s,mb4.2,baz=101,slow=6.3,SNR=6.5						
INK	**Inuvik**	**89.97 20**		*e*P	**P**	**04 40 06.7**	**-2.4**
YKA	**Yellowknife Ar**	**96.34 28**		P	**P**	**04 40 39.0**	**+0.4**
	comp=Z,0.2nm,0.5s,mb3.8,baz=265,slow=4.9,SNR=4.2						
BDFB	**Brasilia**	**146.13 134**		PKPbc	PKPbc	04 46 50.8	-0.5
	comp=Z,2.0nm,0.7s,baz=6.7,slow=26,SNR=7.5						

IDC 13 04:28:04.4±2.9,5519S×2825W,h0km,mb3.9/3, mb1 4.1/3,mb1mx3.7/15,mbtmp3.9/3,Error ellipse: s-maj=96.5km s-min=37.5km az=6.0,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**35.79 312**		P	P	04 35 04.1	-1.0
	0.9nm,0.5s,baz=129,slow=7.1,SNR=4.8						
LPAZ	**La Paz**	**49.38 306**		P	P	04 36 57.2	+1.5
	0.9nm,0.7s,baz=156,slow=7.6,SNR=7.2						
TORD	**Torodi Ar. Bea**	**72.61 31**		P	P	04 39 33.7	+0.2
	0.6nm,0.5s,baz=198,slow=6.5,SNR=28						
FINES	**FINESS Array B**	**123.90 28**		PKP	PKPdf	04 47 02.2	-0.6
	0.8nm,0.9s,baz=225,slow=3.7,SNR=2.8						
YKA	**Yellowknife Ar**	**135.12 319**		PKP	PKPdf	04 47 23.9	-0.2
	0.1nm,0.5s,baz=126,slow=2.0,SNR=5.1						

*ISCJB **13** 04:38:50.8±0.4,3555S±004×7118W±006,h97km±3km, mb4.0/24,Error ellipse: s-maj=9.1km s-min=5.3km az=20.1*
*GUC **13** 04:38:52.1±0.5,3544S×7132W,h96km±2km,MD4.0, ML4.3*
*NEIC **13** 04:38:52.1,3544S×7132W,h96km,mb4.1/19, MD4.0(GUC),After GUC.*
*IDC **13** 04:38:52.5±2.1,3549S×7097W,h97km±18km,mb3.7/9, mb1 3.8/13,mb1mx3.7/19,mbtmp3.7/13,Error ellipse: s-maj=25.0km s-min=11.5km az=93.0*

ISC 13 04:38:51.8±0.4,3554S±003×7118W±006,h91km±3km,n60, σ0°79/76,mb4.0/24,8C-7D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.54 355**		⇑*i*P	**Pn**	**04 39 07.1**	**+0.2**
NICH				*i* S	**Sn**	**04 39 18.1**	**-0.1**
SFDO	**San Fernando**	**0.93 8**		⇓*i*P	**Pn**	**04 39 10.6**	**-0.2**
SFDO				⇓*i*S	**Sn**	**04 39 25.1**	**+0.1**
CICH	**Cipreses**	**1.36 27**		⇓*i*P	**Pn**	**04 39 16.6**	**+0.7**
CICH				*i* S	**Sn**	**04 39 35.2**	**+1.1**
COCH	**Cobquecura**	**1.44 245**		*e*P	**Pn**	**04 39 16.7**	**-0.1**
COCH				*i* S	**Sn**	**04 39 35.4**	**-0.3**
CACH	**El Canelo**	**1.49 19**		⇑*i*P	**Pn**	**04 39 18.0**	**+0.5**
CACH				*i* S	**Sn**	**04 39 37.4**	**+0.4**
LNV	**Longovilo**	**1.59 353**		⇑*i*P	**Pn**	**04 39 18.4**	**-0.3**
LNV				*i* S	**Sn**	**04 39 37.9**	**-1.2**
CHCH	**Chadas Angostu**	**1.66 15**		⇑*i*P	**Pn**	**04 39 19.8**	**+0.2**
CHCH				*i* S	**Sn**	**04 39 40.6**	**-0.1**
LMEL	**Las Melosas**	**1.87 26**		⇑*i*P	**Pn**	**04 39 23.2**	**+0.9**
LMEL				*i* S	**Sn**	**04 39 46.5**	**+1.0**
LMEL	**Las Melosas**	**1.87 26**		⇑*i*P	**Pn**	**04 39 23.2**	**+0.9**
LMEL				*i* S	**Sn**	**04 39 46.5**	**+1.0**
LMEL				AML	AML	04 39 51.3	
	comp=N,2μm,0.3s						
TACH	**Talagante**	**1.89 6**		⇓*i*P	**Pn**	**04 39 22.1**	**-0.5**
TACH				*i* S	**Sn**	**04 39 45.0**	**-1.0**
PCH	**Pirque**	**1.99 16**		⇑*i*P	**Pn**	**04 39 24.2**	**+0.3**
PCH				*i* S	**Sn**	**04 39 48.5**	**+0.2**
RCDM	**Rinconada Maip**	**2.07 9**		⇓*i*P	**Pn**	**04 39 24.6**	**-0.3**
RCDM				*i* S	**Sn**	**04 39 49.4**	**-0.8**
RCDM	**Rinconada Maip**	**2.07 9**		⇓*i*P	**Pn**	**04 39 24.6**	**-0.3**
RCDM				*i* S	**Sn**	**04 39 49.4**	**-0.8**
RCDM				AML	AML	04 39 51.1	
	comp=E,3μm,0.2s						
FSR	**Penalolen**	**2.12 15**		AML	AML	04 39 53.5	
	comp=E,2μm,0.2s						
CLCH	**Cerro Calan**	**2.20 14**		⇑*i*P	**Pn**	**04 39 26.7**	**0.0**
CLCH				*e*S	**Sn**	**04 39 53.3**	**0.0**
CLCH				AML	AML	04 39 57.0	
	comp=E,2μm,0.2s						
CLCH				AML	AML	04 39 57.6	
	comp=E,2μm,0.3s						
FCH	**Farellones**	**2.32 19**		*e*P	**Pn**	**04 39 29.3**	**+1.0**
FCH				*e*S	**Sn**	**04 39 57.4**	**+1.2**
FCH				AML	AML	04 39 58.9	
	comp=N,2μm,0.4s						
PEL	**Peldehue**	**2.42 10**		⇓*i*P	**Pn**	**04 39 29.4**	**-0.2**
PEL				*i* S	**Sn**	**04 39 58.0**	**-0.6**
PEL				AML	AML	04 40 00.5	
	comp=E,3μm,0.4s						
PTCH	**Petorca**	**3.27 4**		AML	AML	04 40 19.5	
	comp=N,658nm,0.4s						
CFAA	**Coronel Fontan**	**4.63 33**		P	**Pn**	**04 39 58.6**	**-0.7**
CFAA				S	**Sn**	**04 40 49.7**	**-2.1**
CFAA	**Coronel Fontan**	**4.63 33**		P	**Pn**	**04 39 58.6**	**-0.8**
	comp=N,1.4nm,0.3s,baz=209,slow=13,SNR=135						
CFAA				S	**Sn**	**04 40 49.7**	**-2.1**
	comp=N,0.4nm,0.3s,baz=227,slow=12,SNR=3.6						
PLCA	**Paso Flores**	**5.21 175**		*e*Pn	**Pn**	**04 40 08.0**	**+0.8**
	comp=N,21nm,0.9s						
PLCA	**Paso Flores**	**5.21 175**		P	**Pn**	**04 40 07.9**	**+0.7**
	comp=N,3.5nm,0.3s,baz=339,slow=11,SNR=48						
LCO	**Las Campanas**	**6.52 4**		*e*Pn	**Pn**	**04 40 20.8**	**-4.3**
	comp=N,14nm,0.6s						
LCO				*e*Sn	**Sn**	**04 41 33.4**	**-4.6**
TRQA	**Tornquist**	**7.79 112**		*e*Pn	**Pn**	**04 40 41.9**	**-0.5**
CPUP	**Villa Florida**	**15.00 56**		P	**Pn**	**04 42 20.9**	**+2.0**
	comp=N,0.2nm,0.3s,baz=251,slow=18,SNR=2.2						
EFI	**East Falkland**	**18.67 154**		*e*P	**Pn**	**04 43 01.3**	**-2.5**
	comp=N,10nm,0.4s						
LPAZ	**La Paz**	**19.36 9**		*e*P	**Pn**	**04 43 12.2**	**0.0**
	comp=N,1.6nm,0.7s						
LPAZ	**La Paz**	**19.36 9**		P	**Pn**	**04 43 11.8**	**-0.4**
	comp=N,0.2nm,0.3s,baz=187,slow=10.0,SNR=9.8						
USHA	**Ushuaia**	**19.39 175**		P	**Pn**	**04 43 11.6**	**-0.7**
	comp=N,0.8nm,0.3s,baz=324,slow=7.6,SNR=12						
SIV	**San Ignacio**	**21.46 27**		P	**P**	**04 43 31.1**	**-1.8**
	comp=N,1.6nm,0.7s,mb3.5,baz=221,slow=11,SNR=9.4						
NNA	**Nana**	**24.00 346**		*e*P	**P**	**04 43 56.8**	**-1.3**
	comp=N,7.1nm,0.7s,mb4.1						
ROSC	**El Rosal**	**40.29 355**		*e*P	**P**	**04 46 23.0**	**+3.0**
ROSC	**El Rosal**	**40.29 355**		P	**P**	**04 46 20.9**	**+0.9**
	comp=N,4.7nm,0.4s,mb4.6,baz=100,slow=20,SNR=8.2						
SNAA	**Sanae**	**49.90 157**		P	**P**	**04 47 35.5**	**0.0**
	comp=N,0.7nm,0.5s,mb3.9,baz=206,slow=5.7,SNR=30						
QSPA	**South Pole Qui**	**54.70 180**		*e*P	**P**	**04 48 12.1**	**+1.2**
	comp=N,3.3nm,0.5s,mb4.6						
QSPA	**South Pole Qui**	**54.70 180**		P	**P**	**04 48 12.0**	**+1.1**
	comp=N,1.7nm,0.5s,mb4.4,baz=170,slow=1.3,SNR=26						
NATX	**Nacogdoches**	**70.48 339**		*e*P	**P**	**04 49 56.2**	**-0.1**
JCT	**Junction City**	**70.97 334**		*e*P	**P**	**04 49 59.6**	**+0.3**
	comp=

0.4nm,0.4s,baz=154,slow=1.9,SNR=12
MKAR Makanchi Array 150.44 45 PKPbc PKPbc 05 20 48.9 +0.3
0.5nm,0.7s,baz=320,slow=3.2,SNR=5.3

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*CSEM **13** 05:10:44.9±0.2,3620N×273E,h6km±2km,ML3.2,Error ellipse: s-maj=7.4km s-min=5.0km az=17.0*
*CRAAG **13** 05:10:44.5,3605N×278E,Ml3.2*
*ISCJB **13** 05:10:45.6±0.6,3630N±004×270E±005,h10km,Error ellipse: s-maj=6.5km s-min=5.2km az=32.7*
*MDD **13** 05:10:46.6±0.7,3614N×274E,h7km±9km,mb3.7/2,Error ellipse: s-maj=8.4km s-min=7.2km az=156.0,PRXIMO*
*NEIC **13** 05:10:47.3,3622N×258E,h0km,MG3.7(MDD),After MDD.*

ISC 13 05:10:46.6±0.8,3621N±005×275E±008,h20km±9km,n23,σ1º26/34,Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.17**	**92**	P	**Pg**	**05 10 49.7**	**-1.6**
ADJB	**Djebel Djouab**	**0.56**	**95**	P	**Pg**	**05 10 56.7**	**-1.2**
ABA	**Alger-Bouzarea**	**0.64**	**21**	P	**Pg**	**05 11 00.4**	**+1.1**
AKET	**Djebel Ketaf**	**0.93**	**99**	P	**Pb**	**05 11 04.6**	**+0.5**
EBNR	**Beni Rached**	**0.99**	**275**	P	**Pb**	**05 10 59.0**	**-6.0**
ECHA	**Ech Chlef**	**1.12**	**268**	P	**Pn**	**05 11 07.0**	**-0.1**
ECHF	**Ech Chlef**	**1.14**	**268**	P	**Pn**	**05 11 07.0**	**-0.4**
EANR	**'Ain N'Sour**	**1.36**	**260**	P	**Pn**	**05 11 12.0**	**+1.6**
ETRT	**Tiaret**	**1.43**	**236**	P	**Pn**	**05 11 10.0**	**-1.4**
EIBI	**Ibiza**	**3.03**	**339**	P	**Pn**	**05 11 34.5**	**+1.1**
	4.9nm,0.3s,SNR=7.6						
EIBI				S	**Sn**	**05 12 08.3**	**-0.7**
	2.1nm,0.2s,SNR=7.9						
EIBI	**Ibiza**	**3.03**	**339**	P	**Pn**	**05 11 34.5**	**+1.1**
	4.9nm,0.3s,SNR=7.6						
EIBI				S	**Sn**	**05 12 08.3**	**-0.7**
	2.1nm,0.2s,SNR=7.9						
EBEN	**Beniarda**	**3.44**	**317**	P	**Pn**	**05 11 40.2**	**+1.2**
	0.2nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**05 12 19.2**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
EBEN	**Beniarda**	**3.44**	**317**	P	**Pn**	**05 11 40.2**	**+1.2**
	0.2nm,0.2s,SNR=7.9						
EBEN				S	**Sn**	**05 12 19.2**	**+0.1**
	0.1nm,0.1s,SNR=7.9						
ETOS	**Mallorca**	**3.56**	**1**	P	**Pn**	**05 11 42.5**	**+1.9**
	1.3nm,0.2s,SNR=8.2						
ETOS				S	**Sn**	**05 12 20.9**	**-1.1**
	0.4nm,0.2s,SNR=5.7						
ETOS	**Mallorca**	**3.56**	**1**	P	**Pn**	**05 11 42.5**	**+1.9**
	1.3nm,0.2s,SNR=8.2						
ETOS				S	**Sn**	**05 12 20.9**	**-1.2**
	0.4nm,0.2s,SNR=5.7						
ETOB	**Tobarra**	**4.20**	**307**	P	**Pn**	**05 11 50.9**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**05 12 37.1**	**-0.8**
	0.2nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**4.20**	**307**	P	**Pn**	**05 11 50.9**	**+1.5**
	0.5nm,0.2s,SNR=7.9						
ETOB				S	**Sn**	**05 12 37.1**	**-0.7**
	0.2nm,0.2s,SNR=7.9						
EBER	**Berja**	**4.59**	**280**	P	**Pn**	**05 11 53.5**	**-1.3**
	0.2nm,0.2s,SNR=7.9						
EBER				S	**Sn**	**05 12 43.2**	**-4.4**
	0.3nm,0.3s,SNR=7.9						
EBER	**Berja**	**4.59**	**280**	P	**Pn**	**05 11 53.5**	**-1.3**
	0.2nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.86**	**330**	P	**Pn**	**05 11 59.8**	**+1.3**
	1.0nm,0.2s,SNR=7.9						
EMOS				S	**Sn**	**05 12 51.9**	**-2.4**
	1.3nm,0.2s,SNR=7.9						
EMOS	**Mosqueruela**	**4.86**	**330**	P	**Pn**	**05 11 59.8**	**+1.2**
	1.0nm,0.2s,SNR=7.9						
EMIR	**Miracle**	**5.78**	**351**	P	**Pn**	**05 12 13.1**	**+1.9**
	SNR=7.9						
EMIR				S	**Sn**	**05 13 15.6**	**-1.2**
	0.7nm,0.3s,SNR=7.9						
EMIR	**Miracle**	**5.78**	**351**	P	**Pn**	**05 12 13.1**	**+1.9**
	SNR=7.9						

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*ISCJB **13** 05:39:13.5±0.7,1322N±005×145.16E±0.10,h85km±5km,mb4.4/30,Error ellipse: s-maj=15.7km s-min=8.4km az=169.5*
*BJI **13** 05:39:14.3,1353N×145.13E,h72km,mB5.0,mb4.7,Ms4.3,Msz4.1*
*IDC **13** 05:39:14.6±0.8,1333N×14504E,h80km±5km,mb4.0/13,mb1 4.1/13,mb1mx4.0/20,mbtmp4.0/13,MS3.5/7,Ms1 3.5/7,ms1mx3.2/26,Error ellipse: s-maj=28.2km s-min=12.5km az=93.0*
*NEIC **13** 05:39:15.0±1.0,1329N×14505E,h84km±8km,mb4.5/15,Error ellipse: s-maj=15.6km s-min=8.3km az=92.0*
NEIC Felt at Santa Rita.

ISC 13 05:39:14.8±0.7,1325N±006×14517E±010,h81km±5km,n51,σ1º03/46,mb4.4/30,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.45**	**319**	*eP*	**Pn**	**05 39 27.9**	**-0.3**
GUMO				*eS*	**Sn**	**05 39 37.7**	**-0.3**
GUMO	**Guam**	**0.45**	**319**	P	**Pn**	**05 39 28.0**	**-0.2**
	1μm,0.3s,baz=161,slow=7.2,SNR=564						
GUMO				S	**Sn**	**05 39 38.1**	**0.0**
	7μm,0.3s,baz=22,slow=22,SNR=248						
JHJ	**Hachijo jima 2**	**20.38**	**347**	S	**S**	**05 47 25.0**	**-3.9**
	54nm,0.4s,baz=67,slow=20,SNR=2.7						
JOW	**Kunigami**	**20.81**	**313**	P	**P**	**05 43 51.3**	**+1.6**
	17nm,0.6s,baz=100,slow=22,SNR=5.3						
JOW				LR	LR	05 50 13.5	
	comp=Z,105nm,21.6s,baz=142,slow=32						
JNU	**Nakatsue**	**23.69**	**329**	P	**P**	**05 44 19.2**	**+0.1**
	9.6nm,0.8s,mb4.2,baz=172,slow=7.1,SNR=3.8						
MJAR	**Matsushiro Arr**	**24.02**	**346**	LR	LR	05 53 11.3	
	comp=Z,75nm,19.3s,baz=190,slow=35						
MAJO	**Matsushiro**	**24.02**	**346**	*eP*	**P**	**05 44 22.4**	**+0.3**
	10nm,0.9s,mb4.2						
KSRS	**Korea Array**	**28.60**	**330**	P	**P**	**05 45 02.5**	**-0.9**
	2.0nm,0.8s,mb3.8,baz=146,slow=9.0,SNR=5.7						
NJ2	**Nanjing**	**30.52**	**312**	*eP*	**P**	**05 45 21.8**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
CTAO	**Charters Tower**	**33.15**	**178**	*eP*	**P**	**05 45 43.7**	**+0.2**
	comp=Z,9.4nm,1.0s,mb4.6						
WB2	**Warramunga Arr**	**34.66**	**198**	*eP*	**P**	**05 45 56.6**	**-0.1**
WRA	**Warramunga Arr**	**34.67**	**198**	P	**P**	**05 45 56.7**	**0.0**
	comp=Z,7.6nm,0.7s,mb4.6,baz=23,slow=9.9,SNR=72						
WRA				PcP	PcP	05 48 29.9	+0.5
	comp=Z,1.0nm,0.8s,baz=3.8,slow=3.2,SNR=6.5						
WRA				LR	LR	06 00 34.5	
	comp=Z,60nm,18.7s,baz=255,slow=37						
FITZ	**Fitzroy Crossi**	**36.63**	**212**	*eP*	**P**	**05 46 13.2**	**-0.4**
	comp=Z,6.1nm,1.2s,mb4.4						
FITZ	**Fitzroy Crossi**	**36.63**	**212**	P	**P**	**05 46 13.7**	**+0.1**
	comp=Z,1.0nm,0.4s,mb4.1,baz=57,slow=9.0,SNR=8.3						
ASAR	**Alice Springs**	**38.31**	**197**	P	**P**	**05 46 28.1**	**+0.4**
	comp=Z,2.9nm,0.6s,mb4.3,baz=22,slow=11,SNR=44						
ASAR				PcP	PcP	05 48 39.2	-1.0
	comp=Z,0.7nm,0.8s,baz=34,slow=2.7,SNR=4.2						
HHC	**Hu-ho-hao-te**	**40.22**	**319**	*eP*	**P**	**05 46 43.8**	**+0.4**
HHC				AP	pP	05 47 01.8	-1.0
HHC				PP	PP	05 48 21.1	+3.7
HHC				PCP	PcP	05 48 48.3	+2.2
HHC				SCP	ScP	05 52 29.4	+1.2
HHC				S	**S**	**05 52 44.9**	**+0.3**
HHC				SS	SS	05 55 37.1	-8.5
HHC				SCS	ScS	05 56 41.0	-1.0
HHC				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,211nm,5.4s						
HHC				LR	LR		
	comp=N,215nm,15.3s						
HHC				LR	LR		
	comp=E,235nm,14.8s						
HHC				LR	LR		
	comp=Z,225nm,17.1s						
KMI	**Kunming**	**41.61**	**293**	P	**P**	**05 46 55.6**	**+0.4**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.5s,mb4.6						
CD2	**Chengdu**	**41.92**	**302**	*eP*	**P**	**05 46 57.8**	**+0.2**
CD2				AP	pP	05 47 16.8	-0.3
CD2				PP	PP	05 48 38.8	+2.8
CD2				S	**S**	**05 53 09.5**	**-0.7**
CD2				SS	SS	05 56 12.3	-7.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.8s						
CD2				LR	LR		
	comp=E,130nm,12.8s						
CD2				LR	LR		
	comp=Z,150nm,11.2s						
MBWA	**Marble Bar**	**42.36**	**217**	*eP*	**P**	**05 47 01.1**	**-0.1**
	comp=Z,6.5nm,0.7s,mb4.5						
KULM	**Kulim**	**44.59**	**264**	*eP*	**P**	**05 47 20.6**	**+1.3**
CHTO	**Chiang Mai**	**44.68**	**283**	*eP*	**P**	**05 47 18.3**	**-1.7**
	comp=Z,3.5nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**45.00**	**184**	*eP*	**P**	**05 47 21.9**	**-0.3**
	comp=Z,3.8nm,0.7s,mb4.2						
STKA	**Stephens Creek**	**45.00**	**184**	P	**P**	**05 47 21.7**	**-0.6**
	comp=Z,5.1nm,0.7s,mb4.3,baz=348,slow=8.3,SNR=10						
ULN	**Ulaanbaatar**	**46.82**	**325**	*eP*	**P**	**05 47 33.9**	**-2.6**
	comp=Z,3.9nm,0.8s,mb4.2						
SONM	**Songino Array**	**47.17**	**325**	P	**P**	**05 47 38.5**	**-0.7**
	comp=Z,2.0nm,0.9s,mb3.9,baz=148,slow=7.0,SNR=8.7						
SONM				PcP	PcP	05 49 09.4	-0.2
	comp=Z,0.7nm,0.5s,baz=132,slow=6.0,SNR=3.4						
CNB	**Canberra Magne**	**48.46**	**175**	*eP*	**P**	**05 47 47.5**	**-1.7**
	comp=Z,17nm,1.6s,mb4.6						
TOO	**Toolangi**	**50.55**	**180**	*eP*	**P**	**05 48 06.6**	**+1.6**
	comp=Z,112nm,0.9s,mb5.9						
WMQ	**Urumqi**	**57.58**	**314**	*eP*	**P**	**05 48 58.0**	**+1.8**
KURK	**Kurchatov**	**65.03**	**320**	*eP*	**P**	**05 49 46.4**	**0.0**
	comp=Z,12nm,1.0s,mb4.7						
AML	**Almayashu**	**67.52**	**310**	*eP*	**P**	**05 50 03.3**	**+0.9**
	comp=Z,4.3nm,0.6s,mb4.5						
MCK	**McKinley**	**67.61**	**26**	*eP*	**P**	**05 50 04.5**	**+1.9**
	comp=Z,1.8nm,0.5s,mb4.2						
COLA	**College**	**68.37**	**25**	*eP*	**P**	**05 50 07.7**	**+0.3**
	comp=Z,2.9nm,0.9s,mb4.1						
BRVK	**Borovoye**	**70.44**	**322**	*eP*	**P**	**05 50 19.8**	**-0.5**
	comp=Z,4.4nm,0.7s,mb4.4						
PPT	**Papeete**	**71.31**	**114**	LR	LR	06 15 28.0	
	comp=Z,96nm,20.7s,baz=250,slow=30						
INK	**Inuvik**	**74.56**	**22**	*eP*	**P**	**05 50 44.1**	**-0.4**
	comp=Z,96nm,1.2s,mb5.4						
INK	**Inuvik**	**74.56**	**22**	P	**P**	**05 50 44.4**	**-0.2**
	comp=Z,2.1nm,0.8s,mb3.9,baz=268,slow=6.6,SNR=7.2						
AKTO	**Aktyubinsk**	**78.11**	**319**	LR	LR	06 27 06.9	
	comp=Z,22nm,18.2s,baz=119,slow=37						
YKA	**Yellowknife Ar**	**83.02**	**27**	P	**P**	**05 51 30.1**	**-0.9**
YKA				LR	LR	06 28 39.3	
YKA	**Yellowknife Ar**	**83.02**	**27**	P	**P**	**05 51 30.1**	**-0.9**
	comp=Z,1.9nm,0.7s,mb4.0,baz=287,slow=5.3,SNR=21						
YKA				LR	LR	06 28 39.3	
	comp=Z,29nm,19.4s,baz=275,slow=36						
NVAR	**Mina Array Bea**	**86.90**	**51**	P	**P**	**05 51 52.0**	**+1.0**
NVAR	**Mina Array Bea**	**86.90**	**51**	P	**P**	**05 51 52.0**	**+1.0**
	comp=Z,1.9nm,0.8s,mb4.0,baz=268,slow=6.7,SNR=7.9						
ARCES	**ARCESS Array B**	**87.49**	**342**	P	**P**	**05 51 52.3**	**-0.8**
	comp=Z,3.0nm,0.8s,mb4.3,baz=72,slow=7.8,SNR=4.7						
FINES	**FINESS Array B**	**91.59**	**335**	P	**P**	**05 52 10.8**	**-1.7**
	comp=Z,2.6nm,0.6s,mb4.6,baz=59,slow=5.6,SNR=13						
FCC	**Fort Churchill**	**93.72**	**27**	*eP*	**P**	**05 52 22.9**	**+0.5**
	comp=Z,2.9nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**95.46**	**325**	P	**P**	**05 52 27.8**	**-2.8**
	comp=Z,0.1nm,0.3s,mb3.8,baz=60,slow=4.4,SNR=3.2						
NOA	**NORSAR Array B**	**97.47**	**339**	LR	LR	06 37 53.6	
	comp=Z,20nm,19.3s,baz=230,slow=36						
TOA0	**Torodi Ar. Sit**	**135.30**	**304**	*e*PKPdf	PKPdf	05 58 27.7	+1.5
TORD	**Torodi Ar. Bea**	**135.30**	**304**	PKP	PKPdf	05 58 27.6	+1.4
	comp=Z,0.9nm,0.8s,baz=25,slow=2.1,SNR=5.1						
DBIC	**Dimbokro**	**144.25**	**302**	PKP	PKPdf	05 58 40.8	-1.7
	comp=Z,4.9nm,0.6s,baz=35,slow=5.0,SNR=17						
LPAZ	**La Paz**	**147.68**	**100**	*e*PKPdf	PKPdf	05 58 50.0	+1.8
LPAZ				*e*PKPbc	PKPbc	05 58 52.9	+1.9
LPAZ	**La Paz**	**147.68**	**100**	PKPbc	PKPbc	05 58 52.8	+1.8
	comp=Z,3.3nm,0.9s,baz=332,slow=2.4,SNR=13						

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*NIED **13** 05:41:00,3590N×14090E,h44km,Mw4.1 Best double couple: M0 1.53000×10^15 NP1:φs=15.00000°,δ78.00000°,λ81.00000°. NP2:φs=232.00000°,δ15.00000°,λ126.00000°.*
*ISCJB **13** 05:41:01.2±0.5,3587N±004×14093E±007,h51km±4km,mb4.1/17,Error ellipse: s-maj=9.4km s-min=5.9km az=159.9*
*NEIC **13** 05:41:02.6,3591N×14083E,h40km,MG3.6(JMA),After JMA.*
*IDC **13** 05:41:02.1±0.6,3583N×14084E,h41km±5km,mb3.8/14,mb1 3.9/18,mb1mx3.8/26,mbtmp3.9/18,ML4.0/4,MS3.3/4,Ms1 3.3/4,ms1mx2.9/30,Error ellipse: s-maj=17.1km s-min=8.3km az=98.0*
*JMA **13** 05:41:02.6±0.1,3591N×14083E,h40km±1km,M3.6 Broadband fault plane solution: P waves. NP1: φs=223.00000°,δ18.00000°,λ126.00000°. NP2:φs=5.00000°,δ76.00000°,λ79.00000°. Principal axes: T Plg58.0000°, Azm261.0000°; N Plg10.0000°, Azm8.0000°; P Plg30.0000°, Azm104.0000°;*
JMA Felt I J1.

ISC 13 05:41:02.0±0.5,3589N±003×14096E±006,h41km±5km,h44km±2.3km:pP-P,n39,σ1º05/44,mb4.1/17,2C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**0.21**	**204**	⇑P	**Pn**	**05 41 09.7**	**+0.3**
CHOJ				S	**Sn**	**05 41 15.2**	**+0.7**
JYT	**Yasato**	**0.70**	**299**	⇓P	**Pn**	**05 41 14.6**	**-0.9**
JYT				S	**Sn**	**05 41 22.5**	**-2.7**
JHO	**Hitachi**	**0.78**	**336**	⇓P	**Pn**	**05 41 16.5**	**0.0**
JHO				S	**Sn**	**05 41 26.9**	**-0.2**
BSO4	**Boso 4**	**1.03**	**210**	⇑P	**Pn**	**05 41 21.8**	**+1.8**
BSO3	**Boso 3**	**1.15**	**199**	P	**Pn**	**05 41 22.4**	**+0.9**
BSO1	**Boso 1**	**1.24**	**179**	P	**Pn**	**05 41 22.6**	**-0.1**
JAG	**Ashikaga**	**1.33**	**294**	⇓P	**Pn**	**05 41 23.4**	**-0.6**
MJAR	**Matsushiro Arr**	**2.32**	**287**	P	**Pn**	**05 41 37.6**	**+0.1**
	27nm,0.3s,baz=96,slow=8.8,SNR=146						
MJAR				S	**Sn**	**05 42 06.8**	**+2.0**
	11nm,0.3s,baz=148,slow=14,SNR=5.0						
MJAR				LR	LR	05 42 38.1	
	comp=Z,599nm,20.8s,baz=125,slow=44						
MAT	**Matsushiro**	**2.32**	**287**	P	**Pn**	**05 41 38.2**	**+0.6**
MAT				*e*S	**Sn**	**05 42 04.5**	**-0.4**
JHJ	**Hachijo jima 2**	**2.93**	**200**	P	**Pn**	**05 41 46.1**	**+0.1**
	36nm,0.3s,baz=104,slow=18,SNR=7.8						
JHJ				S	**Sn**	**05 42 18.1**	**-1.9**
	95nm,0.3s,baz=256,slow=23,SNR=7.7						
ASAJ	**Asahikawa**	**8.31**	**8**	P	**Pn**	**05 42 59.4**	**-0.4**
	2.5nm,0.3s,baz=232,slow=9.2,SNR=13						
ASAJ				S	**Sn**	**05 44 31.1**	**-1.2**
	0.5nm,0.3s,baz=147,slow=31,SNR=2.5						
JNU	**Nakatsue**	**8.77**	**255**	LR	LR	05 46 44.9	
	comp=Z,236nm,18.2s,baz=209,slow=40						
CBIJ	**Chichi jima**	**8.83**	**173**	P	**Pn**	**05 43 04.5**	**-2.5**
	9.6nm,0.3s,baz=54,slow=19,SNR=6.9						
CBIJ				S	**Sn**	**05 44 36.0**	**-9.2**
	10nm,0.3s,baz=267,slow=22,SNR=5.0						
KSRS	**Korea Array**	**10.59**	**282**	P	**Pn**	**05 43 32.9**	**+1.9**
	0.2nm,0.3s,baz=95,slow=15,SNR=2.9						
KSRS				LR	LR	05 47 34.7	
	comp=Z,76nm,18.9s,baz=168,slow=37						
SONM	**Songino Array**	**28.14**	**306**	P	**P**	**05 46 49.9**	**-0.1**
	1.4nm,0.6s,mb3.8,baz=99,slow=9.4,SNR=8.2						
ZALV	**Zalesovo Beam**	**42.42**	**313**	P	**P**	**05 48 51.8**	**-0.6**
	2.1nm,0.4s,mb4.1,baz=104,slow=9.1,SNR=5.0						
MK31	**Makanchi Array**	**44.42**	**303**	*eP*	**P**	**05 49 08.7**	**+0.1**
MKAR	**Makanchi Array**	**44.42**	**303**	P	**P**	**05 49 08.9**	**+0.3**
	4.1nm,0.6s,mb4.3,baz=90,slow=9.9,SNR=41						
MKAR				pP	pP	05 49 19.8	-0.3
	1.2nm,0.7s,baz=88,slow=10,SNR=4.9						
MKAR				sP	sP	05 49 25.7	+0.8
	1.9nm,0.6s,baz=88,slow=9.1,SNR=6.8						
KURK	**Kurchatov**	**46.36**	**309**	*eP*	**P**	**05 49 23.5**	**-0.4**
	3.3nm,0.3s,mb4.7						
KDAK	**Kodiak Island**	**48.20**	**41**	P	**P**	**05 49 40.8**	**+2.7**
	6.1nm,0.7s,mb4.7,baz=284,slow=6.9,SNR=3.8						
TKM2	**Tokmak 2**	**49.86**	**299**	*eP*	**P**	**05 49 51.9**	**+0.9**
	2.0nm,0.5s,mb4.4						
INK	**Inuvik**	**55.57**	**27**	*eP*	**P**	**05 50 34.7**	**+1.9**
INK	**Inuvik**	**55.57**	**27**	P	**P**	**05 50 34.1**	**+1.4**
	1.0nm,0.5s,mb3.8,baz=247,slow=2.0,SNR=9.2						
FITZ	**Fitzroy Crossi**	**55.62**	**198**	P	**P**	**05 50 32.7**	**-1.1**
	1.0nm,0.7s,mb4.0,baz=78,slow=18,SNR=4.6						
WRA	**Warramunga Arr**	**55.88**	**188**	P	**P**	**05 50 35.3**	**-0.3**
	0.9nm,0.3s,mb4.3,baz=1.2,slow=7.7,SNR=29						
WRA				pP	pP	05 50 47.6	+0.3
	0.6nm,0.4s,baz=5.5,slow=7.7,SNR=3.0						
ASAR	**Alice Springs**	**59.61**	**188**	P	**P**	**05 51 01.0**	**-0.7**
	0.5nm,0.6s,mb3.7,baz=8.1,slow=7.5,SNR=6.1						
RES	**Resolute Bay**	**63.80**	**14**	*eP*	**P**	**05 51 30.5**	**+1.2**
	47nm,0.8s						
ARCES	**ARCESS Array B**	**64.94**	**339**	P	**P**	**05 51 35.9**	**-0.9**
	3.9nm,1.0s,mb4.4,baz=53,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**64.98**	**30**	P	**P**	**05 51 36.9**	**-0.3**
YKA	**Yellowknife Ar**	**64.98**	**30**	P	**P**	**05 51 36.8**	**-0.3**
	0.3nm,0.7s,mb3.5,baz=287,slow=4.7,SNR=4.1						
YKA				pP	pP	05 51 48.4	-0.8
	0.6nm,0.6s,baz=287,slow=5.3,SNR=4.2						
JOF	**Joensuu**	**66.80**	**332**	*ep*	**P**	**05 51 47.9**	**-1.0**
	1.9nm,0.4s,mb4.5						
FINES	**FINESS Array B**	**69.65**	**332**	P	**P**	**05 52 07.2**	**+0.4**
FINES	**FINESS Array B**	**69.65**	**332**	P	**P**	**05 52 07.2**	**+0.4**
	2.3nm,0.5s,mb4.3,baz=42,slow=8.5,SNR=4.6						
AKASG	**Malin Array Be**	**74.98**	**322**	P	**P**	**05 52 38.4**	**-0.3**
	0.9nm,0.5s,mb3.9,baz=48,slow=5.9,SNR=8.6						
NB2	**NORSAR Subarra**	**75.10**	**337**	P	**P**	**05 52 39.7**	**+0.5**
	comp=Z,0.9nm,0.6s,mb3.9,baz=40,slow=5.9						
NOA	**NORSAR Array B**	**75.10**	**337**	P	**P**	**05 52 38.4**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=42,slow=5.5,SNR=5.0						
NOA				pP	pP	05 52 52.4	+1.0
	comp=Z,0.7nm,0.7s,baz=39,slow=5.8,SNR=3.4						
PFO	**Pinyon Flat Ob**	**79.98**	**56**	LR	LR	06 25 30.9	
	comp=Z,35nm,19.6s,baz=295,slow=33						
TXAR	**Lajitas Array**	**91.11**	**52**	P	**P**	**05 54 03.6**	**+1.1**
	comp=Z,0.2nm,0.7s,mb3.5,baz=281,slow=5.1,SNR=2.4						
LPAZ	**La Paz**	**147.58**	**61**	PKPbc	PKPbc	06 00 44.6	+2.3
	comp=Z,0.7nm,0.6s,baz=346,slow=3.8,SNR=3.8						

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*IDC **13** 06:03:47.2±4.6,1539S×16589E,h0km,mb4.0/5,mb1 4.1/5,mb1mx3.9/14,mbtmp4.0/5,Error ellipse: s-maj=129.8km s-min=35.6km az=121.0*
*ISCJB **13** 06:03:54.4±5.9,157S±02×1659E±03,h71km±61km,mb3.8/4,Error ellipse: s-maj=51.2km s-min=38.0km az=11.2*

ISC 13 06:03:55.5±5.2,156S±02×1660E±03,h68km±57km,n6,σ0º73/7,mb3.8/4,Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.41**	**176**	*eP*	**Pn**	**06 05 27.7**	**+0.3**
DZM				*e*S	**Sn**	**06 06 38.7**	**-0.4**
STKA	**Stephens Creek**	**27.47**	**230**	P	**P**	**06 09 36.4**	**+1.0**
	0.9nm,0.4s,mb3.6,baz=82,slow=5.1,SNR=5.0						
WRA	**Warramunga Arr**	**30.42**	**257**	P	**P**	**06 10 01.0**	**-0.7**
	1.0nm,0.9s,mb3.5,baz=88,slow=9.2,SNR=13						
ASAR	**Alice Springs**	**31.20**	**250**	P	**P**	**06 10 08.4**	**-0.1**
	2.1nm,0.5s,mb4.1,baz=83,slow=9.9,SNR=40						
SONM	**Songino Array**	**82.50**	**324**	P	**P**	**06 16 10.4**	**-0.2**
	0.4nm,0.7s,baz=131,slow=4.0,SNR=3.0						
MKAR	**Makanchi Array**	**97.01**	**317**	P	**P**	**06 17 19.8**	**+0.1**
	0.3nm,0.7s,mb3.9,baz=108,slow=3.1,SNR=3.5						

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*CSEM **13** 06:29:57.9±1.1,3732N×2460W,h5km,ML2.9,Error ellipse: s-maj=6.7km s-min=3.5km az=76.0,After PDA*

PDA 13 06:29:57.9±1.1,3732N×2460W,h5km,MD3.7,ML2.9,Error ellipse: s-maj=6.7km s-min=3.5km az=76.0,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.49**	**229**	*eP*	Pg	06 30 06.5	-0.8
PSMN				*e*S	Sg	06 30 12.7	-0.9
CMLA	**Cha da Macela**	**0.85**	**301**	*eP*	Pg	06 30 11.2	-3.1
CMLA				*e*S	Sg	06 30 22.2	-3.2
CMLA				A		06 30 24.8	
	136nm,0.3s						
CMLA	**Cha da Macela**	**0.85**	**301**	*eP*	Pg	06 30 11.2	-3.1
CMLA				*e*S	Sg	06 30 22.2	-3.2
PDA	**Ponta Delgada**	**0.94**	**297**	*eP*	Pg	06 30 12.9	-3.1
PDA				*e*S	Sg	06 30 24.5	-3.7
PSET	**Sete Cidades**	**1.02**	**300**	*eP*	Pg	06 30 13.8	-3.7
PSET				*e*S	Sg	06 30 26.4	-4.3
PSET				A		06 30 28.5	
	253nm,0.1s						
PSET	**Sete Cidades**	**1.02**	**300**	*eP*	Pg	06 30 13.8	-3.7
PSET				*e*S	Sg	06 30 26.4	-4.3
PSCM	**Serra do Cume**	**2.42**	**305**	*eP*	Pn	06 30 33.8	-4.2
PSCM				*e*S	Sn	06 30 59.9	-8.1
PSCM				A		06 31 03.5	
	43nm,0.2s						
PSCM	**Serra do Cume**	**2.42**	**305**	*eP*	Pn	06 30 33.8	-4.2
PSCM				*e*S	Sn	06 30 59.9	-8.1
PMAN	**Manadas**	**3.05**	**296**	*eP*	Pn	06 30 42.7	-4.1
PMAN				*e*S	Sn	06 31 16.0	-7.6
PMAN				A		06 31 20.9

FINES FINESS Array B 58.69 32 P P 06 49 11.6 +0.3
comp=Z,2.1nm,0.9s,mb4.2,baz=211,slow=6.7,SNR=7.0
ARCES ARCESS Array B 59.29 23 P P 06 49 15.2 -0.2
comp=Z,3.0nm,0.7s,mb4.4,baz=265,slow=6.1,SNR=12
AKASG Malin Array Be 60.69 45 P P 06 49 24.4 -1.0
comp=Z,1.9nm,0.6s,mb4.4,baz=272,slow=6.2,SNR=9.3
MKAR Makanchi Array 93.51 33 LR LR 07 36 43.5
comp=Z,28nm,18.3s,MS3.8,baz=355,slow=37

*NEIC **13** 06:43:00.6, 39.10S×174.01E, h12km, ML4.2(WEL), After WEL.*
NEIC Felt in the Taranaki area.
WEL 13 06:43:00.3±0.2, 39.07S×174.00E, h12km±1km, ML4.0/51, Error ellipse: s-maj=1.8km s-min=1.2km az=90.0, Off west coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKE	**Pukeiti**	**0.13**	**183**	P	Pg	06 43 03.4	-0.1
PKE				S	Sg	06 43 05.9	+0.1
PKE	**Pukeiti**	**0.13**	**183**	PG	Pg	06 43 03.4	-0.1
PKE				SG	Sg	06 43 05.9	+0.1
NEZ	**North Egmont**	**0.22**	**159**	P	Pg	06 43 04.9	-0.1
NEZ	**North Egmont**	**0.22**	**159**	PG	Pg	06 43 04.9	-0.1
NWEZ	**Newall Road**	**0.23**	**206**	P	Pg	06 43 05.5	+0.3
NWEZ	**Newall Road**	**0.23**	**206**	P*	Pg	06 43 05.5	+0.4
DFE	**Dawson Falls**	**0.27**	**162**	P	Pg	06 43 05.5	-0.4
DFE	**Dawson Falls**	**0.27**	**162**	P*	Pg	06 43 05.5	-0.4
NRZ	**Ngariki Road**	**0.27**	**190**	P	Pg	06 43 05.7	-0.2
NRZ	**Ngariki Road**	**0.27**	**190**	P*	Pg	06 43 05.7	-0.2
RAEZ	**Rainy Point**	**0.38**	**125**	P	Pg	06 43 08.1	+0.3
RAEZ	**Rainy Point**	**0.38**	**125**	P*	Pg	06 43 08.1	+0.3
VRZ	**Vera Road**	**0.59**	**96**	P	Pg	06 43 11.6	-0.3
VRZ				S	Sg	06 43 19.9	+0.1
VRZ	**Vera Road**	**0.59**	**96**	P*	Pb	06 43 11.6	-1.1
VRZ				S*	Sb	06 43 19.9	-1.1
HIZ	**Hauiti**	**0.87**	**51**	P	Pg	06 43 16.5	-0.6
HIZ	**Hauiti**	**0.87**	**51**	P*	Pb	06 43 16.5	-0.9
WAZ	**Wanganui**	**1.03**	**132**	P	Pb	06 43 19.2	-0.9
WAZ	**Wanganui**	**1.03**	**132**	P*	Pb	06 43 19.2	-0.9
PKVZ	**Pokaka**	**1.07**	**102**	P*	Pb	06 43 19.6	-1.2
TWVZ	**Taurewa**	**1.12**	**91**	P	Pb	06 43 20.2	-1.5
TWVZ	**Taurewa**	**1.12**	**91**	P*	Pb	06 43 20.2	-1.4
MTVZ	**Mangateitei**	**1.19**	**106**	P*	Pb	06 43 21.5	-1.3
WPVZ	**Whakapapa**	**1.21**	**97**	P	Pn	06 43 22.0	-1.1
WPVZ	**Whakapapa**	**1.21**	**97**	P*	Pb	06 43 22.0	-1.2
FWVZ	**Far West T-bar**	**1.22**	**99**	P*	Pb	06 43 22.1	-1.3
TRVZ	**Turoa**	**1.23**	**101**	P*	Pb	06 43 22.3	-1.2
DRZ	**Dome Shelter**	**1.23**	**100**	P	Pn	06 43 23.0	-0.4
DRZ	**Dome Shelter**	**1.23**	**100**	P*	Pb	06 43 23.0	-0.6
WTVZ	**West Tongariro**	**1.24**	**93**	P	Pn	06 43 22.4	-1.1
WTVZ	**West Tongariro**	**1.24**	**93**	P*	Pb	06 43 22.4	-1.3
NGZ	**Ngauruhoe**	**1.25**	**95**	P	Pn	06 43 22.7	-0.9
NGZ	**Ngauruhoe**	**1.25**	**95**	P*	Pb	06 43 22.7	-1.2
WNVZ	**Wahianoa**	**1.27**	**102**	P	Pn	06 43 23.0	-0.9
WNVZ	**Wahianoa**	**1.27**	**102**	PN	Pn	06 43 23.0	-0.9
KRVZ	**Karewarewa**	**1.28**	**92**	PN	Pn	06 43 23.2	-0.8
OTVZ	**Oturere**	**1.30**	**95**	PN	Pn	06 43 23.7	-0.6
TUVZ	**Tukino**	**1.30**	**99**	P	Pn	06 43 24.2	-0.1
TUVZ	**Tukino**	**1.30**	**99**	PN	Pn	06 43 24.2	-0.2
KATZ	**Kakaramea**	**1.33**	**87**	P	Pn	06 43 24.3	-0.4
KATZ	**Kakaramea**	**1.33**	**87**	PN	Pn	06 43 24.3	-0.4
RATZ	**Rangitukua**	**1.40**	**82**	PN	Pn	06 43 25.3	-0.3
WATZ	**Wairara**	**1.40**	**76**	P	Pn	06 43 25.2	-0.5
WATZ	**Wairara**	**1.40**	**76**	PN	Pn	06 43 25.2	-0.5
MOVZ	**Moawhango**	**1.41**	**104**	PN	Pn	06 43 25.1	-0.6
RITZ	**Rihia Road**	**1.45**	**87**	P	Pn	06 43 27.0	+0.6
RITZ	**Rihia Road**	**1.45**	**87**	PN	Pn	06 43 27.0	+0.6
WHTZ	**Whakaora**	**1.58**	**76**	P	Pn	06 43 28.9	+0.7
WHTZ	**Whakaora**	**1.58**	**76**	PN	Pn	06 43 28.9	+0.7
HATZ	**Hinemaiaia**	**1.64**	**84**	P	Pn	06 43 29.3	+0.3
HATZ	**Hinemaiaia**	**1.64**	**84**	PN	Pn	06 43 29.3	+0.2
DUWZ	**D'Urville Isla**	**1.73**	**182**	PN	Pn	06 43 29.4	-0.9
TOZ	**Tahuroa Road**	**1.79**	**42**	P	Pn	06 43 30.1	-0.9
TOZ	**Tahuroa Road**	**1.79**	**42**	PN	Pn	06 43 30.1	-0.9
TSZ	**Takapari Road**	**1.81**	**124**	P	Pn	06 43 31.7	+0.4
TSZ	**Takapari Road**	**1.81**	**124**	PN	Pn	06 43 31.7	+0.4
KIW	**Kapiti Island**	**1.92**	**159**	P	Pn	06 43 32.9	0.0
KIW	**Kapiti Island**	**1.92**	**159**	PN	Pn	06 43 32.9	0.0
UTU	**Utuhina**	**1.94**	**63**	P	Pn	06 43 32.7	-0.4
UTU	**Utuhina**	**1.94**	**63**	PN	Pn	06 43 32.7	-0.3
BKZ	**Black Stump Fm**	**1.94**	**94**	P	Pn	06 43 33.6	+0.4
BKZ	**Black Stump Fm**	**1.94**	**94**	PN	Pn	06 43 33.6	+0.5
MRZ	**Mangatainoka R**	**2.00**	**143**	P	Pn	06 43 35.0	+1.0
MRZ	**Mangatainoka R**	**2.00**	**143**	PN	Pn	06 43 35.0	+1.0
KARZ	**Kaharoa**	**2.05**	**60**	P	Pn	06 43 35.7	+1.1
KARZ	**Kaharoa**	**2.05**	**60**	PN	Pn	06 43 35.7	+1.1
WPHZ	**Waipukurau**	**2.13**	**119**	PN	Pn	06 43 38.4	+2.7
MKAZ	**Moumakai**	**2.16**	**26**	P	Pn	06 43 35.9	-0.3
MKAZ	**Moumakai**	**2.16**	**26**	PN	Pn	06 43 35.9	-0.3
HOWZ	**Holdsworth Sta**	**2.17**	**148**	PN	Pn	06 43 37.6	+1.4
WTAZ	**Waiatarua**	**2.18**	**12**	P	Pn	06 43 36.5	+0.1
WTAZ	**Waiatarua**	**2.18**	**12**	PN	Pn	06 43 36.5	+0.1
CAW	**Cannon Point**	**2.20**	**158**	P	Pn	06 43 37.4	+0.8
CAW	**Cannon Point**	**2.20**	**158**	PN	Pn	06 43 37.4	+0.7
NNZ	**Nelson**	**2.20**	**192**	P	Pn	06 43 35.9	-0.8
NNZ	**Nelson**	**2.20**	**192**	PN	Pn	06 43 35.9	-0.7
MRW	**Makara Radio**	**2.22**	**166**	P	Pn	06 43 38.1	+1.1
MRW	**Makara Radio**	**2.22**	**166**	PN	Pn	06 43 38.1	+1.1
TGRZ	**Tauranga**	**2.23**	**54**	P	Pn	06 43 36.2	-0.8
TGRZ	**Tauranga**	**2.23**	**54**	PN	Pn	06 43 36.2	-0.8
TIWZ	**Tintock**	**2.24**	**140**	PN	Pn	06 43 39.0	+1.7
WEL	**Wellington**	**2.29**	**165**	P	Pn	06 43 40.2	+2.3
WEL	**Wellington**	**2.29**	**165**	PN	Pn	06 43 40.2	+2.3
SNZO	**South Karori**	**2.30**	**167**	PN	Pn	06 43 38.4	+0.3
BFZ	**Birch Farm**	**2.36**	**134**	P	Pn	06 43 40.3	+1.4
BFZ	**Birch Farm**	**2.36**	**134**	PN	Pn	06 43 40.3	+1.4
MTW	**Mount Morrison**	**2.38**	**152**	P	Pn	06 43 41.0	+1.8
MTW	**Mount Morrison**	**2.38**	**152**	PN	Pn	06 43 41.0	+1.8
PXZ	**Pawanui**	**2.42**	**114**	PN	Pn	06 43 42.5	+2.9
BHW	**Baring Head**	**2.43**	**164**	P	Pn	06 43 42.0	+2.1
BHW	**Baring Head**	**2.43**	**164**	PN	Pn	06 43 42.0	+2.2
MSWZ	**Moikau Station**	**2.53**	**158**	P	Pn	06 43 43.2	+2.0
MSWZ	**Moikau Station**	**2.53**	**158**	PN	Pn	06 43 43.2	+1.9
PAWZ	**Paruwai Farm**	**2.56**	**155**	P	Pn	06 43 44.3	+2.7
PAWZ	**Paruwai Farm**	**2.56**	**155**	PN	Pn	06 43 44.3	+2.7
URZ	**Urewera**	**2.57**	**73**	P	Pn	06 43 44.9	+3.2
URZ	**Urewera**	**2.57**	**73**	PN	Pn	06 43 44.9	+3.2
BSWZ	**Blackbirch Sta**	**2.64**	**182**	P	Pn	06 43 43.1	+0.3
BSWZ	**Blackbirch Sta**	**2.64**	**182**	PN	Pn	06 43 43.1	+0.3
TRWZ	**Traveller**	**2.66**	**151**	PN	Pn	06 43 46.1	+3.0
KUZ	**Kuaotunu**	**2.69**	**31**	P	Pn	06 43 42.4	-1.0
KUZ	**Kuaotunu**	**2.69**	**31**	PN	Pn	06 43 42.4	-1.0
THZ	**Tophouse**	**2.82**	**197**	P	Pn	06 43 45.0	-0.2
THZ	**Tophouse**	**2.82**	**197**	PN	Pn	06 43 45.0	-0.2
MWZ	**Matawai**	**2.86**	**76**	P	Pn	06 43 47.3	+1.6
MWZ	**Matawai**	**2.86**	**76**	PN	Pn	06 43 47.3	+1.6
WCZ	**Waipu Caves**	**3.13**	**5**	PN	Pn	06 43 49.1	-0.4
DSZ	**Denniston Nort**	**3.15**	**211**	P	Pn	06 43 48.6	-1.2
DSZ	**Denniston Nort**	**3.15**	**211**	PN	Pn	06 43 48.6	-1.2
KHZ	**Kahutara**	**3.36**	**186**	P	Pn	06 43 53.2	+0.5
KHZ	**Kahutara**	**3.36**	**186**	PN	Pn	06 43 53.2	+0.6
OUZ	**Omahuta**	**3.85**	**355**	P	Pn	06 43 59.3	-0.1
OUZ	**Omahuta**	**3.85**	**355**	PN	Pn	06 43 59.3	-0.2
LTZ	**Lake Taylor**	**3.93**	**199**	P	Pn	06 44 00.6	+0.1
LTZ	**Lake Taylor**	**3.93**	**199**	PN	Pn	06 44 00.6	+0.1
WVZ	**Waitaha Valley**	**4.70**	**211**	P	Pn	06 44 10.1	-0.9
WVZ	**Waitaha Valley**	**4.70**	**211**	PN	Pn	06 44 10.1	-1.0
MQZ	**McQueen's Vall**	**4.74**	**192**	P	Pn	06 44 10.4	-1.2
MQZ	**McQueen's Vall**	**4.74**	**192**	PN	Pn	06 44 10.4	-1.3
RPZ	**Rata Peaks**	**5.14**	**205**	P	Pn	06 44 15.7	-1.4
RPZ	**Rata Peaks**	**5.14**	**205**	PN	Pn	06 44 15.7	-1.5
FOZ	**Fox Glacier**	**5.54**	**214**	P	Pn	06 44 20.0	-2.6
FOZ	**Fox Glacier**	**5.54**	**214**	PN	Pn	06 44 20.0	-2.6
JCZ	**Jackson Bay**	**6.36**	**216**	P	Pn	06 44 32.5	-1.3
JCZ	**Jackson Bay**	**6.36**	**216**	PN	Pn	06 44 32.5	-1.3
ODZ	**Otahua Downs**	**6.47**	**202**	P	Pn	06 44 33.2	-2.1
ODZ	**Otahua Downs**	**6.47**	**202**	PN	Pn	06 44 33.2	-2.2

IDC 13 06:45:48.3±1.9, 867S×12849E, h0km, mb3.7/1, mb1 3.6/5, mb1mx3.5/14, mbtmp3.5/5, ML3.3/4, Error ellipse: s-maj=46.6km s-min=25.6km az=69.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.00**	**252**	Pn	Pn	06 47 03.5	-1.1
7.1nm,0.3s,baz=93,slow=9.6,SNR=6.5							
FITZ	**Fitzroy Crossi**	**9.78**	**196**	Pn	Pn	06 48 11.6	+1.3
0.2nm,0.3s,baz=14,slow=22,SNR=17							
FITZ				Sn	Sn	06 50 07.9	+7.0
0.1nm,0.3s,baz=287,slow=21,SNR=2.9							
WRA	**Warramunga Arr**	**12.56**	**154**	Pn	Pn	06 48 47.7	-0.7
0.1nm,0.3s,baz=326,slow=13,SNR=13							
WRA				Sn	Sn	06 51 12.1	+3.0
0.3nm,0.3s,baz=335,slow=22,SNR=74							
ASAR	**Alice Springs**	**15.79**	**161**	Pn	Pn	06 49 30.9	-1.2
0.1nm,0.3s,baz=340,slow=11,SNR=6.3							
MKAR	**Makanchi Array**	**68.81**	**328**	P	P	06 56 54.7	+0.4
0.5nm,0.6s,baz=140,slow=7.8,SNR=5.7							

*IDC **13** 06:46:44.2±2.8, 842S×118.36E, h144km±26km, mb3.5/2, mb1 3.5/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=43.4km s-min=21.5km az=45.0*
*ISCJB **13** 06:46:46.4±1.8, 82S±01.1×118.7E±0.2, h188km±16km, mb4.1/3, Error ellipse: s-maj=33.4km s-min=10.2km az=153.7*
*NEIC **13** 06:46:48.2±1.5, 8.18S×118.88E, h174km±13km, mb3.4/2, Error ellipse: s-maj=36.1km s-min=8.9km az=73.0*
ISC 13 06:46:45.2±1.7, 836S±010×1185E±02, h157km±15km, n11, σ1°16/14, mb4.1/3, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.56**	**21**	P	Pn	06 47 39.9	-0.1
0.8nm,0.3s,baz=255,slow=22,SNR=4.2							
BATI	**Kupang**	**5.46**	**110**	P	Pn	06 48 04.2	-0.6
7.9nm,0.3s,baz=5.7,slow=3.5,SNR=6.1							
BATI				S	Sn	06 49 08.1	+1.0
17nm,0.3s,baz=282,slow=12,SNR=8.5							
FITZ	**Fitzroy Crossi**	**11.94**	**145**	P	Pn	06 49 31.9	+1.4
0.4nm,0.3s,baz=328,slow=14,SNR=6.4							
FITZ				S	Sn	06 51 41.0	-1.8
0.3nm,0.3s,baz=204,slow=20,SNR=4.2							
KKM	**Kota Kinabalu**	**14.48**	**351**	*e*Pn	Pn	06 50 04.0	+1.1
WRA	**Warramunga Arr**	**19.21**	**129**	P	P	06 50 57.1	-0.1
0.4nm,0.3s,baz=302,slow=12,SNR=26							
WRA				S	S	06 54 29.1	+2.6
0.1nm,0.3s,baz=303,slow=23,SNR=4.3							
WRAB	**Tennant Creek**	**19.21**	**128**	*e*P	P	06 50 56.7	-0.5
1.3nm,0.5s							
WB2	**Warramunga Arr**	**19.22**	**128**	*e*P	P	06 50 57.0	-0.3
ASAR	**Alice Springs**	**21.23**	**138**	P	P	06 51 18.9	+0.1
2.0nm,0.4s,mb3.8,baz=315,slow=8.9,SNR=34							
STKA	**Stephens Creek**	**31.79**	**141**	P	P	06 52 55.4	+0.6
0.7nm,0.3s,mb3.9							
STKA	**Stephens Creek**	**31.79**	**141**	P	P	06 52 55.4	+0.6
1.0nm,0.7s,mb3.6,baz=309,slow=6.5,SNR=2.9							
GUMO	**Guam**	**34.10**	**50**	*e*P	P	06 53 12.7	-2.5
19nm,0.8s,mb4.9							

IDC 13 06:50:48.9±21.0, 2029S×6833W, h150km±131km, mb3.9/2, mb1 3.4/5, mb1mx3.2/18, mbtmp3.5/5, ML3.8/3, Error ellipse: s-maj=280.7km s-min=40.7km az=20.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.98**	**3**	P	Pn	06 51 50.1	+1.1
1.7nm,0.3s,baz=189,slow=9.2,SNR=58							
SIV	**San Ignacio**	**8.11**	**59**	P	Pn	06 52 42.9	-0.9
1.6nm,0.3s,baz=252,slow=12,SNR=37							
BDFB	**Brasilia**	**19.86**	**80**	P	P	06 55 09.1	+0.6
0.2nm,0.3s,baz=246,slow=19,SNR=5.1							
DBIC	**Dimbokro**	**67.87**	**74**	P	P	07 01 31.8	+0.2
1.9nm,0.7s,baz=223,slow=8.7,SNR=4.1							
TORD	**Torodi Ar. Bea**	**76.44**	**70**	P	P	07 02 22.4	0.0
2.4nm,0.6s,baz=253,slow=5.5,SNR=35							
MKAR	**Makanchi Array**	**144.34**	**35**	PKP	PKPdf	07 10 06.3	-0.7
1.5nm,0.7s,baz=317,slow=4.2,SNR=11							

*SZGRF **13** 06:50:57.0, 22.76S×178.77W, h33km, South of Fiji Islands*
*ISCJB **13** 06:51:58.0±1.2, 2159S±007×179.19W±006, h539km±15km, mb4.3/45, Error ellipse: s-maj=12.0km s-min=6.8km az=148.2*
*NEIC **13** 06:51:59.2±0.9, 2154S×179.10W, h546km±11km, mb4.5/29, Error ellipse: s-maj=10.9km s-min=6.1km az=145.0*
*BJI **13** 06:51:59.2, 2150S×179.10W, h546km, mB4.6, mb4.5*
*IDC **13** 06:52:06.2±2.1, 2162S×179.23W, h631km±24km, mb3.6/13, mb1 3.8/13, mb1mx3.7/16, mbtmp3.6/13, Error ellipse: s-maj=17.0km s-min=11.0km az=164.0*
ISC 13 06:51:59.0±1.2, 2159S±007×17915W±006, h538km±14km, h549km±2.7km; pP-P, n307, σ0°59/218, mb4.3/44, 86C-73D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**10.37**	**44**	*e*P	P	06 54 20.1	-0.6
18nm,0.4s							
URZ	**Urewera**	**16.92**	**190**	P	P	06 55 25.5	-1.9
3.4nm,0.3s,baz=340,slow=4.0,SNR=24							
RAR	**Rarotonga**	**18.05**	**92**	P	P	06 55 36.6	-1.3
0.8nm,0.3s,baz=248,slow=6.7,SNR=5.0							
SNZO	**South Karori**	**20.34**	**193**	*e*P	P	06 55 58.2	-0.2
41nm,1.0s							
RPZ	**Rata Peaks**	**23.52**	**198**	P	P	06 56 25.9	-1.1
7.1nm,0.5s,mb4.5,baz=347,slow=3.1,SNR=6.9							
CNB	**Canberra Magne**	**30.73**	**237**	*e*P	P	06 57 32.5	+2.1
8.9nm,0.6s,mb4.5							
CTA	**Charters Tower**	**32.34**	**266**	*e*P	P	06 57 45.6	+1.4
14nm,0.5s,mb4.7							
CTA	**Charters Tower**	**32.34**	**266**	P	P	06 57 45.4	+1.1
17nm,0.5s,mb4.8,baz=95,slow=10,SNR=39							
CTAO	**Charters Tower**	**32.34**	**266**	*e*P	P	06 57 45.4	+1.1
15nm,0.4s,mb4.9							
TOO	**Toolangi**	**34.39**	**234**	*e*P	P	06 58 03.1	+1.7
60nm,0.6s,mb5.3							
STKA	**Stephens Creek**	**36.36**	**245**	*e*P	P	06 58 19.4	+1.6
2.7nm,1.0s,mb3.7							
STKA	**Stephens Creek**	**36.36**	**245**	P	P	06 58 18.9	+1.2
1.7nm,0.3s,mb4.0,baz=90,slow=9.5,SNR=12							
STKA				PcP	PcP	07 00 26.9	-0.8
1.4nm,0.5s,baz=92,slow=8.5,SNR=3.8							
ASAR	**Alice Springs**	**43.24**	**258**	P	P	06 59 13.7	+0.6
8.7nm,0.5s,mb4.5,baz=95,slow=8.1,SNR=89							
ASAR				PcP	PcP	07 00 49.5	-0.7
3.4nm,0.6s,baz=102,slow=4.1,SNR=12							
ASAR				ScP	ScP	07 03 46.0	-4.4
1.5nm,0.9s,baz=107,slow=3.8,SNR=5.3							
ASAR				S	S	07 04 56.9	-4.4
5.5nm,0.8s,baz=95,slow=15,SNR=29							
WB2	**Warramunga Arr**	**43.39**	**263**	*e*S	S	07 04 58.3	-5.3
WRAB	**Tennant Creek**	**43.39**	**263**	*e*P	P	06 59 14.3	-0.1
11nm,0.9s,mb4.4							
WRA	**Warramunga Arr**	**43.40**	**263**	P	P	06 59 14.0	-0.4
4.2nm,0.3s,mb4.5,baz=96,slow=7.7,SNR=64							
WRA				PcP	PcP	07 00 49.7	-1.2
3.0nm,1.0s,baz=99,slow=4.2,SNR=5.1							
WRA				ScP	ScP	07 03 48.0	-3.1
1.3nm,0.9s,baz=90,slow=4.0,SNR=4.2							
WRA				S	S	07 04 58.6	-5.2
3.5nm,0.9s,baz=102,slow=16,SNR=9.5							
KAKA	**Kakadu**	**46.94**	**273**	*e*P	P	06 59 41.6	0.0
7.1nm,0.3s,mb4.7							
FITZ	**Fitzroy Crossi**	**51.83**	**264**	P	P	07 00 17.9	+0.3
1.5nm,0.5s,mb3.6,baz=139,slow=7.5,SNR=6.0							
MBWA	**Marble Bar**	**56.58**	**258**	*e*P	P	07 00 50.6	-0.4
6.1nm,0.6s,mb4.0							
KLBR	**Kellerberrin**	**56.63**	**246**	*e*P	P	07 00 51.1	-0.1
53nm,1.7s,mb4.5							
SBA	**Scott Base**	**56.72**	**184**	*e*P	P	07 00 52.1	+1.1
12nm,0.9s,mb4.1							
CASY	**Casey**	**62.52**	**205**	*e*P	P	07 01 30.2	+0.4
7.5nm,0.6s,mb4.3							
QSPA	**South Pole Qui**	**68.48**	**180**	*e*P	P	07 02 07.8	+0.9
26nm,0.7s,mb4.9							
MJAR	**Matsushiro Arr**	**70.46**	**325**	P	P	07 02 18.2	-1.1
3.2nm,0.6s,mb4.0,baz=157,slow=5.7,SNR=7.4							
MAJO	**Matsushiro**	**70.46**	**325**	*e*P	P	07 02 18.5	-0.9
1.3nm,0.3s,mb3.9							
ASAJ	**Asahikawa**	**74.18**	**332**	P	P	07 02 41.2	+0.6
6.6nm,0.8s,mb4.1,baz=205,slow=7.3,SNR=6.1							
UNV	**Unalaska Valle**	**75.91**	**8**	*e*P	P	07 02 48.9	-1.2
17nm,0.9s,mb4.5							
MAW	**Mawson**	**80.18**	**200**	P	P	07 03 12.8	-0.2
5.5nm,0.7s,mb4.0,baz=120,slow=6.0,SNR=12							
EDW2	**Edwards Air Fo**	**80.74**	**47**	⇓P	P	07 03 16.6	+0.2
baz=81							
O02C	**Red Bluff**	**80.79**	**40**	⇓P	P	07 03 17.7	+1.1
baz=81							
MDJ	**Mudanjiang**	**80.80**	**326**	P	P	07 03 16.8	+0.3
MDJ				AMB	AMB		
comp=Z,15nm,2.0s,mb4.1							
MDJ				AMB	AMB		
comp=Z,114nm,3.1s							
T06C	**Millerton Lake**	**80.82**	**44**	⇑P	P	07 03 17.1	+0.3
baz=81							
CMB	**Columbia Colle**	**80.98**	**43**	*e*P	P	07 03 17.1	-0.5
comp=Z,1.8nm,0.6s,mb3.7							
CMB	**Columbia Colle**	**80.98**	**43**	⇑P	P	07 03 17.8	+0.2
baz=81							
HELL	**Mitchell Peak**	**81.08**	**45**	⇓P	P	07 03 17.9	-0.3
baz=81							
S06C	**San Francisco**	**81.24**	**44**	⇓P	P	07 03 19.2	+0.3
baz=81							
KCC	**Kaiser Creek**	**81.25**	**44**	⇑P	P	07 03 19.3	+0.3
baz=81,SNR=5.5							
P05C	**Yuba Gap, Truc**	**81.60**	**42**	⇓P	P	07 03 21.1	+0.3
baz=82							
BELC	**Belle Mtn.**	**81.63**	**49**	⇑P	P	07 03 20.9	-0.1
baz=82							
MPMC	**Manual Prospec**	**81.74**	**46**	⇑P	P	07 03 21.7	+0.2
baz=82							
MTUM	**Tungsten Hills**	**81.76**	**45**	*e*P	P	07 03 22.1	+0.5
GSC	**Goldstone**	**81.78**	**47**	⇓P	P	07 03 21.8	0.0
baz=82							
YBH	**Yreka Blue Hor**	**81.81**	**39**	*e*P	P	07 03 22.0	+0.3
YBH	**Yreka Blue Hor**	**81.81**	**39**	⇑P	P	07 03 22.6	+0.9
baz=82							
R06C	**Coleville**	**81.87**	**43**	⇓P	P	07 03 22.7	+0.6
baz=82							
M03C	**McCloud**	**81.87**	**40**	⇓P	P	07 03 22.5	+0.4
baz=82,SNR=5.1							
GLA	**Glamis**	**81.94**	**50**	*e*P	P	07 03 23.2	+0.5
comp=Z,8.0nm,0.9s,mb4.2							
BEKR	**Beckwourth**	**82.09**	**42**	⇓P	P	07 03 23.4	+0.2
baz=82,SNR=5.1							
S08C	**White Mtn Res**	**82.10**	**45**	⇑P	P	07 03 23.7	+0.3
baz=82,SNR=9.4							
WCN	**Washoe City**	**82.13**	**42**	⇑P	P	07 03 23.8	+0.4
baz=82							
HUMO	**Hull Mountain**	**82.21**	**38**	*e*P	P	07 03 24.0	+0.2
comp=Z,4.2nm,0.6s,mb4.0							
HUMO	**Hull Mountain**	**82.21**	**38**	⇑P	P	07 03 24.3	+0.6
baz=82							
GMRC	**Granite Mounta**	**82.28**	**48**	⇓P	P	07 03 24.5	+0.2
baz=82							
IRM	**Iron Mountain**	**82.31**	**49**	⇓P	P	07 03 24.8	+0.4
baz=82							
GRAC	**Grapevine Rang**	**82.35**	**45**	⇓P	P	07 03 25.1	+0.5
baz=82							
TUQ	**Turquoise Mtn.**	**82.46**	**47**	⇑P	P	07 03 25.4	+0.2
baz=83							
M05C	**Lookout**	**82.50**	**40**	⇓P	P	07 03 25.7	+0.4
baz=83							
CN2	**Changchun**	**82.52**	**323**	*e*P	P	07 03 29.3	+4.0
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb4.5							
Y12C	**Blythe**	**82.53**	**49**	⇑P	P	07 03 26.0	+0.4
baz=83							
NVAR	**Mina Array Bea**	**82.55**	**44**	P	P	07 03 25.6	0.0
comp=Z,3.5nm,0.6s,mb4.0,baz=226,slow=8.4,SNR=19							
113A	**Mohawk Valley,**	**82.55**	**51**	⇑P	P	07 03 26.0	+0.2
baz=83							
L04A	**Klamath Falls**	**82.56**	**39**	⇑P	P	07 03 26.1	+0.5
baz=83							
O06A	**Flanigan**	**82.59**	**42**	⇓P	P	07 03 26.0	+0.2
baz=83							
PAHR	**Pah Rah Range**	**82.60**	**42**	*e*P	P	07 03 25.8

baz=85,SNR=7.7
218A Dragoon 84.87 53 P P 07 03 38.1 +0.8
baz=85,SNR=7.4
R12A Pony Springs, 84.91 45 ⇑P P 07 03 37.4 +0.2
baz=85
L09A Wilkinson Ranc 85.00 41 ⇑P P 07 03 37.7 +0.1
baz=85
H06A Lindquist Farm 85.01 38 ⇓P P 07 03 37.3 -0.4
baz=85
I07A Izee 85.10 39 ⇑P P 07 03 38.5 +0.4
baz=85
319A Douglas 85.15 54 P P 07 03 39.3 +0.6
baz=85,SNR=6.6
O11A Cowboy Ranch, 85.20 44 ⇑P P 07 03 38.8 +0.1
baz=85
V15A Kaibab Nationa 85.25 49 ⇑P P 07 03 39.3 +0.3
baz=85
T14A Hurricane 85.26 47 ⇓P P 07 03 39.3 +0.3
baz=85
J08A Circle Bar Ran 85.28 40 ⇓P P 07 03 39.0 +0.1
baz=85
K09A Rome 85.35 41 ⇑P P 07 03 38.9 -0.4
baz=86
H07A Lands Inn, Kim 85.37 38 ⇑P P 07 03 39.2 -0.1
baz=86
SYO Syowa Base 85.43 193⇑ eP P 07 03 36.5 -2.8
SYO Syowa Base 85.43 193⇑ ePcP PcP 07 03 40.0 -1.3
X17A Forest Lakes 85.48 50 ⇑P P 07 03 40.8 +0.6
baz=86
I08A Drewsey 85.55 39 ⇓P P 07 03 40.4 +0.2
baz=86
D05A Enumclaw 85.60 35 ⇑P P 07 03 40.9 +0.5
baz=86
Q13A Wheeler Ranch, 85.63 45 ⇑P P 07 03 40.5 -0.3
baz=86
WUAZ Wupatki 85.66 49 ⇑P P 07 03 40.7 -0.3
baz=86
J09A Fry Pan Ranch, 85.70 40 ⇑P P 07 03 40.9 -0.1
baz=86
T15A Red Dirt Ranch 85.72 48 ⇑P P 07 03 41.3 0.0
baz=86,SNR=6.2
E06A Yakima 85.75 36 ⇑P P 07 03 41.6 +0.4
baz=86
Y18A Canyon Day Jun 85.76 51 P P 07 03 42.0 +0.6
baz=86,SNR=8.0
L10A Juniper Basin 85.77 42 ⇑P P 07 03 41.1 -0.2
baz=86
H08A Prairie City 85.84 39 ⇑P P 07 03 41.6 0.0
baz=86
O12A Currie 85.86 44 ⇓P P 07 03 41.6 -0.2
baz=86
K10A MacKenzie Ranc 85.92 41 ⇓P P 07 03 42.2 +0.2
baz=86
G08A Pilot Rock 86.13 38 ⇑P P 07 03 43.2 +0.2
baz=86,SNR=7.4
X18A Snowflake 86.19 51 ⇑P P 07 03 43.9 +0.3
baz=86
GYA Guiyang 86.26 300 P P 07 03 42.8 -1.3
GYA AP pP 07 05 43.8 +2.3
GYA XP sP 07 06 38.3 +2.4
GYA PP PP 07 07 16.8 +1.6
GYA SKS 07 13 16.4
GYA S S 07 13 32.4 -2.2
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
GYA AMB AMB
comp=Z,60nm,6.7s
PMR Palmer 86.32 14 eP P 07 03 42.0 -1.5
comp=Z,3.2nm,0.4s,mb4.3
M12A Wells 86.37 43 ⇓P P 07 03 44.1 -0.1
baz=86
Y19A Nutrioso 86.41 51 ⇑P P 07 03 45.3 +0.7
baz=86
H09A Durkee 86.51 39 ⇑P P 07 03 44.9 +0.1
baz=87
D07A Quincy 86.69 36 ⇑P P 07 03 45.6 0.0
baz=87
I10A Payette 86.69 40 ⇑P P 07 03 46.1 +0.4
baz=87
G09A Cove 86.80 38 ⇓P P 07 03 46.1 -0.1
baz=87
M13A Montello 86.82 43 ⇓P P 07 03 46.2 -0.1
baz=87
BMO Blue Mountains 86.83 39 eP P 07 03 46.1 -0.2
MFID Camas Ranch 86.90 41 ⇑P P 07 03 46.6 0.0
baz=87
C07A Waterville 86.94 35 ⇓P P 07 03 46.3 -0.5
baz=87
SNAA Sanae 86.95 179 P P 07 03 44.8 -1.7
comp=Z,0.9nm,0.6s,mb3.6,baz=185,slow=9.2,SNR=24
F09A S2 Ranch, Elgi 86.97 38 ⇓P P 07 03 47.0 +0.1
baz=87
H10A Noah's Angus R 87.01 39 P P 07 03 46.7 -0.5
baz=87,SNR=6.7
K12A Draper Farm, C 87.04 42 ⇓P P 07 03 47.5 +0.1
baz=87
I11A Placerville 87.10 40 ⇑P P 07 03 47.4 -0.2
baz=87,SNR=8.8
G10A Bishop Farm, J 87.19 39 ⇑P P 07 03 47.7 -0.3
baz=87,SNR=5.2
J12A Stokes Ranch, 87.26 41 ⇓P P 07 03 48.7 +0.3
baz=87,SNR=8.6
B07A Winthrop 87.37 35 ⇓P P 07 03 48.6 -0.2
baz=88,SNR=5.0
H11A Donnelly 87.51 40 ⇑P P 07 03 49.5 0.0
baz=88,SNR=7.3
F10A Beach Ranch, E 87.52 38 ⇑P P 07 03 49.1 -0.3
baz=88
D09A Jones Farm, Ri 87.53 37 ⇓P P 07 03 49.5 0.0
baz=88
K13A Stover Farm, H 87.56 42 ⇑P P 07 03 49.9 +0.1
baz=88,SNR=5.3
A07A Ashnola River, 87.59 34 ⇑P P 07 03 49.6 -0.2
baz=88
B08A Colville Reser 87.73 35 ⇑P P 07 03 49.8 -0.6
baz=88,SNR=6.4
G11A Walters Elk Ra 87.75 39 ⇑P P 07 03 50.3 -0.2
baz=88,SNR=13
HLID Hailey 87.85 41 P P 07 03 51.4 +0.3
baz=88,SNR=11
E10A Myers Farm, Un 87.87 38 ⇓P P 07 03 51.1 -0.1
baz=88
J13A Cove Ranch, Pi 87.91 41 P P 07 03 51.7 +0.4
baz=88,SNR=14
XAN Xi'an 87.95 308 P P 07 03 51.9 +0.1
XAN AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
M15A Larsen Ranch, 87.97 44 ⇓P P 07 03 52.5 +0.7
baz=88
SRU San Rafael 88.05 46 eP P 07 03 52.2 +0.1
K14A Jones Ranch, D 88.07 42 ⇓P P 07 03 52.0 -0.1
baz=88
F11A Grangeville 88.08 39 ⇓P P 07 03 50.9 -1.2
baz=88
D10A Wagner Farm, O 88.10 37 ⇓P P 07 03 51.7 -0.5
baz=88
H12A Diamond D Ranc 88.11 40 ⇑P P 07 03 52.1 -0.2
baz=88
A08A Turner Farm, O 88.12 35 P P 07 03 52.1 -0.1
baz=88,SNR=6.3
I13A Wildhorse Cree 88.22 41 ⇓P P 07 03 52.6 -0.2
baz=88
MNTX Cornudas Mount 88.25 55 eP P 07 03 53.0 -0.2
comp=Z,4.8nm,0.8s,mb4.3
MCK McKinley 88.27 13 eP P 07 03 51.3 -1.2
E11A Bogner Ranch, 88.31 38 ⇓P P 07 03 52.2 -1.0
baz=88
B09A Rice 88.41 36 ⇓P P 07 03 53.1 -0.5
baz=89,SNR=5.0
H13A Challis 88.48 40 ⇑P P 07 03 54.1 +0.1
baz=89
A09A Danville 88.50 35 ⇑P P 07 03 53.9 0.0
baz=89
F12A Elk City 88.54 39 P P 07 03 53.6 -0.6
baz=89,SNR=9.2
TXAR Lajitas Array 88.54 58 P P 07 03 54.2 -0.4
comp=Z,2.8nm,0.8s,mb4.1,baz=217,slow=5.8,SNR=34
TXAR PKKPbc PKKPbc 07 21 31.9 -1.5
comp=Z,0.3nm,0.6s,baz=101,slow=2.6,SNR=6.0
HWUT Hardware Ranch 88.61 44 eP P 07 03 54.4 -0.3
D11A Klaveano Farm, 88.63 37 ⇑P P 07 03 53.8 -0.8
baz=89
G13A Cobalt 88.78 40 ⇓P P 07 03 55.3 -0.1
baz=89
KMI Kunming 88.89 297 P P 07 03 55.5 -0.9
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.6
ANMO Albuquerque 88.92 52 eP P 07 03 56.2 0.0

F13A Darby 89.10 39 ⇓P P 07 03 56.3 -0.5
baz=89
PLCA Paso Flores 89.30 134 P P 07 03 56.8 -1.3
comp=Z,1.6nm,0.5s,mb4.1,baz=291,slow=8.4,SNR=5.5
HHC Hu-ho-hao-te 89.35 315 eP P 07 03 58.6 +0.4
HHC AP pP 07 05 59.0 +2.5
HHC XP sP 07 06 50.8 +0.1
HHC PP PP 07 07 41.8 +2.5
HHC SKS 07 13 36.9
HHC S S 07 13 59.5 -3.1
HHC XS sS 07 17 32.9 -0.9
HHC SS SS 07 20 15.9 +1.4
HHC AMB AMB
comp=Z,20nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,175nm,6.1s
B11A Sandpoint 89.39 36 ⇓P P 07 03 57.7 -0.5
baz=90
COLA College 89.50 13 eP P 07 03 56.5 -1.7
comp=Z,7.2nm,0.9s,mb4.5
D13A Huson 89.73 38 ⇓P P 07 03 59.2 -0.6
baz=90
B12A Libby 89.84 37 ⇓P P 07 04 00.1 -0.1
baz=90
G15A Dillon 89.87 41 ⇓P P 07 04 00.3 -0.2
baz=90
REDW Red Top Meadow 89.96 43 eP P 07 04 01.1 +0.2
comp=Z,5.7nm,0.8s,mb4.5
TPAW Teton Pass 89.96 43 eP P 07 04 00.8 -0.1
comp=Z,3.7nm,0.8s,mb4.3
C13A Hot Springs 89.98 38 ⇑P P 07 04 00.1 -0.7
baz=90
BILL Bilibino 90.01 355 eP P 07 03 58.1 -2.5
comp=Z,4.6nm,0.3s,mb4.8
SNOW Snow King Moun 90.07 43 eP P 07 04 01.3 -0.1
comp=Z,8.2nm,0.9s,mb4.6
IMW Indian Meadow 90.17 42 eP P 07 04 01.3 -0.6
comp=Z,7.3nm,1.1s,mb4.4
BW06 Boulder Array 90.48 44 eP P 07 04 02.9 -0.5
comp=Z,3.0nm,0.8s,mb4.2
BOZ Bozeman (W) 90.63 40 eP P 07 04 03.5 -0.5
BOZ Bozeman (W) 90.63 40 ⇑P P 07 04 03.7 -0.3
baz=91
DAWY Dawson 90.80 16 eP P 07 04 03.4 -0.9
SDCO Great Sand Dun 90.87 50 eP P 07 04 05.0 -0.3
LZH Lanzhou 92.58 308 eP P 07 04 13.0 -0.2
LZH AP pP 07 06 13.5 +1.6
LZH XP sP 07 07 05.5 -0.4
LZH AMB AMB
comp=Z,14nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,62nm,5.0s
DGMT Dagmar 96.44 40 eP P 07 04 30.1 -0.3
YKA Yellowknife Ar 97.95 25 P Pdif 07 04 35.4 -1.9
comp=Z,0.4nm,0.7s,baz=246,slow=4.8,SNR=4.7
YKA PKKPbc PKKPbc 07 21 05.4 -4.8
comp=Z,0.1nm,0.4s,baz=39,slow=2.4,SNR=5.4
GLAT Glass 102.33 56 ePdif Pdif 07 04 56.9 +0.1
MKAR Makanchi Array 111.16 313 PKiKP PKiKP 07 09 28.7 -2.7
comp=Z,1.0nm,0.6s,baz=103,slow=0.4,SNR=13
MKAR PKKPbc PKKPbc 07 20 28.1 -2.0
comp=Z,0.7nm,0.7s,baz=263,slow=4.1,SNR=6.5
BDFB Brasilia 119.46 124 PKP PKPdf 07 09 45.5 -2.9
comp=Z,0.7nm,0.7s,baz=220,slow=24,SNR=2.8
SCHQ Schefferville 120.19 38 PKP PKPdf 07 09 44.3 -4.2
comp=Z,1.8nm,0.7s,baz=270,slow=10,SNR=4.2
BOSA Boshof 124.81 206 PKP PKPdf 07 09 56.5 -1.8
comp=Z,5.5nm,1.1s,baz=91,slow=2.4,SNR=5.4
KEV Kevo 129.33 349 epkp PKPdf 07 10 00.9 -4.7
ARCES ARCESS Array B 129.79 349 PKP PKPdf 07 10 04.7 -1.8
comp=Z,5.6nm,0.6s,baz=5.0,slow=0.6,SNR=22
JOF Joensuu 133.82 341 epkp PKPdf 07 10 10.9 -3.3
FINES FINESS Array B 136.50 343 PKhKP 07 10 09.7
comp=Z,0.9nm,0.7s,baz=54,slow=4.0,SNR=6.0
FINES PKP PKPdf 07 10 18.3 -1.0
comp=Z,2.4nm,0.6s,baz=65,slow=3.2,SNR=11
NB2 NORSAR Subarra 139.92 352 PKP PKPdf 07 10 16.6 -8.9
comp=Z,1.0nm,0.5s,baz=22,slow=3.2
NOA NORSAR Array B 139.92 352 PKhKP 07 10 15.8
comp=Z,1.5nm,0.7s,baz=16,slow=4.6,SNR=9.0
NOA PKP PKPdf 07 10 24.6 -1.0
comp=Z,1.0nm,0.5s,baz=14,slow=4.0,SNR=5.7
AKASG Malin Array Be 143.43 330 PKP PKPdf 07 10 28.4 -3.7
comp=Z,8.0nm,0.5s,baz=42,slow=4.3,SNR=83
KIEV Kiev 143.44 330 ePKPdf PKPdf 07 10 28.4 -3.7
MALT Malatya 143.72 306 ePKPbc PKPdf 07 10 31.6 -1.4
BURAR Bucovina Array 147.46 329 ⇓ iP PKPbc 07 10 42.3 -0.1
OJC Ojcow 147.76 337 ePKP PKPbc 07 10 41.6 -1.5
KOLS Kolonicke sedl 147.82 333 ePKP PKPbc 07 10 42.4 -0.9
STHS Stebnicka Huta 147.86 335 ePKP PKPbc 07 10 42.9 -0.5
VRI Vrincioaia 147.87 325 ⇓ iP PKPbc 07 10 42.8 -0.8
CRVS Cervenica-Dubn 148.18 334 ePKP PKPbc 07 10 43.1 -1.1
NIE Niedzica 148.22 336 ePKP PKPbc 07 10 43.7 -0.6
TRPA Tarpa 148.32 332 ⇓ iP PKPbc 07 10 42.9 -1.7
MLR Muntele Rosu 148.53 325 ⇓ iP PKPbc 07 10 44.3 -0.9
OKC Ostrava-Krasne 148.67 338⇑ ePKP PKPbc 07 10 44.4 -1.0
OKC ePKPAB PKPab 07 10 50.7 -0.5
UPC Upice 148.78 341⇑ ePKP PKPbc 07 10 44.9 -0.8
UPC ePKPAB PKPab 07 10 51.2 -0.4
DPC Dobruska-Polom 148.82 341⇑ ePKP PKPbc 07 10 45.0 -0.8
DPC ePKPAB PKPab 07 10 51.7 -0.1
CLL Collm 148.86 345 ePKPbc PKPbc 07 10 44.2 -1.6
CLL ePKPab PKPab 07 10 50.4 -1.5
CLL Collm 148.86 345 ⇓ iPKPbc PKPbc 07 10 44.4 -1.4
comp=Z,23nm,1.1s
CLL i PKiKP PKiKP 07 10 46.4 -0.4
CLL ⇑ iPKPab PKPab 07 10 50.6 -1.3
comp=Z,10.0nm,1.3s
CLL e(pPKPab) 07 12 58.0
IBBN Ibbenburen 148.88 352 ePKPbc PKPbc 07 10 44.6 -1.2
IBBN ePKPab PKPab 07 10 49.7 -2.2
CLZ Clausthal 148.91 349 ePKPbc PKPbc 07 10 44.4 -1.5
MORC Moravsky Berou 148.93 339 ePKPbc PKPbc 07 10 45.0 -1.0
MORC Moravsky Berou 148.93 339 ⇑ iP PKPbc 07 10 45.2 -0.8
BRG Berggiesshubel 149.03 344 ePKPbc PKPbc 07 10 45.0 -1.2
BRG Berggiesshubel 149.03 344 i PKP PKPbc 07 10 45.0 -1.2
comp=Z,20nm,1.3s
VOIR 149.04 326 ⇑ iP PKPbc 07 10 45.8 -0.7
PVCC Panska Ves 149.17 343⇑ ePKP PKPbc 07 10 45.8 -0.8
DRGR 149.24 330 ⇑ iP PKPbc 07 10 45.7 -1.2
WTSB Winterswijk 149.33 353 ePKP PKPbc 07 10 45.4 -1.5
comp=Z,27nm,0.5s
VYHS Vyhne 149.54 336 i PKP PKPbc 07 10 46.5 -1.1
PSZ Piszkesteto 149.60 334 ePKPbc PKPbc 07 10 46.4 -1.3
PSZ ePKPab PKPab 07 10 52.9 -2.2
PSZ Piszkesteto 149.60 334 ⇑ iP PKPbc 07 10 46.5 -1.2
KOLL Kolacno 149.63 337 ePKP PKPbc 07 10 46.8 -1.0
VRAC Vranov 149.64 339 ⇓ iP PKPbc 07 10 46.7 -1.1
PRU Pruhonice 149.67 342⇑ ePKP PKPbc 07 10 46.5 -1.3
ISP Isparta 149.75 309 ePKPbc PKPbc 07 10 45.7 -2.7
BUG Bochum--Univer 149.79 352 ePKPbc PKPbc 07 10 46.4 -1.7
MOX Moxa 149.79 346 ePKP PKPbc 07 10 46.7 -1.4
comp=Z,15nm,1.1s
MOX Moxa 149.79 346 ePKPbc PKPbc 07 10 46.6 -1.5
TANN Tannenbergstha 149.82 345 ePKPbc PKPbc 07 10 46.7 -1.4
UBBA Unterbreizbach 149.96 348 ePKPbc PKPbc 07 10 46.4 -2.1
NKC Novy Kostel 149.99 345⇑ ePKP PKPbc 07 10 47.5 -1.1
NKC ePKPAB PKPab 07 10 55.4 -1.2
TREC Trest 150.01 341⇑ ePKP PKPbc 07 10 47.5 -1.1
MODS Modra-Piesok 150.21 338 ePKP PKPbc 07 10 48.0 -1.1
GZR Gura Zlata 150.22 328 ⇓ iP PKPbc 07 10 48.0 -1.3
ROTZ Rotzenmuhle 150.48 345 ePKPbc PKPbc 07 10 48.4 -1.3
HGN Heimansgroeve 150.61 353 ePKP PKPbc 07 10 48.4 -1.6
comp=Z,12nm,0.8s
BZS Buzias 150.62 330 ⇓ iP PKPbc 07 10 48.6 -1.6
KHC Kasperske Hory 150.71 343⇑ ePKP PKPbc 07 10 49.1 -1.2
KHC ePKPAB PKPab 07 10 59.5 -0.2
UCC Uccle 150.72 355 PKPbc PKPbc 07 10 48.7 -1.5
MEM Membach 150.76 353 PKPbc PKPbc 07 10 48.8 -1.5
GRF Grafenberg Arr 150.78 346 ePKPbc PKPbc 07 10 49.0 -1.4
GRF ePKPab PKPab 07 10 58.1 -1.8
WET Wettzell 150.89 344 ePKPbc PKPbc 07 10 49.4 -1.3
GEC2 GERESS Array S 150.94 342 ePKPbc PKPbc 07 10 49.1 -1.7
GERES GERESS Array B 150.94 342 PKPbc PKPbc 07 10 49.4 -1.4
comp=Z,5.2nm,0.7s,baz=29,slow=2.1,SNR=44
BCLA Clavier 151.02 354 PKPbc PKPbc 07 10 49.6 -1.3
BCLA PKPab PKPab 07 10 59.3 -1.7
GIVF Givet 151.38 355 ePKP1 PKPbc 07 10 49.9 -1.8
comp=Z,25nm,0.7s
DOU Dourbes 151.40 355 PKPbc PKPbc 07 10 50.3 -1.5
DOU PKPab PKPab 07 11 00.8 -1.8
BAIF Baives 151.47 355 ePKP1 PKPbc 07 10 50.1 -1.9
comp=Z,18nm,0.9s
PKSM Moragy 151.48 334 ⇓ iP PKPbc 07 10 50.3 -1.8

WLF Walferdange 151.67 353 ePKPbc PKPbc 07 10 51.3 -1.2
WLF Walferdange 151.67 353 PKPbc PKPbc 07 10 51.5 -0.9
WLF Walferdange 151.67 353 ePKPbc PKPbc 07 10 51.6 -0.8
VTS Vitosha 151.92 323 ⇑ iP PKPbc 07 10 51.9 -1.3
FUR Furstenfeldbru 152.20 345 ePKPab PKPab 07 11 02.9 -3.1
BFO Black Forest 152.66 349 ePKPbc PKPbc 07 10 53.1 -1.5
BFO ePKPab PKPab 07 11 06.3 -1.6
CDF Champ du Feu 152.75 351 ePKP1 PKPbc 07 10 52.9 -1.9
comp=Z,6.4nm,0.7s
FLN La Foliniere 152.87 2 ePKP1 PKPbc 07 10 52.7 -2.4
comp=Z,32nm,0.9s
MEZF Maizieres J'vi 152.94 354 ePKP1 PKPbc 07 10 53.4 -1.8
LDF La Druitiere 153.05 1 ePKP1 PKPbc 07 10 53.0 -2.5
comp=Z,3.9nm,0.5s
ROSF Rostrenen 153.11 6 ePKP1 PKPbc 07 10 53.7 -1.9
GRR Gorron 153.23 3 ePKP1 PKPbc 07 10 53.7 -2.2
comp=Z,9.0nm,0.6s
SGMF Saint Gilles 153.26 5 ePKP1 PKPbc 07 10 54.0 -1.9
HAU Haudompre 153.28 352 ePKP1 PKPbc 07 10 53.8 -2.2
HINF Hinteralfeld 153.39 351 ePKP1 PKPbc 07 10 53.8 -2.4
QUIF Quistinic 153.54 6 ePKP1 PKPbc 07 10 54.9 -1.6
LOR Lormes 154.27 355 ePKP1 PKPbc 07 10 56.0 -2.1
SSF Saint Saulge 154.50 356 ePKP1 PKPbc 07 10 56.6 -2.0
DBIC Dimbokro 164.17 159 PKP PKPdf 07 10 58.4 -3.3
comp=Z,3.4nm,0.7s,baz=115,slow=1.3,SNR=7.8
DBIC PKPab PKPab 07 11 56.9 -2.0
comp=Z,1.7nm,0.6s,baz=94,slow=7.3,SNR=5.0
TORD Torodi Ar. Bea 171.56 186 PKP PKPdf 07 11 03.8 -2.9
comp=Z,2.8nm,0.9s,baz=340,slow=0.8,SNR=13
TORD PKPab PKPab 07 12 30.2 -1.2
comp=Z,2.4nm,0.7s,baz=168,slow=3.8,SNR=13

IDC 13 06:59:30.4±2.2, 093S×12698E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.4/3, Error ellipse: s-maj=204.2km s-min=25.2km az=66.0, Southern Moluccca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.22	160	P	P	07 04 06.5	-0.6
	0.6nm,0.7s,baz=342,slow=12,SNR=5.2						
ASAR	Alice Springs	23.58	164	P	P	07 04 43.4	+0.3
	1.7nm,0.8s,baz=343,slow=10,SNR=12						
MKAR	Makanchi Array	61.53	327	P	P	07 09 49.4	+0.1
	0.3nm,0.6s,baz=144,slow=8.2,SNR=2.8						

IDC 13 07:04:43.0±1.4, 3242N×134.17E, h0km, mb3.7/3, mb1 3.8/4, mb1mx3.5/21, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=44.6km s-min=27.1km az=82.0
JMA 13 07:05:03.7±0.1, 3391N×13737E, h383km, M2.8
ISCJB 13 07:05:06.4±0.7, 340N±0.1×13738E±009, h354km±8km, mb3.1/3, Error ellipse: s-maj=17.7km s-min=10.8km az=161.5

ISC 13 07:05:07.4±0.7, 340N±01×13738E±009, h347km±8km, n18, σ0°83/23, mb3.1/3, Near south coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIE	Ise	0.68	304	P	Pn	07 05 52.5	+0.8
JWZ	Kozaga	1.47	251	P	Pn	07 05 54.8	-0.3
JWY	Kouya	1.50	278	P	Pn	07 05 55.5	+0.3
JGM	Miyama	1.77	342	P	Pn	07 05 57.4	+0.6
JWT	Wachi	2.07	308	P	Pn	07 05 58.8	0.0
JRY	Ryogami san	2.35	31	P	Pn	07 06 02.8	+1.8
JRY				S	S	07 06 45.2	+1.2
JKG	Kaga	2.42	339	P	Pn	07 06 01.6	+0.1
JAI	Aioi	2.45	266	P	Pn	07 06 01.4	-0.4
MAT	Matsushiro	2.61	15	P	Pn	07 06 03.6	+0.6
MAT				S	S	07 06 47.0	-0.8
MAT	Matsushiro	2.61	15	P	Pn	07 06 03.8	+0.8
MAT				S	S	07 06 47.3	-0.5
MJAR	Matsushiro Arr	2.61	15	Pn	Pn	07 06 03.6	+0.6
	1.0nm,0.3s,baz=196,slow=9.4,SNR=15						
JMN	Monobe	2.93	265	P	Pn	07 06 05.6	-0.3
JAG	Ashikaga	2.94	35	P	Pn	07 06 05.8	-0.1
JAG				S	S	07 06 51.1	-1.9
BSO1	Boso 1	3.04	77	P	Pn	07 06 06.2	-0.7
BSO1				eS	S	07 06 54.1	-0.6
JHS	Saijyo	3.66	287	P	Pn	07 06 11.6	-1.1
MKAR	Makanchi Array	43.02	304	P	P	07 12 33.4	-0.4
	0.4nm,0.4s,mb2.9,baz=86,slow=11,SNR=6.1						
WRA	Warramunga Arr	53.73	184	P	P	07 13 54.1	-0.8
	0.9nm,0.3s,mb3.6,baz=360,slow=7.5,SNR=43						
ASAR	Alice Springs	57.45	184	P	P	07 14 22.2	+1.1
	0.3nm,0.6s,mb2.8,baz=8.4,slow=15,SNR=6.3						

FUNV 13 07:11:56.9, 674N×7302W, h178km, MW3.5, 3D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.32	32⇓	eP	Pn	07 12 26.2	-0.8
CAPV				eS	Sn	07 12 48.0	-2.3
SOCV	Socops	2.64	54	eP	Pn	07 12 40.7	-0.4
SOCV				⇓ iP		07 12 40.9	
SOCV				eS	Sn	07 13 12.5	-2.9
VIGV	El Vigia	2.66	38⇓	iP	Pn	07 12 40.7	-0.6
VIGV				eS	Sn	07 13 12.2	-3.6
VIRV	Villa del Rosa	3.79	9	eP	Pn	07 12 53.1	-2.2
VIRV				eS	Sn	07 13 35.6	-5.3
SANV	Sanarito	4.41	51	eP	Pn	07 13 02.1	-1.1
SANV				eS	Sn	07 13 50.5	-4.5
CURV	Curarigua	4.44	43	eP	Pn	07 13 02.9	-0.7
SIQV	Siquisique	5.02	39	eP	Pn	07 13 10.2	-0.9
BAUV	El Baul	5.39	66	eP	Pn	07 13 13.6	-2.4
BAUV				eS	Sn	07 14 10.8	-7.3
CAOV	Caicara del Or	6.67	85	eP	Pn	07 13 30.0	-2.8
CAOV				eS	Sn	07 14 39.7	-8.6

NEIC 13 07:20:19.2, 3163S×7171W, h29km, ML2.8(GUC), After GUC.

GUC 13 07:20:19.2±0.9, 3163S×7171W, h29km±4km, MD3.5, ML2.8, 4C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.76	53	⇑ iP	Pb	07 20 33.5	-0.3
CMCH				eS	Sb	07 20 44.4	+0.5
CMCH	Combarbala	0.76	53	⇑ iP	Pb	07 20 33.5	-0.3
CMCH				eS	Sb	07 20 44.4	+0.5
CMCH				AML	AML	07 20 47.0	
	comp=N,1μm,0.5s						
PTCH	Petorca	0.91	134	⇑ iP	Pn	07 20 35.6	-0.5
PTCH				i S	Sb	07 20 47.7	-0.5
JACH	Jahuel	1.41	138	i P	Pn	07 20 44.2	+1.2
JACH				i S	Sn	07 21 02.3	+1.7
TLL	Tololo Astrono	1.66	28	eP	Pn	07 20 48.3	+2.0
TLL				i S	Sn	07 21 09.5	+2.9
TLL	Tololo Astrono	1.66	28	eP	Pn	07 20 48.3	+2.0
TLL				i S	Sn	07 21 09.5	+2.9
TLL				AML	AML	07 21 15.4	
	comp=N,90nm,0.7s						
PEL	Peldehue	1.74	150	⇑ iP	Pn	07 20 48.3	+0.9
PEL				i S	Sn	07 21 11.7	+3.0
PEL				AML	AML	07 21 14.1	
	comp=E,246nm,0.4s						
RCDM	Rinconada Maip	2.00	158	AML	AML	07 21 26.3	
	comp=E,132nm,0.1s						
CLCH	Cerro Calan	2.02	151	eP	Pn	07 20 52.5	+1.2
CLCH				eS	Sn	07 21 18.3	+2.8
CLCH				AML	AML	07 21 22.9	
	comp=E,124nm,0.7s						
FCH	Farellones	2.07	145	eP	Pn	07 20 53.6	+1.6
FCH				eS	Sn	07 21 20.6	+3.8
FCH				AML	AML	07 21 24.2	
	comp=E,69nm,0.2s						
TACH	Talagante	2.12	162	eP	Pn	07 20 54.0	+1.4
TACH				eS	Sn	07 21 20.6	+2.6
PCH	Pirque	2.22	153	i S	Sn	07 21 23.8	+3.2
LMEL	Las Melosas	2.55	151	⇓ iP	Pn	07 21 00.4	+1.8
LMEL				AML	AML	07 21 42.8	
	comp=N,76nm,0.1s						

MAN 13 07:40:43, 1597N×11988E, h23km, mb3.8, ML2.5, MS2.1, 1C, Luzon

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

SCZP	**Santa Cruz**	**0.20**	**170**	*eP*	Pb	07 40 50.0	+1.6
SCZP				*eS*	Sb	07 40 54.9	+2.8
BOLP	**Bolinao**	**0.41**	**5**	*eP*	Pb	07 40 54.1	+2.4
BOLP				*eS*	Sb	07 41 02.2	+4.7
BCPH	**Baguio City Da**	**0.79**	**59⇑**	*eP*	Pb	07 40 59.5	+1.4
BCPH				*i S*	Sb	07 41 12.4	+4.0
LUBP	**Lubang**	**2.25**	**171**	*eP*	Pn	07 41 20.8	+1.9

*NEIC **13** 07:51:49.1, 2789S×6891W, h102km, MG4.2(GUC), After GUC.*

GUC 13 07:51:49.1±0.3, 2789S×6891W, h102km±13km, MD3.9, ML4.2, 5C, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**1.38**	**292**	*i P*	Pn	07 52 14.4	+0.4
CPCH				*i S*	Sn	07 52 33.5	+0.6
CPCH	**Copiapo**	**1.38**	**292**	*i P*	Pn	07 52 14.4	+0.4
CPCH				*i S*	Sn	07 52 33.5	+0.6
CPCH				AML	AML	07 52 35.7	
	comp=E,6μm,0.1s						
VACH	**Vallenar**	**1.76**	**247⇑**	*iP*	Pn	07 52 20.0	+1.3
VACH				*i S*	Sn	07 52 42.8	+1.6
VACH	**Vallenar**	**1.76**	**247⇑**	*iP*	Pn	07 52 20.0	+1.3
VACH				*i S*	Sn	07 52 42.8	+1.6
VACH				AML	AML	07 52 44.1	
	comp=N,4μm,0.2s						
LCO	**Las Campanas**	**1.93**	**234**	*ePn*	Pn	07 52 22.4	+1.6
TLL	**Tololo Astrono**	**2.81**	**216⇑**	*iP*	Pn	07 52 33.5	+1.2
TLL				*i S*	Sn	07 53 07.1	+1.6
LSCH	**La Serena**	**2.87**	**225**	*i S*	Sn	07 53 07.3	+0.3
CPN1	**Cerro Paranal**	**3.52**	**337**	*i S*	Sn	07 53 24.1	+1.5
CPN1				AML	AML	07 53 28.1	
	comp=E,185nm,0.5s						
CMCH	**Combarbala**	**3.74**	**209⇑**	*iP*	Pn	07 52 44.6	-0.2
CMCH				*i S*	Sn	07 53 27.4	-0.5
CEN1	**Los Morros**	**4.63**	**345⇑**	*iP*	Pn	07 52 54.4	-2.5
CEN1				*i S*	Sn	07 53 45.0	-4.5
CPUP	**Villa Florida**	**10.44**	**84**	*ePn*	Pn	07 54 12.8	-3.0

MAN 13 07:56:44, 816N×12588E, h82km, mb4.4, ML3.3, MS3.1, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUKP	**Musuan**	**0.85**	**251**	*eP*	Pn	07 57 03.2	+1.7
BUKP				*eS*	Sn	07 57 17.8	+3.2
CGP	**Cagayan de Oro**	**1.21**	**284⇑**	*iP*	Pn	07 57 07.4	+1.7
CGP				*i S*	Sn	07 57 24.4	+2.3

*ISCJB **13** 08:15:37.7±0.2, 1209N×004×8690W×003, h77km, mb4.3/34, Error ellipse: s-maj=6.6km s-min=2.1km az=41.3*
*CASC **13** 08:15:38.5±2.3, 1191N×8701W, h54km±41km, MD4.5, ML5.1, mb4.4(NEIC)*
*NEIC **13** 08:15:38.7±0.3, 1212N×8680W, mb4.4/25, Error ellipse: s-maj=7.9km s-min=3.8km az=225.0*
*BJI **13** 08:15:38.6, 1210N×8680W, h76km, mB5.0, Msz4.5*
*IDC **13** 08:15:38.9±0.7, 1226N×8661W, h79km±6km, mb4.0/14, mb1 4.2/16, mb1mx3.9/26, mbtmp4.0/16, MS3.4/11, Ms1 3.4/11, ms1mx3.2/27, Error ellipse: s-maj=20.2km s-min=10.0km az=58.0*

ISC 13 08:15:39.6±0.2, 1218N±004×8675W±004, h79km, h79km±.8km: pP-P, n261, σ0s75/235, mb4.3/34, 67C-62D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COPN	**Copaltepe**	**0.16**	**89⇑**	*iP*	**Pn**	**08 15 50.3**	**-0.7**
MOMJ	**Momotombo**	**0.31**	**42⇓**	*eP*	**Pn**	**08 15 51.9**	**+0.1**
CSAN		**0.33**	**89⇑**	*eP*	**Pn**	**08 15 51.9**	**0.0**
APYN	**Apoyeque**	**0.40**	**82⇑**	*eP*	**Pn**	**08 15 52.7**	**+0.3**
TEL3	**Telica 3**	**0.40**	**347⇓**	*iP*	**Pn**	**08 15 52.2**	**-0.2**
XAVN	**Gruta Xavier**	**0.42**	**94⇓**	*iP*	**Pn**	**08 15 52.8**	**+0.3**
TELN	**Telica**	**0.43**	**350⇓**	*eP*	**Pn**	**08 15 52.6**	**-0.1**
TISN	**Laguna Tiscapa**	**0.47**	**94⇑**	*eP*	**Pn**	**08 15 53.4**	**+0.4**
CRUN	**El Crucero**	**0.48**	**113⇑**	*eP*	**Pn**	**08 15 52.9**	**-0.2**
MGAN	**Managua**	**0.50**	**93⇓**	*iP*	**Pn**	**08 15 53.5**	**+0.4**
MGAN				*eS*	**Sn**	**08 16 04.6**	**+1.4**
	comp=N,68μm,0.4s						
TICN	**Ticuantepe**	**0.53**	**105⇓**	*eP*	**Pn**	**08 15 53.8**	**+0.3**
HUEN		**0.59**	**74⇓**	*eP*	**Pn**	**08 15 54.9**	**+0.9**
APON	**Apoyo**	**0.72**	**111⇓**	*eP*	**Pn**	**08 15 55.5**	**+0.1**
SSNN	**San Juan del S**	**1.25**	**135⇓**	*eP*	**Pn**	**08 16 01.3**	**-0.4**
CONN	**Concepcion**	**1.26**	**119⇓**	*iP*	**Pn**	**08 16 01.9**	**+0.2**
MADN	**Villa Maderas**	**1.42**	**122⇓**	*eP*	**Pn**	**08 16 03.8**	**0.0**
CNCH	**Conchagua**	**1.52**	**316**	*eP*	x	08 16 32.6	
CNCH				*eS*	x	08 16 51.6	
BLLM	**Bellamira**	**1.92**	**311**	*eP*	x	08 16 38.6	
BLLM				*eS*	x	08 17 00.9	
VSM	**San Miguel**	**1.94**	**310**	*eP*	x	08 16 38.7	
TGUH	**Tegucigalpa,Un**	**1.94**	**345**	*i Pn*	**Pn**	**08 16 11.3**	**+0.7**
LIM1	**Limonal**	**2.08**	**135**	*i P*	**Pn**	**08 16 11.0**	**-1.5**
CAHU	**Cacacuatique**	**2.13**	**318**	*eP*	x	08 16 41.3	
CUI		**2.16**	**134**	*i P*	**Pn**	**08 16 12.9**	**-0.7**
2RIO	**Dos Rios de Up**	**2.21**	**138**	*i P*	**Pn**	**08 16 08.2**	**-6.1**
VCR	**Vista de Mar**	**2.32**	**151⇑**	*eP*	**Pn**	**08 16 14.1**	**-1.6**
SNVI	**San Vicente**	**2.48**	**305**	*eP*	x	08 16 46.0	
SNVI				*eS*	x	08 17 14.8	
JTS	**JuntasAbangare**	**2.58**	**136**	*ePn*	**Pn**	**08 16 18.1**	**-1.1**
JTS	**JuntasAbangare**	**2.58**	**136**	P	**Pn**	**08 16 16.9**	**-2.3**
	comp=N,52nm,0.3s,baz=337,slow=16,SNR=119						
JTS				S	**Sn**	**08 16 57.4**	**+7.8**
	comp=N,681nm,0.3s,baz=121,slow=23,SNR=13						
LCBS	**La Ceiba**	**2.62**	**304**	*eP*	x	08 16 47.1	
LFRS	**El Faro**	**2.67**	**303**	*eP*	x	08 16 47.5	
JCR	**Jicaral**	**2.82**	**145⇑**	*eP*	**Pn**	**08 16 21.8**	**-0.7**
JCR				*eS*	**Sn**	**08 16 53.3**	**-2.1**
BOQS	**Boqueron**	**2.91**	**302**	*eP*	x	08 16 51.3	
BOQS				*eS*	x	08 17 25.0	
CGA2	**Cerro Gallo 2**	**3.11**	**133**	*eP*	**Pn**	**08 16 27.6**	**+1.3**
CGA2				*eS*	**Sn**	**08 17 03.1**	**+0.6**
PRS1	**Puriscal**	**3.24**	**132**	*eP*	**Pn**	**08 16 28.6**	**+0.4**
SBLS	**San Blas**	**3.25**	**301**	*eP*	x	08 16 56.2	
SBLS				*eS*	x	08 17 33.7	
SNJE	**San Jose**	**3.25**	**301**	*eP*	x	08 16 56.3	
SNJE				*eS*	x	08 17 32.9	
LAJ	**Bijagual**	**3.46**	**131**	*eP*	**Pn**	**08 16 29.2**	**-2.0**
LAJ				*eS*	**Sn**	**08 17 05.0**	**-6.0**
SJS	**Escuela Geolog**	**3.46**	**130**	*eP*	**Pn**	**08 16 31.4**	**+0.2**
LCR2	**La Lucha 2**	**3.63**	**132**	*eP*	**Pn**	**08 16 33.2**	**-0.2**
URSC	**Urasca**	**3.73**	**128**	*eP*	**Pn**	**08 16 35.7**	**+0.8**
URSC				*eS*	**Sn**	**08 17 18.7**	**+1.0**
BUS	**Buena Vista**	**3.93**	**131**	*eP*	**Pn**	**08 16 39.2**	**+1.6**
BUS				*eS*	**Sn**	**08 17 24.0**	**+1.5**
BAR1		**4.47**	**130**	*eP*	**Pn**	**08 16 46.1**	**+1.2**
BAR1				*eS*	**Sn**	**08 17 35.2**	**-0.4**
BCIP	**Isla Barro Col**	**7.43**	**113**	*ePn*	**Pn**	**08 17 26.0**	**+0.7**
TEIG	**Tepich**	**8.14**	**350**	*ePn*	**Pn**	**08 17 35.6**	**+0.6**
TEIG	**Tepich**	**8.14**	**350**	P	**Pn**	**08 17 34.7**	**-0.3**
	comp=N,0.9nm,0.3s,baz=141,slow=12,SNR=12						
CVJ	**Coleyville**	**10.74**	**55⇓**	*eP*	**Pn**	**08 18 15.7**	**+5.2**
BBJ	**Bamboo Saint A**	**11.04**	**55⇓**	*eP*	**Pn**	**08 18 20.2**	**+5.7**
STH	**Stony Hill**	**11.25**	**57⇓**	*eP*	**Pn**	**08 18 22.6**	**+5.1**
ROSC	**El Rosal**	**14.27**	**120**	P	**Pn**	**08 18 59.9**	**+2.0**
	comp=N,0.6nm,0.3s,baz=280,slow=24,SNR=4.6						
SDV	**Santo Domingo**	**16.18**	**100**	*ePn*	**Pn**	**08 19 23.0**	**+0.7**
	comp=N,12nm,0.7s						
SDV	**Santo Domingo**	**16.18**	**100**	P	**Pn**	**08 19 23.4**	**+1.1**
	comp=N,0.4nm,0.3s,baz=295,slow=6.6,SNR=23						
VBMS	**Vicksburg**	**20.25**	**351**	*eP*	**P**	**08 20 06.5**	**-2.0**
SJG	**San Juan**	**20.74**	**71**	P	**P**	**08 20 13.0**	**-0.9**
	comp=N,19nm,0.8s,baz=310,slow=5.2,SNR=3.0						
SJG				LR	LR	08 28 31.7	
	comp=N,86nm,18.1s,baz=97,slow=38						
LRAL	**Lakeview Retre**	**20.76**	**359**	*eP*	**P**	**08 20 15.6**	**+1.6**
	comp=N,16nm,0.8s						
ATAH	**Atahualpa**	**20.79**	**156**	P	**P**	**08 20 16.9**	**+2.5**
	comp=N,24nm,0.8s,baz=357,slow=8.1,SNR=15						
ATAH				LR	LR	08 27 55.9	
	comp=N,22nm,19.6s,baz=140,slow=35						
NATX	**Nacogdoches**	**20.81**	**341**	*eP*	**P**	**08 20 14.0**	**-0.5**
	comp=N,17nm,0.8s						
MTP	**Monte Pirata**	**21.29**	**71**	*eP*	**P**	**08 20 18.7**	**-1.1**
GOGA	**Godfrey**	**21.35**	**8**	*eP*	**P**	**08 20 20.7**	**+0.4**
GOGA				*epPn*		08 20 39.4	
NHSC	**New Hope**	**21.69**	**15**	*eP*	**P**	**08 20 25.1**	**+1.2**
	comp=N,71nm,1.5s,mb4.8						
PCRV	**Puerto La Cruz**	**21.79**	**93**	P	**P**	**08 20 24.5**	**-0.7**
	comp=N,18nm,0.7s,mb4.5,baz=242,slow=6.1,SNR=13						
PCRV				LR	LR	08 27 37.9	
	comp=N,114nm,21.9s,baz=282,slow=33						
JCT	**Junction City**	**21.86**	**328**	*eP*	**P**	**08 20 25.7**	**-0.1**
	comp=N,14nm,1.0s,mb4.2						
OXF	**Oxford**	**22.37**	**354**	*eP*	**P**	**08 20 31.6**	**+0.5**
	comp=N,21nm,0.9s,mb4.5						
OXF				*epP*		08 20 48.1	
PLAL	**Pickwick Lake**	**22.74**	**357**	*eP*	**P**	**08 20 35.5**	**+0.5**
SWET	**Sewanee**	**22.95**	**2**	*eP*	**P**	**08 20 37.9**	**+0.6**
SWET				*epP*		08 20 54.3	
UALR	**University of**	**23.06**	**348**	*eP*	**P**	**08 20 37.6**	**-0.8**
	comp=N,15nm,1.2s,mb4.2						
MIAR	**Mount Ida**	**23.12**	**346**	*eP*	**P**	**08 20 37.9**	**-1.0**
TXAR	**Lajitas Array**	**23.22**	**320**	P	**P**	**08 20 39.0**	**-0.8**
	comp=N,5.8nm,0.5s,mb4.2,baz=141,slow=9.4,SNR=190						
TXAR				PcP	PcP	08 24 25.9	+0.4
	comp=N,1.1nm,0.6s,baz=148,slow=6.2,SNR=7.5						
TXAR				LR	LR	08 30 24.3	
	comp=N,43nm,19.5s,baz=5.0,slow=38						
CPCT	**Cooper Cave**	**23.26**	**5**	*eP*	**P**	**08 20 39.2**	**-0.9**
WVT	**Waverly**	**23.87**	**358**	*epP*	pP	08 21 03.7	+0.3
TZTN	**Tazewell**	**24.43**	**6**	*eP*	**P**	**08 20 51.5**	**+0.7**
	comp=N,14nm,1.0s,mb4.2						
WMOK	**Wichita Mounta**	**24.98**	**336**	*eP*	**P**	**08 20 55.1**	**-0.8**
	comp=N,18nm,1.0s,mb4.5						
LPIG	**La Paz**	**25.28**	**301**	LR	LR	08 32 16.1	
	comp=N,42nm,20.4s,baz=164,slow=39						
SIUC	**Southern Illin**	**25.53**	**355**	*eP*	**P**	**08 21 01.1**	**+0.4**
SIUC				*epP*	pP	08 21 18.2	-0.7
MNTX	**Cornudas Mount**	**25.92**	**321**	*eP*	**P**	**08 21 03.5**	**-0.9**
CCM	**Cathedral Cave**	**26.08**	**352**	*eP*	**P**	**08 21 05.4**	**-0.4**
	comp=N,5.8nm,0.8s,mb4.1						
CCM				*epP*	pP	08 21 22.3	-1.7
AMTX	**Amarillo**	**26.36**	**332**	*eP*	**P**	**08 21 08.2**	**-0.1**
	comp=N,8.9nm,0.6s,mb4.4						
KSU1	**Kansas State U**	**28.21**	**344**	*eP*	**P**	**08 21 24.4**	**-0.5**
	comp=N,10nm,0.6s,mb4.5						
KSU1				*epP*	pP	08 21 43.7	+0.5
219A	**White Tail Can**	**28.59**	**317**	⇑P	**P**	**08 21 28.8**	**+0.5**
	baz=29						
318A	**Bisbee**	**28.75**	**315**	⇑P	**P**	**08 21 30.1**	**+0.4**
	baz=29						
318A				⇑pP	pP	08 21 35.5	-13
	baz=29						
ANMO	**Albuquerque**	**28.87**	**325**	P	**P**	**08 21 30.8**	**0.0**
	comp=N,2.8nm,0.8s,mb3.9,baz=145,slow=8.2,SNR=11						
ANMO				pP	pP	08 21 49.1	-0.1
	comp=N,2.1nm,0.8s,baz=162,slow=2.9,SNR=4.5						
ANMO				PcP	PcP	08 24 37.8	-0.7
	comp=N,1.5nm,0.9s,baz=162,slow=5.7,SNR=4.3						
119A	**Ashpeak Ranch,**	**29.11**	**318**	⇑P	**P**	**08 21 33.5**	**+0.6**
	baz=29,SNR=6.1						
119A				⇑pP	pP	08 21 38.9	-12
	baz=29						
218A	**Dragoon**	**29.11**	**316**	⇓P	**P**	**08 21 33.1**	**+0.2**
	baz=29						
218A				⇑pP	pP	08 21 38.5	-13
	baz=29						
MVL	**Millersville**	**29.20**	**17**	*eP*	**P**	**08 21 34.0**	**+0.5**
	comp=N,19nm,1.4s,mb4.5						
SSPA	**Standing Stone**	**29.40**	**14**	*eP*	**P**	**08 21 35.3**	**-0.1**
SSPA				*epP*	pP	08 21 55.3	+1.5
118A	**Homack Ranch,**	**29.46**	**317**	⇓P	**P**	**08 21 36.2**	**+0.1**
	baz=30						
118A				⇑pP	pP	08 21 42.2	-12
	baz=30						
217A	**Green Valley**	**29.51**	**315**	⇓pP	pP	08 21 42.4	-13
	baz=30						
TUC	**Tucson**	**29.81**	**316**	*eP*	**P**	**08 21 39.0**	**-0.1**
	comp=N,2.6nm,0.8s,mb3.9						
Y19A	**Nutrioso**	**29.84**	**320**	⇓P	**P**	**08 21 40.2**	**+0.8**
	baz=30,SNR=6.1						
117A	**Oracle**	**29.93**	**317**	⇓P	**P**	**08 21 40.8**	**+0.5**
	baz=30						
216A	**Three Points,**	**30.09**	**315**	⇑P	**P**	**08 21 41.4**	**-0.2**
	baz=30						
X19A	**St. Johns**	**30.18**	**321**	⇓P	**P**	**08 21 43.3**	**+1.0**
	baz=30						
Z17A	**San Carlos Hig**	**30.20**	**318**	⇓P	**P**	**08 21 42.7**	**+0.1**
	baz=30						
Y18A	**Canyon Day Jun**	**30.22**	**319**	⇑P	**P**	**08 21 43.3**	**+0.6**
	baz=30,SNR=6.6						
SDCO	**Great Sand Dun**	**30.49**	**330**	*eP*	**P**	**08 21 45.8**	**+0.7**
116A	**Eloy**	**30.58**	**316**	⇑P	**P**	**08 21 46.3**	**+0.4**
	baz=31						
X18A	**Snowflake**	**30.65**	**320**	⇑P	**P**	**08 21 47.5**	**+0.9**
	baz=31						
Z16A	**Peralta Trail,**	**30.86**	**317**	⇑P	**P**	**08 21 48.4**	**0.0**
	baz=31						
Y16A	**Circle Bar Ran**	**31.22**	**318**	⇑P	**P**	**08 21 52.0**	**+0.5**
	baz=31						
BINY	**Binghamton**	**31.35**	**15**	*eP*	**P**	**08 21 52.9**	**+0.3**
	comp=N,23nm,1.2s,mb4.8						
BINY				*epP*	pP	08 22 18.0	+6.9
X16A	**Lo Mia Camp, P**	**31.53**	**319**	⇑P	**P**	**08 21 54.6**	**+0.3**
	baz=32,SNR=13						
MVCO	**Mesa Verde**	**31.65**	**326**	*eP*	**P**	**08 21 55.1**	**-0.2**
	comp=N,4.2nm,0.7s,mb4.3						
MVCO				*epP*	pP	08 22 12.4	-1.3
MVCO	**Mesa Verde**	**31.65**	**326**	P	**P**	**08 21 55.8**	**+0.6**
	baz=32,SNR=5.5						
Y15A	**Casa Rosa Ranc**	**31.83**	**317**	⇑P	**P**	**08 21 57.3**	**+0.3**
	baz=32						
X15A	**Humboldt**	**32.09**	**318**	⇑P	**P**	**08 21 59.5**	**+0.3**
	baz=32,SNR=5.6						
WUAZ	**Wupatki**	**32.18**	**320**	*eP*	**P**	**08 22 00.5**	**+0.5**
	comp=N,8.2nm,1.0s,mb4.4						
Y14A	**Wickenburg**	**32.27**	**316**	⇓P	**P**	**08 22 00.7**	**-0.1**
	baz=32						
SMCO	**Snowmass**	**32.33**	**300**	*eP*	**P**	**08 22 01.2**	**+0.1**
	comp=N,8.1nm,1.3s,mb4.3						
PV01	**Paradox Valley**	**32.36**	**327**	*eP*	**P**	**08 22 01.6**	**+0.1**
X14A	**Yava**	**32.51**	**317**	⇓P	**P**	**08 22 03.2**	**+0.4**
	baz=33						
ECSD	**EROS,Sioux Fal**	**32.58**	**347**	*eP*	**P**	**08 22 01.8**	**-1.5**
Y13A	**Salome**	**32.76**	**316**	⇓P	**P**	**08 22 05.5**	**+0.4**
	baz=33						
V15A	**Kaibab Nationa**	**32.88**	**320**	P	**P**	**08 22 07.2**	**+1.2**
	baz=33,SNR=14						
W14A	**Seligman**	**33.08**	**318**	⇓P	**P**	**08 22 08.6**	**+0.7**
	baz=33,SNR=5.6						
X13A	**Yucca**	**33.21**	**317**	⇓P	**P**	**08 22 09.0**	**0.0**
	baz=33						
T16A	**Glen Canyon Da**	**33.22**	**322**	⇑P	**P**	**08 22 09.9**	**+0.9**
	baz=33,SNR=12						
PDMCI	**Parker Dam,Lak**	**33.25**	**316**	⇑P	**P**	**08 22 09.5**	**+0.2**
	baz=33						
V14A	**Boquillas Ranc**	**33.35**	**319**	⇑P	**P**	**08 22 10.9**	**+0.7**
	baz=33,SNR=6.7						
W13A	**Hualapai Mount**	**33.54**	**317**	⇑P	**P**	**08 22 12.4**	**+0.6**
	baz=34,SNR=5.1						
BC3	**Big Chuckw Mtn**	**33.80**	**314**	⇓P	**P**	**08 22 14.4**	**+0.3**
	baz=34						
COWI	**Conover**	**33.87**	**357**	*eP*	**P**	**08 22 13.8**	**-0.8**
U14A	**Mt Trumbull**	**33.88**	**320**	⇑P	**P**	**08 22 15.2**	**+0.4**
	baz=34,SNR=8.1						
LONY	**Lake Ozonia**	**33.97**	**16**	*eP*	**P**	**08 22 16.1**	**+0.6**
V13A	**Grand Canyon W**	**34.05**	**318**	⇓P	**P**	**08 22 16.8**	**+0.5**
	baz=34						
SRU	**San Rafael**	**34.12**	**326**	*eP*	**P**	**08 22 17.1**	**+0.3**
T14A	**Hurricane**	**34.23**	**321**	⇑P	**P**	**08 22 18.6**	**+0.8**
	baz=34,SNR=6.6						
W12A	**Cal Nev Ari**	**34.31**	**317**	⇑P	**P**	**08 22 19.0**	**+0.4**
	baz=34						
BELC	**Belle Mtn.**	**34.37**	**314**	⇓P	**P**	**08 22 19.5**	**+0.4**
	baz=34						
U13A	**Pakoon Wash**	**34.38**	**319**	⇓P	**P**	**08 22 19.7**	**+0.6**
	baz=34,SNR=6.6						
PFO	**Pinyon Flat Ob**	**34.49**	**313**	⇓P	**P**	**08 22 20.2**	**+0.1**
	baz=34						
V12A	**Nelson**	**34.55**	**317**	⇓P	**P**	**08 22 20.9**	**+0.3**
	baz=35						
GMRC	**Granite Mounta**	**34.55**	**315**	⇓P	**P**	**08 22 21.1**	**+0.4**
	baz=35						
MSU	**Marysvale**	**34.64**	**324**	*eP*	**P**	**08 22 21.4**	**+0.1**
MSU				*epP*	pP	08 22 39.4	-0.5
T13A	**Saint George**	**34.72**	**320**	⇑P	**P**	**08 22 22.9**	**+0.9**
	baz=35,SNR=7.7						
S14A	**Cedar City**	**34.73**	**322**	⇑P	**P**	**08 22 22.7**	**+0.6**
	baz=35,SNR=5.3						
ARUT	**Antelope Range**	**34.91**	**322**	*eP*	**P**	**08 22 24.0**	**+0.3**
ARUT				*epP*	pP	08 22 42.9	+0.5
S13A	**Holt Ranch, En**	**35.04**	**321**	⇑P	**P**	**08 22 26.0**	**+1.2**
	baz=35,SNR=10.0						
MPU	**Maple Canyon**	**35.37**	**326**	*eP*	**P**	**08 22 27.7**	**+0.1**
MPU				*epP*	pP	08 22 46.6	+0.3
DAU	**Daniels Canyon**	**35.44**	**327**	*eP*	**P**	**08 22 28.3**	**+0.1**
DAU				*epP*	pP	08 22 45.8	-1.1
JLU	**Jordanelle**	**35.68**	**327**	*eP*	**P**	**08 22 31.0**	**+0.8**
JLU				*epP*	pP	08 22 48.9	0.0
CTU	**Camp Tracy**	**35.91**	**327**	*eP*	**P**	**08 22 32.2**	**0.0**
CTU				*epP*	pP	08 22 50.6	-0.2
R12A	**Pony Springs,**	**35.97**	**321**	⇓P	**P**	**08 22 33.6**	**+0.9**
	baz=36,SNR=7.2						
Q13A	**Wheeler Ranch,**	**36.01**	**323**	⇓P	**P**	**08 22 34.0**	**+0.9**
	baz=36						
DUG	**Dugway**	**36.14**	**325**	*eP*	**P**	**08 22 34.7**	**+0.5**
	comp=N,4.8nm,0.9s,mb4.4						
DUG				*epP*	pP	08 22 53.9	+1.0
DUG	**Dugway**	**36.14**	**325**	⇑P	**P**	**08 22 34.9**	**+0.8**
	baz=36						
TPNV	**Topopah Spring**	**36.17**	**318**	*eP*	**P**	**08 22 34.3**	**-0.2**
	comp=N,4.0nm,0.8s,mb4.4						
TPNV				*epP*	pP	08 22 52.7	-0.5
TPNV	**Topopah Spring**	**36.17**	**318**	⇓P	**P**	**08 22 35.1**	**+0.6**
	baz=36,SNR=6.0						
FURC	**Furnace Creek,**	**36.30**	**317**	⇓P	**P**	**08 22 36.1**	**+0.4**
	baz=36						
P13A	**Bates Ranch, G**	**36.33**	**323**	⇓P	**P**	**08 22 36.7**	**+0.9**
	baz=36,SNR=11						
BW06	**Boulder Array**	**36.34**	**331**	*eP*	**P**	**08 22 35.3**	**-0.5**
HWUT	**Hardware Ranch**	**36.46**	**328**	*eP*	**P**	**08 22 36.6**	**-0.3**
HWUT				*epP*	pP	08 22 55.3	-0.3
R11A	**Troy Canyon, C**	**36.58**	**320**	⇓P	**P**	**08 22 38.7**	**+0.7**
	baz=37,SNR=5.1						
N14A	**Grayback Hills**	**36.80**	**326**	⇓P	**P**	**08 22 39.9**	**+0.1**
	baz=37,SNR=6.8						
AGMN	**Agassiz Refuge**	**36.80**	**350**	*eP*	**P**	**08 22 38.0**	**-1.7**
	comp=N,7.0nm,0.5s,mb4.8						
Q11A	**Duckwater**	**36.93**	**321**	⇑P	**P**	**08 22 41.3**	**+0.4**
	baz=37						
GRAC	**Grapevine Rang**	**36.94**	**317**	⇓P	**P**	**08 22 41.0**	**0.0**
	baz=37						
S10A	**Tonopah Range,**	**36.96**	**319**	⇓P	**P**	**08 22 42.0**	**+0.8**
	baz=37						
O12A	**Currie**	**37.29**	**324**	⇑P	**P**	**08 22 44.2**	**+0.2**
	baz=37						
M14A	**Sheep Mountain**	**37.34**	**326**	⇓P	**P**	**08 22 44.4**	**+0.1**
	baz=37,SNR=13						
N13A	**Wendover, West**	**37.37**	**325**	⇑P	**P**	**08 22 45.2**	**+0.6**
	baz=38,SNR=8.6						
Q10A	**Clear Creek Ra**	**37.38**	**320**	P	**P**	**08 22 45.9**	**+1.2**
	baz=37,SNR=5.1						
REDW	**Red Top Meadow**	**37.41**	**331**	*eP*	**P**	**08 22 44.7**	**-0.2**
REDW				*epP*	pP	08 23 03.3	-0.4
SNOW	**Snow King Moun**	**37.43**	**331**	*eP*	**P**	**08 22 45.3**	**+0.2**
SNOW				*epP*	pP	08 23 04.2	+0.3
R09A	**Tonopah**	**37.45**	**319**	⇑P	**P**	**08 22 45.8**	**+0.4**
	baz=38,SNR=5.2						
LOHW	**Long Hollow**	**37.48**	**331**	*eP*	**P**	**08 22 46.1**	**+0.7**
	comp=N,3.8nm,0.8s,mb4.4						
LOHW				*epP*	pP	08 23 04.6	+0.3
TPAW	**Teton Pass**	**37.55**	**331**	*eP*	**P**	**08 22 46.0**	**-0.1**
TPAW				*epP*	pP	08 23 04.6	-0.3
MOOW	**Moose Ponds**	**37.65**	**331**	*eP*	**P**	**08 22 46.7**	**-0.1**
	comp=N,6.4nm,0.8s,mb4.5						
MOOW				*epP*	pP	08 23 05.4	-0.3
M13A	**Montello**	**37.69**	**325**	⇑P	**P**	**08 22 47.3**	**0.0**
	baz=38,SNR=7.7						
O11A	**Cowboy Ranch,**	**37.74**	**323**	⇓P	**P**	**08 22 48.1**	**+0.4**
	baz=38						
S08C	**White Mtn Res**	**37.75**	**317**	⇑P	**P**	**08 22 48.2**	**+0.3**
	baz=38						
RCTC	**Rector, Farmer**	**37.84**	**315**	⇑P	**P**	**08 22 48.5**	**-0.1**
	baz=38						
N12A	**Clover Valley,**	**37.84**	**324**	⇑P	**P**	**08 22 48.6**	**0.0**
	baz=38						
IMW	**Indian Meadow**	**37.85**	**331**	*eP*	**P**	**08 22 48.0**	**-0.6**
	comp=N,4.3nm,0.6s,mb4.5						
IMW				*epP*	pP	08 23 06.3	-1.1

baz=41,SNR=14
I09A Lost Marbles R 41.39 326 ⇑P **P 08 23 17.4 -0.6**
baz=42
J08A Circle Bar Ran 41.41 325 ⇑P **P 08 23 17.8 -0.3**
baz=42
D14A Greenough 41.44 332 ⇓P **P 08 23 17.8 -0.6**
baz=42
K07A Rock Creek Ran 41.44 323 ⇓P **P 08 23 17.8 -0.6**
baz=42,SNR=6.5
G11A Walters Elk Ra 41.56 328 ⇑P **P 08 23 18.5 -0.9**
baz=42,SNR=5.5
BMO Blue Mountains 41.73 327 *e*P **P 08 23 19.3 -1.5**
D13A Huson 41.88 332 ⇑P **P 08 23 21.6 -0.4**
baz=42
G10A Bishop Farm, J 41.93 328 ⇓P **P 08 23 20.9 -1.5**
baz=42,SNR=5.4
E11A Bogner Ranch, 42.20 330 ⇑P **P 08 23 23.3 -1.3**
baz=42
G09A Cove 42.27 327 ⇑P **P 08 23 24.0 -1.1**
baz=42
J06A Christmas Vall 42.31 323 ⇑P **P 08 23 23.9 -1.7**
baz=42
D11A Klaveano Farm, 42.74 330 ⇑P **P 08 23 27.8 -1.1**
baz=43
D10A Wagner Farm, O 43.21 330 ⇓P **P 08 23 31.4 -1.4**
baz=43
NEW Newport 43.98 331 *e*pP pP 08 23 56.8 -1.3
D08A Wollman Farm, 44.04 328 ⇓P **P 08 23 38.8 -0.6**
baz=44
H04A Detroit Lake 44.34 324 ⇓P **P 08 23 40.9 -1.0**
baz=44
I03A Eugene 44.58 322 ⇑P **P 08 23 43.1 -0.7**
baz=45
SCHQ Schefferville 45.35 16 P **P 08 23 48.5 -1.1**
comp=N,4.2nm,0.5s,mb4.5,baz=224,slow=6.1,SNR=24
SCHQ pP pP 08 24 06.9 -2.0
comp=N,4.5nm,0.7s,baz=214,slow=7.8,SNR=2.9
SCHQ LR LR 08 41 55.8
comp=N,136nm,20.4s,baz=346,slow=35
CFAA Coronel Fontan 47.01 158 P **P 08 24 03.1 0.0**
comp=N,0.4nm,0.5s,mb3.5,baz=311,slow=5.1,SNR=7.5
CFAA PcP PcP 08 25 33.5 -0.7
comp=N,0.3nm,0.9s,baz=324,slow=7.3,SNR=3.5
BDFB Brasilia 47.26 125 P **P 08 24 04.5 -0.8**
comp=N,0.3nm,0.4s,mb3.4,baz=152,slow=25,SNR=4.1
BDFB LR LR 08 47 24.4
comp=N,36nm,18.0s,baz=171,slow=40
CPUP Villa Florida 47.79 143 P **P 08 24 07.0 -2.1**
comp=N,1.6nm,0.7s,mb4.0,baz=314,slow=5.1,SNR=3.2
YKA Yellowknife Ar 54.05 344 P **P 08 24 53.6 -2.0**
YKA pP pP 08 25 14.0 -1.5
YKA PcP PcP 08 25 57.3 -2.3
YKA LR LR 08 50 08.6
YKA Yellowknife Ar 54.05 344 P **P 08 24 53.6 -2.0**
comp=N,2.2nm,0.6s,mb4.4,baz=139,slow=7.3,SNR=48
YKA pP pP 08 25 14.0 -1.5
comp=N,1.0nm,0.6s,baz=137,slow=7.6,SNR=4.5
YKA PcP PcP 08 25 57.3 -2.3
comp=N,0.8nm,0.7s,baz=140,slow=3.8,SNR=6.2
YKA LR LR 08 50 08.5
comp=N,41nm,19.3s,baz=55,slow=38
PLCA Paso Flores 54.74 165 P **P 08 25 00.5 -0.4**
comp=N,6.2nm,0.8s,mb4.7,baz=351,slow=7.9,SNR=9.6
PLCA PcP PcP 08 26 02.0 -0.6
comp=N,4.6nm,0.9s,baz=345,slow=5.0,SNR=5.8
ESDC Sonseca Array 76.82 52 P **P 08 27 20.4 -2.6**
comp=N,1.1nm,0.5s,mb3.8,baz=285,slow=6.5,SNR=7.5
ESDC pP pP 08 27 42.6 -1.4
comp=N,2.2nm,0.7s,baz=281,slow=6.0,SNR=5.4
NOA NORSAR Array B 83.28 29 LR LR 09 02 17.7
comp=N,18nm,20.2s,baz=235,slow=34
TORD Torodi Ar. Bea 85.81 78 LR LR 09 02 44.6
comp=N,42nm,19.7s,baz=55,slow=33
GERES GERESS Array B 87.70 41 LR LR 09 08 11.2
comp=N,53nm,18.9s,baz=288,slow=36
KSRS Korea Array 120.86 328 PKP PKPdf 08 34 21.4 -1.8
comp=N,2.3nm,0.8s,baz=359,slow=0.8,SNR=7.1
WMQ Urumqi 124.05 5 *e*PKP PKPdf 08 34 25.0 -4.1
HHC Hu-ho-hao-te 124.58 343 *e*PKP PKPdf 08 34 28.4 -1.8
HHC PKS 08 38 00.0
HHC SKS SKSdf 08 41 30.1 -5.2
HHC SKKS SKKSac 08 43 05.0 -3.9
HHC PP PP
comp=Z,205nm,7.5s
HHC LR LR
comp=Z,101nm,19.8s
TOO Toolangi 127.08 232 *e*P PKPdf 08 34 34.5 -0.5
comp=Z,40nm,0.6s
STKA Stephens Creek 131.53 238 *e*P PKPdf 08 34 41.6 -2.0
comp=Z,3.3nm,0.6s
STKA Stephens Creek 131.53 238 PKP PKPdf 08 34 42.4 -1.3
comp=Z,3.5nm,0.6s,baz=77,slow=2.7,SNR=16
CD2 Chengdu 135.99 347 *e*PKP PKPdf 08 34 51.3 -0.8
GYA Guiyang 139.44 341 *e*PDIF Pdif 08 32 09.8 -1.4
GYA PKP PKPdf 08 34 57.4 -1.2
GYA PP PP 08 37 55.9 +4.0
GYA PP PP
comp=Z,60nm,7.8s
ASAR Alice Springs 139.80 248 PKhKP 08 34 50.3
comp=Z,1.0nm,0.5s,baz=108,slow=3.7,SNR=11
ASAR PKP PKPdf 08 34 58.5 -0.8
comp=Z,2.0nm,0.5s,baz=105,slow=1.8,SNR=38
WB2 Warramunga Arr 139.83 254 *e*P 08 34 43.9
WRAB Tennant Creek 139.84 254 *e*PKPdf PKPdf 08 34 57.7 -1.7
WRA Warramunga Arr 139.85 254 PKhKP 08 34 46.2
comp=Z,0.3nm,0.4s,baz=331,slow=14,SNR=15
WRA PKP PKPdf 08 34 59.2 -0.2
comp=Z,5.5nm,0.5s,baz=91,slow=2.3,SNR=90
FORT Forrest 142.91 235 *e*P PKPdf 08 35 01.3 -3.3
comp=Z,9.9nm,0.7s
FITZ Fitzroy Crossi 148.21 255 *e*P PKPdf 08 35 14.8 +0.8
comp=Z,8.3nm,0.8s
KLBR Kellerberrin 150.28 226 *e*P PKPbc 08 35 21.0 -1.2
comp=Z,12nm,0.6s
MUN Mundaring 151.11 223 *e*P PKPbc 08 35 23.2 -1.0

CSEM ***13*** *08:17:00.6±0.1, 4354N×1401E, h10km, ML2.5/2, Error ellipse: s-maj=3.1km s-min=2.0km az=134.0*
ISCJB ***13*** *08:17:01.3±0.9, 4354N±006×1408E±007, h10km, Error ellipse: s-maj=10.0km s-min=4.6km az=137.9*
ROM ***13*** *08:17:01.3±0.8, 4359N×1405E, h5km, Md2.5/7, Ml1.8/6, Error ellipse: s-maj=9.9km s-min=7.2km az=42.0*
ISC 13 08:17:02.3±1.0, 4354N±007×1405E±010, h12km±30km, n11, σ1§12/16, Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOI	**Ancona**	**0.32**	**271**	Pg	**Pg**	**08 17 07.4**	**-1.5**
AOI				Sg	**Sg**	**08 17 12.6**	**-0.7**
CING	**Cingoli**	**0.64**	**255**	Pg	**Pg**	**08 17 14.1**	**-0.7**
CING				Sg	**Sg**	**08 17 25.0**	**+1.8**
17nm,0.4s							
ARVD	**Arcevia**	**0.81**	**267**	Pg	**Pg**	**08 17 18.2**	**+0.3**
SNTG	**Esanatoglia**	**0.86**	**251**	Pg	**Pg**	**08 17 18.2**	**-0.7**
SNTG				Sg	**Sg**	**08 17 32.7**	**+2.7**
7.0nm,0.2s							
FSSB	**Fossombrone**	**0.93**	**280**	Pg	**Pg**	**08 17 20.1**	**-0.2**
38nm,0.4s							
TERO	**Teramo**	**0.98**	**200**	Pg	**Pg**	**08 17 21.0**	**-0.1**
17nm,0.4s							
NRCA	**Norcia**	**0.98**	**224**	Pg	**Pg**	**08 17 20.6**	**-0.7**
NRCA				Sg	**Sg**	**08 17 36.8**	**+2.7**
19nm,0.6s							
CESI	**CESI - Serrava**	**0.99**	**238**	Pg	**Pg**	**08 17 20.5**	**-0.9**
PIEI	**Pieia**	**1.10**	**270**	Pg	**Pg**	**08 17 22.9**	**-0.6**
11nm,0.4s							
MURB	**Monte Urbino**	**1.14**	**256**	Pg	**Pg**	**08 17 24.1**	**-0.2**
33nm,0.4s							
NVLJ	**Novalja**	**1.18**	**30**	*e*Pg	**Pg**	**08 17 24.8**	**-0.2**
NVLJ				Sg	**Sg**	**08 17 41.9**	**+1.5**

ISCJB ***13*** *08:30:16.6±0.3, 4324N±002×2083E±002, h10km±4km, Error ellipse: s-maj=3.1km s-min=2.8km az=35.5*
SKO ***13*** *08:30:18.2, 4323N×2086E, h10km*
BEO ***13*** *08:30:18.1±0.2, 4326N×2083E, h14km±2km, ML2.7/13*
PDG ***13*** *08:30:23.7±0.5, 4313N×2051E, h1km±11km, ML2.4/10, Error ellipse: s-maj=1.7km s-min=2.8km az=0.0*
ISC 13 08:30:17.7±0.3, 4325N±002×2084E±003, h12km±4km, n31, σ0§81/55, 3C-11D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	**0.63**	**271**	*e*Pg	**Pg**	**08 30 30.9**	**+0.9**
SJES				*e*Sg	**Sg**	**08 30 38.0**	**-0.3**
GRUS	**Gruza**	**0.65**	**352**	*i* Pg	**Pg**	**08 30 29.4**	**-0.9**
GRUS				*e*Sg	**Sg**	**08 30 39.1**	**+0.3**
IVA	**Berane**	**0.79**	**242**	⇓*i*Pg	**Pg**	**08 30 32.5**	**-0.4**
IVA				*e*Sg	**Sg**	**08 30 41.2**	**-2.0**
BARS	**Barje**	**0.84**	**121**	*i* Pg	**Pg**	**08 30 33.1**	**-0.8**
BARS				*e*Sg	**Sg**	**08 30 44.9**	**+0.1**
PVY	**Plav**	**0.91**	**224**	⇓*i*Pg	**Pg**	**08 30 35.7**	**+0.4**
PVY				*e*Sg	**Sg**	**08 30 46.5**	**-0.7**
BOLS	**Boljevac**	**1.00**	**54**	*i* Pg	**Pg**	**08 30 37.0**	**+0.1**
BOLS				*e*Sg	**Sg**	**08 30 49.5**	**-0.4**
DIVS	**Divibare**	**1.05**	**324**	*e*Pg	**Pg**	**08 30 37.0**	**-0.9**
DIVS				*e*Sg	**Sg**	**08 30 51.7**	**+0.1**
SVIS	**Svilajnac**	**1.05**	**15**	*i* Pg	**Pg**	**08 30 38.5**	**+0.5**
SVIS				*e*Sg	**Sg**	**08 30 53.3**	**+1.6**
PLE	**Pljevlja**	**1.06**	**275**	⇓*i*Pg	**Pg**	**08 30 39.7**	**+1.6**
PLE				*e*Sg	**Sg**	**08 30 52.0**	**+0.2**
SKO	**Skopje**	**1.35**	**161**	*i* Pg	**Pg**	**08 30 43.2**	**-0.5**
SKO	**Skopje**	**1.35**	**161**	*e*Pg	**Pg**	**08 30 43.0**	**-0.7**
SKO				*e*Sg	**Sg**	**08 31 00.2**	**-1.0**
UPM	**Unac-Piva**	**1.41**	**269**	⇑*i*Pg	**Pg**	**08 30 44.0**	**-0.8**
UPM				*e*Sg	**Sg**	**08 31 04.4**	**+1.3**
NKY	**Niksic**	**1.42**	**253**	⇓*i*Pg	**Pg**	**08 30 44.5**	**-0.4**
NKY				*e*Sg	**Sg**	**08 31 02.7**	**-0.6**
TTG	**Podgorica**	**1.42**	**235**	⇓*i*Pg	**Pg**	**08 30 45.0**	**0.0**
TTG				*e*Sg	**Sg**	**08 31 03.5**	**+0.1**
BEO	**Beograd**	**1.58**	**351**	*i* Pn	**Pn**	**08 30 46.0**	**+0.4**
BEO				*e*Sg	**Sg**	**08 31 08.8**	**+0.1**
BUM	**Brajici-Budva**	**1.71**	**237**	⇓*i*Pg	**Pg**	**08 30 50.8**	**+0.2**
BUM				*e*Sg	**Sg**	**08 31 13.6**	**+0.8**
BRY	**Bratogost**	**1.72**	**259**	⇑*i*Pg	**Pg**	**08 30 49.0**	**-1.6**
BRY				*e*Sg	**Sg**	**08 31 13.1**	**+0.2**
ULC	**Ulcinj**	**1.74**	**223**	*e*Pg	**Pg**	**08 30 52.6**	**+1.5**
ULC				*e*Sg	**Sg**	**08 31 14.3**	**+0.7**
STIP	**Stip**	**1.85**	**147**	*i* Pn	**Pn**	**08 30 49.1**	**-0.1**
STIP				*e*Sg	**Sg**	**08 31 17.4**	**+0.4**
STIP	**Stip**	**1.85**	**147**	*e*Pn	**Pn**	**08 30 49.0**	**-0.2**
VTS	**Vitosha**	**1.86**	**110**	*e*Pn	**Pn**	**08 30 50.0**	**+0.6**
VTS				*e*Sn	**Sn**	**08 31 13.4**	**+0.6**
VTS	**Vitosha**	**1.86**	**110**	⇓*i*P	**Pn**	**08 30 50.2**	**+0.8**
DJES	**Djerdap**	**1.87**	**40**	*i* Pn	**Pn**	**08 30 50.4**	**+0.9**
DJES				*e*Sn	**Sn**	**08 31 12.5**	**-0.5**
HCY	**Herceg Novi**	**1.90**	**246**	⇓*i*Pn	**Pn**	**08 30 54.5**	**+4.6**
HCY				*e*Sn	**Sn**	**08 31 19.0**	**+5.3**
FGSL	**Fruska Gora**	**2.05**	**339**	*i* Pn	**Pn**	**08 30 52.2**	**+0.3**
FGSL				*e*Sn	**Sn**	**08 31 16.1**	**-1.3**
BZS	**Buzias**	**2.43**	**13**	*e*Pn	**Pn**	**08 30 56.9**	**-0.4**
BZS				*e*Sn	**Sn**	**08 31 25.3**	**-1.6**
BZS				*e*Sg	**Sg**	**08 31 35.1**	**-0.8**
BZS	**Buzias**	**2.43**	**13**	⇓*i*P	**Pn**	**08 30 56.7**	**-0.6**
GZR	**Gura Zlata**	**2.56**	**32**	⇓*i*P	**Pn**	**08 30 59.9**	**+0.9**
PKSM	**Moragy**	**3.35**	**333**	*i* Pn	**Pn**	**08 31 10.0**	**+0.1**
PKSM	**Moragy**	**3.35**	**333**	⇑*i*P	**Pn**	**08 31 10.1**	**+0.2**
PSZ	**Piszkesteto**	**4.72**	**352**	⇓*i*P	**Pn**	**08 31 29.4**	**+0.8**

NEIC ***13*** *08:36:19.8, 1591N×9900W, h18km, MD3.9(MEX), After MEX.*
MEX 13 08:36:19.8±0.8, 1591N×9900W, h18km±37km, MD3.9, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.97**	**60**	*e*P	Pb	08 36 34.7	-3.3
PNIG				*i* S	Sb	08 36 46.7	-3.7
ACX	**Acapulco**	**1.30**	**317**	*i* P	Pn	08 36 40.2	-2.8
ACX				*i* S	Sn	08 36 54.6	-5.4
VHO	**Vista Hermosa**	**2.46**	**62**	*i* P	Pn	08 36 56.5	-2.6
VHO				*i* S	Sn	08 37 26.1	-2.6
TPIG	**Tehuac#an**	**2.95**	**32**	*e*P	Pn	08 37 03.5	-2.3
TPIG				*i* S	Sn	08 37 38.6	-2.1
MZVM		**3.27**	**356**	*i* P	Pn	08 37 07.0	-3.2
MZVM				*i* S	Sn	08 37 44.8	-3.9
IIO	**Organos**	**3.67**	**4**	*e*P	Pn	08 37 16.4	+0.7
IIO				*i* S	Sn	08 37 56.7	-1.9

IDC 13 08:40:49.4±46.0, 3224S×17787E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.8/10, mbtmp3.7/3, Error ellipse: s-maj=805.2km s-min=150.2km az=99.0, North of New Zealand

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**30.66**	**261**	P	P	08 47 05.8	+0.2
2.7nm,0.9s,baz=129,slow=8.5,SNR=3.1							
ASAR	**Alice Springs**	**39.55**	**271**	P	P	08 48 22.6	+0.4
0.2nm,0.4s,baz=111,slow=7.6,SNR=6.8							
WRA	**Warramunga Arr**	**40.72**	**277**	P	P	08 48 31.4	-0.5
0.3nm,0.3s,baz=116,slow=8.0,SNR=22							

MOS 13 08:44:33.1±1.4, 4278N×4612E, h39km, mb3.8/1, 2C-2D, Error ellipse: s-maj=45.8km s-min=15.9km az=24.3, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNJR	**Sundja**	**1.00**	**287**	*e*P	Pn	08 44 49.0	-1.7
SNJR				*e*S	Sn	08 44 59.2	-4.4
LACR	**Lac**	**1.34**	**273**	⇓*i*P	Pn	08 44 55.7	+0.4
LACR				*i* S	Sn	08 45 10.3	-1.6
TRKR	**Terskaya**	**1.39**	**314**	⇓*i*P	Pn	08 44 56.5	+0.6
TRKR				*i* S	Sn	08 45 12.0	-1.0
ARNR	**Ardon**	**1.41**	**288**	⇑*i*P	Pn	08 44 56.3	0.0
ARNR				*e*S	Sn	08 45 11.2	-2.4
ZEI	**Tsey**	**1.63**	**271**	⇑*i*P	Pn	08 45 01.1	+1.8
ZEI				*i* S	Sn	08 45 19.0	-0.1
PRTR	**Priterechnaya**	**1.66**	**307**	*e*P	Pn	08 45 01.2	+1.5
PRTR				*e*S	Sn	08 45 19.7	0.0
DIGR	**Digorskoe uzhe**	**1.87**	**275**	*e*P	Pn	08 45 04.3	+1.7
DIGR				*i* S	Sn	08 45 25.5	+0.6

NIED ***13*** *08:48:00, 36.10N×142.10E, h14km, Mw4.3 Best double couple: M0:3.71000×10^15 NP1:φ=1.00000°, δ=69.00000°, λ=57.00000°. NP2:φ=243.00000°, δ=39.00000°, λ=145.00000°.*
BJI ***13*** *08:48:34.4, 3528N×14292E, h10km, mB4.7, mb4.7, Ms4.2, Msz4.0*
IDC ***13*** *08:48:42.5±0.9, 3609N×14208E, h0km, mb4.2/10, mb1 4.3/15, mb1mx4.2/25, mbtmp4.2/15, ML4.1/5, MS3.6/5, Ms1 3.6/5, ms1mx3.2/33, Error ellipse: s-maj=22.1km s-min=17.5km az=146.0*
NEIC ***13*** *08:48:43.7±0.9, 36.11N×142.12E, h10km, mb4.8/3, MW4.3(NIED), Error ellipse: s-maj=20.3km s-min=10.3km az=151.0*
ISCJB ***13*** *08:48:43.6±1.4, 36.11N±003×142.17E±005, h25km±10km, mb4.3/26, MS3.9/6, Error ellipse: s-maj=7.3km s-min=4.6km az=24.7*
JMA ***13*** *08:48:44.6±0.2, 36.11N×142.12E, h68km±4km, M4.1*
MOS ***13*** *08:48:47.5±0.9, 3649N×14203E, h33km, mb4.6/15, Error ellipse: s-maj=14.2km s-min=7.8km az=110.8*
ISC 13 08:48:44.1±1.5, 3611N±003×14214E±005, h16km±9km, h37km±1.5km: pP-P, n77, σ1§12/89, mb4.3/26, MS3.9/6, 12C-2D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHOJ	**Chosi**	**1.11**	**249**	⇑P	**Pb**	**08 49 04.5**	**-0.5**
CHOJ				S	**Sb**	**08 49 19.8**	**+0.5**
JHO	**Hitachi**	**1.36**	**292**	P	**Pn**	**08 49 07.4**	**-1.1**
ONAJ	**Iwakimizuishiy**	**1.47**	**313**	P	**Pn**	**08 49 09.4**	**-0.5**
JFK	**Kawauchi**	**1.62**	**321**	⇑P	**Pn**	**08 49 11.3**	**-0.7**
JFK				*e*S	**Sn**	**08 49 30.1**	**-2.4**
BSO1	**Boso 1**	**1.73**	**214**	P	**Pn**	**08 49 13.2**	**-0.4**
BSO1				S	**Sn**	**08 49 35.1**	**-0.2**
BSO3	**Boso 3**	**1.86**	**226**	P	**Pn**	**08 49 14.7**	**-0.6**
BSO3				*e*S	**Sn**	**08 49 34.5**	**-4.0**
JFT	**Otama**	**2.02**	**315**	⇑P	**Pn**	**08 49 17.9**	**+0.4**
JFT				*e*S	**Sn**	**08 49 42.9**	**+0.5**
JMM	**Marumori**	**2.06**	**329**	⇑P	**Pn**	**08 49 17.5**	**-0.6**
JAG	**Ashikaga**	**2.19**	**279**	⇑P	**Pn**	**08 49 19.6**	**-0.3**
JOD2	**Odawara 2**	**2.62**	**252**	⇑P	**Pn**	**08 49 25.6**	**-0.2**
JOD2				*e*S	**Sn**	**08 49 56.3**	**-1.0**
JRY	**Ryogami san**	**2.62**	**269**	⇑P	**Pn**	**08 49 25.7**	**-0.1**
JRY				*e*S	**Sn**	**08 49 55.9**	**-1.5**
JNS	**Sasagawa**	**2.83**	**308**	P	**Pn**	**08 49 29.1**	**+0.4**
JMK	**Ichinoseki**	**2.93**	**346**	⇓P	**Pn**	**08 49 30.6**	**+0.5**
JMK				*e*S	**Sn**	**08 50 03.9**	**-1.1**
JYN	**Shimob**	**2.98**	**259**	P	**Pn**	**08 49 32.2**	**+1.4**
MJAR	**Matsushiro Arr**	**3.20**	**279**	P	**Pn**	**08 49 34.1**	**+0.3**
MJAR						08 50 12.0	
MJAR				pmax	pmax		
comp=Z,20nm,0.3s							
MJAR				smax			
comp=N,11nm,0.3s							
MJAR	**Matsushiro Arr**	**3.20**	**279**	Pn	**Pn**	**08 49 34.0**	**+0.3**
comp=N,20nm,0.3s,baz=89,slow=16,SNR=140							
MJAR				Sn	**Sn**	**08 50 12.0**	**+0.4**
comp=N,11nm,0.3s,baz=127,slow=14,SNR=5.4							
MAJO	**Matsushiro**	**3.21**	**279**	*e*P	**Pn**	**08 49 34.7**	**+0.9**
MAT	**Matsushiro**	**3.21**	**279**	P	**Pn**	**08 49 33.6**	**-0.2**
MAT				*e*S	**Sn**	**08 50 14.8**	**+3.1**
MAT	**Matsushiro**	**3.21**	**279**	P	**Pn**	**08 49 34.7**	**+0.9**
JHJ	**Hachijo jima 2**	**3.56**	**214**	Pn	**Pn**	**08 49 38.9**	**+0.2**
comp=N,78nm,0.3s,baz=83,slow=10,SNR=22							
JHJ				Sn	**Sn**	**08 50 19.4**	**-1.0**
comp=N,108nm,0.3s,baz=219,slow=23,SNR=9.1							
ERM	**Erimo**	**5.95**	**7**	*c i*P	**Pn**	**08 50 10.2**	**-1.4**
ERM	**Erimo**	**5.95**	**7**	*e*Pn	**Pn**	**08 50 10.1**	**-1.4**
comp=N,20nm,0.6s							
ASAJ	**Asahikawa**	**8.01**	**2**	P	**Pn**	**08 50 38.8**	**-1.0**
ASAJ						08 52 09.1	
ASAJ				pmax	pmax		
comp=Z,4.0nm,0.3s							
ASAJ				smax			
comp=N,3.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,645nm,18.3s							
ASAJ	**Asahikawa**	**8.01**	**2**	Pn	**Pn**	**08 50 38.8**	**-1.0**
comp=Z,4.0nm,0.3s,baz=219,slow=11,SNR=27							
ASAJ				Sn	**Sn**	**08 52 09.1**	**-0.9**
comp=Z,2.6nm,0.3s,baz=268,slow=33,SNR=4.1							
ASAJ				LR	LR	08 54 47.3	
comp=Z,645nm,18.3s,baz=176,slow=45							
CBIJ	**Chichi jima**	**8.98**	**180**	Pn	**Pn**	**08 50 51.1**	**-2.1**
comp=Z,15nm,0.3s,baz=289,slow=22,SNR=9.9							
CBIJ				Sn	**Sn**	**08 52 25.9**	**-8.2**
comp=Z,14nm,0.3s,baz=273,slow=22,SNR=6.4							
JNU	**Nakatsue**	**9.75**	**255**	Pn	**Pn**	**08 51 05.1**	**+1.5**
comp=Z,0.4nm,0.3s,baz=85,slow=21,SNR=4.8							
YSS	**Yuzh-Sakhalins**	**10.85**	**2**	*e*P	**Pn**	**08 51 16.0**	**-2.7**
YSS				MLR	MLR		
comp=Z,500nm,15.0s							
KSRS	**Korea Array**	**11.48**	**281**	Pn	**Pn**	**08 51 29.8**	**+2.4**
comp=Z,0.3nm,0.3s,baz=96,slow=13,SNR=17							
KSRS				LR	LR	08 55 46.8	
comp=Z,117nm,21.1s,baz=353,slow=37							
HABR	**Khabarovsk**	**13.42**	**339**	*e*P	**Pn**	**08 52 02.7**	**+9.0**
HABR				pmax	pmax		
comp=Z,4.0nm,0.3s							
KLR	**Kul'dur**	**15.16**	**333**	*e*P	**Pn**	**08 52 18.0**	**+0.6**
KLR				MLR	MLR		
comp=N,700nm,13.0s							
KLR				MLR	MLR		
comp=Z,3μm,13.0s							
NJ2	**Nanjing**	**19.70**	**265**	*e*P	**Pn**	**08 53 13.6**	**-0.6**
NJ2				AMB	AMB		
comp=Z,40nm,0.6s							
CLNS	**Chul'man**	**23.77**	**336**	*e*P	**P**	**08 53 53.6**	**-2.1**
CLNS				pmax	pmax		
comp=Z,25nm,1.3s,mb4.5							
CLNS				pmax	pmax		
comp=N,25nm,1.2s							
CLNS				pmax	pmax		
comp=E,10.0nm,0.9s							
CLNS				MLR	MLR		
comp=Z,300nm,13.0s,MS4.0							
CLNS				MLR	MLR		
comp=N,300nm,14.0s,MS4.0							
CLNS				MLR	MLR		
comp=E,200nm,12.0s,MS4.0							
YAK	**Yakutsk**	**27.10**	**347**	*e*P	**P**	**08 54 25.9**	**0.0**
YAK				pmax	pmax		
comp=Z,16nm,1.2s,mb4.4							
YAK				pmax	pmax		
comp=N,15nm,1.4s							
YAK				pmax	pmax		
comp=E,7.0nm,1.2s							
XAN	**Xi'an**	**27.19**	**275**	P	**P**	**08 54 26.3**	**-0.7**
XAN				AP	pP	08 54 36.4	+4.5
XAN				AMB	AMB		
comp=Z,8.0nm,0.7s,mb4.4							
XAN				AMB	AMB		
comp=Z,44nm,4.2s							
XAN				LR	LR		
comp=N,100nm,13.9s,MS3.8							
XAN				LR	LR		
comp=E,154nm,14.9s,MS3.8							
XAN				LR	LR		
comp=Z,244nm,15.7s,MS3.9							
BOD	**Bodaibo**	**28.62**	**328**	*e*P	**P**	**08 54 39.5**	**0.0**
BOD				pmax	pmax		
comp=Z,12nm,0.8s,mb4.7							
SONM	**Songino Array**	**28.79**	**305**	P	**P**	**08 54 42.4**	**+1.3**
SONM				pmax	pmax		
comp=Z,5.0nm,0.8s							
SONM				MLR	MLR		
comp=Z,79nm,21.0s							
SONM	**Songino Array**	**28.79**	**305**	P	**P**	**08 54 42.4**	**+1.2**
comp=Z,4.5nm,0.8s,mb4.2,baz=114,slow=8.4,SNR=26							
SONM				LR	LR	09 05 45.3	
comp=Z,79nm,21.0s,MS3.3,baz=97,slow=36							
ZAK	**Zakamensk**	**31.30**	**309**	*e*P	**P**	**08 55 04.0**	**+0.7**
ZAK				*e*		08 56 12.8	
ZAK				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.3							
ZAK				pmax	pmax		
comp=Z,2.0nm,0.7s,mb4.1							
GTA	**Gaotai**	**33.40**	**289**	⇑*i*P	**P**	**08 55 22.8**	**+0.9**
GTA				AP	pP	08 55 34.0	+7.2
GTA				AMB	AMB		
comp=Z,23nm,0.8s,mb5.2							
BILL	**Bilibino**	**34.76**	**16**	*e*P	**P**	**08 55 29.2**	**-4.0**
BILL				pmax	pmax		
comp=Z,1.0nm,1.5s,mb3.5							
TIXI	**Tiksi**	**36.28**	**353**	⇑*e*P	**P**	**08 55 46.2**	**-0.1**
TIXI				pmax	pmax		
comp=Z,3.0nm,1.6s,mb4.0							
WMQ	**Urumqi**	**41.78**	**298**	*e*P	**P**	**08 56 32.5**	**-0.2**
ZAA0	**Zalesovo Array**	**42.97**	**313**	*e*P	**P**	**08 56 42.6**	**+0.4**
ZALV	**Zalesovo Beam**	**42.97**	**313**	P	**P**	**08 56 43.1**	**+0.8**
comp=Z,2.2nm,0.4s,mb4.2,baz=90,slow=7.4,SNR=14							
ZAL	**Zalesovo**	**42.98**	**313**	P	**P**	**08 56 43.1**	**+0.8**
NVS	**Novosibirsk**	**43.90**	**314**	*e*P	**P**	**08 56 50.7**	**+1.0**
NVS				pmax	pmax		
comp=Z,11nm,1.1s,mb4.5							
NVS				pmax	pmax		
comp=E,9.0nm,1.2s							
MK31	**Makanchi Array**	**45.11**	**303**	*e*P	**P**	**08 56 59.0**	**-0.5**
MKAR	**Makanchi Array**	**45.11**	**303**	⇑*i*P	**P**	**08 57 02.5**	**+3.0**
MKAR				pmax	pmax		
comp=Z,7.0nm,0.8s							
MKAR	**Makanchi Array**	**45.11**	**303**	P	**P**	**08 56 60.0**	**+0.5**
comp=Z,6

OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
FINES FINESS Array B 69.91 333 *i* P **P 08 59 54.7 +0.7**
FINES pmax pmax
comp=Z,2.0nm,0.8s
FINES FINESS Array B 69.91 333 P **P 08 59 54.7 +0.7**
FINES LR LR 09 33 44.5
FINES FINESS Array B 69.91 333 P **P 08 59 54.7 +0.7**
comp=Z,2.1nm,0.8s,mb4.1,baz=49,slow=5.8,SNR=9.0
FINES LR LR 09 33 44.5
comp=Z,74nm,18.7s,MS4.0,baz=3.5,slow=39
KIV Kislovodsk 71.96 311⇓ *eP* **P 09 00 07.9 +1.1**
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
ANN Anapa 74.59 314 *eP* **P 09 00 19.2 -3.1**
ANN *e**PP pP 09 00 29.5 +2.0
ANN *eS* S 09 10 00.2 +3.0
ANN pmax pmax
comp=Z,29nm,1.4s,mb5.0
NB2 NORSAR Subarra 75.27 338 P **P 09 00 26.7 +0.8**
comp=Z,1.1nm,0.6s,mb4.0,baz=39,slow=5.9
NOA NORSAR Array B 75.27 338 P **P 09 00 26.6 +0.8**
comp=Z,2.6nm,0.8s,mb4.2,baz=39,slow=5.7,SNR=12
NOA LR LR 09 41 48.2
comp=Z,50nm,18.1s,MS3.9,baz=105,slow=42
AKASG Malin Array Be 75.39 323 *i* P **P 09 00 26.7 -0.1**
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 75.39 323 P **P 09 00 26.8 +0.1**
comp=Z,1.5nm,0.5s,mb4.2,baz=46,slow=5.9,SNR=17
GERES GERESS Array B 83.81 329 P **P 09 01 13.4 +0.8**
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 83.81 329 P **P 09 01 13.4 +0.8**
comp=Z,0.8nm,0.8s,mb3.9,baz=46,slow=3.9,SNR=6.8
TXAR Lajitas Array 90.22 53 P **P 09 01 46.0 +1.8**
comp=Z,0.3nm,0.7s,mb3.7,baz=260,slow=2.0,SNR=4.5
LPAZ La Paz 146.64 62 PKPbc PKPbc 09 08 27.4 +2.0
comp=Z,0.7nm,0.5s,baz=122,slow=2.0,SNR=7.9

*BJI **13** 08:53:07.1, 027N×12632E, h56km, mB5.3, mb4.7*
*MOS **13** 08:53:10.7±1.2, 1.16N×12633E, h33km, mb5.0/10, Error ellipse: s-maj=19.3km s-min=8.2km az=105.6*
*ISCJB **13** 08:53:12.6±1.9, 1.10N±005×12636E±007, h51km±18km, mb4.7/51, MS3.4/4, Error ellipse: s-maj=12.6km s-min=7.5km az=162.4*
*NEIC **13** 08:53:14.7±1.5, 1.11N×12643E, h56km±14km, mb4.8/14, Error ellipse: s-maj=11.6km s-min=6.0km az=68.0*
*IDC **13** 08:53:15.8±2.5, 1.08N×12637E, h65km±23km, mb4.3/20, mb1 4.3/23, mb1mx4.3/26, mbtmp4.3/23, MS3.5/5, Ms1 3.5/5, ms1mx3.2/27, Error ellipse: s-maj=20.3km s-min=9.0km az=81.0*

ISC 13 08:53:15.3±1.4, 107N±005×12637E±007, h60km±13km, n78, σ0°94/75, mb4.7/51, 2C-5D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.96**	**228**	P	**Pn**	**08 55 23.7**	**+1.5**
	7.1nm,0.3s,baz=38,slow=7.2,SNR=13						
KAPI				LR	LR	08 58 46.0	
	comp=Z,261nm,19.5s,baz=29,slow=37						
BATI	**Kupang**	**11.52**	**193**	P	**Pn**	**08 55 57.6**	**+0.5**
	2.0nm,0.3s,baz=213,slow=6.4,SNR=2.0						
KAKA	**Kakadu**	**14.96**	**156**	*eP*	**Pn**	**08 56 41.2**	**-2.2**
	12nm,0.6s						
KAKA				*e*		08 56 48.6	
FITZ	**Fitzroy Crossi**	**19.07**	**182**	*eP*	**Pn**	**08 57 32.6**	**-1.7**
	14nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.07**	**182**	P	**Pn**	**08 57 33.1**	**-1.2**
	0.7nm,0.3s,baz=18,slow=11,SNR=23						
GUMO	**Guam**	**22.13**	**55**	LR	LR	09 05 09.5	
	comp=Z,196nm,19.6s,baz=238,slow=32						
WRAB	**Tennant Creek**	**22.29**	**160**	*d iP*	**P**	**08 58 08.4**	**+0.6**
WRAB	**Tennant Creek**	**22.29**	**160**	*eP*	**P**	**08 58 07.7**	**0.0**
	26nm,0.4s,mb5.0						
WRA	**Warramunga Arr**	**22.30**	**160**	P	**P**	**08 58 07.3**	**-0.5**
	29nm,0.6s,mb4.9,baz=340,slow=11,SNR=206						
WRA				S	**S**	**09 02 11.1**	**+1.3**
	5.0nm,1.0s,baz=337,slow=18,SNR=5.5						
WB2	**Warramunga Arr**	**22.30**	**160**	*eP*	**P**	**08 58 07.0**	**-0.9**
MBWA	**Marble Bar**	**23.03**	**196**	*eP*	**P**	**08 58 14.7**	**-0.8**
	24nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**25.66**	**164**	P	**P**	**08 58 40.0**	**+0.3**
	6.1nm,0.4s,mb4.5,baz=347,slow=7.0,SNR=95						
JOW	**Kunigami**	**25.68**	**4**	P	**P**	**08 58 41.1**	**+1.4**
	38nm,0.8s,mb5.0,baz=184,slow=7.8,SNR=6.7						
PSI	**Prapat**	**27.48**	**274**	P	**P**	**08 58 56.1**	**-0.2**
	9.9nm,0.9s,mb4.3,baz=109,slow=8.4,SNR=3.6						
CTA	**Charters Tower**	**28.67**	**138**	*eP*	**P**	**08 59 05.7**	**-1.0**
	7.2nm,1.3s,mb4.2						
CTA	**Charters Tower**	**28.67**	**138**	*eP*	**P**	**08 59 05.7**	**-1.0**
CTA				pmax	pmax		
	comp=Z,7.0nm,1.3s						
CTA	**Charters Tower**	**28.67**	**138**	P	**P**	**08 59 05.5**	**-1.3**
	comp=Z,4.0nm,0.8s,mb4.2,baz=274,slow=15,SNR=3.4						
CBIJ	**Chichi jima**	**30.00**	**29**	P	**P**	**08 59 18.2**	**-0.2**
	comp=Z,29nm,0.7s,mb5.2,baz=291,slow=21,SNR=2.3						
NJ2	**Nanjing**	**31.62**	**348**	*eP*	**P**	**08 59 32.9**	**+0.2**
NJ2				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.4						
FORT	**Forrest**	**31.71**	**177**	*eP*	**P**	**08 59 34.4**	**+0.9**
	comp=Z,34nm,0.7s,mb5.3						
JNU	**Nakatsue**	**32.16**	**7**	P	**P**	**08 59 37.4**	**0.0**
	comp=Z,6.7nm,0.8s,mb4.5,baz=106,slow=40,SNR=3.5						
JNU				LR	LR	09 12 34.1	
	comp=Z,37nm,21.4s,baz=208,slow=36						
KLBR	**Kellerberrin**	**33.50**	**193**	*eP*	**P**	**08 59 49.4**	**+0.3**
	comp=Z,12nm,0.6s,mb5.0						
MUN	**Mundaring**	**34.25**	**195**	*eP*	**P**	**08 59 56.4**	**+0.8**
NWAO	**Narrogin (SRO)**	**34.90**	**194**	P	**P**	**09 00 01.7**	**+0.5**
	comp=Z,8.6nm,0.8s,mb4.7,baz=310,slow=11,SNR=8.1						
STKA	**Stephens Creek**	**35.80**	**158**	*eP*	**P**	**09 00 09.5**	**+0.5**
	comp=Z,8.8nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**35.80**	**158**	P	**P**	**09 00 09.5**	**+0.5**
	comp=Z,7.7nm,0.5s,mb4.9,baz=337,slow=8.8,SNR=3.4						
KSRS	**Korea Array**	**36.23**	**2**	P	**P**	**09 00 13.5**	**+0.9**
	comp=Z,2.2nm,0.7s,mb4.2,baz=182,slow=9.8,SNR=7.3						
KSRS				LR	LR	09 17 18.5	
	comp=Z,45nm,18.2s,baz=172,slow=40						
MJAR	**Matsushiro Arr**	**36.96**	**16**	P	**P**	**09 00 17.7**	**-1.1**
	comp=Z,3.7nm,0.6s,mb4.4,baz=186,slow=9.4,SNR=15						
MJAR				LR	LR	09 15 31.0	
	comp=Z,104nm,18.3s,baz=45,slow=36						
TOO	**Toolangi**	**42.33**	**157**	*eP*	**P**	**09 01 05.7**	**+2.3**
	comp=Z,58nm,0.9s,mb5.2						
TOO	**Toolangi**	**42.33**	**157**	*eP*	**P**	**09 01 05.7**	**+2.3**
TOO				pmax	pmax		
	comp=Z,58nm,0.9s,mb5.2						
GTA	**Gaotai**	**45.20**	**331**	*eP*	**P**	**09 01 27.6**	**+1.1**
GTA				AP	pP	09 01 40.5	-1.4
GTA				XP	sP	09 01 45.5	-3.4
GTA				PCP	PcP	09 03 07.4	+1.6
GTA				AMB	AMB		
	comp=Z,4.0nm,0.6s,mb4.4						
ASAJ	**Asahikawa**	**45.22**	**16**	P	**P**	**09 01 27.9**	**+1.3**
	comp=Z,6.3nm,0.8s,mb4.5,baz=234,slow=14,SNR=6.8						
JIRN	**Jiri**	**46.68**	**308**	*eP*	**P**	**09 01 38.3**	**0.0**
	comp=Z,4.8nm,0.2s,mb5.0						
GUN	**Gumba**	**47.03**	**308**	*eP*	**P**	**09 01 40.7**	**-0.4**
	comp=Z,14nm,0.5s,mb5.1						
PKI	**Pulchoki**	**47.25**	**308**	*eP*	**P**	**09 01 42.2**	**-0.6**
	comp=Z,4.4nm,0.4s,mb4.8						
KKN	**Kakani**	**47.45**	**308**	*eP*	**P**	**09 01 43.9**	**-0.4**
	comp=Z,3.7nm,0.4s,mb4.6						
DMN	**Daman**	**47.51**	**307**	*eP*	**P**	**09 01 43.7**	**-1.1**
	comp=Z,3.9nm,0.4s,mb4.8						
HABR	**Khabarovsk**	**47.81**	**8**	*eP*	**P**	**09 01 44.6**	**-2.1**
HABR				*e*		09 03 14.4	
HABR				*e*		09 03 36.2	
HABR				*eS*	**S**	**09 08 39.0**	**0.0**
GKN	**Gorkha**	**48.06**	**308**	*eP*	**P**	**09 01 48.9**	**-0.1**
	comp=Z,4.0nm,0.3s,mb5.0						
HIA	**Hailar**	**48.35**	**354**⇓	*eP*	**P**	**09 01 51.6**	**+0.7**
KOLN	**Koldanda**	**48.78**	**307**	*eP*	**P**	**09 01 53.8**	**-0.8**
	comp=Z,24nm,0.8s,mb5.3						
DANN	**Dangsing**	**48.90**	**308**	*eP*	**P**	**09 01 55.4**	**-0.1**
	comp=Z,20nm,0.6s,mb5.3						
ULN	**Ulaanbaatar**	**49.53**	**343**⇑	*eP*	**P**	**09 02 01.3**	**+1.4**
SONM	**Songino Array**	**49.70**	**342**	P	**P**	**09 02 01.7**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.2,baz=158,slow=8.8,SNR=5.9						
BOD	**Bodaibo**	**57.43**	**352**	*eP*	**P**	**09 02 55.7**	**-1.9**
BOD				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
MK31	**Makanchi Array**	**59.54**	**326**	*eP*	**P**	**09 03 12.0**	**-0.5**
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**09 03 12.0**	**-0.6**
	comp=Z,3.2nm,0.5s,mb4.6,baz=122,slow=8.8,SNR=31						
YAK	**Yakutsk**	**60.86**	**2**⇑	*eP*	**P**	**09 03 23.5**	**+2.2**
YAK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
MA2	**Magadan**	**61.35**	**14**⇓	*eP*	**P**	**09 03 26.2**	**+1.5**
MA2				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.9						
TKM2	**Tokmak 2**	**61.51**	**320**	*eP*	**P**	**09 03 26.0**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.7						
TKM2	**Tokmak 2**	**61.51**	**320**	*eP*	**P**	**09 03 26.0**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.6						
UCH	**Uchtor**	**61.90**	**319**	*eP*	**P**	**09 03 29.1**	**+0.5**
	comp=Z,8.0nm,1.1s,mb4.8						
AML	**Almayashu**	**62.40**	**318**	*eP*	**P**	**09 03 32.3**	**+0.3**
	comp=Z,6.0nm,0.8s,mb4.8						
EKS2	**Erkin-Say**	**62.58**	**319**	*eP*	**P**	**09 03 33.8**	**+0.5**
	comp=Z,3.9nm,0.8s,mb4.6						
ZAA0	**Zalesovo Array**	**62.79**	**334**	*eP*	**P**	**09 03 34.2**	**-0.2**
ZALV	**Zalesovo Beam**	**62.79**	**334**	P	**P**	**09 03 33.6**	**-0.8**
	comp=Z,1.5nm,0.4s,mb4.5,baz=114,slow=7.5,SNR=7.1						
ZAL	**Zalesovo**	**62.79**	**334**	P	**P**	**09 03 33.7**	**-0.7**
KURK	**Kurchatov**	**63.79**	**328**	*eP*	**P**	**09 03 40.6**	**-0.5**
KURK				pmax	pmax		
	comp=Z,17nm,0.7s,mb5.2						
KURK	**Kurchatov**	**63.79**	**328**	*eP*	**P**	**09 03 40.6**	**-0.5**
	comp=Z,1.7nm,0.7s,mb5.2						
SEY	**Seymchan**	**64.69**	**13**⇓	*eP*	**P**	**09 03 48.4**	**+1.7**
KK31	**Karatay Array**	**64.94**	**318**	*i P*	**P**	**09 03 48.3**	**-0.5**
KK31				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
BRVK	**Borovoye**	**69.42**	**328**	*eP*	**P**	**09 04 16.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BRVK	**Borovoye**	**69.42**	**328**	*eP*	**P**	**09 04 16.8**	**-0.2**
	comp=Z,3.1nm,0.6s,mb4.4						
TIXI	**Tiksi**	**70.49**	**1**⇓	*eP*	**P**	**09 04 22.6**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.4s,mb4.0						
KDAK	**Kodiak Island**	**84.31**	**32**	P	**P**	**09 05 40.3**	**-0.4**
	comp=Z,5.5nm,0.8s,mb4.7,baz=333,slow=14,SNR=2.9						
KIV	**Kislovodsk**	**84.71**	**314**	*i P*	**P**	**09 05 44.0**	**+1.1**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.8						
VORD	**Divnogorie**	**87.33**	**321**	*eP*	**P**	**09 05 55.1**	**-0.6**
VORD				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb5.1						
VORD				pmax	pmax		
	comp=N,50nm,0.8s						
VORD				pmax	pmax		
	comp=E,30nm,0.7s						
ANN	**Anapa**	**88.50**	**315**	*eP*	**P**	**09 05 55.1**	**-6.3**
ANN				*e**PP	pP	09 06 05.8	-13
ANN				*eS*	SKSac	09 16 18.8	-6.7
ANN				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.3						
OBN	**Obninsk**	**89.02**	**325**	*i P*	**P**	**09 06 04.2**	**+0.6**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
JOF	**Joensuu**	**91.37**	**333**	*ep*	**P**	**09 06 09.2**	**-5.2**
	comp=Z,2.0nm,0.7s,mb4.6						
INK	**Inuvik**	**92.75**	**21**	P	**P**	**09 06 19.5**	**-1.2**
	comp=Z,1.8nm,1.1s,mb4.4,baz=213,slow=8.8,SNR=5.7						
ARCES	**ARCESS Array B**	**92.80**	**340**	P	**P**	**09 06 20.6**	**-0.3**
	comp=Z,3.5nm,1.0s,mb4.8,baz=57,slow=8.8,SNR=5.5						
AKASG	**Malin Array Be**	**93.71**	**321**	P	**P**	**09 06 25.7**	**+0.2**
	comp=Z,0.2nm,0.3s,mb4.0,baz=71,slow=5.0,SNR=3.5						
FINES	**FINESS Array B**	**93.99**	**332**	P	**P**	**09 06 24.9**	**-1.6**
	comp=Z,0.5nm,0.7s,mb4.0,baz=114,slow=28,SNR=2.2						
YKA	**Yellowknife Ar**	**102.05**	**25**	P	Pdif	09 07 02.3	-0.7
	comp=Z,0.2nm,0.6s,baz=295,slow=4.4,SNR=3.8						
SCHQ	**Schefferville**	**123.23**	**9**	PKP	PKPdf	09 12 05.7	+0.4
	comp=Z,2.4nm,0.7s,baz=301,slow=12,SNR=4.7						
TORD	**Torodi Ar. Bea**	**123.36**	**286**	PKP	PKPdf	09 12 06.3	-0.3
	comp=Z,0.8nm,0.7s,baz=61,slow=3.1,SNR=5.2						
TXAR	**Lajitas Array**	**123.48**	**53**	PKP	PKPdf	09 12 07.5	+1.0
	comp=Z,0.4nm,0.8s,baz=203,slow=0.8,SNR=5.2						

*NEIC **13** 08:58:40.5±0.5, 11.12N×12588E, h35km, mb4.4/4, Error ellipse: s-maj=30.1km s-min=8.4km az=73.0*
*ISCJB **13** 08:58:46.6±0.5, 1091N±003×12545E±006, h104km±4km, mb4.1/13, Error ellipse: s-maj=10.5km s-min=5.4km az=0.4*
*MAN **13** 08:58:47, 1092N×12538E, h76km, mb4.7, ML3.6, MS3.5*
*IDC **13** 08:58:49.9±6.1, 1084N×12530E, h114km±56km, mb3.8/9, mb1 3.9/10, mb1mx3.7/18, mbtmp3.8/10, Error ellipse: s-maj=52.0km s-min=13.8km az=70.0*

ISC 13 08:58:47.7±0.5, 1091N±003×12545E±006, h97km±4km, n39, σ0°85/45, mb4.1/13, 4C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.69**	**359**	*eP*	**Pn**	**08 59 04.6**	**-0.2**
BESP				*eS*	**Sn**	**08 59 17.4**	**-0.2**
OCLP	**Ormoc**	**0.84**	**280**	*eP*	**Pn**	**08 59 05.3**	**-0.8**
MSLP	**Maasin**	**0.96**	**217**	*eP*	**Pn**	**08 59 07.0**	**-0.5**
MSLP				*eS*	**Sn**	**08 59 21.7**	**-0.6**
LLP	**Lapu-Lapu**	**1.57**	**248**⇑	*eP*	**Pn**	**08 59 13.8**	**-0.9**
LLP				*eS*	**Sn**	**08 59 31.6**	**-3.6**
CNP	**Catarman**	**1.77**	**334**	*eP*	**Pn**	**08 59 17.3**	**+0.1**
CNP				*eS*	**Sn**	**08 59 42.0**	**+2.2**
TBP	**Tagbilaran**	**1.97**	**232**⇑	*eP*	**Pn**	**08 59 20.2**	**+0.4**
TBP				*eS*	**Sn**	**08 59 45.6**	**+1.3**
CGP	**Cagayan de Oro**	**2.55**	**197**⇓	*eP*	**Pn**	**08 59 27.4**	**+0.1**
CGP				*eS*	**Sn**	**08 59 58.1**	**+0.3**
SNPH	**Sibulan**	**2.68**	**235**	*eP*	**Pn**	**08 59 29.0**	**-0.1**
RCP	**Roxas**	**2.73**	**284**⇑	*eP*	**Pn**	**08 59 29.9**	**+0.1**
GUIM	**Jordan**	**2.83**	**265**	*eP*	**Pn**	**08 59 31.2**	**+0.1**
GUIM				*eS*	**Sn**	**09 00 03.7**	**-0.7**
PVCP	**Virac**	**2.96**	**335**⇑	*eP*	**Pn**	**08 59 32.2**	**-0.7**
PVCP				*eS*	**Sn**	**09 00 16.9**	**+9.2**
BUKP	**Musuan**	**3.03**	**187**	*eP*	**Pn**	**08 59 35.1**	**+1.3**
BUKP				*eS*	**Sn**	**09 00 15.8**	**+6.4**
OTRP	**Odiongan**	**3.66**	**294**	*eP*	**Pn**	**08 59 42.6**	**+0.3**
PAGZ	**Pagadian**	**3.66**	**214**	*eP*	**Pn**	**08 59 42.7**	**+0.4**
POLP	**Polilio Island**	**5.12**	**318**	*eP*	**Pn**	**08 59 55.9**	**-6.1**
BALP	**Baler**	**6.11**	**322**	*eP*	**Pn**	**09 00 16.1**	**+0.6**
CAUP	**Cauayan**	**6.96**	**330**	*eP*	**Pn**	**09 00 25.4**	**-1.7**
KAPI	**Kappang**	**16.80**	**200**	P	**Pn**	**09 02 38.1**	**+1.0**
	0.4nm,0.3s,baz=39,slow=5.2,SNR=6.1						
KAKA	**Kakadu**	**24.47**	**163**	*eP*	**P**	**09 03 57.4**	**-0.4**
	12nm,0.6s,mb4.4						
KAKA	**Kakadu**	**24.47**	**163**	*eP*	**P**	**09 03 57.3**	**-0.5**
	16nm,0.4s,mb4.7						
KSRS	**Korea Array**	**26.53**	**4**	P	**P**	**09 04 17.6**	**+1.4**
	0.9nm,0.6s,mb3.5,baz=193,slow=11,SNR=4.2						
FITZ	**Fitzroy Crossi**	**28.82**	**180**	*eP*	**P**	**09 04 36.6**	**-0.3**
	4.7nm,1.4s,mb3.9						
WRA	**Warramunga Arr**	**31.88**	**164**	P	**P**	**09 05 02.7**	**-1.2**
	1.1nm,0.6s,mb3.7,baz=343,slow=8.7,SNR=11						
WB2	**Warramunga Arr**	**31.88**	**164**	*eP*	**P**	**09 05 03.0**	**-0.9**
ASAR	**Alice Springs**	**35.34**	**167**	P	**P**	**09 05 34.5**	**+0.6**
	3.5nm,0.5s,mb4.5,baz=348,slow=7.7,SNR=44						
ASAR				PcP	PcP	09 08 02.5	+0.2
	0.7nm,0.7s,baz=343,slow=1.9,SNR=4.1						
STKA	**Stephens Creek**	**45.26**	**161**	*eP*	**P**	**09 06 56.5**	**+0.9**
	2.3nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**45.26**	**161**	P	**P**	**09 06 56.4**	**+0.8**
	3.5nm,0.5s,mb4.3,baz=339,slow=8.2,SNR=18						
MK31	**Makanchi Array**	**51.04**	**323**	*eP*	**P**	**09 07 40.4**	**+0.5**
MKAR	**Makanchi Array**	**51.04**	**323**	P	**P**	**09 07 40.8**	**+0.9**
	3.2nm,0.6s,mb4.5,baz=127,slow=7.6,SNR=24						
ZALV	**Zalesovo Beam**	**53.69**	**331**	P	**P**	**09 07 59.5**	**+0.1**
	0.8nm,0.3s,mb4.2,baz=118,slow=6.4,SNR=4.9						
KURK	**Kurchatov**	**55.09**	**326**	*eP*	**P**	**09 08 10.1**	**+0.5**
BRVK	**Borovoye**	**60.76**	**325**	*eP*	**P**	**09 08 49.5**	**+0.3**
	2.7nm,0.8s,mb4.3						
JOF	**Joensuu**	**82.26**	**333**	*ep*	**P**	**09 10 56.3**	**-1.8**
	1.8nm,0.6s,mb4.1						
ARCES	**ARCESS Array B**	**83.32**	**340**	P	**P**	**09 11 03.6**	**+0.1**
	0.9nm,0.5s,mb3.9,baz=82,slow=5.9,SNR=13						
FINES	**FINESS Array B**	**84.95**	**332**	P	**P**	**09 11 11.7**	**-0.3**
	0.8nm,0.4s,mb4.0,baz=74,slow=5.0,SNR=16						
AKASG	**Malin Array Be**	**85.57**	**321**	P	**P**	**09 11 14.0**	**-1.2**
	1.0nm,0.5s,mb4.0,baz=63,slow=4.9,SNR=4.9						
TXAR	**Lajitas Array**	**118.02**	**48**	PKP	PKPdf	09 17 24.9	+1.0
TXAR	**Lajitas Array**	**118.02**	**48**	PKP	PKPdf	09 17 24.9	+1.0
	0.2nm,0.5s,baz=188,slow=0.6,SNR=6.7						
LPAZ	**La Paz**	**165.76**	**114**	PKP	PKPdf	09 18 42.5	+0.5
	0.9nm,0.9s,baz=172,slow=4.0,SNR=4.4						

*ISCJB **13** 09:24:54.6±0.6, 5333N±004×16056E±008, h55km±4km, mb3.9/19, MS3.3/2, Error ellipse: s-maj=9.2km s-min=4.1km az=34.9*
*MOS **13** 09:24:54.6±1.5, 5346N×16035E, h53km, mb4.1/15, Error ellipse: s-maj=14.6km s-min=8.2km az=73.7*
*KRSC **13** 09:24:55.2±0.5, 5333N×16050E, h42km±32km, ML4.4*
*NEIC **13** 09:24:57.6±1.3, 5352N×160.10E, h63km±12km, mb4.4/1, Error ellipse: s-maj=15.0km s-min=11.2km az=132.0*
*IDC **13** 09:24:59.1±5.6, 5352N×160.16E, h76km±51km, mb3.6/15, mb1 3.8/16, mb1mx3.6/25, mbtmp3.6/16, ML3.6/1, MS3.3/2, Ms1 3.3/2, ms1mx2.4/39, Error ellipse: s-maj=20.2km s-min=14.5km az=127.0*

ISC 13 09:24:55.7±0.6, 5334N±004×16053E±008, h51km±4km, n57, σ1°30/69, mb3.9/19, MS3.3/2, 1C-1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.39**	**232**	*i P*	**Pn**	**09 25 04.5**	**-1.2**
SPN				*i S*	**Sn**	**09 25 11.0**	**-1.9**
NLC	**Nalytchevo**	**0.73**	**257**	*i P*	**Pn**	**09 25 09.2**	**-0.6**
NLC				*i S*	**Sn**	**09 25 19.4**	**-0.7**
KII	**Karymskiy**	**0.95**	**318**	*eP*	**Pn**	**09 25 12.3**	**-0.4**
KII				*i S*	**Sn**	**09 25 24.5**	**-0.7**
AVH	**Avacha**	**1.07**	**267**	*i P*	**Pn**	**09 25 14.7**	**+0.3**
AVH				*i S*	**Sn**	**09 25 28.9**	**+0.7**
PET	**Petropavlovsk**	**1.17**	**255**	*e*Pn	**Pn**	**09 25 15.5**	**-0.2**
PET	**Petropavlovsk**	**1.17**	**255**	*i P*	**Pn**	**09 25 15.4**	**-0.3**
PET				*i S*	**Sn**	**09 25 30.1**	**-0.4**
MKZ	**Mys Kozlova**	**1.41**	**30**	*eP*	**Pn**	**09 25 17.7**	**-1.3**
MKZ				*i S*	**Sn**	**09 25 34.0**	**-2.5**
RUS	**Russkaya**	**1.52**	**234**	*i P*	**Pn**	**09 25 19.9**	**-0.5**
RUS				*i S*	**Sn**	**09 25 37.6**	**-1.4**
GNL	**Ganaly**	**1.58**	**284**	*i P*	**Pn**	**09 25 22.3**	**+1.0**
GNL				*eS*	**Sn**	**09 25 41.9**	**+1.3**
GRL	**Gorelyy**	**1.68**	**243**	*i P*	**Pn**	**09 25 23.3**	**+0.7**
GRL				*eS*	**Sn**	**09 25 43.7**	**+0.8**
TUMR	**Tumrok**	**1.96**	**354**	*eP*	**Pn**	**09 25 27.9**	**+1.4**
TUMR				*i S*	**Sn**	**09 25 51.2**	**+1.3**
KMNR	**Kamenistaya**	**2.43**	**356**	P	**Pn**	**09 25 34.3**	**+1.5**
KMNR				*i S*	**Sn**	**09 26 02.8**	**+1.5**
MIPR	**Malaya Ipel'ka**	**2.52**	**247**	P	**Pn**	**09 25 35.7**	**+1.6**
KBTR	**Krutoberegovo**	**3.17**	**24**	*eP*	**Pn**	**09 25 43.6**	**+0.6**
KBTR				*i S*	**Sn**	**09 26 19.9**	**+0.4**
SKR	**Severo-Kuril's**	**3.81**	**227**	*e*PN	**Pn**	**09 25 54.5**	**+2.8**
SKR				*eS*	**Sn**	**09 26 36.0**	**+0.8**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				smax			
	comp=N,170nm,0.5s						
SKR				smax			
	comp=E,200nm,0.5s						
ASAJ	**Asahikawa**	**14.97**	**239**	P	**Pn**	**09 28 25.6**	**+1.7**
	comp=E,0.4nm,0.3s,baz=93,slow=15,SNR=7.6						
ERM	**Erimo**	**16.23**	**230**	*i P*	**Pn**	**09 28 38.1**	**-2.0**
YAK	**Yakutsk**	**18.48**	**310**⇓	*eP*	**Pn**	**09 29 06.3**	**-1.3**
YAK				pmax	pmax		
	comp=Z,31nm,0.8s						
MAT	**Matsushiro**	**22.90**	**232**	P	**P**	**09 29 55.5**	**+0.6**
MJAR	**Matsushiro Arr**	**22.90**	**232**	P	**P**	**09 29 55.9**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MJAR	**Matsushiro Arr**	**22.90**	**232**	P	**P**	**09 29 55.9**	**+1.0**
	comp=Z,5.2nm,0.7s,mb4.1,baz=14,slow=10.0,SNR=14						
TIXI	**Tiksi**	**22.97**	**335**⇑	*eP*	**P**	**09 29 55.4**	**+0.1**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
HIA	**Hailar**	**25.57**	**277**	*i P*	**P**	**09 30 20.5**	**+1.0**
BOD	**Bodaibo**	**26.26**	**299**	*eP*	**P**	**09 30 22.9**	**-2.7**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.8						
KSRS	**Korea Array**	**27.55**	**248**	P	**P**	**09 30 39.6**	**+2.1**
	comp=Z,3.2nm,0.7s,mb

ellipse: s-maj=9.3km s-min=2.3km az=56.0

ISC 13 09:25:06.1±1.9, 2781N±008×521E±01, h10km, n11, σ0°66/18, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLWS		**3.25**	**203**	P	**Pn**	**09 25 57.9**	**+0.7**
BTHS		**3.90**	**196**	P	**Pn**	**09 26 07.1**	**+1.0**
RDF	**Al-Radifah**	**4.12**	**287**	*e*P	**Pn**	**09 26 08.6**	**-0.5**
RDF				*e*S	**Sn**	**09 26 58.0**	**+0.8**
RDF				AML	AML	09 26 59.4	
	comp=Z,7.0nm,0.4s						
RDF	**Al-Radifah**	**4.12**	**287**	*e*P	**Pn**	**09 26 08.6**	**-0.4**
RDF				*e*S	**Sn**	**09 26 58.0**	**+0.7**
	comp=Z,7.0nm,0.4s						
UMR	**Umm Al-Rimmam**	**4.18**	**296**	*e*P	**Pn**	**09 26 09.0**	**-1.0**
UMR				*e*S	**Sn**	**09 26 59.3**	**+0.4**
NAY	**Al-Naaiem**	**4.46**	**290**	*e*P	**Pn**	**09 26 13.4**	**-0.5**
NAY				*e*S	**Sn**	**09 27 05.8**	**-0.1**
NAY				AML	AML	09 27 06.7	
	comp=Z,2.5nm,0.5s						
NAY	**Al-Naaiem**	**4.46**	**290**	*e*P	**Pn**	**09 26 13.4**	**-0.4**
NAY				*e*S	**Sn**	**09 27 05.8**	**0.0**
MIB	**Mutribah**	**4.58**	**297**	*e*P	**Pn**	**09 26 15.2**	**-0.3**
MIB				*e*S	**Sn**	**09 27 09.0**	**+0.2**
MIB				AML	AML	09 27 09.9	
	comp=Z,5.7nm,0.5s						
MIB	**Mutribah**	**4.58**	**297**	*e*P	**Pn**	**09 26 15.2**	**-0.3**
MIB				*e*S	**Sn**	**09 27 09.0**	**+0.2**
HRDDS		**5.39**	**206**	S	**Sn**	**09 27 27.6**	**-1.2**
HRDDS		**5.39**	**206**	P	**Pn**	**09 26 27.0**	**+0.3**

*ISCJB **13** 09:34:59.8±1.3, 523S±006×12965E±008, h237km±12km, mb4.4/22, Error ellipse: s-maj=13.4km s-min=7.1km az=149.6*

*NEIC **13** 09:35:00.3±1.3, 520S×12965E, h223km±13km, mb4.7/9, Error ellipse: s-maj=14.9km s-min=7.6km az=65.0*

*IDC **13** 09:35:01.7±2.2, 524S×12962E, h236km±21km, mb3.9/10, mb1 4.1/15, mb1mx4.0/18, mbtmp4.0/15, Error ellipse: s-maj=22.7km s-min=8.6km az=80.0*

ISC 13 09:35:01.1±1.3, 525S±006×12962E±008, h231km±12km, n41, σ0°77/43, mb4.4/21, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**7.68**	**230**	P	**Pn**	**09 36 51.5**	**+1.1**
	40nm,0.3s,baz=99,slow=1.8,SNR=23						
BATI				S	**S**	**09 38 16.6**	**-1.4**
	9.3nm,0.3s,baz=351,slow=18,SNR=7.3						
KAKA	**Kakadu**	**7.92**	**160**	*e*P	**Pn**	**09 36 52.6**	**-0.8**
	20nm,0.2s						
KAKA				*e*S	**S**	**09 38 15.3**	**-8.2**
KAPI	**Kappang**	**9.83**	**271**	P	**Pn**	**09 37 19.2**	**+1.3**
	0.4nm,0.3s,baz=217,slow=20,SNR=2.5						
FITZ	**Fitzroy Crossi**	**13.35**	**197**	*e*P	**Pn**	**09 38 00.3**	**-1.7**
	28nm,0.3s						
FITZ				*e*S	**S**	**09 40 22.4**	**-8.1**
FITZ	**Fitzroy Crossi**	**13.35**	**197**	P	**Pn**	**09 38 02.3**	**+0.3**
	5.1nm,0.3s,baz=29,slow=11,SNR=50						
FITZ				S	**S**	**09 40 24.0**	**-6.5**
	2.4nm,0.3s,baz=76,slow=21,SNR=6.8						
WRAB	**Tennant Creek**	**15.30**	**163**	*e*P	**Pn**	**09 38 25.5**	**-0.3**
	17nm,0.7s						
WRA	**Warramunga Arr**	**15.31**	**163**	P	**Pn**	**09 38 25.9**	**0.0**
	2.7nm,0.3s,baz=341,slow=12,SNR=219						
WRA				S	**S**	**09 41 09.4**	**-5.6**
	2.4nm,0.3s,baz=331,slow=22,SNR=54						
WB2	**Warramunga Arr**	**15.31**	**163**	*e*P	**Pn**	**09 38 25.3**	**-0.6**
WB2				*e*S	**S**	**09 41 08.5**	**-6.7**
MBWA	**Marble Bar**	**18.50**	**210**	*e*P	**P**	**09 39 00.6**	**+0.2**
	26nm,0.6s						
ASAR	**Alice Springs**	**18.77**	**168**	P	**P**	**09 39 04.7**	**+1.4**
	8.1nm,0.3s,baz=350,slow=12,SNR=926						
ASAR				S	**S**	**09 42 23.2**	**-1.2**
	1.4nm,0.3s,baz=348,slow=20,SNR=30						
FORT	**Forrest**	**25.44**	**183**	*e*P	**P**	**09 40 08.4**	**+0.5**
	19nm,0.6s,mb4.9						
KLBR	**Kellerberrin**	**28.47**	**202**	*e*P	**P**	**09 40 34.7**	**-0.2**
	12nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**28.77**	**158**	*e*P	**P**	**09 40 38.4**	**+0.9**
	2.1nm,0.3s,mb4.2						
STKA	**Stephens Creek**	**28.77**	**158**	P	**P**	**09 40 38.5**	**+1.0**
	2.7nm,0.4s,mb4.2,baz=348,slow=7.1,SNR=9.5						
MUN	**Mundaring**	**29.41**	**204**	*e*P	**P**	**09 40 43.1**	**0.0**
NWAO	**Narrogin (SRO)**	**29.86**	**201**	P	**P**	**09 40 47.6**	**+0.5**
	11nm,0.9s,mb4.5,baz=258,slow=9.7,SNR=8.0						
TOO	**Toolangi**	**35.28**	**158**	*e*P	**P**	**09 41 36.7**	**+2.6**
	28nm,0.4s,mb5.2						
MJAR	**Matsushiro Arr**	**42.34**	**10**	P	**P**	**09 42 31.2**	**-1.4**
	2.3nm,0.6s,mb3.8,baz=185,slow=9.4,SNR=9.2						
ASAJ	**Asahikawa**	**50.51**	**12**	P	**P**	**09 43 35.5**	**-0.3**
	1.9nm,0.5s,mb3.8,baz=126,slow=29,SNR=4.2						
JIRN	**Jiri**	**53.16**	**310**	*e*P	**P**	**09 43 55.7**	**0.0**
	7.8nm,0.3s,mb4.7						
GUN	**Gumba**	**53.53**	**310**	*e*P	**P**	**09 43 58.3**	**0.0**
	33nm,0.6s,mb5.0						
PKI	**Pulchoki**	**53.71**	**310**	*e*P	**P**	**09 43 59.2**	**-0.5**
	4.5nm,0.3s,mb4.4						
KKN	**Kakani**	**53.92**	**310**	*e*P	**P**	**09 44 01.0**	**-0.2**
DMN	**Daman**	**53.96**	**310**	*e*P	**P**	**09 44 01.1**	**-0.4**
	13nm,0.5s,mb4.8						
GKN	**Gorkha**	**54.52**	**310**	*e*P	**P**	**09 44 05.2**	**-0.3**
	22nm,0.3s,mb5.1						
KOLN	**Koldanda**	**55.20**	**309**	*e*P	**P**	**09 44 10.3**	**-0.1**
	20nm,0.6s,mb4.8						
DANN	**Dangsing**	**55.36**	**310**	*e*P	**P**	**09 44 11.3**	**-0.2**
	10nm,0.5s,mb4.7						
SONM	**Songino Array**	**56.67**	**341**	P	**P**	**09 44 21.1**	**+0.7**
	0.5nm,0.5s,mb3.4,baz=155,slow=5.9,SNR=7.5						
MKAR	**Makanchi Array**	**66.56**	**327**	P	**P**	**09 45 26.6**	**+0.2**
	3.0nm,0.4s,mb4.3,baz=117,slow=7.9,SNR=42						
TKM2	**Tokmak 2**	**68.40**	**320**	*e*P	**P**	**09 45 38.1**	**+0.1**
	2.7nm,0.5s,mb4.1						
UCH	**Uchtor**	**68.76**	**319**	*e*P	**P**	**09 45 40.9**	**+0.7**
	1.8nm,0.6s,mb3.9						
ZALV	**Zalesovo Beam**	**69.85**	**334**	P	**P**	**09 45 46.2**	**-0.5**
ZALV	**Zalesovo Beam**	**69.85**	**334**	P	**P**	**09 45 46.2**	**-0.5**
	2.9nm,0.6s,mb4.1,baz=120,slow=4.8,SNR=9.0						
MAW	**Mawson**	**76.43**	**201**	P	**P**	**09 46 25.2**	**+0.4**
	1.9nm,0.5s,mb4.0,baz=74,slow=6.0,SNR=13						
AKTK	**Aktyubinsk**	**82.46**	**322**	P	**P**	**09 46 57.2**	**-0.5**
AKTO	**Aktyubinsk**	**82.46**	**322**	P	**P**	**09 46 57.2**	**-0.5**
	1.5nm,0.6s,mb3.8,baz=58,slow=4.5,SNR=3.6						
ARCES	**ARCESS Array B**	**99.81**	**340**	P	Pdif	09 48 17.5	-1.5
	2.8nm,0.8s,baz=311,slow=9.5,SNR=4.3						
TORD	**Torodi Ar. Bea**	**128.08**	**283**	PKP	PKPdf	09 53 40.7	+0.1
TORD	**Torodi Ar. Bea**	**128.08**	**283**	PKP	PKPdf	09 53 40.7	+0.1
	0.8nm,0.7s,baz=89,slow=1.9,SNR=8.7						
CPUP	**Villa Florida**	**147.89**	**168**	PKPbc	PKPbc	09 54 20.2	+0.6
	1.4nm,0.4s,baz=227,slow=1.9,SNR=8.0						
LPAZ	**La Paz**	**152.32**	**141**	PKPbc	PKPbc	09 54 32.0	+1.5
	0.9nm,0.4s,baz=35,slow=3.5,SNR=11						

*IDC **13** 09:45:51.3±1.0, 2072N×12228E, h0km, mb3.7/6, mb1 3.8/6, mb1mx3.6/18, mbtmp3.7/6, Error ellipse: s-maj=72.0km s-min=19.3km az=67.0*

*NEIC **13** 09:45:52.9±0.9, 2052N×12183E, h10km, MG3.7(JMA), Error ellipse: s-maj=49.7km s-min=14.7km az=76.0*

*ISCJB **13** 09:45:56.1±2.8, 206N±02×1220E±04, h49km±26km, mb3.6/6, Error ellipse: s-maj=68.7km s-min=19.5km az=157.4*

ISC 13 09:45:58.1±2.4, 207N±02×1221E±04, h52km±23km, n11, σ1°05/11, mb3.6/6, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.52**	**353**	*e*Pn	**Pn**	**09 46 51.3**	**+1.0**
YHNB	**Yeheng**	**4.04**	**351**	*e*Pn	**Pn**	**09 46 56.3**	**-1.1**
SONM	**Songino Array**	**29.92**	**339**	P	**P**	**09 52 01.3**	**+0.3**
	0.2nm,0.5s,mb3.1,baz=156,slow=10,SNR=3.0						
MKAR	**Makanchi Array**	**41.46**	**318**	P	**P**	**09 53 41.0**	**+1.3**
	0.7nm,0.4s,mb3.6,baz=104,slow=8.8,SNR=11						
WRA	**Warramunga Arr**	**42.11**	**163**	P	**P**	**09 53 46.7**	**+1.4**
	0.3nm,0.4s,mb3.3,baz=334,slow=11,SNR=5.6						
ZAA0	**Zalesovo Array**	**43.65**	**329**	*e*P	**P**	**09 53 56.0**	**-1.4**
ZALV	**Zalesovo Beam**	**43.65**	**329**	P	**P**	**09 53 57.2**	**-0.2**
ZALV	**Zalesovo Beam**	**43.65**	**329**	P	**P**	**09 53 57.2**	**-0.2**
	4.2nm,0.7s,mb4.3,baz=110,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**45.55**	**165**	P	**P**	**09 54 11.3**	**-1.5**
	0.4nm,0.8s,mb3.4,baz=343,slow=6.8,SNR=7.3						
YKA	**Yellowknife Ar**	**85.88**	**23**	P	**P**	**09 58 32.2**	**+0.2**
YKA	**Yellowknife Ar**	**85.88**	**23**	P	**P**	**09 58 32.2**	**+0.2**
	0.3nm,0.6s,mb3.7,baz=312,slow=4.7,SNR=5.3						

*GII **13** 10:02:12.6±0.7, 3341N×3560E, h0km, ML2.0/2*

*GRAL **13** 10:02:12.6±0.8, 3327N×3560E, h12km±12km, MD2.7*

*CSEM **13** 10:02:12.6, 3327N×3560E, h12km, ML2.7, After GRAL*

*ISCJB **13** 10:02:14.7±0.6, 3344N±003×3560E±005, h0km, Error ellipse: s-maj=6.6km s-min=3.1km az=25.8*

ISC 13 10:02:15.2±0.6, 3344N±003×3560E±005, h0km, n11, σ1°07/18, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCY	**Rachaya**	**0.19**	**77**	*e*Pg	**Pg**	**10 02 18.2**	**-0.6**
RCY				*e*Sg	**Sg**	**10 02 22.3**	**+1.1**
MATL	**Matirih**	**0.23**	**282**	*e*Pg	**Pg**	**10 02 18.8**	**-0.8**
KSDI	**Kefar Szold**	**0.25**	**169**	P	**Pg**	**10 02 18.4**	**-1.7**
KSDI				Sg	**Sg**	**10 02 23.1**	**-0.3**
MMC7	**Mount Meron ar**	**0.45**	**203**	Sg	**Sg**	**10 02 30.7**	**+0.9**
MMA0	**Mount Meron ar**	**0.46**	**201**	Pg	**Pg**	**10 02 23.2**	**-0.7**
MMA0				Sg	**Sg**	**10 02 30.7**	**+0.9**
MMA3	**Mount Meron ar**	**0.46**	**201**	Pg	**Pg**	**10 02 22.8**	**-1.2**
MMA3				Sg	**Sg**	**10 02 30.9**	**+0.9**
MMC5	**Mount Meron ar**	**0.46**	**200**	Pg	**Pg**	**10 02 22.9**	**-1.1**
MMC5				Sg	**Sg**	**10 02 30.7**	**+0.8**
BHL	**Bhannes**	**0.46**	**5**	*e*Pg	**Pg**	**10 02 23.7**	**-0.4**
HNTI	**Hanita**	**0.51**	**225**	Sg	**Sg**	**10 02 32.5**	**+1.1**
HWQ	**Hawqa**	**0.88**	**19**	*e*Pg	**Pg**	**10 02 32.0**	**-0.2**
HWQ				*e*Sg	**Sg**	**10 02 45.7**	**+2.1**
MMLI	**Mount Malkishu**	**1.01**	**189**	Pg	**Pg**	**10 02 32.8**	**-1.8**
MMLI				Sg	**Sg**	**10 02 48.8**	**+1.1**

IDC 13 10:04:10.7±5.8, 066N×9730E, h0km, mb3.8/3, mb1 3.7/4, mb1mx3.4/20, mbtmp3.7/4, ML3.1/1, MS2.9/1, Ms1 2.9/1, ms1mx2.6/32, Error ellipse: s-maj=120.3km s-min=41.1km az=157.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.67**	**37**	Pn	Pn	10 04 54.8	-0.3
	3.4nm,0.3s,baz=302,slow=6.8,SNR=11						
PSI				Sn	Sn	10 05 26.3	-1.9
	3.5nm,0.3s,baz=283,slow=21,SNR=4.8						
PSI				LR	LR	10 05 29.7	
	comp=Z,236nm,19.0s,baz=225,slow=30						
KSRS	**Korea Array**	**46.23**	**34**	P	P	10 12 37.2	-0.5
	1.1nm,0.7s,baz=227,slow=8.0,SNR=4.2						
MKAR	**Makanchi Array**	**47.78**	**346**	P	P	10 12 50.1	+0.5
	0.4nm,0.5s,baz=157,slow=8.7,SNR=3.9						
ZALV	**Zalesovo Beam**	**54.10**	**351**	P	P	10 13 36.5	-0.6
	0.3nm,0.3s,baz=175,slow=8.2,SNR=3.6						

IDC 13 10:05:01.1±3.2, 2113S×16834E, h0km, mb4.1/4, mb1 4.3/4, mb1mx4.0/12, mbtmp4.1/4, MS3.3/2, Ms1 3.3/2, ms1mx2.8/23, Error ellipse: s-maj=118.9km s-min=39.1km az=146.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.00**	**242**	*e*P	Pn	10 05 36.2	0.0
DZM				*e*S	Sn	10 06 02.8	+1.0
CTA	**Charters Tower**	**20.70**	**269**	LR	LR	10 15 11.2	
	comp=Z,71nm,20.1s,baz=233,slow=30						
STKA	**Stephens Creek**	**26.15**	**240**	P	P	10 10 37.4	+0.2
	2.5nm,0.7s,baz=58,slow=10.0,SNR=4.9						
STKA				LR	LR	10 20 52.7	
	comp=Z,93nm,19.9s,baz=24,slow=36						
WRA	**Warramunga Arr**	**31.83**	**266**	P	P	10 11 27.1	-0.8
	1.0nm,1.0s,baz=97,slow=8.5,SNR=4.5						
ASAR	**Alice Springs**	**31.89**	**259**	P	P	10 11 28.3	-0.1
	2.0nm,0.7s,baz=89,slow=9.6,SNR=32						
FITZ	**Fitzroy Crossi**	**40.25**	**267**	P	P	10 12 40.6	+0.6
	7.6nm,0.9s,baz=106,slow=7.4,SNR=6.6						
GERES	**GERESS Array B**	**145.73**	**330**	PKPbc	PKPbc	10 24 41.3	-0.6
	0.3nm,0.5s,baz=63,slow=4.5,SNR=5.2						
DAVOX	**Davos/Dischmat**	**149.00**	**331**	PKPbc	PKPbc	10 24 50.6	-0.5
	2.1nm,0.9s,baz=267,slow=8.4,SNR=3.8						

*MOS **13** 10:13:42.8±3.0, 5210N×10630E, h31km, mb4.3/1, Error ellipse: s-maj=33.0km s-min=31.0km az=82.9*

BYKL 13 10:13:43.0±0.2, 5203N×10632E, h31km±3km, 6C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STDB	**Stepnoy Dvoret**	**0.14**	**12**	*e*Pg	Pb	10 13 49.1	+0.3
STDB				*i* Sg	Sb	10 13 54.1	+1.4
KAB	**Kabansk**	**0.21**	**84**	*e*PG	Pb	10 13 49.3	-0.1
KAB				*e*		10 13 53.4	
KAB				pmax	pmax		
	comp=Z,420nm,0.1s						
KAB				smax			
	comp=N,17μm,0.3s						
KAB	**Kabansk**	**0.21**	**84**	*e*Pg	Pb	10 13 49.0	-0.4
KAB				*i* Sg	Sb	10 13 53.4	-0.3
KAB				Pmax			
	comp=N,586nm,0.1s						
KAB				Smax			
	comp=N,17μm,0.4s						
HRMR	**Khuramsha**	**0.56**	**135⇑**	*i*Pg	Pb	10 13 54.3	-0.2
HRMR				*i* Sg	Sb	10 14 02.6	+0.3
HRMR				*e*Sb	Sb	10 14 07.3	+5.0
HRMR				Pmax			
	comp=N,1μm,0.4s						
HRMR				max			
	comp=N,5μm,0.1s						
TRG	**Tyrgan**	**0.73**	**1⇑**	*i*PG	Pn	10 13 57.1	-0.1
TRG				*e*		10 14 05.5	
TRG				pmax	pmax		
	comp=Z,186nm,0.1s						
TRG				smax			
	comp=N,2μm,0.1s						
TRG	**Tyrgan**	**0.73**	**1⇑**	*i*Pg	Pn	10 13 57.0	-0.2
TRG				*e*Sg	Sb	10 14 07.5	+0.5
TRG				*e*Sb	Sb	10 14 09.2	+2.2
TRG				Pmax			
	comp=N,183nm,0.2s						
TRG				max			
	comp=N,2μm,0.2s						
ZRHB	**Zarechye**	**0.73**	**44**	*e*Pg	Pn	10 13 57.4	+0.2
ZRHB				*e*Pb	Pb	10 13 58.7	+1.4
ZRHB				*e*Sg	Sb	10 14 07.7	+0.7
ZRHB				*e*Sb	Sb	10 14 10.0	+3.0
ZRHB				max			
	comp=N,215nm,0.1s						
ZRHB				max			
	comp=N,1μm,0.8s						
TRTB	**Turuntaevo**	**0.83**	**76⇑**	*i*Pg	Pn	10 13 59.0	+0.5
TRTB				*e*Pb	Pb	10 14 00.5	+1.6
TRTB				*i* Sg	Sn	10 14 10.4	+0.7
TRTB				max			
	comp=N,104nm,0.1s						
TRTB				Smax			
	comp=N,536nm,0.4s						
UUDB	**Ulan-Yde**	**0.85**	**101⇑**	*i*Pg	Pn	10 13 59.0	+0.3
UUDB				*e*Sg	Sn	10 14 10.6	+0.5
UUDB				Pmax			
	comp=N,110nm,0.2s						
UUDB				Smax			
	comp=N,680nm,0.8s						
LSTR	**Listvyanka**	**0.94**	**261**	*e*Pg	Pn	10 14 01.0	+1.0
LSTR				*i* Sg	Sn	10 14 13.5	+1.2
LSTR				Pmax			
	comp=N,75nm,0.5s						
LSTR				Smax			
	comp=N,532nm,0.4s						
IRK	**Irkutsk**	**1.28**	**280**	*e*PN	Pn	10 14 05.9	+1.2
IRK				*e*		10 14 23.3	
IRK				pmax	pmax		
	comp=Z,440nm,0.4s						
IRK				smax			
	comp=N,2μm,0.2s						
IRK	**Irkutsk**	**1.28**	**280**	*e*Pg	Pn	10 14 07.1	+2.4
IRK				*e*Sg	Sn	10 14 23.8	+3.0
IRK				Pmax			
	comp=N,438nm,0.3s						
IRK				Smax			
	comp=N,2μm,0.2s						
KELR	**Kotokel**	**1.30**	**55**	*e*Pg	Pn	10 14 07.3	+2.3
KELR				*e*		10 14 15.0	
KELR				*e*Sg	Sn	10 14 24.3	+3.0
KELR				Pmax			
	comp=N,462nm,0.1s						
KELR				Smax			
	comp=N,968nm,0.4s						
TLY	**Talaya**	**1.70**	**259**	*e*Pg	Pn	10 14 14.1	+3.7
TLY				*e*Sg	Sn	10 14 35.9	+4.9
TLY				Pmax			
	comp=N,23nm,0.1s						
TLY				Smax			
	comp=N,140nm,0.2s						
OGRR	**Ongureny**	**1.79**	**25**	*e*PN	Pn	10 14 13.6	+1.9
OGRR				*e*		10 14 36.5	
OGRR				pmax	pmax		
	comp=Z,16nm,0.4s						
OGRR				smax			
	comp=E,211nm,0.4s						
OGRR	**Ongureny**	**1.79**	**25**	*e*Pg	Pn	10 14 13.8	+2.1
OGRR				*e*		10 14 20.0	
OGRR				*e*Sg	Sn	10 14 36.5	+3.1
OGRR				Pmax			
	comp=E,13nm,0.2s						
OGRR				Smax			
	comp=E,218nm,0.4s						
MXMB	**Maximikha**	**1.93**	**49**	*e*Pg	Pn	10 14 17.6	+4.0
MXMB				*e*		10 14 23.1	
MXMB				*e*		10 14 39.6	
MXMB				*e*Sg	Sn	10 14 43.6	+6.9
MXMB				max			
	comp=E,76nm,0.6s						
MXMB				Smax			
	comp=E,564nm,0.5s						
ARS	**Arshan**	**2.41**	**269**	*e*PN	Pn	10 14 26.6	+6.3
ARS				*e*		10 14 57.1	
ARS				pmax	pmax		
	comp=Z,31nm,0.2s						
ARS				smax			
	comp=E,337nm,0.3s						
ARS	**Arshan**	**2.41**	**269**	*e*Pg	Pn	10 14 25.8	+5.5
ARS				*e*Sg	Sn	10 14 56.7	+8.0
ARS				Pmax			
	comp=E,46nm,0.6s						
ARS				Smax			
	comp=E,342nm,0.5s						
ZAK	**Zakamensk**	**2.52**	**230**	*e*Pn	Pn	10 14 24.3	+2.5
ZAK				*e*Pg	Pn	10 14 28.7	+6.9
ZAK				*e*Sg	Sn	10 15 02.1	+11
ZAK				Pmax			
	comp=E,11nm,0.1s						
ZAK				Smax			
	comp=E,52nm,0.3s						
SYVR	**Suvo**	**2.76**	**52**	*e*Pn	Pn	10 14 26.9	+1.8
SYVR				*e*Pg	Pn	10 14 32.2	+7.1
SYVR				*e*Sg	Sn	10 15 08.9	+12
SYVR				Pmax			
	comp=E,17nm,0.5s						
SYVR				Smax			
	comp=E,78nm,0.6s						
MOY	**Mondy**	**3.32**	**266**	*e*Pn	Pn	10 14 34.2	+1.4
MOY				*e*		10 14 39.6	
MOY				*e*		10 15 20.7	
MOY				*e*Sg	Sn	10 15 24.7	+14
MOY				max			
	comp=E,10.0nm,0.6s						
MOY				Smax			
	comp=E,75nm,1.2s						
ORL	**Orlik**	**4.03**	**280**	*e*PN	Pn	10 14 54.1	+12
ORL				*e*		10 15 47.7	
ORL				pmax	pmax		
	comp=Z,10.0nm,0.4s						
ORL				smax			
	comp=N,77nm,0.7s						
ORL	**Orlik**	**4.03**	**280**	*e*Pn	Pn	10 14 44.0	+1.5
ORL				*e*Pg	Pn	10 14 54.1	+12
ORL				*e*		10 15 34.4	
ORL				*e*Sg	Sn	10 15 46.9	+18
ORL				Pmax			
	comp=N,8.0nm,0.4s						
ORL				Smax			
	comp=N,77nm,0.9s						
ULN	**Ulaanbaatar**	**4.20**	**173**	*e*Pn	Pn	10 14 46.4	+1.6
ULN				⇑*i*Pg	Pn	10 14 58.1	+13
ULN				*e*Sg	Sn	10 15 55.1	+22
NIZ	**Nizh Angarsk**	**4.21**	**26**	*e*Pn	Pn	10 14 46.7	+1.8
NIZ				*e*		10 14 53.5	
NIZ				*e*Pg	Pn	10 14 58.6	+14
NIZ				*e*Sn	Sn	10 15 32.5	-0.4
NIZ				*e*Sg	Sn	10 15 53.3	+20
NIZ				Pmax			
	comp=N,5.0nm,0.4s						
NIZ				Smax			
	comp=N,48nm,1.7s						
KPC	**Khapcheranga**	**4.49**	**119**	*e*Pn	Pn	10 14 49.6	+0.8
KPC				*e*Pg	Pn	10 15 02.3	+14
KPC				*e*Sg	Sn	10 15 59.8	+20
KPC				Pmax			
	comp=N,4.0nm,0.4s						
KPC				Smax			
	comp=N,43nm,0.8s						
KMO	**Kumora**	**4.82**	**35**	*e*Sg	Sn	10 16 14.0	+26
KMO				Smax			
	comp=N,32nm,1.1s						
BOD	**Bodaibo**	**7.29**	**34**	*e*Sg	Sn	10 17 29.4	+41
BOD				Smax			
	comp=N,4.0nm,1.2s						
CRS	**Chara**	**8.49**	**50**	*e*Sg	Sn	10 18 06.9	+49
CRS				Smax			
	comp=N,8.0nm,1.7s						
TUP	**Tupik**	**8.53**	**68**	*e*Sg	Sn	10 18 06.3	+47
TUP				Smax			
	comp=N,24nm,1.0s						

*ISCJB **13** 10:14:03.0±3.0, 02N±01×1249E±0.1, h71km±31km, mb4.3/16, Error ellipse: s-maj=23.4km s-min=11.7km az=140.5*

*IDC **13** 10:14:06.8±3.3, 021N×12468E, h93km±32km, mb3.6/9, mb1 3.7/11, mb1mx3.6/18, mbtmp3.6/11, Error ellipse: s-maj=32.3km s-min=12.9km az=75.0*

ISC 13 10:14:04.8±2.5, 02N±01×1249E±01, h71km±27km, n24, σ0°90/23, mb4.3/16, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.32**	**225**	P	**Pn**	**10 15 49.4**	**+0.3**
	4.2nm,0.3s,baz=46,slow=3.3,SNR=16						
KAKA	**Kakadu**	**14.87**	**150**	*e*P	**Pn**	**10 17 30.2**	**-0.9**
	5.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**18.23**	**178**	*e*P	**Pn**	**10 18 13.8**	**+0.8**
	3.4nm,0.7s						
FITZ	**Fitzroy Crossi**	**18.23**	**178**	P	**Pn**	**10 18 13.6**	**+0.6**
	0.3nm,0.3s,baz=2.3,slow=8.0,SNR=7.5						
WRA	**Warramunga Arr**	**22.07**	**156**	P	**P**	**10 18 53.3**	**-0.7**
	2.1nm,0.5s,mb3.7,baz=334,slow=11,SNR=42						
WRA				PcP	PcP	10 22 48.2	-1.3
	0.3nm,0.4s,baz=330,slow=2.1,SNR=7.2						
WB2	**Warramunga Arr**	**22.08**	**156**	*e*P	**P**	**10 18 52.9**

MKAR Makanchi Array 59.44 327 P P 10 23 59.1 -0.9
1.0nm,0.4s,mb4.2,baz=121,slow=7.7,SNR=26
ZALV Zalesovo Beam 62.91 335 P P 10 24 21.4 -2.0
0.5nm,0.3s,mb3.9,baz=147,slow=7.2,SNR=3.2
TORD Torodi Ar. Bea 122.19 286 PKP PKPdf 10 32 52.4 -0.1
0.7nm,0.6s,baz=31,slow=1.6,SNR=6.6

IDC 13 10:18:40.0±2.0, 007N×12680E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.4/14, mbtmp3.5/3, Error ellipse: s-maj=171.5km s-min=26.1km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.21**	**160**	P	P	10 23 26.3	-1.2
	0.4nm,0.4s,baz=338,slow=10,SNR=9.5						
ASAR	**Alice Springs**	**24.58**	**164**	P	P	10 24 02.9	+1.0
	0.6nm,0.3s,baz=342,slow=11,SNR=17						
MKAR	**Makanchi Array**	**60.60**	**326**	P	P	10 28 52.6	0.0
	0.5nm,0.5s,baz=117,slow=6.9,SNR=5.5						

IDC 13 10:22:27.9±3.0, 2962N×14137E, h0km, mb3.3/2, mb1 3.5/4, mb1mx3.3/19, mbtmp3.3/4, ML3.2/2, Error ellipse: s-maj=137.1km s-min=26.5km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.61**	**164**	Pn	Pn	10 23 11.3	0.0
	3.4nm,0.3s,baz=304,slow=21,SNR=7.6						
CBIJ				Sn	Sn	10 23 43.0	-0.8
	15nm,0.3s,baz=292,slow=23,SNR=8.9						
MJAR	**Matsushiro Arr**	**7.40**	**340**	Pn	Pn	10 24 16.4	-0.7
	0.9nm,0.3s,baz=160,slow=11,SNR=11						
MJAR				Sn	Sn	10 25 37.9	-3.9
	0.2nm,0.3s,baz=131,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**49.73**	**189**	P	P	10 31 21.8	-0.2
	0.5nm,0.7s,baz=6.7,slow=7.7,SNR=12						
ASAR	**Alice Springs**	**53.46**	**189**	P	P	10 31 50.3	+0.5
	0.1nm,0.6s,baz=358,slow=5.6,SNR=4.7						

MAN 13 10:37:56, 1271N×12458E, h29km, mb4.2, ML3.0, MS2.8, 1D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.22**	**157**	*e*P	Pb	10 38 03.6	+1.3
CNP				*e*S	Sb	10 38 11.0	+4.5
PVCP	**Virac**	**0.97**	**335**	⇓*e*P	Pn	10 38 13.9	+0.2
PVCP				*e*S	Sn	10 38 31.6	+5.1
BESP	**Borongan**	**1.39**	**143**	*e*P	Pn	10 38 19.8	+0.4
BESP				*e*S	Sn	10 38 38.0	+1.2

IDC 13 10:42:34.8±2.2, 984S×15737E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/12, mbtmp4.0/4, MS3.6/2, Ms1 3.6/2, ms1mx3.0/16, Error ellipse: s-maj=68.4km s-min=30.0km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.39**	**243**	P	P	10 47 53.5	-1.5
	5.0nm,1.0s,baz=71,slow=9.6,SNR=14						
ASAR	**Alice Springs**	**26.29**	**236**	P	P	10 48 12.6	+0.3
	1.8nm,0.8s,baz=68,slow=9.6,SNR=26						
STKA	**Stephens Creek**	**26.36**	**211**	P	P	10 48 14.7	+2.0
	4.0nm,0.9s,baz=41,slow=14,SNR=5.4						
GUMO	**Guam**	**36.38**	**332**	LR	LR	10 56 02.6	
	comp=Z,84nm,18.6s,baz=96,slow=31						
URZ	**Urewera**	**33.39**	**151**	LR	LR	10 59 39.2	
	comp=Z,132nm,18.6s,baz=284,slow=31						
SONM	**Songino Array**	**72.99**	**327**	P	P	10 54 07.1	+0.8
	0.9nm,1.0s,baz=108,slow=4.0,SNR=4.2						
AKASG	**Malin Array Be**	**121.21**	**324**	PKP	PKPdf	11 01 28.7	-1.1
	0.3nm,0.3s,baz=28,slow=2.3,SNR=6.8						

*ISCJB **13** 10:54:37.9±0.7, 3957N±004×4020E±004, h6km±7km, Error ellipse: s-maj=6.6km s-min=5.0km az=151.6*
*CSEM **13** 10:54:37.6±0.3, 3960N×4015E, h5km, MD2.9, Error ellipse: s-maj=8.6km s-min=6.0km az=92.0*
*ISK **13** 10:54:37.8, 3959N×4013E, h5km, MD3.0*
*DDA **13** 10:54:39.2, 3953N×4020E, h7km±7km, Md2.9*
ISC 13 10:54:38.3±0.5, 3958N±004×4020E±004, h9km±7km, n14, σ1§00/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZC	**Erzincan**	**0.34**	**299**	*e*PG	**Sg**	10 54 50.6	+1.0
KOPT	**Kop Dagi**	**0.49**	**27**	*i* P	**Pg**	10 54 47.9	-0.1
KOPT				*i* S	**Sg**	10 54 58.2	+3.8
BINT	**Bingol**	**0.74**	**162**	*e*PG	**Pg**	10 54 53.6	+1.1
PTK	**Pertek**	**0.93**	**223**	*e*PG	**Pg**	10 54 55.2	-1.1
PTK				*e*SG	**Sg**	10 55 08.0	-0.4
EZM	**Erzurum**	**0.95**	**70**	*e*PG	**Pg**	10 54 56.9	+0.3
ERZM	**Erzurum**	**0.95**	**70**	*i* P	**Pg**	10 54 56.9	+0.2
ERZM				*i* S	**Sg**	10 55 07.0	-2.1
BNGL	**BINGOL**	**0.97**	**130**	*i* P	**Pg**	10 54 56.6	-0.3
BNGL				*i* S	**Sg**	10 55 10.7	+1.3
GUMT	**Gumushane**	**1.04**	**328**	*e*PG	**Pg**	10 54 57.0	-1.3
ELZG	**Elazig**	**1.44**	**222**	*i* P	**Pn**	10 55 03.0	-1.6
ELZG				*i* S	**Sn**	10 55 23.6	0.0
ELZG	**Elazig**	**1.44**	**222**	*i* P	**Pn**	10 55 03.0	-1.6
ELZG				*i* S	**Sn**	10 55 23.6	0.0
ESPY	**Espiye-Giresun**	**1.75**	**320**	*e*PN	**Pn**	10 55 09.6	+0.7
MYA	**Malataya**	**1.87**	**228**	*e*PN	**Pn**	10 55 09.9	-0.7
MALT	**Malatya**	**1.88**	**228**	*e*PN	**Pn**	10 55 11.5	+0.9
SVSK	**Karacayir**	**2.49**	**279**	*e*PN	**Pn**	10 55 20.1	+1.0

*GII **13** 11:17:48.2±1.4, 3394N×3641E, h0km, ML2.0/1*
*GRAL **13** 11:17:48.2±0.7, 3375N×3675E, h0km±380km, MD3.2*
ISC 13 11:17:47.5±1.8, 3383N±005×368E±01, h0km, n12, σ1§08/18, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**0.81**	**304**	*e*Pg	**Pg**	11 18 03.5	+0.6
HWQ				*e*Sg	**Sg**	11 18 14.8	+1.5
RCY	**Rachaya**	**0.85**	**247**	*e*Pg	**Pg**	11 18 02.6	-1.2
BHL	**Bhannes**	**0.92**	**275**	*e*Pg	**Pg**	11 18 04.7	-0.3
KSDI	**Kefar Szold**	**1.11**	**236**	Pg	**Pg**	11 18 08.0	-0.7
KSDI				Sg	**Sg**	11 18 23.4	+0.3
MATL	**Matirih**	**1.23**	**255**	*e*Pg	**Pg**	11 18 10.4	-0.7
MMA0	**Mount Meron ar**	**1.39**	**235**	Pg	**Pg**	11 18 12.6	-1.4
MMA0				Sg	**Sg**	11 18 32.0	0.0
MMC7	**Mount Meron ar**	**1.39**	**235**	Pg	**Pg**	11 18 13.0	-1.1
MMC6	**Mount Meron ar**	**1.40**	**235**	Pg	**Pg**	11 18 13.3	-1.0
MMC6				Sg	**Sg**	11 18 32.9	+0.5
HNTI	**Hanita**	**1.51**	**241**	Pn	**Pn**	11 18 15.3	-0.5
HNTI				Sn	**Sn**	11 18 34.6	-1.5
MMLI	**Mount Malkishu**	**1.78**	**219**	Pn	**Pn**	11 18 20.8	+1.3
MMLI				Sn	**Sn**	11 18 44.1	+1.4
HMDT	**Nahal Hemdat**	**1.88**	**214**	Sn	**Sn**	11 18 47.4	+2.3
SLTI	**Sal'it**	**2.14**	**223**	Sn	**Sn**	11 18 52.7	+1.1

*SZGRF **13** 11:25:26.7, 2197S×17849W, h680km, Fiji Islands region*
*MOS **13** 11:26:40.8±0.8, 1938S×17930W, h650km, mb5.4/30, MS4.4/4, Error ellipse: s-maj=8.7km s-min=6.6km az=54.1*
*NEIC **13** 11:26:42.9±0.1, 1951S×17933W, mb5.3/114, MW5.8, Error ellipse: s-maj=5.1km s-min=3.0km az=128.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^{17}Nm; M_{rr}6.05; $M_{\theta\theta}$-1.62; $M_{\phi\phi}$-4.42; $M_{r\theta}$0.93; $M_{\theta\phi}$-1.90; $M_{\phi r}$-2.83; Best double couple: $M_0$6.40000×10^{17} NP1: ϕ_s40.00000°, δ36.00000°, λ114.00000°. NP2: ϕ_s190.00000°, δ57.00000°, λ73.00000°. Principal axes: T 6.9900, Plg72.0000°, Azm58.0000°; N -1.2000, Plg14.0000°, Azm200.0000°; P -5.7900, Plg11.0000°, Azm292.0000°;*
*GCMT **13** 11:26:42.9±0.2, 1958S×17903W, h695km±1km, MW5.8/105, Moment Tensor Solution. s105,c205; s53,c53; Duration: 2§0 Moment tensor: Scale 10^{17}Nm; M_{rr}5.73±.08; $M_{\theta\theta}$-2.42±.10; $M_{\phi\phi}$-3.31±.12; $M_{r\theta}$1.56±.11; $M_{\theta\phi}$-3.12±.10; $M_{\phi r}$-2.11±.11; Best double couple: $M_0$6.40700×10^{17} NP1:ϕ_s61.00000°, δ46.00000°, λ121.00000°. NP2:ϕ_s200.00000°, δ52.00000°, λ62.00000°. Principal axes: T 6.7680, Plg68.0000°, Azm47.0000°; N -0.7210, Plg21.0000°, Azm219.0000°; P -6.0470, Plg3.0000°, Azm310.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to mantle waves, cutoff=125s.*
*ISCJB **13** 11:26:42.1±0.1, 1958S×17935W±003, h670km, mb5.2/151 Error ellipse: s-maj=4.2km s-min=2.5km az=137.6*
*BJI **13** 11:26:42.9, 1950S×17930W, h668km, mB5.0, mb5.1*
*IDC **13** 11:26:42.5±0.7, 1957S×17924W, h661km±8km, mb4.6/29, mb1 4.6/31, mb1mx4.6/31, mbtmp4.6/31, Error ellipse: s-maj=8.0km s-min=6.7km az=157.0*
*CRAAG **13** 11:26:43.0, 1929S×17940W, Mw5.5*
*BGS **13** 11:26:43.7±8.9, 1951S×17933W, h670km, mb5.3(NEIC)*
ISC 13 11:26:43.7±0.1, 1957S±003×17931W±003, h672km, h672km±2.7km: pP-P, n1354, σ0§68/770, mb5.2/151, 336C-195D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**9.15**	**53**	*e*P	**P**	11 28 52.4	-3.6
AFI				*e*		11 30 36.3	
AFI				smax			
	comp=N,530nm,1.0s						
AFI	**Afiamalu**	**9.15**	**53**	*e*Pn	**P**	11 28 52.5	-3.5
	comp=N,534nm,1.0s						
AFI				*e*Sn	**S**	11 30 36.3	-7.8
RAO	**Raoul Island**	**9.72**	**173**	*e*P	**P**	11 28 59.9	-1.0
RAO				pmax	pmax		
	comp=Z,1μm,0.4s						
RAO	**Raoul Island**	**9.72**	**173**	*e*Pn	**P**	11 28 59.9	-1.1
	comp=Z,1μm,0.3s						
RAO				*e*Sn	**S**	11 30 53.7	+0.5
RAO	**Raoul Island**	**9.72**	**173**	P	**P**	11 28 59.8	-1.1
	comp=Z,386nm,0.3s,baz=275,slow=23,SNR=13						
RAO				S	**S**	11 30 51.8	-1.4
	comp=Z,199nm,0.3s,baz=252,slow=23,SNR=8.8						
FUNA	**Funafuti**	**11.07**	**352**	*e*Pn	**P**	11 29 10.9	-2.8
	comp=Z,2μm,1.1s						
DZM	**Mont Dzumac**	**13.55**	**257**	*e*P	**P**	11 29 38.0	+1.8
DZM				*e*S	**S**	11 32 00.9	+4.0
OUZ	**Omahuta**	**16.80**	**200**	P	**P**	11 30 08.9	+3.2
OUZ	**Omahuta**	**16.80**	**200**	PN	**P**	11 30 08.9	+3.2
KUZ	**Kuaotunu**	**17.66**	**193**	P	**P**	11 30 15.4	+2.0
KUZ	**Kuaotunu**	**17.66**	**193**	PN	**P**	11 30 15.3	+1.8
MXZ	**Matakaoa Point**	**18.05**	**186**	*e*PN	**P**	11 30 14.4	-2.5
RAR	**Rarotonga**	**18.39**	**98**	P	**P**	11 30 17.5	-2.8
	comp=Z,2.9nm,0.3s,baz=231,slow=5.8,SNR=11						
URZ	**Urewera**	**18.88**	**189**	P	**P**	11 30 23.4	-1.0
URZ	**Urewera**	**18.88**	**189**	P	**P**	11 30 23.7	-0.7
	comp=Z,6.4nm,0.3s,baz=89,slow=2.0,SNR=40						
URZ				S	**S**	11 33 20.7	-1.6
	comp=Z,1.6nm,0.3s,baz=139,slow=20,SNR=4.6						
URZ				ScP	ScP	11 36 50.7	+0.7
	comp=Z,0.5nm,0.3s,baz=67,slow=8.0,SNR=3.2						
URZ	**Urewera**	**18.88**	**189**	PN	**P**	11 30 23.2	-1.2
MWZ	**Matawai**	**18.90**	**188**	P	**P**	11 30 23.8	-0.8
MWZ				S	**S**	11 33 18.2	-4.4
MWZ	**Matawai**	**18.90**	**188**	PN	**P**	11 30 23.3	-1.3
MWZ				SN	**S**	11 33 18.2	-4.4
VRZ	**Vera Road**	**20.15**	**193**	PN	**P**	11 30 39.4	+3.6
BFZ	**Birch Farm**	**21.38**	**189**	*e*P	**P**	11 30 46.1	-0.6
BFZ	**Birch Farm**	**21.38**	**189**	*e*PN	**P**	11 30 46.1	-0.6
MRZ	**Mangatainoka R**	**21.47**	**191**	P	**P**	11 30 46.2	-1.3
MRZ	**Mangatainoka R**	**21.47**	**191**	*e*PN	**P**	11 30 46.0	-1.5
CAW	**Cannon Point**	**22.00**	**191**	P	**P**	11 30 51.9	-0.3
CAW	**Cannon Point**	**22.00**	**191**	PN	**P**	11 30 50.7	-1.4
TCW	**Tory Channel**	**22.25**	**193**	P	**P**	11 30 55.5	+1.1
TCW	**Tory Channel**	**22.25**	**193**	*e*PN	**P**	11 30 54.2	-0.2
SNZO	**South Karori**	**22.26**	**192**	P	**P**	11 30 53.8	-0.7
SNZO	**South Karori**	**22.26**	**192**	*e*PN	**P**	11 30 53.6	-0.9
QRZ	**Quartz Range**	**22.31**	**196**	P	**P**	11 30 56.1	+1.2
QRZ	**Quartz Range**	**22.31**	**196**	*e*PN	**P**	11 30 55.8	+0.9
HNR	**Honiara**	**22.44**	**294**	*e*P	**P**	11 30 55.2	-1.3
HNR				pmax	pmax		
	comp=Z,71nm,0.5s,mb5.3						
HNR	**Honiara**	**22.44**	**294**	*e*P	**P**	11 30 55.1	-1.4
	comp=Z,71nm,0.5s,mb5.3						
HNR	**Honiara**	**22.44**	**294**	P	**P**	11 30 56.3	-0.2
	comp=Z,43nm,0.5s,mb5.2,baz=237,slow=4.0,SNR=5.5						
NNZ	**Nelson**	**22.46**	**195**	P	**P**	11 30 55.9	-0.4
NNZ				S	**S**	11 34 16.4	-2.3
NNZ	**Nelson**	**22.46**	**195**	*e*PN	**P**	11 30 55.8	-0.4
NNZ				SN	**S**	11 34 16.4	-2.2
TUWZ	**Tuamarina**	**22.54**	**193**	*e*PN	**P**	11 30 56.7	-0.2
THZ	**Tophouse**	**23.09**	**195**	P	**P**	11 31 01.7	-0.1
THZ				S	**S**	11 34 26.9	-1.7
THZ	**Tophouse**	**23.09**	**195**	PN	**P**	11 31 01.7	-0.1
THZ				SN	**S**	11 34 26.9	-1.6
DSZ	**Denniston Nort**	**23.36**	**197**	P	**P**	11 31 05.0	+0.8
DSZ	**Denniston Nort**	**23.36**	**197**	PN	**P**	11 31 04.6	+0.4
KHZ	**Kahutara**	**23.57**	**193**	P	**P**	11 31 05.4	-0.6
KHZ	**Kahutara**	**23.57**	**193**	PN	**P**	11 31 05.0	-1.0
LTZ	**Lake Taylor**	**24.21**	**195**	P	**P**	11 31 11.3	-0.3
LTZ	**Lake Taylor**	**24.21**	**195**	PN	**P**	11 31 11.2	-0.4
WVZ	**Waitaha Valley**	**24.89**	**198**	P	**P**	11 31 16.9	-0.7
WVZ	**Waitaha Valley**	**24.89**	**198**	PN	**P**	11 31 16.7	-0.9
RPZ	**Rata Peaks**	**25.39**	**196**	P	**P**	11 31 21.1	-0.9
	comp=Z,26nm,0.6s,mb5.0,baz=14,slow=2.0,SNR=24						
FOZ	**Fox Glacier**	**25.64**	**199**	P	**P**	11 31 23.3	-0.9
FOZ	**Fox Glacier**	**25.64**	**199**	PN	**P**	11 31 23.2	-1.0
LBZ	**Lake Benmore**	**26.25**	**197**	P	**P**	11 31 28.3	-1.2
LBZ	**Lake Benmore**	**26.25**	**197**	PN	**P**	11 31 28.2	-1.3
JCZ	**Jackson Bay**	**26.39**	**200**	P	**P**	11 31 30.9	+0.2
JCZ	**Jackson Bay**	**26.39**	**200**	PN	**P**	11 31 30.9	+0.2
ODZ	**Otahua Downs**	**26.74**	**196**	P	**P**	11 31 33.3	-0.4
ODZ	**Otahua Downs**	**26.74**	**196**	PN	**P**	11 31 33.1	-0.6
WKZ	**Wanaka**	**26.99**	**198**	P	**P**	11 31 35.5	-0.4
WKZ	**Wanaka**	**26.99**	**198**	PN	**P**	11 31 35.4	-0.5
EAZ	**Earnscleugh**	**27.28**	**198**	P	**P**	11 31 38.0	-0.4
EAZ	**Earnscleugh**	**27.28**	**198**	PN	**P**	11 31 38.2	-0.1
MLZ	**Mavora Lakes**	**27.72**	**199**	P	**P**	11 31 43.6	+1.4
MLZ	**Mavora Lakes**	**27.72**	**199**	PN	**P**	11 31 43.4	+1.2
TUZ	**Tuapeka**	**27.85**	**197**	P	**P**	11 31 44.0	+0.7
TUZ	**Tuapeka**	**27.85**	**197**	PN	**P**	11 31 43.8	+0.5
EIDS	**Eidsvold**	**27.93**	**253**	*e*P	**P**	11 31 45.2	+0.9
	comp=Z,41nm,1.0s,mb4.9						
PAE	**Paea**	**28.23**	**91**	*e*P	**P**	11 31 46.0	-1.0
	comp=Z,72nm,1.1s,mb5.1						
PAE				*e*pP		11 33 17.0	
	comp=Z,57nm,1.2s						
PPT	**Papeete**	**28.24**	**91**	*e*P	**P**	11 31 46.5	-0.6
	comp=Z,49nm,1.0s,mb5.0						
PPT	**Papeete**	**28.24**	**91**	*e*P	**P**	11 31 45.9	-1.2
PPT	**Papeete**	**28.24**	**91**	P	**P**	11 31 47.0	-0.2
	comp=Z,62nm,0.5s,mb5.4,baz=273,slow=4.0,SNR=30						
WHZ	**Wether Hill Ro**	**28.28**	**199**	P	**P**	11 31 48.0	+1.0
WHZ	**Wether Hill Ro**	**28.28**	**199**	PN	**P**	11 31 48.6	+1.6
ARMA	**Armidale**	**28.39**	**242**	*e*P	**P**	11 31 49.9	+1.7
ARMA				*e*SCP	ScP	11 37 20.0	+3.6
TVO	**Taravao**	**28.52**	**91**	*e*P	**P**	11 31 48.8	-0.7
	comp=Z,63nm,0.7s,mb5.2						
TVO				*e*pP		11 33 20.3	
	comp=Z,112nm,1.3s						
MEH	**Mehetia**	**29.62**	**92**	*e*P	**P**	11 31 58.4	-0.5
	comp=Z,66nm,1.0s,mb5.1						
PMOR	**Pomariorio Ree**	**30.32**	**86**	*e*P	**P**	11 32 03.4	-1.5
	comp=Z,262nm,1.0s,mb5.7						
CTA	**Charters Tower**	**32.36**	**263**	*e*P	**P**	11 32 23.1	+1.0
	comp=Z,303nm,0.6s,mb6.0						
CTA				*e*S	**S**	11 36 51.5	-0.6
CTA				*e*SCP	ScP	11 37 32.2	+2.3
CTA				*e*SCS	ScS	11 41 35.0	+3.6
CTA	**Charters Tower**	**32.36**	**263**	*e*P	**P**	11 32 23.1	+1.0
CTA				*e*S	**S**	11 36 51.5	-0.6
CTA				*e*		11 41 35.0	
CTA				pmax	pmax		
	comp=Z,303nm,0.6s						
CTA	**Charters Tower**	**32.36**	**263**	P	**P**	11 32 22.9	+0.8
	comp=Z,244nm,0.5s,mb6.0,baz=85,slow=9.8,SNR=638						
CTA				ScP	ScP	11 37 32.1	+2.2
	comp=Z,34nm,1.1s,baz=326,slow=0.7,SNR=7.5						
CTAO	**Charters Tower**	**32.36**	**263**	*e*P	**P**	11 32 23.2	+1.1
CTAO				pmax	pmax		
	comp=Z,231nm,0.5s,mb6.0						
CTAO	**Charters Tower**	**32.36**	**263**	*e*P	**P**	11 32 23.2	+1.1
	comp=Z,231nm,0.5s,mb6.0						
CTAO				*e*ScP	ScP	11 37 32.8	+2.9
TOO	**Toolangi**	**35.47**	**232**	⇑*i*P	**P**	11 32 48.9	+1.4
	comp=Z,2μm,1.5s,mb6.4						
TOO				*e*		11 34 34.9	
TOO				*e*S	**S**	11 37 39.6	+1.5
TOO				*e*SCP	ScP	11 37 43.3	+2.6
TOO				*e*SCS	ScS	11 41 51.5	+3.7
TOO	**Toolangi**	**35.47**	**232**	⇑*i*P	**P**	11 32 48.9	+1.4
TOO				*e*S	**S**	11 37 39.6	+1.5
TOO				*e*		11 41 51.5	
TOO				pmax	pmax		
	comp=Z,2μm,1.5s,mb6.4						
TAU	**Tasmania Unive**	**36.44**	**223**	*e*P	**P**	11 32 56.1	+0.8
TAU				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
TAU	**Tasmania Unive**	**36.44**	**223**	*e*P	**P**	11 32 56.0	+0.7
	comp=Z,18nm,0.8s,mb4.7						
STKA	**Stephens Creek**	**37.10**	**243**	⇑*i*P	**P**	11 33 02.3	+1.4
	comp=Z,65nm,0.8s,mb5.2						
STKA				*e*SCP	ScP	11 37 50.0	+3.0
STKA				*e*S	**S**	11 38 03.0	+0.8
STKA				*e*SCS	ScS	11 41 59.3	+2.0
STKA	**Stephens Creek**	**37.10**	**243**	P	**P**	11 33 02.6	+1.8
	comp=Z,56nm,0.4s,mb5.4,baz=84,slow=8.6,SNR=257						
STKA				PcP	PcP	11 35 02.8	+0.8
	comp=Z,14nm,0.6s,baz=73,slow=5.3,SNR=3.8						
STKA				ScP	ScP	11 37 50.1	+3.1
	comp=Z,19nm,0.9s,baz=36,slow=5.3,SNR=9.3						
TAOE	**Nuku Hiva Isla**	**39.34**	**80**	*e*P	**P**	11 33 17.9	-1.2
	comp=Z,11μm,1.0s						
WB2	**Warramunga Arr**	**43.50**	**261**	⇑*i*P	**P**	11 33 51.2	-0.3
WB2				*e*SCP	ScP	11 38 14.1	+1.5
WB2				*e*S	**S**	11 39 31.8	-2.8
WB2				*e*SCS	ScS	11 42 38.9	+1.9
WRAB	**Tennant Creek**	**43.50**	**261**	P	**P**	11 33 51.0	-0.5
	comp=Z,2μm,0.4s						
WRAB	**Tennant Creek**	**43.50**	**261**	*e*P	**P**	11 33 51.5	0.0
WRAB				*e*S	**S**	11 39 31.9	-2.7
WRAB				pmax	pmax		
	comp=Z,274nm,1.1s,mb5.5						
WRAB	**Tennant Creek**	**43.50**	**261**	*e*P	**P**	11 33 51.5	0.0
	comp=Z,274nm,1.1s,mb5.5						
WRAB				*e*ScP	ScP	11 38 14.5	+1.9
WRAB				*e*S	**S**	11 39 31.9	-2.7
WRA	**Warramunga Arr**	**43.51**	**261**	P	**P**	11 33 51.3	-0.2
WRA						11 35 23.7	
WRA				S	**S**	11 39 33.4	-1.3
WRA	**Warramunga Arr**	**43.51**	**261**	P	**P**	11 33 51.3	-0.3
WRA				PcP	PcP	11 35 23.7	+0.2
WRA				ScP	ScP	11 38 14.7	+2.1
WRA				S	**S**	11 39 33.4	-1.3
WRA	**Warramunga Arr**	**43.51**	**261**	P	**P**	11 33 51.3	-0.3
	comp=Z,118nm,0.3s,mb5.7,baz=97,slow=7.5,SNR=858						
WRA				PcP	PcP	11 35 23.7	+0.2
	comp=Z,11nm,0.5s,baz=89,slow=4.0,SNR=6.1						
WRA				ScP	ScP	11 38 14.7	+2.1
	comp=Z,20nm,1.1s,baz=94,slow=4.1,SNR=16						
WRA				S	**S**	11 39 33.4	-1.3
	comp=Z,33nm,0.9s,baz=96,slow=14,SNR=21						
WRA				PKiKP	PKiKP	11 42 21.2	-1.9
	comp=Z,0.8nm,0.4s,baz=84,slow=0.6,SNR=4.7						
ASAR	**Alice Springs**	**43.54**	**256**	P	**P**	11 33 52.2	+0.5
ASAR						11 35 23.5	
ASAR				S	**S**	11 39 34.5	-0.5
ASAR	**Alice Springs**	**43.54**	**256**	P	**P**	11 33 52.2	+0.5
	comp=Z,199nm,0.5s,mb5.7,baz=85,slow=7.8,SNR=1735						
ASAR				PcP	PcP	11 35 23.5	0.0
	comp=Z,29nm,0.6s,baz=104,slow=3.8,SNR=12						
ASAR				ScP	ScP	11 38 15.0	+2.3
	comp=Z,4.2nm,0.4s,baz=90,slow=4.6,SNR=6.9						
ASAR				S	**S**	11 39 34.5	-0.5
	comp=Z,38nm,0.8s,baz=90,slow=16,SNR=46						
KHU	**Kahuku**	**45.04**	**32**	*e*P	**P**	11 34 01.9	-1.2
POHA	**Pohakuloa**	**45.51**	**32**	*e*P	**P**	11 34 05.1	-1.5
	comp=Z,166nm,0.7s,mb5.5						
HON	**Honolulu**	**45.68**	**28**	*e*P	**P**	11 34 07.3	-0.6
HON	**Honolulu**	**45.68**	**28**	*e*P	**P**	11 34 06.9	-1.0
KIP	**Kipapa**	**45.76**	**28**	*e*P	**P**	11 34 07.2	-1.3
	comp=Z,115nm,0.7s,mb5.3						
KAKA	**Kakadu**	**46.72**	**271**	⇑*i*P	**P**	11 34 15.8	-0.1
	comp=Z,194nm,0.6s,mb5.6						
GUMO	**Guam**	**48.26**	**310**	*e*P	**P**	11 34 27.4	+0.2
GUMO				pmax	pmax		
	comp=Z,250nm,0.9s,mb5.5						
GUMO	**Guam**	**48.26**	**310**	*e*P	**P**	11 34 27.4	+0.2
	comp=Z,249nm,0.9s,mb5.5						
GUMO	**Guam**	**48.26**	**310**	P	**P**	11 34 27.9	+0.7
	comp=Z,173nm,0.6s,mb5.6,baz=171,slow=7.4,SNR=11						
FORT	**Forrest**	**48.54**	**246**	⇓*i*P	**P**	11 34 29.4	+0.3
	comp=Z,124nm,0.7s,mb5.3						
FORT				*e*S	**S**	11 40 41.5	-2.3
FITZ	**Fitzroy Crossi**	**51.93**	**262**	*e*P	**P**	11 34 54.0	+0.3
	comp=Z,60nm,0.3s,mb5.3						
FITZ			

AKUT **Akutan** 74.32 8 eP P 11 37 12.6 -2.3
comp=Z,178nm,0.9s,mb5.6
YSS **Yuzh-Sakhalins** 74.52 334⇑ iP P 11 37 16.0 -0.2
YSS i S S 11 46 00.0 +0.6
YSS e 11 46 22.0
YSS eSSS 11 54 32.0
YSS pmax pmax
comp=Z,60nm,0.6s,mb5.3
YSS pmax pmax
comp=Z,500nm,4.0s
YSS smax
comp=N,2μm,8.0s
YSS **Yuzh-Sakhalins** 74.52 334 eP P 11 37 16.6 +0.4
comp=N,52nm,0.5s,mb5.3
PET **Petropavlovsk** 74.77 346 eP P 11 37 16.1 -1.4
PET eS S 11 46 01.6 -0.3
PET eSSS 11 54 30.1
PET pmax pmax
comp=Z,34nm,0.6s,mb5.0
PET pmax pmax
comp=Z,100nm,12.4s
PET smax
comp=E,21nm,0.5s
PET smax
comp=N,16nm,0.4s
PET **Petropavlovsk** 74.77 346 eP P 11 37 15.8 -1.6
comp=N,152nm,1.4s,mb5.3
QZH **Quanzhou** 74.87 304 P P 11 37 18.4 -0.3
QZH S S 11 46 04.3 +0.2
QZH AMB AMB
comp=Z,90nm,0.8s,mb5.3
KSRS **Korea Array** 75.38 319 P P 11 37 21.6 +0.4
comp=Z,15nm,0.8s,mb4.5,baz=129,slow=6.5,SNR=36
SSE **Sheshan** 76.15 310 P P 11 37 25.4 -0.2
SSE AP pP 11 39 41.6 +0.4
SSE PP PP 11 40 26.8 -3.4
SSE S S 11 46 13.5 -4.0
SSE SCS ScS 11 46 37.9 -2.3
SSE XS sS 11 50 12.4 -6.6
SSE AMB AMB
comp=Z,38nm,0.9s,mb4.9
SSE AMB AMB
comp=Z,71nm,3.8s
SDPT **Sand Point** 76.33 11 eP P 11 37 24.5 -1.4
comp=Z,97nm,0.5s,mb5.6
CHGN **Chignik** 77.61 12 eP P 11 37 31.7 -1.1
FARB **Farallon Islan** 77.75 42 ⇑P P 11 37 34.1 0.0
baz=78
V03C **Hunter Liggett** 77.92 45 ⇑P P 11 37 35.5 +0.5
baz=78,SNR=5.3
HAST **Hastings Reser** 77.92 44 ⇓P P 11 37 35.5 +0.4
baz=78,SNR=57
V04C **Ramage Ranch,** 77.94 45 ⇓P P 11 37 35.6 +0.5
baz=78,SNR=8.4
BNLO **Ben Lomond (Sa** 77.95 43 ⇑P P 11 37 35.2 +0.1
baz=78,SNR=7.2
SBC **Santa Barbara** 78.06 47 ⇑P P 11 37 35.8 0.0
baz=78
JRSC **Jasper Ridge** 78.07 43 ⇑P P 11 37 35.7 0.0
baz=78
SAO **San Andreas Ge** 78.21 44 eP P 11 37 36.5 0.0
SAO pmax pmax
comp=Z,103nm,1.1s,mb5.3
SAO **San Andreas Ge** 78.21 44 eP P 11 37 36.5 0.0
comp=Z,103nm,1.1s,mb5.3
MYKOM **Kota Tinggi** 78.21 276 ⇓P P 11 37 38.1 +1.0
PKM **Peak Mountain** 78.24 46 ⇓P P 11 37 37.2 +0.4
baz=78,SNR=7.6
NJ2 **Nanjing** 78.34 310 eP P 11 37 37.8 +0.5
NJ2 PCP PcP 11 37 44.3 +0.7
NJ2 PP PP 11 40 45.5 -2.7
NJ2 XP sP 11 40 56.0 -5.5
NJ2 S S 11 46 43.5 +3.1
NJ2 AMB AMB
comp=Z,60nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,140nm,6.3s
PKD **Parkfield** 78.34 45 ⇓P P 11 37 37.2 -0.1
baz=78,SNR=12
SMMC **Simmler** 78.35 46 ⇑P P 11 37 37.6 +0.4
baz=78,SNR=10
PTRM **Twissleman Ran** 78.40 46 eP P 11 37 37.5 0.0
U04C **Hernandez Rese** 78.42 45 ⇓P P 11 37 38.3 +0.7
baz=78,SNR=15
PACP **Pacheco Peak** 78.45 44 ⇓P P 11 37 38.4 +0.6
baz=79,SNR=37
CVS **Carmenet Viney** 78.48 42 ⇓P P 11 37 37.7 -0.2
baz=79,SNR=6.8
HOPS **Hopland** 78.48 41 eP P 11 37 38.2 +0.3
comp=Z,167nm,1.4s,mb5.4
HOPS **Hopland** 78.48 41 ⇓P P 11 37 38.1 +0.2
baz=79,SNR=5.4
NSHM **Saint Helena R** 78.49 42 eP P 11 37 38.3 +0.3
WENL **Wente Brothers** 78.51 43 ⇓P P 11 37 38.4 +0.4
baz=79,SNR=7.8
KCPM **Cahto Peak** 78.58 41 eP P 11 37 39.1 +0.7
P01C **Double 8 Ranch** 78.60 41 ⇑P P 11 37 38.2 -0.3
baz=79,SNR=5.5
BDM **Black Diamond** 78.63 43 ⇑P P 11 37 39.0 +0.3
baz=79
FMP **Fort Macarthur** 78.64 48 ⇑P P 11 37 38.9 0.0
baz=79
S04C **Ingram Canyon,** 78.72 43 ⇓P P 11 37 39.5 +0.3
baz=79,SNR=19
V05C **Boulder Hill,** 78.72 45 ⇑P P 11 37 40.1 +0.9
baz=79,SNR=6.8
KGM **Kluang** 78.79 276 ⇓P P 11 37 41.1 +0.9
T05C **Eagle Field, D** 78.79 44 ⇑P P 11 37 40.4 +0.8
baz=79,SNR=11
MNRC **McLaughlin Nat** 78.81 42 ⇓P P 11 37 40.2 +0.6
baz=79,SNR=16
OSI **Osito Adit** 78.83 47 ⇓P P 11 37 39.7 -0.1
baz=79,SNR=7.5
U05C **Westside ANR,** 78.84 45 ⇓P P 11 37 40.4 +0.5
baz=79
DECC **Green Verdugo** 78.91 48 ⇓P P 11 37 39.8 -0.5
baz=79,SNR=8.2
Q03C **Winters** 78.93 42 ⇓P P 11 37 41.2 +0.9
baz=79,SNR=15
JCC **Jacoby Creek** 79.00 39 ⇓P P 11 37 40.9 +0.3
baz=79
HABR **Khabarovsk** 79.03 331⇑ iP P 11 37 39.8 -0.8
HABR e 11 37 44.4
HABR e 11 40 54.0
HABR eS S 11 46 45.9 -0.9
HABR eSS SS 11 52 12.6 -1.8
HABR pmax pmax
comp=Z,115nm,1.7s,mb5.1
ARVC **Arvin** 79.04 47 ⇑P P 11 37 40.8 -0.1
baz=79,SNR=16
109C **Camp Elliot, M** 79.05 49 ⇓P P 11 37 40.7 -0.3
baz=79,SNR=9.8
MDJ **Mudanjiang** 79.06 326 P P 11 37 41.3 +0.5
MDJ AP pP 11 39 57.9 -0.1
MDJ PP PP 11 40 53.3 -0.4
MDJ XP sP 11 41 02.5 -2.8
MDJ S S 11 46 48.9 +1.8
MDJ SCS ScS 11 47 03.9 +0.6
MDJ AMB AMB
comp=Z,38nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,157nm,6.5s
MDJ **Mudanjiang** 79.06 326 eP P 11 37 40.9 +0.2
comp=Z,29nm,0.9s,mb4.8
MWC **Mount Wilson** 79.09 48 eP P 11 37 41.1 -0.1
MWC pmax pmax
comp=Z,130nm,1.3s,mb5.3
MWC **Mount Wilson** 79.09 48 eP P 11 37 41.1 -0.1
comp=Z,128nm,1.4s,mb5.3
GASB **Alder Springs** 79.10 41 ⇓P P 11 37 42.2 +1.1
baz=79,SNR=27
KHMM **Horse Mountain** 79.22 40 eP P 11 37 42.6 +0.9
BAR **Barrett** 79.25 50 eP P 11 37 42.0 -0.1
VES **Vestal, Richgr** 79.26 46 ⇓P P 11 37 41.6 -0.5
baz=79,SNR=30
S05C **Merced** 79.28 44 ⇑P P 11 37 41.6 -0.5
baz=79,SNR=18
QIZ **Qiongzhong** 79.35 295 P P 11 37 43.5 +0.6
QIZ XP sP 11 41 03.0 -4.5
QIZ S S 11 46 49.1 -2.1
QIZ SCS ScS 11 47 07.5 +0.7
QIZ XS sS 11 50 56.9 +1.3
QIZ AMB AMB
comp=Z,43nm,2.1s,mb4.6
QIZ AMB AMB
comp=Z,285nm,2.6s,mb5.3

MURC **Murrieta** 79.36 49 ⇑P P 11 37 42.4 -0.3
baz=80,SNR=15
O02C **Red Bluff** 79.37 41 ⇑P P 11 37 43.0 +0.5
baz=80,SNR=37
BFSC **Mount Baldy St** 79.37 48 ⇑P P 11 37 42.3 -0.4
baz=80,SNR=13
R04C **Big Horse Ranc** 79.40 43 ⇓P P 11 37 42.2 -0.6
baz=80,SNR=6.2
RCTC **Rector, Farmer** 79.42 45 ⇑P P 11 37 42.1 -0.8
baz=80
SUTB **Sutter Butte** 79.43 42 ⇓P P 11 37 42.4 -0.4
baz=80,SNR=35
N02C **Big Bar** 79.44 40 ⇑P P 11 37 43.1 +0.3
baz=80,SNR=12
Q04C **Lincoln** 79.46 42 ⇑P P 11 37 42.9 -0.2
baz=80,SNR=10.0
EDW2 **Edwards Air Fo** 79.49 47 ⇓P P 11 37 43.2 0.0
baz=80,SNR=32
T06C **Millerton Lake** 79.49 45 ⇑P P 11 37 43.1 -0.1
baz=80,SNR=43
KRMB **Red Mountain** 79.51 39 eP P 11 37 43.9 +0.6
MONP **Monument Peak** 79.54 50 ⇑P P 11 37 43.9 +0.3
baz=80,SNR=15
M01C **Crescent City** 79.58 39 ⇑P P 11 37 43.8 +0.2
baz=80,SNR=5.7
CMB **Columbia Colle** 79.63 43 eP P 11 37 43.9 0.0
comp=Z,61nm,0.9s,mb5.0
CMB **Columbia Colle** 79.63 43 ⇓P P 11 37 43.9 -0.1
baz=80,SNR=51
DVTC **Desert V Tower** 79.65 50 ⇓P P 11 37 44.7 +0.5
baz=80
OHCM **Honcut** 79.68 42 eP P 11 37 43.9 -0.2
O03C **Acorn Hollow,** 79.72 41 ⇑P P 11 37 44.4 0.0
baz=80,SNR=25
KBO **Bosley Butte** 79.74 38 eP P 11 37 37.0 -7.4
WDC **Whiskeytown Da** 79.76 40 eP P 11 37 44.7 +0.1
comp=Z,96nm,1.1s,mb5.1
WDC **Whiskeytown Da** 79.76 40 P P 11 37 44.8 +0.3
baz=80,SNR=27
HELL **Mitchell Peak** 79.77 45 ⇑P P 11 37 44.2 -0.5
baz=80,SNR=60
ORV **Oroville** 79.80 42 ⇓P P 11 37 44.6 -0.2
baz=80,SNR=63
LAVA **Lava Cap Winer** 79.81 43 P P 11 37 44.8 -0.1
baz=80,SNR=41
PFO **Pinyon Flat Ob** 79.89 49 P P 11 37 45.3 -0.1
comp=Z,166nm,1.4s,mb5.3,SNR=8.0
PFO **Pinyon Flat Ob** 79.89 49 eP P 11 37 45.3 -0.1
comp=Z,36nm,1.2s,mb4.7
PFO **Pinyon Flat Ob** 79.89 49 P P 11 37 45.5 0.0
comp=Z,12nm,0.8s,mb4.4,baz=259,slow=4.7,SNR=22
PFO **Pinyon Flat Ob** 79.89 49 ⇓P P 11 37 45.4 0.0
baz=80,SNR=12
S06C **San Francisco** 79.89 44 ⇑P P 11 37 45.1 -0.2
baz=80
BBRC **Big Bear Sol-O** 79.90 48 ⇓P P 11 37 45.1 -0.4
baz=80
KCC **Kaiser Creek** 79.93 45 ⇑P P 11 37 45.5 0.0
baz=80,SNR=41
K01A **Sixes** 79.97 38 ⇓P P 11 37 46.0 +0.4
baz=80
LRMC **Laurel Mountai** 80.02 47 P P 11 37 46.3 +0.3
baz=80,SNR=16
SWSC **Sam W. Stewart** 80.02 50 P P 11 37 46.3 +0.2
baz=80,SNR=12
M02C **Callahan** 80.06 40 ⇑P P 11 37 47.0 +0.9
baz=80,SNR=35
KTRM **Thompson Ridge** 80.06 39 P P 11 37 47.1 +1.0
L02A **Cave Junction** 80.08 39 ⇑P P 11 37 46.6 +0.5
baz=80,SNR=9.7
KEBM **Edson Butte** 80.09 38 eP P 11 37 47.0 +0.8
KTGM **Kuala Trenggan** 80.12 279 ⇑P P 11 37 47.6 +0.6
RRX **Edison Barstow** 80.17 48 ⇓P P 11 37 46.9 +0.1
baz=80,SNR=7.1
R05C **Kirkwood Meado** 80.21 43 P P 11 37 47.3 +0.3
baz=80,SNR=52
DL2 **Dalian** 80.21 317 P P 11 37 47.0 +0.1
DL2 S S 11 47 00.3 +1.1
DL2 AMB AMB
comp=Z,20nm,1.0s,mb4.5
KDAK **Kodiak Island** 80.21 14 P P 11 37 45.0 -1.5
comp=Z,476nm,0.9s,mb5.9,SNR=33
KDAK **Kodiak Island** 80.21 14 eP P 11 37 45.6 -0.9
comp=Z,79nm,0.9s,mb5.1
KDAK **Kodiak Island** 80.21 14 P P 11 37 45.3 -1.2
comp=Z,38nm,0.6s,mb5.0,baz=247,slow=8.5,SNR=61
P05C **Yuba Gap, Truc** 80.21 42 P P 11 37 47.4 +0.4
baz=80,SNR=79
CWC **Cottonwood Cre** 80.27 46 P P 11 37 47.5 +0.2
baz=80,SNR=19
YBH **Yreka Blue Hor** 80.35 39 eP P 11 37 48.1 +0.5
YBH pmax pmax
comp=Z,140nm,1.3s
YBH **Yreka Blue Hor** 80.35 39 eP P 11 37 48.1 +0.6
comp=Z,141nm,1.3s,mb5.2
YBH **Yreka Blue Hor** 80.35 39 P P 11 37 48.1 +0.5
comp=Z,33nm,0.5s,mb5.0,baz=196,slow=2.0,SNR=242
YBH **Yreka Blue Hor** 80.35 39 P P 11 37 48.2 +0.6
baz=80,SNR=51
O05C **Quincy** 80.40 42 ⇑P P 11 37 48.1 +0.2
baz=80,SNR=45
BELC **Belle Mtn.** 80.42 49 ⇑P P 11 37 48.4 +0.3
baz=80,SNR=27
MLAC **Mammoth Lakes** 80.42 44 ⇑P P 11 37 48.7 +0.7
baz=80,SNR=13
M03C **McCloud** 80.43 40 P P 11 37 48.4 +0.4
baz=81,SNR=43
MTUM **Tungsten Hills** 80.44 45 eP P 11 37 48.6 +0.4
MPMC **Manual Prospec** 80.47 46 ⇓P P 11 37 48.5 +0.2
baz=81,SNR=63
O04C **Chester** 80.50 41 P P 11 37 48.8 +0.4
baz=81,SNR=58
TIN **Tinemaha** 80.50 45 ⇓P P 11 37 49.0 +0.5
baz=81,SNR=8.2
WAKR **Walker** 80.51 43 eP P 11 37 39.0 -9.4
R06C **Coleville** 80.51 43 ⇓P P 11 37 48.9 +0.4
baz=81,SNR=50
K02A **Glendale** 80.52 38 P P 11 37 48.6 +0.2
baz=81,SNR=23
GSC **Goldstone** 80.53 47 eP P 11 37 48.7 0.0
comp=Z,73nm,1.2s,mb5.0
GSC **Goldstone** 80.53 47 ⇑P P 11 37 48.5 -0.2
baz=81,SNR=22
R07C **Lee Vining** 80.53 44 ⇓P P 11 37 49.0 +0.4
baz=81,SNR=17
HATC **Hat Creek Radi** 80.56 41 ⇓P P 11 37 48.9 +0.2
baz=81,SNR=39
LHEM **Herd Peak** 80.58 40 ⇓P P 11 37 49.5 +0.7
HEC **Hector,Ludlow** 80.61 48 ⇑P P 11 37 48.9 -0.2
baz=81,SNR=21
BC3 **Big Chuckw Mtn** 80.63 49 ⇑P P 11 37 49.4 +0.2
baz=81,SNR=17
LBCM **Butte Creek Ri** 80.64 41 ⇑P P 11 37 49.4 +0.3
112A **Yuma** 80.69 51 ⇓P P 11 37 50.2 +0.6
baz=81,SNR=18
BEKR **Beckwourth** 80.69 42 ⇓P P 11 37 49.5 +0.1
baz=81,SNR=95
HUMO **Hull Mountain** 80.73 39 eP P 11 37 49.9 +0.4
comp=Z,126nm,1.3s,mb5.2
HUMO **Hull Mountain** 80.73 39 ⇓P P 11 37 50.0 +0.4
baz=81,SNR=29
LTIM **Timbered Crate** 80.75 40 ⇑P P 11 37 50.1 +0.4
WCN **Washoe City** 80.75 43 ⇓P P 11 37 50.0 +0.3
baz=81,SNR=50
GLA **Glamis** 80.77 50 eP P 11 37 50.5 +0.5
GLA pmax pmax
comp=Z,100nm,1.1s,mb5.2
GLA **Glamis** 80.77 50 eP P 11 37 50.5 +0.5
comp=Z,102nm,1.1s,mb5.2
GLA **Glamis** 80.77 50 P P 11 37 50.6 +0.6
baz=81,SNR=43
S08C **White Mtn Res** 80.79 45 ⇓P P 11 37 50.5 +0.6
baz=81,SNR=93
FRIM **Kepong** 80.80 277 ⇑P P 11 37 50.7 +0.2
CN2 **Changchun** 80.82 323 eP P 11 37 49.9 0.0
CN2 ePP PP 11 41 09.3 +1.3
CN2 eS S 11 47 05.3 +0.3
CN2 SS SS 11 52 43.0 +2.3
CN2 AMB AMB
comp=Z,50nm,1.1s,mb4.9
CN2 AMB AMB
comp=Z,200nm,3.0s
J02A **Umpqua** 80.83 38 ⇑P P 11 37 50.2 +0.2
baz=81,SNR=13
DBO **Dodson Butte** 80.87 38 P P 11 37 50.8 +0.6
P06A **Stead Airport,** 80.88 42 ⇓P P 11 37 50.8 +0.4
baz=81,SNR=20

ELFS **Eagle Lake Fie** 80.90 41 ⇑P P 11 37 50.7 +0.3
baz=81,SNR=11
M04C **Macdoel** 80.90 40 ⇑P P 11 37 50.7 +0.3
baz=81,SNR=22
WHN **Wuhan** 80.90 307 ⇑P P 11 37 51.0 +0.3
WHN S S 11 47 05.3 -1.2
WHN AMB AMB
comp=Z,66nm,0.9s,mb5.1
LASM **Arnica Sink** 80.95 40 P P 11 37 51.1 +0.5
BUOR **Burton Butte** 80.95 39 P P 11 37 51.2 +0.5
GRAC **Grapevine Rang** 81.05 46 ⇑P P 11 37 51.6 +0.3
baz=81,SNR=59
GMRC **Granite Mounta** 81.06 48 ⇓P P 11 37 51.5 +0.1
baz=81,SNR=23
M05C **Lookout** 81.07 40 ⇑P P 11 37 51.5 +0.2
baz=81,SNR=71
RNO **Roman Nose** 81.07 37 P P 11 37 50.8 -0.5
I02A **Mapleton** 81.08 37 ⇓P P 11 37 51.6 +0.4
baz=81,SNR=6.5
L04A **Klamath Falls** 81.10 39 ⇑P P 11 37 51.7 +0.3
baz=81,SNR=28
IRM **Iron Mountain** 81.10 49 ⇓P P 11 37 52.0 +0.4
baz=81,SNR=30
KLR **Kul'dur** 81.11 330 eP P 11 37 47.6 -3.7
KLR eS S 11 47 03.0 -4.7
KLR smax
comp=N,1μm,13.0s
KLR smax
comp=E,900nm,13.0s
FURC **Furnace Creek,** 81.11 46 ⇓P P 11 37 51.4 -0.2
baz=81,SNR=29
Q07A **Schurz** 81.16 43 ⇑P P 11 37 52.2 +0.4
baz=81,SNR=16
VSP **Spence Mountai** 81.17 39 P P 11 37 52.2 +0.5
J03A **Ideyld Park** 81.19 38 ⇓P P 11 37 52.2 +0.3
baz=81,SNR=14
O06A **Flanigan** 81.20 42 ⇑P P 11 37 52.2 +0.2
baz=81,SNR=94
NVAR **Mina Array Bea** 81.21 44 P P 11 37 52.3 +0.3
comp=E,36nm,0.5s,mb5.0,baz=229,slow=7.3,SNR=340
NVAR PKKP PKKPbc 11 56 25.0 +2.2
comp=E,0.5nm,0.6s,baz=90,slow=3.0,SNR=5.2
HSO **Harness Mounta** 81.21 38 ⇓P P 11 37 52.6 +0.7
TUQ **Turquoise Mtn.** 81.22 48 ⇑P P 11 37 52.3 +0.1
baz=81,SNR=23
PAHR **Pah Rah Range** 81.22 42 eP P 11 37 52.3 +0.2
comp=E,225nm,1.4s,mb5.4
HOG **Hogback Mounta** 81.25 39 P P 11 37 52.9 +0.7
R08A **Mina** 81.29 44 ⇓P P 11 37 52.7 +0.2
baz=81,SNR=11
Y12C **Blythe** 81.34 50 ⇓P P 11 37 53.1 +0.3
baz=82,SNR=20
I03A **Eugene** 81.37 37 ⇓P P 11 37 52.8 0.0
baz=82,SNR=7.5
M06C **Likely Place G** 81.39 41 P P 11 37 53.4 +0.4
baz=82,SNR=62
H02A **Toledo** 81.40 36 ⇑P P 11 37 53.0 +0.2
baz=82
113A **Mohawk Valley,** 81.40 51 ⇑P P 11 37 53.3 +0.1
baz=82,SNR=35
P07A **Fallon** 81.44 43 ⇓P P 11 37 53.6 +0.3
baz=82,SNR=7.3
K04A **Chilquin** 81.46 39 ⇓P P 11 37 53.4 +0.2
baz=82,SNR=7.3
N06A **Buffalo Meadow** 81.53 41 ⇓P P 11 37 53.7 +0.1
baz=82,SNR=79
S09A **Goldfield** 81.54 45 ⇓P P 11 37 53.4 -0.3
baz=82,SNR=45
MPOR **Mary's Peak** 81.55 37 P P 11 37 54.2 +0.6
J04A **Umpqua Nationa** 81.61 38 ⇓P P 11 37 54.3 +0.3
baz=82
L05A **Lakeview** 81.66 40 ⇑P P 11 37 54.8 +0.6
baz=82,SNR=45
Q08A **Gabbs** 81.69 44 ⇑P P 11 37 54.5 0.0
baz=82,SNR=88
COR **Corvallis** 81.74 37 eP P 11 37 54.8 +0.2
COR pmax pmax
comp=Z,41nm,0.5s,mb5.2
COR **Corvallis** 81.74 37 eP P 11 37 54.8 +0.3
comp=Z,41nm,0.5s,mb5.2
I04A **Tendick Farm,** 81.76 38 ⇑P P 11 37 54.5 -0.3
baz=82,SNR=32
V11A **Goodsprings** 81.77 47 P P 11 37 55.1 +0.2
baz=82,SNR=18
TPNV **Topopah Spring** 81.78 46 eP P 11 37 54.5 -0.5
TPNV pmax pmax
comp=Z,450nm,2.0s,mb5.7
TPNV **Topopah Spring** 81.78 46 eP P 11 37 54.5 -0.6
comp=Z,447nm,2.0s,mb5.7
TPNV **Topopah Spring** 81.78 46 ⇓P P 11 37 55.1 +0.1
baz=82
IPM **Ipoh** 81.79 278 ⇓P P 11 37 56.2 +0.7
H03A **Soap Creek Ran** 81.80 37 P P 11 37 55.1 +0.2
baz=82,SNR=13
O07A **Toulon** 81.80 42 ⇑P P 11 37 55.1 +0.1
baz=82,SNR=103
HBO **Huckleberry Mo** 81.85 38 P P 11 37 55.3 +0.2
Y13A **Salome** 81.88 50 ⇓P P 11 37 56.1 +0.6
baz=82,SNR=63
W12A **Cal Nev Ari** 81.88 48 ⇑P P 11 37 56.0 +0.4
baz=82,SNR=13
PDMCI **Parker Dam,Lak** 81.89 49 ⇑P P 11 37 55.8 +0.2
baz=82,SNR=25
MOD **Modoc** 81.90 40 eP P 11 37 55.8 +0.3
comp=Z,72nm,0.5s,mb5.5
MOD **Modoc** 81.90 40 ⇓P P 11 37 55.7 +0.2
baz=82,SNR=17
R09A **Tonopah** 81.92 45 ⇓P P 11 37 55.6 0.0
baz=82,SNR=90
IRO **Indian Ridge** 81.98 38 P P 11 37 55.9 +0.1
MAW **Mawson** 82.01 200 eP P 11 37 56.3 +0.6
MAW pmax pmax
comp=Z,21nm,0.9s
MAW **Mawson** 82.01 200 eP P 11 37 56.2 +0.6
comp=Z,21nm,0.9s,mb4.7
MAW epP pP 11 40 18.4 +4.3
MAW **Mawson** 82.01 200 P P 11 37 56.7 +1.0
comp=Z,11nm,0.6s,mb4.6,baz=131,slow=7.5,SNR=20
K05A **Summer Lake** 82.02 39 ⇑P P 11 37 56.7 +0.6
baz=82,SNR=79
BROR **Big Rock Looko** 82.03 37 P P 11 37 56.2 +0.1
P08A **Dixie Valley** 82.05 43 ⇑P P 11 37 56.7 +0.5
baz=82,SNR=12
S10A **Tonopah Range,** 82.07 45 P P 11 37 56.7 +0.3
baz=82,SNR=228
N07B **Gerlach** 82.09 42 ⇓P P 11 37 56.5 +0.1
baz=82,SNR=38
V12A **Nelson** 82.11 48 ⇑P P 11 37 56.8 +0.1
baz=82,SNR=25
J05A **Fort Rock** 82.15 39 ⇓P P 11 37 57.2 +0.5
baz=82,SNR=146
Q09A **Carvers** 82.17 44 ⇓P P 11 37 57.0 +0.1
baz=82,SNR=14
FRIS **Frissel Point** 82.19 38 ⇓P P 11 37 57.4 +0.5
G03A **Yamhill** 82.19 36 ⇑P P 11 37 57.0 +0.1
baz=82,SNR=6.7
X13A **Yucca** 82.26 49 ⇑P P 11 37 57.6 +0.1
baz=82,SNR=67
Z14A **Wintersburg** 82.29 51 ⇓P P 11 37 58.2 +0.5
baz=82,SNR=47
SHPR **Sheep Range** 82.30 47 eP P 11 37 58.0 +0.3
M07A **Soldier Meadow** 82.30 41 ⇑P P 11 37 57.8 +0.3
baz=82,SNR=88
SSOR **Sweet Springs** 82.38 37 P P 11 37 57.7 -0.1
KULM **Kulim** 82.42 278 eP P 11 37 59.0 +0.2
KULM **Kulim** 82.42 278 ⇑P P 11 37 59.1 +0.3
F03A **Seaside** 82.42 36 ⇑P P 11 37 58.1 +0.1
baz=83,SNR=8.5
H04A **Detroit Lake** 82.43 37 ⇓P P 11 37 57.7 -0.3
baz=83,SNR=63
K06A **Valley Falls** 82.45 40 ⇑P P 11 37 58.5 +0.3
baz=83,SNR=70
R10A **Warm Springs** 82.46 45 ⇓P P 11 37 58.7 +0.4
baz=83,SNR=110
W13A **Hualapai Mount** 82.48 49 ⇑P P 11 37 58.9 +0.4
baz=83,SNR=42
S11A **Rachel** 82.49 46 ⇓P P 11 37 58.5 0.0
baz=83,SNR=52
115A **Sonoran Desert** 82.50 52 ⇓P P 11 37 59.1 +0.4
baz=83,SNR=26
Y14A **Wickenburg** 82.53 50 ⇓P P 11 37 58.8 0.0
baz=83,SNR=50
BEND **Bend** 82.56 38 P P 11 37 59.3 +0.6
L07A **Adell** 82.56 41 ⇓P P 11 37 59.2 +0.4
baz=83,SNR=100
MA2 **Magadan** 82.57 345c iP P 11 37 57.0 -1.4
MA2 pmax pmax

comp=Z,50nm,1.5s,mb4.8
MA2 Magadan 82.57 345 eP P 11 37 57.1 -1.3
comp=Z,12nm,0.5s,mb4.7
G04A Mulino 82.58 37 P P 11 37 58.6 -0.1
baz=83,SNR=16
P09A Austin 82.58 44 ⇓P P 11 37 58.9 0.0
baz=83,SNR=15
N08A GE Springer Mi 82.61 42 ⇑P P 11 37 59.2 +0.1
baz=83,SNR=106
SVW2 Sparrevohn 82.63 11 eP P 11 37 57.4 -1.2
T11A Corn Creek, Al 82.64 46 ⇑P P 11 37 59.6 +0.3
baz=83
I05A Bend 82.65 38 ⇑P P 11 37 59.3 +0.1
baz=83,SNR=14
GT2 Goat Mountain 82.67 37 P P 11 37 59.4 +0.2
Q10A Clear Creek Ra 82.68 45 P P 11 37 59.5 +0.1
baz=83,SNR=66
U12A Valley of Fire 82.69 47 ⇑P P 11 37 59.8 +0.2
baz=83,SNR=47
T12A Moapa 82.72 47 ⇓P P 11 37 59.7 0.0
baz=83,SNR=15
216A Three Points, 82.74 52 ⇓P P 11 38 00.7 +0.8
baz=83,SNR=52
J06A Christmas Vall 82.77 39 ⇑P P 11 37 59.6 -0.2
baz=83,SNR=44
V13A Grand Canyon W 82.78 48 ⇑P P 11 38 00.2 +0.1
baz=83,SNR=62
E03A Lebam 82.80 35 ⇓P P 11 37 59.9 +0.1
baz=83,SNR=13
116A Eloy 82.82 52 ⇓P P 11 38 00.8 +0.5
baz=83,SNR=35
M08A Happy Creek Ra 82.83 41 ⇑P P 11 38 00.5 +0.3
baz=83,SNR=58
X14A Yava 82.88 50 ⇑P P 11 38 01.0 +0.5
baz=83,SNR=56
O09A Fish Creek Ran 82.88 43 ⇑P P 11 38 00.4 0.0
baz=83,SNR=51
BMW Boistfort Moun 82.94 35 ⇓P P 11 38 01.0 +0.5
H05A Madras 82.96 38 ⇓P P 11 38 00.5 -0.2
baz=83,SNR=30
R11A Troy Canyon, C 82.97 45 ⇑P P 11 38 00.5 -0.4
baz=83,SNR=37
K07A Rock Creek Ran 82.99 40 P P 11 38 01.3 +0.4
baz=83,SNR=45
RVW Rose Valley 83.00 36 P P 11 38 01.1 +0.2
TDH Tom, Dick, Har 83.02 37 P P 11 38 01.0 +0.1
VLMM Larch Mountain 83.03 37 P P 11 38 01.1 +0.1
Y15A Casa Rosa Ranc 83.03 50 ⇓P P 11 38 01.6 +0.3
baz=83,SNR=85
N09A Rock Creek Ran 83.04 42 ⇑P P 11 38 01.4 +0.2
baz=83,SNR=55
D03A Wishkah Elem. 83.04 35 ⇑P P 11 38 01.5 +0.5
baz=83,SNR=7.5
WISH Wishkah 83.04 35 P P 11 38 01.4 +0.4
F04A Amboy 83.05 36 ⇑P P 11 38 00.8 -0.3
baz=83,SNR=40
P10A Eureka 83.06 44 ⇑P P 11 38 01.3 0.0
baz=83,SNR=19
S12A Delamar Landin 83.08 46 ⇑P P 11 38 02.1 +0.6
baz=83,SNR=101
U13A Pakoon Wash 83.08 48 ⇑P P 11 38 01.9 +0.4
baz=83,SNR=101
W14A Seligman 83.10 49 ⇑P P 11 38 02.4 +0.7
baz=83,SNR=65
SNG Songkhla 83.11 280 P P 11 38 03.0 +0.8
comp=Z,180nm,1.0s,mb5.6
217A Green Valley 83.11 53 ⇑P P 11 38 02.5 +0.7
baz=83,SNR=104
HOOD Mount Hood Mea 83.11 37 eP P 11 38 01.7 +0.3
I06A Prineville 83.14 39 ⇓P P 11 38 02.0 +0.4
baz=83,SNR=68
C03A Quillayute Air 83.14 34 ⇓P P 11 38 01.8 +0.3
baz=83
NLWA Neilton Lookou 83.16 34 eP P 11 38 02.0 +0.4
comp=Z,41nm,0.5s,mb5.2
NLWA Neilton Lookou 83.16 34 ⇑P P 11 38 01.9 +0.3
baz=83
PSI Prapat 83.18 275 P P 11 38 02.2 -0.3
comp=Z,47nm,0.9s,mb5.0,baz=165,slow=2.4,SNR=23
PSI PP PP 11 41 27.4 -0.1
comp=Z,11nm,1.1s,baz=155,slow=9.7,SNR=8.6
Q11A Duckwater 83.18 45 P P 11 38 02.0 0.0
baz=83,SNR=92
SLKM Skilak Lake 83.20 14 eP P 11 38 00.1 -1.4
VFP Flag Point 83.22 37 P P 11 38 02.2 +0.3
WVOR Wild Horse Val 83.22 41 eP P 11 38 02.0 0.0
WVOR pmax pmax
comp=Z,171nm,1.5s,mb5.4
WVOR Wild Horse Val 83.22 41 eP P 11 38 02.0 0.0
comp=Z,171nm,1.5s,mb5.4
VIPM Ingram Point 83.23 38 P P 11 38 02.2 +0.2
FL2 Flat Top 2 83.25 36 P P 11 38 02.8 +0.7
G05A Wamic 83.26 37 ⇓P P 11 38 02.0 -0.1
baz=83,SNR=9.3
L08A Fields 83.27 41 ⇑P P 11 38 02.5 +0.3
baz=83,SNR=82
GAMB Gambell 83.29 3 eP P 11 38 01.5 -0.3
comp=Z,47nm,0.7s,mb5.1
E04A Onalaska 83.29 35 ⇓P P 11 38 02.7 +0.4
baz=83,SNR=12
V14A Boquillas Ranc 83.30 49 ⇑P P 11 38 03.1 +0.5
baz=83,SNR=82
J07A Hines 83.34 39 ⇑P P 11 38 02.7 +0.1
baz=84,SNR=44
OTR Olympics--Tyee 83.34 34 P P 11 38 03.1 +0.6
X15A Humboldt 83.36 50 ⇑P P 11 38 03.3 +0.4
baz=84,SNR=81
TUC Tucson 83.39 52 eP P 11 38 03.8 +0.6
comp=Z,157nm,1.5s,mb5.3
O10A Cortez Mining, 83.39 43 ⇑P P 11 38 03.2 +0.2
baz=84,SNR=24
Z16A Peralta Trail, 83.40 51 ⇑P P 11 38 03.6 +0.4
baz=84,SNR=46
M09A Marrel Ranch, 83.40 42 ⇓P P 11 38 03.4 +0.5
baz=84,SNR=36
T13A Saint George 83.43 47 ⇑P P 11 38 03.4 +0.2
baz=84,SNR=22
K08A Mann Creek Ran 83.48 40 ⇑P P 11 38 03.6 +0.3
baz=84,SNR=54
P11A Circle Ranch, 83.49 44 ⇓P P 11 38 03.4 0.0
baz=84,SNR=21
OSD Olympics--Snow 83.52 34 P P 11 38 03.8 +0.5
H06A Lindquist Farm 83.52 38 ⇓P P 11 38 03.2 -0.3
baz=84,SNR=63
117A Oracle 83.54 52 ⇓P P 11 38 04.5 +0.6
baz=84,SNR=71
D04A Dobbs Creek Ra 83.56 35 ⇓P P 11 38 04.1 +0.5
baz=84
F05A White Salmon 83.56 37 P P 11 38 03.3 -0.3
baz=84,SNR=9.4
318A Bisbee 83.58 54 ⇑P P 11 38 04.9 +0.8
baz=84,SNR=76
L09A Wilkinson Ranc 83.59 41 ⇓P P 11 38 04.0 +0.2
baz=84,SNR=53
R12A Pony Springs, 83.61 46 ⇓P P 11 38 04.2 +0.1
baz=84,SNR=59
Y16A Circle Bar Ran 83.61 51 ⇑P P 11 38 04.7 +0.6
baz=84,SNR=68
N10A Dunphy 83.62 43 ⇑P P 11 38 04.4 +0.3
baz=84,SNR=11
U14A Mt Trumbull 83.63 48 ⇑P P 11 38 04.7 +0.5
baz=84,SNR=118
I07A Izee 83.63 39 ⇓P P 11 38 04.2 +0.2
baz=84,SNR=52
G06A Carlson Farm, 83.64 37 ⇓P P 11 38 03.7 -0.3
baz=84,SNR=16
W15A Williams 83.67 49 ⇑P P 11 38 04.9 +0.4
baz=84,SNR=7.7
S13A Holt Ranch, En 83.74 47 ⇑P P 11 38 04.8 +0.1
baz=84,SNR=47
B04A Port Angeles 83.77 34 ⇓P P 11 38 04.8 +0.2
baz=84
218A Dragoon 83.79 53 ⇓P P 11 38 05.9 +0.8
baz=84,SNR=74
E05A Randle 83.79 36 ⇓P P 11 38 04.3 -0.4
baz=84,SNR=28
GNW Green Mountain 83.82 35 ⇑P P 11 38 04.8 -0.1
J08A Circle Bar Ran 83.84 40 ⇓P P 11 38 05.2 +0.1
baz=84,SNR=44
C04A Brinnon 83.84 34 ⇑P P 11 38 05.1 +0.2
baz=84,SNR=33
O11A Cowboy Ranch, 83.86 44 ⇑P P 11 38 05.4 +0.1
baz=84,SNR=51
F06A Goldendale 83.87 37 ⇓P P 11 38 05.0 -0.2
baz=84
GLK Glacier Lake 83.88 36 P P 11 38 05.2 +0.1
H07A Lands Inn, Kim 83.89 38 ⇑P P 11 38 05.1 -0.1
baz=84
X16A Lo Mia Camp, P 83.90 50 ⇓P P 11 38 06.2 +0.6
baz=84,SNR=84
K09A Rome 83.93 41 ⇓P P 11 38 05.7 +0.2
baz=84,SNR=95
Y17A Roosevelt 83.99 51 P P 11 38 06.3 +0.3
baz=84,SNR=45
P12A McGill 84.00 45 ⇓P P 11 38 05.9 -0.1
baz=84,SNR=9.0
T14A Hurricane 84.02 47 ⇓P P 11 38 06.1 +0.1
baz=84,SNR=11
M10A I.L. Ranch, Tu 84.03 42 ⇓P P 11 38 06.4 +0.4
baz=84,SNR=47
D05A Enumclaw 84.05 35 ⇓P P 11 38 06.1 +0.1
baz=84,SNR=30
V15A Kaibab Nationa 84.05 49 ⇓P P 11 38 06.9 +0.6
baz=84,SNR=61
FMW Mount Fremont 84.07 36 P P 11 38 06.2 +0.1
CCUT Cedar City 84.07 47 eP P 11 38 06.6 +0.3
CCUT ePP PP 11 41 32.1 -2.1
Z17A San Carlos Hig 84.08 52 P P 11 38 07.0 +0.5
baz=84,SNR=17
I08A Drewsey 84.09 39 ⇑P P 11 38 06.0 -0.2
baz=84,SNR=43
319A Douglas 84.09 54 ⇓P P 11 38 07.6 +1.0
baz=84,SNR=88
ARUT Antelope Range 84.13 47 eP P 11 38 06.4 -0.2
ARUT e 11 41 32.6
118A Homack Ranch, 84.15 53 ⇑P P 11 38 07.6 +0.7
baz=84,SNR=60
W16A Flagstaff 84.16 50 ⇑P P 11 38 07.1 +0.3
baz=84,SNR=15
PGC Sidney 84.16 33 eP P 11 38 06.3 -0.2
comp=Z,65nm,0.6s,mb5.3
N11A Elko Archery C 84.17 43 ⇑P P 11 38 06.8 0.0
baz=84,SNR=12
G07A Ruggs Ranch, H 84.22 38 ⇓P P 11 38 06.5 -0.3
baz=84,SNR=36
E06A Yakima 84.22 36 ⇓P P 11 38 06.6 -0.2
baz=84,SNR=22
TTA Tatalina 84.25 10 eP P 11 38 05.6 -1.0
J09A Fry Pan Ranch, 84.27 40 ⇓P P 11 38 07.3 +0.1
baz=84,SNR=65
S14A Cedar City 84.31 47 ⇑P P 11 38 07.6 +0.2
baz=84,SNR=19
Z18A Geronimo 84.31 52 ⇑P P 11 38 08.0 +0.4
baz=84,SNR=11
RMW Rattlesnake Mo 84.31 35 P P 11 38 07.5 +0.3
X17A Forest Lakes 84.32 51 ⇑P P 11 38 08.5 +0.9
baz=84
Q13A Wheeler Ranch, 84.33 45 ⇑P P 11 38 07.5 0.0
baz=84
BJT Baijiatuau 84.36 316 eP P 11 38 07.0 -0.7
BJT pmax pmax
comp=Z,17nm,0.5s
BJT Baijiatuau 84.36 316 eP P 11 38 07.0 -0.7
comp=Z,17nm,0.5s,mb4.8
BJI Beijing 84.37 316 P P 11 38 07.8 +0.1
BJI AMB AMB
comp=Z,54nm,0.7s,mb5.2
BJI AMB AMB
comp=Z,314nm,4.1s
L10A Juniper Basin 84.37 42 ⇑P P 11 38 07.8 +0.1
baz=84,SNR=82
H08A Prairie City 84.37 39 ⇓P P 11 38 07.4 -0.3
baz=84,SNR=33
CRAG Craig 84.38 24 eP P 11 38 07.3 -0.1
comp=Z,59nm,1.2s,mb5.0
219A White Tail Can 84.39 53 ⇓P P 11 38 08.6 +0.6
baz=84,SNR=56
PMR Palmer 84.41 14 eP P 11 38 06.0 -1.4
PMR pmax pmax
comp=Z,300nm,1.6s,mb5.6
PMR Palmer 84.41 14 eP P 11 38 06.1 -1.3
comp=Z,29nm,0.4s,mb5.2
KKTK Khon Kaen 84.42 289 ⇑P P 11 38 09.0 +0.5
comp=Z,340nm,0.6s,mb6.0
F07A Phinny Hill Vi 84.43 37 ⇓P P 11 38 07.6 -0.3
baz=85
M11A Holland Ranch, 84.45 43 P P 11 38 08.7 +0.6
baz=85,SNR=48
WUAZ Wupatki 84.47 49 eP P 11 38 08.6 +0.3
comp=Z,141nm,1.5s,mb5.3
WUAZ Wupatki 84.47 49 ⇓P P 11 38 08.5 +0.2
baz=85
T15A Red Dirt Ranch 84.48 48 ⇓P P 11 38 08.6 +0.3
baz=85,SNR=52
K10A MacKenzie Ranc 84.50 41 ⇑P P 11 38 08.4 +0.1
baz=85,SNR=68
C05A Tolt Reservoir 84.51 35 ⇓P P 11 38 07.8 -0.4
baz=85,SNR=36
O12A Currie 84.52 44 ⇑P P 11 38 08.4 0.0
baz=85,SNR=30
P13A Bates Ranch, G 84.59 45 ⇓P P 11 38 08.9 +0.1
baz=85,SNR=58
A04A Legoe Bay, Lum 84.59 34 ⇓P P 11 38 08.7 +0.1
baz=85,SNR=5.3
I09A Lost Marbles R 84.62 40 ⇓P P 11 38 08.6 -0.2
baz=85,SNR=9.7
Y18A Canyon Day Jun 84.63 51 P P 11 38 09.9 +0.8
baz=85,SNR=65
TWW Teanaway 84.63 36 P P 11 38 09.5 +0.7
N12A Clover Valley, 84.63 43 ⇓P P 11 38 09.1 +0.1
baz=85,SNR=60
B05A Bryant 84.64 34 ⇓P P 11 38 08.7 -0.1
baz=85,SNR=38
G08A Pilot Rock 84.64 38 ⇓P P 11 38 08.8 -0.1
baz=85,SNR=45
EBG Ellensburg 84.66 36 P P 11 38 09.3 +0.3
R14A James Farms, M 84.67 46 ⇑P P 11 38 09.4 +0.1
baz=85,SNR=8.9
D06A Cle Elum 84.68 36 ⇓P P 11 38 09.0 -0.1
baz=85,SNR=20
119A Ashpeak Ranch, 84.71 53 ⇓P P 11 38 10.1 +0.6
baz=85,SNR=27
SIT Sitka 84.73 22 eP P 11 38 08.6 -0.4
SIT Sitka 84.73 22 eP P 11 38 08.9 -0.1
comp=Z,131nm,1.7s,mb5.3
W17A Winslow 84.74 50 ⇓P P 11 38 10.1 +0.4
baz=85
SML Sawmill 84.78 14 eP P 11 38 08.0 -1.2
DIV Divide 84.82 16 eP P 11 38 08.3 -1.0
comp=Z,72nm,0.9s,mb5.3
E07A Sunnyside 84.86 37 ⇑P P 11 38 10.0 +0.1
baz=85,SNR=6.9
L11A Salt Creek Ranc 84.87 42 ⇑P P 11 38 10.3 +0.2
baz=85,SNR=70
RSW Rattlesnake Hi 84.91 37 P P 11 38 10.3 +0.2
J10A Berg Farm, Mel 84.92 40 ⇓P P 11 38 10.2 0.0
baz=85,SNR=9.2
HAWA Hanford 84.94 37 eP P 11 38 10.3 0.0
comp=Z,33nm,0.6s,mb5.1
O13A Hicks Ranch, I 84.95 44 ⇓P P 11 38 10.6 +0.1
baz=85,SNR=8.8
Z19A T-Link Ranch, 84.97 52 ⇑P P 11 38 11.4 +0.6
baz=85,SNR=8.1
M12A Wells 85.01 43 ⇓P P 11 38 10.9 +0.2
baz=85,SNR=43
K11A Parker Ranch, 85.02 41 ⇑P P 11 38 10.9 +0.2
baz=85,SNR=34
F08A Pendleton 85.03 38 ⇓P P 11 38 10.5 -0.3
baz=85,SNR=8.8
X18A Snowflake 85.04 51 ⇓P P 11 38 11.4 +0.3
baz=85,SNR=35
H09A Durkee 85.05 39 ⇓P P 11 38 10.8 -0.1
baz=85,SNR=8.8
C06A Tall Timber Ra 85.08 35 ⇑P P 11 38 10.3 -0.6
baz=85
T16A Glen Canyon Da 85.08 48 ⇑P P 11 38 11.5 +0.3
baz=85,SNR=34
A05A Maple Falls 85.09 34 ⇓P P 11 38 10.3 -0.6
baz=85,SNR=8.6
WIW Wooded Island 85.10 37 P P 11 38 11.4 +0.4
B06A Marblemount 85.12 34 ⇓P P 11 38 10.4 -0.7
baz=85,SNR=11
GYA Guiyang 85.12 300 ⇑rP P 11 38 12.3 +0.7
GYA AP pP 11 40 31.8 0.0
GYA XP sP 11 41 36.8 -1.5
GYA PP PP 11 41 44.8 +2.0
GYA SKS 11 47 33.3
GYA S S 11 47 47.6 -0.2
GYA XS sS 11 51 54.3 -2.9
GYA AMB AMB
comp=Z,30nm,0.9s,mb4.9
GYA AMB AMB
comp=Z,160nm,6.7s
WAH2 Wahluke Slope 85.13 37 P P 11 38 11.4 +0.1
D07A Quincy 85.16 36 ⇓P P 11 38 11.0 -0.3
baz=85,SNR=6.0
N13A Wendover, West 85.18 44 ⇑P P 11 38 11.5 0.0
baz=85,SNR=20
SEY Seymchan 85.20 347 ⇑eP P 11 38 10.3 -0.8
ETW Entiat 85.20 36 P P 11 38 11.5 0.0
I10A Payette 85.25 40 ⇓P P 11 38 12.2 +0.3
baz=85,SNR=31
E08A Dider Farm, El 85.27 37 ⇓P P 11 38 11.6 -0.3
baz=85,SNR=15
Y19A Nutrioso 85.29 52 ⇓P P 11 38 13.0 +0.7
baz=85,SNR=64
G09A Cove 85.32 39 ⇑P P 11 38 11.9 -0.2
baz=86
L12A House Creek Ra 85.32 42 ⇓P P 11 38 12.5 +0.3
baz=85,SNR=33
MSU Marysvale 85.36 46 eP P 11 38 13.2 +0.7
MSU epP pP 11 40 37.2 +4.5
MSU esP sP 11 41 36.9 -2.4
BMO Blue Mountains 85.37 39 eP P 11 38 11.5 -0.9
BMO pmax pmax
comp=Z,230nm,1.8s,mb5.5
BMO Blue Mountains 85.37 39 eP P 11 38 11.5 -0.9
comp=Z,232nm,1.8s,mb5.5
WRAK Wrangell Islan 85.37 24 eP P 11 38 11.9 -0.2
comp=Z,25nm,0.6s,mb5.0
WRAK ePP PP 11 41 42.1 -1.9
C07A Waterville 85.40 36 ⇑P P 11 38 11.9 -0.6
baz=86,SNR=22
EPH Ephrata 85.46 36 P P 11 38 12.5 -0.2
M13A Montello 85.46 43 ⇑P P 11 38 13.0 +0.1
baz=86,SNR=43
WTV Waterville 85.46 36 P P 11 38 12.5 -0.3
W18A Petrified Fore 85.47 50 ⇓P P 11 38 13.2 +0.1
baz=86,SNR=7.3
A06A Chilliwack 85.47 34 ⇑P P 11 38 12.2 -0.6
baz=86,SNR=8.8
X19A St. Johns 85.47 51 ⇑P P 11 38 13.4 +0.3
baz=86,SNR=32
MFID Camas Ranch 85.48 41 ⇓P P 11 38 13.0 0.0
baz=86,SNR=56
F09A S2 Ranch, Elgi 85.49 38 ⇑P P 11 38 12.7 -0.2
baz=86,SNR=12
H10A Noah's Angus R 85.56 40 ⇓P P 11 38 12.9 -0.4
baz=86,SNR=75
K12A Draper Farm, C 85.65 42 ⇑P P 11 38 13.9 +0.1
baz=86,SNR=15
D08A Wollman Farm, 85.67 37 P P 11 38 13.7 -0.1
baz=86,SNR=35
I11A Placerville 85.67 40 ⇓P P 11 38 13.9 0.0
baz=86,SNR=107
W19A Sanders 85.72 51 ⇑P P 11 38 14.6 +0.3
baz=86
G10A Bishop Farm, J 85.72 39 ⇑P P 11 38 13.7 -0.4
baz=86,SNR=114
TIY Taiyuan 85.74 312 eP P 11 38 14.3 0.0
DUG Dugway 85.76 45 eP P 11 38 14.0 -0.3
DUG pmax pmax
comp=Z,370nm,2.9s,mb5.5
DUG Dugway 85.76 45 eP P 11 38 14.0 -0.3
comp=Z,367nm,2.9s,mb5.5
DUG Dugway 85.76 45 ⇓P P 11 38 14.0 -0.4
baz=86
E09A Wood Farm, Sta 85.80 37 ⇑P P 11 38 13.8 -0.6
baz=86,SNR=6.9
B07A Winthrop 85.82 35 ⇑P P 11 38 14.0 -0.4
baz=86,SNR=45
N14A Grayback Hills 85.84 44 ⇑P P 11 38 14.2 -0.5
baz=86,SNR=11
J12A Stokes Ranch, 85.85 41 ⇑P P 11 38 15.0 +0.3
baz=86,SNR=106
L13A Double Diamond 85.98 43 ⇑P P 11 38 15.8 +0.5
baz=86
BGU Big Grassy Mou 85.98 44 eP P 11 38 15.0 -0.4
BGU ePP PP 11 41 47.2 -2.1
C08A Higginbotham F 86.01 36 ⇓P P 11 38 15.0 -0.4
baz=86,SNR=15
D09A Jones Farm, Ri 86.02 37 ⇓P P 11 38 15.2 -0.1
baz=86,SNR=53
A07A Ashnola River, 86.02 34 ⇑P P 11 38 15.2 -0.2
baz=86,SNR=34
F10A Beach Ranch, E 86.03 38 ⇓P P 11 38 15.0 -0.5
baz=86
H11A Donnelly 86.06 40 P P 11 38 15.6 0.0
baz=86,SNR=155
M14A Sheep Mountain 86.06 43 ⇓P P 11 38 15.7 0.0
baz=86,SNR=60
NLU North Lily Min 86.13 45 eP P 11 38 16.2 0.0
K13A Stover Farm, H 86.17 42 ⇓P P 11 38 16.7 +0.5
baz=86,SNR=67
B08A Colville Reser 86.18 35 ⇓P P 11 38 15.4 -0.7
baz=86,SNR=58
G11A Walters Elk Ra 86.28 39 ⇓P P 11 38 16.4 -0.3
baz=86,SNR=208
N15A Stansbury Isla 86.30 44 ⇓P P 11 38 16.9 0.0
baz=86
MCK McKinley 86.34 13 eP P 11 38 15.0 -1.6
comp=Z,33nm,0.8s,mb5.0
E10A Myers Farm, Un 86.38 38 ⇓P P 11 38 17.0 -0.1
baz=86,SNR=25
HLID Hailey 86.44 41 ⇑P P 11 38 17.9 +0.4
baz=87
NOQ North Oquirrh 86.44 45 eP P 11 38 17.3 -0.3
comp=Z,60nm,1.1s,mb5.1
C09A Chrisman Ranch 86.45 36 P P 11 38 17.1 -0.3
baz=87,SNR=30
MPU Maple Canyon 86.46 45 eP P 11 38 17.8 +0.2
comp=Z,34nm,1.1s,mb4.9
MPU ePP PP 11 41 50.6 -2.4
J13A Cove Ranch, Pi 86.50 41 ⇑P P 11 38 18.3 +0.5
baz=87,SNR=168
SKAG Skagway 86.55 21 eP P 11 38 17.8 +0.2
comp=Z,20nm,0.5s,mb5.0
SPUT South Promonto 86.55 44 eP P 11 38 17.6 -0.4
A08A Turner Farm, O 86.56 35 ⇓P P 11 38 17.7 -0.2
baz=87,SNR=58
HVU Hansel Valley 86.57 43 eP P 11 38 18.4 +0.2
comp=Z,62nm,0.9s,mb5.2
HVU ePP PP 11 41 52.1 -1.8
XAN Xi'an 86.59 308 P P 11 38 18.8 +0.4
XAN PP PP 11 41 57.5 +3.3
XAN S S 11 48 05.1 +3.8
XAN XS sS 11 52 05.5 -6.5
XAN SS SS 11 54 09.3 +4.4
XAN AMB AMB
comp=Z,56nm,0.9s,mb5.2
XAN AMB AMB
comp=Z,151nm,8.5s
D10A Wagner Farm, O 86.60 37 ⇑P P 11 38 17.4 -0.7
baz=87,SNR=14
F11A Grangeville 86.61 39 ⇓P P 11 38 16.6 -1.6
baz=87
M15A Larsen Ranch, 86.63 44 ⇑P P 11 38 18.3 -0.1
baz=87,SNR=8.2
H12A Diamond D Ranc 86.68 40 ⇓P P 11 38 18.6 0.0
baz=87
K14A Jones Ranch, D 86.70 43 ⇓P P 11 38 19.0 +0.3
baz=87,SNR=46
CTU Camp Tracy 86.71 45 eP P 11 38 18.9 +0.1
comp=Z,123nm,1.5s,mb5.3
SRU San Rafael 86.78 47 eP P 11 38 19.2 +0.1
comp=Z,19nm,0.5s,mb5.0
I13A Wildhorse Cree 86.80 41 ⇑P P 11 38 19.4 +0.2
baz=87,SNR=45
E11A Bogner Ranch, 86.83 38 ⇑P P 11 38 17.8 -1.4
baz=87,SNR=29
JLU Jordanelle 86.86 45 eP P 11 38 19.8 +0.2
B09A Rice 86.87 36 ⇓P P 11 38 18.9 -0.5
baz=87,SNR=46
DAU Daniels Canyon 86.90 45 eP P 11 38 20.0 +0.3
DAU ePP PP 11 41 53.7 -2.9
A09A Danville 86.94 35 ⇑P P 11 38 19.5 -0.2
baz=87,SNR=64
C10A Spilker Farm, 87.00 37 ⇓P P 11 38 19.5 -0.4
baz=87,SNR=9.0
H13A Challis 87.05 40 ⇓P P 11 38 20.5 +0.1
baz=87
Y22C IRIS PASSCAL I 87.07 52 ⇑P P 11 38 20.9 +0.2
baz=87,SNR=6.8
F12A Elk City 87.07 39 ⇓P P 11 38 20.1 -0.3
baz=87,SNR=131
D11A Klaveano Farm, 87.13 38 ⇑P P 11 38 19.7 -0.9
baz=87,SNR=45
NANT Nan 87.21 291 ⇑P P 11 38 20.0 -1.7
comp=Z,181nm,1.0s,mb5.7
HIA Hailar 87.23 325 eP P 11 38 20.3 -0.7
HIA pmax pmax
comp=Z,14nm,0.9s

HIA Hailar 87.23 325 eP P 11 38 20.3 -0.7
comp=Z,14nm,0.9s,mb4.6
MNTX Cornudas Mount 87.23 55 eP P 11 38 21.5 +0.1
comp=Z,113nm,1.4s,mb5.3
MNTX epP pP 11 40 41.5 -1.1
MNTX ePP PP 11 41 55.8 -3.5
HWUT Hardware Ranch 87.28 44 eP P 11 38 21.0 -0.4
comp=Z,27nm,0.7s,mb5.0
HWUT ePP PP 11 41 56.6 -2.9
MVCO Mesa Verde 87.31 49 eP P 11 38 21.3 -0.5
comp=Z,28nm,1.1s,mb4.8
MVCO ePP PP 11 41 56.7 -3.2
MVCO Mesa Verde 87.31 49 ⇑P P 11 38 21.5 -0.3
baz=87
G13A Cobalt 87.34 40 P P 11 38 21.6 0.0
baz=88,SNR=50
NEW Newport 87.35 36 eP P 11 38 20.6 -1.0
NEW pmax pmax
comp=Z,47nm,1.3s
NEW Newport 87.35 36 eP P 11 38 20.6 -1.0
comp=Z,47nm,1.3s,mb5.0
SYO Syowa Base 87.35 193⇓eP P 11 38 19.4 -2.0
SYO Syowa Base 87.35 193⇓iPcP PcP 11 38 20.8 -1.8
PV10 Paradox Valley 87.46 48 eP P 11 38 22.0 -0.4
A10A Northport 87.51 36 ⇑P P 11 38 22.0 -0.4
baz=88,SNR=6.1
IMA2 Indian Mountai 87.55 10 eP P 11 38 20.9 -1.2
COLA College 87.58 13 eP P 11 38 19.9 -2.4
COLA pmax pmax
comp=Z,64nm,0.6s,mb5.4
COLA College 87.58 13 eP P 11 38 19.9 -2.4
comp=Z,64nm,0.6s,mb5.4
COLA epP pP 11 40 42.4 -1.2
TXAR Lajitas Array 87.60 58 P P 11 38 23.9 +0.6
comp=Z,38nm,0.9s,mb5.0,baz=217,slow=6.2,SNR=392
TXAR PKiKP PKiKP 11 43 20.2 -1.2
comp=Z,0.1nm,0.5s,baz=222,slow=1.7,SNR=3.6
TXAR PKKP PKKPbc 11 56 08.1 +0.7
comp=Z,0.4nm,0.4s,baz=152,slow=2.8,SNR=13
F13A Darby 87.64 39 ⇓P P 11 38 22.5 -0.5
baz=88
PV01 Paradox Valley 87.68 48 eP P 11 38 23.2 -0.3
PV01 ePP PP 11 41 57.4 -5.3
DLBC Dease Lake 87.69 24 eP P 11 38 22.9 0.0
D12A Red Ives Fores 87.70 38 ⇑P P 11 38 22.5 -0.8
baz=88
ANMO Albuquerque 87.79 52c iP P 11 38 24.0 0.0
ANMO Albuquerque 87.79 52 eP P 11 38 24.1 +0.1
comp=Z,92nm,1.4s,mb5.2
ANMO epP pP 11 40 45.7 +0.3
HHC Hu-ho-hao-te 87.83 315 ⇑P P 11 38 23.9 -0.1
HHC AP pP 11 40 44.9 -0.5
HHC XP sP 11 41 48.3 -3.3
HHC PP PP 11 42 06.8 +3.0
HHC SKS 11 47 50.0
HHC S S 11 48 08.4 -4.0
HHC XS sS 11 52 19.6 -4.6
HHC SS SS 11 54 26.1 +3.8
HHC AMB AMB
comp=Z,72nm,1.2s,mb5.2
HHC AMB AMB
comp=Z,184nm,8.4s
KMI Kunming 87.83 297 P P 11 38 25.8 +1.4
KMI AP pP 11 40 45.4 -0.4
KMI PP PP 11 42 06.4 +2.3
KMI SKS 11 47 51.0
KMI S S 11 48 12.5 -0.6
KMI XS sS 11 52 18.9 -5.9
KMI SS SS 11 54 23.9 +1.0
KMI AMB AMB
comp=Z,43nm,0.9s,mb5.1
KMI AMB AMB
comp=Z,143nm,4.6s
B11A Sandpoint 87.87 36 ⇑P P 11 38 23.5 -0.5
baz=88,SNR=34
BILL Bilibino 88.00 355c iP P 11 38 22.8 -1.4
BILL pmax pmax
comp=Z,39nm,0.9s,mb5.0
BILL Bilibino 88.00 355 eP P 11 38 23.2 -1.0
comp=Z,40nm,0.9s,mb5.0
MCMT McKenzie Canyo 88.05 41 eP P 11 38 25.1 +0.1
E13A Victor 88.06 39 ⇓P P 11 38 24.0 -1.0
baz=88,SNR=30
AHID Auburn Hatcher 88.14 43 eP P 11 38 25.6 +0.2
comp=Z,32nm,0.6s,mb5.1
A11A Hall Mountain, 88.15 36 ⇑P P 11 38 25.4 +0.1
baz=88,SNR=26
D13A Huson 88.25 38 ⇑P P 11 38 24.6 -1.2
baz=88,SNR=20
B12A Libby 88.32 37 ⇓P P 11 38 26.0 -0.1
baz=88,SNR=20
MSO Missoula 88.41 39 eP P 11 38 25.2 -1.4
comp=Z,11nm,0.6s,mb4.7
G15A Dillon 88.44 41 ⇑P P 11 38 26.8 0.0
baz=89,SNR=64
E14A Clinton 88.47 39 ⇑P P 11 38 26.4 -0.5
baz=89,SNR=28
DLMT Dillon 88.47 40 eP P 11 38 27.1 +0.2
comp=Z,158nm,1.4s,mb5.5
DLMT epP pP 11 40 47.6 -1.0
DLMT ePP PP 11 42 03.4 -5.3
C13A Hot Springs 88.48 38 ⇓P P 11 38 25.7 -1.2
baz=89,SNR=11
DCID1 Drake Creek 88.49 42 eP P 11 38 27.4 +0.4
DCID1 ePP PP 11 42 04.6 -4.3
A12A Yaak River Ran 88.53 36 ⇓P P 11 38 26.9 -0.2
baz=89,SNR=7.7
TPAW Teton Pass 88.58 43 eP P 11 38 27.9 +0.5
comp=Z,32nm,0.7s,mb5.2
TPAW ePP PP 11 42 07.1 -2.5
REDW Red Top Meadow 88.59 43 eP P 11 38 27.6 +0.2
comp=Z,124nm,1.1s,mb5.5
SNOW Snow King Moun 88.70 43 eP P 11 38 28.4 +0.4
comp=Z,40nm,0.5s,mb5.4
BTO Baotou 88.75 314 eP P 11 38 27.3 -1.0
CHG Chiang Mai 88.77 290 ⇑P P 11 38 29.7 +0.8
comp=Z,53nm,0.8s,mb5.3
CHTO Chiang Mai 88.77 290 eP P 11 38 29.7 +0.8
CHTO pmax pmax
comp=Z,37nm,0.8s,mb5.2
CHTO Chiang Mai 88.77 290 eP P 11 38 29.7 +0.8
comp=Z,37nm,0.8s,mb5.2
CHTO Chiang Mai 88.77 290 P P 11 38 30.2 +1.3
SNR=6.5
CHTO Chiang Mai 88.77 290 P P 11 38 30.2 +1.3
SNR=6.5
CHTO Chiang Mai 88.77 290 P P 11 38 30.2 +1.3
SNR=6.5
CHTO Chiang Mai 88.77 290 P P 11 38 30.2 +1.3
SNR=6.5
CHTO Chiang Mai 88.77 290 P P 11 38 30.2 +1.3
SNR=6.5
CHTO Chiang Mai 88.77 290 P P 11 38 30.2 +1.3
SNR=6.5
F15A Butte 88.78 40 ⇓P P 11 38 26.3 -2.0
baz=89,SNR=28
IMW Indian Meadow 88.79 42 eP P 11 38 27.9 -0.5
comp=Z,161nm,1.3s,mb5.6
LRM Limekiln Ridge 88.79 40 eP P 11 38 28.3 -0.1
D14A Greenough 88.80 39 ⇑P P 11 38 27.3 -1.1
baz=89,SNR=31
MOOW Moose Ponds 88.84 42 eP P 11 38 28.6 -0.1
comp=Z,94nm,1.5s,mb5.3
MOOW ePP PP 11 42 09.1 -2.6
CHMT Chamberlain Mo 88.86 39 eP P 11 38 28.1 -0.6
LOHW Long Hollow 88.86 43 eP P 11 38 28.8 0.0
comp=Z,144nm,1.5s,mb5.5
LOHW ePP PP 11 42 09.3 -2.5
B13A Whitefish 88.91 37 ⇑P P 11 38 27.9 -1.0
baz=89,SNR=25
DAWY Dawson 88.92 16 eP P 11 38 27.8 -0.7
QLMT Earthquake Lak 88.93 41 eP P 11 38 29.9 +0.8
QLMT epP pP 11 40 46.4 -4.4
QLMT ePP PP 11 42 07.6 -4.8
SNAA Sanae 88.96 179 iP P 11 38 27.5 -1.3
E15A Deer Lodge 88.98 39 ⇑P P 11 38 28.7 -0.5
baz=89,SNR=23
C14A Swan Lake 89.01 38 ⇑P P 11 38 28.1 -1.3
baz=89
FLWY Flagg Ranch 89.03 42 eP P 11 38 30.1 +0.6
comp=Z,293nm,1.6s,mb5.8
FLWY epP pP 11 40 51.0 -0.3
FLWY ePP PP 11 42 11.5 -1.6
EGAK Eagle 89.03 15 eP P 11 38 28.1 -0.9
comp=Z,31nm,0.6s,mb5.2
YFT Old Faithful 89.12 42 eP P 11 38 31.6 +1.7
BW06 Boulder Array 89.14 44 eP P 11 38 29.3 -0.8
comp=Z,64nm,1.1s,mb5.3
YMR Madison River 89.14 42 eP P 11 38 30.9 +0.9
comp=Z,46nm,0.9s,mb5.2
BOZ Bozeman (W) 89.20 40 eP P 11 38 30.0 -0.3
BOZ e*PP pP 11 40 50.5 -1.7
BOZ pmax pmax
comp=Z,100nm,1.6s,mb5.3
BOZ Bozeman (W) 89.20 40 eP P 11 38 30.0 -0.3
comp=Z,100nm,1.6s,mb5.3
BOZ epP pP 11 40 50.5 -1.7
BOZ ePP PP 11 42 04.8 -10
BOZ Bozeman (W) 89.20 40 ⇓P P 11 38 30.2 -0.1
baz=89
A13A Flathead Natio 89.23 37 ⇓P P 11 38 29.9 -0.4
baz=89,SNR=8.3
CD2 Chengdu 89.25 303⇑iP P 11 38 30.9 0.0
CD2 AP pP 11 40 49.5 -3.2
CD2 XP sP 11 41 54.4 -4.4
CD2 PP PP 11 42 15.9 +0.8
CD2 SKS 11 47 58.3
CD2 S S 11 48 24.3 -1.5
CD2 XS sS 11 52 33.8 -4.9
CD2 SS SS 11 54 44.0 +0.9
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,9.2s
SMCO Snowmass 89.26 48 eP P 11 38 31.1 +0.4
comp=Z,68nm,1.2s,mb5.2
YNR Norris Junctio 89.34 42 eP P 11 38 33.0 +2.1
D15A Lincoln 89.36 39 ⇑P P 11 38 30.6 -0.3
baz=90,SNR=31
LKWY Lake 89.45 42 eP P 11 38 33.0 +1.6
LKWY pmax pmax
comp=Z,140nm,1.9s,mb5.4
LKWY Lake 89.45 42 eP P 11 38 33.0 +1.5
comp=Z,142nm,1.9s,mb5.4
MAIT Maitri 89.56 184 eP P 11 38 30.0 -1.6
WALA Waterton Lakes 89.58 37 eP P 11 38 31.6 -0.3
comp=Z,227nm,2.1s,mb5.6
WALA epP pP 11 40 52.8 -1.1
WALA ePP PP 11 42 14.6 -2.7
SDCO Great Sand Dun 89.69 50 eP P 11 38 32.4 -0.3
comp=Z,20nm,1.0s,mb4.9
SDCO ePP PP 11 42 15.7 -2.7
RWWY Rawlins 90.20 45 eP P 11 38 34.9 -0.1
comp=Z,27nm,0.6s,mb5.3
RWWY epP pP 11 40 54.3 -2.8
ISCO Idaho Springs 90.48 48 eP P 11 38 36.3 -0.1
ISCO e 11 42 20.8
ISCO pmax pmax
comp=Z,58nm,1.5s,mb5.2
ISCO Idaho Springs 90.48 48 eP P 11 38 36.3 0.0
comp=Z,58nm,1.5s,mb5.2
ISCO ePP PP 11 42 20.8 -3.7
GCMT Greycliff 90.48 41 eP P 11 38 36.3 +0.1
GCMT epP pP 11 40 58.6 +0.2
GCMT ePP PP 11 42 22.2 -2.1
YAK Yakutsk 90.80 339 eP P 11 38 35.8 -1.5
YAK e*PP pP 11 40 50.3 -9.2
YAK e 11 42 21.8
YAK eS SKSac 11 48 08.1 +2.4
YAK eSS S 11 48 33.7 -4.4
YAK pmax pmax
comp=Z,54nm,0.9s,mb5.4
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK pmax pmax
comp=Z,10.0nm,0.3s,mb5.1
YAK pmax pmax
comp=N,6.0nm,0.8s
YAK pmax pmax
comp=E,3.0nm,0.5s
YAK smax
comp=N,112nm,1.9s
YAK smax
comp=Z,117nm,4.4s
YAK smax
comp=E,47nm,1.8s
YAK Yakutsk 90.80 339 eP P 11 38 35.5 -1.7
comp=E,66nm,0.8s,mb5.5
PLCA Paso Flores 90.80 134 eP P 11 38 39.2 +1.2
PLCA pmax pmax
comp=Z,15nm,1.0s
PLCA Paso Flores 90.80 134 eP P 11 38 39.1 +1.2
comp=Z,15nm,1.0s,mb4.8
PLCA Paso Flores 90.80 134 P P 11 38 39.3 +1.3
comp=Z,6.1nm,0.8s,mb4.5,baz=233,slow=4.2,SNR=12
PLCA PKKP PKKPbc 11 55 59.0 -1.0
comp=Z,1.4nm,0.4s,baz=299,slow=2.8,SNR=4.5
JCT Junction City 91.14 58 eP P 11 38 38.8 -0.9
comp=Z,16nm,0.5s,mb5.1
PHWY Pilot Hill 91.22 46 eP P 11 38 39.3 -0.4
LZH Lanzhou 91.23 308⇑iP P 11 38 40.9 +1.0
LZH AP pP 11 41 03.5 +1.3
LZH XP sP 11 42 09.5 +1.5
LZH PP PP 11 42 32.1 +1.8
LZH SKS 11 48 08.3
LZH S S 11 48 45.1 +2.0
LZH XS sS 11 52 53.1 -4.5
LZH SS SS 11 55 17.0 +6.1
LZH AMB AMB
comp=Z,149nm,1.0s,mb5.8
LZH AMB AMB
comp=Z,1μm,5.3s
AMTX Amarillo 91.35 53 eP P 11 38 39.9 -0.6
comp=Z,27nm,1.0s,mb5.0
EGMT Eagleton 91.47 39 eP P 11 38 40.1 -0.6
comp=Z,12nm,0.7s,mb4.8
EGMT Eagleton 91.47 39 ⇓P P 11 38 40.2 -0.5
baz=92
EDM Edmonton 92.01 33 eP P 11 38 41.8 -1.2
EDM epP pP 11 40 56.8 -8.6
WMOK Wichita Mounta 93.50 54 eP P 11 38 49.0 -1.3
WMOK Wichita Mounta 93.50 54 eP P 11 38 47.5 -2.9
comp=Z,27nm,2.0s,mb4.9
INK Inuvik 93.71 15 eP P 11 38 48.7 -1.8
INK Inuvik 93.71 15 eP P 11 38 48.5 -1.9
comp=Z,294nm,0.6s
INK Inuvik 93.71 15 P P 11 38 48.7 -1.7
comp=Z,7.7nm,0.7s,mb4.9,baz=225,slow=4.0,SNR=87
INK PP PP 11 42 44.5 -4.1
comp=Z,3.2nm,1.1s,baz=221,slow=6.4,SNR=3.3
INK PKiKP PKiKP 11 43 28.6 -2.1
comp=Z,1.0nm,0.5s,baz=308,slow=3.3,SNR=7.0
SONM Songino Array 94.25 319 P P 11 38 52.9 -0.5
SONM 11 42 50.3
SONM Songino Array 94.25 319 P P 11 38 52.9 -0.5
comp=Z,2.5nm,0.6s,mb4.4,baz=119,slow=3.3,SNR=21
SONM PP PP 11 42 50.3 -2.8
comp=Z,1.7nm,0.9s,baz=124,slow=5.6,SNR=6.4
SONM PKiKP PKiKP 11 43 31.1 -1.0
comp=Z,0.4nm,0.4s,baz=60,slow=2.4,SNR=5.8
SONM PKKP PKKPbc 11 55 49.8 -1.7
comp=Z,0.6nm,0.5s,baz=275,slow=3.6,SNR=5.3
CBKS Cedar Bluff 94.28 50 eP P 11 38 53.3 -0.5
comp=Z,50nm,0.9s,mb5.5
BOD Bodaibo 94.68 330 eP P 11 38 50.3 -4.8
BOD pmax pmax
comp=Z,4.0nm,1.9s,mb4.2
DGMT Dagmar 95.01 40 eP P 11 38 56.7 -0.1
comp=Z,34nm,0.8s,mb5.5
GTA Gaotai 95.43 310 eP P 11 38 57.6 -1.3
GTA AP pP 11 41 24.6 +2.9
GTA XP sP 11 42 24.3 -3.1
GTA PP PP 11 43 02.3 -0.1
GTA SKS 11 48 29.3
GTA S S 11 49 13.3 -6.0
GTA AMB AMB
comp=Z,9.0nm,1.1s,mb4.8
GTA AMB AMB
comp=Z,131nm,5.3s
YKA Yellowknife Ar 96.19 25 P P 11 39 00.4 -1.4
comp=Z,4.5nm,0.5s,mb4.9,baz=238,slow=4.6,SNR=83
YKA PKiKP PKiKP 11 43 33.6 -1.5
comp=Z,0.6nm,0.5s,baz=256,slow=1.5,SNR=12
YKA PKKP PKKPbc 11 55 43.0 -3.9
comp=Z,0.6nm,0.4s,baz=35,slow=2.2,SNR=14
KSU1 Kansas State U 96.66 51 eP P 11 39 04.8 +0.4
comp=Z,20nm,0.5s,mb5.6
ZAK Zakamensk 97.13 321 eP Pdif 11 39 05.0 -1.5
ZAK pmax pmax
comp=Z,1.0nm,1.3s
ZAK pmax pmax
comp=Z,2.0nm,2.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.6s,mb4.1
TIXI Tiksi 97.54 345⇑eP Pdif 11 39 05.6 -2.7
TIXI pmax pmax
comp=Z,8.0nm,1.6s,mb4.7
TIXI Tiksi 97.54 345 eP Pdif 11 39 05.7 -2.6
comp=Z,1.6nm,0.4s
ECSD EROS,Sioux Fal 98.19 47 eP Pdif 11 39 09.5 -1.7
ULM Lac du Bonnet 100.73 40 P Pdif 11 39 22.1 -0.3
comp=Z,1.3nm,0.5s,baz=237,slow=5.9,SNR=4.6
ULM PKiKP PKiKP 11 43 43.5 -0.1
comp=Z,1.3nm,0.5s,baz=310,slow=6.7,SNR=3.8
LPAZ La Paz 103.56 113 Pdiff Pdif 11 39 39.6 +4.6
comp=Z,1.6nm,0.8s,baz=247,slow=4.7,SNR=9.6
WMQ Urumqi 105.39 311 ePDIF Pdif 11 39 42.0 -1.2
WMQ PP PP 11 44 17.0 +1.1
WMQ SS SS 11 58 24.0 -1.4
WMQ PP PP
comp=Z,56nm,8.0s
RES Resolute Bay 107.25 16 ePKPdf PKiKP 11 43 52.5 -2.5
CPUP Villa Florida 107.54 127 PKiKP PKiKP 11 43 54.4 -2.6
comp=Z,0.7nm,0.4s,baz=187,slow=8.1,SNR=3.4
ZAA0 Zalesovo Array 109.00 322 ePKPdf PKiKP 11 43 56.5 -2.3
ZALV Zalesovo Beam 109.00 322 PKiKP PKiKP 11 43 57.0 -1.8
comp=Z,8.3nm,0.5s,baz=152,slow=0.9,SNR=48
MK31 Makanchi Array 109.67 314 ePKPdf PKiKP 11 43 58.3 -1.9
MKAR Makanchi Array 109.67 314 Pdiff Pdif 11 40 03.8 +1.6
comp=Z,0.7nm,0.5s,baz=85,slow=5.8,SNR=8.7
MKAR PKiKP PKiKP 11 43 58.6 -1.6
comp=Z,9.2nm,0.5s,baz=134,slow=0.9,SNR=76
KURK Kurchatov 112.48 318c iPKIKP PKiKP 11 44 03.9 -1.6
KURK Kurchatov 112.48 318 ePKPdf PKiKP 11 44 03.5 -2.0
TKM2 Tokmak 2 113.97 309 ePKIKP PKiKP 11 44 07.1 -1.5
TKM2 Tokmak 2 113.97 309 P PKiKP 11 44 07.5 -1.1
SNR=12
KZA Kyzart 114.15 308 P PKiKP 11 44 08.9 -0.1
SNR=6.5
KBK Karagaybulak 114.42 309 P PKPdf 11 44 08.7 -0.8
SNR=6.8
CHMS Chumysh 114.60 309 P PKPdf 11 44 08.6 -1.3
SNR=5.9
UCH Uchtor 114.71 308 ePKPdf PKPdf 11 44 09.4 -0.6
UCH ePP PP 11 45 21.3 -0.4
UCH Uchtor 114.71 308 P PKPdf 11 44 09.9 -0.1
SNR=9.0
USP Ospenovka 114.80 309 P PKPdf 11 44 09.0 -1.2
SNR=15
EKS2 Erkin-Say 115.29 309 ePKPdf PKPdf 11 44 09.8 -1.3
EKS2 Erkin-Say 115.29 309 P PKPdf 11 44 10.4 -0.7
SNR=5.9
AML Almayashu 115.31 308 P PKPdf 11 44 11.2 0.0
SNR=8.6
SJG San Juan 117.11 79 ePKIKP PKPdf 11 44 12.9 -2.4
CPD Cerro la Pandu 117.31 79 ePKIKP PKPdf 11 44 13.5 -2.2
BRVK Borovoye 117.64 320 eP Pdif 11 40 35.1 -2.5
BRVK e PKPdf 11 44 13.8 -1.5
BRVK Borovoye 117.64 320 P Pdif 11 40 36.4 -1.2
SNR=5.8
BRVK Borovoye 117.64 320 P Pdif 11 40 36.4 -1.2
SNR=5.8
KK31 Karatay Array 117.70 309 iPKIKP PKPdf 11 44 14.3 -1.5
KK31 pmax pmax
comp=Z,5.0nm,0.4s
KBL Kabul 118.36 299 ePKPdf PKPdf 11 44 16.7 -0.6
ZRNK Zerenda 118.42 320 iPKIKP PKPdf 11 44 15.2 -1.6
ZRNK pmax pmax
comp=Z,30nm,0.4s
SCHQ Schefferville 118.70 38 PKP PKPdf 11 44 15.4 -1.9
comp=Z,3.8nm,0.5s,baz=338,slow=1.9,SNR=18
KBS Kingsbay 120.36 357c iPKIKP PKPdf 11 44 18.9 -1.1
KBS Kingsbay 120.36 357 ePKPdf PKPdf 11 44 18.8 -1.2
BDFB Brasilia 120.69 123 PKP PKPdf 11 44 21.4 -0.9
comp=Z,2.9nm,0.4s,baz=250,slow=2.5,SNR=20
SVE Sverdlovsk 122.53 326 ePKIKP PKPdf 11 44 23.9 -0.7
SVE pmax pmax
comp=Z,32nm,0.5s
SFJD Kangerlussuaq 122.54 21 ePKIKP PKPdf 11 44 22.3 -2.1
ARU Arti 123.74 326 iPKIKP PKPdf 11 44 25.9 -1.1
ARU 11 46 17.9
ARU
ARU Arti 123.74 326 ePKPdf PKPdf 11 44 25.6 -1.4
BOSA Boshof 126.54 207 ePKIKP PKPdf 11 44 33.4 +0.1
BOSA Boshof 126.54 207 PKP PKPdf 11 44 33.5 +0.2
comp=Z,6.2nm,0.6s,baz=122,slow=0.6,SNR=23
BOSA PKKPab PKKPab 11 54 05.9 -3.0
comp=Z,2.5nm,0.6s,baz=29,slow=1.8,SNR=6.9
KEV Kevo 127.33 349 epkp PKPdf 11 44 30.5 -3.0
APA Apatity 127.73 345⇑iPKIKP PKPdf 11 44 32.6 -1.7
APA pmax pmax
comp=Z,30nm,0.5s
ARCES ARCESS Array B 127.79 349 PKP PKPdf 11 44 33.1 -1.2
ARCES PKKPab 11 54 01.3
ARCES ARCESS Array B 127.79 349 PKhKP 11 44 19.7
comp=Z,0.8nm,0.3s,baz=32,slow=0.2,SNR=16
ARCES PKP PKPdf 11 44 33.1 -1.2
comp=Z,42nm,0.4s,baz=12,slow=1.3,SNR=193
ARCES PKKPab 11 54 01.3
comp=Z,3.6nm,1.1s,baz=233,slow=4.4,SNR=6.0
ARE0 ARCESS Array S 127.79 349 ePKPdf PKPdf 11 44 32.7 -1.6
BANOM Banah 128.64 288 P PP 11 46 57.6 +2.8
SNR=7.5
BANOM Banah 128.64 288 P PP 11 46 57.6 +2.8
SNR=7.5
BANOM Banah 128.64 288 P PP 11 46 57.6 +2.8
SNR=7.5
BANOM Banah 128.64 288 P PP 11 46 57.6 +2.8
SNR=7.5
HATD Hatta, Dubai 128.68 287 P PP 11 46 57.8 +2.7
SNR=10
HATD Hatta, Dubai 128.68 287 P PP 11 46 57.8 +2.7
SNR=10
HATD Hatta, Dubai 128.68 287 P PP 11 46 57.8 +2.7
SNR=10
HATD Hatta, Dubai 128.68 287 P PP 11 46 57.8 +2.7
SNR=10
TRO Tromso 128.72 352 eP PKPdf 11 44 33.6 -2.4
ASHO Ashiyiah 128.74 286 P PP 11 46 57.5 +2.0
SNR=11
ASHO Ashiyiah 128.74 286 P PP 11 46 57.5 +2.0
SNR=11
ASHO Ashiyiah 128.74 286 P PP 11 46 57.5 +2.0
SNR=11
ASHO Ashiyiah 128.74 286 P PP 11 46 57.5 +2.0
SNR=11
WHFO Wadi Hawf 129.87 277 P PP 11 47 02.6 -0.3
SNR=5.1
WHFO Wadi Hawf 129.87 277 P PP 11 47 02.6 -0.3
SNR=5.1
WHFO Wadi Hawf 129.87 277 P PP 11 47 02.6 -0.3
SNR=5.1
ABTO Aybut 130.21 276 P PP 11 47 04.2 -0.8
SNR=5.2
ABTO Aybut 130.21 276 P PP 11 47 04.2 -0.8
SNR=5.2
ABTO Aybut 130.21 276 P PP 11 47 04.2 -0.8
SNR=5.2
LOF Lofoten 130.78 354 eP PKPdf 11 44 40.8 +0.7
JOF Joensuu 131.87 342 epkp PKPdf 11 44 40.1 -2.1
MOR8 Moi Rana 132.56 352 eP PKPdf 11 44 41.2 -2.2
MOR8 AMb AMB 11 44 45.4
comp=Z,13nm,1.0s
STOK Stokkvaagen 132.57 353 eP PKPdf 11 44 41.9 -1.5
STOK AMb AMB 11 44 46.2
comp=Z,55nm,1.9s
FINES FINESS Array B 134.54 343 PKP PKPdf 11 44 46.2 -1.1
FINES SKPbc SKPbc 11 47 16.0 -0.1
FINES SKPab 11 47 21.1
FINES FINESS Array B 134.54 343 PKhKP 11 44 30.8
comp=Z,1.4nm,0.4s,baz=64,slow=3.8,SNR=29
FINES PKP PKPdf 11 44 46.2 -1.1
comp=Z,11nm,0.5s,baz=70,slow=4.0,SNR=29
FINES SKPbc SKPbc 11 47 16.0 -0.1
comp=Z,6.7nm,0.5s,baz=60,slow=5.3,SNR=12
FINES SKPab 11 47 21.1
comp=Z,6.7nm,0.7s,baz=41,slow=6.1,SNR=8.7
VRHR Novokhopersk 135.04 324 ePKIKP PKPdf 11 44 48.9 +0.4
VRHR pmax pmax
comp=Z,70nm,0.6s
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,7.0nm,0.3s
OBN Obninsk 135.36 331⇑iPKIKP PKPdf 11 44 47.4 -1.6

OBN e 11 47 32.6
OBN pmax pmax
comp=Z,35nm,0.9s
OBN Obninsk 135.36 331 *e*PKPdf PKPdf 11 44 49.2 +0.2
QRN Al-Qurain 136.19 291 *e*P 11 44 37.2
QRN AMb AMB 11 44 44.8
comp=Z,17nm,0.6s
QRN Al-Qurain 136.19 291 *e*P pPKPdf 11 47 12.0 -12
VRSR Storozhevoye 136.30 325 *e*PKIKP PKPdf 11 44 49.6 -1.3
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=Z,3.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.5s
UMR Umm Al-Rimmam 136.34 293 *e*P pPKPdf 11 47 10.4 -14
UMR Umm Al-Rimmam 136.34 293 *e*P pPKPdf 11 47 10.4 -14
VORD Divnogorie 136.38 325 *e*PKIKP PKPdf 11 44 49.2 -1.8
VORD pmax pmax
comp=Z,330nm,0.6s
VORD pmax pmax
comp=N,260nm,0.3s
VORD pmax pmax
comp=E,360nm,0.6s
RDF Al-Radifah 136.50 292 *e*P 11 44 38.2
RDF Al-Radifah 136.50 292 *e*P pPKPdf 11 47 15.0 -10
RDF *e*S 11 48 22.8
RDF AML AML 11 48 23.3
comp=Z,2.4nm,0.4s
RDF Al-Radifah 136.50 292 *e*P pPKPdf 11 47 15.0 -10
RDF *e*S 11 48 22.8
comp=Z,2.4nm,0.4s
MIB Mutribah 136.66 293 *e*P 11 44 38.0
MIB AMb AMB 11 44 42.0
comp=Z,27nm,0.5s
MIB Mutribah 136.66 293 *e*P pPKPdf 11 47 13.9 -11
MIB *e*S 11 48 21.2
MIB AML AML 11 48 23.2
comp=Z,4.4nm,0.5s
MIB Mutribah 136.66 293 *e*P pPKPdf 11 47 13.9 -11
MIB *e*S 11 48 21.2
comp=Z,4.4nm,0.5s
TBLG Delisi 136.73 311 P pPKPdf 11 47 14.3 -10
NAY Al-Naaiem 136.76 292 *e*P 11 44 38.0
NAY AMb AMB 11 44 42.2
comp=Z,6.8nm,0.8s
NAY Al-Naaiem 136.76 292 *e*P pPKPdf 11 47 17.2 -7.8
NAY *e*S 11 48 26.5
NAY AML AML 11 48 29.1
comp=Z,1.0nm,0.5s
NAY Al-Naaiem 136.76 292 *e*P pPKPdf 11 47 17.2 -7.8
NAY *e*S 11 48 26.5
comp=Z,1.0nm,0.5s
GNI Garni 137.16 308*c i*PKIKP PKPdf 11 44 52.9 +0.1
GNI Garni 137.16 308 *e*PKPdf PKPdf 11 44 52.9 0.0
GNI *e*SKPdf SKPdf 11 47 25.4 -0.4
DOMB Dombas 137.17 354 *e*P 11 44 40.0
DOMB AMb AMB 11 44 41.3
comp=Z,15nm,1.7s
KIV Kislovodsk 137.43 314 *e*PKIKP PKPdf 11 44 49.9 -3.3
KIV *e* 11 50 57.5
KIV *e*SS SS 12 05 03.7 -2.4
KIV pmax pmax
comp=Z,13nm,1.1s
KIV Kislovodsk 137.43 314 *e*PKPdf PKPdf 11 44 52.0 -1.2
KIV *e*SKPbc SKPbc 11 47 25.9 +0.6
NB2 NORSAR Subarra 137.91 352 PKPdf 11 44 42.6
comp=Z,2.6nm,0.5s,baz=15,slow=1.9
NB2 NORSAR Subarra 137.91 352 PKPdf 11 44 42.6
baz=15,slow=1.9
NOA NORSAR Array B 137.91 352 PKP PKPdf 11 44 54.0 +0.4
NOA SKP 11 47 26.3
NOA SKPab 11 47 35.9
NOA NORSAR Array B 137.91 352 PKhKP 11 44 41.9
comp=Z,7.4nm,0.6s,baz=16,slow=4.6,SNR=38
NOA PKP PKPdf 11 44 54.0 +0.4
comp=Z,14nm,0.4s,baz=12,slow=4.0,SNR=32
NOA SKP 11 47 26.3
comp=Z,2.6nm,0.8s,baz=15,slow=4.5,SNR=3.6
NOA SKPab 11 47 35.9
comp=Z,3.1nm,0.8s,baz=15,slow=3.2,SNR=4.3
HYA Hoyanger 138.27 356 *e*P PKPdf 11 44 44.8 -9.4
HYA AMb AMB 11 44 58.3
comp=Z,34nm,1.4s
KMBO Kilima Mbogo 138.65 244 PKP PKPdf 11 44 58.5 +2.1
KMBO SKPbc SKPbc 11 47 32.0 +2.3
KMBO Kilima Mbogo 138.65 244 PKhKP 11 44 48.5
comp=Z,1.7nm,0.4s,baz=54,slow=4.6,SNR=6.4
KMBO PKP PKPdf 11 44 58.5 +2.1
comp=Z,1.2nm,0.5s,baz=77,slow=4.2,SNR=7.6
KMBO SKPbc SKPbc 11 47 32.0 +2.3
comp=Z,9.3nm,1.0s,baz=45,slow=3.8,SNR=7.1
ARTV Artvin 138.90 311⇑ *i*P PKPdf 11 44 58.6 +2.7
ASK Askoy 139.01 357 *e*P PKPdf 11 44 48.2 -7.4
RUND Rundenannen 139.07 356 *e*P PKPdf 11 44 48.8 -6.8
RUND AMb AMB 11 44 52.4
comp=Z,35nm,1.1s
EGD Espegrend 139.22 357 *e*P PKPdf 11 44 48.0 -7.9
LRW Lerwick 139.46 1 *e*P PKPdf 11 44 48.1 -8.3
LRW AMb AMB 11 44 53.0
comp=Z,58nm,2.4s
ODD1 Odda 139.48 355 *e*P 11 44 46.6
ODD1 AMb AMB 11 44 52.6
comp=Z,26nm,1.5s
SOC Sochi 139.56 315 *i*PKIKP PKPdf 11 44 57.8 +0.7
SOC *e* 11 47 59.7
SOC *e* 11 51 08.1
SOC *e*PPP 11 51 18.8
SOC *e*SS SS 12 05 30.4 -0.3
SOC pmax pmax
comp=Z,11nm,0.6s
EZM Erzurum 139.72 309 *e*P PKPdf 11 44 51.7 -5.8
BLS5 Blasjo 139.98 355 *e*P PKPdf 11 44 50.2 -7.1
BLS5 AMb AMB 11 44 53.7
comp=Z,14nm,0.3s
ANN Anapa 140.51 318 *i*PKHKP 11 44 51.7
ANN pmax pmax
comp=Z,50nm,1.5s
MARD Mardin 140.91 305 *i*P PKPdf 11 44 54.6 -5.1
ORE Reay 140.94 4⇑ *e*P PKPdf 11 44 52.2 -6.9
SNART Snartemo 140.99 355 *e*P PKPdf 11 44 52.7 -6.5
RSC Scourie 141.04 5⇑ *e*P PKPdf 11 44 52.9 -6.4
MLA1 Latheron 141.20 3⇑ *e*P PKPdf 11 44 53.3 -6.3
RRH Rhenigidale 141.32 6⇑ *e*P PKPdf 11 44 54.0 -5.8
RRR Rubha Reidh 141.47 6⇑ *e*P PKPdf 11 44 54.3 -5.8
SUW Suwalki 141.53 339 *e*PKP PKPdf 11 44 55.6 -4.7
SUW Suwalki 141.53 339 *e*PKP PKPdf 11 44 55.6 -4.7
AKASG Malin Array Be 141.61 331 PKP PKPdf 11 45 01.9 +1.4
AKASG SKP 11 47 35.5
AKASG Malin Array Be 141.61 331 PKhKP 11 44 54.9
comp=Z,47nm,0.4s,baz=43,slow=4.2,SNR=392
AKASG PKP PKPdf 11 45 01.9 +1.4
comp=Z,17nm,0.4s,baz=46,slow=3.3,SNR=17
AKASG SKP 11 47 35.5
comp=Z,1.0nm,0.4s,baz=48,slow=2.8,SNR=8.2
AKBB Malin Array Si 141.61 331 *e*PKHKP 11 44 54.9
KIEV Kiev 141.62 331 *e*PKHKP 11 44 54.7
KSK Scoval 141.77 6 *e*P PKPdf 11 44 55.9 -4.7
KAC Achnashellach 141.87 5⇑ *e*P PKPdf 11 44 56.1 -4.7
MCD Coleburn Disti 141.93 3⇑ *i*P PKPdf 11 44 55.6 -5.2
MDO Dochfour 142.00 4⇑ *i*P PKPdf 11 44 56.1 -4.9
KSB Sheil Bridge 142.14 5⇑ *e*P PKPdf 11 44 56.5 -4.7
MME1 Meikle Cairn 142.21 3⇑ *i*P PKPdf 11 44 56.3 -5.1
URFA Urfa 142.37 306 *e*P PKPdf 11 44 59.1 -3.2
MYA Malataya 142.39 308 *e*P PKPdf 11 44 59.7 -2.6
MALT Malataya 142.39 308 *e*P PKPdf 11 44 59.6 -2.7
MALT Malataya 142.39 308 *e*PKPdf PKPdf 11 44 59.8 -2.5
MALT *e*SKPbc SKPbc 11 47 39.5 +1.0
MALT Malataya 142.39 308⇓ *i*P PKPdf 11 45 00.2 -2.1
KAR1 Arisaig 142.39 6⇑ *i*P PKPdf 11 44 57.6 -4.1
SIM Simferopol' 142.49 320 *i*PKIKP PKPdf 11 44 59.5 -2.8
SIM pmax pmax
comp=Z,130nm,0.7s
MUD Monsted U'grnd 142.63 352⇑ *i*PKHKP 11 44 58.8
MUD pmax pmax
comp=Z,70nm,0.6s
MUD Monsted U'grnd 142.63 352⇑ *i*P PKPdf 11 44 58.8 -3.3
comp=Z,70nm,0.6s
ATAB Bozova 142.76 307⇑ *i*P PKPdf 11 45 01.1 -1.9
SVSK Karacayir 142.87 311 *e*P PKPdf 11 45 01.3 -1.8
COP Copenhagen 142.87 349⇑ *i*PKIKP PKPdf 11 44 59.7 -2.9
COP pmax pmax
comp=Z,68nm,0.5s
COP Copenhagen 142.87 349⇑ *i*P PKPdf 11 44 59.7 -2.9
comp=Z,68nm,0.5s
BSD Bornholm Skovb 142.91 346⇑ *i*PKHKP 11 44 59.5
BSD pmax pmax
comp=Z,140nm,0.5s
BSD Bornholm Skovb 142.91 346⇑ *i*P PKPdf 11 44 59.5 -3.2
comp=Z,140nm,0.5s
TOKT Tokat 143.03 312 *e*P PKPdf 11 45 01.3 -2.1
KVT Kavak 143.06 313 *e*P PKPdf 11 45 01.9 -1.5
EBH Black Hill 143.25 4⇑ *i*P PKPdf 11 45 00.7 -2.5
EAB Aberfoyle 143.25 5⇑ *i*P PKPdf 11 45 00.7 -2.5
GZT Gaziantep 143.34 307⇑ *i*P PKPdf 11 45 03.1 -0.9
DIKM Dikmen 143.36 315 *e*P PKPdf 11 45 01.9 -2.0
EDI Edinburgh 143.59 4⇑ *e*P PKPdf 11 45 01.6 -2.2
EDI AMb AMB 11 45 04.1
comp=Z,212nm,1.4s
PGBU Glenifferbraes 143.61 5⇑ *e*P PKPdf 11 45 01.7 -2.2
PGBU AMb AMB 11 45 04.8
comp=Z,287nm,1.9s
ESY Stoneypath 143.63 3⇑ *i*P PKPdf 11 45 01.8 -2.1
EAU Auchinoon 143.65 4⇑ *i*P PKPdf 11 45 02.3 -1.7
GAZ Gaziantep 143.67 307 *e*P PKPdf 11 45 03.3 -1.3
BOYT Boyabat 143.70 314 *i*P PKPdf 11 45 04.4 -0.1
WAR Warsaw 143.73 339 *e*PKP PKPdf 11 45 03.8 -0.4
WAR Warsaw 143.73 339 *e*PKP PKPdf 11 45 03.8 -0.4
EBL Broad Law 143.75 4⇑ *i*P PKPdf 11 45 02.2 -1.9
BYBT Boyabat 143.77 315 *e*P PKPdf 11 45 04.3 -0.3
KMRS Kahramanmaras 143.79 307 *e*P PKPdf 11 45 04.1 -0.7
GMK Mull of Kintyr 143.97 6⇑ *i*P PKPdf 11 45 03.1 -1.4
GKP Gorka Klasztor 144.01 343 *e*PKP PKPdf 11 45 04.0 -0.7
GKP Gorka Klasztor 144.01 343 *e*PKP PKPdf 11 45 04.0 -0.7
BZK Bozkurt 144.05 316 *e*P PKPdf 11 45 04.2 -0.9
XSO Sourhope Farm 144.07 3⇑ *i*P PKPdf 11 45 03.4 -1.3
BNN Bunyan 144.09 310 *e*P PKPdf 11 45 04.2 -1.1
YOZ Yozgat 144.16 311 *e*P PKPdf 11 45 05.3 0.0
GCL Cushendall 144.18 7⇑ *e*P PKPdf 11 45 03.3 -1.6
ANDN Andirin 144.19 308⇑ *i*P PKPdf 11 45 05.6 +0.1
ESK Eskdalemuir 144.19 4⇑ *i*P PKPdf 11 45 04.4 -0.5
ESK AMb AMB 11 45 06.8
comp=Z,148nm,2.0s
ESK Eskdalemuir 144.19 4 *e*PKPdf PKPdf 11 45 03.4 -1.5
KIS Kishinev 144.29 326⇑ *i*PKIKP PKPdf 11 45 04.0 -1.3
KIS pmax pmax
comp=Z,2μm,3.6s
KIS pmax pmax
comp=Z,800nm,4.0s
ECK Cauldkaine Hil 144.33 4⇑ *i*P PKPdf 11 45 03.9 -1.2
CORM Corum 144.42 313 *e*P PKPdf 11 45 05.9 +0.1
TOS Tosya 144.46 314 *e*P PKPdf 11 45 06.5 +0.6
GAL1 Galloway 144.53 5⇑ *i*P PKPdf 11 45 04.5 -1.0
GAL1 ⇑ *i*P 11 45 04.5
GAL1 AMb AMB 11 45 08.1
comp=Z,145nm,2.0s
LVV L'vov 144.53 334 *e*PKIKP PKPdf 11 45 04.7 -1.0
GCD Castle Douglas 144.59 5⇑ *i*P PKPdf 11 45 04.6 -1.0
KOZT Kozan 144.61 308 *e*P PKPdf 11 45 08.2 +2.0
BALT Daday 144.66 315⇑ *i*P PKPdf 11 45 07.0 +0.8
XAL Allendale 144.70 3⇑ *i*P PKPdf 11 45 05.3 -0.5
HTY Hatay 144.82 305 *e*P PKPdf 11 45 06.9 +0.3
CEYT Ceyhan 144.83 307 *e*P PKPdf 11 45 05.1 -1.5
AVNT Avonos 144.84 310⇑ *i*P PKPdf 11 45 07.1 +0.5
CDAG Cicekdag 144.84 312⇑ *i*P PKPdf 11 45 04.8 -1.8
CKE Keswick 144.93 4⇑ *i*P PKPdf 11 45 05.9 -0.3
CANT Cankiri 144.93 314 *e*P PKPdf 11 45 06.6 -0.1
GMM Mts of Mourne 145.02 7⇑ *e*P PKPdf 11 45 06.4 +0.1
KWP Kalwaria 145.22 335 *e*PKP PKPdf 11 45 07.7 +0.9
KWP Kalwaria 145.22 335 *e*PKP PKPdf 11 45 07.7 +0.9
KWP Kalwaria 145.22 335⇑ *i*P PKPdf 11 45 07.7 +0.9
DMUB Kingscourt 145.24 8 *e*P PKPdf 11 45 07.2 +0.5
KARA Karaisali 145.26 308 *e*P PKPdf 11 45 05.5 -1.8
SAFT Safranbolu 145.26 315 *e*P PKPdf 11 45 08.0 +0.8
HWQ Hawqa 145.51 302 *e*P PKPdf 11 45 09.2 +1.4
RUE Ruedersdorf 145.60 346 *e*PKPdf PKPdf 11 45 07.2 -0.2
RUE *e*PKPbc PKPbc 11 45 08.6 -0.6
HPK Haverah Park 145.63 2⇑ *e*P PKPdf 11 45 08.0 +0.6
HPK AMb AMB 11 45 10.6
comp=Z,317nm,1.4s
BURAR Bucovina Array 145.65 330⇑ *i*P PKPdf 11 45 08.6 +1.0
DCN Croghan 145.73 8 *e*P PKPdf 11 45 08.7 +1.1
MERS Mersin 145.80 307 *e*P PKPdf 11 45 09.9 +1.6
ANTO Ankara 145.83 313 *e*PKPdf PKPdf 11 45 07.4 -0.8
ANTO *e*PKPbc PKPbc 11 45 09.8 -0.5
ANTO Ankara 145.83 313 PKPdf PKPdf 11 45 07.4 -0.8
ANTO PKPdf PKPdf 11 45 07.5 -0.7
ANTO PKPbc PKPbc 11 45 10.1 -0.2
ANTO PKPbc PKPbc 11 45 10.1 -0.2
ANTO Ankara 145.83 313⇑ *i*P PKPdf 11 45 10.2 +2.0
RCY Rachaya 145.83 301 *e*P PKPdf 11 45 10.4 +2.0
LOD Lodumlu 145.84 313 *e*P PKPdf 11 45 09.8 +1.6
OJC Ojcow 145.85 338 *e*PKPdf PKPdf 11 45 07.1 -0.8
OJC *e*PKPbc PKPbc 11 45 09.3 -0.7
BHL Bhannes 145.85 302 *e*P PKPdf 11 45 10.1 +1.7
DLF Lyons Farm 145.88 8 *e*P PKPdf 11 45 08.9 +1.1
DSB Dublin 145.95 8 *e*PKPdf PKPdf 11 45 09.1 +1.2
KOLS Kolonicke sedl 145.95 334 *e*PKP PKPdf 11 45 07.9 -0.2
KOLS *e* 11 45 10.1
STHS Stebnicka Huta 145.97 336 *e*PKP PKPdf 11 45 07.5 -0.6
STHS *i* 11 45 10.2
LHO Holmfirth 146.03 3⇑ *i*P PKPdf 11 45 09.3 +1.2
KDZE Karadeniz Ereo 146.04 316 *e*P PKPdf 11 45 08.1 -0.4
TIRR Tirgusor 146.11 323 P PKPdf 11 45 10.3 +1.8
TIRR Tirgusor 146.11 323⇑ *i*P PKPdf 11 45 10.2 +1.7
VRI Vrincioaia 146.12 327 PKIKP PKPdf 11 45 09.9 +1.4
VRI Vrincioaia 146.12 327⇑ *i*P PKPdf 11 45 10.1 +1.6
BRD Bordesti 146.17 326⇓ *i*P PKPbc 11 45 11.8 +0.8
PLOR Plostina 146.17 327 PKIKP PKPdf 11 45 10.2 +1.6
PLOR Plostina 146.17 327⇑ *i*P PKPdf 11 45 10.5 +1.9
UZH Uzhgorod 146.18 334 *e*PKIKP PKPdf 11 45 07.6 -0.9
UZH *e* 11 47 27.0
HARR Harsova 146.24 324 P PKPdf 11 45 10.8 +2.1
HARR Harsova 146.24 324⇓ *i*P PKPdf 11 45 11.1 +2.4
CRVS Cervenica-Dubn 146.30 335 *e*PKIKP PKPdf 11 45 08.1 -0.6
CRVS *e* 11 45 11.0
CRVS Cervenica-Dubn 146.30 335 *e*PKP PKPdf 11 45 08.1 -0.6
CRVS *e* 11 45 11.0
CRVS *e* 11 55 34.7
CRVS *e* 11 55 39.0
NIE Niedzica 146.32 337 *e*PKPdf PKPdf 11 45 11.4 +2.7
NIE *e*PKPbc PKPbc 11 45 14.4 +3.1
NIE Niedzica 146.32 337 *e*PKP2 PKPab 11 45 14.4 +0.2
KBI1 Birley Grange 146.34 2⇑ P PKPdf 11 45 09.9 +1.3
KSP Ksiaz 146.44 342 *e*PKP PKPbc 11 45 11.5 0.0
KSP Ksiaz 146.44 342 *e*PKP2 PKPbc 11 45 11.1 -0.5
KSP Ksiaz 146.44 342 *e*PKPdf PKPdf 11 45 08.4 -0.5
KSP *e*PKP PKPdf 11 45 11.1 +2.2
KSP *ep*PKP pPKPdf 11 47 43.2 +1.4
TRPA Tarpa 146.46 333⇑ *i*P PKPdf 11 45 11.2 +2.2
RAC Raciborz 146.51 339 *e*PKIKP PKPdf 11 45 08.7 -0.3
EREN Erenkoy 146.53 305 *e*P PKPdf 11 45 12.1 +2.6
KWE Weaver Farm 146.56 3⇑ *i*P PKPdf 11 45 10.8 +1.8
SBD1 Bryn Du 146.59 4⇑ *e*P PKPdf 11 45 11.0 +2.0
HENT Hendek 146.64 316 *i*P PKPdf 11 45 07.7 -1.8
IKL Isikli 146.65 307 *e*P PKPdf 11 45 12.0 +2.3
ISR Istrita 146.71 326⇓ *i*P PKPbc 11 45 12.3 -0.2
PSN Preselentsi 146.72 322 *i*P PKPdf 11 45 08.9 -0.7
OKC Ostrava-Krasne 146.74 339 *e*PKPDF PKPdf 11 45 08.8 -0.6
OKC ⇑ *e*PKP PKPbc 11 45 12.0 -0.4
OKC *e*PKPAB PKPab 11 45 15.9 0.0
ABA1 Baconsthorpe 146.75 359⇑ *e*P PKPdf 11 45 11.5 +2.2
MLR Muntele Rosu 146.78 327 P PKPdf 11 45 12.0 +2.4
MLR Muntele Rosu 146.78 327⇑ *i*P PKPdf 11 45 11.9 +2.3
PHNC Paralimni 146.80 304 P PKPdf 11 45 12.4 +2.4
UPC Upice 146.82 342 *e*PKPDF PKPdf 11 45 09.2 -0.3
UPC ⇑ *e*PKP PKPbc 11 45 12.4 -0.2
CWF Charnwood Fore 146.86 2 *e*P PKPdf 11 45 08.6 -0.9
CWF AMb AMB 11 45 13.8
comp=Z,152nm,1.7s
IBBN Ibbenburen 146.87 352 *e*PKPdf PKPdf 11 45 09.1 -0.4
IBBN *e*PKPbc PKPbc 11 45 12.0 -0.6
DPC Dobruska-Polom 146.87 342 *e*PKPDF PKPdf 11 45 08.9 -0.7
DPC ⇑ *e*PKP PKPbc 11 45 12.7 0.0
DPC *e*PKPAB PKPab 11 45 16.9 +0.5
CLL Collm 146.88 346 *i*PKP2 PKPab 11 45 15.6 -0.8
CLL pmax pmax
comp=Z,88nm,0.6s
CLL Collm 146.88 346 *e*PKP PKPdf 11 45 09.0 -0.6
CLL ⇑ *i*PKP PKPbc 11 45 12.2 -0.5
CLL *i*PKP PKPdf 11 45 13.4 +3.8
CLL Collm 146.88 346 *e*PKPdf PKPdf 11 45 08.6 -1.0
CLL *i*PKPbc PKPbc 11 45 12.2 -0.5
comp=Z,235nm,0.6s
CLL *e*PKiKP PKiKP 11 45 13.6 -0.8
CLL *e*PKPab PKPab 11 45 15.4 -1.0
CLL *ep*PKPdf pPKPdf 11 47 41.5 -1.0
CLL *ep*PKPbc 11 47 43.3
CLL *e*PP PP 11 48 48.2 +4.3
CLL *e*SS SS 12 06 50.0 -1.7
CLL *e*SSS 12 12 28.7
CLL *e*SSSS 12 16 48.2
CLL Collm 146.88 346 *e*PKPdf PKPdf 11 45 09.0 -0.6
CLL ⇑ *i*PKPbc PKPbc 11 45 12.2 -0.5
comp=Z,228nm,0.6s
CLL *i*PKiKP PKiKP 11 45 13.4 -1.0
comp=Z,86nm,0.6s
CLL *i*PKPab PKPab 11 45 15.6 -0.8
comp=Z,88nm,0.6s
CLL *ep*PKPdf pPKPdf 11 47 41.0 -1.5
CLL *ep*PKiKP 11 47 43.0
CLL *e*PP PP 11 48 40.0 -3.9
CLL *e*PPP 11 52 06.0
CLL *es*PPP 11 55 12.0
CLL *e*SPP 12 00 33.0
CLL *ex* x 12 06 04.0
CLL *e*SS SS 12 06 54.0 +2.3
CLL *e*SSP 12 07 44.0
CLL *es*PSS 12 11 32.0
CLL *e*SSSS 12 16 45.0
KDHN Kadinhani 146.90 312 *i*P PKPbc 11 45 08.1 -5.1
KIZT Kizilcal 146.90 312 *e*P PKPbc 11 45 12.9 -0.3
CLZ Clausthal 146.91 349 *e*PKP2 PKPbc 11 45 12.5 -0.3
CLZ Clausthal 146.91 349 *e*PKPdf PKPdf 11 45 09.0 -0.6
CLZ *e*PKPbc PKPbc 11 45 12.5 -0.3
CLZ *ep*PKPbc 11 47 43.8
KONT Konya--Tatoy 146.97 310 *e*P PKPdf 11 45 09.1 -1.0
MORC Moravsky Berou 146.99 340 *e*PKPdf PKPdf 11 45 09.0 -0.8
MORC *e*PKPbc PKPbc 11 45 12.5 -0.5
MORC Moravsky Berou 146.99 340⇑ *i*P PKPbc 11 45 12.6 -0.4
HLM1 Long Mynd 147.00 4⇑ *e*P PKPdf 11 45 12.1 +2.3
AEU East Anglia Un 147.01 359⇑ *e*P PKPbc 11 45 12.2 -0.8
BRG Berggiesshubel 147.05 345 *e*PKIKP PKPdf 11 45 09.2 -0.7
BRG *i* 11 45 16.6
BRG *e* 11 48 52.0
BRG SS SS 12 06 48.0 -5.6
BRG Berggiesshubel 147.05 345 *e*PKP PKPdf 11 45 09.2 -0.7
BRG *i* 11 45 12.6
BRG *i* 11 45 16.6
BRG *e* 11 48 52.0
BRG *e* 11 54 11.0
BRG *e*SKKS SKKSac 11 54 28.8 -1.7
BRG SS SS 12 06 48.0 -5.6
BRG Berggiesshubel 147.05 345 *e*PKPdf PKPdf 11 45 09.1 -0.8
BRG *e*PKPbc PKPbc 11 45 12.7 -0.5
BRG *ep*PKPbc pPKPbc 11 47 42.7 -0.5
BRG Berggiesshubel 147.05 345 *e*PKP PKPdf 11 45 09.2 -0.7
comp=Z,16nm,1.0s
BRG Berggiesshubel 147.05 345 *i*PKP PKPbc 11 45 12.6 -0.5
comp=Z,116nm,0.6s
BRG *i* 11 45 16.6
comp=Z,39nm,0.7s
BRG pPKP pPKPdf 11 47 42.3 -0.5
comp=Z,13nm,1.1s
BRG SKKS SKKSac 11 54 28.8 -1.7
comp=Z,15nm,2.0s
BRG SS SS 12 06 48.0 -5.6
ERMK Ermenek 147.08 308 *i*P PKPbc 11 45 13.6 -0.1
PVCC Panska Ves 147.20 344 *e*PKPDF PKPdf 11 45 09.9 -0.2
PVCC ⇑ *e*PKP PKPbc 11 45 13.5 -0.1
VOIR 147.27 328 P PKPdf 11 45 10.1 -0.3
VOIR ⇓ P 11 45 13.5
VOIR 147.27 328⇓ *i*P PKPbc 11 45 13.5 -0.4
HDMB Hadim 147.27 309 *e*P PKPbc 11 45 13.2 -1.1
GPA Golpazari 147.30 316 *e*P PKPbc 11 45 13.9 -0.3
ESKT Eskisehir 147.31 314 *e*P PKPbc 11 45 14.0 -0.3
ESKT Eskisehir 147.31 314 *i*P PKPdf 11 45 09.5 -1.2
WTSB Winterswijk 147.32 353 *e*PKP PKPbc 11 45 12.9 -0.9
comp=Z,166nm,0.7s
CSS Prodhromos 147.36 305⇑ P PKPbc 11 45 13.8 -0.7
comp=Z,1.5nm,0.3s
CSS Prodhromos 147.36 305 *e*P PKPbc 11 45 13.8 -0.8
CSS Prodhromos 147.36 305 *e*PKPbc PKPbc 11 45 13.6 -0.9
MAMC Mammari 147.38 305⇑ P PKPdf 11 45 14.0 +3.1
DRGR 147.41 331 P PKPdf 11 45 09.6 -1.0
DRGR ⇑ P PKPbc 11 45 13.7 -0.5
DRGR 147.41 331⇑ *i*P PKPbc 11 45 13.7 -0.5
HTR Trewern Hill 147.41 5⇑ *e*P PKPdf 11 45 12.8 +2.4
HRT Hereke 147.44 317 *e*P PKPdf 11 45 13.0 +2.2
PRD Provadia 147.47 322 *i*P PKPdf 11 45 10.0 -0.8
MCH1 Michaelchurch 147.51 4⇑ *i*P PKPdf 11 45 12.9 +2.3
MCH1 AMb AMB 11 45 15.4
comp=Z,222nm,1.5s
ADVT Abdulvahap 147.60 316 *e*P PKPdf 11 45 11.0 -0.2
KLYT Kilyos 147.61 318 *e*P PKPdf 11 45 08.5 -2.6
SSW Stow on the Wo 147.61 3⇑ *i*P PKPbc 11 45 13.9 -0.6
VYHS Vyhne 147.64 337 *e*PKIKP PKPdf 11 45 09.8 -1.1
VYHS *e* 11 45 19.7
VYHS Vyhne 147.64 337 *e*PKP PKPdf 11 45 09.8 -1.1
VYHS *i* 11 45 14.6
VYHS *e* 11 45 19.7
VYHS *e* 11 47 43.0
VYHS *e* 11 55 32.1
LEF Lefka 147.65 305 *e*P PKPbc 11 45 14.6 -0.6
PRA Prague 147.66 343⇑ PKP PKPbc 11 45 15.0 +0.3
ISK Istanbul-Kandi 147.70 318 *e*P PKPdf 11 45 11.6 +0.3
PRU Pruhonice 147.70 343 *e*PKPDF PKPdf 11 45 10.1 -0.9
PRU ⇑ *e*PKP PKPbc 11 45 14.4 -0.5
PRU *e*PKPAB PKPab 11 45 19.6 -0.2
VRAC Vranov 147.70 340⇑ *i*P PKPbc 11 45 14.6 -0.3
PSZ Piszkesteto 147.71 336 *e*PKPdf PKPdf 11 45 10.1 -0.9
PSZ *e*PKPbc PKPbc 11 45 14.2 -0.8
PSZ *e*SKPdf SKPdf 11 47 44.8 +1.8
PSZ *e*SKPbc SKPbc 11 47 49.3 -1.0
PSZ Piszkesteto 147.71 336⇑ *e*PKP PKPbc 11 45 14.4 -0.6
PSZ Piszkesteto 147.71 336⇑ *i*P PKPbc 11 45 14.4 -0.6
KOLL Kolacno 147.72 338 *e*PKP PKPdf 11 45 10.8 -0.2
KOLL *i* 11 45 14.9
YLV Yalova 147.77 317 *e*P PKPbc 11 45 14.0 -1.4
SZAC Souni-Zanaja 147.78 305 P PKPbc 11 45 15.0 -0.6
BUG Bochum--Univer 147.78 352 *e*PKPdf PKPdf 11 45 09.7 -1.3
BUG *e*PKPbc PKPbc 11 45 14.0 -1.0
MOX Moxa 147.81 347 *e*PKP PKPdf 11 45 10.1 -1.0
comp=Z,42nm,1.7s
MOX *e* 11 45 14.4
comp=Z,265nm,1.9s
MOX Moxa 147.81 347 *e*PKIKP PKPdf 11 45 10.1 -1.0
MOX pmax pmax
comp=Z,42nm,1.7s
MOX pmax pmax
comp=Z,265nm,1.9s
MOX Moxa 147.81 347 *e*PKPdf PKPdf 11 45 09.8 -1.3
MOX *e*PKPbc PKPbc 11 45 14.5 -0.6
MOX *ep*PKPbc pPKPbc 11 47 48.0 +2.4
IZI Iznik 147.82 316 *e*P PKPbc 11 45 15.0 -0.5
TANN Tannenbergstha 147.83 346 *e*PKPdf PKPdf 11 45 10.4 -0.8
TANN *e*PKPbc PKPbc 11 45 14.8 -0.4
ALFC Alevga 147.86 305⇑ P PKPbc 11 45 14.7 -1.1
comp=Z,5.5nm,0.6s
HGH Gray Hill 147.88 4⇑ *e*P PKPbc 11 45 14.1 -1.2
SKP1 Kophill 147.90 2⇑ *i*P PKPbc 11 45 14.0 -1.3
GEMT Gemlik 147.96 317 *e*P PKPbc 11 45 14.5 -1.3
UBBA Unterbreizbach 147.96 349 *e*PKPdf PKPdf 11 45 10.0 -1.4
UBBA *e*PKPbc PKPbc 11 45 14.4 -1.1
UBBA *e*PKPab PKPab 11 45 19.4 -1.4
SHUT Suhut-Afyon 147.98 313 *e*P PKPdf 11 45 09.6 -2.2
NKC Novy Kostel 148.00 346 *e*PKPDF PKPdf 11 45 11.1 -0.3
NKC ⇑ *e*PKP PKPbc 11 45 15.5 -0.1
NKC *e*PKPAB PKPab 11 45 20.7 -0.3
ALT Altintas 148.04 314 *e*P PKPdf 11 45 12.2 +0.3
ELBA Catalca 148.05 318⇑ *i*P PKPbc 11 45 15.3 -0.7
TREC Trest 148.06 342 *e*PKP2 PKPbc 11 45 15.5 -0.3
TREC Trest 148.06 342⇑ *e*PKP PKPbc 11 45 15.5 -0.3
SWN1 Swindon 148.06 3⇑ *e*P PKPbc 11 45 14.5 -1.2
SWN1 ⇑ *e*P 11 45 14.5
SWN1 AMb AMB 11 45 16.2
comp=Z,365nm,1.6s
AKMC Akamas 148.11 305⇑ P PKPbc 11 45 14.9 -1.5
PPCY Paphos 148.15 305⇑ P PKPbc 11 45 15.1 -1.4
SZH Strazhica 148.26 324 *i*P PKPdf 11 45 10.8 -1.3
MODS Modra-Piesok 148.29 339 *e*PKP PKPdf 11 45 11.7 -0.3
MODS *i* 11 45 16.7
MODS *e* 11 47 50.0
CALA Caldeira 148.29 47 *e*PKP PKPbc 11 45 16.9 +0.2
ZIMR 148.31 325 PKHKP 11 45 16.0
ISP Isparta 148.33 311 *e*P PKPbc 11 45 15.9 -1.0

ISP	**Isparta**	**148.33 311**	*eP*	PKPbc	PKPbc	11 45 15.3	-1.5
ISP	**Isparta**	**148.33 311**	*e*PKPdf	PKPdf	PKPdf	11 45 12.6	+0.2
ISP			*e*PKPbc	PKPbc	PKPbc	11 45 15.6	-1.3
HOR	**Horta**	**148.37 47**	*e*PKP	PKPbc	PKPbc	11 45 17.3	+0.4
HEX	**Exmoor**	**148.37 5**	⇑*iP*	PKPbc	PKPbc	11 45 15.4	-1.0
HTL	**Hartland**	**148.38 6**	*eP*	PKPbc	PKPbc	11 45 15.2	-1.3
HTL			AMb	AMB	AMB	11 45 17.8	
	comp=Z,168nm,1.5s						
JMB	**Yambol**	**148.39 322**	*eP*	PKPbc	PKPbc	11 45 16.3	-0.5
JMB	**Yambol**	**148.39 322**	*i P*	PKPdf	PKPdf	11 45 11.0	-1.3
BUD	**Budapest**	**148.41 336**	⇑*e*PKP	PKPbc	PKPbc	11 45 15.9	-0.8
SWK	**Warminster**	**148.41 4**	⇑*eP*	PKPbc	PKPbc	11 45 15.4	-1.2
GZR	**Gura Zlata**	**148.42 330**	⇓*iP*	PKPbc	PKPbc	11 45 16.1	-0.7
BCK	**Bucak**	**148.44 311**	*eP*	PKPbc	PKPbc	11 45 14.6	+2.0
GDZ	**Gediz**	**148.45 314**	⇑*iP*	PKPbc	PKPbc	11 45 16.2	-0.8
ROTZ	**Rotzenmuhle**	**148.50 346**	*e*PKPbc	PKPbc	PKPbc	11 45 16.4	-0.4
ZST	**Bratislava**	**148.50 339**	*e*PKP	PKPbc	PKPbc	11 45 16.9	0.0
ZST			*e*			11 47 48.5	
PICO	**Pico**	**148.52 47**	*e*PKP	PKPbc	PKPbc	11 45 17.3	0.0
SRBC	**Serra Branca**	**148.52 46**	*e*PKP	PKPbc	PKPbc	11 45 17.0	-0.3
TFO1	**Folkestone**	**148.52 359**	⇑*eP*	PKPbc	PKPbc	11 45 16.3	-0.5
ROSA	**Rosais**	**148.54 46**	*e*PKP	PKPbc	PKPbc	11 45 17.0	-0.3
PGRA	**Graciosa**	**148.57 46**	*e*PKP	PKPbc	PKPbc	11 45 17.1	-0.3
BEBN	**Eben Emael**	**148.59 354**	PKPbc	PKPbc	PKPbc	11 45 16.3	-0.7
BEBN			PKPab	PKPab	PKPab	11 45 22.3	-1.2
HGN	**Heimansgroeve**	**148.60 354**	*e*PKP	PKPbc	PKPbc	11 45 16.3	-0.7
	comp=Z,104nm,1.1s						
EDRB	**Edirne**	**148.68 321**	*eP*	PKPbc	PKPbc	11 45 15.8	-1.7
CRAR	**CRAIOVA**	**148.69 327**	PKP2	PKPbc	PKPbc	11 45 17.6	+0.1
PMAN	**Manadas**	**148.69 47**	*e*PKP	PKPbc	PKPbc	11 45 17.4	-0.3
UCC	**Uccle**	**148.71 356**	PKP	PKPdf	PKPdf	11 45 11.4	-1.2
UCC			PKPbc	PKPbc	PKPbc	11 45 16.6	-0.7
KHC	**Kasperske Hory**	**148.74 344**	*e*PKPDF	PKPdf	PKPdf	11 45 12.2	-0.5
KHC			⇑*e*PKP	PKPbc	PKPbc	11 45 17.3	-0.1
KHC			*e*PKPAB	PKPab	PKPab	11 45 24.6	+0.5
MEM	**Membach**	**148.74 353**	PKP	PKPdf	PKPdf	11 45 11.7	-0.9
MEM			PKPbc	PKPbc	PKPbc	11 45 16.5	-0.9
MEM			PKPab	PKPab	PKPab	11 45 22.9	-1.1
GRA1	**Grafenberg Arr**	**148.79 347**	*e*PKPdf	PKPdf	PKPdf	11 45 12.0	-0.7
GRA1			*e*PKPbc	PKPbc	PKPbc	11 45 17.2	-0.3
GRA1			*e*PKPab	PKPab	PKPab	11 45 23.5	-0.8
GRA1			*e*pPKPbc	pPKPbc	pPKPbc	11 47 48.0	-0.4
GRF	**Grafenberg Arr**	**148.79 347**	*e*PKP2	PKPab	PKPab	11 45 23.5	-0.8
GRF	**Grafenberg Arr**	**148.79 347**	*e*PKP	PKPdf	PKPdf	11 45 12.0	-0.7
GRF			*e*PKP	PKPbc	PKPbc	11 45 17.2	-0.3
GRF	**Grafenberg Arr**	**148.79 347**	*e*PKPdf	PKPdf	PKPdf	11 45 12.0	-0.7
GRF			*e*PKPbc	PKPbc	PKPbc	11 45 17.2	-0.3
GRF			*e*PKPab	PKPab	PKPab	11 45 23.5	-0.8
GRF			*e*pPKPbc	pPKPbc	pPKPbc	11 47 48.0	-0.4
GRFO	**Grafenberg**	**148.79 347**	*e*PKPdf	PKPdf	PKPdf	11 45 12.4	-0.3
GRFO			*e*PKPbc	PKPbc	PKPbc	11 45 17.3	-0.2
GRFO			*e*PKPab	PKPab	PKPab	11 45 23.6	-0.7
GRFO	**Grafenberg**	**148.79 347**	PKPdf	PKPdf	PKPdf	11 45 11.8	-0.9
GRFO			PKPbc	PKPbc	PKPbc	11 45 17.2	-0.4
GRFO			PKPab	PKPab	PKPab	11 45 23.7	-0.5
BZS	**Buzias**	**148.80 331**	P	PKPdf	PKPdf	11 45 11.9	-1.0
BZS			⇑P	PKPbc	PKPbc	11 45 16.9	-0.8
BZS	**Buzias**	**148.80 331**	⇑*iP*	PKPbc	PKPbc	11 45 17.0	-0.7
KHL	**Karahalli**	**148.80 313**	*eP*	PKPdf	PKPdf	11 45 16.4	+3.3
BNT	**Bandirma**	**148.81 318**	*eP*	PKPbc	PKPbc	11 45 17.1	-0.8
WET	**Wettzell**	**148.91 344**	*e*PKP2	PKPab	PKPab	11 45 24.6	-0.2
WET	**Wettzell**	**148.91 344**	*e*PKPdf	PKPdf	PKPdf	11 45 12.0	-0.9
WET			*e*PKPbc	PKPbc	PKPbc	11 45 17.4	-0.5
WET			*e*PKPab	PKPab	PKPab	11 45 24.6	-0.2
CSA1	**St Austell**	**148.97 7**	⇑*iP*	PKPbc	PKPbc	11 45 16.7	-1.2
GEC2	**GERESS Array S**	**148.97 343**	*e*PKHKP	PKPbc	PKPbc	11 45 17.5	-0.5
GEC2	**GERESS Array S**	**148.97 343**	*e*PKPdf	PKPdf	PKPdf	11 45 12.0	-1.0
GEC2			*e*PKPbc	PKPbc	PKPbc	11 45 17.5	-0.5
GEC2			*e*pPKPbc	pPKPbc	pPKPbc	11 47 51.0	+2.0
GERES	**GERESS Array B**	**148.97 343**	PKP	PKPdf	PKPdf	11 45 12.3	-0.8
	comp=Z,37nm,0.6s,baz=41,slow=1.0,SNR=93						
GERES			PKPbc	PKPbc	PKPbc	11 45 17.2	-0.8
	comp=Z,37nm,0.6s,baz=33,slow=4.5,SNR=150						
MFT	**Murefte**	**148.97 319**	*eP*	PKPdf	PKPdf	11 45 13.6	+0.3
DYA	**Yadsworthy**	**148.99 6**	⇑*eP*	PKPbc	PKPbc	11 45 16.7	-1.3
BCLA	**Clavier**	**149.00 354**	PKP	PKPdf	PKPdf	11 45 11.5	-1.5
BCLA			PKPbc	PKPbc	PKPbc	11 45 17.1	-0.9
BCLA			PKPab	PKPab	PKPab	11 45 24.0	-1.1
MENF	**Mencas**	**149.06 358**	PKP	PKPdf	PKPdf	11 45 05.8	-7.3
BTOK	**Tokmak**	**149.06 316**	*i P*	PKPbc	PKPbc	11 45 17.7	-0.8
CCA1	**Carnmenellis**	**149.09 7**	⇑*iP*	PKPbc	PKPbc	11 45 16.9	-1.3
RKY	**Sarkoy-Tekirda**	**149.09 319**	*eP*	PKPbc	PKPbc	11 45 17.1	-1.5
CRQ2	**Rosemanowes 2**	**149.12 7**	⇑*iP*	PKPbc	PKPbc	11 45 17.1	-1.2
CONA	**Conrad Observa**	**149.15 340**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 12.3	-1.0
	comp=Z,8.2nm,1.0s						
CONA			⇑*i*PKiKP	PKiKP	PKiKP	11 45 18.4	-0.9
	comp=Z,61nm,0.6s						
CMA1	**Manaccan**	**149.21 7**	⇑*iP*	PKPbc	PKPbc	11 45 17.3	-1.3
BALB	**Balikesir**	**149.23 316**	*eP*	PKPbc	PKPbc	11 45 18.0	-0.9
ELL	**Elmali**	**149.24 310**	*eP*	PKPbc	PKPbc	11 45 15.2	+1.3
ABH	**Alteburg**	**149.27 351**	PKP	PKPdf	PKPdf	11 45 12.5	-1.0
KULA	**Kula-Manisa**	**149.29 314**	*eP*	PKPbc	PKPbc	11 45 17.7	-1.5
TOD	**Tromm**	**149.34 350**	PKIKP	PKPdf	PKPdf	11 45 12.5	-1.1
GIVF	**Givet**	**149.36 355**	*e*PKIKP	PKPdf	PKPdf	11 45 12.5	-1.1
DOU	**Dourbes**	**149.38 355**	PKPbc	PKPbc	PKPbc	11 45 18.4	-0.6
DOU			PKPab	PKPab	PKPab	11 45 25.7	-1.1
DENT	**Denizli**	**149.41 312**	*eP*	PKPbc	PKPbc	11 45 17.7	-1.8
BAIF	**Baives**	**149.45 356**	*e*PKIKP	PKPdf	PKPdf	11 45 12.9	-0.9
RUP	**Ruppelstein**	**149.51 352**	PKIKP	PKPdf	PKPdf	11 45 12.8	-1.1
LPK	**Lapseki**	**149.53 319**	*eP*	PKPbc	PKPbc	11 45 19.3	-0.3
KDZ	**Kurdzhali**	**149.58 322**	*i P*	PKPdf	PKPdf	11 45 12.8	-1.4
PKSM	**Moragy**	**149.60 335**	P	PKPdf	PKPdf	11 45 13.0	-1.1
PKSM			⇑P	PKPbc	PKPbc	11 45 18.6	-1.0
PKSM	**Moragy**	**149.60 335**	⇑*iP*	PKPbc	PKPbc	11 45 18.6	-1.0
WLF	**Walferdange**	**149.66 353**	*e*PKPdf	PKPdf	PKPdf	11 45 13.8	-0.3
WLF			*e*PKPbc	PKPbc	PKPbc	11 45 19.3	-0.3
WLF	**Walferdange**	**149.66 353**	PKP	PKPdf	PKPdf	11 45 13.7	-0.4
WLF			PKPbc	PKPbc	PKPbc	11 45 19.6	0.0
WLF	**Walferdange**	**149.66 353**	*e*PKPdf	PKPdf	PKPdf	11 45 13.7	-0.4
WLF			*e*PKPbc	PKPbc	PKPbc	11 45 19.6	0.0
WLF			*e*PKPab	PKPab	PKPab	11 45 28.1	+0.2
ALN	**Alexandroupoli**	**149.67 320**	*eP*	PKPbc	PKPbc	11 45 18.4	-1.5
AKHS	**Akhisar**	**149.68 315**	⇑*iP*	PKPdf	PKPdf	11 45 19.0	+4.5
ENEZ	**Enez**	**149.70 320**	*eP*	PKPdf	PKPdf	11 45 17.1	+2.6
PLD	**Plovdiv**	**149.70 323**	*eP*	PKPbc	PKPbc	11 45 18.7	-1.2
PGB	**Panagyurishte**	**149.71 324**	*i P*	PKPbc	PKPbc	11 45 11.5	-8.5
MOA	**Molln**	**149.71 342**	⇑*i*	PKPbc	PKPbc	11 45 19.2	-0.6
	comp=Z,31nm,0.5s						
MOA	**Molln**	**149.71 342**	⇓*i*PKPdf	PKPdf	PKPdf	11 45 13.3	-0.9
	comp=Z,10nm,1.4s						
MOA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 19.2	-0.6
	comp=Z,31nm,0.5s						
KTD	**Kalmit**	**149.73 350**	PKIKP	PKPdf	PKPdf	11 45 13.2	-1.0
ARSA	**Arzberg**	**149.85 340**	⇑*i*	PKPbc	PKPbc	11 45 19.4	-0.8
	comp=Z,28nm,1.3s						
ARSA	**Arzberg**	**149.85 340**	⇓*i*PKPdf	PKPdf	PKPdf	11 45 13.5	-1.0
	comp=Z,6.5nm,1.4s						
ARSA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 19.4	-0.8
	comp=Z,28nm,1.3s						
RZN	**Rozhen**	**149.96 322**	*i P*	PKPdf	PKPdf	11 45 13.2	-1.6
STU	**Stuttgart**	**150.07 349**	*e*PKPdf	PKPdf	PKPdf	11 45 14.2	-0.6
STU			*e*PKPbc	PKPbc	PKPbc	11 45 20.1	-0.5
STU			*e*PKPab	PKPab	PKPab	11 45 28.7	-1.0
LANF	**Langenberg**	**150.11 351**	PKP	PKPdf	PKPdf	11 45 13.7	-1.1
DALT	**Dalyan (Mudla)**	**150.15 311**	*eP*	PKPbc	PKPbc	11 45 21.0	-0.2
GADA	**Gvkgeada**	**150.18 319**	*eP*	PKPdf	PKPdf	11 45 17.1	+1.8
AYVA	**Ayvalik**	**150.18 317**	⇑*iP*	PKPbc	PKPbc	11 45 20.0	-1.2
VTS	**Vitosha**	**150.20 325**	*eP*	PKPbc	PKPbc	11 45 20.2	-0.9
VTS	**Vitosha**	**150.20 325**	P	PKPdf	PKPdf	11 45 13.9	-1.2
VTS	**Vitosha**	**150.20 325**	⇑*iP*	PKPbc	PKPbc	11 45 20.7	-0.4
VTS	**Vitosha**	**150.20 325**	*i P*	PKPdf	PKPdf	11 45 13.8	-1.4
FUR	**Furstenfeldbru**	**150.21 346**	*e*PKPdf	PKPdf	PKPdf	11 45 14.0	-1.0
FUR			*e*PKPbc	PKPbc	PKPbc	11 45 20.4	-0.5
FUR			*e*PKPab	PKPab	PKPab	11 45 29.9	-0.4
YER	**Yerkesik**	**150.23 312**	*eP*	PKPbc	PKPbc	11 45 19.5	-1.9
BOZC	**Bozcaada**	**150.28 318**	⇑*iP*	PKPbc	PKPbc	11 45 20.1	-1.3
KDAG	**Bornova**	**150.29 315**	*i P*	PKPbc	PKPbc	11 45 20.3	-1.2
BLCB	**Balcova**	**150.45 315**	*eP*	PKPbc	PKPbc	11 45 20.7	-1.2
STR	**Strasbourg**	**150.50 350**	PKP	PKPdf	PKPdf	11 45 13.2	-2.2
MLSB	**Milas**	**150.50 312**	*eP*	PKPbc	PKPbc	11 45 19.6	-2.4
PERS	**Pernice**	**150.53 340**	*i* PKPdf	PKPdf	PKPdf	11 45 13.2	-2.3
PERS			*i* PKPbc	PKPbc	PKPbc	11 45 20.5	-1.3
PERS			*e*PKPab	PKPab	PKPab	11 45 30.4	-1.2
MMB	**Musomiste**	**150.59 323**	*i P*	PKPdf	PKPdf	11 45 14.1	-1.7
BFO	**Black Forest**	**150.65 350**	*e*PKPdf	PKPdf	PKPdf	11 45 13.6	-2.1
BFO			*e*PKPbc	PKPbc	PKPbc	11 45 21.2	-0.7
BFO			*e*PKPab	PKPab	PKPab	11 45 31.0	-1.1
KBA	**Koelnbreinsper**	**150.68 342**	⇑*i*	PKPbc	PKPbc	11 45 20.8	-1.2
	comp=Z,45nm,0.5s						
KBA	**Koelnbreinsper**	**150.68 342**	⇓*i*PKPdf	PKPdf	PKPdf	11 45 14.4	-1.4
	comp=Z,7.5nm,1.1s						
KBA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 20.8	-1.2
	comp=Z,45nm,0.5s						
DIVS	**Divibare**	**150.70 331**	*eP*	PKPbc	PKPbc	11 45 21.7	-0.5
URLA	**Izmir**	**150.76 315**	*i P*	PKPbc	PKPbc	11 45 21.4	-1.2
KKB	**Krupnik**	**150.76 324**	*i P*	PKPdf	PKPdf	11 45 14.3	-1.7
SPAK	**Spaichingen-Ko**	**150.79 349**	PKP	PKPdf	PKPdf	11 45 15.1	-0.8
OBKA	**Obir**	**150.82 340**	⇑*i*	PKPbc	PKPbc	11 45 21.0	-1.4
	comp=Z,28nm,0.6s						
OBKA	**Obir**	**150.82 340**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 15.5	-0.5
	comp=Z,10.0nm,1.8s						
OBKA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 21.0	-1.4
	comp=Z,28nm,0.6s						
BDRM	**Kayabasi**	**150.85 312**	⇑*iP*	PKPbc	PKPbc	11 45 21.6	-1.2
FLN	**La Foliniere**	**150.86 2**	*e*PKIKP	PKPdf	PKPdf	11 45 14.8	-1.2
	comp=Z,27nm,0.6s						
FLN			*e*MLR	MLR	MLR		
	comp=Z,59nm,19.2s						
FLN	**La Foliniere**	**150.86 2**	*e*PKPdf	PKPdf	PKPdf	11 45 14.8	-1.2
FLN			LR	LR	LR		
	comp=Z,60nm,19.3s						
WATA	**Walderalm**	**150.91 345**	⇑*i*	PKPbc	PKPbc	11 45 21.6	-0.9
	comp=Z,64nm,0.4s						
WATA	**Walderalm**	**150.91 345**	⇓*i*PKPdf	PKPdf	PKPdf	11 45 15.0	-1.1
	comp=Z,3.4nm,0.7s						
WATA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 21.6	-0.9
	comp=Z,64nm,0.4s						
DAT	**Datca**	**150.92 312**	*eP*	PKPbc	PKPbc	11 45 21.3	-1.6
MEZF	**Maizieres J'vi**	**150.93 354**	*e*PKIKP	PKPdf	PKPdf	11 45 15.6	-0.5
	comp=Z,29nm,0.9s						
BODT	**Bodrum**	**150.94 312**	*eP*	PKPbc	PKPbc	11 45 22.0	-1.0
ECH	**Echery**	**150.95 351**	PKP	PKPdf	PKPdf	11 45 12.8	-3.3
WTTA	**Wattenberg**	**150.97 345**	⇑*i*	PKPbc	PKPbc	11 45 22.3	-0.4
	comp=Z,101nm,0.4s						
WTTA	**Wattenberg**	**150.97 345**	⇑*i*	PKPab	PKPab	11 45 32.7	-0.8
	comp=Z,57nm,0.5s						
WTTA	**Wattenberg**	**150.97 345**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 15.2	-1.0
	comp=Z,27nm,1.3s						
WTTA			⇑*i*PKiKP	PKiKP	PKiKP	11 45 22.3	-0.7
	comp=Z,101nm,0.4s						
WTTA			⇑*i*PKPab	PKPab	PKPab	11 45 32.7	-0.8
	comp=Z,57nm,0.5s						
RETA	**Reutte**	**150.97 346**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 14.8	-1.4
	comp=Z,15nm,1.7s						
RETA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 21.7	-1.0
	comp=Z,24nm,0.5s						
SRS	**Serrai**	**150.97 323**	*eP*	PKPbc	PKPbc	11 45 21.1	-1.8
MYKA	**Terra Mystica**	**150.99 341**	⇓*i*PKPdf	PKPdf	PKPdf	11 45 15.1	-1.1
	comp=Z,7.9nm,0.8s						
MYKA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 21.4	-1.4
	comp=Z,56nm,0.5s						
MOTA	**Moosalm**	**151.02 345**	⇓*i*	PKPbc	PKPbc	11 45 21.9	-0.9
	comp=Z,33nm,0.7s						
MOTA	**Moosalm**	**151.02 345**	⇓*i*	PKPab	PKPab	11 45 33.3	-0.4
	comp=Z,28nm,0.5s						
MOTA	**Moosalm**	**151.02 345**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 14.8	-1.4
	comp=Z,9.5nm,0.8s						
MOTA			⇓*i*PKPbc	PKPbc	PKPbc	11 45 21.9	-0.9
	comp=Z,33nm,0.7s						
MOTA			⇓*i*PKPab	PKPab	PKPab	11 45 33.3	-0.4
	comp=Z,28nm,0.5s						
LDF	**La Druitiere**	**151.04 1**	*e*PKIKP	PKPdf	PKPdf	11 45 15.0	-1.2
	comp=Z,24nm,0.7s						
THEF	**They Montfort**	**151.09 353**	PKP	PKPdf	PKPdf	11 45 12.1	-4.2
CHOS	**Chios island**	**151.10 316**	*eP*	PKPbc	PKPbc	11 45 22.4	-0.9
SQTA	**Sankt Quirin**	**151.11 345**	⇑*i*	PKPbc	PKPbc	11 45 22.4	-0.7
	comp=Z,41nm,0.5s						
SQTA	**Sankt Quirin**	**151.11 345**	⇓*i*PKPdf	PKPdf	PKPdf	11 45 15.4	-1.0
	comp=Z,5.7nm,0.7s						
SQTA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 22.4	-0.7
	comp=Z,41nm,0.5s						
FELD	**Feldberg im Sc**	**151.15 350**	PKP	PKPdf	PKPdf	11 45 14.4	-2.0
ABTA	**Abfaltersbach**	**151.21 343**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 15.0	-1.6
	comp=Z,45nm,1.8s						
ABTA			⇑*i*PKPbc	PKPbc	PKPbc	11 45 21.9	-1.3
	comp=Z,83nm,0.5s						
GRR	**Gorron**	**151.23 2**	*e*PKIKP	PKPdf	PKPdf	11 45 15.3	-1.2
	comp=Z,17nm,0.7s						
LJU	**Ljubljana**	**151.24 340**	*e*PKPdf	PKPdf	PKPdf	11 45 15.0	-1.6
LJU			*e*PKPbc	PKPbc	PKPbc	11 45 22.1	-1.3
LJU			*e*PKPab	PKPab	PKPab	11 45 28.5	-6.2
OUR	**Ouranopolis**	**151.25 321**	*eP*	PKPbc	PKPbc	11 45 21.9	-1.7
HAU	**Haudompre**	**151.27 352**	*e*PKIKP	PKPdf	PKPdf	11 45 15.3	-1.3
HAU			*e*MLR	MLR	MLR		
	comp=Z,118nm,23.0s						
HAU	**Haudompre**	**151.27 352**	*e*PKPdf	PKPdf	PKPdf	11 45 15.3	-1.3
HAU			LR	LR	LR		
	comp=Z,120nm,23.0s						
PTCC	**Patocco-Chiusa**	**151.28 342**	PKP	PKPdf	PKPdf	11 45 15.4	-1.3
SOH	**Sokhos**	**151.30 322**	*eP*	PKPbc	PKPbc	11 45 21.6	-2.0
MOF	**Molkenrain**	**151.31 351**	PKP	PKPdf	PKPdf	11 45 14.7	-2.0
KNT	**Kendrikon**	**151.34 323**	*eP*	PKPbc	PKPbc	11 45 21.8	-2.0
DAVA	**Damuels**	**151.35 347**	⇑*i*	PKPbc	PKPbc	11 45 23.0	-0.6
	comp=Z,44nm,0.5s						
DAVA	**Damuels**	**151.35 347**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 15.8	-0.9
	comp=Z,13nm,1.1s						
DAVA			⇑*i*PKiKP	PKiKP	PKiKP	11 45 23.0	-0.8
	comp=Z,44nm,0.5s						
STIP	**Stip**	**151.37 325**	*eP*	PKPbc	PKPbc	11 45 23.1	-0.7
STIP	**Stip**	**151.37 325**	*e*PKP	PKPbc	PKPbc	11 45 22.7	-1.1
HINF	**Hinteralfeld**	**151.38 351**	*e*PKIKP	PKPdf	PKPdf	11 45 15.3	-1.5
VAY	**Valandovo**	**151.41 324**	*eP*	PKPbc	PKPbc	11 45 21.8	-2.1
VAY	**Valandovo**	**151.41 324**	*e*PKP	PKPbc	PKPbc	11 45 21.7	-2.2
FETA	**Feichten**	**151.41 346**	⇑*i*PKPdf	PKPdf	PKPdf	11 45 16.0	-0.8
	comp=Z,23nm,0.9s						
FETA			⇑*i*PKiKP	PKiKP	PKiKP	11 45 23.2	-0.7
	comp=Z,30nm,0.5s						
GMNA	**Gemona**	**151.44 342**	PKP	PKPdf	PKPdf	11 45 15.9	-1.0
VOY	**Vojsko**	**151.45 341**	*e*PKPdf	PKPdf	PKPdf	11 45 15.4	-1.5
VOY			*e*PKPbc	PKPbc	PKPbc	11 45 22.5	-1.3
VOY			*e*PKPab	PKPab	PKPab	11 45 33.3	-2.3
BOJS	**Bojanci**	**151.47 338**	*i* PKPdf	PKPdf	PKPdf	11 45 16.1	-0.8
BOJS			*i* PKPbc	PKPbc	PKPbc	11 45 23.3	-0.6
BOJS			*e*PKPab	PKPab	PKPab	11 45 34.7	-0.9
BOJS			*i*			11 47 54.1	
JAVS	**Javornik**	**151.52 340**	*i* PKPdf	PKPdf	PKPdf	11 45 15.6	-1.4
JAVS			*i* PKPbc	PKPbc	PKPbc	11 45 22.8	-1.2
JAVS			*i* PKPab	PKPab	PKPab	11 45 34.3	-1.6
PLG	**Polygyros**	**151.54 322**	*eP*	PKPbc	PKPbc	11 45 22.1	-2.1
SKO	**Skopje**	**151.57 326**	*eP*	PKPbc	PKPbc	11 45 23.7	-0.5
SKO	**Skopje**	**151.57 326**	*e*PKP	PKPbc	PKPbc	11 45 23.7	-0.5
PLE	**Pljevlja**	**151.57 331**	⇑*i*PKP	PKPbc	PKPbc	11 45 23.5	-0.7
HORT	**Hortiatis**	**151.60 322**	*eP*	PKPbc	PKPbc	11 45 22.4	-1.9
BBS	**Basel-Blauen**	**151.63 350**	PKIKP	PKPdf	PKPdf	11 45 13.7	-3.5
IVA	**Berane**	**151.68 329**	⇑*i*PKP	PKPbc	PKPbc	11 45 23.6	-0.8
PAIG	**Paliouri**	**151.69 321**	*eP*	PKPbc	PKPbc	11 45 22.3	-2.2
GRG	**Griva**	**151.75 324**	*eP*	PKPdf	PKPdf	11 45 23.1	+5.5
APPI	**Appiano**	**151.80 344**	PKP	PKPdf	PKPdf	11 45 15.4	-2.0
LOMF	**Lomont**	**151.84 351**	PKP	PKPdf	PKPdf	11 45 15.1	-2.4
PVY	**Plav**	**151.85 329**	⇑*i*PKP	PKPbc	PKPbc	11 45 23.9	-0.9
UPM	**Unac-Piva**	**151.89 331**	⇑*i*PKP	PKPbc	PKPbc	11 45 23.6	-1.3
AOS	**Alonnisos**	**152.03 319**	*eP*	PKPbc	PKPbc	11 45 22.8	-2.5
CTI	**Castel Tesino**	**152.09 344**	PKIKP	PKPdf	PKPdf	11 45 16.5	-1.4
NKY	**Niksic**	**152.15 330**	⇓*i*PKP	PKPbc	PKPbc	11 45 24.7	-0.8
APE	**Apeiranthos**	**152.16 314**	*eP*	PKPbc	PKPbc	11 45 23.7	-2.0
APE	**Apeiranthos**	**152.16 314**	⇑*iP*	PKPbc	PKPbc	11 45 23.7	-2.0
TUE	**Stuetta**	**152.24 347**	PKP	PKPdf	PKPdf	11 45 17.3	-0.8
LOR	**Lormes**	**152.25 355**	*e*PKIKP	PKPdf	PKPdf	11 45 17.3	-0.8
	comp=Z,38nm,1.1s						
LOR			*e*MLR	MLR	MLR		
	comp=Z,64nm,22.0s						
LOR	**Lormes**	**152.25 355**	*e*PKPdf	PKPdf	PKPdf	11 45 17.3	-0.8
LOR			LR	LR	LR		
	comp=Z,60nm,22.0s						
LIT	**Litokhoron**	**152.27 322**	*eP*	PKPbc	PKPbc	11 45 24.1	-1.8
BRY	**Bratogost**	**152.30 331**	⇑*i*PKP	PKPbc	PKPbc	11 45 24.4	-1.4
TTG	**Podgorica**	**152.32 329**	⇑*i*PKP	PKPbc	PKPbc	11 45 24.6	-1.3
XOR	**Xorichti**	**152.33 320**	*eP*	PKPbc	PKPbc	11 45 23.4	-2.6
SSF	**Saint Saulge**	**152.48 356**	*e*PKIKP	PKPdf	PKPdf	11 45 17.6	-0.8
	comp=Z,29nm,0.9s						
OHR	**Ohrid**	**152.52 326**	*eP*	PKPbc	PKPbc	11 45 24.7	-1.7
OHR	**Ohrid**	**152.52 326**	*e*PKP	PKPbc	PKPbc	11 45 24.6	-1.7
SANT	**Santorini**	**152.57 313**	*eP*	PKPbc	PKPbc	11 45 24.2	-2.4
SANT	**Santorini**	**152.57 313**	*e*PKPbc	PKPbc	PKPbc	11 45 24.0	-2.6
BUM	**Brajici-Budva**	**152.60 330**	⇑*i*PKP	PKPbc	PKPbc	11 45 25.3	-1.2
ZKR	**Zakros**	**152.65 310**	*eP*	PKPbc	PKPbc	11 45 25.9	-0.9
CABF	**La Chapelle**	**152.67 352**	*e*PKIKP	PKPdf	PKPdf	11 45 18.2	-0.5
HCY	**Herceg Novi**	**152.67 330**	⇑*i*PKP	PKPbc	PKPbc	11 45 25.0	-1.6
ULC	**Ulcinj**	**152.68 329**	⇑*i*PKP	PKPbc	PKPbc	11 45 25.4	-1.3
AVF	**Avril sur Loir**	**152.76 356**	*e*PKIKP	PKPdf	PKPdf	11 45 17.6	-1.2
TIR

ASAR				S		**Sn**	**11 49 58.9 -0.2**
	1.7nm,0.3s,baz=356,slow=24,SNR=8.8						
CTA	**Charters Tower**	**19.94 132**		P		**P**	**11 47 34.0 +5.0**
	6.4nm,1.1s,baz=304,slow=16,SNR=5.6						
JIRN	**Jiri**	**55.09 311**		*e*P		**P**	**11 52 26.5 -0.1**
	18nm,0.6s,mb5.3						
GUN	**Gumba**	**55.45 311**		*e*P		**P**	**11 52 29.3 0.0**
	32nm,0.5s,mb5.6						
PKI	**Pulchoki**	**55.63 310**		*e*P		**P**	**11 52 30.2 -0.3**
	5.6nm,0.5s,mb4.8						
KKN	**Kakani**	**55.84 311**		*e*P		**P**	**11 52 31.5 -0.5**
	14nm,0.6s,mb5.2						
DMN	**Daman**	**55.88 310**		*e*P		**P**	**11 52 31.7 -0.6**
GKN	**Gorkha**	**56.44 310**		*e*P		**P**	**11 52 36.4 +0.1**
	26nm,0.5s,mb5.5						
KOLN	**Koldanda**	**57.11 310**		*e*P		**P**	**11 52 41.2 +0.2**
	25nm,0.8s,mb5.3						
DANN	**Dangsing**	**57.28 310**		*e*P		**P**	**11 52 42.2 0.0**
	11nm,0.7s,mb5.0						
SONM	**Songino Array**	**58.76 341**		P		**P**	**11 52 52.7 +0.5**
	1.5nm,0.7s,mb4.2,baz=158,slow=7.3,SNR=11						
MKAR	**Makanchi Array**	**68.65 327**		P		**P**	**11 53 57.7 +0.5**
	3.7nm,0.5s,mb4.5,baz=112,slow=8.5,SNR=48						
ZALV	**Zalesovo Beam**	**71.96 334**		P		**P**	**11 54 16.8 -0.4**
	1.7nm,0.5s,mb4.1,baz=130,slow=5.9,SNR=8.0						
TORD	**Torodi Ar. Bea**	**129.35 281**		PKP		PKPdf	12 02 05.2 +2.7
	0.5nm,0.6s,baz=318,slow=1.9,SNR=3.4						
SADO	**Sadowa**	**134.51 30**		PKP		PKPdf	12 02 13.6 +2.1
	baz=9.2,slow=19						
LPAZ	**La Paz**	**150.27 142**		PKPbc		PKPbc	12 02 49.6 +4.5
	0.5nm,0.3s,baz=57,slow=1.5,SNR=5.8						

IDC 13 11:51:05.3±54.0, 1821S×17603W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/13, mbtmp4.3/3, MS3.5/1, Ms1 3.5/1, ms1mx2.9/15, Error ellipse: s-maj=1010.0km s-min=166.8km az=80.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**11.13**	**189**	LR	LR	11 57 30.3	
	comp=Z,272nm,20.7s,baz=150,slow=35						
STKA	**Stephens Creek**	**40.48**	**242**	P	P	11 58 46.2	+0.3
	1.5nm,0.3s,baz=108,slow=13,SNR=3.7						
WRA	**Warramunga Arr**	**46.80**	**259**	P	P	11 59 36.9	-0.2
	1.3nm,0.3s,baz=97,slow=7.5,SNR=90						
ASAR	**Alice Springs**	**46.89**	**254**	P	P	11 59 37.5	-0.1
	2.0nm,0.4s,baz=89,slow=7.4,SNR=86						

*CSEM **13** 11:58:01.5±1.1, 3686N×2433W, h0km, ML3.4, Error ellipse: s-maj=8.5km s-min=5.5km az=44.0, After PDA*

PDA 13 11:58:01.5±1.1, 3686N×2433W, h0km, MD3.9, ML3.4, Error ellipse: s-maj=8.5km s-min=5.5km az=44.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.61**	**284**	*e*P	Pg	11 58 12.0	-1.1
PSMN				*e*S	Sg	11 58 20.2	-0.8
CMLA	**Cha da Macela**	**1.31**	**314**	*e*P	Pg	11 58 21.8	-4.9
CMLA				*e*S	Sg	11 58 37.7	-6.0
CMLA				A		11 58 41.1	
	200nm,0.3s						
CMLA	**Cha da Macela**	**1.31**	**314**	*e*P	Pg	11 58 21.8	-4.9
CMLA				*e*S	Sg	11 58 37.7	-6.0
PDA	**Ponta Delgada**	**1.39**	**310**	*e*P	Pg	11 58 23.3	-4.8
PDA				*e*S	Sg	11 58 39.2	-6.8
PSET	**Sete Cidades**	**1.47**	**311**	*e*P	Pn	11 58 24.4	-4.8
PSET				*e*S	Sg	11 58 41.9	-6.8
PSET				A		11 58 43.9	
	106nm,0.3s						
PSET	**Sete Cidades**	**1.47**	**311**	*e*P	Pn	11 58 24.4	-4.8
PSET				*e*S	Sg	11 58 41.9	-6.8
ADH	**Angra Heroismo**	**2.92**	**309**	*e*P	Pn	11 58 44.4	-4.8
ADH				*e*S	Sn	11 59 16.9	-8.0
PMAN	**Manadas**	**3.47**	**302**	*e*P	Pn	11 58 52.2	-4.5
PMAN				*e*S	Sn	11 59 30.0	-8.4
PMAN				A		11 59 33.9	
	41nm,0.3s						
PMAN	**Manadas**	**3.47**	**302**	*e*P	Pn	11 58 52.2	-4.5
PMAN				*e*S	Sn	11 59 30.0	-8.4
PGRA	**Graciosa**	**3.61**	**308**	*e*P	Pn	11 58 53.7	-5.0
PGRA				*e*S	Sn	11 59 33.9	-8.1
PGRA				A		11 59 37.9	
	28nm,0.2s						
PGRA	**Graciosa**	**3.61**	**308**	*e*P	Pn	11 58 53.7	-5.0
PGRA				*e*S	Sn	11 59 33.9	-8.1
ROSA	**Rosais**	**3.61**	**302**	*e*P	Pn	11 58 54.6	-4.1
ROSA				*e*S	Sn	11 59 33.6	-8.5
PICO	**Pico**	**3.64**	**298**	*e*P	Pn	11 58 55.5	-3.6
PICO				*e*S	Sn	11 59 34.1	-8.6
HOR	**Horta**	**3.80**	**297**	*e*S	Sn	11 59 38.3	-8.3
CALA	**Caldeira**	**3.87**	**298**	*e*P	Pn	11 58 58.3	-3.9
CALA				*e*S	Sn	11 59 40.3	-8.1

CASC 13 12:03:17.9±1.6, 1106N×8707W, h20km±10km, MD4.1, ML3.4, 9C-3D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**1.19**	**39⇑**	*e*P	Pn	12 03 39.5	+0.1
COPN	**Copaltepe**	**1.21**	**23⇓**	*e*P	Pn	12 03 39.7	0.0
SSNN	**San Juan del S**	**1.22**	**79⇑**	*e*P	Pn	12 03 39.1	-0.7
TICN	**Ticuantepe**	**1.27**	**40**	*e*P	Pn	12 03 40.1	-0.4
CSAN		**1.29**	**30⇑**	*e*P	Pn	12 03 40.4	-0.3
APON	**Apoyo**	**1.30**	**49⇑**	*e*P	Pn	12 03 40.3	-0.6
XAVN	**Gruta Xavier**	**1.31**	**34⇑**	*e*P	Pn	12 03 40.9	-0.1
TISN	**Laguna Tiscapa**	**1.33**	**36⇓**	*e*P	Pn	12 03 41.1	-0.3
MGAN	**Managua**	**1.35**	**37⇑**	*e*P	Pn	12 03 41.2	-0.4
MGAN				*i*		12 04 04.4	
	comp=N,588nm,0.4s						
MGAN				*i*		12 04 07.8	
	comp=E,566nm,0.5s						
APYN	**Apoyeque**	**1.37**	**31⇓**	*e*P	Pn	12 03 41.6	-0.2
MOMJ	**Momotombo**	**1.44**	**21**	*e*P	Pn	12 03 42.8	-0.1
CONN	**Concepcion**	**1.50**	**70⇑**	*e*P	Pn	12 03 42.8	-1.0
TEL3	**Telica 3**	**1.52**	**8**	*e*P	Pn	12 03 44.2	+0.2
HUEN		**1.55**	**35⇑**	*e*P	Pn	12 03 43.9	-0.5
HUEN				⇑*e*P		12 03 44.0	
MADN	**Villa Maderas**	**1.55**	**77**	*e*P	Pn	12 03 45.1	+0.7
VCR	**Vista de Mar**	**1.69**	**123**	*e*P	Pn	12 03 45.4	-0.9
JCR	**Jicaral**	**2.27**	**122**	*e*P	Pn	12 03 54.0	-0.3
PRS1	**Puriscal**	**2.92**	**111**	*e*P	Pn	12 04 02.5	-0.7
LAJ	**Bijagual**	**3.13**	**112**	*e*P	Pn	12 04 02.3	-3.8
LCR2	**La Lucha 2**	**3.29**	**113**	*e*P	Pn	12 04 08.5	+0.3
URSC	**Urasca**	**3.46**	**110**	*e*P	Pn	12 04 12.8	+2.2
URSC				*e*S	Sn	12 04 52.9	+1.9
BAR1		**4.12**	**116**	*e*P	Pn	12 04 20.6	+0.9

ISC 13 12:10:52.8±1.0, 4419N±010×154E±01, h10km, n7, σ0858/11, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVLJ	**Novalja**	**0.53**	**315**	*e*Pg	**Pg**	**12 11 02.2**	**-0.8**
NVLJ				Sg	**Sg**	**12 11 11.1**	**+1.0**
BOJS	**Bojanci**	**1.32**	**356**	*e*Pn	**Pn**	**12 11 16.7**	**-0.5**
VISS	**Visnje**	**1.66**	**346**	*i* Pn	**Pn**	**12 11 21.9**	**0.0**
GCIS	**Gornji Cirnik**	**1.68**	**6**	*i* Pn	**Pn**	**12 11 21.7**	**-0.5**
PDKS	**Podkum**	**1.89**	**352**	*i* Pn	**Pn**	**12 11 25.2**	**+0.1**
PDKS				*e*Sn	**Sn**	**12 11 49.5**	**+0.5**
PDKS							
	comp=Z,5.0nm,0.1s						
VOY	**Vojsko**	**2.12**	**330**	*e*Pn	**Pn**	**12 11 27.9**	**-0.4**
VOY				*e*		12 11 28.9	
VOY				*e*Sn	**Sn**	**12 12 00.2**	**+5.5**
STON	**Ston**	**2.13**	**127**	*e*Pn	**Pn**	**12 11 28.2**	**-0.2**
STON				Sn	**Sn**	**12 11 55.6**	**+0.7**

*IDC **13** 12:16:23.3±5.5, 3617N×7120E, h78km±49km, mb4.1/14, mb1 4.3/16, mb1mx4.1/22, mbtmp4.2/16, ML4.4/2, Error ellipse: s-maj=23.8km s-min=13.6km az=13.0*
*MOS **13** 12:16:25.5±1.1, 3642N×7142E, h104km, mb4.4/21, Error ellipse: s-maj=9.6km s-min=5.7km az=98.1*
*ISCJB **13** 12:16:26.1±0.4, 3638N±002×7135E±003, h112km±4km, mb4.4/46, Error ellipse: s-maj=4.7km s-min=3.2km az=148.6*
*BJI **13** 12:16:27.5, 3663N×7114E, h132km, mB4.6, mb4.6*
*NEIC **13** 12:16:28.6±0.8, 3650N×7134E, h113km±7km, mb4.4/18, Error ellipse: s-maj=9.1km s-min=6.2km az=160.0*
*NNC **13** 12:16:34.6±2.6, 3699N×7136E, h159km±25km, mb3.7, mpv5.2, Error ellipse: s-maj=22.3km s-min=14.3km az=17.0*

ISC 13 12:16:27.5±0.3, 3637N±002×7137E±003, h111km±4km, h121km±4.4km: pP-P, n175, σ124/210, mb4.4/46, 6C-13D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.63**	**227**	*e*Pn	**Pn**	**12 17 10.2**	**+1.6**
KBL				*e*Sn	**Sn**	**12 17 52.9**	**+13**
THW	**Thamme Wali**	**3.58**	**175**	P	**Pn**	**12 17 23.5**	**+2.3**
SARP	**Sargodha**	**4.56**	**166**	P	**Pn**	**12 17 35.8**	**+1.3**
KSH	**Kashi**	**4.81**	**48**	*e*P	**Pn**	**12 17 42.0**	**+4.3**
KSH				*e*S	**Sn**	**12 18 38.0**	**+5.6**
KSH				LR	LR		
	comp=N,3μm,2.7s						
KSH				LR	LR		
	comp=E,2μm,2.2s						
KSH				LR	LR		
	comp=Z,2μm,2.8s						
THN	**Thein Dam**	**5.32**	**136**	*e*P	**Pn**	**12 17 46.4**	**+1.7**
THN				*e*S	**Sn**	**12 18 45.6**	**+0.8**
DLH	**Dalhousie**	**5.38**	**134**	*e*P	**Pn**	**12 17 48.0**	**+2.5**
DLH				*e*S	**Sn**	**12 18 47.0**	**+0.7**
AML	**Almayashu**	**6.03**	**17**	*e*Pn	**Pn**	**12 17 54.6**	**+0.3**
AML				*e*Sn	**Sn**	**12 18 57.8**	**-4.1**
AML	**Almayashu**	**6.03**	**17**	P	**Pn**	**12 17 54.7**	**+0.5**
	SNR=251						
UCH	**Uchtor**	**6.34**	**22**	*e*Pn	**Pn**	**12 17 58.9**	**+0.5**
UCH				*e*Sn	**Sn**	**12 19 02.3**	**-7.0**
UCH	**Uchtor**	**6.34**	**22**	P	**Pn**	**12 17 59.1**	**+0.7**
	SNR=131						
KZA	**Kyzart**	**6.45**	**27**	P	**Pn**	**12 18 00.4**	**+0.5**
	SNR=71						
BHK	**Bhakra**	**6.48**	**138**	*e*P	**Pn**	**12 18 02.6**	**+2.2**
BHK				*e*S	**Sn**	**12 19 11.2**	**-1.7**
EKS2	**Erkin-Say**	**6.56**	**16**	P	**Pn**	**12 18 01.6**	**+0.3**
	SNR=116						
AAK	**Ala-Archa**	**6.71**	**20**	P	**Pn**	**12 18 03.8**	**+0.4**
	SNR=429						
SDNR	**Sundarnagar**	**6.73**	**135**	*e*P	**Pn**	**12 18 04.0**	**+0.3**
SDNR				*e*S	**Sn**	**12 19 16.6**	**-2.2**
KK31	**Karatay Array**	**6.76**	**355**	⇓P	**Pn**	**12 18 03.0**	**-1.0**
	comp=Z,102nm,0.5s						
KK31				⇓S	**Sn**	**12 19 13.2**	**-6.4**
	comp=Z,57nm,0.4s						
KBK	**Karagaybulak**	**6.87**	**23**	P	**Pn**	**12 18 06.2**	**+0.7**
	SNR=50						
FRU	**Bishkek**	**6.93**	**20⇓**	*i*PN	**Pn**	**12 18 06.8**	**+0.4**
FRU				pmax	pmax		
	comp=Z,90nm,1.5s						
FRU				pmax	pmax		
	comp=E,190nm,1.2s						
ULHL	**Ulahol**	**6.98**	**31**	P	**Pn**	**12 18 07.6**	**+0.5**
	SNR=26						
SMLA	**Simla**	**7.11**	**136**	*e*P	**Pn**	**12 18 11.1**	**+2.2**
SMLA				*e*S	**Sn**	**12 19 27.4**	**-0.9**
CHMS	**Chumysh**	**7.12**	**20**	P	**Pn**	**12 18 09.0**	**+0.1**
	SNR=120						
USP	**Ospenovka**	**7.30**	**18**	P	**Pn**	**12 18 11.0**	**-0.4**
	SNR=18						
TKM2	**Tokmak 2**	**7.31**	**25**	⇑P	**Pn**	**12 18 11.9**	**+0.3**
	comp=E,90nm,0.6s						
TKM2				⇑S	**Sn**	**12 19 28.5**	**-4.4**
	comp=E,40nm,0.8s						
TKM2	**Tokmak 2**	**7.31**	**25**	*e*Pn	**Pn**	**12 18 11.9**	**+0.4**
TKM2	**Tokmak 2**	**7.31**	**25**	P	**Pn**	**12 18 12.1**	**+0.5**
	SNR=185						
KLP	**Kalpa**	**7.48**	**128**	*e*P	**Pn**	**12 18 16.3**	**+2.4**
KLP				*e*S	**Sn**	**12 19 35.1**	**-2.0**
DDI	**Dehra Dun**	**8.22**	**135**	*e*P	**Pn**	**12 18 26.0**	**+2.0**
DDI				*e*S	**Sn**	**12 19 55.0**	**-0.2**
JOSI	**Joshimath**	**8.96**	**128**	*e*P	**Pn**	**12 18 36.7**	**+2.6**
JOSI				*e*S	**Sn**	**12 20 10.3**	**-2.9**
KHET	**Khetri**	**9.08**	**154**	*e*P	**Pn**	**12 18 35.0**	**-0.7**
KHET				*e*S	**Sn**	**12 20 10.2**	**-5.9**
NDI	**New Delhi**	**9.11**	**146**	*e*P	**Pn**	**12 18 36.2**	**+0.1**
NDI				AMb	AMB	12 18 39.5	
	comp=Z,46nm,0.1s						
NDI				*e*S	**Sn**	**12 20 11.5**	**-5.3**
KUDL	**Kundal**	**9.27**	**151**	*e*P	**Pn**	**12 18 38.1**	**-0.2**
KUDL				AMb	AMB	12 18 39.6	
	comp=Z,32nm,0.5s						
KUDL				*e*S	**Sn**	**12 20 15.4**	**-5.3**
JASL	**Jaisalmer**	**9.42**	**183**	*e*P	**Pn**	**12 18 37.5**	**-2.8**
SONA	**Sohna**	**9.43**	**148**	*e*P	**Pn**	**12 18 39.9**	**-0.5**
SONA				AMb	AMB	12 18 41.4	
	comp=Z,22nm,0.4s						
SONA				*e*S	**Sn**	**12 20 18.0**	**-6.5**
PTH	**Pithoragarh**	**10.07**	**130**	*e*P	**Pn**	**12 18 50.2**	**+1.1**
PTH				*e*S	**Sn**	**12 20 37.8**	**-2.3**
AJM	**Ajmer**	**10.24**	**163**	*e*P	**Pn**	**12 18 51.4**	**-0.1**
AJM				*e*P		12 18 51.5	
AJM				*e*S	**Sn**	**12 20 36.0**	**-8.4**
AGRA	**Agra**	**10.69**	**147**	*e*P	**Pn**	**12 18 56.9**	**-0.5**
AGRA				*e*S	**Sn**	**12 20 46.8**	**-8.2**
DANN	**Dangsing**	**13.17**	**124**	*e*P	**Pn**	**12 19 29.6**	**-0.6**
	comp=Z,60nm,0.4s						
DANN				*e*S	**Sn**	**12 21 48.2**	**-7.0**
MK31	**Makanchi Array**	**13.23**	**35**	⇑P	**Pn**	**12 19 29.7**	**-1.1**
	comp=Z,7.4nm,0.6s,baz=222,slow=14,SNR=84						
MK31	**Makanchi Array**	**13.23**	**35**	*e*Pn	**Pn**	**12 19 30.0**	**-0.9**
MKAR	**Makanchi Array**	**13.23**	**35**	*i* P	**Pn**	**12 19 29.7**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	**Makanchi Array**	**13.23**	**35**	P	**Pn**	**12 19 29.6**	**-1.3**
	comp=Z,0.7nm,0.3s,baz=225,slow=16,SNR=30						
KOLN	**Koldanda**	**13.45**	**126**	*e*P	**Pn**	**12 19 32.8**	**-1.0**
	comp=Z,27nm,0.3s						
GKN	**Gorkha**	**13.98**	**123**	*e*P	**Pn**	**12 19 40.1**	**-0.6**
	comp=Z,63nm,0.3s						
GKN				*e*S	**Sn**	**12 22 06.7**	**-8.2**
BHPL	**Bhopal**	**14.09**	**156**	*e*P	**Pn**	**12 19 41.5**	**-0.7**
BHPL				AMb	AMB	12 19 42.6	
	comp=Z,25nm,0.8s						
WMQ	**Urumqi**	**14.53**	**54**	P	**Pn**	**12 19 47.0**	**-0.7**
WMQ				S	**Sn**	**12 22 27.0**	**-0.9**
WMQ				PCP	PcP	12 24 56.0	+2.2
WMQ				AMB	AMB		
	comp=Z,31nm,0.8s						
WMQ				LR	LR		
	comp=N,87nm,5.0s						
WMQ				LR	LR		
	comp=E,62nm,5.0s						
WMQ				LR	LR		
	comp=Z,98nm,5.0s						
DMN	**Daman**	**14.55**	**123**	*e*P	**Pn**	**12 19 47.5**	**-0.5**
	comp=Z,46nm,0.4s						
KKN	**Kakani**	**14.56**	**122**	*e*P	**Pn**	**12 19 47.4**	**-0.7**
	comp=Z,68nm,0.5s						
PKI	**Pulchoki**	**14.78**	**122**	*e*P	**Pn**	**12 19 50.4**	**-0.6**
	comp=Z,66nm,0.5s						
PKI				*e*S	**Sn**	**12 22 25.1**	**-9.1**
GUN	**Gumba**	**14.89**	**120**	*e*P	**Pn**	**12 19 51.3**	**-1.1**
KURBB	**Kurchatov Arra**	**15.16**	**18**	⇑P	**Pn**	**12 19 51.8**	**-3.7**
	comp=Z,2.9nm,0.8s						
JIRN	**Jiri**	**15.27**	**120**	*e*P	**Pn**	**12 19 56.2**	**-0.8**
	comp=Z,89nm,0.3s						
JIRN				*e*S	**S**	**12 22 36.5**	**-18**
KURK	**Kurchatov**	**15.27**	**18⇑**	*e*P	**Pn**	**12 19 53.0**	**-3.8**
KURK	**Kurchatov**	**15.27**	**18**	*e*P	**Pn**	**12 19 57.9**	**+1.1**
	comp=Z,20nm,1.0s						
VOSK	**Vostochnaya**	**16.36**	**359**	⇓P	**Pn**	**12 20 07.0**	**-3.3**
	comp=Z,12nm,0.8s						
ZRNK	**Zerenda**	**16.67**	**355**	⇓P	**Pn**	**12 20 11.3**	**-2.9**
	comp=Z,12nm,0.5s						
BVA0	**Borovoye Array**	**16.67**	**358**	⇓P	**Pn**	**12 20 12.4**	**-1.8**
	comp=Z,1.6nm,0.6s,baz=160,slow=11,SNR=74						
BVAR	**Borovoye Array**	**16.67**	**358**	P	**Pn**	**12 20 11.8**	**-2.4**
BVAR				S	**S**	**12 23 11.1**	**-9.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
BVAR	**Borovoye Array**	**16.67**	**358**	P	**Pn**	**12 20 11.8**	**-2.4**
	comp=Z,1.7nm,0.3s,baz=165,slow=12,SNR=30						
BVAR				S	**S**	**12 23 11.1**	**-9.0**
	comp=Z,0.4nm,0.3s,baz=167,slow=24,SNR=5.2						
BRVK	**Borovoye**	**16.71**	**358**	*e*P	**Pn**	**12 20 11.7**	**-2.9**
BRVK				pmax	pmax		
	comp=Z,11nm,0.6s						
BRVK	**Borovoye**	**16.71**	**358**	*e*P	**Pn**	**12 20 11.7**	**-3.0**
	comp=Z,11nm,0.6s						
AKTK	**Aktyubinsk**	**17.04**	**330**	P	**Pn**	**12 20 17.2**	**-1.6**
AKTK				S	**S**	**12 23 16.0**	**-13**
AKTO	**Aktyubinsk**	**17.04**	**330**	⇓P	**Pn**	**12 20 17.0**	**-1.8**
	comp=Z,0.3nm,0.6s						
AKTO	**Aktyubinsk**	**17.04**	**330**	P	**Pn**	**12 20 17.2**	**-1.6**
AKTO				S	**S**	**12 23 16.0**	**-13**
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.3s						
AKTO	**Aktyubinsk**	**17.04**	**330**	P	**Pn**	**12 20 17.2**	**-1.6**
	comp=Z,2.9nm,0.3s,baz=138,slow=10,SNR=37						
AKTO				S	**S**	**12 23 16.0**	**-13**
	comp=Z,0.3nm,0.3s,baz=111,slow=15,SNR=4.3						
BOK	**Bokaro**	**17.72**	**131**	*ex*	x	12 20 00.6	
BOK				AMb	AMB	12 20 24.6	
	comp=Z,22nm,1.0s						
LSA	**Lhasa**	**17.86**	**106**	*e*P	**Pn**	**12 20 31.4**	**+2.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
LSA	**Lhasa**	**17.86**	**106**	*e*P	**Pn**	**12 20 31.4**	**+2.6**
	comp=Z,8.5nm,0.8s						
ZAL	**Zalesovo**	**19.90**	**24**	P	**P**	**12 20 49.7**	**-0.2**
ZALV	**Zalesovo Beam**	**19.92**	**24**	P	**P**	**12 20 49.7**	**-0.4**
	comp=Z,29nm,0.4s,baz=218,slow=10,SNR=108						
HYB	**Hyderabad**	**19.92**	**159**	*e*P	**P**	**12 20 56.5**	**+6.0**
HYB	**Hyderabad**	**19.92**	**159**	*i* P	**P**	**12 20 56.5**	**+6.0**
NVS	**Novosibirsk**	**20.20**	**20**	*e*P	**P**	**12 20 52.3**	**-0.9**
NVS				*i* S	**S**	**12 24 28.9**	**-4.7**
NVS				pmax	pmax		
	comp=N,16nm,0.6s						
NVS				pmax	pmax		
	comp=Z,17nm,0.6s						
NVS				pmax	pmax		
	comp=E,11nm,0.8s						
NVS				smax			
	comp=N,24nm,2.1s						
SHL	**Shillong**	**20.59**	**116**	*e*P	**P**	**12 21 02.0**	**+4.4**
DGRG	**David-gareji**	**20.82**	**292**	P	**P**	**12 21 01.7**	**+1.7**
UMR	**Umm Al-Rimmam**	**20.95**	**258**	*e*P	**P**	**12 21 00.1**	**-1.3**
UMR				AMb	AMB	12 21 08.5	
	comp=Z,33nm,0.8s						
MIB	**Mutribah**	**21.14**	**259**	*e*P	**P**	**12 21 02.0**	**-1.5**
MIB				AMb	AMB	12 21 10.3	
	comp=Z,36nm,0.8s,mb4.7						
QRN	**Al-Qurain**	**21.14**	**256**	*e*P	**P**	**12 21 01.6**	**-1.9**
QRN				AMb	AMB	12 21 09.9	
	comp=Z,30nm,0.6s,mb4.8						
GNI	**Garni**	**21.21**	**288⇓**	*e*P	**P**	**12 21 07.0**	**+2.8**
GNI				pmax	pmax		
	comp=Z,38nm,1.1s						
GNI	**Garni**	**21.21**	**288**	*e*P	**P**	**12 21 05.2**	**+1.0**
	comp=Z,21nm,0.8s,mb4.5						
MTA	**Mtatsminda**	**21.28**	**293**	P	**P**	**12 21 06.8**	**+2.0**
TBLG	**Delisi**	**21.32**	**293**	P	**P**	**12 20 59.2**	**-6.2**
RDF	**Al-Radifah**	**21.35**	**256**	*e*P	**P**	**12 21 04.0**	**-1.8**
RDF				AMb	AMB	12 21 07.4	
	comp=Z,41nm,1.0s,mb4.7						
NAY	**Al-Naaiem**	**21.45**	**258**	*e*P	**P**	**12 21 05.4**	**-1.4**
NAY				AMb	AMB	12 21 13.0	
	comp=Z,13nm,0.6s,mb4.4						
SVE	**Sverdlovsk**	**21.70**	**344**	*e*P	**P**	**12 21 09.0**	**-0.2**
SVE				pmax	pmax		
	comp=Z,29nm,0.9s,mb4.6						
GOR	**Gori**	**21.82**	**293**	P	**P**	**12 21 18.2**	**+7.6**
ARU	**Arti**	**21.86**	**341⇓**	*e*P	**P**	**12 21 11.7**	**+0.9**
ARU				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.2						
ARU				MLR	MLR		
	comp=Z,100nm,18.0s						
ARU	**Arti**	**21.86**	**341**	*e*P	**P**	**12 21 11.7**	**+0.9**
	comp=Z,60nm,0.9s,mb4.9						
ONI	**Oni**	**22.37**	**295**	P	**P**	**12 21 20.2**	**+3.8**
GTA	**Gaotai**	**22.62**	**74**	*e*P	**P**	**12 21 22.1**	**+3.0**
GTA				AP		12 21 46.0	
GTA				XP	sP	12 21 58.6	+4.4
GTA				S	**S**	**12 25 22.8**	**+4.5**
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.2						
GTA				LR	LR		
	comp=N,78nm,9.5s						
GTA				LR	LR		
	comp=E,105nm,9.5s						
GTA				LR	LR		
	comp=Z,112nm,12.2s						
GOF	**Gofitskoye**	**23.07**	**301**	*e*P	**P**	**12 21 19.0**	**-4.2**
KIV	**Kislovodsk**	**23.11**	**298**	*e*P	**P**	**12 21 24.9**	**+1.3**
KIV				*e**PP		12 21 48.0	
KIV				*e**SP	sP	12 22 05.6	+6.2
KIV				*e*S	**S**	**12 25 26.0**	**-0.1**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
KIV	**Kislovodsk**	**23.11**	**298**	*e*P	**P**	**12 21 24.6**	**+1.0**
	comp=Z,9.1nm,1.0s,mb4.1						
LZH	**Lanzhou**	**26.14**	**81**	*e*P	**P**	**12 21 50.0**	**-1.2**
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.3						
LZH				AMB	AMB		
	comp=Z,62nm,4.0s						
ZAK	**Zakamensk**	**26.86**	**49**	*e*P	**P**	**12 21 56.7**	**-0.7**
ZAK				*e*		12 22 43.1	
ZAK				pmax	pmax		
	comp=Z,1.0nm,0.9s,mb3.4						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.4s,mb3.5						
CD2	**Chengdu**	**27.43**	**92**	*e*P	**P**	**12 22 03.4**	**+0.6**
CD2				PP	PP	12 22 56.4	-10
CD2				S	**S**	**12 26 33.8**	**-1.3**
CD2				SS	SS	12 27 59.8	-35
C

AKASG	**Malin Array Be**	**33.26**	**309**	P	**P**	**12 22 53.8**	**-0.1**
	comp=Z,7.3nm,0.6s,mb4.7,baz=79,slow=7.4,SNR=42						
AKBB	**Malin Array Si**	**33.26**	**309**	*eP*	**P**	**12 22 53.2**	**-0.7**
KIEV	**Kiev**	**33.27**	**309**	*eP*	**P**	**12 22 53.5**	**-0.5**
KIEV				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.6						
KIEV	**Kiev**	**33.27**	**309**	*eP*	**P**	**12 22 53.5**	**-0.5**
	comp=Z,6.2nm,0.6s,mb4.6						
BOD	**Bodaibo**	**35.27**	**39**	*eP*	**P**	**12 23 10.6**	**-0.5**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.9s,mb3.8						
JOF	**Joensuu**	**36.13**	**330**	*ep*	**P**	**12 23 18.0**	**-0.5**
	comp=Z,12nm,0.3s,mb5.3						
JOF	**Joensuu**	**36.13**	**330**	*eP*	**P**	**12 23 18.0**	**-0.5**
JOF				pmax	pmax		
	comp=Z,12nm,0.3s,mb5.3						
VSU	**Vasula**	**36.47**	**322⇓**	*eP*	**P**	**12 23 21.8**	**+0.4**
LVV	**L'vov**	**36.48**	**307**	*eP*	**P**	**12 23 21.7**	**+0.1**
KOLS	**Kolonicke sedl**	**37.59**	**305**	*eP*	**P**	**12 23 31.2**	**+0.2**
KOLS	**Kolonicke sedl**	**37.59**	**305**	*eP*	**P**	**12 23 31.1**	**+0.1**
FINES	**FINESS Array B**	**37.76**	**326**	*i P*	**P**	**12 23 32.5**	**+0.3**
FINES				pmax	pmax		
	comp=Z,10.0nm,0.8s						
FINES	**FINESS Array B**	**37.76**	**326**	P	**P**	**12 23 32.5**	**+0.3**
	comp=Z,9.9nm,0.8s,mb4.7,baz=117,slow=9.9,SNR=53						
NJ2	**Nanjing**	**39.20**	**82**	*eP*	**P**	**12 23 45.4**	**+0.7**
NJ2				AP	pP	12 24 10.0	0.0
NJ2				PP	PP	12 25 21.9	+5.2
NJ2				S	**S**	**12 29 38.0**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,130nm,8.0s						
NJ2				LR	LR		
	comp=N,240nm,11.0s						
NJ2				LR	LR		
	comp=E,160nm,13.0s						
NJ2				LR	LR		
	comp=Z,160nm,13.0s						
OJC	**Ojcow**	**39.22**	**307**	*eP*	**P**	**12 23 44.6**	**0.0**
VYHS	**Vyhne**	**39.88**	**305**	*eP*	**P**	**12 23 51.5**	**+1.4**
VYHS				pmax	pmax		
	comp=Z,4.0nm,1.6s,mb4.0						
VYHS	**Vyhne**	**39.88**	**305**	*eP*	**P**	**12 23 51.5**	**+1.4**
	comp=Z,4.2nm,1.6s,mb4.0						
MORC	**Moravsky Berou**	**40.68**	**307**	*eP*	**P**	**12 23 57.7**	**+1.0**
MORC				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**40.68**	**307**	*eP*	**P**	**12 23 57.7**	**+1.0**
	comp=Z,4.2nm,0.9s,mb4.3						
KEV	**Kevo**	**41.03**	**338**	*ep*	**P**	**12 23 58.6**	**-0.7**
	comp=Z,3.4nm,0.3s,mb4.7						
KEV	**Kevo**	**41.03**	**338**	*eP*	**P**	**12 23 58.6**	**-0.7**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.6						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**12 24 02.8**	**+0.6**
ARCES				pmax	pmax		
	comp=Z,9.0nm,0.5s						
ARCES	**ARCESS Array B**	**41.38**	**338**	P	**P**	**12 24 02.8**	**+0.6**
	comp=Z,9.4nm,0.5s,mb4.9,baz=112,slow=8.3,SNR=87						
ARE0	**ARCESS Array S**	**41.38**	**338**	*eP*	**P**	**12 24 02.6**	**+0.4**
CN2	**Changchun**	**41.41**	**62**	*eP*	**P**	**12 24 04.8**	**+2.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
DPC	**Dobruska-Polom**	**41.45**	**308**	*eP*	**P**	**12 24 04.0**	**+1.0**
UPC	**Upice**	**41.64**	**308**	*eP*	**P**	**12 24 05.6**	**+1.1**
PRU	**Pruhonice**	**42.61**	**307**	*eP*	**P**	**12 24 13.4**	**+1.0**
BRG	**Berggiesshubel**	**42.94**	**308**	*eP*	**P**	**12 24 15.7**	**+0.7**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.1						
BRG	**Berggiesshubel**	**42.94**	**308**	*eP*	**P**	**12 24 15.7**	**+0.7**
	comp=Z,6.3nm,1.0s,mb4.3						
GERES	**GERESS Array B**	**43.25**	**305**	P	**P**	**12 24 18.1**	**+0.5**
GERES						12 26 02.4	
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**43.25**	**305**	P	**P**	**12 24 18.1**	**+0.5**
	comp=Z,0.3nm,0.6s,baz=71,slow=5.8,SNR=3.7						
GERES				PcP	PcP	12 26 02.4	-2.3
	comp=Z,0.7nm,0.7s,baz=66,slow=3.2,SNR=5.4						
KHC	**Kasperske Hory**	**43.30**	**306**	*eP*	**P**	**12 24 19.2**	**+1.2**
CLL	**Collm**	**43.51**	**309**	*eP*	**P**	**12 24 20.0**	**+0.4**
MDJ	**Mudanjiang**	**44.21**	**61**	P	**P**	**12 24 24.8**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,71nm,3.4s						
KSRS	**Korea Array**	**44.65**	**71**	P	**P**	**12 24 29.9**	**+1.0**
	comp=Z,1.4nm,0.5s,mb3.9,baz=268,slow=7.2,SNR=7.8						
NOA	**NORSAR Array B**	**44.66**	**323**	P	**P**	**12 24 28.4**	**-0.3**
NOA				pmax	pmax		
	comp=Z,15nm,0.7s						
NOA	**NORSAR Array B**	**44.66**	**323**	P	**P**	**12 24 28.4**	**-0.3**
	comp=Z,15nm,0.7s,mb4.8,baz=96,slow=7.8,SNR=90						
NAO01	**NORSAR Array S**	**44.81**	**323**	*eP*	**P**	**12 24 28.4**	**-1.4**
	comp=Z,9.1nm,0.8s,mb4.6						
TIXI	**Tiksi**	**45.79**	**22**	*eP*	**P**	**12 24 37.4**	**0.0**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.3						
TIXI	**Tiksi**	**45.79**	**22**	*eP*	**P**	**12 24 37.5**	**0.0**
	comp=Z,4.6nm,0.3s,mb4.7						
KBS	**Kingsbay**	**48.81**	**347⇓**	*eP*	**P**	**12 25 02.2**	**+1.4**
KBS	**Kingsbay**	**48.81**	**347**	*eP*	**P**	**12 25 01.5**	**+0.7**
	comp=Z,5.7nm,0.6s,mb4.7						
MJAR	**Matsushiro Arr**	**52.73**	**69**	P	**P**	**12 25 31.9**	**+1.1**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR	**Matsushiro Arr**	**52.73**	**69**	P	**P**	**12 25 31.9**	**+1.1**
	comp=Z,1.7nm,0.8s,mb4.1,baz=286,slow=10,SNR=5.6						
BILL	**Bilibino**	**58.60**	**26⇑**	*eP*	**P**	**12 26 13.0**	**+0.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
BILL	**Bilibino**	**58.60**	**26**	*eP*	**P**	**12 26 11.0**	**-1.2**
	comp=Z,2.6nm,0.4s,mb4.6						
TOA0	**Torodi Ar. Sit**	**66.01**	**269**	*eP*	**P**	**12 26 59.9**	**-2.5**
TORD	**Torodi Ar. Bea**	**66.01**	**269**	P	**P**	**12 26 59.6**	**-2.8**
	comp=Z,1.8nm,0.4s,mb4.2,baz=50,slow=6.0,SNR=55						
IMA2	**Indian Mountai**	**72.16**	**18**	*eP*	**P**	**12 27 39.1**	**-0.4**
INK	**Inuvik**	**73.99**	**9**	*eP*	**P**	**12 27 50.5**	**+0.2**
	comp=Z,112nm,0.6s						
COLA	**College**	**74.53**	**16⇓**	*eP*	**P**	**12 27 53.7**	**+0.2**
MCK	**McKinley**	**75.24**	**17**	*eP*	**P**	**12 27 56.8**	**-0.8**
MCK				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.3						
MCK	**McKinley**	**75.24**	**17**	*eP*	**P**	**12 27 56.8**	**-0.8**
	comp=Z,2.7nm,0.5s,mb4.2						
DAWY	**Dawson**	**76.99**	**13**	*eP*	**P**	**12 28 07.2**	**-0.3**
SML	**Sawmill**	**77.02**	**18**	*eP*	**P**	**12 28 06.5**	**-1.2**
BOSA	**Boshof**	**77.83**	**220**	*eP*	**P**	**12 28 12.3**	**-0.3**
BOSA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.4						
BOSA	**Boshof**	**77.83**	**220**	*eP*	**P**	**12 28 12.3**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.4						
BOSA	**Boshof**	**77.83**	**220**	P	**P**	**12 28 12.6**	**-0.1**
	comp=Z,3.7nm,0.7s,mb4.2,baz=353,slow=2.2,SNR=8.9						
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**	**12 28 31.2**	**-0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.4s						
YKA	**Yellowknife Ar**	**81.37**	**3**	P	**P**	**12 28 31.2**	**-0.1**
	comp=Z,2.4nm,0.4s,mb4.4,baz=351,slow=5.4,SNR=63						
WRA	**Warramunga Arr**	**81.67**	**122**	P	**P**	**12 28 33.0**	**-0.5**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**81.67**	**122**	P	**P**	**12 28 33.0**	**-0.5**
	comp=Z,0.8nm,0.4s,mb3.9,baz=326,slow=5.0,SNR=29						
SCHQ	**Schefferville**	**82.34**	**337**	P	**P**	**12 28 36.8**	**+0.3**
	comp=Z,2.4nm,0.8s,mb4.0,baz=300,slow=10,SNR=3.9						
DLBC	**Dease Lake**	**83.87**	**11**	*eP*	**P**	**12 28 44.2**	**-0.2**
ASAR	**Alice Springs**	**83.94**	**125**	P	**P**	**12 28 44.7**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**83.94**	**125**	P	**P**	**12 28 44.6**	**-0.5**
	comp=Z,1.3nm,0.7s,mb3.9,baz=314,slow=5.2,SNR=23						
PLCA	**Paso Flores**	**150.06**	**250**	PKIKP	PKPbc	12 36 04.5	-0.3
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLCA	**Paso Flores**	**150.06**	**250**	PKPbc	PKPbc	12 36 04.5	-0.3
	comp=Z,1.8nm,0.8s,baz=153,slow=9.0,SNR=2.9						

WEL 13 12:50:36.0±0.3, 4538S×16718E, h97km±2km, ML3.5/9, Error ellipse: s-maj=2.4km s-min=1.2km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
DCZ	**Deep Cove**	**0.10**	**190**	PN	Pn	12 50 49.3	-0.3
DCZ				SN	Sn	12 50 58.9	-0.7
MLZ	**Mavora Lakes**	**0.70**	**88**	PN	Pn	12 50 53.0	-0.1
WHZ	**Wether Hill Ro**	**0.75**	**134**	PN	Pn	12 50 53.7	+0.1
PYZ	**Puysegur Point**	**0.86**	**204**	PN	Pn	12 50 54.5	-0.2
MSZ	**Milford Sound**	**0.88**	**37**	PN	Pn	12 50 54.9	0.0
MSZ				SN	Sn	12 51 09.1	0.0
WKZ	**Wanaka**	**1.42**	**68**	PN	Pn	12 51 01.1	+0.1
EAZ	**Earnscleugh**	**1.51**	**85**	PN	Pn	12 51 02.1	-0.1
EAZ				SN	Sn	12 51 20.9	-1.1
APZ	**The Paps**	**1.56**	**159**	PN	Pn	12 51 02.8	0.0
JCZ	**Jackson Bay**	**1.72**	**41**	PN	Pn	12 51 04.3	-0.6
SYZ	**Scrubby Hill**	**1.79**	**131**	PN	Pn	12 51 05.6	-0.1
SYZ				SN	Sn	12 51 27.4	-0.9
TUZ	**Tuapeka**	**1.81**	**109**	PN	Pn	12 51 05.8	-0.2
TUZ				SN	Sn	12 51 26.8	-2.0
LBZ	**Lake Benmore**	**2.36**	**66**	PN	Pn	12 51 11.2	-1.8
HHSZ	**Highcliff Hill**	**2.45**	**103**	PN	Pn	12 51 13.8	-0.5
ODZ	**Otahua Downs**	**2.47**	**83**	PN	Pn	12 51 13.1	-1.5
ODZ				SN	Sn	12 51 40.4	-3.8
FOZ	**Fox Glacier**	**2.55**	**46**	PN	Pn	12 51 14.7	-1.0
RPZ	**Rata Peaks**	**3.23**	**60**	PN	Pn	12 51 22.0	-2.7
WVZ	**Waitaha Valley**	**3.44**	**49**	PN	Pn	12 51 24.6	-2.9

*MOS **13** 12:54:29.7±0.9, 5459N×16120W, h36km, mb5.1/57, Error ellipse: s-maj=9.2km s-min=4.4km az=87.3*
*BJI **13** 12:54:31.4, 5495N×16169W, h40km, mB5.0, mb5.1, Ms4.7, Msz4.4*
*ISCJB **13** 12:54:32.7±0.1, 5462N±003×16121W±003, h61km, mb4.8/143, Error ellipse: s-maj=4.0km s-min=1.9km az=15.4*
*SZGRF **13** 12:54:33.5, 5473N×16109W, h33km, mb4.8, Alaska Peninsula, United States*
*IDC **13** 12:54:34.0±3.0, 5457N×16129W, h60km±26km, mb4.3/20, mb1 4.4/22, mb1mx4.4/25, mbtmp4.3/22, ML4.1/2, MS3.5/14, Ms1 3.5/14, ms1mx3.3/37, Error ellipse: s-maj=18.8km s-min=11.1km az=8.0*
*NEIC **13** 12:54:34.2±0.2, 5456N×161.17W, mb4.8/84, ML4.5(PMR), ML4.3(AEIC), Error ellipse: s-maj=4.7km s-min=2.7km az=179.0*
*BGS **13** 12:54:39.2±1.8, 5485N×16050W, h66km, mb5.0*
ISC 13 12:54:34.7±0.1, 5464N±003×16124W±003, h63km, h63km±1.6km: pP-P, n546, σ0.78/545, mb4.8/143, 96C-80D, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SDPT	**Sand Point**	**0.84**	**31**	*eP*	**Pn**	**12 54 50.1**	**-0.6**
FALS	**False Pass**	**1.28**	**281**	P	**Pn**	**12 54 55.9**	**-0.5**
FALS				S	**Sn**	**12 55 13.9**	**+1.3**
CHGN	**Chignik**	**2.32**	**43**	P	**Pn**	**12 55 10.3**	**-0.1**
AKA	**Akutan**	**2.69**	**261**	P	**Pn**	**12 55 15.0**	**-0.5**
AKA				S	**Sn**	**12 55 46.6**	**-0.4**
AKUT	**Akutan**	**2.70**	**261**	P	**Pn**	**12 55 15.0**	**-0.6**
AKUT				S	**Sn**	**12 55 46.5**	**-0.5**
AKLV	**Akutan Long Va**	**2.80**	**262**	P	**Pn**	**12 55 16.1**	**-0.8**
AKGG	**Akutan Green G**	**2.81**	**263**	P	**Pn**	**12 55 16.6**	**-0.5**
UNV	**Unalaska Valle**	**3.19**	**258**	P	**Pn**	**12 55 20.9**	**-1.4**
NIKO	**Nikolski**	**4.81**	**253**	*e*Pn	**Pn**	**12 55 42.5**	**-2.0**
KDAK	**Kodiak Island**	**5.77**	**53**	P	**Pn**	**12 55 55.3**	**-2.2**
KDAK	**Kodiak Island**	**5.77**	**53**	P	**Pn**	**12 55 54.9**	**-2.6**
	20nm,0.3s,baz=239,slow=7.0,SNR=204						
SVW2	**Sparrevohn**	**7.14**	**23**	P	**Pn**	**12 56 17.7**	**+1.4**
SLKM	**Skilak Lake**	**8.34**	**41**	*eP*	**Pn**	**12 56 32.6**	**-0.1**
TTA	**Tatalina**	**8.74**	**16**	*eP*	**Pn**	**12 56 38.7**	**+0.5**
MID	**Middleton Isla**	**9.43**	**53**	*eP*	**Pn**	**12 56 45.1**	**-2.4**
PMR	**Palmer**	**9.46**	**38**	*eP*	**Pn**	**12 56 45.9**	**-2.0**
PMR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
PMR	**Palmer**	**9.46**	**38**	*eP*	**Pn**	**12 56 45.9**	**-2.0**
	comp=Z,2.6nm,0.3s						
ADK	**Adak**	**9.66**	**260**	P	**Pn**	**12 56 51.2**	**+0.5**
SML	**Sawmill**	**9.88**	**38**	*eP*	**Pn**	**12 56 50.7**	**-3.0**
DIV	**Divide**	**10.48**	**45**	*e*Pn	**Pn**	**12 56 59.7**	**-2.1**
	comp=Z,39nm,0.5s						
DIV				*e*Sn	**Sn**	**12 58 53.3**	**-4.1**
MCK	**McKinley**	**11.07**	**30**	*eP*	**Pn**	**12 57 07.5**	**-2.3**
MCK				pmax	pmax		
	comp=Z,28nm,1.1s						
MCK	**McKinley**	**11.07**	**30**	*e*Pn	**Pn**	**12 57 07.5**	**-2.4**
	comp=Z,28nm,1.1s						
TNA	**Tin City**	**11.44**	**346**	*e*Pn	**Pn**	**12 57 16.6**	**+1.6**
	comp=Z,23nm,0.6s						
IMA2	**Indian Mountai**	**12.05**	**15**	*eP*	**Pn**	**12 57 24.5**	**+1.3**
AMKA	**Amchitka**	**12.16**	**262**	*e*Pn	**Pn**	**12 57 22.0**	**-2.8**
COLA	**College**	**12.25**	**28**	*i P*	**Pn**	**12 57 22.0**	**-3.9**
COLA	**College**	**12.25**	**28**	*e*Pn	**Pn**	**12 57 21.9**	**-4.1**
	comp=Z,8.8nm,0.8s						
MENT	**Mentasta**	**12.28**	**40**	*eP*	**Pn**	**12 57 25.3**	**-1.1**
EGAK	**Eagle**	**14.27**	**37**	*e*Pn	**Pn**	**12 57 49.2**	**-4.0**
	comp=Z,10nm,0.7s						
EGAK				*e*P		12 58 00.4	
DAWY	**Dawson**	**14.52**	**41**	*e*Pn	**Pn**	**12 57 54.2**	**-2.2**
DAWY				*e*P		12 58 04.0	
DAWY				*e*S	Sn	13 00 57.4	+22
SIT	**Sitka**	**14.72**	**70**	*eP*	**Pn**	**12 57 56.0**	**-3.1**
SIT				pmax	pmax		
	comp=Z,6.0nm,0.3s						
SIT	**Sitka**	**14.72**	**70**	*eP*	**Pn**	**12 57 56.0**	**-3.1**
	comp=Z,6.3nm,0.3s						
SKAG	**Skagway**	**14.85**	**61**	*eP*	**Pn**	**12 57 59.6**	**-1.1**
	comp=Z,31nm,0.6s						
CRAG	**Craig**	**16.09**	**76**	*eP*	**Pn**	**12 58 15.1**	**-1.5**
	comp=Z,27nm,1.5s						
WRAK	**Wrangell Islan**	**16.40**	**72**	*eP*	**Pn**	**12 58 20.6**	**+0.1**
	comp=Z,91nm,1.1s						
DIB	**Dawson Inlet,**	**16.96**	**83**	T		13 15 20.8	
DLBC	**Dease Lake**	**17.54**	**65**	*eP*	**Pn**	**12 58 33.7**	**-0.8**
DLBC	**Dease Lake**	**17.54**	**65**	P	**Pn**	**12 58 35.3**	**+0.8**
	baz=270,slow=12						
INK	**Inuvik**	**18.80**	**32**	*eP*	**Pn**	**12 58 46.7**	**-3.0**
INK				*e*S	**S**	**13 02 14.5**	**-4.2**
INK				pmax	pmax		
	comp=Z,499nm,0.9s						
INK	**Inuvik**	**18.80**	**32**	*eP*	**Pn**	**12 58 46.7**	**-3.0**
	comp=Z,499nm,0.9s						
INK				*e*S	**S**	**13 02 14.5**	**-4.2**
INK	**Inuvik**	**18.80**	**32**	P	**Pn**	**12 58 47.1**	**-2.6**
	comp=Z,0.8nm,0.3s,baz=233,slow=13,SNR=42						
BBB	**Bella Bella**	**19.80**	**83**	P	**Pn**	**12 58 58.7**	**-2.9**
BBB				LR	LR	13 03 57.1	
BBB	**Bella Bella**	**19.80**	**83**	P	**Pn**	**12 58 58.7**	**-2.9**
	comp=Z,0.2nm,0.3s,baz=295,slow=13,SNR=3.0						
BBB				LR	LR	13 03 57.1	
	comp=Z,98nm,21.0s,baz=238,slow=28						
BILL	**Bilibino**	**20.22**	**324**	*c i P*	**P**	**12 59 04.3**	**+0.2**
BILL				pmax	pmax		
	comp=Z,27nm,1.1s						
BILL				MLR	MLR		
	comp=Z,200nm,18.0s						
BILL	**Bilibino**	**20.22**	**324**	*eP*	**P**	**12 59 04.2**	**+0.2**
	comp=Z,24nm,0.8s						
PET	**Petropavlovsk**	**23.50**	**283**	*c i P*	**P**	**12 59 38.2**	**-0.4**
PET				pmax	pmax		
	comp=Z,76nm,1.0s,mb5.1						
PET				MLR	MLR		
	comp=Z,100nm,21.0s						
PET	**Petropavlovsk**	**23.50**	**283**	*eP*	**P**	**12 59 37.7**	**-0.9**
	comp=Z,73nm,1.0s,mb5.1						
A05A	**Maple Falls**	**24.61**	**87**	⇑P	**P**	**12 59 49.3**	**+0.6**
	baz=24						
SEY	**Seymchan**	**24.91**	**308⇓**	*eP*	**P**	**12 59 50.1**	**-1.1**
B05A	**Bryant**	**24.96**	**89**	P	**P**	**12 59 52.6**	**+0.7**
	baz=25,SNR=8.0						
YKA	**Yellowknife Ar**	**25.05**	**53**	P	**P**	**12 59 53.5**	**+1.0**
YKA						13 03 25.3	
YKA	**Yellowknife Ar**	**25.05**	**53**	P	**P**	**12 59 53.5**	**+1.0**
YKA				PcP	PcP	13 03 25.3	-0.1
YKA				ScP	ScP	13 06 58.5	-0.2
YKA				LR	LR	13 09 32.9	
YKA	**Yellowknife Ar**	**25.05**	**53**	P	**P**	**12 59 53.5**	**+1.0**
	comp=Z,2.3nm,0.8s,mb3.8,baz=259,slow=6.6,SNR=16						
YKA				PcP	PcP	13 03 25.3	-0.1
	comp=Z,0.5nm,0.7s,baz=288,slow=2.1,SNR=3.9						
YKA				ScP	ScP	13 06 58.5	-0.2
	comp=Z,0.8nm,0.8s,baz=270,slow=2.1,SNR=7.0						
YKA				LR	LR	13 09 32.9	
	comp=Z,48nm,20.3s,baz=55,slow=36						
E04A	**Onalaska**	**25.46**	**92**	⇓P	**P**	**12 59 57.4**	**+1.0**
	baz=25						
C05A	**Tolt Reservoir**	**25.48**	**89**	⇓P	**P**	**12 59 57.0**	**+0.3**
	baz=25,SNR=6.5						
D05A	**Enumclaw**	**25.57**	**91**	⇑P	**P**	**12 59 58.3**	**+0.9**
	baz=25,SNR=7.0						
A07A	**Ashnola River,**	**25.57**	**86**	⇓P	**P**	**12 59 58.0**	**+0.6**
	baz=25,SNR=7.3						
E05A	**Randle**	**26.04**	**92**	P	**P**	**13 00 01.6**	**-0.1**
	baz=26,SNR=6.5						
MA2	**Magadan**	**26.05**	**301⇓**	*eP*	**P**	**13 00 02.0**	**+0.4**
MA2				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.5						
MA2	**Magadan**	**26.05**	**301**	*eP*	**P**	**13 00 01.0**	**-0.6**
	comp=Z,9.9nm,0.6s,mb4.5						
D06A	**Cle Elum**	**26.23**	**90**	⇑P	**P**	**13 00 03.7**	**+0.3**
	baz=26						
I02A	**Mapleton**	**26.30**	**98**	⇓P	**P**	**13 00 04.1**	**0.0**
	baz=26						
C07A	**Waterville**	**26.43**	**88**	⇓P	**P**	**13 00 04.9**	**-0.3**
	baz=26						
E06A	**Yakima**	**26.50**	**91**	⇓P	**P**	**13 00 06.3**	**+0.5**
	baz=26,SNR=5.1						
I03A	**Eugene**	**26.64**	**98**	⇑P	**P**	**13 00 07.8**	**+0.7**
	baz=26						
A09A	**Danville**	**26.65**	**84**	⇑P	**P**	**13 00 07.6**	**+0.4**
	baz=26						
D07A	**Quincy**	**26.74**	**89**	⇑P	**P**	**13 00 07.8**	**-0.1**
	baz=27						
J02A	**Umpqua**	**26.84**	**99**	⇓P	**P**	**13 00 09.2**	**+0.3**
	baz=27						
H04A	**Detroit Lake**	**26.84**	**96**	⇓P	**P**	**13 00 09.0**	**+0.1**
	baz=27,SNR=7.1						
J03A	**Ideyld Park**	**27.18**	**99**	⇓P	**P**	**13 00 12.0**	**0.0**
	baz=27						
I04A	**Tendick Farm,**	**27.24**	**97**	⇓P	**P**	**13 00 12.2**	**-0.3**
	baz=27						
D08A	**Wollman Farm,**	**27.42**	**88**	⇓P	**P**	**13 00 13.9**	**-0.2**
	baz=27,SNR=5.1						
HAWA	**Hanford**	**27.42**	**90**	*eP*	**P**	**13 00 14.0**	**-0.1**
	comp=Z,24nm,0.9s,mb4.7						
F07A	**Phinny Hill Vi**	**27.46**	**91**	⇑P	**P**	**13 00 15.1**	**+0.7**
	baz=27						
E08A	**Dider Farm, El**	**27.64**	**90**	⇑P	**P**	**13 00 16.0**	**0.0**
	baz=28,SNR=5.3						
HUMO	**Hull Mountain**	**27.66**	**100**	⇑P	**P**	**13 00 16.9**	**+0.6**
	baz=28						
I05A	**Bend**	**27.68**	**96**	⇑P	**P**	**13 00 17.1**	**+0.6**
	baz=28						
J04A	**Umpqua Nationa**	**27.75**	**98**	⇑P	**P**	**13 00 18.1**	**+1.0**
	baz=28						
D09A	**Jones Farm, Ri**	**27.77**	**88**	⇑P	**P**	**13 00 17.1**	**-0.1**
	baz=28						
EDM	**Edmonton**	**27.81**	**73**	*eP*	**P**	**13 00 17.3**	**-0.2**
NEW	**Newport**	**27.84**	**85**	P	**P**	**13 00 17.9**	**0.0**
	comp=Z,2.8nm,0.4s,mb4.3,baz=296,slow=9.7,SNR=7.9						
NEW				LR	LR	13 08 50.5	
	comp=Z,145nm,21.7s,baz=189,slow=31						
H06A	**Lindquist Farm**	**27.89**	**94**	P	**P**	**13 00 18.4**	**+0.2**
	baz=28,SNR=5.8						
G07A	**Ruggs Ranch, H**	**27.97**	**92**	⇑P	**P**	**13 00 19.1**	**+0.1**
	baz=28						
F08A	**Pendleton**	**28.19**	**91**	⇑P	**P**	**13 00 20.9**	**0.0**
	baz=28						
J05A	**Fort Rock**	**28.23**	**97**	P	**P**	**13 00 22.2**	**+0.8**
	baz=28,SNR=16						
YBH	**Yreka Blue Hor**	**28.36**	**101**	P	**P**	**13 00 23.1**	**+0.6**
	comp=Z,5.5nm,0.8s,mb4.2,baz=312,slow=4.4,SNR=12						
YBH				LR	LR	13 09 05.3	
	comp=Z,88nm,19.9s,baz=322,slow=31						
YBH	**Yreka Blue Hor**	**28.36**	**101**	⇓P	**P**	**13 00 23.4**	**+0.9**
	baz=28						
G08A	**Pilot Rock**	**28.37**	**92**	⇓P	**P**	**13 00 22.6**	**+0.1**
	baz=28,SNR=7.0						
D10A	**Wagner Farm, O**	**28.38**	**87**	⇑P	**P**	**13 00 22.1**	**-0.6**
	baz=28,SNR=5.1						
H07A	**Lands Inn, Kim**	**28.42**	**93**	⇑P	**P**	**13 00 23.6**	**+0.6**
	baz=28,SNR=9.8						
I06A	**Prineville**	**28.43**	**95**	⇑P	**P**	**13 00 23.1**	**+0.1**
	baz=28						
M02C	**Callahan**	**28.50**	**102**	⇓P	**P**	**13 00 24.6**	**+0.9**
	baz=28						
L04A	**Klamath Falls**	**28.55**	**99**	⇑P	**P**	**13 00 24.8**	**+0.6**
	baz=28,SNR=5.8						
N02C	**Big Bar**	**28.62**	**103**	⇓P	**P**	**13 00 25.2**	**+0.3**
	baz=28						
F09A	**S2 Ranch, Elgi**	**28.74**	**90**	P	**P**	**13 00

baz=31,SNR=7.2
K10A MacKenzie Ranc 31.07 94 ⇑P P 13 00 46.7 +0.3
baz=31,SNR=20
L09A Wilkinson Ranc 31.08 96 ⇑P P 13 00 46.7 +0.1
baz=31,SNR=6.2
N07B Gerlach 31.12 99 ⇑P P 13 00 47.0 +0.1
baz=31,SNR=13
D15A Lincoln 31.14 84 ⇑P P 13 00 46.8 -0.3
baz=31
P05C Yuba Gap, Truc 31.17 103 ⇑P P 13 00 46.9 -0.5
baz=31
H12A Diamond D Ranc 31.18 89 ⇓P P 13 00 46.5 -0.9
baz=31
G13A Cobalt 31.23 88 P P 13 00 47.9 +0.1
baz=31,SNR=6.6
MFID Camas Ranch 31.29 92 ⇑P P 13 00 48.1 -0.2
baz=31,SNR=23
E15A Deer Lodge 31.40 85 ⇓P P 13 00 49.1 -0.3
baz=31,SNR=5.2
LAVA Lava Cap Winer 31.47 103 ⇑P P 13 00 49.9 -0.2
baz=31
H13A Challis 31.52 89 ⇓P P 13 00 50.4 0.0
baz=31
K11A Parker Ranch, 31.56 93 P P 13 00 51.1 +0.4
baz=31,SNR=16
M09A Marrel Ranch, 31.58 96 P P 13 00 51.6 +0.7
baz=31,SNR=8.0
O07A Toulon 31.58 100 P P 13 00 51.5 +0.5
baz=31,SNR=12
PAHR Pah Rah Range 31.60 101 *eP* **P 13 00 50.7 -0.4**
comp=Z,19nm,1.2s,mb4.8
N08A GE Springer Mi 31.60 98 ⇑P P 13 00 51.4 +0.2
baz=32
WCN Washoe City 31.66 102 ⇓P P 13 00 51.9 +0.2
baz=32
L10A Juniper Basin 31.73 95 P P 13 00 52.5 +0.2
baz=32,SNR=12
J12A Stokes Ranch, 31.81 92 ⇑P P 13 00 53.0 0.0
baz=32,SNR=19
N09A Rock Creek Ran 31.91 97 ⇑P P 13 00 54.4 +0.5
baz=32
I13A Wildhorse Cree 31.98 90 ⇓P P 13 00 54.3 -0.1
baz=32,SNR=9.6
HLID Hailey 32.02 91 ⇑P P 13 00 54.6 -0.2
baz=32,SNR=18
M10A I.L. Ranch, Tu 32.05 95 ⇓P P 13 00 55.5 +0.5
baz=32,SNR=6.4
L11A Cat Creek Ranc 32.09 94 P P 13 00 56.0 +0.5
baz=32,SNR=31
CMB Columbia Colle 32.17 104 *eP* **P 13 00 55.0 -1.2**
CMB pmax pmax
comp=Z,7.0nm,1.1s,mb4.4
CMB Columbia Colle 32.17 104 *eP* **P 13 00 55.0 -1.3**
comp=Z,6.7nm,1.1s,mb4.4
CMB Columbia Colle 32.17 104 ⇓P P 13 00 56.0 -0.2
baz=32
RES Resolute Bay 32.18 27 *eP* **P 13 00 55.1 -0.8**
RES pmax pmax
comp=Z,90nm,0.6s,mb5.8
RES Resolute Bay 32.18 27 *eP* **P 13 00 55.1 -0.8**
comp=Z,90nm,0.6s,mb5.8
MCMT McKenzie Canyo 32.18 87 *eP* **P 13 00 56.1 -0.2**
G15A Dillon 32.20 87 ⇑P P 13 00 55.7 -0.6
baz=32,SNR=5.5
EGMT Eagleton 32.21 80 ⇑P P 13 00 55.7 -0.7
baz=32
J13A Cove Ranch, Pi 32.26 91 ⇑P P 13 00 57.0 +0.1
baz=32,SNR=26
K12A Draper Farm, C 32.30 92 P P 13 00 57.7 +0.4
baz=32,SNR=7.1
R06C Coleville 32.36 102 ⇓P P 13 00 58.5 +0.6
baz=32
L12A House Creek Ra 32.54 93 P P 13 00 59.9 +0.6
baz=32,SNR=32
M11A Holland Ranch, 32.54 95 ⇑P P 13 00 59.7 +0.3
baz=32,SNR=6.8
O09A Fish Creek Ran 32.55 98 P P 13 01 00.0 +0.5
baz=32,SNR=7.8
Q08A Gabbs 33.00 100 ⇑P P 13 01 03.8 +0.4
baz=33,SNR=9.0
M12A Wells 33.05 94 ⇑P P 13 01 04.6 +0.8
baz=33,SNR=10
NVAR Mina Array Bea 33.08 101 P P 13 01 04.3 +0.2
NVAR Mina Array Bea 33.08 101 P P 13 01 04.3 +0.2
comp=Z,5.5nm,0.8s,mb4.5,baz=297,slow=9.0,SNR=15
L13A Double Diamond 33.19 92 ⇑P P 13 01 05.9 +0.8
baz=33,SNR=9.3
N12A Clover Valley, 33.34 95 P P 13 01 07.0 +0.6
baz=33,SNR=18
K14A Jones Ranch, D 33.36 91 ⇑P P 13 01 06.9 +0.4
baz=33
TIXI Tiksi 33.38 327 *eP* **P 13 01 05.4 -1.0**
TIXI *e* 13 03 45.7
TIXI pmax pmax
comp=Z,24nm,1.0s,mb5.1
TIXI Tiksi 33.38 327 *eP* **P 13 01 05.4 -1.0**
comp=Z,24nm,1.0s,mb5.1
TIXI *e*PcP PcP 13 03 45.7 -0.7
O11A Cowboy Ranch, 33.46 97 P P 13 01 07.8 +0.4
baz=33,SNR=6.2
M13A Montello 33.52 94 ⇑P P 13 01 08.6 +0.6
baz=33
P11A Circle Ranch, 33.78 97 ⇓P P 13 01 10.8 +0.6
baz=34
N13A Wendover, West 33.83 94 ⇓P P 13 01 10.8 +0.2
baz=34,SNR=8.1
O12A Currie 33.89 96 P P 13 01 11.4 +0.2
baz=34,SNR=27
HELL Mitchell Peak 33.90 104 ⇑P P 13 01 11.1 -0.1
baz=34
Q10A Clear Creek Ra 33.90 99 ⇑P P 13 01 11.6 +0.3
baz=34
M14A Sheep Mountain 33.91 93 P P 13 01 11.6 +0.3
baz=34,SNR=11
R09A Tonopah 33.91 100 ⇓P P 13 01 11.2 -0.2
baz=34,SNR=8.4
HVU Hansel Valley 34.07 92 *eP* **P 13 01 12.5 -0.2**
HVU pmax pmax
comp=Z,14nm,0.9s,mb4.9
HVU Hansel Valley 34.07 92 *eP* **P 13 01 12.5 -0.2**
comp=Z,14nm,0.9s,mb4.9
S09A Goldfield 34.18 101 ⇓P P 13 01 13.6 -0.1
baz=34
Q11A Duckwater 34.31 98 ⇑P P 13 01 14.8 -0.1
baz=34,SNR=11
R10A Warm Springs 34.32 100 ⇓P P 13 01 14.9 0.0
baz=34
P12A McGill 34.32 97 P P 13 01 15.2 +0.3
baz=34,SNR=11
S10A Tonopah Range, 34.41 100 ⇓P P 13 01 15.8 +0.1
baz=34,SNR=9.3
N14A Grayback Hills 34.42 93 P P 13 01 15.9 +0.2
baz=34,SNR=18
BGU Big Grassy Mou 34.46 93 *eP* **P 13 01 15.8 -0.3**
VES Vestal, Richgr 34.47 105 ⇓P P 13 01 15.7 -0.5
baz=34
R11A Troy Canyon, C 34.69 99 ⇓P P 13 01 18.2 +0.1
baz=34,SNR=16
P13A Bates Ranch, G 34.85 96 ⇓P P 13 01 19.5 0.0
baz=35,SNR=17
HWUT Hardware Ranch 34.88 91 *eP* **P 13 01 19.2 -0.5**
comp=Z,2.6nm,0.7s,mb4.3
DUG Dugway 35.06 94 *eP* **P 13 01 21.0 -0.3**
DUG pmax pmax
comp=Z,19nm,1.0s,mb5.0
DUG Dugway 35.06 94 *eP* **P 13 01 21.0 -0.3**
comp=Z,19nm,1.0s,mb5.0
DUG Dugway 35.06 94 ⇓P P 13 01 21.2 0.0
baz=35
Q13A Wheeler Ranch, 35.18 97 ⇑P P 13 01 22.3 -0.1
baz=35
MPMC Manual Prospec 35.20 104 P P 13 01 22.8 +0.2
baz=35,SNR=5.5
R12A Pony Springs, 35.27 98 ⇓P P 13 01 23.1 0.0
baz=35,SNR=5.1
FURC Furnace Creek, 35.27 102 ⇑P P 13 01 23.4 +0.3
baz=35,SNR=7.0
TPNV Topopah Spring 35.28 101 *eP* **P 13 01 23.1 -0.1**
TPNV pmax pmax
comp=Z,33nm,1.6s,mb5.0
TPNV Topopah Spring 35.28 101 *eP* **P 13 01 23.1 0.0**
comp=Z,33nm,1.6s,mb5.0
TPNV Topopah Spring 35.28 101 ⇓P P 13 01 23.1 0.0
baz=35
BW06 Boulder Array 35.32 88 *eP* **P 13 01 22.5 -1.0**
comp=Z,1.3nm,0.6s,mb4.0
BW06 *e*pP pP 13 01 39.8 +0.8
YAK Yakutsk 35.37 310 *eP* **P 13 01 21.9 -1.8**
YAK pmax pmax
comp=Z,44nm,0.8s,mb5.4
YAK pmax pmax
comp=N,4.0nm,1.1s
YAK pmax pmax
comp=E,13nm,1.1s
YAK Yakutsk 35.37 310 *eP* **P 13 01 22.3 -1.4**
comp=E,94nm,0.7s,mb5.8
S12A Delamar Landin 35.62 99 ⇑P P 13 01 26.7 +0.6
baz=36,SNR=8.8
NLU North Lily Min 35.65 94 *eP* **P 13 01 25.8 -0.5**
T11A Corn Creek, Al 35.66 100 ⇑P P 13 01 26.3 -0.2
baz=36
S13A Holt Ranch, En 36.21 98 ⇓P P 13 01 31.3 +0.2
baz=36,SNR=6.8
ARUT Antelope Range 36.31 98 *eP* **P 13 01 30.8 -1.2**
S14A Cedar City 36.48 97 ⇑P P 13 01 33.5 0.0
baz=36
MSU Marysvale 36.55 96 *eP* **P 13 01 34.1 +0.1**
T13A Saint George 36.57 99 ⇓P P 13 01 34.2 0.0
baz=36,SNR=13
V12A Nelson 36.94 101 ⇑P P 13 01 37.7 +0.4
baz=37,SNR=7.0
U13A Pakoon Wash 36.96 100 ⇑P P 13 01 38.0 +0.5
baz=37,SNR=11
ASAJ Asahikawa 37.10 277 LR LR 13 16 44.7
comp=E,40nm,19.1s,baz=128,slow=36
GMRC Granite Mounta 37.16 103 ⇑P P 13 01 38.9 -0.3
baz=37
V13A Grand Canyon W 37.35 100 P **P 13 01 41.0 +0.2**
baz=37,SNR=6.3
U14A Mt Trumbull 37.41 99 ⇑P P 13 01 41.8 +0.5
baz=37,SNR=16
T15A Red Dirt Ranch 37.45 98 ⇓P P 13 01 42.0 +0.3
baz=37,SNR=7.5
BELC Belle Mtn. 37.54 104 ⇓P P 13 01 42.0 -0.5
baz=37
IRM Iron Mountain 37.90 103 ⇑P P 13 01 45.0 -0.5
baz=38
W13A Hualapai Mount 37.94 101 ⇓P P 13 01 45.2 -0.6
baz=38,SNR=5.8
V14A Boquillas Ranc 38.00 100 ⇓P P 13 01 46.5 +0.1
baz=38,SNR=5.6
W14A Seligman 38.32 100 ⇑P P 13 01 48.7 -0.2
baz=38
X13A Yucca 38.34 102 ⇓P P 13 01 48.5 -0.7
baz=38
V15A Kaibab Nationa 38.41 99 ⇑P P 13 01 50.3 +0.6
baz=38,SNR=19
PV10 Paradox Valley 38.46 93 *eP* **P 13 01 49.7 -0.4**
PV10 *e*pP pP 13 02 06.6 +0.9
PV10 *e*PcP PcP 13 04 01.2 -0.9
ULM Lac du Bonnet 38.79 69 *eP* **P 13 01 51.8 -1.1**
comp=E,14nm,1.0s,mb4.7
ULM Lac du Bonnet 38.79 69 P **P 13 01 52.3 -0.5**
comp=E,8.6nm,0.5s,mb4.8,baz=304,slow=7.9,SNR=16
ULM LR LR 13 17 17.7
comp=E,93nm,21.7s,baz=340,slow=35
W15A Williams 38.81 100 ⇑P P 13 01 53.8 +0.7
baz=39
HABR Khabarovsk 38.86 288 *eP* **P 13 01 52.4 -1.0**
HABR *e* 13 03 22.9
HABR *e*S **S 13 07 49.1 +2.6**
HABR pmax pmax
comp=Z,68nm,1.0s,mb5.3
PV01 Paradox Valley 38.89 93 *eP* **P 13 01 52.9 -0.9**
PV01 *e*pP pP 13 02 09.2 -0.2
GLA Glamis 38.90 104 ⇓P P 13 01 53.4 -0.4
baz=39
Y13A Salome 38.90 103 ⇓P P 13 01 53.5 -0.4
baz=39
X14A Yava 38.96 101 P **P 13 01 54.4 0.0**
baz=39,SNR=6.2
WUAZ Wupatki 39.08 98 *eP* **P 13 01 55.2 -0.1**
comp=Z,5.9nm,1.0s,mb4.3
WUAZ *e*pP pP 13 02 09.8 -1.3
WUAZ Wupatki 39.08 98 ⇑P P 13 01 55.7 +0.3
baz=39
W16A Flagstaff 39.29 99 P **P 13 01 57.8 +0.7**
baz=39,SNR=8.9
X15A Humboldt 39.32 100 ⇓P P 13 01 57.6 +0.2
baz=39
MVCO Mesa Verde 39.56 94 *eP* **P 13 01 58.3 -1.1**
comp=Z,3.4nm,0.8s,mb4.1
MVCO Mesa Verde 39.56 94 ⇓P P 13 01 58.8 -0.6
baz=39
Y15A Casa Rosa Ranc 39.65 101 ⇑P P 13 02 00.2 +0.1
baz=40
X16A Lo Mia Camp, P 39.83 100 ⇑P P 13 02 01.6 +0.1
baz=40,SNR=6.0
AGMN Agassiz Refuge 39.88 71 *eP* **P 13 02 00.9 -1.0**
comp=Z,19nm,0.8s,mb4.9
Y16A Circle Bar Ran 40.19 100 ⇓P P 13 02 04.6 -0.1
baz=40
KLR Kul'dur 40.24 291 *eP* **P 13 02 00.0 -4.9**
X18A Snowflake 40.60 98 ⇑P P 13 02 08.5 +0.5
baz=40
Y17A Rosevelt 40.69 100 ⇓P P 13 02 08.4 -0.3
baz=40
SDCO Great Sand Dun 40.94 91 *eP* **P 13 02 10.1 -0.6**
comp=Z,2.6nm,0.9s,mb3.9
SDCO *e*pP pP 13 02 26.9 +0.5
Y18A Canyon Day Jun 41.09 99 ⇑P P 13 02 12.5 +0.5
baz=41
Z17A San Carlos Hig 41.19 100 ⇓P P 13 02 13.2 +0.4
baz=41
117A Oracle 41.57 101 P **P 13 02 15.9 0.0**
baz=41,SNR=5.3
118A Homack Ranch, 41.96 100 ⇑P P 13 02 19.0 -0.1
baz=42
217A Green Valley 42.11 102 ⇓P P 13 02 20.1 -0.3
baz=42
ECSD EROS,Sioux Fal 42.18 77 *eP* **P 13 02 18.9 -1.9**
comp=Z,2.7nm,0.4s,mb4.2
119A Ashpeak Ranch, 42.25 99 ⇓P P 13 02 21.1 -0.4
baz=42
ANMO Albuquerque 42.32 95 *eP* **P 13 02 21.1 -0.9**
ANMO *e**PP pP 13 02 37.6 -0.3
ANMO pmax pmax
comp=Z,1.0nm,0.5s
ANMO Albuquerque 42.32 95 *eP* **P 13 02 21.1 -0.9**
comp=Z,1.0nm,0.5s,mb3.7
ANMO *e*pP pP 13 02 37.6 -0.3
EYMN Ely 42.47 69 *eP* **P 13 02 22.3 -0.8**
comp=Z,15nm,0.6s,mb4.8
219A White Tail Can 42.84 100 ⇓P P 13 02 26.3 0.0
baz=43
MDJ Mudanjiang 44.18 287 P **P 13 02 35.1 -1.8**
MDJ AP pP 13 02 50.6 -2.2
MDJ PP PP 13 04 18.5 -2.1
MDJ SCP ScP 13 08 06.0 -0.8
MDJ PCS PcS 13 08 12.9 -0.8
MDJ S **S 13 09 03.0 -2.2**
MDJ AMB AMB
comp=Z,13nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,43nm,3.3s
BOD Bodaibo 44.29 310 ⇑ *iP* **P 13 02 36.2 -1.4**
BOD pmax pmax
comp=Z,23nm,0.8s,mb5.0
MAJO Matsushiro 44.56 272 *eP* **P 13 02 39.4 -0.6**
MAJO pmax pmax
comp=Z,9.0nm,0.5s,mb4.9
MAJO Matsushiro 44.56 272 *eP* **P 13 02 39.4 -0.7**
comp=Z,9.1nm,0.5s,mb4.9
MAT Matsushiro 44.56 272 P **P 13 02 39.0 -1.0**
MJAR Matsushiro Arr 44.56 272 P **P 13 02 39.7 -0.3**
MJAR LR LR 13 18 41.4
MJAR Matsushiro Arr 44.56 272 P **P 13 02 39.7 -0.3**
comp=Z,3.3nm,0.6s,mb4.4,baz=34,slow=6.4,SNR=24
MJAR LR LR 13 18 41.4
comp=Z,71nm,20.4s,baz=45,slow=32
COWI Conover 44.87 70 *eP* **P 13 02 40.9 -1.5**
comp=Z,6.2nm,0.4s,mb4.8
KSU1 Kansas State U 45.18 82 *eP* **P 13 02 43.1 -1.8**
comp=Z,4.3nm,0.6s,mb4.5
MNTX Cornudas Mount 45.29 97 *eP* **P 13 02 45.4 -0.5**
comp=Z,1.4nm,1.0s,mb3.8
MNTX *e*pP pP 13 03 01.2 -0.6
KBS Kingsbay 46.63 2 *c iP* **P 13 02 56.8 +0.9**
KBS Kingsbay 46.63 2 *eP* **P 13 02 56.4 +0.6**
comp=Z,13nm,0.6s,mb5.0
DAG Danmarks Havn 46.73 11 ⇓ *iP* **P 13 02 56.3 -0.4**
DAG pmax pmax
comp=Z,25nm,0.8s,mb5.2
DAG Danmarks Havn 46.73 11 ⇓ *iP* **P 13 02 56.3 -0.4**
comp=Z,25nm,0.8s,mb5.2
WMOK Wichita Mounta 46.93 88 *eP* **P 13 02 57.3 -1.5**
WMOK *e**PP pP 13 03 13.8 -1.0
WMOK pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WMOK Wichita Mounta 46.93 88 *eP* **P 13 02 57.3 -1.5**
comp=Z,3.3nm,0.9s,mb4.3
WMOK *e*pP pP 13 03 13.8 -1.0
CN2 Changchun 46.99 288 *eP* **P 13 02 58.8 -0.3**
CN2 *e*AP pP 13 03 14.3 -0.9
CN2 *e*S **S 13 09 43.6 -2.1**
CN2 AMB AMB
comp=Z,30nm,1.0s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
TXAR Lajitas Array 48.03 98 P **P 13 03 06.4 -0.9**
TXAR *PP pP 13 03 22.9 -0.5
TXAR 13 04 33.4
TXAR Lajitas Array 48.03 98 P **P 13 03 06.4 -1.0**
TXAR pP pP 13 03 22.9 -0.5
TXAR PcP PcP 13 04 33.4 -1.0
TXAR LR LR 13 21 13.5
TXAR Lajitas Array 48.03 98 P **P 13 03 06.4 -1.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=302,slow=6.0,SNR=32
TXAR pP pP 13 03 22.9 -0.5
comp=Z,3.4nm,0.7s,baz=302,slow=5.2,SNR=22
TXAR PcP PcP 13 04 33.4 -1.0
comp=Z,0.5nm,0.5s,baz=200,slow=1.5,SNR=6.2
TXAR LR LR 13 21 13.5
comp=Z,46nm,18.8s,baz=0.0,slow=33
SFJD Kangerlussuaq 48.11 30 *eP* **P 13 03 08.1 +0.6**
SFJD pmax pmax
comp=Z,14nm,0.6s,mb5.2
SFJD Kangerlussuaq 48.11 30 *eP* **P 13 03 08.1 +0.6**
comp=Z,14nm,0.6s,mb5.2
HDIL Hopedale 48.38 76 *eP* **P 13 03 08.1 -1.8**
comp=Z,44nm,0.6s,mb5.7
JCT Junction City 49.41 93 *eP* **P 13 03 16.4 -1.5**
JCT *e**PP pP 13 03 32.5 -1.6
JCT pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
JCT Junction City 49.41 93 *eP* **P 13 03 16.4 -1.6**
comp=Z,5.7nm,0.7s,mb4.7
JCT *e*pP pP 13 03 32.5 -1.6
FVM French Village 49.49 79 *eP* **P 13 03 16.2 -2.2**
FVM pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
FVM French Village 49.49 79 *eP* **P 13 03 16.2 -2.2**
comp=Z,7.0nm,0.6s,mb4.9
KSRS Korea Array 49.87 281 P **P 13 03 21.6 +0.4**
comp=Z,13nm,0.7s,mb5.0,baz=46,slow=7.0,SNR=42
KSRS LR LR 13 23 39.4
comp=Z,18nm,18.5s,baz=0.0,slow=35
SCHQ Schefferville 50.37 49 P **P 13 03 26.8 +1.9**
comp=Z,2.1nm,0.5s,mb4.4,baz=276,slow=5.6,SNR=12
USIN University of 51.07 77 *eP* **P 13 03 28.9 -1.5**
comp=Z,12nm,0.6s,mb5.0
WVT Waverly 52.27 79 *eP* **P 13 03 37.6 -1.7**
WVT *e**PP pP 13 03 53.8 -1.8
WVT pmax pmax
comp=Z,27nm,0.7s,mb5.3
WVT Waverly 52.27 79 *eP* **P 13 03 37.6 -1.7**
comp=Z,27nm,0.7s,mb5.3
WVT *e*pP pP 13 03 53.8 -1.7
OXF Oxford 52.51 81 *eP* **P 13 03 39.2 -2.0**
OXF pmax pmax
comp=Z,46nm,1.0s,mb5.4
OXF Oxford 52.51 81 *eP* **P 13 03 39.2 -1.9**
comp=Z,46nm,1.0s,mb5.4
ALLY Alegheny Colle 52.69 69 *eP* **P 13 03 41.0 -1.4**
comp=Z,17nm,0.6s,mb5.2
ULN Ulaanbaatar 53.85 304 *eP* **P 13 03 50.3 -0.5**
ULN pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
ULN Ulaanbaatar 53.85 304 *eP* **P 13 03 50.3 -0.5**
comp=Z,8.7nm,0.9s,mb4.7
ZAK Zakamensk 53.88 308 *eP* **P 13 03 49.7 -1.2**
ZAK *e* 13 04 54.2
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
SONM Songino Array 54.19 304 P **P 13 03 53.7 +0.5**
SONM 13 04 57.4
SONM Songino Array 54.19 304 P **P 13 03 53.7 +0.4**
comp=Z,5.7nm,0.6s,mb4.7,baz=40,slow=7.0,SNR=48
SONM PcP PcP 13 04 57.4 +0.4
comp=Z,4.0nm,0.8s,baz=51,slow=2.5,SNR=7.6
SONM LR LR 13 27 58.6
comp=Z,74nm,19.0s,baz=65,slow=37
BJI Beijing 54.62 291 P **P 13 03 54.8 -1.7**
BJI AMB AMB
comp=Z,99nm,1.0s,mb5.8
ELN Prospectdale 55.47 73 *eP* **P 13 04 00.9 -1.8**
KEV Kevo 55.77 357 *ep* **P 13 04 02.9 -1.4**
comp=Z,14nm,0.5s,mb5.3
KEV Kevo 55.77 357 *eP* **P 13 04 02.9 -1.4**
KEV pmax pmax
comp=Z,14nm,0.5s,mb5.2
ARCES ARCESS Array B 56.04 357 P **P 13 04 05.6 -0.7**
comp=Z,8.5nm,0.7s,mb4.9,baz=34,slow=8.1,SNR=32
HHC Hu-ho-hao-te 56.51 295 *eP* **P 13 04 10.8 +0.7**
HHC AP pP 13 04 26.6 +0.1
HHC PP PP 13 06 19.3 +3.3
HHC S **S 13 11 56.8 +0.3**
HHC SCS ScS 13 13 51.6 -1.7
HHC SS SS 13 15 43.8 -0.1
HHC AMB AMB
comp=Z,30nm,1.1s,mb5.2
HHC AMB AMB
comp=Z,208nm,6.8s
HHC LR LR
comp=N,230nm,16.0s
HHC LR LR
comp=E,333nm,15.6s
HHC LR LR
comp=Z,248nm,13.1s
NVS Novosibirsk 58.75 322 *eP* **P 13 04 24.6 -0.9**
NVS *e* 13 05 13.9
NVS pmax pmax
comp=Z,23nm,1.1s,mb5.1
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,17nm,1.2s
ZAA0 Zalesovo Array 58.88 321 *eP* **P 13 04 25.8 -0.7**
ZALV Zalesovo Beam 58.88 321 P **P 13 04 26.6 +0.2**
comp=E,11nm,0.7s,mb5.0,baz=23,slow=6.3,SNR=38
ZALV LR LR 13 32 05.4
comp=E,57nm,19.1s,baz=34,slow=38
ZAL Zalesovo 58.90 321 P **P 13 04 26.6 +0.1**
NJ2 Nanjing 58.92 283 *eP* **P 13 04 29.1 +2.0**
NJ2 AP pP 13 04 44.0 +0.4
NJ2 PCP PcP 13 05 17.1 +1.4
NJ2 S **S 13 12 30.5 +2.3**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.3
NJ2 AMB AMB
comp=Z,140nm,4.2s
NJ2 LR LR
comp=N,310nm,19.8s
NJ2 LR LR
comp=E,290nm,25.2s
NJ2 LR LR
comp=Z,290nm,25.2s
TMCR Tamitsa 60.60 350 *eP* **P 13 04 36.7 -1.4**
TMCR *e**PP pP 13 04 47.4 -7.3
TMCR pmax pmax
comp=Z,35nm,0.7s,mb5.6
JOF Joensuu 62.37 354 *ep* **P 13 04 48.4 -1.7**
comp=Z,9.2nm,0.6s,mb5.1
XAN Xi'an 62.95 291 P **P 13 04 54.0 -0.4**
XAN AMB AMB
comp=Z,10.0nm,0.8s,mb5.0
GTA Gaotai 63.61 301 *eP* **P 13 04 58.3 -0.3**
GTA AP pP 13 05 10.8 -4.6
GTA XP sP 13 05 15.8 -6.6
GTA PP PP 13 07 19.9 +1.2
GTA S **S 13 13 25.8 -1.7**
GTA XS sS 13 13 48.9 -6.9
GTA SS SS 13 17 34.8 -0.3
GTA AMB AMB
comp=Z,21nm,0.7s,mb5.3
GTA AMB AMB

comp=Z,92nm,5.3s
GTA LR LR
comp=N,76nm,16.0s
GTA LR LR
comp=E,140nm,14.8s
GTA LR LR
comp=Z,100nm,19.8s
KURK Kurchatov 63.73 322 *c iP* **P 13 04 59.5 +0.2**
KURK Kurchatov 63.73 322 *eP* **P 13 04 59.6 +0.4**
comp=Z,15nm,0.6s,mb5.2
SVE Sverdlovsk 63.79 336 *eP* **P 13 04 56.6 -2.9**
SVE pmax pmax
comp=Z,22nm,1.0s,mb5.1
LZH Lanzhou 64.10 296 *eP* **P 13 05 02.0 +0.1**
LZH AP pP 13 05 17.0 -1.7
LZH AMB AMB
comp=Z,26nm,1.2s,mb5.1
LZH AMB AMB
comp=Z,113nm,4.2s
FIA1 FINESS Array S 64.12 356 *eP* **P 13 05 00.8 -0.8**
FINES FINESS Array B 64.12 356 P **P 13 05 01.1 -0.5**
comp=Z,15nm,0.7s,mb5.1,baz=25,slow=6.9,SNR=89
LRW Lerwick 64.47 11 *eP* **P 13 05 04.5 +0.5**
LRW AMb AMB 13 05 05.8
comp=Z,56nm,1.3s,mb5.4
BRVK Borovoye 64.51 328 *eP* **P 13 05 04.3 0.0**
BRVK pmax pmax
comp=Z,43nm,0.8s,mb5.5
BRVK Borovoye 64.51 328 *eP* **P 13 05 04.3 0.0**
comp=Z,43nm,0.8s,mb5.5
NB2 NORSAR Subarra 64.51 4 P **P 13 05 04.2 0.0**
comp=Z,20nm,0.7s,mb5.2,baz=356,slow=6.5
NOA NORSAR Array B 64.51 4 P **P 13 05 04.2 0.0**
NOA LR LR 13 35 08.3
NOA NORSAR Array B 64.51 4 P **P 13 05 04.2 0.0**
comp=Z,17nm,0.7s,mb5.2,baz=356,slow=6.6,SNR=98
NOA LR LR 13 35 08.3
comp=Z,11nm,19.8s,baz=260,slow=38
ARU Arti 64.63 337 *d iP* **P 13 05 04.9 -0.1**
ARU *e* 13 05 37.0
ARU *e* 13 07 24.6
ARU *e*S **S 13 13 42.5 +2.9**
ARU *e*SS SS 13 17 49.1 -1.0
ARU pmax pmax
comp=Z,42nm,1.7s,mb5.2
NAO01 NORSAR Array S 64.69 4 *eP* **P 13 05 05.1 -0.2**
comp=Z,4.8nm,0.6s,mb4.7
MK31 Makanchi Array 65.60 318 *i* P **P 13 05 10.6 -0.8**
MK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
MK31 Makanchi Array 65.60 318 *eP* **P 13 05 10.8 -0.7**
MKAR Makanchi Array 65.60 318 *i* P **P 13 05 10.8 -0.6**
MKAR pmax pmax
comp=Z,9.0nm,0.8s
MKAR Makanchi Array 65.60 318 P **P 13 05 10.8 -0.6**
comp=Z,9.1nm,0.8s,mb4.9,baz=47,slow=6.1,SNR=56
MKAR LR LR 13 35 14.6
comp=Z,92nm,20.6s,baz=3.0,slow=37
TAOE Nuku Hiva Isla 65.70 157 *eT* 14 16 17.1
comp=Z,3μm,0.3s
ORE Reay 65.72 13 *eP* **P 13 05 12.2 +0.1**
WMQ Urumqi 65.78 312 P **P 13 05 13.0 +0.3**
WMQ PP PP 13 07 41.0 +3.4
WMQ S S 13 13 53.0 -1.1
WMQ SS SS 13 18 10.0 +1.4
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,58nm,6.0s
WMQ LR LR
comp=N,76nm,17.0s
WMQ LR LR
comp=E,92nm,17.0s
WMQ LR LR
comp=Z,58nm,16.0s
MVH1 Achvaich 66.27 13 *eP* **P 13 05 15.7 +0.1**
MDO Dochfour 66.71 13 *eP* **P 13 05 18.4 0.0**
MCD Coleburn Disti 66.72 13 *eP* **P 13 05 19.0 +0.5**
VSU Vasula 67.07 355 *c iP* **P 13 05 20.7 0.0**
EAB Aberfoyle 67.93 14 *eP* **P 13 05 26.3 +0.2**
EBH Black Hill 67.99 13 *eP* **P 13 05 26.5 0.0**
CD2 Chengdu 68.14 293 *eP* **P 13 05 27.6 -0.3**
CD2 AP pP 13 05 44.0 -0.8
CD2 PP PP 13 08 00.3 +1.9
CD2 S S 13 14 20.8 -2.1
CD2 SS SS 13 18 45.0 -0.8
CD2 AMB AMB
comp=Z,50nm,0.8s,mb5.6
CD2 AMB AMB
comp=Z,80nm,5.2s
CD2 LR LR
comp=N,130nm,14.4s
CD2 LR LR
comp=E,150nm,15.6s
CD2 LR LR
comp=Z,150nm,15.6s
EAU Auchinoon 68.39 13 *eP* **P 13 05 29.5 +0.5**
XSO Sourhope Farm 68.89 13 *eP* **P 13 05 32.6 +0.5**
ESK Eskdalemuir 68.94 13 *eP* **P 13 05 32.4 0.0**
ESK AMb AMB 13 05 42.8
comp=Z,37nm,1.9s,mb5.0
GAL1 Galloway 69.17 14 *eP* **P 13 05 34.2 +0.4**
GAL1 AMb AMB 13 05 34.5
comp=Z,48nm,1.4s,mb5.2
OBN Obninsk 69.64 349 *eP* **P 13 05 36.2 -0.6**
OBN *e*S S 13 14 33.7 -6.1
OBN pmax pmax
comp=Z,32nm,1.0s,mb5.2
GYA Guiyang 70.03 288 P **P 13 05 40.3 +0.7**
GYA XP sP 13 05 57.9 -5.7
GYA PCP PcP 13 06 02.4 +0.9
GYA PP PP 13 08 17.3 +2.4
GYA S S 13 14 43.5 -1.8
GYA SKS 13 15 30.8
GYA SS SS 13 19 15.3 +0.2
GYA AMB AMB
comp=Z,20nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,120nm,6.2s
GYA LR LR
comp=N,490nm,22.8s
GYA LR LR
comp=E,460nm,21.9s
GYA LR LR
comp=Z,470nm,20.3s
PMOR Pomariorio Ree 70.29 166 *eT* 14 22 03.4
comp=Z,67nm,0.3s
LHO Holmfirth 70.84 13 *eP* **P 13 05 44.5 +0.3**
SBD1 Bryn Du 71.28 14 *eP* **P 13 05 47.0 +0.3**
KWE Weaver Farm 71.36 13 *eP* **P 13 05 47.8 +0.5**
TKM2 Tokmak 2 71.43 320 *eP* **P 13 05 48.6 +0.7**
TKM2 pmax pmax
comp=Z,35nm,1.4s,mb5.1
TKM2 Tokmak 2 71.43 320 *eP* **P 13 05 48.6 +0.7**
comp=Z,35nm,1.4s,mb5.1
TKM2 Tokmak 2 71.43 320 P **P 13 05 48.8 +1.0**
SNR=16
USP Ospenovka 71.54 320 P **P 13 05 49.4 +0.9**
SNR=15
BSEG Bad Segeberg 71.57 5 *eP* **P 13 05 49.1 +0.6**
comp=Z,27nm,1.5s,mb5.0
SUW Suwalki 71.65 357 *eP* **P 13 05 48.4 -0.7**
SUW Suwalki 71.65 357 *eP* **P 13 05 48.4 -0.6**
CHMS Chumysh 71.68 320 P **P 13 05 49.6 +0.2**
SNR=11
ULHL Ulahol 71.76 319 P **P 13 05 50.8 +0.9**
SNR=9.3
KBK Karagaybulak 71.90 320 P **P 13 05 51.5 +0.8**
SNR=23
AAK Ala-Archa 72.09 320 P **P 13 05 52.8 +0.9**
SNR=15
KZA Kyzart 72.28 319 P **P 13 05 54.4 +1.4**
SNR=26
EKS2 Erkin-Say 72.33 321 *eP* **P 13 05 54.0 +0.7**
comp=Z,18nm,0.9s,mb5.0
EKS2 Erkin-Say 72.33 321 P **P 13 05 54.2 +0.9**
SNR=12
UCH Uchtor 72.43 320 P **P 13 05 55.3 +1.4**
SNR=9.8
PPT Papeete 72.60 168 *e*LR LR 13 27 33.2
comp=Z,79nm,24.0s
PPT Papeete 72.60 168 *eT* 14 24 57.4
comp=Z,4.4nm,0.4s
PAE Paea 72.69 168 *eT* 14 25 04.1
comp=Z,6.1nm,0.3s
AML Almayashu 72.82 320 *eP* **P 13 05 57.3 +1.1**
comp=Z,17nm,0.8s,mb5.0
AML Almayashu 72.82 320 P **P 13 05 57.8 +1.6**
SNR=24
TVO Taravao 72.85 168 *eT* 14 25 15.9
comp=Z,7.4nm,0.3s
IBBN Ibbenburen 73.03 7 *eP* **P 13 05 58.1 +0.8**
comp=Z,44nm,1.5s,mb5.2
KK31 Karatay Array 73.12 323 *i* P **P 13 05 57.4 -0.5**
KK31 pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
VRSR Storozhevoye 73.15 347 *eP* **P 13 05 57.4 -0.6**
VRSR pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
VRSR pmax pmax
comp=N,3.0nm,0.4s
VRSR pmax pmax
comp=E,1.0nm,0.6s
KMI Kunming 73.24 290 P **P 13 05 59.3 +0.3**
KMI PP PP 13 08 44.3 +1.9
KMI S S 13 15 20.1 -2.2
KMI SS SS 13 20 04.3 0.0
KMI AMB AMB
comp=Z,9.0nm,0.9s,mb4.7
KMI AMB AMB
comp=Z,71nm,7.0s
KMI LR LR
comp=N,147nm,15.9s
KMI LR LR
comp=E,130nm,12.4s
KMI LR LR
comp=Z,123nm,21.2s
VORD Divnogorie 73.38 347 *eP* **P 13 05 58.0 -1.3**
VORD *e**PP pP 13 06 05.6 -11
VORD pmax pmax
comp=Z,30nm,0.8s,mb5.3
VORD pmax pmax
comp=N,10.0nm,0.4s
VORD pmax pmax
comp=E,3.0nm,0.4s
CLZ Clausthal 73.66 5 *eP* **P 13 06 01.2 +0.2**
CLZ pmax pmax
comp=Z,28nm,1.7s,mb4.9
CLZ Clausthal 73.66 5 *eP* **P 13 06 01.2 +0.2**
comp=Z,28nm,1.7s,mb4.9
BUG Bochum--Univer 73.86 7 *eP* **P 13 06 02.5 +0.4**
comp=Z,10.0nm,0.8s,mb4.8
CLL Collm 74.32 4⇑ *iP* **P 13 06 04.8 0.0**
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CLL Collm 74.32 4 *eP* **P 13 06 04.7 -0.1**
comp=Z,15nm,1.5s,mb4.7
CLL Collm 74.32 4⇑ *iP* **P 13 06 04.8 0.0**
comp=Z,6.0nm,0.7s,mb4.6
MEM Membach 74.58 8 P **P 13 06 06.8 +0.4**
comp=Z,6.4nm,0.7s,mb4.7
AKASG Malin Array Be 74.67 353 P **P 13 06 06.3 -0.6**
comp=Z,23nm,0.5s,mb5.4,baz=9.4,slow=5.9,SNR=21
AKBB Malin Array Si 74.67 353 *eP* **P 13 06 06.3 -0.6**
BRG Berggiesshubel 74.78 3 *eP* **P 13 06 07.5 0.0**
BRG pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRG Berggiesshubel 74.78 3 *eP* **P 13 06 07.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.5
BRG Berggiesshubel 74.78 3 *eP* **P 13 06 07.5 0.0**
comp=Z,6.0nm,0.9s,mb4.5
KSP Ksiaz 74.87 2 *eP* **P 13 06 08.4 +0.4**
MOX Moxa 74.92 5 *eP* **P 13 06 07.7 -0.6**
comp=Z,25nm,1.4s,mb5.0
MOX Moxa 74.92 5 *eP* **P 13 06 07.7 -0.6**
MOX pmax pmax
comp=Z,25nm,1.4s,mb5.0
MOX Moxa 74.92 5 *eP* **P 13 06 08.1 -0.2**
comp=Z,10.0nm,0.9s,mb4.8
BAIF Baives 74.96 10 *eP* **P 13 06 08.6 0.0**
comp=Z,5.6nm,0.6s,mb4.4
BAIF Baives 74.96 10 *eP* **P 13 06 08.6 0.0**
BAIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
BAIF Baives 74.96 10 *eP* **P 13 06 08.6 0.0**
comp=Z,2.8nm,0.6s,mb4.4
PVCC Panska Ves 75.15 3 *eP* **P 13 06 10.2 +0.6**
TANN Tannenbergstha 75.19 4 *eP* **P 13 06 10.1 +0.3**
comp=Z,4.0nm,1.0s,mb4.3
UPC Upice 75.20 2 *eP* **P 13 06 10.6 +0.7**
DPC Dobruska-Polom 75.36 2 *eP* **P 13 06 11.6 +0.7**
NKC Novy Kostel 75.37 4 *eP* **P 13 06 11.5 +0.6**
OJC Ojcow 75.51 359 *eP* **P 13 06 11.5 -0.2**
LSA Lhasa 75.64 301 P **P 13 06 14.0 +1.2**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA Lhasa 75.64 301 *eP* **P 13 06 13.9 +1.1**
LSA pmax pmax
comp=Z,27nm,0.8s,mb5.2
LSA Lhasa 75.64 301 *eP* **P 13 06 13.8 +1.1**
comp=Z,27nm,0.8s,mb5.2
PRU Pruhonice 75.69 3 *eP* **P 13 06 13.2 +0.5**
FLN La Foliniere 75.71 13 *eP* **P 13 06 12.6 -0.3**
LVV L'vov 75.82 356 *eP* **P 13 06 13.3 -0.2**
ROTZ Rotzenmuhle 75.82 4 *eP* **P 13 06 13.4 -0.1**
comp=Z,8.0nm,1.2s,mb4.5
GRA1 Grafenberg Arr 75.85 5 *eP* **P 13 06 14.3 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 75.85 5 *eP* **P 13 06 14.3 +0.6**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 75.85 5 *eP* **P 13 06 14.3 +0.6**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 75.85 5 *eP* **P 13 06 14.3 +0.6**
comp=Z,9.0nm,0.8s,mb4.8
OKC Ostrava-Krasne 75.90 0 *eP* **P 13 06 14.2 +0.3**
MORC Moravsky Berou 75.95 1 *eP* **P 13 06 14.4 +0.2**
comp=Z,3.6nm,0.6s,mb4.5
MORC Moravsky Berou 75.95 1⇓ *iP* **P 13 06 14.1 -0.1**
GRR Gorron 76.02 13 *eP* **P 13 06 14.8 +0.1**
KWP Kalwaria 76.05 357 *eP* **P 13 06 15.4 +0.7**
KWP Kalwaria 76.05 357 *eP* **P 13 06 15.5 +0.7**
KWP Kalwaria 76.05 357⇑ *iP* **P 13 06 15.6 +0.8**
STHS Stebnicka Huta 76.30 358 *eP* **P 13 06 17.3 +1.1**
STHS pmax pmax
comp=Z,14nm,0.6s,mb5.1
STHS Stebnicka Huta 76.30 358 *eP* **P 13 06 17.3 +1.1**
comp=Z,14nm,0.6s,mb5.1
TREC Trest 76.40 2 *eP* **P 13 06 17.4 +0.6**
VRAC Vranov 76.41 1⇑ *iP* **P 13 06 08.6 -8.2**
WET Wettzell 76.47 4 *eP* **P 13 06 17.5 +0.3**
WET pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
WET Wettzell 76.47 4 *eP* **P 13 06 17.5 +0.3**
comp=Z,5.0nm,1.1s,mb4.4
KHC Kasperske Hory 76.51 3⇑ *eP* **P 13 06 18.4 +1.0**
KHC Kasperske Hory 76.51 3 *eP* **P 13 06 18.3 +0.9**
KOLS Kolonicke sedl 76.76 358 *eP* **P 13 06 19.5 +0.7**
GEC2 GERESS Array S 76.80 3 *eP* **P 13 06 19.3 +0.2**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 76.80 3 *eP* **P 13 06 19.3 +0.2**
comp=Z,5.0nm,0.9s,mb4.4
GERES GERESS Array B 76.80 3 P **P 13 06 19.7 +0.6**
comp=Z,2.5nm,0.6s,mb4.3,baz=8.4,slow=4.7,SNR=24
CRVS Cervenica-Dubn 76.81 358 *eP* **P 13 06 19.7 +0.6**
CDF Champ du Feu 76.87 8 *eP* **P 13 06 19.4 0.0**
comp=Z,13nm,0.9s,mb4.6
CDF Champ du Feu 76.87 8 *eP* **P 13 06 19.4 0.0**
CDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
CDF Champ du Feu 76.87 8 *eP* **P 13 06 19.4 0.0**
comp=Z,6.6nm,0.9s,mb4.6
KOLL Kolacno 77.16 0 *eP* **P 13 06 21.7 +0.6**
HAU Haudompre 77.20 9 *eP* **P 13 06 21.3 0.0**
VYHS Vyhne 77.24 360 *i* P **P 13 06 22.1 +0.6**
VYHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
VYHS Vyhne 77.24 360 *i* P **P 13 06 22.1 +0.6**
comp=Z,4.0nm,0.7s,mb4.5
MODS Modra-Piesok 77.36 1 *eP* **P 13 06 23.1 +0.9**
HINF Hinteralfeld 77.43 8 *eP* **P 13 06 22.3 -0.3**
comp=Z,10nm,0.8s,mb4.5
HINF Hinteralfeld 77.43 8 *eP* **P 13 06 22.3 -0.3**
HINF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HINF Hinteralfeld 77.43 8 *eP* **P 13 06 22.3 -0.3**
comp=Z,5.2nm,0.8s,mb4.5
ZST Bratislava 77.53 1 *eP* **P 13 06 24.0 +0.8**
ZST pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
ZST Bratislava 77.53 1 *eP* **P 13 06 24.0 +0.8**
comp=Z,9.2nm,0.7s,mb4.8
TRPA Tarpa 77.56 357⇓ *iP* **P 13 06 23.9 +0.6**
LOR Lormes 77.69 10 *eP* **P 13 06 24.1 0.0**
comp=Z,15nm,0.8s,mb4.6
LOR Lormes 77.69 10 *eP* **P 13 06 24.1 0.0**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
LOR Lormes 77.69 10 *eP* **P 13 06 24.1 0.0**
comp=Z,7.3nm,0.8s,mb4.7
CONA Conrad Observa 77.78 2⇑ *iP* **P 13 06 25.0 +0.5**
comp=Z,8.2nm,0.8s,mb4.7
PSZ Piszkesteto 77.81 359 *eP* **P 13 06 25.8 +1.1**
comp=Z,5.6nm,1.1s,mb4.4
PSZ Piszkesteto 77.81 359⇑ *iP* **P 13 06 25.6 +0.9**
SSF Saint Saulge 77.86 11 *eP* **P 13 06 25.2 +0.2**
comp=Z,14nm,0.6s,mb4.8
SSF Saint Saulge 77.86 11 *eP* **P 13 06 25.2 +0.2**
SSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SSF Saint Saulge 77.86 11 *eP* **P 13 06 25.2 +0.2**
comp=Z,6.8nm,0.6s,mb4.8
MFF Saint Martin d 77.87 13 *eP* **P 13 06 25.5 +0.4**
comp=Z,17nm,0.8s,mb4.7
MFF Saint Martin d 77.87 13 *eP* **P 13 06 25.5 +0.4**
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
MFF Saint Martin d 77.87 13 *eP* **P 13 06 25.5 +0.4**
comp=Z,8.6nm,0.8s,mb4.7
BURAR Bucovina Array 77.98 356⇓ *iP* **P 13 06 26.3 +0.7**
AVF Avril sur Loir 78.11 11 *eP* **P 13 06 26.4 0.0**
comp=Z,25nm,0.9s,mb4.8
AVF Avril sur Loir 78.11 11 *eP* **P 13 06 26.4 0.0**
AVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
AVF Avril sur Loir 78.11 11 *eP* **P 13 06 26.4 0.0**
comp=Z,12nm,0.9s,mb4.8
BGF Bois d'Agland 78.28 11 *eP* **P 13 06 27.4 0.0**
comp=Z,11nm,0.7s,mb4.6
BGF Bois d'Agland 78.28 11 *eP* **P 13 06 27.4 0.0**
BGF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
BGF Bois d'Agland 78.28 11 *eP* **P 13 06 27.4 0.0**
comp=Z,5.5nm,0.7s,mb4.6
WTTA Wattenberg 78.30 5⇓ *iP* **P 13 06 28.4 +1.0**
comp=Z,8.9nm,0.7s,mb4.8
WTTA Wattenberg 78.30 5⇓ *iP* **P 13 06 28.4 +1.0**
WTTA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
SMF Signal de Mont 78.30 10 *eP* **P 13 06 27.4 -0.1**
comp=Z,4.7nm,0.5s,mb4.4
SMF Signal de Mont 78.30 10 *eP* **P 13 06 27.4 -0.1**
SMF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
SMF Signal de Mont 78.30 10 *eP* **P 13 06 27.4 -0.1**
comp=Z,3.3nm,0.5s,mb4.4
SQTA Sankt Quirin 78.32 5⇑ *iP* **P 13 06 28.4 +0.9**
comp=Z,8.6nm,0.7s,mb4.8
SQTA Sankt Quirin 78.32 5⇑ *iP* **P 13 06 28.4 +0.9**
SQTA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
TBI Tubuai 78.32 169 *eT* 14 32 06.1
comp=Z,17nm,0.3s
ARSA Arzberg 78.45 2⇑ *iP* **P 13 06 29.3 +1.0**
comp=Z,7.4nm,0.7s,mb4.7
TCF Toulx Ste Croi 78.47 12 *eP* **P 13 06 28.5 +0.1**
KBA Koelnbreinsper 78.56 4⇑ *iP* **P 13 06 30.1 +1.3**
comp=Z,12nm,1.0s,mb4.8
KBA Koelnbreinsper 78.56 4⇑ *iP* **P 13 06 30.1 +1.2**
KBA pmax pmax
comp=Z,13nm,1.0s,mb4.8
CABF La Chapelle 78.56 9 *eP* **P 13 06 29.3 +0.4**
DRGR 78.89 357⇑ *iP* **P 13 06 31.1 +0.4**
PERS Pernice 79.05 3 *i P* **P 13 06 32.2 +0.6**
OBKA Obir 79.17 3⇑ *iP* **P 13 06 33.2 +1.0**
comp=Z,24nm,0.5s,mb5.4
KIV Kislovodsk 79.69 343 *c iP* **P 13 06 35.7 +0.6**
KIV pmax pmax
comp=Z,35nm,1.4s,mb5.1
KIV Kislovodsk 79.69 343 *eP* **P 13 06 36.0 +0.9**
comp=Z,15nm,0.6s,mb5.1
KIV Kislovodsk 79.69 343⇓ *iP* **P 13 06 36.2 +1.1**
GUN Gumba 79.70 304 *eP* **P 13 06 35.9 +0.5**
comp=Z,137nm,0.8s,mb5.9
JIRN Jiri 79.76 304 *eP* **P 13 06 36.5 +0.8**
comp=Z,180nm,0.5s,mb6.3
JAVS Javornik 79.77 3 *i P* **P 13 06 35.0 -0.5**
CAF Calviac 79.80 12 *eP* **P 13 06 36.1 +0.4**
KKN Kakani 80.09 304 *eP* **P 13 06 37.8 +0.3**
comp=Z,48nm,0.7s,mb5.5
BZS Buzias 80.09 358⇑ *iP* **P 13 06 37.6 +0.4**
VOIR 80.16 356⇓ *iP* **P 13 06 38.7 +1.1**
VIVF Saint-Julien-l 80.16 10 *eP* **P 13 06 38.1 +0.5**
BOJS Bojanci 80.19 3 *eP* **P 13 06 38.0 +0.2**
PKI Pulchoki 80.21 304 *eP* **P 13 06 38.3 +0.1**
comp=Z,32nm,0.6s,mb5.4
GKN Gorkha 80.22 305 *eP* **P 13 06 38.2 0.0**
comp=Z,79nm,0.9s,mb5.6
ORIF Oris-en-Rattie 80.22 9 *eP* **P 13 06 38.8 +0.9**
comp=Z,11nm,0.9s,mb4.5
ORIF Oris-en-Rattie 80.22 9 *eP* **P 13 06 38.8 +0.9**
ORIF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
ORIF Oris-en-Rattie 80.22 9 *eP* **P 13 06 38.8 +0.9**
comp=Z,5.6nm,0.9s,mb4.5
GZR Gura Zlata 80.29 357⇓ *iP* **P 13 06 39.1 +0.8**
DMN Daman 80.32 304 *eP* **P 13 06 39.2 +0.4**
comp=Z,30nm,0.4s,mb5.6
DANN Dangsing 80.34 306 *eP* **P 13 06 39.5 +0.6**
comp=Z,162nm,0.7s,mb6.1
MBDF Montbardon 80.49 9 *eP* **P 13 06 39.7 +0.3**
comp=Z,16nm,0.8s,mb4.7
MBDF Montbardon 80.49 9 *eP* **P 13 06 39.7 +0.3**
MBDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
MBDF Montbardon 80.49 9 *eP* **P 13 06 39.7 +0.3**
comp=Z,7.9nm,0.8s,mb4.7
RKT Rikitea 80.66 156 *eT* 14 34 59.2
comp=Z,2.8nm,0.4s
KOLN Koldanda 80.90 306 *eP* **P 13 06 42.0 +0.1**
comp=Z,35nm,0.6s,mb5.4
TIRR Tirgusor 80.94 353⇓ *iP* **P 13 06 42.2 +0.4**
KBL Kabul 81.22 320 *eP* **P 13 06 42.3 -1.2**
KBL pmax pmax
comp=Z,21nm,0.9s,mb5.1
KBL Kabul 81.22 320 *eP* **P 13 06 42.2 -1.2**
comp=Z,21nm,0.9s,mb5.1
MTLF Montolieu 81.38 12 *eP* **P 13 06 44.3 +0.1**
comp=Z,7.4nm,0.8s,mb4.3
MTLF Montolieu 81.38 12 *eP* **P 13 06 44.3 +0.1**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MTLF Montolieu 81.38 12 *eP* **P 13 06 44.3 +0.1**
comp=Z,3.7nm,0.8s,mb4.4
SBF Sospel 81.40 8 *eP* **P 13 06 44.5 +0.2**
comp=Z,28nm,0.8s,mb4.9
SBF Sospel 81.40 8 *eP* **P 13 06 44.5 +0.2**
SBF pmax pmax
comp=Z,14nm,0.8s,mb4.9
SBF Sospel 81.40 8 *eP* **P 13 06 44.5 +0.2**
comp=Z,14nm,0.8s,mb4.9
ETSF Etsaut 81.45 14 *eP* **P 13 06 44.6 +0.1**
comp=Z,9.4nm,0.8s,mb4.5
ETSF Etsaut 81.45 14 *eP* **P 13 06 44.6 +0.1**
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ETSF Etsaut 81.45 14 *eP* **P 13 06 44.6 +0.1**
comp=Z,5.4nm,0.8s,mb4.5
FRF La Foret Royal 81.63 9 *eP* **P 13 06 45.8 +0.3**
GNI Garni 82.99 340⇓ *eP* **P 13 06 54.8 +2.2**
GNI pmax pmax
comp=Z,15nm,1.3s
GNI Garni 82.99 340 LR LR 13 48 21.7
comp=Z,27nm,19.0s,baz=224,slow=39
ESDC Sonseca Array 84.06 17 P **P 13 06 58.1 0.0**
comp=Z,1.3nm,0.5s,mb4.3,baz=344,slow=5.6,SNR=11
TIP Timpagrande 86.54 2 *eP* **P 13 07 10.8 +0.3**
comp=Z,6.5nm,0.9s,mb4.9
KEST Kesra 89.63 8 P **P 13 07 27.6 +2.3**
comp=Z,0.9nm,0.7s,mb4.2,baz=18,slow=10,SNR=4.4
WRA Warramunga Arr 92.28 238 P **P 13 07 35.6 -2.0**
comp=Z,1.2nm,0.8s,mb4.2,baz=40,slow=4.8,SNR=8.4
ASAR Alice Springs 95.64 237 P **P 13 07 51.7 -1.2**
comp=Z,0.6nm,0.7s,mb4.1,baz=30,slow=4.9,SNR=8.4
TSUM Tsumeb 144.62 2 *e*PKPdf PKPdf 13 14 01.9 -2.0

LBTB	Lobatse	149.98	348	*e*PKPbc	PKPbc	13 14 17.0	-0.6
BOSA	Boshof	153.57	347	PKPbc	PKPbc	13 14 25.4	-0.3
	comp=Z,2.0nm,0.5s,baz=24,slow=0.9,SNR=4.7						

IDC 13 13:10:23.0±1.2, 2181N×14324E, h0km, mb3.7/7, mb1 3.8/8, mb1mx3.7/19, mbtmp3.7/8, ML3.6/1, Error ellipse: s-maj=43.9km s-min=19.3km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.35	350	Pn	Pn	13 11 44.9	+0.7
	4.5nm,0.3s,baz=284,slow=20,SNR=4.4						
KSRS	Korea Array	20.46	323	P	P	13 15 02.6	+0.4
	1.8nm,1.1s,baz=18,slow=38,SNR=2.5						
SONM	Songino Array	39.29	320	P	P	13 17 53.8	+0.2
	1.2nm,0.7s,baz=125,slow=6.8,SNR=7.9						
WRA	Warramunga Arr	42.40	192	P	P	13 18 19.0	-0.4
	0.9nm,0.9s,baz=17,slow=8.9,SNR=3.5						
ASAR	Alice Springs	46.10	192	P	P	13 18 49.5	+0.4
	0.4nm,0.7s,baz=15,slow=8.7,SNR=6.6						
ZALV	Zalesovo Beam	54.16	322	P	P	13 19 49.3	-0.7
	1.3nm,0.7s,baz=92,slow=8.9,SNR=6.1						
MKAR	Makanchi Array	54.67	313	P	P	13 19 53.9	+0.1
	0.5nm,0.6s,baz=88,slow=9.0,SNR=4.5						
YKA	Yellowknife Ar	76.33	28	P	P	13 22 13.7	0.0
	0.9nm,0.7s,baz=292,slow=5.4,SNR=8.2						

*IDC **13** 13:25:07.5±1.2, 4127S×17364E, h68km±11km, mb4.4/8, mb1 4.5/10, mb1mx4.4/14, mbtmp4.5/10, MS3.0/1, Ms1 3.0/1, ms1mx2.8/14, Error ellipse: s-maj=19.7km s-min=8.2km az=128.0*

*ISCJB **13** 13:25:09.0±0.2, 4131S±002×17353E±004, h94km±2km, mb4.8/23, Error ellipse: s-maj=5.4km s-min=2.9km az=38.8*

*WEL **13** 13:25:10.6±0.2, 4124S×17354E, h91km±1km, ML5.4/25, Error ellipse: s-maj=1.6km s-min=1.1km az=0.0*

WEL Felt from Manawatu to Canterbury, maximum reported intensity MM 5.

*NEIC **13** 13:25:10.8, 4125S×17355E, h90km, mb5.0/11, ML5.4(WEL), After WEL.*

NEIC Felt throughout central New Zealand.

*BJI **13** 13:25:13.3, 4038S×17286E, h90km, mB5.4, mb5.1, Ms5.2, Msz4.7*

ISC 13 13:25:10.0±0.2, 4131S±002×17354E±004, h89km±2km, h109km±3.6km: pP-P, n210, σ1§03/206, mb4.8/23, 2C-1D, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNZ	Nelson	0.15	308	P	Pn	13 25 23.3	+0.7
NNZ				S	Sn	13 25 32.1	+0.1
NNZ	Nelson	0.15	308	PN	Pn	13 25 23.3	+0.7
NNZ				SN	Sn	13 25 32.1	+0.1
TUWZ	Tuamarina	0.33	111	PN	Pn	13 25 24.7	+1.3
TUWZ				SN	Sn	13 25 34.5	+1.2
BSWZ	Blackbirch Sta	0.47	148	P	Pn	13 25 26.1	+1.7
BSWZ	Blackbirch Sta	0.47	148	PN	Pn	13 25 26.1	+1.7
TCW	Tory Channel	0.56	80	P	Pn	13 25 26.3	+1.2
TCW				S	Sn	13 25 36.6	+0.3
TCW	Tory Channel	0.56	80	PN	Pn	13 25 26.3	+1.2
TCW				SN	Sn	13 25 36.6	+0.3
DUWZ	D'Urville Isla	0.59	30	PN	Pn	13 25 25.8	+0.5
DUWZ				SN	Sn	13 25 37.1	+0.5
THZ	Tophouse	0.66	226	P	Pn	13 25 27.6	+1.7
THZ				S	Sn	13 25 39.7	+1.9
THZ	Tophouse	0.66	226	PN	Pn	13 25 27.6	+1.7
THZ				SN	Sn	13 25 39.7	+1.9
CMWZ	Cape Campbell	0.67	131	P	Pn	13 25 28.0	+2.0
CMWZ	Cape Campbell	0.67	131	PN	Pn	13 25 28.0	+1.9
SNZO	South Karori	0.88	90	P	Pn	13 25 28.2	0.0
SNZO				S	Sn	13 25 42.0	+0.2
SNZO	South Karori	0.88	90	PN	Pn	13 25 28.2	0.0
SNZO				SN	Sn	13 25 42.0	+0.2
MRW	Makara Radio	0.88	85	PN	Pn	13 25 29.0	+0.8
QRZ	Quartz Range	0.91	302	P	Pn	13 25 28.6	+0.1
QRZ				S	Sn	13 25 40.9	-1.4
QRZ	Quartz Range	0.91	302	PN	Pn	13 25 28.6	+0.1
QRZ				PN	Pn	13 25 28.7	+0.2
QRZ				SN	Sn	13 25 40.9	-1.4
WEL	Wellington	0.93	89	P	Pn	13 25 29.5	+0.8
WEL	Wellington	0.93	89	PN	Pn	13 25 29.5	+0.8
BHW	Baring Head	1.01	96	P	Pn	13 25 30.3	+0.7
BHW				S	Sn	13 25 44.4	0.0
BHW	Baring Head	1.01	96	PN	Pn	13 25 30.3	+0.7
BHW				SN	Sn	13 25 44.4	+0.1
KHZ	Kahutara	1.10	180	P	Pn	13 25 32.4	+1.6
KHZ	Kahutara	1.10	180	PN	Pn	13 25 32.4	+1.6
KIW	Kapiti Island	1.13	67	P	Pn	13 25 31.7	+0.6
KIW				S	Sn	13 25 47.2	+0.3
KIW	Kapiti Island	1.13	67	PN	Pn	13 25 31.7	+0.6
KIW				SN	Sn	13 25 47.2	+0.3
CAW	Cannon Point	1.17	80	P	Pn	13 25 31.9	+0.3
CAW	Cannon Point	1.17	80	PN	Pn	13 25 31.9	+0.4
MSWZ	Moikau Station	1.29	95	PN	Pn	13 25 33.4	+0.4
DSZ	Denniston Nort	1.37	251	P	Pn	13 25 34.3	+0.3
DSZ	Denniston Nort	1.37	251	PN	Pn	13 25 34.3	+0.2
PAWZ	Paruwai Farm	1.42	93	P	Pn	13 25 34.9	+0.2
PAWZ	Paruwai Farm	1.42	93	PN	Pn	13 25 34.9	+0.2
MTW	Mount Morrison	1.49	85	PN	Pn	13 25 35.4	-0.1
HOWZ	Holdsworth Sta	1.55	75	PN	Pn	13 25 36.1	-0.1
TRWZ	Traveller	1.62	94	PN	Pn	13 25 37.3	+0.1
MRZ	Mangatainoka R	1.68	68	P	Pn	13 25 37.3	-0.6
MRZ	Mangatainoka R	1.68	68	PN	Pn	13 25 37.3	-0.6
LTZ	Lake Taylor	1.75	212	P	Pn	13 25 39.5	+0.7
LTZ	Lake Taylor	1.75	212	PN	Pn	13 25 39.5	+0.7
TIWZ	Tintock	1.85	74	PN	Pn	13 25 39.8	-0.4
WAZ	Wanganui	1.91	36	P	Pn	13 25 41.4	+0.5
WAZ	Wanganui	1.91	36	PN	Pn	13 25 41.4	+0.5
NRZ	Ngariki Road	2.00	9	P	Pn	13 25 43.1	+1.0
NRZ	Ngariki Road	2.00	9	PN	Pn	13 25 43.1	+1.0
DFE	Dawson Falls	2.03	12	PN	Pn	13 25 43.6	+1.1
NWEZ	Newall Road	2.05	7	P	Pn	13 25 43.7	+0.9
NWEZ	Newall Road	2.05	7	PN	Pn	13 25 43.7	+0.9
NEZ	North Egmont	2.08	12	P	Pn	13 25 43.9	+0.7
NEZ	North Egmont	2.08	12	PN	Pn	13 25 43.9	+0.7
RAEZ	Rainy Point	2.13	18	P	Pn	13 25 45.0	+1.2
RAEZ	Rainy Point	2.13	18	PN	Pn	13 25 45.0	+1.2
BFZ	Birch Farm	2.14	74	P	Pn	13 25 42.8	-1.2
BFZ	Birch Farm	2.14	74	PN	Pn	13 25 42.8	-1.2
PKE	Pukeiti	2.14	9	P	Pn	13 25 44.9	+0.9
PKE	Pukeiti	2.14	9	PN	Pn	13 25 44.9	+0.9
CRLZ	Canterbury Las	2.36	196	P	Pn	13 25 47.0	+0.1
CRLZ	Canterbury Las	2.36	196	PN	Pn	13 25 47.0	+0.1
VRZ	Vera Road	2.38	24	P	Pn	13 25 47.4	+0.3
VRZ	Vera Road	2.38	24	PN	Pn	13 25 47.4	+0.3
PKVZ	Pokaka	2.45	35	PN	Pn	13 25 48.1	+0.1
MQZ	McQueen's Vall	2.48	195	PN	Pn	13 25 48.2	-0.3
TRVZ	Turoa	2.53	38	PN	Pn	13 25 49.1	0.0
WNVZ	Wahianoa	2.53	39	P	Pn	13 25 49.2	0.0
WNVZ	Wahianoa	2.53	39	PN	Pn	13 25 49.2	0.0
WPHZ	Waipukurau	2.53	61	PN	Pn	13 25 48.0	-1.2
MOVZ	Moawhango	2.55	42	P	Pn	13 25 48.9	-0.5
MOVZ	Moawhango	2.55	42	PN	Pn	13 25 48.9	-0.5
DRZ	Dome Shelter	2.56	38	P	Pn	13 25 50.1	+0.6
DRZ	Dome Shelter	2.56	38	PN	Pn	13 25 50.1	+0.6
FWVZ	Far West T-bar	2.57	37	P	Pn	13 25 49.3	-0.4
FWVZ	Far West T-bar	2.57	37	PN	Pn	13 25 49.3	-0.3
TUVZ	Tukino	2.60	39	P	Pn	13 25 50.3	+0.1
TUVZ	Tukino	2.60	39	PN	Pn	13 25 50.3	+0.1
WPVZ	Whakapapa	2.61	37	P	Pn	13 25 50.0	-0.2
WPVZ	Whakapapa	2.61	37	PN	Pn	13 25 50.0	-0.2
NGZ	Ngauruhoe	2.66	37	P	Pn	13 25 50.5	-0.3
NGZ	Ngauruhoe	2.66	37	PN	Pn	13 25 50.5	-0.3
TWVZ	Taurewa	2.67	34	P	Pn	13 25 50.7	-0.3
TWVZ	Taurewa	2.67	34	PN	Pn	13 25 50.7	-0.3
OTVZ	Oturere	2.69	38	PN	Pn	13 25 51.3	-0.1
WTVZ	West Tongariro	2.70	36	P	Pn	13 25 51.0	-0.4
WTVZ	West Tongariro	2.70	36	PN	Pn	13 25 51.0	-0.4
KRVZ	Karewarewa	2.74	37	PN	Pn	13 25 51.6	-0.3
PXZ	Pawanui	2.83	64	PN	Pn	13 25 51.4	-1.8
KATZ	Kakaramea	2.86	36	P	Pn	13 25 53.2	-0.4
KATZ	Kakaramea	2.86	36	PN	Pn	13 25 53.2	-0.4
RITZ	Rihia Road	2.93	38	P	Pn	13 25 54.2	-0.4
RITZ	Rihia Road	2.93	38	PN	Pn	13 25 54.2	-0.3
HIZ	Hauiti	2.97	20	P	Pn	13 25 55.0	-0.1
HIZ	Hauiti	2.97	20	PN	Pn	13 25 55.0	-0.1
RATZ	Rangitukua	2.98	36	P	Pn	13 25 55.0	-0.2
RATZ	Rangitukua	2.98	36	PN	Pn	13 25 55.0	-0.2
RPZ	Rata Peaks	3.02	217	P	Pn	13 25 55.3	-0.4
RPZ	Rata Peaks	3.02	217	P	Pn	13 25 55.5	-0.2
	142nm,0.3s,baz=11,slow=1.7,SNR=280						
RPZ				S	Sn	13 26 29.7	-1.3
	235nm,0.3s,baz=235,slow=23,SNR=15						
RPZ				LR	LR	13 26 52.4	
	comp=Z,239nm,18.3s,baz=165,slow=34						
RPZ	Rata Peaks	3.02	217	PN	Pn	13 25 55.3	-0.5
WATZ	Wairara	3.10	34	P	Pn	13 25 56.6	-0.2
WATZ	Wairara	3.10	34	PN	Pn	13 25 56.6	-0.2
HATZ	Hinemaiaia	3.11	40	PN	Pn	13 25 55.6	-1.4
BKZ	Black Stump Fm	3.12	47	P	Pn	13 25 56.1	-0.9
BKZ	Black Stump Fm	3.12	47	PN	Pn	13 25 56.1	-0.9
FOZ	Fox Glacier	3.63	230	P	Pn	13 26 02.4	-1.5
FOZ	Fox Glacier	3.63	230	PN	Pn	13 26 02.4	-1.5
UTU	Utuhina	3.74	34	P	Pn	13 26 04.7	-0.8
UTU	Utuhina	3.74	34	PN	Pn	13 26 04.7	-0.8
TOZ	Tahuroa Road	3.89	24	P	Pn	13 26 07.0	-0.5
TOZ	Tahuroa Road	3.89	24	PN	Pn	13 26 07.0	-0.5
KARZ	Kaharoa	3.89	33	PN	Pn	13 26 06.7	-0.9
KNZ	Kokohu	3.91	55	P	Pn	13 26 04.9	-2.8
KNZ	Kokohu	3.91	55	PN	Pn	13 26 04.9	-2.9
LBZ	Lake Benmore	3.94	218	P	Pn	13 26 07.2	-0.9
LBZ	Lake Benmore	3.94	218	PN	Pn	13 26 07.2	-0.9
URZ	Urewera	4.11	43	P	Pn	13 26 07.5	-3.0
	72nm,0.3s,baz=237,slow=7.0,SNR=241						
URZ				S	Sn	13 26 53.0	-4.4
	196nm,0.3s,baz=276,slow=22,SNR=14						
URZ	Urewera	4.11	43	PN	Pn	13 26 07.3	-3.1
MARZ	Manawahe	4.11	37	P	Pn	13 26 08.5	-2.0
MARZ	Manawahe	4.11	37	PN	Pn	13 26 08.5	-2.0
TGRZ	Tauranga	4.15	31	P	Pn	13 26 10.3	-0.7
TGRZ	Tauranga	4.15	31	PN	Pn	13 26 10.3	-0.7
MWZ	Matawai	4.28	47	PN	Pn	13 26 09.6	-3.1
ODZ	Otahua Downs	4.29	209	*e*PN	Pn	13 26 12.1	-0.7
MKAZ	Moumakai	4.38	17	P	Pn	13 26 14.0	-0.2
MKAZ	Moumakai	4.38	17	PN	Pn	13 26 14.0	-0.2
WTAZ	Waiatarua	4.45	11	*e*P	Pn	13 26 15.3	+0.2
WTAZ	Waiatarua	4.45	11	*e*PN	Pn	13 26 15.3	+0.3
JCZ	Jackson Bay	4.47	230	P	Pn	13 26 14.1	-1.3
JCZ	Jackson Bay	4.47	230	PN	Pn	13 26 14.1	-1.3
MYRZ	Mayor Island	4.54	28	PN	Pn	13 26 16.1	-0.2
KAAZ	Kauri Point	4.57	12	P	Pn	13 26 17.6	+0.8
KAAZ	Kauri Point	4.57	12	PN	Pn	13 26 17.6	+0.9
WKZ	Wanaka	4.83	222	P	Pn	13 26 17.8	-2.4
WKZ	Wanaka	4.83	222	PN	Pn	13 26 17.8	-2.4
KUZ	Kuaotunu	4.87	21	P	Pn	13 26 19.8	-1.0
KUZ	Kuaotunu	4.87	21	PN	Pn	13 26 19.8	-1.0
PUZ	Puketiti	4.87	50	P	Pn	13 26 17.0	-3.8
PUZ	Puketiti	4.87	50	PN	Pn	13 26 17.0	-3.8
EAZ	Earnscleugh	4.99	217	P	Pn	13 26 20.3	-2.0
EAZ	Earnscleugh	4.99	217	PN	Pn	13 26 20.3	-2.0
HHSZ	Highcliff Hill	5.04	204	PN	Pn	13 26 23.3	+0.2
MXZ	Matakaoa Point	5.26	46	P	Pn	13 26 22.6	-3.5
MXZ	Matakaoa Point	5.26	46	PN	Pn	13 26 22.6	-3.5
MSZ	Milford Sound	5.31	229	P	Pn	13 26 25.7	-1.0
MSZ	Milford Sound	5.31	229	PN	Pn	13 26 25.7	-1.0
WCZ	Waipu Caves	5.40	7	P	Pn	13 26 27.5	-0.6
WCZ	Waipu Caves	5.40	7	PN	Pn	13 26 27.5	-0.6
TUZ	Tuapeka	5.44	210	P	Pn	13 26 27.7	-0.8
TUZ	Tuapeka	5.44	210	PN	Pn	13 26 27.7	-0.7
MLZ	Mavora Lakes	5.62	222	P	Pn	13 26 29.0	-1.9
MLZ	Mavora Lakes	5.62	222	PN	Pn	13 26 29.0	-1.9
OUZ	Omahuta	6.08	0	P	Pn	13 26 36.9	-0.4
OUZ	Omahuta	6.08	0	PN	Pn	13 26 36.9	-0.4
SYZ	Scrubby Hill	6.11	210	PN	Pn	13 26 36.9	-0.8
WHZ	Wether Hill Ro	6.12	220	P	Pn	13 26 34.9	-2.8
WHZ	Wether Hill Ro	6.12	220	PN	Pn	13 26 34.9	-2.8
DCZ	Deep Cove	6.24	226	P	Pn	13 26 38.4	-1.0
DCZ	Deep Cove	6.24	226	PN	Pn	13 26 38.4	-1.0
APZ	The Paps	6.81	214	PN	Pn	13 26 45.4	-1.7
CNB	Canberra Magne	19.86	280	*e*P	Pn	13 29 36.7	+0.4
	9.3nm,0.6s						
ARMA	Armidale	20.76	295	*e*P	P	13 29 46.0	+2.4
	1.5nm,1.7s						
TOO	Toolangi	21.94	271	*e*P	P	13 29 58.6	+2.4
	77nm,0.6s,mb5.2						
EIDS	Eidsvold	24.49	304	*e*P	P	13 30 22.0	+1.1
	3.7nm,1.0s,mb3.7						
STKA	Stephens Creek	27.19	280	*e*P	P	13 30 46.8	+1.5
	4.5nm,0.9s,mb4.0						
STKA	Stephens Creek	27.19	280	P	P	13 30 46.8	+1.5
	5.8nm,0.9s,mb4.1,baz=110,slow=9.7,SNR=8.1						
CTA	Charters Tower	31.37	304	P	P	13 31 22.2	-0.1
	5.5nm,0.7s,mb4.4,baz=147,slow=10,SNR=3.9						
HNR	Honiara	33.95	335	P	P	13 31 43.3	-1.6
	48nm,0.8s,mb5.4,baz=264,slow=10,SNR=2.4						
ASAR	Alice Springs	37.40	286	P	P	13 32 14.5	+0.2
	13nm,0.5s,mb5.2,baz=126,slow=7.0,SNR=585						
ASAR				PcP	PcP	13 34 30.1	-1.4
	1.3nm,0.5s,baz=121,slow=4.0,SNR=5.5						
FORT	Forrest	37.87	271	*e*P	P	13 32 18.7	+0.5
	19nm,0.8s,mb5.0						
WB2	Warramunga Arr	39.44	291	*e*P	P	13 32 31.3	-0.2
WRAB	Tennant Creek	39.45	291	*e*P	P	13 32 31.1	-0.5
	11nm,0.6s,mb4.9						
WRA	Warramunga Arr	39.45	291	P	P	13 32 31.6	0.0
	9.1nm,0.6s,mb4.8,baz=126,slow=8.3,SNR=150						
WRA				PcP	PcP	13 34 36.7	-1.2
	0.8nm,0.5s,baz=133,slow=2.8,SNR=5.1						
CASY	Casey	42.29	212	*e*P	P	13 32 55.9	+1.6
	24nm,0.5s,mb5.2						
KAKA	Kakadu	45.76	296	*e*P	P	13 33 23.1	+0.5
	11nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	46.89	285	↑*i*P	P	13 33 31.6	+0.1
	27nm,0.6s,mb5.2						
QSPA	South Pole Qui	48.81	180	*e*P	P	13 33 49.7	+4.1
	6.1nm,0.4s,mb4.9						
QSPA	South Pole Qui	48.81	180	P	P	13 33 49.2	+3.6
	3.8nm,0.4s,mb4.7,baz=211,slow=1.3,SNR=24						
MBWA	Marble Bar	49.37	277	*e*P	P	13 33 49.6	-1.0
	17nm,0.8s,mb5.0						
MAW	Mawson	59.63	205	*e*P	P	13 35 06.0	+1.8
	7.0nm,0.6s,mb4.9						
MAW	Mawson	59.63	205	P	P	13 35 06.4	+2.2
	5.8nm,0.6s,mb4.8,baz=126,slow=8.3,SNR=15						
SYO	Syowa Base	64.84	197	↑*e*P	P	13 35 38.9	0.0
SYO	Syowa Base	64.84	197	↓*e*pP	pP	13 36 02.8	+1.4
MAIT	Maitri	67.45	186	*e*P	P	13 35 56.8	+1.2
MJAR	Matsushiro Arr	83.97	332	P	P	13 37 30.9	+0.9
MJAR	Matsushiro Arr	83.97	332	P	P	13 37 30.9	+0.9
	1.3nm,0.5s,mb4.0,baz=167,slow=7.4,SNR=4.4						
NJ2	Nanjing	88.71	316	*e*P	P	13 37 53.0	-0.3
NJ2				AP	pP	13 38 22.3	+5.3
NJ2				XP	sP	13 38 33.0	+6.6
NJ2				SKS		13 48 13.0	
NJ2				S	S	13 48 30.0	-2.8
NJ2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,70nm,8.0s						
NJ2				LR	LR		
	comp=N,1μm,32.0s						
NJ2				LR	LR		
	comp=E,590nm,32.0s						
NJ2				LR	LR		
	comp=Z,360nm,34.0s						
KSRS	Korea Array	88.79	325	P	P	13 37 54.7	+1.1
	comp=Z,3.4nm,0.8s,mb4.4,baz=153,slow=5.6,SNR=12						
ASAJ	Asahikawa	89.48	338	P	P	13 37 58.5	+1.9
	comp=Z,8.1nm,0.8s,mb4.8,baz=270,slow=7.0,SNR=6.5						
KMI	Kunming	93.04	301	P	P	13 38 14.0	+0.3
KMI				AP	pP	13 38 44.0	+6.7
KMI				AMB	AMB		
	comp=Z,4.0nm,0.7s,mb4.9						
MDJ	Mudanjiang	94.19	330	P	P	13 38 18.8	+0.4
MDJ				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,37nm,4.1s						
CD2	Chengdu	96.45	306	*e*P	P	13 38 28.8	-0.3
CD2				AP	pP	13 38 57.8	+5.0
CD2				XP	sP	13 39 09.8	+7.5
CD2				PP	PP	13 42 27.4	+2.8
CD2				SKS		13 48 54.0	
CD2				S	S	13 49 37.5	-4.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,30nm,8.4s						
CD2				LR	LR		
	comp=N,130nm,16.8s						
CD2				LR	LR		
	comp=Z,110nm,15.6s						
HHC	Hu-ho-hao-te	99.21	317	*e*P	P	13 38 43.8	+2.6
HHC				AP	pP	13 39 09.6	+4.6
HHC				XP	sP	13 39 20.4	+6.0
HHC				SKS		13 49 12.3	
HHC				S	S	13 50 04.5	-0.5
HHC				AMB	AMB		
	comp=Z,28nm,1.1s,mb5.7						
HHC				AMB	AMB		
	comp=Z,241nm,5.9s						
HHC				LR	LR		
	comp=N,244nm,15.1s						
HHC				LR	LR		
	comp=E,264nm,17.1s						
HHC				LR	LR		
	comp=Z,232nm,15.5s						
LZH	Lanzhou	100.02	310	*e*P	Pdif	13 38 50.6	+5.4
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
WMQ	Urumqi	114.47	308	*e*PKP	PKiKP	13 43 42.0	+3.0
YKA	Yellowknife Ar	118.27	30	PKP	PKPdf	13 43 44.5	-1.2
YKA				PKKPbc	PKKPbc	13 54 04.8	-0.4
YKA	Yellowknife Ar	118.27	30	PKP	PKPdf	13 43 44.5	-1.2
	comp=Z,0.3nm,0.4s,baz=233,slow=1.7,SNR=6.9						
YKA				PKKPbc	PKKPbc	13 54 04.8	-0.4
	comp=Z,0.5nm,0.8s,baz=46,slow=4.2,SNR=6.0						
MKAR	Makanchi Array	119.28	308	PKP	PKPdf	13 43 46.2	-2.0
	comp=Z,0.3nm,0.4s,baz=208,slow=1.2,SNR=4.2						
DBIC	Dimbokro	145.47	183	PKPbc	PKPbc	13 44 38.8	+0.5
	comp=Z,9.4nm,0.6s,baz=156,slow=3.1,SNR=28						
KEV	Kevo	146.65	340	*e*p	PKPdf	13 44 37.1	-1.3
	comp=Z,4.5nm,0.8s						
ARCES	ARCESS Array B	147.18	340	PKPbc	PKPbc	13 44 40.0	-1.6
	comp=Z,3.9nm,0.5s,baz=62,slow=1.4,SNR=27						
JOF	Joensuu	149.01	327	*e*p	PKPdf	13 44 43.8	+1.4
	comp=Z,3.3nm,0.6s						
TOA0	Torodi Ar. Sit	151.05	197	*e*PKPbc	PKPbc	13 44 52.0	-1.0
TOA0				*e*PKPab	PKPab	13 45 01.6	+0.9
TORD	Torodi Ar. Bea	151.05	197	PKPbc	PKPbc	13 44 52.6	-0.4
	comp=Z,4.4nm,0.6s,baz=136,slow=2.1,SNR=40						
FIA1	FINESS Array S	151.87	327	*e*PKPbc	PKPbc	13 44 51.7	-1.7
FIA1				*e*PKPab	PKPab	13 45 02.4	-0.6
FINES	FINESS Array B	151.88	327	PKPbc	PKPbc	13 44 52.1	-1.3
	comp=Z,3.3nm,0.7s,baz=70,slow=2.5,SNR=16						
FINES				PKPab	PKPab	13 45 03.6	+0.6
	comp=Z,6.0nm,0.6s,baz=62,slow=4.5,SNR=17						
AKASG	Malin Array Be	153.72	303	PKPbc	PKPbc	13 44 56.6	-1.3
	comp=Z,0.4nm,0.3s,baz=70,slow=2.7,SNR=5.8						
AKASG				PKPab	PKPab	13 45 10.8	-0.4
	comp=Z,2.0nm,0.6s,baz=68,slow=4.0,SNR=11						
NB2	NORSAR Subarra	157.50	337	PKP	PKPab	13 45 27.4	+0.5
	comp=Z,4.6nm,0.6s,baz=36,slow=4.4						
NB2	NORSAR Subarra	157.50	337	PKP	PKPab	13 45 27.4	+0.5
	baz=36,slow=4.4						
NOA	NORSAR Array B	157.50	337	PKPab	PKPab	13 45 27.5	+0.5
	comp=Z,6.3nm,0.7s,baz=38,slow=4.6,SNR=36						
DPC	Dobruska-Polom	161.79	307	*e*PKPab	PKPab	13 45 46.3	+0.3
UPC	Upice	161.92	308	*e*PKPab	PKPab	13 45 46.1	-0.5
PRU	Pruhonice	162.99	308	*e*PKPab	PKPab	13 45 47.8	-3.5
KHC	Kasperske Hory	163.89	306	*e*PKPab	PKPab	13 45 51.5	-3.8
GERES	GERESS Array B	163.92	305	PKPab	PKPab	13 45 56.8	+1.3
	comp=Z,0.7nm,0.7s,baz=46,slow=4.2,SNR=5.3						

IDC 13 13:26:07.8±0.8, 1582S×17330W, h0km, mb4.3/8, mb1 4.5/8, mb1mx4.3/17, mbtmp4.3/8, MS4.0/8, Ms1 4.0/8, ms1mx3.7/18, Error ellipse: s-maj=40.5km s-min=19.5km az=139.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAR	Rarotonga	13.90	115	Pn	Pn	13 29 21.3	-5.0
	3.7nm,0.3s,baz=132,slow=4.0,SNR=3.8						
RAR				LR	LR	13 33 24.7	
	comp=Z,523nm,18.2s,baz=46,slow=31						
RAR				T		13 43 39.3	
	16nm,0.3s,baz=84,slow=21,SNR=6.0						
PPT	Papeete	22.79	98	*e*LQ		13 35

AJM					AML	AML	13 44 11.7		
	comp=N,294nm,0.4s								
AJM					AML	AML	13 44 18.2		
	comp=E,629nm,0.3s								
BOM	**Bombay**	**4.96**	**154**	*eP*		**Pn**	**13 42 54.9**	**+1.5**	
BOM				*eS*		**Sn**	**13 43 50.3**	**-0.5**	
BOM				*ex*		x	13 43 58.1		
	comp=N,462nm,0.3s								
BHPL	**Bhopal**	**6.32**	**90**	*eP*		**Pn**	**13 43 14.3**	**+2.2**	
BHPL				*eS*		**Sn**	**13 44 24.5**	**0.0**	
BHPL					AML	AML	13 45 07.1		
	comp=E,117nm,0.5s								
BHPL					AML	AML	13 45 07.2		
	comp=N,246nm,1.0s								
KHET	**Khetri**	**6.64**	**44**	*eP*		**Pn**	**13 43 19.6**	**+3.1**	
KHET				*eS*		**Sn**	**13 44 31.7**	**-0.5**	
KHET					AML	AML	13 44 45.2		
	comp=E,79nm,0.6s								
KHET					AML	AML	13 44 45.3		
	comp=N,54nm,0.5s								
KUDL	**Kundal**	**7.14**	**47**	*eS*		**Sn**	**13 44 43.5**	**-1.0**	
KUDL					AML	AML	13 45 34.2		
	comp=N,228nm,0.6s								
NDI	**New Delhi**	**7.97**	**47**	*eP*		**Pn**	**13 43 37.0**	**+2.2**	
NDI				*eS*		**Sn**	**13 45 03.5**	**-1.6**	
NDI					AML	AML	13 45 58.3		
	comp=E,97nm,0.5s								
NDI					AML	AML	13 46 00.6		
	comp=N,127nm,0.7s								
NGP	**Nagpur**	**8.19**	**104**	*eP*		**Pn**	**13 43 39.6**	**+1.8**	
NGP				*eS*		**Sn**	**13 45 08.4**	**-2.0**	
NGP				*ex*		x	13 45 12.5		
	comp=E,51nm,0.6s								
THW	**Thamme Wali**	**9.41**	**6**	P		**Pn**	**13 43 53.9**	**-0.6**	
HYB	**Hyderabad**	**9.58**	**127**	*eP*		**Pn**	**13 43 58.0**	**+1.1**	
HYB				*eS*		**Sn**	**13 45 33.0**	**-12**	
DDI	**Dehra Dun**	**9.61**	**43**	*eP*		**Pn**	**13 44 06.0**	**+8.8**	
DDI				*eS*		**Sn**	**13 45 47.0**	**+1.7**	
SDNR	**Sundarnagar**	**9.88**	**34**	*ex*		**Pn**	**13 44 07.0**	**+6.1**	
SDNR				*ex*		**Sn**	**13 45 50.6**	**-1.2**	
THN	**Thein Dam**	**10.09**	**26**	*eP*		**Pn**	**13 44 05.0**	**+1.2**	
THN				*ex*		x	13 46 04.1		
DLH	**Dalhousie**	**10.28**	**27**	*eP*		**Pn**	**13 44 07.0**	**+0.5**	
DLH				*ex*		x	13 46 00.0		
PTH	**Pithoragarh**	**10.60**	**53**	*eP*		**Pn**	**13 44 15.2**	**+4.4**	
PTH				*ex*		x	13 46 13.2		
KOLN	**Koldanda**	**12.55**	**67**	*eP*		**Pn**	**13 44 36.1**	**-1.5**	
	comp=E,32nm,0.6s								
DANN	**Dangsing**	**12.87**	**65**	*eP*		**Pn**	**13 44 41.5**	**-0.4**	
	comp=E,15nm,0.3s								
VIS	**Vishakhapatnam**	**13.24**	**113**	*i* P		**Pn**	**13 44 47.5**	**+0.6**	
VIS				*i* S		**Sn**	**13 47 05.9**	**-8.4**	
VIS				*i* S		**Sn**	**13 47 06.7**	**-7.5**	
VIS				*ex*		x	13 47 12.3		
	comp=E,7.6nm,0.5s								
VIS				*ex*		x	13 47 17.7		
	comp=N,18nm,0.9s								
GKN	**Gorkha**	**13.50**	**67**	*eP*		**Pn**	**13 44 48.3**	**-2.2**	
	comp=N,32nm,0.6s								
DMN	**Daman**	**13.80**	**69**	*eP*		**Pn**	**13 44 52.5**	**-2.0**	
	comp=N,30nm,0.5s								
KKN	**Kakani**	**13.99**	**69**	*eP*		**Pn**	**13 44 54.7**	**-2.5**	
	comp=N,34nm,0.6s								
PKI	**Pulchoki**	**14.05**	**70**	*eP*		**Pn**	**13 44 55.3**	**-2.7**	
	comp=N,36nm,0.7s								
GUN	**Gumba**	**14.53**	**69**	*eP*		**Pn**	**13 45 02.0**	**-2.6**	
JIRN	**Jiri**	**14.74**	**70**	*eP*		**Pn**	**13 45 05.0**	**-2.4**	
	comp=N,21nm,0.4s								
MKAR	**Makanchi Array**	**25.18**	**19**	P		**P**	**13 47 06.3**	**+2.0**	
	comp=N,0.5nm,0.5s,mb3.3,baz=212,slow=11,SNR=6.4								
ZALV	**Zalesovo Beam**	**32.34**	**16**	P		**P**	**13 48 08.9**	**+0.8**	
	comp=N,0.5nm,0.4s,mb3.7,baz=198,slow=9.1,SNR=2.5								
SONM	**Songino Array**	**37.48**	**40**	P		**P**	**13 48 55.9**	**+3.4**	
	comp=N,0.5nm,0.8s,mb3.4,baz=236,slow=7.9,SNR=2.9								
FINES	**FINESS Array B**	**48.59**	**333**	P		**P**	**13 50 23.1**	**+0.8**	
	comp=N,0.4nm,0.6s,mb3.6,baz=72,slow=8.9,SNR=2.0								
ARCES	**ARCESS Array B**	**53.27**	**342**	P		**P**	**13 50 57.4**	**0.0**	
	comp=N,1.9nm,0.8s,mb4.1,baz=140,slow=7.1,SNR=3.0								
TORD	**Torodi Ar. Bea**	**65.66**	**274**	P		**P**	**13 52 22.6**	**-1.3**	
	comp=N,0.9nm,0.8s,mb3.9,baz=84,slow=5.1,SNR=6.2								
WRA	**Warramunga Arr**	**75.65**	**119**	P		**P**	**13 53 26.8**	**+2.2**	
	comp=N,0.5nm,1.0s,mb3.4,baz=302,slow=7.5,SNR=4.0								
ASAR	**Alice Springs**	**77.29**	**123**	P		**P**	**13 53 37.1**	**+3.3**	
	comp=N,0.2nm,0.7s,mb3.1,baz=306,slow=5.4,SNR=5.0								

*SGS **13** 14:12:33.0, 2955N×3499E, h13km*
*ISCJB **13** 14:12:33.2±0.7, 2949N±003×349E±0.1, h16km±12km,*
Error ellipse: s-maj=16.3km s-min=3.9km az=171.5
*GII **13** 14:12:33.8±1.6, 2957N×3482E, h11km±2km, ML2.0/5*
*CSEM **13** 14:12:33.0, 2955N×3499E, h13km, ML2.7, After SNSN*

ISC 13 14:12:33.0±0.7, 2950N±003×349E±01, h19km±5km, n13, σ0§52/21, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIL	**Elat**	**0.18**	**13**	Pg	**Pg**	**14 12 38.1**	**+0.3**
EIL				Sg	**Sg**	**14 12 41.3**	**+0.4**
HQLS		**0.24**	**145**	S	**Sg**	**14 12 42.8**	**+0.4**
HQLS		**0.24**	**145**	P	**Pg**	**14 12 38.8**	**+0.2**
HQLS		**0.24**	**145**	P	**Pg**	**14 12 38.8**	**+0.2**
HQLS				S	**Sg**	**14 12 42.8**	**+0.4**
MBH	**Mount Berech**	**0.29**	**2**	Pg	**Pg**	**14 12 39.9**	**+0.3**
MBH				Sg	**Sg**	**14 12 44.4**	**+0.4**
HRFI	**Mount Harif**	**0.55**	**12**	Pg	**Pg**	**14 12 43.7**	**-0.4**
HRFI				Sg	**Sg**	**14 12 51.1**	**-0.4**
KRMI	**Paran Flat**	**0.64**	**346**	Pg	**Pg**	**14 12 45.5**	**-0.2**
KRMI				Sg	**Sg**	**14 12 53.4**	**-0.9**
PRNI	**Paran**	**0.86**	**6**	Pg	**Pg**	**14 12 49.3**	**-0.5**
PRNI				Sg	**Sg**	**14 13 01.1**	**0.0**
JLOS		**0.92**	**146**	P	**Pb**	**14 12 49.6**	**-0.7**
JLOS		**0.92**	**146**	P	**Pb**	**14 12 49.6**	**-0.7**
JLOS				S	**Sb**	**14 13 02.3**	**+0.2**
RSHS		**1.20**	**185**	P	**Pn**	**14 12 54.3**	**-0.5**
RSHS		**1.20**	**185**	P	**Pn**	**14 12 54.3**	**-0.5**
RSHS				S	**Sb**	**14 13 10.4**	**+0.2**
KZIT	**Kziot**	**1.47**	**343**	Sn	**Sn**	**14 13 18.7**	**+1.3**

MAN 13 14:34:04, 1348N×12156E, h12km, mb3.9, ML2.6, MS2.2, Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.59**	**272**	*eP*	Pg	14 34 16.4	+0.8
OTRP	**Odiongan**	**1.20**	**158**	*eP*	Pn	14 34 25.7	-0.9
OTRP				*eS*	Sb	14 34 43.2	+1.1
POLP	**Polilio Island**	**1.29**	**16**	*eP*	Pn	14 34 27.9	0.0
POLP				*eS*	Sb	14 34 45.9	+1.1
LUBP	**Lubang**	**1.30**	**281**	*eP*	Pn	14 34 27.6	-0.5
LUBP				*eS*	Sb	14 34 45.5	+0.3
BUSP	**Coron**	**1.98**	**222**	*eP*	Pn	14 34 38.8	+1.4
BUSP				*eS*	Sn	14 35 03.5	+1.4
PVCP	**Virac**	**2.52**	**87**	*eP*	Pn	14 34 45.5	+0.7
PVCP				*eS*	Sn	14 35 01.1	-14

*IDC **13** 14:48:46.5±1.9, 252N×9604E, h0km, mb3.9/5, mb1 3.9/6, mb1mx3.6/20, mbtmp3.8/6, ML3.2/1, MS3.8/1, Ms1 3.9/1, ms1mx3.1/19, Error ellipse: s-maj=61.3km s-min=20.1km az=54.0*
*ISCJB **13** 14:48:50.2±0.9, 26N±0.1×962E±0.1, h33km, mb4.2/9, Error ellipse: s-maj=22.7km s-min=10.2km az=38.9*
*NEIC **13** 14:48:51.1±0.7, 256N×96.11E, h30km, Error ellipse: s-maj=17.1km s-min=9.4km az=224.0*

ISC 13 14:48:52.5±0.9, 26N±01×962E±01, h35km, n17, σ0§60/17, mb4.2/9, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.73**	**85**	Pn	**Pn**	**14 49 34.5**	**+0.7**
	3.1nm,0.3s,baz=298,slow=6.6,SNR=15						
KULM	**Kulim**	**5.20**	**58**	*e*Pn	**Pn**	**14 50 07.7**	**-0.1**
JIRN	**Jiri**	**26.74**	**340**	*eP*	**P**	**14 54 29.6**	**+0.8**
	13nm,0.8s,mb4.5						
GUN	**Gumba**	**27.07**	**340**	*eP*	**P**	**14 54 32.4**	**+0.5**
DMN	**Daman**	**27.08**	**338**	*eP*	**P**	**14 54 32.1**	**+0.2**
GKN	**Gorkha**	**27.61**	**338**	*eP*	**P**	**14 54 37.0**	**+0.3**
	10nm,0.8s,mb4.5						
KOLN	**Koldanda**	**27.82**	**336**	*eP*	**P**	**14 54 39.4**	**+0.9**
	14nm,0.8s,mb4.6						
DANN	**Dangsing**	**28.26**	**336**	*eP*	**P**	**14 54 43.0**	**+0.5**
	4.3nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**43.59**	**123**	P	**P**	**14 56 53.5**	**-0.1**
	0.9nm,0.8s,mb3.6,baz=301,slow=9.1,SNR=8.5						
WB2	**Warramunga Arr**	**43.61**	**123**	*eP*	**P**	**14 56 53.4**	**-0.3**
ASAR	**Alice Springs**	**45.00**	**128**	P	**P**	**14 57 05.0**	**+0.2**
	0.2nm,0.4s,mb3.3,baz=298,slow=7.7,SNR=9.1						
MK31	**Makanchi Array**	**45.70**	**347**	*eP*	**P**	**14 57 09.5**	**-0.4**
MKAR	**Makanchi Array**	**45.70**	**347**	P	**P**	**14 57 09.5**	**-0.4**
MKAR	**Makanchi Array**	**45.70**	**347**	P	**P**	**14 57 09.5**	**-0.4**
	1.7nm,0.4s,mb4.3,baz=157,slow=8.6,SNR=23						
SONM	**Songino Array**	**45.95**	**10**	P	**P**	**14 57 11.4**	**-0.5**
	2.2nm,0.8s,mb4.1,baz=192,slow=7.6,SNR=15						
ZAA0	**Zalesovo Array**	**52.07**	**351**	*eP*	**P**	**14 57 57.3**	**-1.5**
ZALV	**Zalesovo Beam**	**52.07**	**351**	P	**P**	**14 57 58.0**	**-0.7**
	1.5nm,0.4s,mb4.2,baz=181,slow=6.1,SNR=12						

*IDC **13** 14:49:28.4±1.1, 258N×9606E, h0km, mb4.1/11, mb1 4.2/12, mb1mx4.0/21, mbtmp4.1/12, ML3.7/1, MS3.6/3, Ms1 3.6/3, ms1mx3.2/19, Error ellipse: s-maj=38.9km s-min=17.6km az=45.0*
*NEIC **13** 14:49:32.7±0.8, 253N×9607E, h30km, mb4.3/1, Error ellipse: s-maj=24.6km s-min=10.7km az=220.0*
*ISCJB **13** 14:49:35.0±3.4, 27N±0.1×963E±02, h58km±27km, mb4.2/16, MS3.6/4, Error ellipse: s-maj=37.9km s-min=16.9km az=150.3*
*BJI **13** 14:49:34.9, 3.14N×9647E, h30km, mB4.8, mb4.7, Ms4.0, Msz3.6*

ISC 13 14:49:36.0±3.4, 27N±01×963E±02, h52km±27km, n26, σ0§76/22, mb4.2/16, MS3.6/4, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.65**	**88**	Pn	**Pn**	**14 50 16.2**	**0.0**
	12nm,0.3s,baz=3.6,slow=3.8,SNR=12						
PSI				LR	LR	14 51 34.5	
	comp=Z,1μm,18.4s,baz=265,slow=44						
KULM	**Kulim**	**5.07**	**59**	*e*Sn	**Pn**	**14 50 49.4**	**-0.1**
LSA	**Lhasa**	**27.30**	**350**	*eP*	**P**	**14 55 16.5**	**+0.7**
LSA	**Lhasa**	**27.30**	**350**	*eP*	**P**	**14 55 17.0**	**+1.2**
	4.3nm,0.6s,mb4.2						
XAN	**Xi'an**	**33.34**	**19**	P	**P**	**14 56 08.4**	**-0.8**
XAN				XP	sP	14 56 20.0	-8.7
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
XAN				AMB	AMB		
	comp=Z,62nm,5.4s						
XAN				LR	LR		
	comp=N,148nm,17.5s,MS3.9						
XAN				LR	LR		
	comp=E,88nm,15.0s,MS3.9						
XAN				LR	LR		
	comp=Z,215nm,16.2s,MS4.0						
LZH	**Lanzhou**	**33.96**	**11**	*eP*	**P**	**14 56 13.3**	**-1.2**
LZH				AP	pP	14 56 18.5	-9.4
LZH				AMB	AMB		
	comp=Z,16nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,63nm,4.2s						
GTA	**Gaotai**	**36.69**	**5**	*eP*	**P**	**14 56 38.3**	**+0.3**
GTA				AP	pP	14 56 51.4	0.0
GTA				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.6						
BJI	**Beijing**	**41.32**	**23**	P	**P**	**14 57 18.1**	**+1.4**
BJI				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.6						
BJI				LR	LR		
	comp=N,110nm,26.1s						
BJI				LR	LR		
	comp=E,157nm,15.2s						
BJI				LR	LR		
	comp=Z,51nm,23.6s,MS3.3						
WRA	**Warramunga Arr**	**43.61**	**123**	P	**P**	**14 57 35.6**	**0.0**
	comp=Z,2.9nm,0.8s,mb4.1,baz=302,slow=9.2,SNR=9.5						
ASAR	**Alice Springs**	**45.03**	**128**	P	**P**	**14 57 47.3**	**+0.4**
	comp=Z,0.4nm,0.5s,mb3.5,baz=299,slow=7.7,SNR=9.0						
KSRS	**Korea Array**	**45.17**	**36**	P	**P**	**14 57 47.1**	**-0.7**
	comp=Z,2.4nm,1.0s,mb4.0,baz=220,slow=11,SNR=5.1						
MK31	**Makanchi Array**	**45.58**	**347**	*eP*	**P**	**14 57 51.1**	**+0.2**
MKAR	**Makanchi Array**	**45.58**	**347**	P	**P**	**14 57 51.3**	**+0.4**
	comp=Z,5.1nm,0.4s,mb4.8,baz=159,slow=8.6,SNR=34						
SONM	**Songino Array**	**45.81**	**10**	P	**P**	**14 57 53.5**	**+0.8**
	comp=Z,5.4nm,0.8s,mb4.5,baz=191,slow=7.7,SNR=21						
SONM				PcP	PcP	14 59 29.6	+0.1
	comp=Z,0.8nm,0.6s,baz=190,slow=3.6,SNR=4.0						
ZAA0	**Zalesovo Array**	**51.95**	**351**	*eP*	**P**	**14 58 39.8**	**+0.2**
ZALV	**Zalesovo Beam**	**51.95**	**351**	P	**P**	**14 58 40.0**	**+0.3**
ZALV	**Zalesovo Beam**	**51.95**	**351**	P	**P**	**14 58 40.0**	**+0.3**
	comp=Z,5.0nm,0.6s,mb4.6,baz=166,slow=6.4,SNR=15						
BVAR	**Borovoye Array**	**54.55**	**341**	P	**P**	**14 58 58.6**	**-0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=154,slow=8.2,SNR=6.5						
AKTO	**Aktyubinsk**	**57.49**	**332**	LR	LR	15 29 47.4	
	comp=Z,35nm,19.1s,MS3.5,baz=106,slow=42						
AKASG	**Malin Array Be**	**73.52**	**322**	P	**P**	**15 01 02.0**	**-1.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=88,slow=5.1,SNR=4.4						
FINES	**FINESS Array B**	**78.26**	**332**	P	**P**	**15 01 29.8**	**-0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=76,slow=12,SNR=3.2						
ARCES	**ARCESS Array B**	**80.83**	**340**	P	**P**	**15 01 42.6**	**-1.3**
	comp=Z,2.6nm,0.8s,mb4.2,baz=77,slow=6.4,SNR=4.1						
GERES	**GERESS Array B**	**83.09**	**319**	P	**P**	**15 01 57.3**	**+1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=79,slow=8.3,SNR=3.5						
KEST	**Kesra**	**85.95**	**305**	LR	LR	15 43 22.8	
	comp=Z,29nm,18.6s,MS3.7,baz=244,slow=38						
ESDC	**Sonseca Array**	**96.17**	**310**	LR	LR	15 43 48.4	
	comp=Z,44nm,20.5s,baz=120,slow=34						
TXAR	**Lajitas Array**	**142.86**	**30**	PKP	PKPdf	15 09 02.7	-1.9
	comp=Z,0.1nm,0.4s,baz=174,slow=1.7,SNR=3.6						

ISC 13 14:55:06.9±2.2, 371N±01×719E±04, h169km±19km, n15, σ0§54/17, 1C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.17**	**15**	P	**Pn**	**14 56 22.6**	**-0.1**
	SNR=79						
UCH	**Uchtor**	**5.46**	**21**	P	**Pn**	**14 56 26.3**	**-0.2**
	SNR=15						
KZA	**Kyzart**	**5.56**	**26**	P	**Pn**	**14 56 27.3**	**-0.5**
	SNR=5.5						
THN	**Thein Dam**	**5.64**	**145**	*eP*	**Pn**	**14 56 29.9**	**+0.9**
THN				*eS*	**Sn**	**14 57 32.9**	**-0.4**
EKS2	**Erkin-Say**	**5.70**	**14**	P	**Pn**	**14 56 30.6**	**+1.0**
	SNR=10						
AAK	**Ala-Archa**	**5.83**	**19**	P	**Pn**	**14 56 31.8**	**+0.4**
	SNR=9.0						
KK31	**Karatay Array**	**6.06**	**350**	P	**Pn**	**14 56 33.6**	**-0.7**
	1.5nm,0.3s,baz=178,slow=14,SNR=37						
KK31				⇑S	**Sn**	**14 57 36.7**	**-6.4**
	8.3nm,0.5s,baz=189,slow=28						
DANN	**Dangsing**	**13.26**	**128**	*eP*	**Pn**	**14 58 08.1**	**-0.5**
	3.5nm,0.2s						
KOLN	**Koldanda**	**13.57**	**130**	*eP*	**Pn**	**14 58 12.1**	**-0.5**
	4.5nm,0.4s						
GKN	**Gorkha**	**14.06**	**127**	*eP*	**Pn**	**14 58 18.8**	**+0.1**
	4.1nm,0.2s						
KKN	**Kakani**	**14.62**	**126**	*eP*	**Pn**	**14 58 25.5**	**-0.1**
	3.0nm,0.2s						
DMN	**Daman**	**14.63**	**127**	*eP*	**Pn**	**14 58 25.3**	**-0.5**
	2.9nm,0.3s						
PKI	**Pulchoki**	**14.85**	**126**	*eP*	**Pn**	**14 58 28.9**	**+0.4**
GUN	**Gumba**	**14.93**	**124**	*eP*	**Pn**	**14 58 29.5**	**0.0**
	7.7nm,0.5s						
JIRN	**Jiri**	**15.30**	**124**	*eP*	**Pn**	**14 58 34.9**	**+0.8**
	7.7nm,0.3s						

*ROM **13** 15:16:17.7±0.5, 3998N×2018E, h10km, Ml3.0/12, Error ellipse: s-maj=8.0km s-min=3.9km az=55.0*
*SKO **13** 15:16:18.3, 3991N×2040E, h0km*
*ISCJB **13** 15:16:19.1±0.4, 40.18N±001×1995E±002, h5km±3km, mb3.5/5, Error ellipse: s-maj=2.6km s-min=2.2km az=151.0*
*ATH **13** 15:16:19.7, 40.16N×1982E, h17km±3km, MD3.6/11*
*NEIC **13** 15:16:19.7, 40.16N×1982E, h17km, MD3.6(ATH), ML3.0(ROM), ML3.0(PDG), After ATH.*
*IDC **13** 15:16:19.4±1.9, 4026N×2001E, h0km, mb3.4/6, mb1 3.5/9, mb1mx3.4/25, mbtmp3.4/9, ML3.6/3, Error ellipse: s-maj=37.8km s-min=19.9km az=40.0*
*THE **13** 15:16:20.7, 4020N×2008E, h2km, ML3.8*
*CSEM **13** 15:16:20.4±0.1, 40.15N×1998E, h10km, MD3.6, Error ellipse: s-maj=2.0km s-min=1.3km az=42.0*
*TIR **13** 15:16:21.7±3.3, 4047N×1948E, h6km±22km, ML3.0*

*PDG **13** 15:16:28.2±0.2, 4066N×1929E, h0km±11km, ML3.0/9, Error ellipse: s-maj=1.1km s-min=2.5km az=0.0*

ISC 13 15:16:20.2±0.4, 4018N±001×1996E±002, h4km±3km, n121, σ1§18/166, mb3.5/5, 5C-5D, Albania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	**Kerkira**	**0.48**	**195**	*e*PB	**Pg**	**15 16 28.9**	**-0.6**
IGT	**Igoumenitsa**	**0.71**	**156**	*e*Pg	**Pg**	**15 16 33.3**	**-0.5**
IGT				*e*Sg	**Sg**	**15 16 44.3**	**+1.3**
KBN	**Korca**	**0.77**	**55**	*e*Pg	**Pg**	**15 16 33.2**	**-1.8**
JAN	**Janina**	**0.86**	**127**	*e*PN	**Pn**	**15 16 36.5**	**-2.5**
JAN				*e*SN	**Sn**	**15 16 50.8**	**-1.3**
MEV	**Metsovon**	**1.05**	**112**	*e*Pg	**Pg**	**15 16 39.5**	**-0.9**
OHR	**Ohrid**	**1.13**	**34**	*e*Pg	**Pg**	**15 16 40.6**	**-1.1**
OHR				*e*Sg	**Sg**	**15 16 56.0**	**-0.4**
OHR	**Ohrid**	**1.13**	**34**	*e*Pn	**Pn**	**15 16 40.4**	**-2.3**
OHR				*e*Sn	**Sn**	**15 16 57.5**	**-1.0**
OHR	**Ohrid**	**1.13**	**34**	*e*Pn	**Pn**	**15 16 40.3**	**-2.4**
OHR	**Ohrid**	**1.13**	**34**	*e*Pg	**Pg**	**15 16 40.7**	**-1.1**
OHR				*e*Sg	**Sg**	**15 16 56.0**	**-0.4**
OHR				*e*Sn	**Sn**	**15 16 57.5**	**-1.0**
SCTE	**Santa Cesarea**	**1.15**	**265**	Pn	**Pn**	**15 16 42.1**	**-0.8**
SCTE				Sn	**Sn**	**15 16 59.8**	**+0.7**
TIR	**Tirane**	**1.17**	**357**	*e*Pg	**Pg**	**15 16 42.1**	**-0.4**
TIR				*e*Sg	**Sg**	**15 16 59.2**	**+1.6**
TIR	**Tirane**	**1.17**	**357**	Pn	**Pn**	**15 16 43.2**	**0.0**
TIR				Sn	**Sn**	**15 17 03.8**	**+4.3**
TIR	**Tirane**	**1.17**	**357**	*e*Pg	**Pg**	**15 16 43.6**	**+1.1**
TIR				*i* Sg	**Sg**	**15 17 02.7**	**+5.1**
FNA	**Florina**	**1.24**	**61**	*e*Pg	**Pn**	**15 16 41.4**	**-2.8**
FNA				*e*Sg	**Sg**	**15 16 58.8**	**-1.1**
FNA	**Florina**	**1.24**	**61**	*e*Pg	**Pn**	**15 16 41.3**	**-2.9**
FNA				*e*Sg	**Sg**	**15 16 58.8**	**-1.1**
BIA	**Bitola**	**1.33**	**51**	*e*Pg	**Pn**	**15 16 43.6**	**-1.9**
BIA				*e*Sg	**Sg**	**15 17 01.8**	**-1.2**
BIA	**Bitola**	**1.33**	**51**	*e*Pn	**Pn**	**15 16 43.4**	**-2.1**
BIA				*e*Sn	**Sn**	**15 17 04.8**	**+1.1**
BIA	**Bitola**	**1.33**	**51**	*e*Pn	**Pn**	**15 16 43.4**	**-2.1**
BIA				*e*Sn	**Sn**	**15 17 04.7**	**+1.0**
QSH	**Qafa e Shtames**	**1.34**	**358**	*e*PN	**Pg**	**15 16 50.5**	**+4.7**
QSH				*i* SN	**Sg**	**15 17 11.0**	**+7.8**
KZN	**Kozani**	**1.39**	**84**	*e*PN	**Pg**	**15 16 48.6**	**+1.7**
LCI	**Lecce**	**1.42**	**277**	Pn	**Pn**	**15 16 45.9**	**-0.8**
KRUS	**Krusevo**	**1.54**	**39**	*e*Pn	**Pn**	**15 16 47.7**	**-0.6**
KRUS				*e*Sn	**Sg**	**15 17 11.7**	**+2.1**
KRUS	**Krusevo**	**1.54**	**39**	*e*Pn	**Pn**	**15 16 47.6**	**-0.7**
KRUS				*e*Sn	**Sg**	**15 17 11.7**	**+2.1**
PHP	**Peshkopia**	**1.54**	**14**	*e*PN	**Pn**	**15 16 49.7**	**+1.3**
PHP				*i* SN	**Sg**	**15 17 12.0**	**+2.2**
LKD	**Levkas**	**1.57**	**160**	*e*Pg	**Pn**	**15 16 48.8**	**+0.1**
LKD				*e*Sg	**Sg**	**15 17 10.0**	**-0.5**
THL	**Klokotos Trika**	**1.70**	**111**	*e*Pg	**Pn**	**15 16 50.6**	**+0.1**
THL				*e*Sg	**Sn**	**15 17 11.8**	**-0.8**
THL	**Klokotos Trika**	**1.70**	**111**	*e*Pn	**Pn**	**15 16 51.8**	**+1.3**
THL				*e*Sg	**Sn**	**15 17 11.8**	**-0.9**
ULC	**Ulcinj**	**1.86**	**343**	⇓*i*Pg	**Pn**	**15 16 52.3**	**-0.4**
ULC				*e*Sg	**Sn**	**15 17 12.4**	**-4.2**
ULC	**Ulcinj**	**1.86**	**343**	*i* PG	**Pn**	**15 16 52.3**	**-0.4**
ULC				*i* SG	**Sn**	**15 17 12.4**	**-4.2**
EVR	**Evrytania**	**1.91**	**131**	*e*PN	**Pg**	**15 16 55.4**	**-1.4**
PE1	**Pezze di Greco**	**2.03**	**289**	*e*Pn	**Pn**	**15 16 55.0**	**-0.1**
VLS	**Valsamata**	**2.06**	**166**	*e*Pn	**Pn**	**15 16 55.0**	**-0.5**
VLS				*e*Sn	**Sn**	**15 17 22.4**	**+0.8**
VLS	**Valsamata**	**2.06**	**166**	*e*PN	**Pn**	**15 16 56.2**	**+0.7**
SKO	**Skopje**	**2.11**	**32**	*e*Pn	**Pn**	**15 16 56.5**	**+0.3**
SKO				*e*Sn	**Sn**	**15 17 23.6**	**+0.9**
SKO	**Skopje**	**2.11**	**32**	*e*Pn	**Pn**	**15 16 58.2**	**+2.1**
SKO	**Skopje**	**2.11**	**32**	*e*Pn	**Pn**	**15 16 58.2**	**+2.0**
SKO				*e*Sn	**Sn**	**15 17 23.6**	**+0.8**
KFL	**Anninata**	**2.17**	**162**	*e*Pn	**Pn**	**15 16 56.9**	**0.0**
BCI	**Bajram Curri**	**2.18**	**2**	*e*PN	**Pn**	**15 16 59.1**	**+1.9**
BUM	**Brajici-Budva**	**2.26**	**340**	⇑*i*Pn	**Pn**	**15 16 58.4**	**+0.2**
BUM				*e*Sn	**Sn**	**15 17 24.7**	**-1.8**
BUM	**Brajici-Budva**	**2.26**	**340**	*i* PG	**Pn**	**15 16 58.5**	**+0.3**
BUM				*i* SG	**Sn**	**15 17 24.8**	**-1.7**
STIP	**Stip**	**2.27**	**47**	*e*Pn	**Pn**	**15 16 59.4**	**+1.2**
VAY	**Valandovo**	**2.29**	**59**	*e*Pn	**Pn**	**15 16 59.2**	**+0.6**

INTR	**Introdacqua**	**4.92 294**	Pn		**Pn**	**15 17 34.3**	**-0.5**
POFI	**Posta Fibreno**	**4.97 290**	Pn		**Pn**	**15 17 36.4**	**+0.9**
	24nm,1.2s						
TERO	**Teramo**	**5.36 299**	Pn		**Pn**	**15 17 41.0**	**+0.1**
AQU	**L'Aquila**	**5.39 296**	P		**Pn**	**15 17 41.7**	**+0.4**
	13nm,0.8s						
AQU	**L'Aquila**	**5.39 296**	P		**Pn**	**15 17 41.7**	**+0.4**
	13nm,0.8s						
CAMP	**Campotosto**	**5.46 298**	Pn		**Pn**	**15 17 42.3**	**+0.1**
FIAM	**Fiamignano**	**5.56 294**	Pn		**Pn**	**15 17 45.1**	**+1.5**
LNSS	**Leonessa**	**5.74 297**	Pn		**Pn**	**15 17 47.1**	**+1.1**
NVLJ	**Novalja**	**5.77 321**	*e*Pn		**Pn**	**15 17 45.8**	**-0.8**
NVLJ			Sn		**Sn**	**15 18 51.4**	**-1.8**
NRCA	**Norcia**	**5.78 299**	Pn		**Pn**	**15 17 47.0**	**+0.4**
IDI	**Anoyia**	**6.26 140**	Pn		**Pn**	**15 17 52.0**	**-1.1**
	0.4nm,0.3s,baz=324,slow=17,SNR=4.5						
IDI			Sn		**Sn**	**15 18 57.1**	**-7.9**
	0.6nm,0.3s,baz=182,slow=18,SNR=2.2						
KWP	**Kalwaria**	**9.65 11**	*e*P		**Pn**	**15 18 39.7**	**+0.1**
	4μm,2.0s						
GERES	**GERESS Array B**	**9.74 335**	Pn		**Pn**	**15 18 40.3**	**-0.6**
	0.1nm,0.3s,baz=159,slow=14,SNR=4.4						
ESDC	**Sonseca Array**	**18.35 276**	P		**Pn**	**15 20 36.2**	**+0.8**
	0.1nm,0.3s,baz=80,slow=12,SNR=4.1						
HFS	**Hagfors**	**20.35 351**	P		**P**	**15 20 56.7**	**-0.6**
	0.9nm,0.5s,baz=182,slow=11,SNR=6.3						
NB2	**NORSAR Subarra**	**21.57 348**	P		**P**	**15 21 11.3**	**+0.9**
	comp=Z,0.3nm,0.4s,mb3.1,baz=153,slow=11						
NOA	**NORSAR Array B**	**21.57 348**	P		**P**	**15 21 11.1**	**+0.7**
NOA	**NORSAR Array B**	**21.57 348**	P		**P**	**15 21 11.1**	**+0.7**
	comp=Z,0.4nm,0.6s,mb3.0,baz=161,slow=11,SNR=9.3						
FINES	**FINESS Array B**	**21.62 8**	P		**P**	**15 21 09.1**	**-1.8**
FINES	**FINESS Array B**	**21.62 8**	P		**P**	**15 21 09.1**	**-1.8**
	comp=Z,0.3nm,0.3s,mb3.1,baz=179,slow=11,SNR=5.2						
MKAR	**Makanchi Array**	**44.65 60**	P		**P**	**15 24 32.5**	**-1.1**
	comp=Z,0.3nm,0.3s,mb3.6,baz=276,slow=7.7,SNR=5.0						
ZALV	**Zalesovo Beam**	**44.70 50**	P		**P**	**15 24 32.5**	**-1.5**
	comp=Z,0.9nm,0.5s,mb3.9,baz=273,slow=8.9,SNR=4.7						
SONM	**Songino Array**	**59.54 51**	P		**P**	**15 26 25.2**	**+0.8**
	comp=Z,0.6nm,0.9s,mb3.6,baz=327,slow=7.1,SNR=4.1						

*NEIC **13** 15:27:42.0, 33.16S×70.00W, h12km, ML3.1(GUC), After GUC.*

GUC 13 15:27:42.0±0.5, 3316S×7000W, h12km±2km, MD3.9, ML3.1, 8C-7D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	**Farellones**	**0.30**	**235**	⇓*i*P	Pg	15 27 48.4	+0.3
FCH				AML	AML	15 27 53.1	
	comp=E,7μm,0.3s						
FCH				*i* S	Sg	15 27 53.4	+1.2
CLCH	**Cerro Calan**	**0.51**	**242**	⇓*i*P	Pg	15 27 52.2	+0.2
CLCH				*i* S	Sg	15 27 59.6	+0.8
CLCH				AML	AML	15 28 06.9	
	comp=E,3μm,0.7s						
DSCH	**Colegio Aleman**	**0.54**	**243**	⇓*i*P	Pg	15 27 52.0	-0.5
DSCH				*i* S	Sg	15 27 59.9	+0.3
FSR	**Penalolen**	**0.55**	**234**	AML	AML	15 28 01.5	
	comp=E,3μm,0.4s						
SJCH	**San Jose de Ma**	**0.57**	**212**	*i* P	Pg	15 27 52.9	-0.2
SJCH				*i* S	Sg	15 28 01.1	+0.5
SJCH				AML	AML	15 28 01.5	
	comp=E,1μm,0.4s						
PEL	**Peldehue**	**0.58**	**271**	⇑*i*P	Pg	15 27 53.2	-0.1
PEL				*i* S	Sg	15 28 01.2	+0.4
PEL				AML	AML	15 28 01.6	
	comp=N,2μm,0.2s						
SAN	**Santiago**	**0.63**	**242**	AML	AML	15 28 11.9	
	comp=N,1μm,0.4s						
PCH	**Pirque**	**0.63**	**223**	⇑*i*P	Pg	15 27 54.3	0.0
PCH				*i* S	Sg	15 28 03.1	+0.5
JACH	**Jahuel**	**0.69**	**313**	⇑*i*P	Pg	15 27 55.3	-0.1
JACH				*i* S	Sg	15 28 04.7	+0.3
LMEL	**Las Melosas**	**0.71**	**194**	*i* P	Pg	15 27 55.4	-0.4
LMEL				*i* S	Sg	15 28 05.7	+0.6
RCDM	**Rinconada Maip**	**0.75**	**244**	⇓*i*P	Pg	15 27 56.5	-0.1
RCDM				*i* S	Sg	15 28 07.0	+0.5
ROCH	**El Roble**	**0.87**	**282**	⇑*i*P	Pg	15 27 58.3	-0.5
ROCH				*i* S	Sg	15 28 11.0	+0.8
TACH	**Talagante**	**0.93**	**238**	⇑*i*P	Pg	15 27 59.4	-0.6
TACH				*i* S	Sg	15 28 12.2	+0.1
PTCH	**Petorca**	**1.19**	**318**	⇓*i*P	Pn	15 28 04.1	-0.3
PTCH				*i* S	Sb	15 28 20.6	+0.9
PTCH	**Petorca**	**1.19**	**318**	⇓*i*P	Pn	15 28 04.1	-0.3
PTCH				*i* S	Sb	15 28 20.6	+0.9
PTCH				AML	AML	15 28 22.4	
	comp=N,414nm,0.4s						
LCCH	**Las Cruces**	**1.35**	**256**	⇑*i*P	Pn	15 28 06.6	-0.1
LCCH				*i* S	Sb	15 28 25.4	+0.9
IHA	**Instituto Hidr**	**1.39**	**275**	*i* P	Pn	15 28 07.1	0.0
IHA				*i* S	Sn	15 28 26.5	+1.1
SFDO	**San Fernando**	**1.68**	**210**	⇑*i*P	Pn	15 28 12.3	+1.1
SFDO				*i* S	Sn	15 28 35.4	+2.8
NICH	**Los Niches**	**2.11**	**209**	⇓*i*P	Pn	15 28 19.4	+2.3
NICH				*i* S	Sn	15 28 47.9	+4.8
CMCH	**Combarbala**	**2.15**	**336**	⇑*i*P	Pn	15 28 20.5	+2.8
CMCH				*i* S	Sn	15 28 49.4	+5.1
TLL	**Tololo Astrono**	**3.06**	**347**	*e*P	Pn	15 28 35.8	+5.6
TLL				*i* S	Sn	15 29 17.3	+11
TLL	**Tololo Astrono**	**3.06**	**347**	*e*P	Pn	15 28 35.8	+5.6
TLL				*i* S	Sn	15 29 17.3	+11
TLL				AML	AML	15 29 25.1	
	comp=N,254nm,0.6s						

IDC 13 15:50:06.8±2.1, 506N×12536E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, Error ellipse: s-maj=191.8km s-min=24.6km az=65.0, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**26.37**	**161**	P	P	15 55 44.8	-0.1
	0.2nm,0.5s,baz=340,slow=11,SNR=7.2						
ASAR	**Alice Springs**	**29.74**	**164**	P	P	15 56 15.4	+0.3
	0.3nm,0.8s,baz=339,slow=7.1,SNR=8.4						
MKAR	**Makanchi Array**	**55.69**	**325**	P	P	15 59 45.0	0.0
	0.9nm,0.5s,baz=122,slow=7.9,SNR=13						

MEX 13 16:02:32.8±0.4, 1931N×10392W, h24km±20km, MD3.9, Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**1.15**	**152**	*i* P	Pn	16 02 50.5	-2.8
MMIG				*i* S	Sn	16 03 04.4	-3.8
SFJM	**Santa Fe**	**1.44**	**35**	*i* P	Pn	16 02 54.6	-2.7
SFJM				*i* S	Sn	16 03 12.8	-2.7
ANIG	**Ahuacatlan**	**1.83**	**342**	*e*P	Pn	16 03 00.3	-2.4
ANIG				*i* S	Sn	16 03 22.4	-2.7
ZIIG	**Zihuatanejo**	**2.88**	**126**	*i* P	Pn	16 03 14.9	-2.2
ZIIG				*i* S	Sn	16 03 48.6	-2.4

*ISCJB **13** 16:02:56.2±0.8, 3603N±004×1075W±007, h10km, Error ellipse: s-maj=8.4km s-min=4.8km az=24.0*
*MDD **13** 16:02:56.5±2.1, 3596N×1093W, h0km, mbLg3.1/8, Error ellipse: s-maj=26.3km s-min=9.2km az=111.0, PRXIMO*
*NEIC **13** 16:02:58.3, 3624N×1094W, h0km, MN3.0(MDD), After MDD.*
*CSEM **13** 16:02:59.4±0.4, 3575N×1036W, h10km, ML3.0, Error ellipse: s-maj=9.9km s-min=2.7km az=114.0*
*INMG **13** 16:02:59.6±0.8, 3623N×1090W, h0km±26km, ML2.5, Error ellipse: s-maj=28.2km s-min=4.1km az=58.0*
*CNRM **13** 16:02:59.9, 3603N×1061W, h30km, MD3.8*

ISC 13 16:02:57.3±0.8, 3612N±004×1084W±006, h10km, n43, σ1§35/76, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**1.91**	**57**	*i* Pn	**Pn**	**16 03 31.1**	**+1.2**
PFVI				*e*Sn	**Sn**	**16 03 54.9**	**+0.9**
PFVI				A		16 03 56.8	
	28nm,0.4s						
MORF	**Marmelete**	**2.12**	**55**	P	**Pn**	**16 03 34.1**	**+1.2**
MORF				S	**Sn**	**16 03 59.5**	**+0.3**
MORF	**Marmelete**	**2.12**	**55**	*i* Pn	**Pn**	**16 03 34.1**	**+1.3**
MORF				*e*Sn	**Sn**	**16 03 59.8**	**+0.5**
MORF				A		16 04 03.0	
	28nm,0.2s						
PTEO	**Sao Teotonio**	**2.22**	**49**	*e*Pn	**Pn**	**16 03 35.1**	**+1.0**
PTEO				*e*Sn	**Sn**	**16 04 02.0**	**+0.4**
PTEO				A		16 04 16.0	
	17nm,0.6s						
PBDV	**Barranco-do-Ve**	**2.59**	**64**	*i* Pn	**Pn**	**16 03 40.9**	**+1.6**
PBDV				*e*Sn	**Sn**	**16 04 12.0**	**+1.1**
PBDV				A		16 04 14.7	
	8.3nm,0.3s						
PVAQ	**Vaqueiros**	**2.82**	**62**	*e*Pn	**Pn**	**16 03 43.9**	**+1.5**
PVAQ				*e*Sn	**Sn**	**16 04 17.1**	**+0.7**
PVAQ				A		16 04 24.7	
	14nm,0.1s						
EGRO	**El Granado**	**3.04**	**61**	P	**Pn**	**16 03 47.3**	**+1.8**
	2.7nm,0.1s,SNR=6.4						
EGRO				S	**Sn**	**16 04 22.3**	**+0.3**
	16nm,0.2s						
EGRO	**El Granado**	**3.04**	**61**	P	**Pn**	**16 03 47.3**	**+1.8**
	2.7nm,0.1s,SNR=6.4						
EGRO				S	**Sn**	**16 04 22.3**	**+0.3**
	16nm,0.2s						
PBEJ	**Beja**	**3.05**	**50**	*e*Pn	**Pn**	**16 03 46.4**	**+0.8**
PBEJ				*e*Sn	**Sn**	**16 04 21.7**	**-0.4**
PBEJ				A		16 04 27.5	
	6.3nm,0.1s						
PMAFR	**Mafra**	**3.09**	**23**	*e*Pn	**Pn**	**16 03 46.3**	**+0.2**
PMAFR				*e*Sn	**Sn**	**16 04 21.8**	**-1.3**
PMAFR				A		16 04 24.9	
	43nm,0.7s						
MOE	**Montemor**	**3.11**	**39**	*e*Pn	**Pn**	**16 03 47.4**	**+0.9**
MOE				*e*Sn	**Sn**	**16 04 23.3**	**-0.4**
EVO	**Evora**	**3.30**	**42**	*e*Pn	**Pn**	**16 03 49.8**	**+0.8**
EVO				*e*Sn	**Sn**	**16 04 27.4**	**-0.9**
EVO				A		16 04 29.1	
	20nm,0.1s						
PBAR	**Barrancos**	**3.67**	**55**	*e*Pn	**Pn**	**16 03 55.2**	**+1.1**
PBAR				*e*Sn	**Sn**	**16 04 36.9**	**-0.4**
PBAR				A		16 04 40.7	
	8.0nm,0.4s						
EMIN	**Mina Concepcio**	**3.72**	**63**	P	**Pn**	**16 03 56.0**	**+1.1**
	2.9nm,0.1s,SNR=36						
EMIN				S	**Sn**	**16 04 38.8**	**0.0**
	3.5nm,0.1s						
EMIN	**Mina Concepcio**	**3.72**	**63**	P	**Pn**	**16 03 56.0**	**+1.1**
	2.9nm,0.1s,SNR=36						
EMIN				S	**Sn**	**16 04 38.8**	**0.0**
	3.5nm,0.1s						
PESTR	**Estremoz**	**3.77**	**42**	*e*Pn	**Pn**	**16 03 56.2**	**+0.7**
PESTR				*e*Sn	**Sn**	**16 04 38.6**	**-1.3**
PESTR				A		16 04 42.9	
	3.5nm,0.6s						
PTOM	**Tomar**	**3.99**	**28**	*e*Sn	**Sn**	**16 04 43.6**	**-1.6**
PTOM				A		16 04 50.4	
	11nm,0.2s						
EBAD	**Badajoz**	**4.03**	**48**	P	**Pn**	**16 03 59.5**	**+0.5**
	3.2nm,0.1s,SNR=24						
EBAD				S	**Sn**	**16 04 44.9**	**-1.3**
	16nm,0.2s						
ESPR	**Espera**	**4.09**	**78**	P	**Pn**	**16 04 01.7**	**+1.8**
	9.9nm,0.2s,SNR=38						
ESPR				S	**Sn**	**16 04 47.3**	**-0.4**
	25nm,0.3s,SNR=5.1						
ESPR	**Espera**	**4.09**	**78**	P	**Pn**	**16 04 01.7**	**+1.8**
	9.9nm,0.2s,SNR=38						
ESPR				S	**Sn**	**16 04 47.3**	**-0.4**
	25nm,0.3s,SNR=5.1						
EJIF	**Jimena Fronter**	**4.35**	**84**	P	**Pn**	**16 04 05.2**	**+1.6**
	1.0nm,0.2s,SNR=7.9						
DKH	**Dar Kharkhour**	**4.50**	**96**	P	**Pn**	**16 04 03.0**	**-2.5**
DKH				S	**Sn**	**16 04 48.0**	**-10**
DKH	**Dar Kharkhour**	**4.50**	**96**	*e*P	**Pn**	**16 04 03.0**	**-2.5**
JHA	**Jbel Lahdid**	**4.52**	**165**	*e*P	**Pn**	**16 04 03.0**	**-2.9**
JHA				*i* S	**Sn**	**16 04 52.0**	**-6.5**
PCBR	**Castelo Branco**	**4.57**	**35**	*e*Sn	**Sn**	**16 04 57.2**	**-2.4**
PCBR				A		16 05 00.7	
	4.7nm,0.4s						
CIA	**Chichaoua**	**4.86**	**159**	*i* P	**Pn**	**16 04 08.0**	**-2.5**
CIA				*e*S	**Sn**	**16 04 59.0**	**-7.9**
MTE	**Manteigas**	**5.00**	**30**	*e*Sn	**Sn**	**16 05 07.7**	**-2.5**
MTE				A		16 05 12.4	
	10nm,0.4s						
PVIS	**Viseu**	**5.14**	**26**	*e*Sn	**Sn**	**16 05 11.0**	**-2.6**
EADA	**Adamuz**	**5.41**	**66**	P	**Pn**	**16 04 18.9**	**+0.9**
	0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**16 05 18.3**	**-2.0**
	1.3nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**5.41**	**66**	P	**Pn**	**16 04 18.9**	**+0.9**
	0.6nm,0.1s,SNR=7.9						
EADA				S	**Sn**	**16 05 18.3**	**-2.0**
	1.3nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**5.47**	**73**	P	**Pn**	**16 04 20.5**	**+1.7**
	0.6nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**16 05 20.5**	**-1.2**
	0.9nm,0.2s,SNR=7.9						
ELUQ	**Luque**	**5.47**	**73**	P	**Pn**	**16 04 20.5**	**+1.7**
	0.6nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**16 05 20.5**	**-1.2**
	0.9nm,0.2s,SNR=7.9						
OUK	**Oukaimeden**	**5.49**	**152**	*e*P	**Pn**	**16 04 17.0**	**-2.2**
OUK				*e*S	**Sn**	**16 05 13.0**	**-9.4**
CZD	**Col de Zad**	**5.69**	**121**	*e*P	**Pn**	**16 04 20.0**	**-1.9**
CZD				*e*S	**Sn**	**16 05 18.0**	**-9.3**
MVO	**Moncorvo**	**5.85**	**30**	*e*Pn	**Pn**	**16 04 23.9**	**-0.2**
MVO				*e*Sn	**Sn**	**16 05 27.8**	**-3.5**
MVO				A		16 05 32.0	
	4.4nm,0.1s						
EQUE	**Quentar**	**6.05**	**78**	P	**Pn**	**16 04 29.0**	**+2.2**
	1.1nm,0.3s,SNR=5.5						
EQUE				S	**Sn**	**16 05 35.4**	**-0.7**
	0.9nm,0.2s,SNR=7.9						
ELOB	**Lobios**	**6.13**	**20**	P	**Pn**	**16 04 21.6**	**-6.3**
	0.0nm,0.1s,SNR=6.4						
ELOB				S	**Sn**	**16 05 33.1**	**-5.0**
	2.6nm,0.1s,SNR=7.9						
EQES	**Quesada**	**6.45**	**73**	P	**Pn**	**16 04 33.7**	**+1.4**
	0.3nm,0.1s,SNR=4.8						
EQES				S	**Sn**	**16 05 45.5**	**-0.4**
	1.3nm,0.2s,SNR=7.9						
EQES	**Quesada**	**6.45**	**73**	P	**Pn**	**16 04 33.7**	**+1.4**
	0.3nm,0.1s,SNR=4.8						
EQES				S	**Sn**	**16 05 45.5**	**-0.4**
	1.3nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.49**	**55**	P	**Pn**	**16 04 33.9**	**+1.0**
	0.8nm,0.2s,baz=240,slow=14,SNR=38						
ESDC	**Sonseca Array**	**6.49**	**55**	P	**Pn**	**16 04 33.9**	**+1.0**
	0.8nm,0.2s,SNR=38						
PBRG	**Braganca**	**6.51**	**28**	*e*Sn	**Sn**	**16 05 43.4**	**-4.1**
PBRG				A		16 05 45.2	
	3.8nm,0.2s						
ECAL	**Calabor**	**6.63**	**28**	S	**Sn**	**16 05 46.4**	**-4.0**
	12nm,0.4s,SNR=7.9						

IDC 13 16:20:23.3±3.4, 406S×15265E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.5/12, mbtmp3.6/2, Error ellipse: s-maj=143.3km s-min=47.2km az=119.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**23.82**	**227**	*e*P	P	16 25 39.3	+1.0
WRA	**Warramunga Arr**	**23.83**	**227**	P	P	16 25 39.5	+1.1
	2.2nm,0.4s,baz=52,slow=9.9,SNR=29						
ASAR	**Alice Springs**	**26.60**	**221**	P	P	16 26 03.1	-0.4
	0.2nm,0.8s,baz=56,slow=9.3,SNR=4.8						
FITZ	**Fitzroy Crossi**	**29.89**	**240**	*e*P	P	16 26 35.1	+2.1
	4.5nm,1.1s						
TORD	**Torodi Ar. Bea**	**149.93**	**289**	PKPbc	PKPbc	16 40 15.7	-1.0
	0.2nm,0.5s,baz=86,slow=2.0,SNR=6.6						

*NIED **13** 16:46:00, 4690N×153.10E, h23km, Mw3.8 Best double couple: M0 5.55000×10^14 NP1:ϕs217.00000°, δ77.00000°, λ-165.00000°. NP2:ϕs124.00000°, δ76.00000°, λ-14.00000°.*
*ISCJB **13** 16:47:00.8±1.5, 470N±0.1×1528E±02, h63km±14km, mb3.7/8, Error ellipse: s-maj=26.3km s-min=11.3km az=135.4*
*MOS **13** 16:47:01.7±1.2, 4707N×15275E, h70km, mb4.0/6, Error ellipse: s-maj=24.5km s-min=13.5km az=65.1*
*NEIC **13** 16:47:03.0±3.0, 4698N×15287E, h68km±29km, mb4.5/1, Error ellipse: s-maj=19.1km s-min=14.4km az=108.0*
*IDC **13** 16:47:03.9±4.3, 4688N×15289E, h79km±40km, mb3.4/9, mb1 3.6/11, mb1mx3.4/23, mbtmp3.4/11, ML3.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.4/25, Error ellipse: s-maj=27.2km s-min=20.7km az=133.0*

ISC 13 16:47:02.7±1.4, 470N±01×1529E±02, h64km±13km, n26, σ0§70/25, mb3.7/8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.27**	**29**	*e*PN	**Pn**	**16 48 04.9**	**-0.2**
SKR				*e*		16 48 54.5	
ASAJ	**Asahikawa**	**7.77**	**252**	PN	**Pn**	**16 48 54.0**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,44nm,18.4s						
ASAJ	**Asahikawa**	**7.77**	**252**	P	**Pn**	**16 48 54.0**	**+1.0**
	comp=Z,0.5nm,0.3s,baz=84,slow=14,SNR=7.0						
ASAJ				LR	LR	16 51 50.6	
	comp=Z,44nm,18.4s,baz=209,slow=37						
ERM	**Erimo**	**8.54**	**238**	*i* PN	**Pn**	**16 49 02.5**	**-1.1**
MJAR	**Matsushiro Arr**	**15.10**	**232**	P	**Pn**	**16 50 34.2**	**+2.1**
MJAR	**Matsushiro Arr**	**15.10**	**232**	P	**Pn**	**16 50 32.6**	**+0.5**
	comp=Z,0.2nm,0.3s,baz=36,slow=8.1,SNR=5.0						
YAK	**Yakutsk**	**20.03**	**327**	*e*P	**P**	**16 51 29.1**	**-0.9**
YAK				pmax	pmax		
	comp=Z,11nm,0.5s						
YAK	**Yakutsk**	**20.03**	**327**	*e*P	**P**	**16 51 29.1**	**-1.0**
	comp=Z,11nm,0.5s						
KSRS	**Korea Array**	**20.72**	**252**	P	**P**	**16 51 37.0**	**-0.7**
	comp=Z,1.1nm,0.7s,baz=56,slow=10.0,SNR=3.0						
INK	**Inuvik**	**41.54**	**33**	P	**P**	**16 54 43.7**	**+0.5**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**41.54**	**33**	P	**P**	**16 54 43.6**	**+0.4**
	comp=Z,0.8nm,0.6s,mb3.5,baz=334,slow=7.2,SNR=6.6						
ZALV	**Zalesovo Beam**	**42.34**	**306**	LR	LR	17 13 27.6	
	comp=Z,27nm,18.1s,baz=119,slow=37						
MKAR	**Makanchi Array**	**46.69**	**297**	P	**P**	**16 55 24.8**	**+0.1**
	comp=Z,0.2nm,0.2s,mb3.6,baz=56,slow=8.8,SNR=2.6						
YKA	**Yellowknife Ar**	**50.83**	**37**	P	**P**	**16 55 56.8**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**50.83**	**37**	P	**P**	**16 55 56.1**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.6,baz=294,slow=7.4,SNR=4.3						
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**16 57 27.6**	**+0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**63.76**	**335**	P	**P**	**16 57 27.6**	**+0.3**
	comp=Z,1.0nm,0.7s,mb4.0,baz=28,slow=9.5,SNR=7.0						
NB2	**NORSAR Subarra**	**67.95**	**341**	P	**P**	**16 57 54.6**	**+0.4**
	comp=Z,1.8nm,0.6s,mb4.3,baz=30,slow=6.5						
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**16 57 54.7**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**16 57 54.7**	**+0.5**
NOA	**NORSAR Array B**	**67.95**	**341**	P	**P**	**16 57 54.7**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.1,baz=27,slow=6.4,SNR=8.0						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**16 58 15.0**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.26**	**326**	P	**P**	**16 58 14.7**	**0.0**
	comp=Z,0.5nm,0.4s,mb3.8,baz=32,slow=5.9,SNR=6.6						
ASAR	**Alice Springs**	**72.38**	**198**	P	**P**	**16 58 20.9**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**72.38**	**198**	P	**P**	**16 58 20.9**	**-0.7**
	comp=Z,0.5nm,0.9s,mb3.5,baz=357,slow=4.6,SNR=3.7						
TXAR	**Lajitas Array**	**77.52**	**60**	P	**P**	**16 58 51.2**	**-0.2**
	comp=Z,0.4nm,0.6s,mb3.5,baz=305,slow=5.7,SNR=7.3						

*IDC **13** 17:14:54.6±1.2, 937S×15881E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.8/12, mbtmp3.8/4, MS3.2/1, Ms1 3.2/1, ms1mx2.7/22, Error ellipse: s-maj=37.6km s-min=16.4km az=171.0*
*ISCJB **13** 17:14:56.0±2.4, 94S±02×15875E±008, h18km±19km, mb3.6/5, Error ellipse: s-maj=38.8km s-min=11.2km az=171.3*
*NEIC **13** 17:14:56.2±0.9, 939S×15880E, h10km, mb3.9/1, Error ellipse: s-maj=29.7km s-min=11.7km az=169.0*

ISC 13 17:14:56.2±2.2, 94S±02×15882E±007, h9km±14km, n9, σ0§69/10, mb3.6/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**1.11**	**91**	*e*P	**Pg**	**17 15 17.6**	**0.0**
HNR				Sn	**Sn**	**17 15 33.1**	**-0.2**
HNR	**Honiara**	**1.11**	**91**	Pn	**Pn**	**17 15 17.8**	**-0.1**
	218nm,0.3s,baz=258,slow=3.7,SNR=159						
HNR				Sn	**Sn**	**17 15 33.1**	**-0.2**
	295nm,0.3s,baz=289,slow=13,SNR=14						
CTA	**Charters Tower**	**16.12**	**227**	LR	LR	17 23 46.9	
	comp=Z,82nm,20.8s,baz=226,slow=33						
WRAB	**Tennant Creek**	**25.84**	**243**	*e*P	**P**	**17 20 27.7**	**-0.4**
	1.4nm,0.6s,mb3.7						
WB2	**Warramunga Arr**	**25.84**	**243**	*e*P	**P**	**17 20 27.9**	**-0.2**
WRA	**Warramunga Arr**	**25.85**	**243**	P	**P**	**17 20 27.7**	**-0.5**
	1.1nm,0.6s,mb3.6,baz=71,slow=9.8,SNR=19						
STKA	**Stephens Creek**	**27.47**	**213**	P	**P**	**17 20 44.4**	**+1.7**
	1.7nm,0.8s,mb3.6,baz=58,slow=15,SNR=5.4						
ASAR	**Alice Springs**	**27.70**	**236**	P	**P**	**17 20 44.0**	**-0.8**
	0.7nm,0.7s,mb3.4,baz=63,slow=9.9,SNR=10						
SONM	**Songino Array**	**73.43**	**326**	P	**P**	**17 26 29.3**	**+0.6**
	0.7nm,0.9s,mb3.6,baz=90,slow=3.5,SNR=3.7						

WEL 13 17:17:40.4±0.2, 4158S×17205E, h4km±2km, ML3.6/18, Error ellipse: s-maj=1.4km s-min=1.1km az=90.0, South Island

| Code | Station Name |

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.87**	**26**	*e*PN	**Pn**	**17 33 03.5**	**-1.0**
SKR				*e*		17 33 58.6	
NEM2	**Nemuro 2**	**5.84**	**242**	P	**Pn**	**17 33 16.3**	**-1.5**
NEM2				*e*S	**Sn**	**17 34 21.5**	**-1.9**
JRA	**Rausu**	**5.95**	**249**	P	**Pn**	**17 33 21.1**	**+1.9**
JNK	**Nakash**	**6.37**	**247**	P	**Pn**	**17 33 25.9**	**+0.9**
JAK	**Akkeshi**	**6.68**	**243**	P	**Pn**	**17 33 27.8**	**-1.5**
JAK				*e*S	**Sn**	**17 34 41.9**	**-2.2**
JTKR	**Abashiri--Toko**	**6.73**	**253**	P	**Pn**	**17 33 32.1**	**+2.2**
YSS	**Yuzh-Sakhalins**	**6.95**	**279**	PN	**Pn**	**17 33 40.3**	**+7.3**
JAR	**Ashorobuto**	**7.11**	**248**	P	**Pn**	**17 33 36.3**	**+1.1**
JAR				*e*S	**Sn**	**17 34 56.7**	**+2.0**
JOB	**Onbets**	**7.27**	**245**	P	**Pn**	**17 33 37.2**	**-0.2**
JOB				*e*S	**Sn**	**17 34 58.0**	**-0.5**
JKK2	**Kamakawa 2**	**7.54**	**255**	P	**Pn**	**17 33 43.5**	**+2.5**
ASAJ	**Asahikawa**	**7.55**	**257**	P	**Pn**	**17 33 44.5**	**+3.3**
	0.3nm,0.3s,baz=81,slow=29,SNR=3.8						
JCH	**Churui**	**7.72**	**245**	P	**Pn**	**17 33 43.0**	**-0.5**
JCH				*e*S	**Sn**	**17 35 07.5**	**-2.0**
ERM	**Erimo**	**8.17**	**242**	*e*PN	**Pn**	**17 33 54.1**	**+4.3**
JNBK	**Urakawa-nobuka**	**8.28**	**244**	P	**Pn**	**17 33 50.9**	**-0.3**
JNBK				*e*S	**Sn**	**17 35 20.8**	**-2.4**
JKB	**Kayabe**	**9.57**	**247**	P	**Pn**	**17 34 08.1**	**-0.8**
JKB				*e*S	**Sn**	**17 35 50.3**	**-4.6**
MAJO	**Matsushiro**	**14.67**	**233**	*e*P	**Pn**	**17 35 20.2**	**+2.0**
KSRS	**Korea Array**	**20.48**	**253**	P	**P**	**17 36 29.8**	**+2.4**
	0.8nm,0.6s,baz=60,slow=10,SNR=4.4						
YAK	**Yakutsk**	**20.56**	**328**	P	**P**	**17 36 27.2**	**-0.9**
ZALV	**Zalesovo Beam**	**42.69**	**306**	P	**P**	**17 39 45.1**	**-0.4**
ZALV	**Zalesovo Beam**	**42.69**	**306**	P	**P**	**17 39 45.1**	**-0.4**
	0.3nm,0.3s,mb3.5,baz=66,slow=14,SNR=2.2						
ZAL	**Zalesovo**	**42.70**	**306**	P	**P**	**17 39 45.1**	**-0.5**
MK31	**Makanchi Array**	**46.95**	**298**	*e*P	**P**	**17 40 19.9**	**+0.4**
MKAR	**Makanchi Array**	**46.95**	**298**	P	**P**	**17 40 19.7**	**+0.2**
	0.2nm,0.3s,mb3.5,baz=64,slow=8.2,SNR=5.3						
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**17 40 52.0**	**-1.1**
YKA	**Yellowknife Ar**	**51.38**	**36**	P	**P**	**17 40 52.0**	**-1.1**
	0.1nm,0.4s,mb3.1,baz=284,slow=13,SNR=3.1						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**17 42 23.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.33**	**335**	P	**P**	**17 42 23.7**	**-0.1**
	comp=Z,0.8nm,0.6s,mb3.9,baz=35,slow=7.0,SNR=4.5						
NB2	**NORSAR Subarra**	**68.55**	**341**	P	**P**	**17 42 51.0**	**+0.2**
	comp=Z,0.4nm,0.5s,mb3.6,baz=27,slow=6.2						
NOA	**NORSAR Array B**	**68.55**	**341**	P	**P**	**17 42 51.3**	**+0.5**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.55**	**341**	P	**P**	**17 42 49.9**	**-0.9**
	comp=Z,0.5nm,0.6s,mb3.6,baz=28,slow=6.3,SNR=4.8						
ASAR	**Alice Springs**	**71.75**	**198**	P	**P**	**17 43 11.1**	**+0.3**
	comp=Z,0.2nm,0.7s,mb3.2,baz=14,slow=6.7,SNR=3.3						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**17 43 11.0**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.77**	**326**	P	**P**	**17 43 10.9**	**+0.2**
	comp=Z,1.6nm,0.5s,mb4.2,baz=35,slow=6.2,SNR=6.9						
TXAR	**Lajitas Array**	**77.88**	**60**	P	**P**	**17 43 45.3**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.6,baz=302,slow=4.3,SNR=6.3						
GERES	**GERESS Array B**	**78.73**	**334**	P	**P**	**17 43 51.9**	**+1.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=20,slow=3.2,SNR=2.5						

WEL 13 17:42:38.5±0.4, 3825S×17825E, h5km, ML4.4/5, Error ellipse: s-maj=3.6km s-min=2.2km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.18**	**2**	PG	Pg	17 42 41.9	-0.1
PUZ				SG	Sg	17 42 45.3	+1.0
MWZ	**Matawai**	**0.57**	**261**	PG	Pg	17 42 49.9	+0.4
MWZ				SG	Sg	17 42 58.9	+1.9
MXZ	**Matakaoa Point**	**0.69**	**4**	P*	Pb	17 42 52.0	-0.9
MXZ				SG	Sg	17 43 02.6	+2.0
KNZ	**Kokohu**	**0.89**	**210**	P*	Pb	17 42 56.1	-0.3
URZ	**Urewera**	**0.90**	**269**	P*	Pb	17 42 55.6	-0.9

*IDC **13** 17:45:11.2±1.2, 4158S×17226E, h0km, mb3.7/2, mb1 3.8/4, mb1mx3.7/12, mbtmp3.6/4, ML2.9/1, Error ellipse: s-maj=30.2km s-min=15.0km az=112.0*
*ISCJB **13** 17:45:14.2±0.5, 4162S±003×17195E±004, h21km±4km, mb3.7/3, Error ellipse: s-maj=6.1km s-min=3.0km az=41.8*
*NEIC **13** 17:45:14.7, 4158S×17204E, h5km, mb4.2/1, ML4.2(WEL), After WEL.*
*WEL **13** 17:45:14.7±0.1, 4158S×17205E, h5km, ML4.1/57, Error ellipse: s-maj=0.9km s-min=0.8km az=90.0, 5.*
WEL Felt between Nelson, West Coast and Wellington, maximum reported intensity MM.

ISC 13 17:45:14.8±0.6, 4165S±003×17202E±004, h14km±4km, n123, σ0§98/130, mb3.7/3, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DSZ	**Denniston Nort**	**0.19**	**239**	P	**Pg**	**17 45 19.4**	**+0.3**
DSZ				S	**Sg**	**17 45 23.2**	**+1.1**
DSZ	**Denniston Nort**	**0.19**	**239**	PG	**Pg**	**17 45 19.4**	**+0.4**
DSZ				SG	**Sg**	**17 45 23.2**	**+1.2**
THZ	**Tophouse**	**0.67**	**100**	P	**Pg**	**17 45 27.1**	**-0.8**
THZ				S	**Sg**	**17 45 36.4**	**-0.4**
THZ	**Tophouse**	**0.67**	**100**	P*	**Pb**	**17 45 27.1**	**-1.2**
THZ				SG	**Sg**	**17 45 36.4**	**-0.4**
QRZ	**Quartz Range**	**0.91**	**25**	P*	**Pb**	**17 45 30.9**	**-1.4**
QRZ				S*	**Sb**	**17 45 42.4**	**-1.8**
NNZ	**Nelson**	**1.11**	**68**	P	**Pb**	**17 45 34.3**	**-1.5**
NNZ				S	**Sb**	**17 45 49.3**	**-0.8**
NNZ	**Nelson**	**1.11**	**68**	P*	**Pb**	**17 45 34.3**	**-1.4**
NNZ				S*	**Sb**	**17 45 49.3**	**-0.8**
LTZ	**Lake Taylor**	**1.15**	**171**	P	**Pb**	**17 45 36.5**	**+0.1**
LTZ				S	**Sb**	**17 45 53.0**	**+1.8**
LTZ	**Lake Taylor**	**1.15**	**171**	P*	**Pb**	**17 45 36.5**	**+0.1**
LTZ				S*	**Sb**	**17 45 53.0**	**+1.8**
KHZ	**Kahutara**	**1.37**	**125**	P	**Pn**	**17 45 40.6**	**+1.1**
KHZ	**Kahutara**	**1.37**	**125**	PN	**Pn**	**17 45 40.6**	**+1.1**
BSWZ	**Blackbirch Sta**	**1.39**	**93**	P	**Pn**	**17 45 40.4**	**+0.6**
BSWZ	**Blackbirch Sta**	**1.39**	**93**	PN	**Pn**	**17 45 40.4**	**+0.6**
TUWZ	**Tuamarina**	**1.46**	**82**	PN	**Pn**	**17 45 40.8**	**0.0**
CMWZ	**Cape Campbell**	**1.65**	**94**	P	**Pn**	**17 45 45.1**	**+1.8**
CMWZ	**Cape Campbell**	**1.65**	**94**	PN	**Pn**	**17 45 45.1**	**+1.8**
DUWZ	**D'Urville Isla**	**1.67**	**60**	PN	**Pn**	**17 45 43.4**	**-0.2**
WVZ	**Waitaha Valley**	**1.71**	**213**	P	**Pn**	**17 45 43.7**	**-0.5**
WVZ	**Waitaha Valley**	**1.71**	**213**	PN	**Pn**	**17 45 43.7**	**-0.5**
TCW	**Tory Channel**	**1.75**	**76**	P	**Pn**	**17 45 45.1**	**+0.3**
TCW	**Tory Channel**	**1.75**	**76**	PN	**Pn**	**17 45 45.1**	**+0.4**
CRLZ	**Canterbury Las**	**1.98**	**167**	P	**Pn**	**17 45 47.3**	**-0.5**
CRLZ	**Canterbury Las**	**1.98**	**167**	PN	**Pn**	**17 45 47.3**	**-0.6**
SNZO	**South Karori**	**2.05**	**81**	P	**Pn**	**17 45 49.4**	**+0.6**
SNZO	**South Karori**	**2.05**	**81**	PN	**Pn**	**17 45 49.4**	**+0.6**
MRW	**Makara Radio**	**2.06**	**79**	P	**Pn**	**17 45 49.7**	**+0.7**
MRW	**Makara Radio**	**2.06**	**79**	PN	**Pn**	**17 45 49.7**	**+0.7**
WEL	**Wellington**	**2.10**	**81**	P	**Pn**	**17 45 51.1**	**+1.6**
WEL	**Wellington**	**2.10**	**81**	PN	**Pn**	**17 45 51.1**	**+1.6**
MQZ	**McQueen's Vall**	**2.11**	**167**	P	**Pn**	**17 45 49.0**	**-0.7**
MQZ	**McQueen's Vall**	**2.11**	**167**	PN	**Pn**	**17 45 49.0**	**-0.7**
BHW	**Baring Head**	**2.16**	**85**	P	**Pn**	**17 45 50.6**	**+0.3**
BHW	**Baring Head**	**2.16**	**85**	PN	**Pn**	**17 45 50.6**	**+0.3**
RPZ	**Rata Peaks**	**2.18**	**199**	P	**Pn**	**17 45 50.7**	**0.0**
RPZ	**Rata Peaks**	**2.18**	**199**	Pn	**Pn**	**17 45 50.9**	**+0.2**
	17nm,0.3s,baz=10,slow=1.7,SNR=97						
RPZ				Sn	**Sn**	**17 46 18.7**	**+1.2**
	29nm,0.3s,baz=264,slow=2.3,SNR=9.4						
RPZ				Lg		17 46 26.2	
	36nm,0.3s,baz=285,slow=18,SNR=9.5						
RPZ	**Rata Peaks**	**2.18**	**199**	PN	**Pn**	**17 45 50.7**	**0.0**
KIW	**Kapiti Island**	**2.32**	**71**	P	**Pn**	**17 45 53.1**	**+0.6**
KIW	**Kapiti Island**	**2.32**	**71**	PN	**Pn**	**17 45 53.1**	**+0.6**
CAW	**Cannon Point**	**2.36**	**78**	P	**Pn**	**17 45 53.4**	**+0.3**
CAW	**Cannon Point**	**2.36**	**78**	PN	**Pn**	**17 45 53.4**	**+0.3**
MSWZ	**Moikau Station**	**2.44**	**86**	P	**Pn**	**17 45 53.7**	**-0.5**
MSWZ	**Moikau Station**	**2.44**	**86**	PN	**Pn**	**17 45 53.7**	**-0.5**
FOZ	**Fox Glacier**	**2.57**	**221**	PN	**Pn**	**17 45 54.1**	**-1.9**
PAWZ	**Paruwai Farm**	**2.57**	**85**	PN	**Pn**	**17 45 55.3**	**-0.7**
MTW	**Mount Morrison**	**2.67**	**81**	PN	**Pn**	**17 45 56.6**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.74**	**75**	PN	**Pn**	**17 45 57.9**	**-0.5**
TRWZ	**Traveller**	**2.77**	**86**	PN	**Pn**	**17 45 57.9**	**-0.8**
NEZ	**North Egmont**	**2.86**	**34**	P	**Pn**	**17 46 00.4**	**+0.5**
NEZ	**North Egmont**	**2.86**	**34**	PN	**Pn**	**17 46 00.4**	**+0.5**
MRZ	**Mangatainoka R**	**2.87**	**71**	P	**Pn**	**17 45 59.5**	**-0.5**
MRZ	**Mangatainoka R**	**2.87**	**71**	PN	**Pn**	**17 45 59.5**	**-0.5**
PKE	**Pukeiti**	**2.88**	**32**	P	**Pn**	**17 46 00.4**	**+0.2**
PKE	**Pukeiti**	**2.88**	**32**	PN	**Pn**	**17 46 00.4**	**+0.3**
WAZ	**Wanganui**	**2.94**	**51**	P	**Pn**	**17 46 02.1**	**+1.0**
WAZ	**Wanganui**	**2.94**	**51**	PN	**Pn**	**17 46 02.1**	**+1.0**
RAEZ	**Rainy Point**	**2.98**	**38**	P	**Pn**	**17 46 01.9**	**+0.4**
RAEZ	**Rainy Point**	**2.98**	**38**	PN	**Pn**	**17 46 01.9**	**+0.4**
TIWZ	**Tintock**	**3.05**	**75**	PN	**Pn**	**17 46 01.4**	**-1.1**
LBZ	**Lake Benmore**	**3.05**	**206**	P	**Pn**	**17 46 02.1**	**-0.5**
LBZ	**Lake Benmore**	**3.05**	**206**	PN	**Pn**	**17 46 02.1**	**-0.4**
VRZ	**Vera Road**	**3.28**	**41**	P	**Pn**	**17 46 03.3**	**-2.4**
VRZ	**Vera Road**	**3.28**	**41**	PN	**Pn**	**17 46 03.3**	**-2.4**
BFZ	**Birch Farm**	**3.34**	**75**	P	**Pn**	**17 46 05.0**	**-1.5**
BFZ	**Birch Farm**	**3.34**	**75**	PN	**Pn**	**17 46 05.0**	**-1.5**
TSZ	**Takapari Road**	**3.39**	**63**	P	**Pn**	**17 46 06.9**	**-0.3**
TSZ	**Takapari Road**	**3.39**	**63**	PN	**Pn**	**17 46 06.9**	**-0.3**
JCZ	**Jackson Bay**	**3.41**	**224**	PN	**Pn**	**17 46 06.6**	**-0.9**
PKVZ	**Pokaka**	**3.46**	**48**	PN	**Pn**	**17 46 08.7**	**+0.4**
MTVZ	**Mangateitei**	**3.47**	**50**	PN	**Pn**	**17 46 10.1**	**+1.7**
ODZ	**Otahua Downs**	**3.54**	**196**	P	**Pn**	**17 46 08.3**	**-1.0**
ODZ	**Otahua Downs**	**3.54**	**196**	PN	**Pn**	**17 46 08.3**	**-0.9**
TRVZ	**Turoa**	**3.57**	**50**	PN	**Pn**	**17 46 10.4**	**+0.6**
WNVZ	**Wahianoa**	**3.58**	**51**	P	**Pn**	**17 46 10.9**	**+1.0**
WNVZ	**Wahianoa**	**3.58**	**51**	PN	**Pn**	**17 46 10.9**	**+1.0**
FWVZ	**Far West T-bar**	**3.60**	**50**	P	**Pn**	**17 46 11.1**	**+0.9**
FWVZ	**Far West T-bar**	**3.60**	**50**	PN	**Pn**	**17 46 11.1**	**+0.9**
MOVZ	**Moawhango**	**3.62**	**53**	P	**Pn**	**17 46 10.8**	**+0.4**
MOVZ	**Moawhango**	**3.62**	**53**	PN	**Pn**	**17 46 10.8**	**+0.4**
WPVZ	**Whakapapa**	**3.63**	**49**	P	**Pn**	**17 46 11.1**	**+0.5**
WPVZ	**Whakapapa**	**3.63**	**49**	PN	**Pn**	**17 46 11.1**	**+0.4**
TUVZ	**Tukino**	**3.65**	**51**	P	**Pn**	**17 46 12.3**	**+1.4**
TUVZ	**Tukino**	**3.65**	**51**	PN	**Pn**	**17 46 12.3**	**+1.5**
TWVZ	**Taurewa**	**3.67**	**47**	P	**Pn**	**17 46 11.3**	**+0.2**
TWVZ	**Taurewa**	**3.67**	**47**	PN	**Pn**	**17 46 11.3**	**+0.2**
NGZ	**Ngauruhoe**	**3.69**	**49**	P	**Pn**	**17 46 11.7**	**+0.4**
NGZ	**Ngauruhoe**	**3.69**	**49**	PN	**Pn**	**17 46 11.7**	**+0.4**
WPHZ	**Waipukurau**	**3.71**	**66**	PN	**Pn**	**17 46 19.8**	**+8.1**
WTVZ	**West Tongariro**	**3.72**	**48**	PN	**Pn**	**17 46 12.8**	**+1.0**
OTVZ	**Oturere**	**3.73**	**49**	PN	**Pn**	**17 46 13.1**	**+1.2**
KRVZ	**Karewarewa**	**3.76**	**49**	PN	**Pn**	**17 46 13.5**	**+1.1**
HIZ	**Hauiti**	**3.81**	**36**	P	**Pn**	**17 46 12.1**	**-1.0**
HIZ	**Hauiti**	**3.81**	**36**	PN	**Pn**	**17 46 12.1**	**-0.9**
WKZ	**Wanaka**	**3.86**	**214**	P	**Pn**	**17 46 12.7**	**-1.0**
WKZ	**Wanaka**	**3.86**	**214**	PN	**Pn**	**17 46 12.7**	**-1.0**
RATZ	**Rangitukua**	**4.00**	**47**	P	**Pn**	**17 46 17.1**	**+1.5**
RATZ	**Rangitukua**	**4.00**	**47**	PN	**Pn**	**17 46 17.1**	**+1.5**
EAZ	**Earnscleugh**	**4.09**	**208**	P	**Pn**	**17 46 15.7**	**-1.1**
EAZ	**Earnscleugh**	**4.09**	**208**	PN	**Pn**	**17 46 15.7**	**-1.1**
BKZ	**Black Stump Fm**	**4.22**	**56**	P	**Pn**	**17 46 19.7**	**+1.0**
BKZ	**Black Stump Fm**	**4.22**	**56**	PN	**Pn**	**17 46 19.7**	**+1.1**
MSZ	**Milford Sound**	**4.25**	**223**	P	**Pn**	**17 46 18.2**	**-0.9**
MSZ	**Milford Sound**	**4.25**	**223**	PN	**Pn**	**17 46 18.2**	**-0.8**
MLZ	**Mavora Lakes**	**4.63**	**216**	P	**Pn**	**17 46 24.3**	**0.0**
MLZ	**Mavora Lakes**	**4.63**	**216**	PN	**Pn**	**17 46 24.3**	**0.0**
TUZ	**Tuapeka**	**4.64**	**201**	P	**Pn**	**17 46 23.3**	**-1.1**
TUZ	**Tuapeka**	**4.64**	**201**	PN	**Pn**	**17 46 23.3**	**-1.1**
WTAZ	**Waiatarua**	**5.11**	**24**	P	**Pn**	**17 46 31.0**	**+0.1**
WTAZ	**Waiatarua**	**5.11**	**24**	PN	**Pn**	**17 46 31.0**	**+0.1**
MKAZ	**Moumakai**	**5.15**	**29**	P	**Pn**	**17 46 31.6**	**+0.2**
MKAZ	**Moumakai**	**5.15**	**29**	PN	**Pn**	**17 46 31.6**	**+0.2**
URZ	**Urewera**	**5.17**	**51**	Pn	**Pn**	**17 46 29.0**	**-2.7**
	0.5nm,0.3s,baz=202,slow=23,SNR=3.7						
URZ				Sn	**Sn**	**17 47 28.8**	**-2.4**
	1.9nm,0.3s,baz=310,slow=13,SNR=4.2						
DCZ	**Deep Cove**	**5.21**	**221**	P	**Pn**	**17 46 32.1**	**-0.1**
DCZ	**Deep Cove**	**5.21**	**221**	PN	**Pn**	**17 46 32.1**	**-0.1**
SYZ	**Scrubby Hill**	**5.31**	**202**	PN	**Pn**	**17 46 33.1**	**-0.5**
ASAR	**Alice Springs**	**36.40**	**288**	P	**P**	**17 52 18.6**	**-0.1**
	0.5nm,1.0s,mb3.4,baz=126,slow=7.3,SNR=15						
WB2	**Warramunga Arr**	**38.50**	**293**	*e*P	**P**	**17 52 37.4**	**+0.8**
WRAB	**Tennant Creek**	**38.51**	**293**	*e*P	**P**	**17 52 37.4**	**+0.7**
WRA	**Warramunga Arr**	**38.51**	**293**	P	**P**	**17 52 36.8**	**0.0**
	0.7nm,0.6s,mb3.6,baz=136,slow=7.0,SNR=19						
QSPA	**South Pole Qui**	**48.48**	**180**	*e*P	**P**	**17 53 57.8**	**+1.4**
	0.8nm,0.4s,mb4.1						
ARCES	**ARCESS Array B**	**147.10**	**339**	PKPbc	PKPbc	18 04 54.5	-1.6
	1.7nm,0.8s,baz=20,slow=2.9,SNR=4.3						
TORD	**Torodi Ar. Bea**	**150.38**	**199**	PKPbc	PKPbc	18 05 02.5	-3.5
	0.2nm,0.3s,baz=148,slow=2.3,SNR=4.2						
FINES	**FINESS Array B**	**151.52**	**326**	PKPbc	PKPbc	18 05 06.9	-0.4
FINES				PKPab	PKPab	18 05 13.3	-2.6
FINES	**FINESS Array B**	**151.52**	**326**	PKPbc	PKPbc	18 05 06.9	-0.4
	0.2nm,0.3s,baz=90,slow=1.9,SNR=4.0						
FINES				PKPab	PKPab	18 05 13.3	-2.6
	0.3nm,0.5s,baz=102,slow=4.7,SNR=3.6						

IDC 13 17:50:39.6±3.8, 2661S×17749W, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.9/11, mbtmp3.8/4, Error ellipse: s-maj=122.1km s-min=39.0km az=144.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.90**	**263**	P	P	17 58 48.4	+0.1
	0.6nm,0.6s,baz=96,slow=6.9,SNR=20						
WRA	**Warramunga Arr**	**44.54**	**268**	P	P	17 58 53.2	-0.3
	0.3nm,0.4s,baz=102,slow=6.4,SNR=16						
MJAR	**Matsushiro Arr**	**75.41**	**324**	P	P	18 02 24.9	-0.3
	1.1nm,0.6s,baz=162,slow=6.4,SNR=6.3						
KSRS	**Korea Array**	**81.78**	**319**	P	P	18 03 00.9	+0.6
	1.0nm,0.7s,baz=129,slow=6.2,SNR=5.5						
NB2	**NORSAR Subarra**	**145.08**	**353**	PKPdf	PKPdf	18 10 17.6	-0.8
	comp=Z,0.3nm,0.5s,baz=16,slow=1.8						
NOA	**NORSAR Array B**	**145.08**	**353**	PKPbc	PKPbc	18 10 17.2	-0.6
	comp=Z,0.5nm,0.5s,baz=6,9,slow=3.6,SNR=4.7						
AKASG	**Malin Array Be**	**148.47**	**327**	PKPbc	PKPbc	18 10 27.1	-0.9
	comp=Z,0.6nm,0.5s,baz=44,slow=4.2,SNR=5.9						

*TRN **13** 17:58:04.8, 1078N×6249W, h13km, MD3.2*
*NEIC **13** 17:58:04.8, 1078N×6249W, h13km, MD3.2(TRN), After TRN.*
*ISCJB **13** 17:58:05.1±0.7, 1037N±006×6248W±003, h23km±7km, Error ellipse: s-maj=10.8km s-min=4.5km az=170.5*
*FUNV **13** 17:58:05.7, 1039N×6247W, h5km, MW2.9*

ISC 13 17:58:04.9±0.7, 1037N±005×6248W±003, h14km±5km, n14, σ1§00/23, 2C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.37**	**43**	↑*i*P	**Pg**	**17 58 12.7**	**+0.2**
GUIV				*e*S	**Sg**	**17 58 18.0**	**+0.5**
GUNV	**Guanoco**	**0.51**	**245**	*e*S	**Sg**	**17 58 23.1**	**+1.4**
TCE	**Chacachacare**	**0.78**	**66**	*e*P	**Pg**	**17 58 18.8**	**-1.3**
TCE				*e*S	**Sg**	**17 58 30.0**	**-0.4**
CRUV	**Carupano**	**0.81**	**292**	*e*P	**Pg**	**17 58 19.8**	**-0.8**
CRUV				*e*S	**Sg**	**17 58 30.3**	**-0.9**
TRN	**Trinidad (W)**	**1.09**	**75**	*e*P	**Pb**	**17 58 25.8**	**+0.2**
TRN				*e*S	**Sb**	**17 58 40.6**	**+0.9**
TRN	**Trinidad (W)**	**1.09**	**75**	*e*	**Pb**	**17 58 24.4**	**-1.2**
TRN	**Trinidad (W)**	**1.09**	**75**	*e*P	**Pb**	**17 58 25.8**	**+0.2**
TRN				*e*S	**Sb**	**17 58 40.6**	**+0.9**
ITEV	**Isla Los Testi**	**1.17**	**327**	↑*e*P	**Pn**	**17 58 26.6**	**-0.3**
ITEV				*e*S	**Sb**	**17 58 42.6**	**+0.7**
TBH	**Brigand Hill**	**1.39**	**85**	*e*P	**Pn**	**17 58 30.9**	**+0.9**
TPR	**Prospect**	**1.85**	**64**	*e*P	**Pn**	**17 58 34.9**	**-1.4**
PCRV	**Puerto La Cruz**	**2.13**	**265**	*e*P	**Pn**	**17 58 41.0**	**+0.8**
CUPV	**Cepira**	**3.27**	**265**	*e*P	**Pn**	**17 58 57.2**	**+1.3**
CUPV				*e*S	**Sn**	**17 59 34.7**	**0.0**
CAOV	**Caicara del Or**	**4.86**	**232**	*e*P	**Pn**	**17 59 17.9**	**+0.3**
CAOV				*e*S	**Sn**	**18 00 11.1**	**-2.7**
BAUV	**El Baul**	**5.67**	**256**	*e*P	**Pn**	**17 59 29.2**	**+0.4**
BAUV				*e*S	**Sn**	**18 00 30.2**	**-3.5**

*IDC **13** 18:00:20.2±1.1, 7.95S×156.11E, h0km, mb4.1/8, mb1 4.2/9, mb1mx4.1/13, mbtmp4.1/9, ML3.8/1, MS3.5/1, Ms1 3.4/1, ms1mx2.8/17, Error ellipse: s-maj=33.6km s-min=20.2km az=100.0*
*NEIC **13** 18:00:21.2±0.6, 790S×156.17E, h10km, mb4.6/5, Error ellipse: s-maj=12.7km s-min=12.2km az=124.0*
*ISCJB **13** 18:00:24.3±0.6, 788S±009×15595E±007, h33km, mb4.1/11, Error ellipse: s-maj=12.5km s-min=9.3km az=17.1*

ISC 13 18:00:26.3±0.6, 790S±009×15591E±007, h35km, n20, σ0§67/20, mb4.1/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.27**	**111**	*e*Pn	**Pn**	**18 01 22.5**	**-6.4**
HNR				Sn	**Sn**	**18 02 17.7**	**+0.1**
HNR	**Honiara**	**4.27**	**111**	Pn	**Pn**	**18 01 22.5**	**-6.4**
	5.8nm,0.3s,baz=254,slow=3.3,SNR=4.2						
HNR				Sn	**Sn**	**18 02 17.7**	**+0.1**
	6.5nm,0.3s,baz=90,slow=18,SNR=3.0						
CTA	**Charters Tower**	**15.31**	**217**	*e*P	**Pn**	**18 04 06.3**	**+6.4**
	7.7nm,0.9s						
CTA	**Charters Tower**	**15.31**	**217**	Pn	**Pn**	**18 04 06.8**	**+6.9**
	0.1nm,0.3s,baz=44,slow=13,SNR=5.6						
EIDS	**Eidsvold**	**17.98**	**194**	*e*P	**Pn**	**18 04 34.0**	**+0.4**
KAKA	**Kakadu**	**23.58**	**256**	*e*P	**P**	**18 05 34.7**	**+0.5**
	30nm,1.0s,mb4.7						
WRAB	**Tennant Creek**	**24.07**	**238**	*e*P	**P**	**18 05 38.5**	**-0.1**
	18nm,0.8s,mb4.5						
WB2	**Warramunga Arr**	**24.07**	**238**	*e*P	**P**	**18 05 38.9**	**+0.3**
WRA	**Warramunga Arr**	**24.08**	**238**	P	**P**	**18 05 39.1**	**+0.3**
	13nm,0.7s,mb4.5,baz=60,slow=9.2,SNR=207						
WRA				PcP	PcP	18 09 19.9	+0.1
	1.7nm,0.7s,baz=62,slow=2.7,SNR=15						
ASAR	**Alice Springs**	**26.29**	**231**	P	**P**	**18 05 58.0**	**-0.8**
	1.7nm,0.9s,mb3.6,baz=67,slow=9.1,SNR=16						
STKA	**Stephens Creek**	**27.33**	**207**	*e*P	**P**	**18 06 06.7**	**-1.3**
	6.4nm,0.7s,mb4.3						
STKA	**Stephens Creek**	**27.33**	**207**	P	**P**	**18 06 07.5**	**-0.6**
	9.2nm,0.8s,mb4.3,baz=12,slow=9.1,SNR=16						
STKA				LR	LR	18 16 00.9	
	comp=Z,102nm,19.3s,baz=25,slow=34						
FITZ	**Fitzroy Crossi**	**31.14**	**248**	*e*P	**P**	**18 06 42.2**	**+0.1**
	6.1nm,0.6s,mb4.6						
MJAR	**Matsushiro Arr**	**47.22**	**341**	P	**P**	**18 08 54.6**	**-1.3**
	1.2nm,0.8s,mb3.9,baz=161,slow=6.9,SNR=4.5						
KSRS	**Korea Array**	**52.16**	**332**	P	**P**	**18 09 34.0**	**+0.5**
	1.1nm,0.6s,mb4.0,baz=146,slow=8.1,SNR=3.5						
SONM	**Songino Array**	**70.58**	**327**	P	**P**	**18 11 39.1**	**+1.2**
	0.9nm,1.0s,mb3.7,baz=134,slow=6.1,SNR=5.2						
MKAR	**Makanchi Array**	**84.68**	**319**	P	**P**	**18 12 56.9**	**+0.3**
	0.7nm,0.6s,mb4.0,baz=95,slow=6.1,SNR=11						
ZALV	**Zalesovo Beam**	**85.43**	**326**	P	**P**	**18 12 59.4**	**-0

APE	**Apeiranthos**	**2.84**	**23**	*e*PN	**Pn**	**18 58 07.2**	**+2.7**
SLUM		**3.07**	**163**	⇑P	**Pn**	**18 58 07.3**	**-0.4**
SLUM				S	**Sn**	**18 58 47.6**	**+3.2**
ITM	**Ithomi**	**3.28**	**327**	*e*PN	**Pn**	**18 58 12.6**	**+2.1**
NAIG	**Nisos Aigina**	**3.35**	**351**	*e*PN	**Pn**	**18 58 13.5**	**+2.0**
PTL	**Penteli**	**3.60**	**356**	*e*PN	**Pn**	**18 58 16.0**	**+1.1**
ARG	**Arkhangelos**	**3.69**	**60**	*e*PN	**Pn**	**18 58 18.8**	**+2.7**
HMAT	**Matruh**	**4.15**	**143**	⇓P	**Pn**	**18 58 22.0**	**-0.5**
LKR	**Lokris**	**4.30**	**348**	P	**Pn**	**18 58 25.4**	**+0.9**
EVR	**Evrytania**	**4.85**	**338**	*e*PN	**Pn**	**18 58 34.8**	**+2.8**
SWA2		**5.30**	**168**	P	**Pn**	**18 58 37.5**	**-0.8**
SWA1		**5.33**	**165**	P	**Pn**	**18 58 39.0**	**+0.3**
SWA1				S	**Sn**	**18 59 41.9**	**+1.7**
ISP	**Isparta**	**6.15**	**55**	⇓*i*P	**Pb**	**18 59 01.1**	**-5.1**
ISP	**Isparta**	**6.15**	**55**	*i*P	**Pn**	**18 58 50.4**	**+0.5**
AWBH		**7.33**	**145**	⇓P	**Pn**	**18 59 06.0**	**-0.1**
TIP	**Timpagrande**	**7.59**	**311**	*e*P	**Pn**	**18 59 08.2**	**-1.4**
	9.0nm,0.8s						
HFRF	**Wahat Farafira**	**8.10**	**153**	⇑*e*P	**Pn**	**18 59 16.7**	**0.0**
VTS	**Vitosha**	**8.17**	**355**	⇓*i*P	**Pb**	**18 59 37.4**	**-3.2**
VAE	**Valguarnera**	**8.47**	**294**	Pn	**Pn**	**18 59 19.5**	**-2.2**
	1.1nm,0.3s,baz=235,slow=15,SNR=2.4						
AMAG	**Maghara**	**8.52**	**114**	⇑*e*P	**Pn**	**18 59 21.0**	**-1.5**
ANTO	**Ankara**	**8.76**	**49**	*e*P	**Pn**	**18 59 27.1**	**+1.4**
ANTO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
ANTO	**Ankara**	**8.76**	**49**	*e*P	**Pn**	**18 59 27.1**	**+1.4**
	comp=Z,7.1nm,0.8s						
ANTO	**Ankara**	**8.76**	**49**	⇑*i*P	**Pn**	**18 59 27.5**	**+1.8**
ANTO	**Ankara**	**8.76**	**49**	*e*P	**Pn**	**18 59 27.1**	**+1.4**
	comp=Z,7.1nm,0.8s						
GRB	**Gharib**	**9.60**	**128**	⇓*e*P	**Pn**	**18 59 36.8**	**-0.5**
HDK1	**Dakhla**	**9.96**	**152**	⇓P	**Pn**	**18 59 43.2**	**+1.0**
EIL	**Elat**	**10.31**	**115**	Pn	**Pn**	**18 59 46.4**	**-0.7**
	comp=Z,0.5nm,0.3s,baz=339,slow=15,SNR=6.7						
GTR	**Jabal at Tayr**	**10.49**	**146**	⇑P	**Pn**	**18 59 48.8**	**-0.6**
HDHB	**Dhahab**	**10.58**	**120**	⇑P	**Pn**	**18 59 50.0**	**-0.7**
HHRG	**Al Ghardaqah**	**10.82**	**129**	⇓*e*P	**Pn**	**18 59 54.0**	**0.0**
ASF	**Jabal al Asfar**	**10.89**	**98**	Pn	**Pn**	**18 59 54.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=142,slow=7.5,SNR=4.2						
MLR	**Muntele Rosu**	**11.12**	**7**	⇓*i*P	**Pn**	**19 00 03.9**	**+5.9**
MALT	**Malatya**	**12.12**	**67**	⇓*i*P	**Pn**	**19 00 10.1**	**-1.7**
PKSM	**Moragy**	**12.48**	**342**	⇓P	**Pn**	**19 00 13.5**	**-3.1**
PKSM	**Moragy**	**12.48**	**342**	⇓*i*P	**Pn**	**19 00 13.4**	**-3.2**
STHS	**Stebnicka Huta**	**15.12**	**353**	*e*P	**Pn**	**19 00 57.3**	**+4.8**
SOC	**Sochi**	**15.12**	**48**	*e*P	**Pn**	**19 00 53.3**	**+0.6**
SOC				*e*		19 03 43.2	
SOC				pmax	pmax		
	comp=Z,15nm,0.8s						
SOC				MLR	MLR		
	comp=Z,67nm,10.0s						
SOC	**Sochi**	**15.12**	**48**	*e*P	**Pn**	**19 00 53.3**	**+0.6**
	comp=Z,15nm,0.8s						
TREC	**Trest**	**16.17**	**339**	*e*P	**Pn**	**19 01 09.8**	**+3.6**
GEC2	**GERESS Array S**	**16.35**	**335**	*e*P	**Pn**	**19 01 10.5**	**+1.9**
GERES	**GERESS Array B**	**16.35**	**335**	Pn	**Pn**	**19 01 09.6**	**+1.0**
	comp=Z,0.1nm,0.3s,baz=152,slow=9.0,SNR=15						
DAVOX	**Davos/Dischmat**	**16.38**	**323**	Pn	**Pn**	**19 01 06.7**	**-2.3**
	comp=Z,0.3nm,0.3s,baz=340,slow=1.6,SNR=3.7						
KHC	**Kasperske Hory**	**16.64**	**335**	⇑*e*P	**Pn**	**19 01 14.5**	**+2.3**
KHC	**Kasperske Hory**	**16.64**	**335**	*e*P	**Pn**	**19 01 14.0**	**+1.8**
KHC				AMS	AMS	19 09 00.0	
	comp=Z,200nm,12.8s						
KIEV	**Kiev**	**16.65**	**11**	*e*P	**Pn**	**19 01 09.1**	**-3.3**
KIEV				pmax	pmax		
	comp=Z,4.0nm,0.8s						
KIEV	**Kiev**	**16.65**	**11**	*e*Pn	**Pn**	**19 01 09.1**	**-3.2**
	comp=Z,4.3nm,0.8s						
KIEV	**Kiev**	**16.65**	**11**	*e*Pn	**Pn**	**19 01 09.1**	**-3.3**
	comp=Z,4.3nm,0.8s						
AKASG	**Malin Array Be**	**16.66**	**11**	*i*P	**Pn**	**19 01 12.8**	**+0.3**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.9s						
AKASG	**Malin Array Be**	**16.66**	**11**	Pn	**Pn**	**19 01 10.7**	**-1.8**
	comp=Z,0.3nm,0.3s,baz=205,slow=10,SNR=4.8						
AKASG	**Malin Array Be**	**16.66**	**11**	*i*P	**Pn**	**19 01 12.8**	**+0.3**
	comp=Z,5.0nm,0.9s						
DPC	**Dobruska-Polom**	**16.90**	**342**	*e*P	**Pn**	**19 01 19.2**	**+3.7**
DPC				AMS	AMS	19 08 50.0	
PRU	**Pruhonice**	**17.07**	**338**	*e*P	**Pn**	**19 01 18.8**	**+1.2**
PRU				AMS	AMS	19 08 30.0	
	comp=Z,200nm,15.5s						
KIV	**Kislovodsk**	**17.18**	**51**	*e*P	**Pn**	**19 01 21.0**	**+1.9**
KIV				*e*S	**Sn**	**19 04 34.1**	**+4.0**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,52nm,13.0s						
KIV	**Kislovodsk**	**17.18**	**51**	*e*P	**Pn**	**19 01 21.6**	**+2.6**
	comp=Z,8.2nm,1.1s						
KIV	**Kislovodsk**	**17.18**	**51**	⇑*i*P	**Pn**	**19 01 22.3**	**+3.2**
KIV	**Kislovodsk**	**17.18**	**51**	*e*P	**Pn**	**19 01 21.0**	**+1.9**
	comp=Z,8.0nm,1.1s						
PVCC	**Panska Ves**	**17.54**	**339**	*e*P	**Pn**	**19 01 22.9**	**-0.6**
PVCC				AMS	AMS	19 09 10.0	
	comp=Z,300nm,5.4s						
NKC	**Novy Kostel**	**17.96**	**335**	AMS	AMS	19 09 40.0	
	comp=Z,300nm,6.2s						
BRG	**Berggiesshubel**	**18.03**	**339**	P	**Pn**	**19 01 25.8**	**-3.7**
BRG				pmax	pmax		
	comp=Z,2.0nm,1.2s						
BRG	**Berggiesshubel**	**18.03**	**339**	*e*(P)	**Pn**	**19 01 25.8**	**-3.7**
	comp=Z,3.0nm,1.2s						
MOX	**Moxa**	**18.60**	**334**	*e*P	**Pn**	**19 01 39.9**	**+3.4**
CLL	**Collm**	**18.70**	**338**	*e*P	**Pn**	**19 01 37.0**	**-0.7**
CLL				pmax	pmax		
	comp=Z,4.0nm,0.9s						
CLL	**Collm**	**18.70**	**338**	*e*P	**Pn**	**19 01 37.0**	**-0.7**
	comp=Z,4.0nm,0.9s						
CLL				*i*		19 01 42.9	
SUW	**Suwalki**	**19.58**	**358**	*e*P	**Pn**	**19 01 45.9**	**-2.3**
SUW	**Suwalki**	**19.58**	**358**	*e*P	**Pn**	**19 01 45.9**	**-2.3**
WLF	**Walferdange**	**20.17**	**324**	P	**P**	**19 01 55.8**	**+2.3**
WLF				pmax	pmax		
	comp=Z,17nm,1.0s						
WLF	**Walferdange**	**20.17**	**324**	P	**P**	**19 01 55.8**	**+2.3**
	comp=Z,17nm,1.0s						
WLF	**Walferdange**	**20.17**	**324**	P	**P**	**19 01 55.8**	**+2.3**
	comp=Z,17nm,1.0s						
OBN	**Obninsk**	**22.40**	**19**	*e*P	**P**	**19 02 19.7**	**+2.3**
OBN				*e*		19 02 42.7	
OBN				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb3.8						
OBN	**Obninsk**	**22.40**	**19**	*e*P	**P**	**19 02 19.7**	**+2.3**
	comp=Z,5.0nm,1.3s,mb3.8						
ESDC	**Sonseca Array**	**23.00**	**291**	P	**P**	**19 02 24.5**	**+0.6**
	comp=Z,1.6nm,0.7s,mb3.6,baz=88,slow=9.4,SNR=10						
MDT	**Midelt**	**23.99**	**274**	P	**P**	**19 02 34.3**	**+0.5**
	comp=Z,2.7nm,0.8s,mb3.7,baz=244,slow=13,SNR=5.3						
HFS	**Hagfors**	**26.60**	**348**	P	**P**	**19 02 55.5**	**-1.7**
HFS				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HFS	**Hagfors**	**26.60**	**348**	P	**P**	**19 02 55.5**	**-1.6**
	comp=Z,4.5nm,0.7s,mb4.1,baz=169,slow=16,SNR=8.3						
FINES	**FINESS Array B**	**27.04**	**2**	P	**P**	**19 02 59.7**	**-1.5**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**27.04**	**2**	P	**P**	**19 02 59.7**	**-1.5**
FINES	**FINESS Array B**	**27.04**	**2**	P	**P**	**19 02 59.7**	**-1.5**
	comp=Z,1.9nm,0.9s,mb3.6,baz=133,slow=13,SNR=6.2						
NB2	**NORSAR Subarra**	**27.89**	**347**	P	**P**	**19 03 06.5**	**-2.3**
	comp=Z,2.2nm,0.8s,mb3.8,baz=157,slow=9.3						
NOA	**NORSAR Array B**	**27.89**	**347**	P	**P**	**19 03 07.2**	**-1.6**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**27.89**	**347**	P	**P**	**19 03 07.2**	**-1.6**
	comp=Z,1.4nm,0.6s,mb3.8,baz=152,slow=11,SNR=12						
EKA	**Eskdalemuir Ar**	**28.16**	**326**	P	**P**	**19 03 10.4**	**-0.9**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
EKA	**Eskdalemuir Ar**	**28.16**	**326**	P	**P**	**19 03 10.4**	**-0.9**
	comp=Z,0.9nm,0.7s,mb3.5,baz=178,slow=25,SNR=3.3						
AKTK	**Aktyubinsk**	**29.34**	**47**	P	**P**	**19 03 20.6**	**-1.1**
AKTK	**Aktyubinsk**	**29.34**	**47**	P	**P**	**19 03 20.7**	**-1.1**
	comp=Z,1.0nm,0.4s,mb3.9						
AKTO	**Aktyubinsk**	**29.34**	**47**	P	**P**	**19 03 20.7**	**-1.1**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.9						
AKTO	**Aktyubinsk**	**29.34**	**47**	P	**P**	**19 03 20.6**	**-1.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=254,slow=10,SNR=5.7						
TOA0	**Torodi Ar. Sit**	**29.40**	**229**	*e*P	**P**	**19 03 22.8**	**+0.1**
TOA0	**Torodi Ar. Sit**	**29.40**	**229**	*e*P	**P**	**19 03 22.8**	**+0.1**
TORD	**Torodi Ar. Bea**	**29.40**	**229**	P	**P**	**19 03 22.8**	**+0.1**
TORD				LR	LR	19 16 24.9	
TORD	**Torodi Ar. Bea**	**29.40**	**229**	P	**P**	**19 03 22.8**	**+0.1**
	comp=Z,1.9nm,0.7s,mb4.0,baz=39,slow=8.6,SNR=16						
TORD				LR	LR	19 16 24.9	
	comp=Z,106nm,21.7s,MS3.4,baz=50,slow=39						
ARU	**Arti**	**32.11**	**36**	*d i*P	**P**	**19 03 45.7**	**-0.5**
ARU				*e*		19 04 50.9	
ARU				*e*PPP		19 05 03.7	
ARU				*e*		19 06 34.8	
ARU				*e*S	**S**	**19 08 59.0**	**+0.7**
ARU				*e*SS	SS	19 10 49.4	-27
ARU				pmax	pmax		
	comp=Z,10.0nm,1.6s,mb4.4						
ARU	**Arti**	**32.11**	**36**	*i* P	**P**	**19 03 45.7**	**-0.5**
	comp=Z,10.0nm,1.6s,mb4.4						
ARU	**Arti**	**32.11**	**36**	*e*PcP	PcP	19 06 34.8	-0.4
ARCES	**ARCESS Array B**	**35.15**	**1**	P	**P**	**19 04 13.5**	**+1.0**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**35.15**	**1**	P	**P**	**19 04 13.4**	**+1.0**
	comp=Z,2.6nm,0.9s,mb4.2,baz=81,slow=7.5,SNR=4.7						
ARCES	**ARCESS Array B**	**35.15**	**1**	P	**P**	**19 04 13.4**	**+0.9**
DBIC	**Dimbokro**	**38.48**	**231**	P	**P**	**19 04 40.9**	**-0.6**
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.9s						
DBIC				MLR	MLR		
	comp=Z,55nm,19.6s						
DBIC	**Dimbokro**	**38.48**	**231**	P	**P**	**19 04 40.9**	**-0.5**
DBIC				LR	LR	19 22 22.7	
DBIC	**Dimbokro**	**38.48**	**231**	P	**P**	**19 04 40.9**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.0,baz=50,slow=8.0,SNR=4.0						
DBIC				LR	LR	19 22 22.7	
	comp=Z,55nm,19.6s,MS3.4,baz=57,slow=39						
KURK	**Kurchatov**	**42.27**	**50**	*i* P	**P**	**19 05 11.4**	**-1.0**
MK31	**Makanchi Array**	**44.85**	**56**	*e*P	**P**	**19 05 32.9**	**-0.4**
MKAR	**Makanchi Array**	**44.85**	**56**	*i* P	**P**	**19 05 32.9**	**-0.4**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**44.85**	**56**	P	**P**	**19 05 32.9**	**-0.4**
	comp=Z,1.4nm,0.6s,mb4.0,baz=272,slow=7.9,SNR=23						
NVS	**Novosibirsk**	**45.17**	**44**	*e*P	**P**	**19 05 35.8**	**+0.1**
ZAL	**Zalesovo**	**46.08**	**46**	P	**P**	**19 05 43.1**	**+0.2**
ZALV	**Zalesovo Beam**	**46.09**	**46**	P	**P**	**19 05 43.1**	**+0.1**
	comp=Z,2.2nm,0.8s,mb5.1						
DANN	**Dangsing**	**50.61**	**80**	*e*P	**P**	**19 06 18.8**	**+0.6**
	comp=Z,0.7nm,0.3s,mb4.0,baz=270,slow=7.4,SNR=5.3						
KOLN	**Koldanda**	**50.70**	**80**	*e*P	**P**	**19 06 18.7**	**-0.3**
	comp=Z,3.0nm,0.5s,mb4.5						
GKN	**Gorkha**	**51.45**	**80**	*e*P	**P**	**19 06 24.3**	**-0.3**
	comp=Z,8.3nm,0.7s,mb4.8						
DMN	**Daman**	**51.99**	**80**	*e*P	**P**	**19 06 28.8**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9						
KKN	**Kakani**	**52.06**	**80**	*e*P	**P**	**19 06 28.8**	**-0.3**
	comp=Z,9.3nm,0.8s,mb4.8						
PKI	**Pulchoki**	**52.25**	**80**	*e*P	**P**	**19 06 30.5**	**-0.1**
GUN	**Gumba**	**52.50**	**79**	*e*P	**P**	**19 06 32.6**	**+0.2**
JIRN	**Jiri**	**52.85**	**79**	*e*P	**P**	**19 06 35.1**	**+0.1**
	comp=Z,14nm,1.0s,mb4.9						
SONM	**Songino Array**	**60.57**	**50**	P	**P**	**19 07 31.0**	**+1.4**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,60nm,18.3s						
SONM	**Songino Array**	**60.57**	**50**	P	**P**	**19 07 31.0**	**+1.5**
	comp=Z,0.7nm,0.7s,mb3.9,baz=277,slow=8.6,SNR=4.6						
SONM				LR	LR	19 36 16.2	
	comp=Z,60nm,18.3s,MS3.8,baz=72,slow=39						
YKA	**Yellowknife Ar**	**77.87**	**342**	*i* P	**P**	**19 09 15.8**	**-0.7**
YKA	**Yellowknife Ar**	**77.87**	**342**	P	**P**	**19 09 15.9**	**-0.6**
YKA	**Yellowknife Ar**	**77.87**	**342**	P	**P**	**19 09 15.9**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=34,slow=4.5,SNR=4.7						
YKA	**Yellowknife Ar**	**77.87**	**342**	P	**P**	**19 09 15.9**	**-0.6**
KSRS	**Korea Array**	**79.37**	**52**	LR	LR	19 52 10.1	
	comp=Z,56nm,18.4s,MS3.9,baz=338,slow=42						
BDFB	**Brasilia**	**84.67**	**247**	LR	LR	19 46 00.2	
	comp=Z,37nm,18.5s,MS3.8,baz=10,slow=34						

*CSEM **13** 19:04:59.8±1.1, 3684N×2429W, h10km, ML3.3, Error ellipse: s-maj=9.8km s-min=5.8km az=50.0, After PDA*

PDA 13 19:04:59.8±1.1, 3684N×2429W, h10km, MD3.9, ML3.3, Error ellipse: s-maj=9.8km s-min=5.8km az=50.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.64**	**285**	*e*P	Pg	19 05 09.7	-2.5
PSMN				*e*S	Sg	19 05 18.3	-2.3
CMLA	**Cha da Macela**	**1.35**	**313**	*e*P	Pn	19 05 19.8	-4.8
CMLA				*e*S	Sb	19 05 35.2	-7.2
CMLA				A		19 05 37.3	
	190nm,0.3s						
CMLA	**Cha da Macela**	**1.35**	**313**	*e*P	Pn	19 05 19.8	-4.8
CMLA				*e*S	Sb	19 05 35.2	-7.2
PDA	**Ponta Delgada**	**1.42**	**310**	*e*P	Pn	19 05 20.8	-4.8
PDA				*e*S	Sn	19 05 37.1	-7.3
PSET	**Sete Cidades**	**1.50**	**311**	*e*P	Pn	19 05 22.0	-4.8
PSET				*e*S	Sn	19 05 39.2	-7.2
PSET				A		19 05 43.3	
	250nm,0.4s						
PSET	**Sete Cidades**	**1.50**	**311**	*e*P	Pn	19 05 22.0	-4.8
PSET				*e*S	Sn	19 05 39.2	-7.2
PSCM	**Serra do Cume**	**2.91**	**310**	*e*P	Pn	19 05 42.1	-4.0
PSCM				*e*S	Sn	19 06 13.4	-7.7
PSCM				A		19 06 17.7	
	58nm,0.3s						
PSCM	**Serra do Cume**	**2.91**	**310**	*e*P	Pn	19 05 42.1	-4.0
PSCM				*e*S	Sn	19 06 13.4	-7.7
ADH	**Angra Heroismo**	**2.95**	**309**	*e*P	Pn	19 05 42.9	-3.8
ADH				*e*S	Sn	19 06 13.9	-8.3
PMAN	**Manadas**	**3.50**	**302**	*e*P	Pn	19 05 50.1	-4.2
PMAN				*e*S	Sn	19 06 27.7	-8.0
PMAN				A		19 06 28.0	
	27nm,0.4s						
PMAN	**Manadas**	**3.50**	**302**	*e*P	Pn	19 05 50.1	-4.2
PMAN				*e*S	Sn	19 06 27.7	-8.0
ROSA	**Rosais**	**3.65**	**302**	*e*P	Pn	19 05 52.3	-4.0
ROSA				*e*S	Sn	19 06 30.9	-8.5
PICO	**Pico**	**3.67**	**298**	*e*P	Pn	19 05 53.0	-3.7
PICO				*e*S	Sn	19 06 31.9	-8.1
CALA	**Caldeira**	**3.91**	**298**	*e*P	Pn	19 05 55.7	-4.1
CALA				*e*S	Sn	19 06 37.3	-8.4

*NEIC **13** 19:36:22.7, 39.16S×17788E, h49km, ML3.7(WEL), After WEL.*

WEL 13 19:36:22.7±0.2, 3916S×17788E, h49km±2km, ML3.7/16, Error ellipse: s-maj=2.7km s-min=1.5km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.21**	**311**	P	Pn	19 36 31.2	+0.1
KNZ				S	Sn	19 36 37.0	+0.1
KNZ	**Kokohu**	**0.21**	**311**	PN	Pn	19 36 31.2	+0.2
KNZ				SN	Sn	19 36 37.0	+0.1
MWZ	**Matawai**	**0.87**	**341**	P	Pn	19 36 38.5	-0.2
MWZ				S	Sn	19 36 49.4	-0.9
MWZ	**Matawai**	**0.87**	**341**	PN	Pn	19 36 38.5	-0.2
MWZ				SN	Sn	19 36 49.4	-0.9
BKZ	**Black Stump Fm**	**1.08**	**269**	P	Pn	19 36 41.2	-0.3
BKZ				S	Sn	19 36 54.4	-1.0
BKZ	**Black Stump Fm**	**1.08**	**269**	PN	Pn	19 36 41.2	-0.2
BKZ				SN	Sn	19 36 54.4	-1.0
URZ	**Urewera**	**1.08**	**326**	P	Pn	19 36 41.2	-0.4
URZ	**Urewera**	**1.08**	**326**	PN	Pn	19 36 41.2	-0.4
PUZ	**Puketiti**	**1.13**	**15**	P	Pn	19 36 42.1	0.0
PUZ	**Puketiti**	**1.13**	**15**	PN	Pn	19 36 42.1	0.0
PXZ	**Pawanui**	**1.17**	**222**	PN	Pn	19 36 41.8	-0.9
WPHZ	**Waipukurau**	**1.43**	**231**	PN	Pn	19 36 45.6	-0.6
MXZ	**Matakaoa Point**	**1.63**	**12**	P	Pn	19 36 49.0	0.0
MXZ	**Matakaoa Point**	**1.63**	**12**	PN	Pn	19 36 49.0	+0.1
MOVZ	**Moawhango**	**1.67**	**261**	P	Pn	19 36 49.7	+0.2
MOVZ	**Moawhango**	**1.67**	**261**	PN	Pn	19 36 49.7	+0.2
KATZ	**Kakaramea**	**1.71**	**276**	P	Pn	19 36 50.2	+0.1
KATZ	**Kakaramea**	**1.71**	**276**	PN	Pn	19 36 50.2	+0.1
TSZ	**Takapari Road**	**1.73**	**238**	P	Pn	19 36 49.5	-0.9
TSZ	**Takapari Road**	**1.73**	**238**	PN	Pn	19 36 49.5	-0.9
TUVZ	**Tukino**	**1.73**	**266**	P	Pn	19 36 50.6	+0.2
TUVZ	**Tukino**	**1.73**	**266**	PN	Pn	19 36 50.6	+0.2
KRVZ	**Karewarewa**	**1.74**	**271**	PN	Pn	19 36 50.4	-0.1
NGZ	**Ngauruhoe**	**1.77**	**269**	P	Pn	19 36 50.9	0.0
NGZ	**Ngauruhoe**	**1.77**	**269**	PN	Pn	19 36 50.9	0.0
WNVZ	**Wahianoa**	**1.78**	**264**	P	Pn	19 36 51.1	+0.1
WNVZ	**Wahianoa**	**1.78**	**264**	PN	Pn	19 36 51.1	+0.1
WTVZ	**West Tongariro**	**1.78**	**271**	PN	Pn	19 36 51.2	+0.1
FWVZ	**Far West T-bar**	**1.81**	**266**	P	Pn	19 36 51.4	-0.1
FWVZ	**Far West T-bar**	**1.81**	**266**	PN	Pn	19 36 51.4	0.0
WPVZ	**Whakapapa**	**1.82**	**268**	P	Pn	19 36 51.4	-0.1
WPVZ	**Whakapapa**	**1.82**	**268**	PN	Pn	19 36 51.4	-0.1
MTVZ	**Mangateitei**	**1.89**	**262**	PN	Pn	19 36 52.4	-0.1
TWVZ	**Taurewa**	**1.90**	**272**	P	Pn	19 36 52.3	-0.4
TWVZ	**Taurewa**	**1.90**	**272**	PN	Pn	19 36 52.3	-0.4
BFZ	**Birch Farm**	**1.97**	**219**	P	Pn	19 36 51.9	-1.7
BFZ	**Birch Farm**	**1.97**	**219**	PN	Pn	19 36 51.9	-1.7
PKVZ	**Pokaka**	**1.97**	**265**	PN	Pn	19 36 53.6	-0.1
TIWZ	**Tintock**	**2.23**	**223**	PN	Pn	19 36 55.7	-1.4
MRZ	**Mangatainoka R**	**2.32**	**229**	P	Pn	19 36 57.0	-1.4
MRZ	**Mangatainoka R**	**2.32**	**229**	PN	Pn	19 36 57.0	-1.4
HOWZ	**Holdsworth Sta**	**2.51**	**226**	PN	Pn	19 36 56.2	-4.8
MTW	**Mount Morrison**	**2.70**	**222**	P	Pn	19 37 01.1	-2.6
MTW	**Mount Morrison**	**2.70**	**222**	PN	Pn	19 37 01.1	-2.6
TRWZ	**Traveller**	**2.79**	**216**	PN	Pn	19 37 02.1	-2.8
KIW	**Kapiti Island**	**2.84**	**232**	P	Pn	19 37 03.9	-1.7
KIW	**Kapiti Island**	**2.84**	**232**	PN	Pn	19 37 03.9	-1.7
CAW	**Cannon Point**	**2.90**	**227**	P	Pn	19 37 02.4	-4.0
CAW	**Cannon Point**	**2.90**	**227**	PN	Pn	19 37 02.4	-4.0
PAWZ	**Paruwai Farm**	**2.91**	**219**	P	Pn	19 37 03.7	-2.8
PAWZ	**Paruwai Farm**	**2.91**	**219**	PN	Pn	19 37 03.7	-2.7
MSWZ	**Moikau Station**	**3.02**	**221**	P	Pn	19 37 05.3	-2.7
MSWZ	**Moikau Station**	**3.02**	**221**	PN	Pn	19 37 05.3	-2.7
MRW	**Makara Radio**	**3.19**	**229**	P	Pn	19 37 08.0	-2.4
MRW	**Makara Radio**	**3.19**	**229**	PN	Pn	19 37 08.0	-2.4
TCW	**Tory Channel**	**3.44**	**232**	P	Pn	19 37 11.1	-2.7
TCW	**Tory Channel**	**3.44**	**232**	PN	Pn	19 37 11.1	-2.7
QRZ	**Quartz Range**	**4.43**	**246**	P	Pn	19 37 24.4	-3.0
QRZ	**Quartz Range**	**4.43**	**246**	PN	Pn	19 37 24.4	-3.1
THZ	**Tophouse**	**4.60**	**234**	P	Pn	19 37 26.7	-3.0
THZ	**Tophouse**	**4.60**	**234**	PN	Pn	19 37 26.7	-2.9
LTZ	**Lake Taylor**	**5.58**	**228**	P	Pn	19 37 40.0	-3.1
LTZ	**Lake Taylor**	**5.58**	**228**	PN	Pn	19 37 40.0	-3.1

*ISCJB **13** 19:36:24.1±0.9, 3748N×004×142.21E±006, h16km, mb3.6/2, Error ellipse: s-maj=7.3km s-min=6.1km az=3.3*
*JMA **13** 19:36:26.0±0.2, 3748N×142.12E, h31km±4km, M3.4*
*IDC **13** 19:36:30.5±9.8, 37.10N×142.40E, h38km±69km, mb3.2/2, mb1 3.5/4, mb1mx3.1/21, mbtmp3.4/4, ML3.1/2, Error ellipse: s-maj=82.0km s-min=50.4km az=57.0*

ISC 13 19:36:25.7±2.1, 3751N±004×14209E±007, h16km±14km, n13, σ0°78/22, mb3.6/2, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JFK	**Kawauchi**	**0.98**	**262**	P	**Pb**	**19 36 44.0**	**-0.2**
JFK				*e*S	**Sb**	**19 36 56.5**	**-0.3**
JMM	**Marumori**	**1.09**	**290**	P	**Pb**	**19 36 45.9**	**-0.2**
JMM				*e*S	**Sb**	**19 36 59.8**	**-0.3**
ONAJ	**Iwakimizuishiy**	**1.10**	**249**	*e*S	**Sb**	**19 36 59.7**	**-0.8**
JIO	**Ouri**	**1.11**	**329**	P	**Pb**

WRA	Warramunga Arr	102.74	163	P	Pdif	20 47 13.0	+0.2
	0.8nm,1.1s,baz=202,slow=6.1,SNR=3.2						
FINES	FINESS Array B	124.52	28	PKP	PKPdf	20 52 11.6	-0.8
	0.3nm,0.5s,baz=211,slow=2.0,SNR=4.0						
ARCES	ARCESS Array B	131.06	22	PKP	PKPdf	20 52 24.4	-0.3
ARCES	ARCESS Array B	131.06	22	PKP	PKPdf	20 52 24.4	-0.3
	1.9nm,0.8s,baz=211,slow=2.1,SNR=3.7						
YKA	Yellowknife Ar	136.04	318	PKP	PKPdf	20 52 34.0	-0.2
YKA	Yellowknife Ar	136.04	318	PKP	PKPdf	20 52 34.0	-0.2
	0.5nm,0.5s,baz=124,slow=2.3,SNR=7.3						
MKAR	Makanchi Array	137.12	72	PKP	PKPdf	20 52 37.8	+1.0
	0.1nm,0.2s,baz=235,slow=1.0,SNR=2.9						
ZALV	Zalesovo Beam	142.60	64	PKhKP		20 52 41.5	
	0.6nm,0.4s,baz=206,slow=3.5,SNR=3.1						
INK	Inuvik	145.68	321	ePKPdf	PKPdf	20 52 51.6	+0.2
DAWY	Dawson	146.64	312	ePKPbc	PKPbc	20 52 54.8	-0.2
SONM	Songino Array	150.96	87	PKPbc	PKPbc	20 53 06.5	0.0
	4.5nm,0.5s,baz=218,slow=2.2,SNR=7.4						

*CSEM **13** 21:03:44.1, 3483N×2405E, h5km, MD3.6/6, After ATH*

ATH 13 21:03:44.1, 3483N×2405E, h5km±1km, MD3.6/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.03	74	ePG	Pg	21 03 44.5	-0.7
VAM	Vamos	0.59	12	ePB	Pg	21 03 55.9	+0.5
NPS	Neapolis	1.35	71	ePB	Pb	21 04 09.6	-0.3
XRY	Khrisi	1.35	88	ePB	Pb	21 04 10.0	+0.1
VLI	Veliai	2.09	335	ePN	Pn	21 04 22.6	+2.8
KARP	Karpathos	2.65	73	ePN	Pn	21 04 30.5	+3.1

IDC 13 21:05:06.4±5.6, 476S×15372E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.6/12, mbtmp3.5/3, Error ellipse: s-maj=171.2km s-min=36.7km az=108.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	24.16	230	eP	P	21 10 25.1	+0.7
WRA	Warramunga Arr	24.16	230	P	P	21 10 25.3	+0.8
	2.1nm,0.7s,baz=55,slow=9.6,SNR=31						
ASAR	Alice Springs	26.80	224	P	P	21 10 47.8	-0.6
	0.2nm,0.3s,baz=57,slow=9.7,SNR=4.2						
FITZ	Fitzroy Crossi	30.49	242	eP	P	21 11 22.3	+1.0
	2.0nm,0.6s						
MKAR	Makanchi Array	80.90	319	P	P	21 17 22.5	0.0
	0.1nm,0.2s,baz=123,slow=5.3,SNR=3.6						

*ISCJB **13** 21:06:46.1±0.8, 3438N±008×24.17E±007, h10km, mb3.5/6, Error ellipse: s-maj=11.8km s-min=8.5km az=15.2*

*IDC **13** 21:06:46.7±1.2, 3444N×2403E, h0km, mb3.6/6, mb1 3.6/10, mb1mx3.5/26, mbtmp3.5/10, ML3.5/4, Error ellipse: s-maj=23.2km s-min=12.3km az=141.0*

*ATH **13** 21:06:47.5, 3463N×2415E, h5km, MD3.5/6*

*CSEM **13** 21:06:47.5, 3463N×2415E, h5km, MD3.5/6, After ATH*

ISC 13 21:06:48.1±0.8, 3454N±008×2416E±007, h10km, n18, σ1°35/18, mb3.5/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.30	349	ePG	Pg	21 06 51.5	-2.7
VAM	Vamos	0.86	2	ePB	Pg	21 07 03.2	-1.6
IDI	Anoyia	0.96	39	Pg	Pg	21 07 09.0	+2.5
	10.0nm,0.3s,baz=201,slow=16,SNR=27						
IDI				Lg		21 07 23.1	
	23nm,0.3s,baz=294,slow=20,SNR=8.3						
XRY	Khrisi	1.31	75	ePB	Pb	21 07 12.0	-0.8
NPS	Neapolis	1.40	59	ePB	Pb	21 07 13.3	-1.0
KYTH	Kithira	1.96	333	ePN	Pb	21 07 24.0	+0.1
VLI	Veliai	2.39	336	ePN	Pn	21 07 28.6	+1.3
MMAI	Mount Meron Ar	9.49	96	Pn	Pn	21 09 04.1	-0.7
	0.2nm,0.3s,baz=282,slow=14,SNR=3.5						
ASF	Jabal al Asfar	10.92	99	Pn	Pn	21 09 23.8	-0.6
	0.2nm,0.3s,baz=254,slow=7.4,SNR=2.4						
GERES	GERESS Array B	16.26	335	Pn	Pn	21 10 40.8	+4.3
	0.1nm,0.3s,baz=165,slow=8.7,SNR=6.4						
AKASG	Malin Array Be	16.57	11	Pn	Pn	21 10 42.5	+2.1
	0.4nm,0.3s,baz=205,slow=10,SNR=4.5						
ESDC	Sonseca Array	22.95	291	P	P	21 11 52.5	-0.1
	0.4nm,0.5s,mb3.1,baz=104,slow=11,SNR=4.4						
HFS	Hagfors	26.50	348	P	P	21 12 24.5	-0.9
	0.7nm,0.5s,mb3.5,baz=140,slow=9.5,SNR=7.1						
NB2	NORSAR Subarra	27.80	346	P	P	21 12 35.3	-1.7
	comp=Z,0.8nm,0.8s,mb3.4,baz=162,slow=9.3						
NOA	NORSAR Array B	27.80	346	P	P	21 12 36.1	-0.9
	comp=Z,0.4nm,0.5s,mb3.3,baz=153,slow=8.6,SNR=3.3						
TORD	Torodi Ar. Bea	29.46	229	P	P	21 12 52.2	0.0
	comp=Z,0.9nm,0.6s,mb3.6,baz=41,slow=6.4,SNR=10						
MKAR	Makanchi Array	44.80	56	P	P	21 15 03.9	+1.9
	comp=Z,0.2nm,0.3s,mb3.5,baz=282,slow=6.4,SNR=4.3						
ZALV	Zalesovo Beam	46.03	46	P	P	21 15 13.1	+1.5
	comp=Z,0.7nm,0.5s,mb3.9,baz=276,slow=9.3,SNR=2.8						

*IDC **13** 21:31:19.0±1.1, 976N×12679E, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.8/19, mbtmp3.8/8, Error ellipse: s-maj=66.9km s-min=19.2km az=76.0*

*ISCJB **13** 21:31:25.1±1.4, 966N±005×12668E±009, h59km±15km, mb3.6/7, Error ellipse: s-maj=14.6km s-min=8.7km az=3.7*

*MAN **13** 21:31:25, 969N×12661E, h56km, mb4.7, ML3.6, MS3.6*

ISC 13 21:31:26.3±1.4, 966N±005×12667E±009, h54km±15km, n17, σ0°67/22, mb3.6/7, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	Maasin	1.85	285	eP	Pn	21 31 55.3	-0.4
MSLP				eS	Sn	21 32 18.6	+0.6
BESP	Borongan	2.28	328	eP	Pn	21 32 02.0	+0.4
CGP	Cagayan de Oro	2.29	239	⇓eP	Pn	21 32 01.1	-0.6
CGP				eS	Sn	21 32 28.6	-0.1
LLP	Lapu-Lapu	2.75	284	⇑eP	Pn	21 32 08.6	+0.7
LLP				eS	Sn	21 32 39.2	-0.7
TBP	Tagbilaran	2.77	271	eP	Pn	21 32 08.2	-0.1
TBP				eS	Sn	21 32 41.1	+0.5
CNP	Cataman	3.46	325	eP	Pn	21 32 17.1	-0.6
CNP				eS	Sn	21 32 55.9	-1.4
PAGZ	Pagadian	3.72	241	eP	Pn	21 32 21.5	+0.2
RCP	Roxas	4.30	296	⇓eP	Pn	21 32 30.1	+0.8
PVCP	Virac	4.63	328	eP	Pn	21 32 34.8	+1.0
BATI	Kupang	19.96	189	P	Pn	21 35 55.0	-1.2
	12nm,0.4s,baz=28,slow=2.6,SNR=6.2						
FITZ	Fitzroy Crossi	27.60	182	P	P	21 37 09.5	+0.8
	0.8nm,0.5s,mb3.6,baz=29,slow=17,SNR=5.7						
WRA	Warramunga Arr	30.36	166	P	P	21 37 32.3	-0.9
	0.2nm,0.5s,mb3.1,baz=343,slow=8.7,SNR=3.3						
ASAR	Alice Springs	33.86	168	P	P	21 38 04.2	+0.4
	0.2nm,0.4s,mb3.4,baz=357,slow=7.5,SNR=5.1						
STKA	Stephens Creek	43.70	162	P	P	21 39 26.6	+0.5
	1.0nm,0.6s,mb3.8,baz=327,slow=14,SNR=4.2						
MKAR	Makanchi Array	52.75	323	P	P	21 40 35.6	-0.2
	0.3nm,0.5s,mb3.4,baz=133,slow=6.7,SNR=3.0						
FINES	FINESS Array B	86.62	332	P	P	21 44 03.6	-0.1
	0.3nm,0.5s,mb3.8,baz=63,slow=8.8,SNR=3.6						
YKA	Yellowknife Ar	94.15	24	P	P	21 44 39.3	+0.3
	0.3nm,0.6s,mb3.9,baz=293,slow=3.9,SNR=5.3						

*IDC **13** 21:33:13.2±1.0, 2755N×6611E, h0km, mb3.7/11, mb1 3.9/11, mb1mx3.7/24, mbtmp3.7/11, MS3.3/6, Ms1 3.4/6, ms1mx3.1/33, Error ellipse: s-maj=25.8km s-min=21.4km az=52.0*

*ISCJB **13** 21:33:15.7±2.4, 2767N±009×6639E±004, h24km±19km, mb3.7/11, MS3.3/6, Error ellipse: s-maj=14.9km s-min=6.6km az=175.7*

ISC 13 21:33:17.3±1.6, 2751N±008×6631E±007, h26km±17km, n33, σ1°26/39, mb3.7/11, MS3.3/6, 2C, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AJM	Ajmer	7.50	96	ex	Pn	21 35 08.0	+3.0
KHET	Khetri	8.43	84	eP	Pn	21 35 16.1	-1.6
KHET				eS	Sn	21 36 48.9	-3.1
KHET				AML	AML	21 36 54.5	
	comp=N,12nm,0.7s						
KHET				AML	AML	21 36 56.8	
	comp=E,9.0nm,0.1s						
KUDL	Kundal	9.03	84	eP	Pn	21 35 25.2	-0.8
KUDL				eS	Sn	21 37 06.0	-0.9
KUDL				AML	AML	21 37 18.0	
	comp=E,9.0nm,0.7s						
KUDL				AML	AML	21 37 18.8	
	comp=N,10nm,0.4s						
THN	Thein Dam	9.52	57	eP	Pn	21 35 32.7	+0.1
THN				eS	Sn	21 37 18.3	-0.4
SONA	Sohna	9.56	83	eP	Pn	21 35 32.2	-1.0
SONA				eS	Sn	21 37 16.5	-3.3
SONA				AML	AML	21 38 33.1	
	comp=E,12nm,0.6s						
SONA				AML	AML	21 38 36.9	
	comp=N,7.1nm,0.2s						
NDI	New Delhi	9.70	81	ex	Pn	21 35 30.0	-5.2
NDI				eS	Sn	21 37 20.5	-2.8
DLH	Dalhousie	9.75	57	eS	Sn	21 37 23.0	-1.5
SDNR	Sundarnagar	10.10	64	eP	Pn	21 35 41.0	+0.4
SDNR				eS	Sn	21 37 34.0	+1.0
DDI	Dehra Dun	10.66	72	ex	Sn	21 37 50.0	+3.1
KLP	Kalpa	11.14	66	eP	Pn	21 35 55.5	+0.6
KLP				eS	Sn	21 37 57.9	-0.7
KLP				AML	AML	21 38 28.2	
	comp=N,56nm,0.6s						
KLP				AML	AML	21 38 34.5	
	comp=E,69nm,0.8s						
KOLN	Koldanda	15.33	85	eP	Pn	21 36 51.0	-0.8
	comp=E,13nm,0.7s						
DANN	Dangsing	15.45	83	eP	Pn	21 36 52.8	-0.6
	comp=E,31nm,0.9s						
GKN	Gorkha	16.23	84	eP	Pn	21 37 02.5	-1.0
	comp=E,11nm,0.6s						
DMN	Daman	16.67	85	eP	Pn	21 37 08.8	-0.3
KKN	Kakani	16.81	85	eP	Pn	21 37 11.0	+0.1
	comp=E,7.8nm,0.5s						
PKI	Pulchoki	16.94	85	eP	Pn	21 37 12.8	+0.3
	comp=E,7.8nm,0.5s						
GUN	Gumba	17.34	84	eP	Pn	21 37 17.0	-0.4
	comp=E,27nm,0.6s						
JIRN	Jiri	17.63	85	eP	Pn	21 37 21.4	+0.4
MKAR	Makanchi Array	23.00	29	P	P	21 38 18.2	-1.6
	comp=E,1.4nm,0.6s,mb3.6,baz=207,slow=11,SNR=12						
MKAR				LR	LR	21 48 54.0	
	comp=E,86nm,20.4s,MS3.2,baz=114,slow=41						
AKTO	Aktyubinsk	23.75	347	P	P	21 38 26.7	-0.6
	comp=E,1.1nm,0.4s,mb3.7,baz=143,slow=3.4,SNR=6.3						
BVAR	Borovoye Array	25.66	6	P	P	21 38 44.3	-0.5
	comp=E,1.5nm,0.6s,mb3.7,baz=171,slow=10,SNR=7.3						
BVAR				LR	LR	21 50 05.0	
	comp=E,55nm,18.3s,MS3.1,baz=14,slow=39						
ZALV	Zalesovo Beam	29.72	22	P	P	21 39 22.0	+1.0
	comp=E,0.7nm,0.4s,mb3.7,baz=251,slow=9.2,SNR=4.2						
ZALV				LR	LR	21 52 35.9	
	comp=E,62nm,19.4s,MS3.2,baz=223,slow=39						
MLR	Muntele Rosu	36.62	310	⇑iP	P	21 40 21.5	+0.2
SONM	Songino Array	37.12	46	LR	LR	21 55 41.3	
	comp=E,59nm,20.6s,MS3.4,baz=246,slow=36						
BURAR	Buryatia Array	37.70	313	⇑iP	P	21 40 29.1	-1.3
FINES	FINESS Array B	43.22	333	P	P	21 41 14.9	-0.9
	comp=E,0.4nm,0.6s,mb3.4,baz=126,slow=9.7,SNR=5.7						
GERES	GERESS Array B	45.47	313	P	P	21 41 33.7	-0.4
	comp=E,0.4nm,0.7s,mb3.4,baz=102,slow=9.1,SNR=2.9						
ARCES	ARCESS Array B	48.20	342	P	P	21 41 55.9	+0.8
	comp=E,1.7nm,0.7s,mb4.2,baz=134,slow=6.9,SNR=7.8						
ARCES				LR	LR	22 04 11.0	
	comp=E,41nm,20.1s,MS3.4,baz=278,slow=39						
NB2	NORSAR Subarra	49.55	328	P	P	21 42 03.0	-2.6
	comp=Z,0.6nm,0.6s,mb3.8,baz=106,slow=7.9						
NOA	NORSAR Array B	61.66	271	P	P	21 43 31.3	-1.9
	comp=Z,1.5nm,0.9s,mb4.1,baz=61,slow=6.7,SNR=11						
WRA	Warramunga Arr	80.98	118	P	P	21 45 31.1	+1.3
	comp=Z,0.9nm,0.9s,mb3.7,baz=315,slow=4.7,SNR=5.2						
ASAR	Alice Springs	82.70	121	P	P	21 45 40.5	+1.6
	comp=Z,0.4nm,0.5s,mb3.7,baz=308,slow=5.3,SNR=8.4						

MAN 13 21:48:50, 584N×12554E, h76km, mb4.9, ML3.8, MS3.8, 1C-2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GSPH	General Santos	0.64	293	⇑eP	Pn	21 49 06.5	+1.9
GSPH				eS	Sn	21 49 16.3	+0.8
KCP	Kidapawan	1.25	339	⇓iP	Pn	21 49 13.8	+1.9
KCP				iS	Sn	21 49 30.6	+2.3
MATI	Mati	1.31	33	eP	Pn	21 49 15.2	+2.5
MATI				eS	Sn	21 49 31.6	+1.8
BUKP	Musuan	2.08	347	eP	Pn	21 49 24.5	+1.6
BUKP				eS	Sn	21 49 50.7	+2.7
CGP	Cagayan de Oro	2.73	342	⇓eP	Pn	21 49 33.5	+1.8
CGP				eS	Sn	21 50 11.8	+8.1
PAGZ	Pagadian	2.93	313	eP	Pn	21 49 35.3	+1.0

*ISCJB **13** 21:54:47.7±0.3, 3421N±002×11857W±002, h24km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=10.7*

*NEIC **13** 21:54:48.4, 3421N×11858W, h19km, ML3.0(PAS), After PAS.*

NEIC Felt [III] at Calabasas, Encino, North Hills, Northridge, Reseda, Sherman Oaks, Stevenson Ranch, Tarzana and Woodland Hills; [II] at Agoura Hills, Beverly Hills, Canoga Park, Newbury Park, Santa Monica, Simi Valley, Thousand Oaks, Topanga, Van Nuys and Westlake Village. Also felt at Altadena, Buena Park, Burbank, Camarillo, Chatsworth, Glendale, Los Angeles, Malibu, Newhall, Orange, Pasadena, Santa Clarita, Sierra Madre, Studio City, Sunland, Torrance, Valencia, Ventura and Winnetka.

ISC 13 21:54:47.8±0.4, 3421N±002×11858W±002, h18km±3km, n43, σ0°61/65, 25C-25D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DECC	Green Verdugo	0.21	77	⇓P	Pg	21 54 53.1	+0.3
	baz=0.2,SNR=99						
DECC				⇓S	Sg	21 54 56.8	+0.5
	baz=0.2						
BLG	Laguna Peak	0.41	257	⇓P	Pg	21 54 56.0	-0.2
	baz=0.4,SNR=219						
BLG				⇑S	Sg	21 55 01.9	-0.1
	baz=0.4						
OSI	Osito Adit	0.43	343	⇓P	Pg	21 54 56.7	+0.2
	baz=0.4,SNR=34						
OSI				⇑S	Sg	21 55 03.0	+0.6
	baz=0.4						
FMP	Fort Macarthur	0.54	154	⇑P	Pg	21 54 58.6	0.0
	baz=0.5,SNR=10						
FMP				⇓S	Sg	21 55 06.2	+0.3
	baz=0.5						
BFSC	Mount Baldy St	0.76	87	⇓P	Pb	21 55 02.0	-0.5
	baz=0.8,SNR=116						
BFSC				⇓S	Sb	21 55 12.3	-0.2
	baz=0.8						
EDW2	Edwards Air Fo	0.83	36	⇓P	Pb	21 55 02.9	-0.7
	baz=0.8,SNR=160						
EDW2				⇑S	Sb	21 55 14.2	-0.3
	baz=0.8						
BSC	Santa Cruz Isl	0.90	257	⇓P	Pb	21 55 03.9	-0.9
	baz=0.9,SNR=34						
BSC				⇑S	Sb	21 55 16.4	-0.1
	baz=0.9						
ARVC	Arvin	0.94	347	⇓P	Pb	21 55 05.2	-0.4
	baz=0.9,SNR=228						
ARVC				⇓S	Sb	21 55 17.8	0.0
	baz=0.9						
SBC	Santa Barbara	0.97	284	⇓P	Pb	21 55 05.8	-0.2
	baz=1.0						
SBC				⇓S	Sb	21 55 19.2	+0.7
	baz=1.0						
PKM	Peak Mountain	1.24	304	⇑P	Pn	21 55 10.3	+0.1
	baz=1.2,SNR=20						
PKM				⇑S	Sb	21 55 26.1	-0.1
	baz=1.2						
SNCC	San Nicolas Is	1.24	220	Pn	Pn	21 55 10.9	+0.8
SNCC				eSn	Sn	21 55 27.2	+0.9
MURC	Murrieta	1.29	117	⇑P	Pn	21 55 10.2	-0.7
	baz=1.3,SNR=39						
BBRC	Big Bear Sol-O	1.37	87	⇓P	Pn	21 55 11.5	-0.5
	baz=1.4,SNR=9.1						
BBRC				⇑S	Sn	21 55 30.6	+0.9
	baz=1.4						
ISA	Isabella	1.46	3	⇑S	Sn	21 55 31.7	-0.1
	baz=1.5						
SMMC	Simmler	1.61	314	⇑P	Pn	21 55 15.8	+0.5
	baz=1.6						
VES	Vestal, Richgr	1.68	346	⇓P	Pn	21 55 16.2	-0.1
	baz=1.7						
109C	Camp Elliot, M	1.80	136	⇑P	Pn	21 55 16.5	-1.3
	baz=1.8,SNR=13						
GSC	Goldstone	1.82	53	ePn	Pn	21 55 18.1	-0.1
GSC				eS	Sn	21 55 44.2	+3.3
GSC	Goldstone	1.82	53	⇓P	Pn	21 55 18.3	+0.1
	baz=1.8						
GSC				⇓S	Sn	21 55 40.6	-0.3
	baz=1.8						
PFO	Pinyon Flat Ob	1.86	108	ePn	Pn	21 55 18.9	+0.1
PFO				eSn	Sn	21 55 41.9	+0.1
PFO	Pinyon Flat Ob	1.86	108	⇑P	Pn	21 55 18.7	0.0
	baz=1.9,SNR=7.4						
HEC	Hector,Ludlow	1.96	71	⇑P	Pn	21 55 19.9	-0.1
	baz=1.9,SNR=49						
HEC				⇑S	Sn	21 55 44.0	-0.1
	baz=1.9						
MPMC	Manual Prospec	2.05	25	Pn	Pn	21 55 21.6	+0.2
	baz=2.1,SNR=80						
MONP	Monument Peak	2.23	125	⇑Pn	Pn	21 55 23.5	-0.3
	baz=2.2,SNR=18						
MONP				⇓Sn	Sn	21 55 50.5	-0.3
	baz=2.2						
V04C	Ramage Ranch,	2.36	308	⇓Pn	Pn	21 55 25.5	-0.2
	baz=2.4,SNR=9.6						
PKD	Parkfield	2.37	318	Pn	Pn	21 55 25.6	-0.1
	baz=2.4,SNR=36						
GMRC	Granite Mounta	2.48	76	⇑Pn	Pn	21 55 27.1	-0.1
	baz=2.5,SNR=10						
GMRC				⇑Pb	Pb	21 55 33.0	+1.3
	baz=2.5						
GMRC				⇑Sn	Sn	21 55 56.6	-0.4
	baz=2.5						
HELL	Mitchell Peak	2.50	352	⇑Pn	Pn	21 55 27.0	-0.5
	baz=2.5,SNR=7.6						
V03C	Hunter Liggett	2.83	310	⇑Pn	Pn	21 55 31.7	-0.4
	baz=2.8,SNR=10						
IRM	Iron Mountain	2.84	90	⇓Pn	Pn	21 55 32.0	-0.2
	baz=2.8,SNR=7.1						
V11A	Goodsprings	3.05	57	⇓Sb	Sb	21 56 23.4	+4.9
	baz=3.0						
MTUM	Tungsten Hills	3.14	0	Pn	Pn	21 55 37.9	+1.6
MTUM				eS	Sn	21 56 20.4	+7.1
W12A	Cal Nev Ari	3.24	69	⇑Pn	Pn	21 55 38.1	+0.4
	baz=3.2,SNR=5.2						
HAST	Hastings Reser	3.27	313	Pn	Pn	21 55 37.7	-0.3
	baz=3.3,SNR=9.0						
TPNV	Topopah Spring	3.33	34	ePn	Pn	21 55 39.9	+1.0
TPNV				ePg	Pg	21 55 49.3	-2.3
TPNV	Topopah Spring	3.33	34	⇓Pn	Pn	21 55 39.8	+0.9
	baz=3.3,SNR=20						
GLA	Glamis	3.33	109	ePg	Pg	21 55 47.3	-4.3
V12A	Nelson	3.42	63	⇑Pn	Pn	21 55 40.5	+0.4
	baz=3.4						
V12A				⇓Sn	Sn	21 56 20.1	0.0
	baz=3.4						
S05C	Merced	3.44	336	⇑Pn	Pn	21 55 40.8	+0.4
	baz=3.4						
SAO	San Andreas Ge	3.46	318	ePn	Pn	21 55 39.8	-0.9
X13A	Yucca	3.94	83	⇑Pn	Pn	21 55 47.4	+0.1
	baz=3.9,SNR=88						
X14A	Yava	4.71	85	⇓Pn	Pn	21 55 58.0	+0.1
	baz=4.7,SNR=19						
X15A	Humboldt	5.25	85	⇓Pn	Pn	21 56 05.9	+0.5
	baz=5.2,SNR=11						

*IDC **13** 21:56:49.5±0.7, 4655N×15600E, h0km, mb3.9/10, mb1 4.1/11, mb1mx3.9/23, mbtmp3.9/11, ML3.5/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/36, Error ellipse: s-maj=24.3km s-min=17.1km az=135.0*

*ISCJB **13** 21:56:52.6±0.6, 4651N±009×1559E±01, h33km, mb4.1/16, MS3.6/3, Error ellipse: s-maj=14.9km s-min=10.6km az=36.0*

*MOS **13** 21:56:53.4±1.0, 4653N×15587E, h39km, mb4.1/11, Error ellipse: s-maj=22.4km s-min=12.7km az=94.1*

ISC 13 21:56:50.9±3.2, 4649N±008×1560E±01, h9km±20km, n33, σ0°82/31, mb4.1/16, MS3.6/3, 2C-2D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.20	1	ePN	Pn	21 57 55.0	-0.1
ASAJ	Asahikawa	9.76	261	PN	Pn	21 59 11.3	0.0
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,32nm,18.5s						
ASAJ	Asahikawa	9.76	261	Pn	Pn	21 59 11.2	-0.1
	comp=Z,0.5nm,0.3s,baz=32,slow=27,SNR=4.6						
ASAJ				LR	LR	22 03 06.7	
	comp=Z,32nm,18.5s,baz=261,slow=39						
YAK	Yakutsk	21.66	325	⇑eP	P	22 01 43.1	+1.8
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
CBIJ	Chichi jima	22.24	214	P	P	22 01 47.5	-0.4
	comp=Z,27nm,0.4s,mb5.0,baz=37,slow=10,SNR=7.7						
BILL	Bilibino	22.25	10	⇓eP	P	22 01 48.4	+0.8
BILL				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2						
TIXI	Tiksi	28.31	342	eP	P	22 02 41.0	-3.4
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.5s,mb3.9						
INK	Inuvik	40.80	32	P	P	22 04 31.9	-0.1
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	Inuvik	40.80	32	P	P	22 04 31.9	-0.1
	comp=Z,2.7nm,0.8s,mb3.9,baz=282,slow=6.5,SNR=12						
MKAR	Makanchi Array	48.84	299	iP	P	22 05 36.9	+0.5
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	Makanchi Array	48.84	299	P	P	22 05 36.9	+0.5
	comp=Z,0.7nm,0.6s,mb3.9,baz=68,slow=8.5,SNR=6.6						
KURK	Kurchatov	49.17	305	⇓eP	P	22 05 38.7	-0.2
YKA	Yellowknife Ar	49.92	37	P	P	22 05 44.1	-0.3
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	Yellowknife Ar	49.92	37	P	P	22 05 44.1	-0.3
	comp=Z,1.0nm,0.9s,mb3.9,baz=293,slow=8.0,SNR=7.5						
BVAR	Borovoye Array	52.57	311	P	P	22 06 03.8	-0.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	Borovoye Array	52.57	311	P	P	22 06 03.8	-0.6
	comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=7.2,SNR=7.8						
ARU	Arti	56.55	319	ei P	P	22 06 32.9	-0.4
ARU				e		22 08 36.6

comp=Z,33nm,20.9s,MS3.6,baz=176,slow=36
GERES GERESS Array B 79.55 336 LR LR 22 46 02.3
comp=Z,42nm,19.0s,MS3.8,baz=287,slow=37

NIED ***13*** *21:59:00, 36.40N×141.00E, h41km, Mw4.0 Best double couple: M0=1.07000×10^15 NP1:φs=13.00000°, δ=88.00000°, λ=48.00000°. NP2:φs=281.00000°, δ=42.00000°, λ=177.00000°.*
ISCJB ***13*** *21:59:38.4±0.8, 36.38N±0.04×141.09E±0.07, h42km±6km, mb4.2/15, Error ellipse: s-maj=9.4km s-min=7.0km az=17.4*
JMA ***13*** *21:59:39.6±0.1, 36.34N×140.94E, h45km±1km, M4.0*
JMA Felt II J1.
IDC ***13*** *21:59:42.0±2.2, 36.35N×141.01E, h56km±20km, mb3.6/9, mb1 3.8/12, mb1mx3.6/23, mbtmp3.7/12, MS3.2/2, Ms1 3.2/2, ms1mx2.8/33, Error ellipse: s-maj=18.2km s-min=10.0km az=69.0*
NEIC ***13*** *21:59:43.4±1.7, 36.25N×140.72E, h69km±13km, mb4.5/3, MW4.0(NIED), Error ellipse: s-maj=17.8km s-min=11.7km az=81.0*
NEIC Recorded [2 JMA] in Ibaraki and Tochigi; [1 JMA] in Fukushima Prefectures.
ISC 13 21:59:40.0±0.9, 3641N±004×14105E±007, h37km±7km, n39, σ0§85/45, mb4.2/15, 6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.44**	**298**	⇓P	**Pn**	**21 59 49.1**	**-0.7**
JHO				*e*S	**Sn**	**21 59 55.6**	**-1.0**
JYT	**Yasato**	**0.71**	**256**	⇓P	**Pn**	**21 59 52.1**	**-1.5**
JYT				S	**Sn**	**22 00 00.5**	**-2.8**
ONAJ	**Iwakimizuishiy**	**0.72**	**344**	⇓P	**Pn**	**21 59 53.4**	**-0.3**
ONAJ				*e*S	**Sn**	**22 00 02.9**	**-0.6**
JAG	**Ashikaga**	**1.29**	**271**	⇓P	**Pn**	**22 00 00.5**	**-0.9**
JKT	**Katashina**	**1.49**	**284**	⇓P	**Pn**	**22 00 04.3**	**0.0**
MJAR	**Matsushiro Arr**	**2.29**	**274**	P	**Pn**	**22 00 15.6**	**+0.3**
	50nm,0.3s,baz=109,slow=8.4,SNR=330						
MJAR				S	**Sn**	**22 00 44.1**	**+1.8**
	29nm,0.3s,baz=59,slow=20,SNR=11						
MJAR				LR	LR	22 01 17.3	
	comp=Z,322nm,20.4s,baz=150,slow=43						
MAJO	**Matsushiro**	**2.30**	**274**	*e*P	**Pn**	**22 00 16.1**	**+0.8**
MAJO				S	**Sn**	**22 00 43.0**	**+0.7**
MAT	**Matsushiro**	**2.30**	**274**	P	**Pn**	**22 00 15.4**	**+0.1**
MAT				S	**Sn**	**22 00 43.9**	**+1.6**
JHJ	**Hachijo jima 2**	**3.44**	**198**	P	**Pn**	**22 00 31.6**	**+0.5**
	22nm,0.3s,baz=253,slow=13,SNR=16						
JHJ				S	**Sn**	**22 01 11.8**	**+1.2**
	49nm,0.3s,baz=68,slow=22,SNR=9.2						
ASAJ	**Asahikawa**	**7.79**	**8**	P	**Pn**	**22 01 31.6**	**+0.9**
	1.5nm,0.3s,baz=212,slow=14,SNR=6.6						
ASAJ				S	**Sn**	**22 03 05.6**	**+8.0**
	0.6nm,0.3s,baz=342,slow=20,SNR=2.8						
KSRS	**Korea Array**	**10.56**	**280**	P	**Pn**	**22 02 15.1**	**+6.3**
	0.3nm,0.3s,baz=89,slow=14,SNR=6.2						
INCN	**Inchon**	**11.59**	**280**	Pn	**Pn**	**22 02 22.6**	**-0.2**
BJT	**Baijiatuan**	**19.86**	**288**	*e*P	**Pn**	**22 04 05.5**	**-4.1**
	5.9nm,0.3s						
CM31	**Chiang Mai Arr**	**41.06**	**256**	P	**P**	**22 07 16.0**	**-4.0**
ZAA0	**Zalesovo Array**	**42.12**	**313**	*e*P	**P**	**22 07 28.0**	**-0.3**
ZALV	**Zalesovo Beam**	**42.12**	**313**	P	**P**	**22 07 28.4**	**0.0**
	2.3nm,0.6s,mb4.0,baz=91,slow=6.7,SNR=10						
MKAR	**Makanchi Array**	**44.21**	**303**	LR	LR	22 25 41.6	
	comp=Z,45nm,18.4s,baz=283,slow=35						
KURK	**Kurchatov**	**46.09**	**309**	*e*P	**P**	**22 07 59.6**	**-0.5**
	4.7nm,0.7s,mb4.5						
JIRN	**Jiri**	**46.79**	**276**	*e*P	**P**	**22 08 06.0**	**+0.1**
	3.2nm,0.3s,mb4.7						
GUN	**Gumba**	**46.93**	**276**	*e*P	**P**	**22 08 06.5**	**-0.6**
PKI	**Pulchoki**	**47.45**	**276**	*e*P	**P**	**22 08 10.7**	**-0.4**
KKN	**Kakani**	**47.46**	**276**	*e*P	**P**	**22 08 11.3**	**+0.1**
DMN	**Daman**	**47.68**	**276**	*e*P	**P**	**22 08 12.2**	**-0.7**
GKN	**Gorkha**	**47.89**	**277**	*e*P	**P**	**22 08 14.3**	**-0.2**
	7.3nm,0.7s,mb4.8						
DANN	**Dangsing**	**48.44**	**278**	*e*P	**P**	**22 08 19.2**	**+0.4**
	6.2nm,0.4s,mb5.0						
KOLN	**Koldanda**	**48.82**	**277**	*e*P	**P**	**22 08 22.2**	**+0.5**
AML	**Almayashu**	**51.25**	**298**	*e*P	**P**	**22 08 41.0**	**+1.1**
	3.0nm,0.5s,mb4.5						
INK	**Inuvik**	**55.08**	**27**	P	**P**	**22 09 09.4**	**+1.7**
	0.7nm,0.6s,mb3.9,baz=296,slow=7.3,SNR=8.9						
WB2	**Warramunga Arr**	**56.40**	**188**	*e*P	**P**	**22 09 16.5**	**-1.2**
WRA	**Warramunga Arr**	**56.40**	**188**	P	**P**	**22 09 16.7**	**-1.0**
	0.9nm,0.4s,mb4.2,baz=5.2,slow=7.3,SNR=28						
ASAR	**Alice Springs**	**60.13**	**188**	P	**P**	**22 09 43.0**	**-0.6**
	0.5nm,0.6s,mb3.7,baz=16,slow=7.8,SNR=6.8						
YKA	**Yellowknife Ar**	**64.50**	**30**	P	**P**	**22 10 13.0**	**+0.6**
	0.3nm,0.6s,mb3.5,baz=304,slow=5.9,SNR=4.6						
FINES	**FINESS Array B**	**69.23**	**332**	P	**P**	**22 10 43.1**	**+0.4**
	0.4nm,0.5s,mb3.6,baz=108,slow=6.2,SNR=3.8						
AKASG	**Malin Array Be**	**74.61**	**322**	P	**P**	**22 11 14.9**	**-0.2**
	1.1nm,0.5s,mb4.0,baz=47,slow=6.0,SNR=7.6						
NB2	**NORSAR Subarra**	**74.65**	**337**	P	**P**	**22 11 15.1**	**0.0**
	comp=Z,0.8nm,0.6s,mb3.8,baz=41,slow=5.9						
NOA	**NORSAR Array B**	**74.65**	**337**	P	**P**	**22 11 15.3**	**+0.2**
	comp=Z,1.2nm,0.7s,mb3.9,baz=39,slow=5.8,SNR=7.4						
CLL	**Colln**	**81.49**	**330**	⇓P	**P**	**22 11 53.6**	**+0.4**
	comp=Z,4.0nm,0.7s,mb4.5						
GERES	**GERESS Array B**	**83.09**	**328**	P	**P**	**22 12 01.3**	**-0.4**
	comp=Z,0.3nm,0.4s,mb3.6,baz=40,slow=7.1,SNR=4.4						
TORD	**Torodi Ar. Bea**	**117.56**	**314**	PKP	PKPdf	22 18 21.5	-1.0
	comp=Z,0.2nm,0.5s,baz=65,slow=2.3,SNR=4.1						

MOS ***13*** *22:01:23.5±1.3, 51.62N×146.59E, h32km, mb4.2/1, Error ellipse: s-maj=91.5km s-min=75.8km az=61.0*
IDC ***13*** *22:01:38.6±1.8, 46.65N×155.63E, h0km, mb3.7/4, mb1 4.0/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=142.3km s-min=25.5km az=123.0*
ISCJB ***13*** *22:01:41.9±1.0, 46.60N±0.1×155.60E±0.5, h33km, mb3.5/4, Error ellipse: s-maj=52.9km s-min=15.6km az=12.2*
ISC 13 22:01:45.5±1.0, 4611N±01×1568E±04, h35km, n6, σ1§62/6, mb3.5/4, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.61**	**354**	*e*PN	**Pn**	**22 02 53.0**	**+0.5**
INK	**Inuvik**	**40.83**	**32**	P	**P**	**22 09 21.1**	**-1.9**
	0.8nm,0.5s,mb3.6,baz=307,slow=7.8,SNR=6.5						
WRA	**Warramunga Arr**	**68.82**	**203**	P	**P**	**22 12 45.3**	**-0.7**
	0.2nm,0.6s,mb3.3,baz=21,slow=7.0,SNR=4.6						
ASAR	**Alice Springs**	**72.49**	**202**	P	**P**	**22 13 08.8**	**+0.5**
	0.2nm,0.8s,mb3.1,baz=359,slow=4.3,SNR=4.5						
TXAR	**Lajitas Array**	**75.54**	**63**	P	**P**	**22 13 27.8**	**+1.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**75.54**	**63**	P	**P**	**22 13 27.8**	**+1.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=299,slow=4.3,SNR=14						

NEIC ***13*** *22:31:32.9, 37.88S×177.82E, h58km, ML4.1(WEL), After WEL.*
WEL 13 22:31:33.4±0.3, 3787S×17778E, h53km±4km, ML3.7/6, Error ellipse: s-maj=2.2km s-min=1.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	**0.43**	**118**	P	Pn	22 31 42.9	-1.2
PUZ				S	Sn	22 31 51.4	-0.3
PUZ	**Puketiti**	**0.43**	**118**	PN	Pn	22 31 42.9	-1.2
PUZ				SN	Sn	22 31 51.4	-0.3
MWZ	**Matawai**	**0.51**	**203**	P	Pn	22 31 44.6	-0.3
MWZ				S	Sn	22 31 54.1	+0.9
MWZ	**Matawai**	**0.51**	**203**	PN	Pn	22 31 44.6	-0.3
MWZ				SN	Sn	22 31 54.1	+0.9
MXZ	**Matakaoa Point**	**0.52**	**54**	P	Pn	22 31 45.1	0.0
MXZ				S	Sn	22 31 54.8	+1.4
MXZ	**Matakaoa Point**	**0.52**	**54**	PN	Pn	22 31 45.1	+0.1
MXZ				SN	Sn	22 31 54.8	+1.4
WIZ	**White Island**	**0.58**	**306**	P	Pn	22 31 45.2	-0.5
WIZ	**White Island**	**0.58**	**306**	PN	Pn	22 31 45.2	-0.5
URZ	**Urewera**	**0.66**	**233**	P	Pn	22 31 46.2	-0.5
URZ	**Urewera**	**0.66**	**233**	PN	Pn	22 31 46.2	-0.5
MARZ	**Manawahe**	**0.88**	**262**	P	Pn	22 31 49.3	-0.3
MARZ				S	Sn	22 32 01.0	-0.5
MARZ	**Manawahe**	**0.88**	**262**	PN	Pn	22 31 49.3	-0.3
MARZ				SN	Sn	22 32 01.0	-0.5
OPRZ	**Ohinepanea**	**0.97**	**271**	PN	Pn	22 31 50.5	-0.2
OPRZ				SN	Sn	22 32 03.1	-0.4
TAZ	**Tarawera**	**1.07**	**250**	P	Pn	22 31 52.7	+0.6
TAZ	**Tarawera**	**1.07**	**250**	PN	Pn	22 31 52.7	+0.6
KNZ	**Kokohu**	**1.15**	**184**	PN	Pn	22 31 52.3	-1.0
TGRZ	**Tauranga**	**1.21**	**276**	P	Pn	22 31 53.9	-0.1
TGRZ	**Tauranga**	**1.21**	**276**	PN	Pn	22 31 53.9	-0.1
KARZ	**Kaharoa**	**1.22**	**262**	P	Pn	22 31 54.2	0.0
KARZ	**Kaharoa**	**1.22**	**262**	PN	Pn	22 31 54.2	+0.1
BKZ	**Black Stump Fm**	**1.64**	**217**	P	Pn	22 32 00.0	+0.1
BKZ	**Black Stump Fm**	**1.64**	**217**	PN	Pn	22 31 60.0	+0.1
KUZ	**Kuaotunu**	**1.99**	**304**	P	Pn	22 32 03.9	-0.7
KUZ				S	Sn	22 32 25.5	-2.8
KUZ	**Kuaotunu**	**1.99**	**304**	PN	Pn	22 32 03.9	-0.7
KUZ				SN	Sn	22 32 25.5	-2.7
KRZ	**Karewarewa**	**2.08**	**233**	PN	Pn	22 32 06.5	+0.7
WTVZ	**West Tongariro**	**2.12**	**233**	P	Pn	22 32 07.0	+0.6
WTVZ	**West Tongariro**	**2.12**	**233**	PN	Pn	22 32 07.0	+0.6
NGZ	**Ngauruhoe**	**2.15**	**232**	P	Pn	22 32 07.6	+0.8
NGZ	**Ngauruhoe**	**2.15**	**232**	PN	Pn	22 32 07.6	+0.9
TUVZ	**Tukino**	**2.17**	**229**	PN	Pn	22 32 07.7	+0.6
TWVZ	**Taurewa**	**2.19**	**236**	PN	Pn	22 32 08.1	+0.6
WPVZ	**Whakapapa**	**2.20**	**232**	P	Pn	22 32 08.3	+0.8
WPVZ	**Whakapapa**	**2.20**	**232**	PN	Pn	22 32 08.3	+0.8
MOVZ	**Moawhango**	**2.21**	**225**	P	Pn	22 32 07.8	+0.2
MOVZ	**Moawhango**	**2.21**	**225**	PN	Pn	22 32 07.8	+0.2
MKAZ	**Moumakai**	**2.21**	**289**	P	Pn	22 32 07.6	0.0
MKAZ	**Moumakai**	**2.21**	**289**	PN	Pn	22 32 07.6	0.0
MTVZ	**Mangateitei**	**2.36**	**229**	PN	Pn	22 32 10.3	+0.7
TSZ	**Takapari Road**	**2.61**	**212**	P	Pn	22 32 11.6	-1.4
TSZ	**Takapari Road**	**2.61**	**212**	PN	Pn	22 32 11.6	-1.5
BFZ	**Birch Farm**	**3.05**	**202**	P	Pn	22 32 16.5	-2.6
BFZ	**Birch Farm**	**3.05**	**202**	PN	Pn	22 32 16.5	-2.7
MRZ	**Mangatainoka R**	**3.27**	**211**	P	Pn	22 32 19.5	-2.6
MRZ	**Mangatainoka R**	**3.27**	**211**	PN	Pn	22 32 19.5	-2.6
WCZ	**Waipu Caves**	**3.36**	**304**	P	Pn	22 32 23.8	+0.4
WCZ	**Waipu Caves**	**3.36**	**304**	PN	Pn	22 32 23.8	+0.4
HOWZ	**Holdsworth Sta**	**3.50**	**209**	PN	Pn	22 32 22.8	-2.4
KIW	**Kapiti Island**	**3.73**	**216**	P	Pn	22 32 25.9	-2.5
KIW	**Kapiti Island**	**3.73**	**216**	PN	Pn	22 32 25.9	-2.4
MTW	**Mount Morrison**	**3.73**	**207**	P	Pn	22 32 24.8	-3.6
MTW	**Mount Morrison**	**3.73**	**207**	PN	Pn	22 32 24.8	-3.6
TUWZ	**Tuamarina**	**4.63**	**219**	PN	Pn	22 32 38.4	-2.4
QRZ	**Quartz Range**	**5.03**	**232**	P	Pn	22 32 44.6	-1.6
QRZ	**Quartz Range**	**5.03**	**232**	PN	Pn	22 32 44.6	-1.6
THZ	**Tophouse**	**5.40**	**222**	P	Pn	22 32 48.7	-2.7
THZ	**Tophouse**	**5.40**	**222**	PN	Pn	22 32 48.7	-2.7
KHZ	**Kahutara**	**5.58**	**214**	P	Pn	22 32 50.9	-2.9
KHZ	**Kahutara**	**5.58**	**214**	PN	Pn	22 32 50.9	-2.9

IDC ***13*** *22:38:46.8±7.4, 37.01N×71.80E, h101km±60km, mb3.5/6, mb1 3.6/9, mb1mx3.3/24, mbtmp3.5/9, Error ellipse: s-maj=56.3km s-min=35.2km az=161.0*
ISCJB ***13*** *22:38:47.6±0.6, 37.10N±0.03×71.72E±0.06, h120km±8km, mb3.8/9, Error ellipse: s-maj=7.7km s-min=5.3km az=169.3*
NEIC ***13*** *22:38:50.3±0.8, 37.24N×71.80E, h126km±7km, mb4.4/5, Error ellipse: s-maj=17.3km s-min=6.8km az=133.0*
BJI ***13*** *22:38:50.5, 37.16N×71.87E, h109km, mb3.7*
ISC 13 22:38:49.8±0.6, 3715N±004×7184E±007, h128km±8km, n46, σ0§94/54, mb3.7/9, 2C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.46**	**222**	*e*Pn	**Pn**	**22 39 44.3**	**+1.9**
KBL				*e*Sn	**Sn**	**22 40 18.6**	**-4.4**
KSH	**Kashi**	**4.01**	**53**	P	**Pn**	**22 39 52.9**	**+3.3**
KSH				S	**Sn**	**22 40 39.8**	**+3.7**
KSH				Smax			
	comp=N,281nm,0.2s						
KSH				Smax			
	comp=E,227nm,0.2s						
AML	**Almayashu**	**5.18**	**15**	*e*Pn	**Pn**	**22 40 04.8**	**-0.3**
	comp=E,83nm,0.4s						
AML				*e*Sn	**Sn**	**22 40 59.8**	**-4.0**
AML	**Almayashu**	**5.18**	**15**	P	**Pn**	**22 40 04.9**	**-0.2**
	SNR=32						
UCH	**Uchtor**	**5.47**	**21**	*e*Pn	**Pn**	**22 40 08.8**	**-0.3**
	comp=E,22nm,0.4s						
UCH				*e*Sn	**Sn**	**22 41 07.4**	**-3.6**
UCH	**Uchtor**	**5.47**	**21**	P	**Pn**	**22 40 09.1**	**0.0**
	SNR=19						
KZA	**Kyzart**	**5.58**	**27**	P	**Pn**	**22 40 10.5**	**-0.1**
	SNR=21						
THN	**Thein Dam**	**5.68**	**145**	*e*P	**Pn**	**22 40 14.8**	**+2.8**
THN				*e*S	**Sn**	**22 41 16.9**	**+0.8**
EKS2	**Erkin-Say**	**5.70**	**15**	*e*Pn	**Pn**	**22 40 11.8**	**-0.4**
	comp=E,6.5nm,0.4s						
EKS2				*e*Sn	**Sn**	**22 41 12.3**	**-4.2**
EKS2	**Erkin-Say**	**5.70**	**15**	P	**Pn**	**22 40 11.9**	**-0.3**
	SNR=15						
AAK	**Ala-Archa**	**5.84**	**20**	P	**Pn**	**22 40 14.3**	**+0.2**
	SNR=23						
KBK	**Karagaybulak**	**6.00**	**22**	P	**Pn**	**22 40 16.1**	**0.0**
	SNR=7.3						
KK31	**Karatay Array**	**6.03**	**351**	P	**Pn**	**22 40 15.1**	**-1.5**
	comp=E,1.8nm,0.2s,baz=177,slow=13,SNR=243						
KK31				⇑S	**Sn**	**22 41 17.9**	**-6.6**
	comp=E,5.5nm,0.4s						
ULHL	**Ulahol**	**6.12**	**32**	P	**Pn**	**22 40 18.5**	**+0.7**
	SNR=9.8						
CHMS	**Chumysh**	**6.25**	**20**	P	**Pn**	**22 40 19.6**	**0.0**
	SNR=6.3						
USP	**Ospenovka**	**6.44**	**18**	P	**Pn**	**22 40 21.5**	**-0.6**
	SNR=8.8						
TKM2	**Tokmak 2**	**6.44**	**25**	⇑P	**Pn**	**22 40 22.2**	**0.0**
	comp=E,6.7nm,0.7s						
TKM2	**Tokmak 2**	**6.44**	**25**	*e*Pn	**Pn**	**22 40 22.2**	**+0.1**
	comp=E,6.9nm,0.6s						
TKM2				*e*Sn	**Sn**	**22 41 35.5**	**+1.2**
TKM2	**Tokmak 2**	**6.44**	**25**	P	**Pn**	**22 40 22.3**	**+0.2**
	SNR=6.0						
MK31	**Makanchi Array**	**12.37**	**36**	*e*Pn	**Pn**	**22 41 40.5**	**-0.8**
MKAR	**Makanchi Array**	**12.37**	**36**	P	**Pn**	**22 41 41.0**	**-0.3**
	comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=7.5						
DANN	**Dangsing**	**13.31**	**128**	*e*P	**Pn**	**22 41 52.7**	**-1.1**
	comp=E,5.6nm,0.2s						
KOLN	**Koldanda**	**13.63**	**130**	*e*P	**Pn**	**22 41 57.1**	**-0.7**
GKN	**Gorkha**	**14.11**	**127**	*e*P	**Pn**	**22 42 02.4**	**-1.6**
	comp=E,8.1nm,0.3s						
KURK	**Kurchatov**	**14.40**	**18**	*e*P	**Pn**	**22 42 10.8**	**+3.4**
KKN	**Kakani**	**14.67**	**126**	*e*P	**Pn**	**22 42 10.2**	**-0.9**
DMN	**Daman**	**14.68**	**127**	*e*P	**Pn**	**22 42 11.0**	**-0.2**
	comp=E,7.5nm,0.3s						
PKI	**Pulhoki**	**14.90**	**126**	*e*P	**Pn**	**22 42 14.3**	**+0.3**
GUN	**Gumba**	**14.98**	**124**	*e*P	**Pn**	**22 42 14.2**	**-0.8**
	comp=E,5.9nm,0.3s						
JIRN	**Jiri**	**15.36**	**124**	*e*P	**Pn**	**22 42 20.2**	**+0.6**
	comp=E,10nm,0.2s						
AKTK	**Aktyubinsk**	**16.57**	**328**	P	**Pn**	**22 42 34.6**	**+0.2**
AKTO	**Aktyubinsk**	**16.57**	**328**	P	**Pn**	**22 42 34.6**	**+0.2**
	comp=E,0.7nm,0.3s,baz=134,slow=9.5,SNR=12						
ZALV	**Zalesovo Beam**	**19.05**	**24**	P	**P**	**22 43 02.1**	**+0.4**
	comp=E,0.6nm,0.3s,baz=212,slow=10,SNR=7.4						
GNI	**Garni**	**21.35**	**286**	P	**P**	**22 43 26.0**	**-0.6**
	comp=E,4.8nm,0.4s,mb4.2						
GTA	**Gaotai**	**22.04**	**76**	*e*P	**P**	**22 43 38.3**	**+4.4**
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb3.8						
MALT	**Malatya**	**26.38**	**283**	P	**P**	**22 44 13.4**	**-0.6**
JOF	**Joensuu**	**35.65**	**329**	*e*p	**P**	**22 45 35.0**	**0.0**
	comp=Z,1.5nm,0.4s,mb4.0						
FINES	**FINESS Array B**	**37.33**	**325**	P	**P**	**22 45 49.5**	**+0.2**
FINES	**FINESS Array B**	**37.33**	**325**	P	**P**	**22 45 49.5**	**+0.2**
	comp=Z,0.4nm,0.3s,mb3.5,baz=121,slow=12,SNR=8.5						
ARCES	**ARCESS Array B**	**40.81**	**337**	P	**P**	**22 46 18.4**	**+0.3**
	comp=Z,5.9nm,1.1s,mb4.1,baz=106,slow=8.9,SNR=6.6						
HFS	**Hagfors**	**42.98**	**321**	P	**P**	**22 46 36.4**	**+0.6**
	comp=Z,1.8nm,0.3s,mb4.1,baz=84,slow=12,SNR=24						
NB2	**NORSAR Subarra**	**44.27**	**323**	P	**P**	**22 46 46.5**	**+0.3**
	comp=Z,0.7nm,0.5s,mb3.5,baz=94,slow=7.9						
NOA	**NORSAR Array B**	**44.27**	**323**	P	**P**	**22 46 46.5**	**+0.4**
	comp=Z,0.7nm,0.5s,mb3.5,baz=95,slow=7.7,SNR=6.2						
TORD	**Torodi Ar. Bea**	**66.41**	**269**	P	**P**	**22 49 25.1**	**-0.2**
	comp=Z,0.2nm,0.5s,mb3.2,baz=49,slow=5.8,SNR=4.8						
YKA	**Yellowknife Ar**	**80.56**	**3**	P	**P**	**22 50 48.5**	**+1.1**
YKA	**Yellowknife Ar**	**80.56**	**3**	P	**P**	**22 50 48.5**	**+1.1**
	comp=Z,0.2nm,0.5s,mb3.0,baz=352,slow=5.2,SNR=4.6						

PRE 13 22:39:55.8±0.8, 2621S×2815E, h2km, ML3.5, South Africa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLR	**Silverton**	**0.49**	**14**	*e*P	Pg	22 40 05.0	-0.1
SLR				*e*S	Sg	22 40 11.8	+0.4
SLR				AML	AML	22 40 18.6	
	comp=Z,484nm,0.4s						
KLOF	**Kloof**	**0.50**	**254**	*e*P	Pg	22 40 06.2	+0.8
KLOF				*e*S	Sg	22 40 12.3	+0.3
KLOF				AML	AML	22 40 16.8	
	comp=Z,4μm,0.2s						
PRYS	**Parys**	**1.00**	**224**	*e*P	Pg	22 40 15.2	+0.1
PRYS				*e*S	Sg	22 40 28.8	+0.7
PRYS				AML	AML	22 40 33.9	
	comp=Z,518nm,0.4s						
KSR	**Koster**	**1.18**	**287**	*e*P	Pg	22 40 18.4	0.0
KSR				*e*S	Sg	22 40 35.2	+1.5
KSR				AML	AML	22 40 42.2	
	comp=Z,2μm,0.2s						
SWZ	**Schweizer**	**2.70**	**248**	*e*P	Pn	22 40 41.3	+1.0
SWZ				*e*S	Sn	22 41 14.1	+0.7
SWZ				AML	AML	22 41 29.6	
	comp=Z,257nm,0.3s						
POGA	**Pongola**	**3.31**	**111**	*e*P	Pn	22 40 50.0	+1.4
POGA				*e*S	Sn	22 41 30.3	+1.8
POGA				AML	AML	22 41 46.2	
	comp=Z,130nm,0.4s						
MOPA	**Mopani**	**3.99**	**48**	*e*P	Pn	22 40 58.5	+0.6
MOPA				*e*S	Sn	22 41 44.2	-1.0
MOPA				AML	AML	22 42 05.3	
	comp=Z,251nm,0.6s						
HVD	**Gariep Dam**	**4.96**	**207**	*e*P	Pn	22 41 12.2	+0.9
HVD				*e*S	Sn	22 42 08.2	-1.1
HVD				AML	AML	22 42 35.5	
	comp=Z,34nm,0.6s						
PKA	**Prieska**	**5.88**	**233**	*e*P	Pn	22 41 24.8	+0.7
PKA				*e*S	Sn	22 42 29.9	-2.1
PKA				AML	AML	22 43 09.7	
	comp=Z,22nm,0.6s						
UPI	**Upington**	**6.50**	**249**	*e*P	Pn	22 41 33.1	+0.6
UPI				*e*S	Sn	22 42 44.4	-2.8
UPI				AML	AML	22 43 30.9	
	comp=Z,19nm,0.4s						
GRM	**Grahamstown**	**7.22**	**191**	*e*P	Pn	22 41 43.4	+1.0
GRM				*e*S	Sn	22 43 02.0	-3.0
GRM				AML	AML	22 43 10.6	
	comp=Z,4.1nm,0.6s						
SUR	**Sutherland**	**8.88**	**224**	*e*P	Pn	22 42 07.0	+1.9
SUR				*e*S	Sn	22 43 41.3	-4.4

CRAAG ***13*** *22:42:08.9, 36.76N×9.69E, Ml4.3*
TUN ***13*** *22:42:16.4, 36.53N×9.25E, h15km, MD3.5*
NEIC ***13*** *22:42:17.2, 36.74N×9.80E, h0km, MG4.5(MDD), After MDD.*
CSEM ***13*** *22:42:19.2±0.1, 36.59N×9.18E, h12km, MD3.5, Error ellipse: s-maj=3.0km s-min=2.1km az=14.0*
ISCJB ***13*** *22:42:20.6±0.7, 36.65N±0.04×9.20E±0.05, h25km±7km, Error ellipse: s-maj=7.0km s-min=5.3km az=42.4*
ISC 13 22:42:20.9±0.7, 3660N±004×928E±004, h14km±5km, n49, σ1§38/66, Tunisia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLIT	**Baltah**	**0.29**	**292**	*i* P	**Pg**	**22 42 26.0**	**-0.9**
KRIT	**Krib**	**0.31**	**212**	*i* P	**Pg**	**22 42 25.0**	**-2.4**
KCHT	**Kechabta**	**0.73**	**46**	*i* P	**Pg**	**22 42 36.0**	**+0.9**
TROT	**Trozza**	**1.07**	**166**	*i* P	**Pb**	**22 42 40.0**	**-1.2**
TROT				*i* S	**Sb**	**22 42 56.5**	**+1.4**
MBZ	**Menzel Bouzelf**	**1.12**	**86**	*i* P	**Pb**	**22 42 41.8**	**-0.2**
ABSA	**Djebel Ababsia**	**1.49**	**258**	P	**Pn**	**22 42 45.0**	**-2.3**
CMAH	**Djebel Manchou**	**1.50**	**271**	P	**Pn**	**22 42 45.0**	**-2.4**
CAEH	**'Ain El Ouahch**	**1.96**	**276**	P	**Pn**	**22 42 51.5**	**-2.3**
CKFL	**Kef-Lekhel**	**2.08**	**265**	P	**Pn**	**22 42 54.0**	**-1.3**
CASM	**Ain Smara**	**2.28**	**262**	P	**Pn**	**22 42 57.0**	**-1.1**
CTEI	**Djebel Teioual**	**2.38**	**258**	P	**Pn**	**22 43 04.0**	**+4.5**
DFRA	**Djebel Bou Aff**	**2.74**	**270**	P	**Pn**	**22 43 04.0**	**-0.5**
VSL	**Villasalto**	**2.89**	**1**	*e*Pn	**Pn**	**22 43 06.2**	**-0.3**
VSL				*e*Sn	**Sn**	**22 43 39.0**	**-1.9**
**VS

VHO	**Vista Hermosa**	**1.64**	**60**	*i* P	Pn	00 10 50.0	-3.2
VHO				*i* S	Sn	00 11 10.2	-4.3
OXX	**Oaxaca**	**1.66**	**60**	*i* P	Pn	00 10 52.2	-1.1
OXX				*i* S	Sn	00 11 10.9	-3.9
OXX	**Oaxaca**	**1.66**	**60**	*i* P	Pn	00 10 50.1	-3.2
OXX				*i* S	Sn	00 11 09.9	-4.9
ACX	**Acapulco**	**1.73**	**291**	*i* P	Pn	00 10 51.0	-3.3
ACX				*i* S	Sn	00 11 10.2	-6.3
ACX	**Acapulco**	**1.73**	**291**	*i* P	Pn	00 10 50.6	-3.7
ACX				*i* S	Sn	00 11 11.7	-4.9
HUIG	**Huatulco**	**2.10**	**103**	*e*P	Pn	00 10 58.4	-1.0
HUIG				*i* S	Sn	00 11 22.4	-3.3
HUIG	**Huatulco**	**2.10**	**103**	*e*P	Pn	00 10 56.8	-2.7
HUIG				*i* S	Sn	00 11 21.3	-4.4
TPIG	**Tehuac#an**	**2.30**	**21**	*e*P	Pn	00 10 59.8	-2.4
TPIG				*i* S	Sn	00 11 25.9	-4.7
PLIG	**Platanillo**	**2.44**	**330**	*e*P	Pn	00 11 01.6	-2.7
PLIG				*i* S	Sn	00 11 30.7	-3.6
YAIG	**Yautepec**	**2.71**	**343**	*e*P	Pn	00 11 10.1	+2.2
YAIG				*i* S	Sn	00 11 37.9	-2.8
YAIG	**Yautepec**	**2.71**	**343**	*i* P	Pn	00 11 06.7	-1.2
YAIG				*i* S	Sn	00 11 37.9	-2.8
MZVM		**3.06**	**342**	*i* P	Pn	00 11 09.7	-3.1
MZVM				*i* S	Sn	00 11 44.7	-4.9
SZVM	**Salazar**	**3.24**	**340**	*i* P	Pn	00 11 14.3	-0.9
SZVM				*i* S	Sn	00 11 50.1	-3.7
CMIG	**Matias Romero**	**3.31**	**75**	*e*P	Pn	00 11 12.2	-3.9
CMIG				*i* S	Sn	00 11 50.7	-4.9
IIO	**Organos**	**3.34**	**352**	*e*P	Pn	00 11 12.7	-3.9
IIO				*i* S	Sn	00 11 53.4	-3.1
ZIIG	**Zihuatanejo**	**3.38**	**294**	*e*P	Pn	00 11 15.9	-1.1
ZIIG				*i* S	Sn	00 11 53.6	-3.7
PTVM	**Pico Tres Padr**	**3.42**	**346**	*e*P	Pn	00 11 13.6	-4.1
PTVM				*i* S	Sn	00 11 53.8	-4.5
MMIG	**Aquila**	**5.29**	**293**	*i* P	Pn	00 11 40.8	-2.5
MMIG				*i* S	Sn	00 12 42.4	-2.1
ANIG	**Ahuacatlan**	**7.63**	**310**	*e*P	Pn	00 12 10.7	-4.9
ANIG				*i* S	Sn	00 13 40.7	-1.6
TEIG	**Tepich**	**10.24**	**66**	Pn	Pn	00 12 52.0	+0.7
	2.0nm,0.5s						
JTS	**JuntasAbangare**	**14.21**	**113**	*e*Pn	Pn	00 13 45.3	-0.5
	1.6nm,0.4s						

WEL 14 00:21:31.4±2.7,3773S×17686E,h16km,ML3.6/7,Error ellipse: s-maj=39.0km s-min=32.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.27**	**245**	P*	Pg	00 21 36.6	-0.5
OPRZ				S*	Sg	00 21 39.9	-1.1
MARZ	**Manawahe**	**0.29**	**210**	P*	Pg	00 21 37.1	-0.5
MARZ				S*	Sg	00 21 40.9	-0.9
URZ	**Urewera**	**0.56**	**159**	P*	Pb	00 21 42.5	-0.4
MXZ	**Matakaoa Point**	**1.16**	**82**	P*	Pb	00 21 51.8	-1.3

*IDC **14** 00:22:02.7±0.8,2053N×11990E,h0km,mb3.9/10, mb1 4.1/11,mb1mx3.9/20,mbtmp3.9/11,ML3.5/1,MS3.1/4, Ms1 3.1/4,ms1mx2.8/25,Error ellipse: s-maj=34.4km s-min=18.8km az=70.0*

*ISCJB **14** 00:22:03.4±5.5,2062N±008×1202E±0.1,h15km±40km, mb3.8/12,Error ellipse: s-maj=23.3km s-min=13.2km az=1.6*

*NEIC **14** 00:22:07.6±0.8,2066N×12022E,h35km,mb3.9/2,Error ellipse: s-maj=20.6km s-min=15.6km az=85.0*

ISC 14 00:22:05.5±5.6,2062N±007×1201E±01,h17km±35km,n20, σ0§91/18,mb3.8/12,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	**Yeheng**	**4.19**	**16**	*e*Pn	**Pn**	**00 23 07.9**	**-0.8**
YHNB				*e*Sn	**Sn**	**00 23 56.8**	**-0.4**
JOW	**Kunigami**	**9.70**	**49**	LR	LR	00 28 33.7	
	comp=Z,123nm,20.4s,baz=315,slow=39						
JNU	**Nakatsue**	**15.71**	**35**	LR	LR	00 31 36.9	
	comp=Z,61nm,18.2s,baz=55,slow=36						
KSRS	**Korea Array**	**18.09**	**20**	P	**Pn**	**00 26 16.4**	**+0.4**
	0.1nm,0.3s,baz=190,slow=13,SNR=3.7						
KSRS				LR	LR	00 33 30.5	
	comp=Z,34nm,19.0s,baz=220,slow=38						
MAJO	**Matsushiro**	**22.39**	**41**	P	**P**	**00 26 59.7**	**-3.3**
	1.8nm,0.4s,mb3.9						
MJAR	**Matsushiro Arr**	**22.39**	**41**	P	**P**	**00 27 04.7**	**+1.7**
	1.2nm,0.3s,mb3.8,baz=236,slow=8.9,SNR=4.8						
MK31	**Makanchi Array**	**40.29**	**319**	*e*P	**P**	**00 29 41.7**	**+0.1**
MKAR	**Makanchi Array**	**40.29**	**319**	P	**P**	**00 29 41.9**	**+0.3**
MKAR	**Makanchi Array**	**40.29**	**319**	P	**P**	**00 29 41.9**	**+0.3**
	0.7nm,0.7s,mb3.5,baz=115,slow=9.4,SNR=8.8						
WRA	**Warramunga Arr**	**42.65**	**160**	P	**P**	**00 30 00.9**	**-0.3**
	3.8nm,1.0s,mb4.1,baz=342,slow=9.1,SNR=9.0						
ZALV	**Zalesovo Beam**	**42.75**	**330**	P	**P**	**00 30 01.6**	**0.0**
	1.1nm,0.7s,mb3.7,baz=124,slow=7.9,SNR=5.2						
UCH	**Uchtor**	**43.84**	**310**	P	**P**	**00 30 11.5**	**+0.8**
	4.0nm,1.4s,mb4.0						
ASAR	**Alice Springs**	**46.03**	**162**	P	**P**	**00 30 27.9**	**-0.4**
	2.1nm,1.1s,mb4.0,baz=332,slow=6.6,SNR=6.2						
FINES	**FINESS Array B**	**74.01**	**330**	P	**P**	**00 33 39.2**	**-0.8**
	1.5nm,0.9s,mb3.9,baz=56,slow=10,SNR=5.3						
INK	**Inuvik**	**76.88**	**21**	LR	LR	01 09 33.3	
	comp=Z,26nm,19.9s,baz=197,slow=37						
HFS	**Hagfors**	**80.17**	**331**	P	**P**	**00 34 14.1**	**-0.5**
	1.5nm,0.9s,mb3.9,baz=67,slow=11,SNR=4.5						
NB2	**NORSAR Subarra**	**80.89**	**332**	P	**P**	**00 34 17.7**	**-0.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=64,slow=5.6						
NOA	**NORSAR Array B**	**80.89**	**332**	P	**P**	**00 34 17.9**	**-0.5**
	comp=Z,0.5nm,0.6s,mb3.6,baz=61,slow=5.3,SNR=3.8						
GERES	**GERESS Array B**	**84.95**	**320**	P	**P**	**00 34 39.6**	**-0.1**
	comp=Z,0.2nm,0.4s,mb3.6,baz=48,slow=4.0,SNR=4.8						
YKA	**Yellowknife Ar**	**86.62**	**22**	P	**P**	**00 34 49.9**	**+2.2**
	comp=Z,1.3nm,1.0s,mb4.1,baz=314,slow=4.8,SNR=11						

*ISCJB **14** 00:22:59.8±0.9,3445N±008×24.18E±008,h10km,mb3.5/5, Error ellipse: s-maj=12.1km s-min=8.2km az=37.6*

*IDC **14** 00:22:59.9±1.3,3456N×2396E,h0km,mb3.7/5,mb1 3.7/8, mb1mx3.6/25,mbtmp3.6/8,ML3.5/3,Error ellipse: s-maj=25.6km s-min=17.7km az=147.0*

*ATH **14** 00:23:01.9,3463N×2420E,h5km±4km,MD3.6/7*

*NEIC **14** 00:23:01.9,3463N×2420E,h5km,MD3.6(ATH),After ATH.*

*CSEM **14** 00:23:04.6±99.0,3473N×2425E,h5km,MD3.6,After ATH*

ISC 14 00:23:02.0±0.9,3456N±007×2416E±008,h10km,n17, σ1§39/17,mb3.5/5,1C,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.28**	**347**	⇑*i*PG	**Pg**	**00 23 06.5**	**-1.2**
VAM	**Vamos**	**0.85**	**2**	*e*PB	**Pg**	**00 23 17.3**	**-1.0**
IDI	**Anoyia**	**0.94**	**39**	Pg	**Pg**	**00 23 19.8**	**-0.3**
	3.6nm,0.3s,baz=222,slow=17,SNR=34						
XRY	**Khrisi**	**1.30**	**76**	*e*PG	**Pg**	**00 23 25.5**	**-1.4**
NPS	**Neapolis**	**1.38**	**59**	*e*PB	**Pn**	**00 23 26.8**	**-0.5**
KYTH	**Kithira**	**1.95**	**332**	*e*PN	**Pb**	**00 23 38.0**	**+0.5**
VLI	**Veliai**	**2.37**	**335**	*e*PN	**Pn**	**00 23 42.9**	**+2.0**
KARP	**Karpathos**	**2.65**	**67**	*e*PN	**Pn**	**00 23 48.0**	**+3.3**
MMAI	**Mount Meron Ar**	**9.48**	**96**	Pn	**Pn**	**00 25 18.5**	**-0.1**
	0.5nm,0.3s,baz=291,slow=12,SNR=5.2						
EIL	**Elat**	**10.36**	**115**	Pn	**Pn**	**00 25 31.1**	**+0.4**
	0.3nm,0.3s,baz=0.0,slow=14,SNR=3.5						
GERES	**GERESS Array B**	**16.25**	**335**	Pn	**Pn**	**00 26 51.8**	**+1.6**
	0.1nm,0.3s,baz=152,slow=12,SNR=7.5						
HFS	**Hagfors**	**26.48**	**348**	P	**P**	**00 28 38.3**	**-0.8**
	2.3nm,1.0s,mb3.7,baz=162,slow=20,SNR=3.9						
NB2	**NORSAR Subarra**	**27.78**	**346**	P	**P**	**00 28 48.5**	**-2.2**
	comp=Z,0.3nm,0.5s,mb3.2,baz=161,slow=9.3						
NOA	**NORSAR Array B**	**27.78**	**346**	P	**P**	**00 28 48.0**	**-2.6**
	comp=Z,0.5nm,0.7s,mb3.2,baz=150,slow=6.1,SNR=3.8						
TORD	**Torodi Ar. Bea**	**29.48**	**229**	P	**P**	**00 29 04.5**	**-1.8**
	comp=Z,0.7nm,0.7s,mb3.5,baz=39,slow=8.4,SNR=5.1						
MKAR	**Makanchi Array**	**44.79**	**56**	P	**P**	**00 31 17.4**	**+1.7**
	comp=Z,0.3nm,0.4s,mb3.4,baz=282,slow=5.9,SNR=5.3						
ZALV	**Zalesovo Beam**	**46.01**	**46**	P	**P**	**00 31 27.4**	**+2.1**
	comp=Z,0.5nm,0.4s,mb3.8,baz=255,slow=5.5,SNR=2.6						

MOS 14 00:31:23.7±1.7,4555N×3670E,h24km,mb3.8/1,2D, Error ellipse: s-maj=23.8km s-min=14.3km az=46.3, Crimea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KERU	**Kerch**	**0.30**	**215**	⇓*e*P	Pb	00 31 39.6	+9.1
KERU				*e*		00 31 50.6	
KERU				pmax	pmax		
	comp=Z,26nm,0.2s						
KERU				smax			
	comp=N,14nm,0.2s						
KERU				smax			
	comp=E,24nm,0.2s						
ANN	**Anapa**	**0.92**	**145**	⇓*i*P	Pb	00 31 39.2	-1.7
ANN				*i*		00 31 47.3	
ANN				pmax	pmax		
	comp=Z,30nm,0.4s						
ANN				smax			
	comp=N,213nm,0.4s						
ANN				smax			
	comp=E,207nm,0.4s						
FEO	**Feodosiya**	**1.07**	**240**	*e*P	Pn	00 31 45.9	+2.8
FEO				*e*		00 31 58.5	
FEO				pmax	pmax		
	comp=Z,1.0nm,0.2s						
FEO				smax			
	comp=E,58nm,0.3s						
FEO				smax			
	comp=N,40nm,0.2s						
SUDU	**Sudak**	**1.37**	**242**	*e*P	Pn	00 31 47.6	+0.3
SUDU				*e*		00 32 02.5	
SUDU				smax			
	comp=E,3.0nm,0.3s						
SUDU				smax			
	comp=N,8.0nm,0.3s						
ALU	**Alushta**	**1.84**	**243**	*e*P	Pn	00 31 52.5	-1.3
ALU				*e*S	Sn	00 32 16.1	-0.2
ALU				smax			
	comp=N,19nm,0.3s						
SIM	**Simferopol'**	**1.92**	**253**	*e*P	Pn	00 31 56.7	+1.8
SIM				*e*S	Sn	00 32 19.5	+1.2
SIM				smax			
	comp=E,8.0nm,0.1s						
YAL	**Yalta**	**2.10**	**240**	*e*P	Pn	00 31 57.7	+0.5
YAL				*e*		00 32 19.3	
YAL				pmax	pmax		
	comp=Z,4.0nm,0.2s						
YAL				smax			
	comp=N,4.0nm,0.2s						
YAL				smax			
	comp=E,2.0nm,0.2s						
SEV	**Sevastopol'**	**2.37**	**246**	*e*P	Pn	00 32 01.3	+0.2
SEV				*e*S	Sn	00 32 26.8	-2.6
SEV				pmax	pmax		
	comp=Z,1.0nm,0.2s						
SEV				smax			
	comp=N,13nm,0.2s						
SEV				smax			
	comp=E,4.0nm,0.2s						

*ISCJB **14** 00:53:06.2±2.5,4651N±008×1560E±0.1,h8km±15km, mb4.0/21,MS3.3/3,Error ellipse: s-maj=14.5km s-min=9.5km az=141.6*

*IDC **14** 00:53:06.8±0.6,4652N×15604E,h0km,mb4.0/15, mb1 4.2/17,mb1mx4.1/24,mbtmp4.0/17,ML4.0/2,MS3.3/2, Ms1 3.3/2,ms1mx2.7/29,Error ellipse: s-maj=19.7km s-min=15.0km az=145.0*

*NEIC **14** 00:53:08.3±0.4,4653N×15605E,h10km,mb4.3/2,Error ellipse: s-maj=11.9km s-min=7.5km az=134.0*

*MOS **14** 00:53:08.6±1.2,4655N×15587E,h21km,mb4.6/5,Error ellipse: s-maj=13.8km s-min=10.3km az=87.5*

ISC 14 00:53:09.4±2.6,4651N±007×15607E±010,h16km±16km, n45,σ0§87/45,mb4.0/21,MS3.3/3,1C-6D,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.18**	**0**	*e*PN	**Pn**	**00 54 12.5**	**+0.1**
KUR	**Kuril'sk**	**5.87**	**260**	*e*PN	**Pn**	**00 54 30.0**	**-5.7**
KUR				pmax	pmax		
	comp=Z,60nm,0.5s						
PET	**Petropavlovsk**	**6.73**	**13**	*e*PN	**Pn**	**00 54 41.3**	**-6.2**
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
PET	**Petropavlovsk**	**6.73**	**13**	Pn	**Pn**	**00 54 47.1**	**-0.4**
	comp=Z,9.0nm,0.4s						
YSS	**Yuzh-Sakhalins**	**9.16**	**278**	*i* PN	**Pn**	**00 55 20.8**	**0.0**
ASAJ	**Asahikawa**	**9.79**	**261**	PN	**Pn**	**00 55 27.9**	**-1.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**9.79**	**261**	Pn	**Pn**	**00 55 27.9**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=62,slow=20,SNR=4.3						
ERM	**Erimo**	**10.29**	**249**	PN	**Pn**	**00 55 36.1**	**-0.2**
ERM				pmax	pmax		
	comp=Z,33nm,1.0s						
ERM	**Erimo**	**10.29**	**249**	Pn	**Pn**	**00 55 36.1**	**-0.2**
	comp=Z,33nm,1.0s						
KLR	**Kul'dur**	**16.53**	**288**	*e*P	**Pn**	**00 57 02.2**	**+1.9**
KLR				MLR	MLR		
	comp=Z,700nm,13.0s						
MJAR	**Matsushiro Arr**	**16.64**	**240**	Pn	**Pn**	**00 57 02.4**	**+0.6**
	comp=Z,0.5nm,0.3s,baz=46,slow=9.4,SNR=4.6						
BILL	**Bilibino**	**22.22**	**10**	⇓*e*P	**P**	**00 58 05.3**	**+0.5**
BILL				*e*		00 58 27.8	
BILL				*e*S	**S**	**01 02 11.4**	**+2.8**
BILL				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.3						
BILL	**Bilibino**	**22.22**	**10**	*e*P	**P**	**00 58 04.8**	**-0.1**
	comp=Z,16nm,1.2s,mb4.3						
KSRS	**Korea Array**	**22.70**	**257**	P	**P**	**00 58 11.6**	**+1.4**
	comp=Z,1.6nm,0.6s,mb3.7,baz=58,slow=11,SNR=4.2						
TIXI	**Tiksi**	**28.30**	**342**	⇓*e*P	**P**	**00 59 01.1**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.2						
ULN	**Ulaanbaatar**	**32.90**	**291**	*i* P	**P**	**00 59 42.3**	**-0.2**
COLA	**College**	**35.07**	**38**	*i* P	**P**	**01 00 00.6**	**-0.5**
INK	**Inuvik**	**40.76**	**32**	P	**P**	**01 00 49.5**	**+0.3**
	comp=Z,2.4nm,0.8s,mb3.9,baz=294,slow=7.6,SNR=15						
ZALV	**Zalesovo Beam**	**44.40**	**307**	P	**P**	**01 01 19.6**	**+0.8**
	comp=Z,0.5nm,0.4s,mb3.6,baz=72,slow=9.5,SNR=3.8						
ZALV				LR	LR	01 20 35.4	
	comp=Z,40nm,19.5s,MS3.3,baz=62,slow=37						
ZAL	**Zalesovo**	**44.41**	**307**	P	**P**	**01 01 19.7**	**+0.7**
MKAR	**Makanchi Array**	**48.85**	**299**	P	**P**	**01 01 53.4**	**-0.5**
	comp=Z,0.8nm,0.7s,mb3.8,baz=64,slow=8.0,SNR=11						
MKAR				LR	LR	01 24 59.2	
	comp=Z,30nm,18.9s,MS3.3,baz=3.0,slow=39						
KURK	**Kurchatov**	**49.19**	**305**	⇑*i*P	**P**	**01 01 55.9**	**-0.4**
KURK	**Kurchatov**	**49.19**	**305**	*e*P	**P**	**01 01 54.8**	**-1.5**
	comp=Z,2.5nm,0.8s,mb4.3						
YKA	**Yellowknife Ar**	**49.89**	**37**	P	**P**	**01 02 01.5**	**0.0**
YKA						01 03 21.4	
YKA	**Yellowknife Ar**	**49.89**	**37**	P	**P**	**01 02 01.5**	**0.0**
	comp=Z,1.1nm,0.9s,mb3.9,baz=295,slow=7.7,SNR=7.9						
YKA				PcP	PcP	01 03 21.4	-0.3
	comp=Z,0.3nm,0.7s,baz=302,slow=3.7,SNR=3.9						
BVAR	**Borovoye Array**	**52.58**	**311**	P	**P**	**01 02 22.4**	**+0.6**
	comp=Z,1.9nm,0.7s,mb4.1,baz=61,slow=12,SNR=7.8						
ARU	**Arti**	**56.55**	**319**	*d* *i*P	**P**	**01 02 49.6**	**-1.0**
ARU				*e*		01 04 53.6	
ARU				*e*S	**S**	**01 10 40.7**	**-0.6**
ARU				*e*SS	SS	01 14 24.9	-3.1
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.4						
NVAR	**Mina Array Bea**	**60.73**	**64**	P	**P**	**01 03 21.1**	**+1.1**
	comp=Z,0.8nm,0.7s,mb4.0,baz=312,slow=5.3,SNR=5.1						
FINES	**FINESS Array B**	**65.11**	**336**	P	**P**	**01 03 47.7**	**-1.1**
	comp=Z,0.4nm,0.5s,mb3.7,baz=33,slow=4.5,SNR=5.1						
ULM	**Lac du Bonnet**	**65.35**	**42**	P	**P**	**01 03 49.8**	**-0.7**
	comp=Z,0.9nm,0.6s,mb4.0,baz=330,slow=9.7,SNR=4.1						
OBN	**Obninsk**	**66.64**	**327**	⇓*e*P	**P**	**01 03 57.9**	**-0.8**
OBN				*e*		01 06 27.4	
OBN				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.5						
WRA	**Warramunga Arr**	**69.00**	**202**	P	**P**	**01 04 12.9**	**-1.0**
WRA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
WRA	**Warramunga Arr**	**69.00**	**202**	P	**P**	**01 04 13.0**	**-0.9**
	comp=Z,1.9nm,0.9s,mb4.0,baz=21,slow=6.6,SNR=8.2						
KIV	**Kislovodsk**	**72.41**	**316**	⇓*e*P	**P**	**01 04 36.4**	**+1.9**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ASAR	**Alice Springs**	**72.67**	**201**	P	**P**	**01 04 36.2**	**+0.1**
	comp=Z,1.5nm,0.7s,mb4.0,baz=14,slow=5.4,SNR=11						
AKASG	**Malin Array Be**	**72.86**	**328**	P	**P**	**01 04 35.9**	**-1.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.86**	**328**	P	**P**	**01 04 36.0**	**-1.1**
AKASG	**Malin Array Be**	**72.86**	**328**	P	**P**	**01 04 36.0**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=33,slow=5.7,SNR=14						
TXAR	**Lajitas Array**	**75.82**	**62**	P	**P**	**01 04 55.2**	**+0.5**
	comp=Z,2.0nm,0.6s,mb4.2,baz=302,slow=4.2,SNR=39						
CLL	**Collm**	**77.50**	**337**	*e*P	**P**	**01 05 04.0**	**+0.2**
STKA	**Stephens Creek**	**79.11**	**193**	P	**P**	**01 05 13.2**	**+0.5**
	comp=Z,1.9nm,0.8s,mb4.1,baz=342,slow=5.1,SNR=3.3						
KHC	**Kasperske Hory**	**79.32**	**336**	⇓*e*P	**P**	**01 05 13.9**	**0.0**
GERES	**GERESS Array B**	**79.54**	**336**	P	**P**	**01 05 14.5**	**-0.6**
	comp=Z,0.9nm,0.9s,mb3.7,baz=57,slow=4.9,SNR=4.2						
PLCA	**Paso Flores**	**146.16**	**97**	PKPbc	PKPbc	01 12 48.7	+0.5
	comp=Z,1.8nm,0.6s,baz=248,slow=4.4,SNR=3.4						
CPUP	**Villa Florida**	**146.77**	**64**	PKPbc	PKPbc	01 12 48.8	-1.7
	comp=Z,1.0nm,0.6s,baz=326,slow=5.7,SNR=4.0						

*ISCJB **14** 01:06:36.7±0.3,3933N±002×2043E±003,h0km,Error ellipse: s-maj=3.4km s-min=2.3km az=170.9*

*ATH **14** 01:06:36.6,3934N×2048E,h5km±3km,MD3.3/5*

*NEIC **14** 01:06:36.8,3932N×2043E,h19km,MD3.3(ATH), ML3.4(THE),After ATH.*

*CSEM **14** 01:06:37.2±0.2,3936N×2039E,h0km±1km,ML3.4,Error ellipse: s-maj=4.5km s-min=3.5km az=80.0*

*THE **14** 01:06:37.6,3934N×2041E,h3km,ML3.4*

ISC 14 01:06:37.3±0.5,3932N±002×2043E±003,h2km±4km,n39, σ1§15/61,1C,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.23**	**341**	*e*Pg	**Pg**	**01 06 40.6**	**-1.0**
IGT				*e*Sg	**Sg**	**01 06 45.1**	**+0.4**
JAN	**Janina**	**0.47**	**44**	*e*PG	**Pg**	**01 06 44.7**	**-1.6**
JAN				*e*SB	**Sg**	**01 06 51.6**	**-0.9**
JAN	**Janina**	**0.47**	**44**	⇑*i*Pb	**Pg**	**01 06 44.9**	**-1.4**
JAN				*e*Sb	**Sg**	**01 06 53.1**	**+0.6**
KEK	**Kerkira**	**0.63**	**309**	*e*PB	**Pg**	**01 06 48.6**	**-0.7**
KEK				*e*SB	**Sg**	**01 06 59.0**	**+1.6**
KEK	**Kerkira**	**0.63**	**309**	*e*Pb	**Pg**	**01 06 48.6**	**-0.7**
KEK				*e*Sn	**Sg**	**01 06 58.4**	**+1.0**
LKD	**Levkas**	**0.63**	**164**	*e*Pg	**Pg**	**01 06 49.3**	**-0.1**
LKD				*e*Sg	**Sg**	**01 07 00.4**	**+2.8**
SRN	**Sarande**	**0.65**	**330**	*e*Pg	**Pg**	**01 06 48.9**	**-0.9**
MEV	**Metsovon**	**0.78**	**53**	*e*Pg	**Pg**	**01 06 51.0**	**-1.2**
MEV				*e*Sg	**Sg**	**01 07 03.5**	**+1.2**
VLS	**Valsamata**	**1.15**	**174**	*e*Pg	**Pg**	**01 06 58.9**	**-0.3**
VLS				*e*Sg	**Sg**	**01 07 17.4**	**+3.3**
VLS	**Valsamata**	**1.15**	**174**	*e*Pn	**Pn**	**01 06 59.0**	**-1.3**
VLS	**Valsamata**	**1.15**	**174**	*e*PB	**Pb**	**01 06 58.8**	**-1.0**
VLS				*e*SB	**Sb**	**01 07 16.0**	**+0.9**
EVR	**Evrytania**	**1.15**	**110**	*e*PB	**Pb**	**01 06 58.7**	**-1.1**
EVR				*e*SB	**Sb**	**01 07 13.3**	**-1.9**
EVR	**Evrytania**	**1.15**	**110**	*e*Pn	**Pn**	**01 06 58.5**	**-1.9**
KFL	**Anninata**	**1.24**	**167**	*e*Pg	**Pg**	**01 07 01.1**	**+0.1**
KFL				*e*Sg	**Sg**	**01 07 20.5**	**+3.5**
THL	**Klokotos Trika**	**1.25**	**78**	*e*Pg	**Pg**	**01 07 01.9**	**+0.5**
THL				*e*Sg	**Sg**	**01 07 19.2**	**+1.7**
THL	**Klokotos Trika**	**1.25**	**78**	*e*PG	**Pg**	**01 06 59.3**	**-2.0**
KZN	**Kozani**	**1.43**	**46**	*e*PB	**Pn**	**01 07 03.3**	**-1.0**
KZN	**Kozani**	**1.43**	**46**	*e*Pn	**Pn**	**01 07 04.5**	**+0.2**
RLS	**Riolos of Patr**	**1.50**	**147**	*e*PG	**Pn**	**01 07 04.2**	**-1.0**
RLS				*e*SB	**Sb**	**01 07 24.9**	**-0.4**
AGG	**Agios Georgios**	**1.51**	**101**	*e*Pg	**Pn**	**01 07 04.6**	**-0.7**
AGG				*e*Sg	**Sg**	**01 07 27.1**	**+1.4**
SELA	**Sela**	**1.55**	**132**	*e*Pg	**Pg**	**01 07 06.8**	**-0.2**
SELA				*e*Sg	**Sg**	**01 07 27.8**	**+0.8**
FNA	**Florina**	**1.64**	**26**	*e*Pb	**Pb**	**01 07 07.1**	**-1.1**
FNA				*e*Sb	**Sb**	**01 07 30.0**	**+0.7**
LIT	**Litokhoron**	**1.77**	**63**	*e*Pb	**Pn**	**01 07 08.8**	**-0.2**
LIT				*e*Sb	**Sb**	**01 07 32.9**	**-0.3**
OHR	**Ohrid**	**1.81**	**9**	*e*Pn	**Pn**	**01 07 11.0**	**+1.4**
OHR				*e*Sn	**Sg**	**01 07 36.1**	**+0.5**
OHR	**Ohrid**	**1.81**	**9**	*e*Pn	**Pn**	**01 07 10.9**	**+1.3**
OHR				*e*Sn	**Sg**	**01 07 36.0**	**+0.4**
BIA	**Bitola**	**1.83**	**22**	*e*Pb	**Pn**	**01 07 09.0**	**-0.8**
BIA				*e*Sb	**Sb**	**01 07 34.3**	**-0.7**
BIA	**Bitola**	**1.83**	**22**	*e*Pn	**Pn**	**01 07 11.5**	**+1.6**
BIA				*e*Sn	**Sn**	**01 07 36.0**	**+2.4**
BIA	**Bitola**	**1.83**	**22**	*e*Pn	**Pn**	**01 07 11.4**	**+1.6**
BIA				*e*Sn	**Sn**	**01 07 36.0**	**+2.4**
LKR	**Lokris**	**2.11**	**108**	*e*PG	**Pg**	**01 07 15.4**	**-2.4**
XOR	**Xorichti**	**2.14**	**88**	*e*Pn	**Pn**	**01 07 14.8**	**+0.7**
GRG	**Griva**	**2.23**	**42**	*e*Pn	**Pn**	**01 07 15.6**	**+0.3**
ITM	**Ithomi**	**2.44**	**151**	*e*PN	**Pn**

GUC 14 03:02:13.5±0.7, 3125S×6889W, h152km±18km, MD3.8, ML4.0
NEIC 14 03:02:13.5, 3125S×6889W, h152km, MD3.8(GUC), After GUC.
IDC 14 03:02:13.1±1.7, 3129S×6853W, h99km±15km, mb3.2/1, mb1 3.4/4, mb1mx3.2/16, mbtmp3.2/4, Error ellipse: s-maj=46.8km s-min=29.5km az=133.0
ISC 14 03:02:13.5±0.5, 3122S±003×6857W±005, h101km±7km, n28, σ0°81/47, 8C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.47**	**144**	P	**Pn**	**03 02 29.1**	**-0.1**
CFAA				S	**Sn**	**03 02 41.2**	**+0.2**
CFAA	**Coronel Fontan**	**0.47**	**144**	P	**Pn**	**03 02 29.1**	**-0.1**
	15nm,0.3s,baz=315,slow=7.2,SNR=702						
CFAA				S	**Sn**	**03 02 41.2**	**+0.2**
	73nm,0.3s,baz=178,slow=18,SNR=176						
CMCH	**Combarbala**	**2.09**	**271**	⇑iP	**Pn**	**03 02 46.9**	**-0.3**
CMCH				*i* S	**Sn**	**03 03 12.8**	**-0.2**
CMCH	**Combarbala**	**2.09**	**271**	⇑iP	**Pn**	**03 02 46.9**	**-0.3**
CMCH				*i* S	**Sn**	**03 03 12.8**	**-0.2**
CMCH				AML	AML	03 03 14.2	
	comp=N,4μm,0.5s						
TLL	**Tololo Astrono**	**2.20**	**298**	⇑iP	**Pn**	**03 02 49.6**	**+0.9**
TLL				*i* S	**Sn**	**03 03 16.2**	**+0.7**
TLL	**Tololo Astrono**	**2.20**	**298**	⇑iP	**Pn**	**03 02 49.6**	**+0.9**
TLL				*i* S	**Sn**	**03 03 16.2**	**+0.7**
TLL				AML	AML	03 03 19.4	
	comp=N,501nm,0.4s						
JACH	**Jahuel**	**2.25**	**229**	*e*P	**Pn**	**03 02 49.9**	**+0.5**
JACH				*i* S	**Sn**	**03 03 17.0**	**+0.1**
PTCH	**Petorca**	**2.27**	**242**	⇑iP	**Pn**	**03 02 49.2**	**-0.3**
PTCH				*i* S	**Sn**	**03 03 16.3**	**-0.8**
OVCH	**Ovalle**	**2.35**	**284**	⇑iP	**Pn**	**03 02 50.3**	**-0.2**
OVCH				*i* S	**Sn**	**03 03 17.8**	**-1.2**
FCH	**Farellones**	**2.56**	**214**	⇓iP	**Pn**	**03 02 54.3**	**+1.0**
FCH				*i* S	**Sn**	**03 03 25.8**	**+1.8**
FCH				AML	AML	03 03 33.8	
	comp=E,332nm,0.2s						
PEL	**Peldehue**	**2.62**	**223**	⇓iP	**Pn**	**03 02 54.1**	**-0.1**
PEL				*i* S	**Sn**	**03 03 25.4**	**-0.2**
PEL				AML	AML	03 03 26.7	
	comp=E,525nm,0.6s						
LSCH	**La Serena**	**2.66**	**299**	*e*P	**Pn**	**03 02 54.5**	**-0.2**
LSCH				*i* S	**Sn**	**03 03 24.9**	**-1.4**
ROCH	**El Roble**	**2.71**	**229**	*e*P	**Pn**	**03 02 55.1**	**-0.2**
CLCH	**Cerro Calan**	**2.73**	**217**	⇑iP	**Pn**	**03 02 56.2**	**+0.5**
CLCH				*i* S	**Sn**	**03 03 28.5**	**+0.3**
CLCH				AML	AML	03 03 30.8	
	comp=E,696nm,0.5s						
LCO	**Las Campanas**	**2.88**	**319**	*e*Pn	**Pn**	**03 02 57.8**	**+0.2**
LCO				*e*Sn	**Sn**	**03 03 31.9**	**+0.3**
PCH	**Pirque**	**2.90**	**214**	*e*P	**Pn**	**03 02 58.7**	**+0.7**
LMEL	**Las Melosas**	**2.96**	**207**	⇓iP	**Pn**	**03 02 59.3**	**+0.6**
LMEL				AML	AML	03 03 45.2	
	comp=N,238nm,0.3s						
TACH	**Talagante**	**3.15**	**219**	*e*P	**Pn**	**03 03 00.3**	**-0.8**
TACH				*i* S	**Sn**	**03 03 37.0**	**-0.9**
CHCH	**Chadas Angostu**	**3.23**	**213**	⇓iP	**Pn**	**03 03 02.2**	**0.0**
CHCH				*i* S	**Sn**	**03 03 40.0**	**+0.1**
VACH	**Vallenar**	**3.25**	**324**	⇑iP	**Pn**	**03 03 02.9**	**+0.2**
VACH				*i* S	**Sn**	**03 03 41.0**	**+0.4**
CACH	**El Canelo**	**3.36**	**210**	*i* S	**Sn**	**03 03 44.1**	**+1.1**
CICH	**Cipreses**	**3.46**	**206**	*e*P	**Pn**	**03 03 05.9**	**+0.5**
CICH				*i* S	**Sn**	**03 03 46.2**	**+0.7**
SFDO	**San Fernando**	**3.96**	**211**	*e*P	**Pn**	**03 03 10.7**	**-1.4**
SFDO				*i* S	**Sn**	**03 03 54.7**	**-2.8**
TRQA	**Tornquist**	**8.71**	**143**	*e*Pn	**Pn**	**03 04 15.1**	**-1.4**
	comp=N,9.4nm,0.4s						
CPUP	**Villa Florida**	**10.99**	**66**	P	**Pn**	**03 04 46.3**	**-1.4**
	comp=N,0.5nm,0.3s,baz=217,slow=15,SNR=4.8						
LPAZ	**La Paz**	**14.87**	**2**	P	**Pn**	**03 05 39.8**	**+1.2**
	comp=N,0.1nm,0.3s,baz=180,slow=8.2,SNR=8.4						
SIV	**San Ignacio**	**16.64**	**26**	P	**Pn**	**03 06 01.0**	**+0.4**
	comp=N,0.2nm,0.3s,baz=209,slow=9.6,SNR=11						
TORD	**Torodi Ar. Bea**	**80.49**	**68**	P	**P**	**03 14 14.6**	**0.0**
	comp=N,0.4nm,0.7s,baz=224,slow=6.0,SNR=2.1						
TORD				pP	pP	03 14 41.6	+0.8
	comp=N,0.7nm,0.9s,baz=257,slow=5.7,SNR=3.0						

IDC 14 03:18:29.5±1.2, 5053N×9679E, h0km, mb3.6/5, mb1 3.6/9, mb1mx3.5/24, mbtmp3.5/9, ML3.4/4, MS2.8/4, Ms1 2.8/4, ms1mx2.6/33, Error ellipse: s-maj=28.8km s-min=15.5km az=10.0
ISCJB 14 03:18:30.6±0.4, 5093N±005×9661E±004, h10km, mb3.7/9, MS2.6/2, Error ellipse: s-maj=7.6km s-min=3.3km az=179.3
MOS 14 03:18:30.5±2.4, 5009N×9640E, h19km, mb4.2/1, Error ellipse: s-maj=10.7km s-min=9.9km az=20.9
NEIC 14 03:18:30.8±0.8, 5054N×9670E, h10km, mb3.5/1, Error ellipse: s-maj=19.1km s-min=10.4km az=191.0
NNC 14 03:18:31.2±3.0, 5117N×9661E, h0km, mb4.0, Error ellipse: s-maj=31.2km s-min=25.8km az=79.0
BJI 14 03:18:31.5, 5040N×9768E, h11km, mB4.6, mb4.2, Ms4.1, Msz3.5
ASRS 14 03:18:31.1±2.4, 5053N×9656E, h15km, Ms3.6
ISC 14 03:18:32.2±0.3, 5081N±005×9670E±003, h10km, n60, σ1°33/74, mb3.7/9, MS2.6/2, 10C-2D, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**2.60**	**47**	*e*PN	**Pg**	**03 19 23.4**	**+1.5**
ORL				*e*		03 20 02.0	
ORL				pmax	pmax		
	comp=Z,172nm,0.6s						
ORL				smax			
	comp=N,2μm,0.1s						
MOY	**Mondy**	**2.83**	**71**	*e*PN	**Pg**	**03 19 25.1**	**-1.3**
MOY				*e*	**Sg**	**03 20 06.1**	**+3.0**
MOY				pmax	pmax		
	comp=Z,281nm,0.6s						
MOY				smax			
	comp=E,2μm,0.7s						
ARS	**Arshan**	**3.76**	**71**	*e*PN	**Pg**	**03 19 43.8**	**-0.3**
CERR	**Cheremushki**	**3.86**	**304**	*e*PN	**Pg**	**03 19 47.0**	**+0.9**
CERR				*e*	**Sg**	**03 20 35.9**	**-0.2**
CERR	**Cheremushki**	**3.86**	**304**	*e*Pg	**Pg**	**03 19 47.0**	**+0.9**
CERR				*e*Sg	**Sg**	**03 20 35.9**	**-0.2**
ZAK	**Zakamensk**	**4.22**	**93**	*e*PN	**Pn**	**03 19 36.3**	**-0.1**
ZAK				*e*		03 20 44.9	
ZAK				pmax	pmax		
	comp=Z,103nm,0.8s						
ZAK				smax			
	comp=N,501nm,1.1s						
TLY	**Talaya**	**4.45**	**76**	*e*PN	**Pn**	**03 19 40.4**	**+0.8**
TLY				*e*		03 20 54.2	
TLY				pmax	pmax		
	comp=Z,32nm,0.8s						
TLY				smax			
	comp=N,1μm,1.6s						
IRK	**Irkutsk**	**4.94**	**70**	⇑iPN	**Pg**	**03 20 02.8**	**-4.0**
IRK				*e*	**Sg**	**03 21 09.5**	**-1.2**
IRK				pmax	pmax		
	comp=Z,157nm,0.1s						
IRK				smax			
	comp=N,1μm,0.9s						
KRAR	**Krasnoyarsk**	**5.69**	**338**	*e*PN	**Pb**	**03 20 05.0**	**-6.4**
AKAR	**Aktash**	**5.81**	**269**	*e*PN	**Pn**	**03 19 57.5**	**-0.7**
AKAR				*e*		03 20 15.4	
AKAR	**Aktash**	**5.81**	**269**	*e*Pn	**Pn**	**03 19 57.5**	**-0.7**
AKAR				*e*Pg	**Pb**	**03 20 15.4**	**+2.0**
AKAR				*e*Sg	**Sb**	**03 21 27.2**	**+4.3**
TASR	**Tashtagol**	**5.81**	**293**	*e*PN	**Pb**	**03 20 16.6**	**+3.1**
TASR				*e*		03 21 34.1	
TASR	**Tashtagol**	**5.81**	**293**	*e*Pg	**Pb**	**03 20 16.6**	**+3.1**
TASR				*e*Sg	**Sg**	**03 21 34.1**	**-4.4**
TRG	**Tyrgan**	**6.30**	**68**	*e*PN	**Pn**	**03 20 05.5**	**+0.5**
KAB	**Kabansk**	**6.35**	**75**	*e*PN	**Pg**	**03 20 28.2**	**-5.5**
KAB				*e*	**Sg**	**03 21 54.3**	**-1.6**
KAB				pmax	pmax		
	comp=Z,253nm,0.3s						
KAB				smax			
	comp=E,2μm,1.9s						
ELT	**Yel'tsovka**	**6.90**	**295**	*e*PN	**Pg**	**03 20 37.2**	**-7.0**
ELT				*e*		03 22 03.8	
ELT	**Yel'tsovka**	**6.90**	**295**	*e*Pg	**Pg**	**03 20 37.2**	**-7.0**
ELT				*e*Sn	**Sn**	**03 21 30.3**	**-1.5**
ELT				*e*Sg	**Sg**	**03 22 03.8**	**-10**
SONM	**Songino Array**	**7.00**	**111**	PN	**Pn**	**03 20 11.9**	**-2.8**
SONM						03 20 34.4	
SONM	**Songino Array**	**7.00**	**111**	Pn	**Pn**	**03 20 11.9**	**-2.7**
	comp=E,0.4nm,0.3s,baz=300,slow=15,SNR=5.8						
SONM				Pg	**Pb**	**03 20 34.4**	**+0.6**
	comp=E,2.0nm,0.3s,baz=291,slow=17,SNR=30						
SONM				Lg		03 22 07.9	
	comp=E,5.2nm,0.3s,baz=287,slow=32,SNR=13						
SONM				LR	LR	03 23 03.1	
	comp=E,167nm,19.5s,baz=58,slow=40						
UKR	**Ust'-Kan**	**7.55**	**276**	*e*Pg	**Pb**	**03 20 45.8**	**+2.8**
UKR				*e*Sg	**Sg**	**03 22 27.6**	**-6.6**
ZALV	**Zalesovo Beam**	**7.92**	**298**	Pn	**Pn**	**03 20 28.4**	**+1.2**
	comp=E,0.4nm,0.3s,baz=108,slow=9.7,SNR=5.6						
ZALV				Pg	Pn	03 20 57.0	+30
	comp=E,0.6nm,0.3s,baz=105,slow=15,SNR=5.3						
ZALV				Sn	**Sn**	**03 22 01.4**	**+4.7**
	comp=E,0.8nm,0.3s,baz=108,slow=18,SNR=3.6						
ZALV				Lg		03 22 41.5	
	comp=E,1.5nm,0.3s,baz=111,slow=28,SNR=5.1						
ZALV				LR	LR	03 23 40.0	
	comp=E,34nm,21.3s,baz=304,slow=38						
ZAL	**Zalesovo**	**7.93**	**298**	P	**Pn**	**03 20 28.5**	**+1.2**
ZAL						03 22 01.5	
NVS	**Novosibirsk**	**9.09**	**302**	*e*Pg	Px	03 21 14.3	
NVS				*e*Sg	Sx	03 23 15.7	
MK31	**Makanchi Array**	**10.32**	**253**	⇑Pn	**Pn**	**03 21 05.5**	**+5.5**
	comp=E,1.3nm,0.8s,baz=77,slow=13,SNR=6.9						
MK31				⇑Lg		03 23 55.7	
	comp=E,49nm,1.0s,baz=71,slow=31,SNR=4.4						
MK31	**Makanchi Array**	**10.32**	**253**	*e*P	**Pn**	**03 20 57.9**	**-2.1**
MKAR	**Makanchi Array**	**10.32**	**253**	Pn	**Pn**	**03 20 59.0**	**-1.1**
MKAR				Pg	Pn	03 21 39.5	+39
MKAR				Lg		03 23 56.3	
	comp=E,1.2nm,0.3s,baz=58,slow=28,SNR=8.6						
KURK	**Kurchatov**	**11.45**	**277**	⇑Pn	**Pn**	**03 21 14.7**	**-0.9**
KURK				⇓Lg		03 24 30.7	
KURK	**Kurchatov**	**11.45**	**277**	*e*P	**Pn**	**03 21 14.8**	**-0.8**
KURK				*e*		03 23 23.4	
KURK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
KURK	**Kurchatov**	**11.45**	**277**	*e*Pn	**Pn**	**03 21 14.8**	**-0.8**
	comp=Z,2.3nm,0.7s						
KURK				*e*Sn	**Sn**	**03 23 23.4**	**0.0**
KURBB	**Kurchatov Arra**	**11.52**	**276**	⇑Pn	**Pn**	**03 21 16.1**	**-0.4**
	comp=Z,0.4nm,0.7s,baz=95,slow=14						
KURBB				⇑Lg		03 24 37.4	
	comp=Z,12nm,0.8s,baz=88,slow=34						
BOD	**Bodaibo**	**12.28**	**48**	*e*P	**Pn**	**03 21 29.9**	**+3.0**
BOD				*e*		03 24 00.4	
BOD				pmax	pmax		
	comp=Z,3.0nm,0.9s						
HIA	**Hailar**	**14.88**	**87**	*e*P	**Pn**	**03 22 09.3**	**+6.9**
LZH	**Lanzhou**	**15.59**	**158**	*e*P	**Pn**	**03 22 04.8**	**-7.1**
LZH				AP	pP	03 22 09.3	-10
LZH				XP	sP	03 22 12.0	-8.2
LZH				PP		03 22 15.0	
LZH				*e*S	**Sn**	**03 24 55.0**	**-10**
LZH				XS	sS	03 25 03.6	-21
LZH				AMB	AMB		
	comp=Z,11nm,1.0s						
LZH				AMB	AMB		
	comp=Z,69nm,4.9s						
LZH				LR	LR		
	comp=E,384nm,11.0s						
LZH				LR	LR		
	comp=Z,233nm,15.4s						
VOSK	**Vostochnaya**	**16.01**	**287**	⇓Pn	**Pn**	**03 22 15.1**	**-2.1**
	comp=Z,4.8nm,1.0s						
VOSK				⇑Lg		03 26 52.9	
	comp=Z,12nm,1.1s						
BVAR	**Borovoye Array**	**16.35**	**288**	Pn	**Pn**	**03 22 20.4**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=80,slow=17,SNR=8.6						
TKM2	**Tokmak 2**	**16.41**	**249**	⇑Pn	**Pn**	**03 22 23.1**	**+0.8**
	comp=Z,14nm,0.8s						
TKM2				⇑Lg		03 27 15.8	
	comp=Z,4.2nm,0.7s						
TKM2	**Tokmak 2**	**16.41**	**249**	P	**Pn**	**03 22 23.4**	**+1.1**
SNR=9.6							
BRVK	**Borovoye**	**16.41**	**288**	*e*P	**Pn**	**03 22 20.7**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s						
BRVK	**Borovoye**	**16.41**	**288**	*e*P	**Pn**	**03 22 20.6**	**-1.7**
	comp=Z,1.9nm,0.4s						
ULHL	**Ulahol**	**16.43**	**247**	P	**Pn**	**03 22 23.1**	**+0.4**
SNR=8.8							
KBK	**Karagaybulak**	**16.95**	**250**	P	**Pn**	**03 22 30.1**	**+1.0**
SNR=7.8							
ZRNK	**Zerenda**	**17.19**	**288**	⇑Pn	**Pn**	**03 22 30.3**	**-1.9**
	comp=Z,3.4nm,0.9s						
AAK	**Ala-Archa**	**17.23**	**250**	P	**Pn**	**03 22 33.4**	**+0.6**
SNR=5.3							
UCH	**Uchtor**	**17.46**	**249**	P	**Pn**	**03 22 36.8**	**+1.2**
SNR=16							
NRGR	**Nerungri**	**17.51**	**60**	*e*P	**Pn**	**03 22 31.2**	**-4.8**
EKS2	**Erkin-Say**	**17.64**	**251**	P	**Pn**	**03 22 37.6**	**-0.2**
SNR=6.9							
AML	**Almayashu**	**18.01**	**250**	P	**Pn**	**03 22 43.0**	**+0.7**
SNR=9.8							
YAK	**Yakutsk**	**21.16**	**45**	*e*P	**P**	**03 23 24.4**	**+7.3**
YAK				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.4						
ARU	**Arti**	**23.08**	**299**	*e*P	**P**	**03 23 46.2**	**+8.6**
ARU				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb3.8						
AKTK	**Aktyubinsk**	**24.36**	**284**	P	**P**	**03 23 48.2**	**-1.7**
AKTO	**Aktyubinsk**	**24.36**	**284**	P	**P**	**03 23 48.2**	**-1.7**
	comp=Z,0.6nm,0.6s,mb3.2,baz=98,slow=8.8,SNR=3.5						
VLA	**Vladivostok**	**25.03**	**94**	*e*P	**P**	**03 24 03.6**	**+7.4**
TIXI	**Tiksi**	**25.41**	**23**	*e*P	**P**	**03 24 04.5**	**+5.2**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.6						
KSRS	**Korea Array**	**25.86**	**109**	P	**P**	**03 24 05.1**	**+1.3**
	comp=Z,1.3nm,1.0s,mb3.4,baz=149,slow=32,SNR=3.1						
KSRS				LR	LR	03 34 41.2	
	comp=Z,10nm,21.2s,MS2.3,baz=240,slow=38						
MA2	**Magadan**	**31.26**	**53**	*e*P	**P**	**03 24 59.7**	**+8.1**
ARCES	**ARCESS Array B**	**37.30**	**327**	P	**P**	**03 25 45.5**	**+1.7**
	comp=Z,5.9nm,1.1s,mb4.3,baz=76,slow=13,SNR=2.7						
FINES	**FINESS Array B**	**38.83**	**314**	P	**P**	**03 25 57.4**	**+0.6**
	comp=Z,0.9nm,0.9s,mb3.5,baz=90,slow=2.8,SNR=3.2						
NOA	**NORSAR Array B**	**45.61**	**317**	P	**P**	**03 26 52.8**	**+0.7**
	comp=Z,0.7nm,0.8s,mb3.6,baz=116,slow=10,SNR=2.3						
NOA				LR	LR	03 48 30.1	
	comp=Z,16nm,18.8s,MS3.0,baz=75,slow=39						
TORD	**Torodi Ar. Bea**	**83.06**	**282**	P	**P**	**03 30 56.8**	**-1.1**
	comp=Z,0.8nm,0.9s,mb3.7,baz=29,slow=4.2,SNR=4.2						

IDC 14 03:46:57.7±4.1, 3244S×17972E, h304km±33km, mb3.9/5, mb1 3.9/7, mb1mx3.7/15, mbtmp3.9/7, Error ellipse: s-maj=40.6km s-min=16.7km az=46.0
NEIC 14 03:47:03.5±1.6, 3308S×17961E, h373km±16km, mb3.8/1, Error ellipse: s-maj=25.8km s-min=22.2km az=92.0
ISC 14 03:47:04.1±1.6, 333S±02×1797E±03, h390km±21km, n56, σ0°77/58, mb4.0/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.45**	**195**	P	**Pn**	**03 48 20.9**	**+1.1**
MXZ				S	**S**	**03 49 20.5**	**-0.7**
MXZ	**Matakaoa Point**	**4.45**	**195**	*e*PN	**Pn**	**03 48 17.9**	**-1.8**
MXZ				SN	**S**	**03 49 20.5**	**-0.7**
PUZ	**Puketiti**	**4.95**	**194**	P	**Pn**	**03 48 27.5**	**+2.6**
PUZ	**Puketiti**	**4.95**	**194**	*e*PN	**Pn**	**03 48 24.7**	**-0.2**
MWZ	**Matawai**	**5.37**	**199**	P	**Pn**	**03 48 28.8**	**-0.5**
MWZ	**Matawai**	**5.37**	**199**	*e*PN	**Pn**	**03 48 27.4**	**-1.9**
MWZ				SN	**S**	**03 49 40.1**	**+1.4**
URZ	**Urewera**	**5.42**	**202**	P	**Pn**	**03 48 28.7**	**-1.2**
URZ	**Urewera**	**5.42**	**202**	P	**Pn**	**03 48 30.6**	**+0.6**
	5.0nm,0.3s,baz=291,slow=3.1,SNR=25						
URZ				S	**S**	**03 49 40.8**	**+1.0**
	10nm,0.3s,baz=310,slow=20,SNR=14						
URZ	**Urewera**	**5.42**	**202**	*e*PN	**Pn**	**03 48 28.4**	**-1.5**
URZ				SN	**S**	**03 49 39.8**	**0.0**
KNZ	**Kokohu**	**5.98**	**196**	P	**Pn**	**03 48 38.3**	**+2.3**
KNZ	**Kokohu**	**5.98**	**196**	*e*PN	**Pn**	**03 48 37.1**	**+1.1**
MOVZ	**Moawhango**	**6.92**	**206**	P	**Pn**	**03 48 46.6**	**+0.2**
PXZ	**Pawanui**	**7.14**	**198**	*e*PN	**Pn**	**03 48 48.3**	**-0.5**
PXZ				SN	**S**	**03 50 13.8**	**-0.6**
TSZ	**Takapari Road**	**7.43**	**203**	P	**Pn**	**03 48 52.1**	**-0.1**
TSZ	**Takapari Road**	**7.43**	**203**	PN	**Pn**	**03 48 51.7**	**-0.4**
MRZ	**Mangatainoka R**	**8.10**	**203**	P	**Pn**	**03 49 00.2**	**+0.4**
MRZ	**Mangatainoka R**	**8.10**	**203**	*e*PN	**Pn**	**03 48 59.6**	**-0.2**
HOWZ	**Holdsworth Sta**	**8.33**	**203**	*e*PN	**Pn**	**03 49 02.4**	**-0.1**
HOWZ				SN	**S**	**03 50 38.9**	**-0.7**
KIW	**Kapiti Island**	**8.51**	**206**	P	**Pn**	**03 49 04.9**	**+0.4**
KIW	**Kapiti Island**	**8.51**	**206**	*e*PN	**Pn**	**03 49 04.5**	**0.0**
MTW	**Mount Morrison**	**8.57**	**202**	P	**Pn**	**03 49 05.3**	**0.0**
MTW	**Mount Morrison**	**8.57**	**202**	PN	**Pn**	**03 49 05.2**	**-0.1**
CAW	**Cannon Point**	**8.67**	**204**	P	**Pn**	**03 49 06.5**	**+0.1**
CAW	**Cannon Point**	**8.67**	**204**	PN	**Pn**	**03 49 06.3**	**-0.2**
DUWZ	**D'Urville Isla**	**8.84**	**210**	*e*PN	**Pn**	**03 49 08.7**	**+0.3**
MSWZ	**Moikau Station**	**8.88**	**202**	P	**Pn**	**03 49 09.4**	**+0.5**
MSWZ	**Moikau Station**	**8.88**	**202**	PN	**Pn**	**03 49 09.0**	**0.0**
MRW	**Makara Radio**	**8.90**	**205**	P	**Pn**	**03 49 09.4**	**+0.2**
MRW	**Makara Radio**	**8.90**	**205**	PN	**Pn**	**03 49 09.1**	**-0.1**
TCW	**Tory Channel**	**9.05**	**207**	P	**Pn**	**03 49 10.8**	**0.0**
TCW	**Tory Channel**	**9.05**	**207**	*e*PN	**Pn**	**03 49 10.5**	**-0.3**
TUWZ	**Tuamarina**	**9.36**	**208**	PN	**Pn**	**03 49 14.8**	**+0.3**
NNZ	**Nelson**	**9.41**	**211**	P	**Pn**	**03 49 15.0**	**-0.1**
NNZ	**Nelson**	**9.41**	**211**	PN	**Pn**	**03 49 14.1**	**-1.0**
THZ	**Tophouse**	**10.06**	**211**	P	**Pn**	**03 49 22.9**	**+0.2**
THZ	**Tophouse**	**10.06**	**211**	*e*PN	**Pn**	**03 49 22.3**	**-0.4**
KHZ	**Kahutara**	**10.36**	**206**	P	**Pn**	**03 49 26.6**	**+0.5**
KHZ	**Kahutara**	**10.36**	**206**	PN	**Pn**	**03 49 25.2**	**-0.9**
LTZ	**Lake Taylor**	**11.17**	**210**	P	**Pn**	**03 49 35.3**	**-0.2**
LTZ	**Lake Taylor**	**11.17**	**210**	*e*PN	**Pn**	**03 49 35.2**	**-0.4**
MQZ	**McQueen's Vall**	**11.80**	**206**	P	**Pn**	**03 49 43.8**	**+0.9**
MQZ	**McQueen's Vall**	**11.80**	**206**	*e*PN	**Pn**	**03 49 43.4**	**+0.5**
RPZ	**Rata Peaks**	**12.45**	**210**	P	**P**	**03 49 53.0**	**+4.2**
	1.8nm,0.3s,baz=324,slow=1.6,SNR=8.7						
STKA	**Stephens Creek**	**32.05**	**262**	P	**P**	**03 52 57.7**	**+1.3**
STKA	**Stephens Creek**	**32.05**	**262**	P	**P**	**03 52 57.7**	**+1.3**
	2.4nm,0.7s,mb3.6,baz=129,slow=11,SNR=4.5						
CTA	**Charters Tower**	**32.51**	**285**	P	**P**	**03 53 00.3**	**-0.2**
	7.1nm,0.5s,mb4.2,baz=119,slow=10,SNR=10						
ASAR	**Alice Springs**	**41.13**	**271**	P	**P**	**03 54 12.7**	**+0.6**
	4.0nm,0.8s,mb3.8,baz=107,slow=7.7,SNR=35						
WB2	**Warramunga Arr**	**42.37**	**277**	*e*P	**P**	**03 54 21.5**	**-0.6**
WRAB	**Tennant Creek**	**42.38**	**277**	*e*P	**P**	**03 54 21.5**	**-0.7**
	7.7nm,1.2s,mb3.9						
WRA	**Warramunga Arr**	**42.38**	**277**	P	**P**	**03 54 22.0**	**-0.2**
	4.4nm,0.4s,mb4.1,baz=113,slow=7.9,SNR=140						
QSPA	**South Pole Qui**	**56.85**	**180**	P	**P**	**03 56 18.1**	**+9.1**
	9.2nm,0.7s,mb4.2,baz=30,slow=1.5,SNR=39						
FINES	**FINESS Array B**	**147.09**	**337**	PKPbc	PKPbc	04 06 01.1	0.0
	0.8nm,0.5s,baz=43,slow=3.1,SNR=7.9						
NB2	**NORSAR Subarra**	**151.22**	**348**	PKP	PKPbc	04 06 11.4	+0.2
	comp=Z,0.1nm,0.6s,baz=29,slow=3.0						
NOA	**NORSAR Array B**	**151.22**	**348**	PKPbc	PKPbc	04 06 11.6	+0.4
NOA	**NORSAR Array B**	**151.22**	**348**	PKPbc	PKPbc	04 06 11.6	+0.4
	comp=Z,1.1nm,0.7s,baz=16,slow=4.2,SNR=5.0						
TORD	**Torodi Ar. Bea**	**159.90**	**186**	PKPab	PKPab	04 07 03.0	+3.9
	comp=Z,0.7nm,0.8s,baz=170,slow=6.2,SNR=14						

IDC 14 04:03:57.4±7.2, 2856S×6919W, h84km±54km, mb3.2/2, mb1 3.4/3, mb1mx3.3/15, mbtmp3.2/3, ML4.1/1, Error ellipse: s-maj=83.2km s-min=41.3km az=21.0
ISCJB 14 04:03:58.1±0.7, 2840S±005×6911W±0.1, h105km±12km, mb3.3/2, Error ellipse: s-maj=15.4km s-min=7.4km az=9.1
GUC 14 04:03:59.6±0.7, 2833S×6944W, h130km, ML4.2
NEIC 14 04:03:59.6, 2833S×6944W, h130km, mb4.4/2, After GUC.
ISC 14 04:03:59.2±0.7, 2840S±005×6906W±008, h96km±11km, n22, σ0°79/28, mb3.3/2, 6C-3D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**1.50**	**263**	⇑iP	**Pn**	**04 04 25.7**	**+0.5**
VACH				*i* S	**Sn**	**04 04 44.9**	**-0.1**
VACH	**Vallenar**	**1.50**	**263**	⇑iP	**Pn**	**04 04 25.7**	**+0.5**
VACH				*i* S	**Sn**	**04 04 44.9**	**-0.1**
VACH				AML	AML	04 04 46.3	
	comp=E,6μm,0.1s						
CPCH	**Copiapo**	**1.54**	**312**	⇑iP	**Pn**	**04 04 25.3**	**-0.4**
CPCH				*i* S	**Sn**	**04 04 44.9**	**-1.1**
CPCH	**Copiapo**	**1.54**	**312**	⇑iP	**Pn**	**04 04 25.3**	**-0.4**
CPCH				*i* S	**Sn**	**04 04 44.9**	**-1.1**
CPCH				AML	AML	04 04 46.5	
	comp=E,8μm,0.1s						
LCO	**Las Campanas**	**1.56**	**247**	*e*Pn	**Pn**	**04 04 26.9**	**+1.0**
LCO				*e*Sn	**Sn**	**04 04 47.4**	**+1.1**
TLL	**Tololo Astrono**	**2.33**	**220**	⇑iP	**Pn**	**04 04 37.1**	**+1

comp=Z,190nm,0.8s
AFI Afiamalu 14.36 36 *e*P P 04 10 15.3 -5.8
comp=Z,190nm,0.8s
MRZ Mangataiinoka R 15.17 192 P P 04 10 27.1 -2.1
MRZ Mangataiinoka R 15.17 192 PN P 04 10 26.9 -2.3
MTW Mount Morrison 15.66 192 P P 04 10 34.1 -0.3
MTW Mount Morrison 15.66 192 PN P 04 10 34.0 -0.4
TCW Tory Channel 15.97 195 P P 04 10 36.3 -1.3
TCW Tory Channel 15.97 195 *e*PN P 04 10 36.2 -1.3
QRZ Quartz Range 16.07 200 P P 04 10 40.1 +1.4
QRZ Quartz Range 16.07 200 *e*PN P 04 10 40.2 +1.5
NNZ Nelson 16.19 197 P P 04 10 39.7 -0.3
NNZ Nelson 16.19 197 *e*PN P 04 10 38.8 -1.1
THZ Tophouse 16.83 198 P P 04 10 44.1 -2.5
THZ Tophouse 16.83 198 *e*PN P 04 10 44.6 -2.0
DSZ Denniston Nort 17.13 200 P P 04 10 50.7 +1.0
DSZ Denniston Nort 17.13 200 *e*PN P 04 10 49.8 +0.1
KHZ Kahutara 17.28 195 P P 04 10 50.2 -1.1
KHZ Kahutara 17.28 195 *e*PN P 04 10 49.8 -1.4
LTZ Lake Taylor 17.95 198 P P 04 10 57.1 -0.6
LTZ Lake Taylor 17.95 198 *e*PN P 04 10 56.8 -0.9
WVZ Waitaha Valley 18.67 201 P P 04 11 04.4 0.0
WVZ Waitaha Valley 18.67 201 PN P 04 11 03.9 -0.4
RPZ Rata Peaks 19.16 199 P P 04 11 09.5 +0.7
comp=Z,8.9nm,0.3s,baz=353,slow=3.8,SNR=21
FOZ Fox Glacier 19.45 202 P P 04 11 09.7 -1.8
FOZ Fox Glacier 19.45 202 PN P 04 11 09.6 -1.9
RAR Rarotonga 19.46 81 P P 04 11 11.6 -0.3
comp=Z,0.9nm,0.3s,baz=293,slow=4.2,SNR=5.6
ARMA Armidale 25.06 253⇓*i*P P 04 12 05.4 +3.2
EIDS Eidsvold 25.71 265 *e*P P 04 12 10.0 +2.1
CNB Canberra Magne 27.61 243 *e*P P 04 12 27.7 +3.1
comp=Z,19nm,1.1s,mb4.4
TOO Toolangi 31.13 240⇓*i*P P 04 12 57.5 +2.3
comp=Z,87nm,0.6s,mb5.4
TOO Toolangi 31.13 240⇓*i*P P 04 12 57.5 +2.3
TOO pmax pmax
comp=Z,87nm,0.6s,mb5.4
CTA Charters Tower 31.18 274⇓*i*P P 04 12 57.7 +1.8
comp=Z,22nm,0.3s,mb5.1
CTA Charters Tower 31.18 274⇓*i*P P 04 12 57.7 +1.8
CTA pmax pmax
comp=Z,23nm,0.3s
CTAO Charters Tower 31.18 274 *e*P P 04 12 57.8 +1.9
TAU Tasmania Unive 31.38 229 *e*P P 04 12 58.7 +1.4
TAU pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
TAU Tasmania Unive 31.38 229 *e*P P 04 12 58.7 +1.5
comp=Z,4.6nm,0.5s,mb4.2
STKA Stephens Creek 33.71 251⇓*i*P P 04 13 19.0 +1.7
comp=Z,8.1nm,0.4s,mb4.5
STKA Stephens Creek 33.71 251 *e*P P 04 13 18.4 +1.1
STKA *e* 04 15 43.4
STKA Stephens Creek 33.71 251 P P 04 13 19.0 +1.7
comp=Z,10nm,0.5s,mb4.5,baz=97,slow=11,SNR=53
STKA PcP PcP 04 15 43.8 +0.4
comp=Z,8.9nm,0.6s,baz=50,slow=2.6,SNR=9.0
STKA ScP ScP 04 18 40.8 -1.1
comp=Z,5.3nm,0.7s,baz=61,slow=2.4,SNR=5.9
ASAR Alice Springs 41.40 263 P P 04 14 21.6 +1.0
ASAR 04 16 07.6
ASAR S S 04 19 59.5 -0.5
ASAR Alice Springs 41.40 263 P P 04 14 21.6 +1.0
ASAR PcP PcP 04 16 07.6 0.0
ASAR ScP ScP 04 19 11.2 0.0
ASAR S S 04 19 59.5 -0.6
ASAR Alice Springs 41.40 263 P P 04 14 21.6 +1.0
comp=Z,25nm,0.4s,mb5.0,baz=91,slow=7.5,SNR=598
ASAR PcP PcP 04 16 07.6 0.0
comp=Z,7.7nm,0.9s,baz=108,slow=3.8,SNR=8.2
ASAR ScP ScP 04 19 11.2 0.0
comp=Z,1.5nm,0.6s,baz=106,slow=4.3,SNR=4.6
ASAR S S 04 19 59.5 -0.6
comp=Z,5.3nm,0.9s,baz=97,slow=15,SNR=4.2
ASAR PKiKP PKiKP 04 23 11.4 -1.9
comp=Z,0.4nm,0.5s,baz=92,slow=1.8,SNR=4.3
ASAR ScS ScS 04 23 28.4 -1.2
comp=Z,1.2nm,0.7s,baz=113,slow=7.0,SNR=7.2
WB2 Warramunga Arr 41.94 268 *e*P P 04 14 25.0 +0.1
WB2 *e*PCP PcP 04 16 09.7 +0.3
WB2 *e*S S 04 20 05.3 -2.6
WRAB Tennant Creek 41.95 268*d i*P P 04 14 25.1 +0.2
WRAB Tennant Creek 41.95 268 *e*P P 04 14 25.2 +0.3
comp=Z,59nm,1.1s,mb4.9
WRA Warramunga Arr 41.95 268 P P 04 14 25.3 +0.3
WRA 04 16 09.7
WRA S S 04 20 06.2 -1.9
WRA Warramunga Arr 41.95 268 P P 04 14 25.3 +0.3
WRA PcP PcP 04 16 09.7 +0.2
WRA ScP ScP 04 19 13.4 -0.2
WRA S S 04 20 06.2 -1.9
WRA Warramunga Arr 41.95 268 P P 04 14 25.3 +0.3
comp=Z,13nm,0.4s,mb4.8,baz=104,slow=7.6,SNR=343
WRA PcP PcP 04 16 09.7 +0.2
comp=Z,12nm,1.0s,baz=104,slow=3.8,SNR=9.9
WRA ScP ScP 04 19 13.4 -0.2
comp=Z,1.5nm,0.7s,baz=103,slow=3.7,SNR=4.8
WRA S S 04 20 06.2 -1.9
comp=Z,8.6nm,1.0s,baz=100,slow=15,SNR=14
WRA PKiKP PKiKP 04 23 11.7 -2.3
comp=Z,0.3nm,0.4s,baz=81,slow=0.3,SNR=6.7
FORT Forrest 45.33 251 *e*P P 04 14 51.1 -0.1
comp=Z,29nm,0.6s,mb4.9
KAKA Kakadu 46.16 277⇓*i*P P 04 14 57.4 -0.3
comp=Z,20nm,0.3s,mb5.0
KAKA Kakadu 46.16 277 *e*P P 04 14 57.2 -0.5
FITZ Fitzroy Crossi 50.35 267 *e*P P 04 15 29.7 +0.6
comp=Z,38nm,1.2s,mb4.6
FITZ *e*S S 04 22 05.4 -0.3
SBA Scott Base 52.44 183 *e*P P 04 15 46.6 +3.2
KLBR Kellerberrin 53.93 249 *e*P P 04 15 54.6 -0.2
comp=Z,15nm,0.5s,mb4.6
NWAO Narrogin (SRO) 54.13 247 *e*P P 04 15 56.0 -0.1
NWAO pmax pmax
comp=Z,37nm,1.3s
NWAO Narrogin (SRO) 54.13 247 *e*P P 04 15 56.0 -0.1
comp=Z,37nm,1.3s,mb4.5
MBWA Marble Bar 54.71 262 *e*P P 04 16 00.2 -0.2
comp=Z,33nm,1.2s,mb4.5
MUN Mundaring 55.15 248 *e*P P 04 16 03.7 +0.3
CASY Casey 58.23 206 *e*P P 04 16 24.3 +0.4
CASY Casey 58.23 206 *e*P P 04 16 23.7 -0.2
comp=Z,8.4nm,0.5s,mb4.3
QSPA South Pole Qui 64.26 180 *e*P P 04 17 05.0 +1.6
comp=Z,47nm,0.8s,mb5.1
QSPA South Pole Qui 64.26 180 P P 04 17 05.3 +1.9
comp=Z,51nm,0.9s,mb5.0,baz=26,slow=1.6,SNR=88
JOW Kunigami 72.02 313 P P 04 17 51.2 -0.3
comp=Z,27nm,0.8s,mb4.8,baz=150,slow=5.3,SNR=7.6
KSM Kuching 72.09 281 *e*P P 04 17 52.2 -0.2
MJAR Matsushiro Arr 73.28 326 P P 04 17 57.6 -1.1
comp=Z,28nm,0.9s,mb4.8,baz=160,slow=5.6,SNR=36
MAJO Matsushiro 73.29 326 *e*P P 04 17 57.7 -1.0
MAT Matsushiro 73.29 326 P P 04 17 57.7 -1.0
JNU Nakatsue 74.73 319 P P 04 18 06.2 -0.7
comp=Z,14nm,0.8s,mb4.5,baz=103,slow=9.3,SNR=10
AMKA Amchitka 76.87 360 *e*P P 04 18 17.3 -1.0
ASAJ Asahikawa 77.42 334 P P 04 18 22.4 +0.9
comp=Z,16nm,0.8s,mb4.6,baz=226,slow=7.0,SNR=6.3
ADK Adak 77.44 2 *e*P P 04 18 19.9 -1.6
ADK pmax pmax
comp=Z,30nm,0.6s,mb5.0
ADK Adak 77.44 2 *e*P P 04 18 19.9 -1.6
comp=Z,30nm,0.6s,mb5.0
KSRS Korea Array 79.49 321 P P 04 18 33.1 +0.3
comp=Z,16nm,0.7s,mb4.6,baz=137,slow=5.8,SNR=46
YSS Yuzh-Sakhalins 79.72 335⇑*e*P P 04 18 34.5 +0.6
YSS pmax pmax
comp=Z,28nm,0.9s,mb4.8
PET Petropavlovsk 80.61 347 *e*P P 04 18 37.5 -0.9
PET pmax pmax
comp=Z,15nm,0.8s,mb4.6
NJ2 Nanjing 81.66 312 *e*P P 04 18 44.6 +0.3
NJ2 AMB AMB
comp=Z,20nm,0.7s,mb4.8
SNAA Sanae 82.75 179⇑*e*P P 04 18 48.4 -0.9
PSI Prapat 82.83 277 P P 04 18 49.6 -1.2
comp=Z,3.7nm,0.3s,mb4.3,baz=195,slow=2.9,SNR=8.6
HAST Hastings Reser 83.09 44⇑P P 04 18 51.7 +0.2
baz=83
PKD Parkfield 83.45 45⇓P P 04 18 53.5 +0.1
baz=83
U04C Hernandez Rese 83.56 44⇓P P 04 18 54.4 +0.5
baz=84
PACP Pacheco Peak 83.65 44⇑P P 04 18 54.5 +0.3
baz=84
MDJ Mudanjiang 83.66 327 P P 04 18 54.8 +0.7
MDJ AMB AMB
comp=Z,22nm,1.1s,mb4.6
MDJ AMB AMB
comp=Z,72nm,2.8s,mb4.7
MDJ Mudanjiang 83.66 327 *e*P P 04 18 53.7 -0.5
comp=Z,23nm,1.4s,mb4.5
HOPS Hopland 83.82 41 *e*P P 04 18 54.1 -1.0
comp=Z,7.1nm,0.5s,mb4.5
109C Camp Elliot, M 83.88 49⇓P P 04 18 55.7 +0.2
baz=84
WHN Wuhan 83.89 308⇓P P 04 18 55.8 +0.2
S04C Ingram Canyon, 83.93 43⇓P P 04 18 55.8 +0.2
baz=84
T05C Eagle Field, D 83.96 44⇓P P 04 18 56.2 +0.4
baz=84
U05C Westside ANR, 83.96 45⇓P P 04 18 56.4 +0.5
baz=84
HABR Khabarovsk 84.03 332 *e*P P 04 18 53.1 -2.8
HABR *e*S S 04 28 29.3 -10
ARVC Arvin 84.06 46⇑P P 04 18 56.6 +0.2
baz=84
MNRC McLaughlin Nat 84.12 42⇓P P 04 18 57.3 +0.7
baz=84
O01C Eel River Cons 84.13 40⇑P P 04 18 57.4 +0.9
baz=84
Q03C Winters 84.23 42⇓P P 04 18 57.8 +0.7
baz=84
MURC Murrieta 84.23 48⇓P P 04 18 57.7 +0.5
baz=84
BFSC Mount Baldy St 84.30 48⇓P P 04 18 57.3 -0.3
baz=84
VES Vestal, Richgr 84.33 46 P P 04 18 57.2 -0.5
baz=84,SNR=7.6
MONP Monument Peak 84.35 49 P P 04 18 58.3 +0.5
baz=84,SNR=11
S05C Merced 84.45 44⇓P P 04 18 58.0 -0.2
baz=84
GASB Alder Springs 84.46 41 P P 04 18 59.4 +1.1
baz=84,SNR=5.7
EDW2 Edwards Air Fo 84.46 47 P P 04 18 58.3 -0.1
baz=84,SNR=7.1
T06C Millerton Lake 84.64 45 P P 04 18 58.8 -0.3
baz=85,SNR=10.0
PFO Pinyon Flat Ob 84.74 49 P P 04 18 59.7 0.0
comp=Z,5.8nm,0.8s,mb4.3,baz=304,slow=3.0,SNR=7.8
PFO Pinyon Flat Ob 84.74 49⇑P P 04 18 59.5 -0.3
baz=85
SUTB Sutter Butte 84.74 42⇑P P 04 18 59.1 -0.5
baz=85
O02C Red Bluff 84.75 41 P P 04 19 00.5 +0.9
baz=85,SNR=10
SWSC Sam W. Stewart 84.81 50⇑P P 04 19 00.0 0.0
baz=85
CMB Columbia Colle 84.85 43 *e*P P 04 18 59.7 -0.4
CMB Columbia Colle 84.85 43 P P 04 18 59.5 -0.6
baz=85,SNR=7.5
N02C Big Bar 84.87 40⇑P P 04 18 59.9 -0.2
baz=85
HELL Mitchell Peak 84.87 45⇑P P 04 18 59.5 -0.8
baz=85,SNR=5.7
OHCM Honcut 84.99 42 *e*P P 04 18 59.9 -0.9
LRMC Laurel Mountai 85.02 47 P P 04 19 01.0 0.0
baz=85,SNR=6.0
KCC Kaiser Creek 85.08 44⇑P P 04 19 01.0 -0.3
baz=85
LAVA Lava Cap Winer 85.08 43⇑P P 04 19 01.0 -0.3
baz=85
ORV Oroville 85.12 42 P P 04 19 01.2 -0.3
baz=85,SNR=7.0
WDC Whiskeytown Da 85.16 40⇑P P 04 19 01.3 -0.3
baz=85
CN2 Changchun 85.22 324 *e*P P 04 19 01.6 -0.2
CN2 AMB AMB
comp=Z,40nm,1.2s,mb4.9
CN2 AMB AMB
comp=Z,200nm,5.0s
BELC Belle Mtn. 85.28 49 P P 04 19 02.8 +0.4
baz=85,SNR=11
112A Yuma 85.42 51⇑P P 04 19 03.3 +0.2
baz=85
BC3 Big Chuckw Mtn 85.45 49⇑P P 04 19 03.4 +0.2
baz=85
R05C Kirkwood Meado 85.45 43 P P 04 19 03.1 0.0
baz=85,SNR=6.2
MPMC Manual Prospec 85.49 46 P P 04 19 03.3 0.0
baz=85,SNR=6.3
GSC Goldstone 85.49 47 *e*P P 04 19 02.5 -0.9
GSC pmax pmax
comp=Z,12nm,1.0s,mb4.5
GSC Goldstone 85.49 47 *e*P P 04 19 02.5 -0.9
comp=Z,12nm,1.0s,mb4.5
GSC Goldstone 85.49 47 P P 04 19 03.3 0.0
baz=85,SNR=5.5
P05C Yuba Gap, Truc 85.50 42 P P 04 19 03.1 -0.1
baz=85,SNR=6.5
M02C Callahan 85.50 40⇓P P 04 19 03.7 +0.5
baz=85
HEC Hector,Ludlow 85.54 48 P P 04 19 03.6 0.0
baz=86,SNR=7.1
GLA Glamis 85.54 50 *e*P P 04 19 04.2 +0.6
GLA pmax pmax
comp=Z,16nm,0.8s,mb4.7
GLA Glamis 85.54 50 *e*P P 04 19 04.2 +0.5
comp=Z,16nm,0.8s,mb4.7
GLA Glamis 85.54 50 P P 04 19 04.2 +0.6
baz=86,SNR=9.8
O05C Quincy 85.72 42 P P 04 19 04.3 -0.1
baz=86,SNR=6.6
R06C Coleville 85.73 43⇓P P 04 19 04.4 -0.1
baz=86
YBH Yreka Blue Hor 85.80 39 P P 04 19 04.7 0.0
comp=Z,4.5nm,0.6s,mb4.3,baz=189,slow=3.6,SNR=13
YBH Yreka Blue Hor 85.80 39⇓P P 04 19 05.1 +0.4
baz=86
M03C McCloud 85.85 40 P P 04 19 04.7 -0.2
baz=86,SNR=5.6
O04C Chester 85.85 41 P P 04 19 05.0 0.0
baz=86,SNR=5.9
S08C White Mtn Res 85.91 45 P P 04 19 05.5 +0.2
baz=86,SNR=10
HATC Hat Creek Radi 85.94 41⇑P P 04 19 05.7 +0.4
baz=86
IRM Iron Mountain 85.95 49 P P 04 19 06.0 +0.5
baz=86,SNR=8.2
GMRC Granite Mounta 85.96 48⇓P P 04 19 05.2 -0.4
baz=86
BEKR Beckwourth 86.00 42 P P 04 19 05.5 -0.2
baz=86,SNR=8.4
WCN Washoe City 86.02 43⇑P P 04 19 05.6 -0.2
baz=86
K02A Glendale 86.03 38⇑P P 04 19 06.4 +0.7
baz=86
113A Mohawk Valley, 86.11 51⇓P P 04 19 06.9 +0.4
baz=86
GRAC Grapevine Rang 86.12 46 P P 04 19 06.5 +0.1
baz=86,SNR=7.5
Y12C Blythe 86.14 50⇓P P 04 19 06.6 +0.1
baz=86
FURC Furnace Creek, 86.14 46⇓P P 04 19 06.2 -0.2
baz=86
TUQ Turquoise Mtn. 86.16 48 P P 04 19 06.6 +0.1
baz=86,SNR=9.0
P06A Stead Airport, 86.16 42⇑P P 04 19 06.5 +0.1
baz=86
HUMO Hull Mountain 86.23 39 *e*P P 04 19 06.0 -0.7
comp=Z,5.6nm,0.8s,mb4.2
HUMO Hull Mountain 86.23 39⇑P P 04 19 07.0 +0.3
baz=86
M04C Macdoel 86.33 40⇓P P 04 19 07.2 0.0
baz=86
NVAR Mina Array Bea 86.39 44 P P 04 19 07.3 -0.3
NVAR PKKPbc PKKPbc 04 37 03.2 +0.7
NVAR Mina Array Bea 86.39 44 P P 04 19 07.3 -0.3
comp=Z,6.8nm,0.7s,mb4.4,baz=224,slow=8.3,SNR=44
NVAR PKKPbc PKKPbc 04 37 03.2 +0.7
comp=Z,0.6nm,0.6s,baz=166,slow=5.5,SNR=5.1
M05C Lookout 86.47 40 P P 04 19 07.9 +0.1
baz=86,SNR=5.4
LDFC Landfair 86.50 48 *e*P P 04 19 08.8 +0.6
O06A Flanigan 86.51 42 P P 04 19 07.9 -0.2
baz=86,SNR=12
L04A Klamath Falls 86.55 39⇓P P 04 19 08.5 +0.3
baz=86
S09A Goldfield 86.65 45⇓P P 04 19 08.5 -0.3
baz=87
I02A Mapleton 86.66 37⇑P P 04 19 08.6 -0.1
baz=87
Y13A Salome 86.66 50 P P 04 19 09.6 +0.6
baz=87,SNR=5.7
PDMCI Parker Dam,Lak 86.71 49⇑P P 04 19 09.4 +0.2
baz=87
V11A Goodsprings 86.72 48⇓P P 04 19 09.4 +0.2
baz=87
J03A Ideyld Park 86.72 38⇑P P 04 19 09.8 +0.8
baz=87
M06C Likely Place G 86.76 41⇓P P 04 19 09.4 +0.1
baz=87
TPNV Topopah Spring 86.82 46 *e*P P 04 19 09.2 -0.5
TPNV pmax pmax
comp=Z,11nm,0.8s,mb4.6
TPNV Topopah Spring 86.82 46 *e*P P 04 19 09.2 -0.5
comp=Z,11nm,0.8s,mb4.6
TPNV Topopah Spring 86.82 46 P P 04 19 09.7 +0.1
baz=87,SNR=16
N06A Buffalo Meadow 86.86 42⇓P P 04 19 09.5 -0.3
baz=87
Q08A Gabbs 86.88 44 P P 04 19 09.6 -0.3
baz=87,SNR=13
I03A Eugene 86.94 37⇓P P 04 19 10.1 0.0
baz=87
Z14A Wintersburg 87.02 51 P P 04 19 11.2 +0.6
baz=87,SNR=5.1
V12A Nelson 87.04 48 P P 04 19 10.9 +0.2
baz=87,SNR=5.6
R09A Tonopah 87.05 45⇓P P 04 19 10.4 -0.3
baz=87
O07A Toulon 87.08 42 P P 04 19 10.4 -0.4
baz=87,SNR=14
L05A Lakeview 87.08 40⇑P P 04 19 11.3 +0.5
baz=87
X13A Yucca 87.09 49 P P 04 19 11.2 +0.2
baz=87,SNR=5.0
J04A Umpqua Nationa 87.11 38⇑P P 04 19 11.3 +0.4
baz=87
115A Sonoran Desert 87.16 52 P P 04 19 11.9 +0.6
baz=87,SNR=6.3
S10A Tonopah Range, 87.17 45 P P 04 19 11.2 0.0
baz=87,SNR=27
PLCA Paso Flores 87.18 134 P P 04 19 12.2 +0.7
comp=Z,5.4nm,0.7s,mb4.4,baz=236,slow=6.6,SNR=12
SHPR Sheep Range 87.28 47 *e*P P 04 19 12.0 +0.2
P08A Dixie Valley 87.28 43⇓P P 04 19 11.6 -0.2
baz=87
Y14A Wickenburg 87.29 50 P P 04 19 12.1 +0.1
baz=87,SNR=6.8
I04A Tendick Farm, 87.30 38⇑P P 04 19 11.5 -0.2
baz=87
MOD Modoc 87.30 40 *e*P P 04 19 11.0 -0.8
comp=Z,7.8nm,0.7s,mb4.5
MOD Modoc 87.30 40 P P 04 19 11.8 0.0
baz=87,SNR=6.7
216A Three Points, 87.33 53 P P 04 19 12.9 +0.8
baz=87,SNR=6.9
W13A Hualapai Mount 87.34 49⇓P P 04 19 12.6 +0.5
baz=87
H03A Soap Creek Ran 87.39 37⇑P P 04 19 12.6 +0.4
baz=87
N07B Gerlach 87.40 42⇓P P 04 19 11.9 -0.4
baz=87
GYA Guiyang 87.42 301 P P 04 19 12.9 +0.2
GYA AP pP 04 21 01.3 +0.9
GYA PP PP 04 22 48.5 +2.2
GYA SKS 04 28 54.8
GYA S S 04 29 13.4 +0.7
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,90nm,6.0s
116A Eloy 87.45 52 P P 04 19 13.4 +0.7
baz=87,SNR=9.5
K05A Summer Lake 87.47 39 P P 04 19 13.1 +0.6
baz=87,SNR=7.5
Z15A Gila River Ind 87.53 51⇑P P 04 19 13.3 +0.2
baz=88
S11A Rachel 87.55 46⇓P P 04 19 13.3 +0.3
baz=88
R10A Warm Springs 87.57 45⇓P P 04 19 13.3 +0.2
baz=88
J05A Fort Rock 87.63 39 P P 04 19 13.6 +0.3
baz=88,SNR=15
U12A Valley of Fire 87.65 47⇑P P 04 19 13.7 +0.1
baz=88
M07A Soldier Meadow 87.65 41 P P 04 19 13.6 +0.1
baz=88,SNR=8.2
T11A Corn Creek, Al 87.66 46 P P 04 19 13.9 +0.3
baz=88,SNR=17
X14A Yava 87.67 50 P P 04 19 14.2 +0.5
baz=88,SNR=7.4
217A Green Valley 87.67 53 P P 04 19 14.6 +0.8
baz=88,SNR=20
V13A Grand Canyon W 87.69 48 P P 04 19 13.7 -0.1
baz=88,SNR=9.9
Y15A Casa Rosa Ranc 87.77 51 P P 04 19 14.6 +0.4
baz=88,SNR=11
Q10A Clear Creek Ra 87.82 45⇑P P 04 19 15.1 +0.8
baz=88
K06A Valley Falls 87.89 40 P P 04 19 14.8 +0.3
baz=88,SNR=18
N08A GE Springer Mi 87.91 42 P P 04 19 14.4 -0.2
baz=88,SNR=10
L07A Adell 87.94 41 P P 04 19 14.9 +0.2
baz=88,SNR=19
W14A Seligman 87.94 49⇑P P 04 19 15.0 0.0
baz=88
H04A Detroit Lake 88.00 37 P P 04 19 14.7 -0.3
baz=88,SNR=6.5
U13A Pakoon Wash 88.02 48 P P 04 19 15.7 +0.4
baz=88,SNR=19
R11A Troy Canyon, C 88.06 45⇑P P 04 19 15.6 +0.2
baz=88
F03A Seaside 88.07 36⇑P P 04 19 16.0 +0.7
baz=88
Z16A Peralta Trail, 88.07 51⇑P P 04 19 15.8 +0.2
baz=88
318A Bisbee 88.09 54 P P 04 19 16.5 +0.8
baz=88,SNR=26
S12A Delamar Landin 88.11 46 P P 04 19 16.4 +0.7
baz=88,SNR=6.9
O09A Fish Creek Ran 88.12 43⇑P P 04 19 15.6 0.0
baz=88
X15A Humboldt 88.13 50 P P 04 19 16.4 +0.6
baz=88,SNR=6.7
117A Oracle 88.15 52 P P 04 19 16.9 +0.9
baz=88,SNR=9.3
M08A Happy Creek Ra 88.16 42 P P 04 19 16.1 +0.3
baz=88,SNR=6.4
V14A Boquillas Ranc 88.16 49 P P 04 19 16.4 +0.4
baz=88,SNR=8.8
BJT Baijiatuan 88.17 317 *e*P P 04 19 15.9 0.0
BJT pmax pmax
comp=Z,25nm,1.0s
BJT Baijiatuan 88.17 317 *e*P P 04 19 15.9 0.0
comp=Z,25nm,1.0s,mb4.9
I05A Bend 88.17 38⇑P P 04 19 16.5 +0.7
baz=88
G04A Mulino 88.17 37⇑P P 04 19 15.7 -0.1
baz=88
BJI Beijing 88.17 317 P P 04 19 15.9 0.0
BJI AMB AMB
comp=Z,30nm,1.0s,mb5.0
J06A Christmas Vall 88.23 39 P P 04 19 15.7 -0.4
baz=88,SNR=15
P10A Eureka 88.24 44⇓P P 04 19 16.3 +0.1
baz=88
Q11A Duckwater 88.31 45⇓P P 04 19 16.2 -0.3
baz=88
N09A Rock Creek Ran 88.32 42 P P 04 19 16.7 +0.1
baz=88,SNR=5.2
Y16A Circle Bar Ran 88.33 51 P P 04 19 17.5 +0.7
baz=88,SNR=16
218A Dragoon 88.33 53 P P 04 19 17.9 +1.0
baz=88,SNR=12
T13A Saint George 88.40 47 P P 04 19 17.1 +0.1
baz=88,SNR=6.0
K07A Rock Creek Ran 88.40 40 P P 04 19 17.0 +0.1
baz=88,SNR=18
E03A Lebam 88.47 35⇓P P 04 19 17.5 +0.3
baz=88
H05A Madras 88.50 38⇑P P 04 19 17.4 0.0
baz=88
U14A Mt Trumbull 88.55 48 P P 04 19 18.3 +0.6
baz=88,SNR=17
319A Douglas 88.57 54 P P 04 19 19.1 +1.1
baz=88,SNR=6.0

WVOR	Wild Horse Val	88.60	41	eP	P	04 19 17.4	-0.5
WVOR				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.7						
WVOR	Wild Horse Val	88.60	41	eP	P	04 19 17.4	-0.5
	comp=Z,12nm,0.9s,mb4.7						
O10A	Cortez Mining,	88.61	43	⇑P	P	04 19 17.8	-0.2
	baz=88						
I06A	Prineville	88.62	39	P	P	04 19 18.5	+0.6
	baz=88,SNR=34						
L08A	Fields	88.63	41	P	P	04 19 18.2	+0.2
	baz=88,SNR=10						
X16A	Lo Mia Camp, P	88.64	51	P	P	04 19 18.9	+0.7
	baz=89,SNR=22						
P11A	Circle Ranch,	88.65	44	⇓P	P	04 19 18.6	+0.4
	baz=89						
Y17A	Roosevelt	88.67	51	P	P	04 19 18.9	+0.5
	baz=89,SNR=7.5						
F04A	Amboy	88.67	36	P	P	04 19 17.8	-0.3
	baz=89,SNR=6.9						
R12A	Pony Springs,	88.68	46	P	P	04 19 18.5	+0.2
	baz=89,SNR=5.2						
M09A	Marrel Ranch,	88.70	42	⇑P	P	04 19 18.8	+0.5
	baz=89						
118A	Homack Ranch,	88.73	53	P	P	04 19 19.6	+0.9
	baz=89,SNR=9.9						
D03A	Wishkah Elem.	88.73	35	⇓P	P	04 19 19.3	+1.0
	baz=89						
S13A	Holt Ranch, En	88.75	47	P	P	04 19 19.1	+0.5
	baz=89,SNR=6.0						
J07A	Hines	88.79	40	P	P	04 19 18.9	+0.2
	baz=89,SNR=19						
G05A	Wamic	88.83	37	⇑P	P	04 19 18.5	-0.3
	baz=89						
NLWA	Neilton Lookou	88.87	35	⇑P	P	04 19 19.4	+0.5
	baz=89						
K08A	Mann Creek Ran	88.87	41	P	P	04 19 19.4	+0.3
	baz=89,SNR=18						
V15A	Kaibab Nationa	88.90	49	P	P	04 19 20.1	+0.7
	baz=89,SNR=7.8						
219A	White Tail Can	88.91	54	P	P	04 19 20.4	+0.8
	baz=89,SNR=8.7						
L09A	Wilkinson Ranc	88.93	41	P	P	04 19 19.6	+0.2
	baz=89,SNR=8.9						
W16A	Flagstaff	88.94	50	P	P	04 19 20.3	+0.7
	baz=89,SNR=6.8						
T14A	Hurricane	88.97	48	P	P	04 19 20.0	+0.3
	baz=89,SNR=7.1						
O11A	Cowboy Ranch,	89.05	44	P	P	04 19 19.8	-0.2
	baz=89,SNR=8.7						
H06A	Lindquist Farm	89.05	38	P	P	04 19 19.7	-0.1
	baz=89,SNR=26						
CCUT	Cedar City	89.06	47	eP	P	04 19 20.0	-0.1
I07A	Izee	89.11	39	P	P	04 19 20.2	+0.1
	baz=89,SNR=29						
ARUT	Antelope Range	89.14	47	eP	P	04 19 20.2	-0.3
P12A	McGill	89.14	45	⇓P	P	04 19 20.5	+0.1
	baz=89						
G06A	Carlson Farm,	89.20	38	P	P	04 19 20.4	-0.1
	baz=89,SNR=5.8						
J08A	Circle Bar Ran	89.26	40	P	P	04 19 20.9	0.0
	baz=89,SNR=18						
119A	Ashpeak Ranch,	89.28	53	⇓P	P	04 19 21.4	+0.2
	baz=89						
WUAZ	Wupatki	89.28	50	eP	P	04 19 21.2	0.0
	comp=Z,6.0nm,0.9s,mb4.4						
WUAZ	Wupatki	89.28	50	P	P	04 19 21.6	+0.4
	baz=89,SNR=5.6						
Y18A	Canyon Day Jun	89.29	52	P	P	04 19 22.2	+0.9
	baz=89,SNR=13						
S14A	Cedar City	89.30	47	⇑P	P	04 19 21.5	+0.3
	baz=89						
K09A	Rome	89.30	41	P	P	04 19 21.1	0.0
	baz=89,SNR=26						
M10A	I.L. Ranch, Tu	89.31	42	P	P	04 19 21.6	+0.4
	baz=89,SNR=14						
H07A	Lands Inn, Kim	89.39	39	⇑P	P	04 19 21.3	-0.2
	baz=89						
N11A	Elko Archery C	89.39	43	⇑P	P	04 19 21.3	-0.3
	baz=89						
T15A	Red Dirt Ranch	89.41	48	P	P	04 19 21.9	+0.1
	baz=89,SNR=13						
Q13A	Wheeler Ranch,	89.41	46	P	P	04 19 21.6	-0.1
	baz=89,SNR=6.8						
E05A	Randle	89.43	36	P	P	04 19 21.2	-0.4
	baz=89,SNR=11						
W17A	Winslow	89.50	50	⇑P	P	04 19 22.5	+0.2
	baz=89						
GNW	Green Mountain	89.52	35	eP	P	04 19 21.8	-0.2
I08A	Drewsey	89.54	40	P	P	04 19 22.1	-0.1
	baz=90,SNR=11						
C04A	Brinnon	89.54	35	⇑P	P	04 19 22.1	0.0
	baz=90						
XAN	Xi'an	89.65	308	P	P	04 19 23.3	+0.4
XAN				PP	PP	04 23 05.1	+1.4
XAN				SKS		04 29 07.1	
XAN				S	S	04 29 31.0	-1.9
XAN				SS	SS	04 35 46.5	+2.4
XAN				AMB	AMB		
	comp=Z,29nm,1.1s,mb5.0						
XAN				AMB	AMB		
	comp=Z,53nm,4.3s						
J09A	Fry Pan Ranch,	89.67	40	P	P	04 19 22.9	+0.1
	baz=90,SNR=13						
L10A	Juniper Basin	89.68	42	P	P	04 19 22.8	-0.1
	baz=90,SNR=34						
O12A	Currie	89.70	44	⇑P	P	04 19 22.9	-0.1
	baz=90						
P13A	Bates Ranch, G	89.70	45	P	P	04 19 23.2	+0.1
	baz=90,SNR=8.7						
D05A	Enumclaw	89.71	36	⇑P	P	04 19 23.2	+0.3
	baz=90						
M11A	Holland Ranch,	89.72	43	P	P	04 19 23.2	+0.2
	baz=90,SNR=13						
X18A	Snowflake	89.74	51	P	P	04 19 23.8	+0.5
	baz=90,SNR=9.0						
G07A	Ruggs Ranch, H	89.75	38	P	P	04 19 22.7	-0.4
	baz=90,SNR=6.0						
E06A	Yakima	89.83	36	⇓P	P	04 19 23.3	-0.2
	baz=90						
KMI	Kunming	89.84	298	P	P	04 19 25.6	+1.5
KMI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.8						
N12A	Clover Valley,	89.85	44	P	P	04 19 23.6	0.0
	baz=90,SNR=6.9						
H08A	Prairie City	89.85	39	⇑P	P	04 19 23.0	-0.6
	baz=90						
K10A	MacKenzie Ranc	89.85	41	P	P	04 19 23.6	-0.1
	baz=90,SNR=15						
Y19A	Nutrioso	89.93	52	P	P	04 19 25.1	+0.8
	baz=90,SNR=13						
T16A	Glen Canyon Da	89.98	48	⇓P	P	04 19 24.5	+0.1
	baz=90						
F07A	Phinny Hill Vi	90.00	37	⇓P	P	04 19 24.4	+0.2
	baz=90						
CHTO	Chiang Mai	90.02	291	eP	P	04 19 25.9	+0.9
CHTO				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.8						
CHTO	Chiang Mai	90.02	291	eP	P	04 19 25.9	+0.9
	comp=Z,18nm,1.1s,mb4.8						
I09A	Lost Marbles R	90.06	40	⇓P	P	04 19 24.3	-0.2
	baz=90						
O13A	Hicks Ranch, I	90.10	45	⇓P	P	04 19 25.3	+0.4
	baz=90						
X19A	St. Johns	90.15	51	⇓P	P	04 19 25.5	+0.2
	baz=90						
G08A	Pilot Rock	90.16	38	P	P	04 19 25.0	0.0
	baz=90,SNR=10						
L11A	Cat Creek Ranc	90.17	42	P	P	04 19 25.1	0.0
	baz=90,SNR=17						
C05A	Tolt Reservoir	90.19	35	P	P	04 19 24.8	-0.3
	baz=90,SNR=5.2						
M12A	Wells	90.25	43	P	P	04 19 25.4	-0.1
	baz=90,SNR=5.6						
D06A	Cle Elum	90.31	36	⇓P	P	04 19 25.9	+0.2
	baz=90						
B05A	Bryant	90.34	35	⇓P	P	04 19 25.5	-0.3
	baz=90						
K11A	Parker Ranch,	90.35	42	P	P	04 19 26.1	+0.2
	baz=90,SNR=11						
MSU	Marysvale	90.37	47	eP	P	04 19 26.8	+0.6
N13A	Wendover, West	90.37	44	P	P	04 19 26.2	+0.1
	baz=90,SNR=6.3						
W19A	Sanders	90.44	51	⇓P	P	04 19 26.5	0.0
	baz=90						
E07A	Sunnyside	90.45	37	⇑P	P	04 19 26.5	+0.2
	baz=90						
HAWA	Hanford	90.52	37	eP	P	04 19 26.9	+0.2
TTA	Tatalina	90.56	11	eP	P	04 19 25.9	-0.5
L12A	House Creek Ra	90.60	43	P	P	04 19 27.1	-0.1
	baz=90,SNR=11						
M13A	Montello	90.68	44	P	P	04 19 27.6	+0.1
	baz=91,SNR=10						
BMO	Blue Mountains	90.83	39	eP	P	04 19 27.1	-1.0
BMO				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.4						
BMO	Blue Mountains	90.83	39	eP	P	04 19 27.1	-1.1
	comp=Z,2.6nm,0.6s,mb4.3						
MFID	Camas Ranch	90.85	41	⇓P	P	04 19 28.2	0.0
	baz=91						
DUG	Dugway	90.88	45	eP	P	04 19 26.3	-2.2
DUG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
DUG	Dugway	90.88	45	eP	P	04 19 26.2	-2.2
	comp=Z,4.2nm,1.0s,mb4.3						
DUG	Dugway	90.88	45	⇑P	P	04 19 28.3	-0.2
	baz=91						
K12A	Draper Farm, C	90.95	42	P	P	04 19 28.6	-0.1
	baz=91,SNR=7.5						
H10A	Noah's Angus R	90.99	40	⇓P	P	04 19 28.4	-0.5
	baz=91						
N14A	Grayback Hills	91.00	44	⇓P	P	04 19 29.0	-0.1
	baz=91						
C07A	Waterville	91.04	36	⇓P	P	04 19 28.3	-0.7
	baz=91						
I11A	Placerville	91.06	41	P	P	04 19 28.9	-0.3
	baz=91,SNR=9.5						
SEY	Seymchan	91.07	348	eP	P	04 19 28.3	-0.5
J12A	Stokes Ranch,	91.19	42	P	P	04 19 29.9	+0.1
	baz=91,SNR=13						
G10A	Bishop Farm, J	91.20	39	P	P	04 19 29.1	-0.7
	baz=91,SNR=9.7						
L13A	Double Diamond	91.22	43	⇑P	P	04 19 30.1	+0.1
	baz=91						
D08A	Wollman Farm,	91.26	37	⇑P	P	04 19 29.5	-0.6
	baz=91						
M14A	Sheep Mountain	91.27	44	P	P	04 19 30.2	0.0
	baz=91,SNR=6.5						
E09A	Wood Farm, Sta	91.35	38	⇓P	P	04 19 30.3	-0.2
	baz=91						
N15A	Stansbury Isla	91.45	45	⇑P	P	04 19 30.8	-0.3
	baz=91						
K13A	Stover Farm, H	91.46	43	P	P	04 19 31.3	+0.2
	baz=91,SNR=8.6						
H11A	Donnelly	91.49	40	P	P	04 19 30.9	-0.3
	baz=91,SNR=9.5						
HHC	Hu-ho-hao-te	91.53	315	⇓P	P	04 19 32.3	+0.9
HHC				PP	PP	04 23 21.8	+3.6
HHC				SKS		04 29 18.0	
HHC				S	S	04 29 47.1	-2.2
HHC				SS	SS	04 36 11.8	+1.1
HHC				AMB	AMB		
	comp=Z,26nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,214nm,7.7s						
MPU	Maple Canyon	91.54	46	eP	P	04 19 31.9	+0.4
F10A	Beach Ranch, E	91.54	39	⇓P	P	04 19 30.7	-0.7
	baz=92						
D09A	Jones Farm, Ri	91.59	37	⇓P	P	04 19 31.0	-0.6
	baz=92						
MNTX	Cornudas Mount	91.60	55	eP	P	04 19 31.3	-0.7
	comp=Z,4.1nm,0.6s,mb4.5						
C08A	Higginbotham F	91.64	36	⇑P	P	04 19 31.0	-0.8
	baz=92						
A07A	Ashnola River,	91.72	35	⇑P	P	04 19 31.8	-0.3
	baz=92						
G11A	Walters Elk Ra	91.75	39	P	P	04 19 31.5	-0.9
	baz=92,SNR=15						
TXAR	Lajitas Array	91.75	58	P	P	04 19 32.7	-0.1
TXAR						04 23 24.2	
TXAR	Lajitas Array	91.75	58	P	P	04 19 32.7	-0.1
TXAR				PP	PP	04 23 24.2	+4.0
TXAR				PKKPbc	PKKPbc	04 36 49.4	+0.5
TXAR	Lajitas Array	91.75	58	P	P	04 19 32.7	-0.1
	comp=Z,5.1nm,0.8s,mb4.5,baz=214,slow=6.4,SNR=58						
TXAR				PP	PP	04 23 24.2	+4.0
	comp=Z,0.7nm,1.0s,baz=231,slow=7.9,SNR=3.8						
TXAR				PKKPbc	PKKPbc	04 36 49.4	+0.5
	comp=Z,0.3nm,0.6s,baz=92,slow=2.9,SNR=5.2						
HLID	Hailey	91.77	42	P	P	04 19 32.6	+0.1
	baz=92,SNR=6.8						
SRU	San Rafael	91.78	47	eP	P	04 19 32.5	-0.1
M15A	Larsen Ranch,	91.81	44	⇑P	P	04 19 32.2	-0.6
	baz=92						
J13A	Cove Ranch, Pi	91.82	42	P	P	04 19 32.9	+0.2
	baz=92,SNR=10						
CTU	Camp Tracy	91.83	45	eP	P	04 19 32.9	0.0
CD2	Chengdu	91.84	304	eP	P	04 19 33.6	+0.5
CD2				PP	PP	04 23 22.9	+2.0
CD2				SKS		04 29 19.4	
CD2				S	S	04 29 51.3	-1.2
CD2				SS	SS	04 36 16.6	+1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
B08A	Colville Reser	91.84	36	⇑P	P	04 19 31.6	-1.1
	baz=92						
E10A	Myers Farm, Un	91.91	38	⇓P	P	04 19 32.8	-0.3
	baz=92						
K14A	Jones Ranch, D	91.95	43	P	P	04 19 33.3	0.0
	baz=92,SNR=5.4						
JLU	Jordanelle	91.97	45	eP	P	04 19 33.8	+0.2
DAU	Daniels Canyon	92.00	46	eP	P	04 19 34.2	+0.6
C09A	Chrisman Ranch	92.06	37	⇓P	P	04 19 33.5	-0.2
	baz=92						
H12A	Diamond D Ranc	92.07	41	P	P	04 19 33.5	-0.3
	baz=92,SNR=10						
I13A	Wildhorse Cree	92.15	41	⇑P	P	04 19 34.1	-0.2
	baz=92						
D10A	Wagner Farm, O	92.16	38	P	P	04 19 33.1	-1.0
	baz=92,SNR=7.5						
A08A	Turner Farm, O	92.23	35	⇑P	P	04 19 33.4	-1.1
	baz=92						
E11A	Bogner Ranch,	92.34	39	⇑P	P	04 19 33.4	-1.6
	baz=92						
ANMO	Albuquerque	92.42	52	iP	P	04 19 34.3	-1.4
ANMO	Albuquerque	92.42	52	eP	P	04 19 35.4	-0.3
H13A	Challis	92.44	41	⇓P	P	04 19 34.9	-0.7
	baz=92						
B09A	Rice	92.50	36	P	P	04 19 34.9	-0.9
	baz=92,SNR=5.0						
F12A	Elk City	92.53	39	P	P	04 19 35.1	-0.9
	baz=92,SNR=9.1						
PV01	Paradox Valley	92.57	49	eP	P	04 19 34.3	-2.0
G13A	Cobalt	92.75	40	⇑P	P	04 19 36.9	0.0
	baz=93						
F13A	Darby	93.08	40	⇓P	P	04 19 37.3	-1.1
	baz=93						
D12A	Red Ives Fores	93.22	38	⇓P	P	04 19 38.8	-0.3
	baz=93						
B11A	Sandpoint	93.47	37	⇑P	P	04 19 39.8	-0.4
	baz=93						
A11A	Hall Mountain,	93.77	36	⇓P	P	04 19 40.8	-0.7
	baz=94						
G15A	Dillon	93.81	41	⇓P	P	04 19 41.6	-0.2
	baz=94						
COLA	College	93.87	13	eP	P	04 19 40.0	-1.6
E14A	Clinton	93.92	40	⇑P	P	04 19 42.1	-0.2
	baz=94						
BILL	Bilibino	94.11	355	eP	P	04 19 42.0	-0.6
BILL				eS	SKSac	04 29 31.6	+1.6
BILL				pmax	pmax		
	comp=Z,18nm,2.5s,mb4.7						
SMCO	Snowmass	94.17	48	eP	P	04 19 43.4	-0.2
LZH	Lanzhou	94.27	308	eP	P	04 19 45.0	+0.8
LZH				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.1						
LZH				AMB	AMB		
	comp=Z,82nm,4.2s						
C14A	Swan Lake	94.53	38	⇓P	P	04 19 43.2	-1.8
	baz=94						
BOZ	Bozeman (W)	94.58	41	eP	P	04 19 44.3	-1.0
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb4.0						
BOZ	Bozeman (W)	94.58	41	eP	P	04 19 44.3	-1.0
	comp=Z,1.2nm,0.7s,mb4.0						
BOZ	Bozeman (W)	94.58	41	P	P	04 19 45.0	-0.3
	baz=94,SNR=7.3						
HRY	Holter Researc	95.04	40	eP	P	04 19 47.8	+0.4
DAWY	Dawson	95.17	17	eP	P	04 19 46.7	-0.9
EGAK	Eagle	95.30	16	eP	P	04 19 46.5	-1.6
	comp=Z,5.7nm,1.0s,mb4.6						
YAK	Yakutsk	96.23	339	iP	P	04 19 50.9	-1.5
YAK				pmax	pmax		
	comp=Z,9.0nm,0.4s,mb5.2						
SONM	Songino Array	98.32	319	P	Pdif	04 20 01.3	-1.0
	comp=Z,1.7nm,0.8s,baz=88,slow=5.0,SNR=3.7						
GTA	Gaotai	98.64	310	eP	Pdif	04 20 04.4	+0.7
GTA				AMB	AMB		
	comp=Z,3.0nm,1.8s,mb4.3						
LPAZ	La Paz	101.96	115	P	Pdif	04 20 21.0	+2.5
	comp=Z,0.3nm,0.7s,baz=180,slow=8.1,SNR=2.7						
YKA	Yellowknife Ar	102.25	26	P	Pdif	04 20 17.9	-1.9
YKA	Yellowknife Ar	102.25	26	P	Pdif	04 20 17.9	-1.8
	comp=Z,0.2nm,0.6s,baz=244,slow=4.6,SNR=5.3						
YKA				PKiKP	PKiKP	04 24 36.1	-1.9
	comp=Z,0.4nm,0.5s,baz=254,slow=1.6,SNR=22						
YKA				PKKPbc	PKKPbc	04 36 18.3	-3.2
	comp=Z,0.6nm,0.6s,baz=41,slow=2.5,SNR=19						
BRAL	Brewton	105.50	63	ePKPdf	PKiKP	04 24 44.1	-0.9
SDV	Santo Domingo	111.57	90	PKiKP	PKiKP	04 24 55.2	-1.7
	comp=Z,1.6nm,0.6s,baz=284,slow=8.6,SNR=3.9						
MKAR	Makanchi Array	113.18	312	PKiKP	PKiKP	04 24 57.5	-1.5
MKAR						04 35 46.0	
MKAR	Makanchi Array	113.18	312	PKPdf	PKiKP	04 24 57.5	-1.5
MKAR				PP	PP	04 25 55.0	-3.3
MKAR				SKP		04 27 46.3	
MKAR				PKKPbc	PKKPbc	04 35 46.0	-0.9
MKAR				PKKPab	PKKPab	04 35 54.0	+0.1
MKAR	Makanchi Array	113.18	312	PKiKP	PKiKP	04 24 57.5	-1.5
	comp=Z,1.2nm,0.5s,baz=161,slow=0.6,SNR=10						
MKAR				PP	PP	04 25 55.0	-3.3
	comp=Z,0.4nm,0.7s,baz=99,slow=7.5,SNR=3.9						
MKAR				SKP		04 27 46.3	
	comp=Z,0.6nm,0.7s,baz=76,slow=0.6,SNR=4.1						
MKAR				PKKPbc	PKKPbc	04 35 46.0	-0.9
	comp=Z,1.7nm,0.7s,baz=276,slow=4.2,SNR=12						
MKAR				PKKPab	PKKPab	04 35 54.0	+0.1
	comp=Z,0.4nm,0.5s,baz=277,slow=4.9,SNR=3.8						
ZALV	Zalesovo Beam	113.20	320	PKPdf	PKiKP	04 24 56.9	-1.8
ZALV	Zalesovo Beam	113.20	320	PKiKP	PKiKP	04 24 56.9	-1.8
	comp=Z,1.0nm,0.4s,baz=165,slow=2.0,SNR=4.9						
ZAL	Zalesovo	113.21	320	PKiKP	PKiKP	04 24 56.9	-1.9
RES	Resolute Bay	113.51	17	ePKiKP	PKiKP	04 24 56.4	-2.4
KURK	Kurchatov	116.33	316d	iPKiKP	PKPdf	04 25 02.9	-2.0
BDFB	Brasilia	117.98	126	PKP	PKPdf	04 25 08.1	-1.1
	comp=Z,0.8nm,0.5s,baz=221,slow=20,SNR=2.4						
AML	Almayashu	118.25	306	⇑ePKPdf	PKPdf	04 25 08.6	-0.3
SJG	San Juan	119.07	83	PKP	PKPdf	04 25 09.0	-2.2
	comp=Z,9.7nm,0.6s,baz=18,slow=3.2,SNR=5.0						
MTP	Monte Pirata	119.60	83	ePKPdf	PKPdf	04 25 09.7	-2.5
BOSA	Boshof	120.52	206	PKP	PKPdf	04 25 13.4	-0.4
BOSA				PKKPbc	PKKPbc	04 35 19.3	-2.4
BOSA	Boshof	120.52	206	PKP	PKPdf	04 25 13.4	-0.4
	comp=Z,3.1nm,0.5s,baz=194,slow=2.6,SNR=10						
BOSA				PKKPbc	PKKPbc	04 35 19.3	-2.4
	comp=Z,2.3nm,1.0s,baz=270,slow=1.0,SNR=3.2						
BVAR	Borovoye Array	121.63	318	PKP	PKPdf	04 25 13.8	-1.2
	comp=Z,9.8nm,0.6s,baz=132,slow=1.6,SNR=42						
BRVK	Borovoye	121.70	318	ePKPdf	PKPdf	04 25 13.7	-1.4
BRVK				epPKPdf	pPKPdf	04 27 16.4	+6.3
SCHQ	Schefferville	124.19	40	PKP	PKPdf	04 25 17.2	-2.7
SCHQ	Schefferville	124.19	40	PKP	PKPdf	04 25 17.2	-2.7
	comp=Z,4.5nm,0.9s,baz=334,slow=2.4,SNR=4.5						
KBS	Kingsbay	126.54	357	⇑iPKiKP	PKPdf	04 25 22.8	-1.0
ARU	Arti	128.20	323	iPKiKP	PKPdf	04 25 26.6	-0.9
ARU						04 27 36.7	
ARU	Arti	128.20	323	ePKPdf	PKPdf	04 25 26.2	-1.3
AKTK	Aktyubinsk	129.42	315	PKP	PKPdf	04 25 27.9	-2.1
AKTO	Aktyubinsk	129.42	315	PKP	PKPdf	04 25 27.9	-2.1
	comp=Z,6.7nm,0.6s,baz=81,slow=3.9,SNR=17						
TSUM	Tsumeb	131.95	203	ePKPdf	PKPdf	04 25 36.2	+0.4
KEV	Kevo	133.21	347	ep	PKPdf	04 25 27.1	-10
ARCES	ARCESS Array B	133.69	348	PKhKP		04 25 29.1	
	comp=Z,1.8nm,0.5s,baz=32,slow=0.6,SNR=11						
ARCES				PKP	PKPdf	04 25 36.1	-1.4
	comp=Z,7.9nm,0.7s,baz=64,slow=2.3,SNR=25						
ARCES				SKPbc	SKPbc	04 28 19.0	-1.7
	comp=Z,3.1nm,0.7s,baz=39,slow=3.4,SNR=12						
KMBO	Kilima Mbogo	134.82	239	PKP	PKPdf	04 25 41.2	-0.2
	comp=Z,2.7nm,0.8s,baz=270,slow=2.0,SNR=3.4						
KMBO				SKPbc	SKPbc	04 28 26.8	+0.6
	comp=Z,1.5nm,0.7s,baz=104,slow=1.5,SNR=4.0						
JOF	Joensuu	137.41	339	ep	PKPdf	04 25 43.7	-0.9
	comp=Z,2.1nm,0.4s						
FINES	FINESS Array B	140.14	340	PKhKP		04 25 41.5	
	comp=Z,5.1nm,0.7s,baz=51,slow=4.4,SNR=22						
FINES				PKP	PKPdf	04 25 49.7	+0.1
	comp=Z,3.7nm,0.6s,baz=90,slow=4.9,SNR=11						
FINES				SKPbc	SKPbc	04 28 38.1	-1.7
	comp=Z,1.5nm,0.5s,baz=44,slow=3.6,SNR=10						
OBN	Obninsk	140.21	327	⇑iPKiKP	PKPdf	04 25 51.3	+1.4
OBN				e		04 28 57.5	
OBN				eSS	SS	04 46 42.3	+4.3
OBN				pmax	pmax		
	comp=Z,10.0nm,0.6s						
KIV	Kislovodsk	140.81	309	ePKiKP	PKPdf	04 25 51.0	-0.4
KIV				pmax	pmax		
	comp=Z,10.0nm,1.2s						
KIV	Kislovodsk	140.81	309	⇑iPKiKP	PKPdf	04 25 52.2	+0.8
BNGL	BINGOL	142.87	301	⇓iP	PKPdf	04 25 53.2	-2.0
SOC	Sochi	142.99	309	iPKiKP	PKPdf	04 25 58.5	+3.2
SOC				e		04 29 14.0	
SOC				ePPP		04 32 22.2	
SOC				eSS	SS	04 47 04.7	-6.4
SOC				pmax	pmax		
	comp=Z,15nm,0.9s						
MARD	Mardin	143.36	298	⇓iP	PKPdf	04 25 54.2	-1.9
NB2	NORSAR Subarra	143.92	350	PKP	PKPdf	04 25 53.8	-2.5
	comp=Z,78nm,0.8s,baz=20,slow=3.8						
NB2	NORSAR Subarra	143.92	350	PKP	PKPdf	04 25 53.8	-2.5
	baz=20,slow=3.8						
NOA	NORSAR Array B	143.92	350	PKP	PKPdf	04 25 53.7	-2.6
	comp=Z,57nm,0.8s,baz=21,slow=3.8,SNR=218						
NAO01	NORSAR Array S	144.16	351	⇓iPKPbc	PKPdf	04 25 54.7	-2.1
ANN	Anapa	144.20	312d	iPKiKP	PKPdf	04 25 55.0	-2.3
ANN				pmax	pmax		
	comp=Z,

GKP	Gorka Klasztor	149.58	339	⇓ePKP	PKPbc	04 26 10.5	-0.6
CSS	Prodhromos	149.63	296	ePKPbc	PKPbc	04 26 11.5	-0.4
CSS				ePKPab	PKPab	04 26 18.3	-0.8
EDI	Edinburgh	149.87	3	eP	PKPbc	04 26 10.5	-1.2
EDI				AMb	AMB	04 26 11.5	
	comp=Z,67nm,1.1s						
ESY	Stoneypath	149.90	2	eP	PKPbc	04 26 10.4	-1.4
PGBU	Glenifferbraes	149.90	5	eP	PKPbc	04 26 10.5	-1.3
PGBU				AMb	AMB	04 26 11.1	
	comp=Z,70nm,1.0s						
EAU	Auchinoon	149.93	3	eP	PKPbc	04 26 10.7	-1.2
EBL	Broad Law	150.02	3	eP	PKPbc	04 26 10.8	-1.3
HENT	Hendek	150.07	308	⇓iP	PKPbc	04 26 11.7	-1.0
TIRR	Tirgusor	150.22	316	P	PKPbc	04 26 12.5	-0.4
TIRR	Tirgusor	150.22	316	⇑iP	PKPbc	04 26 12.4	-0.6
KWP	Kalwaria	150.25	329	ePKPdf	PKPbc	04 26 12.4	-0.4
KWP	Kalwaria	150.25	329	⇓ePKP	PKPbc	04 26 12.4	-0.4
KWP	Kalwaria	150.25	329	⇑iP	PKPdf	04 26 08.4	+1.3
BURAR	Bucovina Array	150.33	324	⇓PKIKP	PKPbc	04 26 12.9	-0.2
BURAR	Bucovina Array	150.33	324	⇓iP	PKPdf	04 26 08.0	+0.7
XSO	Sourhope Farm	150.34	2	eP	PKPbc	04 26 11.5	-1.4
HARR	Harsova	150.41	317	P	PKPbc	04 26 13.1	-0.3
HARR	Harsova	150.41	317	⇑iP	PKPbc	04 26 13.2	-0.2
EKA	Eskdalemuir Ar	150.46	3	PKP	PKPdf	04 26 04.8	-2.5
	comp=Z,1.7nm,0.7s,baz=344,slow=2.7,SNR=5.1						
EKA				PKPbc	PKPbc	04 26 11.5	-1.6
	comp=Z,9.0nm,0.6s,baz=337,slow=2.6,SNR=69						
EKA				PKPab	PKPab	04 26 21.2	-0.5
	comp=Z,1.8nm,0.6s,baz=12,slow=4.3,SNR=4.0						
ESK	Eskdalemuir	150.47	3	eP	PKPbc	04 26 11.9	-1.3
ESK				AMb	AMB	04 26 16.8	
	comp=Z,62nm,1.6s						
VRI	Vrincioaia	150.51	320	⇓PKIKP	PKPbc	04 26 12.7	-0.9
VRI	Vrincioaia	150.51	320	P	PKPbc	04 26 12.8	-0.8
VRI	Vrincioaia	150.51	320	⇓iP	PKPbc	04 26 12.6	-1.0
ESKT	Eskisehir	150.53	305	⇓iP	PKPbc	04 26 13.0	-0.8
PLOR	Plostina	150.56	320	⇑iP	PKPbc	04 26 12.8	-0.9
ECK	Cauldkaine Hil	150.61	3	eP	PKPbc	04 26 11.5	-2.0
BSEG	Bad Segeberg	150.82	347	ePKPbc	PKPbc	04 26 13.2	-0.8
BSEG				ePKPab	PKPab	04 26 22.7	-0.6
GAL1	Galloway	150.82	5	eP	PKPbc	04 26 11.7	-2.3
GAL1				AMb	AMB	04 26 14.3	
	comp=Z,108nm,1.6s						
KOLS	Kolonicke sedl	150.94	328	ePKP	PKPdf	04 26 07.7	-0.5
KOLS				e		04 26 14.5	
XAL	Allendale	150.97	2	eP	PKPbc	04 26 12.8	-1.5
STHS	Stebnicka Huta	151.07	330	ePKP	PKPbc	04 26 14.7	0.0
OJC	Ojcow	151.10	333	ePKP	PKPbc	04 26 13.9	-0.9
UZH	Uzhgorod	151.15	328	ePKIKP	PKPbc	04 26 14.7	-0.2
MLR	Muntele Rosu	151.18	320	PKIKP	PKPbc	04 26 14.2	-0.9
MLR	Muntele Rosu	151.18	320	PKPbc	PKPbc	04 26 13.9	-1.2
	comp=Z,6.8nm,0.6s,baz=337,slow=1.6,SNR=18						
MLR				PKPab	PKPab	04 26 24.4	-0.8
	comp=Z,5.0nm,0.6s,baz=156,slow=18,SNR=6.4						
MLR	Muntele Rosu	151.18	320	⇓iP	PKPbc	04 26 14.1	-1.0
CKE	Keswick	151.20	3	eP	PKPbc	04 26 12.7	-2.1
ISP	Isparta	151.27	302	⇑iP	PKPbc	04 26 14.6	-1.0
RUE	Ruedersdorf	151.31	342	ePKPbc	PKPbc	04 26 14.6	-0.6
CRVS	Cervenica-Dubn	151.34	329	ePKP	PKPbc	04 26 14.8	-0.6
TRPA	Tarpa	151.37	327	⇓iP	PKPbc	04 26 14.7	-0.8
NIE	Niedzica	151.48	331	ePKP	PKPbc	04 26 15.9	+0.2
HPK	Haverah Park	151.89	2	eP	PKPbc	04 26 14.9	-1.5
HPK				AMb	AMB	04 26 15.9	
	comp=Z,103nm,1.7s						
KSP	Ksiaz	151.94	337	ePKPdf	PKPbc	04 26 16.5	-0.1
KSP	Ksiaz	151.94	337	ePKP	PKPbc	04 26 16.3	-0.3
KSP				e		04 26 27.3	
OKC	Ostrava-Krasne	152.06	334	ePKIKP	PKPbc	04 26 16.6	-0.4
OKC	Ostrava-Krasne	152.06	334	⇑ePKP	PKPbc	04 26 16.6	-0.4
DRGR		152.18	325	P	PKPbc	04 26 16.8	-0.5
DRGR		152.18	325	⇓iP	PKPbc	04 26 15.8	-1.5
LHO	Holmfirth	152.30	2	eP	PKPbc	04 26 15.8	-1.6
UPC	Upice	152.31	337	ePKIKP	PKPbc	04 26 17.1	-0.4
UPC	Upice	152.31	337	⇑ePKP	PKPbc	04 26 17.1	-0.4
DPC	Dobruska-Polom	152.34	337	ePKPDF	PKPdf	04 26 09.9	-0.4
DPC				⇑ePKP	PKPdf	04 26 17.1	+6.8
MORC	Moravsky Berou	152.35	335	ePKIKP	PKPdf	04 26 09.8	-0.5
MORC				e		04 26 16.7	
MORC				e		04 26 29.2	
MORC	Moravsky Berou	152.35	335	⇑iP	PKPbc	04 26 16.9	-0.7
CLL	Collm	152.58	342	⇓iPKIKP	PKPbc	04 26 17.1	-0.9
CLL				i		04 26 30.0	
CLL	Collm	152.58	342	ePKPdf	PKPdf	04 26 09.6	-1.0
CLL				i PKPbc	PKPbc	04 26 17.1	-0.9
	comp=Z,32nm,0.8s						
CLL				ePKPab	PKPab	04 26 30.0	-0.8
CLL				epPKPbc	pPKPab	04 28 20.4	-0.3
CLL	Collm	152.58	342	⇓iPKPbc	PKPbc	04 26 17.1	-0.9
	comp=Z,32nm,0.8s						
CLL				⇑iPKPab	PKPab	04 26 30.0	-0.8
	comp=Z,25nm,0.8s						
CLL				epPKPbc	pPKPbc	04 28 20.0	+7.4
CLL				e(PP)		04 30 17.0	
BRG	Berggiesshubel	152.68	340	ePKIKP	PKPdf	04 26 09.9	-0.8
BRG				i		04 26 17.6	
BRG				i		04 26 30.7	
BRG	Berggiesshubel	152.68	340	ePKP	PKPdf	04 26 09.9	-0.9
BRG				i		04 26 17.6	
BRG				i		04 26 30.7	
BRG				epPKP	pPKPbc	04 28 18.3	+5.5
BRG	Berggiesshubel	152.68	340	ePKPbc	PKPbc	04 26 17.6	-0.7
BRG				ePKPab	PKPab	04 26 30.9	-0.4
CLZ	Clausthal	152.76	345	ePKPbc	PKPbc	04 26 17.9	-0.5
CLZ				ePKPab	PKPab	04 26 31.2	-0.4
PSZ	Piszkesteto	152.78	329	ePKIKP	PKPbc	04 26 17.5	-1.1
PSZ				e		04 26 31.6	
PSZ	Piszkesteto	152.78	329	⇓iP	PKPbc	04 26 17.7	-0.9
PVCC	Panska Ves	152.78	339	ePKPDF	PKPdf	04 26 10.2	-0.7
PVCC				⇑ePKP	PKPdf	04 26 18.3	+7.4
PVCC				ePKPAB	PKPab	04 26 31.3	-0.4
FBE	Freiberg	152.82	341	ePKPbc	PKPbc	04 26 18.1	-0.5
FBE				ePKPab	PKPab	04 26 31.5	-0.4
VYHS	Vyhne	152.82	331	ePKP	PKPbc	04 26 17.9	-0.8
VYHS				e		04 26 31.4	
IBBN	Ibbenburen	152.85	349	ePKPab	PKPab	04 26 31.1	-0.8
SBD1	Bryn Du	152.87	4	eP	PKPbc	04 26 17.0	-1.6
KOLL	Kolacno	152.94	332	ePKP	PKPbc	04 26 18.3	-0.6
KOLL				e		04 26 32.4	
GZR	Gura Zlata	153.03	322	⇑PKIKP	PKPbc	04 26 18.6	-0.6
GZR	Gura Zlata	153.03	322	P	PKPbc	04 26 18.1	-1.1
GZR	Gura Zlata	153.03	322	⇑iP	PKPbc	04 26 18.5	-0.7
VRAC	Vranov	153.09	335	PKPab	PKPab	04 26 32.0	-1.1
	comp=Z,4.2nm,0.5s,baz=160,slow=6.2,SNR=4.5						
PRU	Pruhonice	153.26	338	ePKPDF	PKPdf	04 26 10.9	-0.7
PRU				⇑ePKP	PKPdf	04 26 18.9	+7.3
PRU				ePKPAB	PKPab	04 26 33.5	-0.3
BZS	Buzias	153.52	324	⇓iP	PKPbc	04 26 19.3	-1.0
WERD	Werda	153.54	342	ePKPbc	PKPbc	04 26 19.5	-0.6
WERD				ePKPab	PKPab	04 26 34.6	-0.4
MOX	Moxa	153.56	343	ePKP	PKPab	04 26 34.5	-0.5
	comp=Z,23nm,1.5s						
MOX	Moxa	153.56	343	ePKP2	PKPab	04 26 34.5	-0.5
MOX				pmax	pmax		
	comp=Z,23nm,1.5s						
MOX	Moxa	153.56	343	ePKPab	PKPab	04 26 34.2	-0.8
MODS	Modra-Piesok	153.57	333	ePKIKP	PKPbc	04 26 20.2	-0.1
MODS				e		04 26 34.9	
MODS	Modra-Piesok	153.57	333	ePKP	PKPbc	04 26 20.2	-0.1
MODS				e		04 26 34.9	
GUNZ	Gunzen	153.61	341	ePKPab	PKPab	04 26 35.1	-0.2
WERN	Wernitzgruen	153.67	341	ePKPab	PKPab	04 26 35.4	-0.1
NKC	Novy Kostel	153.70	341	ePKPAB	PKPab	04 26 35.2	-0.4
MANZ	Manzenberg	154.01	341	ePKPbc	PKPbc	04 26 20.4	-0.8
ROTZ	Rotzenmuhle	154.18	341	ePKPab	PKPab	04 26 37.6	-0.1
KHC	Kasperske Hory	154.31	339	ePKPDF	PKPdf	04 26 11.8	-1.3
KHC				⇑ePKP	PKPbc	04 26 21.1	-0.7
KHC				ePKPAB	PKPab	04 26 38.1	-0.2
VTS	Vitosha	154.43	317	⇓PKP2	PKPab	04 26 40.2	+1.1
VTS	Vitosha	154.43	317	⇑iP	PKPbc	04 26 25.2	+2.9
GEC2	GERESS Array S	154.52	338	ePKPab	PKPab	04 26 38.7	-0.5
GERES	GERESS Array B	154.52	338	PKP	PKPdf	04 26 11.0	-2.4
	comp=Z,1.1nm,0.8s,baz=101,slow=2.7,SNR=9.8						
GERES				PKPbc	PKPbc	04 26 21.2	-1.1
	comp=Z,2.3nm,0.8s,baz=23,slow=1.7,SNR=12						
GERES				PKPab	PKPab	04 26 38.4	-0.9
	comp=Z,2.0nm,0.7s,baz=35,slow=4.9,SNR=8.9						
GRF	Grafenberg Arr	154.53	342	ePKPab	PKPab	04 26 39.2	0.0
WET	Wettzell	154.53	339	ePKPab	PKPab	04 26 39.2	0.0
PKSM	Moragy	154.61	328	⇓PKIKP	PKPbc	04 26 21.5	-1.0
PKSM	Moragy	154.61	328	⇓iP	PKPdf	04 26 13.8	+0.2
VAY	Valandovo	155.51	315	ePKP	PKPab	04 26 42.9	-0.9
BAIF	Baives	155.55	353	⇑iPKP2	PKPab	04 26 42.4	-1.2
	comp=Z,16nm,0.6s						
SKO	Skopje	155.86	317	ePKP	PKPab	04 26 46.2	+1.0
FUR	Furstenfeldbru	155.89	341	ePKPab	PKPab	04 26 45.1	0.0
BFO	Black Forest	156.52	345	ePKIKP	PKPdf	04 26 15.9	-0.2
WTTA	Wattenberg	156.58	339	⇑iP	PKPab	04 26 47.5	-0.7
	comp=Z,14nm,0.7s						
CDF	Champ du Feu	156.67	347	ePKP2	PKPab	04 26 47.5	-1.0
	comp=Z,14nm,1.0s						
MOTA	Moosalm	156.68	340	⇑iP	PKPab	04 26 48.1	-0.4
	comp=Z,11nm,0.9s						
OHR	Ohrid	156.74	316	ePKP	PKPab	04 26 34.8	-14
SQTA	Sankt Quirin	156.75	340	⇑iP	PKPab	04 26 48.6	-0.2
	comp=Z,7.1nm,0.7s						
MEZF	Maizieres J'vi	156.97	351	⇑iPKP2	PKPab	04 26 48.8	-1.0
	comp=Z,18nm,0.6s						
DAVA	Damuels	157.09	342	⇑iP	PKPab	04 26 50.1	-0.3
	comp=Z,14nm,0.7s						
HAU	Haudompre	157.24	348	⇑iPKP2	PKPab	04 26 49.7	-1.2
	comp=Z,15nm,0.7s						
HINF	Hinteralfeld	157.32	347	ePKP2	PKPab	04 26 50.6	-0.7
DAVOX	Davos/Dischmat	157.55	341	PKPab	PKPab	04 26 52.4	0.0
	comp=Z,15nm,0.6s,baz=4.0,slow=3.3,SNR=21						
LOR	Lormes	158.34	352	ePKP2	PKPab	04 26 54.7	-1.0
	comp=Z,7.8nm,0.6s						
SSF	Saint Saulge	158.58	353	⇑iPKP2	PKPab	04 26 55.7	-1.1
	comp=Z,42nm,0.8s						
CABF	La Chapelle	158.63	348	ePKP2	PKPab	04 26 56.2	-0.8
	comp=Z,9.8nm,0.7s						
AVF	Avril sur Loir	158.87	353	⇑iPKP2	PKPab	04 26 56.8	-1.3
	comp=Z,34nm,1.0s						
SMF	Signal de Mont	158.95	352	⇑iPKP2	PKPab	04 26 57.2	-1.2
	comp=Z,60nm,0.9s						
TCF	Toulx Ste Croi	159.48	355	ePKP2	PKPab	04 26 59.5	-1.2
	comp=Z,11nm,0.8s						
LPL	La Plagne	159.54	346	ePKP2	PKPab	04 27 00.9	-0.1
LPG	La Plagne	159.55	345	ePKP2	PKPab	04 27 01.2	+0.1
	comp=Z,20nm,1.1s						
MBDF	Montbardon	160.27	345	ePKP2	PKPab	04 27 03.9	-0.4
ORIF	Oris-en-Rattie	160.29	347	ePKP2	PKPab	04 27 03.8	-0.5
	comp=Z,7.7nm,0.9s						
TIP	Timpagrande	160.38	317	ePKPdf	PKPdf	04 26 19.8	-1.2
DBIC	Dimbokro	160.48	167	PKP	PKPdf	04 26 20.9	-0.9
DBIC				PKPab	PKPab	04 27 06.1	+0.2
	comp=Z,4.0nm,0.9s,baz=180,slow=4.7,SNR=6.2						
SBF	Sospel	160.91	342	⇑iPKP2	PKPab	04 27 06.0	-1.1
	comp=Z,9.3nm,0.9s,baz=201,slow=6.3,SNR=6.6						
BBTS	Babate	161.24	123	PKPab	PKPab	04 27 09.1	-0.3
	comp=Z,8.3nm,0.9s,baz=0.9,slow=2.8,SNR=3.9						
LMR	La Mourre	161.65	344	ePKP2	PKPab	04 27 09.5	-0.8
MTLF	Montolieu	162.40	354	ePKP2	PKPab	04 27 12.8	-0.8
	comp=Z,40nm,1.3s						
ETSF	Etsaut	162.97	0	ePKP2	PKPab	04 27 15.0	-1.1
	comp=Z,14nm,0.9s						
EVO	Evora	165.80	25	ePKIKP	PKPdf	04 26 25.4	-0.7
ESDC	Sonseca Array	165.88	11	PKPab	PKPab	04 27 27.8	-1.2
	comp=Z,2.9nm,0.8s,baz=340,slow=3.8,SNR=11						
KEST	Kesra	167.06	322	PKP	PKPdf	04 26 26.3	-0.8
	comp=Z,0.7nm,0.8s,baz=314,slow=7.9,SNR=3.5						
KEST				PKPab	PKPab	04 27 34.7	+0.2
	comp=Z,1.7nm,0.8s,baz=298,slow=5.3,SNR=6.9						
TORD	Torodi Ar. Bea	167.23	189	PKP	PKPdf	04 26 26.3	-1.5
	comp=Z,4.1nm,0.7s,baz=350,slow=0.6,SNR=26						
TORD				PKPab	PKPab	04 27 35.4	-0.1
	comp=Z,6.6nm,0.6s,baz=163,slow=4.2,SNR=28						
TORD				PP	PP	04 31 23.6	+0.2
	comp=Z,0.5nm,0.7s,baz=160,slow=4.7,SNR=3.6						
MDT	Midelt	172.13	27	PKP	PKPdf	04 26 30.2	0.0
	comp=Z,3.7nm,0.8s,baz=245,slow=0.1,SNR=6.2						

*ISCJB **14** 04:15:11.8±1.0, 37.36N±006×72.1E±0.1, h210km±15km, mb3.8/3, Error ellipse: s-maj=18.7km s-min=6.2km az=152.8*
*NEIC **14** 04:15:11.2±3.1, 37.18N×72.18E, h200km±22km, mb4.6/5, Error ellipse: s-maj=49.3km s-min=26.0km az=141.0*
*NNC **14** 04:15:11.9±6.2, 35.24N×62.37E, h0km, mb4.0, Error ellipse: s-maj=71.5km s-min=35.8km az=25.0*
*IDC **14** 04:15:14.7±8.7, 37.18N×71.96E, h238km±93km, mb3.2/2, mb1 3.4/5, mb1mx2.9/23, mbtmp3.3/5, Error ellipse: s-maj=58.7km s-min=47.2km az=125.0*

ISC 14 04:15:12.4±1.1, 3733N±007×721E±01, h195km±15km, n32, σ1°08/37, mb3.8/3, 8C-1D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
AML	Almayashu	4.96	14	⇑iPn		Pn	04 16 26.7	+0.6
	180nm,0.5s							
AML				eSn		Sn	04 17 22.0	-2.1
AML	Almayashu	4.96	14	P		Pn	04 16 26.8	+0.8
	SNR=153							
UCH	Uchtor	5.25	20	⇑iPn		Pn	04 16 30.6	+0.9
	39nm,0.5s							
UCH				eSn		Sn	04 17 29.1	-1.7
UCH				e			04 17 57.0	
UCH	Uchtor	5.25	20	P		Pn	04 16 30.8	+1.1
	SNR=72							
KZA	Kyzart	5.35	26	P		Pn	04 16 31.4	+0.4
	SNR=11							
EKS2	Erkin-Say	5.49	13	ePn		Pn	04 16 33.4	+0.6
	18nm,0.6s							
EKS2				eSn		Sn	04 17 34.8	-1.6
EKS2				e			04 18 02.3	
EKS2	Erkin-Say	5.49	13	P		Pn	04 16 33.8	+0.9
	SNR=24							
AAK	Ala-Archa	5.62	19	P		Pn	04 16 35.8	+1.2
	SNR=29							
THN	Thein Dam	5.73	147	eP		Pn	04 16 34.9	-1.2
KBK	Karagaybulak	5.77	22	P		Pn	04 16 38.3	+1.9
	SNR=6.2							
ULHL	Ulahol	5.88	32	P		Pn	04 16 38.5	+0.7
	SNR=12							
KK31	Karatay Array	5.89	349	⇓Pn		Sn	04 17 40.5	-5.2
	10nm,0.3s,baz=170,slow=17,SNR=17							
CHMS	Chumysh	6.03	19	P		Pn	04 16 40.9	+1.1
	SNR=6.0							
TKM2	Tokmak 2	6.21	25	⇑Pn		Sn	04 17 49.2	-4.0
	7.2nm,0.4s							
TKM2				⇑Lg			04 18 27.8	
	20nm,0.6s							
TKM2	Tokmak 2	6.21	25	ePn		Pn	04 16 42.7	+0.5
	11nm,0.6s							
MKAR	Makanchi Array	12.13	36	P		Pn	04 18 03.6	+4.8
	0.1nm,0.3s,baz=205,slow=11,SNR=2.8							
DANN	Dangsing	13.29	129	eP		Pn	04 18 13.2	-0.5
	11nm,0.4s							
GKN	Gorkha	14.09	128	eP		Pn	04 18 23.2	-0.3
	17nm,0.3s							
DMN	Daman	14.66	128	eP		Pn	04 18 30.3	-0.3
	9.6nm,0.4s							
AB31	Akbulak array	14.81	327	⇑Pn		Pn	04 18 32.4	+0.2
	1.8nm,0.5s,baz=137,slow=12,SNR=40							
AB31				⇑Sn		Sn	04 21 07.3	-10
	1.9nm,0.6s,baz=132,slow=7.5,SNR=4.4							
GUN	Gumba	14.95	125	eP		Pn	04 18 33.9	-0.2
	9.5nm,0.3s							
JIRN	Jiri	15.32	125	eP		Pn	04 18 39.4	+0.7
BVAR	Borovoye Array	15.74	356	P		Pn	04 18 43.3	-0.2
	0.4nm,0.3s,baz=164,slow=11,SNR=8.5							
AKTK	Aktyubinsk	16.52	327	P		Pn	04 18 52.3	-0.6
AKTO	Aktyubinsk	16.52	327	⇑Pn		Pn	04 18 52.0	-0.9
	0.1nm,0.4s							
AKTO				⇑Sn		S	04 21 48.4	-6.2
	0.1nm,0.7s							
AKTO	Aktyubinsk	16.52	327	P		Pn	04 18 52.3	-0.6
	2.7nm,0.3s,baz=130,slow=11,SNR=30							
ZALV	Zalesovo Beam	18.82	24	P		P	04 19 17.7	+0.6
ZALV	Zalesovo Beam	18.82	24	P		P	04 19 17.7	+0.6
	0.7nm,0.3s,baz=219,slow=12,SNR=7.9							
CSS	Prodhromos	31.21	278	P		P	04 21 15.0	+1.6
	5.9nm,0.5s,mb4.5							
ARCES	ARCESS Array B	40.71	337	P		P	04 22 33.2	-0.3
ARCES	ARCESS Array B	40.71	337	P		P	04 22 33.2	-0.3
	1.6nm,0.8s,mb3.5,baz=106,slow=8.9,SNR=6.3							
TORD	Torodi Ar. Bea	66.58	269	P		P	04 25 39.1	-2.7
	0.4nm,0.5s,mb3.3,baz=48,slow=5.1,SNR=13							

*NEIC **14** 04:25:46.6±1.3, 8.64S×128.88E, h35km, Error ellipse: s-maj=32.4km s-min=15.0km az=67.0*
*ISCJB **14** 04:25:49.7±2.3, 8.93S±009×128.82E±0.10, h88km±28km, Error ellipse: s-maj=20.0km s-min=9.8km az=45.0*
*IDC **14** 04:25:51.3±5.1, 8.96S×128.83E, h91km±56km, mb3.2/1, mb1 3.7/5, mb1mx3.5/14, mbtmp3.5/5, ML3.9/4, Error ellipse: s-maj=47.4km s-min=17.9km az=35.0*

ISC 14 04:25:51.0±2.1, 89S±01×12886E±009, h84km±26km, n6, σ0°35/11, Timor Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
BATI	Kupang	5.28	256	P		Pn	04 27 07.2	-0.2
	3.9nm,0.3s,baz=129,slow=12,SNR=6.2							
BATI				S		Sn	04 28 07.2	+0.3
	5.6nm,0.3s,baz=72,slow=9.6,SNR=2.8							
FITZ	Fitzroy Crossi	9.65	199	P		Pn	04 28 06.9	-0.1
	0.7nm,0.3s,baz=30,slow=13,SNR=27							
FITZ				S		Sn	04 29 53.4	-0.3
	0.7nm,0.3s,baz=101,slow=19,SNR=9.3							
WRAB	Tennant Creek	12.17	155	ePn		Pn	04 28 41.7	+0.4
	5.2nm,0.4s							
WRAB				eSn		Sn	04 30 55.1	-0.1
WRA	Warramunga Arr	12.17	155	P		Pn	04 28 40.7	-0.7
	1.1nm,0.3s,baz=329,slow=14,SNR=56							
WRA				S		Sn	04 30 55.5	+0.2
	0.9nm,0.3s,baz=330,slow=22,SNR=15							
ASAR	Alice Springs	15.44	162	P		Pn	04 29 24.7	+0.7
	0.5nm,0.3s,baz=331,slow=9.8,SNR=32							
ASAR				S		Sn	04 32 14.2	-0.2
	0.1nm,0.3s,baz=348,slow=29,SNR=3.5							
MKAR	Makanchi Array	69.22	328	P		P	04 36 48.5	-0.2
	0.2nm,0.4s,baz=119,slow=7.9,SNR=3.8							

*NIED **14** 05:00:00, 24.20N×126.00E, h14km, Mw4.2 Best double couple: M0:2.34000×10^15 NP1:φs:31.00000°, δ62.00000°, λ62.00000°. NP2:φs:260.00000°, δ39.00000°, λ131.00000°.*
*BJI **14** 05:00:22.7, 23.90N×126.70E, h35km, mB4.5, mb4.0, Ms4.0, Msz3.7*
*IDC **14** 05:00:26.5±0.8, 24.20N×125.89E, h0km, mb4.0/12, mb1 4.2/14, mb1mx4.1/21, mbtmp4.0/14, ML3.9/2, MS3.4/5, Ms1 3.5/5, ms1mx3.1/31, Error ellipse: s-maj=30.7km s-min=17.1km az=70.0*
*ISCJB **14** 05:00:28.8±1.1, 24.15N±005×126.04E±003, h33km±7km, mb4.0/15, MS3.7/4, Error ellipse: s-maj=8.6km s-min=4.1km az=155.3*
*JMA **14** 05:00:29.6±0.2, 24.18N×125.97E, h69km, M4.4*
*NEIC **14** 05:00:31.7±0.6, 24.21N×125.89E, h35km, mb4.4/1, Error ellipse: s-maj=12.5km s-min=9.1km az=163.0*

ISC 14 05:00:30.1±1.2, 2419N±005×12600E±004, h29km±7km, n42, σ1°07/57, mb4.0/15, MS3.7/4, 1C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JOGS	Gusukube	0.78	317	P		Pb	05 00 45.5	+0.3
JOGS				eS		Sb	05 00 56.5	+1.2
JMJ	Miyako jima 2	0.90	314	P		Pn	05 00 46.7	-0.1
JMJ				S		Sb	05 00 59.8	+1.3
JTJ	Tarama	1.27	291	P		Pn	05 00 51.4	-0.5
JTJ				eS		Sn	05 01 08.7	+0.8
JIJ	Ishigaki jima	1.70	276	P		Pn	05 00 57.0	-0.9
JIJ				S		Sn	05 01 18.6	-0.1
JKRS	Kuro-shima	1.82	272	P		Pn	05 00 59.2	-0.3
JKRS				S		Sn	05 01 21.6	0.0
HATJ	Hateruma jima	2.01	267	P		Pn	05 01 01.2	-0.9
HATJ				S		Sn	05 01 24.9	-1.4
IRIF	Iriomote-Funau	2.08	274	P		Pn	05 01 02.5	-0.5
JKE	Kume jima 2	2.24	18	P		Pn	05 01 05.1	-0.2
JKE				S		Sn	05 01 32.0	-0.1
JJT2	Tamagusuku 2	2.50	39	P		Pn	05 01 10.2	+1.2
JJT2				S		Sn	05 01 38.4	-0.2
NAH1	Naha	2.52	37	S		Sn	05 01 38.7	-0.3
JAGN	Aguni-jima	2.64	25	P		Pn	05 01 10.1	-0.7
JAGN				eS		Sn	05 01 42.0	+0.1
YOJ	Yonaguni jima	2.74	276	P		Pn	05 01 09.5	-2.7
JOW	Kunigami	3.34	38	P		Pn	05 01 20.2	-0.2
JOW				S		Sn	05 01 57.5	-1.

*ATH **14** 05:11:50.9, 3796N×2093E, h10km, MD3.2/3*
*THE **14** 05:11:53.4, 3833N×2039E, h12km, ML3.3*
CSEM 14 05:11:52.7±0.8, 3834N×2049E, h30km, ML3.3, Error ellipse: s-maj=30.2km s-min=11.8km az=89.0, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.18**	**154**	*e*Pg	Pb	05 11 58.0	-0.7
VLS				*e*Sg	Sb	05 12 01.6	-1.2
KFL	**Anninata**	**0.33**	**134**	*e*Pg	Pb	05 12 00.9	+0.4
KFL				*e*Sg	Sb	05 12 06.7	+0.8
KFL	**Anninata**	**0.33**	**134**	*e*Pg	Pb	05 12 00.9	+0.4
KFL				*e*Sg	Sb	05 12 06.7	+0.8
LKD	**Levkas**	**0.39**	**19**	*e*Pg	Pb	05 12 01.8	+0.4
RLS	**Riolos of Patr**	**0.82**	**110**	*e*PB	Px	05 11 59.4	
EVR	**Evrytania**	**1.18**	**61**	*e*PB	Pn	05 12 13.1	-0.1

IDC 14 05:27:17.3±5.5, 956S×12890E, h0km, mb3.8/1, mb1 3.8/4, mb1mx3.6/13, mbtmp3.7/4, ML3.7/3, Error ellipse: s-maj=66.7km s-min=51.2km az=142.0, Timor Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**9.06**	**200**	Pn	Pn	05 29 29.8	+0.3
	0.8nm,0.3s,baz=30,slow=14,SNR=28						
FITZ				Sn	Sn	05 31 14.7	+2.3
	0.9nm,0.3s,baz=101,slow=21,SNR=6.9						
WRA	**Warramunga Arr**	**11.59**	**154**	Pn	Pn	05 30 03.1	-1.0
	0.5nm,0.3s,baz=327,slow=14,SNR=30						
WRA				Sn	Sn	05 32 16.1	+1.8
	0.7nm,0.3s,baz=332,slow=22,SNR=8.3						
ASAR	**Alice Springs**	**14.82**	**162**	Pn	Pn	05 30 46.5	-1.8
	0.2nm,0.3s,baz=334,slow=9.4,SNR=15						
ASAR				Sn	Sn	05 33 37.8	+4.3
	0.2nm,0.3s,baz=354,slow=27,SNR=4.7						
STKA	**Stephens Creek**	**25.14**	**154**	P	P	05 32 44.5	+0.3
	1.8nm,0.9s,baz=333,slow=6.8,SNR=3.0						

*MOS **14** 05:40:00.5±0.9, 2747N×12860E, h22km, mb4.9/5, Error ellipse: s-maj=22.1km s-min=10.9km az=106.0*
*NIED **14** 05:40:00, 2750N×12860E, h44km, Mw4.3 Best double couple: M0=2.78000×10^15 NP1:ϕs=37.00000°, δ60.00000°, λ85.00000°. NP2:ϕs=226.00000°, δ30.00000°, λ98.00000°.*
*BJI **14** 05:40:03.1, 2727N×12884E, h51km, mB4.4, mb4.5, Ms3.7, Msz3.6*
*NEIC **14** 05:40:04.8±0.6, 2740N×12876E, h35km, mb4.4/6, Error ellipse: s-maj=15.3km s-min=9.9km az=119.0*
NEIC Recorded [2 JMA] on Okino-erabu-shima and Tokuno-shima; [1 JMA] on Yoron-jima.
*ISCJB **14** 05:40:04.8±0.3, 2749N±004×12863E±005, h53km±3km, mb4.5/32, MS3.5/7, Error ellipse: s-maj=9.4km s-min=3.5km az=41.8*
*IDC **14** 05:40:05.4±0.8, 2742N×12835E, h46km±9km, mb3.9/14, mb1 4.0/17, mb1mx4.0/24, mbtmp3.9/17, ML3.5/3, MS3.3/9, Ms1 3.3/9, ms1mx3.2/28, Error ellipse: s-maj=24.8km s-min=11.5km az=89.0*
*JMA **14** 05:40:05.5, 2746N×12863E, h40km±2km, M4.2*
JMA Felt II J1.
ISC 14 05:40:05.7±0.4, 2744N±004×12868E±005, h47km±3km, n78, σ0=96/85, mb4.5/32, MS3.5/7, 3C-1D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	**Tokunoshima**	**0.42**	**35**	P	**Pn**	**05 40 15.3**	**-0.6**
JTK				S	**Sn**	**05 40 21.9**	**-1.2**
JOW	**Kunigami**	**0.70**	**211**	P	**Pn**	**05 40 18.8**	**-0.6**
JOW				S	**Sn**	**05 40 28.4**	**-0.9**
JOW	**Kunigami**	**0.70**	**211**	P	**Pn**	**05 40 18.2**	**-1.2**
	514nm,0.3s,baz=88,slow=16,SNR=814						
JOW				S	**Sn**	**05 40 28.2**	**-1.1**
	2μm,0.3s,baz=49,slow=19,SNR=84						
JIH	**Iheya**	**0.75**	**238**	P	**Pn**	**05 40 19.3**	**-0.7**
JIH				*e*S	**Sn**	**05 40 29.4**	**-1.0**
JAM	**Amami Oshima**	**1.27**	**40**	P	**Pn**	**05 40 27.2**	**+0.2**
JAM				S	**Sn**	**05 40 43.3**	**+0.4**
JZK	**Kikaishima**	**1.44**	**52**	P	**Pn**	**05 40 30.5**	**+1.2**
NAH1	**Naha**	**1.52**	**216**	P	**Pn**	**05 40 31.1**	**+0.7**
NAH1				*e*S	**Sn**	**05 40 50.4**	**+1.4**
JAGN	**Aguni-jima**	**1.54**	**237**	P	**Pn**	**05 40 30.4**	**-0.3**
JAGN				S	**Sn**	**05 40 48.9**	**-0.6**
JJT2	**Tamagusuku 2**	**1.54**	**213**	P	**Pn**	**05 40 31.3**	**+0.6**
JKE	**Kume jima 2**	**2.02**	**237**	P	**Pn**	**05 40 37.0**	**-0.3**
JKE				*e*S	**Sn**	**05 41 01.1**	**-0.3**
JNN	**Nakanoshima**	**2.61**	**23**	P	**Pn**	**05 40 45.2**	**-0.2**
JKC	**Kuchinoerabu**	**3.29**	**23**	P	**Pn**	**05 40 55.2**	**+0.5**
JKC				*e*S	**Sn**	**05 41 30.8**	**-1.8**
JTN	**Tanegashima 3**	**3.78**	**32**	P	**Pn**	**05 41 02.1**	**+0.6**
JTN				*e*S	**Sn**	**05 41 45.0**	**+0.3**
JNU	**Nakatsue**	**5.97**	**18**	P	**Pn**	**05 41 34.0**	**+2.5**
	1.4nm,0.3s,baz=181,slow=13,SNR=15						
JNU				LR	LR	05 44 07.5	
	comp=Z,86nm,19.6s,baz=145,slow=40						
TATO	**Taipei**	**6.91**	**251**	Pn	**Pn**	**05 41 46.0**	**+1.6**
	19nm,0.3s						
YHNB	**Yeheng**	**7.12**	**249**	*e*Pn	**Pn**	**05 41 48.3**	**+1.0**
NJ2	**Nanjing**	**9.70**	**301**	*e*P	**Pn**	**05 42 21.9**	**-0.7**
NJ2				AP		05 42 28.1	
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s						
NJ2				LR	LR		
	comp=N,230nm,17.2s						
NJ2				LR	LR		
	comp=E,210nm,18.0s						
NJ2				LR	LR		
	comp=Z,200nm,15.9s						
KSRS	**Korea Array**	**10.01**	**357**	P	**Pn**	**05 42 27.5**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=174,slow=14,SNR=5.4						
KSRS				LR	LR	05 46 33.2	
	comp=Z,140nm,20.0s,baz=167,slow=39						
JHJ	**Hachijo jima 2**	**11.14**	**57**	LR	LR	05 46 29.8	
	comp=Z,96nm,21.9s,baz=96,slow=34						
CBIJ	**Chichi jima**	**12.02**	**89**	LR	LR	05 47 07.0	
	comp=Z,89nm,18.6s,baz=191,slow=34						
MJAR	**Matsushiro Arr**	**12.15**	**39**	P	**Pn**	**05 43 00.3**	**+4.2**
	comp=Z,0.4nm,0.3s,baz=236,slow=15,SNR=2.8						
WHN	**Wuhan**	**12.92**	**287**	*e*P	**Pn**	**05 43 06.8**	**+0.2**
BJT	**Baijiatuau**	**16.28**	**324**	*e*P	**Pn**	**05 43 53.2**	**+2.2**
BJT				pmax	pmax		
	comp=Z,15nm,0.8s						
BJT	**Baijiatuau**	**16.28**	**324**	*e*Pn	**Pn**	**05 43 53.2**	**+2.2**
	comp=Z,15nm,0.8s						
BJI	**Beijing**	**16.29**	**324**	P	**Pn**	**05 43 54.3**	**+3.2**
BJI				AMB	AMB		
	comp=Z,16nm,1.0s						
BJI				LR	LR		
	comp=N,218nm,19.6s						
BJI				LR	LR		
	comp=E,159nm,18.1s						
BJI				LR	LR		
	comp=Z,119nm,24.6s						
XAN	**Xi'an**	**18.20**	**296**	P	**Pn**	**05 44 14.8**	**-0.1**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.4s						
ERM	**Erimo**	**18.75**	**35**	P	**Pn**	**05 44 21.2**	**-0.2**
ERM				pmax	pmax		
	comp=Z,12nm,0.8s						
ERM	**Erimo**	**18.75**	**35**	P	**Pn**	**05 44 21.2**	**-0.2**
	comp=Z,12nm,0.8s						
ASAJ	**Asahikawa**	**20.06**	**30**	LR	LR	05 52 05.9	
	comp=Z,71nm,21.4s,MS3.0,baz=140,slow=36						
GUMO	**Guam**	**20.45**	**129**	LR	LR	05 51 04.8	
	comp=Z,107nm,20.5s,MS3.2,baz=67,slow=32						
CD2	**Chengdu**	**22.02**	**285**	*e*P	**P**	**05 44 59.8**	**+3.7**
CD2				AP		05 45 09.0	
CD2				PP		05 45 27.5	
CD2				S	**S**	**05 48 58.9**	**+2.4**
CD2				XS	sS	05 49 15.5	+0.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,100nm,9.6s						
CD2				LR	LR		
	comp=Z,120nm,10.2s,MS3.6						
LZH	**Lanzhou**	**22.76**	**298**	*e*P	**P**	**05 45 03.1**	**-0.8**
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.3						
LZH				AMB	AMB		
	comp=Z,85nm,4.5s						
GTA	**Gaotai**	**26.77**	**304**	*e*P	**P**	**05 45 40.9**	**-0.2**
GTA				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.4						
SONM	**Songino Array**	**26.77**	**325**	P	**P**	**05 45 40.5**	**-0.5**
	comp=Z,1.7nm,0.8s,mb3.6,baz=126,slow=7.5,SNR=4.2						
SONM				LR	LR	05 57 27.6	
	comp=Z,83nm,21.2s,MS3.3,baz=39,slow=39						
WMQ	**Urumqi**	**36.69**	**307**	*e*P	**P**	**05 47 12.0**	**+4.0**
WMQ				AP	pP	05 47 26.0	+5.5
WMQ				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,69nm,5.0s						
WMQ				LR	LR		
	comp=N,75nm,12.0s,MS4.0						
WMQ				LR	LR		
	comp=E,124nm,12.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,64nm,12.0s,MS3.6						
JIRN	**Jiri**	**37.54**	**280**	*e*P	**P**	**05 47 16.2**	**+0.8**
GUN	**Gumba**	**37.77**	**281**	*e*P	**P**	**05 47 17.8**	**+0.5**
	comp=Z,16nm,0.4s,mb5.1						
PKI	**Pulchoki**	**38.23**	**281**	*e*P	**P**	**05 47 20.9**	**-0.4**
	comp=Z,17nm,0.5s,mb5.0						
KKN	**Kakani**	**38.31**	**281**	*e*P	**P**	**05 47 21.6**	**-0.3**
	comp=Z,23nm,0.5s,mb5.2						
DMN	**Daman**	**38.49**	**281**	*e*P	**P**	**05 47 23.4**	**0.0**
GKN	**Gorkha**	**38.83**	**281**	*e*P	**P**	**05 47 26.0**	**-0.3**
	comp=Z,28nm,0.4s,mb5.3						
DANN	**Dangsing**	**39.54**	**282**	*e*P	**P**	**05 47 32.4**	**+0.2**
	comp=Z,30nm,0.4s,mb5.4						
KOLN	**Koldanda**	**39.78**	**281**	*e*P	**P**	**05 47 34.1**	**-0.1**
	comp=Z,12nm,0.4s,mb5.0						
MKAR	**Makanchi Array**	**41.04**	**311⇑**	*e*P	**P**	**05 47 47.2**	**+2.9**
MKAR	**Makanchi Array**	**41.04**	**311**	PcP	PcP	05 49 42.5	-1.0
	comp=Z,1.1nm,0.7s,baz=72,slow=4.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**41.54**	**322**	P	**P**	**05 47 45.6**	**-2.7**
ZALV				PcP	PcP	05 49 43.9	-1.0
ZALV	**Zalesovo Beam**	**41.54**	**322**	P	**P**	**05 47 45.6**	**-2.7**
	comp=Z,1.4nm,0.4s,mb3.9,baz=121,slow=8.1,SNR=6.6						
ZALV				PcP	PcP	05 49 43.9	-1.0
	comp=Z,0.5nm,0.3s,baz=145,slow=3.6,SNR=3.8						
ZAL	**Zalesovo**	**41.55**	**322**	P	**P**	**05 47 45.6**	**-2.8**
ZAL						05 49 43.9	
KURK	**Kurchatov**	**44.23**	**316⇑**	*e*P	**P**	**05 48 09.9**	**-0.2**
TIXI	**Tiksi**	**44.25**	**0**	*e*P	**P**	**05 48 09.5**	**-0.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb3.8						
FITZ	**Fitzroy Crossi**	**45.37**	**184**	P	**P**	**05 48 19.2**	**-0.3**
	comp=Z,0.9nm,0.7s,mb3.7,baz=8.1,slow=15,SNR=3.0						
UCH	**Uchtor**	**46.10**	**303**	*e*P	**P**	**05 48 26.4**	**+1.2**
	comp=Z,8.7nm,0.7s,mb4.8						
BILL	**Bilibino**	**46.40**	**18⇓**	*e*P	**P**	**05 48 26.7**	**-0.4**
BILL				*e*S	**S**	**05 55 09.2**	**-1.9**
BILL				pmax	pmax		
	comp=Z,11nm,2.5s,mb4.3						
AML	**Almayashu**	**46.71**	**303**	*e*P	**P**	**05 48 30.9**	**+0.9**
	comp=Z,2.1nm,0.5s,mb4.3						
WRA	**Warramunga Arr**	**47.42**	**173**	P	**P**	**05 48 35.5**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=353,slow=8.4,SNR=12						
BVAR	**Borovoye Array**	**49.65**	**318**	P	**P**	**05 48 51.8**	**-0.6**
	comp=Z,3.4nm,0.7s,mb4.5,baz=92,slow=9.2,SNR=20						
BVAR				PcP	PcP	05 50 12.2	-1.0
	comp=Z,1.2nm,0.8s,baz=106,slow=3.2,SNR=3.5						
ASAR	**Alice Springs**	**51.06**	**174**	P	**P**	**05 49 04.3**	**+1.0**
	comp=Z,0.7nm,0.5s,mb3.8,baz=9.1,slow=14,SNR=13						
ARU	**Arti**	**56.70**	**321**	P	**P**	**05 49 44.0**	**-0.2**
IMA2	**Indian Mountai**	**60.25**	**27**	*e*P	**P**	**05 50 10.6**	**+1.8**
EGAK	**Eagle**	**65.60**	**28**	*e*P	**P**	**05 50 44.6**	**+0.3**
	comp=Z,3.4nm,1.0s,mb4.3						
INK	**Inuvik**	**67.62**	**23**	*e*P	**P**	**05 50 57.0**	**-0.2**
	comp=Z,33nm,0.5s,mb5.6						
INK	**Inuvik**	**67.62**	**23**	P	**P**	**05 50 57.4**	**+0.2**
	comp=Z,0.9nm,0.6s,mb4.0,baz=301,slow=7.8,SNR=13						
KIV	**Kislovodsk**	**68.78**	**309**	*e*P	**P**	**05 51 04.7**	**-0.2**
KIV				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.7						
ARCES	**ARCESS Array B**	**69.03**	**338**	P	**P**	**05 51 05.2**	**-0.8**
	comp=Z,3.1nm,0.7s,mb4.3,baz=89,slow=7.4,SNR=9.6						
FINES	**FINESS Array B**	**72.01**	**330**	P	**P**	**05 51 23.5**	**-0.8**
	comp=Z,1.6nm,0.3s,mb4.4,baz=64,slow=5.7,SNR=30						
AKASG	**Malin Array Be**	**74.88**	**319**	P	**P**	**05 51 40.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG				MLR	MLR		
	comp=Z,71nm,18.6s						
AKASG	**Malin Array Be**	**74.88**	**319**	P	**P**	**05 51 40.2**	**-1.1**
	comp=Z,0.5nm,0.3s,mb4.0,baz=57,slow=6.1,SNR=8.7						
AKASG				LR	LR	06 27 27.4	
	comp=Z,71nm,18.6s,MS4.0,baz=90,slow=38						
YKA	**Yellowknife Ar**	**77.26**	**25⇑**	*e*P	**P**	**05 51 55.0**	**+0.4**
YKA	**Yellowknife Ar**	**77.26**	**25**	P	**P**	**05 51 55.0**	**+0.4**
	comp=Z,1.6nm,0.8s,mb4.0,baz=298,slow=5.4,SNR=20						
NB2	**NORSAR Subarra**	**78.41**	**334**	P	**P**	**05 51 59.9**	**-1.1**
	comp=Z,5.5nm,0.6s,mb4.7,baz=50,slow=5.9						
NOA	**NORSAR Array B**	**78.41**	**334**	P	**P**	**05 52 00.2**	**-0.8**
NOA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,30nm,19.7s						
NOA	**NORSAR Array B**	**78.41**	**334**	P	**P**	**05 52 00.1**	**-0.9**
	comp=Z,8.1nm,0.8s,mb4.7,baz=51,slow=5.6,SNR=21						
NOA				LR	LR	06 28 20.8	
	comp=Z,30nm,19.7s,MS3.6,baz=85,slow=37						
OJC	**Ojcow**	**80.41**	**322**	*e*P	**P**	**05 52 12.2**	**0.0**
CLL	**Collm**	**83.39**	**325**	*i* P	**P**	**05 52 27.7**	**-0.1**
	comp=Z,10.0nm,1.1s,mb4.8						
CLL				LmV		05 13 00.0	
	comp=Z,100nm,20.5s						
GERES	**GERESS Array B**	**84.48**	**323**	P	**P**	**05 52 32.6**	**-0.8**
	comp=Z,0.3nm,0.3s,mb3.9,baz=53,slow=6.9,SNR=5.7						
FFC	**Flin Flon**	**87.33**	**27**	*e*P	**P**	**05 52 46.9**	**-0.5**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.8						
FFC	**Flin Flon**	**87.33**	**27**	*e*P	**P**	**05 52 46.9**	**-0.5**
	comp=Z,5.7nm,0.9s,mb4.8						
ULM	**Lac du Bonnet**	**93.16**	**27**	P	**P**	**05 53 14.4**	**-0.3**
	comp=Z,1.9nm,0.7s,mb4.6,baz=268,slow=1.6,SNR=6.0						

*NEIC **14** 05:50:06.1, 3266S×7167W, h5km, ML2.9(GUC), After GUC.*
GUC 14 05:50:06.1±0.6, 3266S×7167W, h5km±2km, MD3.8, ML2.9, 10C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.36**	**176**	*e*P	Pg	05 50 13.3	+0.2
IHA				*i* S	Sg	05 50 19.5	+1.6
ROCH	**El Roble**	**0.64**	**119⇑**	*i*P	Pg	05 50 19.5	+1.1
ROCH				*i* S	Sg	05 50 29.3	+2.7
PTCH	**Petorca**	**0.74**	**58⇑**	*i*P	Pg	05 50 21.1	+0.7
PTCH				*i* S	Sg	05 50 32.3	+2.2
JACH	**Jahuel**	**0.91**	**91⇑**	*i*P	Pg	05 50 23.6	0.0
JACH				*i* S	Sg	05 50 37.0	+1.5
PEL	**Peldehue**	**0.96**	**120⇑**	*i*P	Pg	05 50 24.6	+0.1
PEL				*i* S	Sg	05 50 38.5	+1.5
PEL				AML	AML	05 50 40.4	
	comp=E,2μm,0.2s						
TACH	**Talagante**	**1.17**	**148⇑**	*i*P	Pg	05 50 27.3	-1.2
TACH				*i* S	Sg	05 50 42.5	-1.1
DSCH	**Colegio Aleman**	**1.18**	**129⇑**	*i*P	Pg	05 50 27.2	-1.6
DSCH				*i* S	Sg	05 50 43.7	-0.4
CLCH	**Cerro Calan**	**1.20**	**128⇓**	*i*P	Pg	05 50 28.2	-1.0
CLCH				*i* S	Sg	05 50 44.9	+0.1
CLCH				AML	AML	05 50 46.0	
	comp=E,363nm,0.1s						
FSR	**Penalolen**	**1.26**	**131⇓**	*i*P	Pg	05 50 29.3	-1.0
FSR				*i* S	Sg	05 50 46.7	+0.1
FSR	**Penalolen**	**1.26**	**131⇓**	*i*P	Pg	05 50 29.3	-1.0
FSR				*i* S	Sg	05 50 46.7	+0.1
FSR				AML	AML	05 50 52.4	
	comp=N,257nm,0.4s						
FCH	**Farellones**	**1.34**	**120⇓**	*i*P	Pn	05 50 30.4	-1.0
FCH				*i* S	Sb	05 50 48.9	-0.1
FCH				AML	AML	05 50 49.9	
	comp=E,315nm,0.3s						
PCH	**Pirque**	**1.36**	**135⇑**	*i*P	Pn	05 50 30.9	-0.9
PCH				*i* S	Sb	05 50 49.8	0.0
SJCH	**San Jose de Ma**	**1.48**	**132**	*e*P	Pn	05 50 32.6	-0.7
SJCH				*i* S	Sn	05 50 52.4	-0.6
SJCH	**San Jose de Ma**	**1.48**	**132**	*e*P	Pn	05 50 32.6	-0.7
SJCH				*i* S	Sn	05 50 52.4	-0.6
SJCH				AML	AML	05 50 55.5	
	comp=N,127nm,0.3s						
CHCH	**Chadas Angostu**	**1.53**	**146⇑**	*i*P	Pn	05 50 33.4	-0.6
CHCH				*i* S	Sn	05 50 54.2	0.0
CMCH	**Combarbala**	**1.59**	**21⇑**	*i*P	Pn	05 50 33.1	-1.8
CMCH				*i* S	Sn	05 50 54.9	-0.9
CMCH	**Combarbala**	**1.59**	**21⇑**	*i*P	Pn	05 50 33.1	-1.8
CMCH				*i* S	Sn	05 50 54.9	-0.9
CMCH				AML	AML	05 50 59.5	
	comp=N,541nm,1.0s						
CACH	**El Canelo**	**1.71**	**149**	*e*P	Pn	05 50 36.9	+0.5
CACH				*i* S	Sn	05 51 00.6	+2.0
LMEL	**Las Melosas**	**1.71**	**134**	*e*P	Pn	05 50 36.3	-0.2
LMEL				*i* S	Sn	05 50 59.5	+0.9
LMEL	**Las Melosas**	**1.71**	**134**	*e*P	Pn	05 50 36.3	-0.2
LMEL				*i* S	Sn	05 50 59.5	+0.9
LMEL				AML	AML	05 51 02.6	
	comp=N,294nm,0.2s						
CICH	**Cipreses**	**1.96**	**148**	*e*P	Pn	05 50 40.3	+0.4
CICH				*i* S	Sn	05 51 06.4	+1.6
SFDO	**San Fernando**	**2.02**	**164**	*i* S	Sn	05 51 07.9	+1.4

*IDC **14** 06:39:50.0±0.9, 3405N×8192E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/22, mbtmp3.8/8, ML3.5/1, Error ellipse: s-maj=37.8km s-min=19.6km az=60.0*
*ISCJB **14** 06:39:53.3±4.7, 3423N±008×8221E±02, h31km±35km, mb3.8/5, Error ellipse: s-maj=30.0km s-min=14.0km az=3.3*
*NEIC **14** 06:39:55.4±7.5, 3412N×8203E, h34km±52km, mb4.2/1, Error ellipse: s-maj=32.2km s-min=23.3km az=218.0*
ISC 14 06:39:56.5±1.8, 3423N±008×822E±02, h41km±17km, n12, σ0=96/12, mb3.8/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**6.96**	**219**	*e*P	**Pn**	**06 41 36.0**	**+0.1**
UCH	**Uchtor**	**10.00**	**325**	*e*Pn	**Pn**	**06 42 16.9**	**-0.6**
	4.9nm,0.9s						
TKM2	**Tokmak 2**	**10.09**	**331**	*e*Pn	**Pn**	**06 42 19.6**	**+0.9**
	1.9nm,0.7s						
MKAR	**Makanchi Array**	**12.55**	**0**	Pn	**Pn**	**06 42 51.6**	**-0.8**
	0.2nm,0.3s,baz=183,slow=13,SNR=21						
ZALV	**Zalesovo Beam**	**19.80**	**5**	P	**Pn**	**06 44 24.5**	**-0.5**
	baz=190,slow=13,SNR=3.3						
BVAR	**Borovoye Array**	**20.59**	**339**	P	**P**	**06 44 31.3**	**-0.4**
	1.4nm,0.7s,baz=156,slow=7.6,SNR=8.7						
BRVK	**Borovoye**	**20.65**	**339**	*e*P	**P**	**06 44 33.9**	**+1.6**
	12nm,1.1s						
FINES	**FINESS Array B**	**44.52**	**325**	P	**P**	**06 48 05.0**	**+1.4**
	0.7nm,0.6s,mb3.7,baz=124,slow=7.4,SNR=3.5						
WRA	**Warramunga Arr**	**73.24**	**129**	P	**P**	**06 51 23.8**	**+0.3**
	0.8nm,0.6s,mb3.9,baz=327,slow=5.6,SNR=15						
TORD	**Torodi Ar. Bea**	**74.93**	**276**	P	**P**	**06 51 31.4**	**-2.2**
	0.9nm,0.7s,mb3.8,baz=51,slow=5.1,SNR=9.2						
ASAR	**Alice Springs**	**75.69**	**132**	P	**P**	**06 51 38.0**	**+0.4**
	0.6nm,0.5s,mb3.8,baz=317,slow=5.8,SNR=9.8						
YKA	**Yellowknife Ar**	**82.67**	**8**	P	**P**	**06 52 14.6**	**-0.6**
	0.7nm,0.6s,mb3.8,baz=341,slow=5.3,SNR=8.9						

IDC 14 06:43:10.3±11.0, 1391S×6653E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.5/20, mbtmp3.6/4, MS4.4/1, Ms1 4.4/1, ms1mx3.2/26, Error ellipse: s-maj=403.5km s-min=31.6km az=57.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**62.06**	**12**	P	P	06 53 32.5	-0.1
	0.4nm,0.6s,baz=204,slow=6.1,SNR=3.7						
ASAR	**Alice Springs**	**64.04**	**110**	P	P	06 53 46.2	-0.1
	2.0nm,1.1s,baz=271,slow=6.0,SNR=4.1						
WRA	**Warramunga Arr**	**64.79**	**106**	P	P	06 53 51.6	+0.2
	1.3nm,0.9s,baz=264,slow=5.8,SNR=7.8						
BVAR	**Borovoye Array**	**66.74**	**3**	P	P	06 54 03.3	+0.2
	0.4nm,0.6s,baz=160,slow=8.9,SNR=3.3						
JOW	**Kunigami**	**72.33**	**56**	LR	LR	07 23 39.4	
	comp=Z,232nm,19.8s,baz=218,slow=34						

*NEIC **14** 06:59:50.9±0.7, 3154S×7171W, h30km±4km, MD3.7, ML2.7(GUC), After GUC.*
GUC 14 06:59:50.9±0.7, 3154S×7171W, h30km±4km, MD3.7, ML2.7, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.71**	**59⇑**	*i*P	Pb	07 00 04.1	-0.6
CMCH				*i* S	Sb	07 00 14.4	+0.2
CMCH	**Combarbala**	**0.71**	**59⇑**	*i*P	Pb	07 00 04.1	-0.6
CMCH				*i* S	Sb	07 00 14.4	+0.2
CMCH				AML	AML	07 00 18.8	
	comp=E,760nm,0.7s						
PTCH	**Petorca**	**0.98**	**138**	*e*P	Pn	07 00 08.4	-0.2
PTCH				*i* S	Sn	07 00 21.4	-0.1
PTCH	**Petorca**	**0.98**	**138**	*e*P	Pn	07 00 08.4	-0.2
PTCH				*i* S	Sn	07 00 21.4	-0.1
PTCH				AML	AML	07 00 22.8	
	comp=N,163nm,0.2s						
JACH	**Jahuel**	**1.48**	**140⇓**	*i*P	Pn	07 00 16.9	+1.4
JACH				*i* S	Sn	07 00 36.3	+2.4
TLL	**Tololo Astrono**	**1.57**	**30**	*e*P	Pn	07 00 18.2	+1.5
TLL				*i* S	Sn	07 00 39.5	+3.4
TLL	**Tololo Astrono**	**1.57**	**30**	*e*P	Pn	07 00 18.2	+1.5
TLL				*i* S	Sn	07 00 39.5	+3.4
TLL				AML	AML	07 00 43.5	
	comp=N,104nm,0.3s

s-min=9.0km az=77.0
ISCJB **14** *07:07:20.3±0.6, 124N±003×126.24E±004, h44km±5km, mb5.2/80, MS4.2/26, Error ellipse: s-maj=7.2km s-min=4.1km az=168.3*

ISC 14 07:07:22.7±0.5, 122N±002×12625E±004, h51km±4km, h11km±4.3km:pP-P, n225, σ1⇧15/212, mb5.2/80, MS4.2/26, 15C-12D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GSPH	**General Santos**	**5.01**	**345**	*e*P		**Pn**		**07 08 34.1**	**-1.3**
AAI	**Ambon**	**5.24**	**158**	P		**Pn**		**07 08 41.5**	**+2.9**
	297nm,1.3s								
MATI	**Mati**	**5.69**	**0**	*e*P		**Pn**		**07 08 43.5**	**-1.3**
DAV	**Davao City (W)**	**5.85**	**353**	Pn		**Pn**		**07 08 45.7**	**-1.3**
KDI	**Kendari**	**6.29**	**215**	P		**Pn**		**07 08 52.0**	**-0.9**
	157nm,0.7s								
CTBH	**Cotabato--PC H**	**6.29**	**342**	⇓*i*P		**Pn**		**07 08 53.1**	**+0.1**
BUKP	**Musuan**	**6.72**	**350**	*e*P		**Pn**		**07 09 00.2**	**+1.3**
PCI	**Palu**	**6.75**	**252**	P		**Pn**		**07 08 59.5**	**+0.3**
	278nm,0.9s								
PAGZ	**Pagadian**	**7.18**	**337**	*e*P		**Pn**		**07 09 03.3**	**-1.8**
MYLDM	**Lahad Datu**	**8.68**	**297**	⇑P		**Pn**		**07 09 27.5**	**+1.8**
TSM	**Tawau**	**8.90**	**290**	⇓P		**Pn**		**07 09 28.2**	**-0.7**
KAPI	**Kappang**	**8.97**	**226**	Pn		**Pn**		**07 09 30.5**	**+0.8**
	542nm,0.6s,SNR=11								
KAPI	**Kappang**	**8.97**	**226**	Pn		**Pn**		**07 09 28.0**	**-1.6**
KAPI	**Kappang**	**8.97**	**226**	Pn		**Pn**		**07 09 28.0**	**-1.6**
	8.2nm,0.3s,baz=27,slow=5.8,SNR=21								
SDKM	**Sandakan**	**10.05**	**296**	⇓P		**Pn**		**07 09 45.1**	**+0.6**
CUYO	**Cuyo Island**	**10.89**	**332**	*e*P		**Pn**		**07 09 56.7**	**+0.7**
KDM	**Kudat**	**10.96**	**301**	⇑P		**Pn**		**07 10 01.1**	**+4.1**
KKM	**Kota Kinabalu**	**11.10**	**296**	*e*Pn		**Pn**		**07 10 01.5**	**+2.6**
KKM	**Kota Kinabalu**	**11.10**	**296**	⇓P		**Pn**		**07 10 02.5**	**+3.6**
PPR	**Puerto Princes**	**11.32**	**319**	*e*P		**Pn**		**07 10 01.4**	**-0.5**
BATI	**Kupang**	**11.63**	**193**	LR		LR		07 15 25.3	
	comp=Z,1μm,20.7s,baz=304,slow=42								
BTM	**Bintulu**	**13.30**	**279**	⇑P		**Pn**		**07 10 29.4**	**+0.5**
SBUM	**Sibu**	**14.07**	**275**	⇓P		**Pn**		**07 10 39.4**	**-0.1**
KAKA	**Kakadu**	**15.14**	**156**	*e*P		**Pn**		**07 10 51.9**	**-1.6**
	14nm,0.6s								
KAKA				*e*				07 10 58.9	
KAKA				*e*S		**S**		**07 13 54.6**	**-0.4**
BALP	**Baler**	**15.15**	**343**	*e*P		**Pn**		**07 10 55.8**	**+2.2**
KSM	**Kuching**	**15.94**	**271**	*e*P		**Pn**		**07 11 07.4**	**+3.6**
CAUP	**Cauayan**	**16.23**	**345**	*e*P		**Pn**		**07 11 09.2**	**+1.9**
KRKI	**Karangkates**	**16.61**	**236**	P		**Pn**		**07 11 15.6**	**+3.4**
	372nm,1.1s								
BJII	**Banjamegara**	**18.55**	**243**	P		**Pn**		**07 11 37.3**	**+1.1**
	113nm,1.7s								
FITZ	**Fitzroy Crossi**	**19.20**	**182**	*e*P		**Pn**		**07 11 42.0**	**-1.9**
	26nm,0.9s								
FITZ	**Fitzroy Crossi**	**19.20**	**182**	P		**Pn**		**07 11 41.7**	**-2.2**
	1.2nm,0.3s,baz=23,slow=10,SNR=50								
FITZ				LR		LR		07 19 52.9	
	comp=Z,201nm,18.9s,baz=7.1,slow=39								
GUMO	**Guam**	**22.15**	**55**	LR		LR		07 19 23.1	
	comp=Z,574nm,20.6s,MS4.0,baz=14,slow=32								
MYKOM	**Kota Tinggi**	**22.40**	**272**	⇓P		**P**		**07 12 19.1**	**+2.0**
WRAB	**Tennant Creek**	**22.47**	**160**	P		**P**		**07 12 17.0**	**-0.7**
	858nm,0.8s,mb6.2								
WRAB	**Tennant Creek**	**22.47**	**160**	*i* P		**P**		**07 12 17.2**	**-0.5**
WRAB	**Tennant Creek**	**22.47**	**160**	*e*P		**P**		**07 12 17.1**	**-0.6**
	127nm,0.9s,mb5.3								
WRA	**Warramunga Arr**	**22.47**	**160**	P		**P**		**07 12 16.7**	**-1.1**
	26nm,0.3s,mb5.1,baz=334,slow=11,SNR=188								
WRA				S		**S**		**07 16 16.9**	**-4.7**
	24nm,1.3s,baz=335,slow=16,SNR=17								
WB2	**Warramunga Arr**	**22.48**	**160**	*e*P		**P**		**07 12 16.8**	**-1.0**
WB2				*e*S		**S**		**07 16 17.8**	**-3.8**
KGM	**Kluang**	**22.93**	**272**	⇓P		**P**		**07 12 23.6**	**+0.9**
MBWA	**Marble Bar**	**23.13**	**196**	*e*P		**P**		**07 12 23.6**	**-1.1**
KTGM	**Kuala Trenggan**	**23.43**	**281**	⇑P		**P**		**07 12 29.0**	**+1.3**
YHNB	**Yeheng**	**23.79**	**349**	*e*P		**P**		**07 12 31.0**	**+0.2**
QIZ	**Qiongzhong**	**23.91**	**319**	P		**P**		**07 12 32.0**	**-0.1**
QIZ				XP		sP		07 12 39.3	-12
QIZ				S		**S**		**07 16 49.6**	**+4.5**
QIZ				XS		sS		07 16 57.4	-10
QIZ				AMB		AMB			
	comp=Z,19nm,1.2s,mb4.4								
QIZ				LR		LR			
	comp=N,474nm,14.4s								
QIZ				LR		LR			
	comp=Z,741nm,25.4s								
FRIM	**Kepong**	**24.68**	**275**	⇑P		**P**		**07 12 39.3**	**+0.1**
QZH	**Quanzhou**	**24.72**	**343**	⇑*i*P		**P**		**07 12 40.1**	**+0.8**
IPM	**Ipoh**	**25.39**	**278**	⇑P		**P**		**07 12 46.2**	**+0.6**
JOW	**Kunigami**	**25.54**	**4**	P		**P**		**07 12 48.1**	**+1.3**
	comp=Z,85nm,0.8s,mb5.3,baz=205,slow=8.5,SNR=24								
ASAR	**Alice Springs**	**25.83**	**164**	P		**P**		**07 12 49.4**	**-0.1**
	comp=Z,22nm,0.8s,mb4.7,baz=342,slow=6.5,SNR=72								
ASAR				PcP		PcP		07 16 18.2	+0.2
	comp=Z,7.2nm,0.7s,baz=344,slow=2.2,SNR=12								
ASAR				S		**S**		**07 17 17.7**	**+2.2**
	comp=Z,1.7nm,0.8s,baz=354,slow=18,SNR=4.1								
KULM	**Kulim**	**25.87**	**280**	*e*P		**P**		**07 12 50.0**	**+0.1**
KULM	**Kulim**	**25.87**	**280**	⇓P		**P**		**07 12 50.4**	**+0.5**
PSI	**Prapat**	**27.35**	**274**	P		**P**		**07 13 01.9**	**-1.4**
	comp=Z,38nm,0.9s,mb5.0,baz=87,slow=4.4,SNR=18								
CTA	**Charters Tower**	**28.86**	**138**	*e*P		**P**		**07 13 18.0**	**+1.3**
	comp=Z,12nm,1.0s,mb4.6								
CTA	**Charters Tower**	**28.86**	**138**	*e*P		**P**		**07 13 18.0**	**+1.3**
CTA				pmax		pmax			
	comp=Z,12nm,1.0s								
CTA	**Charters Tower**	**28.86**	**138**	P		**P**		**07 13 17.5**	**+0.8**
	comp=Z,12nm,1.1s,mb4.5,baz=332,slow=8.0,SNR=3.4								
CTAO	**Charters Tower**	**28.86**	**138**	*e*P		**P**		**07 13 18.3**	**+1.6**
CTAO				pmax		pmax			
	comp=Z,26nm,1.1s,mb4.9								
CTAO	**Charters Tower**	**28.86**	**138**	*e*P		**P**		**07 13 18.2**	**+1.6**
	comp=Z,26nm,1.1s,mb4.9								
SSE	**Sheshan**	**30.10**	**351**	*e*P		**P**		**07 13 27.8**	**+0.3**
SSE				AP		pP		07 13 32.0	-8.7
SSE				S		**S**		**07 18 28.5**	**+5.8**
SSE				AMB		AMB			
	comp=Z,18nm,0.7s,mb4.9								
SSE				AMB		AMB			
	comp=Z,37nm,4.1s								
SSE				LR		LR			
	comp=N,188nm,22.4s,MS3.7								
SSE				LR		LR			
	comp=E,104nm,22.4s,MS3.7								
SSE				LR		LR			
	comp=Z,254nm,22.4s,MS3.8								
WHN	**Wuhan**	**31.28**	**340**	*e*P		**P**		**07 13 39.3**	**+1.4**
GYA	**Guiyang**	**31.38**	**325**	⇑*i*P		**P**		**07 13 38.5**	**-0.4**
GYA				AP		pP		07 13 46.8	-5.2
GYA				XP		sP		07 13 49.6	-8.5
GYA				PP		PP		07 14 46.3	-4.2
GYA				PCP		PcP		07 16 32.9	+1.1
GYA				S		**S**		**07 18 49.6**	**+6.8**
GYA				AMB		AMB			
	comp=Z,20nm,0.8s,mb5.0								
GYA				AMB		AMB			
	comp=Z,130nm,4.8s								
GYA				LR		LR			
	comp=N,690nm,18.8s,MS4.5								
GYA				LR		LR			
	comp=E,560nm,17.9s,MS4.5								
GYA				LR		LR			
	comp=Z,670nm,18.3s,MS4.3								
NJ2	**Nanjing**	**31.45**	**348**	*e*P		**P**		**07 13 40.5**	**+1.1**
NJ2				AP		pP		07 13 44.6	-8.0
NJ2				XP		sP		07 13 48.0	-11
NJ2				PP		PP		07 14 42.5	-8.8
NJ2				S		**S**		**07 18 47.0**	**+3.1**
NJ2				XS		sS		07 18 58.0	-8.1
NJ2				AMB		AMB			
	comp=Z,20nm,0.7s,mb5.1								
NJ2				AMB		AMB			
	comp=Z,130nm,8.2s								
NJ2				LR		LR			
	comp=N,670nm,27.5s								
NJ2				LR		LR			
	comp=E,760nm,37.1s								
NJ2				LR		LR			
	comp=Z,780nm,38.1s								
FORT	**Forrest**	**31.86**	**177**	*e*P		**P**		**07 13 43.1**	**+0.1**
	comp=Z,63nm,0.8s,mb5.5								
JNU	**Nakatsue**	**32.03**	**7**	P		**P**		**07 13 44.6**	**+0.1**
	comp=Z,18nm,0.8s,mb4.9,baz=192,slow=4.4,SNR=10								
KMI	**Kunming**	**32.86**	**318**	P		**P**		**07 13 52.8**	**+0.9**
KMI				S		**S**		**07 19 13.0**	**+7.0**
KMI				SS		SS		07 21 14.3	-15
KMI				LR		LR			
	comp=N,309nm,21.0s,MS4.2								
KMI				LR		LR			
	comp=E,320nm,16.3s,MS4.2								
KMI				LR		LR			
	comp=Z,561nm,23.2s								
KLBR	**Kellerberrin**	**33.61**	**193**	*e*P		**P**		**07 13 59.3**	**+1.0**
	comp=Z,20nm,0.8s,mb5.1								
MUN	**Mundaring**	**34.36**	**195**	*e*P		**P**		**07 14 06.7**	**+1.9**
NWAO	**Narrogin (SRO)**	**35.01**	**193**	P		**P**		**07 14 10.1**	**-0.4**
	comp=Z,13nm,0.8s,mb4.9,baz=10,slow=8.8,SNR=5.0								
HNR	**Honiara**	**35.19**	**108**	LR		LR		07 27 53.3	
	comp=Z,207nm,18.7s,MS3.9,baz=0.3,slow=35								
STKA	**Stephens Creek**	**35.98**	**157**	*e*P		**P**		**07 14 19.1**	**+0.3**
	comp=Z,31nm,0.9s,mb5.2								
STKA				*e*P				07 14 19.2	
STKA				*e*S		**S**		**07 19 54.2**	**+0.2**
STKA	**Stephens Creek**	**35.98**	**157**	P		**P**		**07 14 18.7**	**-0.1**
	comp=Z,40nm,0.9s,mb5.3,baz=333,slow=8.0,SNR=40								
STKA				PcP		PcP		07 16 44.4	-0.2
	comp=Z,2.3nm,0.6s,baz=330,slow=6.7,SNR=3.2								
KSRS	**Korea Array**	**36.09**	**2**	P		**P**		**07 14 19.6**	**-0.1**
	comp=Z,5.9nm,0.7s,mb4.7,baz=180,slow=10.0,SNR=15								
CD2	**Chengdu**	**36.42**	**326**	⇓*i*P		**P**		**07 14 21.9**	**-0.6**
CD2				AP		pP		07 14 26.3	-10
CD2				XP		sP		07 14 29.3	-13
CD2				PP		PP		07 15 46.1	-0.1
CD2				PCP		PcP		07 16 45.3	-0.7
CD2				S		**S**		**07 20 03.8**	**+3.2**
CD2				XS		sS		07 20 21.0	-2.1
CD2				SS		SS		07 22 30.0	-11
CD2				SCS		ScS		07 24 35.5	+0.6
CD2				AMB		AMB			
	comp=Z,30nm,0.8s,mb5.3								
CD2				AMB		AMB			
	comp=Z,50nm,5.8s								
CD2				LR		LR			
	comp=N,360nm,22.8s,MS4.4								
CD2				LR		LR			
	comp=E,710nm,24.0s,MS4.4								
CD2				LR		LR			
	comp=Z,330nm,19.2s,MS4.1								
XAN	**Xi'an**	**36.46**	**335**	P		**P**		**07 14 21.3**	**-1.5**
XAN				S		**S**		**07 19 59.4**	**-1.8**
XAN				AMB		AMB			
	comp=Z,16nm,1.3s,mb4.8								
XAN				AMB		AMB			
	comp=Z,62nm,3.3s								
XAN				LR		LR			
	comp=N,99nm,18.0s,MS4.0								
XAN				LR		LR			
	comp=E,264nm,21.5s,MS4.0								
XAN				LR		LR			
	comp=Z,339nm,20.4s,MS4.1								
MJAR	**Matsushiro Arr**	**36.85**	**16**	PcP		PcP		07 16 47.9	+0.7
MJAR	**Matsushiro Arr**	**36.85**	**16**	P		**P**		**07 14 25.6**	**-0.6**
	comp=Z,9.1nm,0.6s,mb4.8,baz=185,slow=9.3,SNR=25								
MJAR				PcP		PcP		07 16 47.9	+0.7
	comp=Z,0.8nm,0.3s,baz=170,slow=2.9,SNR=4.0								
MAJO	**Matsushiro**	**36.85**	**16**	*e*P		**P**		**07 14 25.4**	**-0.8**
MAJO				pmax		pmax			
	comp=Z,39nm,1.5s,mb5.0								
MAJO	**Matsushiro**	**36.85**	**16**	*e*P		**P**		**07 14 25.4**	**-0.8**
	comp=Z,39nm,1.5s,mb5.0								
MAT	**Matsushiro**	**36.85**	**16**	P		**P**		**07 14 24.9**	**-1.3**
DL2	**Dalian**	**37.75**	**354**	P		**P**		**07 14 34.0**	**+0.3**
DL2				S		**S**		**07 20 24.0**	**+3.3**
DL2				AMB		AMB			
	comp=Z,30nm,0.7s,mb5.1								
DL2				LR		LR			
	comp=N,150nm,16.3s,MS4.0								
DL2				LR		LR			
	comp=E,110nm,17.9s,MS4.0								
DL2				LR		LR			
	comp=Z,220nm,14.5s,MS4.1								
ARMA	**Armidale**	**39.68**	**145**	*e*P		**P**		**07 14 51.4**	**+1.4**
BJT	**Baijiatuau**	**39.70**	**348**	*e*P		**P**		**07 14 51.3**	**+1.3**
BJT				pmax		pmax			
	comp=Z,11nm,0.5s								
BJT	**Baijiatuau**	**39.70**	**348**	*e*P		**P**		**07 14 51.2**	**+1.2**
	comp=Z,10nm,0.5s,mb4.8								
BJI	**Beijing**	**39.72**	**348**	P		**P**		**07 14 47.1**	**-3.1**
BJI				S		**S**		**07 20 56.3**	**+6.0**
BJI				AMB		AMB			
	comp=Z,16nm,1.1s,mb4.7								
BJI				AMB		AMB			
	comp=Z,167nm,3.8s								
BJI				LR		LR			
	comp=N,182nm,35.6s,MS3.8								
BJI				LR		LR			
	comp=E,123nm,35.1s,MS3.8								
BJI				LR		LR			
	comp=Z,294nm,30.5s,MS3.9								
LZH	**Lanzhou**	**40.44**	**332**	*e*P		**P**		**07 14 57.5**	**+1.2**
LZH				AP		pP		07 14 59.5	-10
LZH				PP		PP		07 16 34.4	+4.2
LZH				PCP		PcP		07 17 00.0	+1.6
LZH				*e*S		**S**		**07 21 08.0**	**+6.7**
LZH				SS		SS		07 24 01.0	-1.2
LZH				AMB		AMB			
	comp=Z,53nm,1.5s,mb5.0								
LZH				AMB		AMB			
	comp=Z,194nm,5.4s								
LZH				LR		LR			
	comp=N,1μm,13.0s								
LZH				LR		LR			
	comp=Z,1μm,17.9s,MS4.9								
HHC	**Hu-ho-hao-te**	**41.63**	**343**	*e*P		**P**		**07 15 07.8**	**+1.8**
HHC				AP		pP		07 15 12.3	-7.2
HHC				XP		sP		07 15 14.8	-11
HHC				PP		PP		07 16 48.3	+5.2
HHC				PCP		PcP		07 17 03.8	+1.6
HHC				SCP		ScP		07 20 53.3	+5.0
HHC				S		**S**		**07 21 24.6**	**+5.8**
HHC				XS		sS		07 21 33.4	-8.2
HHC				SS		SS		07 24 25.3	-0.4
HHC				AMB		AMB			
	comp=Z,48nm,1.0s,mb5.1								
HHC				AMB		AMB			
	comp=Z,248nm,5.2s								
HHC				LR		LR			
	comp=N,568nm,15.7s,MS4.8								
HHC				LR		LR			
	comp=E,1μm,18.6s,MS4.8								
HHC				LR		LR			
	comp=Z,591nm,18.6s,MS4.5								
CNB	**Canberra Magne**	**42.28**	**151**	*e*P		**P**		**07 15 13.2**	**+1.9**
	comp=Z,15nm,1.0s,mb4.6								
CN2	**Changchun**	**42.41**	**359**	*e*P		**P**		**07 15 13.6**	**+1.4**
CN2				*e*XP		sP		07 15 20.0	-12
CN2				*e*S		**S**		**07 21 35.8**	**+5.7**
CN2				AMB		AMB			
	comp=Z,10.0nm,0.6s,mb4.6								
CN2				AMB		AMB			
	comp=Z,200nm,3.0s								
CN2				LR		LR			
	comp=N,300nm,16.0s,MS4.3								
CN2				LR		LR			
	comp=E,200nm,16.0s,MS4.3								
CN2				LR		LR			
	comp=Z,300nm,17.0s,MS4.2								
TOO	**Toolangi**	**42.51**	**157**	*e*P		**P**		**07 15 14.8**	**+1.7**
	comp=Z,132nm,1.0s,mb5.6								
TOO	**Toolangi**	**42.51**	**157**	*e*P		**P**		**07 15 14.8**	**+1.7**
TOO				pmax		pmax			
	comp=Z,132nm,1.0s,mb5.6								
MDJ	**Mudanjiang**	**43.32**	**3**	P		**P**		**07 15 20.4**	**+0.8**
MDJ				AMB		AMB			
	comp=Z,34nm,0.8s,mb5.1								
MDJ				AMB		AMB			
	comp=Z,50nm,2.6s,mb4.8								
MDJ				LR		LR			
	comp=N,157nm,29.1s,MS3.8								
MDJ				LR		LR			
	comp=E,47nm,31.5s,MS3.8								
MDJ				LR		LR			
	comp=Z,175nm,22.0s								
MDJ	**Mudanjiang**	**43.32**	**3**	*e*P		**P**		**07 15 20.4**	**+0.8**
	comp=Z,26nm,0.8s,mb5.0								
LSA	**Lhasa**	**43.77**	**314**	*e*P		**P**		**07 15 24.6**	**+1.1**
GTA	**Gaotai**	**45.02**	**331**	*e*P		**P**		**07 15 33.4**	**+0.1**
GTA				AP		pP		07 15 37.5	-9.4
GTA				XP		sP		07 15 40.8	-12
GTA				PCP		PcP		07 17 14.9	+1.2
GTA				PP		PP		07 17 20.8	+1.4
GTA				S		**S**		**07 22 12.6**	**+4.2**
GTA				XS		sS		07 22 21.4	-10
GTA				SS		SS		07 25 25.8	-6.1
GTA				SCS		ScS		07 25 26.9	+0.8
GTA				AMB		AMB			
	comp=Z,9.0nm,1.0s,mb4.5								
GTA				AMB		AMB			
	comp=Z,102nm,6.1s								
GTA				LR		LR			
	comp=N,175nm,19.1s,MS4.1								
GTA				LR		LR			
	comp=E,181nm,21.0s,MS4.1								
GTA				LR		LR			
	comp=Z,349nm,21.8s,MS4.2								
JIRN	**Jiri**	**46.49**	**308**	*e*P		**P**		**07 15 44.4**	**-0.7**
GUN	**Gumba**	**46.85**	**308**	*e*P		**P**		**07 15 46.7**	**-1.2**
	comp=Z,98nm,0.9s,mb5.8								
PKI	**Pulchoki**	**47.06**	**308**	*e*P		**P**		**07 15 48.2**	**-1.4**
KKN	**Kakani**	**47.27**	**308**	*e*P		**P**		**07 15 50.2**	**-1.0**
DMN	**Daman**	**47.32**	**307**	*e*P		**P**		**07 15 50.8**	**-0.8**
	comp=Z,47nm,0.9s,mb5.4								
HABR	**Khabarovsk**	**47.68**	**8**	*e*P		**P**		**07 15 48.7**	**-5.4**
HABR				*e*S		**S**		**07 22 44.0**	**-2.3**
GKN	**Gorkha**	**47.87**	**308**	*e*P		**P**		**07 15 54.4**	**-1.5**
	comp=Z,51nm,0.9s,mb5.6								
KLR	**Kul'dur**	**48.06**	**5**	*e*P		**P**		**07 15 52.2**	**-4.8**
KLR				pmax		pmax			
	comp=Z,24nm,1.0s,mb5.2								
HIA	**Hailar**	**48.19**	**354**	*e*P		**P**		**07 15 58.7**	**+0.7**
HIA				pmax		pmax			
	comp=Z,13nm,0.7s								
HIA	**Hailar**	**48.19**	**354**	*e*P		**P**		**07 15 58.7**	**+0.7**
	comp=Z,13nm,0.7s,mb5.1								
KOLN	**Koldanda**	**48.59**	**307**	*e*P		**P**		**07 16 00.3**	**-1.2**
	comp=Z,101nm,0.8s,mb5.9								
DANN	**Dangsing**	**48.72**	**308**	*e*P		**P**		**07 16 00.9**	**-1.5**
	comp=Z,109nm,0.7s,mb6.0								
SONM	**Songino Array**	**49.52**	**342**	P		**P**		**07 16 08.6**	**+0.4**
SONM								07 17 29.9	
SONM	**Songino Array**	**49.52**	**342**	P		**P**		**07 16 08.6**	**+0.4**
	comp=Z,8.2nm,0.9s,mb4.7,baz=157,slow=9.0,SNR=2.2								
SONM				PcP		PcP		07 17 29.9	+0.5
	comp=Z,4.0nm,0.8s,baz=135,slow=3.2,SNR=3.8								
SONM				LR		LR		07 41 31.6	
	comp=Z,97nm,19.6s,MS3.8,baz=224,slow=42								
HYB	**Hyderabad**	**49.55**	**292**	*e*P		**P**		**07 16 08.0**	**-1.0**
HYB				pmax		pmax			
	comp=Z,60nm,1.0s,mb5.6								
HYB	**Hyderabad**	**49.55**	**292**	*e*P		**P**		**07 16 08.0**	**-1.0**
	comp=Z,60nm,1.0s,mb5.6								
HYB	**Hyderabad**	**49.55**	**292**	⇓*i*P		**P**		**07 16 08.0**	**-1.0**
	comp=Z,60nm,1.0s,mb5.6								
POO	**Poona**	**54.16**	**292**	*e*P		**P**		**07 16 41.5**	**-1.8**
WMQ	**Urumqi**	**54.52**	**326**	P		**P**		**07 16 46.0**	**+0.6**
WMQ				XP		sP		07 16 53.0	-12
WMQ				PP		PP		07 18 50.0	+1.8
WMQ				S		**S**		**07 24 23.0**	**+2.1**
WMQ				SS		SS		07 28 04.0	-0.2
WMQ				AMB		AMB			
	comp=Z,31nm,1.0s,mb5.3								
WMQ				AMB		AMB			
	comp=Z,75nm,5.0s								
WMQ				LR		LR			
	comp=N,289nm,15.0s,MS4.6								
WMQ				LR		LR			
	comp=E,257nm,15.0s,MS4.6								
WMQ				LR		LR			
	comp=Z,231nm,15.0s,MS4.4								
MOY	**Mondy**	**54.58**	**341**	*e*P		**P**		**07 16 46.9**	**+1.2**
CLNS	**Chul'man**	**55.46**	**359**	*e*P		**P**		**07 16 51.7**	**-0.3**
CLNS				*e**PP		pP		07 16 57.6	-8.4
CLNS				*e*				07 17 52.7	
CLNS				*e*				07 18 52.1	
CLNS				*e*S		**S**		**07 24 32.1**	**-1.0**
CLNS				pmax		pmax			
	comp=N,17nm,0.8s								
CLNS				pmax		pmax			
	comp=E,9.0nm,0.8s								
CLNS				pmax		pmax			
	comp=Z,23nm,0.8s,mb5.3								
CLNS				pmax		pmax			
	comp=Z,10.0nm,0.8s,mb4.9								
CLNS				pmax		pmax			
	comp=N,7.0nm,0.9s								
CLNS				pmax		pmax			
	comp=E,8.0nm,0.8s								
CLNS				smax					
	comp=N,97nm,13.8s								
CLNS				smax					
	comp=E,97nm,13.8s								
CLNS				smax					
	comp=Z,64nm,13.8s								
CLNS				pmax		pmax			
	comp=Z,100nm,13.5s								
CLNS				pmax		pmax			
	comp=E,100nm,14.4s								
CLNS				MLR		MLR			
	comp=Z,100nm,15.0s,MS4.0								
CLNS				MLR		MLR			
	comp=N,100nm,13.0s,MS4.2								
CLNS				MLR		MLR			
	comp=E,100nm,14.0s,MS4.2								
BOD	**Bodaibo**	**57.27**	**352**	*e*P		**P**		**07 17 04.9**	**0.0**
BOD				pmax		pmax			
	comp=Z,25nm,1.3s,mb5.1								
MKAR	**Makanchi Array**	**59.35**	**326**	P		**P**		**07 17 17.6**	**-2.0**
MKAR								07 18 06.6	
MKAR	**Makanchi Array**	**59.35**	**326**	P		**P**		**07 17 17.6**	**-2.0**
	comp=Z,16nm,0.8s,mb5.1,baz=120,slow=7.3,SNR=83								
MKAR				PcP		PcP		07 18 06.6	-0.5
	comp=Z,2.6nm,0.5s,baz=115,slow=4.2,SNR=4.5								
MKAR				ScP		ScP		07 22 05.2	+1.3

comp=Z,83nm,22.0s,MS3.9,baz=253,slow=36
ZAL Zalesovo 62.61 334 P **P 07 17 40.3 -1.3**
KURK Kurchatov 63.60 328 P **P 07 17 48.8 +0.6**
comp=Z,362nm,0.8s,mb6.5,SNR=27
KURK Kurchatov 63.60 328 *eP* **P 07 17 47.1 -1.1**
KURK pmax pmax
comp=Z,45nm,0.8s,mb5.5
KURK Kurchatov 63.60 328 *eP* **P 07 17 47.0 -1.2**
comp=Z,45nm,0.8s,mb5.5
NVS Novosibirsk 63.89 334 *eP* **P 07 17 49.4 -0.6**
NVS pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
NVS pmax pmax
comp=N,5.0nm,0.7s
NVS pmax pmax
comp=E,5.0nm,0.6s
SEY Seymchan 64.57 13 *eP* **P 07 17 53.9 -0.5**
KK31 Karatay Array 64.75 318 *i P* **P 07 17 54.6 -1.3**
KK31 pmax pmax
comp=Z,6.0nm,0.5s,mb4.9
CASY Casey 68.28 187 *eP* **P 07 18 18.7 +0.8**
comp=Z,10nm,0.9s,mb4.8
BRVK Borovoye 69.23 328 P **P 07 18 24.5 +0.3**
comp=Z,107nm,0.6s,mb6.0,SNR=8.4
BRVK Borovoye 69.23 328 *eP* **P 07 18 24.3 +0.2**
TIXI Tiksi 70.35 1 *eP* **P 07 18 30.2 -0.5**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.0
TIXI Tiksi 70.35 1 *eP* **P 07 18 30.0 -0.7**
comp=Z,15nm,0.8s,mb5.0
BILL Bilibino 72.09 15⇓ *eP* **P 07 18 40.2 -1.1**
BILL pmax pmax
comp=Z,12nm,1.9s,mb4.5
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.1
AKTK Aktyubinsk 75.33 322 P **P 07 18 60.0 -0.6**
AKTK LR LR 07 54 20.2
AKTO Aktyubinsk 75.33 322 P **P 07 18 60.0 -0.6**
comp=Z,22nm,0.7s,mb5.2,baz=104,slow=7.2,SNR=22
AKTO LR LR 07 54 20.2
comp=Z,125nm,21.9s,MS4.2,baz=296,slow=38
SVE Sverdlovsk 75.84 329 *eP* **P 07 19 03.0 -0.4**
SVE pmax pmax
comp=Z,84nm,1.0s,mb5.6
ARU Arti 76.80 328 *eP* **P 07 19 07.5 -1.3**
ARU pmax pmax
comp=Z,53nm,0.9s,mb5.5
ARU Arti 76.80 328 *eP* **P 07 19 07.8 -1.0**
comp=Z,43nm,0.8s,mb5.4
UMR Umm Al-Rimmam 79.42 300 *eP* **P 07 19 20.4 -3.5**
UMR AMb AMB 07 19 26.2
comp=Z,31nm,0.6s,mb5.4
RDF Al-Radifah 79.52 299 *eP* **P 07 19 22.4 -2.1**
RDF AMb AMB 07 19 27.8
comp=Z,40nm,1.0s,mb5.3
MIB Mutribah 79.77 300 *eP* **P 07 19 24.2 -1.7**
MIB AMb AMB 07 19 28.1
comp=Z,49nm,0.7s,mb5.5
NAY Al-Naaiem 79.81 299 *eP* **P 07 19 24.3 -1.8**
NAY AMb AMB 07 19 29.2
comp=Z,31nm,1.1s,mb5.2
MAW Mawson 81.24 200 P **P 07 19 33.3 +0.4**
comp=Z,8.1nm,0.9s,mb4.7,baz=65,slow=8.8,SNR=8.8
MAW LR LR 07 51 31.3
comp=Z,153nm,19.1s,MS4.4,baz=82,slow=33
SBA Scott Base 81.93 172 *eP* **P 07 19 37.9 +1.5**
GNI Garni 82.72 310 *eP* **P 07 19 41.4 +0.1**
GNI pmax pmax
comp=Z,24nm,2.0s
SVW2 Sparrevohn 83.22 29 *eP* **P 07 19 45.5 +2.1**
TTA Tatalina 83.35 27 *eP* **P 07 19 45.9 +1.9**
KIV Kislovodsk 84.52 314 *eP* **P 07 19 49.8 -0.6**
KIV pmax pmax
comp=Z,22nm,1.1s,mb5.2
PPT Papeete 84.81 108 *eS* S 07 30 22.0 +4.7
comp=Z,77nm,24.8s
PPT Papeete 84.81 108 *e*LR LR 07 46 50.4
comp=Z,236nm,27.2s
PPT Papeete 84.81 108 LR LR 07 55 18.8
comp=Z,130nm,20.6s,MS4.3,baz=274,slow=34
IMA2 Indian Mountai 84.86 24 *eP* **P 07 19 52.6 +1.0**
VRHR Novokhopersk 85.67 321 *eP* **P 07 19 55.4 -0.6**
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.6s
VRHR pmax pmax
comp=Z,70nm,0.6s,mb6.1
SLKM Skilak Lake 85.75 30 *eP* **P 07 19 57.8 +1.6**
SOC Sochi 86.65 313 *eP* **P 07 19 59.3 -1.7**
SOC *e*PPP 07 25 21.4
SOC *eS* S 07 30 24.3 -10
SOC *e*SS SS 07 36 17.9 +1.6
SOC *e*SSS 07 39 53.2
SOC pmax pmax
comp=Z,23nm,0.8s,mb5.5
VRSR Storozhevoye 87.21 321 *eP* **P 07 20 02.9 -0.7**
VRSR pmax pmax
comp=N,3.0nm,1.3s
VRSR pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
VRSR pmax pmax
comp=E,6.0nm,1.4s
MALT Malatya 87.54 308 *eP* **P 07 20 05.9 +0.4**
MALT pmax pmax
comp=Z,15nm,1.0s,mb5.2
MALT Malatya 87.54 308 *eP* **P 07 20 05.9 +0.4**
comp=Z,15nm,1.0s,mb5.2
MALT Malatya 87.54 308⇑ *i P* **P 07 20 06.3 +0.8**
TMCR Tamitsa 88.13 334 *eP* **P 07 20 06.9 -0.8**
MOS Moscow 88.22 326 *eP* **P 07 20 09.0 +0.7**
MOS *e* pP 07 20 20.6 -2.6
MOS *e* 07 23 39.4
MOS *e* 07 30 41.9
MOS pmax pmax
comp=Z,56nm,0.8s,mb5.8
ANN Anapa 88.31 315 *eP* **P 07 20 08.2 -0.8**
ANN pmax pmax
comp=Z,34nm,1.1s,mb5.5
OBN Obninsk 88.83 325⇑ *eP* **P 07 20 10.2 -1.0**
OBN *e* 07 23 38.3
OBN *eS* SKSac 07 30 34.5 -1.8
OBN pmax pmax
comp=Z,13nm,0.6s,mb5.4
KMBO Kilima Mbogo 89.02 269 *i P* **P 07 20 15.6 +2.6**
KMBO pmax pmax
comp=Z,3.0nm,0.5s
KMBO Kilima Mbogo 89.02 269 *eP* **P 07 20 13.8 +0.7**
KMBO Kilima Mbogo 89.02 269 P **P 07 20 13.4 +0.4**
comp=Z,2.9nm,0.5s,mb4.8,baz=65,slow=8.5,SNR=7.2
SYO Syowa Base 89.92 201⇑ *eP* **P 07 20 15.0 -1.0**
SYO Syowa Base 89.92 201⇑ *ep*P pP 07 20 23.2 -7.7
DAWY Dawson 90.83 26 *eP* **P 07 20 21.2 +0.9**
QSPA South Pole Qui 91.14 180 *eP* **P 07 20 21.4 -0.1**
comp=Z,6.3nm,0.8s,mb5.0
CSS Prodhromos 91.70 305 *eP* **P 07 20 25.3 +0.2**
comp=Z,18nm,0.8s,mb5.5
ARCES ARCESS Array B 92.63 340 P **P 07 20 27.2 -1.3**
comp=Z,5.9nm,0.8s,mb5.1,baz=116,slow=2.8,SNR=11
ARCES LR LR 08 04 20.1
comp=Z,79nm,19.0s,MS4.2,baz=207,slow=37
AKASG Malin Array Be 93.52 321 *i P* **P 07 20 34.9 +1.8**
AKASG pmax pmax
comp=Z,6.0nm,0.9s
AKASG Malin Array Be 93.52 321 P **P 07 20 31.9 -1.1**
comp=Z,5.7nm,0.9s,mb5.0,baz=71,slow=4.4,SNR=12
AKASG LR LR 08 07 49.4
comp=Z,80nm,20.6s,MS4.2,baz=75,slow=39
TAOE Nuku Hiva Isla 93.75 99 *e*LR LR 07 50 47.4
comp=Z,4μm,24.7s
FINES FINESS Array B 93.80 332 *i P* **P 07 20 33.2 -0.9**
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 93.80 332 P **P 07 20 32.4 -1.8**
comp=Z,1.8nm,0.7s,mb4.6,baz=44,slow=6.3,SNR=4.1
FINES LR LR 08 06 10.3
comp=Z,100nm,21.8s,MS4.2,baz=38,slow=38
TIRR Tirgusor 94.75 315⇑ *i P* **P 07 20 38.5 -0.4**
VRI Vrincioaia 95.77 316⇑ *i P* **P 07 20 46.5 +3.0**
MLR Muntele Rosu 96.36 316⇑ *i P* **P 07 20 45.9 -0.3**
BURAR Bucovina Array 96.54 318⇓ *i P* **P 07 20 47.2 +0.2**
LSZ Lusaka 98.09 255 *eP* **P 07 20 56.0 +1.4**
UZH Uzhgorod 98.29 319 *eP* **P 07 20 54.7 -0.1**
UZH *e* 07 24 53.0
UZH *e*PPP 07 27 03.0
UZH *e* 07 31 22.0
UZH *eS* S 07 32 19.0 +0.2
UZH MLR MLR
comp=Z,1μm,19.0s,MS5.3
RKT Rikitea 98.55 113 *e*LR LR 07 53 11.5
comp=Z,283nm,30.2s
NB2 NORSAR Subarra 100.81 333 Pdif Pdif 07 21 02.9 -3.0
comp=Z,3.1nm,1.0s,baz=67,slow=4.4
NOA NORSAR Array B 100.81 333 P Pdif 07 21 06.7 +0.8
comp=Z,1.1nm,0.8s,baz=71,slow=4.5,SNR=4.4
YKA Yellowknife Ar 101.97 24 P Pdif 07 21 11.2 +0.2
YKA PKKPbc PKKPbc 07 37 14.7 -3.1
YKA Yellowknife Ar 101.97 24 P Pdif 07 21 11.2 +0.2
comp=Z,0.4nm,0.6s,baz=299,slow=4.4,SNR=7.8
YKA PKKPbc PKKPbc 07 37 14.7 -3.1
comp=Z,0.3nm,0.7s,baz=107,slow=2.5,SNR=6.4
NVAR Mina Array Bea 108.93 49 Pdiff Pdif 07 21 44.1 +2.1
comp=Z,0.3nm,0.6s,baz=271,slow=7.8,SNR=3.5
NVAR PKiKP PKiKP 07 25 48.6 +1.7
comp=Z,0.4nm,0.6s,baz=253,slow=2.5,SNR=4.1
NVAR PP PP 07 26 15.2 +0.6
comp=Z,0.5nm,0.8s,baz=269,slow=7.4,SNR=3.6
ULM Lac du Bonnet 117.38 29 PKP PKPdf 07 26 01.6 -1.1
comp=Z,1.5nm,0.5s,baz=200,slow=2.3,SNR=4.5
ECSD EROS,Sioux Fal 121.11 35 *e*PKPdf PKPdf 07 26 10.1 0.0
MNTX Cornudas Mount 121.20 51 *e*PKPdf PKPdf 07 26 11.6 +1.0
SCHQ Schefferville 123.11 9 PKP PKPdf 07 26 13.4 -0.2
comp=Z,3.8nm,0.7s,baz=333,slow=0.8,SNR=6.7
TORD Torodi Ar. Bea 123.20 286 PKP PKPdf 07 26 14.5 -0.4
TORD PKKPbc PKKPbc 07 36 06.7 +1.6
TORD Torodi Ar. Bea 123.20 286 PKP PKPdf 07 26 14.5 -0.4
comp=Z,5.6nm,0.7s,baz=59,slow=2.0,SNR=35
TORD PKKPbc PKKPbc 07 36 06.7 +1.6
comp=Z,3.7nm,0.7s,baz=273,slow=3.5,SNR=21
TXAR Lajitas Array 123.50 53 PKP PKPdf 07 26 16.0 +0.9
comp=Z,1.6nm,0.7s,baz=218,slow=1.1,SNR=26
KSU1 Kansas State U 123.85 40 *e*PKPdf PKPdf 07 26 15.6 +0.1
JCT Junction City 126.04 50 *e*PKIKP PKPdf 07 26 20.8 +0.8
MIAR Mount Ida 128.46 42 *e*PKIKP PKPdf 07 26 26.2 +1.7
PLCA Paso Flores 137.82 161 PKP PKPdf 07 26 42.9 +1.0
comp=Z,3.8nm,1.0s,baz=200,slow=9.3,SNR=3.8
JTS JuntasAbangare 146.92 69 *e*PKP2 PKPab 07 27 00.5 -1.6
LCO Las Campanas 147.98 151 *e*PKPbc PKPbc 07 27 04.7 +1.5
LCO *e*PKPab PKPab 07 27 06.6 +0.8
CPUP Villa Florida 154.79 172 PKIKP PKPdf 07 27 11.2 +0.7
CPUP 07 27 19.3
CPUP *e* 07 27 19.9
CPUP *e* 07 27 34.9
CPUP Villa Florida 154.79 172 PKP PKPdf 07 27 11.2 +0.7
CPUP PKPbc PKPbc 07 27 19.2 +0.1
CPUP *e*PKPbc PKPbc 07 27 19.9 +0.7
CPUP *e*PKPab PKPab 07 27 34.9 +0.8
CPUP PKPab PKPab 07 27 35.1 +1.0
CPUP Villa Florida 154.79 172 PKP PKPdf 07 27 11.2 +0.7
comp=Z,0.2nm,0.3s,baz=155,slow=5.4,SNR=3.8
CPUP PKPbc PKPbc 07 27 19.2 +0.1
comp=Z,3.3nm,0.7s,baz=217,slow=1.3,SNR=9.1
CPUP PKPab PKPab 07 27 35.1 +1.0
comp=Z,2.7nm,0.6s,baz=192,slow=0.8,SNR=5.9
ROSC El Rosal 158.58 74 PKP PKPdf 07 27 17.1 +1.4
comp=Z,3.8nm,0.7s,baz=185,slow=1.8,SNR=5.8
ROSC PKPab PKPab 07 27 53.5 +2.5
comp=Z,6.2nm,0.7s,baz=94,slow=22,SNR=5.6
LPAZ La Paz 159.38 137 PKP PKPdf 07 27 18.9 +2.3
comp=Z,2.2nm,0.8s,baz=31,slow=2.3,SNR=11
LPAZ PKPab PKPab 07 27 56.0 +1.8
comp=Z,2.2nm,0.7s,baz=171,slow=6.4,SNR=5.4
SDV Santo Domingo 160.41 59 *e*PKPdf PKPdf 07 27 17.8 0.0
BDFB Brasilia 164.59 201 PKPab PKPab 07 28 17.0 +0.2
comp=Z,1.3nm,0.8s,baz=51,slow=27,SNR=4.3

*IDC **14** 07:22:43.8±1.3,2878N×7634E,h0km,mb3.5/3,mb1 3.5/4, mb1mx3.3/23,mbtmp3.4/4,ML3.0/1,Error ellipse: s-maj=44.3km s-min=30.0km az=51.0*
*ISCJB **14** 07:22:46.5±0.8,2896N±003×7662E±004,h0km±6km, mb3.5/3,Error ellipse: s-maj=5.5km s-min=4.4km az=177.3*
*NDI **14** 07:22:47.9±2.7,2892N×7664E,h5km,ML3.2*
ISC 14 07:22:48.0±0.6,2893N±003×7663E±004,h9km±5km,n22, σ0999/33,mb3.4/3,2C,Northern India

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
NDI	**New Delhi**	**0.57**	**115**	*eP*		**Pg**		**07 22 59.0**	**-0.1**
NDI				*eS*		**Sg**		**07 23 06.3**	**-0.2**
NDI				AML		AML		07 23 07.1	
	comp=N,1μm,0.3s								
NDI				AML		AML		07 23 07.2	
	comp=E,567nm,0.2s								
AYAN	**Aya Nagar**	**0.62**	**135**⇑	*i P*		**Pg**		**07 23 00.2**	**+0.1**
AYAN				*eS*		**Sg**		**07 23 08.3**	**+0.1**
AYAN				AML		AML		07 23 09.9	
	comp=Z,431nm,0.2s								
SONA	**Sohna**	**0.79**	**149**	*eP*		**Pg**		**07 23 03.0**	**-0.1**
SONA				*eS*		**Sg**		**07 23 12.9**	**-0.4**
SONA				AML		AML		07 23 14.0	
	comp=E,651nm,0.2s								
SONA				AML		AML		07 23 14.5	
	comp=N,267nm,0.2s								
KUDL	**Kundal**	**0.79**	**189**	*eP*		**Pg**		**07 23 03.1**	**-0.1**
KUDL				*eS*		**Sg**		**07 23 14.0**	**+0.4**
KUDL				AML		AML		07 23 16.4	
	comp=N,225nm,0.1s								
ASOR	**Ausora**	**1.02**	**99**	*eP*		**Pg**		**07 23 07.2**	**-0.4**
ASOR				*eS*		**Sg**		**07 23 21.1**	**+0.3**
KHET	**Khetri**	**1.12**	**221**	*eP*		**Pg**		**07 23 09.2**	**-0.3**
KHET				*eS*		**Sg**		**07 23 25.3**	**+1.3**
KHET				AML		AML		07 23 25.4	
	comp=E,364nm,0.2s								
KHET				AML		AML		07 23 25.6	
	comp=N,337nm,0.3s								
DDI	**Dehra Dun**	**1.86**	**41**	*eP*		**Pn**		**07 23 19.0**	**-1.1**
DDI				*eS*		**Sn**		**07 23 44.0**	**+0.2**
AGRA	**Agra**	**2.05**	**145**	*eP*		**Pn**		**07 23 23.2**	**+0.5**
AGRA				*eS*		**Sn**		**07 23 49.4**	**+0.9**
AGRA				AML		AML		07 23 54.9	
	comp=N,398nm,0.5s								
AGRA				AML		AML		07 23 55.0	
	comp=E,527nm,0.3s								
SMLA	**Simla**	**2.24**	**12**	*eP*		**Pn**		**07 23 27.2**	**+1.9**
SMLA				*eS*		**Sn**		**07 23 54.7**	**+1.6**
SMLA				AML		AML		07 24 00.6	
	comp=E,423nm,0.7s								
SMLA				AML		AML		07 24 01.9	
	comp=N,254nm,0.2s								
BHK	**Bhakra**	**2.49**	**356**	*eP*		**Pn**		**07 23 28.8**	**+0.1**
BHK				*eS*		**Sn**		**07 23 58.4**	**-0.8**
SDNR	**Sundarnagar**	**2.58**	**6**	*eP*		**Pn**		**07 23 29.6**	**-0.4**
SDNR				*ex*		x		07 24 05.0	
KLP	**Kalpa**	**2.95**	**28**	*eP*		**Pn**		**07 23 43.6**	**+3.5**
KLP				*eS*		**Sn**		**07 24 12.8**	**+2.2**
KLP				AML		AML		07 24 23.6	
	comp=N,203nm,0.7s								
KLP				AML		AML		07 24 31.6	
	comp=E,307nm,0.3s								
AJM	**Ajmer**	**3.01**	**216**⇑	*i P*		**Pn**		**07 23 36.0**	**+0.1**
AJM				*i x*		x		07 24 21.0	
PONG	**Pong**	**3.07**	**349**	*ex*		x		07 24 20.5	
PTH	**Pithoragarh**	**3.20**	**78**	*eP*		**Pn**		**07 23 39.2**	**+0.7**
PTH				*ex*		x		07 24 24.2	
LGTI	**Lohaghat**	**3.21**	**80**	*eP*		**Pn**		**07 23 37.0**	**-1.6**
LGTI				*ex*		x		07 24 41.0	
THN	**Thein Dam**	**3.58**	**348**	*eP*		**Pn**		**07 23 43.6**	**-0.1**
THN				*ex*		x		07 24 39.1	
DLH	**Dalhousie**	**3.65**	**351**	*eP*		**Pg**		**07 23 58.0**	**+0.1**
DLH				*eS*		**Sg**		**07 24 39.0**	**-6.1**
MKAR	**Makanchi Array**	**18.38**	**12**	P		**Pn**		**07 27 01.8**	**-1.2**
	comp=E,0.1nm,0.3s,baz=193,slow=12,SNR=3.0								
AKTO	**Aktyubinsk**	**25.68**	**332**	P		**P**		**07 28 15.7**	**-2.5**
	comp=E,0.4nm,0.3s,mb3.4,baz=117,slow=11,SNR=2.7								
TORD	**Torodi Ar. Bea**	**70.69**	**275**	P		**P**		**07 34 00.3**	**-4.4**
	comp=E,0.2nm,0.5s,mb3.3,baz=56,slow=5.3,SNR=5.8								
WRA	**Warramunga Arr**	**73.90**	**124**	P		**P**		**07 34 21.9**	**-1.8**
	comp=E,0.4nm,0.7s,mb3.5,baz=320,slow=5.8,SNR=6.3								

NNC 14 07:44:07.2±5.9,5451N×8617E,h0km,mb3.6,mpv3.0, 9C-2D,Error ellipse: s-maj=51.1km s-min=39.2km az=76.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**5.96**	**233**	⇑Pn			Pn	07 45 34.3	-2.3
KURK				⇑Lg				07 47 18.7	
	3.2nm,0.6s								
KURBB	**Kurchatov Arra**	**6.07**	**233**	⇑Pn			Pn	07 45 40.0	+1.9
	0.4nm,0.3s,baz=50,slow=14								
KURBB				⇓Sn			Sn	07 46 51.3	+3.2
	0.6nm,0.5s								
KURBB				⇓Lg				07 47 24.6	
	1.1nm,0.6s,baz=61,slow=32								
MK06	**Makanchi Array**	**8.12**	**199**	⇑Sn			Sn	07 47 38.3	-0.3
	1.2nm,0.8s								
MK06				⇑Lg				07 48 23.6	
	1.0nm,0.8s								
MK07	**Makanchi Array**	**8.14**	**199**	⇑Pn			Pn	07 46 06.7	+0.2
	0.3nm,0.3s,baz=32,slow=13								
VOSK	**Vostochnaya**	**9.20**	**265**	⇑Pn			Pn	07 46 23.8	+2.7
	1.3nm,1.0s								
VOSK				⇑Sn			Sn	07 48 05.2	0.0
	1.9nm,0.8s								
ZRNK	**Zerenda**	**10.29**	**268**	⇑Pn			Pn	07 46 40.0	+4.1
	6.5nm,2.1s								

KRSC 14 07:52:47.4±0.9,5292N×16033E,h30km±20km,ML3.6,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.26**	**314**	*i P*			Pb	07 52 54.8	+0.5
SPN				*i S*			Sb	07 53 00.0	+1.1
NLC	**Nalytchevo**	**0.65**	**293**	*i P*			Pb	07 53 00.0	-0.2
NLC				*i S*			Sb	07 53 09.5	+0.6
AVH	**Avacha**	**1.02**	**290**	*i P*			Pn	07 53 06.1	+0.5
AVH				*eS*			Sn	07 53 20.1	+1.2
PET	**Petropavlovsk**	**1.02**	**277**	*i P*			Pn	07 53 05.7	+0.1
PET				*i S*			Sn	07 53 19.7	+0.8
RUS	**Russkaya**	**1.21**	**247**	*i P*			Pn	07 53 07.7	-0.5
RUS				*i S*			Sn	07 53 23.1	-0.4
GRL	**Gorelyy**	**1.42**	**256**	*eP*			Pn	07 53 11.8	+0.7
GRL				*i S*			Sn	07 53 29.6	+0.8
GNL	**Ganaly**	**1.63**	**299**	*i P*			Pn	07 53 16.0	+2.0
GNL				*i S*			Sn	07 53 37.0	+3.1
MKZ	**Mys Kozlova**	**1.84**	**26**	*eP*			Pn	07 53 17.0	+0.1
MKZ				*i S*			Sn	07 53 38.4	-0.7
MIPR	**Malaya Ipel'ka**	**2.27**	**255**	*eP*			Pn	07 53 24.3	+1.5
TUMR	**Tumrok**	**2.37**	**357**	P			Pn	07 53 26.2	+2.0
TUMR				*i S*			Sn	07 53 54.4	+2.2
KBTR	**Krutoberegovo**	**3.60**	**23**	*eP*			Pn	07 53 42.0	+1.0
KBTR				*eS*			Sn	07 54 22.5	0.0

IDC 14 07:55:47.1±63.0,1471S×16458E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.6/12,mbtmp3.7/3,Error ellipse: s-maj=1061.0km s-min=111.9km az=64.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**27.07**	**227**	P			P	08 01 31.5	0.0
	0.7nm,0.6s,baz=55,slow=12,SNR=3.1								
WRA	**Warramunga Arr**	**29.31**	**255**	P			P	08 01 51.7	0.0
	0.5nm,0.7s,baz=86,slow=9.1,SNR=6.1								
ASAR	**Alice Springs**	**30.26**	**248**	P			P	08 02 00.1	+0.1
	0.6nm,0.5s,baz=75,slow=9.1,SNR=18								

*IDC **14** 08:01:32.4±0.7,874N×12581E,h0km,mb4.1/10, mb1 4.3/11,mb1mx4.1/19,mbtmp4.2/11,ML5.0/1,MS3.4/7, Ms1 3.4/7,ms1mx3.1/31,Error ellipse: s-maj=46.8km s-min=14.7km az=78.0*
*NEIC **14** 08:01:38.6±2.6,866N×12587E,h43km±24km,mb4.6/2, Error ellipse: s-maj=31.6km s-min=12.9km az=72.0*
*ISCJB **14** 08:01:39.5±0.4,864N±003×12579E±004,h60km±4km, mb4.3/17,Error ellipse: s-maj=6.9km s-min=4.2km az=152.9*
*MAN **14** 08:01:40,866N×12571E,h28km,mb4.8,ML3.7,MS3.7*
ISC 14 08:01:40.5±0.4,863N±003×12579E±004,h52km±5km,n55, σ1§13/56,mb4.3/17,MS3.4/6,1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.72**	**128**	*eP*			**Pn**	**08 01 54.2**	**-0.4**
BIPH				*eS*			**Sn**	**08 02 05.3**	**+0.5**
BUKP	**Musuan**	**1.04**	**224**	*eP*			**Pn**	**08 01 58.1**	**-0.7**
CGP	**Cagayan de Oro**	**1.10**	**261**⇓	*eP*			**Pn**	**08 01 58.6**	**-1.1**
SCPH	**Surigao**	**1.18**	**345**	*eP*			**Pn**	**08 02 00.1**	**-0.7**
SCPH				*eS*			**Sn**	**08 02 14.2**	**-1.5**
DMPH	**Davao City--Mi**	**1.57**	**190**	*eP*			**Pn**	**08 02 05.8**	**-0.1**
DMPH				*i S*			**Sn**	**08 02 11.2**	**-14**
DAV	**Davao City (W)**	**1.57**	**188**	*e*Pn			**Pn**	**08 02 04.3**	**-1.7**
MATI	**Mati**	**1.74**	**165**	*eP*			**Pn**	**08 02 08.9**	**+0.6**
MSLP	**Maasin**	**1.75**	**328**	*eP*			**Pn**	**08 02 07.7**	**-0.8**
MSLP				*i S*			**Sn**	**08 02 27.1**	**-2.7**
KCP	**Kidapawan**	**1.76**	**203**	*eP*			**Sn**	**08 02 31.4**	**+1.6**
CTBH	**Cotabato--PC H**	**2.08**	**228**	*i P*			**Pn**	**08 02 12.6**	**-0.3**
TBP	**Tagbilaran**	**2.18**	**299**	*eP*			**Pn**	**08 02 14.2**	**-0.2**
TBP				*eS*			**Sn**	**08 02 39.5**	**-0.6**
DCPH	**Dipolog City**	**2.42**	**269**	*eP*			**Pn**	**08 02 17.2**	**-0.3**
DCPH				*eS*			**Sn**	**08 02 45.4**	**-0.6**
LLP	**Lapu-Lapu**	**2.46**	**313**	*eP*			**Pn**	**08 02 18.2**	**0.0**
LLP				*eS*			**Sn**	**08 02 46.4**	**-0.7**
PAGZ	**Pagadian**	**2.51**	**252**	*eP*			**Pn**	**08 02 20.2**	**+1.4**
SNPH	**Sibulan**	**2.62**	**286**	*eP*			**Pn**	**08 02 20.0**	**-0.4**
SNPH				*eS*			**Sn**	**08 02 50.5**	**-0.6**
PLP	**Palo**	**2.64**	**342**	*eP*			**Pn**	**08 02 21.2**	**+0.5**
GSPH	**General Santos**	**2.67**	**198**	*eP*			**Pn**	**08 02 21.9**	**+0.9**
OCLP	**Ormoc**	**2.67**	**334**	*eP*			**Pn**	**08 02 22.0**	**+0.9**
GUIM	**Jordan**	**3.73**	**302**	*eP*			**Pn**	**08 02 35.8**	**+0.2**
CNP	**Catarman**	**4.01**	**344**	*eP*			**Pn**	**08 02 41.3**	**+1.8**
RCP	**Roxas**	**4.18**	**314**	*eP*			**Pn**	**08 02 42.6**	**+0.8**
PVCP	**Virac**	**5.19**	**342**	*eP*			**Pn**	**08 02 58.0**	**+2.5**
OTRP	**Odiongan**	**5.24**	**315**	*eP*			**Pn**	**08 02 57.6**	**+1.2**
CAUP	**Cauayan**	**9.12**	**335**	*eP*			**Pn**	**08 03 51.3**	**+1.7**
BATI	**Kupang**	**18.84**	**187**	P			**Pn**	**08 05 56.9**	**-0.3**
	5.2nm,0.3s,baz=351,slow=1.2,SNR=7.0								
GUMO	**Guam**	**19.35**	**74**	LR			LR	08 11 17.2	
	comp=Z,50nm,21.1s,baz=98,slow=30								
KAKA	**Kakadu**	**22.21**	**163**	*eP*			**P**	**08 06 32.4**	**-0.3**
	10nm,0.6s,mb4.4								
JNU	**Nakatsue**	**24.82**	**10**	LR			LR	08 15 39.4	
	comp=Z,56nm,19.2s,MS3.1,baz=245,slow=34								
FITZ	**Fitzroy Crossi**	**26.56**	**180**	*eP*			**P**	**08 07 12.3**	**-1.4**
	6.7nm,1.0s,mb4.1								
FITZ	**Fitzroy Crossi**	**26.56**	**180**	P			**P**	**08 07 12.3**	**-1.4**
	3.2nm,0.8s,mb3.9,baz=32,slow=12,SNR=7.4								
JHJ	**Hachijo jima 2**	**27.59**	**26**	LR			LR	08 16 03.3	
	comp=Z,55nm,18.6s,MS3.2,baz=202,slow=32								
KSRS	**Korea Array**	**28.76**	**4**	LR			LR	08 19 08.0	
	comp=Z,31nm,18.1s,MS3.0,baz=230,slow=37								
WRA	**Warramunga Arr**	**29.61**	**164**	P			**P**	**08 07 39.8**	**-1.1**
	1.1nm,0.6s,mb3.8,baz=344,slow=9.4,SNR=18								
WB2	**Warramunga Arr**	**29.62**	**164**	*eP*			**P**	**08 07 40.2**	**-0.8**
MJAR	**Matsushiro Arr**	**29.99**	**20**	P			**P**	**08 07 42.1**	**-2.0**
	0.9nm,0.5s,mb3.7,baz=188,slow=9.8,SNR=5.5								
ASAR	**Alice Springs**	**33.06**	**166**	P			**P**	**08 08 10.8**	**-0.4**
	1.1nm,0.7s,mb3.9,baz=346,slow=7.0,SNR=21								
JIRN	**Jiri**	**41.87**	**302**	*eP*			**P**	**08 09 27.8**	**+2.0**
	4.1nm,0.3s,mb4.5								
GUN	**Gumba**	**42.22**	**302**	*eP*			**P**	**08 09 29.9**	**+1.3**
	19nm,0.5s,mb5.0								
STKA	**Stephens Creek**	**43.02**	**160**	*eP*			**P**	**08 09 35.6**	**+0.6**
	1.6nm,0.6s,mb3.9								
STKA	**Stephens Creek**	**43.02

FINES	**FINESS Array B**	**87.10**	**332**	P	**P**	**08 14 17.7**	**-2.8**
	0.5nm,0.5s,mb4.0,baz=90,slow=9.5,SNR=3.5						
HFS	**Hagfors**	**93.27**	**332**	LR	LR	08 58 46.0	
	comp=Z,33nm,18.2s,MS3.8,baz=49,slow=37						
YKA	**Yellowknife Ar**	**95.44**	**24**	P	**P**	**08 14 58.6**	**-0.6**
	0.4nm,0.6s,mb4.0,baz=302,slow=4.6,SNR=8.3						
TORD	**Torodi Ar. Bea**	**120.42**	**291**	PKP	PKPdf	08 20 25.3	-1.8
	0.5nm,0.8s,baz=74,slow=3.2,SNR=2.7						

*ISCJB **14** 08:10:28.2±0.3, 4374N±002×7322W±002, h6km, Error ellipse: s-maj=2.7km s-min=2.2km az=20.4*
*OTT **14** 08:10:29.6±0.2, 4371N×7320W, h5km, MN2.9/23, 158km south from Bedford, Qc Northern Appalachians Seismic Zone.*
*NEIC **14** 08:10:30.0, 4371N×7325W, h6km, MD2.5(LDO), MN2.9(OTT), After LDO.*
NEIC Felt [IV] at Bomoseen and [III] at Castleton and Fair Haven. Felt at Brandon, Groton, Orwell, Poultney, Proctor and Vergennes. Also felt at Middle Granville and Putnam Station, New York.

ISC 14 08:10:28.5±0.3, 4371N±002×7322W±002, h1km±3km, n49, σ1§09/79, 3C, New York

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACCN	**Adirondack Com**	**0.46**	**225**	*e*Pg	**Pg**	**08 10 38.4**	**+1.2**
ACCN				*e*Sg	**Sg**	08 10 44.6	+1.5
HNH	**Hanover**	**0.68**	**90**	*e*Pg	**Pg**	**08 10 42.7**	**+1.2**
HNH				*e*Sg	**Sg**	08 10 51.1	+0.8
NCB	**Newcomb**	**0.77**	**290**	*e*Pg	**Pg**	**08 10 44.0**	**+0.7**
NCB				*e*Sg	**Sg**	08 10 54.4	+1.1
NCB	**Newcomb**	**0.77**	**290**	⇑PG	**Pg**	**08 10 44.0**	**+0.7**
NCB				SG	**Sg**	08 10 54.2	+1.0
TRY	**Troy**	**1.03**	**199**	*e*P	**Pg**	**08 10 48.2**	**+0.1**
TRY				*e*S	**Sg**	08 11 02.0	+0.5
LBNH	**Lisbon**	**1.08**	**60**	*e*Pg	**Pg**	**08 10 49.7**	**+0.6**
LBNH				*e*Sg	**Sg**	08 11 03.4	+0.3
LBNH	**Lisbon**	**1.08**	**60**	PG	**Pg**	**08 10 49.5**	**+0.4**
LBNH				SG	**Sg**	**08 11 03.9**	**+0.9**
LBNH				Trac		08 11 08.8	
	comp=Z,30nm,0.1s						
FRNY	**Flat Rock**	**1.16**	**347**	*e*Pg	**Pg**	**08 10 50.2**	**-0.5**
FRNY				*e*Sg	**Sg**	**08 11 05.8**	**+0.1**
FRNY	**Flat Rock**	**1.16**	**347**	⇑PG	**Pg**	**08 10 50.4**	**-0.3**
FRNY				SG	**Sg**	**08 11 05.9**	**+0.2**
FFD	**Franklin Falls**	**1.16**	**101**	*e*Pg	**Pg**	**08 10 51.2**	**+0.5**
FFD				*e*Sg	**Sg**	**08 11 05.8**	**0.0**
HCNY	**Howe Caverns**	**1.33**	**221**	*e*P	**Pg**	08 10 53.3	-0.5
HCNY				*e*S	**Sg**	08 11 10.6	-0.4
LONY	**Lake Ozonia**	**1.34**	**313**	*e*Pn	**Pn**	08 10 53.5	-0.7
LONY				*e*Sg	**Sg**	08 11 11.6	+0.1
LONY	**Lake Ozonia**	**1.34**	**313**	⇑PG	**Pg**	08 10 53.5	-0.7
LONY				SG	**Sg**	08 11 11.8	+0.3
LONY				Trac		08 11 13.2	
	comp=Z,26nm,0.1s						
PTN	**Potsdam (NY)**	**1.53**	**305**	*e*P	**Pn**	**08 10 57.1**	**+0.2**
PTN				*e*S	**Sn**	**08 11 17.5**	**+0.1**
PTN	**Potsdam (NY)**	**1.53**	**305**	PG	**Pg**	**08 10 57.1**	**-0.8**
PTN				SG	**Sg**	**08 11 17.5**	**-0.2**
PTN				SG	**Sg**	**08 11 17.6**	**-0.1**
QUA2	**Belchertown**	**1.56**	**156**	*e*Pn	**Pn**	08 10 57.7	+0.4
QUA2				*e*Sg	**Sg**	08 11 17.5	-1.1
HRV	**Adam Dziewonsk**	**1.71**	**134**	*e*Pn	**Pn**	08 11 00.7	+1.3
HRV				*e*Sg	**Sg**	08 11 21.4	-1.9
HRV	**Adam Dziewonsk**	**1.71**	**134**	PG	**Pg**	08 11 00.5	-0.8
HRV				SG	**Sg**	08 11 21.2	-2.1
HRV				Trac		08 11 23.3	
	comp=Z,21nm,0.2s						
MOQ	**Mont Orford**	**1.75**	**23**	PN	**Pn**	**08 11 00.8**	**+1.0**
MOQ				Trac		08 11 30.0	
	comp=Z,14nm,0.1s						
MSNY	**Massena**	**1.75**	**318**	*e*P	**Pn**	**08 11 00.5**	**+0.6**
MSNY				*e*S	**Sn**	**08 11 24.7**	**+1.9**
CTNY	**Carthage**	**1.78**	**280**	*e*P	**Pn**	**08 11 00.6**	**+0.3**
CTNY				*e*S	**Sn**	**08 11 24.9**	**+1.4**
MNT	**Montreal**	**1.82**	**351**	PN	**Pn**	**08 11 01.4**	**+0.5**
MNT				SG	**Sg**	**08 11 26.2**	**-0.7**
MNT				Trac		08 11 27.0	
	comp=Z,28nm,0.1s						
WES	**Weston**	**1.92**	**133**	*e*Pn	**Pn**	**08 11 02.1**	**-0.1**
WES				*e*Sg	**Sg**	**08 11 28.1**	**-2.0**
WBO	**Williamsburg**	**1.96**	**312**	PN	**Pn**	**08 11 02.3**	**-0.5**
WBO				PG	**Pg**	**08 11 04.3**	**-1.7**
WBO				SG	**Sg**	**08 11 30.8**	**-0.7**
WBO				Trac		08 11 34.2	
	comp=Z,15nm,0.1s						
BRYW	**Bryant College**	**2.17**	**145**	*e*Pn	**Pn**	**08 11 09.5**	**+3.8**
BRYW				*e*Sg	**Sg**	**08 11 37.9**	**-0.4**
ALFO	**Alfred**	**2.26**	**329**	PN	**Pn**	**08 11 07.5**	**+0.6**
ALFO				SG	**Sg**	**08 11 40.0**	**-1.0**
ALFO				Trac		08 11 42.5	
	comp=Z,27nm,0.3s						
MRHQ	**Morin Heights**	**2.29**	**342**	SG	**Sg**	**08 11 40.5**	**-1.6**
KGNO	**Kingston**	**2.42**	**284**	PN	**Pn**	**08 11 10.2**	**+1.1**
KGNO				LG		08 11 42.4	
KGNO				LG		08 11 43.2	
KGNO				Trac		08 11 47.6	
	comp=Z,26nm,0.3s						
MPPO	**Murphy's Point**	**2.43**	**297**	PN	**Pn**	**08 11 10.2**	**+1.0**
MPPO				LG		08 11 43.6	
MPPO				Trac		08 11 47.3	
	comp=Z,12nm,0.1s						
OTT	**Ottawa**	**2.46**	**314**	PN	**Pn**	**08 11 12.4**	**+2.8**
OTT				LG		08 11 45.6	
OTT				Trac		08 11 48.2	
	comp=Z,9.6nm,0.1s						
GAC	**Glen Almond**	**2.56**	**322**	PN	**Pn**	**08 11 11.4**	**+0.3**
GAC				LG		08 11 47.7	
GAC				Trac		08 11 52.1	
	comp=Z,12nm,0.2s						
TRQ	**Mont Tremblant**	**2.69**	**340**	PN	**Pn**	**08 11 13.4**	**+0.6**
TRQ				LG		08 11 53.5	
TRQ				Trac		08 11 54.3	
	comp=Z,15nm,0.2s						
PECO	**Prince Edward**	**2.74**	**276**	PN	**Pn**	**08 11 16.9**	**+3.4**
PECO				SN	**Sn**	**08 11 46.1**	**-1.1**
PECO				LG		08 11 55.4	
DPQ	**Saint Jean**	**2.99**	**6**	PN	**Pn**	**08 11 17.7**	**+0.7**
DPQ				LG		08 12 01.2	
DPQ				Trac		08 12 04.2	
	comp=Z,5.2nm,0.1s						
PLVO	**Plevna**	**3.07**	**297**	PN	**Pn**	**08 11 18.4**	**+0.3**
PLVO				SN	**Sn**	**08 11 53.1**	**-2.3**
PLVO				SN	**Sn**	**08 11 54.0**	**-1.3**
PLVO				LG		08 12 03.6	
PLVO				Trac		08 12 10.1	
	comp=Z,15nm,0.3s						
PKME	**Peaks-Kenny Pk**	**3.21**	**60**	PN	**Pn**	**08 11 21.6**	**+1.5**
PKME				SN	**Sn**	**08 11 58.0**	**-0.9**
PKME				LG		08 12 10.3	
PKME				Trac		08 12 18.4	
	comp=Z,15nm,0.2s						
DELO	**Deloro Mine**	**3.27**	**286**	SN	**Sn**	**08 12 00.8**	**+0.5**
DELO				LG		08 12 06.9	
DELO				Trac		08 12 16.5	
	comp=Z,8.6nm,0.2s						
GRQ	**Grand Remous**	**3.45**	**328**	PN	**Pn**	**08 11 24.7**	**+1.5**
GRQ				PG	**Pg**	**08 11 28.7**	**-5.8**
GRQ				LG		08 12 14.7	
GRQ				Trac		08 12 24.0	
	comp=Z,16nm,0.3s						
CRLO	**Chalk River**	**3.77**	**310**	LG		08 12 24.2	
CRLO				Trac		08 12 33.8	
	comp=Z,4.7nm,0.1s						
MEDO	**Medina**	**3.85**	**264**	PN	**Pn**	**08 11 28.3**	**-0.5**
MEDO				SN	**Sn**	**08 12 12.7**	**-1.9**
MEDO				LG		08 12 28.9	
LMQ	**La Malbaie**	**4.34**	**27**	LG		08 12 42.4	
LMQ				Trac		08 12 58.0	
	comp=Z,5.5nm,0.2s						
SADO	**Sadowa**	**4.38**	**286**	SN	**Sn**	**08 12 25.8**	**-2.0**
SADO				LG		08 12 45.6	
SADO				Trac		08 12 51.4	
	comp=Z,7.2nm,0.2s						
TORO	**Toronto--Lesli**	**4.44**	**271**	LG		08 12 47.1	
DAQ	**Lac Daran**	**4.48**	**17**	PN	**Pn**	**08 11 37.6**	**+0.2**
DAQ				SN	**Sn**	**08 12 28.7**	**-1.4**
DAQ				LG		08 12 46.4	
DAQ				Trac		08 12 49.5	
	comp=Z,5.7nm,0.2s						
BUKO	**Buck Lake**	**4.74**	**294**	SN	**Sn**	**08 12 35.8**	**-0.8**
BUKO				LG		08 12 54.9	
GGN	**Saint George**	**4.78**	**71**	SN	**Sn**	**08 12 35.6**	**-1.9**
GGN				LG		08 12 57.7	
GGN				Trac		08 13 05.4	
	comp=Z,8.7nm,0.5s						
EEO	**Eldee**	**5.07**	**307**	PN	**Pn**	**08 11 47.0**	**+1.5**
EEO				LG		08 13 05.5	
EEO				Trac		08 13 08.6	
	comp=Z,6.4nm,0.3s						
BRCO	**Bruce Peninsul**	**5.96**	**278**	SN	**Sn**	**08 13 03.9**	**-2.6**
BRCO				LG		08 13 36.7	
LMN	**Caledonia Moun**	**6.36**	**67**	LG		08 13 50.1	

IDC 14 08:21:02.9±2.0, 1485N×14712E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, ML3.7/1, Error ellipse: s-maj=47.5km s-min=24.3km az=94.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.51**	**240**	Pn	Pn	08 21 45.1	+0.1
	14nm,0.3s,baz=135,slow=12,SNR=4.8						
GUMO				Sn	Sn	08 22 17.6	+1.2
	25nm,0.3s,baz=185,slow=21,SNR=4.4						
WRA	**Warramunga Arr**	**36.79**	**200**	P	P	08 28 12.4	-0.2
	1.3nm,1.0s,baz=21,slow=8.3,SNR=5.4						
ASAR	**Alice Springs**	**40.40**	**199**	P	P	08 28 43.0	+0.1
	0.8nm,1.1s,baz=24,slow=7.1,SNR=4.1						
SONM	**Songino Array**	**47.00**	**323**	P	P	08 29 36.5	+0.7
	0.7nm,0.6s,baz=124,slow=7.2,SNR=2.2						
MKAR	**Makanchi Array**	**62.12**	**315**	P	P	08 31 25.2	-0.5
	0.6nm,0.5s,baz=90,slow=8.7,SNR=5.5						

MEX 14 08:23:27.7±0.9, 2136N×10475W, h12km±12km, MD4.4, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANIG	**Ahuacatlan**	**0.37**	**144**	*i* P	Pg	08 23 35.4	+0.2
ANIG				*i* S	Sg	08 23 41.0	+0.9
SFJM	**Santa Fe**	**1.82**	**118**	*i* P	Pn	08 23 55.5	-3.4
SFJM				*i* S	Sn	08 24 17.2	-4.7
MMIG	**Aquila**	**3.33**	**156**	*i* P	Pn	08 24 15.1	-4.5
MMIG				*i* S	Sn	08 24 56.3	-2.8
HPIG		**5.61**	**352**	*e*P	Pn	08 24 52.0	+1.0
HPIG				*i* S	Sn	08 25 56.6	+1.1
LNIG	**Linares**	**6.01**	**53**	*i* P	Pn	08 24 54.8	-1.6
LNIG				*i* S	Sn	08 26 01.4	-3.8
TPIG	**Tehuac#an**	**7.54**	**112**	*i* P	Pn	08 25 17.8	+0.2
CGIG		**9.43**	**343**	*e*P	Pn	08 25 45.9	+2.5
CGIG				*i* S	Sn	08 27 29.9	+0.6

MEX 14 08:24:46.4±1.1, 1837N×10015W, h30km, MD3.7, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.61**	**88**	*i* P	Pb	08 24 56.4	-2.3
PLIG				*i* S	Sb	08 25 04.0	-3.0
MEIG	**Mezcala**	**0.67**	**131**	*i* P	Pb	08 24 58.2	-1.4
MEIG				*i* S	Sb	08 25 07.0	-1.6
MZVM		**1.19**	**47**	*e*P	Pn	08 25 04.5	-2.5
MZVM				*i* S	Sn	08 25 20.3	-2.0
TPIG	**Tehuac#an**	**2.65**	**88**	*i* P	Pn	08 25 24.9	-2.1

*NEIC **14** 08:53:10.8±1.1, 109N×97.10E, h30km, Error ellipse: s-maj=24.7km s-min=15.1km az=62.0*
*IDC **14** 08:53:12.8±7.7, 1.15N×97.19E, h43km±58km, mb3.7/6, mb1 3.7/7, mb1mx3.5/20, mbtmp3.6/7, ML3.0/1, Error ellipse: s-maj=80.3km s-min=20.3km az=60.0*
*ISCJB **14** 08:53:13.1±6.4, 12N±03×973E±04, h62km±43km, mb3.9/6, Error ellipse: s-maj=84.3km s-min=22.3km az=149.9*

ISC 14 08:53:14.5±6.2, 12N±03×973E±04, h55km±42km, n9, σ0§51/9, mb3.9/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.26**	**45**	P	**Pn**	**08 53 48.5**	**-0.9**
	3.7nm,0.3s,baz=253,slow=8.5,SNR=12						
TSI	**Tuntungan**	**2.60**	**29**	*e*P	**Pn**	**08 53 55.0**	**+0.9**
WRA	**Warramunga Arr**	**41.94**	**122**	P	**P**	**09 01 00.0**	**-0.1**
	0.9nm,0.6s,mb3.6,baz=301,slow=9.1,SNR=13						
ASAR	**Alice Springs**	**43.30**	**127**	P	**P**	**09 01 11.4**	**+0.2**
	0.7nm,0.8s,mb3.4,baz=296,slow=7.5,SNR=5.3						
KSRS	**Korea Array**	**45.78**	**34**	P	**P**	**09 01 30.9**	**+0.3**
	3.4nm,0.8s,mb4.3,baz=226,slow=10,SNR=7.4						
SONM	**Songino Array**	**47.11**	**8**	P	**P**	**09 01 41.0**	**+0.1**
SONM	**Songino Array**	**47.11**	**8**	P	**P**	**09 01 41.0**	**+0.1**
	0.7nm,0.5s,mb3.9,baz=206,slow=9.6,SNR=3.1						
MKAR	**Makanchi Array**	**47.27**	**346**	P	**P**	**09 01 42.2**	**+0.1**
	1.0nm,0.6s,mb3.9,baz=152,slow=8.1,SNR=8.4						
ZALV	**Zalesovo Beam**	**53.57**	**351**	P	**P**	**09 02 29.1**	**-0.6**
	1.3nm,0.3s,mb4.3,baz=174,slow=5.7,SNR=8.7						

*CSEM **14** 08:54:20.3±0.1, 3163N×4904E, h2km, ML2.7, Error ellipse: s-maj=2.5km s-min=1.3km az=103.0*
*THR **14** 08:54:20.7±0.7, 3159N×4895E, h14km±12km, ML2.7*
*KISR **14** 08:54:20.5±0.9, 3145N×4925E, h34km±47km, ML2.7*
*ISCJB **14** 08:54:21.8±0.8, 3164N±004×4899E±010, h10km, Error ellipse: s-maj=12.4km s-min=4.8km az=11.2*

ISC 14 08:54:22.4±0.7, 3166N±003×4900E±009, h10km, n10, σ0§95/19, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**0.47**	**339**	*e*Pg	**Pg**	**08 54 31.1**	**-0.5**
SHGR				*e*Sg	**Sg**	**08 54 38.8**	**+0.8**
SHGR				AML	AML	08 54 47.2	
	comp=E,499nm,0.6s						
SHGR				AML	AML	08 54 52.7	
	comp=N,627nm,0.7s						
SHGR	**Shooshtar-Gavs**	**0.47**	**339**	*e*Pg	**Pg**	**08 54 31.1**	**-0.6**
	SNR=90						
SHGR				*e*Sg	**Sg**	**08 54 38.8**	**+0.8**
	comp=N,627nm,0.7s,SNR=90						
UMR	**Umm Al-Rimmam**	**2.38**	**208**	*e*P	**Pn**	**08 55 00.6**	**-0.8**
UMR				*e*S	**Sn**	**08 55 31.7**	**+1.0**
UMR				AML	AML	08 55 33.3	
	comp=Z,53nm,0.5s						
UMR	**Umm Al-Rimmam**	**2.38**	**208**	*e*P	**Pn**	**08 55 00.6**	**-0.9**
UMR				*e*S	**Sn**	**08 55 31.7**	**+1.0**
NAY	**Al-Naaiem**	**2.85**	**213**	*e*P	**Pn**	**08 55 07.6**	**-0.3**
NAY				*e*S	**Sn**	**08 55 42.7**	**+0.5**
NAY				AML	AML	08 55 43.6	
	comp=Z,14nm,0.5s						
NAY	**Al-Naaiem**	**2.85**	**213**	*e*P	**Pn**	**08 55 07.6**	**-0.3**
NAY				*e*S	**Sn**	**08 55 42.7**	**+0.5**
	comp=Z,14nm,0.5s						
ASAO	**Ashtian**	**3.00**	**16**	*e*Pn	**Pn**	**08 55 11.6**	**+1.6**
ASAO				*e*Sg	**Sg**	**08 55 57.1**	**-1.7**
ASAO				AML	AML	08 56 01.4	
	comp=E,18nm,0.7s						
ASAO				AML	AML	08 56 01.7	
	comp=N,24nm,0.6s						
RDF	**Al-Radifah**	**3.00**	**205**	*e*P	**Pn**	**08 55 09.4**	**-0.7**
RDF				*e*S	**Sn**	**08 55 45.3**	**-0.8**
RDF				AML	AML	08 55 46.3	
	comp=Z,23nm,0.3s						
RDF	**Al-Radifah**	**3.00**	**205**	*e*P	**Pn**	**08 55 09.4**	**-0.7**
RDF				*e*S	**Sn**	**08 55 45.3**	**-0.8**
NASN	**Na'in**	**3.42**	**70**	*e*Pn	**Pn**	**08 55 16.6**	**+0.9**
NASN				AML	AML	08 55 59.2	
	comp=E,12nm,0.3s						

*IDC **14** 09:00:34.2±0.4, 2050N×12029E, h0km, mb4.7/25, mb1 4.6/28, mb1mx4.6/33, mbtmp4.6/28, ML3.7/3, MS3.6/9, Ms1 3.6/9, ms1mx3.4/30, Error ellipse: s-maj=16.5km s-min=10.3km az=72.0*
*ISCJB **14** 09:00:35.5±0.9, 2051N±002×12027E±003, h17km±6km, mb4.8/63, MS3.9/16, Error ellipse: s-maj=4.3km s-min=3.0km az=173.3*
*MAN **14** 09:00:37, 2051N×12030E, h33km, mb4.9, ML3.8, MS3.8*
*MOS **14** 09:00:37.9±1.1, 2048N×120.15E, h33km, mb5.1/17, Error ellipse: s-maj=14.3km s-min=6.5km az=115.1*
*BJI **14** 09:00:38.1, 2052N×120.14E, h29km, mB4.8, mb4.6, ML4.0, Ms4.3, Msz4.2*
*NEIC **14** 09:00:39.7±0.2, 2050N×12026E, h35km, mb5.0/20, Error ellipse: s-maj=7.2km s-min=5.2km az=86.0*
*JMA **14** 09:00:41.2±0.5, 2078N×12041E, h116km, M4.0*

ISC 14 09:00:38.7±0.9, 2053N±002×12033E±003, h27km±7km, h34km±1.8km: pP-P, n193, σ1§10/215, mb4.8/63, MS3.9/16, 5C-13D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**2.21**	**173**	*i* P	**Pn**	**09 01 12.1**	**-1.6**
PIP				*e*S	**Sn**	**09 01 36.4**	**-3.7**
APYP	**Conner**	**2.79**	**162**	*e*P	**Pn**	**09 01 21.4**	**-0.3**
APYP				*e*S	**Sn**	**09 01 54.4**	**0.0**
SGCP	**Mt. Cagua**	**2.79**	**144**	*e*P	**Pn**	**09 01 21.2**	**-0.4**
SGCP				*e*S	**Sn**	**09 01 53.9**	**-0.6**
ABRA	**Dolores**	**2.89**	**173**	*e*P	**Pn**	**09 01 21.3**	**-1.6**
CVP	**Callao Caves**	**3.15**	**153**	*e*P	**Pn**	**09 01 26.7**	**+0.2**
NACB	**Ninganchiao**	**3.81**	**18**	*e*Pn	**Pn**	**09 01 35.2**	**-0.5**
NACB				*e*Sn	**Sn**	**09 02 19.8**	**+0.2**
CAUP	**Cauayan**	**3.84**	**158**	*e*P	**Pn**	**09 01 38.6**	**+2.5**
PALP	**Palanan**	**3.98**	**150**	*e*P	**Pn**	**09 01 39.2**	**+1.2**
PALP				*e*S	**Sn**	**09 02 27.8**	**+4.0**
BCPH	**Baguio City Da**	**4.13**	**177**	*e*P	**Pn**	**09 01 39.4**	**-0.7**
BCPH				*i* S	**Sn**	**09 02 34.1**	**+6.5**
BOLP	**Bolinao**	**4.14**	**185**	*e*P	**Pn**	**09 01 39.8**	**-0.5**
YHNB	**Yeheng**	**4.23**	**13**	*e*Pn	**Pn**	**09 01 40.4**	**-1.1**
TATO	**Taipei**	**4.55**	**13**	*e*Pn	**Pn**	**09 01 47.9**	**+2.1**
TATO				*e*Sn	**Sn**	**09 02 41.8**	**+3.9**
YOJ	**Yonaguni jima**	**4.63**	**32**	P	**Pn**	**09 01 46.6**	**-0.4**
YOJ				S	**Sn**	**09 02 37.4**	**-2.5**
QZH	**Quanzhou**	**4.67**	**340**	*e*P	**Pn**	**09 01 44.9**	**-2.6**
QZH				Smax			
	comp=N,170nm,1.0s						
QZH				Smax			
	comp=E,190nm,0.9s						
QZH				LR	LR		
	comp=N,2μm,11.2s						
QZH				LR	LR		
	comp=E,3μm,10.7s						
QZH				LR	LR		
	comp=Z,2μm,12.2s						
HATJ	**Hateruma jima**	**4.76**	**42**	P	**Pn**	**09 01 48.8**	**0.0**
HATJ				S	**Sn**	**09 02 39.6**	**-3.5**
BALP	**Baler**	**4.91**	**166**	*e*P	**Pn**	**09 01 52.0**	**+1.3**
IRIF	**Iriomote-Funau**	**4.93**	**39**	P	**Pn**	**09 01 50.6**	**-0.4**
IRIF				S	**Sn**	**09 02 45.2**	**-1.9**
JKRS	**Kuro-shima**	**5.02**	**42**	P	**Pn**	**09 01 52.6**	**+0.3**
JKRS				*e*S	**Sn**	**09 02 48.7**	**-0.8**
JIJ	**Ishigaki jima**	**5.20**	**42**	P	**Pn**	**09 01 54.2**	**-0.5**
JIJ				S	**Sn**	**09 02 50.4**	**-3.4**
JTJ	**Tarama**	**5.75**	**44**	P	**Pn**	**09 02 02.3**	**0.0**
JTJ				S	**Sn**	**09 03 04.7**	**-2.8**
POLP	**Polilio Island**	**5.97**	**165**	*e*P	**Pn**	**09 02 10.3**	**+5.0**
JOGS	**Gusukube**	**6.30**	**47**	*e*S	**Sn**	**09 03 18.4**	**-2.7**
LUBP	**Lubang**	**6.76**	**181**	*e*P	**Pn**	**09 02 17.9**	**+1.8**
PVCP	**Virac**	**7.81**	**151**	⇑*i* P	**Pn**	**09 02 30.3**	**-0.3**
ENPP	**El Nido**	**9.31**	**185**	⇓*i* P	**Pn**	**09 02 49.9**	**-1.3**
JOW	**Kunigami**	**9.61**	**48**	Pn	**Pn**	**09 02 54.8**	**-0.6**
	comp=Z,1.6nm,0.3s,baz=200,slow=14,SNR=8.3						
QIZ	**Qiongzhong**	**9.98**	**263**	P	**Pn**	**09 02 59.8**	**-0.6**
QIZ				S	**Sn**	**09 04 50.1**	**-1.5**
QIZ				LR	LR		
	comp=E,928nm,11.2s						
QIZ				LR	LR		
	comp=Z,1μm,11.2s						
QIZ	**Qiongzhong**	**9.98**	**263**	*e*Pn	**Pn**	**09 02 57.0**	**-3.4**
SSE	**Sheshan**	**10.55**	**4**	*e*P	**Pn**	**09 03 10.1**	**+1.9**
SSE				AP		09 03 17.6	
SSE				PP		09 03 19.0	
SSE				XP		09 03 20.8	
SSE				S	**Sn**	**09 05 05.3**	**-0.1**
SSE				AMB	AMB		
	comp=Z,19nm,0.8s						
SSE				AMB	AMB		
	comp=Z,24nm,3.5s						
SSE				LR	LR		
	comp=N,301nm,16.0s						
SSE				LR	LR		
	comp=E,534nm,16.0s						
SSE				LR	LR		
	comp=Z,451nm,12.1s						
NJ2	**Nanjing**	**11.55**	**354**	*e*P	**Pn**	**09 03 26.3**	**+4.5**
NJ2				AP		09 03 34.0	
NJ2				PP		09 03 35.6	
NJ2				XP		09 03 37.9	
NJ2				S	**Sn**	**09 05 35.0**	**+5.0**
NJ2				XS		09 05 44.5	
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,230nm,5.2s						
NJ2				LR	LR		
	comp=N,1μm,13.0s						
NJ2				LR	LR		
	comp=E,1μm,13.5s						
NJ2				LR	LR		
	comp=Z,1μm,13.6s						
GYA	**Guiyang**	**13.85**	**298**	P	**Pn**	**09 03 52.0**	**-1.3**
GYA				AP		09 04 01.8	
GYA				PP		09 04 06.8	
GYA				S	**Sn**	**09 06 26.0**	**-0.2**
GYA				XS		09 06 37.8	
GYA				SS		09 06 42.6	
GYA				PCP	PcP	09 09 17.5	+2.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s						
GYA				AMB	AMB		
	comp=Z,120nm,5.4s						
GYA				LR	LR		
	comp=N,1μm,11.3s						
GYA				LR	LR		
	comp=E,320nm,11.3s						
GYA				LR	LR		
	comp=Z,1μm,12.0s						
JNU	**Nakatsue**	**15.67**	**35**	P	**Pn**	**09 04 18.6**	**+0.9**
JNU	**Nakatsue**	**15.67**	**35**	Pn	**Pn**	**09 04 16.2**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=150,slow=8.1,SNR=3.3						
JNU				LR	LR	09 10 38.6	
	comp=Z,173nm,20.2s,baz=227,slow=38						
XAN	**Xi'an**	**16.83**	**325**	P	**Pn**	**09 04 33.6**	**+1.2**
XAN				AP	pP	09 04 43.5	+1.9
XAN				PP		09 04 49.8	
XAN				S	**Sn**	**09 07 37.6**	**-1.0**
XAN				XS	sS	09 07 47.9	-12
XAN				SS		09 08 00.0	
XAN				AMB	AMB		
	comp=Z,10.0nm,1.2s						
XAN				AMB	AMB		
	comp=Z,43nm,4.4s						
XAN				LR	LR		
	comp=N,363nm,11.5s						
XAN				LR	LR		
	comp=E,587nm,10.1s						
XAN				LR	LR		
	comp=Z,880nm,11.1s						
KMI	**Kunming**	**16.84**	**289**	P	**Pn**

CD2 AMB AMB
comp=Z,150nm,5.8s
CD2 LR LR
comp=N,1μm,13.2s
CD2 LR LR
comp=E,1μm,16.8s
CD2 LR LR
comp=Z,690nm,13.2s
JHS Saijyo 18.30 35 P **Pn 09 04 50.7 +0.1**
DL2 Dalian 18.35 3 *eP* **Pn 09 04 56.0 +4.8**
DL2 AMB AMB
comp=Z,10.0nm,1.0s
DL2 LR LR
comp=N,170nm,13.0s
DL2 LR LR
comp=E,440nm,13.7s
DL2 LR LR
comp=Z,210nm,15.5s
JWZ Kozaga 18.83 43 P **Pn 09 04 58.4 +1.3**
BJT Baijiatuau 19.75 351 *eP* **Pn 09 05 07.7 -0.3**
BJT pmax pmax
comp=Z,21nm,0.8s
BJT Baijiatuau 19.75 351 *eP* **Pn 09 05 07.7 -0.3**
comp=Z,21nm,0.8s
BJI Beijing 19.77 351 P **Pn 09 05 07.5 -0.8**
BJI S **Sn 09 08 45.3 -4.3**
BJI AMB AMB
comp=Z,37nm,1.4s
BJI LR LR
comp=N,444nm,14.1s
BJI LR LR
comp=E,434nm,16.7s
BJI LR LR
comp=Z,188nm,15.0s
JWT Wachi 19.80 39 P **Pn 09 05 08.9 +0.2**
JIE Ise 20.01 43 P **P 09 05 10.7 +1.4**
CHTO Chiang Mai 20.21 269 *eP* **P 09 05 10.9 -0.7**
CBIJ Chichi jima 21.02 68 P **P 09 05 19.6 -0.8**
comp=Z,24nm,0.5s,mb4.8,baz=284,slow=19,SNR=4.2
CBIJ LR LR 09 11 50.2
comp=Z,133nm,19.2s,MS3.3,baz=263,slow=32
LZH Lanzhou 21.18 321 *eP* **P 09 05 23.3 +1.3**
LZH AP 09 05 32.4
LZH XP sP 09 05 36.0 +3.1
LZH PP 09 05 49.1
LZH *e*S **S 09 09 08.3 -7.9**
LZH XS sS 09 09 26.0 -2.0
LZH AMB AMB
comp=Z,27nm,1.3s,mb4.4
LZH AMB AMB
comp=Z,207nm,8.1s
LZH LR LR
comp=N,365nm,7.8s
LZH LR LR
comp=Z,579nm,9.8s
JGF Kuroka 21.20 41 P **P 09 05 23.1 +0.9**
JHJ Hachijo jima 2 21.37 50 P **P 09 05 24.6 +0.5**
comp=Z,65nm,0.7s,mb5.0,baz=225,slow=11,SNR=2.5
JHJ LR LR 09 12 48.8
comp=Z,215nm,18.4s,MS3.6,baz=256,slow=34
HHC Hu-ho-hao-te 21.59 342 *eP* **P 09 05 27.8 +1.5**
HHC AP 09 05 37.1
HHC XP sP 09 05 41.0 +3.8
HHC PP 09 05 53.4
HHC S **S 09 09 22.5 -1.6**
HHC PCP PcP 09 09 29.3 +1.6
HHC XS sS 09 09 34.3 -1.6
HHC SS 09 09 57.8
HHC AMB AMB
comp=Z,44nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,246nm,5.7s
HHC LR LR
comp=N,1μm,11.4s,MS4.5
HHC LR LR
comp=E,852nm,15.9s,MS4.5
HHC LR LR
comp=Z,571nm,12.0s,MS4.2
MAJO Matsushiro 22.33 41 *eP* **P 09 05 31.7 -2.6**
MAJO pmax pmax
comp=Z,47nm,1.0s,mb4.9
MAJO Matsushiro 22.33 41 *eP* **P 09 05 31.7 -2.6**
comp=Z,47nm,1.0s,mb4.9
MAT Matsushiro 22.33 41 P **P 09 05 35.3 +1.0**
MAT S **S 09 09 43.0 +4.4**
MAT Matsushiro 22.33 41 P **P 09 05 35.2 +0.9**
MJAR Matsushiro Arr 22.33 41 P **P 09 05 32.6 -1.7**
comp=Z,6.3nm,0.7s,mb4.2,baz=229,slow=9.3,SNR=24
JRY Ryogami san 22.43 43 P **P 09 05 35.1 -0.3**
CN2 Changchun 23.60 9 *eP* **P 09 05 49.5 +2.1**
CN2 *e*XP sP 09 06 02.8 +4.3
CN2 *e*S **S 09 09 59.3 -0.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.4
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,400nm,12.0s,MS4.2
CN2 LR LR
comp=E,400nm,12.0s,MS4.2
CN2 LR LR
comp=Z,300nm,16.0s,MS3.9
GUMO Guam 24.44 102 *eP* **P 09 05 56.6 +1.2**
GUMO *e**PP 09 06 05.4
GUMO pmax pmax
comp=Z,211nm,1.0s,mb5.5
GUMO Guam 24.44 102 *eP* **P 09 05 56.5 +1.2**
comp=Z,211nm,1.0s,mb5.5
GUMO *ep*P 09 06 05.4
GUMO LR LR 09 15 31.7
GUMO Guam 24.44 102 P **P 09 05 55.3 0.0**
comp=Z,66nm,0.7s,mb5.2,baz=154,slow=4.2,SNR=4.2
GUMO LR LR 09 15 31.7
comp=Z,142nm,18.0s,MS3.5,baz=290,slow=37
JYA Atsumi 24.58 39 P **P 09 05 56.7 +0.3**
JMM Marumori 24.76 41 P **P 09 05 57.5 -0.6**
MDJ Mudanjiang 25.22 16 P **P 09 06 04.0 +1.8**
MDJ AMB AMB
comp=Z,17nm,0.8s,mb4.6
MDJ AMB AMB
comp=Z,75nm,4.1s
MDJ LR LR
comp=N,46nm,24.4s,MS3.4
MDJ LR LR
comp=E,131nm,19.7s,MS3.4
MDJ LR LR
comp=Z,93nm,13.9s
MDJ Mudanjiang 25.22 16 *eP* **P 09 06 03.0 +0.8**
comp=Z,12nm,0.7s,mb4.5
MDJ *ep*P pP 09 06 13.0 +2.9
KAPI Kappang 25.39 181 P **P 09 06 02.4 -1.6**
comp=Z,8.2nm,0.9s,mb4.3,baz=42,slow=18
GTA Gaotai 25.77 321 *eP* **P 09 06 07.1 -0.2**
GTA AP pP 09 06 16.3 +1.1
GTA XP sP 09 06 20.6 +2.0
GTA PP 09 06 48.1
GTA PCP PcP 09 09 37.3 +0.7
GTA S **S 09 10 32.5 -2.3**
GTA XS sS 09 10 48.1 +0.1
GTA SS 09 11 40.9
GTA SCP ScP 09 13 18.0 +3.6
GTA PCS PcS 09 13 20.4 +3.1
GTA SCS ScS 09 17 04.3 +0.6
GTA AMB AMB
comp=Z,11nm,1.4s,mb4.2
GTA AMB AMB
comp=Z,94nm,6.9s
GTA LR LR
comp=N,213nm,16.8s,MS4.0
GTA LR LR
comp=E,295nm,14.9s,MS4.0
GTA LR LR
comp=Z,220nm,13.0s,MS3.9
JOM Ohasama 26.08 39 P **P 09 06 09.7 -0.4**
SONM Songino Array 29.48 341 P **P 09 06 40.6 +0.3**
comp=Z,4.2nm,0.9s,mb4.2,baz=159,slow=9.1,SNR=12
SONM LR LR 09 18 31.3
comp=Z,124nm,18.1s,MS3.6,baz=162,slow=36
ASAJ Asahikawa 29.94 33 LR LR 09 19 32.8
comp=Z,137nm,19.4s,MS3.6,baz=224,slow=38
KLR Kul'dur 30.06 15 *eP* **P 09 06 43.2 -2.3**
KLR MLR MLR
comp=N,600nm,12.5s
KLR MLR MLR
comp=Z,2μm,12.5s,MS4.8

BATI Kupang 30.72 174 P **P 09 06 50.8 -0.8**
comp=Z,33nm,0.8s,mb5.2,baz=172,slow=1.6,SNR=5.5
YSS Yuzh-Sakhalins 32.06 29 *eP* **P 09 07 11.5 +8.3**
GUN Gumba 32.18 290 *eP* **P 09 07 03.9 -0.6**
comp=Z,57nm,0.9s,mb5.4
PKI Pulchoki 32.57 289 *eP* **P 09 07 06.8 -1.1**
KKN Kakani 32.70 290 *eP* **P 09 07 08.9 -0.1**
ZAK Zakamensk 32.70 340 *eP* **P 09 07 08.4 -0.3**
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
DMN Daman 32.84 289 *eP* **P 09 07 09.7 -0.5**
comp=Z,49nm,1.1s,mb5.4
GKN Gorkha 33.29 290 *eP* **P 09 07 13.2 -0.9**
KOLN Koldanda 34.18 289 *eP* **P 09 07 21.1 -0.8**
comp=Z,48nm,0.9s,mb5.4
MOY Mondy 34.56 339 *eP* **P 09 07 25.3 +0.5**
KAKA Kakadu 35.11 159 *eP* **P 09 07 30.8 +0.8**
WMQ Urumqi 35.72 318 P **P 09 07 35.0 0.0**
WMQ AP pP 09 07 45.0 +2.0
WMQ XP sP 09 07 49.0 +2.6
WMQ PP PP 09 08 56.0 -0.3
WMQ S **S 09 13 08.0 -2.2**
WMQ SS SS 09 15 28.0 -18
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,64nm,4.0s
WMQ LR LR
comp=N,238nm,14.0s,MS4.2
WMQ LR LR
comp=E,178nm,14.0s,MS4.2
WMQ LR LR
comp=Z,127nm,14.0s,MS3.8
FITZ Fitzroy Crossi 38.74 172⇓ *i P* **P 09 07 59.3 -1.5**
comp=Z,21nm,1.0s,mb4.8
FITZ Fitzroy Crossi 38.74 172 P **P 09 07 59.4 -1.4**
comp=Z,7.8nm,0.8s,mb4.5,baz=15,slow=8.4,SNR=14
MK31 Makanchi Array 40.49 319 *i P* **P 09 08 15.3 +0.2**
MK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
MK31 Makanchi Array 40.49 319 *eP* **P 09 08 15.4 +0.3**
MKAR Makanchi Array 40.49 319 P **P 09 08 15.4 +0.2**
comp=Z,9.1nm,0.7s,mb4.6,baz=110,slow=10,SNR=78
MKAR PcP PcP 09 10 17.5 0.0
comp=Z,1.7nm,0.8s,baz=101,slow=5.1,SNR=3.8
YAK Yakutsk 41.97 7 *eP* **P 09 08 26.4 -0.7**
YAK pmax pmax
comp=Z,13nm,0.6s,mb4.7
WRAB Tennant Creek 42.49 160 P **P 09 08 31.0 -0.8**
comp=Z,335nm,1.1s,mb5.9,SNR=13
WRAB Tennant Creek 42.49 160 *d iP* **P 09 08 31.0 -0.8**
WRAB Tennant Creek 42.49 160 *eP* **P 09 08 31.2 -0.5**
comp=Z,60nm,1.0s,mb5.2
WRA Warramunga Arr 42.50 160 P **P 09 08 31.1 -0.7**
comp=Z,24nm,0.7s,mb4.9,baz=342,slow=8.9,SNR=129
WRA PcP PcP 09 10 24.4 0.0
comp=Z,5.6nm,0.6s,baz=343,slow=3.6,SNR=6.4
WB2 Warramunga Arr 42.50 160⇓ *i P* **P 09 08 31.0 -0.9**
WB2 *e*S **S 09 14 52.9 +0.4**
ULHL Ulahol 42.83 311 P **P 09 08 36.0 +1.7**
SNR=18
ZAA0 Zalesovo Array 42.93 330 *eP* **P 09 08 34.6 -0.4**
ZALV Zalesovo Beam 42.93 330 P **P 09 08 34.6 -0.4**
comp=Z,12nm,0.7s,mb4.7,baz=116,slow=7.8,SNR=47
ZALV LR LR 09 26 39.2
comp=Z,45nm,18.3s,MS3.4,baz=104,slow=36
ZAL Zalesovo 42.93 330 P **P 09 08 34.6 -0.4**
TKM2 Tokmak 2 43.47 311 P **P 09 08 40.8 +1.2**
SNR=9.8
KZA Kyzart 43.49 310 P **P 09 08 41.6 +1.9**
SNR=19
PET Petropavlovsk 43.78 33 *eP* **P 09 08 47.0 +5.1**
PET *e*S **S 09 15 10.8 +0.1**
PET pmax pmax
comp=Z,11nm,0.7s,mb4.7
PET MLR MLR
comp=Z,100nm,16.0s,MS3.8
KBK Karagaybulak 43.86 311 P **P 09 08 44.3 +1.6**
SNR=7.7
UCH Uchtor 44.06 310 *eP* **P 09 08 46.2 +1.9**
comp=Z,24nm,1.1s,mb4.8
UCH Uchtor 44.06 310 P **P 09 08 46.3 +2.0**
SNR=24
FRU Bishkek 44.14 311 *eP* **P 09 08 46.0 +1.0**
NVS Novosibirsk 44.20 330 *eP* **P 09 08 44.3 -1.0**
KURK Kurchatov 44.44 323 P **P 09 08 47.4 +0.2**
comp=Z,106nm,1.1s,mb5.5,SNR=13
KURK Kurchatov 44.44 323 *d iP* **P 09 08 45.8 -1.4**
KURK Kurchatov 44.44 323 *eP* **P 09 08 47.2 0.0**
comp=Z,29nm,0.8s,mb5.1
AML Almayashu 44.62 310 P **P 09 08 50.6 +1.8**
SNR=17
MA2 Magadan 44.66 22 *eP* **P 09 08 49.9 +1.1**
MA2 pmax pmax
comp=Z,24nm,1.3s,mb4.9
EKS2 Erkin-Say 44.70 310 P **P 09 08 50.6 +1.2**
SNR=5.7
ASAR Alice Springs 45.88 163 P **P 09 08 58.8 -0.1**
comp=Z,8.6nm,0.7s,mb4.8,baz=349,slow=7.5,SNR=134
KK31 Karatay Array 47.13 310 *i P* **P 09 09 08.9 +0.3**
KK31 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CTA Charters Tower 47.68 146 *eP* **P 09 09 14.9 +1.8**
comp=Z,13nm,0.5s,mb5.2
CTA Charters Tower 47.68 146 P **P 09 09 13.4 +0.3**
comp=Z,11nm,0.9s,mb4.9,baz=311,slow=9.3,SNR=5.4
CTAO Charters Tower 47.68 146 *eP* **P 09 09 15.3 +2.2**
CTAO *e**SP sP 09 09 27.3 +2.7
CTAO pmax pmax
comp=Z,156nm,2.0s,mb5.7
CTAO Charters Tower 47.68 146 *eP* **P 09 09 15.3 +2.3**
comp=Z,156nm,2.0s,mb5.7
CTAO *ep*P pP 09 09 23.0 +1.7
CTAO *es*P sP 09 09 27.3 +2.7
HNR Honiara 49.04 124 LR LR 09 25 54.4
comp=Z,102nm,19.1s,MS3.8,baz=359,slow=31
BRVK Borovoye 50.11 323 *eP* **P 09 09 30.4 -1.0**
BRVK *e**PP pP 09 09 41.9 +2.3
BRVK pmax pmax
comp=Z,17nm,1.1s,mb5.0
BRVK Borovoye 50.11 323 *eP* **P 09 09 30.4 -1.0**
comp=Z,17nm,1.1s,mb5.0
BRVK *ep*P pP 09 09 41.9 +2.3
TIXI Tiksi 51.37 3 *eP* **P 09 09 39.9 -0.7**
TIXI pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TIXI Tiksi 51.37 3 *eP* **P 09 09 39.9 -0.7**
comp=Z,5.9nm,0.9s,mb4.5
FORT Forrest 51.55 171 *eP* **P 09 09 42.5 +0.1**
comp=Z,24nm,0.7s,mb5.2
KLBR Kellerberrin 51.88 183 *eP* **P 09 09 43.4 -1.4**
comp=Z,54nm,1.3s,mb5.3
NWAO Narrogin (SRO) 53.23 183 P **P 09 09 53.6 -1.2**
comp=Z,12nm,0.9s,mb4.8,baz=5.6,slow=8.6,SNR=3.8
EIDS Eidsvold 54.54 145 *eP* **P 09 10 08.7 +4.2**
BILL Bilibino 55.38 19⇓ *eP* **P 09 10 11.7 +1.7**
BILL *e* 09 12 12.0
BILL *es*S **S 09 17 55.9 +3.4**
BILL pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.0
BILL Bilibino 55.38 19 *eP* **P 09 10 11.7 +1.7**
comp=Z,5.1nm,0.8s,mb4.6
STKA Stephens Creek 55.95 158⇓ *i P* **P 09 10 14.6 0.0**
comp=Z,5.9nm,0.5s,mb4.9
STKA Stephens Creek 55.95 158 *eP* **P 09 10 15.0 +0.5**
comp=Z,11nm,0.8s,mb4.9
STKA Stephens Creek 55.95 158 P **P 09 10 14.9 +0.3**
comp=Z,6.9nm,0.7s,mb4.8,baz=333,slow=7.1,SNR=20
SVE Sverdlovsk 56.55 325 *eP* **P 09 10 19.1 +0.5**
SVE pmax pmax
comp=Z,34nm,1.1s,mb5.3
ARU Arti 57.57 325 *eP* **P 09 10 25.5 -0.3**
ARU pmax pmax
comp=Z,13nm,0.9s,mb5.0
ARU Arti 57.57 325 *eP* **P 09 10 25.5 -0.3**
comp=Z,14nm,0.9s,mb5.0
ARMA Armidale 58.92 148 *eP* **P 09 10 41.7 +6.1**
CNB Canberra Magne 61.99 153 *eP* **P 09 11 03.8 +7.3**
comp=Z,9.4nm,0.6s,mb5.1
TOO Toolangi 62.46 158⇓ *i P* **P 09 11 00.5 +1.0**
comp=Z,107nm,0.7s,mb6.1
TOO Toolangi 62.46 158⇓ *i P* **P 09 11 00.5 +1.0**

TOO pmax pmax
comp=Z,107nm,0.7s,mb6.1
KIV Kislovodsk 67.29 310 *eP* **P 09 11 31.4 +0.3**
KIV pmax pmax
comp=Z,19nm,0.8s,mb5.2
TMCR Tamitsa 68.38 332 *eP* **P 09 11 35.2 -2.3**
TMCR *e* 09 11 59.8
TMCR pmax pmax
comp=Z,24nm,1.1s,mb5.1
TTA Tatalina 69.06 29 *eP* **P 09 11 43.4 +1.6**
TTA *e**PP pP 09 11 52.7 +2.3
SOC Sochi 69.47 310 *eP* **P 09 11 42.2 -2.5**
SOC *e*S S 09 20 44.4 -6.2
SOC *e*SS SS 09 25 11.9 -6.0
SOC pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
SOC MLR MLR
comp=Z,203nm,16.0s,MS4.5
IMA2 Indian Mountai 69.82 26 *eP* **P 09 11 47.6 +1.2**
OBN Obninsk 69.89 323⇓ *eP* **P 09 11 46.2 -0.8**
OBN *e*S S 09 21 00.5 +5.5
OBN pmax pmax
comp=Z,25nm,1.2s,mb5.0
MALT Malatya 71.39 305 *eP* **P 09 11 57.7 +1.1**
MALT pmax pmax
comp=Z,17nm,1.1s,mb4.9
MALT Malatya 71.39 305 *eP* **P 09 11 57.7 +1.2**
comp=Z,17nm,1.1s,mb4.9
MALT Malatya 71.39 305⇓ *i P* **P 09 11 57.8 +1.2**
JOF Joensuu 71.50 331 *ep* **P 09 11 50.6 -6.1**
MCK McKinley 72.13 28 *eP* **P 09 12 01.9 +1.4**
MCK pmax pmax
comp=Z,22nm,1.1s,mb5.0
MCK McKinley 72.13 28 *eP* **P 09 12 01.9 +1.3**
comp=Z,22nm,1.1s,mb5.0
PMR Palmer 72.43 30 *eP* **P 09 12 03.1 +0.8**
PMR pmax pmax
comp=Z,13nm,1.0s,mb4.8
PMR Palmer 72.43 30 *eP* **P 09 12 03.1 +0.8**
comp=Z,13nm,1.0s,mb4.8
ARCES ARCESS Array B 72.62 338 P **P 09 12 02.8 -0.6**
comp=Z,2.9nm,0.9s,mb4.2,baz=54,slow=7.9,SNR=3.3
ASF Jabal al Asfar 74.00 299 P **P 09 12 12.9 +0.7**
comp=Z,0.9nm,0.3s,mb4.1,baz=36,slow=2.8,SNR=5.6
FINES FINESS Array B 74.19 330 P **P 09 12 12.7 -0.1**
comp=Z,5.8nm,0.8s,mb4.5,baz=102,slow=8.0,SNR=16
VSU Vasula 74.59 327 *eP* **P 09 12 14.6 -0.5**
MMAI Mount Meron Ar 75.00 300 P **P 09 12 18.2 +0.2**
comp=Z,1.6nm,0.3s,mb4.4,baz=348,slow=21,SNR=4.7
AKASG Malin Array Be 75.07 319 P **P 09 12 16.9 -1.1**
AKASG Malin Array Be 75.07 319 P **P 09 12 16.9 -1.1**
comp=Z,4.9nm,0.8s,mb4.5,baz=61,slow=6.1,SNR=17
EGAK Eagle 75.20 26 *eP* **P 09 12 19.2 +0.8**
comp=Z,7.8nm,0.9s,mb4.6
DAWY Dawson 76.14 26 *eP* **P 09 12 25.0 +1.1**
DAWY *ep*P pP 09 12 34.7 +2.1
EIL Elat 76.26 297 P **P 09 12 24.8 -0.5**
comp=Z,6.1nm,1.1s,mb4.5,baz=60,slow=8.7,SNR=4.5
INK Inuvik 76.90 22 *eP* **P 09 12 28.9 +0.8**
comp=Z,308nm,1.2s,mb6.1
TIRR Tirgusor 77.24 313⇑ *i P* **P 09 12 23.8 -6.7**
SUW Suwalki 77.72 323 *eP* **P 09 12 33.0 0.0**
SUW Suwalki 77.72 323 *eP* **P 09 12 33.0 0.0**
VRI Vrincioaia 77.98 315⇓ *i P* **P 09 12 35.1 +0.5**
BURAR Bucovina Array 78.45 317⇑ *i P* **P 09 12 37.6 +0.4**
MLR Muntele Rosu 78.61 314⇑ *i P* **P 09 12 38.7 +0.6**
KWP Kalwaria 79.39 319 *eP* **P 09 12 42.5 +0.2**
KWP Kalwaria 79.39 319 *eP* **P 09 12 42.5 +0.2**
SKAG Skagway 79.56 30 *eP* **P 09 12 44.7 +1.6**
OJC Ojcow 80.96 320 *eP* **P 09 12 50.7 0.0**
NB2 NORSAR Subarra 81.07 332 P **P 09 12 50.1 -1.0**
comp=Z,1.1nm,0.6s,mb4.0,baz=64,slow=5.3
NOA NORSAR Array B 81.07 332 P **P 09 12 50.4 -0.8**
comp=Z,1.3nm,0.6s,mb4.0,baz=64,slow=5.1,SNR=6.0
VTS Vitosha 81.41 312⇓ *i P* **P 09 12 53.9 +0.6**
OPO Ambohidratompo 81.52 247 P **P 09 12 53.7 -0.4**
comp=Z,5.0nm,1.2s,mb4.3,baz=69,slow=9.2,SNR=3.8
PSZ Piszkesteto 81.73 318 *eP* **P 09 12 54.6 -0.3**
RES Resolute Bay 82.38 9 *eP* **P 09 12 58.0 +0.2**
comp=Z,192nm,1.0s,mb6.0
MORC Moravsky Berou 82.47 320 *eP* **P 09 12 59.4 +0.7**
DPC Dobruska-Polom 82.97 321 *eP* **P 09 13 02.0 +0.7**
PRU Pruhonice 84.16 321 *eP* **P 09 13 08.1 +0.7**
GERES GERESS Array B 85.15 321 P **P 09 13 12.4 0.0**
comp=Z,0.9nm,0.6s,mb4.1,baz=58,slow=3.3,SNR=7.6
YKA Yellowknife Ar 86.63 22 P **P 09 13 19.7 +0.2**
comp=Z,3.1nm,0.8s,mb4.6,baz=315,slow=4.7,SNR=47
EDM Edmonton 93.17 29 *eP* **P 09 13 51.5 +1.1**
PTRM Twissleman Ran 99.97 46 *e*Pdif Pdif 09 14 20.9 -0.3
TORD Torodi Ar. Bea 111.02 294 PKiKP PKiKP 09 19 08.9 -1.5
comp=Z,0.6nm,0.8s,baz=78,slow=1.3,SNR=3.6
TXAR Lajitas Array 114.76 42 PKP PKiKP 09 19 17.4 +0.1
comp=Z,0.7nm,0.8s,baz=224,slow=0.9,SNR=7.8
SDV Santo Domingo 148.85 21 *e*PKPdf PKPdf 09 20 20.4 -0.5
SDV *e*PKPbc PKPbc 09 20 23.9 -0.8
LPAZ La Paz 170.93 64 PKP PKPdf 09 20 46.2 +0.9
LPAZ *e*PKPdf PKPdf 09 20 46.9 +1.7
LPAZ La Paz 170.93 64 PKP PKPdf 09 20 46.2 +0.9
comp=Z,1.3nm,1.0s,baz=349,slow=3.3,SNR=5.3

IDC 14 09:04:12.7±9.6, 3071S×17940W, h354km±107km, mb3.1/2, mb1 3.5/3, mb1mx3.2/12, mbtmp3.3/3, Error ellipse: s-maj=106.3km s-min=41.4km az=3.0
ISC 14 09:04:08.6±1.6,**308S**±02×**1786W**±05,**h372**km±25km,**n21**, σ0§90/25,**mb3.1/2**,**Kermadec Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**7.19**	**200**	*e*PN	**Pn**	**09 05 55.5**	**+2.0**
PUZ	**Puketiti**	**7.68**	**199**	*e*PN	**Pn**	**09 05 58.4**	**-0.8**
PUZ				SN	**S**	**09 07 29.0**	**-0.5**
MWZ	**Matawai**	**8.14**	**202**	*e*PN	**Pn**	**09 06 03.5**	**-1.1**
MWZ				SN	**S**	**09 07 40.2**	**+0.9**
URZ	**Urewera**	**8.21**	**204**	P	**Pn**	**09 06 08.2**	**+2.8**
	8.0nm,0.3s,baz=273,slow=2.6,SNR=50						
URZ				S	**S**	**09 07 40.8**	**-0.1**
	6.2nm,0.3s,baz=271,slow=21,SNR=19						
URZ	**Urewera**	**8.21**	**204**	PN	**Pn**	**09 06 04.3**	**-1.1**
URZ				SN	**S**	**09 07 40.5**	**-0.3**
KNZ	**Kokohu**	**8.72**	**199**	*e*PN	**Pn**	**09 06 13.2**	**+1.8**
BKZ	**Black Stump Fm**	**9.24**	**204**	*e*PN	**Pn**	**09 06 17.8**	**+0.4**
TSZ	**Takapari Road**	**10.22**	**204**	*e*PN	**Pn**	**09 06 27.8**	**-1.1**
KIW	**Kapiti Island**	**11.30**	**206**	*e*PN	**Pn**	**09 06 41.6**	**-0.1**
MTW	**Mount Morrison**	**11.36**	**203**	PN	**Pn**	**09 06 43.3**	**+1.0**
CAW	**Cannon Point**	**11.46**	**205**	*e*PN	**Pn**	**09 06 43.0**	**-0.6**
SNZO	**South Karori**	**11.77**	**205**	PN	**Pn**	**09 06 47.2**	**0.0**
PLWZ	**Palliser**	**11.81**	**203**	PN	**Pn**	**09 06 48.2**	**+0.6**
TCW	**Tory Channel**	**11.85**	**207**	*e*PN	**Pn**	**09 06 47.5**	**-0.6**
TUWZ	**Tuamarina**	**12.17**	**208**	*e*PN	**Pn**	**09 06 51.0**	**-0.8**
NNZ	**Nelson**	**12.22**	**210**	PN	**Pn**	**09 06 51.7**	**-0.8**
THZ	**Tophouse**	**12.87**	**210**	PN	**Pn**	**09 06 59.3**	**-0.7**
THZ				SN	**S**	**09 09 19.9**	**+0.3**
KHZ	**Kahutara**	**13.16**	**206**	PN	**Pn**	**09 07 03.4**	**-0.1**
ASAR	**Alice Springs**	**42.56**	**268**	P	**P**	**09 11 30.3**	**+0.8**
	0.8nm,0.8s,mb2.9,baz=102,slow=8.6,SNR=3.2						
WRA	**Warramunga Arr**	**43.58**	**273**	P	**P**	**09 11 37.5**	**-0.2**
	0.6nm,0.2s,mb3.3,baz=110,slow=8.1,SNR=10						
FINES	**FINESS Array B**	**145.36**	**339**	PKPbc	PKPab	09 23 06.7	+3.2
	1.7nm,0.3s,baz=49,slow=4.2,SNR=21						

ISCJB 14 09:06:55.6±1.4, 3727N±008×2825E±007, h15km±23km, Error ellipse: s-maj=14.5km s-min=6.4km az=30.8
CSEM 14 09:06:55.4±0.3, 3722N×2819E, h15km, MD2.6, Error ellipse: s-maj=10.1km s-min=4.9km az=29.0
ISK 14 09:06:56.0, 37.14N×28.12E, h5km, MD2.6
ISC 14 09:06:56.2±1.4,**3727N**±008×**2825E**±007,**h10**km±15km,**n7**, σ1§20/11,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.14**	**170**	*e*PG	**Pg**	**09 06 58.8**	**-0.7**
YER				*e*SG	**Sg**	**09 07 01.3**	**-0.4**
MLSB	**Milas**	**0.38**	**273**	*e*PG	**Pg**	**09 07 03.3**	**-0.4**
MLSB				*e*SG	**Sg**	**09 07 10.1**	**+1.3**
AYDN	**Tasoluk**	**0.49**	**322**	*i P*	**Pg**	**09 07 06.2**	**+0.5**
DALT	**Dalyan (Mudla)**	**0.59**	**149**	*e*PG	**Pg**	**09 07 07.9**	**+0.3**
DALT				*e*SG	**Sg**	**09 07 17.2**	**+1.8**
BDRM	**Kayabasi**	**0.68**	**252**	*i P*	**Pg**	**09 07 09.1**	**-0.2**
BDRM				*i* S	**Sg**	**09 07 20.0**	**+1.8**
DAT	**Datca**	**0.77**	**225**	*e*PG	**Pg**	**09 07 08.9**	**-2.1**
BODT	**Bodrum**	**0.78**	**255**	*e*PG	**Pg**	**09 07 09.5**	**-1.8**

CSEM ***14*** *09:18:51.3±0.4, 37.27N×2824E, h20km, MD2.7, Error ellipse: s-maj=9.8km s-min=5.1km az=39.0*
ISK ***14*** *09:18:51.1, 37.30N×2824E, h5km, MD2.7*
ISCJB ***14*** *09:18:53.0±1.1, 37.24N±0.05×2821E±0.017, h10km±8km, Error ellipse: s-maj=12.4km s-min=5.5km az=138.7*
ISC 14 09:18:53.2±1.3, 37.24N±0.05×28.23E±0.06, h11km±12km, n9, σ0.985/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	**Yerkesik**	**0.11**	**157**	*e*PG	**Pg**	**09 18 55.3**	**-0.8**
YER				*e*SG	**Sg**	**09 18 58.2**	**0.0**
MLSB	**Milas**	**0.36**	**279**	*e*PG	**Pg**	**09 18 59.6**	**-0.9**
MLSB				*e*SG	**Sg**	**09 19 06.0**	**+0.7**
AYDN	**Tasoluk**	**0.50**	**327**	*i* P	**Pg**	**09 19 02.8**	**-0.3**
AYDN	**Tasoluk**	**0.50**	**327**	*i* P	**Pg**	**09 19 02.8**	**-0.3**
AYDN				*i* S	**Sg**	**09 19 10.6**	**+0.8**
DALT	**Dalyan (Mudla)**	**0.57**	**145**	*e*PG	**Pg**	**09 19 04.0**	**-0.4**
DALT				*e*SG	**Sg**	**09 19 14.3**	**+2.4**
BDRM	**Kayabasi**	**0.65**	**255**	*i* P	**Pg**	**09 19 05.3**	**-0.5**
BDRM	**Kayabasi**	**0.65**	**255**	*i* P	**Pg**	**09 19 05.3**	**-0.5**
BDRM				*i* S	**Sg**	**09 19 15.2**	**+0.9**
DAT	**Datca**	**0.73**	**226**	*e*PG	**Pg**	**09 19 06.8**	**-0.5**
BODT	**Bodrum**	**0.75**	**257**	*e*PG	**Pg**	**09 19 07.3**	**-0.5**

ISCJB ***14*** *09:31:41.3±0.1, 125N±002×9726E±002, h29km, mb5.4/182, MS5.3/213, Error ellipse: s-maj=3.6km s-min=2.9km az=17.9*
BJI ***14*** *09:31:41.6, 112N×9725E, h39km, mB5.9, mb5.6, Ms5.7, Msz5.6*
GCMT ***14*** *09:31:43.1±0.2, 0.90N×96.98E, h30km, MW5.4/83, Moment Tensor Solution. s75,c134; s83,c136; Duration: 1s2 Moment tensor: Scale 10^17^Nm; Mrr0.95±.03; Mθθ-0.55±.02; Mφφ-0.39±.02; Mrθ0.67±.03; Mrφ0.65±.01; Mθφ-0.57±.03; Best double couple: M0 1.36400×10^17^ NP1:φs313.00000°, δ25.00000°, λ92.00000°. NP2:φs131.00000°, δ65.00000°, λ89.00000°. Principal axes: T 1.2730, Plg70.0000°, Azm39.0000°; N 0.1840, Plg1.0000°, Azm131.0000°; P -1.4560, Plg20.0000°, Azm221.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***14*** *09:31:43.1±0.1, 126N×9725E, h30km, mb5.4/74, MS5.3/168, MW5.5 Error ellipse: s-maj=4.7km s-min=3.2km az=30.0, Moment Tensor Solution. s27 Moment tensor: Scale 10^17^Nm; Mrr1.26; Mθθ-1.42; Mφφ0.16; Mrθ0.83; Mθφ0.37; Mθr-1.06; Best double couple: M0 1.90000×10^17^ NP1:φs259.00000°, δ31.00000°, λ46.00000°. NP2:φs128.00000°, δ68.00000°, λ113.00000°. Principal axes: T 1.9900, Plg60.0000°, Azm71.0000°; N -0.1000, Plg21.0000°, Azm299.0000°; P -1.8900, Plg20.0000°, Azm201.0000°;*
NEIC Felt [III] at Gunungsitoli.
MOS ***14*** *09:31:43.1±0.9, 134N×9733E, h42km, mb5.7/61, MS5.1/53 Error ellipse: s-maj=8.7km s-min=4.5km az=117.2*
IDC ***14*** *09:31:43.2±1.7, 117N×9732E, h33km±12km, mb4.8/25, mb1 4.9/26, mb1mx4.8/27, mbtmp4.8/26, ML4.1/1, MS5.1/20, Ms1 5.1/20, ms1mx5.0/27, Error ellipse: s-maj=13.1km s-min=8.3km az=43.0*
SZGRF ***14*** *09:31:47.6, 132N×9597E, h33km, mb5.4, MS5.0, Off west coast of northern Sumatera, Indonesia*
ISC 14 09:31:43.3±0.1, 124N±002×9724E±002, h31km, h31km±1.1km: pP-P, n895, σ0.996/555, mb5.4/182, MS5.3/213, 175C-113D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.29**	**47**	Pn	**Pn**	**09 32 19.4**	**+0.4**
	52nm,0.3s,baz=218,slow=8.1,SNR=353						
PSI				Sn	**Sn**	**09 32 43.1**	**-3.1**
	228nm,0.3s,baz=177,slow=12,SNR=13						
TSI	**Tuntungan**	**2.61**	**30**	⇑*i*P	**Pn**	**09 32 23.9**	**+0.5**
TSI				*e*S	**Sn**	**09 32 42.0**	**-12**
PPI	**Padang Panjang**	**3.58**	**118**	P	**Pn**	**09 32 36.9**	**+0.2**
	2μm,1.4s						
BSI	**Banda Aceh**	**4.65**	**335**	P	**Pn**	**09 32 48.7**	**-2.8**
	1μm,1.2s						
FRIM	**Kepong**	**4.81**	**66**	⇑P	**Pn**	**09 32 55.5**	**+1.8**
KULM	**Kulim**	**5.27**	**40**	*e*Pn	**Pn**	**09 33 00.9**	**+0.9**
KULM	**Kulim**	**5.27**	**40**	⇑P	**Pn**	**09 33 02.1**	**+2.1**
KGM	**Kluang**	**6.13**	**83**	⇑P	**Pn**	**09 33 14.7**	**+2.9**
MYKOM	**Kota Tinggi**	**6.63**	**85**	⇓P	**Pn**	**09 33 21.9**	**+3.2**
SNG	**Songkhla**	**6.80**	**30**	P	**Pn**	**09 33 20.0**	**-1.0**
	1μm,1.0s						
PKT	**Phuket**	**6.87**	**8**	P	**Pn**	**09 33 21.0**	**-0.9**
KTGM	**Kuala Trenggan**	**7.15**	**55**	⇑P	**Pn**	**09 33 28.2**	**+2.3**
KSI	**Kapahiang**	**7.23**	**132**	P	**Pn**	**09 33 27.5**	**+0.6**
	795nm,0.8s						
TPI	**Tanjungpandan**	**11.14**	**111**	P	**Pn**	**09 34 21.7**	**+1.1**
	148nm,2.0s						
PBA	**Port Blair**	**11.27**	**337**	*e*P	x	09 35 57.4	
PBA				*e*S	x	09 38 35.5	
NNT	**Nongplab**	**11.55**	**12**	P	**Pn**	**09 34 26.3**	**+0.1**
KSM	**Kuching**	**13.07**	**89**	*e*Pn	**Pn**	**09 34 47.5**	**+0.5**
KSM	**Kuching**	**13.07**	**89**	⇑P	**Pn**	**09 34 50.0**	**+3.0**
BTM	**Bintulu**	**15.95**	**83**	⇑P	**Pn**	**09 35 28.2**	**+2.5**
KKTK	**Khon Kaen**	**15.98**	**20**	⇓P	**Pn**	**09 35 28.5**	**+2.5**
	2μm,0.4s						
PALK	**Pallekele**	**17.54**	**290**	*e*P	**Pn**	**09 35 46.7**	**+1.0**
CHG	**Chiang Mai**	**17.55**	**5**	⇑P	**Pn**	**09 35 44.5**	**-1.2**
	79nm,0.7s						
CHTO	**Chiang Mai**	**17.55**	**5**	*e*P	**Pn**	**09 35 44.9**	**-0.8**
CHTO	**Chiang Mai**	**17.55**	**5**	*e*P	**Pn**	**09 35 44.2**	**-1.5**
CHTO	**Chiang Mai**	**17.55**	**5**	P	**Pn**	**09 35 44.9**	**-0.8**
	SNR=12						
CHTO	**Chiang Mai**	**17.55**	**5**	P	**Pn**	**09 35 44.9**	**-0.8**
	SNR=12						
CHTO	**Chiang Mai**	**17.55**	**5**	P	**Pn**	**09 35 44.9**	**-0.8**
	SNR=12						
CHTO	**Chiang Mai**	**17.55**	**5**	Pn	**Pn**	**09 35 44.9**	**-0.8**
	SNR=12						
CHTO				Pn	**Pn**	**09 35 44.9**	**-0.8**
	SNR=12						
NANT	**Nan**	**17.78**	**11**	⇑P	**Pn**	**09 35 47.0**	**-1.6**
	2μm,1.0s						
CHRT	**Chiangrai**	**18.69**	**7**	⇓P	**Pn**	**09 35 58.0**	**-1.7**
	737nm,0.8s						
KKM	**Kota Kinabalu**	**19.53**	**75**	*e*P	**Pn**	**09 36 09.2**	**-0.6**
KDM	**Kudat**	**20.34**	**73**	⇓P	**P**	**09 36 18.8**	**+1.5**
SDKM	**Sandakan**	**20.39**	**77**	⇑P	**P**	**09 36 19.3**	**+1.5**
MDRS	**Chennai**	**20.53**	**306**	*ex*	x	09 36 23.9	
MDRS				*ex*	x	09 40 09.9	
KHKI	**Kahang-Kahang**	**20.65**	**118**	P	**P**	**09 36 21.7**	**+1.1**
	132nm,1.0s						
TSM	**Tawau**	**20.83**	**81**	⇓P	**P**	**09 36 23.6**	**+1.0**
VIS	**Vishakhapatnam**	**21.34**	**321**	*e*P	**P**	**09 36 28.4**	**+0.4**
VIS				AMb	AMB	09 36 31.9	
	comp=Z,327nm,0.8s,mb5.7						
VIS				*ex*	x	09 36 39.3	
	comp=Z,458nm,1.5s						
VIS				*i* x	x	09 40 15.7	
TRD	**Trivandrum**	**21.45**	**290**	*e*P	**P**	**09 36 29.2**	**-0.1**
TRD				AMb	AMB	09 36 32.9	
	comp=Z,115nm,1.4s,mb5.0						
QIZ	**Qiongzhong**	**21.57**	**34**	⇓P	**P**	**09 36 30.4**	**-0.1**
QIZ				S	**S**	**09 40 29.4**	**+1.4**
QIZ				XS	sS	09 40 41.3	-0.1
QIZ				AMB	AMB		
	comp=Z,201nm,1.6s,mb5.3						
QIZ				AMB	AMB		
	comp=Z,1μm,13.3s						
QIZ				LR	LR		
	comp=E,11μm,14.3s						
QIZ				LR	LR		
	comp=Z,10μm,13.3s,MS5.4						
QIZ	**Qiongzhong**	**21.57**	**34**	*e*P	**P**	**09 36 30.2**	**-0.3**
	comp=Z,422nm,1.4s,mb5.7						
QIZ				LR	LR		
	comp=Z,3μm,19.0s,MS4.8						
KOD	**Kodaikanal**	**21.59**	**295**	*e*P	**P**	**09 36 30.5**	**-0.2**
KOD				AMb	AMB	09 36 40.9	
	comp=Z,194nm,1.4s,mb5.3						
PCI	**Palu**	**22.70**	**95**	P	**P**	**09 36 43.4**	**+0.8**
	comp=Z,199nm,1.7s,mb5.3						
PPR	**Puerto Princes**	**23.00**	**68**	⇑*i*P	**P**	**09 36 44.8**	**-0.9**
KAPI	**Kappang**	**23.33**	**106**	P	**P**	**09 36 47.8**	**-1.5**
	comp=Z,254nm,0.6s,mb5.8,SNR=6.7						
KAPI	**Kappang**	**23.33**	**106**	P	**P**	**09 36 48.0**	**-1.3**
	SNR=5.8						
KAPI	**Kappang**	**23.33**	**106**	P	**P**	**09 36 48.0**	**-1.3**
	SNR=5.8						
KAPI	**Kappang**	**23.33**	**106**	P	**P**	**09 36 48.0**	**-1.3**
	SNR=5.8						
KAPI	**Kappang**	**23.33**	**106**	P	**P**	**09 36 48.0**	**-1.3**
	SNR=5.8						
KAPI				P		09 36 48.0	
	SNR=5.8						
KAPI	**Kappang**	**23.33**	**106**	P	**P**	**09 36 47.3**	**-2.1**
	comp=Z,25nm,0.7s,mb4.8,baz=292,slow=8.4,SNR=16						
KAPI				ScP	ScP	09 44 09.3	-2.6
	comp=Z,5.5nm,0.5s,baz=8.0,slow=22,SNR=4.8						
IMP	**Imphal**	**23.63**	**352**	*e*P	**P**	**09 36 52.0**	**0.0**
IMP				*ex*	x	09 41 04.0	
KMI	**Kunming**	**24.34**	**12**	P	**P**	**09 36 59.8**	**+1.4**
KMI				AP		09 37 06.5	
KMI				XP	sP	09 37 09.4	-1.8
KMI				PP		09 37 32.8	
KMI				S	**S**	**09 41 14.3**	**-1.6**
KMI				XS	sS	09 41 25.9	-4.8
KMI				SS		09 42 08.1	
KMI				AMB	AMB		
	comp=Z,673nm,1.2s,mb6.0						
KMI				AMB	AMB		
	comp=Z,3μm,4.6s						
KMI				LR	LR		
	comp=N,22μm,15.9s,MS5.8						
KMI				LR	LR		
	comp=E,7μm,14.3s,MS5.8						
KMI				LR	LR		
	comp=Z,23μm,15.3s,MS5.8						
HYB	**Hyderabad**	**24.41**	**312**	*e*P	**P**	**09 37 00.5**	**+1.2**
HYB				*e*S	**S**	**09 41 22.0**	**+4.7**
HYB				pmax	pmax		
	comp=Z,125nm,1.0s,mb5.3						
HYB	**Hyderabad**	**24.41**	**312**	*e*P	**P**	**09 37 00.5**	**+1.2**
	comp=Z,125nm,1.0s,mb5.3						
HYB				*e*S	**S**	**09 41 22.0**	**+4.7**
HYB	**Hyderabad**	**24.41**	**312**	⇑*i*P	**P**	**09 37 00.5**	**+1.2**
	comp=Z,125nm,1.0s,mb5.3						
HYB				*es*P	sP	09 37 13.5	+1.4
HYB				*e*S	**S**	**09 41 17.0**	**-0.3**
HYB				LR	LR	09 46 12.0	
	comp=Z,4.1nm,18.0s						
SHL	**Shillong**	**24.73**	**348**	*i* P	**P**	**09 37 02.0**	**-0.1**
SHL				*ex*	x	09 41 21.0	
BOK	**Bokaro**	**24.98**	**335**	*e*P	**P**	**09 37 06.0**	**+1.6**
BOK				AMb	AMB	09 37 07.7	
	comp=Z,546nm,0.8s,mb6.2						
BOK				*i* S	**S**	**09 41 28.7**	**+2.4**
BLSP	**Bilaspur**	**25.45**	**326**	*e*P	**P**	**09 37 09.8**	**+1.2**
BLSP				AMb	AMB	09 37 12.9	
	comp=Z,214nm,1.2s,mb5.5						
SHBG	**Sahibganj**	**25.57**	**340**	*e*P	**P**	**09 37 10.5**	**+0.8**
KDI	**Kendari**	**25.89**	**102**	P	**P**	**09 37 11.7**	**-1.0**
	comp=Z,84nm,1.0s,mb5.2						
LUBP	**Lubang**	**25.93**	**60**	⇓*i*P	**P**	**09 37 11.9**	**-1.2**
DGAR	**Diego Garcia**	**26.18**	**250**	PFAKE		09 37 30.0	+15
DGAR				LR	LR		
	comp=Z,4μm,19.0s,MS4.9						
LATR	**Latur**	**26.52**	**311**	*e*P	**P**	**09 37 19.0**	**+0.6**
NGP	**Nagpur**	**26.58**	**319**	*e*P	**P**	**09 37 21.5**	**+2.6**
NGP				*ex*	x	09 37 29.7	
	comp=Z,103nm,1.1s						
NGP				*e*S	**S**	**09 41 53.9**	**+2.2**
GYA	**Guiyang**	**26.67**	**19**	⇑*i*P	**P**	**09 37 19.3**	**-0.3**
GYA				AP	pP	09 37 27.6	-1.0
GYA				XP	sP	09 37 32.8	+0.4
GYA				PP		09 38 06.4	
GYA				PCP	PcP	09 40 45.6	+2.6
GYA				XS	sS	09 42 08.3	+0.4
GYA				SS		09 43 05.9	
GYA				SCP	ScP	09 44 21.6	+0.6
GYA				PCS	PcS	09 44 25.0	+0.6
GYA				AMB	AMB		
	comp=Z,120nm,1.4s,mb5.2						
GYA				AMB	AMB		
	comp=Z,850nm,6.3s						
GYA				LR	LR		
	comp=N,11μm,14.4s,MS5.6						
GYA				LR	LR		
	comp=E,3μm,14.4s,MS5.6						
GYA				LR	LR		
	comp=Z,14μm,15.1s,MS5.6						
GZH	**Guangzhou**	**26.77**	**35**	P	**P**	**09 37 25.4**	**+4.9**
GZH				LR	LR		
	comp=N,8μm,13.6s,MS5.5						
GZH				LR	LR		
	comp=E,7μm,13.9s,MS5.5						
GZH				LR	LR		
	comp=Z,17μm,13.9s,MS5.8						
BOLP	**Bolinao**	**26.93**	**55**	*e*P	**P**	**09 37 18.0**	**-4.1**
OTRP	**Odiongan**	**26.94**	**65**	*e*P	**P**	**09 37 21.6**	**-0.6**
BCPH	**Baguio City Da**	**27.48**	**56**	*e*P	**P**	**09 37 26.3**	**-0.7**
AKL	**Akola**	**27.65**	**316**	*e*P	**P**	**09 37 30.2**	**+1.7**
AKL				AMb	AMB	09 37 43.6	
	comp=Z,68nm,0.9s,mb5.3						
KAD	**Karad**	**27.73**	**306**	*ex*	x	09 37 37.4	
BALP	**Baler**	**28.00**	**58**	*e*P	**P**	**09 37 30.7**	**-1.0**
JIRN	**Jiri**	**28.33**	**339**	*e*P	**P**	**09 37 36.0**	**+1.5**
JIRN	**Jiri**	**28.33**	**339**	*e*P	**P**	**09 37 36.5**	**+2.0**
	comp=Z,11nm,0.3s,mb4.9						
BUKP	**Musuan**	**28.50**	**76**	*e*P	**P**	**09 37 36.1**	**-0.1**
PKI	**Pulchoki**	**28.54**	**338**	*e*P	**P**	**09 37 37.3**	**+1.0**
	comp=Z,498nm,1.2s,mb6.1						
PKI	**Pulchoki**	**28.54**	**338**	*e*P	**P**	**09 37 37.4**	**+1.1**
	comp=Z,444nm,1.1s,mb6.1						
BATI	**Kupang**	**28.65**	**114**	P	**P**	**09 37 34.5**	**-3.0**
	comp=Z,25nm,0.5s,mb5.2,baz=180,slow=2.0,SNR=3.8						
BATI				S	**S**	**09 42 28.3**	**+3.7**
	comp=Z,23nm,0.6s,baz=61,slow=23,SNR=3.9						
GUN	**Gumba**	**28.67**	**339**	*e*P	**P**	**09 37 38.5**	**+1.0**
	comp=Z,626nm,1.0s,mb6.3						
GUN	**Gumba**	**28.67**	**339**	*e*P	**P**	**09 37 38.7**	**+1.2**
	comp=Z,386nm,0.9s,mb6.1						
POO	**Poona**	**28.67**	**308**	*e*P	**P**	**09 37 37.0**	**-0.6**
DMN	**Daman**	**28.68**	**337**	*e*P	**P**	**09 37 38.8**	**+1.1**
	comp=Z,203nm,0.9s,mb5.8						
DMN	**Daman**	**28.68**	**337**	*e*P	**P**	**09 37 38.8**	**+1.1**
KKN	**Kakani**	**28.78**	**338**	*e*P	**P**	**09 37 39.4**	**+0.9**
	comp=Z,495nm,1.1s,mb6.2						
KKN	**Kakani**	**28.78**	**338**	*e*P	**P**	**09 37 39.7**	**+1.2**
	comp=Z,495nm,1.1s,mb6.2						
DAV	**Davao City (W)**	**28.84**	**78**	PFAKE		09 37 50.0	+11
DAV				LR	LR		
	comp=Z,3μm,20.0s,MS4.9						
DAV	**Davao City (W)**	**28.84**	**78**	P	**P**	**09 37 40.5**	**+1.2**
	SNR=12						
DAV	**Davao City (W)**	**28.84**	**78**	P	**P**	**09 37 40.5**	**+1.2**
	SNR=12						
DAV	**Davao City (W)**	**28.84**	**78**	P	**P**	**09 37 40.5**	**+1.2**
	SNR=12						
DAV	**Davao City (W)**	**28.84**	**78**	P	**P**	**09 37 40.5**	**+1.2**
	SNR=12						
DAV				P		09 37 40.5	
	SNR=12						
DAV	**Davao City (W)**	**28.84**	**78**	⇑*e*P	**P**	**09 37 38.1**	**-1.2**
LSA	**Lhasa**	**28.89**	**349**	P	**P**	**09 37 41.0**	**+1.5**
LSA				AP	pP	09 37 53.0	+4.5
LSA				XP	sP	09 37 57.0	+4.7
LSA				PP	PP	09 38 28.8	-16
LSA				S	**S**	**09 42 27.0**	**-1.0**
LSA				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3						
LSA				AMB	AMB		
	comp=Z,850nm,12.0s						
LSA				LR	LR		
	comp=N,2μm,16.0s,MS5.2						
LSA				LR	LR		
	comp=E,4μm,16.0s,MS5.2						
LSA				LR	LR		
	comp=Z,5μm,18.0s,MS5.1						
LSA	**Lhasa**	**28.89**	**349**	*e*P	**P**	**09 37 40.8**	**+1.3**
LSA				pmax	pmax		
	comp=Z,103nm,0.9s,mb5.6						
LSA				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.0						
LSA	**Lhasa**	**28.89**	**349**	*e*P	**P**	**09 37 40.8**	**+1.3**
	comp=Z,103nm,0.9s,mb5.6						
LSA				LR	LR		
	comp=Z,3μm,19.0s,MS5.0						
BHPL	**Bhopal**	**29.12**	**320**	*e*P	**P**	**09 37 42.4**	**+0.8**
BHPL				AMb	AMB	09 37 44.1	
	comp=Z,20nm,0.9s,mb4.8						
GKN	**Gorkha**	**29.22**	**337**	*e*P	**P**	**09 37 43.4**	**+1.0**
	comp=Z,560nm,1.2s,mb6.2						
GKN	**Gorkha**	**29.22**	**337**	*e*P	**P**	**09 37 43.5**	**+1.1**
KOLN	**Koldanda**	**29.44**	**335**	*e*P	**P**	**09 37 45.6**	**+1.2**
	comp=Z,296nm,0.9s,mb6.0						
KOLN	**Koldanda**	**29.44**	**335**	*e*P	**P**	**09 37 45.6**	**+1.2**
DANN	**Dangsing**	**29.88**	**336**	*e*P	**P**	**09 37 49.0**	**+0.7**
	comp=Z,268nm,0.9s,mb6.0						
DANN	**Dangsing**	**29.88**	**336**	*e*P	**P**	**09 37 49.3**	**+1.0**
	comp=Z,268nm,0.9s,mb6.0						
CD2	**Chengdu**	**30.15**	**11**	⇑*i*P	**P**	**09 37 50.1**	**-0.5**
CD2				AP	pP	09 37 59.8	+0.1
CD2				XP	sP	09 38 03.8	+0.3
CD2				PCP	PcP	09 40 52.0	+0.4
CD2				S	**S**	**09 42 44.6**	**-3.1**
CD2				XS	sS	09 43 00.5	-2.2
CD2				SS	SS	09 44 22.4	-35
CD2				SCS	ScS	09 48 24.3	-3.2
CD2				AMB	AMB		
	comp=Z,140nm,1.4s,mb5.5						
CD2				AMB	AMB		
	comp=Z,880nm,9.6s						
CD2				LR	LR		
	comp=N,16μm,16.8s,MS5.9						
CD2				LR	LR		
	comp=E,17μm,15.6s,MS5.9						
CD2				LR	LR		
	comp=Z,17μm,14.4s,MS5.8						
MBWA	**Marble Bar**	**31.30**	**137**	*e*P	**P**	**09 38 01.4**	**+0.5**
	comp=Z,66nm,1.4s,mb5.3						
MBWA				LR	LR		
	comp=Z,5μm,20.0s,MS5.2						
QZH	**Quanzhou**	**31.32**	**39**	⇑*i*P	**P**	**09 38 00.9**	**-0.1**
QZH				S	**S**	**09 43 05.0**	**-1.2**
QZH				AMB	AMB		
	comp=Z,1μm,2.5s,mb6.3						
QZH				LR	LR		
	comp=N,14μm,12.5s,MS5.9						
QZH				LR	LR		
	comp=E,9μm,12.1s,MS5.9						
QZH				LR	LR		
	comp=Z,14μm,14.3s,MS5.8						
AAI	**Ambon**	**31.32**	**99**	P	**P**	**09 37 59.8**	**-1.4**
	comp=Z,91nm,0.6s,mb5.8						
LGTI	**Lohaghat**	**32.39**	**332**	*e*P	**P**	**09 38 11.5**	**+1.1**
PTH	**Pithoragarh**	**32.49**	**332**	*e*P	**P**	**09 38 12.9**	**+1.7**
PTH				*ex*	x	09 43 29.2	
NACB	**Ninganchiao**	**32.80**	**44**	*e*P	**P**	**09 38 13.8**	**-0.2**
YHNB	**Yeheng**	**32.97**	**43**	*e*P	**P**	**09 38 15.9**	**+0.4**
AJM	**Ajmer**	**33.20**	**321**	*e*P	**P**	**09 38 18.8**	**+1.3**
AJM				AMb	AMB	09 38 21.6	
	comp=Z,83nm,1.6s,mb5.4						
TATO	**Taipei**	**33.25**	**43**	PFAKE		09 38 30.0	+12
TATO				LR	LR		
	comp=Z,2μm,22.0s,MS4.8						
NDI	**New Delhi**	**33.32**	**327**	*e*P	**P**	**09 38 18.9**	**+0.3**
NDI				*e*P		09 38 19.0	
NDI				AMb	AMB	09 38 25.6	
	comp=Z,111nm,0.9s,mb5.8						
WHN	**Wuhan**	**33.37**	**27**	⇑P	**P**	**09 38 18.9**	**0.0**
WHN				AP	pP	09 38 24.8	-3.2
WHN				S	**S**	**09 43 38.4**	**+0.5**
WHN				AMB	AMB		
	comp=Z,154nm,1.0s,mb5.9						
WHN				AMB	AMB		
	comp=Z,1μm,8.4s						
WHN				LR	LR		
	comp=N,5μm,12.2s,MS5.9						
WHN				LR	LR		
	comp=E,15μm,14.4s,MS5.9						
WHN				LR	LR		
	comp=Z,16μm,14.4s,MS5.9						
FITZ	**Fitzroy Crossi**	**33.92**	**126**	*e*P	**P**	**09 38 22.1**	**-1.8**
	comp=Z,32nm,0.9s,mb5.2						
FITZ	**Fitzroy Crossi**	**33.92**	**126**	P	**P**	**09 38 22.1**	**-1.8**
	comp=Z,7.0nm,0.6s,mb4.8,baz=308,slow=5.8,SNR=39						
FITZ				ScP	ScP	09 44 43.9	-0.9
	comp=Z,3.4nm,0.8s,baz=349,slow=9.7,SNR=3.9						
XAN	**Xi'an**	**34.42**	**17**	P	**P**	**09 38 26.8**	**-1.2**
XAN				PP	PP	09 39 42.5	-3.9
XAN				S	**S**	**09 43 51.5**	**-2.6**
XAN				SS	SS	09 46 02.5	-22
XAN				AMB	AMB		
	comp=Z,167nm,0.9s,mb6.0						
XAN				AMB	AMB		
	comp=Z,487nm,6.7s						
XAN				LR	LR		
	comp=N,4μm,17.2s,MS5.6						
XAN				LR	LR		
	comp=E,8μm,16.6s,MS5.6						
XAN				LR	LR		
	comp=Z,10μm,16.1s,MS5.6						
LZH	**Lanzhou**	**35.21**	**9**	⇑*i*P	**P**	**09 38 35.3**	**+0.5**
LZH				AP	pP	09 38 43.3	-0.7
LZH				XP	sP	09 38 48.0	+0.3
LZH				PP	PP	09 39 51.0	-4.1
LZH				PCP	PcP	09 41 05.9	+0.4
LZH				*e*S	**S**	**09 44 03.0**	**-3.3**
LZH				XS	sS	09 44 20.0	-1.4
LZH				AMB	AMB		
	comp=Z,147nm,1.1s,mb5.8						
LZH				AMB	AMB		
	comp=Z,1μm,5.0s						
LZH				LR	LR		
	comp=N,8μm,15.8s						
LZH				LR	LR		
	comp=Z,10μm,17.4s,MS5.6						
SMLA	**Simla**	**35.28**	**329**	*e*P	**P**	**09 38 36.2**	**+0.7**
SMLA				AMb	AMB	09 38 39.6	
	comp=Z,99nm,1.0s,mb5.7						
NJ2	**Nanjing**	**36.81**	**31**	*e*P	**P**	**09 38 48.9**	**+0.3**
NJ2				AP	pP	09 38 58.5	+0.7
NJ2				XP	sP	09 39 02.6	+1.1
NJ2				PP	PP	09 40 14.0	+1.1
NJ2				S	**S**	**09 44 37.0**	**+6.0**
NJ2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.5						
NJ2				AMB	AMB		
	comp=Z,470nm,6.7s						
NJ2				LR	LR		
	comp=N,14μm,14.4s,MS6.0						
NJ2				LR	LR		
	comp=E,10μm,14.1s,MS6.0						
NJ2				LR	LR		
	comp=Z,10μm,14.1s,MS5.8						
DLH	**Dalhousie**	**37.02**	**329**	*e*P	**P**	**09 38 50.0**	**-0.4**
THN	**Thein Dam**	**37.06**	**329**	*e*P	**P**	**09 38 49.6**	**-1.1**
SSE	**Sheshan**	**37.36**	**35**	⇑P	**P**	**09 38 53.9**	**+0.6**
SSE				AP	pP	09 39 02.8	+0.3
SSE				XP	sP	09 39 07.1	+0.9
SSE				PCP	PcP	09 41 14.0	+2.0
SSE				S	**S**	**09 44 36.3**	**-3.0**
SSE				XS	sS	09 44 52.8	-1.7
SSE				AMB	AMB		
	comp=Z,83nm,0.9s,mb5.6						
SSE				AMB	AMB		

comp=Z,15nm,1.0s,mb4.7,baz=349,slow=10,SNR=2.8
NWAO LR LR 09 55 53.5
comp=Z,4μm,19.4s,MS5.2,baz=326,slow=37
TIY Taiyuan 38.90 19⇑ *i*P **P 09 39 05.8 -0.3**
TIY S **S 09 45 01.3 -1.2**
TIY AMB AMB
comp=Z,1μm,4.2s
TIY LR LR
comp=N,15μm,12.5s,MS6.0
TIY LR LR
comp=E,6μm,12.6s,MS6.0
TIY LR LR
comp=Z,15μm,13.4s,MS6.0
TIA Tai'an 39.38 26 P **P 09 39 09.5 -0.7**
TIA S **S 09 45 16.0 +6.3**
TIA AMB AMB
comp=Z,48nm,1.3s,mb5.1
TIA AMB AMB
comp=Z,406nm,4.0s
TIA LR LR
comp=N,1μm,11.0s,MS5.2
TIA LR LR
comp=E,1μm,12.0s,MS5.2
BTO Baotou 40.87 15 *e*P **P 09 39 22.4 0.0**
HHC Hu-ho-hao-te 41.51 16⇑ *i*P **P 09 39 28.9 +1.2**
HHC AP pP 09 39 38.8 +1.8
HHC XP sP 09 39 42.9 +2.2
HHC PP PP 09 41 08.9 +4.8
HHC PCP PcP 09 41 26.4 +1.5
HHC SCP ScP 09 45 12.8 -0.2
HHC S **S 09 45 42.1 +0.7**
HHC XS sS 09 45 59.8 +3.2
HHC AMB AMB
comp=Z,154nm,1.5s,mb5.4
HHC AMB AMB
comp=Z,2μm,5.6s
HHC LR LR
comp=N,8μm,15.3s,MS5.9
HHC LR LR
comp=E,9μm,15.1s,MS5.9
HHC LR LR
comp=Z,14μm,15.5s,MS5.9
WRA Warramunga Arr 42.02 122 P **P 09 39 30.8 -1.4**
WRA S **S 09 45 44.5 -5.0**
WRA Warramunga Arr 42.02 122 P **P 09 39 30.8 -1.5**
WRA ScP ScP 09 45 16.3 +0.8
WRA S **S 09 45 44.5 -5.1**
WRA LR LR 10 00 39.6
WRA Warramunga Arr 42.02 122 P **P 09 39 30.8 -1.4**
comp=Z,19nm,0.5s,mb5.0,baz=302,slow=9.1,SNR=327
WRA ScP ScP 09 45 16.3 +0.8
comp=Z,0.6nm,0.9s,baz=309,slow=4.1,SNR=4.7
WRA S **S 09 45 44.5 -5.1**
comp=Z,3.2nm,1.0s,baz=294,slow=16,SNR=6.6
WRA LR LR 10 00 39.6
comp=Z,2μm,19.7s,MS5.1,baz=300,slow=41
WRAB Tennant Creek 42.03 122 P **P 09 39 31.5 -0.8**
comp=Z,244nm,0.5s,mb6.1,SNR=40
WRAB Tennant Creek 42.03 122 *e*P **P 09 39 31.7 -0.6**
WRAB pmax pmax
comp=Z,53nm,0.9s,mb5.2
WRAB Tennant Creek 42.03 122 *e*P **P 09 39 31.3 -1.0**
comp=Z,53nm,0.9s,mb5.2
WRAB LR LR
comp=Z,3μm,20.0s,MS5.1
WB2 Warramunga Arr 42.03 122 *e*P **P 09 39 30.5 -1.8**
WB2 *e*S **S 09 45 41.0 -8.7**
MSEY Mahe Island 42.13 262 PFAKE 09 39 40.0 +6.8
MSEY LR LR
comp=Z,2μm,19.0s,MS4.9
BJT Baijiatuau 42.27 22 *e*P **P 09 39 35.0 +1.1**
BJT pmax pmax
comp=Z,139nm,0.9s
BJT MLR MLR
comp=Z,2μm,22.0s
BJT Baijiatuau 42.27 22 *e*P **P 09 39 35.0 +1.1**
comp=Z,139nm,0.9s,mb5.6
BJT LR LR
comp=Z,2μm,22.0s,MS5.0
BJI Beijing 42.29 22 P **P 09 39 35.0 +0.9**
BJI PP PP 09 41 19.8 +7.3
BJI PCS PcS 09 45 17.4 -1.9
BJI S **S 09 45 54.3 +1.4**
BJI XS sS 09 46 08.9 +0.7
BJI SS SS 09 48 59.3 -2.9
BJI AMB AMB
comp=Z,154nm,0.9s,mb5.6
BJI AMB AMB
comp=Z,2μm,3.1s
BJI LR LR
comp=N,3μm,15.5s,MS5.5
BJI LR LR
comp=E,4μm,17.0s,MS5.5
BJI LR LR
comp=Z,2μm,20.4s,MS4.9
KBL Kabul 42.31 325 *e*P **P 09 39 34.5 +0.2**
comp=Z,22nm,0.8s,mb4.8
KSH Kashi 42.75 336 P **P 09 39 38.8 +0.9**
KSH *e*AP pP 09 39 48.1 +0.9
KSH *e*XP sP 09 39 52.0 +1.1
KSH *e*PP PP 09 41 21.0 +3.5
KSH *e*PCP PcP 09 41 30.3 +1.2
KSH *e*SCP ScP 09 45 17.0 -1.0
KSH *e*PCS PcS 09 45 21.0 -0.2
KSH *e*S **S 09 45 59.1 -0.6**
KSH *e*XS sS 09 46 16.1 +1.1
KSH *e*SS SS 09 49 05.3 -6.0
KSH *e*SCS ScS 09 49 35.0 -1.9
KSH AMB AMB
comp=Z,1μm,4.4s
KSH LR LR
comp=N,3μm,11.8s,MS5.6
KSH LR LR
comp=E,4μm,13.8s,MS5.6
KSH LR LR
comp=Z,3μm,14.3s,MS5.3
WMQ Urumqi 43.24 350⇑ *i*P **P 09 39 43.0 +1.2**
WMQ AP pP 09 39 53.0 +1.9
WMQ XP sP 09 39 57.0 +2.2
WMQ PP PP 09 41 26.0 +3.3
WMQ S **S 09 46 07.0 +0.2**
WMQ SS SS 09 49 14.0 -6.8
WMQ AMB AMB
comp=Z,1μm,5.0s
WMQ LR LR
comp=N,2μm,14.0s,MS5.4
WMQ LR LR
comp=E,3μm,16.0s,MS5.4
WMQ LR LR
comp=Z,2μm,14.0s,MS5.2
FORT Forrest 43.28 140 *e*P **P 09 39 43.6 +1.3**
comp=Z,53nm,0.6s,mb5.5
ASAR Alice Springs 43.39 127 P **P 09 39 42.5 -0.8**
comp=Z,11nm,0.7s,mb4.7,baz=299,slow=7.7,SNR=146
ASAR S **S 09 46 06.2 -3.4**
comp=Z,1.5nm,0.7s,baz=298,slow=14,SNR=5.9
DL2 Dalian 43.63 28⇑ *i*P **P 09 39 45.5 +0.5**
DL2 AP pP 09 39 55.6 +1.3
DL2 S **S 09 46 12.6 0.0**
DL2 XS sS 09 46 26.6 -1.3
DL2 AMB AMB
comp=Z,130nm,1.0s,mb5.6
DL2 AMB AMB
comp=Z,380nm,4.4s
DL2 LR LR
comp=N,1μm,15.9s,MS5.1
DL2 LR LR
comp=E,2μm,16.0s,MS5.1
DL2 LR LR
comp=Z,2μm,15.7s,MS5.1
BSY Bisya 44.37 302 P **P 09 40 00.3 +9.1**
SNR=5.1
BSY Bisya 44.37 302 P **P 09 40 00.3 +9.1**
SNR=5.1
BSY Bisya 44.37 302 P **P 09 40 00.3 +9.1**
SNR=5.1
BSY Bisya 44.37 302 P **P 09 40 00.3 +9.1**
SNR=5.1
BSY P 09 40 00.3
SNR=5.1
ULHL Ulahol 44.98 338 P **P 09 39 56.6 +0.9**
SNR=31
INCN Inchon 45.10 33 *e*P **P 09 39 55.9 -0.8**
INCN LR LR
comp=Z,2μm,20.0s,MS5.1

KZA Kyzart 45.21 337 P **P 09 39 59.1 +1.5**
SNR=30
AAA Alma-Ata 45.61 339 *i*P **P 09 40 00.8 +0.1**
AAA *i*S **S 09 46 40.1 -1.1**
AAA pmax pmax
comp=Z,2μm,4.0s
AAA smax
comp=E,2μm,9.8s
AAA MLR MLR
comp=Z,2μm,17.3s,MS5.2
UCH Uchtor 45.63 336 *e*P **P 09 40 02.2 +1.3**
comp=Z,83nm,0.9s,mb5.7
UCH LR LR
comp=Z,2μm,20.0s,MS5.1
UCH Uchtor 45.63 336 P **P 09 40 02.4 +1.5**
SNR=95
KSRS Korea Array 45.80 35 P **P 09 40 02.1 -0.1**
comp=Z,120nm,0.9s,mb5.8,baz=222,slow=9.1,SNR=196
KSRS LR LR 10 03 01.2
comp=Z,2μm,19.3s,MS5.0,baz=227,slow=41
TKM2 Tokmak 2 45.80 338 *e*P **P 09 40 03.0 +0.8**
TKM2 pmax pmax
comp=Z,84nm,1.2s,mb5.5
TKM2 MLR MLR
comp=Z,2μm,20.0s,MS5.1
TKM2 Tokmak 2 45.80 338 *e*P **P 09 40 03.0 +0.8**
comp=Z,84nm,1.2s,mb5.5
TKM2 LR LR
comp=Z,2μm,20.0s,MS5.1
TKM2 Tokmak 2 45.80 338 P **P 09 40 03.3 +1.1**
SNR=66
KBK Karagaybulak 45.82 337 P **P 09 40 04.1 +1.7**
SNR=35
AML Almayashu 45.88 336 PFAKE 09 40 20.0 +17
AML LR LR
comp=Z,2μm,20.0s,MS5.0
AML Almayashu 45.88 336 P **P 09 40 04.6 +1.7**
SNR=9.4
AAK Ala-Archa 45.98 337 P **P 09 40 04.1 +0.5**
comp=Z,280nm,1.1s,mb6.1,SNR=11
AAK Ala-Archa 45.98 337 P **P 09 40 05.1 +1.4**
SNR=14
FRU Bishkek 46.10 337⇑ *e*P **P 09 40 05.5 +0.9**
FRU *i* 09 40 26.0
FRU *e*S **S 09 46 51.0 +2.7**
FRU pmax pmax
comp=Z,520nm,2.9s,mb6.0
FRU MLR MLR
comp=N,2μm,18.0s
FRU MLR MLR
comp=Z,3μm,18.0s,MS5.3
CHMS Chumysh 46.19 337 P **P 09 40 05.9 +0.6**
SNR=7.0
EKS2 Erkin-Say 46.29 336 *e*P **P 09 40 06.9 +0.8**
comp=Z,47nm,0.9s,mb5.4
EKS2 LR LR
comp=Z,2μm,20.0s,MS5.0
EKS2 Erkin-Say 46.29 336 P **P 09 40 07.4 +1.3**
SNR=34
USP Ospenovka 46.51 337 P **P 09 40 08.7 +0.8**
SNR=68
SNY Shenyang 46.85 27 ⇑P **P 09 40 10.3 -0.2**
SNY AP pP 09 40 22.0 +2.1
SNY S **S 09 46 56.6 -2.5**
SNY AMB AMB
comp=Z,116nm,1.1s,mb5.7
SNY AMB AMB
comp=Z,3μm,3.5s
SNY LR LR
comp=E,2μm,17.1s
SNY LR LR
comp=Z,1μm,18.0s,MS5.0
SONM Songino Array 47.09 8 P **P 09 40 12.8 +0.6**
comp=Z,64nm,0.9s,mb5.6,baz=192,slow=8.3,SNR=116
SONM LR LR 10 02 37.7
comp=Z,9μm,18.5s,MS5.8,baz=189,slow=39
MK31 Makanchi Array 47.22 346 *i*P **P 09 40 13.6 +0.4**
MKAR Makanchi Array 47.22 346 P **P 09 40 13.6 +0.3**
MKAR LR LR 10 04 14.4
MKAR Makanchi Array 47.22 346 P **P 09 40 13.6 +0.3**
comp=Z,38nm,0.7s,mb5.4,baz=159,slow=8.1,SNR=315
MKAR LR LR 10 04 14.4
comp=Z,1μm,21.1s,MS4.9,baz=159,slow=41
ULN Ulaanbaatar 47.22 9 *e*P **P 09 40 12.9 -0.4**
KK31 Karatay Array 48.04 334 *i*P **P 09 40 19.9 +0.2**
KK31 pmax pmax
comp=Z,94nm,1.2s,mb5.7
KK31 Karatay Array 48.04 334 *i*P **P 09 40 19.0 -0.7**
ZAK Zakamensk 49.23 5 *e*P **P 09 40 28.9 +0.1**
ZAK pmax pmax
comp=Z,24nm,1.4s,mb5.0
CN2 Changchun 49.26 27 *e*P **P 09 40 28.8 -0.3**
CN2 *e*AP pP 09 40 38.6 +0.1
CN2 *e*XP sP 09 40 42.5 +0.3
CN2 *e*PP PP 09 42 22.8 -0.4
CN2 *e*S **S 09 47 31.9 -1.2**
CN2 SS SS 09 50 58.3 -6.6
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,6μm,15.0s,MS5.8
CN2 LR LR
comp=E,3μm,15.0s,MS5.8
CN2 LR LR
comp=Z,7μm,15.0s,MS5.8
MOY Mondy 50.35 3 *e*P **P 09 40 37.9 +0.7**
MOY pmax pmax
comp=Z,112nm,2.6s,mb5.4
TLY Talaya 50.55 5 P **P 09 40 39.4 +0.6**
comp=Z,155nm,0.9s,mb5.9,SNR=12
IRK Irkutsk 51.17 6⇑ *i*P **P 09 40 43.7 +0.3**
IRK *e* 09 40 59.3
IRK *e*S **S 09 47 46.5 -13**
IRK pmax pmax
comp=Z,178nm,2.0s,mb5.7
ABKT Ailbek 51.21 320 P **P 09 40 44.8 +0.8**
comp=Z,400nm,0.9s,mb6.3,SNR=7.0
HIA Hailar 51.59 19 *e*P **P 09 40 46.6 0.0**
HIA pmax pmax
comp=Z,189nm,1.4s
HIA MLR MLR
comp=Z,3μm,22.0s
HIA Hailar 51.59 19 *e*P **P 09 40 46.6 -0.1**
comp=Z,189nm,1.4s,mb5.8
HIA LR LR
comp=Z,3μm,22.0s,MS5.3
MAJO Matsushiro 51.64 42 *e*P **P 09 40 46.2 -1.0**
MAJO pmax pmax
comp=Z,202nm,2.2s,mb5.7
MAJO MLR MLR
comp=Z,1μm,21.0s,MS5.0
MAJO Matsushiro 51.64 42 *e*P **P 09 40 46.2 -1.1**
comp=Z,202nm,2.2s,mb5.7
MAJO LR LR
comp=Z,1μm,21.0s,MS5.0
MAT Matsushiro 51.64 42 P **P 09 40 46.2 -1.0**
MAT S **S 09 48 12.0 +5.5**
MJAR Matsushiro Arr 51.64 42 P **P 09 40 46.4 -0.8**
comp=Z,9.2nm,0.8s,mb4.8,baz=220,slow=6.1,SNR=25
MJAR LR LR 10 07 23.4
comp=Z,1μm,18.5s,MS4.9,baz=240,slow=41
KURK Kurchatov 51.77 345 P **P 09 40 48.9 +1.0**
comp=Z,544nm,1.0s,mb6.4,SNR=59
KURK Kurchatov 51.77 345 *c i*P **P 09 40 48.2 +0.3**
KURK Kurchatov 51.77 345 *e*P **P 09 40 48.1 +0.2**
KURK LR LR
comp=Z,3μm,19.0s,MS5.3
KURK Kurchatov 51.77 345 P **P 09 40 48.4 +0.5**
SNR=56
KURK Kurchatov 51.77 345 P **P 09 40 48.4 +0.5**
SNR=56
KURK Kurchatov 51.77 345 P **P 09 40 48.4 +0.5**
SNR=56
KURK Kurchatov 51.77 345 P **P 09 40 48.4 +0.5**
SNR=56
KURK P 09 40 48.4
SNR=56
MDJ Mudanjiang 51.82 29 P **P 09 40 48.6 +0.2**
MDJ AP pP 09 40 57.6 -0.3
MDJ XP sP 09 41 01.3 -0.3
MDJ PCP PcP 09 42 00.9 -0.3
MDJ PP PP 09 42 46.6 +0.2
MDJ PCS PcS 09 45 59.3 +0.2
MDJ S **S 09 48 10.0 +1.3**

MDJ XS sS 09 48 25.4 +1.2
MDJ SCS ScS 09 50 36.3 -0.1
MDJ AMB AMB
comp=Z,70nm,1.3s,mb5.4
MDJ AMB AMB
comp=Z,762nm,5.3s
MDJ LR LR
comp=N,1μm,16.9s,MS5.2
MDJ LR LR
comp=E,2μm,17.5s,MS5.2
MDJ LR LR
comp=Z,3μm,15.7s,MS5.4
MDJ Mudanjiang 51.82 29 *e*P **P 09 40 48.7 +0.3**
comp=Z,148nm,1.4s,mb5.7
MDJ LR LR
comp=Z,4μm,19.0s,MS5.5
VLA Vladivostok 51.92 32 *e*P **P 09 40 49.0 -0.2**
CTA Charters Tower 52.48 117 *e*P **P 09 40 53.7 -0.1**
comp=Z,19nm,1.4s,mb4.8
CTA *e*S **S 09 48 19.0 +0.4**
CTA Charters Tower 52.48 117 *e*P **P 09 40 53.7 -0.1**
CTA *e*S **S 09 48 19.0 +0.4**
CTA pmax pmax
comp=Z,19nm,1.4s
CTA Charters Tower 52.48 117 LR LR 10 06 08.2
comp=Z,2μm,19.7s,MS5.2,baz=284,slow=39
CTAO Charters Tower 52.48 117 *e*P **P 09 40 54.0 +0.2**
CTAO MLR MLR
comp=Z,2μm,22.0s,MS5.2
OPO Ambohidratompo 52.97 246 P **P 09 40 58.1 +0.7**
comp=Z,16nm,1.1s,mb4.9,baz=72,slow=7.0,SNR=9.4
ABPO Ambohimpanom 53.06 245 PFAKE 09 41 10.0 +12
ABPO LR LR
comp=Z,3μm,19.0s,MS5.3
STKA Stephens Creek 53.35 132 *e*P **P 09 41 00.0 0.0**
comp=Z,14nm,0.6s,mb5.0
STKA *e*P 09 41 00.2
STKA *e*S **S 09 48 28.1 -2.0**
STKA Stephens Creek 53.35 132 P **P 09 41 00.1 +0.1**
comp=Z,12nm,0.6s,mb5.0,baz=297,slow=7.9,SNR=74
STKA LR LR 10 05 42.6
comp=Z,3μm,21.6s,MS5.3,baz=292,slow=38
ZAA0 Zalesovo Array 53.53 351 *e*P **P 09 41 01.0 +0.2**
ZALV Zalesovo Beam 53.53 351 P **P 09 41 00.9 +0.1**
comp=Z,178nm,0.9s,mb6.0,baz=176,slow=5.7,SNR=380
ZALV S **S 09 48 33.5 +1.8**
comp=Z,1.1nm,0.6s,baz=162,slow=11,SNR=3.9
ZALV LR LR 10 09 23.5
comp=Z,1μm,19.2s,MS5.0,baz=172,slow=42
QRN Al-Qurain 54.37 305 *e*P **P 09 41 05.8 -1.8**
QRN AMb AMB 09 41 08.7
comp=Z,60nm,0.9s,mb5.5
NVS Novosibirsk 54.65 350⇑ *i*P **P 09 41 08.4 -0.6**
NVS *i* 09 41 27.4
NVS *i*S **S 09 48 42.2 -4.6**
NVS pmax pmax
comp=Z,90nm,1.0s,mb5.8
NVS pmax pmax
comp=N,75nm,1.3s
NVS pmax pmax
comp=E,49nm,1.2s
NVS smax
comp=N,64nm,2.1s
NVS smax
comp=E,68nm,1.7s
RDF Al-Radifah 54.74 305 *e*P **P 09 41 08.9 -1.3**
RDF AMb AMB 09 41 18.8
comp=Z,112nm,1.1s,mb5.8
ATD Arta Tunnel 54.91 283 P **P 09 41 13.0 +1.3**
comp=Z,24nm,0.2s,mb5.8,baz=240,slow=20,SNR=4.1
NAY Al-Naaiem 55.10 305 *e*P **P 09 41 11.4 -1.5**
NAY AMb AMB 09 41 21.2
comp=Z,55nm,1.1s,mb5.5
MIB Mutribah 55.23 306 *e*P **P 09 41 12.9 -0.8**
MIB AMb AMB 09 41 22.8
comp=Z,145nm,0.9s,mb6.0
KLR Kul'dur 56.20 27⇓ *i*P **P 09 41 16.8 -3.5**
KLR *e*S **S 09 49 03.5 -4.3**
KLR *e*SS SS 09 52 51.0 -3.8
KLR pmax pmax
comp=N,72nm,2.0s
KLR pmax pmax
comp=E,190nm,2.0s
KLR pmax pmax
comp=Z,480nm,2.0s,mb6.2
KLR pmax pmax
comp=N,600nm,5.5s
KLR pmax pmax
comp=E,600nm,5.5s
KLR pmax pmax
comp=Z,1μm,5.5s
BVAR Borovoye Array 56.23 341 P **P 09 41 20.1 -0.4**
comp=Z,42nm,0.9s,mb5.5,baz=142,slow=7.5,SNR=164
BRVK Borovoye 56.29 341 P **P 09 41 20.7 -0.2**
comp=Z,330nm,1.0s,mb6.3,SNR=28
BRVK Borovoye 56.29 341 *e*P **P 09 41 20.3 -0.6**
BRVK LR LR
comp=Z,1μm,21.0s,MS5.0
BRVK Borovoye 56.29 341 P **P 09 41 20.5 -0.3**
SNR=28
BRVK Borovoye 56.29 341 P **P 09 41 20.5 -0.3**
SNR=28
HABR Khabarovsk 57.21 29⇑ *i*P **P 09 41 27.5 0.0**
HABR *e* 09 43 32.3
HABR *e*S **S 09 49 22.9 +1.8**
HABR *e*SS SS 09 53 10.9 +0.3
HABR pmax pmax
comp=Z,97nm,1.1s,mb5.8
HABR MLR MLR
comp=Z,2μm,18.0s,MS5.1
AB31 Akbulak array 57.50 332 *i*P **P 09 41 28.9 -0.6**
ERM Erimo 57.82 39 PFAKE 09 41 40.0 +8.1
ERM LR LR
comp=Z,981nm,20.0s,MS4.9
BOD Bodaibo 57.97 10 *e*P **P 09 41 32.2 -0.4**
BOD pmax pmax
comp=Z,101nm,1.1s,mb5.8
EIDS Eidsvold 58.37 121 *e*P **P 09 41 36.4 +0.3**
comp=Z,17nm,0.5s,mb5.3
BHD Baghdad 58.84 309 *ex* x 09 41 35.0
BHD *ex* x 09 44 06.0
BHD *ex* x 09 49 33.0
TOO Toolangi 58.94 136 *e*P **P 09 41 41.2 +1.4**
comp=Z,170nm,0.8s,mb6.1
TOO *e*S **S 09 49 45.8 +1.7**
TOO Toolangi 58.94 136 *e*P **P 09 41 41.2 +1.4**
TOO *e*S **S 09 49 45.8 +1.7**
TOO pmax pmax
comp=Z,170nm,0.8s,mb6.1
AKTK Aktyubinsk 59.22 332 P **P 09 41 40.6 -0.9**
AKTO Aktyubinsk 59.22 332 P **P 09 41 40.6 -0.9**
comp=Z,24nm,0.9s,mb5.2,baz=130,slow=7.7,SNR=62
NRGR Nerungri 59.49 17 *e*P **P 09 41 44.0 +0.7**
NRGR S **S 09 49 55.1 +4.5**
NRGR smax
comp=N,18nm,0.5s
CLNS Chul'man 59.70 17 *e*P **P 09 41 43.7 -1.0**
CLNS *e* 09 42 31.1
CLNS *e*S **S 09 49 51.3 -1.9**
CLNS *e* 09 51 24.7
CLNS *e*SS SS 09 53 40.8 -8.6
CLNS pmax pmax
comp=Z,59nm,0.7s,mb5.7
CLNS pmax pmax
comp=N,38nm,0.8s
CLNS pmax pmax
comp=E,30nm,1.0s
CLNS pmax pmax
comp=N,19nm,0.9s
CLNS pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CLNS pmax pmax
comp=E,11nm,1.0s
CLNS smax
comp=E,259nm,13.7s
CLNS smax
comp=N,413nm,12.7s
CLNS smax
comp=Z,250nm,12.7s
CLNS pmax pmax
comp=Z,1μm,16.1s
CLNS pmax pmax
comp=E,2μm,15.6s
CLNS MLR MLR
comp=N,3μm,16.0s,MS5.8
CLNS MLR MLR

comp=E,5μm,16.0s,MS5.8
CLNS MLR MLR
comp=Z,7μm,16.0s,MS5.9
KMBO Kilima Mbogo 60.03 268 *e*P **P** **09 41 49.4 +1.6**
KMBO LR LR 10 06 42.3
KMBO Kilima Mbogo 60.03 268 P **P** **09 41 48.9 +1.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=186,slow=7.8,SNR=4.1
KMBO LR LR 10 06 42.3
comp=Z,2μm,18.2s,MS5.2,baz=275,slow=35
YSS Yuzh-Sakhalins 60.30 34⇑ *e*P **P** **09 41 48.2 -0.8**
YSS *e* pP 09 41 55.6 -3.0
YSS *e**SP sP 09 42 05.6 +3.3
YSS *e* 09 44 04.8
YSS *e*S **S** **09 50 04.0 +2.7**
YSS *e*PS 09 50 24.0
YSS pmax pmax
comp=N,50nm,1.2s
YSS pmax pmax
comp=Z,180nm,1.2s,mb6.0
YSS MLR MLR
comp=Z,2μm,16.0s,MS5.5
YSS MLR MLR
comp=N,2μm,15.0s,MS5.5
YSS MLR MLR
comp=E,2μm,16.0s,MS5.5
YSS Yuzh-Sakhalins 60.30 34 *e*P **P** **09 41 49.8 +0.8**
YSS LR LR
comp=Z,877nm,20.0s,MS4.9
ARMA Armidale 60.52 126 *e*P **P** **09 41 52.7 +1.8**
CNB Canberra Magne 60.68 132 *e*P **P** **09 41 52.5 +0.6**
comp=Z,40nm,1.5s,mb5.3
MAK Makhachkala 60.73 320 *e*P **P** **09 41 50.7 -1.3**
MAK *e* 09 44 03.9
MAK *e*PPP 09 45 41.6
MAK *e*S **S** **09 50 05.2 -1.8**
MAK *e* 09 51 40.6
MAK pmax pmax
comp=Z,373nm,2.0s,mb6.2
MSL Mosul 60.94 311 *e*x x 09 41 54.0
MSL *e*x x 09 50 06.0
HAKT HAKKARI 60.97 313 *i*P **P** **09 41 53.4 -0.4**
GNI Garni 61.29 316*c i*P **P** **09 41 55.9 0.0**
GNI pmax pmax
comp=Z,45nm,1.7s
GNI Garni 61.29 316 *e*P **P** **09 41 56.6 +0.7**
comp=Z,46nm,1.0s,mb5.6
GNI LR LR
comp=Z,839nm,19.0s,MS4.9
GNI Garni 61.29 316 P **P** **09 41 56.5 +0.5**
SNR=10.0
GNI Garni 61.29 316 P **P** **09 41 56.5 +0.5**
SNR=10.0
DGRG David-gareji 61.43 318 P **P** **09 41 57.4 +0.6**
MTA Mtatsminda 61.93 318 P **P** **09 42 00.0 -0.1**
GOR Gori 62.51 318 P **P** **09 42 03.1 -1.0**
SVE Sverdlovsk 62.67 338⇓ *e*P **P** **09 42 04.5 -0.3**
SVE *e* 09 44 18.4
SVE *e*S **S** **09 50 38.9 +7.9**
SVE pmax pmax
comp=Z,105nm,1.3s,mb5.8
SVE MLR MLR
comp=Z,2μm,18.0s,MS5.4
TAU Tasmania Unive 62.82 141 *e*P **P** **09 42 06.1 0.0**
TAU pmax pmax
comp=Z,140nm,2.0s,mb5.8
TAU Tasmania Unive 62.82 141 *e*P pP 09 42 14.7 -1.0
comp=Z,155nm,2.0s
TAU LR LR
comp=Z,2μm,19.0s,MS5.2
ARU Arti 63.16 337 P **P** **09 42 07.3 -0.8**
comp=Z,244nm,1.1s,mb6.2,SNR=6.4
ARU Arti 63.16 337⇑ *e*P **P** **09 42 07.4 -0.7**
ARU pmax pmax
comp=Z,80nm,1.4s,mb5.7
ARU Arti 63.16 337 *e*P **P** **09 42 07.3 -0.9**
comp=Z,67nm,1.2s,mb5.7
ARU LR LR
comp=Z,1μm,19.0s,MS5.2
ONI Oni 63.21 318 P **P** **09 42 08.9 +0.1**
HNR Honiara 63.33 101 P **P** **09 42 10.2 +0.1**
HNR pmax pmax
comp=Z,190nm,1.2s,mb6.1
HNR Honiara 63.33 101 *e*P **P** **09 42 10.0 -0.1**
comp=Z,192nm,1.2s,mb6.1
HNR LR LR
comp=Z,1μm,22.0s,MS5.0
KIV Kislovodsk 64.30 319*c i*P **P** **09 42 15.6 -0.3**
KIV *e* 09 42 52.2
KIV *e*S **S** **09 50 51.4 -0.5**
KIV *e*SS SS 09 55 00.1 -2.0
KIV pmax pmax
comp=Z,59nm,1.0s,mb5.6
KIV pmax pmax
comp=Z,99nm,8.9s
KIV Kislovodsk 64.30 319 *e*P **P** **09 42 15.7 -0.2**
comp=Z,53nm,0.9s,mb5.6
KIV LR LR
comp=Z,793nm,19.0s,MS4.9
KIV Kislovodsk 64.30 319 P **P** **09 42 16.0 +0.1**
SNR=18
KIV Kislovodsk 64.30 319⇑ *i*P **P** **09 42 16.5 +0.6**
ELZG Elazig 64.78 312 *i*P **P** **09 42 19.6 +0.4**
MALT Malatya 65.13 312 *e*P **P** **09 42 21.6 +0.2**
MALT Malatya 65.13 312⇑ *i*P **P** **09 42 21.7 +0.3**
YAK Yakutsk 65.38 16*c i*P **P** **09 42 21.0 -1.5**
YAK *e**PP pP 09 42 30.6 -1.6
YAK *e* 09 42 53.4
YAK *e* 09 44 45.2
YAK *e*PPP 09 46 19.0
YAK *e*S S 09 51 03.9 -0.5
YAK *e* 09 52 10.6
YAK *e*SS SS 09 55 09.1 -8.9
YAK pmax pmax
comp=Z,269nm,1.2s,mb6.2
YAK pmax pmax
comp=N,108nm,1.4s
YAK pmax pmax
comp=E,95nm,1.4s
YAK pmax pmax
comp=Z,37nm,1.2s,mb5.3
YAK pmax pmax
comp=N,47nm,1.9s
YAK pmax pmax
comp=E,34nm,1.3s
YAK smax
comp=N,184nm,2.1s
YAK smax
comp=E,110nm,2.3s
YAK MLR MLR
comp=Z,4μm,19.0s,MS5.7
YAK MLR MLR
comp=N,3μm,20.0s,MS5.7
YAK MLR MLR
comp=E,2μm,16.0s,MS5.7
YAK Yakutsk 65.38 16 *e*P **P** **09 42 22.2 -0.3**
YAK LR LR
comp=Z,2μm,19.0s,MS5.4
GZT Gaziantep 65.47 311 *i*P **P** **09 42 23.8 +0.2**
SOC Sochi 66.12 318*c i*P **P** **09 42 26.5 -1.2**
SOC *e**SP sP 09 42 39.1 -1.9
SOC *e* 09 42 54.8
SOC *e*PPP 09 46 31.8
SOC *e*S S 09 51 11.0 -3.2
SOC *e* 09 52 18.9
SOC *e*SS SS 09 55 26.1 -4.2
SOC pmax pmax
comp=Z,32nm,1.0s,mb5.3
SOC MLR MLR
comp=Z,503nm,21.0s,MS4.7
SOC Sochi 66.12 318 *i*P **P** **09 42 27.3 -0.4**
GRSN GIRESUNGRSN 66.14 315 *e*P **P** **09 42 30.9 +3.0**
ANDN Andirin 66.46 311 *i*P **P** **09 42 30.3 +0.3**
CASY Casey 68.04 174 PFAKE 09 42 50.0 +11
CASY LR LR
comp=Z,2μm,19.0s,MS5.5
CSS Prodhromos 68.08 307 *e*P **P** **09 42 40.0 -0.3**
comp=Z,4.9nm,0.4s,mb4.9
ANN Anapa 68.10 318 *e*P **P** **09 42 38.1 -2.1**
ANN *e*S S 09 51 32.3 -5.7
ANN *e*SS SS 09 56 03.3 +2.4
ANN pmax pmax
comp=Z,106nm,5.1s
ANN MLR MLR
comp=Z,577nm,20.0s,MS4.8
VRHR Novokhopersk 68.12 326 *e*P **P** **09 42 38.6 -1.6**
VRHR *e**PP pP 09 42 48.7 -1.2
VRHR pmax pmax
comp=Z,40nm,0.9s,mb5.5
VRHR pmax pmax
comp=N,30nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.4s
BOYT Boyabat 68.70 314 *i*P **P** **09 42 44.1 0.0**
VORD Divnogorie 69.38 325 *e*P **P** **09 42 46.4 -1.7**
VORD pmax pmax
comp=Z,30nm,1.0s,mb5.2
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,40nm,0.9s
VORD MLR MLR
comp=N,490nm,20.0s,MS4.9
VORD MLR MLR
comp=Z,660nm,20.0s,MS4.9
VORD MLR MLR
comp=E,500nm,19.0s,MS4.9
VRSR Storozhevoye 69.55 325 *e*P **P** **09 42 47.5 -1.6**
VRSR *e**PP pP 09 42 55.1 -3.8
VRSR pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
VRSR pmax pmax
comp=N,4.0nm,0.9s
VRSR pmax pmax
comp=E,8.0nm,0.9s
ANTO Ankara 69.78 312 P **P** **09 42 50.6 -0.2**
ANTO pmax pmax
comp=Z,89nm,1.2s,mb5.6
ANTO Ankara 69.78 312 *e*P **P** **09 42 50.5 -0.4**
comp=Z,17nm,1.1s,mb4.9
ANTO LR LR
comp=Z,354nm,20.0s,MS4.6
BALT Daday 69.82 314 *i*P **P** **09 42 50.4 -0.6**
LSZ Lusaka 70.16 253 *e*P **P** **09 42 54.2 +0.6**
LSZ MLR MLR
comp=Z,2μm,19.0s,MS5.4
SIM Simferopol' 70.36 318 *e*P **P** **09 42 55.0 +0.7**
SIM *e*S S 09 52 03.0 -1.7
SIM pmax pmax
comp=Z,28nm,0.6s,mb5.4
ISP Isparta 70.98 310 *e*P **P** **09 42 58.5 +0.3**
ESKT Eskisehir 71.14 311 *i*P **P** **09 42 58.2 -0.9**
MA2 Magadan 71.28 26 *e*P **P** **09 42 58.3 -1.2**
MA2 *e* pP 09 43 06.2 -3.1
MA2 *e* 09 43 12.6
MA2 *e* 09 45 38.0
MA2 *e*PPP 09 47 13.8
MA2 *e*S S 09 52 13.4 -1.5
MA2 pmax pmax
comp=Z,90nm,0.9s,mb5.7
MA2 MLR MLR
comp=Z,2μm,21.0s,MS5.4
MA2 Magadan 71.28 26 *e*P **P** **09 42 58.7 -0.9**
comp=Z,51nm,0.9s,mb5.5
MA2 LR LR
comp=Z,1μm,19.0s,MS5.2
GDZ Gediz 72.06 311 *i*P **P** **09 43 04.2 -0.4**
PET Petropavlovsk 72.18 34α *i*P **P** **09 43 05.1 0.0**
PET *e* 09 43 22.4
PET *e* 09 45 46.6
PET *e*PPP 09 47 27.0
PET *e*S S 09 52 28.4 +2.9
PET pmax pmax
comp=Z,37nm,0.6s,mb5.5
PET pmax pmax
comp=Z,400nm,15.7s
PET pmax pmax
comp=Z,300nm,14.4s
PET MLR MLR
comp=Z,1μm,17.0s,MS5.3
PET Petropavlovsk 72.18 34 *e*P **P** **09 43 05.2 +0.1**
comp=Z,80nm,1.1s,mb5.6
PET LR LR
comp=Z,987nm,20.0s,MS5.1
MOS Moscow 72.32 329 *e*P **P** **09 43 02.6 -3.3**
MOS *e* pP 09 43 10.7 -4.9
MOS *e* 09 43 19.2
MOS *e* 09 45 42.3
MOS *e*S S 09 52 21.6 -5.4
MOS *e* 09 53 06.0
MOS pmax pmax
comp=Z,127nm,1.7s,mb5.6
MOS Moscow 72.32 329 *e*P **P** **09 43 02.2 -3.7**
OBN Obninsk 72.61 328⇑ *i*P **P** **09 43 07.1 -0.5**
OBN *e*S S 09 52 27.8 -2.5
OBN *e*SS SS 09 57 11.9 +2.1
OBN pmax pmax
comp=Z,87nm,1.1s,mb5.6
OBN MLR MLR
comp=Z,700nm,18.0s,MS5.0
OBN Obninsk 72.61 328 *e*P **P** **09 43 07.2 -0.4**
OBN LR LR
comp=Z,873nm,20.0s,MS5.0
MAW Mawson 72.75 193 P **P** **09 43 07.5 -0.7**
comp=Z,3.7nm,0.9s,mb4.3,baz=288,slow=20,SNR=2.2
MAW LR LR 10 11 30.6
comp=Z,2μm,18.3s,MS5.3,baz=55,slow=33
AYDN Tasoluk 72.98 309 *i*P **P** **09 43 11.0 +0.8**
TIXI Tiksi 73.14 10*c i*P **P** **09 43 09.3 -1.2**
TIXI pmax pmax
comp=Z,133nm,1.9s,mb5.5
TIXI Tiksi 73.14 10 *e*P **P** **09 43 09.4 -1.1**
comp=Z,64nm,1.0s,mb5.5
TIXI LR LR
comp=Z,2μm,20.0s,MS5.3
SEY Seymchan 73.71 23*c i*P **P** **09 43 13.9 -0.1**
SEY Seymchan 73.71 23⇑ *i*P **P** **09 43 13.0 -1.0**
LBTB Lobatse 73.94 244 *e*P **P** **09 43 17.3 +1.2**
LBTB pmax pmax
comp=Z,47nm,1.3s,mb5.3
LBTB Lobatse 73.94 244 *e*P **P** **09 43 17.2 +1.2**
comp=Z,47nm,1.3s,mb5.3
PSN Preselentsi 74.09 315 *i*P **P** **09 43 16.0 -0.6**
TIRR Tirgusor 74.12 316 P **P** **09 43 16.5 -0.2**
TIRR Tirgusor 74.12 316⇑ *i*P **P** **09 43 16.0 -0.8**
DRV Dumont d'Urvil 74.17 164 P **P** **09 43 23.0 +6.4**
DRV S S 09 53 16.0 +28
DRV R 10 07 00.0
KIS Kishinev 74.50 319 *e*P **P** **09 43 16.0 -2.9**
KIS *e* 09 46 05.0
KIS *e*S S 09 52 46.0 -5.9
KIS *e* 09 53 30.0
KIS Kishinev 74.50 319 *e*P **P** **09 43 16.0 -2.9**
KIS *e*S S 09 52 46.0 -5.9
KIS LRM 10 22 04.0
comp=Z,500nm,16.0s
HARR Harsova 74.51 316 P **P** **09 43 19.1 +0.1**
HARR Harsova 74.51 316⇓ *i*P **P** **09 43 19.0 0.0**
PRD Provadia 74.54 315 *i*P **P** **09 43 18.6 -0.6**
BOSA Boshof 74.83 240 *e*P pP 09 43 28.2 -2.8
BOSA pmax pmax
comp=Z,27nm,1.4s,mb5.0
BOSA Boshof 74.83 240 *e*P pP 09 43 28.2 -2.8
comp=Z,27nm,1.4s
BOSA LR LR 10 14 30.7
BOSA Boshof 74.83 240 P **P** **09 43 20.1 -1.1**
comp=Z,2.1nm,0.7s,mb4.2,baz=99,slow=8.5,SNR=4.8
BOSA LR LR 10 14 30.7
comp=Z,2μm,18.1s,MS5.3,baz=63,slow=34
JMB Yambol 74.96 314 *i*P **P** **09 43 21.6 -0.1**
AKASG Malin Array Be 75.25 322 P **P** **09 43 22.0 -1.2**
comp=Z,11nm,0.8s,mb4.9,baz=90,slow=4.7,SNR=68
AKBB Malin Array Si 75.25 322 *e*P **P** **09 43 22.1 -1.1**
KIEV Kiev 75.26 322 *e*P **P** **09 43 22.0 -1.2**
KIEV pmax pmax
comp=Z,15nm,0.8s,mb5.0
KIEV MLR MLR
comp=Z,678nm,19.0s,MS5.0
KIEV Kiev 75.26 322 *e*P **P** **09 43 22.0 -1.2**
comp=Z,15nm,0.8s,mb5.0
KIEV LR LR
comp=Z,678nm,19.0s,MS5.0
SZH Strazhica 75.60 314 *i*P **P** **09 43 24.4 -0.9**
VRI Vrincioaia 75.62 317 P **P** **09 43 25.7 +0.3**
VRI Vrincioaia 75.62 317⇓ *i*P **P** **09 43 25.4 0.0**
KDZ Kurdzhali 75.64 313 *i*P **P** **09 43 24.9 -0.7**
PLOR Plostina 75.67 317 P **P** **09 43 26.1 +0.5**
PLOR Plostina 75.67 317⇓ *i*P **P** **09 43 25.7 +0.1**
TMCR Tamitsa 75.90 337 *e*P **P** **09 43 24.8 -1.8**
MLR Muntele Rosu 76.07 317 P **P** **09 43 28.5 +0.6**
MLR Muntele Rosu 76.07 317⇓ *i*P **P** **09 43 27.9 0.0**
RZN Rozhen 76.17 313 *i*P **P** **09 43 27.8 -0.8**
PGB Panagyurishte 76.73 313 *i*P **P** **09 43 23.3 -8.5**
MMB Musomiste 76.88 312 *i*P **P** **09 43 31.2 -1.4**
BURAR Bucovina Array 77.02 319 P **P** **09 43 34.3 +1.0**
BURAR Bucovina Array 77.02 319⇑ *i*P **P** **09 43 33.8 +0.5**
MNK Minsk 77.14 326 *e*P **P** **09 43 33.0 -0.8**
KKB Krupnik 77.40 313 *i*P **P** **09 43 34.2 -1.4**
VTS Vitosha 77.43 313⇑ *i*P **P** **09 43 35.0 -0.7**
JOF Joensuu 78.13 335 *e*p **P** **09 43 36.2 -2.9**
comp=Z,21nm,0.9s,mb5.1
LVV L'vov 78.26 321*d i*P **P** **09 43 39.7 -0.5**
DRGR 78.53 317 P **P** **09 43 42.1 +0.4**
DRGR 78.53 317⇓ *i*P **P** **09 43 42.0 +0.3**
KRUS Krusevo 78.68 312 *e*P **P** **09 43 40.9 -1.7**
VSU Vasula 78.84 330 *e*P **P** **09 43 42.5 -0.6**
OHR Ohrid 78.98 312 *e*P **P** **09 43 41.5 -2.9**
KWP Kalwaria 79.07 320 *e*P **P** **09 43 44.2 -0.4**
KWP Kalwaria 79.07 320 *e*P **P** **09 43 44.2 -0.4**
BZS Buzias 79.08 316 P **P** **09 43 44.6 -0.1**
BZS Buzias 79.08 316⇑ *i*P **P** **09 43 44.3 -0.4**
APA Apatity 79.11 339⇑ *i*P **P** **09 43 44.0 -0.4**
APA *i* 09 43 58.6
APA *i*S S 09 53 40.0 -1.5
APA *i* 09 53 55.0
APA pmax pmax
comp=Z,23nm,1.0s,mb5.1
UZH Uzhgorod 79.14 319 *e*P **P** **09 43 36.0 -9.1**
RPZ Rata Peaks 79.20 135 LR LR 10 20 07.4
comp=Z,2μm,18.1s,MS5.4,baz=282,slow=37
SUR Sutherland 79.22 237 PFAKE 09 44 00.0 +14
SUR LR LR
comp=Z,2μm,19.0s,MS5.4
SUW Suwalki 79.67 325 *e*P **P** **09 43 47.2 -0.6**
SUW Suwalki 79.67 325 *e*P **P** **09 43 47.2 -0.6**
FINES FINESS Array B 79.98 332 P **P** **09 43 49.1 -0.2**
comp=Z,5.8nm,0.7s,mb4.6,baz=101,slow=8.0,SNR=20
FINES LR LR 10 26 09.3
comp=Z,678nm,18.3s,MS5.0,baz=104,slow=41
SYO Syowa Base 80.05 198⇑ *e*P **P** **09 43 51.0 +1.5**
SYO Syowa Base 80.05 198⇓ *e*sP sP 09 44 04.8 +1.8
PSZ Piszkesteto 80.61 318 P **P** **09 43 47.4 -5.6**
PSZ pmax pmax
comp=Z,28nm,1.1s,mb5.1
PSZ Piszkesteto 80.61 318 *e*P **P** **09 43 52.7 -0.2**
comp=Z,117nm,1.9s,mb5.5
PSZ Piszkesteto 80.61 318⇑ *e*P **P** **09 43 52.7 -0.3**
PSZ Piszkesteto 80.61 318⇓ *i*P **P** **09 43 52.7 -0.3**
TSUM Tsumeb 80.64 250 *e*P **P** **09 43 55.8 +2.0**
comp=Z,13nm,1.0s,mb4.8
TSUM *e*PcP PcP 09 44 01.8 +1.2
TSUM LR LR
comp=Z,669nm,19.0s,MS5.0
OJC Ojcow 81.02 321 *e*P **P** **09 43 54.5 -0.6**
SMY Shemya 81.07 37 PFAKE 09 44 10.0 +15
SMY LR LR
comp=Z,673nm,19.0s,MS5.0
BILL Bilibino 81.12 21⇑ *e*P **P** **09 43 54.7 -0.6**
BILL *e*S S 09 53 58.9 -3.7
BILL pmax pmax
comp=Z,28nm,1.4s,mb5.0
BILL MLR MLR
comp=Z,3μm,16.0s,MS5.7
BILL Bilibino 81.12 21⇑ *i*P **P** **09 43 54.7 -0.6**
BILL LR LR
comp=Z,3μm,20.0s,MS5.6
BUD Budapest 81.13 318⇓ *e*P **P** **09 43 56.7 +0.9**
PKSM Moragy 81.22 316 P **P** **09 43 56.1 -0.2**
PKSM Moragy 81.22 316⇑ *i*P **P** **09 43 55.6 -0.7**
SNZO South Karori 81.41 132 PFAKE 09 44 10.0 +13
SNZO LR LR
comp=Z,2μm,22.0s,MS5.5
TIP Timpagrande 81.83 309 *e*P **P** **09 43 59.7 0.0**
OKC Ostrava-Krasne 82.02 320 *e*P **P** **09 44 00.5 +0.1**
OKC *e*pP pP 09 44 11.1 +0.7
OKC Ostrava-Krasne 82.02 320 *e*P **P** **09 44 00.5 +0.1**
OKC *e*pP pP 09 44 11.1 +0.7
OKC AMS AMS 10 30 00.0
comp=Z,500nm,18.6s
KEV Kevo 82.08 341 *e*P **P** **09 43 57.2 -3.2**
KEV pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
KEV MLR MLR
comp=Z,1μm,19.0s,MS5.3
KEV Kevo 82.08 341 *e*P **P** **09 43 57.2 -3.2**
comp=Z,9.2nm,0.8s,mb4.8
KEV LR LR
comp=Z,1μm,19.0s,MS5.3
FUNA Funafuti 82.23 99 PFAKE 09 44 10.0 +7.7
FUNA LR LR
comp=Z,5μm,19.0s,MS5.9
MORC Moravsky Berou 82.40 320 P **P** **09 44 02.6 +0.2**
MORC Moravsky Berou 82.40 320 *e*P **P** **09 44 02.3 -0.2**
MORC Moravsky Berou 82.40 320⇑ *i*P **P** **09 44 02.5 +0.1**
ARCES ARCESS Array B 82.51 340 P **P** **09 44 02.7 0.0**
ARCES LR LR 10 24 59.9
ARCES ARCESS Array B 82.51 340 P **P** **09 44 02.7 0.0**
comp=Z,14nm,0.8s,mb5.0,baz=100,slow=4.9,SNR=48
ARCES LR LR 10 24 59.9
comp=Z,2μm,20.7s,MS5.3,baz=109,slow=39
ARE0 ARCESS Array S 82.51 340 *e*P **P** **09 44 02.3 -0.3**
URZ Urewera 82.81 129 LR LR 10 22 00.5
comp=Z,1μm,20.9s,MS5.3,baz=262,slow=36
DPC Dobruska-Polom 83.25 320 *e*P **P** **09 44 07.2 +0.4**
DPC *e*pP pP 09 44 16.1 -0.7
DPC AMS AMS 10 26 50.0
comp=Z,600nm,18.5s
CONA Conrad Observa 83.30 318⇑ *i*P **P** **09 44 06.4 -0.8**
comp=Z,9.5nm,1.1s,mb4.7
KSP Ksiaz 83.32 321 *e*P **P** **09 44 07.8 +0.6**
KSP *e*S S 09 54 26.5 +0.6
CIGN Sant'Elia a Pi 83.44 312 P **P** **09 44 07.5 -0.6**
UPC Upice 83.46 321 *e*P **P** **09 44 08.4 +0.5**
UPC *e*pP pP 09 44 16.0 -1.9
ARSA Arzberg 83.46 317⇑ *i*P **P** **09 44 07.8 -0.2**
comp=Z,25nm,1.2s,mb5.1
BOJS Bojanci 83.50 316 *e*P **P** **09 44 07.7 -0.5**
TREC Trest 83.68 319 *e*P **P** **09 44 09.2 +0.1**
TREC AMS AMS 10 31 00.0
comp=Z,600nm,18.0s
PERS Pernice 83.69 317 *e*P **P** **09 44 09.1 -0.1**
VISS Visnje 83.81 316 *i*P **P** **09 44 09.4 -0.5**
OBKA Obir 84.07 316⇑ *i*P **P** **09 44 11.3 +0.2**
comp=Z,20nm,1.4s,mb5.1
INTR Introdacqua 84.22 312 P **P** **09 44 10.6 -1.4**
PRU Pruhonice 84.35 320 *e*P **P** **09 44 12.8 +0.3**
PRU AMS AMS 10 27 40.0
comp=Z,600nm,16.6s
JAVS Javornik 84.36 316 *i*P **P** **09 44 11.9 -0.7**
JAVS *e* 09 45 08.3
MOA Molln 84.36 318⇑ *i*P **P** **09 44 12.1 -0.5**
comp=Z,14nm,1.6s,mb4.8
PVCC Panska Ves 84.38 320 *e*P **P** **09 44 13.0 +0.4**
PVCC AMS AMS 10 27 30.0
comp=Z,700nm,18.5s
VOY Vojsko 84.48 316 *e*P **P** **09 44 12.8 -0.5**
VOY *e* pP 09 44 20.7 -2.5
VOY *e* 09 44 27.7
VOY *e* 09 44 43.5
AOI Ancona 84.53 313 P **P** **09 44 13.4 -0.1**
AQU L'Aquila 84.61 312 *e*P **P** **09 44 14.4 +0.4**
AQU pmax pmax
comp=Z,28nm,0.7s,mb5.5
AQU L'Aquila 84.61 312 *e*P **P** **09 44 14.3 +0.4**
comp=Z,28nm,0.7s,mb5.5
MYKA Terra Mystica 84.70 317⇑ *i*P **P** **09 44 14.1 -0.3**
comp=Z,24nm,1.1s,mb5.2
BRG Berggiesshubel 84.81 321 *e*P **P** **09 44 14.6 -0.2**
BRG *e* 09 44 29.1
BRG *e* 09 44 29.1
BRG S S 09 54 41.0 +0.2
BRG PS 09 55 35.0
BRG pmax pmax
comp=Z,16nm,1.4s,mb5.0
BRG pmax pmax
comp=Z,7.0nm,1.0s,mb4.8
BRG MLR MLR
comp=N,266nm,15.2s,MS4.9
BRG MLR MLR
comp=E,317nm,18.7s,MS4.9
BRG MLR MLR
comp=Z,360nm,16.9s,MS4.8
BRG Berggiesshubel 84.81 321 *e*P **P** **09 44 14.6 -0.2**
comp=Z,16nm,1.4s,mb5.0

BRG e 09 44 29.1
BRG S S 09 54 41.0 +0.2
BRG PS 09 55 35.0
BRG LR LR
comp=Z,360nm,16.9s,MS4.8
BRG Berggiesshubel 84.81 321 eP **P** **09 44 14.8 0.0**
comp=Z,16nm,1.2s,mb5.0
BRG eL 10 32 29.3
comp=Z,563nm,19.3s
BRG Berggiesshubel 84.81 321 eP **P** **09 44 14.6 -0.2**
comp=Z,26nm,1.4s,mb5.2
BRG e 09 44 29.1
BRG e 09 44 29.1
comp=Z,12nm,1.0s
BRG S S 09 54 41.0 +0.2
BRG PS 09 55 35.0
BRG
comp=N,444nm,15.2s
BRG
comp=E,529nm,18.7s
BRG
comp=Z,601nm,16.9s
GEC2 GERESS Array S 84.81 319 eP **P** **09 44 14.8 0.0**
GEC2 pmax pmax
comp=Z,39nm,1.2s,mb5.4
GEC2 MLR MLR
comp=Z,600nm,18.6s,MS5.0
GEC2 GERESS Array S 84.81 319 eP **P** **09 44 14.8 0.0**
comp=Z,39nm,1.2s,mb5.4
GEC2 eL 10 32 04.5
comp=Z,634nm,18.6s
GERES GERESS Array B 84.81 319 P **P** **09 44 14.9 +0.1**
comp=Z,13nm,1.0s,mb5.0,baz=102,slow=5.7,SNR=67
CING Cingoli 84.82 313 P **P** **09 44 15.1 +0.1**
NRCA Norcia 84.85 313 P **P** **09 44 14.8 -0.4**
comp=Z,6.4nm,0.5s,mb5.0
PTCC Patocco-Chiusa 84.88 316 P **P** **09 44 14.8 -0.5**
comp=Z,25nm,1.1s,mb5.3
KHC Kasperske Hory 84.91 319 eP **P** **09 44 15.2 -0.1**
KHC epP pP 09 44 21.4 -3.9
KHC ex x 09 44 34.5
KHC AMS AMS 10 28 00.0
comp=Z,700nm,20.3s
KBA Koelnbreinsper 84.93 317⇑ iP **P** **09 44 14.9 -0.6**
comp=Z,13nm,1.4s,mb4.9
KBA Koelnbreinsper 84.93 317⇑ iP **P** **09 44 14.9 -0.6**
KBA pmax pmax
comp=Z,13nm,1.4s,mb4.9
RUE Ruedersdorf 85.03 322 eP **P** **09 44 16.2 +0.4**
comp=Z,102nm,1.5s,mb5.7
RUE eL 10 30 21.7
comp=Z,623nm,20.0s
FSSB Fossombrone 85.14 314 P **P** **09 44 17.2 +0.6**
comp=Z,9.3nm,0.3s,mb5.4
FBE Freiberg 85.18 321 eP **P** **09 44 16.6 0.0**
comp=Z,24nm,1.1s,mb5.2
WET Wettzell 85.37 319 eP **P** **09 44 17.4 -0.2**
WET pmax pmax
comp=Z,24nm,1.1s,mb5.2
WET MLR MLR
comp=Z,600nm,21.4s,MS5.0
WET Wettzell 85.37 319 eP **P** **09 44 17.4 -0.2**
comp=Z,24nm,1.1s,mb5.2
WET eL 10 28 51.8
comp=Z,563nm,21.4s
CLL Collm 85.43 321 iP **P** **09 44 17.5 -0.4**
CLL e*PP pP 09 44 26.0 -1.8
CLL eS S 09 54 45.0 -1.9
CLL pmax pmax
comp=Z,17nm,1.1s,mb5.1
CLL MLR MLR
comp=Z,600nm,18.8s,MS5.0
CLL Collm 85.43 321 iP **P** **09 44 17.5 -0.4**
comp=Z,17nm,1.1s,mb5.1
CLL epP pP 09 44 26.0 -1.8
CLL eS S 09 54 45.0 -1.9
CLL LR LR
comp=Z,600nm,18.8s,MS5.0
CLL Collm 85.43 321 eP **P** **09 44 17.5 -0.4**
comp=Z,17nm,1.1s,mb5.1
CLL eL 10 31 00.8
comp=Z,599nm,18.9s
CLL Collm 85.43 321 iP **P** **09 44 17.5 -0.4**
comp=Z,17nm,1.1s,mb5.1
CLL epP pP 09 44 26.0 -1.8
CLL e(sP) sP 09 44 32.0 +0.6
CLL eS S 09 54 45.0 -1.9
CLL ePS 09 55 45.0
CLL eSSS 10 04 00.0
CLL ex x 10 05 10.0
CLL eSSSS 10 07 03.0
CLL LmV 10 30 00.0
comp=Z,600nm,18.8s
RGN Rugen 85.46 324 eL 10 29 15.1
comp=Z,622nm,22.0s
NKC Novy Kostel 85.71 320 eP **P** **09 44 19.8 +0.5**
WERN Wernitzgruen 85.76 320 eP **P** **09 44 19.6 0.0**
comp=Z,15nm,1.2s,mb5.1
GUNZ Gunzen 85.80 320 eP **P** **09 44 19.9 +0.2**
comp=Z,20nm,1.2s,mb5.2
WERD Werda 85.82 320 eP **P** **09 44 19.6 -0.2**
comp=Z,13nm,1.1s,mb5.1
SFI Santa Sofia 85.82 314 P **P** **09 44 20.9 +0.9**
SFI pmax pmax
comp=Z,93nm,1.3s,mb5.8
SFI Santa Sofia 85.82 314 P **P** **09 44 20.9 +0.9**
comp=Z,93nm,1.3s,mb5.9
ROTZ Rotzenmuhle 85.84 320 eP **P** **09 44 20.2 +0.2**
comp=Z,26nm,1.2s,mb5.3
ROTZ eL 10 30 00.1
comp=Z,435nm,21.0s
MANZ Manzenberg 85.92 320 eP **P** **09 44 20.7 +0.4**
comp=Z,29nm,1.1s,mb5.4
MANZ eL 10 29 01.0
comp=Z,839nm,20.7s
CTI Castel Tesino 86.05 316 P **P** **09 44 20.9 -0.2**
CTI pmax pmax
comp=Z,29nm,0.9s,mb5.5
CTI Castel Tesino 86.05 316 P **P** **09 44 20.9 -0.2**
comp=Z,28nm,0.9s,mb5.5
WTTA Wattenberg 86.11 317⇑ iP **P** **09 44 20.7 -0.6**
comp=Z,22nm,1.1s,mb5.3
WTTA Wattenberg 86.11 317⇑ iP **P** **09 44 20.7 -0.6**
WTTA pmax pmax
comp=Z,22nm,1.1s,mb5.3
MOX Moxa 86.27 320 eP **P** **09 44 22.2 +0.2**
comp=Z,24nm,1.6s,mb5.2
MOX e pP 09 44 32.2 +0.2
MOX
comp=Z,600nm,20.0s
MOX Moxa 86.27 320 eP **P** **09 44 22.2 +0.2**
MOX e pP 09 44 32.2 +0.2
MOX pmax pmax
comp=Z,24nm,1.6s,mb5.2
MOX MLR MLR
comp=Z,600nm,20.0s,MS5.0
MOX Moxa 86.27 320 eP **P** **09 44 21.9 -0.1**
comp=Z,18nm,1.3s,mb5.1
MOX eL 10 31 32.2
comp=Z,722nm,19.5s
FUR Furstenfeldbru 86.38 318 eP **P** **09 44 22.0 -0.7**
FUR pmax pmax
comp=Z,40nm,1.4s,mb5.5
FUR MLR MLR
comp=Z,700nm,18.1s,MS5.1
FUR Furstenfeldbru 86.38 318 eP **P** **09 44 22.0 -0.7**
comp=Z,40nm,1.4s,mb5.5
FUR eL 10 31 19.2
comp=Z,720nm,18.1s
MOTA Moosalm 86.47 317⇑ iP **P** **09 44 22.4 -0.7**
comp=Z,11nm,1.1s,mb5.0
MOTA Moosalm 86.47 317⇑ iP **P** **09 44 22.4 -0.7**
MOTA pmax pmax
comp=Z,11nm,1.1s,mb5.0
GRA1 Grafenberg Arr 86.48 320 eP **P** **09 44 23.4 +0.3**
comp=Z,37nm,1.3s,mb5.5
GRA1 LR LR
comp=Z,700nm,21.8s,MS5.0
GRF Grafenberg Arr 86.48 320 eP **P** **09 44 23.4 +0.3**
GRF pmax pmax
comp=Z,37nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,700nm,21.8s,MS5.0
GRF Grafenberg Arr 86.48 320 eP **P** **09 44 23.4 +0.3**
GRF pmax pmax
comp=Z,37nm,1.3s,mb5.5
GRF MLR MLR
comp=Z,700nm,21.8s,MS5.0
GRF Grafenberg Arr 86.48 320 eP **P** **09 44 23.4 +0.3**
comp=Z,37nm,1.3s,mb5.5
GRF eL 10 29 30.2
comp=Z,672nm,21.8s
GRFO Grafenberg 86.48 320 PFAKE 09 44 30.0 +6.9
GRFO LR LR
comp=Z,657nm,20.0s,MS5.0
GRFO Grafenberg 86.48 320 eL 10 29 30.2
comp=Z,638nm,21.9s
ADK Adak 86.61 38 eP **P** **09 44 23.5 -0.2**
ADK MLR MLR
comp=Z,437nm,20.0s,MS4.9
FETA Feichten 86.72 317⇑ iP **P** **09 44 24.0 -0.3**
comp=Z,10nm,1.0s,mb5.0
SBA Scott Base 86.95 169 eP **P** **09 44 27.1 +2.2**
SBA pmax pmax
comp=Z,116nm,2.2s,mb5.7
SBA MLR MLR
comp=Z,1μm,20.0s,MS5.3
SBA Scott Base 86.95 169 eP **P** **09 44 27.1 +2.2**
comp=Z,116nm,2.2s,mb5.7
SBA LR LR
comp=Z,1μm,20.0s,MS5.3
NB2 NORSAR Subarra 86.99 331 P **P** **09 44 24.6 -0.8**
comp=Z,26nm,1.1s,mb5.4,baz=93,slow=5.3
NOA NORSAR Array B 86.99 331 P **P** **09 44 24.6 -0.8**
comp=Z,12nm,0.9s,mb5.1,baz=94,slow=5.0,SNR=20
NOA LR LR 10 32 14.2
comp=Z,604nm,18.0s,MS5.0,baz=90,slow=42
CLZ Clausthal 87.09 322 eP **P** **09 44 26.1 +0.1**
CLZ pmax pmax
comp=Z,31nm,1.2s,mb5.4
CLZ MLR MLR
comp=Z,700nm,20.8s,MS5.0
CLZ Clausthal 87.09 322 eP **P** **09 44 26.1 +0.1**
comp=Z,31nm,1.2s,mb5.4
CLZ eL 10 29 53.2
comp=Z,673nm,20.8s
BSEG Bad Segeberg 87.19 324 eP **P** **09 44 26.7 +0.2**
comp=Z,36nm,1.1s,mb5.5
BSEG eL 10 28 54.8
comp=Z,687nm,20.4s
NRDL Niedersach Rie 87.27 322 eP **P** **09 44 27.3 +0.4**
comp=Z,73nm,1.6s,mb5.7
NRDL eL 10 29 11.3
comp=Z,627nm,21.7s
UBBA Unterbreizbach 87.30 321 eL 10 31 40.5
comp=Z,509nm,20.5s
DAVA Damuels 87.30 317⇑ iP **P** **09 44 26.9 -0.2**
comp=Z,25nm,1.1s,mb5.4
VSL Villasalto 87.57 309 eP **P** **09 44 28.5 -0.2**
comp=Z,18nm,1.0s,mb5.3
KEST Kesra 87.57 306 P **P** **09 44 29.7 +1.0**
comp=Z,5.8nm,0.9s,mb4.8,baz=289,slow=2.3,SNR=16
KEST LR LR 10 27 12.6
comp=Z,290nm,18.9s,MS4.7,baz=12,slow=38
KONO Kongsberg 87.74 329 eP **P** **09 44 29.0 -0.1**
KONO e 09 55 12.2
KONO Kongsberg 87.74 329 PFAKE 09 44 40.0 +11
KONO LR LR
comp=Z,1μm,19.0s,MS5.3
STU Stuttgart 87.78 319 eL 10 30 26.6
comp=Z,798nm,20.8s
PGF Pioggiola 87.87 312 eP **P** **09 44 29.8 -0.2**
KBS Kingsbay 87.89 349 eP **P** **09 44 29.1 -0.3**
KBS ePP PP 09 47 55.0 -0.5
KBS eSKS 09 54 58.3
KBS AMS AMS 10 32 45.6
comp=Z,719nm,20.2s,MS5.1
KBS Kingsbay 87.89 349 c iP **P** **09 44 28.4 -1.0**
KBS Kingsbay 87.89 349⇑ iP **P** **09 44 28.5 -0.9**
KBS LR LR
comp=Z,720nm,20.2s,MS5.1
BFO Black Forest 88.36 318 eP **P** **09 44 31.6 -0.6**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
BFO MLR MLR
comp=Z,517nm,20.0s,MS4.9
BFO Black Forest 88.36 318 eP **P** **09 44 31.6 -0.6**
comp=Z,8.0nm,0.9s,mb5.0
BFO eL 10 30 35.2
comp=Z,418nm,22.0s
HLG Helgoland 88.63 324 eL 10 33 40.6
comp=Z,436nm,20.2s
IBBN Ibbenburen 88.71 322 eP **P** **09 44 34.1 +0.3**
comp=Z,81nm,1.2s,mb5.9
IBBN eL 10 30 07.3
comp=Z,724nm,21.2s
SBF Sospel 89.01 314 eP **P** **09 44 35.1 -0.3**
BUG Bochum--Univer 89.02 321 eP **P** **09 44 35.4 +0.2**
comp=Z,39nm,1.0s,mb5.7
BUG eL 10 32 49.0
comp=Z,535nm,18.9s
LPG La Plagne 89.47 315 eP **P** **09 44 37.6 +0.1**
comp=Z,40nm,1.1s,mb5.4
LPG La Plagne 89.47 315 eP **P** **09 44 37.6 +0.1**
LPG pmax pmax
comp=Z,20nm,1.1s,mb5.4
LPG La Plagne 89.47 315 eP **P** **09 44 37.6 +0.1**
comp=Z,20nm,1.1s,mb5.4
MBDF Montbardon 89.47 315 eP **P** **09 44 36.8 -0.7**
LPL La Plagne 89.48 315 eP **P** **09 44 37.6 +0.1**
comp=Z,30nm,0.9s,mb5.3
LPL La Plagne 89.48 315 eP **P** **09 44 37.6 +0.1**
LPL pmax pmax
comp=Z,15nm,0.9s,mb5.3
LPL La Plagne 89.48 315 eP **P** **09 44 37.6 +0.1**
comp=Z,15nm,0.9s,mb5.3
MAIT Maitri 89.67 199 eP **P** **09 44 38.7 +0.8**
HAU Haudompre 89.69 318 eP **P** **09 44 38.0 -0.4**
comp=Z,38nm,1.0s,mb5.4
HAU eMLR MLR
comp=Z,667nm,21.2s,MS4.7
HAU Haudompre 89.69 318 eP **P** **09 44 38.0 -0.4**
HAU pmax pmax
comp=Z,19nm,1.0s,mb5.4
HAU MLR MLR
comp=Z,670nm,21.3s,MS5.0
HAU Haudompre 89.69 318 eP **P** **09 44 38.0 -0.4**
comp=Z,19nm,1.0s,mb5.4
HAU LR LR
comp=Z,670nm,21.3s,MS5.0
WLF Walferdange 89.77 319 P **P** **09 44 39.5 +0.7**
comp=Z,28nm,1.7s,mb5.3
WLF Walferdange 89.77 319 eP **P** **09 44 39.4 +0.6**
comp=Z,47nm,1.5s,mb5.6
WLF eL 10 33 34.3
comp=Z,742nm,18.6s
MEM Membach 89.84 320 P **P** **09 44 39.6 +0.5**
BER Bergen 89.88 330 eSKS 09 55 12.0
BER AMS AMS 10 30 55.2
comp=Z,669nm,15.3s,MS5.2
CABF La Chapelle 89.90 316 eP **P** **09 44 39.6 +0.1**
comp=Z,54nm,1.2s,mb5.5
CABF La Chapelle 89.90 316 eP **P** **09 44 39.6 +0.1**
CABF pmax pmax
comp=Z,27nm,1.2s,mb5.5
CABF La Chapelle 89.90 316 eP **P** **09 44 39.6 +0.1**
comp=Z,27nm,1.2s,mb5.5
BEBN Eben Emael 90.04 321 P **P** **09 44 41.0 +1.0**
ORIF Oris-en-Rattie 90.10 315 eP **P** **09 44 40.7 +0.2**
comp=Z,12nm,0.7s,mb5.0
ORIF eMLR MLR
comp=Z,772nm,20.8s,MS4.8
ORIF Oris-en-Rattie 90.10 315 eP **P** **09 44 40.7 +0.2**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 90.10 315 eP **P** **09 44 40.7 +0.2**
comp=Z,5.8nm,0.7s,mb5.0
BCLA Clavier 90.29 320 P **P** **09 44 41.7 +0.5**
comp=Z,30nm,2.9s,mb5.1
GIVF Givet 90.61 320 eP **P** **09 44 42.8 +0.1**
DOU Dourbes 90.76 320 P **P** **09 44 43.4 0.0**
comp=Z,24nm,2.6s,mb5.1
TNA Tin City 90.89 24 PFAKE 09 44 50.0 +6.3
TNA LR LR
comp=Z,637nm,21.0s,MS5.0
VIVF Saint-Julien-l 90.96 315 eP **P** **09 44 44.4 -0.1**
comp=Z,60nm,1.4s,mb5.5
VIVF Saint-Julien-l 90.96 315 eP **P** **09 44 44.4 -0.1**
VIVF pmax pmax
comp=Z,30nm,1.4s,mb5.4
VIVF Saint-Julien-l 90.96 315 eP **P** **09 44 44.4 -0.1**
comp=Z,30nm,1.4s,mb5.4
BAIF Baives 91.01 320 eP **P** **09 44 44.9 +0.3**
comp=Z,67nm,1.0s,mb5.6
BAIF Baives 91.01 320 eP **P** **09 44 44.9 +0.3**
BAIF pmax pmax
comp=Z,33nm,1.0s,mb5.6
BAIF Baives 91.01 320 eP **P** **09 44 44.9 +0.3**
comp=Z,33nm,1.0s,mb5.6
QSPA South Pole Qui 91.18 180 PFAKE 09 45 00.0 +15
QSPA LR LR
comp=Z,1μm,19.0s,MS5.4
LOR Lormes 91.40 317 eP **P** **09 44 46.3 -0.1**
comp=Z,84nm,1.1s,mb5.7
LOR eMLR MLR
comp=Z,811nm,20.2s,MS4.9
LOR Lormes 91.40 317 eP **P** **09 44 46.3 -0.1**
LOR pmax pmax
comp=Z,42nm,1.1s,mb5.7
LOR MLR MLR
comp=Z,810nm,20.3s,MS5.2
LOR Lormes 91.40 317 eP **P** **09 44 46.3 -0.1**
comp=Z,42nm,1.1s,mb5.7
LOR LR LR
comp=Z,810nm,20.3s,MS5.2
SMF Signal de Mont 91.45 317 eP **P** **09 44 46.5 -0.2**
comp=Z,36nm,1.0s,mb5.4
SMF Signal de Mont 91.45 317 eP **P** **09 44 46.5 -0.2**
SMF pmax pmax
comp=Z,18nm,1.0s,mb5.4
SMF Signal de Mont 91.45 317 eP **P** **09 44 46.5 -0.2**
comp=Z,18nm,1.0s,mb5.4
SSF Saint Saulge 91.65 317 eP **P** **09 44 47.6 0.0**
comp=Z,28nm,1.2s,mb5.2
SSF Saint Saulge 91.65 317 eP **P** **09 44 47.6 0.0**
SSF pmax pmax
comp=Z,14nm,1.2s,mb5.2
SSF Saint Saulge 91.65 317 eP **P** **09 44 47.6 0.0**
comp=Z,14nm,1.2s,mb5.2
AVF Avril sur Loir 91.78 317 eP **P** **09 44 48.0 -0.2**
comp=Z,60nm,1.1s,mb5.5
AVF Avril sur Loir 91.78 317 eP **P** **09 44 48.0 -0.2**
AVF pmax pmax
comp=Z,30nm,1.1s,mb5.5
AVF Avril sur Loir 91.78 317 eP **P** **09 44 48.0 -0.2**
comp=Z,30nm,1.1s,mb5.5
BGF Bois d'Agland 92.14 316 eP **P** **09 44 50.2 +0.3**
comp=Z,89nm,1.1s,mb5.7
BGF Bois d'Agland 92.14 316 eP **P** **09 44 50.2 +0.3**
BGF pmax pmax
comp=Z,45nm,1.1s,mb5.7
BGF Bois d'Agland 92.14 316 eP **P** **09 44 50.2 +0.3**
comp=Z,45nm,1.1s,mb5.7
UNV Unalaska Valle 92.71 36 PFAKE 09 45 00.0 +7.6
UNV LR LR
comp=Z,2μm,20.0s,MS5.5
JMIC Jan Mayen 93.94 342 eP **P** **09 44 59.2 +1.6**
JMIC ePP PP 09 48 39.9 -3.5
JMIC AMS AMS 10 31 36.8
comp=Z,444nm,17.0s,MS5.0
JMIC Jan Mayen 93.94 342 eP **P** **09 44 59.2 +1.6**
JMIC e 09 48 44.1
JMIC LR LR
comp=Z,440nm,17.0s,MS5.0
ESK Eskdalemuir 94.93 326 PFAKE 09 45 10.0 +7.5
ESK LR LR
comp=Z,608nm,19.0s,MS5.1
TORD Torodi Ar. Bea 95.12 283 P **P** **09 45 04.3 0.0**
TORD PP PP 09 49 06.7 +12
TORD LR LR 10 27 09.8
TORD Torodi Ar. Bea 95.12 283 P **P** **09 45 04.3 0.0**
comp=Z,0.6nm,0.9s,mb4.0,baz=101,slow=7.5,SNR=3.2
TORD PP PP 09 49 06.7 +12
comp=Z,0.7nm,1.0s,baz=113,slow=11,SNR=2.7
TORD LR LR 10 27 09.8
comp=Z,840nm,19.5s,MS5.2,baz=110,slow=35
TTA Tatalina 96.47 26 eP **P** **09 45 09.8 +0.4**
TTA pP 09 45 21.1 +1.7
TTA e 09 45 29.1
TTA Tatalina 96.47 26 eP **P** **09 45 10.2 +0.8**
IMA2 Indian Mountai 96.53 23 eP **P** **09 45 09.8 +0.2**
ESDC Sonseca Array 97.83 310 LR LR 10 37 06.9
comp=Z,322nm,18.2s,MS4.8,baz=95,slow=40
ESLA Sonseca Array 97.83 310 PFAKE 09 45 30.0 +14
ESLA LR LR
comp=Z,2μm,19.0s,MS5.7
PAB San Pablo 98.14 310 PFAKE 09 45 30.0 +13
PAB LR LR
comp=Z,392nm,20.0s,MS4.9
COLA College 99.23 23 PFAKE 09 45 30.0 +8.3
COLA LR LR
comp=Z,694nm,20.0s,MS5.2
MCK McKinley 99.24 24 eP **P** **09 45 21.7 -0.1**
MCK MLR MLR
comp=Z,492nm,21.0s,MS5.0
KDAK Kodiak Island 99.59 31 PFAKE 09 45 30.0 +6.4
KDAK LR LR
comp=Z,214nm,19.0s,MS4.7
PMR Palmer 99.95 26 PFAKE 09 45 40.0 +15
PMR LR LR
comp=Z,701nm,19.0s,MS5.2
DIV Divide 101.62 26 PFAKE 09 45 40.0 +7.4
DIV LR LR
comp=Z,2μm,19.0s,MS5.7
EGAK Eagle 101.84 22 PFAKE 09 45 40.0 +6.5
EGAK LR LR
comp=Z,2μm,21.0s,MS5.6
DBIC Dimbokro 101.86 277 PFAKE 09 45 50.0 +16
DBIC LR LR
comp=Z,247nm,20.0s,MS4.7
INK Inuvik 102.43 17 eP Pdif 09 45 35.8 -0.4
POHA Pohakuloa 105.77 69 PFAKE 09 50 20.0 +15
POHA LR LR
comp=Z,705nm,20.0s,MS5.2
SFJD Kangerlussuaq 108.24 347 PFAKE 09 50 20.0 +12
SFJD LR LR
comp=Z,1μm,20.0s,MS5.5
SIT Sitka 108.31 27 PFAKE 09 50 20.0 +12
SIT LR LR
comp=Z,1μm,19.0s,MS5.5
WRAK Wrangell Islan 110.02 27 PFAKE 09 50 20.0 +8.4
WRAK LR LR
comp=Z,952nm,19.0s,MS5.4
YKA Yellowknife Ar 112.05 15 PKiKP PKiKP 09 50 14.2 -1.1
comp=Z,0.9nm,1.0s,baz=324,slow=3.5,SNR=5.2
YKA PP PP 09 50 55.5 -3.2
comp=Z,2.0nm,0.8s,baz=331,slow=7.3,SNR=7.9
PPT Papeete 112.45 108 ePS PS 10 00 38.8 +0.5
comp=Z,545nm,28.0s
PPT Papeete 112.45 108 eLR LR 10 24 03.2
comp=Z,854nm,25.0s
NLWA Neilton Lookou 119.74 31 PFAKE 09 50 40.0 +9.5
NLWA LR LR
comp=Z,526nm,20.0s,MS5.2
B05A Bryant 120.05 29 ⇓P PKPdf 09 50 31.5 +0.4
baz=120
A07A Ashnola River, 120.32 28 ⇑P PKPdf 09 50 31.5 -0.1
baz=120
B07A Winthrop 120.86 28 ⇓P PKPdf 09 50 32.5 -0.1
baz=121
A08A Turner Farm, O 120.90 27 ⇑P PKPdf 09 50 32.9 +0.2
baz=121
B08A Colville Reser 121.30 28 ⇑P PKPdf 09 50 33.5 0.0
baz=121
E05A Randle 121.38 31 ⇑P PKPdf 09 50 33.9 +0.2
baz=121
F04A Amboy 121.46 31 ⇓P PKPdf 09 50 34.1 +0.2
baz=121
E06A Yakima 121.78 30 ⇑P PKPdf 09 50 34.8 +0.3
baz=122
B09A Rice 121.80 27 ⇑P PKPdf 09 50 34.5 0.0
baz=122
COR Corvallis 121.86 33 PFAKE 09 50 50.0 +15
COR LR LR
comp=Z,679nm,22.0s,MS5.2
FFC Flin Flon 122.02 13 ePKIKP PKPdf 09 50 34.0 -0.7
FFC MLR MLR
comp=Z,748nm,19.0s,MS5.4
A11A Hall Mountain, 122.19 26 ⇑P PKPdf 09 50 35.7 +0.5
baz=122
C09A Chrisman Ranch 122.20 28 ⇑P PKPdf 09 50 34.8 -0.4
baz=122
I03A Eugene 122.27 34 ⇓P PKPdf 09 50 36.0 +0.5
baz=122
NEW Newport 122.38 27 PFAKE 09 50 50.0 +14
NEW LR LR
comp=Z,851nm,19.0s,MS5.4
TAOE Nuku Hiva Isla 122.40 100 ePS PS 10 02 07.7 -0.8
comp=Z,9μm,25.5s

TAOE	Nuku Hiva Isla	122.40	100	eLR	LR		10 28 38.4		
	comp=Z,12µm,23.8s								
B11A	Sandpoint	122.58	26	⇑P	PKPdf		09 50 35.9	0.0	
	baz=122								
SCHQ	Schefferville	122.60	349	PKP	PKPdf		09 50 35.6	-0.2	
	comp=Z,4.1nm,0.9s,baz=339,slow=1.9,SNR=4.0								
SCHQ				PP	PP		09 52 13.5	+1.4	
	comp=Z,9.6nm,1.1s,baz=29,slow=8.8,SNR=5.3								
HAWA	Hanford	122.61	29	PFAKE			09 50 50.0	+14	
HAWA				LR	LR				
	comp=Z,465nm,20.0s,MS5.1								
D09A	Jones Farm, Ri	122.72	28	⇑P	PKPdf		09 50 36.2	-0.1	
	baz=122								
I04A	Tendick Farm,	122.87	33	⇑P	PKPdf		09 50 36.1	-0.5	
	baz=123								
K02A	Glendale	122.92	35	⇑P	PKPdf		09 50 37.0	+0.2	
	baz=123								
H05A	Madras	122.94	32	⇑P	PKPdf		09 50 37.3	+0.5	
	baz=123								
A13A	Flathead Natio	123.03	24	⇑P	PKPdf		09 50 36.9	+0.1	
	baz=123								
D10A	Wagner Farm, O	123.21	28	⇑P	PKPdf		09 50 37.4	+0.2	
	baz=123								
L02A	Cave Junction	123.24	36	⇑P	PKPdf		09 50 37.1	-0.3	
	baz=123								
I05A	Bend	123.24	32	⇑P	PKPdf		09 50 37.4	0.0	
	baz=123								
HUMO	Hull Mountain	123.32	35	PFAKE			09 50 50.0	+12	
HUMO				LR	LR				
	comp=Z,415nm,20.0s,MS5.1								
HUMO	Hull Mountain	123.32	35	⇓P	PKPdf		09 50 37.7	+0.1	
	baz=123								
H06A	Lindquist Farm	123.35	31	⇓P	PKPdf		09 50 37.7	+0.1	
	baz=123								
J04A	Umpqua Nationa	123.39	34	⇓P	PKPdf		09 50 38.2	+0.5	
	baz=123								
B13A	Whitefish	123.45	25	P	PKPdf		09 50 37.9	+0.3	
	baz=123,SNR=8.5								
D11A	Klaveano Farm,	123.64	27	⇑P	PKPdf		09 50 37.3	-0.7	
	baz=123								
J05A	Fort Rock	123.85	33	⇓P	PKPdf		09 50 38.6	+0.1	
	baz=124								
H07A	Lands Inn, Kim	123.85	31	⇓P	PKPdf		09 50 39.2	+0.6	
	baz=124								
C13A	Hot Springs	123.94	25	⇓P	PKPdf		09 50 38.4	-0.2	
	baz=124								
I06A	Prineville	123.95	32	⇑P	PKPdf		09 50 39.2	+0.5	
	baz=124								
YBH	Yreka Blue Hor	124.02	35	PFAKE			09 50 50.0	+11	
YBH				LR	LR				
	comp=Z,601nm,20.0s,MS5.2								
YBH	Yreka Blue Hor	124.02	35	⇓P	PKPdf		09 50 38.2	-0.7	
	baz=124								
F10A	Beach Ranch, E	124.02	28	⇓P	PKPdf		09 50 38.7	-0.1	
	baz=124								
D12A	Red Ives Fores	124.08	26	⇑P	PKPdf		09 50 38.1	-0.7	
	baz=124								
M02C	Callahan	124.15	36	⇓P	PKPdf		09 50 39.1	-0.1	
	baz=124								
E11A	Bogner Ranch,	124.22	27	⇓P	PKPdf		09 50 38.9	-0.2	
	baz=124								
C14A	Swan Lake	124.22	25	⇓P	PKPdf		09 50 38.8	-0.3	
	baz=124								
I07A	Izee	124.23	31	⇓P	PKPdf		09 50 39.4	+0.1	
	baz=124								
H08A	Prairie City	124.36	31	⇑P	PKPdf		09 50 39.6	+0.1	
	baz=124								
K05A	Summer Lake	124.40	33	⇑P	PKPdf		09 50 39.6	-0.1	
	baz=124								
D13A	Huson	124.44	26	P	PKPdf		09 50 39.1	-0.4	
	baz=124,SNR=6.0								
J06A	Christmas Vall	124.45	33	⇓P	PKPdf		09 50 39.9	+0.2	
	baz=124								
M03C	McCloud	124.65	36	⇓P	PKPdf		09 50 39.8	-0.4	
	baz=124								
K06A	Valley Falls	124.71	33	⇑P	PKPdf		09 50 40.7	+0.5	
	baz=124								
BMO	Blue Mountains	124.80	29	PFAKE			09 50 50.0	+10	
BMO				LR	LR				
	comp=Z,614nm,22.0s,MS5.2								
J07A	Hines	124.82	32	⇓P	PKPdf		09 50 41.3	+0.9	
	baz=125								
I08A	Drewsey	124.83	31	⇓P	PKPdf		09 50 41.0	+0.6	
	baz=125								
WDC	Whiskeytown Da	124.84	36	PFAKE			09 50 50.0	+9.5	
WDC				LR	LR				
	comp=Z,578nm,21.0s,MS5.2								
D14A	Greenough	124.86	25	P	PKPdf		09 50 39.9	-0.5	
	baz=125,SNR=6.2								
MSO	Missoula	124.87	26	ePKPdf	PKPdf		09 50 40.0	-0.4	
MSO				LR	LR				
	comp=Z,670nm,20.0s,MS5.3								
G11A	Walters Elk Ra	124.90	28	⇓P	PKPdf		09 50 40.1	-0.4	
	baz=125								
RKT	Rikitea	124.92	117	eLR	LR		10 29 42.7		
	comp=Z,802nm,24.2s								
P01C	Double 8 Ranch	125.05	38	⇓P	PKPdf		09 50 40.6	-0.4	
	baz=125								
E13A	Victor	125.06	26	P	PKPdf		09 50 40.3	-0.5	
	baz=125,SNR=16								
CHMT	Chamberlain Mo	125.10	25	ePKPdf	PKPdf		09 50 40.6	-0.3	
M05C	Lookout	125.16	35	⇑P	PKPdf		09 50 41.4	+0.3	
	baz=125								
I09A	Lost Marbles R	125.21	30	⇑P	PKPdf		09 50 41.1	-0.1	
	baz=125								
J08A	Circle Bar Ran	125.27	31	⇑P	PKPdf		09 50 41.7	+0.5	
	baz=125								
MOD	Modoc	125.28	34	PFAKE			09 50 50.0	+8.7	
MOD				LR	LR				
	comp=Z,605nm,20.0s,MS5.3								
MOD	Modoc	125.28	34	⇑P	PKPdf		09 50 41.8	+0.4	
	baz=125								
D15A	Lincoln	125.31	25	⇓P	PKPdf		09 50 41.5	+0.3	
	baz=125								
GASB	Alder Springs	125.31	37	⇑P	PKPdf		09 50 42.8	+1.3	
	baz=125								
K07A	Rock Creek Ran	125.32	33	⇑P	PKPdf		09 50 42.2	+0.8	
	baz=125								
HATC	Hat Creek Radi	125.33	36	⇓P	PKPdf		09 50 42.3	+0.8	
	baz=125								
E14A	Clinton	125.39	26	P	PKPdf		09 50 41.5	+0.1	
	baz=125,SNR=6.5								
HOPS	Hopland	125.50	38	PFAKE			09 50 50.0	+8.1	
HOPS				LR	LR				
	comp=Z,428nm,19.0s,MS5.1								
F13A	Darby	125.50	27	⇓P	PKPdf		09 50 41.7	+0.1	
	baz=125								
H11A	Donnelly	125.54	29	⇓P	PKPdf		09 50 41.7	0.0	
	baz=125								
EGMT	Eagleton	125.60	22	ePKPdf	PKPdf		09 50 41.8	+0.1	
EGMT				LR	LR				
	comp=Z,808nm,21.0s,MS5.4								
EGMT	Eagleton	125.60	22	⇓P	PKPdf		09 50 41.5	-0.2	
	baz=125								
I10A	Payette	125.60	30	⇑P	PKPdf		09 50 42.0	+0.1	
	baz=125								
M06C	Likely Place G	125.64	35	⇑P	PKPdf		09 50 42.7	+0.7	
	baz=126								
J09A	Fry Pan Ranch,	125.65	31	⇓P	PKPdf		09 50 42.3	+0.3	
	baz=125								
K08A	Mann Creek Ran	125.70	32	⇓P	PKPdf		09 50 42.6	+0.4	
	baz=126								
L07A	Adell	125.73	33	⇑P	PKPdf		09 50 42.5	+0.3	
	baz=126								
WVOR	Wild Horse Val	125.83	32	ePKIKP	PKPdf		09 50 43.0	+0.6	
WVOR				MLR	MLR				
	comp=Z,568nm,21.0s,MS5.2								
HRY	Holter Researc	125.86	24	ePKPdf	PKPdf		09 50 41.9	-0.4	
O04C	Chester	125.87	36	⇓P	PKPdf		09 50 42.8	+0.2	
	baz=126								
G13A	Cobalt	126.08	27	⇓P	PKPdf		09 50 42.3	-0.4	
	baz=126								
J10A	Berg Farm, Mel	126.10	30	⇓P	PKPdf		09 50 43.3	+0.4	
	baz=126								
ORV	Oroville	126.11	37	⇑P	PKPdf		09 50 43.0	0.0	
	baz=126								
K09A	Rome	126.12	32	⇓P	PKPdf		09 50 43.6	+0.7	
	baz=126								
MCCM	Marconi Confer	126.13	39	PFAKE			09 50 50.0	+6.9	
MCCM				LR	LR				
	comp=Z,497nm,19.0s,MS5.2								
MCCM	Marconi Confer	126.13	39	⇓P	PKPdf		09 50 42.1	-1.0	
	baz=126								
I11A	Placerville	126.15	29	⇑P	PKPdf		09 50 42.7	-0.2	
	baz=126								
L08A	Fields	126.15	32	⇑P	PKPdf		09 50 43.5	+0.5	
	baz=126								
O05C	Quincy	126.19	36	⇑P	PKPdf		09 50 42.9	-0.2	
	baz=126								
H12A	Diamond D Ranc	126.20	28	⇓P	PKPdf		09 50 42.9	-0.1	
	baz=126								
M07A	Soldier Meadow	126.25	34	⇑P	PKPdf		09 50 43.6	+0.4	
	baz=126								
F15A	Butte	126.27	25	⇑P	PKPdf		09 50 42.9	-0.2	
	baz=126								
N06A	Buffalo Meadow	126.31	35	⇑P	PKPdf		09 50 43.9	+0.5	
	baz=126								
FARB	Farallon Islan	126.32	39	⇓P	PKPdf		09 50 43.3	-0.2	
	baz=126								
H13A	Challis	126.47	28	⇓P	PKPdf		09 50 43.6	+0.1	
	baz=126								
K10A	MacKenzie Ranc	126.51	31	⇓P	PKPdf		09 50 43.6	-0.1	
	baz=126								
MFID	Camas Ranch	126.58	30	⇑P	PKPdf		09 50 43.8	0.0	
	baz=126								
BEKR	Beckwourth	126.58	36	⇑P	PKPdf		09 50 43.7	-0.2	
	baz=126								
DLMT	Dillon	126.60	26	ePKPdf	PKPdf		09 50 44.3	+0.6	
L09A	Wilkinson Ranc	126.63	32	⇑P	PKPdf		09 50 44.6	+0.7	
	baz=126								
M08A	Happy Creek Ra	126.65	33	⇑P	PKPdf		09 50 44.6	+0.6	
	baz=126								
O06A	Flanigan	126.70	35	⇑P	PKPdf		09 50 43.9	-0.2	
	baz=126								
N07B	Gerlach	126.77	34	⇑P	PKPdf		09 50 44.9	+0.6	
	baz=127								
BOZ	Bozeman (W)	126.79	25	ePKIKP	PKPdf		09 50 44.2	+0.1	
BOZ				MLR	MLR				
	comp=Z,528nm,20.0s,MS5.2								
BOZ	Bozeman (W)	126.79	25	⇑P	PKPdf		09 50 44.5	+0.3	
	baz=127								
P05C	Yuba Gap, Truc	126.80	36	⇓P	PKPdf		09 50 44.9	+0.6	
	baz=127								
G15A	Dillon	126.80	26	⇑P	PKPdf		09 50 44.7	+0.6	
	baz=127								
MCMT	McKenzie Canyo	126.91	26	ePKPdf	PKPdf		09 50 45.3	+0.9	
K11A	Parker Ranch,	126.94	30	⇑P	PKPdf		09 50 44.9	+0.4	
	baz=127								
I13A	Wildhorse Cree	127.03	28	P	PKPdf		09 50 45.6	+1.0	
	baz=127,SNR=6.5								
J12A	Stokes Ranch,	127.06	29	P	PKPdf		09 50 45.7	+1.0	
	baz=127,SNR=5.7								
LAVA	Lava Cap Winer	127.07	37	⇑P	PKPdf		09 50 45.3	+0.4	
	baz=127								
DGMT	Dagmar	127.11	18	PFAKE			09 51 00.0	+15	
DGMT				LR	LR				
	comp=Z,1µm,20.0s,MS5.5								
HLID	Hailey	127.15	29	P	PKPdf		09 50 45.9	+1.0	
	baz=127,SNR=6.7								
M09A	Marrel Ranch,	127.17	32	⇓P	PKPdf		09 50 46.0	+1.0	
	baz=127								
L10A	Juniper Basin	127.22	31	⇑P	PKPdf		09 50 45.9	+0.9	
	baz=127								
N08A	GE Springer Mi	127.24	34	⇑P	PKPdf		09 50 45.7	+0.6	
	baz=127								
O07A	Toulon	127.24	35	⇓P	PKPdf		09 50 45.6	+0.5	
	baz=127								
WCN	Washoe City	127.31	36	⇓P	PKPdf		09 50 45.9	+0.6	
	baz=127								
J13A	Cove Ranch, Pi	127.39	29	P	PKPdf		09 50 46.4	+1.0	
	baz=127,SNR=16								
GCMT	Greycliff	127.48	24	ePKPdf	PKPdf		09 50 45.3	-0.1	
ULM	Lac du Bonnet	127.49	11	PKP	PKPdf		09 50 44.5	-0.9	
	comp=Z,7.0nm,0.9s,baz=347,slow=3.8,SNR=11								
S04C	Ingram Canyon,	127.50	39	⇓P	PKPdf		09 50 46.7	+0.9	
	baz=127								
R05C	Kirkwood Meado	127.50	37	⇓P	PKPdf		09 50 46.4	+0.7	
	baz=127								
L11A	Cat Creek Ranc	127.52	31	⇓P	PKPdf		09 50 46.4	+0.8	
	baz=127								
N09A	Rock Creek Ran	127.52	33	⇓P	PKPdf		09 50 46.8	+1.1	
	baz=127								
M10A	I.L. Ranch, Tu	127.58	32	⇑P	PKPdf		09 50 46.6	+0.9	
	baz=127								
CMB	Columbia Colle	127.75	38	PFAKE			09 51 00.0	+14	
CMB				LR	LR				
	comp=Z,422nm,21.0s,MS5.1								
CMB	Columbia Colle	127.75	38	⇓P	PKPdf		09 50 46.2	0.0	
	baz=128								
YMR	Madison River	127.86	25	PFAKE			09 51 00.0	+14	
YMR				LR	LR				
	comp=Z,2µm,22.0s,MS5.8								
SAO	San Andreas Ge	127.88	39	PFAKE			09 51 00.0	+14	
SAO				LR	LR				
	comp=Z,520nm,19.0s,MS5.2								
L12A	House Creek Ra	127.91	30	⇓P	PKPdf		09 50 46.7	+0.4	
	baz=128								
R06C	Coleville	127.99	36	⇑P	PKPdf		09 50 47.3	+0.7	
	baz=128								
K13A	Stover Farm, H	128.00	29	⇓P	PKPdf		09 50 47.4	+0.9	
	baz=128								
M11A	Holland Ranch,	128.04	31	⇑P	PKPdf		09 50 47.4	+0.7	
	baz=128,SNR=7.5								
Q07A	Schurz	128.10	36	⇓P	PKPdf		09 50 47.6	+0.8	
	baz=128								
O09A	Fish Creek Ran	128.18	33	⇓P	PKPdf		09 50 47.4	+0.5	
	baz=128								
T05C	Eagle Field, D	128.28	39	⇓P	PKPdf		09 50 47.0	-0.3	
	baz=128								
O10A	Cortez Mining,	128.47	33	⇑P	PKPdf		09 50 47.9	+0.4	
	baz=128								
L13A	Double Diamond	128.49	29	⇓P	PKPdf		09 50 47.9	+0.5	
	baz=128								
M12A	Wells	128.50	31	P	PKPdf		09 50 48.2	+0.7	
	baz=128,SNR=12								
N11A	Elko Archery C	128.51	32	⇓P	PKPdf		09 50 48.0	+0.5	
	baz=128								
K14A	Jones Ranch, D	128.52	29	⇓P	PKPdf		09 50 47.7	+0.2	
	baz=128								
R07C	Lee Vining	128.52	37	⇓P	PKPdf		09 50 48.4	+0.8	
	baz=128								
U04C	Hernandez Rese	128.54	39	⇑P	PKPdf		09 50 48.6	+0.9	
	baz=128								
Q08A	Gabbs	128.66	35	⇑P	PKPdf		09 50 48.4	+0.5	
	baz=128								
NVAR	Mina Array Bea	128.73	36	PKP	PKPdf		09 50 49.2	+1.2	
NVAR	Mina Array Bea	128.73	36	PKP	PKPdf		09 50 49.2	+1.2	
	comp=Z,5.0nm,1.0s,baz=268,slow=2.7,SNR=20								
TPAW	Teton Pass	128.80	26	ePKPdf	PKPdf		09 50 48.6	+0.6	
T06C	Millerton Lake	128.81	38	⇑P	PKPdf		09 50 48.7	+0.5	
	baz=129								
N12A	Clover Valley,	128.85	31	P	PKPdf		09 50 49.5	+1.3	
	baz=129,SNR=6.7								
KCC	Kaiser Creek	128.85	38	⇑P	PKPdf		09 50 49.1	+0.8	
	baz=129								
R08A	Mina	128.90	36	⇓P	PKPdf		09 50 49.4	+1.1	
	baz=129								
SNOW	Snow King Moun	128.91	26	ePKPdf	PKPdf		09 50 49.1	+0.9	
M13A	Montello	128.92	30	⇓P	PKPdf		09 50 49.0	+0.7	
	baz=129								
REDW	Red Top Meadow	128.95	26	ePKPdf	PKPdf		09 50 49.0	+0.7	
P10A	Eureka	128.96	33	⇑P	PKPdf		09 50 49.3	+0.8	
	baz=129								
U05C	Westside ANR,	128.98	39	⇑P	PKPdf		09 50 49.5	+0.9	
	baz=129								
O11A	Cowboy Ranch,	129.04	32	P	PKPdf		09 50 49.8	+1.2	
	baz=129,SNR=6.1								
Q09A	Carvers	129.11	35	⇓P	PKPdf		09 50 49.3	+0.5	
	baz=129								
M14A	Sheep Mountain	129.22	30	⇓P	PKPdf		09 50 49.7	+0.8	
	baz=129								
AHID	Auburn Hatcher	129.31	27	PFAKE			09 51 00.0	+11	
AHID				LR	LR				
	comp=Z,746nm,19.0s,MS5.4								
AGMN	Agassiz Refuge	129.37	11	PFAKE			09 51 00.0	+11	
AGMN				LR	LR				
	comp=Z,971nm,19.0s,MS5.5								
O12A	Currie	129.43	32	⇓P	PKPdf		09 50 50.3	+0.9	
	baz=129,SNR=7.6								
S08C	White Mtn Res	129.43	37	⇑P	PKPdf		09 50 50.3	+0.9	
	baz=129								
HELL	Mitchell Peak	129.44	38	⇓P	PKPdf		09 50 49.5	+0.1	
	baz=129								
Q10A	Clear Creek Ra	129.55	34	⇓P	PKPdf		09 50 50.0	+0.4	
	baz=129								
R09A	Tonopah	129.57	35	⇑P	PKPdf		09 50 50.4	+0.8	
	baz=129								
N14A	Grayback Hills	129.79	30	⇓P	PKPdf		09 50 50.4	+0.4	
	baz=130								
S09A	Goldfield	129.84	36	P	PKPdf		09 50 51.5	+1.3	
	baz=130,SNR=5.9								
P12A	McGill	129.91	32	⇓P	PKPdf		09 50 51.0	+0.8	
	baz=130								
O13A	Hicks Ranch, I	129.92	31	⇑P	PKPdf		09 50 50.4	+0.1	
	baz=130								
Q11A	Duckwater	129.96	34	⇓P	PKPdf		09 50 50.6	+0.2	
	baz=130								
R10A	Warm Springs	129.98	35	⇑P	PKPdf		09 50 50.8	+0.4	
	baz=130								
BW06	Boulder Array	129.99	26	PFAKE			09 51 00.0	+10	
BW06				LR	LR				
	comp=Z,684nm,19.0s,MS5.4								
HWUT	Hardware Ranch	130.00	28	PFAKE			09 51 00.0	+10	
HWUT				LR	LR				
	comp=Z,661nm,19.0s,MS5.3								
S10A	Tonopah Range,	130.07	35	P	PKPdf		09 50 51.9	+1.3	
	baz=130,SNR=12								
R11A	Troy Canyon, C	130.34	34	P	PKPdf		09 50 52.0	+0.9	
	baz=130,SNR=20								
P13A	Bates Ranch, G	130.40	32	⇑P	PKPdf		09 50 51.7	+0.5	
	baz=130								
EYMN	Ely	130.43	8	PFAKE			09 51 00.0	+9.0	
EYMN				LR	LR				
	comp=Z,731nm,19.0s,MS5.4								
DUG	Dugway	130.47	30	ePKIKP	PKPdf		09 50 52.3	+1.0	
DUG				MLR	MLR				
	comp=Z,557nm,20.0s,MS5.3								
DUG	Dugway	130.47	30	⇑P	PKPdf		09 50 52.1	+0.8	
	baz=130								
ARVC	Arvin	130.55	39	⇑P	PKPdf		09 50 52.3	+0.7	
	baz=130								
S11A	Rachel	130.74	35	⇓P	PKPdf		09 50 52.9	+1.0	
	baz=130								
Q13A	Wheeler Ranch,	130.76	32	⇓P	PKPdf		09 50 52.8	+0.9	
	baz=131								
MPMC	Manual Prospec	130.79	38	⇓P	PKPdf		09 50 52.7	+0.7	
	baz=131								
FURC	Furnace Creek,	130.90	37	⇑P	PKPdf		09 50 52.7	+0.4	
	baz=131								
R12A	Pony Springs,	130.90	33	⇓P	PKPdf		09 50 52.6	+0.5	
	baz=131								
TPNV	Topopah Spring	130.93	36	PFAKE			09 51 00.0	+7.7	
TPNV				LR	LR				
	comp=Z,531nm,20.0s,MS5.2								
TPNV	Topopah Spring	130.93	36	⇑P	PKPdf		09 50 52.6	+0.3	
	baz=131								
RSSD	Black Hills	131.00	20	PFAKE			09 51 00.0	+7.8	
RSSD				LR	LR				
	comp=Z,600nm,20.0s,MS5.3								
BLG	Laguna Peak	131.04	41	⇑P	PKPdf		09 50 53.5	+0.9	
	baz=131								
MPU	Maple Canyon	131.20	30	PFAKE			09 51 00.0	+7.3	
MPU				LR	LR				
	comp=Z,1µm,21.0s,MS5.6								
EDW2	Edwards Air Fo	131.24	39	⇑P	PKPdf		09 50 54.0	+1.1	
	baz=131								
SNCC	San Nicolas Is	131.26	42	⇑P	PKPdf		09 50 53.4	+0.4	
	baz=131								
T11A	Corn Creek, Al	131.32	35	⇑P	PKPdf		09 50 54.1	+1.1	
	baz=131								
GSC	Goldstone	131.70	38	ePKIKP	PKPdf		09 50 56.1	+2.3	
GSC				MLR	MLR				
	comp=Z,321nm,19.0s,MS5.0								
GSC	Goldstone	131.70	38	⇑P	PKPdf		09 50 54.7	+0.9	
	baz=132								
S13A	Holt Ranch, En	131.85	33	⇓P	PKPdf		09 50 54.0	0.0	
	baz=132								
T12A	Moapa	131.97	35	⇑P	PKPdf		09 50 54.9	+0.7	
	baz=132								
MSU	Marysvale	132.06	31	ePKIKP	PKPdf		09 50 56.1	+1.7	
TUQ	Turquoise Mtn.	132.15	37	⇓P	PKPdf		09 50 54.6	0.0	
	baz=132								
V11A	Goodsprings	132.17	36	⇓P	PKPdf		09 50 54.7	0.0	
	baz=132								
PKME	Peaks-Kenny Pk	132.18	347	PFAKE			09 51 10.0	+16	
PKME				LR	LR				
	comp=Z,634nm,19.0s,MS5.3								
T13A	Saint George	132.22	34	⇑P	PKPdf		09 50 55.1	+0.4	
	baz=132								
U12A	Valley of Fire	132.28	35	⇓P	PKPdf		09 50 55.5	+0.7	
	baz=132								
BBRC	Big Bear Sol-O	132.31	39	⇑P	PKPdf		09 50 54.8	-0.2	
	baz=132								
SRU	San Rafael	132.44	29	ePKIKP	PKPdf		09 50 56.6	+1.5	
COWI	Conover	132.53	6	PFAKE			09 51 10.0	+15	
COWI				LR	LR				
	comp=Z,926nm,20.0s,MS5.5								
MURC	Murrieta	132.56	40	⇑P	PKPdf		09 50 55.2	-0.3	
	baz=132								
V12A	Nelson	132.59	36	⇑P	PKPdf		09 50 55.7	+0.3	
	baz=132								
U13A	Pakoon Wash	132.62	35	⇑P	PKPdf		09 50 56.0	+0.5	
	baz=132								
T14A	Hurricane	132.65	33	⇑P	PKPdf		09 50 55.7	+0.1	
	baz=132								
GMRC	Granite Mounta	132.75	38	⇓P	PKPdf		09 50 56.3	+0.5	
	baz=133								
V13A	Grand Canyon W	133.01	35	⇑P	PKPdf		09 50 56.6	+0.4	
	baz=133								
RCBR	Riachuelo	133.02	263	PFAKE			09 51 10.0	+13	
RCBR				LR	LR				
	comp=Z,750nm,19.0s,MS5.4								
PFO	Pinyon Flat Ob	133.03	39	PFAKE			09 51 10.0	+14	
PFO				LR	LR				
	comp=Z,454nm,22.0s,MS5.1								
PFO	Pinyon Flat Ob	133.03	39	⇑P	PKPdf		09 50 56.7	+0.3	
	baz=133								
U14A	Mt Trumbull	133.06	34	⇓P	PKPdf		09 50 56.3	0.0	
	baz=133								
BELC	Belle Mtn.	133.06	39	⇓P	PKPdf		09 50 56.5	+0.1	
	baz=133								
109C	Camp Elliot, M	133.08	41	⇓P	PKPdf		09 50 56.6	+0.

W16A	Flagstaff	134.94	34	⇓P	PKPdf	09 51 00.6	+0.7
baz=135							
X15A	Humboldt	134.98	35	⇓P	PKPdf	09 51 00.8	+0.8
baz=135							
HRV	Adam Dziewonsk	135.30	348	PFAKE		09 51 10.0	+10
HRV				LR	LR		
comp=Z,331nm,20.0s,MS5.1							
Y15A	Casa Rosa Ranc	135.31	36	⇓P	PKPdf	09 51 01.0	+0.4
baz=135							
Z14A	Wintersburg	135.36	37	⇓P	PKPdf	09 51 01.7	+0.9
baz=135							
WES	Weston	135.37	348	PFAKE		09 51 10.0	+10
WES				LR	LR		
comp=Z,711nm,22.0s,MS5.3							
X16A	Lo Mia Camp, P	135.49	34	⇓P	PKPdf	09 51 01.8	+0.9
baz=135							
JFWS	Jewell Farm	135.54	8	PFAKE		09 51 10.0	+9.2
JFWS				LR	LR		
comp=Z,764nm,19.0s,MS5.4							
Y16A	Circle Bar Ran	135.85	35	⇓P	PKPdf	09 51 02.3	+0.7
baz=136							
SDCO	Great Sand Dun	135.88	26	PFAKE		09 51 10.0	+8.4
SDCO				LR	LR		
comp=Z,708nm,21.0s,MS5.4							
W18A	Petrified Fore	135.90	32	⇑P	PKPdf	09 51 02.5	+0.8
baz=136							
SCIA	State Center	136.03	11	PFAKE		09 51 10.0	+8.3
SCIA				LR	LR		
comp=Z,1μm,20.0s,MS5.6							
X18A	Snowflake	136.23	33	⇑P	PKPdf	09 51 03.1	+0.8
baz=136							
115A	Sonoran Desert	136.25	37	⇑P	PKPdf	09 51 02.6	+0.2
baz=136							
BINY	Binghamton	136.33	353	PFAKE		09 51 10.0	+7.7
BINY				LR	LR		
comp=Z,691nm,20.0s,MS5.4							
Y17A	Roosevelt	136.35	35	⇓P	PKPdf	09 51 03.4	+0.8
baz=136							
AAM	Ann Arbor	136.66	1	PFAKE		09 51 10.0	+7.1
AAM				LR	LR		
comp=Z,597nm,20.0s,MS5.3							
116A	Eloy	136.66	37	⇑P	PKPdf	09 51 03.9	+0.7
baz=136							
X19A	St. Johns	136.67	33	⇑P	PKPdf	09 51 03.8	+0.7
baz=136							
Y18A	Canyon Day Jun	136.75	34	⇓P	PKPdf	09 51 04.1	+0.8
baz=136							
ERPA	Erie	136.77	357	PFAKE		09 51 10.0	+6.9
ERPA				LR	LR		
comp=Z,799nm,21.0s,MS5.4							
Z17A	San Carlos Hig	136.85	35	⇓P	PKPdf	09 51 04.4	+0.9
baz=137							
Y19A	Nutrioso	137.04	33	⇑P	PKPdf	09 51 04.9	+1.0
baz=137							
CBKS	Cedar Bluff	137.19	20	PFAKE		09 51 20.0	+16
CBKS				LR	LR		
comp=Z,717nm,19.0s,MS5.4							
216A	Three Points,	137.21	37	⇓P	PKPdf	09 51 05.1	+0.9
baz=137							
117A	Oracle	137.23	36	⇑P	PKPdf	09 51 05.1	+0.9
baz=137							
Z18A	Geronimo	137.26	35	⇑P	PKPdf	09 51 05.3	+1.0
baz=137							
TUC	Tucson	137.39	36	PFAKE		09 51 20.0	+15
TUC				LR	LR		
comp=Z,424nm,19.0s,MS5.2							
Z19A	T-Link Ranch,	137.53	34	⇑P	PKPdf	09 51 05.7	+1.0
baz=137							
118A	Homack Ranch,	137.62	35	⇑P	PKPdf	09 51 05.9	+1.0
baz=137							
ANMO	Albuquerque	137.72	29	*i* PKIKP	PKPdf	09 51 06.5	+1.5
ANMO	Albuquerque	137.72	29	*e*PKPdf	PKPdf	09 51 06.0	+0.9
ANMO				LR	LR		
comp=Z,815nm,19.0s,MS5.5							
217A	Green Valley	137.75	37	⇑P	PKPdf	09 51 06.2	+1.0
baz=138							
LAZ	Ladron	137.81	31	*e*PKPdf	PKPdf	09 51 05.3	+0.1
KSU1	Kansas State U	137.89	16	PFAKE		09 51 20.0	+15
KSU1				LR	LR		
comp=Z,866nm,19.0s,MS5.5							
119A	Ashpeak Ranch,	137.91	34	⇑P	PKPdf	09 51 06.5	+1.1
baz=138							
HDIL	Hopedale	137.98	7	PFAKE		09 51 20.0	+15
HDIL				LR	LR		
comp=Z,718nm,19.0s,MS5.4							
SSPA	Standing Stone	138.09	354	PFAKE		09 51 20.0	+14
SSPA				LR	LR		
comp=Z,553nm,20.0s,MS5.3							
BNM	Barren Site	138.27	30	*e*PKPdf	PKPdf	09 51 07.1	+1.0
318A	Bisbee	138.48	36	⇑P	PKPdf	09 51 07.5	+1.0
baz=138							
219A	White Tail Can	138.50	35	⇓P	PKPdf	09 51 07.4	+0.9
baz=138							
TRQA	Tornquist	138.68	205	PFAKE		09 51 20.0	+13
TRQA				LR	LR		
comp=Z,669nm,19.0s,MS5.4							
ACSO	Alum Creek Sta	138.73	0	PFAKE		09 51 20.0	+13
ACSO				LR	LR		
comp=Z,622nm,20.0s,MS5.3							
PLCA	Paso Flores	139.16	194	PFAKE		09 51 20.0	+13
PLCA				LR	LR		
comp=Z,475nm,20.0s,MS5.2							
MCWV	Mont Chateau	139.22	357	PFAKE		09 51 20.0	+12
MCWV				LR	LR		
comp=Z,865nm,19.0s,MS5.5							
AMTX	Amarillo	139.94	24	PFAKE		09 51 20.0	+11
AMTX				LR	LR		
comp=Z,544nm,21.0s,MS5.3							
CCM	Cathedral Cave	140.13	10	PFAKE		09 51 20.0	+11
CCM				LR	LR		
comp=Z,724nm,21.0s,MS5.4							
CBN	Corbin	140.44	353	PFAKE		09 51 20.0	+10
CBN				LR	LR		
comp=Z,561nm,20.0s,MS5.3							
MNTX	Cornudas Mount	140.85	31	*e*PKPdf	PKPdf	09 51 04.8	-6.1
MNTX				LR	LR		
comp=Z,613nm,19.0s,MS5.4							
WMOK	Wichita Mounta	141.19	21	*e*PKHKP		09 51 04.5	
WMOK				MLR	MLR		
comp=Z,663nm,20.0s,MS5.4							
BLA	Blacksburg	141.69	357	PFAKE		09 51 20.0	+7.8
BLA				LR	LR		
comp=Z,921nm,20.0s,MS5.5							
TZTN	Tazewell	142.41	1	PFAKE		09 51 30.0	+16
TZTN				LR	LR		
comp=Z,872nm,22.0s,MS5.5							
BBSR	BB Station	142.46	334	PFAKE		09 51 30.0	+16
BBSR				LR	LR		
comp=Z,531nm,20.0s,MS5.3							
WVT	Waverly	142.53	7	*e*PKIKP	PKPdf	09 51 08.6	-5.1
WVT				MLR	MLR		
comp=Z,963nm,20.0s,MS5.6							
BDFB	Brasilia	142.86	245	PKIKP	PKPdf	09 51 16.0	+1.2
BDFB				MLR	MLR		
comp=Z,670nm,19.0s							
BDFB	Brasilia	142.86	245	PKP	PKPdf	09 51 16.0	+1.2
comp=Z,0.4nm,0.4s,baz=120,slow=20,SNR=1.8							
MIAR	Mount Ida	142.99	15	*e*PKIKP	PKPdf	09 51 10.9	-3.7
MIAR				MLR	MLR		
comp=Z,885nm,20.0s,MS5.5							
UALR	University of	143.07	13	*e*PKPdf	PKPdf	09 51 10.5	-4.2
CNNC	Cliffs of the	143.43	353	PFAKE		09 51 30.0	+15
CNNC				LR	LR		
comp=Z,685nm,21.0s,MS5.4							
TXAR	Lajitas Array	143.62	32	PKP	PKPdf	09 51 13.6	-2.3
comp=Z,4.8nm,0.9s,baz=179,slow=0.5,SNR=39							
TXAR				PP	PP	09 54 28.3	+1.2
comp=Z,1.4nm,1.0s,baz=358,slow=2.7,SNR=4.5							
PLAL	Pickwick Lake	143.63	7	*e*PKPdf	PKPdf	09 51 11.9	-3.8
PLAL				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
OXF	Oxford	143.90	9	*e*PKHKP		09 51 11.1	
OXF				MLR	MLR		
comp=Z,724nm,19.0s,MS5.5							
JCT	Junction City	144.53	26	*e*PKIKP	PKPdf	09 51 15.9	-1.5
JCT				MLR	MLR		
comp=Z,798nm,19.0s,MS5.5							
CPUP	Villa Florida	145.06	222	PKPbc	PKPbc	09 51 17.6	-0.2
comp=Z,7.1nm,0.8s,baz=168,slow=2.1,SNR=13							
NATX	Nacogdoches	145.30	18	*e*PKPbc	PKPbc	09 51 18.9	+0.5
NATX				LR	LR		
comp=Z,1μm,19.0s,MS5.6							
GOGA	Godfrey	145.53	1	*e*PKIKP	PKPdf	09 51 19.1	0.0
GOGA				MLR	MLR		
comp=Z,699nm,19.0s,MS5.5							
LRAL	Lakeview Retre	145.68	6	PFAKE		09 51 30.0	+11
LRAL				LR	LR		
comp=Z,1μm,19.0s,MS5.7							
NHSC	New Hope	145.75	356	PFAKE		09 51 30.0	+11
NHSC				LR	LR		
comp=Z,914nm,19.0s,MS5.6							
VBMS	Vicksburg	145.93	12	*e*PKPbc	PKPbc	09 51 20.7	+0.3
VBMS				LR	LR		
comp=Z,756nm,20.0s,MS5.5							
BRAL	Brewton	147.67	7	*e*PKPdf	PKPdf	09 51 23.5	+0.8
BRAL				*e*PKPbc	PKPbc	09 51 25.6	+0.2
BRAL				*e*PKPab	PKPab	09 51 27.3	-0.4
BRAL				LR	LR		
comp=Z,803nm,19.0s,MS5.5							
KVTX	Kingsville	147.90	26	*e*PKPab	PKPab	09 51 27.7	-1.0
KVTX				LR	LR		
comp=Z,693nm,20.0s,MS5.4							
LCO	Las Campanas	150.08	202	PFAKE		09 51 40.0	+13
LCO				LR	LR		
comp=Z,738nm,19.0s,MS5.5							
SFJM	Santa Fe	150.66	42	*i* P	PKPbc	09 51 34.0	+0.7
DWPF	Disney	150.79	358	PFAKE		09 51 40.0	+12
DWPF				LR	LR		
comp=Z,618nm,20.0s,MS5.4							
MOIG	Morelia	152.45	40	*i* P	PKPbc	09 51 37.7	+0.2
SIV	San Ignacio	154.07	234	PKP	PKPdf	09 51 32.9	0.0
comp=Z,0.9nm,0.8s,baz=88,slow=2.9,SNR=5.2							
GRGR	Grenville	155.18	303	PFAKE		09 51 50.0	+15
GRGR				LR	LR		
comp=Z,411nm,20.0s,MS5.2							
SDDR	Presa de Saban	156.96	331	PFAKE		09 51 50.0	+13
SDDR				LR	LR		
comp=Z,827nm,20.0s,MS5.6							
TEIG	Tepich	158.00	14	PFAKE		09 51 50.0	+12
TEIG				LR	LR		
comp=Z,427nm,19.0s,MS5.3							
LPAZ	La Paz	159.22	223	PKIKP	PKPdf	09 51 40.0	+0.4
LPAZ				MLR	MLR		
comp=Z,485nm,19.0s							
LPAZ	La Paz	159.22	223	PKP	PKPdf	09 51 40.0	+0.4
comp=Z,1.2nm,1.0s,baz=33,slow=5.8,SNR=3.8							
TGUH	Tegucigalpa,Un	164.16	16	PFAKE		09 52 00.0	+15
TGUH				LR	LR		
comp=Z,620nm,20.0s							
SDV	Santo Domingo	164.28	310	PFAKE		09 52 00.0	+15
SDV				LR	LR		
comp=Z,244nm,19.0s							
NNA	Nana	167.81	209	PFAKE		09 52 00.0	+12
NNA				LR	LR		
comp=Z,566nm,19.0s							
JTS	JuntasAbangare	168.34	11	PFAKE		09 52 00.0	+12
JTS				LR	LR		
comp=Z,599nm,20.0s							
BCIP	Isla Barro Col	169.26	344	PFAKE		09 52 00.0	+11
BCIP				LR	LR		
comp=Z,403nm,20.0s							

NEIC **14** *09:39:30.7, 31.19S×68.66W, h150km, MD3.6(GUC), After GUC.*

GUC 14 09:39:30.7±0.5, 3119S×6866W, h150km, MD3.6, ML3.7, 5C-6D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CMCH	Combarbala	2.00	270	⇓*i*P		Pn	09 40 06.4	+0.6
CMCH				*i* S		Sn	09 40 33.8	+1.0
CMCH	Combarbala	2.00	270	⇓*i*P		Pn	09 40 06.4	+0.6
CMCH				*i* S		Sn	09 40 33.8	+1.0
CMCH				AML		AML	09 40 35.7	
comp=N,2μm,0.3s							
TLL	Tololo Astrono	2.11	298	*e*P		Pn	09 40 08.1	+1.0
TLL				*i* S		Sn	09 40 36.4	+1.4
TLL	Tololo Astrono	2.11	298	*e*P		Pn	09 40 08.1	+1.0
TLL				*i* S		Sn	09 40 36.4	+1.4
TLL				AML		AML	09 40 39.4	
comp=E,222nm,0.5s							
JACH	Jahuel	2.22	227	⇓*i*P		Pn	09 40 09.2	+0.9
JACH				*i* S		Sn	09 40 38.1	+0.8
FCH	Farellones	2.54	212	⇑*e*P		Pn	09 40 13.6	+1.3
FCH				*i* S		Sn	09 40 46.1	+1.7
FCH				AML		AML	09 40 54.3	
comp=E,97nm,0.2s							
LSCH	La Serena	2.57	299	*e*P		Pn	09 40 13.1	+0.5
LSCH				*i* S		Sn	09 40 44.9	0.0
PEL	Peldehue	2.60	221	⇑*e*P		Pn	09 40 13.6	+0.7
PEL				*i* S		Sn	09 40 45.9	+0.3
PEL				AML		AML	09 40 50.5	
comp=N,145nm,0.3s							
ROCH	El Roble	2.67	228	⇑*i*P		Pn	09 40 15.0	+1.1
ROCH				*i* S		Sn	09 40 48.9	+1.7
CLCH	Cerro Calan	2.71	215	⇓*e*P		Pn	09 40 15.3	+0.9
CLCH				*i* S		Sn	09 40 49.2	+1.0
CLCH				AML		AML	09 40 52.1	
comp=E,142nm,0.4s							
LCO	Las Campanas	2.80	320	*e*Pn		Pn	09 40 16.3	+0.8
PCH	Pirque	2.89	212	*i* P		Pn	09 40 17.2	+0.7
LMEL	Las Melosas	2.95	206	*e*P		Pn	09 40 17.1	-0.3
TACH	Talagante	3.12	217	⇓*i*P		Pn	09 40 19.5	0.0
VACH	Vallenar	3.18	325	*e*P		Pn	09 40 21.0	+0.7
VACH				*i* S		Sn	09 40 59.2	+0.5
VACH	Vallenar	3.18	325	*e*P		Pn	09 40 21.0	+0.7
VACH				*i* S		Sn	09 40 59.2	+0.5
VACH				AML		AML	09 41 00.5	
comp=N,383nm,0.1s							
CHCH	Chadas Angostu	3.21	211	⇓*i*P		Pn	09 40 21.0	+0.4
CACH	El Canelo	3.35	209	⇑*i*P		Pn	09 40 23.4	+1.0
LNV	Longovilo	3.60	219	*i* P		Pn	09 40 24.4	-1.4
SFDO	San Fernando	3.95	209	⇑*i*P		Pn	09 40 29.4	-0.8

ISCJB **14** *09:48:54.2±0.6, 2789N×1304.17E±0.05, h55km±11km, Error ellipse: s-maj=8.5km s-min=5.1km az=26.0*
JMA **14** *09:48:54.3±0.1, 2790N×13020E, h51km±2km, M3.5*

ISC 14 09:48:55.2±0.6, 2789N±004×13017E±005, h44km±18km, n11, σ0.48/21, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JZK	Kikaishima	0.46	338	P		Pn	09 49 05.2	-0.4
JZK				*e*S		Sn	09 49 13.3	+0.3
JAM	Amami Oshima	0.72	317	P		Pn	09 49 08.5	-0.5
JAM				*e*S		Sn	09 49 18.9	-0.1
JTK	Tokunoshima	1.08	265	P		Pn	09 49 14.2	+0.3
JTK				*e*S		Sn	09 49 27.5	-0.2
JNN	Nakanoshima	1.96	353	P		Pn	09 49 26.4	+0.4
JNN				*e*S		Sn	09 49 49.8	+0.4
JOW	Kunigami	1.98	238	P		Pn	09 49 26.7	+0.4
JOW				*e*S		Sn	09 49 50.4	+0.5
JIH	Iheya	2.13	247	P		Pn	09 49 28.7	+0.4
JIH				*e*S		Sn	09 49 53.1	-0.4
JMZ	Minamidaito 2	2.26	155	P		Pn	09 49 30.1	0.0
JMZ				*e*S		Sn	09 49 56.4	-0.4
JKC	Kuchinoerabu	2.57	1	P		Pn	09 49 34.7	+0.4
JKC				*e*S		Sn	09 50 03.7	-0.5
JTN	Tanegashima 3	2.85	14	P		Pn	09 49 38.3	+0.2
JTN				*e*S		Sn	09 50 10.6	-0.6
JAGN	Aguni-jima	2.91	244	P		Pn	09 49 39.8	+0.9
JKE	Kume jima 2	3.39	243	P		Pn	09 49 45.7	+0.1
JKE				S		Sn	09 50 23.4	-1.2

ISCJB **14** *09:48:58.2±0.8, 2840S×0.05×6765W±0.09, h125km±14km, mb3.7/2, Error ellipse: s-maj=12.7km s-min=8.7km az=169.8*
GUC **14** *09:48:58.8±0.8, 2844S×6770W, h130km, ML4.0*
NEIC **14** *09:48:59.1±0.6, 2837S×6762W, h123km±8km, MG4.0(GUC), Error ellipse: s-maj=10.8km s-min=9.1km az=106.0*
IDC **14** *09:48:59.1±2.1, 2838S×6763W, h119km±18km, mb3.3/2, mb1 3.2/5, mb1mx3.1/18, mbtmp3.1/5, MS3.2/2, Ms1 3.3/2, ms1mx2.6/25, Error ellipse: s-maj=40.4km s-min=17.4km az=108.0*

ISC 14 09:48:59.2±0.7, 2838S±005×6763W±008, h116km±13km, n19, σ0.72/24, mb3.7/2, 5C-1D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CPCH	Copiapo	2.62	292	⇑*i*P		Pn	09 49 40.4	+0.1
CPCH				*i* S		Sn	09 50 11.1	-0.8
VACH	Vallenar	2.76	265	⇑*i*P		Pn	09 49 42.4	+0.2
VACH				*i* S		Sn	09 50 14.8	-0.5
VACH	Vallenar	2.76	265	⇑*i*P		Pn	09 49 42.4	+0.2
VACH				*i* S		Sn	09 50 14.8	-0.5
VACH				AML	AML	09 50 17.8	
comp=N,1μm,0.1s							
LCO	Las Campanas	2.77	256	*e*Pn		Pn	09 49 43.1	+0.8
LCO				*e*Sn		Sn	09 50 16.7	+1.1
CFAA	Coronel Fontan	3.26	189	P		Pn	09 49 50.1	+1.3
comp=N,0.4nm,0.3s,baz=1.1,slow=12,SNR=115							
CFAA				S		Sn	09 50 27.2	+0.1
comp=N,1.8nm,0.3s,baz=360,slow=13,SNR=21							
TLL	Tololo Astrono	3.30	236	⇑*e*P		Pn	09 49 49.9	+0.6
TLL				*i* S		Sn	09 50 27.8	-0.2
TLL	Tololo Astrono	3.30	236	⇑*e*P		Pn	09 49 49.9	+0.6
TLL				*i* S		Sn	09 50 27.8	-0.2
TLL				AML	AML	09 50 35.1	
comp=N,92nm,0.5s							
CMCH	Combarbala	4.04	226	⇓*i*P		Pn	09 49 58.3	-0.9
CMCH				*i* S		Sn	09 50 44.6	-1.2
LMEL	Las Melosas	5.88	201	*e*P		Pn	09 50 24.0	+0.1
CPUP	Villa Florida	9.38	80	P		Pn	09 51 10.4	-1.1
CPUP				LR	LR		09 55 17.9	
CPUP	Villa Florida	9.38	80	P		Pn	09 51 10.4	-1.1
comp=N,0.4nm,0.3s,baz=231,slow=8.0,SNR=4.1							
CPUP				LR	LR		09 55 17.9	
comp=N,140nm,20.5s,baz=230,slow=40							
LPAZ	La Paz	12.04	358	P		Pn	09 51 47.9	+0.8
LPAZ				LR	LR		09 56 40.4	
LPAZ	La Paz	12.04	358	P		Pn	09 51 47.9	+0.8
comp=N,0.1nm,0.3s,baz=169,slow=7.9,SNR=3.8							
LPAZ				LR	LR		09 56 40.4	
comp=N,114nm,19.3s,baz=76,slow=38							
SNAA	Sanae	55.44	160	P		P	09 58 21.2	0.0
comp=N,0.6nm,0.9s,mb3.6,baz=258,slow=9.3,SNR=3.8							
TORD	Torodi Ar. Bea	78.69	68	P		P	10 00 48.7	-0.2
TORD	Torodi Ar. Bea	78.69	68	P		P	10 00 48.7	-0.2
comp=N,0.8nm,0.6s,mb3.7,baz=262,slow=7.4,SNR=6.3							
WRA	Warramunga Arr	127.48	206	PKP	PKPdf	10 07 49.9	-1.2
comp=N,0.5nm,1.0s,baz=155,slow=2.0,SNR=6.7							
ZALV	Zalesovo Beam	147.47	31	PKPbc	PKPdf	10 08 26.9	+0.5
comp=N,0.8nm,0.6s,baz=313,slow=5.1,SNR=3.8							
MKAR	Makanchi Array	150.16	44	PKPbc	PKPbc	10 08 35.9	-0.3
comp=N,0.6nm,0.6s,baz=303,slow=2.7,SNR=6.7							

ISCJB **14** *10:02:48.7±2.6, 56N±0.1×759W±0.2, h103km±19km, mb3.2/4, Error ellipse: s-maj=35.0km s-min=14.9km az=19.7*
IDC **14** *10:02:50.7±2.8, 554N×7578W, h102km±23km, mb3.1/4, mb1 3.2/5, mb1mx3.1/21, mbtmp3.1/5, Error ellipse: s-maj=31.5km s-min=17.2km az=94.0*

ISC 14 10:02:49.4±2.8, 556N±010×759W±0.2, h94km±22km, n8, σ0.98/8, mb3.2/4, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ROSC	El Rosal	1.71	114	P		Pn	10 03 17.9	-0.1
23nm,0.3s,baz=40,slow=5.8,SNR=37							
ROSC				S		Sn	10 03 40.4	+0.7
31nm,0.3s,baz=94,slow=21,SNR=14							
SDV	Santo Domingo	6.18	57	P		Pn	10 04 16.9	-1.3
1.4nm,0.3s,baz=291,slow=6.5,SNR=12							
SDV				S		Sn	10 05 27.8	+0.3
4.0nm,0.3s,baz=67,slow=20,SNR=10							
LPAZ	La Paz	23.02	161	P		P	10 07 46.8	+0.1
0.5nm,0.8s,mb2.9,baz=18,slow=9.6,SNR=3.3							
SIV	San Ignacio	25.95	146	P		P	10 08 12.5	-0.8
0.9nm,0.6s,mb3.4,baz=316,slow=11,SNR=8.5							
YKA	Yellowknife Ar	63.52	341	P		P	10 13 10.5	+1.0
0.1nm,0.5s,mb2.9,baz=134,slow=6.2,SNR=5.6							
TORD	Torodi Ar. Bea	76.70	78	P		P	10 14 31.1	+0.1
0.5nm,0.6s,mb3.5,baz=278,slow=6.9,SNR=5.3							
ASAR	Alice Springs	146.13	235	PKPbc	PKPbc	10 22 19.7	+0.1
0.4nm,0.6s,baz=128,slow=3.6,SNR=8.2							
WRA	Warramunga Arr	147.31	241	PKPbc	PKPbc	10 22 23.6	+0.5
0.1nm,0.4s,baz=105,slow=3.1,SNR=8.9							

ISCJB **14** *10:08:46.1±2.5, 256S±0.1×1799E±0.1, h394km±33km, mb3.8/7, Error ellipse: s-maj=22.3km s-min=14.6km az=35.5*
IDC **14** *10:08:48.0±12.0, 2549S×1796E, h402km±140km, mb3.3/4, mb1 3.6/5, mb1mx3.4/12, mbtmp3.3/5, Error ellipse: s-maj=74.1km s-min=26.6km az=7.0*
NEIC **14** *10:08:49.7±1.4, 2558S×1799E, h426km±25km, mb4.0/3, Error ellipse: s-maj=24.6km s-min=12.7km az=136.0*

ISC 14 10:08:49.5±1.9, 256S±01×1800E±01, h420km±27km, n11, σ0.50/12, mb3.8/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
URZ	Urewera	12.82	190	P		P	10 11 38.2	+0.8
0.5nm,0.3s,baz=0.0,slow=4.0,SNR=3.9							
URZ				S		S	10 13 55.7	-0.6
0.3nm,0.3s,baz=53,slow=20,SNR=4.9							
AFI	Afiamalu	14.02	35	*e*P		P	10 11 50.4	-0.4
CTA	Charters Tower	31.48	273	*e*P		P	10 14 35.8	+1.0
4.7nm,0.6s,mb4.0							
ASAR	Alice Springs	41.74	263	P		P	10 16 00.2	+0.1
1.9nm,0.4s,mb3.8,baz=90,slow=7.2,SNR=50							
WB2	Warramunga Arr	42.27	268	*e*P		P	10 16 03.9	-0.4
WRA	Warramunga Arr	42.28	268	P		P	10 16 04.4	0.0
1.4nm,0.4s,mb3.6,baz=101,slow=7.3,SNR=79							
KAKA	Kakadu	46.45	277	*e*P		P	10 16 36.3	-0.7
4.8nm,0.4s,mb4.2							
KAKA	Kakadu	46.45	277	*e*P		P	10 16 36.4	-0.6
34nm,0.4s,mb5.0							
FITZ	Fitzroy Crossi	50.68	267	*e*P		P	10 17 08.5	-0.2
2.7nm,0.6s,mb3.6							
NVAR	Mina Array Bea	86.02	44	P		P	10 20 44.0	0.0
0.6nm,0.8s,mb3.4,baz=215,slow=7.2,SNR=4.3							
TXAR	Lajitas Array	91.38	58	P		P	10 21 09.8	+0.4
0.3nm,0.7s,mb3.3,baz=217,slow=7.1,SNR=5.7							

IDC **14** *10:10:16.7±0.8, 5517N×16249E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/21, mbtmp3.8/10, Error ellipse: s-maj=29.3km s-min=19.4km az=122.0*
MOS **14** *10:10:18.2±2.3, 5503N×16284E, h17km, mb4.1/7, Error ellipse: s-maj=16.7km s-min=7.9km az=76.2*
KRSC **14** *10:10:19.6±0.6, 5492N×16287E, h17km±17km, ML4.6*
ISCJB **14** *10:10:20.5±0.9, 5491N±003×1630E±0.1, h42km±8km, mb3.8/13, Error ellipse: s-maj=10.0km s-min=4.6km az=17.8*
NEIC **14** *10:10:23.1±2.5, 5526N×16230E, h36km±24km, mb4.2/2, Error ellipse: s-maj=20.9km s-min=15.0km az=120.0*

ISC 14 10:10:19.9±1.2, 5494N±003×16305E±008, h23km±8km, n44, σ1.918/57, mb3.8/13, 2D, Off east coast of Kamchatka Peninsula

| Code | Station Name | Δ° | AZ

comp=Z,1μm,20.0s
PET Petropavlovsk 3.23 235 *e*Pn **Pn 10 11 09.4 +0.4**
PET Petropavlovsk 3.23 235 *e*P **Pn 10 11 10.0 +0.9**
PET *i* S **Sn 10 11 46.8 +0.1**
GNL Ganaly 3.24 250 *i* P **Pn 10 11 10.6 +1.4**
GNL *i* S **Sn 10 11 48.0 +1.0**
RUS Russkaya 3.68 229 *e*P **Pn 10 11 15.7 +0.4**
RUS *i* S **Sn 10 11 56.5 -1.5**
GRL Gorelyy 3.80 233 *e*P **Pn 10 11 18.9 +2.0**
MIPR Malaya Ipel'ka 4.60 237 P **Pn 10 11 29.4 +1.5**
SKR Severo-Kuril's 5.98 227 *e*PN **Pn 10 11 50.0 +3.1**
BILL Bilibino 13.24 5⇓*e*PN **Pn 10 13 24.7 -1.4**
BILL pmax pmax
comp=Z,3.0nm,1.2s
BILL MLR MLR
comp=Z,700nm,19.0s
ERM Erimo 18.38 234 *e*P **Pn 10 14 32.1 -0.9**
TIXI Tiksi 22.20 332 *e*P **P 10 15 13.1 -1.0**
TIXI pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
TIXI Tiksi 22.20 332 *e*P **P 10 15 11.8 -2.3**
comp=Z,4.6nm,0.6s,mb4.1
MAJO Matsushiro 25.05 233 *e*P **P 10 15 41.6 -0.6**
MAJO pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
MAJO Matsushiro 25.05 233 *e*P **P 10 15 41.6 -0.6**
comp=Z,8.0nm,0.8s,mb4.3
MAT Matsushiro 25.05 233 P **P 10 15 42.4 +0.2**
MJAR Matsushiro Arr 25.05 233 P **P 10 15 43.4 +1.2**
MJAR pmax pmax
comp=Z,5.0nm,0.8s
MJAR Matsushiro Arr 25.05 233 P **P 10 15 42.3 0.0**
comp=Z,5.0nm,0.8s,mb4.1,baz=28,slow=9.1,SNR=18
YKA Yellowknife Ar 40.62 45 P **P 10 18 00.9 +3.4**
YKA Yellowknife Ar 40.62 45 P **P 10 17 58.6 +1.2**
comp=Z,0.3nm,0.5s,mb3.2,baz=298,slow=8.0,SNR=9.3
MKAR Makanchi Array 48.92 296 P **P 10 19 01.4 -2.4**
MKAR Makanchi Array 48.92 296 P **P 10 19 00.9 -2.9**
comp=Z,0.3nm,0.3s,mb3.8,baz=61,slow=6.8,SNR=7.0
NVAR Mina Array Bea 53.51 73 P **P 10 19 43.8 +5.5**
comp=Z,0.2nm,0.5s,mb3.3,baz=313,slow=9.3,SNR=2.8
FINES FINESS Array B 59.10 338 P **P 10 20 15.7 -2.1**
comp=Z,0.7nm,0.6s,mb3.9,baz=51,slow=12,SNR=3.7
NOA NORSAR Array B 62.24 345 P **P 10 20 37.9 -1.3**
comp=Z,0.8nm,0.7s,mb4.0,baz=18,slow=6.8,SNR=3.7
AKASG Malin Array Be 67.90 330 P **P 10 21 14.0 -2.1**
comp=Z,1.2nm,0.6s,mb4.1,baz=30,slow=6.5,SNR=4.8
TXAR Lajitas Array 68.34 70 P **P 10 21 23.6 +4.4**
TXAR Lajitas Array 68.34 70 P **P 10 21 21.0 +1.9**
TXAR Lajitas Array 68.34 70 P **P 10 21 21.0 +1.9**
comp=Z,0.3nm,0.7s,mb3.4,baz=301,slow=5.3,SNR=4.4
WRA Warramunga Arr 78.50 207 P **P 10 22 19.3 +0.4**
comp=Z,1.0nm,0.9s,mb3.8,baz=10,slow=6.0,SNR=5.2
FITZ Fitzroy Crossi 79.41 216 P **P 10 22 24.4 +0.5**
comp=Z,1.7nm,0.8s,mb4.0,baz=346,slow=8.3,SNR=4.4
ASAR Alice Springs 82.17 207 P **P 10 22 39.4 +0.8**
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 82.17 207 P **P 10 22 39.4 +0.8**
comp=Z,1.0nm,0.8s,mb3.8,baz=26,slow=4.9,SNR=8.0

MAN 14 10:55:39.1, 134N×12555E, h32km, mb4.1, ML2.9, MS2.6, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.28**	**338**	*e*P	Pb	10 55 47.9	+1.4
PLP	**Palo**	**0.58**	**253**	*i* P	Pb	10 55 52.9	+2.0
PLP				*e*S	Sb	10 56 00.6	+1.6
SCPH	**Surigao**	**1.55**	**182**	*e*P	Pn	10 55 52.9	-11
SCPH				*e*S	Sn	10 56 23.8	+0.5

WEL 14 11:10:00.1±1.1, 3838S×17598E, h160km±8km, ML3.6/8, Error ellipse: s-maj=10.0km s-min=8.0km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	**Black Stump Fm**	**0.89**	**153**	PN	Pn	11 10 25.4	+0.6
URZ	**Urewera**	**0.90**	**83**	PN	Pn	11 10 24.8	-0.2
URZ				SN	Sn	11 10 42.9	-1.1
MOVZ	**Moawhango**	**1.04**	**190**	PN	Pn	11 10 26.4	+0.3
MWZ	**Matawai**	**1.22**	**88**	PN	Pn	11 10 27.8	+0.2
MWZ				SN	Sn	11 10 48.6	-0.1
KNZ	**Kokohu**	**1.47**	**116**	PN	Pn	11 10 30.5	+0.4
TSZ	**Takapari Road**	**1.68**	**180**	PN	Pn	11 10 32.3	+0.1
MRZ	**Mangataiboka R**	**2.30**	**188**	PN	Pn	11 10 38.4	-0.9
TIWZ	**Tintock**	**2.40**	**182**	PN	Pn	11 10 39.6	-0.7
HOWZ	**Holdsworth Sta**	**2.54**	**188**	PN	Pn	11 10 40.9	-1.2
MTW	**Mount Morrison**	**2.80**	**187**	PN	Pn	11 10 43.6	-1.7
CAW	**Cannon Point**	**2.82**	**194**	PN	Pn	11 10 44.1	-1.4
KHZ	**Kahutara**	**4.44**	**204**	PN	Pn	11 11 04.2	-2.1

IDC 14 11:23:10.9±2.6, 285S×13080E, h0km, mb4.0/2, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, ML3.5/2, MS4.6/1, Ms1 4.6/1, ms1mx3.2/19, Error ellipse: s-maj=133.8km s-min=25.8km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**10.18**	**224**	LR	LR	11 29 36.7	
	comp=Z,220nm,18.4s,baz=359,slow=38						
FITZ	**Fitzroy Crossi**	**15.98**	**198**	Pn	Pn	11 26 57.4	+0.2
	0.1nm,0.3s,baz=33,slow=15,SNR=5.3						
WRA	**Warramunga Arr**	**17.34**	**169**	P	Pn	11 27 15.1	+0.7
	0.2nm,0.3s,baz=348,slow=11,SNR=19						
ASAR	**Alice Springs**	**20.91**	**172**	P	P	11 27 54.5	-0.5
	8.7nm,0.8s,baz=351,slow=11,SNR=116						
CBIJ	**Chichi jima**	**31.73**	**20**	LR	LR	11 41 29.8	
	comp=Z,909nm,19.1s,baz=332,slow=35						
MKAR	**Makanchi Array**	**65.24**	**325**	P	P	11 33 54.5	+0.2
	0.6nm,0.6s,baz=114,slow=8.1,SNR=7.7						

IDC 14 11:24:50.6±2.0, 685S×12966E, h0km, mb3.9/1, mb1 4.4/4, mb1mx3.9/13, mbtmp4.2/4, ML4.4/3, Error ellipse: s-maj=53.7km s-min=30.6km az=76.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.44**	**155**	*e*P	Pn	11 26 34.0	+7.3
	53nm,0.8s						
KAKA				*e*S	Sn	11 27 41.3	+0.4
BATI	**Kupang**	**6.80**	**240**	Pn	Pn	11 26 32.1	+0.4
	5.5nm,0.3s,baz=126,slow=6.5,SNR=6.3						
BATI				Sn	Sn	11 27 37.8	-12
	8.0nm,0.3s,baz=246,slow=23,SNR=10						
FITZ	**Fitzroy Crossi**	**11.85**	**199**	*e*P	Pn	11 27 36.9	-4.0
	11nm,0.6s						
FITZ				*e*S	Sn	11 29 31.1	-23
FITZ	**Fitzroy Crossi**	**11.85**	**199**	Pn	Pn	11 27 37.4	-3.6
	1.0nm,0.3s,baz=34,slow=12,SNR=34						
FITZ				Sn	Sn	11 29 34.7	-19
	0.7nm,0.3s,baz=145,slow=22,SNR=3.0						
WRA	**Warramunga Arr**	**13.79**	**161**	Pn	Pn	11 28 07.6	+0.1
	2.4nm,0.3s,baz=343,slow=13,SNR=50						
WRA				Sn	Sn	11 30 29.4	-12
	1.5nm,0.3s,baz=334,slow=24,SNR=11						
WB2	**Warramunga Arr**	**13.79**	**161**	*e*P	Pn	11 28 07.5	0.0
WB2				*e*S	Sn	11 30 29.9	-12
ASAR	**Alice Springs**	**17.21**	**167**	P	Pn	11 28 52.4	-0.2
	0.8nm,0.3s,baz=342,slow=9.8,SNR=11						
ASAR				S	Sn	11 31 52.9	-12
	0.3nm,0.3s,baz=336,slow=23,SNR=5.0						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	11 35 51.1	+0.1
	0.9nm,0.6s,baz=128,slow=7.1,SNR=8.6						

IDC 14 11:31:13.6±1.3, 364S×14998E, h0km, mb3.9/5, mb1 4.1/5, mb1mx3.8/13, mbtmp3.8/5, MS3.4/2, Ms1 3.4/2, ms1mx3.0/23, Error ellipse: s-maj=89.8km s-min=24.9km az=131.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.45**	**121**	LR	LR	11 37 54.3	
	comp=Z,95nm,20.0s,baz=178,slow=35						
WRA	**Warramunga Arr**	**22.25**	**222**	P	P	11 36 11.4	-0.9
	1.5nm,0.8s,baz=46,slow=10,SNR=7.6						
ASAR	**Alice Springs**	**25.25**	**217**	P	P	11 36 41.5	0.0
	0.9nm,0.7s,baz=50,slow=8.3,SNR=9.3						
FITZ	**Fitzroy Crossi**	**27.83**	**237**	P	P	11 37 06.1	+1.2
	3.0nm,0.7s,baz=61,slow=6.6,SNR=9.9						

STKA Stephens Creek 29.17 195 LR LR 11 47 56.9
comp=Z,136nm,19.1s,baz=360,slow=34
NVAR Mina Array Bea 93.58 52 P P 11 44 32.6 +0.6
0.4nm,0.7s,baz=252,slow=5.3,SNR=3.6
YKA Yellowknife Ar 95.72 28 P P 11 44 41.4 +0.2
0.4nm,0.8s,baz=275,slow=4.6,SNR=5.4
TORD Torodi Ar. Bea 147.28 289 PKPbc PKPbc 11 50 58.5 -1.7
0.6nm,0.8s,baz=96,slow=1.4,SNR=3.1

IDC 14 11:34:28.7±7.7, 1047N×9247E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/20, mbtmp3.7/4, Error ellipse: s-maj=388.6km s-min=24.3km az=61.0, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.21**	**13**	*e*P	x	11 35 06.3	
PBA				*e*S	x	11 35 16.4	
PBA				*e*x	x	11 35 47.0	
	comp=E,647nm,1.2s						
PBA				*e*x	x	11 35 48.8	
	comp=N,803nm,0.0s						
MKAR	**Makanchi Array**	**37.22**	**348**	P	P	11 41 41.7	-0.1
	comp=N,0.3nm,0.3s,baz=178,slow=9.1,SNR=5.1						
ZALV	**Zalesovo Beam**	**43.80**	**353**	P	P	11 42 36.1	0.0
	comp=N,0.7nm,0.5s,baz=177,slow=9.6,SNR=3.9						
WRA	**Warramunga Arr**	**51.11**	**126**	P	P	11 43 33.3	-0.2
	comp=N,0.6nm,0.8s,baz=306,slow=8.3,SNR=5.9						
ASAR	**Alice Springs**	**52.84**	**130**	P	P	11 43 46.5	+0.1
	comp=N,0.9nm,0.8s,baz=310,slow=7.6,SNR=6.9						

*CSEM **14** 11:35:27.5±0.1, 4023N×2967E, h2km, MD2.7, Error ellipse: s-maj=2.6km s-min=2.0km az=101.0*
*ISK **14** 11:35:27.9, 4022N×2967E, h12km, MD2.7*
*ISCJB **14** 11:35:28.6±0.5, 4022N±003×2964E±005, h2km, Error ellipse: s-maj=5.3km s-min=4.4km az=172.7*
ISC 14 11:35:29.0±0.6, 4022N±005×2965E±007, h7km±9km, n15, σ0=73/20, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IZI	**Iznik**	**0.18**	**310**	*e*PG	**Pg**	**11 35 32.1**	**-0.5**
IZI				*e*SG	**Sg**	**11 35 35.6**	**+0.6**
ADVT	**Abdulvahap**	**0.22**	**17**	*e*PG	**Pg**	**11 35 33.0**	**-0.4**
ADVT				*e*SG	**Sg**	**11 35 36.8**	**+0.4**
YLV	**Yalova**	**0.41**	**328**	*e*PG	**Pg**	**11 35 36.0**	**-0.8**
GEMT	**Gemlik**	**0.41**	**301**	*e*PG	**Pg**	**11 35 36.9**	**-0.1**
GPA	**Golpazari**	**0.51**	**82**	*e*PG	**Pg**	**11 35 37.7**	**-1.0**
HRT	**Hereke**	**0.60**	**1**	*e*PG	**Pg**	**11 35 40.6**	**+0.1**
ISK	**Istanbul-Kandi**	**0.96**	**332**	*e*PG	**Pg**	**11 35 47.0**	**-0.4**
DST	**Dursunbey**	**1.00**	**232**	*e*PG	**Pg**	**11 35 48.0**	**-0.2**
HENT	**Hendek**	**1.12**	**57**	*i* P	**Pb**	**11 35 49.9**	**-0.9**
HENT	**Hendek**	**1.12**	**57**	*i* P	**Pb**	**11 35 49.8**	**-1.0**
HENT				*i* S	**Sb**	**11 36 07.5**	**+1.9**
GDZ	**Gediz**	**1.14**	**187**	*i* P	**Pb**	**11 35 51.0**	**0.0**
GDZ	**Gediz**	**1.14**	**187**	*i* P	**Pb**	**11 35 51.0**	**0.0**
GDZ				*i* S	**Sb**	**11 36 06.7**	**+0.7**
ESKT	**Eskisehir**	**1.16**	**127**	*e*PN	**Pn**	**11 35 50.5**	**-1.1**
ESKT	**Eskisehir**	**1.16**	**127**	*i* P	**Pn**	**11 35 51.8**	**+0.2**
SEYT	**Eskypehyr**	**1.16**	**127**	*i* P	**Pn**	**11 35 51.8**	**+0.2**
SEYT				*i* S	**Sb**	**11 36 10.8**	**+4.3**

*NIED **14** 11:37:00, 3220N×141.10E, h47km, Mw4.9 Best double couple: M0=2.86000×10^16 NP1:φs=181.00000°, δ77.00000°, λ100.00000°. NP2:φs=323.00000°, δ17.00000°, λ53.00000°.*
*MOS **14** 11:37:17.1±1.1, 3204N×14077E, h33km, mb5.2/28, Error ellipse: s-maj=10.2km s-min=5.3km az=102.4*
*JMA **14** 11:37:19.1±0.2, 3223N×14107E, h14km, M5.0*
JMA Felt I J1.
*ISCJB **14** 11:37:20.4±0.1, 3196N±002×14078E±002, h63km, mb4.9/96, Error ellipse: s-maj=3.3km s-min=2.1km az=25.9*
*BJI **14** 11:37:20.4, 3200N×14109E, h94km, mB4.8, mb4.7*
*IDC **14** 11:37:21.2±0.5, 3200N×14076E, h60km±3km, mb4.5/24, mb1 4.6/25, mb1mx4.5/27, mbtmp4.5/25, MS4.2/11, Ms1 4.2/11, ms1mx4.0/23, Error ellipse: s-maj=12.9km s-min=5.9km az=58.0*
*NEIC **14** 11:37:22.1±0.2, 3199N×14081E, mb4.9/36, MW4.9(NIED), Error ellipse: s-maj=4.8km s-min=4.4km az=118.0*
NEIC Recorded [1 JMA] on Aoga-shima and Hachijo-jima.
*GCMT **14** 11:37:22.1±0.3, 3202N×14102E, h40km±2km, MW5.0/61, Moment Tensor Solution. s33,c41; s61,c90; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.48±.15; Mθθ-0.19±.12; Mφφ-1.30±.12; Mrθ-0.65±.09; Mrφ0.32±.10; Mθφ-3.43±.21; Best double couple: M0=3.76400×10^16 NP1:φs=333.00000°, δ13.00000°, λ55.00000°. NP2: φs188.00000°, δ80.00000°, λ97.00000°. Principal axes: T 3.9150, Plg55.0000°, Azm107.0000°; N -0.3080, Plg7.0000°, Azm7.0000°; P -3.6140, Plg34.0000°, Azm272.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 14 11:37:22.3±0.1, 3200N±002×14079E±002, h65km, h65km±.8km: pP-P, n496, σ0=77/517, mb4.9/96, 111C-104D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.39**	**324**	⇓P	**Pn**	**11 37 44.1**	**-1.4**
JHJ2				*e*S	**Sn**	**11 38 01.6**	**-1.4**
JHJ	**Hachijo jima 2**	**1.41**	**323**	P	**Pn**	**11 37 44.3**	**-1.5**
	868nm,0.3s,baz=170,slow=7.7,SNR=501						
JHJ				S	**Sn**	**11 38 00.8**	**-2.8**
	4μm,0.3s,baz=74,slow=20,SNR=23						
JMY	**Miyakejima3**	**2.33**	**333**	P	**Pn**	**11 37 57.3**	**-1.0**
JMY				S	**Sn**	**11 38 24.9**	**-1.0**
JKO	**Kozu shima**	**2.59**	**328**	P	**Pn**	**11 38 01.2**	**-0.6**
JKO				S	**Sn**	**11 38 33.1**	**+1.0**
BSO1	**Boso 1**	**2.66**	**3**	P	**Pn**	**11 37 58.5**	**-4.2**
BSO1				*e*S	**Sn**	**11 38 28.6**	**-5.1**
NJJJ	**Nii jima 2**	**2.71**	**333**	P	**Pn**	**11 38 02.9**	**-0.6**
NJJJ				S	**Sn**	**11 38 35.3**	**+0.1**
BSO3	**Boso 3**	**2.81**	**355**	P	**Pn**	**11 38 01.3**	**-3.5**
JIM2	**Oshima 3**	**2.94**	**338**	P	**Pn**	**11 38 05.0**	**-1.6**
JIM2				*e*S	**Sn**	**11 38 40.0**	**-0.8**
JIZS	**Izushimoda**	**3.15**	**330**	P	**Pn**	**11 38 09.2**	**-0.3**
TK02	**Tokai 2**	**3.21**	**308**	P	**Pn**	**11 38 11.9**	**+1.7**
TK03	**Tokai 3**	**3.21**	**313**	P	**Pn**	**11 38 11.5**	**+1.2**
TK01	**Tokai 1**	**3.22**	**304**	P	**Pn**	**11 38 12.6**	**+2.2**
AJI	**Ajiro2**	**3.36**	**335**	P	**Pn**	**11 38 11.3**	**-1.0**
JSG	**Sagara**	**3.45**	**321**	P	**Pn**	**11 38 14.7**	**+1.2**
JOD2	**Odawara 2**	**3.56**	**337**	P	**Pn**	**11 38 13.6**	**-1.4**
JOD2				*e*S	**Sn**	**11 38 53.2**	**-2.6**
HMMJ	**Hamamatsu 2**	**3.84**	**319**	P	**Pn**	**11 38 19.4**	**+0.6**
JYN	**Shimob**	**3.96**	**332**	P	**Pn**	**11 38 21.0**	**+0.5**
JIE	**Ise**	**4.18**	**306**	P	**Pn**	**11 38 24.4**	**+0.9**
JRY	**Ryogami san**	**4.31**	**339**	P	**Pn**	**11 38 24.7**	**-0.5**
JRY				*e*S	**Sn**	**11 39 13.2**	**-1.0**
JNT	**Takato**	**4.46**	**331**	P	**Pn**	**11 38 29.1**	**+1.9**
JWZ	**Kozaga**	**4.54**	**291**	P	**Pn**	**11 38 29.1**	**+0.6**
TSUJ	**Tsu 2**	**4.55**	**308**	P	**Pn**	**11 38 30.5**	**+1.9**
JAG	**Ashikaga**	**4.56**	**346**	P	**Pn**	**11 38 27.0**	**-1.6**
JGF	**Kuroka**	**4.59**	**322**	P	**Pn**	**11 38 30.7**	**+1.5**
JHO	**Hitachi**	**4.61**	**358**	P	**Pn**	**11 38 26.0**	**-3.3**
JWY	**Kouya**	**4.89**	**298**	P	**Pn**	**11 38 35.3**	**+2.0**
JNG	**Nsakai**	**4.93**	**334**	P	**Pn**	**11 38 35.3**	**+1.5**
JGM	**Miyama**	**5.01**	**319**	P	**Pn**	**11 38 36.5**	**+1.6**
MJAR	**Matsushiro Arr**	**5.01**	**335**	P	**Pn**	**11 38 35.1**	**+0.2**
	37nm,0.3s,baz=161,slow=13,SNR=264						
MJAR				S	**Sn**	**11 39 30.6**	**-0.9**
	13nm,0.3s,baz=141,slow=22,SNR=6.9						
MAJO	**Matsushiro**	**5.02**	**335**	*e*P	**Pn**	**11 38 35.5**	**+0.6**
MAT	**Matsushiro**	**5.02**	**335**	P	**Pn**	**11 38 34.7**	**-0.2**
MAT				*e*S	**Sn**	**11 39 31.7**	**+0.2**
MAT	**Matsushiro**	**5.02**	**335**	P	**Pn**	**11 38 35.5**	**+0.6**
MAT				*e*S	**Sn**	**11 39 32.0**	**+0.5**
CBIJ	**Chichi jima**	**5.03**	**166**	P	**Pn**	**11 38 31.4**	**-3.8**
CBIJ	**Chichi jima**	**5.03**	**166**	P	**Pn**	**11 38 31.0**	**-4.2**
	65nm,0.3s,baz=309,slow=21,SNR=126						
CBIJ				S	**Sn**	**11 39 25.6**	**-6.4**
	266nm,0.3s,baz=89,slow=23,SNR=11						
JGN	**Niukaw**	**5.11**	**327**	P	**Pn**	**11 38 38.6**	**+2.4**
JHHJ	**Haha-jima-NKT**	**5.48**	**167**	P	**Pn**	**11 38 39.4**	**-1.9**
JHHJ				*e*S	**Sn**	**11 39 38.2**	**-4.8**
JWT	**Wachi**	**5.56**	**308**	P	**Pn**	**11 38 45.0**	**+2.6**
JKG	**Kaga**	**5.65**	**320**	P	**Pn**	**11 38 45.9**	**+2.3**
JMM	**Marumori**	**5.86**	**0**	P	**Pn**	**11 38 42.5**	**-3.9**
JMM				*e*S	**Sn**	**11 39 45.1**	**-7.1**
JNU	**Nakatsue**	**8.45**	**280**	P	**Pn**	**11 39 25.3**	**+3.5**
	2.0nm,0.3s,baz=84,slow=14,SNR=17						
JIU2	**Izumi 2**	**8.47**	**276**	P	**Pn**	**11 39 26.5**	**+4.3**
ERM	**Erimo**	**10.18**	**10**	*e*P	**Pn**	**11 39 40.9**	**-4.6**
ERM				pmax	pmax		
	comp=Z,26nm,0.4s						
ERM	**Erimo**	**10.18**	**10**	*e*Pn	**Pn**	**11 39 40.9**	**-4.6**
	comp=Z,26nm,0.4s						
KSRS	**Korea Array**	**11.90**	**301**	P	**Pn**	**11 40 13.0**	**+4.0**
	comp=Z,1.4nm,0.3s,baz=109,slow=13,SNR=24						
JOW	**Kunigami**	**12.06**	**248**	P	**Pn**	**11 40 15.9**	**+4.6**
	comp=Z,1.9nm,0.3s,baz=95,slow=5.1,SNR=9.6						
JOW				LR	LR	11 44 24.0	
	comp=Z,2μm,20.6s,baz=101,slow=35						
ASAJ	**Asahikawa**	**12.19**	**6**	P	**Pn**	**11 40 07.9**	**-4.9**
ASAJ				S	**Sn**	**11 42 17.1**	**-10**
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ	**Asahikawa**	**12.19**	**6**	P	**Pn**	**11 40 07.8**	**-5.0**
	comp=N,4.2nm,0.3s,baz=187,slow=13,SNR=33						
ASAJ				S	**Sn**	**11 42 17.1**	**-10**
	comp=N,1.8nm,0.3s,baz=130,slow=31,SNR=4.9						
YUK	**Yuzh-Kuril'sk**	**12.66**	**17**	*e*P	**Pn**	**11 40 12.5**	**-6.8**
YSS	**Yuzh-Sakhalins**	**15.02**	**5**	*e*P	**Pn**	**11 40 45.3**	**-5.2**
YSS				MLR	MLR		
	comp=N,600nm,18.0s						
YSS				MLR	MLR		
	comp=E,500nm,18.0s						
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS	**Yuzh-Sakhalins**	**15.02**	**5**	*e*Pn	**Pn**	**11 40 48.5**	**-2.0**
MDJ	**Mudanjiang**	**15.35**	**328**	P	**Pn**	**11 40 54.6**	**-0.2**
MDJ				S	**S**	**11 43 40.8**	**-16**
MDJ				PCP	PcP	11 45 56.5	+0.9
MDJ				PCS	PcS	11 49 31.5	+0.8
MDJ				AMB	AMB		
	comp=Z,13nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,76nm,4.5s						
MDJ				LR	LR		
	comp=N,701nm,14.3s						
MDJ				LR	LR		
	comp=E,161nm,11.6s						
MDJ				LR	LR		
	comp=Z,857nm,18.7s						
SSE	**Sheshan**	**16.74**	**272**	*e*P	**Pn**	**11 41 10.3**	**-2.2**
SSE				AP	pP	11 41 26.3	-1.0
SSE				S	**S**	**11 44 14.8**	**-10**
SSE				XS	sS	11 44 46.6	-0.4
SSE				AMB	AMB		
	comp=Z,36nm,0.7s						
SSE				AMB	AMB		
	comp=Z,136nm,5.1s						
SSE				LR	LR		
	comp=N,159nm,21.6s						
SSE				LR	LR		
	comp=E,543nm,21.6s						
SSE				LR	LR		
	comp=Z,686nm,19.8s						
CN2	**Changchun**	**16.87**	**319**	⇑P	**Pn**	**11 41 15.6**	**+1.6**
CN2				*e*AP	pP	11 41 26.4	-2.2
CN2				*e*S	**S**	**11 44 19.3**	**-8.3**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,500nm,18.0s						
CN2				LR	LR		
	comp=E,600nm,18.0s						
CN2				LR	LR		
	comp=Z,700nm,20.0s						
SNY	**Shenyang**	**16.88**	**310**	⇑P	**Pn**	**11 41 14.6**	**+0.5**
SNY				S	**S**	**11 44 23.8**	**-4.1**
SNY				XS	sS	11 44 38.1	-12
SNY				AMB	AMB		
	comp=Z,25nm,1.0s						
SNY				AMB	AMB		
	comp=Z,160nm,3.6s						
SNY				LR	LR		
	comp=E,464nm,19.4s						
SNY				LR	LR		
	comp=Z,666nm,20.1s						
HABR	**Khabarovsk**	**17.02**	**347**	*e*P	**Pn**	**11 41 15.9**	**0.0**
HABR				*e*S	**S**	**11 44 26.9**	**-3.8**
HABR				pmax	pmax		
	comp=Z,116nm,0.9s						
DL2	**Dalian**	**17.05**	**299**	P	**Pn**	**11 41 17.8**	**+1.5**
DL2				AP	pP	11 41 30.0	-0.7
DL2				S	**S**	**11 44 26.1**	**-5.4**
DL2				SS		11 44 49.4	
DL2				AMB	AMB		
	comp=Z,20nm,1.0s						
DL2				AMB	AMB		
	comp=Z,140nm,6.1s						
DL2				LR	LR		
	comp=N,220nm,20.6s						
DL2				LR	LR		
	comp=E,420nm,20.3s						
DL2				LR	LR		
	comp=Z,530nm,22.1s						
TATO	**Taipei**	**18.34**	**252**	*e*Pn	**Pn**	**11 41 32.6**	**+0.4**
	comp=Z,174nm,1.1s						
KLR	**Kul'dur**	**18.51**	**341**	*e*P	**Pn**	**11 41 26.6**	**-7.4**
YHNB	**Yeheng**	**18.57**	**252**	*e*P	**Pn**	**11 41 34.4**	**-0.5**
NJ2	**Nanjing**	**18.60**	**276**	*e*P	**Pn**	**11 41 35.8**	**+0.5**
NJ2				AP	pP	11 41 47.3	-0.6
NJ2				PP		11 41 53.1	
NJ2				S	**S**	**11 44 55.5**	**-7.5**
NJ2				AMB	AMB		
	comp=Z,170nm,1.3s						
NJ2				AMB	AMB		
	comp=Z,400nm,7.6s						
NJ2				LR	LR		
	comp=N,640nm,24.2s						
NJ2				LR	LR		
	comp=E,1μm,26.6s						
NJ2				LR	LR		
	comp=Z,1μm,26.6s						
NACB	**Ninganchiao**	**18.63**	**250**	*e*P	**Pn**	**11 41 35.5**	**-0.1**
GUMO	**Guam**	**18.70**	**168**	*e*P	**Pn**	**11 41 36.5**	**0.0**
GUMO	**Guam**	**18.70**	**168**	P	**Pn**	**11 41 34.5**	**-1.9**
	comp=Z,10nm,0.3s,baz=290,slow=1.3,SNR=16						
GUMO				LR	LR	11 48 31.9	
	comp=Z,469nm,19.5s,baz=32,slow=36						
BJI	**Beijing**	**21.42**	**299**	P	**P**	**11 42 04.3**	**-0.5**
BJI				S	**S**	**11 45 54.5**	**-4.3**
BJI				AMB	AMB		
	comp=Z,1μm,4.0s						
BJI				LR	LR		
	comp=N,392nm,17.2s						
BJI				LR	LR		
	comp=E,912nm,22.5s						
BJ

comp=E,1µm,18.0s
HHC LR LR
comp=Z,2µm,17.8s
XAN Xi'an 26.75 283 P P 11 42 54.8 -1.0
XAN S **S 11 47 22.8 -4.2**
XAN AMB AMB
comp=Z,11nm,0.7s,mb4.5
XAN AMB AMB
comp=Z,129nm,6.0s
XAN LR LR
comp=N,192nm,15.5s
XAN LR LR
comp=E,380nm,16.2s
XAN LR LR
comp=Z,370nm,14.8s
NRGR Nerungri 27.07 340 *e*P **P 11 42 59.3 +0.9**
GYA Guiyang 30.21 268 P **P 11 43 28.8 +2.1**
GYA AP pP 11 43 45.3 +2.9
GYA PP PP 11 44 29.4 -6.4
GYA PCP PcP 11 46 28.9 +2.6
GYA S **S 11 48 22.3 +0.7**
GYA PCS PcS 11 50 11.3 +1.3
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,80nm,5.2s
GYA LR LR
comp=N,530nm,18.4s
GYA LR LR
comp=E,430nm,17.4s
GYA LR LR
comp=Z,520nm,18.1s
SONM Songino Array 30.46 311 P **P 11 43 29.4 +0.7**
comp=Z,3.5nm,0.4s,mb4.5,baz=111,slow=8.6,SNR=30
SONM PcP PcP 11 46 27.4 +0.9
comp=Z,0.8nm,0.4s,baz=130,slow=2.8,SNR=5.1
SONM ScP ScP 11 50 04.8 +1.4
comp=Z,1.1nm,0.9s,baz=148,slow=4.0,SNR=6.8
QIZ Qiongzhong 30.65 253 P **P 11 43 31.8 +1.1**
QIZ S **S 11 48 32.6 +4.0**
QIZ AMB AMB
comp=Z,183nm,2.9s,mb5.4
QIZ LR LR
comp=E,492nm,19.1s
QIZ LR LR
comp=Z,596nm,32.5s
LZH Lanzhou 30.77 288 *e*P **P 11 43 32.3 +0.8**
LZH PCP PcP 11 46 26.9 -0.7
LZH *e*S **S 11 48 31.3 +1.1**
LZH SS SS 11 50 18.0 -26
LZH AMB AMB
comp=Z,17nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,63nm,5.3s
LZH LR LR
comp=N,582nm,14.7s
LZH LR LR
comp=Z,482nm,16.4s
YAK Yakutsk 30.90 350 *e*P **P 11 43 30.6 -1.7**
YAK *e**PP pP 11 43 41.1 -6.9
YAK *e* 11 44 34.9
YAK *e*PPP 11 44 44.9
YAK *e* 11 46 21.8
YAK *e*S **S 11 48 36.9 +5.3**
YAK *e*SS SS 11 50 13.2 -32
YAK *e*SSS 11 50 45.8
YAK *e* 11 53 58.5
YAK pmax pmax
comp=Z,23nm,1.0s,mb5.0
YAK pmax pmax
comp=N,9.0nm,1.1s
YAK pmax pmax
comp=E,6.0nm,1.3s
YAK pmax pmax
comp=Z,43nm,2.0s,mb4.9
YAK pmax pmax
comp=N,35nm,2.3s
YAK pmax pmax
comp=E,49nm,2.4s
YAK smax
comp=N,121nm,3.1s
YAK smax
comp=E,140nm,3.5s
YAK MLR MLR
comp=Z,217nm,19.0s
YAK MLR MLR
comp=N,144nm,16.0s
YAK MLR MLR
comp=E,94nm,21.0s
CD2 Chengdu 31.52 278⇑ *i*P **P 11 43 37.3 -0.9**
CD2 PP PP 11 44 42.8 -7.5
CD2 S **S 11 48 39.3 -2.6**
CD2 AMB AMB
comp=Z,20nm,1.4s,mb4.8
CD2 AMB AMB
comp=Z,60nm,5.2s
CD2 LR LR
comp=N,480nm,16.0s
CD2 LR LR
comp=E,980nm,18.0s
CD2 LR LR
comp=Z,700nm,19.2s
BOD Bodaibo 31.64 333 *e*P **P 11 43 37.6 -1.3**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.7
SEY Seymchan 31.83 10 *e*P **P 11 43 39.5 -1.0**
ZAK Zakamensk 33.22 315 *e*P **P 11 43 52.7 -0.2**
ZAK pmax pmax
comp=Z,5.0nm,2.1s,mb4.1
GTA Gaotai 33.86 294 *e*P **P 11 43 57.5 -1.1**
GTA PP PP 11 45 10.8 -5.4
GTA PCP PcP 11 46 34.5 -1.6
GTA S **S 11 49 15.9 -2.3**
GTA PCS PcS 11 50 20.8 -1.2
GTA SS SS 11 51 25.0 -22
GTA AMB AMB
comp=Z,4.0nm,1.6s,mb4.1
GTA AMB AMB
comp=Z,235nm,5.2s
GTA LR LR
comp=N,374nm,18.0s
GTA LR LR
comp=E,682nm,16.1s
GTA LR LR
comp=Z,485nm,16.1s
KMI Kunming 33.99 268 P **P 11 44 02.0 +2.2**
KMI S **S 11 49 21.8 +1.3**
KMI SS SS 11 51 30.8 -19
KMI LR LR
comp=N,255nm,19.0s
KMI LR LR
comp=E,355nm,19.0s
KMI LR LR
comp=Z,463nm,24.2s
MOY Mondy 35.01 316 *e*P **P 11 44 09.1 +0.8**
BILL Bilibino 39.01 15⇑ *e*P **P 11 44 41.0 -1.0**
BILL *e* 11 46 09.5
BILL *e*SS SS 11 53 58.2 +28
BILL pmax pmax
comp=Z,5.0nm,0.9s,mb4.2
CHTO Chiang Mai 39.77 261 *e*P **P 11 44 48.3 -0.7**
TIXI Tiksi 40.23 354 *e*P **P 11 44 51.7 -0.4**
TIXI pmax pmax
comp=Z,2.0nm,0.4s,mb4.2
TIXI Tiksi 40.23 354 *e*P **P 11 44 52.0 -0.2**
WMQ Urumqi 42.85 302 P **P 11 45 14.0 0.0**
WMQ AP pP 11 45 30.0 -0.2
WMQ PP PP 11 46 57.0 +2.7
WMQ S **S 11 51 33.0 -0.7**
WMQ SS SS 11 54 39.0 -7.8
WMQ AMB AMB
comp=Z,34nm,1.2s,mb5.0
WMQ AMB AMB
comp=Z,84nm,5.0s
WMQ LR LR
comp=N,265nm,14.0s
WMQ LR LR
comp=E,348nm,14.0s
WMQ LR LR
comp=Z,337nm,14.0s
BATI Kupang 45.05 204 P **P 11 45 30.1 -1.7**
comp=Z,7.0nm,0.4s,mb4.8,baz=102,slow=9.3,SNR=2.3
ZAA0 Zalesovo Array 45.06 316 *e*P **P 11 45 31.3 -0.1**
ZALV Zalesovo Beam 45.06 316 P **P 11 45 31.3 -0.2**
ZALV PcP PcP 11 47 11.1 -0.1
ZALV ScP ScP 11 50 57.8 -0.3
ZALV Zalesovo Beam 45.06 316 P **P 11 45 31.3 -0.2**
comp=Z,9.3nm,0.4s,mb5.0,baz=99,slow=8.7,SNR=51
ZALV PcP PcP 11 47 11.1 -0.1
comp=Z,3.1nm,0.3s,baz=114,slow=4.4,SNR=6.5
ZALV ScP ScP 11 50 57.8 -0.3
comp=Z,0.8nm,0.5s,baz=122,slow=2.3,SNR=4.2
ZAL Zalesovo 45.07 316 P **P 11 45 31.3 -0.3**
ZAL 11 47 11.1
HNR Honiara 45.08 153 LR LR 12 02 60.0
comp=Z,364nm,19.6s,baz=358,slow=34
KAKA Kakadu 45.16 192 *e*P **P 11 45 32.3 -0.4**
comp=Z,11nm,1.0s,mb4.7
NVS Novosibirsk 46.07 317 *i* P **P 11 45 39.4 0.0**
NVS *e* 11 47 16.7
NVS *e*S **S 11 52 21.0 +1.0**
NVS pmax pmax
comp=Z,30nm,1.5s,mb5.0
NVS pmax pmax
comp=N,1.0nm,0.4s
NVS pmax pmax
comp=E,20nm,1.0s
NVS smax
comp=N,26nm,2.2s
NVS smax
comp=E,41nm,2.5s
MK31 Makanchi Array 46.52 306 *i* P **P 11 45 42.8 -0.3**
MK31 pmax pmax
comp=Z,19nm,0.4s,mb5.4
MKAR Makanchi Array 46.52 306 P **P 11 45 42.8 -0.3**
MKAR ScP ScP 11 51 04.3 0.0
MKAR LR LR 12 06 15.8
MKAR Makanchi Array 46.52 306 P **P 11 45 42.8 -0.3**
comp=Z,20nm,0.4s,mb5.4,baz=85,slow=9.9,SNR=217
MKAR ScP ScP 11 51 04.3 0.0
comp=Z,1.5nm,0.7s,baz=84,slow=4.8,SNR=7.1
MKAR LR LR 12 06 15.8
comp=Z,251nm,19.6s,baz=92,slow=37
JIRN Jiri 47.15 280 *e*P **P 11 45 48.4 +0.1**
comp=Z,17nm,0.3s,mb5.4
GUN Gumba 47.33 280 *e*P **P 11 45 49.6 -0.1**
comp=Z,119nm,0.4s,mb6.2
PKI Pulchoki 47.84 280 *e*P **P 11 45 52.9 -0.7**
comp=Z,17nm,0.5s,mb5.4
KKN Kakani 47.87 280 *e*P **P 11 45 53.3 -0.6**
comp=Z,40nm,0.7s,mb5.5
DMN Daman 48.08 280 *e*P **P 11 45 55.0 -0.5**
comp=Z,19nm,0.4s,mb5.5
GKN Gorkha 48.34 281 *e*P **P 11 45 56.8 -0.7**
comp=Z,25nm,0.3s,mb5.7
KURK Kurchatov 48.76 312 *e*P **P 11 45 59.8 -0.6**
PSI Prapat 48.88 242 P **P 11 46 00.9 -0.8**
PSI LR LR 12 05 52.6
PSI Prapat 48.88 242 P **P 11 46 00.9 -0.8**
comp=Z,2.8nm,0.4s,mb4.6,baz=10,slow=15,SNR=4.0
PSI LR LR 12 05 52.6
comp=Z,196nm,20.6s,baz=228,slow=35
DANN Dangsing 48.96 281 *e*P **P 11 46 01.7 -0.5**
comp=Z,74nm,0.4s,mb6.1
KOLN Koldanda 49.28 281 *e*P **P 11 46 03.5 -1.2**
comp=Z,23nm,0.6s,mb5.4
KDAK Kodiak Island 51.26 39 P **P 11 46 17.1 -2.1**
comp=Z,7.7nm,0.5s,mb4.9,baz=212,slow=8.3,SNR=15
KDAK pP pP 11 46 35.2 -0.6
comp=Z,23nm,0.8s,baz=275,slow=1.8,SNR=5.4
ULHL Ulahol 51.37 301 P **P 11 46 20.0 -0.3**
SNR=6.0
TKM2 Tokmak 2 51.71 302 *e*P **P 11 46 22.9 +0.1**
TKM2 pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
TKM2 Tokmak 2 51.71 302 *e*P **P 11 46 22.9 +0.1**
comp=Z,6.2nm,0.5s,mb4.8
TKM2 Tokmak 2 51.71 302 P **P 11 46 23.2 +0.3**
SNR=13
FITZ Fitzroy Crossi 51.89 198 *e*P **P 11 46 23.2 -1.1**
comp=Z,2.8nm,0.4s,mb4.5
FITZ Fitzroy Crossi 51.89 198 P **P 11 46 23.3 -1.0**
comp=Z,1.6nm,0.4s,mb4.3,baz=29,slow=11,SNR=16
WRAB Tennant Creek 52.00 188 *e*P **P 11 46 25.2 +0.1**
WRAB pmax pmax
comp=Z,27nm,1.3s,mb5.0
WRAB Tennant Creek 52.00 188 *e*P **P 11 46 25.2 +0.1**
comp=Z,27nm,1.3s,mb5.0
WB2 Warramunga Arr 52.01 188 *e*P **P 11 46 23.4 -1.7**
WRA Warramunga Arr 52.01 188 P **P 11 46 23.4 -1.8**
comp=Z,10nm,0.4s,mb5.1,baz=5.0,slow=7.6,SNR=445
CTA Charters Tower 52.05 173 P **P 11 46 24.6 -0.8**
CTA LR LR 12 05 36.7
CTA Charters Tower 52.05 173 P **P 11 46 24.6 -0.8**
comp=Z,5.2nm,0.8s,mb4.5,baz=321,slow=4.3,SNR=4.3
CTA LR LR 12 05 36.7
comp=Z,311nm,21.3s,baz=22,slow=33
CTAO Charters Tower 52.05 173 *e*P **P 11 46 27.8 +2.4**
KZA Kyzart 52.13 301 P **P 11 46 26.1 +0.1**
SNR=9.0
KBK Karagaybulak 52.23 302 P **P 11 46 26.8 +0.1**
SNR=12
FRU Bishkek 52.44 302 *e*P **P 11 46 28.0 -0.2**
FRU pmax pmax
comp=Z,40nm,1.9s,mb5.0
USP Ospenovka 52.44 302 P **P 11 46 27.8 -0.4**
SNR=7.8
UCH Uchtor 52.63 301 *e*P **P 11 46 30.2 +0.6**
comp=Z,31nm,1.5s,mb5.0
UCH Uchtor 52.63 301 P **P 11 46 30.3 +0.7**
SNR=8.1
EKS2 Erkin-Say 53.08 302 *e*P **P 11 46 32.7 -0.2**
comp=Z,7.6nm,0.9s,mb4.6
MCK McKinley 53.14 32 *e*P **P 11 46 33.7 +0.6**
AML Almayashu 53.25 301 P **P 11 46 34.9 +0.7**
SNR=39
COLA College 53.65 30 *e*P **P 11 46 36.5 -0.2**
COLA *e**PP pP 11 46 53.6 +0.1
COLA pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
COLA College 53.65 30 *e*P **P 11 46 36.5 -0.2**
comp=Z,5.2nm,0.5s,mb4.7
COLA *e*pP pP 11 46 53.6 +0.1
BVAR Borovoye Array 53.68 315 P **P 11 46 36.8 -0.4**
comp=Z,9.8nm,0.3s,mb5.2,baz=95,slow=7.4,SNR=54
BVAR pP pP 11 46 53.2 -0.7
comp=Z,18nm,0.7s,baz=93,slow=8.0,SNR=10
BRVK Borovoye 53.74 315 *e*P **P 11 46 37.6 0.0**
THN Thein Dam 54.25 289 *e*P **P 11 46 40.0 -1.7**
KK31 Karatay Array 55.32 303 *i* P **P 11 46 48.8 -0.4**
KK31 pmax pmax
comp=Z,16nm,0.4s,mb5.4
ASAR Alice Springs 55.74 188 P **P 11 46 50.9 -1.4**
comp=Z,4.0nm,0.4s,mb4.8,baz=5.3,slow=7.3,SNR=151
EGAK Eagle 56.51 30 *e*P **P 11 46 56.7 -0.7**
HKL Haleakala 56.83 85 *e*P **P 11 47 05.1 +4.8**
HKL *e*pP pP 11 47 09.9 -7.3
EIDS Eidsvold 57.88 169 *e*P **P 11 47 08.3 +0.8**
SVE Sverdlovsk 58.65 321⇑ *e*P **P 11 47 13.9 +1.4**
SVE *e*PPP 11 50 47.1
SVE pmax pmax
comp=Z,18nm,0.9s,mb5.1
ARU Arti 59.85 320 *d i*P **P 11 47 20.2 -0.6**
ARU *e* 11 48 05.2
ARU *e*S **S 11 55 29.2 +1.8**
ARU *e*SS SS 11 59 19.2 -4.7
ARU pmax pmax
comp=Z,59nm,1.7s,mb5.3
ARU Arti 59.85 320 *e*P **P 11 47 20.9 +0.1**
AKTK Aktyubinsk 61.73 314 P **P 11 47 33.7 0.0**
AKTK pP pP 11 47 50.0 -0.8
AKTO Aktyubinsk 61.73 314 P **P 11 47 33.7 0.0**
comp=Z,5.5nm,0.4s,mb5.0,baz=71,slow=7.5,SNR=19
AKTO pP pP 11 47 50.0 -0.8
comp=Z,5.7nm,0.6s,baz=71,slow=13,SNR=12
STKA Stephens Creek 63.53 179 *e*P **P 11 47 45.1 -0.6**
comp=Z,6.4nm,1.0s,mb4.6
STKA Stephens Creek 63.53 179 P **P 11 47 45.4 -0.4**
comp=Z,8.5nm,1.0s,mb4.7,baz=342,slow=9.0,SNR=8.5
FORT Forrest 63.59 192 *e*P **P 11 47 45.9 -0.2**
comp=Z,24nm,0.5s,mb5.5
TMCR Tamitsa 66.94 332 *e*P pP 11 48 20.7 -4.1
TMCR pmax pmax
comp=Z,24nm,1.0s,mb5.2
CNB Canberra Magne 67.44 172 *e*P **P 11 48 11.3 +0.4**
comp=Z,12nm,1.2s,mb4.8
NWAO Narrogin (SRO) 68.30 201 P **P 11 48 16.1 -0.2**
comp=Z,44nm,1.4s,mb5.3,baz=27,slow=4.5,SNR=5.5
YKA Yellowknife Ar 68.44 29 P **P 11 48 15.5 -1.4**
comp=Z,0.7nm,0.5s,mb4.0,baz=304,slow=6.6,SNR=25
YKA pP pP 11 48 31.1 -3.1
comp=Z,3.5nm,1.0s,baz=296,slow=6.2,SNR=9.0
ARCES ARCESS Array B 68.53 340 P **P 11 48 18.0 +0.6**
comp=Z,1.4nm,0.4s,mb4.2,baz=71,slow=7.4,SNR=14
TOO Toolangi 69.34 176 *e*P **P 11 48 24.3 +1.6**
comp=Z,79nm,1.3s,mb5.5
TOO Toolangi 69.34 176 *e*P **P 11 48 24.3 +1.6**
TOO pmax pmax
comp=Z,79nm,1.3s,mb5.5
JOF Joensuu 70.18 333 *e*p **P 11 48 27.2 -0.5**
comp=Z,5.1nm,0.3s,mb4.9
NLWA Neilton Lookou 70.54 46 ⇑P **P 11 48 30.3 +0.1**
baz=70
A04A Legoe Bay, Lum 70.65 44 ⇑P **P 11 48 30.8 0.0**
baz=70
DAG Danmarks Havn 70.74 355⇓ *e*P **P 11 48 31.5 +0.6**
DAG pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
DAG Danmarks Havn 70.74 355⇓ *i*P **P 11 48 31.5 +0.6**
comp=Z,8.0nm,0.6s,mb4.8
A05A Maple Falls 70.89 44 ⇓P **P 11 48 32.4 +0.1**
baz=71
MOS Moscow 71.01 324 *e*P **P 11 48 31.0 -1.9**
VRHR Novokhopersk 71.10 319 *e*P pP 11 48 49.5 -1.5
VRHR pmax pmax
comp=N,30nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=E,20nm,0.6s
B05A Bryant 71.22 44 ⇑P **P 11 48 34.6 +0.4**
baz=71
D05A Enumclaw 71.77 45 ⇓P **P 11 48 38.3 +0.6**
baz=72
G03A Yamhill 71.84 48 ⇓P **P 11 48 38.8 +0.8**
baz=72
OBN Obninsk 71.84 324⇑ *e*P **P 11 48 37.6 -0.3**
OBN *e*S S 11 58 00.5 +7.1
OBN pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
A07A Ashnola River, 71.86 43 ⇓P **P 11 48 38.2 +0.1**
baz=72
F04A Amboy 72.09 47 ⇑P **P 11 48 39.7 +0.1**
baz=72
H03A Soap Creek Ran 72.12 48 ⇓P **P 11 48 40.2 +0.4**
baz=72
E05A Randle 72.20 46 ⇓P **P 11 48 40.2 0.0**
baz=72
B07A Winthrop 72.29 44 ⇓P **P 11 48 41.2 +0.5**
baz=72
G04A Mulino 72.39 47 ⇓P **P 11 48 41.6 +0.3**
baz=72
VRSR Storozhevoye 72.40 320 *e*P **P 11 48 40.6 -0.7**
VRSR pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.6s
I03A Eugene 72.46 49 ⇑P **P 11 48 42.1 +0.3**
baz=72
D06A Cle Elum 72.46 45 ⇓P **P 11 48 41.9 +0.1**
baz=72
J02A Umpqua 72.55 50 ⇑P **P 11 48 42.6 +0.3**
baz=72
A08A Turner Farm, O 72.55 43 ⇓P **P 11 48 42.2 0.0**
baz=72
E06A Yakima 72.69 46 ⇑P **P 11 48 43.4 +0.2**
baz=72
C07A Waterville 72.69 44 ⇑P **P 11 48 43.0 -0.1**
baz=72
F05A White Salmon 72.70 46 ⇓P **P 11 48 43.6 +0.4**
baz=72
B08A Colville Reser 72.80 43 ⇑P **P 11 48 43.7 0.0**
baz=72
H04A Detroit Lake 72.82 48 ⇓P **P 11 48 43.4 -0.5**
baz=72
K02A Glendale 72.88 50 ⇑P **P 11 48 43.7 -0.6**
baz=73
FINES FINESS Array B 73.04 333 P **P 11 48 44.5 -0.4**
comp=E,7.7nm,0.4s,mb5.0,baz=49,slow=6.7,SNR=108
FINES pP pP 11 49 01.1 -1.4
comp=E,8.5nm,0.7s,baz=57,slow=7.0,SNR=6.6
HUMO Hull Mountain 73.30 50 ⇑P **P 11 48 47.1 +0.3**
baz=73
E07A Sunnyside 73.36 45 ⇑P **P 11 48 47.1 0.0**
baz=73
H05A Madras 73.44 48 ⇓P **P 11 48 48.0 +0.4**
baz=73
B09A Rice 73.46 43 ⇑P **P 11 48 47.9 +0.2**
baz=73
G06A Carlson Farm, 73.52 47 ⇓P **P 11 48 48.6 +0.5**
baz=73
J04A Umpqua Nationa 73.55 49 P **P 11 48 48.8 +0.5**
baz=73,SNR=5.8
D08A Wollman Farm, 73.68 45 ⇑P **P 11 48 49.0 +0.1**
baz=73
KIV Kislovodsk 73.85 312 *e*P **P 11 48 50.4 +0.4**
KIV *e**PP pP 11 49 07.6 0.0
KIV Kislovodsk 73.85 312 *e*P **P 11 48 50.4 +0.3**
KIV *e*pP pP 11 49 07.6 +0.1
YBH Yreka Blue Hor 73.88 51 ⇓P **P 11 48 50.3 0.0**
baz=74
M02C Callahan 73.94 51 ⇑P **P 11 48 51.3 +0.7**
baz=74
H06A Lindquist Farm 73.95 47 ⇓P **P 11 48 51.0 +0.4**
baz=74
J05A Fort Rock 74.09 49 P **P 11 48 52.0 +0.6**
baz=74,SNR=6.7
K04A Chilquin 74.09 50 ⇓P **P 11 48 51.9 +0.4**
baz=74
G07A Ruggs Ranch, H 74.10 46 ⇓P **P 11 48 52.0 +0.5**
baz=74
NEW Newport 74.13 43 *e*P **P 11 48 51.8 +0.2**
NEW *e**PP pP 11 49 09.4 +0.3
L04A Klamath Falls 74.20 50 ⇓P **P 11 48 52.2 +0.1**
baz=74
GNI Garni 74.34 308 P **P 11 48 52.3 -0.6**
comp=E,5.4nm,0.4s,mb4.9,baz=153,slow=6.8,SNR=2.5
E09A Wood Farm, Sta 74.41 45 ⇓P **P 11 48 53.3 +0.1**
baz=74
I06A Prineville 74.42 48 ⇓P **P 11 48 53.6 +0.3**
baz=74
M04C Macdoel 74.42 50 ⇑P **P 11 48 53.7 +0.3**
baz=74
G08A Pilot Rock 74.53 46 ⇑P **P 11 48 53.9 0.0**
baz=74
P01C Double 8 Ranch 74.54 53 ⇓P **P 11 48 54.6 +0.4**
baz=74
WDC Whiskeytown Da 74.54 52 ⇓P **P 11 48 54.6 +0.5**
baz=74
O02C Red Bluff 74.57 52 ⇓P **P 11 48 54.5 +0.2**
baz=74
K05A Summer Lake 74.58 49 ⇑P **P 11 48 54.7 +0.4**
baz=74,SNR=8.8
D10A Wagner Farm, O 74.65 44 ⇓P **P 11 48 54.5 -0.2**
baz=74
I07A Izee 74.79 47 ⇓P **P 11 48 55.2 -0.2**
baz=74
J06A Christmas Vall 74.79 48 ⇓P **P 11 48 55.5 0.0**
baz=74,SNR=6.3
L05A Lakeview 74.95 50 ⇓P **P 11 48 56.7 +0.3**
baz=75
K06A Valley Falls 74.95 49 ⇑P **P 11 48 56.5 0.0**
baz=75
H08A Prairie City 75.09 47 ⇑P **P 11 48 57.3 +0.1**
baz=75
D11A Klaveano Farm, 75.21 44 ⇓P **P 11 48 57.4 -0.4**
baz=75
F10A Beach Ranch, E 75.23 45 ⇓P **P 11 48 57.5 -0.5**
baz=75
J07A Hines 75.27 48 P **P 11 48 58.7 +0.5**
baz=75,SNR=14
B13A Whitefish 75.59 42 ⇑P **P 11 49 00.1 +0.1**
baz=75,SNR=5.8
M06C Likely Place G 75.60 50 ⇑P **P 11 49 00.2 0.0**
baz=75
O04C Chester 75.64 51 ⇑P **P 11 49 00.3 -0.1**
baz=75
E11A Bogner Ranch, 75.64 44 ⇓P **P 11 49 00.2 -0.2**
baz=75
G10A Bishop Farm, J 75.65 45 P **P 11 49 00.3 -0.1**
baz=75,SNR=7.1
K07A Rock Creek Ran 75.65 49 P **P 11 49 00.7 +0.3**
baz=75,SNR=10.0
ELFS Eagle Lake Fie 75.73 51 ⇑P **P 11 49 01.0 0.0**
baz=76
ORV Oroville 75.74 52 ⇑P **P 11 49 00.7 -0.3**
baz=76,SNR=6.8

BMO Blue Mountains 75.76 46 eP P 11 49 01.3 +0.3
BMO e*PP pP 11 49 19.1 +0.5
D12A Red Ives Fores 75.78 43 ⇑P P 11 49 00.6 -0.5
baz=76
J08A Circle Bar Ran 75.80 48 P P 11 49 01.5 +0.2
baz=76,SNR=11
OHCM Honcut 75.86 52 eP P 11 49 01.8 +0.1
OHCM epP pP 11 49 19.4 0.0
C13A Hot Springs 75.90 42 ⇓P P 11 49 01.5 -0.3
baz=76
SOC Sochi 75.90 313 eP P 11 49 00.5 -1.4
SOC eS S 11 58 38.7 -0.7
SOC e 11 59 13.3
SOC MLR MLR
comp=Z,95nm,13.0s
F11A Grangeville 75.92 45 ⇑P P 11 49 01.4 -0.5
baz=76
O05C Quincy 75.93 52 ⇓P P 11 49 01.4 -0.6
baz=76
L07A Adell 75.93 49 P P 11 49 02.6 +0.5
baz=76,SNR=14
G11A Walters Elk Ra 76.11 45 P P 11 49 02.5 -0.5
baz=76,SNR=16
K08A Mann Creek Ran 76.11 48 ⇓P P 11 49 03.3 +0.3
baz=76,SNR=7.5
WVOR Wild Horse Val 76.17 49 eP P 11 49 03.6 +0.2
WVOR e*PP pP 11 49 21.9 +0.9
WVOR pmax pmax
comp=Z,31nm,1.5s,mb5.0
WVOR Wild Horse Val 76.17 49 eP P 11 49 03.6 +0.2
comp=Z,31nm,1.5s,mb5.0
WVOR epP pP 11 49 21.9 +0.9
H10A Noah's Angus R 76.24 46 ⇓P P 11 49 03.2 -0.5
baz=76
N06A Buffalo Meadow 76.25 51 ⇑P P 11 49 04.0 +0.2
baz=76
J09A Fry Pan Ranch, 76.26 47 ⇓P P 11 49 03.9 0.0
baz=76,SNR=5.3
D13A Huson 76.28 43 ⇑P P 11 49 04.0 +0.1
baz=76
C14A Swan Lake 76.33 42 ⇓P P 11 49 04.1 -0.1
baz=76
BEKR Beckwourth 76.35 52 ⇑P P 11 49 04.1 -0.4
baz=76,SNR=8.6
M07A Soldier Meadow 76.36 50 ⇑P P 11 49 04.3 -0.2
baz=76,SNR=6.7
MNK Minsk 76.41 326 eP P 11 49 05.0 +0.5
P05C Yuba Gap, Truc 76.46 52 ⇑P P 11 49 04.6 -0.5
baz=76
L08A Fields 76.48 49 ⇑P P 11 49 05.4 +0.2
baz=76,SNR=6.0
F12A Elk City 76.52 44 ⇑P P 11 49 05.1 -0.3
baz=76,SNR=8.3
WENL Wente Brothers 76.53 54 ⇓P P 11 49 05.5 0.0
baz=76
O06A Flanigan 76.55 51 ⇑P P 11 49 05.7 +0.1
baz=76
K09A Rome 76.61 48 ⇑P P 11 49 05.9 0.0
baz=76,SNR=8.1
H11A Donnelly 76.62 46 ⇓P P 11 49 05.4 -0.5
baz=76,SNR=5.1
LAVA Lava Cap Winer 76.65 53 P P 11 49 06.0 -0.2
baz=76,SNR=5.3
ANN Anapa 76.67 315 eP pP 11 49 21.7 -2.1
ANN pmax pmax
comp=Z,83nm,1.5s,mb5.4
P06A Stead Airport, 76.75 51 ⇑P P 11 49 06.5 -0.2
baz=76
N07B Gerlach 76.80 50 ⇑P P 11 49 06.9 0.0
baz=76
D14A Greenough 76.83 43 ⇑P P 11 49 06.3 -0.7
baz=76
M08A Happy Creek Ra 76.84 49 ⇑P P 11 49 07.4 +0.2
baz=77
L09A Wilkinson Ranc 77.00 49 ⇓P P 11 49 08.1 0.0
baz=77
WCN Washoe City 77.03 52 ⇑P P 11 49 08.1 -0.3
baz=77
F13A Darby 77.05 44 ⇑P P 11 49 08.8 +0.5
baz=77
CHMT Chamberlain Mo 77.07 43 eP P 11 49 08.0 -0.4
PAHR Pah Rah Range 77.08 51 eP P 11 49 09.3 +0.8
comp=Z,12nm,1.1s,mb4.7
PAHR epP pP 11 49 27.3 +1.0
I11A Placerville 77.08 46 ⇑P P 11 49 08.5 0.0
baz=77
K10A MacKenzie Ranc 77.11 48 ⇑P P 11 49 09.1 +0.4
baz=77,SNR=12
PACP Pacheco Peak 77.16 54 ⇑P P 11 49 09.4 +0.3
baz=77
O07A Toulon 77.18 51 ⇑P P 11 49 09.2 +0.1
baz=77,SNR=5.8
CMB Columbia Colle 77.25 53 eP P 11 49 09.5 -0.1
CMB Columbia Colle 77.25 53 ⇓P P 11 49 09.4 -0.2
baz=77,SNR=7.6
N08A GE Springer Mi 77.34 50 ⇓P P 11 49 10.0 0.0
baz=77,SNR=6.4
UMR Umm Al-Rimmam 77.35 297 eP P 11 49 09.5 -0.8
UMR AMb AMB 11 49 12.4
comp=Z,33nm,0.5s,mb5.5
H12A Diamond D Ranc 77.41 45 ⇓P P 11 49 10.1 -0.2
baz=77
MFID Camas Ranch 77.42 47 ⇓P P 11 49 10.5 +0.1
baz=77,SNR=8.1
M09A Marrel Ranch, 77.45 49 ⇑P P 11 49 10.8 +0.2
baz=77
G13A Cobalt 77.49 45 ⇑P P 11 49 10.7 0.0
baz=77
K11A Parker Ranch, 77.63 47 ⇑P P 11 49 12.0 +0.4
baz=77,SNR=6.8
R06C Coleville 77.64 52 ⇑P P 11 49 11.7 0.0
baz=77
S05C Merced 77.64 54 ⇑P P 11 49 11.4 -0.4
baz=77
E15A Deer Lodge 77.69 43 P P 11 49 11.6 -0.3
baz=77,SNR=5.4
V03C Hunter Liggett 77.69 55 ⇑P P 11 49 12.9 +0.8
baz=78
N09A Rock Creek Ran 77.70 49 ⇑P P 11 49 12.3 +0.3
baz=77
L10A Juniper Basin 77.73 48 ⇓P P 11 49 12.4 +0.3
baz=77,SNR=7.4
H13A Challis 77.76 45 ⇑P P 11 49 12.2 -0.1
baz=78
RDF Al-Radifah 77.78 296 eP P 11 49 12.1 -0.6
RDF AMb AMB 11 49 14.4
comp=Z,59nm,0.6s,mb5.7
NAY Al-Naaiem 77.86 297 eP P 11 49 12.4 -0.7
NAY AMb AMB 11 49 17.8
comp=Z,29nm,0.5s,mb5.4
J12A Stokes Ranch, 77.96 46 ⇑P P 11 49 13.6 +0.2
baz=78
AKASG Malin Array Be 77.98 323 P P 11 49 12.8 -0.6
comp=Z,3.9nm,0.3s,mb4.8,baz=50,slow=5.8,SNR=30
AKASG pP pP 11 49 29.1 -1.9
comp=Z,4.3nm,0.4s,baz=50,slow=5.8,SNR=6.0
M10A I.L. Ranch, Tu 77.98 49 ⇑P P 11 49 13.6 0.0
baz=78,SNR=6.6
KIEV Kiev 77.99 323 eP P 11 49 12.9 -0.5
KIEV e*PP pP 11 49 29.9 -1.2
KIEV pmax pmax
comp=Z,14nm,0.8s,mb4.9
KIEV Kiev 77.99 323 eP P 11 49 12.9 -0.5
comp=Z,14nm,0.8s,mb5.0
KIEV epP pP 11 49 29.9 -1.2
F15A Butte 78.10 43 P P 11 49 14.1 0.0
baz=78,SNR=13
L11A Cat Creek Ranc 78.13 48 ⇓P P 11 49 14.6 +0.2
baz=78,SNR=7.8
R07C Lee Vining 78.13 53 ⇑P P 11 49 14.6 +0.1
baz=78
LRM Limekiln Ridge 78.14 43 eP P 11 49 14.7 +0.3
I13A Wildhorse Cree 78.20 45 ⇑P P 11 49 14.9 +0.2
baz=78
HLID Hailey 78.21 46 ⇑P P 11 49 15.4 +0.6
baz=78
FFC Flin Flon 78.23 32 eP P 11 49 13.9 -0.8
FFC e*PP pP 11 49 31.5 -0.9
FFC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
FFC Flin Flon 78.23 32 eP P 11 49 13.9 -0.8
comp=Z,5.2nm,0.9s,mb4.5
FFC epP pP 11 49 31.5 -0.9
T06C Millerton Lake 78.24 54 P P 11 49 14.5 -0.6
baz=78,SNR=6.2
O09A Fish Creek Ran 78.28 50 P P 11 49 15.8 +0.6
baz=78,SNR=5.6

KCC Kaiser Creek 78.35 53 ⇓P P 11 49 16.1 +0.4
baz=78
K12A Draper Farm, C 78.41 47 ⇓P P 11 49 16.4 +0.5
baz=78
EGMT Eagleton 78.41 40 eP P 11 49 16.8 +0.9
comp=Z,47nm,2.0s,mb5.1
EGMT Eagleton 78.41 40 ⇑P P 11 49 15.1 -0.8
baz=78
J13A Cove Ranch, Pi 78.44 46 ⇓P P 11 49 16.4 +0.3
baz=78,SNR=6.0
NVAR Mina Array Bea 78.45 52 P P 11 49 16.3 0.0
NVAR pP pP 11 49 33.9 -0.1
NVAR Mina Array Bea 78.45 52 P P 11 49 16.3 0.0
comp=Z,4.5nm,0.8s,mb4.5,baz=283,slow=5.8,SNR=26
NVAR pP pP 11 49 33.9 -0.1
comp=Z,3.0nm,0.7s,baz=276,slow=5.8,SNR=6.5
Q08A Gabbs 78.48 51 ⇑P P 11 49 16.4 +0.1
baz=78,SNR=6.8
G15A Dillon 78.48 44 ⇑P P 11 49 16.4 +0.1
baz=78,SNR=5.3
M11A Holland Ranch, 78.50 48 ⇓P P 11 49 17.2 +0.7
baz=78,SNR=8.4
L12A House Creek Ra 78.60 47 ⇑P P 11 49 17.4 +0.4
baz=78,SNR=7.5
R08A Mina 78.63 52 ⇓P P 11 49 17.1 -0.1
baz=78
NB2 NORSAR Subarra 78.63 338 P P 11 49 16.1 -0.7
comp=Z,5.0nm,0.4s,mb4.8,baz=41,slow=5.3
NOA NORSAR Array B 78.63 338 P P 11 49 16.2 -0.6
NOA *PP pP 11 49 33.2 -1.3
NOA NORSAR Array B 78.63 338 P P 11 49 16.2 -0.6
NOA pP pP 11 49 33.2 -1.3
NOA LR LR 12 28 43.3
NOA NORSAR Array B 78.63 338 P P 11 49 16.2 -0.6
comp=Z,5.1nm,0.4s,mb4.8,baz=41,slow=5.2,SNR=33
NOA pP pP 11 49 33.2 -1.3
comp=Z,17nm,1.1s,baz=42,slow=5.4,SNR=8.5
NOA LR LR 12 28 43.3
comp=Z,108nm,20.6s,baz=35,slow=39
P09A Austin 78.64 50 ⇑P P 11 49 17.3 0.0
baz=78
O10A Cortez Mining, 78.66 50 ⇓P P 11 49 17.9 +0.5
baz=78
BOZ Bozeman (W) 78.71 43 eP P 11 49 17.7 +0.2
BOZ pmax pmax
comp=Z,47nm,2.5s,mb5.0
BOZ Bozeman (W) 78.71 43 eP P 11 49 17.7 +0.2
comp=Z,47nm,2.5s,mb5.0
BOZ Bozeman (W) 78.71 43 ⇓P P 11 49 18.0 +0.4
baz=78
HELL Mitchell Peak 78.88 54 ⇑P P 11 49 18.5 -0.2
baz=79
K13A Stover Farm, H 78.91 47 ⇑P P 11 49 18.8 +0.2
baz=79
S08C White Mtn Res 79.03 53 P P 11 49 19.7 +0.3
baz=79,SNR=6.0
P10A Eureka 79.04 50 ⇑P P 11 49 20.0 +0.5
baz=79
M12A Wells 79.06 48 ⇓P P 11 49 20.0 +0.5
baz=79
VES Vestal, Richgr 79.28 54 ⇑P P 11 49 20.7 -0.2
baz=79
O11A Cowboy Ranch, 79.29 49 ⇓P P 11 49 20.7 -0.1
baz=79
N12A Clover Valley, 79.29 48 ⇓P P 11 49 20.6 -0.2
baz=79
L13A Double Diamond 79.30 47 ⇑P P 11 49 21.2 +0.3
baz=79
R09A Tonopah 79.38 52 ⇓P P 11 49 21.1 -0.2
baz=79,SNR=6.0
MALT Malatya 79.49 309 eP P 11 49 22.6 +0.7
MALT e*PP pP 11 49 40.0 +0.3
Q10A Clear Creek Ra 79.51 51 ⇑P P 11 49 22.7 +0.6
baz=79
K14A Jones Ranch, D 79.53 46 ⇑P P 11 49 22.6 +0.6
baz=79
S09A Goldfield 79.55 52 P P 11 49 22.2 -0.1
baz=79,SNR=7.3
M13A Montello 79.57 48 ⇓P P 11 49 22.3 0.0
baz=79,SNR=5.7
O12A Currie 79.80 49 ⇓P P 11 49 23.3 -0.2
baz=80,SNR=9.4
GRAC Grapevine Rang 79.84 53 ⇓P P 11 49 24.0 +0.2
baz=80
R10A Warm Springs 79.86 51 ⇑P P 11 49 24.8 +0.9
baz=80
Q11A Duckwater 79.99 50 ⇑P P 11 49 25.0 +0.4
baz=80
M14A Sheep Mountain 80.00 47 ⇓P P 11 49 25.6 +1.0
baz=80,SNR=5.3
LKWY Lake 80.04 43 eP P 11 49 25.6 +0.8
IMW Indian Meadow 80.11 44 eP P 11 49 26.4 +1.2
P12A McGill 80.13 50 ⇑P P 11 49 25.7 +0.4
baz=80
FLWY Flagg Ranch 80.14 44 eP P 11 49 26.3 +1.0
comp=Z,29nm,1.5s,mb5.0
MPMC Manual Prospec 80.26 54 P P 11 49 27.1 +1.0
baz=80,SNR=5.8
R11A Troy Canyon, C 80.30 51 ⇑P P 11 49 26.4 +0.1
baz=80,SNR=7.1
TPAW Teton Pass 80.34 45 eP P 11 49 26.5 +0.1
comp=Z,3.2nm,0.7s,mb4.4
TPAW epP pP 11 49 44.8 +0.6
O13A Hicks Ranch, I 80.36 49 ⇓P P 11 49 26.6 0.0
baz=80
LRMC Laurel Mountai 80.44 54 ⇓P P 11 49 27.7 +0.6
baz=80
FURC Furnace Creek, 80.47 53 ⇓P P 11 49 27.0 -0.3
baz=80,SNR=9.1
REDW Red Top Meadow 80.47 45 eP P 11 49 27.8 +0.7
EDW2 Edwards Air Fo 80.55 55 ⇓P P 11 49 27.5 -0.2
baz=80
S11A Rachel 80.58 51 ⇓P P 11 49 27.6 -0.2
baz=80
TPNV Topopah Spring 80.62 52 eP P 11 49 29.0 +0.9
TPNV pmax pmax
comp=Z,19nm,1.2s,mb4.9
TPNV Topopah Spring 80.62 52 eP P 11 49 28.9 +0.9
comp=Z,19nm,1.2s,mb4.9
TPNV Topopah Spring 80.62 52 ⇓P P 11 49 28.0 -0.1
baz=80
P13A Bates Ranch, G 80.72 49 P P 11 49 28.8 +0.3
baz=80,SNR=6.3
R12A Pony Springs, 80.96 50 ⇓P P 11 49 29.6 -0.2
baz=81,SNR=5.9
Q13A Wheeler Ranch, 80.99 50 ⇓P P 11 49 29.7 -0.2
baz=81
HWUT Hardware Ranch 81.04 46 eP P 11 49 31.4 +1.2
comp=Z,54nm,2.0s,mb5.1
HWUT epP pP 11 49 49.0 +1.0
DUG Dugway 81.07 48 eP P 11 49 31.2 +0.8
DUG e*PP pP 11 49 49.0 +0.8
DUG pmax pmax
comp=Z,19nm,1.4s,mb4.8
DUG Dugway 81.07 48 eP P 11 49 31.1 +0.8
comp=Z,19nm,1.4s,mb4.8
DUG epP pP 11 49 49.0 +0.8
DUG Dugway 81.07 48 ⇑P P 11 49 30.6 +0.2
baz=81
BFSC Mount Baldy St 81.12 55 ⇑P P 11 49 29.7 -1.0
baz=81
GSC Goldstone 81.14 54 eP P 11 49 31.2 +0.4
GSC e*PP pP 11 49 48.8 +0.2
GSC pmax pmax
comp=Z,16nm,1.4s,mb4.8
GSC Goldstone 81.14 54 eP P 11 49 31.2 +0.4
comp=Z,16nm,1.4s,mb4.8
GSC epP pP 11 49 48.8 +0.1
GSC Goldstone 81.14 54 ⇑P P 11 49 30.5 -0.4
baz=81,SNR=5.6
T11A Corn Creek, Al 81.15 52 ⇑P P 11 49 31.0 +0.1
baz=81
SHPR Sheep Range 81.60 52 eP P 11 49 33.4 +0.1
SHPR epP pP 11 49 52.0 +0.9
BBRC Big Bear Sol-O 81.62 55 ⇑P P 11 49 32.8 -0.6
baz=81
TUQ Turquoise Mtn. 81.67 53 ⇑P P 11 49 33.4 -0.3
baz=81,SNR=6.3
JLU Jordanelle 81.69 47 eP P 11 49 35.1 +1.5
JLU epP pP 11 49 53.4 +1.9
HEC Hector,Ludlow 81.72 54 ⇓P P 11 49 33.6 -0.3
baz=82
V11A Goodsprings 81.78 53 ⇑P P 11 49 34.4 +0.2
baz=82
MURC Murrieta 81.78 56 ⇓P P 11 49 33.9 -0.4
baz=82
S13A Holt Ranch, En 81.86 51 ⇓P P 11 49 34.2 -0.4
baz=82
DAU Daniels Canyon 81.92 47 eP P 11 49 35.4 +0.5
KWP Kalwaria 81.92 325 ⇓iP P 11 49 28.0 -6.7
BURAR Bucovina Array 81.95 322 ⇑iP P 11 49 35.0 +0.1
T13A Saint George 82.15 51 ⇓P P 11 49 36.6 +0.5
baz=82
GMRC Granite Mounta 82.21 54 ⇓P P 11 49 36.4 -0.1
baz=82
V12A Nelson 82.24 53 ⇑P P 11 49 36.6 0.0
baz=82
VRI Vrincioaia 82.24 320 ⇓iP P 11 49 38.5 +2.1
PFO Pinyon Flat Ob 82.30 55 eP P 11 49 36.6 -0.4
PFO e*PP pP 11 49 55.0 +0.2
PFO pmax pmax
comp=Z,11nm,1.0s,mb4.7
PFO Pinyon Flat Ob 82.30 55 eP P 11 49 36.6 -0.4
comp=Z,11nm,1.0s,mb4.8
PFO epP pP 11 49 55.0 +0.2
PFO Pinyon Flat Ob 82.30 55 ⇓P P 11 49 36.6 -0.4
baz=82,SNR=7.8
BELC Belle Mtn. 82.40 55 ⇓P P 11 49 37.3 -0.3
baz=82,SNR=5.0
MSU Marysvale 82.43 49 eP P 11 49 38.2 +0.6
MSU e*PP pP 11 49 56.5 +1.1
U13A Pakoon Wash 82.45 52 ⇓P P 11 49 37.7 0.0
baz=82
KOLS Kolonicke sedl 82.60 324 eP P 11 49 39.8 +1.6
KOLS epP pP 11 49 56.9 +0.8
MONP Monument Peak 82.72 56 ⇓P P 11 49 38.9 -0.3
baz=82
V13A Grand Canyon W 82.75 52 ⇓P P 11 49 38.9 -0.4
baz=82
STHS Stebnicka Huta 82.78 325 eP P 11 49 40.2 +1.0
STHS e pP 11 49 57.9 +0.9
STHS pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
STHS Stebnicka Huta 82.78 325 eP P 11 49 40.2 +1.0
comp=Z,7.4nm,0.9s,mb4.7
STHS e pP 11 49 57.9 +0.9
UZH Uzhgorod 82.79 324 eP P 11 49 40.5 +1.3
PPT Papeete 82.88 116 LR LR 12 19 31.9
comp=Z,141nm,21.2s,baz=320,slow=30
IRM Iron Mountain 82.90 54 ⇑P P 11 49 39.5 -0.6
baz=83
OJC Ojcow 82.94 326 eP P 11 49 40.1 +0.1
U14A Mt Trumbull 82.97 51 ⇑P P 11 49 40.3 -0.1
baz=83
BC3 Big Chuckw Mtn 82.97 55 ⇑P P 11 49 40.0 -0.4
baz=83
TRPA Tarpa 82.99 324 ⇓iP P 11 49 41.0 +0.7
CRVS Cervenica-Dubn 83.02 325 eP P 11 49 40.7 +0.3
SRU San Rafael 83.14 48 eP P 11 49 41.2 0.0
T15A Red Dirt Ranch 83.15 51 ⇑P P 11 49 41.3 -0.1
baz=83,SNR=5.3
W13A Hualapai Mount 83.24 53 ⇓P P 11 49 41.5 -0.4
baz=83
V14A Boquillas Ranc 83.46 52 ⇓P P 11 49 43.1 +0.1
baz=83,SNR=7.8
PDMCI Parker Dam,Lak 83.52 54 ⇓P P 11 49 43.1 -0.2
baz=83
Y12C Blythe 83.56 54 ⇑P P 11 49 43.1 -0.5
baz=83
X13A Yucca 83.56 53 ⇓P P 11 49 42.9 -0.7
baz=83
RWWY Rawlins 83.63 44 eP P 11 49 44.1 +0.4
comp=Z,16nm,1.1s,mb5.0
W14A Seligman 83.72 52 ⇓P P 11 49 44.2 -0.1
baz=84
GLA Glamis 83.74 55 eP P 11 49 44.4 -0.1
GLA pmax pmax
comp=Z,18nm,1.3s,mb5.0
GLA Glamis 83.74 55 eP P 11 49 44.4 0.0
comp=Z,18nm,1.3s,mb5.0
GLA Glamis 83.74 55 ⇓P P 11 49 43.9 -0.5
baz=84
T16A Glen Canyon Da 83.75 50 ⇑P P 11 49 43.3 -1.1
baz=84
OKC Ostrava-Krasne 83.97 327 eP P 11 49 49.2 +3.9
OKC epP pP 11 50 02.6 -0.6
V15A Kaibab Nationa 83.98 51 ⇑P P 11 49 45.5 -0.2
baz=84
Y13A Salome 84.00 54 ⇑P P 11 49 45.5 -0.3
baz=84
KSP Ksiaz 84.11 328 eP P 11 49 46.1 +0.1
KSP e*PP pP 11 50 02.8 -1.0
X14A Yava 84.27 53 ⇓P P 11 49 46.9 -0.2
baz=84,SNR=6.0
W15A Williams 84.28 52 ⇑P P 11 49 47.5 +0.4
baz=84
MORC Moravsky Berou 84.29 327 eP P 11 49 47.9 +1.0
MORC pmax pmax
comp=Z,10.0nm,0.8s,mb5.0
MORC Moravsky Berou 84.29 327 eP P 11 49 47.9 +1.0
comp=Z,9.8nm,0.8s,mb5.0
MORC Moravsky Berou 84.29 327 ⇑iP P 11 49 48.0 +1.1
DPC Dobruska-Polom 84.45 328 eP P 11 49 48.2 +0.5
DPC e pP 11 50 04.7 -0.9
DPC Dobruska-Polom 84.45 328 eP P 11 49 48.2 +0.5
DPC epP pP 11 50 04.7 -0.9
UPC Upice 84.47 328 eP P 11 49 48.6 +0.8
UPC epP pP 11 50 04.3 -1.4
PV10 Paradox Valley 84.51 48 eP P 11 49 48.2 0.0
PV10 epP pP 11 50 07.8 +1.7
VYHS Vyhne 84.58 325 eP P 11 49 48.9 +0.5
VYHS e pP 11 50 05.4 -0.9
VYHS pmax pmax
comp=Z,12nm,1.2s,mb4.9
VYHS Vyhne 84.58 325 eP P 11 49 48.9 +0.5
comp=Z,12nm,1.2s,mb4.9
VYHS e pP 11 50 05.4 -0.9
VYHS Vyhne 84.58 325 eP P 11 49 48.9 +0.5
VYHS epP pP 11 50 05.4 -0.9
113A Mohawk Valley, 84.64 55 ⇑P P 11 49 48.4 -0.6
baz=84
WUAZ Wupatki 84.68 51 eP P 11 49 49.5 +0.3
comp=Z,21nm,1.4s,mb5.1
WUAZ epP pP 11 50 08.0 +0.9
WUAZ Wupatki 84.68 51 ⇑P P 11 49 49.0 -0.2
baz=84
X15A Humboldt 84.70 53 ⇓P P 11 49 49.2 -0.1
baz=84,SNR=6.1
KOLL Kolacno 84.72 326 eP pP 11 50 06.3 -0.7
KOLL Kolacno 84.72 326 epP pP 11 50 06.3 -0.7
W16A Flagstaff 84.82 52 ⇓P P 11 49 49.8 -0.1
baz=85
PHWY Pilot Hill 84.90 44 eP P 11 49 50.8 +0.6
PHWY epP pP 11 50 08.1 0.0
Y15A Casa Rosa Ranc 84.94 53 ⇓P P 11 49 49.7 -0.8
baz=85,SNR=5.3
PV01 Paradox Valley 84.95 48 eP P 11 49 50.4 -0.1
PV01 epP pP 11 50 09.5 +1.1
VRAC Vranov 85.06 327 ⇑iP P 11 49 51.2 +0.4
PVCC Panska Ves 85.10 329 eP P 11 49 52.1 +1.1
BRG Berggiesshubel 85.12 329 eP P 11 49 50.7 -0.4
BRG i pP 11 50 07.7 -1.3
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
BRG pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
BRG Berggiesshubel 85.12 329 eP P 11 49 50.7 -0.4
comp=Z,4.5nm,1.0s,mb4.6
BRG i pP 11 50 07.7 -1.3
comp=Z,10nm,0.7s
CLL Collm 85.20 330 eP P 11 49 51.0 -0.5
CLL pmax pmax
comp=Z,11nm,0.8s,mb5.0
CLL Collm 85.20 330 eP P 11 49 51.0 -0.5
comp=Z,11nm,0.8s,mb5.0
CLL i pP pP 11 50 08.1 -1.3
comp=Z,25nm,0.9s
CLL i (sP) sP 11 50 14.3 -2.1
X16A Lo Mia Camp, P 85.28 52 ⇑P P 11 49 51.9 -0.2
baz=85,SNR=5.3
SMCO Snowmass 85.31 46 eP P 11 49 53.4 +1.2
comp=Z,29nm,1.5s,mb5.2
MODS Modra-Piesok 85.40 326 epP pP 11 50 10.2 -0.2
PRU Pruhonice 85.50 329 eP P 11 49 51.2 -1.8
PRU epP pP 11 50 10.2 -0.7
MVCO Mesa Verde 85.55 49 ⇑P P 11 49 53.3 -0.2
baz=85
115A Sonoran Desert 85.74 54 ⇑P P 11 49 53.9 -0.6
baz=86
ISCO Idaho Springs 85.75 45 eP P 11 49 54.4 0.0
ISCO pmax pmax
comp=Z,32nm,2.1s,mb5.2

ISCO	Idaho Springs	85.75	45	eP		P	11 49 54.4	0.0
	comp=Z,32nm,2.1s,mb5.2							
Y17A	Roosevelt	86.10	52	⇓P		P	11 49 55.6	-0.7
	baz=86							
KHC	Kasperske Hory	86.56	328	eP		P	11 49 58.5	+0.3
KHC				epP		pP	11 50 14.8	-1.4
KHC				AMS		AMS	12 30 50.0	
	comp=Z,200nm,15.2s							
Y18A	Canyon Day Jun	86.60	52	⇓P		P	11 49 58.7	0.0
	baz=86,SNR=5.4							
216A	Three Points,	86.68	54	⇓P		P	11 49 58.2	-0.9
	baz=86							
X19A	St. Johns	86.71	51	⇓P		P	11 49 58.8	-0.4
	baz=86							
GERES	GERESS Array B	86.71	328	P		P	11 49 58.5	-0.5
GERES				*P		pP	11 50 15.5	-1.4
GERES	GERESS Array B	86.71	328	P		P	11 49 58.5	-0.4
	comp=Z,0.8nm,0.5s,mb4.2,baz=36,slow=8.5,SNR=5.7							
GERES				pP		pP	11 50 15.5	-1.4
	comp=Z,1.5nm,0.4s,baz=17,slow=5.6,SNR=7.7							
GERES				LR		LR	12 31 30.4	
	comp=Z,153nm,21.1s,baz=94,slow=38							
117A	Oracle	86.83	53	⇑P		P	11 49 59.5	-0.4
	baz=87							
Y19A	Nutrioso	87.01	51	⇓P		P	11 50 00.7	0.0
	baz=87							
SDCO	Great Sand Dun	87.10	47	eP		P	11 50 01.2	+0.1
	comp=Z,20nm,2.1s,mb5.0							
217A	Green Valley	87.25	54	⇓P		P	11 50 01.6	-0.3
	baz=87							
118A	Homack Ranch,	87.32	53	⇑P		P	11 50 02.0	-0.2
	baz=87							
Z19A	T-Link Ranch,	87.40	52	⇑P		P	11 50 02.6	0.0
	baz=87							
318A	Bisbee	88.02	54	⇓P		P	11 50 05.4	-0.2
	baz=88							
219A	White Tail Can	88.18	53	⇑P		P	11 50 07.1	+0.7
	baz=88							
ECSD	EROS,Sioux Fal	88.20	38	eP		P	11 50 06.2	0.0
ANMO	Albuquerque	88.23	49	eP		P	11 50 07.8	+1.2
MNTX	Cornudas Mount	90.97	51	eP		P	11 50 20.0	+0.6
LPL	La Plagne	92.32	330	epP		pP	11 50 41.3	-2.2
LPL	La Plagne	92.32	330	eP		P	11 50 25.2	-0.2
	comp=Z,3.8nm,0.4s,mb4.8							
LPG	La Plagne	92.33	330	eP		P	11 50 25.1	-0.3
	comp=Z,6.2nm,0.4s,mb5.0							
MBDF	Montbardon	92.93	329	eP		P	11 50 26.3	-1.9
WMOK	Wichita Mounta	93.17	45	eP		P	11 50 28.9	-0.6
WMOK				epP		pP	11 50 48.2	+0.6
TXAR	Lajitas Array	93.61	52	P		P	11 50 31.6	0.0
TXAR				*P		pP	11 50 48.7	-1.0
TXAR	Lajitas Array	93.61	52	P		P	11 50 31.6	0.0
	comp=Z,7.9nm,0.8s,mb5.2,baz=291,slow=2.9,SNR=69							
TXAR				pP		pP	11 50 48.6	-1.1
	comp=Z,5.1nm,0.9s,baz=304,slow=2.2,SNR=6.2							
TXAR				LR		LR	12 33 21.1	
	comp=Z,119nm,18.1s,baz=320,slow=36							
KEST	Kesra	98.69	322	P		P	11 50 53.2	-1.3
	comp=Z,0.3nm,0.4s,mb4.2,baz=83,slow=4.5,SNR=1.9							
KEST				LR		LR	12 40 42.4	
	comp=Z,49nm,18.6s,baz=284,slow=38							
BINY	Binghamton	98.79	27	epP		pP	11 51 14.5	+1.4
TORD	Torodi Ar. Bea	120.43	312	PKP		PKPdf	11 56 05.6	-1.3
	comp=Z,0.7nm,0.4s,baz=8.9,slow=1.4,SNR=16							
BOSA	Boshof	124.98	256	PKP		PKPdf	11 56 15.4	+0.2
	comp=Z,1.0nm,0.6s,baz=167,slow=2.2,SNR=2.8							
SDV	Santo Domingo	129.46	42	ePKPdf		PKPdf	11 56 24.8	+0.5
DBIC	Dimbokro	129.49	313	PKP		PKPdf	11 56 24.1	-0.3
	comp=Z,2.9nm,0.6s,baz=288,slow=1.0,SNR=4.5							
LPAZ	La Paz	149.45	66	PKP2		PKPbc	11 57 05.2	+0.6
LPAZ				pmax		pmax		
	comp=Z,7.0nm,0.7s							
LPAZ	La Paz	149.45	66	PKPbc		PKPbc	11 57 05.2	+0.5
	comp=Z,6.6nm,0.7s,baz=3.9,slow=3.2,SNR=28							
PLCA	Paso Flores	153.41	118	PKIKP		PKPbc	11 57 12.9	-0.1
PLCA				pmax		pmax		
	comp=Z,1.0nm,0.4s							
PLCA	Paso Flores	153.41	118	PKPbc		PKPbc	11 57 12.9	-0.1
	comp=Z,0.9nm,0.4s,baz=196,slow=11,SNR=7.0							

NNC 14 11:40:07.2±7.3, 3665N×6904E, h0km, mb3.7, mpv3.5, 1C-2D, Error ellipse: s-maj=66.7km s-min=53.5km az=146.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	Karatay Array	6.55	10	P	Pn	11 41 46.4	+1.6
	0.7nm,0.2s,baz=199,slow=17,SNR=23						
KK31				S	Sn	11 43 01.9	+1.8
	2.8nm,0.3s,baz=199,slow=23,SNR=16						
TKM2	Tokmak 2	8.05	37	⇓P	Pn	11 42 05.6	+0.3
	1.2nm,0.3s						
TKM2				⇑S	Sn	11 43 37.2	+0.2
	2.8nm,0.9s						
AB31	Akbulak array	14.24	335	⇓P	Pn	11 43 27.2	-2.7
	0.2nm,0.3s,baz=136,slow=8.3,SNR=8.3						

IDC 14 11:48:47.7±3.4, 539S×15161E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.5/13, mbtmp3.7/3, Error ellipse: s-maj=120.5km s-min=47.5km az=121.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	22.17	228	P	P	11 53 46.6	+1.1
	1.9nm,0.6s,baz=52,slow=9.9,SNR=14						
ASAR	Alice Springs	24.92	221	P	P	11 54 12.6	-0.1
	1.0nm,0.7s,baz=56,slow=8.8,SNR=14						
FITZ	Fitzroy Crossi	28.34	241	P	P	11 54 42.7	-0.9
	0.8nm,0.5s,baz=78,slow=15,SNR=3.9						
TORD	Torodi Ar. Bea	149.35	287	PKPbc	PKPbc	12 08 39.4	-0.3
	0.3nm,0.6s,baz=77,slow=1.9,SNR=7.0						

ISCJB 14 11:58:54.8±0.4, 3522N±006×137.16E±006, h301km±3km, mb3.1/6, Error ellipse: s-maj=9.9km s-min=8.1km az=164.1
JMA 14 11:58:55.2±0.2, 3526N×137.11E, h301km±2km, M3.4
NEIC 14 11:58:55.5±0.8, 3517N×137.20E, h291km±8km, MG3.4(JMA), Error ellipse: s-maj=18.7km s-min=15.2km az=133.0
IDC 14 11:58:55.9±0.7, 3529N×137.08E, h298km±7km, mb3.0/6, mb1 3.2/9, mb1mx3.1/23, mbtmp3.1/9, Error ellipse: s-maj=19.1km s-min=10.9km az=75.0

ISC 14 11:58:55.7±0.4, 3522N±006×13716E±006, h295km±3km, n28, σ0982/38, mb3.1/6, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAO	Obara	0.09	62	P	Pn	11 59 33.7	+0.6
JAO				eS	S	12 00 03.4	+0.6
JGM	Miyama	0.59	323	P	Pn	11 59 34.1	+0.1
JGM				eS	S	12 00 04.2	-0.2
JIE	Ise	0.91	204	P	Pn	11 59 35.7	+0.4
JIE				eS	S	12 00 06.6	0.0
JYN	Shimob	1.17	76	P	Pn	11 59 37.2	+0.8
JKG	Kaga	1.25	328	P	Pn	11 59 36.5	-0.3
JWT	Wachi	1.44	273	P	Pn	11 59 38.1	+0.1
JWT				eS	S	12 00 10.5	-1.1
MAT	Matsushiro	1.57	33	P	Pn	11 59 39.0	+0.2
MAT				S	S	12 00 12.9	-0.1
MJAR	Matsushiro Arr	1.57	33	P	Pn	11 59 38.1	-0.7
	1.1nm,0.3s,baz=196,slow=8.2,SNR=9.8						
MJAR				S	S	12 00 13.5	+0.5
	0.2nm,0.3s,baz=250,slow=14,SNR=5.8						
JOD2	Odawara 2	1.58	88	P	Pn	11 59 39.6	+0.7
JRY	Ryogami san	1.63	60	P	Pn	11 59 40.3	+1.1
JWY	Kouya	1.63	233	P	Pn	11 59 39.6	+0.2
JWZ	Kozaga	2.07	216	P	Pn	11 59 42.6	-0.1
JAG	Ashikaga	2.22	57	P	Pn	11 59 43.3	-0.5
JSZ	Suzu	2.23	4	P	Pn	11 59 43.8	-0.1
JAI	Aioi	2.65	238	P	Pn	11 59 47.3	-0.5
JHJ	Hachijo jima 2	3.02	133	P	Pn	11 59 52.8	+1.4
	5.5nm,0.3s,baz=249,slow=19,SNR=9.7						
JHJ				S	S	12 00 40.4	+4.5
	10nm,0.3s,baz=59,slow=22,SNR=9.1						
JHJ2	Mitsune	3.05	133	P	Pn	11 59 52.5	+0.8
JHJ2				eS	S	12 00 40.7	+4.4
BSO1	Boso 1	3.19	99	P	Pn	11 59 52.5	-0.5
BSO1				eS	S	12 00 37.1	-1.7
JHS	Saijyo	3.32	267	P	Pn	11 59 53.9	-0.5
JNU	Nakatsue	5.61	250	P	Pn	12 00 20.5	+0.2
	1.7nm,0.3s,baz=76,slow=13,SNR=16						
CBIJ	Chichi jima	9.17	151	P	Pn	12 01 01.5	-2.3
	5.7nm,0.3s,baz=270,slow=20,SNR=17						
CBIJ				S	S	12 02 36.2	-12
	4.4nm,0.3s,baz=278,slow=20,SNR=5.9						
ASAJ	Asahikawa	9.82	24	P	Pn	12 01 09.4	-2.1
	0.7nm,0.3s,baz=222,slow=11,SNR=6.9						
SONM	Songino Array	26.07	308	P	P	12 04 03.9	+1.4
	1.0nm,0.6s,mb3.4,baz=108,slow=9.2,SNR=4.1						
MKAR	Makanchi Array	42.19	303	P	P	12 06 19.5	-0.4
	0.2nm,0.3s,mb2.9,baz=122,slow=5.2,SNR=3.7						
WRA	Warramunga Arr	54.93	183	P	P	12 07 55.9	-0.6
	0.6nm,0.3s,mb3.5,baz=360,slow=7.6,SNR=26						
ASAR	Alice Springs	58.65	183	P	P	12 08 22.3	-0.2
	0.1nm,0.3s,mb2.7,baz=357,slow=5.9,SNR=7.5						
YKA	Yellowknife Ar	67.07	29	P	P	12 09 17.5	+0.2
	0.2nm,0.7s,mb2.9,baz=298,slow=6.6,SNR=4.4						
TXAR	Lajitas Array	93.94	50	P	P	12 11 41.6	+1.3
	0.3nm,0.6s,mb3.5,baz=292,slow=3.6,SNR=5.3						

WEL 14 12:32:34.2±0.2, 4515S×16735E, h114km±1km, ML3.5/9, Error ellipse: s-maj=1.9km s-min=1.1km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DCZ	Deep Cove	0.35	203	PN	Pn	12 32 50.4	-0.2
DCZ				SN	Sn	12 33 02.0	-1.0
MLZ	Mavora Lakes	0.61	109	PN	Pn	12 32 52.0	-0.2
MLZ				SN	Sn	12 33 05.1	-0.7
MSZ	Milford Sound	0.63	41	PN	Pn	12 32 52.3	0.0
MSZ				SN	Sn	12 33 05.7	-0.3
WHZ	Wether Hill Ro	0.85	151	PN	Pn	12 32 54.2	0.0
PYZ	Puysegur Point	1.12	205	PN	Pn	12 32 56.7	-0.1
WKZ	Wanaka	1.22	75	PN	Pn	12 32 58.0	-0.1
EAZ	Earnscleugh	1.38	94	PN	Pn	12 32 59.5	-0.3
JCZ	Jackson Bay	1.47	43	PN	Pn	12 33 00.3	-0.6
APZ	The Paps	1.74	165	PN	Pn	12 33 03.9	-0.1
TUZ	Tuapeka	1.79	117	PN	Pn	12 33 04.4	-0.2
SYZ	Scrubby Hill	1.86	139	PN	Pn	12 33 05.5	-0.1
LBZ	Lake Benmore	2.16	70	PN	Pn	12 33 07.7	-1.6
FOZ	Fox Glacier	2.31	47	PN	Pn	12 33 10.5	-0.7
ODZ	Otahua Downs	2.33	88	PN	Pn	12 33 10.4	-1.1
RPZ	Rata Peaks	3.02	63	PN	Pn	12 33 18.2	-2.2
WVZ	Waitaha Valley	3.20	51	PN	Pn	12 33 20.9	-2.0
LTZ	Lake Taylor	4.27	58	PN	Pn	12 33 34.4	-2.7
DSZ	Denniston Nort	4.70	45	PN	Pn	12 33 40.3	-2.6
MRZ	Mangatainoka R	7.52	56	PN	Pn	12 34 24.3	+3.2

CSEM 14 12:37:13.2±0.8, 3729N×2465W, h0km, ML3.0, Error ellipse: s-maj=6.3km s-min=2.6km az=89.0, After PDA

PDA 14 12:37:13.2±0.8, 3729N×2465W, h0km, MD3.9, ML3.0, Error ellipse: s-maj=6.3km s-min=2.6km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.44	229	eP	Pg	12 37 21.3	-0.4
PSMN				eS	Sg	12 37 27.6	+0.2
CMLA	Cha da Macela	0.84	304	eP	Pg	12 37 27.1	-2.2
CMLA				eS	Sg	12 37 37.9	-2.4
CMLA				A		12 37 43.5	
	76nm,0.2s						
CMLA	Cha da Macela	0.84	304	eP	Pg	12 37 27.1	-2.2
CMLA				eS	Sg	12 37 37.9	-2.4
PDA	Ponta Delgada	0.93	299	eP	Pg	12 37 28.3	-2.7
PDA				eS	Sg	12 37 40.4	-2.6
PSCM	Serra do Cume	2.41	306	eP	Pn	12 37 49.3	-4.5
PSCM				eS	Sn	12 38 16.2	-7.8
PSCM				A		12 38 20.1	
	101nm,0.2s						
PSCM	Serra do Cume	2.41	306	eP	Pn	12 37 49.3	-4.5
PSCM				eS	Sn	12 38 16.2	-7.8
ROSA	Rosais	3.18	298	eP	Pn	12 38 00.2	-4.2
ROSA				eS	Sn	12 38 34.5	-8.5
PICO	Pico	3.22	293	eP	Pn	12 38 00.7	-4.4
PICO				eS	Sn	12 38 36.0	-8.1
CALA	Caldeira	3.46	293	eP	Pn	12 38 04.2	-4.0
CALA				eS	Sn	12 38 41.7	-8.2

MAN 14 12:43:00, 811N×12223E, h32km, mb4.8, ML3.8, MS3.8, 3C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAGZ	Pagadian	1.17	103	eP	Pn	12 43 20.6	+0.4
PAGZ				eS	Sn	12 43 34.5	-0.6
DCPH	Dipolog City	1.21	67	⇑iP	Pn	12 43 20.7	0.0
DCPH				iS	Sn	12 43 36.8	+0.7
SNPH	Sibulan	1.58	39	⇑iP	Pn	12 43 26.5	+0.7
SNPH				iS	Sn	12 43 43.5	-1.7
TBP	Tagbilaran	2.26	46	eP	Pn	12 43 35.6	+0.5
TBP				eS	Sn	12 44 06.4	+4.5
GUIM	Jordan	2.53	8	eP	Pn	12 43 40.7	+1.9
GUIM				eS	Sn	12 44 09.1	+0.5
LLP	Lapu-Lapu	2.79	38	eP	Pn	12 43 43.2	+0.8
LLP				eS	Sn	12 44 14.0	-1.0
BUKP	Musuan	2.82	94	eP	Pn	12 43 46.8	+4.0
CUYO	Cuyo Island	2.98	336	eP	Pn	12 43 47.6	+2.5
MSLP	Maasin	3.29	52	eP	Pn	12 43 50.4	+1.1
RCP	Roxas	3.47	8	⇑eP	Sn	12 44 33.6	+1.8
OTRP	Odiongan	4.23	357	eP	Pn	12 44 04.8	+2.4
BUSP	Coron	4.36	333	eP	Pn	12 44 06.2	+2.2
BATP	Bataraza	4.43	279	eP	Pn	12 44 06.4	+1.4

BJI 14 13:01:31.7, 032N×97.15E, h30km, mB5.1, mb4.7
ISCJB 14 13:01:37.8±0.8, 112N±009×970E±01, h30km, mb4.0/10, Error ellipse: s-maj=17.0km s-min=12.9km az=156.5
NEIC 14 13:01:40.1±0.6, 115N×97.10E, h30km, Error ellipse: s-maj=13.9km s-min=9.9km az=61.0
IDC 14 13:01:40.1±7.2, 112N×9707E, h31km±47km, mb3.8/8, mb1 3.8/9, mb1mx3.7/21, mbtmp3.8/9, ML3.0/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/29, Error ellipse: s-maj=46.2km s-min=16.6km az=59.0

ISC 14 13:01:36.2±4.4, 11N±01×970E±02, h5km±24km, n18, σ0855/18, mb4.0/10, 2C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.53	48	Pn	Pn	13 02 17.4	-0.5
	3.6nm,0.3s,baz=236,slow=9.6,SNR=18						
PSI				Pg	Pg	13 02 24.7	0.0
	5.1nm,0.3s,baz=230,slow=13,SNR=26						
PSI				Lg		13 02 57.9	
	3.4nm,0.3s,baz=221,slow=22,SNR=7.6						
PSI	Prapat	2.53	48	⇑eP	Pn	13 02 17.4	-0.5
TSI	Tuntungan	2.83	33	⇑eP	Pn	13 02 22.0	0.0
KULM	Kulim	5.50	41	ePn	Pn	13 02 58.8	0.0
KMI	Kunming	24.50	13	P	P	13 06 57.6	+1.1
KMI				AP		13 07 04.5	
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.5						
GTA	Gaotai	38.21	3	eP	P	13 08 57.5	+0.6
GTA				AP	pP	13 09 02.1	+3.6
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.2						
WRA	Warramunga Arr	42.12	122	P	P	13 09 29.2	-0.5
	comp=Z,1.3nm,0.7s,mb3.7,baz=300,slow=9.2,SNR=18						
ASAR	Alice Springs	43.47	127	P	P	13 09 40.6	0.0
	comp=Z,0.9nm,0.8s,mb3.5,baz=298,slow=7.5,SNR=14						
KSRS	Korea Array	46.02	35	P	P	13 10 00.0	-0.7
	comp=Z,3.4nm,0.9s,mb4.3,baz=215,slow=8.8,SNR=8.8						
SONM	Songino Array	47.25	9	P	P	13 10 10.3	+0.2
	comp=Z,0.9nm,0.7s,mb3.8,baz=191,slow=8.1,SNR=8.4						
MK31	Makanchi Array	47.30	346	eP	P	13 10 10.9	+0.3
MKAR	Makanchi Array	47.30	346	P	P	13 10 11.2	+0.6
	comp=Z,1.2nm,0.6s,mb4.0,baz=159,slow=7.8,SNR=14						
STKA	Stephens Creek	53.41	132	P	P	13 10 58.0	+0.8
	comp=Z,1.3nm,0.5s,mb4.1,baz=310,slow=7.9,SNR=3.3						
ZAA0	Zalesovo Array	53.63	351	eP	P	13 10 57.8	-0.5
ZALV	Zalesovo Beam	53.63	351	P	P	13 10 58.4	+0.1
	comp=Z,1.9nm,0.4s,mb4.4,baz=178,slow=5.9,SNR=14						
AKTK	Aktyubinsk	59.24	332	P	P	13 11 37.7	-0.8
AKTO	Aktyubinsk	59.24	332	P	P	13 11 37.7	-0.8
	comp=Z,0.7nm,0.6s,mb3.9,baz=188,slow=7.1,SNR=3.3						
BLO	Bloomington	139.79	4	ePKPdf	PKPdf	13 21 05.9	+0.1

ISCJB 14 13:02:38.7±3.4, 4319N±007×1267W±01, h15km±28km, mb3.4/2, Error ellipse: s-maj=20.3km s-min=7.2km az=150.1
NEIC 14 13:02:40.0±1.0, 4311N×12660W, h10km, MD2.9(SEA), Error ellipse: s-maj=11.4km s-min=4.5km az=60.0
IDC 14 13:02:42.5±2.6, 4341N×12624W, h0km, mb3.3/2, mb1 3.5/7, mb1mx3.4/26, mbtmp3.4/7, ML3.4/5, MS3.1/4, Ms1 3.1/4, ms1mx2.6/15, Error ellipse: s-maj=43.2km s-min=12.6km az=62.0

ISC 14 13:02:39.7±3.8, 4315N±007×1266W±01, h4km±28km, n64, σ0975/64, mb3.4/2, 18C-17D, Off coast of Oregon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEBM	Edson Butte	1.69	99	⇑P	Pn	13 03 08.3	-1.6
KBO	Bosley Butte	1.99	117	ePn	Pn	13 03 12.5	-1.6
RNO	Roman Nose	2.22	69	⇑P	Pn	13 03 16.2	-1.0
HSO	Harness Mounta	2.59	80	⇓P	Pn	13 03 21.7	-0.7
MPOR	Mary's Peak	2.59	57	⇓P	Pn	13 03 21.2	-1.2
EUO	Eugene	2.71	70	P	Pn	13 03 23.6	-0.5
HUMO	Hull Mountain	2.74	100	ePn	Pn	13 03 23.4	-0.9
COR	Corvallis	2.79	58	ePn	Pn	13 03 24.0	-1.0
BBOR	Butler Butte	2.89	94	⇓P	Pn	13 03 26.5	0.0
HEBO	Mount Hebo	2.91	44	P	Pn	13 03 25.4	-1.3
HBO	Huckleberry Mo	3.19	76	P	Pn	13 03 30.9	+0.3
YBH	Yreka Blue Hor	3.21	115	Pn	Pn	13 03 31.4	+0.5
	1.4nm,0.3s,baz=296,slow=9.9,SNR=18						
YBH				Sn	Sn	13 04 12.0	+2.4
	1.3nm,0.3s,baz=123,slow=17,SNR=3.5						
IRO	Indian Ridge	3.27	73	⇑P	Pn	13 03 31.8	+0.1
FRIS	Frissel Point	3.44	70	⇓P	Pn	13 03 34.3	+0.3
SSOR	Sweet Springs	3.44	59	P	Pn	13 03 34.4	+0.4
WIFE	Three Sisters-	3.59	74	⇑P	Pn	13 03 36.6	+0.4
NLO	Nicolai Mounta	3.70	36	⇓P	Pn	13 03 37.0	-0.6
GT2	Goat Mountain	3.71	56	⇑P	Pn	13 03 38.3	+0.6
BKCOR	Black Crater	3.74	70	⇑P	Pn	13 03 38.5	+0.3
VLMM	Larch Mountain	4.05	52	⇓P	Pn	13 03 42.9	+0.4
TDH	Tom, Dick, Har	4.07	57	⇑P	Pn	13 03 43.2	+0.5
RVW	Rose Valley	4.07	41	⇓P	Pn	13 03 42.4	-0.3
LVP	Lakeview Peak	4.18	44	⇑P	Pn	13 03 44.3	0.0
PINOR	Pine Mountain	4.22	79	P	Pn	13 03 45.0	+0.2
MTMW	Mount Mitchell	4.25	46	⇑P	Pn	13 03 45.1	-0.1
VFP	Flag Point	4.28	58	⇓P	Pn	13 03 46.8	+1.2
FL2	Flat Top 2	4.30	43	⇓P	Pn	13 03 46.1	+0.3
SHW	Mount Saint He	4.35	44	⇓P	Pn	13 03 47.1	+0.6
HSR	South Ridge	4.37	45	⇓P	Pn	13 03 45.1	-1.6
ERK	Elk Rock	4.38	42	P	Pn	13 03 46.3	-0.6
STD	Studebaker Rid	4.39	44	⇑P	Pn	13 03 47.5	+0.4
CDFW	Cedar Flats	4.40	46	P	Pn	13 03 47.4	+0.1
TDL	Tradedollar La	4.47	43	⇑P	Pn	13 03 48.3	+0.1
VIPM	Ingram Point	4.54	71	P	Pn	13 03 49.2	0.0
NLWA	Neilton Lookou	4.66	24	ePn	Pn	13 03 50.2	-0.5
NLWA				eSn	Sn	13 04 40.7	-4.5
LMW	Ladd Mountain	4.66	40	⇑P	Pn	13 03 50.8	0.0
GLK	Glacier Lake	4.92	44	⇑P	Pn	13 03 55.0	+0.6
REMR	Mount Rainier-	4.99	41	⇓P	Pn	13 03 55.7	+0.4
GL2	New Goldendale	5.00	54	⇓P	Pn	13 03 55.9	+0.5
WPW	White Pass	5.05	44	⇓P	Pn	13 03 56.7	+0.6
RCM	Mount Rainier-	5.05	41	⇑P	Pn	13 03 56.6	+0.5
FMW	Mount Fremont	5.15	41	⇑P	Pn	13 03 57.8	+0.3
GNW	Green Mountain	5.15	30	P	Pn	13 03 57.2	-0.4
EBG	Ellensburg	5.69	47	P	Pn	13 04 05.8	+0.8
HTW	Haystack Looko	5.76	34	⇑P	Pn	13 04 05.3	-0.6
TBM	Table Mountain	5.85	45	⇓P	Pn	13 04 08.3	+1.2
LTY	Liberty	5.87	44	⇓P	Pn	13 04 08.0	+0.6
PGC	Sidney	5.92	21	ePn	Pn	13 04 04.0	-4.1
HAWA	Hanford	5.99	55	ePn	Pn	13 04 08.3	-0.7
	6.4nm,0.5s						
JCW	Jim Creek	6.01	31	⇑P	Pn	13 04 09.3	-0.1
FHE	Frenchman Hill	6.31	51	⇓P	Pn	13 04 14.3	+0.9
EPH	Ephrata	6.49	47	⇑P	Pn	13 04 17.0	+1.0
BMO	Blue Mountains	6.92	73	ePn	Pn	13 04 21.5	-0.3
	2.7nm,0.4s						
NVAR	Mina Array Bea	7.87	124	Pn	Pn	13 04 41.1	+6.3
	0.2nm,0.3s,baz=300,slow=14,SNR=3.4						
NEW	Newport	8.37	49	Pn	Pn	13 04 42.1	+0.4
	0.5nm,0.3s,baz=263,slow=17,SNR=3.6						
NEW				LR	LR	13 07 59.2	
	comp=Z,146nm,21.2s,baz=252,slow=40						
BBB	Bella Bella	9.10	354	Pn	Pn	13 04 52.0	+0.3
BBB				LR	LR	13 07 42.5	
BBB	Bella Bella	9.10	354	Pn	Pn	13 04 52.0	+0.3
	0.2nm,0.3s,baz=219,slow=16,SNR=4.6						
BBB				LR	LR	13 07 42.5	
	comp=Z,60nm,20.8s,baz=63,slow=34						
PFO	Pinyon Flat Ob	12.41	137	LR	LR	13 10 13.4	
	comp=Z,56nm,20.4s,baz=275,slow=36						
DLBC	Dease Lake	15.45	353	Pn	Pn	13 06 19.3	+1.0
	baz=181,slow=12						
ANMO	Albuquerque	17.63	111	P	Pn	13 06 46.0	-0.2
	0.1nm,0.3s,baz=305,slow=16,SNR=3.7						
YKA	Yellowknife Ar	20.62	16	P	P	13 07 19.5	-0.2
	0.6nm,0.7s,baz=201,slow=11,SNR=9.1						
ULM	Lac du Bonnet	22.13	61	P	P	13 07 35.5	-0.6
	1.4nm,0.5s,mb3.7,baz=263,slow=11

12nm,0.3s,baz=227,slow=22,SNR=11
CBIJ S **S** **13 14 39.3 -6.0**
30nm,0.3s,baz=283,slow=22,SNR=21
JNU Nakatsue 6.36 282 P **Pn** **13 13 34.9 -0.7**
0.4nm,0.3s,baz=23,slow=6.2,SNR=4.7
KSRS Korea Array 10.10 305 P **Pn** **13 14 19.2 0.0**
0.2nm,0.3s,baz=121,slow=12,SNR=3.2
SONM Songino Array 28.85 312 P **P** **13 17 25.9 -0.3**
0.7nm,0.6s,mb3.0,baz=104,slow=6.3,SNR=5.9
MK31 Makanchi Array 44.78 306 *e*P **P** **13 19 37.5 -1.3**
MKAR Makanchi Array 44.78 306 P **P** **13 19 38.5 -0.4**
1.2nm,0.6s,mb3.2,baz=89,slow=10,SNR=14
MKAR ScP ScP 13 24 29.9 -0.4
0.2nm,0.6s,baz=72,slow=4.7,SNR=2.4
WRA Warramunga Arr 51.82 185 P **P** **13 20 31.8 -0.4**
0.4nm,0.9s,mb2.7,baz=0.5,slow=7.6,SNR=5.0
ASAR Alice Springs 55.55 185 P **P** **13 20 59.6 +0.8**
0.3nm,0.9s,mb2.6,baz=12,slow=13,SNR=5.3
ARCES ARCESS Array B 67.76 339 P **P** **13 22 19.1 +0.1**
ARCES ARCESS Array B 67.76 339 P **P** **13 22 19.1 +0.1**
2.7nm,0.9s,mb4.0,baz=51,slow=7.1,SNR=3.0
FINES FINESS Array B 72.03 332 P **P** **13 22 45.0 +0.2**
1.0nm,0.5s,mb3.9,baz=72,slow=6.2,SNR=6.8
EDM Edmonton 74.87 36 *e*P **P** **13 23 04.3 +2.9**

*JMA **14** 13:20:24.1±0.2,3728N×135.10E,h397km,M2.8*
*IDC **14** 13:20:25.3±12.0,3675N×13447E,h341km±126km, mb2.6/2,mb1 2.9/3,mb1mx2.6/21,mbtmp2.7/3,Error ellipse: s-maj=287.0km s-min=199.7km az=94.0*
ISC 14 13:20:25.5±3.7,373N±05×1351E±05,h384km±10km,n13, σ0§40/13,mb2.8/2,Sea of Japan

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
JKY	**Yasaka**	**1.68**	**180**	P			**Pn**	**13 21 18.0**	**0.0**
JWT	**Wachi**	**2.04**	**173**	P			**Pn**	**13 21 20.1**	**-0.1**
JGM	**Miyama**	**2.06**	**141**	P			**Pn**	**13 21 20.1**	**-0.2**
JNG	**Nsakai**	**2.56**	**110**	P			**Pn**	**13 21 24.2**	**+0.4**
MAT	**Matsushiro**	**2.59**	**106**	P			**Pn**	**13 21 23.0**	**-1.1**
MAT	**Matsushiro**	**2.59**	**106**	P			**Pn**	**13 21 24.3**	**+0.2**
MJAR	**Matsushiro Arr**	**2.60**	**106**	P			**Pn**	**13 21 24.6**	**+0.5**
	2.2nm,0.3s,baz=280,slow=8.9,SNR=29								
JIE	**Ise**	**3.19**	**156**	P			**Pn**	**13 21 29.1**	**+0.1**
JFT	**Otama**	**4.16**	**86**	P			**Pn**	**13 21 38.6**	**+0.6**
JMM	**Marumori**	**4.55**	**81**	P			**Pn**	**13 21 41.8**	**-0.1**
JFK	**Kawauchi**	**4.59**	**88**	P			**Pn**	**13 21 41.6**	**-0.7**
WRA	**Warramunga Arr**	**56.95**	**181**	P			**P**	**13 29 32.1**	**-0.1**
	0.3nm,0.4s,mb3.0,baz=357,slow=7.6,SNR=8.8								
ASAR	**Alice Springs**	**60.66**	**181**	P			**P**	**13 29 57.6**	**+0.2**
	0.2nm,0.8s,mb2.6,baz=354,slow=4.6,SNR=3.9								

*ISCJB **14** 13:37:47.8±1.9,174S±02×1748W±02,h152km±21km, mb4.2/8,Error ellipse: s-maj=33.2km s-min=17.6km az=142.5*
*NEIC **14** 13:37:49.0±1.2,1741S×17466W,h156km±12km,mb4.4/2, Error ellipse: s-maj=20.8km s-min=10.1km az=135.0*
*IDC **14** 13:37:49.5±4.2,1750S×17462W,h158km±37km,mb4.0/7, mb1 4.2/7,mb1mx3.9/14,mbtmp4.0/7,Error ellipse: s-maj=26.4km s-min=13.9km az=128.0*
ISC 14 13:37:48.5±1.8,175S±01×1747W±01,h145km±19km,n18, σ0§48/13,mb4.2/8,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.51**	**39**	*e*Pn			**Pn**	**13 38 55.3**	**0.0**
URZ	**Urewera**	**21.93**	**198**	P			**P**	**13 42 29.7**	**-0.5**
	5.6nm,0.5s,mb4.3,baz=219,slow=8.1,SNR=8.4								
URZ				S			**S**	**13 46 22.1**	**-0.4**
	10nm,0.7s,baz=245,slow=23,SNR=6.7								
ARMA	**Armidale**	**33.25**	**241**	*e*P			**P**	**13 44 13.0**	**+0.9**
STKA	**Stephens Creek**	**41.97**	**242**	*e*P			**P**	**13 45 25.7**	**+0.4**
	6.5nm,1.0s,mb4.2								
STKA	**Stephens Creek**	**41.97**	**242**	P			**P**	**13 45 25.9**	**+0.6**
	5.5nm,0.8s,mb4.2,baz=104,slow=6.5,SNR=11								
WB2	**Warramunga Arr**	**48.20**	**259**	*e*P			**P**	**13 46 14.1**	**-0.6**
WRA	**Warramunga Arr**	**48.22**	**259**	P			**P**	**13 46 14.2**	**-0.6**
	4.8nm,0.6s,mb4.3,baz=96,slow=7.0,SNR=89								
WRA				PcP			PcP	13 47 39.6	-0.3
	1.1nm,0.7s,baz=95,slow=3.7,SNR=4.9								
ASAR	**Alice Springs**	**48.34**	**254**	P			**P**	**13 46 15.7**	**0.0**
	25nm,0.6s,mb5.0,baz=90,slow=8.5,SNR=506								
ASAR				PcP			PcP	13 47 39.9	-0.4
	2.2nm,0.6s,baz=106,slow=3.9,SNR=8.5								
QSPA	**South Pole Qui**	**72.58**	**180**	*e*P			**P**	**13 48 59.9**	**+0.6**
	14nm,1.2s,mb4.6								
NVAR	**Mina Array Bea**	**76.67**	**42**	P			**P**	**13 49 23.4**	**-0.1**
	1.4nm,0.7s,mb3.7,baz=228,slow=8.6,SNR=8.9								
TXAR	**Lajitas Array**	**82.77**	**56**	P			**P**	**13 49 56.6**	**0.0**
	0.3nm,0.7s,mb3.1,baz=234,slow=5.4,SNR=4.8								
MAW	**Mawson**	**85.45**	**199**	P			**P**	**13 50 09.5**	**0.0**
	1.9nm,0.5s,mb4.1,baz=122,slow=6.0,SNR=3.6								
MKAR	**Makanchi Array**	**111.40**	**314**	PKiKP			PKiKP	13 56 03.8	-1.5
	0.3nm,0.6s,baz=72,slow=4.7,SNR=4.0								
ARCES	**ARCESS Array B**	**126.48**	**351**	PKP			PKPdf	13 56 32.1	-1.5
	3.3nm,0.9s,baz=48,slow=1.3,SNR=6.1								
KMBO	**Kilima Mbogo**	**143.53**	**243**	PKP			PKPdf	13 57 05.4	-1.6
	4.4nm,0.8s,baz=62,slow=4.7,SNR=7.6								
CLL	**Collm**	**145.70**	**351**	*i* PKPbc			PKPbc	13 57 09.7	-0.5
	comp=Z,8.0nm,0.9s								
GERES	**GERESS Array B**	**147.98**	**350**	PKPbc			PKPbc	13 57 16.0	-0.7
	comp=Z,0.8nm,0.5s,baz=11,slow=1.4,SNR=5.6								
TORD	**Torodi Ar. Bea**	**174.48**	**140**	PKPab			PKPab	13 59 14.1	-1.1
	comp=Z,0.8nm,0.8s,baz=260,slow=3.2,SNR=3.4								

KRSC 14 14:04:41.0±0.9,5361N×15781E,h250km±39km,ML3.8, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
GNL	**Ganaly**	**0.12**	**43**	*i* P			Pn	14 05 14.3	+1.2
GNL				*e*S			S	14 05 38.3	-0.1
AVH	**Avacha**	**0.65**	**122**	*e*P			Pn	14 05 16.6	+2.2
AVH				*e*S			S	14 05 42.1	+1.5
PET	**Petropavlovsk**	**0.78**	**139**	P			Pn	14 05 16.0	+1.1
PET				*i* S			S	14 05 41.7	+0.2
NLC	**Nalytchevo**	**1.02**	**115**	*e*P			Pn	14 05 17.9	+1.8
NLC				*i* S			S	14 05 45.3	+1.7
RUS	**Russkaya**	**1.25**	**160**	*e*P			Pn	14 05 18.5	+1.0
RUS				*i* S			S	14 05 46.3	0.0
SPN	**Mys Shipunski**	**1.42**	**110**	*i* P			Pn	14 05 19.8	+1.1
SPN				*i* S			S	14 05 48.0	-0.3
MIPR	**Malaya Ipel'ka**	**1.48**	**206**	*e*P			Pn	14 05 20.3	+1.2
MKZ	**Mys Kozlova**	**2.50**	**66**	*i* P			Pn	14 05 29.3	+1.2
MKZ				*i* S			S	14 06 03.7	-1.6
KBTR	**Krutoberegovo**	**3.89**	**46**	*e*P			Pn	14 05 45.2	+1.9
KBTR				*e*S			S	14 06 31.8	-1.1

KRSC 14 14:43:06.4±0.0,5485N×16308E,h19km±18km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.84**	**250**	*e*P			Pb	14 43 22.7	+0.4
MKZ				*i* S			Sb	14 43 34.1	+1.0
KBTR	**Krutoberegovo**	**1.37**	**354**	*e*P			Pn	14 43 30.3	-0.1
KBTR				*i* S			Sn	14 43 46.5	-1.5
TUMR	**Tumrok**	**1.74**	**286**	P			Pn	14 43 36.5	+0.9
TUMR				*i* S			Sn	14 43 58.4	+1.2
SPN	**Mys Shipunski**	**2.52**	**227**	*e*P			Pn	14 43 46.5	+0.3
SPN				*i* S			Sn	14 44 17.0	+0.7
NLC	**Nalytchevo**	**2.77**	**234**	P			Pn	14 43 52.1	+2.4
NLC				*i* S			Sn	14 44 24.2	+1.6
AVH	**Avacha**	**3.01**	**240**	*e*P			Pn	14 43 56.3	+3.3
AVH				*i* S			Sn	14 44 31.9	+3.4
PET	**Petropavlovsk**	**3.19**	**237**	*e*P			Pn	14 43 57.9	+2.4
PET				*i* S			Sn	14 44 34.9	+1.9
GNL	**Ganaly**	**3.23**	**251**	*e*P			Pn	14 43 59.2	+3.2
RUS	**Russkaya**	**3.64**	**230**	P			Pn	14 44 03.7	+2.1
RUS				*i* S			Sn	14 44 44.6	+0.6

IDC 14 15:06:52.9±4.5,2381N×9463E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.2/21,mbtmp3.2/3,Error ellipse: s-maj=395.3km s-min=29.8km az=60.0,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.16**	**327**	*i* P			Pg	15 07 04.0	-11
IMP				*i* S			Sg	15 07 14.0	-16
SHL	**Shillong**	**3.05**	**306**	*e*PN			Pn	15 07 25.0	-17
SHL				*e*SN			Sn	15 07 47.0	-33
MKAR	**Makanchi Array**	**24.99**	**340**	P			P	15 12 18.2	+0.1
	0.1nm,0.3s,baz=150,slow=10.0,SNR=3.1								
WRA	**Warramunga Arr**	**58.21**	**135**	P			P	15 16 49.3	+0.1
	0.2nm,0.4s,baz=322,slow=7.5,SNR=11								
ASAR	**Alice Springs**	**60.66**	**138**	P			P	15 17 06.0	-0.1
	0.1nm,0.4s,baz=320,slow=6.8,SNR=12								

MAN 14 15:25:31,1750N×12286E,h23km,mb4.5,ML3.3,MS3.2, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
PALP	**Palanan**	**0.59**	**224⇑**	*e*P			Pb	15 25 43.3	+0.5
CVP	**Callao Caves**	**1.01**	**282**	*e*P			Pn	15 25 49.5	-0.3
CAUP	**Cauayan**	**1.13**	**241**	*e*P			Pn	15 25 52.6	+1.2
APYP	**Conner**	**1.58**	**284**	*e*P			Pn	15 25 58.1	+0.5
APYP				*e*S			Sn	15 26 18.1	+0.7
ABRA	**Dolores**	**2.05**	**275**	*e*P			Pn	15 26 01.6	-2.5
BALP	**Baler**	**2.13**	**215**	*e*P			Pn	15 26 05.8	+0.6
BALP				*e*S			Sn	15 26 32.1	+1.1
POLP	**Polilio Island**	**2.89**	**198**	*e*P			Pn	15 26 16.5	+0.9
BOLP	**Bolinao**	**3.03**	**249**	*e*P			Pn	15 26 20.3	+2.8

*IDC **14** 15:35:42.8±2.0,990S×160.16E,h32km±12km,mb4.3/11, mb1 4.4/12,mb1mx4.3/15,mbtmp4.3/12,ML4.6/1,MS3.8/10, Ms1 3.8/10,ms1mx3.7/16,Error ellipse: s-maj=26.0km s-min=15.7km az=107.0*
*ISCJB **14** 15:35:43.2±1.2,984S±007×1600E±01,h48km±10km, mb4.6/21,MS3.8/10,Error ellipse: s-maj=18.2km s-min=9.8km az=18.4*
*NEIC **14** 15:35:44.1±0.9,980S×16003E,h43km±8km,mb4.7/12, Error ellipse: s-maj=12.5km s-min=6.4km az=112.0*
*BJI **14** 15:35:48.5,883S×15954E,h42km,mB5.1,mb4.7*
ISC 14 15:35:43.9±1.4,983S±006×1601E±01,h39km±12km,n38, σ0§86/32,mb4.6/21,MS3.8/10,1C,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.41**	**342**	*e*Pg			**Pn**	**15 35 53.3**	**-0.1**
HNR	**Honiara**	**0.41**	**342**	Pg			**Pn**	**15 35 53.2**	**-0.2**
	5μm,0.3s,baz=132,slow=2.9,SNR=7103								
HNR				Lg				15 36 01.8	
	10μm,0.3s,baz=83,slow=8.1,SNR=66								
CTA	**Charters Tower**	**16.79**	**231**	*e*P			**Pn**	**15 39 36.5**	**+0.3**
	15nm,1.4s								
CTA				*e*S			S	15 43 12.8	+21
CTA	**Charters Tower**	**16.79**	**231**	Pn			**Pn**	**15 39 38.0**	**+1.8**
	1.4nm,0.3s,baz=66,slow=14,SNR=10								
CTAO	**Charters Tower**	**16.79**	**231**	*e*P			**Pn**	**15 39 35.7**	**-0.5**
	69nm,1.4s								
EIDS	**Eidsvold**	**17.66**	**208**	*e*P			**Pn**	**15 39 48.5**	**+1.5**
	7.2nm,0.6s								
ARMA	**Armidale**	**21.95**	**200**	*e*P			**P**	**15 40 34.1**	**-0.1**
WRAB	**Tennant Creek**	**26.78**	**245**	*e*P			**P**	**15 41 19.9**	**-0.5**
	7.9nm,0.6s,mb4.4								
WB2	**Warramunga Arr**	**26.78**	**245**	*e*P			**P**	**15 41 20.0**	**-0.4**
WRA	**Warramunga Arr**	**26.79**	**245**	P			**P**	**15 41 20.2**	**-0.3**
	7.3nm,0.6s,mb4.4,baz=77,slow=9.4,SNR=106								
CNB	**Canberra Magne**	**27.19**	**199**	*e*P			**P**	**15 41 23.9**	**0.0**
	12nm,0.6s,mb4.6								
KAKA	**Kakadu**	**27.25**	**261**	*e*P			**P**	**15 41 24.4**	**-0.3**
	8.4nm,0.6s,mb4.5								
GUMO	**Guam**	**27.73**	**327**	LR			LR	15 51 03.0	
	comp=Z,125nm,19.6s,MS3.5,baz=229,slow=33								
STKA	**Stephens Creek**	**27.83**	**215**	*e*P			**P**	**15 41 28.8**	**-0.9**
	7.0nm,0.4s,mb4.6								
STKA	**Stephens Creek**	**27.83**	**215**	P			**P**	**15 41 28.9**	**-0.8**
	8.3nm,0.5s,mb4.6,baz=55,slow=14,SNR=42								
STKA				LR			LR	15 52 53.7	
	comp=Z,321nm,19.3s,MS3.9,baz=32,slow=37								
ASAR	**Alice Springs**	**28.52**	**238**	P			**P**	**15 41 34.6**	**-1.3**
	3.0nm,0.6s,mb4.2,baz=60,slow=9.9,SNR=80								
TOO	**Toolangi**	**30.59**	**203**	*e*P			**P**	**15 41 54.1**	**0.0**
	67nm,0.6s,mb5.7								
URZ	**Urewera**	**32.18**	**154**	LR			LR	15 52 50.1	
	comp=Z,91nm,19.2s,MS3.5,baz=17,slow=32								
FITZ	**Fitzroy Crossi**	**34.37**	**252**	*e*P			**P**	**15 42 26.1**	**-1.3**
	11nm,0.4s,mb5.1								
RPZ	**Rata Peaks**	**35.09**	**166**	P			**P**	**15 42 32.5**	**-0.8**
	13nm,0.9s,mb4.8,baz=34,slow=3.6,SNR=4.2								
BATI	**Kupang**	**35.85**	**266**	P			**P**	**15 42 42.1**	**+1.8**
	11nm,0.5s,mb5.0,baz=135,slow=3.5,SNR=11								
PPT	**Papeete**	**49.40**	**105**	*e*LR			LR	15 58 50.3	
	126nm,22.8s								
PPT	**Papeete**	**49.40**	**105**	LR			LR	16 00 31.5	
	comp=Z,139nm,20.3s,MS4.0,baz=0.0,slow=30								
MJAR	**Matsushiro Arr**	**50.50**	**337**	P			**P**	**15 44 37.2**	**-1.0**
	0.7nm,0.6s,mb3.8,baz=166,slow=6.1,SNR=3.9								
MJAR				LR			LR	16 04 20.1	
	comp=Z,99nm,20.0s,MS3.8,baz=50,slow=34								
KSRS	**Korea Array**	**55.85**	**329**	P			**P**	**15 45 18.4**	**+0.8**
	1.1nm,0.6s,mb4.0,baz=143,slow=7.1,SNR=6.9								
KSRS				LR			LR	16 09 14.8	
	comp=Z,65nm,18.4s,MS3.8,baz=346,slow=36								
CN2	**Changchun**	**61.95**	**332**	⇑P			**P**	**15 45 59.8**	**0.0**
CN2				AMB			AMB		
	comp=Z,10.0nm,1.0s,mb4.9								
SBA	**Scott Base**	**68.09**	**178**	*e*P			**P**	**15 46 40.5**	**+1.3**
GTA	**Gaotai**	**74.25**	**316**	*e*P			**P**	**15 47 18.3**	**+1.2**
GTA				AP			pP	15 47 25.8	-3.0
GTA				AMB			AMB		
	comp=Z,5.0nm,1.6s,mb4.2								
SONM	**Songino Array**	**74.46**	**326**	P			**P**	**15 47 19.3**	**+1.2**
	comp=Z,1.1nm,0.5s,mb4.0,baz=137,slow=5.2,SNR=12								
SONM				LR			LR	16 17 37.8	
	comp=Z,48nm,19.1s,MS3.8,baz=75,slow=34								
BILL	**Bilibino**	**77.79**	**2**	*e*P			**P**	**15 47 36.4**	**-0.3**
	comp=Z,8.0nm,1.1s,mb4.6								
QSPA	**South Pole Qui**	**80.17**	**180**	*e*P			**P**	**15 47 49.8**	**+0.2**
	comp=Z,38nm,0.6s,mb5.5								
MCK	**McKinley**	**82.87**	**20**	*e*P			**P**	**15 48 02.9**	**-1.1**
	comp=Z,18nm,1.1s,mb5.0								
IMA2	**Indian Mountai**	**82.92**	**17**	*e*P			**P**	**15 48 04.2**	**-0.1**
MAW	**Mawson**	**83.73**	**202**	LR			LR	16 20 20.4	
	comp=Z,206nm,20.2s,MS4.5,baz=281,slow=32								
MKAR	**Makanchi Array**	**88.85**	**318**	P			**P**	**15 48 34.4**	**+0.4**
	comp=Z,1.1nm,0.7s,mb4.3,baz=96,slow=5.7,SNR=11								
ZALV	**Zalesovo Beam**	**89.34**	**325**	LR			LR	16 27 05.3	
	comp=Z,23nm,21.6s,MS3.6,baz=112,slow=34								
NVAR	**Mina Array Bea**	**89.55**	**51**	P			**P**	**15 48 38.3**	**+0.8**
	comp=Z,0.8nm,0.7s,mb4.2,baz=269,slow=7.5,SNR=7.1								
YKA	**Yellowknife Ar**	**96.48**	**28**	P			**P**	**15 49 08.0**	**-0.8**
	comp=Z,0.8nm,0.5s,mb4.4,baz=262,slow=4.5,SNR=14								
YKA				LR			LR	16 29 34.2	
	comp=Z,39nm,18.0s,MS3.9,baz=195,slow=34								

IDC 14 16:01:07.8±3.8,670N×7300W,h159km±54km,mb1 2.9/2, mb1mx2.7/21,mbtmp3.1/2,Error ellipse: s-maj=558.6km s-min=7.8km az=132.0,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**2.26**	**216**	P			Pn	16 01 48.7	+2.1
	8.1nm,0.3s,baz=292,slow=18,SNR=17								
ROSC				S			Sn	16 02 17.3	+0.9
	8.4nm,0.3s,baz=94,slow=17,SNR=8.9								
SDV	**Santo Domingo**	**3.20**	**47**	P			Pn	16 01 58.5	+0.5
	2.5nm,0.3s,baz=260,slow=4.7,SNR=16								
SDV				S			Sn	16 02 37.6	+0.5
	5.1nm,0.3s,baz=287,slow=23,SNR=21								
ASAR	**Alice Springs**	**149.14**	**234**	PKPbc			PKPbc	16 20 38.0	-0.2
	0.3nm,0.7s,baz=118,slow=3.8,SNR=5.8								
WRA	**Warramunga Arr**	**150.38**	**241**	PKPbc			PKPbc	16 20 40.8	-0.5
	0.2nm,0.4s,baz=108,slow=2.6,SNR=9.6								

*ISCJB **14** 17:04:46.7±2.1,529S±008×1469E±01,h191km±20km, mb4.1/12,Error ellipse: s-maj=23.5km s-min=10.1km az=22.5*
*IDC **14** 17:04:52.4±2.7,544S×14692E,h235km±24km,mb3.8/9, mb1 3.9/11,mb1mx3.8/15,mbtmp3.7/11,Error ellipse: s-maj=28.3km s-min=9.4km az=111.0*
*NEIC **14** 17:04:53.9±2.0,544S×14681E,h251km±19km,mb4.5/6, Error ellipse: s-maj=14.0km s-min=11.2km az=89.0*
ISC 14 17:04:51.4±1.9,540S±008×1469E±01,h223km±18km,n25, σ0§73/24,mb4.0/12,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.61**	**182**	P			**Pn**	**17 08 08.9**	**+0.9**
	0.2nm,0.3s,baz=4.0,slow=17,SNR=3.6								
CTAO	**Charters Tower**	**14.61**	**182**	P			**Pn**	**17 08 09.1**	**+1.1**
KAKA	**Kakadu**	**15.98**	**242**	*e*P			**Pn**	**17 08 23.8**	**-0.8**
	13nm,0.6s								
WRAB	**Tennant Creek**	**18.89**	**219**	*e*P			**P**	**17 08 55.0**	**-0.4**
	11nm,0.6s								
WB2	**Warramunga Arr**	**18.90**	**219**	*e*P			**P**	**17 08 55.2**	**-0.3**
WRA	**Warramunga Arr**	**18.90**	**219**	P			**P**	**17 08 55.2**	**-0.4**
	1.0nm,0.3s,baz=40,slow=11,SNR=89								
WRA				S			**S**	**17 12 18.1**	**-0.4**
	0.1nm,0.3s,baz=44,slow=21,SNR=7.5								
WRA				PcP			PcP	17 13 11.5	-0.3
	0.2nm,0.3s,baz=29,slow=1.9,SNR=8.9								
ASAR	**Alice Springs**	**22.04**	**213**	P			**P**	**17 09 27.9**	**-0.1**
	6.6nm,0.7s,mb4.3,baz=41,slow=7.7,SNR=98								
ASAR				S			**S**	**17 13 15.8**	**+0.9**
	4.4nm,0.9s,baz=30,slow=19,SNR=11								
BATI	**Kupang**	**23.47**	**257**	P			**P**	**17 09 42.6**	**+1.4**
	29nm,0.7s,mb4.9,baz=210,slow=3.6,SNR=11								
FITZ	**Fitzroy Crossi**	**24.27**	**237**	*e*P			**P**	**17 09 48.4**	**-0.1**
	19nm,0.4s,mb5.1								
FITZ	**Fitzroy Crossi**	**24.27**	**237**	P			**P**	**17 09 48.7**	**+0.2**
	11nm,0.5s,mb4.8,baz=56,slow=9.5,SNR=57								
MJAR	**Matsushiro Arr**	**42.50**	**350**	P			**P**	**17 12 24.8**	**0.0**
	1.5nm,0.7s,mb3.5,baz=167,slow=9.0,SNR=5.1								
KSRS	**Korea Array**	**46.15**	**339**	P			**P**	**17 12 54.2**	**+0.5**
	1.8nm,0.7s,mb3.5,baz=155,slow=8.3,SNR=9.6								
ULN	**Ulaanbaatar**	**63.52**	**331**	*e*P			**P**	**17 14 59.1**	**+1.1**
	1.0nm,0.5s,mb3.7								
SONM	**Songino Array**	**63.81**	**331**	P			**P**	**17 15 00.6**	**+0.8**
	1.7nm,0.7s,mb3.8,baz=144,slow=5.9,SNR=7.8								
SBA	**Scott Base**	**73.16**	**176**	*e*P			**P**	**17 15 57.0**	**-0.2**
MKAR	**Makanchi Array**	**76.95**	**320**	P			**P**	**17 16 19.4**	**+0.1**
MKAR	**Makanchi Array**	**76.95**	**320**	P			**P**	**17 16 19.4**	**+0.1**
	0.6nm,0.4s,mb3.5,baz=99,slow=7.2,SNR=8.9								
TIXI	**Tixsi**	**77.80**	**354**	*e*P			**P**	**17 16 22.5**	**-1.0**
	2.3nm,0.8s,mb3.9								
ZALV	**Zalesovo Beam**	**78.43**	**328**	P			**P**	**17 16 26.2**	**-1.2**
ZALV	**Zalesovo Beam**	**78.43**	**328**	P			**P**	**17 16 26.2**	**-1.2**
	1.0nm,0.4s,mb3.8,baz=110,slow=6.4,SNR=9.0								
MCK	**McKinley**	**83.74**	**24**	*e*P			**P**	**17 16 54.0**	**-1.0**
	15nm,1.4s,mb4.5								
NVAR	**Mina Array Bea**	**97.11**	**52**	P			**P**	**17 17 59.0**	**+0.5**
	0.6nm,0.7s,mb3.9,baz=256,slow=7.3,SNR=3.5								
GERES	**GERESS Array B**	**121.34**	**326**	PKP			PKPdf	17 23 17.2	-0.8
	0.7nm,0.5s,baz=149,slow=2.8,SNR=5.1								
PLCA	**Paso Flores**	**122.70**	**147**	PKP			PKPdf	17 23 20.4	-0.6
	1.0nm,0.6s,baz=47,slow=1.0,SNR=3.3								
TORD	**Torodi Ar. Bea**	**144.81**	**285**	PKP			PKPdf	17 24 01.0	-1.8
	1.4nm,0.4s,baz=63,slow=3.6,SNR=36								

*ISCJB **14** 17:16:05.3±3.1,28S±01×1286E±02,h52km±30km, mb4.2/3,Error ellipse: s-maj=33.7km s-min=13.7km az=142.5*
*IDC **14** 17:16:08.4±4.4,280S×12847E,h57km±37km,mb4.0/3, mb1 4.2/6,mb1mx3.8/16,mbtmp4.1/6,ML4.2/3,MS3.4/1, Ms1 3.4/1,ms1mx2.8/19,Error ellipse: s-maj=62.9km s-min=13.9km az=71.0*
*NEIC **14** 17:16:10.8±2.7,295S×12846E,h80km±22km,mb4.0/3, Error ellipse: s-maj=34.1km s-min=10.8km az=225.0*
ISC 14 17:16:12.9±2.6,31S±02×1284E±02,h104km±25km,n13, σ0§77/14,mb4.1/3,Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Kupang**	**8.48**	**213**	P			**Pn**	**17 18 12.9**	**0.0**
	1.4nm,0.3s,baz=173,slow=5.1,SNR=5.1								
BATI				LR			LR	17 21 25.1	
	comp=Z,247nm,20.4s,baz=92,slow=36								
KAPI	**Kappang**	**8.81**	**257**	P			**Pn**	**17 18 17.4**	**-0.1**
	1.1nm,0.3s,baz=88,slow=9.8,SNR=4.0								
KAKA	**Kakadu**	**10.37**	**157**	*e*P			**Pn**	**17 18 38.4**	**-0.2**
	13nm,0.5s								
FITZ	**Fitzroy Crossi**	**15.16**	**190**	*e*P			**Pn**	**17 19 41.7**	**+0.2**
	7.2nm,

ASAR Alice Springs 46.55 252 P P 18 27 33.5 0.0
4.7nm,0.5s,baz=87,slow=7.7,SNR=150
NVAR Mina Array Bea 76.88 44 P P 18 30 58.2 +0.4
0.6nm,0.7s,baz=226,slow=8.0,SNR=4.5
TXAR Lajitas Array 83.75 57 P P 18 31 35.1 +0.1
0.4nm,0.7s,baz=226,slow=8.6,SNR=4.1

IDC 14 18:35:47.8±4.0, 517N×9431E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=160.0km s-min=24.6km az=62.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**42.75**	**348**	P		P	P	18 43 46.8	-0.1
	0.6nm,0.8s,baz=160,slow=7.8,SNR=6.5								
SONM	**Songino Array**	**43.76**	**12**	P		P	P	18 43 55.0	0.0
	0.3nm,0.5s,baz=191,slow=6.6,SNR=2.3								
WRA	**Warramunga Arr**	**46.60**	**124**	P		P	P	18 44 18.1	+0.1
	0.7nm,0.6s,baz=301,slow=9.6,SNR=9.7								
ASAR	**Alice Springs**	**48.09**	**128**	P		P	P	18 44 29.6	0.0
	0.2nm,0.4s,baz=301,slow=7.8,SNR=12								

*IDC **14** 19:02:40.3±0.9, 948N×8371W, h0km, mb3.9/9, mb1 4.2/11, mb1mx4.0/21, mbtmp4.0/11, ML3.9/2, MS3.7/11, Ms1 3.7/11, ms1mx3.3/31, Error ellipse: s-maj=34.5km s-min=20.0km az=64.0*
*CASC **14** 19:02:41.7±2.5, 908N×8392W, h3km±9km, MD4.4, ML3.3, mb4.3(NEIC)*
*ISCJB **14** 19:02:44.6±0.6, 918N±007×8387W±005, h44km±5km, mb3.9/10, MS3.6/8, Error ellipse: s-maj=13.3km s-min=5.0km az=33.2*
*NEIC **14** 19:02:46.4±1.2, 948N×8391W, h45km±11km, mb4.3/1, Error ellipse: s-maj=22.3km s-min=9.6km az=214.0*
ISC 14 19:02:46.7±0.5, 935N±007×8375W±005, h46km±5km, n53, σ1§32/53, mb3.9/10, MS3.6/8, 2C-7D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BUS	**Buena Vista**	**0.20**	**358**	⇓*iP*		**Pn**		**19 02 52.7**	**-1.9**
BUS				*eS*		**Sn**		**19 02 59.9**	**-0.2**
BAR1		**0.45**	**104**	⇑*iP*		**Pn**		**19 02 54.1**	**-2.9**
LCR2	**La Lucha 2**	**0.46**	**327**	⇓*iP*		**Pn**		**19 02 55.2**	**-2.0**
URSC	**Urasca**	**0.48**	**357**	⇓*iP*		**Pn**		**19 02 57.1**	**-0.4**
URSC				*eS*		**Sn**		**19 03 08.8**	**+3.7**
LAJ	**Bijagual**	**0.62**	**324**	⇓*iP*		**Pn**		**19 02 58.7**	**-0.7**
LAJ				*eS*		**Sn**		**19 03 11.1**	**+2.7**
SJS	**Escuela Geolog**	**0.65**	**333**	⇓*eP*		**Pn**		**19 02 58.7**	**-1.0**
SJS				*eS*		**Sn**		**19 03 10.5**	**+1.5**
CGA2	**Cerro Gallo 2**	**0.96**	**313**	⇓*eP*		**Pn**		**19 03 01.7**	**-2.1**
CNI	**Changuinola**	**1.22**	**87**	*eP*		**Pn**		**19 03 07.7**	**+0.4**
CNI				*eS*		**Sn**		**19 03 28.8**	**+6.1**
JCR	**Jicaral**	**1.43**	**290**	⇓*eP*		**Pn**		**19 03 04.9**	**-5.3**
JCR				*eS*		**Sn**		**19 03 29.6**	**+1.7**
FORC	**Fortuna**	**1.43**	**321**	*iP*		**Pn**		**19 03 10.7**	**+0.4**
FORC				*iS*		**Sn**		**19 03 31.6**	**+3.7**
JTS	**JuntasAbangare**	**1.51**	**308**	*e*Pn		**Pn**		**19 03 07.3**	**-4.0**
DVD	**David**	**1.57**	**125**	*eP*		**Pn**		**19 03 08.5**	**-3.7**
DVD				*eS*		**Sn**		**19 03 31.6**	**+0.2**
2RIO	**Dos Rios de Up**	**1.87**	**309**	*iP*		**Pn**		**19 03 21.8**	**+5.5**
CUI		**1.92**	**313**	*iP*		**Pn**		**19 03 15.3**	**-1.6**
LIM1	**Limonal**	**2.00**	**312**	⇑*eP*		**Pn**		**19 03 16.6**	**-1.4**
VCR	**Vista de Mar**	**2.01**	**293**	*eP*		**Pn**		**19 03 17.8**	**-0.4**
MADN	**Villa Maderas**	**2.69**	**319**	*eP*		**Pn**		**19 03 27.5**	**0.0**
BOAB	**BOACO BROADBAN**	**3.61**	**329**	*eP*		**Pn**		**19 03 40.4**	**+0.3**
TICN	**Ticuantepe**	**3.61**	**318**	*eP*		**Pn**		**19 03 40.8**	**+0.6**
AZU	**Azuero**	**3.77**	**114**	*eP*		**Pn**		**19 03 42.7**	**+0.4**
HUEN		**3.80**	**321**	*eP*		**Pn**		**19 03 43.1**	**+0.3**
CSAN		**3.85**	**317**	*eP*		**Pn**		**19 03 44.8**	**+1.4**
BCIP	**Isla Barro Col**	**3.87**	**92**	*e*Pn		**Pn**		**19 03 44.0**	**+0.3**
COPN	**Copaltepe**	**3.96**	**315**	*eP*		**Pn**		**19 03 45.8**	**+0.9**
COPN				*i*				19 04 04.4	
	comp=Z,79nm,0.4s								
MOMJ	**Momotombo**	**4.09**	**318**	*eP*		**Pn**		**19 03 46.5**	**-0.2**
TEL3	**Telica 3**	**4.41**	**317**	*eP*		**Pn**		**19 03 51.2**	**0.0**
TGUH	**Tegucigalpa,Un**	**5.81**	**324**	P		**Pn**		**19 04 13.7**	**+3.3**
	comp=Z,115nm,0.8s								
ROSC	**El Rosal**	**10.36**	**115**	Pn		**Pn**		**19 05 17.5**	**+4.7**
	comp=Z,2.5nm,0.3s,baz=101,slow=18,SNR=6.1								
TEIG	**Tepich**	**11.66**	**338**	Pn		**Pn**		**19 05 28.0**	**-2.5**
	comp=Z,1.7nm,0.3s,baz=188,slow=19,SNR=6.9								
TEIG				LR		LR		19 10 10.3	
	comp=Z,468nm,18.6s,baz=67,slow=39								
LAPE	**La Pedrera**	**12.18**	**98**	*iP*		Px		19 03 18.0	
SDV	**Santo Domingo**	**12.96**	**91**	Pn		**Pn**		**19 05 51.0**	**+2.7**
SDV	**Santo Domingo**	**12.96**	**91**	Pn		**Pn**		**19 05 51.0**	**+2.7**
	comp=Z,0.4nm,0.3s,baz=279,slow=7.8,SNR=6.2								
SDDR	**Presa de Saban**	**15.40**	**50**	P		**Pn**		**19 06 25.1**	**+4.0**
	comp=Z,25nm,1.1s								
ATAH	**Atahualpa**	**17.10**	**162**	P		**Pn**		**19 06 45.2**	**+2.6**
	comp=Z,0.2nm,0.3s,baz=17,slow=11,SNR=3.8								
ATAH				LR		LR		19 12 28.1	
	comp=Z,662nm,18.7s,baz=174,slow=34								
SJG	**San Juan**	**19.17**	**61**	LR		LR		19 13 25.3	
	comp=Z,222nm,20.8s,baz=270,slow=34								
PTP	**Ponta Puerca**	**19.68**	**61**	*eP*		Px		19 03 04.8	
TXAR	**Lajitas Array**	**27.27**	**320**	P		**P**		**19 08 25.2**	**-1.6**
	comp=Z,0.2nm,0.6s,mb2.9,baz=138,slow=11,SNR=3.2								
TXAR				LR		LR		19 22 32.7	
	comp=Z,47nm,19.4s,MS3.1,baz=190,slow=44								
LPIG	**La Paz**	**29.28**	**303**	LR		LR		19 23 10.8	
	comp=Z,72nm,18.4s,MS3.3,baz=288,slow=42								
LPAZ	**La Paz**	**29.80**	**149**	LR		LR		19 21 20.3	
	comp=Z,162nm,21.7s,MS3.6,baz=270,slow=38								
PFO	**Pinyon Flat Ob**	**38.56**	**314**	P		**P**		**19 10 09.0**	**+3.9**
PFO	**Pinyon Flat Ob**	**38.56**	**314**	P		**P**		**19 10 09.0**	**+3.9**
	comp=Z,1.2nm,0.3s,mb4.1,baz=273,slow=6.1,SNR=3.5								
NVAR	**Mina Array Bea**	**42.41**	**319**	P		**P**		**19 10 37.5**	**+0.6**
	comp=Z,0.9nm,0.8s,mb3.4,baz=124,slow=6.0,SNR=6.1								
NVAR				PcP		PcP		19 12 30.1	+0.6
	comp=Z,0.8nm,0.8s,baz=139,slow=4.3,SNR=4.4								
CPUP	**Villa Florida**	**43.79**	**145**	LR		LR		19 29 26.1	
	comp=Z,69nm,18.7s,MS3.6,baz=210,slow=37								
SCHQ	**Schefferville**	**47.31**	**13**	P		**P**		**19 11 15.2**	**-0.4**
	comp=Z,5.2nm,0.9s,mb4.5,baz=207,slow=14,SNR=5.1								
SCHQ				LR		LR		19 31 00.1	
	comp=Z,142nm,20.8s,MS3.9,baz=157,slow=36								
PLCA	**Paso Flores**	**51.30**	**167**	P		**P**		**19 11 47.4**	**+1.1**
	comp=Z,6.7nm,0.9s,mb4.5,baz=335,slow=7.5,SNR=8.1								
YKA	**Yellowknife Ar**	**57.56**	**344**	P		**P**		**19 12 29.5**	**-1.9**
	comp=Z,0.7nm,0.7s,mb3.8,baz=137,slow=7.1,SNR=12								
YKA				PcP		PcP		19 13 23.9	-0.5
	comp=Z,0.9nm,0.8s,baz=148,slow=3.9,SNR=6.3								
YKA				LR		LR		19 40 20.4	
	comp=Z,34nm,18.2s,MS3.5,baz=160,slow=39								
ESDC	**Sonseca Array**	**76.25**	**51**	P		**P**		**19 14 30.9**	**+0.1**
	comp=Z,1.7nm,0.8s,mb4.0,baz=270,slow=5.1,SNR=6.6								
TORD	**Torodi Ar. Bea**	**83.52**	**78**	P		**P**		**19 15 09.4**	**-1.1**
	comp=Z,0.7nm,0.9s,mb3.8,baz=298,slow=3.2,SNR=3.6								
NOA	**NORSAR Array B**	**84.29**	**29**	P		**P**		**19 15 14.2**	**+0.6**
NOA				LR		LR		19 52 31.2	
NOA	**NORSAR Array B**	**84.29**	**29**	P		**P**		**19 15 14.2**	**+0.6**
	comp=Z,1.6nm,0.9s,mb4.2,baz=276,slow=5.1,SNR=3.1								
NOA				LR		LR		19 52 31.2	
	comp=Z,17nm,18.1s,MS3.5,baz=90,slow=36								
GERES	**GERESS Array B**	**87.90**	**41**	P		**P**		**19 15 31.5**	**-0.1**
	comp=Z,0.6nm,0.8s,mb3.9,baz=253,slow=4.1,SNR=3.5								
GERES				LR		LR		19 48 51.4	
	comp=Z,64nm,18.7s,MS4.1,baz=282,slow=32								
ASAR	**Alice Springs**	**141.34**	**244**	PKP		PKPdf		19 22 11.5	-1.8
	comp=Z,0.5nm,0.8s,baz=128,slow=2.0,SNR=4.8								
WRA	**Warramunga Arr**	**141.76**	**250**	PKP		PKPdf		19 22 14.5	+0.3
	comp=Z,0.8nm,1.0s,baz=111,slow=3.4,SNR=4.6								

*ISCJB **14** 19:03:32.4±0.3, 1257N×004×4740E±003, h10km, mb4.5/52, MS3.7/18, Error ellipse: s-maj=5.7km s-min=3.6km az=1.9*
*IDC **14** 19:03:32.7±0.6, 1258N×4758E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/29, mbtmp4.3/21, ML3.6/2, MS3.7/15, Ms1 3.7/15, ms1mx3.6/26, Error ellipse: s-maj=17.5km s-min=13.4km az=102.0*
*CSEM **14** 19:03:34.2±0.1, 1277N×4738E, h10km, mb4.5/18, Error ellipse: s-maj=3.9km s-min=2.6km az=165.0*
*NEIC **14** 19:03:34.4±0.4, 1255N×4752E, h10km, mb4.5/16, Error ellipse: s-maj=11.2km s-min=8.0km az=105.0*
*MOS **14** 19:03:36.4±1.1, 1266N×4753E, h33km, mb4.7/13, Error ellipse: s-maj=18.2km s-min=8.0km az=89.3*
*DHMR **14** 19:03:36.8±1.3, 1267N×4695E, h5km±12km, ML4.1*

*OMAN **14** 19:03:37.0, 1259N×4738E, h15km*
*BJI **14** 19:03:38.8, 1291N×4836E, h10km, mB5.0, mb4.7*
ISC 14 19:03:35.3±1.5, 1256N±004×4739E±003, h17km±9km, h19km±2.1km: pP-P, n157, σ1§27/161, mb4.5/52, MS3.7/18, 20C-9D, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BDHA	**Al Bayda'**	**2.26**	**309**	⇑*eP*		**Pn**		**19 04 10.6**	**-1.2**
BDHA				*iS*		**Sn**		**19 04 37.0**	**-2.4**
BDHA				AML		AML		19 04 38.3	
	comp=N,5μm,0.3s								
BDHA	**Al Bayda'**	**2.26**	**309**	⇑*eP*		**Pn**		**19 04 10.6**	**-1.3**
BDHA				*iS*		**Sn**		**19 04 37.0**	**-2.4**
ADEN	**Aden**	**2.36**	**275**	⇓*eP*		**Pn**		**19 04 10.4**	**-2.7**
ADEN				*iS*		**Sn**		**19 04 38.6**	**-3.1**
ADEN				AML		AML		19 04 39.6	
	comp=N,1μm,0.4s								
ADEN	**Aden**	**2.36**	**275**	⇓*eP*		**Pn**		**19 04 10.4**	**-2.8**
ADEN				*iS*		**Sn**		**19 04 38.6**	**-3.1**
LBOS		**2.46**	**302**	⇑*eP*		**Pn**		**19 04 13.3**	**-1.2**
LBOS				*iS*		**Sn**		**19 04 41.6**	**-2.5**
LBOS				AML		AML		19 04 45.2	
	comp=E,998nm,0.6s								
MUKL	**Al Mukalla**	**2.49**	**40**	AML		AML		19 04 39.3	
	comp=N,3μm,0.5s								
DHBB	**Dhamar BB**	**3.54**	**305**	*iP*		**Pn**		**19 04 30.3**	**+0.9**
DHBB				*iS*		**Sn**		**19 05 11.1**	**+0.4**
UDYN	**Al 'Udayn**	**3.61**	**293**	⇑*eP*		**Pn**		**19 04 30.3**	**-0.2**
UDYN				*iS*		**Sn**		**19 05 10.9**	**-1.8**
UDYN				AML		AML		19 05 28.6	
	comp=E,472nm,0.8s								
ATD	**Arta Tunnel**	**4.56**	**257**	Pn		**Pn**		**19 04 43.5**	**0.0**
ATD				LR		LR		19 06 06.1	
ATD	**Arta Tunnel**	**4.56**	**257**	Pn		**Pn**		**19 04 43.5**	**0.0**
	comp=E,3.5nm,0.3s,baz=63,slow=7.4,SNR=40								
ATD				LR		LR		19 06 06.1	
	comp=E,703nm,19.4s,baz=312,slow=32								
HAJJ	**Hajjah**	**4.82**	**311**	*iS*		**Sn**		**19 05 42.3**	**-0.2**
HAJJ				AML		AML		19 06 02.1	
	comp=Z,1μm,0.9s								
DESE	**Dese**	**7.72**	**260**	*eP*		**Pn**		**19 05 25.2**	**-1.7**
DESE				S		**Sb**		**19 07 19.4**	**-1.3**
FURI	**Furi**	**9.30**	**248**	*e*PN		**Pn**		**19 05 53.0**	**+4.4**
FURI				*eS*		**Sn**		**19 07 53.7**	**+21**
HOQ	**Hoqain**	**14.45**	**39**	P		**Pn**		**19 06 58.3**	**-0.8**
	SNR=8.9								
SMDO	**Samad**	**14.55**	**43**	P		**Pn**		**19 07 02.2**	**+1.8**
	SNR=7.2								
HATD	**Hatta, Dubai**	**14.74**	**33**	P		**Pn**		**19 07 02.7**	**-0.2**
	SNR=7.1								
BIDO	**Bidbid**	**14.93**	**42**	P		**Pn**		**19 07 06.2**	**+0.7**
	SNR=7.0								
QRN	**Al-Qurain**	**16.11**	**2**	*eP*		**Pn**		**19 07 19.5**	**-1.4**
QRN				AMb		AMB		19 07 26.5	
	comp=Z,103nm,1.1s								
RDF	**Al-Radifah**	**16.28**	**1**	*eP*		**Pn**		**19 07 22.2**	**-0.9**
RDF				AMb		AMB		19 07 28.6	
	comp=Z,105nm,1.3s								
RDF	**Al-Radifah**	**16.28**	**1**	*eP*		**Pn**		**19 07 22.2**	**-1.0**
	comp=Z,105nm,1.3s								
NAY	**Al-Naaiem**	**16.61**	**360**	*eP*		**Pn**		**19 07 25.6**	**-1.7**
NAY				AMb		AMB		19 07 32.4	
	comp=Z,43nm,0.9s								
NAY	**Al-Naaiem**	**16.61**	**360**	*eP*		**Pn**		**19 07 25.6**	**-1.7**
	comp=Z,43nm,0.9s								
UMR	**Umm Al-Rimmam**	**16.91**	**1**	*eP*		**Pn**		**19 07 29.6**	**-1.6**
UMR				AMb		AMB		19 07 37.5	
	comp=Z,141nm,1.6s								
UMR	**Umm Al-Rimmam**	**16.91**	**1**	*eP*		**Pn**		**19 07 29.5**	**-1.6**
	comp=Z,141nm,1.6s								
KMBO	**Kilima Mbogo**	**16.92**	**217**	⇑*eP*		**Pn**		**19 07 34.7**	**+3.4**
KMBO	**Kilima Mbogo**	**16.92**	**217**	*eP*		**Pn**		**19 07 34.8**	**+3.5**
	comp=Z,41nm,1.1s								
KMBO	**Kilima Mbogo**	**16.92**	**217**	P		**Pn**		**19 07 35.3**	**+4.0**
	SNR=7.2								
KMBO	**Kilima Mbogo**	**16.92**	**217**	P		**Pn**		**19 07 35.3**	**+4.0**
	SNR=7.2								
KMBO	**Kilima Mbogo**	**16.92**	**217**	P		**Pn**		**19 07 34.8**	**+3.5**
	comp=Z,0.1nm,0.3s,baz=34,slow=13,SNR=25								
KMBO				Lg				19 12 31.4	
	comp=Z,0.0nm,0.3s,baz=110,slow=23,SNR=2.3								
KMBO	**Kilima Mbogo**	**16.92**	**217**	*eP*		**Pn**		**19 07 34.8**	**+3.5**
	comp=Z,41nm,1.1s								
MIB	**Mutribah**	**17.16**	**360**	*eP*		**Pn**		**19 07 32.9**	**-1.4**
MIB				AMb		AMB		19 07 38.0	
	comp=Z,110nm,0.8s								
MIB	**Mutribah**	**17.16**	**360**	*eP*		**Pn**		**19 07 32.8**	**-1.4**
	comp=Z,110nm,0.8s								
EIL	**Elat**	**20.57**	**328**	P		**P**		**19 08 14.1**	**+0.8**
	comp=Z,16nm,1.0s,baz=175,slow=4.5,SNR=10								
EIL				Lg				19 14 19.1	
	comp=Z,8.5nm,1.0s,baz=35,slow=23,SNR=6.0								
EIL				LR		LR		19 15 07.0	
	comp=Z,326nm,20.5s,MS3.7,baz=105,slow=34								
BHD	**Baghdad**	**20.80**	**353**	*ex*		x		19 08 16.0	
BHD				*ex*		x		19 12 09.0	
ASF	**Jabal al Asfar**	**21.77**	**335**	P		**P**		**19 08 27.8**	**+1.6**
	comp=Z,12nm,1.1s,mb4.2,baz=3.6,slow=2.3,SNR=16								
ASF				Lg				19 15 01.0	
	comp=Z,0.9nm,0.4s,baz=135,slow=16,SNR=5.7								
MMAI	**Mount Meron Ar**	**23.13**	**334**	P		**P**		**19 08 41.9**	**+1.3**
	comp=Z,5.5nm,0.9s,mb4.0,baz=135,slow=11,SNR=9.1								
MMAI				Lg				19 15 48.5	
	comp=Z,0.9nm,0.7s,baz=122,slow=23,SNR=4.0								
MMAI				LR		LR		19 17 48.0	
	comp=Z,170nm,20.8s,MS3.5,baz=170,slow=37								
MSL	**Mosul**	**23.94**	**351**	*ex*		x		19 08 52.0	
MSL				*ex*		x		19 13 06.0	
MALT	**Malatya**	**26.86**	**344**	⇑*iP*		**P**		**19 09 21.1**	**+6.1**
GNI	**Garni**	**27.58**	**356**	*c iP*		**P**		**19 09 21.5**	**+0.1**
GNI				pmax		pmax			
	comp=Z,20nm,1.0s								
GNI				MLR		MLR			
	comp=Z,500nm,18.0s								
GNI	**Garni**	**27.58**	**356**	*eP*		**P**		**19 09 23.8**	**+2.3**
	comp=Z,12nm,0.8s,mb4.6								
GNI	**Garni**	**27.58**	**356**	P		**P**		**19 09 24.6**	**+3.1**
	SNR=6.5								
GNI	**Garni**	**27.58**	**356**	P		**P**		**19 09 24.6**	**+3.1**
	SNR=6.5								
GNI	**Garni**	**27.58**	**356**	P		**P**		**19 09 23.4**	**+1.9**
	comp=Z,4.1nm,0.4s,mb4.5,baz=344,slow=18,SNR=7.9								
GNI				LR		LR		19 21 45.9	
	comp=Z,348nm,18.4s,MS4.0,baz=262,slow=40								
GNI	**Garni**	**27.58**	**356**	*i* P		**P**		**19 09 21.5**	**+0.1**
	comp=Z,500nm,18.0s								
OPO	**Ambohidratompo**	**30.93**	**180**	P		**P**		**19 09 52.4**	**+1.1**
	comp=Z,4.5nm,1.0s,mb4.3,baz=301,slow=9.8,SNR=3.6								
KIV	**Kislovodsk**	**31.54**	**354**	*eP*		**P**		**19 09 57.1**	**+0.6**
KIV				*eS*		**S**		**19 15 03.7**	**-0.6**
KIV				pmax		pmax			
	comp=Z,24nm,1.2s,mb4.9								
KIV				MLR		MLR			
	comp=Z,156nm,16.0s,MS3.8								
KIV	**Kislovodsk**	**31.54**	**354**	*eP*		**P**		**19 09 58.6**	**+2.1**
	comp=Z,24nm,1.1s,mb4.9								
KIV	**Kislovodsk**	**31.54**	**354**	P		**P**		**19 09 59.1**	**+2.6**
	SNR=9.1								
KIV	**Kislovodsk**	**31.54**	**354**	P		**P**		**19 09 59.1**	**+2.6**
	SNR=9.1								
KIV	**Kislovodsk**	**31.54**	**354**	⇑*iP*		**P**		**19 09 58.2**	**+1.7**
KIV	**Kislovodsk**	**31.54**	**354**	*eP*		**P**		**19 09 57.1**	**+0.6**
	comp=Z,24nm,1.2s,mb4.9								
ANN	**Anapa**	**33.24**	**347**	*eP*		**P**		**19 10 11.8**	**+0.4**
ANN				*e*				19 11 21.2	
ANN				*eS*		**S**		**19 15 32.1**	**+1.5**
ANN				pmax		pmax			
	comp=Z,14nm,1.4s,mb4.7								
ANN				MLR		MLR			
	comp=Z,208nm,14.0s,MS4.0								
ANN	**Anapa**	**33.24**	**347**	*eP*		**P**		**19 10 11.8**	**+0.4**
	comp=Z,14nm,1.4s,mb4.7								
LSZ	**Lusaka**	**33.56**	**215**	*eP*		**P**		**19 10 14.2**	**-0.3**
	comp=Z,6.4nm,1.0s,mb4.5								
SIM	**Simferopol'**	**34.21**	**343**	*eP*		**P**		**19 10 21.0**	**+1.1**
SIM				*eS*		**S**		**19 15 41.0**	**-4.7**
SIM				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.5								
SIM				MLR		MLR			
	comp=Z,100nm,18.4s,MS3.6								
SIM	**Simferopol'**	**34.21**	**343**	*eP*		**P**		**19 10 21.0**	**+1.1**
	comp=Z,5.0nm,0.8s,mb4.5								
TIRR	**Tirgusor**	**35.71**	**336**	⇑*iP*		**P**		**19 10 33.6**	**+0.8**
KOLN	**Koldanda**	**37.04**	**60**	*eP*		**P**		**19 10 43.2**	**-1.2**
	comp=Z,51nm,1.0s,mb5.3								

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**37.30**	**33**	*eP*		**P**		**19 10 47.4**	**+1.0**
	comp=Z,9.5nm,0.8s,mb4.7								
AML	**Almayashu**	**37.30**	**33**	P		**P**		**19 10 47.6**	**+1.2**
	SNR=10								
AML	**Almayashu**	**37.30**	**33**	*eP*		**P**		**19 10 47.4**	**+1.0**
	comp=Z,9.5nm,0.8s,mb4.7								
DANN	**Dangsing**	**37.34**	**60**	*eP*		**P**		**19 10 46.0**	**-1.0**
	comp=Z,52nm,0.9s,mb5.3								
VRI	**Vrincioaia**	**37.54**	**336**	⇓*iP*		**P**		**19 10 50.5**	**+2.1**
MLR	**Muntele Rosu**	**37.55**	**335**	⇓*iP*		**P**		**19 10 52.4**	**+3.9**
EKS2	**Erkin-Say**	**37.71**	**32**	*eP*		**P**		**19 10 50.5**	**+0.6**
	comp=Z,15nm,1.4s,mb4.5								
EKS2	**Erkin-Say**	**37.71**	**32**	P		**P**		**19 10 50.7**	**+0.8**
	SNR=5.8								
EKS2	**Erkin-Say**	**37.71**	**32**	*eP*		**P**		**19 10 50.5**	**+0.6**
	comp=Z,15nm,1.4s,mb4.5								
UCH	**Uchtor**	**37.80**	**34**	*eP*		**P**		**19 10 52.1**	**+1.5**
	comp=Z,12nm,1.3s,mb4.5								
UCH	**Uchtor**	**37.80**	**34**	P		**P**		**19 10 52.4**	**+1.8**
	SNR=6.3								
UCH	**Uchtor**	**37.80**	**34**	*eP*		**P**		**19 10 52.1**	**+1.4**
	comp=Z,12nm,1.3s,mb4.5								
VOIR		**37.88**	**334**	⇑*iP*		**P**		**19 10 54.2**	**+2.9**
TIP	**Timpagrande**	**37.91**	**320**	*eP*		**P**		**19 10 54.1**	**+2.4**
	comp=Z,5.6nm,1.1s,mb4.2								
TIP	**Timpagrande**	**37.91**	**320**	*eP*		**P**		**19 10 54.1**	**+2.5**
	comp=Z,5.6nm,1.1s,mb4.2								
GKN	**Gorkha**	**37.99**	**60**	*eP*		**P**		**19 10 50.5**	**-1.9**
	comp=Z,16nm,0.8s,mb4.8								
FRU	**Bishkek**	**38.28**	**33**	*eP*		**P**		**19 10 56.0**	**+1.3**
KBK	**Karagaybulak**	**38.33**	**33**	P		**P**		**19 10 57.0**	**+1.9**
	SNR=7.9								
KKN	**Kakani**	**38.48**	**61**	*eP*		**P**		**19 10 54.9**	**-1.7**
	comp=Z,39nm,0.9s,mb5.1								
PKI	**Pulchoki**	**38.53**	**61**	*eP*		**P**		**19 10 55.0**	**-2.0**
ULHL	**Ulahol**	**38.77**	**35**	P		**P**		**19 11 00.0**	**+1.2**
	SNR=8.4								
GUN	**Gumba**	**39.02**	**61**	*eP*		**P**		**19 10 59.7**	**-1.4**
BURAR	**Bucovina Array**	**39.57**	**336**	⇓*iP*		**P**		**19 11 07.1**	**+1.7**
KIEV	**Kiev**	**40.82**	**342**	*eP*		**P**		**19 11 15.7**	**-0.1**
	comp=Z,6.6nm,0.9s,mb4.3								
KIEV	**Kiev**	**40.82**	**342**	*eP*		**P**		**19 11 15.6**	**-0.2**
	comp=Z,6.6nm,0.9s,mb4.3								
AKASG	**Malin Array Be**	**40.82**	**342**	P		**P**		**19 11 14.7**	**-1.1**
	comp=Z,3.2nm,0.7s,mb4.1,baz=158,slow=7.6,SNR=5.2								
AKASG				PP		PP		19 12 57.0	+7.0
	comp=Z,0.1nm,0.2s,baz=152,slow=8.9,SNR=5.8								
AKASG	**Malin Array Be**	**40.82**	**342**	P		**P**		**19 11 14.6**	**-1.2**
KEST	**Kesra**	**41.30**	**311**	LR		LR		19 30 18.4	
	comp=Z,65nm,18.4s,MS3.5,baz=326,slow=39								
PKSM	**Moragy**	**41.41**	**330**	⇓*iP*		**P**		**19 11 20.6**	**-0.1**
UZH	**Uzhgorod**	**41.56**	**335**	*eP*		**P**		**19 11 23.0**	**+1.2**
KOLS	**Kolonicke sedl**	**41.80**	**335**	*eP*		**P**		**19 11 24.8**	**+1.0**
KOLS	**Kolonicke sedl**	**41.80**	**335**	*eP*		**P**		**19 11 24.9**	**+1.1**
**PSZ

ARCES					LR	LR	19 41 44.9	
	comp=Z,64nm,18.7s,MS3.8,baz=259,slow=39							
ZAK	**Zakamensk**	**58.90**	**38**	*e*P		**P**	**19 13 31.8**	**-1.4**
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.5s,mb3.9							
XAN	**Xi'an**	**59.55**	**58**	P		**P**	**19 13 36.0**	**-2.0**
XAN					AP	pP	19 13 42.4	-1.2
XAN					AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.5							
SONM	**Songino Array**	**60.10**	**42**	P		**P**	**19 13 41.9**	**+0.3**
	comp=Z,4.0nm,1.0s,mb4.4,baz=248,slow=7.2,SNR=14							
SONM					LR	LR	19 43 22.8	
	comp=Z,42nm,19.1s,MS3.6,baz=73,slow=40							
WHN	**Wuhan**	**63.97**	**62**	P		**P**	**19 14 12.5**	**+4.6**
BOD	**Bodaibo**	**67.05**	**32**	*e*P		**P**	**19 14 25.0**	**-2.3**
BOD					pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1							
NJ2	**Nanjing**	**67.81**	**60**	*e*P		**P**	**19 14 32.3**	**-0.3**
NJ2					AMB	AMB		
	comp=Z,50nm,1.3s,mb5.4							
KSRS	**Korea Array**	**75.01**	**54**	P		**P**	**19 15 13.9**	**-2.1**
	comp=Z,1.2nm,0.7s,mb3.9,baz=279,slow=7.6,SNR=5.9							
YAK	**Yakutsk**	**75.39**	**29**	*e*P		**P**	**19 15 18.4**	**+0.7**
YAK					pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5							
TIXI	**Tiksi**	**75.48**	**19**	*e*P		**P**	**19 15 16.0**	**-2.0**
TIXI					pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2							
TIXI	**Tiksi**	**75.48**	**19**	P		**P**	**19 15 16.9**	**-1.2**
	comp=Z,3.8nm,1.0s,mb4.3							
HABR	**Khabarovsk**	**79.18**	**43**	*e*P		**P**	**19 15 37.4**	**-1.8**
HABR				*e*			19 18 36.8	
HABR				*e*S		S	19 25 35.4	-2.9
HABR				*e*SS		SS	19 30 41.3	-3.0
MAW	**Mawson**	**80.74**	**174**	LR		LR	19 47 56.2	
	comp=Z,197nm,20.6s,MS4.5,baz=267,slow=33							
SEY	**Seymchan**	**85.61**	**26**	*e*P		**P**	**19 16 13.4**	**+0.9**
BILL	**Bilibino**	**88.69**	**19‖**	*e*P		**P**	**19 16 27.8**	**+0.4**
BILL				*e*			19 20 03.5	
BILL				*e*PS			19 28 25.7	
BILL					pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.5							
WRA	**Warramunga Arr**	**91.40**	**110**	P		**P**	**19 16 39.9**	**-1.0**
	comp=Z,1.3nm,0.7s,mb4.4,baz=296,slow=3.7,SNR=19							
WRAB	**Tennant Creek**	**91.41**	**110**	*e*P		**P**	**19 16 39.9**	**-1.1**
	comp=Z,1.7nm,0.5s,mb4.6							
ASAR	**Alice Springs**	**91.82**	**114**	P		**P**	**19 16 42.0**	**-0.9**
	comp=Z,0.4nm,0.7s,mb3.9,baz=289,slow=5.1,SNR=6.3							
YKA	**Yellowknife Ar**	**103.87**	**351**	PP		PP	19 21 51.3	-1.4
	comp=Z,0.8nm,0.9s,baz=11,slow=6.7,SNR=8.4							
NVAR	**Mina Array Bea**	**127.54**	**346**	PKP		PKPdf	19 22 41.7	+1.9
NVAR	**Mina Array Bea**	**127.54**	**346**	PKP		PKPdf	19 22 41.7	+1.9
	comp=Z,0.5nm,0.6s,baz=357,slow=2.5,SNR=4.7							
TXAR	**Lajitas Array**	**129.85**	**327**	PKP		PKPdf	19 22 46.9	+2.4
	comp=Z,0.3nm,0.8s,baz=49,slow=5.7,SNR=3.6							

*ISCJB **14** 19:35:15.2±1.0,2471S×009×1797E±0.1,h505km±11km, mb4.0/12,Error ellipse: s-maj=15.2km s-min=13.4km az=40.7*
*NEIC **14** 19:35:16.1±1.2,2476S×17979E,h506km±13km,mb4.4/6, Error ellipse: s-maj=18.7km s-min=11.9km az=189.0*
*IDC **14** 19:35:16.3±1.2,2484S×17981E,h508km±15km,mb3.4/8, mb1 3.7/10,mb1mx3.7/14,mbtmp3.5/10,Error ellipse: s-maj=21.3km s-min=12.8km az=165.0*
ISC 14 19:35:16.2±1.0,2480S±009×1798E±01,h505km±11km, n28,σ0§77/28,mb4.0/12,2D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.89**	**156**	P		**P**	**19 36 42.9**	**+0.5**
RAO				S		**S**	**19 37 53.0**	**+0.2**
RAO	**Raoul Island**	**4.89**	**156**	P		**P**	**19 36 42.5**	**+0.1**
	133nm,0.3s,baz=259,slow=22,SNR=5.5							
RAO				S		**S**	**19 37 53.0**	**+0.2**
	241nm,0.3s,baz=163,slow=23,SNR=4.6							
URZ	**Urewera**	**13.61**	**189**	P		**P**	**19 38 10.4**	**-1.2**
	2.3nm,0.3s,baz=58,slow=2.2,SNR=13							
URZ				S		**S**	**19 40 36.4**	**+0.3**
	0.8nm,0.3s,baz=290,slow=21,SNR=7.3							
CTA	**Charters Tower**	**31.29**	**272**	‖*i*P		**P**	**19 40 55.5**	**+1.0**
	12nm,0.6s,mb4.5							
CTA	**Charters Tower**	**31.29**	**272**	P		**P**	**19 40 55.6**	**+1.1**
	15nm,0.5s,mb4.7,baz=100,slow=10,SNR=26							
CTAO	**Charters Tower**	**31.29**	**272**	*e*P		**P**	**19 40 55.2**	**+0.7**
	15nm,0.6s,mb4.6							
STKA	**Stephens Creek**	**34.20**	**249**	*e*P		**P**	**19 41 19.9**	**+0.7**
STKA	**Stephens Creek**	**34.20**	**249**	P		**P**	**19 41 18.9**	**-0.2**
	0.7nm,0.5s,mb3.4,baz=124,slow=17,SNR=7.3							
ASAR	**Alice Springs**	**41.69**	**262**	P		**P**	**19 42 20.5**	**+0.1**
	1.3nm,0.4s,mb3.7,baz=94,slow=6.9,SNR=37							
ASAR				S		**S**	**19 48 01.2**	**+0.8**
	0.9nm,0.9s,baz=105,slow=14,SNR=5.6							
WB2	**Warramunga Arr**	**42.14**	**267**	‖*i*P		**P**	**19 42 23.5**	**-0.5**
WRAB	**Tennant Creek**	**42.14**	**267**	*e*P		**P**	**19 42 23.6**	**-0.4**
WRA	**Warramunga Arr**	**42.15**	**267**	P		**P**	**19 42 23.6**	**-0.5**
	5.4nm,0.5s,mb4.2,baz=100,slow=6.9,SNR=145							
WRA				ScP		ScP	19 47 10.1	+0.9
	2.6nm,0.9s,baz=101,slow=3.9,SNR=10							
WRA				S		**S**	**19 48 07.8**	**+0.7**
	1.3nm,0.9s,baz=100,slow=14,SNR=4.1							
KAKA	**Kakadu**	**46.19**	**276**	*e*P		**P**	**19 42 54.7**	**-0.8**
	10nm,0.8s,mb4.3							
FITZ	**Fitzroy Crossi**	**50.56**	**266**	*e*P		**P**	**19 43 27.8**	**-0.2**
	6.8nm,0.7s,mb4.1							
SBA	**Scott Base**	**53.47**	**183**	*e*P		**P**	**19 43 49.9**	**+1.9**
	4.5nm,0.9s,mb3.8							
QSPA	**South Pole Qui**	**65.29**	**180**	*e*P		**P**	**19 45 07.8**	**+0.6**
	14nm,1.1s,mb4.5							
MJAR	**Matsushiro Arr**	**72.52**	**326**	P		**P**	**19 45 50.9**	**-0.5**
	2.7nm,0.8s,mb3.8,baz=159,slow=6.0,SNR=12							
KSRS	**Korea Array**	**78.80**	**320**	P		**P**	**19 46 27.1**	**+0.8**
	1.0nm,0.6s,mb3.5,baz=125,slow=5.7,SNR=6.4							
SNAA	**Sanae**	**83.78**	**179**	*e*		**P**	**19 46 49.6**	**-1.8**
SNAA				*e*			19 46 51.3	
SNAA				*e*			19 46 54.0	
VNA3	**Neumayer Olymp**	**83.99**	**177**	*e*		**P**	**19 46 51.6**	**-0.9**
VNA3				*e*			19 46 53.5	
VNA3				*e*			19 46 56.4	
VNA2	**Neumayer--Watz**	**84.41**	**178**	*e*		**P**	**19 46 54.3**	**-0.2**
	baz=180,slow=4.0							
VNA2				*e*			19 46 56.1	
VNA2				*e*			19 46 58.6	
NVAR	**Mina Array Bea**	**85.54**	**44**	P		**P**	**19 47 00.7**	**+0.2**
	0.9nm,0.8s,mb3.5,baz=226,slow=8.2,SNR=7.0							
TXAR	**Lajitas Array**	**91.08**	**58**	P		**P**	**19 47 27.1**	**+0.5**
	1.3nm,0.8s,mb3.9,baz=219,slow=6.6,SNR=12							
ARCES	**ARCESS Array B**	**132.72**	**348**	PKP		PKPdf	19 53 31.1	-1.3
	1.1nm,0.6s,baz=91,slow=2.6,SNR=6.0							
FINES	**FINESS Array B**	**139.23**	**341**	SKPbc		SKPbc	19 56 32.2	0.0
	2.4nm,0.7s,baz=134,slow=5.5,SNR=6.4							
AKASG	**Malin Array Be**	**145.61**	**326**	PKPbc		PKPbc	19 53 56.4	-1.4
	0.7nm,0.3s,baz=45,slow=4.1,SNR=8.7							
TORD	**Torodi Ar. Bea**	**168.27**	**189**	PKP		PKPdf	19 54 24.2	-1.1
TORD				PKPab		PKPab	19 55 36.0	-1.1
TORD	**Torodi Ar. Bea**	**168.27**	**189**	PKP		PKPdf	19 54 24.2	-1.1
	0.5nm,1.0s,baz=177,slow=2.9,SNR=2.7							
TORD				PKPab		PKPab	19 55 36.0	-1.1
	1.2nm,0.7s,baz=228,slow=4.1,SNR=11							

MAN 14 20:28:57,521N×12696E,h101km,mb4.7,ML3.6,MS3.5, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.85**	**338**	*e*P		Pn	20 29 28.4	+0.7
GSPH	**General Santos**	**2.18**	**294**	*e*P		Pn	20 29 29.6	-2.3
GSPH				*e*S		Sn	20 29 53.9	-4.7
BUKP	**Musuan**	**3.25**	**325**	*e*P		Pn	20 29 47.3	+1.2

*ISCJB **14** 20:33:04.5±1.4,3828N±005×204E±0.1,h6km±8km,Error ellipse: s-maj=14.9km s-min=5.1km az=151.0*
*ATH **14** 20:33:04.2,3831N×2033E,h10km±1km,MD3.3/6*
*NEIC **14** 20:33:04.2,3831N×2033E,h10km,MD3.3(ATH),After ATH.*
*CSEM **14** 20:33:06.1±0.5,3830N×2043E,h8km,ML4.0,Error ellipse: s-maj=12.9km s-min=4.4km az=63.0*
*THE **14** 20:33:07.2,3834N×2056E,h5km,ML4.0*
ISC 14 20:33:05.2±1.4,3828N±005×204E±01,h12km±6km,n12, σ1§00/20,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**122**	*e*Pg		**Pg**	**20 33 10.2**	**+0.7**
VLS				*e*Sg		**Sg**	**20 33 13.3**	**+0.9**
VLS	**Valsamata**	**0.19**	**122**	*e*PG		**Pg**	**20 33 10.0**	**+0.5**
VLS				*e*SG		**Sg**	**20 33 13.3**	**+0.9**
VLS	**Valsamata**	**0.19**	**122**	*e*Pg		**Pg**	**20 33 10.1**	**+0.6**
VLS				*e*Sg		**Sg**	**20 33 13.3**	**+0.9**
KFL	**Anninata**	**0.36**	**118**	*e*Pg		**Pg**	**20 33 12.9**	**+0.4**
KFL				*e*Sg		**Sg**	**20 33 17.1**	**-0.3**
KFL	**Anninata**	**0.36**	**118**	*e*Pg		**Pg**	**20 33 12.9**	**+0.4**
KFL				*e*Sg		**Sg**	**20 33 17.0**	**-0.4**
LKD	**Levkas**	**0.48**	**26**	*e*Pg		**Pg**	**20 33 13.9**	**-0.7**
LKD				*e*Sg		**Sg**	**20 33 20.2**	**-0.8**
RLS	**Riolos of Patr**	**0.89**	**104**	*e*PB		**Pb**	**20 33 21.8**	**-0.7**
RLS				*e*SB		**Sb**	**20 33 35.0**	**+0.8**
IGT	**Igoumenitsa**	**1.25**	**358**	*e*Pg		**Pg**	**20 33 29.8**	**+0.5**
IGT				*e*Sg		**Sg**	**20 33 47.3**	**+1.7**
EVR	**Evrytania**	**1.29**	**60**	*e*PG		**Pg**	**20 33 28.5**	**-1.5**
KEK	**Kerkira**	**1.50**	**343**	*e*PB		**Pb**	**20 33 31.7**	**-1.3**
ITM	**Ithomi**	**1.65**	**131**	*e*PG		**Pg**	**20 33 35.7**	**-1.1**
THL	**Klokotos Trika**	**1.81**	**44**	*e*PN		**Pn**	**20 33 37.8**	**+1.7**

MAN 14 20:42:23,1179N×12429E,h20km,mb4.1,ML2.9,MS2.6, 1C,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.80**	**157**	*e*P		Pb	20 42 38.3	+0.2
OCLP				*e*S		Sb	20 42 50.1	+1.5
CNP	**Catarman**	**0.80**	**27**	*e*P		Pb	20 42 38.6	+0.3
CNP				*e*S		Sb	20 42 53.1	+4.4
PLP	**Palo**	**0.92**	**133**	*e*P		Pb	20 42 40.9	+0.7
PLP				*e*S		Sb	20 42 54.2	+2.3
LLP	**Lapu-Lapu**	**1.50**	**192**	*e*P		Pn	20 42 49.0	+0.2
LLP				*e*S		Sn	20 43 09.2	+1.5
MSLP	**Maasin**	**1.74**	**161**	*e*P		Pn	20 42 53.8	+1.8
PVCP	**Virac**	**1.80**	**356‖**	*e*P		Pn	20 42 53.9	+1.0
PVCP				*e*S		Sn	20 43 23.9	+8.7
GUIM	**Jordan**	**2.03**	**235**	*e*P		Pn	20 42 57.1	+1.0
OTRP	**Odiongan**	**2.29**	**285**	*e*P		Pn	20 43 00.9	+1.2

*ISCJB **14** 21:07:36.7±1.5,3463N±007×242E±0.1,h16km±16km, Error ellipse: s-maj=16.2km s-min=9.9km az=151.5*
*CSEM **14** 21:07:38.3±0.1,3488N×2432E,h2km,MD3.3,Error ellipse: s-maj=4.6km s-min=3.0km az=4.0*
*ATH **14** 21:07:38.4,3491N×2424E,h14km±1km,MD3.3/7*
*NEIC **14** 21:07:38.3,3490N×2424E,h15km,MD3.3(ATH),After ATH.*
*HLW **14** 21:07:43.2,3441N×2418E,h25km,Mb2.7*
ISC 14 21:07:37.2±0.9,3479N±006×2421E±009,h10km±9km,n11, σ1§22/13,3C-1D,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.11**	**295**	*e*PG		**Pg**	**21 07 42.0**	**+2.1**
VAM	**Vamos**	**0.61**	**359**	‖*i*PB		**Pg**	**21 07 48.2**	**-0.9**
VAM				*e*SB		**Sg**	**21 07 55.5**	**-1.6**
XRY	**Khrisi**	**1.23**	**86**	*e*PB		**Pb**	**21 08 01.0**	**+0.6**
NPS	**Neapolis**	**1.24**	**68**	*e*PG		**Pg**	**21 08 01.2**	**+0.1**
KYTH	**Kithira**	**1.77**	**328**	*e*PG		**Pg**	**21 08 10.0**	**-1.0**
VLI	**Veliai**	**2.18**	**332**	*e*PN		**Pn**	**21 08 15.0**	**+1.5**
APE	**Apeiranthos**	**2.51**	**25**	*e*PB		**Pn**	**21 08 19.1**	**+1.0**
KARP	**Karpathos**	**2.53**	**72**	*e*PB		**Pn**	**21 08 19.6**	**+1.2**
HMAT	**Matruh**	**4.42**	**146**	‖P		**Pn**	**21 08 44.4**	**+0.1**
HMAT				S		**Sn**	**21 09 29.4**	**-6.4**
SWA2		**5.63**	**169**	‖P		**Pn**	**21 08 59.8**	**-1.2**
HFRF	**Wahat Farafira**	**8.39**	**154**	‖P		**Pn**	**21 09 37.1**	**-1.8**

*NEIC **14** 21:23:47.7±8.3,2469S×17755W,h135km±69km,mb4.4/2, Error ellipse: s-maj=53.7km s-min=20.1km az=201.0*
*IDC **14** 21:23:48.0±14.0,2471S×17758W,h134km±116km, mb3.7/4,mb1 3.9/5,mb1mx3.6/13,mbtmp3.8/5,ML4.3/1, Error ellipse: s-maj=78.7km s-min=30.8km az=36.0*
ISC 14 21:23:49.6±1.9,2485S±02×1775W±03,h150km,n17, σ0§70/12,mb4.2/7,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.18**	**197**	P		**Pn**	**21 27 03.5**	**-0.2**
	1.5nm,0.3s,baz=121,slow=22,SNR=7.3							
URZ				S		Sx	21 29 26.1	
	1.0nm,0.3s,baz=225,slow=20,SNR=7.3							
RPZ	**Rata Peaks**	**21.07**	**204**	P		**P**	**21 28 22.1**	**+0.3**
	19nm,1.1s,mb4.3,baz=51,slow=14,SNR=2.8							
CTA	**Charters Tower**	**33.73**	**271**	*e*P		**P**	**21 30 18.6**	**+1.7**
	7.3nm,0.3s,mb4.9							
STKA	**Stephens Creek**	**36.50**	**249**	P		**P**	**21 30 40.4**	**0.0**
STKA	**Stephens Creek**	**36.50**	**249**	P		**P**	**21 30 40.4**	**0.0**
	1.0nm,0.8s,mb3.5,baz=90,slow=9.1,SNR=2.8							
ASAR	**Alice Springs**	**44.11**	**261**	P		**P**	**21 31 43.0**	**-0.2**
	0.7nm,0.3s,mb3.7,baz=93,slow=7.1,SNR=25							
WB2	**Warramunga Arr**	**44.58**	**266**	*e*P		**P**	**21 31 46.4**	**-0.6**
WRAB	**Tennant Creek**	**44.59**	**266**	*e*P		**P**	**21 31 46.2**	**-0.8**
	3.5nm,0.6s,mb4.2							
WRA	**Warramunga Arr**	**44.59**	**266**	P		**P**	**21 31 46.5**	**-0.5**
	3.9nm,0.6s,mb4.2,baz=100,slow=7.4,SNR=90							
FITZ	**Fitzroy Crossi**	**53.00**	**265**	*e*P		**P**	**21 32 51.6**	**+0.4**
	5.1nm,0.8s,mb4.3							
SNAA	**Sanae**	**83.73**	**178**	*e*		**P**	**21 36 00.5**	**-0.7**
SNAA				*e*			21 36 03.0	
SNAA				*e*			21 36 08.6	
VNA2	**Neumayer--Watz**	**84.30**	**177**	*e*		**P**	**21 36 04.9**	**+0.8**
	baz=207,slow=3.3							
VNA2				*e*			21 36 06.9	
VNA2				*e*			21 36 12.4	
NOA	**NORSAR Array B**	**143.27**	**353**	PKP		PKPdf	21 43 06.3	+1.0
NOA	**NORSAR Array B**	**143.27**	**353**	PKP		PKPdf	21 43 06.3	+1.0
	0.9nm,0.8s,baz=15,slow=4.8,SNR=3.3							
AKASG	**Malin Array Be**	**146.92**	**328**	PKPbc		PKPbc	21 43 13.3	-0.8
	1.2nm,0.5s,baz=43,slow=3.9,SNR=18							
KHC	**Kasperske Hory**	**154.19**	**343**	*e*PKPab		PKPab	21 43 46.5	+0.7
TORD	**Torodi Ar. Bea**	**168.40**	**176**	PKP		PKPdf	21 43 39.0	-0.1
	0.5nm,1.0s,baz=169,slow=1.5,SNR=3.5							
TORD				PKPab		PKPab	21 44 48.8	+0.2
	0.7nm,0.7s,baz=183,slow=3.5,SNR=4.2							

*NEIC **14** 22:14:53.2,3853S×17580E,h172km,MG4.2(WEL),After WEL.*
WEL 14 22:14:53.2±0.3,3853S×17581E,h173km±2km,ML4.1/24, Error ellipse: s-maj=2.0km s-min=1.9km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.34**	**185**	P		Pn	22 15 16.6	+0.1
RATZ	**Rangitukua**	**0.34**	**185**	PN		Pn	22 15 16.6	+0.1
HATZ	**Hinemaiaia**	**0.42**	**149**	PN		Pn	22 15 16.8	0.0
RITZ	**Rihia Road**	**0.45**	**175**	P		Pn	22 15 17.2	+0.3
RITZ	**Rihia Road**	**0.45**	**175**	PN		Pn	22 15 17.2	+0.3
KATZ	**Kakaramea**	**0.45**	**192**	P		Pn	22 15 17.2	+0.3
KATZ	**Kakaramea**	**0.45**	**192**	PN		Pn	22 15 17.2	+0.3
KRVZ	**Karewarewa**	**0.58**	**193**	PN		Pn	22 15 17.3	-0.1
WTVZ	**West Tongariro**	**0.61**	**197**	P		Pn	22 15 17.8	+0.2
WTVZ	**West Tongariro**	**0.61**	**197**	PN		Pn	22 15 17.8	+0.1
TWVZ	**Taurewa**	**0.61**	**208**	P		Pn	22 15 17.8	+0.1
TWVZ	**Taurewa**	**0.61**	**208**	PN		Pn	22 15 17.8	+0.1
OTVZ	**Oturere**	**0.64**	**190**	PN		Pn	22 15 18.0	+0.2
NGZ	**Ngauruhoe**	**0.66**	**194**	P		Pn	22 15 18.1	+0.2
NGZ	**Ngauruhoe**	**0.66**	**194**	PN		Pn	22 15 18.1	+0.2
WPVZ	**Whakapapa**	**0.70**	**197**	P		Pn	22 15 18.0	-0.2
WPVZ	**Whakapapa**	**0.70**	**197**	PN		Pn	22 15 18.0	-0.1
TUVZ	**Tukino**	**0.74**	**189**	P		Pn	22 15 18.7	+0.3
TUVZ	**Tukino**	**0.74**	**189**	PN		Pn	22 15 18.7	+0.3
FWVZ	**Far West T-bar**	**0.75**	**196**	P		Pn	22 15 18.5	+0.1
FWVZ	**Far West T-bar**	**0.75**	**196**	PN		Pn	22 15 18.5	+0.1
DRZ	**Dome Shelter**	**0.77**	**195**	P		Pn	22 15 19.3	+0.8
DRZ	**Dome Shelter**	**0.77**	**195**	PN		Pn	22 15 19.3	+0.8
TRVZ	**Turoa**	**0.79**	**195**	PN		Pn	22 15 19.1	+0.4
WNVZ	**Wahianoa**	**0.81**	**192**	P		Pn	22 15 19.2	+0.4
WNVZ	**Wahianoa**	**0.81**	**192**	PN		Pn	22 15 19.2	+0.3
BKZ	**Black Stump Fm**	**0.83**	**140**	P		Pn	22 15 19.1	+0.2
BKZ				S		Sn	22 15 38.1	-0.7
BKZ	**Black Stump Fm**	**0.83**	**140**	PN		Pn	22 15 19.1	+0.2
BKZ				SN		Sn	22 15 38.1	-0.7
PKVZ	**Pokaka**	**0.84**	**206**	PN		Pn	22 15 19.1	+0.1
PKVZ				SN		Sn	22 15 38.6	-0.3
MOVZ	**Moawhango**	**0.88**	**183**	P		Pn	22 15 19.2	0.0
MOVZ	**Moawhango**	**0.88**	**183**	PN		Pn	22 15 19.2	-0.1
MTVZ	**Mangateitei**	**0.89**	**197**	PN		Pn	22 15 19.5	+0.1
MTVZ				SN		Sn	22 15 39.3	-0.3
VRZ	**Vera Road**	**1.01**	**234**	P		Pn	22 15 20.1	-0.2
VRZ	**Vera Road**	**1.01**	**234**	PN		Pn	22 15 20.1	-0.2
URZ	**Urewera**	**1.06**	**75**	P		Pn	22 15 20.2	-0.4
URZ	**Urewera**	**1.06**	**75**	PN		Pn	22 15 20.2	-0.4
MWZ	**Matawai**	**1.36**	**82**	P		Pn	22 15 23.2	0.0
MWZ	**Matawai**	**1.36**	**82**	PN		Pn	22 15 23.2	-0.1
WAZ	**Wanganui**	**1.38**	**207**	P		Pn	22 15 23.2	-0.2
WAZ				S		Sn	22 15 46.4	-0.3
WAZ	**Wanganui**	**1.38**	**207**	PN		Pn	22 15 23.2	-0.2
WAZ				SN		Sn	22 15 46.4	-0.3
MKAZ	**Moumakai**	**1.51**	**340**	*e*P		Pn	22 15 23.3	-1.4
MKAZ	**Moumakai**	**1.51**	**340**	*e*PN		Pn	22 15 23.3	-1.4
TSZ	**Takapari Road**	**1.53**	**176**	P		Pn	22 15 24.7	-0.1
TSZ	**Takapari Road**	**1.53**	**176**	PN		Pn	22 15 24.7	-0.1
KNZ	**Kokohu**	**1.54**	**109**	P		Pn	22 15 25.3	+0.4
KNZ	**Kokohu**	**1.54**	**109**	PN		Pn	22 15 25.3	+0.4
WPHZ	**Waipukurau**	**1.61**	**163**	PN		Pn	22 15 25.6	+0.1
PXZ	**Pawanui**	**1.70**	**152**	PN		Pn	22 15 26.7	+0.1
PUZ	**Puketiti**	**1.98**	**77**	P		Pn	22 15 29.0	-0.5
PUZ	**Puketiti**	**1.98**	**77**	PN		Pn	22 15 29.0	-0.5
BFZ	**Birch Farm**	**2.17**	**171**	P		Pn	22 15 30.8	-0.8
BFZ	**Birch Farm**	**2.17**	**171**	PN		Pn	22 15 30.8	-0.9
MXZ	**Matakaoa Point**	**2.19**	**65**	P		Pn	22 15 31.7	-0.3
MXZ	**Matakaoa Point**	**2.19**	**65**	PN		Pn	22 15 31.7	-0.2
TIWZ	**Tintock**	**2.24**	**179**	PN		Pn	22 15 31.4	-1.0
HOWZ	**Holdsworth Sta**	**2.37**	**185**	PN		Pn	22 15 32.4	-1.5
KIW	**Kapiti Island**	**2.43**	**196**	P		Pn	22 15 32.9	-1.7
KIW	**Kapiti Island**	**2.43**	**196**	PN		Pn	22 15 32.9	-1.6
MTW	**Mount Morrison**	**2.63**	**185**	P		Pn	22 15 35.1	-1.9
MTW	**Mount Morrison**	**2.63**	**185**	PN		Pn	22 15 35.1	-1.9
CAW	**Cannon Point**	**2.63**	**192**	PN		Pn	22 15 35.4	-1.6
DUWZ	**D'Urville Isla**	**2.70**	**212**	PN		Pn	22 15 35.6	-2.1
MRW	**Makara Radio**	**2.83**	**197**	P		Pn	22 15 37.4	-1.9
MRW	**Makara Radio**	**2.83**	**197**	PN		Pn	22 15 37.4	-1.9
PAWZ	**Paruwai Farm**	**2.86**	**186**	PN		Pn	22 15 37.7	-2.1
TRWZ	**Traveller**	**2.86**	**182**	PN		Pn	22 15 38.0	-1.8
WEL	**Wellington**	**2.86**	**196**	P		Pn	22 15 38.0	-1.8
WEL	**Wellington**	**2.86**	**196**	PN		Pn	22 15 38.0	-1.7
SNZO	**South Karori**	**2.90**	**197**	P		Pn	22 15 38.1	-2.1
SNZO	**South Karori**	**2.90**	**197**	PN		Pn	22 15 38.1	-2.2
MSWZ	**Moikau Station**	**2.91**	**188**	P		Pn	22 15 38.3	-2.1
MSWZ	**Moikau Station**	**2.91**	**188**	PN		Pn	22 15 38.3	-2.1
TCW	**Tory Channel**	**2.92**	**203**	P		Pn	22 15 38.4	-2.1
TCW	**Tory Channel**	**2.92**	**203**	PN		Pn	22 15 38.4	-2.1
BHW	**Baring Head**	**2.96**	**194**	P		Pn	22 15 38.8	-2.2
BHW	**Baring Head**	**2.96**	**194**	PN		Pn	22 15 38.8	-2.2
PLWZ	**Palliser**	**3.06**	**188**	PN		Pn	22 15 39.9	-2.3
TUWZ	**Tuamarina**	**3.23**	**206**	PN		Pn	22 15 41.7	-2.6
NNZ	**Nelson**	**3.27**	**214**	P		Pn	22 15 42.0	-2.8
NNZ	**Nelson**	**3.27**	**214**	PN		Pn	22 15 42.0	-2.8
CMWZ	**Cape Campbell**	**3.44**	**200**	P		Pn	22 15 45.3	-1.6
CMWZ	**Cape Campbell**	**3.44**	**200**	PN		Pn	22 15 45.3	-1.6
BSWZ	**Blackbirch Sta**	**3.51**	**204**	P		Pn	22 15 45.4	-2.4
BSWZ	**Blackbirch Sta**	**3.51**	**204**	PN		Pn	22 15 45.4	-2.4
THZ	**Tophouse**	**3.92**	**214**	P		Pn	22 15 49.8

ZALV	**Zalesovo Beam**	**72.72**	**334**	P	**P**	**22**	**34**	**35.9**	**-1.3**
	0.5nm,0.3s,mb3.9,baz=117,slow=5.2,SNR=6.0								
KURK	**Kurchatov**	**73.50**	**329**	*e*P	**P**	**22**	**34**	**41.8**	**-0.1**
	2.6nm,0.7s,mb4.3								
BRVK	**Borovoye**	**79.09**	**328**	P	**P**	**22**	**35**	**12.6**	**-0.9**
TORD	**Torodi Ar. Bea**	**128.13**	**280**	PKP	PKPdf	22	42	18.9	+2.5
	0.6nm,0.9s,baz=116,slow=3.4,SNR=3.2								
CPUP	**Villa Florida**	**144.57**	**170**	PKP	PKPdf	22	42	49.3	+2.8
	0.7nm,0.4s,baz=161,slow=3.6,SNR=3.6								
LPAZ	**La Paz**	**149.89**	**146**	PKPbc	PKPbc	22	43	05.5	+5.0
	1.4nm,1.1s,baz=128,slow=5.0,SNR=3.9								

*ISCJB **14** 22:46:28.1±0.6,3839N±002×2040E±004,h4km±4km,*
Error ellipse: s-maj=5.2km s-min=3.4km az=148.6
*CSEM **14** 22:46:28.4±0.1,3836N×2034E,h1km±1km,MD3.5,Error*
ellipse: s-maj=2.4km s-min=1.5km az=60.0
*ATH **14** 22:46:28.6,3840N×2046E,h8km±1km,MD3.5/7*
*NEIC **14** 22:46:28.5,3837N×2042E,h13km,MD3.5(ATH),After ATH.*
*THE **14** 22:46:29.4,3839N×2044E,h1km,ML4.1*

ISC 14 22:46:28.9±0.6,3838N±002×2043E±004,h8km±4km,n29, σ1§04/51,1C,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.23**	**148**	*e*Pg	**Pg**	**22 46 33.7**	**+0.1**
VLS				*e*Sg	**Sg**	**22 46 37.5**	**+0.7**
VLS	**Valsamata**	**0.23**	**148**	⇑PG	**Pg**	**22 46 33.7**	**+0.1**
VLS				*e*SG	**Sg**	**22 46 37.9**	**+1.1**
VLS	**Valsamata**	**0.23**	**148**	*i* Pg	**Pg**	**22 46 33.7**	**+0.1**
VLS				*e*Sg	**Sg**	**22 46 37.5**	**+0.7**
LKD	**Levkas**	**0.37**	**27**	*e*Pg	**Pg**	**22 46 35.4**	**-0.8**
LKD				*e*Sg	**Sg**	**22 46 40.5**	**-0.6**
KFL	**Anninata**	**0.39**	**133**	*e*Pg	**Pg**	**22 46 36.5**	**+0.1**
KFL				*e*Sg	**Sg**	**22 46 42.7**	**+1.1**
RLS	**Riolos of Patr**	**0.88**	**111**	*e*PB	**Pb**	**22 46 45.1**	**-1.3**
RLS				*e*SB	**Sb**	**22 46 56.6**	**-1.6**
SELA	**Sela**	**1.15**	**95**	*e*Pg	**Pg**	**22 46 51.6**	**+0.6**
SELA				*e*Sg	**Sg**	**22 47 07.7**	**+1.7**
IGT	**Igoumenitsa**	**1.16**	**356**	*e*Pg	**Pg**	**22 46 50.1**	**-1.0**
IGT				*e*Sg	**Sg**	**22 47 07.4**	**+1.3**
EVR	**Evrytania**	**1.21**	**63**	*e*PN	**Pn**	**22 46 50.2**	**-1.9**
EVR				*e*SB	**Sb**	**22 47 07.0**	**-0.8**
EVR	**Evrytania**	**1.21**	**63**	*e*Pn	**Pn**	**22 46 50.4**	**-1.7**
JAN	**Janina**	**1.32**	**14**	*e*Pb	**Pb**	**22 46 53.8**	**-0.2**
JAN				*e*Sb	**Sb**	**22 47 11.9**	**+0.9**
KEK	**Kerkira**	**1.42**	**340**	*e*PG	**Pg**	**22 46 54.6**	**-1.6**
KEK				*e*SB	**Sb**	**22 47 14.7**	**+0.7**
KEK	**Kerkira**	**1.42**	**340**	*e*Pg	**Pg**	**22 46 54.8**	**-1.4**
MEV	**Metsovon**	**1.54**	**24**	*e*Pg	**Pg**	**22 46 58.7**	**+0.3**
MEV				*e*Sg	**Sg**	**22 47 18.2**	**-0.1**
SRN	**Sarande**	**1.54**	**348**	*e*Pn	**Pn**	**22 46 57.7**	**+1.0**
SRN				*i* Sn	**Sn**	**22 47 22.7**	**+5.8**
AGG	**Agios Georgios**	**1.62**	**66**	*e*Pg	**Pg**	**22 46 57.7**	**-2.3**
AGG				*e*Sg	**Sg**	**22 47 20.2**	**-0.8**
ITM	**Ithomi**	**1.68**	**135**	*e*PB	**Pb**	**22 47 00.0**	**-0.1**
THL	**Klokotos Trika**	**1.71**	**46**	*e*Pb	**Pb**	**22 46 59.8**	**-0.8**
THL				*e*Sb	**Sb**	**22 47 22.6**	**+0.2**
THL	**Klokotos Trika**	**1.71**	**46**	*e*PB	**Pb**	**22 47 00.1**	**-0.5**
THL				*e*SB	**Sb**	**22 47 23.4**	**+1.1**
THL	**Klokotos Trika**	**1.71**	**46**	*e*Pn	**Pb**	**22 47 00.1**	**-0.5**
THL				*e*Sb	**Sb**	**22 47 22.6**	**+0.3**
VLX	**Vlachokerasia**	**1.84**	**123**	*e*Pb	**Pb**	**22 47 01.7**	**-1.1**
VLX				*e*Sb	**Sb**	**22 47 26.1**	**+0.1**
LKR	**Lokris**	**2.03**	**81**	*e*PN	**Pn**	**22 47 04.9**	**+1.4**
KZN	**Kozani**	**2.19**	**28**	*e*PN	**Pn**	**22 47 07.1**	**+1.5**
FNA	**Florina**	**2.51**	**17**	*e*Pn	**Pn**	**22 47 10.4**	**+0.4**
TIP	**Timpagrande**	**2.98**	**287**	*e*Pn	**Pn**	**22 47 16.1**	**-0.4**
TIP				Sn	**Sn**	**22 47 51.4**	**-1.1**
TIP	**Timpagrande**	**2.98**	**287**	*e*Pn	**Pn**	**22 47 16.1**	**-0.4**
TIP				Sn	**Sn**	**22 47 51.4**	**-1.0**
KRUS	**Krusevo**	**3.05**	**12**	*e*Pn	**Pn**	**22 47 18.8**	**+1.3**
KRUS				*e*Sn	**Sn**	**22 47 54.0**	**-0.2**
PLG	**Polygyros**	**3.07**	**49**	*e*PN	**Pn**	**22 47 19.3**	**+1.5**
SG1	**Sgolgore (BA)**	**3.80**	**311**	*e*Pn	**Pn**	**22 47 29.3**	**+1.5**
SG1				*e*Sn	**Sn**	**22 48 11.9**	**-0.8**

*ISCJB **14** 23:01:46.2±0.7,566S±01×249W±03,h10km,mb4.6/4,*
MS3.8/2,Error ellipse: s-maj=23.0km s-min=18.2km
az=158.6
*IDC **14** 23:01:46.3±2.3,5657S×2488W,h0km,mb4.3/3,mb1 4.5/3,*
mb1mx4.0/15,mbtmp4.3/3,MS3.8/3,Ms1 3.8/3,
ms1mx3.4/21,Error ellipse: s-maj=85.3km s-min=35.3km
az=10.0
*NEIC **14** 23:01:51.4±0.5,5662S×2493W,h35km,mb4.7/2,Error*
ellipse: s-maj=16.6km s-min=13.2km az=68.0

ISC 14 23:01:47.9±0.7,566S±01×249W±03,h10km,n13,σ0§54/8, mb4.6/4,MS3.8/2,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**33.37**	**279**	LR	LR	23 21 02.7	
	comp=Z,93nm,20.6s,MS3.5,baz=180,slow=35						
QSPA	**South Pole Qui**	**33.63**	**180**	*e*P	**P**	**23 08 27.9**	**0.0**
	7.1nm,0.5s,mb4.8						
CPUP	**Villa Florida**	**38.17**	**309**	P	**P**	**23 09 06.8**	**-0.5**
	1.0nm,0.4s,mb3.9,baz=138,slow=7.8,SNR=5.7						
BOSA	**Boshof**	**44.88**	**73**	LR	LR	23 25 56.0	
	comp=Z,223nm,19.3s,MS4.1,baz=197,slow=32						
SBA	**Scott Base**	**45.59**	**183**	*e*P	**P**	**23 10 07.2**	**-0.2**
	14nm,1.8s,mb4.6						
LBTB	**Lobatse**	**47.96**	**70**	P	**P**	**23 10 27.1**	**+0.6**
LPAZ	**La Paz**	**51.77**	**303**	P	**P**	**23 10 56.1**	**+0.5**
	14nm,0.6s,mb5.1,baz=128,slow=6.5,SNR=92						
TORD	**Torodi Ar. Bea**	**72.95**	**27**	P	**P**	**23 13 17.1**	**-0.1**
	0.3nm,0.4s,baz=200,slow=6.6,SNR=8.0						
TORD				LR	LR	23 39 40.1	
	comp=Z,58nm,18.9s,baz=180,slow=31						
DGAR	**Diego Garcia**	**87.88**	**100**	*e*P	**P**	**23 14 36.6**	**-1.0**
	125nm,0.5s						
STKA	**Stephens Creek**	**91.10**	**169**	P	**P**	**23 14 53.1**	**+0.6**
YKA	**Yellowknife Ar**	**137.47**	**317**	PKP	PKPdf	23 21 09.5	-0.7
YKA	**Yellowknife Ar**	**137.47**	**317**	PKP	PKPdf	23 21 09.5	-0.7
	0.7nm,0.6s,baz=120,slow=2.5,SNR=11						
SONM	**Songino Array**	**149.48**	**86**	PKPbc	PKPbc	23 21 36.1	-0.1
	0.7nm,0.5s,baz=205,slow=3.0,SNR=4.5						

*IDC **14** 23:03:49.3±1.0,3756N×3560E,h0km,mb3.4/5,*
mb1 3.6/12,mb1mx3.5/26,mbtmp3.6/12,ML3.7/7,MS2.7/4,
Ms1 2.7/4,ms1mx2.3/30,Error ellipse: s-maj=20.0km
s-min=16.1km az=122.0
*CSEM **14** 23:03:49.8±0.0,3751N×3577E,h15km,ML3.7,Error*
ellipse: s-maj=1.3km s-min=1.0km az=56.0
*DDA **14** 23:03:49.5,3758N×3577E,h5km±4km,Md3.7,Ml3.7*
*NEIC **14** 23:03:49.6,3753N×3571E,h6km,ML3.9(ISK),After ISK.*
*ISK **14** 23:03:49.3,3754N×3574E,h7km,MD4.0,ML3.9*
*ISCJB **14** 23:03:51.3±0.5,3750N±002×3574E±002,h28km±4km,*
mb3.3/4,MS2.5/2,Error ellipse: s-maj=3.3km s-min=2.8km
az=161.9
*NSSC **14** 23:03:53.5,3733N×3576E,h21km±4km*

ISC 14 23:03:51.3±0.5,3749N±002×3576E±002,h16km±3km, n122,σ1§18/150,mb3.3/4,MS2.5/2,1D,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.48**	**79**	*i* P	**Pg**	**23 04 00.1**	**-0.7**
ANDN				*i* S	**Sg**	**23 04 09.2**	**+2.0**
ANDN	**Andirin**	**0.48**	**79**	*i* P	**Pg**	**23 04 00.1**	**-0.7**
ANDN				*i* S	**Sg**	**23 04 09.2**	**+1.9**
CEYT	**Ceyhan**	**0.48**	**181**	PG	**Pg**	**23 04 00.4**	**-0.4**
CEYT				*e*SG	**Sg**	**23 04 08.7**	**+1.4**
CEYT	**Ceyhan**	**0.48**	**181**	Pg	**Pg**	**23 04 01.4**	**+0.5**
CEYT				Sg	**Sg**	**23 04 08.4**	**+1.1**
CEYT	**Ceyhan**	**0.48**	**181**	*i* Pg	**Pg**	**23 04 00.4**	**-0.5**
CEYT				Sg	**Sg**	**23 04 08.4**	**+1.1**
KARA	**Karaisali**	**0.60**	**248**	PG	**Pg**	**23 04 01.3**	**-1.9**
KMRS	**Kahramanmaras**	**0.91**	**89**	PG	**Pg**	**23 04 07.7**	**-1.2**
COBT	**Iskenderun**	**1.05**	**157**	*i* P	**Pb**	**23 04 10.9**	**-0.1**
NIG	**Nigde**	**1.10**	**305**	*e*PG	**Pg**	**23 04 09.5**	**-3.0**
NIG	**Nigde**	**1.10**	**305**	Pg	**Pg**	**23 04 09.8**	**-2.6**
NIG	**Nigde**	**1.10**	**305**	Pg	**Pg**	**23 04 09.8**	**-2.7**
DRWC	**Darouich**	**1.13**	**140**	⇑P	**Pn**	**23 04 12.2**	**-0.3**
DRWC				⇑S	**Sb**	**23 04 26.5**	**-0.4**
DRWC	**Darouich**	**1.13**	**140**	⇑*i*P	**Pn**	**23 04 12.1**	**-0.3**
DRWC				⇑*i*S	**Sb**	**23 04 26.5**	**-0.4**
MERS	**Mersin**	**1.17**	**238**	*e*PN	**Pn**	**23 04 11.8**	**-1.1**
GAZ	**Gaziantep**	**1.20**	**105**	*e*PN	**Pn**	**23 04 12.6**	**-0.8**
GAZ	**Gaziantep**	**1.20**	**105**	Pn	**Pn**	**23 04 12.9**	**-0.5**
BNN	**Bunyan**	**1.36**	**3**	*e*Pn	**Pn**	**23 04 14.2**	**-1.3**
BNN	**Bunyan**	**1.36**	**3**	Pn	**Pn**	**23 04 14.5**	**-1.1**
BNN	**Bunyan**	**1.36**	**3**	Pn	**Pn**	**23 04 14.5**	**-1.1**
HTY	**Hatay**	**1.40**	**167**	*e*PN	**Pn**	**23 04 15.6**	**-0.5**
HTY	**Hatay**	**1.40**	**167**	Pn	**Pn**	**23 04 15.7**	**-0.4**
HTY	**Hatay**	**1.40**	**167**	Pn	**Pn**	**23 04 15.7**	**-0.4**
GZT	**Gaziantep**	**1.45**	**95**	*i* P	**Pn**	**23 04 16.4**	**-0.3**
GZT				*i* S	**Sn**	**23 04 36.7**	**+1.4**
AVNT	**Avonos**	**1.47**	**331**	*i* P	**Pn**	**23 04 16.5**	**-0.6**
AVNT				*i* S	**Sn**	**23 04 35.5**	**-0.4**
BTCH	**Batrach**	**1.56**	**158**	⇑P	**Pn**	**23 04 18.1**	**-0.1**
BTCH				⇑S	**Sn**	**23 04 37.3**	**-0.8**
BTCH	**Batrach**	**1.56**	**158**	⇑*i*P	**Pn**	**23 04 18.1**	**-0.2**
BTCH				⇑*i*S	**Sn**	**23 04 37.3**	**-0.8**
ARNB	**Al Arnab**	**1.64**	**174**	⇑P	**Pn**	**23 04 19.0**	**-0.3**
ARNB				⇓S	**Sn**	**23 04 38.0**	**-2.1**
SLNF	**Slenfeh**	**1.93**	**169**	⇑P	**Pn**	**23 04 23.3**	**-0.1**
SLNF				⇑S	**Sn**	**23 04 45.8**	**-1.4**
SLNF	**Slenfeh**	**1.93**	**169**	⇑*i*P	**Pn**	**23 04 23.3**	**-0.1**
SLNF				⇑*i*S	**Sn**	**23 04 45.8**	**-1.5**
ATAB	**Bozova**	**2.02**	**90**	*i* P	**Pn**	**23 04 23.5**	**-1.1**
ATAB				*i* S	**Sn**	**23 04 55.5**	**+5.9**
WRDH	**Warideh**	**2.05**	**165**	⇑P	**Pn**	**23 04 24.9**	**-0.1**
WRDH				⇑S	**Sn**	**23 04 48.4**	**-1.8**
WRDH	**Warideh**	**2.05**	**165**	⇑*i*P	**Pn**	**23 04 24.9**	**-0.1**
WRDH				⇑*i*S	**Sn**	**23 04 48.4**	**-1.8**
IKL	**Isikli**	**2.08**	**234**	*e*PN	**Pn**	**23 04 25.5**	**+0.1**
IKL	**Isikli**	**2.08**	**234**	Pn	**Pn**	**23 04 26.6**	**+1.2**
SLMH	**Al Salmeh**	**2.16**	**126**	⇑P	**Pn**	**23 04 26.3**	**-0.3**
SLMH				⇑S	**Sn**	**23 04 53.4**	**+0.4**
SLMH	**Al Salmeh**	**2.16**	**126**	⇑*i*P	**Pn**	**23 04 26.3**	**-0.2**
SLMH				⇑*i*S	**Sn**	**23 04 53.4**	**+0.5**
YOZ	**Yozgat**	**2.17**	**351**	*e*PN	**Pn**	**23 04 27.1**	**+0.3**
MALT	**Malatya**	**2.27**	**68**	*e*PN	**Pn**	**23 04 27.6**	**-0.4**
MALT	**Malatya**	**2.27**	**68**	*e*Pn	**Pn**	**23 04 28.2**	**+0.2**
MALT				*e*Pg	**Pg**	**23 04 35.1**	**+0.3**
MALT				*e*Sn	**Sn**	**23 04 56.0**	**+0.4**
MALT				*e*Sg	**Sg**	**23 05 03.6**	**-0.6**
MALT	**Malatya**	**2.27**	**68**	*e*Pg	**Pg**	**23 04 35.1**	**+0.3**
MYA	**Malataya**	**2.27**	**68**	*e*PN	**Pn**	**23 04 27.6**	**-0.5**
MYA	**Malataya**	**2.27**	**68**	Pn	**Pn**	**23 04 29.0**	**+0.9**
EREN	**Erenkoy**	**2.34**	**214**	*e*PN	**Pn**	**23 04 29.6**	**+0.6**
EREN	**Erenkoy**	**2.34**	**214**	Pn	**Pn**	**23 04 30.5**	**+1.5**
CDAG	**Cicekdag**	**2.39**	**333**	*i* P	**Pn**	**23 04 27.9**	**-1.8**
ERMK	**Ermenek**	**2.43**	**250**	*i* P	**Pn**	**23 04 33.3**	**+3.1**
URFA	**Urfa**	**2.44**	**90**	*e*PN	**Pn**	**23 04 31.1**	**+0.7**
URFA	**Urfa**	**2.44**	**90**	Pn	**Pn**	**23 04 31.8**	**+1.4**
KAMT	**Kaman**	**2.47**	**320**	*e*PN	**Pn**	**23 04 30.3**	**-0.4**
KAMT	**Kaman**	**2.47**	**320**	Pn	**Pn**	**23 04 31.9**	**+1.2**
BIDA	**Albida**	**2.51**	**169**	⇑P	**Pn**	**23 04 30.6**	**-0.8**
BIDA				⇑S	**Sn**	**23 04 59.6**	**-2.1**
BIDA	**Albida**	**2.51**	**169**	⇑*i*P	**Pn**	**23 04 30.6**	**-0.8**
BIDA				⇑*i*S	**Sn**	**23 04 59.6**	**-2.1**
SVSK	**Karacayir**	**2.61**	**21**	*e*PN	**Pn**	**23 04 33.0**	**+0.3**
SVSK	**Karacayir**	**2.61**	**21**	Pn	**Pn**	**23 04 33.7**	**+1.0**
HDMB	**Hadim**	**2.66**	**260**	*e*PN	**Pn**	**23 04 34.6**	**+1.1**
HDMB	**Hadim**	**2.66**	**260**	Pn	**Pn**	**23 04 34.8**	**+1.4**
KONT	**Konya--Tatoy**	**2.73**	**281**	*e*PN	**Pn**	**23 04 34.1**	**-0.3**
CORM	**Corum**	**2.82**	**342**	*e*PN	**Pn**	**23 04 35.8**	**+0.2**
JHLN	**Al Jahlan**	**2.82**	**129**	⇑P	**Pn**	**23 04 35.7**	**0.0**
JHLN				⇑S	**Sn**	**23 05 09.7**	**+0.4**
JHLN	**Al Jahlan**	**2.82**	**129**	⇑*i*P	**Pn**	**23 04 35.7**	**0.0**
JHLN				⇑*i*S	**Sn**	**23 05 09.7**	**+0.4**
LFK	**Lefkose**	**2.84**	**220**	*e*PN	**Pn**	**23 04 37.0**	**+1.1**
PHNC	**Paralimni**	**2.85**	**210**	P	**Pn**	**23 04 37.3**	**+1.3**
	6.0nm,0.8s						
TOKT	**Tokat**	**2.89**	**12**	*e*PN	**Pn**	**23 04 36.7**	**+0.1**
TOKT	**Tokat**	**2.89**	**12**	Pn	**Pn**	**23 04 35.6**	**-1.0**
MAMC	**Mammari**	**3.09**	**222**	P	**Pn**	**23 04 39.5**	**+0.1**
PTK	**Pertek**	**3.19**	**63**	*e*PN	**Pn**	**23 04 41.4**	**+0.7**
CSS	**Prodhromos**	**3.19**	**219**	P	**Pn**	**23 04 41.7**	**+0.9**
	2.7nm,0.6s						
HWQ	**Hawqa**	**3.21**	**177**	*e*Pn	**Pn**	**23 04 42.5**	**+1.5**
LEF	**Lefka**	**3.31**	**225**	Pn	**Pn**	**23 04 43.7**	**+1.4**
LEF	**Lefka**	**3.31**	**225**	Pn	**Pn**	**23 04 43.7**	**+1.3**
ANTO	**Ankara**	**3.32**	**317**	*e*PN	**Pn**	**23 04 43.1**	**+0.6**
ANTO	**Ankara**	**3.32**	**317**	Pn	**Pn**	**23 04 44.3**	**+1.8**
LOD	**Lodumlu**	**3.35**	**317**	*e*PN	**Pn**	**23 04 43.6**	**+0.7**
KIZT	**Kizilcal**	**3.35**	**296**	*e*PN	**Pn**	**23 04 43.6**	**+0.6**
ALFC	**Alevga**	**3.45**	**229**	P	**Pn**	**23 04 42.8**	**-1.5**
	5.5nm,0.2s						
CANT	**Cankiri**	**3.53**	**333**	*e*PN	**Pn**	**23 04 45.8**	**+0.4**
DIY	**Diyarbakir**	**3.57**	**82**	*e*PN	**Pn**	**23 04 46.5**	**+0.5**
BHL	**Bhannes**	**3.58**	**181**	*e*Pn	**Pn**	**23 04 47.5**	**+1.5**
SZAC	**Souni-Zanaja**	**3.58**	**221**	P	**Pn**	**23 04 48.4**	**+2.3**
	4.8nm,0.4s						
KVT	**Kavak**	**3.59**	**4**	*e*PN	**Pn**	**23 04 47.2**	**+1.0**
AKMC	**Akamas**	**3.70**	**229**	P	**Pn**	**23 04 47.9**	**+0.1**
TOS	**Tosya**	**3.79**	**340**	*e*PN	**Pn**	**23 04 48.6**	**-0.3**
PPCY	**Paphos**	**3.79**	**228**	P	**Pn**	**23 04 51.2**	**+2.2**
EZC	**Erzincan**	**3.90**	**53**	*e*PN	**Pn**	**23 04 47.1**	**-3.3**
MARD	**Mardin**	**4.00**	**91**	*i* P	**Pn**	**23 04 51.6**	**-0.3**
MARD				*i* S	**Sg**	**23 05 56.9**	**-3.0**
BYBT	**Boyabat**	**4.04**	**349**	*e*PN	**Pn**	**23 04 53.7**	**+1.2**
ESPY	**Espiye-Giresun**	**4.13**	**33**	*e*PN	**Pn**	**23 04 53.6**	**+0.1**
DIKM	**Dikmen**	**4.17**	**355**	*e*PN	**Pn**	**23 04 54.5**	**+0.3**
SAFT	**Safranbolu**	**4.43**	**329**	*e*PN	**Pn**	**23 04 58.7**	**+0.9**
SAFT	**Safranbolu**	**4.43**	**329**	Pn	**Pn**	**23 04 59.6**	**+1.8**
MMAI	**Mount Meron Ar**	**4.47**	**184**	Pn	**Pn**	**23 04 58.7**	**+0.3**
	12nm,0.3s,baz=352,slow=12,SNR=54						
MMAI				Sn	**Sn**	**23 05 47.2**	**-2.9**
	14nm,0.3s,baz=1.9,slow=28,SNR=7.7						
BTMT	**Batman**	**4.59**	**79**	*e*PN	**Pn**	**23 04 59.6**	**-0.4**
BZK	**Bozkurt**	**4.66**	**344**	*e*PN	**Pn**	**23 05 01.9**	**+1.0**
BZK	**Bozkurt**	**4.66**	**344**	Pn	**Pn**	**23 05 01.7**	**+0.8**
BZK	**Bozkurt**	**4.66**	**344**	Pn	**Pn**	**23 05 01.7**	**+0.8**
ELL	**Elmali**	**4.73**	**263**	*e*PN	**Pn**	**23 05 03.2**	**+1.3**
ELL	**Elmali**	**4.73**	**263**	Pn	**Pn**	**23 05 02.5**	**+0.6**
EZM	**Erzurum**	**5.00**	**59**	Pn	**Pn**	**23 05 07.5**	**+1.9**
ASF	**Jabal al Asfar**	**5.39**	**170**	Pn	**Pn**	**23 05 13.0**	**+2.1**
	0.4nm,0.3s,baz=62,slow=7.6,SNR=3.9						
ASF				Lg		23 06 35.2	
	1.0nm,0.3s,baz=252,slow=21,SNR=2.5						
ASF				LR	LR	23 07 35.8	
	comp=Z,98nm,19.3s,baz=202,slow=41						
GNI	**Garni**	**7.50**	**67**	Pn	**Pn**	**23 05 39.5**	**-0.4**
EIL	**Elat**	**7.83**	**185**	Pn	**Pn**	**23 05 46.6**	**+2.1**
EIL				Sn	**Sn**	**23 07 15.0**	**+2.3**
EIL	**Elat**	**7.83**	**185**	Pn	**Pn**	**23 05 46.6**	**+2.1**
	0.2nm,0.3s,baz=329,slow=10,SNR=3.0						
EIL				Sn	**Sn**	**23 07 15.0**	**+2.3**
	0.3nm,0.3s,baz=17,slow=18,SNR=2.3						
IDI	**Anoyia**	**9.03**	**259**	Pn	**Pn**	**23 05 60.0**	**-1.0**
	1.9nm,0.3s,baz=75,slow=12,SNR=28						
IDI				Sn	**Sn**	**23 07 40.1**	**-2.2**
	0.2nm,0.3s,baz=345,slow=20,SNR=2.5						
GVD	**Gavdhos**	**9.80**	**258**	Pn	**Pn**	**23 06 10.9**	**-0.6**
GVD	**Gavdhos**	**9.80**	**258**	Pn	**Pn**	**23 06 10.9**	**-0.5**
AKASG	**Malin Array Be**	**14.01**	**343**	Pn	**Pn**	**23 07 06.8**	**-2.1**
	0.3nm,0.3s,baz=174,slow=12,SNR=2.7						
TIP	**Timpagrande**	**15.01**	**282**	Pn	**Pn**	**23 07 20.7**	**-1.9**
TIP	**Timpagrande**	**15.01**	**282**	Pn	**Pn**	**23 07 20.7**	**-1.9**
VAE	**Valguarnera**	**16.94**	**276**	Pn	**Pn**	**23 07 46.9**	**-0.6**
	0.4nm,0.3s,baz=94,slow=14,SNR=2.6						
VRAC	**Vranov**	**18.20**	**317**	LR	LR	23 16 17.6	
	comp=Z,23nm,19.2s,baz=259,slow=41						
GERES	**GERESS Array B**	**19.61**	**312**	P	**Pn**	**23 08 17.9**	**-2.1**
	0.1nm,0.3s,baz=119,slow=11,SNR=6.4						
AKTK	**Aktyubinsk**	**20.50**	**44**	P	**P**	**23 08 27.3**	**-1.1**
AKTK	**Aktyubinsk**	**20.50**	**44**	P	**P**	**23 08 27.3**	**-1.0**
AKTO	**Aktyubinsk**	**20.50**	**44**	P	**P**	**23 08 27.3**	**-1.1**
	1.2nm,0.7s,baz=247,slow=8.8,SNR=6.4						
DAVOX	**Davos/Dischmat**	**21.23**	**304**	LR	LR	23 16 17.8	
	comp=Z,15nm,18.2s,MS2.4,baz=260,slow=36						
KEST	**Kesra**	**21.25**	**273**	P	**P**	**23 08 36.8**	**+0.1**
	1.0nm,0.7s,mb3.3,baz=252,slow=22,SNR=3.3						
HFS	**Hagfors**	**26.66**	**335**	LR	LR	23 22 02.8	
	comp=Z,14nm,20.1s,MS2.5,baz=115,slow=41						
KURK	**Kurchatov**	**33.02**	**53**	P	**P**	**23 10 24.3**	**-1.2**
KURK	**Kurchatov**	**33.02**	**53**	P	**P**	**23 10 24.3**	**-1.2**
MKAR	**Makanchi Array**	**35.28**	**60**	P	**P**	**23 10 47.1**	**+1.9**
	0.2nm,0.6s,mb3.2,baz=275,slow=6.8,SNR=2.3						
ZALV	**Zalesovo Beam**	**37.16**	**48**	P	**P**	**23 11 02.4**	**+1.2**
	0.2nm,0.3s,mb3.4,baz=267,slow=2.9,SNR=2.6						
TORD	**Torodi Ar. Bea**	**38.84**	**240**	P	**P**	**23 11 14.8**	**-0.9**
	0.7nm,0.8s,mb3.4,baz=46,slow=8.7,SNR=7.9						

*ISCJB **14** 23:07:07.1±2.2,846S±005×11733E±006,h0km±13km,*
mb4.4/5,Error ellipse: s-maj=10.5km s-min=8.6km
az=172.7
*IDC **14** 23:07:07.5±2.2,847S×117.17E,h0km,mb4.1/4,mb1 4.4/7,*
mb1mx4.0/19,mbtmp4.3/7,ML4.2/1,Error ellipse:
s-maj=36.4km s-min=26.2km az=113.0
*NEIC **14** 23:07:13.9±0.5,847S×11736E,h35km,mb4.3/4,Error*
ellipse: s-maj=13.6km s-min=8.2km az=50.0
NEIC Felt [III] at Sumbawa Besar.

ISC 14 23:07:12.0±2.3,853S±005×11740E±007,h21km±17km, n25,σ1§20/33,mb4.3/5,Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.20**	**34**	Pn	**Pn**	**23 08 14.7**	**-0.2**
KAPI				Sn	**Sn**	**23 09 02.9**	**-0.5**
KAPI	**Kappang**	**4.20**	**34**	Pn	**Pn**	**23 08 14.7**	**-0.2**
	6.5nm,0.3s,baz=195,slow=7.8,SNR=53						
KAPI				Sn	**Sn**	**23 09 02.9**	**-0.5**
	18nm,0.3s,baz=51,slow=23,SNR=23						
BATI	**Kupang**	**6.40**	**106**	Pn	**Pn**	**23 08 48.3**	**+3.2**
	26nm,0.3s,baz=30,slow=1.7,SNR=14						
BATI				Sn	**Sn**	**23 10 04.3**	**+6.8**
	5.3nm,0.3s,baz=55,slow=21,SNR=3.4						
KSM	**Kuching**	**12.20**	**324**	Pn	**Pn**	**23 10 02.7**	**-2.0**
FITZ	**Fitzroy Crossi**	**12.43**	**141**	*e*P	**Pn**	**23 10 07.2**	**-0.7**
	8.0nm,0.4s						
FITZ				*e*S	**Sn**	**23 12 18.3**	**-7.6**
FITZ	**Fitzroy Crossi**	**12.43**	**141**	Pn	**Pn**	**23 10 06.8**	**-1.1**
	1.0nm,0.3s,baz=329,slow=14,SNR=30						
FITZ				Sn	**Sn**	**23 12 16.8**	**-9.1**
	0.7nm,0.3s,baz=36,slow=17,SNR=4.4						
MBWA	**Marble Bar**	**12.75**	**170**	*e*Pn	**Pn**	**23 10 08.1**	**-4.2**
	14nm,0.3s						
MBWA				*e*Sn	**Sn**	**23 12 20.4**	**-13**
WRA	**Warramunga Arr**	**19.93**	**126**	P	**Pn**	**23 11 43.4**	**-1.0**
	1.9nm,0.4s,baz=301,slow=12,SNR=37						
WRA				S	**Sn**	**23 15 15.3**	**-13**
	1.0nm,0.8s,baz=296,slow=19,SNR=3.3						
WRAB	**Tennant Creek**	**19.93**	**126**	*e*P	**Pn**	**23 11 44.3**	**-0.2**
	5.2nm,0.6s						
**WB2

0.4nm,0.5s,baz=102,slow=7.2,SNR=5.7
ASAR PcP PcP 23 54 06.4 +0.6
0.6nm,0.8s,baz=102,slow=3.9,SNR=4.4
WRA Warramunga Arr 43.51 272 P P 23 52 25.0 -0.1
1.5nm,0.4s,baz=110,slow=8.0,SNR=49
FINES FINESS Array B 144.19 340 PKP PKPdf 00 03 50.6 -1.2
0.5nm,0.3s,baz=35,slow=3.7,SNR=6.7
TORD Torodi Ar. Bea 163.64 181 PKPab PKPab 00 05 12.3 -0.6
1.0nm,0.6s,baz=182,slow=3.6,SNR=11

IDC 14 23:47:06.4±2.0, 4821N×15538E, h0km, mb3.6/9, mb1 3.8/9, mb1mx3.7/21, mbtmp3.6/9, Error ellipse: s-maj=55.6km s-min=26.3km az=166.0, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.71**	**252**	P	P	23 52 09.8	+0.3
	0.6nm,0.3s,baz=51,slow=9.6,SNR=3.8						
MKAR	**Makanchi Array**	**47.64**	**297**	P	P	23 55 43.8	-0.1
	0.7nm,0.5s,baz=67,slow=7.5,SNR=6.5						
YKA	**Yellowknife Ar**	**48.83**	**38**	P	P	23 55 52.4	-0.5
	0.2nm,0.6s,baz=302,slow=7.0,SNR=2.9						
BVAR	**Borovoye Array**	**51.12**	**309**	P	P	23 56 10.3	-0.1
	0.5nm,0.5s,baz=46,slow=6.5,SNR=7.6						
FINES	**FINESS Array B**	**63.36**	**335**	P	P	23 57 36.9	+0.1
	0.7nm,0.7s,baz=38,slow=9.6,SNR=4.4						
NOA	**NORSAR Array B**	**67.33**	**342**	P	P	23 58 02.7	+0.2
	0.7nm,0.8s,baz=18,slow=9.7,SNR=3.4						
AKASG	**Malin Array Be**	**71.17**	**327**	P	P	23 58 26.8	+0.3
	0.2nm,0.2s,baz=26,slow=4.8,SNR=3.8						
TXAR	**Lajitas Array**	**75.44**	**62**	P	P	23 58 52.5	+0.4
	0.1nm,0.5s,baz=292,slow=4.1,SNR=4.3						
GERES	**GERESS Array B**	**77.79**	**335**	P	P	23 59 05.3	+0.2
	0.3nm,0.5s,baz=40,slow=7.7,SNR=2.8						

*MAN **14** 23:51:34, 12.26N×125.72E, h28km, mb5.5, ML4.5, MS4.8*
*ISCJB **14** 23:51:35.9±0.6, 12.20N±0.03×125.68E±0.05, h42km±5km, mb4.8/62, MS4.1/24, Error ellipse: s-maj=7.7km s-min=4.0km az=169.9*
*MOS **14** 23:51:36.8±0.8, 12.33N×125.57E, h42km, mb5.1/13, MS4.1/5, Error ellipse: s-maj=20.5km s-min=7.8km az=117.2*
*BJI **14** 23:51:36.3, 12.15N×125.51E, h42km, mB5.0, mb4.7, Ms4.3, Msz4.2*
*IDC **14** 23:51:37.0±2.2, 12.06N×125.52E, h38km±18km, mb4.2/16, mb1 4.3/17, mb1mx4.3/20, mbtmp4.2/17, ML3.6/1, MS3.9/15, Ms1 4.0/15, ms1mx3.8/26, Error ellipse: s-maj=34.8km s-min=10.1km az=77.0*
*NEIC **14** 23:51:38.0±1.4, 12.18N×125.67E, h47km±12km, mb5.0/16, Error ellipse: s-maj=12.9km s-min=6.3km az=77.0*
ISC 14 23:51:37.3±0.6, 1217N±0.03×12567E±0.05, h40km±5km, h39km±6.4km; pP-P, n169, σ0.98/174, mb4.8/62, MS4.1/24, 17C-9D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	**Borongan**	**0.61**	**202**	*e*P	**Pn**	**23 51 48.9**	**-0.7**
CNP	**Cataram**	**1.04**	**289**	*e*P	**Pn**	**23 51 53.5**	**-2.0**
CNP				*e*S	**Sn**	**23 52 08.8**	**-0.1**
PLP	**Palo**	**1.21**	**214**	*i* P	**Pn**	**23 51 57.0**	**-0.8**
PLP				*e*S	**Sn**	**23 52 11.1**	**-1.8**
OCLP	**Ormoc**	**1.52**	**223**	*i* P	**Pn**	**23 52 02.5**	**+0.5**
PVCP	**Virac**	**2.05**	**314**⇓	*e*P	**Pn**	**23 52 07.2**	**-2.2**
PVCP				*e*S	**Sn**	**23 52 41.7**	**+8.0**
MSLP	**Maasin**	**2.17**	**202**	*e*P	**Pn**	**23 52 12.4**	**+1.4**
SCPH	**Surigao**	**2.38**	**184**	*e*P	**Pn**	**23 52 13.1**	**-0.7**
SCPH				*e*S	**Sn**	**23 52 41.5**	**-0.3**
LLP	**Lapu-Lapu**	**2.49**	**223**	*e*P	**Pn**	**23 52 15.6**	**+0.2**
LLP				*e*S	**Sn**	**23 52 45.6**	**+1.2**
RCP	**Roxas**	**2.93**	**258**⇑	*e*P	**Pn**	**23 52 21.9**	**+0.5**
RCP				*e*S	**Sn**	**23 52 59.3**	**+3.9**
TBP	**Tagbilaran**	**3.04**	**216**	*e*P	**Pn**	**23 52 24.0**	**+1.1**
TBP				*e*S	**Sn**	**23 52 57.3**	**-0.7**
GUIM	**Jordan**	**3.39**	**243**	*e*P	**Pn**	**23 52 28.4**	**+0.6**
OTRP	**Odiongan**	**3.58**	**273**	*e*P	**Pn**	**23 52 30.5**	**+0.2**
SNPH	**Sibulan**	**3.69**	**221**	*e*P	**Pn**	**23 52 33.0**	**+1.1**
CGP	**Cagayan de Oro**	**3.81**	**195**⇓	*i*P	**Pn**	**23 52 28.9**	**-4.6**
CGP				*i* S	**Sn**	**23 53 26.4**	**+9.3**
DCPH	**Dipolog City**	**4.23**	**213**⇓	*e*P	**Pn**	**23 52 40.1**	**+0.8**
DCPH				*e*S	**Sn**	**23 53 31.4**	**+3.9**
BUKP	**Musuan**	**4.30**	**188**	*e*P	**Pn**	**23 52 41.6**	**+1.3**
POLP	**Polilio Island**	**4.44**	**305**	*e*P	**Pn**	**23 52 46.0**	**+3.9**
TGY	**Tagaytay City**	**5.00**	**293**	*e*P	**Pn**	**23 52 55.4**	**+5.5**
BALP	**Baler**	**5.33**	**312**	*e*P	**Pn**	**23 52 53.5**	**-0.9**
BUSP	**Coron**	**5.36**	**269**	*e*P	**Pn**	**23 52 54.5**	**-0.3**
LUBP	**Lubang**	**5.52**	**287**	*e*P	**Pn**	**23 52 57.5**	**+0.5**
PCPH	**Palayan**	**5.58**	**308**⇑	*e*P	**Pn**	**23 52 58.4**	**+0.5**
PALP	**Palanan**	**5.79**	**328**	*e*P	**Pn**	**23 53 03.6**	**+2.9**
PALP				*e*S	**Sn**	**23 54 03.9**	**-2.1**
CAUP	**Cauayan**	**6.04**	**322**	*e*P	**Pn**	**23 53 03.6**	**-0.6**
APYP	**Conner**	**7.10**	**323**	*e*P	**Pn**	**23 53 18.0**	**-0.6**
YHNB	**Yeheng**	**13.09**	**342**	*e*Pn	**Pn**	**23 54 41.2**	**+0.6**
JOW	**Kunigami**	**14.79**	**9**	Pn	**Pn**	**23 55 03.3**	**-0.5**
	0.5nm,0.3s,baz=144,slow=16,SNR=5.2						
QIZ	**Qiongzhong**	**16.70**	**296**	P	**Pn**	**23 55 25.0**	**-3.4**
QIZ				S	**S**	**23 58 30.8**	**-12**
QIZ				AMB	AMB		
	comp=Z,14nm,1.3s						
QIZ				AMB	AMB		
	comp=Z,158nm,8.7s						
QIZ				LR	LR		
	comp=E,683nm,18.0s						
QIZ				LR	LR		
	comp=Z,991nm,20.2s						
KAPI	**Kappang**	**18.06**	**199**	P	**Pn**	**23 55 49.5**	**+4.3**
KAPI				LR	LR	00 04 06.1	
KAPI	**Kappang**	**18.06**	**199**	P	**Pn**	**23 55 49.5**	**+4.3**
	comp=Z,0.8nm,0.3s,baz=4.4,slow=7.1,SNR=8.4						
KAPI				LR	LR	00 04 06.1	
	comp=Z,335nm,19.1s,baz=284,slow=42						
KSM	**Kuching**	**18.57**	**236**	*e*P	**Pn**	**23 55 52.7**	**+1.1**
GUMO	**Guam**	**18.77**	**84**	LR	LR	00 01 52.4	
	comp=Z,350nm,18.4s,baz=265,slow=32						
NJ2	**Nanjing**	**20.76**	**343**	*e*P	**P**	**23 56 18.4**	**+3.6**
NJ2				AP		23 56 31.1	
NJ2				PP		23 56 40.6	
NJ2				S	**S**	**23 59 56.5**	**-7.9**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s						
NJ2				AMB	AMB		
	comp=Z,150nm,11.0s						
NJ2				LR	LR		
	comp=N,610nm,18.9s,MS4.2						
NJ2				LR	LR		
	comp=E,510nm,15.2s,MS4.2						
NJ2				LR	LR		
	comp=Z,510nm,15.2s,MS4.0						
WHN	**Wuhan**	**21.08**	**332**	⇑P	**P**	**23 56 19.0**	**+0.8**
WHN				LR	LR		
	comp=N,570nm,13.6s,MS4.3						
WHN				LR	LR		
	comp=E,721nm,14.3s,MS4.3						
WHN				LR	LR		
	comp=Z,833nm,15.7s,MS4.2						
JNU	**Nakatsue**	**21.39**	**12**	P	**P**	**23 56 25.9**	**+4.3**
	comp=Z,12nm,1.1s,mb4.2,baz=179,slow=18,SNR=3.0						
CBIJ	**Chichi jima**	**21.46**	**44**	LR	LR	00 02 59.3	
	comp=Z,264nm,20.1s,MS3.6,baz=324,slow=32						
BATI	**Kupang**	**22.32**	**185**	P	**P**	**23 56 30.1**	**-1.5**
	comp=Z,39nm,0.5s,mb5.1,baz=345,slow=1.4,SNR=9.6						
KKTK	**Khon Kaen**	**22.53**	**283**	⇑P	**P**	**23 56 33.5**	**-0.3**
	comp=Z,494nm,1.0s						
GYA	**Guiyang**	**22.84**	**311**⇑	*i*P	**P**	**23 56 36.3**	**-0.8**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
GYA				AMB	AMB		
	comp=Z,90nm,6.4s						
GYA				LR	LR		
	comp=N,560nm,15.6s,MS4.1						
GYA				LR	LR		
	comp=E,240nm,16.5s,MS4.1						
GYA				LR	LR		
	comp=Z,740nm,16.8s,MS4.2						
ENH	**Enshi**	**23.45**	**323**	P	**P**	**23 56 41.8**	**-1.5**
NANT	**Nan**	**24.94**	**288**	⇑P	**P**	**23 56 54.0**	**-3.0**
	comp=Z,252nm,0.8s,mb5.8						
KMI	**Kunming**	**25.21**	**304**	P	**P**	**23 57 00.3**	**+0.9**
KMI				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.5						
KSRS	**Korea Array**	**25.26**	**4**	P	**P**	**23 57 00.1**	**+0.3**
	comp=Z,3.5nm,0.9s,mb3.9,baz=182,slow=11,SNR=14						
KSRS				LR	LR	00 06 36.2	
	comp=Z,148nm,21.4s,MS3.5,baz=175,slow=35						
KAKA	**Kakadu**	**25.61**	**165**	*e*P	**P**	**23 57 02.3**	**-0.8**
	comp=Z,24nm,0.6s,mb4.9						
XAN	**Xi'an**	**26.59**	**328**	P	**P**	**23 57 11.3**	**-0.5**
XAN				AP	pP	23 57 19.1	-3.7
XAN				AMB	AMB		
	comp=Z,27nm,1.2s,mb4.7						
XAN				AMB	AMB		
	comp=Z,91nm,4.6s						
XAN				LR	LR		
	comp=N,144nm,12.5s,MS4.0						
XAN				LR	LR		
	comp=E,294nm,14.2s,MS4.0						
XAN				LR	LR		
	comp=Z,402nm,15.1s,MS4.1						
MJAR	**Matsushiro Arr**	**26.77**	**23**	P	**P**	**23 57 14.7**	**+1.3**
	comp=Z,0.8nm,0.4s,baz=204,slow=8.8,SNR=3.6						
MJAR				LR	LR	00 06 05.1	
	comp=Z,385nm,21.0s,MS3.9,baz=225,slow=32						
PSI	**Prapat**	**28.08**	**253**	LR	LR	00 09 31.6	
	comp=Z,706nm,18.3s,MS4.3,baz=147,slow=38						
BJT	**Baijiatuau**	**28.98**	**345**	P	**P**	**23 57 32.3**	**-0.8**
FITZ	**Fitzroy Crossi**	**30.08**	**180**	*e*P	**P**	**23 57 42.6**	**-0.4**
	comp=Z,17nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**30.08**	**180**	P	**P**	**23 57 42.1**	**-0.8**
	comp=Z,10nm,0.9s,mb4.5,baz=19,slow=8.7,SNR=15						
FITZ				LR	LR	00 12 02.8	
	comp=Z,46nm,18.0s,MS3.2,baz=190,slow=41						
LZH	**Lanzhou**	**30.90**	**324**	*e*P	**P**	**23 57 51.0**	**+0.8**
LZH				AP	pP	23 58 03.6	+2.4
LZH				XP	sP	23 58 09.0	+2.9
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,123nm,4.6s						
HHC	**Hu-ho-hao-te**	**31.15**	**339**	*e*P	**P**	**23 57 55.1**	**+2.9**
HHC				AP	pP	23 58 10.0	+6.7
HHC				PP	PP	23 58 56.5	-6.6
HHC				AMB	AMB		
	comp=Z,30nm,1.2s,mb5.0						
HHC				AMB	AMB		
	comp=Z,157nm,5.8s						
HHC				LR	LR		
	comp=N,887nm,17.6s,MS4.8						
HHC				LR	LR		
	comp=E,2μm,18.6s,MS4.8						
HHC				LR	LR		
	comp=Z,743nm,16.2s,MS4.4						
MDJ	**Mudanjiang**	**32.51**	**5**	P	**P**	**23 58 04.1**	**-0.1**
WRAB	**Tennant Creek**	**33.02**	**165**	*e*P	**P**	**23 58 14.8**	**+5.9**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.5						
WRAB	**Tennant Creek**	**33.02**	**165**	*e*P	**P**	**23 58 14.8**	**+5.9**
	comp=Z,4.6nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**33.03**	**165**	P	**P**	**23 58 07.8**	**-1.1**
WRA						00 00 52.5	
WRA	**Warramunga Arr**	**33.03**	**165**	P	**P**	**23 58 07.8**	**-1.2**
	comp=Z,1.6nm,0.9s,mb4.0,baz=346,slow=8.9,SNR=12						
WRA				PcP	PcP	00 00 52.5	+0.3
	comp=Z,3.9nm,0.9s,baz=342,slow=3.2,SNR=13						
WRA				ScP	ScP	00 04 33.9	+0.6
	comp=Z,0.7nm,0.8s,baz=336,slow=3.5,SNR=5.4						
WB2	**Warramunga Arr**	**33.03**	**165**	*e*P	**P**	**23 58 12.1**	**+3.1**
MBWA	**Marble Bar**	**33.63**	**190**	P	**P**	**23 58 19.0**	**+4.8**
SHL	**Shillong**	**34.53**	**298**	*e*P	**P**	**23 58 23.0**	**+1.0**
GTA	**Gaotai**	**35.50**	**324**	*e*P	**P**	**23 58 30.1**	**-0.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.4						
LSA	**Lhasa**	**36.47**	**304**	*e*P	**P**	**23 58 39.0**	**+0.3**
LSA				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
LSA	**Lhasa**	**36.47**	**304**	*e*P	**P**	**23 58 39.0**	**+0.3**
	comp=Z,13nm,0.8s,mb4.9						
ASAR	**Alice Springs**	**36.51**	**167**	P	**P**	**23 58 38.0**	**-1.0**
ASAR						00 01 02.2	
ASAR				S	**S**	**00 04 16.9**	**-1.7**
ASAR	**Alice Springs**	**36.51**	**167**	P	**P**	**23 58 38.0**	**-1.0**
	comp=Z,2.2nm,0.5s,mb4.3,baz=342,slow=7.5,SNR=26						
ASAR				PcP	PcP	00 01 02.1	-0.1
	comp=Z,2.3nm,0.7s,baz=342,slow=2.2,SNR=7.0						
ASAR				S	**S**	**00 04 16.9**	**-1.7**
	comp=Z,0.7nm,0.9s,baz=345,slow=17,SNR=3.1						
ASAR				ScP	ScP	00 04 45.9	+0.1
	comp=Z,2.3nm,0.9s,baz=340,slow=2.9,SNR=10						
KLR	**Kul'dur**	**37.29**	**7**	*e*P	**P**	**23 58 41.7**	**-3.7**
YSS	**Yuzh-Sakhalins**	**37.55**	**19**	*e*P	**P**	**23 58 42.0**	**-5.5**
YSS				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.4						
SONM	**Songino Array**	**39.05**	**339**	P	**P**	**23 59 00.5**	**+0.3**
	comp=Z,5.7nm,1.0s,mb4.2,baz=152,slow=8.6,SNR=23						
SONM				LR	LR	00 16 06.9	
	comp=Z,171nm,19.4s,MS3.9,baz=265,slow=38						
JIRN	**Jiri**	**39.99**	**299**	*e*P	**P**	**23 59 08.7**	**+0.3**
	comp=Z,6.5nm,0.2s,mb4.9						
HNR	**Honiara**	**40.26**	**121**	LR	LR	00 13 04.2	
	comp=Z,308nm,20.8s,MS4.1,baz=352,slow=32						
GUN	**Gumba**	**40.32**	**299**	*e*P	**P**	**23 59 11.1**	**0.0**
	comp=Z,105nm,0.9s,mb5.6						
PKI	**Pulchoki**	**40.64**	**298**	*e*P	**P**	**23 59 13.0**	**-0.8**
KKN	**Kakani**	**40.81**	**299**	*e*P	**P**	**23 59 14.4**	**-0.7**
	comp=Z,67nm,1.0s,mb5.2						
DMN	**Daman**	**40.91**	**298**	*e*P	**P**	**23 59 15.8**	**-0.2**
GKN	**Gorkha**	**41.41**	**299**	*e*P	**P**	**23 59 19.1**	**-1.0**
	comp=Z,78nm,1.0s,mb5.3						
DANN	**Dangsing**	**42.25**	**299**	*e*P	**P**	**23 59 26.5**	**-0.4**
	comp=Z,91nm,1.0s,mb5.4						
KOLN	**Koldanda**	**42.25**	**298**	*e*P	**P**	**23 59 26.5**	**-0.4**
	comp=Z,99nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**42.30**	**339**	*e*P	**P**	**23 59 26.8**	**-0.1**
ZAK				*e*		00 01 21.0	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s						
FORT	**Forrest**	**42.76**	**177**	*e*P	**P**	**23 59 30.1**	**-0.8**
	comp=Z,38nm,0.7s,mb5.2						
MOY	**Mondy**	**44.18**	**338**	*e*P	**P**	**23 59 42.7**	**+0.6**
WMQ	**Urumqi**	**45.38**	**321**	*e*P	**P**	**23 59 53.0**	**+1.2**
WMQ				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,74nm,5.0s						
WMQ				LR	LR		
	comp=N,216nm,14.0s,MS4.5						
WMQ				LR	LR		
	comp=E,294nm,14.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,238nm,14.0s,MS4.3						
STKA	**Stephens Creek**	**46.37**	**161**	P	**P**	**00 00 00.5**	**+0.7**
	comp=Z,4.3nm,0.7s,mb4.5,baz=327,slow=7.4,SNR=7.3						
BOD	**Bodaibo**	**46.42**	**351**	*e*P	**P**	**23 59 59.8**	**0.0**
BOD				pmax	pmax		
	comp=Z,5.0nm,2.3s,mb4.0						
YAK	**Yakutsk**	**49.87**	**2**	*e*P	**P**	**00 00 24.9**	**-1.4**
YAK				pmax	pmax		
	comp=Z,21nm,1.2s,mb5.0						
MKAR	**Makanchi Array**	**50.18**	**322**⇑	*e*P	**P**	**00 00 29.5**	**+0.6**
MKAR	**Makanchi Array**	**50.18**	**322**	P	**P**	**00 00 29.7**	**+0.8**
MKAR				LR	LR	00 23 19.8	
MKAR	**Makanchi Array**	**50.18**	**322**	P	**P**	**00 00 29.7**	**+0.8**
	comp=Z,14nm,0.9s,mb5.0,baz=118,slow=8.2,SNR=80						
MKAR				LR	LR	00 23 19.8	
	comp=Z,128nm,19.2s,MS4.0,baz=166,slow=38						
ULHL	**Ulahol**	**52.23**	**314**	P	**P**	**00 00 45.9**	**+1.4**
	SNR=20						
ZALV	**Zalesovo Beam**	**52.69**	**331**	P	**P**	**00 00 47.7**	**0.0**
ZALV				LR	LR	00 24 08.5	
ZALV	**Zalesovo Beam**	**52.69**	**331**	P	**P**	**00 00 47.7**	**0.0**
	comp=Z,3.4nm,0.8s,mb4.3,baz=112,slow=6.6,SNR=22						
ZALV				LR	LR	00 24 08.5	
	comp=Z,89nm,18.4s,MS3.8,baz=120,slow=37						
ZAL	**Zalesovo**	**52.70**	**331**	P	**P**	**00 00 47.7**	**0.0**
KZA	**Kyzart**	**52.87**	**314**	P	**P**	**00 00 51.3**	**+2.1**
	SNR=17						
TKM2	**Tokmak 2**	**52.91**	**315**	*e*P	**P**	**00 00 50.7**	**+1.2**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
TKM2	**Tokmak 2**	**52.91**	**315**	*e*P	**P**	**00 00 50.7**	**+1.2**
	comp=Z,6.8nm,1.1s,mb4.5						
KBK	**Karagaybulak**	**53.27**	**315**	P	**P**	**00 00 53.7**	**+1.5**
	SNR=12						
UCH	**Uchtor**	**53.44**	**314**	*e*P	**P**	**00 00 54.7**	**+1.3**
	comp=Z,24nm,1.0s,mb5.1						
UCH	**Uchtor**	**53.44**	**314**	P	**P**	**00 00 55.0**	**+1.7**
	SNR=32						
CHMS	**Chumysh**	**53.52**	**315**	P	**P**	**00 00 54.4**	**+0.5**
	SNR=7.2						
FRU	**Bishkek**	**53.56**	**315**	*e*P	**P**	**00 00 55.0**	**+0.8**
USP	**Ospenovka**	**53.78**	**315**	P	**P**	**00 00 56.2**	**+0.4**
	SNR=9.8						
NVS	**Novosibirsk**	**53.97**	**331**⇑	*i*P	**P**	**00 00 57.5**	**+0.5**
AML	**Almayashu**	**53.99**	**314**	*e*P	**P**	**00 00 58.2**	**+0.8**
	comp=Z,17nm,1.0s,mb4.9						
AML	**Almayashu**	**53.99**	**314**	P	**P**	**00 00 58.9**	**+1.5**
	SNR=17						
EKS2	**Erkin-Say**	**54.09**	**314**	*e*P	**P**	**00 00 58.6**	**+0.5**
	comp=Z,12nm,1.0s,mb4.8						
EKS2	**Erkin-Say**	**54.09**	**314**	P	**P**	**00 00 59.2**	**+1.1**
	SNR=12						
KURK	**Kurchatov**	**54.19**	**325***c*	*i*P	**P**	**00 00 58.9**	**+0.3**
KURK	**Kurchatov**	**54.19**	**325**	*e*P	**P**	**00 00 58.8**	**+0.1**
	comp=Z,41nm,0.9s,mb5.4						
TIXI	**Tiksi**	**59.48**	**1**	*e*P	**P**	**00 01 33.2**	**-2.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
BRVK	**Borovoye**	**59.86**	**325**	P	**P**	**00 01 39.6**	**+0.9**
	comp=Z,173nm,0.9s,SNR=17						
BRVK	**Borovoye**	**59.86**	**325**	*e*P	**P**	**00 01 38.3**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,29nm,0.9s,mb5.3						
BRVK	**Borovoye**	**59.86**	**325**	*e*P	**P**	**00 01 38.3**	**-0.5**
	comp=Z,29nm,0.9s,mb5.3						
BILL	**Bilibino**	**61.75**	**16**⇓	*e*P	**P**	**00 01 51.9**	**+0.5**
BILL				*e*S	**S**	**00 10 11.4**	**+0.2**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.8s,mb4.6						
BILL				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.0						
ABKT	**Ailbek**	**64.95**	**306**	P	**P**	**00 02 13.4**	**+0.3**
	comp=Z,83nm,0.9s,mb5.8,SNR=6.2						
SVE	**Sverdlovsk**	**66.31**	**327**⇑	*e*P	**P**	**00 02 21.6**	**+0.1**
SVE				*e*S	S	00 11 10.5	+2.4
SVE				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
ARU	**Arti**	**67.33**	**326***c*	*i*P	**P**	**00 02 27.2**	**-0.8**
ARU				*e*		00 02 53.7	
ARU				S	S	00 11 21.0	+0.6
ARU				*e*SS	SS	00 15 37.9	-2.6
ARU				pmax	pmax		
	comp=Z,20nm,1.2s,mb5.0						
ARU				MLR	MLR		
	comp=Z,144nm,19.0s,MS4.2						
ARU	**Arti**	**67.33**	**326**	*e*P	**P**	**00 02 26.9**	**-1.1**
	comp=Z,6.3nm,0.6s,mb4.8						
QRN	**Al-Qurain**	**73.60**	**297**	*e*P	**P**	**00 03 05.5**	**-1.4**
QRN				AMb	AMB	00 03 11.0	
	comp=Z,20nm,0.9s,mb5.0						
RDF	**Al-Radifah**	**73.91**	**297**	*e*P	**P**	**00 03 07.6**	**-1.1**
RDF				AMb	AMB	00 03 09.4	
	comp=Z,13nm,0.6s,mb5.1						
MIB	**Mutribah**	**74.02**	**298**	*e*P	**P**	**00 03 07.7**	**-1.5**
MIB				AMb	AMB	00 03 09.6	
	comp=Z,24nm,0.9s,mb5.1						
NAY	**Al-Naaiem**	**74.15**	**297**	*e*P	**P**	**00 03 08.5**	**-1.6**
NAY				AMb	AMB	00 03 14.4	
	comp=Z,6.2nm,0.7s,mb4.7						
GNI	**Garni**	**75.37**	**309**	*e*P	**P**	**00 03 17.7**	**+0.8**
GNI				pmax	pmax		
	comp=Z,22nm,1.7s						
KIV	**Kislovodsk**	**76.64**	**313**	*e*P	**P**	**00 03 24.3**	**+0.2**
KIV				*e*	pP	00 03 35.4	-0.8
KIV				*e*		00 06 16.7	
KIV				*e*S	S	00 13 06.5	-1.3
KIV				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
KIV				MLR	MLR		
	comp=Z,101nm,18.0s,MS4.2						
KIV	**Kislovodsk**	**76.64**	**313**	*e*P	**P**	**00 03 23.6**	**-0.5**
	comp=Z,9.8nm,0.9s,mb4.7						
KIV				PcP	PcP	00 03 35.1	-0.3
KIV	**Kislovodsk**	**76.64**	**313**⇑	*i*P	**P**	**00 03 24.4**	**+0.3**
VRHR	**Novokhopersk**	**76.91**	**320**	*e*P	**P**	**00 03 24.6**	**-0.8**
VRHR				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
VRHR				pmax	pmax		
	comp=N,9.0nm,0.7s						
VRHR				pmax	pmax		
	comp=E,5.0nm,0.4s						
MCK	**McKinley**	**77.14**	**27**	*e*P	**P**	**00 03 27.0**	**+0.5**
TMCR	**Tamitsa**	**78.12**	**333**	*e*P	**P**	**00 03 26.1**	**-5.8**
BNGL	**BINGOL**	**78.24**	**308**	*i* P	**P**	**00 03 34.1**	**+1.0**
VORD	**Divnogorie**	**78.39**	**320**	*e*P	**P**	**00 03 33.3**	**-0.4**
VORD				*e**PP	pP	00 03 41.1	-4.7
VORD				*e*	pP	00 03 43.3	-2.5
VORD				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
VORD				pmax	pmax		
	comp=N,10.0nm,0.8s						
VORD				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRSR	**Storozhevoye**	**78.43**	**320**	*e*P	**P**	**00 03 33.1**	**-0.8**
VRSR				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.3						
VRSR				pmax	pmax		
	comp=N,2.0nm,1.4s						
VRSR				pmax	pmax		
	comp=E,4.0nm,1.3s						
KOPT	**Kop Dagi**	**78.62**	**309**	*i* P	**P**	**00 03 34.5**	**-0.7**
OBN	**Obninsk**	**79.62**	**324**⇓	*e*P	**P**	**00 03 39.9**	**-0.4**
OBN				*e*		00 06 40.2	
OBN				*e*S	S	00 13 38.5	-0.9
OBN				pmax

GERES	**GERESS Array B**	**94.85**	**322**	P	**P**	**00 04 54.9**	**-0.1**
	comp=Z,0.1nm,0.3s,mb3.7,baz=67,slow=3.5,SNR=4.2						
GERES				LR	LR	00 54 05.0	
	comp=Z,72nm,18.2s,MS4.2,baz=55,slow=40						
TORD	**Torodi Ar. Bea**	**119.02**	**293**	PKP	PKPdf	00 10 20.8	-1.8
	comp=Z,0.6nm,0.9s,baz=48,slow=2.9,SNR=4.0						
DBIC	**Dimbokro**	**127.38**	**288**	PKP	PKPdf	00 10 36.8	-2.0
	comp=Z,3.1nm,0.8s,baz=46,slow=7.6,SNR=3.1						
CPD	**Cerro la Pandu**	**147.88**	**21**	PKP2	PKPab	00 11 19.4	-2.1
PLCA	**Paso Flores**	**148.17**	**156**	PKPbc	PKPbc	00 11 20.4	+1.2
	comp=Z,5.5nm,0.9s,baz=210,slow=6.7,SNR=7.1						

IDC 15 00:30:52.3±2.2, 962S×11636E, h0km, mb2.9/3, mb1 3.4/5, mb1mx3.3/17, mbtmp3.3/5, ML3.7/2, Error ellipse: s-maj=58.3km s-min=26.2km az=57.0, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**5.68**	**37**	Pn	Pn	00 32 18.7	+0.7
	2.3nm,0.3s,baz=214,slow=15,SNR=6.7						
KAPI				Sn	Sn	00 33 16.1	-7.9
	2.1nm,0.3s,baz=253,slow=11,SNR=8.8						
FITZ	**Fitzroy Crossi**	**12.33**	**134**	Pn	Pn	00 33 48.3	-0.9
	0.3nm,0.3s,baz=315,slow=11,SNR=12						
FITZ				Sn	Sn	00 35 49.7	-18
	0.1nm,0.3s,baz=0.0,slow=20,SNR=3.3						
WRA	**Warramunga Arr**	**20.16**	**123**	P	P	00 35 27.8	-0.6
	0.1nm,0.3s,baz=298,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**21.82**	**132**	P	P	00 35 47.2	+1.0
	0.5nm,0.9s,baz=311,slow=9.4,SNR=4.6						
MKAR	**Makanchi Array**	**63.86**	**335**	P	P	00 41 26.5	-0.1
	0.2nm,0.5s,baz=133,slow=6.1,SNR=2.6						

*DDA **15** 00:39:16.7, 3781N×28.16E, h7km±6km, Md2.9*
*ISK **15** 00:39:17.1, 3779N×28.18E, h6km, MD3.0*
*CSEM **15** 00:39:17.2±0.1, 3780N×28.16E, h10km, MD3.0, Error ellipse: s-maj=3.2km s-min=2.5km az=100.0*
*ISCJB **15** 00:39:17.3±0.6, 3779N±002×28.16E±004, h5km±6km, Error ellipse: s-maj=5.2km s-min=3.3km az=21.5*
*NEIC **15** 00:39:17.0, 3779N×2818E, h6km, MD3.2(ATH), MD3.0(ISK), After ISK.*
*ATH **15** 00:39:20.0, 3756N×2805E, h22km±9km, MD3.2/4*

ISC 15 00:39:17.8±0.4, 3779N±002×2815E±003, h6km±4km, n26, σ0§85/39, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MLSB	**Milas**	**0.58**	**211**	PG	**Pg**	**00 39 29.2**	**+0.3**
MLSB				SG	**Sg**	**00 39 37.1**	**+0.7**
YER	**Yerkesik**	**0.67**	**171**	PG	**Pg**	**00 39 31.0**	**+0.4**
YER				SG	**Sg**	**00 39 40.0**	**+0.8**
DENT	**Denizli**	**0.70**	**93**	PG	**Pg**	**00 39 31.0**	**-0.3**
DENT				SG	**Sg**	**00 39 40.4**	**0.0**
MANT	**Manisa**	**0.77**	**25**	*i* P	**Pn**	**00 39 38.0**	**+2.9**
MANT				*i* S	**Sg**	**00 39 42.1**	**-0.4**
MANT	**Manisa**	**0.77**	**25**	*i* S	**Sg**	**00 39 42.1**	**-0.4**
KULA	**Kula-Manisa**	**0.83**	**29**	PG	**Pg**	**00 39 32.9**	**-0.8**
KULA				SG	**Sg**	**00 39 44.3**	**-0.1**
BDRM	**Kayabasi**	**0.92**	**218**	*i* P	**Pg**	**00 39 34.5**	**-0.8**
BDRM				*i* S	**Sg**	**00 39 47.9**	**+0.6**
KDAG	**Bornova**	**0.93**	**311**	*i* P	**Pg**	**00 39 35.5**	**+0.1**
KDAG				*i* S	**Sg**	**00 39 47.8**	**+0.3**
SMG	**Samos**	**1.04**	**266**	*e*PB	**Pb**	**00 39 38.0**	**-0.2**
SMG				*e*SN	**Sn**	**00 39 52.5**	**-1.2**
SMG	**Samos**	**1.04**	**266**	*e*Pb	**Pb**	**00 39 37.8**	**-0.4**
SMG				*e*Sn	**Sn**	**00 39 52.7**	**-1.0**
BLCB	**Balcova**	**1.05**	**304**	*e*PN	**Pn**	**00 39 39.1**	**+0.1**
BLCB				*e*SN	**Sn**	**00 39 53.7**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.09**	**159**	*e*PN	**Pn**	**00 39 38.1**	**-1.5**
AKHS	**Akhisar**	**1.12**	**346**	*i* P	**Pg**	**00 39 38.2**	**-1.0**
AKHS				*i* S	**Sg**	**00 39 53.1**	**-0.6**
AKS	**Akhisar**	**1.12**	**346**	*e*PN	**Pn**	**00 39 39.6**	**-0.2**
DAT	**Datca**	**1.16**	**203**	*e*PN	**Pn**	**00 39 39.0**	**-1.4**
URLA	**Izmir**	**1.35**	**295**	*i* P	**Pn**	**00 39 43.0**	**-0.1**
URLA				*i* S	**Sb**	**00 40 02.7**	**+1.7**
FETY	**Fethiye**	**1.38**	**147**	*e*PN	**Pn**	**00 39 44.2**	**+0.8**
ARG	**Arkhangelos**	**1.57**	**181**	*e*PN	**Pn**	**00 39 45.6**	**-0.6**
GDZ	**Gediz**	**1.66**	**39**	*i* P	**Pn**	**00 39 48.5**	**+1.1**
GDZ				*i* S	**Sn**	**00 40 09.6**	**+0.6**
DST	**Dursunbey**	**1.85**	**12**	*e*PN	**Pn**	**00 39 50.0**	**+0.1**
BALB	**Balikesir**	**1.86**	**354**	*e*PN	**Pn**	**00 39 49.9**	**-0.1**
AYVA	**Ayvalik**	**1.90**	**323**	*i* P	**Pn**	**00 39 49.2**	**-1.4**
BTOK	**Tokmak**	**1.97**	**357**	*i* P	**Pn**	**00 39 52.5**	**+0.9**
ALT	**Altintas**	**1.99**	**50**	*e*PN	**Pn**	**00 39 52.3**	**+0.4**
PRK	**Paraskevi**	**2.07**	**315**	*e*PB	**Pb**	**00 39 57.5**	**+1.9**
KARP	**Karpathos**	**2.38**	**200**	*e*PB	**Pn**	**00 39 56.4**	**-0.8**

*MOS **15** 00:39:53.9±0.9, 672S×10927E, h211km, mb4.4/9, Error ellipse: s-maj=13.5km s-min=8.7km az=114.5*
*ISCJB **15** 00:39:54.9±0.4, 680S±004×10926E±004, h224km±4km, mb4.4/38, Error ellipse: s-maj=8.3km s-min=5.3km az=39.0*
*IDC **15** 00:39:55.9±1.3, 677S×10922E, h215km±11km, mb4.0/16, mb1 4.1/19, mb1mx4.1/23, mbtmp4.1/19, Error ellipse: s-maj=14.0km s-min=7.5km az=53.0*
*NEIC **15** 00:39:56.6±0.8, 679S×10923E, h224km±8km, mb4.5/17, Error ellipse: s-maj=7.5km s-min=5.0km az=60.0*
*BJI **15** 00:39:56.6, 680S×10920E, h224km, mB4.7, mb4.5*

ISC 15 00:39:55.8±0.4, 680S±004×10923E±004, h216km±4km, n117, σ1§04/90, mb4.4/38, 2C-2D, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJII	**Banjamegara**	**0.71**	**138**	P	**Pn**	**00 40 24.4**	**-1.3**
	2μm,0.6s						
JCJI	**Jatiwangi**	**1.01**	**288**	P	**Pn**	**00 40 26.1**	**-1.2**
	14μm,0.8s						
SBJI	**Serang**	**3.16**	**282**	P	**Pn**	**00 40 48.5**	**+0.3**
	512nm,0.6s						
KRKI	**Karangkates**	**3.46**	**113**	P	**Pn**	**00 40 50.4**	**-1.4**
	459nm,0.5s						
TPI	**Tanjungpandan**	**4.32**	**339**	P	**Pn**	**00 41 04.7**	**+2.5**
	45nm,0.9s						
KHKI	**Kahang-Kahang**	**6.51**	**104**	P	**Pn**	**00 41 29.7**	**-0.2**
	97nm,0.8s						
KSI	**Kapahiang**	**7.32**	**295**	P	**Pn**	**00 41 42.4**	**+2.1**
	164nm,0.7s						
KSM	**Kuching**	**8.29**	**7**	Pn	Pn	**00 41 52.8**	**-0.2**
KAPI	**Kappang**	**10.61**	**81**	P	**Pn**	**00 42 23.4**	**+0.7**
	0.2nm,0.3s,baz=260,slow=16,SNR=3.6						
COCO	**West Island**	**13.35**	**245**	*e*Pn	**Pn**	**00 42 57.2**	**0.0**
KKM	**Kota Kinabalu**	**14.54**	**29**	*e*Pn	**Pn**	**00 43 15.1**	**+3.2**
BATI	**Kupang**	**14.66**	**104**	P	**Pn**	**00 43 14.3**	**+0.8**
	40nm,0.3s,baz=282,slow=4.9,SNR=20						
BATI				S	**S**	**00 45 47.5**	**-8.7**
	9.8nm,0.3s,baz=55,slow=22,SNR=4.7						
KULM	**Kulim**	**14.75**	**324**	Pn	**Pn**	**00 43 14.6**	**+0.1**
MBWA	**Marble Bar**	**17.52**	**146**	*e*P	**P**	**00 43 45.6**	**+0.2**
	6.9nm,0.6s						
AAI	**Ambon**	**19.13**	**82**	P	**P**	**00 44 04.1**	**+1.1**
	113nm,0.8s						
FITZ	**Fitzroy Crossi**	**19.54**	**127**	*e*P	**P**	**00 44 07.6**	**+0.3**
	44nm,0.6s						
FITZ				*e*S	**S**	**00 47 41.4**	**+5.1**
FITZ	**Fitzroy Crossi**	**19.54**	**127**	P	**P**	**00 44 07.8**	**+0.4**
	1.9nm,0.3s,baz=315,slow=7.9,SNR=110						
FITZ				S	**S**	**00 47 40.1**	**+3.8**
	0.7nm,0.3s,baz=14,slow=23,SNR=5.6						
DAV	**Davao City (W)**	**21.35**	**50**	P	**P**	**00 44 26.1**	**-0.5**
KAKA	**Kakadu**	**23.60**	**106**	*e*P	**P**	**00 44 46.4**	**-1.1**
	30nm,0.8s,mb5.0						
MUN	**Mundaring**	**25.88**	**166**	*e*P	**P**	**00 45 07.6**	**-0.2**
KLBR	**Kellerberrin**	**25.92**	**163**	*e*P	**P**	**00 45 07.0**	**-1.2**
	22nm,1.0s,mb4.7						
NWAO	**Narrogin (SRO)**	**27.04**	**165**	P	**P**	**00 45 17.8**	**-0.3**
	9.6nm,0.7s,mb4.5,baz=344,slow=7.4,SNR=3.4						
WRA	**Warramunga Arr**	**27.64**	**121**	P	**P**	**00 45 23.6**	**-0.1**
	5.2nm,0.4s,mb4.6,baz=311,slow=8.7,SNR=123						
WRA				PcP	PcP	00 48 35.4	0.0
	2.8nm,0.6s,baz=300,slow=2.1,SNR=9.6						
WRA				S	**S**	**00 49 47.7**	**-1.8**
	2.1nm,0.9s,baz=297,slow=17,SNR=5.3						
WRAB	**Tennant Creek**	**27.65**	**121**	*e*P	**P**	**00 45 23.8**	**0.0**
WRAB				*e*		00 46 33.1	
WRAB				*e*		00 48 35.5	
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.4s,mb4.6						
WRAB	**Tennant Creek**	**27.65**	**121**	*e*P	**P**	**00 45 23.8**	**0.0**
	comp=Z,6.2nm,0.4s,mb4.6						
WRAB				*e*PP	PP	00 46 33.1	+2.3
WRAB				*e*PcP	PcP	00 48 35.5	0.0
WB2	**Warramunga Arr**	**27.65**	**121**	↓*i*P	**P**	**00 45 23.3**	**-0.5**
WB2				*e*PCP	PcP	00 48 35.4	-0.1
ASAR	**Alice Springs**	**29.03**	**128**	P	**P**	**00 45 36.1**	**+0.2**
	comp=Z,11nm,0.4s,mb4.9,baz=301,slow=8.4,SNR=186						
ASAR				PcP	PcP	00 48 39.0	+0.2
	comp=Z,2.4nm,0.5s,baz=313,slow=1.9,SNR=11						
FORT	**Forrest**	**29.67**	**146**	*e*P	**P**	**00 45 41.2**	**-0.3**
	comp=Z,26nm,0.6s,mb5.0						
DGAR	**Diego Garcia**	**36.50**	**267**	P	**P**	**00 46 41.4**	**+0.6**
CTA	**Charters Tower**	**38.24**	**114**	*e*P	**P**	**00 46 56.1**	**+0.7**
	comp=Z,7.7nm,0.8s,mb4.3						
CTA				*e*PCP	PcP	00 49 05.6	+0.5
CTA	**Charters Tower**	**38.24**	**114**	*e*P	**P**	**00 46 56.1**	**+0.7**
CTA				*e*		00 49 05.6	
CTA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
CTA	**Charters Tower**	**38.24**	**114**	P	**P**	**00 46 56.0**	**+0.6**
	comp=Z,9.7nm,0.8s,mb4.4,baz=282,slow=11,SNR=7.7						
CTA				PcP	PcP	00 49 05.5	+0.3
	comp=Z,3.8nm,0.5s,baz=333,slow=2.3,SNR=4.3						
CTAO	**Charters Tower**	**38.24**	**114**	*e*P	**P**	**00 46 56.1**	**+0.7**
CTAO				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.4						
CTAO	**Charters Tower**	**38.24**	**114**	*e*P	**P**	**00 46 56.1**	**+0.7**
	comp=Z,6.5nm,0.5s,mb4.4						
STKA	**Stephens Creek**	**39.15**	**134**	↓*i*P	**P**	**00 47 03.4**	**+0.6**
	comp=Z,56nm,0.6s,mb5.3						
STKA	**Stephens Creek**	**39.15**	**134**	P	**P**	**00 47 03.5**	**+0.8**
	comp=Z,65nm,0.5s,mb5.4,baz=309,slow=8.5,SNR=182						
STKA				PcP	PcP	00 49 07.8	0.0
	comp=Z,7.2nm,0.5s,baz=332,slow=3.7,SNR=4.9						
LSA	**Lhasa**	**40.24**	**335**	*e*P	**P**	**00 47 13.3**	**+1.6**
TOO	**Toolangi**	**44.95**	**138**	*e*P	**P**	**00 47 51.4**	**+1.9**
	comp=Z,168nm,0.6s,mb5.5						
TOO				*e*PCP	PcP	00 49 27.8	+0.8
TOO	**Toolangi**	**44.95**	**138**	*e*P	**P**	**00 47 51.4**	**+1.9**
TOO				*e*		00 49 27.8	
TOO				pmax	pmax		
	comp=Z,168nm,0.6s,mb5.5						
GTA	**Gaotai**	**46.80**	**350**	*e*P	**P**	**00 48 06.3**	**+2.5**
GTA				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.2						
BJT	**Baijiatuan**	**47.02**	**7**	P	**P**	**00 48 06.7**	**+1.2**
KSRS	**Korea Array**	**47.36**	**20**	P	**P**	**00 48 09.1**	**+0.9**
	comp=Z,2.3nm,0.8s,mb3.6,baz=203,slow=9.1,SNR=7.1						
KSRS				PcP	PcP	00 49 35.3	-0.1
	comp=Z,0.7nm,0.3s,baz=186,slow=2.9,SNR=4.2						
HNR	**Honiara**	**50.24**	**97**	*e*P	**P**	**00 48 30.5**	**0.0**
HNR				pmax	pmax		
	comp=Z,62nm,0.7s,mb5.0						
HNR	**Honiara**	**50.24**	**97**	*e*P	**P**	**00 48 30.5**	**0.0**
	comp=Z,62nm,0.7s,mb5.0						
HNR	**Honiara**	**50.24**	**97**	P	**P**	**00 48 30.1**	**-0.4**
	comp=Z,67nm,0.5s,mb5.2,baz=259,slow=2.5,SNR=6.0						
MAJO	**Matsushiro**	**50.96**	**30**	*e*P	**P**	**00 48 34.4**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
MAJO	**Matsushiro**	**50.96**	**30**	*e*P	**P**	**00 48 34.4**	**-1.0**
	comp=Z,3.9nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**50.96**	**30**	P	**P**	**00 48 34.9**	**-0.5**
	comp=Z,5.5nm,0.9s,mb4.0,baz=212,slow=7.3,SNR=10						
SONM	**Songino Array**	**54.46**	**358**	P	**P**	**00 49 01.9**	**+1.1**
SONM						00 50 01.6	
SONM	**Songino Array**	**54.46**	**358**	P	**P**	**00 49 01.9**	**+1.1**
	comp=Z,2.8nm,0.5s,mb4.0,baz=179,slow=7.8,SNR=36						
SONM				PcP	PcP	00 50 01.6	+0.1
	comp=Z,3.2nm,0.6s,baz=176,slow=2.9,SNR=14						
SONM				ScP	ScP	00 53 39.2	+0.1
	comp=Z,1.2nm,0.7s,baz=170,slow=2.8,SNR=8.2						
ULN	**Ulaanbaatar**	**54.46**	**358**	*e*P	**P**	**00 49 01.7**	**+0.8**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb3.9						
ULN	**Ulaanbaatar**	**54.46**	**358**	*e*P	**P**	**00 49 01.7**	**+0.8**
	comp=Z,1.9nm,0.5s,mb3.9						
TKM2	**Tokmak 2**	**58.16**	**331**	*e*P	**P**	**00 49 26.4**	**-0.7**
TKM2				*e*	pP	00 50 16.3	+0.4
TKM2				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**58.16**	**331**	*e*P	**P**	**00 49 26.4**	**-0.7**
	comp=Z,5.3nm,0.5s,mb4.4						
TKM2				*e*PcP	PcP	00 50 16.3	+0.1
UCH	**Uchtor**	**58.17**	**330**	P	**P**	**00 49 27.9**	**+0.8**
MKAR	**Makanchi Array**	**58.48**	**339**	P	**P**	**00 49 28.8**	**-0.4**
	comp=Z,2.6nm,0.5s,mb4.1,baz=148,slow=6.2,SNR=38						
MKAR				PcP	PcP	00 50 17.2	-0.1
	comp=Z,1.0nm,0.5s,baz=142,slow=6.1,SNR=4.5						
EKS2	**Erkin-Say**	**58.85**	**330**	*e*P	**P**	**00 49 31.5**	**-0.4**
	comp=Z,1.7nm,0.6s,mb3.9						
EKS2				*e*PcP	PcP	00 50 20.1	+1.2
YSS	**Yuzh-Sakhalins**	**61.22**	**26**	*e*P	**P**	**00 49 48.2**	**+0.3**
YSS				pmax	pmax		
	comp=Z,29nm,1.5s,mb4.7						
KURK	**Kurchatov**	**63.10**	**339**	*e*P	**P**	**00 49 59.8**	**-0.4**
ZAL	**Zalesovo**	**63.92**	**344**	P	**P**	**00 50 04.8**	**-0.7**
ZALV	**Zalesovo Beam**	**63.92**	**344**	P	**P**	**00 50 04.8**	**-0.8**
	comp=Z,1.3nm,0.4s,mb3.9,baz=158,slow=5.5,SNR=8.3						
BOD	**Bodaibo**	**64.52**	**3**	*e*P	**P**	**00 50 08.8**	**-0.5**
RPZ	**Rata Peaks**	**65.10**	**135**	P	**P**	**00 50 13.4**	**-0.1**
	comp=Z,9.7nm,0.6s,mb4.6,baz=333,slow=2.3,SNR=6.9						
MAW	**Mawson**	**68.20**	**197**	P	**P**	**00 50 33.3**	**+0.7**
	comp=Z,2.0nm,0.5s,mb4.0,baz=18,slow=3.2,SNR=3.5						
URZ	**Urewera**	**68.47**	**128**	P	**P**	**00 50 35.5**	**+0.6**
	comp=Z,5.9nm,0.5s,mb4.5,baz=232,slow=6.9,SNR=5.4						
QRN	**Al-Qurain**	**68.76**	**304**	*e*P	**P**	**00 50 35.1**	**-1.7**
QRN				AMb	AMB	00 50 38.3	
	comp=Z,30nm,0.9s,mb4.9						
RDF	**Al-Radifah**	**69.13**	**304**	*e*P	**P**	**00 50 36.4**	**-2.7**
RDF				AMb	AMB	00 50 40.0	
	comp=Z,18nm,1.1s,mb4.6						
NAY	**Al-Naaiem**	**69.49**	**305**	*e*P	**P**	**00 50 39.4**	**-1.9**
NAY				AMb	AMB	00 50 41.5	
	comp=Z,5.9nm,0.5s,mb4.5						
MIB	**Mutribah**	**69.61**	**305**	*e*P	**P**	**00 50 40.4**	**-1.6**
MIB				AMb	AMB	00 50 41.8	
	comp=Z,19nm,0.4s,mb5.0						
YAK	**Yakutsk**	**70.43**	**10**	↑*i*P	**P**	**00 50 45.9**	**-0.4**
YAK				pmax	pmax		
	comp=Z,28nm,0.8s,mb4.9						
YAK	**Yakutsk**	**70.43**	**10**	P	**P**	**00 50 45.0**	**-1.2**
KMBO	**Kilima Mbogo**	**71.98**	**271**	P	**P**	**00 50 57.8**	**+1.2**
ARU	**Arti**	**75.42**	**334**	*c*P	**P**	**00 51 14.9**	**-0.7**
ARU				*e*		00 54 03.4	
ARU				*e*S	S	01 00 38.3	+0.9
ARU				*e*SS	SS	01 05 32.3	-0.6
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.0						
SBA	**Scott Base**	**76.82**	**169**	*e*P	**P**	**00 51 24.9**	**+1.6**
SBA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.2						
SBA	**Scott Base**	**76.82**	**169**	*e*P	**P**	**00 51 24.9**	**+1.7**
	comp=Z,4.1nm,0.7s,mb4.2						
TIXI	**Tiksi**	**79.36**	**6**	*e*P	**P**	**00 51 35.7**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.1						
TIXI	**Tiksi**	**79.36**	**6**	*e*P	**P**	**00 51 36.0**	**-1.2**
	comp=Z,3.4nm,0.6s,mb4.2						
MALT	**Malatya**	**79.39**	**311**	P	**P**	**00 51 38.8**	**+0.7**
BOSA	**Boshof**	**81.51**	**242**	P	**P**	**00 51 50.0**	**+0.3**
	comp=Z,1.5nm,0.4s,mb4.0,baz=116,slow=4.8,SNR=7.3						
QSPA	**South Pole Qui**	**83.18**	**180**	*e*P	**P**	**00 51 57.8**	**+0.6**
	comp=Z,4.1nm,0.6s,mb4.3						
AKASG	**Malin Array Be**	**88.93**	**321**	P	**P**	**00 52 24.4**	**-1.4**
	comp=Z,0.7nm,0.4s,mb3.8,baz=86,slow=4.9,SNR=7.2						
SNAA	**Sanae**	**90.37**	**197**	*e*P	**P**	**00 52 32.5**	**+0.4**
VNA2	**Neumayer--Watz**	**92.02**	**197**	*e*P	**P**	**00 52 41.2**	**+1.4**
	baz=103,slow=4.2						
FINES	**FINESS Array B**	**92.66**	**331**	*i* P	**P**	**00 52 42.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**92.66**	**331**	P	**P**	**00 52 42.3**	**-0.5**
	comp=Z,2.0nm,0.9s,mb4.2,baz=145,slow=12,SNR=5.9						
ARCES	**ARCESS Array B**	**94.13**	**339**	P	**P**	**00 52 47.5**	**-1.9**
	comp=Z,1.1nm,0.7s,mb4.0,baz=93,slow=6.1,SNR=4.0						
TORD	**Torodi Ar. Bea**	**108.55**	**282**	PKPdf	PKiKP	00 57 59.2	-0.6
TORD	**Torodi Ar. Bea**	**108.55**	**282**	PKiKP	PKiKP	00 57 59.2	-0.6
	comp=Z,0.6nm,0.5s,baz=65,slow=1.8,SNR=15						
YKA	**Yellowknife Ar**	**115.90**	**21**	PKiKP	PKPdf	00 58 11.9	-0.5
YKA	**Yellowknife Ar**	**115.90**	**21**	PKP	PKPdf	00 58 11.9	-0.5
	comp=Z,1.2nm,0.6s,baz=337,slow=1.9,SNR=29						
NVAR	**Mina Array Bea**	**126.83**	**46**	PKP	PKPdf	00 58 36.2	+2.1
	comp=Z,1.1nm,0.8s,baz=241,slow=3.6,SNR=8.7						
EGMT	**Eagleton**	**127.25**	**32**	*e*PKPdf	PKPdf	00 58 35.3	+0.6
ULM	**Lac du Bonnet**	**131.87**	**21**	PKP	PKPdf	00 58 43.7	+0.3
	comp=Z,1.2nm,0.5s,baz=275,slow=3.3,SNR=6.0						
ULM				SKPbc	SKPbc	01 01 48.3	-0.7
	comp=Z,1.5nm,0.5s,baz=338,slow=2.9,SNR=3.2						
SCHQ	**Schefferville**	**132.00**	**357**	PKP	PKPdf	00 58 43.0	-0.4
SCHQ				SKPbc	SKPbc	01 01 48.2	-1.1
SCHQ	**Schefferville**	**132.00**	**357**	PKP	PKPdf	00 58 43.0	-0.4
	comp=Z,1.8nm,0.5s,baz=238,slow=1.8,SNR=9.3						
SCHQ				SKPbc	SKPbc	01 01 48.2	-1.1
	comp=Z,0.7nm,0.6s,baz=33,slow=7.5,SNR=3.6						
PLCA	**Paso Flores**	**132.70**	**180**	SKPbc	SKPbc	01 01 51.3	-1.0
	comp=Z,1.7nm,0.7s,baz=207,slow=4.5,SNR=3.2						
RSSD	**Black Hills**	**132.81**	**33**	*e*PKIKP	PKPdf	00 58 45.0	-0.3
ANMO	**Albuquerque**	**136.85**	**44**	*i* PKIKP	PKPdf	00 58 54.9	+1.7
TXAR	**Lajitas Array**	**141.76**	**50**	PKP	PKPdf	00 58 58.0	-4.3
TXAR				PKP		00 59 03.5	
TXAR				SKPbc	SKPbc	01 02 20.5	+1.3
TXAR	**Lajitas Array**	**141.76**	**50**	PKhKP		00 58 58.0	
	comp=Z,0.3nm,0.3s,baz=197,slow=2.4,SNR=8.1						
TXAR				PKP	PKPdf	00 59 03.5	+1.2
	comp=Z,0.7nm,0.6s,baz=252,slow=0.5,SNR=8.9						
TXAR				SKPbc	SKPbc	01 02 20.5	+1.3
	comp=Z,0.5nm,0.6s,baz=284,slow=1.5,SNR=7.1						
ERPA	**Erie**	**143.89**	**12**	*e*PKPdf	PKPdf	00 59 03.6	-2.0
JCT	**Junction City**	**143.99**	**45**	*e*PKIKP	PKPdf	00 59 05.1	-1.1
ALLY	**Alegheny Colle**	**144.31**	**12**	*e*PKPdf	PKPdf	00 59 04.7	-1.7
CPUP	**Villa Florida**	**144.58**	**201**	PKP	PKPdf	00 59 06.9	-0.5
	comp=Z,3.6nm,0.5s,baz=140,slow=2.5,SNR=16						
BLO	**Bloomington**	**144.78**	**21**	*e*PKIKP	PKPdf	00 59 06.7	-0.6
ACSO	**Alum Creek Sta**	**144.96**	**16**	*e*PKPdf	PKPdf	00 59 07.1	-0.5
MIAR	**Mount Ida**	**145.29**	**34**	*e*PKP2	PKPab	00 59 08.6	-0.2
SSPA	**Standing Stone**	**145.71**	**10**	*e*PKPdf	PKPdf	00 59 09.4	+0.6
MCWV	**Mont Chateau**	**146.28**	**13**	*e*PKPdf	PKPdf	00 59 10.7	+0.9
WVT	**Waverly**	**146.89**	**26**	*e*PKP2	PKPab	00 59 13.3	-1.7
OXF	**Oxford**	**147.50**	**29**	*e*PKP2	PKPbc	00 59 14.7	-0.2
PLAL	**Pickwick Lake**	**147.74**	**27**	*e*PKPbc	PKPbc	00 59 14.7	-0.9
BDFB	**Brasilia**	**148.30**	**225**	PKPbc	PKPbc	00 59 17.9	+0.5
	comp=Z,2.5nm,0.6s,baz=111,slow=24,SNR=6.1						
ELN	**Prospectdale**	**148.38**	**15**	*e*PKPbc	PKPbc	00 59 16.0	-1.1
SWET	**Sewanee**	**148.47**	**24**	*e*PKPbc	PKPbc	00 59 16.7	-0.7
LRAL	**Lakeview Retre**	**149.86**	**28**	*e*PKPbc	PKPbc	00 59 20.7	-0.2
LPAZ	**La Paz**	**156.91**	**186**	PKPab	PKPab	00 59 58.9	+1.7
	comp=Z,1.4nm,0.6s,baz=174,slow=3.6,SNR=5.9						

KRSC 15 00:57:20.2±0.2, 5164N×15859E, h17km±17km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**0.80**	**357**	*i* P	Pb	00 57 36.6	+1.0
RUS				*i* S	Sb	00 57 47.4	+1.4
GRL	**Gorelyy**	**0.97**	**341**	*i* P	Pb	00 57 39.8	+1.3
GRL				*i* S	Sb	00 57 53.3	+2.3
MIPR	**Malaya Ipel'ka**	**1.30**	**300**	*i* P	Pn	00 57 43.3	-0.2
MIPR				*i* S	Sn	00 57 59.7	-0.8
PET	**Petropavlovsk**

RKT eLQ 01 28 34.1
comp=Z,1µm,32.8s
RKT eLR LR 01 29 56.5
comp=Z,11µm,28.2s,baz=172
RKT Rikitea 32.79 348 eT 01 55 34.4
comp=Z,55nm,0.3s
USHA Ushuaia 33.11 114 P **P 01 21 31.0 -0.3**
comp=Z,12nm,0.9s,mb4.8,baz=222,slow=7.8,SNR=5.1
USHA LR LR 01 31 15.8
comp=Z,3µm,19.9s,MS5.0,baz=227,slow=30
QSPA South Pole Qui 34.64 180 eP **P 01 21 45.9 +1.6**
QSPA LR LR
comp=Z,7µm,19.0s,MS5.4
QSPA South Pole Qui 34.64 180 P **P 01 21 45.5 +1.2**
comp=Z,16nm,1.0s,mb4.9,baz=105,slow=4.1,SNR=22
SNZO South Karori 39.42 266 PFAKE 01 22 40.0 +15
SNZO LR LR
comp=Z,5µm,19.0s,MS5.3
PLCA Paso Flores 39.90 93 P **P 01 22 31.0 +1.6**
comp=Z,2.0nm,0.9s,mb3.9,baz=228,slow=13,SNR=2.9
PLCA LR LR 01 35 39.6
comp=Z,2µm,18.0s,MS5.0,baz=227,slow=31
EFI East Falkland 40.08 115 PFAKE 01 22 40.0 +9.3
EFI LR LR
comp=Z,4µm,19.0s,MS5.2
TVO Taravao 41.01 328 eT 02 05 46.7
comp=Z,15nm,0.2s
TVO Taravao 41.01 328 eP **P 01 22 40.0 +1.3**
TVO pmax pmax
comp=Z,99nm,1.3s,mb5.3
TVO Taravao 41.01 328 eP **P 01 22 40.0 +1.3**
comp=Z,99nm,1.3s,mb5.3
TVO eTT 02 05 46.7
PAE Paea 41.23 328 eT 02 06 02.2
comp=Z,13nm,0.2s
PAE Paea 41.23 328 eP **P 01 22 40.3 -0.1**
PAE pmax pmax
comp=Z,60nm,1.2s,mb5.1
PAE Paea 41.23 328 eP **P 01 22 40.3 -0.1**
comp=Z,60nm,1.2s,mb5.1
PAE eTT 02 06 02.2
PPT Papeete 41.31 328 eS **S 01 28 46.9 -8.4**
comp=Z,1µm,26.0s
PPT eLQ 01 31 57.8
comp=Z,2µm,25.5s
PPT eLR LR 01 33 57.6
comp=Z,12µm,26.0s,baz=168
PPT Papeete 41.31 328 LR LR 01 35 03.5
comp=Z,4µm,20.4s,MS5.3,baz=151,slow=29
RAR Rarotonga 41.68 312 LR LR 01 35 15.3
comp=Z,2µm,21.5s,MS5.0,baz=154,slow=29
PMOR Pomariorio Ree 43.26 331 eT 02 08 35.6
comp=Z,31nm,0.3s
PMOR Pomariorio Ree 43.26 331 eP **P 01 22 57.6 +0.5**
comp=Z,66nm,1.3s,mb5.2
PMOR eTT 02 08 35.6
TRQA Tornquist 46.58 97 eP **P 01 23 24.7 +1.4**
TRQA LR LR
comp=Z,2µm,20.0s,MS5.1
VNA2 Neumayer--Watz 47.02 157 eP **P 01 23 25.5 -0.8**
baz=217,slow=8.8
VNA2 e pP 01 23 28.3 -1.2
VNA1 Neumayer--Stat 47.03 157 eP **P 01 23 26.4 0.0**
VNA1 e pP 01 23 29.8 +0.3
SNAA Sanae 47.40 159 eP **P 01 23 29.4 +0.1**
SNAA e pP 01 23 32.1 -0.4
SNAA Sanae 47.40 159 eP **P 01 23 29.5 +0.2**
SNAA Sanae 47.40 159 P **P 01 23 28.5 -0.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=249,slow=5.1,SNR=12
TAOE Nuku Hiva Isla 47.54 344 eS **S 01 30 20.8 -5.1**
comp=Z,25µm,25.1s
TAOE eLR LR 01 36 47.8
comp=Z,208µm,25.2s,baz=185
LCO Las Campanas 48.25 81 P **P 01 23 31.9 -4.5**
LCO eS **S 01 30 47.8 +12**
LCO LR LR
comp=Z,3µm,22.0s,MS5.2
CASY Casey 50.77 206 eP **P 01 23 58.6 +3.4**
TAU Tasmania Unive 53.35 246 eP **P 01 24 15.8 +1.1**
TAU e 01 25 23.8
TAU pmax pmax
comp=Z,17nm,1.1s,mb4.9
TAU MLR MLR
comp=Z,4µm,20.0s,MS5.5
TAU Tasmania Unive 53.35 246 eP **P 01 24 15.8 +1.1**
comp=Z,17nm,1.1s,mb4.9
TAU ePcP PcP 01 25 23.8 +1.8
TAU LR LR
comp=Z,4µm,20.0s,MS5.5
SYO Syowa Base 55.43 175 eP **P 01 24 29.2 -0.2**
MAW Mawson 56.91 185 LR LR 01 47 11.3
comp=Z,983nm,19.6s,MS4.9,baz=166,slow=34
CNB Canberra Magne 57.78 253 eP **P 01 24 47.3 +0.6**
comp=Z,64nm,1.6s,mb5.4
CPUP Villa Florida 57.88 90 eP **P 01 24 45.7 -1.7**
CPUP pmax pmax
comp=Z,18nm,0.9s
CPUP MLR MLR
comp=Z,638nm,19.0s
CPUP Villa Florida 57.88 90 eP **P 01 24 45.6 -1.8**
comp=Z,18nm,0.9s,mb5.1
CPUP LR LR
comp=Z,638nm,19.0s,MS4.8
CPUP Villa Florida 57.88 90 P **P 01 24 45.6 -1.8**
comp=Z,4.4nm,0.9s,mb4.5,baz=236,slow=7.7,SNR=5.1
CPUP LR LR 01 46 26.6
comp=Z,3µm,18.5s,MS5.5,baz=209,slow=33
TOO Toolangi 58.19 249 eP **P 01 24 49.7 +0.2**
comp=Z,162nm,1.1s,mb6.0
TOO Toolangi 58.19 249 eP **P 01 24 49.7 +0.2**
TOO pmax pmax
comp=Z,162nm,1.1s,mb6.0
NNA Nana 58.76 63 P **P 01 24 55.2 +1.5**
NNA LR LR
comp=Z,704nm,20.0s,MS4.8
LPAZ La Paz 59.78 74 P **P 01 24 59.8 -0.9**
comp=Z,10.0nm,1.1s,mb4.8,baz=170,slow=5.2,SNR=18
LPAZ LR LR 01 44 37.0
comp=Z,1µm,18.8s,MS5.0,baz=29,slow=30
ARMA Armidale 60.22 259 eP **P 01 25 03.7 +0.1**
FUNA Funafuti 62.54 297 PFAKE 01 25 30.0 +11
FUNA LR LR
comp=Z,5µm,19.0s,MS5.7
STKA Stephens Creek 64.59 250 eP **P 01 25 32.9 0.0**
comp=Z,5.6nm,0.9s,mb4.6
STKA Stephens Creek 64.59 250 P **P 01 25 32.4 -0.5**
comp=Z,5.1nm,0.8s,mb4.6,baz=124,slow=7.8,SNR=8.0
STKA LR LR 01 48 01.2
comp=Z,2µm,20.2s,MS5.3,baz=94,slow=31
CTA Charters Tower 71.30 262 eP **P 01 26 16.5 +1.3**
comp=Z,9.7nm,1.1s,mb4.7
CTA Charters Tower 71.30 262 eP **P 01 26 16.5 +1.3**
CTA pmax pmax
comp=Z,10.0nm,1.1s
CTAO Charters Tower 71.30 262 eP **P 01 26 16.0 +0.8**
CTAO pmax pmax
comp=Z,25nm,1.3s,mb5.0
CTAO MLR MLR
comp=Z,2µm,20.0s,MS5.3
CTAO Charters Tower 71.30 262 eP **P 01 26 16.0 +0.8**
comp=Z,25nm,1.3s,mb5.0
CTAO LR LR
comp=Z,2µm,20.0s,MS5.3
BDFB Brasilia 71.60 91 P **P 01 26 17.9 +0.9**
BDFB LR LR 01 55 16.8
BDFB Brasilia 71.60 91 P **P 01 26 17.9 +0.9**
comp=Z,0.5nm,0.4s,baz=228,slow=16,SNR=3.3
BDFB LR LR 01 55 16.8
comp=Z,1000nm,18.2s,baz=20,slow=34
HNR Honiara 72.13 280 P **P 01 26 20.0 -0.2**
HNR MLR MLR
comp=Z,623nm,22.0s,MS4.8
ROSC El Rosal 74.55 56 P **P 01 26 35.2 +0.7**
ROSC ePcP PcP 01 26 49.9 +1.1
ROSC LR LR 01 53 32.4
ROSC El Rosal 74.55 56 P **P 01 26 35.4 +0.9**
comp=Z,5.7nm,0.6s,mb4.7,baz=262,slow=13,SNR=7.0
ROSC LR LR 01 53 32.4
comp=Z,1µm,19.3s,MS5.2,baz=200,slow=31
JTS JuntasAbangare 74.77 44 eP **P 01 26 34.2 -1.4**
JTS JuntasAbangare 74.77 44 eP **P 01 26 34.1 -1.6**
comp=Z,17nm,1.1s,mb4.9
JTS LR LR
comp=Z,2µm,20.0s,MS5.3
ASAR Alice Springs 75.22 250 P **P 01 26 36.3 -2.0**
comp=Z,12nm,1.1s,mb4.7,baz=141,slow=5.8,SNR=36
NWAO Narrogin (SRO) 75.83 232 PFAKE 01 26 50.0 +8.3
NWAO LR LR
comp=Z,2µm,22.0s,MS5.3
BCIP Isla Barro Col 75.87 49 P **P 01 26 50.0 +8.1**
BCIP eS S 01 36 30.6 +6.3
BCIP LR LR
comp=Z,2µm,21.0s,MS5.3
TGUH Tegucigalpa,Un 77.32 40 eP **P 01 26 48.6 -1.5**
TGUH LR LR
comp=Z,630nm,20.0s,MS4.9
WB2 Warramunga Arr 78.00 252 eP **P 01 26 53.2 -0.9**
WRA Warramunga Arr 78.01 252 P **P 01 26 51.6 -2.5**
comp=Z,7.6nm,0.7s,mb4.7,baz=141,slow=5.3,SNR=78
WRA LR LR 01 59 04.5
comp=Z,1µm,18.0s,MS5.3,baz=135,slow=34
WRAB Tennant Creek 78.01 252 eP **P 01 26 53.5 -0.6**
WRAB pmax pmax
comp=Z,18nm,1.0s,mb5.0
WRAB MLR MLR
comp=Z,2µm,20.0s,MS5.5
WRAB Tennant Creek 78.01 252 eP **P 01 26 53.5 -0.6**
comp=Z,18nm,1.0s,mb5.0
WRAB LR LR
comp=Z,2µm,20.0s,MS5.5
POHA Pohakuloa 78.56 334 PFAKE 01 27 10.0 +13
POHA LR LR
comp=Z,2µm,20.0s,MS5.5
SDV Santo Domingo 79.83 58 eP **P 01 27 01.7 -2.3**
comp=Z,3.9nm,0.9s,mb4.3
SDV LR LR
comp=Z,303nm,19.0s,MS4.7
KIP Kipapa 80.80 332 PFAKE 01 27 20.0 +11
KIP LR LR
comp=Z,3µm,19.0s,MS5.7
TEIG Tepich 82.66 37 eP **P 01 27 19.5 +0.7**
TEIG LR LR
comp=Z,614nm,20.0s,MS5.0
FITZ Fitzroy Crossi 84.15 247 eP **P 01 27 26.3 -0.6**
comp=Z,26nm,0.8s,mb5.4
MBWA Marble Bar 84.59 240 eP **P 01 27 29.6 +0.5**
comp=Z,15nm,1.1s,mb5.0
MBWA LR LR
comp=Z,2µm,20.0s,MS5.4
RCBR Riachuelo 86.44 95 PFAKE 01 27 50.0 +12
RCBR LR LR
comp=Z,1µm,22.0s,MS5.2
KVTX Kingsville 86.67 27 PFAKE 01 27 50.0 +11
KVTX LR LR
comp=Z,597nm,20.0s,MS5.0
TXAR Lajitas Array 87.06 21 P **P 01 27 39.8 -1.1**
comp=Z,2.7nm,1.1s,mb4.4,baz=190,slow=6.4,SNR=9.6
SDDR Presa de Saban 88.33 52 PFAKE 01 28 00.0 +13
SDDR LR LR
comp=Z,452nm,21.0s,MS4.9
SUR Sutherland 88.46 154 PFAKE 01 28 00.0 +12
SUR LR LR
comp=Z,2µm,20.0s,MS5.5
SNCC San Nicolas Is 88.73 7 PFAKE 01 28 00.0 +11
SNCC LR LR
comp=Z,1µm,19.0s,MS5.3
TUC Tucson 88.73 15 eP **P 01 27 49.1 +0.4**
TUC MLR MLR
comp=Z,650nm,22.0s,MS5.0
GLA Glamis 88.95 11 eP **P 01 27 50.5 +0.7**
GLA pmax pmax
comp=Z,17nm,1.3s,mb5.2
GLA MLR MLR
comp=Z,988nm,21.0s,MS5.2
GLA Glamis 88.95 11 eP **P 01 27 50.5 +0.7**
comp=Z,17nm,1.3s,mb5.2
GLA LR LR
comp=Z,988nm,21.0s,MS5.2
BBGH Gun Hill 89.00 65 PFAKE 01 28 00.0 +10
BBGH LR LR
comp=Z,2µm,21.0s,MS5.5
JCT Junction City 89.01 24 P **P 01 27 49.5 -0.6**
JCT pmax pmax
comp=Z,53nm,1.4s,mb5.7
JCT MLR MLR
comp=Z,356nm,21.0s,MS4.8
JCT Junction City 89.01 24 P **P 01 27 49.5 -0.6**
comp=Z,53nm,1.4s,mb5.7
JCT LR LR
comp=Z,356nm,21.0s,MS4.8
MNTX Cornudas Mount 89.02 19 eP **P 01 27 49.5 -0.6**
comp=Z,28nm,1.5s,mb5.4
MNTX LR LR
comp=Z,554nm,21.0s,MS5.0
PFO Pinyon Flat Ob 89.34 10 PFAKE 01 28 00.0 +8.4
PFO LR LR
comp=Z,1µm,21.0s,MS5.3
HKT Hockley 89.49 28 eP **P 01 27 53.4 +1.0**
HKT pmax pmax
comp=Z,61nm,1.9s,mb5.6
HKT MLR MLR
comp=Z,369nm,19.0s,MS4.8
HKT Hockley 89.49 28 eP **P 01 27 53.4 +1.1**
comp=Z,61nm,1.9s,mb5.6
HKT LR LR
comp=Z,369nm,19.0s,MS4.8
GDL2 Guadalupe Moun 89.70 20 eP **P 01 27 59.2 +5.9**
LDFC Landfair 90.93 11 eP **P 01 27 57.1 -1.8**
GSC Goldstone 90.98 9 PFAKE 01 28 10.0 +11
GSC LR LR
comp=Z,991nm,20.0s,MS5.2
BNM Barren Site 91.19 18 eP **P 01 28 00.5 +0.3**
LPM Los Pinos Moun 91.34 18 eP **P 01 28 01.0 +0.1**
LAZ Ladron 91.35 17 eP **P 01 28 00.9 0.0**
NATX Nacogdoches 91.51 28 PFAKE 01 28 10.0 +8.2
NATX LR LR
comp=Z,332nm,20.0s,MS4.8
WUAZ Wupatki 91.80 14 eP **P 01 28 03.9 +0.9**
comp=Z,21nm,1.5s,mb5.2
WUAZ LR LR
comp=Z,993nm,21.0s,MS5.2
ANMO Albuquerque 92.00 18 eP **P 01 28 03.5 -0.4**
ANMO MLR MLR
comp=Z,317nm,20.0s
SAO San Andreas Ge 92.11 5 eP **P 01 28 04.1 -0.3**
SAO MLR MLR
comp=Z,1µm,19.0s,MS5.4
DWPF Disney 92.32 40 PFAKE 01 28 20.0 +14
DWPF LR LR
comp=Z,352nm,22.0s,MS4.8
TPNV Topopah Spring 92.67 9 eP **P 01 28 08.9 +1.9**
TPNV pmax pmax
comp=Z,10.0nm,1.4s,mb5.0
TPNV MLR MLR
comp=Z,949nm,19.0s,MS5.3
TPNV Topopah Spring 92.67 9 eP **P 01 28 08.8 +1.9**
comp=Z,9.6nm,1.4s,mb5.0
TPNV LR LR
comp=Z,949nm,19.0s,MS5.3
AMTX Amarillo 92.84 21 PFAKE 01 28 20.0 +12
AMTX LR LR
comp=Z,221nm,20.0s,MS4.6
BRAL Brewton 93.05 34 PFAKE 01 28 20.0 +11
BRAL LR LR
comp=Z,478nm,21.0s,MS4.9
VBMS Vicksburg 93.11 31 PFAKE 01 28 20.0 +11
VBMS LR LR
comp=Z,291nm,21.0s,MS4.7
BOSA Boshof 93.12 157 LR LR 02 07 03.7
comp=Z,2µm,19.0s,MS5.6,baz=196,slow=34
WMOK Wichita Mounta 93.33 24 eP **P 01 28 09.3 -0.8**
WMOK pmax pmax
comp=Z,1.0nm,0.5s,mb4.5
WMOK MLR MLR
comp=Z,279nm,19.0s,MS4.7
WMOK Wichita Mounta 93.33 24 eP **P 01 28 09.2 -0.8**
comp=Z,0.8nm,0.5s,mb4.4
WMOK LR LR
comp=Z,279nm,19.0s,MS4.7
MCCM Marconi Confer 93.42 4 PFAKE 01 28 20.0 +10
MCCM LR LR
comp=Z,1µm,21.0s,MS5.3
CMB Columbia Colle 93.43 6 PFAKE 01 28 20.0 +10
CMB LR LR
comp=Z,879nm,19.0s,MS5.2
MIDW Midway 93.45 318 PFAKE 01 28 20.0 +9.2
MIDW LR LR
comp=Z,968nm,21.0s,MS5.2
NVAR Mina Array Bea 93.97 8 P **P 01 28 13.4 +0.6**
comp=Z,0.4nm,0.8s,mb3.9,baz=193,slow=7.2,SNR=2.9
HOPS Hopland 94.26 4 PFAKE 01 28 30.0 +16
HOPS LR LR
comp=Z,1µm,22.0s,MS5.4
MIAR Mount Ida 94.44 28 PFAKE 01 28 30.0 +15
MIAR LR LR
comp=Z,245nm,22.0s,MS4.6
MSU Marysvale 94.65 12 eP **P 01 28 16.8 +0.8**
PV01 Paradox Valley 94.77 15 eP **P 01 28 15.8 -0.8**
SDCO Great Sand Dun 94.89 18 eP **P 01 28 17.6 +0.5**
comp=Z,2.9nm,1.2s,mb4.6
SDCO LR LR
comp=Z,393nm,22.0s,MS4.8
LRAL Lakeview Retre 94.94 34 PFAKE 01 28 30.0 +12
LRAL LR LR
comp=Z,447nm,20.0s,MS4.9
OXF Oxford 95.57 31 PFAKE 01 28 30.0 +10
OXF LR LR
comp=Z,240nm,19.0s,MS4.7
WDC Whiskeytown Da 95.86 4 PFAKE 01 28 30.0 +8.5
WDC LR LR
comp=Z,2µm,22.0s,MS5.4
MPU Maple Canyon 96.20 13 PFAKE 01 28 30.0 +6.9
MPU LR LR
comp=Z,1µm,20.0s,MS5.4
DUG Dugway 96.24 12 PFAKE 01 28 30.0 +6.8
DUG LR LR
comp=Z,664nm,21.0s,MS5.1
PLAL Pickwick Lake 96.41 32 PFAKE 01 28 40.0 +16
PLAL LR LR
comp=Z,363nm,21.0s,MS4.8
GOGA Godfrey 96.43 36 PFAKE 01 28 40.0 +16
GOGA LR LR
comp=Z,307nm,19.0s,MS4.8
LBTB Lobatse 96.66 156 PFAKE 01 28 40.0 +14
LBTB LR LR
comp=Z,2µm,20.0s,MS5.5
ISCO Idaho Springs 96.87 17 PFAKE 01 28 40.0 +14
ISCO LR LR
comp=Z,627nm,21.0s,MS5.1
YBH Yreka Blue Hor 97.00 4 PFAKE 01 28 40.0 +13
YBH LR LR
comp=Z,1µm,20.0s,MS5.4
CBKS Cedar Bluff 97.03 22 PFAKE 01 28 40.0 +13
CBKS LR LR
comp=Z,267nm,19.0s,MS4.8
MOD Modoc 97.29 6 PFAKE 01 28 40.0 +12
MOD LR LR
comp=Z,878nm,22.0s,MS5.2
NHSC New Hope 97.29 39 PFAKE 01 28 40.0 +12
NHSC LR LR
comp=Z,243nm,19.0s,MS4.7
WVT Waverly 97.55 32 PFAKE 01 28 40.0 +11
WVT LR LR
comp=Z,238nm,19.0s,MS4.7
HWUT Hardware Ranch 97.78 12 PFAKE 01 28 40.0 +10
HWUT LR LR
comp=Z,706nm,20.0s,MS5.2
HUMO Hull Mountain 97.87 4 PFAKE 01 28 40.0 +9.5
HUMO LR LR
comp=Z,1µm,19.0s,MS5.4
KSU1 Kansas State U 98.00 24 PFAKE 01 28 40.0 +8.7
KSU1 LR LR
comp=Z,262nm,19.0s,MS4.7
KAPI Kappang 98.22 249 LR LR 02 08 43.6
comp=Z,1µm,21.3s,MS5.4,baz=150,slow=33
CCM Cathedral Cave 98.37 29 PFAKE 01 28 40.0 +7.1
CCM LR LR
comp=Z,217nm,20.0s,MS4.6
AHID Auburn Hatcher 98.98 13 PFAKE 01 28 50.0 +14
AHID LR LR
comp=Z,648nm,21.0s,MS5.1
BW06 Boulder Array 99.18 14 PFAKE 01 28 50.0 +14
BW06 LR LR
comp=Z,1µm,20.0s,MS5.3
TZTN Tazewell 99.26 35 PFAKE 01 28 50.0 +13
TZTN LR LR
comp=Z,407nm,21.0s,MS4.9
COR Corvallis 99.83 3 PFAKE 01 28 50.0 +10
COR LR LR
comp=Z,1µm,20.0s,MS5.3
CNNC Cliffs of the 100.03 40 PFAKE 01 28 50.0 +8.9
CNNC LR LR
comp=Z,529nm,19.0s,MS5.1
TSUM Tsumeb 100.04 147 PFAKE 01 28 50.0 +8.9
TSUM LR LR
comp=Z,945nm,19.0s,MS5.3
BMO Blue Mountains 100.42 8 PFAKE 01 28 50.0 +7.2
BMO LR LR
comp=Z,629nm,21.0s,MS5.1
YMR Madison River 100.87 12 PFAKE 01 29 00.0 +15
YMR LR LR
comp=Z,2µm,22.0s,MS5.5
BLA Blacksburg 100.91 37 PFAKE 01 29 00.0 +15
BLA LR LR
comp=Z,380nm,19.0s,MS4.9
HDIL Hopedale 101.24 29 PFAKE 01 29 00.0 +14
HDIL LR LR
comp=Z,316nm,19.0s,MS4.8
SCIA State Center 101.48 26 PFAKE 01 29 00.0 +12
SCIA LR LR
comp=Z,324nm,21.0s,MS4.8
BOZ Bozeman (W) 101.76 12 PFAKE 01 29 00.0 +11
BOZ LR LR
comp=Z,579nm,20.0s,MS5.1
HAWA Hanford 101.81 6 PFAKE 01 29 00.0 +11
HAWA LR LR
comp=Z,739nm,20.0s,MS5.2
ECSD EROS,Sioux Fal 102.42 23 PFAKE 01 29 00.0 +8.3
ECSD LR LR
comp=Z,375nm,20.0s,MS4.9
NLWA Neilton Lookou 102.61 3 PFAKE 01 29 00.0 +7.4
NLWA LR LR
comp=Z,682nm,19.0s,MS5.2
MSO Missoula 102.68 10 PFAKE 01 29 00.0 +7.2
MSO LR LR
comp=Z,965nm,20.0s,MS5.3
COCO West Island 102.80 225 PFAKE 01 29 00.0 +6.6
COCO LR LR
comp=Z,1µm,19.0s,MS5.5
ACSO Alum Creek Sta 102.81 34 PFAKE 01 29 00.0 +6.6
ACSO LR LR
comp=Z,340nm,21.0s,MS4.8
BBSR BB Station 102.84 51 Pdif Pdif 01 28 53.4 -0.2
CBN Corbin 102.86 39 ePdif Pdif 01 28 54.8 +1.1
CBN LR LR
comp=Z,428nm,21.0s,MS5.0
JFWS Jewell Farm 103.18 28 PFAKE 01 29 10.0 +15
JFWS LR LR
comp=Z,228nm,20.0s,MS4.7
MCWV Mont Chateau 103.31 36 PFAKE 01 29 10.0 +14
MCWV LR LR
comp=Z,512nm,19.0s,MS5.1
NEW Newport 103.83 7 PFAKE 01 29 10.0 +12
NEW LR LR
comp=Z,774nm,19.0s,MS5.3
EGMT Eagleton 104.32 13 PFAKE 01 29 10.0 +10
EGMT LR LR
comp=Z,519nm,19.0s,MS5.1
AAM Ann Arbor 104.48 32 PFAKE 01 29 10.0 +9.1
AAM LR LR
comp=Z,323nm,22.0s,MS4.8
SSPA Standing Stone 104.85 37 PFAKE 01 29 10.0 +7.5
SSPA LR LR
comp=Z,216nm,20.0s,MS4.7
DAV Davao City (W) 105.07 260 PFAKE 01 33 30.0 +12
DAV LR LR
comp=Z,615nm,22.0s,MS5.1
ERPA Erie 105.47 35 PFAKE 01 33 30.0 +12
ERPA LR LR
comp=Z,245nm,19.0s,MS4.8
DGMT Dagmar 105.54 16 PFAKE 01 33 30.0 +12
DGMT LR LR
comp=Z,390nm,22.0s,MS4.9
ABPO Ambohimpanom 105.63 175 PFAKE 01 33 30.0 +11
ABPO LR LR
comp=Z,4µm,19.0s,MS6.0
COWI Conover 106.44 27 PFAKE 01 33 30.0 +11
COWI LR LR
comp=Z,346nm,19.0s,MS4.9
GLMI Grayling 106.50 31 PFAKE 01 33 30.0 +10
GLMI LR LR
comp=Z,326nm,20.0s,MS4.9
LSZ Lusaka 106.65 156 PFAKE 01 33 30.0 +9.1
LSZ LR LR
comp=Z,2µm,22.0s,MS5.5
BINY Binghamton 106.90 38 PFAKE 01 33 30.0 +10
BINY LR LR

comp=Z,210nm,20.0s,MS4.7
AGMN Agassiz Refuge 106.92 22 PFAKE 01 33 30.0 +10
AGMN LR LR
comp=Z,213nm,21.0s,MS4.7
EYMN Ely 107.57 25 PFAKE 01 33 30.0 +8.5
EYMN LR LR
comp=Z,351nm,19.0s,MS4.9
WES Weston 108.74 41 PFAKE 01 33 40.0 +16
WES LR LR
comp=Z,672nm,22.0s,MS5.2
HRV Adam Dziewonsk 108.75 41 PFAKE 01 33 40.0 +16
HRV LR LR
comp=Z,351nm,22.0s,MS4.9
NCB Newcomb 109.07 38 PFAKE 01 33 40.0 +16
NCB LR LR
comp=Z,583nm,22.0s,MS5.1
LONY Lake Ozonia 109.51 37 PFAKE 01 33 40.0 +15
LONY LR LR
comp=Z,586nm,19.0s,MS5.2
LBNH Lisbon 110.12 39 PFAKE 01 33 40.0 +14
LBNH LR LR
comp=Z,444nm,20.0s,MS5.0
WRAK Wrangell Islan 111.65 357 PFAKE 01 33 40.0 +11
WRAK LR LR
comp=Z,1μm,20.0s,MS5.6
FFC Flin Flon 111.95 16 PFAKE 01 33 40.0 +10
FFC LR LR
comp=Z,911nm,21.0s,MS5.3
PKME Peaks-Kenny Pk 111.96 41 PFAKE 01 33 40.0 +10
PKME LR LR
comp=Z,465nm,20.0s,MS5.1
SIT Sitka 112.39 356 PFAKE 01 33 40.0 +10
SIT LR LR
comp=Z,2μm,19.0s,MS5.8
UNV Unalaska Valle 113.52 336 PFAKE 01 33 40.0 +7.5
UNV LR LR
comp=Z,6μm,22.0s,MS6.2
DBIC Dimbokro 113.81 115 PFAKE 01 33 50.0 +16
DBIC LR LR
comp=Z,572nm,21.0s,MS5.2
KDAK Kodiak Island 114.69 346 PFAKE 01 33 50.0 +15
KDAK LR LR
comp=Z,629nm,20.0s,MS5.2
DIV Divide 117.17 350 PFAKE 01 33 50.0 +11
DIV LR LR
comp=Z,5μm,22.0s,MS6.1
PMR Palmer 117.97 349 PFAKE 01 33 50.0 +9.2
PMR LR LR
comp=Z,1μm,21.0s,MS5.5
SMY Shemya 117.99 324 PFAKE 01 33 50.0 +8.8
SMY LR LR
comp=Z,769nm,19.0s,MS5.3
YKA Yellowknife Ar 118.16 7 PKP PKPdf 01 33 39.8 -1.3
comp=Z,0.3nm,0.8s,baz=184,slow=2.8,SNR=5.2
YKA PKKPbc PKKPbc 01 44 00.5 +0.4
comp=Z,0.3nm,0.9s,baz=357,slow=3.6,SNR=3.8
MSEY Mahe Island 119.93 184 PFAKE 01 34 00.0 +14
MSEY LR LR
comp=Z,697nm,19.0s,MS5.3
MCK McKinley 120.03 349 PFAKE 01 34 00.0 +15
MCK LR LR
comp=Z,629nm,22.0s,MS5.2
EGAK Eagle 120.41 354 PFAKE 01 34 00.0 +15
EGAK LR LR
comp=Z,1μm,20.0s,MS5.6
COLA College 121.04 350 PFAKE 01 34 00.0 +13
COLA LR LR
comp=Z,1μm,21.0s,MS5.5
MAJO Matsushiro 121.19 290 PFAKE 01 34 00.0 +12
MAJO LR LR
comp=Z,508nm,22.0s,MS5.1
TATO Taipei 121.75 268 PFAKE 01 34 00.0 +11
TATO LR LR
comp=Z,439nm,20.0s,MS5.1
KMBO Kilima Mbogo 122.25 162 PFAKE 01 34 00.0 +9.3
KMBO LR LR
comp=Z,736nm,20.0s,MS5.3
TORD Torodi Ar. Bea 122.66 117 PKP PKPdf 01 33 50.0 -1.3
comp=Z,0.8nm,0.8s,baz=192,slow=0.9,SNR=4.9
TORD PP PP 01 35 28.5 -0.1
comp=Z,0.5nm,1.0s,baz=208,slow=6.0,SNR=3.6
ERM Erimo 122.68 298 PFAKE 01 34 00.0 +9.4
ERM LR LR
comp=Z,706nm,20.0s,MS5.3
IMA2 Indian Mountai 122.83 348 *e*PKPdf PKPdf 01 33 48.6 -1.5
QIZ Qiongzhong 123.56 254 PKP PKPdf 01 33 48.5 -4.5
QIZ PP PP 01 35 36.8 +2.0
QIZ SS SS 01 52 23.6 +1.5
QIZ PP PP
comp=Z,160nm,11.2s
QIZ LR LR
comp=N,274nm,21.8s
QIZ LR LR
comp=Z,382nm,23.9s,MS5.0
QIZ Qiongzhong 123.56 254 PFAKE 01 34 00.0 +7.0
QIZ LR LR
comp=Z,317nm,20.0s,MS5.0
INK Inuvik 123.60 358 PKIKP PKPdf 01 33 51.6 +0.1
PET Petropavlovsk 123.86 316 PFAKE 01 34 00.0 +7.5
PET LR LR
comp=Z,801nm,21.0s,MS5.4
TNA Tin City 124.52 341 PFAKE 01 34 00.0 +6.7
TNA LR LR
comp=Z,963nm,20.0s,MS5.5
YSS Yuzh-Sakhalins 126.45 302 PFAKE 01 34 10.0 +12
YSS LR LR
comp=Z,394nm,22.0s,MS5.0
SSE Sheshan 126.58 273 PKP PKPdf 01 34 01.0 +2.6
SSE PP PP 01 36 01.6 +6.4
SSE PP PP
comp=Z,125nm,11.3s
SSE LR LR
comp=Z,220nm,22.9s,MS4.8
PALK Pallekele 126.73 216 PFAKE 01 34 10.0 +11
PALK LR LR
comp=Z,817nm,21.0s,MS5.4
CMLA Cha da Macela 126.81 75 PFAKE 01 34 10.0 +11
CMLA LR LR
comp=Z,513nm,19.0s,MS5.2
KSRS Korea Array 127.45 283 PKP PKPdf 01 33 56.5 -3.4
comp=Z,0.4nm,0.3s,baz=132,slow=2.4,SNR=2.9
INCN Inchon 128.19 283 PFAKE 01 34 10.0 +8.7
INCN LR LR
comp=Z,351nm,19.0s,MS5.1
NJ2 Nanjing 128.62 272 *e*PKP PKPdf 01 33 59.6 -2.7
NJ2 PP PP
comp=Z,170nm,6.1s
NJ2 LR LR
comp=N,310nm,18.7s,MS5.1
NJ2 LR LR
comp=E,260nm,20.8s,MS5.1
NJ2 LR LR
comp=Z,260nm,20.8s,MS4.9
CHTO Chiang Mai 129.14 243 PFAKE 01 34 20.0 +16
CHTO LR LR
comp=Z,504nm,19.0s,MS5.2
GYA Guiyang 131.24 257 PDIF Pdif 01 31 01.4 +1.6
GYA PKP PKPdf 01 34 09.6 +2.2
GYA PP PP 01 36 31.8 +6.3
GYA PKS 01 37 44.8
GYA SKS SKSdf 01 41 18.6 -0.1
GYA SKKS SKKSac 01 43 21.9 +0.2
GYA PP PP
comp=Z,140nm,7.4s
GYA LR LR
comp=N,560nm,20.6s,MS5.3
GYA LR LR
comp=E,440nm,21.5s,MS5.3
GYA LR LR
comp=Z,440nm,20.8s,MS5.1
MDJ Mudanjiang 131.53 291 PKP PKPdf 01 34 09.5 +2.1
MDJ XPKP 01 34 14.0
MDJ PKS 01 37 43.6
MDJ SKS SKSdf 01 41 17.8 -0.6
MDJ SS SS 01 54 05.4 +4.1
MDJ LR LR
comp=N,140nm,34.8s,MS4.6
MDJ LR LR
comp=E,180nm,38.6s,MS4.6
MDJ LR LR
comp=Z,305nm,30.9s
MDJ Mudanjiang 131.53 291 PFAKE 01 34 20.0 +13
MDJ LR LR
comp=Z,326nm,22.0s,MS5.0
MA2 Magadan 131.61 318 PFAKE 01 34 20.0 +13
MA2 LR LR
comp=Z,411nm,20.0s,MS5.1
RES Resolute Bay 131.80 11 *e*PKIKP PKPdf 01 34 06.5 -0.5
KMI Kunming 132.33 252 PKP PKPdf 01 34 11.0 +1.5
BILL Bilibino 132.40 332 PFAKE 01 34 20.0 +12
BILL LR LR
comp=Z,487nm,20.0s,MS5.2
CN2 Changchun 133.21 288 *e*PKP PKPdf 01 34 09.0 -1.6
CN2 PP PP 01 36 38.6 +0.4
CN2 SS SS 01 54 18.4 -3.3
CN2 LR LR
comp=N,600nm,17.0s,MS5.5
CN2 LR LR
comp=E,400nm,17.0s,MS5.5
CN2 LR LR
comp=Z,300nm,17.0s,MS5.1
KLR Kul'dur 133.43 297 *e*PKIKP PKPdf 01 34 13.7 +2.9
SFJD Kangerlussuaq 135.05 33 PFAKE 01 34 20.0 +6.7
SFJD LR LR
comp=Z,458nm,22.0s,MS5.2
XAN Xi'an 135.72 265 PKP PKPdf 01 34 20.8 +5.2
XAN SKS SKSdf 01 41 27.9 +1.6
XAN PP PP
comp=Z,117nm,7.7s
XAN LR LR
comp=N,152nm,28.0s,MS4.8
XAN LR LR
comp=E,183nm,25.3s,MS4.8
XAN LR LR
comp=Z,426nm,29.3s,MS5.0
BJT Baijiatuau 135.81 277 PFAKE 01 34 30.0 +14
BJT LR LR
comp=Z,365nm,21.0s,MS5.1
BJI Beijing 135.83 277 PKP PKPdf 01 34 16.0 +0.4
BJI SS SS 01 54 55.1 +1.8
BJI LR LR
comp=N,166nm,20.6s,MS5.0
BJI LR LR
comp=E,245nm,21.1s,MS5.0
BJI LR LR
comp=Z,381nm,31.8s
CD2 Chengdu 136.29 258 *e*PKP PKPdf 01 34 17.9 +1.1
CD2 XPKP 01 34 26.3
CD2 PP PP 01 37 01.9 +4.2
CD2 PKS 01 37 52.8
CD2 SKS SKSdf 01 41 23.4 -4.1
CD2 SKKS SKKSac 01 43 48.8 -3.4
CD2 SS SS 01 54 57.5 -1.3
CD2 PP PP
comp=Z,120nm,8.4s
CD2 LR LR
comp=N,300nm,25.2s,MS5.3
CD2 LR LR
comp=E,630nm,21.2s,MS5.3
CD2 LR LR
comp=Z,340nm,26.4s
HHC Hu-ho-hao-te 138.98 275 *e*PKP PKPdf 01 34 22.8 +1.4
HHC PP PP 01 37 16.5 +2.0
HHC PKS 01 37 57.0
HHC SKS SKSdf 01 41 30.6 -0.9
HHC SKKS SKKSac 01 44 06.5 -1.2
HHC SS SS 01 55 29.4 -1.3
HHC PP PP
comp=Z,114nm,7.8s
HHC LR LR
comp=N,411nm,22.2s,MS5.3
HHC LR LR
comp=E,494nm,21.8s,MS5.3
HHC LR LR
comp=Z,635nm,21.4s,MS5.3
HIA Hailar 139.69 290 PFAKE 01 34 30.0 +7.6
HIA LR LR
comp=Z,346nm,20.0s,MS5.1
PAB San Pablo 139.94 89 PFAKE 01 34 40.0 +17
PAB LR LR
comp=Z,472nm,22.0s,MS5.2
ESDC Sonseca Array 140.24 89 PKP PKPdf 01 34 24.1 +0.3
comp=Z,0.9nm,0.8s,baz=228,slow=2.2,SNR=4.0
YAK Yakutsk 141.51 312 PFAKE 01 34 40.0 +15
YAK LR LR
comp=Z,375nm,20.0s,MS5.1
LSA Lhasa 142.10 243 PFAKE 01 34 40.0 +13
LSA LR LR
comp=Z,504nm,19.0s,MS5.3
GTA Gaotai 144.68 263 *e*PKP PKPdf 01 34 29.3 -2.3
GTA APKP 01 34 39.9
GTA PP PP 01 37 48.3 -0.8
GTA PKS 01 38 05.1
GTA SKS SKSdf 01 41 37.3 -3.3
GTA SKKS SKKSac 01 44 36.8 -4.0
GTA SS SS 01 56 34.9 -2.0
GTA PP PP
comp=Z,192nm,8.8s
GTA LR LR
comp=N,239nm,22.9s
GTA LR LR
comp=E,197nm,17.2s
GTA LR LR
comp=Z,307nm,21.4s,MS5.0
KEST Kesra 144.94 106 PKPbc PKPdf 01 34 30.1 -2.1
comp=Z,4.6nm,0.8s,baz=204,slow=0.7,SNR=13
SALF Salau 145.20 90 PKP PKPdf 01 34 32.7 +0.3
TIXI Tiksi 145.21 327 *i* PKIKP PKPdf 01 34 29.3 -2.2
TIXI pmax pmax
comp=Z,82nm,1.7s
TIXI Tiksi 145.21 327 *e*PKPdf PKPdf 01 34 29.0 -2.5
TIXI LR LR
comp=Z,611nm,19.0s,MS5.4
ULN Ulaanbaatar 145.84 281 *i* PKP2 PKPab 01 34 31.9 -2.5
ULN *i* 01 34 36.4
ULN Ulaanbaatar 145.84 281 *e*PKPdf PKPdf 01 34 33.6 +0.2
ULN LR LR
comp=Z,334nm,19.0s,MS5.1
SONM Songino Array 146.19 280 PKPbc PKPbc 01 34 34.5 -0.5
comp=Z,6.2nm,0.8s,baz=143,slow=3.2,SNR=20
BOD Bodaibo 146.90 300 *e*PKHKP 01 34 32.5
BOD pmax pmax
comp=Z,19nm,1.6s
DAG Danmarks Havn 147.56 24⇑ *i*PKIKP PKPdf 01 34 37.0 +1.6
DAG pmax pmax
comp=Z,12nm,1.2s
DAG Danmarks Havn 147.56 24⇑ *i*P PKPdf 01 34 37.0 +1.6
comp=Z,12nm,1.2s
TCF Toulx Ste Croi 147.92 86 *e*PKIKP PKPdf 01 34 35.2 -1.7
comp=Z,71nm,1.5s
PYM Petit Puy Mans 148.06 87 PKP PKPab 01 34 45.8 +2.6
AGO Saint Agoulin 148.31 87 PKP PKPab 01 34 44.1 -0.1
ZAK Zakamensk 149.27 282 *e*PKIKP PKPbc 01 34 42.2 -1.1
ZAK pmax pmax
comp=Z,14nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.7s
ESK Eskdalemuir 149.37 67 PFAKE 01 34 50.0 +11
ESK LR LR
comp=Z,431nm,20.0s,MS5.2
LOR Lormes 149.41 85 *e*PKIKP PKPdf 01 34 37.7 -1.6
comp=Z,43nm,1.3s
TLY Talaya 149.70 285 *i* PKIKP PKPdf 01 34 42.2 +2.6
TLY *e*SS SS 01 57 28.2 -5.4
TLY *e*SSS 02 03 17.2
TLY pmax pmax
comp=Z,36nm,1.7s
TLY Talaya 149.70 285 PFAKE 01 34 50.0 +10
TLY LR LR
comp=Z,434nm,20.0s,MS5.2
BAIF Baives 151.07 81 *e*PKIKP PKPdf 01 34 39.5 -2.3
comp=Z,93nm,1.5s
MOY Mondy 151.16 283 *e*PKIKP PKPbc 01 34 50.5 +2.7
GIVF Givet 151.44 81 *e*PKIKP PKPdf 01 34 40.2 -2.1
TIP Timpagrande 151.47 110 *e*PKPdf PKPdf 01 34 45.7 +2.9
AQU L'Aquila 151.83 102⇑ *i*P PKPab 01 34 56.6 -2.2
BFO Black Forest 152.52 87 *e*PKIKP PKPbc 01 34 47.6 -3.4
BFO MLR MLR
comp=Z,399nm,21.0s,MS5.2
DAVA Damuels 152.84 90⇑ *i*P PKPbc 01 34 54.8 +3.0
comp=Z,12nm,1.0s
DAVA Damuels 152.84 90⇑ *i*PKiKP PKiKP 01 34 53.5 +1.6
comp=Z,12nm,1.0s
KBS Kingsbay 153.04 16 PFAKE 01 35 00.0 +16
KBS LR LR
comp=Z,523nm,19.0s,MS5.4
WMQ Urumqi 154.39 258 *e*PKP PKPdf 01 34 49.0 +2.1
WMQ PP PP 01 38 50.0 +4.7
WMQ SKS SKSdf 01 41 55.0 +1.8
WMQ SKKS SKKSac 01 45 37.0 +2.6
WMQ PP PP
comp=Z,87nm,8.0s
WMQ LR LR
comp=N,398nm,22.0s,MS5.3
WMQ LR LR
comp=E,387nm,21.0s,MS5.3
WMQ LR LR
comp=Z,517nm,22.0s,MS5.3
GRFO Grafenberg 154.85 86 PFAKE 01 35 00.0 +13
GRFO LR LR
comp=Z,499nm,20.0s,MS5.3
GRF Grafenberg Arr 154.85 86 *e*PKP PKPbc 01 34 59.8 +3.8
GRF *e*L 02 54 29.0
comp=Z,487nm,20.3s
NKC Novy Kostel 155.81 86 *e*PKPDF PKPdf 01 34 53.0 +4.4
GERES GERESS Array B 155.84 90 PKP PKPdf 01 34 47.8 -0.9
comp=Z,0.8nm,0.8s,baz=209,slow=1.8,SNR=6.7
KHC Kasperske Hory 155.91 89 *e*PKPDF PKPdf 01 34 50.8 +2.0
KHC AMS AMS 02 37 20.0
comp=Z,400nm,18.8s
CLL Collm 156.60 84 *e*PKIKP PKPdf 01 34 50.0 +0.4
CLL *i* 01 34 58.1
CLL *e* 01 35 16.0
CLL pmax pmax
comp=Z,13nm,1.6s
CLL MLR MLR
comp=Z,600nm,20.8s,MS5.4
CLL Collm 156.60 84 *e*PKP PKPdf 01 34 50.0 +0.4
CLL *i* 01 34 58.1
CLL *i* 01 35 05.9
CLL Collm 156.60 84 *e*PKPdf PKPdf 01 34 50.0 +0.4
comp=Z,13nm,1.6s
CLL *i* x x 01 34 58.1
comp=Z,7.0nm,1.0s
CLL *i* x x 01 35 05.9
comp=Z,151nm,3.1s
CLL *e*PKPab PKPab 01 35 18.0 -0.8
comp=Z,100nm,13.8s
CLL *e*PP PP 01 39 00.0 +2.3
CLL *e*SKSdf SKSdf 01 42 06.0 +11
CLL *e*PPP 01 42 39.0
CLL *e*SKSP 01 49 22.0
CLL *e*SS SS 01 58 51.0 +1.8
CLL *e*SSS 02 04 49.0
CLL *ex* x 02 07 17.0
CLL *e*SSSS 02 09 00.0
CLL LmV 02 54 00.0
comp=Z,600nm,20.8s
PRU Pruhonice 156.88 88 *e*PKPDF PKPdf 01 34 52.6 +2.6
PRU *ex* x 01 35 29.3
PRU AMS AMS 02 40 10.0
comp=Z,500nm,22.8s
BRG Berggiesshubel 156.95 86 *e*PKIKP PKPdf 01 34 49.1 -0.9
BRG *e* 01 34 56.5
BRG *e* 01 58 51.0
BRG pmax pmax
comp=Z,13nm,1.9s
BRG pmax pmax
comp=Z,11nm,1.6s
BRG MLR MLR
comp=N,178nm,24.0s
BRG MLR MLR
comp=E,120nm,17.0s
BRG MLR MLR
comp=Z,289nm,22.0s,MS5.1
BRG Berggiesshubel 156.95 86 *e*PKP PKPdf 01 34 49.1 -0.9
BRG *e* 01 34 56.5
BRG *e* 01 58 51.0
BRG LR LR
comp=Z,290nm,22.0s,MS5.1
BRG Berggiesshubel 156.95 86 *e*PKP PKPdf 01 34 49.1 -0.9
comp=Z,22nm,1.9s
BRG *e* 01 34 56.5
comp=Z,18nm,1.6s
BRG *e* 01 58 51.0
BRG
comp=N,297nm,24.0s
BRG
comp=E,200nm,17.0s
BRG
comp=Z,483nm,22.0s
TREC Trest 157.08 90 *e*PKPDF PKPdf 01 34 54.3 +4.0
TREC AMS AMS 02 36 40.0
comp=Z,400nm,25.7s
PVCC Panska Ves 157.15 87 *e*PKPDF PKPdf 01 34 51.7 +1.4
PVCC AMS AMS 02 39 10.0
comp=Z,500nm,24.1s
PKSM Moragy 157.18 100⇓ *i*P PKPdf 01 34 52.4 +1.9
KONO Kongsberg 157.21 62 PFAKE 01 35 00.0 +10
KONO LR LR
comp=Z,540nm,19.0s,MS5.4
VTS Vitosha 157.32 113⇓ *i*P PKPdf 01 34 57.9 +7.1
UPC Upice 157.96 88 *e*PKIKP PKPdf 01 34 57.8 +6.5
UPC Upice 157.96 88 *e*pPKP pPKPdf 01 34 57.8 +3.0
DPC Dobruska-Polom 158.06 89 *e*PKPDF PKPdf 01 34 55.0 +3.5
DPC *e*pPKP pPKPab 01 35 31.0 +2.5
BZS Buzias 158.47 105⇑ *i*P PKPdf 01 34 54.4 +2.3
VYHS Vyhne 158.57 95 *e*PKP PKPdf 01 34 54.5 +2.4
OKC Ostrava-Krasne 158.85 91 *e*PKIKP PKPdf 01 34 46.6 -5.8
OKC MLR MLR
comp=Z,300nm,21.4s,MS5.1
OKC Ostrava-Krasne 158.85 91 *e*PKP PKPdf 01 34 46.6 -5.8
OKC *e* 01 34 58.3
OKC Ostrava-Krasne 158.85 91 *e*PKPDF PKPdf 01 34 58.3 +5.9
OKC AMS AMS 02 52 00.0
comp=Z,300nm,21.4s
MKAR Makanchi Array 159.23 258 PKP PKPdf 01 34 52.3 -0.7
comp=Z,0.2nm,0.2s,baz=97,slow=1.6,SNR=4.1
MKAR PKPab PKPab 01 35 29.1 -1.2
comp=Z,2.4nm,0.7s,baz=122,slow=4.0,SNR=11
MKAR PP PP 01 39 11.4 -0.6
comp=Z,0.2nm,0.3s,baz=99,slow=6.5,SNR=3.7
ANTO Ankara 159.80 133 PFAKE 01 35 00.0 +6.1
ANTO LR LR
comp=Z,529nm,22.0s,MS5.3
TKM2 Tokmak 2 160.20 240 PFAKE 01 35 10.0 +16
TKM2 LR LR
comp=Z,544nm,20.0s
UCH Uchtor 160.20 237 PFAKE 01 35 10.0 +16
UCH LR LR
comp=Z,648nm,22.0s
STHS Stebnicka Huta 160.41 95 *e*PKP PKPdf 01 34 57.0 +2.8
MALT Malatya 160.50 146 ⇓PKIKP PKPdf 01 34 57.4 +2.7
MALT Malatya 160.50 146 *e*PKPdf PKPdf 01 34 57.0 +2.3
MALT Malatya 160.50 146 ⇓*i*P PKPdf 01 34 57.3 +2.6
AML Almayashu 160.51 236 PFAKE 01 35 10.0 +15
AML LR LR
comp=Z,475nm,19.0s
UZH Uzhgorod 160.59 98 *e*PKIKP PKPdf 01 35 01.6 +7.2
UZH *e* 01 35 07.6
FRU Bishkek 160.61 238 *e*PKP2 PKPab 01 35 36.0 -0.4
MLR Muntele Rosu 160.74 111⇑ *i*P PKPdf 01 34 54.6 -0.1
EKS2 Erkin-Say 160.88 237 PFAKE 01 35 10.0 +15
EKS2 LR LR
comp=Z,460nm,19.0s
ZALV Zalesovo Beam 161.08 279 PKPab PKPab 01 35 37.2 -1.0
comp=Z,1.7nm,0.6s,baz=108,slow=3.2,SNR=5.9
TIRR Tirgusor 161.32 117⇑ *i*P PKPdf 01 34 58.9 +3.5
KWP Kalwaria 161.34 96⇓ *i*P PKPdf 01 34 55.7 +0.5
VRI Vrincioaia 161.40 111⇓ *i*P PKPdf 01 34 59.5 +4.1
KEV Kevo 161.92 28 PFAKE 01 35 10.0 +15
KEV LR LR
comp=Z,741nm,21.0s
KIS Kishinev 163.23 111 *e*PKIKP PKPdf 01 34 55.0 -2.2
KIS *e* 01 35 49.0
KURK Kurchatov 163.36 264 *e*PKIKP PKPdf 01 34 57.8 +0.6
KURK MLR MLR
comp=Z,508nm,19.0s
GNI Garni 163.87 160 PFAKE 01 35 10.0 +12
GNI LR LR
comp=Z,867nm,22.0s
APA Apatity 165.13 28⇑ *e*PKIKP PKPdf 01 34 57.6 -0.7
APA pmax pmax
comp=Z,22nm,1.3s
KIEV Kiev 165.51 100 PFAKE 01 35 10.0 +11
KIEV LR LR
comp=Z,756nm,22.0s
AKASG Malin Array Be 165.53 100 PKP PKPdf 01 34 58.2 -1.0
comp=Z,0.6nm,0.6s,baz=202,slow=1.2,SNR=6.8
AKASG PKPab PKPab 01 35 57.2 -0.6
comp=Z,0.1nm,0.2s,baz=245,slow=2.6,SNR=2.6
SOC Sochi 165.66 141 *e*PKIKP PKPdf 01 35 01.0 +1.5
SOC *e* 01 39 50.9
SOC pmax pmax
comp=Z,16nm,0.9s

ANN	Anapa	165.80	133	ePKIKP	PKPdf	01 34 58.8	-0.8
KIV	Kislovodsk	166.96	149	ePKIKP	PKPdf	01 34 58.3	-2.2
KIV				e		01 36 04.6	
KIV				eSS	SS	02 00 35.1	-0.9
KIV				eSSS		02 07 09.6	
KIV				pmax	pmax		
	comp=Z,4.0nm,1.0s						
KIV	Kislovodsk	166.96	149	PFAKE		01 35 10.0	+10
KIV				LR	LR		
	comp=Z,461nm,20.0s						
BRVK	Borovoye	169.03	264	PKIKP	PKPdf	01 35 01.8	+0.2
OBN	Obninsk	171.19	86	ePKIKP	PKPdf	01 35 06.0	+3.2
OBN				pmax	pmax		
	comp=Z,16nm,1.6s						
OBN	Obninsk	171.19	86	PFAKE		01 35 10.0	+7.2
OBN				LR	LR		
	comp=Z,807nm,20.0s						
ARU	Arti	176.20	286	i PKIKP	PKPdf	01 35 01.5	-3.0
ARU	Arti	176.20	286	PFAKE		01 35 20.0	+15
ARU				LR	LR		
	comp=Z,597nm,22.0s						

*CSEM **15** 01:28:34.2±0.1, 3761N×3569E, h2km, MD2.9, Error ellipse: s-maj=3.4km s-min=2.4km az=12.0*
*ISCJB **15** 01:28:35.5±0.7, 3759N±005×3567E±004, h7km±7km, Error ellipse: s-maj=8.7km s-min=5.6km az=17.6*
*ISK **15** 01:28:35.0, 3762N×3566E, h10km, MD2.9*
*DDA **15** 01:28:37.1, 3779N×3591E, h7km±3km, Md3.1*
ISC 15 01:28:36.0±0.6, 3758N±005×3568E±005, h11km±5km, n14, σ0§75/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	Kozan	0.15	130	ePG	Pg	01 28 40.0	+0.6
KOZT				eSG	Sg	01 28 43.0	+1.2
ANDN	Andirin	0.53	90	i P	Pg	01 28 45.5	-0.8
ANDN				i S	Sg	01 28 53.5	+0.3
ANDN	Andirin	0.53	90	i P	Pg	01 28 45.5	-0.8
ANDN				i S	Sg	01 28 53.5	+0.2
CEYT	Ceyhan	0.57	174	ePG	Pg	01 28 46.9	-0.2
KARA	Karaisali	0.59	237	PG	Pg	01 28 46.9	-0.5
KMRS	Kahramanmaras	0.97	94	ePG	Pg	01 28 53.6	-1.1
NIG	Nigde	1.00	302	ePG	Pg	01 28 54.6	-0.6
MERS	Mersin	1.16	233	ePN	Pn	01 28 58.1	-0.1
BNN	Bunyan	1.28	6	ePN	Pn	01 28 59.1	-0.7
GAZ	Gaziantep	1.29	108	ePN	Pn	01 28 59.4	-0.6
AVNT	Avonos	1.36	332	i P	Pn	01 29 01.1	+0.1
AVNT				i S	Sb	01 29 20.6	+1.6
AVNT				i S	Sb	01 29 20.9	+2.0
AVNT	Avonos	1.36	332	i P	Pn	01 29 01.0	+0.1
AVNT				i S	Sb	01 29 20.5	+1.6
HTY	Hatay	1.50	166	ePN	Pn	01 29 03.6	+0.8
GZT	Gaziantep	1.52	98	i P	Pn	01 29 02.6	-0.4
GZT				i S	Sn	01 29 23.4	+0.5

*IDC **15** 02:07:50.1±1.6, 1020S×11845E, h0km, mb3.9/3, mb1 3.8/8, mb1mx3.7/16, mbtmp3.7/8, ML3.5/5, MS3.6/1, Ms1 3.6/1, ms1mx3.2/27, Error ellipse: s-maj=52.8km s-min=20.3km az=52.0*
*ISCJB **15** 02:07:54.0±1.9, 1016S±006×1187E±01, h44km±21km, mb3.9/3, Error ellipse: s-maj=18.5km s-min=9.5km az=164.4*
*NEIC **15** 02:07:56.5±1.7, 1017S×11877E, h35km, Error ellipse: s-maj=37.4km s-min=13.1km az=83.0*
ISC 15 02:07:56.5±1.4, 1016S±006×1187E±01, h47km±17km, n9, σ0§59/13, mb3.9/3, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	4.85	91	Pn	Pn	02 09 08.6	+1.6
	4.2nm,0.3s,baz=268,slow=7.0,SNR=3.2						
BATI				Sn	Sn	02 10 01.2	-0.6
	4.8nm,0.3s,baz=53,slow=20,SNR=3.6						
KAPI	Kappang	5.21	11	Pn	Pn	02 09 11.9	0.0
	3.9nm,0.3s,baz=188,slow=6.7,SNR=24						
KAPI				Sn	Sn	02 10 10.6	-0.2
	4.0nm,0.3s,baz=38,slow=17,SNR=5.5						
FITZ	Fitzroy Crossi	10.35	140	Pn	Pn	02 10 21.6	-0.8
	0.3nm,0.3s,baz=318,slow=14,SNR=20						
FITZ				Sn	Sn	02 12 09.8	-7.2
	0.3nm,0.3s,baz=217,slow=14,SNR=4.0						
MBWA	Marble Bar	10.98	175	ePn	Pn	02 10 30.9	-0.1
	4.3nm,0.2s						
WRA	Warramunga Arr	17.92	125	P	Pn	02 12 02.3	-0.1
	0.1nm,0.3s,baz=299,slow=13,SNR=7.3						
WRA				S	Sn	02 15 10.8	-11
	0.1nm,0.3s,baz=294,slow=24,SNR=4.1						
ASAR	Alice Springs	19.75	135	P	Pn	02 12 24.8	+0.4
	0.1nm,0.3s,baz=318,slow=11,SNR=6.2						
SONM	Songino Array	58.77	350	P	P	02 17 49.9	+0.2
	0.5nm,0.5s,mb3.8,baz=179,slow=6.9,SNR=4.0						
MKAR	Makanchi Array	65.37	333	P	P	02 18 33.7	-0.2
	0.5nm,0.5s,mb3.8,baz=146,slow=7.3,SNR=3.9						
ZALV	Zalesovo Beam	70.03	339	P	P	02 19 03.0	-0.1
	0.9nm,0.3s,mb4.2,baz=147,slow=8.1,SNR=4.2						

*CSEM **15** 02:16:31.8±0.1, 3601N×3595E, h15km, Mc1.8, Error ellipse: s-maj=2.5km s-min=1.9km az=60.0*
*ISK **15** 02:16:31.8, 3600N×3584E, h9km, MD3.1*
*NSSC **15** 02:16:32.6, 3608N×3597E, h9km±1km*
*ISCJB **15** 02:16:33.2±0.5, 3604N±002×3593E±003, h14km±3km, Error ellipse: s-maj=4.5km s-min=3.3km az=164.8*
*DDA **15** 02:16:35.5, 3751N×3553E, h3km±6km, Md3.2*
ISC 15 02:16:33.3±0.4, 3603N±002×3593E±004, h14km±3km, n37, σ1§21/61, 16D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARNB	Al Arnab	0.17	168	⇓P	Pg	02 16 37.5	+0.1
ARNB				⇓S	Sg	02 16 41.5	+1.2
ARNB	Al Arnab	0.17	168	⇓P	Pg	02 16 37.5	+0.1
ARNB				⇓S	Sg	02 16 41.5	+1.2
HTY	Hatay	0.19	62	ePG	Pg	02 16 37.0	-0.7
HTY				eSG	Sg	02 16 42.0	+1.2
BTCH	Batrach	0.43	89	⇑P	Pg	02 16 41.4	-0.5
BTCH				⇑S	Sg	02 16 47.3	-0.5
BTCH	Batrach	0.43	89	⇑P	Pg	02 16 40.7	-1.3
BTCH				⇑S	Sg	02 16 47.3	-0.5
BTCH	Batrach	0.43	89	⇑iP	Pg	02 16 41.4	-0.5
SLNF	Slenfeh	0.50	151	⇓P	Pg	02 16 43.4	+0.2
SLNF				⇓S	Sg	02 16 50.5	+0.7
SLNF	Slenfeh	0.50	151	⇓P	Pg	02 16 43.4	+0.2
SLNF				⇓S	Sg	02 16 51.2	+1.4
SLNF	Slenfeh	0.50	151	⇓iP	Pg	02 16 43.4	+0.3
WRDH	Warideh	0.66	143	⇓P	Pg	02 16 44.9	-1.2
WRDH				⇓S	Sg	02 16 54.6	-0.1
WRDH	Warideh	0.66	143	⇑P	Pg	02 16 45.6	-0.6
WRDH				⇑S	Sg	02 16 55.5	+0.7
WRDH	Warideh	0.66	143	⇓iP	Pg	02 16 44.9	-1.2
WRDH				⇓iS	Sg	02 16 54.6	-0.1
DRWC	Darouich	0.84	45	⇓P	Pg	02 16 47.7	-1.9
DRWC				⇓S	Sg	02 16 57.8	-2.8
DRWC	Darouich	0.84	45	⇑P	Pg	02 16 47.4	-2.2
DRWC				⇑S	Sg	02 16 58.9	-1.7
DRWC	Darouich	0.84	45	⇓iP	Pg	02 16 47.7	-1.9
CEYT	Ceyhan	0.99	352	ePG	Pg	02 16 51.7	-0.7
CEYT				eSG	Sg	02 17 06.5	+1.2
BIDA	Albida	1.06	162	⇑P	Pb	02 16 52.1	-1.4
BIDA				⇑S	Sb	02 17 06.0	-1.4
BIDA	Albida	1.06	162	⇑P	Pb	02 16 52.1	-1.4
BIDA				⇑S	Sb	02 17 08.1	+0.7
BIDA	Albida	1.06	162	⇑iP	Pb	02 16 52.1	-1.5
BIDA				⇑iS	Sb	02 17 06.0	-1.4
MERS	Mersin	1.41	307	ePN	Pn	02 16 57.6	-1.0
MERS				eSN	Sn	02 17 16.6	-0.3
KARA	Karaisali	1.41	330	ePN	Pn	02 16 58.2	-0.5
KARA				eSN	Sn	02 17 17.8	+0.6
KOZT	Kozan	1.45	357	ePN	Pn	02 17 00.0	+0.8
KOZT				eSN	Sn	02 17 18.5	+0.5
EREN	Erenkoy	1.51	251	ePN	Pn	02 16 58.5	-1.5
GAZ	Gaziantep	1.54	42	ePN	Pn	02 17 01.4	+1.1
ANDN	Andirin	1.58	12	i P	Pn	02 17 00.2	-0.8
ANDN				i S	Sn	02 17 19.1	-2.1
SLMH	Al Salmeh	1.63	83	⇑P	Pn	02 16 59.1	-2.5
SLMH				⇑S	Sn	02 17 18.7	-3.7
SLMH	Al Salmeh	1.63	83	⇑P	Pn	02 17 01.0	-0.7
SLMH				⇓S	Sn	02 17 22.5	0.0
SLMH	Al Salmeh	1.63	83	⇑iP	Pn	02 16 59.1	-2.6
KMRS	Kahramanmaras	1.67	28	ePN	Pn	02 17 03.5	+1.3
HWQ	Hawqa	1.75	179	ePn	Pn	02 17 04.1	+0.8
IKL	Isikli	1.83	277	ePN	Pn	02 17 03.7	-0.7
GZT	Gaziantep	1.86	44	i P	Pn	02 17 07.5	+2.6
GZT				i S	Sn	02 17 29.1	+0.9
LFK	Lefkose	2.09	250	ePN	Pn	02 17 06.9	-1.1
BHL	Bhannes	2.13	186	ePn	Pn	02 17 09.4	+0.8
ATAB	Bozova	2.38	52	i P	Pn	02 17 13.5	+1.5
ERMK	Ermenek	2.51	285	i P	Pn	02 17 16.4	+2.7
ERMK				i S	Sn	02 17 48.0	+3.9
URFA	Urfa	2.72	58	ePN	Pn	02 17 18.1	+1.5

*NEIC **15** 02:49:32.0, 3459N×2290E, h10km, ML3.4(ATH), After ATH.*
*ISCJB **15** 02:49:36.0±0.9, 3487N±007×2305E±006, h33km, mb3.8/7, Error ellipse: s-maj=11.4km s-min=5.4km az=29.8*
*ATH **15** 02:49:36.8, 3505N×2323E, h25km±2km, MD3.8/18, ML4.1*
*CSEM **15** 02:49:36.8, 3505N×2323E, h25km, MD3.9/18, After ATH*
*IDC **15** 02:49:39.9±2.2, 3508N×2304E, h66km±20km, mb3.6/7, mb1 3.6/10, mb1mx3.4/25, mbtmp3.5/10, MS3.2/1, Ms1 3.2/1, ms1mx2.9/36, Error ellipse: s-maj=19.9km s-min=18.4km az=23.0*
ISC 15 02:49:34.9±1.5, 3486N±007×2305E±006, h10km±8km, n47, σ1§35/51, mb3.8/7, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.85	91	eP	Pg	02 49 51.4	+0.1
GVD	Gavdhos	0.85	91	eP	Pg	02 49 50.8	-0.5
GVD				ePn	Pg	02 49 51.0	-0.3
GVD				eSn	Sg	02 50 02.0	-0.4
GVD				eS	Sg	02 50 02.9	+0.5
GVD	Gavdhos	0.85	91	ePN	Pg	02 49 51.0	-0.3
GVD				eSN	Sg	02 50 02.0	-0.4
KARN	Karanos	0.89	52	eP	Pg	02 49 51.4	-0.7
KARN				eS	Sg	02 49 59.6	-4.0
VAM	Vamos	1.09	60	P	Pb	02 49 55.8	+0.1
VAM	Vamos	1.09	60	ePN	Pn	02 49 54.3	-1.8
KYTH	Kithira	1.42	359	ePN	Pn	02 50 00.0	-0.7
SIVA	Sivas	1.45	85	P	Pn	02 50 03.7	+2.6
IDI	Anoyia	1.57	74	P	Pn	02 50 03.4	+0.7
	8.4nm,0.3s,baz=272,slow=14,SNR=52						
IDI				S	Sn	02 50 24.6	+1.6
	14nm,0.3s,baz=17,slow=19,SNR=8.0						
VLI	Veliai	1.86	357	P	Pn	02 50 08.8	+2.1
VLI	Veliai	1.86	357	ePN	Pn	02 50 07.3	+0.6
NPS	Neapolis	2.14	78	ePB	Pn	02 50 10.5	0.0
XRY	Khrisi	2.17	89	ePB	Pn	02 50 12.0	+1.0
SANT	Santorini	2.47	52	P	Pn	02 50 16.5	+1.3
ITM	Ithomi	2.49	339	ePB	Pn	02 50 16.9	+1.5
NAIG	Nisos Aigina	2.91	7	ePN	Pn	02 50 21.5	+0.3
APE	Apeiranthos	2.98	42	ePN	Pn	02 50 21.1	-1.1
KVR	Kavouri	3.02	11	ePN	Pn	02 50 22.5	-0.2
ATH	Athens Observa	3.15	10	ePN	Pn	02 50 24.0	-0.5
PTL	Penteli	3.25	11	ePN	Pn	02 50 25.5	-0.3
KARP	Karpathos	3.43	77	P	Pn	02 50 31.2	+2.8
KARP	Karpathos	3.43	77	ePN	Pn	02 50 28.8	+0.4
RLS	Riolos of Patr	3.44	339	ePN	Pn	02 50 29.7	+1.3
LKR	Lokris	3.78	359	P	Pn	02 50 35.0	+1.8
LKR	Lokris	3.78	359	ePN	Pn	02 50 34.1	+0.9
VLS	Valsamata	3.86	330	P	Pn	02 50 34.6	+0.4
EVR	Evrytania	4.17	347	ePN	Pn	02 50 38.9	+0.4
SMG	Samos	4.17	46	ePN	Pn	02 50 37.7	-0.8
ARG	Arkhangelos	4.35	70	P	Pn	02 50 34.1	-6.9
NEO	Neokhori	4.44	2	P	Pn	02 50 43.1	+0.9
THL	Klokotos Trika	4.77	350	ePN	Pn	02 50 47.2	+0.5
NVR	Nevrokopi	6.51	5	P	Pn	02 51 11.6	+1.0
MMAI	Mount Meron Ar	10.42	97	P	Pn	02 52 09.8	+5.5
	1.2nm,0.3s,baz=289,slow=13,SNR=3.5						
MMAI				S	Sn	02 53 53.8	-7.4
	baz=272,slow=22,SNR=2.1						
MLR	Muntele Rosu	10.85	11	P	Pn	02 52 10.1	+0.1
	0.1nm,0.3s,baz=166,slow=12,SNR=2.3						
KEST	Kesra	11.24	278	LR	LR	02 56 47.6	
	comp=Z,118nm,19.8s,baz=75,slow=38						
GERES	GERESS Array B	15.60	336	P	Pn	02 53 11.5	-3.1
	0.1nm,0.3s,baz=150,slow=10,SNR=3.3						
KHC	Kasperske Hory	15.88	337	eP	Pn	02 53 21.5	+3.2
AKASG	Malin Array Be	16.46	14	P	Pn	02 53 23.1	-2.6
	2.0nm,0.3s,baz=207,slow=9.2,SNR=11						
HFS	Hagfors	26.01	349	P	P	02 55 05.0	-2.7
	2.4nm,0.8s,mb3.8,baz=156,slow=11,SNR=8.9						
FINES	FINESS Array B	26.67	3	P	P	02 55 10.1	-3.6
	1.2nm,0.7s,mb3.6,baz=172,slow=11,SNR=3.3						
NOA	NORSAR Array B	27.28	347	P	P	02 55 16.0	-3.1
	0.3nm,0.4s,mb3.2,baz=152,slow=10,SNR=2.5						
TORD	Torodi Ar. Bea	29.00	227	P	P	02 55 35.2	+0.4
	0.2nm,0.4s,mb3.2,baz=31,slow=9.4,SNR=13						
ARCES	ARCESS Array B	34.76	2	P	P	02 56 21.6	-3.3
	2.7nm,1.0s,mb4.2,baz=200,slow=10,SNR=6.9						
MKAR	Makanchi Array	45.38	56	P	P	02 57 50.8	-2.4
	1.0nm,0.3s,mb4.1,baz=265,slow=7.7,SNR=10.0						
ZALV	Zalesovo Beam	46.46	46	P	P	02 57 58.3	-3.4
	1.6nm,0.4s,mb4.3,baz=268,slow=8.9,SNR=8.6						
WRA	Warramunga Arr	118.28	96	PKP	PKPdf	03 08 19.6	-3.1
	0.3nm,0.6s,baz=319,slow=1.9,SNR=3.9						
ASAR	Alice Springs	119.70	99	PKP	PKPdf	03 08 22.4	-3.0
	0.3nm,0.8s,baz=280,slow=1.6,SNR=4.1						

*NEIC **15** 03:12:13.8±0.8, 1137N×8664W, mb4.4/11, Error ellipse: s-maj=24.0km s-min=9.6km az=220.0*
*ISCJB **15** 03:12:22.6±1.6, 122N±02×862W±01, h103km±14km, mb4.1/18, Error ellipse: s-maj=32.3km s-min=9.9km az=41.4*
*IDC **15** 03:12:24.6±4.6, 1206N×8626W, h116km±42km, mb3.6/8, mb1 3.8/10, mb1mx3.6/23, mbtmp3.6/10, MS3.7/4, Ms1 3.7/4, ms1mx3.3/32, Error ellipse: s-maj=37.5km s-min=16.3km az=49.0*
ISC 15 03:12:23.2±1.5, 122N±01×863W±01, h91km±14km, n34, σ0§99/27, mb4.1/18, 2D, Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	2.14	332	⇓iPn	Pn	03 12 57.3	+0.1
TEIG	Tepich	8.26	347	LR	LR	03 18 26.5	
	comp=Z,360nm,18.7s,baz=116,slow=43						
ROSC	El Rosal	13.84	121	P	Pn	03 15 37.1	+1.7
	baz=287,slow=19,SNR=2.6						
SDV	Santo Domingo	15.70	100	P	Pn	03 15 58.0	-1.2
	0.3nm,0.3s,baz=322,slow=5.6,SNR=4.4						
HKT	Hockley	19.82	335	eP	Pn	03 16 47.8	-1.2
	20nm,1.1s						
ATAH	Atahualpa	20.57	157	LR	LR	03 23 31.6	
	comp=Z,233nm,21.4s,baz=348,slow=32						
PCRV	Puerto La Cruz	21.30	93	P	P	03 17 01.8	-0.9
	7.3nm,0.9s,mb4.0,baz=265,slow=11,SNR=2.7						
CPCT	Cooper Cave	23.24	4	eP	P	03 17 25.8	+3.2
MIAR	Mount Ida	23.26	345	⇓iP	P	03 17 23.9	+1.2
	7.8nm,0.7s,mb4.2						
TXAR	Lajitas Array	23.55	319	P	P	03 17 23.9	-1.5
	2.2nm,0.6s,mb3.6,baz=133,slow=9.2,SNR=5.0						
WMOK	Wichita Mounta	25.20	335	eP	P	03 17 42.2	+1.8
	36nm,1.0s,mb4.8						
CCM	Cathedral Cave	26.18	351	eP	P	03 17 49.0	-0.2
MNTX	Cornudas Mount	26.25	321	eP	P	03 17 48.1	-1.8
	1.4nm,0.8s,mb3.4						
ANMO	Albuquerque	29.17	324	P	P	03 18 15.8	-0.2
ANMO	Albuquerque	29.17	324	P	P	03 18 15.8	-0.1
	0.8nm,0.7s,mb3.5,baz=142,slow=11,SNR=5.0						
SDCO	Great Sand Dun	30.75	329	eP	P	03 18 30.5	+0.6
	2.0nm,0.7s,mb4.0						
ECSD	EROS,Sioux Fal	32.71	346	eP	P	03 18 46.1	-0.9
	9.2nm,1.0s,mb4.6						
LPAZ	La Paz	33.47	147	P	P	03 18 53.7	-0.1
	0.8nm,0.7s,mb3.6,baz=348,slow=4.5,SNR=4.4						
DAU	Daniels Canyon	35.73	326	eP	P	03 19 13.2	0.0
AGMN	Agassiz Refuge	36.91	349	eP	P	03 19 22.9	-0.2
	6.9nm,1.0s,mb4.5						
AGMN				e		03 19 34.5	
REDW	Red Top Meadow	37.66	330	eP	P	03 19 29.8	+0.3
	7.9nm,0.8s,mb4.6						
REDW				e		03 19 40.7	
SNOW	Snow King Moun	37.69	330	eP	P	03 19 30.9	+1.2
	7.4nm,1.0s,mb4.5						
SNOW				epP	pP	03 19 41.9	-9.0
TPAW	Teton Pass	37.81	330	eP	P	03 19 31.0	+0.3
	7.8nm,1.1s,mb4.5						
MOOW	Moose Ponds	37.90	331	eP	P	03 19 31.7	+0.1
	2.0nm,0.8s,mb4.0						
NVAR	Mina Array Bea	38.70	318	P	P	03 19 38.8	+0.5
	0.7nm,0.7s,mb3.6,baz=127,slow=6.9,SNR=7.8						
NVAR				PcP	PcP	03 21 47.5	-1.0
	1.5nm,0.7s,baz=127,slow=3.9,SNR=9.5						
ULM	Lac du Bonnet	38.80	350	P	P	03 19 38.4	-0.5
	5.1nm,0.8s,mb4.4,baz=159,slow=7.3,SNR=7.8						
SCHQ	Schefferville	45.23	16	P	P	03 20 31.9	+0.8
	3.0nm,0.8s,mb4.1,baz=230,slow=9.6,SNR=4.7						
SCHQ				LR	LR	03 40 08.4	
	comp=Z,109nm,18.6s,baz=180,slow=37						
YKA	Yellowknife Ar	54.21	344	P	P	03 21 38.3	-0.8
YKA				PcP	PcP	03 22 41.3	-1.1
YKA	Yellowknife Ar	54.21	344	P	P	03 21 38.3	-0.8
	1.3nm,0.8s,mb4.0,baz=140,slow=7.2,SNR=28						
YKA				PcP	PcP	03 22 41.3	-1.1
	0.3nm,0.6s,baz=144,slow=4.1,SNR=8.2						
ESDC	Sonseca Array	76.45	52	LR	LR	03 54 54.0	
	comp=Z,53nm,18.2s,baz=210,slow=33						
SONM	Songino Array	119.23	350	PKP	PKPdf	03 30 59.9	-2.0
	0.5nm,0.7s,baz=352,slow=2.9,SNR=3.5						
KSRS	Korea Array	121.14	329	PKP	PKPdf	03 31 03.4	-2.5
	1.1nm,0.7s,baz=8.7,slow=1.5,SNR=6.5						
ASAR	Alice Springs	140.24	248	PKP	PKPdf	03 31 39.0	-3.3
	0.6nm,0.7s,baz=108,slow=1.4,SNR=6.0						
WRA	Warramunga Arr	140.31	253	PKP	PKPdf	03 31 38.1	-4.3
	1.1nm,0.8s,baz=88,slow=1.9,SNR=16						

*NEIC **15** 03:30:09.0, 4096S×17262E, h5km, mb3.5/2, ML3.5(WEL), After WEL.*
NEIC Felt [IV] at Aorere, Golden Bay and Nelson.
WEL 15 03:30:11.3±0.8, 4090S×17291E, h5km, ML3.5/28, Error ellipse: s-maj=9.0km s-min=7.9km az=0.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	Quartz Range	0.29	283	PG	Pg	03 30 12.4	-4.7
QRZ				SG	Sg	03 30 15.2	-5.7
NNZ	Nelson	0.48	132	PG	Pg	03 30 20.7	+0.1
NNZ				SG	Sg	03 30 29.8	+2.9
DUWZ	D'Urville Isla	0.78	83	P*	Pb	03 30 28.1	+0.8
THZ	Tophouse	0.87	180	P*	Pb	03 30 22.5	-6.4
TUWZ	Tuamarina	0.95	125	P*	Pb	03 30 29.0	-1.3
TCW	Tory Channel	1.08	107	P*	Pb	03 30 32.6	+0.1
BSWZ	Blackbirch Sta	1.10	139	P*	Pb	03 30 31.2	-1.6
DSZ	Denniston Nort	1.19	224	P*	Pb	03 30 24.8	-10
CMWZ	Cape Campbell	1.30	131	P*	Pb	03 30 36.4	+0.1
MRW	Makara Radio	1.40	104	PN	Pn	03 30 38.9	+1.4
SNZO	South Karori	1.42	108	ePn	Pn	03 30 38.9	+1.1
SNZO				eSn	Sn	03 31 00.7	+3.8
SNZO	South Karori	1.42	108	PN	Pn	03 30 38.8	+1.0
KIW	Kapiti Island	1.52	89	PN	Pn	03 30 41.1	+2.0
BHW	Baring Head	1.57	110	PN	Pn	03 30 41.4	+1.6
KHZ	Kahutara	1.59	163	PN	Pn	03 30 38.1	-2.0
CAW	Cannon Point	1.65	98	PN	Pn	03 30 43.4	+2.4
NWEZ	Newall Road	1.78	25	PN	Pn	03 30 42.9	+0.2
MSWZ	Moikau Station	1.84	107	PN	Pn	03 30 45.4	+1.8
NEZ	North Egmont	1.86	30	PN	Pn	03 30 44.8	+1.0
PKE	Pukeiti	1.89	26	PN	Pn	03 30 44.5	+0.3
PLWZ	Palliser	1.90	112	PN	Pn	03 30 44.9	+0.6
LTZ	Lake Taylor	1.94	194	PN	Pn	03 30 38.7	-6.3
WAZ	Wanganui	1.96	55	PN	Pn	03 30 47.6	+2.5
MTW	Mount Morrison	1.98	98	PN	Pn	03 30 47.0	+1.5
VRZ	Vera Road	2.27	39	PN	Pn	03 30 49.3	-0.2
PKVZ	Pokaka	2.46	50	PN	Pn	03 30 54.3	+2.2
TSZ	Takapari Road	2.48	71	PN	Pn	03 30 57.2	+5.0
TRVZ	Turoa	2.58	53	PN	Pn	03 30 55.8	+2.1
WNVZ	Wahianoa	2.59	54	PN	Pn	03 30 57.4	+3.6
FWVZ	Far West T-bar	2.61	52	PN	Pn	03 30 57.3	+3.2
TUVZ	Tukino	2.66	53	PN	Pn	03 30 59.2	+4.4
TWVZ	Taurewa	2.67	48	PN	Pn	03 30 57.0	+2.1
NGZ	Ngauruhoe	2.69	51	PN	Pn	03 30 57.8	+2.6
WVZ	Waitaha Valley	2.71	216	PN	Pn	03 30 47.6	-8.0
WTVZ	West Tongariro	2.72	50	PN	Pn	03 30 58.7	+3.1
OTVZ	Oturere	2.73	52	PN	Pn	03 30 59.0	+3.2
MQZ	McQueen's Vall	2.82	184	PN	Pn	03 30 50.4	-6.5
RPZ	Rata Peaks	3.13	205	PN	Pn	03 30 54.0	-7.4
FOZ	Fox Glacier	3.58	221	PN	Pn	03 30 57.6	-10
LBZ	Lake Benmore	4.03	209	PN	Pn	03 31 05.8	-7.8
MKAZ	Moumaka	4.17	26	PN	Pn	03 31 13.5	-2.1
JCZ	Jackson Bay	4.42	223	PN	Pn	03 31 10.1	-8.8
ODZ	Otahua Downs	4.47	201	PN	Pn	03 31 11.7	-8.0
WCZ	Waipu Caves	5.07	13	PN	Pn	03 31 27.0	-1.1
TAU	Tasmania Unive	19.13	255	eP	Pn	03 34 25.4	-11
	2.7nm,0.5s						
EIDS	Eidsvold	23.86	304	P	P	03 35 20.8	-4.9
	0.3nm,0.3s						
CTA	Charters Tower	30.74	304	eP	P	03 36 13.9	-14
	7.1nm,0.4s						
CTAO	Charters Tower	30.74	304	eP	P	03 36 14.2	-13
	11nm,0.6s						
CASY

ARCES ARCESS Array B 128.95 349 PKP PKPdf 03 48 25.2 -0.2
3.3nm,1.0s,baz=29,slow=2.1,SNR=6.7
FINES FINESS Array B 135.76 343 PKP PKPdf 03 48 39.1 +0.6
FINES FINESS Array B 135.76 343 PKhKP 03 48 33.3
1.5nm,0.9s,baz=215,slow=12,SNR=2.4
FINES PKP PKPdf 03 48 39.1 +0.6
1.4nm,0.8s,baz=48,slow=2.8,SNR=4.4
AKASG Malin Array Be 142.92 331 PKP PKPdf 03 48 49.0 -2.8
5.1nm,0.5s,baz=43,slow=4.3,SNR=49
MALT Malatya 143.70 307⇑ *i*P PKPdf 03 48 54.5 +1.0
BSEG Bad Segeberg 146.06 351 *e*PKPbc PKPbc 03 48 59.1 -0.1
KWP Kalwaria 146.52 335⇑ *i*P PKPbc 03 49 01.1 +0.5
KOLS Kolonicke sedl 147.24 335 *e*PKP PKPbc 03 49 06.0 +3.5
STHS Stebnicka Huta 147.26 336 *e*PKP PKPbc 03 49 02.4 -0.1
STHS *e* 03 49 07.4
VRI Vrincioaia 147.45 327⇑ *i*P PKPbc 03 49 03.6 +0.5
TIRR Tirgusor 147.45 323⇑ *i*P PKPbc 03 49 04.0 +0.8
HARR Harsova 147.57 324⇓ *i*P PKPbc 03 49 04.5 +1.0
CRVS Cervenica-Dubn 147.59 335 *e*PKP PKPbc 03 49 04.4 +1.0
CRVS *e* 03 49 08.1
TRPA Tarpa 147.76 333⇑ *i*P PKPbc 03 49 04.3 +0.4
UPC Upice 148.06 343 *e*PKP PKPbc 03 49 05.0 +0.5
CLL Collm 148.07 346 *e*PKPbc PKPbc 03 49 04.8 +0.3
CLL Collm 148.07 346⇓ *i*PKPbc PKPbc 03 49 04.9 +0.4
comp=Z,14nm,0.8s
CLZ Clausthal 148.07 350 *e*PKPbc PKPbc 03 49 04.8 +0.3
MLR Muntele Rosu 148.11 327⇓ *i*P PKPbc 03 49 05.6 +0.8
DPC Dobruska-Polom 148.11 342 *e*PKP PKPbc 03 49 05.3 +0.6
MORC Moravsky Berou 148.25 340⇑ *i*P PKPbc 03 49 05.7 +0.7
BRG Berggiesshubel 148.26 345 *e*PKPbc PKPbc 03 49 05.4 +0.4
BRG Berggiesshubel 148.26 345 *i* PKP PKPbc 03 49 05.4 +0.3
comp=Z,7.8nm,1.1s
FBE Freiberg 148.36 346 *e*PKPbc PKPbc 03 49 05.7 +0.4
NEUB Neuenburg 148.43 348 *e*PKPbc PKPbc 03 49 05.4 0.0
PVCC Panska Ves 148.43 344 *e*PKP PKPbc 03 49 06.0 +0.6
DRGR 148.72 332⇑ *i*P PKPbc 03 49 06.8 +0.5
VYHS Vyhne 148.91 338 *e*PKP PKPbc 03 49 07.2 +0.5
VYHS *e* 03 49 13.6
PRU Pruhonice 148.93 344 *e*PKP PKPbc 03 49 07.2 +0.5
MOX Moxa 148.99 348 *e*PKP PKPbc 03 49 07.2 +0.4
MOX Moxa 148.99 348 *e*PKPbc PKPbc 03 49 07.0 +0.2
KOLL Kolacno 148.99 338 *e*PKP PKPbc 03 49 07.9 +1.0
KOLL *e* 03 49 15.9
WERD Werda 149.03 347 *e*PKPbc PKPbc 03 49 07.5 +0.6
GUNZ Gunzen 149.11 347 *e*PKPbc PKPbc 03 49 07.4 +0.3
WERN Wernitzgruen 149.17 346 *e*PKPbc PKPbc 03 49 08.1 +0.8
TREC Trest 149.29 342 *e*PKP PKPbc 03 49 08.1 +0.5
MANZ Manzenberg 149.51 347 *e*PKPbc PKPbc 03 49 08.4 +0.3
ROTZ Rotzenmuhle 149.70 346 *e*PKPbc PKPbc 03 49 08.8 +0.3
KHC Kasperske Hory 149.96 344 *e*PKP PKPbc 03 49 09.6 +0.4
KHC *ex* x 03 49 17.3
GRA1 Grafenberg Arr 149.98 347 *e*PKPbc PKPbc 03 49 08.9 -0.3
GRF Grafenberg Arr 149.98 347 *e*PKPbc PKPbc 03 49 08.9 -0.3
BZS Buzias 150.11 331⇑ *i*P PKPbc 03 49 10.1 +0.5
GEC2 GERESS Array S 150.19 344 *e*PKPbc PKPbc 03 49 09.7 0.0
GERES GERESS Array B 150.19 344 PKPbc PKPbc 03 49 09.6 -0.1
GERES GERESS Array B 150.19 344 PKP PKPdf 03 49 04.5 +0.6
comp=Z,2.7nm,0.8s,baz=37,slow=1.0,SNR=3.2
GERES PKPbc PKPbc 03 49 09.6 -0.1
comp=Z,2.3nm,0.8s,baz=35,slow=2.4,SNR=4.6
CONA Conrad Observa 150.40 340⇑ *i*PKPbc PKPbc 03 49 10.5 +0.3
comp=Z,4.9nm,0.6s
CSNA Conrad Observa 150.40 340⇑ *i*PKPbc PKPbc 03 49 10.4 +0.1
comp=Z,4.4nm,0.6s
PKSM Moragy 150.89 335⇑ *i*P PKPbc 03 49 11.6 +0.2
VTS Vitosha 151.53 325⇑ *i*P PKPbc 03 49 13.6 +0.6
WTTA Wattenberg 152.18 345⇓ *i*P PKPbc 03 49 13.8 -0.4
comp=Z,8.4nm,0.9s
ABTA Abfaltersbach 152.44 344⇓ *i*PKPbc PKPbc 03 49 14.0 -0.8
comp=Z,3.6nm,0.6s
TORD Torodi Ar. Bea 172.59 181 PKP PKPdf 03 49 27.2 -0.3
comp=Z,1.0nm,0.8s,baz=180,slow=0.4,SNR=5.2
TORD PKPab PKPab 03 50 58.1 +1.0
comp=Z,0.7nm,0.8s,baz=181,slow=4.2,SNR=5.1

CSEM ***15*** *03:40:38.9±0.1, 3633N×162E, h15km, mb3.2/9, Error ellipse: s-maj=3.1km s-min=2.9km az=151.0*
CRAAG ***15*** *03:40:38.1, 3645N×147E, Ml3.4*
ISCJB ***15*** *03:40:39.1±0.6, 3644N±003×163E±005, h11km, Error ellipse: s-maj=6.0km s-min=4.3km az=5.9*
MDD ***15*** *03:40:40.6±0.9, 3631N×166E, h11km±13km, mb3.2/10, Error ellipse: s-maj=11.5km s-min=7.2km az=166.0, PRXIMO*
NEIC ***15*** *03:40:41.8, 3638N×171E, h17km, MN3.2(MDD), After MDD.*

ISC 15 03:40:39.7±0.8, 3639N±006×167E±006, h13km±8km, n30, σ1º23/46, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
EBNR	**Beni Rached**	**0.15**	**230**	P		**Pg**	**03 40 42.9**	**-0.5**
ECHA	**Ech Chlef**	**0.34**	**226**	P		**Pg**	**03 40 46.2**	**-0.5**
ECHF	**Ech Chlef**	**0.36**	**229**	P		**Pg**	**03 40 46.2**	**-0.7**
EANR	**'Ain N'Sour**	**0.64**	**227**	P		**Pg**	**03 40 51.6**	**-0.6**
ETRT	**Tiaret**	**1.04**	**197**	P		**Pb**	**03 40 57.5**	**-2.1**
EMHD	**Djebel Mahouad**	**1.05**	**100**	P		**Pb**	**03 40 59.6**	**-0.2**
EIBI	**Ibiza**	**2.65**	**354**	P		**Pn**	**03 41 23.0**	**+0.9**
EIBI				S		**Sn**	**03 41 52.2**	**-1.9**
EIBI	**Ibiza**	**2.65**	**354**	P		**Pn**	**03 41 23.0**	**+0.9**
0.9nm,0.1s,SNR=7.9								
EIBI				S		**Sn**	**03 41 52.2**	**-1.9**
5.3nm,0.3s,SNR=7.9								
EIBI	**Ibiza**	**2.65**	**354**	P		**Pn**	**03 41 23.0**	**+0.9**
0.9nm,0.1s,SNR=7.9								
EIBI				S		**Sn**	**03 41 52.2**	**-1.8**
5.3nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**2.74**	**303**	P		**Pn**	**03 41 25.5**	**+2.1**
0.4nm,0.2s,SNR=7.9								
EMUR				S		**Sn**	**03 41 54.5**	**-2.0**
1.5nm,0.3s,SNR=7.9								
EMUR	**La Murta**	**2.74**	**303**	P		**Pn**	**03 41 25.5**	**+2.1**
0.4nm,0.2s,SNR=7.9								
EMUR				S		**Sn**	**03 41 54.5**	**-2.0**
1.5nm,0.3s,SNR=7.9								
EBEN	**Beniarda**	**2.76**	**327**	P		**Pn**	**03 41 24.1**	**+0.5**
0.5nm,0.1s,SNR=7.1								
EBEN				S		**Sn**	**03 41 55.2**	**-1.6**
0.8nm,0.2s								
EBEN	**Beniarda**	**2.76**	**327**	P		**Pn**	**03 41 24.1**	**+0.4**
0.5nm,0.1s,SNR=7.1								
EBEN				S		**Sn**	**03 41 55.2**	**-1.6**
0.8nm,0.2s								
ETOB	**Tobarra**	**3.41**	**312**	P		**Pn**	**03 41 33.1**	**+0.5**
0.4nm,0.4s,SNR=7.9								
ETOB				S		**Sn**	**03 42 13.2**	**+0.4**
0.9nm,0.2s,SNR=7.9								
ETOB	**Tobarra**	**3.41**	**312**	P		**Pn**	**03 41 33.1**	**+0.5**
0.4nm,0.4s,SNR=7.9								
ETOB				S		**Sn**	**03 42 13.2**	**+0.3**
0.9nm,0.2s,SNR=7.9								
ETOS	**Mallorca**	**3.49**	**15**	P		**Pn**	**03 41 33.9**	**+0.1**
ETOS				S		**Sn**	**03 42 14.5**	**-0.4**
ETOS	**Mallorca**	**3.49**	**15**	S		**Sn**	**03 42 14.5**	**-0.4**
1.2nm,0.2s,SNR=4.0								
ETOS	**Mallorca**	**3.49**	**15**	P		**Pn**	**03 41 33.8**	**+0.1**
EBER	**Berja**	**3.71**	**279**	P		**Pn**	**03 41 36.7**	**0.0**
0.8nm,0.1s,SNR=6.7								
EBER				S		**Sn**	**03 42 19.8**	**-0.4**
1.1nm,0.2s,SNR=7.9								
EBER	**Berja**	**3.71**	**279**	P		**Pn**	**03 41 36.7**	**0.0**
0.8nm,0.1s,SNR=6.7								
EBER				S		**Sn**	**03 42 19.8**	**-0.4**
1.1nm,0.2s,SNR=7.9								
ECHE	**Chera**	**3.82**	**328**	P		**Pn**	**03 41 39.6**	**+1.4**
0.7nm,0.4s,SNR=7.9								
EQES	**Quesada**	**4.05**	**292**	P		**Pn**	**03 41 43.2**	**+1.8**
0.2nm,0.1s,SNR=7.9								
EQES				S		**Sn**	**03 42 29.3**	**+0.7**
0.8nm,0.2s,SNR=5.2								
EQES	**Quesada**	**4.05**	**292**	P		**Pn**	**03 41 43.2**	**+1.8**
0.2nm,0.1s,SNR=7.9								
EQES				S		**Sn**	**03 42 29.4**	**+0.8**
EQUE	**Quentar**	**4.18**	**283**	P		**Pn**	**03 41 43.9**	**+0.6**
0.4nm,0.2s,SNR=7.9								
EMOS	**Mosqueruela**	**4.31**	**338**	P		**Pn**	**03 41 46.6**	**+1.6**
1.3nm,0.2s,SNR=19								
EMOS				S		**Sn**	**03 42 32.8**	**-2.3**
1.1nm,0.2s								
EMOS	**Mosqueruela**	**4.31**	**338**	P		**Pn**	**03 41 46.6**	**+1.6**
1.3nm,0.2s,SNR=19								
ERTA	**Horta de San J**	**4.68**	**347**	P		**Pn**	**03 41 51.5**	**+1.4**
0.2nm,0.1s,SNR=7.9								
ERTA				S		**Sn**	**03 42 42.7**	**-1.5**
0.7nm,0.2s,SNR=7.9								
ERTA	**Horta de San J**	**4.68**	**347**	P		**Pn**	**03 41 51.5**	**+1.5**
0.2nm,0.1s,SNR=7.9								
EBAN	**Banos Encina**	**4.70**	**294**	P		**Pn**	**03 41 52.2**	**+1.8**
EBAN	**Banos Encina**	**4.70**	**294**	P		**Pn**	**03 41 52.2**	**+1.9**

ISCJB ***15*** *03:49:40.7±1.2, 80S±0.1×1200E±02, h207km±14km, mb3.5/2, Error ellipse: s-maj=30.7km s-min=12.5km az=148.0*
NEIC ***15*** *03:49:41.4±1.1, 800S×12001E, h192km±15km, mb3.8/1, Error ellipse: s-maj=34.4km s-min=12.1km az=70.0*
IDC ***15*** *03:49:41.3±2.0, 800S×11995E, h191km±18km, mb3.2/3, mb1 3.2/7, mb1mx3.1/18, mbtmp3.1/7, MS2.8/1, Ms1 2.8/1, ms1mx2.5/10, Error ellipse: s-maj=55.4km s-min=12.6km az=50.0*

ISC 15 03:49:41.3±1.1, 80S±01×1199E±01, h190km±11km, n9, σ0º70/13, mb3.7/2, Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.99**	**357**	P		**Pn**	**03 50 30.6**	**+0.3**
1.0nm,0.3s,baz=156,slow=7.7,SNR=3.5								
BATI	**Kupang**	**4.29**	**121**	P		**Pn**	**03 50 47.0**	**+0.6**
4.6nm,0.3s,baz=317,slow=8.6,SNR=7.4								
BATI				S		**Sn**	**03 51 37.3**	**-0.2**
2.9nm,0.3s,baz=332,slow=17,SNR=2.6								
BATI				LR		LR	03 52 24.8	
comp=Z,123nm,21.3s,baz=347,slow=38								
FITZ	**Fitzroy Crossi**	**11.47**	**151**	P		**Pn**	**03 52 19.2**	**-0.4**
FITZ				*e*Sn		**Sn**	**03 54 17.5**	**-10**
FITZ	**Fitzroy Crossi**	**11.47**	**151**	P		**Pn**	**03 52 19.2**	**-0.4**
0.1nm,0.3s,baz=348,slow=13,SNR=4.1								
FITZ				S		**Sn**	**03 54 17.9**	**-9.4**
0.5nm,0.3s,baz=184,slow=22,SNR=10								
MBWA	**Marble Bar**	**13.06**	**181**	Pn		**Pn**	**03 52 40.2**	**+0.3**
5.0nm,1.1s								
WRA	**Warramunga Arr**	**18.32**	**132**	P		**P**	**03 53 39.7**	**-1.7**
0.3nm,0.3s,baz=304,slow=12,SNR=14								
WRA				S		**S**	**03 57 01.6**	**+0.6**
0.1nm,0.3s,baz=308,slow=23,SNR=4.3								
ASAR	**Alice Springs**	**20.54**	**141**	P		**P**	**03 54 05.0**	**-0.2**
1.4nm,0.4s,baz=314,slow=9.5,SNR=18								
STKA	**Stephens Creek**	**31.15**	**143**	P		**P**	**03 55 43.3**	**+1.0**
1.0nm,0.4s,mb3.9,baz=323,slow=15,SNR=4.9								
MKAR	**Makanchi Array**	**64.01**	**332**	P		**P**	**03 59 54.1**	**-0.3**
0.2nm,0.3s,mb3.4,baz=155,slow=7.4,SNR=2.9								

CSEM ***15*** *04:22:46.7±0.2, 3756N×3568E, h2km, MD2.6, Error ellipse: s-maj=3.9km s-min=3.5km az=10.0*
ISK ***15*** *04:22:47.4, 3754N×3567E, h21km, ML2.4*
ISCJB ***15*** *04:22:48.7±0.6, 3752N±004×3567E±005, h16km±7km, Error ellipse: s-maj=7.4km s-min=6.1km az=171.1*
DDA ***15*** *04:22:49.8, 3777N×3589E, h7km±4km, Md2.6*

ISC 15 04:22:48.5±0.7, 3755N±005×3565E±004, h12km±6km, n8, σ1º01/14, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.15**	**115**	PG		**Pg**	**04 22 53.0**	**+0.9**
KOZT				SG		**Sg**	**04 22 54.8**	**+0.3**
CEYT	**Ceyhan**	**0.54**	**172**	*e*PG		**Pg**	**04 22 58.5**	**-0.6**
CEYT				*e*SG		**Sg**	**04 23 06.5**	**+0.3**
ANDN	**Andirin**	**0.55**	**86**	*i* P		**Pg**	**04 22 57.7**	**-1.6**
ANDN				*i* S		**Sg**	**04 23 06.7**	**+0.1**
KARA	**Karaisali**	**0.56**	**239**	*e*PG		**Pg**	**04 22 59.0**	**-0.4**
KARA				*e*SG		**Sg**	**04 23 07.6**	**+0.9**
MERS	**Mersin**	**1.13**	**234**	*e*PN		**Pn**	**04 23 08.6**	**-1.5**
BNN	**Bunyan**	**1.31**	**7**	*e*PN		**Pn**	**04 23 10.8**	**-1.9**
AVNT	**Avonos**	**1.38**	**333**	*e*P		**Pn**	**04 23 14.7**	**+1.0**
AVNT				*e*S		**Sn**	**04 23 32.9**	**+1.0**
GZT	**Gaziantep**	**1.53**	**97**	*i* P		**Pn**	**04 23 15.3**	**-0.3**
GZT				*i* S		**Sn**	**04 23 36.9**	**+1.4**

ISCJB ***15*** *04:28:50.5±0.9, 3409N±010×820E±02, h10km, mb3.5/5, Error ellipse: s-maj=22.8km s-min=13.6km az=173.2*
IDC ***15*** *04:28:50.5±1.0, 3407N×8192E, h0km, mb3.6/6, mb1 3.9/8, mb1mx3.7/23, mbtmp3.7/8, ML3.6/2, MS3.3/1, Ms1 3.3/1, ms1mx2.5/32, Error ellipse: s-maj=38.5km s-min=21.7km az=60.0*
NEIC ***15*** *04:28:51.9±4.8, 3401N×8198E, h10km, mb3.9/2, Error ellipse: s-maj=79.8km s-min=26.9km az=129.0*
BJI ***15*** *04:28:51.1, 3422N×8171E, h8km, ML2.9*

ISC 15 04:28:52.4±0.9, 3404N±009×819E±02, h10km, n12, σ1º04/13, mb3.5/5, Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**10.74**	**23**	P		**Pn**	**04 31 27.0**	**+0.9**
MK31	**Makanchi Array**	**12.74**	**1**	*e*Pn		**Pn**	**04 31 52.8**	**-0.6**
MK31				Sn		**Sn**	**04 34 09.4**	**-5.9**
MKAR	**Makanchi Array**	**12.74**	**1**	Pn		**Pn**	**04 31 53.0**	**-0.5**
0.5nm,0.3s,baz=183,slow=14,SNR=23								
KURK	**Kurchatov**	**16.84**	**353**	*e*Pn		**Pn**	**04 32 49.4**	**+1.4**
6.5nm,1.1s								
ZALV	**Zalesovo Beam**	**20.00**	**5**	P		**Pn**	**04 33 25.0**	**-1.7**
0.1nm,0.3s,baz=203,slow=14,SNR=3.8								
BVAR	**Borovoye Array**	**20.69**	**340**	P		**P**	**04 33 32.7**	**+0.3**
1.3nm,0.6s,baz=134,slow=11,SNR=7.4								
BRVK	**Borovoye**	**20.75**	**340**	*e*Pn		**P**	**04 33 34.9**	**+1.8**
9.0nm,1.0s								
GERES	**GERESS Array B**	**51.56**	**308**	P		**P**	**04 37 58.3**	**-0.2**
0.2nm,0.5s,mb3.3,baz=93,slow=11,SNR=4.1								
WRA	**Warramunga Arr**	**73.28**	**129**	P		**P**	**04 40 24.7**	**+0.6**
0.4nm,0.8s,mb3.4,baz=328,slow=5.5,SNR=6.6								
TORD	**Torodi Ar. Bea**	**74.76**	**276**	P		**P**	**04 40 32.5**	**-0.5**
0.5nm,0.8s,mb3.5,baz=44,slow=5.9,SNR=4.7								
ASAR	**Alice Springs**	**75.72**	**132**	P		**P**	**04 40 38.5**	**+0.3**
0.6nm,0.8s,mb3.6,baz=315,slow=5.0,SNR=5.0								
YKA	**Yellowknife Ar**	**82.88**	**8**	P		**P**	**04 41 14.9**	**-1.8**
0.6nm,0.7s,mb3.7,baz=341,slow=5.3,SNR=9.9								

IDC ***15*** *05:08:14.3±2.8, 537S×14682E, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.8/13, mbtmp4.1/4, Error ellipse: s-maj=69.6km s-min=26.5km az=132.0*
NEIC ***15*** *05:08:19.6±5.4, 539S×14677E, h35km, mb4.2/2, Error ellipse: s-maj=80.5km s-min=43.2km az=204.0*

ISC 15 05:08:17.9±2.3, 52S±03×1468E±03, h35km, n8, σ0º56/9, mb4.0/3, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**18.97**	**219**	*e*P		**Pn**	**05 12 36.3**	**-1.0**
9.6nm,0.8s								
WB2	**Warramunga Arr**	**18.98**	**219**	*e*P		**Pn**	**05 12 37.0**	**-0.4**
WRA	**Warramunga Arr**	**18.99**	**219**	P		**Pn**	**05 12 37.0**	**-0.4**
0.6nm,0.3s,baz=40,slow=12,SNR=45								
WRA				S		**S**	**05 16 10.7**	**+0.4**
0.1nm,0.3s,baz=35,slow=19,SNR=3.1								
ASAR	**Alice Springs**	**22.13**	**213**	P		**P**	**05 13 10.9**	**+0.3**
2.7nm,0.6s,mb3.9,baz=55,slow=8.2,SNR=36								
FITZ	**Fitzroy Crossi**	**24.30**	**237**	*e*P		**P**	**05 13 33.1**	**+0.7**
9.1nm,0.9s,mb4.2								
FITZ	**Fitzroy Crossi**	**24.30**	**237**	P		**P**	**05 13 33.0**	**+0.7**
2.8nm,0.5s,mb4.0,baz=67,slow=11,SNR=24								
STKA	**Stephens Creek**	**26.94**	**190**	P		**P**	**05 13 56.5**	**+0.4**
STKA	**Stephens Creek**	**26.94**	**190**	P		**P**	**05 13 56.5**	**+0.4**
3.1nm,0.7s,mb3.9,baz=356,slow=12,SNR=4.6								

NEIC ***15*** *05:14:50.0, 3135S×6946W, h145km, MD3.6(GUC), After GUC.*

GUC 15 05:14:50.0±0.6, 3135S×6946W, h145km±10km, MD3.6, ML3.6, 14C-5D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.33**	**277**⇓ *i*P			Pn	05 15 18.0	+0.6
CMCH				*e*S		Sn	05 15 39.3	+1.0
CMCH	**Combarbala**	**1.33**	**277**⇓ *i*P			Pn	05 15 18.0	+0.6
CMCH				*e*S		Sn	05 15 39.3	+1.0
CMCH				AML		AML	05 15 41.2	
comp=E,6μm,0.5s								
PTCH	**Petorca**	**1.55**	**233**⇑ *i*P			Pn	05 15 20.1	+0.4
PTCH				*i* S		Sn	05 15 42.7	+0.3
PTCH	**Petorca**	**1.55**	**233**⇑ *i*P			Pn	05 15 20.1	+0.4
PTCH				*i* S		Sn	05 15 42.7	+0.3
PTCH				AML		AML	05 15 44.1	
comp=N,474nm,0.1s								
TLL	**Tololo Astrono**	**1.65**	**315**⇑ *i*P			Pn	05 15 21.9	+1.1
TLL				*i* S		Sn	05 15 45.6	+1.2
TLL	**Tololo Astrono**	**1.65**	**315**⇑ *i*P			Pn	05 15 21.9	+1.1
TLL				*i* S		Sn	05 15 45.6	+1.2
TLL				AML		AML	05 15 49.4	
comp=E,428nm,0.3s								
OVCH	**Ovalle**	**1.66**	**296**⇑ *e*P			Pn	05 15 21.6	+0.7
OVCH				*i* S		Sn	05 15 45.0	+0.4
OVCH	**Ovalle**	**1.66**	**296**⇑ *e*P			Pn	05 15 21.6	+0.7
OVCH				*i* S		Sn	05 15 45.0	+0.4
OVCH				AML		AML	05 15 47.3	
comp=N,841nm,0.2s								
PEL	**Peldehue**	**2.07**	**210**⇓ *i*P			Pn	05 15 26.1	+0.4
PEL				*i* S		Sn	05 15 53.4	+0.3
PEL				AML		AML	05 15 55.4	
comp=E,314nm,0.7s								
FCH	**Farellones**	**2.10**	**199**⇑ *i*P			Pn	05 15 27.0	+1.1
FCH				*i* S		Sn	05 15 55.4	+1.7
FCH				AML		AML	05 16 01.2	
comp=E,289nm,0.2s								
LSCH	**La Serena**	**2.10**	**313**⇑ *i*P			Pn	05 15 26.5	+0.5
LSCH				*i* S		Sn	05 15 53.6	-0.1
LSCH	**La Serena**	**2.10**	**313**⇑ *i*P			Pn	05 15 26.6	+0.5
LSCH				*i* S		Sn	05 15 53.6	-0.1
LSCH				AML		AML	05 15 55.2	
comp=E,191nm,0.3s								
CLCH	**Cerro Calan**	**2.24**	**204**⇑ *i*P			Pn	05 15 28.3	+0.7
CLCH				*i* S		Sn	05 15 57.6	+0.9
CLCH				AML		AML	05 16 07.2	
comp=E,212nm,0.9s								
PCH	**Pirque**	**2.44**	**201**⇑ *i*P			Pn	05 15 30.8	+0.8
PCH				*i* S		Sn	05 16 02.0	+1.0
LCO	**Las Campanas**	**2.56**	**335**	*e*Pn		Pn	05 15 32.4	+0.7
LCO				*e*			05 16 00.8	
LCO				*e*Sn		Sn	05 16 04.1	+0.3
LMEL	**Las Melosas**	**2.57**	**194**	*e*P		Pn	05 15 32.6	+0.9
LMEL				*e*S		Sn	05 16 04.8	+0.8
LMEL	**Las Melosas**	**2.57**	**194**	*e*P		Pn	05 15 32.6	+0.9
LMEL				*e*S		Sn	05 16 04.8	+0.8
LMEL				AML		AML	05 16 12.3	
comp=N,181nm,0.2s								
TACH	**Talagante**	**2.62**	**208**⇑ *i*P			Pn	05 15 32.6	+0.3
TACH				*i* S		Sn	05 16 05.5	+0.5
CHCH	**Chadas Angostu**	**2.77**	**201**⇑ *i*P			Pn	05 15 34.7	+0.5
CHCH				*i* S		Sn	05 16 09.1	+0.7
CACH	**El Canelo**	**2.93**	**199**⇓ *i*P			Pn	05 15 37.2	+1.0
CACH				*i* S		Sn	05 16 13.3	+1.4
VACH	**Vallenar**	**2.98**	**337**⇓ *i*P			Pn	05 15 37.5	+0.5
VACH				*i* S		Sn	05 16 13.6	+0.4
CICH	**Cipreses**	**3.07**	**195**⇑ *i*P			Pn	05 15 39.0	+0.9
CICH				*i* S		Sn	05 16 16.1	+0.8

ISCJB ***15*** *05:43:44.5±0.4, 5444S±006×57E±02, h10km, mb4.7/17, MS4.1/14, Error ellipse: s-maj=13.1km s-min=8.8km az=3.8*
IDC ***15*** *05:43:44.5±0.5, 5442S×573E, h0km, mb4.7/15, mb1 4.7/16, mb1mx4.6/19, mbtmp4.7/16, ML3.8/1, MS4.1/15, Ms1 4.1/15, ms1mx4.0/26, Error ellipse: s-maj=17.2km s-min=15.9km az=79.0*
NEIC ***15*** *05:43:45.8±0.3, 5441S×567E, h10km, mb5.1/2, Error ellipse: s-maj=13.2km s-min=10.4km az=97.0*
GCMT ***15*** *05:43:45.8±0.4, 5448S×587E, h15km±1km, MW5.0/57, Moment Tensor Solution. s20,c23; s57,c79; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.74±.22; $M_{\theta\theta}$1.59±.15; $M_{\phi\phi}$1.15±.15; $M_{r\theta}$0.61±.33; $M_{\theta\phi}$-1.51±.12; $M_{\phi r}$-1.46±.35; Best double couple: M=3.23400×10^{16} NP1:φs118.00000°, δ33.00000°, λ-112.00000°. NP2: φs324.00000°, δ60.00000°, λ-76.00000°. Principal axes: T 3.2390, Plg14.0000°, Azm44.0000°; N -0.0100, Plg12.0000°, Azm137.0000°; P -3.2290, Plg72.0000°, Azm266.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 15 05:43:47.0±7.2, 5446S±008×57E±02, h14km±46km, n60, σ0º95/27, mb4.7/17, MS4.1/14, 1C-1D, Bouvet Island region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAIT	**Maitri**	**16.60**	**173**	*e*P		**Pn**	**05 47 35.7**	**-3.2**
MAIT				*e*S		Sn	05 50 24.4	-18
VNA1	**Neumayer--Stat**	**17.39**	**196**	*e*		**Pn**	**05 47 49.2**	**+0.3**
VNA1				*e*			05 47 50.9	
VNA1				*e*			05 47 58.3	
VNA1				*e*			05 48 03.6	
VNA1				*e*			05 48 12.1	
VNA2	**Neumayer--Watz**	**17.51**	**194**	*e*		**Pn**	**05 47 50.1**	**-0.2**
baz=19,slow=15								
VNA2				*e*			05 47 51.9	
VNA2				*e*			05 47 57.7	
VNA2				*e*			05 48 04.3	
VNA2				*e*			05 48 13.1	
VNA2				*e*			05 50 54.2	
SNAA	**Sanae**	**17.67**	**189**	*e*		**Pn**	**05 47 51.1**	**-1.2**
SNAA				*e*			05 47 53.5	
SNAA				*e*			05 48 00.6	
SNAA				*e*			05 48 06.7	
SNAA				*e*			05 48 14.8	
SNAA				*e*			05 50 51.2	
SNAA	**Sanae**	**17.67**	**189**	P		**Pn**	**05 47 52.5**	**+0.2**
0.3nm,0.3s,baz=12,slow=14,SNR=75								
SNAA				LR		LR	05 53 02.1	
comp=Z,397nm,21.1s,

comp=Z,121nm,21.7s,MS4.1,baz=278,slow=33
NNA Nana 76.02 269 LR LR 06 26 24.4
comp=Z,124nm,20.1s,MS4.2,baz=136,slow=34
ATAH Atahualpa 80.92 271 LR LR 06 31 25.7
comp=Z,110nm,19.5s,MS4.2,baz=35,slow=35
RPZ Rata Peaks 81.40 169 LR LR 06 29 39.8
comp=Z,253nm,20.3s,MS4.6,baz=10,slow=34
STKA Stephens Creek 85.99 144 P **P 05 56 26.7 0.0**
1.8nm,0.7s,mb4.4,baz=151,slow=13,SNR=3.0
ROSC El Rosal 88.14 281 P **P 05 56 37.8 +0.5**
2.3nm,0.8s,mb4.5,baz=97,slow=21,SNR=4.8
ROSC LR 06 34 03.3
comp=Z,152nm,18.3s,MS4.5,baz=79,slow=34
KEST Kesra 89.88 3 LR LR 06 34 58.7
comp=Z,42nm,18.1s,MS3.9,baz=250,slow=34
ASAR Alice Springs 90.40 134 P **P 05 56 46.7 -1.2**
2.2nm,0.9s,mb4.5,baz=199,slow=5.0,SNR=14
WRA Warramunga Arr 93.88 133 P **P 05 57 02.5 -1.5**
0.4nm,0.8s,mb3.9,baz=204,slow=5.0,SNR=4.0
MKAR Makanchi Array 119.79 50 PKP PKPdf 06 02 34.5 -1.1
1.1nm,0.9s,baz=184,slow=3.6,SNR=5.3
TXAR Lajitas Array 124.39 273 PKP PKPdf 06 02 44.6 -0.5
2.0nm,1.0s,baz=170,slow=5.4,SNR=13
ARCES ARCESS Array B 124.52 8 PKP PKPdf 06 02 44.1 0.0
4.5nm,0.9s,baz=131,slow=3.4,SNR=6.9
ZALV Zalesovo Beam 126.13 46 PKP PKPdf 06 02 46.0 -1.6
0.3nm,0.3s,baz=220,slow=3.9,SNR=3.5
ECSD EROS,Sioux Fal 130.51 291 *e*PKPdf PKPdf 06 02 56.1 -0.1
SONM Songino Array 132.29 64 PKP PKPdf 06 02 59.7 +0.2
0.9nm,0.9s,baz=220,slow=3.9,SNR=3.9
MSU Marysvale 135.86 275 *e*PKPdf PKPdf 06 03 08.0 +1.5
HWUT Hardware Ranch 137.53 279 *e*PKPdf PKPdf 06 03 09.4 -0.1
LOHW Long Hollow 138.24 282 *e*PKPdf PKPdf 06 03 10.4 -0.4
TPAW Teton Pass 138.37 282 *e*PKPdf PKPdf 06 03 12.0 +1.0
MOOW Moose Ponds 138.41 282 *e*PKPdf PKPdf 06 03 11.5 +0.5
NVAR Mina Array Bea 139.38 270 PKhKP 06 03 04.1
0.6nm,0.8s,baz=151,slow=3.4,SNR=4.2
NVAR PKP PKPdf 06 03 14.0 +0.9
1.7nm,0.8s,baz=130,slow=4.4,SNR=8.1
DLMT Dillon 140.44 283 *e*PKPdf PKPdf 06 03 13.9 -0.8
MSO Missoula 142.05 284 *e*PKPdf PKPdf 06 03 15.2 -2.3
WVOR Wild Horse Val 142.15 275 *e*PKPdf PKPdf 06 03 15.5 -2.4
BMO Blue Mountains 142.84 279 *e*PKPdf PKPdf 06 03 16.8 -2.2
WALA Waterton Lakes 143.25 287 *e*PKPdf PKPdf 06 03 17.8 -1.8
RES Resolute Bay 144.21 333 *e*PKPdf PKPdf 06 03 19.2 -1.4
NEW Newport 144.64 284 *e*PKPdf PKPdf 06 03 19.1 -3.0
HAWA Hanford 145.00 280 *e*PKPdf PKPdf 06 03 22.0 -0.8
WRD Warden 145.00 281 P PKPbc 06 03 23.0 +0.9
EDM Edmonton 145.00 294 *e*PKPdf PKPdf 06 03 21.2 -1.4
DPW Davenport 145.04 283 P PKPbc 06 03 22.4 +0.2
EPH Ephrata 145.56 281 P PKPdf 06 03 24.5 +0.9
SSOR Sweet Springs 145.82 275 P PKPdf 06 03 25.1 +0.9
LON Longmire 146.51 279 P PKPdf 06 03 26.6 +1.3
PGC Sidney 148.44 281 *e*PKPdf PKPbc 06 03 31.9 -0.2
YKA Yellowknife Ar 148.85 309 PKPbc PKPbc 06 03 31.7 -0.9
14nm,0.9s,baz=97,slow=2.6,SNR=92

MAN 15 06:14:43,1802N×12005E,h11km,mb3.9,ML2.7,MS2.4, 1C-1D,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.62**	**61**	‖ *i*P	Pg	06 14 57.7	+2.7
PIP				*e*S	Sg	06 15 06.0	+2.8
ABRA	**Dolores**	**0.73**	**120**	*e*P	Pg	06 14 57.5	+0.3
APYP	**Conner**	**1.15**	**98**	*e*P	Pb	06 15 03.9	-1.0
APYP				*e*S	Sb	06 15 18.7	-1.1
BOLP	**Bolinao**	**1.64**	**185**	*e*P	Pn	06 15 11.6	-0.2
BCPH	**Baguio City Da**	**1.71**	**163** ‖	*e*P	Pn	06 15 13.4	+0.6
BCPH				*i*S	Sn	06 15 35.7	+1.0
CVP	**Callao Caves**	**1.72**	**100**	*e*P	Pn	06 15 13.8	+0.9
CVP				*e*S	Sn	06 15 34.9	0.0
BALP	**Baler**	**2.70**	**147**	*e*P	Pn	06 15 28.3	+1.9

ISCJB ***15*** *06:19:22.5±1.2,2184S±006×68.1W±02,h108km±17km, mb3.9/2,Error ellipse: s-maj=27.7km s-min=9.2km az=3.4*
IDC ***15*** *06:19:23.5±2.0,2177S×6801W,h99km±18km,mb3.8/2, mb1 3.6/5,mb1mx3.4/16,mbtmp3.5/5,Error ellipse: s-maj=26.9km s-min=15.8km az=93.0*
ISC 15 06:19:24.0±1.0,2183S±005×681W±02,h106km±14km,n7, σ0°98/9,mb3.9/2,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.51**	**359**	P	**Pn**	**06 20 44.6**	**+0.9**
	0.9nm,0.3s,baz=186,slow=7.7,SNR=22						
LPAZ				S	**Sn**	**06 21 45.5**	**-0.3**
	baz=223,slow=16,SNR=2.2						
SIV	**San Ignacio**	**8.79**	**50**	P	**Pn**	**06 21 27.2**	**-1.0**
	4.4nm,0.3s,baz=238,slow=12,SNR=112						
SIV				S	**Sn**	**06 22 59.6**	**-6.0**
	0.1nm,0.3s,baz=126,slow=23,SNR=2.6						
CFAA	**Coronel Fontan**	**9.74**	**181**	P	**Pn**	**06 21 42.2**	**+1.2**
	0.0nm,0.3s,baz=355,slow=15,SNR=5.0						
CFAA				S	**Sn**	**06 23 27.4**	**-1.1**
	0.0nm,0.3s,baz=141,slow=12,SNR=4.8						
BDFB	**Brasilia**	**19.94**	**75**	P	**P**	**06 23 49.0**	**+1.4**
	0.1nm,0.3s,baz=218,slow=19,SNR=3.1						
TORD	**Torodi Ar. Bea**	**76.71**	**70**	P	**P**	**06 31 04.3**	**+0.3**
	0.7nm,0.4s,mb3.8,baz=256,slow=5.5,SNR=19						
YKA	**Yellowknife Ar**	**91.76**	**340**	P	**P**	**06 32 18.2**	**-0.9**
	0.8nm,0.6s,mb4.1,baz=132,slow=4.4,SNR=21						
MKAR	**Makanchi Array**	**145.42**	**37**	PKPbc	PKPbc	06 38 49.8	+0.3
	0.3nm,0.4s,baz=322,slow=3.5,SNR=4.2						

IDC 15 06:21:31.2±0.6,2944S×17837W,h176km±7km,mb3.7/4, mb1 3.8/5,mb1mx3.6/13,mbtmp3.7/5,Error ellipse: s-maj=32.6km s-min=25.3km az=160.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.44**	**65**	P	Pn	06 21 56.1	+0.8
	1μm,0.3s,baz=93,slow=23,SNR=53						
RAO				S	Sn	06 22 15.0	+1.1
	317nm,0.3s,baz=100,slow=23,SNR=16						
URZ	**Urewera**	**9.56**	**202**	P	Pn	06 23 44.6	-0.3
	0.9nm,0.3s,baz=17,slow=19,SNR=5.5						
URZ				S	Sn	06 25 19.3	-12
	1.6nm,0.3s,baz=132,slow=24,SNR=8.9						
CTA	**Charters Tower**	**33.33**	**278**	P	P	06 27 54.1	+1.5
	2.9nm,0.4s,baz=94,slow=10.0,SNR=5.5						
STKA	**Stephens Creek**	**34.39**	**256**	P	P	06 28 02.8	+1.2
	1.1nm,0.6s,baz=130,slow=16,SNR=3.8						
ASAR	**Alice Springs**	**42.84**	**266**	P	P	06 29 10.6	-1.5
	0.4nm,0.3s,baz=104,slow=7.2,SNR=9.2						
WRA	**Warramunga Arr**	**43.74**	**271**	P	P	06 29 18.9	-0.4
	3.1nm,0.4s,baz=113,slow=6.4,SNR=60						
FINES	**FINESS Array B**	**144.13**	**340**	PKP	PKPdf	06 40 43.5	-1.7
	1.1nm,0.3s,baz=56,slow=4.5,SNR=12						
NOA	**NORSAR Array B**	**147.76**	**351**	PKPbc	PKPbc	06 40 54.6	+0.2
	1.0nm,0.6s,baz=15,slow=4.4,SNR=3.4						
AKASG	**Malin Array Be**	**150.34**	**323**	PKPbc	PKPbc	06 41 00.1	-1.1
	0.3nm,0.3s,baz=46,slow=2.7,SNR=2.2						
TORD	**Torodi Ar. Bea**	**163.79**	**180**	PKPab	PKPab	06 42 06.8	0.0
	0.3nm,0.5s,baz=189,slow=4.0,SNR=5.0						

IDC 15 06:24:45.5±17.0,1713S×17330W,h0km,mb4.3/5, mb1 4.4/5,mb1mx3.9/17,mbtmp4.3/5,Error ellipse: s-maj=327.6km s-min=150.1km az=80.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**38.38**	**259**	P	P	06 32 09.4	+0.6
	1.9nm,0.7s,baz=114,slow=10,SNR=5.4						
STKA	**Stephens Creek**	**43.28**	**242**	P	P	06 32 49.9	+0.8
	1.7nm,0.8s,baz=86,slow=13,SNR=4.9						
WB2	**Warramunga Arr**	**49.55**	**258**	*e*P	P	06 33 38.0	-0.6
WRA	**Warramunga Arr**	**49.56**	**258**	P	P	06 33 38.1	-0.6
	2.0nm,0.4s,baz=97,slow=7.4,SNR=76						
ASAR	**Alice Springs**	**49.69**	**253**	P	P	06 33 39.0	-0.6
	3.7nm,0.7s,baz=88,slow=7.9,SNR=46						
FITZ	**Fitzroy Crossi**	**57.96**	**259**	*e*P	P	06 34 40.2	-0.1
	5.0nm,1.5s						
FITZ	**Fitzroy Crossi**	**57.96**	**259**	P	P	06 34 40.3	0.0
	0.8nm,0.6s,baz=83,slow=8.1,SNR=6.5						

ISCJB ***15*** *06:31:12.7±0.5,3758N±003×3564E±003,h4km±5km, Error ellipse: s-maj=5.0km s-min=3.8km az=16.4*
CSEM ***15*** *06:31:12.4±0.1,3758N×3564E,h8km,MD2.9,Error ellipse: s-maj=2.0km s-min=1.3km az=6.0*
ISK ***15*** *06:31:12.2,3760N×3564E,h8km,ML2.7*
DDA ***15*** *06:31:15.0,3783N×3593E,h7km±4km,Md2.9*
ISC 15 06:31:13.4±0.5,3756N±003×3565E±003,h9km±4km,n14, σ1°02/24,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOZT	**Kozan**	**0.16**	**120**	*e*PG	**Pg**	**06 31 17.2**	**+0.3**
KOZT				*e*SG	**Sg**	**06 31 20.2**	**+1.0**
ANDN	**Andirin**	**0.55**	**88**	*i*P	**Pg**	**06 31 22.9**	**-1.2**
ANDN				*i*S	**Sg**	**06 31 30.6**	**-0.8**
CEYT	**Ceyhan**	**0.56**	**172**	*e*PG	**Pg**	**06 31 24.0**	**-0.2**
CEYT				*e*SG	**Sg**	**06 31 32.6**	**+1.1**
KARA	**Karaisali**	**0.56**	**238**	*e*PG	**Pg**	**06 31 24.0**	**-0.3**
KARA				*e*SG	**Sg**	**06 31 32.1**	**+0.5**
NIG	**Nigde**	**0.99**	**304**	*e*PG	**Pg**	**06 31 30.3**	**-2.1**
NIG				*e*SG	**Sg**	**06 31 45.4**	**+0.1**
KMRS	**Kahramanmaras**	**1.00**	**93**	*e*PG	**Pg**	**06 31 31.3**	**-1.3**
KMRS				*e*SG	**Sg**	**06 31 46.4**	**+0.8**
MERS	**Mersin**	**1.14**	**233**	*e*PN	**Pn**	**06 31 34.6**	**-1.0**
MERS				*e*SN	**Sn**	**06 31 50.7**	**-0.6**
BNN	**Bunyan**	**1.30**	**7**	*e*PN	**Pn**	**06 31 36.0**	**-1.7**
AVNT	**Avonos**	**1.37**	**333**	*i*P	**Pn**	**06 31 39.5**	**+0.8**
AVNT				*i*S	**Sb**	**06 31 57.4**	**+0.6**
GZT	**Gaziantep**	**1.54**	**97**	*i*P	**Pn**	**06 31 40.0**	**-1.1**
GZT				*i*S	**Sn**	**06 32 02.5**	**+1.3**
IKL	**Isikli**	**2.06**	**231**	*e*PN	**Pn**	**06 31 47.9**	**-0.3**
CDAG	**Cicekdag**	**2.29**	**334**	*e*P	**Pn**	**06 31 54.0**	**+2.6**
CDAG				*i*S	**Sg**	**06 32 27.9**	**+1.0**
MALT	**Malatya**	**2.32**	**70**	*e*PN	**Pn**	**06 31 52.0**	**+0.2**
HDMB	**Hadim**	**2.59**	**258**	*e*PN	**Pn**	**06 31 56.2**	**+0.7**

IDC 15 07:04:40.2±33.0,1657S×17923E,h0km,mb4.0/4, mb1 4.2/4,mb1mx3.9/14,mbtmp4.0/4,Error ellipse: s-maj=608.0km s-min=128.1km az=81.0,Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**37.34**	**239**	P	P	07 11 54.7	+0.2
	1.0nm,0.6s,baz=73,slow=11,SNR=3.7						
WB2	**Warramunga Arr**	**42.66**	**258**	*e*P	P	07 12 38.6	-0.3
WRA	**Warramunga Arr**	**42.67**	**258**	P	P	07 12 38.6	-0.4
	0.4nm,0.3s,baz=92,slow=8.3,SNR=32						
ASAR	**Alice Springs**	**43.00**	**253**	P	P	07 12 41.4	-0.2
	5.3nm,0.5s,baz=87,slow=7.8,SNR=118						
FITZ	**Fitzroy Crossi**	**51.03**	**260**	P	P	07 13 44.9	+0.4
	2.2nm,1.1s,baz=122,slow=7.7,SNR=5.8						

CSEM ***15*** *07:26:37.8±0.1,4182N×2285E,h15km,ML1.9,Error ellipse: s-maj=1.7km s-min=1.4km az=64.0*
SKO ***15*** *07:26:37.5,4178N×2286E,h23km,M1.7,ML1.9*
THE ***15*** *07:26:38.0,4179N×2285E,h1km,ML2.7*
ISC 15 07:26:37.7±1.4,4180N±003×2285E±005,h19km±28km, n15,σ0°35/30,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STIP	**Stip**	**0.51**	**258**	*e*Pg	**Pg**	**07 26 48.0**	**+0.1**
STIP				*e*Sg	**Sg**	**07 26 54.7**	**-0.1**
STIP	**Stip**	**0.51**	**258**	*e*Pg	**Pg**	**07 26 47.9**	**0.0**
STIP				*e*Sg	**Sg**	**07 26 54.6**	**-0.2**
STIP				*e*Lg		07 26 54.8	
	comp=E,44nm,0.2s						
STIP				*e*Lg		07 26 55.0	
	comp=N,73nm,0.2s						
STIP	**Stip**	**0.51**	**258**	*e*Pg	**Pg**	**07 26 48.0**	**+0.1**
STIP				*e*Sg	**Sg**	**07 26 54.5**	**-0.3**
STIP				*e*Lg		07 26 54.7	
	comp=N,44nm,0.2s						
VAY	**Valandovo**	**0.52**	**204**	*e*Pg	**Pg**	**07 26 48.3**	**+0.1**
VAY				*e*Sg	**Sg**	**07 26 55.1**	**-0.1**
VAY	**Valandovo**	**0.52**	**204**	*e*Pg	**Pg**	**07 26 48.5**	**+0.3**
VAY				*e*Sg	**Sg**	**07 26 55.0**	**-0.2**
VAY				*e*Lg		07 26 55.2	
	comp=N,62nm,0.2s						
VAY				*e*Lg		07 26 55.5	
	comp=E,58nm,0.3s						
VAY	**Valandovo**	**0.52**	**204**	*e*Pg	**Pg**	**07 26 48.3**	**+0.1**
VAY				*e*Sg	**Sg**	**07 26 55.0**	**-0.3**
VAY				*e*Lg		07 26 55.2	
	comp=E,62nm,0.2s						
KNT	**Kendrikon**	**0.64**	**177**	*e*Pg	**Pg**	**07 26 50.2**	**-0.1**
KNT				*e*Sg	**Sg**	**07 26 58.9**	**0.0**
KNT	**Kendrikon**	**0.64**	**177**	*e*Pg	**Pg**	**07 26 50.2**	**-0.2**
KNT				*e*Sg	**Sg**	**07 26 58.9**	**0.0**
VTS	**Vitosha**	**0.83**	**19**	*e*Pg	**Pg**	**07 26 54.4**	**+0.3**
VTS				*e*Sg	**Sg**	**07 27 05.1**	**0.0**
SRS	**Serrai**	**0.88**	**140**	*e*Pg	**Pg**	**07 26 54.5**	**-0.5**
SRS				*e*Sg	**Sg**	**07 27 06.5**	**-0.1**
GRG	**Griva**	**0.91**	**202**	*e*Pg	**Pg**	**07 26 55.2**	**-0.2**
GRG				*e*Sg	**Sg**	**07 27 07.3**	**0.0**
GRG	**Griva**	**0.91**	**202**	*e*Pg	**Pg**	**07 26 55.2**	**-0.2**
GRG				*e*Sg	**Sg**	**07 27 07.3**	**-0.1**
SOH	**Sokhos**	**1.05**	**159**	*e*Pg	**Pg**	**07 26 57.9**	**-0.2**
SOH				*e*Sg	**Sg**	**07 27 12.8**	**+0.9**
KRUS	**Krusevo**	**1.27**	**251**	*e*Pg	**Pg**	**07 27 02.0**	**-0.4**
KRUS				*e*Sg	**Sg**	**07 27 19.6**	**+0.6**
KRUS	**Krusevo**	**1.27**	**251**	*e*Pg	**Pg**	**07 27 01.9**	**-0.5**
KRUS				*e*Sg	**Sg**	**07 27 19.6**	**+0.6**

ISCJB ***15*** *07:43:52.7±0.8,683N±009×73.12W±0.10,h166km±8km, Error ellipse: s-maj=19.5km s-min=8.1km az=40.1*
IDC ***15*** *07:43:55.0±5.6,656N×7587W,h123km±63km,mb2.8/1, mb1 3.2/2,mb1mx2.9/20,mbtmp3.0/2,Error ellipse: s-maj=112.6km s-min=34.2km az=81.0*
FUNV ***15*** *07:43:54.0,686N×7324W,h167km,MW3.2*
ISC 15 07:43:53.8±0.8,681N±009×7310W±010,h160km±8km,n15, σ0°77/18,2C,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.30**	**37** ‖	*i*P	**Pn**	**07 44 23.0**	**+0.9**
CAPV				*e*S	**Sn**	**07 44 44.8**	**+0.8**
ROSC	**El Rosal**	**2.30**	**212**	P	**Pn**	**07 44 34.5**	**+1.5**
	12nm,0.3s,baz=296,slow=15,SNR=82						
ROSC				S	**Sn**	**07 45 01.7**	**-1.5**
	12nm,0.3s,baz=100,slow=16,SNR=14						
VIGV	**El Vigia**	**2.65**	**40** ‖	*i*P	**Pn**	**07 44 37.5**	**+0.3**
VIGV				*e*S	**Sn**	**07 45 10.6**	**-0.2**
SOCV	**Socops**	**2.66**	**56**	*e*P	**Pn**	**07 44 37.7**	**+0.4**
SOCV				*e*S	**Sn**	**07 45 09.7**	**-1.3**
ELOV	**Elorza**	**3.59**	**87**	*e*P	**Pn**	**07 44 49.5**	**+0.4**
VIRV	**Villa del Rosa**	**3.73**	**11**	*e*P	**Pn**	**07 44 49.9**	**-1.0**
VIRV				*e*S	**Sn**	**07 45 30.2**	**-5.0**
SANV	**Sanarito**	**4.42**	**53**	*e*P	**Pn**	**07 45 00.3**	**+0.5**
CURV	**Curarigua**	**4.44**	**44**	*e*P	**Pn**	**07 44 59.7**	**-0.3**
TEPV	**Terepaima**	**4.97**	**51**	*e*P	**Pn**	**07 45 07.3**	**+0.3**
SIQV	**Siquisique**	**5.01**	**40**	*e*P	**Pn**	**07 45 06.7**	**-0.8**
CAOV	**Caicara del Or**	**6.74**	**85**	*e*P	**Pn**	**07 45 30.2**	**-0.2**
BIRV	**Birongo**	**7.67**	**61**	*e*P	**Pn**	**07 45 42.8**	**0.0**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**07 54 05.2**	**+0.1**
	0.2nm,0.6s,baz=132,slow=6.7,SNR=8.9						
ASAR	**Alice Springs**	**149.12**	**234**	PKPbc	PKPbc	08 03 22.7	-1.3
	0.6nm,0.8s,baz=116,slow=4.2,SNR=4.1						
WRA	**Warramunga Arr**	**150.35**	**241**	PKPbc	PKPbc	08 03 26.1	-1.0
	0.2nm,0.4s,baz=108,slow=2.5,SNR=9.6						

IDC 15 07:52:03.9±1.5,215S×12150E,h0km,mb3.2/3,mb1 3.4/3, mb1mx3.3/15,mbtmp3.3/3,Error ellipse: s-maj=51.6km s-min=24.7km az=65.0,Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.34**	**211**	Pn	Pn	07 52 56.9	-0.5
	baz=50,slow=8.7						
KAPI				Sn	Sn	07 53 34.4	-3.4
	3.0nm,0.3s,baz=204,slow=23,SNR=3.9						
WRA	**Warramunga Arr**	**21.68**	**146**	P	P	07 56 56.6	+0.1
	0.5nm,0.8s,baz=324,slow=11,SNR=7.4						
ASAR	**Alice Springs**	**24.53**	**152**	P	P	07 57 25.6	+0.2
	0.5nm,0.6s,baz=326,slow=9.3,SNR=8.8						
MKAR	**Makanchi Array**	**59.67**	**330**	P	P	08 02 10.1	+0.1
	0.3nm,0.6s,baz=140,slow=7.6,SNR=3.2						

IDC ***15*** *07:57:24.5±1.3,3906N×2177E,h0km,mb3.7/4,mb1 3.8/4, mb1mx3.5/21,mbtmp3.7/4,Error ellipse: s-maj=57.4km s-min=26.0km az=139.0*
ISCJB ***15*** *07:57:25.6±0.3,3909N±001×2173E±002,h6km±3km, mb3.7/4,Error ellipse: s-maj=2.9km s-min=2.4km az=177.4*
NEIC ***15*** *07:57:26.5,3908N×2178E,h13km,ML3.9(THE), ML3.4(ATH),After ATH.*
THE ***15*** *07:57:26.3,3909N×2172E,h2km,ML3.9*
ATH ***15*** *07:57:26.5,3908N×2175E,h12km±2km,MD3.5/8,ML3.4*
CSEM ***15*** *07:57:26.6±0.1,3909N×2172E,h8km,ML3.4,Error ellipse: s-maj=1.6km s-min=1.3km az=85.0*
ISC 15 07:57:26.4±0.3,3910N±001×2174E±002,h8km±3km,n56, σ1°09/93,mb3.7/4,1C-1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.19**	**163** ‖	*i*PG	**Pg**	**07 57 30.3**	**+0.1**
EVR				*e*SG	**Sg**	**07 57 33.7**	**+0.9**
AGG	**Agios Georgios**	**0.47**	**99**	*e*Pg	**Pg**	**07 57 35.7**	**+0.2**
AGG				*e*Sg	**Sg**	**07 57 42.7**	**+1.2**
THL	**Klokotos Trika**	**0.51**	**24**	*e*Pg	**Pg**	**07 57 36.2**	**-0.1**
THL				*e*Sg	**Sg**	**07 57 44.5**	**+1.4**
THL	**Klokotos Trika**	**0.51**	**24** ‖	*i*PB	**Pg**	**07 57 36.0**	**-0.4**
THL				*e*SB	**Sg**	**07 57 44.5**	**+1.4**
THL	**Klokotos Trika**	**0.51**	**24**	*e*Pg	**Pg**	**07 57 36.2**	**-0.2**
THL				*e*Sg	**Sg**	**07 57 44.5**	**+1.4**
MEV	**Metsovon**	**0.79**	**330**	*e*Pg	**Pg**	**07 57 41.2**	**-0.4**
SELA	**Sela**	**0.83**	**172**	*e*Pg	**Pg**	**07 57 42.0**	**-0.3**
SELA				*e*Sg	**Sg**	**07 57 53.3**	**+0.2**
JAN	**Janina**	**0.89**	**309**	*e*PG	**Pg**	**07 57 43.0**	**-0.5**
JAN				*e*SB	**Sb**	**07 57 55.0**	**-1.0**
JAN	**Janina**	**0.89**	**309**	*e*Pg	**Pg**	**07 57 43.5**	**0.0**
LKD	**Levkas**	**0.93**	**246**	*e*Pg	**Pg**	**07 57 43.9**	**-0.4**
RLS	**Riolos of Patr**	**1.06**	**192**	*e*PN	**Pn**	**07 57 46.5**	**-1.0**
RLS				*e*SB	**Sb**	**07 58 00.5**	**-0.4**
LKR	**Lokris**	**1.08**	**114**	*e*Pg	**Pg**	**07 57 47.0**	**-0.1**
LKR	**Lokris**	**1.08**	**114**	*e*PN	**Pg**	**07 57 47.0**	**-0.1**
LKR				*e*SB	**Sb**	**07 58 02.0**	**+0.5**
LKR	**Lokris**	**1.08**	**114**	*e*Pn	**Pn**	**07 57 46.8**	**-1.0**
LKR	**Lokris**	**1.08**	**114**	*e*Pn	**Pg**	**07 57 47.7**	**-0.1**
LIT	**Litokhoron**	**1.16**	**30**	*e*Pg	**Pg**	**07 57 48.0**	**-0.6**
LIT				*e*Sg	**Sg**	**07 58 04.4**	**+0.7**
XOR	**Xorichti**	**1.16**	**76**	*e*Pg	**Pg**	**07 57 48.4**	**-0.3**
XOR				*e*Sg	**Sg**	**07 58 05.2**	**+1.5**
XOR	**Xorichti**	**1.16**	**76**	*e*Pg	**Pg**	**07 57 48.3**	**-0.4**
XOR				*e*Sg	**Sg**	**07 58 05.2**	**+1.5**
NEO	**Neokhori**	**1.17**	**79**	*e*PN	**Pn**	**07 57 48.2**	**-0.8**
NEO				*e*SB	**Sb**	**07 58 04.0**	**-0.2**
IGT	**Igoumenitsa**	**1.18**	**292**	*e*Pg	**Pg**	**07 57 48.5**	**-0.5**
IGT				*e*Sg	**Sg**	**07 58 04.9**	**+0.7**
KZN	**Kozani**	**1.21**	**1**	*e*PB	**Pb**	**07 57 50.4**	**+0.9**
KZN				*e*SB	**Sb**	**07 58 07.0**	**+1.7**
KZN	**Kozani**	**1.21**	**1**	*e*Pb	**Pb**	**07 57 50.5**	**+1.0**
KFL	**Anninata**	**1.23**	**217**	*e*Pg	**Pg**	**07 57 49.1**	**-0.9**
KFL				*e*Sg	**Sg**	**07 58 06.6**	**+0.5**
VLS	**Valsamata**	**1.28**	**225**	*e*Pg	**Pg**	**07 57 49.5**	**-1.6**
VLS				*e*Sg	**Sg**	**07 58 08.6**	**+0.9**
VLS	**Valsamata**	**1.28**	**225**	*e*PN	**Pn**	**07 57 49.8**	**-0.8**
VLS				*e*SB	**Sb**	**07 58 09.7**	**+2.3**
VLS	**Valsamata**	**1.28**	**225**	*e*Pn	**Pn**	**07 57 49.8**	**-0.8**
VLS				*e*Sg	**Sg**	**07 58 08.6**	**+0.9**
LTK	**Loutraki**	**1.44**	**138**	*e*Pg	**Pg**	**07 57 53.2**	**-0.8**
LTK				*e*Sg	**Sg**	**07 58 13.7**	**+1.0**
KEK	**Kerkira**	**1.62**	**293**	*e*PB	**Pb**	**07 57 57.8**	**+1.2**
KEK				*e*SB	**Sb**	**07 58 20.3**	**+3.1**
AOS	**Alonnisos**	**1.67**	**87**	*e*Pb	**Pb**	**07 57 55.1**	**-2.1**
FNA	**Florina**	**1.71**	**351**	*e*Pb	**Pb**	**07 57 56.9**	**-1.1**
FNA				*e*Sb	**Sb**	**07 58 19.7**	**0.0**
VLX	**Vlachokerasia**	**1.79**	**164**	*e*Pb	**Pb**	**07 57 56.4**	**-3.1**
VLX				*e*Sb	**Sb**	**07 58 21.9**	**-0.2**
PLG	**Polygyros**	**1.83**	**45**	*e*Pb	**Pb**	**07 57 57.3**	**-2.9**
PLG				*e*Sb	**Sb**	**07 58 23.0**	**-0.2**
PLG	**Polygyros**	**1.83**	**45**	*e*Pn	**Pn**	**07 57 57.4**	**-0.7**
PLG				*e*Sb	**Sb**	**07 58 23.0**	**-0.2**
ATH	**Athens Observa**	**1.91**	**125**	*e*PN	**Pn**	**07 58 00.0**	**+0.8**
NAIG	**Nisos Aigina**	**1.92**	**134**	*e*PN	**Pn**	**07 58 00.5**	**+1.2**
ITM	**Ithomi**	**1.92**	**176**	*e*PG	**Pg**	**07 58 01.7**	**-1.5**
GRG	**Griva**	**1.93**	**15**	*e*Pb	**Pb**	**07 57 59.3**	**-2.5**
GRG				*e*Sb	**Sb**	**07 58 24.3**	**-1.6**
BIA	**Bitola**	**1.95**	**351**	*e*Pb	**Pb**	**07 58 00.2**	**-1.9**
BIA				*e*Sb	**Sb**	**07 58 26.4**	**-0.1**
BIA	**Bitola**	**1.95**	**351**	*e*Pn	**Pn**	**07 58 01.5**	**+1.8**
BIA				*e*Sn	**Sn**	**07 58 23.8**	**-0.6**
BIA	**Bitola**	**1.95**	**351**	*e*Pn	**Pn**	**07 58 01.5**	**+1.8**
BIA				*e*Sn	**Sn**	**07 58

*ISCJB **15** 08:09:29.8±4.8, 250S±02×1789E±02, h538km±63km, mb3.6/7, Error ellipse: s-maj=33.8km s-min=21.3km az=26.2*
*IDC **15** 08:09:31.0±4.2, 2495S×17894E, h545km±47km, mb3.2/7, mb1 3.5/8, mb1mx3.4/12, mbtmp3.3/8, Error ellipse: s-maj=31.1km s-min=22.8km az=10.0*
*NEIC **15** 08:09:32.1±3.6, 2506S×17894E, h564km±44km, mb3.9/1, Error ellipse: s-maj=48.4km s-min=21.3km az=184.0*

ISC 15 08:09:32.4±4.5, 252S±03×1789E±02, h564km±61km, n25, σ0:90/12, mb3.6/7, 1C, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.12**	**186**	P	**P**	**08 12 22.6**	**+0.3**
	2.6nm,0.3s,baz=30,slow=2.8,SNR=28						
URZ				S	**S**	**08 14 41.3**	**-0.8**
	0.1nm,0.3s,baz=18,slow=20,SNR=4.9						
STKA	**Stephens Creek**	**33.34**	**250**	*e*P	**P**	**08 15 26.4**	**+1.9**
	1.4nm,0.4s,mb3.8						
STKA	**Stephens Creek**	**33.34**	**250**	P	**P**	**08 15 25.4**	**+0.8**
	1.7nm,0.4s,mb3.9,baz=146,slow=14,SNR=7.5						
ASAR	**Alice Springs**	**40.87**	**262**	P	**P**	**08 16 26.5**	**+0.3**
	0.8nm,0.6s,mb3.4,baz=95,slow=9.3,SNR=16						
WB2	**Warramunga Arr**	**41.34**	**268**	*e*P	**P**	**08 16 29.9**	**-0.1**
WRA	**Warramunga Arr**	**41.36**	**268**	P	**P**	**08 16 30.2**	**+0.1**
	1.0nm,0.3s,mb3.8,baz=99,slow=7.0,SNR=72						
MJAR	**Matsushiro Arr**	**72.41**	**327**	P	**P**	**08 19 59.9**	**-2.1**
	1.3nm,0.7s,mb3.5,baz=149,slow=5.0,SNR=5.7						
KSRS	**Korea Array**	**78.61**	**321**	P	**P**	**08 20 36.0**	**-0.4**
	0.8nm,0.4s,mb3.4,baz=130,slow=4.1,SNR=4.4						
NVAR	**Mina Array Bea**	**86.36**	**44**	P	**P**	**08 21 15.6**	**+0.3**
	1.1nm,0.7s,mb3.6,baz=222,slow=7.8,SNR=8.3						
SML	**Sawmill**	**90.61**	**15**	*e*P	**P**	**08 21 30.5**	**-4.0**
TXAR	**Lajitas Array**	**91.94**	**59**	P	**P**	**08 21 42.3**	**+0.9**
	0.5nm,0.7s,mb3.6,baz=213,slow=6.9,SNR=8.3						
AML	**Almayashu**	**117.38**	**306**	*e*PKPdf	PKPdf	08 27 13.4	-0.9
BVAR	**Borovoye Array**	**120.75**	**318**	PKP	PKPdf	08 27 20.1	-0.3
	1.8nm,0.5s,baz=145,slow=2.2,SNR=8.4						
AKTK	**Aktyubinsk**	**128.53**	**315**	PKP	PKPdf	08 27 35.2	-0.2
AKTO	**Aktyubinsk**	**128.53**	**315**	PKP	PKPdf	08 27 35.2	-0.2
	1.0nm,0.5s,baz=123,slow=3.5,SNR=3.5						
ARCES	**ARCESS Array B**	**132.94**	**348**	PKP	PKPdf	08 27 43.2	0.0
ARCES	**ARCESS Array B**	**132.94**	**348**	PKP	PKPdf	08 27 43.2	0.0
	2.1nm,0.7s,baz=83,slow=3.8,SNR=4.8						
FINES	**FINESS Array B**	**139.34**	**340**	PKP		08 27 46.7	
FINES				PKP	PKPdf	08 27 53.0	-2.2
FINES	**FINESS Array B**	**139.34**	**340**	PKhKP		08 27 46.7	
	0.3nm,0.4s,baz=60,slow=7.5,SNR=4.5						
FINES				PKP	PKPdf	08 27 53.0	-2.2
	0.8nm,0.5s,baz=75,slow=8.3,SNR=3.4						
NB2	**NORSAR Subarra**	**143.19**	**350**	PKP	PKPdf	08 27 59.0	-3.1
	comp=Z,4.4nm,0.7s,baz=18,slow=3.5						
NOA	**NORSAR Array B**	**143.19**	**350**	PKP	PKPdf	08 27 59.3	-2.8
	comp=Z,3.2nm,0.7s,baz=16,slow=5.0,SNR=9.9						
AKASG	**Malin Array Be**	**145.50**	**325**	PKPbc	PKPbc	08 28 07.0	-0.9
	comp=Z,4.3nm,0.6s,baz=46,slow=4.0,SNR=29						
KIEV	**Kiev**	**145.51**	**325**	*e*PKPdf	PKPdf	08 28 06.8	+0.3
CLL	**Collm**	**151.78**	**341**	⇑*i*PKPbc	PKPbc	08 28 23.6	+0.2
	comp=Z,7.0nm,0.8s						
CLL				*i* PKPab	PKPab	08 28 34.3	-0.8
	comp=Z,4.0nm,0.7s						
TORD	**Torodi Ar. Bea**	**167.74**	**193**	PKPab	PKPab	08 29 47.1	+1.7
	comp=Z,1.6nm,1.1s,baz=153,slow=3.0,SNR=4.2						

NNC 15 08:26:01.4±1.9, 5417N×8690E, h0km, mb3.5, mpv3.0, 8C-4D, Error ellipse: s-maj=15.4km s-min=9.7km az=61.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURK	**Kurchatov**	**6.13**	**239**	⇓Pn	Pn	08 27 31.9	-1.2
KURK				⇑Lg		08 29 16.5	
	4.1nm,0.8s						
KURBB	**Kurchatov Arra**	**6.23**	**239**	⇓Pn	Pn	08 27 36.1	+1.6
	0.4nm,0.3s,baz=52,slow=13						
KURBB				⇑Sn	Sn	08 28 48.6	+2.2
	0.5nm,0.7s						
KURBB				⇑Lg		08 29 20.7	
	0.8nm,0.7s						
MK31	**Makanchi Array**	**7.94**	**204**	⇑Pn	Pn	08 28 00.7	+2.7
	0.5nm,0.5s,baz=29,slow=13,SNR=19						
MK31				⇓Sn	Sn	08 29 34.8	+6.3
	3.7nm,1.3s,baz=32,slow=27,SNR=3.9						
MK31				⇑Lg		08 30 12.2	
	3.8nm,1.1s						
VOSK	**Vostochnaya**	**9.61**	**268**	⇑Pn	Pn	08 28 20.6	-0.2
	0.9nm,0.7s						
VOSK				⇓Sn	Sn	08 30 09.1	-0.3
	1.6nm,0.7s						
ZRNK	**Zerenda**	**10.72**	**271**	⇑Pn	Pn	08 28 37.2	+1.3
	0.6nm,0.3s						
ZRNK				⇑Sn	Sn	08 30 36.8	+0.3
	1.5nm,0.8s						

*CSEM **15** 08:27:21.9±0.1, 3089N×3497E, h2km, ML3.2, Error ellipse: s-maj=2.5km s-min=1.6km az=122.0*
*GII **15** 08:27:21.1±0.8, 3089N×3503E, h0km, ML2.5/4*
*ISCJB **15** 08:27:22.6±0.5, 3088N±003×3505E±005, h11km±4km, Error ellipse: s-maj=6.6km s-min=4.2km az=10.4*
*SGS **15** 08:27:23.9, 3033N×3350E, h28km*
*HLW **15** 08:27:24.0, 3097N×3498E, h15km, Mb3.1*

ISC 15 08:27:22.5±0.5, 3085N±003×3506E±004, h0km, n24, σ0:96/31, 1C, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RMNI	**Mount Ramon**	**0.36**	**225**	Pg	**Pg**	**08 27 30.6**	**+1.2**
RTMI	**Retamim**	**0.38**	**302**	Pg	**Pg**	**08 27 29.6**	**-0.1**
PRNI	**Paran**	**0.50**	**186**	Pg	**Pg**	**08 27 33.5**	**+1.4**
YTIR	**Yattir**	**0.51**	**5**	Pg	**Pg**	**08 27 32.6**	**+0.4**
MZDA	**Masada**	**0.52**	**29**	Pg	**Pg**	**08 27 33.1**	**+0.6**
MZDA				Sg	**Sg**	**08 27 40.4**	**+1.2**
KZIT	**Kziot**	**0.57**	**275**	Pg	**Pg**	**08 27 33.4**	**-0.1**
KZIT				Sg	**Sg**	**08 27 41.9**	**+0.9**
KRMI	**Paran Flat**	**0.79**	**202**	Pg	**Pg**	**08 27 38.2**	**+0.6**
HRFI	**Mount Harif**	**0.81**	**182**	Pg	**Pg**	**08 27 38.7**	**+0.6**
MBH	**Mount Berech**	**1.07**	**187**	Pg	**Pg**	**08 27 43.1**	**+0.2**
MBH				Sg	**Sg**	**08 28 00.8**	**+4.1**
EIL	**Elat**	**1.18**	**185**	Pg	**Pg**	**08 27 45.6**	**+0.4**
EIL				Sg	**Sg**	**08 28 03.6**	**+3.1**
HNKL	**Nakhl**	**1.31**	**226**	P	**Pg**	**08 27 47.1**	**-0.5**
HNKL				S	**Sg**	**08 28 04.8**	**+0.1**
GLFJ		**1.34**	**182**	*e*P	**Pg**	**08 27 47.3**	**-0.9**
	SNR=26						
SLTI	**Sal'it**	**1.38**	**359**	Pn	**Pn**	**08 27 48.0**	**-1.0**
HMDT	**Nahal Hemdat**	**1.45**	**16**	Pn	**Pn**	**08 27 49.0**	**-1.0**
HQLS		**1.55**	**180**	P	**Pn**	**08 27 50.4**	**-0.9**
HQLS		**1.55**	**180**	P	**Pn**	**08 27 50.4**	**-0.9**
HQLS				S	**Sn**	**08 28 09.8**	**-2.3**
AMAG	**Maghara**	**1.61**	**263**	P	**Pn**	**08 27 50.6**	**-1.5**
HBST	**Basata**	**1.66**	**190**	P	**Pn**	**08 27 53.7**	**+0.9**
JLOS		**2.14**	**170**	P	**Pn**	**08 27 59.2**	**-0.2**
JLOS		**2.14**	**170**	P	**Pn**	**08 27 59.2**	**-0.3**
JLOS				S	**Sn**	**08 28 26.0**	**-0.8**
SUZ		**2.18**	**243**	⇑P	**Pn**	**08 27 58.8**	**-1.1**
HKAT	**Jabal Katrina**	**2.50**	**202**	P	**Pn**	**08 28 04.7**	**+0.3**
RSHS		**2.56**	**185**	P	**Pn**	**08 27 58.6**	**-6.5**
TR2		**2.72**	**206**	P	**Pn**	**08 28 07.2**	**-0.3**

*NEIC **15** 08:38:06.8±2.3, 763S×12704E, h137km±20km, mb4.5/4, Error ellipse: s-maj=26.2km s-min=17.5km az=53.0*
*IDC **15** 08:38:08.6±4.0, 744S×12728E, h151km±37km, mb3.5/4, mb1 3.7/5, mb1mx3.4/12, mbtmp3.6/5, Error ellipse: s-maj=50.5km s-min=16.7km az=52.0*
*ISCJB **15** 08:38:10.7±1.7, 79S±01×12710E±009, h196km±19km, mb3.7/4, Error ellipse: s-maj=21.8km s-min=12.3km az=29.0*

ISC 15 08:38:09.8±2.2, 77S±02×1272E±01, h167km±23km, n16, σ1:15/18, mb3.8/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.26**	**234**	P	**Pn**	**08 39 15.9**	**+2.0**
	122nm,0.3s,baz=99,slow=3.1,SNR=62						
BATI				S	**Sn**	**08 40 03.6**	**-0.4**
	72nm,0.3s,baz=229,slow=2.2,SNR=19						
KAKA	**Kakadu**	**7.17**	**134**	*e*P	**Pn**	**08 39 52.3**	**+0.2**
	44nm,0.8s						
KAKA				*e*S	**Sn**	**08 41 05.8**	**-6.9**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**10.43**	**188**	*e*P	**Pn**	**08 40 33.9**	**-1.3**
	9.0nm,0.4s						
FITZ				*e*S	**Sn**	**08 42 23.6**	**-7.3**
FITZ	**Fitzroy Crossi**	**10.43**	**188**	P	**Pn**	**08 40 33.8**	**-1.4**
	1.0nm,0.3s,baz=19,slow=12,SNR=42						
FITZ				S	**Sn**	**08 42 25.1**	**-5.8**
	1.2nm,0.3s,baz=124,slow=21,SNR=2.9						
WRAB	**Tennant Creek**	**13.99**	**151**	*e*Pn	**Pn**	**08 41 20.6**	**-0.3**
	4.8nm,0.6s						
WRA	**Warramunga Arr**	**13.99**	**151**	P	**Pn**	**08 41 19.4**	**-1.5**
	1.1nm,0.3s,baz=324,slow=13,SNR=62						
WRA				S	Sx	08 43 48.0	
	2.1nm,0.3s,baz=324,slow=26,SNR=8.6						
WB2	**Warramunga Arr**	**14.00**	**151**	*e*P	**Pn**	**08 41 20.0**	**-1.0**
WB2				*e*S	Sx	08 43 47.1	
ASAR	**Alice Springs**	**17.12**	**159**	P	**Pn**	**08 42 00.4**	**+1.2**
	1.0nm,0.3s,baz=339,slow=12,SNR=68						
ASAR				S	Sx	08 45 02.2	
	0.2nm,0.3s,baz=317,slow=19,SNR=4.4						
CTA	**Charters Tower**	**22.19**	**126**	P	**P**	**08 42 54.1**	**+1.4**
	2.8nm,0.7s,mb3.8,baz=58,slow=9.5,SNR=4.2						
STKA	**Stephens Creek**	**27.53**	**153**	*e*P	**P**	**08 43 42.4**	**+1.5**
	2.2nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**27.53**	**153**	*e*P	**P**	**08 43 42.1**	**+1.2**
	2.6nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**27.53**	**153**	P	**P**	**08 43 42.4**	**+1.5**
	2.3nm,0.4s,mb4.2,baz=322,slow=9.3,SNR=15						
MKAR	**Makanchi Array**	**67.33**	**328**	P	**P**	**08 48 46.5**	**-0.1**
	0.2nm,0.5s,mb3.2,baz=145,slow=9.9,SNR=3.7						
ZALV	**Zalesovo Beam**	**71.02**	**335**	P	**P**	**08 49 08.0**	**-1.2**
	0.7nm,0.4s,mb3.7,baz=125,slow=5.6,SNR=3.4						
CPUP	**Villa Florida**	**145.87**	**173**	PKPbc	PKPbc	08 57 31.0	+0.7
	1.5nm,0.3s,baz=224,slow=0.5,SNR=12						
LPAZ	**La Paz**	**151.74**	**148**	PKPbc	PKPbc	08 57 47.5	+2.0
	0.5nm,0.4s,baz=266,slow=2.9,SNR=6.2						
LPAZ				PKPab	PKPab	08 57 57.5	+2.7
	0.8nm,0.6s,baz=90,slow=3.4,SNR=5.9						

*MOS **15** 08:50:07.3±0.7, 692S×12939E, h33km, mb5.1/6, Error ellipse: s-maj=32.7km s-min=10.6km az=115.2*
*ISCJB **15** 08:50:09.3±3.4, 70S±01×12953E±008, h57km±34km, mb4.7/17, Error ellipse: s-maj=22.2km s-min=9.8km az=23.0*
*IDC **15** 08:50:13.4±3.5, 706S×12941E, h77km±33km, mb4.0/7, mb1 4.3/10, mb1mx4.1/15, mbtmp4.2/10, Error ellipse: s-maj=33.6km s-min=16.1km az=59.0*
*NEIC **15** 08:50:14.9±1.6, 709S×12947E, h94km±16km, mb4.4/4, Error ellipse: s-maj=17.3km s-min=10.3km az=50.0*

ISC 15 08:50:12.1±2.4, 70S±01×12955E±008, h66km±25km, n43, σ0:80/41, mb4.6/17, 3C-1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.34**	**154**	*e*P	**Pn**	**08 51 48.2**	**+5.2**
	46nm,0.1s						
KAKA				*e*S	**Sn**	**08 52 53.0**	**-1.1**
KAKA	**Kakadu**	**6.34**	**154**	*e*Pn	**Pn**	**08 51 47.9**	**+4.9**
KAKA				*e*P		08 51 48.2	
KAKA				*e*Sn	**Sn**	**08 52 52.8**	**-1.2**
BATI	**Kupang**	**6.63**	**241**	P	**Pn**	**08 51 53.5**	**+6.6**
	52nm,0.3s,baz=99,slow=3.6,SNR=52						
BATI				S	**Sn**	**08 53 00.7**	**-0.4**
	62nm,0.3s,baz=103,slow=22,SNR=18						
FITZ	**Fitzroy Crossi**	**11.66**	**199**	*e*P	**Pn**	**08 52 56.1**	**+0.3**
	22nm,0.3s						
FITZ				*e*S	Sx	08 54 52.5	
FITZ	**Fitzroy Crossi**	**11.66**	**199**	P	**Pn**	**08 52 56.3**	**+0.5**
	4.4nm,0.3s,baz=30,slow=12,SNR=107						
FITZ				S	Sx	08 54 55.2	
	5.6nm,0.3s,baz=97,slow=16,SNR=7.0						
WRAB	**Tennant Creek**	**13.66**	**161**	*e*P	**Pn**	**08 53 22.4**	**-0.5**
WRAB				pmax	pmax		
	comp=Z,19nm,0.6s						
WRAB	**Tennant Creek**	**13.66**	**161**	*e*Pn	**Pn**	**08 53 22.4**	**-0.5**
	comp=Z,19nm,0.6s						
WRAB				*e*Sn	Sx	08 55 45.1	
WRA	**Warramunga Arr**	**13.67**	**161**	P	**Pn**	**08 53 22.5**	**-0.6**
	comp=Z,3.1nm,0.3s,baz=342,slow=13,SNR=53						
WRA				S	Sx	08 55 43.3	
	comp=Z,12nm,0.3s,baz=331,slow=23,SNR=20						
WB2	**Warramunga Arr**	**13.67**	**161**	*e*P	**Pn**	**08 53 22.5**	**-0.6**
WB2				*e*S	Sx	08 55 40.0	
MBWA	**Marble Bar**	**16.97**	**213**	*e*Pn	**Pn**	**08 54 06.6**	**+1.3**
	comp=Z,16nm,0.7s						
MBWA				*e*Sn	Sx	08 57 02.0	
ASAR	**Alice Springs**	**17.08**	**166**	P	**Pn**	**08 54 08.3**	**+1.7**
	comp=Z,1.6nm,0.3s,baz=339,slow=9.1,SNR=118						
ASAR				S	Sx	08 57 05.6	
	comp=Z,2.9nm,0.3s,baz=334,slow=19,SNR=9.8						
CTA	**Charters Tower**	**20.77**	**130**	P	**P**	**08 54 49.2**	**+1.3**
	comp=Z,3.4nm,0.7s,baz=260,slow=17,SNR=2.4						
KSM	**Kuching**	**20.97**	**293**	Pn	**P**	**08 54 50.8**	**+0.7**
FORT	**Forrest**	**23.68**	**183**	*e*P	**P**	**08 55 17.9**	**0.0**
	comp=Z,32nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**27.18**	**157**	*e*P	**P**	**08 55 49.4**	**-0.1**
	comp=Z,4.9nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**27.18**	**157**	P	**P**	**08 55 49.7**	**+0.2**
	comp=Z,6.4nm,0.7s,mb4.3,baz=325,slow=11,SNR=15						
PSI	**Prapat**	**32.08**	**287**	P	**P**	**08 56 31.6**	**-1.6**
	comp=Z,5.0nm,0.4s,mb4.6,baz=140,slow=11,SNR=5.0						
MJAR	**Matsushiro Arr**	**44.08**	**10**	P	**P**	**08 58 13.7**	**0.0**
	comp=Z,0.7nm,0.4s,mb3.7,baz=176,slow=8.3,SNR=4.3						
JIRN	**Jiri**	**54.25**	**311**	*e*P	**P**	**08 59 32.2**	**+0.5**
	comp=Z,10nm,0.4s,mb5.2						
GUN	**Gumba**	**54.62**	**311**	*e*P	**P**	**08 59 34.6**	**+0.3**
	comp=Z,36nm,0.6s,mb5.5						
PKI	**Pulchoki**	**54.79**	**311**	*e*P	**P**	**08 59 35.2**	**-0.4**
GKN	**Gorkha**	**55.60**	**311**	*e*P	**P**	**08 59 41.2**	**-0.2**
	comp=Z,23nm,0.3s,mb5.6						
KOLN	**Koldanda**	**56.26**	**310**	*e*P	**P**	**08 59 46.0**	**-0.1**
	comp=Z,9.3nm,0.5s,mb5.1						
DANN	**Dangsing**	**56.44**	**311**	*e*P	**P**	**08 59 48.0**	**+0.6**
SONM	**Songino Array**	**58.31**	**342**	P	**P**	**09 00 01.3**	**+1.2**
	comp=Z,0.9nm,0.5s,mb4.0,baz=158,slow=6.4,SNR=6.2						
TLY	**Talaya**	**62.55**	**342**	⇑*e*P	**P**	**09 00 30.1**	**+1.2**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.5						
MK31	**Makanchi Array**	**67.99**	**327**	*i* P	**P**	**09 01 04.9**	**+0.6**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.6						
MK31	**Makanchi Array**	**67.99**	**327**	*e*P	**P**	**09 01 04.7**	**+0.4**
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**09 01 04.6**	**+0.3**
	comp=Z,5.3nm,0.5s,mb4.6,baz=116,slow=8.5,SNR=70						
YAK	**Yakutsk**	**68.84**	**0**	⇑*e*P	**P**	**09 01 17.0**	**+7.8**
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9						
ZAA0	**Zalesovo Array**	**71.39**	**334**	*e*P	**P**	**09 01 24.2**	**-0.8**
ZALV	**Zalesovo Beam**	**71.39**	**334**	P	**P**	**09 01 24.3**	**-0.8**
	comp=Z,2.7nm,0.7s,mb4.2,baz=115,slow=4.5,SNR=13						
ZAL	**Zalesovo**	**71.39**	**334**	P	**P**	**09 01 24.3**	**-0.8**
KURK	**Kurchatov**	**72.29**	**329**	⇑*e*P	**P**	**09 01 30.7**	**+0.2**
KURK	**Kurchatov**	**72.29**	**329**	*e*P	**P**	**09 01 30.3**	**-0.2**
	comp=Z,5.1nm,0.8s,mb4.4						
ZRNK	**Zerenda**	**78.53**	**327**	*i* P	**P**	**09 02 05.7**	**-0.5**
ZRNK				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
AKTO	**Aktyubinsk**	**83.81**	**322**	*i* P	**P**	**09 02 33.3**	**-1.0**
ARU	**Artí**	**85.48**	**328**	*d* iP	**P**	**09 02 41.7**	**-0.9**
ARU				*e*		09 05 57.1	
ARU				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
TXAR	**Lajitas Array**	**125.32**	**59**	PKP	PKPdf	09 09 06.2	0.0
	comp=Z,0.2nm,0.7s,baz=230,slow=5.3,SNR=3.1						
TORD	**Torodi Ar. Bea**	**128.37**	**281**	PKP	PKPdf	09 09 11.4	-0.9
	comp=Z,1.1nm,0.6s,baz=102,slow=1.9,SNR=9.1						
DBIC	**Dimbokro**	**134.74**	**272**	PKP	PKPdf	09 09 24.0	-0.4
	comp=Z,1.5nm,0.6s,baz=115,slow=16,SNR=3.9						
CPUP	**Villa Florida**	**146.19**	**169**	PKPbc	PKPbc	09 09 44.5	-1.3
	comp=Z,0.4nm,0.3s,baz=336,slow=1.8,SNR=4.0						
LPAZ	**La Paz**	**150.98**	**143**	PKPbc	PKPbc	09 09 59.2	+0.6
	comp=Z,1.2nm,0.4s,baz=42,slow=4.0,SNR=22						

JMA 15 09:02:12.3±0.4, 4076N×14633E, h33km, M3.5, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**2.55**	**332**	*e*S	Sn	09 03 22.0	+0.9
NEM2	**Nemuro 2**	**2.64**	**351**	P	Pn	09 02 54.2	+1.7
NEM2				*e*S	Sn	09 03 25.5	+2.1
JCH	**Churui**	**2.89**	**311**	P	Pn	09 02 58.0	+2.0
JNBK	**Urakawa-nobuka**	**3.09**	**301**	*e*S	Sn	09 03 39.4	+5.0
JAR	**Ashorobuto**	**3.17**	**324**	P	Pn	09 03 02.6	+2.8
JAR				*e*S	Sn	09 03 39.5	+3.0
JANG	**Nango**	**3.69**	**266**	P	Pn	09 03 09.2	+2.3
JANG				*e*S	Sn	09 03 50.3	+1.1
JOT	**Ohata**	**4.04**	**281**	P	Pn	09 03 14.3	+2.5
JOT				*e*S	Sn	09 04 00.1	+2.2
JOM	**Ohasama**	**4.07**	**253**	P	Pn	09 03 14.8	+2.6
JOM				*e*S	Sn	09 03 59.4	+0.7
JKB	**Kayabe**	**4.14**	**288**	*e*S	Sn	09 04 04.1	+3.6
JMK	**Ichinoseki**	**4.33**	**247**	P	Pn	09 03 18.1	+2.4
JMK				*e*S	Sn	09 04 05.3	+0.3

WEL 15 09:07:56.0±3.5, 4682S×16582E, h33km, ML3.5/12, Error ellipse: s-maj=42.4km s-min=18.1km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYZ	**Puysegur Point**	**0.89**	**43**	PN	Pn	09 08 10.7	-1.4
PYZ				SN	Sn	09 08 24.0	+0.2
DCZ	**Deep Cove**	**1.64**	**35**	PN	Pn	09 08 20.7	-1.7
DCZ				SN	Sn	09 08 40.7	-1.6
MLZ	**Mavora Lakes**	**2.21**	**49**	PN	Pn	09 08 30.3	0.0
SYZ	**Scrubby Hill**	**2.30**	**84**	PN	Pn	09 08 32.1	+0.5
TUZ	**Tuapeka**	**2.78**	**73**	PN	Pn	09 08 38.1	0.0
WKZ	**Wanaka**	**3.00**	**49**	PN	Pn	09 08 42.5	+1.4
JCZ	**Jackson Bay**	**3.44**	**38**	PN	Pn	09 08 48.6	+1.4
ODZ	**Otahua Downs**	**3.81**	**64**	PN	Pn	09 08 50.5	-1.8

*ISCJB **15** 09:42:54.1±1.5, 11.11N±009×869W±0.1, h52km±13km, mb3.9/12, Error ellipse: s-maj=25.9km s-min=7.5km az=147.6*
*CASC **15** 09:42:54.4±2.0, 1109N×8694W, h40km±25km, MD4.2, mb4.1(NEIC)*
*NEIC **15** 09:43:00.6±3.2, 1161N×8665W, h76km±21km, mb4.1/8, Error ellipse: s-maj=50.9km s-min=15.6km az=213.0*
*IDC **15** 09:43:03.6±8.2, 1216N×8632W, h84km±67km, mb3.4/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.5/5, ML3.8/1, MS3.3/1, Ms1 3.3/1, ms1mx2.5/21, Error ellipse: s-maj=72.9km s-min=32.1km az=40.0*

ISC 15 09:42:55.7±1.5, 1117N±009×869W±01, h49km±14km, n48, σ0:96/40, mb3.9/12, 8C-6D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.98**	**35**	⇓*e*P	**Pn**	**09 43 13.6**	**+0.5**
SSNN	**San Juan del S**	**1.01**	**83**	⇑*e*P	**Pn**	**09 43 13.1**	**-0.4**
COPN	**Copaltepe**	**1.04**	**15**	⇓*e*P	**Pn**	**09 43 14.1**	**+0.1**
TICN	**Ticuantepe**	**1.06**	**36**	⇓*e*P	**Pn**	**09 43 14.6**	**+0.3**
APON	**Apoyo**	**1.08**	**47**	⇑*e*P	**Pn**	**09 43 14.5**	**0.0**
CSAN		**1.10**	**24**	⇓*e*P	**Pn**	**09 43 14.6**	**-0.1**
TISN	**Laguna Tiscapa**	**1.13**	**32**	⇓*e*P	**Pn**	**09 43 15.3**	**+0.1**
MGAN	**Managua**	**1.15**	**32**	⇑*e*P	**Pn**	**09 43 15.5**	**+0.1**
MOMJ	**Momotombo**	**1.27**	**15**	⇑*e*P	**Pn**	**09 43 17.0**	**-0.1**
CONN	**Concepcion**	**1.28**	**72**	⇑*e*P	**Pn**	**09 43 17.0**	**-0.3**
MADN	**Villa Maderas**	**1.34**	**80**	⇓*e*P	**Pn**	**09 43 17.7**	**-0.3**
HUEN		**1.35**	**31**	⇑*e*P	**Pn**	**09 43 18.2**	**+0.1**
TEL3	**Telica 3**	**1.39**	**1**	⇑*e*P	**Pn**	**09 43 18.7**	**0.0**
TELN	**Telica**	**1.42**	**2**	⇑*e*P	**Pn**	**09 43 19.0**	**-0.1**
2RIO	**Dos Rios de Up**	**1.73**	**112**	*i* P	**Pn**	**09 43 18.0**	**-5.4**
JCR	**Jicaral**	**2.18**	**127**	*e*P	**Pn**	**09 43 27.0**	**-2.5**
CGA2	**Cerro Gallo 2**	**2.63**	**116**	*e*P	**Pn**	**09 43 35.6**	**-0.1**
TGUH	**Tegucigalpa,Un**	**2.89**	**352**	*e*Pn	**Pn**	**09 43 38.9**	**-0.4**
LAJ	**Bijagual**	**3.00**	**115**	*e*P	**Pn**	**09 43 36.6**	**-4.2**
SNVI	**San Vicente**	**3.09**	**322**	*e*P	x	09 44 31.4	
SNVI				*e*S	x	09 45 07.2	
LCR2	**La Lucha 2**	**3.16**	**116**	*e*P	**Pn**	**09 43 43.2**	**+0.2**
LCBS	**La Ceiba**	**3.21**	**320**	*e*P	x	09 44 32.4	
LCBS				*e*S	x	09 45 08.3	
LBRS	**Las Brisas**	**3.31**	**320**	*e*P	x	09 44 33.0	
LBRS				*e*S	x	09 45 11.6	
URSC	**Urasca**	**3.32**	**113**	*e*P	**Pn**	**09 43 46.9**	**+1.7**
BOQS

WB2 eS Sx 09 50 48.5
ASAR Alice Springs 16.80 167 Pn **Pn 09 49 19.4 +0.4**
1.3nm,0.3s,baz=340,slow=9.5,SNR=51
ASAR Sn **Sn 09 52 16.7 -8.1**
0.5nm,0.3s,baz=350,slow=27,SNR=5.5
MBWA Marble Bar 16.92 214 ePn **Pn 09 49 19.9 -0.6**
MBWA eSn Sx 09 52 12.3
FORT Forrest 23.47 184 eP **P 09 50 32.8 +0.3**
12nm,0.7s,mb4.4
STKA Stephens Creek 26.87 157 eP **P 09 51 07.2 +3.9**
1.4nm,0.6s,mb3.7
STKA Stephens Creek 26.87 157 P **P 09 51 04.4 +1.1**
2.2nm,0.8s,mb3.8,baz=6.8,slow=8.6,SNR=5.7
MKAR Makanchi Array 68.31 327 P **P 09 56 23.3 +0.2**
0.5nm,0.4s,mb3.9,baz=118,slow=7.9,SNR=7.4
ZALV Zalesovo Beam 71.71 334 P **P 09 56 43.0 -0.8**
0.8nm,0.5s,mb3.9,baz=132,slow=8.7,SNR=3.4
TORD Torodi Ar. Bea 128.66 281 PKP PKPdf 10 04 29.3 -0.6
0.7nm,0.6s,baz=79,slow=1.9,SNR=5.6
CPUP Villa Florida 145.92 169 PKPbc PKPbc 10 05 01.8 -0.1
0.6nm,0.4s,baz=246,slow=2.4,SNR=3.7
LPAZ La Paz 150.65 143 PKPbc PKPbc 10 05 16.1 +1.4
0.7nm,0.4s,baz=53,slow=5.9,SNR=8.8

IDC 15 09:45:31.3±1.5,2335S×11220W,h0km,mb3.9/6,
mb1 4.2/6,mb1mx4.0/15,mbtmp3.9/6,MS4.1/1,Ms1 4.1/1,
ms1mx3.0/23,Error ellipse: s-maj=49.2km
s-min=23.6km az=33.0,Easter Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**35.44**	**78**	P	P	09 52 28.6	-1.0
	2.4nm,0.3s,baz=209,slow=13,SNR=2.4						
CFAA	**Coronel Fontan**	**39.65**	**112**	P	P	09 53 05.3	+0.2
	0.1nm,0.4s,baz=214,slow=15,SNR=2.1						
LPAZ	**La Paz**	**41.93**	**89**	P	P	09 53 25.1	+1.1
	1.2nm,0.9s,baz=275,slow=6.1,SNR=4.5						
SDV	**Santo Domingo**	**51.76**	**57**	P	P	09 54 41.5	+0.4
	2.1nm,0.7s,baz=317,slow=9.8,SNR=4.3						
TXAR	**Lajitas Array**	**53.02**	**9**	P	P	09 54 51.0	+1.0
	0.4nm,1.0s,baz=199,slow=5.3,SNR=3.2						
TXAR				LR	LR	10 13 59.5	
	comp=Z,179nm,18.1s,baz=160,slow=32						
NVAR	**Mina Array Bea**	**61.72**	**355**	P	P	09 55 51.5	+0.2
	1.7nm,0.8s,baz=184,slow=8.8,SNR=11						
YKA	**Yellowknife Ar**	**85.57**	**359**	P	P	09 58 09.9	-1.0
	0.8nm,0.9s,baz=168,slow=5.1,SNR=12						
ZALV	**Zalesovo Beam**	**146.87**	**342**	PKPbc	PKPbc	10 05 14.3	-0.9
	0.9nm,0.6s,baz=64,slow=3.4,SNR=4.3						
BVAR	**Borovoye Array**	**150.31**	**357**	PKP	PKPdf	10 05 17.9	-1.1
	0.5nm,0.6s,baz=311,slow=37,SNR=2.4						
BVAR				PKPbc	PKPbc	10 05 24.4	+0.1
	1.0nm,0.8s,baz=339,slow=3.7,SNR=5.8						
BVAR				PKPab	PKPab	10 05 30.3	-0.1
	0.8nm,0.6s,baz=72,slow=4.8,SNR=3.7						
MKAR	**Makanchi Array**	**153.86**	**337**	PKPbc	PKPbc	10 05 32.8	+0.3
	0.2nm,0.2s,baz=45,slow=2.7,SNR=2.8						

*IDC **15** 09:54:32.2±0.7,1157N×8650W,h0km,mb4.3/10,*
mb1 4.5/10,mb1mx4.2/22,mbtmp4.3/10,MS3.8/9,
Ms1 3.8/9,ms1mx3.5/28,Error ellipse: s-maj=32.5km
s-min=15.0km az=53.0
*CASC **15** 09:54:32.1±2.6,1097N×871.3W,h20km±16km,MD4.3,*
ML4.5,mb4.6(NEIC)
*MOS **15** 09:54:35.0±1.0,1131N×8685W,h33km,mb4.8/15,Error*
ellipse: s-maj=17.5km s-min=6.0km az=113.3
*BJI **15** 09:54:37.9,1130N×8670W,h51km,mB5.0,Ms5.3,Msz4.9*
*NEIC **15** 09:54:37.9±0.6,1129N×8669W,h51km±7km,mb4.6/32,*
Error ellipse: s-maj=9.0km s-min=4.9km az=49.0
*ISCJB **15** 09:54:38.6±0.5,1133N±004×8660W±005,h73km±4km,*
mb4.5/40,Error ellipse: s-maj=9.6km s-min=5.0km
az=138.6
ISC 15 09:54:39.7±0.5,1135N±004×8658W±005,h64km±4km,
n351,σ0970/318,mb4.5/40,78C-74D,Near coast of
Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.69**	**24**	eP	**Pn**	**09 54 54.8**	**+0.7**
SSNN	**San Juan del S**	**0.72**	**95**	eP	**Pn**	**09 54 54.2**	**-0.3**
APON	**Apoyo**	**0.76**	**42**	eP	**Pn**	**09 54 55.7**	**+0.8**
TICN	**Ticuantepe**	**0.76**	**27**	eP	**Pn**	**09 54 56.0**	**+1.0**
COPN	**Copaltepe**	**0.83**	**359**	eP	**Pn**	**09 54 55.2**	**-0.5**
CSAN		**0.84**	**11**	eP	**Pn**	**09 54 55.7**	**-0.2**
TISN	**Laguna Tiscapa**	**0.85**	**21**	eP	**Pn**	**09 54 56.6**	**+0.6**
MGAN	**Managua**	**0.86**	**22**	eP	**Pn**	**09 54 56.7**	**+0.5**
MGAN				i		09 55 19.1	
	comp=N,9μm,0.5s						
CONN	**Concepcion**	**0.96**	**77**	eP	**Pn**	**09 54 58.2**	**+0.8**
MADN	**Villa Maderas**	**1.03**	**87**	eP	**Pn**	**09 54 59.4**	**+1.1**
MOMJ	**Momotombo**	**1.05**	**2**	eP	**Pn**	**09 54 58.5**	**-0.1**
HUEN		**1.06**	**22**	eP	**Pn**	**09 54 59.4**	**+0.7**
TEL3	**Telica 3**	**1.24**	**348**	eP	**Pn**	**09 55 00.2**	**-0.8**
TELN	**Telica**	**1.27**	**349**	eP	**Pn**	**09 55 00.9**	**-0.6**
LIM1	**Limonal**	**1.46**	**116**	iP	**Pn**	**09 55 03.4**	**-0.5**
VCR	**Vista de Mar**	**1.53**	**142**	eP	**Pn**	**09 54 59.2**	**-5.8**
CUI		**1.54**	**116**	iP	**Pn**	**09 55 03.7**	**-1.3**
2RIO	**Dos Rios de Up**	**1.56**	**121**	iP	**Pn**	**09 55 00.1**	**-5.2**
JTS	**JuntasAbangare**	**1.92**	**123**	dP	**Pn**	**09 55 10.7**	**+0.6**
JTS	**JuntasAbangare**	**1.92**	**123**	ePn	**Pn**	**09 55 11.1**	**+1.0**
FORC	**Fortuna**	**2.07**	**115**	eP	**Pn**	**09 55 12.1**	**-0.1**
JCR	**Jicaral**	**2.08**	**136**	eP	**Pn**	**09 55 08.6**	**-3.7**
CNCH	**Conchagua**	**2.27**	**328**	eP	x	09 56 01.3	
CNCH				eS	x	09 56 31.2	
CGA2	**Cerro Gallo 2**	**2.47**	**122**	eP	**Pn**	**09 55 15.0**	**-2.6**
VSM	**San Miguel**	**2.65**	**322**	eP	x	09 56 06.3	
VSM				eS	x	09 56 39.6	
TGUH	**Tegucigalpa,Un**	**2.77**	**346**	ePn	**Pn**	**09 55 20.8**	**-1.0**
LAJ	**Bijagual**	**2.83**	**121**	eP	**Pn**	**09 55 16.8**	**-5.8**
LCR2	**La Lucha 2**	**3.00**	**122**	eP	**Pn**	**09 55 24.5**	**-0.3**
URSC	**Urasca**	**3.14**	**118**	eP	**Pn**	**09 55 27.3**	**+0.6**
SNVI	**San Vicente**	**3.15**	**316**	eP	x	09 56 12.2	
SNVI				eS	x	09 56 48.1	
LCBS	**La Ceiba**	**3.27**	**315**	eP	x	09 56 13.7	
LCBS				eS	x	09 56 52.5	
BUS	**Buena Vista**	**3.30**	**122**	eP	**Pn**	**09 55 26.9**	**-2.0**
LBRS	**Las Brisas**	**3.38**	**315**	eP	x	09 56 15.4	
LBRS				eS	x	09 56 54.7	
BOQS	**Boqueron**	**3.54**	**312**	eP	x	09 56 17.6	
BOQS				eS	x	09 56 58.1	
BAR1		**3.84**	**123**	eP	**Pn**	**09 55 35.2**	**-1.1**
SBLS	**San Blas**	**3.86**	**310**	eP	x	09 56 22.6	
SBLS				eS	x	09 57 07.5	
SNJE	**San Jose**	**3.87**	**311**	eP	x	09 56 21.8	
BCIP	**Isla Barro Col**	**6.98**	**107**	ePn	**Pn**	**09 56 23.1**	**+3.6**
TEIG	**Tepich**	**8.97**	**350**	ePn	**Pn**	**09 56 45.2**	**-1.4**
TEIG	**Tepich**	**8.97**	**350**	Pn	**Pn**	**09 56 45.6**	**-1.0**
	comp=N,0.6nm,0.3s,baz=342,slow=20,SNR=9.8						
TEIG				LR	LR	10 00 43.6	
	comp=N,389nm,19.4s,baz=140,slow=42						
ROSC	**El Rosal**	**13.73**	**117**	Pn	**Pn**	**09 57 56.5**	**+5.0**
	comp=N,0.7nm,0.3s,baz=282,slow=23,SNR=1.8						
ROSC				LR	LR	10 02 40.1	
	comp=N,273nm,19.9s,baz=354,slow=35						
CHI2		**14.35**	**117**	eP	Px	09 55 01.3	
LAPE	**La Pedrera**	**15.27**	**103**	iP	Px	09 54 58.8	
SDV	**Santo Domingo**	**15.89**	**97**	ePn	**Pn**	**09 58 23.9**	**+4.4**
	comp=N,9.0nm,0.7s						
SDV	**Santo Domingo**	**15.89**	**97**	Pn	**Pn**	**09 58 22.1**	**+2.6**
	comp=N,0.3nm,0.3s,baz=287,slow=4.0,SNR=16						
BRAL	**Brewton**	**19.57**	**359**	ePn	**Pn**	**09 59 07.5**	**+3.2**
ATAH	**Atahualpa**	**19.97**	**156**	P	**Pn**	**09 59 11.1**	**+2.0**
	comp=N,3.4nm,0.7s,baz=336,slow=8.6,SNR=2.3						
ATAH				LR	LR	10 05 57.5	
	comp=N,566nm,19.7s,baz=165,slow=34						
HKT	**Hockley**	**20.41**	**336**	eP	**P**	**09 59 11.5**	**-0.1**
HKT				pmax	pmax		
	comp=Z,80nm,1.5s						
HKT	**Hockley**	**20.41**	**336**	eP	**P**	**09 59 11.5**	**-0.1**
	comp=Z,80nm,1.5s						
VBMS	**Vicksburg**	**21.08**	**351**	eP	**P**	**09 59 20.8**	**+2.1**
PCRV	**Puerto La Cruz**	**21.59**	**91**	P	**P**	**09 59 24.7**	**+0.3**
	comp=Z,14nm,0.8s,mb4.5,baz=277,slow=8.6,SNR=7.4						
NATX	**Nacogdoches**	**21.64**	**341**	eP	**P**	**09 59 24.1**	**-0.6**
GOGA	**Godfrey**	**22.14**	**7**	eP	**P**	**09 59 32.3**	**+2.2**
JCT	**Junction City**	**22.65**	**329**	eP	**P**	**09 59 33.0**	**-2.5**
JCT				pmax	pmax		
	comp=Z,15nm,0.8s,mb4.5						
JCT	**Junction City**	**22.65**	**329**	eP	**P**	**09 59 33.0**	**-2.5**
	comp=Z,15nm,0.8s,mb4.5						

OXF	**Oxford**	**23.20**	**354**	eP	**P**	**09 59 40.4**	**-0.7**
OXF				pmax	pmax		
	comp=Z,64nm,0.9s,mb5.0						
OXF	**Oxford**	**23.20**	**354**	eP	**P**	**09 59 40.4**	**-0.7**
	comp=Z,64nm,0.9s,mb5.0						
JSC	**Jenkinsville**	**23.34**	**11**	eP	**P**	**09 59 42.8**	**+0.4**
JSC				ePP		09 59 54.0	
PLAL	**Pickwick Lake**	**23.57**	**357**	eP	**P**	**09 59 43.1**	**-1.4**
	comp=Z,25nm,1.0s,mb4.6						
SWET	**Sewanee**	**23.77**	**1**	eP	**P**	**09 59 46.2**	**-0.1**
UALR	**University of**	**23.90**	**348**	eP	**P**	**09 59 46.3**	**-1.2**
	comp=Z,29nm,1.1s,mb4.6						
MIAR	**Mount Ida**	**23.95**	**346**	eP	**P**	**09 59 47.5**	**-0.5**
MIAR				pmax	pmax		
	comp=Z,20nm,0.9s,mb4.5						
MIAR	**Mount Ida**	**23.95**	**346**	eP	**P**	**09 59 47.5**	**-0.5**
	comp=Z,20nm,0.9s,mb4.5						
TXAR	**Lajitas Array**	**23.96**	**321**	P	**P**	**09 59 47.0**	**-1.1**
	comp=Z,11nm,0.8s,mb4.4,baz=138,slow=9.2,SNR=110						
TXAR				PcP	PcP	10 03 32.3	+3.2
	comp=Z,3.5nm,0.8s,baz=134,slow=5.4,SNR=14						
CPCT	**Cooper Cave**	**24.07**	**4**	eP	**P**	**09 59 49.6**	**+0.7**
TKL	**Tuckaleechee C**	**24.33**	**6**	eP	**P**	**09 59 52.8**	**+1.4**
WVT	**Waverly**	**24.70**	**358**	eP	**P**	**09 59 53.8**	**-0.9**
GNAR	**Gosnell**	**24.70**	**353**	eP	**P**	**09 59 54.8**	**0.0**
PARMO	**Parma**	**25.36**	**354**	eP	**P**	**10 00 00.3**	**-0.5**
WMOK	**Wichita Mounta**	**25.80**	**336**	eP	**P**	**10 00 04.4**	**-0.4**
LPIG	**La Paz**	**25.86**	**303**	LR	LR	10 11 44.4	
	comp=Z,188nm,18.4s,baz=193,slow=40						
ELN	**Prospectdale**	**26.30**	**11**	eP	**P**	**10 00 10.9**	**+1.7**
SIUC	**Southern Illin**	**26.36**	**355**	eP	**P**	**10 00 09.8**	**0.0**
	comp=Z,27nm,0.9s,mb4.8						
GDL2	**Guadalupe Moun**	**26.44**	**324**	eP	**P**	**10 00 10.0**	**-0.5**
MNTX	**Cornudas Mount**	**26.67**	**322**	eP	**P**	**10 00 12.2**	**-0.5**
CCM	**Cathedral Cave**	**26.92**	**352**	eP	**P**	**10 00 13.8**	**-1.0**
AMTX	**Amarillo**	**27.16**	**332**	eP	**P**	**10 00 16.4**	**-0.6**
AMTX				ePcP	PcP	10 03 38.2	+2.0
BLO	**Bloomington**	**27.71**	**0**	eP	**P**	**10 00 21.8**	**-0.1**
BLO				pmax	pmax		
	comp=Z,17nm,0.9s,mb4.7						
BLO	**Bloomington**	**27.71**	**0**	eP	**P**	**10 00 21.8**	**0.0**
	comp=Z,17nm,0.9s,mb4.7						
MCWV	**Mont Chateau**	**28.82**	**11**	eP	**P**	**10 00 33.1**	**+1.3**
	comp=Z,14nm,0.7s,mb4.8						
319A	**Douglas**	**28.94**	**317**	⇑P	**P**	**10 00 33.0**	**+0.1**
	baz=29						
ACSO	**Alum Creek Sta**	**28.94**	**6**	eP	**P**	**10 00 33.5**	**+0.7**
KSU1	**Kansas State U**	**29.04**	**344**	eP	**P**	**10 00 33.1**	**-0.7**
	comp=Z,16nm,0.7s,mb4.8						
BNM	**Barren Site**	**29.16**	**324**	eP	**P**	**10 00 35.2**	**+0.4**
HDIL	**Hopedale**	**29.19**	**356**	eP	**P**	**10 00 34.7**	**-0.4**
318A	**Bisbee**	**29.45**	**316**	⇑P	**P**	**10 00 38.1**	**+0.5**
	baz=29						
LAZ	**Ladron**	**29.63**	**324**	eP	**P**	**10 00 39.3**	**+0.3**
ANMO	**Albuquerque**	**29.64**	**326**	eP	**P**	**10 00 38.6**	**-0.6**
ANMO				e		10 03 44.8	
ANMO	**Albuquerque**	**29.64**	**326**	P	**P**	**10 00 39.8**	**+0.6**
	comp=Z,3.1nm,0.9s,mb4.0,baz=146,slow=7.3,SNR=16						
ANMO				PcP	PcP	10 03 45.3	+2.9
	comp=Z,2.4nm,0.9s,baz=187,slow=4.0,SNR=5.7						
119A	**Ashpeak Ranch,**	**29.83**	**319**	⇑P	**P**	**10 00 42.1**	**+1.3**
	baz=30,SNR=5.9						
MVL	**Millersville**	**29.94**	**16**	eP	**P**	**10 00 42.2**	**+0.6**
	comp=Z,14nm,1.0s,mb4.6						
SSPA	**Standing Stone**	**30.16**	**13**	eP	**P**	**10 00 44.9**	**+1.3**
118A	**Homack Ranch,**	**30.18**	**318**	⇑P	**P**	**10 00 44.7**	**+0.7**
	baz=30						
217A	**Green Valley**	**30.22**	**316**	⇓P	**P**	**10 00 44.9**	**+0.7**
	baz=30						
TUC	**Tucson**	**30.52**	**317**	eP	**P**	**10 00 53.0**	**+6.1**
Y19A	**Nutrioso**	**30.59**	**321**	⇓P	**P**	**10 00 48.4**	**+0.9**
	baz=30						
117A	**Oracle**	**30.65**	**317**	⇓P	**P**	**10 00 48.9**	**+0.8**
	baz=30						
X19A	**St. Johns**	**30.92**	**322**	⇓P	**P**	**10 00 50.8**	**+0.3**
	baz=31						
Y18A	**Canyon Day Jun**	**30.95**	**320**	⇑P	**P**	**10 00 51.0**	**+0.3**
	baz=31						
ERPA	**Erie**	**31.19**	**9**	eP	**P**	**10 00 53.4**	**+0.7**
SDCO	**Great Sand Dun**	**31.28**	**330**	eP	**P**	**10 00 53.2**	**-0.4**
	comp=Z,6.6nm,0.7s,mb4.6						
116A	**Eloy**	**31.29**	**316**	⇑P	**P**	**10 00 53.8**	**0.0**
	baz=31						
X18A	**Snowflake**	**31.40**	**321**	⇑P	**P**	**10 00 55.2**	**+0.6**
	baz=31						
JFWS	**Jewell Farm**	**31.61**	**355**	eP	**P**	**10 00 55.6**	**-0.8**
W18A	**Petrified Fore**	**31.66**	**322**	⇑P	**P**	**10 00 57.7**	**+0.7**
	baz=32						
115A	**Sonoran Desert**	**31.73**	**316**	⇑P	**P**	**10 00 58.1**	**+0.5**
	baz=32						
Y16A	**Circle Bar Ran**	**31.95**	**319**	⇑P	**P**	**10 01 00.2**	**+0.7**
	baz=32						
BINY	**Binghamton**	**32.10**	**15**	eP	**P**	**10 01 01.5**	**+0.8**
X16A	**Lo Mia Camp, P**	**32.26**	**319**	⇓P	**P**	**10 01 02.1**	**-0.1**
	baz=32						
MVCO	**Mesa Verde**	**32.42**	**326**	eP	**P**	**10 01 03.8**	**+0.2**
MVCO				ePcP	PcP	10 03 52.0	+2.3
MVCO	**Mesa Verde**	**32.42**	**326**	⇓P	**P**	**10 01 03.7**	**+0.1**
	baz=32						
Y15A	**Casa Rosa Ranc**	**32.55**	**318**	⇑P	**P**	**10 01 05.0**	**+0.2**
	baz=32						
X15A	**Humboldt**	**32.81**	**319**	⇓P	**P**	**10 01 07.5**	**+0.5**
	baz=33						
113A	**Mohawk Valley,**	**32.83**	**315**	⇑P	**P**	**10 01 07.3**	**+0.1**
	baz=33						
WUAZ	**Wupatki**	**32.92**	**321**	eP	**P**	**10 01 08.1**	**+0.1**
	comp=Z,7.1nm,0.8s,mb4.7						
WUAZ				ePcP	PcP	10 03 53.8	+2.7
WUAZ	**Wupatki**	**32.92**	**321**	⇓P	**P**	**10 01 08.7**	**+0.7**
	baz=33						
LPAZ	**La Paz**	**32.97**	**146**	LR	LR	10 14 48.1	
	comp=Z,162nm,19.3s,baz=337,slow=37						
ISCO	**Idaho Springs**	**32.98**	**333**	eP	**P**	**10 01 08.5**	**+0.1**
Y14A	**Wickenburg**	**32.98**	**317**	⇑P	**P**	**10 01 08.6**	**+0.1**
	baz=33						
SMCO	**Snowmass**	**33.12**	**330**	eP	**P**	**10 01 09.3**	**-0.4**
	comp=Z,13nm,1.4s,mb4.7						
PV01	**Paradox Valley**	**33.14**	**327**	eP	**P**	**10 01 10.2**	**+0.4**
X14A	**Yava**	**33.23**	**318**	⇓P	**P**	**10 01 11.1**	**+0.5**
	baz=33						
112A	**Yuma**	**33.27**	**314**	⇑P	**P**	**10 01 11.1**	**+0.1**
	baz=33						
GLMI	**Grayling**	**33.40**	**3**	eP	**P**	**10 01 11.5**	**-0.5**
ECSD	**EROS,Sioux Fal**	**33.41**	**347**	eP	**P**	**10 01 10.8**	**-1.3**
Y13A	**Salome**	**33.47**	**316**	⇓P	**P**	**10 01 13.0**	**+0.3**
	baz=33						
PV10	**Paradox Valley**	**33.57**	**327**	eP	**P**	**10 01 13.0**	**-0.6**
V15A	**Kaibab Nationa**	**33.62**	**321**	⇓P	**P**	**10 01 14.2**	**+0.2**
	baz=34,SNR=7.7						
GLA	**Glamis**	**33.73**	**314**	eP	**P**	**10 01 13.9**	**-1.1**
GLA				pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.5						
GLA	**Glamis**	**33.73**	**314**	eP	**P**	**10 01 13.8**	**-1.2**
	comp=Z,8.9nm,1.3s,mb4.5						
GLA	**Glamis**	**33.73**	**314**	⇓P	**P**	**10 01 15.0**	**0.0**
	baz=34						
W14A	**Seligman**	**33.81**	**319**	⇑P	**P**	**10 01 15.6**	**-0.1**
	baz=34						
X13A	**Yucca**	**33.92**	**317**	⇑P	**P**	**10 01 16.2**	**-0.6**
	baz=34						
PDMCI	**Parker Dam,Lak**	**33.96**	**317**	⇓P	**P**	**10 01 16.8**	**-0.2**
	baz=34						
T16A	**Glen Canyon Da**	**33.98**	**323**	⇑P	**P**	**10 01 17.3**	**+0.1**
	baz=34						
V14A	**Boquillas Ranc**	**34.08**	**320**	⇑P	**P**	**10 01 18.2**	**+0.1**
	baz=34						
W13A	**Hualapai Mount**	**34.26**	**318**	⇑P	**P**	**10 01 19.6**	**0.0**
	baz=34						
BC3	**Big Chuckw Mtn**	**34.49**	**315**	⇑P	**P**	**10 01 21.4**	**-0.3**
	baz=34						
T15A	**Red Dirt Ranch**	**34.52**	**322**	⇓P	**P**	**10 01 22.6**	**+0.7**
	baz=34,SNR=10.0						
U14A	**Mt Trumbull**	**34.62**	**321**	⇓P	**P**	**10 01 23.3**	**+0.5**
	baz=34,SNR=6.5						
COWI	**Conover**	**34.70**	**357**	eP	**P**	**10 01 22.1**	**-1.1**
LONY	**Lake Ozonia**	**34.72**	**15**	eP	**P**	**10 01 24.4**	**+0.9**
MONP	**Monument Peak**	**34.77**	**313**	⇑P	**P**	**10 01 24.5**	**+0.4**
	baz=35						
V13A	**Grand Canyon W**	**34.78**	**319**	⇓P	**P**	**10 01 24.5**	**+0.4**
	baz=35						
SRU	**San Rafael**	**34.90**	**327**	eP	**P**	**10 01 25.3**	**+0.2**
SRU				e		10 03 59.9	
SRU				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
SRU	**San Rafael**	**34.90**	**327**	eP	**P**	**10 01 25.3**	**+0.2**
	comp=Z,6.5nm,0.6s,mb4.7						

SRU				ePcP	PcP	10 03 59.9	+3.2
LDFC	**Landfair**	**35.06**	**317**	ePcP	PcP	10 04 00.8	+3.5
BELC	**Belle Mtn.**	**35.06**	**315**	⇑P	**P**	**10 01 26.8**	**+0.2**
	baz=35						
U13A	**Pakoon Wash**	**35.12**	**320**	⇓P	**P**	**10 01 27.5**	**+0.5**
	baz=35						
RWWY	**Rawlins**	**35.22**	**333**	eP	**P**	**10 01 27.9**	**+0.1**
	comp=Z,6.1nm,0.6s,mb4.7						
V12A	**Nelson**	**35.27**	**318**	⇓P	**P**	**10 01 28.8**	**+0.4**
	baz=35						
MSU	**Marysvale**	**35.40**	**324**	eP	**P**	**10 01 30.1**	**+0.7**
MSU				e		10 04 01.2	
T13A	**Saint George**	**35.46**	**321**	⇓P	**P**	**10 01 30.4**	**+0.5**
	baz=35						
CCUT	**Cedar City**	**35.46**	**322**	eP	**P**	**10 01 32.7**	**+2.8**
S14A	**Cedar City**	**35.48**	**322**	⇑P	**P**	**10 01 30.6**	**+0.5**
	baz=35						
ARUT	**Antelope Range**	**35.66**	**322**	eP	**P**	**10 01 33.8**	**+2.1**
S13A	**Holt Ranch, En**	**35.78**	**321**	⇑P	**P**	**10 01 33.4**	**+0.7**
	baz=36						
TUQ	**Turquoise Mtn.**	**35.81**	**317**	⇓P	**P**	**10 01 33.4**	**+0.4**
	baz=36						
BBRC	**Big Bear Sol-O**	**35.85**	**314**	⇓P	**P**	**10 01 33.8**	**+0.4**
	baz=36						
RSSD	**Black Hills**	**35.96**	**338**	eP	**P**	**10 01 34.8**	**+0.7**
MPU	**Maple Canyon**	**36.14**	**327**	eP	**P**	**10 01 36.0**	**+0.3**
DAU	**Daniels Canyon**	**36.23**	**327**	eP	**P**	**10 01 36.7**	**+0.3**
DAU				e		10 04 04.2	
GSC	**Goldstone**	**36.33**	**316**	ePcP	PcP	10 04 04.3	+3.3
BFSC	**Mount Baldy St**	**36.35**	**314**	⇑P	**P**	**10 01 37.4**	**-0.2**
	baz=36						
JLU	**Jordanelle**	**36.46**	**327**	eP	**P**	**10 01 38.8**	**+0.3**
CTU	**Camp Tracy**	**36.69**	**327**	eP	**P**	**10 01 39.8**	**-0.6**
EYMN	**Ely**	**36.71**	**354**	eP	**P**	**10 01 39.1**	**-1.4**
	comp=Z,12nm,0.9s,mb4.7						
R12A	**Pony Springs,**	**36.71**	**322**	⇓P	**P**	**10 01 40.8**	**+0.2**
	baz=37						
Q13A	**Wheeler Ranch,**	**36.77**	**323**	⇑P	**P**	**10 01 41.7**	**+0.6**
	baz=37						
NOQ	**North Oquirrh**	**36.86**	**327**	eP	**P**	**10 01 41.7**	**-0.1**
TPNV	**Topopah Spring**	**36.90**	**319**	eP	**P**	**10 01 42.0**	**-0.2**
TPNV				e		10 04 06.0	
TPNV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.3						
TPNV	**Topopah Spring**	**36.90**	**319**	eP	**P**	**10 01 42.0**	**-0.3**
	comp=Z,4.7nm,1.0s,mb4.3						
TPNV				ePcP	PcP	10 04 06.0	+3.3
TPNV	**Topopah Spring**	**36.90**	**319**	⇑P	**P**	**10 01 42.6**	**+0.3**
	baz=37						
DUG	**Dugway**	**36.91**	**326**	eP	**P**	**10 01 42.2**	**-0.1**
DUG				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
DUG	**Dugway**	**36.91**	**326**	eP	**P**	**10 01 42.2**	**-0.1**
	comp=Z,6.4nm,1.1s,mb4.4						
DUG	**Dugway**	**36.91**	**326**	⇑P	**P**	**10 01 42.8**	**+0.5**
	baz=37						
EDW2	**Edwards Air Fo**	**36.92**	**315**	⇑P	**P**	**10 01 42.7**	**+0.2**
	baz=37						
S11A	**Rachel**	**36.99**	**320**	⇓P	**P**	**10 01 43.3**	**+0.3**
	baz=37						
FURC	**Furnace Creek,**	**37.02**	**318**	⇓P	**P**	**10 01 44.0**	**+0.7**
	baz=37						
LRMC	**Laurel Mountai**	**37.03**	**316**	⇑P	**P**	**10 01 43.6**	**+0.2**
	baz=37						
P13A	**Bates Ranch, G**	**37.09**	**324**	⇓P	**P**	**10 01 44.4**	**+0.5**
	baz=37,SNR=10						
BW06	**Boulder Array**	**37.14**	**332**	eP	**P**	**10 01 43.6**	**-0.5**
	comp=Z,3.0nm,0.7s,mb4.2						
MPMC	**Manual Prospec**	**37.21**	**317**	⇑P	**P**	**10 01 45.4**	**+0.5**
	baz=37						
HWUT	**Hardware Ranch**	**37.25**	**328**	eP	**P**	**10 01 45.1**	**0.0**
HWUT				ePcP	PcP	10 04 05.5	+1.8
R11A	**Troy Canyon, C**	**37.33**	**321**	⇓P	**P**	**10 01 46.0**	**+0.2**
	baz=37						
N14A	**Grayback Hills**	**37.57**	**326**	⇓P	**P**	**10 01 48.2**	**+0.4**
	baz=37						
P12A	**McGill**	**37.63**	**323**	⇑P	**P**	**10 01 49.1**	**+0.7**
	baz=38						
**AGMN

M09A	Marrel Ranch,	40.36	323	⇑P	P	10 02 11.4	+0.1
	baz=40						
N08A	GE Springer Mi	40.37	322	⇓P	P	10 02 11.8	+0.5
	baz=40						
R05C	Kirkwood Meado	40.39	318	⇑P	P	10 02 11.3	-0.2
	baz=40						
K11A	Parker Ranch,	40.44	326	⇑P	P	10 02 11.7	-0.1
	baz=40						
DLMT	Dillon	40.53	332	eP	P	10 02 12.8	+0.3
H13A	Challis	40.75	329	P	P	10 02 14.6	+0.2
	baz=41,SNR=11						
LRM	Limekiln Ridge	40.81	332	eP	P	10 02 15.2	+0.4
F15A	Butte	40.85	332	⇑P	P	10 02 15.2	+0.1
	baz=41						
L09A	Wilkinson Ranc	40.87	324	⇓P	P	10 02 16.0	+0.7
	baz=41						
K10A	MacKenzie Ranc	40.90	325	⇑P	P	10 02 15.6	0.0
	baz=41						
M08A	Happy Creek Ra	40.93	323	⇑P	P	10 02 15.7	-0.1
	baz=41						
H12A	Diamond D Ranc	41.04	329	⇑P	P	10 02 17.0	+0.2
	baz=41						
O06A	Flanigan	41.05	320	⇑P	P	10 02 16.7	-0.2
	baz=41						
G13A	Cobalt	41.12	330	⇑P	P	10 02 17.4	0.0
	baz=41						
I11A	Placerville	41.17	327	P	P	10 02 18.0	+0.2
	baz=41,SNR=9.8						
BEKR	Beckwourth	41.22	320	⇓P	P	10 02 18.5	+0.3
	baz=41						
Q04C	Lincoln	41.32	318	⇑P	P	10 02 19.6	+0.6
	baz=41						
K09A	Rome	41.33	325	P	P	10 02 19.4	+0.3
	baz=41,SNR=9.4						
E15A	Deer Lodge	41.35	333	⇓P	P	10 02 19.4	+0.1
	baz=41						
M07A	Soldier Meadow	41.36	322	⇑P	P	10 02 19.3	-0.1
	baz=41						
L08A	Fields	41.37	324	⇓P	P	10 02 20.0	+0.5
	baz=41,SNR=9.8						
N06A	Buffalo Meadow	41.39	321	⇓P	P	10 02 19.7	+0.1
	baz=41						
EGMT	Eagleton	41.40	336	eP	P	10 02 19.4	-0.2
EGMT	Eagleton	41.40	336	⇓P	P	10 02 19.5	-0.1
	baz=41						
F13A	Darby	41.67	331	P	P	10 02 21.4	-0.4
	baz=42,SNR=7.4						
WVOR	Wild Horse Val	41.69	324	eP	P	10 02 21.7	-0.4
WVOR				e		10 04 20.2	
WVOR				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.2						
WVOR	Wild Horse Val	41.69	324	eP	P	10 02 21.6	-0.4
	comp=Z,5.1nm,0.8s,mb4.2						
WVOR				ePcP	PcP	10 04 20.1	+2.4
I10A	Payette	41.73	327	⇑P	P	10 02 22.0	-0.5
	baz=42						
E14A	Clinton	41.74	332	⇓P	P	10 02 22.5	+0.1
	baz=42						
H11A	Donnelly	41.74	328	P	P	10 02 21.7	-0.7
	baz=42,SNR=9.4						
J09A	Fry Pan Ranch,	41.77	325	P	P	10 02 22.7	0.0
	baz=42,SNR=16						
D15A	Lincoln	41.77	333	⇓P	P	10 02 22.6	-0.1
	baz=42						
ORV	Oroville	41.78	318	⇑P	P	10 02 23.0	+0.1
	baz=42						
K08A	Mann Creek Ran	41.79	324	P	P	10 02 22.8	0.0
	baz=42,SNR=20						
SUTB	Sutter Butte	41.79	318	⇓P	P	10 02 22.8	-0.2
	baz=42						
L07A	Adell	41.84	323	⇓P	P	10 02 23.1	-0.2
	baz=42						
ELFS	Eagle Lake Fie	41.87	320	⇑P	P	10 02 23.8	+0.2
	baz=42						
O04C	Chester	41.93	320	⇓P	P	10 02 24.1	0.0
	baz=42						
H10A	Noah's Angus R	42.04	328	⇑P	P	10 02 24.1	-0.8
	baz=42						
E13A	Victor	42.08	331	P	P	10 02 24.7	-0.5
	baz=42,SNR=5.6						
F12A	Elk City	42.10	330	P	P	10 02 25.0	-0.3
	baz=42,SNR=23						
I09A	Lost Marbles R	42.17	326	⇓P	P	10 02 25.5	-0.5
	baz=42						
J08A	Circle Bar Ran	42.18	325	⇓P	P	10 02 25.2	-0.8
	baz=42						
K07A	Rock Creek Ran	42.20	324	⇓P	P	10 02 25.9	-0.3
	baz=42						
D14A	Greenough	42.24	333	⇓P	P	10 02 26.0	-0.5
	baz=42						
G11A	Walters Elk Ra	42.35	329	P	P	10 02 26.4	-1.0
	baz=42,SNR=8.4						
HATC	Hat Creek Radi	42.44	320	⇑P	P	10 02 27.7	-0.6
	baz=42						
BMO	Blue Mountains	42.52	327	eP	P	10 02 27.8	-1.0
H09A	Durkee	42.58	327	⇓P	P	10 02 29.0	-0.3
	baz=42						
I08A	Drewsey	42.58	326	⇑P	P	10 02 28.9	-0.4
	baz=42						
F11A	Grangeville	42.63	329	⇑P	P	10 02 28.6	-1.1
	baz=42						
D13A	Huson	42.69	332	⇑P	P	10 02 29.8	-0.3
	baz=43						
G10A	Bishop Farm, J	42.72	328	P	P	10 02 29.4	-1.0
	baz=43,SNR=7.5						
E11A	Bogner Ranch,	42.99	330	P	P	10 02 31.3	-1.3
	baz=43,SNR=7.2						
H08A	Prairie City	43.03	326	⇑P	P	10 02 32.9	0.0
	baz=43						
J06A	Christmas Vall	43.07	324	⇑P	P	10 02 33.7	+0.4
	baz=43						
I07A	Izee	43.21	325	⇓P	P	10 02 34.1	-0.3
	baz=43						
M04C	Macdoel	43.22	321	⇓P	P	10 02 33.8	-0.7
	baz=43						
F10A	Beach Ranch, E	43.23	329	⇑P	P	10 02 33.9	-0.6
	baz=43						
D11A	Klaveano Farm,	43.54	330	⇓P	P	10 02 35.3	-1.7
	baz=43						
B13A	Whitefish	43.64	333	⇑P	P	10 02 37.7	-0.1
	baz=44						
D10A	Wagner Farm, O	44.00	330	⇑P	P	10 02 40.4	-0.3
	baz=44						
NEW	Newport	44.78	331	eP	P	10 02 46.5	-0.4
D08A	Wollman Farm,	44.83	329	⇓P	P	10 02 47.1	-0.3
	baz=45						
A11A	Hall Mountain,	44.92	332	⇓P	P	10 02 48.1	+0.1
	baz=45						
G05A	Wamic	44.95	325	⇓P	P	10 02 48.4	+0.1
	baz=45						
FFC	Flin Flon	44.95	347	eP	P	10 02 47.5	-0.6
FFC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
FFC	Flin Flon	44.95	347	eP	P	10 02 47.5	-0.6
	comp=Z,6.2nm,0.9s,mb4.4						
C09A	Chrisman Ranch	45.01	330	⇑P	P	10 02 48.4	-0.3
	baz=45						
H04A	Detroit Lake	45.10	324	⇑P	P	10 02 49.1	-0.4
	baz=45						
J02A	Umpqua	45.17	322	⇓P	P	10 02 49.6	-0.5
	baz=45						
B09A	Rice	45.38	331	⇑P	P	10 02 50.8	-0.8
	baz=45						
C07A	Waterville	45.83	329	⇓P	P	10 02 55.3	+0.1
	baz=46						
B08A	Colville Reser	45.91	330	⇓P	P	10 02 55.3	-0.6
	baz=46						
A09A	Danville	45.97	331	⇓P	P	10 02 55.7	-0.5
	baz=46						
SCHQ	Schefferville	46.09	16	P	P	10 02 56.2	-0.9
SCHQ				LR	LR	10 22 21.0	
SCHQ	Schefferville	46.09	16	P	P	10 02 56.2	-0.9
	comp=Z,6.3nm,0.9s,mb4.6,baz=232,slow=7.9,SNR=6.6						
SCHQ				LR	LR	10 22 21.0	
	comp=Z,201nm,19.8s,baz=347,slow=36						
A08A	Turner Farm, O	46.28	330	⇓P	P	10 02 58.0	-0.8
	baz=46						
BDFB	Brasilia	46.66	124	P	P	10 03 02.6	+0.4
	comp=Z,2.5nm,0.7s,mb4.2,baz=297,slow=17,SNR=8.2						
A07A	Ashnola River,	46.89	330	P	P	10 03 03.1	-0.4
	baz=47,SNR=6.0						
EDM	Edmonton	46.94	338	eP	P	10 03 03.2	-0.6
CPUP	Villa Florida	47.03	143	P	P	10 03 06.0	+1.1
CPUP				LR	LR	10 23 00.9	
CPUP	Villa Florida	47.03	143	P	P	10 03 06.0	+1.1
	comp=Z,0.5nm,0.5s,mb3.7,baz=320,slow=9.8,SNR=4.2						
CPUP				LR	LR	10 23 00.9	
	comp=Z,146nm,20.0s,baz=50,slow=36						
B06A	Marblemount	47.09	329	⇑P	P	10 03 04.5	-0.6
	baz=47						
B05A	Bryant	47.24	328	⇓P	P	10 03 05.3	-1.0
	baz=47						
FCC	Fort Churchill	47.66	355	eP	P	10 03 08.1	-1.2
FCC				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
FCC	Fort Churchill	47.66	355	eP	P	10 03 08.1	-1.2
	comp=Z,4.3nm,0.6s,mb4.7						
B04A	Port Angeles	47.86	327	⇑P	P	10 03 10.9	-0.2
	baz=48						
YKA	Yellowknife Ar	54.89	345	P	P	10 04 01.8	-1.6
YKA						10 05 05.0	
YKA	Yellowknife Ar	54.89	345	P	P	10 04 01.8	-1.6
YKA				PcP	PcP	10 05 05.0	+0.3
YKA				LR	LR	10 32 33.5	
YKA	Yellowknife Ar	54.89	345	P	P	10 04 01.8	-1.6
	comp=Z,4.1nm,1.0s,mb4.4,baz=136,slow=7.4,SNR=47						
YKA				PcP	PcP	10 05 05.0	+0.3
	comp=Z,1.0nm,0.6s,baz=144,slow=4.0,SNR=16						
YKA				LR	LR	10 32 33.5	
	comp=Z,82nm,18.8s,baz=15,slow=42						
RKT	Rikitea	58.45	234	eT		11 07 02.2	
	comp=Z,3.1nm,0.2s						
PMOR	Pomariorio Ree	66.13	248	eT		11 16 33.3	
	comp=Z,3.9nm,0.2s						
HKL	Haleakala	67.19	288	eP	P	10 05 27.2	-0.3
COLA	College	67.78	336	⇑eP	P	10 05 30.3	-0.1
PPT	Papeete	68.52	246	eLR	LR	10 26 09.5	
	comp=Z,97nm,26.2s						
SVW2	Sparrevohn	70.02	331	eP	P	10 05 44.1	-0.3
IMA2	Indian Mountai	70.48	337	eP	P	10 05 41.8	-5.3
TTA	Tatalina	70.64	333	eP	P	10 05 42.6	-5.5
	comp=Z,11nm,1.3s,mb4.6						
BILL	Bilibino	85.85	339	eiP	P	10 07 12.1	+0.1
BILL				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
TIXI	Tiksi	93.88	349	⇑eP	P	10 07 49.0	-0.7
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.7						
TIXI	Tiksi	93.88	349	eP	P	10 07 48.9	-0.8
	comp=Z,2.3nm,0.6s,mb4.8						
CN2	Changchun	117.85	334	ePKP	PKPdf	10 13 14.3	-4.8
SONM	Songino Array	119.96	350	PKP	PKPdf	10 13 23.9	+0.8
	comp=Z,1.2nm,0.9s,baz=132,slow=2.2,SNR=3.8						
KSRS	Korea Array	121.65	328	PKP	PKPdf	10 13 27.4	+0.8
	comp=Z,3.3nm,0.7s,baz=9.8,slow=1.9,SNR=14						
BJI	Beijing	124.68	339	PKP	PKPdf	10 13 31.0	-1.4
WMQ	Urumqi	124.85	5	ePKP	PKPdf	10 13 35.0	+2.4
HHC	Hu-ho-hao-te	125.42	343	ePKP	PKPdf	10 13 32.1	-1.7
HHC				PKS		10 17 07.8	
HHC				SKS	SKSdf	10 20 38.8	-1.4
HHC				SKKS	SKKSac	10 22 13.8	-3.7
HHC				SS	SS	10 32 14.9	-1.5
HHC				PP	PP		
	comp=Z,129nm,6.3s						
HHC				LR	LR		
	comp=N,163nm,22.9s						
HHC				LR	LR		
	comp=E,215nm,22.9s						
HHC				LR	LR		
	comp=Z,167nm,21.4s						
NJ2	Nanjing	130.45	331	ePKP	PKPdf	10 13 46.9	+3.3
STKA	Stephens Creek	131.23	237	PKP	PKPdf	10 13 45.9	+0.9
	comp=Z,1.6nm,0.7s,baz=328,slow=9.5,SNR=2.0						
LZH	Lanzhou	131.81	349	ePKP	PKPdf	10 13 48.6	+2.5
CD2	Chengdu	136.83	347	ePKP	PKPdf	10 13 55.3	-0.3
CD2				XPKP		10 14 15.3	
CD2				SKS	SKSdf	10 21 00.6	-0.6
CD2				SKKS	SKKSac	10 23 27.8	-0.2
CD2				SS	SS	10 34 38.8	+3.1
CD2				PP	PP		
	comp=Z,70nm,10.2s						
ASAR	Alice Springs	139.63	247	PKhKP		10 13 57.9	
	comp=Z,0.8nm,0.8s,baz=114,slow=3.3,SNR=5.5						
ASAR				PKP	PKPdf	10 14 02.8	+1.9
	comp=Z,0.8nm,0.7s,baz=105,slow=2.5,SNR=5.9						
WB2	Warramunga Arr	139.75	253	ePKP	PKPdf	10 14 01.8	+0.6
WRA	Warramunga Arr	139.77	253	PKhKP		10 13 59.2	
	comp=Z,0.6nm,0.7s,baz=92,slow=2.9,SNR=8.7						
WRA				PKP	PKPdf	10 14 04.2	+2.9
	comp=Z,1.2nm,0.8s,baz=90,slow=2.0,SNR=7.5						
GYA	Guiyang	140.27	341	ePDIF	Pdif	10 11 16.0	-0.7
GYA				PKP	PKPdf	10 14 02.4	+0.3
GYA				XPKP		10 14 24.8	
GYA				PP	PP	10 17 02.6	+3.8
GYA				PP	PP		
	comp=Z,90nm,7.4s						
FITZ	Fitzroy Crossi	148.16	254	eP	PKPdf	10 14 19.3	+3.4
	comp=Z,8.6nm,1.1s						
FITZ	Fitzroy Crossi	148.16	254	PKPbc	PKPbc	10 14 19.7	+0.5
	comp=Z,4.7nm,1.0s,baz=83,slow=4.8,SNR=5.3						

SKHL ***15*** *09:58:59.1±1.0, 46°.69N×153°.35E, h64km±26km, mb5.0/7, Ms3.9/2, msh5.1/1*
NIED ***15*** *09:59:00, 46°.90N×153°.20E, h35km, Mw4.3 Best double couple: M0=3.33000×10^15 NP1:φs=312.00000°, δ=88.00000°, λ=26.00000°. NP2:φs=221.00000°, δ=64.00000°, λ=178.00000°.*
JMA ***15*** *09:59:00.6±0.6, 46°.87N×153°.21E, h30km, M4.9*
MOS ***15*** *09:59:02.2±1.1, 46°.86N×152°.89E, h48km, mb4.6/14, Error ellipse: s-maj=8.6km s-min=6.1km az=88.6*
ISCJB ***15*** *09:59:03.0±0.7, 46°.79N±0.05×152°.81E±0.06, h56km±6km, mb4.5/58, MS3.6/7, Error ellipse: s-maj=9.1km s-min=4.8km az=143.1*
BJI ***15*** *09:59:04.1, 46°.95N×153°.02E, h78km, mB4.5, mb4.6, Ms3.9, Msz3.6*
NEIC ***15*** *09:59:05.6±0.9, 46°.84N×152°.80E, h64km±8km, mb4.6/22, Error ellipse: s-maj=8.1km s-min=5.4km az=153.0*
IDC ***15*** *09:59:07.0±3.5, 46°.95N×152°.79E, h75km±31km, mb4.0/19, mb1 4.2/20, mb1mx4.1/25, mbtmp4.1/20, MS3.6/7, Ms1 3.6/7, ms1mx3.3/28, Error ellipse: s-maj=15.8km s-min=13.2km az=143.0*
ISC 15 09:59:05.3±0.6, 46°.83N±0.05×152°.78E±0.06, h60km±5km, h64km±5.2km; pP-P, n167, σ1=15/172, mb4.5/58, MS3.6/7, 24C-7D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	Kuril'sk	3.78	247	⇑iPN	Pn	09 59 58.9	-2.1
KUR				eS	Sn	10 00 43.0	-1.1
KUR				pmax	pmax		
	comp=Z,160nm,0.6s						
KUR				smax			
	comp=N,2μm,5.0s						
KUR				smax			
	comp=E,4μm,5.0s						
KUR				smax			
	comp=N,1μm,0.5s						
KUR				smax			
	comp=E,700nm,0.5s						
KUR	Kuril'sk	3.78	247	⇑iP	Pn	09 59 58.9	-2.1
KUR				AMB	AMB	09 59 59.0	
	comp=E,160nm,0.6s						
KUR				eS	Sn	10 00 43.0	-1.1
KUR				A		10 00 48.4	
	comp=E,2μm,5.0s						
KUR				A		10 00 48.4	
	comp=E,4μm,5.0s						
KUR				A		10 01 02.1	
	comp=E,1μm,0.5s						
KUR				A		10 01 02.1	
	comp=E,699nm,0.5s						
SKR	Severo-Kuril's	4.45	29	eP	Pn	10 00 04.3	-5.8
SKR				AMB	AMB	10 00 10.0	
	comp=E,90nm,0.3s						
SKR				AMB	AMB	10 00 10.0	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	10 00 10.0	
	comp=E,90nm,0.5s						
SKR				eS	Sn	10 00 54.0	-6.5
SKR				A		10 01 03.0	
	comp=E,250nm,0.5s						
SKR				A		10 01 03.0	
	comp=E,390nm,0.5s						
SKR				A		10 01 03.0	
	comp=E,330nm,0.9s						
YUK	Yuzh-Kuril'sk	5.61	243	ePN	Pn	10 00 27.0	+0.9
YUK				eS	Sn	10 01 34.2	+5.0
YUK				pmax	pmax		
	comp=Z,400nm,0.4s						
YUK				smax			
	comp=N,3μm,1.4s						
YUK				smax			
	comp=E,3μm,1.0s						
YUK				smax			
	comp=N,700nm,0.5s						
YUK				smax			
	comp=E,400nm,0.5s						
YUK	Yuzh-Kuril'sk	5.61	243	eP	Pn	10 00 27.0	+0.9
YUK				AMB	AMB	10 00 32.9	
	comp=E,400nm,0.4s						
YUK				eS	Sn	10 01 34.2	+5.0
YUK				A		10 01 57.2	
	comp=E,3μm,1.4s						
YUK				A		10 01 57.2	
	comp=E,3μm,1.0s						
YUK				A		10 02 00.5	
	comp=E,700nm,0.5s						
YUK				A		10 02 00.5	
	comp=E,400nm,0.5s						
NEM2	Nemuro 2	6.07	238	P	Pn	10 00 31.4	-0.9
NEM2				eS	Sn	10 01 37.9	-2.4
JRA	Rausu	6.12	245	P	Pn	10 00 35.2	+2.1
JNK	Nakash	6.55	243	P	Pn	10 00 40.0	+1.0
JNK				eS	Sn	10 01 53.2	+0.9
JTKR	Abashiri--Toko	6.87	249	P	Pn	10 00 45.6	+2.3
YSS	Yuzh-Sakhalins	6.87	275	⇑ePn	Pn	10 00 46.0	+2.6
YSS				pmax	pmax		
	comp=Z,60nm,1.0s						
YSS				pmax	pmax		
	comp=E,50nm,0.9s						
YSS				MLR	MLR		
	comp=E,400nm,16.0s						
YSS				MLR	MLR		
	comp=Z,400nm,16.0s						
YSS	Yuzh-Sakhalins	6.87	275	ePn	Pn	10 00 45.7	+2.3
	comp=Z,46nm,0.9s						
YSS	Yuzh-Sakhalins	6.87	275	⇑eP	Pn	10 00 46.0	+2.6
YSS				AMB	AMB	10 00 48.9	
	comp=Z,50nm,0.9s						
YSS				AMB	AMB	10 00 48.9	
	comp=Z,60nm,1.0s						
YSS				eS0		10 02 02.0	
YSS				A		10 02 05.0	
	comp=Z,50nm,0.8s						
YSS				eLQ		10 02 30.0	
YSS				eLR	LR	10 02 50.0	
YSS				AMS	AMS	10 03 17.0	
	comp=Z,400nm,16.0s						
YSS				AMS	AMS	10 03 17.0	
	comp=Z,400nm,16.0s						
JAK	Akkeshi	6.90	239	P	Pn	10 00 43.0	-0.7
JAK				eS	Sn	10 01 58.1	-2.7
JMP	Maruseppu	7.21	250	P	Pn	10 00 50.7	+2.8
PET	Petropavlovsk	7.27	29	ePN	Pn	10 00 48.9	+0.2
PET				pmax	pmax		
	comp=Z,30nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
JAR	Ashorobuto	7.29	244	P	Pn	10 00 50.3	+1.2
JAR				eS	Sn	10 02 13.4	+3.0
JOB	Onbets	7.47	242	eS	Sn	10 02 13.9	-0.8
UGL	Uglegorsk	7.54	291	ePN	Pn	10 00 56.0	+3.5
UGL				pmax	pmax		
	comp=Z,130nm,1.0s						
UGL				MLR	MLR		
	comp=N,700nm,18.0s						
UGL				MLR	MLR		
	comp=E,800nm,18.0s						
UGL				MLR	MLR		
	comp=Z,800nm,18.0s						
UGL	Uglegorsk	7.54	291	eP	Pn	10 00 56.0	+3.5
UGL				AMB	AMB	10 00 59.0	
	comp=Z,130nm,1.0s						
UGL				erx	rx	10 01 08.0	
ASAJ	Asahikawa	7.66	253	PN	Pn	10 00 57.6	+3.5
ASAJ				pmax	pmax		
	comp=Z,4.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,286nm,19.7s						
ASAJ	Asahikawa	7.66	253	P	Pn	10 00 57.6	+3.5
	comp=Z,3.9nm,0.3s,baz=88,slow=17,SNR=35						
ASAJ				LR	LR	10 03 44.0	
	comp=Z,286nm,19.7s,baz=245,slow=36						
JKK2	Kamakawa 2	7.66	251	P	Pn	10 00 57.1	+2.9
TYV	Tymovskoe	7.80	305	eP	Pn	10 00 58.3	+2.2
TYV				AMB	AMB	10 01 02.8	
	comp=Z,22nm,0.8s						
TYV				AMB	AMB	10 01 02.8	
	comp=Z,24nm,0.8s						
TYV				AMB	AMB	10 01 02.8	
	comp=Z,31nm,0.8s						
TYV				AMS	AMS	10 03 50.0	
	comp=Z,800nm,20.0s						
JCH	Churui	7.92	241	eS	Sn	10 02 23.8	-2.0
JFR	Furan	8.10	247	P	Pn	10 01 01.9	+1.8
JAB	Ashibetsu	8.17	250	P	Pn	10 01 04.1	+3.0
ERM	Erimo	8.40	239	cePN	Pn	10 01 05.0	+0.7
ERM	Erimo	8.40	239	ePn	Pn	10 01 05.2	+0.9
	comp=Z,51nm,0.6s						
JBT2	Biratori 2	8.44	245	P	Pn	10 01 05.4	+0.6
JBT2				eS	Sn	10 02 34.5	-4.0
JNBK	Urakawa-nobuka	8.48	241	P	Pn	10 01 04.4	-1.0
JNBK				eS	Sn	10 02 35.5	-4.0
JEW	Eniwo	8.98	248	P	Pn	10 01 12.6	+0.4
JNB	Noboribetsu	9.43	247	P	Pn	10 01 18.8	+0.4
JNB				eS	Sn	10 03 02.0	-0.9
JKB	Kayabe	9.75	244	P	Pn	10 01 21.1	-1.7
JKB				eS	Sn	10 03 05.1	-5.6
NKL	Nikolayevsk	10.03	314	eP	Pn	10 01 25.0	-1.5
NKL				AMB	AMB	10 01 27.0	
	comp=Z,34nm,1.0s						
NKL				AMB	AMB	10 01 27.0	
	comp=Z,43nm,1.0s						
NKL				eL		10 04 24.0	
NKL				AMS	AMS	10 06 03.0	
	comp=Z,500nm,14.0s						
NKL				AMS	AMS	10 06 03.0	
	comp=Z,400nm,14.0s						
NKL				AMS	AMS	10 06 03.0	
	comp=Z,800nm,14.0s						
JYM2	Yakumo 2	10.04	247	P	Pn	10 01 26.3	-0.4
JSR	Shiriuchi	10.34	244	P	Pn	10 01 29.1	-1.6
JTM	Tenmabayashi	10.39	239	P	Pn	10 01 28.9	-2.6
JTM				eS	Sn	10 03 18.3	-8.0
JANG	Nango	10.40	236	P	Pn	10 01 28.1	-3.6
JANG				eS	Sn	10 03 17.0	-10
JOSM	Okushiri--Mats	10.63	248	P	Pn	10 01 34.4	-0.3
OFUJ	Ofunato	11.23	230	eS	Sn	10 03 35.8	-11
JRG	Rokugo	11.57	234	eS	Sn	10 03 47.1	-7.9
JIO	Ouri	11.86	229	eS	Sn	10 03 51.2	-11
HABR	Khabarovsk	12.07	284	ePN	Pn	10 01 54.4	0.0
MA2	Magadan	12.83	355	ePN	Pn	10 02 04.7	+0.1
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2	Magadan	12.83	355	ePn	Pn	10 02 05.0	+0.4
	comp=Z,8.5nm,0.6s						
KLR	Kul'dur	14.27	287	eP	Pn	10 02 24.8	+0.7
KLR				MLR	MLR		
	comp=Z,700nm,12.0s						
MAT	Matsushiro	14.95	232	P	Pn	10 02 38.5	+5.5
MJAR	Matsushiro Arr	14.95	232	P	Pn	10 02 30.5	-2.4
	comp=Z,0.3nm,0.3s,baz=25,slow=14,SNR=6.1						
SEY	Seymchan	16.14	359	⇑eP	Pn	10 02 49.4	+1.4
CLNS	Chul'man	19.80	311	eP	Pn	10 03 31.1	-1.4
CLNS				eS	S	10 07 02.0	-8.1
CLNS				pmax	pmax		
	comp=Z,9.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
CLNS				pmax	pmax		
	comp=N,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=E,5.0nm,0.9s						
CLNS				pmax	pmax		
	comp=Z,11nm,0.9s						
CLNS				smax			
	comp=N,4.0nm,0.9s						
CLNS				smax			
	comp=E,3.0nm,0.9s						
CLNS				smax			
	comp=Z,2.0nm,0.9s						
CLNS				MLR	ML

comp=N,300nm,13.0s
CLNS MLR MLR
comp=E,300nm,13.0s
YAK Yakutsk 20.14 327 *eP* **P 10 03 34.0 -0.1**
YAK pmax pmax
comp=Z,19nm,0.9s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK pmax pmax
comp=E,10.0nm,1.4s
KSRS Korea Array 20.60 252 P **P 10 03 40.6 +1.3**
comp=E,3.7nm,0.5s,baz=61,slow=9.0,SNR=17
KSRS PcP PcP 10 07 48.5 +0.6
comp=E,0.6nm,0.5s,baz=48,slow=1.9,SNR=4.7
KSRS LR LR 10 10 34.3
comp=E,79nm,20.8s,MS3.1,baz=356,slow=33
SNY Shenyang 21.41 267 ⇑P **P 10 03 49.9 +1.8**
SNY AMB AMB
comp=Z,20nm,0.8s,mb4.5
SNY AMB AMB
comp=Z,74nm,3.5s
SNY LR LR
comp=E,251nm,16.4s
SNY LR LR
comp=Z,201nm,17.1s,MS3.6
JNU Nakatsue 21.57 238 P **P 10 03 48.4 -1.4**
comp=Z,14nm,0.9s,mb4.4,baz=75,slow=6.8,SNR=6.2
JNU LR LR 10 11 59.6
comp=Z,101nm,18.1s,MS3.3,baz=234,slow=36
BILL Bilibino 22.37 13⇓*eP* **P 10 03 57.3 -0.7**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.0
BOD Bodaibo 25.77 310 *eP* **P 10 04 39.4 +9.3**
BOD pmax pmax
comp=Z,3.0nm,1.4s,mb3.6
TIXI Tiksi 27.33 344⇑*eP* **P 10 04 42.2 -1.9**
TIXI pmax pmax
comp=Z,6.0nm,2.5s,mb3.7
SONM Songino Array 31.09 289 LR LR 10 18 42.5
comp=Z,170nm,19.0s,MS3.7,baz=261,slow=38
ZAK Zakamensk 32.44 295 *eP* **P 10 05 28.6 -0.8**
ZAK *e* 10 08 15.2
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
ZAK pmax pmax
comp=Z,1.0nm,1.0s,mb3.6
KDAK Kodiak Island 34.23 51 P **P 10 05 44.3 -0.6**
comp=Z,18nm,1.1s,mb4.9,baz=181,slow=10,SNR=2.5
XAN Xi'an 35.30 265 P **P 10 05 55.1 +0.7**
XAN AMB AMB
comp=Z,11nm,0.9s,mb4.8
SML Sawmill 36.07 44 *eP* **P 10 05 59.6 -1.1**
COLA College 36.22 38⇑*eP* **P 10 06 01.6 -0.3**
COLA College 36.22 38 *eP* **P 10 06 01.9 0.0**
comp=Z,11nm,0.6s,mb5.0
EGAK Eagle 39.08 38 *eP* **P 10 06 25.4 -0.6**
comp=Z,9.4nm,0.8s,mb4.6
CD2 Chengdu 40.66 265 *eP* **P 10 06 40.3 +0.7**
CD2 AMB AMB
comp=Z,40nm,0.8s,mb5.1
CD2 AMB AMB
comp=Z,60nm,4.8s
GYA Guiyang 41.51 257⇑*iP* **P 10 06 47.5 +0.9**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
INK Inuvik 41.71 32 *eP* **P 10 06 47.9 +0.1**
comp=Z,247nm,0.8s
ZALV Zalesovo Beam 42.38 306 P **P 10 06 52.0 -1.4**
comp=Z,1.3nm,0.4s,mb3.9,baz=58,slow=7.0,SNR=7.9
ZALV PcP PcP 10 08 45.9 +0.3
comp=Z,1.7nm,0.7s,baz=60,slow=3.2,SNR=7.3
ZALV LR LR 10 25 51.4
comp=Z,139nm,18.3s,MS3.9,baz=254,slow=38
ZAL Zalesovo 42.40 306 P **P 10 06 52.0 -1.5**
ZAL 10 08 45.9
MK31 Makanchi Array 46.70 297 *eP* **P 10 07 27.4 -0.5**
MKAR Makanchi Array 46.70 297 P **P 10 07 27.8 -0.1**
MKAR 10 09 00.5
MKAR Makanchi Array 46.70 297 P **P 10 07 27.8 -0.1**
comp=Z,2.2nm,0.8s,mb4.2,baz=65,slow=7.1,SNR=12
MKAR PcP PcP 10 09 00.5 -0.1
comp=Z,0.9nm,0.5s,baz=50,slow=4.0,SNR=4.0
MKAR LR LR 10 28 25.7
comp=Z,141nm,18.9s,MS3.9,baz=2.4,slow=38
KURK Kurchatov 47.13 303⇑*eP* **P 10 07 31.0 -0.2**
KURK *i* *PP pP 10 07 44.4 -2.2
KURK Kurchatov 47.13 303 *eP* **P 10 07 30.5 -0.7**
comp=Z,4.7nm,0.8s,mb4.5
BVAR Borovoye Array 50.63 309 P **P 10 07 57.3 -0.7**
comp=Z,1.0nm,0.4s,mb4.1,baz=59,slow=12,SNR=6.0
BVAR PcP PcP 10 09 14.9 +0.3
comp=Z,1.7nm,0.4s,baz=64,slow=3.4,SNR=6.8
RES Resolute Bay 50.84 18 *eP* **P 10 07 58.2 -1.1**
comp=Z,122nm,0.8s
YKA Yellowknife Ar 51.00 37 P **P 10 08 00.2 -0.4**
comp=Z,3.2nm,0.8s,mb4.3,baz=299,slow=7.3,SNR=32
YKA PcP PcP 10 09 15.5 -0.3
comp=Z,1.1nm,0.7s,baz=299,slow=3.8,SNR=6.0
CHTO Chiang Mai 51.91 256 *eP* **P 10 08 09.8 +1.8**
CHTO pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CHTO Chiang Mai 51.91 256 *eP* **P 10 08 09.8 +1.8**
comp=Z,5.0nm,0.8s,mb4.5
JIRN Jiri 54.71 274 *eP* **P 10 08 29.9 +1.4**
comp=Z,26nm,0.6s,mb5.4
ARU Arti 54.80 317*c iP* **P 10 08 27.2 -1.5**
ARU *e* 10 09 27.7
ARU *e* 10 10 27.5
ARU *e*S **S 10 16 03.2 -1.6**
ARU SS SS 10 19 44.7 -3.2
ARU pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
KKN Kakani 55.25 275 *eP* **P 10 08 34.2 +1.8**
comp=Z,18nm,0.6s,mb5.3
PKI Pulchoki 55.30 275 *eP* **P 10 08 34.1 +1.4**
comp=Z,8.0nm,0.4s,mb5.1
DMN Daman 55.49 275 *eP* **P 10 08 35.9 +1.9**
GKN Gorkha 55.56 276 *eP* **P 10 08 35.8 +1.3**
DANN Dangsing 55.94 277 *eP* **P 10 08 38.9 +1.6**
comp=Z,17nm,0.6s,mb5.3
HNR Honiara 56.37 172 LR LR 10 30 52.5
comp=Z,46nm,21.4s,MS3.5,baz=355,slow=34
KOLN Koldanda 56.41 276 *eP* **P 10 08 42.0 +1.3**
EDM Edmonton 56.43 46 *eP* **P 10 08 40.0 -0.4**
ARCES ARCESS Array B 57.71 341 P **P 10 08 48.0 -1.1**
comp=Z,3.1nm,1.0s,mb4.3,baz=27,slow=8.7,SNR=4.5
WVOR Wild Horse Val 59.91 59 *eP* **P 10 09 05.5 +0.6**
WVOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
WVOR Wild Horse Val 59.91 59 *eP* **P 10 09 05.5 +0.6**
comp=Z,2.6nm,0.8s,mb4.3
BOZ Bozeman (W) 61.89 52 *eP* **P 10 09 18.9 +0.7**
BOZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
BOZ Bozeman (W) 61.89 52 *eP* **P 10 09 18.9 +0.7**
comp=Z,2.1nm,0.6s,mb4.4
NVAR Mina Array Bea 62.60 62 P **P 10 09 23.2 +0.1**
comp=Z,1.8nm,0.7s,mb4.3,baz=291,slow=7.0,SNR=16
SNOW Snow King Moun 63.77 54 *eP* **P 10 09 32.2 +1.4**
comp=Z,7.1nm,1.2s,mb4.6
FINES FINESS Array B 63.87 335 P **P 10 09 30.6 -0.5**
comp=Z,6.3nm,0.4s,mb5.0,baz=39,slow=7.6,SNR=33
DGMT Dagmar 63.92 46 *eP* **P 10 09 31.6 -0.1**
comp=Z,5.5nm,0.7s,mb4.7
DUG Dugway 64.73 58 *eP* **P 10 09 37.4 +0.3**
DUG pmax pmax
comp=Z,6.0nm,1.3s,mb4.5
DUG Dugway 64.73 58 *eP* **P 10 09 37.4 +0.4**
comp=Z,6.2nm,1.3s,mb4.5
ULM Lac du Bonnet 66.61 41 P **P 10 09 47.2 -1.9**
ULM Lac du Bonnet 66.61 41 P **P 10 09 47.2 -1.9**
comp=Z,1.4nm,0.4s,mb4.3,baz=306,slow=9.8,SNR=2.9
SRU San Rafael 66.77 57 *eP* **P 10 09 50.4 +0.2**
SRU pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
SRU San Rafael 66.77 57 *eP* **P 10 09 50.4 +0.2**
comp=Z,2.2nm,0.7s,mb4.3
RSSD Black Hills 66.95 50 *eP* **P 10 09 51.1 -0.2**
RSSD pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
RSSD Black Hills 66.95 50 *eP* **P 10 09 51.1 -0.2**
comp=Z,4.9nm,0.8s,mb4.6
NB2 NORSAR Subarra 68.08 341 P **P 10 09 57.5 -0.6**
comp=Z,12nm,0.7s,mb5.0,baz=27,slow=6.5
NOA NORSAR Array B 68.08 341 P **P 10 09 57.8 -0.4**
comp=Z,14nm,0.8s,mb5.0,baz=27,slow=6.3,SNR=28
WRA Warramunga Arr 68.51 199 P **P 10 10 01.2 0.0**
comp=Z,1.2nm,0.9s,mb3.8,baz=9.8,slow=6.5,SNR=7.0
SMCO Snowmass 68.75 55 *eP* **P 10 10 02.8 +0.1**
comp=Z,3.8nm,0.8s,mb4.4
ISCO Idaho Springs 69.08 54 *eP* **P 10 10 05.1 +0.4**
ISCO pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
ISCO Idaho Springs 69.08 54 *eP* **P 10 10 05.1 +0.3**
comp=Z,3.4nm,0.8s,mb4.3
FITZ Fitzroy Crossi 69.11 208 P **P 10 10 05.5 +0.5**
comp=Z,2.6nm,0.9s,mb4.1,baz=160,slow=5.1,SNR=4.1
GOF Gofitskoye 69.61 315 *eP* **P 10 10 17.4 +9.5**
ECSD EROS,Sioux Fal 71.00 46 *eP* **P 10 10 15.3 -1.1**
comp=Z,8.3nm,1.1s,mb4.6
AKASG Malin Array Be 71.36 326 P **P 10 10 17.6 -0.9**
comp=Z,14nm,0.4s,mb5.2,baz=33,slow=6.3,SNR=58
KIEV Kiev 71.37 326 *eP* **P 10 10 17.7 -0.8**
KIEV pmax pmax
comp=Z,12nm,0.6s,mb5.0
KIEV Kiev 71.37 326 *eP* **P 10 10 17.7 -0.8**
comp=Z,12nm,0.6s,mb5.0
ANMO Albuquerque 71.98 58⇑*eP* **P 10 10 21.5 -1.0**
ANMO Albuquerque 71.98 58 P **P 10 10 22.7 +0.2**
ANMO Albuquerque 71.98 58 P **P 10 10 22.6 +0.1**
comp=Z,0.9nm,0.8s,mb3.8,baz=309,slow=8.6,SNR=5.1
ASAR Alice Springs 72.21 198 P **P 10 10 24.9 +1.2**
comp=Z,2.3nm,0.8s,mb4.2,baz=11,slow=5.6,SNR=15
SCHQ Schefferville 73.33 23 P **P 10 10 29.9 -0.2**
comp=Z,1.3nm,0.5s,mb4.1,baz=343,slow=12,SNR=5.2
SCIA State Center 74.02 45 *eP* **P 10 10 34.2 -0.2**
comp=Z,13nm,0.7s,mb5.0
OJC Ojcow 75.14 331 *eP* **P 10 10 40.4 -0.4**
STHS Stebnicka Huta 75.34 330 *eP* **P 10 10 42.3 +0.4**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.34 330 *eP* **P 10 10 42.3 +0.4**
comp=Z,7.2nm,0.8s,mb4.7
KOLS Kolonicke sedl 75.38 329 *eP* **P 10 10 41.8 -0.4**
BURAR Bucovina Array 75.40 326⇓*iP* **P 10 10 42.5 +0.2**
UPC Upice 76.11 333 *eP* **P 10 10 46.2 -0.1**
UPC *e*PCP PcP 10 10 58.5 +0.2
DPC Dobruska-Polom 76.15 333 *eP* **P 10 10 46.6 +0.1**
MORC Moravsky Berou 76.27 332⇓*iP* **P 10 10 47.4 +0.2**
CLL Collm 76.30 335⇑*iP* **P 10 10 46.7 -0.7**
CLL *e*PP pP 10 11 05.0 +1.2
CLL pmax pmax
comp=Z,12nm,1.0s,mb4.8
CLL Collm 76.30 335⇑*iP* **P 10 10 46.7 -0.7**
comp=Z,12nm,1.0s,mb4.8
CLL *e*pP pP 10 11 05.0 +1.2
CLL Collm 76.30 335⇑*iP* **P 10 10 46.7 -0.7**
comp=Z,12nm,1.0s,mb4.8
CLL *e*pP pP 10 11 05.0 +1.2
TIRR Tirgusor 76.71 323⇑*iP* **P 10 10 50.1 +0.3**
MLR Muntele Rosu 76.87 325⇓*iP* **P 10 10 51.7 +1.0**
MALT Malatya 76.93 313⇑*iP* **P 10 10 52.6 +1.4**
VYHS Vyhne 76.95 331 *eP* **P 10 10 51.3 +0.2**
VYHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
VYHS Vyhne 76.95 331 *eP* **P 10 10 51.3 +0.2**
comp=Z,2.6nm,0.9s,mb4.2
PRU Pruhonice 77.02 334 *eP* **P 10 10 51.3 -0.1**
DRGR 77.03 327⇓*iP* **P 10 10 51.6 +0.1**
VOIR 77.27 325⇓*iP* **P 10 10 53.7 +0.8**
TXAR Lajitas Array 77.65 60 P **P 10 10 55.1 -0.2**
comp=Z,2.0nm,0.7s,mb4.2,baz=299,slow=4.2,SNR=35
KHC Kasperske Hory 78.07 334 *eP* **P 10 10 57.3 0.0**
KHC *e*pP pP 10 11 15.7 +1.9
GERES GERESS Array B 78.29 334 P **P 10 10 58.4 -0.1**
comp=Z,1.6nm,0.6s,mb4.2,baz=46,slow=5.8,SNR=12
CONA Conrad Observa 78.42 332⇑*iP* **P 10 10 59.9 +0.6**
comp=Z,13nm,1.4s,mb4.7
CSNA Conrad Observa 78.42 332⇑*iP* **P 10 10 59.7 +0.5**
comp=Z,5.7nm,0.7s,mb4.6
BZS Buzias 78.43 327⇓*iP* **P 10 10 59.9 +0.6**
NAY Al-Naaiem 78.89 301 *eP* **P 10 11 01.3 -0.9**
NAY AMb AMB 10 11 03.0
comp=Z,17nm,0.8s,mb5.0
RDF Al-Radifah 78.95 300 *eP* **P 10 11 01.5 -1.0**
RDF AMb AMB 10 11 05.1
comp=Z,54nm,1.0s,mb5.5
KBA Koelnbreinsper 79.97 333⇑*iP* **P 10 11 08.2 +0.4**
comp=Z,8.8nm,0.6s,mb4.9
KBA Koelnbreinsper 79.97 333⇑*iP* **P 10 11 08.2 +0.5**
KBA pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
WTTA Wattenberg 80.32 334⇑*iP* **P 10 11 10.1 +0.5**
comp=Z,11nm,0.6s,mb5.0
WTTA Wattenberg 80.32 334⇑*iP* **P 10 11 10.1 +0.5**
WTTA pmax pmax
comp=Z,11nm,0.6s,mb5.0
TIP Timpagrande 85.80 327 *eP* **P 10 11 36.6 -1.4**
comp=Z,5.3nm,0.9s,mb4.8
BDFB Brasilia 144.41 36 PKIKP PKPdf 10 18 32.7 -2.2
BDFB pmax pmax
comp=Z,2.0nm,0.7s
BDFB Brasilia 144.41 36 PKP PKPdf 10 18 32.7 -2.2
comp=Z,2.2nm,0.7s,baz=285,slow=14,SNR=6.4
CFAA Coronel Fontan 145.20 79 PKPbc PKPbc 10 18 34.2 -1.4
comp=Z,0.4nm,0.7s,baz=317,slow=2.5,SNR=8.1
PLCA Paso Flores 148.44 95 PKP2 PKPbc 10 18 43.9 -0.7
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA Paso Flores 148.44 95 PKPbc PKPbc 10 18 43.9 -0.6
comp=Z,3.2nm,0.9s,baz=220,slow=6.7,SNR=6.0
CPUP Villa Florida 148.62 60 PKP2 PKPbc 10 18 44.8 -0.7
CPUP pmax pmax
comp=Z,2.0nm,0.5s
CPUP Villa Florida 148.62 60 PKPbc PKPbc 10 18 44.8 -0.7
comp=Z,1.6nm,0.5s,baz=308,slow=2.0,SNR=7.9
SNAA Sanae 152.56 196 *e*PKPdf PKPbc 10 18 52.6 -0.8
SNAA *e* 10 19 03.2
SNAA *e* 10 19 17.3
VNA2 Neumayer--Watz 154.02 195 *e*PKPdf PKPbc 10 18 57.5 +0.9
baz=150,slow=0.7
VNA2 *e* 10 19 10.9
VNA2 *e* 10 19 25.8
VNA3 Neumayer Olymp 154.12 193 *e*PKPdf PKPbc 10 18 56.8 0.0
VNA3 *e* 10 19 10.7
VNA3 *e* 10 19 25.6
VNA3 *e* 11 48 43.3
VNA3 *e* 11 48 49.8

NEIC ***15*** *10:04:37.0, 3647N×2293E, h10km, ML3.2(ATH), After ATH.*
ATH ***15*** *10:04:48.2, 3423N×2401E, h25km, MD3.2/4*
ISCJB ***15*** *10:04:52.0±0.8, 3434N±004×243E±0.1, h10km, Error ellipse: s-maj=12.3km s-min=5.0km az=174.7*
CSEM ***15*** *10:04:51.5±0.2, 3437N×2425E, h2km, ML3.3, Error ellipse: s-maj=6.1km s-min=3.0km az=94.0*
HLW ***15*** *10:04:55.5, 3450N×2464E, h33km, Mb3.3*
ISC 15 10:04:53.6±1.2, 3438N±008×243E±02, h18km±16km, n13, σ1§22/15, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.48**	**343**	P		**Sg**		**10 05 10.1**	**+0.3**
GVD	**Gavdhos**	**0.48**	**343**	*e*PN		**Pg**		**10 05 00.5**	**-2.8**
SIVA	**Sivas**	**0.78**	**36**	P		**Pg**		**10 05 09.1**	**+0.2**
IDI	**Anoyia**	**1.04**	**30**	P		**Pg**		**10 05 13.7**	**-0.1**
LAST	**Lasithi**	**1.27**	**52**	P		**Pn**		**10 05 15.9**	**-0.4**
XRY	**Khrisi**	**1.28**	**67**	*e*PB		**Pn**		**10 05 15.0**	**-1.5**
NPS	**Neapolis**	**1.42**	**51**	*e*PN		**Pn**		**10 05 18.5**	**+0.1**
ZKR	**Zakros**	**1.77**	**65**	P		**Pn**		**10 05 25.2**	**+2.0**
KARP	**Karpathos**	**2.65**	**63**	*e*PN		**Pn**		**10 05 35.5**	**+0.1**
SLUM		**2.99**	**164**	P		**Pn**		**10 05 41.3**	**+1.2**
SLUM				S		**Sn**		**10 06 14.7**	**-0.7**
HMAT	**Matruh**	**4.06**	**143**	P		**Pn**		**10 05 54.1**	**-0.6**
SWA2		**5.22**	**168**	⇓P		**Pn**		**10 06 12.4**	**+1.7**
SWA1		**5.25**	**166**	P		**Pn**		**10 06 12.4**	**+1.3**
SWA1				S		**Sn**		**10 07 08.8**	**-2.3**

THE 15 10:05:13.8, 3833N×2040E, h1km, ML2.3, Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.22**	**136**	*e*Pg		Pg		10 05 17.9	0.0
VLS				*e*Sg		Sg		10 05 21.2	+0.5
VLS	**Valsamata**	**0.22**	**136**	P		Pg		10 05 18.4	+0.5
KFL	**Anninata**	**0.38**	**126**	*e*Pg		Pg		10 05 20.8	-0.2
KFL				*e*Sg		Sg		10 05 26.7	+0.8
LKD	**Levkas**	**0.42**	**28**	*e*Pg		Pg		10 05 22.0	+0.2
LKD				*e*Sg		Sg		10 05 27.8	+0.4

IDC ***15*** *10:12:48.4±2.0, 7885×1557.1E, h0km, mb4.1/9, mb1 4.2/9, mb1mx4.2/13, mbtmp4.1/9, MS3.5/3, Ms1 3.5/3, ms1mx3.0/22, Error ellipse: s-maj=61.5km s-min=21.9km az=118.0*
NEIC ***15*** *10:12:50.2±1.2, 7845×1568E, h10km, mb4.5/2, Error ellipse: s-maj=40.5km s-min=12.0km az=123.0*
ISCJB ***15*** *10:12:52.8±1.6, 7853×0.2E×1555E±0.3, h33km, mb4.1/10, MS3.6/2, Error ellipse: s-maj=50.9km s-min=14.6km az=31.5*
ISC 15 10:12:54.2±1.6, 7935×02×1556E±03, h35km, n17, σ0§66/13, mb4.1/10, MS3.6/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**15.18**	**216**	LR		LR	LR	10 20 52.5	
comp=Z,124nm,18.4s,baz=136,slow=32									
WB2	**Warramunga Arr**	**23.86**	**238**	*e*P		**P**		**10 18 05.2**	**+0.7**
WRA	**Warramunga Arr**	**23.87**	**238**	P		**P**		**10 18 05.0**	**+0.4**
1.4nm,0.5s,mb3.6,baz=60,slow=9.5,SNR=34									
ASAR	**Alice Springs**	**26.10**	**230**	P		**P**		**10 18 24.2**	**-0.6**
1.2nm,1.1s,mb3.3,baz=72,slow=9.1,SNR=4.9									
STKA	**Stephens Creek**	**27.25**	**207**	LR		LR	LR	10 28 46.5	
comp=Z,58nm,20.1s,MS3.1,baz=26,slow=35									
FITZ	**Fitzroy Crossi**	**30.90**	**248**	*e*P		**P**		**10 19 07.3**	**-0.4**
1.9nm,0.5s,mb4.2									
FITZ	**Fitzroy Crossi**	**30.90**	**248**	P		**P**		**10 19 06.9**	**-0.8**
2.0nm,0.9s,mb3.9,baz=84,slow=5.5,SNR=7.3									
MJAR	**Matsushiro Arr**	**47.09**	**341**	P		**P**		**10 21 21.6**	**-1.1**
3.2nm,0.8s,mb4.3,baz=165,slow=8.5,SNR=7.7									
KSRS	**Korea Array**	**51.98**	**332**	P		**P**		**10 22 00.1**	**+0.2**
1.5nm,0.6s,mb4.1,baz=150,slow=7.7,SNR=7.5									
PPT	**Papeete**	**54.16**	**106**	LR		LR	LR	10 39 54.9	
comp=Z,121nm,19.3s,MS4.0,baz=320,slow=30									
SONM	**Songino Array**	**70.39**	**327**	P		**P**		**10 24 05.7**	**+1.1**
0.7nm,0.6s,mb3.7,baz=143,slow=5.0,SNR=5.5									
BILL	**Bilibino**	**76.08**	**4**	*e*P		**P**		**10 24 38.3**	**+0.5**
6.4nm,0.9s,mb4.5									
MKAR	**Makanchi Array**	**84.45**	**319**	P		**P**		**10 25 24.1**	**+0.8**
3.9nm,0.7s,mb4.7,baz=102,slow=5.8,SNR=28									
ZAA0	**Zalesovo Array**	**85.23**	**326**	*e*P		**P**		**10 25 26.5**	**-0.5**
ZALV	**Zalesovo Beam**	**85.23**	**326**	P		**P**		**10 25 26.5**	**-0.5**
2.9nm,0.6s,mb4.6,baz=109,slow=6.1,SNR=12									
YKA	**Yellowknife Ar**	**96.79**	**28**	P		**P**		**10 26 20.8**	**-0.2**
0.4nm,0.6s,mb4.1,baz=267,slow=4.3,SNR=7.5									
TORD	**Torodi Ar. Bea**	**153.84**	**284**	PKPbc		PKPbc	PKPbc	10 32 50.8	0.0
0.5nm,0.7s,baz=55,slow=1.6,SNR=3.0									

IDC 15 10:25:07.0±3.5, 7625×1553.8E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.7/12, mbtmp3.7/5, MS3.6/1, Ms1 3.5/1, ms1mx2.7/19, Error ellipse: s-maj=102.7km s-min=27.6km az=115.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.78**	**237**	P		P		10 30 21.8	+0.2
0.5nm,0.4s,baz=60,slow=9.5,SNR=13									
ASAR	**Alice Springs**	**26.05**	**230**	P		P		10 30 41.4	-0.8
0.4nm,0.9s,baz=68,slow=12,SNR=3.8									
STKA	**Stephens Creek**	**27.34**	**206**	LR		LR		10 41 34.7	
comp=Z,120nm,20.5s,baz=3.7,slow=36									
SONM	**Songino Array**	**70.06**	**327**	P		P		10 36 21.7	+0.9
0.2nm,0.5s,baz=144,slow=5.2,SNR=3.4									
MKAR	**Makanchi Array**	**84.12**	**319**	P		P		10 37 40.6	+0.7
1.6nm,0.7s,baz=90,slow=6.6,SNR=9.3									
ZALV	**Zalesovo Beam**	**84.90**	**326**	P		P		10 37 42.6	-1.1
0.5nm,0.3s,baz=114,slow=6.6,SNR=3.7									

IDC ***15*** *10:49:56.2±2.1, 7715×1267.4E, h0km, mb3.7/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.7/4, Error ellipse: s-maj=134.3km s-min=23.0km az=69.0*
ISCJB ***15*** *10:49:58.0±1.2, 7915×0.1×1274E±0.1, h33km, mb3.7/5, Error ellipse: s-maj=23.2km s-min=9.3km az=148.1*
ISC 15 10:50:00.9±1.2, 7815×01×1272E±02, h35km, n10, σ1§38/10, mb3.7/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.28**	**228**	*e*P		**Pn**		**10 50 20.7**	**-1.6**
BUKP	**Musuan**	**2.13**	**272**	*e*P		**Pn**		**10 50 35.2**	**+1.2**
SCPH	**Surigao**	**2.60**	**319**	*e*P		**Pn**		**10 50 37.6**	**-2.9**
SCPH				*e*S		**Sn**		**10 51 11.8**	**+0.9**
KAKA	**Kakadu**	**21.04**	**166**	*e*P		**P**		**10 54 46.5**	**+4.7**
7.3nm,0.6s,mb4.2									
FITZ	**Fitzroy Crossi**	**25.79**	**183**	*e*P		**P**		**10 55 31.2**	**+2.4**
4.3nm,0.6s,mb4.2									
FITZ	**Fitzroy Crossi**	**25.79**	**183**	P		**P**		**10 55 28.4**	**-0.4**
1.1nm,0.4s,mb3.7,baz=343,slow=10,SNR=13									
WRA	**Warramunga Arr**	**28.45**	**166**	P		**P**		**10 55 52.0**	**-0.7**
0.4nm,0.9s,mb3.1,baz=347,slow=9.5,SNR=4.1									
ASAR	**Alice Springs**	**31.95**	**168**	P		**P**		**10 56 25.1**	**+1.4**
0.2nm,0.3s,mb3.4,baz=340,slow=7.2,SNR=11									
MKAR	**Makanchi Array**	**54.55**	**323**	P		**P**		**10 59 24.9**	**-0.6**
1.4nm,0.7s,mb4.1,baz=119,slow=7.9,SNR=8.1									
TORD	**Torodi Ar. Bea**	**122.02**	**291**	PKP		PKPdf		11 08 52.2	-0.5
0.3nm,0.5s,baz=77,slow=2.1,SNR=4.5									

IDC ***15*** *10:49:57.4±0.7, 2729N×143.11E, h0km, mb3.9/13, mb1 4.0/15, mb1mx4.0/21, mbtmp3.9/15, ML3.7/2, MS3.0/2, Ms1 3.0/2, ms1mx2.4/31, Error ellipse: s-maj=17.1km s-min=15.9km az=132.0*
ISCJB ***15*** *10:49:59.8±1.6, 2758N±004×1430.5E±0.09, h23km±10km, mb4.0/16, Error ellipse: s-maj=13.1km s-min=6.4km az=10.7*
JMA ***15*** *10:50:00.9, 2737N×1429.4E, h83km±3km, M4.2*
NEIC ***15*** *10:50:02.0±0.5, 2731N×1430.2E, h30km, mb4.5/2, Error ellipse: s-maj=17.7km s-min=9.1km az=75.0*
BJI ***15*** *10:50:02.0, 2730N×1430.0E, h30km, mB4.9, mb4.5*
ISC 15 10:50:01.5±1.6, 2749N±004×1430.3E±008, h24km±10km, n33, σ1§27/39, mb4.0/16, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.85**	**243**	P		**Pb**		**10 50 17.2**	**-0.3**
CBIJ				*e*S		**Sb**		**10 50 29.2**	**+0.7**
CBIJ	**Chichi jima**	**0.85**	**243**	Pn		**Pn**		**10 50 17.2**	**-0.6**
150nm,0.3s,baz=68,slow=6.6,SNR=443									
CBIJ				Sn		**Sn**		**10 50 29.7**	**+0.3**
158nm,0.3s,baz=285,slow=20,SNR=20									
JHHJ	**Haha-jima-NKT**	**1.14**	**222**	P		**Pn**		**10 50 20.2**	**-1.7**
JHJ2	**Mitsune**	**6.25**	**334**	*e*S		**Sn**		**10 52 44.1**	**+1.2**
BSO1	**Boso 1**	**7.36**	**347**	P		**Pn**		**10 51 48.5**	**+1.2**
BSO1				*e*S		**Sn**		**10 53 07.6**	**-2.4**
JHU	**Hanno**	**8.93**	**340**	P		**Pn**		**10 52 09.4**	**+0.5**
JHU				*e*S		**Sn**		**10 53 46.0**	**-2.6**
JRY	**Ryogami san**	**9.20**	**339**	*e*S		**Sn**		**10 53 53.9**	**-1.4**
JHO	**Hitachi**	**9.33**	**348**	P		**Pn**		**10 52 13.4**	**-1.0**
JHO				*e*S		**Sn**		**10 53 53.1**	**-5.4**
JAG	**Ashikaga**	**9.41**	**342**	P		**Pn**		**10 52 16.5**	**+1.0**
JAG				*e*S		**Sn**		**10 53 57.9**	**-2.6**
MJAR	**Matsushiro Arr**	**9.91**	**337**	Pn		**Pn**		**10 52 22.7**	**+0.4**
0.7nm,0.3s,baz=165,slow=12,SNR=6.2									
JMK	**Ichinoseki**	**11.53**	**353**	P		**Pn**		**10 52 43.7**	**-0.8**
JMK				*e*S		**Sn**		**10 54 38.7**	**-14**
JNU	**Nakatsue**	**11.90**	**301**	LR		LR		10 57 02.6	
comp=Z,82nm,18.9s,baz=63,slow=35									
KSRS	**Korea Array**	**16.14**	**312**	Pn		**Pn**		**10 53 50.3**	**+3.6**
0.3nm,0.3s,baz=125,slow=10.0,SNR=4.8									
KSRS				LR		LR		11 00 06.6	
comp=Z,50nm,19.4s,baz=235,slow=37									
SONM	**Songino Array**	**34.96**	**315**	P		**P**		**10 56 52.9**	**+1.5**
0.8nm,0.8s,mb3.7,baz=120,slow=8.7,SNR=6.9									
KMI	**Kunming**	**36.09**	**276**	P		**P**		**10 57 01.4**	**0.0**
KMI				AMB		AMB			
comp=Z,6.0nm,0.9s,mb4.5

AML	**Almayashu**	**57.31 304**	*e*P	**P**	**10 59 48.6 +1.3**
	comp=Z,2.9nm,0.9s,mb4.3				
BVAR	**Borovoye Array**	**58.26 317**	P	**P**	**10 59 56.0 +2.1**
	comp=Z,3.2nm,0.6s,mb4.5,baz=94,slow=8.7,SNR=12				
STKA	**Stephens Creek**	**59.05 181**	P	**P**	**10 59 56.8 -2.6**
	comp=Z,2.4nm,0.8s,mb4.3,baz=327,slow=4.8,SNR=4.1				
AKTK	**Aktyubinsk**	**66.27 316**	P	**P**	**11 00 47.7 +0.2**
AKTO	**Aktyubinsk**	**66.27 316**	P	**P**	**11 00 47.7 +0.2**
	comp=Z,2.0nm,0.8s,mb4.2,baz=63,slow=11,SNR=8.2				
YKA	**Yellowknife Ar**	**71.44 29**	P	**P**	**11 01 19.9 +0.5**
YKA	**Yellowknife Ar**	**71.44 29**	P	**P**	**11 01 19.9 +0.5**
	comp=Z,0.4nm,0.8s,mb3.4,baz=297,slow=6.1,SNR=5.5				
FINES	**FINESS Array B**	**77.93 334**	P	**P**	**11 01 57.4 +0.3**
	comp=Z,0.6nm,0.4s,mb3.9,baz=81,slow=4.0,SNR=7.6				
NVAR	**Mina Array Bea**	**79.69 52**	P	**P**	**11 02 08.1 +0.9**
	comp=Z,0.2nm,0.7s,mb3.2,baz=289,slow=4.5,SNR=4.6				
AKASG	**Malin Array Be**	**82.74 324**	P	**P**	**11 02 23.6 +0.4**
	comp=Z,0.3nm,0.4s,mb3.7,baz=54,slow=5.5,SNR=3.4				
TXAR	**Lajitas Array**	**94.77 54**	P	**P**	**11 03 22.7 +1.4**
TXAR	**Lajitas Array**	**94.77 54**	P	**P**	**11 03 22.7 +1.4**
	comp=Z,0.2nm,0.4s,mb3.9,baz=277,slow=1.0,SNR=6.9				

NIED ***15*** *11:22:00,4760N×15550E,h17km,Mw5.2 Best double couple: M0=7.60000×10^16 NP1:φ=235.00000°,δ=82.00000°, λ=-101.00000°. NP2:φ=111.00000°,δ=14.00000°, λ=-35.00000°.*

ISCJB ***15*** *11:22:14.9±0.9,4768N±003×15468E±002,h1km±5km, mb5.4/206,MS4.9/67,Error ellipse: s-maj=4.4km s-min=1.9km az=169.8*

BGS ***15*** *11:22:14.3±2.0,4713N×15590E,h10km±999km,mb5.5, MS4.6*

BJI ***15*** *11:22:16.7,4802N×15481E,h23km,mb5.2,mB5.0,Ms5.2, Msz5.1*

IDC ***15*** *11:22:16.7±0.4,4786N×15455E,h0km,mb4.9/29, mb1 5.0/31,mb1mx5.0/32,mbtmp5.0/31,ML4.2/2,MS4.8/22, Ms1 4.8/22,ms1mx4.6/28,Error ellipse: s-maj=14.7km s-min=9.9km az=150.0*

SKHL ***15*** *11:22:17.7±0.1,4762N×15488E,h44km±13km,mb5.8/7, mbh5.8/5,Ms5.2/6,msh5.6/5*

SZGRF ***15*** *11:22:18.5,4732N×15479E,h27km,mb5.6,MS5.0,Kuril Islands, Russia*

GCMT ***15*** *11:22:18.8±0.2,4767N×15478E,h15km,MW5.3/82, Moment Tensor Solution. s48,c70; s82,c137; Duration: 1±1 Moment tensor: Scale 10^17Nm; Mrr=0.02±.01; Mθθ=0.13±.01; Mφφ=-0.10±.01; Mrθ=0.37±.03; Mrφ=0.20±.01; Mθφ=0.94±.03; Best double couple: M0=1.03600×10^17 NP1:φ=106.00000°,δ=13.00000°,λ=-5.00000°. NP2: φ=201.00000°,δ=89.00000°,λ=-103.00000°. Principal axes: T 1.0540, Plg43.0000°, Azm303.0000°; N -0.0370, Plg13.0000°, Azm201.0000°; P -1.0180, Plg45.0000°, Azm99.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***15*** *11:22:18.8±0.2,4783N×15455E,h10km,mb5.3/94, MS5.1/10 Error ellipse: s-maj=5.1km s-min=3.4km az=160.0*

MOS ***15*** *11:22:20.8±1.1,4776N×15456E,h39km,mb5.5/87, MS4.9/34,Error ellipse: s-maj=6.5km s-min=3.9km az=98.4*

ORF ***15*** *11:22:20.1,4658N×15344E,h30km,mb5.6*

ISC 15 11:22:18.6±1.1,4779N±003×15460E±002,h10km±6km, h19km±1.8km:pP-P,n1086,σ0s82/1091,mb5.2/206, MS4.9/67,181C-163D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.06**	**18**	*e*PN	**Pn**	**11 23 06.4**	**-0.7**
SKR				*e*S	**Sn**	**11 23 43.0**	**-0.7**
SKR				pmax	pmax		
	comp=Z,3μm,1.0s						
SKR				pmax	pmax		
	comp=N,480nm,0.3s						
SKR				pmax	pmax		
	comp=E,570nm,0.6s						
SKR				pmax	pmax		
	comp=E,2μm,1.0s						
SKR				pmax	pmax		
	comp=Z,3μm,1.0s						
SKR				smax			
	comp=N,540nm,0.5s						
SKR				smax			
	comp=E,2μm,0.5s						
SKR				smax			
	comp=N,5μm,6.0s						
SKR				smax			
	comp=E,18μm,8.0s						
SKR				MLR	MLR		
	comp=N,10μm,12.0s						
SKR				MLR	MLR		
	comp=E,16μm,12.0s						
SKR				MLR	MLR		
	comp=Z,18μm,12.0s						
SKR	**Severo-Kuril's**	**3.06**	**18**	*e*P	**Pn**	**11 23 06.4**	**-0.7**
SKR				AMB	AMB	11 23 13.5	
	comp=Z,3μm,1.0s						
SKR				AMB	AMB	11 23 13.5	
	comp=Z,2μm,1.0s						
SKR				AMB	AMB	11 23 13.5	
	comp=Z,2μm,1.0s						
SKR				AMB	AMB	11 23 13.5	
	comp=Z,480nm,0.3s						
SKR				AMB	AMB	11 23 13.5	
	comp=Z,570nm,0.6s						
SKR				AMB	AMB	11 23 13.5	
	comp=Z,3μm,1.0s						
SKR				*e*S	**Sn**	**11 23 43.0**	**-0.7**
SKR				A		11 23 49.0	
	comp=Z,540nm,0.5s						
SKR				A		11 23 49.0	
	comp=Z,2μm,0.5s						
SKR				A		11 23 49.0	
	comp=Z,390nm,0.7s						
SKR				A		11 23 52.0	
	comp=Z,5μm,6.0s						
SKR				A		11 23 52.0	
	comp=Z,5μm,6.0s						
SKR				A		11 23 52.0	
	comp=Z,18μm,8.0s						
SKR				A		11 23 52.0	
	comp=Z,8μm,8.0s						
SKR				A		11 23 52.0	
	comp=Z,18μm,8.0s						
SKR				A		11 23 52.0	
	comp=Z,8μm,8.0s						
SKR				AMS	AMS	11 24 34.0	
	comp=Z,18μm,12.0s						
SKR				AMS	AMS	11 24 34.0	
	comp=Z,9μm,12.0s						
SKR				AMS	AMS	11 24 34.0	
	comp=Z,15μm,12.0s						
SKR				AMS	AMS	11 24 34.0	
	comp=Z,17μm,12.0s						
SKR				AMS	AMS	11 24 34.0	
	comp=Z,10μm,12.0s						
SKR				AMS	AMS	11 24 34.0	
	comp=Z,16μm,12.0s						
KUR	**Kuril'sk**	**5.30**	**244**	⇑*i*P	**Pn**	**11 23 36.5**	**-1.3**
KUR				AMB	AMB	11 23 39.1	
	comp=Z,1μm,1.0s						
KUR				AMB	AMB	11 23 39.1	
	comp=Z,2μm,1.0s						
KUR				AMB	AMB	11 23 39.1	
	comp=Z,7μm,1.0s						
KUR				AMB	AMB	11 23 39.6	
	comp=Z,2μm,1.0s						
KUR				AMB	AMB	11 23 39.6	
	comp=Z,8μm,1.0s						
KUR				*e*S	**Sn**	**11 24 35.5**	**-3.4**
KUR				A		11 24 47.6	
	comp=Z,19μm,4.0s						
KUR				A		11 24 47.6	
	comp=Z,15μm,4.0s						
KUR				A		11 24 50.5	
	comp=Z,3μm,0.9s						
KUR				A		11 24 50.5	
	comp=Z,5μm,0.9s						
KUR				AMS	AMS	11 25 39.0	
	comp=Z,24μm,14.0s						
KUR				AMS	AMS	11 25 39.0	
	comp=Z,11μm,14.0s						
KUR				AMS	AMS	11 25 39.0	
	comp=Z,13μm,14.0s						
PET	**Petropavlovsk**	**5.85**	**25**	*e*PN	**Pn**	**11 23 44.3**	**-1.0**
PET				pmax	pmax		
	comp=Z,343nm,1.2s						
PET				MLR	MLR		
	comp=Z,6μm,15.0s						
PET	**Petropavlovsk**	**5.85**	**25**	*e*Pn	**Pn**	**11 23 44.6**	**-0.6**
YUK	**Yuzh-Kuril'sk**	**7.16**	**242**	*e*PN	**Pn**	**11 24 05.0**	**+1.7**
YUK				*i* S	**Sn**	**11 25 28.4**	**+3.9**
YUK				pmax	pmax		
	comp=Z,400nm,0.5s						
YUK				pmax	pmax		
	comp=Z,4μm,3.5s						
YUK				pmax	pmax		
	comp=E,6μm,3.0s						
YUK				smax			
	comp=N,2μm,0.5s						
YUK				smax			
	comp=E,500nm,0.5s						
YUK				smax			
	comp=N,13μm,4.0s						
YUK				smax			
	comp=E,6μm,4.0s						
YUK				MLR	MLR		
	comp=E,19μm,14.0s						
YUK				MLR	MLR		
	comp=N,21μm,17.0s						
YUK				MLR	MLR		
	comp=Z,17μm,15.0s						
YUK	**Yuzh-Kuril'sk**	**7.16**	**242**	*e*P	**Pn**	**11 24 05.0**	**+1.7**
YUK				AMB	AMB	11 24 08.5	
	comp=Z,400nm,0.5s						
YUK				AMB	AMB	11 24 22.0	
	comp=Z,6μm,3.0s						
YUK				AMB	AMB	11 24 22.0	
	comp=Z,4μm,3.5s						
YUK				*i* S	**Sn**	**11 25 28.4**	**+3.9**
YUK				A		11 25 34.5	
	comp=Z,2μm,0.5s						
YUK				A		11 25 34.5	
	comp=Z,500nm,0.5s						
YUK				A		11 25 46.0	
	comp=Z,13μm,4.0s						
YUK				A		11 25 46.0	
	comp=Z,6μm,4.0s						
YUK				AMS	AMS	11 26 50.0	
	comp=Z,21μm,17.0s						
YUK				AMS	AMS	11 26 50.0	
	comp=Z,19μm,14.0s						
YUK				AMS	AMS	11 26 50.0	
	comp=Z,17μm,15.0s						
NEM2	**Nemuro 2**	**7.62**	**238**	P	**Pn**	**11 24 08.1**	**-1.6**
NEM2				*e*S	**Sn**	**11 25 30.7**	**-5.4**
JRA	**Rausu**	**7.65**	**243**	P	**Pn**	**11 24 11.7**	**+1.6**
YSS	**Yuzh-Sakhalins**	**8.08**	**268**	⇓*e*PN	**Pn**	**11 24 18.6**	**+2.6**
YSS				*e*		11 25 57.0	
YSS				pmax	pmax		
	comp=N,180nm,0.8s						
YSS				pmax	pmax		
	comp=E,290nm,0.8s						
YSS				pmax	pmax		
	comp=Z,290nm,0.8s						
YSS				MLR	MLR		
	comp=E,9μm,17.0s						
YSS				MLR	MLR		
	comp=Z,9μm,17.0s						
YSS	**Yuzh-Sakhalins**	**8.08**	**268**	*e*Pn	**Pn**	**11 24 19.4**	**+3.4**
YSS	**Yuzh-Sakhalins**	**8.08**	**268**	⇓*e*P	**Pn**	**11 24 18.6**	**+2.6**
YSS				AMB	AMB	11 24 21.2	
	comp=Z,290nm,0.8s						
YSS				AMB	AMB	11 24 21.2	
	comp=Z,180nm,0.8s						
YSS				AMB	AMB	11 24 21.2	
	comp=Z,290nm,0.8s						
YSS				*e*S	**Sn**	**11 25 46.6**	**-0.7**
YSS				A		11 25 52.2	
	comp=Z,210nm,0.8s						
YSS				A		11 25 52.2	
	comp=Z,290nm,0.8s						
YSS				*e*LQ		11 26 12.0	
YSS				*e*LR	LR	11 26 38.0	
YSS				AMS	AMS	11 27 04.0	
	comp=Z,9μm,17.0s						
YSS				AMS	AMS	11 27 04.0	
	comp=Z,9μm,17.0s						
JNK	**Nakash**	**8.09**	**242**	P	**Pn**	**11 24 16.9**	**+0.8**
JNK				*e*S	**Sn**	**11 25 46.3**	**-1.2**
JTKR	**Abashiri--Toko**	**8.38**	**247**	P	**Pn**	**11 24 21.9**	**+1.9**
TYV	**Tymovskoe**	**8.38**	**296**	*e*P	**Pn**	**11 24 23.2**	**+3.1**
TYV				AMB	AMB	11 24 30.0	
	comp=Z,500nm,4.0s						
TYV				AMB	AMB	11 24 30.0	
	comp=Z,1μm,8.0s						
TYV				AMB	AMB	11 24 30.0	
	comp=Z,1μm,8.0s						
TYV				AMB	AMB	11 24 40.2	
	comp=Z,55nm,0.8s						
TYV				AMB	AMB	11 24 40.2	
	comp=Z,72nm,0.8s						
TYV				AMB	AMB	11 24 40.2	
	comp=Z,154nm,0.8s						
TYV				A		11 25 59.0	
	comp=Z,90nm,0.8s						
TYV				A		11 25 59.0	
	comp=Z,37nm,0.8s						
TYV				AMS	AMS	11 28 04.0	
	comp=Z,12μm,15.0s						
TYV				AMS	AMS	11 28 04.0	
	comp=Z,16μm,15.0s						
TYV				AMS	AMS	11 28 04.0	
	comp=Z,11μm,14.0s						
UGL	**Uglegorsk**	**8.43**	**283**	*e*PN	**Pn**	**11 24 24.0**	**+3.2**
UGL				pmax	pmax		
	comp=Z,190nm,0.7s						
UGL				pmax	pmax		
	comp=Z,1μm,4.0s						
UGL				MLR	MLR		
	comp=Z,14μm,15.0s						
UGL				MLR	MLR		
	comp=N,10μm,14.0s						
UGL				MLR	MLR		
	comp=E,13μm,14.0s						
UGL	**Uglegorsk**	**8.43**	**283**	*e*P	**Pn**	**11 24 24.0**	**+3.2**
UGL				AMB	AMB	11 24 27.0	
	comp=E,190nm,0.7s						
UGL				AMB	AMB	11 24 28.0	
	comp=E,500nm,3.0s						
UGL				AMB	AMB	11 24 28.0	
	comp=E,800nm,4.0s						
UGL				AMB	AMB	11 24 28.0	
	comp=E,1μm,4.0s						
UGL				*e*L		11 26 23.0	
UGL				AMS	AMS	11 27 56.0	
	comp=E,14μm,15.0s						
UGL				AMS	AMS	11 27 56.0	
	comp=E,10μm,14.0s						
UGL				AMS	AMS	11 27 56.0	
	comp=E,13μm,14.0s						
JAK	**Akkeshi**	**8.45**	**239**	P	**Pn**	**11 24 19.7**	**-1.4**
JAK				*e*S	**Sn**	**11 25 51.1**	**-5.4**
JMP	**Maruseppu**	**8.70**	**248**	P	**Pn**	**11 24 26.4**	**+2.0**
JSE	**Soyaes**	**8.77**	**256**	P	**Pn**	**11 24 29.7**	**+4.2**
JAR	**Ashorobuto**	**8.82**	**243**	P	**Pn**	**11 24 26.8**	**+0.7**
JAR				*e*S	**Sn**	**11 26 05.0**	**-0.6**
JOB	**Onbets**	**9.01**	**241**	*e*S	**Sn**	**11 26 06.0**	**-4.2**
JWK2	**Keihoku**	**9.09**	**259**	P	**Pn**	**11 24 35.1**	**+5.3**
ASAJ	**Asahikawa**	**9.13**	**251**	PN	**Pn**	**11 24 33.8**	**+3.5**
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,9μm,18.1s						
ASAJ	**Asahikawa**	**9.13**	**251**	P	**Pn**	**11 24 33.7**	**+3.4**
ASAJ	**Asahikawa**	**9.13**	**251**	Pn	**Pn**	**11 24 33.8**	**+3.5**
	comp=Z,7.6nm,0.3s,baz=84,slow=12,SNR=168						
ASAJ				LR	LR	11 27 53.9	
	comp=Z,9μm,18.1s,baz=69,slow=37						
JKK2	**Kamakawa 2**	**9.15**	**249**	P	**Pn**	**11 24 33.2**	**+2.6**
OKH	**Okha**	**9.38**	**312**	*e*PN	**Pn**	**11 24 39.0**	**+5.3**
OKH				pmax	pmax		
	comp=Z,1μm,4.0s						
OKH	**Okha**	**9.38**	**312**	*e*P	**Pn**	**11 24 38.3**	**+4.6**
OKH				*e*P		11 24 39.0	
OKH				AMB	AMB	11 24 40.2	
	comp=Z,1μm,4.4s						
OKH				AMB	AMB	11 24 40.2	
	comp=Z,1μm,4.0s						
OKH				AMB	AMB	11 24 40.2	
	comp=Z,1μm,4.0s						
OKH				*e*S	**Sn**	**11 26 22.0**	**+2.9**
OKH				A		11 26 24.2	
	comp=Z,2μm,5.0s						
OKH				*e*LQ		11 27 14.2	
OKH				AMS	AMS	11 29 29.8	
	comp=Z,9μm,13.0s						
OKH				AMS	AMS	11 29 29.8	
	comp=Z,10μm,13.0s						
OKH				AMS	AMS	11 29 29.8	
	comp=Z,7μm,14.0s						
JCH	**Churui**	**9.46**	**241**	*e*S	**Sn**	**11 26 15.6**	**-5.7**
ERM	**Erimo**	**9.95**	**239**	Pn	**Pn**	**11 24 41.5**	**-0.1**
	comp=Z,678nm,0.4s,SNR=25						
ERM	**Erimo**	**9.95**	**239**	*d i*PN	**Pn**	**11 24 41.5**	**-0.1**
ERM	**Erimo**	**9.95**	**239**	*e*Pn	**Pn**	**11 24 41.7**	**+0.1**
	comp=Z,108nm,0.6s						
ERM				*e*Sn	**Sn**	**11 26 27.4**	**-5.9**
JBT2	**Biratori 2**	**9.97**	**244**	P	**Pn**	**11 24 41.6**	**-0.2**
JNBK	**Urakawa-nobuka**	**10.03**	**241**	P	**Pn**	**11 24 40.7**	**-1.9**
JNBK				*e*S	**Sn**	**11 26 28.9**	**-6.2**
NKL	**Nikolayevsk**	**10.36**	**306**	*e*P	**Pn**	**11 24 45.0**	**-2.1**
NKL				AMB	AMB	11 24 49.0	
	comp=Z,700nm,3.0s						
NKL				AMB	AMB	11 24 49.0	
	comp=Z,900nm,3.0s						
NKL				AMB	AMB	11 24 49.0	
	comp=Z,1μm,3.0s						
NKL				AMB	AMB	11 24 50.8	
	comp=Z,140nm,1.0s						
NKL				AMB	AMB	11 24 50.8	
	comp=Z,220nm,1.0s						
NKL				AMB	AMB	11 24 50.8	
	comp=Z,370nm,1.0s						
NKL				*e*L		11 27 54.0	
NKL				AMS	AMS	11 30 08.0	
	comp=Z,6μm,13.0s						
NKL				AMS	AMS	11 30 08.0	
	comp=Z,4μm,13.0s						
NKL				AMS	AMS	11 30 08.0	
	comp=Z,8μm,13.0s						
JEW	**Eniwo**	**10.49**	**247**	P	**Pn**	**11 24 50.6**	**+1.6**
JNB	**Noboribetsu**	**10.95**	**246**	P	**Pn**	**11 24 54.9**	**-0.4**
JNB				*e*S	**Sn**	**11 26 53.9**	**-3.9**
JKB	**Kayabe**	**11.29**	**243**	P	**Pn**	**11 24 57.8**	**-2.1**
JKB				*e*S	**Sn**	**11 26 58.4**	**-7.6**
JSH	**Shimam**	**11.47**	**249**	P	**Pn**	**11 25 04.1**	**+1.7**
JYM2	**Yakumo 2**	**11.56**	**246**	P	**Pn**	**11 25 03.2**	**-0.4**
JSR	**Shiriuchi**	**11.87**	**243**	P	**Pn**	**11 25 05.5**	**-2.3**
JTM	**Tenmabayashi**	**11.95**	**239**	P	**Pn**	**11 25 05.6**	**-3.3**
JTM				*e*S	**Sn**	**11 27 10.5**	**-12**
JANG	**Nango**	**11.96**	**237**	P	**Pn**	**11 25 04.9**	**-4.3**
JANG				*e*S	**Sn**	**11 27 10.2**	**-12**
MA2	**Magadan**	**12.02**	**351**	*e*PN	**Pn**	**11 25 10.3**	**+0.5**
MA2				pmax	pmax		
	comp=Z,200nm,1.0s						
MA2				MLR	MLR		
	comp=Z,8μm,13.1s						
MA2	**Magadan**	**12.02**	**351**	*e*Pn	**Pn**	**11 25 10.9**	**+1.1**
JTH	**Tanohata**	**12.07**	**234**	*e*S	**Sn**	**11 27 11.7**	**-14**
JOSM	**Okushiri--Mats**	**12.13**	**248**	P	**Pn**	**11 25 11.6**	**+0.2**
TEY	**Ternei**	**12.72**	**264**	*e*P	**Pn**	**11 25 24.0**	**+4.6**
TEY				AMB	AMB	11 25 34.0	
	comp=Z,2μm,10.0s						
TEY				*e*LR	LR	11 28 46.0	
TEY				AMS	AMS	11 30 28.0	
	comp=Z,3μm,14.0s						
TEY				AMS	AMS	11 30 28.0	
	comp=Z,3μm,15.0s						
TEY				AMS	AMS	11 30 28.0	
	comp=Z,6μm,15.0s						
OFUJ	**Ofunato**	**12.79**	**232**	*e*S	**Sn**	**11 27 30.0**	**-13**
HABR	**Khabarovsk**	**13.08**	**280**	⇑*i*PN	**Pn**	**11 25 29.1**	**+4.8**
HABR				*e*S	**Sn**	**11 27 59.4**	**+10**
HABR				pmax	pmax		
	comp=Z,149nm,1.2s						
JRG	**Rokugo**	**13.13**	**235**	*e*S	**Sn**	**11 27 40.5**	**-11**
JIO	**Ouri**	**13.42**	**231**	*e*S	**Sn**	**11 27 44.6**	**-14**
JYA	**Atsumi**	**14.20**	**235**	P	**Pn**	**11 25 36.9**	**-2.8**
JFK	**Kawauchi**	**14.49**	**229**	P	**Pn**	**11 25 39.4**	**-4.2**
JFY	**Yanaizu**	**15.07**	**232**	P	**Pn**	**11 25 48.5**	**-3.0**
KLR	**Kul'dur**	**15.20**	**284**	*e*P	**Pn**	**11 25 52.6**	**-0.6**
KLR				*e*S	**Sn**	**11 28 46.0**	**+4.5**
KLR				pmax	pmax		
	comp=E,100nm,1.8s						
KLR				pmax	pmax		
	comp=Z,130nm,1.8s						
KLR				pmax	pmax		
	comp=E,800nm,12.0s						
KLR				pmax	pmax		
	comp=Z,2μm,12.0s						
KLR				MLR	MLR		
	comp=Z,4μm,12.0s						
SEY	**Seymchan**	**15.23**	**356**	⇑*e*P	**Pn**	**11 25 53.5**	**0.0**
AMKA	**Amchitka**	**16.39**	**68**	*e*Pn	**Pn**	**11 26 12.0**	**+3.4**
MAJO	**Matsushiro**	**16.51**	**233**	*e*P	**Pn**	**11 26 07.4**	**-2.8**
MAJO				pmax	pmax		
	comp=Z,89nm,0.8s						
MAJO	**Matsushiro**	**16.51**	**233**	*e*P	**Pn**	**11 26 07.4**	**-2.9**
	comp=Z,89nm,0.8s						
MAT	**Matsushiro**	**16.51**	**233**	P	**Pn**	**11 26 07.3**	**-2.9**
MAT				S	**Sn**	**11 29 09.0**	**-4.4**
MJAR	**Matsushiro Arr**	**16.51**	**233**	Pn	**Pn**	**11 26 08.4**	**-1.8**
	comp=Z,1.2nm,0.3s,baz=28,slow=13,SNR=64						
MJAR				LR	LR	11 33 06.2	
	comp=Z,3μm,18.6s,baz=50,slow=39						
VLA	**Vladivostok**	**16.58**	**262**	*d i*P	**Pn**	**11 26 10.2**	**-0.8**
VLA				pmax	pmax		
	comp=Z,67nm,1.0s						
MDJ	**Mudanjiang**	**17.57**	**269**	P	**Pn**	**11 26 22.8**	**-0.7**
MDJ				AP	pP	11 26 25.4	-2.0
MDJ				S	**Sn**	**11 29 37.8**	**-1.3**
MDJ				PCP	PcP	11 31 02.3	-0.5
MDJ				AMB	AMB		
	comp=Z,36nm,0.9s						
MDJ				AMB	AMB		
	comp=Z,182nm,7.9s						
MDJ				LR	LR		
	comp=N,2μm,17.1s						
MDJ				LR	LR		
	comp=E,1μm,20.9s						
MDJ				LR	LR		
	comp=Z,3μm,18.9s						
MDJ	**Mudanjiang**	**17.57**	**269**	*e*P	**Pn**	**11 26 24.2**	**+0.7**
	comp=Z,43nm,0.9s						
ZEA	**Zeya**	**18.23**	**299**	*e*P	**Pn**	**11 26 30.0**	**-1.5**
ZEA				AMB	AMB	11 26 34.1	
	comp=Z,38nm,0.9s						
ZEA				AMB	AMB	11 26 38.0	
	comp=Z,1μm,9.0s						
ZEA				*e*S	**Sn**	**11 29 56.0**	**+1.3**
ZEA				A		11 30 10.0	
	comp=Z,900nm,9.0s						
JHJ	**Hachijo jima 2**	**18.44**	**223**	P	**Pn**	**11 26 35.2**	**+1.0**
	comp=Z,2.5nm,0.3s,baz=256,slow=9.1,SNR=4.9						
JHJ				LR	LR	11 32 10.3	
	comp=Z,530nm,20.3s,baz=133,slow=32						
YAK	**Yakutsk**	**20.03**	**325**	*e*P	**P**	**11 26 51.8**	**+0.5**
YAK				*e*		11 27 06.3	
YAK				*e*S	**S**	**11 30 34.2**	**-1.9**
YAK				*e*		11 31 09.1	
YAK				pmax	pmax		
	comp=Z,386nm,1.2s						
YAK				pmax	pmax		
	comp=N,167nm,1.3s						
YAK				pmax	pmax		
	comp=E,267nm,1.3s						
YAK				pmax	pmax		
	comp=N,358nm,4.2s						
YAK				pmax	pmax		
	comp=E,138nm,1.2s						
YAK				smax			
	comp=N,450nm,5.7s						
YAK				smax			
	comp=E,341nm,6.9s						
YAK				MLR	MLR		
	comp=N,2μm,12.0s,MS4.8						
YAK				MLR	MLR		
	comp=E,1μm,11.0s,MS4.8						
YAK				MLR	MLR		
	comp=Z,2μm,11.0s,MS4.7						
YAK	**Yakutsk**	**20.03**	**325**	*e*P	**P**	**11 26 51.5**	**+0.2**
CLNS	**Chul'man**	**20.15**	**308**	*e*P	**P**	**11 26 55.4**	**+2.7**
CLNS				*e*		11 27 08.1	

CLNS *e*PPP 11 27 19.1
CLNS *e* 11 31 04.2
CLNS *e*SS 11 31 22.2
CLNS *e* 11 38 18.6
CLNS pmax pmax
comp=Z,153nm,1.1s
CLNS pmax pmax
comp=N,152nm,0.9s
CLNS pmax pmax
comp=E,139nm,0.9s
CLNS MLR MLR
comp=Z,3μm,13.0s,MS4.9
CLNS MLR MLR
comp=N,1μm,10.0s,MS4.9
CLNS MLR MLR
comp=E,2μm,12.0s,MS4.9
NRGR Nerungri 20.19 307 *i* P **P 11 26 57.5 +4.3**
CN2 Changchun 20.65 270 ⇓P **P 11 26 56.4 -1.8**
CN2 *e*S **S 11 30 41.1 -7.7**
CN2 AMB AMB
comp=Z,40nm,0.9s
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,2μm,14.0s,MS4.9
CN2 LR LR
comp=E,3μm,14.0s,MS4.9
CN2 LR LR
comp=Z,4μm,13.0s,MS4.9
BILL Biiibino 21.16 12 ⇑*i*P **P 11 27 00.8 -2.7**
BILL *i* 11 27 20.1
BILL *e*S **S 11 30 56.0 -2.5**
BILL pmax pmax
comp=Z,36nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,2μm,16.0s,MS4.7
BILL Biiibino 21.16 12 *e*P **P 11 27 00.7 -2.8**
comp=Z,33nm,0.9s,mb4.7
KSRS Korea Array 22.08 252 P **P 11 27 14.2 +0.5**
comp=Z,113nm,1.0s,mb5.3,baz=55,slow=10,SNR=141
KSRS LR LR 11 34 32.6
comp=Z,2μm,20.1s,MS4.6,baz=63,slow=33
SNY Shenyang 22.70 266 ⇓P **P 11 27 19.6 -0.6**
SNY AMB AMB
comp=Z,25nm,0.7s,mb4.8
SNY AMB AMB
comp=Z,218nm,5.1s
SNY LR LR
comp=N,2μm,13.3s,MS5.0
SNY LR LR
comp=E,4μm,17.1s,MS5.0
SNY LR LR
comp=Z,4μm,19.8s,MS4.8
INCN Inchon 22.89 254 P **P 11 27 23.7 +1.4**
SNR=13
INCN Inchon 22.89 254 P **P 11 27 23.7 +1.4**
SNR=13
INCN Inchon 22.89 254 P **P 11 27 23.7 +1.4**
SNR=13
INCN Inchon 22.89 254 P **P 11 27 23.7 +1.4**
SNR=13
INCN Inchon 22.89 254 P **P 11 27 23.7 +1.4**
SNR=13
JNU Nakatsue 23.12 239 P **P 11 27 25.8 +1.1**
comp=Z,64nm,1.1s,mb5.0,baz=29,slow=15,SNR=17
JNU LR LR 11 36 41.4
comp=Z,1μm,18.2s,MS4.3,baz=46,slow=37
GAMB Gambell 24.39 37 *e*P **P 11 27 37.8 +1.2**
DL2 Dalian 25.41 262 P **P 11 27 47.5 +1.4**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,110nm,5.9s
DL2 LR LR
comp=N,940nm,13.6s,MS4.5
DL2 LR LR
comp=E,490nm,14.6s,MS4.5
DL2 LR LR
comp=Z,900nm,14.2s,MS4.4
BOD Bodaibo 26.13 308 *e*P **P 11 27 50.1 -2.4**
BOD *e* 11 28 08.1
BOD pmax pmax
comp=Z,18nm,1.0s,mb4.6
TIXI Tiksi 26.77 342 *e*P **P 11 27 55.5 -2.6**
TIXI pmax pmax
comp=Z,17nm,1.0s,mb4.5
TIXI MLR MLR
comp=Z,4μm,16.0s,MS5.1
BJI Beijing 28.50 269 P **P 11 28 12.8 -1.2**
BJI AP pP 11 28 16.8 -0.2
BJI AMB AMB
comp=Z,5.0nm,0.5s,mb4.5
BJI AMB AMB
comp=Z,162nm,3.8s
BJI LR LR
comp=N,3μm,16.2s,MS5.0
BJI LR LR
comp=E,2μm,19.8s,MS5.0
BJI LR LR
comp=Z,3μm,21.6s,MS4.8
BJT Baijiatuau 28.52 269 *e*P **P 11 28 16.2 +2.1**
BJT pmax pmax
comp=Z,15nm,0.8s
BJT Baijiatuau 28.52 269 *e*P **P 11 28 16.2 +2.0**
comp=Z,15nm,0.8s,mb4.8
JOW Kunigami 29.35 234 P **P 11 28 22.4 +0.7**
comp=Z,12nm,0.7s,mb4.7,baz=16,slow=12,SNR=6.1
SSE Sheshan 30.41 249 ⇑P **P 11 28 32.6 +1.6**
SSE XP sP 11 28 38.0 +2.7
SSE S **S 11 33 31.3 -0.3**
SSE AMB AMB
comp=Z,62nm,0.7s,mb5.5
SSE AMB AMB
comp=Z,79nm,5.5s
SSE LR LR
comp=N,1μm,22.0s,MS4.5
SSE LR LR
comp=E,492nm,22.0s,MS4.5
SSE LR LR
comp=Z,1μm,20.2s,MS4.5
TTA Tatalina 30.97 42 *e*P **P 11 28 35.2 -0.4**
TTA 11 28 47.6
TTA Tatalina 30.97 42 *e*P **P 11 28 35.6 +0.1**
comp=Z,40nm,1.3s,mb5.1
SVW2 Sparrevohn 31.04 46 *e*P **P 11 28 36.9 +0.7**
HHC Hu-ho-hao-te 31.23 273 ⇓*i*P **P 11 28 38.3 +0.2**
HHC AP pP 11 28 42.8 +1.6
HHC XP sP 11 28 45.3 +2.9
HHC PP PP 11 29 40.3 -8.2
HHC PCP PcP 11 31 34.0 +1.5
HHC AMB AMB
comp=Z,77nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,284nm,5.2s
HHC LR LR
comp=N,3μm,14.1s,MS5.2
HHC LR LR
comp=E,3μm,15.9s,MS5.2
HHC LR LR
comp=Z,4μm,15.7s,MS5.2
NJ2 Nanjing 31.27 253 *e*P **P 11 28 39.4 +0.9**
NJ2 AP pP 11 28 43.3 +1.7
NJ2 XP sP 11 28 46.8 +4.0
NJ2 PP PP 11 29 41.1 -7.9
NJ2 AMB AMB
comp=Z,40nm,1.0s,mb5.2
NJ2 AMB AMB
comp=Z,230nm,7.4s
NJ2 LR LR
comp=N,7μm,18.2s,MS5.5
NJ2 LR LR
comp=E,5μm,15.2s,MS5.5
NJ2 LR LR
comp=Z,5μm,14.7s,MS5.3
ULN Ulaanbaatar 31.52 288 *e*P **P 11 28 40.4 -0.2**
ULN pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
ULN Ulaanbaatar 31.52 288 *e*P **P 11 28 40.4 -0.2**
comp=Z,4.8nm,0.9s,mb4.3
SONM Songino Array 31.95 288 P **P 11 28 43.4 -1.0**
SONM 11 31 35.0
SONM Songino Array 31.95 288 P **P 11 28 43.4 -1.0**
comp=Z,3.8nm,0.9s,mb4.2,baz=64,slow=8.0,SNR=22
SONM PcP PcP 11 31 35.0 +0.8
comp=Z,3.5nm,0.8s,baz=99,slow=2.1,SNR=7.2
SONM LR LR 11 42 40.0
comp=Z,3μm,19.8s,MS5.0,baz=77,slow=38
IMA2 Indian Mountai 32.37 37 *e*P **P 11 28 47.9 +0.1**
TLY Talaya 32.61 296 *e*P **P 11 28 50.0 -0.1**
TLY *e* 11 30 06.6
TLY *e*SS SS 11 35 57.6 -28
TLY pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
TLY MLR MLR
comp=Z,4μm,16.0s,MS5.2
KDAK Kodiak Island 32.67 52 P **P 11 28 50.0 -0.5**
comp=Z,341nm,0.9s,mb6.3,SNR=5.4
KDAK Kodiak Island 32.67 52 P **P 11 28 49.8 -0.7**
comp=Z,40nm,0.8s,mb5.4,baz=292,slow=1.4,SNR=14
KDAK LR LR 11 41 42.1
comp=Z,2μm,21.9s,MS4.7,baz=257,slow=36
ZAK Zakamensk 33.17 294 ⇑*i*P **P 11 28 53.9 -1.1**
ZAK *e* 11 30 13.5
ZAK pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
PMR Palmer 34.15 45 *e*P **P 11 29 05.0 +1.6**
PMR pmax pmax
comp=Z,30nm,1.1s,mb5.1
PMR Palmer 34.15 45 *e*P **P 11 29 03.6 +0.2**
comp=Z,28nm,1.3s,mb5.0
MOY Mondy 34.22 297 *e*P **P 11 29 01.5 -2.6**
SML Sawmill 34.52 45 *e*P **P 11 29 06.2 -0.4**
COLA College 34.70 39 *d i*P **P 11 29 07.8 -0.3**
COLA College 34.70 39 *e*P **P 11 29 08.0 -0.1**
comp=Z,56nm,1.0s,mb5.5
YHNB Yeheng 34.94 240 *e*P **P 11 29 13.2 +2.6**
GUMO Guam 35.05 197 LR LR 11 42 32.5
comp=Z,325nm,18.2s,MS4.1,baz=237,slow=35
WHN Wuhan 35.17 255 ⇓P **P 11 29 13.0 +0.4**
WHN S **S 11 34 45.4 -0.2**
WHN AMB AMB
comp=Z,107nm,0.8s,mb5.8
WHN LR LR
comp=N,4μm,16.2s,MS5.3
WHN LR LR
comp=E,3μm,18.4s,MS5.3
WHN LR LR
comp=Z,3μm,13.6s,MS5.2
QZH Quanzhou 36.40 244 ⇓*i*P **P 11 29 25.3 +2.2**
QZH S **S 11 35 08.0 +3.5**
QZH AMB AMB
comp=Z,60nm,0.6s,mb5.7
QZH LR LR
comp=N,580nm,13.5s,MS4.9
QZH LR LR
comp=E,1μm,12.8s,MS4.9
QZH LR LR
comp=Z,1μm,15.4s,MS4.7
XAN Xi'an 36.61 265 P **P 11 29 24.3 -0.6**
XAN AP pP 11 29 31.8 +3.8
XAN AMB AMB
comp=Z,28nm,1.0s,mb5.0
XAN AMB AMB
comp=Z,119nm,7.6s
XAN LR LR
comp=N,2μm,13.9s,MS5.1
XAN LR LR
comp=E,2μm,14.4s,MS5.1
XAN LR LR
comp=Z,2μm,14.6s,MS5.1
DAWY Dawson 38.40 40 *e*P **P 11 29 39.8 +0.1**
LZH Lanzhou 38.87 272 *e*P **P 11 29 44.6 +0.7**
LZH AP pP 11 29 50.3 +3.3
LZH XP sP 11 29 52.0 +3.7
LZH PP PP 11 31 15.1 +2.3
LZH PCP PcP 11 31 49.3 -5.5
LZH AMB AMB
comp=Z,77nm,1.1s,mb5.3
LZH AMB AMB
comp=Z,103nm,5.6s
LZH LR LR
comp=N,2μm,16.2s
LZH LR LR
comp=Z,2μm,17.1s,MS5.0
GTA Gaotai 39.81 279 *e*P **P 11 29 51.8 0.0**
GTA AP pP 11 29 55.8 +0.9
GTA XP sP 11 29 59.5 +3.4
GTA PP PP 11 31 27.0 +4.0
GTA PCP PcP 11 31 58.8 +1.1
GTA AMB AMB
comp=Z,19nm,1.0s,mb4.8
GTA AMB AMB
comp=Z,205nm,7.3s
GTA LR LR
comp=N,2μm,15.3s,MS5.3
GTA LR LR
comp=E,2μm,14.9s,MS5.3
GTA LR LR
comp=Z,4μm,16.0s,MS5.3
INK Inuvik 40.23 33 *e*P **P 11 29 55.5 +0.5**
comp=Z,765nm,0.9s,mb6.4
GZH Guangzhou 40.99 248 P **P 11 29 57.9 -3.8**
GZH S **S 11 36 05.8 -8.0**
GZH LR LR
comp=N,1μm,15.4s,MS5.0
GZH LR LR
comp=E,988nm,16.0s,MS5.0
GZH LR LR
comp=Z,2μm,15.7s,MS5.0
CD2 Chengdu 41.97 265 ⇑*i*P **P 11 30 09.8 +0.1**
CD2 AP pP 11 30 14.3 +1.5
CD2 XP sP 11 30 17.8 +3.8
CD2 PP PP 11 31 49.9 +3.2
CD2 PCP PcP 11 32 06.5 +1.6
CD2 AMB AMB
comp=Z,180nm,0.9s,mb5.7
CD2 AMB AMB
comp=Z,240nm,9.6s
CD2 LR LR
comp=N,1μm,15.6s,MS5.2
CD2 LR LR
comp=E,2μm,14.4s,MS5.2
CD2 LR LR
comp=Z,2μm,14.4s,MS5.2
ZALV Zalesovo Beam 42.83 305 P **P 11 30 14.9 -1.4**
comp=Z,5.2nm,0.5s,mb4.6,baz=65,slow=6.7,SNR=29
ZALV PcP PcP 11 32 08.2 +0.9
comp=Z,12nm,0.8s,baz=48,slow=2.2,SNR=9.7
ZALV LR LR 11 49 22.8
comp=Z,1μm,18.1s,MS4.9,baz=71,slow=38
ZAL Zalesovo 42.84 305 P **P 11 30 14.9 -1.6**
ZAL 11 32 08.2
GYA Guiyang 42.92 258 ⇑*i*P **P 11 30 17.8 +0.3**
GYA AP pP 11 30 22.3 +1.7
GYA XP sP 11 30 24.8 +3.0
GYA PP PP 11 32 01.4 +4.4
GYA PCP PcP 11 32 10.5 +2.4
GYA AMB AMB
comp=Z,100nm,1.1s,mb5.5
GYA AMB AMB
comp=Z,200nm,6.0s
GYA LR LR
comp=N,860nm,18.6s,MS4.8
GYA LR LR
comp=E,740nm,17.5s,MS4.8
GYA LR LR
comp=Z,840nm,18.8s,MS4.7
NVS Novosibirsk 43.36 307 *e*P **P 11 30 19.2 -1.5**
NVS *e* 11 30 36.9
NVS *e* 11 32 07.8
NVS *e*S **S 11 36 49.2 +1.0**
NVS pmax pmax
comp=Z,12nm,1.0s,mb4.6
NVS pmax pmax
comp=E,5.0nm,0.8s
NVS smax
comp=E,23nm,2.1s
DLBC Dease Lake 44.15 47 *e*P **P 11 30 28.8 +1.9**
WMQ Urumqi 45.49 291 P **P 11 30 39.0 +1.1**
WMQ XP sP 11 30 46.0 +3.8
WMQ PP PP 11 32 26.0 +1.9
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,73nm,5.0s
WMQ LR LR
comp=N,2μm,15.0s,MS5.2
WMQ LR LR
comp=E,1μm,15.0s,MS5.2
WMQ LR LR
comp=Z,2μm,15.0s,MS5.2
QIZ Qiongzhong 46.18 247 ⇓P **P 11 30 44.3 +0.7**
QIZ AMB AMB
comp=Z,27nm,1.1s,mb5.1
QIZ AMB AMB
comp=Z,110nm,7.5s
QIZ LR LR
comp=N,536nm,18.1s,MS4.8
QIZ LR LR
comp=E,819nm,19.5s,MS4.8
QIZ LR LR
comp=Z,1μm,16.0s,MS5.0
QIZ Qiongzhong 46.18 247 *e*P **P 11 30 45.6 +2.1**
comp=Z,15nm,0.9s,mb4.9
KMI Kunming 46.42 260 P **P 11 30 46.3 +0.9**
KMI AP pP 11 30 56.3 +7.8
KMI XP sP 11 31 01.4 +12
KMI PP PP 11 32 34.8 +0.5
KMI AMB AMB
comp=Z,47nm,1.1s,mb5.3
KMI AMB AMB
comp=Z,160nm,4.0s
KMI LR LR
comp=N,2μm,17.1s,MS5.2
KMI LR LR
comp=E,1μm,17.7s,MS5.2
KMI LR LR
comp=Z,795nm,20.5s,MS4.7
MK31 Makanchi Array 47.36 297 *i* P **P 11 30 51.2 -1.3**
MK31 pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
MKAR Makanchi Array 47.36 297 P **P 11 30 51.0 -1.5**
comp=Z,20nm,0.9s,mb5.0,baz=61,slow=7.5,SNR=60
MKAR LR LR 11 52 17.4
comp=Z,2μm,19.5s,MS5.1,baz=56,slow=38
KURK Kurchatov 47.63 303 P **P 11 30 53.0 -1.5**
comp=Z,234nm,0.9s,mb6.2,SNR=12
KURK Kurchatov 47.63 303 ⇑*e*P **P 11 30 53.7 -0.8**
BBB Bella Bella 47.69 54 P **P 11 30 54.0 -1.0**
BBB Bella Bella 47.69 54 P **P 11 30 54.0 -1.0**
comp=Z,23nm,1.2s,mb5.1,baz=267,slow=6.8,SNR=3.2
ALE Alert 48.61 6 P **P 11 31 01.6 -0.1**
comp=Z,200nm,0.8s,mb6.2,SNR=9.3
YKA Yellowknife Ar 49.49 38 P **P 11 31 08.3 -0.3**
comp=Z,6.3nm,0.8s,mb4.7,baz=292,slow=7.1,SNR=43
YKA PcP PcP 11 32 29.8 -0.7
comp=Z,0.8nm,0.4s,baz=305,slow=3.6,SNR=5.7
RES Resolute Bay 49.53 19 *e*P **P 11 31 09.1 +0.3**
comp=Z,764nm,0.9s,mb6.7
BVAR Borovoye Array 50.98 309 P **P 11 31 18.1 -2.0**
comp=Z,9.3nm,0.5s,mb5.0,baz=56,slow=8.0,SNR=8.5
BVAR PcP PcP 11 32 36.7 +0.5
comp=Z,9.7nm,0.8s,baz=65,slow=3.9,SNR=6.2
BRVK Borovoye 51.02 309 *e*P **P 11 31 19.2 -1.2**
LSA Lhasa 51.22 273 P **P 11 31 24.0 +1.8**
LSA AMB AMB
comp=Z,20nm,1.0s,mb5.0
LSA AMB AMB
comp=Z,310nm,3.0s
LSA LR LR
comp=N,490nm,20.0s,MS5.0
LSA LR LR
comp=E,1μm,19.0s,MS5.0
LSA LR LR
comp=Z,2μm,20.0s,MS5.1
LSA Lhasa 51.22 273 *e*P **P 11 31 24.5 +2.3**
LSA pmax pmax
comp=Z,27nm,0.7s,mb5.3
LSA Lhasa 51.22 273 *e*P **P 11 31 24.5 +2.2**
comp=Z,27nm,0.7s,mb5.3
C03A Quillayute Air 51.77 58 ⇑P **P 11 31 26.4 +0.3**
baz=52
CHRT Chiangrai 52.03 257 ⇑P **P 11 31 29.5 +1.1**
comp=Z,155nm,1.0s,mb5.9
NANT Nan 52.20 256 ⇓P **P 11 31 30.9 +1.3**
comp=Z,200nm,0.8s,mb6.1
B04A Port Angeles 52.31 57 ⇑P **P 11 31 30.5 +0.4**
baz=52,SNR=5.1
A04A Legoe Bay, Lum 52.41 56 ⇑P **P 11 31 31.3 +0.5**
baz=52
NLWA Neilton Lookou 52.47 58 ⇓P **P 11 31 31.5 +0.2**
baz=52,SNR=12
IMP Imphal 52.55 267 *e*P **P 11 31 32.0 -0.1**
A05A Maple Falls 52.60 55 ⇑P **P 11 31 32.2 -0.1**
baz=52
KKTK Khon Kaen 52.62 252 P **P 11 31 34.0 +1.2**
comp=Z,741nm,0.5s
C04A Brinnon 52.80 57 ⇑P **P 11 31 34.4 +0.7**
baz=53
MBW Mount Baker 52.82 56 P **P 11 31 33.6 -0.3**
CMW Cultus Mountai 52.90 56 P **P 11 31 34.5 +0.1**
GNW Green Mountain 52.97 57 *e*P **P 11 31 35.5 +0.6**
B05A Bryant 53.00 56 ⇓P **P 11 31 35.8 +0.6**
baz=53,SNR=8.7
E03A Lebam 53.10 59 ⇓P **P 11 31 36.9 +0.9**
baz=53
JCW Jim Creek 53.13 56 P **P 11 31 37.8 +1.6**
B06A Marblemount 53.20 56 ⇑P **P 11 31 36.9 +0.3**
baz=53
CHG Chiang Mai 53.34 257 ⇑P **P 11 31 38.1 +0.1**
comp=Z,60nm,0.9s,mb5.5
CHTO Chiang Mai 53.34 257 *e*P **P 11 31 38.5 +0.5**
CHTO Chiang Mai 53.34 257 P **P 11 31 39.5 +1.5**
SNR=14
CHTO Chiang Mai 53.34 257 P **P 11 31 39.5 +1.5**
SNR=14
CHTO Chiang Mai 53.34 257 P **P 11 31 39.5 +1.5**
SNR=14
CHTO Chiang Mai 53.34 257 P **P 11 31 39.5 +1.5**
SNR=14
CHTO Chiang Mai 53.34 257 P **P 11 31 39.5 +1.5**
SNR=14
SHL Shillong 53.40 269 *i* P **P 11 31 39.0 +0.5**
ULHL Ulahol 53.44 295 P **P 11 31 38.0 -0.5**
SNR=15
TKM2 Tokmak 2 53.45 296 *e*P **P 11 31 38.2 -0.4**
TKM2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
TKM2 Tokmak 2 53.45 296 *e*P **P 11 31 38.2 -0.4**
comp=Z,16nm,0.9s,mb5.0
TKM2 Tokmak 2 53.45 296 P **P 11 31 37.4 -1.2**
SNR=9.1
A07A Ashnola River, 53.52 55 P **P 11 31 38.9 -0.1**
baz=53,SNR=16
C05A Tolt Reservoir 53.54 57 ⇓P **P 11 31 39.4 +0.3**
baz=53
E04A Onalaska 53.56 58 ⇑P **P 11 31 39.7 +0.3**
baz=53
D05A Enumclaw 53.65 57 ⇑P **P 11 31 40.8 +0.8**
baz=53
SVE Sverdlovsk 53.76 317 *e*P **P 11 31 39.7 -0.9**
SVE pmax pmax
comp=Z,32nm,1.0s,mb5.2
USP Ospenovka 53.91 297 P **P 11 31 41.8 -0.2**
SNR=14
FMW Mount Fremont 53.97 57 P **P 11 31 44.9 +2.5**
B07A Winthrop 53.99 55 P **P 11 31 42.2 -0.2**
baz=54,SNR=7.4
F04A Amboy 54.10 59 ⇓P **P 11 31 43.8 +0.4**
baz=54
E05A Randle 54.13 58 ⇓P **P 11 31 43.7 +0.2**
baz=54
KZA Kyzart 54.14 295 P **P 11 31 44.2 +0.5**
SNR=14
A08A Turner Farm, O 54.18 54 ⇑P **P 11 31 43.7 -0.1**
baz=54,SNR=24
AAK Ala-Archa 54.28 296 P **P 11 31 43.5 -1.2**
comp=Z,76nm,0.8s,mb5.7,SNR=7.5
AAK Ala-Archa 54.28 296 P **P 11 31 44.9 +0.2**
SNR=9.7
D06A Cle Elum 54.29 57 ⇓P **P 11 31 44.8 +0.1**
baz=54
ETW Entiat 54.35 56 P **P 11 31 45.1 0.0**
I02A Mapleton 54.38 61 ⇑P **P 11 31 45.6 +0.2**
baz=54
C07A Waterville 54.45 56 ⇓P **P 11 31 45.9 0.0**
baz=54,SNR=7.1
B08A Colville Reser 54.48 55 P **P 11 31 45.5 -0.5**
baz=54,SNR=21
UCH Uchtor 54.50 296 *e*P **P 11 31 46.7 +0.4**
comp=Z,6.9nm,0.9s,mb4.7
WTV Waterville 54.51 56 P **P 11 31 47.8 +1.5**
A09A Danville 54.54 54 P **P 11 31 46.4 -0.1**
baz=54,SNR=32
E06A Yakima 54.58 57 ⇑P **P 11 31 46.6 -0.2**
baz=54
EKS2 Erkin-Say 54.69 297 *e*P **P 11 31 47.2 -0.5**
comp=Z,13nm,0.9s,mb5.0
EKS2 Erkin-Say 54.69 297 P **P 11 31 48.0 +0.4**

SNR=11
I03A Eugene 54.72 61 ⇓P P 11 31 48.0 +0.1
baz=54
D07A Quincy 54.78 56 ⇓P P 11 31 48.8 +0.5
baz=54
J02A Umpqua 54.89 62 ⇑P P 11 31 49.2 +0.1
baz=55,SNR=9.3
EPH Ephrata 54.90 56 P P 11 31 49.2 +0.1
ARU Arti 54.93 318 P P 11 31 48.9 -0.3
comp=Z,306nm,0.8s,mb6.4,SNR=15
ARU Arti 54.93 318c *i*P **P 11 31 47.8 -1.4**
ARU *e* 11 32 48.5
ARU *e* 11 33 49.9
ARU *e*S **S 11 39 31.0 +0.6**
ARU *e*SS SS 11 43 05.4 -7.7
ARU pmax pmax
comp=Z,52nm,1.0s,mb5.5
ARU MLR MLR
comp=Z,1μm,15.0s,MS5.2
H04A Detroit Lake 54.95 60 ⇓P P 11 31 50.1 +0.6
baz=55,SNR=8.5
C08A Higginbotham F 54.96 55 ⇓P P 11 31 49.7 +0.1
baz=55,SNR=8.1
AML Almayashu 55.05 296 *e*P **P 11 31 51.0 +0.8**
comp=Z,16nm,0.9s,mb5.0
AML Almayashu 55.05 296 P **P 11 31 50.8 +0.6**
SNR=7.6
B09A Rice 55.09 54 ⇑P P 11 31 50.3 -0.1
baz=55,SNR=7.6
A10A Northport 55.10 53 ⇑P P 11 31 50.7 +0.2
baz=55
G05A Wamic 55.13 59 ⇑P P 11 31 51.6 +0.8
baz=55
KSH Kashi 55.19 293 *e*P **P 11 31 51.0 -0.3**
KSH *e*AP pP 11 31 55.1 +0.6
KSH *e*XP sP 11 31 58.3 +2.6
KSH *e*PCP PcP 11 32 53.3 +1.0
KSH *e*PP PP 11 33 55.3 +0.9
KSH *e*SCP ScP 11 36 49.3 -1.6
KSH *e*PCS PcS 11 36 51.6 -0.6
KSH *e*S **S 11 39 29.1 -5.3**
KSH *e*SCS ScS 11 41 36.0 -4.5
KSH *e*SS SS 11 43 12.3 -5.7
KSH LR LR
comp=N,6μm,15.0s,MS6.0
KSH LR LR
comp=E,7μm,17.2s,MS6.0
KSH LR LR
comp=Z,7μm,17.4s,MS5.8
MDW Midway 55.23 57 P P 11 31 52.5 +1.0
J03A Ideyld Park 55.25 62 ⇓P P 11 31 53.1 +1.4
baz=55,SNR=8.3
K02A Glendale 55.29 62 ⇓P P 11 31 53.1 +1.1
baz=55
IRO Indian Ridge 55.30 61 P P 11 31 54.7 +2.6
I04A Tendick Farm, 55.33 61 ⇑P P 11 31 53.3 +1.0
baz=55,SNR=12
OD2 Odessa Site #2 55.38 56 P P 11 31 54.0 +1.4
C09A Chrisman Ranch 55.38 55 P P 11 31 52.7 +0.1
baz=55,SNR=7.0
D08A Wollman Farm, 55.45 56 ⇑P P 11 31 53.5 +0.4
baz=55
H05A Madras 55.53 59 ⇓P P 11 31 54.0 +0.3
baz=55,SNR=6.0
F07A Phinny Hill Vi 55.55 58 ⇓P P 11 31 54.0 +0.2
baz=55
L02A Cave Junction 55.58 63 ⇓P P 11 31 54.6 +0.5
baz=55,SNR=6.9
E08A Dider Farm, El 55.70 57 ⇓P P 11 31 55.0 +0.1
baz=56
HUMO Hull Mountain 55.70 62 ⇓P P 11 31 55.1 +0.1
baz=56,SNR=9.3
BBOR Butler Butte 55.70 62 P P 11 31 57.5 +2.5
NEW Newport 55.74 54 *e*P **P 11 31 54.8 -0.4**
NEW Newport 55.74 54 P P 11 31 55.4 +0.2
comp=Z,7.4nm,0.8s,mb4.8,baz=302,slow=8.4,SNR=10
A11A Hall Mountain, 55.75 53 ⇑P P 11 31 55.2 -0.1
baz=56,SNR=8.5
D09A Jones Farm, Ri 55.79 56 ⇑P P 11 31 55.0 -0.5
baz=56,SNR=6.2
I05A Bend 55.79 60 ⇓P P 11 31 55.0 -0.5
baz=56
KTRM Thompson Ridge 55.86 63 P P 11 31 58.8 +2.7
C10A Spilker Farm, 55.90 54 ⇓P P 11 31 56.2 -0.1
baz=56
H06A Lindquist Farm 56.00 59 P P 11 31 57.2 +0.2
baz=56,SNR=13
B11A Sandpoint 56.05 53 P P 11 31 57.5 +0.1
baz=56,SNR=10
G07A Ruggs Ranch, H 56.07 58 ⇓P P 11 31 57.7 +0.2
baz=56
JCC Jacoby Creek 56.11 65 ⇓P P 11 31 58.6 +0.7
baz=56
E09A Wood Farm, Sta 56.20 56 P P 11 31 58.9 +0.4
baz=56,SNR=7.2
KHMM Horse Mountain 56.26 64 *e*P **P 11 32 01.9 +2.9**
F08A Pendleton 56.26 57 ⇑P P 11 31 59.6 +0.6
baz=56
J05A Fort Rock 56.33 61 ⇑P P 11 31 59.9 +0.5
baz=56,SNR=35
D10A Wagner Farm, O 56.37 55 ⇓P P 11 32 00.0 +0.4
baz=56,SNR=14
YBH Yreka Blue Hor 56.37 63 P P 11 32 00.0 +0.3
YBH pmax pmax
comp=Z,22nm,1.0s
YBH Yreka Blue Hor 56.37 63 P P 11 31 60.0 +0.2
comp=Z,22nm,1.0s,mb5.1,baz=339,slow=1.6,SNR=24
YBH Yreka Blue Hor 56.37 63 ⇑P P 11 32 00.3 +0.5
baz=56,SNR=17
KK31 Karatay Array 56.38 299 *i*P **P 11 31 57.9 -1.9**
K04A Chilquin 56.43 62 ⇓P P 11 32 00.8 +0.6
baz=56
G08A Pilot Rock 56.46 58 P P 11 32 01.1 +0.7
baz=56,SNR=8.5
M02C Callahan 56.48 63 ⇑P P 11 32 01.2 +0.7
baz=56,SNR=8.9
H07A Lands Inn, Kim 56.52 59 ⇓P P 11 32 01.5 +0.7
baz=56
I06A Prineville 56.53 60 ⇓P P 11 32 00.7 -0.2
baz=56,SNR=20
N02C Big Bar 56.55 64 ⇓P P 11 32 01.0 -0.1
baz=56
L04A Klamath Falls 56.59 62 ⇓P P 11 32 01.9 +0.5
baz=56
KEV Kevo 56.70 341 *e*p **P 11 32 00.7 -1.0**
comp=Z,14nm,0.8s,mb5.0
KEV Kevo 56.70 341 *e*P **P 11 32 00.7 -1.0**
KEV pmax pmax
comp=Z,14nm,0.8s,mb5.0
APA Apatity 56.78 337 *e*P **P 11 32 00.0 -2.3**
APA pmax pmax
comp=Z,29nm,1.2s,mb5.2
E10A Myers Farm, Un 56.79 56 P P 11 32 02.5 -0.2
baz=56,SNR=12
F09A S2 Ranch, Elgi 56.81 57 ⇑P P 11 32 02.6 -0.2
baz=57
A13A Flathead Natio 56.81 52 ⇑P P 11 32 02.5 -0.3
baz=56,SNR=8.2
K05A Summer Lake 56.86 61 ⇓P P 11 32 03.6 +0.4
baz=57,SNR=26
M04C Macdoel 56.86 63 ⇑P P 11 32 03.3 0.0
baz=57,SNR=12
I07A Izee 56.86 59 ⇑P P 11 32 03.0 -0.2
baz=57,SNR=17
D11A Klaveano Farm, 56.89 55 ⇓P P 11 32 03.1 -0.3
baz=57,SNR=21
J06A Christmas Vall 56.98 60 ⇓P P 11 32 04.2 +0.1
baz=57,SNR=30
M03C McCloud 57.00 63 ⇓P P 11 32 04.6 +0.4
baz=57
WALA Waterton Lakes 57.00 52 *e*P **P 11 32 04.1 -0.1**
comp=Z,21nm,0.9s,mb5.2
F10A Beach Ranch, E 57.03 56 ⇑P P 11 32 04.7 +0.3
baz=57,SNR=7.0
H08A Prairie City 57.08 58 ⇓P P 11 32 04.6 -0.2
baz=57,SNR=21
B13A Whitefish 57.12 53 ⇑P P 11 32 04.6 -0.3
baz=57,SNR=40
WDC Whiskeytown Da 57.16 64 *e*P **P 11 32 06.6 +1.2**
WDC Whiskeytown Da 57.16 64 ⇑P P 11 32 05.9 +0.6
baz=57,SNR=9.8
K06A Valley Falls 57.19 61 ⇑P P 11 32 05.9 +0.4
baz=57,SNR=11
ARCES ARCESS Array B 57.20 341 P P 11 32 04.0 -1.3
ARCES LR LR 12 00 34.3
ARCES ARCESS Array B 57.20 341 P P 11 32 04.0 -1.3
comp=Z,14nm,0.9s,mb5.0,baz=34,slow=6.8,SNR=15
ARCES LR LR 12 00 34.3
comp=Z,2μm,20.3s,MS5.1,baz=32,slow=40
ARE0 ARCESS Array S 57.20 341 *e*P **P 11 32 05.9 +0.7**
O02C Red Bluff 57.26 65 ⇑P P 11 32 06.7 +0.7
baz=57,SNR=7.4
L05A Lakeview 57.30 62 P P 11 32 07.4 +1.1
baz=57,SNR=23
P01C Double 8 Ranch 57.35 66 ⇑P P 11 32 07.1 +0.3
baz=57
E11A Bogner Ranch, 57.37 55 ⇓P P 11 32 06.4 -0.4
baz=57,SNR=15
J07A Hines 57.40 60 ⇓P P 11 32 07.1 +0.1
baz=57,SNR=25
D12A Red Ives Fores 57.43 54 ⇓P P 11 32 07.1 0.0
baz=57
C13A Hot Springs 57.47 53 P P 11 32 07.5 0.0
baz=57,SNR=16
G10A Bishop Farm, J 57.50 57 ⇑P P 11 32 07.2 -0.5
baz=57,SNR=52
I08A Drewsey 57.51 59 ⇓P P 11 32 08.0 +0.2
baz=57,SNR=26
M05C Lookout 57.53 63 ⇑P P 11 32 07.8 -0.2
baz=57,SNR=18
H09A Durkee 57.57 58 ⇓P P 11 32 08.0 -0.2
baz=57,SNR=17
GASB Alder Springs 57.62 65 ⇑P P 11 32 08.7 +0.1
baz=57,SNR=6.8
HATC Hat Creek Radi 57.67 63 ⇑P P 11 32 09.1 +0.2
baz=57,SNR=8.6
F11A Grangeville 57.68 56 ⇓P P 11 32 08.9 -0.1
baz=57,SNR=10
MOD Modoc 57.70 62 ⇑P P 11 32 09.4 +0.3
baz=58,SNR=13
O03C Acorn Hollow, 57.82 64 ⇓P P 11 32 10.3 +0.2
baz=58
K07A Rock Creek Ran 57.85 60 P P 11 32 10.9 +0.8
baz=58,SNR=20
C14A Swan Lake 57.87 53 ⇓P P 11 32 10.3 +0.1
baz=58
TMCR Tamitsa 57.88 332 *e*P **P 11 32 07.8 -2.3**
D13A Huson 57.89 54 ⇓P P 11 32 09.8 -0.7
baz=58,SNR=16
J08A Circle Bar Ra 57.89 59 ⇑P P 11 32 10.3 -0.2
baz=58,SNR=21
G11A Walters Elk Ra 57.91 56 ⇑P P 11 32 10.8 +0.1
baz=58,SNR=15
I09A Lost Marbles R 57.94 58 ⇑P P 11 32 10.8 -0.1
baz=58,SNR=20
M06C Likely Place G 58.02 62 ⇓P P 11 32 11.7 +0.3
baz=58,SNR=6.1
H10A Noah's Angus R 58.14 57 ⇑P P 11 32 11.6 -0.6
baz=58
O04C Chester 58.20 64 ⇓P P 11 32 12.7 +0.1
baz=58,SNR=15
L07A Adell 58.20 61 ⇓P P 11 32 12.6 -0.1
baz=58,SNR=22
ELFS Eagle Lake Fie 58.23 63 ⇓P P 11 32 13.0 0.0
baz=58,SNR=15
MNRC McLaughlin Nat 58.26 66 ⇓P P 11 32 13.5 +0.4
baz=58
F12A Elk City 58.26 55 ⇑P P 11 32 12.8 -0.2
baz=58,SNR=46
K08A Mann Creek Ran 58.27 60 P P 11 32 13.5 +0.4
baz=58,SNR=21
J09A Fry Pan Ranch, 58.32 59 ⇓P P 11 32 13.4 -0.1
baz=58,SNR=25
WVOR Wild Horse Val 58.36 60 ⇓P P 11 32 14.9 +1.1
I10A Payette 58.41 58 ⇑P P 11 32 13.9 -0.2
baz=58,SNR=13
D14A Greenough 58.41 53 ⇓P P 11 32 13.7 -0.4
baz=58,SNR=40
ORV Oroville 58.42 64 ⇑P P 11 32 13.8 -0.4
baz=58,SNR=17
E13A Victor 58.43 54 ⇑P P 11 32 14.1 -0.1
baz=58,SNR=18
SUTB Sutter Butte 58.45 65 ⇑P P 11 32 14.3 -0.2
baz=58
H11A Donnelly 58.48 57 ⇓P P 11 32 13.8 -0.8
baz=58,SNR=86
O05C Quincy 58.52 64 ⇑P P 11 32 14.6 -0.3
baz=58,SNR=8.2
CVS Carmenet Viney 58.58 66 ⇓P P 11 32 15.6 +0.2
baz=58
BOK Bokaro 58.63 272 *e*P **P 11 32 15.7 -0.2**
BOK AMb AMB 11 32 19.0
comp=Z,51nm,1.3s,mb5.4
PTH Pithoragarh 58.63 281 *e*P **P 11 32 16.8 +0.9**
FARB Farallon Islan 58.65 67 ⇓P P 11 32 15.9 0.0
baz=58
Q03C Winters 58.67 66 ⇓P P 11 32 15.9 -0.1
baz=58
L08A Fields 58.68 60 ⇑P P 11 32 16.5 +0.5
baz=58,SNR=14
N06A Buffalo Meadow 58.69 62 P P 11 32 16.1 -0.1
baz=58,SNR=29
M07A Soldier Meadow 58.69 62 ⇑P P 11 32 16.0 -0.1
baz=58,SNR=51
K09A Rome 58.73 60 ⇑P P 11 32 16.2 -0.2
baz=58,SNR=16
F13A Darby 58.76 55 ⇑P P 11 32 16.5 0.0
baz=58
AKTO Aktyubinsk 58.78 312 *i*P **P 11 32 15.4 -1.2**
E14A Clinton 58.83 54 ⇓P P 11 32 16.3 -0.6
baz=59,SNR=29
J10A Berg Farm, Mel 58.84 58 ⇑P P 11 32 16.5 -0.6
baz=59
BEKR Beckwourth 58.92 64 ⇓P P 11 32 17.4 -0.3
baz=59,SNR=26
Q04C Lincoln 58.94 65 ⇑P P 11 32 17.5 -0.4
baz=59
D15A Lincoln 58.97 53 ⇑P P 11 32 17.4 -0.5
baz=59,SNR=16
I11A Placerville 59.00 57 ⇑P P 11 32 17.5 -0.7
baz=59,SNR=6.3
O06A Flanigan 59.05 63 ⇓P P 11 32 18.2 -0.5
baz=59,SNR=22
P05C Yuba Gap, Truc 59.12 64 ⇑P P 11 32 19.3 +0.2
baz=59
M08A Happy Creek Ra 59.12 61 ⇓P P 11 32 18.7 -0.4
baz=59,SNR=22
K10A MacKenzie Ranc 59.18 59 ⇓P P 11 32 19.2 -0.3
baz=59,SNR=33
N07B Gerlach 59.18 62 ⇑P P 11 32 19.2 -0.4
baz=59,SNR=26
L09A Wilkinson Ranc 59.19 60 ⇓P P 11 32 19.3 -0.3
baz=59,SNR=16
H12A Diamond D Ranc 59.23 56 ⇑P P 11 32 19.2 -0.6
baz=59,SNR=15
G13A Cobalt 59.24 56 ⇑P P 11 32 19.0 -0.9
baz=59,SNR=66
F14A Wisdom 59.27 54 ⇓P P 11 32 20.2 +0.1
baz=59
E15A Deer Lodge 59.29 53 ⇑P P 11 32 19.8 -0.4
baz=59,SNR=38
FFC Flin Flon 59.29 41 P P 11 32 20.6 +0.5
comp=Z,107nm,1.0s,mb5.8,SNR=6.8
FFC Flin Flon 59.29 41 *e*P **P 11 32 19.7 -0.4**
FFC pmax pmax
comp=Z,19nm,1.0s,mb5.1
JRSC Jasper Ridge 59.30 67 ⇑P P 11 32 20.6 +0.1
baz=59
LAVA Lava Cap Winer 59.38 65 ⇑P P 11 32 20.9 0.0
baz=59,SNR=18
MFID Camas Ranch 59.38 58 ⇑P P 11 32 20.4 -0.4
baz=59,SNR=18
WENL Wente Brothers 59.46 66 ⇑P P 11 32 21.7 +0.1
baz=59
BNLO Ben Lomond (Sa 59.51 67 ⇓P P 11 32 21.7 -0.2
baz=59
H13A Challis 59.56 56 ⇑P P 11 32 21.6 -0.5
baz=59,SNR=25
DDI Dehra Dun 59.56 283 *e*P **P 11 32 23.0 +0.7**
R04C Big Horse Ranc 59.57 65 ⇓P P 11 32 22.2 0.0
baz=59
SMLA Simla 59.62 284 *e*P **P 11 32 22.1 -0.6**
O07A Toulon 59.62 62 ⇓P P 11 32 22.3 -0.3
baz=59,SNR=47
WCN Washoe City 59.63 64 ⇓P P 11 32 22.5 -0.2
baz=59,SNR=17
K11A Parker Ranch, 59.66 59 ⇑P P 11 32 22.7 -0.2
baz=59,SNR=31
N08A GE Springer Mi 59.68 61 ⇓P P 11 32 23.0 0.0
baz=59,SNR=32
M09A Marrel Ranch, 59.68 61 ⇑P P 11 32 23.1 +0.1
baz=59,SNR=17
F15A Butte 59.73 54 ⇑P P 11 32 22.8 -0.4
baz=60,SNR=49
LRM Limekiln Ridge 59.77 54 *e*P **P 11 32 23.9 +0.4**
S04C Ingram Canyon, 59.80 66 ⇓P P 11 32 24.2 +0.4
baz=60
R05C Kirkwood Meado 59.82 64 P P 11 32 24.2 +0.2
baz=60,SNR=7.2
EGMT Eagleton 59.82 51 ⇓P P 11 32 23.6 -0.2
baz=60,SNR=15
FCC Fort Churchill 59.84 34 *e*P **P 11 32 23.3 -0.5**
FCC pmax pmax
comp=Z,16nm,0.9s,mb5.0
FCC Fort Churchill 59.84 34 *e*P **P 11 32 23.3 -0.4**
comp=Z,16nm,0.9s,mb5.0
L10A Juniper Basin 59.84 59 ⇑P P 11 32 23.9 -0.2
baz=60,SNR=32
J12A Stokes Ranch, 59.90 58 ⇓P P 11 32 24.1 -0.3
baz=60,SNR=35
KSM Kuching 59.91 234 *e*P **P 11 32 26.8 +2.0**
N09A Rock Creek Ran 60.00 61 ⇑P P 11 32 24.8 -0.4
baz=60,SNR=30
I13A Wildhorse Cree 60.04 57 ⇓P P 11 32 25.0 -0.3
baz=60,SNR=55
CMB Columbia Colle 60.05 65 *e*P **P 11 32 25.6 +0.1**
CMB Columbia Colle 60.05 65 ⇓P P 11 32 25.3 -0.3
baz=60,SNR=12
HLID Hailey 60.09 57 ⇑P P 11 32 25.6 -0.2
baz=60,SNR=52
PACP Pacheco Peak 60.14 67 ⇓P P 11 32 26.5 +0.3
baz=60
M10A I.L. Ranch, Tu 60.15 60 ⇓P P 11 32 25.9 -0.3
baz=60,SNR=34
G15A Dillon 60.16 55 ⇓P P 11 32 25.8 -0.4
baz=60,SNR=25
MCMT McKenzie Canyo 60.17 55 *e*P **P 11 32 26.2 -0.1**
L11A Cat Creek Ranc 60.20 59 P P 11 32 26.8 +0.3
baz=60,SNR=52
BOZ Bozeman (W) 60.32 54 *e*P **P 11 32 27.7 +0.4**
BOZ pmax pmax
comp=Z,26nm,0.9s,mb5.3
BOZ Bozeman (W) 60.32 54 ⇓P P 11 32 27.4 +0.1
baz=60
WAKR Walker 60.33 64 *e*P **P 11 32 28.1 +0.6**
J13A Cove Ranch, Pi 60.33 57 P P 11 32 27.7 +0.3
baz=60,SNR=49
HAST Hastings Reser 60.37 67 ⇑P P 11 32 27.8 0.0
baz=60
P08A Dixie Valley 60.40 62 ⇑P P 11 32 28.1 +0.2
baz=60,SNR=8.0
K12A Draper Farm, C 60.40 58 P P 11 32 28.2 +0.3
baz=60,SNR=34
S06C San Francisco 60.47 65 ⇑P P 11 32 27.7 -0.8
baz=60,SNR=13
S05C Merced 60.52 66 ⇓P P 11 32 28.3 -0.5
baz=60,SNR=14
O09A Fish Creek Ran 60.62 62 P P 11 32 30.0 +0.5
baz=60,SNR=27
L12A House Creek Ra 60.64 59 ⇓P P 11 32 29.9 +0.3
baz=60,SNR=23
M11A Holland Ranch, 60.65 60 ⇑P P 11 32 29.6 0.0
baz=60,SNR=31
V03C Hunter Liggett 60.80 68 ⇑P P 11 32 30.4 -0.3
baz=61
R07C Lee Vining 60.83 64 ⇓P P 11 32 31.0 +0.1
baz=61,SNR=19
JOF Joensuu 60.85 334 *e*p **P 11 32 28.5 -2.1**
comp=Z,6.7nm,0.3s,mb5.2
JOF Joensuu 60.85 334 *e*P **P 11 32 28.5 -2.1**
JOF pmax pmax
comp=Z,7.0nm,0.3s,mb5.3
K13A Stover Farm, H 60.86 58 ⇓P P 11 32 31.1 +0.1
baz=61
U04C Hernandez Rese 60.86 67 ⇓P P 11 32 31.5 +0.4
baz=61
O10A Cortez Mining, 60.95 61 ⇑P P 11 32 31.7 0.0
baz=61,SNR=7.9
Q08A Gabbs 61.01 63 P P 11 32 32.2 +0.1
baz=61,SNR=30
P09A Austin 61.05 62 ⇑P P 11 32 32.4 0.0
baz=61,SNR=8.7
NVAR Mina Array Bea 61.06 64 P P 11 32 32.5 0.0
comp=Z,20nm,0.8s,mb5.3,baz=296,slow=7.9,SNR=72
N11A Elko Archery C 61.07 60 ⇑P P 11 32 32.7 +0.2
baz=61
T06C Millerton Lake 61.12 66 ⇑P P 11 32 33.2 +0.4
baz=61,SNR=6.2
KCC Kaiser Creek 61.15 65 ⇑P P 11 32 33.4 +0.4
baz=61,SNR=9.3
M12A Wells 61.16 59 ⇑P P 11 32 33.5 +0.3
baz=61,SNR=34
NDI New Delhi 61.18 282 *e*P **P 11 32 32.4 -1.0**
NDI *e*P 11 32 33.0
NDI AMb AMB 11 32 35.5
comp=Z,25nm,0.8s,mb5.4
R08A Mina 61.23 64 ⇓P P 11 32 33.8 +0.2
baz=61,SNR=13
MLAC Mammoth Lakes 61.25 65 ⇓P P 11 32 34.5 +0.7
baz=61
V04C Ramage Ranch, 61.27 68 ⇓P P 11 32 34.6 +0.7
baz=61
PKD Parkfield 61.28 67 ⇓P P 11 32 34.5 +0.5
baz=61
GCMT Greycliff 61.29 53 *e*P **P 11 32 34.9 +1.0**
U05C Westside ANR, 61.29 67 ⇓P P 11 32 34.4 +0.4
baz=61
L13A Double Diamond 61.29 58 P P 11 32 34.6 +0.7
baz=61,SNR=23
YMR Madison River 61.31 54 *e*P **P 11 32 34.9 +0.9**
comp=Z,33nm,1.0s,mb5.4
P10A Eureka 61.40 62 ⇑P P 11 32 34.8 0.0
baz=61,SNR=17
K14A Jones Ranch, D 61.44 57 ⇑P P 11 32 35.0 +0.1
baz=61,SNR=32
N12A Clover Valley, 61.45 60 ⇑P P 11 32 34.8 -0.3
baz=61,SNR=21
Q09A Carvers 61.48 63 ⇓P P 11 32 34.7 -0.6
baz=61
O11A Cowboy Ranch, 61.55 61 P P 11 32 35.4 -0.4
baz=61,SNR=20
M13A Montello 61.63 59 ⇓P P 11 32 36.1 -0.2
baz=61,SNR=39
PTRM Twissleman Ran 61.67 67 *e*P **P 11 32 37.3 +0.7**
LKWY Lake 61.68 54 *e*P **P 11 32 38.8 +2.2**
LKWY pmax pmax
comp=Z,26nm,1.0s,mb5.3
S08C White Mtn Res 61.74 64 ⇓P P 11 32 36.5 -0.5
baz=62,SNR=13
HELL Mitchell Peak 61.75 66 P P 11 32 36.3 -0.8
baz=62,SNR=27
RCTC Rector, Farmer 61.85 66 ⇓P P 11 32 37.9 0.0
baz=62
P11A Circle Ranch, 61.87 61 ⇑P P 11 32 37.7 -0.2
baz=62,SNR=17
R09A Tonopah 61.93 63 ⇓P P 11 32 37.8 -0.5
baz=62,SNR=59
N13A Wendover, West 61.94 59 ⇑P P 11 32 38.1 -0.3
baz=62,SNR=15
Q10A Clear Creek Ra 61.95 62 ⇑P P 11 32 38.1 -0.3
baz=62,SNR=38
TIN Tinemaha 61.99 65 ⇑P P 11 32 38.9 +0.1
baz=62
O12A Currie 62.00 60 ⇑P P 11 32 38.1 -0.6
baz=62,SNR=61
M14A Sheep Mountain 62.01 58 ⇑P P 11 32 38.4 -0.4
baz=62,SNR=19
SMMC Simmler 62.03 67 ⇑P P 11 32 38.7 -0.3
baz=62
HVU Hansel Valley 62.16 58 *e*P **P 11 32 40.8 +1.0**
S09A Goldfield 62.17 64 P P 11 32 39.8 -0.1
baz=62,SNR=16
VES Vestal, Richgr 62.25 66 P P 11 32 40.2 -0.3
baz=62,SNR=7.9
R10A Warm Springs 62.36 63 ⇓P P 11 32 40.8 -0.4
baz=62,SNR=22
Q11A Duckwater 62.38 62 ⇑P P 11 32 40.8 -0.6
baz=62
PKM Peak Mountain 62.41 68 ⇑P P 11 32 41.5 -0.1
baz=62
P12A McGill 62.42 61 ⇑P P 11 32 41.7 +0.1
baz=62,SNR=10
CWC Cottonwood Cre 62.48 65 ⇑P P 11 32 42.2 +0.1
baz=62,SNR=6.4
N14A Grayback Hills 62.53 59 ⇑P P 11 32 42.0 -0.3
baz=62,SNR=10
O13A Hicks Ranch, I 62.53 60 ⇑P P 11 32 42.2 -0.1
baz=62,SNR=6.6
GRAC Grapevine Rang 62.55 64 ⇑P P 11 32 42.3 -0.2
baz=62,SNR=8.2
M15A Larsen Ranch, 62.55 58 ⇑P P 11 32 42.0 -0.4
baz=62,SNR=20
BGU Big Grassy Mou 62.57 59 *e*P **P 11 32 42.9 +0.4**

R11A Troy Canyon, C 62.75 62 P P 11 32 43.6 -0.2
baz=62,SNR=67
SBC Santa Barbara 62.77 68 ⇓P P 11 32 44.2 +0.2
baz=63
ARVC Arvin 62.87 67 ⇑P P 11 32 43.6 -1.1
baz=63
N15A Stansbury Isla 62.88 58 ⇓P P 11 32 43.9 -0.8
baz=63,SNR=7.8
P13A Bates Ranch, G 62.95 60 P P 11 32 45.2 +0.1
baz=63,SNR=26
MPMC Manual Prospec 63.09 65 P P 11 32 45.8 -0.3
baz=63,SNR=28
S11A Rachel 63.11 63 ⇓P P 11 32 45.6 -0.7
baz=63,SNR=33
BSC Santa Cruz Isl 63.11 68 ⇑P P 11 32 46.1 -0.2
baz=63
DUG Dugway 63.17 59 eP P 11 32 46.7 +0.1
DUG Dugway 63.17 59 ⇑P P 11 32 45.8 -0.8
baz=63
FURC Furnace Creek, 63.20 65 P P 11 32 46.7 -0.2
baz=63,SNR=41
TPNV Topopah Spring 63.26 64 eP P 11 32 47.0 -0.2
TPNV pmax pmax
comp=Z,18nm,0.9s,mb5.2
TPNV Topopah Spring 63.26 64 ⇑P P 11 32 46.8 -0.4
baz=63
Q13A Wheeler Ranch, 63.28 61 ⇓P P 11 32 46.9 -0.5
baz=63,SNR=60
BW06 Boulder Array 63.32 55 eP P 11 32 47.6 +0.1
R12A Pony Springs, 63.34 62 ⇓P P 11 32 47.2 -0.6
baz=63,SNR=39
LRMC Laurel Mountai 63.35 66 P P 11 32 47.2 -0.6
baz=63,SNR=16
BLG Laguna Peak 63.39 68 ⇑P P 11 32 47.6 -0.5
baz=63
FIA1 FINESS Array S 63.52 335 eP P 11 32 47.5 -1.1
FINES FINESS Array B 63.53 335 i P P 11 32 47.2 -1.4
FINES pmax pmax
comp=Z,18nm,0.5s
FINES FINESS Array B 63.53 335 P P 11 32 47.3 -1.3
comp=Z,18nm,0.5s,mb5.3,baz=37,slow=7.7,SNR=126
FINES LR LR 12 01 56.3
comp=Z,967nm,21.9s,MS4.9,baz=34,slow=38
EDW2 Edwards Air Fo 63.55 67 ⇑P P 11 32 48.4 -0.8
baz=63,SNR=25
S12A Delamar Landin 63.67 62 ⇑P P 11 32 49.3 -0.7
baz=63,SNR=35
T11A Corn Creek, Al 63.69 63 ⇓P P 11 32 49.4 -0.7
baz=64,SNR=57
DECC Green Verdugo 63.76 67 ⇑P P 11 32 50.4 -0.2
baz=64
DAU Daniels Canyon 63.92 58 eP P 11 32 52.3 +0.8
SHOC Shoshone 63.93 65 ⇓P P 11 32 51.6 -0.1
baz=64
MWC Mount Wilson 63.94 67 eP P 11 32 52.6 +0.8
MWC pmax pmax
comp=Z,26nm,0.9s,mb5.3
MWC Mount Wilson 63.94 67 eP P 11 32 52.6 +0.9
comp=Z,26nm,0.9s,mb5.2
GSC Goldstone 64.00 65 P P 11 32 51.7 -0.5
baz=64,SNR=8.7
U11A Corn Creek 64.13 64 ⇓P P 11 32 53.2 +0.2
baz=64,SNR=7.1
FMP Fort Macarthur 64.14 68 ⇓P P 11 32 52.8 -0.3
baz=64
BFSC Mount Baldy St 64.18 67 P P 11 32 53.2 -0.2
baz=64,SNR=12
SHPR Sheep Range 64.21 63 eP P 11 32 53.4 -0.1
S13A Holt Ranch, En 64.28 62 ⇑P P 11 32 53.5 -0.4
baz=64,SNR=36
R14A James Farms, M 64.30 61 ⇑P P 11 32 53.6 -0.5
baz=64,SNR=5.5
T12A Moapa 64.33 63 ⇑P P 11 32 54.2 -0.1
baz=64
AJM Ajmer 64.35 282 eP P 11 32 53.5 -1.0
AJM AMb AMB 11 32 56.9
comp=Z,51nm,1.3s,mb5.4
ARUT Antelope Range 64.39 61 eP P 11 32 54.7 0.0
TUQ Turquoise Mtn. 64.46 65 ⇑P P 11 32 54.0 -1.1
baz=64,SNR=22
V11A Goodsprings 64.49 64 ⇑P P 11 32 54.9 -0.5
baz=64,SNR=8.9
VIS Vishakhapatnam 64.54 269 eP P 11 32 55.7 -0.2
VIS AMb AMB 11 32 59.6
comp=Z,46nm,1.0s,mb5.5
S14A Cedar City 64.57 61 ⇑P P 11 32 55.3 -0.6
baz=64,SNR=15
CCUT Cedar City 64.59 62 eP P 11 32 56.5 +0.5
HEC Hector,Ludlow 64.61 66 ⇓P P 11 32 55.5 -0.6
baz=64,SNR=20
BBRC Big Bear Sol-O 64.62 66 ⇓P P 11 32 55.6 -0.7
baz=64,SNR=14
T13A Saint George 64.62 62 ⇑P P 11 32 55.8 -0.4
baz=64,SNR=18
U12A Valley of Fire 64.64 63 ⇓P P 11 32 55.9 -0.4
baz=64
MSU Marysvale 64.65 60 eP P 11 32 56.8 +0.4
BHPL Bhopal 64.69 277 eP P 11 32 56.3 -0.5
MURC Murrieta 64.89 67 ⇓P P 11 32 57.1 -0.9
baz=65,SNR=7.1
V12A Nelson 64.92 64 ⇑P P 11 32 57.6 -0.5
baz=65,SNR=13
U13A Pakoon Wash 64.99 63 ⇑P P 11 32 57.8 -0.8
baz=65,SNR=28
OBN Obninsk 65.02 326c i P P 11 32 58.1 -0.4
OBN i 11 33 04.6
OBN e 11 33 30.4
OBN eS S 11 41 41.5 +1.3
OBN eSS SS 11 45 58.0 +6.9
OBN pmax pmax
comp=Z,24nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,900nm,20.0s,MS5.0
GMRC Granite Mounta 65.05 65 ⇓P P 11 32 58.2 -0.8
baz=65,SNR=26
ULM Lac du Bonnet 65.08 42 P P 11 32 58.2 -0.7
comp=Z,4.9nm,0.5s,mb4.8,baz=317,slow=7.9,SNR=9.0
ULM LR LR 12 01 34.2
comp=Z,565nm,21.9s,MS4.7,baz=302,slow=36
T14A Hurricane 65.09 62 ⇓P P 11 32 58.8 -0.4
baz=65,SNR=52
W12A Cal Nev Ari 65.19 64 ⇓P P 11 32 59.3 -0.6
baz=65
LDFC Landfair 65.19 65 eP P 11 32 59.3 -0.6
SRU San Rafael 65.21 59 eP P 11 32 59.9 -0.1
SRU pmax pmax
comp=Z,49nm,0.8s,mb5.6
SRU San Rafael 65.21 59 eP P 11 32 59.9 -0.1
comp=Z,49nm,0.8s,mb5.6
PFO Pinyon Flat Ob 65.35 67 eP P 11 33 00.2 -0.7
PFO Pinyon Flat Ob 65.35 67 P P 11 33 00.9 0.0
comp=Z,9.1nm,1.1s,mb4.7,baz=261,slow=1.4,SNR=6.8
PFO Pinyon Flat Ob 65.35 67 ⇓P P 11 33 00.3 -0.7
baz=65
V13A Grand Canyon W 65.36 63 ⇑P P 11 33 00.5 -0.5
baz=65,SNR=48
BELC Belle Mtn. 65.37 66 ⇑P P 11 33 00.5 -0.6
baz=65,SNR=12
RSSD Black Hills 65.38 51 eP P 11 33 00.9 -0.1
109C Camp Elliot, M 65.42 68 ⇓P P 11 33 01.1 -0.4
baz=65
PSI Prapat 65.44 245 P P 11 33 02.4 +0.6
comp=Z,14nm,0.8s,mb5.0,baz=355,slow=3.8,SNR=9.6
U14A Mt Trumbull 65.46 62 ⇑P P 11 33 01.4 -0.3
baz=65,SNR=42
T15A Red Dirt Ranch 65.53 61 ⇑P P 11 33 01.4 -0.7
baz=65,SNR=30
IRM Iron Mountain 65.78 65 ⇑P P 11 33 03.2 -0.5
baz=66,SNR=20
BAR Barrett 65.83 68 eP P 11 33 04.0 -0.1
MONP Monument Peak 65.85 67 ⇑P P 11 33 03.6 -0.7
baz=66,SNR=7.1
W13A Hualapai Mount 65.92 64 P P 11 33 04.8 +0.1
baz=66,SNR=15
BC3 Big Chuckw Mtn 65.93 66 ⇑P P 11 33 04.0 -0.8
baz=66,SNR=10
V14A Boquillas Ranc 66.03 63 ⇓P P 11 33 04.7 -0.6
baz=66,SNR=40
T16A Glen Canyon Da 66.07 61 ⇑P P 11 33 04.4 -1.2
baz=66,SNR=11
DVTC Desert V Tower 66.20 67 ⇓P P 11 33 05.7 -0.8
baz=66
X13A Yucca 66.30 64 ⇑P P 11 33 06.2 -0.8
baz=66,SNR=25
PDMCI Parker Dam,Lak 66.30 65 ⇓P P 11 33 06.1 -1.0
baz=66,SNR=9.5
W14A Seligman 66.33 63 ⇓P P 11 33 06.6 -0.6
baz=66,SNR=29
Y12C Blythe 66.44 65 ⇓P P 11 33 07.7 -0.3
baz=66,SNR=8.5
V15A Kaibab Nationa 66.46 62 ⇑P P 11 33 07.7 -0.4
baz=66,SNR=51
PV10 Paradox Valley 66.56 58 eP P 11 33 09.1 +0.4
AKL Akola 66.72 276 eP P 11 33 09.6 -0.3
AKL AMb AMB 11 33 12.8
comp=Z,112nm,1.1s,mb5.8
GLA Glamis 66.73 66 eP P 11 33 09.8 0.0
GLA pmax pmax
comp=Z,24nm,0.8s,mb5.3
GLA Glamis 66.73 66 P P 11 33 09.8 0.0
baz=66,SNR=16
Y13A Salome 66.82 65 P P 11 33 10.5 +0.1
baz=67,SNR=13
VRSR Storozhevoye 66.92 322 eP P 11 33 09.6 -1.1
VRSR pmax pmax
comp=N,8.0nm,1.0s
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
VRSR pmax pmax
comp=E,6.0nm,0.9s
X14A Yava 66.95 64 ⇓P P 11 33 10.5 -0.7
baz=67,SNR=28
PV01 Paradox Valley 67.00 58 eP P 11 33 11.7 +0.2
VORD Divnogorie 67.06 322 eP P 11 33 10.9 -0.7
VORD pmax pmax
comp=Z,40nm,1.0s,mb5.4
VORD pmax pmax
comp=N,50nm,0.9s
VORD pmax pmax
comp=E,20nm,0.9s
WUAZ Wupatki 67.15 62 ⇑P P 11 33 11.8 -0.6
baz=67
Y14A Wickenburg 67.24 64 P P 11 33 13.0 -0.1
baz=67,SNR=21
X15A Humboldt 67.33 63 P P 11 33 13.9 +0.2
baz=67,SNR=37
W16A Flagstaff 67.34 62 ⇑P P 11 33 13.8 +0.1
baz=67,SNR=5.1
ISCO Idaho Springs 67.52 55 eP P 11 33 15.3 +0.6
ISCO pmax pmax
comp=Z,27nm,1.0s,mb5.2
NB2 NORSAR Subarra 67.57 342 P P 11 33 13.6 -1.1
comp=Z,74nm,0.9s,mb5.7,baz=26,slow=6.5
NOA NORSAR Array B 67.57 342 P P 11 33 13.7 -1.0
comp=Z,62nm,0.9s,mb5.6,baz=26,slow=6.4,SNR=83
NOA LR LR 12 07 20.2
comp=Z,461nm,18.4s,MS4.7,baz=10.0,slow=40
113A Mohawk Valley, 67.57 66 ⇓P P 11 33 14.9 -0.3
baz=67,SNR=7.3
Y15A Casa Rosa Ranc 67.64 64 P P 11 33 15.9 +0.3
baz=67,SNR=27
Z14A Wintersburg 67.67 65 ⇑P P 11 33 15.2 -0.6
baz=67,SNR=6.0
MVCO Mesa Verde 67.67 59 ⇑P P 11 33 15.3 -0.5
baz=67
BORG Borgarnes 67.76 358 eP P 11 33 15.6 -0.3
CTA Charters Tower 67.97 188 eP P 11 33 17.0 -0.7
comp=Z,4.3nm,0.6s,mb4.7
CTA Charters Tower 67.97 188 eP P 11 33 17.0 -0.7
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTAO Charters Tower 67.97 188 eP P 11 33 17.1 -0.6
HYB Hyderabad 67.98 272 eP P 11 33 18.5 +0.6
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 67.98 272 eP P 11 33 18.5 +0.6
comp=Z,50nm,1.0s,mb5.5
HYB Hyderabad 67.98 272 i P P 11 33 18.5 +0.6
comp=Z,50nm,1.0s,mb5.5
Y16A Circle Bar Ran 68.20 63 ⇑P P 11 33 19.1 -0.1
baz=68,SNR=9.4
115A Sonoran Desert 68.56 65 ⇑P P 11 33 21.2 -0.2
baz=68,SNR=16
W19A Sanders 68.60 61 ⇑P P 11 33 21.2 -0.4
baz=68
Z16A Peralta Trail, 68.61 64 ⇑P P 11 33 22.0 +0.3
baz=68
X18A Snowflake 68.67 62 ⇑P P 11 33 21.7 -0.4
baz=68,SNR=15
Y17A Roosevelt 68.71 63 ⇓P P 11 33 22.0 -0.3
baz=68,SNR=31
116A Eloy 68.98 65 ⇓P P 11 33 24.5 +0.4
baz=69,SNR=8.0
X19A St. Johns 69.13 62 ⇓P P 11 33 25.0 0.0
baz=69,SNR=33
Y18A Canyon Day Jun 69.14 63 ⇑P P 11 33 25.0 0.0
baz=69,SNR=27
KONO Kongsberg 69.17 342 eP P 11 33 25.0 +0.3
Z17A San Carlos Hig 69.21 63 ⇓P P 11 33 25.6 +0.2
baz=69,SNR=7.5
Y19A Nutrioso 69.48 62 ⇓P P 11 33 27.5 +0.4
baz=69,SNR=22
216A Three Points, 69.51 65 ⇓P P 11 33 26.8 -0.5
baz=69,SNR=17
117A Oracle 69.56 64 ⇓P P 11 33 27.9 +0.3
baz=69,SNR=13
TUC Tucson 69.71 64 eP P 11 33 28.3 -0.3
TUC pmax pmax
comp=Z,11nm,1.0s,mb4.7
TUC Tucson 69.71 64 eP P 11 33 28.3 -0.2
comp=Z,11nm,1.0s,mb4.7
GOF Gofitskoye 69.80 315 eP pP 11 33 39.1 +6.9
WRAB Tennant Creek 69.82 200 eP P 11 33 28.4 -0.7
WB2 Warramunga Arr 69.83 200 eP P 11 33 28.2 -1.0
WRA Warramunga Arr 69.83 200 P P 11 33 28.2 -1.0
WRA LR LR 12 02 14.7
WRA Warramunga Arr 69.83 200 P P 11 33 28.2 -1.0
comp=Z,8.0nm,0.9s,mb4.6,baz=16,slow=6.4,SNR=36
WRA LR LR 12 02 14.7
comp=Z,135nm,18.6s,MS4.2,baz=25,slow=34
Z19A T-Link Ranch, 69.94 62 ⇑P P 11 33 29.9 -0.1
baz=70,SNR=5.6
118A Homack Ranch, 69.97 63 P P 11 33 30.3 +0.1
baz=70,SNR=30
217A Green Valley 70.06 65 ⇑P P 11 33 30.4 -0.3
baz=70,SNR=11
119A Ashpeak Ranch, 70.28 63 ⇑P P 11 33 32.1 0.0
baz=70,SNR=9.4
POO Poona 70.36 276 eP P 11 33 31.2 -1.5
POO AMb AMB 11 33 34.4
comp=Z,58nm,1.0s,mb5.5
218A Dragoon 70.39 64 ⇓P P 11 33 32.4 -0.3
baz=70,SNR=25
LAZ Ladron 70.42 60 eP P 11 33 33.2 +0.3
ANMO Albuquerque 70.43 59d i P P 11 33 32.6 -0.3
ANMO Albuquerque 70.43 59 P P 11 33 33.0 0.0
comp=Z,15nm,0.9s,mb4.9,baz=318,slow=8.0,SNR=38
FITZ Fitzroy Crossi 70.54 209 eP P 11 33 32.9 -0.7
comp=Z,11nm,0.8s,mb4.8
SUW Suwalki 70.56 332 eP P 11 33 30.2 -3.2
SUW epP pP 11 33 33.3 -3.3
SUW LMZ 12 06 51.9
comp=Z,900nm,22.1s
SUW Suwalki 70.56 332 eP P 11 33 30.2 -3.2
SUW epP pP 11 33 33.3 -3.4
WAL1 Walls 70.59 348 eP P 11 33 34.4 +0.9
LRW Lerwick 70.64 347 eP P 11 33 33.8 0.0
LRW AMb AMB 11 33 37.8
comp=Z,107nm,1.8s,mb5.5
KIV Kislovodsk 70.79 315 eP P 11 33 33.5 -1.5
KIV eS S 11 42 47.8 -1.8
KIV pmax pmax
comp=Z,20nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,1μm,19.0s,MS5.2
318A Bisbee 70.80 64 ⇓P P 11 33 34.8 -0.4
baz=71,SNR=23
219A White Tail Can 70.85 63 ⇑P P 11 33 35.1 -0.4
baz=71,SNR=24
BNM Barren Site 70.90 60 eP P 11 33 36.3 +0.5
AKASG Malin Array Be 71.24 327 P P 11 33 36.6 -1.0
comp=Z,8.3nm,0.4s,mb5.0,baz=33,slow=6.2,SNR=82
AKASG LR LR 12 06 48.9
comp=Z,755nm,19.3s,MS5.0,baz=355,slow=38
AKBB Malin Array Si 71.24 327 eP P 11 33 36.4 -1.2
KIEV Kiev 71.25 327 eP P 11 33 35.9 -1.7
KIEV pmax pmax
comp=Z,30nm,0.8s,mb5.3
KIEV Kiev 71.25 327 eP P 11 33 35.9 -1.7
comp=Z,30nm,0.8s,mb5.3
319A Douglas 71.28 64 ⇓P P 11 33 37.2 -0.9
baz=71,SNR=33
TBLG Delisi 71.44 312 P P 11 33 31.4 -7.5
MTA Mtatsminda 71.45 312 P P 11 33 39.7 +0.7
ONI Oni 71.45 313 P P 11 33 40.9 +1.9
GOR Gori 71.57 313 P P 11 33 42.5 +2.8
SCHQ Schefferville 71.96 24 P P 11 33 41.5 -0.3
comp=Z,10nm,0.8s,mb4.8,baz=358,slow=6.1,SNR=10
SCHQ LR LR 12 11 26.3
comp=Z,393nm,18.6s,MS4.7,baz=274,slow=41
BSD Bornholm Skovb 72.00 337 i P P 11 33 41.9 -0.2
BSD pmax pmax
comp=Z,86nm,1.0s,mb5.6
BSD MLR MLR
comp=Z,440nm,18.0s,MS4.8
BSD Bornholm Skovb 72.00 337 i P P 11 33 41.9 -0.2
comp=Z,86nm,1.0s,mb5.6
BSD
comp=Z,440nm,18.0s
COP Copenhagen 72.12 339 i P P 11 33 44.0 +1.2
COP pmax pmax
comp=Z,73nm,1.0s,mb5.6
COP MLR MLR
comp=Z,380nm,18.0s,MS4.7
COP Copenhagen 72.12 339 i P P 11 33 44.0 +1.2
comp=Z,73nm,1.0s,mb5.6
COP
comp=Z,370nm,18.0s
MUD Monsted U'grnd 72.19 341 eP P 11 33 43.9 +0.7
MUD i 11 43 11.8
MUD pmax pmax
comp=Z,45nm,1.0s,mb5.3
MUD MLR MLR
comp=Z,890nm,18.0s,MS5.1
MUD Monsted U'grnd 72.19 341 i P P 11 33 43.9 +0.7
comp=Z,45nm,1.0s,mb5.4
MUD i 11 43 11.8
MUD
comp=Z,890nm,18.0s
XMIS Christmas Isla 72.41 231 eP P 11 33 47.6 +2.5
SOC Sochi 72.48 316 eP P 11 33 44.8 -0.3
SOC e 11 34 00.4
SOC ePPP 11 38 08.8
SOC eS S 11 43 06.9 -2.1
SOC e 11 43 53.0
SOC eSS SS 11 47 51.0 +4.4
SOC pmax pmax
comp=Z,27nm,0.8s,mb5.2
ORE Reay 72.54 348 eP P 11 33 46.5 +1.3
ANN Anapa 72.58 318 eP P 11 33 44.6 -1.1
ANN eS S 11 43 13.0 +2.8
ANN pmax pmax
comp=Z,38nm,1.7s,mb5.0
ANN MLR MLR
comp=N,776nm,18.0s,MS5.2
ANN MLR MLR
comp=E,713nm,18.0s,MS5.2
ANN MLR MLR
comp=Z,769nm,18.0s,MS5.0
GNI Garni 72.62 311d i P P 11 33 47.3 +1.2
GNI pmax pmax
comp=Z,31nm,1.3s
MLA1 Latheron 72.72 348 eP P 11 33 46.7 +0.4
RSC Scourie 72.92 349 eP P 11 33 48.4 +0.9
RGN Rugen 72.92 338 eP P 11 33 48.6 +1.0
comp=Z,166nm,1.1s,mb5.9
GKP Gorka Klasztor 73.00 335 eP P 11 33 47.1 -1.0
GKP LMZ 12 10 45.9
comp=Z,2μm,19.2s
REB Eisghbrachaidh 73.16 349 eP P 11 33 48.8 -0.1
MVH1 Achvaich 73.20 348 eP P 11 33 48.5 -0.6
MCD Coleburn Disti 73.40 348 eP P 11 33 51.2 +0.8
ASAR Alice Springs 73.52 200 P P 11 33 51.2 -0.1
comp=Z,3.9nm,0.6s,mb4.5,baz=13,slow=5.4,SNR=60
RRH Rhenigidale 73.52 350 eP P 11 33 50.9 -0.1
GDL2 Guadalupe Moun 73.61 60 eP P 11 33 52.1 +0.1
MME1 Meikle Cairn 73.62 348 eP P 11 33 51.6 -0.1
MDO Dochfour 73.69 348 eP P 11 33 51.6 -0.5
KAC Achnashellach 73.76 349 eP P 11 33 52.5 0.0
CLDR Caldiran 73.80 311 eP P 11 33 51.8 -1.2
LVV L'vov 73.83 329 eP P 11 33 52.3 -0.7
PALK Pallekele 73.83 263 eP P 11 33 54.8 +1.2
KOD Kodaikanal 73.85 267 ex x 11 33 41.1
KOD AMb AMB 11 33 43.0
comp=Z,23nm,1.1s,mb5.0
SIM Simferopol' 73.92 320d i P P 11 33 55.0 +1.4
SIM S S 11 43 24.0 -1.3
SIM pmax pmax
comp=Z,36nm,0.8s,mb5.3
SIM MLR MLR
comp=Z,680nm,15.5s,MS5.0
AGRB Hanur-Agry 73.94 312 eP P 11 33 55.7 +1.9
KSB Sheil Bridge 74.06 349 eP P 11 33 54.1 -0.1
BSEG Bad Segeberg 74.23 339 eP P 11 33 55.4 +0.1
BSEG pmax pmax
comp=Z,49nm,0.9s,mb5.4
BSEG Bad Segeberg 74.23 339 eP P 11 33 55.4 +0.1
comp=Z,49nm,0.9s,mb5.4
KAR1 Arisaig 74.39 349 eP P 11 33 56.3 +0.1
KIS Kishinev 74.43 325 eP P 11 33 54.0 -2.6
KIS MLR MLR
comp=Z,500nm,17.0s,MS4.9
KIS MLR MLR
comp=Z,800nm,20.0s
KWP Kalwaria 74.44 330 eP P 11 33 53.6 -3.0
KWP epP pP 11 33 57.3 -2.6
KWP LMZ 12 10 28.8
comp=Z,1μm,20.2s
KWP Kalwaria 74.44 330 eP P 11 33 53.6 -3.0
KWP epP pP 11 33 57.3 -2.6
KWP Kalwaria 74.44 330 ⇓i P P 11 33 57.3 +0.7
RUE Ruedersdorf 74.66 336 eP P 11 33 57.5 -0.3
comp=Z,55nm,0.8s,mb5.5
RUE Ruedersdorf 74.66 336 eP P 11 33 58.3 +0.5
comp=Z,91nm,0.9s,mb5.7
EBH Black Hill 74.73 348 eP P 11 33 58.6 +0.5
OJC Ojcow 74.89 332 eP P 11 33 58.8 -0.4
EAB Aberfoyle 74.91 348 eP P 11 33 58.8 -0.4
ESY Stoneypath 74.91 347 eP P 11 33 59.0 -0.3
WMOK Wichita Mounta 74.93 55 eP P 11 33 59.1 -0.6
EDI Edinburgh 74.99 347 P P 11 34 00.6 +0.9
EDI AMb AMB 11 34 09.7
comp=Z,47nm,2.3s,mb5.0
EDI Edinburgh 74.99 347 eP P 11 34 00.6 +0.9
EDI AMb AMB 11 34 09.7
comp=Z,47nm,2.3s,mb5.0
EDI AMS AMS 12 09 26.1
comp=Z,254nm,18.7s,MS4.5
GUMT Gumushane 75.00 314 eP P 11 34 00.6 +0.7
HAKT HAKKARI 75.10 310 i P P 11 34 02.8 +2.2
EAU Auchinoon 75.11 347 eP P 11 34 01.1 +0.8
STHS Stebnicka Huta 75.12 331 eP P 11 34 00.5 0.0
STHS pmax pmax
comp=Z,39nm,0.9s,mb5.3
STHS Stebnicka Huta 75.12 331 eP P 11 34 00.5 0.0
comp=Z,39nm,0.9s,mb5.3
KOLS Kolonicke sedl 75.19 330 eP P 11 34 00.4 -0.5
KOLS ePCP PcP 11 34 13.1 -1.3
XSO Sourhope Farm 75.27 347 eP P 11 34 02.2 +0.9
BURAR Bucovina Array 75.27 327 ⇑i P P 11 34 00.9 -0.5
PGBU Glenifferbraes 75.29 348 eP P 11 34 01.7 +0.3
PGBU AMb AMB 11 34 03.6
comp=Z,126nm,1.1s,mb5.8
CUKT Cukurca 75.39 310 eP P 11 34 02.8 +0.5
KSP Ksiaz 75.42 334 eP P 11 34 01.6 -0.7
KSP LMZ 12 12 32.1
comp=Z,2μm,19.9s
KSP Ksiaz 75.42 334 eP P 11 34 01.5 -0.7
KSP eS S 11 43 38.0 -3.9
KSP Ksiaz 75.42 334 eP P 11 34 01.5 -0.7
KSP epP pP 11 34 02.6 -2.9
KSP eS S 11 43 38.0 -3.9
KSP LR LR
comp=Z,3μm,19.6s,MS5.5
NIE Niedzica 75.42 331 eP P 11 34 03.6 +1.3
UZH Uzhgorod 75.44 330 eP P 11 34 03.6 +1.2
UZH e 11 34 22.0
UZH eS S 11 43 47.0 +4.8
CRVS Cervenica-Dubn 75.49 330 eP P 11 34 02.5 -0.2
ESK Eskdalemuir 75.58 347 P P 11 34 03.3 +0.2
comp=Z,125nm,0.8s,mb5.9,SNR=7.9
ESK Eskdalemuir 75.58 347 P P 11 34 02.9 -0.2
ESK AMb AMB 11 34 05.0
comp=Z,35nm,1.2s,mb5.2
ESK Eskdalemuir 75.58 347 eP P 11 34 02.9 -0.2
ESK AMb AMB 11 34 05.0
comp=Z,35nm,1.2s,mb5.2
ESK AMS AMS 12 05 46.8

comp=Z,232nm,20.4s,MS4.5
ESK Eskdalemuir 75.58 347 *e*P **P 11 34 02.8 -0.3**
ECK Cauldkaine Hil 75.70 347 *e*P **P 11 34 03.9 +0.2**
ECK *e* 11 34 04.0
OKC Ostrava-Krasne 75.74 333 *e*P **P 11 34 04.3 +0.2**
OKC *e*S S 11 43 43.3 -2.2
OKC Ostrava-Krasne 75.74 333 *e*P **P 11 34 04.3 +0.2**
OKC *e*S S 11 43 43.3 -2.2
OKC AMS AMS 12 13 00.0
comp=Z,1μm,15.9s
TRPA Tarpa 75.78 329 ⇓*i*P **P 11 34 03.9 -0.5**
UPC Upice 75.80 334 *e*P **P 11 34 04.1 -0.3**
DPC Dobruska-Polom 75.84 334 *e*P **P 11 34 04.2 -0.5**
DPC AMS AMS 12 11 10.0
comp=Z,1μm,18.6s
XAL Allendale 75.87 346 *e*P **P 11 34 04.8 +0.1**
GMK Mull of Kintyr 75.90 348 *e*P **P 11 34 05.6 +0.7**
CLL Collm 75.93 336 *i*P **P 11 34 04.5 -0.6**
CLL *i* 11 34 11.9
CLL *e*S S 11 43 44.0 -3.5
CLL pmax pmax
comp=Z,118nm,1.0s,mb5.8
CLL MLR MLR
comp=Z,800nm,20.0s,MS5.0
CLL Collm 75.93 336 *i*P **P 11 34 04.5 -0.6**
comp=Z,118nm,1.0s,mb5.8
CLL *i* 11 34 11.9
CLL *e*S S 11 43 44.0 -3.5
CLL LR LR
comp=Z,800nm,20.0s,MS5.0
CLL Collm 75.93 336 *e*P **P 11 34 04.6 -0.5**
comp=Z,118nm,1.0s,mb5.8
CLL Collm 75.93 336 *i*P **P 11 34 04.5 -0.6**
comp=Z,118nm,1.0s,mb5.8
CLL LmV 11 10 00.0
comp=Z,800nm,20.0s
CLL *i* (sP) sP 11 34 11.9 +2.3
CLL *e*S S 11 43 44.0 -3.5
CLL *e*PS 11 44 23.0
CLL *e*(SS) 11 49 12.0
CLL *e*SSS 11 52 00.0
MORC Moravsky Berou 75.98 333 *e*P **P 11 34 04.9 -0.6**
MORC Moravsky Berou 75.98 333 ⇓*i*P **P 11 34 05.0 -0.5**
BRG Berggiesshubel 76.06 336 *i*P **P 11 34 05.2 -0.7**
BRG *e* 11 34 20.7
BRG pmax pmax
comp=Z,24nm,1.1s,mb5.0
BRG Berggiesshubel 76.06 336 *e*P **P 11 34 05.5 -0.4**
comp=Z,40nm,1.1s,mb5.3
BRG Berggiesshubel 76.06 336 *i*P **P 11 34 05.2 -0.7**
comp=Z,41nm,1.1s,mb5.3
BRG *e* 11 34 20.7
comp=Z,18nm,1.1s
TXAR Lajitas Array 76.11 62 P **P 11 34 06.1 -0.4**
comp=Z,16nm,0.6s,mb5.1,baz=300,slow=4.6,SNR=91
KVT Kavak 76.13 317 *e*P **P 11 34 06.1 -0.4**
CLZ Clausthal 76.13 338 *e*P **P 11 34 06.7 +0.4**
CLZ pmax pmax
comp=Z,79nm,1.0s,mb5.6
CLZ Clausthal 76.13 338 *e*P **P 11 34 06.7 +0.4**
comp=Z,79nm,1.0s,mb5.6
FBE Freiberg 76.18 336 *e*P **P 11 34 06.3 -0.3**
comp=Z,69nm,1.0s,mb5.5
PVCC Panska Ves 76.19 335 *e*P **P 11 34 06.3 -0.4**
PVCC AMS AMS 12 13 10.0
comp=Z,1μm,15.3s
GCL Cushendall 76.23 349 *e*P **P 11 34 07.1 +0.3**
GAL1 Galloway 76.24 348 P **P 11 34 07.5 +0.6**
GAL1 AMb AMB 11 34 08.8
comp=Z,66nm,1.8s,mb5.3
GAL1 Galloway 76.24 348 *e*P **P 11 34 07.5 +0.6**
GAL1 *e*P 11 34 07.5
GAL1 AMb AMB 11 34 08.8
comp=Z,66nm,1.8s,mb5.3
GAL1 AMS AMS 12 06 23.3
comp=Z,282nm,20.2s,MS4.6
PTK Pertek 76.25 313 *e*P **P 11 34 08.0 +0.8**
CKE Keswick 76.27 347 *e*P **P 11 34 07.4 +0.4**
IBBN Ibbenburen 76.34 340 *e*P **P 11 34 07.4 0.0**
comp=Z,72nm,1.0s,mb5.6
BOYT Boyabat 76.38 318 *i*P **P 11 34 09.2 +1.4**
CCM Cathedral Cave 76.39 48 *e*P **P 11 34 06.6 -1.4**
CCM pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
CCM Cathedral Cave 76.39 48 *e*P **P 11 34 06.5 -1.4**
comp=Z,9.0nm,0.9s,mb4.7
MSL Mosul 76.39 309 *ex* x 11 34 09.5
BANOM Banah 76.50 294 P **P 11 34 09.5 +0.7**
SNR=18
BANOM Banah 76.50 294 P **P 11 34 09.5 +0.7**
SNR=18
BANOM Banah 76.50 294 P **P 11 34 09.5 +0.7**
SNR=18
BANOM Banah 76.50 294 P **P 11 34 09.5 +0.7**
SNR=18
BANOM Banah 76.50 294 P **P 11 34 09.5 +0.7**
SNR=18
SVSK Karacayir 76.60 316 *e*P **P 11 34 09.0 -0.2**
HPK Haverah Park 76.64 346 *e*P **P 11 34 09.4 +0.3**
HPK AMb AMB 11 34 11.4
comp=Z,163nm,1.2s,mb5.8
HARR Harsova 76.69 324 P **P 11 34 09.8 +0.2**
HARR Harsova 76.69 324 ⇓P **P 11 34 10.7 +1.2**
HARR Harsova 76.69 324 ⇓*i*P **P 11 34 10.7 +1.1**
TIRR Tirgusor 76.69 324 ⇓P **P 11 34 09.5 -0.1**
TIRR Tirgusor 76.69 324 ⇓*i*P **P 11 34 09.4 -0.2**
PRU Pruhonice 76.69 335 *e*P **P 11 34 09.1 -0.4**
PRU *e*S S 11 43 50.8 -5.1
PRU AMS AMS 12 11 30.0
comp=Z,1μm,17.8s
VRAC Vranov 76.69 333 ⇓*i*P **P 11 34 09.5 0.0**
VYHS Vyhne 76.70 332 *e*P **P 11 34 09.0 -0.6**
VYHS pmax pmax
comp=Z,21nm,1.0s,mb5.0
VYHS Vyhne 76.70 332 *e*P **P 11 34 09.0 -0.6**
comp=Z,21nm,1.0s,mb5.0
ELZG Elazig 76.76 313 *i*P **P 11 34 11.4 +1.3**
KOLL Kolacno 76.77 332 *e*P **P 11 34 09.9 -0.1**
KOLL *e*pP pP 11 34 16.6 +3.4
MLR Muntele Rosu 76.79 326 ⇓*i*P **P 11 34 10.2 +0.1**
FVM French Village 76.85 47 *e*P **P 11 34 09.5 -1.1**
PSZ Piszkesteto 76.86 331 *e*P **P 11 34 10.5 0.0**
PSZ Piszkesteto 76.86 331 ⇑*e*P **P 11 34 10.7 +0.2**
PSZ Piszkesteto 76.86 331 ⇓*i*P **P 11 34 11.1 +0.6**
DRGR 76.87 328 ⇓*i*P **P 11 34 10.6 0.0**
WTSB Winterswijk 76.88 340 *e*P **P 11 34 10.5 0.0**
comp=Z,53nm,1.3s,mb5.3
WERD Werda 76.90 336 *e*P **P 11 34 10.6 0.0**
comp=Z,38nm,1.0s,mb5.3
MOX Moxa 76.90 337 *e*P **P 11 34 10.3 -0.4**
MOX
comp=Z,51nm,1.0s,mb5.4
comp=Z,700nm,21.0s
MOX Moxa 76.90 337 *e*P **P 11 34 10.3 -0.4**
MOX pmax pmax
comp=Z,51nm,1.0s,mb5.4
MOX MLR MLR
comp=Z,700nm,21.0s,MS5.0
MOX Moxa 76.90 337 *e*P **P 11 34 10.6 -0.1**
comp=Z,44nm,0.9s,mb5.4
GUNZ Gunzen 76.97 336 *e*P **P 11 34 11.0 0.0**
comp=Z,39nm,0.9s,mb5.3
BALT Daday 76.97 319 *i*P **P 11 34 12.0 +0.7**
WERN Wernitzgruen 77.02 336 *e*P **P 11 34 11.3 -0.1**
comp=Z,56nm,0.9s,mb5.5
TREC Trest 77.03 334 *e*P **P 11 34 11.2 -0.2**
TREC AMS AMS 12 13 50.0
comp=Z,2μm,15.3s
NKC Novy Kostel 77.05 336 *e*P **P 11 34 11.8 +0.3**
CTKT Corum 77.07 317 *i*P **P 11 34 13.2 +1.3**
LHO Holmfirth 77.08 346 *e*P **P 11 34 12.6 +0.9**
TOS Tosya 77.09 318 *e*P **P 11 34 12.9 +1.1**
BIDO Bidbid 77.10 291 P **P 11 34 13.2 +1.0**
SNR=7.9
BIDO Bidbid 77.10 291 P **P 11 34 13.2 +1.0**
SNR=7.9
BIDO Bidbid 77.10 291 P **P 11 34 13.2 +1.0**
SNR=7.9
BIDO Bidbid 77.10 291 P **P 11 34 13.2 +1.0**
SNR=7.9
BIDO Bidbid 77.10 291 P **P 11 34 13.2 +1.0**
SNR=7.9
UBBA Unterbreizbach 77.16 338 *e*P **P 11 34 11.9 -0.2**
comp=Z,33nm,1.2s,mb5.1
VOIR 77.17 326 P **P 11 34 12.4 +0.1**
VOIR 77.17 326 ⇓P **P 11 34 12.8 +0.5**
VOIR 77.17 326 ⇓*i*P **P 11 34 12.8 +0.5**
MALT Malatya 77.18 314 *e*P **P 11 34 13.4 +0.9**
MALT Malatya 77.18 314 ⇓*i*P **P 11 34 13.0 +0.6**
WBK Wadi Bani Khal 77.22 289 P **P 11 34 15.1 +2.2**
SNR=7.2
WBK Wadi Bani Khal 77.22 289 P **P 11 34 15.1 +2.2**
SNR=7.2
WBK Wadi Bani Khal 77.22 289 P **P 11 34 15.1 +2.2**
SNR=7.2
WBK Wadi Bani Khal 77.22 289 P **P 11 34 15.1 +2.2**
SNR=7.2
BUG Bochum--Univer 77.25 340 *e*P **P 11 34 12.5 -0.1**
comp=Z,52nm,1.1s,mb5.4
MODS Modra-Piesok 77.31 332 *e*P **P 11 34 13.4 +0.4**
KBI1 Birley Grange 77.31 346 *e*P **P 11 34 13.4 +0.6**
MANZ Manzenberg 77.37 336 *e*P **P 11 34 13.3 0.0**
comp=Z,36nm,1.0s,mb5.3
HATD Hatta, Dubai 77.40 293 P **P 11 34 14.1 +0.2**
SNR=21
HATD Hatta, Dubai 77.40 293 P **P 11 34 14.1 +0.2**
SNR=21
HATD Hatta, Dubai 77.40 293 P **P 11 34 14.1 +0.2**
SNR=21
HATD Hatta, Dubai 77.40 293 P **P 11 34 14.1 +0.2**
SNR=21
HATD Hatta, Dubai 77.40 293 P **P 11 34 14.1 +0.2**
SNR=21
PSN Preselentsi 77.42 323 *e*P **P 11 34 14.7 +1.0**
DMUB Kingscourt 77.48 349 *e*P **P 11 34 13.5 -0.4**
SMDO Samad 77.48 290 P **P 11 34 15.8 +1.5**
SNR=9.9
SMDO Samad 77.48 290 P **P 11 34 15.8 +1.5**
SNR=9.9
SMDO Samad 77.48 290 P **P 11 34 15.8 +1.5**
SNR=9.9
SMDO Samad 77.48 290 P **P 11 34 15.8 +1.5**
SNR=9.9
CORM Corum 77.50 317 *e*P **P 11 34 12.9 -1.3**
ZST Bratislava 77.52 332 *e*P **P 11 34 15.0 +0.8**
comp=Z,39nm,0.9s,mb5.3
ZST *e* 11 34 20.2
ZST LR LR
comp=Z,1μm,18.3s,MS5.2
ZST Bratislava 77.52 332 *e*P **P 11 34 15.0 +0.8**
ZST *e*pP pP 11 34 20.2 +2.7
JCT Junction City 77.52 58 *e*P **P 11 34 14.4 -0.1**
JCT *e* 11 34 24.4
JCT pmax pmax
comp=Z,24nm,1.1s,mb5.0
BUD Budapest 77.53 331 ⇑*e*P **P 11 34 15.8 +1.6**
ROTZ Rotzenmuhle 77.54 336 *e*P **P 11 34 14.5 +0.2**
comp=Z,47nm,0.9s,mb5.4
ASHO Ashiyiah 77.55 293 P **P 11 34 15.4 +0.7**
SNR=14
ASHO Ashiyiah 77.55 293 P **P 11 34 15.4 +0.7**
SNR=14
ASHO Ashiyiah 77.55 293 P **P 11 34 15.4 +0.7**
SNR=14
ASHO Ashiyiah 77.55 293 P **P 11 34 15.4 +0.7**
SNR=14
HOQ Hoqain 77.57 291 P **P 11 34 15.2 +0.4**
SNR=16
HOQ Hoqain 77.57 291 P **P 11 34 15.2 +0.4**
SNR=16
HOQ Hoqain 77.57 291 P **P 11 34 15.2 +0.4**
SNR=16
HOQ Hoqain 77.57 291 P **P 11 34 15.2 +0.4**
SNR=16
KWE Weaver Farm 77.59 346 *e*P **P 11 34 13.8 -0.7**
URFA Urfa 77.67 313 *e*P **P 11 34 16.4 +1.2**
KHC Kasperske Hory 77.73 335 *c i*P **P 11 34 14.5 -0.9**
KHC Kasperske Hory 77.73 335 *e*P **P 11 34 14.7 -0.7**
KHC *e*pP pP 11 34 20.0 +1.4
KHC *e*S S 11 44 04.8 -2.5
KHC AMS AMS 12 14 20.0
comp=Z,1μm,15.4s
CWF Charnwood Fore 77.77 345 P **P 11 34 15.7 +0.3**
CWF AMb AMB 11 34 17.6
comp=Z,56nm,1.6s,mb5.2
CWF Charnwood Fore 77.77 345 *e*P **P 11 34 15.7 +0.3**
CWF AMb AMB 11 34 17.6
comp=Z,56nm,1.6s,mb5.2
CWF AMS AMS 12 12 47.0
comp=Z,355nm,20.9s,MS4.7
GRA1 Grafenberg Arr 77.88 337 *e*P **P 11 34 16.6 +0.5**
comp=Z,98nm,0.9s,mb5.7
GRA1 *e*pP pP 11 34 24.3 +4.9
GRA1 *e*S S 11 44 05.6 -3.2
GRA1 LR LR
comp=Z,800nm,20.9s,MS5.0
GRF Grafenberg Arr 77.88 337 *e*P **P 11 34 16.6 +0.5**
GRF *e**PP pP 11 34 24.3 +4.9
GRF *e*S S 11 44 05.6 -3.2
GRF pmax pmax
comp=Z,98nm,0.9s,mb5.7
GRF MLR MLR
comp=Z,800nm,20.9s,MS5.0
GRF Grafenberg Arr 77.88 337 *e*P **P 11 34 16.6 +0.5**
GRF *e**PP pP 11 34 24.3 +4.9
GRF *e*S S 11 44 05.6 -3.2
GRF pmax pmax
comp=Z,98nm,0.9s,mb5.7
GRF MLR MLR
comp=Z,800nm,20.9s,MS5.0
GRF Grafenberg Arr 77.88 337 *e*P **P 11 34 16.6 +0.5**
comp=Z,98nm,0.9s,mb5.7
GRF *e*pP pP 11 34 24.3 +4.9
GRF *e*S S 11 44 05.6 -3.2
GRF *e*L 12 11 57.0
comp=Z,841nm,20.9s
GRFO Grafenberg 77.88 337 *e*P **P 11 34 16.7 +0.6**
GRFO pmax pmax
comp=Z,90nm,0.9s,mb5.7
GRFO Grafenberg 77.88 337 *e*P **P 11 34 16.7 +0.5**
comp=Z,90nm,0.9s,mb5.7
MIAR Mount Ida 77.89 52 *e*P **P 11 34 15.5 -1.0**
ARMA Armidale 77.89 183 *e*P **P 11 34 14.6 -1.6**
ARMA Armidale 77.89 183 *e*P **P 11 34 17.6 +1.3**
ARMA *e*pP pP 11 34 26.8 +7.2
WET Wettzell 77.92 335 *e*P **P 11 34 16.8 +0.4**
WET pmax pmax
comp=Z,65nm,1.0s,mb5.5
WET Wettzell 77.92 335 *e*P **P 11 34 16.8 +0.4**
comp=Z,65nm,1.0s,mb5.5
JMDO Jabal Madar 77.95 290 P **P 11 34 17.8 +0.8**
SNR=13
JMDO Jabal Madar 77.95 290 P **P 11 34 17.8 +0.8**
SNR=13
JMDO Jabal Madar 77.95 290 P **P 11 34 17.8 +0.8**
SNR=13
JMDO Jabal Madar 77.95 290 P **P 11 34 17.8 +0.8**
SNR=13
GEC2 GERESS Array S 77.96 335 *e*P **P 11 34 16.5 -0.1**
GEC2 pmax pmax
comp=Z,23nm,0.9s,mb5.1
GEC2 GERESS Array S 77.96 335 *e*P **P 11 34 16.8 +0.2**
GEC2 GERESS Array S 77.96 335 *e*P **P 11 34 16.5 -0.1**
comp=Z,23nm,0.9s,mb5.1
GERES GERESS Array B 77.96 335 P **P 11 34 16.5 -0.1**
comp=Z,17nm,0.8s,mb5.0,baz=36,slow=5.0,SNR=78
GERES LR LR 12 12 54.9
comp=Z,1μm,18.1s,MS5.2,baz=18,slow=39
BNN Bunyan 77.99 316 *e*P **P 11 34 17.4 +0.4**
BHD Baghdad 78.00 307 *ex* x 11 34 14.0
DLF Lyons Farm 78.02 349 *e*P **P 11 34 16.5 -0.4**
CDAG Cicekdag 78.06 317 *i*P **P 11 34 15.4 -1.9**
DCN Croghan 78.07 349 *e*P **P 11 34 17.0 -0.2**
CONA Conrad Observa 78.14 333 *i*pP pP 11 34 18.2 -2.7
comp=Z,62nm,1.4s,SNR=18
CSNA Conrad Observa 78.14 333 ⇑*i*pP pP 11 34 18.1 -2.8
comp=Z,55nm,1.4s
PRD Provadia 78.14 323 P **P 11 34 17.8 +0.1**
HGN Heimansgroeve 78.19 340 *e*P **P 11 34 17.8 -0.1**
comp=Z,67nm,1.0s,mb5.5
BEBN Eben Emael 78.22 340 P **P 11 34 18.7 +0.7**
BSY Bisya 78.25 291 P **P 11 34 19.1 +0.5**
SNR=27
BSY Bisya 78.25 291 P **P 11 34 19.1 +0.5**
SNR=27
BSY Bisya 78.25 291 P **P 11 34 19.1 +0.5**
SNR=27
BZS Buzias 78.27 328 ⇓*i*P **P 11 34 18.0 -0.4**
MEM Membach 78.32 340 P **P 11 34 18.8 +0.2**
MEM PCP PcP 11 34 26.1 -1.9
GZT Gaziantep 78.35 314 *i*P **P 11 34 19.9 +0.9**
UCC Uccle 78.51 341 P **P 11 34 19.5 -0.1**
AVNT Avonos 78.52 316 *i*P **P 11 34 20.8 +0.9**
KMRS Kahramanmaras 78.56 314 *e*P **P 11 34 20.8 +0.7**
ZIMR 78.56 325 P **P 11 34 20.0 0.0**
ANTO Ankara 78.58 318 *e*P **P 11 34 20.7 +0.4**
ANTO Ankara 78.58 318 ⇓P **P 11 34 21.3 +1.1**
ANTO Ankara 78.58 318 P **P 11 34 21.1 +0.8**
SNR=13
ANTO Ankara 78.58 318 P **P 11 34 21.1 +0.8**
SNR=13
ANTO Ankara 78.58 318 P **P 11 34 21.1 +0.8**
SNR=13
ANTO Ankara 78.58 318 ⇓*i*P **P 11 34 21.3 +1.1**
TOD Tromm 78.58 338 *e*P **P 11 34 19.9 -0.1**
ABH Alteburg 78.64 339 *e*P **P 11 34 20.0 -0.3**
HENT Hendek 78.64 320 *i*P **P 11 34 20.6 0.0**
HAE Alders End 78.65 346 *e*P **P 11 34 20.2 -0.2**
BCLA Clavier 78.66 341 P **P 11 34 20.8 +0.4**
comp=Z,21nm,1.0s,mb5.0
SZH Strazhica 78.67 324 P **P 11 34 20.1 -0.5**
MOA Molln 78.69 334 ⇑*i*P **P 11 34 20.6 0.0**
comp=Z,45nm,1.7s,mb5.1,SNR=9.3
HTR Trewern Hill 78.73 346 *e*P **P 11 34 20.7 -0.1**
ANDN Andirin 78.77 314 *i*P **P 11 34 23.0 +1.7**
PKSM Moragy 78.77 331 P **P 11 34 20.5 -0.7**
PKSM Moragy 78.77 331 ⇑P **P 11 34 20.0 -1.2**
PKSM Moragy 78.77 331 ⇑*i*P **P 11 34 20.0 -1.1**
ARSA Arzberg 78.85 333 ⇑*i*P **P 11 34 21.9 +0.3**
comp=Z,26nm,1.2s,mb5.0,SNR=11
ARSA Arzberg 78.85 333 ⇑*i*pP pP 11 34 21.9 -3.0
comp=Z,26nm,1.2s,SNR=11
RUP Ruppelstein 78.92 339 *e*P **P 11 34 21.3 -0.6**
UMR Umm Al-Rimmam 78.95 302 *e*P **P 11 34 21.4 -1.0**
UMR AMb AMB 11 34 24.6
comp=Z,202nm,0.9s,mb6.1
GIVF Givet 79.06 341 *e*P **P 11 34 22.6 -0.1**
comp=Z,62nm,1.2s,mb5.1
GIVF Givet 79.06 341 *e*P **P 11 34 22.6 -0.1**
GIVF pmax pmax
comp=Z,31nm,1.2s,mb5.1
GIVF Givet 79.06 341 *e*P **P 11 34 22.6 -0.1**
comp=Z,31nm,1.2s,mb5.1
KOZT Kozan 79.09 315 *e*P **P 11 34 25.5 +2.4**
DOU Dourbes 79.12 341 P **P 11 34 23.4 +0.4**
DOU PCP PcP 11 34 30.8 -0.6
DOU E 11 34 38.3
BAIF Baives 79.24 341 *e*P **P 11 34 23.7 0.0**
comp=Z,68nm,1.2s,mb5.1
BAIF Baives 79.24 341 *e*P **P 11 34 23.7 0.0**
BAIF pmax pmax
comp=Z,34nm,1.2s,mb5.2
BAIF Baives 79.24 341 *e*P **P 11 34 23.7 0.0**
comp=Z,34nm,1.2s,mb5.2
STU Stuttgart 79.25 338 *e*P **P 11 34 23.8 +0.1**
comp=Z,50nm,1.2s,mb5.3
FUR Furstenfeldbru 79.25 336 *e*P **P 11 34 24.0 +0.2**
FUR pmax pmax
comp=Z,76nm,0.9s,mb5.6
FUR Furstenfeldbru 79.25 336 *e*P **P 11 34 24.0 +0.2**
comp=Z,76nm,0.9s,mb5.6
LANF Langenberg 79.41 338 *e*P **P 11 34 24.6 0.0**
NAY Al-Naaiem 79.45 302 *e*P **P 11 34 24.3 -0.9**
NAY AMb AMB 11 34 27.8
comp=Z,135nm,0.9s,mb5.9
RDF Al-Radifah 79.51 302 *e*P **P 11 34 24.4 -1.2**
RDF AMb AMB 11 34 28.5
comp=Z,406nm,0.9s,mb6.4
PERS Pernice 79.52 333 *e*P **P 11 34 25.1 -0.1**
WVT Waverly 79.59 47 P **P 11 34 24.8 -1.0**
WVT pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WVT Waverly 79.59 47 *e*P **P 11 34 25.6 -0.2**
comp=Z,10nm,0.9s,mb4.8
KARA Karaisali 79.64 315 *e*P **P 11 34 26.2 +0.2**
KBA Koelnbreinsper 79.65 334 ⇑*i*P **P 11 34 26.4 +0.5**
comp=Z,80nm,1.5s,mb5.4,SNR=26
KBA Koelnbreinsper 79.65 334 ⇑*i*pP **P 11 34 26.4 +0.5**
comp=Z,80nm,1.5s,mb5.4,SNR=26
KBA Koelnbreinsper 79.65 334 ⇑*i*P **P 11 34 26.4 +0.4**
KBA pmax pmax
comp=Z,80nm,1.5s,mb5.4
ESKT Eskisehir 79.73 319 *e*P **P 11 34 27.0 +0.5**
ESKT Eskisehir 79.73 319 *i*P **P 11 34 26.3 -0.3**
KIZT Kizilcal 79.80 318 *e*P **P 11 34 26.8 -0.1**
BFO Black Forest 79.88 338 P **P 11 34 26.2 -1.0**
comp=Z,210nm,1.0s,mb6.0,SNR=10
BFO Black Forest 79.88 338 *e*P **P 11 34 27.2 0.0**
BFO pmax pmax
comp=Z,40nm,1.0s,mb5.3
BFO Black Forest 79.88 338 *e*P **P 11 34 27.2 0.0**
comp=Z,40nm,1.0s,mb5.3
WATA Walderalm 79.93 335 ⇑*i*P **P 11 34 27.9 +0.5**
comp=Z,54nm,1.1s,mb5.4
WATA Walderalm 79.93 335 ⇑*i*pP **P 11 34 27.9 +0.5**
comp=Z,54nm,1.1s,mb5.4
WATA Walderalm 79.93 335 ⇑*i*P **P 11 34 28.0 +0.6**
WATA pmax pmax
comp=Z,54nm,1.1s,mb5.4
MYKA Terra Mystica 79.97 334 ⇑*i*P **P 11 34 27.4 -0.3**
comp=Z,220nm,2.0s,mb5.7
SPAK Spaichingen-Ko 79.97 338 *e*P **P 11 34 27.7 0.0**
WTTA Wattenberg 79.98 335 *i*P **P 11 34 28.5 +0.8**
comp=Z,93nm,1.3s,mb5.5,SNR=20
WTTA Wattenberg 79.98 335 *i*pP **P 11 34 28.5 +0.8**
comp=Z,93nm,1.3s,mb5.5,SNR=20
WTTA Wattenberg 79.98 335 *i*P **P 11 34 28.5 +0.8**
WTTA pmax pmax
comp=Z,93nm,1.3s,mb5.5
RETA Reutte 80.02 336 ⇓*i*pP **P 11 34 28.2 +0.3**
comp=Z,47nm,1.4s,mb5.2,SNR=11
MOTA Moosalm 80.05 336 ⇑*i*P **P 11 34 28.5 +0.4**
comp=Z,66nm,1.0s,mb5.5,SNR=31
MOTA Moosalm 80.05 336 ⇑*i*pP **P 11 34 28.5 +0.4**
comp=Z,66nm,1.0s,mb5.5,SNR=31
MOTA Moosalm 80.05 336 ⇑*i*P **P 11 34 28.5 +0.4**
MOTA pmax pmax
comp=Z,66nm,1.0s,mb5.5
CDF Champ du Feu 80.07 339 *e*P **P 11 34 28.3 +0.1**
comp=Z,81nm,1.1s,mb5.3
CDF Champ du Feu 80.07 339 *e*P **P 11 34 28.3 +0.1**
CDF pmax pmax
comp=Z,41nm,1.1s,mb5.3
CDF Champ du Feu 80.07 339 *e*P **P 11 34 28.3 +0.1**
comp=Z,40nm,1.1s,mb5.3
OXF Oxford 80.07 49 *e*P **P 11 34 28.2 -0.3**
OXF pmax pmax
comp=Z,35nm,0.9s,mb5.3
OXF Oxford 80.07 49 *e*P **P 11 34 28.2 -0.3**
comp=Z,35nm,0.9s,mb5.3
PLD Plovdiv 80.13 325 *e*P **P 11 34 29.0 +0.4**
SQTA Sankt Quirin 80.14 336 ⇑*i*P **P 11 34 29.2 +0.7**
comp=Z,53nm,1.1s,mb5.4,SNR=14
SQTA Sankt Quirin 80.14 336 ⇑*i*pP **P 11 34 29.2 +0.7**
comp=Z,53nm,1.1s,mb5.4,SNR=14
SQTA Sankt Quirin 80.14 336 ⇑*i*P **P 11 34 29.2 +0.6**
SQTA pmax pmax
comp=Z,53nm,1.1s,mb5.4
STKA Stephens Creek 80.16 191 *e*P **P 11 34 27.6 -1.0**
comp=Z,2.1nm,0.7s,mb4.2
STKA Stephens Creek 80.16 191 P **P 11 34 28.1 -0.5**
comp=Z,3.3nm,0.8s,mb4.3,baz=331,slow=3.3,SNR=5.6
STKA LR LR 12 10 20.0
comp=Z,476nm,18.1s,MS4.9,baz=24,slow=36
DIVS Divibare 80.16 329 *e*P **P 11 34 27.8 -1.0**
ABTA Abfaltersbach 80.20 335 ⇑*i*P **P 11 34 28.5 -0.4**
comp=Z,52nm,1.8s,mb5.2
MERS Mersin 80.21 315 *e*P **P 11 34 29.2 +0.1**
KDZ Kurdzhali 80.23 324 P **P 11 34 29.6 +0.4**
FVI Forni Avoltri 80.25 334 P **P 11 34 29.5 +0.3**
FVI pmax pmax
comp=Z,4.0nm,0.3s,mb4.8
FVI Forni Avoltri 80.25 334 P **P 11 34 29.5 +0.3**
comp=Z,3.7nm,0.3s,mb4.8
PTCC Patocco-Chiusa 80.26 334 P **P 11 34 28.6 -0.7**
comp=Z,34nm,1.2s,mb5.2
ECH Echery 80.28 339 *e*P **P 11 34 29.2 -0.1**
VTS Vitosha 80.29 326 *e*P **P 11 34 29.1 -0.4**
VTS Vitosha 80.29 326 ⇓P **P 11 34 29.8 +0.3**
VTS Vitosha 80.29 326 ⇓*i*P **P 11 34 29.8 +0.3**
KONT Konya--Tatoy 80.34 317 *e*P **P 11 34 28.7 -1.1**
VISS Visnje 80.35 333 *e*P **P 11 34 28.5 -1.3**
PLAL Pickwick Lake 80.37 48 *e*P **P 11 34 29.4 -0.7**
comp=Z,8.7nm,0.8s,mb4.7
FELD Feldberg im Sc 80.38 338 *e*P **P 11 34 29.6 -0.3**

GMNA	Gemona	80.41 334	P		P	11 34 30.1	0.0
	comp=Z,152nm,0.8s,mb6.0						
DAVA	Damuels	80.44 336	⇑ *i* P		P	11 34 30.5	+0.3
	comp=Z,41nm,1.1s,mb5.2,SNR=11						
DAVA	Damuels	80.44 336	⇑ *i* pP		P	11 34 30.5	+0.3
	comp=Z,41nm,1.1s,mb5.2,SNR=11						
TAOE	Nuku Hiva Isla	80.44 114	*e*LR	LR		11 59 21.9	
	comp=Z,29μm,23.1s,baz=323						
FETA	Feichten	80.45 336	⇓ *i* pP		P	11 34 30.8	+0.6
	comp=Z,107nm,1.9s,mb5.5,SNR=10.0						
BOJS	Bojanci	80.49 332	*i* P		P	11 34 30.9	+0.4
JAVS	Javornik	80.51 333	*e*P		P	11 34 30.4	-0.2
MEZF	Maizieres J'vi	80.52 340	*e*P		P	11 34 30.9	+0.3
	comp=Z,97nm,1.1s,mb5.3						
MEZF	Maizieres J'vi	80.52 340	*e*P		P	11 34 30.9	+0.3
	comp=Z,97nm,1.1s,mb5.6						
THEF	They Montfort	80.55 339	*e*P		P	11 34 30.8	0.0
ALN	Alexandroupoli	80.62 323	*e*P		P	11 34 31.0	-0.3
MOF	Molkenrain	80.62 338	*e*P		P	11 34 31.3	+0.1
SHUT	Suhut-Afyon	80.66 319	*e*P		P	11 34 31.2	-0.4
HAU	Haudompre	80.67 339	*e*P		P	11 34 31.4	0.0
	comp=Z,54nm,1.1s,mb5.1						
HAU			*e*MLR	MLR			
	comp=Z,934nm,21.5s,MS4.8						
HAU	Haudompre	80.67 339	*e*P		P	11 34 31.4	0.0
HAU			pmax	pmax			
	comp=Z,27nm,1.1s,mb5.1						
HAU			MLR	MLR			
	comp=Z,930nm,21.5s,MS5.1						
HAU	Haudompre	80.67 339	*e*P		P	11 34 31.4	0.0
	comp=Z,27nm,1.1s,mb5.1						
HAU			LR	LR			
	comp=Z,930nm,21.5s,MS5.1						
GDZ	Gediz	80.69 320	*i* P		P	11 34 31.4	-0.3
HINF	Hinteralfeld	80.73 339	*e*P		P	11 34 31.5	-0.2
	comp=Z,32nm,1.0s,mb4.9						
HINF	Hinteralfeld	80.73 339	*e*P		P	11 34 31.5	-0.2
HINF			pmax	pmax			
	comp=Z,16nm,1.0s,mb4.9						
HINF	Hinteralfeld	80.73 339	*e*P		P	11 34 31.5	-0.2
	comp=Z,16nm,1.0s,mb4.9						
BBS	Basel-Blauen	80.89 338	*e*P		P	11 34 31.4	-1.2
MMB	Musomiste	80.95 325	P		P	11 34 33.4	+0.4
KKB	Krupnik	80.96 326	P		P	11 34 34.1	+1.0
BRMO	Bormio	81.05 336	P		P	11 34 33.8	+0.3
	comp=Z,44nm,1.2s,mb5.3						
HDMB	Hadim	81.08 317	*e*P		P	11 34 33.6	-0.2
IKL	Isikli	81.11 315	*e*P		P	11 34 34.0	0.0
LOMF	Lomont	81.17 338	*e*P		P	11 34 34.5	+0.4
FLN	La Foliniere	81.43 344	*e*P		P	11 34 35.4	-0.1
	comp=Z,35nm,0.9s,mb5.0						
FLN			*e*MLR	MLR			
	comp=Z,681nm,17.8s,MS4.8						
FLN	La Foliniere	81.43 344	*e*P		P	11 34 35.4	-0.1
FLN			pmax	pmax			
	comp=Z,18nm,0.9s,mb5.0						
FLN			MLR	MLR			
	comp=Z,680nm,17.8s,MS5.0						
FLN	La Foliniere	81.43 344	*e*P		P	11 34 35.4	-0.1
	comp=Z,18nm,0.9s,mb5.0						
FLN			LR	LR			
	comp=Z,680nm,17.8s,MS5.0						
EREN	Erenkoy	81.45 315	*e*P		P	11 34 36.6	+0.8
SKO	Skopje	81.49 327	*e*P		P	11 34 36.1	+0.2
KULA	Kula-Manisa	81.52 320	*e*P		P	11 34 34.1	-2.0
LDF	La Druitiere	81.53 343	*e*P		P	11 34 35.9	-0.1
	comp=Z,42nm,1.0s,mb5.0						
LDF	La Druitiere	81.53 343	*e*P		P	11 34 35.9	-0.1
LDF			pmax	pmax			
	comp=Z,21nm,1.0s,mb5.0						
LDF	La Druitiere	81.53 343	*e*P		P	11 34 35.9	-0.1
	comp=Z,21nm,1.0s,mb5.0						
VAY	Valandovo	81.62 326	*e*P		P	11 34 34.8	-1.8
KNT	Kendrikon	81.64 325	*e*P		P	11 34 36.2	-0.5
GRR	Gorron	81.86 344	*e*P		P	11 34 37.9	+0.1
	comp=Z,42nm,0.8s,mb5.1						
GRR	Gorron	81.86 344	*e*P		P	11 34 37.9	+0.1
GRR			pmax	pmax			
	comp=Z,21nm,0.8s,mb5.1						
GRR	Gorron	81.86 344	*e*P		P	11 34 37.9	+0.1
	comp=Z,21nm,0.8s,mb5.1						
TKL	Tuckaleechee C	81.92 44	*e*P		P	11 34 37.8	-0.5
LOR	Lormes	81.95 340	*e*P		P	11 34 38.3	+0.1
	comp=Z,44nm,0.9s,mb5.1						
LOR			*e*MLR	MLR			
	comp=Z,946nm,21.0s,MS4.8						
LOR	Lormes	81.95 340	*e*P		P	11 34 38.3	+0.1
LOR			pmax	pmax			
	comp=Z,22nm,0.9s,mb5.1						
LOR			MLR	MLR			
	comp=Z,950nm,21.0s,MS5.1						
LOR	Lormes	81.95 340	*e*P		P	11 34 38.3	+0.1
	comp=Z,22nm,0.9s,mb5.1						
LOR			LR	LR			
	comp=Z,950nm,21.0s,MS5.1						
PPT	Papeete	81.96 127	*e*S	S		11 44 51.4	-1.1
	comp=Z,510nm,29.0s						
PPT	Papeete	81.96 127	*e*LR	LR		12 00 22.6	
	comp=Z,1μm,22.5s,baz=321						
PPT	Papeete	81.96 127	LR	LR		12 03 13.6	
	comp=Z,785nm,19.7s,MS5.1,baz=313,slow=30						
CABF	La Chapelle	82.04 339	*e*P		P	11 34 39.2	+0.5
	comp=Z,51nm,1.1s,mb5.1						
CABF	La Chapelle	82.04 339	*e*P		P	11 34 39.2	+0.5
CABF			pmax	pmax			
	comp=Z,25nm,1.1s,mb5.1						
CABF	La Chapelle	82.04 339	*e*P		P	11 34 39.2	+0.5
	comp=Z,25nm,1.1s,mb5.1						
KRUS	Krusevo	82.08 326	*e*P		P	11 34 38.7	-0.3
KDAG	Bornova	82.21 321	*i* P		P	11 34 40.8	+1.0
SSF	Saint Saulge	82.22 341	*e*P		P	11 34 39.8	+0.1
	comp=Z,35nm,0.9s,mb5.0						
SSF	Saint Saulge	82.22 341	*e*P		P	11 34 39.8	+0.1
SSF			pmax	pmax			
	comp=Z,17nm,0.9s,mb5.0						
SSF	Saint Saulge	82.22 341	*e*P		P	11 34 39.8	+0.1
	comp=Z,17nm,0.9s,mb5.0						
SGMF	Saint Gilles	82.30 345	*e*P		P	11 34 40.4	+0.3
	comp=Z,34nm,0.7s,mb5.1						
SGMF	Saint Gilles	82.30 345	*e*P		P	11 34 40.4	+0.3
SGMF			pmax	pmax			
	comp=Z,17nm,0.7s,mb5.1						
SGMF	Saint Gilles	82.30 345	*e*P		P	11 34 40.4	+0.3
	comp=Z,17nm,0.7s,mb5.1						
CSS	Prodhromos	82.31 315	*e*P		P	11 34 40.5	+0.1
	comp=Z,55nm,0.7s,mb5.6						
ROSF	Rostrenen	82.35 345	*e*P		P	11 34 40.5	+0.2
	comp=Z,96nm,0.9s,mb5.4						
ROSF	Rostrenen	82.35 345	*e*P		P	11 34 40.5	+0.2
ROSF			pmax	pmax			
	comp=Z,48nm,0.9s,mb5.4						
ROSF	Rostrenen	82.35 345	*e*P		P	11 34 40.5	+0.2
	comp=Z,48nm,0.9s,mb5.4						
BIA	Bitola	82.36 326	*e*P		P	11 34 39.5	-1.0
LEF	Lefka	82.39 315	*e*P		P	11 34 39.5	-1.3
ELL	Elmali	82.44 318	*e*P		P	11 34 38.1	-2.9
OHR	Ohrid	82.47 327	*e*P		P	11 34 40.2	-0.9
AVF	Avril sur Loir	82.51 341	*e*P		P	11 34 41.4	+0.2
	comp=Z,44nm,0.9s,mb5.2						
AVF	Avril sur Loir	82.51 341	*e*P		P	11 34 41.4	+0.2
AVF			pmax	pmax			
	comp=Z,22nm,0.9s,mb5.2						
AVF	Avril sur Loir	82.51 341	*e*P		P	11 34 41.4	+0.2
	comp=Z,22nm,0.9s,mb5.2						
URLA	Izmir	82.53 321	*i* P		P	11 34 41.7	+0.3
SMF	Signal de Mont	82.54 340	*e*P		P	11 34 41.6	+0.3
	comp=Z,92nm,1.2s,mb5.4						
SMF	Signal de Mont	82.54 340	*e*P		P	11 34 41.6	+0.3
SMF			pmax	pmax			
	comp=Z,46nm,1.2s,mb5.4						
SMF	Signal de Mont	82.54 340	*e*P		P	11 34 41.6	+0.3
	comp=Z,46nm,1.2s,mb5.4						
AYDN	Tasoluk	82.57 320	*i* P		P	11 34 41.7	+0.1
QUIF	Quistinic	82.73 345	*e*P		P	11 34 41.7	-0.6
	comp=Z,30nm,0.9s,mb5.0						
QUIF	Quistinic	82.73 345	*e*P		P	11 34 41.7	-0.6
QUIF			pmax	pmax			
	comp=Z,15nm,0.9s,mb5.0						
QUIF	Quistinic	82.73 345	*e*P		P	11 34 41.7	-0.6
	comp=Z,15nm,0.9s,mb5.0						
BGF	Bois d'Agland	82.85 341	*e*P		P	11 34 43.2	+0.3
FSSB	Fossombrone	82.89 333	P		P	11 34 43.6	+0.4
	comp=Z,26nm,0.8s,mb5.3						
LPL	La Plagne	82.90 338	*e*P		P	11 34 44.4	+1.2
	comp=Z,57nm,0.9s,mb5.3						
LPL	La Plagne	82.90 338	*e*P		P	11 34 44.4	+1.2
LPL			pmax	pmax			
	comp=Z,29nm,0.9s,mb5.3						
LPL	La Plagne	82.90 338	*e*P		P	11 34 44.4	+1.2
	comp=Z,28nm,0.9s,mb5.3						
LPG	La Plagne	82.91 338	*e*P		P	11 34 44.6	+1.3
	comp=Z,90nm,1.0s,mb5.5						
LPG	La Plagne	82.91 338	*e*P		P	11 34 44.6	+1.3
LPG			pmax	pmax			
	comp=Z,45nm,1.0s,mb5.5						
LPG	La Plagne	82.91 338	*e*P		P	11 34 44.6	+1.3
	comp=Z,45nm,1.0s,mb5.5						
SFI	Santa Sofia	82.98 334	P		P	11 34 45.3	+1.6
SEI	Scarperia	82.98 334	P		P	11 34 46.0	+2.3
PLDF	La Plantade	83.23 340	*e*P		P	11 34 45.9	+1.0
TCF	Toulx Ste Croi	83.24 341	*e*P		P	11 34 45.4	+0.4
	comp=Z,66nm,0.9s,mb5.3						
TCF	Toulx Ste Croi	83.24 341	*e*P		P	11 34 45.4	+0.4
TCF			pmax	pmax			
	comp=Z,33nm,0.9s,mb5.4						
TCF	Toulx Ste Croi	83.24 341	*e*P		P	11 34 45.4	+0.4
	comp=Z,33nm,0.9s,mb5.4						
BDRM	Kayabasi	83.26 320	*i* P		P	11 34 45.8	+0.6
AGO	Saint Agoulin	83.26 340	*e*P		P	11 34 46.5	+1.4
BNI	Bardonecchia	83.35 338	P		P	11 34 46.8	+1.2
BNI			pmax	pmax			
	comp=Z,21nm,0.9s,mb5.2						
BNI	Bardonecchia	83.35 338	*e*P		P	11 34 47.5	+1.9
	comp=Z,21nm,0.9s,mb5.2						
MFF	Saint Martin d	83.44 343	*e*P		P	11 34 46.1	+0.1
	comp=Z,68nm,1.0s,mb5.3						
MFF	Saint Martin d	83.44 343	*e*P		P	11 34 46.1	+0.1
MFF			pmax	pmax			
	comp=Z,34nm,1.0s,mb5.3						
MFF	Saint Martin d	83.44 343	*e*P		P	11 34 46.1	+0.1
	comp=Z,34nm,1.0s,mb5.3						
NRCA	Norcia	83.56 333	P		P	11 34 47.8	+1.1
	comp=Z,59nm,1.1s,mb5.6						
PYM	Petit Puy Mans	83.58 340	*e*P		P	11 34 48.3	+1.6
MBDF	Montbardon	83.63 338	*e*P		P	11 34 47.4	+0.4
	comp=Z,48nm,0.9s,mb5.3						
MBDF	Montbardon	83.63 338	*e*P		P	11 34 47.4	+0.4
MBDF			pmax	pmax			
	comp=Z,24nm,0.9s,mb5.3						
MBDF	Montbardon	83.63 338	*e*P		P	11 34 47.4	+0.4
	comp=Z,24nm,0.9s,mb5.3						
ORIF	Oris-en-Rattie	83.67 338	*e*P		P	11 34 48.2	+1.0
	comp=Z,65nm,0.8s,mb5.5						
ORIF			*e*MLR	MLR			
	comp=Z,729nm,21.0s,MS4.7						
ORIF	Oris-en-Rattie	83.67 338	*e*P		P	11 34 48.2	+1.0
ORIF			pmax	pmax			
	comp=Z,32nm,0.8s,mb5.5						
ORIF	Oris-en-Rattie	83.67 338	*e*P		P	11 34 48.2	+1.0
	comp=Z,32nm,0.8s,mb5.5						
PZZ	Prazzo	83.75 337	P		P	11 34 47.8	+0.2
AQU	L'Aquila	83.91 332	*e*P		P	11 34 50.4	+1.9
WHFO	Wadi Hawf	83.96 290	P		P	11 34 49.7	+0.6
	SNR=5.3						
WHFO	Wadi Hawf	83.96 290	P		P	11 34 49.7	+0.6
	SNR=5.3						
LBL	Lubilhac	84.01 340	*e*P		P	11 34 49.7	+0.7
VIVF	Saint-Julien-l	84.03 339	*e*P		P	11 34 49.7	+0.6
	comp=Z,27nm,0.8s,mb5.1						
VIVF	Saint-Julien-l	84.03 339	*e*P		P	11 34 49.7	+0.6
VIVF			pmax	pmax			
	comp=Z,14nm,0.8s,mb5.1						
VIVF	Saint-Julien-l	84.03 339	*e*P		P	11 34 49.7	+0.6
	comp=Z,14nm,0.8s,mb5.1						
SBF	Sospel	84.26 337	*e*P		P	11 34 49.9	-0.3
	comp=Z,131nm,0.9s,mb5.7						
SBF	Sospel	84.26 337	*e*P		P	11 34 49.9	-0.3
SBF			pmax	pmax			
	comp=Z,66nm,0.9s,mb5.8						
SBF	Sospel	84.26 337	*e*P		P	11 34 49.9	-0.3
	comp=Z,66nm,0.9s,mb5.8						
RJF	Les Rejaudoux	84.33 341	*e*P		P	11 34 50.8	+0.2
	comp=Z,53nm,1.0s,mb5.3						
RJF			*e*MLR	MLR			
	comp=Z,861nm,22.2s,MS4.8						
RJF	Les Rejaudoux	84.33 341	*e*P		P	11 34 50.8	+0.2
RJF			pmax	pmax			
	comp=Z,26nm,1.0s,mb5.3						
RJF			MLR	MLR			
	comp=Z,860nm,22.3s,MS5.1						
RJF	Les Rejaudoux	84.33 341	*e*P		P	11 34 50.8	+0.2
	comp=Z,26nm,1.0s,mb5.3						
RJF			LR	LR			
	comp=Z,860nm,22.3s,MS5.1						
CAF	Calviac	84.57 341	*e*P		P	11 34 52.5	+0.7
	comp=Z,42nm,0.9s,mb5.3						
CAF	Calviac	84.57 341	*e*P		P	11 34 52.5	+0.7
CAF			pmax	pmax			
	comp=Z,21nm,0.9s,mb5.3						
CAF	Calviac	84.57 341	*e*P		P	11 34 52.5	+0.7
	comp=Z,21nm,0.9s,mb5.3						
SMRF	Simiane la Rot	84.63 338	*e*P		P	11 34 52.9	+0.8
	comp=Z,104nm,1.3s,mb5.5						
SMRF	Simiane la Rot	84.63 338	*e*P		P	11 34 52.9	+0.8
	comp=Z,104nm,1.3s,mb5.8						
FRF	La Foret Royal	84.75 337	*e*P		P	11 34 52.4	-0.3
	comp=Z,42nm,1.0s,mb5.2						
FRF	La Foret Royal	84.75 337	*e*P		P	11 34 52.4	-0.3
FRF			pmax	pmax			
	comp=Z,21nm,1.0s,mb5.2						
FRF	La Foret Royal	84.75 337	*e*P		P	11 34 52.4	-0.3
	comp=Z,21nm,1.0s,mb5.2						
LFF	La Frestale	84.84 342	*e*P		P	11 34 53.7	+0.5
	comp=Z,72nm,1.0s,mb5.5						
LFF	La Frestale	84.84 342	*e*P		P	11 34 53.7	+0.5
LFF			pmax	pmax			
	comp=Z,36nm,1.0s,mb5.5						
LFF	La Frestale	84.84 342	*e*P		P	11 34 53.7	+0.5
	comp=Z,36nm,1.0s,mb5.5						
LASF	Ste Croix	84.96 339	*e*P		P	11 34 53.3	-0.5
VLS	Valsamata	85.11 325	*e*P		P	11 34 53.4	-1.3
TOO	Toolangi	85.37 187	*e*P		P	11 34 56.9	+1.3
	comp=Z,54nm,0.9s,mb5.7						
TOO	Toolangi	85.37 187	*e*P		P	11 34 56.9	+1.3
TOO			pmax	pmax			
	comp=Z,55nm,0.9s,mb5.7						
ZKR	Zakros	85.44 320	*e*P		P	11 34 55.2	-1.1
TIP	Timpagrande	85.64 328	*e*P		P	11 34 57.2	0.0
	comp=Z,30nm,0.9s,mb5.5						
LAST	Lasithi	85.72 320	*e*P		P	11 34 57.2	-0.5
MTLF	Montolieu	86.04 340	*e*P		P	11 34 58.6	-0.6
	comp=Z,19nm,1.0s,mb5.0						
MTLF	Montolieu	86.04 340	*e*P		P	11 34 58.6	-0.6
MTLF			pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.0						
MTLF	Montolieu	86.04 340	*e*P		P	11 34 58.6	-0.6
	comp=Z,9.5nm,1.0s,mb5.0						
SIVA	Sivas	86.12 321	*e*P		P	11 34 58.8	-1.0
KARN	Karanos	86.17 322	*e*P		P	11 34 58.8	-1.2
GVD	Gavdhos	86.58 321	*e*P		P	11 35 01.4	-0.6
	comp=Z,43nm,0.9s,mb5.7						
EPF	Esparros	86.75 341	*e*P		P	11 35 02.2	-0.5
ETSF	Etsaut	87.07 342	*e*P		P	11 35 03.9	-0.3
	comp=Z,11nm,0.7s,mb4.9						
ETSF	Etsaut	87.07 342	*e*P		P	11 35 03.9	-0.3
ETSF			pmax	pmax			
	comp=Z,5.0nm,0.7s,mb4.8						
ETSF	Etsaut	87.07 342	*e*P		P	11 35 03.9	-0.3
	comp=Z,5.3nm,0.7s,mb4.9						
ESDC	Sonseca Array	90.85 344	P		P	11 35 21.3	-0.9
	comp=Z,3.2nm,0.8s,mb4.7,baz=11,slow=4.1,SNR=9.5						
ESDC			LR	LR		12 23 00.1	
	comp=Z,474nm,18.5s,MS5.0,baz=35,slow=40						
KEST	Kesra	91.23 332	P		P	11 35 24.7	+0.7
	comp=Z,9.1nm,1.0s,mb5.1,baz=314,slow=4.4,SNR=13						
KEST			LR	LR		12 21 03.6	
	comp=Z,317nm,19.8s,MS4.8,baz=342,slow=39						
RKT	Rikitea	94.61 120	*e*LR	LR		12 05 40.2	
	comp=Z,448nm,31.0s,baz=329						
TORD	Torodi Ar. Bea	114.70 331	PKP	PKiKP		11 40 57.7	-1.8
TORD	Torodi Ar. Bea	114.70 331	PKP	PKiKP		11 40 57.7	-1.8
	comp=Z,0.5nm,0.5s,baz=10,slow=3.1,SNR=3.8						
DBIC	Dimbokro	122.82 335	PKP	PKPdf		11 41 13.8	-1.4
	comp=Z,5.0nm,0.9s,baz=242,slow=3.6,SNR=4.9						
CPUP	Villa Florida	147.08 61	PKPbc	PKPbc		11 42 01.2	-0.3
	comp=Z,23nm,1.1s,baz=312,slow=2.8,SNR=21						
PLCA	Paso Flores	147.29 95	PKPbc	PKPbc		11 42 01.1	-0.6
	comp=Z,18nm,0.7s,baz=277,slow=3.2,SNR=27						
MAIT	Maitri	151.02 204	*e*PKPdf	PKPbc		11 42 09.7	-0.5
TRQA	Tornquist	151.74 83	*e*PKPdf	PKPdf		11 42 06.4	-0.2
TRQA			*e*PKPbc	PKPbc		11 42 12.1	-0.8
TRQA			*e*PKPab	PKPab		11 42 22.1	+0.3
SNAA	Sanae	153.83 196	*e*PKPdf	PKPbc		11 42 13.7	-2.8
SNAA	Sanae	153.83 196	*e*PKPdf	PKPbc		11 42 13.7	-2.8
SNAA			*e*			11 42 17.6	
SNAA			*e*			11 42 30.2	
SNAA			*e*			11 42 35.6	
SNAA			*e*			11 42 43.4	
SNAA	Sanae	153.83 196	PKPbc	PKPbc		11 42 14.8	-1.7
	comp=Z,0.6nm,0.4s,baz=200,slow=5.9,SNR=27						
VNA2	Neumayer--Watz	155.26 194	*e*PKPdf	PKPdf		11 42 22.8	+12
VNA2	Neumayer--Watz	155.26 194	*e*PKPdf	PKPdf		11 42 22.8	+12
VNA2			*e*			11 42 27.8	
VNA2			*e*			11 42 36.5	
VNA2			*e*			11 42 52.9	
VNA2			*e*			11 45 49.6	
VNA2			*e*			11 48 38.8	
VNA2			*e*			11 48 42.5	
VNA2			*e*			11 48 46.0	
VNA1	Neumayer--Stat	155.64 194	*e*PKPdf	PKPab		11 42 38.1	+0.7
VNA1	Neumayer--Stat	155.64 194	*e*PKPdf	PKPab		11 42 38.1	+0.7
VNA1			*e*			11 42 54.6	
VNA1			*e*			11 45 50.5	
VNA1			*e*			11 48 40.5	
VNA1			*e*			11 48 44.0	
VNA1			*e*			11 48 48.1	

NIED ***15*** *11:27:00, 27.00N×141.00E, h520km, Mw5.5 Best double couple: M0=1.76000×10^17 NP1:φs=126.00000°, δ=50.00000°, λ=-115.00000°. NP2:φs=342.00000°, δ=46.00000°, λ=-63.00000°.*

IDC ***15*** *11:27:16.1±0.4, 26.68N×140.37E, h345km±3km, mb4.5/25, mb1 4.6/29, mb1mx4.6/31, mbtmp4.5/29, Error ellipse: s-maj=9.0km s-min=6.2km az=88.0*

MOS ***15*** *11:27:16.2±0.7, 26.70N×140.28E, h357km, mb4.9/46, Error ellipse: s-maj=8.8km s-min=4.0km az=109.1*

SZGRF ***15*** *11:27:17.9, 25.99N×140.36E, h379km, mb5.2, Volcano Islands, Japan, region*

ISCJB ***15*** *11:27:17.9±0.3, 26.73N±0.02×140.32E±0.02, h367km±2km, mb4.8/111, Error ellipse: s-maj=3.7km s-min=3.4km az=1.3*

BJI ***15*** *11:27:17.5, 26.71N×140.46E, h380km, mB4.6, mb5.0*

NEIC ***15*** *11:27:18.8±0.5, 26.71N×140.28E, h369km±5km, mb4.8/50, MW5.4(NIED), Error ellipse: s-maj=3.8km s-min=3.1km az=103.0*

NEIC Recorded [1 JMA] in the Chichijima-retto.

JMA ***15*** *11:27:19.0±0.2, 26.95N×140.97E, h366km±2km, M5.5*

JMA Felt I J1.

ISC 15 11:27:19.7±0.3, 26.73N±0.02×140.35E±0.02, h374km±2km, h369km±3.3km; pP-P, n682, c0°88/714, mb4.8/111, 130C-98D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	Haha-jima-NKT	1.64	93	⇑P	Pn	11 28 07.1	-4.0
JHHJ				S	S	11 28 44.9	-7.5
CBIJ	Chichi jima	1.68	77	⇑P	Pn	11 28 06.9	-4.4
CBIJ				*e*S	S	11 28 44.0	-8.8
CBIJ	Chichi jima	1.68	77	P	Pn	11 28 06.5	-4.8
	792nm,0.3s,baz=246,slow=3.7,SNR=335						
CBIJ				S	S	11 28 41.2	-12
	806nm,0.3s,baz=104,slow=22,SNR=6.0						
JHJ2	Mitsune	6.37	356	P	Pn	11 28 53.3	-2.2
JHJ2				*e*S	S	11 30 05.0	-8.4
JHJ	Hachijo jima 2	6.38	356	P	Pn	11 28 53.0	-2.6
	149nm,0.3s,baz=89,slow=20,SNR=60						
JHJ				S	S	11 30 04.7	-8.9
	236nm,0.3s,baz=67,slow=23,SNR=12						
JKO	Kozu shima	7.50	352	P	Pn	11 29 06.7	-1.6
JKO				*e*S	S	11 30 32.3	-4.7
NJJJ	Nii jima 2	7.70	353	P	Pn	11 29 09.6	-1.0
NJJJ				*e*S	S	11 30 35.8	-5.4
JWZ	Kozaga	7.87	330	P	Pn	11 29 13.9	+1.3
JWZ				*e*S	S	11 30 45.5	+0.6
BSO1	Boso 1	7.91	4	P	Pn	11 29 10.4	-2.7
BSO1				*e*S	S	11 30 37.5	-8.3
JIM2	Oshima 3	8.00	355	P	Pn	11 29 11.9	-2.2
JMZ	Minamidaito 2	8.24	266	P	Pn	11 29 17.2	+0.1
JIE	Ise	8.25	339	P	Pn	11 29 17.4	+0.3
JIE				*e*S	S	11 30 50.2	-2.8
JWM	Minabe	8.30	330	P	Pn	11 29 19.0	+1.4
JAA	Atsumi	8.34	341	⇓P	Pn	11 29 18.1	0.0
HMMJ	Hamamatsu 2	8.40	345	⇓P	Pn	11 29 17.9	-0.9
SHZ3	Shizuoka 3	8.51	348	P	Pn	11 29 18.7	-1.3
JWY	Kouya	8.51	332	P	Pn	11 29 21.7	+1.6
MRT2	Murotomisaki 2	8.53	322	⇓P	Pn	11 29 22.2	+1.8
JYZW	Yoshizawa	8.54	345	P	Pn	11 29 19.7	-0.7
JOD2	Odawara 2	8.57	353	P	Pn	11 29 18.7	-2.1
JOD2				*e*S	S	11 30 53.5	-6.4
TSUJ	Tsu 2	8.64	338	P	Pn	11 29 22.6	+1.0
JAI	Aioi	8.69	326	P	Pn	11 29 24.0	+1.9
JNY	Yasuok	8.86	347	P	Pn	11 29 23.3	-0.8
JYN	Shimob	8.87	350	P	Pn	11 29 22.7	-1.6
JAO	Obara	8.91	343	⇓P	Pn	11 29 24.4	-0.3
JMN	Monobe	8.94	323	P	Pn	11 29 27.2	+2.1
JTO	Tosashimizu	8.95	315	⇓P	Pn	11 29 27.2	+1.9
JTO				*e*S	S	11 31 09.8	+1.6
JKU	Kubokawa	9.10	318	P	Pn	11 29 28.8	+1.8
JTN	Tanegashima 3	9.10	298	P	Pn	11 29 29.0	+1.9
JNAR	Kushima--Naru	9.26	303	P	Pn	11 29 31.9	+3.0
UWA2	Uwa jima 2	9.30	316	P	Pn	11 29 31.4	+2.0

JSD Sado 11.41 352 P **Pn 11 29 50.5 -3.6**
JAW Awa shima 11.73 356 P **Pn 11 29 55.2 -2.6**
JYA Atsumi 11.84 358 P **Pn 11 29 57.2 -1.9**
JMK Ichinoseki 12.21 3 P **P 11 30 01.8 -0.7**
JMK *e*S **S 11 32 11.2 -5.9**
JTU Tsushima 12.21 312 P **P 11 30 04.6 +2.0**
JTB Tobi-shima 12.45 357 P **P 11 30 04.7 -0.4**
MIYJ Miyakonagasawa 12.87 5 P **P 11 30 09.2 -0.6**
JKZ Kuzumaki 13.24 3 P **P 11 30 13.5 -0.4**
JAH Hinai 13.42 1 P **P 11 30 15.8 -0.1**
GUMO Guam 13.75 161 ⇓*i*Pn **Pn 11 30 19.5 -2.1**
GUMO *e*Sn **S 11 32 49.1 +0.3**
GUMO Guam 13.75 161 P **P 11 30 19.5 -0.3**
66nm,0.3s,baz=166,slow=7.2,SNR=29
GUMO S **S 11 32 48.2 -0.6**
7.8nm,0.3s,baz=334,slow=22,SNR=5.3
JOT Ohata 14.62 2 P **P 11 30 28.5 -0.5**
JOT *e*S **S 11 33 05.7 -0.1**
KSRS Korea Array 14.99 319 P **P 11 30 33.2 +0.2**
4.1nm,0.3s,baz=130,slow=10,SNR=64
KSRS ScP ScP 11 38 14.0 +0.2
0.2nm,0.3s,baz=142,slow=1.9,SNR=6.6
JKB Kayabe 15.13 2 P **P 11 30 34.2 -0.3**
JOSM Okushiri--Mats 15.33 358 P **P 11 30 36.3 -0.3**
JOSM *e*S **S 11 33 18.0 -1.8**
JYM2 Yakumo 2 15.35 0 P **P 11 30 36.5 -0.3**
ERM Erimo 15.42 8 *i* P **P 11 30 38.1 +0.5**
ERM *e*S **S 11 33 23.5 +1.9**
JNBK Urakawa-nobuka 15.63 7 P **P 11 30 40.4 +0.4**
JNB Noboribetsu 15.71 2 P **P 11 30 40.2 -0.5**
INCN Inchon 15.79 316 *e*P **P 11 30 41.0 -0.6**
JCH Churui 16.03 8 P **P 11 30 44.6 +0.3**
JSK Shakotan 16.58 0 P **P 11 30 49.9 -0.2**
JAR Ashorobuto 16.76 9 P **P 11 30 52.1 0.0**
NEM2 Nemuro 2 17.16 13 P **P 11 30 55.8 -0.6**
JKK2 Kamakawa 2 17.21 6 P **P 11 30 57.2 +0.3**
JMP Maruseppu 17.41 7 P **P 11 30 59.5 +0.5**
JTKR Abashiri--Toko 17.44 9 P **P 11 30 59.5 +0.2**
ASAJ Asahikawa 17.44 5 P **P 11 30 59.6 +0.3**
ASAJ pmax pmax
comp=Z,14nm,0.3s
ASAJ pmax pmax
comp=N,1.0nm,0.3s
ASAJ Asahikawa 17.44 5 P **P 11 30 59.5 +0.2**
ASAJ Asahikawa 17.44 5 P **P 11 30 59.5 +0.2**
comp=N,14nm,0.3s,baz=224,slow=12,SNR=54
ASAJ ScP ScP 11 38 18.4 -0.2
comp=N,0.6nm,0.3s,baz=248,slow=8.6,SNR=15
VLA Vladivostok 17.74 339*c i*P **P 11 31 01.7 -0.8**
JWK2 Keihoku 18.59 3 P **P 11 31 11.6 +0.2**
NJ2 Nanjing 19.45 291 *e*P **P 11 31 19.6 -1.1**
NJ2 XP sP 11 33 04.5 +2.0
NJ2 PCP PcP 11 35 25.5 +2.2
NJ2 PCS PcS 11 38 57.0 -3.8
NJ2 AMB AMB
comp=Z,70nm,0.9s
NJ2 AMB AMB
comp=Z,200nm,10.7s
NJ2 LR LR
comp=N,2μm,14.0s
NJ2 LR LR
comp=E,2μm,13.5s
NJ2 LR LR
comp=Z,2μm,13.6s
DL2 Dalian 19.82 312 P **P 11 31 24.6 +0.4**
DL2 AMB AMB
comp=Z,70nm,0.9s
MDJ Mudanjiang 19.84 337 P **P 11 31 25.1 +0.9**
MDJ AMB AMB
comp=Z,96nm,1.4s
MDJ Mudanjiang 19.84 337 *e*P **P 11 31 23.9 -0.3**
comp=Z,136nm,1.1s
YSS Yuzh-Sakhalins 20.27 5 ⇓*i*P **P 11 31 27.0 -1.2**
YSS pmax pmax
comp=Z,210nm,0.7s
YSS pmax pmax
comp=N,80nm,0.9s
YSS pmax pmax
comp=N,40nm,0.8s
YSS Yuzh-Sakhalins 20.27 5 ⇑*i*P **P 11 31 28.2 0.0**
SNY Shenyang 20.41 322 ⇓P **P 11 31 28.3 -1.2**
SNY AMB AMB
comp=Z,196nm,0.7s
CN2 Changchun 20.87 328 ⇓P **P 11 31 33.9 +0.2**
CN2 *e*XP sP 11 33 20.8 +2.7
CN2 *e*S **S 11 34 59.1 -2.1**
CN2 PCP PcP 11 35 25.6 -0.2
CN2 SCP ScP 11 38 25.8 -0.6
CN2 AMB AMB
comp=Z,50nm,0.8s
CN2 AMB AMB
comp=Z,200nm,6.0s
TIA Tai'an 21.90 301 ⇓P **P 11 31 43.3 +0.1**
TIA AMB AMB
comp=Z,155nm,1.0s,mb5.2
HABR Khabarovsk 22.09 351 *i* P **P 11 31 45.3 +0.5**
HABR *e*S **S 11 35 23.4 +2.7**
HABR pmax pmax
comp=Z,105nm,0.7s,mb5.2
KLR Kul'dur 23.43 346 ⇑*i*P **P 11 31 52.8 -4.1**
KLR pmax pmax
comp=E,60nm,1.0s
KLR pmax pmax
comp=Z,150nm,1.0s,mb5.2
BJT Baijiatuau 24.06 310 *e*P **P 11 32 02.0 -0.7**
BJT pmax pmax
comp=Z,35nm,0.7s
BJT Baijiatuau 24.06 310 *e*P **P 11 32 02.0 -0.7**
comp=Z,35nm,0.7s,mb4.7
BJI Beijing 24.06 310 P **P 11 32 01.6 -1.1**
BJI XP sP 11 33 50.8 -1.9
BJI S **S 11 35 49.8 -2.3**
BJI AMB AMB
comp=Z,24nm,0.9s,mb4.4
BJI AMB AMB
comp=Z,207nm,3.6s
BJI LR LR
comp=N,3μm,15.1s
BJI LR LR
comp=E,2μm,21.3s
BJI LR LR
comp=Z,3μm,21.1s
HIA Hailar 27.57 330 *e*P **P 11 32 33.5 -0.3**
HIA pmax pmax
comp=Z,13nm,0.4s
HIA Hailar 27.57 330 *e*P **P 11 32 33.5 -0.3**
comp=Z,13nm,0.4s,mb4.5
HHC Hu-ho-hao-te 27.61 308 *e*P **P 11 32 34.4 +0.2**
HHC AP 11 33 43.3
HHC XP sP 11 34 27.5 +0.9
HHC PCP PcP 11 35 39.8 -0.9
HHC S **S 11 36 48.4 +0.5**
HHC XS sS 11 38 50.3 -3.8
HHC AMB AMB
comp=Z,63nm,1.2s,mb4.7
HHC AMB AMB
comp=Z,295nm,5.6s
HHC LR LR
comp=N,3μm,15.7s
HHC LR LR
comp=E,3μm,17.2s
HHC LR LR
comp=Z,4μm,12.2s
XAN Xi'an 27.99 293 P **P 11 32 37.3 -0.4**
XAN AMB AMB
comp=Z,22nm,1.0s,mb4.3
QIZ Qiongzhong 29.08 261 P **P 11 32 47.8 +0.4**
QIZ AP 11 33 55.6
QIZ S **S 11 37 13.8 +2.5**
QIZ XS sS 11 39 16.6 -1.5
QIZ AMB AMB
comp=Z,14nm,0.9s,mb4.2
QIZ AMB AMB
comp=Z,159nm,4.5s
QIZ Qiongzhong 29.08 261 *e*P **P 11 32 47.5 +0.1**
PET Petropavlovsk 29.61 23 *i* P **P 11 32 51.6 0.0**
PET pmax pmax
comp=Z,89nm,0.8s,mb5.0
PET Petropavlovsk 29.61 23 *e*P **P 11 32 51.6 0.0**
comp=Z,64nm,0.9s,mb4.8
GYA Guiyang 30.07 277 P **P 11 32 56.8 +0.7**
GYA AP pP 11 34 07.6 +2.4
GYA PP PP 11 34 16.3 +2.9
GYA XP sP 11 34 50.8 +2.0
GYA PCP PcP 11 35 48.6 +1.3
GYA S **S 11 37 26.9 +0.2**
GYA SCP ScP 11 38 53.5 +0.2
GYA PCS PcS 11 39 31.3 0.0
GYA SCS ScS 11 42 48.4 -1.4
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.2
GYA AMB AMB
comp=Z,80nm,4.9s
CLNS Chul'man 32.05 344 *e*P **P 11 33 12.4 -0.4**
CLNS pmax pmax
comp=N,31nm,0.9s
CLNS pmax pmax
comp=Z,47nm,0.9s,mb4.7
CLNS pmax pmax
comp=E,15nm,0.8s
CD2 Chengdu 32.23 286 *e*P **P 11 33 14.5 -0.3**
CD2 AP pP 11 34 26.3 +1.8
CD2 PP PP 11 34 40.8 +3.6
CD2 XP sP 11 35 09.6 +1.7
CD2 S **S 11 37 58.1 -1.9**
CD2 XS sS 11 40 07.1 -0.5
CD2 SS SS 11 40 32.0 -6.0
CD2 AMB AMB
comp=Z,80nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,140nm,5.2s
LZH Lanzhou 32.36 296 *e*P **P 11 33 16.8 +1.0**
LZH AP pP 11 34 24.9 -0.7
LZH PP PP 11 34 43.4 +4.9
LZH PCP PcP 11 35 58.0 +4.7
LZH *e*S **S 11 38 05.0 +3.1**
LZH AMB AMB
comp=Z,72nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,127nm,5.8s
LZH LR LR
comp=E,3μm,15.6s
LZH LR LR
comp=Z,3μm,17.2s
ULN Ulaanbaatar 33.47 318 *e*P **P 11 33 25.3 +0.1**
MA2 Magadan 33.61 10 *d i*P **P 11 33 25.8 -0.4**
MA2 pmax pmax
comp=N,40nm,0.7s
MA2 pmax pmax
comp=Z,100nm,0.7s,mb5.2
MA2 Magadan 33.61 10 *e*P **P 11 33 26.0 -0.2**
comp=Z,54nm,0.7s,mb4.9
KMI Kunming 33.78 276 P **P 11 33 28.5 +0.4**
KMI AMB AMB
comp=Z,9.0nm,0.8s,mb4.0
SONM Songino Array 33.85 318 P **P 11 33 28.3 -0.1**
SONM 11 34 53.8
SONM Songino Array 33.85 318 P **P 11 33 28.3 -0.1**
comp=Z,7.8nm,0.5s,mb4.2,baz=125,slow=8.0,SNR=56
SONM PP PP 11 34 53.8 -0.9
comp=Z,2.9nm,0.8s,baz=117,slow=7.3,SNR=4.1
SONM ScP ScP 11 39 05.3 -0.6
comp=Z,1.8nm,0.7s,baz=140,slow=3.9,SNR=6.9
GTA Gaotai 35.95 301 *e*P **P 11 33 46.5 +0.2**
GTA AP pP 11 34 59.0 +1.8
GTA XP sP 11 35 41.3 +0.9
GTA PCP PcP 11 36 06.8 +3.1
GTA S **S 11 38 56.4 -0.1**
GTA SCP ScP 11 39 15.3 +1.6
GTA PCS PcS 11 39 54.3 +2.6
GTA XS sS 11 41 04.6 -1.0
GTA SS SS 11 41 47.4 -4.8
GTA SCS ScS 11 43 19.4 -0.8
GTA AMB AMB
comp=Z,24nm,1.0s,mb4.4
GTA AMB AMB
comp=Z,86nm,7.6s
GTA LR LR
comp=N,2μm,15.7s
GTA LR LR
comp=E,2μm,15.3s
GTA LR LR
comp=Z,4μm,14.1s
YAK Yakutsk 36.01 351 *e*P **P 11 33 45.3 -1.1**
YAK *e* 11 35 19.8
YAK *e*S **S 11 38 53.4 -3.3**
YAK *e*SS SS 11 41 50.2 -2.4
YAK pmax pmax
comp=Z,122nm,0.8s,mb5.2
YAK pmax pmax
comp=N,40nm,1.1s
YAK pmax pmax
comp=E,15nm,0.8s
YAK pmax pmax
comp=Z,4μm,17.0s
YAK pmax pmax
comp=N,3μm,13.3s
YAK pmax pmax
comp=E,2μm,14.1s
YAK smax
comp=N,357nm,4.4s
YAK smax
comp=E,910nm,14.6s
YAK Yakutsk 36.01 351 *e*P **P 11 33 45.2 -1.2**
YAK *e*ScP ScP 11 39 12.4 -0.9
BOD Bodaibo 36.21 336 *e*P **P 11 33 47.1 -1.1**
BOD pmax pmax
comp=Z,32nm,1.0s,mb4.5
ZAK Zakamensk 36.81 320 *e*P **P 11 33 53.1 -0.2**
ZAK pmax pmax
comp=Z,7.0nm,1.0s,mb3.9
ZAK pmax pmax
comp=Z,3.0nm,1.7s
SEY Seymchan 37.06 9 ⇑*e*P **P 11 33 54.9 -0.3**
TLY Talaya 37.20 322 ⇑*i*P **P 11 33 55.2 -1.3**
TLY Talaya 37.20 322 *e*P **P 11 33 56.7 +0.2**
KAPI Kappang 37.33 215 P **P 11 33 56.9 -1.2**
comp=Z,17nm,0.7s,mb4.4,baz=330,slow=2.3,SNR=6.9
MOY Mondy 38.67 321 *e*P **P 11 34 07.9 -0.8**
KAKA Kakadu 39.95 192 *e*P **P 11 34 18.5 -1.1**
comp=Z,48nm,0.8s,mb4.8
KAKA *e*P 11 34 18.6
BATI Kupang 40.13 206 P **P 11 34 19.9 -1.1**
comp=Z,95nm,0.5s,mb5.3,baz=27,slow=1.4,SNR=34
SHL Shillong 43.31 280 *e*S **S 11 40 43.0 -2.4**
SHL *e*P 14 38 10.0
BILL Bilibino 44.18 14 *d i*P **P 11 34 52.2 -0.5**
BILL pmax pmax
comp=Z,141nm,1.0s,mb5.0
BILL Bilibino 44.18 14 *e*P **P 11 34 52.3 -0.3**
comp=Z,116nm,0.9s,mb5.0
TIXI Tiksi 45.41 355 *i* P **P 11 35 01.2 -1.0**
TIXI pmax pmax
comp=Z,61nm,1.0s,mb4.7
TIXI Tiksi 45.41 355 *e*P **P 11 35 01.3 -0.9**
comp=Z,57nm,1.0s,mb4.7
TIXI *e*pP pP 11 36 16.9 +0.3
WMQ Urumqi 45.46 306 P **P 11 35 03.0 0.0**
WMQ AP pP 11 36 19.0 +1.5
WMQ PP PP 11 36 57.0 +1.6
WMQ S **S 11 41 15.0 -0.6**
WMQ SCS ScS 11 44 15.0 -2.8
WMQ SS SS 11 44 41.0 -3.8
WMQ AMB AMB
comp=Z,34nm,1.0s,mb4.4
WMQ AMB AMB
comp=Z,73nm,5.0s
WMQ LR LR
comp=N,2μm,15.0s
WMQ LR LR
comp=E,2μm,15.0s
WMQ LR LR
comp=Z,2μm,15.0s
PSI Prapat 46.25 246 P **P 11 35 09.4 -0.1**
comp=Z,13nm,0.7s,mb4.2,baz=54,slow=5.3,SNR=8.3
PSI PcP PcP 11 36 38.0 -0.1
comp=Z,12nm,0.6s,baz=78,slow=2.6,SNR=5.9
WRAB Tennant Creek 46.75 188 *e*P **P 11 35 12.3 -0.8**
WRAB *e**PP pP 11 36 24.7 -3.5
WB2 Warramunga Arr 46.76 188 ⇑*i*P **P 11 35 12.2 -1.0**
WB2 *e*SCP ScP 11 39 56.8 0.0
WB2 *e*S **S 11 41 31.9 -2.5**
WRA Warramunga Arr 46.76 188 P **P 11 35 12.2 -1.0**
WRA *PP pP 11 36 22.3 -6.0
WRA S **S 11 41 32.0 -2.4**
WRA Warramunga Arr 46.76 188 P **P 11 35 12.2 -1.1**
comp=Z,155nm,0.8s,mb5.3,baz=6.4,slow=7.7,SNR=300
WRA pP pP 11 36 22.3 -6.0
comp=Z,4.7nm,0.6s,baz=6.9,slow=8.4,SNR=1.1
WRA ScP ScP 11 39 56.1 -0.7
comp=Z,5.7nm,0.7s,baz=3.6,slow=4.6,SNR=8.8
WRA S **S 11 41 32.0 -2.4**
comp=Z,4.1nm,0.7s,baz=8.3,slow=14,SNR=8.4
FITZ Fitzroy Crossi 46.80 199 *e*P **P 11 35 13.1 -0.4**
comp=Z,33nm,0.4s,mb4.9
FITZ *e*S **S 11 41 34.2 -0.8**
CTA Charters Tower 46.89 172 ⇑*i*P **P 11 35 13.6 -0.6**
comp=Z,51nm,0.9s,mb4.8
CTA Charters Tower 46.89 172 ⇑*i*P **P 11 35 13.6 -0.6**
CTA pmax pmax
comp=Z,51nm,0.9s
CTAO Charters Tower 46.89 172 *e*P **P 11 35 13.7 -0.5**
AKUT Akutan 47.78 40 *e*P **P 11 35 20.3 -0.3**
ZAA0 Zalesovo Array 48.69 320 *e*P **P 11 35 26.6 -0.8**
ZAA0 *e*ScP ScP 11 40 03.8 -0.8
ZALV Zalesovo Beam 48.69 320 P **P 11 35 26.6 -0.9**
comp=Z,10nm,0.4s,mb4.4,baz=102,slow=7.4,SNR=37
ZALV ScP ScP 11 40 03.8 -0.8
comp=Z,2.9nm,0.6s,baz=120,slow=5.1,SNR=6.0
ZAL Zalesovo 48.70 320 P **P 11 35 26.6 -1.0**
MK31 Makanchi Array 49.44 310 *i* P **P 11 35 33.1 -0.1**
MK31 pmax pmax
comp=Z,16nm,0.5s,mb4.5
MKAR Makanchi Array 49.44 310 *i* P **P 11 35 33.2 0.0**
MKAR pmax pmax
comp=Z,20nm,0.7s
MKAR Makanchi Array 49.44 310 P **P 11 35 33.3 +0.1**
comp=Z,20nm,0.7s,mb4.5,baz=92,slow=9.3,SNR=57
MKAR ScP ScP 11 40 07.9 0.0
comp=Z,3.3nm,0.6s,baz=84,slow=5.1,SNR=10
MKAR S **S 11 42 11.7 +0.5**
comp=Z,0.5nm,0.3s,baz=95,slow=15,SNR=4.1
NVS Novosibirsk 49.77 320 ⇓*i*P **P 11 35 34.8 -0.7**
NVS *e* 11 42 15.5
NVS pmax pmax
comp=E,34nm,1.6s
NVS pmax pmax
comp=Z,37nm,1.6s,mb4.4
XMIS Christmas Isla 50.03 227 *e*P **P 11 35 45.8 +7.7**
ASAR Alice Springs 50.49 188 P **P 11 35 40.2 -1.0**
ASAR pP 11 36 52.3 -5.3
ASAR S **S 11 42 23.2 -2.7**
ASAR Alice Springs 50.49 188 P **P 11 35 40.1 -1.1**
comp=Z,17nm,0.4s,mb4.6,baz=1.7,slow=6.0,SNR=83
ASAR PcP PcP 11 36 52.3 -0.8
comp=Z,9.0nm,0.8s,baz=12,slow=4.2,SNR=7.4
ASAR ScP ScP 11 40 13.2 +0.6
comp=Z,1.8nm,0.6s,baz=9.8,slow=4.8,SNR=4.2
ASAR S **S 11 42 23.2 -2.7**
comp=Z,1.0nm,1.0s,baz=12,slow=14,SNR=4.9
SDPT Sand Point 51.02 39 *e*P **P 11 35 43.5 -1.3**
MBWA Marble Bar 51.63 205 *e*P **P 11 35 49.1 -0.5**
comp=Z,44nm,0.8s,mb4.8
KURK Kurchatov 52.07 315 *d i*P **P 11 35 52.1 -0.4**
KURK Kurchatov 52.07 315 *e*P **P 11 35 52.2 -0.3**
CHGN Chignik 52.31 38 *e*P **P 11 35 52.8 -1.5**
EIDS Eidsvold 52.82 168 *e*P **P 11 35 57.3 -1.0**
ULHL Ulahol 53.86 304 P **P 11 36 06.7 +1.0**
SNR=23
TKM2 Tokmak 2 54.28 305 *e*P **P 11 36 09.7 +1.1**
TKM2 Tokmak 2 54.28 305 P **P 11 36 09.8 +1.1**
SNR=23
SVW2 Sparrevohn 54.48 32 *e*P **P 11 36 09.2 -0.5**
TTA Tatalina 54.58 30 *e*P **P 11 36 10.6 +0.2**
KZA Kyzart 54.61 304 P **P 11 36 12.8 +1.8**
SNR=19
CHMS Chumysh 54.89 305 P **P 11 36 13.4 +0.4**
SNR=8.6
FRU Bishkek 55.00 305 *e*P **P 11 36 15.0 +1.2**
USP Ospenovka 55.05 306 P **P 11 36 14.6 +0.5**
SNR=13
AAK Ala-Archa 55.11 305 P **P 11 36 15.3 +0.8**
SNR=8.3
UCH Uchtor 55.14 304 *e*P **P 11 36 16.4 +1.6**
comp=Z,30nm,0.7s,mb4.7
UCH Uchtor 55.14 304 P **P 11 36 16.6 +1.8**
SNR=40
KDAK Kodiak Island 55.63 37 *e*P **P 11 36 17.2 -0.7**
KDAK Kodiak Island 55.63 37 P **P 11 36 17.3 -0.6**
comp=Z,25nm,0.4s,mb4.9,baz=276,slow=3.5,SNR=71
EKS2 Erkin-Say 55.64 305 *e*P **P 11 36 18.8 +0.6**
comp=Z,11nm,0.8s,mb4.2
EKS2 Erkin-Say 55.64 305 P **P 11 36 18.9 +0.7**
SNR=9.7
AML Almayashu 55.76 304 *e*P **P 11 36 20.7 +1.6**
AML Almayashu 55.76 304 P **P 11 36 20.8 +1.7**
SNR=27
IMA2 Indian Mountai 56.15 27 *e*P **P 11 36 21.6 +0.2**
SLKM Skilak Lake 57.02 34 *e*P **P 11 36 27.2 -0.4**
BVAR Borovoye Array 57.20 318 P **P 11 36 28.8 -0.1**
comp=Z,69nm,0.4s,mb5.3,baz=87,slow=6.8,SNR=293
BVAR ScP ScP 11 40 42.0 +0.3
comp=Z,2.2nm,0.6s,baz=57,slow=5.5,SNR=3.6
BVAR S **S 11 43 54.4 0.0**
comp=Z,1.8nm,0.7s,baz=94,slow=14,SNR=6.9
BRVK Borovoye 57.26 318 *e*P **P 11 36 29.3 0.0**
BRVK pmax pmax
comp=Z,45nm,0.5s,mb5.0
BRVK Borovoye 57.26 318 *e*P **P 11 36 29.3 0.0**
comp=Z,45nm,0.5s,mb5.0
PMR Palmer 57.62 32 *e*P **P 11 36 30.9 -0.8**
PMR pmax pmax
comp=Z,38nm,0.9s,mb4.7
PMR Palmer 57.62 32 *e*P **P 11 36 30.9 -0.8**
comp=Z,38nm,0.9s,mb4.7
ARMA Armidale 57.84 168 *e*P **P 11 36 33.2 -0.4**
KK31 Karatay Array 57.96 306 *i* P **P 11 36 34.5 +0.1**
KK31 pmax pmax
comp=Z,25nm,0.5s,mb4.8
SML Sawmill 58.01 32 *e*P **P 11 36 33.9 -0.4**
STKA Stephens Creek 58.30 179 *e*P **P 11 36 35.5 -1.1**
comp=Z,38nm,0.5s,mb5.0
STKA Stephens Creek 58.30 179 P **P 11 36 35.7 -0.9**
comp=Z,48nm,0.5s,mb5.1,baz=348,slow=6.9,SNR=140
FORT Forrest 58.38 192 ⇑*i*P **P 11 36 36.5 -0.8**
comp=Z,239nm,0.5s,mb5.8
COLA College 58.41 28 *e*P **P 11 36 36.3 -0.7**
COLA pmax pmax
comp=Z,22nm,0.6s,mb4.7
COLA College 58.41 28 *e*P **P 11 36 36.3 -0.7**
comp=Z,22nm,0.6s,mb4.7
MENT Mentasta 60.18 31 *e*P **P 11 36 49.0 0.0**
KBL Kabul 60.71 296 *e*P **P 11 36 53.6 +0.5**
RIV Riverview 61.10 170 *e*P **P 11 36 54.9 -0.6**
EGAK Eagle 61.27 29 *e*P **P 11 36 55.5 -0.8**
KLBR Kellerberrin 61.88 202 *e*P **P 11 36 59.4 -1.3**
comp=Z,30nm,0.7s,mb4.9
DAWY Dawson 62.07 29 *e*P **P 11 37 01.5 -0.1**
CNB Canberra Magne 62.30 172 *e*P **P 11 37 02.8 -0.6**
comp=Z,29nm,1.0s,mb4.8
SVE Sverdlovsk 62.51 322 *e*P **P 11 37 04.7 +0.1**
SVE pmax pmax
comp=Z,22nm,0.7s,mb4.8
MUN Mundaring 62.76 203 *e*P **P 11 37 05.9 -0.6**
NWAO Narrogin (SRO) 63.27 202 *e*P **P 11 37 09.5 -0.3**
ARU Arti 63.70 322 *d i*P **P 11 37 11.6 -0.7**
ARU *e* 11 37 42.3
ARU *e**PP pP 11 38 33.6 +0.6
ARU *e* 11 39 36.7
ARU *e*S **S 11 45 16.0 -0.1**
ARU pmax pmax
comp=Z,30nm,0.7s,mb5.0
ARU Arti 63.70 322 *e*P **P 11 37 11.7 -0.7**
INK Inuvik 64.04 24 *e*P **P 11 37 13.5 -0.8**
comp=Z,361nm,0.5s
TOO Toolangi 64.15 175 *e*P **P 11 37 15.2 -0.1**
comp=Z,324nm,0.6s
SKAG Skagway 64.54 34 *e*P **P 11 37 18.0 +0.3**
AKTO Aktyubinsk 65.14 316 *i* P **P 11 37 20.8 -0.9**
DLBC Dease Lake 67.44 35 *e*P **P 11 37 36.7 +0.7**
DLBC Dease Lake 67.44 35 P **P 11 37 36.6 +0.6**
baz=300,slow=1.9
TAU Tasmania Unive 69.59 175 *e*P **P 11 37 49.2 0.0**
BBB Bella Bella 70.26 41 P **P 11 37 52.3 -1.0**
comp=Z,6.6nm,0.6s,mb4.5,baz=185,slow=15,SNR=7.0
SPB4 Spitsbergen Ar 70.44 350 *e*P **P 11 37 54.1 +0.1**
KBS Kingsbay 70.64 351 ⇑*e*P **P 11 37 54.9 -0.2**
KBS Kingsbay 70.64 351 *e*P **P 11 37 55.3 +0.2**
TMCR Tamitsa 71.42 333 *e*P **P 11 37 57.7 -2.3**
APA Apatity 71.75 337 ⇓*i*P **P 11 38 01.6 -0.3**
APA *i* pP 11 39 20.8 -3.9
APA pmax pmax
comp=Z,78nm,1.0s,mb5.4
KEV Kevo 72.78 340 *e*p **P 11 38 07.5 -0.3**

comp=Z,30nm,0.5s,mb5.3
KEV Kevo 72.78 340 eP P 11 38 07.5 -0.3
KEV pmax pmax
comp=Z,30nm,0.5s,mb5.3
RES Resolute Bay 72.79 13 eP P 11 38 07.2 -0.7
YKA Yellowknife Ar 73.23 28 P P 11 38 09.7 -0.9
YKA *PP pP 11 39 26.0 -7.8
YKA Yellowknife Ar 73.23 28 P P 11 38 09.7 -0.9
comp=Z,21nm,0.8s,mb4.9,baz=297,slow=6.0,SNR=153
YKA pP pP 11 39 26.0 -7.9
comp=Z,1.4nm,0.8s,baz=296,slow=6.1,SNR=1.8
ARCES ARCESS Array B 73.34 341 P P 11 38 10.9 -0.1
comp=Z,29nm,0.5s,mb5.3,baz=71,slow=8.3,SNR=240
ARE0 ARCESS Array S 73.34 341 eP P 11 38 11.1 0.0
PGC Sidney 74.29 43 eP P 11 38 17.1 +0.2
OSD Olympics--Snow 74.45 44 P P 11 38 19.1 +1.2
B04A Port Angeles 74.48 44 ⇓P P 11 38 18.5 +0.5
baz=74,SNR=7.0
NLWA Neilton Lookou 74.51 45 eP P 11 38 19.3 +1.1
NLWA Neilton Lookou 74.51 45 P P 11 38 19.4 +1.1
baz=74,SNR=8.0
JOF Joensuu 74.67 333 ep P 11 38 18.3 -0.5
comp=Z,49nm,0.5s,mb5.5
JOF Joensuu 74.67 333 eP P 11 38 18.3 -0.5
JOF pmax pmax
comp=Z,49nm,0.5s,mb5.5
D03A Wishkah Elem. 74.68 45 ⇑P P 11 38 20.3 +1.1
baz=74
A04A Legoe Bay, Lum 74.72 43 ⇑P P 11 38 20.0 +0.6
baz=75
HDW Hoodsport 74.92 44 P P 11 38 21.7 +1.1
C04A Brinnon 74.95 44 ⇑P P 11 38 21.3 +0.6
baz=75
A05A Maple Falls 74.98 43 ⇑P P 11 38 20.7 -0.1
baz=75
E03A Lebam 75.03 45 ⇑P P 11 38 21.7 +0.5
baz=75
GNW Green Mountain 75.10 44 eP P 11 38 22.3 +0.8
GNW epP pP 11 39 47.7 +2.4
MBW Mount Baker 75.18 43 P P 11 38 22.4 +0.4
CMW Cultus Mountai 75.19 43 P P 11 38 23.1 +1.0
B05A Bryant 75.27 43 P P 11 38 23.1 +0.6
baz=75,SNR=13
F03A Seaside 75.28 46 ⇑P P 11 38 23.1 +0.4
baz=75
A06A Chilliwack 75.31 42 ⇓P P 11 38 22.9 +0.2
baz=75
JCW Jim Creek 75.40 43 P P 11 38 23.9 +0.6
B06A Marblemount 75.54 43 ⇑P P 11 38 24.1 +0.1
baz=75
E04A Onalaska 75.55 45 ⇓P P 11 38 24.7 +0.6
baz=75
HTW Haystack Looko 75.66 44 P P 11 38 25.4 +0.7
G03A Yamhill 75.70 46 ⇓P P 11 38 25.2 +0.2
baz=76
RVW Rose Valley 75.71 45 P P 11 38 26.2 +1.2
C05A Tolt Reservoir 75.75 44 ⇑P P 11 38 25.3 +0.1
baz=76
D05A Enumclaw 75.77 44 ⇑P P 11 38 26.0 +0.7
baz=76
OBN Obninsk 75.89 325 d iP P 11 38 25.0 -0.8
OBN pmax pmax
comp=Z,44nm,1.2s,mb5.1
K01A Sixes 75.91 49 ⇑P P 11 38 26.8 +0.5
baz=76
H03A Soap Creek Ran 75.95 47 ⇓P P 11 38 26.9 +0.6
baz=76
TDL Tradedollar La 75.97 45 P P 11 38 27.2 +0.8
A07A Ashnola River, 75.99 42 ⇓P P 11 38 26.5 0.0
baz=76,SNR=14
F04A Amboy 76.01 46 ⇓P P 11 38 26.5 -0.2
baz=76,SNR=5.4
FMW Mount Fremont 76.07 44 P P 11 38 27.4 +0.4
E05A Randle 76.17 45 ⇑P P 11 38 27.3 -0.3
baz=76
VRSR Storozhevoye 76.17 321 eP P 11 38 26.8 -0.7
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,9.0nm,1.1s
VORD Divnogorie 76.22 320 eP P 11 38 27.2 -0.6
VORD pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
VORD pmax pmax
comp=N,4.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,1.1s
I03A Eugene 76.24 48 ⇑P P 11 38 28.3 +0.3
baz=76
G04A Mulino 76.26 46 ⇓P P 11 38 28.1 -0.1
baz=76
J02A Umpqua 76.29 48 ⇑P P 11 38 28.5 +0.2
baz=76
B07A Winthrop 76.39 42 P P 11 38 29.1 +0.3
baz=76,SNR=13
GOF Gofitskoye 76.41 314 eP P 11 38 45.0 +16
D06A Cle Elum 76.48 44 ⇑P P 11 38 29.4 +0.1
baz=76,SNR=5.8
TWW Teanaway 76.49 44 P P 11 38 30.0 +0.7
K02A Glendale 76.59 49 ⇑P P 11 38 30.1 +0.2
baz=76
ETW Entiat 76.62 43 P P 11 38 30.4 +0.3
F05A White Salmon 76.64 45 ⇑P P 11 38 30.8 +0.5
baz=76
E06A Yakima 76.67 45 ⇓P P 11 38 30.8 +0.4
baz=76
H04A Detroit Lake 76.67 47 P P 11 38 30.6 +0.2
baz=76,SNR=6.2
A08A Turner Farm, O 76.69 42 P P 11 38 30.6 +0.1
baz=76,SNR=11
J03A Ideyld Park 76.69 48 ⇓P P 11 38 30.8 +0.3
baz=77
C07A Waterville 76.75 43 P P 11 38 30.8 0.0
baz=77,SNR=9.7
L02A Cave Junction 76.76 49 ⇑P P 11 38 31.2 +0.3
baz=77
EBG Ellensburg 76.77 44 P P 11 38 31.5 +0.5
WTV Waterville 76.81 43 P P 11 38 31.1 -0.1
I04A Tendick Farm, 76.89 48 ⇑P P 11 38 31.7 0.0
baz=77,SNR=6.0
B08A Colville Reser 76.91 42 ⇑P P 11 38 31.2 -0.4
baz=77,SNR=28
G05A Wamic 77.00 46 ⇓P P 11 38 32.2 0.0
baz=77
HUMO Hull Mountain 77.01 49 ⇑P P 11 38 32.6 +0.3
baz=77
MXC Moxie City 77.08 44 ⇑P P 11 38 33.3 +0.6
A09A Danville 77.09 42 P P 11 38 33.1 +0.5
baz=77,SNR=16
KIV Kislovodsk 77.09 313 eP P 11 38 33.2 +0.4
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.6
SAW Saint Andrews 77.15 43 ⇑P P 11 38 33.0 0.0
EPH Ephrata 77.18 43 P P 11 38 33.1 0.0
GNI Garni 77.27 309 ⇑eP P 11 38 33.2 -0.6
GNI pmax pmax
comp=Z,20nm,1.7s
H05A Madras 77.30 46 ⇑P P 11 38 34.1 +0.2
baz=77
C08A Higginbotham F 77.33 43 ⇑P P 11 38 33.8 -0.2
baz=77,SNR=11
G06A Carlson Farm, 77.44 46 ⇑P P 11 38 34.8 +0.2
baz=77
GBB Gable Butte 77.48 44 P P 11 38 35.2 +0.4
N02C Big Bar 77.51 51 ⇓P P 11 38 35.5 +0.4
baz=77
FIA1 FINESS Array S 77.54 333 eP P 11 38 34.1 -0.8
YBH Yreka Blue Hor 77.54 50 P P 11 38 35.8 +0.5
YBH pmax pmax
comp=Z,8.0nm,0.7s
YBH Yreka Blue Hor 77.54 50 eP P 11 38 35.9 +0.6
comp=Z,9.2nm,0.8s,mb4.6
YBH Yreka Blue Hor 77.54 50 P P 11 38 35.8 +0.5
comp=Z,7.8nm,0.7s,mb4.5,baz=86,slow=12,SNR=32
YBH Yreka Blue Hor 77.54 50 ⇑P P 11 38 35.6 +0.4
baz=77,SNR=6.9
FINES FINESS Array B 77.54 333 i P P 11 38 34.0 -0.9
FINES pmax pmax
comp=Z,68nm,0.5s
FINES FINESS Array B 77.54 333 P P 11 38 34.1 -0.7
comp=Z,68nm,0.5s,mb5.7,baz=71,slow=5.5,SNR=449
M02C Callahan 77.58 50 ⇑P P 11 38 35.9 +0.4
baz=78,SNR=6.5
GBL Gable Mountain 77.59 44 P P 11 38 36.0 +0.6

B09A Rice 77.59 42 P P 11 38 35.8 +0.4
baz=77,SNR=13
F07A Phinny Hill Vi 77.60 45 ⇑P P 11 38 35.7 +0.2
baz=78
A10A Northport 77.69 41 ⇑P P 11 38 36.0 +0.1
baz=78
OD2 Odessa Site #2 77.71 43 P P 11 38 36.0 -0.1
D08A Wollman Farm, 77.72 43 ⇑P P 11 38 36.0 -0.2
baz=78,SNR=6.0
VIPM Ingam Point 77.76 46 P P 11 38 36.9 +0.5
C09A Chrisman Ranch 77.79 43 ⇑P P 11 38 36.3 -0.2
baz=78,SNR=8.2
K04A Chilquin 77.83 48 ⇑P P 11 38 37.1 +0.3
baz=78
J05A Fort Rock 77.88 48 ⇓P P 11 38 37.5 +0.4
baz=78,SNR=12
L04A Klamath Falls 77.91 49 ⇓P P 11 38 37.5 +0.3
baz=78
G07A Ruggs Ranch, H 78.04 45 ⇑P P 11 38 37.8 -0.1
baz=78,SNR=5.8
P01C Double 8 Ranch 78.05 52 ⇑P P 11 38 38.0 -0.1
baz=78
EDM Edmonton 78.08 36 eP P 11 38 37.7 -0.3
D09A Jones Farm, Ri 78.10 43 P P 11 38 38.4 +0.2
baz=78,SNR=6.7
M04C Macdoel 78.11 49 ⇓P P 11 38 38.5 +0.1
baz=78,SNR=8.5
M03C McCloud 78.13 50 P P 11 38 39.3 +0.8
baz=78,SNR=5.0
O02C Red Bluff 78.14 51 ⇑P P 11 38 39.0 +0.5
baz=78
WDC Whiskeytown Da 78.14 51 ⇓P P 11 38 38.8 +0.2
baz=78
I06A Prineville 78.26 47 ⇑P P 11 38 39.6 +0.4
baz=78,SNR=9.2
NEW Newport 78.28 42 eP P 11 38 39.2 +0.1
NEW e*PP pP 11 40 05.2 +1.6
NEW pmax pmax
comp=Z,18nm,0.8s
NEW Newport 78.28 42 eP P 11 38 39.2 +0.1
comp=Z,18nm,0.8s,mb4.8
NEW epP pP 11 40 05.2 +1.6
NEW Newport 78.28 42 P P 11 38 39.2 +0.1
comp=Z,18nm,0.7s,mb4.9,baz=297,slow=4.7,SNR=31
NEW pP pP 11 39 57.4 -6.2
comp=Z,3.0nm,0.8s,baz=0.0,slow=2.0,SNR=3.1
K05A Summer Lake 78.34 48 ⇑P P 11 38 40.1 +0.5
baz=78,SNR=9.0
C10A Spilker Farm, 78.37 42 ⇓P P 11 38 39.8 +0.2
baz=78,SNR=7.7
F08A Pendleton 78.37 45 P P 11 38 40.5 +0.9
baz=78,SNR=6.6
GASB Alder Springs 78.41 51 ⇑P P 11 38 40.8 +0.7
baz=78
A11A Hall Mountain, 78.41 41 ⇓P P 11 38 40.7 +0.9
baz=78,SNR=7.9
E09A Wood Farm, Sta 78.44 44 ⇓P P 11 38 40.1 0.0
baz=78
G08A Pilot Rock 78.48 45 ⇑P P 11 38 40.6 +0.3
baz=78,SNR=6.3
J06A Christmas Vall 78.60 47 ⇓P P 11 38 41.0 0.0
baz=78,SNR=5.4
B11A Sandpoint 78.64 41 ⇓P P 11 38 41.2 0.0
baz=78,SNR=9.8
I07A Izee 78.66 46 ⇑P P 11 38 41.4 +0.1
baz=78,SNR=6.4
L05A Lakeview 78.67 49 ⇓P P 11 38 41.8 +0.4
baz=78
D10A Wagner Farm, O 78.73 43 ⇑P P 11 38 41.3 -0.4
baz=79
K06A Valley Falls 78.73 48 ⇑P P 11 38 41.9 +0.1
baz=79
O03C Acorn Hollow, 78.74 51 ⇓P P 11 38 42.3 +0.5
baz=79
M05C Lookout 78.76 49 P P 11 38 42.2 +0.3
baz=78,SNR=6.2
HATC Hat Creek Radi 78.78 50 ⇑P P 11 38 42.3 +0.2
baz=79
VSU Vasula 78.91 331 d iP P 11 38 41.5 -0.9
MNRC McLaughlin Nat 78.93 52 ⇓P P 11 38 43.5 +0.6
baz=79
F09A S2 Ranch, Elgi 78.95 44 ⇓P P 11 38 43.1 +0.3
baz=79
H08A Prairie City 79.00 46 P P 11 38 43.7 +0.5
baz=79,SNR=19
E10A Myers Farm, Un 79.09 43 ⇑P P 11 38 43.8 +0.3
baz=79
MOD Modoc 79.09 49 eP P 11 38 44.2 +0.5
MOD Modoc 79.09 49 ⇑P P 11 38 43.7 0.0
baz=79,SNR=6.9
J07A Hines 79.10 47 ⇓P P 11 38 44.1 +0.4
baz=79,SNR=15
SUTB Sutter Butte 79.24 52 ⇑P P 11 38 44.5 0.0
baz=79
O04C Chester 79.25 50 P P 11 38 45.0 +0.4
baz=79,SNR=11
M06C Likely Place G 79.28 49 ⇓P P 11 38 44.7 0.0
baz=79
ORV Oroville 79.30 51 ⇓P P 11 38 44.7 -0.2
baz=79
D11A Klaveano Farm, 79.31 43 P P 11 38 44.6 -0.1
baz=79,SNR=17
I08A Drewsey 79.34 46 P P 11 38 45.5 +0.5
baz=79,SNR=7.3
ELFS Eagle Lake Fie 79.37 50 ⇑P P 11 38 45.3 +0.1
baz=79,SNR=5.3
UMR Umm Al-Rimmam 79.41 298 eP P 11 38 45.1 -0.5
UMR AMb AMB 11 38 47.4
comp=Z,27nm,0.5s,mb5.2
K07A Rock Creek Ran 79.45 48 ⇑P P 11 38 45.8 +0.2
baz=79,SNR=15
O05C Quincy 79.52 51 ⇑P P 11 38 45.7 -0.3
baz=79
A13A Flathead Natio 79.55 40 ⇓P P 11 38 46.1 +0.1
baz=79
H09A Durkee 79.58 45 ⇓P P 11 38 46.7 +0.5
baz=79,SNR=11
G10A Bishop Farm, J 79.64 44 P P 11 38 46.8 +0.3
baz=80,SNR=16
J08A Circle Bar Ran 79.65 47 ⇑P P 11 38 46.8 +0.1
baz=80,SNR=19
L07A Adell 79.69 48 P P 11 38 47.7 +0.8
baz=80,SNR=20
E11A Bogner Ranch, 79.71 43 P P 11 38 46.8 -0.1
baz=80,SNR=8.5
BMO Blue Mountains 79.72 45 eP P 11 38 47.0 0.0
BMO e*PP pP 11 40 13.4 +1.6
BMO pmax pmax
comp=Z,17nm,1.0s,mb4.7
BMO Blue Mountains 79.72 45 eP P 11 38 47.0 0.0
comp=Z,17nm,1.0s,mb4.7
BMO epP pP 11 40 13.4 +1.6
WALA Waterton Lakes 79.78 40 eP P 11 38 47.5 +0.3
comp=Z,19nm,1.0s,mb4.8
WALA epP pP 11 40 13.7 +1.7
B13A Whitefish 79.79 41 ⇑P P 11 38 47.4 +0.1
baz=80,SNR=15
RDF Al-Radifah 79.80 297 eP P 11 38 47.3 -0.4
RDF AMb AMB 11 38 48.6
comp=Z,50nm,0.6s,mb5.4
I09A Lost Marbles R 79.85 46 P P 11 38 48.1 +0.4
baz=80,SNR=9.8
D12A Red Ives Fores 79.90 42 ⇓P P 11 38 47.7 -0.1
baz=80
NAY Al-Naaiem 79.91 298 eP P 11 38 47.8 -0.5
NAY AMb AMB 11 38 49.0
comp=Z,35nm,0.6s,mb5.2
N06A Buffalo Meadow 79.92 49 ⇑P P 11 38 48.0 -0.2
baz=80,SNR=6.7
K08A Mann Creek Ran 79.93 47 ⇓P P 11 38 48.3 +0.2
baz=80,SNR=15
BEKR Beckwourth 79.95 50 ⇑P P 11 38 48.1 -0.2
baz=80,SNR=22
F11A Grangeville 79.96 44 ⇓P P 11 38 47.8 -0.4
baz=80
P05C Yuba Gap, Truc 80.03 51 ⇑P P 11 38 48.6 -0.2
baz=80
C13A Hot Springs 80.06 41 ⇑P P 11 38 48.7 0.0
baz=80,SNR=20
M07A Soldier Meadow 80.08 49 ⇑P P 11 38 49.2 +0.2
baz=80,SNR=9.9
ANN Anapa 80.10 315 eP P 11 38 47.5 -1.5
ANN e*PP pP 11 40 11.2 -2.7
ANN eS S 11 48 19.8 -1.8
ANN pmax pmax
comp=Z,19nm,0.7s,mb4.9
G11A Walters Elk Ra 80.12 44 ⇑P P 11 38 48.4 -0.6

baz=80,SNR=20
J09A Fry Pan Ranch, 80.13 46 ⇑P P 11 38 49.4 +0.2
baz=80,SNR=11
LAVA Lava Cap Winer 80.18 52 P P 11 38 49.3 -0.2
baz=80,SNR=6.0
O06A Flanigan 80.19 50 ⇑P P 11 38 49.7 +0.2
baz=80,SNR=18
H10A Noah's Angus R 80.20 45 ⇑P P 11 38 49.1 -0.4
baz=80
R04C Big Horse Ranc 80.26 52 ⇑P P 11 38 49.3 -0.7
baz=80
L08A Fields 80.27 48 P P 11 38 50.6 +0.6
baz=80,SNR=16
I10A Payette 80.39 45 ⇑P P 11 38 50.7 +0.1
baz=80
D13A Huson 80.41 42 P P 11 38 50.3 -0.3
baz=80,SNR=5.5
K09A Rome 80.44 47 P P 11 38 51.1 +0.2
baz=80,SNR=11
N07B Gerlach 80.49 49 P P 11 38 51.6 +0.5
baz=80,SNR=13
C14A Swan Lake 80.51 41 ⇑P P 11 38 51.2 +0.1
baz=80
PACP Pacheco Peak 80.56 53 ⇓P P 11 38 51.6 +0.1
baz=80
F12A Elk City 80.58 43 P P 11 38 51.4 0.0
baz=80,SNR=29
M08A Happy Creek Ra 80.58 48 ⇑P P 11 38 51.8 +0.2
baz=80,SNR=5.4
H11A Donnelly 80.61 45 ⇓P P 11 38 51.5 -0.2
baz=80,SNR=15
WCN Washoe City 80.62 51 ⇑P P 11 38 51.8 -0.1
baz=80
HAST Hastings Reser 80.64 54 ⇓P P 11 38 52.1 +0.1
baz=80
R05C Kirkwood Meado 80.67 51 ⇓P P 11 38 52.3 +0.2
baz=80
J10A Berg Farm, Mel 80.73 46 ⇓P P 11 38 52.1 -0.2
baz=81,SNR=5.3
CMB Columbia Colle 80.75 52 eP P 11 38 52.4 -0.1
CMB Columbia Colle 80.75 52 ⇓P P 11 38 52.2 -0.3
baz=81
L09A Wilkinson Ranc 80.80 48 P P 11 38 53.1 +0.4
baz=81,SNR=6.4
O07A Toulon 80.84 50 P P 11 38 53.3 +0.3
baz=81,SNR=13
MSO Missoula 80.85 42 eP P 11 38 52.7 -0.2
E13A Victor 80.89 42 ⇑P P 11 38 53.2 +0.1
baz=81
K10A MacKenzie Ranc 80.96 47 ⇑P P 11 38 53.9 +0.3
baz=81,SNR=15
D14A Greenough 80.99 42 P P 11 38 53.5 -0.2
baz=81,SNR=6.5
I11A Placerville 81.02 45 ⇑P P 11 38 53.5 -0.3
baz=81,SNR=5.4
N08A GE Springer Mi 81.06 49 P P 11 38 54.5 +0.4
baz=81,SNR=13
S05C Merced 81.10 53 ⇓P P 11 38 53.6 -0.8
baz=81
F13A Darby 81.12 43 P P 11 38 53.7 -0.7
baz=81,SNR=15
S06C San Francisco 81.20 52 ⇑P P 11 38 54.9 0.0
baz=81
M09A Marrel Ranch, 81.22 48 ⇓P P 11 38 54.9 -0.1
baz=81
CHMT Chamberlain Mo 81.22 42 eP P 11 38 54.6 -0.2
E14A Clinton 81.33 42 ⇓P P 11 38 55.0 -0.4
baz=81,SNR=5.2
MFID Camas Ranch 81.33 46 ⇑P P 11 38 55.6 +0.1
baz=81,SNR=19
H12A Diamond D Ranc 81.40 44 ⇑P P 11 38 55.8 -0.1
baz=81,SNR=9.6
N09A Rock Creek Ran 81.43 49 ⇓P P 11 38 56.5 +0.4
baz=81
K11A Parker Ranch, 81.51 46 ⇑P P 11 38 56.6 +0.2
baz=81,SNR=14
G13A Cobalt 81.53 44 P P 11 38 56.2 -0.2
baz=81,SNR=15
L10A Juniper Basin 81.56 47 P P 11 38 57.1 +0.5
baz=81,SNR=9.3
PKD Parkfield 81.57 54 ⇓P P 11 38 56.8 -0.1
baz=81
D15A Lincoln 81.59 41 ⇑P P 11 38 56.5 -0.3
baz=81
R07C Lee Vining 81.67 52 ⇓P P 11 38 57.6 +0.3
baz=82
T06C Millerton Lake 81.69 53 ⇓P P 11 38 57.1 -0.3
baz=82
H13A Challis 81.77 44 ⇑P P 11 38 57.8 +0.1
baz=82,SNR=22
M10A I.L. Ranch, Tu 81.77 48 ⇑P P 11 38 58.2 +0.4
baz=82
KCC Kaiser Creek 81.82 52 ⇓P P 11 38 58.2 0.0
baz=82
E15A Deer Lodge 81.83 42 P P 11 38 58.0 0.0
baz=82,SNR=19
J12A Stokes Ranch, 81.88 46 ⇓P P 11 38 58.3 -0.1
baz=82
AKASG Malin Array Be 81.93 323 P P 11 38 57.5 -1.0
comp=Z,18nm,0.7s,mb5.0,baz=52,slow=5.1,SNR=73
AKASG pP pP 11 40 18.4 -5.4
comp=Z,0.3nm,0.3s,baz=54,slow=5.7,SNR=1.4
AKBB Malin Array Si 81.93 323 eP P 11 38 57.6 -0.8
KIEV Kiev 81.94 323 eP P 11 38 57.5 -1.0
KIEV pmax pmax
comp=Z,21nm,0.7s,mb5.1
KIEV Kiev 81.94 323 eP P 11 38 57.5 -1.0
comp=Z,21nm,0.7s,mb5.1
O09A Fish Creek Ran 81.98 49 ⇑P P 11 38 58.9 0.0
baz=82,SNR=7.3
L11A Cat Creek Ranc 81.98 47 P P 11 38 59.5 +0.7
baz=82,SNR=9.7
NVAR Mina Array Bea 82.03 51 P P 11 38 59.7 +0.5
comp=Z,6.8nm,0.6s,mb4.7,baz=292,slow=5.8,SNR=59
NVAR pP pP 11 40 18.6 -5.9
comp=Z,1.8nm,0.8s,baz=286,slow=4.6,SNR=2.9
Q08A Gabbs 82.08 51 P P 11 38 59.5 +0.1
baz=82,SNR=8.2
HLID Hailey 82.16 45 ⇑P P 11 38 59.8 +0.1
baz=82,SNR=13
I13A Wildhorse Cree 82.18 45 P P 11 39 00.6 +0.8
baz=82,SNR=15
R08A Mina 82.20 51 ⇓P P 11 39 00.4 +0.3
baz=82
F15A Butte 82.22 42 P P 11 39 00.3 +0.4
baz=82,SNR=41
LRM Limekiln Ridge 82.25 42 eP P 11 39 00.9 +0.7
LRM epP pP 11 40 22.7 -2.8
P09A Austin 82.30 50 ⇑P P 11 39 00.7 +0.2
baz=82
K12A Draper Farm, C 82.31 46 ⇓P P 11 39 00.8 +0.3
baz=82
M11A Holland Ranch, 82.31 47 ⇓P P 11 39 01.4 +0.8
baz=82
HELL Mitchell Peak 82.33 53 ⇑P P 11 39 00.2 -0.6
baz=82
DLMT Dillon 82.39 43 eP P 11 39 01.0 +0.1
comp=Z,9.2nm,0.8s,mb4.7
DLMT epP pP 11 40 27.9 +1.6
J13A Cove Ranch, Pi 82.40 45 ⇓P P 11 39 01.4 +0.4
baz=82,SNR=12
L12A House Creek Ra 82.47 47 ⇓P P 11 39 02.0 +0.7
baz=82,SNR=8.0
MALT Malatya 82.48 309 eP P 11 39 02.4 +0.9
MALT pmax pmax
comp=Z,11nm,0.9s,mb4.7
MALT Malatya 82.48 309 eP P 11 39 02.4 +0.9
comp=Z,11nm,0.9s,mb4.7
MALT Malatya 82.48 309 ⇓ iP P 11 39 02.3 +0.8
S08C White Mtn Res 82.55 52 P P 11 39 02.7 +0.8
baz=82,SNR=6.2
G15A Dillon 82.56 43 P P 11 39 01.9 +0.2
baz=82,SNR=12
VES Vestal, Richgr 82.68 54 ⇑P P 11 39 01.4 -1.1
baz=82
EGMT Eagleton 82.69 40 eP P 11 39 02.2 -0.2
comp=Z,14nm,0.8s,mb4.9
EGMT Eagleton 82.69 40 P P 11 39 02.3 0.0
baz=82,SNR=13
P10A Eureka 82.73 49 ⇑P P 11 39 02.9 +0.1
baz=83
K13A Stover Farm, H 82.82 46 ⇑P P 11 39 03.6 +0.4
baz=83,SNR=9.8
BOZ Bozeman (W) 82.83 42 eP P 11 39 03.5 +0.3
BOZ Bozeman (W) 82.83 42 P P 11 39 03.5 +0.4
baz=83,SNR=19
M12A Wells 82.89 47 P P 11 39 04.4 +0.9
baz=83,SNR=13

FFC Flin Flon 82.91 31 *e*P **P 11 39 02.7 -0.6**
FFC pmax pmax
comp=Z,17nm,0.9s,mb4.9
FFC Flin Flon 82.91 31 *e*P **P 11 39 02.7 -0.6**
comp=Z,17nm,0.9s,mb4.9
R09A Tonopah 82.97 51 ⇊P **P 11 39 04.1 +0.1**
baz=83,SNR=26
N12A Clover Valley, 83.09 48 P **P 11 39 05.0 +0.5**
baz=83,SNR=6.1
SUW Suwalki 83.10 328 *e*P **P 11 39 03.6 -0.7**
SUW Suwalki 83.10 328 *e*P **P 11 39 03.6 -0.7**
S09A Goldfield 83.11 51 P **P 11 39 05.2 +0.5**
baz=83,SNR=9.3
Q10A Clear Creek Ra 83.16 50 ⇑P **P 11 39 04.7 -0.2**
baz=83
L13A Double Diamond 83.19 46 P **P 11 39 06.1 +1.0**
baz=83,SNR=6.5
P11A Circle Ranch, 83.24 49 ⇑P **P 11 39 05.6 +0.3**
baz=83
NB2 NORSAR Subarra 83.33 338 P **P 11 39 03.9 -1.4**
comp=Z,25nm,0.6s,mb5.2,baz=45,slow=5.1
NOA NORSAR Array B 83.33 338 P **P 11 39 03.9 -1.5**
comp=Z,32nm,0.8s,mb5.2,baz=46,slow=5.0,SNR=68
NOA pP pP 11 40 26.3 -4.7
comp=Z,2.1nm,0.9s,baz=44,slow=5.3,SNR=2.5
NOA PP PP 11 42 21.1 -1.4
comp=Z,4.9nm,0.9s,baz=46,slow=7.9,SNR=7.8
QLMT Earthquake Lak 83.38 43 *e*P **P 11 39 07.0 +1.1**
M13A Montello 83.41 47 P **P 11 39 06.7 +0.5**
baz=83,SNR=7.7
K14A Jones Ranch, D 83.46 46 ⇑P **P 11 39 06.9 +0.5**
baz=83,SNR=8.5
R10A Warm Springs 83.48 50 ⇑P **P 11 39 06.6 0.0**
baz=83,SNR=8.7
O12A Currie 83.57 48 ⇑P **P 11 39 07.0 0.0**
baz=83,SNR=16
N13A Wendover, West 83.64 47 ⇊P **P 11 39 07.6 +0.3**
baz=84
FCC Fort Churchill 83.64 25 *e*P **P 11 39 05.6 -1.3**
FCC pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
FCC Fort Churchill 83.64 25 *e*P **P 11 39 05.6 -1.4**
comp=Z,6.1nm,0.8s,mb4.5
Q11A Duckwater 83.65 50 ⇊P **P 11 39 07.6 +0.1**
baz=84
MPMC Manual Prospec 83.71 53 P **P 11 39 07.9 +0.1**
baz=84,SNR=5.8
YMR Madison River 83.74 43 P **P 11 39 09.3 +1.6**
comp=Z,19nm,0.7s,mb5.0
LRMC Laurel Mountai 83.85 53 P **P 11 39 08.5 0.0**
baz=84,SNR=7.7
P12A McGill 83.85 49 P **P 11 39 08.7 +0.3**
baz=84,SNR=6.7
M14A Sheep Mountain 83.87 46 ⇑P **P 11 39 08.5 0.0**
baz=84,SNR=17
YNR Norris Junctio 83.89 43 *e*P **P 11 39 10.9 +2.4**
EDW2 Edwards Air Fo 83.91 54 ⇊P **P 11 39 08.8 0.0**
baz=84
GCMT Greycliff 83.93 41 *e*P **P 11 39 09.3 +0.6**
YFT Old Faithful 83.94 43 *e*P **P 11 39 11.4 +2.7**
R11A Troy Canyon, C 83.94 50 P **P 11 39 08.9 0.0**
baz=84,SNR=13
FURC Furnace Creek, 83.97 52 P **P 11 39 09.1 +0.1**
baz=84,SNR=6.2
HVU Hansel Valley 84.10 46 *e*P **P 11 39 10.5 +0.9**
LKWY Lake 84.14 43 *e*P **P 11 39 12.2 +2.4**
LKWY pmax pmax
comp=Z,11nm,0.8s,mb4.7
LKWY Lake 84.14 43 *e*P **P 11 39 12.2 +2.5**
comp=Z,11nm,0.8s,mb4.7
O13A Hicks Ranch, I 84.14 48 ⇊P **P 11 39 09.9 0.0**
baz=84
IMW Indian Meadow 84.16 43 *e*P **P 11 39 10.0 +0.1**
comp=Z,13nm,0.8s,mb4.8
TPNV Topopah Spring 84.16 52 *e*P **P 11 39 10.3 +0.3**
TPNV *e**PP pP 11 40 31.9 -3.9
TPNV pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
TPNV Topopah Spring 84.16 52 *e*P **P 11 39 10.3 +0.3**
comp=Z,8.4nm,0.7s,mb4.7
TPNV *e*pP pP 11 40 31.9 -3.9
TPNV Topopah Spring 84.16 52 P **P 11 39 10.1 +0.1**
baz=84,SNR=13
DCID1 Drake Creek 84.17 44 *e*P **P 11 39 11.2 +1.3**
S11A Rachel 84.18 51 P **P 11 39 10.6 +0.6**
baz=84,SNR=5.3
FLWY Flagg Ranch 84.21 43 *e*P **P 11 39 11.5 +1.4**
comp=Z,16nm,0.9s,mb4.9
N14A Grayback Hills 84.31 47 ⇑P **P 11 39 10.4 -0.3**
baz=84,SNR=5.8
MOOW Moose Ponds 84.36 44 *e*P **P 11 39 11.9 +1.0**
TPAW Teton Pass 84.37 44 *e*P **P 11 39 11.8 +0.8**
comp=Z,9.6nm,0.8s,mb4.7
TPAW *e*pP pP 11 40 38.3 +1.5
BGU Big Grassy Mou 84.37 47 *e*P **P 11 39 11.4 +0.4**
BFSC Mount Baldy St 84.46 55 ⇊P **P 11 39 11.2 -0.4**
baz=84
P13A Bates Ranch, G 84.46 49 P **P 11 39 11.8 +0.3**
baz=84,SNR=8.1
REDW Red Top Meadow 84.50 44 *e*P **P 11 39 12.2 +0.7**
comp=Z,22nm,1.6s,mb4.7
LOHW Long Hollow 84.52 44 *e*P **P 11 39 12.1 +0.4**
GSC Goldstone 84.56 53 *e*P **P 11 39 12.1 0.0**
GSC Goldstone 84.56 53 P **P 11 39 12.2 +0.2**
baz=84,SNR=5.2
R12A Pony Springs, 84.62 50 P **P 11 39 12.5 +0.2**
baz=84,SNR=9.0
Q13A Wheeler Ranch, 84.71 49 P **P 11 39 13.1 +0.4**
baz=85,SNR=6.4
T11A Corn Creek, Al 84.74 51 ⇑P **P 11 39 12.7 -0.1**
baz=85,SNR=7.6
S12A Delamar Landin 84.81 50 ⇊P **P 11 39 13.6 +0.3**
baz=85
DUG Dugway 84.89 47 *e*P **P 11 39 13.5 0.0**
DUG Dugway 84.89 47 P **P 11 39 13.7 +0.1**
baz=85,SNR=9.5
HWUT Hardware Ranch 84.97 46 *e*P **P 11 39 14.5 +0.6**
comp=Z,8.0nm,0.9s,mb4.5
BBRC Big Bear Sol-O 84.98 54 ⇑P **P 11 39 13.6 -0.5**
baz=85
TUQ Turquoise Mtn. 85.13 53 ⇊P **P 11 39 14.7 -0.2**
baz=85,SNR=9.2
HEC Hector,Ludlow 85.13 53 ⇑P **P 11 39 15.3 +0.4**
baz=85
SHPR Sheep Range 85.14 52 *e*P **P 11 39 15.4 +0.5**
V11A Goodsprings 85.28 52 P **P 11 39 15.9 +0.3**
baz=85,SNR=5.7
S13A Holt Ranch, En 85.51 50 ⇊P **P 11 39 16.9 +0.2**
baz=85
BW06 Boulder Array 85.62 44 *e*P **P 11 39 17.1 0.0**
PFO Pinyon Flat Ob 85.64 55 P **P 11 39 17.0 -0.4**
PFO pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
PFO Pinyon Flat Ob 85.64 55 *e*P **P 11 39 17.1 -0.2**
comp=Z,7.7nm,0.9s,mb4.5
PFO Pinyon Flat Ob 85.64 55 P **P 11 39 16.9 -0.4**
comp=Z,5.6nm,0.7s,mb4.5,baz=303,slow=5.9,SNR=12
PFO Pinyon Flat Ob 85.64 55 ⇑P **P 11 39 17.2 -0.2**
baz=86
GMRC Granite Mounta 85.64 53 P **P 11 39 17.5 +0.2**
baz=86,SNR=7.6
ARUT Antelope Range 85.69 50 *e*P **P 11 39 18.3 +0.8**
V12A Nelson 85.75 52 ⇑P **P 11 39 18.2 +0.3**
baz=86
T13A Saint George 85.76 51 P **P 11 39 18.7 +0.8**
baz=86,SNR=5.4
BELC Belle Mtn. 85.78 54 P **P 11 39 17.8 -0.2**
baz=86,SNR=8.0
DAU Daniels Canyon 85.79 47 *e*P **P 11 39 18.8 +0.8**
DAU *e**PP pP 11 40 45.8 +1.7
CCUT Cedar City 85.86 50 *e*P **P 11 39 19.0 +0.6**
CCUT *e*pP pP 11 40 45.9 +1.3
HARR Harsova 85.97 319⇑*i*P **P 11 39 18.9 +0.2**
KWP Kalwaria 85.98 325 *e*P **P 11 39 18.5 -0.2**
KWP Kalwaria 85.98 325⇊*i*P **P 11 39 16.0 -2.7**
VRI Vrincioaia 86.00 320⇑*i*P **P 11 39 18.1 -0.8**
MONP Monument Peak 86.01 55 ⇑P **P 11 39 19.0 -0.2**
baz=86
U13A Pakoon Wash 86.02 51 ⇊P **P 11 39 19.6 +0.4**
baz=86,SNR=9.0
MSU Marysvale 86.17 49 *e*P **P 11 39 20.7 +0.8**
V13A Grand Canyon W 86.29 52 ⇑P **P 11 39 20.7 +0.2**
baz=86
T14A Hurricane 86.30 50 ⇊P **P 11 39 21.3 +0.8**
baz=86
IRM Iron Mountain 86.31 54 ⇑P **P 11 39 21.1 +0.5**
baz=86

BC3 Big Chuckw Mtn 86.34 54 ⇑P **P 11 39 20.8 +0.1**
baz=86
U14A Mt Trumbull 86.57 51 ⇑P **P 11 39 22.1 +0.3**
baz=86
W13A Hualapai Mount 86.74 52 ⇑P **P 11 39 23.1 +0.4**
baz=87
SRU San Rafael 86.96 47 *e*P **P 11 39 23.3 -0.3**
SRU pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
SRU San Rafael 86.96 47 *e*P **P 11 39 23.3 -0.3**
comp=Z,2.3nm,0.8s,mb4.1
V14A Boquillas Ranc 87.02 51 ⇑P **P 11 39 24.7 +0.8**
baz=87
X13A Yucca 87.04 53 ⇊P **P 11 39 24.2 +0.2**
baz=87
CRVS Cervenica-Dubn 87.07 325 *e*P **P 11 39 23.3 -0.6**
GLA Glamis 87.10 54 ⇑P **P 11 39 24.7 +0.3**
baz=87
W14A Seligman 87.25 52 ⇊P **P 11 39 25.2 +0.2**
baz=87
Y13A Salome 87.43 53 P **P 11 39 26.6 +0.6**
baz=87,SNR=5.6
V15A Kaibab Nationa 87.57 51 ⇊P **P 11 39 26.7 +0.2**
baz=87
DRGR 87.70 322 ⇊P **P 11 39 26.2 -0.7**
DRGR 87.70 322⇊*i*P **P 11 39 26.1 -0.8**
X14A Yava 87.77 52 ⇊P **P 11 39 27.7 +0.2**
baz=88
Y14A Wickenburg 87.96 53 P **P 11 39 28.9 +0.4**
baz=88,SNR=6.3
RSSD Black Hills 88.17 41 *e*P **P 11 39 30.4 +1.2**
PV10 Paradox Valley 88.33 47 *e*P **P 11 39 30.6 +0.6**
KSP Ksiaz 88.37 328 *e*P **P 11 39 29.3 -0.6**
KSP Ksiaz 88.37 328 *e*P **P 11 39 29.1 -0.8**
Y15A Casa Rosa Ranc 88.43 53 P **P 11 39 31.0 +0.4**
baz=88,SNR=5.6
MORC Moravsky Berou 88.48 327 *e*P **P 11 39 29.9 -0.5**
MORC Moravsky Berou 88.48 327⇊*i*P **P 11 39 29.6 -0.9**
PSZ Piszkesteto 88.50 325 *e*P **P 11 39 30.3 -0.3**
comp=Z,12nm,1.0s,mb4.7
PSZ Piszkesteto 88.50 325⇑*i*P **P 11 39 30.0 -0.6**
ULM Lac du Bonnet 88.64 32 P **P 11 39 30.1 -1.1**
comp=Z,0.8nm,0.4s,mb3.9,baz=322,slow=4.2,SNR=4.5
VYHS Vyhne 88.67 325 *e*P **P 11 39 30.7 -0.7**
VYHS pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
VYHS Vyhne 88.67 325 *e*P **P 11 39 30.7 -0.7**
comp=Z,9.3nm,0.9s,mb4.6
DPC Dobruska-Polom 88.68 328 *e*P **P 11 39 31.0 -0.4**
UPC Upice 88.72 328 *e*P **P 11 39 30.8 -0.8**
PV01 Paradox Valley 88.77 47 *e*P **P 11 39 32.3 +0.2**
BSEG Bad Segeberg 88.81 333 *e*P **P 11 39 30.8 -1.2**
comp=Z,21nm,1.1s,mb4.9
BZS Buzias 89.03 322⇑*i*P **P 11 39 31.9 -1.2**
Y16A Circle Bar Ran 89.07 52 ⇑P **P 11 39 33.5 -0.1**
baz=89
115A Sonoran Desert 89.16 54 ⇊P **P 11 39 33.9 -0.1**
baz=89
SMCO Snowmass 89.23 46 *e*P **P 11 39 35.0 +0.8**
VRAC Vranov 89.25 327⇊*i*P **P 11 39 33.6 -0.5**
PVCC Panska Ves 89.39 329 *e*P **P 11 39 34.2 -0.5**
BRG Berggiesshubel 89.43 329 *e*P **P 11 39 34.1 -0.8**
BRG pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
BRG MLR MLR
comp=N,511nm,15.6s
BRG MLR MLR
comp=E,291nm,13.4s
BRG MLR MLR
comp=Z,655nm,14.6s
BRG Berggiesshubel 89.43 329 *e*P **P 11 39 33.7 -1.2**
comp=Z,59nm,2.5s,mb5.0
BRG Berggiesshubel 89.43 329 *e*P **P 11 39 34.1 -0.9**
comp=Z,7.5nm,0.9s,mb4.5
BRG
comp=N,853nm,15.6s
BRG
comp=E,486nm,13.4s
BRG
comp=Z,1μm,14.6s
CLL Collm 89.55 330 *i*P **P 11 39 33.8 -1.7**
CLL pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 89.55 330 *e*P **P 11 39 34.4 -1.1**
comp=Z,7.0nm,0.8s,mb4.6
CLL Collm 89.55 330 *i*P **P 11 39 33.8 -1.7**
comp=Z,7.0nm,0.8s,mb4.6
Y17A Roosevelt 89.62 52 ⇑P **P 11 39 36.3 +0.1**
baz=90
FBE Freiberg 89.67 330 *e*P **P 11 39 35.0 -1.0**
comp=Z,16nm,1.1s,mb4.9
ISCO Idaho Springs 89.74 45 *e*P **P 11 39 37.4 +0.8**
PRU Pruhonice 89.77 328 *e*P **P 11 39 35.4 -1.1**
TREC Trest 89.80 328 *e*P **P 11 39 36.0 -0.6**
Y18A Canyon Day Jun 90.14 52 ⇑P **P 11 39 38.3 -0.3**
baz=90
PKSM Moragy 90.25 324⇑*i*P **P 11 39 38.0 -0.8**
117A Oracle 90.29 53 ⇊P **P 11 39 39.2 -0.1**
baz=90
X19A St. Johns 90.31 51 ⇑P **P 11 39 39.5 +0.1**
baz=90
CLZ Clausthal 90.32 332 *e*P **P 11 39 37.2 -1.8**
CLZ pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
CLZ Clausthal 90.32 332 *e*P **P 11 39 37.2 -1.8**
comp=Z,8.0nm,0.7s,mb4.8
WERD Werda 90.47 330 *e*P **P 11 39 38.6 -1.2**
comp=Z,9.0nm,1.0s,mb4.7
GUNZ Gunzen 90.52 330 *e*P **P 11 39 39.1 -0.9**
comp=Z,10.0nm,0.9s,mb4.8
WERN Wernitzgruen 90.56 330 *e*P **P 11 39 39.2 -1.0**
comp=Z,19nm,1.4s,mb4.8
NKC Novy Kostel 90.56 330 *e*P **P 11 39 38.6 -1.6**
Y19A Nutrioso 90.59 51 ⇊P **P 11 39 40.8 +0.1**
baz=90
MOX Moxa 90.64 330 *e*P **P 11 39 39.7 -0.8**
MOX Moxa 90.64 330 *e*P **P 11 39 38.7 -1.8**
comp=Z,5.0nm,0.6s,mb4.6
217A Green Valley 90.66 54 ⇑P **P 11 39 41.1 +0.1**
baz=90
118A Homack Ranch, 90.80 53 ⇊P **P 11 39 41.4 -0.3**
baz=91
KHC Kasperske Hory 90.82 328⇑*e*P **P 11 39 40.0 -1.4**
KHC Kasperske Hory 90.82 328 *e*P **P 11 39 40.4 -1.0**
MANZ Manzenberg 90.89 330 *e*P **P 11 39 40.9 -0.8**
comp=Z,8.0nm,1.0s,mb4.6
GEC2 GERESS Array S 90.96 328 *e*P **P 11 39 40.6 -1.4**
GEC2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GEC2 GERESS Array S 90.96 328 *e*P **P 11 39 40.6 -1.4**
comp=Z,10.0nm,0.9s,mb4.8
GERES GERESS Array B 90.96 328 P **P 11 39 41.1 -0.9**
comp=Z,5.7nm,0.7s,mb4.6,baz=46,slow=4.4,SNR=29
SDCO Grand Sand Dun 90.99 46 *e*P **P 11 39 43.2 +0.7**
comp=Z,4.1nm,1.2s,mb4.2
ROTZ Rotzenmuhle 91.00 329 *e*P **P 11 39 41.5 -0.7**
comp=Z,11nm,1.0s,mb4.7
IBBN Ibbenburen 91.06 333 *e*P **P 11 39 41.0 -1.4**
comp=Z,18nm,0.7s,mb5.1
WET Wettzell 91.14 329 *e*P **P 11 39 42.2 -0.7**
WET pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
WET Wettzell 91.14 329 *e*P **P 11 39 42.2 -0.7**
comp=Z,4.0nm,0.6s,mb4.5
119A Ashpeak Ranch, 91.21 52 ⇑P **P 11 39 43.4 -0.2**
baz=91
318A Bisbee 91.43 54 ⇑P **P 11 39 44.8 +0.2**
baz=91
GRA1 Grafenberg Arr 91.50 330 *e*P **P 11 39 43.9 -0.6**
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 91.50 330 *e*P **P 11 39 43.9 -0.6**
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 91.50 330 *e*P **P 11 39 43.9 -0.6**
GRF pmax pmax
comp=Z,22nm,1.2s,mb5.0
GRF Grafenberg Arr 91.50 330 *e*P **P 11 39 43.9 -0.6**
comp=Z,22nm,1.2s,mb5.0
219A White Tail Can 91.65 53 ⇊P **P 11 39 45.6 0.0**
baz=92
ANMO Albuquerque 91.96 49⇑*e*P **P 11 39 46.6 -0.4**
ANMO Albuquerque 91.96 49 *e*P **P 11 39 47.6 +0.7**
ANMO Albuquerque 91.96 49 P **P 11 39 47.7 +0.7**
comp=Z,3.1nm,0.8s,mb4.3,baz=305,slow=4.8,SNR=12
319A Douglas 91.98 53 ⇊P **P 11 39 46.8 -0.3**
baz=92

BFO Black Forest 93.80 330 *e*P **P 11 39 53.2 -1.9**
BFO pmax pmax
comp=Z,13nm,1.2s,mb4.8
BFO Black Forest 93.80 330 *e*P **P 11 39 53.2 -1.9**
comp=Z,13nm,1.2s,mb4.8
TXAR Lajitas Array 97.13 52 P **P 11 40 11.1 +0.5**
comp=Z,0.6nm,0.6s,mb3.9,baz=333,slow=2.1,SNR=11
TXAR pP pP 11 41 32.0 -6.0
comp=Z,0.9nm,0.9s,baz=348,slow=3.9,SNR=4.6
SYO Syowa Base 118.52 204⇑*e*PKiKP PKiKP 11 45 20.5 -2.2
TORD Torodi Ar. Bea 123.56 309 PKP PKPdf 11 45 33.1 -0.9
comp=Z,0.4nm,0.5s,baz=7.5,slow=1.8,SNR=3.6
SNAA Sanae 130.61 194 PKP PKPdf 11 45 45.1 -0.6
comp=Z,1.4nm,0.9s,baz=173,slow=2.3,SNR=8.0
SNAA SKPab SKPbc 11 48 33.2 -0.6
comp=Z,2.1nm,0.6s,baz=160,slow=2.9,SNR=23
SNAA *e* 11 48 32.2
SNAA *e* 11 48 36.3
SNAA Sanae 130.61 194 *e* PKPdf 11 45 45.1 -0.6
DBIC Dimbokro 132.68 310 SKPbc SKPbc 11 48 44.0 +1.1
comp=Z,3.9nm,0.7s,baz=23,slow=6.4,SNR=7.7
SDV Santo Domingo 133.55 45 *e*PKPdf PKPdf 11 45 53.2 +0.2
USHA Ushuaia 144.93 151 PKP PKPdf 11 46 12.0 -0.3
comp=Z,19nm,0.9s,baz=195,slow=4.9,SNR=9.5
PLCA Paso Flores 150.93 127 PKPbc PKPbc 11 46 28.5 -0.2
comp=Z,14nm,0.6s,baz=230,slow=2.7,SNR=61
PLCA PKPab PKPab 11 46 37.9 +0.2
comp=Z,6.3nm,1.1s,baz=287,slow=5.0,SNR=2.8
LPAZ La Paz 151.60 74 PKPbc PKPbc 11 46 31.5 +0.6
comp=Z,5.1nm,0.6s,baz=311,slow=3.9,SNR=20
CPUP Villa Florida 164.17 93 PKP2 PKPab 11 47 34.8 -0.7
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP Villa Florida 164.17 93 PKPab PKPab 11 47 34.8 -0.7
comp=Z,1.7nm,0.6s,baz=268,slow=3.7,SNR=4.6

CSEM ***15*** *11:28:56.7±0.1,3564N×3341E,h40km,Mw2.8,Error ellipse: s-maj=3.3km s-min=2.1km az=128.0*
ISCJB ***15*** *11:28:57.5±0.7,3564N±004×3338E±006,h41km±19km, Error ellipse: s-maj=9.6km s-min=5.8km az=38.8*
ISK ***15*** *11:28:57.2,3566N×3340E,h36km,MD3.3*
NIC ***15*** *11:28:59.6±0.4,3537N×3328E,h55km,ML3.0,MW2.8*
ISC 15 11:28:57.9±0.6,3563N±005×3338E±006,h38km±22km, n15,σ0°81/21,Cyprus region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LFK	**Lefkose**	**0.37**	**160**	PG		**Pn**	**11 29 07.5**	**+0.6**
LFK				SG		**Sn**	**11 29 13.4**	**+0.4**
MAMC	**Mammari**	**0.48**	**196**	P		**Pn**	**11 29 08.7**	**+0.4**
LEF	**Lefka**	**0.65**	**218**	*e*PG		**Pn**	**11 29 10.7**	**+0.2**
EREN	**Erenkoy**	**0.65**	**98**	*e*PG		**Pn**	**11 29 10.2**	**-0.5**
EREN				*e*SG		**Sn**	**11 29 20.0**	**+0.2**
IKL	**Isikli**	**0.66**	**22**	*e*PG		**Pn**	**11 29 10.6**	**-0.2**
IKL				*e*SG		**Sn**	**11 29 18.9**	**-1.0**
CSS	**Prodhromos** 20nm,0.1s	**0.67**	**183**	P		**Pn**	**11 29 10.7**	**-0.2**
CSS				S		**Sn**	**11 29 18.7**	**-1.4**
ALFC	**Alevga** 98nm,0.1s	**0.79**	**234**	P		**Pn**	**11 29 12.4**	**-0.2**
ALFC				S		**Sn**	**11 29 21.7**	**-1.5**
PHNC	**Paralimni**	**0.82**	**139**	P		**Pn**	**11 29 13.4**	**+0.4**
SZAC	**Souni-Zanaja** 7.5nm,0.2s	**0.96**	**205**	P		**Pn**	**11 29 16.4**	**+1.5**
SZAC				S		**Sn**	**11 29 34.2**	**+6.9**
AKMC	**Akamas**	**1.05**	**235**	P		**Pn**	**11 29 16.2**	**+0.1**
HDMB	**Hadim**	**1.51**	**332**	*e*PN		**Pn**	**11 29 25.4**	**+2.8**
KARA	**Karaisali**	**2.12**	**39**	*e*PN		**Pn**	**11 29 30.4**	**-0.4**
HTY	**Hatay**	**2.29**	**77**	*e*PN		**Pn**	**11 29 33.2**	**0.0**
KONT	**Konya--Tatoy**	**2.45**	**341**	*e*PN		**Pn**	**11 29 35.6**	**+0.2**
KOZT	**Kozan**	**2.70**	**46**	*e*PN		**Pn**	**11 29 38.7**	**-0.2**

GRAL ***15*** *11:35:26.4±0.3,3389N×3557E,h34km±5km,MD2.8*
ISCJB ***15*** *11:35:27.8±1.1,3391N±004×360E±0.1,h0km,Error ellipse: s-maj=15.1km s-min=6.0km az=8.1*
GII ***15*** *11:35:28.4±1.4,3381N×3604E,h0km,ML2.4/6*
ISC 15 11:35:28.1±1.2,3392N±004×360E±01,h0km,n9,σ0°83/14, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.28**	**266**	*e*Pg		**Pg**	**11 35 31.9**	**-1.5**
HWQ	**Hawqa**	**0.36**	**355**	*e*Pg		**Pg**	**11 35 36.5**	**+1.5**
RCY	**Rachaya**	**0.46**	**198**	*e*Pg		**Pg**	**11 35 35.8**	**-1.1**
RCY				*e*Sg		**Sg**	**11 35 42.7**	**-0.1**
HRI	**Mount Hermon**	**0.69**	**198**	Pg		**Pg**	**11 35 41.1**	**-0.2**
HRI				Sg		**Sg**	**11 35 50.9**	**+0.7**
KSDI	**Kefar Szold**	**0.78**	**201**	Pg		**Pg**	**11 35 42.4**	**-0.6**
KSDI				Sg		**Sg**	**11 35 54.1**	**+1.0**
KSHT	**Keshet**	**0.95**	**189**	Pg		**Pg**	**11 35 46.3**	**0.0**
MMB2	**Mount Meron ar**	**1.03**	**209**	Pg		**Pg**	**11 35 47.3**	**-0.7**
HNTI	**Hanita**	**1.08**	**219**	Pg		**Pg**	**11 35 49.3**	**+0.5**
HNTI				Sg		**Sg**	**11 36 03.7**	**+1.0**
MMLI	**Mount Malkishu**	**1.55**	**198**	Pn		**Pn**	**11 35 56.4**	**-0.6**
MMLI				Sn		**Sn**	**11 36 17.8**	**-0.1**

NEIC ***15*** *12:23:45.0±3.1,700S×12947E,h144km±30km,mb4.8/2, Error ellipse: s-maj=38.4km s-min=24.4km az=53.0*
IDC ***15*** *12:23:44.5±7.3,692S×12963E,h140km±71km,mb3.4/2, mb1 3.5/6,mb1mx3.3/14,mbtmp3.4/6,Error ellipse: s-maj=63.6km s-min=21.8km az=46.0*
ISCJB ***15*** *12:23:48.9±1.7,73S±01×12951E±008,h200km±18km, mb3.5/2,Error ellipse: s-maj=18.3km s-min=10.3km az=26.5*
ISC 15 12:23:48.0±1.7,72S±01×12956E±009,h174km±14km,n11, σ0°86/17,mb3.6/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu** 242nm,0.5s	**6.21**	**153**	*e*Pn		**Pn**	**12 25 17.5**	**-0.2**
KAKA				*e*Sn		**Sn**	**12 26 28.0**	**-0.2**
BATI	**Kupang** 2.4nm,0.3s,baz=115,slow=6.7,SNR=7.9	**6.57**	**242**	P		**Pn**	**12 25 23.2**	**+0.8**
BATI				S		**Sn**	**12 26 36.5**	**-0.2**
FITZ	**Fitzroy Crossi** 0.3nm,0.3s,baz=20,slow=9.6,SNR=36	**11.53**	**199**	P		**Pn**	**12 26 27.0**	**-0.5**
FITZ				S		**Sn**	**12 28 30.2**	**-5.3**
WRAB	**Tennant Creek** 2.4nm,0.4s	**13.53**	**160**	*e*Pn		**Pn**	**12 26 52.8**	**-0.3**
WRA	**Warramunga Arr** 1.1nm,0.3s,baz=344,slow=14,SNR=61	**13.53**	**160**	P		**Pn**	**12 26 51.8**	**-1.3**
WRA				S		**Sn**	**12 29 16.6**	**-6.9**
WB2	**Warramunga Arr** 1.4nm,0.3s,baz=333,slow=22,SNR=9.9	**13.53**	**160**	*e*Pn		**Pn**	**12 26 53.6**	**+0.5**
ASAR	**Alice Springs**	**16.94**	**166**	P		**Pn**	**12 27 36.1**	**+1.3**
ASAR				S		**S**	**12 30 41.2**	**-0.5**
ASAR	**Alice Springs** 0.4nm,0.3s,baz=347,slow=11,SNR=40	**16.94**	**166**	P		**Pn**	**12 27 36.1**	**+1.3**
ASAR				S		**S**	**12 30 41.2**	**-0.5**
STKA	**Stephens Creek** 1.1nm,0.7s,mb3.6,baz=343,slow=11,SNR=2.8	**27.04**	**157**	P		**P**	**12 29 15.8**	**+1.8**
MKAR	**Makanchi Array**	**68.11**	**327**	P		**P**	**12 34 28.0**	**-1.0**
MKAR	**Makanchi Array** 0.3nm,0.3s,mb3.5,baz=114,slow=8.2,SNR=4.6	**68.11**	**327**	P		**P**	**12 34 28.0**	**-1.0**

IDC 15 12:33:57.7±27.0,2129S×17353W,h0km,mb4.2/4, mb1 4.3/4,mb1mx3.9/15,mbtmp4.2/4,Error ellipse: s-maj=493.0km s-min=150.0km az=75.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
CTA	**Charters Tower** 7.4nm,0.4s,baz=92,slow=12,SNR=32	**37.57**	**264**	P		P	12 41 14.8	+0.6
STKA	**Stephens Creek** 1.3nm,0.7s,baz=95,slow=14,SNR=5.9	**41.24**	**246**	P		P	12 41 43.4	-1.2
ASAR	**Alice Springs** 1.0nm,0.6s,baz=95,slow=8.2,SNR=10	**48.41**	**257**	P		P	12 42 42.1	+0.2
WRA	**Warramunga Arr** 0.5nm,0.3s,baz=95,slow=8.3,SNR=20	**48.63**	**262**	P		P	12 42 43.7	0.0

ISCJB ***15*** *12:41:03.5±0.3,774S±005×15564E±007,h10km, mb4.8/53,MS3.9/16,Error ellipse: s-maj=10.0km s-min=6.1km az=16.1*

BJI ***15*** *12:41:03.5, 742S×15569E, h5km, mB5.0, mb4.9, Ms4.8, Msz4.4*
IDC ***15*** *12:41:03.9±0.7, 772S×15548E, h0km, mb4.6/12, mb1 4.7/13, mb1mx4.6/15, mbtmp4.5/13, ML3.6/1, MS3.8/14, Ms1 3.8/14, ms1mx3.7/23, Error ellipse: s-maj=25.9km s-min=16.8km az=117.0*
NEIC ***15*** *12:41:05.5±0.3, 774S×15552E, h10km, mb5.0/19, Error ellipse: s-maj=11.8km s-min=6.7km az=116.0*
MOS ***15*** *12:41:08.7±1.2, 758S×15527E, h39km, mb5.2/17, Error ellipse: s-maj=13.6km s-min=8.6km az=85.4*

ISC 15 12:41:05.0±1.9, 776S±006×15561E±007, h8km±12km, h13km±1.9km; pP-P, n125, σ1.9 15/112, mb4.8/53, MS3.9/16, 6C-4D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.60**	**112**	LR	LR	12 43 47.4	
	comp=Z,540nm,20.7s,baz=354,slow=35						
CTA	**Charters Tower**	**15.25**	**216**	*e*P	**Pn**	**12 44 41.8**	**+1.1**
	25nm,0.7s						
CTA	**Charters Tower**	**15.25**	**216**	Pn	**Pn**	**12 44 41.9**	**+1.2**
CTA				LR	LR	12 49 53.2	
CTA	**Charters Tower**	**15.25**	**216**	Pn	**Pn**	**12 44 41.9**	**+1.2**
	0.2nm,0.3s,baz=42,slow=13,SNR=5.5						
CTA				LR	LR	12 49 53.2	
	comp=Z,605nm,18.5s,baz=38,slow=35						
CTAO	**Charters Tower**	**15.25**	**216**	*e*P	**Pn**	**12 44 41.4**	**+0.7**
EIDS	**Eidsvold**	**18.04**	**193**	*e*P	**Pn**	**12 45 17.3**	**+1.0**
	9.3nm,1.0s						
ARMA	**Armidale**	**22.85**	**189**	*e*P	**P**	**12 46 09.0**	**+0.2**
KAKA	**Kakadu**	**23.32**	**256**	*e*P	**P**	**12 46 14.2**	**+0.3**
	20nm,0.6s,mb4.7						
GUMO	**Guam**	**23.74**	**333**	LR	LR	12 53 35.7	
	comp=Z,288nm,20.0s,MS3.7,baz=96,slow=32						
WRAB	**Tennant Creek**	**23.89**	**237**	P	**P**	**12 46 19.0**	**-0.4**
	110nm,0.8s,mb5.3,SNR=13						
WRAB	**Tennant Creek**	**23.89**	**237**	⇓*e*P	**P**	**12 46 17.6**	**-1.8**
WRAB	**Tennant Creek**	**23.89**	**237**	*e*P	**P**	**12 46 19.2**	**-0.3**
	12nm,0.7s,mb4.4						
WB2	**Warramunga Arr**	**23.89**	**237**	*e*P	**P**	**12 46 18.5**	**-1.0**
WRA	**Warramunga Arr**	**23.90**	**237**	P	**P**	**12 46 19.0**	**-0.6**
WRA						12 50 01.8	
WRA	**Warramunga Arr**	**23.90**	**237**	P	**P**	**12 46 19.0**	**-0.6**
	4.8nm,0.5s,mb4.2,baz=60,slow=9.5,SNR=63						
WRA				PcP	PcP	12 50 01.8	-0.6
	2.5nm,1.0s,baz=60,slow=2.0,SNR=4.5						
WRA				LR	LR	12 55 02.8	
	comp=Z,261nm,20.3s,MS3.7,baz=60,slow=35						
ASAR	**Alice Springs**	**26.14**	**230**	P	**P**	**12 46 38.7**	**-1.2**
	4.1nm,1.1s,mb3.9,baz=59,slow=9.0,SNR=18						
STKA	**Stephens Creek**	**27.32**	**207**	*e*P	**P**	**12 46 51.0**	**+0.6**
	4.1nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**27.32**	**207**	*e*P	**P**	**12 46 50.8**	**+0.4**
STKA				*e*P	pP	12 46 51.0	-1.7
STKA	**Stephens Creek**	**27.32**	**207**	P	**P**	**12 46 50.8**	**+0.3**
	5.0nm,0.7s,mb4.1,baz=52,slow=12,SNR=6.3						
STKA				LR	LR	12 57 31.9	
	comp=Z,537nm,20.5s,MS4.1,baz=23,slow=36						
CNB	**Canberra Magne**	**28.02**	**191**	*e*P	**P**	**12 46 57.1**	**+0.5**
	5.3nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**30.92**	**248**	*e*P	**P**	**12 47 21.2**	**-1.4**
	3.8nm,0.5s,mb4.5						
FITZ	**Fitzroy Crossi**	**30.92**	**248**	P	**P**	**12 47 21.5**	**-1.1**
	1.8nm,0.5s,mb4.1,baz=88,slow=9.8,SNR=15						
FITZ				LR	LR	13 00 11.0	
	comp=Z,104nm,19.1s,MS3.5,baz=257,slow=37						
RAO	**Raoul Island**	**32.82**	**134**	LR	LR	12 58 17.5	
	comp=Z,199nm,21.7s,MS3.8,baz=73,slow=31						
FORT	**Forrest**	**34.47**	**225**	*e*P	**P**	**12 47 59.9**	**+6.4**
	20nm,0.8s,mb5.1						
KAPI	**Kappang**	**35.73**	**272**	P	**P**	**12 48 04.5**	**-0.1**
KAPI	**Kappang**	**35.73**	**272**	P	**P**	**12 48 04.6**	**-0.1**
	18nm,0.8s,mb5.0,baz=115,slow=5.1,SNR=4.4						
URZ	**Urewera**	**36.05**	**151**	LR	LR	13 00 51.6	
	comp=Z,198nm,20.7s,MS3.9,baz=165,slow=33						
CBIJ	**Chichi jima**	**37.01**	**340**	LR	LR	13 00 48.6	
	comp=Z,123nm,18.2s,MS3.7,baz=147,slow=32						
MBWA	**Marble Bar**	**37.10**	**245**	*e*P	**P**	**12 48 15.2**	**-1.0**
KLBR	**Kellerberrin**	**42.47**	**231**	*e*P	**P**	**12 48 58.8**	**-2.0**
	40nm,1.3s,mb4.9						
JOW	**Kunigami**	**43.41**	**323**	LR	LR	13 05 09.5	
	comp=Z,85nm,18.7s,MS3.7,baz=253,slow=33						
SBUM	**Sibu**	**44.45**	**281**	⇓P	**P**	**12 49 18.6**	**+1.5**
KSM	**Kuching**	**46.10**	**280**	*e*P	**P**	**12 49 30.8**	**+0.6**
YHNB	**Yeheng**	**46.39**	**315**	*e*P	**P**	**12 49 33.1**	**+0.9**
MJAR	**Matsushiro Arr**	**46.99**	**341**	P	**P**	**12 49 35.9**	**-0.9**
	7.0nm,0.7s,mb4.7,baz=164,slow=7.9,SNR=21						
MAJO	**Matsushiro**	**46.99**	**341**	*e*P	**P**	**12 49 36.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.2						
MAJO	**Matsushiro**	**46.99**	**341**	*e*P	**P**	**12 49 36.2**	**-0.6**
	comp=Z,26nm,0.8s,mb5.2						
MAT	**Matsushiro**	**46.99**	**341**	P	**P**	**12 49 35.5**	**-1.3**
MAT				*e*S	**S**	**12 56 31.9**	**+3.3**
KSRS	**Korea Array**	**51.89**	**332**	P	**P**	**12 50 14.4**	**+0.3**
	comp=Z,6.6nm,0.8s,mb4.6,baz=151,slow=7.5,SNR=14						
KSRS				LR	LR	13 09 01.9	
	comp=Z,75nm,21.7s,MS3.7,baz=352,slow=32						
NJ2	**Nanjing**	**52.88**	**320**	*e*P	**P**	**12 50 22.8**	**+1.1**
NJ2				AP	pP	12 50 27.3	+3.2
NJ2				XP	sP	12 50 30.0	+5.0
NJ2				PCP	PcP	12 51 32.0	+1.2
NJ2				PP	PP	12 52 25.5	+4.2
NJ2				S	**S**	**12 57 49.0**	**-2.1**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,130nm,7.1s						
NJ2				LR	LR		
	comp=N,330nm,16.0s						
NJ2				LR	LR		
	comp=E,160nm,10.2s						
NJ2				LR	LR		
	comp=Z,170nm,23.0s						
PPT	**Papeete**	**54.20**	**106**	*e*LR	LR	13 06 29.8	
	comp=Z,94nm,23.5s						
PPT	**Papeete**	**54.20**	**106**	LR	LR	13 08 41.4	
	comp=Z,100nm,19.1s,MS3.9,baz=260,slow=30						
VLA	**Vladivostok**	**55.04**	**339**	*ce*P	**P**	**12 50 37.4**	**+0.2**
VLA				pmax	pmax		
	comp=Z,61nm,1.7s,mb5.3						
HKL	**Haleakala**	**55.11**	**58**	*e*P	**P**	**12 50 33.7**	**-4.4**
YSS	**Yuzh-Sakhalins**	**55.65**	**349**	*e*P	**P**	**12 50 40.1**	**-1.4**
YSS				*e*		12 50 47.9	
YSS				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
YSS	**Yuzh-Sakhalins**	**55.65**	**349**	*e*P	**P**	**12 50 42.1**	**+0.5**
	comp=Z,24nm,0.9s,mb5.2						
PMOR	**Pomariorio Ree**	**55.73**	**103**	*e*P	**P**	**12 50 44.5**	**+1.8**
	comp=Z,78nm,1.1s,mb5.7						
MDJ	**Mudanjiang**	**57.17**	**338**	P	**P**	**12 50 51.8**	**-0.6**
MDJ				AMB	AMB		
	comp=Z,12nm,1.4s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,63nm,4.8s						
CN2	**Changchun**	**58.13**	**335**	⇑P	**P**	**12 50 59.4**	**+0.2**
CN2				*e*AP	pP	12 51 04.0	+2.4
CN2				*e*S	**S**	**12 58 59.8**	**-1.0**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,6.0s						
GYA	**Guiyang**	**58.40**	**307**	P	**P**	**12 51 02.8**	**+1.4**
GYA				PCP	PcP	12 51 53.8	+1.5
GYA				PP	PP	12 53 15.4	+4.6
GYA				SCP	ScP	12 55 53.8	+0.6
GYA				S	**S**	**12 59 05.8**	**+0.9**
GYA				SCS	ScS	13 00 50.3	-1.7
GYA				SS	SS	13 02 59.4	+2.1
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,5.7s						
GYA				LR	LR		
	comp=N,660nm,19.6s,MS4.9						
GYA				LR	LR		
	comp=E,540nm,18.5s,MS4.9						
GYA				LR	LR		
	comp=Z,540nm,19.8s,MS4.7						
HABR	**Khabarovsk**	**58.84**	**344**	*e*P	**P**	**12 51 04.1**	**0.0**
HABR				*e*		12 53 11.2	
HABR				*e*S	**S**	**12 59 13.4**	**+3.6**
HABR				*e*SS	SS	13 03 05.3	+1.7
HABR				pmax	pmax		
	comp=Z,64nm,1.6s,mb5.4						
BJI	**Beijing**	**59.89**	**326**	P	**P**	**12 51 12.3**	**+0.8**
BJI				AMB	AMB		
	comp=Z,2.0nm,0.4s,mb4.5						
KLR	**Kul'dur**	**60.47**	**342**	*e*P	**P**	**12 51 11.2**	**-4.1**
KLR				pmax	pmax		
	comp=Z,70nm,1.8s,mb5.4						
PET	**Petropavlovsk**	**60.60**	**2**	*e*P	**P**	**12 51 15.8**	**-0.3**
PET				*e*S	**S**	**12 59 25.9**	**-6.4**
PET				pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1						
XAN	**Xi'an**	**60.67**	**316**	P	**P**	**12 51 16.3**	**-0.7**
XAN				AMB	AMB		
	comp=Z,3.0nm,1.4s,mb4.2						
KMI	**Kunming**	**60.95**	**304**	P	**P**	**12 51 20.8**	**+1.8**
KMI				AP	pP	12 51 24.8	+3.4
KMI				XP	sP	12 51 26.6	+4.2
KMI				PP	PP	12 53 36.4	+3.0
KMI				S	**S**	**12 59 39.4**	**+1.6**
KMI				SS	SS	13 03 40.3	+2.9
KMI				AMB	AMB		
	comp=Z,14nm,1.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,147nm,3.2s						
CHTO	**Chiang Mai**	**61.78**	**296**	*e*P	**P**	**12 51 25.1**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,16nm,1.3s,mb5.0						
CHTO	**Chiang Mai**	**61.78**	**296**	*e*P	**P**	**12 51 25.1**	**+0.3**
	comp=Z,16nm,1.3s,mb5.0						
CD2	**Chengdu**	**62.77**	**311**	⇑*i*P	**P**	**12 51 31.8**	**+0.6**
CD2				AP	pP	12 51 36.6	+3.0
CD2				XP	sP	12 51 39.0	+4.5
CD2				PP	PP	12 53 51.9	+2.5
CD2				S	**S**	**13 00 00.3**	**-0.4**
CD2				XS	sS	13 00 07.8	+3.1
CD2				SS	SS	13 04 07.5	+1.7
CD2				AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.8s						
CD2				LR	LR		
	comp=N,130nm,13.2s						
CD2				LR	LR		
	comp=Z,110nm,14.4s,MS4.2						
HHC	**Hu-ho-hao-te**	**63.06**	**324**	*e*P	**P**	**12 51 34.3**	**+1.4**
HHC				XP	sP	12 51 41.3	+5.0
HHC				PCP	PcP	12 52 10.3	-0.4
HHC				PP	PP	12 53 55.1	+3.3
HHC				SCP	ScP	12 56 10.8	-2.8
HHC				S	**S**	**13 00 04.6**	**+0.6**
HHC				XS	sS	13 00 11.5	+3.5
HHC				SCS	ScS	13 01 24.3	-2.1
HHC				SS	SS	13 04 11.8	+1.7
HHC				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.5						
HHC				AMB	AMB		
	comp=Z,113nm,6.1s						
HHC				LR	LR		
	comp=N,309nm,17.6s,MS4.6						
HHC				LR	LR		
	comp=E,232nm,18.1s,MS4.6						
HHC				LR	LR		
	comp=Z,199nm,17.1s,MS4.3						
LZH	**Lanzhou**	**65.28**	**316**	*e*P	**P**	**12 51 49.0**	**+1.4**
LZH				AP	pP	12 51 51.0	+0.9
LZH				XP	sP	12 51 53.0	+2.0
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb5.1						
LZH				AMB	AMB		
	comp=Z,125nm,4.2s						
MA2	**Magadan**	**67.22**	**357**	*e*P	**P**	**12 51 58.3**	**-1.3**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
MA2	**Magadan**	**67.22**	**357**	*e*P	**P**	**12 51 59.4**	**-0.2**
CLNS	**Chul'man**	**69.13**	**343**	*e*P	**P**	**12 52 12.2**	**+0.6**
CLNS				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.2						
CLNS				pmax	pmax		
	comp=N,12nm,0.9s						
CLNS				pmax	pmax		
	comp=E,18nm,0.9s						
GTA	**Gaotai**	**69.71**	**317**	*e*P	**P**	**12 52 16.3**	**+0.7**
GTA				AP	pP	12 52 20.5	+2.5
GTA				XP	sP	12 52 23.4	+4.5
GTA				PP	PP	12 54 52.3	+2.4
GTA				S	S	13 01 24.8	0.0
GTA				XS	sS	13 01 33.9	+5.0
GTA				SCS	ScS	13 02 14.4	-3.5
GTA				SS	SS	13 05 55.8	+2.4
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.1						
GTA				AMB	AMB		
	comp=Z,77nm,5.0s						
GTA				LR	LR		
	comp=N,72nm,8.0s						
GTA				LR	LR		
	comp=E,69nm,10.7s						
GTA				LR	LR		
	comp=Z,74nm,8.8s						
ULN	**Ulaanbaatar**	**69.97**	**328**	*e*P	**P**	**12 52 17.9**	**+0.9**
ULN				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.6						
ULN	**Ulaanbaatar**	**69.97**	**328**	*e*P	**P**	**12 52 17.9**	**+1.0**
	comp=Z,9.1nm,1.2s,mb4.6						
SHL	**Shillong**	**70.20**	**301**	⇓*i*P	**P**	**12 52 20.0**	**+1.1**
SONM	**Songino Array**	**70.30**	**327**	P	**P**	**12 52 19.4**	**+0.4**
	comp=Z,2.7nm,0.7s,mb4.3,baz=132,slow=5.5,SNR=12						
SONM				LR	LR	13 23 37.8	
	comp=Z,51nm,18.4s,MS3.8,baz=322,slow=36						
SEY	**Seymchan**	**70.52**	**358**	⇓*i*P	**P**	**12 52 19.2**	**-0.8**
LSA	**Lhasa**	**72.20**	**304**	*e*P	**P**	**12 52 32.3**	**+1.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.9						
LSA	**Lhasa**	**72.20**	**304**	*e*P	**P**	**12 52 32.3**	**+1.3**
	comp=Z,13nm,0.9s,mb4.9						
YAK	**Yakutsk**	**72.42**	**348**	*e*P	**P**	**12 52 31.4**	**-0.1**
YAK				pmax	pmax		
	comp=Z,43nm,0.8s,mb5.4						
YAK				pmax	pmax		
	comp=N,14nm,1.2s						
YAK				pmax	pmax		
	comp=E,18nm,1.7s						
YAK	**Yakutsk**	**72.42**	**348**	*e*P	**P**	**12 52 32.0**	**+0.5**
ZAK	**Zakamensk**	**73.46**	**328**	*e*P	**P**	**12 52 35.8**	**-2.1**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.6s,mb4.0						
BOD	**Bodaibo**	**73.54**	**338**	*e*P	**P**	**12 52 36.8**	**-1.5**
BOD				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.3						
TLY	**Talaya**	**74.02**	**329**	⇑*e*P	**P**	**12 52 40.8**	**-0.4**
BILL	**Biiibino**	**75.99**	**4**	*c i*P	**P**	**12 52 51.8**	**-0.4**
BILL				*i*		12 53 00.1	
BILL				pmax	pmax		
	comp=Z,34nm,0.8s,mb5.3						
BILL	**Biiibino**	**75.99**	**4**	*e*P	**P**	**12 52 52.0**	**-0.2**
	comp=Z,36nm,0.9s,mb5.3						
SVW2	**Sparrevohn**	**78.47**	**22**	*e*P	**P**	**12 53 06.3**	**0.0**
TTA	**Tatalina**	**79.52**	**20**	*e*P	**P**	**12 53 14.2**	**+2.2**
WMQ	**Urumqi**	**79.79**	**317**	*e*P	**P**	**12 53 12.6**	**-1.3**
WMQ				XP	sP	12 53 19.6	+2.3
WMQ				PP	PP	12 56 15.6	+0.3
WMQ				S	S	13 03 13.6	-3.7
WMQ				SS	SS	13 08 25.6	-1.0
WMQ				AMB	AMB		
	comp=Z,34nm,1.2s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,45nm,8.0s						
WMQ				LR	LR		
	comp=N,57nm,16.0s,MS4.1						
WMQ				LR	LR		
	comp=E,49nm,16.0s,MS4.1						
TIXI	**Tiksi**	**81.19**	**352**	*e*P	**P**	**12 53 18.6**	**-2.3**
TIXI				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.7						
TIXI	**Tiksi**	**81.19**	**352**	*e*P	**P**	**12 53 20.1**	**-0.7**
	comp=Z,110nm,2.6s,mb5.3						
PMR	**Palmer**	**81.24**	**23**	*e*P	**P**	**12 53 22.9**	**+1.6**
PMR				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
PMR	**Palmer**	**81.24**	**23**	*e*P	**P**	**12 53 22.9**	**+1.6**
	comp=Z,6.8nm,1.3s,mb4.4						
SML	**Sawmill**	**81.67**	**23**	*e*P	**P**	**12 53 25.3**	**+1.7**
QSPA	**South Pole Qui**	**82.22**	**180**	*e*P	**P**	**12 53 25.1**	**-1.3**
	comp=Z,17nm,1.0s,mb4.9						
IMA2	**Indian Mountai**	**82.32**	**19**	*e*P	**P**	**12 53 26.3**	**-0.6**
COLA	**College**	**83.57**	**21**	*e*P	**P**	**12 53 31.3**	**-2.1**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.8						
COLA	**College**	**83.57**	**21**	*e*P	**P**	**12 53 31.3**	**-2.1**
	comp=Z,8.0nm,0.9s,mb4.8						
MK31	**Makanchi Array**	**84.37**	**319**	*e*P	**P**	**12 53 37.7**	**-0.2**
MKAR	**Makanchi Array**	**84.37**	**319**	*i* P	**P**	**12 53 37.7**	**-0.2**
MKAR				pmax	pmax		
	comp=Z,12nm,0.8s						
MKAR	**Makanchi Array**	**84.37**	**319**	P	**P**	**12 53 37.8**	**-0.1**
	comp=Z,12nm,0.8s,mb5.1,baz=104,slow=5.9,SNR=73						
ZAA0	**Zalesovo Array**	**85.15**	**326**	*e*P	**P**	**12 53 40.2**	**-1.4**
ZALV	**Zalesovo Beam**	**85.15**	**326**	P	**P**	**12 53 40.2**	**-1.4**
ZALV	**Zalesovo Beam**	**85.15**	**326**	P	**P**	**12 53 40.2**	**-1.4**
	comp=Z,6.0nm,0.7s,mb4.8,baz=114,slow=5.8,SNR=27						
ZAL	**Zalesovo**	**85.15**	**326**	P	**P**	**12 53 40.2**	**-1.5**
EGAK	**Eagle**	**85.98**	**23**	*e*P	**P**	**12 53 45.3**	**-0.3**
NVS	**Novosibirsk**	**86.32**	**326**	*e*P	**P**	**12 53 45.6**	**-1.9**
NVS				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.9						
NVS				pmax	pmax		
	comp=E,7.0nm,1.5s						
DAWY	**Dawson**	**86.34**	**24**	*e*P	**P**	**12 53 47.4**	**+0.1**
KSH	**Kashi**	**86.97**	**310**	*e*P	**P**	**12 53 53.0**	**+2.0**
KSH				*e*AP	pP	12 53 58.4	+4.9
KSH				*e*XP	sP	12 54 01.3	+6.9
KSH				*e*SKS		13 04 19.3	
KSH				*e*S	S	13 04 30.4	+0.3
KSH				*e*XS	sS	13 04 42.3	+8.0
KURK	**Kurchatov**	**87.80**	**322**	⇑*e*P	**P**	**12 53 52.4**	**-2.4**
KURK	**Kurchatov**	**87.80**	**322**	*e*P	**P**	**12 53 54.0**	**-0.8**
	comp=E,4.5nm,1.0s,mb4.7						
TKM2	**Tokmak 2**	**87.98**	**314**	*e*P	**P**	**12 53 59.3**	**+3.5**
UCH	**Uchtor**	**88.61**	**313**	*e*P	**P**	**12 53 59.9**	**+1.0**
	comp=E,5.6nm,1.0s,mb4.8						
AML	**Almayashu**	**89.19**	**313**	*e*P	**P**	**12 54 03.0**	**+1.5**
	comp=E,10nm,0.9s,mb5.2						
INK	**Inuvik**	**90.21**	**21**	*e*P	**P**	**12 54 04.9**	**-0.8**
NVAR	**Mina Array Bea**	**91.71**	**52**	P	**P**	**12 54 16.1**	**+2.7**
	comp=E,0.9nm,0.8s,mb4.1,baz=246,slow=7.8,SNR=5.5						
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**12 54 34.7**	**-1.1**
YKA				LR	LR	13 35 24.8	
YKA	**Yellowknife Ar**	**96.72**	**28**	P	**P**	**12 54 34.7**	**-1.1**
	comp=E,2.2nm,0.8s,mb4.6,baz=265,slow=4.6,SNR=22						
YKA				LR	LR	13 35 24.8	
	comp=E,42nm,18.7s,MS4.0,baz=35,slow=34						
SOC	**Sochi**	**113.99**	**314**	*i* PKIKP	PKiKP	12 59 41.5	-3.5
AKASG	**Malin Array Be**	**118.51**	**324**	PKP	PKPdf	12 59 51.0	-2.5
	comp=E,0.1nm,0.3s,baz=69,slow=1.3,SNR=4.1						
BRG	**Berggiesshubel**	**126.60**	**331**	*e*PKP	PKPdf	13 00 16.5	+7.6
	comp=E,9.7nm,1.4s						
CLL	**Collm**	**126.77**	**332**	*e*PKPdf	PKPdf	13 00 08.0	-1.3
GERES	**GERESS Array B**	**128.01**	**329**	PKP	PKPdf	13 00 11.8	+0.1
	comp=E,0.6nm,0.6s,baz=357,slow=2.7,SNR=5.7						
GRA1	**Grafenberg Arr**	**128.69**	**331**	*e*PKP	PKPdf	13 00 21.4	+8.4
GRF	**Grafenberg Arr**	**128.69**	**331**	*e*PKP	PKPdf	13 00 21.4	+8.4
LPAZ	**La Paz**	**130.56**	**119**	PKP	PKPdf	13 00 19.9	+2.4
	comp=E,1.6nm,1.0s,baz=221,slow=3.2,SNR=5.2						
CPUP	**Villa Florida**	**133.41**	**138**	PKP	PKPdf	13 00 23.6	+0.9
	comp=E,0.3nm,0.3s,baz=348,slow=5.1,SNR=3.2						
ESDC	**Sonseca Array**	**143.32**	**333**	PKP	PKPdf	13 00 41.7	+1.3
	comp=E,0.5nm,0.5s,baz=7.7,slow=2.9,SNR=4.0						
BDFB	**Brasilia**	**147.02**	**135**	PKPbc	PKPbc	13 00 48.5	-0.9
	comp=E,6.7nm,0.8s,baz=217,slow=5.1,SNR=10.0						
TORD	**Torodi Ar. Bea**	**153.81**	**284**	PKPbc	PKPbc	13 01 04.5	-1.4
TORD	**Torodi Ar. Bea**	**153.81**	**284**	PKPbc	PKPbc	13 01 04.5	-1.4
	comp=E,1.8nm,0.8s,baz=81,slow=2.0,SNR=7.8						
DBIC	**Dimbokro**	**160.59**	**268**	PKP	PKPdf	13 01 08.4	+1.7
	comp=E,2.8nm,0.8s,baz=155,slow=6.3,SNR=3.3						
DBIC				PKPab	PKPab	13 01 48.2	0.0
	comp=E,2.5nm,0.8s,baz=120,slow=6.7,SNR=3.1						

ISCJB ***15*** *13:09:05.8±0.3, 4194N±002×23.11E±003, h10km, Error ellipse: s-maj=3.1km s-min=2.6km az=167.6*
SKO ***15*** *13:09:06.0, 4192N×23.12E, h15km, M2.1, ML2.2*
CSEM ***15*** *13:09:06.1±0.1, 4197N×23.11E, h15km, MD2.7, Error ellipse: s-maj=1.6km s-min=1.3km az=124.0*
SOF ***15*** *13:09:06.4, 4198N×2320E, h9km, MD2.7*
THE ***15*** *13:09:06.7, 4192N×2313E, h1km, ML3.0*
BEO ***15*** *13:09:06.7±0.6, 4194N×2315E, h6km±4km, ML2.6/7*
ATH ***15*** *13:09:06.6, 4195N×2322E, h2km, MD3.3/3*

ISC 15 13:09:06.5±0.4, 4194N±002×2314E±003, h5km±4km, n32, σ0.9 90/53, 2C, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	**Krupnik**	**0.08**	**209**	Pg	**Pg**	**13 09 09.7**	**+1.5**
MMB	**Musomiste**	**0.56**	**128**	Pg	**Pg**	**13 09 18.5**	**+1.2**
VTS	**Vitosha**	**0.66**	**5**	*e*Pg	**Pg**	**13 09 19.3**	**+0.2**
VTS				*e*Sg	**Sg**	**13 09 28.2**	**+0.5**
VTS	**Vitosha**	**0.66**	**5**	*i* Pg	**Pg**	**13 09 18.9**	**-0.2**
VTS				*e*Sg	**Sg**	**13 09 28.0**	**+0.3**
VTS	**Vitosha**	**0.66**	**5**	Pg	**Pg**	**13 09 19.2**	**+0.1**
VAY	**Valandovo**	**0.75**	**215**	*i* Pg	**Pg**	**13 09 20.5**	**-0.3**
VAY				*e*Sg	**Sg**	**13 09 30.9**	**+0.4**
VAY	**Valandovo**	**0.75**	**215**	*e*Pg	**Pg**	**13 09 20.7**	**-0.1**
VAY				*e*Sg	**Sg**	**13 09 30.6**	**+0.1**
VAY				*e*Lg		13 09 32.3	
	comp=E,92nm,0.2s						
VAY				*e*Lg		13 09 33.1	
	comp=N,161nm,0.6s						
VAY	**Valandovo**	**0.75**	**215**	*e*Pg	**Pg**	**13 09 20.7**	**-0.1**
VAY				*e*Sg	**Sg**	**13 09 30.7**	**+0.2**
STIP	**Stip**	**0.75**	**251**	*i* Pg	**Pg**	**

n61,σ1§12/62,mb4.3/27,3C-2D,Mindoro

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PGP	**Puerto Galera**	**0.17**	**91**	⇓*e*P	**Pn**	**13 18 00.5**	**-1.2**
LUBP	**Lubang**	**0.56**	**294**	*e*P	**Pn**	**13 18 01.7**	**-1.4**
TGY	**Tagaytay City**	**0.61**	**15**	⇑*i*P	**Pn**	**13 18 02.8**	**-0.7**
LQP	**Lukban**	**0.96**	**51**	*e*P	**Pn**	**13 18 06.0**	**+0.2**
BUSP	**Coron**	**1.59**	**201**	*e*P	**Pn**	**13 18 12.2**	**+0.2**
BUSP				*e*S	**Sn**	**13 18 35.0**	**-0.6**
POLP	**Polilio Island**	**1.66**	**43**	*e*P	**Pn**	**13 18 12.8**	**+0.2**
OTRP	**Odiongan**	**1.66**	**133**	*e*P	**Pn**	**13 18 12.9**	**+0.2**
PCPH	**Palayan**	**2.07**	**9**	⇓*e*P	**Pn**	**13 18 18.8**	**+1.5**
PCPH				*e*S	**Sn**	**13 18 46.7**	**+1.6**
BALP	**Baler**	**2.35**	**19**	*e*P	**Pn**	**13 18 20.2**	**-0.5**
SCZP	**Santa Cruz**	**2.41**	**340**	*e*P	**Pn**	**13 18 19.3**	**-2.0**
ENPP	**El Nido**	**2.64**	**210**	*e*P	**Pn**	**13 18 25.4**	**+1.2**
CUYO	**Cuyo Island**	**2.65**	**175**	*e*P	**Pn**	**13 18 25.5**	**+1.2**
BCPH	**Baguio City Da**	**2.87**	**356**	⇑*e*P	**Pn**	**13 18 25.7**	**-1.3**
BCPH				*i*S	**Sn**	**13 19 04.8**	**+2.4**
BOLP	**Bolinao**	**2.98**	**344**	*e*P	**Pn**	**13 18 26.9**	**-1.6**
PVCP	**Virac**	**3.29**	**88**	⇓*i*P	**Pn**	**13 18 33.8**	**+1.5**
CAUP	**Cauayan**	**3.56**	**16**	*e*P	**Pn**	**13 18 35.6**	**-0.3**
APYP	**Conner**	**4.36**	**6**	*e*P	**Pn**	**13 18 45.6**	**-0.6**
KAPI	**Kappang**	**18.43**	**183**	P	**P**	**13 21 47.8**	**+2.6**
KAPI	**Kappang**	**18.43**	**183**	P	**P**	**13 21 47.8**	**+2.6**
	2.3nm,0.3s,baz=302,slow=5.0,SNR=7.1						
XAN	**Xi'an**	**23.11**	**334**	P	**P**	**13 22 32.8**	**-0.9**
XAN				AMB	AMB		
	comp=Z,8.0nm,0.6s,mb4.3						
BATI	**Kupang**	**23.73**	**173**	P	**P**	**13 22 40.6**	**+1.0**
	comp=Z,51nm,0.5s,mb5.3,baz=9.1,slow=1.0,SNR=28						
LZH	**Lanzhou**	**27.15**	**329**	*e*P	**P**	**13 23 11.5**	**+1.2**
LZH				AMB	AMB		
	comp=Z,22nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,83nm,4.2s						
GTA	**Gaotai**	**31.74**	**328**	*e*P	**P**	**13 23 51.5**	**+0.7**
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
LSA	**Lhasa**	**31.78**	**305**	*e*P	**P**	**13 23 53.0**	**+1.6**
	comp=Z,6.8nm,0.5s,mb4.6						
WRA	**Warramunga Arr**	**35.82**	**158**	P	**P**	**13 24 24.8**	**-1.4**
	comp=Z,2.6nm,0.6s,mb4.0,baz=336,slow=9.6,SNR=38						
WB2	**Warramunga Arr**	**35.82**	**158**	*e*P	**P**	**13 24 24.7**	**-1.6**
ULN	**Ulaanbaatar**	**36.12**	**344**	*e*P	**P**	**13 24 28.0**	**-0.5**
SONM	**Songino Array**	**36.26**	**344**	P	**P**	**13 24 29.5**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.7,baz=162,slow=8.6,SNR=8.6						
SONM				PcP	PcP	13 26 50.9	-0.5
	comp=Z,0.6nm,0.6s,baz=152,slow=1.8,SNR=3.9						
ASAR	**Alice Springs**	**39.11**	**161**	P	**P**	**13 24 53.5**	**-0.4**
	comp=Z,1.2nm,0.4s,mb3.9,baz=335,slow=7.5,SNR=33						
ASAR				PcP	PcP	13 27 00.6	0.0
	comp=Z,0.6nm,0.6s,baz=336,slow=2.9,SNR=5.7						
CTA	**Charters Tower**	**41.74**	**143**	*e*P	**P**	**13 25 16.8**	**+1.2**
	comp=Z,6.6nm,1.0s,mb4.2						
KLBR	**Kellerberrin**	**44.93**	**184**	*e*P	**P**	**13 25 40.7**	**-0.3**
	comp=Z,19nm,1.0s,mb4.7						
MK31	**Makanchi Array**	**46.23**	**324**	*e*P	**P**	**13 25 51.5**	**+0.5**
MKAR	**Makanchi Array**	**46.23**	**324**	P	**P**	**13 25 51.3**	**+0.2**
	comp=Z,1.8nm,0.5s,mb4.0,baz=117,slow=9.2,SNR=26						
ULHL	**Ulahol**	**47.91**	**315**	P	**P**	**13 26 05.2**	**+1.0**
	SNR=12						
KZA	**Kyzart**	**48.53**	**315**	P	**P**	**13 26 10.6**	**+1.7**
	SNR=5.3						
KBK	**Karagaybulak**	**48.95**	**315**	P	**P**	**13 26 13.0**	**+0.9**
	SNR=5.1						
UCH	**Uchtor**	**49.09**	**315**	*e*P	**P**	**13 26 14.7**	**+1.5**
	comp=Z,5.0nm,0.9s,mb4.1						
UCH	**Uchtor**	**49.09**	**315**	P	**P**	**13 26 14.8**	**+1.6**
	SNR=6.9						
ZALV	**Zalesovo Beam**	**49.26**	**333**	P	**P**	**13 26 13.4**	**-0.9**
	comp=Z,2.8nm,0.3s,mb4.4,baz=120,slow=7.0,SNR=17						
STKA	**Stephens Creek**	**49.34**	**157**	*e*P	**P**	**13 26 14.3**	**-0.8**
	comp=Z,1.8nm,1.0s,mb3.7						
STKA	**Stephens Creek**	**49.34**	**157**	P	**P**	**13 26 14.6**	**-0.6**
STKA	**Stephens Creek**	**49.34**	**157**	P	**P**	**13 26 14.6**	**-0.5**
	comp=Z,1.6nm,0.6s,mb3.9,baz=336,slow=8.5,SNR=5.9						
AML	**Almayashu**	**49.62**	**314**	*e*P	**P**	**13 26 18.6**	**+1.4**
	comp=Z,2.4nm,0.6s,mb4.0						
AML	**Almayashu**	**49.62**	**314**	P	**P**	**13 26 18.5**	**+1.2**
	SNR=5.3						
EKS2	**Erkin-Say**	**49.76**	**315**	*e*P	**P**	**13 26 19.2**	**+1.0**
	comp=Z,1.3nm,0.3s,mb4.0						
KURK	**Kurchatov**	**50.39**	**326**	*e*P	**P**	**13 26 23.0**	**+0.1**
	comp=Z,7.4nm,0.5s,mb4.6						
KBL	**Kabul**	**51.08**	**304**	*e*P	**P**	**13 26 29.0**	**+0.7**
	comp=Z,4.7nm,0.6s,mb4.3						
BRVK	**Borovoye**	**56.05**	**326**	*e*P	**P**	**13 27 03.8**	**-0.3**
	comp=Z,1.6nm,0.5s,mb4.1						
TIXI	**Tiksi**	**58.32**	**3**	*e*P	**P**	**13 27 18.3**	**-1.5**
	comp=Z,6.6nm,1.0s,mb4.4						
UMR	**Umm Al-Rimmam**	**68.85**	**297**	*e*P	**P**	**13 28 28.7**	**-1.0**
UMR				AMb	AMB	13 28 29.9	
	comp=Z,14nm,0.4s,mb5.0						
RDF	**Al-Radifah**	**69.04**	**296**	*e*P	**P**	**13 28 29.7**	**-1.1**
RDF				AMb	AMB	13 28 31.2	
	comp=Z,23nm,0.7s,mb5.0						
NAY	**Al-Naaiem**	**69.28**	**296**	*e*P	**P**	**13 28 31.3**	**-1.1**
NAY				AMb	AMB	13 28 32.5	
	comp=Z,9.3nm,0.7s,mb4.7						
ARCES	**ARCESS Array B**	**79.29**	**339**	P	**P**	**13 29 28.2**	**-1.3**
ARCES	**ARCESS Array B**	**79.29**	**339**	P	**P**	**13 29 28.2**	**-1.3**
	comp=Z,2.8nm,0.7s,mb4.0,baz=86,slow=7.1,SNR=7.7						
FINES	**FINESS Array B**	**80.49**	**331**	P	**P**	**13 29 35.1**	**-0.9**
	comp=Z,1.3nm,0.8s,mb3.6,baz=83,slow=6.0,SNR=5.3						
NB2	**NORSAR Subarra**	**87.47**	**333**	P	**P**	**13 30 09.3**	**-2.1**
	comp=Z,0.2nm,0.7s,mb3.1,baz=71,slow=5.6						
NOA	**NORSAR Array B**	**87.47**	**333**	P	**P**	**13 30 09.7**	**-1.7**
	comp=Z,1.4nm,0.7s,mb3.9,baz=67,slow=4.7,SNR=5.2						
YKA	**Yellowknife Ar**	**92.93**	**22**	P	**P**	**13 30 36.7**	**-0.1**
YKA	**Yellowknife Ar**	**92.93**	**22**	P	**P**	**13 30 36.7**	**-0.1**
	comp=Z,1.0nm,0.8s,mb4.0,baz=304,slow=4.4,SNR=16						
TORD	**Torodi Ar. Bea**	**114.09**	**291**	PKP	PKiKP	13 36 02.1	-1.2
	comp=Z,0.4nm,0.6s,baz=76,slow=2.0,SNR=5.1						
TXAR	**Lajitas Array**	**119.56**	**45**	PKP	PKPdf	13 36 14.2	+0.6
	comp=Z,0.3nm,0.4s,baz=172,slow=0.3,SNR=7.5						

*NEIC **15** 13:26:17.5±0.9,4796N×15464E,h10km,mb4.4/1,Error ellipse: s-maj=25.0km s-min=13.8km az=144.0*
*MOS **15** 13:26:18.9±1.1,4792N×15467E,h37km,mb3.9/3,Error ellipse: s-maj=17.0km s-min=10.0km az=76.4*
*ISCJB **15** 13:26:19.2±1.4,4794N±008×1547E±01,h38km±11km, mb3.8/14,Error ellipse: s-maj=17.4km s-min=7.1km az=138.5*
*IDC **15** 13:26:25.1±4.6,4792N×15438E,h75km±44km,mb3.6/11, mb1 3.8/13,mb1mx3.6/22,mbtmp3.6/13,ML3.6/2,Error ellipse: s-maj=25.2km s-min=21.6km az=174.0*

ISC 15 13:26:21.4±1.2,4794N±008×1547E±01,h41km±10km,n35, σ0§98/37,mb3.8/13,7C,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.90**	**18**	*e*PN	**Pn**	**13 27 04.5**	**-0.5**
SKR				*e*S	**Sn**	**13 27 38.5**	**0.0**
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				pmax	pmax		
	comp=N,20nm,0.4s						
SKR				smax			
	comp=N,260nm,0.2s						
SKR				smax			
	comp=E,200nm,0.4s						
KUR	**Kuril'sk**	**5.44**	**243**	⇑*i*PN	**Pn**	**13 27 30.8**	**-9.1**
KUR				pmax	pmax		
	comp=Z,90nm,0.7s						
PET	**Petropavlovsk**	**5.68**	**25**	*e*PN	**Pn**	**13 27 43.2**	**+0.1**
PET				pmax	pmax		
	comp=Z,13nm,0.4s						
PET	**Petropavlovsk**	**5.68**	**25**	*e*Pn	**Pn**	**13 27 43.3**	**+0.2**
	comp=Z,83nm,1.5s						
YSS	**Yuzh-Sakhalins**	**8.16**	**267**	⇑*e*PN	**Pn**	**13 28 17.7**	**+0.4**
YSS				pmax	pmax		
	comp=Z,20nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.16**	**267**	*e*Pn	**Pn**	**13 28 18.7**	**+1.4**
	comp=Z,14nm,0.8s						
YSS				*e*Sn	**Sn**	**13 29 49.6**	**+1.5**
ASAJ	**Asahikawa**	**9.25**	**250**	PN	**Pn**	**13 28 33.3**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**9.25**	**250**	P	**Pn**	**13 28 33.3**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=90,slow=7.1,SNR=8.4						
ERM	**Erimo**	**10.10**	**238**	⇑*e*PN	**Pn**	**13 28 41.8**	**-2.0**
HABR	**Khabarovsk**	**13.12**	**280**	*e*PN	**Pn**	**13 29 29.7**	**+4.7**
HABR				pmax	pmax		
	comp=Z,11nm,1.3s						
MJAR	**Matsushiro Arr**	**16.66**	**233**	P	**Pn**	**13 30 11.2**	**-0.6**
	comp=Z,0.3nm,0.3s,baz=22,slow=13,SNR=4.5						
YAK	**Yakutsk**	**19.95**	**324**	⇑*e*P	**Pn**	**13 30 51.0**	**-0.5**
YAK				pmax	pmax		
	comp=Z,20nm,1.3s						
BILL	**Bilibino**	**20.99**	**12**	⇑*e*P	**P**	**13 30 59.4**	**-1.4**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s						
KSRS	**Korea Array**	**22.20**	**252**	P	**P**	**13 31 13.2**	**-0.8**
	comp=Z,4.1nm,0.9s,mb3.9,baz=54,slow=9.6,SNR=8.0						
TIXI	**Tiksi**	**26.65**	**342**	⇑*e*P	**P**	**13 31 56.0**	**+0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.3						
MKAR	**Makanchi Array**	**47.36**	**297**	*i*P	**P**	**13 34 54.0**	**+3.0**
MKAR	**Makanchi Array**	**47.36**	**297**	P	**P**	**13 34 48.3**	**-2.8**
	comp=Z,0.4nm,0.5s,mb3.6,baz=79,slow=7.5,SNR=4.3						
KURK	**Kurchatov**	**47.61**	**303**	⇑*e*P	**P**	**13 34 52.3**	**-0.6**
KURK	**Kurchatov**	**47.61**	**303**	*e*P	**P**	**13 34 52.0**	**-0.9**
	comp=Z,2.9nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**49.32**	**38**	*e*P	**P**	**13 35 07.1**	**+1.2**
YKA	**Yellowknife Ar**	**49.32**	**38**	P	**P**	**13 35 07.2**	**+1.3**
	comp=Z,0.2nm,0.5s,mb3.4,baz=295,slow=8.3,SNR=4.2						
ARCES	**ARCESS Array B**	**57.08**	**341**	P	**P**	**13 36 02.7**	**-0.1**
	comp=Z,3.1nm,0.9s,mb4.3,baz=24,slow=8.9,SNR=3.5						
NVAR	**Mina Array Bea**	**60.93**	**64**	P	**P**	**13 36 31.4**	**+1.5**
NVAR	**Mina Array Bea**	**60.93**	**64**	P	**P**	**13 36 31.4**	**+1.5**
	comp=Z,0.5nm,0.5s,mb3.9,baz=290,slow=6.9,SNR=6.2						
FINES	**FINESS Array B**	**63.42**	**335**	*e*P	**P**	**13 36 45.9**	**-0.4**
FINES	**FINESS Array B**	**63.42**	**335**	P	**P**	**13 36 45.5**	**-0.8**
	comp=Z,1.8nm,0.4s,mb4.5,baz=39,slow=7.2,SNR=13						
NB2	**NORSAR Subarra**	**67.44**	**342**	P	**P**	**13 37 12.1**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.2,baz=25,slow=6.5						
NOA	**NORSAR Array B**	**67.44**	**342**	P	**P**	**13 37 12.4**	**+0.2**
	comp=Z,1.7nm,0.6s,mb4.2,baz=25,slow=6.3,SNR=6.6						
AKASG	**Malin Array Be**	**71.15**	**327**	P	**P**	**13 37 34.5**	**-0.9**
	comp=Z,0.3nm,0.3s,mb3.7,baz=31,slow=6.2,SNR=7.0						
ASAR	**Alice Springs**	**73.69**	**200**	P	**P**	**13 37 50.2**	**-0.4**
	comp=Z,0.1nm,0.7s,mb2.8,baz=17,slow=5.7,SNR=4.6						
CLL	**Collm**	**75.82**	**336**	*e*P	**P**	**13 38 03.0**	**+0.2**
TXAR	**Lajitas Array**	**75.97**	**62**	*e*P	**P**	**13 38 05.0**	**+1.0**
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**13 38 05.1**	**+1.0**
TXAR	**Lajitas Array**	**75.97**	**62**	P	**P**	**13 38 05.1**	**+1.0**
	comp=Z,0.8nm,0.6s,mb3.9,baz=297,slow=4.4,SNR=16						
GERES	**GERESS Array B**	**77.85**	**335**	P	**P**	**13 38 15.0**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.6,baz=18,slow=6.5,SNR=4.8						

IDC 15 14:25:20.7±7.7,3246S×17950E,h373km±90km,mb2.6/2, mb1 2.9/2,mb1mx2.8/11,mbtmp2.6/2,Error ellipse: s-maj=107.0km s-min=40.4km az=4.0,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.11**	**198**	P	Pn	14 26 55.0	+1.7
	25nm,0.3s,baz=304,slow=1.8,SNR=109						
URZ				S	S	14 28 07.4	-1.3
	11nm,0.3s,baz=84,slow=23,SNR=17						
ASAR	**Alice Springs**	**40.93**	**270**	P	P	14 32 28.8	+0.3
	0.3nm,0.8s,baz=108,slow=8.0,SNR=3.8						
WRA	**Warramunga Arr**	**42.11**	**276**	P	P	14 32 37.6	-0.3
	0.5nm,0.5s,baz=114,slow=7.8,SNR=14						
FINES	**FINESS Array B**	**146.28**	**337**	PKPbc	PKPbc	14 44 16.1	-1.1
	3.2nm,1.1s,baz=66,slow=3.4,SNR=3.1						

*BJI **15** 14:35:47.4,2015N×10086E,h29km,mB4.5,mb4.4,ML4.1, Ms4.6,Msz4.2*
*IDC **15** 14:35:47.7±0.9,2033N×10065E,h0km,mb4.1/13, mb1 4.2/13,mb1mx4.1/22,mbtmp4.1/13,MS3.8/18, Ms1 3.8/18,ms1mx3.7/35,Error ellipse: s-maj=34.5km s-min=16.0km az=53.0*
*ISCJB **15** 14:35:48.4±0.3,2049N±003×10102E±002,h10km, mb4.2/29,MS3.9/21,Error ellipse: s-maj=4.6km s-min=3.1km az=3.0*
*MOS **15** 14:35:49.1±1.0,2038N×10090E,h18km,mb4.6/12,Error ellipse: s-maj=14.4km s-min=8.1km az=97.5*
*NEIC **15** 14:35:49.5±0.3,2041N×10080E,h10km,mb4.3/8,Error ellipse: s-maj=10.5km s-min=6.5km az=52.0*
*PLV **15** 14:35:50.6±2.5,2112N×10094E,h10km±12km,MD4.8*

ISC 15 14:35:48.7±0.8,2044N±003×10093E±003,h0km±4km,n91, σ1§16/109,mb4.3/30,MS3.9/21,7C-1D,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**1.65**	**187**	⇓P	**Pn**	**14 36 18.3**	**-0.5**
DBV	**Dienbien**	**2.18**	**64**	*e*Pg	**Pg**	**14 36 31.5**	**+1.1**
DBV				*e*SG	**Sn**	**14 36 53.2**	**-0.6**
CHG	**Chiang Mai**	**2.47**	**229**	PG	**Pn**	**14 36 29.4**	**-0.8**
CHG				SG	**Sn**	**14 37 05.5**	**+4.4**
CHTO	**Chiang Mai**	**2.47**	**229**	*e*Pn	**Pn**	**14 36 29.0**	**-1.2**
CHTO				*e*Sn	**Sn**	**14 37 03.0**	**+1.9**
BVV	**Ba Vi**	**4.21**	**80**	*e*PN	**Pn**	**14 36 53.9**	**-0.2**
BVV				*e*Pg	**Pg**	**14 37 10.4**	**+1.0**
BVV				*e*SG	**Sg**	**14 38 04.2**	**+0.3**
KKTK	**Khon Kaen**	**4.46**	**156**	P	**Pn**	**14 36 59.0**	**+1.4**
	7μm,0.5s						
HNV	**Hanoi**	**4.60**	**82**	*e*PN	**Pn**	**14 36 58.1**	**-1.4**
HNV				*e*PG	**Pg**	**14 37 15.3**	**-1.6**
HNV				*e*SG	**Sg**	**14 38 13.4**	**-3.1**
DSV	**Doi Son**	**4.73**	**87**	*e*PN	**Pn**	**14 37 01.6**	**+0.3**
DSV				*e*PG	**Pg**	**14 37 21.1**	**+1.7**
DSV				*e*Sg	**Sg**	**14 38 25.2**	**+4.4**
KMI	**Kunming**	**4.95**	**19**	PG	**Pg**	**14 37 23.4**	**-0.2**
KMI				SG	**Sg**	**14 38 27.8**	**0.0**
KMI				Smax			
	comp=N,205nm,1.1s						
KMI				Smax			
	comp=E,185nm,0.9s						
KMI				LR	LR		
	comp=N,3μm,8.9s						
KMI				LR	LR		
	comp=E,3μm,11.0s						
KMI				LR	LR		
	comp=Z,2μm,8.9s						
BGV	**Bac-Giang**	**5.03**	**79**	*e*Pn	**Pn**	**14 37 05.7**	**+0.3**
BGV				*e*PG	**Pg**	**14 37 24.4**	**-0.8**
BGV				*e*SG	**Sg**	**14 38 29.8**	**-0.7**
MTZV	**Met**	**5.18**	**77**	*e*Pn	**Pn**	**14 37 07.5**	**0.0**
MTZV				*e*PG	**Pg**	**14 37 27.0**	**-1.0**
MTZV				*e*SG	**Sg**	**14 38 32.8**	**-2.4**
PLV	**Phu-Lien**	**5.35**	**85**	*e*PN	**Pn**	**14 37 10.1**	**+0.3**
PLV				*e*PG	**Pg**	**14 37 32.0**	**+0.6**
PLV				*e*SG	**Sg**	**14 38 42.4**	**+1.6**
YTV	**Yen Tu**	**5.46**	**81**	*e*PN	**Pn**	**14 37 11.4**	**0.0**
YTV				*e*PG	**Pg**	**14 37 33.8**	**+0.3**
YTV				*e*SG	**Sg**	**14 38 44.3**	**0.0**
IMP	**Imphal**	**7.77**	**305**	*e*P	**Pn**	**14 37 47.0**	**+4.0**
IMP				*e*S	**Sg**	**14 39 55.0**	**-3.3**
GYA	**Guiyang**	**7.97**	**40**	P	**Pn**	**14 37 47.8**	**+2.0**
GYA				P		14 37 52.1	
GYA				LR	LR		
	comp=N,3μm,5.7s						
GYA				LR	LR		
	comp=E,2μm,3.6s						
GYA				LR	LR		
	comp=Z,3μm,7.5s						
QIZ	**Qiongzhong**	**8.52**	**98**	P	**Pn**	**14 37 53.4**	**+0.1**
QIZ				S	**Sn**	**14 39 23.4**	**-6.7**
QIZ				AMB	AMB		
	comp=Z,9.0nm,0.7s						
QIZ				LR	LR		
	comp=N,2μm,8.6s						
QIZ				LR	LR		
	comp=E,912nm,11.4s						
QIZ				LR	LR		
	comp=Z,1μm,13.1s						
QIZ	**Qiongzhong**	**8.52**	**98**	*e*Pn	**Pn**	**14 37 53.1**	**-0.1**
	comp=Z,22nm,0.9s						
CD2	**Chengdu**	**10.73**	**13**	*e*P	**Pn**	**14 38 23.4**	**-0.2**
CD2				PP		14 38 32.0	
CD2				S	**Sn**	**14 40 23.1**	**-1.4**
CD2				AMB	AMB		
	comp=Z,20nm,0.5s						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
CD2				LR	LR		
	comp=N,2μm,8.4s						
CD2				LR	LR		
	comp=E,2μm,10.8s						
CD2				LR	LR		
	comp=Z,3μm,10.8s						
LSA	**Lhasa**	**12.78**	**318**	P	**Pn**	**14 38 51.0**	**-0.6**
LSA				AP		14 38 59.3	
LSA				S	**Sn**	**14 41 10.5**	**-4.1**
LSA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
LSA				AMB	AMB		
	comp=Z,30nm,3.0s						
LSA				LR	LR		
	comp=N,780nm,14.0s						
LSA				LR	LR		
	comp=E,1μm,16.0s						
LSA				LR	LR		
	comp=Z,880nm,14.0s						
LSA	**Lhasa**	**12.78**	**318**	P	**Pn**	**14 38 49.4**	**-2.2**
XAN	**Xi'an**	**15.29**	**26**	P	**Pn**	**14 39 22.6**	**-3.2**
XAN				AP	pP	14 39 30.3	-0.6
XAN				PP		14 39 44.5	
XAN				S	**Sn**	**14 42 10.5**	**-5.3**
XAN				SS		14 42 34.6	
XAN				AMB	AMB		
	comp=Z,9.0nm,1.3s						
XAN				AMB	AMB		
	comp=Z,58nm,5.1s						
XAN				LR	LR		
	comp=N,561nm,7.1s						
XAN				LR	LR		
	comp=E,778nm,9.4s						
XAN				LR	LR		
	comp=Z,909nm,8.1s						
WHN	**Wuhan**	**15.74**	**48**	P	**Pn**	**14 39 36.9**	**+5.2**
WHN				S	**Sn**	**14 42 37.3**	**+10**
WHN				LR	LR		
	comp=N,8μm,10.1s						
WHN				LR	LR		
	comp=E,5μm,11.2s						
WHN				LR	LR		
	comp=Z,4μm,7.2s						
LZH	**Lanzhou**	**15.80**	**9**	*e*P	**Pn**	**14 39 34.6**	**+2.2**
LZH				AP	pP	14 39 37.8	+1.3
LZH				XP	sP	14 39 40.5	+4.0
LZH				PP		14 39 46.0	
LZH				*e*S	**Sn**	**14 42 28.3**	**+0.1**
LZH				SS		14 42 48.1	
LZH				AMB	AMB		
	comp=Z,41nm,1.4s						
LZH				AMB	AMB		
	comp=Z,188nm,4.4s						
LZH				LR	LR		
	comp=E,1μm,7.3s						
LZH				LR	LR		
	comp=Z,1μm,9.9s						
PSI	**Prapat**	**17.64**	**187**	P	**Pn**	**14 40 00.9**	**+4.9**
	comp=Z,0.5nm,0.3s,baz=349,slow=9.4,SNR=15						
PSI				LR	LR	14 48 00.4	
	comp=Z,355nm,18.9s,baz=167,slow=42						
GTA	**Gaotai**	**18.93**	**357**	*e*P	**Pn**	**14 40 12.8**	**+1.2**
GTA				AP	pP	14 40 17.6	+6.5
GTA				XP	sP	14 40 20.5	+9.3
GTA				AMB	AMB		
	comp=Z,7.0nm,2.2s						
GTA				AMB	AMB		
	comp=Z,199nm,5.0s						
GTA				LR	LR		
	comp=N,108nm,8.8s						
GTA				LR	LR		
	comp=E,126nm,9.2s						
GTA				LR	LR		
	comp=Z,96nm,8.8s						
TIY	**Taiyuan**	**19.90**	**28**	P	**Pn**	**14 40 24.5**	**+1.2**
TIY				S	**Sn**	**14 44 10.3**	**+2.7**
TIY				LR	LR		
	comp=N,1μm,6.3s						
TIY				LR	LR		
	comp=E,1μm,9.8s						
TIY				LR	LR		
	comp=Z,2μm,10.1s						
SSE	**Sheshan**	**21.07**	**56**	*e*P	**P**	**14 40 31.3**	**-3.2**
SSE				S	**S**	**14 44 26.9**	**-3.1**
SSE				SCS	ScS	14 51 56.8	-6.4
SSE				AMB	AMB		
	comp=Z,32nm,0.7s,mb4.8						
SSE				AMB	AMB		
	comp=Z,57nm,5.2s						
SSE				LR	LR		
	comp=N,2μm,13.7s,MS4.7						
SSE				LR	LR		
	comp=E,982nm,13.7s,MS4.7						
SSE				LR	LR		
	comp=Z,1μm,7.8s						
BTO	**Baotou**	**21.55**	**19**	*e*P	**P**	**14 40 40.6**	**+1.1**
BJI	**Beijing**	**23.50**	**30**	P	**P**	**14 41 01.8**	**+1.5**
BJI				S	**S**	**14 45 14.5**	**-0.2**
BJI				AMB	AMB		
	comp=Z,94nm,1.9s,mb5.0						
BJI				LR	LR		
	comp=N,629nm,11.3s						
BJI				LR	LR		
	comp=E,782nm,17.1s						
BJI				LR	LR		
	comp=Z,336nm,44.8s						
JOW	**Kunigami**	**25.82**	**70**	LR	LR	14 51 38.3	
	comp=Z,196nm,20.1s,MS3.6,baz=23,slow=36						
SONM	**Songino Array**	**27.68**	**8**	P	**P**	**14 41 40.1**	**+1.8**
	comp=Z,1.5nm,0.7s,mb3.9,baz=195,slow=8.0,SNR=20						
SONM				LR	LR	14 53 42.3	
	comp=Z,231nm,18.5s,MS3.8,baz=183,slow=39						
ULN	**Ulaanbaatar**	**27.80**	**9**	⇑*e*P	**P**	**14 41 40.4**	**+1.1**
ULN	**Ulaanbaatar**	**27.80**	**9**	*e*P	**P**	**14 41 39.5**	**+0.2**
KSRS	**Korea Array**	**28.93**	**48**	LR	LR	14 52 48.4	
	comp=Z,120nm,19.2s,MS3.5,baz=58,slow=35						
JNU	**Nakatsue**	**29.46**	**58**	LR	LR	14 54 45.0	
	comp=

comp=Z,3.8nm,0.7s,mb4.1
ASAJ Asahikawa 41.81 46 LR LR 15 02 44.9
comp=Z,93nm,20.7s,MS3.6,baz=191,slow=38
GUMO Guam 42.47 92 LR LR 15 02 17.9
comp=Z,134nm,18.4s,MS3.9,baz=243,slow=37
AKTK Aktyubinsk 45.08 322 P **P** **14 44 04.7 -1.6**
AKTO Aktyubinsk 45.08 322 P **P** **14 44 04.7 -1.6**
comp=Z,1.2nm,0.5s,mb4.0,baz=118,slow=10,SNR=4.4
MBWA Marble Bar 45.25 155 P **P** **14 44 07.8 -0.1**
comp=Z,1.9nm,0.5s,mb4.3
FITZ Fitzroy Crossi 45.33 146 LR LR 15 05 12.8
comp=Z,72nm,20.9s,MS3.6,baz=145,slow=39
YAK Yakutsk 46.07 18*c i*P **P** **14 44 13.3 -0.7**
YAK pmax pmax
comp=Z,14nm,1.7s,mb4.7
GNI Garni 51.46 305⇑*e*P **P** **14 44 56.1 +0.3**
GNI pmax pmax
comp=Z,7.0nm,1.1s
WRA Warramunga Arr 51.78 139 *i*P **P** **14 44 58.2 -0.1**
WRA pmax pmax
comp=Z,3.0nm,0.9s
WRA Warramunga Arr 51.78 139 P **P** **14 44 58.3 0.0**
comp=Z,2.9nm,0.9s,mb4.2,baz=324,slow=8.2,SNR=16
WRAB Tennant Creek 51.78 139⇑*e*P **P** **14 44 57.4 -0.9**
WRAB Tennant Creek 51.78 139 *e*P **P** **14 44 57.9 -0.4**
comp=Z,4.5nm,0.8s,mb4.5
WB2 Warramunga Arr 51.78 139 *e*P **P** **14 44 57.9 -0.5**
MA2 Magadan 52.65 29 *e*P **P** **14 45 05.3 +1.0**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIV Kislovodsk 53.37 310 *e*P **P** **14 45 11.5 +1.6**
KIV *e*S **S** **14 52 46.3 +3.3**
KIV pmax pmax
comp=Z,13nm,1.0s,mb4.8
KIV MLR MLR
comp=Z,59nm,17.0s,MS3.7
TIXI Tiksi 53.72 11 *e*P **P** **14 45 11.6 -0.4**
TIXI pmax pmax
comp=Z,9.0nm,1.7s,mb4.5
TIXI Tiksi 53.72 11 *e*P **P** **14 45 11.8 -0.2**
comp=Z,3.2nm,0.8s,mb4.4
ASAR Alice Springs 54.36 142 P **P** **14 45 17.4 0.0**
comp=Z,0.9nm,0.7s,mb3.9,baz=325,slow=7.3,SNR=16
NWAO Narrogin (SRO) 55.31 163 LR LR 15 10 37.6
comp=Z,108nm,18.4s,MS4.0,baz=313,slow=38
BILL Bilibino 62.04 23⇑*e*P **P** **14 46 10.3 -0.2**
BILL pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
BILL MLR MLR
comp=Z,100nm,14.0s,MS4.1
AKASG Malin Array Be 62.92 317 *i*P **P** **14 46 18.2 +1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 62.92 317 P **P** **14 46 14.2 -2.5**
comp=Z,0.8nm,0.4s,mb4.2,baz=82,slow=6.1,SNR=7.2
FINES FINESS Array B 65.02 329 *i*P **P** **14 46 31.7 +1.3**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 65.02 329 P **P** **14 46 28.6 -1.8**
comp=Z,1.1nm,0.5s,mb4.3,baz=100,slow=4.5,SNR=4.5
HNR Honiara 65.18 111 LR LR 15 16 09.2
comp=Z,60nm,18.1s,MS3.8,baz=359,slow=37
ARCES ARCESS Array B 65.92 338 LR LR 15 18 03.5
comp=Z,102nm,18.4s,MS4.1,baz=119,slow=38
NB2 NORSAR Subarra 72.21 329 P **P** **14 47 12.9 -2.3**
comp=Z,1.8nm,0.7s,mb4.3,baz=81,slow=6.5
NOA NORSAR Array B 72.21 329 P **P** **14 47 12.6 -2.7**
comp=Z,1.9nm,0.7s,mb4.3,baz=80,slow=6.1,SNR=6.9
NOA LR LR 15 20 43.2
comp=Z,74nm,18.8s,MS4.0,baz=70,slow=37
GERES GERESS Array B 73.10 316 P **P** **14 47 20.1 -0.7**
comp=Z,0.4nm,0.3s,mb4.0,baz=64,slow=6.1,SNR=5.9
KHC Kasperske Hory 73.12 317⇑*e*P **P** **14 47 23.9 +3.0**
INK Inuvik 83.13 18 *e*P **P** **14 48 15.9 -0.2**
YKA Yellowknife Ar 92.69 16 P **P** **14 49 02.4 +0.2**
YKA LR LR 15 37 46.0
YKA Yellowknife Ar 92.69 16 P **P** **14 49 02.4 +0.2**
comp=Z,0.3nm,0.8s,mb3.8,baz=319,slow=4.3,SNR=4.3
YKA LR LR 15 37 46.0
comp=Z,41nm,19.4s,MS3.9,baz=355,slow=40
TORD Torodi Ar. Bea 93.90 285 LR LR 15 34 51.6
comp=Z,56nm,18.6s,MS4.0,baz=115,slow=38

ISCJB ***15*** *15:05:15.7±0.5,3788N±002×2761E±005,h6km±7km, Error ellipse: s-maj=7.1km s-min=3.9km az=168.6*
CSEM ***15*** *15:05:15.4±0.2,3788N×2762E,h15km,MD2.9,Error ellipse: s-maj=5.4km s-min=3.1km az=88.0*
DDA ***15*** *15:05:15.8,3788N×2763E,h7km±5km,Md2.9*
ISK ***15*** *15:05:15.4,3789N×2758E,h9km,MD2.9*
ISC 15 15:05:16.2±0.5,3789N±002×2762E±005,h12km±8km,n12, σ0§44/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.30**	**137**	*i*P	**Pg**	**15 05 22.5**	**+0.2**
AYDN				*i*S	**Sg**	**15 05 26.4**	**0.0**
KDAG	**Bornova**	**0.59**	**332**	*i*P	**Pg**	**15 05 28.6**	**+0.9**
KDAG				*i*S	**Sg**	**15 05 35.4**	**0.0**
BLCB	**Balcova**	**0.68**	**318**	*e*PG	**Pg**	**15 05 29.3**	**0.0**
BLCB				*e*SG	**Sg**	**15 05 37.5**	**-0.7**
BDRM	**Kayabasi**	**0.83**	**190**	*i*P	**Pg**	**15 05 31.4**	**-0.8**
BDRM				*i*S	**Sg**	**15 05 43.5**	**+0.5**
BODT	**Bodrum**	**0.86**	**197**	*e*PG	**Pg**	**15 05 32.4**	**-0.3**
BODT				*e*SG	**Sg**	**15 05 44.2**	**+0.3**
YER	**Yerkesik**	**0.92**	**145**	*e*PG	**Pg**	**15 05 34.1**	**+0.2**
MANT	**Manisa**	**0.95**	**50**	*i*P	**Pg**	**15 05 34.4**	**-0.2**
MANT				*i*S	**Sg**	**15 05 46.8**	**-0.2**
AKHS	**Akhisar**	**1.00**	**9**	*i*P	**Pb**	**15 05 35.9**	**+0.3**
AKHS				*i*S	**Sg**	**15 05 49.2**	**+0.6**
AKS	**Akhisar**	**1.00**	**9**	*e*PG	**Pg**	**15 05 35.4**	**-0.1**
KULA	**Kula-Manisa**	**1.03**	**52**	*e*PG	**Pg**	**15 05 35.4**	**-0.6**
DAT	**Datca**	**1.15**	**182**	*e*PN	**Pn**	**15 05 37.8**	**-0.4**
DALT	**Dalyan (Mudla)**	**1.38**	**144**	*e*PN	**Pn**	**15 05 41.5**	**+0.3**

ISCJB ***15*** *15:07:16.9±0.5,1063N±004×6249W±003,h92km±6km, Error ellipse: s-maj=6.2km s-min=4.1km az=147.7*
FUNV ***15*** *15:07:18.1,1065N×6243W,h87km,MW3.6*
TRN ***15*** *15:07:20.0,1069N×6239W,h78km,MD3.5*
NEIC ***15*** *15:07:20.0,1069N×6239W,h78km,MD3.5(TRN),After TRN.*
ISC 15 15:07:17.8±0.5,1064N±003×6248W±003,h86km±6km,n25, σ0§87/41,4C-6D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.25**	**89**⇑	*i*P	**Pn**	**15 07 31.0**	**+0.4**
GUIV				*e*S	**Sn**	**15 07 39.4**	**-0.6**
GUNV	**Guanoco**	**0.66**	**224**⇑	*i*P	**Pn**	**15 07 34.5**	**+0.9**
GUNV				*e*S	**Sn**	**15 07 47.0**	**+1.7**
TCE	**Chacachacare**	**0.71**	**86**	*e*P	**Pn**	**15 07 35.3**	**+1.2**
TCE				*e*S	**Sn**	**15 07 46.0**	**-0.3**
CRUV	**Carupano**	**0.75**	**273**⇑	*i*P	**Pn**	**15 07 34.5**	**0.0**
CRUV				*e*S	**Sn**	**15 07 46.4**	**-0.4**
ITEV	**Isla Los Testi**	**0.96**	**318**⇓	*e*P	**Pn**	**15 07 37.1**	**+0.3**
ITEV				*e*S	**Sn**	**15 07 50.5**	**-0.5**
TRN	**Trinidad (W)**	**1.06**	**90**	*e*P	**Pn**	**15 07 37.8**	**-0.1**
TRN				*e*S	**Sn**	**15 07 51.7**	**-1.3**
TBH	**Brigand Hill**	**1.40**	**96**	*e*P	**Pn**	**15 07 43.3**	**+1.2**
TBH				*e*S	**Sn**	**15 07 60.0**	**-0.4**
GRW	**Mount Saint Ca**	**1.71**	**28**	*e*P	**Pn**	**15 07 46.2**	**+0.1**
GRW				*e*S	**Sn**	**15 08 06.8**	**-0.7**
TPR	**Prospect**	**1.76**	**72**	*e*P	**Pn**	**15 07 47.9**	**+1.2**
TPR				*e*S	**Sn**	**15 08 07.8**	**-0.9**
GRHS	**Sauteurs**	**1.77**	**27**	*e*P	**Pn**	**15 07 48.3**	**+1.3**
GRHS				*e*S	**Sn**	**15 08 08.8**	**-0.3**
ORIV	**Oritupano**	**1.81**	**211**⇓	*i*P	**Pn**	**15 07 47.8**	**+0.4**
GRIC	**Isle de Caille**	**1.85**	**28**	*e*P	**Pn**	**15 07 48.5**	**+0.5**
GRIC				*e*S	**Sn**	**15 08 10.2**	**-0.7**
GRSS	**Sisters**	**1.85**	**27**	*e*P	**Pn**	**15 07 49.4**	**+1.4**
GRSS				*e*S	**Sn**	**15 08 10.0**	**-0.9**
GRCU	**Cariacou**	**2.08**	**29**	*e*P	**Pn**	**15 07 52.5**	**+1.6**
GRCU				*e*S	**Sn**	**15 08 15.6**	**-0.6**
PCRV	**Puerto La Cruz**	**2.17**	**258**⇓	*e*P	**Pn**	**15 07 52.3**	**+0.2**
IBAV	**Isla La Blanqu**	**2.37**	**300**	*e*P	**Pn**	**15 07 55.2**	**+0.4**
RIOV	**Rio Grande**	**2.64**	**166**	*e*P	**Pn**	**15 07 58.8**	**+0.3**
GURV	**El Guri**	**2.92**	**192**⇓	*i*P	**Pn**	**15 08 01.8**	**-0.5**
CUPV	**Cœpira**	**3.31**	**260**	*e*P	**Pn**	**15 08 07.6**	**+0.2**
CUPV				*e*S	**Sn**	**15 08 44.5**	**-1.3**
BIRV	**Birongo**	**3.73**	**268**	*e*P	**Pn**	**15 08 14.1**	**+0.9**
MERV	**Las Mercedes**	**4.01**	**250**	*e*P	**Pn**	**15 08 16.2**	**-0.7**
LUEV	**Luepa**	**4.87**	**168**⇓	*e*P	**Pn**	**15 08 27.2**	**-1.5**
LUEV				*e*S	**Sn**	**15 09 19.0**	**-4.9**
CAOV	**Caicara del Or**	**5.03**	**229**	*e*P	**Pn**	**15 08 29.5**	**-1.3**
CAOV				*e*S	**Sn**	**15 09 22.9**	**-4.7**
TURV	**Turiamo**	**5.28**	**268**⇑	*e*P	**Pn**	**15 08 34.5**	**+0.3**
BAUV	**El Baul**	**5.74**	**253**⇓	*e*P	**Pn**	**15 08 39.1**	**-1.4**

INMG ***15*** *15:09:33.9±1.4,3703N×1336W,h10km±139km,ML2.8, Error ellipse: s-maj=71.7km s-min=9.6km az=69.0*
NEIC ***15*** *15:09:36.1,37.17N×1285W,h16km,MG4.0(MDD),After MDD.*
MDD 15 15:09:35.0±3.4,3720N×1276W,h0km,mb4.2/2,Error ellipse: s-maj=31.0km s-min=22.2km az=46.0,PRXIMO, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**3.14**	**90**	*e*Pn	Pn	15 10 23.6	-2.1
PFVI				*e*Sn	Sn	15 11 01.7	-2.1
PFVI				A		15 11 04.0	
22nm,0.1s							
PTEO	**Sao Teotonio**	**3.23**	**83**	*e*Sn	Sn	15 11 04.1	-2.0
PTEO				A		15 11 09.2	
11nm,0.1s							
PMAFR	**Mafra**	**3.25**	**56**	*e*Sn	Sn	15 11 05.5	-1.2
PMAFR				A		15 11 08.6	
39nm,0.1s							
MORF	**Marmelete**	**3.28**	**87**	P	Pn	15 10 25.0	-2.5
MORF				S	Sn	15 11 05.0	-2.3
MORF	**Marmelete**	**3.28**	**87**	*e*Pn	Pn	15 10 25.6	-1.9
MORF				*e*Sn	Sn	15 11 05.2	-2.0
MORF				A		15 11 09.2	
18nm,0.1s							
MOE	**Montemor**	**3.73**	**68**	*e*Sn	Sn	15 11 16.2	-2.2
PBDV	**Barranco-do-Ve**	**3.85**	**88**	*e*Pn	Pn	15 10 33.8	-1.6
PBDV				*e*Sn	Sn	15 11 19.3	-2.1
PBDV				A		15 11 24.6	
11nm,0.2s							
PBEJ	**Beja**	**3.97**	**77**	*e*Sn	Sn	15 11 22.4	-1.9
PBEJ				A		15 11 26.1	
8.7nm,0.2s							
EVO	**Evora**	**3.98**	**69**	*e*Sn	Sn	15 11 22.3	-2.3
EVO				A		15 11 26.5	
19nm,0.1s							
PVAQ	**Vaqueiros**	**4.02**	**86**	*e*Pn	Pn	15 10 36.3	-1.5
PVAQ				*e*Sn	Sn	15 11 23.3	-2.3
PVAQ				A		15 11 28.1	
15nm,0.1s							
EGRO	**El Granado**	**4.21**	**84**	P	Pn	15 10 39.4	-1.0
1.3nm,0.1s,SNR=5.5							
EGRO				S	Sn	15 11 27.2	-3.2
8.9nm,0.2s,SNR=7.9							
EGRO	**El Granado**	**4.21**	**84**	P	Pn	15 10 39.4	-1.0
1.3nm,0.1s,SNR=5.5							
EGRO				S	Sn	15 11 27.2	-3.1
8.9nm,0.2s,SNR=7.9							
PESTR	**Estremoz**	**4.41**	**66**	*e*Sn	Sn	15 11 32.7	-2.4
PBAR	**Barrancos**	**4.64**	**76**	*e*Sn	Sn	15 11 38.9	-1.9
PBAR				A		15 11 46.7	
4.4nm,0.1s							
EBAD	**Badajoz**	**4.80**	**69**	P	Pn	15 10 48.4	-0.1
0.8nm,0.1s,SNR=7.9							
EBAD				S	Sn	15 11 40.3	-4.4
2.2nm,0.1s,SNR=7.6							
EBAD	**Badajoz**	**4.80**	**69**	P	Pn	15 10 48.3	-0.1
0.8nm,0.1s,SNR=7.9							
EBAD				S	Sn	15 11 40.3	-4.4
2.2nm,0.1s,SNR=7.6							
EMIN	**Mina Concepcio**	**4.87**	**81**	P	Pn	15 10 48.5	-0.9
0.8nm,0.1s,SNR=7.9							
EMIN				S	Sn	15 11 41.7	-4.9
2.1nm,0.2s,SNR=9.7							
EMIN	**Mina Concepcio**	**4.87**	**81**	P	Pn	15 10 48.5	-1.0
0.8nm,0.1s,SNR=7.9							
EMIN				S	Sn	15 11 41.7	-4.9
2.1nm,0.2s,SNR=9.7							
ESPR	**Espera**	**5.53**	**91**	P	Pn	15 10 57.0	-1.5
3.7nm,0.2s,SNR=7.9							
ESPR				S	Sn	15 11 58.5	-4.3
5.9nm,0.2s,SNR=7.9							
ESPR	**Espera**	**5.53**	**91**	P	Pn	15 10 57.0	-1.5
3.7nm,0.2s,SNR=7.9							
ESPR				S	Sn	15 11 58.5	-4.3
5.9nm,0.2s,SNR=7.9							
PCAB	**Cabril**	**5.80**	**38**	*e*Sn	Sn	15 12 04.3	-5.2
ELOB	**Lobios**	**5.91**	**36**	S	Sn	15 12 05.3	-6.8
1.2nm,0.1s,SNR=7.9							
ELOB	**Lobios**	**5.91**	**36**	S	Sn	15 12 05.3	-6.8
1.2nm,0.1s,SNR=7.9							
MVO	**Moncorvo**	**5.96**	**47**	*e*Sn	Sn	15 12 08.8	-4.5
MVO				A		15 12 11.5	
5.1nm,0.1s							
EMAZ	**Mazaricos**	**6.43**	**26**	P	Pn	15 11 10.6	-0.2
0.5nm,0.1s,SNR=9.0							
EMAZ				S	Sn	15 12 14.4	-11
6.8nm,0.2s,SNR=4.7							
EMAZ	**Mazaricos**	**6.43**	**26**	P	Pn	15 11 10.6	-0.3
0.5nm,0.1s,SNR=9.0							
EMAZ				S	Sn	15 12 14.4	-11
6.8nm,0.2s,SNR=4.7							
EADA	**Adamuz**	**6.56**	**79**	S	Sn	15 12 22.9	-5.2
0.9nm,0.2s,SNR=7.9							
EADA	**Adamuz**	**6.56**	**79**	S	Sn	15 12 22.9	-5.2
0.9nm,0.2s,SNR=7.9							
EPON	**Pontenova**	**7.47**	**33**	S	Sn	15 12 43.0	-7.6
0.8nm,0.2s,SNR=7.9							

IDC 15 15:26:40.9±1.3,6286S×14486E,h0km,mb3.6/4, mb1 3.8/4,mb1mx3.8/13,mbtmp3.6/4,Error ellipse: s-maj=91.2km s-min=21.5km az=87.0,South of Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**27.23**	**180**	P	P	15 32 24.7	-1.1
1.0nm,0.9s,baz=140,slow=5.2,SNR=3.5							
ASAR	**Alice Springs**	**39.87**	**344**	P	P	15 34 16.1	+0.1
1.5nm,1.0s,baz=164,slow=8.8,SNR=7.9							
WRA	**Warramunga Arr**	**43.49**	**346**	P	P	15 34 44.9	-0.8
0.5nm,0.4s,baz=170,slow=6.9,SNR=14							
SNAA	**Sanae**	**43.92**	**194**	P	P	15 34 49.4	+0.8
0.5nm,0.6s,baz=180,slow=9.1,SNR=7.1							
YKA	**Yellowknife Ar**	**145.69**	**54**	PKPbc	PKPbc	15 46 20.3	+0.5
0.2nm,0.6s,baz=240,slow=2.5,SNR=3.7							

ROM ***15*** *15:35:40.8±0.7,4258N×1669E,h10km,Md2.8/8,Ml2.7/5, Error ellipse: s-maj=9.9km s-min=6.7km az=159.0*
NEIC ***15*** *15:35:40.8,4258N×1669E,h10km,ML3.1(ZAG), ML2.7(ROM),After ROM.*
ISCJB ***15*** *15:35:42.2±0.8,4248N±004×1652E±007,h5km±6km, Error ellipse: s-maj=9.1km s-min=6.2km az=31.8*
CSEM ***15*** *15:35:43.7±0.3,4246N×1653E,h30km,MD2.8/8,Error ellipse: s-maj=9.5km s-min=5.2km az=124.0*
ISC 15 15:35:43.2±0.8,4246N±004×1654E±007,h10km±6km,n14, σ0§44/20,Adriatic Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FGMS	**Monte Sant'Ang**	**0.87**	**210**	Pg	**Pg**	**15 36 00.2**	**+0.3**
64nm,0.3s							
MS1	**Monte Sant'Ang**	**0.88**	**211**	*e*Pg	**Pg**	**15 36 00.5**	**+0.5**
MS1				*e*Sg	**Sn**	**15 36 15.0**	**+0.6**
MSAG	**Monte S. Angel**	**0.88**	**212**	Pg	**Pg**	**15 36 00.4**	**+0.3**
274nm,0.5s							
SGRT	**San Giovanni R**	**0.92**	**220**	Pg	**Pg**	**15 36 01.1**	**+0.2**
SGRT				Sg	**Sn**	**15 36 15.7**	**+0.2**
170nm,0.4s							
STON	**Ston**	**0.95**	**64**	*e*Pg	**Pg**	**15 36 01.8**	**+0.4**
STON				Sg	**Sn**	**15 36 16.4**	**+0.3**
STON	**Ston**	**0.95**	**64**	*e*Pg	**Pg**	**15 36 01.8**	**+0.4**
STON				Sg	**Sn**	**15 36 16.4**	**+0.2**
RGNG	**Rignano Grg**	**1.06**	**222**	Pg	**Pg**	**15 36 02.6**	**-0.9**
MRVN	**Minervino Murg**	**1.42**	**191**	Pg	**Pg**	**15 36 10.1**	**-0.3**
45nm,0.4s							
AMUR	**Altamura**	**1.55**	**178**	Pg	**Pn**	**15 36 10.1**	**-0.8**
44nm,0.4s							
SG1	**Sgolgore (BA)**	**1.62**	**176**	*e*Pn	**Pn**	**15 36 11.9**	**+0.1**
NOCI	**Noci**	**1.71**	**167**	Pg	**Pn**	**15 36 12.5**	**-0.6**
68nm,0.3s							
NVLJ	**Novalja**	**2.43**	**331**	*e*Pn	**Pn**	**15 36 22.5**	**-0.4**
NVLJ				Sn	**Sn**	**15 36 52.8**	**+0.1**
NVLJ	**Novalja**	**2.43**	**331**	*e*Pn	**Pn**	**15 36 22.5**	**-0.4**
NVLJ				Sn	**Sn**	**15 36 52.7**	**0.0**
NRCA	**Norcia**	**2.56**	**280**	Pg	**Pn**	**15 36 24.7**	**0.0**
19nm,1.2s							

ISCJB ***15*** *15:55:08.8±1.1,3595N±004×2197E±008,h1km±8km, Error ellipse: s-maj=10.5km s-min=5.8km az=173.1*
THE ***15*** *15:55:10.4,3579N×2194E,h7km,ML4.1*
CSEM ***15*** *15:55:11.3±0.2,3607N×2203E,h69km±3km,ML4.1,Error ellipse: s-maj=8.5km s-min=4.1km az=65.0*
ATH ***15*** *15:55:12.8,3627N×2215E,h80km±3km*
HLW ***15*** *15:55:14.9,3603N×2235E,h33km,Mb3.5*
ISC 15 15:55:10.5±1.2,3595N±004×2196E±008,h12km±7km,n14, σ1§49/22,1C,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.93**	**69**	*e*P	**Pg**	**15 55 29.5**	**+1.0**
KYTH				*e*S	**Sg**	**15 55 41.5**	**+0.9**
PYL	**PYLOS**	**0.96**	**349**	*e*Pg	**Pg**	**15 55 29.1**	**0.0**
PYL				*e*Sg	**Sg**	**15 55 43.1**	**+1.4**
VLI	**Veliai**	**1.10**	**45**	*e*P	**Pb**	**15 55 29.7**	**-1.8**
VLI				*e*S	**Sb**	**15 55 42.4**	**-3.4**
ITM	**Ithomi**	**1.23**	**359**	*e*P	**Pn**	**15 55 31.8**	**-1.7**
VLX	**Vlachokerasia**	**1.46**	**13**	*e*Pg	**Pg**	**15 55 36.3**	**-2.3**
VLX				*e*Sg	**Sg**	**15 55 55.8**	**-1.8**
DID	**Didima**	**1.86**	**33**	*e*Pn	**Pn**	**15 55 40.7**	**-1.5**
DID				*e*Sn	**Sn**	**15 56 06.8**	**+1.2**
VAM	**Vamos**	**1.90**	**106**	*e*P	**Pn**	**15 55 44.3**	**+1.6**
SELA	**Sela**	**2.33**	**359**	*e*Pn	**Pn**	**15 55 48.9**	**+0.3**
SELA				*e*Sn	**Sn**	**15 56 18.6**	**+1.6**
LKD	**Levkas**	**2.95**	**340**	*e*Pn	**Pn**	**15 55 57.4**	**+0.2**
LKD	**Levkas**	**2.95**	**340**	*e*Pn	**Pn**	**15 55 57.3**	**+0.2**
SLUM		**5.20**	**148**	P	**Pn**	**15 56 30.2**	**+2.0**
SLUM				S	**Sn**	**15 57 23.8**	**-4.2**
HMAT	**Matruh**	**6.46**	**137**	⇑P	**Pn**	**15 56 46.0**	**+0.5**
SWA2		**7.30**	**155**	P	**Pn**	**15 56 58.7**	**+1.7**
SWA1		**7.37**	**154**	P	**Pn**	**15 57 00.0**	**+2.1**
SWA1				S	**Sn**	**15 58 17.1**	**-4.4**

NIED ***15*** *15:58:00,2080N×12220E,h5km,Mw4.8 Best double couple: M0:1.50000×10^16 NP1:φ0=201.00000°,δ68.00000°, λ71.00000°. NP2:φ0=63.00000°,δ28.00000°,λ129.00000°.*
IDC ***15*** *15:58:38.0±0.5,2054N×12196E,h0km,mb4.6/26, mb1 4.7/30,mb1mx4.7/33,mbtmp4.7/30,ML4.3/4,MS4.1/23, Ms1 4.1/23,ms1mx3.9/40,Error ellipse: s-maj=17.9km s-min=11.0km az=76.0*
BJI ***15*** *15:58:39.3,2070N×12192E,h5km,mB4.8,mb4.5,ML4.1, Ms4.5,Msz4.3*
ISCJB ***15*** *15:58:39.6±0.2,2062N±002×122.11E±002,h18km, mb4.7/86,MS4.3/37,Error ellipse: s-maj=3.4km s-min=2.1km az=20.5*
NEIC ***15*** *15:58:39.4±2.2,2054N×12203E,h10km±14km,mb4.8/34, MS4.7/3,Error ellipse: s-maj=6.8km s-min=4.2km az=89.0*
NEIC Felt [IV PIVS] at Basco.
GCMT ***15*** *15:58:39.4±0.3,2063N×12190E,h12km,MW4.8/57, Moment Tensor Solution. s20,c25; s57,c91; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr1.46±.07; Mθθ-0.85±.05; Mφφ-0.61±.07; Mrθ0.05±.21; Mrφ-1.35±.05; Mθφ0.09±.27; Best double couple: M0:1.77700×10^16 NP1:φ=229.00000°,δ43.00000°,λ93.00000°. NP2: φ=46.00000°,δ47.00000°,λ88.00000°. Principal axes: T 1.4630, Plg88.0000°, Azm269.0000°; N 0.6220, Plg2.0000°, Azm47.0000°; P -2.0900, Plg2.0000°, Azm137.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
JMA ***15*** *15:58:40.8±0.3,2082N×122.17E,h0km,M5.0*
MOS ***15*** *15:58:41.3±1.0,2054N×12202E,h33km,mb5.0/28, MS4.4/9,Error ellipse: s-maj=11.3km s-min=5.7km az=116.0*
MAN ***15*** *15:58:42,2049N×12204E,h20km,mb5.4,ML4.4,MS4.7*
MAN INTENSITY IV - BASCO, BATANES.
ISC 15 15:58:41.5±0.2,2061N±002×12206E±002,h19km, h19km±1.2km:pP-P,n265,σ1§15/282,mb4.7/86,MS4.3/37, 29C-16D,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**2.36**	**180**	*e*P	**Pn**	**15 59 19.8**	**+0.6**
SGCP				*e*S	**Sn**	**15 59 47.3**	**-0.3**
APYP	**Conner**	**2.84**	**196**	*e*P	**Pn**	**15 59 25.2**	**-0.7**
APYP				*e*S	**Sn**	**15 59 58.2**	**-1.3**
CVP	**Callao Caves**	**2.90**	**184**⇑	*e*P	**Pn**	**15 59 26.6**	**0.0**
ABRA	**Dolores**	**3.21**	**204**	*e*P	**Pn**	**15 59 31.9**	**+0.9**
PALP	**Palanan**	**3.55**	**174**	*e*P	**Pn**	**15 59 36.4**	**+0.8**
NACB	**Ninganchiao**	**3.57**	**353**	*e*Pn	**Pn**	**15 59 33.5**	**-2.4**
CAUP	**Cauayan**	**3.66**	**184**	*e*P	**Pn**	**15 59 31.7**	**-5.3**
HATJ	**Hateruma jima**	**3.79**	**25**	P	**Pn**	**15 59 39.0**	**+0.1**
HATJ				S	**Sn**	**16 00 21.9**	**-1.0**
YOJ	**Yonaguni jima**	**3.93**	**13**	P	**Pn**	**15 59 41.2**	**+0.4**
YOJ				S	**Sn**	**16 00 26.4**	**0.0**
IRIF	**Iriomote-Funau**	**4.01**	**22**	P	**Pn**	**15 59 42.0**	**0.0**
IRIF				S	**Sn**	**16 00 27.9**	**-0.5**
JKRS	**Kuro-shima**	**4.03**	**26**	P	**Pn**	**15 59 42.5**	**+0.3**
JKRS				S	**Sn**	**16 00 29.0**	**+0.1**
YHNB	**Yeheng**	**4.09**	**351**	*e*Pn	**Pn**	**15 59 43.0**	**+0.1**
YHNB				*e*Sn	**Sn**	**16 00 24.0**	**-6.2**
JIJ	**Ishigaki jima**	**4.20**	**27**	P	**Pn**	**15 59 44.3**	**-0.2**
JIJ				S	**Sn**	**16 00 31.2**	**-1.9**
TATO	**Taipei**	**4.37**	**353**	*e*Pn	**Pn**	**15 59 47.5**	**+0.6**
BCPH	**Baguio City Da**	**4.44**	**199**	*e*P	**Pn**	**15 59 48.8**	**+1.0**
BOLP	**Bolinao**	**4.68**	**206**	*e*P	**Pn**	**15 59 53.0**	**+1.9**
JTJ	**Tarama**	**4.69**	**31**	P	**Pn**	**15 59 51.4**	**+0.1**
JTJ				S	**Sn**	**16 00 44.1**	**-1.1**
BALP	**Baler**	**4.87**	**186**	*e*P	**Pn**	**15 59 53.6**	**-0.1**
PCPH	**Palayan**	**5.11**	**190**⇑	*e*P	**Pn**	**15 59 57.3**	**+0.3**
JMJ	**Miyako jima 2**	**5.14**	**35**	P	**Pn**	**15 59 58.5**	**+1.1**
JMJ				S	**Sn**	**16 00 56.2**	**0.0**
JOGS	**Gusukube**	**5.16**	**36**	P	**Pn**	**15 59 58.9**	**+1.2**
JOGS				S	**Sn**	**16 00 55.3**	**-1.3**
SCZP	**Santa Cruz**	**5.23**	**203**	*e*P

QIZ				LR	LR		
	comp=N,1μm,15.2s						
QIZ				LR	LR		
	comp=Z,803nm,14.3s						
NJ2	**Nanjing**	**11.75**	**347**	*e*P	**Pn**	**16 01 28.0**	**-0.1**
NJ2				AP		16 01 31.8	
NJ2				XP		16 01 34.3	
NJ2				PP		16 01 37.6	
NJ2				S	**Sn**	**16 03 40.5**	**+1.8**
NJ2				XS		16 03 48.5	
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,170nm,4.5s						
NJ2				LR	LR		
	comp=N,1μm,14.3s						
NJ2				LR	LR		
	comp=E,2μm,14.7s						
NJ2				LR	LR		
	comp=Z,2μm,14.7s						
WHN	**Wuhan**	**12.09**	**326**	*e*P	**Pn**	**16 01 35.9**	**+3.2**
WHN				LR	LR		
	comp=N,3μm,10.0s						
WHN				LR	LR		
	comp=E,2μm,10.5s						
WHN				LR	LR		
	comp=Z,3μm,13.5s						
JNU	**Nakatsue**	**14.72**	**30**	P	**Pn**	**16 02 07.8**	**-0.9**
JNU	**Nakatsue**	**14.72**	**30**	Pn	**Pn**	**16 02 08.2**	**-0.6**
	comp=Z,0.8nm,0.3s,baz=186,slow=8.5,SNR=18						
JNU				LR	LR	16 08 18.3	
	comp=Z,366nm,18.1s,baz=52,slow=39						
GYA	**Guiyang**	**15.27**	**295**	P	**Pn**	**16 02 16.5**	**+0.5**
GYA				PP		16 02 28.6	
GYA				S	**Sn**	**16 05 07.5**	**+2.8**
GYA				SS		16 05 25.4	
GYA				PCP	PcP	16 07 23.3	+2.0
GYA				AMB	AMB		
	comp=Z,20nm,0.9s						
GYA				AMB	AMB		
	comp=Z,170nm,8.8s						
GYA				LR	LR		
	comp=N,780nm,12.7s						
GYA				LR	LR		
	comp=E,950nm,11.6s						
GYA				LR	LR		
	comp=Z,840nm,10.5s						
KKM	**Kota Kinabalu**	**15.55**	**202**	Pn	**Pn**	**16 02 17.9**	**-1.9**
KKM	**Kota Kinabalu**	**15.55**	**202**	⇑P	**Pn**	**16 02 28.4**	**+8.6**
SDKM	**Sandakan**	**15.61**	**198**	⇓P	**Pn**	**16 02 29.5**	**+8.9**
MYLDM	**Lahad Datu**	**15.73**	**193**	⇓P	pP	16 02 33.5	+2.1
TSM	**Tawau**	**16.73**	**195**	⇑P	**Pn**	**16 02 41.5**	**+6.6**
INCN	**Inchon**	**17.27**	**12**	*e*P	**Pn**	**16 02 46.0**	**+4.4**
	comp=Z,78nm,1.2s						
JHS	**Saijyo**	**17.33**	**32**	P	**Pn**	**16 02 45.7**	**+3.4**
KSRS	**Korea Array**	**17.54**	**16**	P	**Pn**	**16 02 46.5**	**+1.5**
	comp=Z,0.7nm,0.3s,baz=198,slow=12,SNR=42						
KSRS				LR	LR	16 09 38.9	
	comp=Z,153nm,21.5s,baz=198,slow=38						
XAN	**Xi'an**	**17.73**	**322**	P	**Pn**	**16 02 46.0**	**-1.3**
XAN				PP		16 02 59.0	
XAN				S	**Sn**	**16 06 05.1**	**+0.8**
XAN				SS		16 06 23.4	
XAN				AMB	AMB		
	comp=Z,7.0nm,1.5s						
XAN				AMB	AMB		
	comp=Z,270nm,9.6s						
XAN				LR	LR		
	comp=N,753nm,14.2s						
XAN				LR	LR		
	comp=E,601nm,17.9s						
XAN				LR	LR		
	comp=Z,1μm,19.3s						
DL2	**Dalian**	**18.23**	**359**	P	**Pn**	**16 02 55.8**	**+2.3**
DL2				AMB	AMB		
	comp=Z,40nm,1.1s						
DL2				AMB	AMB		
	comp=Z,140nm,4.6s						
DL2				LR	LR		
	comp=N,260nm,15.4s						
DL2				LR	LR		
	comp=E,460nm,13.9s						
DL2				LR	LR		
	comp=Z,290nm,11.4s						
KMI	**Kunming**	**18.36**	**288**	P	**Pn**	**16 02 55.8**	**+0.7**
KMI				AP	pP	16 03 00.3	-0.2
KMI				XP	sP	16 03 01.8	-1.3
KMI				PP		16 03 11.1	
KMI				S	**Sn**	**16 06 18.0**	**-1.7**
KMI				SS		16 06 39.9	
KMI				AMB	AMB		
	comp=Z,6.0nm,1.1s						
KMI				AMB	AMB		
	comp=Z,44nm,3.6s						
KMI				LR	LR		
	comp=N,1μm,12.4s						
KMI				LR	LR		
	comp=E,464nm,15.1s						
KMI				LR	LR		
	comp=Z,523nm,14.8s						
JWT	**Wachi**	**18.75**	**36**	P	**Pn**	**16 03 05.7**	**+6.0**
JIE	**Ise**	**18.87**	**40**	P	**Pn**	**16 03 00.8**	**-0.4**
CD2	**Chengdu**	**19.39**	**306**	⇑*i*P	**Pn**	**16 03 06.5**	**-1.0**
CD2				AP	pP	16 03 10.4	-1.4
CD2				XP	sP	16 03 14.8	+0.4
CD2				PP		16 03 24.6	
CD2				S	**Sn**	**16 06 39.3**	**-5.2**
CD2				XS	sS	16 06 44.9	-8.7
CD2				SS		16 07 05.8	
CD2				AMB	AMB		
	comp=Z,30nm,1.0s						
CD2				AMB	AMB		
	comp=Z,420nm,8.4s						
CD2				LR	LR		
	comp=N,1μm,14.4s						
CD2				LR	LR		
	comp=E,1μm,12.0s						
CD2				LR	LR		
	comp=Z,1μm,13.2s						
BTM	**Bintulu**	**19.39**	**208**	⇑P	**Pn**	**16 03 12.1**	**+4.4**
CBIJ	**Chichi jima**	**19.49**	**67**	P	**Pn**	**16 03 09.4**	**+0.6**
CBIJ	**Chichi jima**	**19.49**	**67**	P	**Pn**	**16 03 07.5**	**-1.3**
	comp=Z,1.4nm,0.3s,baz=268,slow=21,SNR=2.9						
BJT	**Baijiatuau**	**19.99**	**347**	*e*P	**Pn**	**16 03 13.2**	**-1.4**
BJT				pmax	pmax		
	comp=Z,52nm,0.9s						
BJT	**Baijiatuau**	**19.99**	**347**	*e*P	**Pn**	**16 03 13.2**	**-1.4**
	comp=Z,52nm,0.9s						
BJI	**Beijing**	**20.01**	**347**	P	**P**	**16 03 13.4**	**+0.4**
BJI				AMB	AMB		
	comp=Z,65nm,1.1s						
BJI				LR	LR		
	comp=E,743nm,27.9s						
BJI				LR	LR		
	comp=N,660nm,13.4s						
BJI				LR	LR		
	comp=E,876nm,13.4s						
BJI				LR	LR		
	comp=Z,422nm,32.1s,MS3.6						
JHJ	**Hachijo jima 2**	**20.09**	**48**	LR	LR	16 09 50.1	
	comp=Z,239nm,18.5s,MS3.6,baz=230,slow=33						
NANT	**Nan**	**20.19**	**269**	⇑P	**P**	**16 03 16.9**	**+1.7**
	comp=Z,121nm,1.0s						
SBUM	**Sibu**	**20.45**	**209**	⇓P	**P**	**16 03 19.7**	**+1.8**
JOD2	**Odawara 2**	**20.91**	**42**	P	**P**	**16 03 26.3**	**+3.4**
SNY	**Shenyang**	**21.19**	**3**	⇓P	**P**	**16 03 28.4**	**+2.6**
SNY				S	**S**	**16 07 24.9**	**+4.4**
SNY				AMB	AMB		
	comp=Z,25nm,1.3s,mb4.4						
SNY				AMB	AMB		
	comp=Z,134nm,3.5s						
SNY				LR	LR		
	comp=N,658nm,12.3s						
SNY				LR	LR		
	comp=Z,679nm,14.9s,MS4.2						
MAJO	**Matsushiro**	**21.23**	**38**	P	**P**	**16 03 26.6**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,44nm,1.3s,mb4.6						
MAJO	**Matsushiro**	**21.23**	**38**	P	**P**	**16 03 26.6**	**+0.3**
	comp=Z,44nm,1.3s,mb4.6						
MAT	**Matsushiro**	**21.23**	**38**	P	**P**	**16 03 28.1**	**+1.8**
MAT				S	**S**	**16 07 27.0**	**+5.5**
MAT	**Matsushiro**	**21.23**	**38**	P	**P**	**16 03 31.2**	**+4.9**
MJAR	**Matsushiro Arr**	**21.23**	**38**	P	**P**	**16 03 29.1**	**+2.7**
	comp=Z,15nm,0.9s,mb4.3,baz=227,slow=8.3,SNR=32						
JRY	**Ryogami san**	**21.29**	**40**	P	**P**	**16 03 29.5**	**+2.6**
CHG	**Chiang Mai**	**21.83**	**269**	⇑P	**P**	**16 03 33.5**	**+0.6**
CHTO	**Chiang Mai**	**21.83**	**269**	*e*P	**P**	**16 03 33.2**	**+0.3**
CHTO				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.5						
CHTO	**Chiang Mai**	**21.83**	**269**	*e*P	**P**	**16 03 33.2**	**+0.3**
	comp=Z,24nm,1.1s,mb4.5						
HHC	**Hu-ho-hao-te**	**22.06**	**338**	*e*P	**P**	**16 03 37.1**	**+1.9**
HHC				PP		16 04 03.6	
HHC				PCP	PcP	16 07 34.9	+2.2
HHC				S	**S**	**16 07 39.6**	**+1.9**
HHC				SS		16 08 15.3	
HHC				SCP	ScP	16 11 11.5	+2.4
HHC				AMB	AMB		
	comp=Z,65nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,301nm,5.6s						
HHC				LR	LR		
	comp=N,2μm,14.9s,MS4.9						
HHC				LR	LR		
	comp=E,3μm,14.7s,MS4.9						
HHC				LR	LR		
	comp=Z,2μm,14.7s,MS4.5						
LZH	**Lanzhou**	**22.18**	**318**	*e*P	**P**	**16 03 38.1**	**+1.6**
LZH				AP		16 03 43.3	
LZH				XP	sP	16 03 45.8	+1.2
LZH				PP		16 04 04.3	
LZH				PCP	PcP	16 07 34.8	+1.8
LZH				*e*S	**S**	**16 07 38.1**	**-2.0**
LZH				XS	sS	16 07 44.0	-5.0
LZH				SS		16 08 18.0	
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,81nm,4.0s						
LZH				LR	LR		
	comp=N,873nm,10.8s						
LZH				LR	LR		
	comp=Z,1μm,13.4s,MS4.5						
KSM	**Kuching**	**22.22**	**213**	*e*P	**P**	**16 03 35.1**	**-1.9**
KSM	**Kuching**	**22.22**	**213**	⇑P	**P**	**16 03 40.7**	**+3.7**
BTO	**Baotou**	**22.42**	**335**	*e*P	**P**	**16 03 39.8**	**+0.9**
GUMO	**Guam**	**22.88**	**104**	LR	LR	16 10 43.1	
	comp=Z,199nm,19.0s,MS3.6,baz=69,slow=32						
CN2	**Changchun**	**23.30**	**6**	*e*P	**P**	**16 03 49.3**	**+1.1**
CN2				*e*PP		16 04 20.5	
CN2				*e*S	**S**	**16 07 58.9**	**-0.5**
CN2				LR	LR		
	comp=N,700nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=E,600nm,14.0s,MS4.4						
CN2				LR	LR		
	comp=Z,600nm,16.0s,MS4.1						
JYA	**Atsumi**	**23.52**	**37**	P	**P**	**16 03 51.5**	**+0.9**
JMM	**Marumori**	**23.65**	**39**	P	**P**	**16 03 51.7**	**0.0**
KTGM	**Kuala Trenggan**	**23.85**	**233**	⇓P	**P**	**16 03 56.0**	**+2.2**
MDJ	**Mudanjiang**	**24.74**	**13**	P	**P**	**16 04 00.6**	**-1.0**
MDJ				PCP	PcP	16 07 35.9	-2.3
MDJ				S	**S**	**16 08 22.4**	**-0.3**
MDJ				SCP	ScP	16 11 18.0	+1.8
MDJ				SCS	ScS	16 15 03.3	-0.7
MDJ				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb3.9						
MDJ				AMB	AMB		
	comp=Z,108nm,6.5s						
MDJ				LR	LR		
	comp=N,459nm,14.4s,MS4.5						
MDJ				LR	LR		
	comp=E,1μm,17.2s,MS4.5						
MDJ				LR	LR		
	comp=Z,544nm,12.1s						
JOM	**Ohasama**	**25.02**	**37**	P	**P**	**16 04 05.4**	**+1.2**
KAPI	**Kappang**	**25.57**	**185**	P	**P**	**16 04 09.6**	**+0.1**
KAPI				LR	LR	16 15 30.9	
KAPI	**Kappang**	**25.57**	**185**	P	**P**	**16 04 09.6**	**+0.2**
	comp=Z,18nm,0.8s,mb4.6,baz=60,slow=6.3,SNR=8.1						
KAPI				LR	LR	16 15 30.9	
	comp=Z,370nm,21.8s,MS3.9,baz=257,slow=40						
KULM	**Kulim**	**25.78**	**237**	*e*P	**P**	**16 04 12.1**	**+0.7**
KULM	**Kulim**	**25.78**	**237**	⇓P	**P**	**16 04 13.0**	**+1.6**
MYKOM	**Kota Tinggi**	**25.81**	**226**	⇑P	**P**	**16 04 14.2**	**+2.6**
JTM	**Tenmabayashi**	**25.81**	**35**	P	**P**	**16 04 12.5**	**+1.1**
IPM	**Ipoh**	**25.99**	**235**	⇑P	**P**	**16 04 14.5**	**+1.1**
KGM	**Kluang**	**26.00**	**227**	⇑P	**P**	**16 04 16.1**	**+2.7**
JOT	**Ohata**	**26.23**	**34**	P	**P**	**16 04 18.4**	**+3.2**
FRIM	**Kepong**	**26.36**	**232**	⇑P	**P**	**16 04 20.4**	**+3.7**
JSH	**Shimam**	**26.67**	**31**	P	**P**	**16 04 21.6**	**+2.5**
GTA	**Gaotai**	**26.75**	**319**	*e*P	**P**	**16 04 23.4**	**+3.5**
GTA				AP	pP	16 04 27.9	+2.1
GTA				XP	sP	16 04 31.1	+2.8
GTA				PP		16 05 05.8	
GTA				SCP	ScP	16 11 29.3	+7.2
GTA				AMB	AMB		
	comp=Z,6.0nm,1.8s,mb3.8						
GTA				AMB	AMB		
	comp=Z,185nm,6.9s						
GTA				LR	LR		
	comp=N,405nm,11.8s						
GTA				LR	LR		
	comp=E,527nm,17.2s						
GTA				LR	LR		
	comp=Z,426nm,12.5s,MS4.2						
JEW	**Eniwo**	**27.50**	**32**	P	**P**	**16 04 28.0**	**+1.4**
ASAJ	**Asahikawa**	**29.00**	**31**	P	**P**	**16 04 46.4**	**+6.4**
ASAJ	**Asahikawa**	**29.00**	**31**	P	**P**	**16 04 42.5**	**+2.5**
	comp=Z,20nm,0.8s,mb4.9,baz=261,slow=18,SNR=6.5						
ASAJ				LR	LR	16 16 36.9	
	comp=Z,214nm,18.3s,MS3.8,baz=202,slow=37						
LSA	**Lhasa**	**29.33**	**294**	*e*P	**P**	**16 04 45.0**	**+1.9**
KLR	**Kul'dur**	**29.59**	**13**	*e*P	**P**	**16 04 43.0**	**-2.1**
KLR				pmax	pmax		
	comp=E,20nm,1.0s						
KLR				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.0						
KLR				MLR	MLR		
	comp=N,700nm,12.5s,MS4.6						
KLR				MLR	MLR		
	comp=E,500nm,12.5s,MS4.6						
KLR				MLR	MLR		
	comp=Z,1μm,12.5s,MS4.8						
HABR	**Khabarovsk**	**29.70**	**18**	*e*P	**P**	**16 04 45.6**	**-0.5**
HABR				*e*		16 05 41.9	
HABR				*e*S	**S**	**16 09 41.5**	**+0.6**
HABR				*e*SS	SS	16 11 12.9	-34
HABR				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
SONM	**Songino Array**	**29.97**	**339**	P	**P**	**16 04 48.3**	**-0.2**
	comp=Z,5.7nm,0.9s,mb4.3,baz=152,slow=8.0,SNR=39						
SONM				LR	LR	16 18 00.2	
	comp=Z,972nm,18.6s,MS4.5,baz=153,slow=39						
BATI	**Kupang**	**30.67**	**177**	P	**P**	**16 04 54.1**	**-0.8**
	comp=Z,19nm,0.8s,mb5.0,baz=293,slow=2.2,SNR=6.0						
YSS	**Yuzh-Sakhalins**	**31.21**	**28**	⇓*e*P	**P**	**16 05 01.2**	**+1.7**
YSS				*e*	pP	16 05 08.0	+2.5
YSS				*e*S	**S**	**16 10 05.0**	**+0.3**
YSS						16 15 24.0	
YSS				pmax	pmax		
	comp=N,30nm,1.0s						
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.4						
YSS				MLR	MLR		
	comp=Z,200nm,13.0s,MS4.0						
YSS				MLR	MLR		
	comp=N,200nm,14.0s						
YSS	**Yuzh-Sakhalins**	**31.21**	**28**	*e*P	**P**	**16 05 01.8**	**+2.3**
	comp=N,64nm,1.0s,mb5.4						
ZAK	**Zakamensk**	**33.21**	**338**	*e*P	**P**	**16 05 09.2**	**-7.8**
ZAK				*e*	pP	16 05 15.9	-7.1
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.1						
TLY	**Talaya**	**34.18**	**340**	*e*P	**P**	**16 05 29.2**	**+3.7**
TLY				pmax	pmax		
	comp=Z,13nm,1.4s,mb4.7						
TLY				MLR	MLR		
	comp=Z,641nm,18.0s,MS4.4						
IRK	**Irkutsk**	**34.47**	**341**	*e*P	**P**	**16 05 26.5**	**-1.4**
IRK				pmax	pmax		
	comp=Z,26nm,1.6s,mb4.9						
WMQ	**Urumqi**	**36.76**	**317**	*e*P	**P**	**16 05 48.0**	**+0.3**
WMQ				PP	PP	16 07 13.0	+1.5
WMQ				S	**S**	**16 11 33.0**	**+2.4**
WMQ				SS	SS	16 13 59.0	-13
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,47nm,5.0s						
WMQ				LR	LR		
	comp=N,254nm,14.0s,MS4.3						
WMQ				LR	LR		
	comp=E,246nm,14.0s,MS4.3						
WMQ				LR	LR		
	comp=Z,349nm,14.0s,MS4.3						
BOD	**Bodaibo**	**37.62**	**353**	*e*P	**P**	**16 05 52.8**	**-2.1**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
FITZ	**Fitzroy Crossi**	**38.63**	**175**	*e*P	**P**	**16 06 00.9**	**-2.9**
	comp=Z,8.0nm,1.1s,mb4.4						
FITZ	**Fitzroy Crossi**	**38.63**	**175**	P	**P**	**16 06 02.5**	**-1.2**
	comp=Z,7.5nm,1.3s,mb4.3,baz=232,slow=23,SNR=3.6						
HYB	**Hyderabad**	**41.17**	**273**	*e*P	**P**	**16 06 22.0**	**-3.0**
HYB	**Hyderabad**	**41.17**	**273**	*i* P	**P**	**16 06 22.0**	**-3.0**
MK31	**Makanchi Array**	**41.50**	**318**	*i* P	**P**	**16 06 27.7**	**+0.4**
MK31				pmax	pmax		
	comp=Z,14nm,0.6s,mb4.8						
MKAR	**Makanchi Array**	**41.50**	**318**	P	**P**	**16 06 28.0**	**+0.7**
	comp=Z,16nm,0.7s,mb4.8,baz=112,slow=9.7,SNR=99						
MKAR				LR	LR	16 25 09.4	
	comp=Z,364nm,19.6s,MS4.3,baz=108,slow=38						
MBWA	**Marble Bar**	**41.58**	**183**	*e*P	**P**	**16 06 25.8**	**-2.3**
	comp=Z,16nm,1.2s,mb4.5						
YAK	**Yakutsk**	**41.72**	**5**	⇑*e*P	**P**	**16 06 30.5**	**+1.6**
YAK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**42.05**	**163**	⇓*e*P	**P**	**16 06 31.2**	**-0.9**
WRAB	**Tennant Creek**	**42.05**	**163**	P	**P**	**16 06 31.9**	**-0.2**
	comp=Z,20nm,1.0s,mb4.7						
WRA	**Warramunga Arr**	**42.06**	**163**	P	**P**	**16 06 30.0**	**-2.1**
	comp=Z,3.6nm,0.6s,mb4.2,baz=342,slow=9.0,SNR=29						
WB2	**Warramunga Arr**	**42.06**	**163**	*e*P	**P**	**16 06 30.0**	**-2.1**
PET	**Petropavlovsk**	**42.84**	**32**	⇑*e*P	**P**	**16 06 40.1**	**+1.9**
ZALV	**Zalesovo Beam**	**43.69**	**329**	P	**P**	**16 06 44.5**	**-0.5**
	comp=Z,52nm,0.8s,mb5.3,baz=114,slow=7.4,SNR=188						
ZALV				LR	LR	16 26 19.6	
	comp=Z,279nm,21.2s,MS4.1,baz=213,slow=38						
ZAL	**Zalesovo**	**43.69**	**329**	P	**P**	**16 06 44.5**	**-0.5**
MA2	**Magadan**	**43.99**	**21**	*e*P	**P**	**16 06 48.3**	**+0.9**
MA2				pmax	pmax		
	comp=Z,30nm,1.2s,mb4.9						
TKM2	**Tokmak 2**	**44.65**	**311**	*e*P	**P**	**16 06 53.5**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.5						
TKM2	**Tokmak 2**	**44.65**	**311**	*e*P	**P**	**16 06 53.5**	**+0.6**
	comp=Z,8.2nm,0.9s,mb4.6						
NVS	**Novosibirsk**	**44.96**	**329**	*i* P	**P**	**16 06 54.5**	**-0.6**
NVS				*i* S	**S**	**16 13 29.7**	**-2.6**
NVS				pmax	pmax		
	comp=Z,29nm,1.6s,mb4.9						
NVS				pmax	pmax		
	comp=N,19nm,1.3s						
NVS				pmax	pmax		
	comp=E,27nm,1.7s						
NVS				smax			
	comp=N,11nm,1.7s						
NVS				smax			
	comp=E,19nm,1.7s						
UCH	**Uchtor**	**45.25**	**310**	*e*P	**P**	**16 06 59.2**	**+1.5**
	comp=E,20nm,1.3s,mb4.8						
FRU	**Bishkek**	**45.32**	**310**	*e*P	**P**	**16 07 02.0**	**+3.8**
KURK	**Kurchatov**	**45.37**	**322**	*e*P	**P**	**16 06 58.0**	**-0.5**
KURK				pmax	pmax		
	comp=Z,31nm,1.0s,mb5.1						
KURK	**Kurchatov**	**45.37**	**322**	*e*P	**P**	**16 06 58.0**	**-0.5**
	comp=Z,31nm,1.0s,mb5.1						
ASAR	**Alice Springs**	**45.50**	**165**	P	**P**	**16 06 58.8**	**-1.0**
	comp=Z,1.6nm,0.5s,mb4.1,baz=343,slow=7.1,SNR=38						
AML	**Almayashu**	**45.83**	**309**	*e*P	**P**	**16 07 02.2**	**0.0**
	comp=Z,16nm,1.2s,mb4.8						
BVAR	**Borovoye Array**	**50.96**	**322**	P	**P**	**16 07 42.1**	**+0.4**
	comp=Z,8.2nm,0.8s,mb4.7,baz=113,slow=11,SNR=45						
BVAR				PcP	PcP	16 08 56.6	-1.1
	comp=Z,6.0nm,0.8s,baz=116,slow=3.4,SNR=7.6						
BRVK	**Borovoye**	**51.03**	**322**	*e*P	**P**	**16 07 42.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.2						
BRVK	**Borovoye**	**51.03**	**322**	*e*P	**P**	**16 07 42.1**	**0.0**
	comp=Z,25nm,0.8s,mb5.2						
TIXI	**Tiksi**	**51.20**	**3**	*e*P	**P**	**16 07 40.8**	**-2.4**
TIXI				pmax	pmax		
	comp=Z,15nm,2.0s,mb4.6						
TIXI				MLR	MLR		
	comp=Z,293nm,15.0s,MS4.4						
TIXI	**Tiksi**	**51.20**	**3**	*e*P	**P**	**16 07 41.5**	**-1.7**
	comp=Z,4.2nm,0.6s,mb4.5						
FORT	**Forrest**	**51.42**	**173**	*e*P	**P**	**16 07 44.3**	**-1.0**
	comp=Z,20nm,0.7s,mb5.2						
KLBR	**Kellerberrin**	**52.07**	**185**	*e*P	**P**	**16 07 49.2**	**-0.9**
	comp=Z,79nm,1.7s,mb5.4						
MUN	**Mundaring**	**52.59**	**186**	*e*P	**P**	**16 07 52.1**	**-1.9**
BILL	**Biiibino**	**54.77**	**19**	*e*P	**P**	**16 08 09.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,11nm,0.8s,mb4.9						
BILL	**Bilibino**	**54.77**	**19**	*e*P	**P**	**16 08 09.6**	**+0.1**
	comp=Z,11nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**55.45**	**160**	*e*P	**P**	**16 08 14.0**	**-0.8**
	comp=Z,6.7nm,1.9s,mb4.3						
STKA	**Stephens Creek**	**55.45**	**160**	P	**P**	**16 08 14.2**	**-0.6**
	comp=Z,3.9nm,0.7s,mb4.6,baz=298,slow=3.8,SNR=9.5						
STKA				LR	LR	16 32 29.4	
	comp=Z,128nm,21.6s,MS4.0,baz=20,slow=37						
SVE	**Sverdlovsk**	**57.41**	**325**	⇑*e*P	**P**	**16 08 29.0**	**+0.4**
SVE				*e*S	**S**	**16 16 22.4**	**-1.9**
SVE				pmax	pmax		
	comp=Z,71nm,0.9s,mb5.7						
AKTK	**Aktyubinsk**	**57.91**	**317**	P	**P**	**16 08 32.0**	**-0.2**
AKTK				LR	LR	16 35 13.6	
AKTO	**Aktyubinsk**	**57.91**	**317**	P	**P**	**16 08 32.0**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.2,baz=67,slow=6.7,SNR=4.1						
AKTO				LR	LR	16 35 13.6	
	comp=Z,295nm,19.4s,MS4.4,baz=113,slow=38						
ARU	**Arti**	**58.45**	**324**	*c i* P	**P**	**16 08 35.2**	**-0.7**
ARU				*e*		16 09 23.0	
ARU				*e*		16 10 44.3	
ARU				*e*S	**S**	**16 16 35.9**	**-2.1**
ARU				*e*SS	SS	16 20 24.3	-5.9
ARU				pmax	pmax		
	comp=Z,43nm,1.0s,mb5.4						
CNB	**Canberra Magne**	**61.36**	**155**	*e*P	**P**	**16 08 55.6**	**-0.5**
	comp=Z,22nm,1.4s,mb5.1						
GNI	**Garni**	**67.52**	**306**	⇓*i*P	**P**	**16 09 38.0**	**+1.5**
GNI				pmax	pmax		
	comp=Z,13nm,1.3s						
TTA	**Tatalina**	**68.20**	**29**	*e*P	**P**	**16 09 41.7**	**+1.3**
TTA				pmax	pmax		
	comp=Z,26nm,1.3s,mb5.1						
TTA	**Tatalina**	**68.20**	**29**	*e*P	**P**	**16 09 41.7**	**+1.3**
	comp=Z,26nm,1.3s,mb5.1						
VRHR	**Novokhopersk**	**68.30**	**318**	*e*P	**P**	**16 09 40.6**	**-0.6**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb5.0						
VRHR				pmax	pmax		
	comp=N,10.0nm,0.5s						
VRHR				pmax	pmax		
	comp=E,7.0nm,0.4s						
KIV	**Kislovodsk**	**68.48**	**310**	*e*P	**P**	**16 09 42.7**	**+0.2**
KIV				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.2						
KIV				MLR	MLR		
	comp=Z,151nm,18.0s,MS4.3						
KIV	**Kislovodsk**	**68.48**	**310**	*e*P	**P**	**16 09 42.6**	**+0.1**
	comp=Z,17nm,0.8s,mb5.1						
KIV	**

SOC e 16 19 55.3
SOC eSS SS 16 23 41.8 +1.1
SOC pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
OBN Obninsk 70.81 323 ⇓*i*P **P 16 09 55.5 -1.1**
OBN pmax pmax
comp=Z,19nm,1.2s,mb4.9
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.3
ANN Anapa 72.05 312 *e*P **P 16 10 03.5 -0.8**
ANN pmax pmax
comp=Z,37nm,1.0s,mb5.3
ANN MLR MLR
comp=Z,199nm,18.0s,MS4.4
JOF Joensuu 72.21 331 *e*p **P 16 10 03.6 -1.3**
comp=Z,0.5nm,0.3s,mb3.9
KEV Kevo 72.58 339 *e*p **P 16 10 06.3 -0.7**
comp=Z,0.4nm,0.3s,mb3.8
MALT Malatya 72.67 305 *e*P **P 16 10 08.7 +0.5**
comp=Z,25nm,1.0s,mb5.1
MALT Malatya 72.67 305 ⇑*i*P **P 16 10 09.1 +0.9**
ARCES ARCESS Array B 73.14 339 P **P 16 10 10.3 0.0**
ARCES LR LR 16 47 01.6
ARCES ARCESS Array B 73.14 339 P **P 16 10 10.3 0.0**
comp=Z,6.0nm,0.9s,mb4.5,baz=56,slow=9.0,SNR=3.6
ARCES LR LR 16 47 01.6
comp=Z,150nm,18.4s,MS4.3,baz=206,slow=40
SIM Simferopol' 74.32 313 *e*P **P 16 10 18.0 +0.3**
SIM pmax pmax
comp=Z,28nm,0.6s,mb5.4
SIM MLR MLR
comp=Z,230nm,21.9s,MS4.4
EGAK Eagle 74.41 26 *e*P **P 16 10 17.9 +0.1**
comp=Z,10nm,1.0s,mb4.7
FINES FINESS Array B 74.93 330 P **P 16 10 19.7 -1.2**
comp=Z,5.0nm,0.7s,mb4.5,baz=62,slow=5.2,SNR=13
FINES LR LR 16 47 19.9
comp=Z,162nm,19.0s,MS4.3,baz=25,slow=39
DAWY Dawson 75.34 27 *e*P **P 16 10 23.6 +0.3**
ASF Jabal al Asfar 75.38 299 P **P 16 10 24.4 +0.3**
comp=Z,4.6nm,1.0s,mb4.4,baz=360,slow=2.0,SNR=8.1
AKASG Malin Array Be 76.08 319 P **P 16 10 26.4 -1.3**
comp=Z,12nm,0.9s,mb4.8,baz=62,slow=6.0,SNR=33
AKASG LR LR 16 48 41.9
comp=Z,155nm,19.7s,MS4.3,baz=80,slow=40
KIEV Kiev 76.09 319 *e*P **P 16 10 26.0 -1.8**
KIEV pmax pmax
comp=Z,11nm,0.9s,mb4.8
KIEV Kiev 76.09 319 *e*P **P 16 10 25.9 -1.9**
comp=Z,11nm,0.9s,mb4.8
INK Inuvik 76.22 22 *e*P **P 16 10 27.4 -0.8**
INK pmax pmax
comp=Z,358nm,1.0s
INK Inuvik 76.22 22 *e*P **P 16 10 27.4 -0.9**
comp=Z,358nm,1.0s
MMAI Mount Meron Ar 76.37 300 P **P 16 10 28.4 -1.4**
comp=Z,4.4nm,0.8s,mb4.4,baz=56,slow=9.5,SNR=6.1
TIRR Tirgusor 78.37 313 ⇓*i*P **P 16 10 40.7 0.0**
SUW Suwalki 78.63 324 *e*P **P 16 10 41.4 -0.5**
SUW Suwalki 78.63 324 *e*P **P 16 10 41.4 -0.6**
ISP Isparta 78.83 306 *de*P **P 16 10 42.5 -0.9**
VRI Vrincioaia 79.08 315 ⇓*i*P **P 16 10 45.3 +0.7**
BURAR Bucovina Array 79.50 317 ⇑*i*P **P 16 10 46.9 0.0**
MLR Muntele Rosu 79.71 315 P **P 16 10 48.3 +0.2**
comp=Z,12nm,0.8s,mb4.9,baz=323,slow=3.9,SNR=19
MLR Muntele Rosu 79.71 315 ⇓*i*P **P 16 10 47.9 -0.2**
DAG Danmarks Havn 80.00 351 ⇑*i*P **P 16 10 47.6 -1.5**
DAG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
DAG Danmarks Havn 80.00 351 ⇑*i*P **P 16 10 47.6 -1.5**
comp=Z,2.5nm,0.9s,mb4.1
KWP Kalwaria 80.39 319 *e*P **P 16 10 51.6 -0.1**
KOLS Kolonicke sedl 80.90 319 *e*P **P 16 10 54.1 -0.3**
KOLS Kolonicke sedl 80.90 319 *e*P **P 16 10 54.0 -0.4**
HFS Hagfors 81.07 331 P **P 16 10 54.6 -0.5**
comp=Z,4.0nm,0.8s,mb4.4,baz=168,slow=2.7,SNR=6.2
HFS LR LR 16 50 16.5
comp=Z,529nm,19.2s,MS4.9,baz=114,slow=38
STHS Stebnicka Huta 81.36 320 *e*P **P 16 10 56.2 -0.6**
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 81.36 320 *e*P **P 16 10 56.2 -0.6**
comp=Z,5.8nm,1.0s,mb4.5
DRGR 81.39 317 ⇑*i*P **P 16 10 56.4 -0.7**
CRVS Cervenica-Dubn 81.42 319 *e*P **P 16 10 56.8 -0.3**
NB2 NORSAR Subarra 81.75 333 P **P 16 10 56.9 -1.8**
comp=Z,2.5nm,0.7s,mb4.2,baz=62,slow=5.1
NOA NORSAR Array B 81.75 333 P **P 16 10 57.3 -1.4**
comp=Z,5.2nm,0.8s,mb4.5,baz=61,slow=5.1,SNR=10
NOA LR LR 16 50 55.7
comp=Z,377nm,18.1s,MS4.8,baz=45,slow=38
OJC Ojcow 81.93 321 *e*P **P 16 10 59.3 -0.5**
MMB Musomiste 82.55 312 *e*P **P 16 10 59.8 -3.5**
VTS Vitosha 82.56 313 ⇑*i*P **P 16 11 03.3 0.0**
VTS Vitosha 82.56 313 *e*P **P 16 11 03.2 -0.1**
KKB Krupnik 82.90 312 *e*P **P 16 11 05.6 +0.5**
OKC Ostrava-Krasne 83.06 321 *e*P **P 16 11 05.3 -0.4**
OKC AMS AMS 16 47 30.0
comp=Z,400nm,23.1s
VYHS Vyhne 83.18 319 *e*P **P 16 11 06.3 -0.1**
VYHS pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
VYHS Vyhne 83.18 319 *e*P **P 16 11 06.3 -0.1**
comp=Z,6.9nm,1.0s,mb4.6
ABPO Ambohimpanom 83.19 247 *e*P **P 16 11 06.9 0.0**
comp=Z,9.0nm,0.8s,mb4.8
MORC Moravsky Berou 83.44 321 *e*P **P 16 11 07.4 -0.3**
MORC pmax pmax
comp=Z,14nm,1.5s,mb4.8
MORC Moravsky Berou 83.44 321 *e*P **P 16 11 07.4 -0.3**
comp=Z,14nm,1.5s,mb4.8
VAY Valandovo 83.46 312 *e*P **P 16 11 06.3 -1.7**
KSP Ksiaz 83.73 322 *e*P **P 16 11 08.8 -0.4**
DPC Dobruska-Polom 83.92 322 *e*P **P 16 11 09.9 -0.2**
DPC epP pP 16 11 14.4 -2.2
SKO Skopje 84.00 313 *e*P **P 16 11 10.7 -0.1**
UPC Upice 84.03 322 *e*P **P 16 11 10.6 -0.1**
VRAC Vranov 84.20 321 P **P 16 11 11.7 +0.1**
comp=Z,7.9nm,0.4s,mb5.2,baz=137,slow=2.0,SNR=9.4
KRUS Krusevo 84.37 312 *e*P **P 16 11 11.4 -1.2**
PVCC Panska Ves 84.85 322 *e*P **P 16 11 14.6 -0.3**
BRG Berggiesshubel 85.06 323 *e*P **P 16 11 15.4 -0.5**
BRG pmax pmax
comp=Z,5.0nm,1.3s,mb4.5
BRG Berggiesshubel 85.06 323 *e*P **P 16 11 14.7 -1.2**
comp=Z,9.0nm,1.3s,mb4.7
BRG Berggiesshubel 85.06 323 *e*P **P 16 11 15.4 -0.5**
comp=Z,8.7nm,1.3s,mb4.7
PRU Pruhonice 85.11 322 *e*P **P 16 11 16.0 -0.2**
PRU epP pP 16 11 21.3 -1.3
PRU AMS AMS 16 50 30.0
comp=Z,200nm,22.6s
CONA Conrad Observa 85.22 320 ⇓*i*PcP PcP 16 11 17.1 -2.8
comp=Z,12nm,1.1s
CSNA Conrad Observa 85.23 320 ⇓*i*PcP PcP 16 11 17.1 -2.8
comp=Z,11nm,1.1s
FBE Freiberg 85.37 323 *e*P **P 16 11 17.3 -0.1**
comp=Z,16nm,1.2s,mb5.0
CLL Collm 85.39 323 ⇑*i*P **P 16 11 16.3 -1.2**
CLL *i* pP 16 11 21.6 -2.4
CLL pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
CLL MLR MLR
comp=Z,300nm,19.0s,MS4.7
CLL Collm 85.39 323 ⇑*i*P **P 16 11 16.3 -1.2**
comp=Z,7.0nm,0.9s,mb4.8
CLL *i* pP 16 11 21.6 -2.4
CLL LR LR
comp=Z,300nm,19.0s,MS4.7
CLL Collm 85.39 323 *e*P **P 16 11 16.3 -1.2**
comp=Z,7.0nm,0.9s,mb4.8
CLL Collm 85.39 323 ⇑*i*P **P 16 11 16.3 -1.2**
comp=Z,7.0nm,0.9s,mb4.8
CLL *i* (sP) pP 16 11 21.6 -2.4
CLL *i* x x 16 11 27.3
CLL LmV 16 54 00.0
comp=Z,300nm,19.0s
KMBO Kilima Mbogo 85.53 267 *e*P **P 16 11 19.7 +0.7**
KMBO pmax pmax
comp=Z,7.0nm,0.9s
KMBO Kilima Mbogo 85.53 267 *e*P **P 16 11 19.7 +0.7**
comp=Z,6.7nm,0.9s,mb4.9
KMBO Kilima Mbogo 85.53 267 P **P 16 11 20.2 +1.3**
comp=Z,7.3nm,1.0s,mb4.8,baz=43,slow=9.0,SNR=10.0
YKA Yellowknife Ar 85.93 23 P **P 16 11 19.6 -0.4**
comp=Z,5.5nm,0.8s,mb4.8,baz=313,slow=4.7,SNR=60

KHC Kasperske Hory 86.05 321 *e*P **P 16 11 21.1 +0.2**
KHC *e*pP pP 16 11 26.7 -0.7
KHC AMS AMS 16 50 30.0
comp=Z,200nm,18.2s
TANN Tannenbergstha 86.10 323 *e*P **P 16 11 20.1 -1.0**
comp=Z,6.0nm,1.2s,mb4.7
GEC2 GERESS Array S 86.11 321 *e*P **P 16 11 20.7 -0.5**
GEC2 pmax pmax
comp=Z,12nm,1.8s,mb4.8
GEC2 GERESS Array S 86.11 321 *e*P **P 16 11 20.7 -0.5**
comp=Z,12nm,1.8s,mb4.8
GERES GERESS Array B 86.11 321 P **P 16 11 21.0 -0.2**
comp=Z,2.1nm,0.8s,mb4.4,baz=58,slow=3.8,SNR=12
GERES LR LR 16 51 04.2
comp=Z,184nm,21.6s,MS4.4,baz=280,slow=36
NKC Novy Kostel 86.20 323 *e*P **P 16 11 21.7 +0.1**
NKC *e*pP pP 16 11 28.0 -0.1
GUNZ Gunzen 86.20 323 *e*P **P 16 11 21.2 -0.4**
comp=Z,6.0nm,1.0s,mb4.8
WERN Wernitzgruen 86.21 323 *e*P **P 16 11 21.6 -0.1**
comp=Z,7.0nm,1.1s,mb4.8
MOA Molln 86.22 320 ⇑*i*P **P 16 11 23.2 +1.4**
comp=Z,6.7nm,1.0s,mb4.8
MOA Molln 86.22 320 ⇑*i*PcP PcP 16 11 23.2 -1.2
comp=Z,6.7nm,1.0s
MOX Moxa 86.47 323 *e*P **P 16 11 23.3 +0.4**
MOX
comp=Z,300nm,20.0s
MOX Moxa 86.47 323 *e*P **P 16 11 23.4 +0.5**
comp=Z,12nm,1.6s,mb4.9
BOJS Bojanci 86.66 318 *i* P pP 16 11 32.1 +1.7
GRF Grafenberg Arr 87.15 323 *e*L 16 45 18.2
comp=Z,157nm,21.6s
JAVS Javornik 87.23 318 *e*P **P 16 11 31.0 +4.3**
DAVOX Davos/Dischmat 89.36 320 LR LR 16 53 51.8
comp=Z,211nm,18.8s,MS4.6,baz=267,slow=37
BORG Borgarnes 90.37 345 LR LR 16 56 54.3
comp=Z,84nm,18.8s,MS4.2,baz=20,slow=39
VAE Valguarnera 90.80 311 LR LR 16 57 24.8
comp=Z,139nm,18.8s,MS4.4,baz=134,slow=39
PPT Papeete 94.56 107 LR LR 16 48 17.9
comp=Z,22nm,19.6s,MS3.6,baz=295,slow=32
NVAR Mina Array Bea 98.46 44 P **P 16 12 19.0 +0.2**
comp=Z,0.7nm,0.8s,mb4.3,baz=272,slow=6.0,SNR=4.3
SDV Santo Domingo 148.14 24 *e*PKPdf PKPdf 16 18 22.6 -1.2
SDV *e*PKPbc PKPbc 16 18 26.0 -0.9

BJI ***15*** *15:59:30.5, 850N×83.10W, h10km, mB5.3, Ms5.2, Msz4.9*
NEIC ***15*** *15:59:30.5±0.3, 852N×8309W, h10km, mb4.7/14, MD4.7(CASC), Error ellipse: s-maj=7.2km s-min=4.1km az=214.0*
NEIC Felt at Neily.
CASC ***15*** *15:59:32.1±2.5, 850N×8306W, h10km, MD4.5, ML3.5, mb4.7(NEIC)*
ISCJB ***15*** *15:59:33.0±0.5, 857N±005×8304W±004, h42km±4km, mb4.4/25, MS4.1/8, Error ellipse: s-maj=9.6km s-min=4.2km az=29.3*
IDC ***15*** *15:59:35.2±2.7, 851N×83.11W, h47km±26km, mb3.9/16, mb1 4.2/21, mb1mx4.1/27, mbtmp4.1/21, ML3.4/4, MS4.0/10, Ms1 3.9/10, ms1mx3.6/34, Error ellipse: s-maj=20.9km s-min=12.5km az=66.0*
ISC 15 15:59:32.9±0.9, 856N±005×8305W±004, h25km±6km, n84, σ1§12/81, mb4.4/25, MS4.1/8, 6C-5D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TBS2		**0.46**	**59**	*e*P		**Pb**		**15 59 42.5**	**+0.1**
DVD	**David**	**0.61**	**101**	*e*P		**Pb**		**15 59 43.1**	**-1.8**
DVD				*e*S		**Sb**		**15 59 53.1**	**0.0**
DVD	**David**	**0.61**	**101**	*e*P		**Pb**		**15 59 43.0**	**-1.9**
DVD				*e*S		**Sb**		**15 59 53.2**	**0.0**
BAR1		**0.73**	**340**	⇑*i*P		**Pb**		**15 59 45.0**	**-1.9**
CNI	**Changuinola**	**1.01**	**32**	⇓*i*P		**Pn**		**15 59 50.6**	**-0.9**
CNI	**Changuinola**	**1.01**	**32**	⇓*i*P		**Pn**		**15 59 50.6**	**-0.8**
BUS	**Buena Vista**	**1.21**	**325**	⇑*e*P		**Pn**		**15 59 53.4**	**-0.9**
URSC	**Urasca**	**1.46**	**331**	⇑*e*P		**Pn**		**15 59 56.9**	**-0.7**
LCR2	**La Lucha 2**	**1.50**	**322**	⇑*e*P		**Pn**		**15 59 57.2**	**-1.1**
LAJ	**Bijagual**	**1.67**	**321**	⇑*e*P		**Pn**		**16 00 02.5**	**+1.8**
LAJ				*e*S		**Sn**		**16 00 29.7**	**+8.5**
SJS	**Escuela Geolog**	**1.69**	**324**	*e*P		**Pn**		**16 00 01.1**	**+0.2**
CGA2	**Cerro Gallo 2**	**2.01**	**316**	⇓*e*P		**Pn**		**16 00 05.2**	**-0.1**
JCR	**Jicaral**	**2.40**	**302**	⇓*e*P		**Pn**		**16 00 10.7**	**0.0**
FORC	**Fortuna**	**2.48**	**320**	*i* P		**Pn**		**16 00 13.8**	**+2.0**
FORC				*i* S		**Sn**		**16 00 47.8**	**+6.5**
JTS	**JuntasAbangare**	**2.54**	**313**	*e*Pn		**Pn**		**16 00 12.4**	**-0.2**
AZU	**Azuero**	**2.85**	**105**	*e*P		**Pn**		**16 00 17.9**	**+1.0**
AZU				*e*S		**Sn**		**16 00 53.5**	**+3.0**
AZU	**Azuero**	**2.85**	**105**	*e*P		**Pn**		**16 00 17.8**	**+0.9**
AZU				*e*S		**Sn**		**16 00 53.4**	**+2.9**
2RIO	**Dos Rios de Up**	**2.91**	**313**	*i* P		**Pn**		**16 00 24.4**	**+6.7**
CUI		**2.96**	**315**	*i* P		**Pn**		**16 00 20.2**	**+1.8**
VCR	**Vista de Mar**	**2.98**	**302**	⇓*e*P		**Pn**		**16 00 18.1**	**-0.6**
BCIP	**Isla Barro Col**	**3.24**	**79**	*e*Pn		**Pn**		**16 00 21.9**	**-0.2**
UPIG		**3.51**	**83**	⇑*i*P		**Pn**		**16 00 25.6**	**-0.2**
UPIG				*e*S		**Sn**		**16 01 09.5**	**+3.0**
BOAB	**BOACO BROADBAN**	**4.64**	**327**	*e*P		**Pn**		**16 00 42.6**	**+1.1**
CNGN	**Cerro Negro**	**5.31**	**318**	*e*P		**Pn**		**16 00 52.6**	**+1.9**
CRIN	**San Cristobal**	**5.69**	**317**	*e*P		**Pn**		**16 00 57.8**	**+1.9**
TGUH	**Tegucigalpa,Un** 109nm,0.8s	**6.86**	**323**	P		**Pn**		**16 01 13.4**	**+1.5**
ROSC	**El Rosal** 1.3nm,0.3s,baz=92,slow=16,SNR=8.5	**9.41**	**112**	P		**Pn**		**16 01 51.1**	**+4.1**
SDV	**Santo Domingo**	**12.28**	**88**	*e*P		**Pn**		**16 02 26.5**	**+0.2**
SDV	**Santo Domingo** 0.2nm,0.3s,baz=302,slow=7.5,SNR=12	**12.28**	**88**	P		**Pn**		**16 02 27.5**	**+1.2**
TEIG	**Tepich** comp=Z,566nm,18.8s,baz=204,slow=37	**12.65**	**337**	LR		LR		16 07 24.2	
SDDR	**Presa de Saban** 44nm,0.9s	**15.42**	**47**	*e*Pn		**Pn**		**16 03 08.0**	**-0.8**
ATAH	**Atahualpa** 0.5nm,0.3s,baz=356,slow=7.0,SNR=6.6	**16.14**	**163**	P		**Pn**		**16 03 21.4**	**+3.2**
ATAH				LR		LR		16 09 05.4	
	comp=Z,622nm,18.7s,baz=189,slow=35								
PCRV	**Puerto La Cruz** 0.7nm,0.3s,baz=224,slow=6.1,SNR=9.4	**18.24**	**83**	P		**Pn**		**16 03 45.2**	**+0.6**
SJG	**San Juan** 47nm,1.0s	**18.98**	**58**	*e*P		**Pn**		**16 03 53.3**	**-0.2**
SJG	**San Juan** 3.7nm,0.3s,baz=326,slow=20,SNR=11	**18.98**	**58**	P		**Pn**		**16 03 55.2**	**+1.7**
SJG				LR		LR		16 10 45.5	
	comp=Z,376nm,19.5s,baz=98,slow=35								
CPD	**Cerro la Pandu** 51nm,0.9s	**19.14**	**59**	*e*P		**Pn**		**16 03 56.1**	**+0.7**
MTP	**Monte Pirata**	**19.48**	**59**	*e*P		**Pn**		**16 03 59.8**	**+0.4**
NNA	**Nana** 56nm,1.3s,mb4.7	**21.32**	**163**	*e*P		**P**		**16 04 18.1**	**0.0**
NNA	**Nana** 31nm,0.9s,mb4.6,baz=338,slow=10,SNR=8.4	**21.32**	**163**	P		**P**		**16 04 17.1**	**-1.1**
GOGA	**Godfrey** 30nm,0.8s,mb4.9	**24.74**	**359**	*e*P		**P**		**16 04 50.9**	**-1.5**
PLAL	**Pickwick Lake**	**26.70**	**351**	P		**P**		**16 05 11.7**	**+1.5**
MIAR	**Mount Ida** 264nm,0.9s	**27.61**	**341**	*e*P		**P**		**16 05 18.8**	**+0.4**
TXAR	**Lajitas Array** 0.2nm,0.5s,baz=169,slow=10,SNR=2.8	**28.32**	**320**	P		**P**		**16 05 24.5**	**-0.2**
TXAR				PcP		PcP		16 08 39.0	+1.6
	0.9nm,0.7s,baz=152,slow=5.7,SNR=6.4								
LPAZ	**La Paz** 2.7nm,0.7s,mb4.1,baz=337,slow=9.6,SNR=16	**28.77**	**149**	P		**P**		**16 05 29.4**	**+0.6**
LPAZ				LR		LR		16 17 04.0	
	comp=Z,207nm,21.4s,MS3.7,baz=66,slow=36								
WMOK	**Wichita Mounta** 5.5nm,1.3s,mb4.1	**29.79**	**333**	*e*P		**P**		**16 05 37.2**	**-0.5**
ACSO	**Alum Creek Sta** 20nm,1.0s,mb4.9	**31.54**	**0**	*e*P		**P**		**16 05 53.9**	**+0.7**
ECSD	**EROS,Sioux Fal** 12nm,1.3s,mb4.6	**36.99**	**344**	P		**P**		**16 06 39.1**	**-1.2**
GLA	**Glamis** 29nm,1.3s,mb4.8	**38.15**	**314**	P		**P**		**16 06 50.8**	**+0.5**
LCO	**Las Campanas** 22nm,1.3s,mb4.7	**39.20**	**163**	*e*P		**P**		**16 06 59.7**	**+0.5**
PFO	**Pinyon Flat Ob**	**39.60**	**314**	P		**P**		**16 07 01.8**	**-0.7**
PFO	**Pinyon Flat Ob** 2.0nm,0.6s,mb4.0,baz=79,slow=5.2,SNR=1.8	**39.60**	**314**	P		**P**		**16 07 01.8**	**-0.7**
BDFB	**Brasilia** 0.7nm,0.4s,mb3.6,baz=275,slow=21,SNR=2.1	**42.22**	**125**	P		**P**		**16 07 24.1**	**-0.2**
BDFB				LR		LR		16 25 17.2	
	comp=Z,106nm,21.5s,MS3.7,baz=47,slow=36								
CFAA	**Coronel Fontan** 0.2nm,0.4s,baz=334,slow=8.6,SNR=5.6	**42.38**	**161**	P		**P**		**16 07 25.2**	**-0.1**
CPUP	**Villa Florida** 1.1nm,0.6s,mb3.7,baz=304,slow=11,SNR=5.1	**42.74**	**145**	P		**P**		**16 07 27.1**	**-1.2**
CPUP				LR		LR		16 28 20.2	
	comp=Z,133nm,18.3s,MS3.9,baz=106,slow=40								
ULM	**Lac du Bonnet**	**42.91**	**348**	P		**P**		**16 07 28.2**	**-1.2**
ULM				LR		LR		16 26 49.8	
ULM	**Lac du Bonnet** 5.0nm,0.6s,mb4.4,baz=144,slow=6.5,SNR=8.0	**42.91**	**348**	P		**P**		**16 07 28.2**	**-1.2**
ULM				LR		LR		16 26 49.8	
	comp=Z,125nm,19.2s,MS3.8,baz=92,slow=38								
NVAR	**Mina Array Bea** 1.0nm,0.8s,mb3.6,baz=132,slow=7.4,SNR=5.7	**43.46**	**319**	P		**P**		**16 07 35.6**	**+1.6**
BOZ	**Bozeman (W)** 10nm,1.6s,mb4.3	**44.39**	**331**	P		**P**		**16 07 41.3**	**0.0**
WVOR	**Wild Horse Val** 7.2nm,1.0s,mb4.6	**45.99**	**323**	*e*P		**P**		**16 07 55.1**	**+0.9**
SCHQ	**Schefferville** comp=Z,140nm,18.4s,MS4.0,baz=225,slow=37	**47.93**	**13**	LR		LR		16 29 12.0	
PLCA	**Paso Flores** 6.7nm,0.8s,mb4.7,baz=343,slow=10,SNR=13	**50.38**	**168**	P		**P**		**16 08 26.9**	**-1.2**
FCC	**Fort Churchill**	**50.80**	**353**	*e*P		**P**		**16 08 30.4**	**-0.6**
YKA	**Yellowknife Ar**	**58.52**	**343**	P		**P**		**16 09 26.3**	**-0.5**
YKA	**Yellowknife Ar** 2.3nm,0.8s,mb4.2,baz=139,slow=7.0,SNR=33	**58.52**	**343**	P		**P**		**16 09 26.3**	**-0.5**
RES	**Resolute Bay** 230nm,0.9s	**66.44**	**357**	*e*P		**P**		**16 10 18.1**	**-1.6**
ESDC	**Sonseca Array** 5.3nm,0.9s,mb4.5,baz=276,slow=5.5,SNR=10	**76.20**	**51**	P		**P**		**16 11 20.1**	**+0.7**
EKA	**Eskdalemuir Ar** 1.4nm,0.9s,mb3.9,baz=132,slow=1.2,SNR=3.8	**77.26**	**35**	P		**P**		**16 11 24.1**	**-0.9**
DBIC	**Dimbokro** 5.3nm,0.9s,mb4.5,baz=144,slow=4.2,SNR=6.4	**77.41**	**85**	P		**P**		**16 11 27.0**	**+0.4**
DOU	**Dourbes**	**82.00**	**41**	P		**P**		**16 11 48.6**	**-2.3**
BCLA	**Clavier**	**82.43**	**40**	P		**P**		**16 11 50.7**	**-2.4**
TORD	**Torodi Ar. Bea** 1.0nm,0.8s,mb3.9,baz=267,slow=4.3,SNR=5.9	**83.02**	**78**	P		**P**		**16 11 57.0**	**+0.2**
TORD				LR		LR		16 48 28.6	
	comp=Z,95nm,18.9s,MS4.2,baz=195,slow=35								
NB2	**NORSAR Subarra** comp=Z,1.1nm,0.7s,mb4.1,baz=282,slow=5.3	**84.65**	**29**	P		**P**		**16 12 03.7**	**-0.5**
NOA	**NORSAR Array B** comp=Z,2.0nm,0.8s,mb4.3,baz=282,slow=5.1,SNR=5.8	**84.65**	**29**	P		**P**		**16 12 02.9**	**-1.3**
ARCES	**ARCESS Array B** comp=Z,3.1nm,0.9s,mb4.5,baz=266,slow=3.6,SNR=2.5	**88.42**	**19**	P		**P**		**16 12 21.4**	**-1.1**
BILL	**Bilibino** comp=Z,7.5nm,1.1s,mb4.9	**89.68**	**339**	*e*P		**P**		**16 12 28.0**	**-0.4**
VNA2	**Neumayer--Watz** baz=89,slow=1.9	**93.39**	**161**	*e*PKPdf		PKiKP		16 17 32.6	+1.0
VNA2				*e*				16 17 36.5	
VNA2				*e*				16 17 37.9	
VNA2				*e*				16 17 51.1	
MLR	**Muntele Rosu** comp=Z,215nm,21.8s,MS4.6,baz=21,slow=32	**96.97**	**42**	LR		LR		16 50 36.5	
TIXI	**Tiksi** comp=Z,3.0nm,0.9s,mb4.7	**97.22**	**350**	*e*P		**P**		**16 13 02.7**	**-0.4**
WMQ	**Urumqi**	**127.20**	**8**	*e*PKP		PKPdf		16 18 37.0	+1.5
HHC	**Hu-ho-hao-te**	**129.03**	**346**	*e*PKP		PKPdf		16 18 37.0	-2.0
HHC				PKS				16 22 12.4	
HHC				SKS		SKSdf		16 25 47.3	-2.0
HHC				SKKS		SKKSac		16 27 37.8	-4.5
HHC				PP		PP			
	comp=Z,220nm,7.5s								
HHC				LR		LR			
	comp=N,145nm,19.8s,MS4.9								
HHC				LR		LR			
	comp=E,217nm,22.0s,MS4.9								
HHC				LR		LR			
	comp=Z,135nm,19.4s,MS4.7								
ASAR	**Alice Springs**	**141.59**	**243**	PKhKP				16 18 56.7	
	comp=Z,0.9nm,0.8s,baz=123,slow=3.5,SNR=8.0								
ASAR				PKP		PKPdf		16 19 01.8	-1.1
	comp=Z,1.1nm,0.9s,baz=117,slow=3.2,SNR=9.6								
WRA	**Warramunga Arr** comp=Z,1.4nm,0.9s,baz=94,slow=3.4,SNR=9.5	**142.12**	**249**	PKhKP				16 18 57.4	
WRA				PKP		PKPdf		16 19 03.1	-0.8
	comp=Z,0.9nm,0.8s,baz=99,slow=2.3,SNR=9.9								
GYA	**Guiyang**	**143.94**	**345**	*e*PKP		PKPdf		16 19 06.8	-0.2
GYA				PKP2		PKPdf		16 19 07.6	+0.6
GYA				PP		PP		16 22 22.8	+3.9
GYA				PP		PP			
	comp=Z,70nm,9.7s								
KMI	**Kunming**	**146.05**	**351**	PKP		PKPdf		16 19 10.0	-0.7

ISCJB ***15*** *16:01:32.8±0.3, 5145N±002×1605E±002, h0km, mb3.6/4, Error ellipse: s-maj=2.3km s-min=1.7km az=5.5*
LDG ***15*** *16:01:32.3±0.1, 5155N×1599E, h1km, Ml3.9/6, Error ellipse: s-maj=3.8km s-min=2.2km az=10.0, Suspected Mining induced.*
NEIC ***15*** *16:01:33.3±0.3, 5162N×1609E, h5km, ML3.7(BRA), ML3.6(SZGRF), Error ellipse: s-maj=4.2km s-min=3.5km az=180.0*
IPEC ***15*** *16:01:33.9±0.3, 5154N×16.11E, h1km±1km, ML3.4/4, Error ellipse: s-maj=2.3km s-min=1.5km az=29.0*
BGR ***15*** *16:01:33.7±0.4, 5158N×1608E, h1km, ML3.6, Error ellipse: s-maj=4.4km s-min=2.2km az=13.0*
IDC ***15*** *16:01:34.3±0.5, 5152N×1589E, h0km, mb3.7/4, mb1 3.7/12, mb1mx3.6/26, mbtmp3.6/12, ML3.5/7, Error ellipse: s-maj=9.5km s-min=5.6km az=103.0*
WAR ***15*** *16:01:35.1, 5154N×1603E, ML3.2, Mining Induced*
CSEM ***15*** *16:01:35.3±0.1, 5151N×1604E, h1km, ML3.9/14, Ms3.4, Error ellipse: s-maj=1.7km s-min=1.2km az=14.0*
PRU ***15*** *16:01:35.0, 5150N×1603E, h0km, Felt In Harrachov*
VIE ***15*** *16:01:37.7±0.5, 5124N×1609E, h0km, mb3.1/8, ML3.2/10, Ms3.4/1, Error ellipse: s-maj=3.6km s-min=2.9km az=165.0, Suspected Mining induced.*
ISC 15 16:01:33.3±0.3, 5156N±002×1608E±002, h0km, n128, σ1§10/234, mb3.6/4, 19C-16D, Poland

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg		**Pg**		**16 01 48.2**	**+1.0**
KSP				*e*Sg		**Sg**		**16 01 57.9**	**+1.3**
KSP	**Ksiaz**	**0.73**	**169**	*e*Pg		**Pg**		**16 01 48.1**	**+0.9**
KSP				*e*Sg		**Sg**		**16 01 57.9**	**+1.3**
KSP	**Ksiaz**	**0.73**	**169**	⇓*i*Pg		**Pg**		**16 01 48.2**	**+1.0**
KSP				*e*				16 01 50.0	
KSP				*e*Sg		**Sg**		**16 01 57.7**	**+1.1**
KSP				*e*				16 02 01.6	
KSP				*e*				16 02 02.5	
KSP	**Ksiaz**	**0.73**	**169**	⇓*i*Pg		**Pg**		**16 01 48.2**	**+1.0**
KSP				Sg		**Sg**		**16 01 57.9**	**+1.3**
UPC	**Upice**	**1.05**	**182**	*e*Pg		**Pg**		**16 01 54.0**	**+0.6**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*Pg		**Pg**		**16 01 56.7**	**+0.1**
DPC				*e*Sg		**Sg**		**16 02 13.4**	**+1.0**
DPC	**Dobruska-Polom**	**1.22**	**173**	*e*PG		**Pg**		**16 01 56.8**	**+0.2**
DPC				*e*SG		**Sg**		**16 02 12.5**	**+0.2**
	comp=Z

CLL *e*Pg **Pg** **16 02 10.0 -0.5**
CLL *i* Sg **Sg** **16 02 36.0 +0.4**
CLL Collm 1.94 264 *i* Pn **Pn** **16 02 06.8 -0.7**
CLL *e*Pg **Pg** **16 02 10.0 -0.5**
CLL *i* x x 16 02 14.0
CLL *e*x x 16 02 31.0
CLL *i* Sg **Sg** **16 02 36.0 +0.4**
comp=Z,169nm,0.7s
CLL Collm 1.94 264 Pn **Pn** **16 02 06.9 -0.6**
RAC Raciborz 1.99 137 *e*Pg **Pg** **16 02 11.9 +0.4**
RAC *e*Sg **Sg** **16 02 39.0 +1.7**
MORC Moravsky Berou 2.01 152 *e*Pn **Pn** **16 02 08.4 0.0**
MORC Moravsky Berou 2.01 152 ⇓P **Pn** **16 02 08.5 +0.1**
MORC Moravsky Berou 2.01 152 ⇓*i*P **Pn** **16 02 08.5 +0.1**
MORC Moravsky Berou 2.01 152 ⇓P **Pn** **16 02 08.5 +0.1**
MORC *e*Sg **Sg** **16 02 36.3 -1.5**
comp=Z,142nm,0.6s
OKC Ostrava-Krasne 2.17 142 *e*Pn **Pn** **16 02 10.1 -0.5**
OKC *e*Sg **Sg** **16 02 42.4 -0.4**
OKC Ostrava-Krasne 2.17 142 *e*PN **Pn** **16 02 09.9 -0.7**
OKC *e*PG **Pg** **16 02 14.1 -0.7**
OKC *e*SG **Sg** **16 02 42.2 -0.6**
comp=Z,238nm,0.7s
VRAC Vranov 2.27 171 ⇑P **Pn** **16 02 12.7 +0.6**
VRAC Vranov 2.27 171 Pn **Pn** **16 02 12.6 +0.6**
comp=Z,9.5nm,0.3s,baz=332,slow=14,SNR=32
VRAC Lg 16 02 44.4
comp=Z,18nm,0.3s,baz=234,slow=20,SNR=8.8
VRAC Vranov 2.27 171 ⇑*i*P **Pn** **16 02 12.6 +0.6**
VRAC Vranov 2.27 171 *e*Pn **Pn** **16 02 12.4 +0.4**
VRAC Vranov 2.27 171 ⇑P **Pn** **16 02 12.6 +0.6**
VRAC *e*Sg **Sg** **16 02 44.3 -2.0**
comp=Z,240nm,0.9s
TREC Trest 2.29 190 *e*PN **Pn** **16 02 12.6 +0.3**
TREC *e*PN **Pn** **16 02 12.7 +0.4**
TREC *e*PG **Pg** **16 02 16.5 -0.7**
KRUC Moravsky 2.50 175 *e*Pn **Pn** **16 02 15.4 +0.2**
KRUC *e*Sg **Sg** **16 02 51.8 -1.9**
comp=Z,184nm,1.0s
TANN Tannenbergstha 2.55 245 *e*Pn **Pn** **16 02 16.1 +0.2**
TANN *e*Sg **Sg** **16 02 55.3 0.0**
WERD Werda 2.63 247 *e*Pn **Pn** **16 02 16.9 0.0**
WERD *e*Sg **Sg** **16 02 58.0 +0.4**
NKC Novy Kostel 2.65 241 *e*Pg **Pg** **16 02 24.1 0.0**
NKC *e*Sg **Sg** **16 02 58.0 -0.4**
comp=Z,351nm,0.5s
NKC Novy Kostel 2.65 241 *e*PN **Pn** **16 02 17.5 +0.3**
NKC *e*PG **Pg** **16 02 24.1 0.0**
NKC *e*SG **Sg** **16 02 58.0 -0.4**
comp=Z,351nm,0.5s
OJC Ojcow 2.71 118 *e*Pn **Pn** **16 02 16.5 -1.5**
OJC *e*Pg **Pg** **16 02 25.0 -0.2**
OJC *e*Sg **Sg** **16 03 00.7 +0.4**
OJC Ojcow 2.71 118 *e*Pn **Pn** **16 02 17.1 -0.9**
OJC *e*Sg **Sg** **16 03 01.1 +0.9**
OJC Ojcow 2.71 118 *e*Pg **Pg** **16 02 25.0 -0.2**
OJC Sg **Sg** **16 03 01.1 +0.8**
JAVC Velka Javorina 2.89 159 *e*Pn **Pn** **16 02 21.8 +1.3**
JAVC *e*Sg **Sg** **16 03 06.1 +0.1**
comp=Z,148nm,1.1s
KHC Kasperske Hory 2.91 214 *e*Pg **Pg** **16 02 27.0 -2.0**
KHC *e*Sg **Sg** **16 03 05.6 -1.0**
comp=Z,110nm,0.8s
KHC Kasperske Hory 2.91 214 *e*PN **Pn** **16 02 20.7 0.0**
KHC *e*PG **Pg** **16 02 27.0 -2.0**
KHC *e*SN **Sn** **16 02 56.9 +0.6**
KHC *e*SG **Sg** **16 03 05.6 -1.0**
comp=Z,110nm,0.8s
MGBB Grossbuechelbe 2.92 239 ⇓*i*Pn **Pn** **16 02 21.3 +0.4**
MOX Moxa 2.96 254 *e*Pn **Pn** **16 02 21.3 -0.1**
MOX *e*Pg **Pg** **16 02 29.3 -0.6**
MOX *e*Sg **Sg** **16 03 07.9 -0.3**
MOX Moxa 2.96 254 *e*PN **Pn** **16 02 21.1 -0.3**
MOX *e*PG **Pg** **16 02 29.3 -0.6**
MOX *i* SG **Sg** **16 03 09.2 +1.0**
MANZ Manzenberg 2.97 240 *e*Pn **Pn** **16 02 22.3 +0.7**
ROTZ Rotzenmuhle 3.04 235 *e*Pn **Pn** **16 02 23.1 +0.5**
ROTZ *e*Sg **Sg** **16 03 09.8 -1.2**
GEC2 GERESS Array S 3.11 210 *e*Pn **Pn** **16 02 24.3 +0.7**
GEC2 *e*Sg **Sg** **16 03 11.3 -2.0**
GEC2 GERESS Array S 3.11 210 *e*Pn **Pn** **16 02 24.3 +0.7**
GEC2 *e*Sg **Sg** **16 03 11.3 -1.9**
GERES GERESS Array B 3.11 210 Pn **Pn** **16 02 23.9 +0.3**
comp=Z,7.4nm,0.3s,baz=31,slow=12,SNR=141
GERES Pg **Pg** **16 02 29.8 -3.1**
comp=Z,19nm,0.3s,baz=34,slow=16,SNR=42
GERES Lg 16 03 09.9
comp=Z,14nm,0.3s,baz=48,slow=20,SNR=7.1
GERES GERESS Array B 3.11 210 Pg **Pg** **16 02 29.8 -3.1**
WET Wettzell 3.17 222 *e*Pn **Pn** **16 02 24.8 +0.5**
WET Wettzell 3.17 222 *e*Pn **Pn** **16 02 24.8 +0.5**
MODS Modra-Piesok 3.28 166 *e*Pn **Pn** **16 02 26.9 +1.1**
MODS *e*Pg **Pg** **16 02 35.8 -0.3**
MODS *e*Sg **Sg** **16 03 17.0 -1.5**
MODS Modra-Piesok 3.28 166 *e*PN **Pn** **16 02 26.8 +1.0**
MODS *e*PG **Pg** **16 02 35.8 -0.3**
MODS *e*SG **Sg** **16 03 17.0 -1.5**
KOLL Kolacno 3.33 152 *e*PN **Pn** **16 02 27.7 +1.1**
KOLL *e*PG **Pg** **16 02 35.6 -1.6**
KOLL *e*SG **Sg** **16 03 22.4 +2.0**
ZST Bratislava 3.43 168 *e*PN **Pn** **16 02 27.4 -0.5**
ZST *e*PG **Pg** **16 02 39.0 +0.1**
ZST *e*SG **Sg** **16 03 22.5 -0.8**
NIE Niedzica 3.45 127 *e*P **Pg** **16 02 39.1 -0.2**
NIE *e*S **Sg** **16 03 24.2 +0.2**
VYHS Vyhne 3.54 149 *e*PN **Pn** **16 02 29.7 +0.2**
VYHS *e*PG **Pg** **16 02 41.5 +0.3**
VYHS *e*SG **Sg** **16 03 25.7 -1.4**
CLZ Clausthal 3.56 277 *e*Pn **Pn** **16 02 30.5 +0.8**
GRA1 Grafenberg Arr 3.61 241 *e*Pn **Pn** **16 02 31.0 +0.6**
GRA1 *e*Sg **Sg** **16 03 28.2 -1.0**
GRF Grafenberg Arr 3.61 241 *e*Pn **Pn** **16 02 31.0 +0.6**
GRF *e*Sg **Sg** **16 03 28.2 -1.0**
GRFO Grafenberg 3.61 241 *e*Pn **Pn** **16 02 30.9 +0.5**
GRFO *e*Sg **Sn** **16 03 20.3 +6.6**
GRFO Grafenberg 3.61 241 *e*Pn **Pn** **16 02 30.9 +0.5**
BSD Bornholm Skovb 3.63 349 *i* P **Pn** **16 02 30.1 -0.6**
BSD *i* 16 02 36.3
BSD *i* S **Sn** **16 03 09.9 -4.3**
CONA Conrad Observa 3.63 182 ⇑*i*Pn **Pn** **16 02 31.5 +0.8**
CONA ⇓*i*Sg **Sg** **16 03 26.7 -3.2**
comp=Z,94nm,0.5s
HROE Hohe Rhon--Fla 3.87 257 ⇓*i*Pn **Pn** **16 02 34.1 +0.1**
MOA Molln 3.89 198 ⇓*i*Pn **Pn** **16 02 35.0 +0.7**
MOA ⇑*i*Sg **Sg** **16 03 36.9 -1.4**
comp=Z,86nm,0.9s
STHS Stebnicka Huta 3.93 121 *e*PN **Pn** **16 02 35.7 +0.9**
STHS *e*PG **Pg** **16 02 49.5 +0.9**
STHS *e*SG **Sg** **16 03 44.2 +4.6**
ARSA Arzberg 4.32 185 ⇓*i*Pn **Pn** **16 02 41.5 +1.3**
ARSA ⇑*i*Sg **Sg** **16 03 51.9 -0.3**
comp=Z,56nm,0.5s
CRVS Cervenica-Dubn 4.36 125 *e*PN **Pn** **16 02 41.5 +0.8**
CRVS *e*PG **Pg** **16 02 57.6 +0.8**
CRVS *e*SG **Sg** **16 03 54.0 +0.8**
PSZ Piszkesteto 4.40 144 ⇑P **Pn** **16 02 42.5 +1.2**
PSZ Piszkesteto 4.40 144 ⇑*e*Pn **Pn** **16 02 42.5 +1.2**
PSZ Piszkesteto 4.40 144 ⇑*i*P **Pn** **16 02 42.5 +1.2**
KWP Kalwaria 4.64 112 *e*Pn **Pn** **16 02 45.0 +0.4**
KWP *e*Pg **Pg** **16 02 60.0 -2.2**
KWP Kalwaria 4.64 112 *e*Pn **Pn** **16 02 44.4 -0.2**
KWP *e*Pn **Pn** **16 02 44.9 +0.3**
KWP *e*Pg **Pg** **16 03 00.0 -2.2**
KWP Kalwaria 4.64 112 ⇑*i*P **Pn** **16 02 44.8 +0.2**
KWP Kalwaria 4.64 112 *e*Pn **Pn** **16 02 44.9 +0.3**
KWP Kalwaria 4.64 112 *e*Pg **Pg** **16 03 00.0 -2.2**
KOLS Kolonicke sedl 4.76 121 *e*PN **Pn** **16 02 46.4 +0.1**
KOLS *e* 16 03 07.9
KBA Koelnbreinsper 4.82 203 ⇑*i*Pn **Pn** **16 02 48.3 +1.2**
KBA ⇑*i*Sg **Sg** **16 04 07.4 -0.8**
comp=Z,51nm,0.6s
WATA Walderalm 5.14 217 ⇓*i*Pn **Pn** **16 02 52.6 +1.2**
WATA ⇑*i*Sg **Sg** **16 04 20.1 +1.7**
comp=Z,29nm,0.6s
WATA Walderalm 5.14 217 ⇓*i*Pn **Pn** **16 02 52.6 +1.2**
WATA *i* Sg **Sg** **16 04 20.1 +1.7**
WTTA Wattenberg 5.18 216 ⇑*i*Pn **Pn** **16 02 52.8 +0.8**
WTTA ⇑*i*Sg **Sg** **16 04 20.1 +0.5**
comp=Z,28nm,0.6s
WTTA Wattenberg 5.18 216 Pn **Pn** **16 02 52.8 +0.8**
WTTA Sg **Sg** **16 04 20.1 +0.5**
comp=Z,28nm,0.6s

MOTA Moosalm 5.32 220 ⇓*i*Pn **Pn** **16 02 54.8 +0.9**
MOTA ⇑*i*Sg **Sg** **16 04 25.4 +1.4**
comp=Z,24nm,0.6s
SQTA Sankt Quirin 5.38 218 ⇑*i*Pn **Pn** **16 02 56.2 +1.5**
SQTA ⇑*i*Sg **Sg** **16 04 27.8 +1.8**
comp=Z,15nm,0.4s
VOY Vojsko 5.71 195 *e*(Pn) **Pn** **16 03 04.0 +4.7**
VOY *e* 16 03 24.1
VOY *e*(Sn) **Sg** **16 04 40.7 +4.0**
DAVA Damuels 5.88 226 ⇑*i*Pn **Pn** **16 03 02.2 +0.6**
DAVA ⇓*i*Sg **Sg** **16 04 45.6 +3.5**
comp=Z,22nm,0.6s
BFO Black Forest 5.95 240 *e*Pn **Pn** **16 03 00.0 -2.6**
comp=Z,10nm,0.6s
DAVOX Davos/Dischmat 6.27 223 Pn **Pn** **16 03 04.6 -2.4**
comp=Z,0.2nm,0.3s,baz=336,slow=20,SNR=2.3
DAVOX Lg 16 04 48.6
comp=Z,1.0nm,0.3s,baz=357,slow=22,SNR=3.7
DRGR 6.45 135 ⇓P **Pn** **16 03 10.7 +1.2**
DRGR 6.45 135 ⇓*i*P **Pn** **16 03 10.7 +1.3**
CDF Champ du Feu 6.49 244 *e*P **Pn** **16 03 10.0 +0.1**
CDF *e*Sg **Sg** **16 04 54.6 -7.0**
comp=Z,48nm,0.9s
CDF Champ du Feu 6.49 244 *e*Pn **Pn** **16 03 06.1 -3.8**
CDF *e*P 16 03 10.0
CDF *e*Sg **Sg** **16 04 54.6 -7.0**
CDF Champ du Feu 6.49 244 *e*Pn **Pn** **16 03 06.1 -3.8**
CDF *e*Sg **Sg** **16 04 54.6 -7.0**
comp=Z,24nm,0.9s
HINF Hinteralfeld 7.06 242 *e*Pn **Pn** **16 03 13.6 -4.1**
HINF *e*Sg **Sg** **16 05 11.8 -8.0**
comp=Z,23nm,0.6s
HAU Haudompre 7.23 244 *e*Pn **Pn** **16 03 16.2 -3.9**
HAU *e*Sg **Sg** **16 05 16.9 -8.4**
comp=Z,28nm,0.8s
GIVF Givet 7.28 263 *e*P **Pn** **16 03 21.5 +0.8**
MEZF Maizieres J'vi 7.73 251 *e*Sg **Sg** **16 05 32.0 -9.3**
comp=Z,29nm,0.9s
KIEV Kiev 8.31 91 *e*Pn **Pn** **16 03 33.2 -1.7**
comp=Z,8.1nm,0.5s
KIEV Kiev 8.31 91 *e*Pn **Pn** **16 03 33.2 -1.7**
comp=Z,8.1nm,0.5s
AKASG Malin Array Be 8.32 91 Pn **Pn** **16 03 34.0 -1.0**
comp=Z,3.9nm,0.3s,baz=280,slow=12,SNR=21
AKASG Sn **Sn** **16 05 05.7 -3.9**
comp=Z,1.2nm,0.3s,baz=273,slow=22,SNR=7.1
AKASG Lg 16 06 02.0
comp=Z,0.1nm,0.3s,baz=336,slow=5.3,SNR=3.4
AKASG Malin Array Be 8.32 91 Pn **Pn** **16 03 34.0 -1.0**
AKASG Sn **Sn** **16 05 05.7 -3.9**
AKBB Malin Array Si 8.32 91 *e*Pn **Pn** **16 03 33.3 -1.7**
LPG La Plagne 8.66 229 *e*P **Pn** **16 03 41.0 +1.3**
HFS Hagfors 8.70 352 Pn **Pn** **16 03 38.9 -1.4**
comp=Z,0.3nm,0.3s,baz=172,slow=15,SNR=10
HFS Sn **Sn** **16 05 15.0 -3.9**
comp=Z,0.4nm,0.3s,baz=155,slow=28,SNR=2.8
HFS Lg 16 06 11.3
comp=Z,0.3nm,0.3s,baz=177,slow=27,SNR=2.3
HFS Hagfors 8.70 352 Sn **Sn** **16 05 15.0 -3.9**
LOR Lormes 9.04 246 *e*Pn **Pn** **16 03 42.6 -2.4**
baz=64
LOR *e*Sg **Sg** **16 06 13.4 -10**
comp=Z,5.7nm,0.5s
SSF Saint Saulge 9.36 246 *e*Pn **Pn** **16 03 45.5 -3.8**
SBF Sospel 9.64 220 *e*P **Pn** **16 03 54.2 +1.0**
NOA NORSAR Array B 9.88 346 Pn **Pn** **16 03 54.3 -2.0**
NOA Sn **Sn** **16 05 41.3 -6.5**
NOA Lg 16 06 47.0
NOA NORSAR Array B 9.88 346 Pn **Pn** **16 03 54.3 -2.0**
comp=Z,0.3nm,0.3s,baz=167,slow=13,SNR=3.1
NOA Sn **Sn** **16 05 41.3 -6.5**
comp=Z,0.2nm,0.3s,baz=155,slow=21,SNR=2.8
NOA Lg 16 06 47.0
comp=Z,0.3nm,0.3s,baz=206,slow=18,SNR=3.5
NOA NORSAR Array B 9.88 346 Sn **Sn** **16 05 41.3 -6.6**
FINES FINESS Array B 11.33 25 Pn **Pn** **16 04 14.3 -1.9**
FINES Sn **Sn** **16 06 18.1 -5.3**
FINES FINESS Array B 11.33 25 Pn **Pn** **16 04 14.3 -1.9**
comp=Z,0.8nm,0.3s,baz=209,slow=11,SNR=27
FINES Sn **Sn** **16 06 18.1 -5.3**
comp=Z,0.5nm,0.3s,baz=208,slow=22,SNR=4.1
EKA Eskdalemuir Ar 12.07 296 Pn **Pn** **16 04 21.9 -4.4**
comp=Z,0.4nm,0.3s,baz=105,slow=14,SNR=5.3
ARCES ARCESS Array B 18.58 10 Pn **Pn** **16 05 48.3 -3.3**
comp=Z,0.3nm,0.3s,baz=190,slow=13,SNR=10
AKTK Aktyubinsk 26.16 76 P **P** **16 07 09.7 +0.7**
AKTO Aktyubinsk 26.16 76 P **P** **16 07 09.7 +0.7**
comp=Z,1.4nm,0.7s,mb3.7,baz=280,slow=12,SNR=4.5
TORD Torodi Ar. Bea 40.03 202 P **P** **16 09 09.5 -0.5**
comp=Z,1.0nm,1.0s,mb3.4,baz=8.1,slow=7.2,SNR=4.5
SONM Songino Array 54.91 55 P **P** **16 11 07.9 +2.6**
comp=Z,0.5nm,0.7s,mb3.6,baz=297,slow=7.8,SNR=4.0
YKA Yellowknife Ar 59.81 336 P **P** **16 11 40.6 +0.9**
comp=Z,0.7nm,0.5s,mb3.9,baz=46,slow=4.8,SNR=5.6

*IDC **15** 16:03:31.6±0.6,5623S×26.17W,h0km,mb4.6/8,mb1 4.5/9, mb1mx4.3/19,mbtmp4.5/9,ML3.7/1,MS3.8/5,Ms1 3.8/5, ms1mx3.6/17,Error ellipse: s-maj=22.9km s-min=18.6km az=51.0*
*NEIC **15** 16:03:36.7±5.9,5628S×2622W,h33km±41km,Error ellipse: s-maj=17.7km s-min=11.3km az=48.0*
*ISCJB **15** 16:03:37.0±4.3,5625±0.1×262W±02,h52km±43km, mb4.6/9,MS3.9/4,Error ellipse: s-maj=25.1km s-min=15.8km az=33.0*
ISC 15 16:03:38.8±3.7,563S±01×263W±02,h50km±38km,n34, σ0:90/19,mb4.6/9,MS3.9/4,South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.41**	**159**	*e*P		**Pn**	**16 07 25.5**	**+0.3**
VNA1				*e*			16 07 30.2	
VNA1				*e*			16 07 34.0	
VNA3	**Neumayer Olymp**	**16.62**	**161**	*e*P		**Pn**	**16 07 27.5**	**-0.4**
VNA3				*e*			16 07 35.5	
VNA2	**Neumayer--Watz**	**16.80**	**158**	*e*P		**Pn**	**16 07 30.3**	**+0.2**
baz=322,slow=14								
VNA2				*e*			16 07 34.5	
VNA2				*e*			16 07 38.8	
SNAA	**Sanae**	**18.34**	**156**	*e*P		**Pn**	**16 07 50.3**	**+1.3**
SNAA				*e*			16 07 53.7	
SNAA				*e*			16 07 58.9	
SNAA	**Sanae**	**18.34**	**156**	P		**Pn**	**16 07 48.0**	**-0.9**
0.3nm,0.3s,baz=328,slow=12,SNR=34								
SNAA				LR		LR	16 13 43.3	
comp=Z,70nm,20.9s,baz=24,slow=33								
PMSA	**Palmer Station**	**20.16**	**230**	LR		LR	16 14 47.3	
comp=Z,255nm,18.4s,MS3.6,baz=235,slow=33								
TRQA	**Tornquist**	**29.89**	**292**	*e*P		**P**	**16 09 41.3**	**-0.1**
QSPA	**South Pole Qui**	**33.99**	**180**	*e*P		**P**	**16 10 17.2**	**+0.2**
78nm,0.9s,mb5.6								
QSPA	**South Pole Qui**	**33.99**	**180**	P		**P**	**16 10 17.4**	**+0.5**
8.3nm,0.6s,mb4.8,baz=210,slow=3.0,SNR=67								
CPUP	**Villa Florida**	**37.35**	**310**	P		**P**	**16 10 45.5**	**-0.7**
2.7nm,0.8s,mb4.1,baz=136,slow=6.5,SNR=6.3								
CFAA	**Coronel Fontan**	**38.12**	**292**	P		**P**	**16 10 51.2**	**-1.5**
0.2nm,0.4s,baz=161,slow=3.7,SNR=4.3								
MAW	**Mawson**	**39.67**	**143**	LR		LR	16 25 33.1	
comp=Z,325nm,18.2s,MS4.2,baz=280,slow=33								
LCO	**Las Campanas**	**41.47**	**292**	P		**P**	**16 11 20.9**	**+0.3**
BOSA	**Boshof**	**45.52**	**75**	LR		LR	16 27 20.1	
comp=Z,164nm,19.4s,MS4.0,baz=160,slow=31								
TSUM	**Tsumeb**	**49.34**	**60**	P		**P**	**16 12 22.1**	**-0.7**
2.8nm,0.9s,mb4.3,baz=145,slow=5.4,SNR=4.7								
LPAZ	**La Paz**	**50.93**	**304**	P		**P**	**16 12 36.5**	**+1.6**
LPAZ	**La Paz**	**50.93**	**304**	P		**P**	**16 12 36.5**	**+1.6**
3.8nm,0.6s,mb4.5,baz=102,slow=7.0,SNR=19								
ATAH	**Atahualpa**	**63.87**	**299**	P		**P**	**16 14 06.3**	**+0.2**
4.9nm,0.8s,mb4.6,baz=66,slow=8.5,SNR=3.9								
DBIC	**Dimbokro**	**65.15**	**24**	P		**P**	**16 14 14.2**	**-0.2**
5.7nm,0.6s,mb4.8,baz=172,slow=8.6,SNR=9.4								
TORD	**Torodi Ar. Bea**	**72.99**	**29**	P		**P**	**16 15 02.8**	**-0.2**
13nm,0.7s,mb5.0,baz=200,slow=6.4,SNR=100								
MDT	**Midelt**	**90.62**	**18**	P		**P**	**16 16 37.7**	**+2.5**
3.1nm,0.7s,mb4.7,baz=225,slow=6.2,SNR=5.7								
KEST	**Kesra**	**96.51**	**28**	LR		LR	16 56 42.4	
comp=Z,31nm,19.1s,MS3.8,baz=257,slow=33								
ASAR	**Alice Springs**	**98.63**	**162**	P		**P**	**16 17 11.2**	**-1.1**
0.7nm,0.9s,mb4.2,baz=191,slow=3.6,SNR=12								
WRA	**Warramunga Arr**	**102.34**	**161**	P		Pdif	16 17 28.4	-0.5
0.6nm,0.9s,baz=198,slow=4.0,SNR=3.5								
NOA	**NORSAR Array B**	**120.62**	**20**	PKP		PKPdf	16 22 22.4	-1.0
0.9nm,0.8s,baz=165,slow=5.1,SNR=3.2								
FINES	**FINESS Array B**	**124.33**	**27**	PKP		PKPdf	16 22 29.3	-1.2
2.5nm,0.7s,baz=169,slow=1.9,SNR=8.5								
AKTK	**Aktyubinsk**	**127.04**	**53**	PKP		PKPdf	16 22 35.8	-0.2
AKTO	**Aktyubinsk**	**127.04**	**53**	PKP		PKPdf	16 22 35.8	-0.2
0.5nm,0.5s,baz=332,slow=3.5,SNR=3.9								
ARCES	**ARCESS Array B**	**130.95**	**21**	PKP		PKPdf	16 22 42.5	-0.4
7.1nm,1.0s,baz=205,slow=2.3,SNR=13								
YKA	**Yellowknife Ar**	**136.68**	**317**	PKP		PKPdf	16 22 53.6	-0.2
1.0nm,0.8s,baz=126,slow=2.2,SNR=8.0								
ZALV	**Zalesovo Beam**	**142.00**	**64**	PKP		PKPdf	16 23 04.4	+0.7
0.6nm,0.6s,baz=305,slow=5.1,SNR=3.3								
INK	**Inuvik**	**146.30**	**320**	*e*PKPdf		PKPdf	16 23 11.8	+1.0
DAWY	**Dawson**	**147.32**	**312**	*e*PKPdf		PKPdf	16 23 14.5	+1.9
SONM	**Songino Array**	**150.22**	**86**	PKPbc		PKPbc	16 23 22.9	-0.1
4.1nm,1.1s,baz=242,slow=2.8,SNR=18								
SONM				PKPab		PKPab	16 23 30.4	+0.9
0.9nm,0.7s,baz=225,slow=3.6,SNR=4.6								

IDC 15 16:18:26.3±3.9,683S×15511E,h0km,mb3.3/3,mb1 3.4/3, mb1mx3.3/12,mbtmp3.3/3,Error ellipse: s-maj=115.9km s-min=39.2km az=116.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.01**	**235**	P		P	16 23 44.0	+1.0
0.3nm,0.7s,baz=62,slow=9.7,SNR=5.4								
ASAR	**Alice Springs**	**26.37**	**228**	P		P	16 24 04.2	-0.2
0.3nm,0.6s,baz=60,slow=10.0,SNR=7.7								
MKAR	**Makanchi Array**	**83.36**	**319**	P		P	16 30 55.1	-0.3
0.2nm,0.3s,baz=104,slow=6.1,SNR=4.1								

*CSEM **15** 16:19:39.4±0.8,3573N×2192E,h2km,ML3.7,Error ellipse: s-maj=18.6km s-min=8.3km az=50.0*
*THE **15** 16:19:39.2,3574N×2171E,h3km,ML3.7*
*ATH **15** 16:19:40.0,3582N×2183E,h31km±4km,MD3.4/4*
*NEIC **15** 16:19:40.0,3582N×2183E,h31km,MD3.4(ATH),After ATH.*
ISC 15 16:19:38.5±1.7,3571N±006×219E±01,h1km±10km,n10, σ0:98/17,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.11**	**58**	*e*Pn		**Pn**	**16 20 00.5**	**-0.6**
PYL	**PYLOS**	**1.19**	**355**	*e*Pg		**Pg**	**16 20 00.4**	**-0.9**
PYL				*e*Sg		**Sg**	**16 20 17.9**	**+1.1**
VLI	**Veliai**	**1.33**	**40**	*e*PN		**Pn**	**16 20 03.3**	**-0.9**
VLI				*e*SN		**Sn**	**16 20 20.8**	**-1.7**
ITM	**Ithomi**	**1.47**	**2**	*e*PN		**Pn**	**16 20 04.9**	**-1.2**
VLX	**Vlachokerasia**	**1.71**	**14**	*e*Pb		**Pn**	**16 20 09.0**	**-0.4**
VLX				*e*Sb		**Sb**	**16 20 33.2**	**+0.5**
VAM	**Vamos**	**1.92**	**98**	*e*PN		**Pn**	**16 20 13.7**	**+1.4**
DID	**Didima**	**2.11**	**31**	*e*Pn		**Pn**	**16 20 15.4**	**+0.6**
DID				*e*Sn		**Sn**	**16 20 43.6**	**+1.9**
LTK	**Loutraki**	**2.47**	**21**	*e*Pn		**Pn**	**16 20 20.2**	**+0.3**
LTK				*e*Sn		**Sb**	**16 20 53.6**	**-1.1**
SELA	**Sela**	**2.56**	**0**	*e*Pn		**Pn**	**16 20 22.3**	**+1.1**
SELA				*e*Sn		**Sn**	**16 20 53.7**	**+0.7**
LKD	**Levkas**	**3.15**	**342**	*e*Pn		**Pn**	**16 20 29.0**	**-0.2**
LKD				*e*Sn		**Sn**	**16 21 06.9**	**-0.5**

*NEIC **15** 16:25:11.4,3875S×17529E,h217km,MG4.0(WEL),After WEL.*
WEL 15 16:25:11.2±0.4,3872S×17531E,h217km±3km,ML3.8/19, Error ellipse: s-maj=4.2km s-min=3.0km az=0.0,North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
TWVZ	**Taurewa**	**0.37**	**164**	P		Pn	16 25 39.9	+0.1
TWVZ	**Taurewa**	**0.37**	**164**	PN		Pn	16 25 39.9	0.0
KRVZ	**Karewarewa**	**0.46**	**146**	PN		Pn	16 25 40.4	+0.3
NGZ	**Ngauruhoe**	**0.51**	**154**	P		Pn	16 25 40.6	+0.3
NGZ	**Ngauruhoe**	**0.51**	**154**	PN		Pn	16 25 40.6	+0.3
WPVZ	**Whakapapa**	**0.52**	**159**	P		Pn	16 25 40.5	+0.2
WPVZ	**Whakapapa**	**0.52**	**159**	PN		Pn	16 25 40.5	+0.2
FWVZ	**Far West T-bar**	**0.57**	**161**	P		Pn	16 25 40.8	+0.3
FWVZ				S		S	16 26 02.9	-0.6
FWVZ	**Far West T-bar**	**0.57**	**161**	PN		Pn	16 25 40.8	+0.3
FWVZ				SN		S	16 26 02.9	-0.6
PKVZ	**Pokaka**	**0.57**	**177**	PN		Pn	16 25 40.5	0.0
VRZ	**Vera Road**	**0.59**	**226**	P		Pn	16 25 40.2	-0.4
VRZ	**Vera Road**	**0.59**	**226**	PN		Pn	16 25 40.2	-0.4
TRVZ	**Turoa**	**0.61**	**162**	PN		Pn	16 25 41.0	+0.4
TUVZ	**Tukino**	**0.61**	**154**	P		Pn	16 25 41.1	+0.4
TUVZ	**Tukino**	**0.61**	**154**	PN		Pn	16 25 41.1	+0.4
MTVZ	**Mangateitei**	**0.68**	**169**	PN		Pn	16 25 41.1	+0.2
MTVZ				SN		S	16 26 04.8	+0.4
MOVZ	**Moawhango**	**0.77**	**154**	P		Pn	16 25 41.2	-0.2
MOVZ	**Moawhango**	**0.77**	**154**	PN		Pn	16 25 41.2	-0.1
RAEZ	**Rainy Point**	**0.91**	**231**	P		Pn	16 25 41.8	-0.4
RAEZ	**Rainy Point**	**0.91**	**231**	PN		Pn	16 25 41.8	-0.3
BKZ	**Black Stump Fm**	**1.03**	**116**	P		Pn	16 25 42.9	0.0
BKZ				S		S	16 26 06.1	-1.5
BKZ	**Black Stump Fm**	**1.03**	**116**	PN		Pn	16 25 42.9	0.0
BKZ				SN		S	16 26 06.1	-1.5
WAZ	**Wanganui**	**1.07**	**194**	P		Pn	16 25 43.1	0.0
WAZ	**Wanganui**	**1.07**	**194**	PN		Pn	16 25 43.1	0.0
NEZ	**North Egmont**	**1.09**	**239**	P		Pn	16 25 43.2	-0.1
NEZ	**North Egmont**	**1.09**	**239**	PN		Pn	16 25 43.2	-0.1
PKE	**Pukeiti**	**1.14**	**245**	P		Pn	16 25 43.3	-0.3
PKE	**Pukeiti**	**1.14**	**245**	PN		Pn	16 25 43.3	-0.3
NWEZ	**Newall Road**	**1.25**	**243**	P		Pn	16 25 44.2	-0.2
NWEZ	**Newall Road**	**1.25**	**243**	PN		Pn	16 25 44.2	-0.2
TSZ	**Takapari Road**	**1.43**	**160**	P		Pn	16 25 45.7	-0.1
TSZ	**Takapari Road**	**1.43**	**160**	PN		Pn	16 25 45.7	-0.1
URZ	**Urewera**	**1.48**	**73**	P		Pn	16 25 45.5	-0.8
URZ	**Urewera**	**1.48**	**73**	PN		Pn	16 25 45.5	-0.8
WPHZ	**Waipukurau**	**1.61**	**147**	PN		Pn	16 25 47.4	+0.1
WPH

CRLZ	Canterbury Las	5.26 202	PN	Pn	16 26 25.6	-3.6
MQZ	McQueen's Vall	5.37 201	P	Pn	16 26 26.3	-4.3
MQZ	McQueen's Vall	5.37 201	PN	Pn	16 26 26.3	-4.3
WVZ	Waitaha Valley	5.56 217	P	Pn	16 26 29.4	-3.6
WVZ	Waitaha Valley	5.56 217	PN	Pn	16 26 29.4	-3.7
RPZ	Rata Peaks	5.94 211	P	Pn	16 26 33.6	-4.1
RPZ	Rata Peaks	5.94 211	PN	Pn	16 26 33.6	-4.2
FOZ	Fox Glacier	6.44 219	P	Pn	16 26 38.5	-5.7
FOZ	Fox Glacier	6.44 219	PN	Pn	16 26 38.5	-5.7
ODZ	Otahua Downs	7.22 207	P	Pn	16 26 50.7	-3.5
ODZ	Otahua Downs	7.22 207	PN	Pn	16 26 50.7	-3.5

IDC ***15*** *16:29:28.9±3.2, 3060N×14143E, h0km, mb3.8/5, mb1 3.9/8, mb1mx3.7/21, mbtmp3.9/8, ML3.4/3, Error ellipse: s-maj=132.9km s-min=15.2km az=71.0*
ISCJB ***15*** *16:29:29.6±1.0, 3100N±005×1423E±01, h46km±12km, mb4.0/6, Error ellipse: s-maj=16.5km s-min=6.9km az=160.7*
NEIC ***15*** *16:29:30.6±1.6, 3093N×14258E, h39km±18km, mb4.2/1, Error ellipse: s-maj=31.2km s-min=13.5km az=69.0*
JMA ***15*** *16:29:31.5±0.4, 3130N×142.16E, h0km, M4.3*
ISC 15 16:29:31.1±0.9, 3093N±005×1423E±01, h35km±11km, n24, σ1§06/41, mb4.0/6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	3.02 317		P	Pn	16 30 16.8	+0.4
JHJ2				eS	Sn	16 30 50.6	-0.7
JHJ	Hachijo jima 2	3.04 316		Pn	Pn	16 30 15.4	-1.3
	6.4nm,0.3s,baz=246,slow=20,SNR=8.1						
JHJ				Sn	Sn	16 30 50.0	-1.9
	28nm,0.3s,baz=56,slow=23,SNR=7.3						
CBIJ	Chichi jima	3.83 181		Pn	Pn	16 30 25.9	-1.7
	4.4nm,0.3s,baz=245,slow=19,SNR=6.9						
CBIJ				Sn	Sn	16 31 05.0	-6.2
	17nm,0.3s,baz=244,slow=22,SNR=8.2						
BSO1	Boso 1	3.87 344		P	Pn	16 30 29.3	+1.2
BSO1				eS	Sn	16 31 12.3	0.0
BSO3	Boso 3	4.13 339		P	Pn	16 30 32.5	+0.7
BSO3				eS	Sn	16 31 18.5	-0.4
JOD2	Odawara 2	5.08 329		P	Pn	16 30 47.0	+2.2
JOD2				S	Sn	16 31 42.5	+0.3
JHU	Hanno	5.51 334		P	Pn	16 30 51.7	+1.1
JHU				eS	Sn	16 31 52.0	-0.7
JYT	Yasato	5.56 342		P	Pn	16 30 52.5	+1.2
JYT				eS	Sn	16 31 54.3	+0.3
JRY	Ryogami san	5.80 332		P	Pn	16 30 56.0	+1.3
JRY				S	Sn	16 32 00.5	+0.5
JHO	Hitachi	5.84 346		P	Pn	16 30 55.1	-0.1
JHO				S	Sn	16 31 58.9	-2.0
JAG	Ashikaga	5.96 337		P	Pn	16 30 56.4	-0.5
JAG				eS	Sn	16 32 01.8	-2.1
JKT	Katashina	6.34 337		P	Pn	16 31 02.3	+0.2
JKT				eS	Sn	16 32 12.4	-0.8
JFK	Kawauchi	6.52 350		P	Pn	16 31 03.6	-0.9
JFK				eS	Sn	16 32 13.9	-3.8
MJAR	Matsushiro Arr	6.54 330		Pn	Pn	16 31 05.9	+1.1
	2.6nm,0.3s,baz=153,slow=11,SNR=32						
MJAR				Sn	Sn	16 32 19.8	+1.7
	0.9nm,0.3s,baz=178,slow=25,SNR=5.1						
MAJO	Matsushiro	6.54 330		eP	Pn	16 31 06.2	+1.4
	10.0nm,0.5s						
MAT	Matsushiro	6.54 330		P	Pn	16 31 05.7	+0.9
MAT				eS	Sn	16 32 17.6	-0.6
JMK	Ichinoseki	8.05 354		P	Pn	16 31 24.9	-0.6
JMK				S	Sn	16 32 49.7	-5.5
ERM	Erimo	11.08	3	P	Pn	16 32 06.3	-0.7
ERM				eS	Sn	16 34 02.6	-7.1
SONM	Songino Array	32.11 312		P	P	16 35 56.4	+1.6
	1.0nm,0.8s,mb3.7,baz=111,slow=8.6,SNR=8.7						
MKAR	Makanchi Array	48.17 307		P	P	16 38 08.4	+0.6
	0.8nm,0.4s,mb4.1,baz=84,slow=8.8,SNR=3.2						
WRAB	Tennant Creek	51.14 190		eP	P	16 38 30.0	-0.6
	1.2nm,0.4s,mb4.2						
WRA	Warramunga Arr	51.15 190		P	P	16 38 30.1	-0.6
	1.1nm,0.4s,mb4.2,baz=5.1,slow=7.5,SNR=48						
ASAR	Alice Springs	54.88 189		P	P	16 38 57.8	-0.3
	0.3nm,0.4s,mb3.7,baz=4.5,slow=6.1,SNR=24						
BVAR	Borovoye Array	55.32 316		P	P	16 39 01.1	0.0
	0.8nm,0.6s,mb3.9,baz=86,slow=6.4,SNR=4.2						

MOS ***15*** *16:32:14.0±2.4, 5377N×8838E, h10km, mb4.2/2, Error ellipse: s-maj=30.2km s-min=21.8km az=1.1*
ISCJB ***15*** *16:32:17.7±0.7, 5409N±008×8848E±009, h33km, mb4.0/2, Error ellipse: s-maj=12.3km s-min=6.2km az=156.9*
NNC ***15*** *16:32:23.5±5.4, 5381N×8772E, h0km, mb3.4, mpv3.0, Error ellipse: s-maj=42.5km s-min=27.6km az=62.0*
ISC 15 16:32:20.6±0.7, 5419N±008×8849E±009, h35km, n14, σ1§35/20, mb4.0/2, 10C-10D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NVS	Novosibirsk	3.13 284		ePN	Pn	16 33 10.0	+2.6
NVS				e		16 33 47.8	
KURK	Kurchatov	6.96 244		⇓Pn	Pn	16 34 01.2	+1.3
KURK				⇓Sn	Sn	16 35 18.9	+1.2
	4.2nm,0.9s						
KURK				⇓Lg		16 35 49.3	
	20nm,0.9s						
KURK	Kurchatov	6.96 244	⇑	ePN	Pn	16 33 54.4	-5.5
KURBB	Kurchatov Arra	7.06 244		⇓Pn	Pn	16 34 01.3	0.0
	0.4nm,0.3s						
KURBB				⇓Sn	Sn	16 35 19.4	-0.8
	1.0nm,0.4s						
KURBB				⇑Lg		16 35 51.4	
	5.0nm,0.7s						
MK31	Makanchi Array	8.39 211		Pn	Pn	16 34 22.0	+2.5
	0.2nm,0.2s,baz=30,slow=14,SNR=11						
MK31				⇓Sn	Sn	16 35 52.2	-0.6
	2.8nm,0.6s,baz=34,slow=27,SNR=4.7						
MK31				⇓Lg		16 36 31.1	
	6.3nm,0.7s,baz=30,slow=29,SNR=5.1						
TLY	Talaya	9.49	99	⇑eP	Pn	16 34 35.3	+0.7
TLY				pmax	pmax		
	comp=Z,1.0nm,1.0s						
VOSK	Vostochnaya	10.54 269		⇑Pn	Pn	16 34 46.8	-2.2
	comp=Z,1.9nm,1.4s						
VOSK				⇓Sn	Sn	16 36 39.6	-6.1
	comp=Z,2.6nm,0.7s						
BVA0	Borovoye Array	10.82 271		⇑Pn	Pn	16 34 53.6	+0.8
	comp=Z,0.1nm,0.6s						
BVA0				⇓Sn	Sn	16 36 44.3	-8.1
	comp=Z,0.3nm,0.4s,baz=76,slow=25,SNR=8.4						
BRVK	Borovoye	10.87 271		⇑eP	Pn	16 34 49.8	-3.7
ZRNK	Zerenda	11.65 272		⇓Pn	Pn	16 35 04.9	+0.8
	comp=Z,2.8nm,1.4s						
ZRNK				⇑Sn	Sn	16 37 06.9	-5.9
	comp=Z,1.2nm,0.7s						
ULN	Ulaanbaatar	13.27 111		⇑eP	Pn	16 35 24.3	-2.0
TIXI	Tiksi	24.61	30	⇑eP	P	16 37 37.7	+0.7
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.0s,mb3.8						
KIV	Kislovodsk	31.18 270		eP	P	16 38 34.7	-1.3
KIV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
SEY	Seymchan	33.10	49	⇑eP	P	16 38 52.8	+0.2

ISCJB ***15*** *16:50:30.4±0.6, 5138N±003×1609E±003, h0km, Error ellipse: s-maj=4.6km s-min=2.5km az=11.5*
IPEC ***15*** *16:50:30.2±0.4, 5151N×8621E, h1km±1km, ML2.2/4, Error ellipse: s-maj=2.4km s-min=1.5km az=29.0*
CSEM ***15*** *16:50:31.8±0.2, 5146N×1610E, h1km, ML3.2/9, Error ellipse: s-maj=3.6km s-min=1.7km az=22.0*
WAR ***15*** *16:50:31.9, 5148N×1611E, ML2.6, Mining Induced*
PRU ***15*** *16:50:32.7, 5141N×1608E, h0km*
NEIC ***15*** *16:50:33.1±1.1, 5135N×1597E, h5km, ML2.7(SZGRF), Error ellipse: s-maj=12.8km s-min=5.2km az=203.0*
VIE ***15*** *16:50:34.3±0.3, 5121N×1629E, h0km, mb2.2/4, ML2.7/4, Error ellipse: s-maj=2.5km s-min=2.1km az=99.0, Suspected Mining induced.*
ISC 15 16:50:31.2±0.6, 5144N±003×1611E±003, h0km, n30, σ0§86/66, 3C-3D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.61 169		ePg	Pg	16 50 43.7	+0.8
KSP				eSg	Sg	16 50 52.2	+1.5
KSP	Ksiaz	0.61 169		⇓iPg	Pg	16 50 43.7	+0.8
KSP				eSg	Sg	16 50 52.0	+1.2
KSP	Ksiaz	0.61 169		⇓iPg	Pg	16 50 43.7	+0.8
KSP				eSg	Sg	16 50 51.1	+0.3
UPC	Upice	0.94 184		ePg	Pg	16 50 49.6	+0.5
DPC	Dobruska-Polom	1.10 173		ePg	Pg	16 50 52.5	+0.2
DPC				eSg	Sg	16 51 06.7	+0.2
DPC	Dobruska-Polom	1.10 173		ePG	Pg	16 50 52.5	+0.2
DPC				eSG	Sg	16 51 07.0	+0.5
	comp=Z,28nm,0.6s						
PVCC	Panska Ves	1.33 227		ePg	Pg	16 50 56.8	0.0
PVCC				eSg	Sg	16 51 14.8	+0.7
BRG	Berggiesshubel	1.48 248		PG	Pg	16 50 59.4	-0.1
BRG				SG	Sg	16 51 19.7	+1.0
	comp=Z,56nm,0.3s						
PRU	Pruhonice	1.76 215		ePg	Pg	16 51 04.1	-0.9
PRU				eSg	Sg	16 51 27.7	-0.1
PRU	Pruhonice	1.76 215		ePN	Pn	16 51 02.1	-0.9
PRU				ePG	Pg	16 51 04.1	-0.9
PRU				ex	x	16 51 08.7	
PRU				ex	x	16 51 20.8	
PRU				eSG	Sg	16 51 27.7	-0.1
	comp=Z,23nm,0.5s						
MORC	Moravsky Berou	1.90 151		ePn	Pn	16 51 04.2	-0.6
MORC				eSg	Sg	16 51 30.4	-1.8
	comp=Z,16nm,0.3s						
CLL	Collm	1.95 267		ePg	Pg	16 51 08.0	-0.6
CLL				i x	x	16 51 11.6	
CLL				i x	x	16 51 22.2	
CLL				eSg	Sg	16 51 33.0	-0.9
	comp=Z,16nm,0.4s						
OKC	Ostrava-Krasne	2.06 140		ePg	Pg	16 51 10.8	0.0
OKC				eSg	Sg	16 51 36.3	-1.2
	comp=Z,27nm,0.6s						
OKC	Ostrava-Krasne	2.06 140		ePN	Pn	16 51 08.9	+1.8
OKC				ePG	Pg	16 51 10.8	0.0
OKC				eSG	Sg	16 51 36.3	-1.2
	comp=Z,27nm,0.6s						
VRAC	Vranov	2.16 172		ePn	Pn	16 51 08.1	-0.3
VRAC				eSg	Sg	16 51 39.7	-0.8
	comp=Z,11nm,0.2s						
KRUC	Moravsky	2.39 175		ePn	Pn	16 51 11.2	-0.4
KRUC				eSg	Sg	16 51 47.0	-0.9
	comp=Z,6.8nm,0.2s						
NKC	Novy Kostel	2.62 244		ePg	Pg	16 51 21.0	-0.4
NKC				eSg	Sg	16 51 55.9	+0.7
	comp=Z,37nm,0.5s						
NKC	Novy Kostel	2.62 244		ePN	Pn	16 51 14.9	+0.2
NKC				ePG	Pg	16 51 21.0	-0.4
NKC				eSG	Sg	16 51 55.9	+0.7
	comp=Z,37nm,0.5s						
OJC	Ojcow	2.64 116		ePg	Pg	16 51 21.4	-0.4
OJC				eSg	Sg	16 51 56.7	+0.7
JAVC	Velka Javorina	2.77 158		ePn	Pn	16 51 17.7	+0.9
JAVC				eSg	Sg	16 52 00.2	0.0
	comp=Z,16nm,0.9s						
KHC	Kasperske Hory	2.82 216		ePg	Pg	16 51 23.7	-1.6
KHC				eSn	Sn	16 51 52.5	+0.2
KHC				eSg	Sg	16 52 01.8	-0.1
	comp=Z,12nm,0.4s						
KHC	Kasperske Hory	2.82 216		ePN	Pn	16 51 17.9	+0.3
KHC				ePG	Pg	16 51 23.7	-1.6
KHC				eSN	Sn	16 51 52.5	+0.2
KHC				eSG	Sg	16 52 01.8	-0.1
	comp=Z,12nm,0.4s						
MOX	Moxa	2.94 256		ePG	Pg	16 51 26.8	-0.9
MOX				eSG	Sg	16 52 06.7	+0.9
WET	Wettzell	3.09 223		ePn	Pn	16 51 21.2	-0.1
WET				eSg	Sg	16 52 10.4	-0.2
MODS	Modra-Piesok	3.16 166		ePG	Pg	16 51 30.9	-0.9
MODS				eSG	Sg	16 52 14.4	+1.7
CONA	Conrad Observa	3.52 183		⇓iPn	Pn	16 51 27.4	+0.3
CONA				⇑iSg	Sg	16 52 23.2	-1.1
	comp=Z,9.0nm,0.3s						
MOA	Molln	3.79 199		⇑iPn	Pn	16 51 31.4	+0.6
MOA				⇑iSg	Sg	16 52 33.9	+1.0
	comp=Z,7.1nm,0.5s						
STHS	Stebnicka Huta	3.86 120		ePN	Pn	16 51 33.4	+1.6
STHS				ePG	Pg	16 51 45.5	+0.4
STHS				eSG	Sg	16 52 39.0	+3.9
CRVS	Cervenica-Dubn	4.28 124		ePG	Pg	16 51 51.2	-1.9
CRVS				eSG	Sg	16 52 49.0	+0.5
CRVS	Cervenica-Dubn	4.28 124		ePg	Pg	16 51 51.3	-1.9
CRVS				eSg	Sg	16 52 49.0	+0.5

IDC ***15*** *17:02:18.4±1.5, 1154S×11843E, h0km, mb3.5/3, mb1 3.6/7, mb1mx3.6/15, mbtmp3.5/7, ML3.5/4, Error ellipse: s-maj=47.1km s-min=20.2km az=40.0*
ISCJB ***15*** *17:02:19.5±3.2, 1157S±008×11847E±008, h22km±24km, mb3.7/4, Error ellipse: s-maj=13.6km s-min=11.7km az=35.7*
NEIC ***15*** *17:02:24.0±0.7, 1141S×11869E, h35km, Error ellipse: s-maj=25.8km s-min=10.5km az=53.0*
ISC 15 17:02:26.0±1.5, 1175S±007×11862E±009, h66km±14km, n13, σ1§21/20, mb3.6/4, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.18	73	Pn	Pn	17 03 39.4	-1.6
	4.0nm,0.3s,baz=287,slow=7.0,SNR=16						
BATI				Sn	Sn	17 04 40.3	+0.8
	4.1nm,0.3s,baz=86,slow=23,SNR=6.4						
FITZ	Fitzroy Crossi	9.27 134		ePn	Pn	17 04 37.3	+0.3
FITZ				Sn	Sn	17 06 17.0	-2.7
FITZ	Fitzroy Crossi	9.27 134		Pn	Pn	17 04 37.4	+0.4
	0.3nm,0.3s,baz=285,slow=13,SNR=17						
FITZ				Sn	Sn	17 06 17.0	-2.7
	0.8nm,0.3s,baz=202,slow=21,SNR=9.0						
MBWA	Marble Bar	9.42 174		ePn	Pn	17 04 39.1	+0.1
WRA	Warramunga Arr	17.17 120		P	Pn	17 06 21.7	+0.1
WRA				S	S	17 09 22.9	-15
WRA	Warramunga Arr	17.17 120		P	Pn	17 06 21.7	+0.1
	0.1nm,0.3s,baz=287,slow=14,SNR=10.0						
WRA				S	S	17 09 22.9	-15
	0.1nm,0.3s,baz=289,slow=26,SNR=4.5						
WRAB	Tennant Creek	17.17 120		ePn	Pn	17 06 23.6	+2.0
ASAR	Alice Springs	18.75 131		P	Pn	17 06 43.1	+2.3
	0.2nm,0.3s,baz=306,slow=11,SNR=23						
ASAR				S	S	17 10 09.2	-0.5
	0.1nm,0.3s,baz=302,slow=23,SNR=6.5						
NWAO	Narrogin (SRO)	21.12 183		P	P	17 07 09.5	+4.2
NWAO				Pn	P	17 07 09.9	+4.6
NWAO	Narrogin (SRO)	21.12 183		P	P	17 07 09.5	+4.2
	13nm,1.1s,mb4.2,baz=22,slow=16,SNR=3.4						
SONM	Songino Array	60.30 351		P	P	17 12 27.6	0.0
	0.1nm,0.4s,mb3.2,baz=179,slow=7.9,SNR=2.6						
MKAR	Makanchi Array	66.73 334		P	P	17 13 09.4	-0.6
	0.4nm,0.5s,mb3.5,baz=152,slow=6.9,SNR=5.1						
ZALV	Zalesovo Beam	71.46 340		P	P	17 13 38.8	-0.4
	0.4nm,0.4s,mb3.6,baz=130,slow=6.2,SNR=2.8						

IDC ***15*** *17:21:36.4±0.9, 2049N×122.17E, h0km, mb3.5/7, mb1 3.7/9, mb1mx3.6/21, mbtmp3.6/9, ML3.8/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/23, Error ellipse: s-maj=37.5km s-min=17.4km az=71.0*
NEIC ***15*** *17:21:37.9±0.6, 2050N×122.11E, h10km, Error ellipse: s-maj=18.7km s-min=10.4km az=79.0*
ISCJB ***15*** *17:21:40.8±0.8, 2062N±005×1222E±0.1, h42km±11km, mb3.4/7, Error ellipse: s-maj=22.1km s-min=8.3km az=3.3*
MAN ***15*** *17:21:43, 2043N×12158E, h56km, mb5.2, ML4.2, MS4.4*
ISC 15 17:21:42.4±0.8, 2061N±005×1222E±01, h40km±11km, n17, σ0§96/17, mb3.4/7, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	2.86 198		eP	Pn	17 22 24.1	-1.5
CVP	Callao Caves	2.91 186		eP	Pn	17 22 26.4	+0.2
ABRA	Dolores	3.24 205		eP	Pn	17 22 30.6	-0.2
PALP	Palanan	3.54 176		eP	Pn	17 22 36.6	+1.7
NACB	Ninganchiao	3.59 352		ePn	Pn	17 22 34.5	-1.1
CAUP	Cauayan	3.66 185		eP	Pn	17 22 37.5	+1.0
YHNB	Yeheng	4.11 350		ePn	Pn	17 22 41.8	-0.9
JOW	Kunigami	8.36	41	Pn	Pn	17 23 41.5	+0.4
	3.2nm,0.3s,baz=123,slow=20,SNR=12						
KSRS	Korea Array	17.52	15	P	Pn	17 25 44.5	+0.9
	0.2nm,0.3s,baz=207,slow=13,SNR=5.8						
SONM	Songino Array	30.00 339		P	P	17 27 47.2	+0.1
	0.2nm,0.4s,mb3.2,baz=165,slow=6.0,SNR=2.5						
MKAR	Makanchi Array	41.55 318		P	P	17 29 27.3	+1.2
MKAR	Makanchi Array	41.55 318		P	P	17 29 27.3	+1.2
	0.6nm,0.5s,mb3.5,baz=111,slow=9.4,SNR=8.0						
WRA	Warramunga Arr	42.03 163		P	P	17 29 29.1	-1.1
	0.3nm,0.5s,mb3.2,baz=344,slow=9.1,SNR=12						
ZALV	Zalesovo Beam	43.73 329		P	P	17 29 43.5	-0.1
	1.8nm,0.5s,mb4.0,baz=114,slow=8.1,SNR=7.8						
ASAR	Alice Springs	45.47 165		P	P	17 29 56.5	-1.2
	0.2nm,0.5s,mb3.2,baz=346,slow=6.9,SNR=9.5						
BVAR	Borovoye Array	51.02 322		P	P	17 30 41.5	+1.2
	0.2nm,0.5s,mb3.3,baz=97,slow=5.8,SNR=2.8						
YKA	Yellowknife Ar	85.91	23	P	P	17 34 17.4	-0.5
	0.2nm,0.6s,mb3.5,baz=307,slow=4.8,SNR=3.3						

NIED ***15*** *17:22:00.2080N×12230E, h59km, Mw4.1 Best double couple: M0:1.76000×10^15 NP1:φ0=356.00000°, δ78.00000°, λ161.00000°. NP2:φ0=90.00000°, δ72.00000°, λ13.00000°.*
IDC ***15*** *17:22:06.6±0.9, 2049N×12188E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.9/22, mbtmp3.9/12, ML3.8/3, MS3.6/1, Ms1 3.6/1, ms1mx2.6/33, Error ellipse: s-maj=28.5km s-min=17.8km az=74.0*
NEIC ***15*** *17:22:08.1±0.5, 2052N×12191E, h10km, mb4.2/1, Error ellipse: s-maj=11.3km s-min=9.1km az=91.0*
JMA ***15*** *17:22:10.7±0.5, 2078N×12233E, h0km, M4.1*
ISCJB ***15*** *17:22:11.6±0.8, 2064N±005×122.13E±009, h50km±9km, mb3.9/9, Error ellipse: s-maj=15.3km s-min=6.1km az=22.3*
ISC 15 17:22:13.0±0.8, 2063N±005×12209E±009, h45km±9km, n27, σ0§78/33, mb3.9/9, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	Conner	2.87 196		eS	Pn	17 22 56.1	-0.2
ABRA	Dolores	3.24 204		eS	Pn	17 23 01.9	+0.6
NACB	Ninganchiao	3.56 353		ePn	Pn	17 23 04.7	-1.0
PALP	Palanan	3.56 175		eS	Sn	17 23 52.0	+5.3
HATJ	Hateruma jima	3.76 25		P	Pn	17 23 08.2	-0.4
HATJ				S	Sn	17 23 51.5	-0.1
YOJ	Yonaguni jima	3.91 12		P	Pn	17 23 11.5	+1.0
YOJ				S	Sn	17 23 55.2	0.0
IRIF	Iriomote-Funau	3.99 22		P	Pn	17 23 11.6	0.0
IRIF				S	Sn	17 23 56.9	-0.2
JKRS	Kuro-shima	4.01 26		P	Pn	17 23 11.9	0.0
JKRS				S	Sn	17 23 57.1	-0.5
JIJ	Ishigaki jima	4.17 27		P	Pn	17 23 13.6	-0.6
JIJ				S	Sn	17 24 01.3	-0.4
JTJ	Tarama	4.67 31		S	Sn	17 24 14.5	+0.7
JOGS	Gusukube	5.13 36		P	Pn	17 23 28.2	+0.9
JOW	Kunigami	8.38 41		Pn	Pn	17 24 11.9	0.0
	6.0nm,0.3s,baz=211,slow=14,SNR=10						
JOW				Sn	Sn	17 25 44.0	-1.3
	0.3nm,0.3s,baz=133,slow=19,SNR=1.8						
JNU	Nakatsue	14.70 30		Pn	Pn	17 25 38.3	+0.2
	0.2nm,0.3s,baz=90,slow=8.2,SNR=3.3						
KSRS	Korea Array	17.52 16		P	Pn	17 26 16.3	+2.4
	0.1nm,0.3s,baz=199,slow=10,SNR=4.3						
MJAR	Matsushiro Arr	21.20 38		P	P	17 26 57.4	+2.5
	2.5nm,0.9s,baz=230,slow=8.3,SNR=4.4						
ULN	Ulaanbaatar	29.76 339		P	P	17 28 14.5	-0.7
SONM	Songino Array	29.96 339		P	P	17 28 17.4	+0.5
	0.6nm,0.5s,mb3.6,baz=152,slow=8.9,SNR=4.4						
MKAR	Makanchi Array	41.50 318		P	P	17 29 56.2	+0.6
	2.4nm,0.7s,mb3.9,baz=113,slow=9.6,SNR=11						
WRA	Warramunga Arr	42.07 163		P	P	17 29 59.7	-0.9
	0.7nm,0.5s,mb3.6,baz=343,slow=9.1,SNR=7.4						
ZAA0	Zalesovo Array	43.69 329		eP	P	17 30 13.2	-0.1
ZALV	Zalesovo Beam	43.69 329		P	P	17 30 13.2	-0.1
	5.1nm,0.6s,mb4.4,baz=116,slow=7.8,SNR=18						
KURK	Kurchatov	45.37 322		eP	P	17 30 26.8	0.0
	2.4nm,0.9s,mb4.0						
ASAR	Alice Springs	45.51 165		P	P	17 30 27.7	-0.5
	0.3nm,0.4s,mb3.6,baz=346,slow=6.7,SNR=7.1						
BVAR	Borovoye Array	50.96 322		P	P	17 31 09.5	-0.4
	1.0nm,0.6s,mb3.8,baz=119,slow=12,SNR=4.7						
AKASG	Malin Array Be	76.08 319		P	P	17 33 54.8	-1.0
	0.4nm,0.4s,mb3.7,baz=62,slow=5.7,SNR=4.4						
YKA	Yellowknife Ar	85.91	23	P	P	17 34 48.5	+0.6
YKA	Yellowknife Ar	85.91	23	P	P	17 34 48.5	+0.6
	0.7nm,0.7s,mb4.0,baz=310,slow=4.6,SNR=9.5						

MOS ***15*** *17:22:47.2±0.7, 3964N×3935E, h27km, mb4.5/1, Error ellipse: s-maj=62.0km s-min=12.5km az=110.0*
DDA ***15*** *17:23:03.8, 4147N×3882E, h25km, Md3.0*
ISCJB ***15*** *17:23:06.6±0.7, 4129N±004×3892E±004, h7km±6km, Error ellipse: s-maj=6.3km s-min=4.1km az=22.6*
CSEM ***15*** *17:23:06.7±0.1, 4129N×3893E, h8km, MD3.3, Error ellipse: s-maj=2.8km s-min=1.8km az=29.0*
ISK ***15*** *17:23:07.9, 4119N×3895E, h12km, MD3.3*
ISC 15 17:23:07.8±0.7, 4126N±004×3894E±004, h7km±5km, n39, σ0§97/51, 2C-4D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESPY	Espiye-Giresun	0.38 205		PG	Pg	17 23 15.4	+0.2
ESPY				SG	Sg	17 23 19.5	-0.6
KTUT	Trabzon	0.68 113		PG	Pg	17 23 21.1	+0.1
KTUT				SG	Sg	17 23 30.6	+0.8
MACK	Trabzon	0.70 117		i P	Pg	17 23 22.1	+0.7
MACK				i S	Sg	17 23 32.1	+1.6
MACK				eS	Sg	17 23 32.1	+1.7
MACK	Trabzon	0.70 117		i P	Pg	17 23 22.0	+0.7
MACK				i S	Sg	17 23 32.1	+1.6
GUMT	Gumushane	0.90 153		ePG	Pg	17 23 23.3	-1.8
PZAR	Pazar-Rize	1.48 93		ePN	Pn	17 23 34.1	-0.8
EZC	Erzincan	1.65 156		ePN	Pn	17 23 34.5	-2.7
KOPT	Kop Dagi	1.72 136		i P	Pn	17 23 38.7	+0.7
KOPT				i S	Sn	17 24 01.2	+0.9
KOPT				i S	Sn	17 24 01.3	+1.1
KOPT	Kop Dagi	1.72 136		i P	Pn	17 23 38.7	+0.6
KOPT				i S	Sn	17 24 01.2	+1.0
SVSK	Karacayir	2.00 228		ePN	Pn	17 23 42.0	+0.1
BCA	Borcka	2.03 84		eP

MLR	**Muntele Rosu**	**10.36 298**	⇓*i*P	**Pn**	**17 25 37.8 +1.1**
VOIR		**10.94 297**	⇑*i*P	**Pn**	**17 25 42.9 -1.8**
BURAR	**Bucovina Array**	**11.68 308**	⇓*i*P	**Pn**	**17 25 52.5 -2.3**

IDC ***15*** *17:24:37.8±1.0, 3422N×8163E, h0km, mb3.6/7, mb1 3.8/9, mb1mx3.7/24, mbtmp3.7/9, ML3.6/2, MS3.8/3, Ms1 3.8/3, ms1mx2.9/34, Error ellipse: s-maj=30.6km s-min=20.1km az=60.0*
ISCJB ***15*** *17:24:39.8±4.2, 342N±01×817E±02, h25km±31km, mb3.5/6, MS3.9/3, Error ellipse: s-maj=27.8km s-min=12.1km az=44.9*
NEIC ***15*** *17:24:44.0±1.8, 3423N×8176E, h45km±17km, mb3.9/2, Error ellipse: s-maj=25.6km s-min=11.8km az=48.0*
ISC 15 17:24:44.6±1.6, 343N±01×818E±02, h48km±15km, n20, σ1°29/18, mb3.5/6, MS3.9/3, Xizang

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**9.14**	**117**	P		**Pn**		**17 26 53.0**	**-0.8**
UCH	**Uchtor**	**9.80**	**326**	*e*P		**Pn**		**17 27 03.3**	**+0.4**
	3.4nm,0.9s								
TKM2	**Tokmak 2**	**9.92**	**332**	*e*P		**Pn**		**17 27 06.0**	**+1.6**
	3.9nm,1.0s								
MKAR	**Makanchi Array**	**12.52**	**2**	Pn		**Pn**		**17 27 38.7**	**-1.3**
MKAR	**Makanchi Array**	**12.52**	**2**	Pn		**Pn**		**17 27 38.7**	**-1.3**
	0.3nm,0.3s,baz=181,slow=13,SNR=18								
KURK	**Kurchatov**	**16.61**	**353**	*e*P		**Pn**		**17 28 35.8**	**+1.9**
	7.8nm,0.9s								
ZALV	**Zalesovo Beam**	**19.80**	**5**	P		**Pn**		**17 29 10.2**	**-2.4**
	0.2nm,0.3s,baz=194,slow=11,SNR=5.8								
BVAR	**Borovoye Array**	**20.45**	**340**	P		**P**		**17 29 17.7**	**-0.1**
	4.2nm,0.8s,baz=141,slow=9.6,SNR=22								
BRVK	**Borovoye**	**20.51**	**340**	*e*Pn		**P**		**17 29 19.0**	**+0.5**
	6.3nm,0.9s								
SONM	**Songino Array**	**22.84**	**46**	P		**P**		**17 29 44.5**	**+1.0**
	0.2nm,0.4s,mb2.9,baz=260,slow=8.9,SNR=3.8								
AKTK	**Aktyubinsk**	**23.73**	**320**	P		**P**		**17 29 49.2**	**-2.9**
AKTO	**Aktyubinsk**	**23.73**	**320**	P		**P**		**17 29 49.2**	**-2.9**
	1.2nm,0.6s,mb3.5,baz=104,slow=8.3,SNR=3.5								
CBIJ	**Chichi jima**	**51.76**	**81**	LR		LR		17 54 09.8	
	comp=Z,89nm,21.5s,MS3.8,baz=307,slow=34								
WRA	**Warramunga Arr**	**73.50**	**129**	P		**P**		**17 36 12.7**	**+0.4**
	0.4nm,0.6s,mb3.6,baz=328,slow=5.6,SNR=7.6								
TORD	**Torodi Ar. Bea**	**74.63**	**276**	P		**P**		**17 36 19.2**	**+0.1**
TORD	**Torodi Ar. Bea**	**74.63**	**276**	P		**P**		**17 36 19.3**	**+0.1**
	0.4nm,0.6s,mb3.6,baz=46,slow=4.8,SNR=7.3								
ASAR	**Alice Springs**	**75.94**	**132**	P		**P**		**17 36 27.2**	**+0.8**
	0.6nm,0.8s,mb3.6,baz=317,slow=6.3,SNR=7.7								
YKA	**Yellowknife Ar**	**82.68**	**8**	P		**P**		**17 37 02.9**	**+0.3**
YKA				LR		LR		18 14 47.7	
YKA	**Yellowknife Ar**	**82.68**	**8**	P		**P**		**17 37 02.9**	**+0.3**
	1.2nm,0.8s,mb4.0,baz=342,slow=5.1,SNR=14								
YKA				LR		LR		18 14 47.7	
	comp=Z,54nm,20.5s,MS3.9,baz=255,slow=36								
DBIC	**Dimbokro**	**83.55**	**274**	LR		LR		18 16 52.0	
	comp=Z,61nm,19.9s,MS4.0,baz=278,slow=38								

IDC 15 17:32:51.3±9.8, 3123S×17859W, h98km±95km, mb3.7/2, mb1 3.8/3, mb1mx3.5/13, mbtmp3.6/3, ML2.9/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/26, Error ellipse: s-maj=81.8km s-min=57.1km az=164.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**2.05**	**17**	LR		LR		17 33 55.8	
	comp=Z,1μm,19.7s,baz=89,slow=31								
URZ	**Urewera**	**7.86**	**206**	P		Pn		17 34 42.9	+0.1
URZ				S		Sn		17 36 10.4	+0.4
	1.3nm,0.3s,baz=157,slow=22,SNR=9.3								
URZ				LR		LR		17 37 25.9	
	comp=Z,81nm,19.7s,baz=292,slow=35								
ASAR	**Alice Springs**	**42.56**	**268**	P		P		17 40 37.6	0.0
	0.8nm,0.5s,baz=108,slow=7.3,SNR=21								
WB2	**Warramunga Arr**	**43.62**	**273**	*e*P		P		17 40 45.9	-0.3
WRA	**Warramunga Arr**	**43.63**	**273**	P		P		17 40 46.1	-0.1
	1.4nm,0.4s,baz=111,slow=8.1,SNR=41								
FINES	**FINESS Array B**	**145.74**	**339**	PKPbc		PKPbc		17 52 17.4	-0.8
	1.2nm,0.8s,baz=49,slow=6.3,SNR=4.2								

NIED ***15*** *17:42:00, 4740N×155.10E, h8km, Mw4.8 Best double couple: M0=1.99000×10^16 NP1:φ=223.00000°, δ=77.00000°, λ=-85.00000°. NP2:φ=22.00000°, δ=14.00000°, λ=-111.00000°.*
IDC ***15*** *17:42:39.1±0.4, 4680N×15557E, h0km, mb4.8/28, mb1 4.9/30, mb1mx4.9/32, mbtmp4.8/30, ML4.3/2, MS4.0/18, Ms1 4.0/18, ms1mx3.7/40, Error ellipse: s-maj=13.7km s-min=11.8km az=141.0*
BGS ***15*** *17:42:40.6±3.3, 4634N×15662E, h10km, mb5.3*
ISCJB ***15*** *17:42:40.7±0.1, 4663N±003×15544E±002, h20km, mb5.1/213, MS4.1/41, Error ellipse: s-maj=4.6km s-min=1.8km az=168.0*
SKHL ***15*** *17:42:40.9±0.4, 4690N×15555E, h65km±29km, mb5.3/4, Ms4.5/4, msh5.2/3*
NEIC ***15*** *17:42:41.2±0.2, 4682N×15545E, h10km, mb5.2/127, MS4.2/4, Error ellipse: s-maj=5.0km s-min=3.3km az=161.0*
BJI ***15*** *17:42:42.9, 4704N×15489E, h10km, mB4.9, mb5.0, Ms4.5, Msz4.3*
SZGRF ***15*** *17:42:42.9, 4626N×15458E, h20km, mb5.3, MS4.1, East of Kuril Islands, Russia*
MOS ***15*** *17:42:42.8±1.0, 4674N×15544E, h34km, mb5.5/84, MS4.2/16, Error ellipse: s-maj=7.1km s-min=4.3km az=108.9*
ISC 15 17:42:43.3±0.1, 4675N±003×15539E±002, h22km, h22km±1.0km: pP-P, n788, σ0°94/804, mb5.1/213, MS4.1/41, 104C-134D, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**3.96**	**7**	*e*P		**Pn**		**17 43 37.4**	**-5.3**
SKR						AMB	AMB	17 43 43.5	
	60nm,0.5s								
SKR						AMB	AMB	17 43 43.5	
	90nm,0.5s								
SKR					*i*	S	**Sn**	**17 44 19.5**	**-9.0**
SKR						A		17 44 23.4	
	1μm,0.2s								
SKR						A		17 44 23.4	
	3μm,0.2s								
SKR						A		17 44 23.4	
	350nm,0.5s								
SKR						A		17 44 30.0	
	2μm,2.0s								
SKR						AMS	AMS	17 45 14.0	
	2μm,14.0s								
SKR						AMS	AMS	17 45 14.0	
	5μm,14.0s								
SKR						AMS	AMS	17 45 14.0	
	5μm,14.0s								
SKR						AMS	AMS	17 45 14.0	
	2μm,14.0s								
SKR						AMS	AMS	17 45 14.0	
	2μm,12.0s								
KUR	**Kuril'sk**	**5.46**	**257**	*e*P		**Pn**		**17 44 00.5**	**-2.7**
KUR						AMB	AMB	17 44 01.5	
	189nm,0.7s								
KUR						AMB	AMB	17 44 01.5	
	190nm,0.7s								
KUR						AMB	AMB	17 44 01.5	
	1μm,0.7s								
KUR						A		17 45 04.8	
	3μm,0.8s								
KUR						A		17 45 04.8	
	860nm,0.8s								
KUR						A		17 45 05.0	
	4μm,1.8s								
PET	**Petropavlovsk**	**6.62**	**17**	*ce*PN		**Pn**		**17 44 14.4**	**-4.8**
PET	**Petropavlovsk**	**6.62**	**17**	*e*Pn		**Pn**		**17 44 14.8**	**-4.4**
	69nm,0.7s								
PET				*e*Sn		**Sn**		**17 45 20.1**	**-14**
YUK	**Yuzh-Kuril'sk**	**7.24**	**251**	*e*P		**Pn**		**17 44 28.0**	**+0.3**
YUK						AMB	AMB	17 44 28.8	
	770nm,0.5s								
YUK				*e*S		**Sn**		**17 45 47.0**	**-2.1**
YUK						A		17 45 52.7	
	3μm,1.0s								
YUK						A		17 45 52.7	
	2μm,0.7s								
YUK						A		17 45 53.2	
	3μm,1.0s								
YUK						A		17 45 53.2	
	3μm,1.0s								
NEM2	**Nemuro 2**	**7.62**	**247**	P		**Pn**		**17 44 31.4**	**-1.6**
NEM2				*e*S		**Sn**		**17 45 53.0**	**-5.6**
JRA	**Rausu**	**7.76**	**252**	P		**Pn**		**17 44 35.6**	**+0.7**
JRA				*e*S		**Sn**		**17 46 02.1**	**+0.1**
JNK	**Nakash**	**8.18**	**251**	P		**Pn**		**17 44 40.3**	**-0.3**
JNK				*e*S		**Sn**		**17 46 07.9**	**-4.3**
JAK	**Akkeshi**	**8.47**	**248**	P		**Pn**		**17 44 43.2**	**-1.4**
JAK				*e*S		**Sn**		**17 46 14.6**	**-4.8**
JTKR	**Abashiri--Toko**	**8.55**	**255**	P		**Pn**		**17 44 46.5**	**+0.8**
YSS	**Yuzh-Sakhalins**	**8.66**	**276**	⇑*i*PN		**Pn**		**17 44 50.0**	**+2.8**
YSS				pmax		pmax			
	comp=Z,60nm,1.0s								
YSS				pmax		pmax			
	comp=E,50nm,0.8s								
YSS				MLR		MLR			
	comp=N,1μm,15.0s								
YSS				MLR		MLR			
	comp=E,800nm,17.0s								
YSS				MLR		MLR			
	comp=Z,800nm,17.0s								
YSS	**Yuzh-Sakhalins**	**8.66**	**276**	*e*Pn		**Pn**		**17 44 49.4**	**+2.1**
	comp=Z,38nm,0.6s								
YSS	**Yuzh-Sakhalins**	**8.66**	**276**	⇑*i*P		**Pn**		**17 44 50.0**	**+2.8**
YSS				AMB		AMB		17 44 51.8	
	comp=Z,50nm,0.8s								
YSS				AMB		AMB		17 44 51.8	
	comp=Z,60nm,1.0s								
YSS				*e*S		**Sn**		**17 46 22.9**	**-1.3**
YSS				A				17 46 26.2	
	comp=Z,50nm,0.8s								
YSS				A				17 46 26.2	
	comp=Z,80nm,0.9s								
YSS				*e*LQ				17 46 44.0	
YSS				*e*LR		LR		17 47 13.0	
YSS				AMS		AMS		17 47 40.0	
	comp=Z,800nm,17.0s								
YSS				AMS		AMS		17 47 40.0	
	comp=Z,800nm,17.0s								
YSS				AMS		AMS		17 47 40.0	
	comp=Z,1μm,15.0s								
JMP	**Maruseppu**	**8.90**	**256**	P		**Pn**		**17 44 51.3**	**+0.8**
JAR	**Ashorobuto**	**8.92**	**251**	P		**Pn**		**17 44 51.0**	**+0.2**
JAR				*e*S		**Sn**		**17 46 25.8**	**-4.8**
JOB	**Onbets**	**9.07**	**249**	P		**Pn**		**17 44 52.5**	**-0.3**
JOB				*e*S		**Sn**		**17 46 29.6**	**-4.5**
UGL	**Uglegorsk**	**9.25**	**289**	*e*PN		**Pn**		**17 44 58.0**	**+2.8**
UGL				pmax		pmax			
	comp=Z,120nm,1.0s								
UGL				pmax		pmax			
	comp=Z,550nm,2.0s								
UGL				MLR		MLR			
	comp=Z,2μm,13.0s								
UGL				MLR		MLR			
	comp=N,2μm,12.0s								
UGL				MLR		MLR			
	comp=E,1μm,14.0s								
UGL	**Uglegorsk**	**9.25**	**289**	*e*P		**Pn**		**17 44 58.0**	**+2.8**
UGL				AMB		AMB		17 45 02.5	
	comp=E,120nm,1.0s								
UGL				AMB		AMB		17 45 04.0	
	comp=E,550nm,2.0s								
UGL				*e*L				17 47 03.0	
UGL				AMS		AMS		17 49 52.0	
	comp=E,2μm,13.0s								
UGL				AMS		AMS		17 49 52.0	
	comp=E,1μm,14.0s								
UGL				AMS		AMS		17 49 52.0	
	comp=E,2μm,12.0s								
TYV	**Tymovskoe**	**9.35**	**301**	*e*P		**Pn**		**17 44 59.0**	**+2.3**
TYV				AMB		AMB		17 45 05.8	
	comp=E,88nm,1.0s								
TYV				AMB		AMB		17 45 05.8	
	comp=E,40nm,0.8s								
TYV				AMB		AMB		17 45 05.8	
	comp=E,68nm,0.8s								
TYV				AMB		AMB		17 45 06.0	
	comp=E,500nm,8.0s								
TYV				A				17 46 42.7	
	comp=E,29nm,0.8s								
TYV				A				17 46 42.7	
	comp=E,48nm,1.0s								
TYV				AMS		AMS		17 48 24.0	
	comp=E,2μm,17.0s								
TYV				AMS		AMS		17 48 24.0	
	comp=E,2μm,20.0s								
JKK2	**Kamakawa 2**	**9.36**	**257**	P		**Pn**		**17 44 58.1**	**+1.3**
ASAJ	**Asahikawa**	**9.37**	**258**	P		**Pn**		**17 44 58.7**	**+1.7**
ASAJ	**Asahikawa**	**9.37**	**258**	Pn		**Pn**		**17 44 58.5**	**+1.6**
	comp=E,3.3nm,0.3s,baz=92,slow=14,SNR=59								
ASAJ				Sn		**Sn**		**17 46 46.1**	**+4.5**
	comp=E,0.9nm,0.3s,baz=202,slow=19,SNR=2.1								
ASAJ				LR		LR		17 48 55.1	
	comp=E,261nm,18.2s,baz=42,slow=40								
JWK2	**Keihoku**	**9.50**	**266**	P		**Pn**		**17 45 02.8**	**+4.2**
JCH	**Churui**	**9.51**	**249**	P		**Pn**		**17 44 57.8**	**-1.1**
JCH				*e*S		**Sn**		**17 46 38.0**	**-7.0**
JAB	**Ashibetsu**	**9.86**	**256**	P		**Pn**		**17 45 04.9**	**+1.3**
JEM	**Erimo**	**9.95**	**246**	P		**Pn**		**17 45 04.5**	**-0.4**
ERM	**Erimo**	**9.95**	**246**	Pn		**Pn**		**17 45 04.8**	**-0.1**
	comp=E,760nm,0.6s,SNR=47								
ERM	**Erimo**	**9.95**	**246**	*c*i*P*N		**Pn**		**17 45 05.0**	**+0.1**
ERM	**Erimo**	**9.95**	**246**	*e*Pn		**Pn**		**17 45 04.3**	**-0.6**
	comp=E,71nm,0.6s								
JNBK	**Urakawa-nobuka**	**10.07**	**248**	P		**Pn**		**17 45 04.5**	**-2.0**
JBT2	**Biratori 2**	**10.08**	**251**	P		**Pn**		**17 45 06.4**	**-0.2**
OKH	**Okha**	**10.49**	**315**	*e*PN		**Pn**		**17 45 14.0**	**+1.8**
OKH				pmax		pmax			
	comp=Z,500nm,5.0s								
OKH				MLR		MLR			
	comp=Z,2μm,14.0s								
OKH	**Okha**	**10.49**	**315**	*e*P		**Pn**		**17 45 13.9**	**+1.7**
OKH				*e*P				17 45 14.0	
OKH				AMB		AMB		17 45 22.4	
	comp=Z,500nm,5.0s								
OKH				*e*S		**Sn**		**17 47 09.0**	**+0.1**
OKH				⇑*i*S		**Sn**		**17 47 09.0**	**+0.1**
OKH				A				17 47 10.0	
	comp=Z,300nm,0.7s								
OKH				A				17 47 10.0	
	comp=Z,1μm,4.0s								
OKH				*e*LQ				17 48 37.6	
OKH				AMS		AMS		17 51 12.4	
	comp=Z,2μm,14.0s								
OKH				AMS		AMS		17 51 12.4	
	comp=Z,2μm,13.0s								
OKH				AMS		AMS		17 51 12.4	
	comp=Z,2μm,14.0s								
JEW	**Eniwo**	**10.65**	**253**	P		**Pn**		**17 45 14.7**	**+0.3**
JNB	**Noboribetsu**	**11.09**	**252**	P		**Pn**		**17 45 19.4**	**-1.0**
JNB				*e*S		**Sn**		**17 47 18.0**	**-5.7**
JKB	**Kayabe**	**11.37**	**250**	P		**Pn**		**17 45 22.3**	**-2.0**
JKB				*e*S		**Sn**		**17 47 20.5**	**-10**
NKL	**Nikolayevsk**	**11.43**	**309**	*e*P		**Pn**		**17 45 20.0**	**-5.0**
NKL				AMB		AMB		17 45 28.0	
	comp=Z,22nm,1.3s								
NKL				AMB		AMB		17 45 28.0	
	comp=Z,77nm,1.3s								
NKL				AMB		AMB		17 45 28.0	
	comp=Z,220nm,1.8s								
NKL				*e*L				17 48 34.0	
JSH	**Shimam**	**11.66**	**255**	P		**Pn**		**17 45 28.1**	**-0.2**
JYM2	**Yakumo 2**	**11.69**	**252**	P		**Pn**		**17 45 27.2**	**-1.5**
JYM2				*e*S		**Sn**		**17 47 30.5**	**-7.9**
JANG	**Nango**	**11.90**	**243**	P		**Pn**		**17 45 28.0**	**-3.6**
JANG				*e*S		**Sn**		**17 47 32.4**	**-11**
JTM	**Tenmabayashi**	**11.94**	**245**	P		**Pn**		**17 45 29.5**	**-2.6**
JTM				*e*S		**Sn**		**17 47 33.9**	**-11**
JSR	**Shiriuchi**	**11.95**	**250**	P		**Pn**		**17 45 29.6**	**-2.6**
JTH	**Tanohata**	**11.96**	**240**	P		**Pn**		**17 45 28.6**	**-3.8**
JTH				*e*S		**Sn**		**17 47 32.1**	**-13**
JOSM	**Okushiri--Mats**	**12.29**	**253**	P		**Pn**		**17 45 34.6**	**-2.3**
OFUJ	**Ofunato**	**12.63**	**238**	P		**Pn**		**17 45 38.2**	**-3.4**
JRG	**Rokugo**	**13.04**	**241**	P		**Pn**		**17 45 43.6**	**-3.5**
MA2	**Magadan**	**13.14**	**350**	*e*PN		**Pn**		**17 45 43.8**	**-4.5**
MA2				pmax		pmax			
	comp=Z,50nm,0.5s								
TEY	**Ternei**	**13.20**	**269**	*e*P		**Pn**		**17 45 51.0**	**+1.7**
TEY				*e*L				17 49 44.0	
JIO	**Ouri**	**13.24**	**236**	P		**Pn**		**17 45 46.8**	**-3.1**
HABR	**Khabarovsk**	**13.83**	**285**	*e*P		**Pn**		**17 45 57.1**	**-0.7**
HABR				*e*S		**Sn**		**17 48 31.5**	**+1.0**
HABR				pmax		pmax			
	comp=Z,10.0nm,0.8s								
JYA	**Atsumi**	**14.11**	**240**	P		**Pn**		**17 45 59.0**	**-2.7**
KLR	**Kul'dur**	**16.00**	**288**	*e*P		**Pn**		**17 46 25.1**	**-1.7**
KLR				pmax		pmax			
	comp=E,78nm,1.8s								
KLR				pmax		pmax			
	comp=Z,100nm,1.8s								
KLR				MLR		MLR			
	comp=E,2μm,13.0s								
KLR				MLR		MLR			
	comp=Z,5μm,13.0s								
SEY	**Seymchan**	**16.31**	**355**	⇑*e*P		**Pn**		**17 46 26.9**	**-3.7**
MAJO	**Matsushiro**	**16.37**	**238**	*e*P		**Pn**		**17 46 29.5**	**-2.1**
MAJO				pmax		pmax			
	comp=Z,70nm,0.9s								
MAJO	**Matsushiro**	**16.37**	**238**	*e*P		**Pn**		**17 46 29.4**	**-2.1**
	comp=Z,70nm,0.9s								
MAT	**Matsushiro**	**16.37**	**238**	P		**Pn**		**17 46 29.9**	**-1.7**
MAT				*e*S		**Sn**		**17 49 38.0**	**+5.6**
MJAR	**Matsushiro Arr**	**16.37**	**238**	Pn		**Pn**		**17 46 30.1**	**-1.5**
	comp=Z,0.8nm,0.3s,baz=27,slow=13,SNR=43								
VLA	**Vladivostok**	**17.01**	**266**	⇑*e*P		**Pn**		**17 46 40.7**	**+1.0**
VLA				pmax		pmax			
	comp=Z,80nm,1.7s								
MDJ	**Mudanjiang**	**18.13**	**273**	P		**Pn**		**17 46 51.5**	**-2.0**
MDJ				AP		pP		17 46 54.6	-5.1
MDJ				XP		sP		17 46 55.8	-6.7
MDJ				S		**Sn**		**17 50 08.0**	**-7.0**
MDJ				PCP		PcP		17 51 25.9	-0.5
MDJ				SCP		ScP		17 55 01.1	+0.9
MDJ				PCS		PcS		17 55 01.8	-0.9
MDJ				SCS		ScS		17 58 42.0	+1.3
MDJ				AMB		AMB			
	comp=Z,8.0nm,0.9s								
MDJ				AMB		AMB			
	comp=Z,53nm,3.4s								
MDJ				LR		LR			
	comp=N,114nm,13.6s								
MDJ				LR		LR			
	comp=E,370nm,13.6s								
MDJ				LR		LR			
	comp=Z,487nm,13.6s								
MDJ	**Mudanjiang**	**18.13**	**273**	*e*P		**Pn**		**17 46 51.1**	**-2.4**
	comp=Z,29nm,1.0s								
ZEA	**Zeya**	**19.22**	**302**	*e*P		**Pn**		**17 47 00.5**	**-6.1**
ZEA				AMB		AMB		17 47 05.0	
	comp=Z,41nm,1.0s								
ZEA				AMB		AMB		17 47 08.0	
	comp=Z,300nm,6.0s								
ZEA				A				17 50 44.5	
	comp=Z,56nm,1.4s								
ZEA				A				17 50 47.0	
	comp=Z,200nm,3.0s								
YAK	**Yakutsk**	**21.19**	**326**	*e*P		**P**		**17 47 23.9**	**-3.0**
	comp=Z,104nm,0.8s,mb5.2								
CN2	**Changchun**	**21.21**	**273**	*e*P		**P**		**17 47 25.0**	**-2.4**
CN2				*e*XP		sP		17 47 31.9	-4.4
CN2				*e*PP				17 47 48.3	
CN2				*e*S		**S**		**17 51 15.5**	**-6.6**
CN2				AMB		AMB			
	comp=Z,30nm,1.0s,mb4.6								
CN2				AMB		AMB			
	comp=Z,200nm,5.0s								
CN2				LR		LR			
	comp=N,300nm,12.0s,MS4.1								
CN2				LR		LR			
	comp=E,400nm,12.0s,MS4.1								
CN2				LR		LR			
	comp=Z,500nm,16.0s,MS4.0								
CLNS	**Chul'man**	**21.22**	**310**	*e*P		**P**		**17 47 26.3**	**-1.0**
CLNS				*e*				17 47 37.5	
CLNS				*e*PPP				17 47 46.9	
CLNS				*e*S		**S**		**17 51 10.6**	**-11**
CLNS				*e*				17 51 34.4	
CLNS				pmax		pmax			
	comp=N,16nm,0.8s								
CLNS				pmax		pmax			
	comp=Z,38nm,0.8s,mb4.8								
CLNS				smax					
	comp=Z,11nm,1.0s								
CLNS				smax					
	comp=N,43nm,1.1s								
CLNS				smax					
	comp=E,35nm,1.1s								
CLNS				MLR		MLR			
	comp=N,500nm,12.0s,MS4.3								
CLNS				MLR		MLR			
	comp=E,600nm,15.0s,MS4.3								
CLNS				MLR		MLR			
	comp=Z,600nm,15.0s,MS4.1								
NRGR	**Nerungri**	**21.26**	**309**	*i*P		**P**		**17 47 29.1**	**+1.4**
NRGR				S		**S**		**17 51 14.6**	**-8.1**
NRGR				smax					
	comp=E,52nm,0.7s								
BILL	**Bilibino**	**22.07**	**11**	*ce*P		**P**		**17 47 34.8**	**-1.5**
BILL				*i*				17 47 45.9	
BILL				*i*				17 47 51.9	
BILL				*e*S		**S**		**17 51 35.3**	**-3.0**
BILL				pmax		pmax			
	comp=Z,79nm,1.6s,mb4.9								
BILL				MLR		MLR			
	comp=Z,400nm,16.0s,MS3.9								
BILL	**Bilibino**	**22.07**	**11**	*e*P		**P**		**17 47 34.7**	**-1.5**
	comp=Z,42nm,0.8s,mb4.9								
KSRS	**Korea Array**	**22.30**	**255**	P		**P**		**17 47 41.0**	**+1.9**
	comp=Z,23nm,0.8s,mb4.7,baz=59,slow=9.1,SNR=39								
KSRS				PcP		PcP		17 51 32.8	-1.5
	comp=Z,1.9nm,0.8s,baz=79,slow=2.7,SNR=5.0								
KSRS				LR		LR		17 56 04.9	
	comp=Z,173nm,19.4s,MS3.5,baz=35,slow=36								
JNU	**Nakatsue**	**23.09**	**243**	P		**P**		**17 47 49.0**	**+1.6**
	comp=Z,18nm,0.9s,mb4.5,baz=48,slow=14,SNR=13								
INCN	**Inchon**	**23.15**	**257**	*e*P		**P**		**17 47 50.1**	**+2.2**
	comp=Z,40nm,1.0s,mb4.8								
SNY	**Shenyang**	**23.20**	**269**	⇑P		**P**		**17 47 48.5**	**-0.1**
SNY				AMB		AMB			
	comp=Z,35nm,0.8s,mb4.8								
SNY				AMB		AMB			
	comp=Z,238nm,6.9s								
SNY				LR		LR			
	comp=N,372nm,14.1s,MS4.0								
SNY				LR		LR			
	comp=E,267nm,16.5s,MS4.0								
SNY				LR		LR			
	comp=Z,347nm,14.6s,MS3.9								
HIA	**Hailar**	**23.85**	**289**	P		**P**		**17 47 56.0**	**+1.3**
HIA				pmax		pmax			
	comp=Z,8.0nm,0.6s								
HIA	**Hailar**	**23.85**	**289**	P		**P**		**17 47 56.0**	**+1.3**
	comp=Z,7.9nm,0.6s,mb4.3								
BOD	**Bodaibo**	**27.20**	**309**	*e*P		**P**		**17 48 22.2**	**-2.8**
BOD				pmax		pmax			
	comp=Z,21nm,0.9s,mb4.7								
TIXI	**Tiks

SSE LR LR
comp=E,38nm,18.3s,MS3.7
SSE LR LR
comp=Z,147nm,19.2s,MS3.6
TTA Tatalina 31.39 41 *e*P **P 17 49 01.3 -0.8**
SVW2 Sparrevohn 31.39 45 *e*P **P 17 49 00.8 -1.4**
NJ2 Nanjing 31.50 255 *e*P **P 17 49 05.0 +1.5**
NJ2 AP pP 17 49 09.4 -0.7
NJ2 XP sP 17 49 11.6 -1.1
NJ2 PP PP 17 50 08.9 -5.8
NJ2 S **S 17 54 10.5 +0.1**
NJ2 XS sS 17 54 18.5 -2.8
NJ2 AMB AMB
comp=Z,60nm,1.4s,mb5.2
NJ2 AMB AMB
comp=Z,100nm,10.2s
NJ2 LR LR
comp=N,430nm,21.6s,MS4.2
NJ2 LR LR
comp=E,300nm,17.8s,MS4.2
NJ2 LR LR
comp=Z,320nm,19.2s,MS4.0
HHC Hu-ho-hao-te 31.85 276 ⇓P **P 17 49 06.6 +0.1**
HHC AP pP 17 49 11.0 -2.0
HHC XP sP 17 49 13.6 -2.1
HHC PP PP 17 50 12.5 -5.9
HHC PCP PcP 17 51 57.8 +1.0
HHC S **S 17 54 15.5 -0.3**
HHC XS sS 17 54 22.3 -4.3
HHC SS SS 17 56 06.0 -26
HHC AMB AMB
comp=Z,58nm,1.4s,mb5.2
HHC AMB AMB
comp=Z,359nm,5.7s
HHC LR LR
comp=N,495nm,15.0s,MS4.5
HHC LR LR
comp=E,521nm,13.8s,MS4.5
HHC LR LR
comp=Z,511nm,13.9s,MS4.4
ULN Ulaanbaatar 32.37 290⇑ *e*P **P 17 49 10.0 -1.0**
SONM Songino Array 32.80 290 P **P 17 49 14.2 -0.6**
comp=Z,7.0nm,0.7s,mb4.7,baz=62,slow=8.8,SNR=32
SONM PcP PcP 17 51 57.2 -2.2
comp=Z,1.7nm,0.8s,baz=52,slow=3.3,SNR=3.8
KDAK Kodiak Island 32.89 51 P **P 17 49 12.3 -3.0**
comp=Z,16nm,0.8s,mb5.0,baz=92,slow=18,SNR=7.3
IMA2 Indian Mountai 32.89 36 *e*P **P 17 49 13.9 -1.4**
TLY Talaya 33.57 298 *e*P **P 17 49 21.2 -0.1**
TLY pmax pmax
comp=Z,12nm,1.0s,mb4.8
TLY MLR MLR
comp=Z,248nm,14.0s,MS4.1
TLY Talaya 33.57 298 *e*P **P 17 49 20.5 -0.8**
comp=Z,9.9nm,0.8s,mb4.8
ZAK Zakamensk 34.09 296⇓ *e*P **P 17 49 25.7 -0.2**
ZAK *e* 17 50 45.6
ZAK pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
GUMO Guam 34.22 198 LR LR 18 03 47.4
comp=Z,64nm,18.4s,MS3.4,baz=17,slow=37
PMR Palmer 34.51 44 *e*P **P 17 49 28.2 -1.2**
PMR pmax pmax
comp=Z,3.0nm,0.4s,mb4.6
PMR Palmer 34.51 44 *e*P **P 17 49 28.2 -1.2**
comp=Z,3.4nm,0.4s,mb4.6
SML Sawmill 34.89 44 *e*P **P 17 49 30.3 -2.4**
YHNB Yeheng 34.92 243 *e*P **P 17 49 33.4 0.0**
COLA College 35.16 38 *d i*P **P 17 49 33.6 -1.4**
COLA College 35.16 38 *e*P **P 17 49 33.8 -1.2**
comp=Z,35nm,0.8s,mb5.3
WHN Wuhan 35.45 258 ⇓P **P 17 49 39.0 +1.1**
QZH Quanzhou 36.45 246 P **P 17 49 49.8 +3.3**
QZH S **S 17 55 31.3 +4.2**
XAN Xi'an 37.08 267 P **P 17 49 52.4 +0.7**
XAN AP pP 17 49 57.1 -1.3
XAN S **S 17 55 37.8 +1.3**
XAN SS SS 17 58 07.3 -12
XAN AMB AMB
comp=Z,10.0nm,1.6s,mb4.4
XAN AMB AMB
comp=Z,55nm,4.2s
XAN LR LR
comp=N,601nm,17.9s,MS4.5
XAN LR LR
comp=E,223nm,15.2s,MS4.5
XAN LR LR
comp=Z,189nm,15.6s,MS4.0
EGAK Eagle 38.03 38 *e*P **P 17 49 57.6 -1.8**
comp=Z,34nm,0.8s,mb5.1
LZH Lanzhou 39.45 273⇑ *i*P **P 17 50 14.5 +2.8**
LZH AP pP 17 50 20.1 +1.7
LZH XP sP 17 50 22.9 +1.9
LZH PP PP 17 51 44.4 +2.1
LZH PCP PcP 17 52 24.8 +5.5
LZH *e*S **S 17 56 16.0 +3.7**
LZH XS sS 17 56 22.0 -1.3
LZH SS SS 17 58 58.0 -8.6
LZH AMB AMB
comp=Z,56nm,1.5s,mb5.1
LZH AMB AMB
comp=Z,259nm,4.3s
GTA Gaotai 40.51 280 *e*P **P 17 50 22.0 +1.5**
GTA AP pP 17 50 26.0 -1.1
GTA XP sP 17 50 29.3 -0.5
GTA PCP PcP 17 52 23.8 +1.1
GTA PCS PcS 17 56 14.5 +1.3
GTA SCP ScP 17 56 14.8 +4.2
GTA S **S 17 56 32.1 +4.0**
GTA XS sS 17 56 39.8 +0.7
GTA SCS ScS 18 00 26.3 +1.5
GTA AMB AMB
comp=Z,17nm,1.1s,mb4.6
GTA AMB AMB
comp=Z,148nm,6.5s
GTA LR LR
comp=N,295nm,14.9s,MS4.4
GTA LR LR
comp=E,229nm,15.3s,MS4.4
GTA LR LR
comp=Z,192nm,13.0s,MS4.1
SKAG Skagway 41.54 46 P **P 17 50 28.2 -0.5**
comp=Z,5.1nm,0.8s,mb4.2
CD2 Chengdu 42.44 267⇓ *i*P **P 17 50 37.5 +1.1**
CD2 AP pP 17 50 42.0 -1.1
CD2 XP sP 17 50 45.0 -0.7
CD2 PP PP 17 52 18.9 +4.1
CD2 PCP PcP 17 52 31.3 +2.2
CD2 PCS PcS 17 56 21.9 +0.7
CD2 S **S 17 56 58.3 +1.4**
CD2 XS sS 17 57 05.8 -2.1
CD2 SS SS 18 00 01.3 -4.9
CD2 SCS ScS 18 00 36.8 +0.1
CD2 AMB AMB
comp=Z,60nm,1.2s,mb5.1
CD2 AMB AMB
comp=Z,250nm,7.2s
CD2 LR LR
comp=N,320nm,15.6s,MS4.3
CD2 LR LR
comp=E,150nm,16.8s,MS4.3
CD2 LR LR
comp=Z,220nm,10.8s
GYA Guiyang 43.25 260⇓ *i*P **P 17 50 43.4 +0.4**
GYA AP pP 17 50 47.8 -1.9
GYA XP sP 17 50 50.6 -1.7
GYA PP PP 17 52 26.8 +3.3
GYA PCP PcP 17 52 33.8 +1.9
GYA SCP ScP 17 56 23.8 +2.1
GYA S **S 17 57 10.6 +1.8**
GYA SS SS 18 00 16.5 -5.7
GYA SCS ScS 18 00 42.3 +0.4
GYA AMB AMB
comp=Z,70nm,1.1s,mb5.3
GYA AMB AMB
comp=Z,270nm,5.7s
GYA LR LR
comp=N,560nm,18.6s,MS4.6
GYA LR LR
comp=E,440nm,19.5s,MS4.6
GYA LR LR
comp=Z,540nm,18.8s,MS4.5

ZAA0 Zalesovo Array 43.88 306 *e*P **P 17 50 43.4 -4.3**
ZALV Zalesovo Beam 43.88 306 P **P 17 50 47.3 -0.4**
comp=Z,22nm,0.5s,mb5.2,baz=63,slow=6.8,SNR=52
ZALV LR LR 18 10 13.9
comp=Z,192nm,19.4s,MS4.0,baz=190,slow=38
ZAL Zalesovo 43.89 306 P **P 17 50 47.3 -0.5**
NVS Novosibirsk 44.42 308⇓ *i*P **P 17 50 51.0 -1.1**
NVS *e* 17 52 34.9
NVS *e*S **S 17 57 15.2 -10**
NVS pmax pmax
comp=N,39nm,1.7s
NVS pmax pmax
comp=Z,69nm,1.7s,mb5.1
NVS pmax pmax
comp=E,68nm,1.6s
NVS smax
comp=N,12nm,1.7s
NVS smax
comp=E,21nm,1.7s
WMQ Urumqi 46.38 292 P **P 17 51 09.0 +1.3**
WMQ XP sP 17 51 16.0 -1.1
WMQ PP PP 17 52 59.0 +2.5
WMQ S **S 17 57 55.0 +1.2**
WMQ AMB AMB
comp=Z,39nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,71nm,5.0s
WMQ LR LR
comp=N,346nm,15.0s,MS4.5
WMQ LR LR
comp=E,135nm,15.0s,MS4.5
WMQ LR LR
comp=Z,196nm,15.0s,MS4.2
KMI Kunming 46.78 261 P **P 17 51 12.4 +1.3**
KMI AP pP 17 51 15.1 -2.8
KMI XP sP 17 51 16.8 -3.7
KMI PP PP 17 53 03.8 +2.7
KMI S **S 17 58 00.9 +0.8**
KMI XS sS 17 58 07.0 -4.2
KMI SS SS 18 01 20.5 -5.9
KMI AMB AMB
comp=Z,27nm,1.4s,mb5.0
KMI AMB AMB
comp=Z,153nm,3.1s
KMI LR LR
comp=N,129nm,16.6s
KMI LR LR
comp=E,128nm,11.4s
KMI LR LR
comp=Z,135nm,14.0s,MS4.1
MK31 Makanchi Array 48.32 298 *i* P **P 17 51 22.8 0.0**
MK31 pmax pmax
comp=Z,19nm,0.6s,mb5.3
MKAR Makanchi Array 48.32 298 *i* P **P 17 51 22.7 -0.1**
MKAR pmax pmax
comp=Z,13nm,0.7s
MKAR Makanchi Array 48.32 298 P **P 17 51 22.6 -0.3**
comp=Z,13nm,0.7s,mb5.1,baz=64,slow=8.2,SNR=33
MKAR LR LR 18 12 47.4
comp=Z,175nm,18.8s,MS4.1,baz=250,slow=37
KURK Kurchatov 48.66 304 P **P 17 51 25.9 +0.6**
comp=Z,489nm,0.7s,mb6.6,SNR=39
KURK Kurchatov 48.66 304⇑ *e*P **P 17 51 24.9 -0.4**
KURK Kurchatov 48.66 304 *e*P **P 17 51 24.1 -1.3**
comp=Z,65nm,0.8s,mb5.7
YKA Yellowknife Ar 49.98 37 P **P 17 51 34.1 -1.2**
comp=Z,4.8nm,0.7s,mb4.6,baz=295,slow=7.3,SNR=48
YKA PcP PcP 17 52 54.5 -0.5
comp=Z,1.2nm,0.6s,baz=302,slow=3.7,SNR=5.2
LSA Lhasa 51.84 275 P **P 17 51 53.3 +3.6**
LSA AMB AMB
comp=Z,10.0nm,1.0s,mb4.7
LSA Lhasa 51.84 275 *e*P **P 17 51 52.4 +2.7**
LSA pmax pmax
comp=Z,19nm,0.6s,mb5.2
LSA Lhasa 51.84 275 *e*P **P 17 51 52.4 +2.7**
comp=Z,19nm,0.6s,mb5.2
BVAR Borovoye Array 52.06 310 P **P 17 51 50.9 -0.1**
comp=Z,38nm,0.6s,mb5.5,baz=59,slow=8.1,SNR=110
BVAR LR LR 18 15 51.1
comp=Z,246nm,18.1s,MS4.3,baz=93,slow=38
BRVK Borovoye 52.10 310 P **P 17 51 51.0 -0.3**
comp=Z,712nm,0.6s,mb6.8,SNR=41
BRVK Borovoye 52.10 310 *e*P **P 17 51 51.3 0.0**
BRVK pmax pmax
comp=Z,82nm,0.8s,mb5.7
BRVK Borovoye 52.10 310 *e*P **P 17 51 51.2 0.0**
comp=Z,82nm,0.8s,mb5.7
NLWA Neilton Lookou 52.56 58 P **P 17 51 54.7 -0.1**
comp=Z,9.3nm,0.8s,mb4.8
ZRNK Zerenda 52.82 311 *i* P **P 17 51 56.5 -0.2**
ZRNK pmax pmax
comp=Z,46nm,0.7s,mb5.5
CHTO Chiang Mai 53.65 259 *e*P **P 17 52 04.8 +1.6**
CHTO pmax pmax
comp=Z,20nm,1.1s,mb5.0
CHTO Chiang Mai 53.65 259 *e*P **P 17 52 04.8 +1.6**
comp=Z,20nm,1.1s,mb5.0
B07A Winthrop 54.14 55 ⇑P **P 17 52 05.4 -1.0**
baz=54
F04A Amboy 54.18 59 ⇓P **P 17 52 05.4 -1.3**
baz=54
A08A Turner Farm, O 54.35 54 ⇑P **P 17 52 08.1 +0.1**
baz=54
ULHL Ulahol 54.38 296 P **P 17 52 09.5 +1.3**
SNR=29
TKM2 Tokmak 2 54.40 297 *e*P **P 17 52 07.9 -0.5**
TKM2 Tokmak 2 54.40 297 P **P 17 52 09.2 +0.8**
SNR=13
I02A Mapleton 54.40 61 ⇓P **P 17 52 09.2 +0.8**
baz=54
B08A Colville Reser 54.64 55 ⇓P **P 17 52 09.8 -0.2**
baz=54
E06A Yakima 54.69 57 ⇑P **P 17 52 10.3 -0.1**
baz=54
A09A Danville 54.72 54 ⇓P **P 17 52 10.2 -0.4**
baz=54
CHMS Chumysh 54.87 298 P **P 17 52 13.0 +1.2**
SNR=6.8
SVE Sverdlovsk 54.89 318 *e*P **P 17 52 12.1 +0.4**
SVE pmax pmax
comp=Z,59nm,0.9s,mb5.6
J02A Umpqua 54.91 62 ⇑P **P 17 52 12.4 +0.3**
baz=55
KBK Karagaybulak 54.94 297 P **P 17 52 13.8 +1.5**
SNR=9.8
H04A Detroit Lake 55.01 60 ⇑P **P 17 52 13.1 +0.3**
baz=55
FRU Bishkek 55.04 298⇓ *i*P **P 17 52 14.0 +1.0**
FRU pmax pmax
comp=Z,50nm,1.3s,mb5.4
KZA Kyzart 55.08 297 P **P 17 52 15.4 +2.1**
SNR=20
C08A Higginbotham F 55.11 55 ⇓P **P 17 52 14.1 +0.6**
baz=55
AAK Ala-Archa 55.23 297 P **P 17 52 14.5 +0.1**
comp=Z,140nm,0.8s,mb6.0,SNR=18
AAK Ala-Archa 55.23 297 P **P 17 52 15.4 +1.0**
SNR=20
F06A Goldendale 55.23 58 ⇑P **P 17 52 13.4 -0.9**
baz=55
B09A Rice 55.26 54 ⇑P **P 17 52 14.1 -0.5**
baz=55
J03A Ideyld Park 55.27 61 ⇑P **P 17 52 15.0 +0.3**
baz=55
K02A Glendale 55.29 62 ⇑P **P 17 52 15.3 +0.5**
baz=55
I04A Tendick Farm, 55.37 61 ⇓P **P 17 52 15.6 +0.2**
baz=55
M01C Crescent City 55.43 64 ⇓P **P 17 52 16.2 +0.4**
baz=55
L02A Cave Junction 55.57 63 ⇓P **P 17 52 17.4 +0.5**
baz=55
EKS2 Erkin-Say 55.65 298 *e*P **P 17 52 18.4 +1.0**
comp=Z,18nm,0.8s,mb5.2
EKS2 Erkin-Say 55.65 298 P **P 17 52 18.6 +1.2**
SNR=33
HUMO Hull Mountain 55.71 62 *e*P **P 17 52 17.9 +0.1**
comp=Z,11nm,1.1s,mb4.8
HUMO Hull Mountain 55.71 62 ⇑P **P 17 52 18.1 +0.2**
baz=55
J04A Umpqua Nationa 55.86 61 ⇓P **P 17 52 19.4 +0.5**
baz=56
AML Almayashu 56.00 297 *e*P **P 17 52 21.0 +1.0**
comp=Z,17nm,1.1s,mb5.0
AML Almayashu 56.00 297 P **P 17 52 21.5 +1.5**
SNR=11

ARU Arti 56.06 318 P **P 17 52 19.6 -0.5**
comp=Z,554nm,0.6s,mb6.8,SNR=21
ARU Arti 56.06 318 *d i*P **P 17 52 19.8 -0.3**
ARU *e* 17 53 16.5
ARU *e* 17 54 21.9
ARU *e*PPP 17 55 36.6
ARU *e*S **S 18 00 10.1 +2.9**
ARU *e*SS SS 18 03 57.7 +5.0
ARU pmax pmax
comp=Z,126nm,1.7s,mb5.7
ARU MLR MLR
comp=Z,196nm,15.0s,MS4.3
H06A Lindquist Farm 56.07 59 ⇑P **P 17 52 19.9 -0.6**
baz=56
KSH Kashi 56.09 294 *e*P **P 17 52 23.0 +2.4**
KSH *e*AP pP 17 52 33.1 +5.6
KSH *e*PP PP 17 54 25.3 -0.1
KSH *e*SCP ScP 17 57 21.1 +4.9
KSH *e*PCS PcS 17 57 25.0 +6.1
KSH *e*S **S 18 00 07.8 -0.3**
KSH *e*SCS ScS 18 02 03.0 -5.4
KSH AMB AMB
comp=Z,505nm,3.0s
KSH LR LR
comp=Z,366nm,5.3s
B11A Sandpoint 56.24 53 ⇓P **P 17 52 20.5 -1.1**
baz=56
E09A Wood Farm, Sta 56.33 56 ⇓P **P 17 52 22.3 0.0**
baz=56
YBH Yreka Blue Hor 56.36 63 *e*P **P 17 52 21.9 -0.6**
YBH pmax pmax
comp=Z,12nm,0.9s
YBH Yreka Blue Hor 56.36 63 *e*P **P 17 52 21.9 -0.6**
comp=Z,12nm,0.9s,mb4.9
YBH Yreka Blue Hor 56.36 63 ⇑P **P 17 52 22.5 0.0**
baz=56,SNR=6.1
J05A Fort Rock 56.36 61 P **P 17 52 23.1 +0.7**
baz=56,SNR=12
M02C Callahan 56.47 63 ⇑P **P 17 52 23.2 -0.1**
baz=56
N02C Big Bar 56.52 64 ⇓P **P 17 52 22.8 -0.9**
baz=56
D10A Wagner Farm, O 56.52 55 ⇓P **P 17 52 21.8 -1.7**
baz=56
I06A Prineville 56.59 59 ⇓P **P 17 52 24.0 -0.2**
baz=56
L04A Klamath Falls 56.60 62 ⇓P **P 17 52 24.2 0.0**
baz=56
H07A Lands Inn, Kim 56.60 58 ⇓P **P 17 52 23.2 -1.0**
baz=56
M04C Macdoel 56.86 62 ⇓P **P 17 52 26.3 +0.3**
baz=57
K05A Summer Lake 56.89 61 P **P 17 52 27.1 +0.8**
baz=57,SNR=7.0
I07A Izee 56.93 59 ⇑P **P 17 52 26.5 0.0**
baz=57
A13A Flathead Natio 57.03 52 ⇑P **P 17 52 26.1 -1.1**
baz=57
J06A Christmas Vall 57.03 60 ⇑P **P 17 52 27.4 +0.2**
baz=57
WDC Whiskeytown Da 57.13 64 *e*P **P 17 52 27.6 -0.4**
WDC pmax pmax
comp=Z,11nm,1.0s,mb4.8
WDC Whiskeytown Da 57.13 64 *e*P **P 17 52 27.6 -0.4**
comp=Z,11nm,1.0s,mb4.8
WDC Whiskeytown Da 57.13 64 ⇓P **P 17 52 28.0 0.0**
baz=57
H08A Prairie City 57.17 58 ⇑P **P 17 52 28.2 -0.1**
baz=57
O02C Red Bluff 57.21 64 ⇑P **P 17 52 28.8 +0.2**
baz=57
G09A Cove 57.25 57 ⇑P **P 17 52 28.1 -0.6**
baz=57
L05A Lakeview 57.32 62 ⇓P **P 17 52 29.8 +0.5**
baz=57
B13A Whitefish 57.32 52 ⇓P **P 17 52 29.2 0.0**
baz=57
J07A Hines 57.46 60 ⇑P **P 17 52 30.1 -0.2**
baz=57
E11A Bogner Ranch, 57.52 55 ⇑P **P 17 52 30.1 -0.6**
baz=57
M05C Lookout 57.53 62 ⇑P **P 17 52 31.2 +0.4**
baz=57
GASB Alder Springs 57.56 65 ⇑P **P 17 52 31.8 +0.7**
baz=57
I08A Drewsey 57.58 59 ⇑P **P 17 52 31.6 +0.5**
baz=57
G10A Bishop Farm, J 57.62 57 ⇓P **P 17 52 31.5 +0.2**
baz=57
HATC Hat Creek Radi 57.66 63 ⇓P **P 17 52 31.6 -0.1**
baz=57
C13A Hot Springs 57.66 53 ⇓P **P 17 52 31.5 -0.1**
baz=57
H09A Durkee 57.67 57 ⇓P **P 17 52 31.8 +0.1**
baz=57
MOD Modoc 57.72 61 *e*P **P 17 52 31.0 -1.2**
comp=Z,14nm,0.9s,mb5.0
MOD Modoc 57.72 61 ⇓P **P 17 52 32.2 0.0**
baz=58
F11A Grangeville 57.82 56 ⇓P **P 17 52 32.6 -0.2**
baz=58
KEV Kevo 57.85 341 *e*p **P 17 52 30.9 -1.8**
comp=Z,1.6nm,0.4s,mb4.4
KEV Kevo 57.85 341 *e*P **P 17 52 30.9 -1.8**
KEV pmax pmax
comp=Z,2.0nm,0.4s,mb4.5
K07A Rock Creek Ran 57.89 60 P **P 17 52 33.9 +0.5**
baz=58,SNR=5.7
APA Apatity 57.95 337⇑ *i*P **P 17 52 30.5 -2.8**
APA pmax pmax
comp=Z,36nm,1.2s,mb5.3
J08A Circle Bar Ran 57.96 59 ⇑P **P 17 52 33.9 +0.1**
baz=58
I09A Lost Marbles R 58.03 58 ⇓P **P 17 52 34.2 0.0**
baz=58
G11A Walters Elk Ra 58.04 56 ⇓P **P 17 52 34.3 -0.1**
baz=58
C14A Swan Lake 58.06 53 ⇓P **P 17 52 33.0 -1.4**
baz=58
D13A Huson 58.07 54 ⇑P **P 17 52 34.1 -0.3**
baz=58
O04C Chester 58.18 63 ⇑P **P 17 52 35.3 -0.1**
baz=58
ELFS Eagle Lake Fie 58.22 63 ⇓P **P 17 52 35.8 +0.2**
baz=58
L07A Adell 58.23 61 ⇑P **P 17 52 35.7 0.0**
baz=58
H10A Noah's Angus R 58.24 57 ⇓P **P 17 52 35.7 -0.1**
baz=58
K08A Mann Creek Ran 58.32 60 ⇑P **P 17 52 36.6 +0.2**
baz=58
ARCES ARCESS Array B 58.36 342 P **P 17 52 35.7 -0.5**
ARCES LR LR 18 21 14.8
ARCES ARCESS Array B 58.36 342 P **P 17 52 35.7 -0.5**
comp=Z,11nm,0.8s,mb4.9,baz=44,slow=7.1,SNR=12
ARCES LR LR 18 21 14.8
comp=Z,219nm,19.6s,MS4.3,baz=43,slow=40
MCCM Marconi Confer 58.36 66 ⇑P **P 17 52 37.1 +0.4**
baz=58
ORV Oroville 58.38 64 ⇓P **P 17 52 37.0 +0.2**
baz=58
J09A Fry Pan Ranch, 58.39 59 ⇑P **P 17 52 37.0 +0.2**
baz=58
WVOR Wild Horse Val 58.41 60 *e*P **P 17 52 35.8 -1.2**
WVOR pmax pmax
comp=Z,13nm,0.9s,mb5.0
WVOR Wild Horse Val 58.41 60 *e*P **P 17 52 35.8 -1.2**
comp=Z,13nm,0.9s,mb5.0
F12A Elk City 58.41 55 ⇓P **P 17 52 37.2 +0.3**
baz=58
OHCM Honcut 58.52 65 *e*P **P 17 52 37.1 -0.7**
D14A Greenough 58.60 53 P **P 17 52 37.4 -0.8**
baz=58,SNR=7.0
H11A Donnelly 58.60 57 ⇓P **P 17 52 38.6 +0.3**
baz=58
E13A Victor 58.60 54 ⇓P **P 17 52 37.6 -0.7**
baz=58
N06A Buffalo Meadow 58.69 62 P **P 17 52 38.8 -0.2**
baz=58,SNR=7.2
M07A Soldier Meadow 58.71 61 ⇓P **P 17 52 39.7 +0.6**
baz=58
L08A Fields 58.73 60 P **P 17 52 39.6 +0.4**
baz=58,SNR=8.5
K09A Rome 58.79 59 ⇓P **P 17 52 39.7 +0.1**
baz=58
BEKR Beckwourth 58.90 63 ⇑P **P 17 52 40.6 +0.2**
baz=59

F13A **Darby** 58.91 55 ⇑P P 17 52 39.4 -1.0
baz=59
O06A **Flanigan** 59.04 63 ⇑P P 17 52 42.0 +0.5
baz=59
TMCR **Tamitsa** 59.05 333 eP P 17 52 40.2 -0.9
TMCR pmax pmax
comp=Z,44nm,0.7s,mb5.6
BDM **Black Diamond** 59.12 66 ⇓P P 17 52 42.5 +0.6
baz=59
M08A **Happy Creek Ra** 59.15 61 ⇑P P 17 52 42.6 +0.5
baz=59
D15A **Lincoln** 59.17 53 ⇓P P 17 52 42.4 +0.3
baz=59
N07B **Gerlach** 59.20 62 ⇓P P 17 52 42.9 +0.4
baz=59
K10A **MacKenzie Ranc** 59.25 59 ⇓P P 17 52 43.1 +0.4
baz=59
LAVA **Lava Cap Winer** 59.33 65 ⇓P P 17 52 43.4 0.0
baz=59
H12A **Diamond D Ranc** 59.36 56 ⇑P P 17 52 43.2 -0.3
baz=59
G13A **Cobalt** 59.38 55 ⇑P P 17 52 43.7 +0.1
baz=59
E15A **Deer Lodge** 59.47 53 ⇓P P 17 52 44.0 -0.2
baz=59
WCN **Washoe City** 59.61 64 ⇑P P 17 52 45.9 +0.6
baz=59
O07A **Toulon** 59.63 62 ⇓P P 17 52 46.1 +0.7
baz=59
H13A **Challis** 59.69 56 ⇑P P 17 52 45.9 +0.1
baz=59
N08A **GE Springer Mi** 59.70 61 ⇓P P 17 52 46.5 +0.5
baz=59
FFC **Flin Flon** 59.72 41 eP P 17 52 44.2 -1.7
FFC pmax pmax
comp=Z,13nm,0.8s,mb5.0
FFC **Flin Flon** 59.72 41 eP P 17 52 44.2 -1.7
comp=Z,13nm,0.8s,mb5.0
M09A **Marrel Ranch,** 59.72 60 ⇓P P 17 52 46.8 +0.8
baz=59
S04C **Ingram Canyon,** 59.73 66 ⇓P P 17 52 47.0 +0.9
baz=60
K11A **Parker Ranch,** 59.75 58 ⇓P P 17 52 46.9 +0.7
baz=60
R05C **Kirkwood Meado** 59.78 64 ⇑P P 17 52 47.2 +0.7
baz=60
AKTK **Aktyubinsk** 59.88 313 P P 17 52 46.8 -0.2
AKTK LR LR 18 19 02.9
AKTO **Aktyubinsk** 59.88 313 i P P 17 52 46.4 -0.6
AKTO **Aktyubinsk** 59.88 313 P P 17 52 46.8 -0.2
comp=Z,7.1nm,0.7s,mb4.8,baz=58,slow=8.4,SNR=19
AKTO LR LR 18 19 02.9
comp=Z,129nm,21.6s,MS4.0,baz=70,slow=36
F15A **Butte** 59.91 54 ⇓P P 17 52 47.8 +0.5
baz=60
L10A **Juniper Basin** 59.91 59 ⇑P P 17 52 48.1 +0.7
baz=60
CMB **Columbia Colle** 59.99 65 eP P 17 52 47.7 -0.3
CMB pmax pmax
comp=Z,18nm,1.1s,mb5.0
CMB **Columbia Colle** 59.99 65 eP P 17 52 47.7 -0.3
comp=Z,18nm,1.1s,mb5.0
CMB **Columbia Colle** 59.99 65 ⇑P P 17 52 48.3 +0.4
baz=60
J12A **Stokes Ranch,** 60.00 58 ⇓P P 17 52 47.6 -0.4
baz=60
N09A **Rock Creek Ran** 60.03 61 ⇓P P 17 52 48.8 +0.6
baz=60
PACP **Pacheco Peak** 60.06 67 ⇓P P 17 52 49.1 +0.6
baz=60
EGMT **Eagleton** 60.06 51 eP P 17 52 44.3 -4.0
comp=Z,12nm,1.0s,mb4.9
EGMT **Eagleton** 60.06 51 ⇑P P 17 52 46.9 -1.4
baz=60
DLMT **Dillon** 60.14 54 eP P 17 52 50.0 +1.1
comp=Z,5.5nm,0.8s,mb4.6
I13A **Wildhorse Cree** 60.16 56 ⇓P P 17 52 49.6 +0.6
baz=60
HLID **Hailey** 60.21 57 ⇑P P 17 52 48.4 -1.0
baz=60
M10A **I.L. Ranch, Tu** 60.21 60 ⇓P P 17 52 49.7 +0.3
baz=60
R06C **Coleville** 60.27 64 ⇑P P 17 52 49.8 -0.1
baz=60
L11A **Cat Creek Ranc** 60.28 59 P P 17 52 50.0 +0.2
baz=60,SNR=6.1
G15A **Dillon** 60.32 54 ⇓P P 17 52 50.2 +0.1
baz=60
SMLA **Simla** 60.41 285 eP P 17 52 51.6 +0.7
SMLA AMb AMB 17 52 53.1
comp=Z,47nm,1.5s,mb5.3
S06C **San Francisco** 60.42 65 ⇑P P 17 52 51.4 +0.5
baz=60
J13A **Cove Ranch, Pi** 60.45 57 ⇑P P 17 52 51.1 +0.1
baz=60
S05C **Merced** 60.45 66 ⇓P P 17 52 50.8 -0.4
baz=60
BOZ **Bozeman (W)** 60.50 54 eP P 17 52 51.2 -0.2
BOZ pmax pmax
comp=Z,7.0nm,0.8s,mb4.8
BOZ **Bozeman (W)** 60.50 54 eP P 17 52 51.2 -0.1
comp=Z,7.5nm,0.8s,mb4.9
O09A **Fish Creek Ran** 60.65 61 ⇓P P 17 52 52.8 +0.4
baz=60
M11A **Holland Ranch,** 60.71 60 ⇓P P 17 52 53.2 +0.4
baz=60
L12A **House Creek Ra** 60.72 58 ⇑P P 17 52 53.5 +0.6
baz=60
O10A **Cortez Mining,** 60.99 61 ⇑P P 17 52 54.9 +0.2
baz=61,SNR=7.4
Q08A **Gabbs** 61.00 63 ⇓P P 17 52 54.8 0.0
baz=61
NVAR **Mina Array Bea** 61.04 64 P P 17 52 54.9 -0.3
NVAR **Mina Array Bea** 61.04 64 P P 17 52 54.9 -0.3
comp=Z,4.6nm,0.6s,mb4.8,baz=298,slow=7.1,SNR=19
T06C **Millerton Lake** 61.05 66 ⇓P P 17 52 56.0 +0.8
baz=61
KCC **Kaiser Creek** 61.10 65 ⇑P P 17 52 55.9 +0.4
baz=61
M12A **Wells** 61.23 59 ⇑P P 17 52 57.2 +0.8
baz=61
L13A **Double Diamond** 61.39 58 ⇓P P 17 52 57.8 +0.4
baz=61
P10A **Eureka** 61.42 62 ⇓P P 17 52 58.1 +0.4
baz=61
N12A **Clover Valley,** 61.51 60 ⇑P P 17 52 58.9 +0.6
baz=61
K14A **Jones Ranch, D** 61.55 57 ⇓P P 17 52 59.2 +0.7
baz=61
HELL **Mitchell Peak** 61.68 66 P P 17 52 58.9 -0.6
baz=61,SNR=7.6
YFT **Old Faithful** 61.69 54 eP P 17 53 01.5 +2.1
S08C **White Mtn Res** 61.70 64 ⇑P P 17 53 00.1 +0.5
baz=61
M13A **Montello** 61.71 59 ⇓P P 17 52 59.9 +0.3
baz=61
R09A **Tonopah** 61.91 63 P P 17 53 01.1 +0.1
baz=62,SNR=8.8
NDI **New Delhi** 61.93 283 eP P 17 53 01.4 +0.1
NDI AMb AMB 17 53 02.2
comp=Z,19nm,0.7s,mb5.3
Q10A **Clear Creek Ra** 61.96 62 ⇓P P 17 53 01.5 +0.2
baz=62
IMW **Indian Meadow** 61.98 55 eP P 17 53 01.0 -0.4
comp=Z,15nm,1.2s,mb5.0
N13A **Wendover, West** 62.00 59 ⇓P P 17 53 02.0 +0.4
baz=62
JOF **Joensuu** 62.02 335 ep P 17 52 59.8 -1.5
comp=Z,3.1nm,0.4s,mb4.8
JOF **Joensuu** 62.02 335 eP P 17 52 59.8 -1.5
JOF pmax pmax
comp=Z,3.0nm,0.4s,mb4.8
O12A **Currie** 62.05 60 ⇓P P 17 53 02.1 +0.2
baz=62
M14A **Sheep Mountain** 62.10 58 ⇓P P 17 53 02.1 -0.1
baz=62
RLMT **Red Lodge** 62.13 53 eP P 17 53 02.4 0.0
comp=Z,18nm,1.1s,mb5.1
S09A **Goldfield** 62.14 64 ⇓P P 17 53 03.5 +0.9
baz=62
MOOW **Moose Ponds** 62.18 55 eP P 17 53 03.0 +0.3
comp=Z,6.7nm,0.9s,mb4.8
TPAW **Teton Pass** 62.23 55 eP P 17 53 03.6 +0.5
comp=Z,21nm,1.1s,mb5.2
PKM **Peak Mountain** 62.30 68 ⇑P P 17 53 04.5 +0.8
baz=62
LOHW **Long Hollow** 62.34 55 eP P 17 53 04.4 +0.5
comp=Z,9.3nm,1.2s,mb4.8
REDW **Red Top Meadow** 62.36 55 eP P 17 53 04.6 +0.6
comp=Z,32nm,1.2s,mb5.3
Q11A **Duckwater** 62.40 62 ⇓P P 17 53 04.2 0.0
baz=62
S10A **Tonopah Range,** 62.41 63 ⇓P P 17 53 03.9 -0.5
baz=62
P12A **McGill** 62.45 61 ⇑P P 17 53 04.3 -0.3
baz=62
GRAC **Grapevine Rang** 62.51 64 ⇓P P 17 53 05.1 0.0
baz=62
M15A **Larsen Ranch,** 62.65 58 ⇑P P 17 53 06.4 +0.5
baz=62
KAKA **Kakadu** 62.67 205 ⇓i P P 17 53 06.2 0.0
comp=Z,27nm,0.6s,mb5.5
R11A **Troy Canyon, C** 62.75 62 P P 17 53 06.4 -0.3
baz=62,SNR=8.2
Q12A **Willow Creek R** 62.77 61 ⇑P P 17 53 07.1 +0.3
baz=62
BSC **Santa Cruz Isl** 62.99 68 ⇓P P 17 53 08.1 -0.3
baz=63
MPMC **Manual Prospec** 63.03 65 P P 17 53 08.3 -0.3
baz=63,SNR=8.1
S11A **Rachel** 63.10 63 ⇑P P 17 53 09.1 +0.1
baz=63
FURC **Furnace Creek,** 63.16 65 ⇓P P 17 53 09.3 -0.1
baz=63
TPNV **Topopah Spring** 63.24 64 eP P 17 53 09.5 -0.4
TPNV pmax pmax
comp=Z,24nm,1.1s,mb5.2
TPNV **Topopah Spring** 63.24 64 eP P 17 53 09.5 -0.4
comp=Z,24nm,1.1s,mb5.2
TPNV **Topopah Spring** 63.24 64 ⇓P P 17 53 08.8 -1.1
baz=63
DUG **Dugway** 63.24 59 eP P 17 53 09.6 -0.3
DUG pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
DUG **Dugway** 63.24 59 eP P 17 53 09.6 -0.3
comp=Z,10nm,0.9s,mb5.0
DUG **Dugway** 63.24 59 ⇑P P 17 53 09.0 -0.9
baz=63
LRMC **Laurel Mountai** 63.28 66 ⇓P P 17 53 10.3 +0.1
baz=63
R12A **Pony Springs,** 63.36 62 ⇓P P 17 53 10.2 -0.5
baz=63
EDW2 **Edwards Air Fo** 63.47 67 P P 17 53 11.5 +0.1
baz=63,SNR=8.9
T11A **Corn Creek, Al** 63.68 63 P P 17 53 12.6 -0.2
baz=63,SNR=8.0
NLU **North Lily Min** 63.83 59 eP P 17 53 13.6 -0.1
GSC **Goldstone** 63.95 65 eP P 17 53 14.2 -0.4
GSC pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
GSC **Goldstone** 63.95 65 eP P 17 53 14.2 -0.4
comp=Z,9.9nm,0.9s,mb4.8
GSC **Goldstone** 63.95 65 ⇑P P 17 53 14.9 +0.3
baz=64
BFSC **Mount Baldy St** 64.09 67 ⇑P P 17 53 15.8 +0.2
baz=64
S13A **Holt Ranch, En** 64.29 62 ⇓P P 17 53 16.8 0.0
baz=64
TUQ **Turquoise Mtn.** 64.41 65 ⇑P P 17 53 17.8 +0.2
baz=64
HEC **Hector,Ludlow** 64.55 66 ⇓P P 17 53 18.6 +0.1
baz=64
S14A **Cedar City** 64.59 61 ⇑P P 17 53 18.9 +0.1
baz=64
CCUT **Cedar City** 64.61 62 eP P 17 53 19.0 +0.1
FINES **FINESS Array B** 64.69 336 P P 17 53 18.1 -1.0
comp=Z,8.4nm,0.6s,mb5.0,baz=38,slow=7.0,SNR=33
SFJD **Kangerlussuaq** 64.86 11 eP P 17 53 18.8 -1.3
SFJD pmax pmax
comp=Z,15nm,0.8s,mb5.1
SFJD **Kangerlussuaq** 64.86 11 eP P 17 53 18.8 -1.3
comp=Z,16nm,0.8s,mb5.1
V12A **Nelson** 64.89 64 ⇓P P 17 53 21.0 +0.3
baz=65
U13A **Pakoon Wash** 64.98 63 P P 17 53 21.6 +0.2
baz=65,SNR=7.3
GMRC **Granite Mounta** 65.00 65 P P 17 53 21.1 -0.4
baz=65,SNR=9.2
VIS **Vishakhapatnam** 65.07 270 eP P 17 53 22.6 +0.5
VIS AMb AMB 17 53 25.4
comp=Z,66nm,1.7s,mb5.4
AJM **Ajmer** 65.10 283 eP P 17 53 22.1 -0.2
AJM AMb AMB 17 53 30.9
comp=Z,18nm,0.8s,mb5.2
T14A **Hurricane** 65.10 62 ⇑P P 17 53 22.1 0.0
baz=65
PFO **Pinyon Flat Ob** 65.26 67 ⇓P P 17 53 23.3 +0.1
baz=65
SRU **San Rafael** 65.29 59 eP P 17 53 22.7 -0.6
SRU pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
SRU **San Rafael** 65.29 59 eP P 17 53 22.7 -0.6
comp=Z,10.0nm,0.9s,mb4.8
BELC **Belle Mtn.** 65.29 66 ⇑P P 17 53 23.2 -0.3
baz=65
MOS **Moscow** 65.31 327 eP P 17 53 25.6 +2.4
MOS pmax pmax
comp=Z,63nm,0.9s,mb5.7
V13A **Grand Canyon W** 65.34 63 P P 17 53 24.0 +0.3
baz=65,SNR=7.2
BHPL **Bhopal** 65.37 278 eP P 17 53 24.2 +0.1
BHPL AMb AMB 17 53 25.3
comp=Z,40nm,0.9s,mb5.4
U14A **Mt Trumbull** 65.46 62 ⇑P P 17 53 25.2 +0.8
baz=65
ULM **Lac du Bonnet** 65.49 42 P P 17 53 22.9 -1.5
ULM **Lac du Bonnet** 65.49 42 P P 17 53 22.9 -1.5
comp=Z,3.2nm,0.8s,mb4.4,baz=320,slow=11,SNR=3.4
PSI **Prapat** 65.50 246 P P 17 53 26.1 +1.1
comp=Z,8.3nm,0.8s,mb4.8,baz=350,slow=3.5,SNR=5.0
RSSD **Black Hills** 65.62 51 eP P 17 53 24.5 -0.8
RSSD pmax pmax
comp=Z,12nm,0.8s,mb5.0
RSSD **Black Hills** 65.62 51 eP P 17 53 24.5 -0.8
comp=Z,12nm,0.8s,mb5.0
IRM **Iron Mountain** 65.72 65 P P 17 53 26.1 -0.1
baz=66,SNR=6.1
MONP **Monument Peak** 65.75 67 ⇑P P 17 53 26.5 +0.1
baz=66
BC3 **Big Chuckw Mtn** 65.86 66 ⇑P P 17 53 27.0 -0.1
baz=66
W13A **Hualapai Mount** 65.89 64 ⇓P P 17 53 27.7 +0.4
baz=66
V14A **Boquillas Ranc** 66.02 63 P P 17 53 28.4 +0.3
baz=66,SNR=10.0
OBN **Obninsk** 66.18 327 d i P P 17 53 27.7 -1.1
OBN i pP 17 53 33.0 -2.8
OBN pmax pmax
comp=Z,28nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
X13A **Yucca** 66.26 64 P P 17 53 29.2 -0.4
baz=66,SNR=7.0
PDMCI **Parker Dam,Lak** 66.26 65 ⇑P P 17 53 29.5 -0.2
baz=66
W14A **Seligman** 66.31 63 P P 17 53 30.2 +0.2
baz=66,SNR=9.6
Y12C **Blythe** 66.38 65 ⇑P P 17 53 30.2 -0.3
baz=66
V15A **Kaibab Nationa** 66.47 62 P P 17 53 31.6 +0.7
baz=66,SNR=7.3
PV10 **Paradox Valley** 66.65 58 eP P 17 53 31.2 -0.8
GLA **Glamis** 66.65 66 eP P 17 53 31.4 -0.8
GLA pmax pmax
comp=Z,11nm,1.1s,mb4.8
GLA **Glamis** 66.65 66 eP P 17 53 31.4 -0.8
comp=Z,11nm,1.1s,mb4.8
GLA **Glamis** 66.65 66 ⇓P P 17 53 31.9 -0.2
baz=66
W15A **Williams** 66.83 63 ⇓P P 17 53 33.5 +0.2
baz=67
AGMN **Agasiz Refuge** 66.87 43 eP P 17 53 31.8 -1.4
comp=Z,24nm,1.3s,mb5.1
X14A **Yava** 66.92 64 ⇑P P 17 53 33.8 0.0
baz=67
VSU **Vasula** 66.92 334 ⇓i P P 17 53 32.5 -1.0
CTA **Charters Tower** 67.03 189 P P 17 53 33.8 -0.8
comp=Z,6.2nm,1.0s,mb4.6,baz=300,slow=8.1,SNR=2.9
PV01 **Paradox Valley** 67.08 58 P P 17 53 34.7 -0.2
VRHR **Novokhopersk** 67.12 321 eP P 17 53 34.0 -0.8
VRHR pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.6s
Y14A **Wickenburg** 67.20 64 ⇓P P 17 53 35.8 +0.1
baz=67
X15A **Humboldt** 67.31 63 ⇓P P 17 53 36.7 +0.3
baz=67
AKL **Akola** 67.36 277 eP P 17 53 36.7 -0.1
AKL AMb AMB 17 53 38.3
comp=Z,25nm,1.3s,mb5.1
113A **Mohawk Valley,** 67.51 66 ⇓P P 17 53 37.5 -0.1
baz=67
Y15A **Casa Rosa Ranc** 67.61 64 ⇓P P 17 53 38.3 +0.1
baz=67
ISCO **Idaho Springs** 67.66 55 eP P 17 53 38.5 0.0
ISCO pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
ISCO **Idaho Springs** 67.66 55 eP P 17 53 38.5 0.0
comp=Z,5.2nm,0.8s,mb4.6
X16A **Lo Mia Camp, P** 67.85 63 ⇓P P 17 53 40.1 +0.3
baz=68
W17A **Winslow** 67.85 62 ⇓P P 17 53 39.3 -0.4
baz=68
VRSR **Storozhevoye** 68.07 323 eP P 17 53 39.9 -0.9
VRSR pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
VRSR pmax pmax
comp=N,4.0nm,0.7s
VRSR pmax pmax
comp=E,4.0nm,0.7s
Y16A **Circle Bar Ran** 68.19 63 ⇑P P 17 53 42.5 +0.6
baz=68
VORD **Divnogorie** 68.21 322 eP P 17 53 40.4 -1.3
VORD e*SP pP 17 53 46.1 -2.6
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
115A **Sonoran Desert** 68.51 65 ⇓P P 17 53 44.7 +0.8
baz=68
HYB **Hyderabad** 68.56 273 eP P 17 53 45.0 +0.6
HYB **Hyderabad** 68.56 273 i P P 17 53 45.0 +0.6
Y17A **Roosevelt** 68.70 63 ⇓P P 17 53 45.3 +0.2
baz=68
NB2 **NORSAR Subarra** 68.72 342 P P 17 53 43.9 -0.8
comp=Z,4.3nm,0.5s,mb4.6,baz=26,slow=6.5
NOA **NORSAR Array B** 68.72 342 P P 17 53 43.9 -0.8
comp=Z,7.4nm,0.8s,mb4.7,baz=26,slow=6.3,SNR=16
NOA LR LR 18 28 50.6
comp=Z,70nm,18.7s,MS3.9,baz=20,slow=40
WRAB **Tennant Creek** 69.04 201 P P 17 53 47.0 -0.1
comp=Z,105nm,0.9s,mb5.8,SNR=6.8
WRAB **Tennant Creek** 69.04 201 c i P P 17 53 47.4 +0.3
WRAB **Tennant Creek** 69.04 201 eP P 17 53 46.3 -0.8
comp=Z,16nm,0.9s,mb5.0
WB2 **Warramunga Arr** 69.05 201 e P 17 53 47.5 +0.3
WRA **Warramunga Arr** 69.05 201 P P 17 53 47.2 0.0
comp=Z,11nm,0.8s,mb4.8,baz=21,slow=7.0,SNR=63
X19A **St. Johns** 69.15 62 ⇓P P 17 53 48.6 +0.7
baz=69
216A **Three Points,** 69.47 65 ⇓P P 17 53 50.4 +0.5
baz=69
Y19A **Nutrioso** 69.49 62 ⇓P P 17 53 50.6 +0.6
baz=69
117A **Oracle** 69.52 64 ⇓P P 17 53 50.2 0.0
baz=69
TUC **Tucson** 69.67 64 eP P 17 53 50.7 -0.4
TUC e 17 54 02.1
TUC pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
TUC **Tucson** 69.67 64 eP P 17 53 50.7 -0.5
comp=Z,6.8nm,1.2s,mb4.5
TUC e 17 54 02.1
ECSD **EROS,Sioux Fal** 69.75 47 eP P 17 53 49.9 -1.5
comp=Z,2.8nm,0.6s,mb4.4
FITZ **Fitzroy Crossi** 69.91 210 eP P 17 53 53.1 +0.6
comp=Z,8.9nm,0.7s,mb4.8
Z19A **T-Link Ranch,** 69.94 63 ⇓P P 17 53 53.3 +0.5
baz=70
118A **Homack Ranch,** 69.95 64 P P 17 53 53.2 +0.3
baz=70,SNR=6.7
217A **Green Valley** 70.02 65 ⇑P P 17 53 53.7 +0.4
baz=70
119A **Ashpeak Ranch,** 70.28 63 ⇑P P 17 53 55.1 +0.3
baz=70
218A **Dragoon** 70.36 64 P P 17 53 55.6 +0.2
baz=70,SNR=5.3
ANMO **Albuquerque** 70.49 60 eP P 17 53 55.5 -0.6
ANMO pmax pmax
comp=Z,4.0nm,0.9s
ANMO **Albuquerque** 70.49 60 eP P 17 53 55.5 -0.7
comp=Z,3.8nm,0.9s,mb4.3
318A **Bisbee** 70.76 64 P P 17 53 57.7 -0.1
baz=70,SNR=5.2
219A **White Tail Can** 70.83 64 P P 17 53 58.2 0.0
baz=71,SNR=6.0
POO **Poona** 71.01 277 eP P 17 54 00.2 +0.7
POO AMb AMB 17 54 01.0
comp=Z,35nm,0.7s,mb5.4
319A **Douglas** 71.24 64 P P 17 54 01.1 +0.4
baz=71,SNR=6.2
KAD **Karad** 71.63 276 eP P 17 54 03.5 +0.2
KAD AMb AMB 17 54 04.4
comp=Z,37nm,1.2s,mb5.2
SUW **Suwalki** 71.73 333 eP P 17 54 02.3 -1.0
SUW e pP 17 54 09.1 -1.2
SUW **Suwalki** 71.73 333 eP P 17 54 02.3 -1.0
SUW e pP 17 54 09.1 -1.2
KIV **Kislovodsk** 71.91 316 P P 17 54 05.7 +1.2
comp=Z,319nm,0.9s,mb6.2,SNR=5.5
KIV **Kislovodsk** 71.91 316 eP P 17 54 04.0 -0.5
KIV pmax pmax
comp=Z,57nm,1.0s,mb5.5
KIV **Kislovodsk** 71.91 316 eP P 17 54 05.2 +0.6
comp=Z,57nm,1.0s,mb5.5
AKASG **Malin Array Be** 72.40 327 P P 17 54 06.2 -1.1
AKASG LR LR 18 28 30.9
AKASG **Malin Array Be** 72.40 327 P P 17 54 06.2 -1.1
comp=Z,3.9nm,0.4s,mb4.7,baz=34,slow=6.0,SNR=42
AKASG LR LR 18 28 30.9
comp=Z,116nm,19.7s,MS4.2,baz=30,slow=38
KIEV **Kiev** 72.41 327 eP P 17 54 06.1 -1.3
KIEV e pP 17 54 12.7 -1.8
KIEV pmax pmax
comp=Z,32nm,0.7s,mb5.4
KIEV **Kiev** 72.41 327 eP P 17 54 06.1 -1.4
comp=Z,32nm,0.7s,mb5.4
KIEV e pP 17 54 12.7 -1.8
SCHQ **Schefferville** 72.69 24 LR LR 18 28 55.6
comp=Z,95nm,19.3s,MS4.1,baz=295,slow=38
ASAR **Alice Springs** 72.73 201 P P 17 54 10.4 +0.9
comp=Z,8.2nm,0.6s,mb4.8,baz=15,slow=5.5,SNR=111
BSD **Bornholm Skovb** 73.17 338 i P pP 17 54 17.3 -1.6
BSD pmax pmax
comp=Z,35nm,0.9s,mb5.3
BSD **Bornholm Skovb** 73.17 338 i P pP 17 54 17.3 -1.6
comp=Z,35nm,0.9s
MNTX **Cornudas Mount** 73.40 61 eP P 17 54 13.0 -0.6
comp=Z,13nm,1.3s,mb4.7
SOC **Sochi** 73.60 317 eP P 17 54 14.6 0.0
SOC e*SP sP 17 54 21.0 -3.2
SOC e 17 54 28.5
SOC e 17 56 56.4
SOC eS S 18 03 43.7 +0.3
SOC e 18 04 31.1
SOC pmax pmax
comp=Z,14nm,0.6s,mb5.1
GNI **Garni** 73.71 312 ⇑eP P 17 54 16.9 +1.6
GNI **Garni** 73.71 312 eP P 17 54 16.7 +1.4
comp=Z,30nm,0.9s,mb5.2
GNI **Garni** 73.71 312 P P 17 54 16.4 +1.1
comp=Z,3.8nm,0.3s,mb4.8,baz=163,slow=14,SNR=5.3
ANN **Anapa** 73.72 319 eP P 17 54 14.0 -1.2
ANN eS S 18 03 47.7 +3.1
ANN pmax pmax
comp=Z,38nm,1.6s,mb5.1
MCD **Coleburn Disti** 74.53 348 eP P 17 54 22.0 +2.2
RRH **Rhenigidale** 74.64 350 eP P 17 54 22.8 +2.4
MME1 **Meikle Cairn** 74.75 348 eP P 17 54 23.5 +2.5
MDO **Dochfour** 74.82 349 eP P 17 54 23.7 +2.3
KAC **Achnashellach** 74.88 349 eP P 17 54 25.4 +3.6
SIM **Simferopol'** 75.06 321 eP P 17 54 23.0 -0.1
SIM pmax pmax
comp=Z,20nm,0.8s,mb5.1
KSB **Sheil Bridge** 75.18 349 eP P 17 54 23.7 +0.2
BSEG **Bad Segeberg** 75.39 340 eP P 17 54 24.6 -0.2

comp=Z,18nm,0.8s,mb5.0
KAR1 Arisaig 75.51 349 *e*P **P 17 54 25.4 0.0**
ERZM Erzurum 75.60 314 *i* P **P 17 54 27.7 +1.4**
KWP Kalwaria 75.61 330 *e*P **P 17 54 26.1 -0.1**
KWP *e* pP 17 54 32.6 -0.6
KWP Kalwaria 75.61 330⇑*i*P **P 17 54 26.5 +0.4**
EBH Black Hill 75.86 348 *e*P **P 17 54 29.8 +2.4**
KOPT Kop Dagi 75.95 314 *i* P **P 17 54 30.7 +2.5**
EAB Aberfoyle 76.03 348 *e*P **P 17 54 30.8 +2.4**
ESY Stoneypath 76.05 347 *e*P **P 17 54 31.0 +2.5**
OJC Ojcow 76.06 332 *e*P **P 17 54 28.4 -0.3**
TXAR Lajitas Array 76.12 62 P **P 17 54 28.9 -0.5**
comp=Z,12nm,0.7s,mb4.9,baz=299,slow=4.2,SNR=118
EDI Edinburgh 76.12 348 *e*P **P 17 54 29.8 +0.8**
EDI AMb AMB 17 54 35.2
comp=Z,54nm,2.0s,mb5.1
EAU Auchinoon 76.24 348 *e*P **P 17 54 32.0 +2.4**
EBL Broad Law 76.25 348 *e*P **P 17 54 32.2 +2.5**
STHS Stebnicka Huta 76.28 331 *i* P **P 17 54 30.4 +0.4**
STHS *e* pP 17 54 38.2 +1.2
STHS pmax pmax
comp=Z,23nm,0.7s,mb5.2
STHS Stebnicka Huta 76.28 331 *i* P **P 17 54 30.4 +0.4**
comp=Z,23nm,0.7s,mb5.2
STHS *e* pP 17 54 38.2 +1.2
KOLS Kolonicke sedl 76.36 330 *e*P **P 17 54 30.1 -0.3**
KOLS *e*pP pP 17 54 38.0 +0.5
BURAR Bucovina Array 76.44 328⇑*i*P **P 17 54 30.9 0.0**
KSP Ksiaz 76.58 335 *e*P **P 17 54 31.3 -0.3**
KSP *e* pP 17 54 39.2 +0.5
KSP Ksiaz 76.58 335 *e*P **P 17 54 30.8 -0.8**
KSP *e*pP pP 17 54 34.5 -4.2
CRVS Cervenica-Dubn 76.66 331 *e*P **P 17 54 32.0 -0.1**
CRVS *e*pP pP 17 54 39.6 +0.4
ESK Eskdalemuir 76.71 348 P **P 17 54 38.1 +5.8**
comp=Z,118nm,0.5s,mb6.1,SNR=6.2
ESK Eskdalemuir 76.71 348 *e*P **P 17 54 34.9 +2.6**
ESK AMb AMB 17 54 42.9
comp=Z,47nm,2.0s,mb5.1
ESK Eskdalemuir 76.71 348 *e*P **P 17 54 32.1 -0.2**
ESK pmax pmax
comp=Z,14nm,0.7s,mb5.0
ESK Eskdalemuir 76.71 348 *e*P **P 17 54 32.1 -0.2**
comp=Z,14nm,0.7s,mb5.0
OKC Ostrava-Krasne 76.91 333 *e*P **P 17 54 33.3 -0.2**
OKC *e*pP pP 17 54 40.6 0.0
OKC Ostrava-Krasne 76.91 333 *e*P **P 17 54 33.3 -0.2**
OKC *e*pP pP 17 54 40.6 0.0
OKC AMS AMS 18 34 00.0
comp=Z,200nm,17.0s
TRPA Tarpa 76.95 330⇑*i*P **P 17 54 33.2 -0.6**
UPC Upice 76.97 335 *e*P **P 17 54 33.8 0.0**
UPC *e*pP pP 17 54 39.1 -1.8
UPC *e*sP sP 17 54 41.5 -2.0
UPC *e*PCP PcP 17 54 44.0 -0.8
DPC Dobruska-Polom 77.01 334 *e*P **P 17 54 34.2 +0.1**
DPC *e*pP pP 17 54 39.6 -1.6
DPC *e*sP sP 17 54 42.0 -1.7
DPC AMS AMS 18 33 40.0
comp=Z,200nm,17.8s
CLL Collm 77.10 337⇓*i*P **P 17 54 33.8 -0.7**
CLL *i* pP 17 54 41.7 +0.1
CLL pmax pmax
comp=Z,25nm,1.2s,mb5.0
CLL Collm 77.10 337⇓*i*P **P 17 54 33.8 -0.7**
comp=Z,25nm,1.2s,mb5.0
CLL *i* pP 17 54 38.8 -2.8
CLL *i* pP 17 54 41.7 +0.1
CLL Collm 77.10 337 *e*P **P 17 54 33.8 -0.7**
comp=Z,52nm,0.9s,mb5.5
CLL Collm 77.10 337⇓*i*P **P 17 54 33.8 -0.7**
comp=Z,25nm,1.2s,mb5.0
CLL *i* pP pP 17 54 38.8 -2.8
CLL *i* sP sP 17 54 41.7 -2.5
comp=Z,50nm,1.2s
CLL *i* PcP PcP 17 54 43.9 -1.4
CLL *i* PP PP 17 57 25.1 -2.3
CLL *e*PS 18 05 06.0
CLL *e*(SS) 18 09 00.0
MORC Moravsky Berou 77.15 333 *e*P **P 17 54 34.5 -0.4**
MORC *e* pP 17 54 42.6 +0.7
MORC pmax pmax
comp=Z,36nm,1.0s,mb5.3
MORC Moravsky Berou 77.15 333 *e*P **P 17 54 34.5 -0.4**
comp=Z,36nm,1.0s,mb5.3
MORC *e* pP 17 54 42.6 +0.6
MORC Moravsky Berou 77.15 333⇓*i*P **P 17 54 35.0 +0.1**
BRG Berggiesshubel 77.23 336 *e*P **P 17 54 34.7 -0.6**
BRG *e* pP 17 54 42.7 +0.3
BRG pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BRG Berggiesshubel 77.23 336 *e*P **P 17 54 34.5 -0.8**
comp=Z,22nm,0.9s,mb5.1
BRG Berggiesshubel 77.23 336 *e*P **P 17 54 34.7 -0.6**
comp=Z,8.9nm,1.1s,mb4.6
BRG *e* pP 17 54 42.7 +0.3
comp=Z,22nm,0.9s
CLZ Clausthal 77.30 339 *e*P **P 17 54 35.7 +0.1**
CLZ pmax pmax
comp=Z,47nm,1.2s,mb5.3
CLZ Clausthal 77.30 339 *e*P **P 17 54 35.7 +0.1**
comp=Z,47nm,1.2s,mb5.3
GCL Cushendall 77.35 349 *e*P **P 17 54 39.0 +3.1**
PVCC Panska Ves 77.36 336 *e*P **P 17 54 35.8 -0.2**
PVCC *e*pP pP 17 54 43.0 -0.1
PVCC *e*PCP PcP 17 54 46.1 -0.4
GAL1 Galloway 77.37 348 *e*P **P 17 54 38.1 +2.1**
GAL1 *e*P 17 54 38.1
GAL1 AMb AMB 17 54 44.7
comp=Z,43nm,2.1s,mb5.0
CKE Keswick 77.41 347 *e*P **P 17 54 39.7 +3.5**
MSL Mosul 77.46 310 *ex* x 17 54 39.0
BOYT Boyabat 77.52 318 *i* P **P 17 54 38.7 +1.6**
JCT Junction City 77.60 59 P **P 17 54 37.1 -0.6**
JCT *e* 17 54 48.9
JCT pmax pmax
comp=Z,17nm,1.3s,mb4.8
JCT Junction City 77.60 59 *e*P **P 17 54 36.6 -1.2**
comp=Z,11nm,0.9s,mb4.8
TIRR Tirgusor 77.84 324⇑*i*P **P 17 54 39.0 +0.2**
HARR Harsova 77.84 325 P **P 17 54 39.1 +0.3**
HARR Harsova 77.84 325⇑*i*P **P 17 54 37.9 -0.9**
PRU Pruhonice 77.86 335 *e*P **P 17 54 38.8 0.0**
PRU *e*pP pP 17 54 46.6 +0.7
PRU *e*PCP PcP 17 54 48.9 +0.2
PRU AMS AMS 18 34 30.0
comp=Z,100nm,16.2s
VRAC Vranov 77.86 334 P **P 17 54 39.5 +0.6**
VRAC Vranov 77.86 334 LR LR 18 31 11.0
comp=Z,124nm,21.9s,MS4.2,baz=14,slow=37
VRAC Vranov 77.86 334⇓*i*P **P 17 54 38.8 0.0**
ELZG Elazig 77.87 314 *i* P **P 17 54 40.9 +1.8**
VYHS Vyhne 77.87 332 *e* **P 17 54 31.1 -7.8**
VYHS Vyhne 77.87 332 *e*P **P 17 54 38.9 0.0**
VYHS *e*pP pP 17 54 46.7 +0.7
MARD Mardin 77.88 312 *i* P **P 17 54 40.6 +1.4**
KOLL Kolacno 77.94 332 *e*P **P 17 54 39.5 +0.2**
KOLL *e*pP pP 17 54 47.1 +0.7
MLR Muntele Rosu 77.95 326 P **P 17 54 39.7 +0.3**
MLR Muntele Rosu 77.95 326 LR LR 18 31 32.8
comp=Z,84nm,18.4s,MS4.1,baz=302,slow=38
MLR Muntele Rosu 77.95 326⇑*i*P **P 17 54 39.8 +0.4**
PSZ Piszkesteto 78.03 331 *e*P **P 17 54 39.8 0.0**
PSZ pmax pmax
comp=Z,18nm,0.8s,mb5.0
PSZ Piszkesteto 78.03 331 *e*P **P 17 54 39.8 0.0**
comp=Z,18nm,0.8s,mb5.0
WTSB Winterswijk 78.03 341 *e*P **P 17 54 39.6 -0.1**
comp=Z,19nm,1.1s,mb5.0
WTSB Winterswijk 78.03 341 *ex* pP 17 54 47.9 +1.1
comp=Z,24nm,1.2s
TANN Tannenbergstha 78.05 337 *e*P **P 17 54 39.5 -0.4**
comp=Z,26nm,1.5s,mb4.9
MOX Moxa 78.07 337 *e*P **P 17 54 39.8 -0.2**
comp=Z,21nm,1.3s,mb4.9
MOX *e* pP 17 54 47.4 +0.4
MOX Moxa 78.07 337 *e*P **P 17 54 39.8 -0.2**
MOX *e* pP 17 54 47.4 +0.4
MOX pmax pmax
comp=Z,21nm,1.3s,mb4.9
MOX Moxa 78.07 337 *e*P **P 17 54 39.6 -0.4**
comp=Z,27nm,1.1s,mb5.1
BALT Daday 78.11 319 *i* P **P 17 54 40.8 +0.5**

GMM Mts of Mourne 78.15 349 *e*P **P 17 54 43.2 +2.9**
CTKT Corum 78.20 318 *i* P **P 17 54 42.0 +1.1**
TREC Trest 78.20 334 AMS AMS 18 34 50.0
comp=Z,200nm,15.5s
LHO Holmfirth 78.22 346 *e*P **P 17 54 43.5 +2.8**
NKC Novy Kostel 78.22 337 *e*P **P 17 54 41.1 +0.3**
NKC *e*pP pP 17 54 48.5 +0.6
MALT Malatya 78.29 314 *e*P **P 17 54 42.3 +0.9**
comp=Z,18nm,1.1s,mb4.9
MALT Malatya 78.29 314⇑*i*P **P 17 54 43.4 +2.0**
UBBA Unterbreizbach 78.33 338 *e*P **P 17 54 41.2 -0.2**
comp=Z,52nm,1.9s,mb5.1
VOIR 78.33 327 P **P 17 54 41.9 +0.4**
VOIR 78.33 327⇑*i*P **P 17 54 42.1 +0.6**
BUG Bochum--Univer 78.42 340 *e*P **P 17 54 41.6 -0.3**
comp=Z,28nm,1.1s,mb5.1
MANZ Manzenberg 78.54 337 *e*P **P 17 54 42.3 -0.3**
comp=Z,22nm,1.0s,mb5.0
DMUB Kingscourt 78.60 349 *e*P pP 17 54 49.4 -0.5
ZST Bratislava 78.69 333 *e*P **P 17 54 44.0 +0.6**
ZST *e* pP 17 54 50.7 +0.2
ZST pmax pmax
comp=Z,18nm,1.0s,mb5.0
ZST Bratislava 78.69 333 *e*P **P 17 54 44.0 +0.6**
comp=Z,18nm,1.0s,mb4.9
ZST *e* pP 17 54 50.7 +0.2
ZST LR LR
comp=Z,100nm,16.8s,MS4.2
ZST Bratislava 78.69 333 *e*P **P 17 54 44.0 +0.6**
ZST *e*pP pP 17 54 50.7 +0.2
BUD Budapest 78.70 331⇓*e*P **P 17 54 43.6 +0.1**
ROTZ Rotzenmuhle 78.71 337 *e*P **P 17 54 43.5 0.0**
comp=Z,27nm,0.9s,mb5.2
KWE Weaver Farm 78.72 346 *e*P **P 17 54 45.9 +2.4**
KHC Kasperske Hory 78.90 336 *e*P **P 17 54 44.7 +0.1**
KHC *e*pP pP 17 54 48.1 -3.6
KHC *e*sP sP 17 54 53.0 -1.3
KHC *e*x x 17 54 55.1
KHC AMS AMS 18 35 20.0
comp=Z,200nm,16.9s
CWF Charnwood Fore 78.90 346 *e*P **P 17 54 48.8 +4.3**
CWF AMb AMB 17 54 57.2
comp=Z,43nm,1.3s,mb5.2
GRA1 Grafenberg Arr 79.04 337 *e*P **P 17 54 45.6 +0.3**
comp=Z,63nm,0.9s,mb5.5
GRA1 *e*pP pP 17 54 51.1 -1.3
GRA1 *e*sP sP 17 54 53.6 -1.4
GRA1 LR LR
comp=Z,100nm,21.3s,MS4.1
GRF Grafenberg Arr 79.04 337 *e*P **P 17 54 45.6 +0.3**
GRF *e**PP pP 17 54 51.1 -1.3
GRF *e**SP sP 17 54 53.6 -1.4
GRF pmax pmax
comp=Z,63nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,100nm,21.3s,MS4.1
GRF Grafenberg Arr 79.04 337 *e*P **P 17 54 45.6 +0.3**
GRF *e**PP pP 17 54 51.1 -1.3
GRF *e**SP sP 17 54 53.6 -1.4
GRF pmax pmax
comp=Z,63nm,0.9s,mb5.5
GRF MLR MLR
comp=Z,100nm,21.3s,MS4.1
GRF Grafenberg Arr 79.04 337 *e*P **P 17 54 45.6 +0.3**
comp=Z,63nm,0.9s,mb5.5
GRF *e*pP pP 17 54 51.1 -1.3
GRF *e*sP sP 17 54 53.6 -1.4
GRF Grafenberg Arr 79.04 337 *e*P **P 17 54 45.6 +0.3**
comp=Z,63nm,0.9s,mb5.5
GRF *e*pP pP 17 54 51.1 -1.3
GRF *e*sP sP 17 54 53.6 -1.4
GRF *e*L 18 32 25.8
comp=Z,90nm,21.3s
GRFO Grafenberg 79.04 337 P **P 17 54 45.6 +0.2**
GRFO pmax pmax
comp=Z,51nm,0.8s,mb5.5
GRFO Grafenberg 79.04 337 *e*P **P 17 54 45.5 +0.2**
comp=Z,51nm,0.8s,mb5.5
BHD Baghdad 79.05 307 *ex* x 17 54 42.0
SBD1 Bryn Du 79.06 347 *e*P **P 17 54 48.1 +2.7**
WET Wettzell 79.09 336 *e*P **P 17 54 45.8 +0.2**
WET pmax pmax
comp=Z,40nm,1.0s,mb5.3
WET Wettzell 79.09 336 *e*P **P 17 54 45.8 +0.2**
comp=Z,40nm,1.0s,mb5.3
GEC2 GERESS Array S 79.12 335 *e*P **P 17 54 45.2 -0.6**
GEC2 pmax pmax
comp=Z,19nm,1.1s,mb4.9
GEC2 GERESS Array S 79.12 335 *e*P **P 17 54 45.2 -0.6**
comp=Z,19nm,1.1s,mb4.9
GERES GERESS Array B 79.12 335 P **P 17 54 45.4 -0.4**
comp=Z,4.3nm,0.6s,mb4.5,baz=31,slow=5.3,SNR=44
DLF Lyons Farm 79.14 349 *e*P pP 17 54 52.5 -0.4
CDAG Cicekdag 79.19 318 *i* P **P 17 54 44.8 -1.5**
DCN Croghan 79.19 350 *e*P pP 17 54 52.7 -0.5
STKA Stephens Creek 79.25 192 *e*P **P 17 54 46.1 -0.4**
comp=Z,4.0nm,0.9s,mb4.3
STKA Stephens Creek 79.25 192 P **P 17 54 45.9 -0.6**
comp=Z,5.7nm,0.9s,mb4.5,baz=328,slow=19,SNR=3.3
CONA Conrad Observa 79.31 334⇓*i*pP **P 17 54 47.3 +0.5**
comp=Z,21nm,0.8s,mb5.1,SNR=9.2
CSNA Conrad Observa 79.31 334⇓*i*pP **P 17 54 47.3 +0.5**
comp=Z,19nm,0.8s,mb5.1
HGN Heimansgroeve 79.35 341 *e*P **P 17 54 46.0 -1.0**
comp=Z,19nm,0.8s,mb5.1
HGN Heimansgroeve 79.35 341 *ex* pP 17 54 55.2 +1.0
comp=Z,40nm,1.4s
BZS Buzias 79.44 329 P **P 17 54 47.2 -0.4**
BZS Buzias 79.44 329⇑*i*P **P 17 54 46.7 -0.9**
GZT Gaziantep 79.46 314 *i* P **P 17 54 49.3 +1.4**
MEM Membach 79.48 341 P **P 17 54 47.0 -0.7**
MEM PCP PcP 17 54 55.4 -0.3
ANTO Ankara 79.72 319 *e*P **P 17 54 49.7 +0.5**
ANTO *e* pP 17 54 57.2 +0.9
ANTO pmax pmax
comp=Z,24nm,0.6s,mb5.3
ANTO Ankara 79.72 319 *e*P **P 17 54 49.7 +0.5**
comp=Z,24nm,0.6s,mb5.3
ANTO *e* pP 17 54 57.2 +0.9
ANTO Ankara 79.72 319⇑*i*P **P 17 54 49.8 +0.6**
TOD Tromm 79.75 339 *e*P **P 17 54 48.8 -0.4**
HAE Alders End 79.78 346 *e*P **P 17 54 49.2 -0.1**
ABH Alteburg 79.80 340 *e*P **P 17 54 48.7 -0.8**
BCLA Clavier 79.82 341 P **P 17 54 49.4 -0.2**
BCLA PCP PcP 17 54 55.4 -1.8
SZH Strazhica 79.82 325 P **P 17 54 48.6 -1.1**
MOA Molln 79.86 335⇓*i*P **P 17 54 49.8 -0.1**
comp=Z,17nm,0.8s,mb5.0,SNR=8.2
MOA Molln 79.86 335⇓*i*pP **P 17 54 49.8 -0.1**
comp=Z,17nm,0.8s,mb5.0,SNR=8.2
HTR Trewern Hill 79.86 347 *e*P **P 17 54 49.5 -0.3**
ANDN Andirin 79.88 315 *i* P **P 17 54 51.2 +1.1**
MCH1 Michaelchurch 79.90 347 *e*P **P 17 54 51.1 +1.1**
MCH1 *e*P 17 54 51.1
MCH1 AMb AMB 17 54 52.6
comp=Z,73nm,1.8s,mb5.3
PKSM Moragy 79.94 331 P **P 17 54 49.2 -1.1**
PKSM Moragy 79.94 331⇑*i*P **P 17 54 49.6 -0.7**
UMR Umm Al-Rimmam 79.96 303 *e*P **P 17 54 50.4 -0.3**
UMR AMb AMB 17 55 03.0
comp=Z,61nm,0.9s,mb5.5
MIB Mutribah 79.99 303 *e*P **P 17 54 50.6 -0.2**
MIB AMb AMB 17 55 01.6
comp=Z,96nm,0.7s,mb5.8
RUP Ruppelstein 80.08 340 *e*P **P 17 54 50.6 -0.4**
HGH Gray Hill 80.21 346 *e*P **P 17 54 52.0 +0.3**
GIVF Givet 80.22 341 *e*P **P 17 54 50.9 -0.8**
DOU Dourbes 80.28 341 P **P 17 54 52.0 0.0**
WLF Walferdange 80.33 340 AP **P 17 54 53.6 +1.2**
WLF PCP PcP 17 55 02.0 +2.6
WLF Walferdange 80.33 340 *e*P **P 17 54 53.9 +1.6**
comp=Z,31nm,1.2s,mb5.1
BAIF Baives 80.40 342 *e*P **P 17 54 51.7 -1.0**
comp=Z,67nm,1.2s,mb5.1
BAIF Baives 80.40 342 *e*P **P 17 54 51.7 -1.0**
BAIF pmax pmax
comp=Z,33nm,1.2s,mb5.1
BAIF Baives 80.40 342 *e*P **P 17 54 51.7 -1.0**
comp=Z,34nm,1.2s,mb5.2
STU Stuttgart 80.42 338 *e*P **P 17 54 52.7 -0.1**
comp=Z,36nm,1.0s,mb5.3
FUR Furstenfeldbru 80.42 337 *e*P **P 17 54 53.1 +0.2**
FUR pmax pmax
comp=Z,63nm,0.9s,mb5.5

FUR Furstenfeldbru 80.42 337 *e*P **P 17 54 53.1 +0.2**
comp=Z,63nm,0.9s,mb5.5
NAY Al-Naaiem 80.46 303 *e*P **P 17 54 52.6 -0.8**
NAY AMb AMB 17 55 05.7
comp=Z,24nm,0.9s,mb5.1
RDF Al-Radifah 80.52 302 *e*P **P 17 54 53.9 +0.1**
RDF AMb AMB 17 55 06.8
comp=Z,64nm,0.6s,mb5.7
PERS Pernice 80.69 333 *e*P **P 17 54 54.0 -0.3**
PERS *i* pP 17 55 01.9 +0.5
KBA Koelnbreinsper 80.82 335⇓*i*P **P 17 54 55.7 +0.7**
comp=Z,69nm,0.7s,mb5.7,SNR=17
KBA Koelnbreinsper 80.82 335⇓*i*pP **P 17 54 55.7 +0.7**
comp=Z,69nm,0.7s,mb5.7,SNR=17
KBA Koelnbreinsper 80.82 335⇓*i*P **P 17 54 55.7 +0.7**
KBA pmax pmax
comp=Z,69nm,0.7s,mb5.7
ESKT Eskisehir 80.87 320 *i* P **P 17 54 55.5 +0.1**
PPT Papeete 80.91 128 LR LR 18 22 35.4
comp=Z,143nm,21.4s,MS4.3,baz=317,slow=30
HEX Exmoor 80.92 347 *e*P **P 17 54 59.0 +3.5**
FORT Forrest 81.02 204 *e*P **P 17 54 56.7 +0.6**
comp=Z,23nm,0.7s,mb5.2
BFO Black Forest 81.05 338 P **P 17 54 56.9 +0.7**
comp=Z,134nm,0.8s,mb5.9,SNR=6.4
BFO Black Forest 81.05 338 P **P 17 54 56.1 -0.1**
BFO pmax pmax
comp=Z,21nm,1.0s,mb5.0
BFO Black Forest 81.05 338 *e*P **P 17 54 56.0 -0.2**
comp=Z,22nm,0.9s,mb5.1
WATA Walderalm 81.10 336⇑*i*P **P 17 54 57.2 +0.7**
comp=Z,33nm,1.1s,mb5.2,SNR=5.8
WATA Walderalm 81.10 336⇑*i*pP **P 17 54 57.2 +0.7**
comp=Z,33nm,1.1s,mb5.2,SNR=5.8
WATA Walderalm 81.10 336⇑*i*P **P 17 54 57.2 +0.7**
WATA pmax pmax
comp=Z,33nm,1.1s,mb5.2
WTTA Wattenberg 81.14 336⇓*i*P **P 17 54 57.4 +0.6**
comp=Z,65nm,0.9s,mb5.5
WTTA Wattenberg 81.14 336⇓*i*pP **P 17 54 57.4 +0.6**
comp=Z,65nm,0.9s,mb5.5
WTTA Wattenberg 81.14 336⇓*i*P **P 17 54 57.4 +0.7**
WTTA pmax pmax
comp=Z,65nm,0.9s,mb5.6
MOTA Moosalm 81.22 336⇓*i*P **P 17 54 57.4 +0.2**
comp=Z,26nm,0.9s,mb5.2,SNR=11
MOTA Moosalm 81.22 336⇓*i*pP **P 17 54 57.4 +0.2**
comp=Z,26nm,0.9s,mb5.2,SNR=11
MOTA Moosalm 81.22 336⇓*i*P **P 17 54 57.4 +0.3**
MOTA pmax pmax
comp=Z,27nm,0.9s,mb5.2
CDF Champ du Feu 81.23 339 *e*P **P 17 54 56.5 -0.7**
comp=Z,74nm,1.0s,mb5.2
CDF Champ du Feu 81.23 339 *e*P **P 17 54 56.5 -0.7**
CDF pmax pmax
comp=Z,37nm,1.0s,mb5.3
CDF Champ du Feu 81.23 339 *e*P **P 17 54 56.5 -0.7**
comp=Z,37nm,1.0s,mb5.3
SQTA Sankt Quirin 81.30 336⇓*i*P **P 17 54 58.2 +0.6**
comp=Z,33nm,1.1s,mb5.2
SQTA Sankt Quirin 81.30 336⇓*i*pP **P 17 54 58.2 +0.6**
comp=Z,33nm,1.1s,mb5.2
SQTA Sankt Quirin 81.30 336⇓*i*P **P 17 54 58.2 +0.6**
SQTA pmax pmax
comp=Z,33nm,1.1s,mb5.2
PTCC Patocco-Chiusa 81.43 334 P **P 17 54 57.6 -0.7**
comp=Z,14nm,0.6s,mb5.1
ECH Echery 81.44 339 *e*P **P 17 54 58.0 -0.3**
VTS Vitosha 81.45 326 P **P 17 54 58.4 -0.1**
VTS Vitosha 81.45 326⇓*i*P **P 17 54 58.2 -0.3**
VTS Vitosha 81.45 326 P **P 17 54 57.6 -0.9**
FELD Feldberg im Sc 81.55 338 *e*P **P 17 54 58.2 -0.7**
DYA Yadsworthy 81.56 347 *e*P **P 17 55 02.0 +3.1**
DYA AMb AMB 17 55 06.9
comp=Z,141nm,1.9s,mb5.6
GMNA Gemona 81.58 335 P **P 17 55 00.5 +1.4**
comp=Z,109nm,0.7s,mb5.9
DAVA Damuels 81.61 337⇓*i*P **P 17 54 59.5 +0.3**
comp=Z,61nm,1.0s,mb5.5
DAVA Damuels 81.61 337⇓*i*pP **P 17 54 59.5 +0.3**
comp=Z,61nm,1.0s,mb5.5
BOJS Bojanci 81.66 333 *i* P **P 17 54 59.1 -0.4**
BOJS *i* pP 17 55 07.4 +0.8
MEZF Maizieres J'vi 81.67 341 *e*P **P 17 54 58.7 -0.8**
comp=Z,78nm,0.8s,mb5.4
MEZF Maizieres J'vi 81.67 341 *e*P **P 17 54 58.7 -0.8**
comp=Z,78nm,0.8s,mb5.7
JAVS Javornik 81.68 334 *i* P **P 17 55 00.0 +0.4**
JAVS *i* pP 17 55 07.2 +0.5
THEF They Montfort 81.71 340 *e*P **P 17 54 58.3 -1.4**
MOF Molkenrain 81.79 339 *e*P **P 17 54 59.3 -0.8**
GDZ Gediz 81.83 320 *i* P **P 17 55 00.5 -0.1**
HAU Haudompre 81.83 340 *e*P **P 17 54 59.6 -0.8**
HAU *e*MLR MLR
comp=Z,119nm,22.2s,MS3.9
HAU Haudompre 81.83 340 *e*P **P 17 54 59.6 -0.8**
HAU LR LR
comp=Z,120nm,22.3s,MS4.2
HINF Hinteralfeld 81.89 339 *e*P **P 17 54 59.0 -1.7**
comp=Z,31nm,1.0s,mb4.9
HINF Hinteralfeld 81.89 339 *e*P **P 17 54 59.0 -1.7**
HINF pmax pmax
comp=Z,15nm,1.0s,mb4.9
HINF Hinteralfeld 81.89 339 *e*P **P 17 54 59.0 -1.7**
comp=Z,15nm,1.0s,mb4.9
MMB Musomiste 82.11 326 P **P 17 55 02.3 +0.3**
BRMO Bormio 82.22 336 P **P 17 55 03.4 +1.0**
comp=Z,22nm,0.8s,mb5.1
LOMF Lomont 82.33 339 *e*P **P 17 55 02.9 -0.1**
FLN La Foliniere 82.58 344 *e*P **P 17 55 03.3 -1.0**
comp=Z,40nm,0.7s,mb5.3
FLN *e*MLR MLR
comp=Z,103nm,17.5s,MS4.0
FLN La Foliniere 82.58 344 *e*P **P 17 55 03.3 -1.0**
FLN pmax pmax
comp=Z,20nm,0.7s,mb5.3
FLN MLR MLR
comp=Z,100nm,17.5s,MS4.2
FLN La Foliniere 82.58 344 *e*P **P 17 55 03.3 -1.0**
comp=Z,20nm,0.7s,mb5.3
FLN LR LR
comp=Z,100nm,17.5s,MS4.2
SKO Skopje 82.65 327 *e*P **P 17 55 06.3 +1.5**
LDF La Druitiere 82.67 344 *e*P **P 17 55 03.7 -1.1**
VAY Valandovo 82.79 326 *e*P **P 17 55 04.7 -0.8**
VAY Valandovo 82.79 326 *e*P **P 17 55 04.7 -0.8**
GRR Gorron 83.01 344 *e*P **P 17 55 05.8 -0.7**
comp=Z,94nm,1.1s,mb5.4
GRR Gorron 83.01 344 *e*P **P 17 55 05.8 -0.7**
GRR pmax pmax
comp=Z,47nm,1.1s,mb5.4
GRR Gorron 83.01 344 *e*P **P 17 55 05.8 -0.7**
comp=Z,47nm,1.1s,mb5.4
LOR Lormes 83.11 341 *e*P **P 17 55 06.2 -0.8**
comp=Z,84nm,0.9s,mb5.5
LOR *e*MLR MLR
comp=Z,116nm,19.8s,MS4.0
LOR Lormes 83.11 341 *e*P **P 17 55 06.2 -0.8**
LOR pmax pmax
comp=Z,42nm,0.9s,mb5.5
LOR MLR MLR
comp=Z,120nm,19.8s,MS4.3
LOR Lormes 83.11 341 *e*P **P 17 55 06.2 -0.8**
comp=Z,42nm,0.9s,mb5.5
LOR LR LR
comp=Z,120nm,19.8s,MS4.3
CABF La Chapelle 83.20 339 *e*P **P 17 55 06.7 -0.8**
comp=Z,82nm,1.1s,mb5.4
CABF La Chapelle 83.20 339 *e*P **P 17 55 06.7 -0.8**
CABF pmax pmax
comp=Z,41nm,1.1s,mb5.4
CABF La Chapelle 83.20 339 *e*P **P 17 55 06.7 -0.8**
comp=Z,41nm,1.1s,mb5.4
KRUS Krusevo 83.25 327 *e*P **P 17 55 07.8 0.0**
KRUS Krusevo 83.25 327 *e*P **P 17 55 07.8 0.0**
SSF Saint Saulge 83.38 341 *e*P **P 17 55 07.7 -0.8**
comp=Z,41nm,0.8s,mb5.2
SSF Saint Saulge 83.38 341 *e*P **P 17 55 07.7 -0.8**
SSF pmax pmax
comp=Z,20nm,0.8s,mb5.2
SSF Saint Saulge 83.38 341 *e*P **P 17 55 07.7 -0.8**
comp=Z,20nm,0.8s,mb5.2
CSS Prodhromos 83.43 316 *e*P **P 17 55 07.0 -1.9**
comp=Z,24nm,0.6s,mb5.4
SGMF Saint Gilles 83.44 345 *e*P **P 17 55 08.2 -0.6**
comp=Z,55nm,0.7s,mb5.4

SGMF	**Saint Gilles**	**83.44 345**	*e*P	**P**	**17 55 08.2**	**-0.6**
SGMF			pmax	pmax		
comp=Z,27nm,0.7s,mb5.4						
SGMF	**Saint Gilles**	**83.44 345**	*e*P	**P**	**17 55 08.2**	**-0.6**
comp=Z,27nm,0.7s,mb5.4						
ROSF	**Rostrenen**	**83.49 346**	*e*P	**P**	**17 55 08.6**	**-0.4**
comp=Z,88nm,0.9s,mb5.5						
ROSF	**Rostrenen**	**83.49 346**	*e*P	**P**	**17 55 08.6**	**-0.4**
ROSF			pmax	pmax		
comp=Z,44nm,0.9s,mb5.5						
ROSF	**Rostrenen**	**83.49 346**	*e*P	**P**	**17 55 08.6**	**-0.4**
comp=Z,44nm,0.9s,mb5.5						
ORO	**Oropa**	**83.64 338**	P	**P**	**17 55 09.8**	**0.0**
ORO			pmax	pmax		
comp=Z,27nm,0.8s,mb5.4						
ORO	**Oropa**	**83.64 338**	P	**P**	**17 55 09.8**	**0.0**
comp=Z,27nm,0.8s,mb5.4						
AVF	**Avril sur Loir**	**83.67 341**	*e*P	**P**	**17 55 09.3**	**-0.7**
comp=Z,57nm,0.8s,mb5.5						
AVF	**Avril sur Loir**	**83.67 341**	*e*P	**P**	**17 55 09.3**	**-0.7**
AVF			pmax	pmax		
comp=Z,28nm,0.8s,mb5.4						
AVF	**Avril sur Loir**	**83.67 341**	*e*P	**P**	**17 55 09.3**	**-0.7**
comp=Z,28nm,0.8s,mb5.5						
SMF	**Signal de Mont**	**83.70 341**	*e*P	**P**	**17 55 09.5**	**-0.6**
comp=Z,118nm,1.1s,mb5.6						
SMF	**Signal de Mont**	**83.70 341**	*e*P	**P**	**17 55 09.5**	**-0.6**
SMF			pmax	pmax		
comp=Z,59nm,1.1s,mb5.6						
SMF	**Signal de Mont**	**83.70 341**	*e*P	**P**	**17 55 09.5**	**-0.6**
comp=Z,59nm,1.1s,mb5.6						
QUIF	**Quistinic**	**83.87 346**	*e*P	**P**	**17 55 10.3**	**-0.7**
ASF	**Jabal al Asfar**	**83.88 311**	P	**P**	**17 55 12.0**	**+0.7**
comp=Z,16nm,1.0s,mb5.1,baz=15,slow=0.7,SNR=20						
ASF			LR	LR	18 36 27.3	
comp=Z,73nm,18.6s,MS4.1,baz=90,slow=38						
MMAI	**Mount Meron Ar**	**83.97 313**	P	**P**	**17 55 12.3**	**+0.6**
comp=Z,37nm,0.9s,mb5.5,baz=41,slow=6.6,SNR=38						
MMAI			LR	LR	18 38 48.3	
comp=Z,98nm,18.5s,MS4.2,baz=50,slow=40						
BGF	**Bois d'Agland**	**84.00 341**	*e*P	**P**	**17 55 10.7**	**-1.0**
comp=Z,24nm,0.6s,mb5.2						
BGF	**Bois d'Agland**	**84.00 341**	*e*P	**P**	**17 55 10.7**	**-1.0**
BGF			pmax	pmax		
comp=Z,12nm,0.6s,mb5.2						
BGF	**Bois d'Agland**	**84.00 341**	*e*P	**P**	**17 55 10.7**	**-1.0**
comp=Z,12nm,0.6s,mb5.2						
FSSB	**Fossombrone**	**84.06 334**	P	**P**	**17 55 12.5**	**+0.5**
comp=Z,39nm,0.6s,mb5.7						
LPL	**La Plagne**	**84.06 338**	*e*P	**P**	**17 55 12.4**	**+0.4**
comp=Z,95nm,0.8s,mb5.7						
LPL	**La Plagne**	**84.06 338**	*e*P	**P**	**17 55 12.4**	**+0.4**
LPL			pmax	pmax		
comp=Z,48nm,0.8s,mb5.7						
LPL	**La Plagne**	**84.06 338**	*e*P	**P**	**17 55 12.4**	**+0.4**
comp=Z,48nm,0.8s,mb5.7						
LPG	**La Plagne**	**84.08 338**	*e*P	**P**	**17 55 12.6**	**+0.5**
comp=Z,150nm,1.0s,mb5.8						
LPG	**La Plagne**	**84.08 338**	*e*P	**P**	**17 55 12.6**	**+0.5**
LPG			pmax	pmax		
comp=Z,75nm,1.0s,mb5.8						
LPG	**La Plagne**	**84.08 338**	*e*P	**P**	**17 55 12.6**	**+0.5**
comp=Z,75nm,1.0s,mb5.8						
VMG	**Vicchio**	**84.18 335**	P	**P**	**17 55 14.1**	**+1.5**
comp=Z,71nm,0.8s,mb5.8						
PLDF	**La Plantade**	**84.39 341**	*e*P	**P**	**17 55 13.5**	**-0.1**
TCF	**Toulx Ste Croi**	**84.40 342**	*e*P	**P**	**17 55 13.1**	**-0.6**
comp=Z,36nm,0.7s,mb5.3						
TCF	**Toulx Ste Croi**	**84.40 342**	*e*P	**P**	**17 55 13.1**	**-0.6**
TCF			pmax	pmax		
comp=Z,18nm,0.7s,mb5.3						
TCF	**Toulx Ste Croi**	**84.40 342**	*e*P	**P**	**17 55 13.1**	**-0.6**
comp=Z,18nm,0.7s,mb5.3						
SNTG	**Esanatoglia**	**84.41 333**	P	**P**	**17 55 12.3**	**-1.5**
comp=Z,33nm,0.8s,mb5.5						
AGO	**Saint Agoulin**	**84.42 341**	*e*P	**P**	**17 55 13.3**	**-0.5**
BNI	**Bardonecchia**	**84.51 338**	*e*P	**P**	**17 55 14.9**	**+0.6**
BNI			pmax	pmax		
comp=Z,33nm,0.9s,mb5.5						
BNI	**Bardonecchia**	**84.51 338**	*e*P	**P**	**17 55 14.9**	**+0.6**
comp=Z,33nm,0.9s,mb5.5						
MFF	**Saint Martin d**	**84.59 343**	*e*P	**P**	**17 55 14.1**	**-0.5**
comp=Z,26nm,0.6s,mb5.2						
MFF	**Saint Martin d**	**84.59 343**	*e*P	**P**	**17 55 14.1**	**-0.5**
MFF			pmax	pmax		
comp=Z,13nm,0.6s,mb5.2						
MFF	**Saint Martin d**	**84.59 343**	*e*P	**P**	**17 55 14.1**	**-0.5**
comp=Z,13nm,0.6s,mb5.2						
NRCA	**Norcia**	**84.73 333**	P	**P**	**17 55 16.1**	**+0.7**
comp=Z,49nm,0.8s,mb5.7						
PYM	**Petit Puy Mans**	**84.73 341**	*e*P	**P**	**17 55 15.9**	**+0.5**
TERO	**Teramo**	**84.77 333**	P	**P**	**17 55 15.7**	**+0.1**
MBDF	**Montbardon**	**84.79 338**	*e*P	**P**	**17 55 15.4**	**-0.3**
comp=Z,32nm,0.7s,mb5.2						
MBDF	**Montbardon**	**84.79 338**	*e*P	**P**	**17 55 15.4**	**-0.3**
MBDF			pmax	pmax		
comp=Z,16nm,0.7s,mb5.3						
MBDF	**Montbardon**	**84.79 338**	*e*P	**P**	**17 55 15.4**	**-0.3**
comp=Z,16nm,0.7s,mb5.3						
ORIF	**Oris-en-Rattie**	**84.84 339**	*e*P	**P**	**17 55 16.1**	**+0.2**
comp=Z,55nm,0.7s,mb5.5						
ORIF			*e*MLR	MLR		
comp=Z,84nm,21.0s,MS3.8						
ORIF	**Oris-en-Rattie**	**84.84 339**	*e*P	**P**	**17 55 16.1**	**+0.2**
ORIF			pmax	pmax		
comp=Z,27nm,0.7s,mb5.5						
ORIF	**Oris-en-Rattie**	**84.84 339**	*e*P	**P**	**17 55 16.1**	**+0.2**
comp=Z,27nm,0.7s,mb5.5						
KLBR	**Kellerberrin**	**85.06 212**	*e*P	**P**	**17 55 19.3**	**+2.4**
comp=Z,71nm,1.5s,mb5.6						
AQU	**L'Aquila**	**85.08 333**	*e*P	**P**	**17 55 18.3**	**+1.2**
comp=Z,34nm,0.8s,mb5.5						
AQU	**L'Aquila**	**85.08 333** ⇑	*i*P	**P**	**17 55 18.7**	**+1.5**
VIVF	**Saint-Julien-l**	**85.19 340**	*e*P	**P**	**17 55 17.5**	**-0.2**
comp=Z,48nm,0.9s,mb5.3						
VIVF	**Saint-Julien-l**	**85.19 340**	*e*P	**P**	**17 55 17.5**	**-0.2**
VIVF			pmax	pmax		
comp=Z,24nm,0.9s,mb5.3						
VIVF	**Saint-Julien-l**	**85.19 340**	*e*P	**P**	**17 55 17.5**	**-0.2**
comp=Z,24nm,0.9s,mb5.3						
AUTN	**L'Aution**	**85.30 337**	*e*P	**P**	**17 55 13.1**	**-5.2**
SBF	**Sospel**	**85.42 337**	*e*P	**P**	**17 55 18.3**	**-0.6**
comp=Z,108nm,0.9s,mb5.7						
SBF	**Sospel**	**85.42 337**	*e*P	**P**	**17 55 18.3**	**-0.6**
SBF			pmax	pmax		
comp=Z,54nm,0.9s,mb5.7						
SBF	**Sospel**	**85.42 337**	*e*P	**P**	**17 55 18.3**	**-0.6**
comp=Z,54nm,0.9s,mb5.7						
MVIF	**Mont Vial**	**85.47 338**	*e*P	**P**	**17 55 13.3**	**-5.8**
RJF	**Les Rejaudoux**	**85.48 342**	*e*P	**P**	**17 55 18.6**	**-0.5**
comp=Z,42nm,0.8s,mb5.3						
RJF			*e*MLR	MLR		
comp=Z,121nm,22.0s,MS4.0						
RJF	**Les Rejaudoux**	**85.48 342**	*e*P	**P**	**17 55 18.6**	**-0.5**
RJF			pmax	pmax		
comp=Z,21nm,0.8s,mb5.3						
RJF			MLR	MLR		
comp=Z,120nm,22.0s,MS4.2						
RJF	**Les Rejaudoux**	**85.48 342**	*e*P	**P**	**17 55 18.6**	**-0.5**
comp=Z,21nm,0.8s,mb5.3						
RJF			LR	LR		
comp=Z,120nm,22.0s,MS4.2						
SDI	**San Donato**	**85.53 332**	P	**P**	**17 55 19.3**	**-0.1**
SDI			pmax	pmax		
comp=Z,27nm,0.8s,mb5.5						
SDI	**San Donato**	**85.53 332**	P	**P**	**17 55 19.3**	**-0.1**
comp=Z,27nm,0.8s,mb5.5						
CAF	**Calviac**	**85.73 341**	*e*P	**P**	**17 55 19.5**	**-0.8**
comp=Z,61nm,0.8s,mb5.6						
CAF	**Calviac**	**85.73 341**	*e*P	**P**	**17 55 19.5**	**-0.8**
CAF			pmax	pmax		
comp=Z,31nm,0.8s,mb5.6						
CAF	**Calviac**	**85.73 341**	*e*P	**P**	**17 55 19.5**	**-0.8**
comp=Z,31nm,0.8s,mb5.6						
MRLC	**Muro Lucano**	**85.83 331**	P	**P**	**17 55 20.2**	**-0.8**
LFF	**La Frestale**	**86.00 342**	*e*P	**P**	**17 55 20.5**	**-1.2**
comp=Z,68nm,0.8s,mb5.6						
LFF	**La Frestale**	**86.00 342**	*e*P	**P**	**17 55 20.5**	**-1.2**
LFF			pmax	pmax		
comp=Z,34nm,0.8s,mb5.6						
LFF	**La Frestale**	**86.00 342**	*e*P	**P**	**17 55 20.5**	**-1.2**
comp=Z,34nm,0.8s,mb5.6						
TIP	**Timpagrande**	**86.80 329**	*e*P	**P**	**17 55 25.6**	**-0.2**
comp=Z,34nm,1.1s,mb5.5						
TIP			*e*		17 55 34.5	
EIL	**Elat**	**86.88 311**	P	**P**	**17 55 26.1**	**-0.2**
comp=Z,4.6nm,0.8s,mb4.8,baz=22,slow=14,SNR=3.8						
EIL			LR	LR	18 38 42.2	
comp=Z,75nm,18.0s,MS4.1,baz=106,slow=39						
MTLF	**Montolieu**	**87.20 341**	*e*P	**P**	**17 55 26.3**	**-1.3**
comp=Z,18nm,0.8s,mb5.0						
MTLF	**Montolieu**	**87.20 341**	*e*P	**P**	**17 55 26.3**	**-1.3**
MTLF			pmax	pmax		
comp=Z,9.0nm,0.8s,mb5.0						
MTLF	**Montolieu**	**87.20 341**	*e*P	**P**	**17 55 26.3**	**-1.3**
comp=Z,8.9nm,0.8s,mb5.0						
GRI	**Girifalco**	**87.24 329**	P	**P**	**17 55 27.8**	**-0.1**
EPF	**Esparros**	**87.91 342**	*e*P	**P**	**17 55 29.2**	**-1.8**
comp=Z,14nm,0.5s,mb5.1						
EPF	**Esparros**	**87.91 342**	*e*P	**P**	**17 55 29.2**	**-1.8**
EPF			pmax	pmax		
comp=Z,7.0nm,0.5s,mb5.2						
EPF	**Esparros**	**87.91 342**	*e*P	**P**	**17 55 29.2**	**-1.8**
comp=Z,7.0nm,0.5s,mb5.2						
SOI	**Samo**	**88.04 329**	P	**P**	**17 55 31.2**	**-0.5**
SOI			pmax	pmax		
comp=Z,47nm,1.1s,mb5.6						
SOI	**Samo**	**88.04 329**	P	**P**	**17 55 31.2**	**-0.5**
comp=Z,47nm,1.1s,mb5.6						
ETSF	**Etsaut**	**88.22 343**	*e*P	**P**	**17 55 31.4**	**-1.1**
comp=Z,14nm,0.6s,mb5.1						
ETSF	**Etsaut**	**88.22 343**	*e*P	**P**	**17 55 31.4**	**-1.1**
ETSF			pmax	pmax		
comp=Z,7.0nm,0.6s,mb5.1						
ETSF	**Etsaut**	**88.22 343**	*e*P	**P**	**17 55 31.4**	**-1.1**
comp=Z,6.8nm,0.6s,mb5.0						
VAE	**Valguarnera**	**89.14 330**	LR	LR	18 37 27.6	
comp=Z,173nm,19.7s,MS4.5,baz=77,slow=37						
ESDC	**Sonseca Array**	**92.00 344**	P	**P**	**17 55 48.9**	**-1.4**
comp=Z,3.7nm,0.7s,mb4.8,baz=11,slow=4.1,SNR=14						
KEST	**Kesra**	**92.40 333**	P	**P**	**17 55 51.9**	**-0.3**
comp=Z,4.5nm,0.8s,mb4.8,baz=291,slow=4.4,SNR=9.6						
TORD	**Torodi Ar. Bea**	**115.87 331**	PKP	PKPdf	18 01 23.1	-1.3
TORD			PP	PP	18 02 26.3	-0.8
TORD	**Torodi Ar. Bea**	**115.87 331**	PKP	PKPdf	18 01 23.1	-1.3
comp=Z,0.8nm,0.7s,baz=45,slow=2.3,SNR=3.7						
TORD			PP	PP	18 02 26.3	-0.8
comp=Z,2.0nm,0.9s,baz=15,slow=7.0,SNR=5.0						
DBIC	**Dimbokro**	**123.99 336**	PKP	PKPdf	18 01 38.4	-1.8
comp=Z,2.4nm,0.8s,baz=0.0,slow=9.1,SNR=2.7						
LPAZ	**La Paz**	**132.94 65**	PKP	PKPdf	18 01 56.6	-0.4
comp=Z,1.4nm,0.8s,baz=2.1,slow=7.1,SNR=5.9						
BDFB	**Brasilia**	**143.37 40**	PKhKP		18 02 11.9	
comp=Z,1.3nm,0.5s,baz=28,slow=27,SNR=4.1						
PLCA	**Paso Flores**	**146.65 97**	PKPbc	PKPbc	18 02 22.1	-0.6
comp=Z,11nm,0.9s,baz=294,slow=4.0,SNR=10						
CPUP	**Villa Florida**	**147.09 63**	PKPbc	PKPbc	18 02 22.4	-1.9
comp=Z,7.8nm,0.8s,baz=310,slow=3.0,SNR=19						
SNAA	**Sanae**	**152.98 195**	PKPbc	PKPbc	18 02 36.3	-1.1
comp=Z,1.0nm,0.7s,baz=166,slow=2.7,SNR=12						
SNAA			PKPab	PKPab	18 02 47.1	-1.7
comp=Z,1.3nm,1.0s,baz=197,slow=5.0,SNR=4.0						
VNA2	**Neumayer--Watz**	**154.38 193**	*e*PKPdf	PKPbc	18 02 40.2	-0.2
VNA2			*e*		18 02 45.1	
VNA2			*e*		18 02 54.1	
VNA2			*e*		18 03 00.1	
VNA1	**Neumayer--Stat**	**154.75 193**	*e*PKPdf	PKPbc	18 02 52.9	+12
VNA1			*e*		18 02 56.7	
VNA1			*e*		18 03 03.2	

*IDC **15** 17:43:58.8±1.2,2082N×9439E,h0km,mb4.0/7,mb1 4.1/7, mb1mx3.8/22,mbtmp4.0/7,Error ellipse: s-maj=90.2km s-min=17.2km az=56.0*
*ISCJB **15** 17:44:06.5±1.2,208N±02×944E±0.1,h79km±13km, mb4.0/8,Error ellipse: s-maj=34.6km s-min=10.1km az=38.7*
*NEIC **15** 17:44:10.1±2.4,2098N×9463E,h90km±19km,mb3.8/1, Error ellipse: s-maj=61.6km s-min=9.2km az=52.0*
ISC 15 17:44:08.3±1.0,208N±02×944E±02,h76km±10km,n22, σ0°64/27,mb4.0/8,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**4.74**	**114**	*e*Pn	**Pn**	**17 45 17.2**	**-0.2**
CHTO				*e*Sn	**Sn**	**17 46 02.3**	**-8.8**
LSA	**Lhasa**	**9.34**	**343**	*e*Pn	**Pn**	**17 46 20.7**	**+0.6**
4.8nm,0.5s							
JIRN	**Jiri**	**10.12**	**314**	*e*P	**Pn**	**17 46 31.4**	**+0.6**
59nm,0.3s							
GUN	**Gumba**	**10.49**	**314**	*e*P	**Pn**	**17 46 36.2**	**+0.4**
38nm,0.4s							
GUN				*e*S	**Sn**	**17 48 26.3**	**-5.3**
PKI	**Pulchoki**	**10.60**	**311**	*e*P	**Pn**	**17 46 37.5**	**+0.2**
14nm,0.2s							
KKN	**Kakani**	**10.82**	**312**	*e*P	**Pn**	**17 46 40.2**	**-0.2**
DMN	**Daman**	**10.84**	**311**	*e*P	**Pn**	**17 46 40.5**	**0.0**
9.7nm,0.3s							
DMN				*e*S	**Sn**	**17 48 34.5**	**-5.6**
GKN	**Gorkha**	**11.40**	**311**	*e*P	**Pn**	**17 46 47.9**	**-0.4**
40nm,0.3s							
GKN				*e*S	**Sn**	**17 48 48.5**	**-5.4**
KOLN	**Koldanda**	**12.02**	**307**	*e*P	**Pn**	**17 46 56.7**	**0.0**
30nm,0.3s							
KOLN				*e*S	**Sn**	**17 49 03.3**	**-5.7**
DANN	**Dangsing**	**12.23**	**310**	*e*P	**Pn**	**17 46 58.4**	**-1.2**
21nm,0.3s							
MKAR	**Makanchi Array**	**27.75**	**342**	P	**P**	**17 49 49.9**	**+0.2**
6.6nm,0.3s,mb3.6,baz=156,slow=9.1,SNR=9.0							
EKS2	**Erkin-Say**	**27.83**	**326**	*e*P	**P**	**17 49 52.0**	**+1.5**
1.8nm,0.8s,mb3.6							
ZALV	**Zalesovo Beam**	**33.91**	**350**	P	**P**	**17 50 42.4**	**-1.4**
ZALV	**Zalesovo Beam**	**33.91**	**350**	P	**P**	**17 50 42.4**	**-1.4**
3.8nm,0.8s,mb4.3,baz=170,slow=8.8,SNR=11							
AKTK	**Aktyubinsk**	**41.13**	**325**	P	**P**	**17 51 45.1**	**+0.3**
AKTO	**Aktyubinsk**	**41.13**	**325**	P	**P**	**17 51 45.1**	**+0.3**
1.7nm,0.3s,mb4.3,baz=119,slow=7.7,SNR=10.0							
WRA	**Warramunga Arr**	**56.29**	**133**	P	**P**	**17 53 41.2**	**-0.2**
WRA	**Warramunga Arr**	**56.29**	**133**	P	**P**	**17 53 41.2**	**-0.2**
0.6nm,0.3s,mb4.0,baz=319,slow=7.5,SNR=42							
AKASG	**Malin Array Be**	**58.51**	**317**	P	**P**	**17 53 56.0**	**-0.6**
AKASG	**Malin Array Be**	**58.51**	**317**	P	**P**	**17 53 56.0**	**-0.6**
0.4nm,0.3s,mb3.9,baz=85,slow=6.2,SNR=5.3							
ASAR	**Alice Springs**	**58.61**	**137**	P	**P**	**17 53 58.3**	**+0.6**
0.8nm,0.6s,mb4.0,baz=313,slow=6.4,SNR=31							
ARCES	**ARCESS Array B**	**63.33**	**338**	P	**P**	**17 54 28.5**	**-0.5**
2.9nm,0.9s,mb4.2,baz=87,slow=7.3,SNR=2.0							

*IDC **15** 17:53:06.9±1.1,2054N×122.14E,h0km,mb3.6/5, mb1 3.8/6,mb1mx3.6/19,mbtmp3.7/6,ML3.6/1,Error ellipse: s-maj=48.9km s-min=18.9km az=70.0*
*NEIC **15** 17:53:08.3±0.7,2053N×12208E,h10km,Error ellipse: s-maj=19.0km s-min=9.9km az=80.0*
*ISCJB **15** 17:53:09.7±0.9,2059N±009×1222E±02,h33km,mb3.5/5, Error ellipse: s-maj=24.7km s-min=12.7km az=169.2*
ISC 15 17:53:11.9±0.9,2058N±009×1222E±02,h35km,n8, σ0°59/8,mb3.5/5,Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**3.61**	**352**	*e*Pn	**Pn**	**17 54 04.6**	**-0.8**
YHNB	**Yeheng**	**4.13**	**350**	*e*Pn	**Pn**	**17 54 12.1**	**-0.4**
JOW	**Kunigami**	**8.38**	**41**	Pn	**Pn**	**17 55 11.3**	**+0.5**
1.6nm,0.3s,baz=195,slow=16,SNR=5.6							
SONM	**Songino Array**	**30.03**	**339**	P	**P**	**17 59 17.7**	**+0.3**
0.3nm,0.6s,mb3.2,baz=157,slow=9.3,SNR=2.6							
MKAR	**Makanchi Array**	**41.58**	**318**	P	**P**	**18 00 57.2**	**+1.0**
0.6nm,0.6s,mb3.4,baz=106,slow=8.2,SNR=6.0							
WRA	**Warramunga Arr**	**42.00**	**163**	P	**P**	**18 00 59.2**	**-0.7**
0.5nm,0.7s,mb3.3,baz=347,slow=8.1,SNR=8.2							
ZALV	**Zalesovo Beam**	**43.76**	**329**	P	**P**	**18 01 13.6**	**-0.2**
1.8nm,0.6s,mb4.0,baz=116,slow=6.7,SNR=7.3							
ASAR	**Alice Springs**	**45.45**	**165**	P	**P**	**18 01 27.8**	**+0.3**
0.7nm,0.9s,mb3.5,baz=345,slow=7.2,SNR=11							

*ISCJB **15** 17:58:20.5±0.4,2822N±004×1400E±0.1,h426km±5km, mb3.5/17,Error ellipse: s-maj=15.8km s-min=5.6km az=170.6*
*MOS **15** 17:58:20.0±0.8,2816N×13982E,h417km,mb3.8/3,Error ellipse: s-maj=29.8km s-min=11.1km az=112.2*
*JMA **15** 17:58:21.0±0.2,2829N×14052E,h440km,M3.7*
*IDC **15** 17:58:21.0±0.6,2818N×13991E,h409km±8km,mb3.2/13, mb1 3.3/17,mb1mx3.3/23,mbtmp3.2/17,Error ellipse: s-maj=23.5km s-min=9.1km az=72.0*
*NEIC **15** 17:58:22.1±1.3,2823N×13998E,h425km±12km,mb3.7/2, Error ellipse: s-maj=19.2km s-min=9.9km az=83.0*
ISC 15 17:58:21.6±0.4,2827N±004×1402E±01,h421km±5km,n47, σ0°98/59,mb3.5/17,5C,Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.15**	**122**	P	**P**	**17 59 19.8**	**-0.6**
CBIJ				*e*S	**S**	**18 00 07.2**	**-0.8**
CBIJ	**Chichi jima**	**2.15**	**122**	P	**P**	**17 59 20.6**	**+0.2**
53nm,0.3s,baz=263,slow=16,SNR=43							
CBIJ				S	**S**	**18 00 07.0**	**-1.1**
43nm,0.3s,baz=304,slow=18,SNR=8.0							
JHHJ	**Haha-jima-NKT**	**2.44**	**132**	P	**P**	**17 59 22.5**	**+0.2**
JHHJ				S	**S**	**18 00 10.8**	**-0.6**
JHJ2	**Mitsune**	**4.83**	**357**	P	**P**	**17 59 44.3**	**+1.5**
JHJ2				S	**S**	**18 00 49.1**	**+0.1**
JHJ	**Hachijo jima 2**	**4.84**	**356**	P	**P**	**17 59 44.3**	**+1.4**
11nm,0.3s,baz=56,slow=12,SNR=18							
JHJ				S	**S**	**18 00 48.6**	**-0.5**
14nm,0.3s,baz=246,slow=20,SNR=4.7							
BSO1	**Boso 1**	**6.40**	**6**	P	**P**	**18 00 00.5**	**+1.4**
BSO1				*e*S	**S**	**18 01 18.8**	**0.0**
BSO3	**Boso 3**	**6.52**	**3**	P	**P**	**18 00 01.3**	**+1.0**
BSO3				S	**S**	**18 01 19.0**	**-2.1**
BSO4	**Boso 4**	**6.70**	**1**	S	**S**	**18 01 25.0**	**+0.3**
JOD2	**Odawara 2**	**7.03**	**353**	P	**P**	**18 00 08.4**	**+2.6**
JOD2				S	**S**	**18 01 32.0**	**+0.8**
JNY	**Yasuok**	**7.33**	**345**	P	**P**	**18 00 10.5**	**+1.4**
JHU	**Hanno**	**7.59**	**355**	P	**P**	**18 00 11.9**	**-0.1**
JHU				S	**S**	**18 01 39.0**	**-3.6**
JRY	**Ryogami san**	**7.80**	**353**	P	**P**	**18 00 15.1**	**+0.9**
JRY				S	**S**	**18 01 45.1**	**-1.6**
JYT	**Yasato**	**7.94**	**0**	P	**P**	**18 00 16.2**	**+0.4**
JYT				S	**S**	**18 01 46.7**	**-2.8**
JAG	**Ashikaga**	**8.15**	**356**	P	**P**	**18 00 17.9**	**-0.3**
JAG				*e*S	**S**	**18 01 49.6**	**-4.3**
JHO	**Hitachi**	**8.32**	**2**	P	**P**	**18 00 21.0**	**+0.9**
MJAR	**Matsushiro Arr**	**8.41**	**349**	P	**P**	**18 00 21.1**	**+0.1**
0.4nm,0.3s,baz=171,slow=10,SNR=4.1							
JFK	**Kawauchi**	**9.09**	**4**	*e*S	**S**	**18 02 11.5**	**-1.5**
JNU	**Nakatsue**	**9.33**	**304**	P	**P**	**18 00 30.1**	**-1.1**
0.1nm,0.3s,baz=172,slow=19,SNR=2.4							
JOW	**Kunigami**	**10.63**	**265**	P	**P**	**18 00 46.0**	**+0.2**
2.0nm,0.3s,baz=278,slow=26,SNR=8.1							
YSS	**Yuzh-Sakhalins**	**18.76**	**6** ⇑	*e*P	**P**	**18 02 03.9**	**-9.0**
YSS			pmax	pmax			
comp=Z,9.0nm,1.4s							
HABR	**Khabarovsk**	**20.55**	**350**	*e*P	**P**	**18 02 24.0**	**-5.4**
ULN	**Ulaanbaatar**	**32.23**	**316** ⇑	*e*P	**P**	**18 04 13.4**	**+0.5**
ULN	**Ulaanbaatar**	**32.23**	**316**	*e*P	**P**	**18 04 13.1**	**+0.2**
SONM	**Songino Array**	**32.62**	**316**	P	**P**	**18 04 16.4**	**+0.2**
comp=Z,0.8nm,0.7s,mb3.1,baz=126,slow=7.1,SNR=6.6							
TIXI	**Tiksi**	**43.87**	**355** ⇑	*e*P	**P**	**18 05 48.6**	**+0.4**
TIXI			pmax	pmax			
comp=Z,3.0nm,1.7s,mb3.4							
ZALV	**Zalesovo Beam**	**47.42**	**319**	P	**P**	**18 06 16.0**	**+0.3**
comp=Z,0.5nm,0.3s,mb3.3,baz=98,slow=7.4,SNR=3.1							
ZALV			PcP	PcP	18 07 38.2	-0.2
comp=Z,0.8nm,0.5s,baz=106,slow=4.8,SNR=4.7							
ZAL	**Zalesovo**	**47.43**	**319**	P	**P**	**18 06 16.0**	**+0.2**
ZAL				pP		18 07 38.2	-0.5
WRAB	**Tennant Creek**	**48.24**	**187**	*e*P	**P**	**18 06 22.3**	**-0.1**
WRA	**Warramunga Arr**	**48.26**	**187**	P	**P**	**18 06 21.9**	**-0.5**
comp=Z,0.5nm,0.4s,mb3.2,baz=5.5,slow=7.6,SNR=15							
WRA			PcP	PcP	18 07 42.5	+0.6
comp=Z,0.8nm,0.5s,baz=359,slow=3.8,SNR=8.8							
MKAR	**Makanchi Array**	**48.34**	**309**	P	**P**	**18 06 22.4**	**-0.4**
comp=Z,0.3nm,0.5s,mb2.9,baz=88,slow=11,SNR=6.6							
MKAR			PcP	PcP	18 07 41.7	-0.2
comp=Z,0.8nm,0.6s,baz=79,slow=6.4,SNR=7.2							
KURK	**Kurchatov**	**50.87**	**314** ⇑	*e*P	**P**	**18 06 41.1**	**-0.5**
KURK	**Kurchatov**	**50.87**	**314**	P	**P**	**18 06 40.2**	**-1.4**
comp=Z,2.8nm,1.1s,mb3.4							
ASAR	**Alice Springs**	**51.98**	**187**	P	**P**	**18 06 49.6**	**-0.3**
comp=Z,0.5nm,0.4s,mb3.1,baz=0.0,slow=6.0,SNR=31							
ASAR			PcP	PcP	18 07 56.1	+0.5
comp=Z,0.5nm,0.8s,baz=357,slow=3.7,SNR=4.7							
BVAR	**Borovoye Array**	**55.96**	**317**	P	**P**	**18 07 18.3**	**+0.4**
comp=Z,3.0nm,0.

PRU				*e*Sg	**Sg**	**18 25 30.1**	**-0.1**
	comp=Z,55nm,0.4s						
PRU	**Pruhonice**	**1.80**	**214**	*e*PN	**Pn**	**18 25 04.3**	**-0.3**
PRU				*e*PG	**Pg**	**18 25 06.1**	**-0.8**
PRU				*e*SG	**Sg**	**18 25 30.1**	**-0.1**
	comp=Z,55nm,0.4s						
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**18 25 06.0**	**-0.6**
CLL				*i* Pg	**Pg**	**18 25 09.1**	**-0.5**
CLL				*i* Sg	**Sg**	**18 25 35.3**	**+0.4**
CLL	**Collm**	**1.95**	**266**	*e*Pn	**Pn**	**18 25 06.0**	**-0.6**
CLL				*i* Pg	**Pg**	**18 25 09.1**	**-0.5**
CLL				*ex*	x	18 25 12.0	
CLL				*i* x	x	18 25 23.8	
CLL				*i* x	x	18 25 25.8	
CLL				*i* Sg	**Sg**	**18 25 35.3**	**+0.4**
	comp=Z,23nm,0.5s						
MORC	**Moravsky Berou**	**1.95**	**151**	*e*Pn	**Pn**	**18 25 06.2**	**-0.4**
MORC				*e*Sg	**Sg**	**18 25 33.4**	**-1.5**
	comp=Z,36nm,0.4s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PG	**Pg**	**18 25 12.3**	**-0.4**
OKC				*e*SG	**Sg**	**18 25 38.8**	**-1.2**
	comp=Z,23nm,0.4s						
VRAC	**Vranov**	**2.21**	**172**	*e*Pn	**Pn**	**18 25 10.3**	**+0.1**
VRAC				*e*Sg	**Sg**	**18 25 42.4**	**-0.9**
	comp=Z,34nm,0.5s						
KRUC	**Moravsky**	**2.44**	**175**	*e*Pn	**Pn**	**18 25 13.6**	**+0.2**
KRUC				*e*Sg	**Sg**	**18 25 49.9**	**-0.8**
	comp=Z,19nm,0.6s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pg	**Pg**	**18 25 22.3**	**-0.5**
NKC				*e*Sg	**Sg**	**18 25 58.0**	**+1.1**
	comp=Z,62nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*PN	**Pn**	**18 25 16.1**	**+0.1**
NKC				*e*PG	**Pg**	**18 25 22.3**	**-0.5**
NKC				*e*SG	**Sg**	**18 25 58.0**	**+1.1**
	comp=Z,62nm,0.3s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**18 25 23.0**	**-0.5**
OJC				*e*Sg	**Sg**	**18 25 58.6**	**+0.6**
JAVC	**Velka Javorina**	**2.83**	**158**	*e*Pn	**Pn**	**18 25 19.3**	**+0.6**
JAVC				*e*Sg	**Sg**	**18 26 03.6**	**+0.6**
	comp=Z,24nm,0.8s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*Pg	**Pg**	**18 25 26.1**	**-1.1**
KHC				*e*Sn	**Sn**	**18 25 53.0**	**-1.3**
KHC				*e*Sg	**Sg**	**18 26 03.4**	**-0.9**
	comp=Z,18nm,0.5s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**18 25 19.9**	**+0.7**
KHC				*e*PG	**Pg**	**18 25 26.1**	**-1.1**
KHC				*e*SN	**Sn**	**18 25 53.0**	**-1.3**
KHC				*e*SG	**Sg**	**18 26 03.4**	**-0.9**
	comp=Z,18nm,0.5s						
MOX	**Moxa**	**2.95**	**255**	*e*PN	**Pn**	**18 25 20.0**	**-0.4**
MOX				*e*PG	**Pg**	**18 25 28.5**	**-0.4**
MOX				*e*SG	**Sg**	**18 26 07.7**	**+0.6**
MODS	**Modra-Piesok**	**3.21**	**166**	*e*Sg	**Sg**	**18 26 16.7**	**+1.1**
ZST	**Bratislava**	**3.37**	**168**	*e*Sg	**Sg**	**18 26 19.8**	**-0.6**
VYHS	**Vyhne**	**3.48**	**148**	*e*PG	**Pg**	**18 25 37.1**	**-2.0**
VYHS				*e*SG	**Sg**	**18 26 26.1**	**+1.9**
CONA	**Conrad Observa**	**3.57**	**183**	⇓*i*Pn	**Pn**	**18 25 29.3**	**+0.3**
CONA				⇑*i*Sg	**Sg**	**18 26 26.6**	**-0.4**
	comp=Z,28nm,0.7s						
GRF				LR	LR		
	comp=Z,100nm,21.3s						
GRF	**Grafenberg Arr**	**3.59**	**242**	*e*Sg	**Sg**	**18 26 27.0**	**-0.7**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn	**Pn**	**18 25 33.2**	**+0.6**
MOA				⇑*i*Sg	**Sg**	**18 26 36.5**	**+1.0**
	comp=Z,12nm,0.5s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN	**Pn**	**18 25 34.2**	**+0.9**
STHS				*e*PG	**Pg**	**18 25 46.8**	**0.0**
STHS				*e*SG	**Sg**	**18 26 41.4**	**+4.2**
CRVS	**Cervenica-Dubn**	**4.31**	**125**	*e*PG	**Pg**	**18 25 54.4**	**-0.5**
CRVS				*e*SG	**Sg**	**18 26 52.1**	**+1.3**

IDC ***15*** *18:34:51.2±0.7, 145N×9700E, h0km, mb4.5/17, mb1 4.5/18, mb1mx4.4/24, mbtmp4.5/18, ML3.4/1, MS4.0/4, Ms1 4.0/4, ms1mx3.5/23, Error ellipse: s-maj=23.2km s-min=13.3km az=45.0*

ISCJB ***15*** *18:34:53.5±0.3, 148N±004×9696E±004, h26km, mb4.7/68, MS4.2/15, Error ellipse: s-maj=6.8km s-min=4.3km az=31.5*

BJI ***15*** *18:34:54.0, 138N×97.11E, h36km, mB4.9, mb4.8, Ms4.5, Msz4.3*

MOS ***15*** *18:34:54.6±1.0, 158N×97.14E, h33km, mb4.9/20, Error ellipse: s-maj=14.1km s-min=6.9km az=100.7*

NEIC ***15*** *18:34:55.9±0.3, 149N×9707E, h30km, mb4.7/29, Error ellipse: s-maj=8.7km s-min=5.8km az=221.0*

SZGRF ***15*** *18:35:10.0, 172N×9588E, h33km, mb4.7, Off west coast of northern Sumatera, Indonesia*

ISC 15 18:34:56.0±0.3, 151N±004×9700E±003, h28km, h28km±.4km:pP-P, n157, σ1°13/160, mb4.7/67, MS4.2/15, 13C-12D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
PSI	**Prapat**	**2.31**	**56**	Pn		**Pn**	**18 35 31.6**	**-0.7**
	10.0nm,0.3s,baz=246,slow=5.8,SNR=55							
PSI					Sn	**Sn**	**18 36 03.7**	**+4.0**
	14nm,0.3s,baz=197,slow=13,SNR=5.6							
TSI	**Tuntungan**	**2.52**	**38**	P		**Pn**	**18 35 35.2**	**+0.1**
	2μm,1.1s							
PPI	**Padang Panjang**	**3.92**	**120**	P		**Pn**	**18 35 55.0**	**+0.6**
	240nm,1.0s							
BSI	**Banda Aceh**	**4.31**	**337**	P		**Pn**	**18 36 06.0**	**+6.3**
	131nm,1.1s							
BSI	**Banda Aceh**	**4.31**	**337**	⇑*e*P		**Pn**	**18 35 58.0**	**-1.7**
BSI				*e*S		**Sn**	**18 36 47.0**	**-2.1**
FRIM	**Kepong**	**4.93**	**70**	⇓P		**Pn**	**18 36 08.9**	**+0.6**
IPM	**Ipoh**	**4.98**	**54**	⇓P		**Pn**	**18 36 10.2**	**+1.1**
KULM	**Kulim**	**5.23**	**44**	*e*Pn		**Pn**	**18 36 11.8**	**-0.6**
KULM				*e*pP			18 36 20.3	
KULM	**Kulim**	**5.23**	**44**	⇓P		**Pn**	**18 36 12.9**	**+0.5**
KGM	**Kluang**	**6.33**	**85**	⇑P		**Pn**	**18 36 29.1**	**+1.5**
MYKOM	**Kota Tinggi**	**6.85**	**88**	⇑P		**Pn**	**18 36 36.4**	**+1.6**
KTGM	**Kuala Trenggan**	**7.20**	**58**	⇑P		**Pn**	**18 36 40.2**	**+0.7**
KSI	**Kapahiang**	**7.59**	**133**	P		**Pn**	**18 36 53.2**	**+8.4**
	107nm,0.7s							
KSM	**Kuching**	**13.30**	**90**	Pn		**Pn**	**18 38 07.4**	**+4.2**
KSM	**Kuching**	**13.30**	**90**	⇓P		**Pn**	**18 38 02.7**	**-0.4**
SBUM	**Sibu**	**15.24**	**86**	⇓P		**Pn**	**18 38 30.3**	**+0.9**
BTM	**Bintulu**	**16.16**	**84**	⇓P		**Pn**	**18 38 41.6**	**+0.3**
PALK	**Pallekele**	**17.22**	**290**	*e*P		**Pn**	**18 38 58.4**	**+3.6**
	39nm,1.3s							
CHTO	**Chiang Mai**	**17.30**	**6**	*e*P		**Pn**	**18 38 53.7**	**-1.9**
CHTO				pmax		pmax		
	comp=Z,5.0nm,0.6s							
CHTO	**Chiang Mai**	**17.30**	**6**	*e*Pn		**Pn**	**18 38 53.7**	**-2.0**
	comp=Z,4.8nm,0.6s							
KKM	**Kota Kinabalu**	**19.69**	**76**	*e*P		**Pn**	**18 39 23.4**	**-1.5**
KKM	**Kota Kinabalu**	**19.69**	**76**	⇓P		**Pn**	**18 39 25.1**	**+0.2**
KDM	**Kudat**	**20.49**	**74**	⇑P		**P**	**18 39 31.2**	**-0.7**
SDKM	**Sandakan**	**20.56**	**78**	⇓P		**P**	**18 39 33.1**	**+0.3**
KHKI	**Kahang-Kahang**	**20.99**	**118**	P		**P**	**18 39 41.5**	**+4.1**
	comp=Z,47nm,1.1s							
QIZ	**Qiongzhong**	**21.48**	**35**	P		**P**	**18 39 44.0**	**+1.4**
QIZ				XP		sP	18 39 52.4	-1.3
QIZ				S		**S**	**18 43 40.8**	**+1.3**
QIZ				XS		sS	18 43 48.3	-3.3
QIZ				AMB		AMB		
	comp=Z,9.0nm,1.0s,mb4.0							
QIZ				LR		LR		
	comp=N,307nm,13.2s,MS4.1							
QIZ				LR		LR		
	comp=E,488nm,14.4s,MS4.1							
QIZ				LR		LR		
	comp=Z,304nm,14.6s,MS3.8							
QIZ	**Qiongzhong**	**21.48**	**35**	*e*P		**P**	**18 39 41.0**	**-1.6**
	comp=Z,29nm,1.2s,mb4.5							
MYLDM	**Lahad Datu**	**21.77**	**80**	⇓P		**P**	**18 39 46.9**	**+1.2**
PCI	**Palu**	**22.96**	**96**	P		**P**	**18 39 58.5**	**0.0**
	comp=Z,36nm,1.2s,mb4.7							
KAPI	**Kappang**	**23.64**	**106**	P		**P**	**18 40 04.3**	**-1.0**
	comp=Z,17nm,1.0s,mb4.5,baz=292,slow=12,SNR=7.0							
HYB	**Hyderabad**	**24.05**	**312**	*e*P		**P**	**18 40 11.5**	**+2.4**
HYB	**Hyderabad**	**24.05**	**312**	*i* P		**P**	**18 40 11.5**	**+2.4**
KMI	**Kunming**	**24.12**	**13**	P		**P**	**18 40 10.9**	**+1.3**
KMI				AP			18 40 18.9	
KMI				XP		sP	18 40 21.6	+0.5
KMI				PP			18 40 46.3	
KMI				S		**S**	**18 44 24.4**	**-1.4**
KMI				XS		sS	18 44 37.6	-1.5
KMI				SS			18 45 17.8	
KMI				AMB		AMB		
	comp=Z,22nm,1.1s,mb4.5							
KMI				AMB		AMB		
	comp=Z,71nm,5.7s							
KMI				LR		LR		
	comp=N,608nm,15.9s,MS4.3							
KMI				LR		LR		
	comp=E,423nm,12.6s,MS4.3							
KMI				LR		LR		
	comp=Z,716nm,15.9s,MS4.2							
SHL	**Shillong**	**24.42**	**349**	*e*P		**P**	**18 40 13.5**	**+1.2**
GYA	**Guiyang**	**26.48**	**20**	⇑*i*P		**P**	**18 40 30.3**	**-0.8**
GYA				AP		pP	18 40 37.8	-1.4
GYA				XP		sP	18 40 41.3	-1.3
GYA				PP			18 41 17.8	
GYA				PCP		PcP	18 43 59.0	+3.2
GYA				S		**S**	**18 45 03.6**	**+0.1**
GYA				XS		sS	18 45 16.9	0.0
GYA				SS			18 46 13.8	
GYA				SCP		ScP	18 47 35.4	+1.3
GYA				AMB		AMB		
	comp=Z,20nm,1.0s,mb4.6							
GYA				AMB		AMB		
	comp=Z,80nm,5.1s							
GYA				LR		LR		
	comp=N,460nm,15.6s,MS4.3							
GYA				LR		LR		
	comp=E,440nm,14.5s,MS4.3							
GYA				LR		LR		
	comp=Z,480nm,15.8s,MS4.1							
LSA	**Lhasa**	**28.58**	**349**	P		**P**	**18 40 51.0**	**+1.2**
LSA	**Lhasa**	**28.58**	**349**	*e*P		**P**	**18 40 49.5**	**-0.3**
LSA				pmax		pmax		
	comp=Z,5.0nm,0.6s,mb4.4							
LSA	**Lhasa**	**28.58**	**349**	*e*P		**P**	**18 40 49.5**	**-0.3**
	comp=Z,5.3nm,0.6s,mb4.5							
BATI	**Kupang**	**28.98**	**114**	P		**P**	**18 40 50.7**	**-2.9**
	comp=Z,5.7nm,0.6s,mb4.5,baz=315,slow=2.9,SNR=2.6							
BATI				LR		LR	18 54 27.6	
	comp=Z,376nm,20.4s,MS4.0,baz=135,slow=41							
CD2	**Chengdu**	**29.93**	**12**	*e*P		**P**	**18 41 00.3**	**-1.5**
CD2				AP		pP	18 41 07.6	-2.3
CD2				PP		PP	18 41 58.5	-11
CD2				S		**S**	**18 45 55.8**	**-1.8**
CD2				SS		SS	18 47 33.0	-33
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.9							
CD2				AMB		AMB		
	comp=Z,90nm,7.2s							
CD2				LR		LR		
	comp=N,350nm,16.8s,MS4.5							
CD2				LR		LR		
	comp=E,810nm,16.8s,MS4.5							
CD2				LR		LR		
	comp=Z,420nm,16.8s,MS4.2							
MBWA	**Marble Bar**	**31.66**	**137**	P		**P**	**18 41 24.3**	**+7.1**
	comp=Z,11nm,1.0s,mb4.7							
XAN	**Xi'an**	**34.23**	**18**	P		**P**	**18 41 38.0**	**-1.4**
XAN				AP		pP	18 41 45.6	-2.1
XAN				PP		PP	18 42 51.6	-5.7
XAN				S		**S**	**18 46 58.4**	**-6.2**
XAN				AMB		AMB		
	comp=Z,31nm,1.0s,mb5.2							
XAN				AMB		AMB		
	comp=Z,37nm,4.7s							
XAN				LR		LR		
	comp=N,328nm,14.1s,MS4.4							
XAN				LR		LR		
	comp=E,281nm,12.5s,MS4.4							
XAN				LR		LR		
	comp=Z,712nm,14.4s,MS4.5							
FITZ	**Fitzroy Crossi**	**34.27**	**126**	*e*P		**P**	**18 41 38.9**	**-1.2**
	comp=Z,3.0nm,0.6s,mb4.4							
LZH	**Lanzhou**	**34.98**	**10**	*e*P		**P**	**18 41 46.3**	**+0.4**
LZH				AP		pP	18 41 53.6	-0.6
LZH				XP		sP	18 41 56.1	-1.4
LZH				AMB		AMB		
	comp=Z,39nm,1.2s,mb5.2							
LZH				AMB		AMB		
	comp=Z,111nm,4.5s							
LZH				LR		LR		
	comp=E,888nm,13.4s							
LZH				LR		LR		
	comp=Z,1μm,19.2s							
NJ2	**Nanjing**	**36.70**	**32**	*e*P		**P**	**18 42 02.4**	**+1.6**
NJ2				AP		pP	18 42 10.0	+1.0
NJ2				XP		sP	18 42 12.5	+0.1
NJ2				PP		PP	18 43 27.1	+2.4
NJ2				S		**S**	**18 47 44.5**	**+1.8**
NJ2				XS		sS	18 47 57.5	+1.2
NJ2				AMB		AMB		
	comp=Z,20nm,0.5s,mb5.2							
NJ2				AMB		AMB		
	comp=Z,190nm,9.3s							
NJ2				LR		LR		
	comp=N,530nm,21.9s,MS4.4							
NJ2				LR		LR		
	comp=E,330nm,18.4s,MS4.4							
NJ2				LR		LR		
	comp=Z,330nm,18.4s,MS4.2							
SSE	**Sheshan**	**37.27**	**35**	*e*P		**P**	**18 42 05.3**	**-0.3**
SSE				AP		pP	18 42 13.9	0.0
SSE				XP		sP	18 42 17.8	+0.5
SSE				PP		PP	18 43 32.5	+1.5
SSE				PCP		PcP	18 44 22.1	-2.8
SSE				S		**S**	**18 47 54.0**	**+2.6**
SSE				XS		sS	18 48 09.8	+4.8
SSE				SCS		ScS	18 52 17.0	-1.3
SSE				AMB		AMB		
	comp=Z,34nm,0.7s,mb5.3							
SSE				AMB		AMB		
	comp=Z,42nm,4.6s							
SSE				LR		LR		
	comp=N,52nm,14.0s,MS4.2							
SSE				LR		LR		
	comp=E,300nm,14.0s,MS4.2							
SSE				LR		LR		
	comp=Z,339nm,16.6s,MS4.2							
GTA	**Gaotai**	**37.80**	**4**	*e*P		**P**	**18 42 09.8**	**-0.2**
GTA				AP		pP	18 42 17.0	-1.3
GTA				XP		sP	18 42 20.3	-1.4
GTA				PP		PP	18 43 37.5	+0.8
GTA				S		**S**	**18 47 56.9**	**-2.3**
GTA				XS		sS	18 48 12.1	-0.8
GTA				PCS		PcS	18 48 17.6	+2.6
GTA				AMB		AMB		
	comp=Z,11nm,1.4s,mb4.4							
GTA				AMB		AMB		
	comp=Z,104nm,6.5s							
GTA				LR		LR		
	comp=N,237nm,13.0s,MS4.3							
GTA				LR		LR		
	comp=E,211nm,14.5s,MS4.3							
GTA				LR		LR		
	comp=Z,235nm,14.1s,MS4.1							
KAKA	**Kakadu**	**37.91**	**113**	*e*P		**P**	**18 42 09.3**	**-1.9**
	comp=Z,8.8nm,0.6s,mb4.7							
JOW	**Kunigami**	**39.17**	**47**	P		**P**	**18 42 21.8**	**+0.1**
	comp=Z,17nm,0.6s,mb5.0,baz=257,slow=8.0,SNR=10.0							
HHC	**Hu-ho-hao-te**	**41.32**	**17**	*i* P		**P**	**18 42 41.0**	**+1.8**
HHC				AP		pP	18 42 48.4	+0.8
HHC				XP		sP	18 42 51.9	+1.0
HHC				PP		PP	18 44 20.1	+5.1
HHC				PCP		PcP	18 44 39.3	+1.8
HHC				SCP		ScP	18 48 27.0	+1.2
HHC				S		**S**	**18 48 52.8**	**+0.9**
HHC				XS		sS	18 49 05.3	-0.3
HHC				SS		SS	18 51 51.3	-4.9
HHC				SCS		ScS	18 52 41.8	+0.3
HHC				AMB		AMB		
	comp=Z,25nm,1.1s,mb4.8							
HHC				AMB		AMB		
	comp=Z,179nm,6.7s							
HHC				LR		LR		
	comp=N,901nm,11.9s,MS4.9							
HHC				LR		LR		
	comp=E,421nm,13.8s,MS4.9							
HHC				LR		LR		
	comp=Z,660nm,15.0s,MS4.6							
BJT	**Baijiatuau**	**42.10**	**22**	*e*P		**P**	**18 42 45.9**	**+0.2**
BJT				*e**PP		pP	18 42 54.1	+0.1
BJT				pmax		pmax		
	comp=Z,44nm,0.9s							
BJT	**Baijiatuau**	**42.10**	**22**	*e*P		**P**	**18 42 45.9**	**+0.2**
	comp=Z,44nm,0.9s,mb5.1							
BJT				*e*pP		pP	18 42 54.1	+0.1
BJI	**Beijing**	**42.12**	**22**	P		**P**	**18 42 46.1**	**+0.2**
BJI				S		**S**	**18 49 06.6**	**+2.7**
BJI				AMB		AMB		
	comp=Z,58nm,1.5s,mb5.0							
BJI				LR		LR		
	comp=N,129nm,12.6s							
BJI				LR		LR		
	comp=E,193nm,9.1s							
BJI				LR		LR		
	comp=Z,98nm,22.0s							
WRA	**Warramunga Arr**	**42.37**	**122**	*i* P		**P**	**18 42 47.5**	**-0.7**
WRA				pmax		pmax		
	comp=Z,4.0nm,0.9s							
WRA	**Warramunga Arr**	**42.37**	**122**	P		**P**	**18 42 47.2**	**-1.0**
	comp=Z,3.6nm,0.9s,mb4.0,baz=300,slow=9.2,SNR=16							
WRAB	**Tennant Creek**	**42.37**	**122**	*e*P		**P**	**18 42 46.7**	**-1.5**
WRAB				*e**PP		pP	18 42 54.1	-2.5
WRAB				*e*			18 43 02.9	
WRAB				pmax		pmax		
	comp=Z,12nm,1.0s,mb4.5							
WRAB	**Tennant Creek**	**42.37**	**122**	*e*P		**P**	**18 42 46.7**	**-1.6**
	comp=Z,12nm,1.0s,mb4.5							
WRAB				*e*pP		pP	18 42 54.1	-2.5
WRAB				*e*			18 43 02.9	
WB2	**Warramunga Arr**	**42.38**	**122**	*e*P		**P**	**18 42 47.1**	**-1.2**
WMQ	**Urumqi**	**42.93**	**350**	P		**P**	**18 42 53.0**	**+0.6**
WMQ				XP		sP	18 43 04.0	-0.1
WMQ				PP		PP	18 44 35.0	+2.6
WMQ				S		**S**	**18 49 15.0**	**-0.7**
WMQ				SS		SS	18 52 20.0	-8.0
WMQ				AMB		AMB		
	comp=Z,35nm,1.0s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,64nm,4.0s							
WMQ				LR		LR		
	comp=N,95nm,12.0s,MS4.2							
WMQ				LR		LR		
	comp=E,169nm,16.0s,MS4.2							
WMQ				LR		LR		
	comp=Z,85nm,12.0s,MS3.9							
ASAR	**Alice Springs**	**43.74**	**127**	P		**P**	**18 42 59.0**	**-0.3**
	comp=Z,3.1nm,0.9s,mb4.0,baz=308,slow=7.8,SNR=24							
ULHL	**Ulahol**	**44.63**	**338**	P		**P**	**18 43 07.8**	**+1.7**
	SNR=10							
UCH	**Uchtor**	**45.28**	**336**	*e*P		**P**	**18 43 12.6**	**+1.3**
	comp=Z,11nm,1.0s,mb4.6							
UCH	**Uchtor**	**45.28**	**336**	P		**P**	**18 43 13.1**	**+1.8**
	SNR=14							
TKM2	**Tokmak 2**	**45.45**	**338**	*e*P		**P**	**18 43 13.9**	**+1.3**
TKM2				*e**PP		pP	18 43 22.0	+1.0
TKM2				pmax		pmax		
	comp=Z,6.0nm,0.8s,mb4.5							
TKM2	**Tokmak 2**	**45.45**	**338**	*e*P		**P**	**18 43 13.9**	**+1.3**
	comp=Z,5.5nm,0.8s,mb4.4							
TKM2				*e*pP		pP	18 43 22.0	+1.0
TKM2	**Tokmak 2**	**45.45**	**338**	P		**P**	**18 43 14.2**	**+1.5**
	SNR=6.4							
KBK	**Karagaybulak**	**45.48**	**337**	P		**P**	**18 43 14.9**	**+2.1**
	SNR=11							
AML	**Almayashu**	**45.54**	**336**	*e*P		**P**	**18 43 14.8**	**+1.5**
	comp=Z,13nm,1.1s,mb4.8							
AML	**Almayashu**	**45.54**	**336**	P		**P**	**18 43 15.2**	**+1.9**
	SNR=9.1							
KSRS	**Korea Array**	**45.70**	**35**	P		**P**	**18 43 14.2**	**-0.5**
	comp=Z,11nm,0.9s,mb4.8,baz=223,slow=8.9,SNR=27							
KSRS				LR		LR	19 03 46.2	
	comp=Z,101nm,18.1s,MS3.8,baz=212,slow=38							
FRU	**Bishkek**	**45.76**	**337**	*e*P		**P**	**18 43 16.0**	**+1.0**
EKS2	**Erkin-Say**	**45.94**	**336**	*e*P		**P**	**18 43 17.6**	**+1.1**
	comp=Z,6.9nm,1.0s,mb4.5							
EKS2				*e*pP		pP	18 43 26.8	+1.9
EKS2	**Erkin-Say**	**45.94**	**336**	P		**P**	**18 43 18.3**	**+1.8**
	SNR=6.1							
SNY	**Shenyang**	**46.72**	**27**	⇓P		**P**	**18 43 22.1**	**-0.5**
SNY				AMB		AMB		
	comp=Z,13nm,1.2s,mb4.7							
SONM	**Songino Array**	**46.85**	**9**	P		**P**	**18 43 24.0**	**+0.5**
SONM							18 44 56.6	
SONM	**Songino Array**	**46.85**	**9**	P		**P**	**18 43 24.0**	**+0.5**
	comp=Z,22nm,1.0s,mb5.1,baz=189,slow=8.0,SNR=119							
SONM				PcP		PcP	18 44 56.6	+0.4
	comp=Z,1.0nm,0.6s,baz=185,slow=2.5,SNR=3.5							
SONM				LR		LR	19 05 42.0	
	comp=Z,262nm,19.2s,MS4.2,baz=191,slow=40							
MK31	**Makanchi Array**	**46.89**	**346**	*e*P		**P**	**18 43 24.2**	**+0.4**
MK31				*e**PP		pP	18 43 33.1	+0.8
MKAR	**Makanchi Array**	**46.89**	**346**	P		**P**	**18 43 24.5**	**+0.6**
	comp=Z,17nm,0.8s,mb5.0,baz=159,slow=9.0,SNR=150							
ULN	**Ulaanbaatar**	**46.98**	**9**	⇑*e*P		**P**	**18 43 24.6**	**0.0**
ULN	**Ulaanbaatar**	**46.98**	**9**	*e*P		**P**	**18 43 24.5**	**-0.1**
	comp=Z,22nm,0.9s,mb5.1							
KK31	**Karatay Array**	**47.69**	**334**	*i* P		**P**	**18 43 30.9**	**+0.8**
KK31				pmax		pmax		
	comp=Z,5.0nm,0.9s,mb4.5							
GUMO	**Guam**	**48.84**	**73**	P		**P**	**18 43 41.9**	**+2.4**
GUMO				pmax		pmax		
	comp=Z,206nm,1.2s							
GUMO	**Guam**	**48.84**	**73**	P		**P**	**18 43 41.9**	**+2.4**
	comp=Z,206nm,1.2s							
ZAK	**Zakamensk**	**48.98**	**5**	*e*P		**P**	**18 43 39.9**	**-0.1**
ZAK				pmax		pmax		
	comp=Z,3.0nm,0.9s,mb4.3							
CN2	**Changchun**	**49.12**	**27**	*e*P		**P**	**18 43 39.9**	**-1.2**
CN2				*e*AP		pP	18 43 47.4	-2.2
CN2				*e*XP		sP	18 43 50.8	-2.1
CN2				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.8							
CN2				AMB		AMB		
	comp=Z,200nm,6.0s							
CN2				LR		LR		
	comp=N,200nm,15.0s,MS4.4							
CN2				LR		LR		
	comp=E,200nm,15.0s,MS4.4							
CN2				LR		LR		
	comp=Z,200nm,15.0s,MS4.2							
MOY	**Mondy**	**50.09**	**3**	*e*P		**P**	**18 43 49.2**	**+0.8**
TLY	**Talaya**	**50.30**	**5**	*e*P		**P**	**18 43 48.7**	**-1.3**
TLY				*e**PP		pP	18 43 56.7	-1.8
TLY				pmax		pmax		
	comp=Z,9.0nm,0.8s,mb4.8							
TLY	**Talaya**	**50.30**	**5**	*e*P		**P**	**18 43 48.7**	**-1.3**
	comp=Z,8.7nm,0.8s,mb4.8							
TLY				*e*pP		pP	18 43 56.7	-1.8
HIA	**Hailar**	**51.41**	**19**	P		**P**	**18 43 57.6**	**-0

comp=Z,31nm,1.1s,mb5.2
NAY Al-Naaiem 54.75 305 *e*P **P 18 44 23.8 +0.4**
NAY AMb AMB 18 44 33.4
comp=Z,13nm,0.6s,mb5.2
MIB Mutribah 54.87 306 *e*P **P 18 44 25.0 +0.7**
MIB AMb AMB 18 44 35.1
comp=Z,34nm,0.7s,mb5.5
BRVK Borovoye 55.95 341 *e*P **P 18 44 31.0 -0.6**
BRVK *e**PP pP 18 44 40.0 -0.2
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BRVK Borovoye 55.95 341 *e*P **P 18 44 31.0 -0.6**
comp=Z,4.9nm,0.6s,mb4.7
BRVK *e*pP pP 18 44 40.0 -0.2
KLR Kul'dur 56.06 27 *e*P **P 18 44 28.0 -4.5**
KLR pmax pmax
comp=Z,25nm,1.2s,mb5.1
ZRNK Zerenda 56.29 340 *i* P **P 18 44 33.5 -0.5**
ZRNK pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
HABR Khabarovsk 57.08 29 *e*P **P 18 44 38.5 -1.2**
HABR *e* 18 46 43.0
HABR *e*S **S 18 52 31.6 -1.3**
HABR *e*SS SS 18 56 19.1 -2.9
HABR pmax pmax
comp=Z,16nm,1.1s,mb5.0
BOD Bodaibo 57.74 11 *e*P **P 18 44 44.0 -0.2**
BOD *e* pP 18 44 51.9 -0.9
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BOD pmax pmax
comp=Z,8.0nm,1.4s,mb4.6
AKTK Aktyubinsk 58.86 332 P **P 18 44 51.3 -0.9**
AKTO Aktyubinsk 58.86 332 *i* P **P 18 44 51.2 -1.0**
AKTO Aktyubinsk 58.86 332 P **P 18 44 51.3 -0.9**
comp=Z,2.3nm,0.8s,mb4.3,baz=136,slow=6.8,SNR=9.7
YSS Yuzh-Sakhalins 60.20 34⇓*e*P **P 18 45 01.0 -0.5**
YSS *e* pP 18 45 09.0 -1.1
YSS pmax pmax
comp=Z,30nm,1.0s,mb5.3
YSS Yuzh-Sakhalins 60.20 34 *e*P **P 18 45 01.2 -0.4**
comp=Z,23nm,0.9s,mb5.2
YSS *e*pP pP 18 45 10.0 -0.1
GNI Garni 60.93 316⇑*e*P **P 18 45 05.7 -0.9**
GNI pmax pmax
comp=Z,8.0nm,1.3s
KIV Kislovodsk 63.94 319 *e*P **P 18 45 26.1 -0.6**
KIV *e**PP pP 18 45 34.7 -0.7
KIV pmax pmax
comp=Z,18nm,1.2s,mb5.0
KIV Kislovodsk 63.94 319 *e*P **P 18 45 26.1 -0.6**
comp=Z,18nm,1.2s,mb5.0
KIV *e*pP pP 18 45 34.7 -0.7
MALT Malatya 64.77 312 *e*P **P 18 45 33.1 +0.9**
MALT *e* pP 18 45 41.1 +0.2
MALT pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
MALT Malatya 64.77 312 *e*P **P 18 45 33.1 +0.8**
comp=Z,9.5nm,1.2s,mb4.7
MALT *e* pP 18 45 41.1 +0.1
YAK Yakutsk 65.17 16 *e*P **P 18 45 33.6 -0.8**
YAK pmax pmax
comp=Z,26nm,0.8s,mb5.3
YAK pmax pmax
comp=N,11nm,1.2s
YAK pmax pmax
comp=E,9.0nm,1.1s
YAK Yakutsk 65.17 16 *e*P **P 18 45 33.4 -1.0**
comp=E,38nm,0.9s,mb5.4
SOC Sochi 65.75 318 *e*P **P 18 45 37.1 -1.4**
SOC *e**PP pP 18 45 44.1 -3.1
SOC *e* 18 47 59.0
SOC *e*S S 18 54 23.3 +0.1
SOC *e*SS SS 18 58 33.8 -4.3
SOC pmax pmax
comp=Z,7.0nm,0.7s,mb4.8
PET Petropavlovsk 72.08 34⇑*e*P **P 18 46 17.4 -0.3**
PET pmax pmax
comp=Z,31nm,1.1s,mb5.2
SEY Seymchan 73.55 23⇑*e*P **P 18 46 25.2 -1.0**
AKASG Malin Array Be 74.89 322 P **P 18 46 33.5 -0.7**
comp=Z,2.1nm,0.6s,mb4.3,baz=91,slow=4.9,SNR=12
AKBB Malin Array Si 74.89 322 *e*P **P 18 46 33.1 -1.1**
AKBB *e**PP pP 18 46 40.8 -2.3
KIEV Kiev 74.90 322 *e*P **P 18 46 32.9 -1.4**
KIEV *e**PP pP 18 46 41.2 -1.9
KIEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
KIEV Kiev 74.90 322 *e*P **P 18 46 32.9 -1.4**
comp=Z,5.3nm,0.6s,mb4.7
KIEV *e*pP pP 18 46 41.2 -1.9
KOLS Kolonicke sedl 78.85 320 *e*P **P 18 46 58.2 +1.6**
STHS Stebnicka Huta 79.60 320 *e*P **P 18 47 02.2 +1.5**
STHS *e* pP 18 47 10.6 +1.0
STHS pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
STHS Stebnicka Huta 79.60 320 *e*P **P 18 47 02.2 +1.5**
comp=Z,6.2nm,1.3s,mb4.4
STHS *e* pP 18 47 10.6 +1.0
STHS Stebnicka Huta 79.60 320 *e*P **P 18 47 02.2 +1.5**
STHS *e*pP pP 18 47 10.6 +1.0
FINES FINESS Array B 79.63 333 *i* P **P 18 47 00.4 -0.2**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 79.63 333 P **P 18 47 00.8 +0.2**
FINES FINESS Array B 79.63 333 P **P 18 47 00.8 +0.2**
comp=Z,1.9nm,0.6s,mb4.2,baz=112,slow=5.8,SNR=14
BILL Bilibino 80.94 21⇓*e*P **P 18 47 06.6 -0.9**
BILL pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
VYHS Vyhne 81.03 319 *e*pP pP 18 47 17.5 +0.2
OKC Ostrava-Krasne 81.66 320 *e*P pP 18 47 21.0 +0.4
OKC Ostrava-Krasne 81.66 320 *e*pP pP 18 47 21.0 +0.4
ZST Bratislava 82.14 318 *e*P pP 18 47 23.2 0.0
ARCES ARCESS Array B 82.17 340 P **P 18 47 14.3 +0.3**
comp=Z,1.6nm,0.4s,mb4.3,baz=97,slow=5.0,SNR=20
DPC Dobruska-Polom 82.88 320 *e*P pP 18 47 27.9 +0.9
DPC Dobruska-Polom 82.88 320 *e*pP pP 18 47 27.9 +0.9
BRG Berggiesshubel 84.44 321 *e*P pP 18 47 35.3 +0.3
comp=Z,7.2nm,1.2s
GEC2 GERESS Array S 84.45 319 P **P 18 47 26.1 -0.1**
GERES GERESS Array B 84.45 319 P **P 18 47 26.9 +0.8**
comp=Z,1.0nm,0.8s,mb4.0,baz=108,slow=4.3,SNR=8.5
GRA1 Grafenberg Arr 86.12 320 *e*P pP 18 47 43.7 +0.2
comp=Z,4.0nm,0.8s
GRF Grafenberg Arr 86.12 320 *e*P pP 18 47 43.7 +0.2
comp=Z,4.0nm,0.8s
NB2 NORSAR Subarra 86.64 331 P **P 18 47 35.6 -1.2**
comp=Z,4.6nm,0.9s,mb4.7,baz=90,slow=5.6
NOA NORSAR Array B 86.64 331 P **P 18 47 35.9 -0.9**
comp=Z,1.3nm,0.8s,mb4.2,baz=90,slow=5.0,SNR=3.7
SNAA Sanae 94.53 198⇑*e*P **P 18 48 16.1 +2.6**
TXAR Lajitas Array 143.50 31 PKP PKPdf 18 54 26.0 -2.9
comp=Z,0.6nm,1.0s,baz=270,slow=2.5,SNR=4.7
CPUP Villa Florida 145.10 223 PKIKP PKPdf 18 54 29.8 -1.9
CPUP 18 54 35.0
CPUP Villa Florida 145.10 223 PKPbc PKPbc 18 54 29.8 -1.4
comp=Z,0.3nm,0.3s,baz=135,slow=11,SNR=3.2

IDC ***15*** *18:41:29.5±4.2, 980N×8388W, h0km, mb3.5/3, mb1 4.0/3, mb1mx3.6/19, mbtmp3.5/3, Error ellipse: s-maj=116.5km s-min=80.0km az=55.0*
NEIC ***15*** *18:41:38.6, 1053N×8475W, h0km, mb4.4/2, MD4.1(CASC), After CASC.*
NEIC Felt at La Fortuna.
ISCJB ***15*** *18:41:39.6±0.5, 1053N±003×8478W±003, h11km±4km, mb3.7/5, Error ellipse: s-maj=6.7km s-min=3.0km az=38.3*
CASC ***15*** *18:41:39.8±1.4, 1053N×8475W, h12km±2km, MD3.7, ML3.6, mb4.4(NEIC)*
ISC 15 18:41:39.6±0.5, 1055N±003×8476W±003, h9km±4km, n34, σ1°21/44, mb3.7/5, 5C-9D, Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FORC	**Fortuna**	**0.12**	**129**	⇓*i*P	**Pg**	**18 41 43.2**	**+0.9**
FORC				*e*S	**Sg**	**18 41 45.8**	**+1.5**
JTS	**JuntasAbangare**	**0.32**	**217**	*e*Pg	**Pg**	**18 41 45.0**	**-0.9**
JTS				*e*Sg	**Sg**	**18 41 48.6**	**-1.5**
CUI		**0.43**	**286**	⇑*i*P	**Pg**	**18 41 48.2**	**+0.3**
2RIO	**Dos Rios de Up**	**0.47**	**268**	⇓*i*P	**Sg**	**18 41 53.3**	**-1.5**
LIM1	**Limonal**	**0.51**	**287**	⇑*i*P	**Pg**	**18 41 49.7**	**+0.3**
LIM1				*i* S	**Sg**	**18 41 57.8**	**+1.6**
CGA2	**Cerro Gallo 2**	**0.60**	**151**	⇓*i*P	**Pg**	**18 41 51.2**	**0.0**
CGA2				*e*S	**Sg**	**18 41 59.3**	**+0.2**
JCR	**Jicaral**	**0.77**	**207**	⇓*i*P	**Pg**	**18 41 54.5**	**+0.1**
JCR				*e*S	**Sb**	**18 42 07.3**	**+1.6**
JCR	**Jicaral**	**0.77**	**207**	⇓*i*P	**Pg**	**18 41 54.6**	**+0.2**
JCR				*e*S	**Sg**	**18 42 05.6**	**+1.0**
SJS	**Escuela Geolog**	**0.92**	**131**	*e*P	**Pg**	**18 41 55.9**	**-1.4**
LAJ	**Bijagual**	**0.93**	**137**	*e*P	**Pg**	**18 41 53.6**	**-3.7**
LAJ				*e*S	**Sg**	**18 42 07.8**	**-1.7**
LAJ	**Bijagual**	**0.93**	**137**	*e*P	**Pg**	**18 41 54.9**	**-2.5**
VCR	**Vista de Mar**	**0.95**	**244**⇓	*e*P	**Pg**	**18 41 57.7**	**-0.2**
VCR	**Vista de Mar**	**0.95**	**244**⇓	*e*P	**Pg**	**18 41 57.6**	**-0.3**
LCR2	**La Lucha 2**	**1.09**	**137**⇑	*e*P	**Pg**	**18 41 59.1**	**-1.5**
LCR2	**La Lucha 2**	**1.09**	**137**	*e*P	**Pg**	**18 41 58.9**	**-1.7**
LCR2				*e*S	**Sg**	**18 42 15.2**	**+0.4**
MADN	**Villa Maderas**	**1.14**	**319**	*e*P	**Pb**	**18 42 00.7**	**-0.8**
MADN				*e*S	**Sg**	**18 42 17.9**	**+1.4**
URSC	**Urasca**	**1.20**	**126**⇑	*e*P	**Pb**	**18 42 01.5**	**-0.9**
URSC	**Urasca**	**1.20**	**126**	*e*P	**Pb**	**18 42 01.4**	**-1.0**
SSNN	**San Juan del S**	**1.30**	**305**	*e*P	**Pn**	**18 42 04.3**	**+0.5**
CONN	**Concepcion**	**1.32**	**320**	*e*P	**Pn**	**18 42 03.1**	**-1.1**
CONN				*e*S	**Sb**	**18 42 21.7**	**+0.1**
BUS	**Buena Vista**	**1.39**	**135**⇓	*e*P	**Pn**	**18 42 04.7**	**-0.5**
BUS				*e*S	**Sg**	**18 42 27.7**	**+3.2**
BUS	**Buena Vista**	**1.39**	**135**⇓	*e*P	**Pn**	**18 42 04.7**	**-0.4**
BUS				*e*S	**Sb**	**18 42 24.4**	**+0.7**
BAR1		**1.93**	**132**⇓	*i*P	**Pn**	**18 42 12.9**	**+0.4**
TICN	**Ticuantepe**	**2.06**	**316**	*e*P	**Pn**	**18 42 12.4**	**-2.1**
TGUH	**Tegucigalpa,Un**	**4.27**	**325**	*e*Pn	**Pn**	**18 42 48.9**	**+4.2**
SDV	**Santo Domingo**	**14.02**	**96**	P	**Pn**	**18 45 00.3**	**+1.8**
4.5nm,0.9s
TXAR	**Lajitas Array**	**25.72**	**319**	P	**P**	**18 47 12.5**	**+2.2**
0.8nm,0.6s,mb3.4,baz=140,slow=9.7,SNR=11
CCM	**Cathedral Cave**	**28.00**	**349**	P	**P**	**18 47 29.9**	**-0.9**
5.4nm,0.7s,mb4.3
LPAZ	**La Paz**	**31.33**	**148**	P	**P**	**18 48 02.1**	**+1.6**
6.2nm,1.7s,mb4.2
NVAR	**Mina Array Bea**	**40.87**	**318**	P	**P**	**18 49 22.0**	**+0.2**
NVAR	**Mina Array Bea**	**40.87**	**318**	P	**P**	**18 49 22.0**	**+0.2**
0.4nm,0.6s,mb3.2,baz=130,slow=7.8,SNR=3.8
YKA	**Yellowknife Ar**	**56.15**	**344**	P	**P**	**18 51 17.5**	**-1.7**
0.3nm,0.6s,mb3.5,baz=139,slow=7.3,SNR=7.8
ASAR	**Alice Springs**	**140.95**	**245**	PKP	PKPdf	19 01 03.0	-7.9
0.6nm,1.0s,baz=113,slow=3.7,SNR=3.0
WRA	**Warramunga Arr**	**141.22**	**251**	PKP	PKPdf	19 01 03.7	-7.8
0.8nm,1.2s,baz=97,slow=4.0,SNR=3.1

CSEM ***15*** *18:43:29.0±0.3, 3680N×2735E, h8km, MD3.0, Error ellipse: s-maj=5.2km s-min=2.9km az=59.0*
ISK ***15*** *18:43:29.1, 3680N×2735E, h4km, MD3.0*
ISC 15 18:43:29.3±2.3, 3677N±008×274E±01, h16km±6km, n7, σ0°23/11, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.17**	**102**	PG	**Pg**	**18 43 33.7**	**0.0**
DAT				*e*SG	**Sg**	**18 43 36.6**	**0.0**
BDRM	**Kayabasi**	**0.31**	**12**	*i* P	**Pg**	**18 43 35.8**	**-0.1**
MLSB	**Milas**	**0.62**	**32**	*e*PG	**Pg**	**18 43 41.2**	**-0.4**
MLSB				*e*SG	**Sg**	**18 43 50.1**	**+0.2**
YER	**Yerkesik**	**0.82**	**63**	*e*PG	**Pg**	**18 43 45.5**	**+0.2**
YER				*e*SG	**Sn**	**18 43 57.8**	**-0.2**
AYDN	**Tasoluk**	**0.98**	**24**	*i* P	**Pn**	**18 43 48.6**	**+0.2**
AYDN				*i* S	**Sn**	**18 44 02.1**	**+0.1**
DALT	**Dalyan (Mudla)**	**1.02**	**89**	*e*PG	**Pg**	**18 43 48.7**	**-0.4**
FETY	**Fethiye**	**1.39**	**95**	*e*PN	**Pg**	**18 43 56.4**	**+0.4**

IDC ***15*** *19:20:05.6±0.6, 5145N×17593E, h0km, mb4.3/19, mb1 4.5/20, mb1mx4.4/27, mbtmp4.3/20, ML4.2/1, MS4.1/11, Ms1 4.1/11, ms1mx3.8/27, Error ellipse: s-maj=18.2km s-min=15.1km az=163.0*
ISCJB ***15*** *19:20:05.7±1.2, 5142N±005×17591E±004, h8km±7km, mb4.7/105, MS4.4/35, Error ellipse: s-maj=8.5km s-min=4.6km az=1.5*
NEIC ***15*** *19:20:07.3±2.1, 5146N×17591E, h9km±12km, mb4.8/66, MS4.5/2, ML4.3(AEIC), Error ellipse: s-maj=7.4km s-min=4.2km az=177.0*
BJI ***15*** *19:20:08.3, 5224N×17541E, h8km, mB4.9, mb4.8, Ms4.8, Msz4.5*
MOS ***15*** *19:20:09.6±0.9, 5144N×17590E, h33km, mb5.0/51, MS4.4/19, Error ellipse: s-maj=10.6km s-min=4.8km az=100.7*
SZGRF ***15*** *19:20:13.7, 5167N×17593E, h33km, mb4.7, Rat Islands, Aleutian Islands, United States*
ISC 15 19:20:09.3±1.3, 5148N±005×17588E±004, h20km±7km, h26km±2.6km: pP-P, n303, σ0°93/298, mb4.7/105, MS4.4/35, 37C-15D, Rat Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.67**	**319**	P	**Pn**	**19 20 37.4**	**-0.1**
SMY				S	**Sg**	**19 21 03.4**	**+0.2**
AMKA	**Amchitka**	**2.14**	**91**	P	**Pn**	**19 20 41.3**	**-2.7**
AMKA				S	**Sn**	**19 21 12.7**	**+2.8**
FX1	**Attu Island--F**	**2.19**	**311**	P	**Pn**	**19 20 44.0**	**-0.6**
PET	**Petropavlovsk**	**10.68**	**285**	*e*P	**Pn**	**19 22 47.5**	**+6.5**
PET				MLR	MLR		
comp=Z,900nm,16.0s
UNV	**Unalaska Valle**	**10.96**	**71**	*e*Pn	**Pn**	**19 22 45.5**	**+0.7**
AKUT	**Akutan**	**11.42**	**69**	*e*Pn	**Pn**	**19 22 54.9**	**+3.8**
SKR	**Severo-Kuril's**	**12.46**	**274**	*e*P	**Pn**	**19 23 03.5**	**-1.8**
SKR				pmax	pmax		
comp=Z,50nm,0.7s
SKR				MLR	MLR		
comp=N,2μm,20.0s
SKR				MLR	MLR		
comp=E,1μm,20.0s
SKR				MLR	MLR		
comp=Z,1μm,20.0s
SKR				MLR	MLR		
comp=Z,1μm,14.0s
SKR				MLR	MLR		
comp=N,1μm,18.0s
SKR				MLR	MLR		
comp=E,1μm,18.0s
GAMB	**Gambell**	**13.97**	**23**	Pn	**Pn**	**19 23 25.6**	**-0.3**
SDPT	**Sand Point**	**14.60**	**65**	*e*P	**Pn**	**19 23 34.1**	**-0.4**
comp=E,11nm,0.6s
MA2	**Magadan**	**16.28**	**310**	*e*P	**Pn**	**19 24 00.1**	**+3.5**
MA2				pmax	pmax		
comp=E,50nm,0.9s
MA2				pmax	pmax		
comp=Z,90nm,0.9s
MA2	**Magadan**	**16.28**	**310**	*e*Pn	**Pn**	**19 24 00.9**	**+4.3**
comp=Z,55nm,0.8s
TNA	**Tin City**	**16.38**	**24**	*e*Pn	**Pn**	**19 24 01.0**	**+3.3**
SEY	**Seymchan**	**17.01**	**321**⇑	*e*P	**Pn**	**19 24 07.4**	**+1.6**
BILL	**Bilibino**	**17.27**	**348**	*c i*P	**Pn**	**19 24 09.8**	**+0.9**
BILL				pmax	pmax		
comp=Z,25nm,1.2s
BILL				MLR	MLR		
comp=Z,1μm,15.0s
BILL	**Bilibino**	**17.27**	**348**	*e*Pn	**Pn**	**19 24 10.0**	**+1.1**
comp=Z,58nm,1.5s
SVW2	**Sparrevohn**	**18.39**	**47**	*e*P	**Pn**	**19 24 22.5**	**-0.3**
TTA	**Tatalina**	**18.87**	**42**	*e*P	**Pn**	**19 24 28.1**	**-0.6**
TTA				pmax	pmax		
comp=Z,85nm,1.5s
TTA	**Tatalina**	**18.87**	**42**	*e*P	**Pn**	**19 24 28.1**	**-0.6**
comp=Z,85nm,1.5s
KDAK	**Kodiak Island**	**19.19**	**58**	*e*P	**Pn**	**19 24 29.0**	**-3.5**
comp=Z,39nm,0.9s
KDAK	**Kodiak Island**	**19.19**	**58**	P	**Pn**	**19 24 28.8**	**-3.7**
comp=Z,0.7nm,0.3s,baz=145,slow=12,SNR=5.3
SLKM	**Skilak Lake**	**20.78**	**51**	*e*P	**P**	**19 24 49.5**	**+0.7**
IMA2	**Indian Mountai**	**21.19**	**35**	*e*P	**P**	**19 24 52.4**	**-0.7**
SML	**Sawmill**	**21.93**	**48**	*e*P	**P**	**19 25 01.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**21.99**	**271**⇓	*e*P	**P**	**19 25 04.2**	**+2.2**
YSS				*e*		19 25 17.1	
YSS				*e*S	**S**	**19 29 02.0**	**-1.6**
YSS				*e*		19 29 14.0	
YSS				pmax	pmax		
comp=Z,20nm,0.9s,mb4.5
YSS				MLR	MLR		
comp=Z,500nm,17.0s,MS4.0
YSS				MLR	MLR		
comp=N,400nm,15.0s,MS4.2
YSS				MLR	MLR		
comp=E,500nm,15.0s,MS4.2
YSS	**Yuzh-Sakhalins**	**21.99**	**271**	*e*P	**P**	**19 25 02.1**	**+0.2**
comp=E,15nm,0.8s,mb4.5
COLA	**College**	**22.94**	**40**⇑	*e*P	**P**	**19 25 10.2**	**-1.7**
DIV	**Divide**	**23.03**	**50**	*e*P	**P**	**19 25 14.2**	**+1.3**
comp=E,24nm,1.1s,mb4.5
ERM	**Erimo**	**24.16**	**260**	*e*P	**P**	**19 25 25.1**	**+1.1**
ERM				pmax	pmax		
comp=Z,15nm,0.9s,mb4.4
ERM	**Erimo**	**24.16**	**260**	*e*P	**P**	**19 25 25.1**	**+1.2**
comp=Z,15nm,0.9s,mb4.4
MENT	**Mentasta**	**24.25**	**46**	*e*P	**P**	**19 25 24.0**	**-0.6**
EGAK	**Eagle**	**25.69**	**42**	*e*P	**P**	**19 25 35.8**	**-1.9**
comp=Z,18nm,0.9s,mb4.6
HABR	**Khabarovsk**	**26.19**	**280**	*e*P	**P**	**19 25 42.7**	**+0.4**
HABR				*e*		19 26 23.1	
HABR				*e*S	**S**	**19 30 13.8**	**+0.7**
HABR				*e*SS		19 31 20.4	
HABR				pmax	pmax		
comp=Z,35nm,1.8s,mb4.6
DAWY	**Dawson**	**26.34**	**44**	*e*P	**P**	**19 25 40.6**	**-2.9**
YAK	**Yakutsk**	**26.85**	**311**	*c i*P	**P**	**19 25 47.3**	**-0.8**
YAK				*e*PPP		19 26 37.3	
YAK				*e*		19 29 07.2	
YAK				*e*S	**S**	**19 30 24.2**	**+1.0**
YAK				*e*SS		19 31 31.7	
YAK				pmax	pmax		
comp=Z,106nm,0.8s,mb5.4
YAK				pmax	pmax		
comp=N,10.0nm,1.0s
YAK				pmax	pmax		
comp=E,44nm,1.2s
YAK				pmax	pmax		
comp=Z,209nm,5.6s
YAK				pmax	pmax		
comp=N,81nm,4.8s
YAK				pmax	pmax		
comp=E,52nm,2.0s
YAK				smax			
comp=E,168nm,4.8s
YAK				smax			
comp=N,155nm,4.1s
YAK				MLR	MLR		
comp=Z,524nm,16.0s,MS4.2
YAK				MLR	MLR		
comp=N,524nm,14.0s,MS4.3
YAK				MLR	MLR		
comp=E,555nm,18.0s,MS4.3
YAK	**Yakutsk**	**26.85**	**311**	*e*P	**P**	**19 25 46.8**	**-1.3**
comp=E,125nm,0.8s,mb5.5
KLR	**Kul'dur**	**27.93**	**283**	*e*P	**P**	**19 25 54.0**	**-4.0**
INK	**Inuvik**	**29.31**	**36**	*e*P	**P**	**19 26 08.0**	**-2.1**
CRAG	**Craig**	**30.05**	**62**	P	**P**	**19 26 13.8**	**-2.9**
comp=E,25nm,1.1s,mb4.8
MJAR	**Matsushiro Arr**	**30.55**	**256**	P	**P**	**19 26 21.9**	**+0.6**
comp=E,2.2nm,1.0s,mb3.9,baz=53,slow=8.1,SNR=5.1
MAJO	**Matsushiro**	**30.55**	**256**	P	**P**	**19 26 21.7**	**+0.4**
MAJO				pmax	pmax		
comp=Z,13nm,1.1s,mb4.7
MAJO	**Matsushiro**	**30.55**	**256**	P	**P**	**19 26 21.7**	**+0.4**
comp=Z,13nm,1.1s,mb4.7
MAT	**Matsushiro**	**30.55**	**256**	P	**P**	**19 26 20.7**	**-0.6**
DLBC	**Dease Lake**	**31.07**	**56**	P	**P**	**19 26 28.4**	**+2.8**
MDJ	**Mudanjiang**	**31.26**	**276**	P	**P**	**19 26 26.0**	**-1.5**
MDJ				AMB	AMB		
comp=Z,7.0nm,0.7s,mb4.6
MDJ				AMB	AMB		
comp=Z,35nm,4.1s
MDJ	**Mudanjiang**	**31.26**	**276**	*e*P	**P**	**19 26 26.7**	**-0.9**
comp=Z,12nm,1.0s,mb4.7
BOD	**Bodaibo**	**35.22**	**305**	*e*P	**P**	**19 27 00.7**	**-1.2**
BOD				pmax	pmax		
comp=Z,21nm,0.9s,mb5.1
KSRS	**Korea Array**	**36.31**	**266**	LR	LR	19 44 09.1	
comp=Z,140nm,18.0s,MS3.8,baz=219,slow=40
YKA	**Yellowknife Ar**	**37.56**	**46**	P	**P**	**19 27 20.9**	**-0.9**
YKA						19 29 38.8	
YKA	**Yellowknife Ar**	**37.56**	**46**	P	**P**	**19 27 20.9**	**-0.8**
YKA				PcP	PcP	19 29 38.8	-0.4
YKA				LR	LR	19 44 11.6	
YKA	**Yellowknife Ar**	**37.56**	**46**	P	**P**	**19 27 20.9**	**-0.8**
comp=Z,2.5nm,0.9s,mb3.9,baz=287,slow=8.3,SNR=13
YKA				PcP	PcP	19 29 38.8	-0.4
comp=Z,0.6nm,0.6s,baz=291,slow=3.7,SNR=5.2
YKA				LR	LR	19 44 11.6	
comp=Z,539nm,18.8s,MS4.4,baz=300,slow=38
RES	**Resolute Bay**	**41.02**	**24**	*e*P	**P**	**19 27 47.6**	**-2.9**
comp=Z,113nm,0.8s,mb5.5
BJI	**Beijing**	**42.08**	**278**	P	**P**	**19 28 00.0**	**+0.4**
BJI				AMB	AMB		
comp=Z,9.0nm,0.8s,mb4.5
BJI				LR	LR		
comp=N,915nm,15.6s,MS4.9
BJI				LR	LR		
comp=E,760nm,14.1s,MS4.9
BJI				LR	LR		
comp=Z,489nm,16.7s,MS4.5
YBH	**Yreka Blue Hor**	**42.14**	**78**	*e*P	**P**	**19 28 01.0**	**+0.9**
YBH				pmax	pmax		
comp=Z,3.0nm,0.7s
YBH	**Yreka Blue Hor**	**42.14**	**78**	*e*P	**P**	**19 28 01.0**	**+0.9**
comp=Z,3.1nm,0.7s,mb4.0
TLY	**Talaya**	**43.17**	**300**	*e*P	**P**	**19 28 08.6**	**+0.3**
TLY				*e*PPP		19 30 02.4	
TLY				*e*S	**S**	**19 34 28.1**	**-5.4**
TLY				pmax	pmax		
comp=Z,8.0nm,1.0s,mb4.4
TLY				MLR	MLR		
comp=Z,620nm,19.0s,MS4.5
TLY	**Talaya**	**43.17**	**300**	*e*P	**P**	**19 28 05.9**	**-2.4**
comp=Z,7.4nm,0.9s,mb4.4
ULN	**Ulaanbaatar**	**43.20**	**293**⇑	*e*P	**P**	**19 28 08.8**	**+0.2**
ULN	**Ulaanbaatar**	**43.20**	**293**	*e*P	**P**	**19 28 08.6**	**0.0**
WALA	**Waterton Lakes**	**43.36**	**64**	*e*P	**P**	**19 28 15.1**	**+5.2**
comp=Z,5.4nm,1.0s,mb4.2
MOD	**Modoc**	**43.51**	**77**	*e*P	**P**	**19 28 11.5**	**+0.3**
comp=Z,6.1nm,0.7s,mb4.4
SONM	**Songino Array**	**43.59**	**294**	P	**P**	**19 28 12.8**	**+1.0**
comp=Z,6.2nm,0.8s,mb4.4,baz=54,slow=10,SNR=28
BMO	**Blue Mountains**	**43.64**	**71**	*e*P	**P**	**19 28 13.8**	**+1.5**
comp=Z,3.2nm,1.0s,mb4.0
ZAK	**Zakamensk**	**44.02**	**298**⇓	*i*P	**P**	**19 28 15.2**	**0.0**
ZAK				pmax	pmax		
comp=Z,5.0nm,1.4s,mb4.0
WVOR	**Wild Horse Val**	**44.22**	**75**	*e*P	**P**	**19 28 18.5**	**+1.6**
WVOR				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.4
WVOR	**Wild Horse Val**	**44.22**	**75**	*e*P	**P**	**19 28 18.5**	**+1.6**
comp=Z,7.3nm,0.9s,mb4.4
HHC	**Hu-ho-hao-te**	**44.44**	**282**	*e*P	**P**	**19 28 19.5**	**+0.8**
HHC				AP	pP	19 28 29.5	+4.7
HHC				AMB	AMB		
comp=Z,53nm,1.0s,mb5.2
HHC				AMB	AMB		
comp=Z,195nm,6.3s
HHC				LR	LR		
comp=N,643nm,16.5s,MS4.8
HHC				LR	LR		
comp=E,641nm,14.8s,MS4.8
HHC				LR	LR		
comp=Z,691nm,17.8s,MS4.6
MOY	**Mondy**	**44.60**	**301**	*e*P	**P**	**19 28 20.6**	**+0.8**
GUMO	**Guam**	**45.30**	**225**	LR	LR	19 45 42.8	
comp=Z,150nm,18.9s,MS4.0,baz=70,slow=34
BTO	**Baotou**	**45.53**	**283**	*e*P	**P**	**19 28 28.8**	**+1.5**
NVAR	**Mina Array Bea**	**46.82**	**79**	P	**P**	**19 28 37.1**	**-0.4**
comp=Z,1.5nm,0.6s,mb4.1,baz=291,slow=7.3,SNR=14
FCC	**Fort Churchill**	**48.26**	**44**	*e*P	**P**	**19 28 46.2**	**-2.2**
FCC				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.6
FCC	**Fort Churchill**	**48.26**	**44**	*e*P	**P**	**19 28 46.2**	**-2.2**
comp=Z,5.6nm,0.9s,mb4.6
TPNV	**Topopah Spring**	**49.02**	**79**	*e*P	**P**	**19 28 54.4**	**-0.2**
TPNV				pmax	pmax		
comp=Z,7.0nm,0.7s,mb4.8
TPNV	**Topopah Spring**	**49.02**	**79**	*e*P	**P**	**19 28 54.4**	**-0.2**
comp=Z,7.0nm,0.7s,mb4.8
KBS	**Kingsbay**	**49.51**	**356**	*ce*P	**P**	**19 28 57.3**	**-0.5**
GSC	**Goldstone**	**49.74**	**81**	*e*P	**P**	**19 28 59.7**	**-0.4**
GSC				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.7
GSC	**Goldstone**	**49.74**	**81**	*e*P	**P**	**19 28 59.7**	**-0.4**
comp=Z,4.8nm,0.6s,mb4.7
SPB4	**Spitsbergen Ar**	**50.01**	**355**	*e*P	**P**	**19 29 00.5**	**-1.1**
XAN	**Xi'an**	**50.36**	**277**	P	**P**	**19 29 04.8**	**0.0**
XAN				AP	pP	19 29 14.8	+3.8
XAN				PP	PP	19 31 01.8	+1.7

XAN S **S** **19 36 14.3 -2.4**
XAN XS sS 19 36 31.1 +4.2
XAN SS SS 19 39 44.8 -5.3
XAN AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
XAN AMB AMB
comp=Z,37nm,4.7s
XAN LR LR
comp=N,154nm,16.8s,MS4.3
XAN LR LR
comp=E,196nm,15.4s,MS4.3
XAN LR LR
comp=Z,341nm,15.4s,MS4.5
ZALV Zalesovo Beam 51.50 311 P **P** **19 29 11.4 -1.7**
comp=Z,1.0nm,0.7s,mb3.9,baz=53,slow=5.7,SNR=5.2
ZAL Zalesovo 51.52 311 P **P** **19 29 11.4 -1.8**
NVS Novosibirsk 51.70 313 *e*P **P** **19 29 13.5 -1.1**
NVS pmax pmax
comp=N,19nm,2.0s
NVS pmax pmax
comp=Z,33nm,2.0s,mb4.9
NVS pmax pmax
comp=E,18nm,1.9s
LZH Lanzhou 52.14 283 *e*P **P** **19 29 19.5 +1.4**
LZH AP pP 19 29 24.9 +0.6
LZH XP sP 19 29 27.3 +0.6
LZH AMB AMB
comp=Z,17nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,68nm,4.4s
ULM Lac du Bonnet 52.37 54 LR LR 19 52 59.6
comp=Z,267nm,18.4s,MS4.3,baz=274,slow=38
GTA Gaotai 52.41 288 *e*P **P** **19 29 20.5 +0.4**
GTA AP pP 19 29 29.6 +3.3
GTA XP sP 19 29 33.6 +4.9
GTA PCP PcP 19 30 29.8 -0.9
GTA PP PP 19 31 20.6 +2.0
GTA SCP ScP 19 34 25.1 -1.4
GTA PCS PcS 19 34 28.5 -0.6
GTA S **S** **19 36 43.0 -1.8**
GTA SCS ScS 19 39 04.8 -3.8
GTA SS SS 19 40 17.3 -5.0
GTA AMB AMB
comp=Z,11nm,1.2s,mb4.7
GTA AMB AMB
comp=Z,81nm,6.9s
GTA LR LR
comp=N,378nm,17.6s,MS4.6
GTA LR LR
comp=E,421nm,20.3s,MS4.6
GTA LR LR
comp=Z,415nm,18.6s,MS4.5
TUC Tucson 55.46 80 *e*P **P** **19 29 43.6 +1.1**
CD2 Chengdu 55.68 278 *e*P **P** **19 29 44.4 +0.3**
CD2 AP pP 19 29 54.8 +4.5
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.2
CD2 AMB AMB
comp=Z,40nm,4.2s
CD2 LR LR
comp=N,660nm,19.2s
CD2 LR LR
comp=E,820nm,10.8s
CD2 LR LR
comp=Z,390nm,12.0s
ANMO Albuquerque 56.30 75⇑ *e*P **P** **19 29 47.0 -1.5**
WMQ Urumqi 56.45 300 P **P** **19 29 51.0 +1.6**
WMQ PP PP 19 31 58.0 +3.3
WMQ AMB AMB
comp=Z,37nm,1.0s,mb5.4
WMQ AMB AMB
comp=Z,74nm,6.0s
WMQ LR LR
comp=N,542nm,15.0s,MS4.9
WMQ LR LR
comp=E,465nm,15.0s,MS4.9
WMQ LR LR
comp=Z,312nm,15.0s,MS4.5
KURK Kurchatov 56.49 311⇑ *e*P **P** **19 29 48.8 -0.8**
KURK Kurchatov 56.49 311 *e*P **P** **19 29 48.7 -0.8**
comp=Z,27nm,1.0s,mb5.2
GYA Guiyang 57.00 272 P **P** **19 29 54.3 +0.8**
GYA PCP PcP 19 30 50.6 +2.1
GYA PP PP 19 32 04.3 +4.3
GYA SCP ScP 19 34 45.8 -1.0
GYA S **S** **19 37 44.9 -1.9**
GYA SCS ScS 19 39 38.3 -3.4
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,70nm,5.8s
GYA LR LR
comp=N,470nm,19.6s,MS4.8
GYA LR LR
comp=E,490nm,18.5s,MS4.8
GYA LR LR
comp=Z,480nm,19.8s,MS4.6
MK31 Makanchi Array 57.31 305 *i* P **P** **19 29 54.7 -0.8**
MK31 Makanchi Array 57.31 305 *e*P **P** **19 29 54.8 -0.7**
MKAR Makanchi Array 57.31 305 *i* P **P** **19 29 54.7 -0.8**
MKAR pmax pmax
comp=Z,6.0nm,0.7s
MKAR Makanchi Array 57.31 305 P **P** **19 29 54.4 -1.1**
MKAR LR LR 19 56 27.9
MKAR Makanchi Array 57.31 305 P **P** **19 29 54.4 -1.1**
comp=Z,5.8nm,0.7s,mb4.7,baz=51,slow=7.5,SNR=42
MKAR LR LR 19 56 27.9
comp=Z,330nm,19.8s,MS4.4,baz=36,slow=38
ARCES ARCESS Array B 57.37 348 P **P** **19 29 53.8 -1.8**
comp=Z,3.0nm,0.8s,mb4.3,baz=38,slow=8.6,SNR=6.9
BVAR Borovoye Array 58.61 317 P **P** **19 30 03.9 -0.5**
comp=Z,5.2nm,0.5s,mb4.8,baz=51,slow=7.2,SNR=64
BRVK Borovoye 58.63 317 *e*P **P** **19 30 04.1 -0.5**
BRVK pmax pmax
comp=Z,13nm,0.8s,mb5.0
BRVK Borovoye 58.63 317 *e*P **P** **19 30 04.1 -0.5**
comp=Z,13nm,0.8s,mb5.0
SVE Sverdlovsk 59.66 325⇑ *e*P **P** **19 30 12.9 +1.2**
SVE *e*S **S** **19 38 39.2 +19**
SVE pmax pmax
comp=Z,29nm,0.9s,mb5.3
ARU Arti 60.70 326*c i*P **P** **19 30 19.2 +0.4**
ARU *e* 19 31 02.2
ARU *e* 19 32 35.7
ARU *e*S **S** **19 38 35.4 +1.3**
ARU *e*SS SS 19 42 30.9 -1.0
ARU pmax pmax
comp=Z,59nm,1.0s,mb5.7
ARU MLR MLR
comp=Z,526nm,17.0s,MS4.8
TXAR Lajitas Array 61.91 77 P **P** **19 30 27.4 0.0**
comp=Z,1.4nm,0.5s,mb4.4,baz=303,slow=5.0,SNR=22
TXAR LR LR 19 57 55.4
comp=Z,128nm,18.1s,MS4.1,baz=20,slow=37
SCHQ Schefferville 61.93 36 LR LR 19 57 28.6
comp=Z,166nm,18.2s,MS4.2,baz=82,slow=36
JOF Joensuu 62.58 343 *e*p **P** **19 30 28.1 -3.3**
comp=Z,7.8nm,0.7s,mb5.0
JOF Joensuu 62.58 343 *e*P **P** **19 30 28.1 -3.3**
JOF pmax pmax
comp=Z,8.0nm,0.7s,mb5.0
BORG Borgarnes 63.35 8 LR LR 19 57 37.8
comp=Z,33nm,18.8s,MS3.5,baz=15,slow=36
TKM2 Tokmak 2 63.42 306 P **P** **19 30 37.6 +0.3**
SNR=70
FRU Bishkek 63.98 307 *e*P **P** **19 30 32.0 -9.0**
FRU pmax pmax
comp=E,80μm,1.3s
LSA Lhasa 64.24 286 P **P** **19 30 45.0 +2.1**
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
LSA LR LR
comp=N,180nm,20.0s
LSA LR LR
comp=E,200nm,14.0s
LSA LR LR
comp=Z,290nm,16.0s,MS4.6
LSA Lhasa 64.24 286 *e*P **P** **19 30 43.5 +0.6**
LSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
LSA Lhasa 64.24 286 *e*P **P** **19 30 43.5 +0.6**
comp=Z,6.2nm,0.8s,mb4.7
FINES FINESS Array B 64.88 345 P **P** **19 30 46.0 -0.6**
comp=Z,2.1nm,0.6s,mb4.4,baz=28,slow=8.2,SNR=18
AKTK Aktyubinsk 65.61 322 P **P** **19 30 51.1 -0.4**
AKTO Aktyubinsk 65.61 322 P **P** **19 30 51.1 -0.4**
comp=Z,19nm,0.9s,mb5.1,baz=55,slow=7.5,SNR=47
NB2 NORSAR Subarra 67.17 352 P **P** **19 31 00.8 -0.4**
comp=Z,8.9nm,0.7s,mb4.9,baz=10.0,slow=6.5
NOA NORSAR Array B 67.17 352 P **P** **19 31 01.1 -0.1**
NOA PKKP 19 51 02.5
NOA LR LR 20 03 53.5
NOA NORSAR Array B 67.17 352 P **P** **19 31 01.1 -0.2**
comp=Z,8.9nm,0.8s,mb4.8,baz=11,slow=6.4,SNR=24
NOA PKKP 19 51 02.5
comp=Z,0.9nm,0.8s,baz=199,slow=1.8,SNR=3.3
NOA LR LR 20 03 53.5
comp=Z,91nm,18.7s,MS4.0,baz=30,slow=39
NAO01 NORSAR Array S 67.39 352 *e*P **P** **19 31 01.9 -0.7**
comp=Z,10nm,0.9s,mb4.8
OBN Obninsk 68.52 336*c i*P **P** **19 31 09.7 -0.2**
OBN *e* 19 31 25.4
OBN pmax pmax
comp=Z,25nm,1.0s,mb5.1
OBN MLR MLR
comp=Z,600nm,18.0s,MS4.9
OBN Obninsk 68.52 336 *e*P **P** **19 31 08.9 -1.0**
comp=Z,24nm,0.9s,mb5.1
TAOE Nuku Hiva Isla 71.00 133 *e*LR LR 19 52 57.0
comp=Z,8μm,24.2s
VRSR Storozhevoye 71.31 333 *e*P **P** **19 31 26.9 -0.2**
VRSR pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.8s
AKASG Malin Array Be 74.34 339 P **P** **19 31 44.9 -0.1**
comp=E,9.2nm,0.7s,mb4.8,baz=25,slow=6.0,SNR=23
AKBB Malin Array Si 74.34 339 *e*P **P** **19 31 43.7 -1.3**
KIEV Kiev 74.35 339 *e*P **P** **19 31 43.5 -1.6**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIEV Kiev 74.35 339 *e*P **P** **19 31 43.5 -1.6**
comp=Z,9.8nm,0.8s,mb4.8
PPT Papeete 75.09 146 *e*LR LR 19 54 54.4
comp=Z,246nm,21.8s,baz=343
PPT Papeete 75.09 146 LR LR 19 57 46.2
comp=Z,300nm,19.4s,MS4.6,baz=345,slow=30
GOF Gofitskoye 75.58 328 *e*P pP 19 32 06.2 +7.4
CTA Charters Tower 75.84 209 P **P** **19 31 53.7 -0.3**
comp=Z,4.3nm,1.0s,mb4.3,baz=55,slow=16,SNR=3.1
CLZ Clausthal 76.33 351 *e*P **P** **19 31 56.5 0.0**
CLZ pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CLZ Clausthal 76.33 351 *e*P **P** **19 31 56.5 0.0**
comp=Z,10.0nm,1.0s,mb4.7
CLL Collm 76.57 349 *e*P **P** **19 31 57.0 -0.8**
CLL *e* pP 19 32 03.0 -1.3
CLL MLR MLR
comp=Z,300nm,17.9s,MS4.7
CLL Collm 76.57 349 *e*P **P** **19 31 56.9 -0.9**
comp=Z,5.0nm,0.9s,mb4.4
CLL Collm 76.57 349 *e*P **P** **19 31 57.0 -0.8**
CLL *e*sP sP 19 32 03.0 -3.6
OJC Ojcow 76.66 344 *e*P **P** **19 31 58.8 +0.4**
KIV Kislovodsk 76.67 327 *e*P **P** **19 31 59.3 +0.8**
KIV *e* 19 32 12.5
KIV *e*S S 19 41 45.6 +1.7
KIV pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
KIV MLR MLR
comp=Z,248nm,19.0s,MS4.5
KIV Kislovodsk 76.67 327 *e*P **P** **19 31 59.1 +0.5**
comp=Z,9.4nm,0.8s,mb4.8
KIV Kislovodsk 76.67 327⇑ *i*P **P** **19 31 59.2 +0.7**
KWP Kalwaria 76.71 342 *e*P **P** **19 31 59.2 +0.5**
comp=Z,52nm,1.0s,mb5.4
NEUB Neuenburg 76.81 350 *e*P **P** **19 31 59.3 +0.1**
comp=Z,10.0nm,0.8s,mb4.8
BRG Berggiesshubel 76.88 348 *e*P **P** **19 31 59.0 -0.6**
BRG *e* pP 19 32 05.2 -0.9
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 76.88 348 *e*P **P** **19 31 59.0 -0.6**
comp=Z,5.0nm,1.0s,mb4.4
BRG Berggiesshubel 76.88 348 *e*P **P** **19 31 59.0 -0.6**
comp=Z,4.8nm,1.0s,mb4.4
BRG *e* pP 19 32 05.2 -0.8
comp=Z,3.2nm,0.8s
FBE Freiberg 76.91 349 *e*P **P** **19 31 59.6 -0.1**
comp=Z,16nm,1.5s,mb4.7
UPC Upice 76.96 347 *e*P **P** **19 31 59.9 -0.2**
DPC Dobruska-Polom 77.07 347 *e*P **P** **19 32 00.9 +0.2**
DPC AMS AMS 20 16 30.0
comp=Z,300nm,15.5s
STHS Stebnicka Huta 77.18 343 *e*P **P** **19 31 56.1 -5.2**
STHS *e* pP 19 32 02.7 -5.1
STHS pmax pmax
comp=Z,13nm,0.9s,mb4.9
STHS Stebnicka Huta 77.18 343 *e*P **P** **19 31 56.1 -5.2**
comp=Z,13nm,0.9s,mb4.8
STHS *e* pP 19 32 02.7 -5.1
STHS Stebnicka Huta 77.18 343 *e*P **P** **19 32 02.7 +1.4**
STHS Stebnicka Huta 77.18 343 *e* **P** **19 31 56.1 -5.2**
OKC Ostrava-Krasne 77.30 345 *e*P **P** **19 32 02.3 +0.3**
OKC AMS AMS 20 17 30.0
comp=Z,200nm,15.2s
MOX Moxa 77.38 350 *e*P **P** **19 32 02.4 0.0**
MOX Moxa 77.38 350 *e*P **P** **19 32 02.0 -0.4**
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 77.45 346⇑ *i*P **P** **19 32 02.3 -0.5**
KOLS Kolonicke sedl 77.46 343 *e*P **P** **19 31 57.9 -5.0**
KOLS *e*pP pP 19 32 04.2 -5.1
ANN Anapa 77.60 331 *e*P **P** **19 32 03.2 -0.5**
ANN pmax pmax
comp=Z,18nm,1.0s,mb5.0
ANN MLR MLR
comp=N,443nm,21.0s,MS4.8
ANN MLR MLR
comp=E,207nm,21.0s,MS4.8
ANN MLR MLR
comp=Z,205nm,21.0s,MS4.4
CRVS Cervenica-Dubn 77.64 343 *e*P **P** **19 32 04.6 +0.7**
CRVS Cervenica-Dubn 77.64 343 *e*P **P** **19 32 04.5 +0.6**
WERN Wernitzgruen 77.65 349 *e*P **P** **19 32 03.7 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
PRU Pruhonice 77.67 348 *e*P **P** **19 32 04.2 +0.2**
PRU AMS AMS 20 17 10.0
comp=Z,300nm,16.3s
NKC Novy Kostel 77.69 349 *e*P pP 19 32 14.1 +3.5
NKC MLR MLR
comp=Z,300nm,17.6s,MS4.7
NKC Novy Kostel 77.69 349 AMS AMS 20 18 50.0
comp=Z,300nm,17.6s
UZH Uzhgorod 77.75 342 *e*P **P** **19 32 06.0 +1.5**
UZH *e* 19 32 17.4
UZH *e*S S 19 41 56.0 +0.6
UZH MLR MLR
comp=Z,280nm,20.0s,MS4.6
HGN Heimansgroeve 77.78 353 *e*P **P** **19 32 04.7 0.0**
comp=Z,16nm,1.3s,mb4.8
SOC Sochi 77.98 329 *e*P **P** **19 32 05.2 -0.7**
SOC *e**SP sP 19 32 23.5 +8.8
SOC *e* 19 34 59.3
SOC *e*PPP 19 36 48.2
SOC *e*S S 19 41 56.9 -1.2
SOC pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
SOC MLR MLR
comp=Z,376nm,17.0s,MS4.8
VRAC Vranov 78.05 346⇑ *i*P **P** **19 32 06.6 +0.4**
BURAR Bucovina Array 78.13 340⇑ *i*P **P** **19 32 07.0 +0.4**
TRPA Tarpa 78.18 342⇑ *i*P **P** **19 32 07.7 +0.8**
TREC Trest 78.22 347 AMS AMS 20 16 00.0
comp=Z,200nm,15.2s
GRA1 Grafenberg Arr 78.37 350 *e*P **P** **19 32 08.1 +0.2**
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.37 350 *e*P **P** **19 32 08.1 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.37 350 *e*P **P** **19 32 08.1 +0.2**
GRF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
GRF Grafenberg Arr 78.37 350 *e*P **P** **19 32 08.1 +0.2**
comp=Z,7.0nm,0.9s,mb4.6
KOLL Kolacno 78.48 345 *e*P **P** **19 32 09.4 +0.8**
KOLL Kolacno 78.48 345 *e*P **P** **19 32 09.3 +0.8**
VYHS Vyhne 78.49 345 *e*P **P** **19 32 09.2 +0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
VYHS Vyhne 78.49 345 *e*P **P** **19 32 09.2 +0.6**
comp=Z,4.8nm,1.1s,mb4.3
GIVF Givet 78.52 354 *e*P **P** **19 32 09.2 +0.5**
BAIF Baives 78.60 355 *e*P **P** **19 32 09.7 +0.5**
KHC Kasperske Hory 78.64 348⇑ *e*P **P** **19 32 09.2 -0.2**
KHC Kasperske Hory 78.64 348 *e*P **P** **19 32 09.1 -0.3**
KHC AMS AMS 20 17 40.0
comp=Z,200nm,17.4s
WET Wettzell 78.71 349 *e*P **P** **19 32 10.1 +0.3**
WET pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
WET Wettzell 78.71 349 *e*P **P** **19 32 10.1 +0.3**
comp=Z,10.0nm,1.4s,mb4.5
PSZ Piszkesteto 78.87 344 *e*P **P** **19 32 10.0 -0.7**
comp=Z,9.2nm,1.0s,mb4.7
PSZ Piszkesteto 78.87 344⇑ *i*P **P** **19 32 11.6 +0.9**
GEC2 GERESS Array S 78.90 348 *e*P **P** **19 32 10.2 -0.7**
GEC2 pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
GEC2 GERESS Array S 78.90 348 *e*P **P** **19 32 10.2 -0.7**
comp=Z,8.0nm,1.2s,mb4.5
GERES GERESS Array B 78.90 348 P **P** **19 32 11.3 +0.4**
GERES LR LR 20 09 54.4
GERES GERESS Array B 78.90 348 P **P** **19 32 11.3 +0.4**
comp=Z,2.2nm,0.9s,mb4.1,baz=22,slow=4.3,SNR=12
GERES LR LR 20 09 54.4
comp=Z,134nm,18.9s,MS4.3,baz=100,slow=38
ZST Bratislava 79.06 346 *e*P **P** **19 32 12.1 +0.4**
comp=Z,10nm,0.7s,mb4.9
ZST LR LR
comp=Z,200nm,16.2s,MS4.5
GNI Garni 79.30 324⇑ *e*P **P** **19 32 14.7 +1.5**
GNI pmax pmax
comp=Z,20nm,1.7s
GNI Garni 79.30 324 P **P** **19 32 14.0 +0.8**
comp=Z,3.5nm,0.3s,mb4.7,baz=180,slow=16,SNR=3.8
DRGR 79.43 342⇓ *i*P **P** **19 32 14.4 +0.6**
VRI Vrincioaia 79.46 339⇓ *i*P **P** **19 32 13.4 -0.6**
CONA Conrad Observa 79.50 346⇑ *i*pP **P** **19 32 15.0 +0.8**
comp=Z,11nm,1.1s,mb4.7,SNR=5.8
CSNA Conrad Observa 79.50 346⇑ *i*pP **P** **19 32 14.9 +0.7**
comp=Z,9.9nm,1.0s,mb4.7
WRAB Tennant Creek 79.86 219⇓ *e*P **P** **19 32 15.4 -0.9**
WRA Warramunga Arr 79.88 219 *i* P **P** **19 32 15.3 -1.1**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 79.88 219 P **P** **19 32 14.9 -1.5**
comp=Z,0.7nm,0.6s,mb3.8,baz=31,slow=6.1,SNR=7.4
MLR Muntele Rosu 79.99 339⇑ *i*P **P** **19 32 17.4 +0.6**
BFO Black Forest 80.00 352 *e*P **P** **19 32 16.3 -0.6**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BFO Black Forest 80.00 352 *e*P **P** **19 32 16.3 -0.6**
comp=Z,10.0nm,1.0s,mb4.7
CDF Champ du Feu 80.02 352 *e*P **P** **19 32 16.8 -0.1**
comp=Z,11nm,0.8s,mb4.5
CDF Champ du Feu 80.02 352 *e*P **P** **19 32 16.8 -0.1**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 80.02 352 *e*P **P** **19 32 16.8 -0.1**
comp=Z,5.4nm,0.8s,mb4.5
FLN La Foliniere 80.09 358 *e*P **P** **19 32 16.9 -0.5**
comp=Z,38nm,1.0s,mb5.0
FLN *e*MLR MLR
comp=Z,219nm,17.2s,MS4.3
FLN La Foliniere 80.09 358 *e*P **P** **19 32 16.9 -0.5**
FLN pmax pmax
comp=Z,19nm,1.0s,mb5.0
FLN MLR MLR
comp=Z,220nm,17.3s,MS4.6
FLN La Foliniere 80.09 358 *e*P **P** **19 32 16.9 -0.5**
comp=Z,19nm,1.0s,mb5.0
FLN LR LR
comp=Z,220nm,17.3s,MS4.6
MEZF Maizieres J'vi 80.09 354 *e*P **P** **19 32 17.7 +0.3**
comp=Z,43nm,1.1s,mb5.0
MEZF Maizieres J'vi 80.09 354 *e*P **P** **19 32 17.7 +0.3**
comp=Z,43nm,1.1s,mb5.3
ARSA Arzberg 80.22 347⇑ *i*P **P** **19 32 18.8 +0.8**
comp=Z,6.8nm,0.9s,mb4.5
ARSA Arzberg 80.22 347⇑ *i*pP **P** **19 32 18.8 +0.8**
comp=Z,6.8nm,0.9s,mb4.5
VOIR 80.24 340⇓ *i*P **P** **19 32 19.2 +1.0**
VOIR 80.24 340⇓ *i*P **P** **19 32 19.1 +0.9**
LDF La Druitiere 80.25 357 *e*P **P** **19 32 17.7 -0.5**
comp=Z,16nm,0.8s,mb4.7
LDF La Druitiere 80.25 357 *e*P **P** **19 32 17.7 -0.5**
LDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
LDF La Druitiere 80.25 357 *e*P **P** **19 32 17.7 -0.5**
comp=Z,7.8nm,0.8s,mb4.7
TIRR Tirgusor 80.39 337⇑ *i*P **P** **19 32 19.1 +0.1**
GRR Gorron 80.48 358 *e*P **P** **19 32 19.1 -0.3**
HAU Haudompre 80.49 353 *e*P **P** **19 32 19.4 -0.1**
HAU *e*MLR MLR
comp=Z,226nm,17.2s,MS4.3
HAU Haudompre 80.49 353 *e*P **P** **19 32 19.4 -0.1**
HAU LR LR
comp=Z,230nm,17.3s,MS4.6
HINF Hinteralfeld 80.64 353 *e*P **P** **19 32 19.9 -0.4**
SGMF Saint Gilles 80.64 359 *e*P **P** **19 32 19.8 -0.5**
WATA Walderalm 80.65 349⇓ *i*P **P** **19 32 21.2 +0.8**
comp=Z,10nm,1.1s,mb4.7
WATA Walderalm 80.65 349⇓ *i*pP **P** **19 32 21.2 +0.8**
comp=Z,10nm,1.1s,mb4.7
WATA Walderalm 80.65 349⇓ *i*P **P** **19 32 21.2 +0.8**
WATA pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
KBA Koelnbreinsper 80.69 348⇑ *i*P **P** **19 32 21.6 +1.0**
comp=Z,40nm,0.9s,mb5.3,SNR=12
KBA Koelnbreinsper 80.69 348⇑ *i*pP **P** **19 32 21.6 +1.0**
comp=Z,40nm,0.9s,mb5.3,SNR=12
KBA Koelnbreinsper 80.69 348⇑ *i*P **P** **19 32 21.6 +1.0**
KBA pmax pmax
comp=Z,40nm,0.9s,mb5.3
MOTA Moosalm 80.69 350⇓ *i*P **P** **19 32 21.2 +0.6**
comp=Z,10.0nm,1.0s,mb4.7
MOTA Moosalm 80.69 350⇓ *i*pP **P** **19 32 21.2 +0.6**
comp=Z,10.0nm,1.0s,mb4.7
MOTA Moosalm 80.69 350⇓ *i*P **P** **19 32 21.2 +0.6**
MOTA pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
WTTA Wattenberg 80.71 349⇓ *i*P **P** **19 32 21.4 +0.7**
comp=Z,14nm,0.7s,mb5.0
WTTA Wattenberg 80.71 349⇓ *i*pP **P** **19 32 21.4 +0.7**
comp=Z,14nm,0.7s,mb5.0
WTTA Wattenberg 80.71 349⇓ *i*P **P** **19 32 21.4 +0.7**
WTTA pmax pmax
comp=Z,14nm,0.7s,mb5.0
PKSM Moragy 80.74 344⇑ *i*P **P** **19 32 20.7 -0.2**
BZS Buzias 80.77 342⇑ *i*P **P** **19 32 21.3 +0.2**
SQTA Sankt Quirin 80.81 349⇑ *i*P **P** **19 32 21.8 +0.6**
comp=Z,7.8nm,1.0s,mb4.6
SQTA Sankt Quirin 80.81 349⇑ *i*pP **P** **19 32 21.8 +0.6**
comp=Z,7.8nm,1.0s,mb4.6
SQTA Sankt Quirin 80.81 349⇑ *i*P **P** **19 32 21.8 +0.6**
SQTA pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
QUIF Quistinic 80.98 359 *e*P **P** **19 32 22.1 -0.1**
ABTA Abfaltersbach 81.12 349⇑ *i*P **P** **19 32 22.6 -0.3**
comp=Z,15nm,1.0s,mb4.9,SNR=6.6
LOR Lormes 81.40 355 *e*P **P** **19 32 24.1 -0.3**
comp=Z,14nm,0.9s,mb4.6
LOR *e*MLR MLR
comp=Z,193nm,18.0s,MS4.2
LOR Lormes 81.40 355 *e*P **P** **19 32 24.1 -0.3**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LOR MLR MLR
comp=Z,190nm,18.0s,MS4.5
LOR Lormes 81.40 355 *e*P **P** **19 32 24.1 -0.3**
comp=Z,7.2nm,0.9s,mb4.6
LOR LR LR
comp=Z,190nm,18.0s,MS4.5
SSF Saint Saulge 81.62 355 *e*P **P** **19 32 25.5 -0.1**
comp=Z,22nm,1.1s,mb4.7
SSF Saint Saulge 81.62 355 *e*P **P** **19 32 25.5 -0.1**
SSF pmax pmax
comp=Z,11nm,1.1s,mb4.7
SSF Saint Saulge 81.62 355 *e*P **P** **19 32 25.5 -0.1**
comp=Z,11nm,1.1s,mb4.7
CABF La Chapelle 81.90 353 *e*P **P** **19 32 27.6 +0.6**
comp=Z,65nm,1.4s,mb5.1
CABF La Chapelle 81.90 353 *e*P **P** **19 32 27.6 +0.6**

CABF pmax pmax
comp=Z,32nm,1.4s,mb5.1
CABF La Chapelle 81.90 353 *eP* **P 19 32 27.6 +0.6**
comp=Z,32nm,1.4s,mb5.1
AVF Avril sur Loir 81.90 355 *eP* **P 19 32 26.7 -0.3**
comp=Z,31nm,1.2s,mb4.8
AVF Avril sur Loir 81.90 355 *eP* **P 19 32 26.7 -0.3**
AVF pmax pmax
comp=Z,16nm,1.2s,mb4.8
AVF Avril sur Loir 81.90 355 *eP* **P 19 32 26.7 -0.3**
comp=Z,16nm,1.2s,mb4.8
SMF Signal de Mont 82.02 354 *eP* **P 19 32 27.9 +0.2**
LPL La Plagne 82.94 352 *eP* **P 19 32 33.6 +1.1**
comp=Z,14nm,0.9s,mb4.7
LPL La Plagne 82.94 352 *eP* **P 19 32 33.6 +1.1**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LPL La Plagne 82.94 352 *eP* **P 19 32 33.6 +1.1**
comp=Z,7.3nm,0.9s,mb4.7
LPG La Plagne 82.95 352 *eP* **P 19 32 33.5 +1.0**
comp=Z,26nm,0.9s,mb5.0
LPG La Plagne 82.95 352 *eP* **P 19 32 33.5 +1.0**
LPG pmax pmax
comp=Z,13nm,0.9s,mb5.0
LPG La Plagne 82.95 352 *eP* **P 19 32 33.5 +1.0**
comp=Z,13nm,0.9s,mb5.0
MALT Malatya 83.15 328 *eP* **P 19 32 34.5 +0.7**
comp=Z,2.5nm,0.9s,mb4.2
MALT Malatya 83.15 328 ⇑*iP* **P 19 32 34.8 +1.1**
VTS Vitosha 83.35 340 ⇑*iP* **P 19 32 34.6 0.0**
ASAR Alice Springs 83.41 218 P **P 19 32 33.8 -1.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=21,slow=5.7,SNR=10
RJF Les Rejaudoux 83.48 356 *eP* **P 19 32 35.6 +0.3**
RJF *e*MLR MLR
comp=Z,164nm,19.2s,MS4.1
RJF Les Rejaudoux 83.48 356 *eP* **P 19 32 35.6 +0.3**
RJF LR LR
comp=Z,160nm,19.3s,MS4.4
ORIF Oris-en-Rattie 83.60 353 *eP* **P 19 32 36.6 +0.7**
comp=Z,18nm,0.7s,mb5.0
ORIF *e*MLR MLR
comp=Z,226nm,17.8s,MS4.3
ORIF Oris-en-Rattie 83.60 353 *eP* **P 19 32 36.6 +0.7**
ORIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 83.60 353 *eP* **P 19 32 36.6 +0.7**
comp=Z,8.8nm,0.7s,mb5.0
MBDF Montbardon 83.72 352 *eP* **P 19 32 37.6 +1.1**
comp=Z,29nm,0.9s,mb5.1
MBDF Montbardon 83.72 352 *eP* **P 19 32 37.6 +1.1**
MBDF pmax pmax
comp=Z,14nm,0.9s,mb5.1
MBDF Montbardon 83.72 352 *eP* **P 19 32 37.6 +1.1**
comp=Z,14nm,0.9s,mb5.1
VIVF Saint-Julien-l 83.75 354 *eP* **P 19 32 36.9 +0.2**
comp=Z,14nm,0.9s,mb4.8
VIVF Saint-Julien-l 83.75 354 *eP* **P 19 32 36.9 +0.2**
VIVF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
VIVF Saint-Julien-l 83.75 354 *eP* **P 19 32 36.9 +0.2**
comp=Z,7.3nm,0.9s,mb4.8
CAF Calviac 83.83 356 *eP* **P 19 32 37.4 +0.3**
comp=Z,6.9nm,0.9s,mb4.5
CAF Calviac 83.83 356 *eP* **P 19 32 37.4 +0.3**
CAF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
CAF Calviac 83.83 356 *eP* **P 19 32 37.4 +0.3**
comp=Z,3.5nm,0.9s,mb4.5
LFF La Frestale 83.87 357 *eP* **P 19 32 37.5 +0.2**
comp=Z,30nm,0.9s,mb5.1
LFF La Frestale 83.87 357 *eP* **P 19 32 37.5 +0.2**
LFF pmax pmax
comp=Z,15nm,0.9s,mb5.1
LFF La Frestale 83.87 357 *eP* **P 19 32 37.5 +0.2**
comp=Z,15nm,0.9s,mb5.1
SBF Sospel 84.52 352 *eP* **P 19 32 40.8 +0.2**
SMRF Simiane la Rot 84.56 353 *eP* **P 19 32 40.9 +0.1**
LASF Ste Croix 84.58 354 *eP* **P 19 32 41.3 +0.4**
FRF La Foret Royal 84.89 352 *eP* **P 19 32 42.5 +0.1**
MTLF Montolieu 85.40 355 *eP* **P 19 32 45.3 +0.3**
comp=Z,26nm,1.0s,mb5.0
MTLF Montolieu 85.40 355 *eP* **P 19 32 45.3 +0.3**
MTLF pmax pmax
comp=Z,13nm,1.0s,mb5.0
MTLF Montolieu 85.40 355 *eP* **P 19 32 45.3 +0.3**
comp=Z,13nm,1.0s,mb5.0
PGF Pioggiola 85.66 350 *eP* **P 19 32 46.7 +0.3**
comp=Z,48nm,0.8s,mb5.5
PGF Pioggiola 85.66 350 *eP* **P 19 32 46.7 +0.3**
PGF pmax pmax
comp=Z,24nm,0.8s,mb5.5
PGF Pioggiola 85.66 350 *eP* **P 19 32 46.7 +0.3**
comp=Z,24nm,0.8s,mb5.5
SJPF Ste Jean 85.76 358 *eP* **P 19 32 47.0 +0.2**
EPF Esparros 85.80 357 *eP* **P 19 32 47.1 +0.1**
ETSF Etsaut 85.96 357 *eP* **P 19 32 48.1 +0.3**
ESDC Sonseca Array 89.23 360 P **P 19 33 03.2 -0.4**
comp=Z,0.3nm,0.5s,mb3.9,baz=18,slow=8.3,SNR=3.3
MAW Mawson 144.53 217 PKP PKPdf 19 39 40.5 -2.3
comp=Z,4.0nm,0.7s,baz=99,slow=6.8,SNR=4.1
LBTB Lobatse 145.18 308 *e*PKIKP PKPdf 19 39 44.5 -0.7
LBTB Lobatse 145.18 308 PKPbc PKPbc 19 39 44.7 -0.2
comp=Z,9.4nm,0.8s,baz=56,slow=2.8,SNR=14
BOSA Boshof 148.31 305 PKPbc PKPbc 19 39 53.6 -0.2
comp=Z,3.0nm,0.8s,baz=330,slow=8.1,SNR=3.0

NIED ***15*** *19:24:00,2960N×13080E,h29km,Mw4.4 Best double couple: M≥5.09000×10¹⁵ NP1:φ≥225.00000°,δ81.00000°, λ-82.00000°. NP2:φ≥2.00000°,δ13.00000°,λ-132.00000°.*
ISCJB ***15*** *19:24:55.8±0.5,2957N±003×13088E±004,h41km±4km, mb4.5/38,MS3.8/5,Error ellipse: s-maj=6.0km s-min=4.2km az=31.4*
BJI ***15*** *19:24:56.0,2962N×13088E,h48km,mB4.6,mb4.4,Ms4.1, Msz3.9*
JMA ***15*** *19:24:56.6±0.1,2961N×13082E,h51km±4km,M4.6*
NEIC ***15*** *19:24:57.1±1.8,2961N×13073E,h34km±13km,mb4.6/19, MW4.4(NIED),Error ellipse: s-maj=7.3km s-min=5.0km az=116.0*
IDC ***15*** *19:24:57.4±2.5,2960N×13069E,h36km±21km,mb3.9/14, mb1 4.1/21,mb1mx4.0/29,mbtmp4.1/21,ML4.0/6,MS3.8/6, Ms1 3.8/6,ms1mx3.5/27,Error ellipse: s-maj=18.3km s-min=12.2km az=77.0*
ISC 15 19:24:57.4±0.4,2961N±003×13078E±003,h36km±4km, h32km±2.1km:pP-P,n90,σ0§88/95,mb4.5/38,MS3.8/5, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.82**	**287**	P	**Pn**	**19 25 12.4**	**0.0**
JNN				*e*S	**Sn**	**19 25 24.1**	**+0.8**
JKC	**Kuchinoerabu**	**0.99**	**329**	P	**Pn**	**19 25 14.7**	**-0.1**
JTN	**Tanegashima 3**	**1.05**	**10**	P	**Pn**	**19 25 15.2**	**-0.5**
JZK	**Kikaishima**	**1.47**	**209**	P	**Pn**	**19 25 21.3**	**-0.1**
JTSR	**Tashiro 2**	**1.56**	**5**	P	**Pn**	**19 25 22.5**	**-0.1**
JAM	**Amami Oshima**	**1.57**	**221**	P	**Pn**	**19 25 22.7**	**-0.1**
JAM				*e*S	**Sn**	**19 25 43.3**	**+1.3**
JSU	**Suzuyama**	**1.91**	**352**	P	**Pn**	**19 25 27.2**	**-0.2**
JNAR	**Kushima--Naru**	**1.96**	**12**	P	**Pn**	**19 25 28.3**	**+0.2**
JSJ	**Shimokoshiki**	**2.25**	**336**	P	**Pn**	**19 25 32.0**	**-0.2**
JTZ	**Takazaki**	**2.30**	**7**	P	**Pn**	**19 25 33.2**	**+0.4**
JTK	**Tokunoshima**	**2.42**	**222**	P	**Pn**	**19 25 34.5**	**0.0**
JNU	**Nakatsue**	**3.50**	**1**	Pn	**Pn**	**19 25 50.4**	**+1.1**
	8.6nm,0.3s,baz=181,slow=11,SNR=135						
JNU				Sn	**Sn**	**19 26 30.2**	**+0.7**
	17nm,0.3s,baz=182,slow=29,SNR=3.6						
JOW	**Kunigami**	**3.54**	**219**	P	**Pn**	**19 25 49.0**	**-0.9**
JOW				*e*S	**Sn**	**19 26 31.6**	**+1.1**
JOW	**Kunigami**	**3.54**	**219**	Pn	**Pn**	**19 25 49.2**	**-0.7**
	32nm,0.3s,baz=76,slow=17,SNR=103						
JOW				Sn	**Sn**	**19 26 28.6**	**-1.9**
	39nm,0.3s,baz=125,slow=27,SNR=7.2						
JIH	**Iheya**	**3.57**	**225**	P	**Pn**	**19 25 49.8**	**-0.4**
JAGN	**Aguni-jima**	**4.34**	**227**	P	**Pn**	**19 26 00.6**	**-0.2**
JKE	**Kume jima 2**	**4.81**	**228**	P	**Pn**	**19 26 06.6**	**-0.8**
KSRS	**Korea Array**	**8.18**	**344**	Pn	**Pn**	**19 26 52.4**	**-1.2**
	0.1nm,0.3s,baz=162,slow=14,SNR=3.2						
KSRS				LR	LR	19 30 23.0	
	comp=Z,1μm,18.1s,baz=147,slow=40						
JHJ	**Hachijo jima 2**	**8.46**	**63**	Pn	**Pn**	**19 26 58.4**	**+1.0**
	17nm,0.3s,baz=79,slow=23,SNR=14						
JHJ				LR	LR	19 30 02.2	
	comp=Z,144nm,18.8s,baz=296,slow=36						
MAJO	**Matsushiro**	**9.30**	**40**	*e*Pn	**Pn**	**19 27 09.2**	**+0.2**
	13nm,0.5s						
MAT	**Matsushiro**	**9.30**	**40**	P	**Pn**	**19 27 09.2**	**+0.2**
MAT				*e*S	**Sn**	**19 28 50.3**	**-2.1**
MJAR	**Matsushiro Arr**	**9.31**	**40**	Pn	**Pn**	**19 27 09.8**	**+0.8**
	2.0nm,0.3s,baz=236,slow=14,SNR=28						
YHNB	**Yeheng**	**9.71**	**242**	Pn	**Pn**	**19 27 12.3**	**-2.3**
CBIJ	**Chichi jima**	**10.36**	**101**	Pn	**Pn**	**19 27 23.0**	**-0.5**
	6.2nm,0.3s,baz=297,slow=17,SNR=5.8						
CBIJ				LR	LR	19 30 34.2	
	comp=Z,312nm,21.1s,baz=3.4,slow=32						
NJ2	**Nanjing**	**10.53**	**286**	*e*P	**Pn**	**19 27 24.8**	**-1.1**
NJ2				PP		19 27 33.0	
NJ2				S	**Sn**	**19 29 23.0**	**+0.4**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s						
NJ2				AMB	AMB		
	comp=Z,190nm,5.7s						
NJ2				LR	LR		
	comp=N,1μm,15.1s						
NJ2				LR	LR		
	comp=E,1μm,13.8s						
NJ2				LR	LR		
	comp=Z,1μm,13.8s						
WHN	**Wuhan**	**14.26**	**278**	*e*P	**Pn**	**19 28 20.5**	**+3.8**
WHN				LR	LR		
	comp=N,249nm,12.8s						
WHN				LR	LR		
	comp=E,711nm,11.4s						
WHN				LR	LR		
	comp=Z,848nm,12.2s						
BJT	**Baijiatuau**	**15.85**	**315**	Pn	**Pn**	**19 28 39.5**	**+1.8**
	comp=Z,15nm,0.8s						
ASAJ	**Asahikawa**	**17.27**	**30**	P	**Pn**	**19 28 57.9**	**+2.3**
	comp=Z,0.5nm,0.3s,baz=196,slow=6.7,SNR=7.8						
ASAJ				LR	LR	19 35 51.4	
	comp=Z,664nm,18.2s,baz=69,slow=38						
HHC	**Hu-ho-hao-te**	**19.25**	**311**	*e*P	**Pn**	**19 29 20.0**	**+0.2**
HHC				PP		19 29 37.1	
HHC				S	**S**	**19 32 52.9**	**-1.7**
HHC				SS		19 33 16.8	
HHC				PCP	PcP	19 33 43.5	+2.9
HHC				AMB	AMB		
	comp=Z,25nm,1.1s						
HHC				AMB	AMB		
	comp=Z,230nm,6.3s						
HHC				LR	LR		
	comp=N,626nm,12.7s						
HHC				LR	LR		
	comp=E,892nm,12.7s						
HHC				LR	LR		
	comp=Z,937nm,13.3s						
YSS	**Yuzh-Sakhalins**	**19.66**	**25**	Pn	**Pn**	**19 29 20.8**	**-3.9**
	comp=Z,15nm,0.8s						
GUMO	**Guam**	**20.60**	**138**	LR	LR	19 35 51.0	
	comp=Z,148nm,18.2s,MS3.4,baz=11,slow=32						
QIZ	**Qiongzhong**	**21.76**	**246**	P	**P**	**19 29 45.6**	**-0.3**
QIZ				S	**S**	**19 33 45.5**	**+0.8**
QIZ				LR	LR		
	comp=N,266nm,15.8s,MS3.9						
QIZ				LR	LR		
	comp=E,235nm,13.8s,MS3.9						
QIZ				LR	LR		
	comp=Z,376nm,17.4s,MS3.9						
QIZ	**Qiongzhong**	**21.76**	**246**	*e*P	**P**	**19 29 45.9**	**0.0**
	comp=Z,41nm,1.5s,mb4.6						
CD2	**Chengdu**	**23.36**	**280**	*e*P	**P**	**19 30 02.3**	**-0.5**
CD2				PP		19 30 33.8	
CD2				S	**S**	**19 34 11.0**	**-1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,120nm,9.6s						
CD2				LR	LR		
	comp=Z,130nm,10.2s,MS3.7						
KMI	**Kunming**	**25.27**	**267**	P	**P**	**19 30 20.8**	**+0.4**
KMI				S	**S**	**19 34 45.3**	**+1.5**
KMI				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,134nm,5.0s						
KMI				LR	LR		
	comp=N,299nm,18.2s,MS4.0						
KMI				LR	LR		
	comp=E,336nm,16.2s,MS4.0						
KMI				LR	LR		
	comp=Z,314nm,15.2s,MS3.9						
ULN	**Ulaanbaatar**	**25.81**	**322**	*e*P	**P**	**19 30 24.5**	**-0.5**
	comp=Z,5.4nm,0.6s,mb4.2						
SONM	**Songjino Array**	**26.15**	**321**	P	**P**	**19 30 28.3**	**+0.2**
	comp=Z,6.4nm,0.8s,mb4.2,baz=137,slow=9.4,SNR=16						
SONM				LR	LR	19 42 03.0	
	comp=Z,455nm,19.7s,MS4.0,baz=92,slow=39						
MA2	**Magadan**	**32.90**	**19**	*e*P	**P**	**19 31 25.0**	**-2.8**
	comp=Z,8.4nm,0.7s,mb4.8						
LSA	**Lhasa**	**34.32**	**280**	*e*P	**P**	**19 31 41.3**	**+0.7**
	comp=Z,3.2nm,0.7s,mb4.4						
WMQ	**Urumqi**	**36.91**	**305**	*e*P	**P**	**19 32 04.0**	**+1.4**
KULM	**Kulim**	**37.34**	**235**	*e*P	**P**	**19 32 07.1**	**+0.5**
JIRN	**Jiri**	**39.00**	**278**	*e*P	**P**	**19 32 20.9**	**+0.4**
GUN	**Gumba**	**39.21**	**279**	*e*P	**P**	**19 32 23.0**	**+0.8**
	comp=Z,51nm,0.6s,mb5.4						
PKI	**Pulchoki**	**39.70**	**278**	*e*P	**P**	**19 32 26.6**	**+0.3**
KKN	**Kakani**	**39.76**	**279**	*e*P	**P**	**19 32 27.0**	**+0.2**
	comp=Z,29nm,0.7s,mb5.1						
GKN	**Gorkha**	**40.26**	**279**	*e*P	**P**	**19 32 30.7**	**-0.2**
	comp=Z,13nm,0.5s,mb4.9						
DANN	**Dangsing**	**40.93**	**280**	*e*P	**P**	**19 32 36.8**	**+0.3**
	comp=Z,44nm,0.8s,mb5.1						
ZALV	**Zalesovo Beam**	**41.03**	**320**	P	**P**	**19 32 36.5**	**-0.5**
ZALV				PcP	PcP	19 34 36.4	+0.1
ZALV	**Zalesovo Beam**	**41.03**	**320**	P	**P**	**19 32 36.5**	**-0.5**
	comp=Z,0.9nm,0.6s,mb3.6,baz=101,slow=7.7,SNR=3.6						
ZALV				PcP	PcP	19 34 36.4	+0.1
	comp=Z,1.2nm,0.9s,baz=105,slow=3.4,SNR=3.3						
MK31	**Makanchi Array**	**41.08**	**308**	*e*P	**P**	**19 32 37.9**	**+0.4**
MKAR	**Makanchi Array**	**41.08**	**308**	P	**P**	**19 32 37.4**	**-0.1**
	comp=Z,2.3nm,0.6s,mb4.0,baz=94,slow=11,SNR=7.6						
KOLN	**Koldanda**	**41.20**	**279**	*e*P	**P**	**19 32 38.8**	**0.0**
	comp=Z,22nm,0.9s,mb4.8						
BILL	**Bilibino**	**43.77**	**18**	P	**P**	**19 32 59.5**	**+0.5**
	comp=Z,19nm,1.5s,mb4.6						
KURK	**Kurchatov**	**44.02**	**314**	*e*P	**P**	**19 33 00.9**	**-0.4**
KURK				*e*	pP	19 33 09.4	-2.4
FITZ	**Fitzroy Crossi**	**47.69**	**187**	*e*P	**P**	**19 33 31.2**	**+0.7**
	comp=Z,7.4nm,0.6s,mb4.9						
NIKO	**Nikolski**	**49.32**	**44**	*e*P	**P**	**19 33 40.8**	**-1.9**
	comp=Z,76nm,0.8s						
BVAR	**Borovoye Array**	**49.33**	**316**	P	**P**	**19 33 42.6**	**-0.2**
	comp=Z,8.6nm,0.7s,mb4.9,baz=96,slow=10,SNR=24						
WRAB	**Tennant Creek**	**49.38**	**176**	*e*P	**P**	**19 33 43.1**	**-0.3**
	comp=Z,9.3nm,1.2s,mb4.7						
WRA	**Warramunga Arr**	**49.38**	**176**	P	**P**	**19 33 43.6**	**+0.1**
	comp=Z,2.4nm,0.7s,mb4.3,baz=351,slow=8.1,SNR=12						
WB2	**Warramunga Arr**	**49.38**	**176**	*e*P	**P**	**19 33 43.6**	**+0.1**
BRVK	**Borovoye**	**49.40**	**316**	*e*P	**P**	**19 33 42.9**	**-0.4**
	comp=Z,18nm,0.4s,mb5.4						
BRVK				*e*	pP	19 33 51.1	-2.9
CTAO	**Charters Tower**	**51.61**	**161**	*e*P	**P**	**19 34 00.5**	**+0.2**
	comp=Z,7.2nm,0.9s,mb4.6						
ASAR	**Alice Springs**	**53.05**	**176**	P	**P**	**19 34 11.4**	**+0.5**
	comp=Z,1.0nm,0.6s,mb4.0,baz=8.2,slow=12,SNR=16						
AKTK	**Aktyubinsk**	**57.11**	**313**	P	**P**	**19 34 40.7**	**+0.6**
AKTO	**Aktyubinsk**	**57.11**	**313**	P	**P**	**19 34 40.7**	**+0.6**
	comp=Z,1.1nm,0.5s,mb4.1,baz=94,slow=14,SNR=2.4						
SML	**Sawmill**	**60.13**	**33**	*e*P	**P**	**19 35 01.3**	**+0.4**
STKA	**Stephens Creek**	**62.01**	**170**	*e*P	**P**	**19 35 13.8**	**-0.1**
	comp=Z,3.1nm,0.6s,mb4.6						
STKA	**Stephens Creek**	**62.01**	**170**	*e*P	**P**	**19 35 13.4**	**-0.5**
	comp=Z,5.0nm,0.7s,mb4.8						
STKA	**Stephens Creek**	**62.01**	**170**	P	**P**	**19 35 13.5**	**-0.4**
	comp=Z,3.6nm,0.6s,mb4.7,baz=344,slow=7.9,SNR=13						
EGAK	**Eagle**	**62.82**	**29**	*e*P	**P**	**19 35 20.1**	**+1.0**
	comp=Z,3.3nm,0.9s,mb4.5						
INK	**Inuvik**	**64.90**	**24**	*e*P	**P**	**19 35 32.5**	**-0.2**
	comp=Z,340nm,1.3s						
INK				*e*	pP	19 35 42.8	-0.9
ARCES	**ARCESS Array B**	**67.70**	**338**	P	**P**	**19 35 50.1**	**-0.5**
	comp=Z,3.6nm,0.9s,mb4.4,baz=67,slow=9.9,SNR=2.8						
SIT	**Sitka**	**67.70**	**36**	P	**P**	**19 35 50.9**	**+0.1**
	comp=Z,46nm,1.2s,mb5.4						
KIV	**Kislovodsk**	**68.84**	**309**	P	**P**	**19 35 54.6**	**-3.5**
	comp=Z,10nm,1.2s,mb4.6						
FINES	**FINESS Array B**	**71.04**	**331**	P	**P**	**19 36 10.1**	**-1.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=84,slow=5.1,SNR=9.2						
RES	**Resolute Bay**	**71.81**	**12**	*e*P	**P**	**19 36 16.1**	**+0.3**
	comp=Z,384nm,1.3s						
RES				*e*	pP	19 36 26.3	-0.5
MALT	**Malatya**	**74.01**	**305**	P	**P**	**19 36 29.5**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.1						
AKASG	**Malin Array Be**	**74.43**	**320**	P	**P**	**19 36 31.2**	**-0.4**
	comp=Z,0.3nm,0.3s,mb3.7,baz=58,slow=6.4,SNR=4.3						
KIEV	**Kiev**	**74.44**	**320**	*e*P	**P**	**19 36 35.2**	**+3.5**
	comp=Z,2.3nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	**74.52**	**26**	P	**P**	**19 36 32.3**	**+0.4**
	comp=Z,0.6nm,0.8s,mb3.6,baz=302,slow=5.5,SNR=7.4						
NB2	**NORSAR Subarra**	**77.27**	**334**	P	**P**	**19 36 45.5**	**-2.2**
	comp=Z,3.5nm,0.9s,mb4.3,baz=51,slow=5.9						
MMAI	**Mount Meron Ar**	**78.58**	**301**	P	**P**	**19 36 54.6**	**-0.9**
	comp=Z,0.3nm,0.4s,mb3.6,baz=55,slow=7.6,SNR=2.3						
CLL	**Collm**	**82.65**	**326**	*e*PcP	PcP	19 37 22.0	+0.1
FCC	**Fort Churchill**	**84.38**	**22**	*e*P	**P**	**19 37 25.2**	**-0.4**
	comp=Z,11nm,1.2s,mb4.9						
FFC	**Flin Flon**	**84.57**	**28**	P	**P**	**19 37 27.2**	**+0.6**
	comp=Z,4.8nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**86.56**	**47**	P	**P**	**19 37 38.1**	**+1.2**
	comp=Z,1.6nm,0.8s,mb4.3,baz=299,slow=4.4,SNR=8.4						
VNA2	**Neumayer--Watz**	**132.66**	**197**	*e*	PKPdf	19 44 09.6	+2.3
	baz=148,slow=2.4						
VNA2				*e*		19 44 12.5	
VNA2				*e*		19 44 20.1	
VNA1	**Neumayer--Stat**	**133.05**	**197**	*e*	PKPdf	19 44 10.8	+2.7
VNA1				*e*		19 44 13.9	
VNA1				*e*		19 44 21.6	
SDV	**Santo Domingo**	**136.53**	**32**	PKP	PKPdf	19 44 16.3	-0.1
SDV	**Santo Domingo**	**136.53**	**32**	PKP	PKPdf	19 44 16.3	0.0
	comp=Z,3.4nm,0.7s,baz=306,slow=5.4,SNR=5.6						

IDC ***15*** *19:28:48.4±6.6,3624N×7081E,h171km±60km,mb3.4/9, mb1 3.5/12,mb1mx3.3/24,mbtmp3.4/12,Error ellipse: s-maj=33.4km s-min=18.2km az=23.0*
ISCJB ***15*** *19:28:51.4±0.4,3650N±003×7085E±005,h205km±5km, mb3.8/13,Error ellipse: s-maj=6.6km s-min=5.0km az=178.4*
NEIC ***15*** *19:28:52.3±0.7,3647N×7091E,h204km±7km,mb4.6/4, Error ellipse: s-maj=12.2km s-min=8.3km az=129.0*
BJI ***15*** *19:28:52.2,3674N×7077E,h212km,mB4.4,mb4.7*
NNC ***15*** *19:28:56.1±7.5,3685N×7079E,h144km±110km,mb3.1, mpv4.3,Error ellipse: s-maj=65.7km s-min=46.2km az=30.0*
ISC 15 19:28:52.4±0.4,3651N±003×7085E±005,h199km±4km, h206km±1.4km:pP-P,n49,σ1§00/65,mb3.8/13,2C-3D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.45**	**217**	*e*Pn	**Pn**	**19 29 37.2**	**+1.5**
KBL				*e*Sn	**Sn**	**19 30 09.1**	**-0.3**
KSH	**Kashi**	**5.04**	**52**	⇓*iP*	**Pn**	**19 30 08.4**	**+1.3**
KSH				S	**Sn**	**19 31 06.3**	**+0.2**
KSH				Smax			
	comp=N,322nm,0.6s						
KSH				Smax			
	comp=E,428nm,0.4s						
THN	**Thein Dam**	**5.72**	**134**	*e*P	**Pn**	**19 30 15.8**	**-0.2**
THN				*e*x	x	19 31 20.9	
DLH	**Dalhousie**	**5.79**	**132**	*e*P	**Pn**	**19 30 18.0**	**+1.1**
DLH				*e*S	**Sn**	**19 31 21.0**	**-2.6**
AML	**Almayashu**	**6.03**	**21**	*e*Pn	**Pn**	**19 30 20.0**	**+0.1**
	comp=E,153nm,0.5s						
AML				*e*Sn	**Sn**	**19 31 25.8**	**-3.4**
AML	**Almayashu**	**6.03**	**21**	P	**Pn**	**19 30 20.2**	**+0.3**
	SNR=240						
UCH	**Uchtor**	**6.38**	**25**	*e*Pn	**Pn**	**19 30 24.4**	**0.0**
	comp=E,51nm,0.6s						
UCH				*e*Sn	**Sn**	**19 31 34.3**	**-2.9**
UCH	**Uchtor**	**6.38**	**25**	P	**Pn**	**19 30 24.6**	**+0.2**
	SNR=114						
KZA	**Kyzart**	**6.52**	**30**	P	**Pn**	**19 30 26.6**	**+0.3**
	SNR=21						
EKS2	**Erkin-Say**	**6.55**	**19**	*e*Pn	**Pn**	**19 30 26.4**	**-0.2**
EKS2				*e*Sn	**Sn**	**19 31 36.9**	**-4.4**
EKS2	**Erkin-Say**	**6.55**	**19**	P	**Pn**	**19 30 26.9**	**+0.3**
	SNR=17						
KK31	**Karatay Array**	**6.59**	**358**	P	**Pn**	**19 30 26.9**	**-0.2**
	comp=E,3.6nm,0.3s,baz=187,slow=13,SNR=122						
KK31				⇑S	**Sn**	**19 31 35.9**	**-6.4**
	comp=E,23nm,0.6s,baz=189,slow=18,SNR=16						
AAK	**Ala-Archa**	**6.73**	**24**	P	**Pn**	**19 30 29.5**	**+0.5**
	SNR=26						
KBK	**Karagaybulak**	**6.91**	**26**	P	**Pn**	**19 30 31.9**	**+0.7**
	SNR=32						
ULHL	**Ulahol**	**7.09**	**34**	P	**Pn**	**19 30 34.4**	**+0.8**
	SNR=14						
CHMS	**Chumysh**	**7.14**	**24**	P	**Pn**	**19 30 33.9**	**-0.5**
	SNR=10						
TKM2	**Tokmak 2**	**7.37**	**28**	⇓P	**Pn**	**19 30 37.4**	**+0.1**
	comp=E,62nm,0.9s						
TKM2				S	**Sn**	**19 31 58.0**	**-2.8**
	comp=E,12nm,0.9s						
TKM2	**Tokmak 2**	**7.37**	**28**	*e*P	**Pn**	**19 30 37.4**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,62nm,0.9s						
TKM2	**Tokmak 2**	**7.37**	**28**	*e*P	**Pn**	**19 30 37.4**	**+0.1**
	comp=Z,62nm,0.9s						
KLP	**Kalpa**	**7.90**	**127**	*e*P	**Pn**	**19 30 45.0**	**+0.7**
KLP				*e*S	**Sn**	**19 32 07.7**	**-5.6**
KLP				AML	AML	19 33 02.9	
	comp=E,34nm,0.5s						
KLP				AML	AML	19 33 05.8	
	comp=N,27nm,0.4s						
DDI	**Dehra Dun**	**8.62**	**134**	*e*S	**Sn**	**19 32 24.0**	**-6.5**
JOSI	**Joshimath**	**9.38**	**127**	*e*P	**Pn**	**19 31 03.3**	**-0.3**
JOSI				*e*S	**Sn**	**19 32 42.9**	**-5.7**
JOSI				AML	AML	19 33 04.1	
	comp=N,58nm,0.7s						
JOSI				AML	AML	19 33 05.1	
	comp=E,49nm,0.7s						
KHET	**Khetri**	**9.40**	**152**	*e*P	**Pn**	**19 31 03.7**	**-0.1**
KHET				*e*S	**Sn**	**19 32 41.8**	**-7.2**
KHET				AML	AML	19 32 45.3	
	comp=N,23nm,0.8s						
KHET				AML	AML	19 32 45.5	
	comp=E,26nm,0.0s						
KUDL	**Kundal**	**9.61**	**149**	*e*P	**Pn**	**19 31

HHC			AMB	AMB		
	comp=Z,21nm,1.1s,mb4.6					
HHC			AMB	AMB		
	comp=Z,174nm,6.5s					
HHC			LR	LR		
	comp=N,764nm,14.3s					
HHC			LR	LR		
	comp=E,627nm,15.1s					
HHC			LR	LR		
	comp=Z,572nm,15.9s					
AKASG	**Malin Array Be**	**32.84 309**	P	**P**	**19 35 07.3**	**+0.2**
	comp=Z,0.3nm,0.3s,mb3.2,baz=80,slow=7.6,SNR=6.8					
FINES	**FINESS Array B**	**37.41 326**	P	**P**	**19 35 45.9**	**+0.1**
	comp=Z,2.1nm,0.8s,mb3.7,baz=112,slow=8.8,SNR=3.4					
NJ2	**Nanjing**	**39.59 82**	*e*P	**P**	**19 36 06.6**	**+2.1**
NJ2			AP	pP	19 36 49.6	+3.2
NJ2			XP	sP	19 37 10.3	+1.3
NJ2			S	**S**	**19 41 50.5**	**-1.8**
NJ2			XS	sS	19 43 10.5	+4.2
NJ2			AMB	AMB		
	comp=Z,20nm,0.6s,mb4.7					
NJ2			AMB	AMB		
	comp=Z,150nm,10.8s					
NJ2			LR	LR		
	comp=N,490nm,14.2s					
NJ2			LR	LR		
	comp=E,380nm,19.4s					
NJ2			LR	LR		
	comp=Z,380nm,19.4s					
ARCES	**ARCESS Array B**	**41.09 338**	P	**P**	**19 36 16.4**	**+0.2**
	comp=Z,2.5nm,0.7s,mb3.8,baz=94,slow=7.4,SNR=5.3					
CLL	**Collm**	**43.09 309**	*e*P	**P**	**19 36 32.0**	**-0.6**
NOA	**NORSAR Array B**	**44.30 323**	P	**P**	**19 36 42.9**	**+0.8**
NOA	**NORSAR Array B**	**44.30 323**	P	**P**	**19 36 42.9**	**+0.9**
	comp=Z,2.3nm,0.8s,mb3.5,baz=97,slow=7.8,SNR=5.9					
TORD	**Torodi Ar. Bea**	**65.59 269**	P	**P**	**19 39 13.4**	**-1.8**
	comp=Z,0.9nm,0.6s,mb3.6,baz=35,slow=5.7,SNR=6.7					
YKA	**Yellowknife Ar**	**81.24 3**	P	**P**	**19 40 46.2**	**+0.6**
YKA	**Yellowknife Ar**	**81.24 3**	P	**P**	**19 40 46.2**	**+0.6**
	comp=Z,0.5nm,0.5s,mb3.4,baz=351,slow=5.4,SNR=9.7					
WRA	**Warramunga Arr**	**82.10 122**	P	**P**	**19 40 49.0**	**-1.7**
	comp=Z,0.6nm,0.7s,mb3.4,baz=323,slow=5.2,SNR=5.5					
ASAR	**Alice Springs**	**84.36 125**	P	**P**	**19 41 01.4**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.4,baz=306,slow=5.0,SNR=12					

ISCJB ***15*** *20:05:11.2±0.4, 43.80N±004×105.14W±005, h0km, mb4.0/3, Error ellipse: s-maj=5.8km s-min=4.7km az=135.4*
NEIC ***15*** *20:05:13.3±0.3, 43.80N×105.19W, h0km, ML3.6, Error ellipse: s-maj=5.5km s-min=4.3km az=143.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.
IDC ***15*** *20:05:15.2±0.9, 44.11N×105.74W, h0km, mb4.1/3, mb1 4.0/7, mb1mx3.7/25, mbtmp3.8/7, ML3.3/4, Error ellipse: s-maj=24.2km s-min=11.9km az=129.0*

ISC 15 20:05:13.6±0.4, 4380N±004×10520W±005, h0km, n56, σ1°02/56, mb4.0/3, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.90**	**69**	*e*Pg	**Pg**	**20 05 32.4**	**+1.6**
PHWY	**Pilot Hill**	**2.50**	**184**	*e*Pn	**Pn**	**20 05 55.6**	**+0.1**
RWWY	**Rawlins**	**2.58**	**216**	*e*Pn	**Pn**	**20 05 57.7**	**+1.1**
RLMT	**Red Lodge**	**3.20**	**296**	*e*Pn	**Pn**	**20 06 04.5**	**-0.6**
BW06	**Boulder Array**	**3.35**	**254**	*e*Pn	**Pn**	**20 06 07.5**	**+0.4**
GCMT	**Greycliff**	**3.75**	**304**	*e*Pn	**Pn**	**20 06 13.9**	**+1.2**
LKWY	**Lake**	**3.82**	**283**	Pn	**Pn**	**20 06 12.2**	**-1.3**
LOHW	**Long Hollow**	**3.92**	**269**	*e*Pn	**Pn**	**20 06 15.9**	**+0.9**
FLWY	**Flagg Ranch**	**3.98**	**276**	*e*Pn	**Pn**	**20 06 16.3**	**+0.5**
ISCO	**Idaho Springs**	**4.01**	**185**	*e*Pn	**Pn**	**20 06 16.9**	**+0.7**
MOOW	**Moose Ponds**	**4.02**	**271**	*e*Pn	**Pn**	**20 06 16.8**	**+0.5**
YNR	**Norris Junctio**	**4.04**	**285**	*e*Pn	**Pn**	**20 06 15.8**	**-0.9**
SNOW	**Snow King Moun**	**4.05**	**267**	*e*Pn	**Pn**	**20 06 17.9**	**+1.2**
YFT	**Old Faithful**	**4.11**	**281**	*e*Pn	**Pn**	**20 06 18.8**	**+1.2**
REDW	**Red Top Meadow**	**4.13**	**266**	*e*Pn	**Pn**	**20 06 18.7**	**+0.8**
IMW	**Indian Meadow**	**4.15**	**273**	Pn	**Pn**	**20 06 17.7**	**-0.5**
TPAW	**Teton Pass**	**4.19**	**268**	*e*Pn	**Pn**	**20 06 14.0**	**-4.6**
YMR	**Madison River**	**4.23**	**284**	*e*Pn	**Pn**	**20 06 26.4**	**+7.1**
QLMT	**Earthquake Lak**	**4.59**	**285**	*e*Pn	**Pn**	**20 06 22.6**	**-1.5**
DGMT	**Dagmar**	**4.72**	**8**	*e*Pn	**Pn**	**20 06 27.9**	**+1.9**
SMCO	**Snowmass**	**4.81**	**197**	*e*Pn	**Pg**	**20 06 37.6**	**-8.0**
BOZ	**Bozeman (W)**	**4.94**	**294**	*e*Pn	**Pn**	**20 06 27.8**	**-1.2**
HWUT	**Hardware Ranch**	**5.18**	**247**	*e*Pn	**Pn**	**20 06 32.0**	**-0.2**
	26nm,0.5s						
EGMT	**Eagleton**	**5.29**	**325**	*e*Pn	**Pn**	**20 06 34.3**	**+0.6**
	51nm,0.6s						
DLMT	**Dillon**	**5.51**	**289**	*e*Pn	**Pn**	**20 06 35.4**	**-1.4**
	15nm,0.7s						
HRY	**Holter Researc**	**5.51**	**304**	*e*Pn	**Pn**	**20 06 37.1**	**+0.2**
MCMT	**McKenzie Canyo**	**5.58**	**283**	*e*Pn	**Pn**	**20 06 40.8**	**+3.0**
DAU	**Daniels Canyon**	**5.63**	**235**	*e*Pn	**Pn**	**20 06 39.0**	**+0.4**
JLU	**Jordanelle**	**5.64**	**238**	*e*Pn	**Pn**	**20 06 32.7**	**-5.8**
CTU	**Camp Tracy**	**5.77**	**240**	*e*Pn	**Pn**	**20 06 39.0**	**-1.3**
	19nm,0.5s						
SPUT	**South Promonto**	**5.91**	**248**	*e*Pn	**Pn**	**20 06 42.5**	**+0.3**
HVU	**Hansel Valley**	**5.93**	**253**	*e*Pn	**Pn**	**20 06 41.7**	**-0.9**
	14nm,0.6s						
NOQ	**North Oquirrh**	**6.02**	**241**	*e*Pn	**Pn**	**20 06 43.3**	**-0.6**
SRU	**San Rafael**	**6.16**	**222**	*e*Pn	**Pn**	**20 06 44.8**	**-0.9**
	19nm,0.5s						
ECSD	**EROS,Sioux Fal**	**6.22**	**88**	*e*Pn	**Pn**	**20 06 45.8**	**-0.8**
	15nm,0.6s						
CBKS	**Cedar Bluff**	**6.46**	**139**	*e*Pn	**Pn**	**20 06 48.5**	**-1.3**
	45nm,0.6s						
CHMT	**Chamberlain Mo**	**6.47**	**302**	*e*Pn	**Pn**	**20 06 50.5**	**+0.5**
BGU	**Big Grassy Mou**	**6.47**	**246**	*e*Pn	**Pn**	**20 06 50.8**	**+0.8**
DUG	**Dugway**	**6.72**	**240**	*e*Pn	**Pn**	**20 06 53.0**	**-0.5**
	8.3nm,0.4s						
MVCO	**Mesa Verde**	**7.05**	**202**	*e*Pn	**Pn**	**20 06 54.9**	**-3.0**
	11nm,0.6s						
MSU	**Marysvale**	**7.46**	**227**	*e*Pn	**Pn**	**20 07 03.4**	**-0.2**
AGMN	**Agassiz Refuge**	**7.90**	**52**	*e*Pn	**Pn**	**20 07 10.1**	**+0.5**
	27nm,0.5s						
WALA	**Waterton Lakes**	**7.99**	**314**	*e*Pn	**Pn**	**20 07 10.1**	**-0.7**
	4.6nm,0.6s						
ARUT	**Antelope Range**	**8.66**	**229**	*e*Pn	**Pn**	**20 07 21.1**	**+1.0**
CCUT	**Cedar City**	**8.80**	**228**	*e*Pn	**Pn**	**20 07 22.0**	**0.0**
ULM	**Lac du Bonnet**	**9.06**	**41**	Pn	**Pn**	**20 07 25.9**	**+0.5**
	2.2nm,0.3s,baz=234,slow=12,SNR=18						
ULM				Lg		20 09 56.2	
	0.3nm,0.3s,baz=197,slow=15,SNR=2.4						
WUAZ	**Wupatki**	**9.54**	**212**	*e*Pn	**Pn**	**20 07 32.3**	**+0.2**
	11nm,0.5s						
FFC	**Flin Flon**	**11.13**	**10**	*e*Pn	**Pn**	**20 07 53.2**	**-0.7**
	7.3nm,0.6s						
NVAR	**Mina Array Bea**	**11.24**	**246**	Pn	**Pn**	**20 07 57.1**	**+1.7**
	0.4nm,0.3s,baz=59,slow=12,SNR=6.3						
TXAR	**Lajitas Array**	**14.49**	**175**	Pn	**Pn**	**20 08 47.5**	**+7.6**
	0.1nm,0.3s,baz=353,slow=8.8,SNR=7.1						
TXAR				Lg		20 12 56.8	
	0.1nm,0.3s,baz=13,slow=25,SNR=3.5						
FCC	**Fort Churchill**	**16.48**	**21**	*e*Pn	**Pn**	**20 09 02.1**	**-3.8**
YKA	**Yellowknife Ar**	**19.52**	**347**	P	**Pn**	**20 09 41.4**	**-1.9**
	0.1nm,0.3s,baz=161,slow=13,SNR=10						
ARCES	**ARCESS Array B**	**61.34**	**18**	P	**P**	**20 15 30.1**	**-0.4**
	2.9nm,0.9s,mb4.4,baz=340,slow=6.7,SNR=6.9						
ZALV	**Zalesovo Beam**	**82.25**	**354**	P	**P**	**20 17 35.1**	**-1.2**
	0.4nm,0.5s,mb3.8,baz=2.7,slow=5.2,SNR=4.5						
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**20 18 12.8**	**+0.2**
MKAR	**Makanchi Array**	**89.55**	**355**	P	**P**	**20 18 12.8**	**+0.2**
	0.4nm,0.4s,mb4.0,baz=24,slow=4.6,SNR=4.9						

CSEM ***15*** *20:18:00.5±0.2, 38.70N×31.96E, h5km, MD2.9, Error ellipse: s-maj=5.0km s-min=3.8km az=54.0*
ISCJB ***15*** *20:18:01.1±0.7, 38.68N±003×31.97E±004, h4km±5km, Error ellipse: s-maj=6.2km s-min=4.3km az=140.9*
DDA ***15*** *20:18:01.0, 38.72N×31.93E, h7km±2km, Md2.8*
ISK ***15*** *20:18:01.2, 38.66N×31.89E, h8km, MD2.9*

ISC 15 20:18:01.7±0.7, 3870N±003×3196E±004, h5km±5km, n13, σ0°94/24, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIZT	**Kizilcal**	**0.20**	**341**	PG	**Pg**	**20 18 05.8**	**+0.3**
KIZT				SG	**Sg**	**20 18 10.0**	**+1.8**
KONT	**Konya--Tatoy**	**0.81**	**157**	*e*PG	**Pg**	**20 18 17.2**	**-0.1**
KONT				*e*SG	**Sg**	**20 18 28.8**	**+0.9**
SHUT	**Suhut-Afyon**	**1.11**	**263**	*e*PG	**Pg**	**20 18 22.3**	**-0.7**
SHUT				*e*SG	**Sg**	**20 18 36.6**	**-0.9**
ESKT	**Eskisehir**	**1.19**	**314**	*i* P	**Pg**	**20 18 23.5**	**-1.1**
ESKT				*i* S	**Sg**	**20 18 39.9**	**-0.2**
ESKT	**Eskisehir**	**1.19**	**314**	*e*Pn	**Pn**	**20 18 23.8**	**-1.3**
SEYT	**Eskypehyr**	**1.19**	**314**	*i* P	**Pg**	**20 18 23.5**	**-1.1**
SEYT				*i* S	**Sg**	**20 18 39.9**	**-0.2**
TKTP	**Tekketepe**	**1.45**	**244**	*i* P	**Pn**	**20 18 28.2**	**-0.4**
TKTP				*i* S	**Sb**	**20 18 48.5**	**+0.6**
BORA	**Eskisehir**	**1.66**	**316**	*i* P	**Pn**	**20 18 31.1**	**-0.4**
BORA				*i* S	**Sn**	**20 18 54.6**	**+1.2**
HDMB	**Hadim**	**1.78**	**166**	*e*PN	**Pn**	**20 18 33.0**	**-0.1**
GDZ	**Gediz**	**1.97**	**282**	*i* P	**Pn**	**20 18 37.8**	**+2.0**
GDZ				*i* S	**Sn**	**20 19 00.6**	**-0.4**
CDAG	**Cicekdag**	**2.09**	**63**	*i* P	**Pn**	**20 18 36.4**	**-1.0**
CDAG				*i* S	**Sn**	**20 19 03.2**	**-0.6**
CDAG	**Cicekdag**	**2.09**	**63**	*i* P	**Pn**	**20 18 36.4**	**-1.0**
CDAG				*i* S	**Sn**	**20 19 03.2**	**-0.7**
ERMK	**Ermenek**	**2.18**	**159**	*i* P	**Pn**	**20 18 40.0**	**+1.3**
ERMK				*i* S	**Sg**	**20 19 11.5**	**-0.4**

JMA ***15*** *20:21:00.7±0.1, 41.44N×142.19E, h42km±3km, M4.5*
JMA Felt II J1.
NIED ***15*** *20:21:00, 41.40N×142.20E, h41km, Mw4.3 Best double couple: M0 3.14000×1015 NP1:φ=317.00000°, δ=76.00000°, λ=77.00000°. NP2:φ=180.00000°, δ=19.00000°, λ=131.00000°.*
MOS ***15*** *20:21:00.1±1.2, 41.49N×142.16E, h45km, mb4.8/10, Error ellipse: s-maj=11.7km s-min=7.4km az=83.4*
ISCJB ***15*** *20:21:00.5±0.3, 41.44N±002×142.19E±003, h50km±3km, mb4.3/38, MS3.6/8, Error ellipse: s-maj=5.0km s-min=3.1km az=41.6*
BJI ***15*** *20:21:01.2, 41.77N×142.26E, h64km, mB4.6, mb4.6, Ms4.0, Msz3.7*
IDC ***15*** *20:21:02.6±0.7, 41.39N×142.09E, h51km±5km, mb3.9/17, mb1 4.1/20, mb1mx4.0/27, mbtmp4.0/20, MS3.4/7, Ms1 3.4/7, ms1mx3.2/38, Error ellipse: s-maj=16.3km s-min=8.6km az=98.0*
NEIC ***15*** *20:21:02.8±0.3, 41.49N×142.12E, mb4.4/13, Error ellipse: s-maj=8.3km s-min=5.4km az=134.0*
NEIC Recorded [2 JMA] in southwestern Hokkaido and [1 JMA] in south-central Hokkaido. Also recorded [2 JMA] in Aomori and Iwate Prefectures, Honshu.

ISC 15 20:21:01.4±0.3, 4145N±002×14219E±003, h41km±3km, h50km±1.5km:pP-P, n101, σ1°05/126, mb4.3/38, MS3.6/8, 6C-9D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.86**	**266**	⇓P	**Pn**	**20 21 16.6**	**-0.4**
JOT				S	**Sn**	**20 21 28.2**	**-0.1**
ERM	**Erimo**	**0.92**	**52**	*e*Pn	**Pn**	**20 21 17.3**	**-0.5**
ERM				*e*Sn	**Sn**	**20 21 27.4**	**-2.5**
JEM	**Erimo**	**0.92**	**52**	⇓P	**Pn**	**20 21 17.3**	**-0.5**
JEM				S	**Sn**	**20 21 29.5**	**-0.4**
JNBK	**Urakawa-nobuka**	**0.93**	**27**	P	**Pn**	**20 21 17.1**	**-0.9**
JKB	**Kayabe**	**0.97**	**297**	⇓P	**Pn**	**20 21 18.0**	**-0.5**
JKB				S	**Sn**	**20 21 30.3**	**-0.7**
JTM	**Tenmabayashi**	**1.07**	**232**	⇓P	**Pn**	**20 21 19.9**	**0.0**
JTM				*e*S	**Sn**	**20 21 33.8**	**+0.2**
JANG	**Nango**	**1.19**	**205**	⇓P	**Pn**	**20 21 20.5**	**-1.0**
JANG				*e*S	**Sn**	**20 21 34.9**	**-1.6**
JNB	**Noboribetsu**	**1.33**	**320**	P	**Pn**	**20 21 22.9**	**-0.5**
JNB				S	**Sn**	**20 21 39.8**	**-0.1**
JSR	**Shiriuchi**	**1.33**	**274**	⇓P	**Pn**	**20 21 23.7**	**+0.3**
JSR				*e*S	**Sn**	**20 21 41.1**	**+1.2**
JBT2	**Biratori 2**	**1.33**	**6**	⇑P	**Pn**	**20 21 23.5**	**0.0**
JCH	**Churui**	**1.46**	**37**	⇓P	**Pn**	**20 21 25.9**	**+0.7**
JCH				*e*S	**Sn**	**20 21 44.8**	**+1.8**
JEW	**Eniwo**	**1.49**	**339**	⇑P	**Pn**	**20 21 26.3**	**+0.6**
JEW				*e*S	**Sn**	**20 21 45.2**	**+1.3**
JFR	**Furan**	**1.74**	**10**	⇓P	**Pn**	**20 21 29.2**	**+0.2**
JFR				*e*S	**Sn**	**20 21 50.4**	**+0.4**
JOM	**Ohasama**	**2.09**	**199**	P	**Pn**	**20 21 33.8**	**-0.1**
JOM				*e*S	**Sn**	**20 21 58.1**	**-0.6**
ASAJ	**Asahikawa**	**2.68**	**6**	P	**Pn**	**20 21 43.2**	**+1.2**
ASAJ				S	**Sn**	**20 22 17.2**	**+4.0**
ASAJ				pmax	pmax		
	comp=Z,46nm,0.3s						
ASAJ				smax			
	comp=N,44nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,664nm,21.8s						
ASAJ	**Asahikawa**	**2.68**	**6**	P	**Pn**	**20 21 43.1**	**+1.2**
	comp=Z,46nm,0.3s,baz=218,slow=12,SNR=103						
ASAJ				S	**Sn**	**20 22 17.1**	**+4.0**
	comp=Z,44nm,0.3s,baz=307,slow=20,SNR=12						
ASAJ				LR	LR	20 23 09.6	
	comp=Z,664nm,21.8s,baz=327,slow=46						
YUK	**Yuzh-Kuril'sk**	**3.74**	**45**	⇓*i* P	**Pn**	**20 21 55.4**	**-1.1**
YUK				*i* S	**Sn**	**20 22 39.4**	**+0.1**
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				pmax	pmax		
	comp=N,550nm,0.5s						
YUK				pmax	pmax		
	comp=E,310nm,0.5s						
YUK				pmax	pmax		
	comp=N,2μm,0.4s						
YUK				pmax	pmax		
	comp=E,2μm,0.4s						
YUK				pmax	pmax		
	comp=Z,3μm,0.4s						
YUK				smax			
	comp=N,1μm,0.5s						
YUK				smax			
	comp=E,850nm,0.5s						
YUK				smax			
	comp=N,2μm,1.0s						
YUK				smax			
	comp=E,2μm,0.8s						
YSS	**Yuzh-Sakhalins**	**5.52**	**4**	⇑*e*P	**Pn**	**20 22 23.0**	**+2.1**
YSS				pmax	pmax		
	comp=Z,30nm,0.8s						
YSS				MLR	MLR		
	comp=N,200nm,17.0s						
YSS				MLR	MLR		
	comp=Z,200nm,17.0s						
YSS	**Yuzh-Sakhalins**	**5.52**	**4**	*e*Pn	**Pn**	**20 22 23.7**	**+2.8**
	comp=Z,32nm,0.6s						
KUR	**Kuril'sk**	**5.61**	**46**	*e*P	**Pn**	**20 22 19.8**	**-2.4**
KUR				*e*S	**Sn**	**20 23 24.0**	**-1.3**
KUR				pmax	pmax		
	comp=N,110nm,1.0s						
KUR				pmax	pmax		
	comp=E,190nm,1.0s						
KUR				pmax	pmax		
	comp=Z,380nm,1.0s						
KUR				smax			
	comp=N,80nm,0.5s						
KUR				smax			
	comp=E,110nm,0.5s						
MAJO	**Matsushiro**	**5.80**	**214**	*e*P	**Pn**	**20 22 27.2**	**+2.4**
MAJO				pmax	pmax		
	comp=Z,26nm,0.5s						
MAJO	**Matsushiro**	**5.80**	**214**	*e*Pn	**Pn**	**20 22 27.2**	**+2.3**
	comp=Z,26nm,0.5s						
MAT	**Matsushiro**	**5.80**	**214**	P	**Pn**	**20 22 27.1**	**+2.3**
MAT				*e*S	**Sn**	**20 23 32.7**	**+2.7**
MJAR	**Matsushiro Arr**	**5.80**	**214**	P	**Pn**	**20 22 27.7**	**+2.8**
	comp=Z,2.4nm,0.3s,baz=22,slow=14,SNR=51						
MJAR				LR	LR	20 25 04.2	
	comp=Z,427nm,19.2s,baz=25,slow=42						
JHJ	**Hachijo jima 2**	**8.53**	**194**	P	**Pn**	**20 23 00.7**	**-1.7**
	comp=Z,32nm,0.3s,baz=263,slow=17,SNR=27						
JHJ				S	**Sn**	**20 24 30.1**	**-7.2**
	comp=Z,15nm,0.3s,baz=96,slow=23,SNR=5.7						
MDJ	**Mudanjiang**	**9.75**	**293**	P	**Pn**	**20 23 19.1**	**+0.2**
MDJ				S	**Sn**	**20 25 06.5**	**-0.5**
MDJ				PCP	PcP	20 29 31.4	+0.5
MDJ				PCS	PcS	20 33 02.6	-1.5
MDJ				AMB	AMB		
	comp=Z,3.0nm,1.6s						
MDJ				AMB	AMB		
	comp=Z,53nm,5.6s						
MDJ				LR	LR		
	comp=N,106nm,12.0s						
MDJ				LR	LR		
	comp=E,84nm,17.6s						
MDJ				LR	LR		
	comp=Z,178nm,23.1s						
KLR	**Kul'dur**	**10.69**	**320**	*e*P	**Pn**	**20 23 32.8**	**+1.0**
KSRS	**Korea Array**	**11.72**	**255**	P	**Pn**	**20 23 51.6**	**+5.6**
	comp=Z,1.1nm,0.3s,baz=64,slow=14,SNR=9.7						
KSRS				S	**Sn**	**20 26 03.9**	**+8.4**
	comp=Z,3.6nm,0.3s,baz=68,slow=24,SNR=23						
KSRS				LR	LR	20 27 50.7	
	comp=Z,193nm,19.3s,baz=167,slow=35						
JNU	**Nakatsue**	**12.25**	**231**	P	**Pn**	**20 23 54.1**	**+0.9**
	comp=Z,0.3nm,0.3s,baz=320,slow=12,SNR=4.0						
JNU				LR	LR	20 28 34.7	
	comp=Z,176nm,19.5s,baz=189,slow=37						
CN2	**Changchun**	**12.55**	**286**	*e*P	**Pn**	**20 23 56.8**	**-0.5**
CN2				*e*XP		20 24 15.3	
CN2				*e*S	**Sn**	**20 26 13.3**	**-2.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s						
CN2				LR	LR		
	comp=E,200nm,12.0s						
CN2				LR	LR		
	comp=Z,200nm,17.0s						
CBIJ	**Chichi jima**	**14.32**	**180**	P	**Pn**	**20 24 16.9**	**-4.5**
	comp=Z,3.8nm,0.3s,baz=270,slow=20,SNR=5.9						
CBIJ				S	**Sn**	**20 26 45.8**	**-13**
	comp=Z,3.1nm,0.3s,baz=270,slow=19,SNR=3.2						
PET	**Petropavlovsk**	**16.05**	**38**	*e*P	**Pn**	**20 24 48.8**	**+4.9**
PET				MLR	MLR		
	comp=Z,100nm,16.0s						
JOW	**Kunigami**	**18.54**	**222**	LR	LR	20 32 33.2	
	comp=Z,219nm,18.5s,baz=111,slow=37						
BJI	**Beijing**	**19.74**	**275**	P	**Pn**	**20 25 27.0**	**-2.3**
BJI				S	**S**	**20 28 59.5**	**-8.3**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s						
BJI				AMB	AMB		
	comp=Z,54nm,3.1s						
BJI				LR	LR		
	comp=N,108nm,7.2s						
BJI				LR	LR		
	comp=E,134nm,16.2s						
BJI				LR	LR		
	comp=Z,117nm,21.6s						
NJ2	**Nanjing**	**20.86**	**251**	*e*P	**P**	**20 25 41.6**	**+1.8**
NJ2				AP		20 25 51.5	
NJ2				PP		20 26 04.3	
NJ2				S	**S**	**20 29 25.0**	**-5.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,80nm,7.0s						
NJ2				LR	LR		
	comp=N,260nm,20.7s,MS3.8						
NJ2				LR	LR		
	comp=E,260nm,16.6s,MS3.8						
NJ2				LR	LR		
	comp=Z,260nm,16.7s,MS3.7						
HHC	**Hu-ho-hao-te**	**23.01**	**279**	*e*P	**P**	**20 26 02.8**	**+0.2**
HHC				AP		20 26 14.3	
HHC				XP	sP	20 26 19.8	+1.8
HHC				PP		20 26 34.3	
HHC				PCP	PcP	20 29 53.4	+2.3
HHC				S	**S**	**20 30 05.8**	**-4.4**
HHC				XS	sS	20 30 24.9	-3.5
HHC				SS	SS	20 30 52.8	
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,124nm,8.7s						
HHC				LR	LR		
	comp=N,161nm,13.0s,MS4.0						
HHC				LR	LR		
	comp=E,343nm,15.6s,MS4.0						
HHC				LR	LR		
	comp=Z,278nm,14.5s,MS3.8						
BOD	**Bodaibo**	**24.26**	**322**	*e*P	**P**	**20 26 13.1**	**-1.2**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.5						
ULN	**Ulaanbaatar**	**25.64**	**296**	⇑*e*P	**P**	**20 26 24.2**	**-2.8**
ULN	**Ulaanbaatar**	**25.64**	**296**	*e*P	**P**	**20 26 25.6**	**-1.3**
	comp=Z,3.2nm,1.1s,mb3.8						
SONM	**Songino Array**	**26.08**	**296**	P	**P**	**20 26 31.0**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.6,baz=98,slow=11,SNR=6.3						
LZH	**Lanzhou**	**30.20**	**272**	*e*P	**P**	**20 27 08.5**	**+0.7**
LZH				AP	pP	20 27 20.5	+1.6
LZH				XP	sP	20 27 25.5	+1.7
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.7						
LZH				AMB	AMB		
	comp=Z,64nm,5.2s						
GTA	**Gaotai**	**32.09**	**281**	*e*P	**P**	**20 27 23.3**	**-1.1**
GTA				PP	PP	20 28 30.9	-6.3
GTA				PCP	PcP	20 30 15.6	+2.6
GTA				S	**S**	**20 32 30.3**	**-3.5**
GTA				SCP	ScP	20 33 53.8	+0.6
GTA				PCS	PcS	20 33 59.4	+1.7
GTA				SS	SS	20 34 21.4	-31
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.1						
GTA				AMB	AMB		
	comp=Z,89nm,8.8s						
GTA				LR	LR		
	comp=N,102nm,13.8s,MS3.8						
GTA				LR	LR		
	comp=E,114nm,16.4s,MS3.8						
GTA				LR	LR		
	comp=Z,149nm,17.2s,MS3.7						
CD2	**Chengdu**	**32.52**	**264**	*e*P	**P**	**20 27 29.4**	**+1.1**
CD2				XP	sP	20 27 46.8	+2.5
CD2				PP	PP	20 28 38.3	-3.8
CD2				S	**S**	**20 32 39.4**	**-1.2**
CD2				SS	SS	20 34 36.5	-25
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,170nm,15.6s						
CD2				LR	LR		
	comp=Z,110nm,10.8s,MS3.8						
KMI	**Kunming**	**36.42**	**256**	P	**P**	**20 28 03.4**	**+1.3**
KMI				AP	pP	20 28 16.6	+3.3
KMI				XP	sP	20 28 22.9	+4.7
KMI				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.3						
KMI				LR	LR		
	comp=Z,63nm,20.5s,MS3.4	

comp=Z,36nm,18.3s,MS3.3,baz=3.6,slow=37
LSA Lhasa 42.58 271 *eP* **P 20 28 55.0 +1.7**
LSA Lhasa 42.58 271 *eP* **P 20 28 54.1 +0.8**
LSA pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
LSA Lhasa 42.58 271 *eP* **P 20 28 54.1 +0.8**
comp=Z,7.4nm,1.1s,mb4.3
IMA2 Indian Mountai 42.62 33 *eP* **P 20 28 53.4 +0.2**
KDAK Kodiak Island 43.48 45 P **P 20 29 00.4 +0.2**
comp=Z,3.9nm,0.6s,mb4.3,baz=270,slow=7.1,SNR=3.6
KURK Kurchatov 43.80 305 *eP* **P 20 29 01.8 -1.1**
KURK *e* pP 20 29 15.7 +1.4
KURK pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
KURK Kurchatov 43.80 305 *eP* **P 20 29 01.8 -1.1**
comp=Z,7.2nm,0.8s,mb4.5
KURK *e* pP 20 29 15.7 +1.3
COLA College 45.06 35 *eP* **P 20 29 13.9 +1.1**
COLA pmax pmax
comp=Z,16nm,0.8s,mb4.9
COLA College 45.06 35 *eP* **P 20 29 13.9 +1.0**
comp=Z,16nm,0.8s,mb4.9
SML Sawmill 45.13 39 *eP* **P 20 29 14.2 +0.8**
EGAK Eagle 47.92 34 *eP* **P 20 29 35.7 +0.5**
comp=Z,9.1nm,1.3s,mb4.7
BVAR Borovoye Array 48.13 310 P **P 20 29 37.3 +0.3**
BVAR 20 31 04.5
BVAR Borovoye Array 48.13 310 P **P 20 29 37.3 +0.3**
comp=Z,1.3nm,0.5s,mb4.2,baz=83,slow=8.6,SNR=13
BVAR PcP PcP 20 31 04.5 +0.5
comp=Z,0.6nm,0.5s,baz=69,slow=4.9,SNR=2.0
BVAR pPcP 20 31 17.7
comp=Z,1.9nm,0.5s,baz=73,slow=3.7,SNR=6.5
TKM2 Tokmak 2 48.17 295 *eP* **P 20 29 37.6 +0.1**
TKM2 *e* pP 20 29 49.6 +0.6
TKM2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
TKM2 Tokmak 2 48.17 295 *eP* **P 20 29 37.6 +0.1**
comp=Z,6.6nm,0.6s,mb4.8
TKM2 *e* pP 20 29 49.6 +0.6
BRVK Borovoye 48.18 310 *eP* **P 20 29 35.7 -1.7**
BRVK pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
BRVK Borovoye 48.18 310 *eP* **P 20 29 35.7 -1.7**
comp=Z,1.6nm,0.6s,mb4.2
EKS2 Erkin-Say 49.51 296 *eP* **P 20 29 46.8 -0.9**
comp=Z,2.9nm,0.7s,mb4.4
EKS2 *e* pP 20 29 59.5 +0.2
AML Almayashu 49.78 295 *eP* **P 20 29 50.3 +0.5**
AML *e* pP 20 30 02.5 +1.1
INK Inuvik 50.21 29 *eP* **P 20 29 53.2 +0.6**
comp=Z,228nm,0.9s
KULM Kulim 51.63 237 *eP* **P 20 30 04.8 +0.8**
BATI Kupang 54.16 203 P **P 20 30 22.1 -0.4**
comp=Z,11nm,0.5s,mb5.0,baz=40,slow=1.3,SNR=8.7
KBL Kabul 56.48 289 P **P 20 30 37.9 -1.3**
comp=Z,3.5nm,0.9s,mb4.4
RES Resolute Bay 58.18 15 *eP* **P 20 30 50.3 -0.3**
comp=Z,149nm,0.8s
YKA Yellowknife Ar 59.71 32 P **P 20 31 01.7 +0.3**
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA Yellowknife Ar 59.71 32 P **P 20 31 01.7 +0.4**
comp=Z,0.8nm,0.6s,mb3.9,baz=305,slow=6.4,SNR=14
FITZ Fitzroy Crossi 61.20 198 P **P 20 31 11.8 -0.2**
comp=Z,1.5nm,0.8s,mb4.2,baz=9.5,slow=6.1,SNR=3.3
WRA Warramunga Arr 61.51 188 P **P 20 31 13.0 -1.0**
comp=Z,7.1nm,0.5s,mb5.0,baz=5.6,slow=6.9,SNR=20
OBN Obninsk 64.94 322 *eP* **P 20 31 42.1 +5.6**
OBN pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
FINES FINESS Array B 65.20 332 P **P 20 31 37.0 -1.0**
comp=Z,1.4nm,0.6s,mb4.2,baz=72,slow=8.2,SNR=5.7
FINES pP pP 20 31 51.6 +1.6
comp=Z,2.4nm,0.5s,baz=54,slow=7.5,SNR=3.9
ASAR Alice Springs 65.24 188 P **P 20 31 38.4 -0.2**
comp=Z,6.9nm,0.7s,mb4.8,baz=37,slow=9.4,SNR=20
KIV Kislovodsk 68.50 310*c iP* **P 20 32 00.2 +0.9**
KIV pmax pmax
comp=Z,14nm,1.3s,mb4.8
KIV Kislovodsk 68.50 310 *eP* **P 20 31 58.1 -1.2**
comp=Z,12nm,1.1s,mb4.8
KIV *e* 20 32 14.0
NB2 NORSAR Subarra 70.35 337 P **P 20 32 10.0 -0.5**
comp=Z,1.1nm,0.7s,mb3.9,baz=36,slow=6.5
NOA NORSAR Array B 70.35 337 P **P 20 32 10.1 -0.4**
comp=Z,1.2nm,0.6s,mb4.0,baz=36,slow=6.3,SNR=4.6
AKASG Malin Array Be 71.19 322 P **P 20 32 15.2 -0.5**
comp=Z,0.8nm,0.4s,mb4.0,baz=45,slow=6.1,SNR=10.0
NVAR Mina Array Bea 71.90 55 P **P 20 32 20.8 +0.6**
comp=Z,1.1nm,0.7s,mb3.9,baz=282,slow=5.0,SNR=6.1
NVAR pP pP 20 32 36.1 +3.7
comp=Z,3.4nm,0.7s,baz=292,slow=5.8,SNR=9.6
KONO Kongsberg 71.95 337⇑ *eP* **P 20 32 29.2 +9.0**
TPNV Topopah Spring 74.10 55 *eP* **P 20 32 33.1 -0.2**
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
TPNV Topopah Spring 74.10 55 *eP* **P 20 32 33.1 -0.2**
comp=Z,4.1nm,0.8s,mb4.4
MALT Malatya 74.54 308 *eP* **P 20 32 37.4 +1.6**
MALT *e* pP 20 32 51.1 +3.1
MALT pmax pmax
comp=Z,4.0nm,1.1s,mb4.3
MALT Malatya 74.54 308 *eP* **P 20 32 37.4 +1.5**
comp=Z,3.9nm,1.1s,mb4.2
MALT *e* pP 20 32 51.1 +3.1
OJC Ojcow 75.72 326 *e*PX 20 32 56.2
NWAO Narrogin (SRO) 77.50 201 P **P 20 32 52.3 -0.1**
comp=Z,3.2nm,0.6s,mb4.4,baz=353,slow=4.3,SNR=4.0
GERES GERESS Array B 79.28 328 P **P 20 33 03.5 +1.2**
comp=Z,0.3nm,0.5s,mb3.5,baz=33,slow=5.8,SNR=2.6
TXAR Lajitas Array 86.97 53 P **P 20 33 43.7 +1.3**
comp=Z,0.2nm,0.6s,mb3.5,baz=290,slow=5.3,SNR=3.4
SIV San Ignacio 147.65 45 PKPbc PKPbc 20 40 41.5 -0.2
comp=Z,0.8nm,0.6s,baz=317,slow=6.5,SNR=5.1
SIV pPKPbc pPKPbc 20 40 56.7 +2.2
comp=Z,1.9nm,0.5s,baz=294,slow=1.9,SNR=6.4

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*BJI **15** 20:26:30.9, 639S×147.02E, h93km, mB4.9, mb4.8*
*ISCJB **15** 20:26:36.2±2.0, 560S±005×1463E±0.1, h67km±17km, mb4.4/37, Error ellipse: s-maj=16.8km s-min=8.7km az=179.0*
*NEIC **15** 20:26:40.6±1.8, 557S×146.17E, h93km±16km, mb4.5/24, Error ellipse: s-maj=12.6km s-min=7.5km az=86.0*
*IDC **15** 20:26:41.4±3.4, 557S×14621E, h99km±30km, mb4.2/11, mb1 4.2/13, mb1mx4.1/18, mbtmp4.1/13, MS3.5/11, Ms1 3.5/11, ms1mx3.4/26, Error ellipse: s-maj=25.7km s-min=11.0km az=103.0*
ISC 15 20:26:38.5±1.6, 561S±005×14624E±010, h72km±15km, h93km±2.4km:pP-P, n62, σ0:98/57, mb4.4/37, 1C, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**14.11**	**106**	LR	LR	20 34 32.6	
	comp=Z,119nm,18.9s,baz=359,slow=33						
CTA	**Charters Tower**	**14.39**	**180**	*eP*	**Pn**	**20 30 00.4**	**+1.7**
	11nm,0.7s						
CTA	**Charters Tower**	**14.39**	**180**	P	**Pn**	**20 30 01.8**	**+3.1**
	3.5nm,0.3s,baz=1.8,slow=14,SNR=20						
CTA				LR	LR	20 33 56.7	
	comp=Z,63nm,22.0s,baz=5.5,slow=30						
CTAO	**Charters Tower**	**14.39**	**180**	*e*Pn	**Pn**	**20 30 00.7**	**+2.1**
	16nm,0.6s						
CTAO				*e*Sn	**Sn**	**20 32 34.2**	**-2.9**
KAKA	**Kakadu**	**15.34**	**242**	*eP*	**Pn**	**20 30 09.4**	**-1.4**
	53nm,0.6s						
WRAB	**Tennant Creek**	**18.34**	**218**	*eP*	**Pn**	**20 30 48.5**	**+0.4**
	24nm,0.9s						
WB2	**Warramunga Arr**	**18.35**	**218**	*eP*	**Pn**	**20 30 47.4**	**-0.7**
WRA	**Warramunga Arr**	**18.36**	**218**	P	**Pn**	**20 30 47.0**	**-1.2**
	1.4nm,0.3s,baz=34,slow=11,SNR=57						
WRA				LR	LR	20 38 18.1	
	comp=Z,183nm,19.2s,baz=45,slow=38						
GUMO	**Guam**	**19.12**	**356**	LR	LR	20 37 02.6	
	comp=Z,109nm,18.6s,baz=106,slow=33						
ASAR	**Alice Springs**	**21.53**	**212**	P	**P**	**20 31 22.8**	**+1.0**
	2.3nm,0.3s,mb3.9,baz=58,slow=10,SNR=41						
ASAR				S	**S**	**20 35 17.5**	**+1.1**
	3.2nm,0.8s,baz=27,slow=19,SNR=6.4						
BATI	**Kupang**	**22.82**	**257**	P	**P**	**20 31 36.2**	**+0.6**
	119nm,0.8s,mb5.3,baz=142,slow=0.8,SNR=38						
FITZ	**Fitzroy Crossi**	**23.64**	**237**	*eP*	**P**	**20 31 43.4**	**0.0**
	40nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**23.64**	**237**	P	**P**	**20 31 42.7**	**-0.7**
	20nm,0.6s,mb4.6,baz=59,slow=10,SNR=64						
FITZ				LR	LR	20 40 20.8	
	comp=Z,123nm,19.6s,baz=275,slow=35						
KAPI	**Kappang**	**26.38**	**270**	P	**P**	**20 32 10.3**	**+2.0**
	9.3nm,0.6s,mb4.4,baz=120,slow=6.1,SNR=8.5						
STKA	**Stephens Creek**	**26.49**	**189**	*eP*	**P**	**20 32 09.4**	**+0.3**
	5.4nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**26.49**	**189**	P	**P**	**20 32 09.6**	**+0.4**
	4.9nm,0.8s,mb4.0,baz=314,slow=12,SNR=14						
STKA				LR	LR	20 44 43.0	
	comp=Z,206nm,18.3s,baz=124,slow=41						
MBWA	**Marble Bar**	**29.98**	**236**	*eP*	**P**	**20 32 40.0**	**-0.4**
	14nm,1.2s,mb4.5						
KLBR	**Kellerberrin**	**37.14**	**222**	*eP*	**P**	**20 33 42.7**	**+0.3**
	85nm,1.7s,mb5.4						
MUN	**Mundaring**	**38.42**	**223**	*eP*	**P**	**20 33 54.7**	**+1.5**
JNU	**Nakaetue**	**41.18**	**340**	P	**P**	**20 34 16.6**	**+0.5**
	14nm,0.9s,mb4.8,baz=168,slow=14,SNR=8.6						
MJAR	**Matsushiro Arr**	**42.59**	**350**	P	**P**	**20 34 26.9**	**-0.7**
	5.0nm,1.1s,mb4.2,baz=177,slow=7.7,SNR=9.8						
MJAR				LR	LR	20 49 21.6	
	comp=Z,54nm,21.2s,baz=195,slow=32						
MAJO	**Matsushiro**	**42.60**	**350**	P	**P**	**20 34 27.0**	**-0.6**
	20nm,1.3s,mb4.7						
URZ	**Urewera**	**42.92**	**144**	LR	LR	20 48 50.1	
	comp=Z,164nm,19.3s,baz=59,slow=31						
QIZ	**Qiongzhong**	**43.41**	**305**	P	**P**	**20 34 33.8**	**-0.6**
	9.7nm,1.1s,mb4.5						
NJ2	**Nanjing**	**45.63**	**327**	*eP*	**P**	**20 34 52.9**	**+1.0**
NJ2				AP	pP	20 35 13.8	+4.0
NJ2				XP	sP	20 35 26.6	+8.6
NJ2				PCP	PcP	20 36 29.8	+0.6
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,120nm,7.6s						
NJ2				LR	LR		
	comp=N,170nm,20.8s						
NJ2				LR	LR		
	comp=E,170nm,17.2s						
NJ2				LR	LR		
	comp=Z,180nm,17.2s						
KSRS	**Korea Array**	**46.12**	**340**	P	**P**	**20 34 56.2**	**+0.6**
	comp=Z,8.0nm,0.8s,mb4.5,baz=156,slow=8.9,SNR=23						
KSRS				LR	LR	20 51 19.1	
	comp=Z,100nm,20.6s,baz=346,slow=32						
KULM	**Kulim**	**46.79**	**283**	P	**P**	**20 35 00.3**	**-1.0**
MDJ	**Mudanjiang**	**52.19**	**345**	P	**P**	**20 35 41.9**	**+0.1**
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,50nm,7.9s						
MDJ	**Mudanjiang**	**52.19**	**345**	P	**P**	**20 35 41.1**	**-0.7**
	comp=Z,5.6nm,0.8s,mb4.7						
XAN	**Xi'an**	**52.90**	**321**	P	**P**	**20 35 47.0**	**-0.3**
XAN				AMB	AMB		
	comp=Z,7.0nm,1.4s,mb4.5						
CD2	**Chengdu**	**54.46**	**314**	*eP*	**P**	**20 36 00.8**	**+2.0**
CD2				AP	pP	20 36 24.5	+7.4
CD2				XP	sP	20 36 35.8	+11
CD2				PP	PP	20 38 06.1	+4.4
CD2				S	**S**	**20 43 30.8**	**-1.6**
CD2				XS	sS	20 44 12.3	+8.7
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,12.8s						
CD2				LR	LR		
	comp=Z,100nm,11.2s						
HHC	**Hu-ho-hao-te**	**56.10**	**329**	*eP*	**P**	**20 36 13.3**	**+2.9**
HHC				AP	pP	20 36 36.9	+8.0
HHC				XP	sP	20 36 49.3	+12
HHC				PP	PP	20 38 22.3	+6.0
HHC				SCP	ScP	20 40 58.3	-2.4
HHC				S	**S**	**20 43 54.3**	**+0.3**
HHC				XS	sS	20 44 34.6	+9.3
HHC				AMB	AMB		
	comp=Z,26nm,1.2s,mb5.1						
HHC				AMB	AMB		
	comp=Z,197nm,5.6s						
HHC				LR	LR		
	comp=N,239nm,18.8s						
HHC				LR	LR		
	comp=E,302nm,17.3s						
HHC				LR	LR		
	comp=Z,154nm,15.8s						
LZH	**Lanzhou**	**57.42**	**320**	*eP*	**P**	**20 36 20.5**	**+0.7**
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,63nm,4.2s						
HIA	**Hailar**	**59.32**	**340**	*eP*	**P**	**20 36 33.2**	**+0.3**
	comp=Z,26nm,1.3s,mb5.1						
GTA	**Gaotai**	**61.95**	**321**	*eP*	**P**	**20 36 51.4**	**+0.4**
GTA				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.5						
LSA	**Lhasa**	**63.40**	**307**	*eP*	**P**	**20 37 01.6**	**+0.9**
ULN	**Ulaanbaatar**	**63.40**	**332**	*eP*	**P**	**20 37 00.4**	**0.0**
	comp=Z,4.2nm,1.0s,mb4.3						
CASY	**Casey**	**65.43**	**195**	*eP*	**P**	**20 37 12.9**	**-0.5**
	comp=Z,9.7nm,0.9s,mb4.6						
WMQ	**Urumqi**	**72.00**	**320**	*eP*	**P**	**20 37 55.0**	**+0.4**
SBA	**Scott Base**	**73.00**	**176**	P	**P**	**20 38 01.0**	**+1.0**
	comp=Z,14nm,1.6s,mb4.5						
BILL	**Biiibino**	**74.82**	**8**	*eP*	**P**	**20 38 11.6**	**+0.9**
	comp=Z,3.7nm,0.6s,mb4.3						
MK31	**Makanchi Array**	**76.71**	**321**	*eP*	**P**	**20 38 21.0**	**-0.9**
MKAR	**Makanchi Array**	**76.71**	**321**	P	**P**	**20 38 21.6**	**-0.3**
	comp=Z,1.7nm,0.8s,mb3.8,baz=108,slow=5.5,SNR=11						
TIXI	**Tiksi**	**77.95**	**354**	*eP*	**P**	**20 38 27.8**	**-0.6**
	comp=Z,2.4nm,0.8s,mb4.0						
ZALV	**Zalesovo Beam**	**78.28**	**328**	P	**P**	**20 38 28.4**	**-2.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=88,slow=4.4,SNR=4.1						
ZALV				LR	LR	21 14 55.6	
	comp=Z,32nm,18.6s,baz=169,slow=37						
TKM2	**Tokmak 2**	**79.83**	**315**	*eP*	**P**	**20 38 39.0**	**-0.2**
	comp=Z,1.5nm,0.7s,mb3.9						
UCH	**Uchtor**	**80.39**	**314**	*eP*	**P**	**20 38 42.9**	**+0.6**
	comp=Z,1.1nm,0.9s,mb3.7						
KURK	**Kurchatov**	**80.44**	**323**	*eP*	**P**	**20 38 41.1**	**-1.2**
	comp=Z,2.3nm,0.9s,mb4.0						
AML	**Almayashu**	**80.95**	**314**	*eP*	**P**	**20 38 45.0**	**-0.2**
	comp=Z,0.9nm,0.5s,mb3.9						
AML				*e*	pP	20 39 08.3	+3.6
EKS2	**Erkin-Say**	**81.04**	**315**	*eP*	**P**	**20 38 45.7**	**0.0**
	comp=Z,1.9nm,0.9s,mb3.9						
MAW	**Mawson**	**82.32**	**203**	*eP*	**P**	**20 38 51.8**	**-0.2**
	comp=Z,21nm,1.4s,mb4.8						
QSPA	**South Pole Qui**	**84.36**	**180**	*eP*	**P**	**20 39 02.9**	**+0.7**
	comp=Z,8.6nm,1.1s,mb4.5						
BVAR	**Borovoye Array**	**86.01**	**324**	P	**P**	**20 39 09.6**	**-1.3**
	comp=Z,1.7nm,0.7s,mb4.1,baz=98,slow=6.1,SNR=14						
BRVK	**Borovoye**	**86.08**	**324**	*eP*	**P**	**20 39 10.1**	**-1.1**
	comp=Z,1.8nm,0.9s,mb4.0						
EGAK	**Eagle**	**87.72**	**24**	*eP*	**P**	**20 39 18.6**	**-0.4**
	comp=Z,3.8nm,1.1s,mb4.3						
SYO	**Syowa Base**	**90.70**	**200⇑**	*eP*	**P**	**20 39 32.1**	**-0.9**
YBH	**Yreka Blue Mor**	**94.48**	**49**	LR	LR	21 15 34.3	
	comp=Z,26nm,20.7s,baz=350,slow=31						
TOA0	**Torodi Ar. Sit**	**144.26**	**285**	*e*PKPdf	PKPdf	20 46 04.9	-2.4
TORD	**Torodi Ar. Bea**	**144.26**	**285**	PKP	PKPdf	20 46 05.3	-1.9
	comp=Z,4.8nm,1.0s,baz=77,slow=3.4,SNR=22						
SIV	**San Ignacio**	**145.49**	**129**	PKPbc	PKPbc	20 46 09.6	+0.1
	comp=Z,21nm,0.8s,baz=234,slow=3.1,SNR=90						
DBIC	**Dimbokro**	**151.24**	**274**	*e*PKPbc	PKPbc	20 46 23.7	-1.2
DBIC				*e*PKPab	PKPab	20 46 33.4	+0.4
DBIC	**Dimbokro**	**151.24**	**274**	PKPbc	PKPbc	20 46 24.6	-0.3
	comp=Z,1.1nm,0.4s,baz=135,slow=4.3,SNR=3.7						
DBIC				PKPab	PKPab	20 46 31.2	-1.8
	comp=Z,6.7nm,0.9s,baz=66,slow=2.5,SNR=5.0						

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*CSEM **15** 20:30:58.8, 4394N×4800E, h12km, mb3.8, After OBN*
MOS 15 20:30:58.8±1.1, 4394N×4800E, h12km, mb3.8/1, 3C, Error ellipse: s-maj=17.7km s-min=8.1km az=59.2, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAK	**Makhachkala**	**1.04**	**200⇑**	*i*PG	Pg	20 31 19.0	+0.2
MAK				pmax	pmax		
	comp=Z,874nm,0.3s						
MAK	**Makhachkala**	**1.04**	**200**	*i* Pg	Pg	20 31 19.0	+0.2
	comp=Z,874nm,0.3s						
DBC	**Dubki**	**1.25**	**223**	*i* PG	Pg	20 31 22.0	-0.8
DBC				pmax	pmax		
	comp=Z,139nm,0.1s						
DBC	**Dubki**	**1.25**	**223**	*i* Pg	Pg	20 31 22.0	-0.8
	comp=Z,139nm,0.1s						
MNSR	**Manas**	**1.25**	**189**	*e*PG	Pg	20 31 22.0	-0.8
MNSR				pmax	pmax		
	comp=Z,225nm,0.2s						
MNSR	**Manas**	**1.25**	**189**	*e*Pg	Pg	20 31 22.0	-0.8
	comp=Z,225nm,0.2s						
BUJR	**Buynaksk**	**1.29**	**210⇑**	*i*PG	Pg	20 31 22.0	-1.5
BUJR				pmax	pmax		
	comp=Z,201nm,0.2s						
BUJR	**Buynaksk**	**1.29**	**210**	*i* Pg	Pg	20 31 22.0	-1.5
	comp=Z,201nm,0.2s						
DLMR	**Dylym**	**1.32**	**229**	*i* PG	Pg	20 31 24.5	+0.4
DLMR				pmax	pmax		
	comp=Z,129nm,0.1s						
DLMR	**Dylym**	**1.32**	**229**	*i* Pg	Pg	20 31 24.5	+0.4
	comp=Z,129nm,0.1s						
KRNR	**Karanay**	**1.36**	**216**	*i* PG	Pg	20 31 22.2	-2.8
UNCR	**Uncukul**	**1.50**	**216**	*i* PG	Pg	20 31 24.3	-3.4
UNCR				pmax	pmax		
	comp=Z,161nm,0.3s						
UNCR	**Uncukul**	**1.50**	**216**	*i* Pg	Pg	20 31 24.3	-3.4
	comp=Z,161nm,0.3s						
XNZR	**Khunzakh**	**1.69**	**214**	*e*PN	Pn	20 31 30.4	+2.4
XNZR				pmax	pmax		
	comp=Z,132nm,0.1s						
XNZR	**Khunzakh**	**1.69**	**214**	*e*Pn	Pn	20 31 30.4	+2.4
	comp=Z,132nm,0.1s						
BTLR	**Botlikh**	**1.82**	**226**	*e*PN	Pn	20 31 31.0	+1.2
BTLR				pmax	pmax		
	comp=Z,53nm,0.2s						
BTLR	**Botlikh**	**1.82**	**226**	*e*Pn	Pn	20 31 31.0	+1.2
	comp=Z,53nm,0.2s						
KUBR	**Kubataba**	**3.32**	**269**	*e*Pn	Pn	20 31 52.1	+1.6
GOF	**Gofitskoye**	**3.72**	**289**	*e*Pg	Pg	20 32 21.0	+11
KIV	**Kislovodsk**	**3.83**	**272***c i*PN	Pn	Pn	20 31 59.4	+1.8
KIV				pmax	pmax		
	comp=Z,3.0nm,1.2s						
KIV	**Kislovodsk**	**3.83**	**272**	*i* Pn	Pn	20 31 59.4	+1.8
	comp=Z,3.0nm,1.2s						
GNI	**Garni**	**4.50**	**214**	*e*Pn	Pn	20 32 01.8	-4.9
SOC	**Sochi**	**6.01**	**269**	*i* P	Pn	20 32 28.4	+1.0
ANN	**Anapa**	**7.62**	**280**	*i* P	Pn	20 32 54.5	+5.0

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*ISCJB **15** 20:33:46.6±5.0, 53S±02×1465E±02, h47km±44km, mb4.1/6, Error ellipse: s-maj=30.6km s-min=25.4km az=147.9*
*NEIC **15** 20:33:49.9±3.0, 524S×14633E, h69km±25km, mb4.3/5, Error ellipse: s-maj=19.7km s-min=18.3km az=221.0*
*IDC **15** 20:33:54.8±17.0, 546S×14643E, h112km±134km, mb3.8/4, mb1 3.8/6, mb1mx3.5/15, mbtmp3.7/6, ML4.1/2, Error ellipse: s-maj=109.3km s-min=39.9km az=33.0*
ISC 15 20:33:49.8±4.2, 53S±02×1464E±02, h60km±38km, n21, σ0:92/19, mb4.1/6, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.70**	**180**	*eP*	**Pn**	**20 37 16.0**	**+1.6**
	2.2nm,0.3s						
CTA	**Charters Tower**	**14.70**	**180**	P	**Pn**	**20 37 15.7**	**+1.4**
	1.1nm,0.3s,baz=17,slow=18,SNR=7.2						
CTAO	**Charters Tower**	**14.70**	**180**	*e*Pn	**Pn**	**20 37 13.9**	**-0.5**
	14nm,1.2s						
KAKA	**Kakadu**	**15.58**	**241**	*eP*	**Pn**	**20 37 27.1**	**+1.3**
	8.5nm,0.5s						
KAKA	**Kakadu**	**15.58**	**241**	*e*Pn	**Pn**	**20 37 25.4**	**-0.4**
	22nm,0.6s						
WRAB	**Tennant Creek**	**18.65**	**218**	*eP*	**Pn**	**20 38 03.7**	**-0.1**
	3.4nm,0.7s						
WB2	**Warramunga Arr**	**18.66**	**218**	*eP*	**Pn**	**20 38 03.3**	**-0.6**
WRA	**Warramunga Arr**	**18.67**	**218**	P	**Pn**	**20 38 02.2**	**-1.8**
	0.5nm,0.3s,baz=38,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.85**	**212**	P	**P**	**20 38 37.4**	**-0.1**
	1.0nm,0.5s,mb3.5,baz=52,slow=8.1,SNR=10						
BATI	**Kupang**	**23.00**	**256**	P	**P**	**20 38 51.1**	**+1.4**
	14nm,0.7s,mb4.5,baz=142,slow=2.4,SNR=7.2						
FITZ	**Fitzroy Crossi**	**23.90**	**236**	*eP*	**P**	**20 38 58.0**	**-0.2**
	8.5nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**23.90**	**236**	P	**P**	**20 38 57.7**	**-0.4**
	5.1nm,0.7s,mb4.1,baz=75,slow=9.0,SNR=11						
KAPI	**Kappang**	**26.50**	**269**	P	**P**	**20 39 26.1**	**+4.3**
KAPI	**Kappang**	**26.50**	**269**	P	**P**	**20 39 26.1**	**+4.3**
	2.9nm,0.8s,mb3.9,baz=100,slow=19,SNR=4.2						
STKA	**Stephens Creek**	**26.81**	**189**	*eP*	**P**	**20 39 25.6**	**+1.2**
	2.4nm,0.9s,mb3.7						
STKA	**Stephens Creek**	**26.81**	**189**	P	**P**	**20 39 24.1**	**-0.3**
	6.6nm,1.0s,mb4.1						
STKA	**Stephens Creek**	**26.81**	**189**	P	**P**	**20 39 23.8**	**-0.6**
	3.5nm,1.1s,mb3.8,baz=0.4,slow=10,SNR=4.2						
MA2	**Magadan**	**64.77**	**2**	P	**P**	**20 44 21.0**	**-0.6**
QSPA	**South Pole Qui**	**84.66**	**180**	*eP*	**P**	**20 46 17.0**	**+0.6**
	3.1nm,0.7s,mb4.5						
TOA0	**Torodi Ar. Sit**	**144.29**	**285**	*e*PKPdf	PKPdf	20 53 19.5	-0.6
TORD	**Torodi Ar. Bea**	**144.29**	**285**	PKP	PKPdf	20 53 18.3	-1.8
	0.6nm,0.9s,baz=72,slow=2.8,SNR=6.8						

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*CSEM **15** 20:46:20.1±1.2, 3701N×2451W, h5km, ML3.3, Error ellipse: s-maj=7.7km s-min=5.9km az=78.0, After PDA*
PDA 15 20:46:20.1±1.2, 3701N×2451W, h5km, MD3.7, ML3.3, Error ellipse: s-maj=7.7km s-min=5.9km az=78.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**269**	*i* P	Pg	20 46 27.5	-1.2
PSMN				*e*S	Sg	20 46 33.6	-0.9
PSMN	**Pico do Norte,**	**0.45**	**269**	*e*S	Sg	20 46 33.6	-0.9
CMLA	**Cha da Macela**	**1.10**	**313**	*i* P	Pg	20 46 36.8	-4.4
CMLA				*e*S	Sg	20 46 49.9	-5.6
CMLA				A		20 46 53.4	
	278nm,0.4s						
PDA	**Ponta Delgada**	**1.17**	**309**	*e*S	Sg	20 46 51.2	-6.7
PSET	**Sete Cidades**	**1.26**	**310**	*e*P	Pg	20 46 39.2	-5.0
PSET				*e*S	Sg	20 46 54.3	-6.2
PSET				A		20 46 59.3	
	235nm,0.3s						
PSET	**Sete Cidades**	**1.26**	**310**	*e*P	Pg	20 46 39.2	-5.0
PSET				*e*S	Sg

51nm,0.6s
FITZ Fitzroy Crossi 12.00 192 *e*P **Pn 21 01 58.6 +0.4**
3.6nm,0.5s
FITZ Fitzroy Crossi 12.00 192 ⇓ **Pn 21 01 58.7 +0.4**
0.3nm,0.3s,baz=30,slow=11,SNR=12
FITZ S **S 21 04 15.8 +4.1**
0.3nm,0.3s,baz=198,slow=20,SNR=3.0
WRAB Tennant Creek 14.79 157 *e*Pn **Pn 21 02 29.7 -1.3**
12nm,0.6s
WRA Warramunga Arr 14.79 157 P **P 21 02 30.0 +0.9**
3.6nm,0.3s,baz=340,slow=11,SNR=273
WRA S **S 21 05 08.2 -0.7**
0.3nm,0.3s,baz=335,slow=21,SNR=5.9
WB2 Warramunga Arr 14.79 157 *e*P **P 21 02 29.9 +0.8**
WB2 *e*S **S 21 05 07.1 -1.9**
ASAR Alice Springs 18.10 163 P **P 21 03 05.8 +1.0**
2.8nm,0.3s,baz=344,slow=9.5,SNR=123
ASAR S **S 21 06 14.8 +0.7**
0.4nm,0.3s,baz=344,slow=22,SNR=36
CTA Charters Tower 22.21 130 P **P 21 03 46.3 +1.2**
4.8nm,0.7s,mb3.8,baz=332,slow=4.4,SNR=4.0
CTAO Charters Tower 22.21 130 *e*P **P 21 03 44.1 -1.0**
15nm,1.1s,mb4.1
STKA Stephens Creek 28.33 156 *e*P **P 21 04 40.9 +1.1**
3.9nm,1.2s,mb3.5
STKA Stephens Creek 28.33 156 *e*P **P 21 04 40.6 +0.8**
11nm,1.2s,mb4.0
STKA Stephens Creek 28.33 156 P **P 21 04 40.8 +1.0**
4.1nm,1.1s,mb3.6,baz=324,slow=14,SNR=7.3
CHTO Chiang Mai 38.18 311 P **P 21 06 03.8 -0.5**
3.3nm,1.1s,mb3.5
KSRS Korea Array 43.53 360 P **P 21 06 47.2 -0.1**
1.2nm,0.6s,mb3.2,baz=179,slow=8.7,SNR=3.9
MKAR Makanchi Array 66.70 327 P **P 21 09 31.8 +0.5**
MKAR Makanchi Array 66.70 327 P **P 21 09 31.8 +0.5**
0.3nm,0.4s,mb3.4,baz=113,slow=8.4,SNR=5.3
TIXI Tiksi 77.80 0 P **P 21 10 34.7 -1.1**
1.8nm,1.0s,mb3.8

*CSEM **15** 21:05:48.1±1.0, 3701N×2450W, h5km, ML3.0, Error ellipse: s-maj=7.2km s-min=5.5km az=89.0, After PDA*
PDA 15 21:05:48.1±1.0, 3701N×2450W, h5km, MD3.7, ML3.0, Error ellipse: s-maj=7.2km s-min=5.5km az=89.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**269**	*e*P	Pg	21 05 55.7	-1.1
PSMN				*e*S	Sg	21 06 01.8	-0.8
CMLA	**Cha da Macela**	**1.11**	**313**	*e*P	Pg	21 06 05.1	-4.2
CMLA				*e*S	Sg	21 06 18.1	-5.6
CMLA				A		21 06 20.1	
	137nm,0.3s						
CMLA	**Cha da Macela**	**1.11**	**313**	*e*P	Pg	21 06 05.1	-4.2
CMLA				*e*S	Sg	21 06 18.1	-5.6
PDA	**Ponta Delgada**	**1.18**	**309**	*e*S	Sg	21 06 19.3	-6.7
PSET	**Sete Cidades**	**1.26**	**310**	*e*P	Pg	21 06 07.5	-4.8
PSET				*e*S	Sg	21 06 22.4	-6.3
PSET				A		21 06 27.5	
	132nm,0.2s						
PSET	**Sete Cidades**	**1.26**	**310**	*e*P	Pg	21 06 07.5	-4.8
PSET				*e*S	Sg	21 06 22.4	-6.3
PSCM	**Serra do Cume**	**2.67**	**310**	*e*P	Pn	21 06 27.6	-4.1
PSCM				*e*S	Sn	21 06 56.2	-8.2
PSCM				A		21 07 03.1	
	38nm,0.3s						
PSCM	**Serra do Cume**	**2.67**	**310**	*e*P	Pn	21 06 27.6	-4.1
PSCM				*e*S	Sn	21 06 56.2	-8.2
PMAN	**Manadas**	**3.27**	**301**	*e*P	Pn	21 06 35.6	-4.3
ROSA	**Rosais**	**3.41**	**301**	*e*P	Pn	21 06 38.2	-3.8
PICO	**Pico**	**3.44**	**297**	*e*P	Pn	21 06 38.1	-4.3
PICO				*e*S	Sn	21 07 15.6	-8.0
CALA	**Caldeira**	**3.68**	**296**	*e*P	Pn	21 06 41.0	-4.6
CALA				*e*S	Sn	21 07 21.2	-8.1

*ISCJB **15** 21:30:35.3±0.4, 3872N±002×2194E±003, h7km±3km, Error ellipse: s-maj=4.3km s-min=3.6km az=155.5*
*ATH **15** 21:30:35.7, 3879N×2191E, h19km±1km, MD3.5/14, ML3.4*
*NEIC **15** 21:30:35.7, 3879N×2191E, h19km, ML3.4(ATH), After ATH.*
*CSEM **15** 21:30:36.1±0.1, 3877N×2194E, h10km, ML3.4, Error ellipse: s-maj=1.6km s-min=1.3km az=108.0*
*SOF **15** 21:30:48.4, 3933N×2289E, h20km, MD2.8*
ISC 15 21:30:35.9±0.5, 3870N±002×2193E±003, h5km±4km, n54, σ1§29/68, 2C-11D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	**Evrytania**	**0.23**	**336**	⇓*i*PB	**Pg**	**21 30 40.0**	**-0.5**
EVR				*e*SB	**Sg**	21 30 43.2	-0.4
SELA	**Sela**	**0.43**	**184**	*e*P	**Pg**	**21 30 45.7**	**+1.5**
AGG	**Agios Georgios**	**0.45**	**44**	*e*P	**Pg**	**21 30 44.8**	**+0.3**
AGG				*e*S	**Sg**	21 30 50.8	+0.4
RLS	**Riolos of Patr**	**0.74**	**210**	*e*PN	**Pn**	21 30 51.5	-1.5
LKR	**Lokris**	**0.84**	**93**	*e*PN	**Pg**	21 30 52.2	+0.2
LKR				*e*SN	**Sg**	21 31 04.7	+1.8
THL	**Klokotos Trika**	**0.86**	**4**	*e*PN	**Pg**	21 30 50.9	-1.6
THL				*e*SN	**Sg**	21 31 02.3	-1.4
NEO	**Neokhori**	**1.18**	**59**	*e*PB	**Pb**	**21 30 56.6**	**-2.1**
VLS	**Valsamata**	**1.18**	**244**	*e*PB	**Pb**	**21 30 57.8**	**-0.9**
VLS				*e*SN	**Sn**	21 31 15.6	+0.3
JAN	**Janina**	**1.27**	**319**	*e*PN	**Pn**	21 30 58.8	-1.5
ITM	**Ithomi**	**1.52**	**180**	*e*PN	**Pg**	21 31 05.7	+0.6
NAIG	**Nisos Aigina**	**1.55**	**127**	*e*PN	**Pg**	21 31 05.0	-0.6
ATH	**Athens Observa**	**1.58**	**117**	*e*PN	**Pg**	21 31 05.7	-0.6
KZN	**Kozani**	**1.61**	**356**	*e*PN	**Pn**	21 31 03.9	-1.0
PTL	**Penteli**	**1.66**	**113**	*e*PN	**Pg**	21 31 06.9	-0.7
SRN	**Sarande**	**1.90**	**309**	*e*PN	**Pg**	21 31 14.5	+2.1
SRN				*i* SN	**Sg**	21 31 39.3	+2.2
KEK	**Kerkira**	**1.94**	**302**	*e*PN	**Pn**	21 31 08.6	-0.9
PLG	**Polygyros**	**2.04**	**35**	*e*PB	**Pn**	21 31 09.5	-1.4
KBN	**Korca**	**2.11**	**336**	*e*PN	**Pg**	21 31 15.5	-0.9
VLI	**Veliai**	**2.14**	**158**	*e*PB	**Pb**	21 31 13.4	-1.7
BIA	**Bitola**	**2.36**	**349**	*e*Pn	**Pn**	21 31 14.4	-0.8
BIA				*e*Sn	**Sg**	21 31 46.8	-4.9
BIA	**Bitola**	**2.36**	**349**	*e*Pn	**Pn**	21 31 14.4	-0.9
BIA				*e*Sn	**Sg**	21 31 46.8	-4.9
OHR	**Ohrid**	**2.56**	**340**	*e*Pn	**Pn**	21 31 19.8	+1.8
OHR				*e*Sn	**Sg**	21 31 52.3	-5.8
OHR	**Ohrid**	**2.56**	**340**	*e*Pn	**Pn**	21 31 19.7	+1.7
KYTH	**Kithira**	**2.57**	**160**	*e*PB	**Pb**	21 31 21.0	-1.5
VAY	**Valandovo**	**2.66**	**10**	*e*Pn	**Pn**	21 31 18.7	-0.7
VAY				*e*Sn	**Sn**	21 31 51.3	-0.7
VAY	**Valandovo**	**2.66**	**10**	*e*Pn	**Pn**	21 31 18.6	-0.8
VAY				*e*Sn	**Sn**	21 31 51.2	-0.8
KRUS	**Krusevo**	**2.71**	**349**	*e*Pn	**Pn**	21 31 20.6	+0.5
KRUS				*e*Sn	**Sn**	21 31 53.6	+0.3
STIP	**Stip**	**2.99**	**4**	*e*Pn	**Pn**	21 31 23.2	-0.8
STIP				*e*Sn	**Sn**	21 31 56.4	-3.8
STIP	**Stip**	**2.99**	**4**	*e*Pn	**Pn**	21 31 23.1	-0.9
STIP				*e*Sn	**Sn**	21 31 56.4	-3.8
NVR	**Nevrokopi**	**3.03**	**29**	*e*PN	**Pn**	21 31 24.1	-0.4
PHP	**Peshkopia**	**3.19**	**340**	*e*PN	**Pn**	21 31 28.8	+2.1
MMB	**Musomiste**	**3.19**	**25**	P	**Pn**	21 31 26.7	-0.1
QSH	**Qafa e Shtames**	**3.21**	**332**	*e*PN	**Pn**	21 31 31.0	+4.0
KKB	**Krupnik**	**3.28**	**15**	*e*P	**Pn**	21 31 30.8	+2.9
APE	**Apeiranthos**	**3.28**	**119**	*e*PN	**Pn**	21 31 29.5	+1.5
RZN	**Rozhen**	**3.67**	**35**	P	**Pn**	21 31 33.2	0.0
RDO	**Rodhopi**	**3.69**	**48**	*e*PN	**Pn**	21 31 32.6	-1.0
BCI	**Bajram Curri**	**3.92**	**339**	*e*PN	**Pn**	21 31 37.6	+0.8
KDZ	**Kurdzhali**	**3.98**	**41**	P	**Pn**	21 31 36.0	-1.5
SMG	**Samos**	**3.99**	**103**	*e*PN	**Pn**	21 31 39.7	+2.0
VTS	**Vitosha**	**4.00**	**14**	⇓*i*P	**Sn**	21 32 25.1	0.0
VTS	**Vitosha**	**4.00**	**14**	P	**Pn**	21 31 39.6	+1.7
JMB	**Yambol**	**5.17**	**42**	*e*P	**Pn**	21 31 56.0	+2.2
VOIR		**7.12**	**18**	⇓P	**Pn**	21 32 28.6	+7.9
VOIR		**7.12**	**18**	⇓*i*P	**Pn**	21 32 28.5	+7.9
MLR	**Muntele Rosu**	**7.41**	**22**	⇓P	**Pn**	21 32 28.4	+3.7
MLR	**Muntele Rosu**	**7.41**	**22**	⇓*i*P	**Pn**	21 32 28.4	+3.8
PKSM	**Moragy**	**7.89**	**343**	⇓P	**Pn**	21 32 30.3	-0.8
PKSM	**Moragy**	**7.89**	**343**	⇓*i*P	**Pn**	21 32 30.3	-0.9
PLOR	**Plostina**	**7.95**	**25**	⇓*i*P	**Pn**	21 32 34.5	+2.4
VRI	**Vrincioaia**	**7.99**	**25**	⇑P	**Pn**	21 32 35.3	+2.7
VRI	**Vrincioaia**	**7.99**	**25**	⇑*i*P	**Pn**	21 32 35.3	+2.7
PSZ	**Piszkesteto**	**9.33**	**352**	⇓P	**Pn**	21 32 51.0	0.0
PSZ	**Piszkesteto**	**9.33**	**352**	⇓*i*P	**Pn**	21 32 51.0	+0.1

IDC 15 22:09:36.5±7.2, 2776S×17927W, h476km±92km, mb3.2/5, mb1 3.5/6, mb1mx3.3/12, mbtmp3.3/6, Error ellipse: s-maj=66.1km s-min=29.1km az=9.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**10.90**	**195**	P	P	22 12 03.4	+0.2
	5.7nm,0.3s,baz=323,slow=1.3,SNR=24						
URZ				S	S	22 14 02.4	-1.7
	3.0nm,0.3s,baz=66,slow=22,SNR=15						
CTA	**Charters Tower**	**32.35**	**276**	P	P	22 15 25.7	+0.1
	1.9nm,0.4s,baz=88,slow=11,SNR=3.7						
STKA	**Stephens Creek**	**34.08**	**253**	P	P	22 15 40.9	+0.7
	0.9nm,0.9s,baz=85,slow=12,SNR=3.3						
ASAR	**Alice Springs**	**42.20**	**265**	P	P	22 16 46.5	-0.1
	1.0nm,0.5s,baz=90,slow=6.9,SNR=18						
WRA	**Warramunga Arr**	**42.94**	**270**	P	P	22 16 52.0	-0.5
	2.1nm,0.5s,baz=108,slow=7.5,SNR=23						
TXAR	**Lajitas Array**	**91.91**	**58**	P	P	22 21 53.6	+0.2
	0.2nm,0.5s,baz=236,slow=6.4,SNR=3.7						

*ISCJB **15** 22:12:44.3±1.3, 2175S±007×684W±0.1, h99km±15km, mb4.0/5, Error ellipse: s-maj=18.0km s-min=9.4km az=150.3*
*IDC **15** 22:12:45.2±3.5, 2179S×6834W, h89km±27km, mb3.7/4, mb1 3.7/8, mb1mx3.5/19, mbtmp3.6/8, Error ellipse: s-maj=42.0km s-min=20.7km az=110.0*
*NEIC **15** 22:12:48.8±1.4, 2181S×6817W, h120km±12km, mb3.9/3, Error ellipse: s-maj=19.6km s-min=10.5km az=79.0*
ISC 15 22:12:45.3±1.0, 2173S±006×684W±01, h91km±12km, n20, σ1§09/21, mb4.0/5, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**5.42**	**2**	*e*Pn	**Pn**	**22 14 10.6**	**+6.8**
LPAZ				Sn	**Sn**	**22 15 02.4**	**-2.5**
LPAZ	**La Paz**	**5.42**	**2**	P	**Pn**	**22 14 10.5**	**+6.8**
	1.0nm,0.3s,baz=187,slow=6.7,SNR=26						
ARE	**Arequipa**	**6.02**	**330**	P	**Pn**	**22 14 21.0**	**+9.1**
ARE				*e*S	**Sn**	**22 15 20.0**	**+0.5**
SIV	**San Ignacio**	**8.95**	**52**	P	**Pn**	**22 14 52.8**	**+0.9**
	4.3nm,0.3s,baz=237,slow=11,SNR=73						
SIV				S	**Sn**	**22 16 26.5**	**-4.5**
	baz=294,slow=19,SNR=4.5						
CFAA	**Coronel Fontan**	**9.83**	**179**	P	**Pn**	**22 15 01.1**	**-2.7**
	0.1nm,0.3s,baz=0.4,slow=14,SNR=11						
CPUP	**Villa Florida**	**11.07**	**117**	P	**Pn**	**22 15 21.5**	**+0.9**
	0.5nm,0.3s,baz=293,slow=13,SNR=3.3						
NNA	**Nana**	**12.64**	**319**	P	**Pn**	**22 15 42.8**	**+1.0**
TRQA	**Tornquist**	**17.17**	**163**	*e*Pn	**Pn**	**22 16 40.1**	**+0.6**
	3.8nm,0.5s						
PLCA	**Paso Flores**	**19.03**	**185**	*e*P	**Pn**	**22 17 00.1**	**-1.7**
	1.8nm,0.5s						
PLCA	**Paso Flores**	**19.03**	**185**	P	**Pn**	**22 17 00.3**	**-1.5**
	0.2nm,0.3s,baz=337,slow=12,SNR=5.1						
JTS	**JuntasAbangare**	**35.75**	**331**	*e*P	**P**	**22 19 36.3**	**+0.6**
	4.3nm,0.7s,mb4.5						
VNA2	**Neumayer--Watz**	**60.26**	**161**	*e*	**P**	**22 22 44.3**	**+0.6**
	baz=307,slow=7.9						
VNA2				*e*		22 22 46.4	
VNA2				*e*		22 22 53.2	
SNAA	**Sanae**	**61.89**	**161**	*e*	**P**	**22 22 54.4**	**-0.3**
SNAA				*e*		22 22 56.1	
SNAA	**Sanae**	**61.89**	**161**	P	**P**	**22 22 54.9**	**+0.2**
	0.7nm,0.6s,mb3.9,baz=274,slow=5.9,SNR=11						
DBIC	**Dimbokro**	**68.31**	**73**	P	**P**	**22 23 36.9**	**-0.4**
	2.5nm,0.8s,mb4.1,baz=204,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**76.95**	**70**	P	**P**	**22 24 27.8**	**-0.6**
	0.9nm,0.4s,mb3.9,baz=256,slow=5.6,SNR=64						
YKA	**Yellowknife Ar**	**91.58**	**340**	P	**P**	**22 25 41.5**	**0.0**
YKA	**Yellowknife Ar**	**91.58**	**340**	P	**P**	**22 25 41.5**	**0.0**
	0.3nm,0.5s,mb3.8,baz=133,slow=4.8,SNR=8.0						
ZALV	**Zalesovo Beam**	**141.94**	**26**	PKP	PKPdf	22 32 07.1	+0.8
	0.5nm,0.5s,baz=298,slow=3.1,SNR=3.0						
MKAR	**Makanchi Array**	**145.52**	**37**	PKPbc	PKPbc	22 32 13.9	+0.8
	0.1nm,0.3s,baz=328,slow=2.7,SNR=2.7						

*ISCJB **15** 22:33:49.2±1.3, 3514N±007×229E±02, h33km, Error ellipse: s-maj=28.3km s-min=9.3km az=170.3*
*HLW **15** 22:33:51.5, 3514N×2317E, h16km, Mb2.9*
*CSEM **15** 22:33:53.5±0.1, 3479N×2327E, h20km, ML2.9, Error ellipse: s-maj=3.6km s-min=2.0km az=16.0*
*ATH **15** 22:33:53.9, 3560N×2337E, h33km, MD3.0/4*
ISC 15 22:33:51.3±1.1, 3521N±008×231E±02, h35km, n8, σ1§15/9, 4C, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.87**	**115**	*e*PN	**Pn**	**22 34 12.0**	**+5.0**
VAM	**Vamos**	**0.90**	**77**	*e*PN	**Pn**	**22 34 08.5**	**+1.1**
KYTH	**Kithira**	**1.07**	**356**	*e*PN	**Pn**	**22 34 08.0**	**-1.8**
VLI	**Veliai**	**1.51**	**354**	*e*PN	**Pn**	**22 34 16.5**	**+0.6**
SLUM		**4.10**	**154**	⇑P	**Pn**	**22 34 52.7**	**+1.2**
HMAT	**Matruh**	**5.28**	**140**	⇑P	**Pn**	**22 35 08.1**	**+0.3**
HMAT				S	**Sn**	**22 36 05.1**	**-2.3**
SWA2		**6.27**	**161**	⇑P	**Pn**	**22 35 21.3**	**0.0**
SWA1		**6.32**	**159**	⇑P	**Pn**	**22 35 22.0**	**0.0**

*CSEM **15** 22:37:38.7±0.1, 3514N×2289E, h12km, MD3.2, Error ellipse: s-maj=3.4km s-min=2.0km az=67.0*
*ISCJB **15** 22:37:41.2±0.6, 3524N±005×2303E±009, h75km±11km, Error ellipse: s-maj=13.9km s-min=5.6km az=149.4*
*ATH **15** 22:37:42.8, 3543N×2321E, h83km±1km*
*HLW **15** 22:37:42.1, 3518N×2319E, h15km, Mb3.4*
*THE **15** 22:37:43.0, 3532N×2303E, h23km, ML3.5*
*NEIC **15** 22:37:44.8, 3553N×2335E, h44km, MD3.2(ATH), After ATH.*
ISC 15 22:37:42.3±1.1, 3523N±004×2298E±006, h32km±11km, n27, σ0§70/32, 4C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARN	**Karanos**	**0.78**	**77**	*e*Pg	**Pn**	**22 37 56.8**	**-0.2**
KARN				*e*Sg	**Sn**	22 38 07.3	-0.4
GVD	**Gavdhos**	**0.99**	**113**	*e*Pg	**Pb**	**22 38 00.4**	**-0.5**
GVD				*e*Sg	**Sb**	22 38 14.2	+0.6
GVD	**Gavdhos**	**0.99**	**113**	*e*P	**Pn**	**22 38 02.3**	**+2.5**
VAM	**Vamos**	**1.01**	**80**	*e*P	**Pn**	**22 38 00.2**	**+0.1**
VAM				*e*S	**Sn**	22 38 14.0	+0.8
KYTH	**Kithira**	**1.05**	**2**	*e*P	**Pn**	**22 38 01.0**	**+0.3**
KYTH				*e*S	**Sn**	22 38 14.5	+0.3
VLI	**Veliai**	**1.48**	**359**	*e*P	**Pn**	**22 38 06.6**	**-0.1**
SIVA	**Sivas**	**1.51**	**98**	*e*Pg	**Pn**	**22 38 07.6**	**+0.5**
PYL	**PYLOS**	**1.94**	**329**	*e*Pb	**Pn**	**22 38 12.5**	**-0.5**
LAST	**Lasithi**	**2.04**	**91**	*e*Pn	**Pn**	**22 38 15.7**	**+1.3**
NPS	**Neapolis**	**2.15**	**88**	*e*P	**Pn**	**22 38 15.0**	**-0.9**
DID	**Didima**	**2.28**	**5**	*e*Pn	**Pn**	**22 38 17.8**	**+0.2**
SANT	**Santorini**	**2.31**	**60**	*e*Pn	**Pn**	**22 38 17.0**	**-1.1**
APE	**Apeiranthos**	**2.76**	**48**	*e*P	**Pn**	**22 38 23.1**	**-1.1**
LTK	**Loutraki**	**2.79**	**360**	*e*Pn	**Pn**	**22 38 25.3**	**+0.7**
SELA	**Sela**	**3.16**	**344**	*e*Pn	**Pn**	**22 38 30.1**	**+0.4**
LKR	**Lokris**	**3.41**	**0**	*e*Pn	**Pn**	**22 38 33.2**	**0.0**
LKR	**Lokris**	**3.41**	**0**	*e*P	**Pn**	**22 38 33.1**	**-0.1**
KARP	**Karpathos**	**3.43**	**84**	*e*P	**Pn**	**22 38 32.8**	**-0.6**
KARP	**Karpathos**	**3.43**	**84**	*e*P	**Pn**	**22 38 32.1**	**-1.3**
EVR	**Evrytania**	**3.80**	**346**	*e*P	**Pn**	**22 38 39.1**	**+0.6**
NEO	**Neokhori**	**4.07**	**3**	*e*P	**Pn**	**22 38 42.0**	**-0.3**
SLUM		**4.17**	**153**	⇑P	**Pn**	**22 38 43.4**	**-0.2**
ARG	**Arkhangelos**	**4.30**	**75**	*e*P	**Pn**	**22 38 44.8**	**-0.6**
HMAT	**Matruh**	**5.38**	**139**	⇑P	**Pn**	**22 38 59.8**	**-0.4**
HMAT				S	**Sn**	**22 39 56.2**	**-4.8**
SWA2		**6.33**	**160**	⇓P	**Pn**	**22 39 13.2**	**-0.1**
SWA1		**6.38**	**158**	⇑P	**Pn**	**22 39 14.3**	**+0.3**
HFRF	**Wahat Farafira**	**9.26**	**149**	⇑P	**Pn**	**22 39 53.0**	**-0.4**

IDC 15 22:46:42.2±4.0, 521S×14884E, h0km, mb3.9/2, mb1 4.3/2, mb1mx3.7/12, mbtmp4.0/2, Error ellipse: s-maj=152.5km s-min=46.5km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**20.33**	**223**	*e*P	P	22 51 19.8	-0.4
WRA	**Warramunga Arr**	**20.34**	**223**	P	P	22 51 20.0	-0.3
	4.0nm,0.3s,baz=48,slow=11,SNR=70						
ASAR	**Alice Springs**	**23.32**	**217**	P	P	22 51 52.4	+0.1
	2.0nm,0.5s,baz=49,slow=8.7,SNR=24						
TORD	**Torodi Ar. Bea**	**146.66**	**286**	PKPbc	PKPbc	23 06 26.3	-0.7
	0.3nm,0.5s,baz=75,slow=2.7,SNR=7.3						

IDC 15 22:49:43.7±5.2, 785S×12855E, h198km±54km, mb3.1/1, mb1 3.0/4, mb1mx2.9/13, mbtmp2.8/4, MS3.0/1, Ms1 3.0/1, ms1mx2.7/8, Error ellipse: s-maj=56.3km s-min=21.7km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.37**	**244**	P	Pn	22 51 03.2	+0.5
	39nm,0.3s,baz=88,slow=2.5,SNR=28						
BATI				S	Sn	22 52 05.3	+0.2
	8.4nm,0.3s,baz=43,slow=2.5,SNR=7.0						
BATI				LR	LR	22 53 37.1	
	comp=Z,142nm,19.4s,baz=28,slow=44						
FITZ	**Fitzroy Crossi**	**10.58**	**195**	*e*P	Pn	22 52 09.5	-0.9
	3.9nm,0.6s						
FITZ				*e*S	Sn	22 54 05.4	-3.1
FITZ	**Fitzroy Crossi**	**10.58**	**195**	P	Pn	22 52 09.7	-0.7
	0.4nm,0.3s,baz=19,slow=12,SNR=15						
FITZ				S	Sn	22 54 04.5	-4.0
	0.3nm,0.3s,baz=108,slow=19,SNR=3.6						
WRA	**Warramunga Arr**	**13.27**	**156**	P	Pn	22 52 44.8	+0.3
	0.1nm,0.3s,baz=335,slow=13,SNR=3.3						
WRA				S	Sn	22 55 04.9	-7.8
	0.6nm,0.3s,baz=333,slow=21,SNR=8.2						
ASAR	**Alice Springs**	**16.54**	**163**	P	Pn	22 53 25.3	+0.7
	baz=337,slow=9.2,SNR=3.3						
ASAR				S	S	22 56 25.1	-1.5
	0.2nm,0.3s,baz=348,slow=26,SNR=4.2						
MKAR	**Makanchi Array**	**68.16**	**328**	P	P	23 00 22.4	0.0
	0.2nm,0.3s,baz=123,slow=6.9,SNR=3.6						

IDC 15 22:51:11.7±1.4, 5036S×13070E, h0km, mb4.0/5, mb1 4.1/5, mb1mx4.0/11, mbtmp4.0/5, MS3.6/5, Ms1 3.6/5, ms1mx3.4/18, Error ellipse: s-maj=111.0km s-min=19.0km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**20.17**	**28**	P	P	22 55 49.0	+1.5
	3.4nm,0.8s,baz=195,slow=10,SNR=5.3						
STKA				LR	LR	23 02 20.0	
	comp=Z,217nm,18.6s,baz=204,slow=33						
ASAR	**Alice Springs**	**26.77**	**7**	P	P	22 56 53.1	0.0
	3.2nm,0.8s,baz=180,slow=8.9,SNR=22						
WRA	**Warramunga Arr**	**30.49**	**7**	P	P	22 57 25.6	-0.7
	1.3nm,0.8s,baz=190,slow=7.3,SNR=6.5						
WRA				LR	LR	23 08 42.4	
	comp=Z,150nm,19.4s,baz=180,slow=34						
FITZ	**Fitzroy Crossi**	**32.44**	**351**	LR	LR	23 09 32.9	
	comp=Z,70nm,18.5s,baz=268,slow=34						
MAW	**Mawson**	**36.68**	**216**	P	P	22 58 20.4	+0.7
	1.4nm,0.6s,baz=135,slow=7.1,SNR=3.2						
SNAA	**Sanae**	**53.92**	**196**	P	P	23 00 35.6	-0.6
	1.8nm,0.9s,baz=146,slow=9.5,SNR=9.7						
PPT	**Papeete**	**70.16**	**94**	LR	LR	23 28 43.5	
	comp=Z,9.2nm,18.6s,baz=240,slow=32						
BOSA	**Boshof**	**77.53**	**240**	LR	LR	23 30 37.6	
	comp=Z,145nm,18.4s,baz=135,slow=30						

*CASC **15** 23:03:49.8±2.3, 1112N×8702W, h35km±19km, MD4.2, mb4.4(NEIC)*
*ISCJB **15** 23:03:51.8±0.9, 1123N±006×8675W±009, h62km±6km, mb4.3/24, Error ellipse: s-maj=16.9km s-min=5.0km az=145.5*
*NEIC **15** 23:03:55.9±1.6, 1144N×8663W, h76km±12km, mb4.4/18, Error ellipse: s-maj=18.4km s-min=8.3km az=218.0*
*BJI **15** 23:03:55.9, 1140N×8660W, h75km, mB4.8, Ms5.2, Msz4.9*
*IDC **15** 23:03:57.0±4.4, 1165N×8646W, h75km±37km, mb3.8/8, mb1 4.0/10, mb1mx3.7/23, mbtmp3.9/10, ML3.4/1, MS3.3/4, Ms1 3.3/4, ms1mx2.9/28, Error ellipse: s-maj=40.3km s-min=16.3km az=41.0*
ISC 15 23:03:52.8±0.9, 1126N±006×8673W±009, h53km±7km, n86, σ1§13/72, mb4.3/24, MS4.2/2, 9C-5D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CRUN	**El Crucero**	**0.84**	**30**	⇓*e*P	**Pn**	**23 04 09.3**	**+0.8**
SSNN	**San Juan del S**	**0.86**	**88**	⇓*i*P	**Pn**	**23 04 09.2**	**+0.3**
APON	**Apoyo**	**0.92**	**44**	⇑*e*P	**Pn**	**23 04 10.2**	**+0.6**
COPN	**Copaltepe**	**0.93**	**8**	⇓*i*P	**Pn**	**23 04 09.7**	**-0.1**
CSAN		**0.97**	**18**	⇓*i*P	**Pn**	**23 04 10.2**	**-0.1**
TISN	**Laguna Tiscapa**	**0.99**	**27**	⇓*e*P	**Pn**	**23 04 11.1**	**+0.6**
MGAN	**Managua**	**1.00**	**28**	⇑*i*P	**Pn**	**23 04 11.3**	**+0.5**
CONN	**Concepcion**	**1.12**	**74**	⇑*e*P	**Pn**	**23 04 12.6**	**+0.3**
MOMJ	**Momotombo**	**1.16**	**9**	⇑*e*P	**Pn**	**23 04 12.6**	**-0.3**
MADN	**Villa Maderas**	**1.18**	**82**	⇑*e*P	**Pn**	**23 04 13.4**	**+0.3**
HUEN		**1.21**	**27**

1.6nm,0.6s,mb4.0
BINY Binghamton 32.23 15 *e*P **P 23 10 15.8 -0.2**
14nm,0.8s,mb4.8
ECSD EROS,Sioux Fal 33.47 347 *e*P **P 23 10 25.4 -1.5**
6.4nm,0.8s,mb4.6
SADO Sadowa 34.03 10 P **P 23 10 30.7 -1.0**
baz=223,slow=11
COWI Conover 34.79 357 *e*P **P 23 10 36.8 -1.4**
DAU Daniels Canyon 36.23 328 *e*P **P 23 10 52.0 +1.3**
HWUT Hardware Ranch 37.26 329 *e*P **P 23 11 00.0 +0.6**
5.5nm,0.8s,mb4.4
SPUT South Promonto 37.50 328 *e*P **P 23 11 01.3 -0.2**
AGMN Agassiz Refuge 37.71 350 *e*P **P 23 11 01.8 -1.3**
HVU Hansel Valley 38.01 328 *e*P **P 23 11 07.8 +2.0**
REDW Red Top Meadow 38.22 331 *e*P **P 23 11 07.8 +0.3**
6.9nm,0.6s,mb4.6
TPAW Teton Pass 38.36 331 *e*P **P 23 11 09.3 +0.6**
4.6nm,0.6s,mb4.4
MOOW Moose Ponds 38.46 332 *e*P **P 23 11 10.0 +0.4**
FLWY Flagg Ranch 38.70 332 *e*P **P 23 11 10.3 -1.2**
NVAR Mina Array Bea 39.06 319 P **P 23 11 16.3 +1.6**
NVAR PcP PcP 23 13 26.2 +2.3
NVAR Mina Array Bea 39.06 319 P **P 23 11 16.3 +1.6**
1.2nm,0.7s,mb3.7,baz=137,slow=6.9,SNR=9.0
NVAR PcP PcP 23 13 26.2 +2.3
2.5nm,0.7s,baz=140,slow=4.0,SNR=14
ULM Lac du Bonnet 39.60 351 P **P 23 11 16.3 -2.7**
5.3nm,0.6s,mb4.4,baz=170,slow=9.4,SNR=6.0
MCMT McKenzie Canyo 40.27 331 *e*P **P 23 11 25.8 +1.2**
BOZ Bozeman (W) 40.33 333 *e*P **P 23 11 24.8 -0.2**
1.5nm,0.6s,mb3.9
WVOR Wild Horse Val 41.68 324 *e*P **P 23 11 36.6 +0.3**
2.8nm,0.8s,mb3.9
MOD Modoc 42.34 322 *e*P **P 23 11 37.8 -3.8**
BMO Blue Mountains 42.52 328 *e*P **P 23 11 42.6 -0.4**
30nm,2.7s,mb4.5
SCHQ Schefferville 46.22 16 P **P 23 12 10.7 -1.8**
2.3nm,0.4s,mb4.4,baz=206,slow=9.0,SNR=5.1
SCHQ LR LR 23 33 26.4
comp=Z,64nm,19.8s,MS3.6,baz=231,slow=39
BDFB Brasilia 46.72 124 P **P 23 12 17.3 +0.4**
2.0nm,0.6s,mb4.2,baz=281,slow=17,SNR=7.5
FCC Fort Churchill 47.74 355 *e*P **P 23 12 22.5 -1.7**
1.8nm,0.4s,mb4.5
YKA Yellowknife Ar 54.94 345 P **P 23 13 16.6 -1.4**
YKA PcP PcP 23 14 19.4 0.0
YKA Yellowknife Ar 54.94 345 P **P 23 13 16.6 -1.5**
0.4nm,0.4s,mb3.8,baz=136,slow=7.6,SNR=13
YKA PcP PcP 23 14 19.4 0.0
0.6nm,0.5s,baz=138,slow=3.9,SNR=9.3
CN2 Changchun 117.87 334 *e*PKP PKPdf 23 22 28.0 -5.7
KSRS Korea Array 121.66 328 PKP PKPdf 23 22 43.2 +2.0
2.1nm,0.6s,baz=6.3,slow=2.0,SNR=6.7
WMQ Urumqi 124.96 5 *e*PKP PKPdf 23 22 49.0 +1.7
HHC Hu-ho-hao-te 125.47 343 *e*PKP PKPdf 23 22 49.8 +1.4
HHC PP PP 23 24 44.0 +5.6
HHC PKS 23 26 25.1
HHC SKS SKSdf 23 29 56.1 +0.1
HHC SKKS SKKSac 23 31 32.3 -1.1
HHC PP PP
comp=Z,110nm,8.3s
HHC LR LR
comp=N,182nm,22.7s,MS4.8
HHC LR LR
comp=E,184nm,22.0s,MS4.8
HHC LR LR
comp=Z,148nm,22.2s,MS4.6
NJ2 Nanjing 130.47 331 *e*PKP PKPdf 23 23 01.5 +3.3
CD2 Chengdu 136.88 347 *e*PKP PKPdf 23 23 07.8 -2.5
ASAR Alice Springs 139.47 247 PKP PKPdf 23 23 16.3 +1.2
comp=Z,0.7nm,0.7s,baz=105,slow=3.1,SNR=5.2
WRA Warramunga Arr 139.60 252 PKhKP 23 23 14.3
comp=Z,0.5nm,0.7s,baz=89,slow=2.8,SNR=3.9

*MOS **15** 23:20:08.8±1.8, 5570N×110.15E, h1km, mb4.3/1, Error ellipse: s-maj=21.2km s-min=10.6km az=51.7*
BYKL 15 23:20:09.0±0.3, 5571N×11014E, h5km±5km, 7C, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
NIZ	**Nizh Angarsk**	**0.34**	**281**	*e*PG		Pg	23 20 15.9	+0.3
NIZ				*e*			23 20 19.9	
NIZ				pmax		pmax		
comp=Z,161nm,0.3s								
NIZ				smax				
comp=N,2μm,0.3s								
NIZ	**Nizh Angarsk**	**0.34**	**281**	⇑*i*Pg		Pg	23 20 16.0	+0.4
NIZ				*e*			23 20 19.9	
NIZ				*e*Sg		Sg	23 20 21.7	+1.6
NIZ				Pmax				
comp=N,158nm,0.3s								
NIZ				Smax				
comp=N,2μm,0.2s								
KMO	**Kumora**	**0.62**	**73**	*e*PG		Pg	23 20 20.2	-0.8
KMO				*e*			23 20 27.7	
KMO				pmax		pmax		
comp=Z,275nm,0.3s								
KMO				smax				
comp=E,746nm,1.1s								
KMO	**Kumora**	**0.62**	**73**	⇑*i*Pg		Pg	23 20 20.2	-0.8
KMO				*e*Sg		Sg	23 20 28.6	-0.5
KMO				Pmax				
comp=E,276nm,0.3s								
KMO				Smax				
comp=E,808nm,1.6s								
YOA	**Uoyan**	**0.99**	**64**	*e*PG		Pg	23 20 25.9	-2.0
YOA				*e*			23 20 38.1	
YOA				pmax		pmax		
comp=Z,190nm,0.3s								
YOA				smax				
comp=N,598nm,0.6s								
YOA	**Uoyan**	**0.99**	**64**	*e*Pg		Pg	23 20 27.2	-0.7
YOA				*e*Sg		Sg	23 20 40.5	-0.2
YOA				Pmax				
comp=N,174nm,0.4s								
YOA				Smax				
comp=N,797nm,0.9s								
SVKR	**Severomuysk**	**1.97**	**77**	*e*Pg		Pg	23 20 44.3	-2.4
SVKR				*e*Sg		Sg	23 21 10.9	-1.2
SVKR				Pmax				
comp=N,31nm,1.2s								
SVKR				Smax				
comp=N,87nm,1.0s								
SYVR	**Suvo**	**2.06**	**182**	*e*PN		Pn	23 20 45.9	+1.7
SYVR				*e*			23 21 14.1	
SYVR				pmax		pmax		
comp=Z,59nm,0.4s								
SYVR				smax				
comp=E,524nm,0.7s								
SYVR	**Suvo**	**2.06**	**182**	⇑*i*Pg		Pg	23 20 45.8	-2.6
SYVR				⇑*i*			23 20 47.5	
SYVR				*e*Sg		Sg	23 21 13.8	-1.2
SYVR				max				
comp=E,58nm,0.4s								
SYVR				Smax				
comp=E,512nm,0.7s								
OGRR	**Ongureny**	**2.54**	**217**	*e*PN		Pn	23 20 52.1	+1.2
OGRR				*e*			23 20 55.6	
OGRR				*e*S		Sn	23 21 23.7	+1.5
OGRR				*e*			23 21 27.2	
OGRR				pmax		pmax		
comp=Z,37nm,0.5s								
OGRR				smax				
comp=E,173nm,0.4s								
OGRR	**Ongureny**	**2.54**	**217**	*e*Pn		Pn	23 20 51.8	+0.9
OGRR				*e*Pg		Pg	23 20 53.3	-4.4
OGRR				*e*			23 20 56.2	
OGRR				*e*Sn		Sn	23 21 22.7	+0.5
OGRR				*e*Sg		Sg	23 21 27.6	-3.0
OGRR				max				
comp=E,36nm,0.5s								
OGRR				Smax				
comp=E,164nm,0.4s								
MXMB	**Maximikha**	**2.58**	**199**	*e*Pn		Pn	23 20 51.2	-0.2
MXMB				*e*Pg		Pg	23 20 55.5	-3.0
MXMB				*i*Sg		Sg	23 21 30.0	-1.9
MXMB				Pmax				
comp=E,26nm,0.7s								
MXMB				Smax				
comp=E,341nm,0.7s								
BOD	**Bodaibo**	**3.00**	**44**	⇑*i*Pn		Pn	23 20 58.2	+1.1
BOD				*e*Pg		Pg	23 21 00.7	-5.7
BOD				*e*Sn		Sn	23 21 34.8	+1.4
BOD				*e*Sg		Sg	23 21 40.7	-4.5
BOD				Pmax				
comp=E,11nm,0.5s								
BOD				Smax				
comp=E,80nm,0.8s								
TRG	**Tyrgan**	**3.70**	**219**	*e*Pn		Pn	23 21 07.7	+1.0
TRG				*e*Sn		Sn	23 21 51.6	+1.0
TRG				*e*Sg		Sg	23 22 03.2	-4.5
TRG				max				
comp=E,28nm,0.3s								
TRG				Smax				
comp=E,102nm,0.6s								
UUDB	**Ulan-Yde**	**4.12**	**202**	*e*Sg		Sg	23 22 15.2	-6.0
UUDB				Smax				
comp=E,64nm,1.1s								
CRS	**Chara**	**4.68**	**72**	*e*PN		Pn	23 21 33.5	+13
CRS				*e*			23 22 34.0	
CRS				pmax		pmax		
comp=Z,70nm,0.9s								
CRS				smax				
comp=E,56nm,1.2s								
CRS	**Chara**	**4.68**	**72**	Pn		Pn	23 21 20.5	+0.3
CRS				*e*Pg		Pg	23 21 33.7	-4.9
CRS				*e*			23 21 45.4	
CRS				*i*Sg		Sg	23 22 34.8	-4.4
CRS				Pmax				
comp=E,70nm,1.0s								
CRS				Smax				
comp=E,58nm,1.3s								
LSTR	**Listvyanka**	**4.97**	**221**	*e*Sn		Sn	23 22 20.6	-1.4
LSTR				*e*Sg		Sg	23 22 41.9	-6.6
LSTR				Smax				
comp=E,67nm,1.0s								
TLY	**Talaya**	**5.58**	**226**	*e*PN		Pn	23 21 32.1	-0.5
TLY				*e*			23 21 48.3	
TLY				*e*S		Sn	23 22 34.3	-2.8
TLY				*e*			23 22 59.0	
TLY				pmax		pmax		
comp=Z,5.0nm,0.6s								
TLY				smax				
comp=E,39nm,0.8s								
TLY	**Talaya**	**5.58**	**226**	*e*Sn		Sn	23 22 35.0	-2.1
TLY				*e*Sg		Sg	23 23 00.9	-7.2
TLY				Smax				
comp=E,38nm,1.3s								
TUP	**Tupik**	**5.79**	**99**	*e*PN		Pn	23 21 34.7	-0.7
TUP				*e*			23 21 52.5	
TUP				*e*S		Sn	23 22 39.6	-2.4
TUP				*e*			23 23 07.7	
TUP				pmax		pmax		
comp=Z,13nm,0.8s								
TUP				smax				
comp=N,65nm,1.0s								
TUP	**Tupik**	**5.79**	**99**	*e*Pn		Pn	23 21 35.0	-0.4
TUP				*e*Pg		Pg	23 21 51.8	-7.9
TUP				*e*Sn		Sn	23 22 38.8	-3.2
TUP				*e*Sg		Sg	23 23 07.8	-6.8
TUP				Pmax				
comp=N,6.0nm,0.9s								
TUP				Smax				
comp=N,65nm,1.0s								
ARS	**Arshan**	**5.94**	**233**	*e*PN		Pn	23 21 37.8	+0.3
ARS				*e*S		Sn	23 23 14.2	+28
ARS				smax				
comp=N,208nm,0.5s								
ARS	**Arshan**	**5.94**	**233**	*e*Pn		Pn	23 21 36.8	-0.7
ARS				*e*Sn		Sn	23 22 42.2	-3.6
ARS				*e*Sg		Sg	23 23 12.6	-7.0
ARS				max				
comp=N,12nm,0.5s								
ARS				Smax				
comp=N,209nm,0.4s								
KPC	**Khapcheranga**	**6.17**	**166**	*e*Pn		Pn	23 21 41.1	+0.5
KPC				*e*Pg		Pg	23 22 00.3	-6.8
KPC				*e*Sn		Sn	23 22 50.5	-1.0
KPC				*e*Sg		Sg	23 23 19.7	-7.2
KPC				Pmax				
comp=N,1.0nm,0.6s								
KPC				Smax				
comp=N,38nm,1.3s								
ZAK	**Zakamensk**	**6.75**	**221**	*e*PN		Pn	23 21 50.0	+1.4
ZAK				*e*			23 22 08.8	
ZAK				*e*S		Sn	23 23 03.2	-2.6
ZAK				*e*			23 23 36.2	
ZAK				pmax		pmax		
comp=Z,4.0nm,0.4s								
ZAK				smax				
comp=E,33nm,1.1s								
MOY	**Mondy**	**6.77**	**237**	⇑*i*PN		Pn	23 21 51.0	+2.1
MOY				*e*			23 22 11.5	
MOY				*e*S		Sn	23 23 05.1	-1.3
MOY				*e*			23 23 37.5	
MOY				pmax		pmax		
comp=Z,6.0nm,0.4s								
MOY				smax				
comp=E,60nm,1.2s								
MOY	**Mondy**	**6.77**	**237**	*e*Pn		Pn	23 21 50.6	+1.7
MOY				*e*Sn		Sn	23 23 05.2	-1.2
MOY				*e*Sg		Sg	23 23 37.5	-8.8
MOY				max				
comp=E,20nm,1.0s								
MOY				Smax				
comp=E,60nm,1.3s								
ORL	**Orlik**	**6.85**	**247**	*e*PN		Pn	23 21 51.3	+1.3
ORL				*e*			23 22 12.9	
ORL				*e*S		Sn	23 23 07.5	-0.8
ORL				*e*			23 23 40.5	
ORL				pmax		pmax		
comp=Z,6.0nm,0.8s								
ORL				smax				
comp=N,90nm,0.9s								
ORL	**Orlik**	**6.85**	**247**	⇑*i*Pn		Pn	23 21 51.5	+1.5
ORL				*e*Sn		Sn	23 23 08.1	-0.2
ORL				*e*Sg		Sg	23 23 40.6	-8.2
ORL				max				
comp=N,4.0nm,0.6s								
ORL				Smax				
comp=N,97nm,1.4s								

*IDC **15** 23:23:10.8±0.9, 2590N×9550E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/22, mbtmp3.8/8, Error ellipse: s-maj=46.9km s-min=17.1km az=58.0*
*ISCJB **15** 23:23:21.9±1.0, 2629N±007×9592E±007, h107km±11km, mb3.9/14, Error ellipse: s-maj=14.2km s-min=7.3km az=40.5*
*NEIC **15** 23:23:24.9±1.1, 2618N×9582E, h114km±11km, mb4.3/8, Error ellipse: s-maj=23.1km s-min=6.8km az=56.0*
*BJI **15** 23:23:24.1, 2671N×9625E, h114km, mB4.8, mb4.3*
ISC 15 23:23:22.9±0.8, 2634N±006×9596E±007, h94km±9km, n43, σ1§17/47, mb3.9/14, 1D, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.40**	**230**	*e*P		**Pn**	**23 24 02.0**	**+1.6**
IMP				*e*S		**Sn**	**23 24 31.0**	**+1.8**
SHL	**Shillong**	**3.75**	**259**	⇓*i*P		**Pn**	**23 24 20.5**	**+1.9**
SHL				*i*S		**Sn**	**23 25 01.5**	**-0.2**
LSA	**Lhasa**	**5.41**	**309**	P		**Pn**	**23 24 42.8**	**+1.7**
LSA				S		**Sn**	**23 25 42.1**	**0.0**
LSA				Smax				
comp=N,50nm,0.7s								
LSA				Smax				
comp=E,110nm,1.0s								
LSA	**Lhasa**	**5.41**	**309**	*e*Pn		**Pn**	**23 24 42.5**	**+1.4**
comp=E,58nm,0.3s								
LSA				Sn		**Sn**	**23 25 29.4**	**-13**
KMI	**Kunming**	**6.23**	**100**	P		**Pn**	**23 24 51.4**	**-0.9**
KMI				AP			23 24 56.8	
KMI				AMB		AMB		
comp=Z,13nm,1.0s								
CHTO	**Chiang Mai**	**7.98**	**159**	*e*Pn		**Pn**	**23 25 17.9**	**+1.8**
comp=Z,5.1nm,0.8s								
JIRN	**Jiri**	**8.81**	**281**	*e*P		**Pn**	**23 25 26.7**	**-0.7**
JIRN	**Jiri**	**8.81**	**281**	*e*P		**Pn**	**23 25 26.7**	**-0.7**
comp=Z,207nm,0.4s								
GUN	**Gumba**	**9.12**	**282**	*e*P		**Pn**	**23 25 30.8**	**-0.8**
comp=Z,109nm,0.5s								
GUN	**Gumba**	**9.12**	**282**	*e*P		**Pn**	**23 25 30.9**	**-0.7**
comp=Z,72nm,0.4s								
PKI	**Pulchoki**	**9.49**	**280**	*e*P		**Pn**	**23 25 35.3**	**-1.4**
comp=Z,114nm,0.5s								
PKI	**Pulchoki**	**9.49**	**280**	*e*P		**Pn**	**23 25 35.4**	**-1.3**
comp=Z,114nm,0.5s								
KKN	**Kakani**	**9.63**	**281**	*e*P		**Pn**	**23 25 37.3**	**-1.2**
comp=Z,215nm,0.7s								
KKN	**Kakani**	**9.63**	**281**	*e*P		**Pn**	**23 25 37.3**	**-1.2**
comp=Z,211nm,0.7s								
DMN	**Daman**	**9.77**	**280**	*e*P		**Pn**	**23 25 39.1**	**-1.3**
comp=Z,64nm,0.4s								
DMN	**Daman**	**9.77**	**280**	*e*P		**Pn**	**23 25 39.0**	**-1.4**
comp=Z,64nm,0.4s								
GKN	**Gorkha**	**10.22**	**282**	*e*P		**Pn**	**23 25 44.6**	**-2.0**
comp=Z,106nm,0.4s								
GKN	**Gorkha**	**10.22**	**282**	*e*P		**Pn**	**23 25 44.5**	**-2.1**
comp=Z,106nm,0.4s								
DANN	**Dangsing**	**11.03**	**283**	*e*P		**Pn**	**23 25 53.8**	**-3.8**
comp=Z,64nm,0.5s								
DANN	**Dangsing**	**11.03**	**283**	*e*P		**Pn**	**23 25 53.9**	**-3.7**
comp=Z,64nm,0.5s								
KOLN	**Koldanda**	**11.11**	**280**	*e*P		**Pn**	**23 25 55.7**	**-3.0**
comp=Z,92nm,0.7s								
KOLN	**Koldanda**	**11.11**	**280**	*e*P		**Pn**	**23 25 55.7**	**-3.0**
SONM	**Songino Array**	**22.97**	**18**	P		**P**	**23 28 23.1**	**+3.8**
comp=Z,1.0nm,0.6s,mb3.3,baz=196,slow=10,SNR=3.1								
MK31	**Makanchi Array**	**23.11**	**336**	*e*P		**P**	**23 28 21.2**	**+0.5**
MKAR	**Makanchi Array**	**23.11**	**336**	P		**P**	**23 28 21.5**	**+0.9**
MKAR	**Makanchi Array**	**23.11**	**336**	P		**P**	**23 28 21.5**	**+0.9**
comp=Z,1.0nm,0.4s,mb3.5,baz=143,slow=11,SNR=10.0								
EKS2	**Erkin-Say**	**24.37**	**318**	*e*P		**P**	**23 28 33.5**	**+1.4**
comp=Z,5.6nm,0.9s,mb3.9								
KBL	**Kabul**	**24.55**	**296**	*e*P		**P**	**23 28 35.5**	**+1.6**
comp=Z,11nm,0.7s,mb4.4								
KURK	**Kurchatov**	**27.73**	**336**	*e*P		**P**	**23 29 02.8**	**+0.5**
comp=Z,0.8nm,0.5s,mb3.5								
ZALV	**Zalesovo Beam**	**28.79**	**346**	P		**P**	**23 29 12.3**	**+0.6**
comp=Z,0.2nm,0.3s,mb3.2,baz=181,slow=6.5,SNR=2.3								
BUKP	**Musuan**	**33.19**	**118**	*e*P		**P**	**23 29 51.5**	**+0.7**
MBWA	**Marble Bar**	**52.54**	**152**	P		**P**	**23 32 25.4**	**-1.3**
FITZ	**Fitzroy Crossi**	**52.75**	**144**	*e*P		**P**	**23 32 27.9**	**-0.5**
comp=Z,2.0nm,0.6s,mb4.3								
AKASG	**Malin Array Be**	**55.53**	**315**	P		**P**	**23 32 47.7**	**-0.5**
AKASG	**Malin Array Be**	**55.53**	**315**	P		**P**	**23 32 47.7**	**-0.5**
comp=Z,1.3nm,0.4s,mb4.4,baz=79,slow=6.5,SNR=8.6								
WRA	**Warramunga Arr**	**59.19**	**137**	P		**P**	**23 33 13.5**	**-0.8**
comp=Z,1.5nm,0.4s,mb4.4,baz=323,slow=7.5,SNR=24								
WRAB	**Tennant Creek**	**59.19**	**137**	*e*P		**P**	**23 33 13.8**	**-0.5**
comp=Z,1.2nm,0.3s,mb4.4								
WB2	**Warramunga Arr**	**59.20**	**137**	*e*P		**P**	**23 33 13.5**	**-0.8**
KWP	**Kalwaria**	**59.78**	**314**	*e*P		**P**	**23 33 18.4**	**+0.4**
comp=Z,5.3nm,0.5s,mb4.8								
ASAR	**Alice Springs**	**61.79**	**140**	P		**P**	**23 33 31.3**	**-0.6**
comp=Z,1.2nm,0.4s,mb4.2,baz=321,slow=6.7,SNR=24								
NB2	**NORSAR Subarra**	**64.82**	**328**	P		**P**	**23 33 51.2**	**-0.2**
comp=Z,0.5nm,0.4s,mb3.7,baz=89,slow=5.6								
NOA	**NORSAR Array B**	**64.82**	**328**	P		**P**	**23 33 51.3**	**-0.2**
comp=Z,1.0nm,0.6s,mb3.8,baz=83,slow=6.7,SNR=3.6								
GERES	**GERESS Array B**	**65.72**	**314**	P		**P**	**23 33 58.3**	**+0.8**
comp=Z,0.1nm,0.3s,mb3.1,baz=83,slow=5.5,SNR=5.0								

MAN 15 23:29:19, 947N×12589E, h1km, mb4.5, ML3.3, MS3.2, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.51**	**308**	*e*P		Pg	23 29 29.9	+1.2
SCPH				*e*S		Sg	23 29 42.0	+6.7
MSLP	**Maasin**	**1.22**	**303**	*e*P		Pg	23 29 43.1	+0.8
PLP	**Palo**	**1.91**	**332**	*e*P		Pn	23 29 49.3	-3.5
PLP				*e*S		Sn	23 30 14.1	-3.4
TBP	**Tagbilaran**	**2.02**	**277**	*e*P		Pn	23 29 55.4	+1.2
TBP				*e*S		Sn	23 30 21.9	+1.8
PAGZ	**Pagadian**	**2.96**	**237**	*e*P		Pn	23 30 09.1	+2.0
CNP	**Catarman**	**3.26**	**338**	*e*P		Pn	23 30 05.5	-5.7
PVCP	**Virac**	**4.44**	**338**	*e*P		Pn	23 30 30.1	+2.5

*NEIC **15** 23:31:00.7, 3124S×69.14W, h135km, MD3.7(GUC), After GUC.*
GUC 15 23:31:00.7±0.6, 3124S×6914W, h135km±16km, MD3.7, ML3.2, 4C-2D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.60**	**272**	⇓*i*P		Pn	23 31 30.6	+0.4
CMCH				*i*S		Sn	23 31 53.6	+0.9
CMCH	**Combarbala**	**1.60**	**272**	⇓*i*P		Pn	23 31 30.6	+0.4
CMCH				*i*S		Sn	23 31 53.6	+0.9
CMCH				AML		AML	23 31 55.7	
comp=N,2μm,0.8s								
TLL	**Tololo Astrono**	**1.79**	**306**	⇑*i*P		Pn	23 31 33.3	+0.9
TLL				*i*S		Sn	23 31 58.5	+1.9
TLL	**Tololo Astrono**	**1.79**	**306**	⇑*i*P		Pn	23 31 33.3	+0.9
TLL				*i*S		Sn	23 31 58.5	+1.9
TLL				AML		AML	23 32 05.2	
comp=N,162nm,0.8s								
OVCH	**Ovalle**	**1.88**	**289**	*i*P		Pn	23 31 33.7	+0.2
OVCH				*i*S		Sn	23 31 58.8	+0.2
OVCH	**Ovalle**	**1.88**	**289**	*i*P		Pn	23 31 33.7	+0.2
OVCH				*i*S		Sn	23 31 58.8	+0.2
OVCH				AML		AML	23 32 02.9	
comp=N,407nm,0.4s								
LSCH	**La Serena**	**2.25**	**306**	⇑*i*P		Pn	23 31 38.3	+0.4
LSCH				*i*S		Sn	23 32 06.7	+0.1
LSCH	**La Serena**	**2.25**	**306**	⇑*i*P		Pn	23 31 38.3	+0.4
LSCH				*i*S		Sn	23 32 06.7	+0.1
LSCH				AML		AML	23 32 09.6	
comp=N,58nm,0.2s								
FCH	**Farellones**	**2.30**	**205**	*e*P		Pn	23 31 40.0	+1.4
FCH				*i*S		Sn	23 32 09.3	+1.6
FCH				AML		AML	23 32 16.4	
comp=E,65nm,0.3s								
PEL	**Peldehue**	**2.31**	**214**	*e*P		Pn	23 31 39.4	+0.8
PEL				*i*S		Sn	23 32 08.5	+0.6
PEL				AML		AML	23 32 15.6	
comp=E,130nm,0.3s								
CLCH	**Cerro Calan**	**2.46**	**208**	*i*S		Sn	23 32 12.2	+1.0
CLCH				AML		AML	23 32 24.0	
comp=N,84nm,0.5s								
LCO	**Las Campanas**	**2.60**	**328**	*e*Pn		Pn	23 31 43.1	+0.7
LCO				*e*Sn		Sn	23 32 10.9	-3.5
LMEL	**Las Melosas**	**2.75**	**199**	*e*P		Pn	23 31 45.0	+0.7
LMEL				*i*S		Sn	23 32 18.7	+0.8
LMEL	**Las Melosas**	**2.75**	**199**	*e*P		Pn	23 31 45.0	+0.7
LMEL				*i*S		Sn	23 32 18.7	+0.8
LMEL				AML		AML	23 32 29.5	
comp=N,59nm,0.0s								
TACH	**Talagante**	**2.85**	**212**	*i*P		Pn	23 31 46.3	+0.8
TACH				*i*S		Sn	23 32 20.6	+0.6

*TEH **16** 00:17:59.9, 2790N×5602E, h7km, ML4.1*
*BJI **16** 00:18:56.0, 2743N×5528E, h7km, mB5.0, mb4.7*
*ISCJB **16** 00:19:06.6±0.2, 2801N±002×5614E±004, h18km, mb4.3/57, MS3.6/3, Error ellipse: s-maj=4.6km s-min=3.3km az=159.6*
*CSEM **16** 00:19:06.4±0.1, 2805N×5617E, h17km, mb4.5/29, Error ellipse: s-maj=2.7km s-min=2.0km az=50.0*
*IDC **16** 00:19:07.3±0.8, 2795N×5612E, h16km±3km, mb4.1/22, mb1 4.1/26, mb1mx4.1/31, mbtmp4.0/26, ML3.9/3, MS3.6/3, Ms1 3.6/3, ms1mx3.0/32, Error ellipse: s-maj=16.3km s-min=11.9km az=160.0*
*MOS **16** 00:19:08.8±0.8, 2798N×5610E, h37km, mb4.7/25, Error ellipse: s-maj=10.6km s-min=5.2km az=125.0*
*NEIC **16** 00:19:09.7, 2790N×5602E, h7km, mb4.4/32, ML4.1(THR), MN4.1(TEH), After TEH.*
*THR **16** 00:19:11.1±0.5, 2822N×5607E, h16km±8km, ML4.1*
*SZGRF **16** 00:19:39.7, 3139N×5521E, h33km, mb3.9, Northern and central Iran*
ISC 16 00:19:08.5±0.2, 2798N±002×5615E±003, h19km, h19km±.7km:pP-P, n217, σ1§25/219, mb4.3/57, MS3.6/3, 2C-8D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.63**	**147**	*e*Pg		**Pg**	**00 19 21.2**	**+0.2**
IBND				*e*Sg		**Sg**	**00 19 29.8**	**+0.3**
KRBR	**Kerman**	**2.06**	**15**	*e*Pn		**Pn**	**00 19 45.0**	**+2.9**
KRBR	**Kerman**	**2.06**	**15**	*e*Pg		**Pg**	**00 19 45.1**

GHIR AML AML 00 20 58.2
comp=N,782nm,0.8s
GHIR Ghir-Karzin 2.81 277 *e*Pn **Pn 00 19 55.0 +2.5**
ISRV Sarvestan 3.01 298 Pn **Pn 00 19 57.1 +1.9**
ISRV Sarvestan 3.01 298 *e*Pn **Pn 00 19 57.2 +2.0**
ISRV *e* 00 21 04.5
comp=Z,11μm,0.3s
NAZ Nazwa, Dubai 3.02 189 P **Pn 00 19 56.7 +1.4**
NAZ S **Sn 00 20 32.5 +1.6**
HATD Hatta, Dubai 3.15 180 P **Pn 00 19 58.5 +1.4**
HATD S **Sn 00 20 33.7 -0.4**
IMOK Mouk 3.21 290 *e*Pn **Pn 00 19 59.6 +1.7**
IMOK *e* 00 21 16.9
comp=Z,6μm,0.3s
IPAR Pars 3.29 305 Pn **Pn 00 20 01.2 +2.1**
IPAR Pars 3.29 305 *e*Pn **Pn 00 20 01.3 +2.2**
IPAR *e* 00 21 12.1
comp=Z,4μm,0.5s
ASUD Al Ashush, Dub 3.42 193 P **Pn 00 20 02.7 +1.8**
ASUD S **Sn 00 20 43.0 +2.0**
IBAF Bafgh 3.63 352 Pn **Pn 00 20 06.0 +2.3**
IBAF Bafgh 3.63 352 *e*Pn **Pn 00 20 06.1 +2.4**
IBAF *e* 00 21 21.8
comp=Z,3μm,0.3s
IMEH Mehriz 3.65 339 Pn **Pn 00 20 06.7 +2.7**
IMEH Mehriz 3.65 339 *e*Pn **Pn 00 20 06.8 +2.8**
IMEH *e* 00 20 22.2
comp=Z,3μm,0.2s
ZHSF Zahedan 4.37 67 *e*Pn **Pn 00 20 18.0 +4.1**
ZHSF Zahedan 4.37 67 *e*Pn **Pn 00 20 18.9 +5.0**
ICHK Chekchek 4.51 341 *e*Pn **Pn 00 20 18.2 +2.4**
ICHK *e* 00 20 43.4
comp=Z,2μm,0.3s
NASN Na'in 5.60 330 *e*Pn **Pn 00 20 33.0 +2.2**
NASN Na'in 5.60 330 *e*Pn **Pn 00 20 33.0 +2.2**
IGAR Gharneh 5.66 322 *e*Pn **Pn 00 20 35.8 +4.1**
IGAR *e* 00 20 47.6
comp=Z,1μm,0.1s
IZEF Zefreh 5.91 327 *e*Pn **Pn 00 20 37.9 +2.9**
IZEF *e* 00 20 52.0
comp=Z,464nm,0.2s
ISFB Sefidab 7.18 333 *e*Pn **Pn 00 20 54.5 +2.0**
ISFB *e* 00 21 30.6
comp=Z,244nm,0.4s
ISHM Shahmirzad 8.17 343 *e*Pn **Pn 00 21 08.4 +2.3**
ISHM *e* 00 21 12.2
comp=Z,242nm,0.2s
ASAO Ashtian 8.38 323 *e*Pn **Pn 00 21 10.9 +1.9**
DAMV Damavand 8.41 336 *e*Pn **Pn 00 21 11.9 +2.5**
IALA Alasht 8.56 341 *e*Pn **Pn 00 21 13.3 +1.9**
IALA *e* 00 21 22.8
comp=Z,311nm,0.2s
IGLO Ghaloghah 8.72 348 *e*Pn **Pn 00 21 16.6 +3.0**
IGLO *e* 00 21 31.5
comp=Z,339nm,0.4s
IPRN Peran 8.85 340 *e*Pn **Pn 00 21 18.5 +3.2**
IPRN *e* 00 21 21.6
comp=Z,669nm,0.3s
IRAZ Razeghan 9.10 326 *e*Pn **Pn 00 21 20.0 +1.2**
IRAZ *e* 00 21 46.8
comp=Z,211nm,0.2s
IKOM Komasi 9.64 312 *e*Sn **Sn 00 23 09.0 -5.1**
IGHG Ghaleghazi 10.36 310 *e*Pn **Pn 00 21 36.2 +0.1**
IGHG *e* 00 21 58.6
comp=Z,491nm,0.2s
BHD Baghdad 11.43 300 *e*x x 00 21 46.0
BHD *e*x x 00 23 57.5
BHD *e*x x 00 26 03.0
BHD *e*x x 00 26 29.5
KBL Kabul 12.81 56 Pn **Pn 00 22 13.6 +3.9**
comp=Z,8.7nm,1.0s
MSL Mosul 13.81 310 *e*x x 00 22 23.0
MSL *e*x x 00 24 56.0
GNI Garni 15.37 325 *e*Pn **Pn 00 22 44.8 +0.5**
comp=Z,11nm,1.0s
GNI Garni 15.37 325 Pn **Pn 00 22 46.5 +2.2**
baz=190,slow=12,SNR=2.0
GNI LR LR 00 29 56.6
comp=Z,59nm,20.2s,baz=332,slow=42
GNI Garni 15.37 325 *e*P **Pn 00 22 43.1 -1.2**
GNI Garni 15.37 325 *e*Pn **Pn 00 22 44.8 +0.5**
comp=Z,11nm,1.0s
MARD Mardin 15.93 310 *i*P **Pn 00 22 48.8 -2.8**
ERZM Erzurum 17.06 318 *i*P **Pn 00 23 05.1 -0.8**
ASF Jabal al Asfar 17.18 289 P **Pn 00 23 06.3 -1.2**
comp=Z,0.5nm,0.3s,baz=345,slow=12,SNR=6.2
MALT Malatya 18.04 309 *e*P **Pn 00 23 18.1 0.0**
MALT *e* 00 26 37.5
MALT pmax pmax
comp=Z,4.0nm,0.7s
MALT Malatya 18.04 309 *e*Pn **Pn 00 23 18.1 0.0**
comp=Z,3.9nm,0.7s
MALT *e*Sn **Sn 00 26 37.5 -1.3**
MALT Malatya 18.04 309 *e*P **Pn 00 23 18.1 0.0**
comp=Z,4.0nm,0.7s
MALT *e*S **Sn 00 26 37.5 -1.4**
GZT Gaziantep 18.20 306 *i*P **Pn 00 23 19.3 -0.8**
MMAI Mount Meron Ar 18.56 291 P **Pn 00 23 23.9 -0.7**
comp=Z,0.7nm,0.3s,baz=95,slow=14,SNR=6.1
EIL Elat 18.65 280 P **Pn 00 23 25.2 -0.5**
EIL Elat 18.65 280 P **Pn 00 23 25.2 -0.5**
comp=Z,0.2nm,0.3s,baz=33,slow=16,SNR=3.2
COBT Iskenderun 18.84 302 *i*P **Pn 00 23 28.7 +0.9**
KIV Kislovodsk 19.27 329 *e*P **Pn 00 23 32.7 -0.3**
KIV pmax pmax
comp=Z,17nm,1.1s
KIV MLR MLR
comp=Z,40nm,14.0s
KIV Kislovodsk 19.27 329 *e*P **Pn 00 23 31.7 -1.2**
comp=Z,18nm,1.0s
KIV Kislovodsk 19.27 329 *e*P **Pn 00 23 31.7 -1.3**
comp=Z,18nm,1.0s
GRSN GIRESUNGRSN 19.55 316 *i*P **Pn 00 23 30.8 -5.6**
AML Almayashu 20.08 41 *e*P **P 00 23 42.6 +1.8**
comp=Z,5.1nm,0.6s
AML Almayashu 20.08 41 *e*P **P 00 23 42.6 +1.8**
comp=Z,5.1nm,0.6s
SOC Sochi 20.44 324 *e*P **P 00 23 45.4 +0.7**
SOC *e*PPP 00 24 14.0
SOC pmax pmax
comp=Z,14nm,1.0s
SOC MLR MLR
comp=Z,110nm,18.0s,MS3.3
SOC Sochi 20.44 324 *e*P **P 00 23 45.4 +0.7**
comp=Z,14nm,1.0s
ATD Arta Tunnel 20.58 220 P **P 00 23 46.7 +0.3**
ATD LR LR 00 32 35.3
ATD Arta Tunnel 20.58 220 P **P 00 23 46.7 +0.3**
comp=Z,6.9nm,0.6s,baz=290,slow=11,SNR=7.3
ATD LR LR 00 32 35.3
comp=Z,139nm,18.6s,MS3.4,baz=132,slow=39
UCH Uchtor 20.62 42 *e*P **P 00 23 48.0 +1.3**
comp=Z,5.6nm,1.0s
UCH Uchtor 20.62 42 *e*P **P 00 23 48.0 +1.4**
comp=Z,5.6nm,1.0s
AVNT Avonos 20.74 307 *i*P **P 00 23 49.5 +1.4**
FRU Bishkek 21.05 40 *e*P pP 00 24 03.0 +6.4
FRU *e* 00 24 21.0
CDAG Cicekdag 21.45 308 *i*P **P 00 23 53.3 -2.3**
CTKT Corum 21.62 311 *i*P **P 00 23 58.9 +1.3**
AKTK Aktyubinsk 22.47 3 P **P 00 24 08.0 +1.6**
AKTO Aktyubinsk 22.47 3 P **P 00 24 08.0 +1.6**
comp=Z,6.4nm,0.7s,mb4.2,baz=190,slow=11,SNR=17
ANN Anapa 22.47 323 *e*P **P 00 24 05.3 -1.2**
ANN *e*S **S 00 28 15.6 +3.1**
ANN pmax pmax
comp=Z,12nm,0.8s,mb4.4
ANN Anapa 22.47 323 *e*P **P 00 24 05.3 -1.2**
comp=Z,12nm,0.8s,mb4.4
ESKT Eskisehir 23.90 305 *i*P **P 00 24 19.2 -1.9**
SEYT Eskypehyr 23.90 305 *i*P **P 00 24 19.2 -1.9**
HENT Hendek 24.36 308 *i*P **P 00 24 24.9 -0.4**
SIM Simferopol' 24.39 320 P **P 00 24 25.4 -0.1**
SIM pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
SIM Simferopol' 24.39 320 P **P 00 24 25.4 -0.1**
comp=Z,6.0nm,0.9s,mb4.0
MANT Manisa 25.26 302 *i*P **P 00 24 33.6 +0.1**
VRHR Novokhopersk 25.56 338 *e*P **P 00 24 35.8 -0.3**
VRHR pmax pmax
comp=Z,20nm,0.6s,mb4.8
VRHR pmax pmax
comp=N,10.0nm,0.9s
VRHR pmax pmax
comp=E,10.0nm,0.6s
VRHR Novokhopersk 25.56 338 *e*P **P 00 24 35.8 -0.3**
comp=E,10.0nm,0.9s,mb4.3
VRSR Storozhevoye 26.50 336 *e*P **P 00 24 42.4 -2.2**
VRSR pmax pmax
comp=Z,2.0nm,1.0s,mb3.6
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,1.2s
VRSR Storozhevoye 26.50 336 *e*P **P 00 24 42.4 -2.2**
comp=E,1.0nm,0.6s,mb3.5
BVAR Borovoye Array 27.15 19 P **P 00 24 49.6 -0.8**
comp=E,5.8nm,0.9s,mb4.1,baz=199,slow=8.8,SNR=19
BVAR PcP PcP 00 28 10.0 -0.6
comp=E,0.6nm,0.5s,baz=219,slow=2.0,SNR=4.5
BVAR Borovoye Array 27.15 19 PcP PcP 00 28 09.9 -0.7
IDI Anoyia 27.52 293 P **P 00 24 53.6 -0.4**
comp=E,4.0nm,0.8s,mb4.1,baz=33,slow=4.2,SNR=4.1
MK31 Makanchi Array 27.79 40 *e*P **P 00 24 56.1 -0.1**
MKAR Makanchi Array 27.79 40⇑ *e*P **P 00 24 56.5 +0.3**
MKAR Makanchi Array 27.79 40 P **P 00 24 55.9 -0.3**
MKAR Makanchi Array 27.79 40 P **P 00 24 55.9 -0.3**
comp=E,2.3nm,0.7s,mb3.9,baz=221,slow=9.0,SNR=16
KURK Kurchatov 28.38 31 *e*P **P 00 25 02.4 +1.0**
MLR Muntele Rosu 29.61 314 P **P 00 25 12.0 -0.5**
comp=E,1.0nm,0.8s,mb3.6,baz=79,slow=16,SNR=2.9
WMQ Urumqi 29.82 50 *e*P **P 00 25 13.3 -1.0**
WMQ AMB AMB
comp=Z,27nm,1.0s,mb4.9
AKASG Malin Array Be 30.50 325 P **P 00 25 19.1 -1.2**
comp=Z,3.5nm,0.7s,mb4.2,baz=133,slow=8.6,SNR=22
AKASG pP pP 00 25 24.4 -1.5
comp=Z,3.7nm,0.6s,baz=131,slow=8.6,SNR=9.5
AKASG Malin Array Be 30.50 325 P **P 00 25 19.0 -1.2**
AKASG pP pP 00 25 24.4 -1.5
AKBB Malin Array Si 30.50 325 *e*P **P 00 25 19.1 -1.1**
AKBB *e* pP 00 25 24.0 -1.9
AKBB Malin Array Si 30.50 325 *e*P **P 00 25 19.1 -1.1**
KIEV Kiev 30.50 325 *e*P **P 00 25 19.3 -1.0**
KIEV pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
KIEV Kiev 30.50 325 *e*P **P 00 25 19.3 -1.0**
comp=Z,6.8nm,0.8s,mb4.5
KIEV *e* pP 00 25 23.9 -2.0
KIEV Kiev 30.50 325 *e*P **P 00 25 19.3 -1.0**
OBN Obninsk 30.60 338 *e*P **P 00 25 21.3 +0.2**
OBN *e* pP 00 25 27.9 +1.1
OBN pmax pmax
comp=Z,12nm,0.7s,mb4.8
OBN Obninsk 30.60 338 *e*P **P 00 25 20.8 -0.3**
comp=Z,6.8nm,0.7s,mb4.6
OBN Obninsk 30.60 338 *e*P **P 00 25 20.8 -0.3**
comp=Z,6.8nm,0.7s,mb4.6
NVS Novosibirsk 33.26 29 *e*P **P 00 25 41.4 -3.0**
ZAL Zalesovo 33.35 31 P **P 00 25 44.4 -0.8**
ZAA0 Zalesovo Array 33.37 31 *e*P **P 00 25 44.6 -0.7**
ZAA0 Zalesovo Array 33.37 31 *e*P **P 00 25 44.7 -0.7**
ZALV Zalesovo Beam 33.37 31 P **P 00 25 44.4 -1.0**
comp=Z,4.9nm,0.4s,mb4.8,baz=241,slow=9.9,SNR=26
KOLS Kolonicke sedl 33.38 318 *e*P **P 00 25 48.9 +3.4**
VYHS Vyhne 35.28 316 *e*P **P 00 26 02.3 +0.3**
GTA Gaotai 37.74 61 ⇓P **P 00 26 24.1 +0.9**
GTA AP pP 00 26 29.3 +0.4
GTA XP sP 00 26 32.1 +0.9
GTA AMB AMB
comp=Z,7.0nm,1.2s,mb4.3
JOF Joensuu 38.53 342 *e*p **P 00 26 28.6 -0.8**
comp=Z,1.4nm,0.3s,mb4.2
JOF Joensuu 38.53 342 *e*P **P 00 26 28.6 -0.8**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
GERES GERESS Array B 38.60 314 P **P 00 26 28.8 -1.5**
comp=Z,0.7nm,0.8s,mb3.5,baz=106,slow=9.8,SNR=6.1
GERES pP pP 00 26 34.3 -1.8
comp=Z,0.9nm,0.5s,baz=107,slow=7.6,SNR=8.9
GERES PcP PcP 00 28 41.7 -0.8
comp=Z,0.6nm,0.8s,baz=63,slow=4.5,SNR=4.2
GERES GERESS Array B 38.60 314 P **P 00 26 28.8 -1.5**
GERES pP pP 00 26 34.3 -1.8
GERES GERESS Array B 38.60 314 PcP PcP 00 28 41.7 -0.7
KHC Kasperske Hory 38.77 315 *e*P **P 00 26 30.0 -1.6**
KHC *e*pP pP 00 26 35.8 -1.6
FINES FINESS Array B 39.01 338 P **P 00 26 33.0 -0.5**
comp=Z,3.0nm,0.7s,mb4.1,baz=101,slow=8.0,SNR=7.0
SQTA Sankt Quirin 39.81 311 ⇓*i*P **P 00 26 39.0 -1.4**
comp=Z,14nm,0.5s,mb5.0
SQTA Sankt Quirin 39.81 311 ⇓*i*P **P 00 26 39.0 -1.4**
SQTA pmax pmax
comp=Z,14nm,0.5s,mb5.0
MOTA Moosalm 39.91 311 ⇓*i*P **P 00 26 39.8 -1.4**
comp=Z,8.1nm,0.6s,mb4.6
MOTA Moosalm 39.91 311 ⇓*i*P **P 00 26 39.8 -1.4**
MOTA pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
FETA Feichten 40.09 311 ⇓*i*P **P 00 26 41.3 -1.4**
comp=Z,6.5nm,0.5s,mb4.6
BSD Bornholm Skovb 40.17 324 *i*P **P 00 26 34.2 -9.1**
comp=Z,20nm,1.1s,mb4.8
KEST Kesra 40.19 293 P **P 00 26 44.6 +0.9**
comp=Z,1.5nm,0.8s,mb3.8,baz=72,slow=19,SNR=3.7
GRA1 Grafenberg Arr 40.40 315 *e*P **P 00 26 49.9 +4.6**
comp=Z,3.0nm,1.0s,mb4.0
GRF Grafenberg Arr 40.40 315 *e*P **P 00 26 49.9 +4.6**
GRF pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
GRF Grafenberg Arr 40.40 315 *e*P **P 00 26 49.9 +4.6**
GRF pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
GRF Grafenberg Arr 40.40 315 *e*P **P 00 26 49.9 +4.6**
comp=Z,3.0nm,1.0s,mb4.0
PGF Pioggiola 40.63 304 *e*P **P 00 26 46.9 -0.4**
comp=Z,146nm,1.4s,mb5.1
PGF Pioggiola 40.63 304 *e*P **P 00 26 46.9 -0.4**
PGF pmax pmax
comp=Z,73nm,1.4s,mb5.1
PGF Pioggiola 40.63 304 *e*P **P 00 26 46.9 -0.4**
comp=Z,73nm,1.4s,mb5.1
DAVA Damuels 40.71 311 ⇑*i*P **P 00 26 46.0 -1.8**
comp=Z,19nm,0.5s,mb5.0
SBF Sospel 41.90 306 *e*P **P 00 26 57.2 -0.5**
comp=Z,32nm,0.8s,mb4.7
SBF Sospel 41.90 306 *e*P **P 00 26 57.2 -0.5**
SBF pmax pmax
comp=Z,16nm,0.8s,mb4.7
SBF Sospel 41.90 306 *e*P **P 00 26 57.2 -0.5**
comp=Z,16nm,0.8s,mb4.7
FRF La Foret Royal 42.44 305 *e*P **P 00 27 01.7 -0.4**
MBDF Montbardon 42.46 307 *e*P **P 00 27 02.1 -0.1**
comp=Z,16nm,1.0s,mb4.3
MBDF Montbardon 42.46 307 *e*P **P 00 27 02.1 -0.1**
MBDF pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
MBDF Montbardon 42.46 307 *e*P **P 00 27 02.1 -0.1**
comp=Z,7.9nm,1.0s,mb4.3
LPG La Plagne 42.56 308 *e*P **P 00 27 03.2 +0.2**
comp=Z,10nm,0.7s,mb4.4
LPG La Plagne 42.56 308 *e*P **P 00 27 03.2 +0.2**
LPG pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
LPG La Plagne 42.56 308 *e*P **P 00 27 03.2 +0.2**
comp=Z,5.2nm,0.7s,mb4.4
LPL La Plagne 42.58 308 *e*P **P 00 27 03.4 +0.2**
comp=Z,8.9nm,0.7s,mb4.3
LPL La Plagne 42.58 308 *e*P **P 00 27 03.4 +0.2**
LPL pmax pmax
comp=Z,4.0nm,0.7s,mb4.3
LPL La Plagne 42.58 308 *e*P **P 00 27 03.4 +0.2**
comp=Z,4.4nm,0.7s,mb4.3
CDF Champ du Feu 42.64 312 *e*P **P 00 27 03.6 -0.1**
comp=Z,7.1nm,1.0s,mb4.0
CDF Champ du Feu 42.64 312 *e*P **P 00 27 03.6 -0.1**
CDF pmax pmax
comp=Z,4.0nm,1.0s,mb4.1
CDF Champ du Feu 42.64 312 *e*P **P 00 27 03.6 -0.1**
comp=Z,3.5nm,1.0s,mb4.0
ORIF Oris-en-Rattie 43.11 307 *e*P **P 00 27 07.3 -0.2**
comp=Z,1.0nm,1.1s,mb4.2
ORIF Oris-en-Rattie 43.11 307 *e*P **P 00 27 07.3 -0.2**
ORIF pmax pmax
comp=Z,5.0nm,1.1s,mb4.2
ORIF Oris-en-Rattie 43.11 307 *e*P **P 00 27 07.3 -0.2**
comp=Z,5.2nm,1.1s,mb4.2
CABF La Chapelle 43.16 309 *e*P **P 00 27 08.0 +0.1**
comp=Z,15nm,0.9s,mb4.4
CABF La Chapelle 43.16 309 *e*P **P 00 27 08.0 +0.1**
CABF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
CABF La Chapelle 43.16 309 *e*P **P 00 27 08.0 +0.1**
comp=Z,7.3nm,0.9s,mb4.4
HAU Haudompre 43.19 311 *e*P **P 00 27 08.1 0.0**
comp=Z,4.5nm,0.5s,mb4.2
HAU Haudompre 43.19 311 *e*P **P 00 27 08.1 0.0**
HAU pmax pmax
comp=Z,2.0nm,0.5s,mb4.1
HAU Haudompre 43.19 311 *e*P **P 00 27 08.1 0.0**
comp=Z,2.2nm,0.5s,mb4.1
SONM Songino Array 43.45 49 P **P 00 27 11.0 +0.8**
comp=Z,3.1nm,1.0s,mb4.0,baz=255,slow=8.6,SNR=5.8
SONM sP sP 00 27 17.9 -0.5
comp=Z,3.7nm,1.0s,baz=258,slow=7.0,SNR=5.3
ULN Ulaanbaatar 43.89 49 *e*P **P 00 27 14.0 +0.3**
comp=Z,3.8nm,0.8s,mb4.2
ULN Ulaanbaatar 43.89 49 *e*P **P 00 27 13.8 0.0**
VIVF Saint-Julien-l 43.96 307 *e*P **P 00 27 14.0 -0.4**
MEZF Maizieres J'vi 44.12 312 *e*P **P 00 27 15.5 -0.1**
comp=Z,7.0nm,0.5s,mb4.3
MEZF Maizieres J'vi 44.12 312 *e*P **P 00 27 15.5 -0.1**
comp=Z,3.5nm,0.5s,mb4.3
LASF Ste Croix 44.49 306 *e*P **P 00 27 18.6 0.0**
comp=Z,32nm,1.4s,mb4.5
LASF Ste Croix 44.49 306 *e*P **P 00 27 18.6 0.0**
comp=Z,16nm,1.4s,mb4.5
NB2 NORSAR Subarra 44.57 331 P **P 00 27 17.4 -1.6**
comp=Z,2.7nm,0.8s,mb4.1,baz=119,slow=8.6
NOA NORSAR Array B 44.57 331 P **P 00 27 17.6 -1.4**
comp=Z,1.6nm,0.8s,mb3.9,baz=115,slow=7.9,SNR=5.1
SMF Signal de Mont 44.70 309 *e*P **P 00 27 20.4 +0.1**
comp=Z,17nm,0.9s,mb4.6
SMF Signal de Mont 44.70 309 *e*P **P 00 27 20.4 +0.1**
SMF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
SMF Signal de Mont 44.70 309 *e*P **P 00 27 20.4 +0.1**
comp=Z,8.6nm,0.9s,mb4.6
LOR Lormes 44.75 310 *e*P **P 00 27 20.5 -0.2**
comp=Z,5.2nm,0.7s,mb4.2
LOR Lormes 44.75 310 *e*P **P 00 27 20.5 -0.2**
LOR pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
LOR Lormes 44.75 310 *e*P **P 00 27 20.5 -0.2**
comp=Z,2.6nm,0.7s,mb4.2
BAIF Baives 44.91 314 *e*P **P 00 27 21.8 -0.1**
comp=Z,11nm,0.8s,mb4.5
BAIF Baives 44.91 314 *e*P **P 00 27 21.8 -0.1**
BAIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
BAIF Baives 44.91 314 *e*P **P 00 27 21.8 -0.1**
comp=Z,5.4nm,0.8s,mb4.5
SSF Saint Saulge 44.97 310 *e*P **P 00 27 22.5 +0.1**
comp=Z,7.0nm,0.6s,mb4.4
SSF Saint Saulge 44.97 310 *e*P **P 00 27 22.5 +0.1**
SSF pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
SSF Saint Saulge 44.97 310 *e*P **P 00 27 22.5 +0.1**
comp=Z,3.5nm,0.6s,mb4.4
AVF Avril sur Loir 45.05 309 *e*P **P 00 27 23.0 0.0**
KEV Kevo 45.05 346 *e*p **P 00 27 27.6 +4.9**
comp=Z,2.0nm,0.5s,mb4.2
KEV Kevo 45.05 346 *e*P **P 00 27 27.6 +4.9**
KEV pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
ARCES ARCESS Array B 45.21 345 P **P 00 27 22.9 -1.0**
comp=Z,2.0nm,0.8s,mb4.0,baz=148,slow=8.2,SNR=7.1
MTLF Montolieu 45.65 304 *e*P **P 00 27 28.8 0.0**
TCF Toulx Ste Croi 45.79 309 *e*P **P 00 27 28.8 -0.1**
CAF Calviac 45.81 307 *e*P **P 00 27 29.1 0.0**
RJF Les Rejaudoux 46.22 307 *e*P **P 00 27 32.2 -0.1**
EPF Esparros 47.02 304 *e*P **P 00 27 38.4 -0.2**
comp=Z,17nm,1.1s,mb4.6
EPF Esparros 47.02 304 *e*P **P 00 27 38.4 -0.2**
EPF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
EPF Esparros 47.02 304 *e*P **P 00 27 38.4 -0.2**
comp=Z,8.7nm,1.1s,mb4.6
ETSF Etsaut 47.68 304 *e*P **P 00 27 43.8 0.0**
SJPF Ste Jean 48.17 304 *e*P **P 00 27 47.5 0.0**
comp=Z,59nm,1.3s,mb5.1
SJPF Ste Jean 48.17 304 *e*P **P 00 27 47.5 0.0**
SJPF pmax pmax
comp=Z,30nm,1.3s,mb5.2
SJPF Ste Jean 48.17 304 *e*P **P 00 27 47.5 0.0**
comp=Z,30nm,1.3s,mb5.1
BOD Bodaibo 49.75 36 *e*P **P 00 27 58.1 -1.3**
ESDC Sonseca Array 50.44 300 P **P 00 28 03.9 -1.0**
comp=Z,0.4nm,0.5s,mb3.7,baz=72,slow=7.8,SNR=6.1
ESDC pP pP 00 28 09.0 -1.9
comp=Z,0.7nm,0.5s,baz=75,slow=7.3,SNR=6.4
TOA0 Torodi Ar. Sit 52.68 265 *e*P **P 00 28 20.5 -1.5**
TORD Torodi Ar. Bea 52.68 265 P **P 00 28 20.4 -1.7**
TORD pP pP 00 28 25.3 -2.7
TORD Torodi Ar. Bea 52.68 265 P **P 00 28 20.4 -1.7**
comp=Z,4.8nm,0.6s,mb4.6,baz=63,slow=7.3,SNR=64
TORD pP pP 00 28 25.3 -2.7
comp=Z,8.4nm,0.7s,baz=64,slow=6.9,SNR=25
NJ2 Nanjing 53.78 69 *e*P **P 00 28 28.5 -1.4**
NJ2 AP pP 00 28 33.3 -2.6
NJ2 XP sP 00 28 36.3 -1.9
NJ2 PCP PcP 00 29 32.9 -2.9
NJ2 S **S 00 36 03.0 -0.7**
NJ2 XS sS 00 36 13.0 -0.5
NJ2 AMB AMB
comp=Z,90nm,11.3s
TIXI Tiksi 58.27 21 P **P 00 29 02.9 +1.5**
TIXI pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
TIXI Tiksi 58.27 21 P **P 00 29 02.9 +1.4**
comp=Z,5.0nm,0.6s,mb4.7
TIXI Tiksi 58.27 21 P **P 00 29 02.8 +1.4**
comp=Z,4.9nm,0.6s,mb4.7
KSRS Korea Array 59.81 61 P **P 00 29 11.7 -1.1**
comp=Z,1.8nm,0.5s,mb4.3,baz=275,slow=7.5,SNR=7.3
LBTB Lobatse 60.35 212 LR LR 00 55 40.7
comp=Z,159nm,18.4s,MS4.2,baz=306,slow=36
DBIC Dimbokro 61.34 262 P **P 00 29 22.6 -0.8**
comp=Z,1.8nm,0.4s,mb4.5,baz=53,slow=12,SNR=5.2
DBIC Dimbokro 61.34 262 P **P 00 29 22.6 -0.8**
BOSA Boshof 63.59 210 P **P 00 29 37.3 -0.8**
comp=Z,2.7nm,0.8s,mb4.3,baz=85,slow=6.8,SNR=4.0
BILL Bilibino 71.45 22 P **P 00 30 28.0 +0.7**
IMA2 Indian Mountai 83.50 12 *e*P **P 00 31 34.1 -0.6**
IMA2 Indian Mountai 83.50 12 *e*P **P 00 31 34.1 -0.6**
EGAK Eagle 86.56 7 P **P 00 31 47.2 -2.9**
comp=Z,3.5nm,0.9s,mb4.6
EGAK Eagle 86.56 7 P **P 00 31 47.2 -2.9**
comp=Z,3.5nm,0.9s,mb4.6
WRA Warramunga Arr 89.31 113 P **P 00 32 02.8 -1.1**
comp=Z,0.8nm,0.8s,mb4.1,baz=319,slow=4.1,SNR=3.6
YKA Yellowknife Ar 89.54 356 P **P 00 32 03.2 -1.1**
comp=Z,1.7nm,0.9s,mb4.4,baz=0.7,slow=4.9,SNR=16
ASAR Alice Springs 90.82 116 P **P 00 32 10.2 -0.8**
comp=Z,0.6nm,0.8s,mb4.0,baz=324,slow=5.1,SNR=6.0
ASAR Alice Springs 90.82 116 P **P 00 32 10.1 -0.8**

SZGRF ***16*** *00:27:23.9,2702N×5788E,h33km,mb4.1,Southern Iran*
TEH ***16*** *00:27:25.1,2789N×5605E,h8km,ML4.2*
BJI ***16*** *00:27:28.0,2790N×5600E,h10km,mB4.8,mb4.5,Ms5.1,Msz4.8*
IDC ***16*** *00:27:30.5±0.9,2791N×5608E,h16km±4km,mb4.0/21,mb1 4.1/24,mb1mx4.0/29,mbtmp4.0/24,ML3.9/3,MS3.4/3,Ms1 3.4/3,ms1mx3.0/30,Error ellipse: s-maj=16.0km s-min=12.9km az=145.0*
MOS ***16*** *00:27:30.3±0.7,2790N×5598E,h27km,mb4.7/27,Error ellipse: s-maj=10.6km s-min=5.6km az=123.3*
CSEM ***16*** *00:27:32.1±0.1,2804N×5621E,h30km,mb4.6/13,Error ellipse: s-maj=2.3km s-min=1.9km az=83.0*
NEIC ***16*** *00:27:33.4,2788N×5605E,h10km,mb4.5/32,ML4.2(THR),MN4.2(TEH),After TEH.*
ISCJB ***16*** *00:27:34.7±0.4,2797N±003×5606E±004,h64km±4km,mb4.3/59,Error ellipse: s-maj=5.3km s-min=4.4km az=176.7*
THR ***16*** *00:27:35.0±0.5,2824N×5608E,h15km±9km,ML4.2*
ISC 16 00:27:36.3±0.4,**2796N**±003×**5604E**±003,**h62**km±4km,**h11**km±3.6km**:pP-P,n209,σ0.91**/211,**mb4.3**/59,**6C-5D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**2.11**	**17**	*e*Pg	**Pn**	**00 28 08.3**	**-1.1**

KRBR	**Kerman**	2.11	17	*e*Pg	Pn	00 28 08.6	-0.7
KRBR				AML	AML	00 28 45.4	
comp=N,2μm,0.6s							
KRBR	**Kerman**	2.11	17	*e*Pg	Pn	00 28 08.3	-1.0
GHIR	**Ghir-Karzin**	2.72	278	*e*Pn	Pn	00 28 19.4	+1.9
GHIR	**Ghir-Karzin**	2.72	278	*e*Pn	Pn	00 28 20.4	+2.8
GHIR				AML	AML	00 29 14.9	
comp=E,840nm,0.6s							
GHIR	**Ghir-Karzin**	2.72	278	*e*Pn	Pn	00 28 19.4	+1.9
ISRV	**Sarvestan**	2.94	300	Pn	Pn	00 28 20.6	+0.1
ISRV	**Sarvestan**	2.94	300	*e*Pn	Pn	00 28 20.7	+0.2
ISRV				*e*		00 29 43.0	
comp=Z,25μm,0.6s							
NAZ	**Nazwa, Dubai**	2.98	187	P	Pn	00 28 20.1	-1.0
NAZ				S	Sn	00 28 56.7	+1.1
HATD	**Hatta, Dubai**	3.12	178	P	Pn	00 28 21.5	-1.5
HATD				S	Sn	00 28 58.4	-0.7
IMOK	**Mouk**	3.12	291	*e*Pn	Pn	00 28 23.0	-0.1
IMOK				*e*		00 29 43.7	
comp=Z,11μm,0.4s							
IPAR	**Pars**	3.23	306	*e*Pn	Pn	00 28 25.0	+0.5
IPAR				*e*		00 29 49.3	
comp=Z,8μm,0.4s							
ASUD	**Al Ashush, Dub**	3.38	191	P	Pn	00 28 26.2	-0.4
ASUD				S	Sn	00 29 07.9	+2.5
IMEH	**Mehriz**	3.64	340	*e*Pn	Pn	00 28 30.4	+0.3
IMEH				*e*		00 29 43.5	
comp=Z,5μm,0.5s							
IMEH	**Mehriz**	3.64	340	Pn	Pn	00 28 30.3	+0.2
IBAF	**Bafgh**	3.64	354	*e*Pn	Pn	00 28 29.6	-0.6
IBAF				*e*		00 28 45.8	
comp=Z,3μm,0.2s							
ZHSF	**Zahedan**	4.47	67	*e*Pn	Pn	00 28 42.6	+1.1
ZHSF	**Zahedan**	4.47	67	*e*Pn	Pn	00 28 42.6	+1.1
IKOO	**Kooshah**	5.14	29	*e*Pn	Pn	00 28 50.4	-0.2
ITEG	**Tejag**	5.45	25	*e*Pn	Pn	00 28 54.7	-0.2
NASN	**Na'in**	5.58	331	*e*Pn	Pn	00 28 56.3	-0.3
NASN	**Na'in**	5.58	331	*e*Pn	Pn	00 28 56.6	0.0
NASN	**Na'in**	5.58	331	*e*Pn	Pn	00 28 56.3	-0.3
IZEF	**Zefreh**	5.87	328	*e*Pn	Pn	00 29 01.4	+0.7
IZEF				*e*		00 29 37.4	
comp=Z,560nm,0.3s							
IZEF	**Zefreh**	5.87	328	Pn	Pn	00 29 01.3	+0.6
IPIR	**Pirpir**	6.48	318	*e*	Pn	00 29 08.1	-1.0
comp=Z,688nm,0.2s							
ISFB	**Sefidab**	7.16	334	*e*Pn	Pn	00 29 18.2	-0.1
ISFB				*e*		00 29 54.9	
comp=Z,264nm,0.3s							
ISFB	**Sefidab**	7.16	334	Pn	Pn	00 29 18.1	-0.2
ASAO	**Ashtian**	8.35	323	*e*Pn	Pn	00 29 34.8	+0.3
ASAO	**Ashtian**	8.35	323	*e*Pn	Pn	00 29 34.9	+0.4
ASAO	**Ashtian**	8.35	323	*e*Pn	Pn	00 29 34.8	+0.3
IALA	**Alasht**	8.55	342⇓	*e*Pn	Pn	00 29 37.1	-0.3
IALA				*e*		00 30 19.4	
comp=Z,475nm,0.2s							
IALA	**Alasht**	8.55	342	Pn	Pn	00 29 37.0	-0.4
IGLO	**Ghaloghah**	8.72	348	*e*Pn	Pn	00 29 31.1	-8.6
IGLO				*e*		00 29 51.2	
comp=Z,534nm,0.2s							
IPRN	**Peran**	8.84	340	*e*Pn	Pn	00 29 41.6	+0.4
IPRN				*e*		00 29 50.7	
comp=Z,884nm,0.3s							
CHTH	**Charan**	8.96	333	*e*Pn	Pn	00 29 43.9	+1.0
BHD	**Baghdad**	11.35	301	*ex*	x	00 30 12.5	
BHD				*ex*	x	00 32 25.0	
KBL	**Kabul**	12.91	56	Pn	Pn	00 30 35.4	-1.4
comp=Z,8.1nm,0.7s							
MSL	**Mosul**	13.76	310	*ex*	x	00 30 49.0	
MSL				*ex*	x	00 33 20.0	
GNI	**Garni**	15.33	325⇑	*e*P	Pn	00 31 05.2	-3.6
GNI	**Garni**	15.33	325	Pn	Pn	00 31 13.3	+4.5
comp=Z,0.6nm,0.3s,baz=173,slow=8.1,SNR=3.4							
MARD	**Mardin**	15.87	310	*e*P	Pn	00 31 17.9	+2.3
ERZM	**Erzurum**	17.01	318	*i* P	Pn	00 31 34.6	+4.7
ASF	**Jabal al Asfar**	17.09	289	P	Pn	00 31 28.0	-3.1
comp=Z,0.5nm,0.3s,baz=338,slow=15,SNR=7.4							
ATAB	**Bozova**	17.67	307	*e*P	Pn	00 31 44.2	+6.2
ELZG	**Elazig**	17.70	311	*e*P	Pn	00 31 41.9	+3.6
MALT	**Malatya**	17.98	310	*e*P	Pn	00 31 41.9	+0.1
MALT				*e*		00 35 01.6	
MALT				pmax	pmax		
comp=Z,8.0nm,0.9s							
MALT	**Malatya**	17.98	310	*e*Pn	Pn	00 31 41.9	+0.1
comp=Z,7.6nm,0.9s							
MALT				*e*Sn	Sn	00 35 01.6	0.0
MALT	**Malatya**	17.98	310	*e*P	Pn	00 31 41.9	+0.1
comp=Z,8.0nm,0.9s							
GZT	**Gaziantep**	18.14	306	*e*P	Pn	00 31 43.6	-0.2
MMAI	**Mount Meron Ar**	18.48	291	P	Pn	00 31 44.8	-3.2
comp=Z,0.5nm,0.3s,baz=99,slow=16,SNR=7.1							
EIL	**Elat**	18.56	280	P	Pn	00 31 48.0	-0.9
comp=Z,0.3nm,0.3s,baz=68,slow=11,SNR=3.8							
KIV	**Kislovodsk**	19.24	330	*e*P	Pn	00 31 56.7	-0.2
KIV				pmax	pmax		
comp=Z,18nm,1.0s							
KIV				MLR	MLR		
comp=Z,60nm,15.0s							
KIV	**Kislovodsk**	19.24	330	*e*P	Pn	00 31 56.9	0.0
comp=Z,12nm,0.8s							
KIV	**Kislovodsk**	19.24	330	*e*P	Pn	00 31 56.9	0.0
comp=Z,12nm,0.8s							
GRSN	**GIRESUNGRSN**	19.50	316	*e*P	Pn	00 31 59.7	-0.3
AML	**Almayashu**	20.16	41	*e*P	P	00 32 05.5	0.0
comp=Z,12nm,0.8s							
AML	**Almayashu**	20.16	41	*e*P	P	00 32 05.5	0.0
comp=Z,12nm,0.8s							
ATD	**Arta Tunnel**	20.49	220	P	P	00 32 07.9	-1.3
comp=Z,12nm,0.9s,baz=281,slow=23,SNR=7.4							
EKS2	**Erkin-Say**	20.55	40	*e*P	P	00 32 09.6	-0.1
comp=Z,22nm,1.2s							
EKS2	**Erkin-Say**	20.55	40	*e*P	P	00 32 09.6	0.0
comp=Z,22nm,1.2s							
AVNT	**Avonos**	20.68	307	*i* P	P	00 32 13.1	+2.0
UCH	**Uchtor**	20.70	42	*e*P	P	00 32 10.7	-0.6
comp=Z,684nm,0.8s							
ERMK	**Ermenek**	21.34	300	*e*P	P	00 32 23.3	+5.1
CDAG	**Cicekdag**	21.38	309	*i* P	P	00 32 17.6	-1.0
CTKT	**Corum**	21.57	311	*i* P	P	00 32 22.9	+2.3
TKM2	**Tokmak 2**	21.76	42	*e*P	P	00 32 22.9	+0.3
TKM2				pmax	pmax		
comp=Z,9.0nm,1.0s,mb4.2							
TKM2	**Tokmak 2**	21.76	42	*e*P	P	00 32 22.9	+0.3
comp=Z,9.5nm,1.0s,mb4.2							
TKM2	**Tokmak 2**	21.76	42	*e*P	P	00 32 22.9	+0.3
comp=Z,9.5nm,1.0s,mb4.2							
BOYT	**Boyabat**	21.89	313	*i* P	P	00 32 26.5	+2.5
ANN	**Anapa**	22.43	323	*e*P	P	00 32 32.2	+2.5
AKTK	**Aktyubinsk**	22.50	3	P	P	00 32 30.3	-0.1
AKTK				LR	LR	00 42 54.5	
AKTK	**Aktyubinsk**	22.50	3	P	P	00 32 30.3	-0.1
AKTO	**Aktyubinsk**	22.50	3	P	P	00 32 30.3	-0.1
comp=Z,4.9nm,0.7s,mb4.0,baz=182,slow=12,SNR=24							
AKTO				LR	LR	00 42 54.5	
comp=Z,61nm,19.5s,baz=0.3,slow=41							
ESKT	**Eskisehir**	23.83	305	*i* P	P	00 32 44.7	+1.1
SEYT	**Eskypehyr**	23.83	305	*i* P	P	00 32 44.7	+1.1
HENT	**Hendek**	24.30	308	*i* P	P	00 32 47.8	0.0
SIM	**Simferopol'**	24.34	320	P	P	00 32 52.8	+4.6
SIM				pmax	pmax		
comp=Z,8.0nm,1.9s,mb3.8							
VRHR	**Novokhopersk**	25.55	339	*e*P	P	00 32 59.6	+0.5
VRHR				pmax	pmax		
comp=Z,10.0nm,0.6s,mb4.5							
VRHR				pmax	pmax		
comp=N,9.0nm,0.7s							
VRHR				pmax	pmax		
comp=E,10.0nm,0.6s							
VRHR	**Novokhopersk**	25.55	339	*e*P	P	00 32 59.6	+0.5
comp=E,9.0nm,0.7s,mb4.4							
BDRM	**Kayabasi**	25.69	298	*e*P	P	00 33 00.7	+0.2
VRSR	**Storozhevoye**	26.49	336	*e*P	P	00 33 08.3	+0.8
VRSR				pmax	pmax		
comp=N,1.0nm,0.7s							
VRSR				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.5							
VRSR				pmax	pmax		
comp=E,2.0nm,1.1s							
BVAR	**Borovoye Array**	27.21	19	P	P	00 33 13.8	-0.2
comp=E,5.9nm,0.8s,mb4.2,baz=199,slow=8.6,SNR=25							
BVAR				LR	LR	00 45 54.3	
comp=E,95nm,18.4s,baz=83,slow=40							
IDI	**Anoyia**	27.44	293	P	P	00 33 17.4	+1.2
comp=E,4.4nm,0.7s,mb4.1,baz=251,slow=15,SNR=5.9							
MK31	**Makanchi Array**	27.88	41	*e*P	P	00 33 19.9	-0.2
MKAR	**Makanchi Array**	27.88	41	P	P	00 33 20.1	0.0
comp=E,3.4nm,0.9s,mb4.0,baz=224,slow=8.2,SNR=22							
KURK	**Kurchatov**	28.45	31	*e*P	P	00 33 25.0	-0.1
comp=E,2.2nm,0.6s,mb4.0							
KURK	**Kurchatov**	28.45	31	*e*P	P	00 33 25.1	0.0
MLR	**Muntele Rosu**	29.56	314	P	P	00 33 37.8	+2.8
comp=E,2.8nm,0.9s,mb4.0,baz=28,slow=15,SNR=5.5							
AKASG	**Malin Array Be**	30.46	326	P	P	00 33 42.8	-0.1
comp=E,2.5nm,0.7s,mb4.1,baz=130,slow=7.9,SNR=12							
AKASG				pP	pP	00 33 47.9	-10
comp=E,4.0nm,0.7s,baz=132,slow=8.1,SNR=9.1							
AKBB	**Malin Array Si**	30.46	326	*e*P	P	00 33 42.9	0.0
AKBB				*e*		00 33 47.9	
KIEV	**Kiev**	30.47	326	*e*P	P	00 33 42.8	-0.2
KIEV				pmax	pmax		
comp=Z,10.0nm,0.8s,mb4.6							
KIEV	**Kiev**	30.47	326	*e*P	P	00 33 42.8	-0.2
comp=Z,9.8nm,0.8s,mb4.6							
KIEV	**Kiev**	30.47	326	*e*P	P	00 33 42.8	-0.2
comp=Z,9.8nm,0.8s,mb4.6							
OBN	**Obninsk**	30.59	338	*de*P	P	00 33 44.6	+0.6
OBN				*e*		00 33 52.7	
OBN				pmax	pmax		
comp=Z,12nm,1.0s,mb4.7							
OBN	**Obninsk**	30.59	338	*e*P	P	00 33 44.6	+0.6
comp=Z,12nm,1.0s,mb4.7							
MOS	**Moscow**	30.77	340	*e*P	P	00 33 53.8	+8.3
NVS	**Novosibirsk**	33.33	29	*e*P	P	00 34 14.8	+6.8
ZAL	**Zalesovo**	33.42	31	P	P	00 34 08.3	-0.5
ZAA0	**Zalesovo Array**	33.44	31	*e*P	P	00 34 08.3	-0.7
ZALV	**Zalesovo Beam**	33.44	31	P	P	00 34 08.2	-0.7
comp=Z,4.8nm,0.4s,mb4.8,baz=240,slow=8.8,SNR=24							
GTA	**Gaotai**	37.84	61	*e*P	P	00 34 47.8	+0.9
GTA				AP	pP	00 34 53.0	-9.4
GTA				XP	sP	00 34 56.8	-13
GTA				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.3							
MOA	**Molln**	37.90	313⇑	*i* P	P	00 34 47.7	+0.4
comp=Z,4.2nm,0.7s,mb4.3							
JOF	**Joensuu**	38.52	342	*e*p	P	00 34 53.0	+0.7
comp=Z,1.2nm,0.3s,mb4.1							
JOF	**Joensuu**	38.52	342	*e*P	P	00 34 53.0	+0.7
JOF				pmax	pmax		
comp=Z,1.0nm,0.3s,mb4.0							
GERES	**GERESS Array B**	38.55	314	P	P	00 34 52.7	-0.1
comp=Z,1.6nm,0.8s,mb3.8,baz=111,slow=7.3,SNR=5.7							
GERES				pP	pP	00 34 58.0	-10
comp=Z,1.6nm,0.8s,baz=119,slow=7.8,SNR=8.4							
KHC	**Kasperske Hory**	38.71	315⇑	*e*P	P	00 34 54.9	+0.8
KHC	**Kasperske Hory**	38.71	315	*e*P	P	00 34 54.2	+0.1
FINES	**FINESS Array B**	38.99	338	*i* P	P	00 34 56.7	+0.5
FINES				pmax	pmax		
comp=Z,3.0nm,0.7s							
FINES	**FINESS Array B**	38.99	338	P	P	00 34 56.2	0.0
FINES	**FINESS Array B**	38.99	338	P	P	00 34 56.2	0.0
comp=Z,2.7nm,0.7s,mb4.1,baz=147,slow=10,SNR=16							
SQTA	**Sankt Quirin**	39.75	311⇓	*i* P	P	00 35 02.4	-0.4
comp=Z,9.7nm,0.4s,mb4.8							
SQTA	**Sankt Quirin**	39.75	311⇓	*i* P	P	00 35 02.4	-0.4
SQTA				pmax	pmax		
comp=Z,10.0nm,0.4s,mb4.9							
MOTA	**Moosalm**	39.85	311⇑	*i* P	P	00 35 02.9	-0.7
comp=Z,5.0nm,0.5s,mb4.5							
MOTA	**Moosalm**	39.85	311⇑	*i* P	P	00 35 02.9	-0.7
MOTA				pmax	pmax		
comp=Z,5.0nm,0.5s,mb4.5							
FETA	**Feichten**	40.03	311⇑	*i* P	P	00 35 05.2	+0.1
comp=Z,7.0nm,0.7s,mb4.5							
KEST	**Kesra**	40.11	293	P	P	00 35 06.7	+0.7
comp=Z,1.1nm,0.9s,mb3.6,baz=68,slow=19,SNR=3.5							
BSD	**Bornholm Skovb**	40.13	324	*e*P	P	00 35 05.1	-0.7
BSD				pmax	pmax		
comp=Z,21nm,1.1s,mb4.8							
BSD	**Bornholm Skovb**	40.13	324	*i* P	P	00 35 05.1	-0.7
comp=Z,21nm,1.1s,mb4.8							
BSD	**Bornholm Skovb**	40.13	324	*e*P	P	00 35 05.1	-0.7
comp=Z,21nm,1.1s,mb4.8							
GRA1	**Grafenberg Arr**	40.35	315	*e*P	P	00 35 13.1	+5.4
comp=Z,5.0nm,1.1s,mb4.2							
GRF	**Grafenberg Arr**	40.35	315	*e*P	P	00 35 13.1	+5.4
GRF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.2							
GRF	**Grafenberg Arr**	40.35	315	*e*P	P	00 35 13.1	+5.4
GRF				pmax	pmax		
comp=Z,5.0nm,1.1s,mb4.2							
GRF	**Grafenberg Arr**	40.35	315	*e*P	P	00 35 13.1	+5.4
comp=Z,5.0nm,1.1s,mb4.2							
GRFO	**Grafenberg**	40.35	315	*e*P	P	00 35 12.1	+4.4
GRFO				pmax	pmax		
comp=Z,12nm,1.0s,mb4.6							
GRFO	**Grafenberg**	40.35	315	*e*P	P	00 35 12.1	+4.4
comp=Z,12nm,1.0s,mb4.6							
DAVA	**Damuels**	40.65	311⇓	*i* P	P	00 35 09.9	-0.3
comp=Z,13nm,0.5s,mb4.8							
LZH	**Lanzhou**	41.00	66	*e*P	P	00 35 16.5	+3.3
LZH				AP	pP	00 35 21.3	-7.6
LZH				XP	sP	00 35 23.6	-13
LZH				AMB	AMB		
comp=Z,16nm,1.3s,mb4.5							
LZH				AMB	AMB		
comp=Z,65nm,4.3s							
SBF	**Sospel**	41.83	306	*e*P	P	00 35 19.2	-0.8
comp=Z,37nm,0.8s,mb4.7							
SBF	**Sospel**	41.83	306	*e*P	P	00 35 19.2	-0.8
SBF				pmax	pmax		
comp=Z,19nm,0.8s,mb4.8							
SBF	**Sospel**	41.83	306	*e*P	P	00 35 19.2	-0.8
comp=Z,19nm,0.8s,mb4.7							
FRF	**La Foret Royal**	42.37	305	*e*P	P	00 35 23.5	-0.9
comp=Z,48nm,1.1s,mb4.7							
FRF	**La Foret Royal**	42.37	305	*e*P	P	00 35 23.5	-0.9
FRF				pmax	pmax		
comp=Z,24nm,1.1s,mb4.7							
FRF	**La Foret Royal**	42.37	305	*e*P	P	00 35 23.5	-0.9
comp=Z,24nm,1.1s,mb4.7							
MBDF	**Montbardon**	42.40	307	*e*P	P	00 35 24.0	-0.5
comp=Z,8.5nm,0.8s,mb4.1							
MBDF	**Montbardon**	42.40	307	*e*P	P	00 35 24.0	-0.5
MBDF				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.1							
MBDF	**Montbardon**	42.40	307	*e*P	P	00 35 24.0	-0.5
comp=Z,4.2nm,0.8s,mb4.1							
LPG	**La Plagne**	42.50	308	*e*P	P	00 35 24.9	-0.5
comp=Z,12nm,1.0s,mb4.2							
LPG	**La Plagne**	42.50	308	*e*P	P	00 35 24.9	-0.5
LPG				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.2							
LPG	**La Plagne**	42.50	308	*e*P	P	00 35 24.9	-0.5
comp=Z,6.2nm,1.0s,mb4.2							
LPL	**La Plagne**	42.51	308	*e*P	P	00 35 25.1	-0.4
comp=Z,6.3nm,0.7s,mb4.2							
LPL	**La Plagne**	42.51	308	*e*P	P	00 35 25.1	-0.4
LPL				pmax	pmax		
comp=Z,3.0nm,0.7s,mb4.1							
LPL	**La Plagne**	42.51	308	*e*P	P	00 35 25.1	-0.4
comp=Z,3.2nm,0.7s,mb4.2							
HINF	**Hinteralfeld**	42.76	311	*e*P	P	00 35 26.9	-0.6
CABF	**La Chapelle**	43.10	309	*e*P	P	00 35 29.5	-0.7
comp=Z,9.2nm,0.7s,mb4.3							
CABF	**La Chapelle**	43.10	309	*e*P	P	00 35 29.5	-0.7
CABF				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.3							
CABF	**La Chapelle**	43.10	309	*e*P	P	00 35 29.5	-0.7
comp=Z,4.6nm,0.7s,mb4.3							
SONM	**Songino Array**	43.54	49	P	P	00 35 34.2	+0.4
comp=Z,2.3nm,0.8s,mb3.9,baz=261,slow=9.9,SNR=4.9							
MEZF	**Maizieres J'vi**	44.06	312	*e*P	P	00 35 37.1	-0.8
comp=Z,7.6nm,0.6s,mb4.3							
MEZF	**Maizieres J'vi**	44.06	312	*e*P	P	00 35 37.1	-0.8
comp=Z,3.8nm,0.6s,mb4.3							
NB2	**NORSAR Subarra**	44.54	331	P	P	00 35 40.4	-1.1
comp=Z,3.3nm,0.9s,mb4.2,baz=118,slow=7.9							
NOA	**NORSAR Array B**	44.54	331	P	P	00 35 40.8	-0.7
comp=Z,2.6nm,0.9s,mb4.1,baz=118,slow=8.0,SNR=5.2							
SMF	**Signal de Mont**	44.64	309	*e*P	P	00 35 41.8	-0.8
comp=Z,14nm,0.9s,mb4.5							
SMF	**Signal de Mont**	44.64	309	*e*P	P	00 35 41.8	-0.8
SMF				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.5							
SMF	**Signal de Mont**	44.64	309	*e*P	P	00 35 41.8	-0.8
comp=Z,7.2nm,0.9s,mb4.5							
LOR	**Lormes**	44.69	310	*e*P	P	00 35 42.5	-0.5
comp=Z,5.5nm,0.7s,mb4.2							
LOR	**Lormes**	44.69	310	*e*P	P	00 35 42.5	-0.5
LOR				pmax	pmax		
comp=Z,3.0nm,0.6s,mb4.3							
LOR	**Lormes**	44.69	310	*e*P	P	00 35 42.5	-0.5
comp=Z,2.8nm,0.7s,mb4.2							
BAIF	**Baives**	44.86	314	*e*P	P	00 35 43.5	-0.7
comp=Z,25nm,1.1s,mb4.7							
BAIF	**Baives**	44.86	314	*e*P	P	00 35 43.5	-0.7
BAIF				pmax	pmax		
comp=Z,13nm,1.1s,mb4.7							
BAIF	**Baives**	44.86	314	*e*P	P	00 35 43.5	-0.7
comp=Z,13nm,1.1s,mb4.7							
SSF	**Saint Saulge**	44.91	310	*e*P	P	00 35 44.1	-0.6
comp=Z,19nm,1.0s,mb4.6							
SSF	**Saint Saulge**	44.91	310	*e*P	P	00 35 44.1	-0.6
SSF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.6							
SSF	**Saint Saulge**	44.91	310	*e*P	P	00 35 44.1	-0.6
comp=Z,9.6nm,1.0s,mb4.6							
AVF	**Avril sur Loir**	44.99	309	*e*P	P	00 35 44.6	-0.7
comp=Z,4.3nm,0.8s,mb4.0							
AVF	**Avril sur Loir**	44.99	309	*e*P	P	00 35 44.6	-0.7
AVF				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.0							
AVF	**Avril sur Loir**	44.99	309	*e*P	P	00 35 44.6	-0.7
comp=Z,2.2nm,0.8s,mb4.1							
KEV	**Kevo**	45.06	346	*e*p	P	00 35 45.2	-0.3
comp=Z,5.8nm,0.8s,mb4.5							
KEV	**Kevo**	45.06	346	*e*P	P	00 35 45.2	-0.3
KEV				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.5							
ARCES	**ARCESS Array B**	45.21	345	P	P	00 35 47.1	+0.4
comp=Z,2.2nm,0.8s,mb4.0,baz=142,slow=11,SNR=8.2							
MTLF	**Montolieu**	45.58	304	*e*P	P	00 35 49.6	-0.5
comp=Z,18nm,1.1s,mb4.6							
MTLF	**Montolieu**	45.58	304	*e*P	P	00 35 49.6	-0.5
MTLF				pmax	pmax		
comp=Z,9.0nm,1.1s,mb4.6							
MTLF	**Montolieu**	45.58	304	*e*P	P	00 35 49.6	-0.5
comp=Z,8.9nm,1.1s,mb4.6							
TCF	**Toulx Ste Croi**	45.73	309	*e*P	P	00 35 50.7	-0.5
CAF	**Calviac**	45.75	307	*e*P	P	00 35 50.8	-0.6
comp=Z,32nm,1.1s,mb4.8							
CAF	**Calviac**	45.75	307	*e*P	P	00 35 50.8	-0.6
CAF				pmax	pmax		
comp=Z,16nm,1.1s,mb4.9							
CAF	**Calviac**	45.75	307	*e*P	P	00 35 50.8	-0.6
comp=Z,16nm,1.1s,mb4.8							
RJF	**Les Rejaudoux**	46.16	307	*e*P	P	00 35 54.2	-0.4
comp=Z,19nm,1.0s,mb4.7							
RJF	**Les Rejaudoux**	46.16	307	*e*P	P	00 35 54.2	-0.4
RJF				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.7							
RJF	**Les Rejaudoux**	46.16	307	*e*P	P	00 35 54.2	-0.4
comp=Z,9.6nm,1.0s,mb4.7							
LFF	**La Frestale**	46.69	307	*e*P	P	00 35 58.2	-0.6
EPF	**Esparros**	46.95	304	*e*P	P	00 36 00.4	-0.4
ETSF	**Etsaut**	47.61	304	*e*P	P	00 36 05.5	-0.5
SJPF	**Ste Jean**	48.10	304	*e*P	P	00 36 09.3	-0.4
SGMF	**Saint Gilles**	49.09	311	*e*P	P	00 36 16.9	-0.3
BOD	**Bodaibo**	49.83	36	*e*P	P	00 36 21.5	-1.2
BOD				pmax	pmax		
comp=Z,3.0nm,0.9s,mb4.3							
ESDC	**Sonseca Array**	50.37	300	P	P	00 36 27.4	+0.3
comp=Z,1.0nm,0.6s,mb4.0,baz=71,slow=7.9,SNR=4.3							
ESDC				pP	pP	00 36 31.8	-11
comp=Z,1.9nm,0.8s,baz=71,slow=7.2,SNR=5.9							
TOA0	**Torodi Ar. Sit**	52.58	265	*e*P	P	00 36 43.9	0.0
TOA0	**Torodi Ar. Sit**	52.58	265	*e*P	P	00 36 43.9	0.0
TORD	**Torodi Ar. Bea**	52.58	265	P	P	00 36 43.8	-0.2
comp=Z,3.6nm,0.4s,mb4.6,baz=63,slow=7.0,SNR=15							
TORD				pP	pP	00 36 49.0	-11
comp=Z,11nm,0.7s,baz=62,slow=7.6,SNR=31							
NJ2	**Nanjing**	53.88	69	*e*P	P	00 36 55.0	+1.7
NJ2				AP	pP	00 36 59.3	-10
NJ2				XP	sP	00 37 02.6	-14
NJ2				PCP	PcP	00 37 59.8	+1.6
NJ2				S	**S**	00 44 27.0	+3.0
NJ2				XS	sS	00 44 36.0	-15
NJ2				AMB	AMB		
comp=Z,30nm,1.1s,mb5.1							
NJ2				AMB	AMB		
comp=Z,100nm,10.0s							
NJ2				LR	LR		
comp=N,990nm,21

SKR pmax pmax
comp=Z,120nm,0.5s
SKR smax
comp=N,80nm,0.5s
SKR smax
comp=E,220nm,1.0s
SKR Severo-Kuril's 4.71 30 *e*P **Pn 00 40 09.0 +0.1**
SKR AMB AMB 00 40 11.1
comp=E,40nm,0.5s
SKR AMB AMB 00 40 11.1
comp=E,120nm,0.5s
SKR *e*S **Sn 00 41 11.1 +8.9**
SKR A 00 41 21.9
comp=E,80nm,0.5s
SKR A 00 41 21.9
comp=E,220nm,0.5s
SKR A 00 41 21.9
comp=E,30nm,0.5s
YUK Yuzh-Kuril'sk 5.31 243 *e*P **Pn 00 40 17.5 +0.3**
YUK *e*S **Sn 00 41 19.4 +2.3**
YUK A 00 41 40.0
comp=E,2μm,1.0s
YUK A 00 41 40.0
comp=E,2μm,0.8s
YUK A 00 41 40.3
comp=E,970nm,0.8s
YUK A 00 41 40.3
comp=E,750nm,0.8s
NEM2 Nemuro 2 5.76 238 P **Pn 00 40 21.7 -1.7**
NEM2 *e*S **Sn 00 41 25.3 -2.9**
JRA Rausu 5.82 245 P **Pn 00 40 25.4 +1.3**
JRA *e*S **Sn 00 41 31.7 +2.1**
JNK Nakash 6.25 243 P **Pn 00 40 31.0 +0.9**
JTKR Abashiri--Toko 6.57 249 P **Pn 00 40 36.8 +2.4**
JAK Akkeshi 6.60 239 P **Pn 00 40 32.7 -2.1**
YSS Yuzh-Sakhalins 6.64 276‖ *e*PN **Pn 00 40 33.4 -1.9**
YSS Yuzh-Sakhalins 6.64 276 *e*rx rx 00 40 57.3
JMP Maruseppu 6.91 251 P **Pn 00 40 41.8 +2.7**
JAR Ashorobuto 6.99 244 P **Pn 00 40 41.4 +1.2**
JAR *e*S **Sn 00 42 00.6 +2.2**
JOB Onbets 7.17 241 P **Pn 00 40 42.2 -0.4**
JOB *e*S **Sn 00 42 01.2 -1.5**
ASAJ Asahikawa 7.37 253 PN **Pn 00 40 48.4 +3.1**
ASAJ pmax pmax
comp=Z,2.0nm,0.3s
ASAJ Asahikawa 7.37 253 P **Pn 00 40 49.6 +4.3**
ASAJ Asahikawa 7.37 253 P **Pn 00 40 48.4 +3.0**
comp=Z,2.2nm,0.3s,baz=99,slow=18,SNR=12
JKK2 Kamakawa 2 7.37 251 P **Pn 00 40 48.5 +3.2**
PET Petropavlovsk 7.54 30 PN **Pn 00 40 48.2 +0.6**
JCH Churui 7.62 241 P **Pn 00 40 48.3 -0.5**
JCH *e*S **Sn 00 42 11.1 -2.7**
ERM Erimo 8.10 238⇓ *i*PN **Pn 00 40 55.4 0.0**
ERM Erimo 8.10 238 *e*Pn **Pn 00 40 56.0 +0.6**
comp=Z,18nm,0.4s
JEM Erimo 8.10 238 P **Pn 00 40 55.7 +0.3**
JNBK Urakawa-nobuka 8.18 241 P **Pn 00 40 55.4 -1.1**
JKB Kayabe 9.45 244 P **Pn 00 41 13.0 -1.0**
JYM2 Yakumo 2 9.74 247 P **Pn 00 41 17.9 0.0**
NKL Nikolayevsk 9.96 315 *e*P **Pn 00 41 23.0 +2.1**
JTM Tenmabayashi 10.09 238 P **Pn 00 41 20.1 -2.6**
JANG Nango 10.10 235 P **Pn 00 41 18.5 -4.3**
JANG *e*S **Sn 00 43 04.8 -10**
JOSM Okushiri--Mats 10.33 248 P **Pn 00 41 26.6 +0.7**
JRG Rokugo 11.26 234 P **Pn 00 41 35.2 -3.5**
MA2 Magadan 12.97 356 *e*PN **Pn 00 42 01.4 -0.6**
MJAR Matsushiro Arr 14.65 231 P **Pn 00 42 29.8 +4.9**
comp=Z,0.3nm,0.3s,baz=37,slow=8.5,SNR=5.9
YAK Yakutsk 20.14 328⇑ *e*P **P 00 43 29.3 -1.7**
YAK pmax pmax
comp=Z,15nm,0.7s
YAK Yakutsk 20.14 328 *e*P **P 00 43 29.5 -1.5**
KSRS Korea Array 20.31 252 P **P 00 43 35.2 +2.1**
comp=Z,0.7nm,0.3s,baz=70,slow=16,SNR=3.2
CBIJ Chichi jima 21.14 206 LR LR 00 52 30.5
comp=Z,31nm,18.5s,MS2.7,baz=68,slow=38
JNU Nakatsue 21.26 238 LR LR 00 51 21.5
comp=Z,52nm,22.0s,MS2.9,baz=107,slow=35
BILL Bilibino 22.59 14⇑ *e*P **P 00 43 57.4 +0.2**
BILL pmax pmax
comp=Z,4.0nm,1.9s,mb3.5
GUMO Guam 33.58 193 P **P 00 45 39.0 +2.0**
IMA2 Indian Mountai 34.16 36 *e*P **P 00 45 41.5 -0.1**
COLA College 36.50 38⇑ *e*P **P 00 46 01.5 -0.2**
INK Inuvik 41.98 32 *e*P **P 00 46 47.0 -0.4**
comp=Z,100nm,0.7s,mb5.5
MKAR Makanchi Array 46.55 297 P **P 00 47 23.5 -0.8**
comp=Z,0.5nm,0.7s,mb3.5,baz=69,slow=8.8,SNR=4.2
MKAR PcP PcP 00 48 57.9 -0.1
comp=Z,0.4nm,0.8s,baz=59,slow=3.7,SNR=2.9
KURK Kurchatov 47.01 303⇑ *e*P **P 00 47 24.6 -3.1**
KURK Kurchatov 47.01 303 P **P 00 47 27.1 -0.7**
BVAR Borovoye Array 50.54 309 P **P 00 47 55.1 +0.3**
comp=Z,0.4nm,0.4s,mb3.7,baz=72,slow=9.3,SNR=3.7
BRVK Borovoye 50.58 309 *e*P **P 00 47 55.2 +0.1**
BRVK pmax pmax
comp=Z,1.0nm,0.5s,mb4.0
BRVK Borovoye 50.58 309 *e*P **P 00 47 55.2 +0.1**
comp=Z,1.0nm,0.5s,mb4.0
YKA Yellowknife Ar 51.28 36 *i*P **P 00 47 59.7 -0.5**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 51.28 36 P **P 00 47 59.7 -0.5**
YKA Yellowknife Ar 51.28 36 P **P 00 47 59.7 -0.5**
comp=Z,0.8nm,0.7s,mb3.8,baz=294,slow=6.8,SNR=8.2
FINES FINESS Array B 63.91 334 *i*P **P 00 49 28.2 -0.8**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 63.91 334 P **P 00 49 28.3 -0.8**
FINES FINESS Array B 63.91 334 P **P 00 49 28.3 -0.8**
comp=Z,0.5nm,0.5s,mb3.9,baz=36,slow=5.8,SNR=7.4
NB2 NORSAR Subarra 68.15 341 P **P 00 49 56.2 -0.1**
comp=Z,1.7nm,0.7s,mb4.2,baz=29,slow=6.5
NOA NORSAR Array B 68.15 341 P **P 00 49 56.2 0.0**
comp=Z,2.6nm,0.9s,mb4.3,baz=28,slow=6.2,SNR=5.2
FITZ Fitzroy Crossi 68.84 207 *e*P **P 00 50 00.7 -0.3**
AKASG Malin Array Be 71.35 326 P **P 00 50 15.8 -0.3**
comp=Z,0.6nm,0.4s,mb3.9,baz=34,slow=6.0,SNR=3.2
STHS Stebnicka Huta 75.35 329 *e*P **P 00 50 39.6 -0.1**
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BURAR Bucovina Array 75.39 326⇑ *i*P **P 00 50 40.7 +0.7**
CLL Collm 76.34 335 *i*P **P 00 50 45.1 -0.2**
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
CLL Collm 76.34 335 *i*P **P 00 50 45.1 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
MLR Muntele Rosu 76.86 324 P **P 00 50 49.4 +1.0**
comp=Z,2.1nm,0.8s,mb4.1,baz=256,slow=3.1,SNR=5.3
MLR Muntele Rosu 76.86 324⇑ *i*P **P 00 50 49.8 +1.4**
VYHS Vyhne 76.97 330 *e*P **P 00 50 49.3 +0.4**
VYHS pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
VYHS Vyhne 76.97 330 *e*P **P 00 50 49.2 +0.3**
GERES GERESS Array B 78.32 334 P **P 00 50 56.6 +0.1**
comp=Z,0.7nm,0.6s,mb3.8,baz=26,slow=6.5,SNR=5.9
CPUP Villa Florida 148.93 60 PKPbc PKPbc 00 58 42.9 -1.3
comp=Z,0.7nm,0.5s,baz=286,slow=3.0,SNR=4.8

IDC ***16*** *00:38:59.7±10.0, 6009S×2820W, h137km±92km, mb3.7/7, mb1 3.8/7, mb1mx3.5/17, mbtmp3.7/7, Error ellipse: s-maj=58.2km s-min=18.9km az=6.0*
NEIC 16 00:39:00.6±7.1, 6019S×2820W, h152km±59km, mb4.3/2, Error ellipse: s-maj=43.0km s-min=13.3km az=186.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**38.91**	**299**	P	P	00 46 11.2	0.0
	0.1nm,0.4s,baz=146,slow=11,SNR=3.0						
CPUP	**Villa Florida**	**39.30**	**316**	P	P	00 46 14.2	-0.3
	1.0nm,0.4s,baz=147,slow=7.9,SNR=8.1						
BOSA	**Boshof**	**47.60**	**73**	P	P	00 47 21.7	+0.8
	3.9nm,1.1s,baz=216,slow=17,SNR=2.4						
LBTB	**Lobatse**	**50.80**	**71**	P	P	00 47 45.2	0.0
LBTB	**Lobatse**	**50.80**	**71**	P	P	00 47 45.2	0.0
	2.0nm,0.6s,baz=237,slow=19,SNR=4.1						
LPAZ	**La Paz**	**52.45**	**309**	P	P	00 47 58.7	+1.2
LPAZ	**La Paz**	**52.45**	**309**	P	P	00 47 58.7	+1.2
	1.2nm,0.4s,baz=110,slow=6.4,SNR=12						
LSZ	**Lusaka**	**60.41**	**68**	*e*P	P	00 48 52.9	-0.9
	7.3nm,1.4s						
DBIC	**Dimbokro**	**69.16**	**25**	*e*P	P	00 49 50.3	-0.1
	1.2nm,0.3s						
DBIC	**Dimbokro**	**69.16**	**25**	P	P	00 49 50.2	-0.1
	2.7nm,1.1s,baz=164,slow=7.4,SNR=4.1						
TOA0	**Torodi Ar. Sit**	**76.92**	**30**	*e*P	P	00 50 36.6	+0.7
TORD	**Torodi Ar. Bea**	**76.92**	**30**	P	P	00 50 36.5	+0.7
	4.3nm,0.5s,baz=197,slow=6.3,SNR=130						
YKA	**Yellowknife Ar**	**138.82**	**315**	PKP	PKPdf	00 58 06.6	-0.4
YKA	**Yellowknife Ar**	**138.82**	**315**	PKP	PKPdf	00 58 06.6	-0.4
	0.2nm,0.4s,baz=126,slow=2.1,SNR=5.6						
ZALV	**Zalesovo Beam**	**144.50**	**70**	PKP	PKPdf	00 58 16.8	-0.6
	4.2nm,0.5s,baz=242,slow=3.5,SNR=17						
SONM	**Songino Array**	**151.22**	**95**	PKPbc	PKPbc	00 58 35.9	+1.2
	1.9nm,0.5s,baz=202,slow=2.3,SNR=3.3						

ISCJB ***16*** *00:46:34.8±0.5, 4037N×2709E×003, h5km±6km, Error ellipse: s-maj=4.9km s-min=3.6km az=142.4*
CSEM ***16*** *00:46:34.3±0.1, 4038N×2708E, h8km, MD2.9, Error ellipse: s-maj=1.5km s-min=1.1km az=162.0*
DDA ***16*** *00:46:34.7, 4037N×2708E, h7km±1km, Md2.8*
ISK ***16*** *00:46:34.5, 4037N×2708E, h9km, MD2.9*
ISC 16 00:46:35.3±0.4, 4038N±003×2708E±003, h10km±4km, n23, σ0:65/33, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.24**	**268**	PG	**Pg**	**00 46 40.2**	**+0.1**
LPK				SG	**Sg**	**00 46 44.0**	**+0.6**
RKY	**Sarkoy-Tekirda**	**0.32**	**14**	PG	**Pg**	**00 46 42.0**	**+0.4**
RKY				SG	**Sg**	**00 46 46.6**	**+0.7**
SART	**Tekirdag**	**0.32**	**15**↓	*i*P	**Pg**	**00 46 41.5**	**-0.1**
SART				*i* S	**Sg**	**00 46 46.4**	**+0.5**
MFT	**Murefte**	**0.44**	**21**	PG	**Pg**	**00 46 43.7**	**-0.1**
MFT				SG	**Sg**	**00 46 49.9**	**+0.4**
MRMT	**Marmara Adasi**	**0.46**	**60**	PG	**Pg**	**00 46 43.5**	**-0.6**
MRMT				SG	**Sg**	**00 46 49.9**	**-0.2**
EDC	**Edincik**	**0.60**	**93**	PG	**Pg**	**00 46 46.8**	**-0.1**
BNT	**Bandirma**	**0.65**	**92**	PG	**Pg**	**00 46 47.2**	**-0.6**
ENEZ	**Enez**	**0.79**	**297**	PG	**Pg**	**00 46 50.0**	**-0.5**
EZN	**Ezine**	**0.80**	**226**	PG	**Pg**	**00 46 50.0**	**-0.6**
GADA	**Gvkgeada**	**0.92**	**259**	*e*PG	**Pg**	**00 46 52.5**	**-0.4**
BOZC	**Bozcaada**	**0.95**	**236**	*i* P	**Pg**	**00 46 52.8**	**-0.8**
BOZC				*i* S	**Sg**	**00 47 06.4**	**+0.5**
BTOK	**Tokmak**	**0.96**	**130**	*e*P	**Pg**	**00 46 52.9**	**-0.8**
BTOK				*i* S	**Sg**	**00 47 08.4**	**+2.2**
BALB	**Balikesir**	**0.96**	**140**	*e*PG	**Pg**	**00 46 53.0**	**-0.8**
KCT	**Karacabey**	**0.99**	**96**	*e*PG	**Pg**	**00 46 53.8**	**-0.4**
AYVA	**Ayvalik**	**1.11**	**196**	*i* P	**Pb**	**00 46 56.0**	**-0.6**
AYVA				*i* S	**Sb**	**00 47 12.7**	**+1.6**
AYVA	**Ayvalik**	**1.11**	**196**	*i* P	**Pb**	**00 46 56.0**	**-0.5**
AYVA				*i* S	**Sb**	**00 47 12.6**	**+1.6**
CTT	**Catalca**	**1.28**	**53**	*e*PN	**Pn**	**00 46 58.9**	**-0.3**
ELBA	**Catalca**	**1.28**	**53**	*i* P	**Pn**	**00 46 58.7**	**-0.6**
ELBA				*i* S	**Sb**	**00 47 16.6**	**+0.5**
DST	**Dursunbey**	**1.42**	**122**	*e*PN	**Pn**	**00 47 01.6**	**+0.4**
EDRB	**Edirne**	**1.49**	**350**	*e*PN	**Pn**	**00 47 02.3**	**+0.2**
KLYT	**Kilyos**	**1.73**	**59**	*e*PN	**Pn**	**00 47 04.8**	**-0.6**
YLV	**Yalova**	**1.76**	**83**	*e*PN	**Pn**	**00 47 05.8**	**0.0**
IZI	**Iznik**	**1.83**	**91**	*e*PN	**Pn**	**00 47 07.1**	**+0.3**

NIED ***16*** *01:52:00, 3780N×14330E, h11km, Mw4.2 Best double couple: M0:2.16000×10^15 NP1:φ=358.00000°, δ=68.00000°, λ=73.00000°. NP2:φ=217.00000°, δ=27.00000°, λ=126.00000°.*
IDC ***16*** *01:52:03.2±0.8, 3775N×14326E, h0km, mb4.1/16, mb1 4.2/20, mb1mx4.1/27, mbtmp4.1/20, ML4.0/4, MS3.1/3, Ms1 3.1/3, ms1mx2.8/36, Error ellipse: s-maj=21.9km s-min=17.3km az=93.0*
MOS ***16*** *01:52:05.4±0.8, 3774N×14326E, h28km, mb4.6/10, Error ellipse: s-maj=12.7km s-min=8.0km az=104.3*
ISCJB ***16*** *01:52:05.2±1.5, 3773N±004×14323E±005, h25km±10km, mb4.3/34, MS3.9/2, Error ellipse: s-maj=7.4km s-min=5.2km az=137.1*
JMA ***16*** *01:52:05.5±0.2, 3778N×14328E, h49km, M4.5*
NEIC ***16*** *01:52:08.8±1.0, 3776N×14320E, h36km±8km, mb4.6/12, MW4.2(NIED), Error ellipse: s-maj=9.1km s-min=6.5km az=120.0*
BJI ***16*** *01:52:13.0, 3809N×14229E, h33km, mB4.5, mb4.6, Ms4.1, Msz3.9*
ISC 16 01:52:06.8±1.7, 3778N±004×14318E±005, h20km±11km, n74, σ0:91/85, mb4.3/34, MS3.9/2, 5C-1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIO	**Ouri**	**1.59**	**296**	⇑P	**Pn**	**01 52 33.2**	**-0.6**
JIO				*e*S	**Sn**	**01 52 53.2**	**-0.6**
OFUJ	**Ofunato**	**1.76**	**318**	⇑P	**Pn**	**01 52 35.0**	**-1.1**
OFUJ				*e*S	**Sn**	**01 52 56.5**	**-1.4**
JMM	**Marumori**	**1.89**	**273**	⇑P	**Pn**	**01 52 37.1**	**-0.8**
JMM				S	**Sn**	**01 53 01.2**	**+0.1**
JMK	**Ichinoseki**	**1.93**	**308**	⇑P	**Pn**	**01 52 37.8**	**-0.7**
JOM	**Ohasama**	**2.25**	**320**	⇑P	**Pn**	**01 52 42.2**	**-0.6**
JYK	**Kaneyama**	**2.49**	**298**	P	**Pn**	**01 52 46.2**	**+0.1**
JANG	**Nango**	**2.90**	**334**	P	**Pn**	**01 52 51.1**	**-0.6**
JNS	**Sasagawa**	**3.06**	**272**	P	**Pn**	**01 52 54.6**	**+0.7**
JAW	**Awa shima**	**3.17**	**284**	P	**Pn**	**01 52 56.2**	**+0.7**
JAG	**Ashikaga**	**3.27**	**247**	P	**Pn**	**01 52 56.4**	**-0.4**
JAG				*e*S	**Sn**	**01 53 34.9**	**-0.2**
BSO1	**Boso 1**	**3.59**	**210**	P	**Pn**	**01 52 59.6**	**-1.7**
JRY	**Ryogami san**	**3.85**	**244**	P	**Pn**	**01 53 04.5**	**-0.3**
JRY				*e*S	**Sn**	**01 53 48.0**	**-1.5**
MJAR	**Matsushiro Arr**	**4.15**	**254**	Pn	**Pn**	**01 53 09.4**	**+0.4**
	8.2nm,0.3s,baz=81,slow=14,SNR=44						
MAJO	**Matsushiro**	**4.16**	**254**	*e*Pn	**Pn**	**01 53 10.6**	**+1.5**
MAJO				*e*Sn	**Sn**	**01 53 57.7**	**+0.7**
MAT	**Matsushiro**	**4.16**	**254**	P	**Pn**	**01 53 09.9**	**+0.8**
MAT				*e*S	**Sn**	**01 53 58.4**	**+1.4**
ERM	**Erimo**	**4.23**	**360**	*e*Pn	**Pn**	**01 53 10.2**	**+0.1**
ERM				*e*Sn	**Sn**	**01 53 55.5**	**-3.3**
JHJ	**Hachijo jima 2**	**5.41**	**212**	Pn	**Pn**	**01 53 24.7**	**-1.6**
	22nm,0.3s,baz=63,slow=19,SNR=6.0						
JHJ				Sn	**Sn**	**01 54 21.8**	**-6.2**
	83nm,0.3s,baz=262,slow=23,SNR=7.8						
ASAJ	**Asahikawa**	**6.35**	**356**	P	**Pn**	**01 53 39.5**	**+0.4**
ASAJ						01 54 46.9	
ASAJ				pmax	pmax		
	comp=Z,5.0nm,0.3s						
ASAJ				smax			
	comp=N,3.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,301nm,18.0s						
ASAJ	**Asahikawa**	**6.35**	**356**	Pn	**Pn**	**01 53 39.5**	**+0.4**
	comp=Z,4.9nm,0.3s,baz=226,slow=10,SNR=8.5						
ASAJ				Sn	**Sn**	**01 54 46.9**	**-4.1**
	comp=Z,3.2nm,0.3s,baz=34,slow=18,SNR=2.8						
ASAJ				LR	LR	01 56 56.4	
	comp=Z,300nm,18.0s,baz=240,slow=46						
CBIJ	**Chichi jima**	**10.68**	**185**	Pn	**Pn**	**01 54 34.2**	**-4.5**
	comp=Z,3.0nm,0.3s,baz=282,slow=20,SNR=4.7						
CBIJ				Sn	**Sn**	**01 56 25.2**	**-12**
	comp=Z,6.1nm,0.3s,baz=323,slow=20,SNR=5.7						
CBIJ				LR	LR	01 58 26.5	
	comp=Z,46nm,21.9s,baz=130,slow=36						
KSRS	**Korea Array**	**12.10**	**273**	Pn	**Pn**	**01 54 59.4**	**+1.4**
	comp=Z,0.2nm,0.3s,baz=86,slow=14,SNR=6.3						
KSRS				LR	LR	01 59 11.6	
	comp=Z,100nm,18.3s,baz=320,slow=35						
KLR	**Kul'dur**	**14.11**	**328**	*e*P	**Pn**	**01 55 19.4**	**-6.0**
KLR				MLR	MLR		
	comp=N,500nm,13.0s						
KLR				MLR	MLR		
	comp=Z,1μm,13.0s						
PET	**Petropavlovsk**	**18.66**	**30**	P	**Pn**	**01 56 24.4**	**+0.8**
BJT	**Baijiatuau**	**21.11**	**284**	*e*P	**P**	**01 56 47.2**	**-2.9**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.4s						
BJT	**Baijiatuau**	**21.11**	**284**	*e*P	**P**	**01 56 47.2**	**-2.9**
	comp=Z,8.0nm,0.4s,mb4.4						
MA2	**Magadan**	**22.35**	**10**	P	**P**	**01 57 03.9**	**+0.7**
WHN	**Wuhan**	**24.86**	**262**	⇓P	**P**	**01 57 28.0**	**+0.1**
WHN				AMB	AMB		
	comp=Z,49nm,0.8s,mb5.1						
BOD	**Bodaibo**	**27.68**	**326**	*e*P	**P**	**01 57 53.0**	**-0.1**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.0						
XAN	**Xi'an**	**27.90**	**273**	P	**P**	**01 57 54.8**	**-0.6**
XAN				AP	pP	01 58 02.8	+1.4
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.2						
XAN				LR	LR		
	comp=N,784nm,15.3s						
XAN				LR	LR		
	comp=Z,245nm,13.6s,MS4.0						
ULN	**Ulaanbaatar**	**28.12**	**303**	*e*P	**P**	**01 57 58.1**	**+0.9**
ULN				*e*		01 58 07.6	
ULN				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.0						
ULN	**Ulaanbaatar**	**28.12**	**303**	*e*P	**P**	**01 57 58.1**	**+0.9**
	comp=Z,2.4nm,0.5s,mb4.1						
ULN				*e*		01 58 07.6	
SONM	**Songino Array**	**28.55**	**302**	P	**P**	**01 58 02.0**	**+1.0**
	comp=Z,1.7nm,0.5s,mb4.0,baz=105,slow=9.1,SNR=3.0						
ZAK	**Zakamensk**	**30.93**	**307**	*e*P	**P**	**01 58 22.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
GTA	**Gaotai**	**33.69**	**286**	*e*P	**P**	**01 58 48.3**	**+1.9**
GTA				AP	pP	01 58 53.4	+0.9
GTA				XP	sP	01 58 56.3	+1.4
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
GTA				LR	LR		
	comp=N,125nm,13.4s,MS4.0						
GTA				LR	LR		
	comp=E,146nm,13.8s,MS4.0						
GTA				LR	LR		
	comp=Z,101nm,13.0s,MS3.7						
ZAA0	**Zalesovo Array**	**42.46**	**312**	*e*P	**P**	**02 00 00.7**	**+0.6**
ZALV	**Zalesovo Beam**	**42.46**	**312**	P	**P**	**02 00 00.0**	**-0.1**
	comp=Z,3.6nm,0.7s,mb4.1,baz=81,slow=6.9,SNR=10						
ZALV				PcP	PcP	02 01 52.7	0.0
	comp=Z,1.0nm,0.5s,baz=78,slow=3.4,SNR=3.5						
ZAL	**Zalesovo**	**42.47**	**312**	P	**P**	**02 00 00.0**	**-0.2**
ZAL						02 01 52.7	
MK31	**Makanchi Array**	**44.92**	**302**	*e*P	**P**	**02 00 20.5**	**+0.5**
MKAR	**Makanchi Array**	**44.92**	**302**	P	**P**	**02 00 19.9**	**0.0**
	comp=Z,3.3nm,0.7s,mb4.3,baz=84,slow=9.0,SNR=16						
KURK	**Kurchatov**	**46.58**	**308**	*e*P	**P**	**02 00 33.0**	**-0.1**
KURK				*e*		02 00 42.0	
KURK				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.0						
KURK	**Kurchatov**	**46.58**	**308**	*e*P	**P**	**02 00 33.0**	**-0.1**
	comp=Z,16nm,0.8s,mb5.0						
KURK				*e*		02 00 42.0	
TKM2	**Tokmak 2**	**50.51**	**298**	*e*P	**P**	**02 01 04.1**	**+0.7**
TKM2				*e*		02 01 13.1	
TKM2				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
TKM2	**Tokmak 2**	**50.51**	**298**	*e*P	**P**	**02 01 04.1**	**+0.7**
	comp=Z,6.4nm,0.8s,mb4.6						
TKM2				*e*		02 01 13.1	
BVAR	**Borovoye Array**	**51.11**	**312**	P	**P**	**02 01 07.8**	**0.0**
	comp=Z,1.9nm,0.6s,mb4.2,baz=72,slow=9.5,SNR=10						
BVAR				PcP	PcP	02 02 23.5	+0.2
	comp=Z,0.8nm,0.7s,baz=98,slow=5.0,SNR=1.9						
BRVK	**Borovoye**	**51.17**	**312**	*e*P	**P**	**02 01 08.7**	**+0.5**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.5						
BRVK	**Borovoye**	**51.17**	**312**	*e*P	**P**	**02 01 08.7**	**+0.5**
	comp=Z,2.2nm,0.3s,mb4.6						
UCH	**Uchtor**	**51.49**	**298**	*e*P	**P**	**02 01 12.3**	**+1.4**
	comp=Z,1.0nm,0.5s,mb4.0						
EKS2	**Erkin-Say**	**51.86**	**299**	*e*P	**P**	**02 01 14.3**	**+0.7**
	comp=Z,1.9nm,0.7s,mb4.1						
AML	**Almayashu**	**52.10**	**298**	*e*P	**P**	**02 01 16.4**	**+1.1**
	comp=Z,9.3nm,1.1s,mb4.6						
INK	**Inuvik**	**53.08**	**28**	*e*P	**P**	**02 01 22.7**	**+0.5**
	comp=Z,44nm,0.9s,mb5.4						
ARU	**Arti**	**56.73**	**319**	*e*P	**P**	**02 01 49.3**	**+0.5**
ARU				pmax	pmax		
	comp=Z,3.0nm,0.3s,mb4.8						
ARU	**Arti**	**56.73**	**319**	*e*P	**P**	**02 01 49.3**	**+0.5**
	comp=Z,3.0nm,0.3s,mb4.8						
WRAB	**Tennant Creek**	**58.00**	**190**	*e*P	**P**	**02 01 58.5**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
WRAB	**Tennant Creek**	**58.00**	**190**	*e*P	**P**	**02 01 58.5**	**+0.4**
	comp=Z,1.9nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**58.01**	**190**	*e*P	**P**	**02 01 57.4**	**-0.7**
WRA	**Warramunga Arr**	**58.01**	**190**	P	**P**	**02 01 56.7**	**-1.4**
	comp=Z,1.4nm,0.8s,mb4.1,baz=8.7,slow=7.3,SNR=7.4						
AKTK	**Aktyubinsk**	**59.22**	**312**	P	**P**	**02 02 06.3**	**0.0**
AKTO	**Aktyubinsk**	**59.22**	**312**	P	**P**	**02 02 06.3**	**0.0**
	comp=Z,1.9nm,0.8s,mb4.2,baz=82,slow=14,SNR=7.6						
RES	**Resolute Bay**	**61.53**	**15**	*e*P	**P**	**02 02 21.6**	**-0.1**
	comp=Z,67nm,0.8s						
ASAR	**Alice Springs**	**61.73**	**190**	P	**P**	**02 02 23.6**	**-0.1**
	comp=Z,0.8nm,0.9s,mb3.8,baz=8.5,slow=6.9,SNR=6.1						
YKA	**Yellowknife Ar**	**62.46**	**31**	P	**P**	**02 02 27.0**	**-1.1**
	comp=Z,0.3nm,0.6s,mb3.6,baz=301,slow=6.5,SNR=5.2						
ARCES	**ARCESS Array B**	**63.79**	**340**	P	**P**	**02 02 35.6**	**-1.4**
	comp=Z,1.6nm,0.7s,mb4.2,baz=39,slow=9.2,SNR=3.1						
JOF	**Joensuu**	**65.96**	**332**	*e*p	**P**	**02 02 49.7**	**-1.4**
	comp=Z,0.7nm,0.4s,mb4.0						
JOF	**Joensuu**	**65.96**	**332**	*e*P	**P**	**02 02 49.7**	**-1.4**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.2						
OBN	**Obninsk**	**68.34**	**324**	P	**P**	**02 03 04.7**	**-1.7**
FINES	**FINESS Array B**	**68.81**	**333**	P	**P**	**02 03 08.7**	**-0.5**
	comp=Z,2.3nm,0.7s,mb4.2,baz=67,slow=11,SNR=8.7						
KIV	**Kislovodsk**	**71.47**	**311**	*e*P	**P**	**02 03 26.6**	**+0.8**
KIV				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.8						
KIV	**Kislovodsk**	**71.47**	**311**	*e*P	**P**	**02 03 26.6**	**+0.8**
	comp=Z,7.0nm,0.6s,mb4.8						
NVAR	**Mina Array Bea**	**73.42**	**54**	P	**P**	**02 03 39.0**	**+1.5**
	comp=Z,0.6nm,0.6s,mb3.7,baz=290,slow=6.1,SNR=5.4						
HFS	**Hagfors**	**73.98**	**336**	P	**P**	**02 03 40.8**	**+0.4**
	comp=Z,1.7nm,0.8s,mb4.0,baz=74,slow=6.8,SNR=4.5						
NOA	**NORSAR Array B**	**74.04**	**338**	P	**P**	**02 03 40.0**	**-0.7**
	comp=Z,0.9nm,0.6s,mb3.9,baz=39,slow=6.1,SNR=3.7						
AKASG	**Malin Array Be**	**74.56**	**323**	P	**P**	**02 03 44.0**	**0.0**
	comp=Z,1.0nm,0.4s,mb4.1,baz=43,slow=5.9,SNR=12						
MMAI	**Mount Meron

ASAO	Ashtian	8.33	324	*e*Pn	Pn	01 54 15.1	+0.8
ASF	Jabal al Asfar	17.04	289	P	Pn	01 56 10.9	+0.6
	comp=E,0.1nm,0.3s,baz=152,slow=15,SNR=3.2						
MMAI	Mount Meron Ar	18.43	291	P	Pn	01 56 27.0	-0.3
	comp=E,0.3nm,0.3s,baz=93,slow=18,SNR=2.5						
AKTK	Aktyubinsk	22.54	3	P	P	01 57 11.1	+0.2
AKTK	Aktyubinsk	22.54	3	P	P	01 57 11.1	+0.3
AKTO	Aktyubinsk	22.54	3	P	P	01 57 11.1	+0.2
	comp=E,1.2nm,0.6s,mb3.5,baz=196,slow=10,SNR=3.5						
BVAR	Borovoye Array	27.27	19	P	P	01 57 54.5	-0.1
	comp=E,1.0nm,0.6s,mb3.5,baz=201,slow=7.9,SNR=8.3						
MKAR	Makanchi Array	27.95	41	P	P	01 58 00.2	-0.5
	comp=E,0.6nm,0.6s,mb3.4,baz=224,slow=8.5,SNR=5.5						
MKAR	Makanchi Array	27.95	41	P	P	01 58 00.2	-0.6
AKASG	Malin Array Be	30.46	326	P	P	01 58 22.8	-0.2
AKASG	Malin Array Be	30.46	326	P	P	01 58 22.8	-0.2
	comp=E,0.2nm,0.3s,mb3.4,baz=123,slow=7.6,SNR=8.6						
ZALV	Zalesovo Beam	33.51	31	P	P	01 58 48.9	-0.8
	comp=E,1.0nm,0.4s,mb4.1,baz=244,slow=7.2,SNR=6.0						
FINES	FINESS Array B	39.00	338	P	P	01 59 35.3	-1.1
	comp=E,2.0nm,0.9s,mb3.9,baz=134,slow=8.2,SNR=4.8						
HFS	Hagfors	43.03	330	P	P	02 00 09.6	+0.1
	comp=E,2.8nm,0.9s,mb4.0,baz=120,slow=10,SNR=5.5						
TORD	Torodi Ar. Bea	52.51	265	P	P	02 01 24.2	+0.8
	comp=E,1.2nm,0.5s,mb4.1,baz=63,slow=7.5,SNR=39						
YKA	Yellowknife Ar	89.59	356	P	P	02 05 08.1	+1.3
	comp=E,0.4nm,0.8s,mb3.8,baz=4.1,slow=5.7,SNR=6.0						

IDC ***16*** *02:18:02.7±0.8, 270S×12190E, h0km, mb4.3/8, mb1 4.3/10, mb1mx4.2/20, mbtmp4.2/10, ML3.4/2, MS3.5/6, Ms1 3.5/6, ms1mx3.3/24, Error ellipse: s-maj=27.7km s-min=15.0km az=57.0*

ISCJB ***16*** *02:18:05.6±2.9, 263S±006×12198E±006, h28km±21km, mb4.4/21, MS3.5/4, Error ellipse: s-maj=11.7km s-min=8.2km az=139.9*

MOS ***16*** *02:18:06.0±1.6, 267S×12194E, h33km, mb4.7/7, Error ellipse: s-maj=30.4km s-min=11.2km az=125.1*

BJI ***16*** *02:18:08.7, 280S×12180E, h40km, mB4.6, mb4.7*

NEIC ***16*** *02:18:08.7±2.8, 282S×12180E, h41km±27km, mb4.5/9, Error ellipse: s-maj=29.4km s-min=8.2km az=224.0*

ISC 16 02:18:08.5±3.2, 263S±006×12197E±006, h34km±23km, n45, σ1°13/43, mb4.4/21, MS3.5/4, 4C-1D, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDI	Kendari	1.47	154	P	Pn	02 18 29.5	-3.2
	4μm,1.0s						
PCI	Palu	2.73	309	P	Pn	02 18 49.8	-0.2
	6μm,0.9s						
KAPI	Kappang	3.24	223	Pn	Pn	02 18 53.5	-3.5
	34nm,0.3s,baz=94,slow=3.9,SNR=98						
KAPI				Sn	Sn	02 19 34.6	+0.2
	21nm,0.3s,baz=233,slow=20,SNR=3.9						
BATI	Kupang	7.71	167	Pn	Pn	02 20 00.1	+1.6
	3.1nm,0.3s,baz=214,slow=4.1,SNR=7.7						
BATI				LR	LR	02 23 26.9	
	comp=Z,531nm,19.2s,baz=106,slow=42						
KMMI	Kalianget	9.10	241	P	Pn	02 20 17.4	-0.1
	51nm,1.2s						
FITZ	Fitzroy Crossi	15.79	167	*e*P	Pn	02 21 49.0	+0.5
	25nm,0.9s						
FITZ	Fitzroy Crossi	15.79	167	Pn	Pn	02 21 44.6	-3.8
FITZ				*e*P		02 21 49.0	
FITZ				LR	LR	02 28 24.2	
FITZ	Fitzroy Crossi	15.79	167	Pn	Pn	02 21 44.6	-3.8
	0.0nm,0.3s,baz=344,slow=15,SNR=2.3						
FITZ				LR	LR	02 28 24.2	
	comp=Z,85nm,20.6s,baz=347,slow=40						
KSI	Kapahiang	19.37	266	P	Pn	02 22 34.8	+1.9
	145nm,0.9s						
WRAB	Tennant Creek	21.02	146⇑	*e*P	P	02 22 50.1	+0.6
WRAB	Tennant Creek	21.02	146	*e*P	P	02 22 49.9	+0.4
	11nm,0.9s,mb4.2						
WRA	Warramunga Arr	21.03	146	P	P	02 22 46.6	-2.9
	4.8nm,0.8s,mb3.9,baz=320,slow=11,SNR=21						
WRA				LR	LR	02 31 29.0	
	comp=Z,54nm,18.8s,MS3.0,baz=280,slow=38						
WB2	Warramunga Arr	21.03	146	*e*P	P	02 22 50.3	+0.7
KULM	Kulim	22.70	290	*e*P	P	02 23 07.3	-0.2
PSI	Prapat	23.66	283	P	P	02 23 16.3	-0.9
	18nm,0.9s,mb4.5,baz=139,slow=4.0,SNR=15						
PSI				LR	LR	02 34 03.0	
	comp=Z,271nm,18.4s,MS3.8,baz=117,slow=41						
ASAR	Alice Springs	23.89	152	P	P	02 23 18.7	-0.5
	11nm,1.0s,mb4.2,baz=346,slow=17,SNR=36						
CTA	Charters Tower	29.38	128	P	P	02 24 09.6	+0.8
	6.4nm,0.9s,mb4.3,baz=302,slow=8.1,SNR=4.0						
NWAO	Narrogin (SRO)	30.46	188	LR	LR	02 37 57.2	
	comp=Z,119nm,18.9s,MS3.6,baz=344,slow=39						
CHTO	Chiang Mai	31.10	314	*e*P	P	02 24 24.9	+1.0
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CHTO	Chiang Mai	31.10	314	*e*P	P	02 24 24.9	+0.9
	comp=Z,3.5nm,0.7s,mb4.3						
STKA	Stephens Creek	34.47	150	*e*P	P	02 24 55.1	+1.9
	comp=Z,7.1nm,0.9s,mb4.6						
STKA	Stephens Creek	34.47	150	P	P	02 24 53.2	0.0
	comp=Z,8.1nm,0.9s,mb4.6,baz=319,slow=9.0,SNR=8.6						
STKA				LR	LR	02 41 37.3	
	comp=Z,113nm,18.1s,MS3.6,baz=203,slow=41						
GTA	Gaotai	46.53	336	*e*P	P	02 26 37.9	+5.1
GTA				AP	pP	02 26 45.3	+2.3
GTA				XP	sP	02 26 48.8	+1.7
GTA				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
MK31	Makanchi Array	60.32	330	*e*P	P	02 28 13.2	-0.7
MKAR	Makanchi Array	60.32	330	P	P	02 28 13.9	0.0
	comp=Z,1.4nm,0.6s,mb4.2,baz=132,slow=7.7,SNR=17						
MKAR				PcP	PcP	02 28 59.0	+0.1
	comp=Z,2.6nm,0.8s,baz=123,slow=5.0,SNR=7.3						
TKM2	Tokmak 2	61.61	323	*e*P	P	02 28 22.5	-0.3
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.5						
TKM2	Tokmak 2	61.61	323	*e*P	P	02 28 22.5	-0.3
	comp=Z,4.1nm,1.1s,mb4.5						
KBL	Kabul	61.87	312	*e*P	P	02 28 23.7	-1.0
KBL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.9						
KBL	Kabul	61.87	312	*e*P	P	02 28 23.7	-1.0
	comp=Z,6.1nm,0.6s,mb4.9						
UCH	Uchtor	61.89	322	*e*P	P	02 28 25.2	+0.6
	comp=Z,1.3nm,0.7s,mb4.2						
AML	Almayashu	62.35	321	*e*P	P	02 28 27.9	+0.2
	comp=Z,4.1nm,0.9s,mb4.6						
EKS2	Erkin-Say	62.58	322	*e*P	P	02 28 29.7	+0.4
	comp=Z,2.7nm,0.9s,mb4.4						
ZAL	Zalesovo	64.28	337	P	P	02 28 39.4	-0.9
ZALV	Zalesovo Beam	64.28	337	P	P	02 28 39.4	-0.9
ZALV	Zalesovo Beam	64.28	337	P	P	02 28 39.4	-0.9
	comp=Z,2.6nm,0.8s,mb4.3,baz=133,slow=6.1,SNR=2.4						
KURK	Kurchatov	64.75	331	*e*P	P	02 28 42.7	-0.7
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
KURK	Kurchatov	64.75	331	*e*P	P	02 28 42.7	-0.7
	comp=Z,7.0nm,1.0s,mb4.7						
SEY	Seymchan	69.29	14⇑	*e*P	P	02 29 14.2	+2.2
TIXI	Tiksi	74.28	2	*e*P	P	02 29 40.2	-1.7
TIXI				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
BILL	Bilibino	76.90	16⇑	*i*P	P	02 29 57.6	+0.7
BILL				pmax	pmax		
	comp=Z,8.0nm,2.5s,mb4.2						
VNDA	Vanda	77.81	172	P	P	02 30 00.2	-1.7
	comp=Z,0.9nm,0.7s,mb3.8,baz=305,slow=5.7,SNR=4.3						
KIV	Kislovodsk	84.11	314⇓	*e*P	P	02 30 36.6	+0.5
KIV				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.5						
OBN	Obninsk	89.50	325⇑	*e*P	P	02 31 03.9	+1.8
OBN				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb5.1						
TORD	Torodi Ar. Bea	120.06	284	PKP	PKPdf	02 36 55.3	-1.4
	comp=Z,0.5nm,0.7s,baz=78,slow=1.8,SNR=6.2						
CPUP	Villa Florida	151.20	181	PKPbc	PKPbc	02 37 58.0	-1.1
	comp=Z,0.3nm,0.4s,baz=108,slow=5.5,SNR=3.3						

NEIC ***16*** *02:28:48.7, 1608N×9742W, h14km, MD3.7(MEX), After MEX.*

MEX 16 02:28:49.0±1.3, 1608N×9742W, h20km±73km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	0.75	295	*i*P	Pb	02 29 00.9	-2.5
PNIG				*i*S	Sb	02 29 10.4	-2.8
VHO	Vista Hermosa	1.19	33	*i*P	Pn	02 29 07.4	-3.1
VHO				*i*S	Sb	02 29 21.7	-4.1
OXX	Oaxaca	1.20	34	*i*P	Pn	02 29 07.0	-3.7
OXX				*i*S	Sb	02 29 21.5	-4.7
HUIG	Huatulco	1.30	103	*e*P	Pn	02 29 09.0	-3.0
HUIG				*i*S	Sn	02 29 25.1	-3.7
TPIG	Tehuac#an	2.33	1	*e*P	Pn	02 29 25.7	-0.6
TPIG				*i*S	Sn	02 29 51.6	-2.7
ACX	Acapulco	2.52	289	*i*P	Pn	02 29 28.0	-0.9
CMIG	Matias Romero	2.63	67	*e*P	Pn	02 29 28.0	-2.3
CMIG				*i*S	Sn	02 29 60.0	-1.7
PPM	Popocatepetl	3.19	339	*e*P	Pn	02 29 35.0	-3.1

NEIC ***16*** *02:29:46.2, 1736N×10132W, h24km, MD4.0(MEX), After MEX.*

MEX 16 02:29:46.5±0.6, 1735N×10132W, h16km±7km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.29	331	*i*P	Pg	02 29 51.6	-1.2
ZIIG				*i*S	Sg	02 29 56.3	-0.8
CAIG	El Cayaco	1.04	106	*i*P	Pb	02 30 03.0	-3.2
CAIG				*i*S	Sb	02 30 15.2	-4.5
ACX	Acapulco	1.42	109	*i*P	Pn	02 30 08.0	-3.6
ACX				*i*S	Sn	02 30 24.0	-6.0
MEIG	Mezcala	1.72	70	*e*P	Pn	02 30 12.0	-3.7
MEIG				*i*S	Sn	02 30 32.6	-4.7
PLIG	Platanillo	2.02	59	*e*P	Pn	02 30 16.2	-3.6
PLIG				*i*S	Sn	02 30 40.3	-4.4
SZVM	Salazar	2.69	43	*i*P	Pn	02 30 27.9	-1.3
SZVM				*i*S	Sn	02 30 57.7	-3.6
UNM	Universidad Na	2.83	46	*e*P	Pn	02 30 31.0	0.0
PPM	Popocatepetl	3.07	56	*e*P	Pn	02 30 26.0	-8.4
PPM				*i*S	Sn	02 31 08.0	-2.9
SFJM	Santa Fe	3.52	333	*e*P	Pn	02 30 46.0	+5.4
VHO	Vista Hermosa	4.39	93	*e*P	Pn	02 30 49.2	-3.3
VHO				*i*S	Sn	02 31 38.9	-4.4
OXX	Oaxaca	4.40	93	*e*P	Pn	02 30 51.5	-1.1
OXX				*i*S	Sn	02 31 41.0	-2.5

IDC 16 02:35:38.9±2.2, 133N×9694E, h0km, mb3.7/3, mb1 3.7/4, mb1mx3.5/21, mbtmp3.6/4, ML2.8/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/31, Error ellipse: s-maj=54.5km s-min=29.0km az=49.0, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.46	53	Pn	Pn	02 36 19.9	-0.4
	2.4nm,0.3s,baz=254,slow=8.6,SNR=8.6						
WRA	Warramunga Arr	42.32	122	P	P	02 43 34.7	-0.2
	0.1nm,0.4s,baz=303,slow=8.9,SNR=6.1						
MKAR	Makanchi Array	47.06	346	P	P	02 44 12.4	+0.2
	1.7nm,0.7s,baz=163,slow=7.9,SNR=14						
OPO	Ambohidratompo	52.74	245	LR	LR	03 02 18.5	
	comp=Z,27nm,21.6s,baz=178,slow=30						
ZALV	Zalesovo Beam	53.39	351	P	P	02 44 59.9	-0.4
	0.7nm,0.3s,baz=159,slow=7.1,SNR=3.4						

IDC ***16*** *03:04:12.4±2.6, 2309S×17853W, h0km, mb4.5/5, mb1 4.6/5, mb1mx4.1/15, mbtmp4.5/5, Error ellipse: s-maj=69.5km s-min=35.9km az=28.0*

NEIC ***16*** *03:05:21.2±1.2, 2450S×17949E, h600km, mb4.1/9, Error ellipse: s-maj=33.1km s-min=19.3km az=205.0*

ISC 16 03:05:20.6±4.2, 243S±06×1796E±05, h600km, n16, σ0°38/15, mb4.2/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	31.08	271	*e*P	P	03 10 52.4	+0.7
	8.7nm,0.3s,mb4.9						
CTAO	Charters Tower	31.08	271	*e*P	P	03 10 51.9	+0.2
	14nm,0.4s,mb4.9						
STKA	Stephens Creek	34.19	249	*e*P	P	03 11 17.9	+0.2
	3.4nm,0.7s,mb4.1						
STKA	Stephens Creek	34.19	249	P	P	03 11 18.0	+0.2
	3.0nm,0.4s,mb4.3,baz=89,slow=9.0,SNR=18						
ASAR	Alice Springs	41.58	261	P	P	03 12 17.9	+0.3
	1.7nm,0.4s,mb4.0,baz=95,slow=7.2,SNR=36						
WB2	Warramunga Arr	41.97	267	*e*P	P	03 12 20.4	-0.4
WRAB	Tennant Creek	41.98	267	*e*P	P	03 12 20.3	-0.5
	5.4nm,0.5s,mb4.3						
WRA	Warramunga Arr	41.98	267	P	P	03 12 20.6	-0.3
	5.6nm,0.4s,mb4.4,baz=102,slow=8.1,SNR=97						
FORT	Forrest	45.79	250	*e*P	P	03 12 49.6	-0.4
	14nm,0.7s,mb4.6						
KAKA	Kakadu	45.96	276	*e*P	P	03 12 51.3	-0.2
	3.9nm,0.4s,mb4.3						
FITZ	Fitzroy Crossi	50.40	266	*e*P	P	03 13 25.2	+0.8
	5.4nm,1.0s,mb3.9						
FITZ	Fitzroy Crossi	50.40	266	P	P	03 13 24.9	+0.5
	2.7nm,0.5s,mb3.9,baz=109,slow=14,SNR=14						
MBWA	Marble Bar	54.91	260	*e*P	P	03 13 56.5	+0.2
	3.6nm,0.5s,mb4.0						
QSPA	South Pole Qui	65.75	180	*e*P	P	03 15 06.5	-0.2
	4.6nm,0.8s,mb4.0						
QSPA	South Pole Qui	65.75	180	P	P	03 15 06.9	+0.2
	4.5nm,0.9s,mb3.9,baz=56,slow=4.3,SNR=7.0						
AKASG	Malin Array Be	145.12	327	PKP	PKPdf	03 23 51.5	+1.1
	0.5nm,0.3s,baz=46,slow=4.3,SNR=6.0						

NEIC ***16*** *03:07:12.3±7.1, 3364N×14274E, h13km±44km, mb4.2/6, Error ellipse: s-maj=17.7km s-min=11.3km az=95.0*

ISCJB ***16*** *03:07:13.8±1.2, 3373N±005×14267E±007, h35km±11km, mb3.9/12, Error ellipse: s-maj=10.0km s-min=8.0km az=160.5*

JMA ***16*** *03:07:13.1±0.4, 3383N×14279E, h87km, M3.3*

IDC ***16*** *03:07:15.2±0.7, 3366N×14272E, h32km±5km, mb3.5/6, mb1 3.7/8, mb1mx3.6/20, mbtmp3.5/8, ML3.4/2, MS2.7/1, Ms1 2.7/1, ms1mx2.3/28, Error ellipse: s-maj=19.4km s-min=17.4km az=124.0*

ISC 16 03:07:13.7±1.9, 3369N±005×14267E±005, h21km±14km, h34km±1.3km: pP-P, n33, σ0°88/45, mb3.9/12, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	1.70	305	P	Pn	03 07 41.9	-0.2
BSO1				S	Sn	03 08 04.8	+1.5
BSO3	Boso 3	2.11	302	P	Pn	03 07 48.1	+0.4
BSO3				S	Sn	03 08 14.4	+1.1
BSO4	Boso 4	2.33	304	P	Pn	03 07 49.2	-1.5
BSO4				S	Sn	03 08 18.6	-0.1
JHJ2	Mitsune	2.46	257	P	Pn	03 07 53.3	+0.8
JHJ2				S	Sn	03 08 21.6	-0.4
JHJ	Hachijo jima 2	2.48	257	Pn	Pn	03 07 53.4	+0.5
	32nm,0.3s,baz=113,slow=16,SNR=19						
JHJ				Sn	Sn	03 08 22.4	-0.3
	79nm,0.3s,baz=76,slow=22,SNR=13						
CHOJ	Chosi	2.50	324	P	Pn	03 07 51.6	-1.5
CHOJ				S	Sn	03 08 19.5	-3.5
JOD2	Odawara 2	3.35	299	P	Pn	03 08 06.0	+1.2
JOD2				S	Sn	03 08 43.7	-0.3
JAG	Ashikaga	3.80	317	P	Pn	03 08 10.4	-0.5
JAG				S	Sn	03 08 51.9	-3.0
JYN	Shimob	3.85	299	P	Pn	03 08 11.8	+0.1
JYN				S	Sn	03 08 55.5	-0.9
JRY	Ryogami san	3.87	308	P	Pn	03 08 12.9	+0.9
JRY				S	Sn	03 08 56.1	-0.7
MJAR	Matsushiro Arr	4.63	309	Pn	Pn	03 08 22.4	0.0
MJAR				Sn	Sn	03 09 16.1	+0.5
MJAR	Matsushiro Arr	4.63	309	Pn	Pn	03 08 22.4	0.0
	1.0nm,0.3s,baz=114,slow=8.0,SNR=8.1						
MJAR				Sn	Sn	03 09 16.1	+0.5
	1.9nm,0.3s,baz=161,slow=22,SNR=6.9						
MAJO	Matsushiro	4.63	309	*e*Pn	Pn	03 08 23.4	+1.0
MAJO				*e*Sn	Sn	03 09 15.8	+0.1
MAT	Matsushiro	4.63	309	P	Pn	03 08 22.2	-0.3
MAT				S	Sn	03 09 16.3	+0.7
MAT	Matsushiro	4.63	309	P	Pn	03 08 21.6	-0.9
MAT				S	Sn	03 09 14.7	-0.9
CBIJ	Chichi jima	6.59	184	Pn	Pn	03 08 45.6	-3.7
	14nm,0.3s,baz=275,slow=18,SNR=24						
CBIJ				Sn	Sn	03 09 56.8	-7.0
	13nm,0.3s,baz=300,slow=23,SNR=9.3						
ASAJ	Asahikawa	10.41	360	LR	LR	03 13 32.2	
	comp=Z,42nm,19.1s,baz=149,slow=36						
ZALV	Zalesovo Beam	44.96	315	P	P	03 15 27.7	+0.7
	0.6nm,0.4s,mb3.8,baz=96,slow=8.9,SNR=2.6						
ZALV				PcP	PcP	03 17 08.1	+0.1
	0.8nm,0.7s,baz=110,slow=1.7,SNR=3.3						
MKAR	Makanchi Array	46.82	305	P	P	03 15 42.5	+0.7
	0.3nm,0.6s,mb3.4,baz=87,slow=10,SNR=4.7						
KURK	Kurchatov	48.84	311	*e*P	P	03 15 57.6	+0.2
	1.5nm,0.6s,mb4.2						
BRVK	Borovoye	53.67	314	*e*P	P	03 16 33.7	+0.1
	2.7nm,0.6s,mb4.3						
WB2	Warramunga Arr	53.92	190	*e*P	P	03 16 35.2	-0.5
WRA	Warramunga Arr	53.92	190	P	P	03 16 35.4	-0.3
	2.8nm,0.6s,mb4.4,baz=8.9,slow=7.7,SNR=26						
WRA				pP	pP	03 16 45.4	+3.2
	1.7nm,0.6s,baz=8.8,slow=7.7,SNR=7.7						
ASAR	Alice Springs	57.65	190	P	P	03 17 01.8	-0.6
	0.5nm,0.7s,mb3.6,baz=15,slow=10,SNR=5.9						
ASAR				pP	pP	03 17 12.2	+3.2
	0.5nm,0.7s,baz=15,slow=12,SNR=3.2						
YKA	Yellowknife Ar	66.19	30	P	P	03 17 58.3	-1.0
	0.4nm,0.9s,mb3.5,baz=293,slow=6.4,SNR=3.9						
FFC	Flin Flon	75.95	33	*e*P	P	03 18 58.2	-0.6
	2.2nm,0.9s,mb4.1						
NVAR	Mina Array Bea	76.17	53	P	P	03 19 01.2	+0.9
	0.2nm,0.5s,mb3.3,baz=277,slow=8.9,SNR=3.4						
NVAR				pP	pP	03 19 10.3	+3.3
	0.4nm,0.7s,baz=284,slow=3.6,SNR=2.9						
BOZ	Bozeman (W)	76.39	44	*e*P	P	03 19 01.2	-0.2
	1.0nm,0.9s,mb3.8						
FCC	Fort Churchill	76.52	27	*e*P	P	03 19 03.5	+1.7
	2.7nm,0.8s,mb4.2						
DUG	Dugway	78.76	49	*e*P	P	03 19 14.8	0.0
	0.6nm,0.6s,mb3.7						
LPAZ	La Paz	147.31	66	PKPbc	PKPbc	03 26 55.9	-0.3
LPAZ				pPKPbc	pPKPbc	03 27 06.6	+3.4
LPAZ	La Paz	147.31	66	PKPbc	PKPbc	03 26 55.9	-0.3
	0.9nm,0.7s,baz=334,slow=4.9,SNR=7.0						
LPAZ				pPKPbc	pPKPbc	03 27 06.6	+3.4
	0.8nm,0.7s,baz=28,slow=10,SNR=3.6						
SIV	San Ignacio	152.27	56	PKPbc	PKPbc	03 27 08.3	-0.1
	1.2nm,0.9s,baz=341,slow=4.5,SNR=5.7						

IDC 16 03:13:10.3±1.9, 110N×12686E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.5/16, mbtmp3.5/4, ML3.2/1, Error ellipse: s-maj=118.0km s-min=24.3km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	19.12	184	P	Pn	03 17 35.9	+0.2
	0.1nm,0.3s,baz=0.0,slow=11,SNR=2.6						
WRA	Warramunga Arr	22.16	161	P	P	03 18 07.6	-0.4
	1.1nm,0.5s,baz=338,slow=10,SNR=14						
ASAR	Alice Springs	25.55	165	P	P	03 18 40.9	-0.1
	1.3nm,0.5s,baz=347,slow=10,SNR=14						
MKAR	Makanchi Array	59.79	326	P	P	03 23 17.3	+0.1
	0.2nm,0.4s,baz=122,slow=6.7,SNR=5.6						

IDC ***16*** *03:20:21.9±1.3, 1574S×17655W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.2/5, MS4.0/1, Ms1 4.0/1, ms1mx3.0/31, Error ellipse: s-maj=46.5km s-min=26.5km az=143.0*

ISCJB ***16*** *03:20:25.5±1.3, 157S±02×1766W±02, h33km, mb4.2/5, MS4.1/1, Error ellipse: s-maj=35.6km s-min=25.5km az=142.9*

ISC 16 03:20:27.5±1.3, 158S±02×1766W±02, h35km, n8, σ0°23/7, mb4.2/5, MS4.1/1, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	23.05	193	P	P	03 25 29.7	0.0
	4.1nm,0.3s,mb4.3,baz=21,slow=14,SNR=7.5						
WB2	Warramunga Arr	46.76	257	*e*P	P	03 28 53.4	-0.3
WRA	Warramunga Arr	46.77	257	P	P	03 28 54.0	+0.3
	1.6nm,0.6s,mb4.2,baz=90,slow=6.8,SNR=29						
ASAR	Alice Springs	47.07	252	P	P	03 28 56.0	-0.1
	10nm,0.5s,mb5.0,baz=89,slow=7.9,SNR=143						
FITZ	Fitzroy Crossi	55.13	259	*e*P	P	03 29 57.2	+0.5
	3.2nm,1.2s,mb4.2						
FITZ	Fitzroy Crossi	55.13	259	P	P	03 29 56.5	-0.2
	1.3nm,0.9s,mb4.0,baz=116,slow=5.9,SNR=4.6						
CBIJ	Chichi jima	58.48	316	LR	LR	03 49 11.1	
	comp=Z,158nm,22.0s,MS4.1,baz=114,slow=30						
NVAR	Mina Array Bea	76.70	43	P	P	03 32 15.1	0.0
	0.4nm,0.7s,mb3.5,baz=228,slow=9.4,SNR=3.3						

IDC 16 03:45:11.5±1.1, 2184N×14320E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.6/6, ML3.5/1, MS4.0/1, Ms1 4.0/1, ms1mx2.7/26, Error ellipse: s-maj=48.6km s-min=23.3km az=98.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.32	350	Pn	Pn	03 46 32.5	+0.4
	3.6nm,0.3s,baz=228,slow=14,SNR=4.2						
WRA	Warramunga Arr	42.42	192	P	P	03 53 08.4	+0.4
	1.3nm,1.1s,baz=19,slow=8.9,SNR=3.8						
ASAR	Alice Springs	46.12	192	P	P	03 53 37.2	-0.5
	0.4nm,0.7s,baz=23,slow=9.9,SNR=4.3						
BVAR	Borovoye Array	62.58	319	P	P	03 55 37.1	-0.2

CN2	**Changchun**	**26.29 330**	*e*P	**P**	**03 51 49.3 +3.4**
CN2			*e*XP	sP	03 52 02.8 +2.9
CN2			*e*S	**S**	**03 56 18.4 +2.1**
CN2			AMB	AMB	
comp=Z,10.0nm,0.6s,mb4.5					
CN2			AMB	AMB	
comp=Z,200nm,4.0s					
CN2			LR	LR	
comp=N,200nm,17.0s,MS3.9					
CN2			LR	LR	
comp=E,200nm,17.0s,MS3.9					
CN2			LR	LR	
comp=Z,200nm,14.0s,MS3.8					
KLR	**Kul'dur**	**28.70 344**	*e*P	**P**	**03 52 02.8 -4.7**
KLR			pmax	pmax	
comp=Z,40nm,1.8s,mb4.8					
HHC	**Hu-ho-hao-te**	**32.66 313**	*e*P	**P**	**03 52 43.6 +1.1**
HHC			AP	pP	03 52 54.0 +1.6
HHC			XP	sP	03 52 57.5 +1.0
HHC			PP	PP	03 53 53.9 -2.8
HHC			PCP	PcP	03 55 27.9 -0.1
HHC			S	**S**	**03 57 56.5 +0.1**
HHC			XS	sS	03 58 13.3 +0.6
HHC			SS	SS	03 59 55.8 -22
HHC			AMB	AMB	
comp=Z,24nm,1.1s,mb5.0					
HHC			AMB	AMB	
comp=Z,157nm,7.6s					
HHC			LR	LR	
comp=N,267nm,15.1s,MS4.3					
HHC			LR	LR	
comp=E,392nm,16.9s,MS4.3					
HHC			LR	LR	
comp=Z,262nm,15.3s,MS4.0					
GYA	**Guiyang**	**33.53 285**	P	**P**	**03 52 51.8 +1.5**
GYA			AP	pP	03 53 02.4 +2.2
GYA			XP	sP	03 53 06.8 +2.5
GYA			PP	PP	03 54 04.8 -1.7
GYA			S	**S**	**03 58 10.3 +0.1**
GYA			XS	sS	03 58 27.3 +0.8
GYA			SCP	ScP	03 59 13.3 +0.5
GYA			PCS	PcS	03 59 18.4 +1.8
GYA			SCS	ScS	04 03 12.8 -1.2
GYA			AMB	AMB	
comp=Z,10.0nm,0.9s,mb4.8					
GYA			AMB	AMB	
comp=Z,90nm,4.9s					
GYA			LR	LR	
comp=N,420nm,18.4s,MS4.4					
GYA			LR	LR	
comp=E,470nm,18.6s,MS4.4					
GYA			LR	LR	
comp=Z,460nm,18.0s,MS4.2					
HNR	**Honiara**	**35.26 150**	LR	LR	04 04 33.5
comp=Z,79nm,18.9s,MS3.5,baz=356,slow=31					
CD2	**Chengdu**	**36.25 293**	*e*P	**P**	**03 53 14.3 +0.5**
CD2			AP	pP	03 53 23.9 +0.2
CD2			XP	sP	03 53 27.8 0.0
CD2			PP	PP	03 54 37.3 +0.7
CD2			S	**S**	**03 58 51.4 -0.7**
CD2			XS	sS	03 59 07.4 -1.1
CD2			SS	SS	04 01 16.1 -15
CD2			AMB	AMB	
comp=Z,10.0nm,0.8s,mb4.8					
CD2			AMB	AMB	
comp=Z,30nm,5.8s					
CD2			LR	LR	
comp=N,180nm,10.8s					
CD2			LR	LR	
comp=E,170nm,20.4s					
CD2			LR	LR	
comp=Z,180nm,10.8s,MS4.1					
LZH	**Lanzhou**	**36.91 301**	*e*P	**P**	**03 53 21.4 +2.1**
LZH			AP	pP	03 53 32.3 +3.1
LZH			XP	sP	03 53 38.8 +5.4
LZH			AMB	AMB	
comp=Z,33nm,1.5s,mb4.9					
LZH			AMB	AMB	
comp=Z,120nm,5.3s					
KMI	**Kunming**	**37.11 283**	P	**P**	**03 53 22.9 +1.8**
KMI			AP	pP	03 53 28.6 -2.5
KMI			XP	sP	03 53 31.1 -4.1
KMI			AMB	AMB	
comp=Z,7.0nm,1.2s,mb4.4					
SONM	**Songino Array**	**39.14 320**	P	**P**	**03 53 37.9 -0.1**
comp=Z,3.2nm,0.7s,mb4.2,baz=107,slow=9.6,SNR=5.4					
GTA	**Gaotai**	**40.72 305**	*e*P	**P**	**03 53 51.6 +0.4**
GTA			AP	pP	03 54 01.6 +0.4
GTA			XP	sP	03 54 05.4 +0.1
GTA			PP	PP	03 55 27.8 +2.4
GTA			S	**S**	**03 59 58.0 -1.4**
GTA			XS	sS	04 00 14.4 -1.5
GTA			SS	SS	04 02 51.6 -9.1
GTA			AMB	AMB	
comp=Z,6.0nm,1.5s,mb4.0					
GTA			AMB	AMB	
comp=Z,79nm,4.2s					
GTA			LR	LR	
comp=N,84nm,17.6s,MS3.9					
GTA			LR	LR	
comp=E,118nm,18.0s,MS3.9					
GTA			LR	LR	
comp=Z,139nm,16.4s,MS3.9					
YAK	**Yakutsk**	**41.13 350⇑**	*e*P	**P**	**03 53 55.5 +1.3**
YAK			pmax	pmax	
comp=Z,19nm,1.0s,mb4.7					
SEY	**Seymchan**	**41.45 6⇑**	*e*P	**P**	**03 53 57.5 +0.7**
BOD	**Bodaibo**	**41.61 337**	*e*P	**P**	**03 53 58.6 +0.4**
CTA	**Charters Tower**	**41.88 176**	P	**P**	**03 54 01.7 +0.9**
comp=Z,6.3nm,0.9s,mb4.2,baz=350,slow=13,SNR=2.6					
ZAK	**Zakamensk**	**42.14 322⇓**	*i*P	**P**	**03 54 02.3 -0.4**
ZAK			pmax	pmax	
comp=Z,8.0nm,1.5s,mb4.1					
WRAB	**Tennant Creek**	**42.50 192⇓**	*e*P	**P**	**03 54 05.7 -0.2**
WB2	**Warramunga Arr**	**42.51 192**	*e*P	**P**	**03 54 04.8 -1.2**
WRA	**Warramunga Arr**	**42.51 192**	*i*P	**P**	**03 54 05.4 -0.6**
WRA			pmax	pmax	
comp=Z,3.0nm,0.9s					
WRA	**Warramunga Arr**	**42.51 192**	P	**P**	**03 54 04.9 -1.0**
WRA			LR	LR	04 09 19.2
WRA	**Warramunga Arr**	**42.51 192**	P	**P**	**03 54 04.9 -1.0**
comp=Z,3.3nm,0.9s,mb4.1,baz=18,slow=9.0,SNR=14					
WRA			LR	LR	04 09 19.2
comp=Z,88nm,19.6s,MS3.6,baz=255,slow=33					
FITZ	**Fitzroy Crossi**	**43.34 205**	*e*P	**P**	**03 54 14.5 +1.8**
comp=Z,3.3nm,0.7s,mb4.2					
FITZ	**Fitzroy Crossi**	**43.34 205**	P	**P**	**03 54 10.6 -2.1**
comp=Z,1.8nm,0.7s,mb3.9,baz=27,slow=9.0,SNR=2.1					
MOY	**Mondy**	**44.01 323**	*e*P	**P**	**03 54 18.4 +0.6**
KULM	**Kulim**	**44.32 254**	*e*P	**P**	**03 54 22.4 +1.6**
ASAR	**Alice Springs**	**46.22 192**	P	**P**	**03 54 34.4 -1.2**
comp=Z,2.0nm,0.6s,mb4.2,baz=16,slow=11,SNR=28					
PSI	**Prapat**	**46.97 252**	P	**P**	**03 54 42.6 +0.8**
comp=Z,3.7nm,0.6s,mb4.5,baz=231,slow=3.1,SNR=6.5					
BILL	**Bilibino**	**48.28 11⇑**	*e*P	**P**	**03 54 50.4 -0.8**
BILL			pmax	pmax	
comp=Z,9.0nm,1.7s,mb4.5					
BILL	**Bilibino**	**48.28 11**	*e*P	**P**	**03 54 51.5 +0.3**
comp=Z,1.8nm,0.6s,mb4.3					
MBWA	**Marble Bar**	**48.56 210**	*e*P	**P**	**03 54 53.9 0.0**
comp=Z,18nm,1.1s,mb5.0					
TIXI	**Tiksi**	**50.41 354⇓**	*e*P	**P**	**03 55 06.4 -0.9**
TIXI			pmax	pmax	
comp=Z,6.0nm,1.7s,mb4.3					
WMQ	**Urumqi**	**50.41 309**	P	**P**	**03 55 08.0 +0.2**
WMQ			XP	sP	03 55 22.0 -0.1
WMQ			PP	PP	03 57 05.0 +1.5
WMQ			S	**S**	**04 02 18.0 -1.0**
WMQ			SS	SS	04 05 49.0 -3.9
WMQ			AMB	AMB	
comp=Z,37nm,1.0s,mb5.4					
WMQ			AMB	AMB	
comp=Z,72nm,5.0s					
WMQ			LR	LR	
comp=N,165nm,15.0s,MS4.4					
WMQ			LR	LR	
comp=E,215nm,16.0s,MS4.4					
WMQ			LR	LR	
comp=Z,98nm,15.0s,MS3.9					
STKA	**Stephens Creek**	**53.53 182**	P	**P**	**03 55 30.1 -1.0**
comp=Z,3.7nm,0.9s,mb4.3,baz=147,slow=23,SNR=3.0					
ZAA0	**Zalesovo Array**	**54.01 322**	*e*P	**P**	**03 55 33.2 -1.2**
ZALV	**Zalesovo Beam**	**54.01 322**	P	**P**	**03 55 32.1 -2.3**
comp=Z,4.6nm,0.9s,mb4.4,baz=110,slow=6.7,SNR=12					
ZAL	**Zalesovo**	**54.02 322**	P	**P**	**03 55 32.1 -2.3**
MK31	**Makanchi Array**	**54.52 313**	*e*P	**P**	**03 55 37.8 -0.4**
MKAR	**Makanchi Array**	**54.52 313**	*i*P	**P**	**03 55 38.2 0.0**
MKAR			pmax	pmax	
comp=Z,2.0nm,0.7s					
MKAR	**Makanchi Array**	**54.52 313**	P	**P**	**03 55 37.7 -0.5**
comp=Z,1.5nm,0.7s,mb4.1,baz=88,slow=8.8,SNR=13					
NVS	**Novosibirsk**	**55.10 322**	*e*P	**P**	**03 55 41.8 -0.5**
KURK	**Kurchatov**	**57.29 317⇓**	*e*P	**P**	**03 55 57.0 -0.9**
KURK	**Kurchatov**	**57.29 317**	*e*P	**P**	**03 55 56.8 -1.1**
comp=Z,16nm,1.2s,mb4.9					
TKM2	**Tokmak 2**	**59.19 308**	*e*P	**P**	**03 56 11.9 +0.5**
TKM2			pmax	pmax	
comp=Z,8.0nm,1.0s,mb4.7					
TKM2	**Tokmak 2**	**59.19 308**	*e*P	**P**	**03 56 11.9 +0.5**
comp=Z,8.3nm,1.0s,mb4.7					
EKS2	**Erkin-Say**	**60.54 308**	*e*P	**P**	**03 56 20.1 -0.5**
comp=Z,2.3nm,0.7s,mb4.4					
AML	**Almayashu**	**60.63 307**	*e*P	**P**	**03 56 22.3 +1.0**
comp=Z,9.7nm,1.1s,mb4.8					
BVAR	**Borovoye Array**	**62.48 319**	P	**P**	**03 56 32.8 -0.7**
comp=Z,6.0nm,0.8s,mb4.8,baz=87,slow=7.6,SNR=19					
BRVK	**Borovoye**	**62.54 319**	*e*P	**P**	**03 56 33.4 -0.6**
BRVK			pmax	pmax	
comp=Z,19nm,1.1s,mb5.1					
BRVK	**Borovoye**	**62.54 319**	*e*P	**P**	**03 56 33.4 -0.5**
comp=Z,19nm,1.1s,mb5.1					
DAWY	**Dawson**	**65.01 28**	*e*P	**P**	**03 56 50.7 +0.6**
KBL	**Kabul**	**65.21 299**	*e*P	**P**	**03 56 51.5 -0.4**
INK	**Inuvik**	**67.35 24**	*e*P	**P**	**03 57 04.5 -0.5**
INK			pmax	pmax	
comp=Z,97nm,0.9s					
INK	**Inuvik**	**67.35 24**	*e*P	**P**	**03 57 04.5 -0.5**
comp=Z,97nm,0.9s					
DLBC	**Dease Lake**	**69.93 34**	P	**P**	**03 57 22.4 +1.2**
baz=277,slow=8.1					
AKTK	**Aktyubinsk**	**70.38 317**	P	**P**	**03 57 22.9 -1.3**
AKTO	**Aktyubinsk**	**70.38 317**	P	**P**	**03 57 22.9 -1.3**
comp=Z,1.4nm,0.6s,mb4.0,baz=171,slow=2.6,SNR=5.0					
YKA	**Yellowknife Ar**	**76.25 28**	P	**P**	**03 57 57.7 -0.8**
comp=Z,1.2nm,0.5s,mb4.1,baz=293,slow=5.9,SNR=30					
RES	**Resolute Bay**	**76.84 13**	*e*P	**P**	**03 58 01.2 -0.5**
RES			pmax	pmax	
comp=Z,162nm,1.0s					
RES	**Resolute Bay**	**76.84 13**	*e*P	**P**	**03 58 01.2 -0.5**
comp=Z,162nm,1.0s					
ARCES	**ARCESS Array B**	**78.69 341**	P	**P**	**03 58 11.1 -1.0**
comp=Z,4.4nm,0.9s,mb4.4,baz=52,slow=14,SNR=3.6					
NEW	**Newport**	**80.11 42**	*e*P	**P**	**03 58 20.3 +0.1**
NEW			pmax	pmax	
comp=Z,5.0nm,1.0s					
NEW	**Newport**	**80.11 42**	*e*P	**P**	**03 58 20.3 +0.1**
comp=Z,4.8nm,1.0s,mb4.4					
BMO	**Blue Mountains**	**81.27 45**	*e*P	**P**	**03 58 26.5 0.0**
comp=Z,3.0nm,1.0s,mb4.2					
WVOR	**Wild Horse Val**	**81.27 48**	*e*P	**P**	**03 58 26.8 +0.3**
WVOR			pmax	pmax	
comp=Z,2.0nm,0.5s,mb4.3					
WVOR	**Wild Horse Val**	**81.27 48**	*e*P	**P**	**03 58 26.8 +0.3**
comp=Z,1.6nm,0.5s,mb4.2					
CMB	**Columbia Colle**	**81.63 52**	*e*P	**P**	**03 58 28.7 +0.2**
CMB			pmax	pmax	
comp=Z,3.0nm,0.7s,mb4.3					
CMB	**Columbia Colle**	**81.63 52**	*e*P	**P**	**03 58 28.6 +0.1**
comp=Z,2.6nm,0.7s,mb4.3					
KIV	**Kislovodsk**	**82.24 314**	*e*P	**P**	**03 58 31.6 0.0**
KIV			pmax	pmax	
comp=Z,10.0nm,1.0s,mb4.7					
FINES	**FINESS Array B**	**82.96 334**	*i*P	**P**	**03 58 33.7 -1.3**
FINES			pmax	pmax	
comp=Z,5.0nm,1.1s					
FINES	**FINESS Array B**	**82.96 334**	P	**P**	**03 58 32.7 -2.3**
FINES	**FINESS Array B**	**82.96 334**	P	**P**	**03 58 32.7 -2.3**
comp=Z,4.7nm,1.1s,mb4.4,baz=108,slow=4.8,SNR=3.6					
NVAR	**Mina Array Bea**	**83.00 51**	P	**P**	**03 58 36.3 +0.6**
comp=Z,2.1nm,0.7s,mb4.2,baz=283,slow=5.2,SNR=14					
HRY	**Holter Researc**	**84.02 42**	*e*P	**P**	**03 58 40.9 +0.2**
MCMT	**McKenzie Canyo**	**84.18 44**	*e*P	**P**	**03 58 42.5 +0.9**
BOZ	**Bozeman (W)**	**84.61 43**	*e*P	**P**	**03 58 43.7 0.0**
BOZ			pmax	pmax	
comp=Z,5.0nm,1.5s,mb4.4					
BOZ	**Bozeman (W)**	**84.61 43**	*e*P	**P**	**03 58 43.7 0.0**
comp=Z,4.7nm,1.5s,mb4.4					
QLMT	**Earthquake Lak**	**85.09 44**	*e*P	**P**	**03 58 47.2 +1.0**
FFC	**Flin Flon**	**85.63 32**	*e*P	**P**	**03 58 48.4 -0.3**
FFC			pmax	pmax	
comp=Z,11nm,1.0s,mb5.0					
FFC	**Flin Flon**	**85.63 32**	*e*P	**P**	**03 58 48.4 -0.3**
comp=Z,11nm,1.0s,mb5.0					
GCMT	**Greycliff**	**85.77 42**	*e*P	**P**	**03 58 49.9 +0.3**
IMW	**Indian Meadow**	**85.82 44**	*e*P	**P**	**03 58 49.9 0.0**
comp=Z,3.9nm,0.8s,mb4.7					
TPAW	**Teton Pass**	**85.99 45**	*e*P	**P**	**03 58 51.3 +0.6**
comp=Z,4.8nm,1.2s,mb4.6					
MOOW	**Moose Ponds**	**86.01 44**	*e*P	**P**	**03 58 51.2 +0.4**
comp=Z,1.8nm,0.7s,mb4.4					
DUG	**Dugway**	**86.18 48**	*e*P	**P**	**03 58 51.8 +0.1**
DUG			pmax	pmax	
comp=Z,6.0nm,1.0s,mb4.8					
DUG	**Dugway**	**86.18 48**	*e*P	**P**	**03 58 51.8 +0.1**
comp=Z,6.3nm,1.0s,mb4.8					
RLMT	**Red Lodge**	**86.33 43**	*e*P	**P**	**03 58 53.1 +0.8**
comp=Z,5.1nm,0.8s,mb4.8					
HWUT	**Hardware Ranch**	**86.42 46**	*e*P	**P**	**03 58 53.1 +0.2**
comp=Z,4.2nm,1.0s,mb4.6					
FCC	**Fort Churchill**	**86.83 26**	*e*P	**P**	**03 58 53.4 -1.1**
FCC			pmax	pmax	
comp=Z,11nm,1.1s,mb5.0					
FCC	**Fort Churchill**	**86.83 26**	*e*P	**P**	**03 58 53.4 -1.1**
comp=Z,11nm,1.1s,mb5.0					
JLU	**Jordanelle**	**86.94 47**	*e*P	**P**	**03 58 55.6 +0.1**
DAU	**Daniels Canyon**	**87.16 47**	*e*P	**P**	**03 58 56.8 +0.3**
AKASG	**Malin Array Be**	**87.30 324**	P	**P**	**03 58 54.2 -2.8**
AKASG	**Malin Array Be**	**87.30 324**	P	**P**	**03 58 54.2 -2.8**
comp=Z,0.3nm,0.4s,mb3.9,baz=50,slow=4.6,SNR=6.2					
HFS	**Hagfors**	**88.50 337**	P	**P**	**03 59 00.0 -2.4**
comp=Z,2.6nm,0.9s,mb4.5,baz=81,slow=4.7,SNR=5.2					
RSSD	**Black Hills**	**90.08 42**	*e*P	**P**	**03 59 10.0 -0.2**
RSSD			pmax	pmax	
comp=Z,3.0nm,0.8s,mb4.7					
RSSD	**Black Hills**	**90.08 42**	*e*P	**P**	**03 59 09.9 -0.3**
comp=Z,2.9nm,0.8s,mb4.7					
TUC	**Tucson**	**91.13 54**	*e*P	**P**	**03 59 15.8 +0.4**
TUC			pmax	pmax	
comp=Z,1.0nm,0.6s,mb4.3					
TUC	**Tucson**	**91.13 54**	*e*P	**P**	**03 59 15.8 +0.4**
comp=Z,1.0nm,0.6s,mb4.3					
SDCO	**Great Sand Dun**	**92.36 48**	*e*P	**P**	**03 59 21.6 +0.6**
comp=Z,4.6nm,1.6s,mb4.6					
ANMO	**Albuquerque**	**93.07 50**	*e*P	**P**	**03 59 24.1 -0.2**
PSZ	**Piszkesteto**	**93.89 326**	*e*P	**P**	**03 59 29.5 +1.7**
PSZ			pmax	pmax	
comp=Z,2.0nm,0.7s,mb4.7					
PSZ	**Piszkesteto**	**93.89 326**	*e*P	**P**	**03 59 29.5 +1.8**
comp=Z,2.3nm,0.7s,mb4.7					
MNTX	**Cornudas Mount**	**95.46 53**	*e*P	**P**	**03 59 35.8 +0.5**
TXAR	**Lajitas Array**	**97.92 54**	P	**P**	**03 59 46.7 +0.2**
comp=Z,0.1nm,0.6s,mb3.5,baz=352,slow=5.6,SNR=2.4					
TORD	**Torodi Ar. Bea**	**128.58 309**	PKP	PKPdf	04 05 16.8 -1.3
comp=Z,0.6nm,1.1s,baz=7.0,slow=3.7,SNR=6.4					
LPAZ	**La Paz**	**149.93 85**	*e*PKPbc	PKPbc	04 06 01.4 +0.2
LPAZ			*e*PKPab	PKPab	04 06 07.4 +0.5
LPAZ	**La Paz**	**149.93 85**	PKPbc	PKPbc	04 06 01.9 +0.6
comp=Z,3.3nm,0.8s,baz=62,slow=2.8,SNR=6.7					

IDC 16 03:49:57.0±1.9, 056N×12736E, h0km, mb3.7/3, mb1 3.9/4, mb1mx3.7/16, mbtmp3.7/4, ML3.4/1, Error ellipse: s-maj=102.3km s-min=25.8km az=69.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.62**	**185**	P	Pn	03 54 15.4	-1.1
0.1nm,0.3s,baz=16,slow=13,SNR=6.2							
WRA	**Warramunga Arr**	**21.50**	**162**	P	P	03 54 48.0	+0.4
1.4nm,0.5s,baz=342,slow=11,SNR=16							
ASAR	**Alice Springs**	**24.91**	**166**	P	P	03 55 22.1	+0.2
1.0nm,0.4s,baz=353,slow=15,SNR=9.3							
MKAR	**Makanchi Array**	**60.51**	**326**	P	P	04 00 09.0	+0.1
0.3nm,0.3s,baz=122,slow=6.5,SNR=4.2							

MEX 16 03:51:11.4±0.3, 1583N×9630W, h44km±5km, MD3.5, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.20**	**108**	*e*P	Pn	03 51 17.6	-1.4
HUIG				*i*S	Sn	03 51 22.6	-1.8
OXX	**Oaxaca**	**1.31**	**342**	*i*P	Pn	03 51 31.6	-1.7
OXX				*i*S	Sn	03 51 47.6	-1.9
CMIG	**Matias Romero**	**1.85**	**47**	*e*P	Pn	03 51 39.3	-1.4
CMIG				*i*S	Sn	03 52 00.5	-2.4
TPIG	**Tehuac#an**	**2.77**	**339**	*i*S	Sn	03 52 23.5	-2.0

KRSC 16 03:59:28.9±0.7, 5487N×16296E, h22km±22km, ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.78**	**247**	*e*P	Pb	03 59 43.9	+0.2
MKZ				*i*S	Sb	03 59 54.7	+0.8
KBTR	**Krutoberegovo**	**1.34**	**357**	*e*P	Pn	03 59 51.7	-0.6
KBTR				*i*S	Sn	04 00 08.1	-1.3
TUMR	**Tumrok**	**1.67**	**285**	P	Pn	03 59 58.1	+1.3
TUMR				*i*S	Sn	04 00 19.0	+1.5
KMNR	**Kamenistaya**	**1.79**	**301**	*e*P	Pn	03 59 59.7	+1.3
SRKR	**Sorokina**	**2.06**	**331**	P	Pn	04 00 03.6	+1.5
KII	**Karymskiy**	**2.21**	**249**	*e*P	Pn	04 00 06.1	+1.9
KII				*i*S	Sn	04 00 33.9	+3.0
SPN	**Mys Shipunski**	**2.48**	**226**	*e*P	Pn	04 00 08.8	+0.9
SPN				*i*S	Sn	04 00 37.8	+0.3
NLC	**Nalytchevo**	**2.73**	**233**	*e*P	Pn	04 00 12.7	+1.4
NLC				*i*S	Sn	04 00 45.4	+1.8
AVH	**Avacha**	**2.96**	**239**	*e*P	Pn	04 00 17.2	+2.7
AVH				*i*S	Sn	04 00 52.2	+2.9
PET	**Petropavlovsk**	**3.15**	**236**	P	Pn	04 00 19.4	+2.4
PET				*i*S	Sn	04 00 56.3	+2.4
GNL	**Ganaly**	**3.17**	**250**	*e*P	Pn	04 00 20.1	+2.7
GNL				*e*S	Sn	04 00 57.2	+2.8
RUS	**Russkaya**	**3.60**	**229**	*e*P	Pn	04 00 25.3	+2.0
GRL	**Gorelyy**	**3.72**	**233**	P	Pn	04 00 28.4	+3.5
MIPR	**Malaya Ipel'ka**	**4.52**	**237**	P	Pn	04 00 38.4	+2.5

*ISCJB **16** 04:01:03.6±0.5, 1626N±006×9480W±003, h80km±7km, mb3.8/3, Error ellipse: s-maj=9.5km s-min=4.7km az=2.6*
*MEX **16** 04:01:06.7±1.3, 1627N×9479W, h64km±20km, MD4.4*
*NEIC **16** 04:01:06.3, 1626N×9476W, h63km, MD4.3(MEX), After MEX.*
*IDC **16** 04:01:16.6±4.8, 1616N×9358W, h151km±39km, mb3.6/3, mb1 3.8/5, mb1mx3.3/22, mbtmp3.6/5, MS2.6/1, Ms1 2.6/1, ms1mx2.3/25, Error ellipse: s-maj=41.1km s-min=29.1km az=67.0*

ISC 16 04:01:04.6±0.5, 1626N±006×9479W±003, h71km±8km, n21, σ1815/34, mb3.8/3, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.84**	**354**	*i*P	**Pn**	**04 01 20.8**	**-0.4**
CMIG				*i*S	**Sn**	**04 01 32.6**	**-0.9**
HUIG	**Huatulco**	**1.36**	**249**	*i*P	**Pn**	**04 01 27.4**	**-0.4**
HUIG				*i*S	**Sn**	**04 01 45.3**	**+0.1**
TUIG	**Tuzandepetl**	**1.80**	**11**	*i*P	**Pn**	**04 01 33.0**	**-0.7**
TUIG				*i*S	**Sn**	**04 01 54.2**	**-1.5**
OXX	**Oaxaca**	**2.03**	**294**	*i*P	**Pn**	**04 01 37.5**	**+0.8**
OXX				*i*S	**Sn**	**04 02 01.5**	**+0.4**
VHO	**Vista Hermosa**	**2.03**	**294**	*i*P	**Pn**	**04 01 37.8**	**+1.1**
VHO				*i*S	**Sn**	**04 01 58.6**	**-2.6**
VHO	**Vista Hermosa**	**2.03**	**294**	*i*P	**Pn**	**04 01 38.2**	**+1.4**
VHO				*e*S	**Sn**	**04 02 01.9**	**+0.6**
SCX	**San Cristobal**	**2.12**	**77**	*i*P	**Pn**	**04 01 38.5**	**+0.6**
SCX				*i*S	**Sn**	**04 02 05.5**	**+2.2**
CCIG	**Comitan**	**2.55**	**89**	*e*P	**Pn**	**04 01 44.5**	**+0.8**
CCIG				*i*S	**Sn**	**04 02 13.3**	**-0.3**
TPIG	**Tehuac#an**	**3.27**	**312**	*e*P	**Pn**	**04 01 54.2**	**+0.7**
TPIG				*i*S	**Sn**	**04 02 32.0**	**+0.7**
PPM	**Popocatepetl**	**4.61**	**308**	*i*P	**Pn**	**04 02 14.5**	**+2.7**
PPM				*i*S	**Sn**	**04 03 05.4**	**+1.4**
PPM	**Popocatepetl**	**4.61**	**308**	*e*P	**Pn**	**04 02 14.0**	**+2.2**
PPM				*i*P		04 02 14.5	
PPM				*i*S	**Sn**	**04 03 05.4**	**+1.4**
ACX	**Acapulco**	**4.96**	**278**	*i*P	**Pn**	**04 02 14.5**	**-2.1**
CAIG	**El Cayaco**	**5.31**	**279**	*i*P	**Pn**	**04 02 20.7**	**-0.7**
CAIG				*i*S	**Sn**	**04 03 15.3**	**-6.0**
CAIG	**El Cayaco**	**5.31**	**279**	*i*P	**Pn**	**04 02 21.5**	**+0.1**
CAIG				*i*S	**Sn**	**04 03 20.5**	**-0.8**
ZIIG	**Zihuatanejo**	**6.53**	**283**	*i*P	**Pn**	**04 02 38.7**	**+0.6**
ZIIG				*i*S	**Sn**	**04 03 49.8**	**-1.4**
TEIG	**Tepich**	**7.34**	**56**	P	**Pn**	**04 02 47.7**	**-1.5**
23nm,0.3s,baz=52,slow=1.3,SNR=34							
TEIG				S	**Sn**	**04 04 04.3**	**-6.7**
16nm,0.3s,baz=46,slow=20,SNR=13							
TXAR	**Lajitas Array**	**15.37**	**329**	P	pP	04 04 55.3	+0.4
0.2nm,0.3s,baz=151,slow=13,SNR=16							
LPIG	**La Paz**	**16.52**	**301**	LR	LR	04 12 42.5	
comp=Z,22nm,20.8s,baz=198,slow=39							
LPAZ	**La Paz**	**41.68**	**140**	P	**P**	**04 08 45.0**	**-1.5**
0.8nm,0.7s,mb3.5,baz=311,slow=11,SNR=3.8							
EKA	**Eskdalemuir Ar**	**77.72**	**36**	P	**P**	**04 12 52.9**	**-0.7**
0.5nm,0.8s,mb3.3,baz=285,slow=5.8,SNR=2.8							
ARCES	**ARCESS Array B**	**84.84**	**18**	P	**P**	**04 13 32.5**	**+1.5**
7.2nm,1.1s,mb4.5,baz=310,slow=4.4,SNR=3.8							

*IDC **16** 04:13:47.8±0.6, 4788N×15451E, h0km, mb4.3/20, mb1 4.4/21, mb1mx4.3/28, mbtmp4.3/21, ML3.7/1, MS3.5/6, Ms1 3.5/6, ms1mx3.1/38, Error ellipse: s-maj=18.8km s-min=14.3km az=150.0*
*ISCJB **16** 04:13:48.7±1.3, 4785N±005×15453E±005, h13km±8km, mb4.5/74, MS3.7/14, Error ellipse: s-maj=9.2km s-min=4.2km az=150.4*
*BJI **16** 04:13:49.0, 4797N×15491E, h33km, mB4.8, mb4.6, Ms4.4, Msz4.0*
*NEIC **16** 04:13:49.9±0.2, 4787N×15443E, h10km, mb4.6/47, Error ellipse: s-maj=7.1km s-min=4.4km az=159.0*
*SKHL **16** 04:13:50.2±2.6, 4781N×15475E, h70km±27km, mb8.5/5, Ms4.0/3*
*MOS **16** 04:13:51.2±1.1, 4782N×15452E, h31km, mb4.8/32, Error ellipse: s-maj=9.2km s-min=5.7km az=91.1*
*SZGRF **16** 04:13:55.9, 4741N×15253E, h33km, mb4.8, Kuril Islands, Russia*

**ISC 16 04:13:51.2±1.6, 4793N±005×15446E±006

YUK A 04 17 06.7
comp=Z,240nm,0.6s
YUK A 04 17 06.7
comp=Z,120nm,0.5s
YSS Yuzh-Sakhalins 8.00 267⇑ ePN Pn 04 15 51.8 +5.0
YSS pmax pmax
comp=N,40nm,0.8s
YSS pmax pmax
comp=E,50nm,0.8s
YSS pmax pmax
comp=Z,50nm,0.8s
YSS MLR MLR
comp=Z,300nm,15.0s
YSS MLR MLR
comp=E,300nm,16.0s
YSS Yuzh-Sakhalins 8.00 267 ePn Pn 04 15 50.8 +4.0
YSS Yuzh-Sakhalins 8.00 267⇑ eP Pn 04 15 51.8 +5.0
YSS AMB AMB 04 15 54.0
comp=E,50nm,0.8s
YSS AMB AMB 04 15 54.0
comp=E,40nm,0.8s
YSS AMB AMB 04 15 54.0
comp=E,50nm,0.8s
YSS eS **Sn 04 17 21.2 +4.3**
YSS eLR LR 04 18 18.0
YSS AMS AMS 04 18 52.0
comp=E,300nm,16.0s
YSS AMS AMS 04 18 52.0
comp=E,300nm,15.0s
TYV Tymovskoe 8.24 295 eP Pn 04 15 54.0 +3.9
TYV AMB AMB 04 15 57.2
comp=E,9.0nm,0.8s
TYV AMB AMB 04 15 57.2
comp=E,14nm,0.8s
TYV AMB AMB 04 15 57.2
comp=E,22nm,1.0s
UGL Uglegorsk 8.31 283 eL 04 18 06.0
UGL AMS AMS 04 19 25.0
comp=E,500nm,16.0s
ASAJ Asahikawa 9.09 250 PN Pn 04 16 05.5 +3.7
ASAJ pmax pmax
comp=Z,1.0nm,0.3s
ASAJ MLR MLR
comp=Z,261nm,18.3s
ASAJ Asahikawa 9.09 250 Pn **Pn 04 16 05.5 +3.7**
comp=Z,1.4nm,0.3s,baz=78,slow=12,SNR=17
ASAJ LR LR 04 19 23.9
comp=Z,261nm,18.2s,baz=144,slow=37
OKH Okha 9.22 312 eL 04 18 06.2
OKH AMS AMS 04 20 14.2
comp=Z,500nm,14.0s
ERM Erimo 9.95 238⇑ ePN Pn 04 16 14.1 +0.5
NKL Nikolayevsk 10.21 306 eP Pn 04 16 18.5 +1.5
NKL AMB AMB 04 16 20.8
comp=Z,25nm,1.1s
NKL AMB AMB 04 16 20.8
comp=Z,50nm,1.1s
NKL AMB AMB 04 16 20.8
comp=Z,55nm,1.1s
NKL eL 04 19 47.0
NKL AMS AMS 04 21 44.0
comp=Z,300nm,12.0s
NKL AMS AMS 04 21 44.0
comp=Z,600nm,12.0s
KLR Kul'dur 15.08 283 eP Pn 04 17 23.7 +0.2
KLR MLR MLR
comp=E,500nm,13.0s
KLR MLR MLR
comp=Z,1μm,13.0s
MJAR Matsushiro Arr 16.53 232 Pn **Pn 04 17 39.3 -3.0**
comp=Z,0.3nm,0.3s,baz=32,slow=12,SNR=8.7
MAJO Matsushiro 16.53 232 eP Pn 04 17 41.3 -1.0
MAJO pmax pmax
comp=Z,12nm,0.8s
MAJO Matsushiro 16.53 232 eP Pn 04 17 41.2 -1.1
comp=Z,12nm,0.8s
MAT Matsushiro 16.53 232 P **Pn 04 17 41.2 -1.1**
MDJ Mudanjiang 17.49 268 P **Pn 04 17 52.5 -1.8**
MDJ AMB AMB
comp=Z,7.0nm,1.6s
MDJ AMB AMB
comp=Z,31nm,3.3s
YAK Yakutsk 19.86 324 eP Pn 04 18 24.9 +1.9
YAK pmax pmax
comp=N,18nm,1.3s
YAK pmax pmax
comp=E,21nm,1.3s
YAK pmax pmax
comp=Z,36nm,1.3s
CLNS Chul'man 19.99 307 eP Pn 04 18 16.5 -8.0
CLNS pmax pmax
comp=Z,23nm,1.0s
CLNS pmax pmax
comp=N,19nm,0.7s
CLNS pmax pmax
comp=E,17nm,0.9s
CLNS MLR MLR
comp=Z,100nm,12.0s
CLNS MLR MLR
comp=N,100nm,14.0s
CLNS MLR MLR
comp=E,100nm,12.0s
CN2 Changchun 20.56 269 eP P 04 18 29.0 -0.1
CN2 eS **S 04 22 12.0 -6.5**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,15.0s,MS3.8
CN2 LR LR
comp=E,200nm,15.0s,MS3.8
CN2 LR LR
comp=Z,200nm,19.0s,MS3.5
BILL Biiibino 21.04 12 P **P 04 18 33.0 -1.1**
BILL e 04 18 44.8
BILL pmax pmax
comp=Z,5.0nm,1.0s,mb3.8
BILL MLR MLR
comp=Z,100nm,14.0s,MS3.4
BILL Biiibino 21.04 12 eP P 04 18 32.1 -2.0
comp=Z,3.7nm,0.8s,mb3.8
KSRS Korea Array 22.04 251 P **P 04 18 45.0 0.0**
comp=Z,8.9nm,0.9s,mb4.2,baz=56,slow=9.9,SNR=18
CBIJ Chichi jima 22.91 209 LR LR 04 27 09.5
comp=Z,52nm,18.3s,MS3.0,baz=139,slow=35
JNU Nakatsue 23.12 239 P **P 04 18 57.3 +0.8**
comp=Z,12nm,1.0s,mb4.3,baz=40,slow=7.9,SNR=3.0
BOD Bodaibo 25.97 308 eP P 04 19 24.1 +1.3
JOW Kunigami 29.36 234 LR LR 04 33 28.8
comp=Z,155nm,18.7s,MS3.7,baz=322,slow=40
HHC Hu-ho-hao-te 31.14 273 eP P 04 20 09.1 0.0
HHC PP PP 04 21 12.0 -7.3
HHC AMB AMB
comp=Z,25nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,188nm,7.9s
HHC LR LR
comp=N,246nm,17.1s,MS4.3
HHC LR LR
comp=E,528nm,18.8s,MS4.3
HHC LR LR
comp=Z,282nm,14.5s,MS4.1
NJ2 Nanjing 31.22 253 eP P 04 20 10.6 +0.7
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.0
IMA2 Indian Mountai 32.31 37 eP P 04 20 19.3 +0.2
KDAK Kodiak Island 32.65 52 P **P 04 20 20.8 -1.4**
KDAK Kodiak Island 32.65 52 P **P 04 20 20.8 -1.4**
comp=Z,5.9nm,0.8s,mb4.6,baz=287,slow=11,SNR=3.9
WHN Wuhan 35.12 255 P **P 04 20 43.8 -0.1**
LZH Lanzhou 38.77 271 eP P 04 21 16.0 +1.1
LZH AP pP 04 21 19.1 -0.5
LZH XP sP 04 21 20.9 -0.6
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,140nm,4.8s
GTA Gaotai 39.70 278 eP P 04 21 22.8 +0.2
GTA PP PP 04 22 59.5 +5.8
GTA S **S 04 27 25.6 +0.1**
GTA SS SS 04 30 14.1 -6.7
GTA AMB AMB
comp=Z,4.0nm,1.1s,mb4.1
GTA AMB AMB
comp=Z,95nm,4.2s
GTA LR LR
comp=N,111nm,18.3s,MS3.9
GTA LR LR
comp=E,114nm,15.6s,MS3.9
GTA LR LR
comp=Z,193nm,16.7s,MS4.0
INK Inuvik 40.16 33 eP P 04 21 26.9 +0.8
comp=Z,1μm,2.5s
CD2 Chengdu 41.90 265 eP P 04 21 40.8 0.0
CD2 AP pP 04 21 45.3 -0.3
CD2 PP PP 04 23 20.8 +3.1
CD2 S **S 04 27 57.8 -0.6**
CD2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,40nm,5.2s
CD2 LR LR
comp=N,260nm,14.4s,MS4.5
CD2 LR LR
comp=E,390nm,15.6s,MS4.5
CD2 LR LR
comp=Z,200nm,14.4s,MS4.1
ZALV Zalesovo Beam 42.67 305 P **P 04 21 44.9 -2.0**
ZALV LR LR 04 40 22.6
ZALV Zalesovo Beam 42.67 305 P **P 04 21 44.9 -2.0**
comp=Z,0.8nm,0.5s,mb3.7,baz=57,slow=5.5,SNR=4.1
ZALV LR LR 04 40 22.6
comp=Z,46nm,20.9s,MS3.3,baz=222,slow=37
ZAL Zalesovo 42.69 305 P **P 04 21 44.9 -2.1**
GYA Guiyang 42.87 257 P **P 04 21 49.3 +0.5**
GYA PP PP 04 23 31.3 +3.1
GYA PCP PcP 04 23 41.8 +2.2
GYA S **S 04 28 13.4 +0.7**
GYA SS SS 04 31 17.6 -6.4
GYA SCS ScS 04 31 48.4 -0.8
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,90nm,5.4s
GYA LR LR
comp=N,480nm,18.8s,MS4.6
GYA LR LR
comp=E,460nm,18.4s,MS4.6
GYA LR LR
comp=Z,410nm,18.3s,MS4.4
WMQ Urumqi 45.36 291 eP P 04 22 09.0 +0.4
WMQ PP PP 04 23 56.0 +1.5
WMQ S **S 04 28 49.0 +0.3**
WMQ SS SS 04 32 02.0 -10
WMQ AMB AMB
comp=Z,39nm,1.0s,mb5.2
WMQ LR LR
comp=N,105nm,15.0s,MS4.0
WMQ LR LR
comp=E,87nm,14.0s,MS4.0
WMQ LR LR
comp=Z,68nm,15.0s,MS3.7
KMI Kunming 46.36 260 P **P 04 22 17.9 +1.2**
KMI AP pP 04 22 21.8 +0.3
KMI AMB AMB
comp=Z,8.0nm,1.0s,mb4.6
KMI LR LR
comp=Z,63nm,21.4s,MS3.5
MKAR Makanchi Array 47.22 297 P **P 04 22 22.6 -0.6**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR MLR MLR
comp=Z,50nm,21.0s
MKAR Makanchi Array 47.22 297 *i* P **P 04 22 27.6 +4.4**
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 47.22 297 P **P 04 22 22.6 -0.5**
comp=Z,1.3nm,0.6s,mb4.0,baz=130,slow=4.9,SNR=4.2
MKAR LR LR 04 43 47.1
comp=Z,50nm,21.0s,MS3.5,baz=274,slow=38
KURK Kurchatov 47.48 303 eP P 04 22 23.2 -1.9
KURK pmax pmax
comp=Z,14nm,1.1s,mb4.8
KURK Kurchatov 47.48 303 eP P 04 22 23.2 -1.9
comp=Z,14nm,1.1s,mb4.8
RES Resolute Bay 49.42 19 eP P 04 22 40.6 +0.8
YKA Yellowknife Ar 49.43 38 P **P 04 22 39.4 -0.6**
comp=Z,0.5nm,0.5s,mb3.8,baz=298,slow=7.9,SNR=6.8
BVAR Borovoye Array 50.82 309 P **P 04 22 49.5 -1.1**
comp=Z,2.0nm,0.5s,mb4.3,baz=60,slow=9.2,SNR=9.2
BRVK Borovoye 50.86 309 eP P 04 22 50.6 -0.3
BRVK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
BRVK Borovoye 50.86 309 eP P 04 22 50.5 -0.4
comp=Z,4.4nm,0.9s,mb4.4
CHTO Chiang Mai 53.28 257 eP P 04 23 10.4 +1.0
CHTO pmax pmax
comp=Z,12nm,1.1s,mb4.7
CHTO Chiang Mai 53.28 257 eP P 04 23 10.4 +1.0
comp=Z,12nm,1.1s,mb4.7
TKM2 Tokmak 2 53.31 296 eP P 04 23 09.3 0.0
EKS2 Erkin-Say 54.55 297 eP P 04 23 18.3 -0.1
comp=Z,2.1nm,0.8s,mb4.2
ARU Arti 54.76 317 P **P 04 23 18.8 -0.9**
KEV Kevo 56.54 341 ep P 04 23 35.5 +3.2
comp=Z,13nm,0.9s,mb5.0
KEV Kevo 56.54 341 eP P 04 23 35.5 +3.2
KEV pmax pmax
comp=Z,13nm,0.9s,mb5.0
ARCES ARCESS Array B 57.04 341 P **P 04 23 34.4 -1.4**
comp=Z,1.9nm,0.8s,mb4.2,baz=38,slow=7.6,SNR=8.3
ARCES LR LR 04 51 53.5
comp=Z,65nm,18.4s,MS3.8,baz=311,slow=40
WVOR Wild Horse Val 58.37 60 eP P 04 23 45.2 -0.4
WVOR pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
WVOR Wild Horse Val 58.37 60 eP P 04 23 45.2 -0.4
comp=Z,3.4nm,1.1s,mb4.3
CHMT Chamberlain Mo 58.64 53 eP P 04 23 47.0 -0.4
FFC Flin Flon 59.25 41 eP P 04 23 52.7 +1.2
FFC pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
FFC Flin Flon 59.25 41 eP P 04 23 52.7 +1.2
comp=Z,2.2nm,0.9s,mb4.2
FCC Fort Churchill 59.77 34 eP P 04 23 55.9 +0.8
FCC pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
FCC Fort Churchill 59.77 34 eP P 04 23 55.9 +0.9
comp=Z,2.4nm,0.7s,mb4.3
BOZ Bozeman (W) 60.31 54 eP P 04 23 59.8 +0.8
BOZ pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
BOZ Bozeman (W) 60.31 54 eP P 04 23 59.8 +0.8
comp=Z,1.6nm,0.5s,mb4.3
JOF Joensuu 60.68 334 ep P 04 24 00.2 -1.0
comp=Z,1.2nm,0.3s,mb4.5
JOF Joensuu 60.68 334 eP P 04 24 00.2 -1.0
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
NVAR Mina Array Bea 61.08 64 P **P 04 24 04.0 -0.3**
comp=Z,1.6nm,0.6s,mb4.3,baz=295,slow=7.5,SNR=14
MOOW Moose Ponds 62.02 55 eP P 04 24 10.5 -0.1
comp=Z,0.9nm,0.6s,mb4.1
TPAW Teton Pass 62.07 55 eP P 04 24 12.2 +1.3
comp=Z,36nm,2.3s,mb5.1
LOHW Long Hollow 62.18 55 eP P 04 24 11.3 -0.3
comp=Z,1.2nm,0.5s,mb4.3
SNOW Snow King Moun 62.20 55 eP P 04 24 12.9 +1.1
comp=Z,2.2nm,0.5s,mb4.5
REDW Red Top Meadow 62.21 55 eP P 04 24 13.3 +1.4
comp=Z,25nm,1.9s,mb5.0
HWUT Hardware Ranch 62.96 57 eP P 04 24 17.2 +0.3
comp=Z,57nm,2.9s,mb5.2
DUG Dugway 63.17 59 eP P 04 24 18.5 +0.2
DUG pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
DUG Dugway 63.17 59 eP P 04 24 18.4 +0.1
comp=Z,2.7nm,0.7s,mb4.5
BW06 Boulder Array 63.31 55 eP P 04 24 19.2 0.0
comp=Z,2.7nm,1.2s,mb4.2
FIA1 FINESS Array S 63.36 335 eP P 04 24 18.5 -0.7
FINES FINESS Array B 63.36 335 P **P 04 24 18.8 -0.5**
comp=Z,3.3nm,0.4s,mb4.8,baz=38,slow=8.0,SNR=46
SRU San Rafael 65.21 59 eP P 04 24 32.4 +0.7
RSSD Black Hills 65.36 51 eP P 04 24 32.5 -0.1
RSSD pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
RSSD Black Hills 65.36 51 eP P 04 24 32.5 -0.1
comp=Z,2.1nm,0.6s,mb4.3
SMCO Snowmass 67.18 56 eP P 04 24 44.7 +0.3
comp=Z,2.1nm,0.9s,mb4.2
NB2 NORSAR Subarra 67.40 342 P **P 04 24 45.1 -0.3**
comp=Z,5.5nm,0.7s,mb4.7,baz=30,slow=6.5
NOA NORSAR Array B 67.40 342 P **P 04 24 45.3 -0.1**
comp=Z,5.4nm,0.7s,mb4.7,baz=26,slow=6.4,SNR=20
NAO01 NORSAR Array S 67.65 342 eP P 04 24 46.5 -0.4
comp=Z,6.5nm,0.8s,mb4.7
SDCO Great Sand Dun 69.01 57 eP P 04 24 55.6 -0.2
comp=Z,1.8nm,1.2s,mb3.9
WRA Warramunga Arr 69.93 200 P **P 04 24 59.8 -1.8**
comp=Z,1.6nm,0.9s,mb4.0,baz=17,slow=6.8,SNR=9.1
ANMO Albuquerque 70.43 59⇑ eP P 04 25 04.3 -0.4
ANMO Albuquerque 70.43 59 eP P 04 25 05.0 +0.3
comp=Z,1.1nm,0.7s,mb3.9
ANMO Albuquerque 70.43 59 P **P 04 25 04.5 -0.2**
comp=Z,1.0nm,0.8s,mb3.8,baz=319,slow=9.0,SNR=4.2
AKASG Malin Array Be 71.07 327 P **P 04 25 07.5 -0.8**
comp=Z,1.2nm,0.4s,mb4.2,baz=33,slow=6.1,SNR=22
AKBB Malin Array Si 71.07 327 eP P 04 25 07.1 -1.2
ASAR Alice Springs 73.62 200 P **P 04 25 22.2 -1.4**
comp=Z,0.8nm,0.8s,mb3.7,baz=13,slow=5.4,SNR=7.9
KWP Kalwaria 74.28 330 eP P 04 25 27.9 +0.5
KWP Kalwaria 74.28 330 eP P 04 25 27.9 +0.5
OJC Ojcow 74.72 332 eP P 04 25 29.9 -0.1
STHS Stebnicka Huta 74.95 330 eP P 04 25 30.5 -0.8
STHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
STHS Stebnicka Huta 74.95 330 eP P 04 25 30.5 -0.8
comp=Z,5.7nm,1.0s,mb4.5
KOLS Kolonicke sedl 75.02 330 eP P 04 25 31.1 -0.6
BURAR Bucovina Array 75.10 327⇓ iP P 04 25 32.3 +0.1
KSP Ksiaz 75.25 334 eP P 04 25 31.2 -1.8
CRVS Cervenica-Dubn 75.32 330 eP P 04 25 33.4 0.0
OKC Ostrava-Krasne 75.58 332 eP P 04 25 35.4 +0.5
UPC Upice 75.63 334 eP P 04 25 35.4 +0.2
DPC Dobruska-Polom 75.68 334 eP P 04 25 36.0 +0.6
CLL Collm 75.76 336⇓ iP P 04 25 35.9 0.0
CLL e*PP pP 04 25 44.0 +3.1
CLL pmax pmax
comp=Z,14nm,0.9s,mb4.9
CLL Collm 75.76 336⇓ iP P 04 25 35.9 0.0
comp=Z,14nm,0.9s,mb4.9
CLL epP pP 04 25 44.0 +3.1
CLL Collm 75.76 336⇓ iP P 04 25 35.9 0.0
comp=Z,14nm,0.9s,mb4.9
MORC Moravsky Berou 75.82 333 eP P 04 25 36.5 +0.2
MORC pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MORC Moravsky Berou 75.82 333 eP P 04 25 36.5 +0.3
comp=Z,7.2nm,0.9s,mb4.6
BRG Berggiesshubel 75.90 335 eP P 04 25 36.6 -0.1
BRG pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
BRG Berggiesshubel 75.90 335 eP P 04 25 36.6 -0.1
comp=Z,7.7nm,1.2s,mb4.5
PVCC Panska Ves 76.03 335 eP P 04 25 37.8 +0.3
TXAR Lajitas Array 76.12 62 P **P 04 25 37.4 -0.9**
comp=Z,1.3nm,0.6s,mb4.1,baz=301,slow=4.4,SNR=28
PRU Pruhonice 76.52 335 eP P 04 25 40.5 +0.2
VYHS Vyhne 76.54 331 eP P 04 25 40.3 -0.1
VYHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
VYHS Vyhne 76.54 331 eP P 04 25 40.3 -0.1
comp=Z,2.6nm,0.8s,mb4.2
MLR Muntele Rosu 76.62 326⇓ iP P 04 25 42.1 +1.2
PSZ Piszkesteto 76.69 330 eP P 04 25 41.8 +0.5
PSZ pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
PSZ Piszkesteto 76.69 330 eP P 04 25 41.8 +0.5
comp=Z,1.4nm,0.6s,mb4.1
DRGR 76.70 328⇑ iP P 04 25 41.7 +0.4
MOX Moxa 76.74 337 eP P 04 25 41.4 -0.1
NKC Novy Kostel 76.89 336 eP P 04 25 42.0 -0.3
MALT Malatya 77.02 314 eP P 04 25 44.6 +1.3
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 77.02 314 eP P 04 25 44.6 +1.3
comp=Z,1.9nm,0.6s,mb4.2
KHC Kasperske Hory 77.57 335⇑ eP P 04 25 46.3 +0.1
KHC Kasperske Hory 77.57 335 eP P 04 25 46.5 +0.3
KHC ex x 04 27 30.0
GRA1 Grafenberg Arr 77.71 337 eP P 04 25 47.6 +0.7
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 77.71 337 eP P 04 25 47.6 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 77.71 337 eP P 04 25 47.6 +0.7
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 77.71 337 eP P 04 25 47.6 +0.7
comp=Z,8.0nm,0.9s,mb4.7
GERES GERESS Array B 77.79 335 P **P 04 25 46.9 -0.5**
comp=Z,2.3nm,0.7s,mb4.2,baz=28,slow=6.0,SNR=19
CONA Conrad Observa 77.97 333⇑ iP P 04 25 49.2 +0.8
comp=Z,5.3nm,0.9s,mb4.5
CONA Conrad Observa 77.97 333⇑ ipP P 04 25 49.2 +0.8
comp=Z,5.3nm,0.9s,mb4.5
BZS Buzias 78.10 328⇓ iP P 04 25 48.8 -0.4
KBA Koelnbreinsper 79.49 334⇓ iP P 04 25 57.8 +1.0
comp=Z,13nm,1.0s,mb4.8
KBA Koelnbreinsper 79.49 334⇓ ipP P 04 25 57.8 +1.0
comp=Z,13nm,1.0s,mb4.8
KBA Koelnbreinsper 79.49 334⇓ iP P 04 25 57.8 +1.0
KBA pmax pmax
comp=Z,13nm,1.0s,mb4.8
WTTA Wattenberg 79.81 335⇑ iP P 04 25 59.5 +0.9
comp=Z,11nm,0.9s,mb4.8
WTTA Wattenberg 79.81 335⇑ ipP P 04 25 59.5 +0.9
comp=Z,11nm,0.9s,mb4.8
WTTA Wattenberg 79.81 335⇑ iP P 04 25 59.5 +1.0
WTTA pmax pmax
comp=Z,11nm,0.9s,mb4.8
MEZF Maizieres J'vi 80.35 340 eP P 04 26 01.9 +0.5
LOR Lormes 81.79 340 eP P 04 26 09.5 +0.4
CABF La Chapelle 81.88 339 eP P 04 26 09.7 +0.1
comp=Z,18nm,1.0s,mb4.7
CABF La Chapelle 81.88 339 eP P 04 26 09.7 +0.1
CABF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CABF La Chapelle 81.88 339 eP P 04 26 09.7 +0.1
comp=Z,9.1nm,1.0s,mb4.7
SSF Saint Saulge 82.06 340 eP P 04 26 10.6 +0.1
SGMF Saint Gilles 82.14 345 eP P 04 26 11.2 +0.3
CSS Prodhromos 82.15 315 eP P 04 26 10.4 -0.9
comp=Z,8.2nm,0.7s,mb4.8
AVF Avril sur Loir 82.35 340 eP P 04 26 12.0 -0.1
comp=Z,19nm,1.1s,mb4.6
AVF Avril sur Loir 82.35 340 eP P 04 26 12.0 -0.1
AVF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
AVF Avril sur Loir 82.35 340 eP P 04 26 12.0 -0.1
comp=Z,9.3nm,1.1s,mb4.6
SMF Signal de Mont 82.38 340 eP P 04 26 12.5 +0.3
ASF Jabal al Asfar 82.63 311 P **P 04 26 13.7 -0.1**
comp=Z,4.4nm,0.9s,mb4.5,baz=276,slow=1.2,SNR=8.0
MMAI Mount Meron Ar 82.71 312 P **P 04 26 14.2 0.0**
comp=Z,8.8nm,0.6s,mb5.0,baz=30,slow=6.8,SNR=14
LPL La Plagne 82.74 338 eP P 04 26 14.6 +0.5
comp=Z,5.6nm,0.7s,mb4.4
LPL La Plagne 82.74 338 eP P 04 26 14.6 +0.5
LPL pmax pmax
comp=Z,3.0nm,0.7s,mb4.4
LPL La Plagne 82.74 338 eP P 04 26 14.6 +0.5
comp=Z,2.8nm,0.7s,mb4.4
LPG La Plagne 82.75 338 eP P 04 26 14.7 +0.5
comp=Z,4.6nm,0.7s,mb4.3
LPG La Plagne 82.75 338 eP P 04 26 14.7 +0.5
LPG pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
LPG La Plagne 82.75 338 eP P 04 26 14.7 +0.5
comp=Z,2.3nm,0.7s,mb4.3
TCF Toulx Ste Croi 83.08 341 eP P 04 26 16.0 +0.1
comp=Z,33nm,1.2s,mb4.9
TCF Toulx Ste Croi 83.08 341 eP P 04 26 16.0 +0.1
TCF pmax pmax
comp=Z,16nm,1.2s,mb4.9
TCF Toulx Ste Croi 83.08 341 eP P 04 26 16.0 +0.1
comp=Z,16nm,1.2s,mb4.9
MBDF Montbardon 83.46 337 eP P 04 26 18.2 +0.3
ORIF Oris-en-Rattie 83.51 338 eP P 04 26 18.1 0.0
comp=Z,9.3nm,0.8s,mb4.7
ORIF Oris-en-Rattie 83.51 338 eP P 04 26 18.1 0.0
ORIF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
ORIF Oris-en-Rattie 83.51 338 eP P 04 26 18.1 0.0
comp=Z,4.7nm,0.8s,mb4.7
VIVF Saint-Julien-l 83.87 339 eP P 04 26 20.2 +0.3

comp=Z,27nm,1.3s,mb4.9
VIVF Saint-Julien-I 83.87 339 *e*P **P 04 26 20.2 +0.3**
VIVF pmax pmax
comp=Z,13nm,1.3s,mb4.9
VIVF Saint-Julien-I 83.87 339 *e*P **P 04 26 20.2 +0.3**
comp=Z,13nm,1.3s,mb4.9
SBF Sospel 84.09 337 *e*P **P 04 26 21.1 0.0**
CAF Calviac 84.41 341 *e*P **P 04 26 22.5 -0.2**
SMRF Simiane la Rot 84.47 338 *e*P **P 04 26 23.2 +0.2**
comp=Z,12nm,0.8s,mb4.8
SMRF Simiane la Rot 84.47 338 *e*P **P 04 26 23.2 +0.2**
comp=Z,12nm,0.8s,mb5.1
LASF Ste Croix 84.80 339 *e*P **P 04 26 24.7 0.0**
comp=Z,13nm,1.0s,mb4.7
PGF Pioggiola 84.88 335 *e*P **P 04 26 25.3 +0.2**
comp=Z,26nm,0.9s,mb5.1
PGF Pioggiola 84.88 335 *e*P **P 04 26 25.3 +0.2**
PGF pmax pmax
comp=Z,13nm,0.9s,mb5.1
PGF Pioggiola 84.88 335 *e*P **P 04 26 25.3 +0.2**
comp=Z,13nm,0.9s,mb5.0
EIL Elat 85.63 311 P **P 04 26 29.0 -0.2**
comp=Z,3.9nm,0.6s,mb4.8,baz=54,slow=4.9,SNR=4.9
MTLF Montolieu 85.88 340 *e*P **P 04 26 29.6 -0.5**
comp=Z,26nm,1.3s,mb5.0
MTLF Montolieu 85.88 340 *e*P **P 04 26 29.6 -0.5**
MTLF pmax pmax
comp=Z,13nm,1.3s,mb5.0
MTLF Montolieu 85.88 340 *e*P **P 04 26 29.6 -0.5**
comp=Z,13nm,1.3s,mb5.0
TORD Torodi Ar. Bea 114.53 331 PKP PKiKP 04 32 29.3 -1.6
comp=Z,0.4nm,0.8s,baz=19,slow=1.5,SNR=3.1
CPUP Villa Florida 147.09 60 *e*PKP2 PKPab 04 33 33.4 -1.5

*IDC **16** 04:17:23.1±0.6,2730N×8775E,h0km,mb4.1/14, mb1 4.2/15,mb1mx4.1/23,mbtmp4.1/15,MS3.4/2, Ms1 3.4/2,ms1mx2.7/29,Error ellipse: s-maj=24.7km s-min=15.2km az=59.0*
*MOS **16** 04:17:26.2±0.9,2731N×8769E,h33km,mb4.5/3,Error ellipse: s-maj=16.7km s-min=9.4km az=88.4*
*ISCJB **16** 04:17:26.6±0.3,2729N±004×8782E±003,h33km, mb4.2/19,MS3.8/2,Error ellipse: s-maj=5.3km s-min=3.6km az=6.7*
*DMN **16** 04:17:27.8±0.4,2750N×8808E,h40km,Ml4.7/5,Error ellipse: s-maj=27.8km s-min=7.6km az=7.0*
*NEIC **16** 04:17:27.9±2.6,2729N×8785E,h32km±18km,mb4.0/6, Error ellipse: s-maj=8.8km s-min=8.1km az=102.0*
*NDI **16** 04:17:29.2±3.7,27.16N×8793E,h32km,ML4.0, mb4.0(NEIC)*
*BJI **16** 04:17:30.8,2776N×8820E,h30km,mB4.6,mb4.5,ML3.6, Ms3.7,Msz3.5*

ISC 16 04:17:27.8±1.1,2730N±004×8789E±003,h28km±9km,n69, σ1§15/89,mb4.2/19,MS3.7/2,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**0.76**	**142**	*e*P	**Pb**	**04 17 41.0**	**-1.4**
JIRN	**Jiri**	**1.55**	**284**	*e*Pn	**Pn**	**04 17 53.0**	**-0.6**
JIRN				*e*Sg	**Sn**	**04 18 15.0**	**+2.2**
GUN	**Gumba**	**1.89**	**289**	*e*Pn	**Pn**	**04 17 59.2**	**+1.0**
GUN				*e*Sn	**Sn**	**04 18 22.9**	**+1.9**
SHBG	**Sahibganj**	**2.09**	**186**	*e*P	**Pn**	**04 18 01.0**	**+0.1**
PKI	**Pulchoki**	**2.22**	**277**	*e*Pn	**Pn**	**04 18 04.0**	**+1.2**
PKI				*e*Sn	**Sn**	**04 18 31.2**	**+1.8**
KKN	**Kakani**	**2.37**	**282**	*e*Pn	**Pn**	**04 18 06.0**	**+1.2**
KKN				*e*Sn	**Sn**	**04 18 34.2**	**+1.2**
	532nm,0.3s						
DMN	**Daman**	**2.50**	**278**	*e*Pn	**Pn**	**04 18 07.7**	**+1.2**
DMN				*e*Sn	**Sn**	**04 18 37.8**	**+1.7**
	1μm,0.7s						
GKN	**Gorkha**	**2.97**	**284**	*e*Pn	**Pn**	**04 18 14.2**	**+1.1**
GKN				*e*Sn	**Sn**	**04 18 46.9**	**-0.9**
	584nm,0.3s						
LSA	**Lhasa**	**3.73**	**49**	PG	**Pn**	**04 18 27.4**	**+3.9**
LSA				SG	**Sn**	**04 19 17.5**	**+11**
LSA				Smax			
	comp=N,70nm,0.7s						
LSA				Smax			
	comp=E,110nm,0.8s						
LSA	**Lhasa**	**3.73**	**49**	*e*Pn	**Pn**	**04 18 24.2**	**+0.7**
LSA				*e*Pg	**Pn**	**04 18 33.7**	**+10**
LSA				*e*Sg	**Sn**	**04 19 16.8**	**+10**
DANN	**Dangsing**	**3.81**	**287**	*e*Pn	**Pn**	**04 18 24.7**	**+0.1**
DANN				*e*Sn	**Sn**	**04 19 06.6**	**-1.8**
	comp=E,438nm,0.3s						
KOLN	**Koldanda**	**3.84**	**278**	*e*Pn	**Pn**	**04 18 25.4**	**+0.4**
KOLN				*e*Sn	**Sn**	**04 19 08.1**	**-1.2**
	comp=E,562nm,0.4s						
BOK	**Bokaro**	**3.94**	**208**	*i* P	**Pn**	**04 18 27.2**	**+0.8**
BOK				*i* S	**Sn**	**04 19 06.2**	**-5.5**
SHL	**Shillong**	**3.97**	**115**	*e*PN	**Pn**	**04 18 26.5**	**-0.4**
SHL				*e*PG	**Pn**	**04 18 35.5**	**+8.6**
SHL				*e*SG	**Sn**	**04 19 25.0**	**+12**
AGT	**Agartala**	**4.56**	**138**	*ex*	x	04 18 46.0	
ALBI	**Allahabad**	**5.81**	**251**	*ex*	**Pn**	**04 18 50.0**	**-2.1**
IMP	**Imphal**	**5.98**	**113**	*e*P	**Pn**	**04 18 56.0**	**+1.5**
IMP				*ex*	**Sn**	**04 20 10.0**	**+7.9**
PTH	**Pithoragarh**	**7.12**	**290**	*e*P	**Pn**	**04 19 10.2**	**+0.1**
PTH				*e*S	**Sn**	**04 20 28.2**	**-1.9**
DDI	**Dehra Dun**	**9.14**	**292**	*ex*	**Sn**	**04 21 19.0**	**-0.7**
NDI	**New Delhi**	**9.54**	**281**	*ex*	**Pn**	**04 19 40.0**	**-3.3**
NDI				*e*S	**Sn**	**04 21 23.0**	**-6.5**
NGP	**Nagpur**	**10.13**	**235**	*e*P	**Pn**	**04 19 52.7**	**+1.3**
NGP				*ex*	**Sn**	**04 21 39.2**	**-4.9**
NGP				*ex*	x	04 21 42.4	
	comp=E,52nm,0.7s						
VIS	**Vishakhapatnam**	**10.43**	**205**	*i* P	**Pn**	**04 19 54.3**	**-1.2**
VIS				*i* x	**Sn**	**04 21 46.5**	**-5.0**
AJM	**Ajmer**	**11.86**	**269**	*e*S	**Sn**	**04 22 17.0**	**-9.4**
HYB	**Hyderabad**	**13.09**	**223**	*e*P	**Pn**	**04 20 30.0**	**-1.9**
HYB				*e*S	**Sn**	**04 22 44.0**	**-13**
HYB	**Hyderabad**	**13.09**	**223**	*i* P	**Pn**	**04 20 30.0**	**-1.9**
	comp=E,70nm,1.0s						
HYB				*e*S	**Sn**	**04 23 05.0**	**+8.4**
KMI	**Kunming**	**13.50**	**96**	P	**Pn**	**04 20 42.4**	**+4.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,0.8s						
LATR	**Latur**	**13.68**	**232**	*ex*	**Sn**	**04 23 01.0**	**-10**
CD2	**Chengdu**	**14.33**	**72**	*e*P	**Pn**	**04 20 49.5**	**+0.8**
CD2				XP	sP	04 21 05.0	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,210nm,9.6s						
CD2				LR	LR		
	comp=Z,120nm,9.6s						
POO	**Poona**	**15.60**	**239**	*e*P	**Pn**	**04 21 05.0**	**-0.8**
POO				*ex*	x	04 23 44.0	
KAD	**Karad**	**16.11**	**235**	*i* x	**Pn**	**04 21 16.7**	**+4.4**
KAD	**Karad**	**16.11**	**235**	*e*P	**Sn**	**04 23 57.2**	**-13**
LZH	**Lanzhou**	**16.14**	**53**	*e*P	**Pn**	**04 21 13.8**	**+1.2**
LZH				AMB	AMB		
	comp=Z,19nm,1.0s						
LZH				AMB	AMB		
	comp=Z,90nm,4.7s						
WMQ	**Urumqi**	**16.48**	**359**	*e*P	**Pn**	**04 21 18.0**	**+1.1**
WMQ				AP	pP	04 21 27.0	+0.2
WMQ				PP		04 21 33.0	
WMQ				AMB	AMB		
	comp=Z,34nm,0.8s						
WMQ				LR	LR		
	comp=N,78nm,8.0s						
WMQ				LR	LR		
	comp=E,87nm,8.0s						
WMQ				LR	LR		
	comp=E,81nm,8.0s						
KBL	**Kabul**	**17.70**	**299**	*e*P	**Pn**	**04 21 33.0**	**+0.8**
	comp=Z,6.6nm,0.7s						
UCH	**Uchtor**	**18.47**	**327**	*e*P	**Pn**	**04 21 42.2**	**+0.6**
	comp=Z,4.9nm,0.7s						
TKM2	**Tokmak 2**	**18.51**	**330**	*e*P	**Pn**	**04 21 41.0**	**-1.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s						
TKM2	**Tokmak 2**	**18.51**	**330**	*e*P	**Pn**	**04 21 41.0**	**-1.1**
	comp=Z,2.4nm,0.6s						
AML	**Almayashu**	**18.80**	**326**	*e*P	**Pn**	**04 21 46.4**	**+0.7**
EKS2	**Erkin-Say**	**19.16**	**327**	*e*P	**Pn**	**04 21 49.2**	**-0.6**
	comp=Z,6.2nm,0.6s						
MK31	**Makanchi Array**	**19.95**	**349**	*e*P	**Pn**	**04 21 57.4**	**-1.9**
MKAR	**Makanchi Array**	**19.95**	**349**	P	**Pn**	**04 21 56.5**	**-2.8**
	comp=Z,1.1nm,0.3s,baz=169,slow=11,SNR=22						
MKAR				LR	LR	04 30 48.6	
	comp=Z,54nm,21.7s,baz=5.0,slow=40						
WHN	**Wuhan**	**23.36**	**76**	*e*P	**P**	**04 22 35.5**	**+1.3**
HHC	**Hu-ho-hao-te**	**23.72**	**49**	*e*P	**P**	**04 22 37.6**	**+0.1**
HHC				AP		04 22 49.8	
HHC				PP		04 23 12.1	
HHC				PCP	PcP	04 26 22.8	+1.8
HHC				S	**S**	**04 26 44.8**	**-5.9**
HHC				AMB	AMB		
	comp=Z,43nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,186nm,5.7s						
HHC				LR	LR		
	comp=N,243nm,14.9s,MS4.1						
HHC				LR	LR		
	comp=E,528nm,18.0s,MS4.1						
HHC				LR	LR		
	comp=Z,282nm,16.3s,MS3.8						
KURK	**Kurchatov**	**24.42**	**346**	*e*P	**P**	**04 22 43.3**	**-0.5**
KURK				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2						
KURK	**Kurchatov**	**24.42**	**346**	*e*P	**P**	**04 22 43.3**	**-0.5**
	comp=Z,8.8nm,0.8s,mb4.2						
SONM	**Songino Array**	**25.08**	**30**	P	**P**	**04 22 51.1**	**+1.3**
	comp=Z,6.2nm,0.7s,mb4.3,baz=225,slow=8.7,SNR=8.9						
SONM				LR	LR	04 35 06.8	
	comp=Z,145nm,18.7s,MS3.5,baz=50,slow=42						
ULN	**Ulaanbaatar**	**25.40**	**31**	*e*P	**P**	**04 22 53.0**	**+0.3**
ULN				pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.4						
ULN	**Ulaanbaatar**	**25.40**	**31**	*e*P	**P**	**04 22 53.0**	**+0.3**
	comp=Z,8.3nm,0.7s,mb4.4						
ZAK	**Zakamensk**	**25.87**	**23**	*e*P	**P**	**04 22 57.8**	**+0.8**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.1						
ZAL	**Zalesovo**	**26.70**	**356**	P	**P**	**04 23 03.6**	**-0.8**
ZAA0	**Zalesovo Array**	**26.71**	**356**	*e*P	**P**	**04 23 03.1**	**-1.4**
ZALV	**Zalesovo Beam**	**26.71**	**356**	P	**P**	**04 23 03.6**	**-0.9**
	comp=Z,4.2nm,0.6s,mb4.1,baz=183,slow=10,SNR=20						
ASF	**Jabal al Asfar**	**44.22**	**289**	P	**P**	**04 25 36.2**	**+1.5**
	comp=Z,2.2nm,0.8s,mb4.0,baz=354,slow=7.7,SNR=5.9						
AKASG	**Malin Array Be**	**49.73**	**315**	P	**P**	**04 26 16.5**	**-0.9**
	comp=Z,0.8nm,0.5s,mb4.0,baz=80,slow=6.9,SNR=6.4						
FINES	**FINESS Array B**	**52.98**	**328**	P	**P**	**04 26 40.7**	**-0.9**
FINES	**FINESS Array B**	**52.98**	**328**	P	**P**	**04 26 40.7**	**-0.8**
	comp=Z,3.0nm,0.7s,mb4.3,baz=119,slow=12,SNR=5.7						
ARCES	**ARCESS Array B**	**55.10**	**338**	P	**P**	**04 26 56.3**	**-0.6**
	comp=Z,11nm,1.1s,mb4.8,baz=83,slow=6.0,SNR=10						
GERES	**GERESS Array B**	**59.82**	**313**	P	**P**	**04 27 30.2**	**-0.3**
	comp=Z,1.8nm,0.8s,mb4.2,baz=75,slow=7.1,SNR=8.9						
NB2	**NORSAR Subarra**	**60.11**	**327**	P	**P**	**04 27 31.2**	**-1.1**
	comp=Z,1.7nm,0.7s,mb4.2,baz=86,slow=6.5						
NOA	**NORSAR Array B**	**60.11**	**327**	P	**P**	**04 27 30.9**	**-1.3**
	comp=Z,1.5nm,0.7s,mb4.1,baz=87,slow=6.7,SNR=7.5						
WRA	**Warramunga Arr**	**65.03**	**131**	P	**P**	**04 28 06.0**	**+0.3**
	comp=Z,1.2nm,0.6s,mb4.1,baz=325,slow=6.6,SNR=15						
ASAR	**Alice Springs**	**67.39**	**134**	P	**P**	**04 28 21.2**	**+0.5**
	comp=Z,1.3nm,0.6s,mb4.1,baz=318,slow=6.4,SNR=22						
STKA	**Stephens Creek**	**77.97**	**135**	P	**P**	**04 29 23.4**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.0,baz=304,slow=8.5,SNR=2.8						
INK	**Inuvik**	**79.89**	**14**	*e*P	**P**	**04 29 33.2**	**-0.3**
	comp=Z,165nm,1.4s						
TORD	**Torodi Ar. Bea**	**80.76**	**280**	P	**P**	**04 29 38.0**	**-1.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=59,slow=4.5,SNR=9.5						
KDAK	**Kodiak Island**	**81.35**	**28**	P	**P**	**04 29 42.0**	**+0.4**
	comp=Z,2.6nm,0.7s,mb4.3,baz=136,slow=12,SNR=4.4						
BOSA	**Boshof**	**81.82**	**232**	P	**P**	**04 29 44.9**	**+0.4**
	comp=Z,3.1nm,1.0s,mb4.2,baz=90,slow=9.1,SNR=3.0						
YKA	**Yellowknife Ar**	**88.72**	**10**	P	**P**	**04 30 17.6**	**-0.8**
	comp=Z,0.1nm,0.4s,mb3.5,baz=330,slow=5.1,SNR=6.5						
CPUP	**Villa Florida**	**149.00**	**264**	PKPbc	PKPbc	04 37 12.2	-1.4
	comp=Z,1.7nm,0.7s,baz=90,slow=3.2,SNR=5.7						

*ISCJB **16** 04:19:26.4±1.3,119S±02×1664E±02,h103km,mb4.0/8, Error ellipse: s-maj=30.1km s-min=27.1km az=166.0*
*IDC **16** 04:19:26.8±2.0,1176S×16656E,h103km±10km,mb3.7/6, mb1 3.8/6,mb1mx3.6/15,mbtmp3.7/6,MS3.1/1,Ms1 3.1/1, ms1mx2.7/27,Error ellipse: s-maj=41.4km s-min=34.3km az=112.0*
*NEIC **16** 04:19:28.5±1.0,1182S×16645E,mb4.3/2,Error ellipse: s-maj=22.9km s-min=20.8km az=75.0*

ISC 16 04:19:28.0±1.3,118S±02×1664E±02,h105km, h105km±5.5km:pP-P,n10,σ0§46/9,mb4.0/8,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.81**	**290**	LR	LR	04 23 33.2	
	comp=Z,138nm,18.8s,baz=176,slow=36						
STKA	**Stephens Creek**	**30.37**	**225**	P	**P**	**04 25 30.4**	**+0.3**
	1.8nm,0.5s,mb4.0,baz=28,slow=12,SNR=3.6						
WRA	**Warramunga Arr**	**31.87**	**251**	P	**P**	**04 25 42.8**	**-0.6**
	0.7nm,0.8s,mb3.5,baz=82,slow=8.6,SNR=5.2						
WRA				pP	pP	04 26 08.0	+1.1
	0.7nm,0.7s,baz=83,slow=8.4,SNR=3.4						
ASAR	**Alice Springs**	**33.07**	**245**	P	**P**	**04 25 53.2**	**-0.6**
	0.8nm,0.8s,mb3.6,baz=69,slow=10,SNR=6.8						
ASAR				pP	pP	04 26 17.6	+0.2
	0.5nm,0.6s,baz=76,slow=9.2,SNR=3.1						
FITZ	**Fitzroy Crossi**	**39.85**	**256**	P	**P**	**04 26 52.0**	**+0.4**
	0.6nm,0.3s,mb3.9,baz=74,slow=9.2,SNR=5.7						
MBWA	**Marble Bar**	**45.60**	**252**	*e*P	**P**	**04 27 38.7**	**+0.7**
	1.8nm,0.4s,mb4.2						
VNDA	**Vanda**	**65.75**	**181**	P	**P**	**04 30 00.7**	**-0.5**
	0.9nm,0.6s,mb3.8,baz=351,slow=6.4,SNR=3.6						
QSPA	**South Pole Qui**	**78.20**	**180**	*e*P	**P**	**04 31 15.9**	**+0.4**
	5.8nm,0.8s,mb4.4						
MK31	**Makanchi Array**	**94.54**	**317**	*e*P	**P**	**04 32 36.7**	**0.0**
MKAR	**Makanchi Array**	**94.54**	**317**	P	**P**	**04 32 36.6**	**-0.1**
	1.6nm,0.6s,mb4.7,baz=88,slow=6.4,SNR=17						
MKAR				pP	pP	04 33 01.6	-2.6
	0.5nm,0.6s,baz=97,slow=6.1,SNR=2.5						

*IDC **16** 04:25:14.3±4.5,1532N×10457W,h0km,mb3.8/2, mb1 4.1/3,mb1mx3.7/18,mbtmp3.8/3,MS3.8/10, Ms1 3.8/10,ms1mx3.4/29,Error ellipse: s-maj=187.8km s-min=31.1km az=66.0*
*ISCJB **16** 04:25:19.3±7.0,154N±02×1045W±03,h44km±56km, mb3.9/6,MS3.8/10,Error ellipse: s-maj=63.0km s-min=15.9km az=141.1*
*NEIC **16** 04:25:19.9±1.3,1530N×10459W,h35km,mb3.9/11,Error ellipse: s-maj=29.7km s-min=12.6km az=58.0*

ISC 16 04:25:21.1±4.8,154N±02×1044W±03,h39km±38km,n29, σ1§14/16,mb3.9/6,MS3.8/10,Off coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**13.88**	**3**	Pn	**Pn**	**04 28 35.1**	**-0.1**
	0.0nm,0.3s,baz=184,slow=12,SNR=14						
MNTX	**Cornudas Mount**	**16.24**	**357**	*e*P	**Pn**	**04 29 07.3**	**+0.9**
	4.7nm,1.2s						
HKT	**Hockley**	**16.48**	**27**	*e*P	**Pn**	**04 29 10.2**	**+0.8**
	15nm,1.5s						
AMTX	**Amarillo**	**19.55**	**7**	*e*P	**Pn**	**04 29 44.4**	**-2.5**
	7.5nm,0.9s						
ANMO	**Albuquerque**	**19.55**	**355**	*e*P	**Pn**	**04 29 45.9**	**-1.1**
	4.0nm,1.5s						
JTS	**JuntasAbangare**	**19.63**	**103**	*e*P	**Pn**	**04 29 48.0**	**0.0**
	15nm,1.0s						
WMOK	**Wichita Mounta**	**19.90**	**14**	*e*P	**Pn**	**04 29 50.9**	**-0.3**
	4.1nm,0.9s						
WUAZ	**Wupatki**	**20.98**	**344**	*e*P	**P**	**04 30 00.8**	**-0.2**
	8.7nm,1.1s						
SDCO	**Great Sand Dun**	**22.27**	**358**	*e*P	**P**	**04 30 16.6**	**+1.8**
	1.9nm,1.1s,mb3.4						
DAU	**Daniels Canyon**	**25.62**	**348**	*e*P	**P**	**04 30 48.3**	**+1.5**
TPAW	**Teton Pass**	**28.55**	**350**	*e*P	**P**	**04 31 14.9**	**+1.8**
	4.9nm,1.2s,mb4.1						
LOHW	**Long Hollow**	**28.61**	**351**	*e*P	**P**	**04 31 11.8**	**-1.8**
	8.2nm,1.2s,mb4.3						
BOZ	**Bozeman (W)**	**30.75**	**350**	*e*P	**P**	**04 31 31.9**	**-0.7**
	2.7nm,1.2s,mb4.0						
ULM	**Lac du Bonnet**	**35.44**	**9**	LR	LR	04 47 07.7	
	comp=Z,141nm,19.6s,MS3.7,baz=292,slow=37						
YKA	**Yellowknife Ar**	**47.58**	**354**	P	**P**	**04 33 52.0**	**-0.6**
YKA	**Yellowknife Ar**	**47.58**	**354**	P	**P**	**04 33 52.0**	**-0.6**
	0.5nm,0.7s,mb3.6,baz=168,slow=7.2,SNR=9.8						
LPAZ	**La Paz**	**47.68**	**130**	P	**P**	**04 33 54.0**	**0.0**
	2.6nm,1.2s,mb4.2,baz=298,slow=5.2,SNR=4.5						
LPAZ				LR	LR	04 51 51.4	
	comp=Z,75nm,19.0s,MS3.7,baz=275,slow=33						
RKT	**Rikitea**	**48.59**	**219**	*e*LR	LR	04 47 30.4	
	190nm,31.0s						
RKT	**Rikitea**	**48.59**	**219**	*e*T		05 25 18.4	
	3.8nm,0.3s						
SCHQ	**Schefferville**	**48.88**	**28**	LR	LR	04 55 37.9	
	comp=Z,107nm,18.4s,MS3.9,baz=251,slow=37						
PMOR	**Pomariorio Ree**	**52.54**	**237**	*e*T		05 30 11.1	
	2.9nm,0.2s						
PPT	**Papeete**	**55.29**	**235**	*e*LR	LR	04 50 22.9	
	119nm,25.5s						
ARCES	**ARCESS Array B**	**88.31**	**16**	LR	LR	05 15 31.0	
	comp=Z,49nm,21.8s,MS3.9,baz=260,slow=34						
NOA	**NORSAR Array B**	**88.42**	**26**	LR	LR	05 17 45.5	
	comp=Z,16nm,20.6s,MS3.4,baz=205,slow=36						
HFS	**Hagfors**	**89.93**	**26**	LR	LR	05 19 10.3	
	comp=Z,48nm,18.4s,MS4.0,baz=181,slow=36						
FINES	**FINESS Array B**	**93.98**	**21**	LR	LR	05 18 49.2	
	comp=Z,49nm,19.5s,MS4.0,baz=162,slow=34						
DAVOX	**Davos/Dischmat**	**94.64**	**39**	LR	LR	05 28 52.4	
	comp=Z,38nm,18.6s,MS3.9,baz=83,slow=40						
GERES	**GERESS Array B**	**95.85**	**36**	LR	LR	05 21 31.7	
	comp=Z,40nm,19.1s,MS3.9,baz=102,slow=35						
VRAC	**Vranov**	**97.21**	**34**	LR	LR	05 27 19.9	
	comp=Z,42nm,18.2s,MS4.0,baz=130,slow=38						

IDC 16 04:32:21.0±7.0,2325S×937W,h0km,mb3.9/3,mb1 4.0/3, mb1mx3.6/19,mbtmp3.9/3,MS3.7/3,Ms1 3.7/3, ms1mx3.0/31,Error ellipse: s-maj=628.7km s-min=132.0km az=102.0,South Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**37.75**	**18**	P	P	04 39 38.8	-0.1
	3.8nm,0.8s,baz=198,slow=8.9,SNR=34						
CPUP	**Villa Florida**	**43.46**	**256**	LR	LR	04 55 08.5	
	comp=Z,70nm,18.8s,baz=287,slow=32						
LPAZ	**La Paz**	**55.43**	**266**	LR	LR	05 04 42.8	
	comp=Z,44nm,18.6s,baz=269,slow=35						
SDV	**Santo Domingo**	**67.87**	**291**	LR	LR	05 09 53.7	
	comp=Z,104nm,18.9s,baz=310,slow=33						
GERES	**GERESS Array B**	**74.67**	**16**	P	P	04 44 02.4	+0.4
	0.6nm,0.7s,baz=218,slow=7.4,SNR=3.7						
AKASG	**Malin Array Be**	**81.12**	**24**	P	P	04 44 37.9	0.0
	0.1nm,0.3s,baz=224,slow=5.5,SNR=5.7						

*FUNV **16** 04:32:56.7,1038N×6183W,h34km,MW2.8*
*ISCJB **16** 04:32:57.2±0.6,1029N±006×6206W±003,h55km±11km, Error ellipse: s-maj=10.1km s-min=5.4km az=4.3*
*TRN **16** 04:33:00.8,1047N×6196W,h43km,MD2.9*
*NEIC **16** 04:33:00.8,1047N×6196W,h43km,MD2.9(TRN),After TRN.*

ISC 16 04:32:58.3±0.6,1031N±006×6205W±003,h45km±14km, n17,σ1§04/27,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.38**	**333**	*e*P	**Pn**	**04 33 06.7**	**-1.1**
GUIV				*e*S	**Sn**	**04 33 13.7**	**-0.8**
TCE	**Chacachacare**	**0.48**	**37**	*e*P	**Pn**	**04 33 09.0**	**-0.1**
TCE				*e*S	**Sn**	**04 33 16.3**	**-0.4**
TPP	**Pointe-a-Pierr**	**0.59**	**89**	*e*P	**Pn**	**04 33 11.7**	**+1.3**
TPP				*e*S	**Sn**	**04 33 20.9**	**+1.8**
TRN	**Trinidad (W)**	**0.72**	**62**	*e*P	**Pn**	**04 33 12.4**	**+0.3**
TRN				*e*S	**Sn**	**04 33 21.1**	**-1.0**
GUNV	**Guanoco**	**0.89**	**261**	*e*P	**Pn**	**04 33 15.8**	**+1.4**
GUNV				*e*S	**Sn**	**04 33 29.7**	**+3.4**
TBH	**Brigand Hill**	**0.98**	**80**	*e*P	**Pn**	**04 33 17.1**	**+1.4**
CRUV	**Carupano**	**1.22**	**287**	*e*P	**Pn**	**04 33 18.9**	**0.0**
CRUV				*e*S	**Sn**	**04 33 35.3**	**+0.9**
ITEV	**Isla Los Testi**	**1.49**	**314**	*e*P	**Pn**	**04 33 22.2**	**-0.4**
ITEV				*e*S	**Sn**	**04 33 40.9**	**0.0**
TPR	**Prospect**	**1.52**	**55**	*e*P	**Pn**	**04 33 24.7**	**+1.6**
TPR				*e*S	**Sn**	**04 33 40.3**	**-1.4**
ORIV	**Oritupano**	**1.82**	**228**	*e*P	**Pn**	**04 33 27.9**	**+0.7**
RIOV	**Rio Grande**	**2.24**	**174**	*e*P	**Pn**	**04 33 31.1**	**-1.8**
PCRV	**Puerto La Cruz**	**2.55**	**267**	*e*P	**Pn**	**04 33 37.2**	**0.0**
CUPV	**Cœpira**	**3.69**	**266**	*e*P	**Pn**	**04 33 53.2**	**+0.3**
CUPV				*e*S	**Sn**	**04 34 34.7**	**-0.4**
BIRV	**Birongo**	**4.15**	**273**	*e*P	**Pn**	**04 33 59.2**	**0.0**
LUEV	**Luepa**	**4.48**	**172**	*e*P	**Pn**	**04 34 01.6**	**-2.0**
LUEV				*e*S	**Sn**	**04 34 49.3**	**-5.2**
CAOV	**Caicara del Or**	**5.16**	**235**	*e*P	**Pn**	**04 34 12.6**	**-0.5**
BAUV	**El Baul**	**6.06**	**258**	*e*P	**Pn**	**04 34 24.9**	**-0.5**

IDC 16 05:16:20.2±2.2,302S×6737E,h0km,mb3.8/3,mb1 4.0/3, mb1mx3.6/21,mbtmp3.8/3,MS3.7/4,Ms1 3.7/4, ms1mx3.3/25,Error ellipse: s-maj=83.7km s-min=41.3km az=60.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**30.16**	**273**	LR	LR	05 32 46.4	
	comp=Z,113nm,18.6s,baz=290,slow=33						
BOSA	**Boshof**	**47.45**	**233**	LR	LR	05 43 42.2	
	comp=Z,84nm,18.3s,baz=116,slow=35						
MKAR	**Makanchi Array**	**51.32**	**13**	P	P	05 25 26.4	+0.3
	0.2nm,0.3s,baz=203,slow=9.1,SNR=4.8						
ZALV	**Zalesovo Beam**	**58

6.8nm,0.3s,mb4.6,baz=97,slow=8.2,SNR=108
WRA S **S** **05 32 09.9 -2.1**
2.2nm,0.8s,baz=98,slow=13,SNR=9.7
KAKA Kakadu 47.11 272 *e*P **P** **05 26 51.3 -0.4**
10nm,0.3s,mb4.8
FORT Forrest 48.30 247 *e*P **P** **05 27 00.2 -0.1**
16nm,0.5s,mb4.8
FITZ Fitzroy Crossi 52.09 263 *e*P **P** **05 27 28.3 +0.3**
11nm,0.4s,mb4.5
MBWA Marble Bar 56.89 258 *e*P **P** **05 28 01.1 -0.3**
24nm,0.6s,mb4.6
KLBR Kellerberrin 57.06 245 *e*P **P** **05 28 02.3 -0.1**
19nm,0.9s,mb4.3
VNDA Vanda 57.36 185 P **P** **05 28 04.8 +1.2**
1.0nm,0.7s,mb3.2,baz=350,slow=11,SNR=2.7
MUN Mundaring 58.33 245 *e*P **P** **05 28 11.6 +0.7**
CASY Casey 63.16 205 *e*P **P** **05 28 41.9 +0.1**
2.8nm,0.5s,mb3.9
QSPA South Pole Qui 69.09 180 *e*P **P** **05 29 19.1 +0.8**
8.5nm,0.9s,mb4.2
MJAR Matsushiro Arr 70.08 324 P **P** **05 29 24.0 -0.8**
2.5nm,0.5s,mb3.9,baz=159,slow=6.1,SNR=10
KSM Kuching 72.61 279 *e*P **P** **05 29 40.0 0.0**
YSS Yuzh-Sakhalins 75.93 334 *e*P **P** **05 29 58.5 +0.7**
KSRS Korea Array 76.67 319 P **P** **05 30 02.8 +0.7**
1.3nm,0.4s,mb3.7,baz=140,slow=7.5,SNR=4.3
NVAR Mina Array Bea 81.98 44 P **P** **05 30 30.7 +0.7**
1.2nm,0.7s,mb3.5,baz=225,slow=8.4,SNR=4.6
TUC Tucson 83.97 52 *e*P **P** **05 30 40.7 +0.7**
10nm,1.9s,mb4.0
WVOR Wild Horse Val 84.06 40 *e*P **P** **05 30 40.7 +0.5**
1.1nm,0.5s,mb3.6
SYO Syowa Base 86.07 193⇑ *e*P **P** **05 30 47.4 -2.0**
HWUT Hardware Ranch 88.04 44 *e*P **P** **05 30 58.7 -0.4**
1.1nm,0.4s,mb3.9
TXAR Lajitas Array 88.06 58 P **P** **05 30 60.0 +0.5**
TXAR PKKPbc PKKPbc 05 48 41.4 +0.5
TXAR Lajitas Array 88.06 58 P **P** **05 30 60.0 +0.5**
1.5nm,0.8s,mb3.8,baz=214,slow=6.1,SNR=20
TXAR PKKPbc PKKPbc 05 48 41.4 +0.5
0.2nm,0.5s,baz=143,slow=2.6,SNR=4.4
NEW Newport 88.28 36 *e*P **P** **05 30 58.7 -1.3**
2.4nm,0.8s,mb4.0
ANMO Albuquerque 88.39 52 *e*P **P** **05 31 00.9 0.0**
1.5nm,0.9s,mb3.7
COLA College 88.86 13 *e*P **P** **05 31 00.9 -1.4**
8.6nm,1.2s,mb4.5
IMA2 Indian Mountai 88.86 10 *e*P **P** **05 31 01.0 -1.3**
MCMT McKenzie Canyo 88.89 41 *e*P **P** **05 31 03.7 +0.8**
HHC Hu-ho-hao-te 89.06 315 *e*P **P** **05 31 03.3 -0.6**
HHC PP PP 05 34 50.3 +4.2
HHC SKS 05 40 31.0
HHC S S 05 40 53.8 -7.2
HHC SS SS 05 47 17.8 +2.8
HHC AMB AMB
comp=Z,30nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,168nm,4.9s
CHTO Chiang Mai 89.58 290 *e*P **P** **05 31 08.3 +1.5**
comp=Z,3.1nm,0.6s,mb4.3
LOHW Long Hollow 89.66 42 *e*P **P** **05 31 06.7 +0.2**
comp=Z,1.4nm,0.6s,mb4.0
BW06 Boulder Array 89.91 44 *e*P **P** **05 31 07.5 -0.2**
comp=Z,1.4nm,0.9s,mb3.8
BOZ Bozeman (W) 90.05 40 *e*P **P** **05 31 08.6 +0.3**
comp=Z,0.7nm,0.7s,mb3.6
EGAK Eagle 90.29 15 *e*P **P** **05 31 08.2 -0.8**
comp=Z,6.4nm,1.1s,mb4.4
CD2 Chengdu 90.31 303 *e*P **P** **05 31 11.3 +1.4**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
LZH Lanzhou 92.36 308 *e*P **P** **05 31 20.8 +1.6**
LZH AP pP 05 33 37.5 +4.5
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,55nm,4.3s
RSSD Black Hills 94.11 44 *e*P **P** **05 31 26.7 -0.2**
comp=Z,0.8nm,0.6s,mb4.0
YKA Yellowknife Ar 97.31 25 P 05 31 40.2
comp=Z,0.2nm,0.7s,baz=245,slow=4.0,SNR=4.7
ZALV Zalesovo Beam 110.31 321 PKPdf PKiKP 05 36 34.7 -1.2
ZALV Zalesovo Beam 110.31 321 PKiKP PKiKP 05 36 34.7 -1.2
comp=Z,1.3nm,0.5s,baz=126,slow=0.8,SNR=6.7
MKAR Makanchi Array 110.89 313 PKiKP PKiKP 05 36 36.1 -1.0
comp=Z,0.5nm,0.3s,baz=104,slow=1.2,SNR=7.8
EKS2 Erkin-Say 116.43 308 *e*PKPdf PKPdf 05 36 48.0 0.0
BRVK Borovoye 118.94 320 *e*PKPdf PKPdf 05 36 51.7 -0.7
KBL Kabul 119.34 299 *e*PKPdf PKPdf 05 36 53.9 0.0
SCHQ Schefferville 119.59 38 PKP PKPdf 05 36 56.1 +2.5
comp=Z,2.3nm,0.5s,baz=42,slow=18,SNR=9.9
ARU Arti 125.09 325 *e*PKPdf PKPdf 05 37 03.9 -0.3
ARCES ARCESS Array B 129.23 349 PKP PKPdf 05 37 10.7 -1.0
comp=Z,5.5nm,0.7s,baz=7.9,slow=0.9,SNR=16
JOF Joensuu 133.31 342 *e*pkp PKPdf 05 37 19.6 +0.1
FINES FINESS Array B 135.98 343 PKP PKPdf 05 37 25.5 +1.0
FINES FINESS Array B 135.98 343 PKP PKPdf 05 37 25.5 +1.0
comp=Z,1.2nm,0.6s,baz=78,slow=3.9,SNR=5.9
NB2 NORSAR Subarra 139.34 352 PKP 05 37 23.9
comp=Z,0.7nm,0.6s,baz=16,slow=3.2
NOA NORSAR Array B 139.34 352 PKhKP 05 37 21.9
comp=Z,2.0nm,0.8s,baz=16,slow=4.8,SNR=7.2
NOA PKP PKPdf 05 37 32.0 +1.2
comp=Z,1.0nm,0.7s,baz=30,slow=2.0,SNR=3.6
AKASG Malin Array Be 143.00 330 PKP PKPdf 05 37 34.8 -2.8
comp=Z,15nm,0.4s,baz=43,slow=4.2,SNR=106
AKBB Malin Array Si 143.00 330 *e*PKPdf PKPdf 05 37 34.5 -3.0
KIEV Kiev 143.01 330 *e*PKPdf PKPdf 05 37 34.7 -2.9
ELZG Elazig 143.04 307 *i* P PKPdf 05 37 37.8 -0.3
MALT Malatya 143.51 307 *e*PKPdf PKPdf 05 37 38.2 -0.6
MUD Monsted U'grnd 144.06 352 *i* P PKPdf 05 37 39.1 -0.2
comp=Z,40nm,1.1s
BSD Bornholm Skovb 144.35 346 *i* P PKPdf 05 37 39.2 -0.6
comp=Z,16nm,0.8s
GZT Gaziantep 144.45 305 *i* P PKPdf 05 37 41.8 +1.3
BOYT Boyabat 144.92 313 *i* P PKPdf 05 37 43.1 +1.9
CTKT Corum 145.33 312 *i* P PKPab 05 37 44.2 -0.6
ESK Eskdalemuir 145.56 4 *e*PKPbc PKPbc 05 37 42.9 -0.6
BSEG Bad Segeberg 146.35 350 *e*PKPbc PKPbc 05 37 45.1 -0.6
KWP Kalwaria 146.64 334 *e*PKPbc PKPbc 05 37 46.4 -0.3
KWP *e*PKPab PKPab 05 37 49.9 +0.1
BURAR Bucovina Array 147.03 329 ⇑P PKPbc 05 37 49.3 +1.5
BURAR Bucovina Array 147.03 329 ⇑*i*P PKPbc 05 37 49.3 +1.6
OJC Ojcow 147.28 338 *e*PX PKPbc 05 37 48.5 +0.2
KOLS Kolonicke sedl 147.36 334 *e*PKP PKPbc 05 37 49.3 +0.8
NIE Niedzica 147.75 336 *e*PX PKPbc 05 37 50.5 +1.0
MLR Muntele Rosu 148.14 326 ⇓P PKPbc 05 37 50.6 0.0
MLR Muntele Rosu 148.14 326 PKPbc PKPbc 05 37 50.3 -0.3
comp=Z,7.5nm,0.6s,baz=340,slow=7.3,SNR=15
MLR Muntele Rosu 148.14 326 ⇓*i*P PKPbc 05 37 50.6 0.0
OKC Ostrava-Krasne 148.17 339 *e*PKPbc PKPbc 05 37 50.8 +0.2
UPC Upice 148.26 342 *e*PKPbc PKPbc 05 37 51.2 +0.4
UPC *e*PKPab PKPab 05 37 56.7 +0.4
DPC Dobruska-Polom 148.31 341 *e*PKPbc PKPbc 05 37 51.3 +0.4
DPC *e*PKPab PKPab 05 37 57.0 +0.5
CLL Collm 148.32 346 *e*PKPbc PKPbc 05 37 50.7 -0.2
CLL Collm 148.32 346 ⇓*i*PKPbc PKPbc 05 37 50.9 0.0
comp=Z,22nm,1.1s
CLL *i* PKPab PKPab 05 37 56.3 -0.2
CLZ Clausthal 148.35 349 *e*PKPbc PKPbc 05 37 51.0 +0.1
MORC Moravsky Berou 148.42 339 *e*PKPbc PKPbc 05 37 51.6 +0.5
MORC *e*PKPab PKPab 05 37 57.2 +0.2
CSS Prodhromos 148.43 303 *e*PKPbc PKPbc 05 37 51.4 -0.3
BRG Berggiesshubel 148.49 344 *e*PKPbc PKPbc 05 37 51.4 +0.1
BRG Berggiesshubel 148.49 344 *e*PKP PKPdf 05 37 51.5 +4.7
comp=Z,22nm,1.6s
FBE Freiberg 148.59 345 *e*PKPbc PKPbc 05 37 51.8 +0.2
FBE *e*PKPab PKPab 05 37 57.4 -0.3
PVCC Panska Ves 148.64 343 *e*PKPbc PKPbc 05 37 52.3 +0.6
DRGR 148.80 331 ⇓P PKPbc 05 37 52.4 +0.1
DRGR 148.80 331 ⇓*i*P PKPbc 05 37 52.3 +0.1
VYHS Vyhne 149.06 337 *e*PKP PKPbc 05 37 53.0 +0.2
VYHS *e* PKPab 05 38 00.2 +0.5
PSZ Piszkesteto 149.13 335 *e*PKPbc PKPbc 05 37 52.5 -0.4
PSZ *e*PKPab PKPab 05 37 59.0 -1.0
PRU Pruhonice 149.14 343 *e*PKPbc PKPbc 05 37 53.1 +0.2
KOLL Kolacno 149.15 337 *e*PKP PKPbc 05 37 53.7 +0.7
KOLL Kolacno 149.15 337 *e*PKP PKPbc 05 37 53.6 +0.6
MOX Moxa 149.25 347 *e*PKP PKPbc 05 37 53.6 +0.5
MOX Moxa 149.25 347 *e*PKPbc PKPbc 05 37 53.1 -0.1
TANN Tannenbergstha 149.28 346 *e*PKPbc PKPbc 05 37 53.2 0.0
WERD Werda 149.28 346 *e*PKPbc PKPbc 05 37 53.2 0.0
GUNZ Gunzen 149.35 346 *e*PKPbc PKPbc 05 37 53.5 +0.1
GUNZ *e*PKPab PKPab 05 38 00.8 0.0
WERN Wernitzgruen 149.41 346 *e*PKPbc PKPbc 05 37 53.6 0.0
WERN *e*PKPab PKPab 05 38 01.2 +0.1
NKC Novy Kostel 149.45 346 *e*PKPbc PKPbc 05 37 54.0 +0.4
NKC *e*PKPab PKPab 05 38 01.4 +0.2
TREC Trest 149.49 341 *e*PKPbc PKPbc 05 37 54.0 +0.2
MANZ Manzenberg 149.76 346 *e*PKPbc PKPbc 05 37 54.4 0.0
KHC Kasperske Hory 150.18 343 *e*PKPbc PKPbc 05 37 55.5 +0.1
KHC *e*PKPab PKPab 05 38 04.6 +0.3
GRA1 Grafenberg Arr 150.23 347 *e*PKPbc PKPbc 05 37 55.7 +0.2
GRF Grafenberg Arr 150.23 347 *e*PKPbc PKPbc 05 37 55.7 +0.2
GEC2 GERESS Array S 150.41 343 *e*PKPbc PKPbc 05 37 55.9 0.0
GERES GERESS Array B 150.41 343 PKPbc PKPbc 05 37 55.9 0.0
comp=Z,3.1nm,0.6s,baz=42,slow=2.2,SNR=25
CONA Conrad Observa 150.58 340 ⇑P PKPbc 05 37 56.5 +0.2
comp=Z,8.6nm,0.6s
CONA Conrad Observa 150.58 340 ⇑⇑P PKPbc 05 37 56.5 +0.2
CSNA Conrad Observa 150.58 340 ⇑*i*PKiKP PKiKP 05 37 56.6 -0.2
comp=Z,7.9nm,0.6s
WLF Walferdange 151.09 353 *e*PKPbc PKPbc 05 37 57.8 +0.4
WLF Walferdange 151.09 353 *e*PKPbc PKPbc 05 37 58.0 +0.5
DBIC Dimbokro 164.66 157 PKP PKPdf 05 38 06.7 -1.6
comp=Z,4.2nm,1.1s,baz=207,slow=4.7,SNR=3.5
TOA0 Torodi Ar. Sit 172.19 185 *e*PKPdf PKPdf 05 38 11.6 -1.5
TOA0 *e*PKPab PKPab 05 39 41.1 0.0
TORD Torodi Ar. Bea 172.19 185 PKP PKPdf 05 38 11.8 -1.2
TORD PKPab PKPab 05 39 40.4 -0.7
TORD Torodi Ar. Bea 172.19 185 PKP PKPdf 05 38 11.8 -1.2
comp=Z,1.4nm,0.8s,baz=302,slow=0.9,SNR=7.6
TORD PKPab PKPab 05 39 40.4 -0.7
comp=Z,0.9nm,0.8s,baz=171,slow=4.2,SNR=8.5

*IDC **16** 05:33:43.3±0.9, 34.05N×142.49E, h0km, mb3.6/6, mb1 3.9/9, mb1mx3.8/21, mbtmp3.7/9, ML3.7/3, Error ellipse: s-maj=24.1km s-min=20.4km az=104.0*
*ISCJB **16** 05:33:44.8±1.5, 34.07N±005×142.42E±005, h24km±11km, mb3.7/6, Error ellipse: s-maj=8.6km s-min=6.4km az=43.0*
*JMA **16** 05:33:45.7±0.3, 34.05N×142.45E, h54km, M3.7*
*NEIC **16** 05:33:48.6±0.7, 34.11N×142.35E, h35km, MG3.7(JMA), Error ellipse: s-maj=19.9km s-min=13.2km az=222.0*
ISC 16 05:33:44.7±1.7, 34.06N±004×142.39E±006, h11km±12km, n23, σ0s82/38, mb3.7/6, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**1.31**	**297**	P	**Pn**	**05 34 08.6**	**-0.4**
BSO1				*e*S	**Sb**	**05 34 26.2**	**0.0**
BSO3	**Boso 3**	**1.72**	**296**	P	**Pn**	**05 34 14.9**	**+0.3**
BSO3				*e*S	**Sn**	**05 34 36.8**	**+0.1**
BSO4	**Boso 4**	**1.93**	**299**	P	**Pn**	**05 34 18.4**	**+0.9**
BSO4				*e*S	**Sn**	**05 34 43.0**	**+1.1**
CHOJ	**Chosi**	**2.07**	**323**	P	**Pn**	**05 34 19.4**	**0.0**
CHOJ				*e*S	**Sn**	**05 34 44.6**	**-0.6**
JHJ2	**Mitsune**	**2.35**	**247**	P	**Pn**	**05 34 23.9**	**+0.6**
JHJ2				*e*S	**Sn**	**05 34 52.3**	**+0.2**
JHJ	**Hachijo jima 2**	**2.37**	**247**	Pn	**Pn**	**05 34 24.1**	**+0.6**
106nm,0.3s,baz=250,slow=21,SNR=43							
JHJ				Sn	**Sn**	**05 34 50.9**	**-1.8**
104nm,0.3s,baz=80,slow=23,SNR=14							
JIM2	**Oshima 3**	**2.54**	**286**	P	**Pn**	**05 34 25.2**	**-0.6**
JOD2	**Odawara 2**	**2.98**	**295**	P	**Pn**	**05 34 32.0**	**+0.1**
JOD2				*e*S	**Sn**	**05 35 07.3**	**-0.3**
JAG	**Ashikaga**	**3.37**	**315**	P	**Pn**	**05 34 37.1**	**-0.2**
JAG				*e*S	**Sn**	**05 35 16.2**	**-1.1**
JRY	**Ryogami san**	**3.47**	**305**	P	**Pn**	**05 34 39.0**	**+0.4**
JRY				*e*S	**Sn**	**05 35 20.7**	**+1.0**
JYN	**Shimob**	**3.48**	**295**	P	**Pn**	**05 34 39.2**	**+0.4**
JYN				*e*S	**Sn**	**05 35 19.7**	**-0.2**
JMM	**Marumori**	**4.01**	**342**	P	**Pn**	**05 34 44.6**	**-1.5**
JMM				*e*S	**Sn**	**05 35 27.7**	**-5.5**
MJAR	**Matsushiro Arr**	**4.22**	**307**	Pn	**Pn**	**05 34 50.1**	**+1.1**
1.7nm,0.3s,baz=152,slow=11,SNR=9.3							
MJAR				Sn	**Sn**	**05 35 38.2**	**-0.1**
3.0nm,0.3s,baz=100,slow=26,SNR=11							
MAJO	**Matsushiro**	**4.22**	**307**	*e*Pn	**Pn**	**05 34 48.8**	**-0.3**
MAT	**Matsushiro**	**4.22**	**307**	P	**Pn**	**05 34 49.0**	**0.0**
MAT				S	**Sn**	**05 35 38.1**	**-0.3**
CBIJ	**Chichi jima**	**6.94**	**182**	Pn	**Pn**	**05 35 24.5**	**-1.9**
4.9nm,0.3s,baz=288,slow=23,SNR=8.4							
CBIJ				Sn	**Sn**	**05 36 36.6**	**-8.8**
6.8nm,0.3s,baz=300,slow=20,SNR=6.3							
ERM	**Erimo**	**7.96**	**4**	*e*Pn	**Pn**	**05 35 36.7**	**-3.7**
9.6nm,0.3s							
ERM				*e*Sn	**Sn**	**05 37 03.0**	**-7.4**
MKAR	**Makanchi Array**	**46.42**	**305**	P	**P**	**05 42 12.5**	**+1.2**
0.3nm,0.2s,mb3.8,baz=87,slow=10,SNR=3.3							
WRA	**Warramunga Arr**	**54.25**	**189**	P	**P**	**05 43 10.9**	**+0.2**
0.6nm,0.3s,mb4.0,baz=6.7,slow=7.6,SNR=19							
ASAR	**Alice Springs**	**57.97**	**189**	P	**P**	**05 43 37.9**	**+0.6**
0.2nm,0.4s,mb3.5,baz=10,slow=5.7,SNR=4.3							
YKA	**Yellowknife Ar**	**65.98**	**30**	P	**P**	**05 44 29.6**	**-1.1**
0.3nm,0.7s,mb3.4,baz=296,slow=5.6,SNR=3.7							
NVAR	**Mina Array Bea**	**76.13**	**53**	P	**P**	**05 45 33.8**	**+1.1**
0.4nm,0.6s,mb3.5,baz=317,slow=6.1,SNR=3.8							
TXAR	**Lajitas Array**	**91.29**	**53**	P	**P**	**05 46 51.3**	**+0.7**
0.3nm,0.5s,mb3.9,baz=301,slow=3.3,SNR=10							

*DDA **16** 06:11:02.0, 37.81N×27.53E, h7km±3km, Md2.9*
*ISCJB **16** 06:11:02.2±0.6, 37.82N±003×27.51E±006, h3km±7km, Error ellipse: s-maj=8.8km s-min=3.8km az=157.2*
*CSEM **16** 06:11:02.2±0.1, 37.84N×27.54E, h5km, MD2.9, Error ellipse: s-maj=5.2km s-min=2.0km az=64.0*
*ISK **16** 06:11:02.3, 37.84N×27.54E, h5km, MD2.9*
ISC 16 06:11:02.8±0.5, 37.82N±003×27.51E±006, h7km±6km, n15, σ0s48/21, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYDN	**Tasoluk**	**0.33**	**118**	*i* P	**Pg**	**06 11 08.9**	**-0.3**
AYDN				*i* S	**Sg**	**06 11 13.1**	**-0.5**
MLSB	**Milas**	**0.56**	**158**	*e*PG	**Pg**	**06 11 13.9**	**+0.3**
KDAG	**Bornova**	**0.61**	**342**	*i* P	**Pg**	**06 11 14.8**	**+0.1**
KDAG				*i* S	**Sg**	**06 11 22.7**	**0.0**
BLCB	**Balcova**	**0.68**	**327**	PG	**Pg**	**06 11 16.0**	**+0.2**
BLCB				*e*SG	**Sg**	**06 11 24.6**	**0.0**
BDRM	**Kayabasi**	**0.75**	**184**	*i* P	**Pg**	**06 11 16.6**	**-0.7**
BDRM				*i* S	**Sg**	**06 11 27.1**	**+0.1**
YER	**Yerkesik**	**0.92**	**138**	*e*PG	**Pg**	**06 11 20.6**	**+0.3**
YER				*e*SG	**Sg**	**06 11 32.8**	**+0.6**
AKHS	**Akhisar**	**1.08**	**12**	*i* P	**Pg**	**06 11 23.3**	**-0.3**
AKHS				*i* S	**Sg**	**06 11 38.1**	**+0.4**
AKS	**Akhisar**	**1.08**	**12**	*e*PG	**Pg**	**06 11 23.4**	**-0.2**
DAT	**Datca**	**1.09**	**177**	*e*PN	**Pn**	**06 11 24.0**	**-0.5**
KULA	**Kula-Manisa**	**1.14**	**52**	*e*PN	**Pn**	**06 11 23.7**	**-1.4**
DENT	**Denizli**	**1.21**	**93**	*e*PN	**Pn**	**06 11 25.8**	**-0.3**
DALT	**Dalyan (Mudla)**	**1.38**	**139**	*e*PN	**Pn**	**06 11 28.9**	**+0.5**
KHL	**Karahalli**	**1.66**	**72**	*e*PN	**Pn**	**06 11 33.0**	**+0.6**
FETY	**Fethiye**	**1.72**	**133**	*e*PN	**Pn**	**06 11 33.6**	**+0.5**
DST	**Dursunbey**	**1.98**	**26**	*e*PN	**Pn**	**06 11 37.1**	**+0.3**

IDC 16 06:14:51.9±3.7, 30.25S×138.42E, h0km, mb1 3.1/3, mb1mx3.0/13, mbtmp2.8/3, ML2.7/3, Error ellipse: s-maj=94.1km s-min=16.7km az=44.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**3.17**	**122**	Pn	Pn	06 15 41.9	-1.0
0.4nm,0.3s,baz=299,slow=14,SNR=6.3							
STKA				Pg	Pg	06 15 50.0	-2.6
2.1nm,0.3s,baz=304,slow=15,SNR=21							
STKA				Sn	Sn	06 16 20.1	-1.3
1.4nm,0.3s,baz=214,slow=23,SNR=3.7							
STKA				Lg		06 16 32.9	
2.8nm,0.3s,baz=195,slow=22,SNR=7.5							
ASAR	**Alice Springs**	**7.70**	**327**	Pn	Pn	06 16 45.6	+0.4
0.1nm,0.3s,baz=152,slow=12,SNR=4.7							
ASAR				Sn	Sn	06 18 18.4	+5.2
0.1nm,0.3s,baz=153,slow=22,SNR=4.3							
WRA	**Warramunga Arr**	**10.91**	**339**	Pn	Pn	06 17 30.2	+0.9
0.1nm,0.3s,baz=155,slow=14,SNR=8.2							
WRA				Sn	Sn	06 19 30.9	-1.2
0.0nm,0.3s,baz=162,slow=24,SNR=3.0							

*IDC **16** 06:21:31.1±0.9, 782S×155.55E, h0km, mb4.2/12, mb1 4.3/12, mb1mx4.2/16, mbtmp4.2/12, MS3.4/4, Ms1 3.4/4, ms1mx3.1/18, Error ellipse: s-maj=29.6km s-min=18.1km az=106.0*
*NEIC **16** 06:21:33.0±0.7, 770S×155.56E, h10km, mb4.9/6, Error ellipse: s-maj=25.6km s-min=10.2km az=115.0*
*ISCJB **16** 06:21:37.2±5.5, 78S±01×155.5E±02, h53km±47km, mb4.3/16, MS3.4/3, Error ellipse: s-maj=31.9km s-min=19.9km az=14.6*
ISC 16 06:21:40.5±4.7, 78S±01×1555E±02, h70km±42km, n28, σ0s73/23, mb4.2/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.71**	**110**	LR	LR	06 24 24.4	
comp=Z,180nm,20.4s,baz=11,slow=37							
CTA	**Charters Tower**	**15.11**	**215**	Pn	**Pn**	**06 25 10.5**	**+0.5**
CTA	**Charters Tower**	**15.11**	**215**	Pn	**Pn**	**06 25 10.5**	**+0.5**
0.2nm,0.3s,baz=42,slow=12,SNR=2.0							
CTAO	**Charters Tower**	**15.11**	**215**	*e*P	**Pn**	**06 25 11.3**	**+1.3**
177nm,2.5s							
GUMO	**Guam**	**23.73**	**334**	LR	LR	06 34 15.7	
comp=Z,71nm,20.9s,baz=79,slow=32							
WRAB	**Tennant Creek**	**23.73**	**237**	*e*P	**P**	**06 26 47.0**	**+0.5**
8.8nm,1.1s,mb4.0							
WB2	**Warramunga Arr**	**23.74**	**237**	*e*P	**P**	**06 26 47.0**	**+0.5**
WRA	**Warramunga Arr**	**23.75**	**237**	P	**P**	**06 26 46.9**	**+0.3**
1.9nm,0.5s,mb3.7,baz=61,slow=9.5,SNR=24							
WRA				PcP	PcP	06 30 29.9	+0.9
0.6nm,0.8s,baz=69,slow=2.0,SNR=4.7							
ASAR	**Alice Springs**	**25.99**	**230**	P	**P**	**06 27 06.6**	**-0.3**
2.1nm,0.9s,mb3.6,baz=61,slow=9.3,SNR=15							
STKA	**Stephens Creek**	**27.20**	**207**	P	**P**	**06 27 16.4**	**-1.3**
1.2nm,0.7s,mb3.6,baz=34,slow=13,SNR=2.5							
STKA				LR	LR	06 36 51.5	
comp=Z,152nm,21.8s,baz=23,slow=34							
FITZ	**Fitzroy Crossi**	**30.76**	**248**	P	**P**	**06 27 49.1**	**-0.4**
0.7nm,0.5s,mb3.6,baz=85,slow=12,SNR=3.9							
KAPI	**Kappang**	**35.59**	**272**	P	**P**	**06 28 30.5**	**-1.2**
2.6nm,0.3s,mb4.6,baz=128,slow=14,SNR=4.6							
MJAR	**Matsushiro Arr**	**47.01**	**341**	P	**P**	**06 30 03.9**	**-1.0**
2.0nm,0.2s,mb4.5,baz=160,slow=8.3,SNR=6.4							
KSRS	**Korea Array**	**51.88**	**332**	P	**P**	**06 30 41.4**	**-0.6**
2.0nm,0.7s,mb4.3,baz=150,slow=8.5,SNR=5.9							
SONM	**Songino Array**	**70.28**	**327**	P	**P**	**06 32 46.6**	**+0.2**
0.4nm,0.4s,mb3.6,baz=143,slow=5.0,SNR=2.4							
BILL	**Bilibino**	**76.07**	**4**	*e*P	**P**	**06 33 20.7**	**+0.6**
11nm,0.9s,mb4.6							
QSPA	**South Pole Qui**	**82.16**	**180**	*e*P	**P**	**06 33 53.4**	**+0.1**
3.3nm,0.8s,mb4.2							
QSPA	**South Pole Qui**	**82.16**	**180**	P	**P**	**06 33 53.1**	**-0.2**
2.8nm,1.0s,mb4.1,baz=326,slow=4.0,SNR=5.0							
MK31	**Makanchi Array**	**84.33**	**319**	*e*P	**P**	**06 34 06.2**	**+1.2**
MKAR	**Makanchi Array**	**84.33**	**319**	P	**P**	**06 34 06.5**	**+1.5**
4.7nm,0.7s,mb4.4,baz=105,slow=5.5,SNR=35							
ZALV	**Zalesovo Beam**	**85.12**	**326**	P	**P**	**06 34 08.7**	**-0.1**
2.8nm,0.6s,mb4.4,baz=118,slow=5.0,SNR=4.0							
KURK	**Kurchatov**	**87.77**	**322**	*e*P	**P**	**06 34 21.9**	**+0.1**
9.1nm,1.1s,mb4.7							
INK	**Inuvik**	**90.33**	**21**	*e*P	**P**	**06 34 33.3**	**-0.1**
35nm,0.7s,mb5.6							
YKA	**Yellowknife Ar**	**96.85**	**28**	P	**P**	**06 35 03.1**	**-0.4**
YKA				LR	LR	07 15 45.8	
YKA	**Yellowknife Ar**	**96.85**	**28**	P	**P**	**06 35 03.1**	**-0.4**
0.5nm,0.6s,mb4.1,baz=265,slow=4.6,SNR=9.9							
YKA				LR	LR	07 15 45.8	
comp=Z,22nm,18.1s,baz=170,slow=34							
BDFB	**Brasilia**	**147.07**	**135**	PKPbc	PKPbc	06 41 16.7	+0.2
2.3nm,0.7s,baz=130,slow=25,SNR=7.0							
TORD	**Torodi Ar. Bea**	**153.68**	**284**	PKP	PKPdf	06 41 26.5	+1.8
TORD				PKPbc	PKPbc	06 41 33.1	+0.5
TORD	**Torodi Ar. Bea**	**153.68**	**284**	PKP	PKPdf	06 41 26.5	+1.8
0.6nm,1.1s,baz=122,slow=1.9,SNR=2.2							
TORD				PKPbc	PKPbc	06 41 33.1	+0.5
0.6nm,0.8s,baz=91,slow=1.3,SNR=3.5							

*NEIC **16** 06:27:09.3, 16.24N×98.71W, h16km, MD3.7(MEX), After MEX.*
MEX 16 06:27:09.2±1.1, 16.38N×98.70W, h11km±12km, MD3.7, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.55**	**88**	*i* P	Pg	06 27 18.8	-1.1
PNIG				*i* S	Sg	06 27 26.1	-1.1
ACX	**Acapulco**	**1.26**	**293**	*i* P	Pn	06 27 29.5	-3.3
ACX				*i* S	Sb	06 27 44.1	-5.3
CAIG	**El Cayaco**	**1.64**	**294**	*e*P	Pn	06 27 35.6	-2.5
CAIG				*i* S	Sn	06 27 53.5	-5.6
MEIG	**Mezcala**	**1.77**	**330**	*i* P	Pn	06 27 36.0	-3.8
MEIG				*i* S	Sn	06 27 55.9	-6.5
VHO	**Vista Hermosa**	**2.01**	**70**	*i* P	Pn	06 27 39.7	-3.4
VHO				*i* S	Sn	06 28 05.7	-2.5
OXX	**Oaxaca**	**2.02**	**69**	*e*P	Pn	06 27 45.2	+1.9
OXX				*i* S	Sn	06 28 05.4	-3.1
OXX	**Oaxaca**	**2.02**	**69**	*e*P	Pn	06 27 41.0	-2.2
OXX				*e*S	Sn	06 28 05.4	-3.1
TPIG	**Tehuac#an**	**2.40**	**32**	*e*P	Pn	06 27 46.8	-1.7
TPIG				*i* S	Sn	06 28 15.8	-2.1
PPM	**Popocatepetl**	**2.68**	**1**	*e*P	Pn	06 27 53.3	+1.1
PPM				*i* S	Sn	06 28 21.7	-3.0
PPM	**Popocatepetl**	**2.68**	**1**	*e*P	Pn	06 27 49.0	-3.3
PPM				*i* P		06 27 50.8	
PPM				*i* S	Sn	06 28 21.7	-3.0

*ISCJB **16** 06:32:18.4±0.8, 36.10N±006×29.3E±004, h15km±8km, Error ellipse: s-maj=9.5km s

ETOB			S	Sn	06 34 15.8	-0.9
	1.0nm,0.2s,SNR=7.9					
ETOB	**Tobarra**	**4.41 307**	P	**Pn**	**06 33 27.5**	**+1.9**
	2.8nm,0.2s,SNR=11					
ETOB			S	Sn	06 34 15.8	-0.9
	1.0nm,0.2s,SNR=7.9					
ECHE	**Chera**	**4.68 319**	P	**Pn**	**06 33 30.9**	**+1.6**
	1.3nm,0.2s,SNR=7.9					
EBER	**Berja**	**4.79 281**	P	**Pn**	**06 33 31.2**	**+0.4**
	1.9nm,0.3s,SNR=5.7					
EBER			S	Sn	06 34 24.3	-1.8
	1.1nm,0.2s,SNR=7.9					
EBER	**Berja**	**4.79 281**	P	**Pn**	**06 33 31.2**	**+0.4**
	1.9nm,0.3s,SNR=5.7					
EBER			S	Sn	06 34 24.3	-1.8
	1.1nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**5.05 329**	⇑P	**Pn**	**06 33 35.9**	**+1.5**
	4.1nm,0.2s,SNR=18					
EMOS			S	Sn	06 34 29.4	-3.0
	0.6nm,0.2s,SNR=7.9					
EMOS	**Mosqueruela**	**5.05 329**	P	**Pn**	**06 33 35.9**	**+1.5**
	4.1nm,0.2s,SNR=18					
EMOS			S	Sn	06 34 29.4	-3.1
	0.6nm,0.2s,SNR=7.9					
EQUE	**Quentar**	**5.28 284**	P	**Pn**	**06 33 38.1**	**+0.6**
	1.1nm,0.2s,SNR=9.4					
EMIR	**Miracle**	**5.92 349**	P	**Pn**	**06 33 48.2**	**+1.9**
	9.3nm,0.3s,SNR=6.1					
EMIR	**Miracle**	**5.92 349**	P	**Pn**	**06 33 48.2**	**+1.9**
	9.3nm,0.3s,SNR=6.1					

NNC 16 06:56:13.5±2.1, 4518N×8207E, h4km±23km, mb3.5, mpv3.2, 5C-3D, Error ellipse: s-maj=18.4km s-min=11.4km az=179.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.63**	**5**	⇑P	Pn	06 56 42.1	-0.7
	29nm,0.2s,baz=183,slow=14,SNR=618						
MK31				⇑S	Sn	06 57 04.8	+0.7
	186nm,0.3s,baz=186,slow=27						
TKM2	**Tokmak 2**	**5.18 246**		⇑Pg	Pg	06 57 49.0	-3.7
	1.8nm,0.5s						
TKM2				⇓Lg		06 58 57.9	
	4.4nm,0.3s						
KURBB	**Kurchatov Arra**	**5.95 338**		⇓Pg	Pg	06 58 02.2	-5.1
	0.1nm,0.3s,baz=162,slow=14						
KURBB				⇑Lg		06 59 21.6	
	3.5nm,0.6s						
KURK	**Kurchatov**	**6.01 339**		⇓Pg	Pg	06 58 03.1	-5.4
KURK				⇑Lg		06 59 23.7	
	23nm,1.1s						

*IDC **16** 07:17:26.9±1.0, 2729N×8770E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/23, mbtmp3.9/11, ML4.1/1, Error ellipse: s-maj=42.3km s-min=16.9km az=58.0*
*ISCJB **16** 07:17:34.0±1.7, 274N±0.1×879E±0.1, h67km±19km, mb3.8/10, Error ellipse: s-maj=23.2km s-min=16.2km az=143.6*

ISC 16 07:17:32.1±2.4, 273N±01×878E±01, h34km±20km, n14, σ0°86/15, mb3.9/10, Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBG	**Sahibganj**	**2.12 183**		*ex*	**Pb**	**07 18 09.5**	**-0.4**
AGT	**Agartala**	**4.65 137**		*ex*	**Pb**	**07 18 47.0**	**-6.0**
IMP	**Imphal**	**6.09 113**		*ex*	**Pn**	**07 19 02.0**	**+2.3**
IMP				*ex*	**Sn**	07 20 07.0	-1.2
MKAR	**Makanchi Array**	**19.90 349**		P	**Pn**	**07 22 01.6**	**-0.8**
	0.5nm,0.3s,baz=172,slow=9.8,SNR=9.7						
SONM	**Songino Array**	**25.10**	**30**	P	**P**	**07 22 53.8**	**+0.2**
	3.3nm,0.7s,mb4.0,baz=224,slow=8.3,SNR=9.5						
ZALV	**Zalesovo Beam**	**26.67 356**		P	**P**	**07 23 07.3**	**-0.4**
	1.2nm,0.4s,mb3.8,baz=188,slow=10,SNR=7.7						
BVAR	**Borovoye Array**	**28.74 338**		P	**P**	**07 23 27.5**	**+1.3**
	0.5nm,0.5s,mb3.5,baz=179,slow=6.9,SNR=3.0						
FINES	**FINESS Array B**	**52.90 328**		P	**P**	**07 26 43.5**	**-1.0**
	1.2nm,0.7s,mb3.9,baz=88,slow=9.9,SNR=2.6						
ARCES	**ARCESS Array B**	**55.03 338**		P	**P**	**07 27 00.3**	**+0.4**
	1.4nm,0.6s,mb4.2,baz=104,slow=7.5,SNR=5.0						
GERES	**GERESS Array B**	**59.73 313**		P	**P**	**07 27 33.3**	**0.0**
	0.4nm,0.3s,mb3.9,baz=79,slow=6.9,SNR=4.3						
NOA	**NORSAR Array B**	**60.02 327**		P	**P**	**07 27 34.7**	**-0.5**
	1.1nm,0.8s,mb4.0,baz=86,slow=6.8,SNR=3.1						
WRA	**Warramunga Arr**	**65.13 131**		P	**P**	**07 28 10.6**	**+0.8**
	0.8nm,0.7s,mb3.9,baz=324,slow=6.6,SNR=14						
ASAR	**Alice Springs**	**67.48 134**		P	**P**	**07 28 24.8**	**0.0**
	1.1nm,0.7s,mb4.0,baz=318,slow=6.6,SNR=18						
YKA	**Yellowknife Ar**	**88.70**	**10**	P	**P**	**07 30 21.7**	**-0.1**
	0.1nm,0.5s,mb3.4,baz=333,slow=5.1,SNR=4.1						

IDC 16 07:20:34.0±6.5, 454N×9541E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.7/4, Error ellipse: s-maj=322.3km s-min=24.5km az=58.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**43.59 347**		P	P	07 28 40.2	+0.3
	0.8nm,0.5s,baz=153,slow=8.2,SNR=5.2						
WRA	**Warramunga Arr**	**45.34 124**		P	P	07 28 54.7	+0.4
	1.7nm,0.7s,baz=301,slow=9.2,SNR=7.9						
ASAR	**Alice Springs**	**46.85 129**		P	P	07 29 05.6	-0.5
	0.4nm,0.6s,baz=306,slow=7.6,SNR=5.9						
ZALV	**Zalesovo Beam**	**50.01 352**		P	P	07 29 29.4	-0.6
	0.4nm,0.3s,baz=180,slow=5.8,SNR=3.6						

*ISCJB **16** 07:26:32.1±1.5, 176S±02×1785W±01, h498km±25km, mb4.1/13, Error ellipse: s-maj=38.0km s-min=18.2km az=163.2*
*NEIC **16** 07:26:33.1±1.0, 1764S×17844W, h499km±16km, mb4.1/8, Error ellipse: s-maj=24.7km s-min=11.8km az=164.0*
*IDC **16** 07:26:43.2±16.0, 1771S×17869W, h618km±216km, mb3.3/6, mb1 3.5/6, mb1mx3.2/16, mbtmp3.3/6, Error ellipse: s-maj=70.9km s-min=39.0km az=85.0*

ISC 16 07:26:33.2±1.4, 176S±02×1785W±01, h497km±24km, n21, σ0°60/21, mb4.1/13, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.42**	**61**	*e*Pn	**P**	**07 28 23.4**	**-0.2**
EIDS	**Eidsvold**	**29.32 249**		*e*P	**P**	**07 31 54.7**	**-0.1**
	2.2nm,0.7s,mb3.7						
CTA	**Charters Tower**	**33.44 260**		*e*P	**P**	**07 32 30.7**	**+0.4**
	4.8nm,0.8s,mb4.0						
CTAO	**Charters Tower**	**33.44 260**		*e*P	**P**	**07 32 30.4**	**+0.1**
	4.4nm,0.4s,mb4.2						
CNB	**Canberra Magne**	**33.57 232**		*e*P	**P**	**07 32 31.8**	**+0.7**
	9.0nm,1.8s,mb3.9						
COEN	**Coen**	**37.05 270**		*e*P	**P**	**07 33 01.3**	**+0.8**
	3.6nm,0.8s,mb3.9						
TOO	**Toolangi**	**37.32 230**		*e*P	**P**	**07 33 03.0**	**+0.6**
	31nm,0.4s,mb5.1						
STKA	**Stephens Creek**	**38.73 241**		*e*P	**P**	**07 33 14.5**	**+0.5**
	3.1nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**38.73 241**		*e*P	**P**	**07 33 14.3**	**+0.3**
	4.3nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**38.73 241**		P	**P**	**07 33 14.7**	**+0.7**
	4.1nm,0.5s,mb4.1,baz=89,slow=10,SNR=11						
WB2	**Warramunga Arr**	**44.62 259**		*e*P	**P**	**07 34 00.1**	**-0.8**
WB2	**Warramunga Arr**	**44.62 259**		*e*P	**P**	**07 33 59.9**	**-1.0**
WRAB	**Tennant Creek**	**44.62 259**		*e*P	**P**	**07 34 00.4**	**-0.5**
	2.1nm,0.5s,mb3.8						
WRA	**Warramunga Arr**	**44.63 259**		P	**P**	**07 34 00.4**	**-0.6**
	2.5nm,0.5s,mb3.9,baz=94,slow=7.1,SNR=53						
ASAR	**Alice Springs**	**44.82 254**		P	**P**	**07 34 02.5**	**+0.1**
	22nm,0.6s,mb4.8,baz=89,slow=8.2,SNR=503						
KAKA	**Kakadu**	**47.53 269**		*e*P	**P**	**07 34 23.5**	**+0.3**
	2.6nm,0.2s,mb4.2						
KAKA	**Kakadu**	**47.53 269**		*e*P	**P**	**07 34 23.1**	**-0.1**
FORT	**Forrest**	**50.09 244**		*e*P	**P**	**07 34 40.5**	**-1.4**
	23nm,1.0s,mb4.5						
FITZ	**Fitzroy Crossi**	**53.02 260**		P	**P**	**07 35 03.8**	**+0.4**
	1.3nm,0.6s,mb3.4,baz=113,slow=7.7,SNR=3.1						
QSPA	**South Pole Qui**	**72.44 180**		P	**P**	**07 37 07.6**	**-0.4**
	1.9nm,0.8s,mb3.7,baz=22,slow=3.1,SNR=9.1						
TXAR	**Lajitas Array**	**85.88**	**58**	P	**P**	**07 38 20.6**	**+0.5**
	0.2nm,0.7s,baz=224,slow=7.0,SNR=4.7						

WEL 16 07:35:57.4±0.9, 3832S×17601E, h145km±8km, ML3.5/10, Error ellipse: s-maj=6.4km s-min=4.6km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.86**	**86**	PN	Pn	07 36 20.5	0.0
BKZ	**Black Stump Fm**	**0.93**	**156**	PN	Pn	07 36 21.5	+0.6
MOVZ	**Moawhango**	**1.10**	**191**	PN	Pn	07 36 22.9	+0.3
MWZ	**Matawai**	**1.19**	**91**	PN	Pn	07 36 23.5	+0.2
MWZ				SN	Sn	07 36 42.5	-0.7
KNZ	**Kokohu**	**1.48**	**119**	PN	Pn	07 36 26.4	+0.1
KNZ				SN	Sn	07 36 48.0	-0.3
TSZ	**Takapari Road**	**1.74**	**181**	PN	Pn	07 36 28.8	-0.3
MRZ	**Mangatainoka R**	**2.36**	**188**	SN	Sn	07 37 05.2	-1.5
KIW	**Kapiti Island**	**2.68**	**198**	PN	Pn	07 36 38.2	-2.2
CAW	**Cannon Point**	**2.88**	**194**	PN	Pn	07 36 40.5	-2.4
MSWZ	**Moikau Station**	**3.15**	**191**	PN	Pn	07 36 43.4	-2.9
TCW	**Tory Channel**	**3.18**	**204**	PN	Pn	07 36 43.9	-2.9
PLWZ	**Palliser**	**3.30**	**190**	PN	Pn	07 36 45.1	-3.2
TUWZ	**Tuamarina**	**3.49**	**206**	PN	Pn	07 36 47.7	-3.1
NNZ	**Nelson**	**3.54**	**214**	PN	Pn	07 36 48.1	-3.2
KHZ	**Kahutara**	**4.51**	**204**	PN	Pn	07 37 00.4	-3.7
MQZ	**McQueen's Vall**	**5.95**	**204**	SN	Sn	07 38 21.1	-9.3

*IDC **16** 08:17:37.4±10.0, 554S×146.11E, h111km±87km, mb3.4/5, mb1 3.6/7, mb1mx3.4/15, mbtmp3.4/7, ML4.1/2, Error ellipse: s-maj=59.7km s-min=30.5km az=62.0*
*ISCJB **16** 08:17:39.7±5.9, 57S±02×146.0E±0.2, h141km±47km, mb3.6/5, Error ellipse: s-maj=48.3km s-min=26.6km az=135.1*
*NEIC **16** 08:17:39.9±4.0, 556S×146.02E, h135km±32km, mb4.0/5, Error ellipse: s-maj=29.4km s-min=17.8km az=215.0*

ISC 16 08:17:39.9±5.7, 56S±02×146.0E±02, h129km±46km, n17, σ0°58/16, mb3.6/5, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.40 179**		*e*P	**Pn**	**08 20 58.9**	**+1.1**
	1.9nm,0.3s						
CTA	**Charters Tower**	**14.40 179**		P	**Pn**	**08 20 58.1**	**+0.3**
	1.1nm,0.3s,baz=359,slow=16,SNR=6.1						
CTAO	**Charters Tower**	**14.40 179**		*e*P	**Pn**	**08 20 57.5**	**-0.3**
	4.0nm,0.5s						
KAKA	**Kakadu**	**15.15 241**		*e*P	**Pn**	**08 21 07.4**	**+0.2**
	8.8nm,0.6s						
KAKA	**Kakadu**	**15.15 241**		*e*P	**Pn**	**08 21 06.8**	**-0.4**
	12nm,0.4s						
WRAB	**Tennant Creek**	**18.21 217**		*e*P	**P**	**08 21 43.3**	**+0.2**
	2.7nm,0.7s						
WB2	**Warramunga Arr**	**18.22 217**		*e*P	**P**	**08 21 43.3**	**+0.1**
WRA	**Warramunga Arr**	**18.23 218**		P	**P**	**08 21 42.4**	**-0.9**
	0.4nm,0.3s,baz=37,slow=11,SNR=17						
ASAR	**Alice Springs**	**21.42 212**		P	**P**	**08 22 17.9**	**+0.2**
	0.7nm,0.3s,mb3.4,baz=54,slow=8.9,SNR=15						
FITZ	**Fitzroy Crossi**	**23.46 236**		*e*P	**P**	**08 22 39.0**	**+1.1**
	7.3nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.46 236**		*e*P	**P**	**08 22 38.4**	**+0.5**
	6.7nm,0.7s,mb4.2						
FITZ	**Fitzroy Crossi**	**23.46 236**		P	**P**	**08 22 38.7**	**+0.8**
	4.0nm,0.7s,mb4.0,baz=48,slow=14,SNR=13						
STKA	**Stephens Creek**	**26.47 188**		P	**P**	**08 23 04.0**	**-1.0**
STKA	**Stephens Creek**	**26.47 188**		P	**P**	**08 23 04.0**	**-1.0**
	0.3nm,0.3s,mb3.4,baz=13,slow=12,SNR=2.3						
VNDA	**Vanda**	**72.37 176**		P	**P**	**08 28 51.8**	**+0.5**
	0.6nm,0.4s,mb3.6,baz=337,slow=6.9,SNR=6.1						
MKAR	**Makanchi Array**	**76.57 321**		P	**P**	**08 29 15.9**	**-0.2**
	0.3nm,0.5s,mb3.2,baz=104,slow=6.1,SNR=2.5						
TORD	**Torodi Ar. Bea**	**144.04 285**		PKP	PKPdf	08 36 59.6	-1.7
	0.3nm,0.3s,baz=72,slow=3.5,SNR=7.9						

*NIED **16** 08:20:00, 3870N×14230E, h17km, Mw3.6 Best double couple: M0:3.14000×1014 NP1:φs=360.00000°, δ75.00000°, λ17.00000°. NP2:φs=265.00000°, δ73.00000°, λ164.00000°.*
*JMA **16** 08:20:57.6±0.1, 3873N×14233E, h30km±2km, M3.7*
JMA Felt I J1.

ISC 16 08:20:57.1±2.3, 3873N±006×1423E±01, h22km±11km, n6, σ0°35/12, 4D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OFUJ	**Ofunato**	**0.63 304**		⇓P	**Pb**	**08 21 09.9**	**+0.5**
OFUJ				S	**Sb**	**08 21 18.3**	**+0.4**
JIO	**Ouri**	**0.82 251**		⇓P	**Pb**	**08 21 12.6**	**-0.1**
JIO				S	**Sb**	**08 21 22.7**	**-0.6**
JMK	**Ichinoseki**	**0.90 285**		⇓P	**Pb**	**08 21 14.1**	**0.0**
JMK				S	**Sb**	**08 21 25.6**	**-0.1**
JOM	**Ohasama**	**1.10 313**		⇓P	**Pn**	**08 21 17.3**	**+0.1**
JOM				S	**Sb**	**08 21 31.2**	**-0.3**
JTH	**Tanohata**	**1.27 343**		P	**Pn**	**08 21 18.9**	**-0.5**
JTH				*e*S	**Sn**	**08 21 35.6**	**-0.1**
JOU	**Okura**	**1.36 255**		P	**Pn**	**08 21 21.3**	**+0.6**
JOU				S	**Sn**	**08 21 38.2**	**+0.1**

*ISCJB **16** 08:56:06.2±0.9, 185N±02×6920W±004, h110km±9km, Error ellipse: s-maj=29.6km s-min=4.9km az=9.9*
*NEIC **16** 08:56:07.5, 1839N×6921W, h103km, MD3.7(RSPR), After RSPR.*
*RSPR **16** 08:56:07.5, 1839N×6921W, h103km±2km, MD3.7/14, MD3.7/14*

ISC 16 08:56:07.2±0.9, 185N±02×6921W±004, h103km±10km, n15, σ0°59/29, 13C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.38 334**		⇓*e*P	**Pn**	**08 56 22.0**	**-0.6**
DR12				*e*S	**Sn**	**08 56 34.2**	**+0.2**
STDO	**Santo Domingo**	**0.69 270**		⇑*e*P	**Pn**	**08 56 24.4**	**-0.4**
STDO				*e*S	**Sn**	**08 56 38.0**	**0.0**
DR08	**Loma La Naviza**	**0.93 303**		⇑*e*P	**Pn**	**08 56 26.3**	**-0.8**
DR08				*e*S	**Sn**	**08 56 41.4**	**-0.7**
IMO	**Isla Mona**	**1.28 105**		⇑*e*P	**Pn**	**08 56 31.5**	**+0.6**
AGPR	**Aguadilla, PR**	**1.99**	**89**	⇑*e*P	**Pn**	**08 56 40.1**	**+0.4**
AGPR				*e*S	**Sn**	**08 57 05.7**	**+1.1**
LSP	**Las Mesas**	**2.03**	**97**	⇑*e*P	**Pn**	**08 56 40.6**	**+0.3**
LSP				*e*S	**Sn**	**08 57 06.2**	**+0.6**
CRPR	**Cabo Rojo, PR**	**2.04 102**		⇓*e*P	**Pn**	**08 56 39.7**	**-0.7**
CRPR				*e*S	**Sn**	**08 57 05.3**	**-0.5**
SDDR	**Presa de Saban**	**2.04 285**		⇑*e*P	**Pn**	**08 56 41.3**	**+0.8**
SDDR				*e*S	**Sn**	**08 57 07.1**	**+1.2**
LRS	**Lares**	**2.25**	**94**	⇑*e*P	**Pn**	**08 56 43.6**	**+0.5**
LRS				*e*S	**Sn**	**08 57 10.9**	**+0.3**
AOPR	**Arecibo Observ**	**2.33**	**92**	⇑*e*P	**Pn**	**08 56 44.1**	**-0.1**
AOPR				*e*S	**Sn**	**08 57 13.3**	**+0.8**
CELP	**Cerrillos**	**2.52**	**98**	⇑*e*P	**Pn**	**08 56 46.2**	**-0.5**
CELP				*e*S	**Sn**	**08 57 17.3**	**+0.2**
CPD	**Cerro la Pandu**	**3.15**	**97**	⇑*e*P	**Pn**	**08 56 54.4**	**-0.7**
CPD				*e*S	**Sn**	**08 57 32.3**	**+0.3**
CBYP	**Canovanas**	**3.19**	**93**	⇑*e*P	**Pn**	**08 56 55.5**	**0.0**
CBYP				*e*S	**Sn**	**08 57 31.9**	**-0.9**
HUMP	**Col San Antoni**	**3.20**	**95**	⇑*e*P	**Pn**	**08 56 55.4**	**-0.3**
HUMP				*e*S	**Sn**	**08 57 32.6**	**-0.6**
MTP	**Monte Pirata**	**3.49**	**95**	⇑*e*P	**Pn**	**08 56 59.3**	**-0.2**
MTP				*e*S	**Sn**	**08 57 40.1**	**0.0**

*ISCJB **16** 08:56:12.8±0.1, 2056N±002×10073E±001, h10km, mb5.7/286, MS6.4/244, Error ellipse: s-maj=2.4km s-min=1.9km az=14.9*
*PLV **16** 08:56:12.6±1.8, 2091N×10077E, h6km±10km, MD6.1*
*BJI **16** 08:56:13.9, 2057N×10096E, h15km, mB6.3, mb5.6, ML6.2, Ms6.9, Msz6.5*
*IDC **16** 08:56:13.1±0.3, 2049N×10084E, h0km, mb5.3/30, mb1 5.4/31, mb1mx5.4/31, mbtmp5.3/31, ML4.7/1, MS6.2/30, Ms1 6.2/30, ms1mx6.1/34, Error ellipse: s-maj=9.7km s-min=7.1km az=53.0*
*NEIC **16** 08:56:14.1±0.1, 2050N×10073E, h9km, mb5.8/190, ME5.9, MS6.4/187, MW6.2, Error ellipse: s-maj=4.0km s-min=2.8km az=41.0 Broadband fault plane solution: P waves. NP1:φs=235.00000°, δ75.00000°, λ-35.00000°. NP2:φs=335.00000°, δ56.00000°, λ-162.00000°. Principal axes: T Plg12.0000°, Azm289.0000°; N Plg0.0000°, Azm0.0000°; P Plg35.0000°, Azm190.0000°; Moment Tensor Solution. s40 Moment tensor: Scale 1018 Nm; Mrr0.32; Mθθ-2.11; Mφφ1.78; Mrθ-0.58; Mθφ0.76; Mφr0.52; Best double couple: M0:2.20000×1018 NP1:φs=55.00000°, δ70.00000°, λ0.00000°. NP2:φs=325.00000°, δ90.00000°, λ160.00000°. Principal axes: T 2.0300, Plg14.0000°, Azm278.0000°; N 0.3900, Plg70.0000°, Azm145.0000°; P -2.4200, Plg14.0000°, Azm12.0000°; Depth from synthetics of broadband displacement seismograms. Energy computed from BB mechanism.*
NEIC Minor damage to some buildings in Bokeo, Laos and in Chiang Rai and Chiang Saen, Thailand. Seiches in swimming pools observed in Chiang Rai, Thailand. Felt [IV] at Chiang Mai, Chiang Rai and Hang Dong; [III] at Bangkok, Thailand. Felt [III] by people in tall buildings in Hanoi, Vietnam. Felt by people in tall buildings in Vientiane, Laos and in Khlong Toei and Phetchaburi, Thailand. Felt strongly in Louangnamtha and Oudomxai, Laos and in Mai Rim, Thailand. Also felt at Yunjinghong, China; at Houayxay, Louanphrabang and Muang Sing, Laos; at Ban Mae Chan, Lampang, Lamphun, Mae Ai, Mae Sai, Mae Taeng, Nan, Nonthaburi, Pa Daet Phayao and San Sai, Thailand; in Dien Bien, Dong Da, Hai BaTrung and Hoan Kiem, Vietnam.
*MOS **16** 08:56:15.8±0.9, 2054N×10070E, h30km, mb6.0/90, MS6.3/67 Error ellipse: s-maj=6.7km s-min=3.1km az=124.7*
*GCMT **16** 08:56:16.5±0.1, 2052N×10089E, h13km, MW6.3/115, Moment Tensor Solution. s109,c251; s115,c449; Duration: 3s4 Moment tensor: Scale 1018Nm; Mrr-0.23±.02; Mθθ-3.03±.02; Mφφ3.25±.02; Mrθ0.35±.04; Mθφ1.04±.02; Mφr0.40±.05; Best double couple: M0:3.34800×1018 NP1:φs=324.00000°, δ81.00000°, λ179.00000°. NP2:φs=54.00000°, δ89.00000°, λ9.00000°. Principal axes: T 3.4720, Plg7.0000°, Azm279.0000°; N -0.2540, Plg81.0000°, Azm61.0000°; P -3.2240, Plg5.0000°, Azm189.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*SZGRF **16** 08:56:16.4, 2074N×10123E, h33km, mb6.0, MS6.2, Laos*
*CRAAG **16** 08:56:17.2, 2051N×10076E, Mw6.1*
*IGIL **16** 08:56:18.3, 2049N×10076E, h24km, MS6.4*
*BGS **16** 08:56:41.7, 2441N×9824E, h25km, mb5.6, MS6.3*

ISC 16 08:56:13.2±0.4, 2058N±002×10076E±001, h1km±2km, n1201, σ1°09/1115, mb5.8/286, MS6.4/244, 113C-40D, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**1.77 182**		P	**Pn**	**08 56 42.0**	**-2.8**
CHG	**Chiang Mai**	**2.45 225**		PG	**Pg**	**08 56 59.7**	**-0.4**
CHG				SG	**Sg**	**08 57 34.3**	**+2.4**
CHTO	**Chiang Mai**	**2.45 225**		*e*P	**Pn**	**08 56 53.8**	**-0.4**
CHTO				*e*	**Sg**	**08 57 31.7**	**-0.2**
CHTO	**Chiang Mai**	**2.45 225**		⇓*i*Pn	**Pn**	**08 56 53.8**	**-0.5**
CHTO				*e*Sn	**Sg**	**08 57 30.9**	**-0.9**
CM31	**Chiang Mai Arr**	**2.71 219**		⇓*e*Pn	**Pn**	**08 56 57.5**	**-0.4**
BVV	**Ba Vi**	**4.34 82**		*e*PN	**Pn**	**08 57 19.0**	**-1.3**
BVV				*e*Pg	**Pg**	**08 57 35.4**	**-1.1**
BVV				*e*Sg	**Sg**	**08 58 31.2**	**-1.6**
HNV	**Hanoi**	**4.74 83**		*e*PN	**Pn**	**08 57 23.2**	**-2.5**
HNV				*e*Pg	**Pg**	**08 57 41.1**	**-2.9**
HNV				*e*Sg	**Sg**	**08 58 41.3**	**-4.1**
KMI	**Kunming**	**4.88 22**		P	**Pn**	**08 57 29.0**	**+1.3**
KMI				SG	**Sg**	**08 58 53.3**	**+3.2**
KMI				LR	LR		
	comp=N,365μm,15.8s						
KMI				LR	LR		
	comp=E,738μm,13.8s						
KMI				LR	LR		
	comp=Z,449μm,16.5s						
DSV	**Doi Son**	**4.89 89**		*e*PN	**Pn**	**08 57 26.3**	**-1.5**
DSV				*e*Pg	**Pg**	**08 57 45.0**	**-1.8**
DSV				*e*Sg	**Sg**	**08 58 51.6**	**+1.4**
MTZV	**Met**	**5.30 78**		*e*PN	**Pn**	**08 57 32.0**	**-1.5**
MTZV				*e*Pg	**Pg**	**08 57 54.3**	**-0.6**
MTZV				*e*Sg	**Sg**	**08 59 00.8**	**-2.9**
PLV	**Phu-Lien**	**5.50 87**		*e*PN	**Pn**	**08 57 34.5**	**-1.7**
PLV				*e*Pg	**Pg**	**08 57 57.6**	**-1.1**
PLV				*e*Sg	**Sg**	**08 59 08.6**	**-1.4**
YTV	**Yen Tu**	**5.60 83**		*e*PN	**Pn**	**08 57 36.5**	**-1.2**
YTV				*e*Pg	**Pg**	**08 57 59.5**	**-1.1**
YTV				*e*Sg	**Sg**	**08 59 11.9**	**-1.4**
UBT	**Ubonrachathani**	**6.67 142**		PN	**Pn**	**08 57 52.0**	**-0.3**
UBT				SG	Sn	08 58 45.0	-24
UBT	**Ubonrachathani**	**6.67 142**		PG	**Pn**	**08 57 59.0**	**+6.7**
GYA	**Guiyang**	**7.98 42**		P	**Pn**	**08 58 09.4**	**-0.8**
GYA				S	**Sn**	**08 59 37.9**	**-3.2**
GYA				LR	LR		
	comp=N,829μm,14.1s						
GYA				LR	LR		
	comp=E,626μm,12.3s						
GYA				LR	LR		
	comp=Z,347μm,10.5s						
NNT	**Nongplab**	**8.00 187**		P	**Pn**	**08 58 11.5**	**+0.9**
QIZ	**Qiongzhong**	**8.69 99**		P	**Pn**	**08 58 18.1**	**-1.9**
QIZ				S	**Sn**	**08 59 56.6**	**-2.1**
QIZ				LR	LR		
	comp=N,296μm,10.0s						
QIZ				LR	LR		
	comp=Z,416μm,13.6s						
QIZ	**Qiongzhong**	**8.69 99**	⇑	*e*Pn	**Pn**	**08 58 17.8**	**-2.2**
AGT	**Agartala**	**9.40 292**		*i* P	**Pn**	**08 58 27.0**	**-2.8**
AGT				*i* x	x	08 59 22.0	
SHL	**Shillong**	**9.56 303**		*i* P	**Pn**	**08 58 32.0**	**0.0**
CD2	**Chengdu**	**10.64 14**	⇓	*i*P	**Pn**	**08 58 46.8**	**+0.1**
CD2				XP		08 59 00.8	
CD2				S	**Sn**	**09 00 50.0**	**+3.5**
CD2				XS		09 00 58.8	
CD2				SS		09 01 01.8	
CD2				AMB	AMB		
	comp=Z,530nm,0.8s						
CD2				AMB	AMB		
	comp=Z,10μm,12.0s						
CD2				LR	LR		
	comp=N,416μm,13.2s						
CD2				LR	LR		
	comp=E,337μm,9.6s						
CD2				LR	LR		
	comp=Z,425μm,12.0s						
CAL	**Calcutta**	**11.73 282**		*e*P	**Pn**	**08 59 02.2**	**+0.5**
CAL				*ex*	x	09 02 24.2	
PBA	**

comp=E,571µm,15.6s
XAN LR LR
comp=Z,139µm,13.0s
KTGM Kuala Trenggan 15.33 171 ⇑P Pn 08 59 52.5 +1.7
GUN Gumba 15.40 301 *eP* **Pn 08 59 51.1 -0.6**
PKI Pulchoki 15.64 299 *eP* **Pn 08 59 54.1 -0.8**
comp=Z,3µm,1.4s
LZH Lanzhou 15.69 9 ⇓P Pn 08 59 57.0 +1.6
LZH AP pP 09 00 04.6 +4.7
LZH XP sP 09 00 08.9 +8.8
LZH PP 09 00 10.0
LZH S **Sn 09 02 51.3 +1.4**
LZH XS sS 09 03 01.1 -4.8
LZH SS 09 03 10.0
LZH AMB AMB
comp=Z,3µm,1.6s
LZH AMB AMB
comp=Z,10µm,5.6s
LZH LR LR
comp=E,190µm,11.0s
LZH LR LR
comp=Z,209µm,12.5s
WHN Wuhan 15.76 48 *eP* **Pn 08 59 54.5 -1.9**
WHN LR LR
comp=Z,419µm,9.4s
KKN Kakani 15.84 300 *eP* **Pn 08 59 56.3 -1.1**
comp=Z,4µm,1.2s
DMN Daman 15.91 299 *eP* **Pn 08 59 57.5 -0.8**
comp=Z,1µm,1.0s
IPM Ipoh 16.00 179 ⇑P Pn 09 00 00.3 +0.7
GKN Gorkha 16.44 300 *eP* **Pn 09 00 03.7 -1.5**
comp=Z,4µm,1.2s
VIS Vishakhapatnam 16.71 263 *i* P **Pn 09 00 09.4 +0.7**
VIS *ex* x 09 00 15.4
comp=Z,853nm,1.9s
VIS *i* x x 09 03 25.0
QZH Quanzhou 17.01 72 *i* P **Pn 09 00 10.1 -2.3**
QZH AMB AMB
comp=Z,360nm,0.9s
QZH AMB AMB
comp=Z,8µm,3.6s
QZH LR LR
comp=Z,372µm,9.5s
TSI Tuntungan 17.11 187 *eP* **Pn 09 00 17.5 +3.9**
KOLN Koldanda 17.21 298 *eP* **Pn 09 00 13.8 -1.0**
comp=Z,2µm,1.3s
FRIM Kepong 17.25 177 ⇓P Pn 09 00 17.1 +1.6
DANN Dangsing 17.29 300 *eP* **Pn 09 00 14.4 -1.5**
comp=Z,2µm,0.9s
BLSP Bilaspur 17.42 278 *eP* **Pn 09 00 17.0 -0.5**
BLSP AMb AMB 09 00 25.1
comp=Z,1µm,1.4s
BLSP *ex* x 09 03 40.9
PSI Prapat 17.76 186 P **Pn 09 00 24.1 +2.3**
PSI S **Sn 09 03 48.4 +8.1**
PSI Prapat 17.76 186 P **Pn 09 00 24.1 +2.3**
comp=Z,2.7nm,0.3s,baz=1.6,slow=12,SNR=70
PSI S **Sn 09 03 48.4 +8.1**
baz=330,slow=6.4,SNR=6.2
PSI Lg 09 05 51.8
comp=Z,0.2nm,0.3s,baz=119,slow=14,SNR=4.1
PSI LR LR 09 07 29.3
comp=Z,91µm,21.3s,baz=322,slow=38
KGM Kluang 18.61 172 ⇑P Pn 09 00 33.8 +1.5
BOLP Bolinao 18.64 100 *eP* **Pn 09 00 33.7 +1.1**
GTA Gaotai 18.79 358 ⇓P Pn 09 00 35.9 +1.6
GTA AP pP 09 00 45.6 +11
GTA XP sP 09 00 48.8 +14
GTA S **Sn 09 04 03.0 -2.0**
GTA SS 09 04 28.4
GTA AMB AMB
comp=Z,39nm,1.1s
GTA AMB AMB
comp=Z,23µm,3.8s
GTA LR LR
comp=N,120µm,18.2s
GTA LR LR
comp=E,411µm,14.4s
GTA LR LR
comp=Z,139µm,18.6s
SCZP Santa Cruz 18.81 102 *eP* **Pn 09 00 38.7 +4.1**
MYKOM Kota Tinggi 18.91 170 ⇑P Pn 09 00 33.8 -2.1
MYKOM Kota Tinggi 18.91 170 ⇑P Pn 09 00 37.4 +1.5
ABRA Dolores 19.08 95 *eP* **Pn 09 00 40.3 +2.4**
BCPH Baguio City Da 19.26 99⇑ *eP* **Pn 09 00 41.4 +1.3**
YHNB Yeheng 19.46 74⇑ *eP* **Pn 09 00 42.8 +0.3**
comp=Z,370nm,1.3s
APYP Conner 19.53 94 *eP* **Pn 09 00 44.5 +1.2**
NACB Ninganchiao 19.60 76⇑ *eP* **Pn 09 00 44.3 +0.1**
comp=Z,88nm,1.3s
TATO Taipei 19.61 73 *eP* **Pn 09 00 44.6 +0.4**
comp=Z,359nm,1.5s
NJ2 Nanjing 19.81 51 *eP* **Pn 09 00 46.1 -0.5**
NJ2 AP pP 09 00 52.0 +6.5
NJ2 XP sP 09 00 57.1 +11
NJ2 PP 09 01 04.3
NJ2 PPP 09 01 13.6
NJ2 S **Sn 09 04 23.0 -6.8**
NJ2 XS sS 09 04 31.0 +1.3
NJ2 AMB AMB
comp=Z,50nm,0.7s
NJ2 AMB AMB
comp=Z,2µm,9.4s
NJ2 LR LR
comp=Z,662µm,11.9s
LUBP Lubang 19.82 107 *eP* **Pn 09 00 47.2 +0.4**
TIY Taiyuan 19.86 28 *i* P **Pn 09 00 46.8 -0.3**
TIY AP pP 09 00 55.8 +10
TIY S **Sn 09 04 25.8 -5.1**
TIY SS 09 04 52.5
TIY AMB AMB
comp=Z,790nm,1.0s
TIY AMB AMB
comp=Z,25µm,4.1s
TIY LR LR
comp=N,94µm,9.6s
TIY LR LR
comp=E,160µm,10.5s
TIY LR LR
comp=Z,148µm,11.2s
CVP Callao Caves 20.10 95⇑ *eP* **P 09 00 50.2 +1.7**
ENPP El Nido 20.21 115 *eP* **P 09 00 50.9 +1.4**
NGP Nagpur 20.29 275 *i* P **P 09 00 51.6 +1.1**
NGP *ex* x 09 00 56.1
comp=Z,1µm,1.5s
NGP *i* S **S 09 04 37.0 -1.9**
TGY Tagaytay City 20.30 105⇑ *eP* **P 09 00 54.0 +3.5**
BALP Baler 20.35 100 *eP* **P 09 00 53.3 +2.1**
PPR Puerto Princes 20.38 119⇓ *iP* **P 09 00 50.9 -0.5**
LGTI Lohaghat 20.56 300 *eP* **P 09 00 54.5 +1.2**
PTH Pithoragarh 20.62 300 *eP* **P 09 00 54.9 +1.0**
PTH *ex* x 09 05 03.4
KDM Kudat 20.66 129 ⇑P P 09 00 57.4 +2.9
PALP Palanan 20.80 96⇑ *eP* **P 09 00 56.8 +0.8**
KKM Kota Kinabalu 20.82 132⇓ *eP* **P 09 00 57.5 +1.3**
comp=Z,1µm,1.4s
KKM Kota Kinabalu 20.82 132 ⇓P P 09 00 59.1 +2.8
MDRS Chennai 20.99 252⇓ *iP* **P 09 00 59.7 +1.6**
MDRS *eS* **S 09 04 51.9 -0.9**
JHNI Jhansi 21.01 288 *i* P **P 09 00 58.0 -0.3**
BTM Bintulu 21.04 144 ⇑P P 09 00 60.0 +1.4
SSE Sheshan 21.13 56 P **P 09 01 00.5 +1.1**
SSE AP 09 01 10.5
SSE S **S 09 04 49.1 -6.2**
SSE AMB AMB
comp=Z,69nm,1.3s,mb4.8
SSE AMB AMB
comp=Z,2µm,9.5s
SSE LR LR
comp=Z,164µm,7.5s
KSM Kuching 21.15 153⇓ *eP* **P 09 01 00.3 +0.5**
comp=Z,3µm,2.0s,mb6.2
KSM Kuching 21.15 153 ⇓P P 09 01 01.5 +1.7
TIA Tai'an 21.16 39 ⇑P P 09 01 00.3 +0.5
TIA S **S 09 04 56.0 +0.1**
TIA AMB AMB
comp=Z,816nm,1.1s,mb6.0
TIA AMB AMB
comp=Z,7µm,4.0s
TIA LR LR
comp=N,133µm,10.0s,MS6.8
TIA LR LR
comp=E,150µm,10.0s,MS6.8
SBUM Sibu 21.20 147 ⇓P P 09 01 02.2 +1.8

HYB Hyderabad 21.23 265 *eP* **P 09 01 01.5 +0.9**
HYB *eS* **S 09 04 54.0 -3.4**
HYB pmax pmax
comp=Z,1µm,1.0s,mb6.1
HYB Hyderabad 21.23 265 *eP* **P 09 01 01.5 +0.9**
comp=Z,1µm,1.0s,mb6.1
HYB *eS* **S 09 04 54.0 -3.4**
HYB *e* 09 13 28.0
HYB Hyderabad 21.23 265⇑ *iP* **P 09 01 01.5 +0.9**
comp=Z,1µm,1.0s,mb6.1
HYB *eS* **S 09 04 54.0 -3.4**
HYB LR LR 09 13 28.0
comp=Z,74nm,14.0s
BTO Baotou 21.47 20 *eP* **P 09 01 03.9 +0.8**
BTO S **S 09 05 04.3 +2.4**
BTO LR LR
comp=N,70µm,14.3s,MS6.4
BTO LR LR
comp=E,95µm,14.1s,MS6.4
SDKM Sandakan 21.80 131 ⇓P P 09 01 08.6 +1.8
BHPL Bhopal 21.81 281 *eP* **P 09 01 07.1 +0.3**
BHPL AMb AMB 09 01 14.8
comp=Z,1µm,1.0s,mb6.2
BHPL *ex* x 09 05 12.4
OTRP Odiongan 21.95 109 *eP* **P 09 01 08.3 -0.1**
HHC Hu-ho-hao-te 22.21 22 ⇓P P 09 01 12.0 +1.1
HHC AP 09 01 19.3
HHC XP sP 09 01 22.9 +11
HHC PP 09 01 40.3
HHC S **S 09 05 13.0 -3.2**
HHC XS sS 09 05 23.1 +6.3
HHC SS 09 05 53.0
HHC AMB AMB
comp=Z,737nm,1.6s,mb5.9
HHC AMB AMB
comp=Z,21µm,8.9s
HHC LR LR
comp=N,148µm,14.1s,MS6.7
HHC LR LR
comp=E,124µm,12.9s,MS6.7
HHC LR LR
comp=Z,276µm,15.3s,MS6.8
AKL Akola 22.22 275 *i* P **P 09 01 12.0 +0.8**
AKL *ex* x 09 01 19.3
comp=Z,1µm,1.1s
KALP Kalibo 22.52 110 *eP* **P 09 01 22.4 +7.9**
DDI Dehra Dun 22.64 300 *i* P **P 09 01 15.2 -0.5**
DDI *ex* x 09 05 13.0
NDI New Delhi 22.84 295 *eP* **P 09 01 17.0 -0.8**
NDI AMb AMB 09 01 20.1
comp=Z,566nm,0.8s,mb6.2
NDI *eS* **S 09 05 27.5 -1.0**
LATR Latur 22.91 269 *eP* **P 09 01 19.5 +0.9**
RCP Roxas 22.93 110⇑ *eP* **P 09 01 19.0 +0.2**
MYLDM Lahad Datu 23.05 129 ⇓P P 09 01 22.0 +1.9
TSM Tawau 23.22 132 ⇓P P 09 01 23.2 +1.3
PVCP Virac 23.40 104⇑ *eP* **P 09 01 22.9 -0.9**
BJI Beijing 23.46 31 P **P 09 01 25.1 +0.9**
BJI AP 09 01 33.8
BJI XP sP 09 01 37.6 +13
BJI S **S 09 05 37.1 -1.2**
BJI AMB AMB
comp=Z,819nm,1.9s,mb5.9
BJI AMB AMB
comp=Z,14µm,3.1s
BJI LR LR
comp=N,174µm,16.9s,MS6.8
BJI LR LR
comp=E,234µm,18.3s,MS6.8
BJI LR LR
comp=Z,77µm,20.6s,MS6.2
PALK Pallekele 23.49 239 *eP* **P 09 01 27.3 +2.5**
comp=Z,351nm,1.3s,mb5.7
PALK LR LR
comp=Z,67µm,19.0s,MS6.1
SMLA Simla 23.64 301 *eP* **P 09 01 26.0 -0.2**
SMLA AMb AMB 09 01 28.9
comp=Z,1µm,2.3s,mb6.0
SDNR Sundarnagar 23.93 302 *eP* **P 09 01 28.5 -0.3**
SDNR *eS* **S 09 05 47.0 +0.8**
BHK Bhakra 24.34 301 *eP* **P 09 01 34.0 +1.4**
LLP Lapu-Lapu 24.55 111 *eP* **P 09 01 34.3 -0.3**
AJM Ajmer 24.63 289 *eP* **P 09 01 34.2 -1.0**
KOD Kodaikanal 24.66 249 *eP* **P 09 01 37.1 +1.5**
KOD AMb AMB 09 01 44.2
comp=Z,622nm,1.2s,mb6.2
TBP Tagbilaran 24.75 112 *eP* **P 09 01 35.1 -1.3**
DLH Dalhousie 25.11 303 *eP* **P 09 01 40.0 +0.5**
THN Thein Dam 25.26 303 *eP* **P 09 01 39.8 -1.1**
PAGZ Pagadian 25.27 117 *eP* **P 09 01 42.2 +1.0**
KAD Karad 25.33 267 *eP* **P 09 01 42.9 +1.2**
KAD AMb AMB 09 01 49.4
comp=Z,839nm,1.3s,mb6.3
MSLP Maasin 25.42 110 *eP* **P 09 01 43.6 +1.1**
POO Poona 25.43 270 *eP* **P 09 01 43.5 +0.9**
WMQ Urumqi 25.61 338 P **P 09 01 46.0 +2.0**
WMQ XP sP 09 02 00.0 +15
WMQ PP 09 02 26.0
WMQ S **S 09 06 10.0 -2.9**
WMQ SS 09 07 14.0
WMQ AMB AMB
comp=Z,245nm,1.0s,mb5.8
WMQ AMB AMB
comp=Z,1µm,3.0s
WMQ LR LR
comp=N,86µm,12.0s,MS6.8
WMQ LR LR
comp=E,135µm,12.0s,MS6.8
WMQ LR LR
comp=Z,45µm,10.0s,MS6.3
DL2 Dalian 25.63 40 *i* P **P 09 01 47.0 +2.8**
DL2 S **S 09 06 15.8 +2.6**
DL2 SS 09 07 12.8
DL2 LG1 09 09 47.6
DL2 LG2 09 10 29.9
DL2 AMB AMB
comp=Z,100nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,1µm,8.2s
DL2 LR LR
comp=N,90µm,16.0s,MS6.7
DL2 LR LR
comp=E,137µm,15.8s,MS6.7
DL2 LR LR
comp=Z,74µm,10.6s
JOW Kunigami 25.92 71 P **P 09 01 46.2 -0.7**
comp=Z,31nm,0.7s,mb5.0,baz=300,slow=19,SNR=4.9
JOW S **S 09 06 22.1 +3.9**
comp=Z,11nm,0.6s,baz=172,slow=28,SNR=1.8
JOW Lg 09 09 59.8
comp=Z,8.6nm,0.3s,baz=206,slow=23,SNR=2.2
JOW LR LR 09 12 06.1
comp=Z,53µm,19.9s,MS6.1,baz=88,slow=37
TRD Trivandrum 25.93 246 *eP* **P 09 01 47.0 -0.1**
TRD AMb AMB 09 01 56.7
comp=Z,159nm,1.1s,mb5.5
MNGI Mangalore 25.94 257 *i* P **P 09 01 47.1 -0.2**
MNGI *i* x x 09 06 23.1
GOA Goa 26.09 263⇑ *iP* **P 09 01 49.6 +1.1**
GOA *i* S **S 09 06 19.6 -1.3**
BOM Bombay 26.35 271 *eP* **P 09 01 51.6 +0.7**
BOM *ex* x 09 06 29.3
BUKP Musuan 26.68 115 *eP* **P 09 01 53.6 -0.3**
BHV Bhavnagar 26.70 278 *eP* **P 09 01 51.5 -2.5**
DAV Davao City (W) 27.53 116 PFAKE 09 02 10.0 +8.4
DAV LR LR
comp=Z,73µm,19.0s,MS6.3
DAV Davao City (W) 27.53 116⇓ *eP* **P 09 02 03.3 +1.7**
SONM Songino Array 27.57 8 P **P 09 02 03.0 +1.4**
comp=Z,69nm,1.0s,mb5.5,baz=190,slow=8.0,SNR=69
SONM S **S 09 06 53.4 +10**
comp=Z,5.9nm,0.9s,baz=120,slow=6.0,SNR=2.6
SONM Lg 09 11 07.7
comp=Z,0.3nm,0.3s,baz=216,slow=40,SNR=2.7
SONM LR LR 09 14 21.9
comp=Z,92µm,21.4s,MS6.3,baz=178,slow=39
BIPH Bislig 27.64 113⇑ *eP* **P 09 02 02.1 -0.4**
ULN Ulaanbaatar 27.70 9 *eP* **P 09 02 03.6 +0.9**
ULN pmax pmax
comp=Z,612nm,1.7s,mb6.2
ULN MLR MLR
comp=Z,68µm,20.0s,MS6.2
ULN Ulaanbaatar 27.70 9 *eP* **P 09 02 03.6 +0.8**
comp=Z,612nm,1.7s,mb6.2

ULN LR LR
comp=Z,68µm,20.0s,MS6.2
INCN Inchon 28.07 48 PFAKE 09 02 20.0 +14
INCN LR LR
comp=Z,90µm,19.0s,MS6.4
KSH Kashi 28.43 317⇑ *iP* **P 09 02 11.3 +2.0**
KSH *e*AP 09 02 16.0
KSH *e*XP sP 09 02 19.0 +9.1
KSH *e*PP PP 09 03 01.0 -12
KSH *e*PPP 09 03 13.0
KSH *e*PCP PcP 09 05 24.0 +2.3
KSH *e*S **S 09 06 54.6 -2.8**
KSH LR LR
comp=N,134µm,12.5s,MS6.9
KSH LR LR
comp=E,108µm,12.2s,MS6.9
KSH LR LR
comp=Z,98µm,12.9s,MS6.6
BHJ Bhuj 28.95 281 *eP* **P 09 02 13.4 -0.8**
BHJ AMb AMB 09 02 30.1
comp=Z,388nm,1.3s,mb6.1
KSRS Korea Array 28.96 49 P **P 09 02 14.4 +0.3**
comp=Z,5.4nm,0.8s,baz=243,slow=8.9,SNR=11
KSRS PcP PcP 09 05 29.6 +6.5
comp=Z,6.3nm,0.9s,baz=270,slow=3.9,SNR=4.3
KSRS S **S 09 07 07.8 +2.0**
comp=Z,1.2nm,0.8s,baz=210,slow=42,SNR=2.4
KSRS Lg 09 11 42.5
comp=Z,0.3nm,0.3s,baz=264,slow=35,SNR=2.7
KSRS LR LR 09 14 42.1
comp=Z,67µm,21.1s,baz=241,slow=38
JNU Nakatsue 29.53 59 P **P 09 02 20.1 +0.9**
comp=Z,36nm,1.0s,mb5.2,baz=277,slow=5.1,SNR=9.2
JNU S **S 09 07 22.9 +8.0**
comp=Z,9.7nm,1.2s,baz=277,slow=37,SNR=1.5
JNU Lg 09 11 38.9
comp=Z,7.5nm,0.9s,baz=149,slow=42,SNR=3.2
JNU LR LR 09 15 02.1
comp=Z,79µm,18.7s,MS6.4,baz=250,slow=38
ZAK Zakamensk 29.81 3⇓ *iP* **P 09 02 22.8 +1.3**
ZAK pmax pmax
comp=Z,56nm,1.8s,mb5.1
ULHL Ulahol 29.89 322 P **P 09 02 24.4 +2.1**
SNR=53
AAA Alma-Ata 30.15 324 *i* P **P 09 02 26.3 +1.7**
AAA *i* S **S 09 07 26.4 +2.1**
AAA pmax pmax
comp=Z,1µm,2.8s,mb6.2
AAA smax
comp=E,10µm,21.4s
AAA MLR MLR
comp=Z,200µm,20.4s,MS6.8
MK31 Makanchi Array 30.18 334 *i* P **P 09 02 25.8 +1.0**
MK31 pmax pmax
comp=Z,83nm,0.6s,mb5.7
MK31 Makanchi Array 30.18 334 *eP* **P 09 02 25.9 +1.1**
MKAR Makanchi Array 30.18 334 *i* P **P 09 02 25.7 +0.9**
MKAR pmax pmax
comp=Z,76nm,0.7s
MKAR Makanchi Array 30.18 334 P **P 09 02 25.7 +0.9**
comp=Z,76nm,0.7s,mb5.7,baz=143,slow=9.3,SNR=191
MKAR S **S 09 07 30.9 +6.1**
comp=Z,1.8nm,0.8s,baz=72,slow=17,SNR=1.7
MKAR LR LR 09 14 59.5
comp=Z,39µm,19.9s,MS6.0,baz=143,slow=37
KZA Kyzart 30.36 321 P **P 09 02 28.4 +1.9**
SNR=36
TKM2 Tokmak 2 30.68 322 *eP* **P 09 02 25.7 -3.6**
TKM2 pmax pmax
comp=Z,148nm,0.8s,mb6.0
TKM2 MLR MLR
comp=Z,57µm,19.0s,MS6.2
TKM2 Tokmak 2 30.68 322 *eP* **P 09 02 25.6 -3.6**
comp=Z,148nm,0.8s,mb6.0
TKM2 LR LR
comp=Z,57µm,19.0s,MS6.2
TKM2 Tokmak 2 30.68 322 P **P 09 02 30.9 +1.7**
SNR=60
KBK Karagaybulak 30.89 321 P **P 09 02 33.4 +2.2**
SNR=13
UCH Uchtor 30.89 320 *eP* **P 09 02 33.1 +1.9**
comp=Z,148nm,0.8s,mb6.0
UCH LR LR
comp=Z,35µm,20.0s,MS6.0
UCH Uchtor 30.89 320 P **P 09 02 33.3 +2.1**
SNR=86
CN2 Changchun 30.98 36 *eP* **P 09 02 32.6 +0.7**
CN2 *e*AP 09 02 44.5
CN2 PCP PcP 09 05 26.6 -1.5
CN2 *e*S **S 09 07 34.4 -2.9**
CN2 AMB AMB
comp=Z,60nm,1.1s,mb5.4
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=Z,87µm,17.0s,MS6.5
MOY Mondy 31.03 0 *eP* **P 09 02 34.7 +2.4**
MOY pmax pmax
comp=Z,322nm,3.2s
AAK Ala-Archa 31.15 321 P **P 09 02 34.7 +1.3**
comp=Z,1µm,0.8s,mb6.9,SNR=48
AAK Ala-Archa 31.15 321 P **P 09 02 35.6 +2.2**
SNR=42
FRU Bishkek 31.19 321⇓ *eP* **P 09 02 35.0 +1.2**
FRU *i* S **S 09 07 46.0 +5.2**
FRU pmax pmax
comp=Z,200nm,1.6s,mb5.8
FRU smax
comp=N,9µm,10.0s
CHMS Chumysh 31.22 322 P **P 09 02 35.8 +1.8**
SNR=11
KBL Kabul 31.22 303⇑ *iP* **P 09 02 34.4 +0.2**
KBL *e*ScP ScP 09 09 28.4 +15
AML Almayashu 31.33 319 *eP* **P 09 02 36.9 +1.8**
comp=N,111nm,0.8s,mb5.8
AML LR LR
comp=Z,37µm,20.0s,MS6.0
AML Almayashu 31.33 319 P **P 09 02 37.0 +1.9**
SNR=49
USP Ospenovka 31.52 322 P **P 09 02 38.2 +1.5**
SNR=26
KAPI Kappang 31.54 142 P **P 09 02 36.1 -1.0**
comp=Z,185nm,0.9s,mb6.0,SNR=13
KAPI Kappang 31.54 142 P **P 09 02 36.5 -0.6**
comp=Z,14nm,0.7s,mb5.0,baz=305,slow=8.6,SNR=7.5
KAPI S **S 09 07 49.5 +2.9**
comp=Z,7.9nm,0.8s,baz=265,slow=20,SNR=2.2
KAPI LR LR 09 16 16.1
comp=Z,49µm,18.2s,MS6.2,baz=330,slow=38
EKS2 Erkin-Say 31.59 320 *eP* **P 09 02 39.2 +1.8**
comp=Z,114nm,0.8s,mb5.8
EKS2 LR LR
comp=Z,35µm,22.0s,MS6.0
EKS2 Erkin-Say 31.59 320 P **P 09 02 39.1 +1.8**
SNR=36
IRK Irkutsk 31.73 4⇓ *iP* **P 09 02 40.7 +2.3**
IRK *e* 09 03 50.8
IRK pmax pmax
comp=Z,641nm,2.5s,mb6.1
HIA Hailar 32.40 23 *eP* **P 09 02 44.5 +0.2**
HIA pmax pmax
comp=Z,120nm,0.9s
HIA MLR MLR
comp=Z,128µm,20.0s
HIA Hailar 32.40 23 *eP* **P 09 02 44.5 +0.2**
comp=Z,120nm,0.9s,mb5.8
HIA LR LR
comp=Z,128µm,20.0s,MS6.6
COCO West Island 32.79 187 PFAKE 09 03 00.0 +12
COCO LR LR
comp=Z,76µm,21.0s,MS6.4
MDJ Mudanjiang 33.82 38 P **P 09 02 58.3 +1.5**
MDJ AP 09 03 04.4
MDJ XP sP 09 03 07.1 +10
MDJ PCP PcP 09 05 33.9 -2.0
MDJ S **S 09 08 20.6 -1.1**
MDJ XS sS 09 08 32.9 +11
MDJ SCP ScP 09 09 18.4 -3.5
MDJ AMB AMB
comp=Z,792nm,13.9s
MDJ LR LR
comp=N,102µm,18.4s,MS6.8
MDJ LR LR
comp=E,96µm,16.2s,MS6.8
MDJ LR LR
comp=Z,59µm,11.2s,MS6.6

MDJ	**Mudanjiang**	**33.82**	**38**	*e*P	**P**	**09 02 58.1 +1.2**
	comp=Z,29nm,1.1s,mb5.1					
MDJ				*e*pP		09 03 09.0
MDJ				LR	LR	
	comp=Z,53μm,21.0s,MS6.2					
KK31	**Karatay Array**	**33.83**	**318**	*i* P	**P**	**09 02 57.1 +0.2**
KK31				pmax	pmax	
	comp=Z,46nm,0.8s,mb5.5					
KURK	**Kurchatov**	**34.77**	**335**	P	**P**	**09 03 05.9 +0.9**
	comp=Z,781nm,0.8s,mb6.7,SNR=77					
KURK	**Kurchatov**	**34.77**	**335***c*	*i*P	**P**	**09 03 05.6 +0.6**
KURK	**Kurchatov**	**34.77**	**335**	*e*P	**P**	**09 03 05.5 +0.5**
	comp=Z,159nm,1.0s,mb5.9					
KURK				LR	LR	
	comp=Z,53μm,20.0s,MS6.3					
ZAL	**Zalesovo**	**35.47**	**344**	P	**P**	**09 03 12.1 +1.1**
ZAA0	**Zalesovo Array**	**35.48**	**344**	*e*P	**P**	**09 03 11.9 +0.9**
ZALV	**Zalesovo Beam**	**35.48**	**344**	P	**P**	**09 03 12.1 +1.1**
	comp=Z,91nm,0.8s,mb5.7,baz=155,slow=8.4,SNR=82					
ZALV				LR	LR	09 19 16.4
	comp=Z,46μm,20.6s,MS6.2,baz=156,slow=39					
MAJO	**Matsushiro**	**36.28**	**56**⇑	*i*P	**P**	**09 03 17.1 -1.0**
MAJO				pmax	pmax	
	comp=Z,353nm,1.5s,mb6.0					
MAJO				MLR	MLR	
	comp=Z,45μm,20.0s,MS6.2					
MAJO	**Matsushiro**	**36.28**	**56**⇑	*i*P	**P**	**09 03 17.1 -1.0**
	comp=Z,354nm,1.5s,mb6.0					
MAJO				LR	LR	
	comp=Z,45μm,20.0s,MS6.2					
MAT	**Matsushiro**	**36.28**	**56**	P	**P**	**09 03 17.0 -1.1**
MAT				S	**S**	**09 08 58.0 -1.7**
MJAR	**Matsushiro Arr**	**36.28**	**56**	P	**P**	**09 03 17.6 -0.5**
	comp=Z,40nm,0.9s,mb5.3,baz=265,slow=9.8,SNR=46					
MJAR				LR	LR	09 20 09.9
	comp=Z,45μm,18.2s,MS6.3,baz=235,slow=40					
NVS	**Novosibirsk**	**36.70**	**343**⇓	*i*P	**P**	**09 03 21.9 +0.5**
NVS				*e*S	**S**	**09 09 10.9 +5.3**
NVS				pmax	pmax	
	comp=Z,388nm,2.1s,mb5.8					
NVS				pmax	pmax	
	comp=N,395nm,2.3s					
NVS				pmax	pmax	
	comp=E,330nm,2.4s					
NVS				smax		
	comp=N,296nm,2.3s					
JHJ	**Hachijo jima 2**	**36.79**	**62**	LR	LR	09 17 03.4
	comp=N,53μm,21.4s,MS6.3,baz=271,slow=34					
KLR	**Kul'dur**	**37.78**	**33**	*e*P	**P**	**09 03 25.7 -5.0**
KLR				*e*PPP		09 05 06.5
KLR				*e*S	**S**	**09 09 12.5 -10**
KLR				pmax	pmax	
	comp=N,200nm,2.8s					
KLR				pmax	pmax	
	comp=E,600nm,2.8s					
KLR				pmax	pmax	
	comp=Z,1μm,2.8s,mb6.0					
KLR				pmax	pmax	
	comp=E,900nm,11.0s					
KLR				pmax	pmax	
	comp=Z,2μm,11.0s					
KLR				smax		
	comp=N,7μm,11.0s					
KLR				smax		
	comp=E,5μm,11.0s					
BATI	**Kupang**	**37.99**	**142**	P	**P**	**09 03 30.9 -2.0**
	comp=E,12nm,0.3s,mb5.1,baz=270,slow=14,SNR=6.8					
BATI				S	**S**	**09 09 26.4 +0.4**
	comp=E,14nm,0.7s,baz=342,slow=24,SNR=3.5					
CBIJ	**Chichi jima**	**38.32**	**72**	S	**S**	**09 09 26.4 -4.6**
	comp=E,48nm,0.8s,baz=276,slow=21,SNR=2.6					
BOD	**Bodaibo**	**38.44**	**11**	*e*P	**P**	**09 03 36.3 +0.1**
BOD				pmax	pmax	
	comp=Z,79nm,1.9s,mb5.1					
HABR	**Khabarovsk**	**39.11**	**36**	*i* P	**P**	**09 03 43.6 +1.7**
HABR				*e*		09 05 14.0
HABR				*e*S	**S**	**09 09 42.3 -0.1**
HABR				pmax	pmax	
	comp=Z,559nm,2.3s,mb5.8					
DGAR	**Diego Garcia**	**39.34**	**228**	PFAKE		09 03 50.0 +5.7
DGAR				LR	LR	
	comp=Z,39μm,22.0s,MS6.2					
BVAR	**Borovoye Array**	**39.94**	**332**	P	**P**	**09 03 49.3 +0.5**
	comp=Z,52nm,0.7s,mb5.3,baz=131,slow=9.3,SNR=86					
BVAR				S	**S**	**09 09 39.5 -15**
	comp=Z,1.1nm,0.7s,baz=227,slow=41,SNR=1.9					
BRVK	**Borovoye**	**40.01**	**332**	P	**P**	**09 03 49.1 -0.2**
	comp=Z,1μm,0.9s,mb6.5,SNR=43					
BRVK	**Borovoye**	**40.01**	**332**	*e*P	**P**	**09 03 49.8 +0.4**
	comp=Z,69nm,0.6s,mb5.5					
BRVK				LR	LR	
	comp=Z,19μm,19.0s,MS6.0					
NRGR	**Nerungri**	**40.17**	**20**	*e*P	**P**	**09 03 53.3 +2.6**
NRGR				S	**S**	**09 10 03.5 +5.4**
NRGR				smax		
	comp=N,152nm,1.0s					
CLNS	**Chul'man**	**40.38**	**20***c*	*i*P	**P**	**09 03 54.7 +2.4**
CLNS				*e**PP		09 03 59.7
CLNS				*e*		09 05 23.5
CLNS				*e*PPP		09 05 53.5
CLNS				*e*SSS		09 12 53.8
CLNS				pmax	pmax	
	comp=E,74nm,1.2s					
CLNS				pmax	pmax	
	comp=Z,119nm,1.2s,mb5.4					
CLNS				pmax	pmax	
	comp=N,101nm,1.4s					
CLNS				pmax	pmax	
	comp=Z,76nm,2.0s,mb5.0					
CLNS				pmax	pmax	
	comp=N,64nm,1.1s					
CLNS				pmax	pmax	
	comp=E,55nm,1.7s					
CLNS				MLR	MLR	
	comp=N,61μm,14.0s,MS6.7					
CLNS				MLR	MLR	
	comp=E,46μm,14.0s,MS6.7					
CLNS				MLR	MLR	
	comp=Z,98μm,14.0s,MS6.8					
ABKT	**Ailbek**	**40.63**	**305**	P	**P**	**09 03 55.7 +0.9**
	comp=Z,1μm,1.1s,mb6.6,SNR=42					
VAN	**Vannovskaya**	**40.64**	**305**	P	**P**	**09 03 55.7 +0.8**
VAN				S	**S**	**09 10 07.9 +2.2**
ERM	**Erimo**	**41.53**	**49**	P	**P**	**09 04 04.2 +2.1**
	comp=Z,476nm,1.0s,mb6.2,SNR=9.4					
ERM	**Erimo**	**41.53**	**49**	*e*P	**P**	**09 04 02.6 +0.5**
ERM				pmax	pmax	
	comp=Z,186nm,1.2s,mb5.7					
ERM				MLR	MLR	
	comp=Z,58μm,19.0s,MS6.5					
ERM	**Erimo**	**41.53**	**49**	*e*P	**P**	**09 04 02.5 +0.4**
	comp=Z,186nm,1.2s,mb5.7					
ERM				LR	LR	
	comp=Z,58μm,19.0s,MS6.5					
ASAJ	**Asahikawa**	**41.83**	**46**	P	**P**	**09 04 05.8 +1.3**
	comp=Z,103nm,0.8s,mb5.6,baz=250,slow=12,SNR=34					
ASAJ				S	**S**	**09 10 21.1 -2.0**
	comp=Z,3.9nm,0.9s,baz=281,slow=24,SNR=2.1					
ASAJ				LR	LR	09 20 29.9
	comp=Z,41μm,19.5s,MS6.3,baz=86,slow=35					
GUMO	**Guam**	**42.63**	**92**	P	**P**	**09 04 12.2 +0.8**
GUMO				S	**S**	**09 10 34.6 -1.0**
GUMO	**Guam**	**42.63**	**92**	P	**P**	**09 04 12.1 +0.7**
	comp=Z,82nm,0.9s,mb5.5,baz=19,slow=16,SNR=2.9					
GUMO				S	**S**	**09 10 34.6 -1.0**
	comp=Z,43nm,0.8s,baz=14,slow=22,SNR=2.2					
GUMO				LR	LR	09 22 53.8
	comp=Z,26μm,18.4s,MS6.2,baz=297,slow=38					
YSS	**Yuzh-Sakhalins**	**42.98**	**42***ox*	P	**P**	**09 04 15.0 +1.1**
YSS				*e**PP		09 04 24.0
YSS				*e*S	**S**	**09 10 37.0 -3.1**
YSS				*e*		09 14 06.0
YSS				pmax	pmax	
	comp=E,200nm,2.0s					
YSS				pmax	pmax	
	comp=Z,260nm,2.0s,mb5.6					
YSS				pmax	pmax	
	comp=Z,1μm,7.0s					
YSS				smax		
	comp=N,7μm,16.0s					
YSS				smax		
	comp=E,6μm,16.0s					
YSS				MLR	MLR	
	comp=Z,24μm,14.0s,MS6.2					
YSS				MLR	MLR	
	comp=N,24μm,12.0s,MS6.4					
YSS				MLR	MLR	
	comp=E,17μm,11.0s,MS6.4					
YSS	**Yuzh-Sakhalins**	**42.98**	**42**	*e*P	**P**	**09 04 15.3 +1.4**
	comp=E,118nm,1.3s,mb5.5					
YSS				LR	LR	
	comp=Z,47μm,19.0s,MS6.4					
AB31	**Akbulak array**	**43.23**	**321**	*i* P	**P**	**09 04 16.4 +0.5**
YUK	**Yuzh-Kuril'sk**	**44.03**	**47**	*e*P	**P**	**09 04 24.0 +1.6**
YUK				*e*S	**S**	**09 10 58.0 +2.6**
YUK				*e*SS	SS	09 14 06.7 -5.4
YUK				*e*		09 14 20.0
YUK				pmax	pmax	
	comp=Z,3μm,2.5s,mb6.5					
YUK				pmax	pmax	
	comp=E,3μm,3.0s					
YUK				smax		
	comp=N,5μm,12.0s					
YUK				smax		
	comp=E,6μm,12.0s					
YUK				MLR	MLR	
	comp=N,48μm,16.0s,MS6.8					
YUK				MLR	MLR	
	comp=E,85μm,17.0s,MS6.8					
YUK				MLR	MLR	
	comp=Z,80μm,17.0s,MS6.7					
AKTK	**Aktyubinsk**	**44.87**	**322**	*i* P	**P**	**09 04 29.2 +0.2**
AKTO	**Aktyubinsk**	**44.87**	**322**	*i* P	**P**	**09 04 29.2 +0.2**
AKTO	**Aktyubinsk**	**44.87**	**322**	S	**S**	**09 11 09.2 +1.7**
	comp=Z,2.3nm,1.0s,baz=146,slow=21,SNR=1.6					
AKTO				LR	LR	09 25 01.9
	comp=Z,20μm,19.1s,MS6.1,baz=123,slow=38					
MBWA	**Marble Bar**	**45.44**	**155**	*e*P	**P**	**09 04 32.6 -1.1**
	comp=Z,100nm,0.8s,mb5.8					
MBWA				LR	LR	
	comp=Z,19μm,21.0s,MS6.0					
KAKA	**Kakadu**	**45.44**	**134**	*e*P	**P**	**09 04 32.0 -1.9**
	comp=Z,343nm,2.0s,mb5.9					
FITZ	**Fitzroy Crossi**	**45.53**	**146**⇓	*i*P	**P**	**09 04 32.6 -1.9**
	comp=Z,30nm,0.8s,mb5.4					
FITZ				*e*S	**S**	**09 11 12.4 -5.2**
FITZ	**Fitzroy Crossi**	**45.53**	**146**	P	**P**	**09 04 33.0 -1.5**
	comp=Z,12nm,1.1s,mb4.9,baz=350,slow=7.7,SNR=16					
FITZ				S	**S**	**09 11 13.9 -3.7**
	comp=Z,3.3nm,0.9s,baz=27,slow=23,SNR=1.9					
FITZ				LR	LR	09 23 21.9
	comp=Z,10μm,21.2s,MS5.7,baz=144,slow=36					
YAK	**Yakutsk**	**45.99**	**18**	*e*P	**P**	**09 04 38.0 +0.3**
YAK				*e**PP		09 04 45.7
YAK				*e*		09 06 11.3
YAK				*e*		09 06 29.6
YAK				*e*S	**S**	**09 11 20.8 -2.6**
YAK				*e**SS	sS	09 11 35.9 +12
YAK				*e*		09 14 32.5
YAK				pmax	pmax	
	comp=Z,356nm,1.9s,mb6.1					
YAK				pmax	pmax	
	comp=N,182nm,1.6s					
YAK				pmax	pmax	
	comp=E,206nm,1.8s					
YAK				pmax	pmax	
	comp=Z,666nm,3.6s					
YAK				pmax	pmax	
	comp=N,287nm,2.6s					
YAK				pmax	pmax	
	comp=E,224nm,1.8s					
YAK				smax		
	comp=N,6μm,16.8s					
YAK				smax		
	comp=E,3μm,7.7s					
YAK				MLR	MLR	
	comp=N,45μm,17.0s,MS6.7					
YAK				MLR	MLR	
	comp=Z,62μm,17.0s,MS6.6					
YAK				MLR	MLR	
	comp=E,36μm,12.0s,MS6.7					
YAK	**Yakutsk**	**45.99**	**18**	*e*P	**P**	**09 04 37.6 -0.1**
	comp=E,234nm,1.2s,mb6.1					
YAK				LR	LR	
	comp=Z,59μm,20.0s,MS6.5					
SVE	**Sverdlovsk**	**46.71**	**331**⇓	*e*P	**P**	**09 04 44.0 +0.6**
SVE				*e*S	**S**	**09 11 39.7 +5.9**
SVE				pmax	pmax	
	comp=Z,196nm,0.9s,mb6.2					
SVE				MLR	MLR	
	comp=Z,22μm,19.0s,MS6.1					
ARU	**Arti**	**47.46**	**330**	P	**P**	**09 04 49.7 +0.4**
	comp=Z,503nm,1.0s,mb6.6,SNR=22					
ARU	**Arti**	**47.46**	**330***c*	*i*P	**P**	**09 04 49.6 +0.3**
ARU				*e*		09 06 17.9
ARU				*e*		09 06 41.7
ARU				*e*PPP		09 07 28.0
ARU				*e*S	**S**	**09 11 44.1 -0.4**
ARU				*e*		09 14 36.0
ARU				*e*SSS		09 16 19.1
ARU				pmax	pmax	
	comp=Z,247nm,2.5s,mb5.9					
ARU				MLR	MLR	
	comp=Z,42μm,20.0s,MS6.4					
ARU	**Arti**	**47.46**	**330**	*e*P	**P**	**09 04 49.3 0.0**
	comp=Z,120nm,0.9s,mb6.0					
ARU				LR	LR	
	comp=Z,45μm,20.0s,MS6.4					
QRN	**Al-Qurain**	**48.38**	**291**	*e*P	**P**	**09 04 55.4 -1.5**
QRN				AMb	AMB	09 05 02.4
	comp=Z,112nm,0.9s,mb6.0					
UMR	**Umm Al-Rimmam**	**48.52**	**292**	*e*P	**P**	**09 04 57.1 -0.9**
UMR				AMb	AMB	09 05 03.1
	comp=Z,208nm,1.4s,mb6.0					
RDF	**Al-Radifah**	**48.70**	**291**	*e*P	**P**	**09 04 58.3 -1.0**
RDF				AMb	AMB	09 05 03.4
	comp=Z,279nm,1.1s,mb6.2					
MIB	**Mutribah**	**48.84**	**292**	*e*P	**P**	**09 04 59.6 -0.8**
MIB				AMb	AMB	09 05 06.5
	comp=Z,455nm,0.8s,mb6.6					
NAY	**Al-Naaiem**	**48.95**	**291**	*e*P	**P**	**09 05 00.4 -0.9**
NAY				AMb	AMB	09 05 06.3
	comp=Z,246nm,1.2s,mb6.1					
MAK	**Makhachkala**	**49.55**	**309***c*	*i*P	**P**	**09 05 05.7 +0.1**
MAK				*i*		09 07 03.7
MAK				*i* S	**S**	**09 12 13.6 -0.9**
MAK				*e*SSS		09 17 09.3
MAK				pmax	pmax	
	comp=N,224nm,1.5s					
MAK				pmax	pmax	
	comp=Z,295nm,1.7s,mb5.9					
MAK				pmax	pmax	
	comp=E,346nm,1.8s					
MAK				smax		
	comp=E,3513μm,8.0s					
MAK				MLR	MLR	
	comp=Z,43μm,18.0s,MS6.5					
MAK				MLR	MLR	
	comp=E,33μm,16.0s,MS6.5					
MAK				MLR	MLR	
	comp=N,22μm,18.0s,MS6.5					
DGRG	**David-gareji**	**50.91**	**307**	P	**P**	**09 05 17.3 +1.3**
DGRG				S	**S**	**09 12 36.2 +2.8**
MSEY	**Mahe Island**	**51.03**	**246**	PFAKE		09 05 30.0 +13
MSEY				LR	LR	
	comp=Z,34μm,21.0s,MS6.3					
GNI	**Garni**	**51.26**	**305**	*e*P	**P**	**09 05 20.2 +1.6**
GNI	**Garni**	**51.26**	**305***c*	*i*P	**P**	**09 05 19.8 +1.2**
GNI				pmax	pmax	
	comp=Z,175nm,1.3s					
GNI				MLR	MLR	
	comp=Z,11μm,20.0s					
GNI	**Garni**	**51.26**	**305**	*e*P	**P**	**09 05 20.0 +1.4**
	comp=Z,246nm,1.1s,mb6.0					
GNI				LR	LR	
	comp=Z,15μm,20.0s,MS6.0					
BHD	**Baghdad**	**51.29**	**297**	*i* x	x	09 05 15.0
BHD				*i* x	x	09 06 05.0
BHD				*ex*	x	09 06 30.0
BHD				*ex*	x	09 07 04.0
BHD				*ex*	x	09 08 16.0
BHD				*ex*	x	09 12 17.0
BHD				*ex*	x	09 13 44.0
MTA	**Mtatsminda**	**51.37**	**307**	P	**P**	**09 05 19.6 +0.1**
MTA				S	**S**	**09 12 42.1 +2.2**
TBLG	**Delisi**	**51.42**	**307**	P	**P**	**09 05 10.4 -9.4**
CLDR	**Caldiran**	**51.82**	**304**	*e*P	**P**	**09 05 24.2 +1.4**
HKR	**Hakkari**	**51.87**	**302**	*e*P	**P**	**09 05 22.5 -0.8**
HAKT	**HAKKARI**	**51.90**	**302**	*i* P	**P**	**09 05 22.1 -1.4**
GOR	**Gori**	**51.91**	**308**	P	**P**	**09 05 24.9 +1.4**
CUKT	**Cukurca**	**51.97**	**302**	*e*P	**P**	**09 05 24.0 +0.1**
WRA	**Warramunga Arr**	**51.98**	**139**	P	**P**	**09 05 22.8 -1.4**
WRA				S	**S**	**09 12 45.1 -3.5**
WRA	**Warramunga Arr**	**51.98**	**139**	P	**P**	**09 05 22.8 -1.4**
	comp=Z,24nm,0.9s,mb5.2,baz=325,slow=7.9,SNR=146					
WRA				S	**S**	**09 12 45.1 -3.4**
	comp=Z,0.6nm,1.0s,baz=236,slow=33,SNR=3.0					
WRA				LR	LR	09 29 50.5
	comp=Z,22μm,19.7s,MS6.2,baz=320,slow=39					
WRAB	**Tennant Creek**	**51.98**	**139**	P	**P**	**09 05 23.0 -1.2**
	comp=Z,453nm,0.9s,mb6.4,SNR=26					
WRAB	**Tennant Creek**	**51.98**	**139***d*	*i*P	**P**	**09 05 22.7 -1.5**
WRAB	**Tennant Creek**	**51.98**	**139**	*e*P	**P**	**09 05 22.9 -1.3**
	comp=Z,91nm,1.0s,mb5.7					
WRAB				LR	LR	
	comp=Z,27μm,20.0s,MS6.3					
WB2	**Warramunga Arr**	**51.99**	**139**	*e*P	**P**	**09 05 22.8 -1.4**
WB2				*e*S	**S**	**09 12 42.1 -6.6**
VANB	**Van**	**52.20**	**303**	*e*P	**P**	**09 05 27.9 +2.2**
MSL	**Mosul**	**52.36**	**300**	*i* x	x	09 05 27.0
MSL				*ex*	x	09 07 19.0
MSL				*ex*	x	09 08 31.0
MSL				*ex*	x	09 12 51.0
MSL				*ex*	x	09 14 05.0
ONI	**Oni**	**52.46**	**308**	P	**P**	**09 05 28.5 +1.0**
ONI				S	**S**	**09 12 55.7 +0.9**
SKR	**Severo-Kuril's**	**52.53**	**41**	*e*P	**P**	**09 05 28.0 +0.1**
SKR				*e*		09 07 24.0
SKR				*e*		09 15 16.0
SKR				pmax	pmax	
	comp=Z,60nm,0.9s,mb5.5					
SKR				pmax	pmax	
	comp=E,1μm,18.0s					
SKR				pmax	pmax	
	comp=Z,1μm,18.0s					
SKR				MLR	MLR	
	comp=N,35μm,16.0s,MS6.6					
SKR				MLR	MLR	
	comp=Z,63μm,16.0s,MS6.8					
SKR				MLR	MLR	
	comp=E,31μm,20.0s,MS6.6					
KARS	**Kars**	**52.55**	**306**	*e*P	**P**	**09 05 29.9 +1.7**
AGRB	**Hanur-Agry**	**52.56**	**305**	*e*P	**P**	**09 05 29.8 +1.5**
MA2	**Magadan**	**52.61**	**29**	*e*P	**P**	**09 05 28.8 +0.4**
	comp=E,186nm,1.0s,mb6.0					
MA2				LR	LR	
	comp=Z,25μm,19.0s,MS6.3					
SIRT	**Sirnak**	**52.90**	**302**	*e*P	**P**	**09 05 34.0 +3.1**
KIV	**Kislovodsk**	**53.16**	**310**	P	**P**	**09 05 33.6 +0.9**
	comp=Z,2μm,1.0s,mb7.1,SNR=36					
KIV	**Kislovodsk**	**53.16**	**310***c*	*i*P	**P**	**09 05 33.1 +0.4**
KIV				*e*		09 06 38.5
KIV				*e*		09 07 33.8
KIV				*e*PPP		09 08 40.3
KIV				*e*S	**S**	**09 13 02.8 -1.6**
KIV				pmax	pmax	
	comp=Z,216nm,4.1s					
KIV				pmax	pmax	
	comp=Z,487nm,1.1s,mb6.3					
KIV				MLR	MLR	
	comp=Z,17μm,18.0s,MS6.1					
KIV	**Kislovodsk**	**53.16**	**310**	*e*P	**P**	**09 05 33.2 +0.5**
	comp=Z,709nm,1.2s,mb6.5					
KIV				LR	LR	
	comp=Z,21μm,19.0s,MS6.2					
LBOS		**53.23**	**272**⇑	*e*P	**P**	**09 05 33.9 +0.2**
ARTV	**Artvin**	**53.47**	**307**	*i* P	**P**	**09 05 35.3 +0.2**
ARTV				*i* P		09 05 35.5
TIXI	**Tiksi**	**53.62**	**11**	*e*P	**P**	**09 05 35.1 -0.5**
TIXI				*e*S	**S**	**09 13 05.9 -3.8**
TIXI				pmax	pmax	
	comp=Z,1μm,14.1s					
TIXI				pmax	pmax	
	comp=N,118nm,2.5s					
TIXI				pmax	pmax	
	comp=E,76nm,2.0s					
TIXI				pmax	pmax	
	comp=Z,306nm,2.0s,mb6.0					
TIXI	**Tiksi**	**53.62**	**11**	*e*P	**P**	**09 05 34.5 -1.2**
	comp=Z,150nm,1.1s,mb5.9					
TIXI				*e*pP		09 05 45.4
TIXI				LR	LR	
	comp=Z,63μm,20.0s,MS6.7					
BTMT	**Batman**	**53.67**	**303**	*e*P	**P**	**09 05 37.6 +1.0**
BCA	**Borcka**	**53.72**	**307**	*e*P	**P**	**09 05 37.3 +0.5**
ERZM	**Erzurum**	**53.83**	**305**	*i* P	**P**	**09 05 38.2 +0.6**
EZM	**Erzurum**	**53.83**	**305**	*e*P	**P**	**09 05 38.9 +1.2**
DHBB	**Dhamar BB**	**53.86**	**273**⇑	*e*P	**P**	**09 05 39.1 +0.9**
BNGL	**BINGOL**	**53.96**	**304**	*i* P	**P**	**09 05 40.0 +1.3**
BNGL	**BINGOL**	**53.96**	**304**	*i* P	**P**	**09 05 41.2 +2.5**
BNGL				*i* P		09 05 42.9
COEN	**Coen**	**54.00**	**126**	*e*P	**P**	**09 05 37.9 -1.2**
	comp=Z,33nm,0.9s,mb5.4					
MARD	**Mardin**	**54.22**	**302**	*i* P	**P**	**09 05 40.4 -0.2**
MUN	**Mundaring**	**54.31**	**164**	*e*P	**P**	**09 05 40.5 -0.6**
MUN				*e*S	**S**	**09 13 23.1 +3.2**
KLBR	**Kellerberrin**	**54.37**	**162**	*e*P	**P**	**09 05 40.2 -1.4**
	comp=Z,138nm,1.7s,mb5.7					
KOPT	**Kop Dagi**	**54.50**	**305**	*i* P	**P**	**09 05 43.2 +0.6**
ASAR	**Alice Springs**	**54.56**	**142**	P	**P**	**09 05 41.9 -1.2**
ASAR				⇑*e*		09 36 07.7
ASAR	**Alice Springs**	**54.56**	**142**	P	**P**	**09 05 41.9 -1.2**
	comp=Z,19nm,0.9s,mb5.1,baz=320,slow=7.0,SNR=114					
ASAR				PKP2bc		09 36 07.7
	comp=Z,2.8nm,1.2s,baz=129,slow=2.2,SNR=4.1					
PET	**Petropavlovsk**	**54.60**	**39**	*e*P	**P**	**09 05 44.9 +1.8**
PET				*e*	PcP	09 06 47.4 +1.2
PET				*i* S	**S**	**09 13 23.0 -0.5**
PET				*e*SS	SS	09 17 10.5 +4.5
PET				pmax	pmax	
	comp=Z,45nm,1.2s,mb5.4					
PET				pmax	pmax	
	comp=Z,600nm,14.2s					
PET				pmax	pmax	
	comp=Z,600nm,15.6s					
PET				smax		
	comp=E,600nm,11.8s					
PET				smax		
	comp=E,2μm,18.0s					
PET				MLR	MLR	
	comp=Z,52μm,17.0s,MS6.7					
PET				MLR	MLR	
	comp=Z,46μm,16.0s					
PET	**Petropavlovsk**	**54.60**	**39**	*e*P	**P**	**09 05 45.0 +1.9**
	comp=Z,44nm,1.0s,mb5.4					
PET				LR	LR	
	comp=Z,52μm,22.0s,MS6.5					
SEY	**Seymchan**	**54.78**	**26**⇑	*e*P	**P**	**09 05 43.9 -0.3**
VRHR	**Novokhopersk**	**54.95**	**319**	*e*P	**P**	**09 05 44.7 -0.9**
VRHR				*e**PP		09 05 51.1
VRHR				*e*S	**S**	**09 13 30.8 +2.5**
VRHR				pmax	pmax	
	comp=Z,80nm,0.9s,mb5.8					
VRHR				pmax	pmax	
	comp=N,50nm,1.7s					
VRHR				pmax	pmax	
	comp=E,120nm,1.2s					
VRHR				smax		
	comp=N,2μm,6.1s					
VRHR				smax		
	comp=Z,500nm,5.7s					
VRHR				smax		
	comp=E,1μm,5.6s					
VRHR				MLR	MLR	
	comp=Z,19μm,22.0s,MS6.1					
VRHR				MLR	MLR	
	comp=N,34μm,17.0s,MS6.5					
VRHR				MLR	MLR	
	comp=E,22μm,18.0s,MS6.5					
EZC	**Erzincan**	**55.02**	**305**	*e*P	**P**	**09 05 49.6 +3.2**
MACK	**Trabzon**	**55.09**	**306**	*i* P	**P**	**09 05 46.4 -0.4**
KTUT	**Trabzon**	**55.09**	**306**	*e*P	**P**	**09 05 46.9 +0.1**
SOC	**Sochi**	**55.27**	**309***c*	*i*P	**P**	**09 05 47.7 -0.4**
SOC				*e**PP		09 05 56.9
SOC				*e**SP	sP	09 06 00.0 +11
SOC				*i*		09 06 43.9
SOC				*e*		09 07 53.0
SOC				*e*PPP		09 09 06.5
SOC				*e*S	**S**	**09 13 36.1 +3.3**
SOC				*e*		09 15 32.8
SOC				*e*SS	SS	09 17 12.4 -4.5
SOC				pmax	pmax	
	comp=Z,491nm,2.3s,mb6.1					
SOC				pmax	pmax	
	comp=Z,220nm,1.0s,mb6.1					
SOC				MLR	MLR	

comp=Z,18µm,22.0s,MS6.1
SOC Sochi 55.27 309 *i* P **P 09 05 48.0 -0.1**
GUMT Gumushane 55.29 306 *e*P **P 09 05 48.4 +0.1**
PTK Pertek 55.33 304 *e*P **P 09 05 50.2 +1.6**
SVRC Sivrice-ELAZID 55.39 303 *e*P **P 09 05 47.1 -2.0**
NWAO Narrogin (SRO) 55.48 163 *e*P **P 09 05 49.0 -0.6**
comp=Z,274nm,1.9s,mb6.0
NWAO LR LR
comp=Z,38µm,22.0s,MS6.4
NWAO Narrogin (SRO) 55.48 163 P **P 09 05 48.8 -0.8**
comp=Z,23nm,0.9s,mb5.2,baz=339,slow=8.5,SNR=8.0
ELZG Elazig 55.65 303 *i* P **P 09 05 51.8 +0.9**
URFA Urfa 55.78 302 *e*P **P 09 05 52.6 +0.7**
ESPY Espiye-Giresun 55.88 306 *e*P **P 09 05 52.1 -0.4**
MALT Malatya 56.08 303 *e*P **P 09 05 55.1 +1.1**
MALT Malatya 56.08 303 *e*P **P 09 05 54.4 +0.4**
MALT pmax pmax
comp=Z,110nm,1.4s,mb5.7
MALT Malatya 56.08 303 *e*P **P 09 05 54.4 +0.4**
comp=Z,54nm,1.1s,mb5.5
MALT *ep*P 09 06 02.9
MALT *e*PP PP 09 08 02.8 +3.9
MALT Malatya 56.08 303⇑ *i*P **P 09 05 55.0 +1.0**
MYA Malataya 56.09 303 *e*P **P 09 05 52.2 -1.9**
ATD Arta Tunnel 56.14 270 LR LR 09 30 35.8
comp=Z,11µm,19.4s,MS6.0,baz=271,slow=37
ATAB Bozova 56.20 302 *i* P **P 09 05 55.0 +0.1**
GRSN GIRESUNGRSN 56.23 306 *i* P **P 09 05 54.3 -0.7**
VORD Divnogorie 56.38 318 *e*P **P 09 05 55.1 -0.8**
VORD *e**PP 09 06 01.2
VORD *e*S **S 09 13 45.5 -1.9**
VORD pmax pmax
comp=Z,50nm,1.4s,mb5.3
VORD pmax pmax
comp=N,50nm,0.6s
VORD pmax pmax
comp=E,80nm,1.3s
VORD smax
comp=N,3µm,12.1s
VORD smax
comp=Z,330nm,10.6s
VORD smax
comp=E,600nm,8.9s
VORD MLR MLR
comp=Z,30µm,20.0s,MS6.4
VORD MLR MLR
comp=N,19µm,16.0s,MS6.4
VORD MLR MLR
comp=E,15µm,17.0s,MS6.4
VRSR Storozhevoye 56.48 318 *e*P **P 09 05 55.1 -1.5**
VRSR *e**PP 09 06 01.5
VRSR *e*S **S 09 13 45.7 -3.0**
VRSR *e*SSS 09 19 37.8
VRSR pmax pmax
comp=Z,20nm,1.6s,mb4.9
VRSR pmax pmax
comp=E,20nm,1.8s
VRSR smax
comp=N,20nm,2.3s
VRSR smax
comp=Z,10.0nm,2.7s
VRSR smax
comp=E,10.0nm,1.8s
VRSR MLR MLR
comp=Z,4µm,16.0s,MS5.6
VRSR MLR MLR
comp=N,2µm,15.0s
VRSR MLR MLR
comp=E,4µm,23.0s
VOR Voronezh 56.56 319 *e*P **P 09 05 56.0 -1.2**
VOR pmax pmax
comp=Z,440nm,2.0s,mb6.1
GZT Gaziantep 56.78 302 *i* P **P 09 05 59.4 +0.3**
ANN Anapa 56.99 311 *e*P **P 09 05 58.5 -1.9**
ANN *e* 09 06 57.0
ANN *e*S **S 09 13 53.4 -2.2**
ANN pmax pmax
comp=Z,82nm,1.1s,mb5.7
ANN MLR MLR
comp=N,13µm,17.0s,MS6.2
ANN MLR MLR
comp=E,12µm,17.0s,MS6.2
ANN MLR MLR
comp=Z,13µm,17.0s,MS6.1
ANN Anapa 56.99 311 *e*P **P 09 05 58.6 -1.8**
GAZ Gaziantep 57.07 302 *e*P **P 09 06 00.4 -0.7**
SVSK Karacayir 57.19 305 *e*P **P 09 06 02.9 +1.0**
KMRS Kahramanmaras 57.31 302 *e*P **P 09 06 02.9 +0.2**
FORT Forrest 57.40 152 *e*P **P 09 05 58.5 -4.9**
comp=Z,92nm,1.3s,mb5.7
FORT Forrest 57.40 152 *e*P **P 09 06 03.2 -0.1**
comp=Z,211nm,1.3s,mb6.0
TOKT Tokat 57.53 305 *e*P **P 09 06 04.4 +0.1**
KVT Kavak 57.91 306 *e*P **P 09 06 07.6 +0.7**
HTY Hatay 57.98 300 *e*P **P 09 06 07.4 -0.2**
BNN Bunyan 58.10 304 *e*P **P 09 06 08.5 +0.2**
MOS Moscow 58.16 324 *e*P **P 09 06 07.2 -1.2**
MOS *e* 09 06 57.6
MOS *e*PPP 09 09 35.7
MOS *e*S **S 09 14 08.3 -2.3**
MOS *e* 09 15 55.1
MOS pmax pmax
comp=Z,800nm,2.4s,mb6.3
MOS pmax pmax
comp=Z,273nm,1.2s,mb6.2
MOS MLR MLR
comp=Z,23µm,15.9s,MS6.4
MOS MLR MLR
comp=E,8µm,15.5s
MOS Moscow 58.16 324 *e*P **P 09 06 06.7 -1.7**
KOZT Kozan 58.16 302 *e*P **P 09 06 11.4 +2.6**
CEYT Ceyhan 58.25 301 *e*P **P 09 06 09.5 +0.1**
HWQ Hawqa 58.26 298 *e*P **P 09 06 09.9 +0.4**
DIKM Dikmen 58.50 307 *e*P **P 09 06 10.4 -0.6**
BHL Bhannes 58.53 298 *e*P **P 09 06 11.9 +0.5**
OBN Obninsk 58.65 323 *ce*P **P 09 06 11.5 -0.3**
OBN *e* 09 06 59.0
OBN *i* S **S 09 14 18.1 +1.1**
OBN *i* SSS 09 20 26.8
OBN pmax pmax
comp=Z,150nm,1.4s,mb5.8
OBN MLR MLR
comp=Z,18µm,15.0s,MS6.3
OBN Obninsk 58.65 323 *e*P **P 09 06 11.9 +0.1**
comp=Z,193nm,1.2s,mb6.0
OBN LR LR
comp=Z,15µm,22.0s,MS6.1
BOYT Boyabat 58.77 307 *i* P **P 09 06 12.7 -0.2**
KARA Karaisali 58.79 302 *e*P **P 09 06 13.5 +0.4**
MMAI Mount Meron Ar 58.82 297 S **S 09 14 24.1 +4.1**
comp=Z,1.1nm,0.2s,baz=349,slow=30,SNR=2.0
CTKT Corum 58.87 306 *i* P **P 09 06 13.8 +0.1**
BYBT Boyabat 58.87 307 *e*P **P 09 06 13.7 +0.1**
AVNT Avonos 58.87 304 *i* P **P 09 06 12.1 -1.6**
CORM Corum 59.00 305 *e*P **P 09 06 15.1 +0.5**
NIG Nigde 59.10 303 *e*P **P 09 06 15.5 +0.2**
CDAG Cicekdag 59.22 305 *i* P **P 09 06 13.3 -2.8**
MERS Mersin 59.24 301 *e*P **P 09 06 16.3 +0.1**
SIM Simferopol' 59.35 311 *ce*P **P 09 06 16.6 -0.3**
SIM *e*S **S 09 14 25.5 -1.0**
SIM *e*SS SS 09 18 17.0 -4.0
SIM pmax pmax
comp=Z,119nm,0.8s,mb6.0
SIM MLR MLR
comp=Z,38µm,22.0s,MS6.5
SIM Simferopol' 59.35 311 *i* P **P 09 06 16.4 -0.5**
BZK Bozkurt 59.43 307 *e*P **P 09 06 17.1 -0.4**
TOS Tosya 59.44 306 *e*P **P 09 06 18.3 +0.7**
EREN Erenkoy 59.62 300 *e*P **P 09 06 19.5 +0.6**
CANT Cankiri 59.76 306 *e*P **P 09 06 20.5 +0.7**
TMCR Tamitsa 59.85 333‖ *i*P **P 09 06 20.6 +0.6**
BALT Daday 59.91 307 *i* P **P 09 06 20.2 -0.6**
CTA Charters Tower 60.13 129 *e*P **P 09 06 19.8 -2.8**
comp=Z,46nm,1.0s,mb5.5
CTA *e*S **S 09 14 37.4 +0.3**
CTA Charters Tower 60.13 129 *e*P **P 09 06 19.8 -2.8**
CTA *e*S **S 09 14 37.4 +0.3**
CTA pmax pmax
comp=Z,46nm,1.0s
CTA Charters Tower 60.13 129 P **P 09 06 21.9 -0.7**
comp=Z,15nm,0.8s,mb5.1,baz=316,slow=8.2,SNR=14
CTA S **S 09 14 36.2 -0.9**
comp=Z,1.8nm,0.6s,baz=10,slow=20,SNR=1.9
CTA LR LR 09 35 15.1
comp=Z,8µm,19.0s,MS5.9,baz=186,slow=39
CTAO Charters Tower 60.13 129 *e*P **P 09 06 22.5 0.0**
comp=Z,185nm,1.3s,mb6.0
CTAO LR LR
comp=Z,14µm,22.0s,MS6.1
LFK Lefkose 60.16 300 *e*P **P 09 06 19.5 -3.1**
CSS Prodhromos 60.35 299 *e*P **P 09 06 23.3 -0.6**
comp=Z,96nm,1.0s,mb5.8
ANTO Ankara 60.42 305 P **P 09 06 24.0 -0.4**
ANTO Ankara 60.42 305 *e*P **P 09 06 24.0 -0.4**
ANTO pmax pmax
comp=Z,68nm,0.9s,mb5.7
ANTO MLR MLR
comp=Z,11µm,20.0s,MS6.0
ANTO Ankara 60.42 305 *e*P **P 09 06 24.0 -0.4**
comp=Z,68nm,0.9s,mb5.7
ANTO LR LR
comp=Z,11µm,20.0s,MS6.0
ANTO Ankara 60.42 305⇑ *i*P **P 09 06 24.6 +0.2**
SAFT Safranbolu 60.44 306 *e*P **P 09 06 24.1 -0.4**
LOD Lodumlu 60.44 305 *e*P **P 09 06 24.4 -0.1**
ERMK Ermenek 60.54 301 *i* P **P 09 06 23.2 -2.0**
LEF Lefka 60.70 299 *e*P **P 09 06 26.3 -0.1**
HDMB Hadim 60.86 302 *e*P **P 09 06 26.8 -0.6**
KDZE Karadeniz Ereo 61.37 307 *e*P **P 09 06 29.7 -1.2**
ESKT Eskisehir 61.94 305 *e*P **P 09 06 33.4 -1.3**
BILL Bilibino 61.98 23‖ *e*P **P 09 06 33.9 -0.5**
BILL *e* 09 08 51.4
BILL *e* 09 10 27.3
BILL *i* S **S 09 15 00.5 +1.1**
BILL *i* 09 16 28.5
BILL *i* SS SS 09 19 08.5 +7.3
BILL pmax pmax
comp=Z,212nm,2.0s,mb6.0
BILL MLR MLR
comp=Z,40µm,16.0s,MS6.7
BILL Bilibino 61.98 23 *e*P **P 09 06 33.3 -1.2**
comp=Z,73nm,0.9s,mb5.9
BILL LR LR
comp=Z,46µm,19.0s,MS6.7
LVZ Lovozero 62.16 337 P **P 09 06 38.8 +3.2**
comp=Z,556nm,0.8s,mb6.8,SNR=6.3
LVZ Lovozero 62.16 337 PFAKE 09 06 50.0 +14
LVZ LR LR
comp=Z,14µm,19.0s,MS6.2
SHUT Suhut-Afyon 62.25 304 *e*P **P 09 06 36.7 -0.1**
BCK Bucak 62.32 302 *e*P **P 09 06 38.4 +1.1**
ANTB Antalya 62.32 302 *e*P **P 09 06 39.7 +2.4**
ISP Isparta 62.35 303 *e*P **P 09 06 35.9 -1.5**
ISP Isparta 62.35 303 *e*P **P 09 06 37.4 0.0**
comp=Z,90nm,1.0s,mb6.0
ISP Isparta 62.35 303⇑ *i*P **P 09 06 36.2 -1.2**
TKTP Tekketepe 62.48 303 *i* P **P 09 06 36.5 -1.8**
JOF Joensuu 62.54 331 *ep* **P 09 06 37.5 -0.7**
comp=Z,124nm,0.9s,mb6.0
JOF Joensuu 62.54 331 *e*P **P 09 06 37.5 -0.7**
JOF pmax pmax
comp=Z,125nm,0.9s,mb6.0
APA Apatity 62.54 336⇑ *i*P **P 09 06 37.8 -0.4**
APA *e*S **S 09 15 04.0 -2.5**
APA *i* PS 09 15 30.0
APA *e* 09 16 18.0
APA pmax pmax
comp=Z,110nm,2.0s,mb5.6
APA pmax pmax
comp=Z,800nm,10.0s
ALT Altintas 62.55 304 *e*P **P 09 06 38.4 -0.4**
PUL Pulkovo 62.61 328⇑ *e*P **P 09 06 39.8 +1.0**
AKASG Malin Array Be 62.72 317 P **P 09 06 38.0 -1.7**
comp=Z,13nm,0.6s,mb5.3,baz=78,slow=5.9,SNR=7.0
AKASG LR LR 09 36 18.7
comp=Z,18µm,19.8s,MS6.2,baz=80,slow=38
AKBB Malin Array Si 62.72 317 *e*P **P 09 06 38.5 -1.2**
ADVT Abdulvahap 62.72 306 *e*P **P 09 06 39.7 -0.2**
KIEV Kiev 62.73 317 *e*P **P 09 06 38.6 -1.2**
KIEV pmax pmax
comp=Z,120nm,1.0s,mb6.0
KIEV MLR MLR
comp=Z,18µm,20.0s,MS6.2
KIEV Kiev 62.73 317 *e*P **P 09 06 38.6 -1.2**
comp=Z,120nm,1.0s,mb6.0
KIEV LR LR
comp=Z,18µm,20.0s,MS6.2
HRT Hereke 62.74 306 *e*P **P 09 06 39.7 -0.4**
ELL Elmali 62.94 302 *e*P **P 09 06 41.3 -0.1**
YLV Yalova 62.99 306 *e*P **P 09 06 40.8 -0.8**
KIS Kishinev 63.03 313 *ce*P **P 09 06 40.0 -1.8**
KIS *e* 09 06 53.0
KIS *e* 09 09 06.0
KIS *i* S **S 09 15 09.0 -4.3**
KIS *e*PS 09 15 32.0
KIS *e*SS SS 09 19 21.0 +2.5
KIS pmax pmax
comp=Z,200nm,2.0s,mb5.9
KIS MLR MLR
comp=N,11µm,16.0s,MS6.3
KIS MLR MLR
comp=E,12µm,16.0s,MS6.3
KIS MLR MLR
comp=Z,10µm,16.0s,MS6.1
KIS Kishinev 63.03 313 *i* P **P 09 06 40.0 -1.8**
comp=Z,200nm,2.0s,mb5.9
KIS Kishinev 63.03 313 *e*PP PP 09 09 06.0 +5.8
GDZ Gediz 63.03 304 *i* P **P 09 06 40.1 -1.9**
GEMT Gemlik 63.14 306 *e*P **P 09 06 41.8 -0.9**
ISK Istanbul-Kandi 63.19 306 *e*P **P 09 06 42.9 0.0**
DENT Denizli 63.52 303 *e*P **P 09 06 44.8 -0.5**
FETY Fethiye 63.61 302 *e*P **P 09 06 44.0 -1.9**
MNK Minsk 63.62 322‖ *e*P **P 09 06 45.0 -0.6**
MNK *e*S **S 09 15 20.0 -0.4**
MNK *e*PS 09 15 28.0
MNK *e*SS SS 09 19 26.0 -1.5
MNK *e*SSS 09 22 20.0
MNK pmax pmax
comp=Z,200nm,1.0s,mb6.3
MNK MLR MLR
comp=Z,53µm,16.0s,MS6.8
MNK MLR MLR
comp=E,29µm,20.0s,MS6.6
MNK MLR MLR
comp=N,27µm,18.0s,MS6.6
KULA Kula-Manisa 63.73 304 *e*P **P 09 06 46.2 -0.5**
HARR Harsova 63.76 311 P **P 09 06 47.1 +0.4**
HARR Harsova 63.76 311⇑ *i*P **P 09 06 46.9 +0.2**
SMY Shemya 63.85 40 PFAKE 09 07 00.0 +13
SMY LR LR
comp=Z,20µm,20.0s,MS6.3
DALT Dalyan (Mudla) 63.95 302 *e*P **P 09 06 47.7 -0.4**
BTOK Tokmak 64.09 305 *i* P **P 09 06 48.4 -0.6**
BNT Bandirma 64.11 306 *e*P **P 09 06 49.7 +0.6**
CRLT Corlu 64.18 307 *e*P **P 09 06 49.0 -0.5**
BALB Balikesir 64.22 305 *e*P **P 09 06 49.7 -0.1**
PRD Provadia 64.25 309 P **P 09 06 48.6 -1.3**
MRMT Marmara Adasi 64.33 306 *e*P **P 09 06 49.6 -1.0**
VSU Vasula 64.36 326 *c*P **P 09 06 50.1 -0.3**
VSU Vasula 64.36 326⇑ *i*P **P 09 06 50.2 -0.2**
VRI Vrincioaia 64.53 312 P **P 09 06 52.5 +0.8**
VRI Vrincioaia 64.53 312⇑ *i*P **P 09 06 52.6 +0.9**
MFT Murefte 64.55 306 *e*P **P 09 06 50.2 -1.8**
MLSB Milas 64.56 302 *e*P **P 09 06 51.9 -0.2**
PLOR Plostina 64.58 312 P **P 09 06 52.8 +0.7**
PLOR Plostina 64.58 312⇑ *i*P **P 09 06 52.9 +0.8**
RKY Sarkoy-Tekirda 64.64 306 *e*P **P 09 06 49.5 -3.1**
ISR Istrita 64.71 311⇑ *i*P **P 09 06 53.4 +0.5**
ISR Istrita 64.71 311⇑ *i*P **P 09 06 53.3 +0.4**
DAT Datca 64.80 302 *e*P **P 09 06 51.5 -2.2**
FIA1 FINESS Array S 64.83 329 *e*P **P 09 06 52.8 -0.6**
FINES FINESS Array B 64.83 329 *i* P **P 09 06 53.2 -0.2**
FINES pmax pmax
comp=Z,59nm,0.9s
FINES FINESS Array B 64.83 329 P **P 09 06 53.3 -0.1**
comp=Z,59nm,0.9s,mb5.8,baz=101,slow=8.0,SNR=34
FINES LR LR 09 36 58.9
comp=Z,29µm,19.7s,MS6.5,baz=267,slow=38
KDAG Bornova 64.83 304 *i* P **P 09 06 51.5 -2.4**
EDRB Edirne 64.85 307 *e*P **P 09 06 53.0 -1.0**
BDRM Kayabasi 64.86 302 *i* P **P 09 06 51.8 -2.2**
BDRM Kayabasi 64.86 302 *i* P **P 09 06 46.1 -8.0**
JMB Yambol 64.91 308 *i* P **P 09 06 54.8 +0.5**
LPK Lapseki 64.99 306 *e*P **P 09 06 56.5 +1.7**
BLCB Balcova 65.01 304 *e*P **P 09 06 54.0 -1.0**
MLR Muntele Rosu 65.10 312⇑ *i*P **P 09 06 56.0 +0.5**
BUC1 Bucharest 65.14 310 P **P 09 06 57.0 +1.2**
BUC1 Bucharest 65.14 310⇑ *i*P **P 09 06 56.2 +0.5**
STKA Stephens Creek 65.20 142⇓ *i*P **P 09 06 55.1 -1.1**
comp=Z,48nm,0.8s,mb5.8
STKA *e*S S 09 15 40.3 -0.1
STKA Stephens Creek 65.20 142 P **P 09 06 55.4 -0.8**
comp=Z,23nm,0.8s,mb5.5,baz=318,slow=6.7,SNR=39
STKA LR LR 09 40 07.3
comp=Z,17µm,20.2s,MS6.2,baz=311,slow=40
KEV Kevo 65.24 338 *ep* **P 09 06 55.3 -0.7**
comp=Z,94nm,0.9s,mb6.0
KEV Kevo 65.24 338 P **P 09 06 56.1 +0.1**
KEV pmax pmax
comp=Z,140nm,1.0s,mb6.2
SMG Samos 65.25 303⇑ *i*P **P 09 06 56.5 -0.2**
KARP Karpathos 65.29 301 *e*P **P 09 06 56.2 -0.7**
SZH Strazhica 65.31 309 *i* P **P 09 06 56.3 -0.6**
HNR Honiara 65.38 111 PFAKE 09 07 10.0 +12
HNR LR LR
comp=Z,11µm,22.0s,MS6.0
HNR Honiara 65.38 111 LR LR 09 32 38.6
comp=Z,8µm,21.4s,MS5.9,baz=358,slow=34
EZN Ezine 65.39 305 *e*P **P 09 06 56.0 -1.4**
ENEZ Enez 65.41 306 *e*P **P 09 06 57.6 0.0**
SNX Sinaia 65.42 311‖ *i*P **P 09 06 58.5 +1.0**
BURAR Bucovina Array 65.45 314 P **P 09 06 58.7 +1.0**
BURAR Bucovina Array 65.45 314⇑ *i*P **P 09 06 57.8 +0.1**
ALN Alexandroupoli 65.47 307 *e*P **P 09 06 57.8 -0.2**
ABPO Ambohimpanom 65.56 237 *e*P **P 09 06 59.0 +0.2**
comp=Z,80nm,1.0s,mb5.9
ABPO LR LR
comp=Z,15µm,21.0s,MS6.2
BOZC Bozcaada 65.59 305 *i* P **P 09 06 57.1 -1.7**
BOZC *i* P 09 06 57.2
GADA Gvkgeada 65.67 306 *e*P **P 09 06 58.5 -0.8**
ZIMR 65.68 310 P **P 09 06 59.9 +0.6**
ZIMR 65.68 310⇑ *i*P **P 09 06 58.6 -0.7**
DIM Dimitrovgrad 65.73 308 P **P 09 06 59.6 0.0**
KMBO Kilima Mbogo 65.73 259 *e*P **P 09 07 00.7 +0.7**
comp=Z,71nm,1.1s,mb5.8
KMBO LR LR
comp=Z,13µm,20.0s,MS6.1
KMBO Kilima Mbogo 65.73 259 P **P 09 07 00.7 +0.6**
comp=Z,42nm,1.0s,mb5.6,baz=45,slow=9.5,SNR=48
KMBO LR LR 09 34 08.8
comp=Z,15µm,21.0s,MS6.2,baz=65,slow=35
VOIR 65.74 312 P **P 09 06 59.8 +0.2**
VOIR 65.74 312⇑ *i*P **P 09 06 59.1 -0.5**
ARCES ARCESS Array B 65.74 338 P **P 09 06 59.0 -0.2**
comp=Z,38nm,0.9s,mb5.6,baz=85,slow=5.6,SNR=25
ARE0 ARCESS Array S 65.74 338 *e*P **P 09 06 58.6 -0.5**
CHOS Chios island 65.78 304 *e*P **P 09 07 00.1 +0.1**
RDO Rodhopi 65.83 307 *e*P **P 09 06 59.9 -0.4**
KDZ Kurdzhali 65.86 307 *i* P **P 09 07 00.0 -0.5**
LVV L'vov 66.08 316 *i* P **P 09 07 00.7 -1.0**
LVV *e* 09 09 30.6
LVV *i* S S 09 15 45.6 -5.2
LVV MLR MLR
comp=N,4µm,17.0s,MS6.0
LVV MLR MLR
comp=E,8µm,17.0s,MS6.0
LVV MLR MLR
comp=Z,10µm,17.0s,MS6.1
ZKR Zakros 66.12 300 *e*P **P 09 07 01.5 -0.8**
PLD Plovdiv 66.33 308 *i* P **P 09 07 02.8 -0.7**
SUW Suwalki 66.36 321 *e*P **P 09 07 02.5 -0.9**
SUW *ep*P 09 07 09.2
SUW *es*P sP 09 07 14.9 +11
SUW *e*S S 09 15 58.2 +4.1
SUW LMZ 09 36 59.1
comp=Z,24µm,28.2s
SUW Suwalki 66.36 321 *e*P **P 09 07 02.6 -0.8**
SUW *ep*P 09 07 09.2
SUW *es*P sP 09 07 14.9 +11
SUW *e*S S 09 15 58.2 +4.1
APE Apeiranthos 66.37 302 *e*P **P 09 07 02.6 -1.3**
APE Apeiranthos 66.37 302⇑ *i*P **P 09 07 03.0 -0.9**
RZN Rozhen 66.37 307 P **P 09 07 03.6 -0.2**
KTK1 Kautokeino 66.49 337 *e*P **P 09 07 04.5 +0.4**
KTK1 AMb AMB 09 07 10.9
comp=Z,127nm,1.4s,mb6.0
KTK1 Kautokeino 66.49 337 *e*P **P 09 07 04.5 +0.4**
comp=Z,127nm,1.4s,mb6.0
SANT Santorini 66.53 302 *e*P **P 09 07 03.0 -2.0**
NPS Neapolis 66.59 300 *e*P **P 09 07 04.6 -0.6**
PGB Panagyurishte 66.67 308 P **P 09 07 05.5 -0.2**
LAST Lasithi 66.71 300 *e*P **P 09 07 05.9 -0.2**
CRAR CRAIOVA 66.73 310‖ *i*P **P 09 07 06.9 +0.9**
EIDS Eidsvold 66.90 131 *e*P **P 09 07 06.9 -0.4**
KWP Kalwaria 66.95 316 *e*P **P 09 07 07.2 -0.1**
KWP *ep*P 09 07 13.7
KWP *e*S S 09 16 05.8 +4.4
KWP LMZ 09 39 51.1
comp=Z,26µm,20.7s
KWP Kalwaria 66.95 316 *e*P **P 09 07 07.2 -0.1**
KWP *ep*P 09 07 13.7
KWP *e*S S 09 16 05.8 +4.4
KWP Kalwaria 66.95 316⇑ *i*P **P 09 07 07.2 -0.1**
NVR Nevrokopi 67.05 307 *e*P **P 09 07 07.2 -0.9**
OUR Ouranopolis 67.10 306 *e*P **P 09 07 08.1 -0.3**
MMB Musomiste 67.12 307 P **P 09 07 07.7 -0.8**
TRPA Tarpa 67.20 315⇑ *i*P **P 09 07 09.0 +0.1**
DRGR 67.22 313 P **P 09 07 09.2 +0.1**
DRGR 67.22 313⇑ *i*P **P 09 07 09.3 +0.2**
SIVA Sivas 67.28 300 *e*P **P 09 07 09.1 -0.6**
KOLS Kolonicke sedl 67.30 316 *e*P **P 09 07 12.1 +2.6**
KOLS *e* 09 07 20.9
KOLS *e*S S 09 16 07.8 +2.2
KOLS *e*SS SS 09 20 22.0 -2.8
KOLS Kolonicke sedl 67.30 316 *e*P **P 09 07 12.0 +2.5**
KOLS *ep*P 09 07 20.9
KOLS *e*S S 09 16 07.8 +2.2
KOLS *e*SS SS 09 20 22.0 -2.8
UZH Uzhgorod 67.31 315‖ *i*P **P 09 07 10.2 +0.6**
GZR Gura Zlata 67.33 312 P **P 09 07 10.4 +0.6**
GZR Gura Zlata 67.33 312‖ *i*P **P 09 07 10.4 +0.6**
VTS Vitosha 67.37 309 *e*P **P 09 07 10.0 -0.1**
VTS Vitosha 67.37 309⇑ *i*P **P 09 07 10.0 -0.1**
VTS Vitosha 67.37 309 *i* P **P 09 07 11.0 +0.9**
PLG Polygyros 67.50 306 *e*P **P 09 07 10.1 -0.9**
PLG Polygyros 67.50 306⇑ *i*P **P 09 07 09.9 -1.1**
KKB Krupnik 67.56 308 *i* P **P 09 07 10.3 -1.0**
ATH Athens Observa 67.66 304 *e*P **P 09 07 10.9 -1.2**
VAM Vamos 67.70 301 *e*P **P 09 07 11.9 -0.5**
HORT Hortiatis 67.73 307 *e*P **P 09 07 11.7 -0.7**
WAR Warsaw 67.78 319 *e*P **P 09 07 11.2 -1.3**
WAR *ep*P 09 07 17.3
WAR *e*S S 09 16 12.4 +1.1
WAR LMZ 09 36 50.0
comp=Z,27µm,25.4s
WAR Warsaw 67.78 319 *e*P **P 09 07 11.2 -1.3**
WAR *ep*P 09 07 17.3
WAR *e*S S 09 16 12.4 +1.1
WAR LR LR
comp=Z,27µm,25.4s,MS6.4
KNT Kendrikon 67.80 307 *e*P **P 09 07 12.4 -0.5**
CRVS Cervenica-Dubn 67.83 316 *e*P **P 09 07 13.7 +0.8**
CRVS *ep*P 09 07 20.5
CRVS *e*S S 09 16 14.8 +2.8
CRVS *e*SS SS 09 20 30.2 -2.9
NEO Neokhori 67.83 305 *e*P **P 09 07 11.6 -1.5**
GVD Gavdhos 67.89 300 *e*P **P 09 07 13.5 -0.1**
comp=Z,150nm,0.9s,mb6.2
STHS Stebnicka Huta 67.92 316 *e*P **P 09 07 13.7 +0.3**
STHS pmax pmax
comp=Z,39nm,1.0s,mb5.6
STHS Stebnicka Huta 67.92 316 *e*P **P 09 07 13.7 +0.3**
comp=Z,39nm,1.0s,mb5.6
KARN Karanos 67.93 301 *e*P **P 09 07 13.3 -0.5**
VAY Valandovo 68.02 307 *e*P **P 09 07 12.2 -2.0**
TRO Tromso 68.05 338 *e*P **P 09 07 13.0 -0.9**
TRO AMb AMB 09 07 19.3
comp=Z,106nm,1.3s,mb5.9
BJO Bjornoya 68.07 343 *e*S S 09 16 14.3 +0.1
BJO *e*SS SS 09 20 41.3 +5.5
BJO AMS AMS 09 42 06.7
comp=Z,20µm,17.2s,MS6.4
LKR Lokris 68.11 304 *e*P **P 09 07 12.8 -2.0**
DID Didima 68.11 303 *e*P **P 09 07 12.0 -2.9**
BZS Buzias 68.11 312 P **P 09 07 14.6 -0.1**
BZS Buzias 68.11 312⇑ *i*P **P 09 07 14.7 0.0**
GRG Griva 68.20 307 *e*P **P 09 07 14.4 -1.0**
LTK Loutraki 68.23 304 *e*P **P 09 07 13.6 -2.1**

STIP	**Stip**	68.25	308	*e*P	P	09 07 13.9	-1.8
LIT	**Litokhoron**	68.27	306	*e*P	P	09 07 14.6	-1.2
TIM	**Timisoara**	68.37	312⇓	*i*P	P	09 07 16.3	-0.1
VLI	**Veliai**	68.48	302	*e*P	P	09 07 14.7	-2.5
NIE	**Niedzica**	68.52	316	*e*P	P	09 07 19.1	+1.9
AGG	**Agios Georgios**	68.56	305	*e*P	P	09 07 15.9	-1.8
THL	**Klokotos Trika**	68.71	306	*e*P	P	09 07 16.3	-2.3
THL	**Klokotos Trika**	68.71	306	*e*P	P	09 07 16.4	-2.2
OJC	**Ojcow**	68.76	317	*i* P	P	09 07 18.5	-0.2
OJC				*e*pP		09 07 29.6	
OJC				*e*S	S	09 16 23.0	0.0
OJC				*e*SS	SS	09 20 44.9	-2.4
OJC				L		09 41 39.4	
	comp=Z,15nm,18.5s						
SKO	**Skopje**	68.76	308	*e*P	P	09 07 17.8	-1.1
VLX	**Vlachokerasia**	68.81	303	*e*P	P	09 07 17.2	-2.0
SPB4	**Spitsbergen Ar**	68.86	347	*e*P	P	09 07 20.1	+1.2
EVR	**Evrytania**	68.98	305	*e*P	P	09 07 18.7	-1.6
PSZ	**Piszkesteto**	68.99	315⇑	*e*P	P	09 07 20.1	0.0
PSZ	**Piszkesteto**	68.99	315⇑	*i*P	P	09 07 19.9	-0.2
FNA	**Florina**	69.00	307	*e*P	P	09 07 18.5	-1.8
BIA	**Bitola**	69.00	307	*e*P	P	09 07 18.5	-1.8
ITM	**Ithomi**	69.19	303	*e*P	P	09 07 20.7	-1.0
OHR	**Ohrid**	69.37	307	*e*P	P	09 07 20.2	-2.5
PYL	**PYLOS**	69.39	303	*e*P	P	09 07 20.9	-2.0
RLS	**Riolos of Patr**	69.40	304	*e*P	P	09 07 21.6	-1.3
KBN	**Korca**	69.46	307	*e*P	P	09 07 22.3	-1.0
DIVS	**Divibare**	69.48	311	*e*P	P	09 07 22.9	-0.3
PHP	**Peshkopia**	69.54	308	*e*P	P	09 07 23.8	+0.1
VYHS	**Vyhne**	69.61	315	*e*P	P	09 07 23.9	-0.1
	comp=Z,44nm,1.3s,mb5.4						
VYHS				*e*S	S	09 16 30.7	-2.5
VYHS				*e*SS	SS	09 20 57.5	-3.0
VYHS				LR	LR		
	comp=Z,11µm,21.0s,MS6.1						
VYHS	**Vyhne**	69.61	315	*e*P	P	09 07 23.9	-0.1
VYHS				*e*S	S	09 16 30.7	-2.5
VYHS				*e*SS	SS	09 20 57.5	-3.0
BUD	**Budapest**	69.63	314⇑	*e*P	P	09 07 23.3	-0.8
BCI	**Bajram Curri**	69.70	309	*e*P	P	09 07 25.4	+0.7
KBS	**Kingsbay**	69.73	348	*e*P	P	09 07 26.3	+2.0
KBS				*e*S	S	09 16 32.7	-0.9
KBS				*e*SS	SS	09 21 02.8	+1.6
KBS				AMS	AMS	09 40 44.3	
	comp=Z,12µm,22.8s,MS6.1						
PVY	**Plav**	69.73	309⇑	*i*P	P	09 07 22.5	-2.4
IVA	**Berane**	69.74	309⇑	*i*P	P	09 07 23.7	-1.2
RAC	**Raciborz**	69.80	317	*e*P	P	09 07 25.5	+0.4
RAC				*e*S	S	09 16 40.5	+5.2
RAC				MLR	MLR		
	comp=Z,17µm,19.8s,MS6.3						
OKC	**Ostrava-Krasne**	69.86	317	*e*P	P	09 07 26.0	+0.5
OKC				*e*S	S	09 16 35.1	-1.0
OKC	**Ostrava-Krasne**	69.86	317	*e*P	P	09 07 26.0	+0.5
OKC				*e*S	S	09 16 35.1	-1.0
OKC				AMS	AMS	09 41 10.0	
	comp=Z,11µm,14.9s						
KOLL	**Kolacno**	69.88	315	*e*P	P	09 07 26.3	+0.6
PUK	**Puka**	69.89	308	*e*P	P	09 07 25.8	0.0
MOR8	**Moi Rana**	69.90	334	*e*P	P	09 07 23.9	-1.5
MOR8				AMb	AMB	09 07 30.2	
	comp=Z,138nm,1.6s,mb5.8						
MOR8	**Moi Rana**	69.90	334	*e*P	P	09 07 23.9	-1.5
	comp=Z,138nm,1.6s,mb5.8						
KFL	**Anninata**	69.91	304	*e*P	P	09 07 24.9	-1.2
GKP	**Gorka Klasztor**	69.95	321	*e*P	P	09 07 25.7	-0.3
GKP				*e*pP		09 07 32.0	
GKP				*e*PP	PP	09 10 00.4	0.0
GKP				*e*S	S	09 16 37.9	+0.9
GKP				LMZ		09 38 47.2	
	comp=Z,27µm,22.3s						
GKP	**Gorka Klasztor**	69.95	321	*e*P	P	09 07 25.7	-0.3
GKP				*e*pP		09 07 32.0	
GKP				*e*PP	PP	09 10 00.4	0.0
GKP				*e*S	S	09 16 37.9	+0.9
GKP				LR	LR		
	comp=Z,27µm,22.3s,MS6.4						
PLE	**Pljevlja**	70.03	310⇑	*i*P	P	09 07 27.4	+0.7
LOF	**Lofoten**	70.06	337⇑	*i*P	P	09 07 30.6	+4.1
LOF				AMb	AMB	09 07 35.0	
	comp=Z,261nm,1.4s,mb6.2						
LOF	**Lofoten**	70.06	337⇑	*i*P	P	09 07 30.6	+4.1
	comp=Z,261nm,1.4s,mb6.2						
PKSM	**Moragy**	70.08	313⇑	*e*P	P	09 07 26.5	-0.5
PKSM	**Moragy**	70.08	313⇓	*i*P	P	09 07 26.7	-0.3
SRN	**Sarande**	70.19	306	*e*P	P	09 07 30.7	+3.0
MORC	**Moravsky Berou**	70.26	317	*e*P	P	09 07 27.9	-0.1
MORC	**Moravsky Berou**	70.26	317	*e*P	P	09 07 28.2	+0.2
	comp=Z,95nm,1.2s,mb5.8						
MORC	**Moravsky Berou**	70.26	317⇑	*i*P	P	09 07 28.2	+0.2
TTG	**Podgorica**	70.28	309⇑	*i*P	P	09 07 26.6	-1.6
ULC	**Ulcinj**	70.37	308⇑	*i*P	P	09 07 28.1	-0.7
UPM	**Unac-Piva**	70.40	310⇑	*i*P	P	09 07 28.8	-0.2
NKY	**Niksic**	70.40	309⇑	*i*P	P	09 07 27.9	-1.1
ARMA	**Armidale**	70.44	135	*e*P	P	09 07 30.3	+1.0
ARMA				*e*S	S	09 16 51.4	+8.1
STOK	**Stokkvaagen**	70.45	335	*e*P	P	09 07 30.5	+1.7
STOK				AMb	AMB	09 07 37.4	
	comp=Z,176nm,1.6s,mb5.9						
STOK	**Stokkvaagen**	70.45	335	*e*P	P	09 07 30.5	+1.7
	comp=Z,176nm,1.6s,mb5.9						
BUM	**Brajici-Budva**	70.57	309⇑	*i*P	P	09 07 27.9	-2.1
MODS	**Modra-Piesok**	70.65	315	*e*P	P	09 07 31.0	+0.6
MODS				*e*S	S	09 16 48.5	+3.1
MODS				*e*SS	SS	09 21 13.5	-3.1
MODS	**Modra-Piesok**	70.65	315	*e*P	P	09 07 31.0	+0.6
MODS				*e*S	S	09 16 48.5	+3.1
MODS				*e*SS	SS	09 21 13.4	-3.2
GAMB	**Gambell**	70.68	28	*e*P	P	09 07 31.1	+0.8
	comp=Z,42nm,1.0s,mb5.5						
BRY	**Bratogost**	70.72	310⇑	*i*P	P	09 07 29.6	-1.3
ZST	**Bratislava**	70.80	315	*e*P	P	09 07 31.2	-0.1
	comp=Z,87nm,1.4s,mb5.7						
ZST				*e*		09 07 33.9	
ZST				*e*S	S	09 16 49.4	+2.3
ZST				*e*SS	SS	09 21 20.1	+1.3
ZST				LR	LR		
	comp=Z,9µm,19.0s,MS6.0						
ZST	**Bratislava**	70.80	315	*e*P	P	09 07 31.2	-0.1
ZST				*e*pP		09 07 33.9	
ZST				*e*S	S	09 16 49.4	+2.3
ZST				*e*SS	SS	09 21 20.1	+1.3
HCY	**Herceg Novi**	70.83	309⇑	*i*P	P	09 07 29.5	-2.1
KSP	**Ksiaz**	70.89	318	*e*P	P	09 07 32.1	+0.4
KSP				*e*pP		09 07 38.2	
KSP				*e*PcP	PcP	09 07 50.4	-2.0
KSP				*e*PP	PP	09 10 08.9	+0.4
KSP				*e*S	S	09 16 48.4	+0.4
KSP				LMZ		09 39 18.4	
	comp=Z,34µm,27.6s						
KSP	**Ksiaz**	70.89	318⇑	*e*P	P	09 07 32.0	+0.2
KSP				*e*S	S	09 16 46.0	-2.0
KSP	**Ksiaz**	70.89	318⇑	*e*P	P	09 07 32.0	+0.2
KSP				*e*S	S	09 16 46.0	-2.0
KSP				*e*SSS		09 24 33.0	
KSP				LR	LR		
	comp=Z,39µm,27.6s,MS6.5						
VRAC	**Vranov**	70.94	316	⇑P	P	09 07 32.9	+0.7
VRAC	**Vranov**	70.94	316⇑	*i*P	P	09 07 32.8	+0.6
DPC	**Dobruska-Polom**	70.95	318	*e*P	P	09 07 32.3	+0.2
DPC				*e*S	S	09 16 50.1	+1.3
DPC				AMS	AMS	09 39 10.0	
	comp=Z,18µm,19.3s						
BSD	**Bornholm Skovb**	71.04	323	*i* P	P	09 07 32.0	-0.6
BSD				*i* S	S	09 16 49.2	-0.4
BSD				pmax	pmax		
	comp=Z,47nm,0.9s,mb5.6						
BSD				MLR	MLR		
	comp=Z,14µm,20.0s,MS6.2						
BSD	**Bornholm Skovb**	71.04	323	*i* P	P	09 07 32.0	-0.6
	comp=Z,47nm,0.9s,mb5.6						
BSD				*i* S	S	09 16 49.2	-0.4
BSD							
	comp=Z,14µm,20.0s						
UPC	**Upice**	71.12	318	*e*P	P	09 07 33.8	+0.6
SOP	**Sopron**	71.25	315⇓	*e*P	P	09 07 36.1	+2.1
TOO	**Toolangi**	71.53	144⇓	*i*P	P	09 07 35.7	-0.1
	comp=Z,524nm,1.0s,mb6.6						
TOO				*e*S	S	09 16 57.9	+2.2
TOO	**Toolangi**	71.53	144⇓	*i*P	P	09 07 35.7	-0.1
TOO				*e*S	S	09 16 57.9	+2.2
TOO				pmax	pmax		
	comp=Z,524nm,1.0s,mb6.6						
TREC	**Trest**	71.66	317	*e*P	P	09 07 37.4	+0.9
TREC				AMS	AMS	09 43 00.0	
	comp=Z,20µm,18.8s						
CONA	**Conrad Observa**	71.66	315⇑	*i*P	P	09 07 36.5	-0.1
	comp=Z,242nm,1.5s,mb6.1,SNR=28						
CSNA	**Conrad Observa**	71.67	315⇑	*i*P	P	09 07 36.6	0.0
	comp=Z,242nm,1.6s,mb6.1						
NB2	**NORSAR Subarra**	72.01	329	P	P	09 07 37.8	-0.6
	comp=Z,69nm,0.8s,mb5.8,baz=80,slow=6.2						
NOA	**NORSAR Array B**	72.01	329	P	P	09 07 37.5	-0.9
NOA						09 10 15.4	
NOA	**NORSAR Array B**	72.01	329	P	P	09 07 37.5	-0.9
	comp=Z,86nm,0.9s,mb5.9,baz=80,slow=6.1,SNR=60						
NOA				PP	PP	09 10 15.4	-2.5
	comp=Z,4.7nm,0.8s,baz=83,slow=5.8,SNR=2.9						
NOA				LR	LR	09 41 10.9	
	comp=Z,27µm,19.3s,MS6.5,baz=90,slow=37						
ARSA	**Arzberg**	72.01	314	*i* P	P	09 07 38.5	-0.1
	comp=Z,355nm,3.0s,mb6.0,SNR=16						
TNA	**Tin City**	72.02	26	*e*P	P	09 07 39.0	+0.7
	comp=Z,28nm,1.1s,mb5.3						
TNA				LR	LR		
	comp=Z,22µm,21.0s,MS6.4						
PVCC	**Panska Ves**	72.02	318	*e*P	P	09 07 38.5	-0.1
PVCC				*e*S	S	09 16 58.4	-2.8
PVCC				AMS	AMS	09 39 40.0	
	comp=Z,20µm,20.0s						
RGN	**Rugen**	72.04	322	*e*P	P	09 07 40.0	+1.4
	comp=Z,266nm,1.4s,mb6.2						
RGN	**Rugen**	72.04	322	*e*P	P	09 07 38.6	-0.1
	comp=Z,191nm,1.3s,mb6.1						
RGN				*e*S	S	09 16 59.8	-1.4
PRU	**Pruhonice**	72.14	317	*e*P	P	09 07 39.7	+0.4
PRU				*e*S	S	09 17 03.0	+0.5
PRU				AMS	AMS	09 40 50.0	
	comp=Z,17µm,17.5s						
RUE	**Ruedersdorf**	72.14	320	*e*P	P	09 07 39.7	+0.3
	comp=Z,267nm,1.1s,mb6.3						
RUE	**Ruedersdorf**	72.14	320	*e*P	P	09 07 39.0	-0.3
	comp=Z,366nm,1.3s,mb6.3						
RUE				*e*S	S	09 16 58.9	-3.6
GROS	**Grobnik**	72.18	314	*i* P	P	09 07 39.3	-0.4
PRA	**Prague**	72.19	318	P	P	09 07 40.0	+0.3
CNB	**Canberra Magne**	72.20	140	*e*P	P	09 07 39.2	-0.6
	comp=Z,68nm,1.1s,mb5.7						
NAO01	**NORSAR Array S**	72.20	329	*e*P	P	09 07 38.6	-0.9
	comp=Z,36nm,0.8s,mb5.6						
NAO01				LR	LR		
	comp=Z,22µm,20.0s,MS6.4						
RIV	**Riverview**	72.33	138	*e*P	P	09 07 41.5	+0.9
COP	**Copenhagen**	72.33	324	*i* P	P	09 07 41.4	+1.0
COP				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.5						
COP				MLR	MLR		
	comp=Z,8µm,20.0s,MS6.0						
COP	**Copenhagen**	72.33	324	*i* P	P	09 07 41.4	+1.0
	comp=Z,36nm,1.0s,mb5.5						
COP				*i* S	S	09 17 11.4	+6.8
COP							
	comp=Z,8µm,20.0s						
BRG	**Berggiesshubel**	72.35	318	*e*P	P	09 07 40.4	-0.2
BRG				*i*		09 07 47.4	
BRG				S	S	09 17 08.0	+3.1
BRG				SS	SS	09 21 34.0	-8.4
BRG				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.2						
BRG				MLR	MLR		
	comp=N,11µm,16.8s,MS6.3						
BRG				MLR	MLR		
	comp=E,8µm,16.6s,MS6.3						
BRG				MLR	MLR		
	comp=Z,9µm,22.4s						
BRG	**Berggiesshubel**	72.35	318	*e*P	P	09 07 40.4	-0.2
	comp=Z,17nm,0.9s,mb5.2						
BRG				*i*		09 07 47.4	
BRG				S	S	09 17 08.0	+3.1
BRG				SS	SS	09 21 34.0	-8.4
BRG				LR	LR		
	comp=Z,9µm,22.4s,MS6.0						
BRG	**Berggiesshubel**	72.35	318	*e*P	P	09 07 40.3	-0.3
	comp=Z,143nm,1.3s,mb5.9						
BRG				*e*S	S	09 17 02.5	-2.4
BRG	**Berggiesshubel**	72.35	318	*e*P	P	09 07 40.4	-0.2
	comp=Z,29nm,0.9s,mb5.4						
BRG				*i*		09 07 47.4	
	comp=Z,144nm,1.3s						
BRG				S	S	09 17 08.0	+3.1
BRG				SS	SS	09 21 34.0	-8.4
BRG							
	comp=N,18µm,16.8s						
BRG							
	comp=E,14µm,16.6s						
BRG							
	comp=Z,16µm,22.4s						
OSL	**Oslo**	72.45	328	*e*P	P	09 07 44.2	+3.2
OSL				AMb	AMB	09 07 49.4	
	comp=Z,243nm,1.2s,mb6.2						
OSL	**Oslo**	72.45	328	*e*P	P	09 07 44.2	+3.2
	comp=Z,243nm,1.2s,mb6.2						
SOKA	**Soboth**	72.46	314⇑	*i*P	P	09 07 41.2	-0.1
BOJS	**Bojanci**	72.54	313	*i* P	P	09 07 41.6	-0.2
PDKS	**Podkum**	72.60	313	*e*P	P	09 07 42.3	+0.1
FBE	**Freiberg**	72.70	319	*e*P	P	09 07 42.7	0.0
	comp=Z,307nm,1.3s,mb6.3						
MOA	**Molln**	72.73	315⇑	*i*P	P	09 07 42.8	-0.1
	comp=Z,138nm,1.5s,mb5.8,SNR=18						
TIP	**Timpagrande**	72.79	306	*e*P	P	09 07 43.3	-0.2
	comp=Z,77nm,1.1s,mb5.7						
OBKA	**Obir**	72.82	314⇑	*i*P	P	09 07 43.3	-0.1
	comp=Z,476nm,3.0s,mb6.1,SNR=9.4						
DOMB	**Dombas**	72.84	330	*e*P	P	09 07 44.2	+1.0
DOMB				AMb	AMB	09 07 49.1	
	comp=Z,117nm,1.4s,mb5.8						
DOMB	**Dombas**	72.84	330	*e*P	P	09 07 44.2	+1.0
	comp=Z,117nm,1.4s,mb5.8						
CLL	**Collm**	72.84	319	*e*P	P	09 07 43.0	-0.5
CLL				*i*		09 07 49.6	
CLL				*e*S	S	09 17 12.0	+1.4
CLL				pmax	pmax		
	comp=Z,41nm,1.3s,mb5.4						
CLL				MLR	MLR		
	comp=Z,17µm,21.0s,MS6.3						
CLL	**Collm**	72.84	319	*e*P	P	09 07 43.0	-0.5
	comp=Z,41nm,1.3s,mb5.4						
CLL				*i*		09 07 46.1	
CLL				*i*		09 07 47.9	
CLL				*i*		09 07 49.6	
CLL				*e*S	S	09 17 12.0	+1.4
CLL				LR	LR		
	comp=Z,17µm,21.0s,MS6.3						
CLL	**Collm**	72.84	319	*e*P	P	09 07 42.9	-0.6
	comp=Z,108nm,1.2s,mb5.8						
CLL				*e*S	S	09 17 07.3	-3.3
CLL	**Collm**	72.84	319	*e*P	P	09 07 43.0	-0.5
	comp=Z,41nm,1.3s,mb5.4						
CLL				*i* pP		09 07 46.1	
	comp=Z,73nm,1.2s						
CLL				*i* sP	sP	09 07 47.9	+3.8
	comp=Z,88nm,1.1s						
CLL				*i* x	x	09 07 49.6	
CLL				*e*x	x	09 08 14.0	
CLL				*e*S	S	09 17 12.0	+1.4
	comp=N,5µm,27.0s						
CLL				*e*S	S	09 17 12.0	+1.4
	comp=E,2µm,27.3s						
CLL				*e*SS	SS	09 21 42.0	-8.0
CLL				*e*SSS		09 24 54.0	
CLL				LmV		09 43 00.0	
	comp=Z,17µm,21.0s						
GEC2	**GERESS Array S**	72.90	316	*e*P	P	09 07 43.7	-0.2
GEC2				*e*S	S	09 17 09.3	-2.0
GEC2				pmax	pmax		
	comp=Z,163nm,1.3s,mb6.0						
GEC2	**GERESS Array S**	72.90	316	*e*P	P	09 07 43.7	-0.2
	comp=Z,163nm,1.3s,mb6.0						
GEC2				*e*S	S	09 17 09.3	-2.0
GERES	**GERESS Array B**	72.90	316	P	P	09 07 43.7	-0.2
	comp=Z,36nm,0.9s,mb5.5,baz=76,slow=5.6,SNR=32						
GERES				LR	LR	09 44 28.4	
	comp=Z,21µm,18.7s,MS6.5,baz=78,slow=40						
KHC	**Kasperske Hory**	72.92	317	*e*P	P	09 07 43.9	-0.1
KHC				*e*x	x	09 08 12.5	
KHC				*e*x	x	09 08 23.5	
KHC				*e*S	S	09 17 13.0	+1.5
KHC				AMS	AMS	09 41 20.0	
	comp=Z,23µm,18.1s						
LJU	**Ljubljana**	72.93	313	*i* P	P	09 07 44.1	0.0
KONO	**Kongsberg**	73.06	328	*e*P	P	09 07 45.1	+0.5
KONO				*e*S	S	09 17 12.0	-0.8
KONO				AMS	AMS	09 43 08.4	
	comp=Z,16µm,17.2s,MS6.4						
KONO	**Kongsberg**	73.06	328	*c i*P	P	09 07 44.0	-0.7
KONO	**Kongsberg**	73.06	328	*e*P	P	09 07 44.8	+0.1
	comp=Z,80nm,0.9s,mb5.8						
KONO				LR	LR		
	comp=Z,21µm,19.0s,MS6.4						
GORS	**Gorjuse**	73.23	314	*i* P	P	09 07 45.5	-0.5
JAVS	**Javornik**	73.28	313	*i* P	P	09 07 45.9	-0.3
TANN	**Tannenbergstha**	73.36	318	*e*P	P	09 07 46.3	-0.3
	comp=Z,101nm,1.2s,mb5.8						
TANN				*e*S	S	09 17 15.1	-1.4
VOY	**Vojsko**	73.36	313	*e*P	P	09 07 46.1	-0.6
VOY				*e*		09 08 15.3	
VOY				*e*		09 08 41.3	
VOY				*e*		09 08 49.0	
VOY				*e*		09 09 19.6	
VOY				*e*		09 09 39.0	
WET	**Wettzell**	73.37	317	*e*P	P	09 07 46.5	-0.2
WET				*e*S	S	09 17 15.7	-0.9
WET				pmax	pmax		
	comp=Z,144nm,1.3s,mb5.9						
WET	**Wettzell**	73.37	317	*e*P	P	09 07 46.5	-0.2
	comp=Z,144nm,1.3s,mb5.9						
WET				*e*S	S	09 17 15.7	-0.9
NKC	**Novy Kostel**	73.41	318	*e*P	P	09 07 47.6	+0.7
NKC				*e*S	S	09 17 19.0	+2.0
NKC	**Novy Kostel**	73.41	318	*e*P	P	09 07 47.6	+0.7
NKC				*e*S	S	09 17 19.0	+2.0
NKC				AMS	AMS	09 40 30.0	
	comp=Z,25µm,22.8s						
MOL	**Molde**	73.42	331	*e*S	S	09 17 19.8	+3.0
MOL				AMS	AMS	09 42 40.8	
	comp=Z,21µm,23.6s,MS6.3						
WERN	**Wernitzgruen**	73.44	318	*e*P	P	09 07 46.7	-0.4
	comp=Z,140nm,1.3s,mb5.9						
WERD	**Werda**	73.45	318	*e*P	P	09 07 46.6	-0.5
	comp=Z,102nm,1.2s,mb5.8						
GUNZ	**Gunzen**	73.45	318	*e*P	P	09 07 46.8	-0.4
	comp=Z,158nm,1.2s,mb6.0						
KBA	**Koelnbreinsper**	73.50	315⇑	*i*P	P	09 07 46.7	-0.9
	comp=Z,166nm,1.4s,mb5.9,SNR=28						
KBA	**Koelnbreinsper**	73.50	315⇑	*i*P	P	09 07 46.7	-0.8
KBA				pmax	pmax		
	comp=Z,166nm,1.4s,mb5.9						
PTCC	**Patocco-Chiusa**	73.65	314	P	P	09 07 48.3	-0.1
	comp=Z,68nm,1.2s,mb5.5						
ROTZ	**Rotzenmuhle**	73.66	318	*e*P	P	09 07 48.4	0.0
	comp=Z,234nm,1.2s,mb6.1						
ROTZ				*e*S	S	09 17 19.2	-0.7
MIDW	**Midway**	73.67	66	PFAKE		09 08 00.0	+11
MIDW				LR	LR		
	comp=Z,8µm,20.0s,MS6.0						
MANZ	**Manzenberg**	73.67	318	*e*P	P	09 07 48.5	0.0
	comp=Z,128nm,1.4s,mb5.8						
MANZ				*e*S	S	09 17 19.2	-0.9
GMNA	**Gemona**	73.75	314	P	P	09 07 49.3	+0.3
	comp=Z,519nm,1.0s,mb6.5						
MOX	**Moxa**	73.84	318	*e*P	P	09 07 49.9	+0.5
	comp=Z,156nm,1.4s,mb5.8						
MOX							
	comp=Z,17µm,21.0s						
MOX	**Moxa**	73.84	318	*e*P	P	09 07 49.9	+0.5
MOX				pmax	pmax		
	comp=Z,156nm,1.4s,mb5.8						
MOX				MLR	MLR		
	comp=Z,17µm,21.0s,MS6.3						
MOX	**Moxa**	73.84	318	*e*P	P	09 07 49.1	-0.3
	comp=Z,155nm,1.3s,mb5.9						
MOX				*e*S	S	09 17 19.9	-2.0
BSEG	**Bad Segeberg**	73.89	322	*e*P	P	09 07 49.8	+0.1
	comp=Z,181nm,1.3s,mb5.9						
BSEG				*e*S	S	09 17 21.3	-1.0
MUD	**Monsted U'grnd**	73.97	325⇑	*i*P	P	09 07 50.4	+0.3
MUD				pmax	pmax		
	comp=Z,130nm,0.9s,mb6.0						
MUD				MLR	MLR		
	comp=Z,16µm,18.0s,MS6.3						
MUD	**Monsted U'grnd**	73.97	325⇑	*i*P	P	09 07 50.4	+0.3
	comp=Z,128nm,0.9s,mb6.0						
MUD							
	comp=Z,16µm,18.0s						
ABTA	**Abfaltersbach**	74.14	314⇑	*i*P	P	09 07 50.1	-1.1
	comp=Z,84nm,1.7s,mb5.5,SNR=19						
GRA1	**Grafenberg Arr**	74.30	318	*e*P	P	09 07 52.2	+0.1
	comp=Z,238nm,1.3s,mb6.1						
GRA1				*e*S	S	09 17 26.6	-0.5
GRA1				LR	LR		
	comp=Z,13µm,20.8s,MS6.2						
GRF	**Grafenberg Arr**	74.30	318	*e*P	P	09 07 52.2	+0.1
GRF				*e*S	S	09 17 26.6	-0.5
GRF				pmax	pmax		
	comp=Z,238nm,1.3s,mb6.1						
GRF				MLR	MLR		
	comp=Z,13µm,20.8s,MS6.2						
GRF	**Grafenberg Arr**	74.30	318	*e*P	P	09 07 52.2	+0.1
GRF				*e*S	S	09 17 26.6	-0.5
GRF				pmax	pmax		
	comp=Z,238nm,1.3s,mb6.1						
GRF				MLR	MLR		
	comp=Z,13µm,20.8s,MS6.2						
GRF	**Grafenberg Arr**	74.30	318	*e*P	P	09 07 52.2	+0.1
	comp=Z,238nm,1.3s,mb6.1						
GRF				*e*S	S	09 17 26.6	-0.5
GRF				*e*L		09 42 30.6	
	comp=Z,13µm,20.8s						
GRFO	**Grafenberg**	74.30	318	*e*P	P	09 07 52.2	+0.1
GRFO				*e*S	S	09 17 26.9	-0.2
CLZ	**Clausthal**	74.33	320	*e*P	P	09 07 52.2	-0.1
CLZ				*e*S	S	09 17 24.8	-2.6
CLZ				pmax	pmax		
	comp=Z,214nm,1.3s,mb6.0						
CLZ	**Clausthal**	74.33	320	*e*P	P	09 07 52.2	-0.1
	comp=Z,214nm,1.3s,mb6.0						
CLZ				*e*S	S	09 17 24.8	-2

comp=Z,229nm,1.4s,mb6.0
MURB Monte Urbino 74.95 311 P P 09 07 56.5 +0.5
RUND Rundenannen 74.95 329 eP P 09 07 58.2 +2.5
RUND AMb AMB 09 08 04.2
comp=Z,113nm,1.3s,mb5.7
RUND Rundenannen 74.95 329 eP P 09 07 58.2 +2.5
comp=Z,113nm,1.3s,mb5.7
BER Bergen 74.98 329 eP P 09 07 55.2 -0.6
BER eS S 09 17 34.0 -0.2
BER eSS SS 09 22 22.3 +0.3
BER AMS AMS 09 43 29.1
comp=Z,22µm,20.8s,MS6.4
ASK Askoy 75.02 329 eP P 09 07 56.2 +0.1
MNS Montasola 75.05 310 P P 09 07 55.7 -1.0
RETA Reutte 75.12 315⇑ iP P 09 07 56.3 -0.6
comp=Z,582nm,3.2s,SNR=24
STAV Stavanger 75.17 328 eP P 09 07 58.7 +1.7
HLG Helgoland 75.22 323 eS S 09 17 35.5 -1.8
UNV Unalaska Valle 75.23 38 PFAKE 09 08 10.0 +13
UNV LR LR
comp=Z,41µm,20.0s,MS6.7
FETA Feichten 75.26 315⇑ iP P 09 07 57.3 -0.5
comp=Z,572nm,3.1s,SNR=34
CRE Caprese Michel 75.27 311 P P 09 07 58.1 +0.2
KMY Karmoy 75.33 328 eP P 09 08 01.1 +3.2
KMY AMb AMB 09 08 06.6
comp=Z,102nm,1.3s,mb5.7
KMY Karmoy 75.33 328 eP P 09 08 01.1 +3.2
comp=Z,102nm,1.3s,mb5.7
BRMO Bormio 75.63 314 P P 09 08 00.0 +0.1
MABI Malga Bissina 75.64 314 P P 09 07 59.7 -0.3
FNVD Fontana Vidola 75.71 312 P P 09 08 01.4 +1.0
DAVA Damuels 75.75 315⇑ iP P 09 08 00.2 -0.4
comp=Z,348nm,3.0s,SNR=15
STU Stuttgart 75.81 317 eP P 09 08 00.6 -0.3
comp=Z,283nm,1.2s,mb6.3
STU eS S 09 17 42.2 -1.8
TOD Tromm 75.85 318 eP P 09 08 00.2 -0.9
GSCL Gusciola 76.03 312 P P 09 08 03.8 +1.6
comp=Z,186nm,1.0s,mb6.2
PII Pisa 76.24 312 P P 09 08 03.0 -0.4
PII pmax pmax
comp=Z,71nm,0.8s,mb5.8
PII Pisa 76.24 312 P P 09 08 03.0 -0.4
comp=Z,71nm,0.8s,mb5.8
SPAK Spaichingen-Ko 76.25 316 eP P 09 08 02.7 -0.7
BUG Bochum--Univer 76.30 320 eP P 09 08 03.4 -0.2
comp=Z,156nm,1.4s,mb6.0
BUG eS S 09 17 48.1 -1.2
TUE Stuetta 76.32 315 P P 09 08 03.7 -0.1
TAU Tasmania Unive 76.33 147 eP P 09 08 03.7 0.0
comp=Z,114nm,1.5s,mb5.8
TAU LR LR
comp=Z,15µm,22.0s,MS6.3
KTD Kalmit 76.37 318 eP P 09 08 03.4 -0.7
WTSB Winterswijk 76.44 321 eP P 09 08 04.5 +0.1
comp=Z,102nm,1.6s,mb5.7
DAG Danmarks Havn 76.47 348 eP P 09 08 02.0 -2.1
DAG pmax pmax
comp=Z,18nm,0.8s,mb5.2
DAG Danmarks Havn 76.47 348 i P P 09 08 02.0 -2.1
comp=Z,18nm,0.8s,mb5.2
BFO Black Forest 76.48 317 P P 09 08 05.1 +0.4
comp=Z,304nm,1.1s,mb6.3,SNR=6.1
BFO Black Forest 76.48 317 eP P 09 08 04.0 -0.7
BFO eS S 09 17 48.9 -2.5
BFO pmax pmax
comp=Z,105nm,1.3s,mb5.8
BFO Black Forest 76.48 317 eP P 09 08 04.0 -0.7
comp=Z,105nm,1.3s,mb5.8
BFO eS S 09 17 48.9 -2.5
ABH Alteburg 76.56 318 eP P 09 08 05.4 +0.3
LANF Langenberg 76.64 317 eP P 09 08 05.5 -0.1
JMIC Jan Mayen 76.78 341 eP P 09 08 06.8 +0.9
JMIC eS S 09 17 56.4 +2.5
JMIC eSS SS 09 22 52.4 +3.5
JMIC AMS AMS 09 42 25.8
comp=Z,11µm,20.6s,MS6.2
ALE Alert 76.79 358 P P 09 08 04.0 -1.9
comp=Z,137nm,1.0s,mb6.0,SNR=11
FELD Feldberg im Sc 76.82 316 eP P 09 08 06.4 -0.2
RUP Ruppelstein 76.91 318 eP P 09 08 07.1 0.0
CDF Champ du Feu 77.14 317 eP P 09 08 08.0 -0.4
comp=Z,164nm,1.1s,mb5.8
CDF Champ du Feu 77.14 317 eP P 09 08 08.0 -0.4
comp=Z,82nm,1.1s,mb5.8
BBS Basel-Blauen 77.25 316 eP P 09 08 07.8 -1.3
ECH Echery 77.27 317 eP P 09 08 08.8 -0.3
MEM Membach 77.30 319 P P 09 08 10.1 +0.8
MEM AP 09 08 14.2
HGN Heimansgroeve 77.30 320 eP P 09 08 08.7 -0.5
comp=Z,68nm,3.7s
HGN Heimansgroeve 77.30 320 eS S 09 18 06.1 +5.9
MOF Molkenrain 77.39 316 eP P 09 08 09.5 -0.3
BEBN Eben Emael 77.45 320 P P 09 08 09.5 -0.6
ORO Oropa 77.46 314 P P 09 08 10.9 +0.6
ORO pmax pmax
comp=Z,27nm,0.8s,mb5.4
ORO Oropa 77.46 314 P P 09 08 10.9 +0.6
comp=Z,27nm,0.8s,mb5.4
WLF Walferdange 77.49 318 P P 09 08 10.8 +0.5
WLF pmax pmax
comp=Z,270nm,1.2s,mb6.2
WLF Walferdange 77.49 318 P P 09 08 11.7 +1.3
WLF Walferdange 77.49 318 eP P 09 08 10.5 +0.2
comp=Z,313nm,1.2s,mb6.3
WLF eS S 09 18 01.5 -0.8
IMA2 Indian Mountai 77.50 24 eP P 09 08 10.4 +0.3
HINF Hinteralfeld 77.58 316 eP P 09 08 10.2 -0.7
comp=Z,131nm,1.2s,mb5.6
HINF Hinteralfeld 77.58 316 eP P 09 08 10.2 -0.7
comp=Z,65nm,1.2s,mb5.6
PGF Pioggiola 77.64 311 eP P 09 08 11.0 -0.3
comp=Z,409nm,1.4s,mb6.1
PGF Pioggiola 77.64 311 eP P 09 08 11.0 -0.3
comp=Z,204nm,1.4s,mb6.1
FIN Finale Ligure 77.71 313 P P 09 08 11.5 -0.2
FIN Finale Ligure 77.71 313 P P 09 08 10.8 -0.9
TTA Tatalina 77.73 27 eP P 09 08 11.8 +0.4
TTA 09 08 25.3
TTA Tatalina 77.73 27 eP P 09 08 12.3 +0.9
LOMF Lomont 77.73 316 eP P 09 08 12.9 +1.1
BCLA Clavier 77.79 319 P P 09 08 10.5 -1.5
BCLA AP 09 08 15.2
BCLA E 09 08 23.8
HAU Haudompre 77.85 317 eP P 09 08 11.9 -0.5
comp=Z,342nm,1.4s,mb6.0
HAU eMLR MLR
comp=Z,15µm,20.2s,MS6.0
HAU Haudompre 77.85 317 eP P 09 08 11.9 -0.5
comp=Z,171nm,1.4s,mb6.0
HAU LR LR
comp=Z,15µm,20.3s,MS6.3
THEF They Montfort 78.02 317 eP P 09 08 12.8 -0.5
OG01 Vacheresse 78.13 315 eP P 09 08 14.0 0.0
LRW Lerwick 78.14 330 eP P 09 08 13.1 -0.7
LRW AMb AMB 09 08 21.5
comp=Z,90nm,1.5s,mb5.7
GIVF Givet 78.18 319 eP P 09 08 14.0 -0.2
comp=Z,158nm,1.2s,mb5.7
GIVF Givet 78.18 319 eP P 09 08 14.0 -0.2
comp=Z,79nm,1.2s,mb5.7
SAOF Saorge 78.23 313 eP P 09 08 16.7 +2.1
VSL Villasalto 78.24 308 eP P 09 08 14.9 +0.1
comp=Z,94nm,1.1s,mb5.8
UCC Uccle 78.25 320 P P 09 08 14.3 -0.2
UCC AP 09 08 20.6
WAL1 Walls 78.31 330 eP P 09 08 14.0 -0.7
AUTN L'Aution 78.31 313 eP P 09 08 17.7 +2.6
DOU Dourbes 78.32 319 P P 09 08 15.4 +0.4
DOU E 09 08 17.8
DOU AP 09 08 21.5
LPG La Plagne 78.33 314 eP P 09 08 15.4 +0.3
comp=Z,202nm,0.9s,mb5.9
LPG La Plagne 78.33 314 eP P 09 08 15.4 +0.3
comp=Z,101nm,0.9s,mb6.0
LPL La Plagne 78.34 314 eP P 09 08 15.2 0.0
comp=Z,412nm,1.1s,mb6.2
LPL La Plagne 78.34 314 eP P 09 08 15.2 0.0
comp=Z,206nm,1.1s,mb6.2
SBF Sospel 78.35 312 eP P 09 08 14.6 -0.7
comp=Z,328nm,1.1s,mb6.1
SBF Sospel 78.35 312 eP P 09 08 14.6 -0.7
comp=Z,164nm,1.1s,mb6.1
RSL Roselend 78.36 314 eP P 09 08 15.0 -0.3

LUCF Luceram 78.40 313 eP P 09 08 17.4 +1.8
TOUF Mont Tournerai 78.43 313 eP P 09 08 17.2 +1.5
CABF La Chapelle 78.44 315 eP P 09 08 15.5 -0.2
comp=Z,354nm,1.3s,mb6.0
CABF La Chapelle 78.44 315 eP P 09 08 15.5 -0.2
comp=Z,177nm,1.3s,mb6.0
BNI Bardonecchia 78.51 314 eP P 09 08 16.0 -0.1
BNI pmax pmax
comp=Z,69nm,0.9s,mb5.7
BNI Bardonecchia 78.51 314 eP P 09 08 16.0 -0.1
comp=Z,69nm,0.9s,mb5.7
MEZF Maizieres J'vi 78.53 318 eP P 09 08 16.0 -0.1
comp=Z,283nm,1.1s,mb5.9
MEZF Maizieres J'vi 78.53 318 eP P 09 08 16.0 -0.1
comp=Z,283nm,1.1s,mb6.2
MVIF Mont Vial 78.53 313 eP P 09 08 17.5 +1.2
MBDF Montbardon 78.55 313 eP P 09 08 15.2 -1.1
comp=Z,137nm,0.9s,mb5.7
MBDF Montbardon 78.55 313 eP P 09 08 15.2 -1.1
comp=Z,68nm,0.9s,mb5.7
BAIF Baives 78.57 319 eP P 09 08 16.4 +0.1
comp=Z,331nm,1.5s,mb5.8
BAIF Baives 78.57 319 eP P 09 08 16.4 +0.1
comp=Z,166nm,1.5s,mb5.8
SVW2 Sparrevohn 78.59 29 eP P 09 08 16.7 +0.5
CALN Calern 78.76 313 eP P 09 08 17.2 -0.3
FRF La Foret Royal 78.98 312 eP P 09 08 18.1 -0.7
comp=Z,233nm,1.0s,mb5.8
FRF La Foret Royal 78.98 312 eP P 09 08 18.1 -0.7
comp=Z,117nm,1.0s,mb5.9
OG05 Jujurieux 79.03 315 eP P 09 08 18.2 -0.7
ORIF Oris-en-Rattie 79.09 314 eP P 09 08 18.9 -0.4
comp=Z,59nm,0.7s,mb5.4
ORIF eMLR MLR
comp=Z,23µm,20.5s,MS6.2
ORIF Oris-en-Rattie 79.09 314 eP P 09 08 18.9 -0.4
comp=Z,30nm,0.7s,mb5.4
OG25 Le Caire 79.13 313 eP P 09 08 19.2 -0.4
STOF St-Etienne Org 79.36 313 eP P 09 08 19.5 -1.3
TAVF Tavernes 79.38 313 eP P 09 08 20.7 -0.2
KEST Kesra 79.38 304 P P 09 08 21.9 +0.8
comp=Z,24nm,1.1s,mb5.1,baz=120,slow=2.8,SNR=13
KEST LR LR 09 49 01.7
comp=Z,3µm,21.5s,MS5.6,baz=18,slow=40
OCF Saint Nazaire 79.59 314 eP P 09 08 22.3 +0.2
OG26 St.-Nazaire-De 79.59 314 eP P 09 08 22.3 +0.2
SMRF Simiane la Rot 79.59 313 eP P 09 08 22.0 -0.1
comp=Z,183nm,1.2s,mb5.6
SMRF Simiane la Rot 79.59 313 eP P 09 08 22.0 -0.1
comp=Z,183nm,1.2s,mb5.9
MENF Mencas 79.65 320 eP P 09 08 24.3 +2.0
LSZ Lusaka 79.67 249 eP P 09 08 23.1 +0.2
LSZ pmax pmax
comp=Z,68nm,0.9s,mb5.6
LSZ MLR MLR
comp=Z,27µm,21.0s,MS6.6
LSZ Lusaka 79.67 249 eP P 09 08 23.1 +0.2
comp=Z,68nm,0.9s,mb5.6
LSZ LR LR
comp=Z,27µm,21.0s,MS6.6
LOR Lormes 79.68 317 eP P 09 08 21.9 -0.6
comp=Z,339nm,1.3s,mb5.8
LOR eMLR MLR
comp=Z,9µm,20.8s,MS5.8
LOR Lormes 79.68 317 eP P 09 08 21.9 -0.6
comp=Z,169nm,1.3s,mb5.8
LOR LR LR
comp=Z,9µm,20.8s,MS6.1
SSB Saint Sauveur 79.88 315 eP P 09 08 22.9 -0.7
GELF Grande-Etoile 79.88 312 eP P 09 08 22.8 -0.9
SMF Signal de Mont 79.89 316 eP P 09 08 23.2 -0.5
comp=Z,235nm,1.1s,mb5.7
SMF Signal de Mont 79.89 316 eP P 09 08 23.2 -0.5
comp=Z,117nm,1.1s,mb5.7
VIVF Saint-Julien-l 79.92 314 eP P 09 08 23.5 -0.4
comp=Z,257nm,1.2s,mb5.7
VIVF Saint-Julien-l 79.92 314 eP P 09 08 23.5 -0.4
comp=Z,128nm,1.3s,mb5.7
PRAF Pradon 79.93 313 eP P 09 08 22.1 -1.8
ORE Reay 79.96 329 eP P 09 08 24.6 +0.8
SSF Saint Saulge 79.97 316 eP P 09 08 23.7 -0.4
comp=Z,194nm,1.1s,mb5.7
SSF Saint Saulge 79.97 316 eP P 09 08 23.7 -0.4
comp=Z,97nm,1.1s,mb5.7
MME1 Meikle Cairn 80.05 328 eP P 09 08 24.6 +0.3
MCD Coleburn Disti 80.09 328 eP P 09 08 24.6 +0.1
AVF Avril sur Loir 80.16 316 eP P 09 08 24.6 -0.5
comp=Z,110nm,0.9s,mb5.5
AVF Avril sur Loir 80.16 316 eP P 09 08 24.6 -0.5
comp=Z,55nm,0.9s,mb5.5
COLA College 80.21 24 eP P 09 08 25.0 0.0
COLA pmax pmax
comp=Z,36nm,1.0s,mb5.3
COLA MLR MLR
comp=Z,25µm,19.0s,MS6.6
COLA College 80.21 24 eP P 09 08 25.0 0.0
comp=Z,36nm,1.0s,mb5.3
COLA LR LR
comp=Z,25µm,19.0s,MS6.6
PLDF La Plantade 80.26 315 eP P 09 08 25.5 -0.2
COLF Collangettes 80.36 315 eP P 09 08 26.0 -0.2
XSO Sourhope Farm 80.37 326 eP P 09 08 26.0 0.0
ESY Stoneypath 80.40 326 eP P 09 08 26.4 +0.2
MVH1 Achvaich 80.41 328 eP P 09 08 26.4 +0.1
HYF Humbligny 80.46 317 eP P 09 08 26.9 +0.2
AGO Saint Agoulin 80.56 316 eP P 09 08 27.0 -0.2
BGF Bois d'Agland 80.57 316 eP P 09 08 27.0 -0.3
comp=Z,206nm,1.4s,mb5.7
BGF Bois d'Agland 80.57 316 eP P 09 08 27.0 -0.3
comp=Z,103nm,1.4s,mb5.7
CMAH Djebel Manchou 80.58 306 P P 09 08 28.0 +0.4
XAL Allendale 80.59 325 eP P 09 08 27.4 +0.2
HPK Haverah Park 80.61 324 P P 09 08 27.7 +0.3
HPK AMb AMB 09 08 34.0
comp=Z,198nm,2.0s,mb5.8
HPK Haverah Park 80.61 324 eP P 09 08 27.7 +0.3
HPK AMb AMB 09 08 34.0
comp=Z,198nm,2.0s,mb5.8
HPK AMS AMS 09 46 54.3
comp=Z,12µm,22.2s,MS6.2
EBL Broad Law 80.68 326 eP P 09 08 28.0 +0.3
MDO Dochfour 80.69 328 eP P 09 08 27.8 +0.1
EDI Edinburgh 80.70 326 P P 09 08 27.0 -0.8
EDI AMb AMB 09 08 33.5
comp=Z,137nm,1.3s,mb5.8
EDI Edinburgh 80.70 326 eP P 09 08 27.0 -0.8
EDI AMb AMB 09 08 33.5
comp=Z,137nm,1.3s,mb5.8
EDI AMS AMS 09 42 32.6
comp=Z,16µm,20.2s,MS6.4
LASF Ste Croix 80.73 314 eP P 09 08 28.3 +0.1
comp=Z,367nm,1.2s,mb6.0
EBH Black Hill 80.74 327 eP P 09 08 28.5 +0.5
PYM Petit Puy Mans 80.74 315 eP P 09 08 28.7 +0.5
KBI1 Birley Grange 80.82 324 eP P 09 08 28.8 +0.2
EAU Auchinoon 80.86 326 eP P 09 08 29.1 +0.4
CWF Charnwood Fore 80.89 323 P P 09 08 29.1 +0.2
CWF AMb AMB 09 08 37.1
comp=Z,119nm,1.3s,mb5.8
CWF Charnwood Fore 80.89 323 eP P 09 08 29.1 +0.2
CWF AMb AMB 09 08 37.1
comp=Z,119nm,1.3s,mb5.8
CWF AMS AMS 09 48 17.9
comp=Z,13µm,18.4s,MS6.3
LHO Holmfirth 80.90 324 eP P 09 08 29.4 +0.5
ESK Eskdalemuir 80.94 326 P P 09 08 29.8 +0.7
comp=Z,290nm,1.1s,mb6.2,SNR=5.3
ESK Eskdalemuir 80.94 326 P P 09 08 29.7 +0.6
ESK AMb AMB 09 08 35.0
comp=Z,107nm,1.3s,mb5.7
ESK Eskdalemuir 80.94 326 eP P 09 08 29.7 +0.6
ESK AMb AMB 09 08 35.0
comp=Z,107nm,1.3s,mb5.7
ESK AMS AMS 09 43 59.2
comp=Z,15µm,19.0s,MS6.4
ESK Eskdalemuir 80.94 326 eP P 09 08 29.6 +0.5
ESK pmax pmax
comp=Z,46nm,0.8s,mb5.6
ESK MLR MLR
comp=Z,18µm,20.0s,MS6.4
ESK Eskdalemuir 80.94 326 eP P 09 08 29.6 +0.5
comp=Z,46nm,0.8s,mb5.5
ESK LR LR
comp=Z,18µm,20.0s,MS6.4
ECK Cauldkaine Hil 80.95 326 eP P 09 08 29.3 +0.1
CAEH 'Ain El Ouahch 80.97 306 P P 09 08 31.0 +1.3

SKP1 Kophill 80.99 322 eP P 09 08 30.2 +0.8
TCF Toulx Ste Croi 81.08 316 eP P 09 08 30.0 0.0
comp=Z,303nm,1.2s,mb5.9
TCF Toulx Ste Croi 81.08 316 eP P 09 08 30.0 0.0
comp=Z,151nm,1.2s,mb5.9
KWE Weaver Farm 81.09 323 eP P 09 08 30.1 +0.2
FRNF Fournols 81.16 315 eP P 09 08 31.3 +0.8
CKE Keswick 81.18 325 eP P 09 08 31.3 +0.9
EAB Aberfoyle 81.19 327 eP P 09 08 29.9 -0.5
CKFL Kef-Lekhel 81.19 305 P P 09 08 32.0 +1.2
PMR Palmer 81.21 27 eP P 09 08 29.9 -0.5
SLKM Skilak Lake 81.23 28 eP P 09 08 30.0 -0.5
SLKM e*PP 09 08 38.6
KDAK Kodiak Island 81.31 31 P P 09 08 31.0 0.0
comp=Z,282nm,1.0s,mb6.2,SNR=5.4
KDAK Kodiak Island 81.31 31 eP P 09 08 30.7 -0.3
comp=Z,38nm,0.9s,mb5.4
KDAK LR LR
comp=Z,4µm,20.0s,MS5.8
KDAK Kodiak Island 81.31 31 P P 09 08 31.1 +0.1
comp=Z,24nm,0.9s,mb5.2,baz=292,slow=3.0,SNR=7.8
CASM Ain Smara 81.41 305 P P 09 08 32.5 +0.5
PGBU Glenifferbraes 81.41 327 eP P 09 08 32.1 +0.5
PGBU AMb AMB 09 08 37.6
comp=Z,172nm,1.3s,mb5.9
SML Sawmill 81.45 27 eP P 09 08 28.8 -2.9
SSW Stow on the Wo 81.49 322 eP P 09 08 32.8 +0.7
KAR1 Arisaig 81.64 328 eP P 09 08 33.1 +0.3
CAF Calviac 81.65 315 eP P 09 08 33.2 +0.1
comp=Z,251nm,1.3s,mb5.9
CAF Calviac 81.65 315 eP P 09 08 33.2 +0.1
comp=Z,125nm,1.3s,mb5.9
LDF La Druitiere 81.73 319 eP P 09 08 33.1 -0.3
comp=Z,234nm,1.2s,mb5.9
LDF La Druitiere 81.73 319 eP P 09 08 33.1 -0.3
comp=Z,117nm,1.2s,mb5.9
DFRA Djebel Bou Aff 81.78 306 P P 09 08 35.0 +1.0
RJF Les Rejaudoux 81.88 315 eP P 09 08 34.6 +0.3
comp=Z,301nm,1.2s,mb6.0
RJF eMLR MLR
comp=Z,11µm,20.8s,MS5.9
RJF Les Rejaudoux 81.88 315 eP P 09 08 34.6 +0.3
comp=Z,150nm,1.2s,mb6.0
RJF LR LR
comp=Z,11µm,20.8s,MS6.2
FLN La Foliniere 81.89 319 eP P 09 08 33.9 -0.4
comp=Z,267nm,1.3s,mb5.9
FLN eMLR MLR
comp=Z,12µm,19.0s,MS6.0
FLN La Foliniere 81.89 319 eP P 09 08 33.9 -0.4
comp=Z,134nm,1.3s,mb5.9
FLN LR LR
comp=Z,12µm,19.0s,MS6.3
GAL1 Galloway 81.92 326 P P 09 08 35.0 +0.7
GAL1 AMb AMB 09 08 42.9
comp=Z,108nm,1.3s,mb5.8
GAL1 Galloway 81.92 326 eP P 09 08 35.0 +0.7
GAL1 AMb AMB 09 08 42.9
comp=Z,108nm,1.3s,mb5.8
GAL1 AMS AMS 09 44 26.4
comp=Z,15µm,19.2s,MS6.4
SBD1 Bryn Du 81.92 324 eP P 09 08 34.0 -0.4
LRDF Laroque-de-Fa 82.02 313 eP P 09 08 34.1 -1.0
CMER Merouana 82.07 305 P P 09 08 38.0 +2.5
MTLF Montolieu 82.10 313 eP P 09 08 35.3 -0.2
comp=Z,284nm,1.4s,mb5.9
MTLF Montolieu 82.10 313 eP P 09 08 35.3 -0.2
comp=Z,142nm,1.4s,mb5.9
MCH1 Michaelchurch 82.14 323 eP P 09 08 35.3 -0.2
MCH1 AMb AMB 09 08 40.0
comp=Z,106nm,1.5s,mb5.8
FILF Fillols 82.14 312 eP P 09 08 35.4 -0.3
GMK Mull of Kintyr 82.18 326 eP P 09 08 36.1 +0.4
HTR Trewern Hill 82.26 323 eP P 09 08 35.9 -0.3
GRR Gorron 82.26 319 eP P 09 08 36.1 -0.1
comp=Z,328nm,1.4s,mb6.0
GRR Gorron 82.26 319 eP P 09 08 36.1 -0.1
comp=Z,164nm,1.4s,mb6.0
SET Setif 82.26 306 P P 09 08 38.0 +1.5
FUNA Funafuti 82.28 102 PFAKE 09 08 50.0 +13
FUNA LR LR
comp=Z,11µm,20.0s,MS6.2
MFF Saint Martin d 82.48 317 eP P 09 08 37.0 -0.4
comp=Z,173nm,1.3s,mb5.7
MFF Saint Martin d 82.48 317 eP P 09 08 37.0 -0.4
comp=Z,87nm,1.3s,mb5.7
LFF La Frestale 82.52 315 eP P 09 08 37.8 +0.1
comp=Z,144nm,1.1s,mb5.8
LFF La Frestale 82.52 315 eP P 09 08 37.8 +0.1
comp=Z,72nm,1.1s,mb5.8
GCL Cushendall 82.57 326 eP P 09 08 39.2 +1.5
EGAK Eagle 82.72 22 eP P 09 08 39.0 +0.7
comp=Z,16nm,0.9s,mb5.3
EGAK LR LR
comp=Z,24µm,19.0s,MS6.6
GMM Mts of Mourne 82.84 325 eP P 09 08 39.8 +0.7
DIV Divide 82.86 27 eP P 09 08 38.8 -0.3
comp=Z,166nm,2.0s,mb5.9
DIV LR LR
comp=Z,58µm,20.0s,MS7.0
ETOS Mallorca 82.95 310 P P 09 08 39.8 -0.3
comp=Z,17nm,0.8s,mb5.3
MLS Moulis 83.01 313 eP P 09 08 39.9 -0.4
INK Inuvik 83.05 18 eP P 09 08 39.7 -0.3
comp=Z,5µm,1.3s
EMIR Miracle 83.09 312 P P 09 08 39.9 -0.8
comp=Z,38nm,0.8s,mb5.7
SGMF Saint Gilles 83.36 319 eP P 09 08 42.0 0.0
comp=Z,232nm,1.2s,mb6.0
SGMF Saint Gilles 83.36 319 eP P 09 08 42.0 0.0
comp=Z,116nm,1.2s,mb6.0
HTL Hartland 83.39 322 P P 09 08 44.4 +2.3
HTL AMb AMB 09 08 52.8
comp=Z,187nm,2.0s,mb6.0
HTL Hartland 83.39 322 eP P 09 08 44.4 +2.3
HTL AMb AMB 09 08 52.8
comp=Z,187nm,2.0s,mb6.0
HTL AMS AMS 09 51 00.1
comp=Z,23µm,20.6s,MS6.5
AKET Djebel Ketaf 83.47 306 P P 09 08 43.3 +0.5
DMUB Kingscourt 83.49 325 eP P 09 08 45.8 +3.3
EPF Esparros 83.49 313 eP P 09 08 41.8 -1.0
comp=Z,55nm,1.1s,mb5.4
EPF Esparros 83.49 313 eP P 09 08 41.8 -1.0
comp=Z,27nm,1.1s,mb5.4
DLF Lyons Farm 83.55 325 eP P 09 08 46.0 +3.1
RESF Ens 83.58 313 eP P 09 08 43.3 +0.1
EPOB Poblet 83.61 312 P P 09 08 43.4 0.0
comp=Z,40nm,0.8s,mb5.7
EBIE Bielsa 83.76 313 P P 09 08 44.9 +0.8
comp=Z,42nm,1.1s,mb5.6
DAWY Dawson 83.76 23 eP P 09 08 43.6 -0.1
ROSF Rostrenen 83.76 319 eP P 09 08 44.2 +0.2
comp=Z,382nm,1.3s,mb6.2
ROSF Rostrenen 83.76 319 eP P 09 08 44.2 +0.2
comp=Z,191nm,1.3s,mb6.2
ADJB Djebel Djouab 83.77 306 P P 09 08 44.1 -0.2
VIEF Viey 83.77 313 eP P 09 08 44.5 +0.3
ABA Alger-Bouzarea 83.84 307 P P 09 08 45.5 +0.8
QUIF Quistinic 83.87 319 eP P 09 08 44.2 -0.4
comp=Z,238nm,1.3s,mb6.0
QUIF Quistinic 83.87 319 eP P 09 08 44.2 -0.4
comp=Z,119nm,1.3s,mb6.0
CSA1 St Austell 83.89 322 eP P 09 08 46.6 +1.9
DCN Croghan 83.94 325 eP P 09 08 47.9 +3.1
EMHD Djebel Mahouad 84.12 306 P P 09 08 48.0 +1.9
BORG Borgarnes 84.14 339 PFAKE 09 09 00.0 +14
BORG LR LR
comp=Z,10µm,19.0s,MS6.2
ETSF Etsaut 84.16 314 eP P 09 08 46.4 +0.2
comp=Z,97nm,0.9s,mb5.7
ETSF Etsaut 84.16 314 eP P 09 08 46.4 +0.2
comp=Z,49nm,0.9s,mb5.7
EIBI Ibiza 84.28 309 P P 09 08 47.0 +0.2
comp=Z,8.7nm,0.7s,mb5.1
ERTA Horta de San J 84.28 312 P P 09 08 47.3 +0.5
comp=Z,59nm,1.3s,mb5.7
LARF Larrau 84.39 314 eP P 09 08 47.1 -0.3
RES Resolute Bay 84.43 4 eP P 09 08 46.5 -0.5
comp=Z,2µm,1.0s,mb7.2
SJPF Ste Jean 84.52 314 eP P 09 08 47.2 -0.8
comp=Z,259nm,1.3s,mb6.0
SJPF Ste Jean 84.52 314 eP P 09 08 47.2 -0.8
comp=Z,130nm,1.3s,mb6.0
ESAC San Caprasio 84.55 312 P P 09 08 49.8 +1.6
comp=Z,74nm,0.7s,mb6.0

EALK Alkurruntz 84.67 314 P **P** **09 08 49.1 +0.4**
comp=Z,27nm,0.8s,mb5.5
ELIZ Elizondo 84.71 314 P **P** **09 08 49.2 +0.2**
ELIZ pmax pmax
comp=Z,44nm,1.2s,mb5.6
ELIZ Elizondo 84.71 314 P **P** **09 08 49.2 +0.3**
comp=Z,44nm,1.2s,mb5.6
EMOS Mosqueruela 85.07 311 P **P** **09 08 52.1 +1.3**
comp=Z,48nm,0.7s,mb5.8
EBNR Beni Rached 85.15 307 P **P** **09 08 50.0 -1.3**
ECHA Ech Chlef 85.33 307 P **P** **09 08 51.5 -0.7**
EBEN Beniarda 85.53 310 P **P** **09 08 53.8 +0.6**
comp=Z,15nm,0.9s,mb5.1
EANR 'Ain N'Sour 85.60 307 P **P** **09 08 52.2 -1.4**
ETRT Tiaret 85.66 306 P **P** **09 08 55.9 +2.0**
ECHE Chera 85.72 311 P **P** **09 08 55.1 +1.0**
ECHE pmax pmax
comp=Z,26nm,0.7s,mb5.5
ECHE Chera 85.72 311 P **P** **09 08 55.1 +1.0**
comp=Z,26nm,0.7s,mb5.5
LBTB Lobatse 85.94 242 *e*P **P** **09 08 54.7 -0.6**
LBTB pmax pmax
comp=Z,78nm,1.1s,mb5.8
LBTB MLR MLR
comp=Z,18μm,21.0s,MS6.4
LBTB Lobatse 85.94 242 *e*P **P** **09 08 54.7 -0.7**
comp=Z,78nm,1.1s,mb5.8
LBTB LR LR
comp=Z,18μm,21.0s,MS6.4
ELAN Lanestosa 85.95 315 P **P** **09 08 55.9 +0.7**
comp=Z,52nm,1.1s,mb5.6
ETOR Torete 86.00 312 P **P** **09 08 55.1 -0.4**
ETOR pmax pmax
comp=Z,30nm,0.7s,mb5.5
ETOR Torete 86.00 312 P **P** **09 08 55.1 -0.4**
comp=Z,30nm,0.7s,mb5.5
ETOB Tobarra 86.51 310 P **P** **09 08 59.1 +1.1**
comp=Z,32nm,0.7s,mb5.7
CART Cartagena 86.53 309 *e*P **P** **09 08 58.1 -0.1**
comp=Z,126nm,1.1s,mb6.1
CASY Casey 86.90 176 *e*P **P** **09 08 57.4 -1.7**
MIR Mirnyy 87.05 183 *e*P **P** **09 09 03.5 +3.7**
MIR *i* 09 09 13.0
MIR *i* 09 09 21.0
MIR pmax pmax
comp=Z,200nm,1.5s,mb6.1
EARI Arriondas 87.10 315 P **P** **09 09 02.5 +1.7**
comp=Z,39nm,1.0s,mb5.6
EVIA Vianos 87.19 310 P **P** **09 09 01.5 +0.1**
EVIA pmax pmax
comp=Z,29nm,0.8s,mb5.6
EVIA Vianos 87.19 310 P **P** **09 09 01.5 +0.1**
comp=Z,29nm,0.8s,mb5.6
GUD Guadarrama 87.53 313 P **P** **09 09 04.1 +1.2**
GUD pmax pmax
comp=Z,40nm,0.9s,mb5.8
GUD Guadarrama 87.53 313 P **P** **09 09 04.0 +1.1**
comp=Z,40nm,0.9s,mb5.8
EHUE Huescar 87.60 310 P **P** **09 09 03.5 +0.2**
EHUE pmax pmax
comp=Z,91nm,1.2s,mb6.0
EHUE Huescar 87.60 310 P **P** **09 09 03.5 +0.2**
comp=Z,91nm,1.2s,mb6.0
ENIJ Nijar 87.66 309 P **P** **09 09 03.5 -0.2**
ENIJ pmax pmax
comp=Z,42nm,1.0s,mb5.7
ENIJ Nijar 87.66 309 P **P** **09 09 03.5 -0.1**
comp=Z,42nm,1.0s,mb5.7
BOSA Boshof 87.72 238 *e*P **P** **09 09 02.9 -1.1**
BOSA pmax pmax
comp=Z,39nm,0.9s,mb5.7
BOSA MLR MLR
comp=Z,11μm,19.0s,MS6.3
BOSA Boshof 87.72 238 *e*P **P** **09 09 02.9 -1.1**
comp=Z,39nm,0.9s,mb5.7
BOSA LR LR
comp=Z,11μm,19.0s,MS6.3
BOSA Boshof 87.72 238 P **P** **09 09 04.7 +0.8**
comp=Z,28nm,0.8s,mb5.6,baz=82,slow=4.4,SNR=20
BOSA LR LR 09 49 11.7
comp=Z,10μm,18.6s,MS6.3,baz=70,slow=36
ESDC Sonseca Array 87.80 312 P **P** **09 09 04.6 +0.3**
comp=Z,54nm,1.2s,mb5.8
ESDC Sonseca Array 87.80 312 P **P** **09 09 04.7 +0.4**
comp=Z,19nm,1.0s,mb5.4,baz=52,slow=4.5,SNR=22
ESDC LR LR 09 49 22.2
comp=Z,6μm,21.6s,MS6.0,baz=70,slow=36
ESLA Sonseca Array 87.80 312 *e*P **P** **09 09 03.8 -0.5**
comp=Z,26nm,1.3s,mb5.4
ESLA LR LR
comp=Z,52μm,22.0s,MS6.9
EQES Quesada 87.95 310 P **P** **09 09 05.8 +0.8**
comp=Z,21nm,0.7s,mb5.6
SKAG Skagway 88.09 25 *e*P **P** **09 09 06.4 +1.2**
comp=Z,381nm,2.3s,mb6.3
SKAG LR LR
comp=Z,22μm,19.0s,MS6.6
PAB San Pablo 88.12 312 *e*P **P** **09 09 05.9 +0.1**
PAB pmax pmax
comp=Z,73nm,1.4s,mb5.8
PAB MLR MLR
comp=Z,9μm,19.0s,MS6.2
PAB San Pablo 88.12 312 *e*P **P** **09 09 05.9 +0.1**
comp=Z,73nm,1.4s,mb5.8
PAB LR LR
comp=Z,9μm,19.0s,MS6.2
EBER Berja 88.19 309 P **P** **09 09 07.0 +0.8**
comp=Z,29nm,0.8s,mb5.7
EBAN Banos Encina 88.31 310 P **P** **09 09 06.3 -0.4**
EBAN pmax pmax
comp=Z,127nm,1.2s,mb6.1
EBAN Banos Encina 88.31 310 P **P** **09 09 06.3 -0.4**
comp=Z,127nm,1.2s,mb6.1
EPON Pontenova 88.36 316 P **P** **09 09 09.0 +2.1**
comp=Z,25nm,1.1s,mb5.5
ECOG Cogollos-Vega 88.52 309 P **P** **09 09 08.0 +0.3**
ECOG pmax pmax
comp=Z,7.0nm,0.5s,mb5.2
ECOG Cogollos-Vega 88.52 309 P **P** **09 09 08.0 +0.2**
comp=Z,6.9nm,0.5s,mb5.1
EGUA Guajares 88.71 309 P **P** **09 09 08.8 +0.2**
EGUA pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
EGUA Guajares 88.71 309 P **P** **09 09 08.8 +0.1**
comp=Z,8.9nm,1.0s,mb5.0
PBRG Braganca 88.78 315 *e*P **P** **09 09 11.8 +3.0**
comp=Z,73nm,2.0s
ERON Agron 88.81 309 P **P** **09 09 07.7 -1.4**
comp=Z,11nm,0.7s,mb5.2
EADA Adamuz 88.87 311 P **P** **09 09 08.3 -1.1**
comp=Z,34nm,1.1s,mb5.5
ELUQ Luque 88.91 310 P **P** **09 09 08.4 -1.2**
ELUQ pmax pmax
comp=Z,62nm,1.0s,mb5.8
ELUQ Luque 88.91 310 P **P** **09 09 08.3 -1.2**
comp=Z,62nm,1.0s,mb5.8
ELOJ Sierra Loja 89.00 309 P **P** **09 09 08.8 -1.2**
ELOJ pmax pmax
comp=Z,16nm,0.9s,mb5.2
ELOJ Sierra Loja 89.00 309 P **P** **09 09 08.8 -1.2**
comp=Z,16nm,0.9s,mb5.2
MVO Moncorvo 89.26 314 *e*P **P** **09 09 14.1 +3.0**
comp=Z,118nm,1.5s
MVO SKS 09 20 05.5
MVO *e*LQ 09 32 48.3
MVO *e*LR LR 09 41 19.2
comp=Z,8μm,19.1s
STS Santiago 89.47 316 P **P** **09 09 13.2 +1.1**
SIT Sitka 89.60 27 *e*P **P** **09 09 13.2 +0.8**
comp=Z,395nm,2.3s,mb6.2
SIT *e*pP 09 09 22.6
SIT LR LR
comp=Z,25μm,20.0s,MS6.6
ELOB Lobios 89.63 315 P **P** **09 09 13.8 +0.9**
PCAB Cabril 89.68 315 *e*P **P** **09 09 14.5 +1.4**
comp=Z,70nm,1.4s
EMIJ Mijas 89.70 309 P **P** **09 09 12.4 -0.9**
comp=Z,21nm,0.7s,mb5.5
EMAZ Mazaricos 89.72 316 P **P** **09 09 14.6 +1.4**
comp=Z,15nm,0.7s,mb5.3
MTE Manteigas 89.95 314 *e*P **P** **09 09 14.9 +0.6**
comp=Z,114nm,1.2s,mb6.0
MTE Manteigas 89.95 314 *e*P **P** **09 09 17.9 +3.5**
comp=Z,166nm,1.2s
MTE *e*SKS 09 20 13.5
MTE *e*LQ 09 33 09.7
MTE *e*LR LR 09 40 27.9
comp=Z,7μm,16.6s
PVIS Viseu 90.05 314 *e*P **P** **09 09 16.0 +1.2**
comp=Z,87nm,1.2s
SFJD Kangerlussuaq 90.12 349 *e*P **P** **09 09 12.8 -1.8**
comp=Z,113nm,1.4s,mb5.9
SFJD LR LR
comp=Z,15μm,21.0s,MS6.4
PCBR Castelo Branco 90.16 313 *e*P **P** **09 09 16.6 +1.2**
comp=Z,90nm,1.7s
EJIF Jimena Fronter 90.25 309 P **P** **09 09 15.3 -0.6**
EBAD Badajoz 90.33 312 P **P** **09 09 16.4 +0.2**
comp=Z,2.9nm,0.6s,mb4.7
ESPR Espera 90.35 310 P **P** **09 09 15.9 -0.4**
comp=Z,19nm,0.6s,mb5.5
TSUM Tsumeb 90.51 250 *e*P **P** **09 09 17.4 +0.1**
comp=Z,6.2nm,0.8s,mb5.0
TSUM LR LR
comp=Z,28μm,21.0s,MS6.7
EMIN Mina Concepcio 90.54 311 P **P** **09 09 17.2 +0.1**
comp=Z,28nm,1.1s,mb5.5
PBAR Barrancos 90.61 311 *e*P **P** **09 09 19.8 +2.3**
comp=Z,72nm,1.5s
PBAR *e*SKS 09 20 17.3
PBAR *e*LR LR 09 41 48.1
comp=Z,9μm,22.4s
RPZ Rata Peaks 90.66 137 P **P** **09 09 22.0 +4.6**
comp=Z,26nm,1.0s,mb5.5,baz=95,slow=7.0,SNR=3.6
PESTR Estremoz 90.68 312 *e*P **P** **09 09 23.2 +5.4**
comp=Z,44nm,1.2s
PESTR *e*SKS 09 20 17.3
PESTR *e*LQ 09 33 33.2
PESTR *e*LR LR 09 41 10.3
comp=Z,7μm,22.9s
DLBC Dease Lake 90.83 24 *e*P **P** **09 09 20.6 +2.5**
DLBC *e*PP PP 09 12 55.6 +2.6
DLBC Dease Lake 90.83 24 P **P** **09 09 19.2 +1.1**
baz=295,slow=6.2
EVO Evora 91.13 312⇑ *i*P **P** **09 09 21.4 +1.5**
comp=Z,82nm,1.2s,mb5.6
EVO *e*MLR MLR
comp=Z,11μm,21.5s,MS6.0
EVO Evora 91.13 312 *e*P **P** **09 09 23.0 +3.1**
comp=Z,70nm,1.5s
EGRO El Granado 91.22 311 P **P** **09 09 20.8 +0.5**
comp=Z,17nm,0.9s,mb5.4
WRAK Wrangell Islan 91.27 26 PFAKE 09 09 30.0 +10
WRAK LR LR
comp=Z,21μm,20.0s,MS6.6
PVAQ Vaqueiros 91.44 311 *e*SKS S 09 20 22.6 +0.5
PVAQ *e*LR LR 09 40 51.6
comp=Z,8μm,17.7s
PBDV Barranco-do-Ve 91.67 311 *e*SKS S 09 20 24.1 0.0
PBDV A 09 52 06.5
comp=Z,10μm,18.8s
DRV Dumont d'Urvil 91.80 165 P **P** **09 09 24.0 +1.9**
DRV S SKSac 09 20 03.0 +7.4
DRV SS SS 09 26 41.0 +9.2
DRV L 09 34 00.0
DRV R 09 41 00.0
PMAFR Mafra 91.81 313 *e*SKS S 09 20 26.7 +1.3
PMAFR *e*LQ 09 33 35.3
PMAFR *e*LR LR 09 41 36.5
comp=Z,8μm,22.3s
LIS Lisbon 91.83 313 *e*P **P** **09 09 24.1 +0.9**
LIS *e*S SKSac 09 19 58.2 +0.8
LIS *e*S SKSac 09 19 58.8 +1.4
LIS AMS AMS 09 50 28.2
comp=E,11μm,19.5s
LIS Lisbon 91.83 313 *e*P **P** **09 09 24.1 +0.9**
LIS *e*S S 09 19 58.2 -27
SNZO South Karori 91.98 134 PFAKE 09 09 30.0 +6.4
SNZO LR LR
comp=Z,14μm,20.0s,MS6.4
MORF Marmelete 92.15 311 *e*SKS S 09 20 35.4 +7.0
MORF A 09 52 17.6
comp=Z,11μm,18.2s
MAW Mawson 92.25 194 *e*P **P** **09 09 24.0 -0.2**
comp=Z,25nm,1.0s,mb5.5
MAW Mawson 92.25 194 *e*P **P** **09 09 24.0 -0.2**
MAW pmax pmax
comp=Z,25nm,1.0s
MAW Mawson 92.25 194 P **P** **09 09 24.2 0.0**
comp=Z,11nm,1.1s,mb5.1,baz=317,slow=9.5,SNR=7.6
MAW LR LR 09 50 29.3
comp=Z,10μm,18.5s,MS6.3,baz=27,slow=35
PFVI Vila Bisbo 92.35 311 *e*LR LR 09 42 05.1
comp=Z,13μm,21.8s
KIP Kipapa 92.47 66 PFAKE 09 09 40.0 +14
KIP LR LR
comp=Z,7μm,21.0s,MS6.1
YKA Yellowknife Ar 92.60 16 *i*P **P** **09 09 25.5 -0.7**
YKA pmax pmax
comp=Z,14nm,0.9s
YKA Yellowknife Ar 92.60 16 P **P** **09 09 25.5 -0.7**
YKA PP PP 09 13 08.7 +1.9
YKA PKKPbc PKKPbc 09 26 36.5 -3.8
YKA LR LR 09 54 31.6
YKA Yellowknife Ar 92.60 16 P **P** **09 09 25.5 -0.7**
comp=Z,14nm,0.8s,mb5.4,baz=328,slow=4.1,SNR=35
YKA PP PP 09 13 08.7 +1.9
comp=Z,3.8nm,0.9s,baz=326,slow=7.4,SNR=5.9
YKA PKKPbc PKKPbc 09 26 36.5 -3.8
comp=Z,0.4nm,0.7s,baz=148,slow=1.9,SNR=4.1
YKA LR LR 09 54 31.6
comp=Z,11μm,19.2s,MS6.3,baz=220,slow=38
RAO Raoul Island 92.66 120 PFAKE 09 09 40.0 +13
RAO LR LR
comp=Z,8μm,21.0s,MS6.2
SUR Sutherland 92.74 237 PFAKE 09 09 40.0 +13
SUR LR LR
comp=Z,33μm,22.0s,MS6.8
TOA0 Torodi Ar. Sit 93.72 285 *e*P **P** **09 09 32.1 -0.2**
TORD Torodi Ar. Bea 93.72 285 P **P** **09 09 32.1 -0.2**
TORD PP PP 09 13 16.9 -0.4
TORD PKKPbc PKKPbc 09 26 39.2 +3.0
TORD LR LR 09 58 38.8
TORD Torodi Ar. Bea 93.72 285 P **P** **09 09 32.1 -0.2**
comp=Z,11nm,1.0s,mb5.1,baz=67,slow=3.8,SNR=24
TORD PP PP 09 13 16.9 -0.4
comp=Z,9.3nm,0.9s,baz=66,slow=6.9,SNR=5.4
TORD PKKPbc PKKPbc 09 26 39.2 +3.0
comp=Z,0.3nm,0.6s,baz=281,slow=2.1,SNR=3.5
TORD LR LR 09 58 38.8
comp=Z,10μm,18.2s,MS6.3,baz=65,slow=40
POHA Pohakuloa 95.27 67 PFAKE 09 09 50.0 +11
POHA LR LR
comp=Z,8μm,20.0s,MS6.2
SYO Syowa Base 99.39 199⇑ *e*PP PP 09 14 00.2 +0.1
EDM Edmonton 100.80 20 *e*P Pdif 09 10 03.5 0.0
NLWA Neilton Lookou 101.35 29 PFAKE 09 10 20.0 +14
NLWA LR LR
comp=Z,15μm,20.0s,MS6.5
DBIC Dimbokro 102.13 282 P Pdif 09 10 14.1 +4.6
DBIC 09 14 20.3
DBIC MLR MLR
comp=Z,13μm,22.0s
DBIC Dimbokro 102.13 282 P Pdif 09 10 14.1 +4.6
comp=Z,3.2nm,0.8s,baz=134,slow=9.1,SNR=3.2
DBIC PP PP 09 14 20.2 -1.8
comp=Z,14nm,1.0s,baz=40,slow=7.1,SNR=4.7
FFC Flin Flon 102.52 13 PFAKE 09 10 20.0 +8.8
FFC LR LR
comp=Z,13μm,20.0s,MS6.5
CMLA Cha da Macela 103.08 319 *e*SP Sdif 09 21 56.7 -4.7
CMLA Cha da Macela 103.08 319 *e*LQ 09 37 23.8
CMLA *e*LR LR 09 43 31.1
CMLA Cha da Macela 103.08 319 PFAKE 09 10 20.0 +6.3
CMLA LR LR
comp=Z,13μm,21.0s,MS6.4
PDA Ponta Delgada 103.18 319 *e*P PS 09 24 00.0 +22
NEW Newport 103.55 25 PFAKE 09 10 30.0 +14
NEW LR LR
comp=Z,28μm,21.0s,MS6.8
COR Corvallis 103.69 31 PFAKE 09 10 30.0 +14
COR LR LR
comp=Z,9μm,20.0s,MS6.3
VNDA Vanda 104.03 169 Pdiff Pdif 09 10 20.7 +2.8
comp=Z,0.7nm,0.8s,baz=288,slow=3.0,SNR=3.9
VNDA PKKPbc PKKPbc 09 26 09.3 +0.1
comp=Z,1.0nm,1.0s,baz=32,slow=5.5,SNR=3.7
HAWA Hanford 104.04 27 PFAKE 09 10 30.0 +12
HAWA LR LR
comp=Z,14μm,21.0s,MS6.5
SCHQ Schefferville 104.15 353 PFAKE 09 10 30.0 +12
SCHQ LR LR
comp=Z,13μm,20.0s,MS6.5
SBA Scott Base 105.11 168 PFAKE 09 14 50.0 +14
SBA LR LR
comp=Z,8μm,22.0s,MS6.2
HUMO Hull Mountain 105.33 32 PFAKE 09 14 50.0 +12
HUMO LR LR
comp=Z,10μm,21.0s,MS6.3
MSO Missoula 105.96 24 PFAKE 09 14 50.0 +11
MSO LR LR
comp=Z,14μm,20.0s,MS6.5
YBH Yreka Blue Hor 106.10 32 PFAKE 09 14 50.0 +11
YBH LR LR
comp=Z,8μm,21.0s,MS6.2
BMO Blue Mountains 106.21 27 PFAKE 09 14 50.0 +11
BMO LR LR
comp=Z,15μm,20.0s,MS6.5
EGMT Eagleton 106.44 21 PFAKE 09 14 50.0 +10
EGMT LR LR
comp=Z,21μm,19.0s,MS6.7
WDC Whiskeytown Da 107.04 33 PFAKE 09 14 50.0 +8.9
WDC LR LR
comp=Z,7μm,20.0s,MS6.2
MOD Modoc 107.16 31 PFAKE 09 14 50.0 +8.7
MOD LR LR
comp=Z,7μm,19.0s,MS6.2
WVOR Wild Horse Val 107.53 30 PFAKE 09 14 50.0 +8.0
WVOR LR LR
comp=Z,12μm,19.0s,MS6.5
DLMT Dillon 107.70 24 *e*PKPdf PKiKP 09 14 46.1 +3.9
DLMT *e*PP PP 09 15 05.3 +3.7
DGMT Dagmar 107.73 17 PFAKE 09 14 50.0 +7.8
DGMT LR LR
comp=Z,16μm,19.0s,MS6.6
BOZ Bozeman (W) 107.82 23 PFAKE 09 14 50.0 +7.6
BOZ LR LR
comp=Z,12μm,19.0s,MS6.5
HOPS Hopland 107.93 35 PFAKE 09 14 50.0 +7.2
HOPS LR LR
comp=Z,8μm,20.0s,MS6.2
ULM Lac du Bonnet 107.97 11 PFAKE 09 14 50.0 +7.4
ULM LR LR
comp=Z,18μm,20.0s,MS6.6
MCCM Marconi Confer 108.65 35 PFAKE 09 14 50.0 +5.8
MCCM LR LR
comp=Z,7μm,20.0s,MS6.2
YMR Madison River 108.90 23 PFAKE 09 14 50.0 +5.5
YMR LR LR
comp=Z,14μm,21.0s,MS6.5
RLMT Red Lodge 109.12 22 PFAKE 09 14 50.0 +5.1
RLMT LR LR
comp=Z,14μm,20.0s,MS6.5
AGMN Agassiz Refuge 109.84 12 PFAKE 09 15 00.0 +14
AGMN LR LR
comp=Z,19μm,20.0s,MS6.7
CMB Columbia Colle 110.05 34 PFAKE 09 15 00.0 +13
CMB LR LR
comp=Z,6μm,21.0s,MS6.2
QSPA South Pole Qui 110.40 180 *e*PKPdf PKiKP 09 14 48.0 +1.9
QSPA *e*PP PP 09 15 17.1 -4.3
QSPA LR LR
comp=Z,18μm,20.0s,MS6.6
QSPA South Pole Qui 110.40 180 PKiKP PKiKP 09 14 46.7 +0.5
comp=Z,6.8nm,1.1s,baz=277,slow=1.2,SNR=4.7
QSPA PP PP 09 15 17.0 -4.5
comp=Z,10nm,1.1s,baz=295,slow=2.6,SNR=5.6
SAO San Andreas Ge 110.44 35 PFAKE 09 15 00.0 +12
SAO LR LR
comp=Z,7μm,21.0s,MS6.2
AHID Auburn Hatcher 110.47 25 PFAKE 09 15 00.0 +13
AHID LR LR
comp=Z,19μm,19.0s,MS6.7
NVAR Mina Array Bea 110.80 32 PKPdf PKiKP 09 14 49.2 +0.9
NVAR PKKPbc PKKPbc 09 25 47.3 +0.4
NVAR Mina Array Bea 110.80 32 PKiKP PKiKP 09 14 49.2 +0.9
comp=Z,1.1nm,0.7s,baz=317,slow=1.7,SNR=4.1
NVAR PKKPbc PKKPbc 09 25 47.3 +0.4
comp=Z,1.3nm,0.8s,baz=97,slow=4.6,SNR=4.9
EYMN Ely 110.92 9 PFAKE 09 15 00.0 +12
EYMN LR LR
comp=Z,15μm,21.0s,MS6.5
BW06 Boulder Array 111.06 23 PFAKE 09 15 00.0 +11
BW06 LR LR
comp=Z,12μm,21.0s,MS6.4
HWUT Hardware Ranch 111.27 25 PFAKE 09 15 00.0 +11
HWUT LR LR
comp=Z,16μm,19.0s,MS6.6
RSSD Black Hills 111.73 19 PFAKE 09 15 00.0 +10
RSSD LR LR
comp=Z,24μm,21.0s,MS6.8
DUG Dugway 111.93 27 *e*PKIKP PKiKP 09 14 50.7 +0.4
DUG MLR MLR
comp=Z,10μm,19.0s,MS6.4
MPU Maple Canyon 112.58 26 PFAKE 09 15 00.0 +8.4
MPU LR LR
comp=Z,11μm,20.0s,MS6.5
TPNV Topopah Spring 112.97 32 PFAKE 09 15 00.0 +7.6
TPNV LR LR
comp=Z,11μm,20.0s,MS6.5
COWI Conover 113.04 7 PFAKE 09 15 00.0 +7.7
COWI LR LR
comp=Z,12μm,20.0s,MS6.5
MSU Marysvale 113.60 28 *e*PKIKP PKiKP 09 14 54.4 +0.8
PKME Peaks-Kenny Pk 113.86 352 PFAKE 09 15 00.0 +6.1
PKME LR LR
comp=Z,14μm,20.0s,MS6.5
PPT Papeete 113.93 101 *e*PP PP 09 15 43.4 -5.0
comp=Z,566nm,26.0s
PPT Papeete 113.93 101 *e*PS PS 09 25 17.1 -8.6
comp=Z,7μm,30.0s
PPT *e*SS SS 09 31 28.3 -11
comp=Z,3μm,27.0s
PPT Papeete 113.93 101 *e*LR LR 09 49 14.6
comp=Z,12μm,25.8s
GSC Goldstone 113.99 33 PFAKE 09 15 00.0 +5.6
GSC LR LR
comp=Z,6μm,21.0s,MS6.2
ECSD EROS,Sioux Fal 114.05 14 *e*PKPdf PKiKP 09 14 52.9 -1.4
ECSD LR LR
comp=Z,14μm,21.0s,MS6.5
SNCC San Nicolas Is 114.10 36 PFAKE 09 15 00.0 +5.3
SNCC LR LR
comp=Z,5μm,21.0s,MS6.1
GLMI Grayling 114.73 4 PFAKE 09 15 10.0 +14
GLMI LR LR
comp=Z,14μm,19.0s,MS6.6
LONY Lake Ozonia 114.98 356 PFAKE 09 15 10.0 +14
LONY LR LR
comp=Z,12μm,19.0s,MS6.5
ISCO Idaho Springs 115.09 22 PFAKE 09 15 10.0 +14
ISCO LR LR
comp=Z,18μm,20.0s,MS6.7
LBNH Lisbon 115.16 354 PFAKE 09 15 10.0 +14
LBNH LR LR
comp=Z,13μm,20.0s,MS6.5
PFO Pinyon Flat Ob 115.48 34 PFAKE 09 15 10.0 +13
PFO LR LR
comp=Z,7μm,20.0s,MS6.3
NCB Newcomb 115.61 356 PFAKE 09 15 10.0 +13
NCB LR LR
comp=Z,9μm,20.0s,MS6.4
JFWS Jewell Farm 116.02 9 PFAKE 09 15 10.0 +12
JFWS LR LR
comp=Z,16μm,20.0s,MS6.6
ASCN Ascension 116.22 271 PFAKE 09 15 10.0 +11
ASCN LR LR
comp=Z,4μm,19.0s,MS6.1
MVCO Mesa Verde 116.25 26 PFAKE 09 15 10.0 +11
MVCO LR LR
comp=Z,10μm,20.0s,MS6.4
WUAZ Wupatki 116.44 29 PFAKE 09 15 10.0 +11
WUAZ LR LR
comp=Z,8μm,21.0s,MS6.3
SCIA State Center 116.50 12 PFAKE 09 15 10.0 +11
SCIA LR LR
comp=Z,23μm,21.0s,MS6.8
GLA Glamis 116.77 33 *e*PKIKP PKPdf 09 15 00.2 +0.4
GLA MLR MLR
comp=Z,9μm,20.0s,MS6.4
HRV Adam Dziewonsk 116.84 354 PFAKE 09 15 10.0 +10
HRV LR LR
comp=Z,14μm,21.0s,MS6.6
WES Weston 116.93 353 PFAKE 09 15 10.0 +10
WES LR LR
comp=Z,13μm,22.0s,MS6.5
SDCO Great Sand Dun 116.95 23 PFAKE 09 15 10.0 +10

SDCO LR LR
comp=Z,14μm,19.0s,MS6.6
AAM Ann Arbor 117.31 4 PFAKE 09 15 10.0 +9.4
AAM LR LR
comp=Z,13μm,21.0s,MS6.5
BINY Binghamton 117.47 357 PFAKE 09 15 10.0 +9.1
BINY LR LR
comp=Z,14μm,20.0s,MS6.6
ERPA Erie 117.62 1 PFAKE 09 15 10.0 +8.8
ERPA LR LR
comp=Z,11μm,19.0s,MS6.5
CBKS Cedar Bluff 117.88 18 PFAKE 09 15 10.0 +8.2
CBKS LR LR
comp=Z,21μm,21.0s,MS6.7
KSU1 Kansas State U 118.45 15 PFAKE 09 15 10.0 +7.1
KSU1 LR LR
comp=Z,19μm,20.0s,MS6.7
HDIL Hopedale 118.47 9 PFAKE 09 15 10.0 +7.1
HDIL LR LR
comp=Z,11μm,20.0s,MS6.5
ANMO Albuquerque 119.03 25 *e*PKIKP PKPdf 09 15 03.3 -0.8
ANMO MLR MLR
comp=Z,14μm,20.0s
ANMO Albuquerque 119.03 25 PKKPbc PKKPbc 09 25 22.1 +3.5
comp=Z,1.2nm,0.8s,baz=184,slow=4.5,SNR=3.9
SSPA Standing Stone 119.09 359 PFAKE 09 15 10.0 +5.9
SSPA LR LR
comp=Z,12μm,20.0s,MS6.5
LAZ Ladron 119.22 26 *e*PKPdf PKPdf 09 15 06.8 +2.3
TUC Tucson 119.36 31 *e*PKIKP PKPdf 09 15 04.6 -0.2
TUC MLR MLR
comp=Z,9μm,21.0s,MS6.4
ACSO Alum Creek Sta 119.41 3 PFAKE 09 15 10.0 +5.3
ACSO LR LR
comp=Z,16μm,19.0s,MS6.7
BNM Barren Site 119.65 26 *e*PKPdf PKPdf 09 15 06.0 +0.6
MCWV Mont Chateau 120.08 1 PFAKE 09 15 20.0 +14
MCWV LR LR
comp=Z,15μm,19.0s,MS6.7
TRIS Tristan da Cun 120.22 238 PFAKE 09 15 20.0 +14
TRIS LR LR
comp=Z,5μm,21.0s,MS6.1
TAOE Nuku Hiva Isla 120.24 88 *e*PP PP 09 16 29.9 -2.6
comp=Z,58μm,28.4s
TAOE Nuku Hiva Isla 120.24 88 *e*PS PS 09 26 15.7 -7.3
comp=Z,63μm,25.7s
TAOE *e*SS SS 09 32 54.0 -7.9
comp=Z,116μm,29.8s
TAOE Nuku Hiva Isla 120.24 88 *e*LR LR 09 52 01.3
comp=Z,331μm,23.4s
CCM Cathedral Cave 120.60 11 PFAKE 09 15 20.0 +13
CCM LR LR
comp=Z,22μm,21.0s,MS6.8
AMTX Amarillo 120.87 21 PFAKE 09 15 20.0 +12
AMTX LR LR
comp=Z,10μm,22.0s,MS6.4
CBN Corbin 121.51 358 PFAKE 09 15 20.0 +11
CBN LR LR
comp=Z,13μm,21.0s,MS6.6
WMOK Wichita Mounta 121.94 19 PFAKE 09 15 20.0 +10
WMOK LR LR
comp=Z,22μm,21.0s,MS6.8
MNTX Cornudas Mount 122.30 26 *e*PKPdf PKPdf 09 15 09.5 -1.0
MNTX LR LR
comp=Z,11μm,20.0s,MS6.5
BLA Blacksburg 122.52 1 PFAKE 09 15 20.0 +9.2
BLA LR LR
comp=Z,15μm,19.0s,MS6.7
TZTN Tazewell 123.05 4 *e*PKPdf PKPdf 09 15 11.0 -0.8
TZTN LR LR
comp=Z,15μm,21.0s,MS6.6
MIAR Mount Ida 123.52 14 *e*PKIKP PKPdf 09 15 12.6 -0.2
MIAR MLR MLR
comp=Z,23μm,22.0s,MS6.8
UALR University of 123.57 13 *e*PKPdf PKPdf 09 15 12.9 0.0
CPCT Cooper Cave 124.06 5 *e*PKPdf PKPdf 09 15 11.3 -2.5
PLAL Pickwick Lake 124.12 9 PFAKE 09 15 20.0 +6.1
PLAL LR LR
comp=Z,15μm,20.0s,MS6.7
OXF Oxford 124.37 10 PFAKE 09 15 20.0 +5.6
OXF LR LR
comp=Z,20μm,21.0s,MS6.8
CNNC Cliffs of the 124.48 359 PFAKE 09 15 20.0 +5.4
CNNC LR LR
comp=Z,11μm,20.0s,MS6.5
TXAR Lajitas Array 125.08 26 PKP PKPdf 09 15 15.8 0.0
comp=Z,1.6nm,0.6s,baz=155,slow=0.3,SNR=12
TXAR PP PP 09 17 04.9 +1.5
comp=Z,1.4nm,1.1s,baz=250,slow=2.7,SNR=3.0
LHS Liberty Hill 125.23 2 PKIKP PKPdf 09 15 13.8 -2.3
JCT Junction City 125.53 22 *e*PKIKP PKPdf 09 15 16.0 -0.7
JCT MLR MLR
comp=Z,15μm,21.0s,MS6.6
BBSR BB Station 125.55 345 PFAKE 09 15 30.0 +13
BBSR LR LR
comp=Z,9μm,20.0s,MS6.5
NATX Nacogdoches 125.91 16 PFAKE 09 15 30.0 +13
NATX LR LR
comp=Z,20μm,19.0s,MS6.8
GOGA Godfrey 126.17 4 PFAKE 09 15 30.0 +12
GOGA LR LR
comp=Z,14μm,20.0s,MS6.6
NHSC New Hope 126.61 1 PFAKE 09 15 30.0 +11
NHSC LR LR
comp=Z,15μm,20.0s,MS6.7
HKT Hockley 127.29 18 *e*PKIKP PKPdf 09 15 21.4 +1.3
HKT MLR MLR
comp=Z,19μm,19.0s,MS6.8
BRAL Brewton 128.16 9 PFAKE 09 15 30.0 +8.2
BRAL LR LR
comp=Z,18μm,20.0s,MS6.8
RKT Rikitea 128.47 104 *e*PP PP 09 17 21.2 -6.5
comp=Z,359nm,28.8s
RKT Rikitea 128.47 104 *e*SS SS 09 34 37.8 -7.9
comp=Z,3μm,33.8s
RKT Rikitea 128.47 104 *e*LR LR 09 55 49.2
comp=Z,10μm,27.8s
KVTX Kingsville 128.87 21 PFAKE 09 15 30.0 +6.8
KVTX LR LR
comp=Z,15μm,19.0s,MS6.7
DWPF Disney 131.56 3 PFAKE 09 15 40.0 +12
DWPF LR LR
comp=Z,9μm,19.0s,MS6.5
PTCN Pitcairn Islan 133.13 105 PFAKE 09 15 40.0 +8.8
PTCN LR LR
comp=Z,5μm,20.0s,MS6.3
PMSA Palmer Station 134.68 189 PFAKE 09 15 40.0 +7.1
PMSA LR LR
comp=Z,10μm,22.0s,MS6.5
RCBR Riachuelo 135.50 283 PFAKE 09 15 50.0 +14
RCBR LR LR
comp=Z,4μm,19.0s,MS6.1
TEIG Tepich 138.50 13 PFAKE 09 15 50.0 +8.6
TEIG LR LR
comp=Z,7μm,20.0s,MS6.4
SJG San Juan 139.47 341 PFAKE 09 15 50.0 +6.8
SJG LR LR
comp=Z,7μm,20.0s,MS6.4
LMGC Las Mercedes 139.55 357 *e*P PKPdf 09 15 36.8 -6.5
SDDR Presa de Saban 139.92 348 PFAKE 09 15 50.0 +6.0
SDDR LR LR
comp=Z,11μm,22.0s,MS6.6
BBGH Gun Hill 141.31 328 PFAKE 09 16 00.0 +13
BBGH LR LR
comp=Z,10μm,21.0s,MS6.5
GRGR Grenville 143.18 330 PFAKE 09 16 00.0 +10
GRGR LR LR
comp=Z,6μm,21.0s,MS6.3
TGUH Tegucigalpa,Un 144.69 14 *e*PKPdf PKPdf 09 15 51.3 -1.3
TGUH LR LR
comp=Z,8μm,21.0s,MS6.5
EFI East Falkland 144.83 203 PFAKE 09 16 00.0 +8.3
EFI LR LR
comp=Z,7μm,21.0s,MS6.4
USHA Ushuaia 144.83 191 PKP PKPdf 09 15 51.4 -0.2
comp=Z,15nm,0.7s,baz=60,slow=3.1,SNR=8.7
CAM4 Nova Friburgo 145.87 260 *e*P PKPdf 09 15 55.6 +1.2
CAM4 *i* 09 16 01.0
CAM4 *i* 09 16 11.6
CAM4 *i* 09 16 23.3
CAM4 *i* 09 16 32.0
JTS JuntasAbangare 148.82 11 PFAKE 09 16 10.0 +10
JTS LR LR
comp=Z,13μm,22.0s,MS6.7
SDV Santo Domingo 149.52 343 *e*PKPdf PKPdf 09 16 02.1 +1.4
SDV LR LR
comp=Z,2μm,21.0s,MS6.0
SDV Santo Domingo 149.52 343 PKPbc PKPbc 09 16 04.4 -0.8
baz=52,slow=1.2
BDFB Brasilia 149.94 274 PKHKP PKPdf 09 16 02.1 +0.8
BDFB 09 16 07.2
BDFB MLR MLR
comp=Z,6μm,22.0s
BDFB Brasilia 149.94 274 PKP PKPdf 09 16 02.1 +0.8
comp=Z,16nm,1.0s,baz=29,slow=3.6,SNR=7.1
BDFB PKPbc PKPbc 09 16 07.2 +1.1
comp=Z,16nm,1.0s,baz=19,slow=2.2,SNR=16
BCIP Isla Barro Col 150.44 1 *e*PKPbc PKPbc 09 16 06.4 -1.0
BCIP LR LR
comp=Z,6μm,20.0s,MS6.4
ROSC El Rosal 154.27 349 *e*PKPdf PKPdf 09 16 10.5 +2.6
ROSC El Rosal 154.27 349 PKP PKPdf 09 16 08.9 +1.1
comp=Z,4.5nm,0.4s,baz=248,slow=21,SNR=7.9
TRQA Tornquist 157.04 217 *e*PKPab PKPab 09 16 39.9 -1.2
TRQA LR LR
comp=Z,9μm,21.0s,MS6.6
PLCA Paso Flores 158.59 198 *e*PKPdf PKPdf 09 16 11.3 -1.3
PLCA PKP PKPdf 09 16 14.3 +1.7
PLCA PKPab PKPab 09 16 48.5 +0.9
PLCA LR LR
comp=Z,10μm,20.0s,MS6.7
PLCA Paso Flores 158.59 198 PKP PKPdf 09 16 14.3 +1.7
comp=Z,7.4nm,1.1s,baz=98,slow=3.7,SNR=4.0
PLCA PKPab PKPab 09 16 48.5 +0.9
comp=Z,18nm,1.0s,baz=158,slow=4.6,SNR=6.5
CPUP Villa Florida 159.11 250 PKP PKPdf 09 16 16.4 +2.6
comp=Z,2.7nm,0.9s,baz=70,slow=4.3,SNR=3.1
CPUP PKPab PKPab 09 16 52.8 +2.4
comp=Z,8.2nm,0.8s,baz=86,slow=5.8,SNR=7.6
SIV San Ignacio 162.16 282 PKP PKPdf 09 16 18.0 +0.8
comp=Z,1.1nm,1.0s,baz=101,slow=1.6,SNR=1.3
SIV PKPab PKPab 09 17 06.3 +2.3
comp=Z,5.7nm,0.8s,baz=83,slow=4.0,SNR=5.8
CFAA Coronel Fontan 165.24 220 PKPab PKPab 09 17 18.8 +1.8
comp=Z,1.0nm,0.8s,baz=225,slow=10.0,SNR=3.3
ATAH Atahualpa 166.48 356 PKP PKPdf 09 16 23.1 +1.9
comp=Z,2.6nm,0.7s,baz=288,slow=19,SNR=3.4
ATAH PKPab PKPab 09 17 24.4 +1.7
comp=Z,13nm,0.8s,baz=31,slow=7.3,SNR=5.0
LCO Las Campanas 168.57 221 PFAKE 09 16 30.0 +7.7
LCO LR LR
comp=Z,10μm,22.0s
LPAZ La Paz 168.63 290 *e*PKIKP PKPdf 09 16 22.1 -0.6
LPAZ MLR MLR
comp=Z,8μm,21.0s
LPAZ La Paz 168.63 290 PKP PKPdf 09 16 22.4 -0.2
comp=Z,5.1nm,1.1s,baz=82,slow=4.4,SNR=7.5
LPAZ PKPab PKPab 09 17 33.2 +0.8
comp=Z,8.0nm,1.1s,baz=17,slow=5.5,SNR=5.6
NNA Nana 171.16 345 PFAKE 09 16 30.0 +5.8
NNA LR LR
comp=Z,7μm,22.0s

JMA 16 09:16:22.6±0.2, 4399N×14824E, h83km, M3.7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.92**	**252**	P	Pn	09 16 54.0	+0.6
NEM2				*e*S	Sn	09 17 17.5	+0.6
JRA	**Rausu**	**2.25**	**270**	P	Pn	09 16 58.3	+0.4
JRA				*e*S	Sn	09 17 26.0	+1.1
JNK	**Nakash**	**2.58**	**262**	P	Pn	09 17 02.7	+0.4
JNK				*e*S	Sn	09 17 33.5	+0.7
JAK	**Akkeshi**	**2.76**	**250**	P	Pn	09 17 05.4	+0.7
JAK				*e*S	Sn	09 17 37.6	+0.4
JTKR	**Abashiri--Toko**	**3.13**	**271**	P	Pn	09 17 09.9	+0.3
JTKR				*e*S	Sn	09 17 46.1	+0.2
JAR	**Ashorobuto**	**3.32**	**259**	P	Pn	09 17 13.5	+1.3
JAR				*e*S	Sn	09 17 51.6	+1.0
JCH	**Churui**	**3.82**	**251**	P	Pn	09 17 19.7	+0.7
JCH				*e*S	Sn	09 18 02.7	0.0
JNBK	**Urakawa-nobuka**	**4.36**	**249**	P	Pn	09 17 27.0	+0.6
JKB	**Kayabe**	**5.69**	**251**	P	Pn	09 17 45.6	+1.1
JKB				*e*S	Sn	09 18 45.6	-2.9
JOT	**Ohata**	**5.91**	**246**	P	Pn	09 17 47.6	+0.2
JOT				*e*S	Sn	09 18 51.5	-2.2
JMK	**Ichinoseki**	**7.29**	**229**	*e*S	Sn	09 19 26.1	-1.3

BJI ***16*** *09:24:42.9, 3961N×7497E, h34km, mB4.4, mb4.6, ML4.3*
MOS ***16*** *09:24:42.4±1.5, 3948N×7483E, h33km, mb4.7/9, Error ellipse: s-maj=12.5km s-min=7.3km az=88.0*
ISCJB ***16*** *09:24:43.5±0.4, 3953N±002×7490E±004, h47km±5km, mb4.3/22, Error ellipse: s-maj=5.7km s-min=3.9km az=170.7*
SZGRF ***16*** *09:24:43.9, 3987N×7553E, h33km, mb4.4, Southern Xinjiang, China*
IDC ***16*** *09:24:43.4±5.3, 3950N×7480E, h33km±39km, mb3.9/13, mb1 4.1/17, mb1mx4.0/25, mbtmp3.9/17, ML3.7/4, Error ellipse: s-maj=27.6km s-min=12.5km az=14.0*
NNC ***16*** *09:24:43.7±2.2, 3993N×7487E, h0km, mb4.5, mpv4.4, Error ellipse: s-maj=18.5km s-min=10.9km az=169.0*
NEIC ***16*** *09:24:46.0±1.0, 3961N×7489E, h55km±10km, mb4.4/7, Error ellipse: s-maj=10.8km s-min=9.9km az=162.0*

ISC 16 09:24:45.4±0.3, 3955N±002×7490E±004, h47km±4km, n97, σ1§34/117, mb4.3/22, 13C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**0.83**	**92**	⇑*i*P	**Pn**	**09 24 56.8**	**-4.0**
KSH				S	**Sn**	**09 25 10.3**	**-1.7**
KSH				Smax			
	comp=N,45μm,0.7s						
KSH				Smax			
	comp=E,63μm,1.1s						
KZA	**Kyzart**	**2.54**	**6**	P	**Pn**	**09 25 24.8**	**+0.7**
	SNR=94						
UCH	**Uchtor**	**2.69**	**354**	*e*Pn	**Pn**	**09 25 26.8**	**+0.7**
UCH				*e*Sn	**Sn**	**09 26 04.5**	**+7.1**
UCH	**Uchtor**	**2.69**	**354**	P	**Pn**	**09 25 26.7**	**+0.6**
	SNR=1186						
AML	**Almayashu**	**2.73**	**341**	*e*Pn	**Pn**	**09 25 26.4**	**-0.4**
AML				*e*Sn	**Sn**	**09 26 01.4**	**+2.8**
AML	**Almayashu**	**2.73**	**341**	P	**Pn**	**09 25 26.7**	**0.0**
	SNR=30						
ULHL	**Ulahol**	**2.88**	**20**	P	**Pn**	**09 25 29.3**	**+0.6**
	SNR=73						
AAK	**Ala-Archa**	**3.10**	**354**	P	**Pn**	**09 25 32.8**	**+1.1**
	SNR=202						
KBK	**Karagaybulak**	**3.10**	**1**	P	**Pn**	**09 25 32.9**	**+1.1**
	SNR=183						
EKS2	**Erkin-Say**	**3.22**	**345**	*e*Pn	**Pn**	**09 25 33.5**	**+0.1**
EKS2				*e*Sn	**Sn**	**09 26 18.4**	**+7.9**
EKS2	**Erkin-Say**	**3.22**	**345**	P	**Pn**	**09 25 33.7**	**+0.3**
	SNR=95						
FRU	**Bishkek**	**3.29**	**356**	*i* PN	**Pn**	**09 25 36.0**	**+1.7**
FRU				*i* S	**Sn**	**09 26 20.0**	**+7.9**
FRU				pmax	pmax		
	comp=Z,2μm,1.4s						
FRU				smax			
	comp=N,3μm,1.8s						
TKM2	**Tokmak 2**	**3.41**	**9**	⇓Pg	**Pn**	**09 25 37.1**	**+1.1**
	comp=N,200nm,0.6s						
TKM2				⇑Lg		09 26 20.6	
	comp=N,679nm,0.8s						
TKM2	**Tokmak 2**	**3.41**	**9**	*e*Pn	**Pn**	**09 25 36.9**	**+1.0**
TKM2				*e*Sn	**Sn**	**09 26 20.9**	**+5.8**
TKM2	**Tokmak 2**	**3.41**	**9**	P	**Pn**	**09 25 37.0**	**+1.0**
	SNR=330						
CHMS	**Chumysh**	**3.45**	**358**	P	**Pn**	**09 25 37.3**	**+0.8**
	SNR=85						
USP	**Ospenovka**	**3.73**	**356**	P	**Pn**	**09 25 41.4**	**+1.1**
	SNR=18						
KNDC	**Almaty**	**3.98**	**22**	⇑Pn	**Pn**	**09 25 42.8**	**-1.0**
	comp=N,367nm,0.8s						
KNDC				⇑Lg		09 26 41.9	
	comp=N,5μm,1.9s						
AAA	**Alma-Ata**	**4.03**	**22**	*e*PN	**Pn**	**09 25 52.6**	**+8.2**
AAA				*i* S	**Sn**	**09 26 44.3**	**+14**
AAA				smax			
	comp=E,1μm,0.9s						
KK31	**Karatay Array**	**4.85**	**318**	Pn	**Pn**	**09 25 54.0**	**-1.7**
	comp=E,14nm,0.5s,baz=126,slow=12,SNR=105						
KK31				⇑Sn	**Sn**	**09 26 49.3**	**-1.2**
	comp=E,54nm,0.5s						
KK31				⇑Lg		09 27 09.2	
	comp=E,314nm,0.9s						

CHCP Chirah Chowk 6.03 193 P **Pn 09 26 15.3 +3.4**
KBL Kabul 6.85 225 *e*Pn **Pn 09 26 25.0 +1.8**
comp=E,20nm,0.7s
DLH Dalhousie 7.05 173 *e*P **Pn 09 26 29.0 +3.1**
DLH *e*S **Sn 09 27 48.0 +3.3**
THW Thamme Wali 7.21 202 P **Pn 09 26 30.0 +1.9**
SARP Sargodha 7.82 194 P **Pn 09 26 37.6 +1.0**
SDNR Sundarnagar 8.21 167 *e*P **Pn 09 26 42.0 +0.1**
SDNR *ex* x 09 28 13.0
KLP Kalpa 8.45 160 *e*P **Pn 09 26 46.2 +1.0**
KLP *e*S **Sn 09 28 15.8 -3.5**
KLP Kalpa 8.45 160 *ex* x 09 26 47.1
KLP *ex* x 09 27 03.8
KLP AML AML 09 27 04.8
comp=N,38nm,0.7s
KLP AML AML 09 27 05.0
comp=E,38nm,0.4s
SMLA Simla 8.61 167 *e*P **Pn 09 26 47.2 0.0**
SMLA *e*S **Sn 09 28 20.0 -2.9**
DRP Derazinda 8.67 208 P **Pn 09 26 49.6 +1.4**
MK31 Makanchi Array 9.03 34 ⇓Pn **Pn 09 26 53.5 +0.5**
comp=E,1.8nm,0.4s
MK31 Makanchi Array 9.03 34 *e*Pn **Pn 09 26 53.1 +0.1**
MKAR Makanchi Array 9.03 34 Pn **Pn 09 26 53.1 +0.1**
comp=E,0.7nm,0.3s,baz=17,slow=26,SNR=12
MKAR Lg 09 29 30.7
comp=E,1.0nm,0.3s,baz=221,slow=27,SNR=3.6
WMQ Urumqi 10.48 62 *e*P **Pn 09 27 13.0 +0.2**
WMQ XP 09 27 28.0
WMQ S **Sn 09 29 09.0 +0.3**
WMQ SS 09 29 24.0
WMQ AMB AMB
comp=Z,32nm,1.0s
NDI New Delhi 11.01 169 *e*P **Pn 09 27 19.6 -0.5**
NDI *e*S **Sn 09 29 15.3 -6.6**
AYAN Aya Nagar 11.19 170 *e*P **Pn 09 27 21.5 -1.2**
AYAN *e*S **Sn 09 29 19.8 -6.6**
KURBB Kurchatov Arra 11.36 12 ⇑Pn **Pn 09 27 22.9 -2.0**
comp=Z,0.3nm,0.3s
KURBB ⇓Lg 09 30 34.3
comp=Z,19nm,0.8s
SONA Sohna 11.42 170 *e*P **Pn 09 27 24.4 -1.4**
SONA AMb AMB 09 27 27.0
comp=Z,24nm,1.3s
SONA *e*S **Sn 09 29 24.6 -7.3**
KUDL Kundal 11.45 173 *e*P **Pn 09 27 25.6 -0.7**
KUDL AMb AMB 09 27 27.7
comp=Z,20nm,1.0s
KUDL *e*S **Sn 09 29 24.4 -8.3**
KURK Kurchatov 11.47 12 ⇑Pn **Pn 09 27 24.9 -1.4**
KURK ⇑Lg 09 30 36.4
comp=Z,224nm,1.3s
KHET Khetri 11.47 176 *e*P **Pn 09 27 25.8 -0.8**
KHET AMb AMB 09 27 28.1
comp=Z,21nm,0.8s
KHET *e*S **Sn 09 29 27.3 -5.9**
VOSK Vostochnaya 13.45 350 ⇓Pn **Pn 09 27 49.0 -4.3**
comp=Z,11nm,1.1s
VOSK ⇑Lg 09 31 39.9
comp=Z,130nm,1.4s
BVA0 Borovoye Array 13.83 349 ⇓Pn **Pn 09 27 57.0 -1.5**
comp=Z,2.3nm,1.1s,baz=164,slow=10,SNR=11
BVA0 ⇑Lg 09 31 50.2
comp=Z,18nm,1.4s
BVAR Borovoye Array 13.83 349 P **Pn 09 27 54.8 -3.7**
BVAR 09 30 25.8
BVAR Borovoye Array 13.83 349 Pn **Pn 09 27 54.8 -3.7**
comp=Z,0.2nm,0.3s,baz=177,slow=11,SNR=11
BVAR Sn **Sn 09 30 25.8 -4.6**
comp=Z,0.3nm,0.3s,baz=161,slow=20,SNR=2.8
BVAR Lg 09 31 49.8
comp=Z,0.3nm,0.3s,baz=151,slow=22,SNR=6.1
BRVK Borovoye 13.88 348 P **Pn 09 28 01.4 +2.2**
BRVK pmax pmax
comp=Z,19nm,1.0s
BRVK Borovoye 13.88 348 Pn **Pn 09 28 01.4 +2.2**
comp=Z,19nm,1.0s
ZRNK Zerenda 14.00 345 ⇑Pn **Pn 09 27 56.8 -4.1**
comp=Z,24nm,2.2s
ZRNK ⇓Lg 09 31 57.2
comp=Z,144nm,1.9s
AB31 Akbulak array 14.41 317 ⇑Pn **Pn 09 28 02.8 -3.6**
comp=Z,7.0nm,0.6s
ZAL Zalesovo 15.89 22 P **Pn 09 28 23.3 -2.2**
ZAA0 Zalesovo Array 15.90 22 *e*P **Pn 09 28 23.7 -2.0**
ZALV Zalesovo Beam 15.90 22 Pn **Pn 09 28 23.3 -2.4**
ZALV Lg 09 33 03.8
ZALV Zalesovo Beam 15.90 22 Pn **Pn 09 28 23.3 -2.4**
comp=Z,0.4nm,0.3s,baz=217,slow=14,SNR=9.5
ZALV Lg 09 33 03.8
comp=Z,0.3nm,0.3s,baz=205,slow=20,SNR=5.6
AKTK Aktyubinsk 16.11 318 Pn **Pn 09 28 25.6 -2.8**
AKTK Sn **Sn 09 31 17.4 -8.6**
AKTO Aktyubinsk 16.11 318 Pn **Pn 09 28 25.6 -2.8**
comp=Z,0.7nm,0.3s,baz=122,slow=13,SNR=10
AKTO Sn **Sn 09 31 17.4 -8.6**
comp=Z,0.1nm,0.3s,baz=198,slow=20,SNR=2.5
NVS Novosibirsk 16.29 17 *e*P **Pn 09 28 29.7 -1.0**
LSA Lhasa 16.58 121 P **Pn 09 28 34.8 +0.4**
LSA Lhasa 16.58 121 *e*P **Pn 09 28 34.3 -0.1**
LSA pmax pmax
comp=Z,27nm,1.4s
LSA Lhasa 16.58 121 *e*P **Pn 09 28 34.3 -0.1**
comp=Z,27nm,1.4s
GTA Gaotai 19.22 82 *e*P **Pn 09 29 07.3 +0.6**
GTA AP pP 09 29 10.8 -5.7
GTA AMB AMB
comp=Z,13nm,1.0s
ARU Arti 20.03 333 *e*P **P 09 29 17.0 +3.0**
ARU pmax pmax
comp=Z,13nm,0.9s
ARU Arti 20.03 333 *e*P **P 09 29 17.0 +3.0**
comp=Z,13nm,0.9s
MOY Mondy 21.78 48 *e*P **P 09 29 35.2 +2.3**
ZAK Zakamensk 22.68 52 *e*P **P 09 29 42.6 +0.1**
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb3.6
LZH Lanzhou 23.08 89 *e*P **P 09 29 48.4 +1.5**
LZH AP 09 29 57.1
LZH XP sP 09 30 00.9 -3.3
LZH PP 09 30 20.0
LZH *e*S **S 09 33 53.5 -0.8**
LZH XS sS 09 34 09.5 -5.3
LZH AMB AMB
comp=Z,70nm,1.2s,mb5.0
LZH AMB AMB
comp=Z,240nm,4.0s
GNI Garni 23.11 281 P **P 09 29 47.9 +0.7**
comp=Z,4.2nm,0.4s,mb4.2,baz=164,slow=21,SNR=2.7
SONM Songino Array 24.10 60 P **P 09 29 58.1 +1.7**
comp=Z,0.5nm,0.3s,mb3.4,baz=276,slow=5.7,SNR=4.0
CD2 Chengdu 25.02 101 *e*P **P 09 30 04.3 -0.6**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.4
CD2 AMB AMB
comp=Z,20nm,5.2s
KMI Kunming 27.44 113 P **P 09 30 28.3 +1.5**
KMI AMB AMB
comp=Z,11nm,0.9s,mb4.4
AKASG Malin Array Be 33.59 305 P **P 09 31 18.6 -2.2**
comp=Z,0.6nm,0.4s,mb3.9,baz=78,slow=7.7,SNR=5.3
NJ2 Nanjing 36.14 88 *e*P **P 09 31 44.1 +1.1**
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
FINES FINESS Array B 36.79 323 P **P 09 31 47.9 -0.3**
comp=Z,1.3nm,0.4s,mb4.1,baz=117,slow=10,SNR=9.1
ARCES ARCESS Array B 39.59 335 P **P 09 32 11.5 -0.1**
comp=Z,2.4nm,0.6s,mb4.1,baz=106,slow=8.9,SNR=8.1
KSRS Korea Array 41.05 75 P **P 09 32 25.1 +1.0**
comp=Z,0.8nm,0.5s,mb3.6,baz=282,slow=6.5,SNR=3.4
GERES GERESS Array B 43.76 303 P **P 09 32 46.4 +0.4**
comp=Z,2.0nm,0.6s,mb4.0,baz=77,slow=8.4,SNR=9.6
NB2 NORSAR Subarra 43.88 321 P **P 09 32 45.1 -1.6**
comp=Z,1.5nm,0.6s,mb3.9,baz=89,slow=7.9
NOA NORSAR Array B 43.88 321 P **P 09 32 45.0 -1.7**
comp=Z,1.6nm,0.7s,mb3.9,baz=90,slow=8.0,SNR=5.3
GRA1 Grafenberg Arr 45.18 305 *e*P **P 09 32 58.4 +1.2**
comp=Z,5.0nm,0.9s,mb4.3
GRF Grafenberg Arr 45.18 305 *e*P **P 09 32 58.4 +1.2**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
GRF Grafenberg Arr 45.18 305 *e*P **P 09 32 58.4 +1.2**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.3
GRF Grafenberg Arr 45.18 305 *e*P **P 09 32 58.4 +1.2**

comp=Z,5.0nm,0.9s,mb4.3
MJAR Matsushiro Arr 49.03 72 P **P 09 33 27.7 +0.2**
comp=Z,1.9nm,0.6s,mb4.3,baz=291,slow=9.2,SNR=7.3
BILL Biiibino 54.50 28 P **P 09 34 12.0 +4.2**
BILL *e* pP 09 34 20.5 -0.4
TORD Torodi Ar. Bea 68.84 270 P **P 09 35 43.4 -1.7**
comp=Z,1.2nm,0.5s,mb4.1,baz=45,slow=5.4,SNR=32
LSZ Lusaka 69.78 228 *e*P **P 09 35 50.5 -0.3**
LSZ pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
LSZ Lusaka 69.78 228 *e*P **P 09 35 50.5 -0.3**
comp=Z,4.3nm,0.9s,mb4.4
INK Inuvik 70.37 11 *e*P **P 09 35 53.3 -0.4**
comp=Z,119nm,0.9s
YKA Yellowknife Ar 78.02 4 P **P 09 36 37.7 -0.6**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 78.02 4 P **P 09 36 37.7 -0.6**
comp=Z,1.3nm,0.8s,mb3.9,baz=349,slow=5.7,SNR=16
LBTB Lobatse 79.00 224 *e*P **P 09 36 45.4 +1.2**
LBTB pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
LBTB Lobatse 79.00 224 *e*P **P 09 36 45.4 +1.1**
comp=Z,9.9nm,1.0s,mb4.7
WRA Warramunga Arr 81.10 125 P **P 09 36 55.6 0.0**
WRA pmax pmax
comp=Z,5.0nm,0.6s
WRA Warramunga Arr 81.10 125 P **P 09 36 55.6 -0.1**
comp=Z,4.8nm,0.6s,mb4.6,baz=325,slow=5.1,SNR=94
WRAB Tennant Creek 81.10 125 *e*P **P 09 36 55.7 +0.1**
WRAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
WRAB Tennant Creek 81.10 125 *e*P **P 09 36 55.7 +0.1**
comp=Z,8.1nm,0.8s,mb4.7
ASAR Alice Springs 83.58 128 P **P 09 37 08.5 0.0**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 83.58 128 P **P 09 37 08.5 0.0**
comp=Z,2.9nm,0.6s,mb4.6,baz=312,slow=5.0,SNR=50

IDC 16 09:51:20.7±2.1,5366N×8798E,h0km,mb1 3.3/2, mb1mx3.1/23,mbtmp3.3/2,ML3.4/2,Error ellipse: s-maj=21.4km s-min=5.8km az=97.0,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.90**	**280**	Pn	Pn	09 51 54.0	-0.3
	4.6nm,0.3s,baz=100,slow=15,SNR=55						
ZALV				Lg		09 52 19.8	
	5.8nm,0.3s,baz=100,slow=25,SNR=15						
MKAR	**Makanchi Array**	**7.78**	**210**	Pn	Pn	09 53 15.8	+0.8
	0.4nm,0.3s,baz=26,slow=13,SNR=18						
MKAR				Lg		09 55 26.5	
	0.2nm,0.3s,baz=39,slow=33,SNR=3.6						
BVAR	**Borovoye Array**	**10.54**	**274**	Pn	Pn	09 53 53.1	+0.2
	0.4nm,0.3s,baz=74,slow=15,SNR=3.8						

*ISCJB **16** 09:53:03.4±1.3,465N±0.1×1530E±0.1,h43km±11km, mb3.9/10,Error ellipse: s-maj=21.7km s-min=7.7km az=141.4*
*MOS **16** 09:53:04.9±1.2,4660N×15323E,h58km,mb4.4/5,Error ellipse: s-maj=17.3km s-min=12.5km az=63.9*
*IDC **16** 09:53:08.0±4.7,4655N×153.16E,h66km±42km,mb3.6/11, mb1 3.7/13,mb1mx3.6/24,mbtmp3.6/13,ML3.7/2,Error ellipse: s-maj=26.3km s-min=19.4km az=97.0*
ISC 16 09:53:05.0±1.1,465N±01×1531E±01,h39km±10km,n47, σ1§27/54,mb3.9/10,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.65**	**25**	*e*PN	**Pn**	**09 54 11.1**	**-1.4**
SKR				*e*S	**Sn**	**09 55 01.2**	**-4.0**
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=Z,30nm,0.5s						
SKR				smax			
	comp=N,40nm,0.5s						
SKR				smax			
	comp=E,60nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.64**	**247**	*e*PN	**Pn**	**09 54 27.4**	**+1.2**
NEM2	**Nemuro 2**	**6.06**	**241**	P	**Pn**	**09 54 31.0**	**-1.0**
NEM2				*e*S	**Sn**	**09 55 37.8**	**-2.3**
JRA	**Rausu**	**6.16**	**248**	P	**Pn**	**09 54 34.9**	**+1.6**
JNK	**Nakash**	**6.58**	**247**	P	**Pn**	**09 54 40.4**	**+1.3**
JAK	**Akkeshi**	**6.90**	**242**	P	**Pn**	**09 54 42.7**	**-0.8**
JAK				*e*S	**Sn**	**09 55 58.6**	**-2.2**
JTKR	**Abashiri--Toko**	**6.93**	**252**	P	**Pn**	**09 54 46.4**	**+2.5**
YSS	**Yuzh-Sakhalins**	**7.09**	**277**	*e*PN	**Pn**	**09 54 52.0**	**+5.9**
JAR	**Ashorobuto**	**7.33**	**247**	P	**Pn**	**09 54 51.2**	**+1.8**
JAR				*e*S	**Sn**	**09 56 14.1**	**+2.9**
JOB	**Onbets**	**7.49**	**245**	*e*S	**Sn**	**09 56 14.1**	**-1.0**
JKK2	**Kamakawa 2**	**7.74**	**254**	P	**Pn**	**09 54 57.8**	**+2.8**
ASAJ	**Asahikawa**	**7.75**	**256**	PN	**Pn**	**09 54 58.9**	**+3.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**7.75**	**256**	P	**Pn**	**09 54 58.8**	**+3.7**
ASAJ	**Asahikawa**	**7.75**	**256**	P	**Pn**	**09 54 58.9**	**+3.8**
	comp=Z,1.2nm,0.3s,baz=241,slow=32,SNR=7.2						
JCH	**Churui**	**7.94**	**244**	P	**Pn**	**09 54 58.1**	**+0.4**
JCH				*e*S	**Sn**	**09 56 24.1**	**-2.0**
JEM	**Erimo**	**8.40**	**241**	*e*S	**Sn**	**09 56 36.7**	**-0.8**
ERM	**Erimo**	**8.40**	**241**	*i* PN	**Pn**	**09 55 11.6**	**+7.6**
JNBK	**Urakawa-nobuka**	**8.50**	**244**	*e*S	**Sn**	**09 56 36.1**	**-3.8**
JNB	**Noboribetsu**	**9.48**	**249**	P	**Pn**	**09 55 19.6**	**+0.7**
JNB				*e*S	**Sn**	**09 57 04.2**	**+0.1**
JKB	**Kayabe**	**9.79**	**246**	P	**Pn**	**09 55 22.3**	**-0.7**
JKB				*e*S	**Sn**	**09 57 06.7**	**-4.8**
JTM	**Tenmabayashi**	**10.39**	**241**	P	**Pn**	**09 55 29.5**	**-1.8**
JTM				*e*S	**Sn**	**09 57 20.1**	**-6.3**
JRG	**Rokugo**	**11.54**	**236**	*e*S	**Sn**	**09 57 48.9**	**-5.5**
MJAR	**Matsushiro Arr**	**14.90**	**233**	*e*P	**Pn**	**09 56 40.0**	**+7.3**
MJAR	**Matsushiro Arr**	**14.90**	**233**	P	**Pn**	**09 56 37.4**	**+4.6**
	comp=Z,0.3nm,0.3s,baz=37,slow=8.0,SNR=4.3						
KSRS	**Korea Array**	**20.68**	**253**	P	**P**	**09 57 43.4**	**+1.9**
	comp=Z,1.8nm,0.7s,baz=61,slow=10,SNR=5.7						
BILL	**Biiibino**	**22.64**	**13**	*i* P	**P**	**09 58 01.8**	**-0.3**
MKAR	**Makanchi Array**	**47.01**	**298**	P	**P**	**10 01 32.5**	**+0.4**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.9s						
MKAR	**Makanchi Array**	**47.01**	**298**	P	**P**	**10 01 32.5**	**+0.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=69,slow=6.6,SNR=8.2						
KURK	**Kurchatov**	**47.46**	**304**	*i* P	**P**	**10 01 35.0**	**-0.5**
BVAR	**Borovoye Array**	**50.98**	**310**	P	**P**	**10 02 02.5**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**50.98**	**310**	P	**P**	**10 02 02.5**	**+0.1**
	comp=Z,0.7nm,0.3s,mb4.0,baz=44,slow=11,SNR=4.1						
YKA	**Yellowknife Ar**	**51.15**	**37**	P	**P**	**10 02 02.8**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=295,slow=6.9,SNR=8.1						
ARU	**Arti**	**55.16**	**318**	P	**P**	**10 02 23.9**	**-9.2**
FINES	**FINESS Array B**	**64.24**	**335**	*i* P	**P**	**10 03 35.2**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**64.24**	**335**	P	**P**	**10 03 35.2**	**-0.2**
	comp=Z,1.7nm,0.6s,mb4.3,baz=43,slow=6.9,SNR=8.4						
WRA	**Warramunga Arr**	**68.27**	**199**	P	**P**	**10 04 02.1**	**+0.4**
WRA				*PP	pP	10 04 19.0	+5.7
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**68.27**	**199**	P	**P**	**10 04 02.1**	**+0.4**
	comp=Z,0.4nm,0.8s,mb3.5,baz=16,slow=6.2,SNR=3.0						
WRA				pP	pP	10 04 19.0	+5.7
	comp=Z,0.7nm,0.4s,baz=10,slow=8.2,SNR=7.4						
NB2	**NORSAR Subarra**	**68.44**	**341**	P	**P**	**10 04 02.4**	**+0.1**
	comp=Z,0.9nm,0.5s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.44**	**341**	*e*P	**P**	**10 04 02.6**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
NOA	**NORSAR Array B**	**68.44**	**341**	P	**P**	**10 04 02.6**	**+0.3**
	comp=Z,1.6nm,0.7s,mb4.2,baz=28,slow=6.4,SNR=6.2						
HFS	**Hagfors**	**68.67**	**340**	P	**P**	**10 04 03.9**	**+0.1**
HFS				pmax	pmax		
	comp=Z,3.0nm,0.4s						
HFS	**Hagfors**	**68.67**	**340**	P	**P**	**10 04 03.9**	**+0.1**
	comp=Z,2.6nm,0.4s,mb4.5,baz=60,slow=7.0,SNR=17						
AKASG	**Malin Array Be**	**71.72**	**326**	P	**P**	**10 04 22.7**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**71.72**	**326**	P	**P**	**10 04 22.7**	**+0.1**
	comp=Z,2.0nm,0.5s,mb4.3,baz=30,slow=6.2,SNR=6.0						
ASAR	**Alice Springs**	**71.96**	**198**	P	**P**	**10 04 24.6**	**+0.3**
	comp=Z,0.3nm,0.7s,mb3.3,baz=9.8,slow=5.4,SNR=4.3						
TXAR	**Lajitas Array**	**77.65**	**60**	P	**P**	**10 04 56.7**	**-0.6**
	comp=Z,0.3nm,0.6s,mb3.4,baz=303,slow=3.1,SNR=5.1						
CPUP	**Villa Florida**	**148.62**	**61**	PKPbc	PKPbc	10 12 46.9	-0.8
	comp=Z,0.3nm,0.3s,baz=36,slow=1.3,SNR=3.2						

JMA 16 09:57:26.6±0.2,2634N×12923E,h44km,M3.5,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**0.99**	**300**	P	Pn	09 57 44.4	+0.4
JOW				S	Sn	09 57 56.1	-0.7
JIH	**Iheya**	**1.32**	**302**	P	Pn	09 57 49.4	+0.8
JIH				*e*S	Sn	09 58 04.9	-0.2
JJT2	**Tamagusuku 2**	**1.34**	**262**	P	Pn	09 57 49.7	+0.8
JJT2				*e*S	Sn	09 58 05.6	0.0
NAH1	**Naha**	**1.39**	**265**	*e*S	Sn	09 58 06.4	-0.3
JTK	**Tokunoshima**	**1.46**	**350**	P	Pn	09 57 51.2	+0.7
JTK				*e*S	Sn	09 58 08.2	-0.3
JAGN	**Aguni-jima**	**1.80**	**278**	P	Pn	09 57 56.2	+1.1
JAGN				S	Sn	09 58 16.9	+0.1
JMZ	**Minamidaito 2**	**1.86**	**106**	P	Pn	09 57 56.2	+0.2
JMZ				*e*S	Sn	09 58 16.7	-1.7
JZK	**Kikaishima**	**2.08**	**18**	P	Pn	09 58 00.5	+1.6
JZK				S	Sn	09 58 25.4	+1.9
JAM	**Amami Oshima**	**2.09**	**9**	P	Pn	09 57 59.9	+0.8
JAM				*e*S	Sn	09 58 24.9	+1.0
JKE	**Kume jima 2**	**2.19**	**270**	P	Pn	09 58 00.7	+0.2
JKE				*e*S	Sn	09 58 26.2	-0.3

IDC 16 10:02:50.5±1.8,312S×12849E,h0km,mb3.8/2,mb1 4.0/3, mb1mx3.7/15,mbtmp3.8/3,MS4.7/1,Ms1 4.7/1, ms1mx4.0/29,Error ellipse: s-maj=166.9km s-min=26.4km az=68.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**17.66**	**162**	P	Pn	10 06 56.9	-1.2
	0.2nm,0.3s,baz=344,slow=13,SNR=11						
ASAR	**Alice Springs**	**21.08**	**166**	P	P	10 07 37.4	+0.9
	7.8nm,0.8s,baz=340,slow=9.1,SNR=54						
ASAR				PcP	PcP	10 11 43.0	-0.4
	0.2nm,0.5s,baz=4.4,slow=1.6,SNR=4.6						
JOW	**Kunigami**	**29.78**	**360**	LR	LR	10 21 05.0	
	comp=Z,1μm,18.3s,baz=286,slow=37						
MKAR	**Makanchi Array**	**64.18**	**327**	P	P	10 13 27.1	+0.1
	0.3nm,0.6s,baz=128,slow=7.2,SNR=2.7						

*BJI **16** 10:04:35.4,2020N×10090E,h10km,mb4.6,ML4.3,Ms4.3, Msz4.2*
*ISCJB **16** 10:04:37.4±0.7,2049N±006×10124E±0.10,h10km, mb3.6/6,Error ellipse: s-maj=14.6km s-min=6.0km az=26.4*
*IDC **16** 10:04:37.7±1.6,2028N×10090E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.6/21,mbtmp3.7/6,Error ellipse: s-maj=196.8km s-min=19.6km az=58.0*
*NEIC **16** 10:04:39.5±0.7,2023N×10088E,h10km,Error ellipse: s-maj=19.8km s-min=13.4km az=77.0*
ISC 16 10:04:39.5±0.7,2042N±006×10120E±010,h10km,n11, σ1§03/15,mb3.6/6,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**2.66**	**233**	*e*Pn	**Pn**	**10 05 17.5**	**-4.9**
CHTO				*e*S	**Sn**	**10 05 54.8**	**0.0**
KMI	**Kunming**	**4.89**	**17**	PG	**Pg**	**10 06 10.8**	**-2.4**
KMI				SG	**Sg**	**10 07 16.8**	**+0.2**
KMI				Smax			
	comp=N,53nm,1.0s						
KMI				Smax			
	comp=E,61nm,1.0s						
GYA	**Guiyang**	**7.83**	**39**	P	**Pn**	**10 06 33.5**	**+0.1**
GYA				S	**Sn**	**10 08 17.4**	**+15**
GYA				Smax			
	comp=N,130nm,1.0s						
GYA				Smax			
	comp=E,70nm,0.9s						
CD2	**Chengdu**	**10.70**	**12**	*e*P	**Pn**	**10 07 12.0**	**-0.8**
CD2				XP		10 07 18.3	
CD2				PP		10 07 20.8	
CD2				S	**Sn**	**10 09 13.9**	**+1.3**
CD2				SS		10 09 27.4	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				LR	LR		
	comp=N,2μm,12.0s						
CD2				LR	LR		
	comp=Z,2μm,12.0s						
MK31	**Makanchi Array**	**30.50**	**334**	*e*P	**P**	**10 10 53.0**	**+0.4**
MKAR	**Makanchi Array**	**30.50**	**334**	P	**P**	**10 10 53.0**	**+0.4**
	comp=Z,0.5nm,0.4s,mb3.6,baz=142,slow=9.2,SNR=4.5						
ZALV	**Zalesovo Beam**	**35.74**	**343**	P	**P**	**10 11 39.1**	**+0.9**
	comp=Z,0.4nm,0.3s,mb3.8,baz=144,slow=10,SNR=4.3						
BVAR	**Borovoye Array**	**40.27**	**331**	P	**P**	**10 12 16.6**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=120,slow=8.8,SNR=4.4						
WRA	**Warramunga Arr**	**51.59**	**139**	P	**P**	**10 13 45.4**	**-0.8**
	comp=Z,0.6nm,0.8s,mb3.6,baz=326,slow=8.2,SNR=6.9						
ASAR	**Alice Springs**	**54.18**	**142**	P	**P**	**10 14 07.0**	**+1.7**
	comp=Z,0.4nm,0.9s,mb3.4,baz=324,slow=7.5,SNR=3.8						
NOA	**NORSAR Array B**	**72.36**	**329**	P	**P**	**10 16 03.7**	**-1.6**
	comp=Z,0.6nm,0.7s,mb3.6,baz=80,slow=6.1,SNR=4.1						

*BJI **16** 10:17:38.1,4902N×15573E,h10km,mB5.2,mb5.3,Ms5.0, Msz4.8*
*NEIC **16** 10:17:45.1±0.1,4886N×15477E,h10km,mb5.5/146,Error ellipse: s-maj=3.8km s-min=2.4km az=166.0*
NEIC Felt [II] at Severo-Kuril'sk.
*ISCJB **16** 10:17:46.1±0.8,4881N±002×15485E±002,h29km±5km, mb5.3/244,MS4.7/19,Error ellipse: s-maj=3.7km s-min=1.8km az=160.8*
*MOS **16** 10:17:47.9±1.0,4882N×15479E,h43km,mb5.5/88, MS4.2/5,Error ellipse: s-maj=6.8km s-min=3.8km az=94.5*
MOS Felt (II) at Severo-Kuril'sk.
*BGS **16** 10:17:47.2±1.3,4928N×155.16E,h10km,mb5.6*
*IDC **16** 10:17:48.4±4.7,4886N×15478E,h33km±34km,mb5.0/36, mb1 5.1/38,mb1mx5.0/39,mbtmp5.0/38,ML4.4/2,MS4.6/9, Ms1 4.7/9,ms1mx4.1/41,Error ellipse: s-maj=11.6km s-min=8.6km az=124.0*
*SKHL **16** 10:17:48.8±0.1,4881N×15506E,h63km±28km,mb6.1/2, mbh5.9/2,Ms4.9/3,msh6.5/2*
SKHL Felt (II) at Severo-Kurilsk.
*SZGRF **16** 10:17:55.3,5050N×15550E,h33km,mb5.2,Kuril Islands, Russia*
ISC 16 10:17:50.0±0.3,4888N±002×15477E±002,h43km±3km, h11km±3.5km:pP-P,n1144,σ0§74/1158,mb5.3/244, MS4.7/19,151C-151D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.01**	**25κ**	*i* PN	**Pn**	**10 18 20.5**	**-0.8**
SKR				*i* S	**Sn**	**10 18 44.2**	**-0.9**
SKR				pmax	pmax		
	comp=N,2μm,0.5s						
SKR				pmax	pmax		
	comp=E,2μm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,4μm,2.0s						
SKR				pmax	pmax		
	comp=E,5μm,2.0s						
SKR				pmax	pmax		
	comp=Z,5μm,2.0s						
SKR				smax			
	comp=N,20μm,1.0s						
SKR				smax			
	comp=E,31μm,1.0s						
SKR	**Severo-Kuril's**	**2.01**	**25**	⇓*i* P	**Pn**	**10 18 20.5**	**-0.8**
SKR				⇓*i* P		10 18 20.5	
SKR				AMB	AMB	10 18 26.0	
	comp=E,5μm,2.0s						
SKR				AMB	AMB	10 18 26.0	
	comp=E,4μm,2.0s						
SKR				AMB	AMB	10 18 26.0	
	comp=E,5μm,2.0s						
SKR				AMB	AMB	10 18 26.5	
	comp=E,2μm,0.5s						
SKR				AMB	AMB	10 18 26.5	
	comp=E,2μm,0.5s						
SKR				AMB	AMB	10 18 26.5	
	comp=E,2μm,0.5s						
SKR				*i* S	**Sn**	**10 18 44.2**	**-0.9**
SKR				A		10 18 48.0	
	comp=E,20μm,1.0s						
SKR				A		10 18 48.0	
	comp=E,31μm,1.0s						
SKR				A		10 18 48.0	
	comp=E,20μm,1.0s						
SKR				A		10 18 48.0	
	comp=E,30μm,1.0s						
PET	**Petropavlovsk**	**4.82**	**29**	*e*Pn	**Pn**	**10 19 01.0**	**+1.1**
PET				*e*Sn	**Sn**	**10 19 52.9**	**-1.5**
KUR	**Kuril'sk**	**5.96**	**235**	*e*PN	**Pn**	**10 19 15.0**	**-0.6**
KUR				*i* S	**Sn**	**10 20 28.2**	**+5.7**
KUR				pmax	pmax		
	comp=N,450nm,0.8s						
KUR				pmax	pmax		
	comp=E,650nm,0.8s						
KUR				pmax	pmax		
	comp=Z,2μm,0.8s						
KUR				pmax	pmax		
	comp=E,2μm,1.6s						
KUR				pmax	pmax		
	comp=Z,6μm,1.6s						
KUR				smax			
	comp=N,16μm,2.0s						
KUR				smax			
	comp=E,20μm,2.0s						
KUR				smax			
	comp=N,4μm,1.0s						
KUR				smax			
	comp=E,2μm,1.0s						
KUR				MLR	MLR		
	comp=E,5μm,12.0s						
KUR				MLR	MLR		
	comp=Z,5μm,12.0s						
KUR	**Kuril'sk**	**5.96**	**235**	*e*P	**Pn**	**10 19 15.0**	**-0.6**
KUR				AMB	AMB	10 19 17.0	
	comp=Z,6μm,1.6s						
KUR				AMB	AMB	10 19 17.0	
	comp=Z,2μm,1.6s						
KUR				AMB	AMB	10 19 17.0	
	comp=Z,452nm,0.8s						
KUR				AMB	AMB	10 19 17.0	
	comp=Z,645nm,0.8s						
KUR				AMB	AMB	10 19 17.0	
	comp=Z,2μm,0.8s						
KUR				*i* S	**Sn**	**10 20 28.2**	**+5.7**
KUR				A		10 20 35.0	
	comp=Z,16μm,2.0s						
KUR				A		10 20 35.0	
	comp=Z,20μm,2.0s						
KUR				A		10 20 43.5	
	comp=Z,4μm,1.0s						
KUR				A		10 20 43.5	
	comp=Z,2μm,1.0s						
KUR				AMS	AMS	10 21 47.0	
	comp=Z,5μm,12.0s						
KUR				AMS	AMS	10 21 47.0	
	comp=Z,5μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**235***j*	*i* PN	**Pn**	**10 19 43.3**	**+2.1**
YUK				pmax	pmax		
	comp=E,1μm,0.5s						
YUK				pmax	pmax		
	comp=Z,2μm,0.5s						
YUK				pmax	pmax		
	comp=N,680nm,0.6s						
YUK				pmax	pmax		
	comp=Z,5μm,1.0s						
YUK				pmax	pmax		
	comp=N,2μm,0.8s						
YUK				pmax	pmax		
	comp=E,3μm,0.8s						
YUK				MLR	MLR		
	comp=N,4μm,18.0s						
YUK				MLR	MLR		
	comp=E,4μm,17.0s						
YUK				MLR	MLR		
	comp=Z,6μm,17.0s						
YUK	**Yuzh-Kuril'sk**	**7.83**	**235**⇓*j*	*i* P	**Pn**	**10 19 43.3**	**+2.1**
YUK				AMB	AMB	10 19 44.4	
	comp=Z,1μm,0.5s						
YUK				AMB	AMB	10 19 44.4	
	comp=Z,2μm,0.5s						
YUK				AMB	AMB	10 19 45.2	
	comp=Z,2μm,0.8s						
YUK				AMB	AMB	10 19 45.2	
	comp=Z,3μm,0.8s						
YUK				AMB	AMB	10 19 45.2	
	comp=Z,5μm,1.0s						
YUK				*e*S	**Sn**	**10 21 09.3**	**+0.9**
YUK				A		10 21 35.6	
	comp=Z,4μm,2.0s						
YUK				A		10 21 35.6	
	comp=Z,5μm,2.0s						
YUK				A		10 21 39.9	
	comp=Z,3μm,0.9s						
YUK				A		10 21 39.9	
	comp=Z,2μm,0.9s						
YUK				AMS	AMS	10 22 28.0	
	comp=Z,4μm,18.0s						
YUK				AMS	AMS	10 22 28.0	
	comp=Z,4μm,17.0s						
YUK				AMS	AMS	10 22 28.0	
	comp=Z,6μm,17.0s						
TYV	**Tymovskoe**	**8.07**	**289**	*e*P	**Pn**	**10 19 49.0**	**+4.5**
TYV				AMB	AMB	10 19 54.0	
	comp=Z,1μm,2.0s						
TYV				AMB	AMB	10 19 54.0	
	comp=Z,1μm,2.0s						
TYV				AMB	AMB	10 19 54.0	
	comp=Z,712nm,1.2s						
TYV				AMB	AMB	10 19 54.0	
	comp=Z,70nm,1.0s						
TYV				AMB	AMB	10 19 54.0	
	comp=Z,282nm,1.0s						
TYV				A		10 21 38.4	
	comp=Z,47nm,0.6s						
TYV				A		10 21 38.4	
	comp=Z,29nm,0.6s						
TYV				AMS	AMS	10 23 18.0	
	comp=Z,4μm,20.0s						
TYV				AMS	AMS	10 23 18.0	
	comp=Z,2μm,14.0s						
TYV				AMS	AMS	10 23 18.0	
	comp=Z,4μm,14.0s						
JRA	**Rausu**	**8.29**	**237**	⇑P	**Pn**	**10 19 50.3**	**+2.7**
YSS	**Yuzh-Sakhalins**	**8.30**	**261κ**	*i* PN	**Pn**	**10 19 53.0**	**+5.4**
YSS				pmax	pmax		
	comp=N,230nm,0.6s						
YSS				pmax	pmax		
	comp=E,380nm,0.6s						
YSS				pmax	pmax		
	comp=Z,430nm,0.6s						
YSS	**Yuzh-Sakhalins**	**8.30**	**261**	*e*Pn	**Pn**	**10 19 53.0**	**+5.4**
YSS				*e*Sn	**Sn**	**10 21 22.7**	**+2.8**
YSS	**Yuzh-Sakhalins**	**8.30**	**261**	⇓*i* P	**Pn**	**10 19 53.0**	**+5.4**
YSS				AMB	AMB	10 19 53.9	
	comp=Z,230nm,0.6s						
YSS				AMB	AMB	10 19 53.9	
	comp=Z,380nm,0.6s						
YSS				AMB	AMB	10 19 53.9	
	comp=Z,430nm,0.6s						
YSS				*e*S	**Sn**	**10 21 21.7**	**+1.8**
YSS				A		10 21 26.0	
	comp=Z,330nm,1.0s						
NEM2	**Nemuro 2**	**8.35**	**232**	P	**Pn**	**10 19 48.0**	**-0.3**
NEM2				*e*S	**Sn**	**10 21 17.8**	**-3.3**
UGL	**Uglegorsk**	**8.36**	**276**	*e*P	**Pn**	**10 19 54.0**	**+5.6**
UGL				AMB	AMB	10 19 56.0	
	comp=Z,186nm,0.7s						
UGL				AMB	AMB	10 19 56.0	
	comp=Z,93nm,0.7s						
UGL				AMB	AMB	10 19 56.0	
	comp=Z,552nm,0.7s						
JNK	**Nakash**	**8.75**	**236**	P	**Pn**	**10 19 55.6**	**+1.9**
JNK				*e*S	**Sn**	**10 21 32.0**	**+1.1**
OKH	**Okha**	**8.77**	**307**	*e*P	**Pn**	**10 20 01.0**	**+6.9**
OKH				*e*P		10 20 02.0	
OKH				AMB	AMB	10 20 03.9	
	comp=Z,400nm,1.0s						
JTKR	**Abashiri--Toko**	**8.96**	**241**	P	**Pn**	**10 20 00.3**	**+3.6**

JAK Akkeshi 9.15 234 P Pn 10 19 59.0 -0.3
JAK eS Sn 10 21 37.7 -3.2
JSE Soyaes 9.21 249 P Pn 10 20 06.0 +5.9
JMP Maruseppu 9.26 243 ⇑P **Pn 10 20 04.7 +3.9**
JAR Ashorobuto 9.46 238 P Pn 10 20 05.2 +1.7
JAR eS Sn 10 21 50.0 +1.6
JWK2 Keihoku 9.47 253 P Pn 10 20 11.3 +7.6
ASAJ Asahikawa 9.65 245 PN **Pn 10 20 11.0 +4.9**
ASAJ 10 22 01.5
ASAJ pmax pmax
comp=Z,66nm,0.3s
ASAJ MLR MLR
comp=Z,3μm,21.4s
ASAJ Asahikawa 9.65 245 P Pn 10 20 11.4 +5.3
ASAJ Asahikawa 9.65 245 Pn **Pn 10 20 11.0 +4.9**
comp=Z,66nm,0.3s,baz=75,slow=13,SNR=787
ASAJ Sn **Sn 10 22 01.5 +8.5**
baz=145,slow=31,SNR=1.2
ASAJ LR LR 10 23 03.5
comp=Z,3μm,21.4s,baz=6.1,slow=33
JOB Onbets 9.68 236 P Pn 10 20 07.3 +0.8
JOB eS Sn 10 21 52.2 -1.7
JKK2 Kamakawa 2 9.70 243 P Pn 10 20 11.1 +4.4
NKL Nikolayevsk 9.85 301 *e*P **Pn 10 20 09.8 +1.0**
NKL ⇓*i*P 10 20 11.5
NKL AMB AMB 10 20 13.0
comp=Z,1μm,2.0s
NKL AMB AMB 10 20 13.0
comp=Z,1μm,2.0s
NKL AMB AMB 10 20 13.2
comp=Z,430nm,1.3s
NKL AMB AMB 10 20 13.2
comp=Z,220nm,1.3s
NKL AMB AMB 10 20 13.2
comp=Z,90nm,1.3s
JSS Shosan 9.95 248 P Pn 10 20 17.5 +7.3
JCH Churui 10.13 236 P Pn 10 20 13.0 +0.3
JCH eS Sn 10 22 01.4 -3.5
JFR Furan 10.21 241 P Pn 10 20 16.5 +2.7
JAB Ashibetsu 10.22 243 P Pn 10 20 18.0 +4.1
JBT2 Biratori 2 10.58 239 P Pn 10 20 19.8 +0.9
ERM Erimo 10.65 234 Pn **Pn 10 20 20.6 +0.8**
comp=Z,2μm,0.7s,SNR=68
ERM Erimo 10.65 234 *e*PN **Pn 10 20 19.8 -0.1**
ERM pmax pmax
comp=Z,150nm,0.5s
ERM Erimo 10.65 234 *e*Pn **Pn 10 20 19.8 0.0**
comp=Z,149nm,0.4s
ERM eSn **Sn 10 22 17.1 -0.6**
JEM Erimo 10.65 234 P Pn 10 20 19.9 +0.1
JEM eS **Sn 10 22 16.6 -1.1**
JNBK Urakawa-nobuka 10.69 236 P Pn 10 20 19.1 -1.3
JNBK eS **Sn 10 22 14.9 -3.7**
MA2 Magadan 10.97 349 ⇓*i*PN **Pn 10 20 27.5 +3.5**
MA2 pmax pmax
comp=Z,47nm,0.6s
MA2 Magadan 10.97 349 *e*Pn **Pn 10 20 24.8 +0.7**
JEW Eniwo 11.07 242 P Pn 10 20 27.7 +2.1
JNB Noboribetsu 11.54 241 P Pn 10 20 32.2 +0.2
JNB eS **Sn 10 22 38.1 -1.2**
JKB Kayabe 11.91 239 P Pn 10 20 35.6 -1.4
JKB eS **Sn 10 22 42.0 -6.5**
JSH Shimam 12.02 244 P Pn 10 20 40.5 +2.0
JYM2 Yakumo 2 12.15 242 P Pn 10 20 40.3 +0.1
JOT Ohata 12.24 237 P Pn 10 20 39.2 -2.3
JSR Shiriuchi 12.49 239 P Pn 10 20 43.6 -1.4
JTM Tenmabayashi 12.63 235 P Pn 10 20 43.9 -3.0
JTM eS **Sn 10 22 57.3 -8.8**
JANG Nango 12.69 233 P Pn 10 20 43.9 -3.8
JANG eS **Sn 10 22 57.2 -10**
JOSM Okushiri--Mats 12.69 243 P Pn 10 20 47.0 -0.7
SMY Shemya 12.81 65 *e*PN **Pn 10 20 46.4 -2.9**
SMY Shemya 12.81 65 *e*P **Pn 10 20 46.3 -3.0**
TEY Ternei 12.99 260 *e*P **Pn 10 20 57.0 +5.3**
HABR Khabarovsk 13.04 276⇑*i*PN **Pn 10 20 58.3 +5.9**
HABR eS **Sn 10 23 26.4 +11**
HABR pmax pmax
comp=Z,67nm,0.9s
OFUJ Ofunato 13.58 229 P Pn 10 20 55.1 -4.7
OFUJ eS **Sn 10 23 16.9 -12**
JRG Rokugo 13.87 232 P Pn 10 20 57.5 -6.2
JRG eS **Sn 10 23 23.3 -13**
SEY Seymchan 14.15 356⇑*i*P **Pn 10 21 09.5 +2.1**
JIO Ouri 14.22 228 P Pn 10 21 03.4 -5.2
JIO eS **Sn 10 23 32.8 -12**
JYA Atsumi 14.94 232 P Pn 10 21 14.4 -3.8
KLR Kul'dur 15.09 280 *e*P **Pn 10 21 22.6 +2.6**
KLR pmax pmax
comp=E,140nm,1.6s
KLR pmax pmax
comp=Z,110nm,1.6s
JFK Kawauchi 15.31 226 P Pn 10 21 18.3 -4.7
JFY Yanaizu 15.85 229 P Pn 10 21 26.9 -3.0
JSD Sado 16.12 234 P Pn 10 21 30.1 -3.3
VLA Vladivostok 16.88 259 *i* P **Pn 10 21 43.6 +0.8**
VLA pmax pmax
comp=Z,87nm,0.8s
MAJO Matsushiro 17.28 231 *e*P **Pn 10 21 45.9 -2.0**
MAJO pmax pmax
comp=Z,217nm,0.7s
MAJO Matsushiro 17.28 231 *e*P **Pn 10 21 45.9 -2.0**
comp=Z,217nm,0.7s
MAT Matsushiro 17.28 231 P Pn 10 21 45.6 -2.3
MAT Matsushiro 17.28 231 P Pn 10 21 46.6 -1.3
MJAR Matsushiro Arr 17.28 231 P Pn 10 21 45.9 -2.0
comp=Z,1.8nm,0.3s,baz=29,slow=14,SNR=54
MJAR S **S 10 25 12.2 +5.9**
comp=Z,0.2nm,0.3s,baz=27,slow=22,SNR=3.2
MJAR PcP PcP 10 26 28.0 -0.8
comp=Z,0.2nm,0.3s,baz=67,slow=0.9,SNR=4.8
JRY Ryogami san 17.34 228 P Pn 10 21 47.6 -1.1
MDJ Mudanjiang 17.74 266 P Pn 10 21 54.8 +1.3
MDJ AP pP 10 21 58.1 -6.1
MDJ XP sP 10 21 59.4 -10
MDJ AMB AMB
comp=Z,72nm,1.1s
MDJ Mudanjiang 17.74 266 *e*P **Pn 10 21 55.0 +1.5**
comp=Z,36nm,0.6s
ZEA Zeya 17.82 296 *e*P **Pn 10 21 54.2 -0.2**
ZEA AMB AMB 10 21 55.9
comp=Z,85nm,1.2s
JOD2 Odawara 2 17.86 226 P Pn 10 21 53.4 -1.6
JSG Sagara 18.77 227 P Pn 10 22 06.4 +0.3
YAK Yakutsk 19.21 323 *e*P **Pn 10 22 11.1 -0.1**
YAK eS **S 10 25 47.6 +2.5**
YAK pmax pmax
comp=Z,324nm,0.9s
YAK pmax pmax
comp=N,99nm,1.1s
YAK pmax pmax
comp=E,212nm,1.4s
YAK pmax pmax
comp=Z,493nm,1.6s
YAK pmax pmax
comp=N,378nm,2.0s
YAK pmax pmax
comp=E,454nm,1.9s
YAK smax
comp=N,228nm,1.6s
YAK smax
comp=E,351nm,3.1s
YAK MLR MLR
comp=Z,1μm,16.0s
YAK MLR MLR
comp=N,2μm,21.0s
YAK MLR MLR
comp=E,1μm,25.0s
YAK Yakutsk 19.21 323 *e*P **Pn 10 22 11.1 -0.2**
comp=E,306nm,0.8s
JHJ Hachijo jima 2 19.33 221 P Pn 10 22 12.1 -0.8
comp=E,4.4nm,0.3s,baz=61,slow=15,SNR=2.1
CLNS Chul'man 19.59 305 *e*P **Pn 10 22 18.9 +3.2**
CLNS pmax pmax
comp=Z,238nm,0.9s
CLNS pmax pmax
comp=N,158nm,1.0s
CLNS pmax pmax
comp=E,135nm,0.8s
CLNS MLR MLR
comp=Z,2μm,17.0s
CLNS MLR MLR
comp=N,900nm,19.0s
CLNS MLR MLR
comp=E,2μm,21.0s

NRGR Nerungri 19.65 305 *e*P **Pn 10 22 17.7 +1.3**
NRGR S **S 10 25 54.2 +0.4**
NRGR smax
comp=E,62nm,0.5s
JWT Wachi 19.70 234 P Pn 10 22 16.2 -1.1
BILL Biiibino 20.07 13*oe*P **P 10 22 17.6 -1.6**
BILL *e* 10 22 30.9
BILL *e*S **S 10 26 01.1 -0.9**
BILL pmax pmax
comp=Z,115nm,0.7s
BILL Biiibino 20.07 13 *e*P **P 10 22 17.6 -1.6**
comp=Z,159nm,0.9s
JAD Aida 20.62 235 P P 10 22 25.7 +0.2
CN2 Changchun 20.80 267 *e*P **P 10 22 25.5 -1.8**
CN2 *e*XP sP 10 22 32.5 -11
CN2 AMB AMB
comp=Z,50nm,0.8s
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,2μm,17.0s,MS4.6
CN2 LR LR
comp=E,2μm,17.0s,MS4.6
CN2 LR LR
comp=Z,1μm,18.0s,MS4.4
JWZ Kozaga 20.90 230 P P 10 22 29.9 +1.3
JHS Saijyo 21.16 237 P P 10 22 32.3 +1.0
KSRS Korea Array 22.54 250 P P 10 22 46.8 +0.7
comp=Z,77nm,0.7s,mb5.2,baz=48,slow=8.9,SNR=105
KSRS PcP PcP 10 26 38.4 0.0
comp=Z,8.7nm,0.9s,baz=34,slow=1.2,SNR=9.6
KSRS S **S 10 27 06.6 +16**
comp=Z,3.7nm,1.0s,baz=55,slow=21,SNR=4.7
KSRS LR LR 10 31 00.9
comp=Z,1μm,19.6s,MS4.4,baz=35,slow=35
HIA Hailar 22.83 284 *e*P **P 10 22 49.0 0.0**
HIA pmax pmax
comp=Z,65nm,1.1s
HIA Hailar 22.83 284 *e*P **P 10 22 49.0 0.0**
comp=Z,65nm,1.1s,mb5.0
INCN Inchon 23.33 251 *e*P **P 10 22 54.0 -0.3**
comp=Z,168nm,1.2s,mb5.3
GAMB Gambell 23.45 38 *e*P **P 10 22 54.2 -1.0**
JNU Nakatsue 23.79 237 P P 10 22 59.2 +0.6
JNU Nakatsue 23.79 237 P P 10 22 59.4 +0.8
comp=Z,126nm,1.0s,mb5.3,baz=45,slow=15,SNR=21
CBIJ Chichi jima 23.84 209 P P 10 22 57.8 -1.3
comp=Z,93nm,0.8s,mb5.3,baz=301,slow=14,SNR=5.6
BOD Bodaibo 25.56 306 *e*P **P 10 23 13.3 -1.2**
BOD *e* 10 23 29.8
BOD pmax pmax
comp=Z,10.0nm,0.9s,mb4.3
TNA Tin City 25.64 36 *e*P **P 10 23 16.6 +1.5**
comp=Z,181nm,0.8s,mb5.7
DL2 Dalian 25.70 260 P P 10 23 18.4 +2.5
DL2 *e*S **S 10 27 48.4 +7.0**
DL2 AMB AMB
comp=Z,50nm,1.2s,mb4.9
DL2 LR LR
comp=N,440nm,17.2s,MS4.2
DL2 LR LR
comp=E,370nm,14.7s,MS4.2
DL2 LR LR
comp=Z,470nm,14.2s,MS4.2
TIXI Tiksi 25.77 341 *e*P **P 10 23 14.8 -1.4**
TIXI *e* 10 23 32.1
TIXI pmax pmax
comp=Z,62nm,0.8s,mb5.2
TIXI Tiksi 25.77 341 *e*P **P 10 23 15.1 -1.1**
comp=Z,99nm,0.8s,mb5.4
BJI Beijing 28.66 267 P P 10 23 41.3 -1.2
BJI S **S 10 28 28.0 -0.2**
BJI AMB AMB
comp=Z,20nm,1.0s,mb4.8
BJI LR LR
comp=N,822nm,16.7s,MS4.6
BJI LR LR
comp=E,1μm,18.8s,MS4.6
BJI LR LR
comp=Z,656nm,19.1s,MS4.3
BJT Baijiatuau 28.68 267 *e*P **P 10 23 43.2 +0.6**
BJT pmax pmax
comp=Z,16nm,0.7s
BJT Baijiatuau 28.68 267 *e*P **P 10 23 43.2 +0.6**
comp=Z,16nm,0.7s,mb4.9
TTA Tatalina 30.10 44 *e*P **P 10 23 54.4 -0.5**
TTA Tatalina 30.10 44 *e*P **P 10 23 54.7 -0.3**
comp=Z,123nm,1.3s,mb5.5
JOW Kunigami 30.10 233 P P 10 23 55.4 +0.1
comp=Z,106nm,0.9s,mb5.6,baz=44,slow=7.9,SNR=11
SVW2 Sparrevohn 30.21 47 *e*P **P 10 23 55.8 -0.1**
HHC Hu-ho-hao-te 31.30 272 ⇓P **P 10 24 05.9 +0.1**
HHC AP pP 10 24 10.3 -7.0
HHC PP PP 10 25 09.8 -7.0
HHC PCP PcP 10 26 59.6 +0.6
HHC S **S 10 29 10.8 +1.3**
HHC AMB AMB
comp=Z,81nm,1.1s,mb5.5
HHC AMB AMB
comp=Z,1μm,9.6s
HHC LR LR
comp=N,3μm,18.6s,MS5.0
HHC LR LR
comp=E,2μm,17.1s,MS5.0
HHC LR LR
comp=Z,2μm,16.5s,MS4.9
ULN Ulaanbaatar 31.30 287 *e*P **P 10 24 06.1 +0.4**
IMA2 Indian Mountai 31.43 38 *e*P **P 10 24 06.4 -0.2**
NJ2 Nanjing 31.71 251 *e*P **P 10 24 10.4 +0.9**
NJ2 AP pP 10 24 14.3 -6.7
NJ2 XP sP 10 24 17.1 -9.0
NJ2 PP PP 10 25 14.8 -6.7
NJ2 PPP 10 25 30.3
NJ2 S **S 10 29 17.0 +0.9**
NJ2 AMB AMB
comp=Z,60nm,0.9s,mb5.4
NJ2 AMB AMB
comp=Z,1μm,10.2s
NJ2 LR LR
comp=N,3μm,19.2s,MS5.0
NJ2 LR LR
comp=E,2μm,22.4s,MS5.0
NJ2 LR LR
comp=Z,2μm,20.4s,MS4.8
IRK Irkutsk 31.73 296 *e*P **P 10 24 09.1 -0.3**
IRK pmax pmax
comp=Z,28nm,1.1s,mb5.0
SONM Songino Array 31.73 287 P P 10 24 08.6 -0.9
SONM 10 27 00.3
SONM Songino Array 31.73 287 P P 10 24 08.6 -0.9
comp=Z,4.7nm,0.9s,mb4.3,baz=69,slow=8.1,SNR=10
SONM PcP PcP 10 27 00.3 +0.2
comp=Z,12nm,0.7s,baz=88,slow=2.0,SNR=18
SONM LR LR 10 38 13.6
comp=Z,2μm,18.6s,MS4.8,baz=326,slow=39
KDAK Kodiak Island 31.92 54 *e*P **P 10 24 09.4 -1.6**
KDAK Kodiak Island 31.92 54 P P 10 24 09.4 -1.6
comp=Z,38nm,0.9s,mb5.2,baz=308,slow=3.7,SNR=9.2
KDAK PcP PcP 10 26 59.9 -0.5
comp=Z,12nm,0.7s,baz=145,slow=9.4,SNR=5.7
TLY Talaya 32.25 295 P P 10 24 14.5 +0.5
comp=Z,156nm,1.0s,mb5.8,SNR=5.6
TLY Talaya 32.25 295 *e*P **P 10 24 15.2 +1.2**
TLY *e* 10 24 29.7
TLY pmax pmax
comp=Z,27nm,1.0s,mb5.0
TLY Talaya 32.25 295 *e*P **P 10 24 14.3 +0.4**
ZAK Zakamensk 32.84 293 *e*P **P 10 24 19.3 +0.1**
ZAK pmax pmax
comp=Z,12nm,1.1s,mb4.7
PMR Palmer 33.31 46 *e*P **P 10 24 23.3 +0.2**
PMR Palmer 33.31 46 *e*P **P 10 24 22.5 -0.6**
comp=Z,31nm,0.8s,mb5.3
SML Sawmill 33.67 46 *e*P **P 10 24 25.9 -0.4**
COLA College 33.78 40 P P 10 24 27.3 +0.1
COLA pmax pmax
comp=Z,120nm,0.9s,mb5.8
COLA College 33.78 40 *e*P **P 10 24 27.2 0.0**
comp=Z,124nm,0.9s,mb5.8
MOY Mondy 33.84 296 *e*P **P 10 24 30.1 +2.3**
DIV Divide 34.96 47 *e*P **P 10 24 37.3 -0.1**
WHN Wuhan 35.57 254 ⇑P **P 10 24 43.0 0.0**
WHN AMB AMB
comp=Z,177nm,0.6s,mb6.2
GUMO Guam 36.13 196 P P 10 24 43.6 -4.2

comp=Z,61nm,0.7s,mb5.6,baz=145,slow=6.1,SNR=4.6
GUMO LR LR 10 37 06.4
comp=Z,567nm,19.0s,MS4.4,baz=227,slow=32
EGAK Eagle 36.65 40 *e*P **P 10 24 51.0 -0.8**
XAN Xi'an 36.83 264 P P 10 24 53.5 -0.3
XAN AP pP 10 25 01.3 -4.1
XAN XP sP 10 25 05.9 -4.6
XAN AMB AMB
comp=Z,17nm,1.1s,mb4.8
QZH Quanzhou 36.99 243 P P 10 24 55.9 +0.7
QZH AMB AMB
comp=Z,110nm,0.7s,mb5.8
DAWY Dawson 37.49 41 *e*P **P 10 24 58.9 -0.1**
LZH Lanzhou 38.96 270 *e*P **P 10 25 13.0 +1.3**
LZH PP PP 10 26 46.0 +4.6
LZH *e*S **S 10 31 11.0 +3.7**
LZH AMB AMB
comp=Z,32nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,102nm,4.5s
LZH LR LR
comp=N,1μm,15.2s
LZH LR LR
comp=Z,2μm,16.4s,MS5.0
INK Inuvik 39.26 34 *e*P **P 10 25 14.1 +0.3**
INK Inuvik 39.26 34 *e*P **P 10 25 14.2 +0.4**
GTA Gaotai 39.77 277 *e*P **P 10 25 19.3 +0.9**
GTA AP pP 10 25 23.3 -6.8
GTA XP sP 10 25 26.0 -9.2
GTA PP PP 10 26 55.8 +5.7
GTA PCP PcP 10 27 24.9 +0.9
GTA SCP ScP 10 31 11.5 +2.4
GTA PCS PcS 10 31 15.1 +1.1
GTA S **S 10 31 25.1 +5.8**
GTA XS sS 10 31 32.0 -6.9
GTA SS SS 10 34 14.6 -1.4
GTA SCS ScS 10 35 22.9 +1.0
GTA AMB AMB
comp=Z,24nm,1.1s,mb4.8
GTA LR LR
comp=N,864nm,16.8s,MS4.8
GTA LR LR
comp=E,618nm,16.4s,MS4.8
GTA LR LR
comp=Z,954nm,16.4s,MS4.7
SKAG Skagway 40.39 48 *e*P **P 10 25 24.5 +1.2**
comp=Z,67nm,1.2s,mb5.2
CD2 Chengdu 42.19 264⇓*i*P **P 10 25 38.8 +0.4**
CD2 AP pP 10 25 43.4 -6.8
CD2 XP sP 10 25 46.0 -9.2
CD2 S **S 10 31 57.1 +1.7**
CD2 AMB AMB
comp=Z,60nm,0.7s,mb5.3
CD2 AMB AMB
comp=Z,210nm,5.8s
CD2 LR LR
comp=N,1μm,18.0s
CD2 LR LR
comp=Z,1μm,18.0s,MS4.8
ZAA0 Zalesovo Array 42.30 304 *e*P **P 10 25 38.4 -0.6**
ZALV Zalesovo Beam 42.30 304 P P 10 25 38.0 -1.0
ZALV PcP PcP 10 27 32.0 +0.1
ZALV Zalesovo Beam 42.30 304 P P 10 25 38.0 -1.0
comp=Z,5.5nm,0.5s,mb4.5,baz=51,slow=6.1,SNR=15
ZALV PcP PcP 10 27 32.0 +0.1
comp=Z,17nm,0.9s,baz=86,slow=1.9,SNR=18
ZALV PKIKP PKiKP 10 34 35.2 -1.5
comp=Z,0.9nm,0.4s,baz=132,slow=2.2,SNR=3.9
ZAL Zalesovo 42.31 304 P P 10 25 38.1 -1.0
ZAL 10 27 32.0
GYA Guiyang 43.28 257⇑*i*P **P 10 25 47.8 +0.5**
GYA PP PP 10 27 30.8 +2.5
GYA PCP PcP 10 27 37.8 +2.1
GYA PPP 10 28 05.9
GYA SCP ScP 10 31 27.8 +4.5
GYA S **S 10 32 14.6 +3.1**
GYA SCS ScS 10 35 46.1 +2.5
GYA AMB AMB
comp=Z,150nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,140nm,5.2s
GYA LR LR
comp=N,2μm,17.9s,MS5.0
GYA LR LR
comp=E,970nm,18.4s,MS5.0
GYA LR LR
comp=Z,2μm,18.6s,MS5.0
DLBC Dease Lake 43.32 48 *e*P **P 10 25 48.8 +1.6**
DLBC Dease Lake 43.32 48 P P 10 25 48.0 +0.8
WMQ Urumqi 45.22 290 P P 10 26 03.0 +0.4
WMQ XP sP 10 26 10.0 -9.5
WMQ PP PP 10 27 50.0 +1.4
WMQ S **S 10 32 42.0 +2.7**
WMQ AMB AMB
comp=Z,42nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,85nm,5.0s
WMQ LR LR
comp=N,736nm,15.0s,MS4.9
WMQ LR LR
comp=E,754nm,15.0s,MS4.9
WMQ LR LR
comp=Z,607nm,14.0s,MS4.7
QIZ Qiongzhong 46.72 247 P P 10 26 16.0 +1.4
QIZ *e*S **S 10 33 02.9 +1.6**
QIZ AMB AMB
comp=Z,30nm,1.0s,mb5.2
QIZ Qiongzhong 46.72 247 *e*P **P 10 26 16.3 +1.7**
comp=Z,64nm,1.3s,mb5.4
KMI Kunming 46.74 259 P P 10 26 15.3 +0.5
KMI AP pP 10 26 20.3 -6.4
KMI XP sP 10 26 22.8 -8.9
KMI AMB AMB
comp=Z,90nm,0.9s,mb5.7
KMI AMB AMB
comp=Z,149nm,3.2s
KMI LR LR
comp=N,629nm,17.7s,MS4.8
KMI LR LR
comp=E,671nm,18.4s,MS4.8
KMI LR LR
comp=Z,711nm,20.5s,MS4.6
MK31 Makanchi Array 46.97 296 *e*P **P 10 26 15.6 -0.8**
MKAR Makanchi Array 46.97 296 P P 10 26 16.0 -0.4
MKAR 10 27 47.6
MKAR Makanchi Array 46.97 296 P P 10 26 16.0 -0.4
comp=Z,5.8nm,0.5s,mb4.8,baz=67,slow=8.2,SNR=51
MKAR PcP PcP 10 27 47.5 -0.6
comp=Z,6.7nm,0.7s,baz=64,slow=5.5,SNR=4.5
MKAR LR LR 10 47 40.4
comp=Z,755nm,20.3s,MS4.7,baz=2.4,slow=38
KURK Kurchatov 47.13 303 P P 10 26 17.2 -0.3
comp=Z,229nm,0.5s,mb6.4,SNR=21
KURK Kurchatov 47.13 303⇑*e*P **P 10 26 16.5 -1.0**
KURK Kurchatov 47.13 303 *e*P **P 10 26 17.0 -0.6**
comp=Z,26nm,0.7s,mb5.3
ALE Alert 47.51 6 P P 10 26 19.7 -0.4
comp=Z,224nm,0.7s,mb6.3,SNR=21
DAV Davao City (W) 48.41 220⇑*e*P **P 10 26 28.3 +0.5**
RES Resolute Bay 48.46 19 *e*P **P 10 26 27.5 0.0**
YKW3 Yellowknife Ar 48.52 38 *e*P **P 10 26 27.8 -0.3**
YKA Yellowknife Ar 48.55 38 P P 10 26 28.3 -0.1
YKA 10 27 53.5
YKA Yellowknife Ar 48.55 38 P P 10 26 28.3 -0.1
comp=Z,40nm,0.8s,mb5.5,baz=298,slow=7.5,SNR=336
YKA PcP PcP 10 27 53.5 0.0
comp=Z,7.4nm,0.8s,baz=301,slow=3.5,SNR=6.7
BVAR Borovoye Array 50.38 309 P P 10 26 41.3 -1.1
comp=Z,12nm,0.6s,mb5.1,baz=59,slow=8.5,SNR=18
BVAR PcP PcP 10 28 00.1 -0.2
comp=Z,14nm,0.7s,baz=64,slow=3.4,SNR=10
BRVK Borovoye 50.42 309 P P 10 26 42.8 +0.1
comp=Z,165nm,0.6s,mb6.2,SNR=7.0
BRVK Borovoye 50.42 309 *e*P **P 10 26 41.8 -0.9**
LSA Lhasa 51.28 273 P P 10 26 51.3 +1.8
LSA Lhasa 51.28 273 *e*P **P 10 26 51.6 +2.1**
LSA pmax pmax
comp=Z,29nm,0.6s,mb5.4
LSA Lhasa 51.28 273 *e*P **P 10 26 51.6 +2.1**
comp=Z,29nm,0.6s,mb5.4
NLWA Neilton Lookou 51.80 59 *e*P **P 10 26 53.6 +0.5**
comp=Z,21nm,0.9s,mb5.1
NLWA Neilton Lookou 51.80 59 ⇑P **P 10 26 52.9 -0.2**
baz=52,SNR=6.4
VDB Vedder Mountai 51.87 56 P P 10 26 52.5 -1.2

A05A **Maple Falls** 51.90 56 ⇓P P 10 26 53.0 -0.9
baz=52
D03A **Wishkah Elem.** 52.01 59 ⇓P P 10 26 54.1 -0.6
baz=52
MBW **Mount Baker** 52.12 56 P P 10 26 55.5 +0.1
C04A **Brinnon** 52.12 58 ⇓P P 10 26 55.2 -0.4
baz=52
A06A **Chilliwack** 52.17 56 ⇑P P 10 26 55.4 -0.5
baz=52
CMW **Cultus Mountai** 52.20 57 P P 10 26 56.5 +0.4
B05A **Bryant** 52.30 57 ⇑P P 10 26 56.4 -0.5
baz=52,SNR=7.0
JCW **Jim Creek** 52.43 57 P P 10 26 57.9 0.0
B06A **Marblemount** 52.49 56 ⇓P P 10 26 57.7 -0.6
baz=52
A07A **Ashnola River,** 52.80 55 P P 10 27 00.4 -0.1
baz=53,SNR=14
F03A **Seaside** 52.80 60 ⇓P P 10 27 00.3 -0.2
baz=53
C05A **Tolt Reservoir** 52.85 57 P P 10 27 00.8 -0.1
baz=53,SNR=5.9
E04A **Onalaska** 52.90 59 ⇓P P 10 27 01.2 -0.1
baz=53,SNR=6.7
D05A **Enumclaw** 52.97 58 ⇓P P 10 27 01.7 -0.1
baz=53,SNR=6.2
SVE **Sverdlovsk** 53.04 317 *eP* P 10 27 00.9 -1.3
SVE pmax pmax
comp=Z,22nm,0.7s,mb5.2
TKM2 **Tokmak 2** 53.08 296 *eP* P 10 27 03.2 +0.5
TKM2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
TKM2 **Tokmak 2** 53.08 296 *eP* P 10 27 03.2 +0.6
comp=Z,7.3nm,0.7s,mb4.7
RVC **Mount Rainier-** 53.12 58 P P 10 27 03.4 +0.5
H02A **Toledo** 53.27 62 ⇓P P 10 27 03.8 -0.2
baz=53
B07A **Winthrop** 53.27 56 P P 10 27 03.9 -0.2
baz=53,SNR=10
FMW **Mount Fremont** 53.29 58 P P 10 27 04.3 +0.1
G03A **Yamhill** 53.31 61 ⇑P P 10 27 04.4 0.0
baz=53
MYLDM **Lahad Datu** 53.31 227 ⇓P P 10 27 05.6 +0.9
RCM **Mount Rainier-** 53.31 58 P P 10 27 05.0 +0.7
TDL **Tradedollar La** 53.32 59 P P 10 27 04.8 +0.4
NLW **Nelson Butte** 53.37 56 P P 10 27 05.0 +0.2
F04A **Amboy** 53.45 60 P P 10 27 05.4 +0.1
baz=53,SNR=10
A08A **Turner Farm, O** 53.45 55 P P 10 27 05.1 -0.2
baz=53,SNR=20
E05A **Randle** 53.46 59 ⇓P P 10 27 04.7 -0.7
baz=53,SNR=5.7
MTMW **Mount Mitchell** 53.51 59 P P 10 27 06.0 +0.2
SHL **Shillong** 53.55 268 *eP* P 10 27 06.5 +0.1
SDKM **Sandakan** 53.55 229 ⇓P P 10 27 06.1 -0.3
D06A **Cle Elum** 53.60 57 P P 10 27 06.5 0.0
baz=53,SNR=7.2
TWW **Teanaway** 53.62 58 P P 10 27 06.7 +0.1
ETW **Entiat** 53.65 57 ⇑P P 10 27 06.5 -0.3
H03A **Soap Creek Ran** 53.68 61 ⇓P P 10 27 06.9 -0.1
baz=54
KKM **Kota Kinabalu** 53.70 230 ⇑P P 10 27 07.1 -0.4
FRU **Bishkek** 53.71 296 *eP* P 10 27 07.0 -0.3
FRU *e* 10 28 13.0
C07A **Waterville** 53.75 57 P P 10 27 07.0 -0.6
baz=54,SNR=9.8
TBM **Table Mountain** 53.75 57 ⇓P P 10 27 07.6 0.0
I02A **Mapleton** 53.76 62 ⇓P P 10 27 07.4 -0.2
baz=54
B08A **Colville Reser** 53.76 56 P P 10 27 07.2 -0.5
baz=54,SNR=23
WTV **Waterville** 53.80 57 P P 10 27 06.7 -1.2
A09A **Danville** 53.81 55 ⇑P P 10 27 07.2 -0.7
baz=54,SNR=28
G04A **Mulino** 53.84 60 ⇓P P 10 27 08.0 -0.2
baz=54
AAK **Ala-Archa** 53.90 296 P P 10 27 08.4 -0.3
comp=Z,62nm,0.8s,mb5.6,SNR=6.2
E06A **Yakima** 53.91 58 ⇓P P 10 27 08.6 -0.1
baz=54,SNR=7.3
EBG **Ellensburg** 53.92 58 P P 10 27 08.9 +0.1
F05A **White Salmon** 54.02 59 ⇓P P 10 27 08.7 -0.8
baz=54
EDM **Edmonton** 54.05 48 *eP* P 10 27 09.4 -0.2
D07A **Quincy** 54.09 57 ⇓P P 10 27 09.2 -0.8
baz=54
K01A **Sixes** 54.09 64 ⇑P P 10 27 09.5 -0.6
baz=54
I03A **Eugene** 54.10 62 ⇑P P 10 27 10.5 +0.4
baz=54
UCH **Uchtor** 54.13 295 *eP* P 10 27 13.4 +3.0
comp=Z,4.5nm,1.2s,mb4.3
ARU **Arti** 54.20 317 P P 10 27 09.8 -0.9
comp=Z,406nm,0.7s,mb6.5,SNR=11
ARU **Arti** 54.20 317 *c iP* P 10 27 09.5 -1.2
ARU *e* 10 29 10.0
ARU *eS* S 10 34 45.2 +0.8
ARU *eSS* SS 10 38 26.1 +0.2
ARU pmax pmax
comp=Z,51nm,0.8s,mb5.5
ARU **Arti** 54.20 317 *eP* P 10 27 09.6 -1.1
EPH **Ephrata** 54.20 57 P P 10 27 10.2 -0.6
C08A **Higginbotham F** 54.25 56 ⇑P P 10 27 10.5 -0.7
baz=54,SNR=14
J02A **Umpqua** 54.28 63 ⇓P P 10 27 12.1 +0.7
baz=54,SNR=11
EKS2 **Erkin-Say** 54.31 296 *eP* P 10 27 11.8 +0.1
comp=Z,9.1nm,0.8s,mb4.8
H04A **Detroit Lake** 54.31 61 ⇑P P 10 27 11.3 -0.3
baz=54,SNR=9.0
GL2 **New Goldendale** 54.34 59 P P 10 27 12.0 +0.2
VFP **Flag Point** 54.35 60 P P 10 27 12.4 +0.5
A10A **Northport** 54.36 54 ⇓P P 10 27 11.7 -0.2
baz=54
B09A **Rice** 54.37 55 P P 10 27 11.8 -0.2
baz=54,SNR=13
TSM **Tawau** 54.38 227 ⇑P P 10 27 13.4 +0.9
F06A **Goldendale** 54.47 59 ⇓P P 10 27 12.2 -0.6
baz=54
G05A **Wamic** 54.48 60 ⇓P P 10 27 12.7 -0.2
baz=54,SNR=6.8
E07A **Sunnyside** 54.52 58 ⇑P P 10 27 12.9 -0.3
baz=54
MDW **Midway** 54.55 58 ⇓P P 10 27 13.5 +0.2
DAG **Danmarks Havn** 54.56 358 ⇑ *iP* P 10 27 11.4 -1.6
DAG pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
DAG **Danmarks Havn** 54.56 358 ⇑ *iP* P 10 27 11.4 -1.6
comp=Z,3.0nm,0.8s,mb4.4
BENWA **Benson Ranch** 54.62 58 P P 10 27 14.4 +0.5
J03A **Ideyld Park** 54.64 62 ⇓P P 10 27 14.1 0.0
baz=54,SNR=14
FRIS **Frissel Point** 54.64 61 P P 10 27 14.8 +0.7
C09A **Chrisman Ranch** 54.66 56 P P 10 27 13.9 -0.3
baz=54,SNR=8.5
OD2 **Odessa Site #2** 54.67 56 P P 10 27 13.7 -0.5
IRO **Indian Ridge** 54.67 61 ⇓P P 10 27 14.6 +0.3
AML **Almayashu** 54.67 296 *eP* P 10 27 15.9 +1.5
comp=Z,5.6nm,0.7s,mb4.7
K02A **Glendale** 54.69 63 ⇑P P 10 27 14.7 +0.3
baz=54,SNR=6.9
I04A **Tendick Farm,** 54.71 62 ⇑P P 10 27 14.4 -0.2
baz=54,SNR=17
HBO **Huckleberry Mo** 54.73 62 P P 10 27 15.4 +0.7
D08A **Wollman Farm,** 54.75 57 ⇓P P 10 27 14.1 -0.7
baz=54
RSW **Rattlesnake Hi** 54.77 58 P P 10 27 14.9 0.0
WRD **Warden** 54.77 57 P P 10 27 13.9 -1.1
HAWA **Hanford** 54.80 58 *eP* P 10 27 15.4 +0.2
G06A **Carlson Farm,** 54.87 59 ⇑P P 10 27 15.9 +0.2
baz=55
F07A **Phinny Hill Vi** 54.88 58 ⇑P P 10 27 15.5 -0.2
baz=55,SNR=7.8
H05A **Madras** 54.88 60 ⇑P P 10 27 16.0 +0.2
baz=55,SNR=8.4
REDWA **Red Mountain** 54.91 58 P P 10 27 16.6 +0.6
B10A **Chitwood Farm,** 54.94 55 ⇓P P 10 27 15.9 -0.2
baz=55
L02A **Cave Junction** 54.99 64 ⇑P P 10 27 16.8 +0.2
baz=55,SNR=9.6
A11A **Hall Mountain,** 55.01 54 P P 10 27 17.1 +0.5
baz=55,SNR=12
E08A **Dider Farm, El** 55.01 57 ⇑P P 10 27 16.5 -0.2
baz=55
NEW **Newport** 55.01 55 *eP* P 10 27 16.4 -0.3
D09A **Jones Farm, Ri** 55.08 56 P P 10 27 16.7 -0.5
baz=55,SNR=8.9

BBOR **Butler Butte** 55.09 63 P P 10 27 18.1 +0.7
HUMO **Hull Mountain** 55.10 63 *eP* P 10 27 18.0 +0.6
HUMO **Hull Mountain** 55.10 63 ⇑P P 10 27 17.6 +0.2
baz=55,SNR=9.7
I05A **Bend** 55.15 61 ⇑P P 10 27 17.8 0.0
baz=55,SNR=5.5
C10A **Spilker Farm,** 55.18 55 P P 10 27 17.9 0.0
baz=55,SNR=5.6
J04A **Umpqua Nationa** 55.22 62 ⇓P P 10 27 18.5 +0.3
baz=55,SNR=27
KTRM **Thompson Ridge** 55.27 64 ⇓P P 10 27 19.8 +1.1
VIPM **Ingram Point** 55.31 60 P P 10 27 19.5 +0.6
B11A **Sandpoint** 55.32 54 ⇑P P 10 27 18.9 0.0
baz=55,SNR=9.7
G07A **Ruggs Ranch, H** 55.40 59 ⇑P P 10 27 19.1 -0.5
baz=55
A12A **Yaak River Ran** 55.40 53 ⇑P P 10 27 19.3 -0.2
baz=55
E09A **Wood Farm, Sta** 55.50 57 ⇑P P 10 27 19.5 -0.7
baz=55,SNR=10
F08A **Pendleton** 55.58 58 ⇓P P 10 27 20.2 -0.6
baz=55
D10A **Wagner Farm, O** 55.65 56 ⇑P P 10 27 20.4 -1.0
baz=55,SNR=17
KHMM **Horse Mountain** 55.69 65 *eP* P 10 27 23.1 +1.4
J05A **Fort Rock** 55.70 62 ⇓P P 10 27 22.0 +0.3
baz=56,SNR=52
BUOR **Burton Butte** 55.72 63 P P 10 27 22.4 +0.5
YBH **Yreka Blue Hor** 55.78 64 *eP* P 10 27 23.2 +0.9
YBH **Yreka Blue Hor** 55.78 64 P P 10 27 23.2 +0.9
comp=Z,26nm,1.0s,mb5.2,baz=334,slow=3.6,SNR=16
YBH **Yreka Blue Hor** 55.78 64 ⇓P P 10 27 22.4 0.0
baz=56,SNR=11
G08A **Pilot Rock** 55.78 58 P P 10 27 22.2 0.0
baz=56,SNR=7.9
K04A **Chilquin** 55.82 62 ⇓P P 10 27 23.1 +0.5
baz=56,SNR=10.0
APA **Apatity** 55.82 337 ⇑ *eP* P 10 27 20.0 -2.2
APA pmax pmax
comp=Z,59nm,1.4s,mb5.4
I06A **Prineville** 55.89 60 ⇓P P 10 27 23.2 +0.2
baz=56,SNR=20
M02C **Callahan** 55.90 64 ⇑P P 10 27 23.6 +0.4
baz=56,SNR=14
N02C **Big Bar** 55.98 65 ⇑P P 10 27 24.2 +0.4
baz=56,SNR=5.3
L04A **Klamath Falls** 55.99 63 P P 10 27 24.4 +0.6
baz=56,SNR=16
A13A **Flathead Natio** 56.05 53 ⇓P P 10 27 23.8 -0.3
baz=56
HOG **Hogback Mounta** 56.06 63 P P 10 27 24.9 +0.6
E10A **Myers Farm, Un** 56.09 56 P P 10 27 24.2 -0.2
baz=56,SNR=17
O01C **Eel River Cons** 56.09 66 ⇑P P 10 27 24.8 +0.2
baz=56
F09A **S2 Ranch, Elgi** 56.12 57 ⇑P P 10 27 24.6 -0.1
baz=56,SNR=5.7
LHEM **Herd Peak** 56.13 64 ⇓P P 10 27 25.8 +1.0
D11A **Klavano Farm,** 56.17 55 P P 10 27 24.4 -0.6
baz=56,SNR=23
ARCES **ARCESS Array B** 56.21 341 P P 10 27 24.4 -0.6
ARCES 10 28 22.6
ARCES **ARCESS Array B** 56.21 341 P P 10 27 24.4 -0.6
comp=Z,16nm,1.0s,mb5.0,baz=42,slow=11,SNR=15
ARCES PcP PcP 10 28 22.6 +0.4
comp=Z,8.2nm,0.7s,baz=81,slow=7.5,SNR=6.6
ARCES LR LR 10 56 49.1
comp=Z,782nm,19.0s,MS4.8,baz=350,slow=42
I07A **Izee** 56.21 60 P P 10 27 25.5 +0.2
baz=56,SNR=28
K05A **Summer Lake** 56.24 62 ⇓P P 10 27 26.0 +0.4
baz=56,SNR=37
WALA **Waterton Lakes** 56.24 52 *eP* P 10 27 25.5 0.0
comp=Z,48nm,1.0s,mb5.5
WALA *ePcP* PcP 10 28 23.5 +0.9
M04C **Macdoel** 56.26 63 P P 10 27 26.3 +0.5
baz=56,SNR=28
F10A **Beach Ranch, E** 56.34 57 P P 10 27 26.1 -0.1
baz=56,SNR=6.4
J06A **Christmas Vall** 56.34 61 ⇑P P 10 27 26.4 0.0
baz=56,SNR=77
B13A **Whitefish** 56.36 53 P P 10 27 26.6 +0.3
baz=56,SNR=47
M03C **McCloud** 56.41 64 ⇓P P 10 27 27.1 +0.3
baz=56,SNR=9.8
H08A **Prairie City** 56.42 59 P P 10 27 27.2 +0.4
baz=56,SNR=18
BSMT **Bassoo Peak** 56.51 54 *eP* P 10 27 27.8 +0.3
LASM **Arnica Sink** 56.53 63 P P 10 27 27.8 +0.2
K06A **Valley Falls** 56.56 61 ⇑P P 10 27 28.2 +0.3
baz=56,SNR=52
WDC **Whiskeytown Da** 56.59 65 *eP* P 10 27 28.2 +0.1
WDC **Whiskeytown Da** 56.59 65 P P 10 27 28.3 +0.2
baz=56,SNR=14
E11A **Bogner Ranch,** 56.66 56 P P 10 27 28.1 -0.5
baz=56,SNR=12
L05A **Lakeview** 56.69 62 ⇓P P 10 27 29.4 +0.6
baz=56,SNR=36
O02C **Red Bluff** 56.69 65 ⇓P P 10 27 29.4 +0.6
baz=56
D12A **Red Ives Fores** 56.70 55 ⇑P P 10 27 28.3 -0.5
baz=56
C13A **Hot Springs** 56.73 54 P P 10 27 29.3 +0.3
baz=56,SNR=17
J07A **Hines** 56.75 60 ⇓P P 10 27 29.5 +0.3
baz=57,SNR=44
P01C **Double 8 Ranch** 56.80 66 ⇓P P 10 27 29.9 +0.3
baz=57
G10A **Bishop Farm, J** 56.81 57 P P 10 27 29.8 +0.2
baz=57,SNR=39
LTIM **Timbered Crate** 56.84 64 ⇓P P 10 27 30.0 +0.1
I08A **Drewsey** 56.85 60 P P 10 27 30.6 +0.7
baz=57,SNR=51
H09A **Durkee** 56.89 58 P P 10 27 30.7 +0.5
baz=57,SNR=35
M05C **Lookout** 56.93 63 ⇓P P 10 27 30.7 +0.2
baz=57,SNR=7.7
TMCR **Tamitsa** 56.97 332 *eP* P 10 27 29.0 -1.4
TMCR pmax pmax
comp=Z,52nm,1.3s,mb5.4
F11A **Grangeville** 56.98 56 P P 10 27 30.6 -0.2
baz=57,SNR=12
BMO **Blue Mountains** 56.98 58 *eP* P 10 27 31.0 +0.2
BMO **Blue Mountains** 56.98 58 *eP* P 10 27 30.8 0.0
BMO *ePcP* PcP 10 28 25.5 -0.1
GASB **Alder Springs** 57.06 66 ⇑P P 10 27 32.1 +0.7
baz=57,SNR=7.3
HATC **Hat Creek Radi** 57.08 64 ⇓P P 10 27 31.7 +0.1
baz=57,SNR=11
MOD **Modoc** 57.09 62 *eP* P 10 27 32.0 +0.4
MOD **Modoc** 57.09 62 P P 10 27 32.1 +0.5
baz=57,SNR=24
C14A **Swan Lake** 57.12 53 ⇑P P 10 27 31.9 +0.2
baz=57
LBCM **Butte Creek Ri** 57.14 64 P P 10 27 32.2 +0.2
D13A **Huson** 57.16 54 P P 10 27 31.9 -0.1
baz=57,SNR=14
K07A **Rock Creek Ran** 57.21 61 P P 10 27 33.2 +0.7
baz=57,SNR=32
G11A **Walters Elk Ra** 57.22 57 P P 10 27 32.3 -0.2
baz=57,SNR=17
J08A **Circle Bar Ran** 57.24 60 ⇓P P 10 27 32.9 +0.2
baz=57,SNR=47
I09A **Lost Marbles R** 57.28 59 P P 10 27 33.5 +0.6
baz=57,SNR=21
M06C **Likely Place G** 57.42 63 ⇓P P 10 27 34.1 +0.1
baz=57,SNR=8.0
H10A **Noah's Angus R** 57.45 58 P P 10 27 34.3 +0.2
baz=57,SNR=33
F12A **Elk City** 57.55 56 P P 10 27 35.2 +0.3
baz=57,SNR=28
L07A **Adell** 57.58 62 ⇓P P 10 27 35.5 +0.4
baz=57,SNR=26
MSO **Missoula** 57.60 54 *eP* P 10 27 35.0 -0.2
O04C **Chester** 57.62 64 ⇑P P 10 27 35.4 +0.1
baz=57,SNR=23
K08A **Mann Creek Ran** 57.63 61 ⇑P P 10 27 35.7 +0.3
baz=57,SNR=42
ELFS **Eagle Lake Fie** 57.64 64 ⇑P P 10 27 36.0 +0.4
baz=57,SNR=9.6
J09A **Fry Pan Ranch,** 57.66 60 ⇓P P 10 27 36.1 +0.4
baz=58,SNR=62
D14A **Greenough** 57.67 54 ⇑P P 10 27 35.1 -0.6
baz=58,SNR=94
E13A **Victor** 57.71 55 P P 10 27 35.7 -0.2
baz=58,SNR=26
MNRC **McLaughlin Nat** 57.71 66 ⇓P P 10 27 36.4 +0.3
baz=58

WVOR **Wild Horse Val** 57.73 61 *eP* P 10 27 35.8 -0.3
WVOR pmax pmax
comp=Z,34nm,1.0s,mb5.3
WVOR **Wild Horse Val** 57.73 61 *eP* P 10 27 35.8 -0.3
comp=Z,34nm,1.0s,mb5.3
BTM **Bintulu** 57.73 232 ⇑P P 10 27 35.9 -0.5
I10A **Payette** 57.74 58 ⇑P P 10 27 36.5 +0.3
baz=58,SNR=34
H11A **Donnelly** 57.79 57 ⇑P P 10 27 36.5 -0.1
baz=58,SNR=86
ORV **Oroville** 57.85 65 P P 10 27 36.0 -1.0
baz=58,SNR=22
SUTB **Sutter Butte** 57.88 66 P P 10 27 36.9 -0.4
baz=58,SNR=5.1
CHMT **Chamberlain Mo** 57.91 54 *eP* P 10 27 37.1 -0.3
O05C **Quincy** 57.94 64 P P 10 27 37.9 +0.3
baz=58,SNR=12
OHCM **Honcut** 58.00 65 *eP* P 10 27 37.9 -0.2
F13A **Darby** 58.04 56 P P 10 27 38.0 -0.2
baz=58,SNR=19
L08A **Fields** 58.05 61 P P 10 27 38.9 +0.5
baz=58,SNR=33
M07A **Soldier Meadow** 58.07 62 ⇑P P 10 27 38.8 +0.2
baz=58,SNR=58
K09A **Rome** 58.08 60 P P 10 27 39.0 +0.3
baz=58,SNR=17
N06A **Buffalo Meadow** 58.09 63 P P 10 27 39.0 +0.3
baz=58,SNR=33
E14A **Clinton** 58.10 55 ⇑P P 10 27 38.5 -0.2
baz=58,SNR=41
Q03C **Winters** 58.12 66 ⇓P P 10 27 38.9 0.0
baz=58
J10A **Berg Farm, Mel** 58.17 59 ⇑P P 10 27 39.1 -0.1
baz=58,SNR=6.8
D15A **Lincoln** 58.22 53 ⇓P P 10 27 39.1 -0.4
baz=58,SNR=24
I11A **Placerville** 58.32 58 P P 10 27 40.3 0.0
baz=58,SNR=23
BEKR **Beckwourth** 58.34 64 P P 10 27 40.3 -0.1
baz=58,SNR=34
Q04C **Lincoln** 58.38 66 ⇓P P 10 27 40.3 -0.4
baz=58
FFC **Flin Flon** 58.40 42 P P 10 27 40.8 +0.2
comp=Z,365nm,0.7s,mb6.5,SNR=31
FFC **Flin Flon** 58.40 42 *eP* P 10 27 40.7 +0.1
O06A **Flanigan** 58.46 64 ⇑P P 10 27 41.1 -0.2
baz=58,SNR=29
M08A **Happy Creek Ra** 58.50 62 ⇓P P 10 27 41.6 +0.1
baz=58,SNR=18
K10A **MacKenzie Ranc** 58.52 60 ⇓P P 10 27 42.1 +0.4
baz=58,SNR=39
G13A **Cobalt** 58.53 56 P P 10 27 41.6 0.0
baz=58,SNR=50
H12A **Diamond D Ranc** 58.53 57 P P 10 27 41.5 -0.3
baz=58,SNR=12
P05C **Yuba Gap, Truc** 58.54 65 ⇓P P 10 27 41.4 -0.5
baz=58
F14A **Wisdom** 58.55 55 ⇓P P 10 27 41.8 +0.1
baz=58
L09A **Wilkinson Ranc** 58.55 61 P P 10 27 42.5 +0.6
baz=58,SNR=24
E15A **Deer Lodge** 58.55 54 P P 10 27 42.0 +0.2
baz=58,SNR=32
N07B **Gerlach** 58.58 63 P P 10 27 42.5 +0.4
baz=58,SNR=27
MFID **Camas Ranch** 58.71 59 P P 10 27 43.4 +0.4
baz=58,SNR=12
BOK **Bokaro** 58.72 271 *eP* P 10 27 43.3 0.0
LAVA **Lava Cap Winer** 58.81 65 P P 10 27 43.5 -0.2
baz=59,SNR=20
SBUM **Sibu** 58.81 232 ⇑P P 10 27 43.1 -0.9
H13A **Challis** 58.85 57 P P 10 27 44.0 +0.1
baz=59,SNR=55
FCC **Fort Churchill** 58.87 35 P P 10 27 43.4 -0.4
FCC pmax pmax
comp=Z,22nm,0.6s,mb5.4
FCC **Fort Churchill** 58.87 35 *eP* P 10 27 43.4 -0.5
comp=Z,22nm,0.6s,mb5.4
WENL **Wente Brothers** 58.93 67 ⇓P P 10 27 43.9 -0.6
baz=59
F15A **Butte** 59.00 55 P P 10 27 45.0 +0.1
baz=59,SNR=54
K11A **Parker Ranch,** 59.00 59 P P 10 27 45.4 +0.4
baz=59,SNR=40
PAHR **Pah Rah Range** 59.02 64 *eP* P 10 27 45.5 +0.4
comp=Z,29nm,1.0s,mb5.3
R04C **Big Horse Ranc** 59.02 66 ⇑P P 10 27 44.7 -0.5
baz=59
O07A **Toulon** 59.02 63 ⇓P P 10 27 45.4 +0.2
baz=59,SNR=39
LRM **Limekiln Ridge** 59.03 55 *eP* P 10 27 45.4 +0.2
EGMT **Eagleton** 59.04 51 *eP* P 10 27 45.1 -0.1
comp=Z,55nm,1.1s,mb5.5
EGMT **Eagleton** 59.04 51 P P 10 27 45.2 0.0
baz=59,SNR=26
M09A **Marrel Ranch,** 59.05 61 P P 10 27 46.0 +0.6
baz=59,SNR=36
WCN **Washoe City** 59.05 64 P P 10 27 45.8 +0.4
baz=59,SNR=22
N08A **GE Springer Mi** 59.06 62 ⇓P P 10 27 45.7 +0.2
baz=59,SNR=8.1
L10A **Juniper Basin** 59.20 60 P P 10 27 46.9 +0.5
baz=59,SNR=33
J12A **Stokes Ranch,** 59.22 58 P P 10 27 47.1 +0.6
baz=59,SNR=65
R05C **Kirkwood Meado** 59.25 65 P P 10 27 46.9 +0.2
baz=59,SNR=8.8
DLMT **Dillon** 59.25 55 *eP* P 10 27 46.9 +0.2
comp=Z,90nm,1.8s,mb5.5
I13A **Wildhorse Cree** 59.35 57 P P 10 27 47.9 +0.5
baz=59,SNR=73
O08A **Rochester Mine** 59.37 63 ⇑P P 10 27 47.8 +0.2
baz=59
N09A **Rock Creek Ran** 59.37 62 ⇓P P 10 27 47.7 +0.1
baz=59,SNR=34
HLID **Hailey** 59.41 58 P P 10 27 48.2 +0.5
baz=59,SNR=44
P07A **Fallon** 59.41 64 ⇑P P 10 27 47.6 -0.3
baz=59
DDI **Dehra Dun** 59.43 282 *ex* x 10 27 50.0
G15A **Dillon** 59.44 55 P P 10 27 48.1 +0.2
baz=59,SNR=26
MCMT **McKenzie Canyo** 59.46 56 P P 10 27 48.4 +0.3
SMLA **Simla** 59.47 284 *eP* P 10 27 48.1 -0.3
SMLA AMb AMB 10 27 51.5
comp=Z,95nm,0.6s,mb6.0
CMB **Columbia Colle** 59.49 66 *eP* P 10 27 48.5 0.0
CMB **Columbia Colle** 59.49 66 P P 10 27 48.5 0.0
baz=59,SNR=9.0
M10A **I.L. Ranch, Tu** 59.51 61 ⇓P P 10 27 48.9 +0.3
baz=59,SNR=47
L11A **Cat Creek Ranc** 59.55 60 ⇑P P 10 27 48.9 +0.1
baz=59,SNR=62
BOZ **Bozeman (W)** 59.59 54 *eP* P 10 27 49.6 +0.6
BOZ **Bozeman (W)** 59.59 54 ⇓P P 10 27 49.4 +0.4
baz=59,SNR=111
PACP **Pacheco Peak** 59.61 67 ⇓P P 10 27 49.2 -0.1
baz=59
J13A **Cove Ranch, Pi** 59.65 58 P P 10 27 50.1 +0.6
baz=59,SNR=46
K12A **Draper Farm, C** 59.73 59 P P 10 27 50.6 +0.6
baz=60,SNR=45
R06C **Coleville** 59.74 65 ⇓P P 10 27 50.0 -0.1
baz=60,SNR=21
WAKR **Walker** 59.76 65 *eP* P 10 27 50.8 +0.5
P08A **Dixie Valley** 59.79 63 ⇑P P 10 27 51.1 +0.6
baz=60
HAST **Hastings Reser** 59.85 68 ⇑P P 10 27 50.3 -0.6
baz=60
S06C **San Francisco** 59.91 66 P P 10 27 51.4 0.0
baz=60,SNR=13
JOF **Joensuu** 59.92 334 *ep* P 10 27 49.3 -1.7
comp=Z,9.6nm,0.5s,mb5.1
JOF **Joensuu** 59.92 334 *eP* P 10 27 49.3 -1.7
JOF pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
S05C **Merced** 59.97 66 ⇑P P 10 27 51.3 -0.5
baz=60
L12A **House Creek Ra** 59.98 59 P P 10 27 52.5 +0.7
baz=60,SNR=56
M11A **Holland Ranch,** 60.00 60 ⇑P P 10 27 52.4 +0.5
baz=60,SNR=30
O09A **Fish Creek Ran** 60.01 62 ⇓P P 10 27 52.3 +0.3
baz=60,SNR=30
N10A **Dunphy** 60.05 61 P P 10 27 53.0 +0.8
baz=60,SNR=6.0
T05C **Eagle Field, D** 60.05 67 ⇓P P 10 27 52.9 +0.5

baz=60
K13A Stover Farm, H 60.18 58 P P 10 27 53.6 +0.5
baz=60,SNR=6.5
QLMT Earthquake Lak 60.22 55 eP P 10 27 54.1 +0.7
R07C Lee Vining 60.26 65 ⇑P P 10 27 54.0 +0.2
baz=60,SNR=16
V03C Hunter Liggett 60.28 68 ⇓P P 10 27 53.8 -0.1
baz=60
O10A Cortez Mining, 60.33 62 ⇑P P 10 27 54.7 +0.5
baz=60,SNR=19
Q08A Gabbs 60.42 64 P P 10 27 55.2 +0.3
baz=60,SNR=52
N11A Elko Archery C 60.43 61 ⇓P P 10 27 55.3 +0.5
baz=60,SNR=9.3
NVAR Mina Array Bea 60.48 64 P P 10 27 55.5 +0.3
comp=Z,20nm,0.7s,mb5.2,baz=292,slow=7.3,SNR=155
NVAR PcP PcP 10 28 39.1 -0.5
comp=Z,3.2nm,0.6s,baz=310,slow=5.9,SNR=4.3
M12A Wells 60.51 60 P P 10 27 56.3 +0.9
baz=60,SNR=39
GCMT Greycliff 60.54 53 eP P 10 27 56.4 +0.9
T06C Millerton Lake 60.57 66 ⇓P P 10 27 55.0 -0.9
baz=60,SNR=5.5
YMR Madison River 60.58 55 eP P 10 27 56.8 +1.0
comp=Z,58nm,1.2s,mb5.6
KCC Kaiser Creek 60.59 66 P P 10 27 56.0 -0.1
baz=60,SNR=12
L13A Double Diamond 60.62 59 ⇓P P 10 27 56.6 +0.5
baz=60,SNR=29
KSM Kuching 60.65 233 eP P 10 27 57.5 +0.9
KSM Kuching 60.65 233 ⇑P P 10 27 57.8 +1.2
R08A Mina 60.65 64 P P 10 27 56.8 +0.4
baz=60,SNR=21
YNR Norris Junctio 60.70 55 eP P 10 27 58.5 +1.8
PKD Parkfield 60.76 68 ⇑P P 10 27 57.1 -0.1
baz=61
U05C Westside ANR, 60.76 67 ⇑P P 10 27 57.3 +0.1
baz=61
K14A Jones Ranch, D 60.76 58 P P 10 27 58.1 +1.0
baz=60,SNR=31
V04C Ramage Ranch, 60.76 68 ⇑P P 10 27 57.2 0.0
baz=61
P10A Eureka 60.79 62 ⇓P P 10 27 57.7 +0.4
baz=61,SNR=22
YFT Old Faithful 60.79 55 eP P 10 27 59.4 +2.1
N12A Clover Valley, 60.81 60 P P 10 27 58.2 +0.7
baz=61,SNR=26
Q09A Carvers 60.88 63 ⇓P P 10 27 58.1 +0.1
baz=61
O11A Cowboy Ranch, 60.92 61 ⇑P P 10 27 58.5 +0.2
baz=61,SNR=28
LKWY Lake 60.95 55 eP P 10 28 00.5 +2.1
LKWY pmax pmax
comp=Z,26nm,0.9s,mb5.4
LKWY Lake 60.95 55 eP P 10 28 00.5 +2.2
comp=Z,26nm,0.9s,mb5.4
M13A Montello 60.98 59 ⇑P P 10 27 58.7 +0.1
baz=61,SNR=49
MTUM Tungsten Hills 61.03 65 eP P 10 27 59.5 +0.5
NDI New Delhi 61.07 281 eP P 10 28 00.4 +1.0
NDI AMb AMB 10 28 01.4
comp=Z,27nm,1.3s,mb5.2
IMW Indian Meadow 61.10 55 eP P 10 27 59.6 +0.2
comp=Z,39nm,1.1s,mb5.5
FLWY Flagg Ranch 61.11 55 eP P 10 28 00.8 +1.4
comp=Z,35nm,1.0s,mb5.5
DCID1 Drake Creek 61.17 56 eP P 10 28 01.1 +1.2
S08C White Mtn Res 61.17 65 P P 10 28 00.4 +0.4
baz=61,SNR=15
RLMT Red Lodge 61.19 53 eP P 10 28 00.8 +0.8
HELL Mitchell Peak 61.20 66 P P 10 27 59.7 -0.5
baz=61,SNR=28
V05C Boulder Hill, 61.20 67 ⇑P P 10 28 00.1 -0.1
baz=61
P11A Circle Ranch, 61.25 62 ⇓P P 10 28 00.7 +0.2
baz=61,SNR=15
N13A Wendover, West 61.28 60 P P 10 28 01.4 +0.7
baz=61,SNR=27
MOOW Moose Ponds 61.31 55 eP P 10 28 01.8 +1.0
RCTC Rector, Farmer 61.31 67 ⇓P P 10 28 00.4 -0.5
baz=61
R09A Tonopah 61.34 64 P P 10 28 01.1 0.0
baz=61,SNR=78
M14A Sheep Mountain 61.34 59 P P 10 28 01.6 +0.6
baz=61,SNR=21
Q10A Clear Creek Ra 61.35 63 ⇑P P 10 28 01.1 0.0
baz=61,SNR=29
O12A Currie 61.36 61 P P 10 28 01.7 +0.5
baz=61,SNR=74
TPAW Teton Pass 61.36 56 eP P 10 28 02.3 +1.1
TIN Tinemaha 61.43 65 P P 10 28 02.2 +0.5
baz=61,SNR=5.7
LOHW Long Hollow 61.47 55 eP P 10 28 02.9 +1.0
comp=Z,52nm,1.1s,mb5.6
HVU Hansel Valley 61.48 58 eP P 10 28 02.9 +0.9
SNOW Snow King Moun 61.49 56 eP P 10 28 03.2 +1.2
comp=Z,47nm,1.0s,mb5.6
KTGM Kuala Trengganu 61.49 243 ⇑P P 10 28 04.2 +1.9
REDW Red Top Meadow 61.50 56 eP P 10 28 03.2 +1.1
SMMC Simmler 61.51 68 ⇓P P 10 28 01.7 -0.6
baz=61
DGMT Dagmar 61.54 48 eP P 10 28 02.4 +0.1
S09A Goldfield 61.59 64 P P 10 28 02.8 +0.1
baz=61,SNR=17
VES Vestal, Richgr 61.72 67 ⇓P P 10 28 02.7 -1.0
baz=62
KAPI Kappang 61.74 220 P P 10 28 02.8 -1.2
comp=Z,207nm,0.9s,mb6.3,SNR=6.1
KAPI Kappang 61.74 220 P P 10 28 02.9 -1.1
comp=Z,27nm,0.8s,mb5.4,baz=1.9,slow=9.9,SNR=13
R10A Warm Springs 61.76 63 ⇑P P 10 28 03.7 -0.2
baz=62,SNR=24
AHID Auburn Hatcher 61.76 56 eP P 10 28 04.8 +1.0
Q11A Duckwater 61.77 62 P P 10 28 04.0 0.0
baz=62,SNR=16
P12A McGill 61.79 61 P P 10 28 04.5 +0.3
baz=62,SNR=18
N14A Grayback Hills 61.87 59 ⇑P P 10 28 04.6 0.0
baz=62,SNR=26
M15A Larsen Ranch, 61.88 58 ⇓P P 10 28 04.6 0.0
baz=62,SNR=83
O13A Hicks Ranch, I 61.89 60 ⇓P P 10 28 05.0 +0.2
baz=62,SNR=13
PKM Peak Mountain 61.89 68 ⇑P P 10 28 05.0 +0.1
baz=62
CWC Cottonwood Cre 61.92 66 ⇑P P 10 28 04.7 -0.3
baz=62
GRAC Grapevine Rang 61.98 65 ⇑P P 10 28 05.3 -0.1
baz=62,SNR=11
SPUT South Promonto 61.98 58 eP P 10 28 06.0 +0.7
Q12A Willow Creek R 62.12 62 P P 10 28 06.5 +0.2
baz=62,SNR=22
R11A Troy Canyon, C 62.14 63 P P 10 28 06.5 0.0
baz=62,SNR=47
N15A Stansbury Isla 62.22 59 ⇑P P 10 28 06.8 -0.1
baz=62,SNR=64
HWUT Hardware Ranch 62.28 58 eP P 10 28 07.8 +0.5
comp=Z,22nm,0.8s,mb5.3
KBL Kabul 62.32 292 eP P 10 28 07.1 -0.6
P13A Bates Ranch, G 62.32 61 P P 10 28 07.9 +0.3
baz=62,SNR=31
BLSP Bilaspur 62.35 273 eP P 10 28 08.9 +0.8
DUG Dugway 62.52 60 eP P 10 28 09.3 +0.4
DUG Dugway 62.52 60 ⇓P P 10 28 09.2 +0.3
baz=62,SNR=83
S11A Rachel 62.52 63 P P 10 28 09.4 +0.5
baz=62,SNR=54
MPMC Manual Prospec 62.53 66 P P 10 28 08.8 -0.3
baz=62,SNR=33
FIA1 FINESS Array S 62.58 335 eP P 10 28 08.1 -1.0
FINES FINESS Array B 62.58 335 P P 10 28 08.1 -0.9
FINES 10 28 46.2
FINES FINESS Array B 62.58 335 P P 10 28 08.1 -1.0
comp=Z,12nm,0.6s,mb5.2,baz=42,slow=7.4,SNR=38
FINES PcP PcP 10 28 46.2 -1.5
comp=Z,14nm,0.9s,baz=64,slow=4.4,SNR=6.7
FINES LR LR 10 58 08.8
comp=Z,828nm,20.8s,MS4.9,baz=202,slow=39
NOQ North Oquirrh 62.60 59 eP P 10 28 10.4 +0.9
BW06 Boulder Array 62.61 56 eP P 10 28 09.7 +0.2
FURC Furnace Creek, 62.64 65 P P 10 28 09.8 0.0
baz=62,SNR=40
Q13A Wheeler Ranch, 62.65 61 P P 10 28 10.3 +0.4
baz=62,SNR=92
TPNV Topopah Spring 62.68 64 eP P 10 28 10.0 -0.1
TPNV Topopah Spring 62.68 64 P P 10 28 10.0 -0.1
baz=62,SNR=48

R12A Pony Springs, 62.73 62 P P 10 28 10.5 +0.1
baz=62,SNR=47
CTU Camp Tracy 62.78 59 eP P 10 28 11.4 +0.7
LRMC Laurel Mountai 62.80 66 P P 10 28 10.3 -0.6
baz=63,SNR=15
SFJD Kangerlussuaq 62.85 11 P P 10 28 10.1 -0.6
SFJD pmax pmax
comp=Z,43nm,0.5s,mb5.8
SFJD Kangerlussuaq 62.85 11 eP P 10 28 10.1 -0.7
comp=Z,43nm,0.5s,mb5.8
BLG Laguna Peak 62.88 68 ⇑P P 10 28 10.8 -0.7
baz=63
KULM Kulim 62.99 245 eP P 10 28 13.3 +0.9
KULM Kulim 62.99 245 ⇓P P 10 28 12.8 +0.4
JLU Jordanelle 63.01 58 eP P 10 28 12.9 +0.6
EDW2 Edwards Air Fo 63.02 67 P P 10 28 12.1 -0.3
baz=63,SNR=23
S12A Delamar Landin 63.07 63 ⇓P P 10 28 12.6 -0.1
baz=63,SNR=70
NLU North Lily Min 63.10 59 eP P 10 28 13.3 +0.5
T11A Corn Creek, Al 63.10 63 P P 10 28 12.9 0.0
baz=63,SNR=73
DECC Green Verdugo 63.23 68 ⇓P P 10 28 13.2 -0.6
baz=63
DAU Daniels Canyon 63.25 59 eP P 10 28 14.7 +0.9
MPU Maple Canyon 63.31 59 eP P 10 28 14.8 +0.6
SHOC Shoshone 63.37 65 P P 10 28 14.4 -0.3
baz=63,SNR=13
COEN Coen 63.40 193 eP P 10 28 14.2 -0.7
comp=Z,26nm,1.3s,mb5.2
IPM Ipoh 63.41 244 ⇑P P 10 28 15.2 0.0
MWC Mount Wilson 63.42 68 eP P 10 28 15.0 0.0
MWC pmax pmax
comp=Z,35nm,1.2s,mb5.4
MWC Mount Wilson 63.42 68 eP P 10 28 15.0 -0.1
comp=Z,35nm,1.2s,mb5.4
GSC Goldstone 63.45 66 eP P 10 28 15.2 0.0
GSC Goldstone 63.45 66 P P 10 28 15.1 -0.2
baz=63,SNR=17
U11A Corn Creek 63.55 64 ⇓P P 10 28 16.2 +0.3
baz=63
FMP Fort Macarthur 63.62 68 ⇓P P 10 28 15.8 -0.5
baz=63
SHPR Sheep Range 63.63 64 eP P 10 28 16.4 +0.1
BFSC Mount Baldy St 63.65 67 ⇑P P 10 28 15.9 -0.7
baz=64,SNR=8.9
S13A Holt Ranch, En 63.67 62 P P 10 28 17.0 +0.4
baz=64,SNR=50
R14A James Farms, M 63.67 61 ⇑P P 10 28 16.9 +0.3
baz=64,SNR=7.5
ARUT Antelope Range 63.77 62 eP P 10 28 17.5 +0.2
TUQ Turquoise Mtn. 63.89 65 P P 10 28 18.1 0.0
baz=64,SNR=32
V11A Goodsprings 63.92 65 ⇓P P 10 28 18.1 -0.2
baz=64,SNR=23
MYKOM Kota Tinggi 63.94 240 ⇓P P 10 28 20.3 +1.6
S14A Cedar City 63.95 62 ⇓P P 10 28 18.4 -0.1
baz=64,SNR=31
SCI San Clemente I 63.96 69 ⇑P P 10 28 17.9 -0.8
baz=64
CCUT Cedar City 63.98 62 eP P 10 28 19.0 +0.3
MSU Marysvale 64.01 61 eP P 10 28 19.4 +0.5
T13A Saint George 64.02 63 P P 10 28 19.2 +0.3
baz=64,SNR=29
U12A Valley of Fire 64.04 64 ⇓P P 10 28 19.1 -0.1
baz=64,SNR=7.1
FRIM Kepong 64.06 243 ⇓P P 10 28 20.0 +0.6
HEC Hector,Ludlow 64.06 66 ⇑P P 10 28 18.7 -0.6
baz=64,SNR=10
KGM Kluang 64.06 240 ⇑P P 10 28 19.8 +0.3
BBRC Big Bear Sol-O 64.08 67 ⇓P P 10 28 18.8 -0.7
baz=64,SNR=9.8
OBN Obninsk 64.18 326 P P 10 28 19.0 -0.7
OBN e 10 28 54.2
OBN pmax pmax
comp=Z,18nm,0.8s,mb5.2
ULM Lac du Bonnet 64.19 42 P P 10 28 19.2 -0.6
comp=Z,29nm,0.7s,mb5.4,baz=315,slow=6.9,SNR=35
V12A Nelson 64.34 65 ⇓P P 10 28 20.9 -0.2
baz=64,SNR=19
MURC Murrieta 64.36 68 P P 10 28 20.7 -0.6
baz=64,SNR=9.3
U13A Pakoon Wash 64.39 63 ⇓P P 10 28 21.7 +0.3
baz=64,SNR=64
KAKA Kakadu 64.43 204 eP P 10 28 20.7 -1.0
comp=Z,46nm,0.7s,mb5.6
T14A Hurricane 64.47 62 ⇑P P 10 28 21.8 -0.1
baz=64,SNR=62
GMRC Granite Mounta 64.50 66 P P 10 28 22.0 -0.1
baz=64,SNR=20
SRU San Rafael 64.55 59 eP P 10 28 22.6 +0.2
RSSD Black Hills 64.61 51 P P 10 28 22.8 +0.1
RSSD pmax pmax
comp=Z,32nm,0.7s,mb5.5
RSSD Black Hills 64.61 51 eP P 10 28 22.8 +0.1
comp=Z,32nm,0.7s,mb5.5
RWWY Rawlins 64.62 55 eP P 10 28 22.8 +0.1
comp=Z,31nm,1.0s,mb5.3
W12A Cal Nev Ari 64.62 65 ⇑P P 10 28 22.7 -0.2
baz=64,SNR=7.5
LDFC Landfair 64.62 65 eP P 10 28 22.7 -0.2
BHPL Bhopal 64.67 277 eP P 10 28 23.2 -0.2
BHPL AMb AMB 10 28 26.9
comp=Z,62nm,0.7s,mb5.7
VIS Vishakhapatnam 64.69 268 eP P 10 28 24.5 +0.9
VIS AMb AMB 10 28 25.9
comp=Z,70nm,0.5s,mb6.0
V13A Grand Canyon W 64.77 64 ⇓P P 10 28 23.8 0.0
baz=65
PFO Pinyon Flat Ob 64.81 67 P P 10 28 22.9 -1.3
comp=Z,6.5nm,1.0s,mb4.6,baz=293,slow=8.8,SNR=4.0
PFO Pinyon Flat Ob 64.81 67 ⇓P P 10 28 23.3 -0.9
baz=65
BELC Belle Mtn. 64.82 67 P P 10 28 23.6 -0.7
baz=65,SNR=11
U14A Mt Trumbull 64.86 63 P P 10 28 24.9 +0.4
baz=65,SNR=85
BATI Kupang 64.90 214 P P 10 28 24.1 -0.7
comp=Z,34nm,0.8s,mb5.4,baz=219,slow=1.7,SNR=5.9
109C Camp Elliot, M 64.91 68 ⇑P P 10 28 24.3 -0.5
baz=65,SNR=6.1
T15A Red Dirt Ranch 64.91 62 ⇓P P 10 28 24.8 +0.1
baz=65,SNR=36
NGP Nagpur 65.07 274 eP P 10 28 25.6 -0.4
NGP AMb AMB 10 28 29.3
comp=Z,45nm,1.5s,mb5.3
NEE2 Needles Airpor 65.13 65 ⇑P P 10 28 25.6 -0.6
baz=65
VRHR Novokhopersk 65.20 320 eP P 10 28 24.9 -1.5
VRHR pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=E,9.0nm,0.6s
IRM Iron Mountain 65.23 66 ⇑P P 10 28 26.4 -0.5
baz=65,SNR=23
BAR Barrett 65.32 68 eP P 10 28 27.1 -0.4
MONP Monument Peak 65.33 68 ⇓P P 10 28 26.8 -0.8
baz=65
W13A Hualapai Mount 65.34 64 ⇑P P 10 28 27.1 -0.5
baz=65,SNR=30
BC3 Big Chuckw Mtn 65.39 67 ⇓P P 10 28 27.4 -0.5
baz=65
V14A Boquillas Ranc 65.44 64 ⇑P P 10 28 28.5 +0.3
baz=65,SNR=75
T16A Glen Canyon Da 65.44 61 ⇑P P 10 28 27.4 -0.8
baz=65,SNR=22
AGMN Agassiz Refuge 65.61 44 eP P 10 28 28.5 -0.6
DVTC Desert V Tower 65.68 68 ⇓P P 10 28 29.3 -0.5
baz=66
X13A Yucca 65.72 65 P P 10 28 29.9 -0.2
baz=66,SNR=28
PDMCI Parker Dam,Lak 65.74 65 P P 10 28 29.9 -0.3
baz=66,SNR=20
W14A Seligman 65.74 64 P P 10 28 30.6 +0.5
baz=66,SNR=78
V15A Kaibab Nationa 65.86 63 P P 10 28 31.6 +0.7
baz=66,SNR=70
Y12C Blythe 65.89 66 P P 10 28 30.9 -0.2
baz=66,SNR=11
PSI Prapat 66.00 245 P P 10 28 32.5 +0.4
comp=E,52nm,0.9s,mb5.6,baz=5.9,slow=5.4,SNR=46
VRSR Storozhevoye 66.13 322 eP P 10 28 31.2 -1.2
VRSR pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
VRSR pmax pmax

comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,3.0nm,0.8s
GLA Glamis 66.18 67 eP P 10 28 32.7 -0.4
GLA pmax pmax
comp=Z,34nm,0.9s,mb5.4
GLA Glamis 66.18 67 eP P 10 28 32.7 -0.3
comp=Z,34nm,0.9s,mb5.4
GLA Glamis 66.18 67 P P 10 28 33.0 -0.1
baz=66,SNR=14
W15A Williams 66.25 63 ⇓P P 10 28 33.8 +0.3
baz=66,SNR=25
Y13A Salome 66.26 65 P P 10 28 33.5 -0.1
baz=66,SNR=19
VORD Divnogorie 66.27 321 eP P 10 28 32.0 -1.3
VORD e*SP sP 10 28 48.1 -2.6
VORD e 10 29 01.8
VORD pmax pmax
comp=N,7.0nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VORD pmax pmax
comp=E,20nm,0.9s
X14A Yava 66.37 64 ⇑P P 10 28 34.2 0.0
baz=66,SNR=29
SMCO Snowmass 66.49 57 eP P 10 28 35.3 +0.4
comp=E,34nm,0.9s,mb5.4
WUAZ Wupatki 66.54 63 eP P 10 28 35.5 +0.3
comp=E,39nm,0.9s,mb5.4
WUAZ Wupatki 66.54 63 P P 10 28 35.7 +0.5
baz=66,SNR=14
NB2 NORSAR Subarra 66.56 342 P P 10 28 33.7 -1.3
comp=Z,12nm,0.6s,mb5.1,baz=26,slow=6.5
NOA NORSAR Array B 66.56 342 P P 10 28 34.0 -1.0
NOA 10 29 03.3
NOA NORSAR Array B 66.56 342 P P 10 28 34.0 -1.0
comp=Z,12nm,0.6s,mb5.1,baz=26,slow=6.4,SNR=41
NOA PcP PcP 10 29 03.3 -0.8
comp=Z,2.5nm,0.7s,baz=28,slow=3.2,SNR=3.6
NOA LR LR 11 01 49.0
comp=Z,286nm,20.0s,MS4.5,baz=290,slow=40
Y14A Wickenburg 66.67 65 P P 10 28 36.1 -0.1
baz=66,SNR=33
BORG Borgarnes 66.67 358 eP P 10 28 37.4 +1.7
112A Yuma 66.69 67 ⇓P P 10 28 36.1 -0.2
baz=66
AKL Akola 66.73 275 eP P 10 28 37.9 +1.3
AKL AMb AMB 10 28 39.8
comp=Z,62nm,1.5s,mb5.4
W16A Flagstaff 66.74 63 P P 10 28 37.5 +1.0
baz=66,SNR=12
X15A Humboldt 66.74 64 ⇓P P 10 28 36.6 0.0
baz=66,SNR=49
ISCO Idaho Springs 66.80 56 eP P 10 28 37.5 +0.6
ISCO pmax pmax
comp=Z,31nm,0.9s,mb5.3
ISCO Idaho Springs 66.80 56 eP P 10 28 37.5 +0.6
comp=Z,31nm,0.9s,mb5.3
NAO01 NORSAR Array S 66.81 342 eP P 10 28 35.1 -1.5
comp=Z,3.5nm,0.6s,mb4.6
MVCO Mesa Verde 67.02 59 eP P 10 28 38.5 +0.2
MVCO Mesa Verde 67.02 59 P P 10 28 38.6 +0.3
baz=67,SNR=27
113A Mohawk Valley, 67.02 66 P P 10 28 37.9 -0.6
baz=67,SNR=14
Y15A Casa Rosa Ranc 67.06 64 ⇓P P 10 28 38.5 -0.1
baz=67,SNR=34
Z14A Wintersburg 67.10 65 ⇑P P 10 28 38.2 -0.7
baz=67
W17A Winslow 67.23 62 ⇓P P 10 28 39.9 +0.2
baz=67
X16A Lo Mia Camp, P 67.26 63 P P 10 28 40.4 +0.5
baz=67,SNR=60
Y16A Circle Bar Ran 67.62 64 ⇑P P 10 28 42.2 0.0
baz=67,SNR=9.8
Z15A Gila River Ind 67.62 65 ⇓P P 10 28 42.0 -0.2
baz=67
MNK Minsk 67.75 330 eP P 10 28 42.0 -0.6
W18A Petrified Fore 67.77 62 P P 10 28 43.6 +0.5
baz=68,SNR=11
EYMN Ely 67.83 42 eP P 10 28 42.5 -0.8
comp=Z,43nm,0.8s,mb5.5
W19A Sanders 67.98 62 ⇓P P 10 28 44.6 +0.2
baz=68,SNR=24
115A Sonoran Desert 68.00 65 P P 10 28 45.0 +0.5
baz=68,SNR=24
Z16A Peralta Trail, 68.02 64 P P 10 28 44.9 +0.2
baz=68,SNR=15
HYB Hyderabad 68.06 272 eP P 10 28 45.0 -0.1
HYB pmax pmax
comp=Z,130nm,1.0s,mb5.9
HYB Hyderabad 68.06 272 eP P 10 28 45.0 -0.1
comp=Z,130nm,1.0s,mb5.9
HYB Hyderabad 68.06 272 iP P 10 28 45.0 -0.1
comp=Z,130nm,1.0s,mb5.9
X18A Snowflake 68.06 62 P P 10 28 45.5 +0.5
baz=68,SNR=25
Y17A Roosevelt 68.12 64 P P 10 28 45.6 +0.3
baz=68,SNR=35
SDCO Great Sand Dun 68.32 57 eP P 10 28 46.6 +0.1
comp=Z,16nm,1.1s,mb5.0
116A Eloy 68.41 65 P P 10 28 47.0 -0.1
baz=68,SNR=14
X19A St. Johns 68.52 62 P P 10 28 48.2 +0.4
baz=68,SNR=51
Y18A Canyon Day Jun 68.54 63 P P 10 28 48.5 +0.6
baz=68,SNR=48
ECSD EROS,Sioux Fal 68.61 48 eP P 10 28 47.3 -1.0
comp=Z,41nm,0.8s,mb5.4
Z17A San Carlos Hig 68.62 64 ⇑P P 10 28 48.6 +0.2
baz=68
Y19A Nutrioso 68.87 62 P P 10 28 51.0 +1.0
baz=69,SNR=15
216A Three Points, 68.95 65 ⇑P P 10 28 50.1 -0.4
baz=69,SNR=31
117A Oracle 68.98 64 P P 10 28 50.8 +0.2
baz=69,SNR=14
Z18A Geronimo 69.03 64 ⇑P P 10 28 51.0 0.0
baz=69
CTA Charters Tower 69.07 189 eP P 10 28 49.8 -1.4
comp=Z,17nm,1.0s,mb4.9
CTA Charters Tower 69.07 189 eP P 10 28 49.8 -1.4
CTA pmax pmax
comp=Z,17nm,1.0s
CTA Charters Tower 69.07 189 P P 10 28 50.0 -1.2
comp=Z,18nm,0.8s,mb5.0,baz=358,slow=8.7,SNR=15
CTAO Charters Tower 69.07 189 P P 10 28 49.8 -1.4
CTAO e pP 10 29 01.6 -2.1
CTAO pmax pmax
comp=Z,25nm,1.1s,mb5.1
CTAO Charters Tower 69.07 189 eP P 10 28 49.9 -1.2
comp=Z,25nm,1.1s,mb5.1
Z19A T-Link Ranch, 69.34 63 ⇓P P 10 28 52.9 0.0
baz=69,SNR=15
118A Homack Ranch, 69.38 64 P P 10 28 53.5 +0.2
baz=69,SNR=50
217A Green Valley 69.49 65 P P 10 28 54.0 +0.1
baz=69,SNR=9.2
119A Ashpeak Ranch, 69.69 63 P P 10 28 55.3 +0.2
baz=70,SNR=23
ANMO Albuquerque 69.78 60 P P 10 28 55.6 0.0
ANMO pmax pmax
comp=Z,24nm,1.0s
ANMO Albuquerque 69.78 60 eP P 10 28 55.5 -0.1
comp=Z,24nm,0.9s,mb5.1
LAZ Ladron 69.78 61 eP P 10 28 56.3 +0.7
218A Dragoon 69.81 64 P P 10 28 56.3 +0.4
baz=70,SNR=32
LENM Lemitar 70.05 61 eP P 10 28 58.1 +0.9
KIV Kislovodsk 70.10 315 ⇓iP P 10 28 56.7 -0.7
KIV pmax pmax
comp=Z,16nm,1.3s,mb4.8
LPM Los Pinos Moun 70.14 60 eP P 10 28 58.2 +0.4
Y22C IRIS PASSCAL I 70.14 61 ⇓P P 10 28 58.0 +0.2
baz=70
318A Bisbee 70.23 65 P P 10 28 58.5 +0.2
baz=70,SNR=34
BNM Barren Site 70.26 61 eP P 10 28 58.8 +0.3
219A White Tail Can 70.26 64 P P 10 28 58.9 +0.3
baz=70,SNR=58
COWI Conover 70.28 42 eP P 10 28 57.3 -1.2
comp=Z,29nm,1.2s,mb5.1
POO Poona 70.36 276 ⇓iP P 10 28 59.0 -0.4
comp=Z,70nm,1.0s,mb5.5
POO eP 10 29 00.4
POO AMb AMB 10 29 02.7
comp=Z,111nm,1.0s,mb5.7

AKASG **Malin Array Be** 70.39 327 *i* P P 10 28 57.5 -1.5
AKASG pmax pmax
comp=Z,8.0nm,0.5s
AKASG **Malin Array Be** 70.39 327 P P 10 28 57.5 -1.5
comp=Z,8.4nm,0.5s,mb4.9,baz=33,slow=6.1,SNR=37
AKBB **Malin Array Si** 70.39 327 *e*P P 10 28 58.0 -1.0
KIEV **Kiev** 70.40 327 *e*P P 10 28 58.1 -1.0
KIEV pmax pmax
comp=Z,15nm,0.8s,mb5.0
KIEV **Kiev** 70.40 327 *e*P P 10 28 58.1 -1.0
comp=Z,14nm,0.8s,mb5.0
CBKS **Cedar Bluff** 70.67 53 P P 10 28 59.8 -1.2
CBKS pmax pmax
comp=Z,50nm,1.2s,mb5.3
CBKS **Cedar Bluff** 70.67 53 *e*P P 10 28 59.7 -1.2
comp=Z,50nm,1.3s,mb5.3
319A **Douglas** 70.69 64 ⇓P P 10 29 01.6 +0.3
baz=70,SNR=66
WRAB **Tennant Creek** 70.88 200 P P 10 29 01.3 -1.0
comp=Z,304nm,1.0s,mb6.2,SNR=20
WRAB **Tennant Creek** 70.88 200*c i*P P 10 29 01.3 -1.0
WRAB **Tennant Creek** 70.88 200 *e*P P 10 29 01.3 -1.0
comp=Z,42nm,0.9s,mb5.4
WB2 **Warramunga Arr** 70.89 200 *e*P P 10 29 01.2 -1.1
WRA **Warramunga Arr** 70.89 200 P P 10 29 01.3 -1.1
comp=Z,40nm,0.9s,mb5.3,baz=15,slow=6.3,SNR=166
SCHQ **Schefferville** 70.91 24 *e*P P 10 29 02.0 -0.1
SCHQ **Schefferville** 70.91 24 P P 10 29 02.0 -0.2
comp=Z,23nm,0.4s,mb5.5,baz=345,slow=6.4,SNR=89
KAD **Karad** 71.02 275 *i* P P 10 29 03.0 -0.4
KAD *e*P 10 29 04.0
KAD AMb AMB 10 29 05.6
comp=Z,156nm,0.6s,mb6.1
BSD **Bornholm Skovb** 71.04 337 *i* P P 10 29 02.6 -0.4
BSD pmax pmax
comp=Z,4.0nm,0.4s,mb4.7
BSD **Bornholm Skovb** 71.04 337 *i* P P 10 29 02.6 -0.4
comp=Z,4.3nm,0.4s,mb4.7
FITZ **Fitzroy Crossi** 71.55 209 *e*P P 10 29 05.6 -0.8
comp=Z,60nm,0.8s,mb5.6
FITZ **Fitzroy Crossi** 71.55 209 P P 10 29 06.3 0.0
comp=Z,36nm,0.8s,mb5.4,baz=14,slow=5.0,SNR=12
SCIA **State Center** 71.63 47 *e*P P 10 29 06.3 -0.4
comp=Z,117nm,0.9s,mb5.8
SOC **Sochi** 71.77 316 *e*P P 10 29 07.6 +0.1
SOC pmax pmax
comp=Z,15nm,0.7s,mb5.0
ANN **Anapa** 71.84 318 *e*P pP 10 29 21.9 +1.4
ANN pmax pmax
comp=Z,11nm,0.8s,mb4.8
GNI **Garni** 71.99 311 *i* P P 10 29 08.0 -0.9
GNI pmax pmax
comp=Z,25nm,1.6s
GNI **Garni** 71.99 311 P P 10 29 10.3 +1.4
comp=Z,4.7nm,0.3s,mb4.8,baz=3.1,slow=13,SNR=3.6
MVH1 **Achvaich** 72.15 348 *e*P P 10 29 09.4 -0.1
JFWS **Jewell Farm** 72.26 44 *e*P P 10 29 09.4 -1.1
MCD **Coleburn Disti** 72.36 348 *e*P P 10 29 10.8 0.0
AMTX **Amarillo** 72.52 57 *e*P P 10 29 12.3 +0.2
comp=Z,37nm,1.0s,mb5.3
MDO **Dochfour** 72.64 348 *e*P P 10 29 11.8 -0.7
KAC **Achnashellach** 72.71 349 *e*P P 10 29 12.4 -0.5
GDL2 **Guadalupe Moun** 72.97 61 *e*P P 10 29 14.8 -0.2
KSB **Sheil Bridge** 73.01 349 *e*P P 10 29 14.4 -0.2
BSEG **Bad Segeberg** 73.25 339 *e*P P 10 29 15.5 -0.7
comp=Z,23nm,0.9s,mb5.1
KAR1 **Arisaig** 73.34 349 *e*P P 10 29 16.5 -0.2
KWP **Kalwaria** 73.55 330 *e*P P 10 29 18.7 +0.7
EBH **Black Hill** 73.69 348 *e*P P 10 29 17.5 -1.2
EAB **Aberfoyle** 73.86 348 *e*P P 10 29 19.2 -0.5
ESY **Stoneypath** 73.88 347 *e*P P 10 29 19.5 -0.3
EDI **Edinburgh** 73.95 347 *e*P P 10 29 20.4 +0.1
EDI AMb AMB 10 29 21.1
comp=Z,50nm,1.1s,mb5.3
OJC **Ojcow** 73.98 332 *e*P P 10 29 20.6 +0.1
EIDS **Eidsvold** 73.98 183 *e*P P 10 29 20.4 -0.3
comp=Z,10nm,0.9s,mb4.8
KOD **Kodaikanal** 74.01 267 *e*P P 10 29 21.9 +0.7
KOD AMb AMB 10 29 23.0
comp=Z,74nm,0.8s,mb5.7
EAU **Auchinoon** 74.07 347 *e*P P 10 29 20.7 -0.2
EBL **Broad Law** 74.08 347 *e*P P 10 29 20.6 -0.4
PALK **Pallekele** 74.08 263 *e*P P 10 29 22.1 +0.5
WMOK **Wichita Mounta** 74.21 55 *e*P P 10 29 21.5 -0.6
WMOK pmax pmax
comp=Z,23nm,0.9s,mb5.1
WMOK **Wichita Mounta** 74.21 55 *e*P P 10 29 21.5 -0.7
comp=Z,23nm,0.9s,mb5.1
STHS **Stebnicka Huta** 74.22 331 *i* P P 10 29 22.9 +1.0
STHS pmax pmax
comp=Z,24nm,0.9s,mb5.1
STHS **Stebnicka Huta** 74.22 331 *i* P P 10 29 22.9 +1.0
comp=Z,24nm,0.9s,mb5.1
XSO **Sourhope Farm** 74.23 347 *e*P P 10 29 21.7 -0.2
PGBU **Glenifferbraes** 74.25 348 *e*P P 10 29 22.6 +0.6
PMSU **Muirshiel** 74.25 348 *e*P P 10 29 21.4 -0.5
KOLS **Kolonicke sedl** 74.30 330 *e*P P 10 29 22.8 +0.4
BURAR **Bucovina Array** 74.41 327⇑*i*P P 10 29 23.4 +0.3
KSP **Ksiaz** 74.48 334 *e*P P 10 29 23.9 +0.5
KSP **Ksiaz** 74.48 334 *e*P P 10 29 23.6 +0.2
NIE **Niedzica** 74.52 331 *e*P P 10 29 24.9 +1.2
ESK **Eskdalemuir** 74.54 347 *e*P P 10 29 23.5 -0.2
ESK AMb AMB 10 29 25.1
comp=Z,47nm,1.9s,mb5.1
ESK **Eskdalemuir** 74.54 347 *e*P P 10 29 22.9 -0.8
ESK pmax pmax
comp=Z,14nm,0.8s,mb4.9
ESK **Eskdalemuir** 74.54 347 *e*P P 10 29 22.9 -0.8
comp=Z,14nm,0.8s,mb4.9
HDIL **Hopedale** 74.55 45 *e*P P 10 29 23.2 -0.8
comp=Z,162nm,1.1s,mb5.9
UZH **Uzhgorod** 74.56 329⇓*i*P P 10 29 24.6 +0.7
UZH *e* pP 10 29 38.6 +2.1
ASAR **Alice Springs** 74.59 200 P P 10 29 24.1 -0.2
comp=Z,22nm,0.7s,mb5.2,baz=13,slow=5.4,SNR=337
CRVS **Cervenica-Dubn** 74.60 330 *e*P P 10 29 24.4 +0.3
ECK **Cauldkaine Hil** 74.66 347 *e*P P 10 29 24.4 0.0
OKC **Ostrava-Krasne** 74.83 333 *e*P P 10 29 24.9 -0.5
XAL **Allendale** 74.83 346 *e*P P 10 29 24.5 -0.9
GMK **Mull of Kintyr** 74.85 349⇑*e*P P 10 29 25.1 -0.3
UPC **Upice** 74.86 334 *e*P P 10 29 25.8 +0.2
UPC *e*pP pP 10 29 33.3 -5.0
TRPA **Tarpa** 74.90 329⇓*i*P P 10 29 26.6 +0.7
DPC **Dobruska-Polom** 74.91 334 *e*P P 10 29 26.8 +0.9
CLL **Collm** 74.97 336⇓*i*P P 10 29 26.1 -0.2
CLL pmax pmax
comp=Z,32nm,1.1s,mb5.2
CLL **Collm** 74.97 336⇓*i*P P 10 29 26.1 -0.2
comp=Z,32nm,1.1s,mb5.2
CLL *i* 10 29 32.6
CLL **Collm** 74.97 336 *e*P P 10 29 25.5 -0.8
comp=Z,32nm,1.1s,mb5.2
CLL **Collm** 74.97 336⇓*i*P P 10 29 26.1 -0.2
comp=Z,32nm,1.1s,mb5.2
CLL *i*sP sP 10 29 32.6 -11
comp=Z,28nm,0.9s
CLL *i*x x 10 29 55.2
MORC **Moravsky Berou** 75.06 333⇓*i*P P 10 29 27.6 +0.8
GCD **Castle Douglas** 75.09 347⇑*e*P P 10 29 26.5 -0.4
BRG **Berggiesshubel** 75.11 336 *e*P P 10 29 26.5 -0.6
comp=Z,28nm,1.5s,mb5.0
BRG **Berggiesshubel** 75.11 336 *e*P P 10 29 27.2 +0.1
comp=Z,12nm,1.5s,mb4.6
BRG *i* 10 29 33.2
comp=Z,12nm,1.0s
CLZ **Clausthal** 75.16 338 *e*P P 10 29 27.5 +0.2
CLZ pmax pmax
comp=Z,43nm,1.2s,mb5.2
CLZ **Clausthal** 75.16 338 *e*P P 10 29 27.5 +0.2
comp=Z,43nm,1.2s,mb5.2
GCL **Cushendall** 75.18 349⇑*e*P P 10 29 27.3 -0.1
GAL1 **Galloway** 75.20 348 *e*P P 10 29 27.2 -0.2
GAL1 *e*P 10 29 27.2
GAL1 AMb AMB 10 29 29.0
comp=Z,76nm,1.4s,mb5.4
FBE **Freiberg** 75.23 336 *e*P P 10 29 27.8 0.0
comp=Z,32nm,1.3s,mb5.1
PVCC **Panska Ves** 75.25 335 *e*P P 10 29 28.4 +0.5
LPIG **La Paz** 75.33 70 P P 10 29 28.6 -0.2
comp=Z,26nm,0.6s,mb5.3,baz=41,slow=3.5,SNR=5.5
TXAR **Lajitas Array** 75.49 62 P P 10 29 29.4 -0.3
comp=Z,44nm,0.9s,mb5.4,baz=298,slow=4.2,SNR=386
CCM **Cathedral Cave** 75.57 48 P P 10 29 28.9 -1.0
CCM pmax pmax
comp=Z,30nm,1.1s,mb5.1
CCM **Cathedral Cave** 75.57 48 *e*P P 10 29 28.9 -1.0
comp=Z,30nm,1.1s,mb5.1
HPK **Haverah Park** 75.61 346 *e*P P 10 29 30.1 +0.3
HPK AMb AMB 10 29 32.5
comp=Z,182nm,1.5s,mb5.8
AAM **Ann Arbor** 75.69 41 *e*P P 10 29 30.1 -0.4
AAM pmax pmax
comp=Z,46nm,0.7s,mb5.5
AAM **Ann Arbor** 75.69 41 *e*P P 10 29 30.1 -0.4
comp=Z,46nm,0.7s,mb5.5
PRU **Pruhonice** 75.75 335 *e*P P 10 29 31.2 +0.5
VRAC **Vranov** 75.76 333 P P 10 29 31.9 +1.1
VRAC **Vranov** 75.76 333 P P 10 29 31.3 +0.5
comp=Z,20nm,0.8s,mb5.1,baz=26,slow=5.9,SNR=24
VRAC **Vranov** 75.76 333⇑*i*P P 10 29 31.0 +0.2
VYHS **Vyhne** 75.80 331 *i* P P 10 29 31.7 +0.7
VYHS pmax pmax
comp=Z,11nm,1.0s,mb4.7
VYHS **Vyhne** 75.80 331 *i* P P 10 29 31.7 +0.7
comp=Z,11nm,1.0s,mb4.8
KOLL **Kolacno** 75.86 332 *e*P P 10 29 32.5 +1.1
KOLL *e*pP pP 10 29 35.2 -8.8
HARR **Harsova** 75.87 324 P P 10 29 31.9 +0.4
HARR **Harsova** 75.87 324⇓*i*P P 10 29 31.9 +0.4
WTSB **Winterswijk** 75.89 340 *e*P P 10 29 31.4 0.0
comp=Z,30nm,0.9s,mb5.2
TANN **Tannenbergstha** 75.93 336 *e*P P 10 29 31.6 -0.2
comp=Z,11nm,1.2s,mb4.7
WERD **Werda** 75.94 336 *e*P P 10 29 31.6 -0.2
comp=Z,30nm,1.5s,mb5.0
MOX **Moxa** 75.94 337 *e*P P 10 29 32.2 +0.4
comp=Z,28nm,1.4s,mb5.0
MOX **Moxa** 75.94 337 *e*P P 10 29 32.2 +0.4
MOX pmax pmax
comp=Z,28nm,1.4s,mb5.0
MOX **Moxa** 75.94 337 *e*P P 10 29 31.6 -0.2
comp=Z,37nm,1.5s,mb5.1
MLR **Muntele Rosu** 75.95 326 P P 10 29 33.1 +1.1
MLR **Muntele Rosu** 75.95 326 P P 10 29 33.1 +1.2
comp=Z,12nm,0.5s,mb5.1,baz=316,slow=4.4,SNR=23
MLR **Muntele Rosu** 75.95 326⇓*i*P P 10 29 33.3 +1.3
PSZ **Piszkesteto** 75.97 331 P P 10 29 32.8 +0.8
PSZ **Piszkesteto** 75.97 331⇓*e*P P 10 29 32.9 +0.9
PSZ **Piszkesteto** 75.97 331⇑*i*P P 10 29 32.7 +0.7
GMM **Mts of Mourne** 75.97 348⇑*e*P P 10 29 31.4 -0.5
DRGR **76.00 328** P P 10 29 32.9 +0.7
DRGR **76.00 328**⇓*i*P P 10 29 32.6 +0.4
GUNZ **Gunzen** 76.01 336 *e*P P 10 29 32.1 -0.1
comp=Z,36nm,1.7s,mb5.0
FVM **French Village** 76.03 48 *e*P P 10 29 31.8 -0.7
FVM pmax pmax
comp=Z,12nm,0.6s,mb5.0
FVM **French Village** 76.03 48 *e*P P 10 29 31.8 -0.8
comp=Z,12nm,0.6s,mb5.0
LHO **Holmfirth** 76.05 346⇑*e*P P 10 29 32.5 +0.1
WERN **Wernitzgruen** 76.07 336 *e*P P 10 29 32.5 -0.1
comp=Z,15nm,0.9s,mb4.9
NKC **Novy Kostel** 76.10 336 *e*P P 10 29 33.2 +0.5
NKC *e*pP pP 10 29 38.3 -7.1
TREC **Trest** 76.10 334 *e*P P 10 29 33.3 +0.5
UBBA **Unterbreizbach** 76.19 338 *e*P P 10 29 32.8 -0.5
comp=Z,17nm,1.1s,mb4.9
BUG **Bochum--Univer** 76.27 340 *e*P P 10 29 33.2 -0.5
comp=Z,37nm,1.2s,mb5.2
KBI1 **Birley Grange** 76.28 346⇑*e*P P 10 29 33.6 -0.1
VOIR **76.33 326** P P 10 29 35.1 +1.0
VOIR **76.33 326**⇑*i*P P 10 29 35.4 +1.3
MODS **Modra-Piesok** 76.39 332 *e*P P 10 29 35.8 +1.4
MBWA **Marble Bar** 76.41 213 *e*P P 10 29 34.5 -0.2
comp=Z,39nm,1.0s,mb5.3
MANZ **Manzenberg** 76.42 336 *e*P P 10 29 34.3 -0.2
comp=Z,12nm,1.0s,mb4.8
MALT **Malatya** 76.51 314⇓*i*P P 10 29 36.6 +1.3
KWE **Weaver Farm** 76.56 346 *e*P P 10 29 35.5 +0.2
ROTZ **Rotzenmuhle** 76.59 336 *e*P P 10 29 35.7 +0.2
comp=Z,20nm,1.2s,mb4.9
ZST **Bratislava** 76.60 332 *i* P P 10 29 35.2 -0.4
ZST pmax pmax
comp=Z,21nm,1.3s,mb4.9
ZST **Bratislava** 76.60 332 *i* P P 10 29 35.2 -0.4
comp=Z,21nm,1.3s,mb4.9
ZST **Bratislava** 76.60 332 *i* P P 10 29 35.2 -0.4
BUD **Budapest** 76.63 331⇓*e*P P 10 29 36.4 +0.6
CWF **Charnwood Fore** 76.74 345 *e*P P 10 29 35.8 -0.5
CWF AMb AMB 10 29 38.8
comp=Z,119nm,1.5s,mb5.6
KHC **Kasperske Hory** 76.79 335 *i* P P 10 29 36.7 0.0
KHC **Kasperske Hory** 76.79 335 *e*P P 10 29 37.4 +0.7
KHC *e*pP pP 10 29 40.5 -8.8
SIUC **Southern Illin** 76.83 47 *e*P P 10 29 36.6 -0.4
comp=Z,68nm,1.1s,mb5.5
JCT **Junction City** 76.85 59 P P 10 29 36.8 -0.5
JCT pmax pmax
comp=Z,50nm,1.1s,mb5.4
JCT **Junction City** 76.85 59 *e*P P 10 29 36.8 -0.6
comp=Z,50nm,1.1s,mb5.4
SBD1 **Bryn Du** 76.89 347⇑*e*P P 10 29 37.1 0.0
GRA1 **Grafenberg Arr** 76.92 337 *e*P P 10 29 37.7 +0.3
comp=Z,43nm,0.9s,mb5.4
GRF **Grafenberg Arr** 76.92 337 *e*P P 10 29 37.7 +0.3
comp=Z,43nm,0.9s,mb5.4
GRF **Grafenberg Arr** 76.92 337 *e*P P 10 29 37.7 +0.3
GRF pmax pmax
comp=Z,43nm,0.9s,mb5.4
GRF **Grafenberg Arr** 76.92 337 *e*P P 10 29 37.7 +0.3
comp=Z,43nm,0.9s,mb5.4
GRFO **Grafenberg** 76.92 337 *e*P P 10 29 38.3 +0.9
GRFO pmax pmax
comp=Z,59nm,1.2s,mb5.4
GRFO **Grafenberg** 76.92 337 *e*P P 10 29 38.3 +0.9
comp=Z,59nm,1.2s,mb5.4
WET **Wettzell** 76.97 335 *e*P P 10 29 38.0 +0.3
WET pmax pmax
comp=Z,80nm,1.7s,mb5.4
WET **Wettzell** 76.97 335 *e*P P 10 29 38.0 +0.3
comp=Z,80nm,1.7s,mb5.4
GEC2 **GERESS Array S** 77.02 335 *e*P P 10 29 37.8 -0.1
GEC2 pmax pmax
comp=Z,15nm,1.3s,mb4.8
GEC2 **GERESS Array S** 77.02 335 *e*P P 10 29 37.8 -0.1
comp=Z,15nm,1.3s,mb4.8
GERES **GERESS Array B** 77.02 335 P P 10 29 37.8 -0.1
comp=Z,3.6nm,0.5s,mb4.6,baz=35,slow=4.9,SNR=28
MIAR **Mount Ida** 77.12 52 P P 10 29 38.0 -0.8
MIAR pmax pmax
comp=Z,36nm,0.8s,mb5.3
MIAR **Mount Ida** 77.12 52 *e*P P 10 29 38.0 -0.8
comp=Z,36nm,0.8s,mb5.3
GZR **Gura Zlata** 77.19 328 P P 10 29 39.4 +0.5
GZR **Gura Zlata** 77.19 328⇓*i*P P 10 29 39.2 +0.2
HGN **Heimansgroeve** 77.20 340 *e*P P 10 29 39.0 0.0
comp=Z,53nm,1.4s,mb5.3
CONA **Conrad Observa** 77.22 333⇓*i*P P 10 29 39.7 +0.7
comp=Z,33nm,1.6s,mb5.0,SNR=8.2
CONA **Conrad Observa** 77.22 333⇓*i*pP P 10 29 39.7 +0.7
comp=Z,33nm,1.6s,mb5.0,SNR=8.2
SOP **Sopron** 77.22 333⇓*e*P P 10 29 40.2 +1.1
BEBN **Eben Emael** 77.23 340 P P 10 29 39.5 +0.4
MEM **Membach** 77.33 340 ⇑P P 10 29 39.8 +0.1
USIN **University of** 77.37 46 *e*P P 10 29 39.9 -0.2
comp=Z,135nm,1.1s,mb5.8
ERPA **Erie** 77.38 39 *e*P P 10 29 39.7 -0.4
comp=Z,20nm,0.7s,mb5.2
PARMO **Parma** 77.40 48 *e*P P 10 29 40.3 0.0
BZS **Buzias** 77.40 328 P P 10 29 40.5 +0.4
BZS **Buzias** 77.40 328⇓*i*P P 10 29 40.2 +0.1
UCC **Uccle** 77.51 341 P P 10 29 40.4 -0.3
FRNY **Flat Rock** 77.55 33 *e*P P 10 29 39.7 -1.2
comp=Z,23nm,1.1s,mb5.0
TOD **Tromm** 77.61 338 *e*P P 10 29 40.2 -1.1
ABH **Alteburg** 77.66 339 *e*P P 10 29 40.5 -1.0
BCLA **Clavier** 77.67 341 P P 10 29 41.6 0.0
ACSO **Alum Creek Sta** 77.67 42 *e*P P 10 29 41.3 -0.4
comp=Z,48nm,1.1s,mb5.3
HTR **Trewern Hill** 77.69 346⇑*e*P P 10 29 41.1 -0.5
MCH1 **Michaelchurch** 77.73 346⇑*e*P P 10 29 41.6 -0.2
MCH1 *e*P 10 29 41.6
MCH1 AMb AMB 10 29 43.7
comp=Z,120nm,1.7s,mb5.5
MOA **Molln** 77.76 334⇓*i*P P 10 29 42.4 +0.3
comp=Z,16nm,1.0s,mb4.9,SNR=7.5
MOA **Molln** 77.76 334⇓*i*pP P 10 29 42.4 +0.3
comp=Z,16nm,1.0s,mb4.9,SNR=7.5
ANTO **Ankara** 77.84 318 P P 10 29 44.6 +1.9
ANTO pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
PKSM **Moragy** 77.88 331 P P 10 29 42.6 -0.2
PKSM **Moragy** 77.88 331⇓*i*P P 10 29 42.5 -0.3
ARSA **Arzberg** 77.92 333⇑*i*P P 10 29 43.4 +0.3
comp=Z,27nm,1.4s,mb5.0,SNR=6.6
ARSA **Arzberg** 77.92 333⇑*i*pP P 10 29 43.4 +0.3
comp=Z,27nm,1.4s,mb5.0,SNR=6.6
RUP **Ruppelstein** 77.94 339 *e*P P 10 29 41.2 -1.9
SWN1 **Swindon** 78.00 345⇑*e*P P 10 29 43.6 +0.2
SWN1 *e*P 10 29 43.6
HGH **Gray Hill** 78.05 346 *e*P P 10 29 43.6 0.0
GIVF **Givet** 78.07 341 *e*P P 10 29 43.6 -0.2
comp=Z,67nm,1.1s,mb5.2
GIVF **Givet** 78.07 341 *e*P P 10 29 43.6 -0.2
GIVF pmax pmax
comp=Z,34nm,1.1s,mb5.2
GIVF **Givet** 78.07 341 *e*P P 10 29 43.6 -0.2
comp=Z,34nm,1.1s,mb5.2
WOL **Wolverton** 78.09 345 *e*P P 10 29 43.3 -0.6
DOU **Dourbes** 78.13 341 P P 10 29 44.2 +0.1
MENF **Mencas** 78.19 343 *e*P P 10 29 44.2 -0.3
BAIF **Baives** 78.24 341 *e*P P 10 29 44.6 -0.2
comp=Z,77nm,1.1s,mb5.2
BAIF **Baives** 78.24 341 *e*P P 10 29 44.6 -0.2
BAIF pmax pmax
comp=Z,38nm,1.1s,mb5.2
BAIF **Baives** 78.24 341 *e*P P 10 29 44.6 -0.2
comp=Z,38nm,1.1s,mb5.2
STU **Stuttgart** 78.29 338 *e*P P 10 29 44.8 -0.2
comp=Z,33nm,1.1s,mb5.2
FUR **Furstenfeldbru** 78.30 336 *e*P P 10 29 45.2 +0.1
FUR pmax pmax
comp=Z,39nm,0.9s,mb5.3
FUR **Furstenfeldbru** 78.30 336 *e*P P 10 29 45.2 +0.1
comp=Z,39nm,0.9s,mb5.3
SWK **Warminster** 78.43 345⇑*e*P P 10 29 45.7 -0.1
LANF **Langenberg** 78.44 338 *e*P P 10 29 45.0 -0.8
SOKA **Soboth** 78.59 333⇑*i*pP P 10 29 47.0 +0.3
PERS **Pernice** 78.60 333 *e*P P 10 29 47.0 +0.2
GROS **Grobnik** 78.64 333 *i* P P 10 29 47.1 +0.1
PKME **Peaks-Kenny Pk** 78.65 30 *e*P P 10 29 47.1 0.0
NATX **Nacogdoches** 78.71 54 *e*P P 10 29 48.1 +0.4
comp=Z,74nm,0.8s,mb5.7
KBA **Koelnbreinsper** 78.72 334⇑*i*P P 10 29 48.2 +0.7
comp=Z,71nm,1.0s,mb5.5,SNR=35
KBA **Koelnbreinsper** 78.72 334⇑*i*pP P 10 29 48.2 +0.7
comp=Z,71nm,1.0s,mb5.5,SNR=35
KBA **Koelnbreinsper** 78.72 334⇑*i*P P 10 29 48.2 +0.8
KBA pmax pmax
comp=Z,71nm,1.0s,mb5.5
KBA **Koelnbreinsper** 78.72 334⇑*i*P P 10 29 48.1 +0.7
comp=Z,71nm,1.0s,mb5.5
OBKA **Obir** 78.88 333⇓*i*P P 10 29 48.5 +0.1
comp=Z,37nm,1.1s,mb5.2,SNR=9.0
OBKA **Obir** 78.88 333⇓*i*P P 10 29 48.1 -0.2
comp=Z,37nm,1.1s,mb5.2,SNR=9.0
BFO **Black Forest** 78.91 338 P P 10 29 48.5 0.0
comp=Z,128nm,0.8s,mb5.9,SNR=11
BFO **Black Forest** 78.91 338 P P 10 29 48.7 +0.2
BFO pmax pmax
comp=Z,44nm,1.3s,mb5.2
BFO **Black Forest** 78.91 338 *e*P P 10 29 48.1 -0.4
comp=Z,51nm,1.5s,mb5.2
HTL **Hartland** 78.93 347 *e*P P 10 29 48.5 0.0
HTL AMb AMB 10 29 49.9
comp=Z,114nm,1.0s,mb5.8
WATA **Walderalm** 78.98 335⇓*i*P P 10 29 49.8 +0.9
comp=Z,35nm,0.9s,mb5.3,SNR=13
WATA **Walderalm** 78.98 335⇓*i*pP P 10 29 49.8 +0.9
comp=Z,35nm,0.9s,mb5.3,SNR=13
WATA **Walderalm** 78.98 335⇓*i*P P 10 29 49.8 +0.9
WATA pmax pmax
comp=Z,35nm,0.9s,mb5.3
ARMA **Armidale** 78.99 183 *e*P P 10 29 49.1 +0.2
SPAK **Spaichingen-Ko** 79.01 338 *e*P P 10 29 47.7 -1.3
MYKA **Terra Mystica** 79.04 334⇓*i*P P 10 29 48.8 -0.4
comp=Z,46nm,1.3s,mb5.3
MYKA **Terra Mystica** 79.04 334⇑*i*P P 10 29 48.7 -0.5
comp=Z,46nm,1.3s,mb5.3
RETA **Reutte** 79.06 336⇑*i*P P 10 29 49.8 +0.4
comp=Z,23nm,1.0s,mb5.0
RETA **Reutte** 79.06 336⇑*i*pP P 10 29 49.8 +0.4
comp=Z,23nm,1.0s,mb5.0
CDF **Champ du Feu** 79.09 339 *e*P P 10 29 49.5 0.0
comp=Z,109nm,1.2s,mb5.4
CDF **Champ du Feu** 79.09 339 *e*P P 10 29 49.5 0.0
CDF pmax pmax
comp=Z,54nm,1.2s,mb5.3
CDF **Champ du Feu** 79.09 339 *e*P P 10 29 49.5 0.0
comp=Z,54nm,1.2s,mb5.4
MOTA **Moosalm** 79.10 336⇑*i*P P 10 29 50.1 +0.5
comp=Z,131nm,1.4s,mb5.7,SNR=11
MOTA **Moosalm** 79.10 336⇑*i*pP P 10 29 50.1 +0.5
comp=Z,131nm,1.4s,mb5.7,SNR=11
MOTA **Moosalm** 79.10 336⇑*i*P P 10 29 50.1 +0.6
MOTA pmax pmax
comp=Z,131nm,1.4s,mb5.7
PGB **Panagyurishte** 79.13 325 P P 10 29 50.5 +0.7
SQTA **Sankt Quirin** 79.19 336⇑*i*P P 10 29 50.8 +0.8
comp=Z,94nm,1.3s,mb5.5,SNR=14
SQTA **Sankt Quirin** 79.19 336⇑*i*pP P 10 29 50.8 +0.8
comp=Z,94nm,1.3s,mb5.5,SNR=14
SQTA **Sankt Quirin** 79.19 336⇑*i*P P 10 29 50.8 +0.8
SQTA pmax pmax
comp=Z,95nm,1.3s,mb5.6
GORS **Gorjuse** 79.22 334 *i* P P 10 29 50.3 +0.1
OXF **Oxford** 79.27 49 *e*P P 10 29 49.9 -0.8
OXF pmax pmax
comp=Z,56nm,1.0s,mb5.5
OXF **Oxford** 79.27 49 *e*P P 10 29 49.9 -0.8
comp=Z,56nm,1.0s,mb5.5
ECH **Echery** 79.31 339 *e*P P 10 29 49.1 -1.5
DYA **Yadsworthy** 79.39 346 *e*P P 10 29 50.8 -0.2
DYA AMb AMB 10 29 53.5
comp=Z,148nm,1.5s,mb5.7
FELD **Feldberg im Sc** 79.42 338 *e*P P 10 29 50.4 -0.8
FFD **Franklin Falls** 79.42 32 *e*P P 10 29 51.4 +0.1
VISS **Visnje** 79.43 333 *i* P P 10 29 50.4 -1.0
VTS **Vitosha** 79.45 326 P P 10 29 52.1 +0.6
VTS **Vitosha** 79.45 326⇑*i*P P 10 29 51.2 -0.3
VTS **Vitosha** 79.45 326 *i* P P 10 29 51.9 +0.4
DAVA **Damuels** 79.48 337⇑*i*P P 10 29 52.1 +0.5
comp=Z,26nm,0.9s,mb5.2,SNR=13
DAVA **Damuels** 79.48 337⇑*i*pP P 10 29 52.1 +0.5
comp=Z,26nm,0.9s,mb5.2,SNR=13
MCWV **Mont Chateau** 79.49 40 *e*P P 10 29 51.8 0.0
comp=Z,55nm,1.1s,mb5.4
FETA **Feichten** 79.50 336⇑*i*P P 10 29 52.5 +0.7
comp=Z,40nm,1.1s,mb5.3,SNR=15
FETA **Feichten** 79.50 336⇑*i*pP P 10 29 52.5 +0.7
comp=Z,40nm,1.1s,mb5.3,SNR=15
MEZF **Maizieres J'vi** 79.53 340 *e*P P 10 29 51.9 +0.1
comp=Z,91nm,0.8s,mb5.4
MEZF **Maizieres J'vi** 79.53 340 *e*P P 10 29 51.9 +0.1
comp=Z,91nm,0.8s,mb5.8
PLAL **Pickwick Lake** 79.56 48 *e*P P 10 29 51.3 -1.0
comp=Z,12nm,0.6s,mb5.0
THEF **They Montfort** 79.57 339 *e*P P 10 29 50.0 -2.1
BOJS **Bojanci** 79.58 332 *i* P P 10 29 51.9 -0.2
JAVS **Javornik** 79.58 333 *i* P P 10 29 51.4 -0.8
CSA1 **St Austell** 79.62 347 *e*P P 10 29 52.5 +0.3
MOF **Molkenrain** 79.65 338 *e*P P 10 29 50.6 -1.9
HAU **Haudompre** 79.69 339 *e*P P 10 29 52.7 0.0
comp=Z,34nm,0.7s,mb5.1
HAU **Haudompre** 79.69 339 *e*P P 10 29 52.7 0.0
HAU pmax pmax
comp=Z,17nm,0.7s,mb5.1
HAU **Haudompre** 79.69 339 *e*P P 10 29 52.7 0.0
comp=Z,17nm,0.7s,mb5.1
HINF **Hinteralfeld** 79.75 339 *e*P P 10 29 52.5 -0.6
comp=Z,46nm,1.1s,mb5.0
HINF **Hinteralfeld** 79.75 339 *e*P P 10 29 52.5 -0.6
HINF pmax pmax
comp=Z,23nm,1.1s,mb5.0
HINF **Hinteralfeld** 79.75 339 *e*P P 10 29 52.5 -0.6
comp=Z,23nm,1.1s,mb5.0
CCA1 **Carnmenellis** 79.83 347⇑*e*P P 10 29 53.1 -0.3
CRQ2 **Rosemanowes 2** 79.84 347 *e*P P 10 29 53.8 +0.3
CPZ **Penzance** 79.91 347⇑*e*P P 10 29 53.7 -0.2
CMA1 **Manaccan** 79.91 347 *e*P P 10 29 53.6 -0.2
DAVOX **Davos/Dischmat** 79.95 336 P P 10 29 55.0 +0.8
comp=Z,19nm,0.7s,mb5.2,baz=18,slow=4.8,SNR=21
MMB **Musomiste** 80.12 325 *i* P P 10 29 55.0 -0.2
LOMF **Lomont** 80.19 339 *e*P P 10 29 53.9 -1.5

SWET	Sewanee	80.41	46	eP	P	10 29 55.9	-0.9
FLN	La Foliniere	80.42	344	eP	P	10 29 56.4	-0.2
	comp=Z,212nm,1.0s,mb5.7						
FLN	La Foliniere	80.42	344	eP	P	10 29 56.4	-0.2
FLN				pmax	pmax		
	comp=Z,106nm,1.0s,mb5.7						
FLN	La Foliniere	80.42	344	eP	P	10 29 56.4	-0.2
	comp=Z,106nm,1.0s,mb5.7						
LDF	La Druitiere	80.51	343	eP	P	10 29 57.0	-0.1
VBMS	Vicksburg	80.53	51	eP	P	10 29 57.8	+0.3
	comp=Z,50nm,1.4s,mb5.3						
SKO	Skopje	80.64	327	eP	P	10 30 00.3	+2.4
VAY	Valandovo	80.79	326	eP	P	10 29 57.7	-1.0
KNT	Kendrikon	80.80	325	eP	P	10 29 58.6	-0.3
GRR	Gorron	80.84	344	eP	P	10 29 59.0	+0.1
	comp=Z,279nm,0.9s,mb5.9						
GRR	Gorron	80.84	344	eP	P	10 29 59.0	+0.1
GRR				pmax	pmax		
	comp=Z,139nm,0.9s,mb5.9						
GRR	Gorron	80.84	344	eP	P	10 29 59.0	+0.1
	comp=Z,139nm,0.9s,mb5.9						
LOR	Lormes	80.96	340	eP	P	10 29 59.4	-0.1
	comp=Z,123nm,0.9s,mb5.5						
LOR	Lormes	80.96	340	eP	P	10 29 59.4	-0.1
LOR				pmax	pmax		
	comp=Z,61nm,0.9s,mb5.5						
LOR	Lormes	80.96	340	eP	P	10 29 59.4	-0.1
	comp=Z,62nm,0.9s,mb5.5						
CABF	La Chapelle	81.06	339	eP	P	10 30 00.3	+0.2
	comp=Z,120nm,1.2s,mb5.4						
CABF	La Chapelle	81.06	339	eP	P	10 30 00.3	+0.2
CABF				pmax	pmax		
	comp=Z,60nm,1.2s,mb5.4						
CABF	La Chapelle	81.06	339	eP	P	10 30 00.3	+0.2
	comp=Z,60nm,1.2s,mb5.4						
ELN	Prospectdale	81.13	42	eP	P	10 30 00.1	-0.5
HYF	Humbligny	81.22	341	eP	P	10 30 01.4	+0.4
SSF	Saint Saulge	81.23	341	eP	P	10 30 01.0	0.0
	comp=Z,76nm,0.9s,mb5.3						
SSF	Saint Saulge	81.23	341	eP	P	10 30 01.0	0.0
SSF				pmax	pmax		
	comp=Z,38nm,0.9s,mb5.3						
SSF	Saint Saulge	81.23	341	eP	P	10 30 01.0	0.0
	comp=Z,38nm,0.9s,mb5.3						
STKA	Stephens Creek	81.25	191	‖iP	P	10 30 00.4	-0.6
	comp=Z,12nm,1.0s,mb4.8						
STKA	Stephens Creek	81.25	191	eP	P	10 30 00.7	-0.4
STKA	Stephens Creek	81.25	191	P	P	10 30 00.7	-0.4
	comp=Z,9.6nm,0.6s,mb4.9,baz=353,slow=7.2,SNR=21						
SGMF	Saint Gilles	81.28	345	eP	P	10 30 01.4	+0.2
	comp=Z,179nm,0.8s,mb5.8						
SGMF	Saint Gilles	81.28	345	eP	P	10 30 01.4	+0.2
SGMF				pmax	pmax		
	comp=Z,90nm,0.8s,mb5.8						
SGMF	Saint Gilles	81.28	345	eP	P	10 30 01.4	+0.2
	comp=Z,90nm,0.8s,mb5.8						
BLA	Blacksburg	81.29	42	eP	P	10 30 01.3	-0.2
BLA				pmax	pmax		
	comp=Z,49nm,1.1s,mb5.3						
BLA	Blacksburg	81.29	42	eP	P	10 30 01.2	-0.3
	comp=Z,49nm,1.1s,mb5.3						
ROSF	Rostrenen	81.32	345	eP	P	10 30 01.7	+0.3
	comp=Z,200nm,0.8s,mb5.8						
ROSF	Rostrenen	81.32	345	eP	P	10 30 01.7	+0.3
ROSF				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.8						
ROSF	Rostrenen	81.32	345	eP	P	10 30 01.7	+0.3
	comp=Z,100nm,0.8s,mb5.8						
AVF	Avril sur Loir	81.52	341	eP	P	10 30 02.6	+0.1
	comp=Z,126nm,0.8s,mb5.6						
AVF	Avril sur Loir	81.52	341	eP	P	10 30 02.6	+0.1
AVF				pmax	pmax		
	comp=Z,63nm,0.8s,mb5.6						
AVF	Avril sur Loir	81.52	341	eP	P	10 30 02.6	+0.1
	comp=Z,63nm,0.8s,mb5.6						
SMF	Signal de Mont	81.55	340	eP	P	10 30 02.8	+0.1
	comp=Z,190nm,1.1s,mb5.7						
SMF	Signal de Mont	81.55	340	eP	P	10 30 02.8	+0.1
SMF				pmax	pmax		
	comp=Z,95nm,1.1s,mb5.6						
SMF	Signal de Mont	81.55	340	eP	P	10 30 02.8	+0.1
	comp=Z,95nm,1.1s,mb5.6						
CSS	Prodhromos	81.62	315	eP	P	10 30 02.4	-0.9
	comp=Z,21nm,0.9s,mb5.1						
OHR	Ohrid	81.62	327	eP	P	10 30 01.9	-1.2
QUIF	Quistinic	81.71	345	eP	P	10 30 03.5	0.0
	comp=Z,119nm,1.1s,mb5.4						
QUIF	Quistinic	81.71	345	eP	P	10 30 03.5	0.0
QUIF				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.4						
QUIF	Quistinic	81.71	345	eP	P	10 30 03.5	0.0
	comp=Z,60nm,1.1s,mb5.4						
OG05	Jujurieux	81.75	339	eP	P	10 30 04.1	+0.3
RSL	Roselend	81.80	338	eP	P	10 30 04.5	+0.5
BGF	Bois d'Agland	81.85	341	eP	P	10 30 04.3	0.0
	comp=Z,31nm,0.6s,mb5.1						
BGF	Bois d'Agland	81.85	341	eP	P	10 30 04.3	0.0
BGF				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.1						
BGF	Bois d'Agland	81.85	341	eP	P	10 30 04.3	0.0
	comp=Z,16nm,0.6s,mb5.1						
LPL	La Plagne	81.93	338	eP	P	10 30 05.8	+1.1
	comp=Z,136nm,0.7s,mb5.7						
LPL	La Plagne	81.93	338	eP	P	10 30 05.8	+1.1
LPL				pmax	pmax		
	comp=Z,68nm,0.7s,mb5.7						
LPL	La Plagne	81.93	338	eP	P	10 30 05.8	+1.1
	comp=Z,68nm,0.7s,mb5.7						
LPG	La Plagne	81.94	338	eP	P	10 30 05.9	+1.1
	comp=Z,147nm,0.7s,mb5.7						
LPG	La Plagne	81.94	338	eP	P	10 30 05.9	+1.1
LPG				pmax	pmax		
	comp=Z,74nm,0.7s,mb5.7						
LPG	La Plagne	81.94	338	eP	P	10 30 05.9	+1.1
	comp=Z,74nm,0.7s,mb5.7						
CHOS	Chios island	81.95	322	eP	P	10 30 04.5	-0.4
PLDF	La Plantade	82.24	340	eP	P	10 30 05.6	-0.7
TCF	Toulx Ste Croi	82.25	341	eP	P	10 30 06.5	+0.1
	comp=Z,100nm,0.9s,mb5.4						
TCF	Toulx Ste Croi	82.25	341	eP	P	10 30 06.5	+0.1
TCF				pmax	pmax		
	comp=Z,50nm,0.9s,mb5.4						
TCF	Toulx Ste Croi	82.25	341	eP	P	10 30 06.5	+0.1
	comp=Z,50nm,0.9s,mb5.4						
AGO	Saint Agoulin	82.27	340	eP	P	10 30 06.3	-0.2
BNI	Bardonecchia	82.38	338	eP	P	10 30 08.4	+1.3
BNI				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.3						
BNI	Bardonecchia	82.38	338	eP	P	10 30 08.4	+1.3
	comp=Z,27nm,0.6s,mb5.3						
MFF	Saint Martin d	82.43	343	eP	P	10 30 07.7	+0.4
	comp=Z,96nm,0.8s,mb5.5						
MFF	Saint Martin d	82.43	343	eP	P	10 30 07.7	+0.4
MFF				pmax	pmax		
	comp=Z,48nm,0.8s,mb5.5						
MFF	Saint Martin d	82.43	343	eP	P	10 30 07.7	+0.4
	comp=Z,48nm,0.8s,mb5.5						
PYM	Petit Puy Mans	82.58	340	eP	P	10 30 07.4	-0.7
COLF	Collangettes	82.65	340	eP	P	10 30 09.1	+0.6
MBDF	Montbardon	82.66	338	eP	P	10 30 08.9	+0.3
	comp=Z,43nm,0.8s,mb5.2						
MBDF	Montbardon	82.66	338	eP	P	10 30 08.9	+0.3
MBDF				pmax	pmax		
	comp=Z,22nm,0.8s,mb5.2						
MBDF	Montbardon	82.66	338	eP	P	10 30 08.9	+0.3
	comp=Z,22nm,0.8s,mb5.2						
SSB	Saint Sauveur	82.68	339	eP	P	10 30 09.0	+0.3
VERF	Verneugheol	82.70	341	eP	P	10 30 08.9	+0.2
ORIF	Oris-en-Rattie	82.70	338	eP	P	10 30 09.7	+0.9
	comp=Z,56nm,0.6s,mb5.5						
ORIF	Oris-en-Rattie	82.70	338	eP	P	10 30 09.7	+0.9
ORIF				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.5						
ORIF	Oris-en-Rattie	82.70	338	eP	P	10 30 09.7	+0.9
	comp=Z,28nm,0.6s,mb5.5						
FORT	Forrest	82.81	203	eP	P	10 30 09.2	-0.1
	comp=Z,118nm,0.7s,mb6.0						
AQU	L'Aquila	83.00	332	eP	P	10 30 11.6	+1.3
AQU				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5						
AQU	L'Aquila	83.00	332	eP	P	10 30 11.6	+1.3
	comp=Z,50nm,1.0s,mb5.5						
FRNF	Fournols	83.03	341	eP	P	10 30 11.1	+0.7
VIVF	Saint-Julien-I	83.05	339	eP	P	10 30 11.2	+0.6
	comp=Z,131nm,1.0s,mb5.6						
VIVF	Saint-Julien-I	83.05	339	eP	P	10 30 11.2	+0.6
VIVF				pmax	pmax		
	comp=Z,66nm,1.0s,mb5.6						
VIVF	Saint-Julien-I	83.05	339	eP	P	10 30 11.2	+0.6
	comp=Z,66nm,1.0s,mb5.6						
SAOF	Saorge	83.15	337	eP	P	10 30 08.2	-2.9
OCF	Saint Nazaire	83.16	339	eP	P	10 30 12.0	+0.8
OG26	St.-Nazaire-De	83.16	339	eP	P	10 30 12.0	+0.8
AUTN	L'Aution	83.18	337	eP	P	10 30 09.5	-1.7
TOUF	Mont Tournerai	83.21	337	eP	P	10 30 10.0	-1.4
LUCF	Luceram	83.29	337	eP	P	10 30 10.1	-1.8
SBF	Sospel	83.30	337	eP	P	10 30 11.8	-0.1
	comp=Z,233nm,1.0s,mb5.9						
SBF	Sospel	83.30	337	eP	P	10 30 11.8	-0.1
SBF				pmax	pmax		
	comp=Z,117nm,1.0s,mb5.9						
SBF	Sospel	83.30	337	eP	P	10 30 11.8	-0.1
	comp=Z,117nm,1.0s,mb5.9						
RJF	Les Rejaudoux	83.33	341	eP	P	10 30 12.1	+0.1
	comp=Z,154nm,1.1s,mb5.6						
RJF	Les Rejaudoux	83.33	341	eP	P	10 30 12.1	+0.1
RJF				pmax	pmax		
	comp=Z,77nm,1.1s,mb5.7						
RJF	Les Rejaudoux	83.33	341	eP	P	10 30 12.1	+0.1
	comp=Z,77nm,1.1s,mb5.6						
MVIF	Mont Vial	83.34	337	eP	P	10 30 10.1	-2.0
REVF	Revere	83.43	337	eP	P	10 30 10.1	-2.5
CALN	Calern	83.54	337	eP	P	10 30 10.3	-2.8
STOF	St-Etienne Org	83.56	338	eP	P	10 30 11.7	-1.5
CAF	Calviac	83.58	341	eP	P	10 30 14.0	+0.7
	comp=Z,140nm,1.0s,mb5.8						
CAF	Calviac	83.58	341	eP	P	10 30 14.0	+0.7
CAF				pmax	pmax		
	comp=Z,70nm,1.0s,mb5.8						
CAF	Calviac	83.58	341	eP	P	10 30 14.0	+0.7
	comp=Z,70nm,1.0s,mb5.8						
SMRF	Simiane la Rot	83.66	338	eP	P	10 30 14.4	+0.7
	comp=Z,173nm,1.1s,mb5.8						
SMRF	Simiane la Rot	83.66	338	eP	P	10 30 14.4	+0.7
	comp=Z,173nm,1.1s,mb6.1						
FRF	La Foret Royal	83.78	337	eP	P	10 30 14.3	-0.1
	comp=Z,179nm,1.3s,mb5.8						
FRF	La Foret Royal	83.78	337	eP	P	10 30 14.3	-0.1
FRF				pmax	pmax		
	comp=Z,89nm,1.3s,mb5.7						
FRF	La Foret Royal	83.78	337	eP	P	10 30 14.3	-0.1
	comp=Z,89nm,1.3s,mb5.7						
LFF	La Frestale	83.84	342	eP	P	10 30 15.1	+0.5
	comp=Z,170nm,1.0s,mb5.8						
LFF	La Frestale	83.84	342	eP	P	10 30 15.1	+0.5
LFF				pmax	pmax		
	comp=Z,85nm,1.0s,mb5.8						
LFF	La Frestale	83.84	342	eP	P	10 30 15.1	+0.5
	comp=Z,85nm,1.0s,mb5.8						
TAVF	Tavernes	83.88	338	eP	P	10 30 13.9	-1.0
PRAF	Pradon	83.92	338	eP	P	10 30 14.2	-0.9
CNB	Canberra Magne	83.96	184	eP	P	10 30 14.8	-0.2
	comp=Z,9.1nm,0.9s,mb4.9						
LASF	Ste Croix	83.98	339	eP	P	10 30 15.6	+0.2
	comp=Z,104nm,1.3s,mb5.5						
PGF	Pioggiola	84.10	335	eP	P	10 30 15.8	-0.2
	comp=Z,83nm,1.0s,mb5.5						
PGF	Pioggiola	84.10	335	eP	P	10 30 15.8	-0.2
PGF				pmax	pmax		
	comp=Z,42nm,1.0s,mb5.5						
PGF	Pioggiola	84.10	335	eP	P	10 30 15.8	-0.2
	comp=Z,42nm,1.0s,mb5.5						
GELF	Grande-Etoile	84.26	338	eP	P	10 30 15.2	-1.6
CORF	Corte	84.29	335	eP	P	10 30 12.7	-4.3
COW	Cow Castle Cre	84.36	44	eP	P	10 30 17.8	+0.2
ZKR	Zakros	84.67	320	eP	P	10 30 18.3	-0.7
TIP	Timpagrande	84.77	329	eP	P	10 30 18.2	-1.2
	comp=Z,57nm,1.1s,mb5.6						
LAST	Lasithi	84.94	320	eP	P	10 30 20.0	-0.4
PYL	PYLOS	84.96	324	eP	P	10 30 18.7	-1.7
MTLF	Montolieu	85.05	340	eP	P	10 30 20.8	0.0
	comp=Z,47nm,1.0s,mb5.3						
MTLF	Montolieu	85.05	340	eP	P	10 30 20.8	0.0
MTLF				pmax	pmax		
	comp=Z,23nm,1.0s,mb5.3						
MTLF	Montolieu	85.05	340	eP	P	10 30 20.8	0.0
	comp=Z,23nm,1.0s,mb5.3						
SIVA	Sivas	85.35	321	eP	P	10 30 21.8	-0.6
KARN	Karanos	85.39	322	eP	P	10 30 21.7	-0.9
EPF	Esparros	85.75	341	eP	P	10 30 23.9	-0.4
	comp=Z,19nm,0.7s,mb5.1						
EPF	Esparros	85.75	341	eP	P	10 30 23.9	-0.4
EPF				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb5.1						
EPF	Esparros	85.75	341	eP	P	10 30 23.9	-0.4
	comp=Z,9.4nm,0.7s,mb5.1						
SJPF	Ste Jean	85.99	343	eP	P	10 30 25.3	-0.2
	comp=Z,36nm,0.9s,mb5.3						
SJPF	Ste Jean	85.99	343	eP	P	10 30 25.3	-0.2
SJPF				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.3						
SJPF	Ste Jean	85.99	343	eP	P	10 30 25.3	-0.2
	comp=Z,18nm,0.9s,mb5.3						
ETSF	Etsaut	86.06	342	eP	P	10 30 25.8	0.0
	comp=Z,25nm,0.9s,mb5.2						
ETSF	Etsaut	86.06	342	eP	P	10 30 25.8	0.0
ETSF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.2						
ETSF	Etsaut	86.06	342	eP	P	10 30 25.8	0.0
	comp=Z,12nm,0.9s,mb5.1						
TOO	Toolangi	86.47	187	eP	P	10 30 27.5	0.0
	comp=Z,248nm,1.0s,mb6.4						
KLBR	Kellerberrin	86.66	211	eP	P	10 30 27.5	-1.1
	comp=Z,32nm,0.8s,mb5.6						
VSL	Villasalto	86.82	334	eP	P	10 30 30.1	+0.4
	comp=Z,78nm,1.1s,mb5.8						
MUN	Mundaring	87.55	212	eP	P	10 30 32.2	-0.7
NWAO	Narrogin (SRO)	88.06	211	eP	P	10 30 34.8	-0.5
ESDC	Sonseca Array	89.84	344	P	P	10 30 43.2	-0.7
	comp=Z,2.3nm,0.5s,mb4.8,baz=6.2,slow=4.3,SNR=19						
KEST	Kesra	90.32	332	P	P	10 30 46.2	0.0
	comp=Z,8.8nm,0.8s,mb5.1,baz=329,slow=2.2,SNR=21						
TAU	Tasmania Unive	91.64	185	eP	P	10 30 51.5	-0.3
ATD	Arta Tunnel	95.30	294	LR	LR	11 21 00.3	
	comp=Z,515nm,18.1s,MS5.0,baz=164,slow=40						
TORD	Torodi Ar. Bea	113.80	331	PKiKP	PKiKP	10 36 23.2	-0.8
	comp=Z,2.8nm,0.7s,baz=356,slow=1.8,SNR=16						
TORD				PP	PP	10 37 15.7	-0.7
	comp=Z,2.3nm,1.0s,baz=26,slow=4.9,SNR=5.3						
TORD				PKKPbc	PKKPbc	10 47 02.5	-2.0
	comp=Z,0.7nm,0.6s,baz=156,slow=2.7,SNR=4.9						
ATAH	Atahualpa	118.94	65	PKP	PKPdf	10 36 34.0	0.0
	comp=Z,6.8nm,0.8s,baz=40,slow=6.0,SNR=5.2						
DBIC	Dimbokro	121.87	336	PKP	PKPdf	10 36 39.1	-0.6
	comp=Z,9.4nm,0.8s,baz=68,slow=2.6,SNR=11						
LSZ	Lusaka	125.19	288	ePKIKP	PKPdf	10 36 46.1	+0.3
VNDA	Vanda	126.20	178	PKP	PKPdf	10 36 44.8	-1.2
	comp=Z,3.6nm,0.8s,baz=305,slow=4.2,SNR=10						
SBA	Scott Base	126.68	177	ePKIKP	PKPdf	10 36 44.7	-2.2
LPAZ	La Paz	132.36	62	PKP	PKPdf	10 36 60.0	+0.5
	comp=Z,6.4nm,0.8s,baz=1.1,slow=4.5,SNR=31						
LBTB	Lobatse	133.96	282	ePKIKP	PKPdf	10 37 03.6	+1.3
MAW	Mawson	134.60	213	PKP	PKPdf	10 37 00.5	-1.6
	comp=Z,6.2nm,0.7s,baz=120,slow=1.6,SNR=7.5						
TSUM	Tsumeb	134.68	295	PKP	PKPdf	10 37 02.8	-0.9
	comp=Z,8.6nm,1.0s,baz=92,slow=1.9,SNR=7.9						
SIV	San Ignacio	136.08	54	PKP	PKPdf	10 37 06.0	-0.5
SIV	San Ignacio	136.08	54	PKhKP		10 36 52.1	
	comp=Z,3.2nm,0.7s,baz=322,slow=1.6,SNR=18						
SIV				PKP	PKPdf	10 37 06.0	-0.5
	comp=Z,10.0nm,0.8s,baz=326,slow=0.6,SNR=29						
BOSA	Boshof	136.65	279	PKP	PKPdf	10 37 06.8	-0.3
	comp=Z,10nm,0.7s,baz=4.4,slow=2.5,SNR=11						
BDFB	Brasilia	141.97	37	PKhKP		10 37 09.7	
	comp=Z,2.8nm,0.6s,baz=266,slow=4.3,SNR=7.8						
SYO	Syowa Base	143.31	213	‖eX		10 37 12.0	
CFAA	Coronel Fontan	143.48	78	PKP	PKPdf	10 37 16.5	-3.0
	comp=Z,1.2nm,0.7s,baz=286,slow=2.3,SNR=13						
CPUP	Villa Florida	146.43	60	PKPbc	PKPbc	10 37 25.1	-1.1
	comp=Z,31nm,0.7s,baz=300,slow=2.6,SNR=69						
PLCA	Paso Flores	147.25	93	PKPbc	PKPbc	10 37 27.7	-0.3
	comp=Z,24nm,0.9s,baz=289,slow=3.8,SNR=26						
CAM4	Nova Friburgo	150.16	34	‖iP	PKPbc	10 37 35.6	-0.4
CAM4				i		10 37 39.4	
CAM4				i		10 37 46.2	
CAM4				i		10 38 05.3	
MAIT	Maitri	152.06	205	ePKPdf	PKPbc	10 37 36.5	-2.5
SNAA	Sanae	154.91	197	ePKPdf	PKPdf	10 37 34.8	-1.6
SNAA				e		10 37 43.0	
SNAA				e		10 37 48.2	
SNAA				e		10 37 57.0	
SNAA				e		10 37 59.2	
SNAA				e		10 38 01.9	
SNAA	Sanae	154.91	197	PKP	PKPdf	10 37 36.8	+0.4
	comp=Z,0.7nm,0.9s,baz=224,slow=11,SNR=3.7						
SNAA				PKPbc	PKPbc	10 37 43.8	-1.3
	comp=Z,2.4nm,0.9s,baz=224,slow=1.2,SNR=14						
SNAA				PKPab	PKPab	10 37 59.9	-0.9
	comp=Z,8.6nm,0.9s,baz=143,slow=3.6,SNR=28						
VNA2	Neumayer--Watz	156.35	195	ePKPdf	PKPdf	10 37 36.9	-1.4
VNA2				e		10 37 46.7	
VNA2				e		10 37 53.4	
VNA2				e		10 37 59.5	
VNA2				e		10 38 06.2	
VNA2				e		10 38 08.9	
VNA3	Neumayer Olymp	156.42	193	ePKPdf	PKPdf	10 37 36.8	-1.6
VNA3				e		10 37 47.5	
VNA3				e		10 37 53.2	
VNA3				e		10 38 00.3	
VNA3				e		10 38 06.0	
VNA3				e		10 38 08.7	
VNA1	Neumayer--Stat	156.73	194	ePKPdf	PKPdf	10 37 37.8	-1.0
VNA1				e		10 37 48.4	
VNA1				e		10 37 54.2	
VNA1				e		10 38 00.3	
VNA1				e		10 38 08.2	
VNA1				e		10 38 10.5	

*BJI **16** 10:25:55.0, 1960N×10063E, h10km, ML4.0, Ms4.4, Msz3.9*
*ISCJB **16** 10:26:01.4±1.7, 2047N±008×1009E±01, h3km±12km, mb3.7/5, Error ellipse: s-maj=23.2km s-min=9.2km az=29.1*
*IDC **16** 10:26:03.3±2.1, 2065N×101.14E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=247.5km s-min=21.6km az=59.0*
*NEIC **16** 10:26:04.4±0.7, 2048N×10085E, h10km, Error ellipse: s-maj=19.1km s-min=12.0km az=81.0*
ISC 16 10:26:05.1±1.7,**2047N**±008×**1008E**±01,**h14**km±12km,**n7,** σ0°**21/8**,**mb3.7/5**,**Laos**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	2.67	222	ePn	Pn	10 26 48.0	+0.3
CM31				eSn	Sg	10 27 30.7	-0.1
KMI	Kunming	4.96	21	PG	Pg	10 27 40.3	+0.1
KMI				Smax			
	comp=N,42nm,1.0s						
KMI				Smax			
	comp=E,35nm,1.2s						
MKAR	Makanchi Array	30.30	334	P	P	10 32 15.7	-0.2
	comp=E,1.4nm,0.6s,mb3.9,baz=149,slow=8.7,SNR=4.9						
ZALV	Zalesovo Beam	35.59	344	P	P	10 33 02.0	0.0
	comp=E,1.0nm,0.6s,mb3.9,baz=146,slow=10,SNR=3.3						
BVAR	Borovoye Array	40.06	332	P	P	10 33 39.8	0.0
	comp=E,1.1nm,0.5s,mb3.8,baz=132,slow=8.7,SNR=4.2						
WRA	Warramunga Arr	51.87	139	P	P	10 35 13.1	-0.2
	comp=E,0.5nm,0.5s,mb3.7,baz=326,slow=8.0,SNR=4.5						
ASAR	Alice Springs	54.44	142	P	P	10 35 32.3	+0.1
	comp=E,0.4nm,0.8s,mb3.4,baz=321,slow=6.5,SNR=4.1						

*JSN **16** 10:32:49.4±0.9, 1772N×8016W, h15km±67km, MD4.9*
*IDC **16** 10:32:55.7±0.7, 1790N×7958W, h0km, mb4.1/11, mb1 4.4/13, mb1mx4.2/22, mbtmp4.2/13, ML3.5/1, Error ellipse: s-maj=24.9km s-min=17.8km az=31.0*
*ISCJB **16** 10:32:57.8±1.6, 1818N±008×7947W±004, h16km±11km, mb4.2/25, Error ellipse: s-maj=12.7km s-min=6.1km az=5.7*
*NEIC **16** 10:32:57.2±0.4, 1789N×7958W, h10km, mb4.4/16, Error ellipse: s-maj=11.7km s-min=6.5km az=223.0*
*SSNC **16** 10:33:02.8, 1815N×7954W, h25km, MD4.2, ML3.7*
ISC 16 10:32:59.1±1.5,**1809N**±007×**7944W**±003,**h17**km±10km,
n60,σ0°**99**/66,**mb4.2**/25,**4C-2D**,**North of Honduras**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	Montego Bay	1.53	78	‖eP	Pn	10 33 26.2	+0.6
MCJ	Malvern	1.68	95	‖eP	Pn	10 33 26.9	-0.7
MCJ				i S	Sg	10 33 54.8	+1.6
CVJ	Coleyville	1.82	86	‖eP	Pn	10 33 29.1	-0.5
BBJ	Bamboo Saint A	2.09	82	‖eP	Pn	10 33 33.0	-0.2
BNJ	Bonny Gate	2.38	84	eP	Pn	10 33 36.8	-0.5
STH	Stony Hill	2.50	90	‖eP	Pn	10 33 38.7	-0.2
CMJ	Castle Mountai	2.92	89	‖eP	Pn	10 33 44.7	0.0
LMGC	Las Mercedes	3.02	49	eP	Pn	10 33 46.9	+0.7
LMGC				eS	Sn	10 34 20.0	-2.0
	comp=N,272nm,0.8s						
LMGC				e			
	comp=E,229nm,0.5s						
RCC	Rio Carpintero	4.02	61	eP	Pn	10 33 58.9	-0.9
RCC				eS	Sn	10 34 41.1	-5.4
	comp=N,62nm,0.3s						
RCC				e			
	comp=E,89nm,0.3s						
HLGC	Holguin	4.23	48	eP	Pb	10 34 10.8	-2.3
HLGC				eS	Sn	10 34 48.1	-3.7
MOAC	Moa	4.94	58	eP	Pn	10 34 17.0	+4.5
MOAC				eS	Sn	10 35 11.4	+2.1
	comp=N,44nm,0.2s						
MOAC				e			
	comp=E,37nm,0.3s						
MASC	Masc

comp=E,18nm,1.1s,mb4.7
NVAR Mina Array Bea 39.40 309 P **P 10 40 29.0 +1.0**
comp=E,3.8nm,0.7s,mb4.2,baz=114,slow=8.4,SNR=29
NVAR PcP PcP 10 42 33.5 -2.6
comp=E,0.8nm,0.8s,baz=126,slow=3.4,SNR=3.7
CHMT Chamberlain Mo 39.96 324 *eP* **P 10 40 32.9 +0.4**
WVOR Wild Horse Val 41.13 315 *eP* **P 10 40 42.9 +0.7**
comp=E,9.0nm,1.2s,mb4.3
NEW Newport 42.89 323 *eP* **P 10 40 56.1 -0.5**
comp=E,5.7nm,1.1s,mb4.2
EDM Edmonton 43.84 331 *eP* **P 10 41 03.6 -0.5**
YKA Yellowknife Ar 50.62 340 P **P 10 41 56.0 -0.8**
YKA PcP PcP 10 43 14.0 -0.2
YKA Yellowknife Ar 50.62 340 P **P 10 41 56.0 -0.8**
comp=E,2.0nm,0.7s,mb4.1,baz=133,slow=8.4,SNR=48
YKA PcP PcP 10 43 14.0 -0.2
comp=E,1.2nm,0.8s,baz=130,slow=4.1,SNR=7.6
RES Resolute Bay 57.23 355 *eP* **P 10 42 44.4 -0.6**
comp=E,156nm,0.8s
INK Inuvik 60.40 340 *eP* **P 10 43 07.2 +0.1**
comp=E,395nm,1.5s
IMA2 Indian Mountai 67.22 335 *eP* **P 10 43 51.9 -0.2**
NB2 NORSAR Subarra 74.67 30 P **P 10 44 39.0 +1.6**
comp=Z,2.1nm,0.8s,mb4.1,baz=282,slow=6.2
NOA NORSAR Array B 74.67 30 P **P 10 44 39.0 +1.6**
comp=Z,1.6nm,0.7s,mb4.1,baz=282,slow=5.8,SNR=4.3
TORD Torodi Ar. Bea 77.73 80 P **P 10 44 56.1 +0.4**
comp=Z,0.7nm,0.8s,mb3.6,baz=291,slow=5.9,SNR=3.8
ARCES ARCESS Array B 78.31 20 P **P 10 44 58.4 +0.6**
ARCES ARCESS Array B 78.31 20 P **P 10 44 58.4 +0.6**
comp=Z,3.2nm,0.8s,mb4.3,baz=297,slow=4.0,SNR=6.6
GERES GERESS Array B 78.62 42 P **P 10 45 00.9 +1.0**
comp=Z,1.4nm,0.8s,mb3.9,baz=234,slow=4.5,SNR=6.0
FINES FINESS Array B 81.47 28 P **P 10 45 16.4 +1.3**
FINES FINESS Array B 81.47 28 P **P 10 45 16.4 +1.3**
comp=Z,2.0nm,0.6s,mb4.2,baz=243,slow=2.1,SNR=8.2
WRA Warramunga Arr 148.04 261 PKPbc PKPbc 10 52 43.0 -1.4
comp=Z,2.9nm,0.9s,baz=88,slow=2.8,SNR=20
ASAR Alice Springs 148.40 254 PKPbc PKPbc 10 52 44.0 -1.3
comp=Z,3.3nm,0.8s,baz=105,slow=2.7,SNR=23

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*JSN **16** 10:39:46.6±1.3, 1757N×8008W, h0km±119km*
*IDC **16** 10:39:54.8±0.6, 1800N×7966W, h0km, mb4.0/12, mb1 4.2/13, mb1mx4.1/22, mbtmp4.0/13, ML4.5/2, Error ellipse: s-maj=21.9km s-min=14.6km az=54.0*
*NEIC **16** 10:39:56.1±0.3, 1789N×7970W, h10km, mb4.4/13, Error ellipse: s-maj=10.2km s-min=6.1km az=49.0*
*ISCJB **16** 10:39:58.4±0.4, 1816N±005×7941W±003, h33km, mb4.1/23, Error ellipse: s-maj=7.4km s-min=4.4km az=10.3*
*SSNC **16** 10:40:00.7, 1820N×7952W, h34km, MD4.3, ML3.6*
ISC 16 10:40:00.4±0.4, 1816N±005×7936W±003, h35km, n54, σ1§18/59, mb4.1/23, 3D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**1.44**	**80**	*eP*	**Pn**	**10 40 23.9**	**0.0**
MCJ	**Malvern**	**1.61**	**98**↓	*eP*	**Pn**	**10 40 25.2**	**-1.0**
MCJ				*eS*	**Sn**	**10 40 52.3**	**+6.6**
CVJ	**Coleyville**	**1.73**	**88**↓	*eP*	**Pn**	**10 40 27.2**	**-0.8**
BBJ	**Bamboo Saint A**	**2.00**	**83**↓	*eP*	**Pn**	**10 40 31.1**	**-0.5**
BNJ	**Bonny Gate**	**2.29**	**86**	*eP*	**Pn**	**10 40 35.0**	**-0.7**
BNJ				*eS*	**Sn**	**10 41 12.9**	**+10**
STH	**Stony Hill**	**2.42**	**92**	*eP*	**Pn**	**10 40 37.0**	**-0.4**
CMJ	**Castle Mountai**	**2.84**	**90**	*eP*	**Pn**	**10 40 42.6**	**-0.6**
LMGC	**Las Mercedes**	**2.92**	**49**	*eP*	**Pn**	**10 40 44.8**	**+0.5**
LMGC				*eS*	**Sn**	**10 41 18.2**	**0.0**
comp=N,442nm,1.0s							
LMGC				*e*			
comp=E,236nm,0.7s							
RCC	**Rio Carpintero**	**3.91**	**62**	*eP*	**Pn**	**10 40 56.2**	**-1.8**
RCC				*eS*	**Sn**	**10 41 40.8**	**-1.9**
comp=N,102nm,0.8s							
RCC				*e*			
comp=E,130nm,0.4s							
HLGC	**Holguin**	**4.13**	**48**	*eP*	**Pn**	**10 41 01.0**	**0.0**
HLGC						10 41 49.2	
MOAC	**Moa**	**4.84**	**58**	*eP*	**Pn**	**10 41 14.5**	**+3.8**
MOAC				*eS*	**Sn**	**10 42 04.2**	**-1.3**
comp=N,37nm,0.5s							
MOAC				*e*			
comp=E,45nm,0.5s							
MASC	**Masc**	**5.24**	**67**	*eP*	**Pn**	**10 41 18.2**	**+1.9**
MASC				*eS*	**Sn**	**10 42 17.0**	**+1.5**
comp=N,1.4nm,0.1s							
MASC				*e*			
comp=E,1.6nm,0.1s							
SOR	**Soroa**	**5.74**	**324**	*eP*	**Pn**	**10 41 20.9**	**-2.2**
SOR				*eS*	**Sn**	**10 42 21.1**	**-6.6**
comp=N,3.8nm,0.5s							
SOR				*e*			
comp=E,3.7nm,0.5s							
SDDR	**Presa de Saban**	**7.70**	**83**	*ePn*	**Pn**	**10 41 53.4**	**+3.4**
comp=E,45nm,0.7s							
TEIG	**Tepich**	**8.68**	**285**	*ePn*	**Pn**	**10 41 57.4**	**-6.0**
TEIG	**Tepich**	**8.68**	**285**	Pn	**Pn**	**10 41 57.2**	**-6.2**
comp=E,36nm,0.3s,baz=71,slow=1.4,SNR=82							
BCIP	**Isla Barro Col**	**8.95**	**183**	*ePn*	**Pn**	**10 42 01.5**	**-5.8**
comp=E,38nm,0.9s							
SDV	**Santo Domingo**	**12.52**	**136**	Pn	**Pn**	**10 42 55.5**	**-0.6**
comp=E,0.4nm,0.3s,baz=141,slow=2.1,SNR=3.1							
SWET	**Sewanee**	**17.96**	**342**	*eP*	**Pn**	**10 44 07.1**	**-0.2**
OXF	**Oxford**	**18.59**	**333**	*eP*	**Pn**	**10 44 16.3**	**+1.3**
comp=E,34nm,1.1s							
MIAR	**Mount Ida**	**20.66**	**325**	*eP*	**P**	**10 44 36.5**	**-0.6**
comp=E,20nm,1.0s							
SIUC	**Southern Illin**	**21.31**	**338**	*eP*	**P**	**10 44 45.6**	**+1.5**
comp=E,11nm,0.8s,mb4.2							
JCT	**Junction City**	**22.26**	**307**	*eP*	**P**	**10 44 52.8**	**-1.6**
comp=E,21nm,1.1s,mb4.5							
CCM	**Cathedral Cave**	**22.38**	**335**	*eP*	**P**	**10 44 56.1**	**+0.6**
comp=E,22nm,1.1s,mb4.5							
WMOK	**Wichita Mounta**	**23.91**	**317**	*eP*	**P**	**10 45 14.0**	**+3.0**
comp=E,7.3nm,1.2s,mb4.0							
TXAR	**Lajitas Array**	**24.82**	**301**	P	**P**	**10 45 17.6**	**-1.8**
TXAR				PcP	PcP	10 48 55.0	-0.2
TXAR	**Lajitas Array**	**24.82**	**301**	P	**P**	**10 45 17.6**	**-1.8**
comp=E,0.4nm,0.5s,mb3.2,baz=124,slow=9.7,SNR=13							
TXAR				PcP	PcP	10 48 55.0	-0.2
comp=E,0.5nm,0.8s,baz=140,slow=5.7,SNR=3.9							
ATAH	**Atahualpa**	**25.02**	**178**	P	**P**	**10 45 22.2**	**+1.0**
comp=E,20nm,1.1s,mb4.5,baz=11,slow=4.9,SNR=5.3							
AMTX	**Amarillo**	**25.91**	**314**	*eP*	**P**	**10 45 28.1**	**-1.1**
comp=E,13nm,1.0s,mb4.4							
SDCO	**Great Sand Dun**	**30.06**	**316**	*eP*	**P**	**10 46 06.0**	**-0.3**
comp=E,3.9nm,1.0s,mb4.1							
RSSD	**Black Hills**	**33.16**	**327**	*eP*	**P**	**10 46 34.2**	**+0.8**
comp=E,7.4nm,1.2s,mb4.5							
SRU	**San Rafael**	**34.15**	**314**	*eP*	**P**	**10 46 41.9**	**-0.2**
comp=E,9.9nm,1.3s,mb4.6							
LPAZ	**La Paz**	**35.97**	**161**	P	**P**	**10 46 58.1**	**+0.1**
comp=E,0.5nm,0.5s,mb3.7,baz=321,slow=9.1,SNR=3.7							
REDW	**Red Top Meadow**	**36.56**	**320**	*eP*	**P**	**10 47 01.8**	**-1.0**
comp=E,13nm,1.2s,mb4.7							
GCMT	**Greycliff**	**37.28**	**324**	*eP*	**P**	**10 47 08.0**	**-0.9**
SIV	**San Ignacio**	**38.42**	**151**	P	**P**	**10 47 17.3**	**-1.5**
comp=E,4.8nm,0.8s,mb4.3,baz=328,slow=8.5,SNR=13							
MCMT	**McKenzie Canyo**	**38.56**	**321**	*eP*	**P**	**10 47 20.6**	**+0.9**
EGMT	**Eagleton**	**38.72**	**327**	*eP*	**P**	**10 47 19.9**	**-1.1**
comp=E,9.4nm,1.1s,mb4.4							
NVAR	**Mina Array Bea**	**39.42**	**309**	P	**P**	**10 47 27.0**	**+0.1**
NVAR	**Mina Array Bea**	**39.42**	**309**	P	**P**	**10 47 27.0**	**+0.1**
comp=E,1.8nm,0.7s,mb3.9,baz=110,slow=7.7,SNR=14							
NEW	**Newport**	**42.88**	**323**	*eP*	**P**	**10 47 55.9**	**+0.6**
comp=E,5.7nm,1.1s,mb4.2							
BDFB	**Brasilia**	**45.62**	**135**	P	**P**	**10 48 18.5**	**+0.9**
comp=E,2.3nm,0.8s,mb4.2,baz=112,slow=25,SNR=6.3							
YKA	**Yellowknife Ar**	**50.59**	**340**	P	**P**	**10 48 54.2**	**-1.2**
YKA				PcP	PcP	10 50 13.2	+0.6
YKA	**Yellowknife Ar**	**50.59**	**340**	P	**P**	**10 48 54.2**	**-1.1**
comp=E,1.2nm,0.9s,mb3.8,baz=133,slow=8.0,SNR=15							
YKA				PcP	PcP	10 50 13.2	+0.6
comp=E,0.9nm,0.8s,baz=125,slow=5.2,SNR=3.7							
RES	**Resolute Bay**	**57.17**	**355**	*eP*	**P**	**10 49 44.6**	**+1.3**
comp=E,171nm,0.9s							
INK	**Inuvik**	**60.36**	**340**	*eP*	**P**	**10 50 05.9**	**+0.4**
comp=E,667nm,1.8s							
ESDC	**Sonseca Array**	**67.54**	**54**	P	**P**	**10 50 54.8**	**+1.6**
comp=E,0.8nm,0.4s,mb4.1,baz=289,slow=5.6,SNR=6.9							
NOA	**NORSAR Array B**	**74.57**	**30**	P	**P**	**10 51 38.1**	**+2.6**
comp=E,1.2nm,0.8s,mb3.9,baz=283,slow=5.8,SNR=2.8							
TORD	**Torodi Ar. Bea**	**77.64**	**80**	P	**P**	**10 51 54.8**	**+1.0**
comp=E,0.4nm,0.8s,mb3.4,baz=284,slow=5.8,SNR=3.0							
ARCES	**ARCESS Array B**	**78.22**	**20**	P	**P**	**10 51 56.7**	**+0.7**
comp=E,2.7nm,0.9s,mb4.2,baz=288,slow=4.6,SNR=5.5							
ARCES	**ARCESS Array B**	**78.22**	**20**	P	**P**	**10 51 56.7**	**+0.7**
comp=E,2.7nm,0.9s,mb4.2,baz=288,slow=4.6,SNR=5.5							
GERES	**GERESS Array B**	**78.52**	**42**	P	**P**	**10 52 00.7**	**+2.7**
comp=E,1.4nm,0.9s,mb3.9,baz=251,slow=4.1,SNR=6.8							
WRA	**Warramunga Arr**	**148.13**	**261**	PKPbc	PKPbc	10 59 41.3	-2.0
comp=E,2.3nm,1.0s,baz=87,slow=1.6,SNR=11							
ASAR	**Alice Springs**	**148.50**	**254**	PKPbc	PKPbc	10 59 41.5	-2.6
comp=E,2.5nm,1.0s,baz=114,slow=2.8,SNR=11							

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*IDC **16** 11:03:40.4±0.6, 3315N×9058E, h0km, mb4.2/15, mb1 4.3/17, mb1mx4.2/25, mbtmp4.2/17, ML3.7/2, MS3.9/1, Ms1 3.9/1, ms1mx3.6/28, Error ellipse: s-maj=19.7km s-min=15.0km az=37.0*
*ISCJB **16** 11:03:43.6±1.2, 3320N±005×9054E±006, h33km±11km, mb4.2/23, MS4.3/2, Error ellipse: s-maj=9.3km s-min=6.9km az=38.9*
*MOS **16** 11:03:44.3±1.2, 3327N×9054E, h33km, mb4.6/8, Error ellipse: s-maj=14.0km s-min=7.3km az=94.0*
*BJI **16** 11:03:45.9, 3329N×9065E, h57km, mB4.9, mb4.4, ML4.4, Ms4.7, Msz4.5*
*NEIC **16** 11:03:48.3±1.4, 3329N×9070E, h59km±14km, mb4.1/9, Error ellipse: s-maj=17.0km s-min=10.0km az=68.0*
ISC 16 11:03:48.0±0.8, 3323N±005×9067E±006, h55km±8km, n67, σ1§22/69, mb4.2/23, MS4.3/2, 2C-1D, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.54**	**173**	P	**Pn**	**11 04 41.3**	**+0.7**
LSA				Smax			
comp=E,710nm,1.2s							
LSA	**Lhasa**	**3.54**	**173**	*ePn*	**Pn**	**11 04 41.8**	**+1.3**
LSA				*eSn*	**Sn**	**11 05 12.0**	**-9.1**
SHL	**Shillong**	**7.71**	**172**	*eP*	**Pn**	**11 05 36.5**	**-1.2**
IMP	**Imphal**	**8.89**	**160**	*ex*	x	11 05 53.0	
GTA	**Gaotai**	**9.62**	**48**	*eP*	**Pn**	**11 06 04.8**	**+1.1**
GTA				AP		11 06 14.8	
GTA				XP		11 06 19.3	
GTA				AMB	AMB		
comp=Z,7.0nm,1.1s							
GTA				LR	LR		
comp=N,4μm,12.9s							
GTA				LR	LR		
comp=E,3μm,13.7s							
GTA				LR	LR		
comp=Z,2μm,10.3s							
CD2	**Chengdu**	**11.35**	**98**	*eP*	**Pn**	**11 06 30.3**	**+2.9**
CD2				AP		11 06 33.6	
CD2				PP		11 06 39.8	
CD2				S	**Sn**	**11 08 43.0**	**+10**
CD2				XS		11 08 47.3	
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s							
CD2				AMB	AMB		
comp=Z,30nm,5.2s							
CD2				LR	LR		
comp=N,3μm,13.2s							
CD2				LR	LR		
comp=E,3μm,14.4s							
CD2				LR	LR		
comp=Z,3μm,7.2s							
KMI	**Kunming**	**13.28**	**124**	P	**Pn**	**11 06 52.3**	**-1.5**
KMI				AMB	AMB		
comp=Z,7.0nm,0.9s							
MK31	**Makanchi Array**	**14.98**	**337**	*eP*	**Pn**	**11 07 14.0**	**-2.2**
MKAR	**Makanchi Array**	**14.98**	**337**	*i P*	**Pn**	**11 07 16.3**	**+0.1**
MKAR				pmax	pmax		
comp=Z,2.0nm,0.7s							
MKAR	**Makanchi Array**	**14.98**	**337**	Pn	**Pn**	**11 07 12.5**	**-3.7**
comp=Z,0.2nm,0.3s,baz=145,slow=13,SNR=16							
XAN	**Xi'an**	**15.23**	**82**	P	**Pn**	**11 07 18.0**	**-1.6**
XAN				AP	pP	11 07 26.0	-10
XAN				AMB	AMB		
comp=Z,5.0nm,1.1s							
XAN				LR	LR		
comp=N,1μm,18.9s							
XAN				LR	LR		
comp=E,549nm,13.0s							
XAN				LR	LR		
comp=Z,1μm,14.8s							
TKM2	**Tokmak 2**	**15.29**	**314**	*eP*	**Pn**	**11 07 24.9**	**+4.6**
TKM2				pmax	pmax		
comp=Z,10.0nm,0.9s							
TKM2	**Tokmak 2**	**15.29**	**314**	*eP*	**Pn**	**11 07 24.9**	**+4.7**
comp=Z,10nm,0.9s							
GYA	**Guiyang**	**15.43**	**112**	P	**Pn**	**11 07 19.3**	**-2.9**
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s							
UCH	**Uchtor**	**15.60**	**310**	*eP*	**Pn**	**11 07 27.7**	**+3.4**
comp=Z,5.7nm,0.9s							
FRU	**Bishkek**	**15.85**	**312**	*eP*	**Pn**	**11 07 32.0**	**+4.6**
FRU				pmax	pmax		
comp=Z,60nm,2.0s							
AML	**Almayashu**	**16.09**	**308**	*eP*	**Pn**	**11 07 32.8**	**+2.3**
comp=Z,5.0nm,0.9s							
KBL	**Kabul**	**18.00**	**280**	*eP*	**Pn**	**11 07 50.1**	**-4.2**
comp=Z,15nm,0.9s							
SONM	**Songino Array**	**18.81**	**35**	P	**Pn**	**11 08 03.6**	**-0.3**
comp=Z,0.3nm,0.3s,baz=216,slow=9.2,SNR=6.6							
ZAK	**Zakamensk**	**19.50**	**25**	*eP*	**Pn**	**11 08 11.8**	**-0.3**
ZAK				pmax	pmax		
comp=Z,3.0nm,1.1s							
KURK	**Kurchatov**	**19.59**	**337**↑	*iP*	**Pn**	**11 08 10.7**	**-2.5**
KURK	**Kurchatov**	**19.59**	**337**	*eP*	**Pn**	**11 08 11.1**	**-2.1**
comp=Z,5.8nm,0.8s							
MOY	**Mondy**	**19.90**	**19**	*eP*	**Pn**	**11 08 17.0**	**+0.2**
MOY				pmax	pmax		
comp=Z,26nm,2.3s							
WHN	**Wuhan**	**20.28**	**91**	P	**P**	**11 08 20.0**	**+0.9**
WHN				S	**S**	**11 12 02.3**	**-1.3**
WHN				LR	LR		
comp=N,3μm,15.5s,MS4.8							
WHN				LR	LR		
comp=E,1μm,15.8s,MS4.8							
WHN				LR	LR		
comp=Z,2μm,9.6s							
TLY	**Talaya**	**20.72**	**23**↓	*eP*	**P**	**11 08 25.9**	**+2.3**
TLY				pmax	pmax		
comp=Z,1.0nm,0.8s							
ZAL	**Zalesovo**	**21.12**	**350**	P	**P**	**11 08 27.6**	**-0.3**
ZAA0	**Zalesovo Array**	**21.12**	**350**	*eP*	**P**	**11 08 27.6**	**-0.3**
ZALV	**Zalesovo Beam**	**21.12**	**350**	P	**P**	**11 08 27.6**	**-0.4**
comp=Z,7.7nm,0.9s,mb4.0,baz=163,slow=11,SNR=11							
ZALV				LR	LR	11 17 26.3	
comp=Z,332nm,18.9s,MS3.7,baz=106,slow=39							
QIZ	**Qiongzhong**	**22.23**	**125**	P	**P**	**11 08 42.4**	**+2.3**
QIZ				S	**S**	**11 12 40.8**	**-1.0**
QIZ				LR	LR		
comp=N,676nm,10.3s							
QIZ				LR	LR		
comp=E,683nm,8.9s							
QIZ				LR	LR		
comp=Z,898nm,9.1s							
NJ2	**Nanjing**	**23.74**	**85**	*eP*	**P**	**11 08 55.8**	**+0.6**
NJ2				AMB	AMB		
comp=Z,10.0nm,0.7s,mb4.3							
BVAR	**Borovoye Array**	**24.55**	**330**	P	**P**	**11 09 01.8**	**-0.5**
comp=Z,3.2nm,1.0s,mb3.8,baz=133,slow=8.5,SNR=8.9							
BRVK	**Borovoye**	**24.62**	**330**	*eP*	**P**	**11 09 02.8**	**-0.2**
BRVK				pmax	pmax		
comp=Z,7.0nm,0.9s,mb4.2							
BRVK	**Borovoye**	**24.62**	**330**	*eP*	**P**	**11 09 02.8**	**-0.1**
comp=Z,7.3nm,0.9s,mb4.2							
HIA	**Hailar**	**26.88**	**45**	*i P*	**P**	**11 09 22.8**	**-0.7**
BOD	**Bodaibo**	**29.24**	**26**	*eP*	**P**	**11 09 45.3**	**+0.9**
KSRS	**Korea Array**	**30.55**	**71**	P	**P**	**11 09 55.4**	**-0.9**
comp=Z,1.8nm,0.7s,mb4.0,baz=279,slow=8.4,SNR=6.1							
KLR	**Kul'dur**	**34.31**	**50**	*eP*	**P**	**11 10 26.3**	**-2.7**
ASAJ	**Asahikawa**	**41.36**	**59**	P	**P**	**11 11 30.2**	**+1.7**
ASAJ				pmax	pmax		
comp=Z,7.0nm,0.9s							
ASAJ	**Asahikawa**	**41.36**	**59**	P	**P**	**11 11 30.1**	**+1.7**
comp=Z,7.2nm,0.8s,mb4.3,baz=268,slow=18,SNR=5.9							
OBN	**Obninsk**	**43.21**	**317**	P	**P**	**11 11 43.0**	**-0.4**
OBN				pmax	pmax		
comp=Z,8.0nm,1.1s,mb4.4							
TIXI	**Tiksi**	**43.45**	**17**	*eP*	**P**	**11 11 44.6**	**-0.5**
TIXI				pmax	pmax		
comp=Z,6.0nm,1.6s,mb4.1							
ASF	**Jabal al Asfar**	**44.83**	**284**	P	**P**	**11 11 57.8**	**+1.1**
comp=Z,3.6nm,1.1s,mb4.1,baz=157,slow=11,SNR=4.2							
AKASG	**Malin Array Be**	**47.49**	**311**	P	**P**	**11 12 16.4**	**-1.0**
comp=Z,3.4nm,0.7s,mb4.4,baz=77,slow=7.3,SNR=14							
SEY	**Seymchan**	**48.19**	**33**	*i P*	**P**	**11 12 23.5**	**+1.0**
BILL	**Bilibino**	**54.29**	**27**↑	*eP*	**P**	**11 13 09.4**	**+1.3**
BILL				pmax	pmax		
comp=Z,3.0nm,1.1s,mb4.1							
NB2	**NORSAR Subarra**	**56.55**	**325**	P	**P**	**11 13 23.6**	**-0.9**
comp=Z,2.6nm,0.8s,mb4.3,baz=82,slow=6.9							
NOA	**NORSAR Array B**	**56.55**	**325**	P	**P**	**11 13 23.6**	**-0.9**
comp=Z,1.4nm,0.7s,mb4.1,baz=82,slow=7.0,SNR=5.6							
GERES	**GERESS Array B**	**57.70**	**310**	P	**P**	**11 13 33.4**	**+0.6**
comp=Z,0.7nm,0.4s,mb4.1,baz=69,slow=7.3,SNR=7.6							
KMBO	**Kilima Mbogo**	**60.74**	**247**	P	**P**	**11 13 54.1**	**-0.2**
comp=Z,2.1nm,0.8s,mb4.3,baz=37,slow=15,SNR=4.8							
LPG	**La Plagne**	**63.24**	**308**	*eP*	**P**	**11 14 11.1**	**+0.4**
comp=Z,9.7nm,0.8s,mb4.7							
LPG	**La Plagne**	**63.24**	**308**	*eP*	**P**	**11 14 11.1**	**+0.4**
LPG				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.7							
LPG	**La Plagne**	**63.24**	**308**	*eP*	**P**	**11 14 11.1**	**+0.4**
comp=Z,4.8nm,0.8s,mb4.7							
SMF	**Signal de Mont**	**64.70**	**310**	*eP*	**P**	**11 14 19.0**	**-1.2**
comp=Z,11nm,0.8s,mb4.6							
SMF	**Signal de Mont**	**64.70**	**310**	*eP*	**P**	**11 14 19.0**	**-1.2**
SMF				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.6							
SMF	**Signal de Mont**	**64.70**	**310**	*eP*	**P**	**11 14 19.0**	**-1.2**
comp=Z,5.3nm,0.8s,mb4.6							
WRAB	**Tennant Creek**	**67.33**	**135**	*i P*	**P**	**11 14 37.0**	**-0.3**
WRA	**Warramunga Arr**	**67.33**	**135**	*i P*	**P**	**11 14 37.5**	**+0.2**
WRA				pmax	pmax		
comp=Z,4.0nm,0.8s							
WRA	**Warramunga Arr**	**67.33**	**135**	P	**P**	**11 14 37.5**	**+0.1**
comp=Z,4.4nm,0.8s,mb4.5,baz=324,slow=6.3,SNR=26							
ASAR	**Alice Springs**	**69.99**	**138**	P	**P**	**11 14 54.1**	**+0.3**
comp=Z,0.7nm,0.9s,mb3.6,baz=314,slow=5.6,SNR=7.5							
COLA	**College**	**72.16**	**22**	*i P*	**P**	**11 15 08.1**	**+1.6**
COLA	**College**	**72.16**	**22**	*eP*	**P**	**11 15 08.0**	**+1.5**
comp=Z,3.7nm,0.9s,mb4.3							
STKA	**Stephens Creek**	**80.63**	**138**	P	**P**	**11 15 54.2**	**-0.5**
comp=Z,2.6nm,0.8s,mb4.2,baz=0.5,slow=15,SNR=4.2							
TORD	**Torodi Ar. Bea**	**82.07**	**280**	P	**P**	**11 16 01.6**	**-1.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=41,slow=4.9,SNR=8.9							
YKA	**Yellowknife Ar**	**82.47**	**12**	*i P*	**P**	**11 16 04.1**	**0.0**
YKA				pmax	pmax		
comp=Z,2.0nm,0.8s							
YKA	**Yellowknife Ar**	**82.47**	**12**	P	**P**	**11 16 04.2**	**+0.1**
comp=Z,1.7nm,0.8s,mb4.0,baz=334,slow=5.0,SNR=20							
BOSA	**Boshof**	**87.32**	**233**	P	**P**	**11 16 30.4**	**+1.4**
comp=Z,2.7nm,0.9s,mb4.5,baz=92,slow=9.6,SNR=3.5							
CPUP	**Villa Florida**	**151.46**	**275**	PKPbc	PKPbc	11 23 34.5	-1.5
comp=Z,1.5nm,0.5s,baz=10,slow=2.3,SNR=5.5							

JSN 16 11:15:05.3±0.4, 1902N×7939W, h0km±876km, MD4.1, 1C, Cuba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVJ	**Coleyville**	**1.93**	**114**	*eP*	Pn	11 15 37.7	-1.7
MCJ	**Malvern**	**1.95**	**124**	*eS*	Sn	11 16 02.9	-1.9
STH	**Stony Hill**	**2.62**	**110**↑	*eP*	Pn	11 15 47.8	-1.1
STH				*eS*	Sn	11 16 19.3	-2.1

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*BJI **16** 11:15:49.6, 1949N×10100E, h10km, mB4.4, mb4.1, ML4.5, Ms4.3, Msz3.9*
*IDC **16** 11:16:00.5±1.0, 2060N×101.11E, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/22, mbtmp3.9/7, ML2.8/1, Error ellipse: s-maj=73.9km s-min=17.7km az=63.0*
*ISCJB **16** 11:16:01.5±0.5, 2066N±005×10104E±004, h10km, mb3.8/6, Error ellipse: s-maj=7.6km s-min=4.7km az=156.8*
*NEIC **16** 11:16:02.2±0.7, 2061N×101.12E, h10km, Error ellipse: s-maj=21.4km s-min=11.4km az=82.0*
ISC 16 11:16:03.9±0.5, 2057N±005×10104E±004, h10km, n24, σ1§64/37, mb3.8/6, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**2.03**	**66**	*ePG*	**Pg**	**11 16 42.9**	**+0.1**
DBV				*eSG*	**Sg**	**11 17 11.2**	**+2.0**
CHTO	**Chiang Mai**	**2.63**	**229**	*ePn*	**Pn**	**11 16 45.5**	**-1.0**
CHTO				*eSn*	**Sn**	**11 17 19.4**	**+1.0**
SLVN	**Son La**	**2.79**	**74**	*ePN*	**Pn**	**11 16 49.3**	**+0.7**
SLVN				*ePG*	**Pg**	**11 16 56.0**	**-1.3**
SLVN				*eSG*	**Sg**	**11 17 30.6**	**-2.9**
BVV	**Ba Vi**	**4.09**	**82**	*ePg*	**Pg**	**11 17 24.8**	**+2.6**
BVV				*eSg*	**Sg**	**11 18 11.8**	**-3.4**
HNV	**Hanoi**	**4.48**	**83**	*ePg*	**Pg**	**11 17 29.6**	**-0.1**
HNV				*eSg*	**Sg**	**11 18 19.8**	**-8.0**
KKTK	**Khon Kaen**	**4.54**	**158**	P	**Pn**	**11 17 14.0**	**+1.3**
DSV	**Doi Son**	**4.63**	**89**	*ePg*	**Pg**	**11 17 33.1**	**+0.6**
DSV				*eSg*	**Sg**	**11 18 25.4**	**-7.2**
KMI	**Kunming**	**4.80**	**19**	PG	**Pg**	**11 17 35.3**	**-0.5**
KMI				Smax			
comp=N,89nm,1.4s							
KMI				Smax			
comp=E,81nm,0.9s							
K

7C-7D, Error ellipse: s-maj=8.1km s-min=2.2km az=78.3, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARRY	Arrayan	1.61	64	P	Pn	11 31 30.8	+1.5
ULBA	Ulba	1.68	63	⇓P	Pn	11 31 32.2	+2.0
RUN5	Runtun	1.68	62	⇓P	Pn	11 31 32.4	+2.2
RUN5	Runtun	1.68	62	⇓S	Sn	11 31 54.1	+2.3
PISA	Pisayambo	1.90	53	⇓P	Pn	11 31 36.1	+2.7
PISA	Pisayambo	1.90	53	⇓S	Sn	11 32 01.6	+4.2
TAMB	Tambo	2.15	45	⇑P	Pn	11 31 39.9	+3.1
VC1	Cotopaxi 1	2.17	44	P	Pn	11 31 40.6	+3.7
VC1	Cotopaxi 1	2.17	44	S	Sn	11 32 07.9	+4.0
TERV	Terraza Guagua	2.41	33	⇑P	Pn	11 31 43.3	+3.0
TERV	Terraza Guagua	2.41	33	⇑S	Sn	11 32 13.3	+3.5
GGP	Refugio Guagua	2.41	33	⇓P	Pn	11 31 43.3	+2.9
GGP	Refugio Guagua	2.41	33	⇓S	Sn	11 32 13.3	+3.3
PINO	Pino	2.42	32	⇑P	Pn	11 31 43.3	+2.9
ANTI	Antisana	2.47	45	⇑P	Pn	11 31 45.1	+4.0
ANTI	Antisana	2.47	45	⇑S	Sn	11 32 19.1	+7.6
COTA	Cotacachi	2.98	32	⇑P	Pn	11 31 53.9	+5.7

*CSEM **16** 11:41:32.2±1.0, 3721N×2452W, h5km, ML2.9, Error ellipse: s-maj=10.6km s-min=4.6km az=91.0, After PDA*

PDA 16 11:41:32.2±1.0, 3721N×2452W, h5km, MD3.5, ML2.9, Error ellipse: s-maj=10.6km s-min=4.6km az=91.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.49	245	eP	Pg	11 41 40.8	-0.8
PSMN				eS	Sg	11 41 46.9	-1.0
CMLA	Cha da Macela	0.97	305	eP	Pg	11 41 48.0	-2.9
CMLA				eS	Sg	11 41 58.7	-4.8
CMLA				A		11 42 04.0	
	158nm,0.4s						
CMLA	Cha da Macela	0.97	305	eP	Pg	11 41 48.0	-2.9
CMLA				eS	Sg	11 41 58.7	-4.8
PDA	Ponta Delgada	1.06	301	eP	Pg	11 41 48.4	-4.1
PDA				eS	Sg	11 42 01.5	-4.7
PMAN	Manadas	3.16	298	eS	Sn	11 42 52.5	-8.2
PMAN				A		11 42 54.4	
	17nm,0.3s						
CALA	Caldeira	3.58	294	eS	Sn	11 43 03.0	-8.1

IDC 16 11:51:28.2±1.0, 2191N×14313E, h0km, mb3.6/7, mb1 3.8/8, mb1mx3.7/21, mbtmp3.7/8, ML3.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.7/33, Error ellipse: s-maj=39.9km s-min=19.9km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.24	351	Pn	Pn	11 52 49.4	+1.6
	2.0nm,0.3s,baz=219,slow=14,SNR=3.1						
CBIJ				Sn	Sn	11 53 53.0	+4.1
	1.6nm,0.3s,baz=287,slow=19,SNR=2.0						
GUMO	Guam	8.44	168	LR	LR	11 56 09.4	
	comp=Z,118nm,20.7s,baz=94,slow=33						
SONM	Songino Array	39.14	320	P	P	11 58 58.0	+0.5
	0.8nm,0.7s,baz=132,slow=8.1,SNR=3.0						
WRA	Warramunga Arr	42.47	192	P	P	11 59 26.4	+1.2
	0.7nm,0.9s,baz=9.2,slow=7.8,SNR=3.8						
ASAR	Alice Springs	46.18	192	P	P	11 59 54.3	-0.5
	0.3nm,0.7s,baz=17,slow=9.3,SNR=7.1						
ZALV	Zalesovo Beam	54.01	322	P	P	12 00 53.4	-0.7
	0.6nm,0.5s,baz=104,slow=6.1,SNR=3.3						
BVAR	Borovoye Array	62.48	319	P	P	12 01 52.8	-0.6
	0.8nm,0.7s,baz=100,slow=7.7,SNR=3.6						
YKA	Yellowknife Ar	76.29	28	P	P	12 03 18.0	-0.6
	0.2nm,0.5s,baz=292,slow=6.0,SNR=5.4						
NVAR	Mina Array Bea	83.05	51	P	P	12 03 56.7	+0.8
	0.4nm,0.6s,baz=274,slow=9.7,SNR=4.1						

*BJI **16** 12:03:11.7, 1.13N×9727E, h18km, mB4.9, mb4.5*
*IDC **16** 12:03:11.8±0.8, 125N×9694E, h0km, mb4.3/19, mb1 4.3/20, mb1mx4.2/28, mbtmp4.3/20, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx3.2/31, Error ellipse: s-maj=24.5km s-min=13.3km az=45.0*
*ISCJB **16** 12:03:14.6±0.6, 129N±008×9700E±008, h30km, mb4.3/28, Error ellipse: s-maj=13.5km s-min=9.4km az=43.2*
*NEIC **16** 12:03:16.4±0.5, 126N×9701E, h30km, mb4.4/4, Error ellipse: s-maj=12.7km s-min=8.2km az=221.0*

ISC 16 12:03:17.3±7.3, 13N±01×971E±01, h34km±49km, h21km±5.8km: pP-P, n39, σ0°82/38, mb4.3/28, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.39	51	Pn	Pn	12 03 53.9	-0.2
PSI				LR	LR	12 04 41.1	
PSI	Prapat	2.39	51	Pn	Pn	12 03 53.9	-0.2
	7.1nm,0.3s,baz=267,slow=2.4,SNR=17						
PSI				LR	LR	12 04 41.2	
	comp=Z,645nm,20.2s,baz=75,slow=36						
TSI	Tuntungan	2.66	34	eP	Pn	12 03 52.5	-5.3
KULM	Kulim	5.35	42	ePn	Pn	12 04 34.4	-0.4
KAPI	Kappang	23.52	106	P	P	12 08 24.4	-0.3
	8.6nm,0.9s,mb4.2,baz=270,slow=17,SNR=4.4						
KMI	Kunming	24.32	13	P	P	12 08 32.9	+1.0
KMI				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.4						
GYA	Guiyang	26.67	19	P	P	12 08 52.9	-0.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.3						
FITZ	Fitzroy Crossi	34.10	126	P	P	12 09 58.3	-0.7
	comp=Z,1.5nm,0.8s,mb4.0,baz=323,slow=10,SNR=4.2						
XAN	Xi'an	34.42	18	P	P	12 10 00.3	-1.2
XAN				AP	pP	12 10 10.6	-0.9
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.8						
LZH	Lanzhou	35.19	10	eP	P	12 10 08.3	+0.1
LZH				AP	pP	12 10 13.5	-4.7
LZH				XP	sP	12 10 15.3	-7.0
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,66nm,4.1s						
GTA	Gaotai	38.02	3	eP	P	12 10 32.9	+0.6
GTA				AP	pP	12 10 37.0	-5.3
GTA				XP	sP	12 10 39.8	-6.7
GTA				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.2						
JOW	Kunigami	39.28	47	P	P	12 10 43.6	+0.6
	comp=Z,25nm,0.7s,mb5.0,baz=222,slow=23,SNR=4.3						
WRA	Warramunga Arr	42.20	122	P	P	12 11 07.4	+0.1
	comp=Z,1.8nm,0.6s,mb3.9,baz=301,slow=9.1,SNR=22						
ASAR	Alice Springs	43.56	127	P	P	12 11 19.1	+0.8
	comp=Z,1.0nm,0.6s,mb3.7,baz=299,slow=8.1,SNR=12						
JNU	Nakatsue	44.83	41	P	P	12 11 27.9	-0.4
	comp=Z,9.5nm,0.8s,mb4.7,baz=233,slow=5.1,SNR=3.1						
UCH	Uchtor	45.51	336	eP	P	12 11 35.2	+1.8
	comp=Z,2.7nm,0.8s,mb4.2						
KSRS	Korea Array	45.85	35	P	P	12 11 36.2	0.0
	comp=Z,6.2nm,0.9s,mb4.6,baz=221,slow=8.8,SNR=18						
SONM	Songino Array	47.06	9	P	P	12 11 46.2	+0.6
	comp=Z,4.8nm,0.8s,mb4.5,baz=192,slow=9.2,SNR=29						
SONM				PcP	PcP	12 13 17.6	+0.3
	comp=Z,0.7nm,0.8s,baz=184,slow=4.2,SNR=2.3						
MK31	Makanchi Array	47.12	346	eP	P	12 11 46.9	+0.9
MKAR	Makanchi Array	47.12	346	P	P	12 11 46.9	+0.9
	comp=Z,3.1nm,0.5s,mb4.5,baz=161,slow=7.7,SNR=28						
KURK	Kurchatov	51.67	345	eP	P	12 12 21.4	+0.7
	comp=Z,3.8nm,0.8s,mb4.4						
MJAR	Matsushiro Arr	51.72	42	P	P	12 12 22.0	+0.6
	comp=Z,1.3nm,0.9s,mb3.9,baz=232,slow=5.7,SNR=3.7						
ZAA0	Zalesovo Array	53.44	351	eP	P	12 12 34.1	+0.3
ZALV	Zalesovo Beam	53.44	351	P	P	12 12 33.6	-0.2
	comp=Z,5.5nm,0.4s,mb4.8,baz=180,slow=6.5,SNR=29						
STKA	Stephens Creek	53.52	132	P	P	12 12 35.4	+0.6
	comp=Z,2.2nm,0.7s,mb4.2,baz=4.4,slow=3.7,SNR=5.4						
BVAR	Borovoye Array	56.12	341	P	P	12 12 52.7	-0.5
	comp=Z,1.5nm,0.5s,mb4.2,baz=134,slow=8.5,SNR=11						
AKTK	Aktyubinsk	59.08	332	P	P	12 13 13.7	-0.4
AKTO	Aktyubinsk	59.08	332	P	P	12 13 13.7	-0.4
	comp=Z,1.4nm,0.6s,mb4.2,baz=132,slow=3.0,SNR=5.3						
GNI	Garni	61.13	316	P	P	12 13 28.8	+0.4
GNI	Garni	61.13	316	P	P	12 13 28.8	+0.4
	comp=Z,5.9nm,0.3s,mb5.2,baz=191,slow=15,SNR=2.2						
ARU	Arti	63.04	337	eP	P	12 13 38.6	-2.3
	comp=Z,9.3nm,0.8s,mb5.0						
TIXI	Tiksi	73.12	10	eP	P	12 14 43.0	-0.8
	comp=Z,2.9nm,0.8s,mb4.3						
AKASG	Malin Array Be	75.10	322	P	P	12 14 54.0	-1.8
AKASG	Malin Array Be	75.10	322	P	P	12 14 54.0	-1.8
	comp=Z,0.1nm,0.2s,mb3.3,baz=108,slow=4.4,SNR=4.6						
FINES	FINESS Array B	79.85	333	P	P	12 15 21.4	-0.7
	comp=Z,1.7nm,0.8s,mb4.1,baz=152,slow=6.3,SNR=3.3						
ARCES	ARCESS Array B	82.40	340	P	P	12 15 34.7	-0.9
ARCES	ARCESS Array B	82.40	340	P	P	12 15 34.7	-0.9
	comp=Z,1.4nm,0.6s,mb4.1,baz=86,slow=8.6,SNR=8.4						
GERES	GERESS Array B	84.65	319	P	P	12 15 48.6	+1.1
	comp=Z,0.2nm,0.3s,mb3.8,baz=91,slow=7.3,SNR=3.5						
TXAR	Lajitas Array	143.66	31	PKP	PKPdf	12 22 48.0	-1.4
	comp=Z,0.2nm,0.5s,baz=1.1,slow=4.5,SNR=3.1						

*CSEM **16** 12:03:45.3±0.1, 3871N×3571E, h2km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.5km az=79.0*
*ISCJB **16** 12:03:46.6±0.7, 3874N±003×3571E±004, h6km±7km, Error ellipse: s-maj=6.0km s-min=5.2km az=40.1*
*ISK **16** 12:03:46.7, 3873N×3574E, h10km, MD3.1*
*DDA **16** 12:03:48.0, 3849N×3526E, h44km±5km, Md3.0*

ISC 16 12:03:47.3±0.6, 3874N±003×3572E±004, h10km±5km, n17, σ0°92/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNN	Bunyan	0.15	40	PG	Pg	12 03 49.9	-0.8
BNN				SG	Sg	12 03 53.5	+0.5
AVNT	Avonos	0.68	274	i P	Pg	12 03 59.6	-0.8
AVNT				i S	Sg	12 04 10.4	+1.2
YOZ	Yozgat	0.96	341	ePG	Pg	12 04 05.5	-0.2
YOZ				eSG	Sg	12 04 19.2	+1.1
NIG	Nigde	1.07	235	ePG	Pg	12 04 08.6	+0.7
ANDN	Andirin	1.25	157	i P	Pn	12 04 09.2	-1.6
ANDN				i S	Sn	12 04 29.9	+2.1
KOZT	Kozan	1.26	176	ePN	Pn	12 04 11.0	+0.1
CDAG	Cicekdag	1.37	311	i P	Pn	12 04 10.6	-1.9
CDAG				i S	Sb	12 04 30.9	+0.3
KMRS	Kahramanmaras	1.54	143	ePN	Pn	12 04 14.5	-0.3
SVSK	Karacayir	1.54	40	ePN	Pn	12 04 15.6	+0.8
KARA	Karaisali	1.56	200	ePN	Pn	12 04 14.5	-0.6
CORM	Corum	1.67	330	ePN	Pn	12 04 17.0	+0.4
CEYT	Ceyhan	1.72	179	ePN	Pn	12 04 17.3	0.0
GAZ	Gaziantep	1.96	142	ePN	Pn	12 04 20.1	-0.4
CTKT	Corum	2.02	339	i P	Pg	12 04 24.0	-2.0
CTKT				i S	Sg	12 04 52.6	+0.4
MERS	Mersin	2.09	207	ePN	Pn	12 04 22.2	-0.1
MYA	Malataya	2.16	100	ePN	Pn	12 04 23.6	+0.3
MALT	Malatya	2.16	100	ePN	Pn	12 04 23.9	+0.5

*ISCJB **16** 12:07:24.9±0.7, 3735N±009×13547E±0.10, h347km±8km, mb2.6/2, Error ellipse: s-maj=14.7km s-min=12.4km az=162.7*
*JMA **16** 12:07:25.9±0.2, 3720N×13551E, h346km±2km, M2.7*
*IDC **16** 12:07:25.4±1.0, 3739N×13564E, h352km±13km, mb2.5/2, mb1 3.0/7, mb1mx2.8/25, mbtmp3.0/7, Error ellipse: s-maj=19.2km s-min=15.4km az=66.0*

ISC 16 12:07:25.9±0.7, 3729N±009×13548E±010, h342km±8km, n13, σ0°81/17, mb2.6/2, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKY	Yasaka	1.69	191	P	Pn	12 08 14.3	-0.1
JGM	Miyama	1.87	148	S	S	12 08 54.5	-1.0
JWT	Wachi	2.00	182	P	Pn	12 08 16.5	-0.1
JWT				S	S	12 08 56.0	-1.2
JNG	Nsakai	2.28	112	P	Pn	12 08 18.8	+0.3
MAT	Matsushiro	2.31	108	P	Pn	12 08 18.8	0.0
MAT				eS	S	12 09 01.5	+0.3
MJAR	Matsushiro Arr	2.31	108	P	Pn	12 08 19.3	+0.6
	5.2nm,0.3s,baz=283,slow=9.3,SNR=89						
JHK	Hiroka	2.82	90	P	Pn	12 08 22.9	-0.1
JHJ	Hachijo jima 2	5.45	138	P	Pn	12 08 52.1	+1.9
	3.4nm,0.3s,baz=244,slow=21,SNR=3.1						
JHJ				S	S	12 09 58.8	+0.3
	5.1nm,0.3s,baz=71,slow=23,SNR=5.3						
JNU	Nakatsue	5.61	224	P	Pn	12 08 52.3	+0.3
	1.0nm,0.3s,baz=231,slow=32,SNR=8.1						
KSRS	Korea Array	6.02	274	P	Pn	12 08 58.1	+1.5
	0.4nm,0.3s,baz=93,slow=12,SNR=14						
ASAJ	Asahikawa	8.70	36	P	Pn	12 09 27.2	-0.8
	2.8nm,0.3s,baz=228,slow=12,SNR=30						
ASAJ				S	S	12 11 00.2	-7.6
	0.4nm,0.3s,baz=272,slow=31,SNR=5.2						
MKAR	Makanchi Array	39.95	301	P	P	12 14 27.4	-0.5
	0.2nm,0.5s,mb2.6,baz=76,slow=12,SNR=2.7						
WRA	Warramunga Arr	56.93	181	P	P	12 16 35.3	-1.0
	0.2nm,0.5s,mb2.7,baz=356,slow=7.5,SNR=3.6						

*MOS **16** 12:31:42.6±1.0, 5143N×17641W, h33km, mb5.0/12, Error ellipse: s-maj=9.7km s-min=7.4km az=46.3*
*ISCJB **16** 12:31:45.5±0.7, 5158N±005×17649W±003, h56km±5km, mb4.7/68, MS4.1/21, Error ellipse: s-maj=8.3km s-min=3.1km az=1.0*
*IDC **16** 12:31:45.5±2.9, 5154N×17648W, h45km±27km, mb4.1/20, mb1 4.2/20, mb1mx4.1/27, mbtmp4.1/20, MS3.9/14, Ms1 3.9/14, ms1mx3.7/43, Error ellipse: s-maj=18.9km s-min=11.1km az=167.0*
*NEIC **16** 12:31:46.8±0.5, 5155N×17651W, h56km±4km, mb4.9/34, ML4.8(AEIC), Error ellipse: s-maj=6.7km s-min=3.1km az=175.0*
*BJI **16** 12:31:47.0, 5156N×177.10W, h52km, mB5.0, mb5.0, Ms4.7, Msz4.3*

ISC 16 12:31:47.5±0.6, 5158N±005×17648W±003, h58km±5km, h55km±3.5km: pP-P, n464, σ0°63/466, mb4.7/68, MS4.1/21, 64C-62D, Andreanof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AMKA	Amchitka	2.64	267	P	Pn	12 32 26.1	-1.5
AMKA				S	Sn	12 32 59.4	+0.9
NIKO	Nikolski	4.89	70	ePn	Pn	12 32 58.5	+0.1
SMY	Shemya	5.91	285	eP	Pn	12 33 12.6	+0.2
UNV	Unalaska Valle	6.48	66	P	Pn	12 33 18.8	-1.3
FX1	Attu Island--F	6.50	286	P	Pn	12 33 19.4	-1.0
SPIA	Saint Paul Isl	6.69	31	P	Pn	12 33 23.1	+0.1
AKUT	Akutan	6.97	64	ePn	Pn	12 33 27.5	+0.6
AKUT				eSn	Sn	12 34 58.9	+14
FALS	False Pass	8.50	62	ePn	Pn	12 33 46.2	-1.6
SDPT	Sand Point	10.26	62	ePn	Pn	12 34 09.2	-2.6
CHGN	Chignik	11.64	59	ePn	Pn	12 34 29.6	-1.0
GAMB	Gambell	12.49	10	ePn	Pn	12 34 43.1	+0.9
SVW2	Sparrevohn	14.94	42	eP	Pn	12 35 16.1	+1.2
KDAK	Kodiak Island	15.10	56	ePn	Pn	12 35 14.1	-3.0
KDAK	Kodiak Island	15.10	56	P	Pn	12 35 11.9	-5.1
	3.8nm,0.3s,baz=338,slow=20,SNR=52						
KDAK				S	S	12 38 08.8	-8.6
	0.6nm,0.3s,baz=281,slow=19,SNR=8.5						
PET	Petropavlovsk	15.26	285	⇑P	Pn	12 35 25.8	+6.7
PET				eS	S	12 38 15.2	-5.4
PET				pmax	pmax		
	comp=Z,31nm,1.0s						
PET				MLR	MLR		
	comp=Z,400nm,18.0s						
PET	Petropavlovsk	15.26	285	eP	Pn	12 35 23.9	+4.7
TTA	Tatalina	15.78	36	eP	Pn	12 35 26.6	+0.9
SLKM	Skilak Lake	17.07	48	eP	Pn	12 35 40.7	-1.2
PMR	Palmer	17.95	45	eP	Pn	12 35 53.2	+0.6
PMR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
PMR	Palmer	17.95	45	eP	Pn	12 35 53.2	+0.6
	comp=Z,2.0nm,0.3s						
SML	Sawmill	18.38	45	eP	Pn	12 35 58.0	+0.1
BILL	Bilibino	18.52	339	ceP	Pn	12 36 01.0	+1.5
BILL				pmax	pmax		
	comp=Z,67nm,1.2s						
BILL				MLR	MLR		
	comp=Z,200nm,17.0s						
BILL	Bilibino	18.52	339	eP	Pn	12 36 00.9	+1.4
	comp=Z,47nm,0.9s						
IMA2	Indian Mountai	18.54	30	eP	Pn	12 36 00.2	+0.5
DIV	Divide	19.34	48	ePn	Pn	12 36 09.3	0.0
COLA	College	19.87	37	⇑eP	Pn	12 36 13.2	-2.4
COLA	College	19.87	37	eP	Pn	12 36 12.7	-2.9
	comp=Z,37nm,0.8s						
SEY	Seymchan	20.08	316	⇑eP	P	12 36 17.8	+2.0
EGAK	Eagle	22.45	40	eP	P	12 36 40.0	-1.2
DAWY	Dawson	22.97	43	eP	P	12 36 46.4	-0.3
INK	Inuvik	26.47	35	eP	P	12 37 17.6	-1.1
INK				e		12 40 42.2	
INK	Inuvik	26.47	35	P	P	12 37 17.6	-1.0
	comp=Z,4.1nm,0.7s,mb4.0,baz=235,slow=7.5,SNR=66						
YSS	Yuzh-Sakhalins	26.74	276	⇑eP	P	12 37 23.1	+1.7
YSS				pmax	pmax		
	comp=Z,45nm,2.0s,mb4.7						
DLBC	Dease Lake	27.04	57	P	P	12 37 21.1	-2.8
	baz=274,slow=14						
ASAJ	Asahikawa	28.16	271	P	P	12 37 33.2	-0.8
ASAJ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
ASAJ				MLR	MLR		
	comp=Z,211nm,19.2s						
ASAJ	Asahikawa	28.16	271	P	P	12 37 33.1	-0.9
	comp=Z,7.7nm,0.9s,mb4.3,baz=333,slow=11,SNR=5.7						
ASAJ				LR	LR	12 47 23.6	
	comp=Z,211nm,19.2s,MS3.8,baz=338,slow=33						
BBB	Bella Bella	29.43	69	P	P	12 37 45.1	-0.1
	comp=Z,34nm,1.1s,mb5.0,baz=216,slow=8.2,SNR=3.3						
HABR	Khabarovsk	30.84	284	eP	P	12 37 57.9	+0.2
HABR				e		12 39 00.2	
HABR				eS	S	12 42 58.8	+1.7
HABR				eSS	SS	12 44 47.7	-23
HABR				pmax	pmax		
	comp=Z,28nm,1.8s,mb4.8						
TIXI	Tiksi	31.18	330	eP	P	12 38 01.1	+0.6
TIXI				pmax	pmax		
	comp=Z,5.0nm,2.5s,mb3.9						
KLR	Kul'dur	32.52	287	eP	P	12 38 07.7	-4.7
NLWA	Neilton Lookou	33.82	76	⇑P	P	12 38 23.9	0.0
	baz=34						
YKW3	Yellowknife Ar	34.02	47	eP	P	12 38 25.4	0.0
YKW3				ePcP	PcP	12 41 02.2	+0.4
YKA	Yellowknife Ar	34.04	47	P	P	12 38 25.0	-0.5
YKA						12 41 02.2	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
YKA				pmax	pmax		
	comp=N,1.0nm,0.9s						
YKA				MLR	MLR		
	comp=Z,186nm,19.2s						
YKA	Yellowknife Ar	34.04	47	P	P	12 38 25.1	-0.5
YKA				PcP	PcP	12 41 02.2	+0.4
YKA				ScP	ScP	12 44 42.9	+1.4
YKA				LR	LR	12 54 34.4	
YKA	Yellowknife Ar	34.04	47	P	P	12 38 25.0	-0.5
	comp=Z,4.1nm,0.7s,mb4.5,baz=281,slow=8.7,SNR=36						
YKA				PcP	PcP	12 41 02.2	+0.4
	comp=Z,4.0nm,0.7s,baz=288,slow=2.8,SNR=32						
YKA				ScP	ScP	12 44 42.8	+1.4
	comp=Z,0.5nm,0.9s,baz=285,slow=3.3,SNR=5.0						
YKA				LR	LR	12 54 34.3	
	comp=Z,186nm,19.2s,MS3.8,baz=245,slow=40						
MBW	Mount Baker	34.38	73	P	P	12 38 29.2	+0.6
CMW	Cultus Mountai	34.41	73	P	P	12 38 30.1	+1.2
B05A	Bryant	34.50	74	⇑P	P	12 38 29.9	+0.3
	baz=34						
E04A	Onalaska	34.89	77	⇓P	P	12 38 32.9	-0.1
	baz=35						
C05A	Toit Reservoir	35.00	74	⇑P	P	12 38 34.2	+0.2
	baz=35						
D05A	Enumclaw	35.05	75	⇓P	P	12 38 34.6	+0.1
	baz=35						
A07A	Ashnola River,	35.17	71	⇑P	P	12 38 35.7	+0.2
	baz=35						
MJAR	Matsushiro Arr	35.25	263	P	P	12 38 35.1	-1.1
	comp=Z,3.7nm,0.8s,mb4.3,baz=51,slow=7.3,SNR=12						
MJAR				LR	LR	12 52 37.9	
	comp=Z,130nm,19.1s,MS3.7,baz=180,slow=36						
MAJO	Matsushiro	35.25	263	eP	P	12 38 36.2	-0.1
MAJO				pmax	pmax		
	comp=Z,12nm,0.8s,mb4.9						
MAJO	Matsushiro	35.25	263	eP	P	12 38 36.2	-0.1
	comp=Z,12nm,0.8s,mb4.9						
MAT	Matsushiro	35.25	263	P	P	12 38 36.4	+0.1
MAT				eS	S	12 44 09.0	+3.4
TDL	Tradedollar La	35.31	77	P	P	12 38 37.4	+0.7
FMW	Mount Fremont	35.36	75	P	P	12 38 38.0	+0.8
F04A	Amboy	35.39	77	⇑P	P	12 38 37.1	-0.3
	baz=35						
E05A	Randle	35.48	76	⇓P	P	12 38 37.6	-0.6
	baz=35						
B07A	Winthrop	35.59	72	P	P	12 38 39.6	+0.6
	baz=35,SNR=11						
NLW	Nelson Butte	35.63	73	⇑P	P	12 38 39.9	+0.5
G04A	Mulino	35.71	78	⇓P	P	12 38 40.5	+0.4
	baz=36						
D06A	Cle Elum	35.74	75	⇑P	P	12 38 40.6	+0.2
	baz=36						
ETW	Entiat	35.85	74	⇓P	P	12 38 41.9	+0.6
A08A	Turner Farm, O	35.87	71	P	P	12 38 41.8	+0.3
	baz=36,SNR=14						
MDJ	Mudanjiang	35.97	281	P	P	12 38 41.3	-1.0
MDJ				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,129nm,4.9s						
E06A	Yakima	35.97	76	⇓P	P	12 38 42.3	0.0
	baz=36,SNR=5.5						
C07A	Waterville	35.97	73	P	P	12 38 42.1	-0.3
	baz=36,SNR=9.8						
J02A	Umpqua	35.99	82	⇓P	P	12 38 42.4	-0.1
	baz=36						
WTV	Waterville	36.03	73	P	P	12 38 43.0	+0.2
EBG	Ellensburg	36.04	75	P	P	12 38 43.7	+0.8
B08A	Colville Reser	36.10	72	P	P	12 38 43.7	+0.2
	baz=36,SNR=22						
H04A	Detroit Lake	36.16	79	P	P	12 38 44.4	+0.4
	baz=36,SNR=8.9						
D07A	Quincy	36.26	74	⇓P	P	12 38 44.6	-0.2
	baz=36						
A09A	Danville	36.26	71	⇓P	P	12 38 45.1	+0.3
	baz=36						
J03A	Ideyld Park	36.36	81	⇓P	P	12 38 45.8	+0.1
	ba

baz=37,SNR=9.3
M02C Callahan 37.52 84 ⇓P P 12 38 55.9 +0.3
baz=37
C10A Spilker Farm, 37.55 72 ⇑P P 12 38 55.6 -0.2
baz=37
N02C Big Bar 37.56 85 ⇓P P 12 38 56.2 +0.2
baz=37
A11A Hall Mountain, 37.57 70 P P 12 38 56.8 +0.8
baz=37,SNR=11
F08A Pendleton 37.67 75 ⇓P P 12 38 56.7 -0.1
baz=38
L04A Klamath Falls 37.68 82 ⇑P P 12 38 57.0 +0.1
baz=38
E09A Wood Farm, Sta 37.69 74 ⇓P P 12 38 56.8 -0.1
baz=38
I06A Prineville 37.75 79 ⇑P P 12 38 57.3 -0.2
baz=38
G08A Pilot Rock 37.81 76 P P 12 38 58.0 0.0
baz=38,SNR=6.5
B11A Sandpoint 37.81 70 ⇑P P 12 38 57.8 -0.2
baz=38
M04C Macdoel 37.93 83 ⇑P P 12 38 59.1 +0.1
baz=38
D10A Wagner Farm, O 37.94 73 P P 12 38 58.6 -0.5
baz=38,SNR=16
K05A Summer Lake 37.99 81 P P 12 39 00.7 +1.2
baz=38,SNR=10
I07A Izee 38.11 78 P P 12 39 01.0 +0.5
baz=38,SNR=17
J06A Christmas Vall 38.16 80 P P 12 39 01.4 +0.5
baz=38,SNR=16
WDC Whiskeytown Da 38.18 85 ⇑P P 12 39 01.3 +0.2
baz=38
F09A S2 Ranch, Elgi 38.23 75 ⇓P P 12 39 01.7 +0.2
baz=38
O02C Red Bluff 38.26 86 ⇑P P 12 39 02.0 +0.2
baz=38
E10A Myers Farm, Un 38.32 74 P P 12 39 02.1 -0.2
baz=38,SNR=10
K06A Valley Falls 38.35 80 P P 12 39 03.4 +0.9
baz=38,SNR=8.2
H08A Prairie City 38.39 77 P P 12 39 02.9 0.0
baz=38,SNR=6.5
L05A Lakeview 38.40 82 P P 12 39 03.8 +0.8
baz=38,SNR=6.0
D11A Klaveano Farm, 38.50 72 ⇑P P 12 39 03.2 -0.6
baz=38
F10A Beach Ranch, E 38.51 74 ⇑P P 12 39 04.0 +0.2
baz=38
M05C Lookout 38.60 83 ⇑P P 12 39 04.7 +0.1
baz=38,SNR=6.8
HATC Hat Creek Radi 38.71 84 ⇓P P 12 39 05.8 +0.2
baz=39
I08A Drewsey 38.77 78 P P 12 39 06.5 +0.5
baz=39,SNR=9.3
MOD Modoc 38.81 82 eP P 12 39 07.2 +0.8
MOD Modoc 38.81 82 P P 12 39 07.0 +0.6
baz=39,SNR=6.7
H09A Durkee 38.92 76 ⇓P P 12 39 07.1 -0.2
baz=39
G10A Bishop Farm, J 38.92 75 P P 12 39 07.4 +0.1
baz=39,SNR=19
E11A Bogner Ranch, 38.93 73 ⇓P P 12 39 06.8 -0.5
baz=39
CN2 Changchun 38.93 282 eP P 12 39 07.5 +0.1
CN2 eXP sP 12 39 22.8 -6.1
CN2 eS S 12 45 00.5 -0.9
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,17.0s,MS4.2
CN2 LR LR
comp=E,200nm,17.0s,MS4.2
CN2 LR LR
comp=Z,200nm,16.0s,MS4.0
WALA Waterton Lakes 38.95 68 eP P 12 39 07.5 0.0
comp=Z,15nm,1.0s,mb4.7
WALA ePcP PcP 12 41 18.1 +1.2
B13A Whitefish 38.96 69 ⇑P P 12 39 07.2 -0.4
baz=39
RES Resolute Bay 38.96 25 eP P 12 39 06.8 -0.5
RES e 12 41 16.9
K07A Rock Creek Ran 39.02 80 P P 12 39 08.9 +0.7
baz=39,SNR=12
BMO Blue Mountains 39.04 76 eP P 12 39 08.3 0.0
BMO ePcP PcP 12 41 17.2 0.0
D12A Red Ives Fores 39.09 72 P P 12 39 08.1 -0.6
baz=39,SNR=7.7
J08A Circle Bar Ran 39.13 79 P P 12 39 09.4 +0.3
baz=39,SNR=16
F11A Grangeville 39.20 74 ⇓P P 12 39 08.9 -0.7
baz=39
O04C Chester 39.23 84 ⇑P P 12 39 09.9 0.0
baz=39
C13A Hot Springs 39.23 70 P P 12 39 09.7 -0.2
baz=39,SNR=27
L07A Adell 39.34 81 P P 12 39 11.5 +0.7
baz=39,SNR=8.6
G11A Walters Elk Ra 39.38 75 P P 12 39 10.7 -0.5
baz=39,SNR=8.5
K08A Mann Creek Ran 39.47 79 P P 12 39 12.3 +0.4
baz=39,SNR=12
H10A Noah's Angus R 39.52 76 P P 12 39 12.4 +0.1
baz=39,SNR=16
WVOR Wild Horse Val 39.54 80 P P 12 39 12.2 -0.3
O05C Quincy 39.55 85 P P 12 39 13.2 +0.6
baz=39,SNR=5.5
J09A Fry Pan Ranch, 39.58 78 ⇑P P 12 39 13.3 +0.5
baz=39
D13A Huson 39.59 71 ⇑P P 12 39 12.8 -0.1
baz=39
C14A Swan Lake 39.68 70 P P 12 39 13.7 +0.1
baz=40,SNR=6.4
I10A Payette 39.76 77 ⇑P P 12 39 14.4 +0.1
baz=40
N06A Buffalo Meadow 39.76 83 P P 12 39 14.7 +0.4
baz=40,SNR=14
M07A Soldier Meadow 39.80 82 P P 12 39 15.4 +0.7
baz=40,SNR=15
F12A Elk City 39.80 73 P P 12 39 14.4 -0.2
baz=40,SNR=21
L08A Fields 39.86 80 P P 12 39 15.4 +0.2
baz=40,SNR=17
H11A Donnelly 39.90 75 P P 12 39 15.3 -0.2
baz=40,SNR=8.1
BEKR Beckwourth 39.95 84 ⇓P P 12 39 15.5 -0.4
baz=40
K09A Rome 39.95 79 ⇓P P 12 39 15.6 -0.3
baz=40,SNR=8.2
MSO Missoula 40.03 71 eP P 12 39 16.2 -0.3
comp=Z,13nm,0.8s,mb4.7
E13A Victor 40.09 72 P P 12 39 16.9 0.0
baz=40,SNR=18
O06A Flanigan 40.10 84 P P 12 39 17.6 +0.3
baz=40,SNR=7.1
P05C Yuba Gap, Truc 40.13 85 ⇑P P 12 39 17.1 -0.3
baz=40
J10A Berg Farm, Mel 40.13 77 ⇑P P 12 39 17.6 +0.1
baz=40
D14A Greenough 40.16 71 P P 12 39 17.3 -0.3
baz=40,SNR=21
M08A Happy Creek Ra 40.26 81 P P 12 39 18.9 +0.5
baz=40,SNR=12
N07B Gerlach 40.27 82 P P 12 39 19.0 +0.4
baz=40,SNR=14
F13A Darby 40.34 73 P P 12 39 19.3 +0.2
baz=40,SNR=10
I11A Placerville 40.36 76 P P 12 39 19.1 -0.2
baz=40,SNR=11
L09A Wilkinson Ranc 40.37 80 P P 12 39 20.0 +0.7
baz=40,SNR=5.3
LAVA Lava Cap Winer 40.38 86 ⇑P P 12 39 19.3 -0.2
baz=40
CHMT Chamberlain Mo 40.40 71 eP P 12 39 19.3 -0.2
CHMT ePcP PcP 12 41 21.6 +0.1
K10A MacKenzie Ranc 40.43 78 P P 12 39 20.2 +0.3
baz=40,SNR=16
E14A Clinton 40.51 72 P P 12 39 20.7 +0.2
baz=40,SNR=16
PAHR Pah Rah Range 40.65 84 eP P 12 39 21.4 -0.4
comp=Z,17nm,1.1s,mb4.6
WCN Washoe City 40.66 85 P P 12 39 22.5 +0.7
baz=40,SNR=5.5
H12A Diamond D Ranc 40.68 75 P P 12 39 21.7 -0.3
baz=40,SNR=8.7
O07A Toulon 40.70 83 P P 12 39 22.6 +0.5
baz=41,SNR=10
MFID Camas Ranch 40.71 77 P P 12 39 22.4 +0.2
baz=41,SNR=6.2
D15A Lincoln 40.76 70 P P 12 39 22.2 -0.3
baz=41,SNR=12
G13A Cobalt 40.77 74 P P 12 39 22.4 -0.1
baz=41,SNR=18
N08A GE Springer Mi 40.79 82 P P 12 39 23.0 +0.2
baz=41,SNR=11
R05C Kirkwood Meado 40.82 86 ⇑P P 12 39 22.7 -0.4
baz=41
M09A Marrel Ranch, 40.84 80 ⇓P P 12 39 23.9 +0.7
baz=41
K11A Parker Ranch, 40.95 78 P P 12 39 24.3 +0.2
baz=41,SNR=18
E15A Deer Lodge 41.01 71 P P 12 39 24.6 0.0
baz=41,SNR=16
CMB Columbia Colle 41.03 87 ⇓P P 12 39 24.2 -0.7
baz=41
H13A Challis 41.04 74 ⇓P P 12 39 24.2 -0.6
baz=41
L10A Juniper Basin 41.07 79 P P 12 39 25.2 +0.1
baz=41,SNR=12
KSRS Korea Array 41.08 272 P P 12 39 26.0 +0.7
comp=Z,6.0nm,1.0s,mb4.2,baz=55,slow=8.2,SNR=9.2
KSRS LR LR 12 55 27.6
comp=Z,59nm,18.3s,MS3.5,baz=235,slow=35
N09A Rock Creek Ran 41.13 81 ⇓P P 12 39 25.9 +0.3
baz=41
R06C Coleville 41.32 85 ⇑P P 12 39 27.6 +0.3
baz=41
HAST Hastings Reser 41.34 89 ⇓P P 12 39 27.5 +0.1
baz=41
HRY Holter Researc 41.34 70 eP P 12 39 27.1 -0.2
WAKR Walker 41.34 85 eP P 12 39 27.9 +0.5
M10A I.L. Ranch, Tu 41.34 80 P P 12 39 28.0 +0.6
baz=41,SNR=7.2
F15A Butte 41.40 72 P P 12 39 27.8 -0.1
baz=41,SNR=8.8
LRM Limekiln Ridge 41.44 72 eP P 12 39 28.0 -0.1
L11A Cat Creek Ranc 41.46 78 P P 12 39 28.6 +0.3
baz=41,SNR=24
S06C San Francisco 41.46 86 P P 12 39 28.9 +0.4
baz=41,SNR=6.4
I13A Wildhorse Cree 41.47 75 P P 12 39 28.5 +0.1
baz=41,SNR=19
HLID Hailey 41.49 76 ⇓P P 12 39 28.8 +0.2
baz=41
S05C Merced 41.50 87 ⇓P P 12 39 28.8 +0.1
baz=41
K12A Draper Farm, C 41.71 77 P P 12 39 31.1 +0.7
baz=42,SNR=7.6
J13A Cove Ranch, Pi 41.73 76 P P 12 39 30.7 +0.2
baz=42,SNR=34
O09A Fish Creek Ran 41.73 82 P P 12 39 31.0 +0.4
baz=42,SNR=7.5
MCMT McKenzie Canyo 41.74 73 P P 12 39 30.3 -0.2
G15A Dillon 41.77 73 P P 12 39 30.4 -0.5
baz=42,SNR=12
R07C Lee Vining 41.84 86 ⇑P P 12 39 31.2 -0.3
baz=42
M11A Holland Ranch, 41.86 79 P P 12 39 32.5 +0.9
baz=42,SNR=7.9
EGMT Eagleton 41.87 68 eP P 12 39 32.1 +0.6
comp=Z,15nm,1.1s,mb4.5
EGMT Eagleton 41.87 68 ⇑P P 12 39 31.4 -0.2
baz=42
L12A House Creek Ra 41.92 78 P P 12 39 32.6 +0.5
baz=42,SNR=19
BOZ Bozeman (W) 42.02 72 eP P 12 39 32.7 -0.2
BOZ pmax pmax
comp=Z,14nm,0.7s,mb4.7
BOZ Bozeman (W) 42.02 72 eP P 12 39 32.7 -0.2
comp=Z,14nm,0.7s,mb4.7
BOZ Bozeman (W) 42.02 72 ⇓P P 12 39 32.8 0.0
baz=42
JNU Nakatsue 42.03 265 LR LR 12 54 15.3
comp=Z,215nm,19.8s,MS4.0,baz=353,slow=32
Q08A Gabbs 42.06 84 P P 12 39 33.4 +0.2
baz=42,SNR=10.0
O10A Cortez Mining, 42.09 81 ⇑P P 12 39 33.5 0.0
baz=42
NVAR Mina Array Bea 42.09 85 P P 12 39 33.6 +0.1
comp=Z,5.1nm,0.8s,mb4.2,baz=289,slow=7.8,SNR=36
NVAR PcP PcP 12 41 26.8 -0.5
comp=Z,3.4nm,0.8s,baz=277,slow=2.7,SNR=9.3
T06C Millerton Lake 42.09 87 ⇑P P 12 39 33.4 -0.2
baz=42
KCC Kaiser Creek 42.14 87 ⇓P P 12 39 33.9 0.0
baz=42
K13A Stover Farm, H 42.20 77 ⇓P P 12 39 34.5 +0.1
baz=42
N11A Elko Archery C 42.25 80 ⇓P P 12 39 35.2 +0.4
baz=42
M12A Wells 42.40 79 P P 12 39 36.5 +0.5
baz=42,SNR=9.3
P10A Eureka 42.51 82 ⇑P P 12 39 37.2 +0.3
baz=42
Q09A Carvers 42.54 83 ⇓P P 12 39 37.7 +0.5
baz=42
QLMT Earthquake Lak 42.58 72 eP P 12 39 37.6 +0.2
MTUM Tungsten Hills 42.59 86 eP P 12 39 38.2 +0.6
L13A Double Diamond 42.61 77 P P 12 39 38.4 +0.7
baz=42,SNR=9.5
N12A Clover Valley, 42.66 80 P P 12 39 38.5 +0.5
baz=42,SNR=20
O11A Cowboy Ranch, 42.70 81 P P 12 39 38.9 +0.4
baz=43,SNR=5.6
HELL Mitchell Peak 42.73 87 P P 12 39 38.4 -0.3
baz=43,SNR=6.9
S08C White Mtn Res 42.74 86 ⇑P P 12 39 39.1 +0.2
baz=43
FFC Flin Flon 42.84 55 eP P 12 39 38.7 -0.7
FFC e 12 41 29.8
M13A Montello 42.89 78 P P 12 39 40.3 +0.3
baz=43,SNR=8.8
R09A Tonopah 42.97 84 ⇓P P 12 39 40.4 -0.3
baz=43
P11A Circle Ranch, 42.99 82 ⇓P P 12 39 41.1 +0.3
baz=43
Q10A Clear Creek Ra 43.03 83 P P 12 39 41.5 +0.4
baz=43,SNR=11
YNR Nozis Junctio 43.09 72 eP P 12 39 42.5 +0.9
GCMT Greycliff 43.10 70 eP P 12 39 41.9 +0.3
YFT Old Faithful 43.14 73 eP P 12 39 43.6 +1.6
N13A Wendover, West 43.16 79 ⇑P P 12 39 42.2 0.0
baz=43
O12A Currie 43.18 80 P P 12 39 42.5 +0.2
baz=43,SNR=29
S09A Goldfield 43.19 85 P P 12 39 42.5 0.0
baz=43,SNR=5.5
VES Vestal, Richgr 43.23 88 ⇓P P 12 39 42.2 -0.5
baz=43
M14A Sheep Mountain 43.31 78 P P 12 39 43.7 +0.3
baz=43,SNR=8.9
LKWY Lake 43.34 72 eP P 12 39 44.9 +1.3
LKWY pmax pmax
comp=Z,20nm,1.1s,mb4.8
LKWY Lake 43.34 72 eP P 12 39 44.9 +1.3
comp=Z,20nm,1.1s,mb4.8
IMW Indian Meadow 43.39 73 eP P 12 39 43.7 -0.3
comp=Z,13nm,0.9s,mb4.7
R10A Warm Springs 43.42 83 P P 12 39 44.3 0.0
baz=43,SNR=11
FLWY Flagg Ranch 43.43 73 eP P 12 39 45.2 +0.9
comp=Z,26nm,0.8s,mb5.0
Q11A Duckwater 43.48 82 P P 12 39 44.8 0.0
baz=43,SNR=9.2
HVU Hansel Valley 43.50 77 eP P 12 39 45.4 +0.5
GRAC Grapevine Rang 43.56 86 ⇑P P 12 39 45.3 -0.1
baz=43
P12A McGill 43.56 81 P P 12 39 45.6 +0.2
baz=43,SNR=7.0
MOOW Moose Ponds 43.59 73 eP P 12 39 46.0 +0.4
TPAW Teton Pass 43.62 74 eP P 12 39 46.6 +0.8
RLMT Red Lodge 43.70 71 eP P 12 39 46.1 -0.4
comp=Z,27nm,1.0s,mb4.9
REDW Red Top Meadow 43.75 74 eP P 12 39 47.3 +0.4
comp=Z,7.3nm,0.9s,mb4.4
SNOW Snow King Moun 43.75 74 eP P 12 39 48.3 +1.5
comp=Z,5.6nm,0.4s,mb4.7
LOHW Long Hollow 43.75 73 eP P 12 39 47.4 +0.5
N14A Grayback Hills 43.79 78 P P 12 39 47.5 +0.2
baz=44,SNR=7.9
R11A Troy Canyon, C 43.83 83 P P 12 39 47.2 -0.3
baz=44,SNR=15
BGU Big Grassy Mou 43.84 78 eP P 12 39 47.8 +0.2
Q12A Willow Creek R 43.87 81 ⇓P P 12 39 47.9 0.0
baz=44
M15A Larsen Ranch, 43.88 77 P P 12 39 48.2 +0.2
baz=44,SNR=13
SPUT South Promonto 43.97 77 eP P 12 39 48.7 0.0
MPMC Manual Prospec 44.08 87 P P 12 39 49.6 0.0
baz=44,SNR=6.8
P13A Bates Ranch, G 44.12 80 P P 12 39 49.9 0.0
baz=44,SNR=15
N15A Stansbury Isla 44.17 78 P P 12 39 50.4 +0.1
baz=44,SNR=15
FURC Furnace Creek, 44.21 86 P P 12 39 50.4 -0.3
baz=44,SNR=9.7
TPNV Topopah Spring 44.28 85 eP P 12 39 51.2 0.0
TPNV pmax pmax
comp=Z,15nm,0.8s,mb4.8
TPNV Topopah Spring 44.28 85 eP P 12 39 51.2 -0.1
comp=Z,15nm,0.8s,mb4.8
TPNV Topopah Spring 44.28 85 ⇓P P 12 39 51.1 -0.2
baz=44
LRMC Laurel Mountai 44.33 88 ⇑P P 12 39 51.1 -0.5
baz=44
HWUT Hardware Ranch 44.33 76 eP P 12 39 51.5 0.0
HWUT ePcP PcP 12 41 35.4 +0.7
BLG Laguna Peak 44.36 90 ⇓P P 12 39 51.4 -0.5
baz=44
DUG Dugway 44.41 79 eP P 12 39 52.3 +0.1
DUG pmax pmax
comp=Z,21nm,1.1s,mb4.8
DUG Dugway 44.41 79 eP P 12 39 52.3 +0.1
comp=Z,21nm,1.1s,mb4.8
DUG Dugway 44.41 79 ⇑P P 12 39 51.8 -0.4
baz=44
Q13A Wheeler Ranch, 44.42 81 P P 12 39 52.7 +0.4
baz=44,SNR=6.7
R12A Pony Springs, 44.44 82 P P 12 39 52.4 -0.1
baz=44,SNR=12
EDW2 Edwards Air Fo 44.52 88 ⇓P P 12 39 52.9 -0.3
baz=44
S12A Delamar Landin 44.74 83 P P 12 39 55.3 +0.5
baz=45,SNR=5.9
T11A Corn Creek, Al 44.74 84 P P 12 39 54.8 -0.1
baz=45,SNR=28
CTU Camp Tracy 44.76 78 eP P 12 39 55.2 +0.3
comp=Z,8.6nm,0.8s,mb4.6
CTU epP pP 12 40 06.0 -3.9
DGMT Dagmar 44.80 64 eP P 12 39 54.7 -0.4
comp=Z,34nm,1.0s,mb5.1
DGMT epP pP 12 40 09.4 -0.8
BW06 Boulder Array 44.86 74 eP P 12 39 55.5 -0.3
MWC Mount Wilson 44.91 89 eP P 12 39 56.3 0.0
MWC pmax pmax
comp=Z,16nm,1.1s,mb4.8
MWC Mount Wilson 44.91 89 eP P 12 39 56.3 0.0
comp=Z,16nm,1.1s,mb4.8
SHOC Shoshone 44.93 86 ⇓P P 12 39 56.1 -0.3
baz=45
GSC Goldstone 44.99 87 P P 12 39 57.0 +0.2
baz=45,SNR=5.4
JLU Jordanelle 45.00 77 eP P 12 39 57.4 +0.5
NLU North Lily Min 45.01 79 eP P 12 39 57.4 +0.4
BFSC Mount Baldy St 45.15 89 P P 12 39 58.3 +0.1
baz=45,SNR=5.4
DAU Daniels Canyon 45.23 78 eP P 12 39 58.8 +0.1
SHPR Sheep Range 45.24 85 eP P 12 39 58.9 +0.1
S13A Holt Ranch, En 45.37 82 P P 12 39 59.8 -0.1
baz=45,SNR=11
TUQ Turquoise Mtn. 45.45 86 P P 12 40 00.5 -0.1
baz=45,SNR=5.1
ARUT Antelope Range 45.50 82 eP P 12 40 00.8 -0.1
V11A Goodsprings 45.50 85 ⇑P P 12 40 01.0 +0.1
baz=45
HEC Hector,Ludlow 45.59 87 P P 12 40 01.2 -0.5
baz=46,SNR=7.9
BBRC Big Bear Sol-O 45.59 88 ⇓P P 12 40 01.7 0.0
baz=46
U12A Valley of Fire 45.67 84 ⇓P P 12 40 01.8 -0.4
baz=46
S14A Cedar City 45.69 82 ⇑P P 12 40 02.4 0.0
baz=46
T13A Saint George 45.69 83 P P 12 40 03.0 +0.6
baz=46,SNR=6.8
CCUT Cedar City 45.70 82 eP P 12 40 02.6 +0.1
MSU Marysvale 45.83 80 eP P 12 40 03.8 +0.3
MURC Murrieta 45.86 89 ⇑P P 12 40 03.2 -0.6
baz=46
V12A Nelson 45.93 85 P P 12 40 04.3 0.0
baz=46,SNR=5.9
U13A Pakoon Wash 46.04 84 P P 12 40 05.4 +0.2
baz=46,SNR=22
GMRC Granite Mounta 46.04 87 P P 12 40 04.9 -0.3
baz=46,SNR=7.8
T14A Hurricane 46.18 82 P P 12 40 06.6 +0.4
baz=46,SNR=8.7
LDFC Landfair 46.19 86 eP P 12 40 06.0 -0.4
BELC Belle Mtn. 46.34 88 ⇑P P 12 40 06.8 -0.8
baz=46
V13A Grand Canyon W 46.39 84 P P 12 40 08.0 +0.1
baz=46,SNR=15
SRU San Rafael 46.47 79 eP P 12 40 08.8 +0.3
U14A Mt Trumbull 46.53 83 P P 12 40 09.2 +0.2
baz=46,SNR=11
T15A Red Dirt Ranch 46.64 82 P P 12 40 10.2 +0.3
baz=46,SNR=15
BJI Beijing 46.74 283 P P 12 40 11.1 +0.5
BJI S S 12 46 55.6 -0.5
BJI AMB AMB
comp=Z,22nm,1.1s,mb5.0
BJI AMB AMB
comp=Z,205nm,6.5s
BJI LR LR
comp=N,183nm,20.3s,MS4.2
BJI LR LR
comp=E,157nm,20.3s,MS4.2
BJI LR LR
comp=Z,236nm,22.0s,MS4.1
IRM Iron Mountain 46.77 87 ⇓P P 12 40 10.4 -0.5
baz=47
MONP Monument Peak 46.82 89 ⇓P P 12 40 11.0 -0.3
baz=47
RWWY Rawlins 46.91 74 eP P 12 40 11.6 -0.3
comp=Z,18nm,0.9s,mb5.0
BC3 Big Chuckw Mtn 46.91 88 ⇓P P 12 40 11.1 -0.9
baz=47
W13A Hualapai Mount 46.94 85 P P 12 40 12.0 -0.2
baz=47,SNR=9.3
V14A Boquillas Ranc 47.08 84 P P 12 40 13.3 0.0
baz=47,SNR=14
TLY Talaya 47.17 303 iP P 12 40 16.5 +2.7
T16A Glen Canyon Da 47.20 81 ⇑P P 12 40 13.6 -0.6
baz=47
PDMCI Parker Dam,Lak 47.30 86 ⇑P P 12 40 14.5 -0.6
baz=47
X13A Yucca 47.30 86 P P 12 40 14.7 -0.4
baz=47,SNR=6.8
RSSD Black Hills 47.34 69 eP P 12 40 14.8 -0.4
W14A Seligman 47.36 84 P P 12 40 15.7 +0.2
baz=47,SNR=8.7
Y12C Blythe 47.43 87 ⇓P P 12 40 15.4 -0.6
baz=47
V15A Kaibab Nationa 47.53 83 P P 12 40 17.1 +0.3
baz=47,SNR=16
GLA Glamis 47.70 88 eP P 12 40 17.5 -0.7
GLA Glamis 47.70 88 ⇓P P 12 40 17.4 -0.8
baz=48
Y13A Salome 47.82 86 ⇓P P 12 40 18.4 -0.7
baz=48
SONM Songino Array 47.85 298 P P 12 40 18.8 -0.3
SONM 12 41 46.4
SONM Songino Array 47.85 298 P P 12 40 18.8 -0.3
comp=Z,0.4nm,0.3s,mb3.9,baz=58,slow=9.0,SNR=6.3
SONM PcP PcP 12 41 46.4 -0.6
comp=Z,1.9nm,0.6s,baz=71,slow=1.9,SNR=12
SONM LR LR 13 02 19.6
comp=Z,157nm,18.2s,MS4.0,baz=175,slow=38
W15A Williams 47.89 84 ⇓P P 12 40 19.6 -0.1
baz=48
X14A Yava 47.97 85 P P 12 40 20.1 -0.1
baz=48,SNR=9.8
ZAK Zakamensk 48.09 302 eP P 12 40 22.4 +1.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb4.2
ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.3
PHWY Pilot Hill 48.19 73 eP P 12 40 27.1 +5.2
WUAZ Wupatki 48.23 83 eP P 12 40 22.4 +0.2
comp=Z,17nm,0.8s,mb5.1

WUAZ	**Wupatki**	**48.23**	**83**	⇓P		**P**	**12 40 22.0**	**-0.2**
	baz=48							
Y14A	**Wickenburg**	**48.25**	**86**	P		**P**	**12 40 22.1**	**-0.3**
	baz=48,SNR=6.7							
ULM	**Lac du Bonnet**	**48.35**	**58**	P		**P**	**12 40 21.4**	**-1.6**
ULM	**Lac du Bonnet**	**48.35**	**58**	P		**P**	**12 40 21.4**	**-1.6**
	comp=Z,1.3nm,0.3s,mb4.4,baz=316,slow=11,SNR=3.5							
X15A	**Humboldt**	**48.36**	**85**	P		**P**	**12 40 23.6**	**+0.3**
	baz=48,SNR=10							
W16A	**Flagstaff**	**48.40**	**83**	P		**P**	**12 40 24.4**	**+0.8**
	baz=48,SNR=6.0							
SMCO	**Snowmass**	**48.59**	**76**	*e*P		**P**	**12 40 25.0**	**0.0**
	comp=Z,22nm,1.4s,mb5.0							
Y15A	**Casa Rosa Ranc**	**48.66**	**85**	P		**P**	**12 40 25.3**	**-0.2**
	baz=48,SNR=8.2							
X16A	**Lo Mia Camp, P**	**48.90**	**84**	P		**P**	**12 40 27.6**	**+0.2**
	baz=49,SNR=11							
MVCO	**Mesa Verde**	**48.91**	**79**	*e*P		**P**	**12 40 27.4**	**0.0**
MVCO	**Mesa Verde**	**48.91**	**79**	⇓P		**P**	**12 40 27.3**	**-0.1**
	baz=49							
GUMO	**Guam**	**48.98**	**234**	P		**P**	**12 40 27.5**	**-0.7**
	comp=Z,35nm,0.6s,mb5.5,baz=334,slow=22,SNR=2.6							
HHC	**Hu-ho-hao-te**	**49.02**	**287**	*e*P		**P**	**12 40 28.6**	**+0.4**
HHC				AP		pP	12 40 44.4	+1.0
HHC				XP		sP	12 40 51.1	+1.0
HHC				PCP		PcP	12 41 51.4	+0.1
HHC				PP		PP	12 42 22.9	+1.0
HHC				SCP		ScP	12 45 42.3	+1.2
HHC				S		**S**	**12 47 27.8**	**-0.5**
HHC				XS		sS	12 47 53.8	-0.1
HHC				SCS		ScS	12 50 12.9	-1.8
HHC				SS		SS	12 50 52.6	-6.8
HHC				AMB		AMB		
	comp=Z,47nm,1.1s,mb5.4							
HHC				AMB		AMB		
	comp=Z,328nm,5.9s							
HHC				LR		LR		
	comp=N,827nm,20.0s,MS4.9							
HHC				LR		LR		
	comp=E,811nm,17.3s,MS4.9							
HHC				LR		LR		
	comp=Z,370nm,15.9s,MS4.5							
ISCO	**Idaho Springs**	**49.02**	**75**	*e*P		**P**	**12 40 28.7**	**+0.4**
ISCO				pmax		pmax		
	comp=Z,8.0nm,1.0s,mb4.7							
ISCO	**Idaho Springs**	**49.02**	**75**	*e*P		**P**	**12 40 28.7**	**+0.5**
	comp=Z,8.1nm,1.0s,mb4.7							
Y16A	**Circle Bar Ran**	**49.24**	**85**	⇑P		**P**	**12 40 29.8**	**-0.2**
	baz=49							
AGMN	**Agassiz Refuge**	**49.49**	**60**	*e*P		**P**	**12 40 30.6**	**-1.1**
W18A	**Petrified Fore**	**49.50**	**82**	⇓P		**P**	**12 40 31.9**	**-0.1**
	baz=49							
115A	**Sonoran Desert**	**49.56**	**86**	P		**P**	**12 40 32.2**	**-0.2**
	baz=49,SNR=6.2							
W19A	**Sanders**	**49.72**	**82**	⇑P		**P**	**12 40 33.5**	**-0.1**
	baz=50							
Y17A	**Roosevelt**	**49.75**	**84**	P		**P**	**12 40 33.9**	**0.0**
	baz=50,SNR=12							
X18A	**Snowflake**	**49.75**	**83**	P		**P**	**12 40 34.1**	**+0.2**
	baz=50,SNR=5.2							
116A	**Eloy**	**49.98**	**86**	⇑P		**P**	**12 40 34.8**	**-0.8**
	baz=50							
Y18A	**Canyon Day Jun**	**50.20**	**84**	P		**P**	**12 40 37.6**	**+0.3**
	baz=50,SNR=9.5							
X19A	**St. Johns**	**50.23**	**82**	P		**P**	**12 40 37.7**	**+0.2**
	baz=50,SNR=8.9							
Z17A	**San Carlos Hig**	**50.25**	**84**	⇑P		**P**	**12 40 37.6**	**0.0**
	baz=50							
NJ2	**Nanjing**	**50.25**	**273**	*e*P		**P**	**12 40 39.0**	**+1.3**
NJ2				AMB		AMB		
	comp=Z,20nm,0.8s,mb5.2							
SDCO	**Great Sand Dun**	**50.39**	**77**	*e*P		**P**	**12 40 38.9**	**+0.2**
	comp=Z,15nm,1.0s,mb5.0							
Y19A	**Nutrioso**	**50.56**	**83**	P		**P**	**12 40 40.4**	**+0.4**
	baz=50,SNR=5.8							
117A	**Oracle**	**50.57**	**85**	P		**P**	**12 40 40.0**	**-0.1**
	baz=50,SNR=8.8							
Z18A	**Geronimo**	**50.66**	**84**	⇓P		**P**	**12 40 40.7**	**0.0**
	baz=50							
TUC	**Tucson**	**50.72**	**86**	*e*P		**P**	**12 40 40.8**	**-0.4**
118A	**Homack Ranch,**	**51.00**	**85**	P		**P**	**12 40 43.0**	**-0.3**
	baz=51,SNR=15							
119A	**Ashpeak Ranch,**	**51.33**	**84**	P		**P**	**12 40 45.9**	**0.0**
	baz=51,SNR=8.2							
218A	**Dragoon**	**51.41**	**85**	P		**P**	**12 40 46.3**	**-0.1**
	baz=51,SNR=9.4							
LAZ	**Ladron**	**51.58**	**81**	*e*P		**P**	**12 40 47.9**	**+0.3**
ANMO	**Albuquerque**	**51.63**	**80**	*i* P		**P**	**12 40 47.7**	**-0.3**
ANMO	**Albuquerque**	**51.63**	**80**	*e*P		**P**	**12 40 47.7**	**-0.3**
318A	**Bisbee**	**51.80**	**86**	P		**P**	**12 40 49.1**	**-0.3**
	baz=52,SNR=7.0							
LENM	**Lemitar**	**51.83**	**81**	*e*P		**P**	**12 40 50.1**	**+0.6**
ECSD	**EROS,Sioux Fal**	**51.84**	**65**	*e*P		**P**	**12 40 47.8**	**-1.7**
ECSD				*e*PcP		PcP	12 42 01.5	-0.1
219A	**White Tail Can**	**51.88**	**85**	⇑P		**P**	**12 40 49.5**	**-0.4**
	baz=52							
LPM	**Los Pinos Moun**	**51.95**	**81**	*e*P		**P**	**12 40 50.9**	**+0.6**
EYMN	**Ely**	**52.04**	**58**	*e*P		**P**	**12 40 49.9**	**-0.9**
	comp=Z,13nm,1.0s,mb4.8							
BNM	**Barren Site**	**52.06**	**81**	*e*P		**P**	**12 40 51.5**	**+0.3**
319A	**Douglas**	**52.29**	**85**	⇓P		**P**	**12 40 52.3**	**-0.6**
	baz=52							
CBKS	**Cedar Bluff**	**53.16**	**72**	*e*P		**P**	**12 40 59.4**	**+0.1**
COWI	**Conover**	**54.45**	**59**	*e*P		**P**	**12 41 07.6**	**-1.0**
MNTX	**Cornudas Mount**	**54.49**	**82**	*e*P		**P**	**12 41 08.1**	**-1.0**
	comp=Z,13nm,1.0s,mb4.8							
AMTX	**Amarillo**	**54.59**	**77**	*e*P		**P**	**12 41 09.7**	**-0.1**
GDL2	**Guadalupe Moun**	**54.77**	**81**	*e*P		**P**	**12 41 10.8**	**-0.3**
ZALV	**Zalesovo Beam**	**54.94**	**314**	LR		LR	13 06 56.7	
	comp=Z,76nm,18.4s,MS3.8,baz=84,slow=38							
XAN	**Xi'an**	**55.04**	**282**	P		**P**	**12 41 13.0**	**0.0**
XAN				AP		pP	12 41 23.8	-4.6
XAN				XP		sP	12 41 28.6	-6.4
XAN				AMB		AMB		
	comp=Z,19nm,1.2s,mb5.0							
JFWS	**Jewell Farm**	**55.93**	**62**	*e*P		**P**	**12 41 17.8**	**-1.5**
WMOK	**Wichita Mounta**	**56.45**	**75**	*e*P		**P**	**12 41 22.6**	**-0.5**
WMOK				pmax		pmax		
	comp=Z,15nm,0.9s,mb5.0							
WMOK	**Wichita Mounta**	**56.45**	**75**	*e*P		**P**	**12 41 22.6**	**-0.5**
	comp=Z,15nm,0.9s,mb5.0							
LZH	**Lanzhou**	**56.71**	**288**	*e*P		**P**	**12 41 26.5**	**+1.5**
LZH				AP		pP	12 41 42.1	+1.7
LZH				XP		sP	12 41 49.4	+2.4
LZH				PP		PP	12 43 34.5	+3.2
LZH				*e*S		**S**	**12 49 07.5**	**-5.6**
LZH				XS		sS	12 49 37.0	-2.2
LZH				SS		SS	12 53 02.1	+1.0
LZH				AMB		AMB		
	comp=Z,35nm,1.2s,mb5.3							
LZH				AMB		AMB		
	comp=Z,150nm,5.7s							
LZH				LR		LR		
	comp=E,370nm,12.0s							
LZH				LR		LR		
	comp=Z,592nm,12.9s,MS4.9							
LPIG	**La Paz**	**56.79**	**92**	LR		LR	13 01 38.2	
	comp=Z,80nm,19.8s,MS3.8,baz=202,slow=32							
TXAR	**Lajitas Array**	**57.19**	**83**	P		**P**	**12 41 27.7**	**-0.7**
	comp=Z,7.5nm,0.7s,mb4.8,baz=298,slow=4.8,SNR=76							
ARCES	**ARCESS Array B**	**58.13**	**351**	P		**P**	**12 41 34.0**	**-0.4**
	comp=Z,1.7nm,0.7s,mb4.2,baz=25,slow=7.5,SNR=8.0							
ARCES				LR		LR	13 07 01.4	
	comp=Z,205nm,19.3s,MS4.2,baz=75,slow=36							
CCM	**Cathedral Cave**	**58.63**	**67**	*e*P		**P**	**12 41 36.3**	**-2.1**
JCT	**Junction City**	**58.77**	**79**	*e*P		**P**	**12 41 38.4**	**-1.1**
JCT				pmax		pmax		
	comp=Z,14nm,1.0s,mb5.0							
JCT	**Junction City**	**58.77**	**79**	*e*P		**P**	**12 41 38.4**	**-1.1**
	comp=Z,14nm,1.0s,mb4.9							
SCHQ	**Schefferville**	**58.94**	**40**	P		**P**	**12 41 39.2**	**-1.0**
	comp=Z,7.1nm,0.9s,mb4.7,baz=306,slow=9.4,SNR=5.0							
FVM	**French Village**	**59.15**	**67**	*e*P		**P**	**12 41 40.2**	**-1.8**
MIAR	**Mount Ida**	**59.69**	**72**	*e*P		**P**	**12 41 45.3**	**-0.5**
CD2	**Chengdu**	**60.35**	**283**	⇑*i*P		**P**	**12 41 50.6**	**+0.3**
CD2				AP		pP	12 42 04.6	-1.3
CD2				XP		sP	12 42 11.1	-1.4
CD2				PP		PP	12 44 05.5	+1.9
CD2				S		**S**	**12 49 59.3**	**-1.2**
CD2				SS		SS	12 53 58.0	-0.3
CD2				AMB		AMB		
	comp=Z,50nm,0.9s,mb5.5							
CD2				AMB		AMB		
	comp=Z,120nm,6.2s							
CD2				LR		LR		
	comp=E,390nm,16.8s							
CD2				LR		LR		
	comp=Z,230nm,15.6s,MS4.4							
WMQ	**Urumqi**	**60.44**	**304**	*e*P		**P**	**12 41 52.0**	**+1.2**
WMQ				AMB		AMB		
	comp=Z,31nm,1.0s,mb5.3							
BVAR	**Borovoye Array**	**61.66**	**321**	P		**P**	**12 41 59.4**	**+0.5**
	comp=Z,4.7nm,0.3s,mb5.1,baz=56,slow=7.7,SNR=33							
BVAR				LR		LR	13 11 17.9	
	comp=Z,277nm,19.9s,MS4.4,baz=47,slow=38							
GYA	**Guiyang**	**61.74**	**278**	P		**P**	**12 41 59.9**	**+0.1**
GYA				AP		pP	12 42 16.8	+1.3
GYA				XP		sP	12 42 23.6	+1.6
GYA				PCP		PcP	12 42 42.3	+1.7
GYA				PP		PP	12 44 19.4	+3.4
GYA				SCP		ScP	12 46 37.6	+0.6
GYA				PCS		PcS	12 46 43.6	-0.2
GYA				S		**S**	**12 50 17.4**	**-0.9**
GYA				PS			12 50 41.5	
GYA				SCS		ScS	12 51 44.0	-2.3
GYA				SS		SS	12 54 21.1	+0.8
GYA				AMB		AMB		
	comp=Z,10.0nm,1.0s,mb4.9							
GYA				AMB		AMB		
	comp=Z,90nm,5.2s							
GYA				LR		LR		
	comp=N,480nm,20.8s,MS4.8							
GYA				LR		LR		
	comp=E,460nm,19.4s,MS4.8							
GYA				LR		LR		
	comp=Z,490nm,19.3s,MS4.7							
ERPA	**Erie**	**61.99**	**57**	*e*P		**P**	**12 42 01.5**	**+0.3**
OXF	**Oxford**	**62.16**	**69**	*e*P		**P**	**12 42 01.8**	**-0.7**
OXF				pmax		pmax		
	comp=Z,51nm,1.0s,mb5.6							
OXF	**Oxford**	**62.16**	**69**	*e*P		**P**	**12 42 01.8**	**-0.7**
	comp=Z,51nm,1.0s,mb5.6							
ALLY	**Alegheny Colle**	**62.24**	**57**	*e*P		**P**	**12 42 03.2**	**+0.2**
PLAL	**Pickwick Lake**	**62.60**	**68**	*e*P		**P**	**12 42 04.0**	**-1.5**
	comp=Z,10nm,0.8s,mb5.0							
JOF	**Joensuu**	**63.76**	**346**	*e*p		**P**	**12 42 10.1**	**-2.6**
MCWV	**Mont Chateau**	**63.83**	**59**	*e*P		**P**	**12 42 13.7**	**+0.1**
BINY	**Binghamton**	**63.99**	**54**	*e*P		**P**	**12 42 13.9**	**-0.7**
TZTN	**Tazewell**	**64.05**	**63**	*e*P		**P**	**12 42 15.1**	**0.0**
SSPA	**Standing Stone**	**64.15**	**57**	*e*P		**P**	**12 42 15.6**	**0.0**
CPCT	**Cooper Cave**	**64.29**	**65**	*e*P		**P**	**12 42 15.9**	**-0.7**
ELN	**Prospectdale**	**65.10**	**61**	*e*P		**P**	**12 42 21.5**	**-0.4**
KMI	**Kunming**	**65.13**	**280**	P		**P**	**12 42 22.8**	**+0.6**
KMI				AP		pP	12 42 38.1	+0.1
KMI				XP		sP	12 42 43.3	-1.2
KMI				PCP		PcP	12 42 55.3	+0.8
KMI				S		S	12 50 59.5	-1.0
KMI				XS		sS	12 51 26.9	-0.2
KMI				AMB		AMB		
	comp=Z,16nm,1.0s,mb5.0							
KMI				AMB		AMB		
	comp=Z,153nm,8.9s							
KMI				LR		LR		
	comp=N,159nm,14.4s,MS4.4							
KMI				LR		LR		
	comp=E,142nm,19.0s,MS4.4							
KMI				LR		LR		
	comp=Z,224nm,19.9s,MS4.4							
BLA	**Blacksburg**	**65.30**	**61**	*e*P		**P**	**12 42 23.0**	**-0.1**
BLA				pmax		pmax		
	comp=Z,48nm,1.1s,mb5.4							
BLA	**Blacksburg**	**65.30**	**61**	*e*P		**P**	**12 42 23.0**	**-0.1**
	comp=Z,48nm,1.1s,mb5.4							
FINES	**FINESS Array B**	**65.90**	**348**	P		**P**	**12 42 25.9**	**-0.7**
	comp=Z,0.4nm,0.3s,mb4.0,baz=31,slow=5.6,SNR=4.4							
FINES				LR		LR	13 11 32.2	
	comp=Z,100nm,21.1s,MS4.0,baz=160,slow=36							
GOGA	**Godfrey**	**66.37**	**66**	*e*P		**P**	**12 42 29.1**	**-1.0**
NOA	**NORSAR Array B**	**67.56**	**356**	P		**P**	**12 42 35.5**	**-1.7**
NOA				LR		LR	13 09 59.1	
NOA	**NORSAR Array B**	**67.56**	**356**	P		**P**	**12 42 35.5**	**-1.7**
	comp=Z,0.9nm,0.7s,mb3.9,baz=5.3,slow=5.8,SNR=3.7							
NOA				LR		LR	13 09 59.1	
	comp=Z,44nm,20.8s,MS3.7,baz=50,slow=34							
AKTK	**Aktyubinsk**	**68.35**	**326**	P		**P**	**12 42 42.3**	**0.0**
AKTO	**Aktyubinsk**	**68.35**	**326**	P		**P**	**12 42 42.3**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=41,slow=4.8,SNR=11							
LSA	**Lhasa**	**68.73**	**291**	P		**P**	**12 42 46.8**	**+1.8**
LSA	**Lhasa**	**68.73**	**291**	*e*P		**P**	**12 42 47.5**	**+2.5**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.4s,mb4.7							
LSA	**Lhasa**	**68.73**	**291**	*e*P		**P**	**12 42 47.5**	**+2.5**
	comp=Z,4.4nm,0.4s,mb4.7							
SHL	**Shillong**	**71.38**	**288**	*e*P		**P**	**12 43 01.5**	**+0.2**
AKASG	**Malin Array Be**	**75.79**	**343**	P		**P**	**12 43 26.3**	**-0.5**
	comp=Z,0.7nm,0.3s,mb4.1,baz=21,slow=6.1,SNR=4.2							
AKASG				LR		LR	13 23 04.5	
	comp=Z,78nm,18.4s,MS4.0,baz=15,slow=41							
KBL	**Kabul**	**76.84**	**310**	*e*P		**P**	**12 43 32.6**	**-0.4**
KHC	**Kasperske Hory**	**79.30**	**353**	*i* P		**P**	**12 43 46.7**	**+0.3**
RAO	**Raoul Island**	**80.49**	**181**	LR		LR	13 11 10.4	
	comp=Z,180nm,20.4s,MS4.4,baz=153,slow=29							
WB2	**Warramunga Arr**	**83.17**	**226**	*e*P		**P**	**12 44 05.6**	**-1.5**
WRA	**Warramunga Arr**	**83.18**	**226**	P		**P**	**12 44 05.2**	**-2.0**
	comp=Z,1.0nm,0.5s,mb4.1,baz=32,slow=5.6,SNR=16							
HYB	**Hyderabad**	**85.49**	**292**	*e*P		**P**	**12 44 19.0**	**-0.1**
HYB	**Hyderabad**	**85.49**	**292**	*i* P		**P**	**12 44 19.0**	**-0.1**
FITZ	**Fitzroy Crossi**	**85.74**	**234**	*e*P		**P**	**12 44 18.7**	**-1.5**
	comp=Z,6.7nm,0.9s,mb4.9							
ASAR	**Alice Springs**	**86.63**	**224**	P		**P**	**12 44 23.2**	**-1.2**
	comp=Z,1.7nm,0.9s,mb4.3,baz=28,slow=4.1,SNR=10							
POO	**Poona**	**87.27**	**297**	*ex*		**P**	**12 44 26.0**	**-1.9**
TORD	**Torodi Ar. Bea**	**115.53**	**2**	PKP		PKPdf	12 50 21.5	-1.5
	comp=Z,0.9nm,0.3s,baz=355,slow=2.3,SNR=19							
DBIC	**Dimbokro**	**121.54**	**10**	PKP		PKPdf	12 50 33.9	-0.7
	comp=Z,2.2nm,0.4s,baz=51,slow=1.1,SNR=11							
TSUM	**Tsumeb**	**145.84**	**336**	*e*PKPdf		PKPdf	12 51 20.4	+0.8
MAW	**Mawson**	**147.53**	**218**	PKPbc		PKPbc	12 51 23.1	-0.5
	comp=Z,11nm,0.9s,baz=108,slow=2.7,SNR=8.2							
LBTB	**Lobatse**	**148.56**	**319**	*e*PKP2		PKPab	12 51 28.0	-3.2
BOSA	**Boshof**	**151.87**	**316**	PKPbc		PKPbc	12 51 35.0	-0.4
	comp=Z,6.2nm,0.6s,baz=96,slow=3.5,SNR=13							

IDC 16 12:38:10.1±49.0, 1527S×17085W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/16, mbtmp4.2/3, Error ellipse: s-maj=957.1km s-min=180.9km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**46.24**	**240**	*e*P	P	12 46 37.9	+0.6
	2.4nm,1.4s						
STKA	**Stephens Creek**	**46.24**	**240**	P	P	12 46 38.0	+0.7
	1.6nm,0.9s,baz=82,slow=11,SNR=6.7						
WRA	**Warramunga Arr**	**52.27**	**256**	P	P	12 47 22.8	-0.8
	0.7nm,0.6s,baz=97,slow=6.9,SNR=22						
ASAR	**Alice Springs**	**52.49**	**252**	P	P	12 47 25.4	+0.1
	6.3nm,0.6s,baz=90,slow=7.8,SNR=155						

*IDC **16** 12:39:54.5±1.0, 44.35N×8078E, h0km, mb3.5/6, mb1 3.7/11, mb1mx3.6/26, mbtmp3.6/11, ML3.7/5, Error ellipse: s-maj=18.1km s-min=14.2km az=115.0*
*NEIC **16** 12:39:57.1±4.8, 44.32N×8053E, h19km±32km, Error ellipse: s-maj=15.9km s-min=8.6km az=150.0*
*ISCJB **16** 12:39:59.1±0.6, 44.78N±004×80.18E±007, h10km, mb3.5/6, Error ellipse: s-maj=7.7km s-min=4.5km az=26.4*
*BJI **16** 12:39:59.6, 44.50N×8085E, h22km, ML3.6*
*NNC **16** 12:40:00.5±0.8, 44.80N×8029E, h4km±7km, mb4.0, mpv3.8, Error ellipse: s-maj=9.1km s-min=4.2km az=135.0*

ISC 16 12:39:59.3±1.4, 4469N±006×8032E±007, h5km±11km, n34, σ1°15/43, mb3.5/6, 13C-11D, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**2.52**	**33**	⇓Pn	**Pn**	**12 40 41.1**	**+0.3**
	18nm,0.3s,baz=205,slow=13,SNR=1858						
MK31				⇑Lg		12 41 16.5	
	109nm,0.6s						
MK31	**Makanchi Array**	**2.52**	**33**	*e*Pn	**Pn**	**12 40 41.0**	**+0.1**
MKAR	**Makanchi Array**	**2.52**	**33**	Pn	**Pn**	**12 40 40.9**	**0.0**
	33nm,0.3s,baz=204,slow=14,SNR=207						
MKAR				Sn	**Sn**	**12 41 13.1**	**+1.1**
	46nm,0.3s,baz=196,slow=21,SNR=11						
KNDC	**Almaty**	**2.83**	**240**	⇑Pg	**Pg**	**12 40 53.1**	**-0.5**
	76nm,0.4s						
KNDC				⇓Lg		12 41 31.3	
	802nm,0.8s						
ULHL	**Ulahol**	**3.84**	**232**	P	**Pn**	**12 40 59.9**	**+0.9**
	SNR=8.6						
TKM2	**Tokmak 2**	**3.85**	**244**	⇓Pn	**Pn**	**12 40 59.9**	**+0.8**
	4.1nm,0.5s						
TKM2				⇑Pg	**Pg**	**12 41 12.3**	**-0.8**
	31nm,0.5s						
TKM2				⇑Lg		12 42 03.5	
	271nm,0.7s						
TKM2	**Tokmak 2**	**3.85**	**244**	*e*Pn	**Pn**	**12 40 57.4**	**-1.7**
TKM2	**Tokmak 2**	**3.85**	**244**	P	**Pn**	**12 41 00.2**	**+1.0**
	SNR=11						
CHMS	**Chumysh**	**4.37**	**249**	P	**Pn**	**12 41 07.1**	**+0.8**
	SNR=8.5						
KBK	**Karagaybulak**	**4.39**	**244**	P	**Pn**	**12 41 07.9**	**+1.3**
	SNR=13						
USP	**Ospenovka**	**4.43**	**253**	P	**Pn**	**12 41 08.1**	**+0.8**
	SNR=6.1						
KZA	**Kyzart**	**4.52**	**237**	P	**Pg**	**12 41 22.1**	**-3.8**
	SNR=8.2						
WMQ	**Urumqi**	**5.37**	**97**	*e*PG	**Pn**	**12 41 27.4**	**+7.4**
WMQ				Smax			
	comp=N,97nm,0.7s						
WMQ				Smax			
	comp=E,85nm,0.7s						
AML	**Almayashu**	**5.46**	**244**	*e*Pn	**Pn**	**12 41 16.0**	**-5.3**
KURBB	**Kurchatov Arra**	**6.06**	**349**	⇑Pn	**Pn**	**12 41 29.8**	**+0.3**
	comp=E,1.2nm,0.5s						
KURBB				⇑Lg		12 43 08.7	
	comp=E,35nm,0.7s						
KSH	**Kashi**	**6.09**	**214**	*e*PG	**Pg**	**12 41 49.9**	**-6.1**
KSH				S	**Sn**	**12 42 43.5**	**+3.4**
KSH				Smax			
	comp=N,114nm,0.6s						
KSH				Smax			
	comp=E,81nm,0.6s						
KURK	**Kurchatov**	**6.14**	**350**	⇓Pn	**Pn**	**12 41 31.4**	**+0.8**
KURK				⇓Lg		12 43 11.1	
	comp=E,79nm,0.8s						
KK31	**Karatay Array**	**7.26**	**261**	Pn	**Pn**	**12 41 48.8**	**+2.8**
KK31				⇑Pg	**Pg**	**12 42 13.3**	**-5.0**
	comp=E,3.1nm,0.5s,baz=69,slow=15,SNR=8.1						
KK31				⇑Lg		12 43 51.1	
	comp=E,9.4nm,0.5s						
ZALV	**Zalesovo Beam**	**9.72**	**16**	Pn	**Pn**	**12 42 19.6**	**-0.1**
	comp=E,1.7nm,0.3s,baz=196,slow=13,SNR=2.6						
ZALV				Sn	**Sn**	**12 44 03.9**	**-5.3**
	comp=E,0.8nm,0.3s,baz=212,slow=22,SNR=4.3						
ZALV				Lg		12 45 12.3	
	comp=E,0.3nm,0.3s,baz=199,slow=26,SNR=4.6						
VOSK	**Vostochnaya**	**10.13**	**326**	⇓Pn	**Pn**	**12 42 25.1**	**-0.2**
	comp=E,4.8nm,0.9s						
VOSK				⇑Sn	**Sn**	**12 44 19.2**	**-0.1**
	comp=E,2.2nm,0.5s						
VOSK				⇑Lg		12 45 20.7	
	comp=E,72nm,1.4s						
BVA0	**Borovoye Array**	**10.60**	**325**	⇓Pn	**Pn**	**12 42 31.9**	**+0.3**
	comp=E,0.4nm,0.3s,baz=61,slow=6.4,SNR=31						
BVA0				⇓Sn	**Sn**	**12 44 31.3**	**+0.7**
	comp=E,0.6nm,0.8s,baz=128,slow=22,SNR=4.0						
BVA0				⇑Lg		12 45 33.4	
	comp=E,2.8nm,0.8s,baz=120,slow=27,SNR=6.1						
BVAR	**Borovoye Array**	**10.60**	**325**	Pn	**Pn**	**12 42 33.1**	**+1.4**
	comp=E,0.6nm,0.3s,baz=132,slow=10,SNR=3.7						
BVAR				Sn	**Sn**	**12 44 30.7**	**0.0**
	comp=E,0.5nm,0.3s,baz=124,slow=24,SNR=5.1						
BVAR				Lg		12 45 41.0	
	comp=E,1.1nm,0.3s,baz=115,slow=29,SNR=9.9						
ZRNK	**Zerenda**	**11.13**	**322**	⇑Pn	**Pn**	**12 42 40.5**	**+1.5**
	comp=E,2.7nm,0.3s						
ZRNK				⇓Sn	**Sn**	**12 44 41.4**	**-2.2**
	comp=E,3.8nm,0.6s						
ZRNK				⇓Lg		12 45 49.7	
	comp=E,27nm,1.1s						
AB31	**Akbulak array**	**14.63**	**295**	⇓P	**Pn**	**12 43 25.3**	**-1.5**
	comp=E,3.7nm,0.9s						
AKTK	**Aktyubinsk**	**16.09**	**299**	Pn	**Pn**	**12 43 45.7**	**-0.4**
AKTK				Lg		12 48 41.5	
AKTO	**Aktyubinsk**	**16.09**	**299**	⇑P	**Pn**	**12 43 45.5**	**-0.6**
	comp=E,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.09**	**299**	Pn	**Pn**	**12 43 45.7**	**-0.4**
	comp=E,0.2nm,0.3s,baz=101,slow=16,SNR=3.3						
AKTO				Lg		12 48 41.5	
	comp=E,0.1nm,0.3s,baz=72,slow=11,SNR=4.3						
SONM	**Songino Array**	**18.27**	**71**	P	**Pn**	**12 44 08.7**	**-4.8**
	comp=E,0.1nm,0.3s,baz=273,slow=15,SNR=4.2						
NOA	**NORSAR Array B**	**42.60**	**318**	P	**P**	**12 47 55.2**	**-0.8**
	comp=E,0.6nm,0.5s,mb3.6,baz=80,slow=8.1,SNR=2.9						
INK	**Inuvik**	**64.51**	**13**	P	**P**	**12

BVV				*e*Pg	**Pg**	**13 19 34.8**	**+0.5**
BVV				*e*Sg	**Sg**	**13 20 28.7**	**-1.0**
KKTK	**Khon Kaen**	**4.48**	**155**	PN	**Pn**	**13 19 22.5**	**+1.2**
KKTK				PG	**Pg**	**13 19 39.0**	**+0.9**
KKTK				SG	**Sg**	**13 20 30.0**	**-6.2**
HNV	**Hanoi**	**4.67**	**82**	*e*Pn	**Pn**	**13 19 22.9**	**-0.9**
HNV				*e*Pg	**Pg**	**13 19 39.8**	**-1.9**
HNV				*e*Sg	**Sg**	**13 20 37.8**	**-4.5**
DSV	**Doi Son**	**4.80**	**87**	*e*Pn	**Pn**	**13 19 26.1**	**+0.4**
DSV				*e*PG	**Pg**	**13 19 44.5**	**+0.2**
DSV				*e*SG	**Sg**	**13 20 46.9**	**+0.3**
KMI	**Kunming**	**4.99**	**20**	P	**Pn**	**13 19 31.0**	**+2.8**
KMI				PG	**Pg**	**13 19 48.3**	**+0.5**
KMI				Smax			
	comp=N,96nm,1.1s						
KMI				Smax			
	comp=E,88nm,1.2s						
KMI				LR	LR		
	comp=N,830nm,4.0s						
KMI				LR	LR		
	comp=E,637nm,5.7s						
KMI				LR	LR		
	comp=Z,647nm,12.8s						
BGV	**Bac-Giang**	**5.10**	**79**	*e*Pn	**Pn**	**13 19 30.0**	**+0.2**
BGV				*e*Pg	**Pg**	**13 19 50.0**	**0.0**
BGV				*e*Sg	**Sg**	**13 20 56.1**	**-0.1**
MTZV	**Met**	**5.25**	**77**	*e*Pn	**Pn**	**13 19 31.9**	**0.0**
MTZV				*e*Pg	**Pg**	**13 19 52.1**	**-0.7**
MTZV				*e*Sg	**Sg**	**13 21 00.8**	**-0.2**
PLV	**Phu-Lien**	**5.42**	**85**	*e*Pn	**Pn**	**13 19 34.3**	**0.0**
PLV				*e*Pg	**Pg**	**13 19 55.5**	**-0.7**
PLV				*e*Sg	**Sg**	**13 21 06.1**	**-0.4**
YTV	**Yen Tu**	**5.54**	**81**	*e*Pn	**Pn**	**13 19 35.8**	**0.0**
YTV				*e*Pg	**Pg**	**13 19 57.9**	**-0.4**
YTV				*e*Sg	**Sg**	**13 21 10.1**	**0.0**
UBT	**Ubonrachathani**	**6.50**	**142**	P	**Sg**	**13 21 48.0**	**+6.7**
NNT	**Nongplab**	**7.87**	**188**	P	**Sn**	**13 21 48.5**	**+11**
GYA	**Guiyang**	**8.03**	**41**	P	**Pn**	**13 20 09.8**	**-0.2**
GYA				S	**Sn**	**13 21 43.8**	**+2.3**
GYA				Smax			
	comp=N,60nm,1.0s						
GYA				Smax			
	comp=E,80nm,0.8s						
GYA				LR	LR		
	comp=N,1μm,6.6s						
GYA				LR	LR		
	comp=E,360nm,3.6s						
GYA				LR	LR		
	comp=Z,790nm,5.8s						
CD2	**Chengdu**	**10.76**	**13**	*e*P	**Pn**	**13 20 52.4**	**+4.9**
CD2				XP		13 20 58.3	
CD2				PP		13 21 01.3	
CD2				S	**Sn**	**13 22 54.0**	**+5.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,350nm,9.6s						
CD2				LR	LR		
	comp=Z,270nm,8.4s						
XAN	**Xi'an**	**15.33**	**26**	P	**Pn**	**13 21 47.3**	**-2.5**
XAN				AP	pP	13 21 54.8	-0.1
XAN				XP	sP	13 21 59.3	+4.3
XAN				LG2		13 26 39.5	
XAN				AMB	AMB		
	comp=Z,6.0nm,1.3s						
XAN				AMB	AMB		
	comp=Z,95nm,8.7s						
XAN				LR	LR		
	comp=N,73nm,10.8s						
XAN				LR	LR		
	comp=E,116nm,10.8s						
XAN				LR	LR		
	comp=Z,163nm,12.9s						
LZH	**Lanzhou**	**15.82**	**9**	*e*P	**Pn**	**13 22 02.1**	**+5.9**
LZH				AMB	AMB		
	comp=Z,19nm,1.5s						
LZH				AMB	AMB		
	comp=Z,85nm,4.3s						
GTA	**Gaotai**	**18.94**	**358**	*e*P	**Pn**	**13 22 36.4**	**+1.2**
GTA				AP	pP	13 22 45.8	+11
GTA				XP	sP	13 22 49.4	+15
GTA				S	**Sn**	**13 26 04.8**	**-3.0**
GTA				AMB	AMB		
	comp=Z,5.0nm,0.6s						
GTA				LR	LR		
	comp=N,164nm,13.4s						
GTA				LR	LR		
	comp=E,636nm,14.5s						
GTA				LR	LR		
	comp=Z,254nm,8.0s						
SONM	**Songino Array**	**27.70**	**8**	P	**P**	**13 24 02.1**	**+0.2**
	comp=Z,0.6nm,0.5s,mb3.6,baz=185,slow=8.8,SNR=6.3						
MK31	**Makanchi Array**	**30.35**	**334**	*e*P	**P**	**13 24 25.5**	**+0.1**
MKAR	**Makanchi Array**	**30.35**	**334**	P	**P**	**13 24 25.2**	**-0.2**
	comp=Z,2.2nm,0.5s,mb4.2,baz=142,slow=9.6,SNR=23						
TKM2	**Tokmak 2**	**30.85**	**322**	*e*P	**P**	**13 24 30.8**	**+0.9**
	comp=Z,1.8nm,0.7s,mb4.1						
ZALV	**Zalesovo Beam**	**35.64**	**344**	P	**P**	**13 25 11.1**	**-0.5**
ZALV	**Zalesovo Beam**	**35.64**	**344**	P	**P**	**13 25 11.1**	**-0.5**
	comp=Z,1.3nm,0.6s,mb3.9,baz=148,slow=8.7,SNR=6.7						
BVAR	**Borovoye Array**	**40.11**	**332**	P	**P**	**13 25 48.4**	**-0.9**
	comp=Z,1.6nm,0.6s,mb3.8,baz=132,slow=9.4,SNR=11						
AKTK	**Aktyubinsk**	**45.04**	**322**	P	**P**	**13 26 30.1**	**+0.7**
AKTO	**Aktyubinsk**	**45.04**	**322**	P	**P**	**13 26 30.1**	**+0.7**
	comp=Z,0.9nm,0.4s,mb4.1,baz=69,slow=3.4,SNR=4.0						
WRA	**Warramunga Arr**	**51.81**	**139**	P	**P**	**13 27 21.5**	**-0.6**
	comp=Z,0.9nm,0.8s,mb3.8,baz=324,slow=8.3,SNR=5.1						
ASAR	**Alice Springs**	**54.39**	**142**	P	**P**	**13 27 41.2**	**+0.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=312,slow=7.0,SNR=4.2						
FINES	**FINESS Array B**	**65.00**	**329**	P	**P**	**13 28 52.3**	**-1.4**
	comp=Z,2.2nm,0.8s,mb4.4,baz=104,slow=20,SNR=2.9						
NOA	**NORSAR Array B**	**72.18**	**329**	P	**P**	**13 29 37.1**	**-1.4**
	comp=Z,0.9nm,0.6s,mb4.1,baz=80,slow=6.1,SNR=3.4						
BOSA	**Boshof**	**87.72**	**238**	*e*P	**P**	**13 31 04.0**	**+0.9**
	comp=Z,503nm,0.6s						
YKA	**Yellowknife Ar**	**92.72**	**16**	P	**P**	**13 31 25.4**	**-0.5**
	comp=Z,0.1nm,0.4s,mb3.6,baz=329,slow=3.8,SNR=3.8						

*ISCJB **16** 13:18:27.3±0.3, 4041S±003×17460E±006, h109km±4km, mb4.1/7, Error ellipse: s-maj=7.8km s-min=3.2km az=25.8*
*IDC **16** 13:18:27.7±1.8, 4031S×17481E, h90km±15km, mb3.7/5, mb1 4.0/7, mb1mx3.8/15, mbtmp3.9/7, MS3.2/1, Ms1 3.2/1, ms1mx2.8/22, Error ellipse: s-maj=26.9km s-min=13.7km az=148.0*
*NEIC **16** 13:18:29.9, 4036S×17464E, h89km, ML5.0(WEL), After WEL.*
NEIC Felt widely in central New Zealand.
*WEL **16** 13:18:29.8±0.2, 4036S×17464E, h91km±2km, ML5.0/23, Error ellipse: s-maj=1.2km s-min=0.5km az=90.0, reported intensity MM 5.*
WEL Felt from Taranaki to Canterbury, and from West Coast to Wairarapa, maximum.

ISC 16 13:18:28.4±0.3, 4040S±003×17460E±005, h99km±4km, n170, σ0°96/161, mb4.1/7, Cook Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KIW	**Kapiti Island**	**0.52**	**153**	P	**Pn**	**13 18 44.8**	**+0.6**
KIW				S	**Sn**	**13 18 55.1**	**-0.9**
KIW	**Kapiti Island**	**0.52**	**153**	PN	**Pn**	**13 18 44.8**	**+0.6**
KIW				SN	**Sn**	**13 18 55.1**	**-0.9**
DUWZ	**D'Urville Isla**	**0.66**	**232**	PN	**Pn**	**13 18 45.6**	**+0.3**
WAZ	**Wanganui**	**0.71**	**25**	P	**Pn**	**13 18 46.0**	**+0.2**
WAZ	**Wanganui**	**0.71**	**25**	PN	**Pn**	**13 18 46.0**	**+0.2**
WAZ				PN	**Pn**	**13 18 46.4**	**+0.6**
CAW	**Cannon Point**	**0.79**	**153**	P	**Pn**	**13 18 47.6**	**+1.0**
CAW	**Cannon Point**	**0.79**	**153**	PN	**Pn**	**13 18 47.6**	**+1.0**
MRW	**Makara Radio**	**0.83**	**175**	P	**Pn**	**13 18 48.0**	**+1.0**
MRW	**Makara Radio**	**0.83**	**175**	PN	**Pn**	**13 18 48.0**	**+1.1**
TCW	**Tory Channel**	**0.85**	**197**	P	**Pn**	**13 18 48.2**	**+1.1**
TCW	**Tory Channel**	**0.85**	**197**	PN	**Pn**	**13 18 48.2**	**+1.0**
WEL	**Wellington**	**0.89**	**172**	P	**Pn**	**13 18 48.6**	**+1.0**
WEL	**Wellington**	**0.89**	**172**	PN	**Pn**	**13 18 48.6**	**+1.0**
SNZO	**South Karori**	**0.91**	**175**	P	**Pn**	**13 18 48.7**	**+0.9**
SNZO	**South Karori**	**0.91**	**175**	PN	**Pn**	**13 18 48.7**	**+0.9**
SNZO				PN	**Pn**	**13 18 48.8**	**+1.0**
MTW	**Mount Morrison**	**1.02**	**138**	P	**Pn**	**13 18 49.8**	**+0.8**
MTW	**Mount Morrison**	**1.02**	**138**	PN	**Pn**	**13 18 49.8**	**+0.8**
BHW	**Baring Head**	**1.03**	**169**	P	**Pn**	**13 18 50.0**	**+1.0**
BHW	**Baring Head**	**1.03**	**169**	PN	**Pn**	**13 18 50.0**	**+0.9**
TIWZ	**Tintock**	**1.05**	**111**	PN	**Pn**	**13 18 49.9**	**+0.6**
TSZ	**Takapari Road**	**1.10**	**72**	P	**Pn**	**13 18 49.3**	**-0.5**
TSZ	**Takapari Road**	**1.10**	**72**	PN	**Pn**	**13 18 49.3**	**-0.5**
RAEZ	**Rainy Point**	**1.12**	**352**	P	**Pn**	**13 18 51.1**	**+1.0**
RAEZ	**Rainy Point**	**1.12**	**352**	PN	**Pn**	**13 18 51.1**	**+0.9**
MSWZ	**Moikau Station**	**1.12**	**154**	P	**Pn**	**13 18 51.2**	**+1.1**
MSWZ	**Moikau Station**	**1.12**	**154**	PN	**Pn**	**13 18 51.2**	**+1.0**
TUWZ	**Tuamarina**	**1.14**	**206**	PN	**Pn**	**13 18 51.1**	**+0.8**
PAWZ	**Paruwai Farm**	**1.16**	**148**	PN	**Pn**	**13 18 51.6**	**+1.0**
NEZ	**North Egmont**	**1.19**	**341**	PN	**Pn**	**13 18 51.5**	**+0.5**
MTVZ	**Mangateitei**	**1.22**	**34**	PN	**Pn**	**13 18 51.5**	**+0.3**
NNZ	**Nelson**	**1.23**	**228**	P	**Pn**	**13 18 51.9**	**+0.5**
NNZ	**Nelson**	**1.23**	**228**	PN	**Pn**	**13 18 51.9**	**+0.5**
PKVZ	**Pokaka**	**1.25**	**28**	PN	**Pn**	**13 18 51.6**	**+0.1**
NWEZ	**Newall Road**	**1.26**	**333**	P	**Pn**	**13 18 52.2**	**+0.5**
NWEZ	**Newall Road**	**1.26**	**333**	PN	**Pn**	**13 18 52.2**	**+0.5**
PLWZ	**Palliser**	**1.27**	**157**	PN	**Pn**	**13 18 52.7**	**+0.9**
VRZ	**Vera Road**	**1.28**	**5**	P	**Pn**	**13 18 51.7**	**-0.3**
VRZ	**Vera Road**	**1.28**	**5**	PN	**Pn**	**13 18 51.7**	**-0.3**
TRWZ	**Traveller**	**1.29**	**141**	PN	**Pn**	**13 18 52.9**	**+0.8**
PKE	**Pukeiti**	**1.29**	**338**	P	**Pn**	**13 18 52.5**	**+0.4**
PKE	**Pukeiti**	**1.29**	**338**	PN	**Pn**	**13 18 52.5**	**+0.3**
WNVZ	**Wahianoa**	**1.32**	**36**	P	**Pn**	**13 18 52.8**	**+0.4**
WNVZ	**Wahianoa**	**1.32**	**36**	PN	**Pn**	**13 18 52.8**	**+0.4**
TRVZ	**Turoa**	**1.32**	**34**	PN	**Pn**	**13 18 52.7**	**+0.3**
MOVZ	**Moawhango**	**1.33**	**42**	P	**Pn**	**13 18 52.6**	**+0.1**
MOVZ	**Moawhango**	**1.33**	**42**	PN	**Pn**	**13 18 52.6**	**0.0**
DRZ	**Dome Shelter**	**1.35**	**34**	P	**Pn**	**13 18 53.4**	**+0.7**
DRZ	**Dome Shelter**	**1.35**	**34**	PN	**Pn**	**13 18 53.4**	**+0.6**
FWVZ	**Far West T-bar**	**1.36**	**33**	P	**Pn**	**13 18 52.9**	**0.0**
FWVZ	**Far West T-bar**	**1.36**	**33**	PN	**Pn**	**13 18 52.9**	**0.0**
CMWZ	**Cape Campbell**	**1.38**	**192**	P	**Pn**	**13 18 54.8**	**+1.7**
CMWZ	**Cape Campbell**	**1.38**	**192**	PN	**Pn**	**13 18 54.8**	**+1.7**
TUVZ	**Tukino**	**1.39**	**36**	P	**Pn**	**13 18 53.7**	**+0.4**
TUVZ	**Tukino**	**1.39**	**36**	PN	**Pn**	**13 18 53.7**	**+0.4**
WPVZ	**Whakapapa**	**1.40**	**32**	PN	**Pn**	**13 18 53.4**	**0.0**
BSWZ	**Blackbirch Sta**	**1.42**	**202**	P	**Pn**	**13 18 54.7**	**+1.1**
BSWZ	**Blackbirch Sta**	**1.42**	**202**	PN	**Pn**	**13 18 54.7**	**+1.1**
NGZ	**Ngauruhoe**	**1.45**	**33**	P	**Pn**	**13 18 54.1**	**+0.1**
NGZ	**Ngauruhoe**	**1.45**	**33**	PN	**Pn**	**13 18 54.1**	**+0.1**
WPHZ	**Waipukurau**	**1.45**	**77**	PN	**Pn**	**13 18 54.1**	**+0.2**
TWVZ	**Taurewa**	**1.48**	**26**	P	**Pn**	**13 18 54.2**	**-0.1**
TWVZ	**Taurewa**	**1.48**	**26**	PN	**Pn**	**13 18 54.2**	**-0.1**
OTVZ	**Oturere**	**1.48**	**34**	PN	**Pn**	**13 18 54.8**	**+0.4**
WTVZ	**West Tongariro**	**1.49**	**31**	P	**Pn**	**13 18 54.6**	**+0.1**
WTVZ	**West Tongariro**	**1.49**	**31**	PN	**Pn**	**13 18 54.6**	**+0.1**
KRVZ	**Karewarewa**	**1.53**	**32**	PN	**Pn**	**13 18 55.0**	**0.0**
QRZ	**Quartz Range**	**1.63**	**254**	P	**Pn**	**13 18 55.6**	**-0.6**
QRZ	**Quartz Range**	**1.63**	**254**	PN	**Pn**	**13 18 55.6**	**-0.6**
KATZ	**Kakaramea**	**1.66**	**31**	P	**Pn**	**13 18 56.4**	**-0.1**
KATZ	**Kakaramea**	**1.66**	**31**	PN	**Pn**	**13 18 56.4**	**-0.1**
RITZ	**Rihia Road**	**1.72**	**35**	P	**Pn**	**13 18 57.3**	**-0.1**
RITZ	**Rihia Road**	**1.72**	**35**	PN	**Pn**	**13 18 57.3**	**-0.1**
PXZ	**Pawanui**	**1.77**	**79**	PN	**Pn**	**13 18 57.6**	**-0.4**
RATZ	**Rangitukua**	**1.78**	**31**	P	**Pn**	**13 18 58.2**	**+0.1**
RATZ	**Rangitukua**	**1.78**	**31**	PN	**Pn**	**13 18 58.2**	**+0.1**
THZ	**Tophouse**	**1.87**	**223**	P	**Pn**	**13 18 59.8**	**+0.6**
THZ	**Tophouse**	**1.87**	**223**	PN	**Pn**	**13 18 59.8**	**+0.6**
HATZ	**Hinemaiaia**	**1.90**	**38**	PN	**Pn**	**13 18 58.8**	**-0.8**
WATZ	**Wairara**	**1.90**	**28**	P	**Pn**	**13 18 59.6**	**-0.1**
WATZ	**Wairara**	**1.90**	**28**	PN	**Pn**	**13 18 59.6**	**-0.1**
BKZ	**Black Stump Fm**	**1.91**	**50**	P	**Pn**	**13 18 58.7**	**-1.1**
BKZ	**Black Stump Fm**	**1.91**	**50**	PN	**Pn**	**13 18 58.7**	**-1.1**
KHZ	**Kahutara**	**2.17**	**201**	P	**Pn**	**13 19 03.9**	**+0.8**
KHZ	**Kahutara**	**2.17**	**201**	PN	**Pn**	**13 19 03.9**	**+0.8**
DSZ	**Denniston Nort**	**2.51**	**237**	P	**Pn**	**13 19 07.2**	**-0.3**
DSZ	**Denniston Nort**	**2.51**	**237**	PN	**Pn**	**13 19 07.2**	**-0.4**
TAZ	**Tarawera**	**2.62**	**35**	P	**Pn**	**13 19 08.4**	**-0.7**
TAZ	**Tarawera**	**2.62**	**35**	PN	**Pn**	**13 19 08.4**	**-0.7**
OMRZ	**Omania**	**2.67**	**32**	PN	**Pn**	**13 19 09.1**	**-0.7**
KARZ	**Kaharoa**	**2.70**	**29**	P	**Pn**	**13 19 09.8**	**-0.3**
KARZ	**Kaharoa**	**2.70**	**29**	PN	**Pn**	**13 19 09.8**	**-0.3**
KNZ	**Kokohu**	**2.74**	**61**	P	**Pn**	**13 19 08.9**	**-1.8**
KNZ	**Kokohu**	**2.74**	**61**	PN	**Pn**	**13 19 08.9**	**-1.8**
TOZ	**Tahuroa Road**	**2.76**	**15**	P	**Pn**	**13 19 10.6**	**-0.3**
TOZ	**Tahuroa Road**	**2.76**	**15**	PN	**Pn**	**13 19 10.6**	**-0.3**
URZ	**Urewera**	**2.89**	**43**	P	**Pn**	**13 19 10.5**	**-2.2**
URZ	**Urewera**	**2.89**	**43**	P	**Pn**	**13 19 10.5**	**-2.1**
	132nm,0.3s,baz=231,slow=6.6,SNR=742						
URZ				S	**Sn**	**13 19 41.9**	**-4.8**
	131nm,0.3s,baz=114,slow=19,SNR=11						
URZ	**Urewera**	**2.89**	**43**	PN	**Pn**	**13 19 10.5**	**-2.1**
LTZ	**Lake Taylor**	**2.95**	**216**	P	**Pn**	**13 19 13.3**	**-0.1**
LTZ	**Lake Taylor**	**2.95**	**216**	PN	**Pn**	**13 19 13.3**	**-0.1**
OPRZ	**Ohinepanea**	**2.97**	**31**	PN	**Pn**	**13 19 12.7**	**-1.0**
MWZ	**Matawai**	**3.07**	**49**	P	**Pn**	**13 19 13.1**	**-1.9**
MWZ	**Matawai**	**3.07**	**49**	PN	**Pn**	**13 19 13.1**	**-1.9**
MKAZ	**Moumakai**	**3.32**	**8**	P	**Pn**	**13 19 18.2**	**-0.2**
MKAZ	**Moumakai**	**3.32**	**8**	PN	**Pn**	**13 19 18.2**	**-0.1**
WTAZ	**Waiatarua**	**3.46**	**360**	PN	**Pn**	**13 19 21.3**	**+1.0**
CRLZ	**Canterbury Las**	**3.50**	**204**	P	**Pn**	**13 19 19.7**	**-1.1**
CRLZ	**Canterbury Las**	**3.50**	**204**	PN	**Pn**	**13 19 19.7**	**-1.1**
MQZ	**McQueen's Vall**	**3.61**	**203**	P	**Pn**	**13 19 20.9**	**-1.3**
MQZ	**McQueen's Vall**	**3.61**	**203**	PN	**Pn**	**13 19 20.9**	**-1.4**
KUZ	**Kuaotunu**	**3.75**	**14**	P	**Pn**	**13 19 23.5**	**-0.8**
KUZ	**Kuaotunu**	**3.75**	**14**	PN	**Pn**	**13 19 23.5**	**-0.7**
WVZ	**Waitaha Valley**	**3.94**	**226**	P	**Pn**	**13 19 25.8**	**-0.9**
WVZ	**Waitaha Valley**	**3.94**	**226**	PN	**Pn**	**13 19 25.8**	**-0.9**
MKZ	**Matakaoa Point**	**4.05**	**47**	PN	**Pn**	**13 19 25.9**	**-2.3**
RPZ	**Rata Peaks**	**4.24**	**217**	P	**Pn**	**13 19 29.0**	**-1.7**
RPZ	**Rata Peaks**	**4.24**	**217**	P	**Pn**	**13 19 31.1**	**+0.4**
	63nm,0.3s,baz=52,slow=1.2,SNR=226						
RPZ				S	**Sn**	**13 20 14.4**	**-4.6**
	64nm,0.3s,baz=118,slow=1.5,SNR=5.6						
RPZ				LR	LR	13 20 47.0	
	comp=Z,289nm,18.4s,baz=290,slow=32						
RPZ	**Rata Peaks**	**4.24**	**217**	PN	**Pn**	**13 19 29.0**	**-1.7**
WCZ	**Waipu Caves**	**4.46**	**357**	P	**Pn**	**13 19 34.5**	**+0.7**
WCZ	**Waipu Caves**	**4.46**	**357**	PN	**Pn**	**13 19 34.5**	**+0.7**
FOZ	**Fox Glacier**	**4.84**	**228**	P	**Pn**	**13 19 35.9**	**-2.9**
FOZ	**Fox Glacier**	**4.84**	**228**	PN	**Pn**	**13 19 35.9**	**-2.9**
LBZ	**Lake Benmore**	**5.15**	**218**	P	**Pn**	**13 19 42.0**	**-1.1**
LBZ	**Lake Benmore**	**5.15**	**218**	PN	**Pn**	**13 19 42.0**	**-1.1**
OUZ	**Omahuta**	**5.23**	**351**	P	**Pn**	**13 19 45.0**	**+0.7**
OUZ	**Omahuta**	**5.23**	**351**	PN	**Pn**	**13 19 45.0**	**+0.7**
ODZ	**Otahua Downs**	**5.48**	**211**	P	**Pn**	**13 19 45.8**	**-1.7**
ODZ	**Otahua Downs**	**5.48**	**211**	PN	**Pn**	**13 19 45.8**	**-1.7**
JCZ	**Jackson Bay**	**5.68**	**228**	P	**Pn**	**13 19 48.4**	**-1.9**
JCZ	**Jackson Bay**	**5.68**	**228**	PN	**Pn**	**13 19 48.4**	**-1.9**
WKZ	**Wanaka**	**6.04**	**221**	P	**Pn**	**13 19 52.7**	**-2.5**
WKZ	**Wanaka**	**6.04**	**221**	PN	**Pn**	**13 19 52.7**	**-2.5**
EAZ	**Earnscleugh**	**6.20**	**217**	P	**Pn**	**13 19 55.6**	**-1.7**
EAZ	**Earnscleugh**	**6.20**	**217**	PN	**Pn**	**13 19 55.6**	**-1.7**
MSZ	**Milford Sound**	**6.52**	**227**	P	**Pn**	**13 20 00.1**	**-1.5**
MSZ	**Milford Sound**	**6.52**	**227**	PN	**Pn**	**13 20 00.1**	**-1.6**
TUZ	**Tuapeka**	**6.63**	**212**	PN	**Pn**	**13 20 02.1**	**-1.1**
MLZ	**Mavora Lakes**	**6.83**	**222**	P	**Pn**	**13 20 05.6**	**-0.3**
MLZ	**Mavora Lakes**	**6.83**	**222**	PN	**Pn**	**13 20 05.6**	**-0.4**
SYZ	**Scotsman Hill**	**7.31**	**211**	PN	**Pn**	**13 20 12.4**	**0.0**
WHZ	**Wether Hill Ro**	**7.33**	**219**	P	**Pn**	**13 20 11.9**	**-0.8**
WHZ	**Wether Hill Ro**	**7.33**	**219**	PN	**Pn**	**13 20 11.9**	**-0.8**
DCZ	**Deep Cove**	**7.45**	**225**	P	**Pn**	**13 20 14.0**	**-0.4**
DCZ	**Deep Cove**	**7.45**	**225**	PN	**Pn**	**13 20 14.0**	**-0.4**
STKA	**Stephens Creek**	**27.85**	**277**	P	**P**	**13 24 11.6**	**+3.0**
STKA	**Stephens Creek**	**27.85**	**277**	P	**P**	**13 24 11.6**	**+3.0**
	3.2nm,1.0s,mb3.8,baz=107,slow=14,SNR=3.4						
ASAR	**Alice Springs**	**37.95**	**284**	P	**P**	**13 25 37.4**	**+1.0**
	1.1nm,0.6s,mb3.9,baz=126,slow=7.0,SNR=36						
WB2	**Warramunga Arr**	**39.89**	**289**	*e*P	**P**	**13 25 53.8**	**+1.1**
WRA	**Warramunga Arr**	**39.90**	**289**	P	**P**	**13 25 53.8**	**+1.0**
	0.7nm,0.4s,mb3.9,baz=126,slow=8.2,SNR=16						
KLBR	**Kellerberrin**	**46.13**	**262**	*e*P	**P**	**13 26 43.0**	**+0.1**
	5.5nm,0.4s,mb4.6						
MUN	**Mundaring**	**47.13**	**261**	*e*P	**P**	**13 26 51.4**	**+0.8**
FITZ	**Fitzroy Crossi**	**47.45**	**283**	*e*P	**P**	**13 26 54.2**	**+1.0**
	3.2nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**47.45**	**283**	P	**P**	**13 26 54.1**	**+0.9**
	1.6nm,0.6s,mb3.9,baz=155,slow=12,SNR=9.4						
QSPA	**South Pole Qui**	**49.73**	**180**	P	**P**	**13 27 14.2**	**+4.4**
	2.1nm,0.4s,mb4.4,baz=212,slow=1.2,SNR=15						
KSRS	**Korea Array**	**88.51**	**325**	P	**P**	**13 31 11.1**	**+1.6**
	0.7nm,0.6s,mb3.9,baz=151,slow=7.0,SNR=3.6						
YKA	**Yellowknife Ar**	**117.08**	**30**	PKP	PKPdf	13 37 00.3	-0.3
YKA	**Yellowknife Ar**	**117.08**	**30**	PKP	PKPdf	13 37 00.3	-0.3
	0.8nm,0.6s,baz=260,slow=1.6,SNR=17						
MKAR	**Makanchi Array**	**119.36**	**308**	PKP	PKPdf	13 37 04.2	-1.3
MKAR	**Makanchi Array**	**119.36**	**308**	PKP	PKPdf	13 37 04.2	-1.3
	0.8nm,0.8s,baz=90,slow=1.2,SNR=5.8						
BVAR	**Borovoye Array**	**128.89**	**311**	PKP	PKPdf	13 37 23.9	+0.4
BVAR	**Borovoye Array**	**128.89**	**311**	PKP	PKPdf	13 37 23.9	+0.4
	0.7nm,0.7s,baz=77,slow=7.6,SNR=3.9						
DBIC	**Dimbokro**	**146.41**	**181**	PKPbc	PKPbc	13 37 59.8	+1.5
	5.8nm,0.7s,baz=143,slow=4.9,SNR=7.8						
ARCES	**ARCESS Array B**	**146.60**	**341**	PKPbc	PKPbc	13 37 57.2	0.0
ARCES	**ARCESS Array B**	**146.60**	**341**	PKPbc	PKPbc	13 37 57.2	0.0
	6.5nm,0.7s,baz=45,slow=1.3,SNR=28						
FINES	**FINESS Array B**	**151.54**	**328**	PKPbc	PKPbc	13 38 08.8	-1.0
FINES	**FINESS Array B**	**151.54**	**328**	PKPbc	PKPbc	13 38 08.8	-1.0
	1.9nm,0.7s,baz=43,slow=2.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**152.14**	**195**	PKPbc	PKPbc	13 38 13.3	+0.6
	2.1nm,0.5s,baz=162,slow=3.8,SNR=54						
AKASG	**Malin Array Be**	**153.88**	**305**	PKPbc	PKPbc	13 38 14.7	-0.7
	1.1nm,0.7s,baz=70,slow=2.1,SNR=4.6						
NOA	**NORSAR Array B**	**156.95**	**339**	PKPab	PKPab	13 38 42.2	+0.4
NOA	**NORSAR Array B**	**156.95**	**339**	PKPab	PKPab	13 38 42.2	+0.4
	0.8nm,0.7s,baz=32,slow=3.2,SNR=3.5						

*IDC **16** 13:34:53.8±1.0, 3307N×9041E, h0km, mb3.5/7, mb1 3.7/8, mb1mx3.6/22, mbtmp3.5/8, ML3.4/1, MS3.2/1, Ms1 3.2/1, ms1mx2.7/29, Error ellipse: s-maj=42.1km s-min=20.1km az=63.0*
*ISCJB **16** 13:35:01.5±1.5, 3324N±008×905E±02, h71km±17km, mb3.3/7, Error ellipse: s-maj=30.7km s-min=11.3km az=165.8*
*NEIC **16** 13:35:03.0±1.4, 3324N×9042E, h71km±15km, Error ellipse: s-maj=24.8km s-min=10.5km az=73.0*

ISC 16 13:35:02.7±1.3, 3325N±007×905E±02, h67km±15km, n12, σ0°81/12, mb3.3/7, Qinghai

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.58**	**171**	*e*Pn	**Pn**	**13 35 57.1**	**+1.3**
LSA				*e*Sn	**Sn**	**13 36 36.2**	**-0.7**
MKAR	**Makanchi Array**	**14.90**	**338**	Pn	**Pn**	**13 38 28.2**	**-1.1**
	0.1nm,0.3s,baz=152,slow=6.4,SNR=2.7						
SONM	**Songino Array**	**18.87**	**35**	P	**Pn**	**13 39 18.9**	**+0.4**
	0.1nm,0.3s,baz=211,slow=11,SNR=4.0						
ZALV	**Zalesovo Beam**	**21.08**	**351**	P	**P**	**13 39 40.6**	**-0.6**
	1.5nm,0.9s,mb3.3,baz=186,slow=7.2,SNR=2.8						
BVAR	**Borovoye Array**	**24.46**	**330**	P	**P**	**13 40 16.4**	**+1.3**
	0.2nm,0.4s,mb2.8,baz=105,slow=28,SNR=2.6						
CBIJ	**Chichi jima**	**44.73**	**84**	LR	L

LCR2	**La Lucha 2**	**1.59 322**	*e*P	Pn	14 41 06.7	-3.1
LCR2			*e*S	Sn	14 41 27.7	-2.7
LCR2	**La Lucha 2**	**1.59 322**	*e*P	Pn	14 41 09.5	-0.3
LAJ	**Bijagual**	**1.76 321⇑**	*e*P	Pn	14 41 11.9	-0.2
LAJ			*e*S	Sn	14 41 40.2	+5.6
LAJ	**Bijagual**	**1.76 321**	*e*P	Pn	14 41 14.3	+2.2
LAJ			*e*S	Sn	14 41 40.6	+6.0
CGA2	**Cerro Gallo 2**	**2.10 317**	*e*P	Pn	14 41 14.7	-2.0
CGA2	**Cerro Gallo 2**	**2.10 317**	*e*P	Pn	14 41 14.6	-2.2
CGA2			*e*S	Sn	14 41 44.3	+1.4
JCR	**Jicaral**	**2.48 303⇑**	*e*P	Pn	14 41 20.6	-1.5
JCR	**Jicaral**	**2.48 303**	*e*P	Pn	14 41 20.6	-1.5
FORC	**Fortuna**	**2.57 320**	*i* P	Pn	14 41 24.1	+0.9
FORC			*e*S	Sn	14 41 55.5	+0.9
JTS	**JuntasAbangare**	**2.63 313**	*e*Pn	Pn	14 41 20.1	-4.0
JTS	**JuntasAbangare**	**2.63 313**	*e*P	Pn	14 41 19.7	-4.3
AZU	**Azuero**	**2.79 104**	*e*P	Pn	14 41 27.5	+1.2
AZU			*e*S	Sn	14 42 00.2	+0.2
2RIO	**Dos Rios de Up**	**2.99 313**	*i* P	Pn	14 41 34.2	+5.1
CUI		**3.04 315**	*i* P	Pn	14 41 30.0	+0.2
VCR	**Vista de Mar**	**3.06 302**	*e*P	Pn	14 41 27.8	-2.3
VCR	**Vista de Mar**	**3.06 302**	*e*P	Pn	14 41 29.6	-0.4
LIM1	**Limonal**	**3.12 315**	*i* P	Pn	14 41 31.2	+0.3
BCIP	**Isla Barro Col**	**3.20 78**	*e*Pn	Pn	14 41 31.4	-0.6
BCIP	**Isla Barro Col**	**3.20 78**	*e*P	Pn	14 41 31.0	-0.9
MADN	**Villa Maderas**	**3.83 320**	*e*P	Pn	14 41 41.4	+0.8
SSNN	**San Juan del S**	**3.95 315**	*e*P	Pn	14 41 43.1	+0.8
CONN	**Concepcion**	**4.00 320**	*e*P	Pn	14 41 43.6	+0.7
COPN	**Copaltepe**	**5.09 316**	*e*P	Pn	14 41 58.8	+0.8

IDC 16 14:42:14.5±4.7, 126N×12670E, h89km±43km, mb3.4/3, mb1 3.6/3, mb1mx3.2/15, mbtmp3.4/3, Error ellipse: s-maj=159.7km s-min=18.7km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**161**	P	P	14 47 05.0	-0.4
1.5nm,0.6s,baz=338,slow=11,SNR=15							
WRA				S	S	14 51 06.5	+1.2
0.9nm,0.9s,baz=344,slow=19,SNR=3.9							
ASAR	**Alice Springs**	**25.75**	**165**	P	P	14 47 37.4	+0.4
1.1nm,0.7s,baz=344,slow=9.3,SNR=17							
MKAR	**Makanchi Array**	**59.56**	**326**	P	P	14 52 08.8	0.0
0.9nm,0.6s,baz=120,slow=7.2,SNR=5.8							

JSN 16 15:00:24.6±0.9, 1892N×7940W, h0km±622km, MD4.1, 1C-2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVJ	**Coleyville**	**1.90**	**111⇑**	*e*P	Pn	15 00 56.5	-1.8
MCJ	**Malvern**	**1.90**	**121**	*e*S	Sn	15 01 21.3	-1.7
BBJ	**Bamboo Saint A**	**2.09**	**104⇓**	*e*P	Pn	15 01 00.3	-0.6
STH	**Stony Hill**	**2.60**	**108⇓**	*e*P	Pn	15 01 06.4	-1.5
STH				*e*S	Sn	15 01 38.0	-2.1

IDC 16 15:04:01.2±4.0, 1832S×17428W, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=198.8km s-min=44.8km az=142.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**41.90**	**242**	P	P	15 11 53.4	-0.1
0.9nm,0.7s,baz=117,slow=16,SNR=2.7							
WRA	**Warramunga Arr**	**48.41**	**259**	P	P	15 12 45.5	+0.1
0.3nm,0.5s,baz=98,slow=7.8,SNR=5.1							
ASAR	**Alice Springs**	**48.46**	**254**	P	P	15 12 45.8	0.0
0.6nm,0.7s,baz=87,slow=8.2,SNR=11							
GERES	**GERESS Array B**	**148.87**	**350**	PKPbc	PKPbc	15 23 50.3	-0.5
1.2nm,0.7s,baz=38,slow=3.7,SNR=7.5							

*BJI **16** 15:22:45.0, 1929N×10039E, h10km, ML3.9, Ms3.9, Msz3.7*
*ISCJB **16** 15:22:55.5±0.6, 2003N±006×10070E±004, h10km, mb3.8/6, Error ellipse: s-maj=9.5km s-min=4.9km az=167.0*
*NEIC **16** 15:22:57.7±0.9, 2002N×10059E, h10km, mb4.0/1, Error ellipse: s-maj=17.9km s-min=14.1km az=130.0*
*IDC **16** 15:22:58.8±2.2, 2045N×10076E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.6/21, mbtmp3.8/5, Error ellipse: s-maj=252.8km s-min=19.8km az=59.0*
*PLV **16** 15:23:06.6±1.4, 2007N×10153E, h3km±8km, MD4.1*
ISC 16 15:22:57.9±0.7, 2008N±008×10073E±004, h10km, n19, σ0§92/32, mb3.8/6, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHTO	**Chiang Mai**	**2.10**	**233**	*e*Pn	**Pn**	**15 23 28.8**	**-4.4**
CM31	**Chiang Mai Arr**	**2.34**	**226**	*e*Pn	**Pn**	**15 23 36.5**	**+0.1**
DBV	**Dienbien**	**2.51**	**58**	*e*PG	**Pn**	**15 23 42.4**	**+3.6**
DBV				*e*SG	**Sn**	**15 24 08.9**	**-0.6**
KKTK	**Khon Kaen**	**4.23**	**152**	PN	**Pg**	**15 24 19.0**	**+0.1**
KKTK				PG	**Pg**	**15 24 25.0**	**+6.1**
BVV	**Ba Vi**	**4.46**	**76**	*e*Pn	**Pn**	**15 24 04.7**	**-1.0**
BVV				*e*Pg	**Pg**	**15 24 18.7**	**-4.8**
BVV				*e*Sg	**Sb**	**15 25 06.5**	**-3.9**
HNV	**Hanoi**	**4.85**	**78**	*e*Pn	**Pn**	**15 24 09.7**	**-1.2**
HNV				*e*Pg	**Pg**	**15 24 23.7**	**-7.1**
HNV				*e*Sg	**Sb**	**15 25 15.2**	**-6.1**
KMI	**Kunming**	**5.35**	**20**	PG	**Pg**	**15 24 35.8**	**-4.6**
KMI				Smax			
comp=N,46nm,1.2s							
KMI				Smax			
comp=E,60nm,1.1s							
KMI				LR	LR		
comp=N,415nm,6.0s							
KMI				LR	LR		
comp=E,780nm,9.3s							
KMI				LR	LR		
comp=Z,318nm,9.3s							
MTZV	**Met**	**5.45**	**74**	*e*Pn	**Pn**	**15 24 18.3**	**-0.9**
MTZV				*e*Pg	**Pg**	**15 24 37.1**	**-5.3**
MTZV				*e*Sg	**Sb**	**15 25 39.0**	**+0.3**
PLV	**Phu-Lien**	**5.58**	**82**	*e*Pn	**Pn**	**15 24 21.0**	**0.0**
PLV				*e*Pg	**Pg**	**15 24 39.3**	**-5.5**
PLV				*e*Sg	**Sb**	**15 25 42.4**	**-0.1**
YTV	**Yen Tu**	**5.71**	**78**	*e*Pn	**Pn**	**15 24 22.4**	**-0.5**
YTV				*e*Pg	**Pg**	**15 24 42.5**	**-4.9**
YTV				*e*Sg	**Sb**	**15 25 47.3**	**+1.1**
GYA	**Guiyang**	**8.37**	**40**	P	**Pn**	**15 25 01.1**	**+1.8**
GYA				S	**Sn**	**15 26 37.9**	**+4.0**
GYA				Smax			
comp=N,70nm,1.0s							
GYA				Smax			
comp=E,50nm,0.8s							
QIZ	**Qiongzhong**	**8.66**	**95**	*e*Pn	**Pn**	**15 25 04.7**	**+1.4**
MK31	**Makanchi Array**	**30.61**	**335**	*e*P	**P**	**15 29 12.5**	**+0.5**
MKAR	**Makanchi Array**	**30.61**	**335**	P	**P**	**15 29 12.1**	**+0.1**
comp=E,1.3nm,0.5s,mb4.1,baz=145,slow=9.2,SNR=9.1							
KURK	**Kurchatov**	**35.20**	**335**	*e*P	**P**	**15 29 52.1**	**0.0**
comp=E,1.8nm,0.8s,mb4.0							
ZALV	**Zalesovo Beam**	**35.94**	**344**	P	**P**	**15 29 58.0**	**-0.4**
comp=E,0.8nm,0.5s,mb3.9,baz=149,slow=6.6,SNR=4.1							
BVAR	**Borovoye Array**	**40.35**	**332**	P	**P**	**15 30 35.0**	**-0.6**
comp=E,0.9nm,0.5s,mb3.7,baz=120,slow=9.8,SNR=5.7							
WRA	**Warramunga Arr**	**51.63**	**138**	P	**P**	**15 32 09.1**	**+4.1**
comp=E,0.8nm,0.7s,mb3.7,baz=321,slow=8.2,SNR=8.2							
ASAR	**Alice Springs**	**54.19**	**142**	P	**P**	**15 32 28.4**	**+4.7**
comp=E,0.5nm,0.8s,mb3.5,baz=323,slow=7.1,SNR=7.2							

IDC 16 15:27:59.2±39.0, 2145S×17132E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.8/4, Error ellipse: s-maj=685.9km s-min=121.6km az=84.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**28.43**	**242**	P	P	15 33 55.8	+0.1
0.6nm,0.5s,baz=103,slow=14,SNR=2.8							
ASAR	**Alice Springs**	**34.56**	**259**	P	P	15 34 48.9	-0.8
0.8nm,0.8s,baz=91,slow=9.0,SNR=8.4							
WRA	**Warramunga Arr**	**34.57**	**266**	P	P	15 34 49.3	-0.6
0.5nm,0.5s,baz=98,slow=8.2,SNR=5.7							
FITZ	**Fitzroy Crossi**	**43.00**	**266**	P	P	15 36 01.8	+1.2
1.6nm,1.0s,baz=111,slow=8.6,SNR=4.3							

*NEIC **16** 16:23:47.4±0.7, 2345S×17982E, h500km, mb4.4/4, Error ellipse: s-maj=28.6km s-min=14.7km az=168.0*
*IDC **16** 16:23:48.7±3.2, 2344S×17977E, h513km±34km, mb3.2/8, mb1 3.4/8, mb1mx3.3/14, mbtmp3.2/8, Error ellipse: s-maj=27.3km s-min=20.4km az=14.0*
*ISCJB **16** 16:23:54.3±0.9, 236S±02×1796E±0.1, h600km, mb3.7/10, Error ellipse: s-maj=31.3km s-min=16.2km az=167.4*
ISC 16 16:23:55.6±0.9, 235S±02×1796E±01, h600km, n15, σ0§56/15, mb3.7/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EIDS	**Eidsvold**	**25.97**	**260**	*e*P	**P**	**16 28 42.7**	**+0.3**
CTA	**Charters Tower**	**31.07**	**270**	*e*P	**P**	**16 29 27.5**	**+0.9**
5.0nm,0.4s,mb4.5							
CTA	**Charters Tower**	**31.07**	**270**	P	**P**	**16 29 27.6**	**+1.0**
5.3nm,0.4s,mb4.5,baz=94,slow=11,SNR=16							
CTAO	**Charters Tower**	**31.07**	**270**	*e*P	**P**	**16 29 27.5**	**+0.9**
5.3nm,0.5s,mb4.4							
STKA	**Stephens Creek**	**34.48**	**248**	*e*P	**P**	**16 29 54.0**	**-1.2**
STKA	**Stephens Creek**	**34.48**	**248**	P	**P**	**16 29 54.1**	**-1.1**
0.8nm,0.6s,mb3.5,baz=94,slow=16,SNR=3.7							
ASAR	**Alice Springs**	**41.69**	**260**	P	**P**	**16 30 53.5**	**-0.1**
1.1nm,0.5s,mb3.7,baz=97,slow=7.3,SNR=36							
ASAR				ScP	ScP	16 35 39.0	+9.4
0.4nm,0.8s,baz=109,slow=4.5,SNR=5.7							
WB2	**Warramunga Arr**	**42.02**	**266**	*e*P	**P**	**16 30 55.9**	**-0.2**
WRAB	**Tennant Creek**	**42.02**	**266**	*e*P	**P**	**16 30 55.8**	**-0.3**
2.2nm,0.4s,mb4.0							
WRA	**Warramunga Arr**	**42.03**	**266**	P	**P**	**16 30 56.0**	**-0.2**
2.2nm,0.3s,mb4.1,baz=97,slow=8.3,SNR=107							
KAKA	**Kakadu**	**45.87**	**275**	*e*P	**P**	**16 31 25.6**	**-0.3**
3.9nm,0.3s,mb4.4							
FITZ	**Fitzroy Crossi**	**50.45**	**265**	P	**P**	**16 32 00.8**	**+1.0**
2.4nm,0.9s,mb3.6,baz=106,slow=7.4,SNR=4.8							
VNDA	**Vanda**	**54.72**	**185**	P	**P**	**16 32 29.6**	**+0.4**
0.7nm,0.3s,mb3.5,baz=33,slow=7.8,SNR=14							
NVAR	**Mina Array Bea**	**84.77**	**44**	P	**P**	**16 35 27.8**	**+0.2**
0.3nm,0.6s,mb3.1,baz=224,slow=11,SNR=3.6							
TXAR	**Lajitas Array**	**90.58**	**58**	P	**P**	**16 35 54.8**	**-0.3**
0.1nm,0.5s,mb3.0,baz=208,slow=5.0,SNR=3.8							

*ISCJB **16** 16:42:52.1±2.1, 876S±0.10×119.1E±02, h112km±20km, mb3.6/4, Error ellipse: s-maj=30.6km s-min=8.3km az=151.6*
*IDC **16** 16:42:53.0±2.7, 877S×11908E, h99km±21km, mb3.4/5, mb1 3.5/9, mb1mx3.4/19, mbtmp3.4/9, Error ellipse: s-maj=35.1km s-min=9.1km az=60.0*
*NEIC **16** 16:42:54.0±1.3, 867S×11928E, h104km±13km, mb4.2/3, Error ellipse: s-maj=21.7km s-min=8.7km az=67.0*
ISC 16 16:42:53.7±1.5, 874S±008×1191E±01, h104km±14km, n16, σ1§05/24, mb3.6/4, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.75**	**9**	P	**Pn**	**16 43 49.0**	**-0.6**
1.6nm,0.3s,baz=206,slow=12,SNR=6.9							
KAPI				S	**Sn**	**16 44 33.3**	**+0.5**
2.4nm,0.3s,baz=251,slow=22,SNR=8.8							
BATI	**Kupang**	**4.70**	**108**	P	**Pn**	**16 44 04.1**	**+1.6**
20nm,0.3s,baz=321,slow=2.1,SNR=73							
BATI				S	**Sn**	**16 44 56.0**	**+0.1**
17nm,0.3s,baz=181,slow=3.0,SNR=7.0							
FITZ	**Fitzroy Crossi**	**11.25**	**146**	*e*P	**Pn**	**16 45 29.7**	**-1.7**
7.7nm,1.3s							
FITZ				*e*S	**Sn**	**16 47 25.3**	**-10**
FITZ	**Fitzroy Crossi**	**11.25**	**146**	P	**Pn**	**16 45 28.9**	**-2.4**
0.2nm,0.3s,baz=226,slow=20,SNR=10							
FITZ				S	**Sn**	**16 47 24.8**	**-10**
0.8nm,0.3s,baz=205,slow=18,SNR=9.9							
MBWA	**Marble Bar**	**12.37**	**177**	*e*Pn	**Pn**	**16 45 48.1**	**+2.0**
MBWA				*e*Sn	**Sn**	**16 47 48.7**	**-13**
KAKA	**Kakadu**	**13.66**	**108**	*e*P	**Pn**	**16 46 01.8**	**-1.3**
4.1nm,0.2s							
WRA	**Warramunga Arr**	**18.45**	**129**	P	**P**	**16 47 00.9**	**-0.4**
0.4nm,0.3s,baz=302,slow=12,SNR=26							
WRA				S	**S**	**16 50 14.4**	**-12**
0.2nm,0.3s,baz=312,slow=23,SNR=6.2							
WRAB	**Tennant Creek**	**18.45**	**129**	*e*P	**P**	**16 47 01.1**	**-0.2**
1.2nm,0.5s							
WB2	**Warramunga Arr**	**18.46**	**129**	*e*P	**P**	**16 47 01.2**	**-0.2**
WB2				*e*S	**S**	**16 50 14.6**	**-12**
ASAR	**Alice Springs**	**20.50**	**138**	P	**P**	**16 47 23.9**	**+0.3**
1.1nm,0.4s,baz=322,slow=12,SNR=36							
ASAR				S	**S**	**16 51 08.8**	**+1.5**
0.4nm,0.5s,baz=308,slow=22,SNR=4.3							
ASAR				ScP	ScP	16 54 57.0	-1.5
0.5nm,0.7s,baz=310,slow=2.0,SNR=5.9							
STKA	**Stephens Creek**	**31.07**	**141**	*e*P	**P**	**16 49 02.5**	**+0.5**
STKA	**Stephens Creek**	**31.07**	**141**	P	**P**	**16 49 02.2**	**+0.2**
0.7nm,0.4s,mb3.7,baz=231,slow=16,SNR=3.7							
SONM	**Songino Array**	**57.44**	**350**	P	**P**	**16 52 33.0**	**+1.5**
0.4nm,0.7s,mb3.5,baz=165,slow=6.2,SNR=2.9							
MKAR	**Makanchi Array**	**64.28**	**333**	P	**P**	**16 53 17.4**	**-0.5**
MKAR	**Makanchi Array**	**64.28**	**333**	P	**P**	**16 53 17.4**	**-0.5**
0.6nm,0.6s,mb3.6,baz=152,slow=5.5,SNR=4.1							
ZALV	**Zalesovo Beam**	**68.84**	**339**	P	**P**	**16 53 45.8**	**-1.0**
0.5nm,0.4s,mb3.7,baz=147,slow=3.4,SNR=3.5							

*IDC **16** 16:48:08.7±0.7, 4500S×8085W, h0km, mb4.2/13, mb1 4.4/15, mb1mx4.3/21, mbtmp4.3/15, ML4.8/1, MS4.6/22, Ms1 4.5/22, ms1mx4.4/29, Error ellipse: s-maj=19.1km s-min=11.1km az=108.0*
*NEIC **16** 16:48:09.8±8.0, 4502S×8072W, h8km±48km, mb4.7/4, Error ellipse: s-maj=28.5km s-min=11.1km az=101.0*
*GCMT **16** 16:48:09.8±0.1, 4496S×8138W, h17km, MW5.4/90, Moment Tensor Solution. s79,c132; s90,c155; Duration: 1§2 Moment tensor: Scale 10^{17}Nm; M_{rr}=-0.07±.02; $M_{\theta\theta}$0.62±.02; $M_{\phi\phi}$-0.54±.02; $M_{r\theta}$0.08±.05; $M_{\theta\phi}$-1.31±.02; $M_{r\phi}$0.06±.05; Best double couple: M_0=1.43800×10^{17} NP1:ϕ_s168.00000°, δ86.00000°, λ-2.00000°. NP2:ϕ_s258.00000°, δ88.00000°, λ-176.00000°. Principal axes: T 1.4720, Plg1.0000°, Azm33.0000°; N -0.0660, Plg86.0000°, Azm286.0000°; P -1.4050, Plg4.0000°, Azm123.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **16** 16:48:11.9±0.6, 4501S±006×809W±0.1, h33km, mb4.2/13, MS4.6/19 Error ellipse: s-maj=10.8km s-min=8.3km az=11.2*
ISC 16 16:48:14.0±0.6, 4517S±006×809W±01, h35km, n42, σ1§23/36, mb4.2/13, MS4.6/19, 1C, Off coast of southern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**8.81**	**63**	*e*P	**Pn**	**16 50 15.0**	**-3.8**
32nm,0.8s							
PLCA	**Paso Flores**	**8.81**	**63**	Pn	**Pn**	**16 50 15.6**	**-3.3**
2.7nm,0.3s,baz=234,slow=11,SNR=63							
PLCA				Sn	**Sn**	**16 51 57.2**	**+0.4**
0.7nm,0.3s,baz=250,slow=8.0,SNR=6.3							
PLCA				LR	LR	16 53 14.2	
comp=Z,4μm,20.4s,baz=241,slow=35							
USHA	**Ushuaia**	**12.56**	**145**	Pn	**Pn**	**16 51 09.1**	**-0.9**
1.1nm,0.3s,baz=288,slow=12,SNR=11							
USHA				Sn	**Sn**	**16 53 35.0**	**+6.6**
0.3nm,0.3s,baz=205,slow=6.3,SNR=1.7							
USHA				LR	LR	16 55 50.0	
comp=Z,3μm,19.3s,baz=293,slow=36							
TRQA	**Tornquist**	**15.84**	**70**	*e*P	**Pn**	**16 51 54.5**	**+0.3**
58nm,1.2s							
CFAA	**Coronel Fontan**	**16.78**	**41**	Pn	**Pn**	**16 52 00.8**	**-5.3**
0.1nm,0.3s,baz=219,slow=14,SNR=12							
CFAA				Sn	**Sn**	**16 55 12.2**	**+0.8**
0.0nm,0.3s,baz=4.1,slow=12,SNR=2.2							
CFAA				LR	LR	16 57 36.2	
comp=Z,216nm,20.7s,baz=200,slow=34							
LCO	**Las Campanas**	**18.05**	**30**	P	**Pn**	**16 52 13.5**	**-8.4**
62nm,1.4s							
PMSA	**Palmer Station**	**21.77**	**160**	S	**S**	**16 57 08.7**	**+8.0**
18nm,1.1s,baz=14,slow=21,SNR=3.2							
CPUP	**Villa Florida**	**26.68**	**53**	*e*P	**P**	**16 53 46.9**	**-2.8**
103nm,1.0s,mb5.3							
CPUP	**Villa Florida**	**26.68**	**53**	P	**P**	**16 53 48.0**	**-1.7**
19nm,0.9s,mb4.6,baz=216,slow=8.6,SNR=19							
CPUP				S	**S**	**16 58 23.7**	**+1.1**
0.5nm,0.5s,baz=350,slow=20,SNR=1.5							
CPUP				LR	LR	17 04 28.7	
comp=Z,2μm,18.2s,MS4.7,baz=205,slow=37							

LPAZ	**La Paz**	**30.74**	**25**	P	**P**	**16 54 24.9**	**-1.0**
11nm,1.1s,mb4.6							
LPAZ	**La Paz**	**30.74**	**25**	P	**P**	**16 54 25.4**	**-0.5**
2.1nm,0.7s,mb4.1,baz=182,slow=7.0,SNR=7.8							
LPAZ				S	**S**	**16 59 29.0**	**+2.5**
0.7nm,1.0s,baz=162,slow=7.7,SNR=1.7							
NNA	**Nana**	**33.25**	**7**	LR	LR	17 04 26.9	
comp=Z,1μm,21.2s,MS4.6,baz=190,slow=30							
SIV	**San Ignacio**	**33.55**	**36**	P	**P**	**16 54 47.3**	**-3.2**
5.5nm,0.9s,mb4.5,baz=220,slow=10,SNR=6.8							
ATAH	**Atahualpa**	**38.09**	**4**	P	**P**	**16 55 25.1**	**-4.3**
4.6nm,0.9s,mb4.2,baz=264,slow=12,SNR=2.5							
ATAH				S	**S**	**17 01 20.9**	**+1.0**
2.2nm,0.5s,baz=339,slow=9.6,SNR=1.9							
ATAH				LR	LR	17 07 02.6	
comp=Z,1μm,19.4s,MS4.7,baz=0.1,slow=30							
BDFB	**Brasilia**	**40.41**	**54**	P	**P**	**16 55 49.0**	**+0.2**
6.8nm,1.0s,mb4.3,baz=210,slow=9.4,SNR=11							
BDFB				S	**S**	**17 01 56.9**	**+2.2**
0.8nm,0.8s,baz=244,slow=27,SNR=1.6							
BDFB				LR	LR	17 13 20.8	
comp=Z,111nm,19.5s,MS3.7,baz=358,slow=38							
SNAA	**Sanae**	**44.22**	**154**	P	**P**	**16 56 19.5**	**+0.3**
2.6nm,1.1s,mb3.9,baz=295,slow=4.9,SNR=9.4							
QSPA	**South Pole Qui**	**45.07**	**180**	P	**P**	**16 56 27.5**	**+1.6**
QSPA	**South Pole Qui**	**45.07**	**180**	P	**P**	**16 56 27.5**	**+1.6**
2.7nm,0.7s,mb4.2,baz=150,slow=3.5,SNR=14							
RKT	**Rikitea**	**48.82**	**278**	*e*LR	LR	17 10 37.7	
990nm,28.5s							
ROSC	**El Rosal**	**50.15**	**9**	LR	LR	17 15 49.2	
comp=Z,2μm,20.0s,MS5.0,baz=89,slow=33							
VNDA	**Vanda**	**51.72**	**194**	P	**P**	**16 57 18.5**	**+1.4**
1.9nm,0.9s,mb4.0,baz=121,slow=7.0,SNR=9.4							
VNDA				LR	LR	17 14 54.0	
comp=Z,440nm,20.7s,MS4.5,baz=129,slow=31							
SDV	**Santo Domingo**	**54.60**	**13**	P	**P**	**16 57 38.3**	**-0.7**
SDV				S	**S**	**17 05 16.8**	**+0.6**
SDV				LR	LR	17 19 34.4	
SDV	**Santo Domingo**	**54.60**	**13**	P	**P**	**16 57 38.3**	**-0.7**
0.9nm,0.3s,mb4.3,baz=335,slow=7.2,SNR=2.9							
SDV				S	**S**	**17 05 16.8**	**+0.6**
0.8nm,0.3s,baz=47,slow=14,SNR=2.0							
SDV				LR	LR	17 19 34.4	
comp=Z,730nm,18.7s,MS4.8,baz=104,slow=35							
PCRV	**Puerto La Cruz**	**57.02**	**19**	S	**S**	**17 05 50.5**	**+2.2**
2.9nm,0.4s,baz=4.2,slow=23,SNR=1.7							
PCRV				LR	LR	17 20 14.1	
comp=Z,1μm,19.8s,MS5.1,baz=186,slow=34							
SYO	**Syowa Base**	**58.01**	**159⇑**	*e*P	**P**	**16 58 02.3**	**-0.3**
PPT	**Papeete**	**62.75**	**272**	*e*S	**S**	**17 06 55.7**	**-6.6**
372nm,26.5s							
PPT				*e*LQ		17 14 16.7	
2μm,31.8s							
PPT				*e*LR	LR	17 17 00.6	
742nm,25.2s							
PPT	**Papeete**	**62.75**	**272**	LR	LR	17 16 58.5	
comp=Z,207nm,18.6s,MS4.3,baz=114,slow=28							
MAW	**Mawson**	**64.27**	**165**	LR	LR	17 24 22.4	
comp=Z,574nm,21.9s,MS4.7,baz=21,slow=34							
RAR	**Rarotonga**	**67.54**	**262**	LR	LR	17 20 07.9	
comp=Z,374nm,18.8s,MS4.6,baz=148,slow=28							
RPZ	**Rata Peaks**	**70.84**	**227**	LR	LR	17 24 13.4	
comp=Z,508nm,18.9s,MS4.8,baz=123,slow=30							
TXAR	**Lajitas Array**	**76.98**	**340**	P	**P**	**17 00 03.9**	**+1.1**
0.9nm,0.8s,mb3.8,baz=160,slow=8.2,SNR=9.7							
TXAR				LR	LR	17 27 27.3	
comp=Z,263nm,20.4s,MS4.5,baz=5.0,slow=31							
BOSA	**Boshof**	**80.60**	**121**	LR	LR	17 29 06.0	
comp=Z,322nm,21.0s,MS4.7,baz=225,slow=30							
TSUM	**Tsumeb**	**82.41**	**109**	LR	LR	17 30 45.6	
comp=Z,246nm,20.5s,MS4.6,baz=223,slow=31							
DBIC	**Dimbokro**	**84.98**	**75**	P	**P**	**17 00 45.4**	**-0.5**
9.2nm,1.2s,mb4.8,baz=207,slow=9.0,SNR=2.4							
DBIC				LR	LR	17 31 53.3	
comp=Z,303nm,20.5s,MS4.7,baz=205,slow=31							
NVAR	**Mina Array Bea**	**89.77**	**332**	P	**P**	**17 01 08.4**	**+0.2**
0.2nm,0.5s,mb3.7,baz=173,slow=7.9,SNR=2.3							
TORD	**Torodi Ar. Bea**	**94.09**	**76**	P	**P**	**17 01 26.9**	**-2.0**
0.6nm,0.9s,mb4.0,baz=207,slow=1.6,SNR=3.5							
TORD				LR	LR	17 36 49.4	
comp=Z,275nm,21.2s,MS4.7,baz=195,slow=31							
STKA	**Stephens Creek**	**94.13**	**215**	LR	LR	17 36 26.5	
comp=Z,693nm,19.1s,MS5.1,baz=301,slow=31							
NEW	**Newport**	**98.30**	**337**	LR	LR	17 40 27.5	
comp=Z,114nm,19.3s,MS4.4,baz=237,slow=32							
GERES	**GERESS Array B**	**124.64**	**53**	PKP	PKPdf	17 07 09.2	+0.3
1.0nm,0.8s,baz=256,slow=0.6,SNR=3.9							
MJAR	**Matsushiro Arr**	**149.41**	**268**	PKPbc	PKPbc	17 07 57.1	-1.8
1.4nm,0.8s,baz=129,slow=3.4,SNR=4.5							
ZALV	**Zalesovo Beam**	**167.27**	**41**	PKP	PKPdf	17 08 14.3	-0.8
0.4nm,0.4s,baz=83,slow=24,SNR=3.3							
MKAR	**Makanchi Array**

MK31	Makanchi Array	30.40	334	eP	P	17 15 12.5	+1.4
MKAR	Makanchi Array	30.40	334	P	P	17 15 10.8	-0.3
	comp=Z,1.0nm,0.4s,mb3.9,baz=138,slow=9.4,SNR=11						
KURK	Kurchatov	34.99	335	eP	P	17 15 52.3	+1.1
	comp=Z,2.2nm,0.8s,mb4.1						
ZAA0	Zalesovo Array	35.67	344	eP	P	17 15 56.8	-0.2
ZALV	Zalesovo Beam	35.67	344	P	P	17 15 56.7	-0.3
ZALV	Zalesovo Beam	35.67	344	P	P	17 15 56.7	-0.3
	comp=Z,0.3nm,0.3s,mb3.7,baz=150,slow=6.8,SNR=4.5						
BVAR	Borovoye Array	40.17	331	P	P	17 16 33.9	-1.0
	comp=Z,0.8nm,0.5s,mb3.7,baz=132,slow=9.1,SNR=6.3						
WRA	Warramunga Arr	51.72	139	P	P	17 18 07.1	+0.6
	comp=Z,1.0nm,0.7s,mb3.8,baz=325,slow=8.2,SNR=9.0						
ASAR	Alice Springs	54.30	142	P	P	17 18 26.3	+0.8
	comp=Z,0.6nm,0.8s,baz=315,slow=8.2,SNR=6.2						
AKASG	Malin Array Be	62.98	317	P	P	17 19 20.9	-4.8
	comp=Z,0.4nm,0.5s,mb3.8,baz=87,slow=5.8,SNR=3.0						
NB2	NORSAR Subarra	72.25	329	P	P	17 20 21.8	-2.2
	comp=Z,1.0nm,0.6s,mb3.9,baz=80,slow=6.2						
NOA	NORSAR Array B	72.25	329	P	P	17 20 22.4	-1.7
	comp=Z,0.9nm,0.7s,mb3.8,baz=80,slow=6.0,SNR=5.1						

*ISCJB **16** 17:12:04.0±0.5, 3396N±003×2606E±005, h38km±7km, mb3.7/10, Error ellipse: s-maj=7.9km s-min=4.8km az=147.7*
*CSEM **16** 17:12:04.0±0.1, 3399N×2603E, h80km, MD3.8, Error ellipse: s-maj=2.4km s-min=1.4km az=45.0*
*HLW **16** 17:12:05.7, 3396N×2607E, h33km, Mb3.3*
*NEIC **16** 17:12:06.4±0.8, 3401N×2596E, h41km±8km, mb3.7/1, MD3.8(ATH), Error ellipse: s-maj=10.3km s-min=7.3km az=194.0*
*IDC **16** 17:12:06.8±2.1, 3405N×2602E, h42km±21km, mb3.7/10, mb1 3.7/16, mb1mx3.6/28, mbtmp3.7/16, ML3.7/6, Error ellipse: s-maj=21.1km s-min=16.9km az=15.0*
*ATH **16** 17:12:13.4, 3485N×2586E, h43km, MD3.8/4*

ISC 16 17:12:06.0±0.4, 3398N±004×2602E±005, h36km±7km, n50, σ0§98/53, mb3.7/10, 10C-2D, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.93	343	eP	Pn	17 12 21.0	-1.5
NPS	Neapolis	1.32	345	eP	Pn	17 12 24.0	-3.9
IDI	Anoyia	1.60	325	P	Pn	17 12 32.6	+0.8
	4.3nm,0.3s,baz=150,slow=17,SNR=48						
GVD	Gavdhos	1.81	299	Pn	Pn	17 12 30.9	-3.8
KARP	Karpathos	1.82	31	eP	Pn	17 12 36.1	+1.3
VAM	Vamos	2.07	314	eP	Pn	17 12 38.9	+0.7
SANT	Santorini	2.43	349	ePn	Pn	17 12 41.6	-1.6
SLUM		2.58	196	⇑P	Pn	17 12 44.9	-0.3
ARG	Arkhangelos	2.82	37	eP	Pn	17 12 50.5	+2.0
HMAT	Matruh	3.02	162	P	Pn	17 12 50.4	-0.8
VLI	Veliai	3.72	318	eP	Pn	17 13 00.7	-0.1
ITM	Ithomi	4.62	315	eP	Pn	17 13 12.9	-0.3
SWA1		4.71	183	⇑P	Pn	17 13 14.5	-0.1
SWA2		4.75	186	⇑P	Pn	17 13 15.0	-0.1
CSS	Prodhromos	6.11	79	Pn	Pn	17 13 35.4	+1.6
	9.3nm,0.7s						
AWBH		6.16	156	⇑P	Pn	17 13 34.2	-0.2
AWBH		6.16	156	P	Pn	17 13 34.2	-0.2
GLL	Jalalah	6.53	131	⇓P	Pn	17 13 39.7	+0.1
AMAG	Maghara	6.93	117	⇓P	Pn	17 13 44.9	-0.1
HFRF	Wahat Farafira	7.09	163	⇑P	Pn	17 13 47.1	-0.1
SUZ		7.11	124	⇑P	Pn	17 13 47.2	-0.2
MMAI	Mount Meron Ar	7.89	94	P	Pn	17 13 57.8	-0.4
	0.8nm,0.3s,baz=295,slow=11,SNR=3.0						
MMAI				S	Sn	17 15 23.5	-2.8
	1.8nm,0.3s,baz=272,slow=28,SNR=5.3						
GRB	Gharib	8.12	133	⇑P	Pn	17 14 01.3	0.0
TR2		8.63	128	⇑P	Pn	17 14 08.5	+0.1
HKAT	Jabal Katrina	8.72	126	⇑P	Pn	17 14 09.8	+0.2
EIL	Elat	8.73	117	P	Pn	17 14 09.3	-0.4
EIL				S	Sn	17 15 38.4	-8.3
EIL	Elat	8.73	117	P	Pn	17 14 09.3	-0.4
	0.5nm,0.3s,baz=315,slow=14,SNR=9.6						
EIL				S	Sn	17 15 38.4	-8.3
	0.3nm,0.3s,baz=350,slow=17,SNR=2.1						
HDK1	Dakhla	8.91	160	⇑P	Pn	17 14 12.6	+0.4
TIP	Timpagrande	9.08	308	ePn	Pn	17 14 13.2	-1.2
KEST	Kesra	13.81	282	P	Pn	17 15 21.3	+2.1
	0.1nm,0.3s,baz=102,slow=9.3,SNR=2.1						
KIEV	Kiev	16.86	7	eP	Pn	17 15 59.8	+0.7
	6.3nm,0.9s						
AKASG	Malin Array Be	16.87	7	P	Pn	17 15 58.6	-0.5
	1.3nm,0.3s,baz=196,slow=11,SNR=18						
AKBB	Malin Array Si	16.87	7	eP	Pn	17 15 59.7	+0.6
GERES	GERESS Array B	17.46	332	P	Pn	17 16 07.0	+0.6
	0.2nm,0.3s,baz=144,slow=12,SNR=9.3						
DAVOX	Davos/Dischmat	17.70	321	P	Pn	17 16 10.3	+0.9
	0.1nm,0.3s,baz=155,slow=9.8,SNR=4.2						
CLL	Collm	19.73	335	eP	Pn	17 16 33.0	-1.0
HFS	Hagfors	27.38	347	P	P	17 17 45.6	-2.0
	2.2nm,0.7s,mb3.8,baz=157,slow=8.0,SNR=4.3						
FINES	FINESS Array B	27.48	0	P	P	17 17 47.1	-1.3
	1.1nm,0.4s,mb3.8,baz=161,slow=12,SNR=8.6						
AKTK	Aktyubinsk	28.55	45	P	P	17 17 58.0	-0.1
AKTO	Aktyubinsk	28.55	45	P	P	17 17 58.0	-0.1
	0.6nm,0.4s,mb3.7,baz=243,slow=11,SNR=3.9						
NOA	NORSAR Array B	28.72	345	P	P	17 17 58.6	-0.8
	0.5nm,0.7s,mb3.4,baz=148,slow=9.4,SNR=3.6						
TOA0	Torodi Ar. Sit	30.31	233	eP	P	17 18 14.6	+0.6
TORD	Torodi Ar. Bea	30.31	233	P	P	17 18 14.5	+0.5
	1.7nm,0.5s,mb4.0,baz=32,slow=8.5,SNR=10						
ARCES	ARCESS Array B	35.61	360	P	P	17 18 57.9	-1.7
	1.1nm,0.7s,mb3.9,baz=170,slow=7.6,SNR=5.2						
BVAR	Borovoye Array	36.66	45	P	P	17 19 10.4	+1.5
	0.3nm,0.4s,mb3.5,baz=267,slow=7.2,SNR=3.5						
MKAR	Makanchi Array	43.84	56	P	P	17 20 09.5	+1.1
	0.6nm,0.6s,mb3.5,baz=305,slow=4.3,SNR=3.7						
ZALV	Zalesovo Beam	45.31	45	P	P	17 20 20.5	+0.5
ZALV	Zalesovo Beam	45.31	45	P	P	17 20 20.5	+0.5
	1.9nm,0.4s,mb4.2,baz=268,slow=8.3,SNR=10						
YKA	Yellowknife Ar	78.79	343	P	P	17 24 05.1	+0.6
YKA	Yellowknife Ar	78.79	343	P	P	17 24 05.1	+0.6
	0.2nm,0.4s,mb3.4,baz=29,slow=5.6,SNR=4.1						

PLV 16 17:23:29.0±1.1, 2065N×10105E, h14km±6km, MD3.9, Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	Dienbien	1.99	68	ePG	Pg	17 24 06.7	-0.5
DBV				eSG	Sg	17 24 33.7	+0.8
BVV	Ba Vi	4.06	83	ePn	Pn	17 24 30.6	-0.2
BVV				ePg	Pg	17 24 46.8	0.0
BVV				eSg	Sg	17 25 39.4	-0.2
HNV	Hanoi	4.46	84	ePn	Pn	17 24 35.0	-1.2
HNV				ePg	Pg	17 24 52.9	-1.5
HNV				eSg	Sg	17 25 48.9	-3.2
DSV	Doi Son	4.61	90	ePn	Pn	17 24 38.6	+0.3
DSV				ePg	Pg	17 24 57.6	+0.3
DSV				eSG	Sg	17 25 58.5	+1.3
MTZV	Met	5.02	79	ePn	Pn	17 24 44.4	+0.4
MTZV				ePG	Pg	17 25 05.0	-0.2
MTZV				eSG	Sg	17 26 10.5	+0.2
YTV	Yen Tu	5.32	84	ePn	Pn	17 24 48.2	+0.1
YTV				ePg	Pg	17 25 11.2	+0.3
YTV				eSG	Sg	17 26 20.3	+0.4

*ISCJB **16** 17:24:12.2±0.6, 3161N±006×1384E±01, h380km±8km, mb2.7/3, Error ellipse: s-maj=18.6km s-min=7.7km az=164.9*
*IDC **16** 17:24:13.0±0.8, 3155N×13830E, h370km±17km, mb2.7/3, mb1 2.9/8, mb1mx2.8/23, mbtmp3.0/8, Error ellipse: s-maj=40.0km s-min=11.2km az=69.0*
*JMA **16** 17:24:15.0±0.2, 3197N×13870E, h398km, M3.5*

ISC 16 17:24:13.2±0.6, 3163N±005×1385E±01, h372km±7km, n20, σ1§36/29, mb2.7/3, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	Hachijo jima 2	1.86	37	P	Pn	17 25 06.7	+1.1
	12nm,0.3s,baz=110,slow=9.8,SNR=6.0						
JHJ				S	S	17 25 50.4	+2.7
	38nm,0.3s,baz=69,slow=23,SNR=10						
JHJ2	Mitsune	1.87	37	P	Pn	17 25 08.3	+2.7
HMMJ	Hamamatsu 2	3.28	349	P	Pn	17 25 18.4	+1.8
JOD2	Odawara 2	3.67	8	P	Pn	17 25 21.0	+0.8
BSO1	Boso 1	3.69	34	S	S	17 26 14.1	-0.5
JNY	Yasuok	3.76	352	P	Pn	17 25 23.2	+2.2
JYN	Shimob	3.86	1	P	Pn	17 25 22.9	+0.8
JHU	Hanno	4.27	9	P	Pn	17 25 26.3	+0.2
JHU				S	S	17 26 22.6	-2.5
JRY	Ryogami san	4.39	5	P	Pn	17 25 28.0	+0.6
JRY				eS	S	17 26 26.3	-1.1
JYT	Yasato	4.81	17	P	Pn	17 25 30.9	-0.8
JYT				S	S	17 26 29.8	-5.5
MJAR	Matsushiro Arr	4.91	358	P	Pn	17 25 32.8	+0.1
	3.0nm,0.3s,baz=171,slow=11,SNR=46						
MJAR				S	S	17 26 35.0	-2.2
	0.5nm,0.3s,baz=163,slow=16,SNR=3.2						
MAT	Matsushiro	4.91	358	P	Pn	17 25 33.0	+0.3
MAT				S	S	17 26 35.8	-1.4
MAT	Matsushiro	4.91	358	P	Pn	17 25 33.0	+0.3
MAT				S	S	17 26 34.8	-2.4
JHO	Hitachi	5.27	19	P	Pn	17 25 35.8	-0.8
CBIJ	Chichi jima	5.56	143	P	Pn	17 25 39.5	-0.6
	5.5nm,0.3s,baz=274,slow=21,SNR=17						
CBIJ				S	S	17 26 48.0	-2.4
	30nm,0.3s,baz=249,slow=16,SNR=17						
KSRS	Korea Array	10.45	307	P	Pn	17 26 35.7	-0.7
	0.2nm,0.3s,baz=117,slow=11,SNR=6.4						
ASAJ	Asahikawa	12.89	13	P	P	17 27 06.0	+2.4
	1.0nm,0.3s,baz=222,slow=14,SNR=11						
ASAJ				S	S	17 29 25.1	+0.6
	0.1nm,0.3s,baz=120,slow=24,SNR=3.3						
SONM	Songino Array	29.23	313	P	P	17 29 42.0	-0.1
	0.3nm,0.5s,mb2.8,baz=105,slow=9.1,SNR=2.6						
MKAR	Makanchi Array	45.13	306	P	P	17 31 53.0	-1.1
	0.2nm,0.2s,mb2.8,baz=91,slow=8.6,SNR=3.5						
WRA	Warramunga Arr	51.42	185	P	P	17 32 41.6	-0.2
	0.3nm,0.9s,mb2.5,baz=0.3,slow=7.7,SNR=6.9						

IDC 16 17:40:14.6±1.8, 799S×11102E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.7/17, mbtmp3.9/5, ML4.5/1, Error ellipse: s-maj=86.6km s-min=26.2km az=46.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	12.68	101	Pn	Pn	17 43 18.6	+2.2
	2.8nm,0.3s,baz=287,slow=19,SNR=7.7						
BATI				Sn	Sn	17 45 25.5	-13
	1.2nm,0.3s,baz=348,slow=23,SNR=4.5						
FITZ	Fitzroy Crossi	17.42	127	S	Sn	17 47 25.6	-8.2
	0.1nm,0.3s,baz=186,slow=22,SNR=5.7						
WRA	Warramunga Arr	25.52	120	P	P	17 45 44.1	-0.9
	0.7nm,0.4s,baz=297,slow=11,SNR=21						
WB2	Warramunga Arr	25.53	120	eP	P	17 45 44.2	-0.9
ASAR	Alice Springs	26.91	128	P	P	17 45 58.0	+0.5
	1.1nm,0.6s,baz=305,slow=8.6,SNR=31						
ASAR				PcP	PcP	17 49 17.8	-2.3
	0.1nm,0.5s,baz=302,slow=2.2,SNR=4.5						
STKA	Stephens Creek	37.06	134	P	P	17 47 27.6	+1.1
	0.6nm,0.3s,baz=318,slow=10,SNR=4.4						
MKAR	Makanchi Array	60.24	338	P	P	17 50 25.5	+1.0
	0.2nm,0.3s,baz=132,slow=7.5,SNR=3.5						

*CSEM **16** 17:55:57.2±0.2, 3844N×3890E, h21km±1km, MD2.9, Error ellipse: s-maj=5.7km s-min=3.0km az=177.0*
*DDA **16** 17:55:58.0, 3829N×3894E, h7km±3km, Md3.0*
*ISK **16** 17:55:57.2, 3847N×3889E, h20km, MD2.9*
*ISCJB **16** 17:55:58.1±0.7, 3853N±006×3886E±004, h20km±5km, Error ellipse: s-maj=10.8km s-min=5.4km az=171.3*

ISC 16 17:55:58.4±0.7, 3851N±006×3886E±004, h17km±4km, n10, σ0§98/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	Elazig	0.10	99	iP	Pg	17 56 03.2	+1.3
ELZG				iS	Sg	17 56 05.9	+1.7
SVRC	Sivrice-ELAZID	0.38	111	PG	Pg	17 56 05.0	-1.2
SVRC				SG	Sg	17 56 10.7	-0.8
MYA	Malataya	0.39	241	ePG	Pg	17 56 06.4	+0.1
MYA				eSG	Sg	17 56 12.1	+0.4
MALT	Malatya	0.39	239	ePG	Pg	17 56 06.2	-0.2
MALT				eSG	Sg	17 56 11.7	-0.1
PTK	Pertek	0.56	48	ePG	Pg	17 56 08.6	-1.0
URFA	Urfa	1.07	181	ePG	Pg	17 56 16.9	-2.2
GZT	Gaziantep	1.54	222	iP	Pn	17 56 24.4	-0.6
GZT				iS	Sn	17 56 45.7	+1.0
KMRS	Kahramanmaras	1.84	238	ePN	Pn	17 56 28.8	-0.4
MARD	Mardin	1.94	128	iP	Pn	17 56 30.8	+0.3
MARD				iS	Sn	17 56 55.8	+1.4
SVSK	Karacayir	2.01	315	ePN	Pn	17 56 31.7	+0.2

IDC 16 18:34:10.2±5.2, 774S×12833E, h184km±53km, mb3.2/1, mb1 3.0/5, mb1mx2.9/15, mbtmp2.9/5, Error ellipse: s-maj=54.0km s-min=21.4km az=47.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	5.23	242	P	Pn	18 35 28.4	+1.2
	3.9nm,0.3s,baz=96,slow=2.8,SNR=34						
BATI				S	Sn	18 36 26.9	-0.7
	15nm,0.3s,baz=340,slow=8.0,SNR=16						
FITZ	Fitzroy Crossi	10.63	194	P	Pn	18 36 38.4	+0.6
	0.2nm,0.3s,baz=16,slow=12,SNR=8.0						
FITZ				S	Sn	18 38 31.0	-5.2
	0.2nm,0.3s,baz=244,slow=21,SNR=2.9						
WRA	Warramunga Arr	13.46	155	P	Pn	18 37 12.7	-1.3
	0.2nm,0.3s,baz=342,slow=13,SNR=19						
WRA				S	Sn	18 39 32.2	-12
	0.3nm,0.3s,baz=332,slow=8.6,SNR=4.3						
ASAR	Alice Springs	16.71	162	P	Pn	18 37 55.0	+1.2
	0.1nm,0.3s,baz=343,slow=10.0,SNR=16						
ASAR				S	S	18 40 56.5	-1.8
	0.1nm,0.3s,baz=318,slow=16,SNR=4.9						
MKAR	Makanchi Array	67.95	328	P	P	18 44 49.0	-0.1
	0.8nm,0.9s,baz=114,slow=7.0,SNR=4.2						

IDC 16 18:44:47.4±62.0, 1366S×16549E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.7/3, Error ellipse: s-maj=1036.0km s-min=113.2km az=63.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	28.42	226	P	P	18 50 44.0	+0.1
	0.9nm,0.4s,baz=58,slow=9.6,SNR=4.1						
WRA	Warramunga Arr	30.43	254	P	P	18 51 01.9	0.0
	0.3nm,0.5s,baz=84,slow=9.0,SNR=5.1						
ASAR	Alice Springs	31.47	247	P	P	18 51 11.1	+0.1
	0.5nm,0.6s,baz=76,slow=9.1,SNR=25						

*CSEM **16** 18:49:39.2±0.2, 3994N×3933E, h0km±1km, MD3.5, Error ellipse: s-maj=2.3km s-min=1.5km az=96.0*
*DDA **16** 18:49:39.3, 3992N×3915E, h7km±6km, Md3.2*
*ISCJB **16** 18:49:40.4±1.0, 3992N±003×3932E±005, h2km±9km, Error ellipse: s-maj=6.9km s-min=4.5km az=9.6*
*ISK **16** 18:49:40.3, 3994N×3931E, h5km, MD3.5*

ISC 16 18:49:41.4±0.8, 3992N±003×3935E±006, h8km±8km, n26, σ0§90/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	Gumushane	0.55	11	PG	Pg	18 49 51.6	-0.3
GUMT				SG	Sg	18 49 59.0	-0.1
KOPT	Kop Dagi	0.89	83	iP	Pg	18 49 58.7	+0.3
KOPT				iS	Sg	18 50 14.6	+4.6
PTK	Pertek	1.03	178	PG	Pg	18 50 00.6	-0.5
MACK	Trabzon	1.07	17	iP	Pg	18 50 01.2	-0.7
MACK				iS	Sg	18 50 16.5	+0.7
ESPY	Espiye-Giresun	1.10	335	PN	Pn	18 50 00.8	-2.3
KTUT	Trabzon	1.11	17	PN	Pn	18 50 02.2	-1.0
GRSN	GIRESUNGRSN	1.30	321	iP	Pn	18 50 03.7	-2.1
GRSN				iS	Sn	18 50 18.3	-5.0
BINT	Bingol	1.37	139	PN	Pn	18 50 06.9	+0.2
ELZG	Elazig	1.45	191	iP	Pn	18 50 06.9	-1.0
ELZG				iS	Sn	18 50 25.8	-1.2
SVRC	Sivrice-ELAZID	1.54	181	ePN	Pn	18 50 09.2	+0.2
PZAR	Pazar-Rize	1.72	43	ePN	Pn	18 50 12.7	+1.0
MYA	Malataya	1.75	205	ePN	Pn	18 50 11.9	0.0
MALT	Malatya	1.76	204	ePN	Pn	18 50 11.8	-0.3
SVSK	Karacayir	1.81	271	ePN	Pn	18 50 12.6	-0.2
TOKT	Tokat	2.19	281	ePN	Pn	18 50 18.5	+0.5
BCA	Borcka	2.30	48	ePN	Pn	18 50 19.9	+0.3
BTMT	Batman	2.40	135	ePN	Pn	18 50 21.3	+0.4
URFA	Urfa	2.51	190	ePN	Pn	18 50 23.6	+1.2
KVT	Kavak	2.77	296	ePN	Pn	18 50 26.9	+0.8
AGRB	Hanur-Agry	2.83	96	ePN	Pn	18 50 26.9	0.0
MARD	Mardin	2.83	156	iP	Pb	18 50 32.1	0.0
BNN	Bunyan	2.92	250	ePN	Pn	18 50 29.6	+1.6
BNN	Bunyan	2.92	250	ePn	Pn	18 50 28.4	+0.4
YOZ	Yozgat	3.12	266	ePN	Pn	18 50 31.8	+1.0
DIKM	Dikmen	3.55	300	ePN	Pn	18 50 39.4	+2.6
DIKM	Dikmen	3.55	300	ePn	Pn	18 50 37.5	+0.7

*NEIC **16** 18:49:57.8, 3755S×17673E, h234km, MG4.3(WEL), After WEL.*

WEL 16 18:49:56.3±1.6, 3748S×17679E, h245km±12km, ML4.3/18, Error ellipse: s-maj=12.1km s-min=11.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	0.82	162	P	Pn	18 50 30.0	+0.3
URZ	Urewera	0.82	162	PN	Pn	18 50 30.0	+0.3
URZ				SN	S	18 50 53.6	-2.5
MWZ	Matawai	1.04	146	P	Pn	18 50 31.3	+0.4
MWZ				S	S	18 50 56.5	-1.6
MWZ	Matawai	1.04	146	PN	Pn	18 50 31.3	+0.5
MWZ				SN	S	18 50 56.5	-1.6
MXZ	Matakaoa Point	1.21	94	PN	Pn	18 50 31.1	-0.9
PUZ	Puketiti	1.31	117	PN	Pn	18 50 32.2	-0.4
KNZ	Kokohu	1.69	156	P	Pn	18 50 35.9	+0.4
KNZ	Kokohu	1.69	156	PN	Pn	18 50 35.9	+0.4
BKZ	Black Stump Fm	1.70	188	P	Pn	18 50 35.8	+0.2
BKZ	Black Stump Fm	1.70	188	PN	Pn	18 50 35.8	+0.2
WPVZ	Whakapapa	1.98	209	P	Pn	18 50 38.0	0.0
WPVZ	Whakapapa	1.98	209	PN	Pn	18 50 38.0	0.0
TUVZ	Tukino	2.00	206	P	Pn	18 50 38.3	+0.1
TUVZ	Tukino	2.00	206	PN	Pn	18 50 38.3	+0.1
TRVZ	Turoa	2.06	208	PN	Pn	18 50 38.8	0.0
MOVZ	Moawhango	2.09	203	P	Pn	18 50 38.6	-0.4
MOVZ	Moawhango	2.09	203	PN	Pn	18 50 38.6	-0.4
PKVZ	Pokaka	2.13	212	PN	Pn	18 50 39.1	-0.4
PXZ	Pawanui	2.55	179	PN	Pn	18 50 43.4	-0.1
PXZ				SN	S	18 51 28.3	+7.4
WPHZ	Waipukurau	2.60	186	PN	Pn	18 50 43.7	-0.3
TSZ	Takapari Road	2.66	194	P	Pn	18 50 43.5	-1.1
TSZ	Takapari Road	2.66	194	PN	Pn	18 50 43.5	-1.1
WAZ	Wanganui	2.68	211	P	Pn	18 50 43.6	-1.3
WAZ	Wanganui	2.68	211	PN	Pn	18 50 43.6	-1.2
TIWZ	Tintock	3.37	192	PN	Pn	18 50 50.6	-1.8
KIW	Kapiti Island	3.68	203	P	Pn	18 50 53.1	-2.9
KIW	Kapiti Island	3.68	203	PN	Pn	18 50 53.1	-2.9
MTW	Mount Morrison	3.81	195	P	Pn	18 50 54.4	-3.0
MTW	Mount Morrison	3.81	195	PN	Pn	18 50 54.4	-3.1
CAW	Cannon Point	3.86	200	P	Pn	18 50 55.2	-2.9
CAW	Cannon Point	3.86	200	PN	Pn	18 50 55.2	-2.9
DUWZ	D'Urville Isla	4.00	213	PN	Pn	18 50 55.9	-3.8
TRWZ	Traveller	4.01	192	PN	Pn	18 50 57.5	-2.3
MRW	Makara Radio	4.08	203	P	Pn	18 50 57.3	-3.4
MRW	Makara Radio	4.08	203	PN	Pn	18 50 57.3	-3.3
MSWZ	Moikau Station	4.11	196	P	Pn	18 50 57.6	-3.4
MSWZ	Moikau Station	4.11	196	PN	Pn	18 50 57.6	-3.4
WEL	Wellington	4.11	202	P	Pn	18 50 58.1	-2.9
WEL	Wellington	4.11	202	PN	Pn	18 50 58.1	-2.9
SNZO	South Karori	4.15	202	P	Pn	18 50 57.9	-3.6
SNZO	South Karori	4.15	202	PN	Pn	18 50 57.9	-3.6
TCW	Tory Channel	4.21	207	P	Pn	18 50 58.8	-3.4
TCW	Tory Channel	4.21	207	PN	Pn	18 50 58.8	-3.4
PLWZ	Palliser	4.25	196	PN	Pn	18 50 59.3	-3.5
TUWZ	Tuamarina	4.52	208	PN	Pn	18 51 01.9	-4.0
NNZ	Nelson	4.57	214	P	Pn	18 51 01.7	-4.9
NNZ	Nelson	4.57	214	PN	Pn	18 51 01.7	-4.9
QRZ	Quartz Range	4.71	223	P	Pn	18 51 02.4	-5.8
QRZ	Quartz Range	4.71	223	PN	Pn	18 51 02.4	-5.7
BSWZ	Blackbirch Sta	4.79	207	PN	Pn	18 51 05.1	-4.1
THZ	Tophouse	5.22	214	P	Pn	18 51 09.2	-5.3
THZ	Tophouse	5.22	214	PN	Pn	18 51 09.2	-5.3
KHZ	Kahutara	5.53	206	P	Pn	18 51 13.8	-4.5
KHZ	Kahutara	5.53	206	PN	Pn	18 51 13.8	-4.5
DSZ	Denniston Nort	5.74	221	P	Pn	18 51 13.6	-7.3
DSZ	Denniston Nort	5.74	221	PN	Pn	18 51 13.6	-7.3
LTZ	Lake Taylor	6.33	212	P	Pn	18 51 22.0	-6.3
LTZ	Lake Taylor	6.33	212	PN	Pn	18 51 22.0	-6.3
ODZ	Otahua Downs	8.86	210	P	Pn	18 51 53.9	-6.4
ODZ	Otahua Downs	8.86	210	PN	Pn	18 51 53.9	-6.3

*MOS **16** 18:51:55.5±1.3, 4722N×154.35E, h33km, mb3.9/1, Error ellipse: s-maj=29.5km s-min=13.3km az=49.1*
*ISCJB **16** 18:52:00.2±1.1, 476N±0.1×1535E±02, h94km±11km, mb3.7/9, Error ellipse: s-maj=29.3km s-min=5.7km az=42.2*
*NEIC **16** 18:52:04.9±0.5, 4793N×15288E, mb4.6/2, Error ellipse: s-maj=22.9km s-min=8.6km az=129.0*
*IDC **16** 18:52:07.3±4.4, 4795N×15306E, h140km±41km, mb3.4/8, mb1 3.7/9, mb1mx3.5/19, mbtmp3.5/9, MS3.4/1, Ms1 3.4/1, ms1

JANG			*e*S	Sx	18 56 32.5	
JOSM	**Okushiri--Mats**	**11.33 245**	P	**Pn**	**18 54 40.3**	**-0.7**
JTH	**Tanohata**	**11.36 231**	P	**Pn**	**18 54 37.4**	**-3.9**
JTH			*e*S	Sx	18 56 36.2	
OFUJ	**Ofunato**	**12.10 229**	P	**Pn**	**18 54 48.3**	**-2.9**
JIO	**Ouri**	**12.73 228**	P	**Pn**	**18 54 56.2**	**-3.5**
JYA	**Atsumi**	**13.48 232**	P	**Pn**	**18 55 07.8**	**-1.6**
JFK	**Kawauchi**	**13.82 226**	P	**Pn**	**18 55 11.0**	**-2.9**
JFY	**Yanaizu**	**14.37 229**	P	**Pn**	**18 55 19.4**	**-1.6**
MJAR	**Matsushiro Arr**	**15.80 231**	P	**Pn**	**18 55 38.1**	**-1.0**
	comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=6.4					
KSRS	**Korea Array**	**21.26 251**	P	**P**	**18 56 41.4**	**+0.9**
	comp=Z,2.4nm,0.5s,mb3.8,baz=51,slow=10.0,SNR=12					
BILL	**Bilibino**	**21.42 13⇑**	*e*P	**P**	**18 56 41.7**	**-0.3**
BILL			*e*		18 57 14.1	
BILL			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.6					
BILL	**Bilibino**	**21.42 13**	*e*P	**P**	**18 56 40.6**	**-1.4**
	comp=Z,3.7nm,0.8s,mb3.8					
ZAK	**Zakamensk**	**32.43 294**	*e*P	pP	18 58 49.7	+5.0
IMA2	**Indian Mountai**	**32.94 37**	*e*P	**P**	**18 58 27.4**	**+0.3**
KDAK	**Kodiak Island**	**33.38 52**	LR	LR	19 11 58.4	
	comp=Z,55nm,18.3s,baz=274,slow=36					
INK	**Inuvik**	**40.76 33**	*e*P	**P**	**18 59 33.5**	**+0.3**
MKAR	**Makanchi Array**	**46.66 297**	pP	pP	19 00 50.5	+6.9
	comp=Z,0.2nm,0.5s,baz=70,slow=6.0,SNR=2.3					
YKA	**Yellowknife Ar**	**50.06 37**	P	**P**	**19 00 46.5**	**-0.1**
YKA			pP	pP	19 01 15.0	+5.2
YKA	**Yellowknife Ar**	**50.06 37**	P	**P**	**19 00 46.5**	**-0.1**
	comp=Z,0.7nm,0.8s,mb3.7,baz=298,slow=7.5,SNR=5.6					
YKA			pP	pP	19 01 15.0	+5.2
	comp=Z,0.2nm,0.5s,baz=298,slow=7.6,SNR=2.1					
NVAR	**Mina Array Bea**	**61.85 63**	P	**P**	**19 02 12.2**	**+1.2**
	comp=Z,0.4nm,0.4s,mb3.8,baz=298,slow=7.8,SNR=3.7					
FINES	**FINESS Array B**	**63.25 335**	P	**P**	**19 02 17.4**	**-2.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=16,slow=7.2,SNR=4.1					
NOA	**NORSAR Array B**	**67.38 341**	P	**P**	**19 02 46.3**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.5,baz=26,slow=6.2,SNR=2.6					
WRA	**Warramunga Arr**	**69.47 199**	P	**P**	**19 03 01.2**	**+1.2**
	comp=Z,0.7nm,0.9s,mb3.5,baz=11,slow=6.2,SNR=3.8					
ASAR	**Alice Springs**	**73.17 199**	P	**P**	**19 03 23.8**	**+1.5**
	comp=Z,0.8nm,0.8s,mb3.6,baz=16,slow=5.5,SNR=6.8					
TXAR	**Lajitas Array**	**76.88 61**	P	**P**	**19 03 44.3**	**+0.5**
	comp=Z,1.3nm,0.7s,mb3.8,baz=301,slow=4.1,SNR=12					
TXAR			pP	pP	19 04 15.2	+6.5
	comp=Z,0.4nm,0.6s,baz=334,slow=6.0,SNR=2.8					

IDC 16 18:55:21.5±5.7, 1931S×16688E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.6/12, mbtmp3.6/2, Error ellipse: s-maj=221.1km s-min=86.8km az=156.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.63**	**263**	P	P	19 01 38.3	+0.6
	0.2nm,0.5s,baz=92,slow=8.6,SNR=5.2						
ASAR	**Alice Springs**	**30.95**	**256**	P	P	19 01 40.0	-0.4
	1.5nm,0.7s,baz=84,slow=8.9,SNR=18						
GERES	**GERESS Array B**	**143.47**	**330**	PKP	PKPdf	19 14 57.9	-0.1
	0.9nm,0.7s,baz=18,slow=3.5,SNR=5.0						

*ISCJB **16** 19:15:16.6±2.9, 480N±02×1544E±03, h47km±23km, mb3.6/4, Error ellipse: s-maj=49.4km s-min=10.6km az=137.0*
*MOS **16** 19:15:16.8±0.7, 4802N×15439E, h48km, mb4.0/1, Error ellipse: s-maj=44.7km s-min=25.5km az=54.8*
*IDC **16** 19:15:20.5±6.3, 4785N×15435E, h73km±68km, mb3.4/4, mb1 3.6/5, mb1mx3.2/19, mbtmp3.5/5, ML3.1/1, Error ellipse: s-maj=69.7km s-min=36.2km az=162.0*

ISC 16 19:15:18.4±2.6, 480N±02×1545E±03, h47km±21km, n8, σ0§65/9, mb3.6/4, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.91**	**21**	*e*PN	**Pn**	**19 16 01.2**	**-0.9**
SKR				*e*S	**Sn**	**19 16 36.0**	**+0.3**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,50nm,0.5s						
SKR				smax			
	comp=E,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**8.02**	**267**	*e*PN	**Pn**	**19 17 13.2**	**+1.0**
ASAJ	**Asahikawa**	**9.13**	**249**	P	**Pn**	**19 17 27.2**	**-0.1**
	comp=E,0.3nm,0.3s,baz=59,slow=10,SNR=3.3						
KSRS	**Korea Array**	**22.07**	**251**	P	**P**	**19 20 08.2**	**-0.9**
	comp=E,2.5nm,1.0s,mb3.6,baz=53,slow=8.3,SNR=3.8						
YKA	**Yellowknife Ar**	**49.38**	**38**	P	**P**	**19 24 03.4**	**+0.7**
	comp=E,0.4nm,0.6s,mb3.7,baz=295,slow=7.4,SNR=4.5						
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**19 25 41.5**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**63.32**	**335**	P	**P**	**19 25 41.5**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.8,baz=32,slow=11,SNR=4.1						
TXAR	**Lajitas Array**	**76.08**	**62**	P	**P**	**19 27 01.2**	**+0.2**
	comp=Z,0.1nm,0.3s,mb3.2,baz=297,slow=4.0,SNR=3.8						

IDC 16 19:30:38.4±1.5, 084N×12235E, h0km, mb3.4/3, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, ML3.4/1, Error ellipse: s-maj=135.6km s-min=23.2km az=64.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.10**	**170**	P	Pn	19 35 03.3	-0.3
	0.1nm,0.3s,baz=354,slow=10,SNR=4.4						
WRA	**Warramunga Arr**	**23.76**	**151**	P	P	19 35 52.7	0.0
	1.3nm,0.6s,baz=326,slow=10,SNR=23						
WB2	**Warramunga Arr**	**23.77**	**151**	*e*P	P	19 35 53.3	+0.5
ASAR	**Alice Springs**	**26.82**	**156**	P	P	19 36 20.3	-0.2
	0.2nm,0.6s,baz=344,slow=13,SNR=4.3						
MKAR	**Makanchi Array**	**57.56**	**328**	P	P	19 40 29.9	+0.1
	0.3nm,0.4s,baz=128,slow=9.0,SNR=3.0						

*IDC **16** 19:32:47.5±1.8, 109N×9697E, h0km, mb3.6/5, mb1 3.6/6, mb1mx3.5/21, mbtmp3.6/6, ML2.8/1, Error ellipse: s-maj=51.7km s-min=22.2km az=59.0*
*ISCJB **16** 19:32:51.1±1.2, 12N±01×9712E±02, h33km, mb3.7/6, Error ellipse: s-maj=23.4km s-min=17.5km az=154.9*
*NEIC **16** 19:32:52.5±1.0, 116N×9712E, h30km, mb3.9/1, Error ellipse: s-maj=20.1km s-min=14.7km az=63.0*

ISC 16 19:32:53.6±1.2, 12N±01×972E±02, h35km, n8, σ0§69/8, mb3.7/6, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.35**	**47**	Pn	**Pn**	**19 33 30.1**	**+0.3**
	1.8nm,0.3s,baz=346,slow=13,SNR=14						
KULM	**Kulim**	**5.34**	**40**	*e*P	**Pn**	**19 34 10.4**	**-0.4**
LSA	**Lhasa**	**28.93**	**349**	*e*P	**P**	**19 38 50.5**	**+1.0**
	1.9nm,0.6s,mb4.0						
WRA	**Warramunga Arr**	**42.03**	**122**	P	**P**	**19 40 43.2**	**+1.1**
	0.3nm,0.5s,mb3.2,baz=301,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**43.39**	**127**	P	**P**	**19 40 52.0**	**-1.0**
	0.3nm,0.8s,mb3.0,baz=308,slow=8.6,SNR=3.5						
SONM	**Songino Array**	**47.14**	**8**	P	**P**	**19 41 22.5**	**+0.1**
	1.0nm,0.7s,mb3.8,baz=184,slow=8.2,SNR=6.6						
MKAR	**Makanchi Array**	**47.25**	**346**	P	**P**	**19 41 22.9**	**-0.4**
	0.7nm,0.6s,mb3.8,baz=162,slow=8.9,SNR=4.8						
ZALV	**Zalesovo Beam**	**53.57**	**351**	P	**P**	**19 42 10.3**	**-0.6**
	1.5nm,0.5s,mb4.2,baz=177,slow=6.5,SNR=11						

*ISCJB **16** 19:58:44.6±0.5, 4035N±002×2707E±003, h5km±5km, Error ellipse: s-maj=4.5km s-min=3.6km az=39.6*
*CSEM **16** 19:58:44.3±0.1, 4037N×2708E, h8km, MD3.0, Error ellipse: s-maj=1.4km s-min=1.3km az=129.0*
*DDA **16** 19:58:44.4, 4037N×2706E, h7km±3km, Md2.7*
*ISK **16** 19:58:44.6, 4036N×2709E, h8km, MD3.0*
*ATH **16** 19:58:46.1, 4026N×2700E, h32km, MD3.7/4*

ISC 16 19:58:45.2±0.4, 4036N±002×2708E±003, h8km±4km, n38, σ0§72/48, 1C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.24**	**274**	PG	**Pg**	**19 58 50.3**	**+0.3**
RKY	**Sarkoy-Tekirda**	**0.34**	**13**	PG	**Pg**	**19 58 51.7**	**-0.2**
RKY				SG	**Sg**	**19 58 57.1**	**+0.8**
SART	**Tekirdag**	**0.34**	**14**	*i* P	**Pg**	**19 58 51.6**	**-0.2**
SART				*i* S	**Sg**	**19 58 56.4**	**-0.1**
MFT	**Murefte**	**0.46**	**20**	PG	**Pg**	**19 58 53.9**	**-0.2**
MFT				SG	**Sg**	**19 59 00.2**	**+0.1**
MRMT	**Marmara Adasi**	**0.47**	**58**	PG	**Pg**	**19 58 53.8**	**-0.4**
MRMT				SG	**Sg**	**19 59 00.4**	**+0.1**
EDC	**Edincik**	**0.60**	**91**	*e*PG	**Pg**	**19 58 56.8**	**0.0**
BNT	**Bandirma**	**0.65**	**90**	PG	**Pg**	**19 58 57.0**	**-0.6**
EZN	**Ezine**	**0.78**	**228**	*e*PG	**Pg**	**19 59 00.2**	**0.0**
ENEZ	**Enez**	**0.80**	**299**	*e*PG	**Pg**	**19 58 59.9**	**-0.6**
GADA	**Gvkgeada**	**0.92**	**260**	*e*PG	**Pg**	**19 59 02.4**	**-0.3**
CRLT	**Corlu**	**0.92**	**33**	*e*PG	**Pg**	**19 59 03.0**	**+0.2**
BOZC	**Bozcaada**	**0.94**	**237**	*i* P	**Pg**	**19 59 02.8**	**-0.4**
BOZC				*i* S	**Sg**	**19 59 15.6**	**+0.3**
BTOK	**Tokmak**	**0.94**	**129**	*i* P	**Pg**	**19 59 02.9**	**-0.4**
BTOK				*i* S	**Sg**	**19 59 17.0**	**+1.4**
BALB	**Balikesir**	**0.95**	**139**	*e*PG	**Pg**	**19 59 03.0**	**-0.3**
AYVA	**Ayvalik**	**1.09**	**196**	*i* P	**Pg**	**19 59 05.8**	**-0.3**
AYVA				*i* S	**Sg**	**19 59 20.6**	**+0.4**
CTT	**Catalca**	**1.30**	**52**	*e*PN	**Pn**	**19 59 08.8**	**-0.7**
ELBA	**Catalca**	**1.30**	**52**	*i* P	**Pn**	**19 59 08.7**	**-0.9**
ELBA				*i* S	**Sb**	**19 59 25.7**	**-0.9**
RDO	**Rodhopi**	**1.41**	**305**	*e*PN	**Pn**	**19 59 11.6**	**+0.5**
DST	**Dursunbey**	**1.41**	**122**	*e*PN	**Pn**	**19 59 11.7**	**+0.6**
EDRB	**Edirne**	**1.51**	**351**	*e*PN	**Pn**	**19 59 12.1**	**-0.4**
AKHS	**Akhisar**	**1.58**	**159**	*i* P	**Pn**	**19 59 13.7**	**+0.2**
AKHS				*i* S	**Sn**	**19 59 33.5**	**-0.7**
AKHS	**Akhisar**	**1.58**	**159**	*i* P	**Pn**	**19 59 13.6**	**+0.1**
AKHS				*i* S	**Sn**	**19 59 33.5**	**-0.6**
KLYT	**Kilyos**	**1.74**	**58**	*e*PN	**Pn**	**19 59 14.9**	**-0.8**
KLYT	**Kilyos**	**1.74**	**58**	*e*Pn	**Pn**	**19 59 15.8**	**+0.1**
YLV	**Yalova**	**1.77**	**82**	*e*PN	**Pn**	**19 59 17.2**	**+1.2**
YLV	**Yalova**	**1.77**	**82**	*e*Pn	**Pn**	**19 59 16.7**	**+0.7**
IZI	**Iznik**	**1.83**	**90**	*e*PN	**Pn**	**19 59 18.4**	**+1.5**
IZI	**Iznik**	**1.83**	**90**	*e*Pn	**Pn**	**19 59 17.0**	**+0.1**
KULA	**Kula-Manisa**	**2.21**	**146**	*e*PN	**Pn**	**19 59 22.8**	**+0.6**
NVR	**Nevrokopi**	**2.63**	**293**	*e*PN	**Pn**	**19 59 28.5**	**+0.6**
SMG	**Samos**	**2.65**	**184**	*e*PN	**Pn**	**19 59 27.3**	**-0.9**
APE	**Apeiranthos**	**3.50**	**201**	*e*PN	**Pn**	**19 59 39.6**	**-0.2**
KIZT	**Kizilcal**	**3.99**	**110**	*e*PN	**Pn**	**19 59 45.2**	**-1.4**
KIZT	**Kizilcal**	**3.99**	**110**	*e*Pn	**Pn**	**19 59 47.9**	**+1.3**
MLR	**Muntele Rosu**	**5.20**	**351**	⇓*i*P	**Pn**	**20 00 04.7**	**+1.5**
VRI	**Vrincioaia**	**5.51**	**357**	⇓*i*P	**Pn**	**20 00 12.1**	**+4.6**
BZS	**Buzias**	**6.61**	**325**	⇑*i*P	**Pn**	**20 00 20.9**	**-1.6**
BURAR	**Bucovina Array**	**7.38**	**350**	⇓*i*P	**Pn**	**20 00 34.9**	**+1.8**

*IDC **16** 20:08:34.2±2.6, 879S×7868W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/17, mbtmp4.0/4, MS2.8/1, Ms1 2.9/1, ms1mx2.6/23, Error ellipse: s-maj=105.5km s-min=34.6km az=28.0*
*NEIC **16** 20:08:35.9±1.2, 828S×7883W, h10km, mb3.8/1, ML4.1(LIM), Error ellipse: s-maj=34.9km s-min=15.9km az=70.0*
NEIC Felt [II] at Chimbote and Salaverry.
*ISCJB **16** 20:08:36.5±1.1, 82S±01×784W±02, h10km, mb3.9/4, Error ellipse: s-maj=30.5km s-min=13.3km az=158.8*

ISC 16 20:08:38.4±8.4, 82S±01×784W±02, h10km±53km, n12, σ1§09/10, mb3.9/4, Near coast of northern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**4.10**	**158**	*e*P	**Pn**	**20 09 39.6**	**-1.4**
LPAZ	**La Paz**	**12.89**	**130**	P	**Pn**	**20 11 43.8**	**+2.0**
LPAZ	**La Paz**	**12.89**	**130**	LR	LR	20 17 21.7	
	comp=Z,43nm,21.3s,baz=284,slow=42						
SDV	**Santo Domingo**	**18.65**	**25**	*e*P	**Pn**	**20 12 56.2**	**-0.6**
	2.7nm,0.4s						
NVAR	**Mina Array Bea**	**59.38**	**324**	P	**P**	**20 18 42.4**	**+1.3**
	0.6nm,0.8s,mb3.7,baz=139,slow=5.9,SNR=3.9						
DBIC	**Dimbokro**	**74.83**	**81**	P	**P**	**20 20 19.8**	**0.0**
DBIC	**Dimbokro**	**74.83**	**81**	P	**P**	**20 20 19.8**	**0.0**
	7.7nm,1.2s,mb4.5,baz=270,slow=9.1,SNR=3.8						
YKA	**Yellowknife Ar**	**75.77**	**344**	P	**P**	**20 20 23.7**	**-0.4**
YKA	**Yellowknife Ar**	**75.77**	**344**	P	**P**	**20 20 23.7**	**-0.4**
	0.7nm,0.8s,mb3.6,baz=140,slow=5.8,SNR=9.3						
TORD	**Torodi Ar. Bea**	**82.34**	**76**	P	**P**	**20 21 00.5**	**-0.6**
TORD	**Torodi Ar. Bea**	**82.34**	**76**	P	**P**	**20 21 00.5**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=260,slow=6.2,SNR=12						
WRA	**Warramunga Arr**	**137.32**	**229**	PKP	PKPdf	20 27 58.5	-4.7
	0.3nm,0.5s,baz=116,slow=2.1,SNR=7.7						

IDC 16 20:20:05.2±2.8, 2849S×17722W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.8/12, mbtmp3.8/3, MS3.1/1, Ms1 3.1/1, ms1mx3.0/13, Error ellipse: s-maj=69.6km s-min=24.3km az=116.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.98**	**218**	Pn	Pn	20 20 25.9	-0.3
	394nm,0.3s,baz=255,slow=20,SNR=10						
RAO				Sn	Sn	20 20 42.1	+1.4
	883nm,0.3s,baz=24,slow=20,SNR=17						
URZ	**Urewera**	**10.84**	**204**	LR	LR	20 26 08.5	
	comp=Z,104nm,19.2s,baz=291,slow=34						
STKA	**Stephens Creek**	**35.61**	**254**	P	P	20 27 04.2	-0.4
	2.7nm,1.1s,baz=80,slow=6.1,SNR=3.1						
ASAR	**Alice Springs**	**43.92**	**265**	P	P	20 28 13.8	-0.1
	0.5nm,0.5s,baz=104,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**44.74**	**270**	P	P	20 28 20.9	+0.3
	0.4nm,0.4s,baz=109,slow=8.0,SNR=14						
AKASG	**Malin Array Be**	**150.15**	**325**	PKPbc	PKPbc	20 39 57.3	-0.3
	1.2nm,0.6s,baz=47,slow=2.9,SNR=9.9						

IDC 16 21:22:39.8±7.1, 1755S×7022W, h130km±42km, mb3.9/2, mb1 3.7/3, mb1mx3.3/17, mbtmp3.7/3, Error ellipse: s-maj=167.2km s-min=68.9km az=152.0, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.36**	**58**	P	Pn	21 23 18.9	+0.7
	2.2nm,0.3s,baz=237,slow=8.3,SNR=118						
LPAZ				S	Sn	21 23 49.2	+1.6
	0.8nm,0.3s,baz=26,slow=15,SNR=7.9						
DBIC	**Dimbokro**	**68.87**	**75**	P	P	21 33 31.1	+0.2
	2.1nm,0.6s,baz=240,slow=9.9,SNR=5.2						
TORD	**Torodi Ar. Bea**	**77.24**	**72**	P	P	21 34 20.2	0.0
	1.0nm,0.6s,baz=254,slow=5.9,SNR=13						

*IDC **16** 21:33:35.5±1.6, 134N×12671E, h0km, mb3.9/4, mb1 4.1/6, mb1mx3.8/17, mbtmp4.0/6, ML3.6/2, Error ellipse: s-maj=52.2km s-min=23.4km az=66.0*
*NEIC **16** 21:33:36.5±0.8, 135N×12665E, h10km, mb4.1/5, Error ellipse: s-maj=22.0km s-min=11.2km az=67.0*
*ISCJB **16** 21:33:38.2±0.9, 13N±01×1265E±02, h33km, mb4.0/8, Error ellipse: s-maj=23.7km s-min=12.3km az=157.1*

ISC 16 21:33:46.6±5.6, 11N±02×1263E±03, h93km±51km, n12, σ0§66/12, mb4.0/8, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.89**	**227**	Pn	**Pn**	**21 35 52.9**	**+0.6**
	1.2nm,0.3s,baz=44,slow=14,SNR=4.7						
FITZ	**Fitzroy Crossi**	**19.04**	**182**	P	**Pn**	**21 38 01.9**	**-1.3**
	0.1nm,0.3s,baz=21,slow=14,SNR=3.5						
WRAB	**Tennant Creek**	**22.30**	**160**	*e*P	**P**	**21 38 36.1**	**-0.3**
	10nm,1.0s,mb4.1						
WRA	**Warramunga Arr**	**22.30**	**160**	P	**P**	**21 38 36.2**	**-0.3**
	2.4nm,0.3s,mb4.0,baz=340,slow=11,SNR=114						
WB2	**Warramunga Arr**	**22.30**	**160**	*e*P	**P**	**21 38 36.3**	**-0.2**
MBWA	**Marble Bar**	**22.99**	**196**	P	**P**	**21 38 43.5**	**+0.1**
	4.1nm,0.8s,mb3.8						
ASAR	**Alice Springs**	**25.65**	**164**	P	**P**	**21 39 08.2**	**+0.5**
	1.2nm,0.5s,mb3.6,baz=343,slow=8.5,SNR=13						
STKA	**Stephens Creek**	**35.81**	**157**	*e*P	**P**	**21 40 38.4**	**+1.3**
	1.6nm,0.8s,mb4.0						
STKA	**Stephens Creek**	**35.81**	**157**	P	**P**	**21 40 38.4**	**+1.3**
	1.2nm,0.3s,mb4.3,baz=332,slow=10,SNR=10						
LSA	**Lhasa**	**43.93**	**314**	*e*P	**P**	**21 41 43.6**	**-0.8**
	1.3nm,0.6s,mb3.8						
MKAR	**Makanchi Array**	**59.52**	**326**	P	**P**	**21 43 40.5**	**+0.4**
	0.6nm,0.4s,mb4.0,baz=127,slow=7.0,SNR=5.6						
KURK	**Kurchatov**	**63.77**	**328**	*e*P	**P**	**21 44 08.6**	**+0.1**
	2.6nm,0.5s,mb4.3						

*DDA **16** 21:53:32.9, 4061N×2756E, h7km±79km, Md2.9*
*ISCJB **16** 21:53:36.6±0.4, 4057N±003×2731E±003, h8km±4km, Error ellipse: s-maj=5.2km s-min=4.1km az=169.5*

*CSEM **16** 21:53:36.4±0.1, 4059N×2731E, h10km, MD3.0, Error ellipse: s-maj=1.9km s-min=1.6km az=24.0*
*ISK **16** 21:53:36.4, 4057N×2731E, h10km, MD3.0*

ISC 16 21:53:36.8±0.4, 4057N±003×2731E±003, h10km±4km, n21, σ0§50/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RKY	**Sarkoy-Tekirda**	**0.15**	**320**	PG	**Pg**	**21 53 40.3**	**+0.1**
RKY				SG	**Sg**	**21 53 43.3**	**+0.8**
SART	**Tekirdag**	**0.15**	**321**	*i* P	**Pg**	**21 53 40.3**	**+0.1**
SART				*i* S	**Sg**	**21 53 42.2**	**-0.4**
MFT	**Murefte**	**0.21**	**355**	PG	**Pg**	**21 53 41.3**	**-0.1**
MFT				SG	**Sg**	**21 53 44.9**	**+0.6**
MRMT	**Marmara Adasi**	**0.22**	**82**	PG	**Pg**	**21 53 40.6**	**-0.9**
MRMT				SG	**Sg**	**21 53 44.5**	**-0.1**
LPK	**Lapseki**	**0.46**	**245**	PG	**Pg**	**21 53 46.2**	**+0.3**
EDC	**Edincik**	**0.48**	**118**	PG	**Pg**	**21 53 46.8**	**+0.6**
BNT	**Bandirma**	**0.52**	**115**	PG	**Pg**	**21 53 46.9**	**+0.1**
KCT	**Karacabey**	**0.86**	**111**	PG	**Pg**	**21 53 53.0**	**-0.4**
ENEZ	**Enez**	**0.89**	**281**	PG	**Pg**	**21 53 54.0**	**0.0**
CTT	**Catalca**	**1.03**	**56**	PG	**Pg**	**21 53 56.5**	**-0.1**
ELBA	**Catalca**	**1.03**	**56**	*i* P	**Pg**	**21 53 55.8**	**-0.8**
ELBA				*i* S	**Sg**	**21 54 09.8**	**-0.2**
BALB	**Balikesir**	**1.03**	**155**	*e*PG	**Pg**	**21 53 56.8**	**+0.1**
EZN	**Ezine**	**1.06**	**225**	*e*PG	**Pg**	**21 53 56.8**	**-0.4**
GADA	**Gvkgeada**	**1.14**	**251**	*e*PN	**Pn**	**21 53 58.1**	**-0.7**
BOZC	**Bozcaada**	**1.21**	**233**	*i* P	**Pn**	**21 53 59.0**	**-0.7**
BOZC				*i* S	**Sb**	**21 54 14.3**	**-1.0**
BOZC				*i* S	**Sb**	**21 54 14.7**	**-0.6**
EDRB	**Edirne**	**1.34**	**342**	*e*PN	**Pn**	**21 54 01.8**	**+0.3**
AYVA	**Ayvalik**	**1.35**	**201**	*i* P	**Pn**	**21 54 02.1**	**+0.5**
AYVA				*i* S	**Sb**	**21 54 20.0**	**+0.6**
DST	**Dursunbey**	**1.40**	**133**	*e*PN	**Pn**	**21 54 03.3**	**+1.0**
KLYT	**Kilyos**	**1.48**	**62**	*e*PN	**Pn**	**21 54 03.4**	**-0.1**
YLV	**Yalova**	**1.57**	**90**	*e*PN	**Pn**	**21 54 05.5**	**+0.8**
IZI	**Iznik**	**1.67**	**97**	*e*PN	**Pn**	**21 54 06.0**	**-0.1**

*KNET **16** 22:04:38.5±0.7, 4221N×7742E, h7km±4km, ml2.5, Error ellipse: s-maj=9.9km s-min=3.7km az=5.0*
*NNC **16** 22:04:39.4±0.6, 4241N×7768E, h23km±6km, mb3.6, mpv2.9, Error ellipse: s-maj=6.4km s-min=3.3km az=94.0*

ISC 16 22:04:41.0±2.1, 4237N±007×774E±01, h10km, n11, σ1§25/14, 10C-7D, Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	**0.87**	**262**	⇓P	**Pg**	**22 04 55.8**	**-2.0**
	17nm,0.1s,SNR=118						
ULHL				⇑S	**Sg**	**22 05 08.4**	**-0.7**
	55nm,0.1s						
KNDC	**Almaty**	**0.91**	**339**	⇑P	**Pg**	**22 04 57.3**	**-1.3**
	6.1nm,0.3s						
KNDC				⇓S	**Sg**	**22 05 10.5**	**+0.2**
	66nm,0.4s						
TKM2	**Tokmak 2**	**1.44**	**293**	⇑P	**Pn**	**22 05 06.6**	**-0.6**
	2.6nm,0.3s						
TKM2				⇑S	**Sn**	**22 05 27.2**	**+1.1**
	3.6nm,0.1s						
TKM2	**Tokmak 2**	**1.44**	**293**	⇑P	**Pn**	**22 05 06.7**	**-0.5**
	6.4nm,0.1s,SNR=8.3						
KZA	**Kyzart**	**1.63**	**260**	⇓P	**Pn**	**22 05 09.5**	**-0.3**
	9.3nm,0.2s,SNR=5.8						
KZA				⇑S	**Sn**	**22 05 32.0**	**+1.3**
	24nm,0.2s						
KBK	**Karagaybulak**	**1.84**	**280**	⇓P	**Pn**	**22 05 13.6**	**+0.9**
	8.1nm,0.1s,SNR=11						
KBK				⇑S	**Sn**	**22 05 40.6**	**+4.7**
	78nm,0.4s						
AAK	**Ala-Archa**	**2.17**	**278**	⇓P	**Pn**	**22 05 18.8**	**+1.7**
	7.4nm,0.2s,SNR=7.6						
USP	**Ospenovka**	**2.32**	**294**	⇓P	**Pn**	**22 05 20.3**	**+1.1**
	6.7nm,0.2s,SNR=6.5						
KK31	**Karatay Array**	**5.13**	**281**	⇓Pg	**Pg**	**22 06 16.7**	**-2.6**
	1.2nm,0.8s,baz=91,slow=16,SNR=8.2						
KK31				⇑Lg		22 07 28.3	
	4.0nm,0.7s,baz=96,slow=28						
KURBB	**Kurchatov Arra**	**8.29**	**5**	⇑Lg		22 08 59.4	
	0.8nm,0.7s						
KURK	**Kurchatov**	**8.39**	**5**	⇑Lg		22 09 03.8	
	3.9nm,0.9s						

**IDC 16 22:28:19.1±3.4, 519S×15216E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, MS3.2/1, Ms1 3.2/1, ms1mx2.8/18, Error ellipse: s-maj=113.8km s-min

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**53.98**	**250**	LR	LR	23 28 37.4	
	comp=Z,79nm,20.4s,baz=246,slow=35						
GERES	**GERESS Array B**	**54.98**	**23**	P	P	23 06 53.3	+1.9
	0.4nm,0.7s,baz=237,slow=7.3,SNR=3.6						
SDV	**Santo Domingo**	**55.25**	**281**	LR	LR	23 29 25.6	
	comp=Z,58nm,18.8s,baz=207,slow=35						
NOA	**NORSAR Array B**	**64.37**	**14**	P	P	23 07 54.5	-1.4
	0.4nm,0.8s,baz=208,slow=6.2,SNR=3.6						
WRA	**Warramunga Arr**	**144.70**	**126**	PKP	PKPdf	23 16 57.7	-0.5
	0.3nm,0.7s,baz=236,slow=2.4,SNR=3.5						

ISCJB ***16*** *22:58:13.9±0.7, 693S×006×13002E±007, h100km, mb4.1/4, Error ellipse: s-maj=10.7km s-min=8.0km az=140.7*
NEIC ***16*** *22:58:13.7±2.5, 686S×13007E, h79km±26km, Error ellipse: s-maj=27.5km s-min=11.8km az=47.0*
IDC ***16*** *22:58:15.2±6.7, 689S×130.12E, h93km±61km, mb3.6/3, mb1 3.8/7, mb1mx3.6/15, mbtmp3.7/7, ML4.2/4, Error ellipse: s-maj=77.1km s-min=23.4km az=57.0*
ISC 16 22:58:13.7±2.6, 69S±01×1301E±01, h76km±30km, n15, σ0°90/18, mb4.1/4, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.27**	**158**	*e*Pn	**Pn**	**22 59 47.9**	**+4.3**
	22nm,0.4s						
KAKA				*e*Sn	**Sn**	**23 00 53.3**	**-0.6**
BATI	**Kupang**	**7.15**	**242**	P	**Pn**	**22 59 58.9**	**+3.2**
	16nm,0.3s,baz=121,slow=4.2,SNR=12						
BATI				S	**Sn**	**23 01 14.6**	**-0.9**
	22nm,0.3s,baz=92,slow=23,SNR=12						
FITZ	**Fitzroy Crossi**	**11.98**	**201**	P	**Pn**	**23 01 00.7**	**-0.9**
	1.6nm,0.3s,baz=46,slow=13,SNR=28						
FITZ				S	Sx	23 03 03.5	
	2.8nm,0.3s,baz=235,slow=19,SNR=5.2						
WRAB	**Tennant Creek**	**13.65**	**163**	*e*Pn	**Pn**	**23 01 24.2**	**+0.3**
WRAB				*e*Sn	**Sn**	**23 03 46.2**	**-7.8**
WRA	**Warramunga Arr**	**13.65**	**163**	P	**Pn**	**23 01 23.2**	**-0.8**
	0.9nm,0.3s,baz=347,slow=13,SNR=40						
WRA				S	**Sn**	**23 03 46.9**	**-7.3**
	1.5nm,0.3s,baz=328,slow=23,SNR=13						
WB2	**Warramunga Arr**	**13.66**	**163**	*e*Pn	**Pn**	**23 01 24.4**	**+0.3**
WB2				*e*Sn	**Sn**	**23 03 47.1**	**-7.2**
ASAR	**Alice Springs**	**17.12**	**168**	P	**Pn**	**23 02 09.2**	**+1.1**
	0.4nm,0.3s,baz=346,slow=9.7,SNR=19						
ASAR				S	Sx	23 05 10.3	
	0.5nm,0.3s,baz=326,slow=15,SNR=7.0						
KKM	**Kota Kinabalu**	**18.85**	**313**	P	**Pn**	**23 02 28.0**	**-1.1**
STKA	**Stephens Creek**	**27.12**	**158**	P	**P**	**23 03 49.9**	**+0.3**
	0.7nm,0.3s,mb3.6,baz=341,slow=12,SNR=3.2						
HNR	**Honiara**	**29.68**	**97**	P	**P**	**23 04 11.7**	**-1.0**
	30nm,0.7s,mb5.0						
SONM	**Songino Array**	**58.33**	**341**	P	**P**	**23 08 01.2**	**+0.6**
	0.1nm,0.4s,mb3.2,baz=137,slow=8.1,SNR=3.2						
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**23 09 05.7**	**+0.1**
MKAR	**Makanchi Array**	**68.14**	**327**	P	**P**	**23 09 05.7**	**+0.1**
	2.7nm,0.4s,mb4.5,baz=116,slow=8.1,SNR=49						
TORD	**Torodi Ar. Bea**	**128.85**	**281**	PKP	PKPdf	23 17 12.5	-1.0
TORD	**Torodi Ar. Bea**	**128.85**	**281**	PKP	PKPdf	23 17 12.5	-1.0
	0.1nm,0.3s,baz=132,slow=2.3,SNR=5.5						

IDC ***16*** *23:13:35.7±0.9, 5621S×2682W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.9/16, mbtmp4.2/3, Error ellipse: s-maj=40.4km s-min=29.3km az=85.0*
ISCJB ***16*** *23:13:36.3±0.7, 562S±0.1×269W±03, h10km, mb4.2/7, Error ellipse: s-maj=22.7km s-min=15.1km az=14.6*
NEIC ***16*** *23:13:50.1±4.3, 5627S×2695W, h116km±38km, mb4.1/5, Error ellipse: s-maj=14.5km s-min=10.6km az=112.0*
ISC 16 23:13:38.0±0.7, 562S±01×269W±03, h10km, n19, σ0°82/13, mb4.2/7, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**34.01**	**180**	*e*P	**P**	**23 20 21.7**	**+0.4**
	7.8nm,0.6s,mb4.8						
MAW	**Mawson**	**39.89**	**143**	P	**P**	**23 21 11.4**	**0.0**
SBA	**Scott Base**	**45.90**	**184**	*e*P	**P**	**23 22 01.0**	**+1.0**
	1.4nm,0.6s,mb4.1						
VNDA	**Vanda**	**46.39**	**183**	*e*P	**P**	**23 22 04.0**	**+0.2**
	2.8nm,0.7s,mb4.3						
VNDA	**Vanda**	**46.39**	**183**	P	**P**	**23 22 03.9**	**+0.1**
	2.9nm,0.7s,mb4.3,baz=186,slow=6.6,SNR=27						
LBTB	**Lobatse**	**48.91**	**73**	*e*P	**P**	**23 22 24.7**	**+0.7**
	1.5nm,0.6s,mb4.2						
TSUM	**Tsumeb**	**49.63**	**60**	P	**P**	**23 22 30.8**	**+1.2**
LPAZ	**La Paz**	**50.62**	**305**	P	**P**	**23 22 37.5**	**+0.5**
	2.6nm,0.5s,mb4.4,baz=156,slow=8.5,SNR=16						
LSZ	**Lusaka**	**58.29**	**68**	*e*P	**P**	**23 23 32.4**	**-0.5**
	1.8nm,0.8s,mb4.2						
TORD	**Torodi Ar. Bea**	**73.14**	**29**	P	**P**	**23 25 08.5**	**0.0**
	0.5nm,0.4s,mb3.8,baz=200,slow=6.3,SNR=11						
STKA	**Stephens Creek**	**91.68**	**170**	P	**P**	**23 26 43.9**	**-1.4**
COCO	**West Island**	**97.41**	**125**	P	**P**	**23 27 10.6**	**-1.2**
ESLA	**Sonseca Array**	**97.51**	**18**	*e*P	**P**	**23 27 10.6**	**-0.9**
FINES	**FINESS Array B**	**124.48**	**28**	PKP	PKPdf	23 32 33.6	-2.2
	0.6nm,0.5s,baz=156,slow=3.8,SNR=5.9						
YKA	**Yellowknife Ar**	**136.43**	**318**	PKP	PKPdf	23 32 56.4	-2.0
YKA	**Yellowknife Ar**	**136.43**	**318**	PKP	PKPdf	23 32 56.4	-2.0
	0.3nm,0.4s,baz=123,slow=2.3,SNR=6.8						
SONM	**Songino Array**	**150.57**	**87**	PKPbc	PKPbc	23 33 27.6	-1.3
	0.8nm,0.5s,baz=235,slow=2.8,SNR=7.3						
KDAK	**Kodiak Island**	**151.05**	**296**	PKPbc	PKPbc	23 33 28.2	-1.6
KDAK	**Kodiak Island**	**151.05**	**296**	PKPbc	PKPbc	23 33 28.2	-1.6
	6.8nm,0.4s,baz=202,slow=3.0,SNR=7.1						

IDC 16 23:21:24.9±5.0, 1248S×16560E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.8/14, mbtmp4.0/4, MS3.3/1, Ms1 3.3/1, ms1mx2.9/28, Error ellipse: s-maj=135.4km s-min=48.2km az=117.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.04**	**245**	LR	LR	23 31 42.5	
	comp=Z,97nm,20.7s,baz=232,slow=31						
STKA	**Stephens Creek**	**29.32**	**225**	P	P	23 27 29.3	-0.1
	1.4nm,0.7s,baz=30,slow=8.1,SNR=3.0						
WRA	**Warramunga Arr**	**30.89**	**252**	P	P	23 27 43.8	+0.5
	0.5nm,0.7s,baz=83,slow=8.4,SNR=5.8						
ASAR	**Alice Springs**	**32.05**	**245**	P	P	23 27 53.3	-0.3
	1.3nm,0.6s,baz=70,slow=9.5,SNR=18						
MKAR	**Makanchi Array**	**94.46**	**317**	P	P	23 34 47.0	0.0
	1.3nm,0.7s,baz=95,slow=6.1,SNR=6.4						

IDC ***16*** *23:37:39.8±0.4, 654S×10526E, h0km, mb4.7/24, mb1 4.7/26, mb1mx4.7/28, mbtmp4.6/26, ML4.2/2, MS4.0/2, Ms1 4.0/2, ms1mx3.4/41, Error ellipse: s-maj=14.3km s-min=9.3km az=35.0*
BJI ***16*** *23:37:42.0, 660S×10520E, h10km, mB5.0, mb5.0, Ms4.9, Msz4.5*
NEIC ***16*** *23:37:42.6±2.6, 658S×10522E, h16km±15km, mb5.0/25, Error ellipse: s-maj=8.2km s-min=4.8km az=53.0*
MOS ***16*** *23:37:43.7±1.0, 644S×10536E, h33km, mb5.4/22, Error ellipse: s-maj=13.2km s-min=6.3km az=117.1*
ISCJB ***16*** *23:37:47.8±0.8, 655S±005×10527E±004, h71km±6km, mb4.9/83, Error ellipse: s-maj=9.0km s-min=5.5km az=40.0*
ISC 16 23:37:49.3±0.7, 656S±005×10529E±004, h70km±5km, h38km±8.8km: pP-P, n232, σ0°88/196, mb4.9/83, 19C-11D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**0.94**	**62**	P	**Pn**	**23 38 05.7**	**-1.4**
	11μm,0.7s						
TNG	**Tangerang**	**1.40**	**74**	P	**Pn**	**23 38 13.1**	**+0.1**
	18μm,0.7s						
CBJI	**Citeko**	**1.56**	**85**	P	**Pn**	**23 38 16.3**	**+1.3**
	32μm,1.0s						
LEM	**Lembang**	**2.33**	**97**	P	**Pn**	**23 38 25.6**	**+0.2**
	4μm,1.1s						
XMIS	**Christmas Isla**	**3.91**	**175**	*e*Pn	**Pn**	**23 38 38.9**	**-8.1**
KSI	**Kapahiang**	**3.95**	**317**	P	**Pn**	**23 38 47.1**	**-0.4**
	1μm,0.8s						
BJII	**Banjamegara**	**4.45**	**100**	P	**Pn**	**23 38 55.9**	**+1.5**
	199nm,0.9s						
TPI	**Tanjungpandan**	**4.46**	**32**	P	**Pn**	**23 38 54.7**	**+0.3**
	317nm,0.8s						
KMMI	**Kalianget**	**8.63**	**94**	P	**Pn**	**23 39 56.0**	**+4.5**
	93nm,0.7s						
KSM	**Kuching**	**9.42**	**32**	*e*Pn	**Pn**	**23 40 00.2**	**-2.2**
KHKI	**Kahang-Kahang**	**10.39**	**101**	P	**Pn**	**23 40 15.2**	**-0.4**
	143nm,0.8s						
PSI	**Prapat**	**11.27**	**325**	Pn	**Pn**	**23 40 22.6**	**-4.9**
	0.4nm,0.3s,baz=159,slow=14,SNR=3.3						
PSI				LR	LR	23 45 34.6	
	comp=Z,638nm,19.8s,baz=147,slow=43						
KAPI	**Kappang**	**14.47**	**85**	Pn	**Pn**	**23 41 12.2**	**+1.6**
	1.5nm,0.3s,baz=260,slow=14,SNR=5.2						
KDI	**Kendari**	**17.45**	**82**	P	**Pn**	**23 41 48.8**	**+0.6**
	22nm,1.1s						
BATI	**Kupang**	**18.53**	**103**	P	**Pn**	**23 41 58.0**	**-3.4**
	3.5nm,0.3s,baz=258,slow=2.5,SNR=4.5						
BATI				S	**S**	**23 45 27.4**	**-0.9**
	11nm,0.3s,baz=273,slow=23,SNR=5.0						
FITZ	**Fitzroy Crossi**	**22.92**	**122**	*e*P	**P**	**23 42 47.1**	**-0.5**
	13nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**22.92**	**122**	P	**P**	**23 42 46.9**	**-0.8**
	5.6nm,0.8s,mb4.0,baz=303,slow=13,SNR=9.5						
QIZ	**Qiongzhong**	**25.82**	**10**	P	**P**	**23 43 15.4**	**+1.2**
QIZ				S	**S**	**23 47 46.6**	**+7.7**
QIZ				LR	LR		
	comp=N,483nm,12.7s						
QIZ				LR	LR		
	comp=Z,541nm,20.0s						
CHTO	**Chiang Mai**	**25.98**	**346**	*e*P	**P**	**23 43 14.1**	**-1.6**
KAKA	**Kakadu**	**27.44**	**105**	*e*P	**P**	**23 43 30.1**	**+1.2**
	comp=Z,51nm,0.6s,mb5.2						
NWAO	**Narrogin (SRO)**	**28.49**	**159**	P	**P**	**23 43 36.7**	**-1.3**
NWAO				LR	LR	23 53 33.8	
NWAO	**Narrogin (SRO)**	**28.49**	**159**	P	**P**	**23 43 36.7**	**-1.3**
	comp=Z,2.2nm,0.3s,mb4.1,baz=348,slow=9.3,SNR=2.9						
NWAO				LR	LR	23 53 33.8	
	comp=Z,312nm,20.6s,baz=320,slow=33						
WRA	**Warramunga Arr**	**31.18**	**118**	P	**P**	**23 44 01.5**	**-0.5**
	comp=Z,4.6nm,0.4s,mb4.5,baz=292,slow=10.0,SNR=69						
WRA				PcP	PcP	23 46 55.8	+0.1
	comp=Z,3.7nm,0.8s,baz=297,slow=2.3,SNR=8.5						
WRAB	**Tennant Creek**	**31.18**	**118**	P	**P**	**23 44 01.0**	**-1.0**
	comp=Z,119nm,0.4s,mb6.0,SNR=33						
WRAB	**Tennant Creek**	**31.18**	**118**	*i* P	**P**	**23 44 01.6**	**-0.4**
WRAB	**Tennant Creek**	**31.18**	**118**	*e*P	**P**	**23 44 02.0**	**0.0**
WB2	**Warramunga Arr**	**31.18**	**118**	*e*P	**P**	**23 44 01.6**	**-0.5**
KMI	**Kunming**	**31.59**	**356**	P	**P**	**23 44 08.3**	**+2.8**
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.3						
ASAR	**Alice Springs**	**32.33**	**125**	P	**P**	**23 44 11.8**	**-0.3**
	comp=Z,3.7nm,0.8s,mb4.1,baz=303,slow=8.3,SNR=23						
ASAR				PcP	PcP	23 46 58.8	0.0
	comp=Z,3.2nm,0.8s,baz=305,slow=1.9,SNR=11						
ASAR				S	**S**	**23 49 19.9**	**-1.2**
	comp=Z,1.9nm,0.9s,baz=286,slow=15,SNR=6.7						
KOD	**Kodaikanal**	**32.34**	**301**	*e*P	**P**	**23 44 13.4**	**+1.1**
KOD				AMb	AMB	23 44 15.9	
	comp=Z,54nm,1.2s,mb5.2						
VIS	**Vishakhapatnam**	**32.44**	**318**	*e*P	**P**	**23 44 12.5**	**-0.6**
VIS				AMb	AMB	23 44 14.6	
	comp=Z,28nm,0.6s,mb5.2						
GYA	**Guiyang**	**32.85**	**2⇑**	*i* P	**P**	**23 44 20.6**	**+4.1**
GYA				PP	PP	23 45 30.8	-1.3
GYA				PCP	PcP	23 47 03.4	+3.4
GYA				S	**S**	**23 49 38.0**	**+8.9**
GYA				SCP	ScP	23 50 46.8	+8.6
GYA				SS	SS	23 51 37.9	-15
GYA				SCS	ScS	23 54 45.5	+7.2
GYA				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.1						
GYA				AMB	AMB		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=N,680nm,18.8s						
GYA				LR	LR		
	comp=E,560nm,17.4s						
GYA				LR	LR		
	comp=Z,690nm,18.3s						
SHL	**Shillong**	**34.49**	**338**	*e*P	**P**	**23 44 30.0**	**-0.8**
HYB	**Hyderabad**	**35.57**	**312**	*e*P	**P**	**23 44 40.0**	**-0.2**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.4						
HYB	**Hyderabad**	**35.57**	**312**	*e*P	**P**	**23 44 40.0**	**-0.2**
	comp=Z,50nm,1.0s,mb5.4						
HYB	**Hyderabad**	**35.57**	**312**	*i* P	**P**	**23 44 40.0**	**-0.2**
	comp=Z,50nm,1.0s,mb5.4						
BOK	**Bokaro**	**35.63**	**329**	*e*P	**P**	**23 44 40.4**	**-0.2**
BLSP	**Bilaspur**	**36.44**	**322**	*e*P	**P**	**23 44 47.0**	**-0.6**
BLSP				AMb	AMB	23 44 48.4	
	comp=Z,27nm,0.5s,mb5.5						
NGP	**Nagpur**	**37.71**	**318**	*e*P	**P**	**23 44 58.0**	**-0.4**
NGP				AMb	AMB	23 45 02.0	
	comp=Z,25nm,1.3s,mb4.9						
COEN	**Coen**	**37.95**	**104**	*e*P	**P**	**23 45 00.1**	**-0.5**
	comp=Z,8.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**38.53**	**340**	*e*P	**P**	**23 45 05.0**	**-0.1**
LSA				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
LSA	**Lhasa**	**38.53**	**340**	*e*P	**P**	**23 45 05.0**	**-0.1**
	comp=Z,12nm,0.6s,mb4.9						
AKL	**Akola**	**38.80**	**315**	*e*P	**P**	**23 45 07.8**	**+0.2**
KAD	**Karad**	**38.82**	**308**	*e*P	**P**	**23 45 07.9**	**+0.1**
POO	**Poona**	**39.79**	**309**	*e*P	**P**	**23 45 15.0**	**-0.8**
BHPL	**Bhopal**	**40.24**	**318**	*e*P	**P**	**23 45 19.4**	**-0.1**
NJ2	**Nanjing**	**40.52**	**18**	*e*P	**P**	**23 45 20.9**	**-0.8**
NJ2				AP	pP	23 45 25.5	-13
NJ2				XP	sP	23 45 28.5	-18
NJ2				PP	PP	23 46 57.9	+1.6
NJ2				S	**S**	**23 51 27.0**	**+1.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,270nm,9.8s						
NJ2				LR	LR		
	comp=N,1μm,25.3s						
NJ2				LR	LR		
	comp=E,750nm,27.4s						
NJ2				LR	LR		
	comp=Z,670nm,27.8s						
XAN	**Xi'an**	**40.53**	**5**	P	**P**	**23 45 20.5**	**-1.2**
XAN				AP	pP	23 45 29.9	-9.0
XAN				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.9						
STKA	**Stephens Creek**	**42.20**	**131**	*e*P	**P**	**23 45 35.9**	**+0.4**
	comp=Z,29nm,0.6s,mb5.2						
STKA	**Stephens Creek**	**42.20**	**131**	P	**P**	**23 45 35.9**	**+0.4**
	comp=Z,38nm,0.6s,mb5.3,baz=303,slow=7.6,SNR=77						
STKA				PcP	PcP	23 47 28.6	0.0
	comp=Z,4.1nm,0.5s,baz=314,slow=5.8,SNR=3.1						
LZH	**Lanzhou**	**42.44**	**358**	*e*P	**P**	**23 45 39.9**	**+2.6**
LZH				AP	pP	23 45 43.5	-11
LZH				XP	sP	23 45 47.0	-16
LZH				PP	PP	23 47 22.0	+5.0
LZH				*e*S	**S**	**23 52 01.1**	**+7.0**
LZH				XS	sS	23 52 10.0	-14
LZH				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,102nm,4.0s						
LZH				LR	LR		
	comp=E,350nm,12.8s						
LZH				LR	LR		
	comp=Z,520nm,14.0s						
PTH	**Pithoragarh**	**43.24**	**327**	*e*P	**P**	**23 45 43.9**	**0.0**
AJM	**Ajmer**	**44.29**	**319**	*e*P	**P**	**23 45 52.2**	**-0.2**
AJM				AMb	AMB	23 45 53.3	
	comp=Z,36nm,0.6s,mb5.2						
DDI	**Dehra Dun**	**45.02**	**326**	*e*x	x	23 45 57.5	
GTA	**Gaotai**	**46.02**	**354**	*e*P	**P**	**23 46 06.5**	**+0.6**
GTA				AP	pP	23 46 09.8	-14
GTA				XP	sP	23 46 12.3	-19
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.2						
GTA				AMB	AMB		
	comp=Z,58nm,4.2s						
GTA				LR	LR		
	comp=N,238nm,15.7s						
GTA				LR	LR		
	comp=E,181nm,13.7s						
GTA				LR	LR		
	comp=Z,224nm,16.4s						
SMLA	**Simla**	**46.13**	**326**	*e*P	**P**	**23 46 06.4**	**-0.5**
HHC	**Hu-ho-hao-te**	**47.53**	**6**	*e*P	**P**	**23 46 20.0**	**+2.4**
HHC				PCP	PcP	23 47 49.3	+2.6
HHC				PP	PP	23 48 11.3	+1.6
HHC				SCP	ScP	23 51 43.3	+8.4
HHC				S	**S**	**23 53 17.5**	**+10**
HHC				SCS	ScS	23 56 13.5	+8.7
HHC				AMB	AMB		
	comp=Z,33nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,259nm,7.0s						
HHC				LR	LR		
	comp=N,937nm,17.1s						
HHC				LR	LR		
	comp=E,952nm,15.3s						
HHC				LR	LR		
	comp=Z,851nm,16.9s						
KSRS	**Korea Array**	**48.62**	**24**	P	**P**	**23 46 26.9**	**+0.7**
	comp=Z,2.6nm,0.6s,mb4.3,baz=197,slow=8.4,SNR=7.5						
KSRS				PcP	PcP	23 47 50.1	-0.6
	comp=Z,3.0nm,0.9s,baz=202,slow=1.3,SNR=5.2						
ARMA	**Armidale**	**49.48**	**125**	*e*P	**P**	**23 46 34.9**	**+2.0**
CNB	**Canberra Magne**	**49.53**	**132**	*e*P	**P**	**23 46 34.2**	**+1.0**
	comp=Z,5.7nm,0.8s,mb4.5						
WMQ	**Urumqi**	**52.61**	**344**	*e*P	**P**	**23 46 57.0**	**+0.9**
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
MJAR	**Matsushiro Arr**	**52.82**	**33**	P	**P**	**23 46 55.6**	**-2.1**
	comp=Z,2.2nm,0.6s,mb4.4,baz=209,slow=6.3,SNR=6.0						
MJAR				PcP	PcP	23 48 07.0	+0.7
	comp=Z,2.1nm,0.8s,baz=207,slow=4.6,SNR=6.7						
KSH	**Kashi**	**53.26**	**332**	*e*P	**P**	**23 47 01.1**	**+0.2**
KSH				*e*AP	pP	23 47 11.3	-7.5
KSH				*e*XP	sP	23 47 14.3	-12
KSH				*e*PP	PP	23 49 02.0	+0.2
KSH				AMB	AMB		
	comp=Z,200nm,3.4s						
KBL	**Kabul**	**53.32**	**323**	*e*P	**P**	**23 47 00.7**	**-0.7**
	comp=Z,8.2nm,0.6s,mb4.9						
CN2	**Changchun**	**53.34**	**18**	*e*P	**P**	**23 47 01.3**	**-0.1**
CN2				*e*XP	sP	23 47 08.3	-19
CN2				*e*S	**S**	**23 54 32.6**	**+4.5**
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.2						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,15.0s						
CN2				LR	LR		
	comp=E,200nm,15.0s						
CN2				LR	LR		
	comp=Z,500nm,14.0s						
SONM	**Songino Array**	**54.17**	**1**	P	**P**	**23 47 07.8**	**+0.4**
	comp=Z,7.3nm,0.5s,mb5.0,baz=177,slow=7.9,SNR=63						
SONM				PcP	PcP	23 48 11.7	+0.6
	comp=Z,5.1nm,0.5s,baz=177,slow=3.3,SNR=12						
ULN	**Ulaanbaatar**	**54.21**	**1⇑**	*e*P	**P**	**23 47 07.7**	**0.0**
ULN	**Ulaanbaatar**	**54.21**	**1**	*e*P	**P**	**23 47 08.0**	**+0.3**
MDJ	**Mudanjiang**	**55.44**	**21**	P	**P**	**23 47 18.6**	**+1.9**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,99nm,5.7s						
KZA	**Kyzart**	**55.63**	**333**	P	**P**	**23 47 18.9**	**+0.8**
	SNR=6.0						
UCH	**Uchtor**	**56.08**	**333**	*e*P	**P**	**23 47 21.7**	**+0.4**
	comp=Z,5.0nm,0.8s,mb4.6						
TKM2	**Tokmak 2**	**56.15**	**334**	*e*P	**P**	**23 47 21.7**	**-0.1**
TKM2				pmax	pmax		
	comp=Z,13nm,0.6s,mb5.1						
TKM2	**Tokmak 2**	**56.15**	**334**	*e*P	**P**	**23 47 21.7**	**-0.1**
	comp=Z,13nm,0.6s,mb5.1						
TKM2	**Tokmak 2**	**56.15**	**334**	P	**P**	**23 47 21.8**	**0.0**
	SNR=10.0						
KBK	**Karagaybulak**	**56.23**	**333**	P	**P**	**23 47 23.3**	**+1.0**
	SNR=7.5						
AML	**Almayashu**	**56.38**	**332**	*e*P	**P**	**23 47 23.5**	**0.0**
	comp=Z,14nm,0.7s,mb5.1						
AML	**Almayashu**	**56.38**	**332**	P	**P**	**23 47 24.3**	**+0.8**
	SNR=12						
ZAK	**Zakamensk**	**56.74**	**358**	*e*P	**P**	**23 47 25.4**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.4						
EKS2	**Erkin-Say**	**56.76**	**333**	*e*P	**P**	**23 47 25.9**	**-0.2**
	comp=Z,19nm,0.9s,mb5.1						
EKS2	**Erkin-Say**	**56.76**	**333**	P	**P**	**23 47 26.9**	**+0.8**
	SNR=15						
MK31	**Makanchi Array**	**56.91**	**341**	*e*P	**P**	**23 47 26.4**	**-0.7**
MKAR	**Makanchi Array**	**56.91**	**341⇑**	*e*P	**P**	**23 47 26.2**	**-0.9**
MKAR	**Makanchi Array**	**56.91**	**341**	P	**P**	**23 47 25.9**	**-1.2**
	comp=Z,4.9nm,0.5s,mb4.8,baz=152,slow=8.8,SNR=57						
MOY	**Mondy**	**58.12**	**357**	*e*P	**P**	**23 47 36.1**	**+0.7**
KLR	**Kul'dur**	**60.18**	**20**	*e*P	**P**	**23 47 45.0**	**-4.7**
HABR	**Khabarovsk**	**60.71**	**22**	*e*P	**P**	**23 47 50.2**	**-3.2**
HABR				*e*		23 50 04.6	
HABR				*e*S	**S**	**23 56 03.9**	**-1.0**
HABR				*e*SS	SS	00 00 10.6	+5.7
KURK	**Kurchatov**	**61.52**	**341**	P	**P**	**23 47 58.6**	**-0.3**
	comp=Z,76nm,1.2s,mb5.6,SNR=12						
KURK	**Kurchatov**	**61.52**	**341**	*i* P	**P**	**23 47 57.9**	**-1.0**
KURK	**Kurchatov**	**61.52**	**341**	*e*P	**P**	**23 47 58.0**	**-0.9**
	comp=Z,14nm,1.0s,mb4.9						
ABKT	**Ailbek**	**62.31**	**319**	P	**P**	**23 48 04.3**	**-0.2**
	comp=Z,286nm,0.7s,SNR=26						
ZAL	**Zalesovo**	**62.70**	**347**	P	**P**	**23 48 05.3**	**-1.3**
ZAA0	**Zalesovo Array**	**62.70**	**347**	*e*P	**P**	**23 48 05.5**	**-1.1**
ZALV	**Zalesovo Beam**	**62.70**	**347**	P	**P**	**23 48 05.3**	**-1.4**
	comp=Z,4.4nm,0.3s,mb4.8,baz=156,slow=5.3,SNR=28						
YSS	**Yuzh-Sakhalins**	**62.77**	**28**	*d* *i* P	**P**	**23 48 07.4**	**+0.1**
YSS				pmax	pmax		
	comp=Z,35nm,0.9s,mb5.3						
YSS	**

MA2 pmax pmax
comp=Z,30nm,0.7s,mb5.1
MA2 Magadan 75.12 22⇑ *e*P **P 23 49 23.9 +0.3**
SYO Syowa Base 75.33 200⇑ *e*P **P 23 49 23.2 -1.6**
SYO Syowa Base 75.33 200⇑ *e*PcP PcP 23 49 36.5 -1.2
KIV Kislovodsk 75.42 319 P **P 23 49 26.8 +1.1**
comp=Z,141nm,0.8s,mb5.7,SNR=5.6
KIV Kislovodsk 75.42 319 *e*P **P 23 49 26.1 +0.4**
KIV pmax pmax
comp=Z,26nm,1.1s,mb4.9
KIV Kislovodsk 75.42 319 *e*P **P 23 49 25.7 0.0**
comp=Z,22nm,0.9s,mb4.9
KIV Kislovodsk 75.42 319⇑ *i*P **P 23 49 26.2 +0.5**
LSZ Lusaka 75.89 256 P **P 23 49 29.2 +0.2**
comp=Z,4.6nm,0.6s,mb4.4,baz=90,slow=5.0,SNR=12
MALT Malatya 76.29 312 *e*P **P 23 49 31.7 +0.9**
comp=Z,23nm,1.4s,mb4.7
MALT Malatya 76.29 312⇑ *i*P **P 23 49 31.6 +0.8**
VNDA Vanda 76.71 169 *e*P **P 23 49 32.3 -0.2**
VNDA *e* pP 23 49 48.2 -3.1
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 76.71 169 *e*P **P 23 49 32.3 -0.2**
comp=Z,5.1nm,1.1s,mb4.2
VNDA *e* pP 23 49 48.2 -3.1
VNDA Vanda 76.71 169 P **P 23 49 32.5 0.0**
comp=Z,2.3nm,0.9s,mb3.9,baz=290,slow=6.5,SNR=11
SOC Sochi 77.26 317 *e*P **P 23 49 35.0 -1.1**
SOC *e*S S 23 59 37.2 +17
SOC *e*SS SS 00 04 17.3 -2.8
SOC pmax pmax
comp=Z,34nm,1.1s,mb5.0
SOC Sochi 77.26 317 *i*P **P 23 49 36.5 +0.4**
LBTB Lobatse 77.93 246 P **P 23 49 39.6 -0.8**
comp=Z,8.0nm,0.7s,mb4.5,baz=122,slow=6.5,SNR=17
SEY Seymchan 77.97 20⇑ *e*P **P 23 49 39.9 +0.3**
BOSA Boshof 78.15 242 P **P 23 49 41.7 +0.2**
comp=Z,5.3nm,0.6s,mb4.4,baz=106,slow=8.4,SNR=16
VRHR Novokhopersk 79.06 325 *e*P **P 23 49 45.8 -0.1**
VRHR pmax pmax
comp=Z,100nm,0.6s,mb5.8
VRHR pmax pmax
comp=N,40nm,0.5s
VRHR pmax pmax
comp=E,50nm,0.6s
CSS Prodhromos 79.17 307 *e*P **P 23 49 46.9 0.0**
comp=E,42nm,0.9s,mb5.3
ANN Anapa 79.23 318 *e*P **P 23 49 46.1 -0.9**
ANN *e*S S 23 59 42.1 +0.5
ANN pmax pmax
comp=Z,15nm,1.0s,mb4.8
ANN MLR MLR
comp=Z,266nm,21.0s
TIXI Tiksi 79.59 7 *e*P **P 23 49 47.1 -1.3**
TIXI pmax pmax
comp=Z,22nm,0.9s,mb5.0
TIXI Tiksi 79.59 7 *e*P **P 23 49 47.3 -1.1**
comp=Z,17nm,0.7s,mb5.0
VORD Divnogorie 80.35 324 *e*P **P 23 49 53.1 +0.2**
VORD *e**SP sP 23 50 06.4 -13
VORD pmax pmax
comp=N,220nm,0.6s
VORD pmax pmax
comp=E,120nm,0.6s
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
VRSR Storozhevoye 80.51 324 *e*P **P 23 49 53.3 -0.5**
VRSR pmax pmax
comp=Z,9.0nm,0.6s,mb4.8
VRSR pmax pmax
comp=N,2.0nm,0.5s
VRSR pmax pmax
comp=E,4.0nm,0.5s
ANTO Ankara 80.94 312 *e*P **P 23 49 56.0 -0.3**
ANTO pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
ANTO Ankara 80.94 312 *e*P **P 23 49 56.0 -0.4**
comp=Z,4.5nm,0.6s,mb4.5
SIM Simferopol' 81.50 317 *ce*P **P 23 49 59.7 +0.5**
SIM pmax pmax
comp=Z,19nm,0.9s,mb4.9
MOS Moscow 83.11 328 *e*P **P 23 50 06.9 -0.4**
QSPA South Pole Qui 83.42 180 *e*P **P 23 50 08.6 0.0**
comp=Z,26nm,0.6s,mb5.2
QSPA South Pole Qui 83.42 180 P **P 23 50 08.8 +0.2**
comp=Z,2.4nm,0.4s,mb4.3,baz=327,slow=0.1,SNR=55
OBN Obninsk 83.44 327 *c i*P **P 23 50 09.3 +0.3**
OBN pmax pmax
comp=Z,47nm,1.2s,mb5.2
OBN MLR MLR
comp=Z,100nm,15.0s
OBN Obninsk 83.44 327 *e*P **P 23 50 09.8 +0.7**
KIS Kishinev 85.62 318 *e*P **P 23 50 20.0 -0.3**
KIS *e* 23 50 32.0
KIS Kishinev 85.62 318 *e*UNK 23 50 20.0
BILL Bilibino 85.64 19⇓ *e*P **P 23 50 19.5 -0.4**
BILL pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
BILL MLR MLR
comp=Z,600nm,21.0s
BILL Bilibino 85.64 19 *i*P **P 23 50 19.6 -0.3**
AKASG Malin Array Be 86.30 322 P **P 23 50 22.7 -0.8**
AKASG PP PP 23 53 42.9 -2.5
AKASG Malin Array Be 86.30 322 P **P 23 50 22.7 -0.8**
comp=Z,2.0nm,0.5s,mb4.3,baz=89,slow=4.7,SNR=17
AKASG PP PP 23 53 42.9 -2.5
comp=Z,2.2nm,0.7s,baz=86,slow=6.2,SNR=8.2
KIEV Kiev 86.31 322 *e*P **P 23 50 22.8 -0.7**
KIEV pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
KIEV Kiev 86.31 322 *e*P **P 23 50 22.8 -0.7**
comp=Z,2.9nm,0.6s,mb4.4
VRI Vrincioaia 86.76 317⇑ *i*P **P 23 50 27.2 +1.3**
MLR Muntele Rosu 87.22 316⇓ *i*P **P 23 50 29.5 +1.4**
VOIR 87.82 316⇑ *i*P **P 23 50 31.5 +0.5**
BURAR Bucovina Array 88.15 318⇓ *i*P **P 23 50 34.0 +1.5**
JOF Joensuu 88.59 334 *ep* **P 23 50 33.6 -0.6**
comp=Z,7.6nm,0.6s,mb4.9
JOF Joensuu 88.59 334 *e*P **P 23 50 33.6 -0.6**
JOF pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
VTS Vitosha 88.59 313⇓ *i*P **P 23 50 35.2 +0.5**
APA Apatity 89.21 339⇓ *e*P **P 23 50 42.4 +5.3**
APA pmax pmax
comp=Z,22nm,1.2s,mb5.1
DRGR 89.67 317⇓ *i*P **P 23 50 40.5 +0.8**
KWP Kalwaria 90.16 320 *e*P **P 23 50 42.5 +0.6**
KWP pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
KWP Kalwaria 90.16 320 *e*P **P 23 50 42.5 +0.6**
comp=Z,4.6nm,0.7s,mb4.7
BZS Buzias 90.23 316⇑ *i*P **P 23 50 42.7 +0.4**
KOLS Kolonicke sedl 90.33 319 *e*P **P 23 50 43.5 +0.8**
FINES FINESS Array B 90.58 332 *i*P **P 23 50 43.7 +0.1**
FINES pmax pmax
comp=Z,4.0nm,0.6s
FINES FINESS Array B 90.58 332 P **P 23 50 43.7 +0.1**
comp=Z,3.9nm,0.6s,mb4.7,baz=110,slow=4.7,SNR=28
FINES PP PP 23 54 19.9 +0.5
comp=Z,0.8nm,0.6s,baz=105,slow=10,SNR=3.2
CRVS Cervenica-Dubn 90.85 319 *e*P **P 23 50 45.5 +0.4**
STHS Stebnicka Huta 91.07 319 *e*P **P 23 50 46.9 +0.8**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
STHS Stebnicka Huta 91.07 319 *e*P **P 23 50 46.9 +0.8**
comp=Z,3.2nm,0.7s,mb4.6
KEV Kevo 92.07 340 *ep* **P 23 50 49.5 -0.8**
comp=Z,6.0nm,0.6s,mb5.0
KEV Kevo 92.07 340 *e*P **P 23 50 49.5 -0.8**
KEV pmax pmax
comp=Z,6.0nm,0.6s,mb5.0
PKSM Moragy 92.37 316⇑ *i*P **P 23 50 52.9 +0.7**
ARCES ARCESS Array B 92.54 340 P **P 23 50 52.2 -0.3**
comp=Z,3.6nm,0.6s,mb4.9,baz=100,slow=7.2,SNR=20
GERES GERESS Array B 95.94 318 P **P 23 51 08.0 -0.5**
comp=Z,0.3nm,0.5s,mb4.0,baz=103,slow=4.2,SNR=4.1
GERES PP PP 23 54 60.0 -1.6
comp=Z,0.6nm,0.7s,baz=64,slow=6.2,SNR=4.1
SPB4 Spitsbergen Ar 96.16 348 *e*P **P 23 51 09.1 +0.1**
NOA NORSAR Array B 97.67 331 P **P 23 51 18.0 +1.9**
comp=Z,0.3nm,0.5s,mb4.1,baz=93,slow=5.0,SNR=2.7
NOA PP PP 23 55 13.2 -1.4
comp=Z,0.9nm,0.7s,baz=100,slow=7.0,SNR=3.4
TORD Torodi Ar. Bea 104.66 282 PKiKP PKiKP 23 56 02.1 -1.8
comp=Z,0.3nm,0.6s,baz=91,slow=1.1,SNR=4.0

YKA Yellowknife Ar 117.03 20 PKP PKPdf 23 56 25.3 -0.6
comp=Z,1.3nm,0.6s,baz=350,slow=2.0,SNR=31
FCC Fort Churchill 125.83 12 *e*PKIKP PKPdf 23 56 43.1 +0.2
DLMT Dillon 129.30 34 *e*PKPdf PKPdf 23 56 51.8 +1.9
NVAR Mina Array Bea 129.45 45 PKP PKPdf 23 56 52.0 +1.6
comp=Z,0.9nm,0.5s,baz=320,slow=3.0,SNR=9.7
BOZ Bozeman (W) 129.65 33 *e*PKIKP PKPdf 23 56 52.8 +2.2
SCHQ Schefferville 131.45 354 PKP PKPdf 23 56 54.9 +1.1
comp=Z,1.2nm,0.5s,baz=307,slow=5.1,SNR=3.7
REDW Red Top Meadow 131.52 35 *e*PKPdf PKPdf 23 56 56.8 +2.6
HWUT Hardware Ranch 132.17 37 *e*PKPdf PKPdf 23 56 57.8 +2.3
DUG Dugway 132.21 40 *e*PKIKP PKPdf 23 56 56.1 +0.5
MSU Marysvale 133.56 41 *e*PKIKP PKPdf 23 57 00.6 +2.4
RSSD Black Hills 134.64 30 *e*PKIKP PKPdf 23 57 00.8 +0.7
ANMO Albuquerque 139.35 42⇑ *i*PKIKP PKPdf 23 57 11.3 +2.2
ANMO Albuquerque 139.35 42 *e*PKPdf PKPdf 23 57 11.4 +2.3
CPUP Villa Florida 143.21 207 PKhKP 23 57 13.6
comp=Z,1.0nm,0.6s,baz=116,slow=3.8,SNR=3.3
WMOK Wichita Mounta 144.24 35 *e*PKIKP PKPdf 23 57 16.1 -1.7
BINY Binghamton 144.49 2 *e*PKPdf PKPdf 23 57 16.9 -1.1
TXAR Lajitas Array 144.53 47 PKP PKPdf 23 57 18.6 +0.1
comp=Z,23nm,0.7s,baz=285,slow=1.2,SNR=92
CCM Cathedral Cave 145.24 23 *e*PKIKP PKPdf 23 57 19.1 -0.4
BDFB Brasilia 145.56 230 PKPbc PKPbc 23 57 21.9 +1.0
comp=Z,4.8nm,0.7s,baz=121,slow=5.9,SNR=12
FVM French Village 145.62 22 *e*PKIKP PKPdf 23 57 20.1 0.0
ACSO Alum Creek Sta 145.66 11 *e*PKPdf PKPdf 23 57 20.4 +0.3
PAL Palisades 145.70 359 *e*PKP2 PKPab 23 57 20.7 -0.2
BLO Bloomington 145.83 16 *e*PKP2 PKPab 23 57 21.0 -0.5
SSPA Standing Stone 145.96 4 *e*PKP PKPdf 23 57 21.2 +0.6
SIUC Southern Illin 146.30 21 *e*PKPdf PKPdf 23 57 22.8 +1.5
JCT Junction City 146.52 42 *e*PKP2 PKPab 23 57 23.1 -1.3
PARMO Parma 147.03 23 *e*PKPbc PKPbc 23 57 24.9 +0.2
MIAR Mount Ida 147.16 29 *e*PKP2 PKPab 23 57 25.1 -1.7
SDMD Soldier's Deli 147.24 3 *e*PKPdf PKPdf 23 57 23.2 +0.4
UALR University of 147.56 28 *e*PKPdf PKPbc 23 57 26.4 +0.2
OXF Oxford 149.05 24 *e*PKP2 PKPbc 23 57 29.8 -0.3
TZTN Tazewell 149.08 14 *e*PKPdf PKPbc 23 57 30.1 0.0
PLAL Pickwick Lake 149.15 22 *e*PKPbc PKPbc 23 57 29.5 -0.8
HKT Hockley 149.40 38 *e*PKP2 PKPbc 23 57 32.1 +1.0
SWET Sewanee 149.67 18 *e*PKPdf PKPbc 23 57 31.2 -0.4
CPCT Cooper Cave 149.87 16 *e*PKPdf PKPbc 23 57 32.4 +0.3
TKL Tuckaleechee C 149.87 15 *e*PKP2 PKPbc 23 57 31.9 -0.2
JSC Jenkinsville 151.76 12 *e*PKIKP PKPbc 23 57 37.0 +0.5
GOGA Godfrey 152.08 16 *e*PKIKP PKPbc 23 57 37.5 +0.2
BRAL Brewton 153.06 24 *e*PKPdf PKPbc 23 57 40.7 +1.2
LPAZ La Paz 156.38 196 PKP PKPdf 23 57 38.4 +1.3
comp=Z,0.7nm,0.6s,baz=63,slow=5.2,SNR=5.7

SZGRF ***16*** *23:48:10.4, 3404N±8299E, h10km, mb4.8, Xizang*
IDC ***16*** *23:48:20.8±0.5, 3495N×8105E, h0km, mb4.4/22, mb1 4.5/25, mb1mx4.5/27, mbtmp4.5/25, ML4.2/3, MS3.9/6, Ms1 3.9/6, ms1mx3.6/40, Error ellipse: s-maj=14.4km s-min=11.9km az=39.0*
LDG ***16*** *23:48:22.6±0.3, 3505N×8089E, h33km, Mb4.9/27, Ms3.8/6, Error ellipse: s-maj=19.8km s-min=2.9km az=72.0*
MOS ***16*** *23:48:24.0±1.3, 3503N×8091E, h33km, mb4.9/43, MS4.1/10, Error ellipse: s-maj=8.1km s-min=4.2km az=124.4*
ISCJB ***16*** *23:48:24.7±0.5, 3499N±002×8097E±003, h43km±5km, mb4.7/87, MS4.1/16, Error ellipse: s-maj=4.0km s-min=3.6km az=31.8*
BJI ***16*** *23:48:27.1, 3518N×8123E, h49km, mB4.8, mb4.7, ML4.7, Ms4.5, Msz4.4*
NEIC ***16*** *23:48:27.6±0.9, 3504N×8096E, h50km±8km, mb4.8/42, MS4.2/3, Error ellipse: s-maj=8.4km s-min=5.2km az=207.0*
NNC ***16*** *23:48:28.7±4.0, 3531N×8094E, h35km±22km, mb4.2, mpv4.7, Error ellipse: s-maj=29.5km s-min=15.2km az=134.0*
ISC 16 23:48:26.6±0.4, 3498N±002×8103E±003, h43km±3km, n277, σ1$28/289, mb4.7/87, MS4.1/16, 24C-12D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDNR	**Sundarnagar**	**4.86**	**226**	*e*P	**Pn**	**23 49 38.5**	**+1.4**
DLH	**Dalhousie**	**4.87**	**241**	*e*P	**Pn**	**23 49 39.0**	**+1.8**
DLH				*e*x	x	23 50 15.0	
SMLA	**Simla**	**5.02**	**221**	*e*P	**Pn**	**23 49 41.5**	**+2.1**
SMLA				AMb	AMB	23 49 42.8	
	comp=Z,200nm,1.4s						
SMLA				*e*x	x	23 51 09.3	
THN	**Thein Dam**	**5.10**	**242**	*e*P	**Pn**	**23 49 40.8**	**+0.3**
THN				*e*x	x	23 51 06.2	
BHK	**Bhakra**	**5.25**	**229**	*e*P	**Pn**	**23 49 43.8**	**+1.3**
BHK				*e*x	x	23 50 02.4	
DDI	**Dehra Dun**	**5.28**	**209**	*e*P	**Pn**	**23 49 44.5**	**+1.7**
DDI				*e*x	x	23 51 11.3	
PTH	**Pithoragarh**	**5.45**	**187**	*e*P	**Pn**	**23 49 46.1**	**+0.8**
KSH	**Kashi**	**6.07**	**320**	P	**Pn**	**23 49 55.9**	**+2.3**
KSH				S	**Sn**	**23 51 08.8**	**+7.1**
KSH				Smax			
	comp=N,2μm,1.0s						
KSH				Smax			
	comp=E,2μm,0.7s						
CHCP	**Chirah Chowk**	**6.56**	**261**	P	**Pn**	**23 50 00.2**	**-0.2**
NDI	**New Delhi**	**7.06**	**208**	*e*P	**Pn**	**23 50 08.0**	**+0.6**
SARP	**Sargodha**	**7.62**	**249**	P	**Pn**	**23 50 13.0**	**-2.0**
CEP	**Cherat**	**7.62**	**264**	P	**Pn**	**23 50 12.4**	**-2.7**
CEP				S	**Sn**	**23 51 23.0**	**-17**
THW	**Thamme Wali**	**8.02**	**257**	P	**Pn**	**23 50 19.8**	**-0.7**
KZA	**Kyzart**	**8.41**	**329**	P	**Pn**	**23 50 29.2**	**+3.4**
	SNR=16						
UCH	**Uchtor**	**8.85**	**327**	*e*Pn	**Pn**	**23 50 33.0**	**+1.1**
UCH				Sn	**Sn**	**23 52 12.4**	**+2.2**
UCH	**Uchtor**	**8.85**	**327**	P	**Pn**	**23 50 34.2**	**+2.3**
	SNR=32						
TKM2	**Tokmak 2**	**8.99**	**334**	⇑Pn	**Pn**	**23 50 32.1**	**-1.6**
	comp=E,13nm,0.6s						
TKM2				⇓Pg	Pn	23 51 06.5	+33
	comp=E,50nm,1.1s						
TKM2				⇑Lg		23 53 04.7	
	comp=E,130nm,1.3s						
TKM2	**Tokmak 2**	**8.99**	**334**	*e*Pn	**Pn**	**23 50 35.5**	**+1.8**
TKM2				*e*Sn	**Sn**	**23 52 14.2**	**+0.7**
TKM2	**Tokmak 2**	**8.99**	**334**	P	**Pn**	**23 50 35.9**	**+2.2**
	SNR=10.0						
KBK	**Karagaybulak**	**9.02**	**330**	P	**Pn**	**23 50 36.7**	**+2.7**
	SNR=9.2						
AML	**Almayashu**	**9.16**	**323**	*e*Pn	**Pn**	**23 50 37.7**	**+1.6**
	comp=E,45nm,0.7s						
AML	**Almayashu**	**9.16**	**323**	P	**Pn**	**23 50 38.6**	**+2.5**
	SNR=6.9						
FRU	**Bishkek**	**9.30**	**329**	*e*P	**Pn**	**23 50 45.0**	**+7.1**
FRU				pmax	pmax		
	comp=Z,240nm,1.6s						
CHMS	**Chumysh**	**9.38**	**331**	P	**Pn**	**23 50 40.7**	**+1.6**
	SNR=13						
EKS2	**Erkin-Say**	**9.53**	**326**	*e*Pn	**Pn**	**23 50 43.2**	**+2.1**
	comp=Z,27nm,1.0s						
EKS2				*e*Sn	**Sn**	**23 52 27.4**	**+0.5**
EKS2	**Erkin-Say**	**9.53**	**326**	P	**Pn**	**23 50 44.7**	**+3.6**
	SNR=9.3						
DRP	**Derazinda**	**9.61**	**253**	P	**Pn**	**23 50 49.0**	**+6.7**
KBL	**Kabul**	**9.87**	**271**	*e*Pn	**Pn**	**23 50 43.7**	**-2.2**
	comp=Z,72nm,0.8s						
KBL				*e*Sn	**Sn**	**23 52 37.2**	**+1.9**
LSA	**Lhasa**	**10.05**	**119**	P	**Pn**	**23 50 50.3**	**+2.0**
LSA				LR	LR		
	comp=N,1μm,9.9s						
LSA				LR	LR		
	comp=E,2μm,10.0s						
LSA				LR	LR		
	comp=Z,3μm,12.1s						
LSA	**Lhasa**	**10.05**	**119**	*e*P	**Pn**	**23 50 52.3**	**+4.0**
LSA				pmax	pmax		
	comp=Z,80nm,1.0s						
LSA	**Lhasa**	**10.05**	**119**	*e*Pn	**Pn**	**23 50 52.3**	**+4.0**
	comp=Z,80nm,1.0s						
AJM	**Ajmer**	**10.09**	**215**	*e*P	**Pn**	**23 50 47.6**	**-1.3**
AJM				AMb	AMB	23 50 49.2	
	comp=Z,42nm,0.9s						
WMQ	**Urumqi**	**10.22**	**28**	*e*P	**Pn**	**23 50 49.6**	**-1.0**
WMQ				S	**Sn**	**23 52 39.3**	**-4.5**
KK31	**Karatay Array**	**11.51**	**318**	⇓Pn	**Pn**	**23 51 07.0**	**-1.2**
	comp=Z,6.8nm,0.7s,baz=126,slow=12,SNR=59						
KK31				⇑Lg		23 54 24.8	
	comp=Z,24nm,1.1s						
MK31	**Makanchi Array**	**11.84**	**4**	⇑Pn	**Pn**	**23 51 10.1**	**-2.6**
	comp=Z,7.8nm,0.6s,baz=181,slow=12,SNR=28						
MK31				⇑Sn	**Sn**	**23 53 18.3**	**-5.1**
	comp=Z,43nm,1.2s						
MK31				⇑Lg		23 54 35.6	
	comp=Z,37nm,0.8s						
MK31	**Makanchi Array**	**11.84**	**4**	*e*Pn	**Pn**	**23 51 10.6**	**-2.1**
MK31				*e*Sn	**Sn**	**23 53 24.1**	**+0.6**
MKAR	**Makanchi Array**	**11.84**	**4**	Pn	**Pn**	**23 51 10.7**	**-2.0**
	comp=Z,1.5nm,0.3s,baz=179,slow=12,SNR=18						
MKAR				Sn	**Sn**	**23 53 15.5**	**-7.9**
	comp=Z,0.4nm,0.3s,baz=186,slow=24,SNR=2.8						
BOK	**Bokaro**	**11.92**	**158**	*e*P	**Pn**	**23 51 12.1**	**-1.8**
BOK				AMb	AMB	23 51 18.9	
	comp=Z,23nm,0.8s						
BHPL	**Bhopal**	**12.11**	**196**	*e*P	**Pn**	**23 51 14.3**	**-2.2**
BHPL				AMb	AMB	23 51 15.2	
	comp=Z,32nm,0.8s						
BLSP	**Bilaspur**	**12.84**	**175**	*e*P	**Pn**	**23 51 24.3**	**-2.2**
SHL	**Shillong**	**13.25**	**132**	*e*P	**Pn**	**23 51 28.0**	**-4.1**
NGP	**Nagpur**	**13.88**	**188**	*ex*	x	23 51 37.3	
AKL	**Akola**	**14.65**	**195**	*ex*	x	23 51 47.8	
IMP	**Imphal**	**15.10**	**129**	*e*P	**Pn**	**23 51 54.0**	**-3.0**
GTA	**Gaotai**	**15.61**	**68**	*e*P	**Pn**	**23 52 02.8**	**-0.6**
GTA				AP	pP	23 52 08.6	-8.8
GTA				S	**S**	**23 54 57.1**	**-12**
GTA				SS		23 55 14.8	
GTA				AMB	AMB		
	comp=Z,9.0nm,1.3s						
GTA				AMB	AMB		
	comp=Z,162nm,3.8s						
GTA				LR	LR		
	comp=N,1μm,9.6s						
GTA				LR	LR		
	comp=E,1μm,13.3s						
GTA				LR	LR		
	comp=Z,1μm,13.4s						
KURK	**Kurchatov**	**15.83**	**354**	⇓P	**Pn**	**23 52 02.7**	**-3.4**
KURK	**Kurchatov**	**15.83**	**354⇑**	*e*P	**Pn**	**23 52 04.2**	**-2.0**
KURK	**Kurchatov**	**15.83**	**354**	*e*Pn	**Pn**	**23 52 04.6**	**-1.6**
KURK				*e*Sn	**Sn**	**23 55 01.2**	**+0.8**
POO	**Poona**	**17.58**	**203**	*ex*	x	23 52 24.0	
HYB	**Hyderabad**	**17.63**	**188**	*e*P	**Pn**	**23 52 24.0**	**-5.0**
HYB				*e*S	**S**	**23 55 32.0**	**-18**
HYB	**Hyderabad**	**17.63**	**188**	*i*P	**Pn**	**23 52 24.0**	**-5.0**
HYB				*e*S	**S**	**23 55 42.0**	**-8.3**
LZH	**Lanzhou**	**18.60**	**80**	*e*P	**Pn**	**23 52 41.6**	**+0.9**
LZH				AP	pP	23 52 48.0	-2.5
LZH				XP	sP	23 52 53.1	-2.9
LZH				PP		23 52 57.5	
LZH				*e*S	**S**	**23 56 04.0**	**-5.9**
LZH				XS	sS	23 56 17.0	-9.5
LZH				SS		23 56 28.5	
LZH				AMB	AMB		
	comp=Z,40nm,1.0s						
LZH				AMB	AMB		
	comp=Z,160nm,4.0s						
LZH				LR	LR		
	comp=N,802nm,9.9s						
LZH				LR	LR		
	comp=Z,989nm,12.0s						
KAD	**Karad**	**18.63**	**201**	*e*P	**Pn**	**23 52 38.0**	**-3.2**
KAD				AMb	AMB	23 52 41.4	
	comp=Z,21nm,0.6s						
VOSK	**Vostochnaya**	**19.13**	**341**	⇓P	**Pn**	**23 52 46.1**	**-0.8**
	comp=Z,13nm,0.7s						
ZAL	**Zalesovo**	**19.14**	**7**	P	**Pn**	**23 52 45.3**	**-1.8**
ZAA0	**Zalesovo Array**	**19.16**	**7**	*e*P	**Pn**	**23 52 46.1**	**-1.2**
ZALV	**Zalesovo Beam**	**19.16**	**7**	P	**Pn**	**23 52 45.3**	**-1.9**
	comp=Z,0.4nm,0.3s,baz=194,slow=12,SNR=14						
ZALV				LR	LR	00 01 01.3	
	comp=Z,89nm,21.9s,baz=242,slow=40						
CD2	**Chengdu**	**19.49**	**96**	*e*P	**Pn**	**23 52 50.4**	**-1.1**
CD2				AP	pP	23 52 58.6	-1.8
CD2				XP	sP	23 53 03.8	-2.1
CD2				PP		23 53 08.9	
CD2				S	**S**	**23 56 21.8**	**-6.1**
CD2				XS	sS	23 56 34.5	-10
CD2				SS		23 56 48.6	
CD2				AMB	AMB		
	comp=Z,40nm,1.7s						
CD2				AMB	AMB		
	comp=Z,120nm,5.2s						
CD2				LR	LR		
	comp=N,1μm,12.0s						
CD2				LR	LR		
	comp=E,2μm,8.4s						
CD2				LR	LR		
	comp=Z,2μm,9.6s						
BVA0	**Borovoye Array**	**19.56**	**341**	P	**Pn**	**23 52 50.5**	**-1.5**
	comp=Z,9.7nm,2.0s,baz=161,slow=13,SNR=73						
BVAR	**Borovoye Array**	**19.56**	**341**	P	**Pn**	**23 52 51.5**	**-0.5**
BVAR				LR	LR	00 00 31.2	
BVAR	**Borovoye Array**	**19.56**	**341**	P	**Pn**	**23 52 51.5**	**-0.5**
	comp=Z,1.3nm,0.3s,baz=155,slow=11,SNR=25						
BVAR				LR	LR	00 00 31.2	
	comp=Z,134nm,18.4s,baz=340,slow=37						
BRVK	**Borovoye**	**19.62**	**340**	*e*P	**Pn**	**23 52 51.2**	**-1.6**
BRVK				pmax	pmax		
	comp=Z,33nm,1.0s						
BRVK	**Borovoye**	**19.62**	**340**	*e*P	**Pn**	**23 52 51.2**	**-1.5**
	comp=Z,33nm,1.0s						
ZRNK	**Zerenda**	**19.89**	**338**	⇓P	**Pn**	**23 52 53.6**	**-2.4**
	comp=Z,12nm,0.8s						
NVS	**Novosibirsk**	**19.92**	**4**	*e*P	**Pn**	**23 52 53.7**	**-2.6**
NVS				*e*S	**S**	**23 56 36.2**	**+0.2**
NVS				pmax	pmax		
	comp=Z,13nm,1.0s						
NVS				pmax	pmax		
	comp=N,26nm,1.5s						
NVS				pmax	pmax		
	comp=E,5.0nm,0.6s						
NVS				smax			
	comp=N,19nm,1.7s						
NVS				smax			
	comp=E,14nm,1.7s						
AB31	**Akbulak array**	**21.07**	**319**	⇓P	**P**	**23 53 06.0**	**-1.0**
	comp=E,8.2nm,0.6s,mb4.2						
KMI	**Kunming**	**21.17**	**112**	P	**P**	**23 53 07.5**	**-0.6**
KMI				AP		23 53 17.8	
KMI				AMB	AMB		
	comp=Z,29nm,0.8s,mb4.7						
MOY	**Mondy**	**22.00**	**35**	*e*P	**P**	**23 53 18.3**	**+1.5**
MOY				pmax	pmax		
	comp=Z,30nm,2.0s,mb4.4						
ZAK	**Zakamensk**	**22.34**	**40**	*e*P	**P**	**23 53 20.1**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.7						
CHTO	**Chiang Mai**	**22.62**	**131**	*e*P	**P**	**23 53 22.4**	**-1.3**
CHTO				pmax	pmax		
	comp=Z,23nm,1.1s,mb4.5						
CHTO	**Chiang Mai**	**22.62**	**131**	*e*P	**P**	**23 53 22.4**	**-1.3**
	comp=Z,22nm,1.1s,mb4.5						
AKTK	**Aktyubinsk**	**22.77**	**320**	P	**P**	**23 53 23.8**	**-1.2**
AKTO	**Aktyubinsk**	**22.77**	**320**	⇓P	**P**	**23 53 24.5**	**-0.4**
	comp=Z,0.3nm,0.9s						
AKTO	**Aktyubinsk**	**22.77**	**320**	P	**P**	**23 53 23.8**	**-1.2**
	comp=Z,7.6nm,0.8s,mb4.2,baz=114,slow=9.7,SNR=8.6						
SONM	**Songino Array**	**22.84**	**48**	P	**P**	**23 53 26.8**	**+1.1**
	comp=Z,28nm,1.1s,mb4.6,baz=244,slow=8.7,SNR=62						
SONM				LR	LR	00 02 56.0	
	comp=Z,335nm,19.3s,MS3.8,baz=232,slow=38						
XAN	**Xi'an**	**22.98**	**84**	P	**P**	**23 53 28.0**	**+0.6**
XAN				AP		23 53 36.9	
XAN				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.3						
ULN	**Ulaanbaatar**	**23.25**	**48⇑**	*i*P	**P**	**23 53 31.1**	**+1.0**
ULN	**Ulaanbaatar**	**23.25**	**48**	*e*P	**P**	**23 53 30.8**	**+0.7**
	comp=Z,24nm,1.0s,mb4.6						
SVE	**Sverdlovsk**	**25.86**	**334**	*e*P	**P**	**23 53 53.5**	**-0.3**
SVE				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.5						
SVE				MLR	MLR		
	comp=Z,336nm,13.0s,MS4.1						
ARU	**Arti**	**26.35**	**331**	*c i*P	**P**	**23 53 58.6**	**+0.3**
ARU				*e*		23 54 35.5	
ARU

comp=Z,97nm,0.8s,mb5.6
MIB Mutribah 28.83 269 *e*P P 23 54 21.1 +0.4
MIB AMb AMB 23 54 25.1
comp=Z,64nm,0.6s,mb5.6
RDF Al-Radifah 28.95 267 *e*P P 23 54 21.8 0.0
RDF AMb AMB 23 54 26.1
comp=Z,96nm,0.6s,mb5.7
GNI Garni 29.09 291⇑ *e*P P 23 54 24.5 +1.6
GNI pmax pmax
comp=Z,14nm,1.3s
GNI Garni 29.09 291 *e*P P 23 54 23.6 +0.6
GNI LR LR 00 08 52.1
GNI Garni 29.09 291 P P 23 54 24.6 +1.6
comp=Z,2.0nm,0.3s,mb4.3,baz=155,slow=14,SNR=3.0
GNI LR LR 00 08 52.1
comp=Z,159nm,19.0s,MS3.6,baz=263,slow=42
NAY Al-Naaiem 29.09 268 *e*P P 23 54 23.5 +0.4
NAY AMb AMB 23 54 28.3
comp=Z,56nm,0.8s,mb5.4
KIV Kislovodsk 30.70 299 *e*P P 23 54 41.4 +4.3
KIV *e*S S 23 59 40.4 +3.6
KIV pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
KIV MLR MLR
comp=Z,178nm,14.0s,MS3.9
KIV Kislovodsk 30.70 299 *e*P P 23 54 37.0 -0.1
NJ2 Nanjing 31.55 84 *e*P P 23 54 49.3 +4.5
NJ2 AMB AMB
comp=Z,100nm,1.0s,mb5.6
BOD Bodaibo 31.71 34 *e*P P 23 54 48.2 +2.4
SOC Sochi 32.83 298 *e*P P 23 54 55.8 -0.1
SOC pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
VRSR Storozhevoye 34.06 311 *e*P P 23 55 05.2 -1.3
VRSR pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,4.0nm,0.8s
MALT Malatya 34.12 288⇑ *i*P P 23 55 10.0 +2.8
ANN Anapa 34.30 300 *e*P P 23 55 10.7 +0.3
ANN *e*S S 00 00 37.5 +1.6
ANN pmax pmax
comp=Z,19nm,1.0s,mb5.0
ANN MLR MLR
comp=E,500nm,21.0s
ANN MLR MLR
comp=Z,248nm,21.0s,MS3.9
CN2 Changchun 35.09 62 *e*P P 23 55 17.3 +1.9
CN2 AMB AMB
comp=Z,20nm,0.7s,mb5.2
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,400nm,15.0s,MS4.3
CN2 LR LR
comp=E,200nm,15.0s,MS4.3
CN2 LR LR
comp=Z,300nm,13.0s,MS4.2
MOS Moscow 36.09 319 *e*P P 23 55 14.8 -9.1
YHNB Yeheng 36.27 95 P P 23 55 27.9 +2.1
OBN Obninsk 36.50 317⇑ *e*P P 23 55 27.3 -0.1
OBN pmax pmax
comp=Z,26nm,1.3s,mb4.9
OBN MLR MLR
comp=Z,300nm,16.0s,MS4.2
NACB Ninganchiao 36.66 96 *e*P P 23 55 29.0 -0.2
SIM Simferopol' 36.86 300 *ce*P P 23 55 31.1 +0.5
SIM pmax pmax
comp=Z,18nm,1.0s,mb4.9
KSRS Korea Array 37.62 72 P P 23 55 37.6 +0.6
comp=Z,1.1nm,0.5s,mb3.9,baz=276,slow=11,SNR=4.0
MDJ Mudanjiang 38.04 60 *e*P P 23 55 42.5 +1.9
comp=Z,16nm,0.9s,mb4.7
ANTO Ankara 38.25 292 *e*P P 23 55 42.8 +0.4
ANTO pmax pmax
comp=Z,16nm,1.1s,mb4.7
ANTO Ankara 38.25 292 *e*P P 23 55 42.8 +0.3
comp=Z,16nm,1.1s,mb4.7
AKASG Malin Array Be 40.24 309 *i*P P 23 55 58.2 -0.7
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 40.24 309 P P 23 55 58.2 -0.7
AKASG PP PP 23 57 30.5 -1.4
AKASG PcP PcP 23 58 05.3 +3.2
AKASG Malin Array Be 40.24 309 P P 23 55 58.2 -0.7
comp=Z,2.9nm,0.5s,mb4.2,baz=77,slow=7.8,SNR=18
AKASG PP PP 23 57 30.5 -1.4
comp=Z,1.7nm,0.8s,baz=82,slow=10.0,SNR=8.5
AKASG PcP PcP 23 58 05.3 +3.2
comp=Z,0.8nm,0.7s,baz=78,slow=3.8,SNR=4.8
KIEV Kiev 40.25 309 *e*P P 23 55 58.1 -0.9
KIEV *e* 23 57 34.6
KIEV pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
KIEV Kiev 40.25 309 *e*P P 23 55 58.1 -0.9
comp=Z,9.3nm,0.9s,mb4.5
KIEV *e*PP PP 23 57 34.6 +2.6
KIS Kishinev 40.50 304 *e*P P 23 56 03.0 +2.0
KIS Kishinev 40.50 304 *e*UNK P 23 56 03.0 +2.0
YAK Yakutsk 40.62 33⇑ *e*P P 23 56 03.1 +1.2
YAK pmax pmax
comp=Z,34nm,1.2s,mb4.8
MNK Minsk 41.37 315 *e*P P 23 56 07.0 -1.1
JOF Joensuu 41.38 328 *ep* P 23 56 07.9 -0.2
comp=Z,15nm,0.7s,mb4.7
JOF Joensuu 41.38 328 *e*P P 23 56 07.9 -0.2
JOF pmax pmax
comp=Z,15nm,0.7s,mb4.7
VRI Vrincioaia 42.01 302⇓ *i*P P 23 56 14.9 +1.4
PLOR Plostina 42.06 302⇑ *i*P P 23 56 15.3 +1.4
MLR Muntele Rosu 42.59 302 LR LR 00 16 24.3
comp=Z,139nm,19.9s,MS3.9,baz=326,slow=40
MLR Muntele Rosu 42.59 302⇑ *i*P P 23 56 19.8 +1.6
BURAR Bucovina Array 42.91 305⇑ *i*P P 23 56 20.4 -0.4
FIA1 FINESS Array S 43.36 325 *e*P P 23 56 24.4 +0.1
FIA1 *e*PP PP 23 58 06.0 +0.6
FIA1 *e*PcP PcP 23 58 12.0 -0.1
FINES FINESS Array B 43.36 325 *i*P P 23 56 24.6 +0.4
FINES pmax pmax
comp=Z,7.0nm,0.6s
FINES FINESS Array B 43.36 325 P P 23 56 24.6 +0.4
comp=Z,7.2nm,0.6s,mb4.6,baz=109,slow=9.5,SNR=37
TIXI Tiksi 44.29 20 *e*P P 23 56 31.5 0.0
TIXI *e* 23 58 16.2
TIXI pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TIXI Tiksi 44.29 20 *e*P P 23 56 31.5 0.0
comp=Z,6.9nm,1.0s,mb4.3
TIXI *e*PP PP 23 58 16.2 +1.1
APE Apeiranthos 44.39 290⇓ *i*P P 23 56 35.0 +2.1
KWP Kalwaria 44.44 308 *e*P P 23 56 33.1 0.0
KWP *e* 23 58 18.1
KWP pmax pmax
comp=Z,15nm,1.1s,mb4.6
KWP Kalwaria 44.44 308 *e*P P 23 56 33.1 0.0
comp=Z,15nm,1.1s,mb4.6
KWP *e* 23 58 18.1
DRGR 44.69 304⇑ *i*P P 23 56 36.2 +1.1
KOLS Kolonicke sedl 44.78 307 *e*P P 23 56 38.5 +2.8
CRVS Cervenica-Dubn 45.31 307 *e*P P 23 56 43.6 +3.6
STHS Stebnicka Huta 45.41 308 *e*P P 23 56 40.7 -0.1
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.2
STHS Stebnicka Huta 45.41 308 *e*P P 23 56 40.7 -0.1
comp=Z,3.1nm,0.7s,mb4.2
BZS Buzias 45.59 302⇑ *i*P P 23 56 43.1 +0.8
ARCES ARCESS Array B 45.76 336 P P 23 56 45.3 +2.1
comp=Z,2.9nm,0.7s,mb4.3,baz=105,slow=9.2,SNR=6.3
MJAR Matsushiro Arr 45.83 71 P P 23 56 44.9 +0.5
comp=Z,4.3nm,0.6s,mb4.5,baz=289,slow=9.6,SNR=9.8
NIE Niedzica 46.01 308 *e*P P 23 56 46.8 +1.3
OJC Ojcow 46.27 309 *e*P P 23 56 47.5 -0.1
VYHS Vyhne 47.09 307 *e*P P 23 56 56.8 +2.9
VYHS pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
VYHS Vyhne 47.09 307 *e*P P 23 56 56.8 +2.9
comp=Z,6.6nm,1.4s,mb4.4
KOLL Kolacno 47.36 307 *e*P P 23 56 56.8 +0.7
KOLL *e* 23 56 59.4
OKC Ostrava-Krasne 47.37 308 *e*P P 23 56 56.3 +0.2
PKSM Moragy 47.55 303⇑ *i*P P 23 56 57.7 +0.1
DPC Dobruska-Polom 48.48 309 *e*P P 23 57 05.2 +0.5
DPC *ex* x 23 57 08.2

UPC Upice 48.65 310 *e*P P 23 57 06.4 +0.4
CONA Conrad Observa 49.14 306⇓ *i*P P 23 57 10.0 +0.2
comp=Z,16nm,1.3s,mb4.9
CSNA Conrad Observa 49.14 306⇓ *i*P P 23 57 10.1 +0.4
comp=Z,16nm,1.5s,mb4.8
TREC Trest 49.16 308 *e*P P 23 57 06.7 -3.2
PRU Pruhonice 49.66 309 *e*P P 23 57 14.8 +1.1
BRG Berggiesshubel 49.90 310 *e*P P 23 57 16.3 +0.7
BRG pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BRG Berggiesshubel 49.90 310 *e*PKP P 23 57 16.3 +0.7
comp=Z,6.8nm,1.1s,mb4.6
SOKA Soboth 49.92 305⇓ *i*P P 23 57 16.5 +0.7
comp=Z,20nm,1.2s,mb5.0
MOA Molln 50.21 306⇑ *i*P P 23 57 16.4 -1.6
comp=Z,6.9nm,0.9s,mb4.7
GEC2 GERESS Array S 50.39 308 *e*P P 23 57 20.0 +0.7
GERES GERESS Array B 50.39 308 P P 23 57 20.2 +0.9
comp=Z,3.0nm,0.8s,mb4.3,baz=79,slow=6.9,SNR=14
KHC Kasperske Hory 50.42 308⇑ *e*P P 23 57 18.7 -0.8
KHC Kasperske Hory 50.42 308 *e*P P 23 57 19.5 0.0
CLL Collm 50.42 311 *i*P P 23 57 19.4 -0.1
CLL pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
CLL MLR MLR
comp=Z,200nm,17.6s,MS4.2
CLL Collm 50.42 311 *i*P P 23 57 19.4 -0.1
comp=Z,9.0nm,1.3s,mb4.6
CLL LR LR
comp=Z,200nm,17.6s,MS4.2
CLL Collm 50.42 311 *i*P P 23 57 19.4 -0.1
comp=Z,9.0nm,1.3s,mb4.6
NB2 NORSAR Subarra 50.48 324 P P 23 57 19.5 -0.2
comp=Z,9.5nm,0.8s,mb4.9,baz=88,slow=7.9
NOA NORSAR Array B 50.48 324 P P 23 57 19.8 +0.1
comp=Z,7.8nm,0.7s,mb4.8,baz=88,slow=7.5,SNR=33
TIP Timpagrande 50.50 295 *e*P P 23 57 21.0 +0.8
comp=Z,22nm,1.3s,mb5.0
MA2 Magadan 50.51 38 *e*P P 23 57 22.1 +2.1
MA2 pmax pmax
comp=Z,42nm,1.3s,mb5.2
MA2 Magadan 50.51 38 *e*P P 23 57 22.1 +2.0
comp=Z,42nm,1.3s,mb5.2
NAO01 NORSAR Array S 50.64 323 *e*P P 23 57 21.0 0.0
comp=Z,4.5nm,0.7s,mb4.5
NAO01 *e*PcP PcP 23 58 41.3 +3.4
SEY Seymchan 51.13 34⇑ *e*P P 23 57 26.0 +1.4
GRA1 Grafenberg Arr 51.83 309 *e*P P 23 57 31.2 +1.1
comp=Z,10.0nm,1.1s,mb4.7
GRA1 *e*pP pP 23 57 34.0 -8.3
GRF Grafenberg Arr 51.83 309 *e*P P 23 57 31.2 +1.1
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 51.83 309 *e*P P 23 57 31.2 +1.1
GRF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
GRF Grafenberg Arr 51.83 309 *e*P P 23 57 31.2 +1.1
comp=Z,10.0nm,1.1s,mb4.7
GRF *e*pP pP 23 57 34.0 -8.3
KAPI Kappang 53.93 130 LR LR 00 25 52.4
comp=Z,917nm,19.5s,MS4.8,baz=113,slow=42
KMBO Kilima Mbogo 54.43 238 P P 23 57 51.8 +2.1
comp=Z,12nm,1.2s,mb4.7,baz=45,slow=12,SNR=13
CDF Champ du Feu 54.65 308 *e*P P 23 57 50.2 -0.6
comp=Z,11nm,1.0s,mb4.6
CDF Champ du Feu 54.65 308 *e*P P 23 57 50.2 -0.6
CDF pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
CDF Champ du Feu 54.65 308 *e*P P 23 57 50.2 -0.6
comp=Z,5.7nm,1.0s,mb4.6
WLF Walferdange 55.04 310 P P 23 57 53.6 0.0
HINF Hinteralfeld 55.08 308 *e*P P 23 57 52.9 -1.0
comp=Z,14nm,0.9s,mb4.7
HINF Hinteralfeld 55.08 308 *e*P P 23 57 52.9 -1.0
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
HINF Hinteralfeld 55.08 308 *e*P P 23 57 52.9 -1.0
comp=Z,7.3nm,0.9s,mb4.7
PGF Pioggiola 55.13 301 *e*P P 23 57 53.2 -1.2
HAU Haudompre 55.35 308 *e*P P 23 57 54.8 -1.1
comp=Z,24nm,1.1s,mb4.8
HAU *e*MLR MLR
comp=Z,221nm,20.8s,MS3.9
HAU Haudompre 55.35 308 *e*P P 23 57 54.8 -1.1
HAU pmax pmax
comp=Z,12nm,1.1s,mb4.8
HAU MLR MLR
comp=Z,220nm,20.8s,MS4.2
HAU Haudompre 55.35 308 *e*P P 23 57 54.8 -1.1
comp=Z,12nm,1.1s,mb4.8
HAU LR LR
comp=Z,220nm,20.8s,MS4.2
GIVF Givet 55.76 311 *e*P P 23 57 57.6 -1.2
LPG La Plagne 55.80 305 *e*P P 23 57 58.2 -0.9
comp=Z,36nm,1.1s,mb5.0
LPG La Plagne 55.80 305 *e*P P 23 57 58.2 -0.9
LPG pmax pmax
comp=Z,18nm,1.1s,mb5.0
LPG La Plagne 55.80 305 *e*P P 23 57 58.2 -0.9
comp=Z,18nm,1.1s,mb5.0
LPL La Plagne 55.80 305 *e*P P 23 57 58.2 -1.0
comp=Z,40nm,1.2s,mb5.0
LPL La Plagne 55.80 305 *e*P P 23 57 58.2 -1.0
LPL pmax pmax
comp=Z,20nm,1.2s,mb5.0
LPL La Plagne 55.80 305 *e*P P 23 57 58.2 -1.0
comp=Z,20nm,1.2s,mb5.0
SBF Sospel 55.82 303 *e*P P 23 57 57.9 -1.4
CABF La Chapelle 55.91 307 *e*P P 23 57 59.3 -0.7
comp=Z,16nm,0.9s,mb4.7
CABF La Chapelle 55.91 307 *e*P P 23 57 59.3 -0.7
CABF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
CABF La Chapelle 55.91 307 *e*P P 23 57 59.3 -0.7
comp=Z,7.8nm,0.9s,mb4.7
MBDF Montbardon 56.01 304 *e*P P 23 57 59.6 -1.1
comp=Z,31nm,1.2s,mb4.9
MBDF Montbardon 56.01 304 *e*P P 23 57 59.6 -1.1
MBDF pmax pmax
comp=Z,16nm,1.2s,mb4.9
MBDF Montbardon 56.01 304 *e*P P 23 57 59.6 -1.1
comp=Z,16nm,1.2s,mb4.9
MEZF Maizieres J'vi 56.05 309 *e*P P 23 57 59.9 -1.0
comp=Z,37nm,1.2s,mb5.0
MEZF Maizieres J'vi 56.05 309 *e*P P 23 57 59.9 -1.0
comp=Z,37nm,1.2s,mb5.3
BILL Biiibino 56.33 27⇑ *e*P P 23 58 04.1 +1.5
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.4
BILL Biiibino 56.33 27 *e*P P 23 58 04.2 +1.5
comp=Z,7.3nm,0.6s,mb4.9
FRF La Foret Royal 56.46 303 *e*P P 23 58 03.0 -0.9
comp=Z,34nm,1.2s,mb5.0
FRF La Foret Royal 56.46 303 *e*P P 23 58 03.0 -0.9
FRF pmax pmax
comp=Z,17nm,1.2s,mb5.0
FRF La Foret Royal 56.46 303 *e*P P 23 58 03.0 -0.9
comp=Z,17nm,1.2s,mb5.0
ORIF Oris-en-Rattie 56.56 305 *e*P P 23 58 03.3 -1.3
comp=Z,22nm,1.3s,mb4.7
ORIF *e*MLR MLR
comp=Z,167nm,22.5s,MS3.8
ORIF Oris-en-Rattie 56.56 305 *e*P P 23 58 03.3 -1.3
ORIF pmax pmax
comp=Z,11nm,1.3s,mb4.7
ORIF Oris-en-Rattie 56.56 305 *e*P P 23 58 03.3 -1.3
comp=Z,11nm,1.3s,mb4.7
LMR La Mourre 56.62 303 *e*P P 23 58 03.5 -1.6
comp=Z,104nm,1.4s,mb5.4
LMR La Mourre 56.62 303 *e*P P 23 58 03.5 -1.6
LMR pmax pmax
comp=Z,52nm,1.4s,mb5.4
LMR La Mourre 56.62 303 *e*P P 23 58 03.5 -1.6
comp=Z,52nm,1.4s,mb5.4
LOR Lormes 57.18 308 *e*P P 23 58 07.7 -1.2
LOR *e*MLR MLR
comp=Z,226nm,19.5s,MS4.0
LOR Lormes 57.18 308 *e*P P 23 58 07.7 -1.2
LOR LR LR
comp=Z,230nm,19.5s,MS4.3
KEST Kesra 57.20 293 P P 23 58 14.0 +4.7
comp=Z,1.6nm,0.8s,mb4.1,baz=59,slow=11,SNR=4.9
SMF Signal de Mont 57.38 307 *e*P P 23 58 09.3 -1.1
VIVF Saint-Julien-l 57.39 305 *e*P P 23 58 08.7 -1.8

SSF Saint Saulge 57.47 308 *e*P P 23 58 09.7 -1.3
comp=Z,12nm,0.9s,mb4.6
SSF Saint Saulge 57.47 308 *e*P P 23 58 09.7 -1.3
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SSF Saint Saulge 57.47 308 *e*P P 23 58 09.7 -1.3
comp=Z,5.8nm,0.9s,mb4.6
AVF Avril sur Loir 57.65 307 *e*P P 23 58 11.3 -1.0
comp=Z,8.1nm,0.8s,mb4.5
AVF Avril sur Loir 57.65 307 *e*P P 23 58 11.3 -1.0
AVF pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
AVF Avril sur Loir 57.65 307 *e*P P 23 58 11.3 -1.0
comp=Z,4.1nm,0.8s,mb4.5
BGF Bois d'Agland 58.06 307 *e*P P 23 58 13.8 -1.3
LASF Ste Croix 58.20 304 *e*P P 23 58 14.9 -1.3
comp=Z,29nm,1.1s,mb4.9
TCF Toulx Ste Croi 58.56 307 *e*P P 23 58 17.9 -0.8
comp=Z,24nm,1.2s,mb4.8
TCF Toulx Ste Croi 58.56 307 *e*P P 23 58 17.9 -0.8
TCF pmax pmax
comp=Z,12nm,1.2s,mb4.8
TCF Toulx Ste Croi 58.56 307 *e*P P 23 58 17.9 -0.8
comp=Z,12nm,1.2s,mb4.8
CAF Calviac 59.12 306 *e*P P 23 58 21.8 -0.7
comp=Z,48nm,1.5s,mb5.0
CAF Calviac 59.12 306 *e*P P 23 58 21.8 -0.7
CAF pmax pmax
comp=Z,24nm,1.5s,mb5.0
CAF Calviac 59.12 306 *e*P P 23 58 21.8 -0.7
comp=Z,24nm,1.5s,mb5.0
LDF La Druitiere 59.30 310 *e*P P 23 58 22.8 -0.9
comp=Z,28nm,1.1s,mb4.9
LDF La Druitiere 59.30 310 *e*P P 23 58 22.8 -0.9
LDF pmax pmax
comp=Z,14nm,1.0s,mb5.0
LDF La Druitiere 59.30 310 *e*P P 23 58 22.8 -0.9
comp=Z,14nm,1.0s,mb5.0
FLN La Foliniere 59.46 311 *e*P P 23 58 23.7 -1.2
comp=Z,21nm,1.0s,mb4.8
FLN *e*MLR MLR
comp=Z,113nm,18.8s,MS3.7
FLN La Foliniere 59.46 311 *e*P P 23 58 23.7 -1.2
FLN pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
FLN MLR MLR
comp=Z,110nm,18.8s,MS4.0
FLN La Foliniere 59.46 311 *e*P P 23 58 23.7 -1.2
comp=Z,10nm,1.0s,mb4.8
FLN LR LR
comp=Z,110nm,18.8s,MS4.0
MTLF Montolieu 59.57 304 *e*P P 23 58 24.0 -1.7
comp=Z,39nm,1.5s,mb4.9
MTLF Montolieu 59.57 304 *e*P P 23 58 24.0 -1.7
MTLF pmax pmax
comp=Z,19nm,1.5s,mb4.9
MTLF Montolieu 59.57 304 *e*P P 23 58 24.0 -1.7
comp=Z,20nm,1.5s,mb4.9
GRR Gorron 59.83 310 *e*P P 23 58 26.3 -1.1
MFF Saint Martin d 59.99 308 *e*P P 23 58 27.3 -1.2
comp=Z,111nm,1.7s,mb5.3
MFF Saint Martin d 59.99 308 *e*P P 23 58 27.3 -1.2
MFF pmax pmax
comp=Z,55nm,1.7s,mb5.3
MFF Saint Martin d 59.99 308 *e*P P 23 58 27.3 -1.2
comp=Z,56nm,1.7s,mb5.3
SGMF Saint Gilles 60.94 311 *e*P P 23 58 33.7 -1.2
EPF Esparros 60.96 304 *e*P P 23 58 34.0 -1.2
ROSF Rostrenen 61.35 311 *e*P P 23 58 36.4 -1.4
comp=Z,70nm,1.2s,mb5.4
ROSF Rostrenen 61.35 311 *e*P P 23 58 36.4 -1.4
ROSF pmax pmax
comp=Z,35nm,1.2s,mb5.4
ROSF Rostrenen 61.35 311 *e*P P 23 58 36.4 -1.4
comp=Z,35nm,1.2s,mb5.4
ETSF Etsaut 61.62 304 *e*P P 23 58 38.8 -0.9
SJPF Ste Jean 61.99 305 *e*P P 23 58 40.6 -1.5
comp=Z,80nm,1.4s,mb5.4
SJPF Ste Jean 61.99 305 *e*P P 23 58 40.6 -1.5
SJPF pmax pmax
comp=Z,40nm,1.4s,mb5.4
SJPF Ste Jean 61.99 305 *e*P P 23 58 40.6 -1.5
comp=Z,40nm,1.4s,mb5.4
ESDC Sonseca Array 65.28 302 P P 23 59 04.5 +0.6
comp=Z,0.3nm,0.5s,mb3.6,baz=60,slow=7.7,SNR=3.8
MBWA Marble Bar 66.83 141 *e*P P 23 59 16.1 +2.1
FITZ Fitzroy Crossi 67.68 134 P P 23 59 19.5 +0.1
FITZ Fitzroy Crossi 67.68 134 P P 23 59 19.1 -0.3
comp=Z,2.1nm,0.9s,mb4.2,baz=331,slow=13,SNR=3.1
LSZ Lusaka 70.77 235 P P 23 59 40.0 +1.4
comp=Z,1.0nm,0.5s,mb4.0,baz=54,slow=8.7,SNR=2.9
IMA2 Indian Mountai 70.88 21 *e*P P 23 59 40.3 +1.7
TORD Torodi Ar. Bea 73.92 275 P P 23 59 57.0 -0.5
TORD PP PP 00 02 37.9 -4.9
TORD Torodi Ar. Bea 73.92 275 P P 23 59 57.0 -0.5
comp=Z,13nm,0.7s,mb5.0,baz=48,slow=5.2,SNR=44
TORD PP PP 00 02 37.9 -4.9
comp=Z,0.6nm,1.1s,baz=61,slow=7.1,SNR=5.1
WRA Warramunga Arr 74.45 128 P P 00 00 00.0 -0.3
comp=Z,3.4nm,0.9s,mb4.3,baz=327,slow=5.7,SNR=22
WRAB Tennant Creek 74.45 128 *e*P P 00 00 00.8 +0.4
WRAB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
WRAB Tennant Creek 74.45 128 *e*P P 00 00 00.8 +0.4
comp=Z,9.8nm,1.1s,mb4.7
WB2 Warramunga Arr 74.46 128 *e*P P 00 00 01.4 +1.0
NWAO Narrogin (SRO) 75.61 149 P P 00 00 08.4 +1.7
comp=Z,6.4nm,0.8s,mb4.6,baz=295,slow=6.4,SNR=4.1
ASAR Alice Springs 76.90 131 P P 00 00 14.3 0.0
comp=Z,0.9nm,0.6s,mb3.9,baz=314,slow=5.3,SNR=11
LBTB Lobatse 79.47 229 P P 00 00 29.3 +0.8
comp=Z,4.1nm,0.6s,mb4.5,baz=64,slow=4.7,SNR=9.4
YKA Yellowknife Ar 82.06 7 *i*P P 00 00 44.5 +2.7
YKA pmax pmax
comp=Z,4.0nm,0.7s
YKA Yellowknife Ar 82.06 7 P P 00 00 42.2 +0.4
YKA Yellowknife Ar 82.06 7 P P 00 00 42.2 +0.4
comp=Z,4.0nm,0.7s,mb4.5,baz=342,slow=5.1,SNR=40
BOSA Boshof 82.28 227 P P 00 00 44.1 +0.6
comp=Z,6.5nm,0.5s,mb4.8,baz=36,slow=4.5,SNR=16
DBIC Dimbokro 82.86 273 P P 00 00 47.2 +0.3
comp=Z,5.3nm,0.7s,mb4.7,baz=40,slow=6.8,SNR=6.3
QSPA South Pole Qui 124.76 180 PKP PKPdf 00 07 20.6 +0.5
comp=Z,2.6nm,1.0s,baz=326,slow=2.2,SNR=3.9
CPUP Villa Florida 143.37 272 PKhKP 00 07 53.1
comp=Z,1.4nm,0.7s,baz=66,slow=5.0,SNR=3.0
LPAZ La Paz 146.74 296 PKPbc PKPbc 00 08 05.6 +1.4
comp=Z,1.1nm,0.6s,baz=329,slow=5.9,SNR=5.9

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*BJI **16** 23:58:31.4, 698S×156.04E, h18km, mB5.5, mb5.6, Ms5.2, Msz5.1*
*MOS **16** 23:58:35.4±0.8, 690S×158.86E, h33km, mb6.2/37, MS5.2/47, Error ellipse: s-maj=8.2km s-min=5.7km az=99.4*
*GCMT **16** 23:58:36.1±0.1, 7.14S×155.87E, h53km, MW5.7/107, Moment Tensor Solution. s107,c213; s102,c262; Duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}4.14±.05; $M_{\theta\theta}$-3.22±.04; $M_{\phi\phi}$-0.92±.04; $M_{r\theta}$-0.72±.04; $M_{\theta\phi}$2.46±.04; $M_{\phi r}$-0.38±.04; Best double couple: M_o4.55000×10^{17} NP1:ϕ_s133.00000°, δ43.00000°, λ106.00000°. NP2:ϕ_s292.00000°, δ49.00000°, λ75.00000°. Principal axes: T 4.2940, Plg79.0000°, Azm135.0000°; N 0.5070, Plg11.0000°, Azm302.0000°; P -4.8050, Plg3.0000°, Azm32.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*ISCJB **16** 23:58:36.5±0.9, 697S±003×155.84E±003, h46km±7km, mb5.8/119, MS5.3/220 Error ellipse: s-maj=5.1km s-min=4.9km az=40.1*
*NEIC **16** 23:58:36.1±0.1, 696S×155.87E, h35km, mb5.9/48, MS5.4/181, MW5.7, Error ellipse: s-maj=4.2km s-min=3.7km az=112.0, Moment Tensor Solution. s34 Moment tensor: Scale 10^{17}Nm; M_{rr}4.82; $M_{\theta\theta}$-1.69; $M_{\phi\phi}$-3.12; $M_{r\theta}$-0.74; $M_{\theta\phi}$2.55; $M_{\phi r}$-0.50; Best double couple: M_o5.00000×10^{17} NP1:ϕ_s153.00000°, δ46.00000°, λ105.00000°. NP2:ϕ_s312.00000°, δ46.00000°, λ75.00000°. Principal axes: T 4.9800, Plg79.0000°, Azm144.0000°; N 0.0700, Plg11.0000°, Azm323.0000°; P -5.0600, Plg0.0000°, Azm53.0000°;*
*IDC **16** 23:58:42.4±1.4, 704S×155.82E, h86km±12km, mb5.2/30,*

mb1 5.3/32,mb1mx5.3/32,mbtmp5.2/32,MS4.9/20,
Ms1 4.9/20,ms1mx4.9/23 Error ellipse: s-maj=8.7km
s-min=8.0km az=113.0

ISC 16 23:58:41.1±0.8,703S±003×15585E±003,h74km±7km,
h27km±6.0km:pP-P,n852,σ0°89/312,mb5.7/119,164C-54D,
Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.71**	**121**	⇓*eP*	**Pn**	**23 59 49.7**	**0.0**
HNR				S	**Sn**	**00 00 44.3**	**+1.3**
HNR	**Honiara**	**4.71**	**121**	P	**Pn**	**23 59 50.0**	**+0.3**
210nm,0.3s,baz=246,slow=1.1,SNR=31							
HNR				S	**Sn**	**00 00 44.3**	**+1.3**
543nm,0.3s,baz=84,slow=21,SNR=9.8							
COEN	**Coen**	**14.24**	**240**	⇓*e*Pn	**Pn**	**00 02 00.2**	**+1.1**
4μm,2.0s							
CTA	**Charters Tower**	**15.98**	**215**	*e*P	**Pn**	**00 02 23.0**	**+1.5**
83nm,1.0s							
CTA				*e*		00 02 34.6	
CTA				*e*S	**S**	**00 05 29.9**	**+2.3**
CTA				*e*PCP	PcP	00 07 15.5	+0.6
CTA	**Charters Tower**	**15.98**	**215**	*e*P	**Pn**	**00 02 23.0**	**+1.5**
CTA				pmax	pmax		
comp=Z,83nm,1.0s							
CTA	**Charters Tower**	**15.98**	**215**	P	**Pn**	**00 02 22.1**	**+0.7**
comp=Z,2.3nm,0.3s,baz=41,slow=14,SNR=26							
CTA				LR	LR	00 06 23.1	
comp=Z,4μm,21.3s,baz=50,slow=29							
CTA				PcP	PcP	00 07 16.0	+1.1
comp=Z,0.3nm,0.3s,baz=335,slow=6.5,SNR=3.1							
CTAO	**Charters Tower**	**15.98**	**215**	⇓*i*P	**Pn**	**00 02 22.0**	**+0.5**
CTAO				pmax	pmax		
comp=Z,241nm,1.1s							
CTAO	**Charters Tower**	**15.98**	**215**	⇓*i*Pn	**Pn**	**00 02 22.0**	**+0.5**
comp=Z,241nm,1.1s							
CTAO				*e*		00 02 39.2	
CTAO				*e*S	**S**	**00 05 30.8**	**+3.2**
EIDS	**Eidsvold**	**18.80**	**193**	⇓*e*Pn	**Pn**	**00 02 55.5**	**-0.5**
EIDS				*e*		00 03 10.2	
EIDS				*e*S	**S**	**00 06 22.4**	**-2.4**
FUNA	**Funafuti**	**23.18**	**95**	⇑*e*P	**P**	**00 03 40.9**	**-0.8**
comp=Z,1μm,1.6s,mb6.0							
FUNA				PcP	PcP	00 07 30.3	+2.3
FUNA				LR	LR		
comp=Z,7μm,19.0s							
GUMO	**Guam**	**23.20**	**332**	P	**P**	**00 03 42.2**	**+0.4**
GUMO						00 07 27.9	
GUMO				pmax	pmax		
comp=Z,83nm,0.8s,mb5.1							
GUMO				pmax	pmax		
comp=Z,71nm,0.6s,mb5.2							
GUMO				MLR	MLR		
comp=Z,3μm,21.6s							
GUMO	**Guam**	**23.20**	**332**	*e*P	**P**	**00 03 40.8**	**-1.0**
comp=Z,690nm,1.0s,mb5.9							
GUMO				LR	LR		
comp=Z,3μm,22.0s							
GUMO	**Guam**	**23.20**	**332**	P	**P**	**00 03 42.2**	**+0.4**
comp=Z,83nm,0.8s,mb5.1,baz=160,slow=15,SNR=3.4							
GUMO				PcP	PcP	00 07 27.9	-0.1
comp=Z,71nm,0.6s,baz=199,slow=8.1,SNR=4.0							
GUMO				LR	LR	00 11 33.7	
comp=Z,3μm,21.6s,baz=147,slow=33							
ARMA	**Armidale**	**23.61**	**189**	*e*P	**P**	**00 03 45.6**	**+0.2**
ARMA				*e*PCP	PcP	00 07 29.6	+1.0
KAKA	**Kakadu**	**23.74**	**254**	*e*P	**P**	**00 03 46.2**	**-0.6**
comp=Z,2μm,1.4s,mb6.3							
KAKA				*e*PCP	PcP	00 07 29.1	0.0
KAKA				*e*S	**S**	**00 07 57.9**	**+1.0**
WRAB	**Tennant Creek**	**24.49**	**236**	*c i*P	**P**	**00 03 53.8**	**+0.2**
WRAB	**Tennant Creek**	**24.49**	**236**	*e*P	**P**	**00 03 53.5**	**-0.1**
comp=Z,532nm,1.4s,mb5.7							
WRAB				LR	LR		
comp=Z,9μm,20.0s							
WB2	**Warramunga Arr**	**24.49**	**236**	*e*P	**P**	**00 03 52.8**	**-0.8**
WB2				*e*		00 04 03.9	
WB2				*e*PCP	PcP	00 07 29.7	-1.0
WB2				*e*SCP	ScP	00 11 05.8	+2.7
WRA	**Warramunga Arr**	**24.50**	**236**	P	**P**	**00 03 53.8**	**+0.1**
WRA						00 07 31.0	
WRA				S	**S**	**00 08 10.3**	**+1.2**
WRA	**Warramunga Arr**	**24.50**	**236**	P	**P**	**00 03 53.8**	**+0.1**
comp=Z,228nm,1.1s,mb5.5,baz=62,slow=9.6,SNR=428							
WRA				PcP	PcP	00 07 31.0	+0.3
comp=Z,65nm,0.9s,baz=60,slow=2.1,SNR=16							
WRA				S	**S**	**00 08 10.3**	**+1.2**
comp=Z,8.9nm,1.1s,baz=58,slow=15,SNR=4.4							
WRA				ScP	ScP	00 11 06.4	+3.3
comp=Z,11nm,0.8s,baz=68,slow=3.2,SNR=8.4							
WRA				LR	LR	00 13 33.1	
comp=Z,7μm,18.6s,baz=55,slow=36							
ASAR	**Alice Springs**	**26.79**	**229**	P	**P**	**00 04 13.8**	**-0.6**
ASAR						00 07 36.5	
ASAR				S	**S**	**00 08 44.9**	**-0.5**
ASAR	**Alice Springs**	**26.79**	**229**	P	**P**	**00 04 13.8**	**-0.7**
ASAR				PcP	PcP	00 07 36.5	+0.6
ASAR				S	**S**	**00 08 44.9**	**-0.4**
ASAR				ScP	ScP	00 11 12.0	+2.3
ASAR	**Alice Springs**	**26.79**	**229**	P	**P**	**00 04 13.8**	**-0.7**
comp=Z,14nm,0.6s,mb4.7,baz=61,slow=9.5,SNR=127							
ASAR				PcP	PcP	00 07 36.5	+0.6
comp=Z,39nm,0.8s,baz=58,slow=2.9,SNR=13							
ASAR				S	**S**	**00 08 44.9**	**-0.4**
comp=Z,3.8nm,0.9s,baz=49,slow=16,SNR=2.3							
ASAR				ScP	ScP	00 11 12.0	+2.3
comp=Z,14nm,0.8s,baz=53,slow=3.1,SNR=14							
ASAR				PKiKP	PKiKP	00 15 11.4	-2.7
comp=Z,1.8nm,0.9s,baz=45,slow=1.9,SNR=4.5							
RIV	**Riverview**	**27.02**	**189**	*e*P	**P**	**00 04 17.1**	**+0.7**
RIV				*e*PCP	PcP	00 07 36.5	+0.3
STKA	**Stephens Creek**	**28.08**	**206**	*e*P	**P**	**00 04 25.1**	**-0.7**
comp=Z,38nm,1.2s,mb4.8							
STKA				*e*PCP	PcP	00 07 38.8	0.0
STKA				*e*S	**S**	**00 09 08.0**	**+2.6**
STKA				*e*SCP	ScP	00 11 16.4	+3.0
STKA	**Stephens Creek**	**28.08**	**206**	P	**P**	**00 04 25.9**	**+0.1**
comp=Z,13nm,0.5s,mb4.7,baz=15,slow=9.0,SNR=16							
STKA				PcP	PcP	00 07 39.3	+0.5
comp=Z,35nm,1.0s,baz=48,slow=2.9,SNR=6.1							
STKA				S	**S**	**00 09 04.7**	**-0.7**
comp=Z,5.4nm,0.8s,baz=164,slow=19,SNR=1.4							
STKA				ScP	ScP	00 11 15.8	+2.4
comp=Z,21nm,0.9s,baz=23,slow=3.2,SNR=12							
STKA				LR	LR	00 15 00.2	
comp=Z,10μm,20.7s,baz=30,slow=35							
CNB	**Canberra Magne**	**28.78**	**191**	*e*P	**P**	**00 04 32.1**	**+0.1**
comp=Z,47nm,1.1s,mb5.0							
CNB				*e*PCP	PcP	00 07 41.0	+0.6
FITZ	**Fitzroy Crossi**	**31.42**	**247**	*e*P	**P**	**00 04 54.9**	**-0.7**
comp=Z,229nm,0.8s,mb6.0							
FITZ				*e*		00 05 03.7	
FITZ				*e*PCP	PcP	00 07 48.6	+1.0
FITZ	**Fitzroy Crossi**	**31.42**	**247**	P	**P**	**00 04 55.0**	**-0.6**
comp=Z,99nm,0.8s,mb5.6,baz=87,slow=8.8,SNR=177							
FITZ				PcP	PcP	00 07 48.4	+0.8
comp=Z,42nm,0.9s,baz=28,slow=3.2,SNR=5.5							
FITZ				LR	LR	00 17 54.9	
comp=Z,4μm,19.0s,baz=75,slow=37							
TOO	**Toolangi**	**31.83**	**196**	*e*P	**P**	**00 04 58.7**	**-0.2**
comp=Z,214nm,1.4s,mb5.7							
TOO				*e*PCP	PcP	00 07 48.4	0.0
TOO				*e*SCP	ScP	00 11 28.9	+3.4
TOO	**Toolangi**	**31.83**	**196**	*e*P	**P**	**00 04 58.7**	**-0.2**
TOO				*e*		00 07 48.4	
TOO				pmax	pmax		
comp=Z,214nm,1.4s,mb5.7							
BATI	**Kupang**	**31.97**	**262**	P	**P**	**00 05 00.8**	**+0.3**
comp=Z,57nm,0.7s,mb5.4,baz=131,slow=0.6,SNR=32							
BATI				PcP	PcP	00 07 50.8	+1.6
comp=Z,94nm,0.9s,baz=195,slow=3.3,SNR=4.0							
BATI				LR	LR	00 18 24.2	
comp=Z,4μm,21.6s,baz=105,slow=37							
AFI	**Afiamalu**	**32.53**	**105**	⇑*e*P	**P**	**00 05 04.9**	**-0.5**
AFI				pmax	pmax		
comp=Z,332nm,0.9s,mb6.2							
AFI				MLR	MLR		
comp=Z,4μm,20.0s							
AFI	**Afiamalu**	**32.53**	**105**	⇑*e*P	**P**	**00 05 04.9**	**-0.5**
comp=Z,332nm,0.9s,mb6.2							
AFI				LR	LR		
comp=Z,4μm,20.0s							
RAO	**Raoul Island**	**33.16**	**135**	*e*P	**P**	**00 05 09.7**	**-1.0**
RAO						00 06 26.0	
RAO						00 07 50.8	
RAO				MLR	MLR		
comp=Z,2μm,19.0s							
RAO	**Raoul Island**	**33.16**	**135**	P	**P**	**00 05 09.4**	**-1.3**
comp=Z,149nm,0.3s,mb6.3,baz=71,slow=22,SNR=12							
DAV	**Davao City (W)**	**33.28**	**294**	P	**P**	**00 05 12.2**	**+0.3**
DAV				*e*PcP	PcP	00 07 53.1	+0.3
DAV				LR	LR		
comp=Z,4μm,22.0s							
FORT	**Forrest**	**35.16**	**224**	⇑*i*P	**P**	**00 05 27.1**	**-0.8**
comp=Z,221nm,0.6s,mb6.2							
FORT				*e*PCP	PcP	00 07 58.7	+0.8
FORT				*e*SCP	ScP	00 11 40.8	+3.5
KAPI	**Kappang**	**35.95**	**271**	P	**P**	**00 05 34.0**	**-1.0**
comp=Z,258nm,0.9s,mb6.2,baz=100,slow=5.0,SNR=202							
KAPI				PcP	PcP	00 08 00.1	-0.5
comp=Z,69nm,0.9s,baz=188,slow=1.6,SNR=4.3							
KAPI				S	**S**	**00 11 06.3**	**-2.1**
comp=Z,1.7nm,0.5s,baz=324,slow=12,SNR=1.9							
TAU	**Tasmania Unive**	**36.52**	**191**	*e*P	**P**	**00 05 40.5**	**+1.1**
TAU				LR	LR		
comp=Z,4μm,19.0s							
URZ	**Urewera**	**36.57**	**151**	P	**P**	**00 05 39.4**	**-0.5**
comp=Z,29nm,0.5s,mb5.5,baz=38,slow=4.1,SNR=14							
MBWA	**Marble Bar**	**37.63**	**244**	*e*P	**P**	**00 05 48.4**	**-0.8**
comp=Z,150nm,0.7s,mb5.9							
MBWA				LR	LR		
comp=Z,5μm,20.0s							
SNZO	**South Karori**	**38.04**	**157**	PFAKE		00 06 00.0	+7.7
SNZO				LR	LR		
comp=Z,3μm,20.0s							
RPZ	**Rata Peaks**	**38.90**	**162**	P	**P**	**00 05 59.5**	**0.0**
comp=Z,76nm,0.6s,mb5.7,baz=160,slow=4.0,SNR=42							
MYLDM	**Lahad Datu**	**39.20**	**287**	⇑P	**P**	**00 06 04.6**	**+2.2**
TSM	**Tawau**	**39.54**	**285**	⇓P	**P**	**00 06 06.0**	**+0.8**
SDKM	**Sandakan**	**40.58**	**287**	⇓P	**P**	**00 06 13.5**	**-0.3**
KDM	**Kudat**	**41.31**	**289**	⇓P	**P**	**00 06 20.3**	**+0.4**
KKM	**Kota Kinabalu**	**41.63**	**287**	⇑*i*P	**P**	**00 06 22.3**	**-0.1**
KKM				*e*PcP	PcP	00 08 18.2	-0.2
KKM	**Kota Kinabalu**	**41.63**	**287**	⇑P	**P**	**00 06 23.4**	**+0.9**
JOW	**Kunigami**	**42.98**	**323**	LR	LR	00 20 55.9	
comp=Z,1μm,21.7s,baz=274,slow=31							
KLBR	**Kellerberrin**	**43.12**	**230**	*e*P	**P**	**00 06 33.2**	**-1.2**
comp=Z,273nm,1.3s,mb5.8							
KLBR				*e*SCP	ScP	00 12 10.8	+2.9
MIDW	**Midway**	**43.54**	**35**	PFAKE		00 06 50.0	+12
MIDW				LR	LR		
comp=Z,6μm,21.0s							
BTM	**Bintulu**	**43.88**	**282**	⇓P	**P**	**00 06 42.4**	**+1.7**
NWAO	**Narrogin (SRO)**	**44.11**	**229**	*e*P	**P**	**00 06 42.1**	**-0.2**
comp=Z,341nm,1.6s,mb5.8							
NWAO				LR	LR		
comp=Z,5μm,20.0s							
NWAO	**Narrogin (SRO)**	**44.11**	**229**	P	**P**	**00 06 41.6**	**-0.7**
comp=Z,69nm,1.0s,mb5.3,baz=62,slow=7.4,SNR=14							
NWAO				LR	LR	00 24 57.6	
comp=Z,6μm,19.9s,baz=68,slow=36							
SBUM	**Sibu**	**44.55**	**281**	⇓P	**P**	**00 06 47.6**	**+1.5**
RKGY	**Rocky Gully**	**45.08**	**227**	*e*P	**P**	**00 06 51.1**	**+1.1**
comp=Z,318nm,1.5s,mb5.8							
RAR	**Rarotonga**	**45.12**	**113**	P	**P**	**00 06 50.6**	**+0.1**
RAR				LR	LR	00 22 28.1	
RAR	**Rarotonga**	**45.12**	**113**	P	**P**	**00 06 50.6**	**+0.1**
comp=Z,32nm,0.6s,mb5.2,baz=248,slow=8.7,SNR=4.9							
RAR				LR	LR	00 22 28.1	
comp=Z,1μm,21.9s,baz=281,slow=32							
NACB	**Ninganchiao**	**45.59**	**314**	*e*P	**P**	**00 06 53.6**	**-0.5**
NACB				*e*PcP	PcP	00 08 32.3	+0.8
YHNB	**Yeheng**	**46.05**	**314**	*e*P	**P**	**00 06 57.4**	**-0.4**
YHNB				*e*PcP	PcP	00 08 32.4	-0.8
TATO	**Taipei**	**46.16**	**315**	*e*P	**P**	**00 06 58.6**	**-0.1**
TATO				*e*PcP	PcP	00 08 33.1	-0.4
TATO				LR	LR		
comp=Z,2μm,20.0s							
KSM	**Kuching**	**46.22**	**279**	⇑*i*P	**P**	**00 06 59.1**	**-0.3**
KSM				PcP	PcP	00 08 33.5	-0.6
KSM	**Kuching**	**46.22**	**279**	⇑P	**P**	**00 07 00.3**	**+1.0**
MJAR	**Matsushiro Arr**	**46.39**	**340**	P	**P**	**00 06 59.3**	**-0.9**
MJAR						00 08 34.0	
MJAR	**Matsushiro Arr**	**46.39**	**340**	P	**P**	**00 06 59.3**	**-0.9**
comp=Z,38nm,0.7s,mb5.2,baz=165,slow=7.6,SNR=66							
MJAR				PcP	PcP	00 08 34.0	-0.1
comp=Z,30nm,0.7s,baz=158,slow=4.5,SNR=12							
MJAR				ScP	ScP	00 12 24.2	+3.0
comp=Z,4.8nm,0.7s,baz=164,slow=4.7,SNR=7.3							
MJAR				LR	LR	00 25 45.7	
comp=Z,452nm,19.3s,baz=170,slow=35							
MAJO	**Matsushiro**	**46.39**	**340**	*e*P	**P**	**00 06 59.0**	**-1.2**
MAJO				LR	LR		
comp=Z,1μm,22.0s							
MAT	**Matsushiro**	**46.39**	**340**	P	**P**	**00 06 59.5**	**-0.7**
MAT				S	**S**	**00 13 38.0**	**-4.5**
JNU	**Nakatsue**	**46.45**	**331**	LR	LR	00 24 56.6	
comp=Z,788nm,21.2s,baz=310,slow=34							
QZH	**Quanzhou**	**48.22**	**313**	⇑*i*P	**P**	**00 07 14.6**	**-0.1**
QZH				PCP	PcP	00 08 40.9	0.0
QZH				S	**S**	**00 14 09.0**	**+0.1**
QZH				AMB	AMB		
comp=Z,170nm,0.9s,mb5.9							
QZH				AMB	AMB		
comp=Z,890nm,4.2s							
QZH				LR	LR		
comp=N,6μm,29.6s							
QZH				LR	LR		
comp=E,1μm,16.8s							
QZH				LR	LR		
comp=Z,2μm,31.0s							
XMIS	**Christmas Isla**	**49.69**	**262**	*e*P	**P**	**00 07 22.3**	**-3.9**
ERM	**Erimo**	**50.16**	**348**	*e*P	**P**	**00 07 30.4**	**+1.3**
comp=Z,34nm,0.6s,mb5.5							
ERM				*e*PP	PP	00 09 26.0	+0.8
ERM				LR	LR		
comp=Z,2μm,20.0s							
SSE	**Sheshan**	**50.36**	**321**	P	**P**	**00 07 31.6**	**+0.7**
SSE				S	**S**	**00 14 44.9**	**+6.2**
SSE				AMB	AMB		
comp=Z,32nm,1.0s,mb5.2							
SSE				AMB	AMB		
comp=Z,281nm,7.3s							
SSE				LR	LR		
comp=N,658nm,23.1s							
SSE				LR	LR		
comp=E,806nm,23.1s							
SSE				LR	LR		
comp=Z,1μm,19.9s							
GZH	**Guangzhou**	**51.21**	**307**	P	**P**	**00 07 38.1**	**+0.7**
GZH				S	**S**	**00 14 53.6**	**+2.9**
GZH				LR	LR		
comp=N,448nm,21.9s							
GZH				LR	LR		
comp=E,1μm,18.8s							
GZH				LR	LR		
comp=Z,2μm,23.4s							
KSRS	**Korea Array**	**51.37**	**332**	P	**P**	**00 07 38.0**	**-0.3**
comp=Z,68nm,0.8s,mb5.7,baz=150,slow=8.3,SNR=120							
KSRS				PcP	PcP	00 08 52.7	+0.6
comp=Z,13nm,0.7s,baz=150,slow=4.1,SNR=11							
KSRS				ScP	ScP	00 12 46.2	+3.9
comp=Z,4.4nm,0.9s,baz=138,slow=5.5,SNR=4.9							
KSRS				LR	LR	00 29 21.2	
comp=Z,545nm,19.3s,baz=144,slow=36							
KS15	**Wonju Array Si**	**51.37**	**331**	*e*P	**P**	**00 07 38.9**	**+0.5**
INCN	**Inchon**	**52.01**	**330**	*e*P	**P**	**00 07 43.7**	**+0.6**
comp=Z,216nm,1.0s,mb6.1							
INCN				LR	LR		
comp=Z,2μm,20.0s							
QIZ	**Qiongzhong**	**52.21**	**301**	P	**P**	**00 07 45.5**	**+0.6**
QIZ				PP	PP	00 09 41.4	-2.7
QIZ				S	**S**	**00 15 03.0**	**-1.4**
QIZ				SS	SS	00 18 43.8	+0.8
QIZ				AMB	AMB		
comp=Z,97nm,1.0s,mb5.8							
QIZ				AMB	AMB		
comp=Z,354nm,8.3s							
QIZ				LR	LR		
comp=E,877nm,27.8s							
QIZ				LR	LR		
comp=Z,2μm,27.6s							
QIZ	**Qiongzhong**	**52.21**	**301**	⇑*i*P	**P**	**00 07 45.4**	**+0.5**
comp=Z,143nm,1.1s,mb5.9							
QIZ				*e*PcP	PcP	00 08 55.3	-0.3
QIZ				*e*PP	PP	00 09 43.4	-0.7
QIZ				LR	LR		
comp=Z,1μm,22.0s							
ASAJ	**Asahikawa**	**52.29**	**348**	P	**P**	**00 07 46.5**	**+1.4**
comp=Z,105nm,0.8s,mb5.9,baz=219,slow=11,SNR=55							
ASAJ				LR	LR	00 27 10.0	
comp=Z,2μm,21.8s,baz=159,slow=33							
NJ2	**Nanjing**	**52.48**	**320**	*e*P	**P**	**00 07 47.4**	**+0.7**
NJ2				PCP	PcP	00 08 56.5	+0.1
NJ2				S	**S**	**00 15 06.0**	**-1.8**
NJ2				AMB	AMB		
comp=Z,160nm,1.4s,mb5.9							
NJ2				AMB	AMB		
comp=Z,600nm,10.0s							
NJ2				LR	LR		
comp=N,3μm,22.4s							
NJ2				LR	LR		
comp=E,2μm,23.9s							
NJ2				LR	LR		
comp=Z,2μm,23.9s							
MYKOM	**Kota Tinggi**	**52.63**	**278**	⇓P	**P**	**00 07 48.6**	**+0.5**
KGM	**Kluang**	**53.19**	**278**	⇓P	**P**	**00 07 52.7**	**+0.4**
KIP	**Kipapa**	**53.36**	**57**	PFAKE		00 08 00.0	+6.6
KIP				LR	LR		
comp=Z,3μm,21.0s							
KTGM	**Kuala Trenggan**	**54.02**	**282**	⇓P	**P**	**00 07 59.0**	**+0.7**
PPT	**Papeete**	**54.17**	**107**	*e*P	**P**	**00 08 00.2**	**+0.8**
comp=Z,183nm,1.3s,mb6.0							
PPT				*e*S	**S**	**00 15 36.3**	**+5.0**
comp=Z,929nm,26.2s							
PPT				*e*LQ		00 21 27.4	
comp=Z,2μm,27.2s							
PPT				*e*LR	LR	00 23 50.5	
comp=Z,2μm,22.5s							
PPT	**Papeete**	**54.17**	**107**	P	**P**	**00 08 00.8**	**+1.4**
PPT	**Papeete**	**54.17**	**107**	P	**P**	**00 07 59.7**	**+0.3**
PPT	**Papeete**	**54.17**	**107**	P	**P**	**00 08 00.2**	**+0.8**
comp=Z,54nm,0.3s,mb6.0,baz=204,slow=13,SNR=6.4							
PPT				LR	LR	00 26 35.6	
comp=Z,1μm,20.7s,baz=307,slow=31							
PAE	**Paea**	**54.18**	**107**	*e*P	**P**	**00 07 59.8**	**+0.4**
comp=Z,386nm,1.0s,mb6.4							
PAE	**Paea**	**54.18**	**107**	*e*P	**P**	**00 07 59.8**	**+0.4**
PAE				pmax	pmax		
comp=Z,386nm,1.0s,mb6.4							
VLA	**Vladivostok**	**54.45**	**339**	*d i*P	**P**	**00 08 01.4**	**+0.5**
VLA				pmax	pmax		
comp=Z,385nm,1.4s,mb6.2							
TVO	**Taravao**	**54.50**	**107**	*e*P	**P**	**00 08 02.7**	**+0.9**
comp=Z,597nm,1.0s,mb6.6							
TVO	**Taravao**	**54.50**	**107**	*e*P	**P**	**00 08 02.7**	**+0.9**
TVO				pmax	pmax		
comp=Z,597nm,1.0s,mb6.6							
HKL	**Haleakala**	**54.52**	**59**	*e*P	**P**	**00 07 58.6**	**-3.3**
WHN	**Wuhan**	**54.55**	**315**	⇑P	**P**	**00 08 02.3**	**+0.4**
WHN				S	**S**	**00 15 39.8**	**+3.8**
WHN				AMB	AMB		
comp=Z,174nm,1.2s,mb6.0							
WHN				AMB	AMB		
comp=Z,660nm,5.4s							
WHN				LR	LR		
comp=N,1μm,13.8s							
WHN				LR	LR		
comp=E,522nm,12.0s							
WHN				LR	LR		
comp=Z,4μm,24.3s							
POHA	**Pohakuloa**	**54.74**	**60**	PFAKE		00 08 10.0	+6.5
POHA				LR	LR		
comp=Z,3μm,19.0s							
YSS	**Yuzh-Sakhalins**	**54.99**	**349**	*α i*P	**P**	**00 08 05.0**	**+0.3**
YSS				*e**PP	pP	00 08 16.0	-7.5
YSS				*e*		00 09 04.0	
YSS				*e*S	**S**	**00 15 44.0**	**+2.9**
YSS				*e*PS		00 16 04.0	
YSS				*e*SS	SS	00 19 30.0	+4.0
YSS				pmax	pmax		
comp=Z,180nm,1.0s,mb6.1							
YSS				pmax	pmax		
comp=N,70nm,0.9s							
YSS				MLR	MLR		
comp=Z,2μm,20.0s							
YSS				MLR	MLR		
comp=E,1μm,18.0s							
YSS	**Yuzh-Sakhalins**	**54.99**	**349**	*e*P	**P**	**00 08 05.0**	**+0.3**
comp=E,172nm,1.0s,mb6.0							
YSS				LR	LR		
comp=Z,2μm,22.0s							
FRIM	**Kepong**	**55.07**	**279**	⇓P	**P**	**00 08 05.6**	**-0.4**
DL2	**Dalian**	**55.64**	**328**	P	**P**	**00 08 09.3**	**-0.3**
DL2				PCP	PcP	00 09 08.3	-0.1
DL2				S	**S**	**00 15 53.6**	**+3.4**
DL2				AMB	AMB		
comp=Z,70nm,1.0s,mb5.7							
DL2				AMB	AMB		
comp=Z,260nm,7.2s							
DL2				LR	LR		
comp=N,340nm,24.4s							
DL2				LR	LR		
comp=E,540nm,23.6s							
DL2				LR	LR		
comp=Z,1μm,23.6s							
PMOR	**Pomariorio Ree**	**55.66**	**103**	*e*P	**P**	**00 08 10.8**	**+0.6**
comp=Z,2μm,1.5s,mb6.9							
IPM	**Ipoh**	**55.90**	**280**	⇑P	**P**	**00 08 12.2**	**+0.3**
KULM	**Kulim**	**56.43**	**281**	⇑*i*P	**P**	**00 08 14.7**	**-1.0**
KULM				*e*PcP	PcP	00 09 12.2	+0.2
KULM	**Kulim**	**56.43**	**281**	⇑P	**P**	**00 08 15.7**	**0.0**
MDJ	**Mudanjiang**	**56.59**	**338**	P	**P**	**00 08 16.6**	**+0.4**
MDJ				PP	PP	00 10 23.3	+0.4
MDJ				PCS	PcS	00 13 12.6	+0.1
MDJ				S	**S**	**00 16 03.0**	**+0.5**
MDJ				AMB	AMB		
comp=Z,95nm,1.0s,mb5.8							
MDJ				AMB	AMB		
comp=Z,361nm,6.7s							
MDJ				LR	LR		
comp=N,430nm,18.8s							
MDJ				LR	LR		
comp=E,478nm,20.1s							
MDJ				LR	LR		
comp=Z,766nm,18.1s							
MDJ	**Mudanjiang**	**56.59**	**338**	⇑*i*P	**P**	**00 08 16.5**	**+0.3**
comp=Z,101nm,1.0s,mb5.8							
MDJ				LR	LR		
comp=Z,804nm,20.0s							
SNG	**Songkhla**	**56.87**	**283**	P	**P**	**00 08 18.0**	**-0.8**
comp=Z,820nm,1.0s,mb6.7							
KKTK	**Khon Kaen**	**57.37**	**294**	⇑P	**P**	**00 08 22.0**	**-0.3**
comp=Z,2μm,0.5s							
SKR	**Severo-Kuril's**	**57.47**	**0**	*e*P	**P**	**00 08 21.5**	**-0.8**
SKR				*e*		00 09 13.0	
SKR				*e*		00 10 24.0	
SKR

GYA PCP PcP 00 09 20.8 +2.3
GYA PP PP 00 10 40.3 +3.1
GYA PPP 00 12 02.0
GYA SCP ScP 00 13 19.6 +7.2
GYA S **S** **00 16 29.5 +5.8**
GYA PS 00 16 43.4
GYA SCS ScS 00 18 15.6 +4.7
GYA SS SS 00 20 22.1 +5.6
GYA SSS 00 22 42.8
GYA AMB AMB
comp=Z,70nm,0.7s,mb5.8
GYA AMB AMB
comp=Z,190nm,6.2s
GYA LR LR
comp=N,3µm,19.0s
GYA LR LR
comp=E,1µm,18.8s
GYA LR LR
comp=Z,3µm,19.2s
COCO West Island 58.33 260 PFAKE 00 08 40.0 +11
COCO LR LR
comp=Z,2µm,21.0s
NNT Nongplab 59.08 289 P **P** **00 08 34.8 +0.6**
BJT Baijiatuau 59.41 325⇑ *e*P **P** **00 08 35.6 -0.5**
BJT *e* 00 10 47.6
BJT pmax pmax
comp=Z,26nm,0.7s
BJT MLR MLR
comp=Z,1µm,21.0s
BJT Baijiatuau 59.41 325⇑ *e*P **P** **00 08 35.6 -0.5**
comp=Z,26nm,0.7s,mb5.4
BJT *e*PP PP 00 10 47.6 -0.6
BJT LR LR
comp=Z,1µm,21.0s
BJI Beijing 59.42 325 P **P** **00 08 35.5 -0.7**
BJI AP pP 00 08 38.9 -16
BJI S **S** **00 16 38.0 -1.8**
BJI XS sS 00 16 51.9 -20
BJI SS SS 00 20 40.8 +4.7
BJI AMB AMB
comp=Z,46nm,1.4s,mb5.3
BJI AMB AMB
comp=Z,501nm,4.2s
BJI LR LR
comp=N,720nm,19.9s
BJI LR LR
comp=E,1µm,23.9s
BJI LR LR
comp=Z,2µm,33.9s
KLR Kul'dur 59.85 342κ *i*P **P** **00 08 35.2 -3.7**
KLR *e*S **S** **00 16 41.5 -3.4**
KLR pmax pmax
comp=E,740nm,1.6s
KLR pmax pmax
comp=Z,250nm,1.6s,mb6.0
KLR pmax pmax
comp=Z,900nm,7.5s
KLR MLR MLR
comp=Z,2µm,14.0s
PET Petropavlovsk 59.86 2⇑ *i*P **P** **00 08 39.0 +0.1**
PET *e**PP pP 00 08 51.3 -6.6
PET *e*S **S** **00 16 48.9 +4.0**
PET *e*SS SS 00 20 47.7 +5.2
PET pmax pmax
comp=Z,111nm,0.7s,mb6.0
PET pmax pmax
comp=Z,500nm,3.1s
PET pmax pmax
comp=Z,300nm,10.8s
PET MLR MLR
comp=Z,600nm,17.0s
PET Petropavlovsk 59.86 2 *e*P **P** **00 08 39.1 +0.2**
PET *e*pP pP 00 09 00.4 +2.5
PET LR LR
comp=Z,2µm,22.0s
XAN Xi'an 60.32 316 P **P** **00 08 41.8 -0.6**
XAN AP pP 00 08 49.9 -12
XAN XP sP 00 08 53.0 -17
XAN PP PP 00 10 53.9 -2.4
XAN PPP 00 12 19.4
XAN S **S** **00 16 48.0 -3.5**
XAN XS sS 00 17 03.6 -20
XAN SS SS 00 20 49.6 -0.8
XAN AMB AMB
comp=Z,61nm,1.0s,mb5.6
XAN AMB AMB
comp=Z,361nm,10.8s
XAN LR LR
comp=N,449nm,22.0s
XAN LR LR
comp=E,838nm,23.9s
XAN LR LR
comp=Z,2µm,25.2s
DRV Dumont d'Urvil 60.54 187 P **P** **00 08 52.0 +8.7**
DRV Dumont d'Urvil 60.54 187 PP PP 00 11 33.0 +36
DRV S **S** **00 17 03.0 +10**
DRV SS SS 00 21 23.0 +31
DRV L 00 23 00.0
DRV R 00 28 00.0
KMI Kunming 60.74 304 P **P** **00 08 46.6 +1.2**
KMI AP pP 00 08 50.3 -14
KMI XP sP 00 08 51.8 -21
KMI PCP PcP 00 09 31.3 +2.5
KMI PP PP 00 11 03.4 +3.2
KMI PPP 00 12 29.8
KMI SCP ScP 00 13 29.6 +5.7
KMI PCS PcS 00 13 32.5 +0.8
KMI S **S** **00 17 00.1 +3.0**
KMI PS 00 17 19.1
KMI SCS ScS 00 18 34.6 +4.5
KMI SS SS 00 20 59.1 +1.8
KMI SSS 00 23 35.5
KMI AMB AMB
comp=Z,45nm,0.9s,mb5.5
KMI AMB AMB
comp=Z,646nm,4.5s
KMI LR LR
comp=N,593nm,19.7s
KMI LR LR
comp=E,1µm,20.9s
KMI LR LR
comp=Z,2µm,21.8s
SMY Shemya 61.52 13 *e*P **P** **00 08 50.4 +0.3**
SMY LR LR
comp=Z,3µm,20.0s
CM31 Chiang Mai Arr 61.56 295 PFAKE 00 09 00.0 +8.9
CM31 LR LR
comp=Z,794nm,20.0s
CHG Chiang Mai 61.68 296 ⇑P **P** **00 08 52.5 +0.6**
comp=Z,150nm,1.0s,mb6.0
CHTO Chiang Mai 61.68 296 *e*P **P** **00 08 52.4 +0.5**
CHTO LR LR
comp=Z,823nm,22.0s
CD2 Chengdu 62.48 310 P **P** **00 08 56.8 -0.3**
CD2 AP pP 00 09 01.4 -15
CD2 XP sP 00 09 04.3 -20
CD2 PP PP 00 11 12.9 -2.5
CD2 PCS PcS 00 13 37.4 -1.8
CD2 S **S** **00 17 22.6 +3.6**
CD2 XS sS 00 17 30.6 -21
CD2 SCS ScS 00 18 44.9 +1.8
CD2 SS SS 00 21 28.8 +4.4
CD2 AMB AMB
comp=Z,170nm,0.7s,mb6.2
CD2 AMB AMB
comp=Z,540nm,8.2s
CD2 LR LR
comp=N,1µm,24.6s
CD2 LR LR
comp=E,2µm,22.8s
CD2 LR LR
comp=Z,2µm,25.8s
HHC Hu-ho-hao-te 62.62 323 ⇑P **P** **00 08 58.5 +0.7**
HHC AP pP 00 09 03.1 -14
HHC XP sP 00 09 06.1 -19
HHC PCP PcP 00 09 37.3 +1.2
HHC PP PP 00 11 17.5 +1.0
HHC SCP ScP 00 13 37.1 +5.2
HHC S **S** **00 17 25.3 +4.9**
HHC SCS ScS 00 18 47.3 +3.6
HHC SS SS 00 21 32.4 +6.2
HHC AMB AMB
comp=Z,127nm,1.2s,mb5.7
HHC AMB AMB
comp=Z,809nm,7.9s
HHC LR LR
comp=N,1µm,17.5s
HHC LR LR
comp=E,2µm,18.8s
HHC LR LR
comp=Z,2µm,17.8s
TAOE Nuku Hiva Isla 63.35 96 *e*S **S** **00 17 35.7 +5.3**
comp=Z,7µm,31.7s
TAOE Nuku Hiva Isla 63.35 96 *e*LR LR 00 27 57.7
comp=Z,47µm,22.3s
BTO Baotou 63.40 322 *e*P **P** **00 09 03.3 +0.4**
HIA Hailar 64.31 335⇑ *i*P **P** **00 09 09.3 +0.6**
HIA pmax pmax
comp=Z,134nm,0.9s
HIA MLR MLR
comp=Z,704nm,20.0s
HIA Hailar 64.31 335⇑ *i*P **P** **00 09 09.3 +0.6**
comp=Z,134nm,0.9s,mb5.8
HIA LR LR
comp=Z,704nm,20.0s
LZH Lanzhou 64.93 315 *e*P **P** **00 09 14.0 +0.9**
LZH AP pP 00 09 17.8 -15
LZH XP sP 00 09 20.1 -20
LZH PP PP 00 11 39.0 +2.1
LZH *e*S **S** **00 17 52.3 +3.0**
LZH SS SS 00 22 07.0 +4.5
LZH AMB AMB
comp=Z,26nm,1.2s,mb4.9
LZH AMB AMB
comp=Z,151nm,4.7s
LZH LR LR
comp=N,495nm,15.9s
LZH LR LR
comp=Z,985nm,17.5s
MA2 Magadan 66.51 357*c* *i*P **P** **00 09 22.5 -0.2**
MA2 *e* 00 09 36.2
MA2 *e*S S 00 18 08.5 +1.0
MA2 *e*PS 00 18 31.1
MA2 *e*SS SS 00 22 26.8 +0.8
MA2 pmax pmax
comp=Z,80nm,0.8s,mb5.6
MA2 MLR MLR
comp=Z,1µm,20.0s
MA2 Magadan 66.51 357 *e*P **P** **00 09 23.1 +0.3**
comp=Z,76nm,1.1s,mb5.4
MA2 *e*pP pP 00 09 44.6 +2.5
MA2 LR LR
comp=Z,1µm,21.0s
CASY Casey 66.83 198 *e*P **P** **00 09 24.2 -0.5**
IMP Imphal 68.03 300 *e*P **P** **00 09 33.0 -0.1**
RKT Rikitea 68.14 112 *e*P **P** **00 09 34.1 +0.2**
comp=Z,312nm,1.0s,mb6.1
RKT *e*S S 00 18 32.9 +4.3
comp=Z,782nm,33.8s
RKT Rikitea 68.14 112 *e*LR LR 00 30 17.9
comp=Z,5µm,29.0s,baz=277
RKT Rikitea 68.14 112 *e*P **P** **00 09 34.1 +0.2**
RKT *e*S S 00 18 32.9 +4.3
RKT pmax pmax
comp=Z,312nm,1.0s,mb6.1
NRGR Nerungri 68.41 342 *e*P **P** **00 09 36.0 +1.2**
NRGR S S 00 18 37.7 +7.3
NRGR smax
comp=N,25nm,0.5s
UNV Unalaska Valle 68.42 23 PFAKE 00 09 50.0 +15
UNV LR LR
comp=Z,4µm,22.0s
CLNS Chul'man 68.51 342 *e*P **P** **00 09 34.2 -1.2**
CLNS *e**PP pP 00 09 41.8 -13
CLNS *e* 00 10 01.1
CLNS *e*S S 00 18 31.9 +0.3
CLNS *e* 00 19 15.8
CLNS pmax pmax
comp=Z,117nm,1.3s,mb5.5
CLNS pmax pmax
comp=N,47nm,1.1s
CLNS pmax pmax
comp=E,15nm,1.1s
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.7
CLNS pmax pmax
comp=N,10.0nm,1.1s
CLNS pmax pmax
comp=E,10.0nm,0.6s
CLNS smax
comp=E,267nm,12.0s
CLNS smax
comp=Z,193nm,12.8s
CLNS smax
comp=N,243nm,11.2s
CLNS MLR MLR
comp=Z,300nm,13.0s
CLNS MLR MLR
comp=N,300nm,14.0s
CLNS MLR MLR
comp=E,300nm,15.0s
GTA Gaotai 69.34 317⇑ *i*P **P** **00 09 41.8 +0.8**
GTA PP PP 00 12 17.3 +2.1
GTA PPP 00 13 56.6
GTA S S 00 18 41.5 -0.7
GTA SS SS 00 23 09.3 -1.4
GTA AMB AMB
comp=Z,45nm,0.8s,mb5.3
GTA AMB AMB
comp=Z,459nm,4.2s
GTA LR LR
comp=N,526nm,21.4s
GTA LR LR
comp=E,765nm,26.0s
GTA LR LR
comp=Z,1µm,24.5s
ULN Ulaanbaatar 69.49 327 PFAKE 00 09 50.0 +8.3
ULN LR LR
comp=Z,625nm,22.0s
SEY Seymchan 69.81 358⇑ *e*P **P** **00 09 42.6 -0.7**
SONM Songino Array 69.82 327 P **P** **00 09 44.7 +0.9**
comp=Z,252nm,0.7s,mb6.1,baz=132,slow=6.4,SNR=1457
SONM PKPPKP 00 37 48.8
comp=Z,13nm,1.1s,baz=298,slow=2.7,SNR=37
SONM LR LR 00 40 08.3
comp=Z,778nm,21.2s,baz=131,slow=36
AGT Agartala 70.07 298 *e*P **P** **00 09 44.0 -1.8**
VNDA Vanda 70.53 179 P **P** **00 09 47.9 +0.3**
comp=Z,22nm,0.8s,mb5.0,baz=341,slow=6.8,SNR=72
VNDA LR LR 00 35 10.0
comp=Z,2µm,21.0s,baz=1.3,slow=31
SBA Scott Base 71.02 178 *e*P **P** **00 09 51.9 +1.2**
SBA LR LR
comp=Z,2µm,20.0s
YAK Yakutsk 71.77 347*c* *i*P **P** **00 09 55.2 0.0**
YAK *e**PP pP 00 10 05.0 -10
YAK *e* pP 00 10 12.4 -2.4
YAK *e* 00 12 43.5
YAK *e*S S 00 19 13.3 +3.8
YAK *e* 00 19 45.3
YAK pmax pmax
comp=Z,78nm,0.9s,mb5.5
YAK pmax pmax
comp=N,31nm,1.2s
YAK pmax pmax
comp=E,15nm,1.1s
YAK pmax pmax
comp=Z,22nm,0.9s,mb5.0
YAK pmax pmax
comp=N,115nm,2.4s
YAK pmax pmax
comp=E,54nm,2.3s
YAK smax
comp=N,203nm,3.1s
YAK smax
comp=E,246nm,3.1s
YAK MLR MLR
comp=Z,719nm,19.0s
YAK MLR MLR
comp=N,617nm,17.0s
YAK MLR MLR
comp=E,542nm,23.0s
YAK Yakutsk 71.77 347 *e*P **P** **00 09 55.5 +0.3**
YAK LR LR
comp=Z,711nm,21.0s
LSA Lhasa 71.99 304 P **P** **00 09 58.3 +1.0**
LSA AP pP 00 10 09.4 -7.4
LSA LR LR
comp=E,720nm,25.4s
LSA LR LR
comp=Z,1µm,26.8s
LSA Lhasa 71.99 304 *e*P **P** **00 09 58.4 +1.1**
LSA pmax pmax
comp=Z,190nm,1.4s,mb5.7
LSA MLR MLR
comp=Z,1µm,22.0s
LSA Lhasa 71.99 304 *e*P **P** **00 09 58.4 +1.1**
comp=Z,190nm,1.4s,mb5.7
LSA LR LR
comp=Z,1µm,22.0s
BOD Bodaibo 72.96 338⇓ *i*P **P** **00 10 01.9 -0.5**
BOD pmax pmax
comp=Z,71nm,1.1s,mb5.4
ZAK Zakamensk 72.97 328 *i* P **P** **00 10 03.1 +0.5**
ZAK *e* 00 19 27.2
ZAK pmax pmax
comp=Z,169nm,1.2s,mb5.8
MIR Mirnyy 72.98 202⇑ *i*P **P** **00 10 02.5 0.0**
MIR *i* 00 10 09.5
MIR *i* pP 00 10 17.0 -5.0
MIR pmax pmax
comp=Z,500nm,1.5s,mb6.1
TLY Talaya 73.52 329 *e*P **P** **00 10 06.5 +0.6**
TLY *e*S S 00 19 38.1 +8.2
TLY *e*SS SS 00 24 10.5 -3.7
TLY pmax pmax
comp=Z,151nm,1.1s,mb5.6
TLY Talaya 73.52 329 *e*P **P** **00 10 06.4 +0.6**
TLY LR LR
comp=Z,614nm,21.0s
IRK Irkutsk 73.53 330⇓ *i*P **P** **00 10 05.4 -0.5**
IRK *e* 00 10 19.1
IRK pmax pmax
comp=Z,371nm,0.7s,mb6.2
GAMB Gambell 74.73 14 *e*P **P** **00 10 11.8 -0.9**
BOK Bokaro 74.77 297 *e*P **P** **00 10 12.8 -0.9**
BOK AMb AMB 00 10 15.7
comp=Z,234nm,1.4s,mb5.7
MOY Mondy 74.88 328 *e*P **P** **00 10 14.3 +0.5**
MOY pmax pmax
comp=Z,187nm,1.4s,mb5.6
BILL Bilibino 75.25 4*c* *i*P **P** **00 10 15.9 +0.4**
BILL *e* 00 10 29.3
BILL *e*S S 00 19 51.5 +3.0
BILL *e*SS SS 00 24 41.5 +1.7
BILL pmax pmax
comp=Z,212nm,1.1s,mb5.8
BILL MLR MLR
comp=Z,800nm,17.0s
BILL Bilibino 75.25 4 *e*P **P** **00 10 15.8 +0.3**
comp=Z,213nm,1.0s,mb5.8
BILL LR LR
comp=Z,1µm,21.0s
JIRN Jiri 75.53 301 *e*P **P** **00 10 18.6 +0.6**
comp=Z,304nm,0.7s,mb6.2
VIS Vishakhapatnam 75.68 290 *e*P **P** **00 10 19.0 -0.1**
VIS AMb AMB 00 10 20.9
comp=Z,275nm,0.9s,mb6.0
GUN Gumba 75.86 301 *e*P **P** **00 10 20.4 +0.5**
PKI Pulchoki 76.17 301 *e*P **P** **00 10 21.8 +0.1**
comp=Z,144nm,0.6s,mb5.9
PALK Pallekele 76.28 279 *e*P **P** **00 10 23.3 +0.7**
comp=Z,264nm,1.4s,mb5.8
PALK LR LR
comp=Z,791nm,22.0s
KKN Kakani 76.34 301 *e*P **P** **00 10 22.8 +0.1**
comp=Z,327nm,0.8s,mb6.1
DMN Daman 76.44 300 *e*P **P** **00 10 23.7 +0.5**
comp=Z,423nm,0.7s,mb6.3
KDAK Kodiak Island 76.82 26 P **P** **00 10 24.6 -0.1**
KDAK LR LR
comp=Z,325nm,20.0s
KDAK Kodiak Island 76.82 26 P **P** **00 10 24.6 -0.1**
comp=Z,22nm,0.9s,mb4.9,baz=44,slow=2.8,SNR=9.5
GKN Gorkha 76.94 301 *e*P **P** **00 10 26.1 0.0**
comp=Z,371nm,0.6s,mb6.3
TNA Tin City 77.14 15 *e*P **P** **00 10 26.8 +0.5**
TNA LR LR
comp=Z,2µm,20.0s
SVW2 Sparrevohn 77.71 22 *e*P **P** **00 10 29.9 +0.4**
BLSP Bilaspur 77.73 294 *e*P **P** **00 10 29.2 -1.4**
BLSP AMb AMB 00 10 31.6
comp=Z,334nm,1.1s,mb6.0
KOLN Koldanda 77.77 300 *e*P **P** **00 10 30.6 -0.1**
comp=Z,229nm,0.6s,mb6.1
DANN Dangsing 77.78 301 *e*P **P** **00 10 30.5 -0.2**
comp=Z,360nm,0.6s,mb6.3
TTA Tatalina 78.75 20 *e*P **P** **00 10 35.4 +0.1**
TTA 00 10 48.4
SLKM Skilak Lake 79.42 24 *e*P **P** **00 10 38.6 -0.4**
WMQ Urumqi 79.43 317 P **P** **00 10 39.0 -0.4**
WMQ XP sP 00 10 46.0 -21
WMQ PP PP 00 13 41.0 +0.4
WMQ S S 00 20 39.0 +4.2
WMQ SS SS 00 25 48.0 +4.2
WMQ AMB AMB
comp=Z,54nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,102nm,6.0s
WMQ LR LR
comp=N,758nm,16.0s
WMQ LR LR
comp=E,965nm,16.0s
WMQ LR LR
comp=Z,1µm,16.0s
HYB Hyderabad 80.08 289 *e*P **P** **00 10 43.0 -0.5**
HYB pmax pmax
comp=Z,390nm,1.0s,mb6.2
HYB Hyderabad 80.08 289 *e*P **P** **00 10 43.0 -0.5**
comp=Z,390nm,1.0s,mb6.2
TRD Trivandrum 80.14 280 *e*P **P** **00 10 43.2 -0.8**
TRD AMb AMB 00 10 47.4
comp=Z,288nm,1.2s,mb6.0
PMR Palmer 80.48 23 *e*P **P** **00 10 43.9 -0.8**
PMR LR LR
comp=Z,1µm,20.0s
TIXI Tiksi 80.51 352*c* *i*P **P** **00 10 43.9 -0.8**
TIXI *i* S S 00 20 45.4 +0.3
TIXI pmax pmax
comp=Z,82nm,1.5s,mb5.3
TIXI MLR MLR
comp=Z,719nm,20.0s
TIXI Tiksi 80.51 352 *e*P **P** **00 10 43.9 -0.8**
TIXI LR LR
comp=Z,706nm,20.0s
SML Sawmill 80.91 23 *e*P **P** **00 10 46.8 -0.2**
PTH Pithoragarh 81.08 301 *e*P **P** **00 10 48.9 +0.2**
IMA2 Indian Mountai 81.56 19 *e*P **P** **00 10 42.3 -8.0**
DIV Divide 81.58 25 *e*P **P** **00 10 51.0 +0.4**
DIV LR LR
comp=Z,2µm,20.0s
LATR Latur 82.13 290 *e*P **P** **00 10 54.0 -0.4**
BHPL Bhopal 82.21 295 *e*P **P** **00 10 53.2 -1.6**
BHPL AMb AMB 00 10 55.4
comp=Z,312nm,0.9s,mb6.2
COLA College 82.80 21⇑ *e*P **P** **00 10 55.3 -1.6**
COLA pmax pmax
comp=Z,54nm,1.0s,mb5.3
COLA MLR MLR
comp=Z,2µm,21.0s
COLA College 82.80 21⇑ *e*P **P** **00 10 55.3 -1.6**
comp=Z,54nm,1.0s,mb5.3
COLA LR LR
comp=Z,2µm,21.0s
QSPA South Pole Qui 82.95 180 P **P** **00 10 57.9 +0.4**
QSPA LR LR
comp=Z,2µm,20.0s
QSPA South Pole Qui 82.95 180 P **P** **00 10 57.9 +0.4**
comp=Z,100nm,0.8s,mb5.7,baz=1.7,slow=1.8,SNR=202
QSPA PKiKP PKiKP 00 16 15.7 -0.4
comp=Z,3.3nm,0.7s,baz=38,slow=2.0,SNR=6.0
DDI Dehra Dun 83.08 302 *e*P **P** **00 10 59.2 +0.1**
NDI New Delhi 83.46 300 *e*P **P** **00 10 59.5 -1.6**
MK31 Makanchi Array 83.99 318⇑ *i*P **P** **00 11 03.3 -0.1**
MKAR Makanchi Array 83.99 318⇑ *e*P **P** **00 11 03.5 +0.1**
MKAR Makanchi Array 83.99 318 P **P** **00 11 03.5 +0.1**
MKAR S S 00 21 15.4 -6.2
MKAR P'P' 00 37 24.9
MKAR LR LR 00 48 42.8
MKAR Makanchi Array 83.99 318 P **P** **00 11 03.5 +0.1**
comp=Z,163nm,0.7s,mb6.0,baz=102,slow=5.3,SNR=728
MKAR S S 00 21 15.4 -6.2
comp=Z,1.0nm,0.8s,baz=106,slow=9.1,SNR=4.4
MKAR PKPPKP 00 37 24.9
comp=Z,0.2nm,0.2s,baz=261,slow=8.0,SNR=3.6

MKAR				LR	LR	00 48 42.8	
	comp=Z,368nm,19.4s,baz=110,slow=36						
KAD	**Karad**	**84.17**	**288**	*e*P	**P**	**00 11 03.6**	**-1.3**
GOA	**Goa**	**84.23**	**286⇓**	*i*P	**P**	**00 11 05.1**	**-0.2**
SIT	**Sitka**	**84.60**	**31**	PFAKE		00 11 20.0	+14
SIT				LR	LR		
	comp=Z,2µm,21.0s						
ZAA0	**Zalesovo Array**	**84.68**	**326**	*e*P	**P**	**00 11 05.9**	**-0.8**
ZALV	**Zalesovo Beam**	**84.68**	**326**	P	**P**	**00 11 05.8**	**-0.9**
ZALV				PKKP	PKKPbc	00 29 14.0	-4.7
ZALV				P'P'		00 37 23.1	
ZALV				LR	LR	00 50 38.7	
ZALV	**Zalesovo Beam**	**84.68**	**326**	P	**P**	**00 11 05.8**	**-0.9**
	comp=Z,110nm,0.7s,mb5.9,baz=110,slow=5.6,SNR=410						
ZALV				PKKP	PKKPbc	00 29 14.0	-4.7
	comp=Z,1.0nm,0.4s,baz=147,slow=3.0,SNR=4.2						
ZALV				PKPPKP		00 37 23.1	
	comp=Z,1.1nm,0.8s,baz=11,slow=1.5,SNR=4.0						
ZALV				LR	LR	00 50 38.7	
	comp=Z,267nm,19.6s,baz=335,slow=37						
POO	**Poona**	**84.68**	**289**	*e*P	**P**	**00 11 06.1**	**-1.4**
POO				AMb	AMB	00 11 08.1	
	comp=Z,427nm,1.5s,mb6.2						
ZAL	**Zalesovo**	**84.69**	**326**	P	**P**	**00 11 05.9**	**-0.8**
MAW	**Mawson**	**84.70**	**203**	*e*P	**P**	**00 11 06.6**	**0.0**
	comp=Z,40nm,0.9s,mb5.3						
MAW	**Mawson**	**84.70**	**203**	*e*P	**P**	**00 11 06.6**	**0.0**
MAW				pmax	pmax		
	comp=Z,40nm,0.9s						
MAW	**Mawson**	**84.70**	**203**	P	**P**	**00 11 06.6**	**0.0**
	comp=Z,36nm,0.7s,mb5.4,baz=87,slow=6.9,SNR=45						
MAW				LR	LR	00 47 19.4	
	comp=Z,611nm,19.4s,baz=85,slow=34						
EGAK	**Eagle**	**85.22**	**23**	*e*P	**P**	**00 11 09.0**	**-0.2**
	comp=Z,21nm,0.9s,mb5.1						
EGAK				LR	LR		
	comp=Z,1µm,22.0s						
AJM	**Ajmer**	**85.29**	**297**	*e*P	**P**	**00 11 09.0**	**-1.5**
THN	**Thein Dam**	**85.47**	**303**	*e*P	**P**	**00 11 09.4**	**-1.8**
DAWY	**Dawson**	**85.58**	**24**	*e*P	**P**	**00 11 11.0**	**0.0**
NVS	**Novosibirsk**	**85.85**	**326**	*e*P	**P**	**00 11 11.6**	**-0.9**
NVS				*e*S	S	00 21 27.7	-12
NVS				pmax	pmax		
	comp=N,65nm,1.5s						
NVS				pmax	pmax		
	comp=E,158nm,1.5s						
NVS				pmax	pmax		
	comp=Z,231nm,1.5s,mb5.9						
NVS				smax			
	comp=N,48nm,2.4s						
NVS				smax			
	comp=E,99nm,2.6s						
WRAK	**Wrangell Islan**	**85.91**	**32**	*e*P	**P**	**00 11 13.2**	**+0.4**
	comp=E,77nm,1.1s,mb5.5						
WRAK				LR	LR		
	comp=Z,1µm,20.0s						
KSH	**Kashi**	**86.68**	**310⇑**	*i*P	**P**	**00 11 19.0**	**+2.0**
KSH				*e*AP	pP	00 11 23.0	-14
KSH				*e*XP	sP	00 11 27.1	-18
KSH				*e*PP	PP	00 14 44.3	+4.1
KSH				*e*PPP		00 16 41.1	
KSH				*e*SKS		00 21 44.1	
KSH				*e*S	S	00 21 54.6	+6.1
KSH				*e*XS	sS	00 22 03.1	-20
KSH				*e*SS	SS	00 27 41.1	+10
KSH				LR	LR		
	comp=N,577nm,5.9s						
KSH				LR	LR		
	comp=E,520nm,7.5s						
KSH				LR	LR		
	comp=Z,570nm,7.2s						
ULHL	**Ulahol**	**87.05**	**313**	P	**P**	**00 11 19.8**	**+1.2**
	SNR=7.8						
KURK	**Kurchatov**	**87.38**	**322⇑**	*e*P	**P**	**00 11 18.5**	**-1.6**
KURK	**Kurchatov**	**87.38**	**322⇑**	*i*P	**P**	**00 11 19.2**	**-0.9**
	comp=Z,62nm,0.6s,mb5.7						
KURK				LR	LR		
	comp=Z,497nm,22.0s						
MCCM	**Marconi Confer**	**87.47**	**51**	PFAKE		00 11 30.0	+9.1
MCCM				LR	LR		
	comp=Z,1µm,22.0s						
HOPS	**Hopland**	**87.49**	**50**	PFAKE		00 11 30.0	+9.1
HOPS				LR	LR		
	comp=Z,1µm,20.0s						
TKM2	**Tokmak 2**	**87.65**	**314⇑**	*i*P	**P**	**00 11 21.7**	**+0.1**
TKM2				*e*		00 14 49.7	
TKM2				pmax	pmax		
	comp=Z,84nm,0.8s,mb5.8						
TKM2				MLR	MLR		
	comp=Z,590nm,22.0s						
TKM2	**Tokmak 2**	**87.65**	**314⇑**	*i*P	**P**	**00 11 21.7**	**+0.1**
	comp=Z,84nm,0.8s,mb5.8						
TKM2				*e*PP	PP	00 14 49.7	+1.8
TKM2				LR	LR		
	comp=Z,590nm,22.0s						
TKM2	**Tokmak 2**	**87.65**	**314**	P	**P**	**00 11 21.9**	**+0.3**
	SNR=50						
KZA	**Kyzart**	**87.73**	**313**	P	**P**	**00 11 23.5**	**+1.5**
	SNR=41						
DLBC	**Dease Lake**	**87.73**	**30**	*e*P	**P**	**00 11 22.4**	**+0.8**
DLBC	**Dease Lake**	**87.73**	**30**	P	**P**	**00 11 21.9**	**+0.3**
	baz=251,slow=6.6						
KBK	**Karagaybulak**	**88.07**	**313**	P	**P**	**00 11 23.8**	**+0.2**
	SNR=41						
WDC	**Whiskeytown Da**	**88.19**	**49**	PFAKE		00 11 30.0	+5.8
WDC				LR	LR		
	comp=Z,2µm,22.0s						
HUMO	**Hull Mountain**	**88.27**	**47⇑**	*e*P	**P**	**00 11 23.9**	**-0.6**
	comp=Z,7.2nm,0.9s,mb4.7						
HUMO				LR	LR		
	comp=Z,2µm,22.0s						
CHMS	**Chumysh**	**88.28**	**314**	P	**P**	**00 11 24.5**	**0.0**
	SNR=68						
YBH	**Yreka Blue Hor**	**88.28**	**48**	P	**P**	**00 11 26.8**	**+2.2**
YBH				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YBH	**Yreka Blue Hor**	**88.28**	**48**	P	**P**	**00 11 24.6**	**0.0**
	comp=Z,2.9nm,0.7s,baz=197,slow=4.8,SNR=7.8						
UCH	**Uchtor**	**88.30**	**313⇑**	*i*P	**P**	**00 11 25.6**	**+0.9**
UCH				LR	LR		
	comp=Z,670nm,22.0s						
UCH	**Uchtor**	**88.30**	**313**	P	**P**	**00 11 25.7**	**+1.1**
	SNR=50						
FRU	**Bishkek**	**88.34**	**313**	*i* P	**P**	**00 11 25.0**	**+0.1**
FRU				pmax	pmax		
	comp=Z,100nm,2.0s,mb5.5						
SAO	**San Andreas Ge**	**88.35**	**53**	PFAKE		00 11 40.0	+15
SAO				LR	LR		
	comp=Z,1µm,21.0s						
AAK	**Ala-Archa**	**88.39**	**313**	P	**P**	**00 11 24.8**	**-0.3**
	comp=Z,502nm,0.8s,mb6.6,SNR=31						
AAK	**Ala-Archa**	**88.39**	**313**	P	**P**	**00 11 25.5**	**+0.4**
	SNR=43						
COR	**Corvallis**	**88.40**	**45**	PFAKE		00 11 40.0	+15
COR				LR	LR		
	comp=Z,1µm,20.0s						
USP	**Ospenovka**	**88.51**	**314**	P	**P**	**00 11 25.5**	**-0.1**
	SNR=68						
NLWA	**Neilton Lookou**	**88.58**	**42**	PFAKE		00 11 40.0	+14
NLWA				LR	LR		
	comp=Z,2µm,21.0s						
AML	**Almayashu**	**88.88**	**313⇑**	*i*P	**P**	**00 11 27.9**	**+0.4**
	comp=Z,102nm,0.8s,mb5.9						
AML				LR	LR		
	comp=Z,763nm,22.0s						
AML	**Almayashu**	**88.88**	**313**	P	**P**	**00 11 28.1**	**+0.6**
	SNR=60						
EKS2	**Erkin-Say**	**88.92**	**313⇑**	*i*P	**P**	**00 11 27.7**	**+0.1**
	comp=Z,62nm,0.9s,mb5.6						
EKS2				PP	PP	00 14 53.7	-4.3
EKS2				LR	LR		
	comp=Z,407nm,20.0s						
EKS2	**Erkin-Say**	**88.92**	**313**	P	**P**	**00 11 27.8**	**+0.2**
	SNR=33						
SNCC	**San Nicolas Is**	**89.33**	**57**	PFAKE		00 11 40.0	+10
SNCC				LR	LR		
	comp=Z,2µm,19.0s						
CMB	**Columbia Colle**	**89.39**	**52**	PFAKE		00 11 40.0	+10
CMB				LR	LR		
	comp=Z,848nm,22.0s						
INK	**Inuvik**	**89.45**	**21**	*e*P	**P**	**00 11 28.8**	**-0.7**
INK	**Inuvik**	**89.45**	**21**	P	**P**	**00 11 28.9**	**-0.6**
	comp=Z,38nm,1.0s,mb5.4,baz=248,slow=5.5,SNR=72						
MOD	**Modoc**	**90.08**	**48⇓**	*e*P	**P**	**00 11 32.5**	**-0.6**
	comp=Z,4.9nm,0.8s,mb4.7						
MOD				LR	LR		

	comp=Z,3µm,20.0s						
WAKR	**Walker**	**90.20**	**51**	*e*P	**P**	**00 11 35.3**	**+1.6**
PAHR	**Pah Rah Range**	**90.43**	**50**	*e*P	**P**	**00 11 35.3**	**+0.6**
	comp=Z,49nm,1.7s,mb5.4						
MWC	**Mount Wilson**	**90.68**	**56**	*e*P	**P**	**00 11 36.6**	**+0.6**
MTUM	**Tungsten Hills**	**90.72**	**53**	*e*P	**P**	**00 11 37.3**	**+1.2**
NVAR	**Mina Array Bea**	**91.07**	**52**	P	**P**	**00 11 38.0**	**+0.3**
NVAR				PKKPbc	PKKPbc	00 29 03.6	+1.3
NVAR				P'P'		00 37 09.3	
NVAR	**Mina Array Bea**	**91.07**	**52**	P	**P**	**00 11 38.0**	**+0.3**
	comp=Z,3.0nm,0.7s,mb4.5,baz=267,slow=5.3,SNR=21						
NVAR				PKKPbc	PKKPbc	00 29 03.6	+1.3
	comp=Z,0.6nm,0.7s,baz=100,slow=3.2,SNR=4.3						
NVAR				PKPPKP		00 37 09.3	
	comp=Z,1.7nm,0.8s,baz=73,slow=4.1,SNR=11						
KBL	**Kabul**	**91.31**	**304⇑**	*i*P	**P**	**00 11 37.8**	**-1.2**
	comp=Z,99nm,0.8s,mb6.0						
HAWA	**Hanford**	**91.33**	**44**	PFAKE		00 11 50.0	+11
HAWA				LR	LR		
	comp=Z,2µm,19.0s						
DAC	**Darwin (Calif)**	**91.34**	**54**	PFAKE		00 11 50.0	+11
DAC				LR	LR		
	comp=Z,1µm,20.0s						
WVOR	**Wild Horse Val**	**91.39**	**48⇑**	*e*P	**P**	**00 11 38.6**	**-0.5**
WVOR						00 15 21.7	
WVOR				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.7						
WVOR				MLR	MLR		
	comp=Z,2µm,20.0s						
WVOR	**Wild Horse Val**	**91.39**	**48⇑**	*e*P	**P**	**00 11 38.5**	**-0.5**
	comp=Z,5.7nm,0.9s,mb4.7						
WVOR				PP	PP	00 15 21.7	+4.1
WVOR				LR	LR		
	comp=Z,2µm,20.0s						
GSC	**Goldstone**	**91.85**	**55**	P	**P**	**00 11 41.5**	**+0.1**
GSC				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb5.0						
GSC	**Goldstone**	**91.85**	**55**	*e*P	**P**	**00 11 41.4**	**0.0**
	comp=Z,6.9nm,0.7s,mb5.0						
GSC				LR	LR		
	comp=Z,2µm,22.0s						
TPH	**Tonopah**	**91.87**	**52**	PFAKE		00 11 50.0	+8.6
TPH				LR	LR		
	comp=Z,694nm,20.0s						
PFO	**Pinyon Flat Ob**	**91.93**	**57**	PFAKE		00 11 50.0	+8.2
PFO				LR	LR		
	comp=Z,2µm,19.0s						
BMN	**Battle Mountai**	**92.17**	**50**	P	**P**	**00 11 45.2**	**+2.4**
BMN				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
BMN	**Battle Mountai**	**92.17**	**50⇑**	*e*P	**P**	**00 11 42.9**	**+0.1**
	comp=Z,11nm,1.1s,mb5.0						
BMN				LR	LR		
	comp=Z,1µm,22.0s						
TPNV	**Topopah Spring**	**92.50**	**53⇑**	*e*P	**P**	**00 11 44.6**	**+0.2**
TPNV						00 15 24.6	
TPNV				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.2						
TPNV				MLR	MLR		
	comp=Z,2µm,21.0s						
TPNV	**Topopah Spring**	**92.50**	**53⇑**	*e*P	**P**	**00 11 44.6**	**+0.2**
	comp=Z,10.0nm,0.7s,mb5.2						
TPNV				PP	PP	00 15 24.6	-1.9
TPNV				LR	LR		
	comp=Z,2µm,21.0s						
SYO	**Syowa Base**	**92.57**	**199⇓**	*e*P	**P**	**00 11 41.5**	**-2.6**
SYO	**Syowa Base**	**92.57**	**199⇓**	*i*P	**P**	**00 11 45.0**	**+0.9**
BMO	**Blue Mountains**	**92.67**	**45**	P	**P**	**00 11 44.4**	**-0.6**
BMO				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.8						
BMO	**Blue Mountains**	**92.67**	**45**	*e*P	**P**	**00 11 44.0**	**-1.0**
	comp=Z,4.7nm,1.1s,mb4.7						
BMO				LR	LR		
	comp=Z,1µm,20.0s						
BVAR	**Borovoye Array**	**92.83**	**323**	P	**P**	**00 11 44.3**	**-1.2**
	comp=Z,74nm,0.6s,mb6.2,baz=105,slow=5.2,SNR=474						
BVAR				PKiKP	PKiKP	00 16 32.4	-0.6
	comp=Z,3.6nm,0.7s,baz=105,slow=1.2,SNR=6.1						
BRVK	**Borovoye**	**92.90**	**323⇑**	*i*P	**P**	**00 11 44.4**	**-1.4**
BRVK						00 15 28.3	
BRVK				pmax	pmax		
	comp=Z,135nm,1.0s,mb6.2						
BRVK				MLR	MLR		
	comp=Z,636nm,20.0s						
BRVK	**Borovoye**	**92.90**	**323⇑**	*i*P	**P**	**00 11 44.4**	**-1.5**
	comp=Z,135nm,1.0s,mb6.2						
BRVK				PP	PP	00 15 28.3	-0.9
BRVK				LR	LR		
	comp=Z,636nm,20.0s						
NEW	**Newport**	**93.21**	**42**	P	**P**	**00 11 46.1**	**-1.3**
NEW				MLR	MLR		
	comp=Z,2µm,21.0s						
NEW	**Newport**	**93.21**	**42**	P	**P**	**00 11 46.0**	**-1.3**
	comp=Z,0.8nm,0.4s,baz=259,slow=5.2,SNR=4.2						
GLA	**Glamis**	**93.22**	**57**	PFAKE		00 12 00.0	+12
GLA				LR	LR		
	comp=Z,1µm,19.0s						
CCUT	**Cedar City**	**94.85**	**53**	*e*P	**P**	**00 11 54.7**	**-0.5**
CCUT				*e*PP	PP	00 15 44.7	-0.3
MSO	**Missoula**	**95.21**	**44**	PFAKE		00 12 10.0	+13
MSO				LR	LR		
	comp=Z,1µm,22.0s						
DUG	**Dugway**	**95.50**	**50**	*e*P	**P**	**00 11 58.2**	**+0.1**
DUG				MLR	MLR		
	comp=Z,2µm,22.0s						
MVU	**Marysvale**	**95.83**	**52**	PFAKE		00 12 10.0	+10
MVU				LR	LR		
	comp=Z,1µm,20.0s						
MSU	**Marysvale**	**95.86**	**52**	P	**P**	**00 12 02.2**	**+2.4**
MSU	**Marysvale**	**95.86**	**52**	*e*P	**P**	**00 12 00.5**	**+0.8**
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**00 11 58.7**	**-1.0**
YKA	**Yellowknife Ar**	**95.97**	**28**	P	**P**	**00 11 58.7**	**-0.9**
	comp=Z,5.9nm,0.6s,mb5.2,baz=268,slow=4.5,SNR=102						
YKA				PKiKP	PKiKP	00 16 37.8	-0.3
	comp=Z,0.6nm,0.9s,baz=298,slow=3.0,SNR=3.9						
YKA				PKKP	PKKPbc	00 28 46.0	-4.5
	comp=Z,1.5nm,0.7s,baz=82,slow=2.7,SNR=16						
YKA				LR	LR	00 51 18.5	
	comp=Z,862nm,21.7s,baz=215,slow=33						
WUAZ	**Wupatki**	**96.28**	**55**	PFAKE		00 12 10.0	+8.2
WUAZ				LR	LR		
	comp=Z,1µm,19.0s						
MPU	**Maple Canyon**	**96.39**	**51**	PFAKE		00 12 10.0	+7.9
MPU				LR	LR		
	comp=Z,2µm,21.0s						
HWUT	**Hardware Ranch**	**96.54**	**49**	PFAKE		00 12 10.0	+7.2
HWUT				LR	LR		
	comp=Z,1µm,22.0s						
TUC	**Tucson**	**96.54**	**58**	PFAKE		00 12 10.0	+7.0
TUC				LR	LR		
	comp=Z,1µm,20.0s						
TMUT	**Trail Mountain**	**96.67**	**51**	*e*P	**P**	**00 12 03.0**	**-0.4**
BOZ	**Bozeman (W)**	**96.73**	**45**	PFAKE		00 12 10.0	+6.5
BOZ				LR	LR		
	comp=Z,915nm,19.0s						
AHID	**Auburn Hatcher**	**96.95**	**48**	PFAKE		00 12 20.0	+15
AHID				LR	LR		
	comp=Z,1µm,20.0s						
BW06	**Boulder Array**	**98.09**	**48**	PFAKE		00 12 20.0	+10
BW06				LR	LR		
	comp=Z,2µm,20.0s						
EGMT	**Eagleton**	**98.11**	**43**	PFAKE		00 12 20.0	+10
EGMT				LR	LR		
	comp=Z,1µm,20.0s						
RLMT	**Red Lodge**	**98.37**	**45**	PFAKE		00 12 20.0	+9.0
RLMT				LR	LR		
	comp=Z,978nm,20.0s						
SVE	**Sverdlovsk**	**98.69**	**326⇓**	*e*P	**P**	**00 12 10.6**	**-1.5**
SVE				*e*SSS		00 34 09.7	
SVE				pmax	pmax		
	comp=Z,27nm,0.7s,mb5.9						
SVE				MLR	MLR		
	comp=Z,459nm,20.0s						
MVCO	**Mesa Verde**	**98.69**	**53**	PFAKE		00 12 20.0	+7.4
MVCO				LR	LR		
	comp=Z,1µm,21.0s						
MSEY	**Mahe Island**	**99.69**	**264**	PFAKE		00 12 30.0	+13
MSEY				LR	LR		
	comp=Z,469nm,22.0s						
ARU	**Arti**	**99.84**	**326**	*c i*P	Pdif	00 12 15.3	-2.0
ARU				*e*		00 16 19.4	
ARU				*e*S	SKSac	00 22 49.6	+0.4
ARU				*e*PS	PS	00 25 16.0	-6.7
ARU				SS	SS	00 30 33.8	-4.9
ARU				pmax	pmax		

	comp=Z,51nm,1.0s,mb6.1						
ARU				MLR	MLR		
	comp=Z,765nm,20.0s						
ARU	**Arti**	**99.84**	**326**	*e*Pdif	Pdif	00 12 15.2	-2.1
	comp=Z,37nm,0.6s						
ARU				LR	LR		
	comp=Z,840nm,22.0s						
SNAA	**Sanae**	**100.21**	**187**	*c i*P	Pdif	00 12 16.1	-2.9
ANMO	**Albuquerque**	**100.28**	**56**	P	Pdif	00 12 18.8	-0.4
	comp=Z,0.5nm,0.4s,baz=243,slow=2.3,SNR=2.8						
ANMO				PKiKP	PKiKP	00 16 45.2	-1.5
	comp=Z,1.3nm,0.7s,baz=75,slow=8.7,SNR=4.6						
AKTK	**Aktyubinsk**	**100.37**	**320**	P	Pdif	00 12 17.8	-1.9
AKTO	**Aktyubinsk**	**100.37**	**320**	P	Pdif	00 12 17.8	-1.9
	comp=Z,12nm,0.7s,baz=97,slow=6.2,SNR=51						
AKTO				PKiKP	PKiKP	00 16 46.1	-0.3
	comp=Z,4.0nm,0.8s,baz=23,slow=2.0,SNR=5.3						
ISCO	**Idaho Springs**	**101.01**	**51**	PFAKE		00 12 30.0	+7.5
ISCO				LR	LR		
	comp=Z,855nm,21.0s						
SDCO	**Great Sand Dun**	**101.09**	**53**	PFAKE		00 12 30.0	+7.1
SDCO				LR	LR		
	comp=Z,1µm,21.0s						
MNTX	**Cornudas Mount**	**101.10**	**59**	PFAKE		00 12 30.0	+7.1
MNTX				LR	LR		
	comp=Z,2µm,20.0s						
RES	**Resolute Bay**	**101.78**	**15**	*e*Pdif	Pdif	00 12 24.6	-1.3
	comp=Z,122nm,0.7s						
DGMT	**Dagmar**	**101.82**	**42**	PFAKE		00 12 40.0	+14
DGMT				LR	LR		
	comp=Z,2µm,20.0s						
RSSD	**Black Hills**	**102.11**	**46**	PFAKE		00 12 40.0	+13
RSSD				LR	LR		
	comp=Z,2µm,20.0s						
PMSA	**Palmer Station**	**102.51**	**164**	PFAKE		00 12 40.0	+11
PMSA				LR	LR		
	comp=Z,2µm,20.0s						
TXAR	**Lajitas Array**	**102.53**	**62**	PKKPbc	PKKPbc	00 28 30.6	-0.1
	comp=Z,2.0nm,0.8s,baz=110,slow=4.9,SNR=8.5						
FFC	**Flin Flon**	**102.73**	**36**	PFAKE		00 12 40.0	+10
FFC				LR	LR		
	comp=Z,2µm,21.0s						
AMTX	**Amarillo**	**104.20**	**56**	PFAKE		00 12 50.0	+13
AMTX				LR	LR		
	comp=Z,1µm,22.0s						
ABPO	**Ambohimpanom**	**105.10**	**248**	PFAKE		00 17 10.0	+14
ABPO				LR	LR		
	comp=Z,972nm,20.0s						
OPO	**Ambohidratompo**	**105.24**	**249**	Pdiff	Pdif	00 12 40.8	-0.5
	comp=Z,2.1nm,0.9s,baz=90,slow=11,SNR=3.6						
OPO				PKiKP	PKiKP	00 16 56.2	+0.1
	comp=Z,10nm,1.0s,baz=72,slow=2.0,SNR=11						
CBKS	**Cedar Bluff**	**105.59**	**52**	PFAKE		00 17 10.0	+14
CBKS				LR	LR		
	comp=Z,1µm,21.0s						
JCT	**Junction City**	**105.88**	**60**	PFAKE		00 17 10.0	+13
JCT				LR	LR		
	comp=Z,1µm,20.0s						
KBS	**Kingsbay**	**105.92**	**353**	PFAKE		00 17 10.0	+14
KBS				LR	LR		
	comp=Z,793nm,22.0s						
WMOK	**Wichita Mounta**	**106.59**	**56**	PFAKE		00 17 10.0	+12
WMOK				LR	LR		
	comp=Z,1µm,20.0s						
AGMN	**Agassiz Refuge**	**107.36**	**42**	PFAKE		00 17 10.0	+11
AGMN				LR	LR		
	comp=Z,1µm,20.0s						
ECSD	**EROS,Sioux Fal**	**107.49**	**46**	PFAKE		00 17 10.0	+10
ECSD				LR	LR		
	comp=Z,2µm,21.0s						
KVTX	**Kingsville**	**107.61**	**63**	PFAKE		00 17 10.0	+10
KVTX				LR	LR		
	comp=Z,1µm,19.0s						
LVZ	**Lovozero**	**107.88**	**340**	PFAKE		00 17 10.0	+10
LVZ				LR	LR		
	comp=Z,625nm,22.0s						
KSU1	**Kansas State U**	**108.00**	**51**	PFAKE		00 17 10.0	+9.3
KSU1				LR	LR		
	comp=Z,969nm,21.0s						
QRN	**Al-Qurain**	**109.06**	**298**	*e*P	PKiKP	00 16 56.0	-7.0
QRN				AMb	AMB	00 17 05.2	
	comp=Z,101nm,1.1s						
KEV	**Kevo**	**109.31**	**343**	*e*p	PKiKP	00 17 01.0	-1.3
	comp=Z,4.3nm,0.5s						
KEV	**Kevo**	**109.31**	**343**	*e*P	PKiKP	00 17 01.0	-1.3
KEV				LR	LR		
	comp=Z,825nm,20.0s						
HKT	**Hockley**	**109.33**	**61**	PFAKE		00 17 10.0	+6.5
HKT				LR	LR		
	comp=Z,1µm,22.0s						
RDF	**Al-Radifah**	**109.37**	**298**	*e*P	PKiKP	00 16 54.8	-8.8
RDF				AMb	AMB	00 17 04.5	
	comp=Z,66nm,0.7s						
MIB	**Mutribah**	**109.51**	**299**	*e*P	PKiKP	00 16 55.6	-8.3
MIB				AMb	AMB	00 17 04.8	
	comp=Z,37nm,0.9s						
NAY	**Al-Naaiem**	**109.62**	**298**	*e*P	PKiKP	00 16 54.5	-10
ARCES	**ARCESS Array B**	**109.86**	**343**	Pdiff	Pdif	00 13 00.4	-1.5
	comp=Z,3.8nm,0.9s,baz=29,slow=8.3,SNR=5.6						
ARCES				PKiKP	PKiKP	00 17 03.2	-0.1
	comp=Z,6.9nm,0.6s,baz=87,slow=1.7,SNR=35						
ARCES				PKKPbc	PKKPbc	00 28 05.9	-3.5
	comp=Z,3.6nm,0.8s,baz=222,slow=4.6,SNR=15						
DGRG	**David-gareji**	**109.95**	**311**	P	Pdif	00 13 02.8	+0.5
DGRG				S	PKiKP	00 17 05.2	+0.9
SCIA	**State Center**	**110.22**	**48**	PFAKE		00 17 20.0	+15
SCIA				LR	LR		
	comp=Z,1µm,20.0s						
NATX	**Nacogdoches**	**110.22**	**59**	PFAKE		00 17 20.0	+15
NATX				LR	LR		
	comp=Z,2µm,20.0s						
EYMN	**Ely**	**110.30**	**41**	PFAKE		00 17 20.0	+15
EYMN				LR	LR		
	comp=Z,1µm,21.0s						
VRHR	**Novokhopersk**	**110.56**	**322**	*e*PKIKP	PKiKP	00 17 04.5	-0.7
VRHR				pmax	pmax		
	comp=Z,20nm,0.6s						
VRHR				pmax	pmax		
	comp=N,20nm,0.8s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.6s						
GNI	**Garni**	**110.61**	**310**	*i* PKIKP	PKiKP	00 17 05.9	+0.3
GNI	**Garni**	**110.61**	**310**	PKPdf	PKiKP	00 17 06.6	+1.0
GNI				LR	LR		
	comp=Z,273nm,21.0s						
GNI	**Garni**	**110.61**	**310**	PKiKP	PKiKP	00 17 06.6	+1.0
	comp=Z,3.4nm,0.4s,baz=188,slow=12,SNR=4.6						
MIAR	**Mount Ida**	**110.89**	**56**	PFAKE		00 17 20.0	+14
MIAR				LR	LR		
	comp=Z,1µm,22.0s						
JOF	**Joensuu**	**111.44**	**336**	*e*p	Pdif	00 13 05.3	-3.6
	comp=Z,7.2nm,0.6s						
JOF	**Joensuu**	**111.44**	**336**	*e*p	PKiKP	00 17 04.6	-1.9
	comp=Z,23nm,0.7s						
JOF	**Joensuu**	**111.44**	**336**	*e*PKIKP	PKiKP	00 17 04.6	-1.9
JOF				pmax	pmax		
	comp=Z,23nm,0.7s						
JOF	**Joensuu**	**111.44**	**336**	*e*P	Pdif	00 13 05.3	-3.6
JOF				*e*P	PKiKP	00 17 04.6	-1.9
MOS	**Moscow**	**111.45**	**328**	*i* P	Pdif	00 13 04.6	-4.3
MOS				*e*		00 17 46.2	
KIV	**Kislovodsk**	**111.47**	**314**	*c i*PKIKP	PKiKP	00 17 06.7	-0.4
KIV	**Kislovodsk**	**111.47**	**314**	*e*PKiKP	PKiKP	00 17 06.8	-0.3
KIV				*e*PP	PP	00 17 49.8	+1.0
KIV				LR	LR		
	comp=Z,339nm,22.0s						
VRSR	**Storozhevoye**	**112.00**	**323**	*e*PKIKP	PKiKP	00 17 07.2	-0.7
VRSR				pmax	pmax		
	comp=Z,6.0nm,0.7s						
VRSR				pmax	pmax		
	comp=N,3.0nm,1.6s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.6s						
JFWS	**Jewell Farm**	**112.20**	**47**	PFAKE		00 17 20.0	+11
JFWS				LR	LR		
	comp=Z,1µm,22.0s						
OBN	**Obninsk**	**112.23**	**327⇓**	*e*P	Pdif	00 13 11.4	-1.0
OBN				*i*		00 17 07.8	
OBN				*e*		00 17 54.0	
OBN				*e*		00 23 45.0	
OBN				pmax	pmax		
	comp=Z,13nm,0.9s						
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s						
OBN	**Obninsk**	**112.23**	**327**	PFAKE		00 17 20.0	+12
OBN				LR	LR		

comp=Z,651nm,21.0s
COWI Conover 112.29 43 PFAKE 00 17 20.0 +11
COWI LR LR
comp=Z,1µm,20.0s
CCM Cathedral Cave 112.31 52 PFAKE 00 17 20.0 +11
CCM LR LR
comp=Z,1µm,20.0s
HDIL Hopedale 113.36 49 PFAKE 00 17 20.0 +9.2
HDIL LR LR
comp=Z,1µm,21.0s
SOC Sochi 113.65 315 *i* PKIKP PKiKP 00 17 14.0 +2.7
SOC *e* 00 18 02.3
SOC *e*SS SS 00 33 53.2 +6.5
VBMS Vicksburg 113.69 58 PFAKE 00 17 20.0 +8.3
VBMS LR LR
comp=Z,2µm,20.0s
ATD Arta Tunnel 113.85 279 PKPdf PKiKP 00 17 13.3 +0.8
ATD Arta Tunnel 113.85 279 PKiKP PKiKP 00 17 13.3 +0.8
comp=Z,14nm,1.0s,baz=322,slow=4.2,SNR=5.3
OXF Oxford 114.30 55 PFAKE 00 17 20.0 +7.2
OXF LR LR
comp=Z,1µm,20.0s
FIA1 FINESS Array S 114.31 336 *e*PKiKP PKiKP 00 17 11.2 -0.7
FIA1 *e*PP PP 00 18 07.0 -1.3
FINES FINESS Array B 114.31 336 ⇑*i*PKIKP PKiKP 00 17 11.3 -0.7
FINES FINESS Array B 114.31 336 PKP PKiKP 00 17 11.2 -0.7
FINES PKKPbc PKKPbc 00 27 51.2 -3.2
FINES FINESS Array B 114.31 336 PKP PKiKP 00 17 11.2 -0.7
comp=Z,18nm,0.7s,baz=108,slow=6.2,SNR=48
FINES PKKPbc PKKPbc 00 27 51.2 -3.2
comp=Z,3.7nm,0.7s,baz=241,slow=3.9,SNR=10
EFI East Falkland 114.70 158 PFAKE 00 17 20.0 +6.9
EFI LR LR
comp=Z,1µm,19.0s
PLAL Pickwick Lake 115.31 55 PFAKE 00 17 30.0 +15
PLAL LR LR
comp=Z,1µm,21.0s
GLMI Grayling 115.69 43 PFAKE 00 17 30.0 +15
GLMI LR LR
comp=Z,1µm,20.0s
MALT Malatya 115.76 309 *e*PKIKP PKPdf 00 17 15.4 -0.1
MALT *e* 00 18 20.8
MALT Malatya 115.76 309 ⇑*i*P PKPdf 00 17 15.7 +0.2
PLCA Paso Flores 116.18 142 PKP PKPdf 00 17 16.1 -0.2
PLCA PKKPbc PKKPbc 00 27 46.9 -0.5
PLCA PKKPab PKKPab 00 27 50.9 -1.2
PLCA Paso Flores 116.18 142 PKP PKPdf 00 17 16.1 -0.2
comp=Z,3.2nm,0.6s,baz=219,slow=3.4,SNR=14
PLCA PKKPbc PKKPbc 00 27 46.9 -0.5
comp=Z,12nm,0.7s,baz=53,slow=5.2,SNR=14
PLCA PKKPab PKKPab 00 27 50.9 -1.2
comp=Z,12nm,0.7s,baz=56,slow=4.0,SNR=24
TEIG Tepich 116.65 71 PFAKE 00 17 30.0 +12
TEIG LR LR
comp=Z,1µm,22.0s
BRAL Brewton 116.77 59 PFAKE 00 17 30.0 +12
BRAL LR LR
comp=Z,1µm,22.0s
AAM Ann Arbor 117.07 46 PFAKE 00 17 30.0 +12
AAM LR LR
comp=Z,1µm,22.0s
MNK Minsk 117.08 329 *e*PKIKP PKPdf 00 17 17.0 -0.5
SIM Simferopol' 117.15 317 P Pdif 00 13 30.7 -3.6
SIM *i* 00 17 17.6
SIM *e* 00 18 28.0
SIM *e*PS PS 00 28 07.0 -6.8
SIM SS SS 00 34 47.0 +15
SIM pmax pmax
comp=Z,21nm,0.7s
SFJD Kangerlussuaq 117.45 11 PFAKE 00 17 30.0 +12
SFJD LR LR
comp=Z,1µm,21.0s
TGUH Tegucigalpa,Un 117.69 78 PFAKE 00 17 30.0 +10
TGUH LR LR
comp=Z,682nm,19.0s
HOPE Hope Point 118.05 172 PFAKE 00 17 30.0 +11
HOPE LR LR
comp=Z,6.0nm,21.0s
AKASG Malin Array Be 118.06 325 PKP PKPdf 00 17 18.7 -0.9
AKASG PKKPbc PKKPbc 00 27 38.2 -2.8
AKASG SKKP 00 31 35.4
AKASG Malin Array Be 118.06 325 PKP PKPdf 00 17 18.7 -0.9
comp=Z,44nm,0.6s,baz=60,slow=2.1,SNR=230
AKASG PKKPbc PKKPbc 00 27 38.2 -2.8
comp=Z,0.7nm,0.5s,baz=250,slow=4.4,SNR=16
AKASG SKKP 00 31 35.4
comp=Z,0.9nm,0.7s,baz=253,slow=4.2,SNR=7.0
AKBB Malin Array Si 118.06 325 *e*PKIKP PKPdf 00 17 18.3 -1.2
KIEV Kiev 118.07 325 *e*PKIKP PKPdf 00 17 18.8 -0.8
KIEV MLR MLR
comp=Z,645nm,22.0s
ACSO Alum Creek Sta 118.13 48 PFAKE 00 17 30.0 +10
ACSO LR LR
comp=Z,1µm,19.0s
KMBO Kilima Mbogo 118.21 265 ⇑*i*PKIKP PKPdf 00 17 21.7 +0.8
KMBO Kilima Mbogo 118.21 265 PKP PKPdf 00 17 21.3 +0.4
KMBO LR LR
comp=Z,650nm,22.0s
KMBO Kilima Mbogo 118.21 265 PKP PKPdf 00 17 21.3 +0.4
comp=Z,13nm,0.8s,baz=54,slow=5.5,SNR=36
HWQ Hawqa 118.55 305 *e*P PKPdf 00 17 20.6 -0.4
TZTN Tazewell 118.61 52 PFAKE 00 17 30.0 +8.9
TZTN LR LR
comp=Z,2µm,19.0s
BHL Bhannes 118.86 305 *e*P PKPdf 00 17 21.4 -0.2
GOGA Godfrey 119.36 56 PFAKE 00 17 30.0 +7.4
GOGA LR LR
comp=Z,2µm,22.0s
ANTO Ankara 119.62 312 *e*PKIKP PKPdf 00 17 22.3 -0.6
ANTO MLR MLR
comp=Z,252nm,22.0s
ANTO Ankara 119.62 312 ⇑*i*P PKPdf 00 17 22.6 -0.3
ERPA Erie 119.73 45 PFAKE 00 17 30.0 +7.0
ERPA LR LR
comp=Z,2µm,20.0s
HFS Hagfors 119.83 339 PKP PKPdf 00 17 21.4 -1.3
comp=Z,17nm,0.6s,baz=108,slow=2.3,SNR=62
HFS PKKPbc PKKPbc 00 27 32.1 -2.7
comp=Z,4.4nm,0.6s,baz=139,slow=2.4,SNR=20
KIS Kishinev 119.85 321 *e*PKIKP PKPdf 00 17 22.0 -1.1
KIS pmax pmax
comp=Z,140nm,1.4s
KIS Kishinev 119.85 321 ⇑*i*PKP PKPdf 00 17 22.0 -1.1
comp=Z,100nm,1.4s
KIS Kishinev 119.85 321 *e*PP PP 00 19 00.0 +13
KIS *e*L 00 57 46.0
KIS LRM 01 16 50.0
comp=Z,600nm,21.0s
KIS Kishinev 119.85 321 *e*UNK PKKPbc 00 27 31.0 -3.3
JTS JuntasAbangare 119.87 82 PFAKE 00 17 40.0 +16
JTS LR LR
comp=Z,867nm,21.0s
NOA NORSAR Array B 120.01 341 PKP PKPdf 00 17 22.1 -0.9
comp=Z,14nm,0.6s,baz=45,slow=1.9,SNR=78
NOA PKKPab PKKPab 00 27 32.1 -1.5
comp=Z,5.6nm,0.8s,baz=43,slow=3.7,SNR=23
NAO01 NORSAR Array S 120.26 341 *e*PKPdf PKPdf 00 17 23.1 -0.3
NAO01 LR LR
comp=Z,954nm,20.0s
CSS Prodhromos 120.50 307 *e*P PKPdf 00 17 24.1 -0.6
CSS Prodhromos 120.50 307 *e*PKPdf PKPdf 00 17 23.8 -0.9
MCWV Mont Chateau 120.60 48 PFAKE 00 17 40.0 +15
MCWV LR LR
comp=Z,2µm,20.0s
BOSA Boshof 120.66 231 PKIKP PKPdf 00 17 25.7 +0.4
BOSA MLR MLR
comp=Z,1µm,22.0s
BOSA Boshof 120.66 231 PKP PKPdf 00 17 25.6 +0.4
comp=Z,40nm,0.7s,baz=122,slow=1.5,SNR=103
BLA Blacksburg 120.88 51 PFAKE 00 17 40.0 +15
BLA LR LR
comp=Z,2µm,22.0s
TIRR Tirgusor 121.12 318 ⇓*i*P PKPdf 00 17 25.3 -0.3
HARR Harsova 121.35 319 ⇑*i*P PKPdf 00 17 26.1 0.0
SCHQ Schefferville 121.42 27 PKP PKPdf 00 17 25.6 -0.2
SCHQ PKKPbc PKKPbc 00 27 27.1 -1.7
SCHQ LR LR
comp=Z,2µm,20.0s
SCHQ Schefferville 121.42 27 PKP PKPdf 00 17 25.6 -0.2
comp=Z,3.9nm,0.9s,baz=311,slow=6.0,SNR=6.4
SCHQ PKKPbc PKKPbc 00 27 27.1 -1.7
comp=Z,3.4nm,0.8s,baz=218,slow=5.1,SNR=3.6
LVV L'vov 121.42 326 *i* PKIKP PKPdf 00 17 25.1 -0.9
LVV *e* 00 17 30.1
KONO Kongsberg 121.59 341 PFAKE 00 17 40.0 +14
KONO LR LR
comp=Z,751nm,21.0s
VRI Vrincioaia 121.64 320 ⇑*i*P PKPdf 00 17 25.9 -0.7
VRI Vrincioaia 121.64 320 ⇑*i*P PKKPbc 00 27 26.3 -1.3
PLOR Plostina 121.69 320 ⇑*i*P PKPdf 00 17 25.9 -0.8
PLOR Plostina 121.69 320 ⇑*i*P PKKPbc 00 27 26.0 -1.4
SSPA Standing Stone 121.71 46 PFAKE 00 17 40.0 +13
SSPA LR LR
comp=Z,1µm,20.0s
BURAR Bucovina Array 121.79 323 ⇑*i*P PKPdf 00 17 27.1 +0.3
BURAR Bucovina Array 121.79 323 ⇑*i*P PKKPbc 00 27 26.2 -0.9
ISP Isparta 121.92 310 ⇑*i*P PKPdf 00 17 26.1 -1.3
SUR Sutherland 121.97 225 *e*PKPdf PKPdf 00 17 28.3 +0.6
SUR LR LR
comp=Z,2µm,20.0s
DWPF Disney 122.06 61 PFAKE 00 17 40.0 +12
DWPF LR LR
comp=Z,1µm,20.0s
NHSC New Hope 122.11 55 PFAKE 00 17 40.0 +12
NHSC LR LR
comp=Z,1µm,21.0s
KWP Kalwaria 122.25 326 *e*PKIKP PKPdf 00 17 27.5 -0.1
KWP Kalwaria 122.25 326 ⇑*i*P PKPdf 00 17 27.6 0.0
PRD Provadia 122.29 317 *i* P PKPdf 00 17 26.8 -1.1
MLR Muntele Rosu 122.30 320 PKP PKPdf 00 17 27.4 -0.5
comp=Z,23nm,0.7s,baz=322,slow=1.3,SNR=58
MLR PKKPbc PKKPbc 00 27 24.5 -0.6
comp=Z,8.5nm,0.8s,baz=237,slow=1.4,SNR=20
MLR Muntele Rosu 122.30 320 ⇓*i*P PKPdf 00 17 27.3 -0.5
MLR Muntele Rosu 122.30 320 ⇓*i*P PKKPbc 00 27 24.0 -1.1
BORG Borgarnes 122.34 359 PFAKE 00 17 40.0 +13
BORG LR LR
comp=Z,779nm,19.0s
LONY Lake Ozonia 122.45 41 PFAKE 00 17 40.0 +12
LONY LR LR
comp=Z,3µm,21.0s
BINY Binghamton 122.48 44 PFAKE 00 17 40.0 +12
BINY LR LR
comp=Z,2µm,20.0s
BSD Bornholm Skovb 122.84 334 ⇑*i*PKIKP PKPdf 00 17 28.1 -0.5
BSD pmax pmax
comp=Z,71nm,0.7s
BSD Bornholm Skovb 122.84 334 ⇑*i*P PKPdf 00 17 28.1 -0.5
comp=Z,71nm,0.7s
KOLS Kolonicke sedl 122.86 325 *e*PKIKP PKPdf 00 17 29.1 +0.3
KOLS *e* 00 17 36.9
VOIR 122.89 321 ⇓*i*P PKPdf 00 17 28.3 -0.7
VOIR 122.89 321 ⇑*i*P PKKPbc 00 27 22.1 -0.7
CBN Corbin 122.89 49 PFAKE 00 17 40.0 +11
CBN LR LR
comp=Z,969nm,21.0s
NCB Newcomb 122.96 41 PFAKE 00 17 40.0 +11
NCB LR LR
comp=Z,3µm,21.0s
TRQA Tornquist 122.98 145 *e*PKPdf PKPdf 00 17 28.6 -0.8
TRQA LR LR
comp=Z,695nm,19.0s
UZH Uzhgorod 123.00 325 ⇓*i*PKIKP PKPdf 00 17 28.6 -0.5
UZH *i* 00 17 33.2
UZH *i* 00 17 43.8
MVL Millersville 123.03 46 *e*PKPdf PKPdf 00 17 28.2 -1.3
MVL *e*PP PP 00 19 10.9 +1.6
STHS Stebnicka Huta 123.18 326 *i* PKIKP PKPdf 00 17 30.0 +0.6
SZH Strazhica 123.25 318 *i* P PKPdf 00 17 29.2 -0.5
CRVS Cervenica-Dubn 123.33 326 *e*PKIKP PKPdf 00 17 29.7 0.0
CNNC Cliffs of the 123.39 52 PFAKE 00 17 40.0 +10
CNNC LR LR
comp=Z,2µm,21.0s
ZIMR 123.46 319 ⇓*i*P PKPdf 00 17 30.2 +0.1
COP Copenhagen 123.47 336 ⇑*i*PKIKP PKPdf 00 17 29.6 -0.2
COP pmax pmax
comp=Z,54nm,0.8s
COP Copenhagen 123.47 336 ⇑*i*P PKPdf 00 17 29.6 -0.2
comp=Z,54nm,0.8s
OJC Ojcow 123.52 328 *e*PKPdf PKPdf 00 17 29.9 -0.1
OJC *e*PP PP 00 19 11.0 -1.0
LSZ Lusaka 123.61 247 *e*PKIKP PKPdf 00 17 31.7 +0.5
LSZ MLR MLR
comp=Z,981nm,20.0s
DRGR 123.69 323 ⇓*i*P PKPdf 00 17 30.2 -0.3
DRGR 123.69 323 ⇑*i*P PKKPbc 00 27 18.6 -1.1
NIE Niedzica 123.69 327 *e*PKPdf PKPdf 00 17 31.0 +0.6
ALN Alexandroupoli 124.12 315 *e*P PKPdf 00 17 30.3 -1.2
MUD Monsted U'grnd 124.16 338 ⇑*i*PKIKP PKPdf 00 17 30.7 -0.4
MUD pmax pmax
comp=Z,29nm,1.0s
MUD Monsted U'grnd 124.16 338 ⇑*i*P PKPdf 00 17 30.7 -0.4
comp=Z,29nm,1.0s
CRAR CRAIOVA 124.18 320 ⇑*i*P PKPdf 00 17 31.7 +0.2
WAL1 Walls 124.23 347 ⇓*e*P PKPdf 00 17 30.5 -0.6
LRW Lerwick 124.23 346 *e*P PKPdf 00 17 30.7 -0.4
LRW AMb AMB 00 17 32.4
comp=Z,98nm,1.4s
ARG Arkhangelos 124.24 309 *e*P PKPdf 00 17 31.4 -0.5
NNA Nana 124.30 110 PFAKE 00 17 40.0 +7.4
NNA LR LR
comp=Z,408nm,19.0s
GZR Gura Zlata 124.32 321 ⇑*i*P PKPdf 00 17 31.8 +0.1
LBNH Lisbon 124.33 40 PFAKE 00 17 40.0 +8.2
LBNH LR LR
comp=Z,3µm,21.0s
BLCB Balcova 124.33 312 *e*P PKPdf 00 17 31.0 -1.0
RDO Rodhopi 124.38 316 *e*P PKPdf 00 17 30.9 -1.1
RAC Raciborz 124.44 328 *e*P PKPdf 00 17 32.1 +0.3
RAC LR LR
comp=Z,700nm,21.3s
OKC Ostrava-Krasne 124.61 328 *e*PKPdf PKPdf 00 17 32.1 0.0
OKC AMS AMS 01 14 00.0
comp=Z,400nm,19.0s
RZN Rozhen 124.72 317 *i* P PKPdf 00 17 31.6 -1.0
SMG Samos 124.72 311 *e*P PKPdf 00 17 30.1 -2.7
PSZ Piszkesteto 124.74 325 *e*PKIKP PKPdf 00 17 31.6 -0.9
PSZ Piszkesteto 124.74 325 ⇑*e*PKP PKPdf 00 17 32.3 -0.2
PSZ Piszkesteto 124.74 325 ⇑*i*P PKPdf 00 17 32.3 -0.2
BCIP Isla Barro Col 124.87 84 PFAKE 00 17 50.0 +16
BCIP LR LR
comp=Z,664nm,19.0s
BZS Buzias 124.93 322 ⇓*i*P PKPdf 00 17 32.4 -0.5
BZS Buzias 124.93 322 ⇑*i*P 00 27 13.5
KSP Ksiaz 124.95 330 ⇑*i*PKIKP PKPdf 00 17 32.9 +0.1
KSP *e* 00 19 17.0
KSP Ksiaz 124.95 330 ⇑*i*PKP PKPdf 00 17 32.9 +0.1
KSP *e*PP PP 00 19 17.0 -4.5
KSP LR LR
comp=Z,2µm,22.3s
MORC Moravsky Berou 124.96 328 *e*PKIKP PKPdf 00 17 32.8 0.0
MORC Moravsky Berou 124.96 328 ⇑*i*P PKPdf 00 17 32.7 -0.1
CHOS Chios island 125.06 312 *e*P PKPdf 00 17 32.5 -0.8
RUE Ruedersdorf 125.10 333 *e*PKPdf PKPdf 00 17 32.8 -0.2
RUE Ruedersdorf 125.10 333 *e*PKPdf PKPdf 00 17 33.1 +0.1
KARP Karpathos 125.19 309 P PKPdf 00 17 34.3 +0.6
KARP Karpathos 125.19 309 *e*P PKPdf 00 17 33.6 -0.1
KOLL Kolacno 125.20 327 *e*PKIKP PKPdf 00 17 33.3 0.0
DPC Dobruska-Polom 125.24 329 *e*PKPdf PKPdf 00 17 33.6 +0.3
DPC *e*SKKP 00 30 58.4
DPC AMS AMS 01 11 40.0
comp=Z,800nm,23.6s
UPC Upice 125.30 330 *e*PKPdf PKPdf 00 17 33.5 0.0
UPC *e*SKKP 00 30 57.0
VTS Vitosha 125.34 318 *e*P PKPdf 00 17 33.6 -0.2
VTS Vitosha 125.34 318 ⇑*i*P PKPdf 00 17 33.7 -0.1
VTS Vitosha 125.34 318 *i* P PKPdf 00 17 33.4 -0.4
HRV Adam Dziewonsk 125.35 42 PFAKE 00 17 50.0 +16
HRV LR LR
comp=Z,2µm,22.0s
OWE Westray 125.39 347 ⇓*e*P PKPdf 00 17 32.7 -0.7
MMB Musomiste 125.43 317 *i* P PKPdf 00 17 33.4 -0.6
NVR Nevrokopi 125.44 317 P PKPdf 00 17 35.2 +1.2
BUD Budapest 125.47 325 ⇓*e*PKP PKPdf 00 17 33.8 -0.1
PKME Peaks-Kenny Pk 125.48 38 PFAKE 00 17 50.0 +16
PKME LR LR
comp=Z,3µm,19.0s
WES Weston 125.56 42 PFAKE 00 17 50.0 +16
WES LR LR
comp=Z,2µm,21.0s
BSEG Bad Segeberg 125.58 336 *e*PKIKP PKPdf 00 17 34.1 +0.2
BSEG Bad Segeberg 125.58 336 *e*PKPdf PKPdf 00 17 34.1 +0.2
SRS Serrai 125.73 316 *e*P PKPdf 00 17 32.8 -1.7
VRAC Vranov 125.74 328 PKP PKPdf 00 17 34.3 0.0
comp=Z,29nm,0.9s,baz=86,slow=1.6,SNR=32
VRAC Vranov 125.74 328 ⇑*i*P PKPdf 00 17 34.3 0.0
KKB Krupnik 125.75 317 *i* P PKPdf 00 17 34.6 0.0
OUR Ouranopolis 125.79 315 *e*P PKPdf 00 17 33.0 -1.7
APE Apeiranthos 125.92 311 ⇓*i*P PKPdf 00 17 33.7 -1.4
MODS Modra-Piesok 125.93 327 *e*PKIKP PKPdf 00 17 35.2 +0.5
PVCC Panska Ves 126.00 330 *e*PKPdf PKPdf 00 17 34.8 0.0
PVCC AMS AMS 01 16 10.0
comp=Z,800nm,20.7s
BRG Berggiesshubel 126.08 331 *i* PKIKP PKPdf 00 17 35.1 +0.2
BRG 00 19 29.0
BRG pmax pmax
comp=Z,48nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.4s
BRG Berggiesshubel 126.08 331 *e*PKPdf PKPdf 00 17 35.0 +0.1
BRG Berggiesshubel 126.08 331 *i* PKP PKPdf 00 17 35.1 +0.2
comp=Z,80nm,0.8s
BRG PP PP 00 19 29.0 0.0
comp=Z,16nm,1.4s
ZST Bratislava 126.13 327 *e*PKIKP PKPdf 00 17 35.7 +0.6
PAIG Paliouri 126.16 315 *e*P PKPdf 00 17 33.6 -1.9
KNT Kendrikon 126.18 317 *e*P PKPdf 00 17 34.1 -1.3
SANT Santorini 126.22 310 *e*P PKPdf 00 17 33.8 -1.9
CLL Collm 126.24 332 ⇑*i*PKIKP PKPdf 00 17 35.1 -0.1
CLL *e* 00 17 43.0
CLL *i* 00 19 27.2
CLL pmax pmax
comp=Z,95nm,0.7s
CLL pmax pmax
comp=Z,6.0nm,1.0s
CLL MLR MLR
comp=Z,800nm,24.3s
CLL Collm 126.24 332 ⇑*i*PKP PKPdf 00 17 35.1 -0.1
CLL *e* 00 17 43.0
CLL *i* PP PP 00 19 27.2 -2.8
CLL LR LR
comp=Z,800nm,24.3s
CLL Collm 126.24 332 *e*PKPdf PKPdf 00 17 35.1 -0.1
CLL Collm 126.24 332 ⇑*i*PKPdf PKPdf 00 17 35.1 -0.1
comp=Z,95nm,0.7s
CLL *e*pPKPdf pPKPdf 00 17 43.0 -13
CLL *e*sPKPdf 00 17 50.0
CLL *e*x x 00 17 57.0
CLL *i* PP PP 00 19 27.2 -2.8
comp=Z,6.0nm,1.0s
CLL *e*x x 00 19 33.0
CLL *e*SKSP 00 29 22.0
CLL *e*SKKPbc 00 30 57.0
ORE Reay 126.25 347 ⇓*e*P PKPdf 00 17 34.8 -0.2
TREC Trest 126.32 329 *e*PKPdf PKPdf 00 17 35.1 -0.3
TREC AMS AMS 01 15 50.0
comp=Z,800nm,21.7s
FBE Freiberg 126.33 331 *e*PKPdf PKPdf 00 17 36.2 +0.8
VAY Valandovo 126.33 317 *e*PKP PKPdf 00 17 32.4 -3.3
PRU Pruhonice 126.36 330 *e*PKPdf PKPdf 00 17 35.3 -0.2
PRU *e*SKKP 00 30 52.7
PRU AMS AMS 01 15 10.0
comp=Z,700nm,23.4s
MLA1 Latheron 126.38 347 ⇓*e*P PKPdf 00 17 35.0 -0.3
PKSM Moragy 126.39 324 ⇑*i*P PKPdf 00 17 35.1 -0.6
STIP Stip 126.42 318 *e*P PKPdf 00 17 34.5 -1.4
STIP Stip 126.42 318 *e*PKP PKPdf 00 17 33.6 -2.2
NPS Neapolis 126.48 309 P PKPdf 00 17 37.8 +1.6
NPS Neapolis 126.48 309 *e*P PKPdf 00 17 35.9 -0.3
LAST Lasithi 126.62 309 *e*P PKPdf 00 17 36.3 -0.1
DIVS Divibare 126.69 321 *e*P PKPdf 00 17 36.1 -0.2
SOP Sopron 126.73 327 ⇑*e*PKP PKPdf 00 17 36.0 -0.3
NEO Neokhori 126.74 315 *e*P PKPdf 00 17 34.9 -1.7
SKO Skopje 126.79 318 *e*PKP PKPdf 00 17 35.2 -1.4
MVH1 Achvaich 126.91 347 ⇓*e*P PKPdf 00 17 35.9 -0.4
LIT Litokhoron 126.92 316 *e*P PKPdf 00 17 35.5 -1.4
CONA Conrad Observa 126.96 327 ⇑*i*P PKPdf 00 17 36.4 -0.3
comp=Z,130nm,1.8s,SNR=29
CSNA Conrad Observa 126.96 327 ⇑*i*PKiKP PKiKP 00 17 36.4 -0.8
comp=Z,120nm,1.8s
MCD Coleburn Disti 127.00 346 *e*P PKPdf 00 17 35.8 -0.7
CLZ Clausthal 127.06 334 *e*PKIKP PKPdf 00 17 37.2 +0.4
CLZ Clausthal 127.06 334 *e*PKPdf PKPdf 00 17 37.2 +0.4
TANN Tannenbergstha 127.09 331 *e*PKPdf PKPdf 00 17 37.1 +0.2
WERD Werda 127.15 332 *e*PKPdf PKPdf 00 17 37.1 +0.1
LKR Lokris 127.17 314 *e*P PKPdf 00 17 35.8 -1.6
MME1 Meikle Cairn 127.17 346 *e*P PKPdf 00 17 36.1 -0.8
SIVA Sivas 127.18 309 *e*P PKPdf 00 17 37.2 -0.3
GUNZ Gunzen 127.19 331 *e*PKPdf PKPdf 00 17 37.5 +0.4
KRUS Krusevo 127.20 318 *e*PKP PKPdf 00 17 36.4 -1.0
WERN Wernitzgruen 127.22 331 *e*PKPdf PKPdf 00 17 37.5 +0.4
NKC Novy Kostel 127.22 331 *e*PKPdf PKPdf 00 17 37.1 0.0
NKC AMS AMS 01 14 10.0
comp=Z,900nm,21.4s
BIA Bitola 127.31 317 *e*PKP PKPdf 00 17 35.4 -2.2
KZN Kozani 127.33 316 *e*P PKPdf 00 17 38.3 +0.6
MOX Moxa 127.34 332 *e*PKP PKPdf 00 17 37.1 -0.2
comp=Z,52nm,1.4s
MOX
comp=Z,300nm,23.0s
MOX Moxa 127.34 332 *e*PKPdf PKPdf 00 17 37.3 0.0
IVA Berane 127.36 320 ⇑*i*PKP PKPdf 00 17 37.2 -0.4
FNA Florina 127.38 317 *e*P PKPdf 00 17 36.7 -1.0
MDO Dochfour 127.39 347 *e*P PKPdf 00 17 36.7 -0.6
KHC Kasperske Hory 127.39 330 *e*PKIKP PKPdf 00 17 37.5 0.0
KHC *e* 00 17 50.0
KHC MLR MLR
comp=Z,800nm,21.0s
KHC Kasperske Hory 127.39 330 *e*PKPdf PKPdf 00 17 37.5 0.0
KHC *e*x x 00 17 50.0
KHC *e*SKKP 00 30 47.0
KHC AMS AMS 01 13 30.0
comp=Z,800nm,21.0s
PVY Plav 127.45 320 ⇑*i*PKP PKPdf 00 17 37.1 -0.7
PLE Pljevlja 127.45 321 ⇑*i*PKP PKPdf 00 17 37.8 0.0
DID Didima 127.45 313 *e*P PKPdf 00 17 35.3 -2.7
THL Klokotos Trika 127.48 315 *e*P PKPdf 00 17 36.1 -1.8
THL Klokotos Trika 127.48 315 *e*P PKPdf 00 17 36.3 -1.7
AGG Agios Georgios 127.49 315 *e*P PKPdf 00 17 35.8 -2.2
BCI Bajram Curri 127.50 319 *e*PN PKPdf 00 17 38.1 +0.2
GEC2 GERESS Array S 127.52 329 *e*PKIKP PKPdf 00 17 37.8 +0.1
GEC2 GERESS Array S 127.52 329 *e*PKPdf PKPdf 00 17 37.8 +0.1
GERES GERESS Array B 127.52 329 PKP PKPdf 00 17 37.8 0.0
comp=Z,43nm,0.6s,baz=80,slow=1.5,SNR=33
VAM Vamos 127.52 310 P PKPdf 00 17 40.2 +2.0
VAM Vamos 127.52 310 *e*P PKPdf 00 17 37.8 -0.4
KAC Achnashellach 127.55 347 *e*P PKPdf 00 17 37.2 -0.3
ARSA Arzberg 127.55 327 ⇓*i*P PKPdf 00 17 36.9 -1.0
comp=Z,21nm,1.2s,SNR=9.3
MANZ Manzenberg 127.55 331 *e*PKPdf PKPdf 00 17 38.0 +0.2
PHP Peshkopia 127.59 318 *e*PN PKPdf 00 17 37.5 -0.6
OHR Ohrid 127.62 318 *e*PKP PKPdf 00 17 36.5 -1.7
ROTZ Rotzenmuhle 127.65 331 *e*PKPdf PKPdf 00 17 38.0 0.0
KARN Karanos 127.73 310 *e*P PKPdf 00 17 38.7 +0.1
WET Wettzell 127.73 330 *e*PKIKP PKPdf 00 17 38.4 +0.2
WET Wettzell 127.73 330 *e*PKPdf PKPdf 00 17 38.4 +0.2
PUK Puka 127.77 319 *e*PN PKPdf 00 17 37.9 -0.6
UPM Unac-Piva 127.82 321 ⇑*i*PKP PKPdf 00 17 37.8 -0.7
KSB Sheil Bridge 127.84 347 *e*P PKPdf 00 17 37.6 -0.5
KBN Korca 127.85 317 *e*PN PKPdf 00 17 38.2 -0.5
MOA Molln 127.85 328 ⇑*i*P PKPdf 00 17 37.6 -0.8
comp=Z,100nm,2.1s,SNR=11
EVR Evrytania 127.90 315 P PKPdf 00 17 40.5 +1.7
EVR Evrytania 127.90 315 *e*P PKPdf 00 17 38.1 -0.7
UBBA Unterbreizbach 127.95 333 *e*PKPdf PKPdf 00 17 38.4 -0.1
NKY Niksic 127.97 320 ⇑*i*PKP PKPdf 00 17 38.2 -0.6
VLI Veliai 127.98 312 *e*P PKPdf 00 17 37.3 -1.7
TTG Podgorica 127.99 320 ⇑*i*PKP PKPdf 00 17 38.0 -0.9
SELA Sela 128.11 314 *e*P PKPdf 00 17 38.9 -0.4
SISC Sisak 128.12 324 P PKPdf 00 17 39.0 0.0
SISC Sisak 128.12 324 *i* P PKPdf 00 17 39.0 0.0
TIR Tirane 128.13 318 *e*PN PKPdf 00 17 39.1 -0.1
VLX Vlachokerasia 128.13 313 *e*P PKPdf 00 17 39.1 -0.2
PERS Pernice 128.14 326 *i* PKPdf PKPdf 00 17 38.3 -0.7
SOKA Soboth 128.16 326 ⇑*i*PKIKP PKiKP 00 17 38.5 -1.1
comp=Z,104nm,1.6s
GRA1 Grafenberg Arr 128.17 331 *e*PKPdf PKPdf 00 17 39.1 +0.1
GRA1 *e*PP PP 00 19 41.7 -1.1
GRA1 LR LR
comp=Z,700nm,22.0s
GRF Grafenberg Arr 128.17 331 *e*PKIKP PKPdf 00 17 39.1 +0.1
GRF *e* 00 19 41.7
GRF MLR MLR
comp=Z,700nm,22.0s
GRF Grafenberg Arr 128.17 331 *e*PKPdf PKPdf 00 17 39.1 +0.1
GRF *e*PP PP 00 19 41.7 -1.1
GRF *e*L 01 16 39.0
comp=Z,651nm,22.0s
GRFO Grafenberg 128.17 331 *e*PKIKP PKPdf 00 17 39.0 0.0
GRFO MLR MLR

comp=Z,657nm,22.0s
KAR1 Arisaig 128.20 347 *eP* PKPdf 00 17 38.4 -0.4
BRY Bratogost 128.21 321⇑*i*PKP PKPdf 00 17 38.0 -1.3
ULC Ulcinj 128.23 319⇑*i*PKP PKPdf 00 17 39.1 -0.2
JAN Janina 128.25 316 *eP* PKPdf 00 17 39.2 -0.2
EBH Black Hill 128.26 345 *eP* PKPdf 00 17 38.9 -0.1
BUM Brajici-Budva 128.29 320⇑*i*PKP PKPdf 00 17 39.0 -0.4
ESY Stoneypath 128.33 345⇓*eP* PKPdf 00 17 38.7 -0.4
HCY Herceg Novi 128.47 320⇑*i*PKP PKPdf 00 17 38.7 -1.1
WTSB Winterswijk 128.47 336⇑*i*PKiKP PKiKP 00 17 39.3 -0.8
comp=Z,80nm,1.1s
EDI Edinburgh 128.47 345 *eP* PKPdf 00 17 38.1 -1.2
EDI AMb AMB 00 17 40.6
comp=Z,56nm,1.6s
RLS Riolos of Patr 128.51 314 P PKPdf 00 17 41.6 +1.6
RLS Riolos of Patr 128.51 314 *eP* PKPdf 00 17 40.7 +0.7
EAB Aberfoyle 128.52 346⇓*eP* PKPdf 00 17 39.1 -0.3
OBKA Obir 128.53 326⇑*i*P PKPdf 00 17 38.9 -0.9
comp=Z,45nm,1.5s,SNR=9.2
ITM Ithomi 128.54 313 P PKPdf 00 17 40.4 +0.3
ITM Ithomi 128.54 313 *eP* PKPdf 00 17 40.1 0.0
EBL Broad Law 128.57 345⇓*eP* PKPdf 00 17 39.2 -0.3
EAU Auchinoon 128.61 345⇓*eP* PKPdf 00 17 39.4 -0.2
XSO Sourhope Farm 128.61 344⇓*eP* PKPdf 00 17 39.4 -0.3
IGT Igoumenitsa 128.66 316 *eP* PKPdf 00 17 39.9 -0.3
BUG Bochum--Univer 128.68 335 *e*PKPdf PKPdf 00 17 39.9 0.0
BOJS Bojanci 128.74 325 *i*PKPdf PKPdf 00 17 40.1 -0.1
BOJS *e*PKSdf 00 21 00.5
STON Ston 128.75 321 P PKPdf 00 17 39.0 -1.3
STON Ston 128.75 321 *i* P PKPdf 00 17 39.0 -1.3
LKD Levkas 128.81 315 *eP* PKPdf 00 17 39.8 -0.7
LJU Ljubljana 128.82 326 *i*PKPdf PKPdf 00 17 40.0 -0.3
LJU *e*PKSdf 00 21 00.6
KBA Koelnbreinsper 128.82 328⇑*i*P PKPdf 00 17 39.3 -1.0
comp=Z,70nm,1.5s,SNR=11
PGBU Glenifferbraes 128.90 346 *eP* PKPdf 00 17 39.4 -0.7
PGBU AMb AMB 00 17 44.7
comp=Z,74nm,2.2s
KEK Kerkira 128.94 317 *eP* PKPdf 00 17 40.1 -0.7
EKA Eskdalemuir Ar 128.99 345 PKIKP 00 17 32.5
EKA 00 17 39.9
EKA Eskdalemuir Ar 128.99 345 PKhKP 00 17 32.5
comp=Z,0.6nm,0.5s,baz=22,slow=0.5,SNR=3.9
EKA PKP PKPdf 00 17 39.9 -0.5
comp=Z,10nm,0.5s,baz=21,slow=3.0,SNR=53
EKA SKPbc 00 20 56.5
comp=Z,6.9nm,1.0s,baz=4.1,slow=3.0,SNR=7.6
ESK Eskdalemuir 129.02 345 *eP* PKPdf 00 17 39.6 -0.8
ESK AMb AMB 00 17 41.9
comp=Z,44nm,1.5s
ESK Eskdalemuir 129.02 345 PFAKE 00 17 50.0 +10
ESK LR LR
comp=Z,591nm,22.0s
VLS Valsamata 129.08 314 *eP* PKPdf 00 17 40.5 -0.6
XAL Allendale 129.16 344⇓*eP* PKPdf 00 17 40.2 -0.5
JAVS Javornik 129.17 326 *i*PKPdf PKPdf 00 17 40.3 -0.7
FUR Furstenfeldbru 129.18 330 *e*PKIKP PKPdf 00 17 40.9 0.0
FUR Furstenfeldbru 129.18 330 *e*PKPdf PKPdf 00 17 40.9 0.0
VOY Vojsko 129.18 326 *e*PKPdf PKPdf 00 17 40.2 -0.8
VOY *e* 00 17 52.7
TOD Tromm 129.36 333 PKIKP PKPdf 00 17 41.2 0.0
ABTA Abfaltersbach 129.48 328⇓*iP* PKPdf 00 17 39.8 -1.7
comp=Z,87nm,1.4s,SNR=12
NVLJ Novalja 129.51 324 P PKPdf 00 17 40.8 -0.9
NVLJ Novalja 129.51 324 *i* P PKPdf 00 17 40.8 -0.9
WATA Walderalm 129.58 329⇑*i*P PKPdf 00 17 41.2 -0.6
comp=Z,19nm,0.8s,SNR=11
WTTA Wattenberg 129.60 329⇑*i*P PKPdf 00 17 41.6 -0.2
comp=Z,217nm,1.6s,SNR=21
CKE Keswick 129.64 344 *eP* PKPdf 00 17 41.2 -0.4
ABH Alteburg 129.72 334 PKP PKPdf 00 17 41.8 -0.1
HGN Heimansgroeve 129.74 336⇑*i*PKiKP PKiKP 00 17 41.6 -1.1
comp=Z,45nm,1.2s
STU Stuttgart 129.77 332 *e*PKPdf PKPdf 00 17 42.3 +0.3
HPK Haverah Park 129.78 343 *eP* PKPdf 00 17 41.9 0.0
HPK AMb AMB 00 17 42.8
comp=Z,67nm,0.9s
MLNI Malnisio 129.81 327 *e*Pg PKPdf 00 17 41.7 -0.5
GAL1 Galloway 129.81 345 *eP* PKPdf 00 17 41.0 -0.9
GAL1 AMb AMB 00 17 42.9
comp=Z,80nm,1.4s
MOTA Moosalm 129.81 329⇑*i*P PKPdf 00 17 41.7 -0.5
comp=Z,22nm,0.8s,SNR=32
BEBN Eben Emael 129.82 336 PKP PKPdf 00 17 41.6 -0.4
ABA1 Baconsthorpe 129.82 340 *eP* PKPdf 00 17 41.6 -0.4
MEM Membach 129.83 335 PKP PKPdf 00 17 42.1 +0.1
MEM SKPbc 00 21 00.3
SQTA Sankt Quirin 129.84 329⇓*iP* PKPdf 00 17 42.1 -0.1
comp=Z,25nm,0.9s,SNR=13
KTD Kalmit 129.89 333 PKIKP PKPdf 00 17 42.0 -0.2
RETA Reutte 129.89 330⇑*i*P PKPdf 00 17 41.8 -0.5
comp=Z,82nm,1.8s,SNR=10
ROSC El Rosal 130.06 90 PKP PKPdf 00 17 43.5 -0.1
comp=Z,8.2nm,0.3s,baz=279,slow=22,SNR=7.3
RUP Ruppelstein 130.06 334 PKIKP PKPdf 00 17 42.5 -0.1
LHO Holmfirth 130.21 343 *eP* PKPdf 00 17 42.2 -0.5
FETA Feichten 130.22 329⇑*i*P PKPdf 00 17 43.0 0.0
comp=Z,118nm,1.7s,SNR=12
LANF Langenberg 130.26 333 PKIKP PKPdf 00 17 42.5 -0.5
BCLA Clavier 130.26 336 PKP PKPdf 00 17 42.5 -0.5
BCLA PKiKP PKiKP 00 17 43.9 +0.1
BCLA SKPbc SKPbc 00 21 02.4 +2.8
APPI Appiano 130.32 328 PKP PKPdf 00 17 40.8 -2.4
UCC Uccle 130.35 337 PKP PKPdf 00 17 42.7 -0.3
UCC PKiKP PKiKP 00 17 43.8 -0.1
UCC E 00 21 02.5
KBI1 Birley Grange 130.36 342⇓*eP* PKPdf 00 17 43.2 +0.2
SPAK Spaichingen-Ko 130.43 331 PKP PKPdf 00 17 42.7 -0.6
DAVA Damuels 130.47 330⇓*iP* PKPdf 00 17 43.4 0.0
comp=Z,124nm,1.9s,SNR=10
WLF Walferdange 130.48 334 *e*PKIKP PKPdf 00 17 43.8 +0.4
WLF Walferdange 130.48 334 PKP PKPdf 00 17 43.6 +0.3
WLF E 00 21 04.0
WLF Walferdange 130.48 334 *e*PKPdf PKPdf 00 17 44.4 +1.0
BFO Black Forest 130.49 332 *e*PKIKP PKPdf 00 17 43.3 -0.1
BFO Black Forest 130.49 332 *e*PKPdf PKPdf 00 17 43.3 -0.1
STR Strasbourg 130.56 332 PKIKP PKPdf 00 17 43.6 0.0
KWE Weaver Farm 130.66 342⇓*eP* PKPdf 00 17 43.1 -0.5
LPAZ La Paz 130.70 118 PKIKP 00 17 38.2
LPAZ 00 17 45.2
LPAZ MLR MLR
comp=Z,495nm,22.0s
LPAZ La Paz 130.70 118 PKP 00 17 38.2
LPAZ PKP PKPdf 00 17 45.2 +0.5
LPAZ SKPab 00 21 04.8
LPAZ PKKP 00 27 42.5
LPAZ LR LR
comp=Z,495nm,22.0s
LPAZ La Paz 130.70 118 PKhKP 00 17 38.2
comp=Z,1.2nm,0.7s,baz=106,slow=3.6,SNR=4.4
LPAZ PKP PKPdf 00 17 45.2 +0.5
comp=Z,8.7nm,1.0s,baz=294,slow=0.7,SNR=17
LPAZ SKPab 00 21 04.8
comp=Z,4.1nm,0.9s,baz=270,slow=1.0,SNR=6.6
LPAZ PKKP 00 27 42.5
comp=Z,1.3nm,0.7s,baz=14,slow=3.9,SNR=4.7
GIVF Givet 130.70 336⇑*i*PKIKP PKPdf 00 17 43.5 -0.3
comp=Z,119nm,0.8s
STNC Stoke 130.71 343 *eP* PKPdf 00 17 43.6 0.0
CWF Charnwood Fore 130.74 342 *eP* PKPdf 00 17 43.5 -0.3
CWF AMb AMB 00 17 45.0
comp=Z,57nm,1.0s
DOU Dourbes 130.80 336 PKP PKPdf 00 17 44.2 +0.3
DOU SKPbc SKPbc 00 21 00.8 -0.9
DOU E 00 21 04.2
DAVOX Davos/Dischmat 130.81 329 PKhKP 00 17 31.1
comp=Z,2.8nm,0.6s,baz=6.4,slow=3.7,SNR=6.5
DAVOX PKP PKPdf 00 17 44.2 +0.1
comp=Z,67nm,0.6s,baz=149,slow=3.3,SNR=98
DAVOX SKPab 00 21 05.8
comp=Z,16nm,1.0s,baz=207,slow=2.3,SNR=13
CDF Champ du Feu 130.91 333⇑*i*PKIKP PKPdf 00 17 43.6 -0.6
comp=Z,65nm,0.9s
FELD Feldberg im Sc 130.96 332 PKP PKPdf 00 17 43.6 -0.7
MABI Malga Bissina 130.98 328 PKP PKPdf 00 17 43.3 -1.1
BAIF Baives 130.99 336⇑*i*PKIKP PKPdf 00 17 43.9 -0.4
comp=Z,68nm,0.8s
PTRP Pietrapertosa 131.03 319 PKP PKPdf 00 17 41.0 -3.7
ECH Echery 131.11 333 PKIKP PKPdf 00 17 43.6 -1.0
SBD1 Bryn Du 131.18 343⇓*eP* PKPdf 00 17 44.4 -0.2
CING Cingoli 131.19 324 PKP PKPdf 00 17 45.1 +0.2
TIP Timpagrande 131.26 317 *e*PKPdf PKPdf 00 17 44.8 -0.4
TSUM Tsumeb 131.32 237 *e*PKPdf PKPdf 00 17 46.0 +0.2

TSUM LR LR
comp=Z,2μm,20.0s
TSUM Tsumeb 131.32 237 SKP 00 21 09.5
comp=Z,14nm,0.9s,baz=79,slow=3.2,SNR=8.9
MENF Mencas 131.39 338 PKP PKPdf 00 17 44.6 -0.5
MOF Molkenrain 131.39 332 PKIKP PKPdf 00 17 44.6 -0.5
MRB1 Monte Rocchett 131.40 321 PKP PKPdf 00 17 45.3 -0.1
SKP1 Kophill 131.46 341 *eP* PKPdf 00 17 44.3 -0.8
BBS Basel-Blauen 131.49 332 PKIKP PKPdf 00 17 44.6 -0.8
HINF Hinteralfeld 131.54 332⇑*i*PKIKP PKPdf 00 17 44.7 -0.7
comp=Z,77nm,0.8s
MIDA Mirinda 131.56 322 PKP PKPdf 00 17 46.2 +0.5
SSW Stow on the Wo 131.58 342 *eP* PKPdf 00 17 45.4 +0.1
THEF They Montfort 131.63 333 PKIKP PKPdf 00 17 45.1 -0.5
HAU Haudompre 131.63 333⇑*i*PKIKP PKPdf 00 17 45.0 -0.6
comp=Z,112nm,0.7s
HAU *e*MLR MLR
comp=Z,508nm,22.5s
HAU Haudompre 131.63 333⇑*i*PKPdf PKPdf 00 17 45.0 -0.6
HAU LR LR
comp=Z,510nm,22.5s
MURB Monte Urbino 131.65 324 PKP PKPdf 00 17 45.1 -0.7
AQU L'Aquila 131.67 323 *e*PKIKP PKPdf 00 17 45.8 -0.1
AQU L'Aquila 131.67 323⇑*i*P PKPdf 00 17 45.5 -0.4
DLF Lyons Farm 131.69 346⇑*i*P PKPdf 00 17 44.9 -0.6
ASS Assisi 131.69 324 PKIKP PKPdf 00 17 44.8 -1.1
VMG Vicchio 131.77 326 PKP PKPdf 00 17 44.0 -2.0
DCN Croghan 131.82 346⇑*i*P PKPdf 00 17 45.3 -0.5
MEZF Maizieres J'vi 131.84 334⇑*i*PKIKP PKPdf 00 17 45.9 -0.1
comp=Z,164nm,0.8s
FNVD Fontana Vidola 131.88 326 PKP PKPdf 00 17 46.6 +0.4
LOMF Lomont 131.90 332 PKIKP PKPdf 00 17 45.5 -0.6
MCH1 Michaelchurch 131.90 343 *eP* PKPdf 00 17 45.3 -0.7
MCH1 AMb AMB 00 17 49.6
comp=Z,67nm,2.5s
HTR Trewern Hill 131.91 343⇓*eP* PKPdf 00 17 45.7 -0.3
WOL Wolverton 131.94 341 *eP* PKPdf 00 17 45.8 -0.3
SWN1 Swindon 131.95 341 *eP* PKPdf 00 17 45.6 -0.5
SWN1 AMb AMB 00 17 47.7
comp=Z,194nm,0.8s
HGH Gray Hill 132.16 342 *eP* PKPdf 00 17 46.0 -0.4
BDI Bagni Di Lucca 132.24 326 PKIKP PKPdf 00 17 45.1 -1.8
MTCE Montecelio 132.26 323 PKP PKPdf 00 17 46.0 -1.0
SOI Samo 132.29 316 PKIKP PKPdf 00 17 43.9 -3.3
BOB Bobbio (Coli) 132.39 328 PKIKP PKPdf 00 17 47.1 0.0
SWK Warminster 132.41 341 *eP* PKPdf 00 17 47.4 +0.4
PII Pisa 132.50 326 PKIKP PKPdf 00 17 46.0 -1.4
ORO Oropa 132.56 330 PKIKP PKPdf 00 17 46.6 -0.8
SDDR Presa de Saban 132.70 71 PFAKE 00 18 00.0 +12
SDDR LR LR
comp=Z,659nm,20.0s
CABF La Chapelle 132.78 332⇑*i*PKIKP PKPdf 00 17 47.9 +0.1
comp=Z,117nm,0.7s
LPL La Plagne 133.26 330⇑*i*PKIKP PKPdf 00 17 48.8 0.0
comp=Z,126nm,0.9s
LPG La Plagne 133.27 330⇑*i*PKIKP PKPdf 00 17 48.8 0.0
comp=Z,100nm,0.7s
LOR Lormes 133.30 334⇑*i*PKIKP PKPdf 00 17 48.4 -0.4
comp=Z,84nm,1.0s
LOR *e*MLR MLR
comp=Z,790nm,22.0s
LOR Lormes 133.30 334⇑*i*PKPdf PKPdf 00 17 48.4 -0.4
LOR LR LR
comp=Z,790nm,22.0s
SSF Saint Saulge 133.61 334⇑*i*PKIKP PKPdf 00 17 49.1 -0.3
comp=Z,101nm,0.9s
BNI Bardonecchia 133.62 330 *e*PKIKP PKPdf 00 17 48.9 -0.5
SMF Signal de Mont 133.78 333⇑*i*PKIKP PKPdf 00 17 49.2 -0.5
comp=Z,122nm,1.1s
CPUP Villa Florida 133.78 137 PKHKP 00 17 41.2
CPUP 00 17 49.8
CPUP *e* 00 20 18.3
CPUP Villa Florida 133.78 137 PKP 00 17 41.2
CPUP *e*PKPdf PKPdf 00 17 49.6 -0.8
CPUP PKP PKPdf 00 17 49.8 -0.6
CPUP *e*PP PP 00 20 18.3 -1.3
CPUP SKPab 00 21 14.6
CPUP Villa Florida 133.78 137 PKhKP 00 17 41.2
comp=Z,1.4nm,0.6s,baz=240,slow=3.7,SNR=3.1
CPUP PKP PKPdf 00 17 49.8 -0.6
comp=Z,5.4nm,0.7s,baz=300,slow=1.7,SNR=12
CPUP SKPab 00 21 14.6
comp=Z,2.8nm,0.8s,baz=265,slow=5.7,SNR=4.2
MBDF Montbardon 133.81 330⇑*i*PKIKP PKPdf 00 17 49.6 -0.2
comp=Z,31nm,0.6s
HYF Humbligny 133.82 335 *e*PKIKP PKPdf 00 17 49.8 +0.1
FLN La Foliniere 133.84 338⇑*i*PKIKP PKPdf 00 17 49.2 -0.5
comp=Z,84nm,0.7s
FLN *e*MLR MLR
comp=Z,1μm,22.0s
LDF La Druitiere 133.85 338⇑*i*PKIKP PKPdf 00 17 49.2 -0.6
comp=Z,35nm,0.8s
AVF Avril sur Loir 133.89 334⇑*i*PKIKP PKPdf 00 17 49.2 -0.7
comp=Z,44nm,0.9s
SAOF Saorge 133.92 328 PKIKP PKPdf 00 17 50.3 +0.3
SDV Santo Domingo 133.95 84 *e*PKPdf PKPdf 00 17 49.9 -1.0
SDV LR LR
comp=Z,158nm,19.0s
SURF Saint Ours 133.96 329 PKP PKPdf 00 17 50.4 +0.3
AUTN L'Aution 133.98 328 PKIKP PKPdf 00 17 49.4 -0.8
TOUF Mont Tournerai 134.06 328 PKIKP PKPdf 00 17 49.6 -0.7
SBF Sospel 134.07 328⇑*i*PKIKP PKPdf 00 17 49.9 -0.4
comp=Z,77nm,0.7s
PGF Pioggiola 134.11 326⇑*i*PKIKP PKPdf 00 17 50.1 -0.3
comp=Z,184nm,0.7s
ORIF Oris-en-Rattie 134.11 330⇑*i*PKIKP PKPdf 00 17 50.0 -0.4
comp=Z,76nm,0.6s
ORIF *e*MLR MLR
comp=Z,926nm,23.0s
BGF Bois d'Agland 134.29 334⇑*i*PKIKP PKPdf 00 17 50.4 -0.2
comp=Z,93nm,0.8s
GRR Gorron 134.29 338⇑*i*PKIKP PKPdf 00 17 50.5 -0.1
comp=Z,67nm,0.7s
CALN Calern 134.43 328 PKIKP PKPdf 00 17 49.0 -2.0
BBSR BB Station 134.67 51 PFAKE 00 18 00.0 +8.2
BBSR LR LR
comp=Z,2μm,19.0s
FRF La Foret Royal 134.69 328⇑*i*PKIKP PKPdf 00 17 50.9 -0.6
comp=Z,68nm,0.7s
VIVF Saint-Julien-l 134.74 331⇑*i*PKIKP PKPdf 00 17 51.4 -0.2
comp=Z,113nm,1.0s
TCF Toulx Ste Croi 134.77 334⇑*i*PKIKP PKPdf 00 17 51.5 -0.1
comp=Z,126nm,0.8s
LMR La Mourre 134.92 328⇑*i*PKIKP PKPdf 00 17 51.2 -0.7
comp=Z,92nm,0.8s
SMRF Simiane la Rot 134.94 330⇑*i*PKIKP PKPdf 00 17 51.9 -0.1
comp=Z,123nm,1.0s
SGMF Saint Gilles 135.01 340⇑*i*PKIKP PKPdf 00 17 51.4 -0.5
comp=Z,92nm,0.9s
ROSF Rostrenen 135.18 340⇑*i*PKIKP PKPdf 00 17 51.7 -0.6
MFF Saint Martin d 135.50 336⇑*i*PKIKP PKPdf 00 17 52.6 -0.3
comp=Z,63nm,0.8s
QUIF Quistinic 135.51 340⇑*i*PKIKP PKPdf 00 17 52.1 -0.8
LASF Ste Croix 135.71 331⇑*i*PKIKP PKPdf 00 17 53.3 -0.1
comp=Z,94nm,0.7s
VSL Villasalto 135.82 322 *e*PKPdf PKPdf 00 17 53.3 -0.5
RJF Les Rejaudoux 135.85 334⇑*i*PKIKP PKPdf 00 17 53.2 -0.4
comp=Z,18nm,0.6s
RJF *e*MLR MLR
comp=Z,586nm,22.8s
RJF Les Rejaudoux 135.85 334⇑*i*PKPdf PKPdf 00 17 53.2 -0.4
RJF LR LR
comp=Z,590nm,22.8s
CAF Calviac 135.90 333⇑*i*PKIKP PKPdf 00 17 53.6 -0.1
comp=Z,18nm,0.6s
LFF La Frestale 136.47 334⇑*i*PKIKP PKPdf 00 17 54.5 -0.3
comp=Z,50nm,0.9s
SIV San Ignacio 136.88 122 SKP 00 21 24.6
baz=201,slow=7.0
MTLF Montolieu 137.05 332⇑*i*PKIKP PKPdf 00 17 55.5 -0.4
comp=Z,51nm,0.7s
SJG San Juan 137.65 71 PFAKE 00 18 10.0 +12
SJG LR LR
comp=Z,939nm,22.0s
KEST Kesra 138.08 318 PKhKP 00 17 47.0
comp=Z,2.1nm,0.5s,baz=10,slow=5.6,SNR=15
KEST PKP PKPdf 00 17 59.2 +1.2
comp=Z,10nm,0.8s,baz=289,slow=1.6,SNR=13
KEST SKPab 00 21 28.8
comp=Z,5.6nm,0.9s,baz=344,slow=3.1,SNR=6.3
EPF Esparros 138.16 333⇑*i*PKIKP PKPdf 00 17 57.8 -0.1
comp=Z,76nm,1.1s
ETSF Etsaut 138.66 334⇑*i*PKIKP PKPdf 00 17 58.5 -0.4
comp=Z,127nm,0.7s
SJPF Ste Jean 138.78 334⇑*i*PKIKP PKPdf 00 17 58.6 -0.5

comp=Z,33nm,0.6s
CMAH Djebel Manchou 138.81 320 P PKPdf 00 18 01.0 +1.6
ABSA Djebel Ababsia 138.99 320 P PKPdf 00 18 02.5 +2.8
CAEH 'Ain El Ouahch 139.07 321 P PKPdf 00 18 03.5 +3.7
CKFL Kef-Lekhel 139.39 321 P PKPdf 00 17 59.0 -1.4
CASM Ain Smara 139.62 321 P PKPdf 00 17 56.0 -4.8
CTEI Djebel Teioual 139.80 320 P PKPdf 00 18 04.0 +2.8
DFRA Djebel Bou Aff 139.83 321 P PKPdf 00 17 54.0 -7.2
SET Setif 140.34 321 P PKPdf 00 17 56.0 -6.2
CKHR Kef el Ahmar 140.39 321 P PKPdf 00 17 56.0 -6.2
EMHD Djebel Mahouad 141.83 323 P PKPdf 00 18 02.0 -2.8
EBNR Beni Rached 142.59 325 P PKPdf 00 18 03.0 -3.2
ESDC Sonseca Array 142.78 334 PKhKP PKPdf 00 18 02.9 -3.5
comp=Z,13nm,0.8s,baz=23,slow=3.0,SNR=42
ESDC PP PP 00 21 11.4 -3.3
comp=Z,1.6nm,0.6s,baz=26,slow=6.7,SNR=4.3
ESLA Sonseca Array 142.78 334 *e*PKPdf PKPdf 00 18 03.1 -3.3
ESLA LR LR
comp=Z,2μm,20.0s
ECHA Ech Chlef 142.78 325 P PKPdf 00 18 03.5 -3.0
PVRL Vila Real 142.89 339 *e*PKP PKPdf 00 18 04.3 -2.3
PAB San Pablo 143.05 334 *e*PKIKP PKPdf 00 18 03.6 -3.3
PAB MLR MLR
comp=Z,606nm,22.0s
EANR 'Ain N'Sour 143.08 325 P PKPdf 00 18 04.0 -3.1
ETRT Tiaret 143.36 324 P PKPdf 00 18 05.0 -2.6
PVIS Viseu 143.44 339 *e*PKP PKPdf 00 18 05.1 -2.5
MTE Manteigas 143.60 338 *e*PKPdf PKPdf 00 18 05.3 -2.5
MTE Manteigas 143.60 338 *e-* 00 18 25.4
PCBR Castelo Branco 144.06 338 *e*PKP PKPdf 00 18 07.2 -1.5
USTO Oran 144.16 326 P PKPdf 00 18 07.0 -2.0
ODJA Bouhanifia 144.23 325 P PKPdf 00 18 08.0 -1.1
BBGH Gun Hill 144.64 77 PFAKE 00 18 20.0 +10
BBGH LR LR
comp=Z,1μm,19.0s
PESTR Estremoz 144.95 337 *e*PKP PKPdf 00 18 09.4 -0.8
PESTR *e-* 00 18 23.6
ALMR Almeirim 145.07 339 *e*P PKPbc 00 18 09.8 -0.2
PBAR Barrancos 145.33 336 *e*PKP PKPdf 00 18 10.8 -0.1
PBAR *e-* 00 18 25.5
EVO Evora 145.41 337⇑*i*PKIKP PKPdf 00 18 10.9 -0.1
comp=Z,148nm,0.7s
EVO *e*MLR MLR
comp=Z,616nm,22.2s
EVO Evora 145.41 337 *e*PKP PKPdf 00 18 11.0 0.0
EVO *e-* 00 18 25.9
PMAFR Mafra 145.50 339 *e*PKP PKPdf 00 18 11.4 +0.2
PMAFR *e-* 00 18 26.0
MOE Montemor 145.54 338 *e*PKP PKPdf 00 18 12.2 +0.9
LIS Lisbon 145.66 339 *e*P PKPdf 00 18 09.7 -1.8
CAM4 Nova Friburgo 145.68 149⇓*iP* PKPdf 00 18 11.7 -0.3
CAM4 *i* 00 18 13.2
CAM4 *i* 00 18 17.4
CAM4 *i* 00 18 27.0
CAM4 *i* 00 18 56.0
PBEJ Beja 145.79 337 *e*PKP PKPdf 00 18 13.0 +1.3
PBEJ *e-* 00 18 28.0
PVAQ Vaqueiros 146.27 336 *e*PKP PKPdf 00 18 13.1 +0.6
PBDV Barranco-do-Ve 146.49 336 *e*PKP PKPdf 00 18 13.3 +0.4
PBDV *e-* 00 18 28.7
PBDV *i -* 00 18 50.7
MORF Marmelete 146.72 337 *e*PKP PKPdf 00 18 15.1 +1.8
MORF *e-* 00 18 29.8
PFVI Vila Bisbo 146.94 337 *e*PKP PKPdf 00 18 16.0 +2.3
PFVI *e-* 00 18 29.2
BDFB Brasilia 147.35 134 PKP2 PKPbc 00 18 16.7 -0.7
BDFB MLR MLR
comp=Z,704nm,20.0s
BDFB Brasilia 147.35 134 PKPbc PKPbc 00 18 16.7 -0.7
comp=Z,63nm,0.8s,baz=213,slow=4.8,SNR=28
MDT Midelt 148.57 327 PKP PKPdf 00 18 15.9 -0.6
comp=Z,125nm,0.9s,baz=60,slow=1.9,SNR=9.9
MDT PKPbc PKPbc 00 18 21.1 +0.9
comp=Z,101nm,0.8s,baz=60,slow=3.6,SNR=153
CMLA Cha da Macela 149.38 2 *e*PKPbc PKPbc 00 18 22.5 +0.4
CMLA LR LR
comp=Z,957nm,22.0s
TOA0 Torodi Ar. Sit 153.85 286 *e*PKPdf PKPdf 00 18 24.0 -1.0
TOA0 *e*PKPbc PKPbc 00 18 32.7 -0.3
TORD Torodi Ar. Bea 153.85 286 PKP PKPdf 00 18 23.8 -1.2
comp=Z,16nm,0.9s,baz=36,slow=1.7,SNR=76
TORD PKPbc PKPbc 00 18 32.4 -0.6
comp=Z,80nm,0.8s,baz=56,slow=2.1,SNR=130
TORD PKPab PKPab 00 18 46.3 0.0
comp=Z,35nm,0.6s,baz=58,slow=3.8,SNR=11
TORD PP PP 00 22 17.3 -3.8
comp=Z,7.8nm,1.1s,baz=65,slow=5.0,SNR=4.2
DBIC Dimbokro 160.84 270 PKIKP PKPdf 00 18 33.1 -0.8
DBIC 00 19 16.8
DBIC 00 22 57.8
DBIC MLR MLR
comp=Z,926nm,21.0s
DBIC Dimbokro 160.84 270 PKP PKPdf 00 18 33.1 -0.8
comp=Z,33nm,1.0s,baz=59,slow=1.4,SNR=17
DBIC PKPab PKPab 00 19 16.8 +0.2
comp=Z,133nm,0.8s,baz=78,slow=4.8,SNR=50
DBIC PP PP 00 22 57.8 -2.0
comp=Z,12nm,1.0s,baz=89,slow=7.0,SNR=3.5
ASCN Ascension 162.22 213 PFAKE 00 18 50.0 +15
ASCN LR LR
comp=Z,1μm,22.0s
RCBR Riachuelo 162.66 137 PFAKE 00 18 50.0 +14
RCBR LR LR
comp=Z,859nm,22.0s
BBTS Babate 169.35 316 PKP PKPdf 00 18 41.0 0.0
comp=Z,26nm,0.8s,baz=107,slow=3.3,SNR=4.7
BBTS PKPab PKPab 00 19 54.4 +0.6
comp=Z,76nm,0.9s,baz=64,slow=2.0,SNR=8.0

CSEM ***17*** *00:08:14.6±0.1, 4037N×2709E, h2km, MD3.0, Error ellipse: s-maj=1.6km s-min=1.2km az=163.0*
ISK ***17*** *00:08:14.8, 4038N×2708E, h5km, MD3.0*
ISCJB ***17*** *00:08:15.5±0.5, 4035N±003×2709E±003, h4km±5km, Error ellipse: s-maj=5.2km s-min=3.6km az=153.0*
DDA ***17*** *00:08:15.1, 4035N×27.10E, h7km±4km, Md2.9*
ISC 17 00:08:15.9±0.4, 4036N±002×2709E±003, h2km±7km, n22, σ0§65/31, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPK	**Lapseki**	**0.25**	**273**	PG	**Pg**	**00 08 21.0**	**+0.3**
LPK				SG	**Sg**	**00 08 25.4**	**+1.4**
RKY	**Sarkoy-Tekirda**	**0.33**	**12**	PG	**Pg**	**00 08 22.4**	**+0.1**
RKY				SG	**Sg**	**00 08 27.3**	**+0.6**
SART	**Tekirdag**	**0.34**	**12**	*i* P	**Pg**	**00 08 22.3**	**-0.1**
SART				*i* S	**Sg**	**00 08 27.0**	**+0.3**
MFT	**Murefte**	**0.45**	**19**	PG	**Pg**	**00 08 24.2**	**-0.3**
MRMT	**Marmara Adasi**	**0.46**	**58**	PG	**Pg**	**00 08 24.5**	**-0.2**
MRMT				SG	**Sg**	**00 08 31.6**	**+1.0**
EDC	**Edincik**	**0.59**	**91**	PG	**Pg**	**00 08 28.1**	**+0.8**
BNT	**Bandirma**	**0.64**	**90**	PG	**Pg**	**00 08 27.6**	**-0.5**
BNT				SG	**Sg**	**00 08 37.3**	**+1.0**
EZN	**Ezine**	**0.79**	**228**	*e*PG	**Pg**	**00 08 30.9**	**-0.2**
ENEZ	**Enez**	**0.81**	**298**	PG	**Pg**	**00 08 30.8**	**-0.6**
GADA	**Gvkgeada**	**0.93**	**260**	*e*PG	**Pg**	**00 08 33.1**	**-0.5**
BTOK	**Tokmak**	**0.94**	**129**	*i* P	**Pg**	**00 08 33.7**	**-0.2**
BTOK				*i* S	**Sg**	**00 08 45.7**	**-0.4**
BALB	**Balikesir**	**0.94**	**140**	*e*PG	**Pg**	**00 08 34.0**	**+0.1**
BOZC	**Bozcaada**	**0.95**	**237**	*i* P	**Pg**	**00 08 33.5**	**-0.6**
BOZC				*i* S	**Sg**	**00 08 46.5**	**+0.2**
KCT	**Karacabey**	**0.97**	**95**	*e*PG	**Pg**	**00 08 34.0**	**-0.6**
AYVA	**Ayvalik**	**1.09**	**196**	*i* P	**Pg**	**00 08 36.7**	**-0.2**
AYVA				*i* S	**Sg**	**00 08 51.1**	**+0.1**
CTT	**Catalca**	**1.29**	**52**	*e*PN	**Pn**	**00 08 39.8**	**-1.1**
ELBA	**Catalca**	**1.29**	**52**	*i* P	**Pg**	**00 08 39.4**	**-1.2**
ELBA				*i* S	**Sg**	**00 08 56.3**	**-1.0**
DST	**Dursunbey**	**1.40**	**122**	*e*PN	**Pn**	**00 08 42.9**	**+0.5**
EDRB	**Edirne**	**1.51**	**350**	*e*PN	**Pn**	**00 08 43.1**	**-0.8**
KLYT	**Kilyos**	**1.73**	**58**	*e*PN	**Pn**	**00 08 47.2**	**+0.3**
YLV	**Yalova**	**1.75**	**83**	*e*PN	**Pn**	**00 08 48.2**	**+0.9**
IZI	**Iznik**	**1.82**	**90**	*e*PN	**Pn**	**00 08 49.0**	**+0.8**

ISCJB ***17*** *00:21:35.8±0.6, 976N×007×4051E±009, h10km, mb3.9/7, Error ellipse: s-maj=14.1km s-min=6.8km az=32.8*
IDC ***17*** *00:21:37.0±1.2, 978N×4066E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.1/1, Error ellipse: s-maj=35.1km s-min=19.1km az=140.0*
NEIC ***17*** *00:21:38.2±0.5, 977N×4067E, h10km, mb4.4/1, Error ellipse: s-maj=17.4km s-min=9.1km az=128.0*

CSEM 17 00:21:38.2, 977N×4067E, h10km, mb4.4/1, After NEIC

ISC 17 00:21:38.3±0.6, 974N±007×4063E±010, h10km±1km, n19, σ0°82/23, mb3.9/7, Ethiopia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DESE	**Dese**	**1.69**	**324**	*e*P	**Pn**	**00 22 01.6**	**-6.3**
DESE				S	**Sn**	**00 22 17.8**	**-12**
ATD	**Arta Tunnel**	**2.81**	**51**	Pn	**Pn**	**00 22 21.9**	**-1.5**
	38nm,0.3s,baz=246,slow=13,SNR=62						
ATD				Sn	**Sn**	**00 22 58.4**	**+1.1**
	54nm,0.3s,baz=304,slow=20,SNR=21						
KMBO	**Kilima Mbogo**	**11.31**	**198**	*e*Pn	**Pn**	**00 24 20.1**	**0.0**
KMBO				Sn	**Sn**	**00 26 26.2**	**-0.4**
KMBO				Lg		00 27 35.6	
KMBO	**Kilima Mbogo**	**11.31**	**198**	Pn	**Pn**	**00 24 20.5**	**+0.4**
	0.1nm,0.3s,baz=25,slow=14,SNR=3.5						
KMBO				Lg		00 27 35.6	
	0.3nm,0.3s,baz=7.2,slow=15,SNR=3.3						
KMBO	**Kilima Mbogo**	**11.31**	**198**	*e*Pn	**Pn**	**00 24 20.1**	**0.0**
KMBO				Sn	**Sn**	**00 26 26.2**	**-0.4**
TOA0	**Torodi Ar. Sit**	**38.29**	**279**	*e*P	**P**	**00 28 59.5**	**+0.1**
TOA0	**Torodi Ar. Sit**	**38.29**	**279**	*e*P	**P**	**00 28 59.5**	**+0.1**
TORD	**Torodi Ar. Bea**	**38.29**	**279**	P	**P**	**00 29 00.5**	**+1.2**
	1.1nm,1.0s,mb3.5,baz=89,slow=5.0,SNR=3.5						
BOSA	**Boshof**	**40.92**	**201**	*e*P	**P**	**00 29 21.7**	**+0.6**
	11nm,1.3s,mb4.3						
BOSA	**Boshof**	**40.92**	**201**	*e*P	**P**	**00 29 21.7**	**+0.7**
	11nm,1.3s,mb4.3						
GERES	**GERESS Array B**	**45.03**	**335**	P	**P**	**00 29 52.9**	**-1.2**
	0.1nm,0.4s,mb3.0,baz=150,slow=6.8,SNR=2.2						
GERES	**GERESS Array B**	**45.03**	**335**	P	**P**	**00 29 52.8**	**-1.3**
BVAR	**Borovoye Array**	**49.39**	**23**	P	**P**	**00 30 28.5**	**+0.5**
	1.0nm,0.8s,mb3.9,baz=242,slow=9.2,SNR=3.1						
MKAR	**Makanchi Array**	**51.09**	**36**	P	**P**	**00 30 40.4**	**-0.7**
	2.0nm,0.9s,mb4.0,baz=232,slow=6.0,SNR=5.9						
MKAR	**Makanchi Array**	**51.09**	**36**	P	**P**	**00 30 40.3**	**-0.7**
ZAA0	**Zalesovo Array**	**56.40**	**30**	*e*P	**P**	**00 31 19.3**	**-0.5**
ZAA0	**Zalesovo Array**	**56.40**	**30**	*e*P	**P**	**00 31 19.3**	**-0.5**
ZALV	**Zalesovo Beam**	**56.40**	**30**	P	**P**	**00 31 19.6**	**-0.2**
	5.3nm,0.9s,mb4.6,baz=246,slow=7.4,SNR=11						
SONM	**Songino Array**	**66.62**	**42**	P	**P**	**00 32 29.9**	**+0.9**
	1.5nm,1.0s,mb4.0,baz=262,slow=7.3,SNR=7.9						

DDA 17 00:25:51.8, 3761N×3031E, h14km, Md3.0
ISK 17 00:25:52.2, 3772N×3021E, h5km, MD3.0
ISCJB 17 00:25:53.7±0.6, 3768N±003×3020E±005, h5km, Error ellipse: s-maj=5.6km s-min=4.2km az=148.3
CSEM 17 00:25:53.2±0.1, 3768N×3019E, h5km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.8km az=53.0

ISC 17 00:25:54.0±0.8, 3769N±003×3019E±007, h3km±9km, n12, σ0°95/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ISP	**Isparta**	**0.30**	**58**	PG	**Pg**	**00 25 58.6**	**-1.1**
ISP				SG	**Sg**	**00 26 03.6**	**0.0**
TKTP	**Tekketepe**	**0.37**	**16**	*i* P	**Pg**	**00 26 00.3**	**-0.8**
TKTP				*i* S	**Sg**	**00 26 07.3**	**+1.4**
BCK	**Bucak**	**0.39**	**125**	PG	**Pg**	**00 26 01.3**	**-0.1**
BCK				SG	**Sg**	**00 26 08.1**	**+1.7**
ANTB	**Antalya**	**0.87**	**155**	*e*PG	**Pg**	**00 26 10.3**	**-0.2**
SHUT	**Suhut-Afyon**	**0.91**	**18**	*e*PG	**Pg**	**00 26 10.0**	**-1.5**
ELL	**Elmali**	**0.96**	**194**	*e*PG	**Pg**	**00 26 11.9**	**-0.5**
KULA	**Kula-Manisa**	**1.46**	**305**	*e*PN	**Pn**	**00 26 21.0**	**-0.2**
GDZ	**Gediz**	**1.51**	**338**	*i* P	**Pn**	**00 26 21.8**	**0.0**
GDZ				*i* S	**Sg**	**00 26 44.7**	**+2.3**
MANT	**Manisa**	**1.52**	**302**	*i* P	**Pn**	**00 26 22.6**	**+0.6**
MANT				*i* S	**Sn**	**00 26 41.8**	**-0.5**
KIZT	**Kizilcal**	**1.79**	**48**	*e*PN	**Pn**	**00 26 25.6**	**0.0**
ESKT	**Eskisehir**	**1.90**	**16**	*i* P	**Pn**	**00 26 27.8**	**+0.5**
ESKT				*i* S	**Sg**	**00 26 54.0**	**-1.1**
SEYT	**Eskypehyr**	**1.90**	**16**	*i* P	**Pn**	**00 26 27.8**	**+0.5**
SEYT				*i* S	**Sg**	**00 26 54.0**	**-1.1**

ISCJB 17 00:56:59.1±0.9, 488N±007×7588W±009, h169km±8km, mb3.6/9, Error ellipse: s-maj=14.0km s-min=12.1km az=167.5
NEIC 17 00:56:59.3±0.9, 480N×7593W, h153km±9km, mb4.1/5, Error ellipse: s-maj=12.8km s-min=8.8km az=53.0
IDC 17 00:56:59.8±1.6, 481N×7593W, h156km±13km, mb3.4/6, mb1 3.6/7, mb1mx3.4/20, mbtmp3.4/7, Error ellipse: s-maj=23.9km s-min=15.2km az=64.0

ISC 17 00:57:00.1±0.9, 487N±008×7588W±009, h162km±9km, n18, σ0°99/19, mb3.6/9, Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.55**	**91**	P	**Pn**	**00 57 30.6**	**-0.4**
	46nm,0.3s,baz=304,slow=1.2,SNR=98						
ROSC				S	**Sn**	**00 57 55.9**	**+1.1**
	16nm,0.3s,baz=95,slow=23,SNR=33						
SDV	**Santo Domingo**	**6.56**	**52**	*e*Pn	**Pn**	**00 58 34.8**	**+0.4**
SDV				*e*Sn	**Sn**	**00 59 46.8**	**-1.7**
SDV	**Santo Domingo**	**6.56**	**52**	P	**Pn**	**00 58 34.9**	**+0.5**
	12nm,0.3s,baz=232,slow=6.2,SNR=63						
SDV				S	**Sn**	**00 59 46.8**	**-1.7**
	4.1nm,0.3s,baz=72,slow=22,SNR=6.8						
JTS	**JuntasAbangare**	**10.48**	**301**	*e*Pn	**Pn**	**00 59 26.0**	**-0.3**
SJG	**San Juan**	**16.24**	**35**	*e*Pn	**Pn**	**01 00 39.6**	**+0.4**
	43nm,1.5s						
LPAZ	**La Paz**	**22.38**	**160**	*e*P	**P**	**01 01 46.2**	**+0.9**
	0.4nm,0.4s,mb3.2						
SIV	**San Ignacio**	**25.39**	**145**	P	**P**	**01 02 12.0**	**-0.7**
	1.5nm,0.4s,mb3.8,baz=295,slow=8.4,SNR=8.3						
BDFB	**Brasilia**	**34.30**	**127**	P	**P**	**01 03 31.8**	**+0.5**
	0.5nm,0.3s,mb3.7,baz=328,slow=27,SNR=3.4						
CPUP	**Villa Florida**	**35.85**	**151**	*e*P	**P**	**01 03 42.7**	**-1.8**
	5.0nm,0.3s,mb4.6						
CPUP	**Villa Florida**	**35.85**	**151**	P	**P**	**01 03 42.5**	**-2.0**
	0.6nm,0.3s,mb3.6,baz=322,slow=8.0,SNR=4.2						
TRQA	**Tornquist**	**44.62**	**164**	P	**P**	**01 04 55.9**	**-0.5**
	3.3nm,0.7s,mb4.1						
PLCA	**Paso Flores**	**45.65**	**174**	*e*P	**P**	**01 05 04.4**	**-0.1**
	1.9nm,0.7s,mb3.8						
NVAR	**Mina Array Bea**	**50.95**	**317**	P	**P**	**01 05 44.3**	**-0.9**
	0.4nm,0.6s,mb3.2,baz=118,slow=7.3,SNR=2.2						
YKA	**Yellowknife Ar**	**64.17**	**341**	P	**P**	**01 07 18.5**	**+1.4**
YKA				pP	pP	01 07 48.7	-6.7
YKA	**Yellowknife Ar**	**64.17**	**341**	P	**P**	**01 07 18.5**	**+1.4**
	0.4nm,0.5s,mb3.5,baz=135,slow=6.0,SNR=16						
YKA				pP	pP	01 07 48.7	-6.7
	0.2nm,0.6s,baz=133,slow=6.2,SNR=6.4						
TORD	**Torodi Ar. Bea**	**76.83**	**78**	P	**P**	**01 08 36.4**	**+1.6**
	0.5nm,0.7s,mb3.2,baz=279,slow=5.8,SNR=13						
ASAR	**Alice Springs**	**145.75**	**234**	PKPbc	PKPbc	01 16 20.8	-0.2
	0.8nm,0.5s,baz=120,slow=4.0,SNR=7.3						
WRA	**Warramunga Arr**	**146.99**	**240**	PKPbc	PKPbc	01 16 25.1	+0.4
	0.5nm,0.8s,baz=110,slow=2.7,SNR=3.4						

IDC 17 01:08:40.6±1.6, 656S×148.12E, h0km, mb4.1/5, mb1 4.4/6, mb1mx4.0/14, mbtmp4.1/6, ML4.1/1, MS3.3/1, Ms1 3.3/1, ms1mx2.6/24, Error ellipse: s-maj=47.2km s-min=24.3km az=94.0
NEIC 17 01:08:41.0±0.4, 651S×14827E, h10km, mb4.6/6, Error ellipse: s-maj=10.1km s-min=8.7km az=123.0
ISCJB 17 01:08:42.5±0.7, 660S±009×14829E±0.10, h33km, mb4.3/7, Error ellipse: s-maj=14.3km s-min=12.2km az=33.2

ISC 17 01:08:44.7±0.7, 659S±009×14825E±009, h35km, n21, σ0°87/18, mb4.3/7, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**11.92**	**104**	Pn	**Pn**	**01 11 30.9**	**-1.3**
HNR	**Honiara**	**11.92**	**104**	LR	LR	01 15 06.3	
	comp=Z,151nm,20.8s,baz=182,slow=32						
CTAO	**Charters Tower**	**13.55**	**188**	Pn	**Pn**	**01 11 53.9**	**-0.7**
WRAB	**Tennant Creek**	**18.92**	**224**	*e*P	**Pn**	**01 13 03.2**	**-0.3**
	3.8nm,0.8s						
WB2	**Warramunga Arr**	**18.93**	**224**	*e*P	**Pn**	**01 13 03.0**	**-0.6**
WRA	**Warramunga Arr**	**18.94**	**224**	P	**Pn**	**01 13 02.3**	**-1.4**
	0.7nm,0.3s,baz=54,slow=10,SNR=36						
ASAR	**Alice Springs**	**21.87**	**218**	P	**P**	**01 13 35.1**	**+0.5**
	13nm,0.5s,mb4.6,baz=55,slow=9.1,SNR=164						
ARMA	**Armidale**	**23.91**	**173**	*e*P	**P**	**01 13 57.0**	**+1.6**
FITZ	**Fitzroy Crossi**	**24.84**	**241**	*e*P	**P**	**01 14 04.3**	**+0.3**
	7.1nm,0.4s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.84**	**241**	P	**P**	**01 14 03.8**	**-0.2**
	3.9nm,0.4s,mb4.3,baz=332,slow=19,SNR=36						
STKA	**Stephens Creek**	**25.91**	**193**	*e*P	**P**	**01 14 14.6**	**+1.0**
	4.8nm,0.4s,mb4.4						
STKA	**Stephens Creek**	**25.91**	**193**	P	**P**	**01 14 14.0**	**+0.4**
	6.5nm,0.5s,mb4.4,baz=347,slow=7.0,SNR=17						
KKM	**Kota Kinabalu**	**34.35**	**291**	P	**P**	**01 15 28.2**	**-0.4**
KLBR	**Kellerberrin**	**37.82**	**225**	*e*P	**P**	**01 15 58.0**	**0.0**
	6.6nm,0.5s,mb4.6						
SONM	**Songino Array**	**65.53**	**330**	P	**P**	**01 19 25.1**	**+0.5**
	0.4nm,0.8s,mb3.5,baz=126,slow=7.3,SNR=3.2						
VNDA	**Vanda**	**71.25**	**177**	*e*P	**P**	**01 20 01.8**	**+1.8**
	8.5nm,2.0s,mb4.3						
VNDA	**Vanda**	**71.25**	**177**	P	**P**	**01 20 01.6**	**+1.6**
	0.7nm,0.8s,mb3.7,baz=346,slow=6.5,SNR=6.0						
KURK	**Kurchatov**	**82.43**	**323**	P	**P**	**01 21 03.5**	**+0.2**
PMR	**Palmer**	**83.20**	**25**	*e*P	**P**	**01 21 06.7**	**-0.5**
	3.2nm,0.4s,mb4.7						
TEIG	**Tepich**	**123.62**	**70**	PKPdf	PKPdf	01 27 38.2	-1.3
TORD	**Torodi Ar. Bea**	**146.44**	**284**	PKPbc	PKPbc	01 28 24.2	+1.0
	0.4nm,0.4s,baz=66,slow=3.2,SNR=15						

IGQ 17 01:09:35.9, 206S×7994W, h11km±4km, Mb4.2, Ms4.0, 12C-8D, Error ellipse: s-maj=6.0km s-min=1.5km az=82.1, Near coast of Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGUA	**Igualata**	**1.42**	**67**	⇑P	Pn	01 10 03.4	+1.6
IGUA	**Igualata**	**1.42**	**67**	⇑S	Sn	01 10 22.4	+1.9
BILB	**Tungurahua vol**	**1.57**	**67**	⇑P	Pn	01 10 05.8	+2.0
BILB	**Tungurahua vol**	**1.57**	**67**	⇑S	Sn	01 10 26.3	+2.2
ARRY	**Arrayan**	**1.58**	**70**	⇑P	Pn	01 10 05.2	+1.2
JUIV	**Juive**	**1.61**	**67**	⇑P	Pn	01 10 06.0	+1.7
JUIV	**Juive**	**1.61**	**67**	⇑S	Sn	01 10 26.8	+1.8
PATA	**Patacocha**	**1.61**	**70**	⇓P	Pn	01 10 05.9	+1.6
RETU	**Refugio**	**1.61**	**68**	P	Pn	01 10 08.0	+3.6
RETU	**Refugio**	**1.61**	**68**	S	Sn	01 10 28.8	+3.5
RUN5	**Runtun**	**1.65**	**67**	P	Pn	01 10 06.5	+1.7
RUN5	**Runtun**	**1.65**	**67**	S	Sn	01 10 28.4	+2.3
ULBA	**Ulba**	**1.65**	**68**	P	Pn	01 10 07.1	+2.2
ULBA	**Ulba**	**1.65**	**68**	S	Sn	01 10 28.3	+2.2
PISA	**Pisayambo**	**1.85**	**57**	⇑P	Pn	01 10 10.3	+2.7
PISA	**Pisayambo**	**1.85**	**57**	⇑S	Sn	01 10 34.9	+3.9
TAMB	**Tambo**	**2.08**	**49**	⇓P	Pn	01 10 14.0	+3.2
VC1	**Cotopaxi 1**	**2.08**	**48**	⇓P	Pn	01 10 14.3	+3.4
VC1	**Cotopaxi 1**	**2.08**	**48**	⇓S	Sn	01 10 43.0	+6.1
JUA2	**San Juan 2**	**2.27**	**36**	P	Pn	01 10 16.3	+2.9
JUA2	**San Juan 2**	**2.27**	**36**	S	Sn	01 10 44.4	+3.0
TERV	**Terraza Guagua**	**2.30**	**36**	⇓P	Pn	01 10 16.8	+2.9
TERV	**Terraza Guagua**	**2.30**	**36**	⇓S	Sn	01 10 46.3	+4.1
GGP	**Refugio Guagua**	**2.31**	**36**	⇓P	Pn	01 10 16.8	+2.9
PINO	**Pino**	**2.31**	**35**	⇓P	Pn	01 10 16.8	+2.7
ANTI	**Antisana**	**2.39**	**48**	⇑P	Pn	01 10 18.2	+3.0
ANTI	**Antisana**	**2.39**	**48**	⇑S	Sn	01 10 50.6	+6.1
CAYR	**Refugio Cayamb**	**2.83**	**43**	⇑P	Pn	01 10 24.7	+3.6
COTA	**Cotacachi**	**2.87**	**34**	P	Pn	01 10 24.4	+2.8
COTA	**Cotacachi**	**2.87**	**34**	S	Sn	01 11 00.7	+4.5

NEIC 17 01:13:05.1, 3241S×7142W, h15km, ML2.7(GUC), After GUC.

GUC 17 01:13:05.1±0.6, 3241S×7142W, h15km±3km, MD3.5, ML2.7, 4C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.64**	**197**	⇓*i*P	Pg	01 13 17.0	-0.6
IHA				*i* S	Sg	01 13 25.8	-0.4
JACH	**Jahuel**	**0.75**	**111**	*e*P	Pg	01 13 19.1	-0.6
JACH				*i* S	Sg	01 13 29.3	-0.2
PEL	**Peldehue**	**0.96**	**140**	⇑*i*P	Pb	01 13 22.4	-1.0
PEL				*i* S	Sb	01 13 35.4	-0.5
PEL				AML	AML	01 13 36.7	
	comp=N,304nm,0.3s						
RCDM	**Rinconada Maip**	**1.19**	**154**	*e*P	Pn	01 13 25.9	-1.3
RCDM				*i* S	Sb	01 13 41.5	-1.1
CLCH	**Cerro Calan**	**1.23**	**143**	*e*P	Pn	01 13 26.9	-0.9
CLCH				*i* S	Sb	01 13 43.0	-0.7
CLCH				AML	AML	01 13 43.8	
	comp=E,292nm,0.3s						
CMCH	**Combarbala**	**1.29**	**16**	⇓*i*P	Pn	01 13 27.5	-1.0
CMCH				*i* S	Sb	01 13 44.4	-1.0
CMCH	**Combarbala**	**1.29**	**16**	⇓*i*P	Pn	01 13 27.5	-1.0
CMCH				*i* S	Sb	01 13 44.4	-1.0
CMCH				AML	AML	01 13 45.4	
	comp=N,718nm,0.7s						
TACH	**Talagante**	**1.30**	**162**	⇑*i*P	Pn	01 13 27.6	-1.2
TACH				*i* S	Sb	01 13 44.3	-1.5
FCH	**Farellones**	**1.32**	**134**	⇓*i*P	Pn	01 13 28.2	-0.8
FCH				*i* S	Sb	01 13 45.5	-0.7
FCH				AML	AML	01 13 46.4	
	comp=E,129nm,0.3s						
PCH	**Pirque**	**1.43**	**148**	*e*P	Pn	01 13 30.0	-0.5
PCH				*i* S	Sn	01 13 48.6	-0.3
LNV	**Longovilo**	**1.54**	**180**	*e*P	Pn	01 13 31.4	-0.6
CHCH	**Chadas Angostu**	**1.65**	**157**	*i* S	Sn	01 13 54.5	+0.1
LMEL	**Las Melosas**	**1.76**	**145**	⇑*i*P	Pn	01 13 35.4	+0.4
LMEL				*i* S	Sn	01 13 57.8	+0.7
LMEL	**Las Melosas**	**1.76**	**145**	⇑*i*P	Pn	01 13 35.4	+0.4
LMEL				*i* S	Sn	01 13 57.8	+0.7
LMEL				AML	AML	01 14 01.5	
	comp=N,87nm,0.1s						
SFDO	**San Fernando**	**2.22**	**171**	*i* S	Sn	01 14 10.7	+2.2

IDC 17 01:59:35.3±4.1, 3587N×7197E, h0km, mb3.9/3, mb1 3.9/6, mb1mx3.5/23, mbtmp3.7/6, ML3.4/3, Error ellipse: s-maj=69.6km s-min=49.2km az=162.0
NEIC 17 01:59:47.4±4.8, 3643N×7181E, h70km±26km, mb3.7/2, Error ellipse: s-maj=51.8km s-min=22.1km az=175.0
ISCJB 17 01:59:55.0±1.4, 3707N±007×718E±0.1, h115km±17km, mb3.9/3, Error ellipse: s-maj=18.7km s-min=6.6km az=149.4
NNC 17 02:00:05.0±3.0, 3786N×7150E, h205km±40km, mb2.8, mpv3.8, Error ellipse: s-maj=30.5km s-min=15.7km az=15.0

ISC 17 01:59:55.4±1.3, 3701N±007×717E±01, h108km±15km, n31, σ0°93/37, mb3.9/3, 3C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**5.35**	**16**	*e*Pn	**Pn**	**02 01 13.4**	**+0.6**
AML				*e*Sn	**Sn**	**02 02 03.4**	**-10**
AML	**Almayashu**	**5.35**	**16**	P	**Pn**	**02 01 13.2**	**+0.4**
	SNR=17						
UCH	**Uchtor**	**5.65**	**22**	*e*Pn	**Pn**	**02 01 15.3**	**-1.6**
	23nm,0.5s						
UCH				*e*Sn	**Sn**	**02 02 15.3**	**-5.2**
UCH	**Uchtor**	**5.65**	**22**	P	**Pn**	**02 01 17.8**	**+0.8**
	SNR=6.9						
KZA	**Kyzart**	**5.77**	**28**	P	**Pn**	**02 01 18.7**	**+0.3**
	SNR=7.3						
EKS2	**Erkin-Say**	**5.87**	**15**	*e*Pn	**Pn**	**02 01 19.6**	**-0.3**
	4.8nm,0.4s						
EKS2	**Erkin-Say**	**5.87**	**15**	P	**Pn**	**02 01 20.6**	**+0.7**
	SNR=6.9						
KK31	**Karatay Array**	**6.15**	**352**	⇓P	**Pn**	**02 01 23.3**	**-0.3**
	3.8nm,0.3s,baz=170,slow=12						
KK31				⇑S	**Sn**	**02 02 25.2**	**-7.3**
	7.3nm,0.3s,baz=171,slow=22						
CHMS	**Chumysh**	**6.43**	**21**	P	**Pn**	**02 01 27.9**	**+0.5**
	SNR=6.5						
TKM2	**Tokmak 2**	**6.63**	**26**	⇓P	**Pn**	**02 01 30.8**	**+0.6**
	6.8nm,0.6s						
TKM2				⇑S	**Sn**	**02 02 41.9**	**-2.2**
	2.5nm,0.6s						
TKM2	**Tokmak 2**	**6.63**	**26**	*e*Pn	**Pn**	**02 01 30.5**	**+0.4**
	12nm,0.8s						
TKM2				Sn	**Sn**	**02 02 53.7**	**+10**
TKM2	**Tokmak 2**	**6.63**	**26**	P	**Pn**	**02 01 31.0**	**+0.8**
	SNR=7.0						
MKAR	**Makanchi Array**	**12.56**	**36**	Pn	**Pn**	**02 02 47.2**	**-2.9**
	0.1nm,0.3s,baz=224,slow=15,SNR=3.6						
DANN	**Dangsing**	**13.35**	**127**	*e*P	**Pn**	**02 03 00.9**	**+0.4**
	5.9nm,0.2s						
KOLN	**Koldanda**	**13.65**	**129**	*e*P	**Pn**	**02 03 04.4**	**-0.1**
	8.5nm,0.5s						
GKN	**Gorkha**	**14.15**	**126**	*e*P	**Pn**	**02 03 11.4**	**+0.5**
	8.9nm,0.3s						
KURK	**Kurchatov**	**14.58**	**18**	*e*Pn	**Pn**	**02 03 17.0**	**+0.8**
	2.7nm,1.0s						
KKN	**Kakani**	**14.71**	**125**	*e*P	**Pn**	**02 03 17.3**	**-0.8**
DMN	**Daman**	**14.72**	**126**	*e*P	**Pn**	**02 03 18.1**	**-0.1**
	8.4nm,0.4s						
AB31	**Akbulak array**	**14.91**	**329**	⇑P	**Pn**	**02 03 17.3**	**-3.1**
	0.7nm,0.3s,baz=142,slow=13,SNR=42						
AB31				⇓S	**Sn**	**02 05 52.2**	**-13**
	0.6nm,0.4s,baz=140,slow=25,SNR=7.8						
PKI	**Pulchoki**	**14.94**	**125**	*e*P	**Pn**	**02 03 21.4**	**+0.4**
GUN	**Gumba**	**15.03**	**123**	*e*P	**Pn**	**02 03 21.7**	**-0.4**
	6.4nm,0.3s						
JIRN	**Jiri**	**15.40**	**123**	*e*P	**Pn**	**02 03 26.8**	**0.0**
	20nm,0.4s						
BVAR	**Borovoye Array**	**16.04**	**357**	Pn	**Pn**	**02 03 34.7**	**+0.2**
	0.2nm,0.3s,baz=163,slow=10,SNR=3.6						
BRVK	**Borovoye**	**16.07**	**357**	Pn	**Pn**	**02 03 37.3**	**+2.4**
AKTK	**Aktyubinsk**	**16.61**	**328**	P	**Pn**	**02 03 41.7**	**+0.1**
AKTO	**Aktyubinsk**	**16.61**	**328**	P	**Pn**	**02 03 41.7**	**+0.1**
	0.3nm,0.3s,baz=140,slow=14,SNR=6.0						
ZALV	**Zalesovo Beam**	**19.23**	**24**	P	**P**	**02 04 10.1**	**-0.7**
	1.5nm,0.3s,baz=210,slow=9.7,SNR=7.2						
KIV	**Kislovodsk**	**23.03**	**297**	*e*P	**P**	**02 04 50.0**	**-1.1**
	2.7nm,0.5s,mb3.8						
ARCES	**ARCESS Array B**	**40.88**	**337**	P	**P**	**02 07 27.4**	**+1.0**
	4.0nm,0.9s,mb4.3,baz=100,slow=9.3,SNR=3.8						
YKA	**Yellowknife Ar**	**80.71**	**3**	P	**P**	**02 11 56.4**	**+0.2**
	0.3nm,0.4s,mb3.4,baz=351,slow=5.5,SNR=7.8						

ISCJB 17 02:12:54.2±1.2, 541S±02×133.1W±03, h10km, mb3.8/3, Error ellipse: s-maj=35.9km s-min=25.1km az=18.1
IDC 17 02:12:54.2±1.6, 5480S×13282W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, MS3.9/1, Ms1 3.9/1, ms1mx3.2/22, Error ellipse: s-maj=350.8km s-min=29.7km az=168.0

ISC 17 02:12:56.2±1.2, 541S±02×1332W±03, h10km, (h12km±6km:pP-P), n8, σ0°82/6, mb3.8/3, Pacific-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**38.62**	**334**	LR	LR	02 32 55.8	
	comp=Z,148nm,19.3s,baz=12,slow=31						
VNA3	**Neumayer Olymp**	**48.73**	**159**	*e*	**P**	**02 21 39.9**	**-0.3**
VNA3				*e*	pP	02 21 43.5	+0.1
VNA3				*e*		02 21 48.7	
VNA2	**Neumayer--Watz**	**49.45**	**159**	*e*	**P**	**02 21 45.9**	**+0.2**
	baz=222,slow=8.6						
VNA2				*e*	pP	02 21 49.6	+0.7
VNA2				*e*		02 21 53.9	
VNA1	**Neumayer--Stat**	**49.48**	**159**	*e*	**P**	**02 21 46.1**	**+0.1**
VNA1				*e*	pP	02 21 49.2	+0.1
VNA1				*e*		02 21 53.8	
LPAZ	**La Paz**	**62.37**	**79**	P	**P**	**02 23 19.0**	**0.0**
	1.0nm,0.5s,mb4.2,baz=208,slow=5.8,SNR=7.7						
ASAR	**Alice Springs**	**72.83**	**253**	P	**P**	**02 24 25.9**	**+1.0**
	0.6nm,0.8s,mb3.6,baz=130,slow=6.2,SNR=5.1						
WRA	**Warramunga Arr**	**75.51**	**256**	P	**P**	**02 24 39.7**	**-1.0**
	0.8nm,0.8s,mb3.7,baz=139,slow=5.5,SNR=4.6						
TORD	**Torodi Ar. Bea**	**125.97**	**121**	PKP	PKPdf	02 31 56.2	-2.2
	0.6nm,0.8s,baz=208,slow=1.4,SNR=5.3						

ISCJB 17 02:16:33.2±0.5, 3850N±002×12270W±004, h9km±3km, Error ellipse: s-maj=4.8km s-min=3.3km az=7.6
NEIC 17 02:16:33.6, 3850N×12273W, h6km, ML3.0(NCEDC), After NCEDC.
NEIC Felt [III] at Healdsburg, Santa Rosa, Sebastopol and Windsor. Also felt at Fairfax, Forestville, Fulton, Graton, Guerneville, Richmond and San Rafael.

ISC 17 02:16:33.4±0.4, 3850N±002×12269W±003, h7km±3km, n33, σ1°04/52, 16C-20D, Northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSHM	**Saint Helena R**	**0.07**	**73**	*e*Pg	**Pg**	**02 16 35.8**	**+0.5**
CVS	**Carmenet Viney**	**0.24**	**130**	⇓P	**Pg**	**02 16 38.8**	**+0.7**
	baz=0.3,SNR=403						
CVS				⇑S	**Sg**	**02 16 42.9**	**+1.5**
	baz=0.3						
MCCM	**Marconi Confer**	**0.39**	**203**	*e*Pg	**Pg**	**02 16 40.7**	**-0.2**
MCCM				*e*Sg	**Sg**	**02 16 45.4**	**-0.5**
MCCM	**Marconi Confer**	**0.39**	**203**	⇓P	**Pg**	**02 16 41.5**	**+0.5**
	baz=0.4,SNR=332						
MCCM				⇓S	**Sg**	**02 16 46.6**	**+0.7**
	baz=0.4						
MNRC	**McLaughlin Nat**	**0.42**	**27**	P	**Pg**	**02 16 42.9**	**+1.2**
	baz=0.4,SNR=100

MOS ***17*** *02:20:48.5±1.0, 5338N×16968W, h105km, mb4.9/91, Error ellipse: s-maj=7.9km s-min=4.4km az=88.1*
BGS ***17*** *02:20:49.4±1.8, 5284N×17041W, h130km, mb4.8*
ISCJB ***17*** *02:20:51.2±0.1, 5342N±003×16964W±003, h128km, mb4.9/249, Error ellipse: s-maj=4.4km s-min=1.9km az=16.3*
SZGRF ***17*** *02:20:52.9, 5350N×16950W, h134km, mb4.8, Fox Islands, Aleutian Islands, United States*
IDC ***17*** *02:20:52.4±0.6, 5343N×16974W, h129km±3km, mb4.3/23, mb1 4.4/23, mb1mx4.4/25, mbtmp4.3/23, MS3.6/8, Ms1 3.6/8, ms1mx3.3/38, Error ellipse: s-maj=13.6km s-min=8.9km az=174.0*
GCMT ***17*** *02:20:53.0±0.3, 5323N×16952W, h123km±4km, MW5.0/71, Moment Tensor Solution. s24,c27; s71,c112; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.72±.14; Mθθ0.23±.21; Mφφ0.49±.17; Mrθ-3.05±.10; Mθφ1.28±.14; Mφr-0.64±.09; Best double couple: Mo3.42700×10¹⁶ NP1:φs77.00000°, δ83.00000°, λ-69.00000°. NP2: φs184.00000°, δ22.00000°, λ-161.00000°. Principal axes: T 3.4870, Plg35.0000°, Azm149.0000°; N -0.1200, Plg20.0000°, Azm254.0000°; P -3.3670, Plg48.0000°, Azm8.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***17*** *02:20:53.0±0.2, 5342N×16958W, mb4.8/197 Error ellipse: s-maj=4.8km s-min=2.6km az=10.0*
NEIC Felt at Nikolski.
ISC 17 02:20:53.0±0.1, 5345N±003×16966W±003, h130km, h130km±1.7km; pP-P, n857, σ0.76/846, mb4.7/249, 113C-184D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	**Nikolski**	**0.68**	**134**	P	**Pn**	**02 21 07.5**	**-5.7**
NIKO				S	**Sn**	**02 21 19.6**	**-8.8**
OKCE	**Okmok Cone E**	**0.90**	**91**	P	**Pn**	**02 21 11.3**	**-3.5**
OKCE				S	**Sn**	**02 21 26.6**	**-4.9**
OKCD	**Okmok Cone D**	**0.93**	**91**	P	**Pn**	**02 21 11.6**	**-3.5**
OKCD				S	**Sn**	**02 21 28.1**	**-3.8**
UNV	**Unalaska Valle**	**1.92**	**77**	P	**Pn**	**02 21 23.6**	**-2.3**
UNV				S	**Sn**	**02 21 49.0**	**-2.2**
AKGG	**Akutan Green G**	**2.30**	**69**	P	**Pn**	**02 21 29.4**	**-1.2**
AKLV	**Akutan Long Va**	**2.31**	**71**	P	**Pn**	**02 21 29.2**	**-1.5**
AKUT	**Akutan**	**2.41**	**72**	P	**Pn**	**02 21 30.6**	**-1.3**
SPIA	**Saint Paul Isl**	**3.75**	**355**	P	**Pn**	**02 21 52.4**	**+3.0**
FALS	**False Pass**	**3.93**	**66**	P	**Pn**	**02 21 51.3**	**-0.5**
SDPT	**Sand Point**	**5.69**	**67**	P	**Pn**	**02 22 13.3**	**-1.9**
AMKA	**Amchitka**	**7.06**	**257**	P	**Pn**	**02 22 32.0**	**-1.7**
CHGN	**Chignik**	**7.09**	**62**	*e*P	**Pn**	**02 22 32.0**	**-2.0**
GAMB	**Gambell**	**10.41**	**355**	*e*Pn	**Pn**	**02 23 21.3**	**+2.8**
	64nm,0.9s						
KDAK	**Kodiak Island**	**10.58**	**59**	*e*Pn	**Pn**	**02 23 16.3**	**-4.5**
	61nm,0.6s						
KDAK	**Kodiak Island**	**10.58**	**59**	P	**Pn**	**02 23 15.9**	**-4.9**
	16nm,0.3s,baz=258,slow=7.7,SNR=58						
SVW2	**Sparrevohn**	**10.79**	**39**	*e*P	**Pn**	**02 23 24.2**	**+0.6**
TTA	**Tatalina**	**11.89**	**32**	*e*P	**Pn**	**02 23 39.6**	**+1.5**
TTA				pmax	pmax		
	comp=Z,492nm,1.5s						
TTA	**Tatalina**	**11.89**	**32**	*e*Pn	**Pn**	**02 23 39.6**	**+1.5**
	comp=Z,492nm,1.5s						
TNA	**Tin City**	**12.18**	**3**	*e*Pn	**Pn**	**02 23 38.5**	**-3.4**
	comp=Z,167nm,1.1s						
TNA				*e*ScP	ScP	02 32 35.9	+1.9
SLKM	**Skilak Lake**	**12.71**	**48**	*e*Pn	**Pn**	**02 23 46.3**	**-2.5**
SLKM				*e*Sn	**Sn**	**02 26 06.6**	**-2.1**
PMR	**Palmer**	**13.66**	**45**	*e*P	**Pn**	**02 24 00.8**	**-0.3**
PMR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
PMR	**Palmer**	**13.66**	**45**	*e*P	**Pn**	**02 24 00.8**	**-0.3**
	comp=Z,7.7nm,0.3s						
SML	**Sawmill**	**14.10**	**45**	*e*P	**Pn**	**02 24 04.5**	**-2.2**
SML				*e*		02 26 39.4	
SML	**Sawmill**	**14.10**	**45**	*e*Pn	**Pn**	**02 24 04.5**	**-2.2**
SML				*e*P		02 24 08.6	
SML				*e*Sn	**Sn**	**02 26 39.4**	**-2.8**
SML				*e*S	**Sn**	**02 26 54.2**	**+12**
IMA2	**Indian Mountai**	**14.92**	**26**	*e*P	**Pn**	**02 24 18.7**	**+1.7**
DIV	**Divide**	**14.96**	**50**	*e*Pn	**Pn**	**02 24 14.8**	**-2.7**
	comp=Z,48nm,0.5s						
DIV				*e*P		02 24 18.5	
DIV				*e*S	**Sn**	**02 27 09.0**	**+6.2**
COLA	**College**	**15.89**	**35**	*e*P	**Pn**	**02 24 27.8**	**-1.2**
COLA				pmax	pmax		
	comp=Z,36nm,0.7s						
COLA	**College**	**15.89**	**35**	*e*P	**Pn**	**02 24 27.8**	**-1.2**
	comp=Z,36nm,0.7s						
COLA				*e*PcP	PcP	02 29 17.8	-0.5
EGAK	**Eagle**	**18.32**	**41**	*e*P	**P**	**02 24 56.5**	**-0.2**
	comp=Z,141nm,0.6s						
BILL	**Bilibino**	**18.56**	**331**	*d*P	**P**	**02 25 02.8**	**+3.4**
BILL				pmax	pmax		
	comp=Z,267nm,1.5s						
BILL	**Bilibino**	**18.56**	**331**	⇓*i*P	**P**	**02 25 02.6**	**+3.2**
	comp=Z,175nm,1.1s						
DAWY	**Dawson**	**18.75**	**44**	*e*P	**P**	**02 25 00.9**	**-0.6**
PET	**Petropavlovsk**	**18.89**	**282**	*e*P	**P**	**02 25 04.2**	**+1.1**
PET				pmax	pmax		
	comp=Z,26nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,19.0s						
PET	**Petropavlovsk**	**18.89**	**282**	*e*P	**P**	**02 25 03.6**	**+0.5**
SKAG	**Skagway**	**19.73**	**59**	*e*P	**P**	**02 25 12.8**	**+0.6**
	comp=Z,100nm,0.6s						
SIT	**Sitka**	**19.77**	**66**	*e*P	**P**	**02 25 13.3**	**+0.7**
SIT				pmax	pmax		
	comp=Z,73nm,0.7s						
SIT	**Sitka**	**19.77**	**66**	*e*P	**P**	**02 25 13.3**	**+0.8**
	comp=Z,73nm,0.7s						
SEY	**Seymchan**	**21.82**	**311**	⇑*e*P	**P**	**02 25 34.9**	**+0.5**
MA2	**Magadan**	**22.41**	**302**	*e*P	**P**	**02 25 40.8**	**+0.2**
MA2				*e**PP		02 26 09.7	
MA2				*e*S	**S**	**02 29 34.9**	**-1.8**
MA2				*e**SS	sS	02 30 22.2	+2.7
MA2				pmax	pmax		
	comp=Z,60nm,1.7s,mb4.8						
MA2	**Magadan**	**22.41**	**302**	*e*P	**P**	**02 25 39.1**	**-1.5**
	comp=Z,12nm,0.6s,mb4.5						
MA2				*e*pP		02 25 59.9	
MA2				*e*sP	sP	02 26 09.8	-11
DLBC	**Dease Lake**	**22.50**	**61**	*e*P	**P**	**02 25 43.1**	**+1.5**
DLBC	**Dease Lake**	**22.50**	**61**	P	**P**	**02 25 41.5**	**-0.1**
	baz=278,slow=8.6						
DLBC				ScP	ScP	02 32 57.3	+1.8
	baz=317,slow=14						
INK	**Inuvik**	**22.55**	**35**	⇓*i*P	**P**	**02 25 40.0**	**-1.9**
INK				*e*		02 29 30.3	
INK				pmax	pmax		
	comp=Z,1μm,0.5s						
INK	**Inuvik**	**22.55**	**35**	⇓*i*P	**P**	**02 25 40.0**	**-1.9**
	comp=Z,1μm,0.5s						
INK				*e*PcP	PcP	02 29 30.2	+0.1
BBB	**Bella Bella**	**24.89**	**76**	P	**P**	**02 26 02.9**	**-0.5**
	comp=Z,34nm,0.7s,mb5.0,baz=284,slow=8.8,SNR=12						
NLWA	**Neilton Lookou**	**29.38**	**83**	*e*P	**P**	**02 26 44.9**	**+1.3**
	comp=Z,10nm,0.8s,mb4.6						
NLWA	**Neilton Lookou**	**29.38**	**83**	⇓P	**P**	**02 26 44.3**	**+0.7**
	baz=29						
YKA	**Yellowknife Ar**	**29.67**	**50**	P	**P**	**02 26 44.9**	**-1.1**
YKA						02 29 46.5	
YKA						02 33 17.8	
YKA	**Yellowknife Ar**	**29.67**	**50**	P	**P**	**02 26 44.9**	**-1.0**
YKA				PcP	PcP	02 29 46.5	-0.2
YKA				ScP	ScP	02 33 17.8	+1.5
YKA				LR	LR	02 40 31.2	
YKA	**Yellowknife Ar**	**29.67**	**50**	P	**P**	**02 26 44.9**	**-1.0**
	comp=Z,4.5nm,0.6s,mb4.4,baz=273,slow=8.1,SNR=89						
YKA				PcP	PcP	02 29 46.5	-0.2
	comp=Z,9.0nm,0.6s,baz=286,slow=2.4,SNR=32						
YKA				ScP	ScP	02 33 17.8	+1.5
	comp=Z,3.6nm,0.6s,baz=288,slow=3.3,SNR=25						
YKA				LR	LR	02 40 31.2	
	comp=Z,48nm,19.4s,baz=225,slow=40						
A05A	**Maple Falls**	**29.68**	**79**	⇓P	**P**	**02 26 46.6**	**+0.4**
	baz=30,SNR=9.2						
C04A	**Brinnon**	**29.76**	**82**	⇓P	**P**	**02 26 47.9**	**+1.0**
	baz=30						
E03A	**Lebam**	**29.98**	**84**	⇓P	**P**	**02 26 49.5**	**+0.7**
	baz=30						
A06A	**Chilliwack**	**29.99**	**79**	⇑P	**P**	**02 26 49.7**	**+0.8**
	baz=30						
B05A	**Bryant**	**30.01**	**80**	⇓P	**P**	**02 26 49.7**	**+0.6**
	baz=30,SNR=14						
F03A	**Seaside**	**30.30**	**85**	⇑P	**P**	**02 26 52.4**	**+0.7**
	baz=30						
E04A	**Onalaska**	**30.46**	**84**	⇓P	**P**	**02 26 54.4**	**+1.3**
	baz=30						
C05A	**Tolt Reservoir**	**30.52**	**81**	P	**P**	**02 26 54.4**	**+0.8**
	baz=30,SNR=13						
D05A	**Enumclaw**	**30.60**	**82**	⇓P	**P**	**02 26 55.5**	**+1.2**
	baz=30,SNR=8.3						
A07A	**Ashnola River,**	**30.66**	**78**	⇓P	**P**	**02 26 55.4**	**+0.6**
	baz=30,SNR=23						
YSS	**Yuzh-Sakhalins**	**30.66**	**277**	*i* P	**P**	**02 26 55.6**	**+0.7**
YSS				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.8						
F04A	**Amboy**	**30.98**	**85**	⇑P	**P**	**02 26 58.0**	**+0.4**
	baz=31,SNR=5.9						
E05A	**Randle**	**31.05**	**83**	⇑P	**P**	**02 26 58.6**	**+0.3**
	baz=31,SNR=12						
B07A	**Winthrop**	**31.08**	**79**	⇑P	**P**	**02 26 59.2**	**+0.6**
	baz=31,SNR=18						
D06A	**Cle Elum**	**31.27**	**81**	⇓P	**P**	**02 27 00.9**	**+0.6**
	baz=31,SNR=5.3						
A08A	**Turner Farm, O**	**31.35**	**77**	P	**P**	**02 27 01.3**	**+0.4**
	baz=31,SNR=30						
C07A	**Waterville**	**31.49**	**80**	⇑P	**P**	**02 27 02.2**	**+0.1**
	baz=31,SNR=13						
E06A	**Yakima**	**31.52**	**83**	⇓P	**P**	**02 27 03.2**	**+0.8**
	baz=31,SNR=8.0						
I03A	**Eugene**	**31.53**	**88**	⇑P	**P**	**02 27 03.2**	**+0.7**
	baz=31						
F05A	**White Salmon**	**31.58**	**84**	⇑P	**P**	**02 27 03.4**	**+0.5**
	baz=32						
B08A	**Colville Reser**	**31.59**	**79**	P	**P**	**02 27 03.7**	**+0.7**
	baz=32,SNR=63						
J02A	**Umpqua**	**31.69**	**90**	⇑P	**P**	**02 27 04.7**	**+0.8**
	baz=32						
TIXI	**Tiksi**	**31.72**	**328**	*e*P	**P**	**02 27 04.9**	**+1.0**
TIXI				*e*		02 29 51.2	
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
TIXI	**Tiksi**	**31.72**	**328**	*e*P	**P**	**02 27 04.9**	**+1.0**
	comp=Z,6.4nm,0.8s,mb4.4						
TIXI				*e*PcP	PcP	02 29 51.2	-0.8
TIXI				*e*ScP	ScP	02 33 24.1	+1.1
A09A	**Danville**	**31.74**	**77**	⇓P	**P**	**02 27 04.9**	**+0.6**
	baz=32,SNR=12						
D07A	**Quincy**	**31.79**	**81**	P	**P**	**02 27 05.5**	**+0.7**
	baz=32,SNR=8.1						
H04A	**Detroit Lake**	**31.79**	**86**	⇑P	**P**	**02 27 05.3**	**+0.5**
	baz=32,SNR=10						
G05A	**Wamic**	**32.00**	**85**	⇓P	**P**	**02 27 07.4**	**+0.7**
	baz=32						
C08A	**Higginbotham F**	**32.04**	**79**	⇓P	**P**	**02 27 07.0**	**+0.1**
	baz=32,SNR=7.1						
J03A	**Ideyld Park**	**32.05**	**89**	⇑P	**P**	**02 27 07.9**	**+0.8**
	baz=32						
I04A	**Tendick Farm,**	**32.15**	**88**	⇑P	**P**	**02 27 08.5**	**+0.6**
	baz=32						
E07A	**Sunnyside**	**32.18**	**82**	⇓P	**P**	**02 27 08.6**	**+0.5**
	baz=32						
B09A	**Rice**	**32.26**	**78**	P	**P**	**02 27 09.5**	**+0.7**
	baz=32,SNR=16						
ASAJ	**Asahikawa**	**32.26**	**273**	LR	LR	02 39 27.3	
	comp=Z,92nm,21.3s,baz=349,slow=35						
A10A	**Northport**	**32.33**	**76**	⇑P	**P**	**02 27 09.7**	**+0.2**
	baz=32						
YAK	**Yakutsk**	**32.34**	**310**	*e*P	**P**	**02 27 08.4**	**-1.0**
YAK				*e*	pP	02 27 36.9	-0.5
YAK				*e*		02 29 52.4	
YAK				*e*S	**S**	**02 32 13.9**	**+0.6**
YAK				*e*SS	SS	02 34 12.2	-25
YAK				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,4.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,13nm,1.1s						
YAK				pmax	pmax		
	comp=Z,72nm,1.1s,mb5.3						
YAK				pmax	pmax		
	comp=N,16nm,1.3s						
YAK				pmax	pmax		
	comp=E,51nm,1.3s						
YAK				smax			
	comp=N,13nm,1.2s						
YAK				smax			
	comp=E,26nm,1.6s						
YAK	**Yakutsk**	**32.34**	**310**	*e*P	**P**	**02 27 08.8**	**-0.6**
	comp=E,23nm,0.6s,mb5.1						
H05A	**Madras**	**32.38**	**86**	⇓P	**P**	**02 27 10.5**	**+0.5**
	baz=32						
G06A	**Carlson Farm,**	**32.41**	**84**	⇓P	**P**	**02 27 10.6**	**+0.4**
	baz=32						
HAWA	**Hanford**	**32.45**	**82**	*e*P	**P**	**02 27 10.7**	**+0.2**
	comp=E,36nm,0.7s,mb5.2						
D08A	**Wollman Farm,**	**32.48**	**80**	P	**P**	**02 27 10.8**	**0.0**
	baz=32,SNR=19						
F07A	**Phinny Hill Vi**	**32.48**	**83**	⇓P	**P**	**02 27 11.4**	**+0.5**
	baz=32						
C09A	**Chrisman Ranch**	**32.48**	**79**	⇓P	**P**	**02 27 10.7**	**-0.1**
	baz=32,SNR=13						
HUMO	**Hull Mountain**	**32.50**	**90**	⇓P	**P**	**02 27 11.3**	**+0.2**
	baz=32						
I05A	**Bend**	**32.62**	**87**	⇑P	**P**	**02 27 12.3**	**+0.3**
	baz=32						
E08A	**Dider Farm, El**	**32.68**	**81**	⇑P	**P**	**02 27 12.9**	**+0.4**
	baz=33						
D09A	**Jones Farm, Ri**	**32.83**	**80**	⇑P	**P**	**02 27 13.7**	**-0.2**
	baz=33,SNR=5.4						
B10A	**Chitwood Farm,**	**32.85**	**77**	P	**P**	**02 27 15.0**	**+0.9**
	baz=33,SNR=5.2						
H06A	**Lindquist Farm**	**32.86**	**85**	⇑P	**P**	**02 27 14.2**	**+0.1**
	baz=33,SNR=8.3						
EDM	**Edmonton**	**32.88**	**67**	⇓*i*P	**P**	**02 27 14.6**	**+0.4**
NEW	**Newport**	**32.93**	**77**	⇓*i*P	**P**	**02 27 14.8**	**+0.1**
NEW				pmax	pmax		
	comp=Z,53nm,0.6s						
NEW	**Newport**	**32.93**	**77**	⇓*i*P	**P**	**02 27 14.8**	**+0.1**
	comp=Z,53nm,0.6s,mb5.4						
NEW	**Newport**	**32.93**	**77**	P	**P**	**02 27 14.8**	**+0.1**
	baz=303,slow=6.6						
G07A	**Ruggs Ranch, H**	**32.97**	**84**	⇑P	**P**	**02 27 15.6**	**+0.5**
	baz=33						
A11A	**Hall Mountain,**	**33.04**	**76**	⇓P	**P**	**02 27 16.6**	**+1.0**
	baz=33,SNR=44						
J05A	**Fort Rock**	**33.14**	**88**	P	**P**	**02 27 17.9**	**+1.3**
	baz=33,SNR=9.6						
YBH	**Yreka Blue Hor**	**33.17**	**91**	*e*P	**P**	**02 27 18.5**	**+1.6**
YBH				pmax	pmax		
	comp=Z,10.0nm,1.0s						
YBH	**Yreka Blue Hor**	**33.17**	**91**	*e*P	**P**	**02 27 18.5**	**+1.6**
	comp=Z,10nm,1.0s,mb4.5						
YBH	**Yreka Blue Hor**	**33.17**	**91**	P	**P**	**02 27 17.7**	**+0.8**
	baz=285,slow=7.0						
YBH	**Yreka Blue Hor**	**33.17**	**91**	⇓P	**P**	**02 27 17.8**	**+0.9**
	baz=33,SNR=8.6						
KIP	**Kipapa**	**33.19**	**160**	*e*P	**P**	**02 27 16.1**	**-1.1**
KIP				pmax	pmax		
	comp=Z,52nm,0.6s,mb5.4						
KIP	**Kipapa**	**33.19**	**160**	*e*P	**P**	**02 27 16.1**	**-1.1**
	comp=Z,52nm,0.6s,mb5.4						
E09A	**Wood Farm, Sta**	**33.21**	**81**	⇓P	**P**	**02 27 17.2**	**0.0**
	baz=33,SNR=7.7						
F08A	**Pendleton**	**33.22**	**82**	⇓P	**P**	**02 27 17.5**	**+0.3**
	baz=33						
B11A	**Sandpoint**	**33.29**	**77**	P	**P**	**02 27 18.4**	**+0.6**
	baz=33,SNR=21						
N02C	**Big Bar**	**33.37**	**93**	P	**P**	**02 27 19.9**	**+1.3**
	baz=33,SNR=6.5						
I06A	**Prineville**	**33.38**	**86**	⇑P	**P**	**02 27 19.5**	**+0.9**
	baz=33,SNR=5.6						
G08A	**Pilot Rock**	**33.38**	**83**	P	**P**	**02 27 19.0**	**+0.4**
	baz=33,SNR=9.5						
L04A	**Klamath Falls**	**33.40**	**90**	⇓P	**P**	**02 27 19.8**	**+1.0**
	baz=33						
H07A	**Lands Inn, Kim**	**33.40**	**85**	⇑P	**P**	**02 27 19.0**	**+0.2**
	baz=33						
D10A	**Wagner Farm, O**	**33.45**	**79**	⇑P	**P**	**02 27 18.8**	**-0.4**
	baz=33,SNR=40						
A12A	**Yaak River Ran**	**33.46**	**75**	⇑P	**P**	**02 27 19.7**	**+0.4**
	baz=33						
M04C	**Macdoel**	**33.66**	**91**	⇓P	**P**	**02 27 21.6**	**+0.5**
	baz=34,SNR=7.0						
K05A	**Summer Lake**	**33.67**	**88**	⇓P	**P**	**02 27 22.2**	**+1.1**
	baz=34,SNR=7.8						
I07A	**Izee**	**33.72**	**85**	P	**P**	**02 27 22.3**	**+0.7**
	baz=34,SNR=19						
B12A	**Libby**	**33.72**	**76**	⇓P	**P**	**02 27 22.1**	**+0.5**
	baz=34						
F09A	**S2 Ranch, Elgi**	**33.78**	**82**	P	**P**	**02 27 22.6**	**+0.6**
	baz=34,SNR=7.7						
M03C	**McCloud**	**33.80**	**92**	⇑P	**P**	**02 27 22.7**	**+0.4**
	baz=34						
J06A	**Christmas Vall**	**33.80**	**87**	⇑P	**P**	**02 27 23.2**	**+0.9**
	baz=34,SNR=17						
E10A	**Myers Farm, Un**	**33.84**	**80**	P	**P**	**02 27 23.0**	**+0.4**
	baz=34,SNR=24						
H08A	**Prairie City**	**33.97**	**84**	P	**P**	**02 27 24.2**	**+0.4**
	baz=34,SNR=14						
WDC	**Whiskeytown Da**	**33.97**	**93**	*e*P	**P**	**02 27 24.5**	**+0.7**
WDC				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.3						
WDC	**Whiskeytown Da**	**33.97**	**93**	*e*P	**P**	**02 27 24.5**	**+0.7**
	comp=Z,6.3nm,0.9s,mb4.3						
WDC	**Whiskeytown Da**	**33.97**	**93**	⇑P	**P**	**02 27 24.4**	**+0.5**
	baz=34,SNR=6.0						
D11A	**Klaveano Farm,**	**34.00**	**79**	P	**P**	**02 27 23.6**	**-0.4**
	baz=34,SNR=53						
K06A	**Valley Falls**	**34.01**	**88**	⇑P	**P**	**02 27 24.4**	**+0.3**
	baz=34,SNR=9.8						
F10A	**Beach Ranch, E**	**34.04**	**81**	P	**P**	**02 27 24.9**	**+0.6**
	baz=34,SNR=16						
O02C	**Red Bluff**	**34.08**	**94**	⇑P	**P**	**02 27 24.7**	**0.0**
	baz=34						
L05A	**Lakeview**	**34.10**	**89**	⇓P	**P**	**02 27 25.9**	**+1.0**
	baz=34,SNR=5.8						
A13A	**Flathead Natio**	**34.18**	**75**	⇑P	**P**	**02 27 26.0**	**+0.5**
	baz=34						
P01C	**Double 8 Ranch**	**34.20**	**95**	⇓P	**P**	**02 27 26.0**	**+0.2**
	baz=34						
J07A	**Hines**	**34.24**	**86**	P	**P**	**02 27 27.3**	**+1.2**
	baz=34,SNR=6.6						
M05C	**Lookout**	**34.33**	**91**	⇓P	**P**	**02 27 27.6**	**+0.7**
	baz=34,SNR=6.8						
I08A	**Drewsey**	**34.37**	**85**	P	**P**	**02 27 27.9**	**+0.7**
	baz=34,SNR=12						
WALA	**Waterton Lakes**	**34.41**	**74**	⇓*i*P	**P**	**02 27 27.6**	**+0.1**
	comp=Z,25nm,0.9s,mb4.9						
WALA				*e*S	**S**	**02 32 49.3**	**+3.7**
B13A	**Whitefish**	**34.42**	**76**	P	**P**	**02 27 27.9**	**+0.4**
	baz=34,SNR=18						
E11A	**Bogner Ranch,**	**34.44**	**80**	P	**P**	**02 27 27.2**	**-0.5**
	baz=34,SNR=27						
GASB	**Alder Springs**	**34.45**	**94**	⇑P	**P**	**02 27 28.9**	**+1.0**
	baz=34						
G10A	**Bishop Farm, J**	**34.47**	**82**	P	**P**	**02 27 28.4**	**+0.4**
	baz=34,SNR=54						
HATC	**Hat Creek Radi**	**34.47**	**92**	P	**P**	**02 27 29.3**	**+1.2**
	baz=34,SNR=8.2						
H09A	**Durkee**	**34.49**	**83**	⇓P	**P**	**02 27 28.6**	**+0.4**
	baz=34						
MOD	**Modoc**	**34.51**	**89**	*e*P	**P**	**02 27 28.6**	**+0.2**
	comp=Z,7.1nm,0.7s,mb4.4						
MOD	**Modoc**	**34.51**	**89**	P	**P**	**02 27 29.3**	**+0.9**
	baz=34,SNR=6.3						
D12A	**Red Ives Fores**	**34.58**	**78**	⇓P	**P**	**02 27 28.7**	**-0.2**
	baz=34						
BMO	**Blue Mountains**	**34.60**	**83**	⇓*i*P	**P**	**02 27 29.2**	**0.0**
	comp=Z,5.0nm,0.7s,mb4.2						
HOPS	**Hopland**	**34.66**	**95**	⇑P	**P**	**02 27 29.5**	**-0.3**
	baz=35						
K07A	**Rock Creek Ran**	**34.67**	**87**	P	**P**	**02 27 30.6**	**+0.8**
	baz=35,SNR=23						
C13A	**Hot Springs**	**34.71**	**77**	⇓P	**P**	**02 27 30.0**	**-0.1**
	baz=35,SNR=47						
F11A	**Grangeville**	**34.72**	**80**	⇑P	**P**	**02 27 29.6**	**-0.6**
	baz=35,SNR=26						
J08A	**Circle Bar Ran**	**34.75**	**86**	P	**P**	**02 27 31.0**	**+0.6**
	baz=35,SNR=22						
M06C	**Likely Place G**	**34.82**	**90**	⇓P	**P**	**02 27 31.9**	**+0.7**
	baz=35						
I09A	**Lost Marbles R**	**34.83**	**84**	⇑P	**P**	**02 27 31.6**	**+0.5**
	baz=35						
G11A	**Walters Elk Ra**	**34.91**	**81**	P	**P**	**02 27 32.2**	**+0.3**
	baz=35,SNR=32						
O04C	**Chester**	**35.01**	**92**	P	**P**	**02 27 34.0**	**+1.3**
	baz=35,SNR=6.2						
L07A	**Adell**	**35.01**	**88**	P	**P**	**02 27 33.8**	**+1.0**
	baz=35,SNR=6.7						
D13A	**Huson**	**35.08**	**78**	⇑P	**P**	**02 27 33.0**	**-0.2**
	baz=35,SNR=18						
H10A	**Noah's Angus R**	**35.08**	**83**	P	**P**	**02 27 33.6**	**+0.3**
	baz=35,SNR=71						
K08A	**Mann Creek Ran**	**35.10**	**87**	⇓P	**P**	**02 27 34.0**	**+0.5**
	baz=35,SNR=6.1						
C14A	**Swan Lake**	**35.14**	**76**	⇓P	**P**	**02 27 33.9**	**+0.1**
	baz=35						
J09A	**Fry Pan Ranch,**	**35.18**	**85**	P	**P**	**02 27 34.8**	**+0.6**
	baz=35,SNR=14						
WVOR	**Wild Horse Val**	**35.19**	**87**	*e*P	**P**	**02 27 34.4**	**+0.2**
WVOR				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
WVOR	**Wild Horse Val**	**35.19**	**87**	*e*P	**P**	**02 27 34.4**	**+0.2**
	comp=Z,14nm,0.6s,mb4.8						
ORV	**Oroville**	**35.24**	**93**	⇓P	**P**	**02 27 34.1**	**-0.6**
	baz=35						
F12A	**Elk City**	**35.32**	**80**	P	**P**	**02 27 35.4**	**+0.1**
	baz=35,SNR=56						
I10A	**Payette**	**35.33**	**83**	⇑P	**P**	**02 27 35.9**	**+0.5**
	baz=35,SNR=8.9						
O05C	**Quincy**	**35.33**	**92**	⇑P	**P**	**02 27 35.5**	**+0.1**
	baz=35						
H11A	**Donnelly**	**35.45**	**82**	P	**P**	**02 27 36.5**	**0.0**
	baz=35,SNR=28						
RES	**Resolute Bay**	**35.48**	**26**	*e*P	**P**	**02 27 35.5**	**-0.8**
RES				*e*		02 30 02.4	
RES				pmax	pmax		
	comp=Z,93nm,0.6s,mb5.6						
RES	**Resolute B

O07A	Toulon	36.42	90	⇑P		P	02 27 45.2 +0.4
	baz=36,SNR=14						
N08A	GE Springer Mi	36.48	89	⇑P		P	02 27 45.3 -0.1
	baz=36						
E15A	Deer Lodge	36.49	77	P		P	02 27 45.3 0.0
	baz=36,SNR=36						
M09A	Marrel Ranch,	36.50	88	⇑P		P	02 27 45.9 +0.5
	baz=36						
K11A	Parker Ranch,	36.54	85	⇑P		P	02 27 45.7 0.0
	baz=36,SNR=20						
H13A	Challis	36.57	81	⇑P		P	02 27 45.8 -0.1
	baz=36						
R05C	Kirkwood Meado	36.63	93	⇑P		P	02 27 46.4 -0.2
	baz=36,SNR=6.8						
L10A	Juniper Basin	36.69	86	⇑P		P	02 27 47.0 -0.1
	baz=37,SNR=14						
N09A	Rock Creek Ran	36.81	88	⇓P		P	02 27 47.9 -0.2
	baz=37						
HRY	Holter Researc	36.81	76	*e*P		P	02 27 45.6 -2.4
J12A	Stokes Ranch,	36.82	83	P		P	02 27 48.5 +0.4
	baz=37,SNR=13						
CMB	Columbia Colle	36.88	94	*e*P		P	02 27 48.8 +0.1
CMB				*e*			02 30 07.3
CMB				pmax		pmax	
	comp=Z,6.0nm,1.0s,mb4.2						
CMB	Columbia Colle	36.88	94	*e*P		P	02 27 48.8 +0.1
	comp=Z,6.4nm,1.0s,mb4.2						
CMB				*e*PcP		PcP	02 30 07.3 -0.1
CMB	Columbia Colle	36.88	94	⇓P		P	02 27 48.7 0.0
	baz=37,SNR=5.3						
F15A	Butte	36.89	78	P		P	02 27 48.7 0.0
	baz=37,SNR=7.2						
M10A	I.L. Ranch, Tu	36.99	87	P		P	02 27 49.9 +0.3
	baz=37,SNR=7.5						
I13A	Wildhorse Cree	37.02	82	⇓P		P	02 27 49.6 -0.2
	baz=37,SNR=27						
PACP	Pacheco Peak	37.03	96	⇓P		P	02 27 49.9 0.0
	baz=37						
HLID	Hailey	37.04	82	⇓P		P	02 27 49.8 -0.2
	baz=37,SNR=25						
L11A	Cat Creek Ranc	37.07	85	P		P	02 27 50.7 +0.5
	baz=37,SNR=27						
DLMT	Dillon	37.10	79	*e*P		P	02 27 49.7 -0.7
	comp=Z,9.5nm,0.8s,mb4.5						
DLMT				*e*PcP		PcP	02 30 08.5 +0.5
R06C	Coleville	37.12	93	⇑P		P	02 27 50.9 +0.2
	baz=37,SNR=11						
MCMT	McKenzie Canyo	37.25	80	*e*P		P	02 27 51.7 0.0
MCMT				*e*PcP		PcP	02 30 09.1 +0.6
G15A	Dillon	37.27	79	P		P	02 27 51.6 -0.2
	baz=37,SNR=28						
J13A	Cove Ranch, Pi	37.28	83	P		P	02 27 52.5 +0.4
	baz=37,SNR=52						
HAST	Hastings Reser	37.29	97	⇓P		P	02 27 51.8 -0.3
	baz=37						
K12A	Draper Farm, C	37.30	84	⇓P		P	02 27 52.3 +0.1
	baz=37,SNR=15						
S06C	San Francisco	37.30	94	⇓P		P	02 27 52.4 +0.2
	baz=37,SNR=9.4						
EGMT	Eagleton	37.31	73	*e*P		P	02 27 51.9 -0.4
	comp=Z,50nm,0.8s,mb5.2						
EGMT	Eagleton	37.31	73	⇓P		P	02 27 52.0 -0.3
	baz=37,SNR=38						
S05C	Merced	37.37	95	⇑P		P	02 27 51.9 -1.0
	baz=37						
O09A	Fish Creek Ran	37.43	89	⇑P		P	02 27 53.2 -0.1
	baz=37,SNR=6.8						
M11A	Holland Ranch,	37.49	86	⇓P		P	02 27 54.2 +0.4
	baz=37,SNR=9.8						
N10A	Dunphy	37.50	88	⇓P		P	02 27 54.0 +0.1
	baz=37						
BOZ	Bozeman (W)	37.51	78	⇓*i*P		P	02 27 53.8 -0.1
BOZ				*e*			02 30 09.4
BOZ				pmax		pmax	
	comp=Z,19nm,0.6s,mb4.9						
BOZ	Bozeman (W)	37.51	78	⇓*i*P		P	02 27 53.8 -0.1
	comp=Z,19nm,0.6s,mb4.9						
BOZ				*e*PcP		PcP	02 30 09.4 +0.2
BOZ	Bozeman (W)	37.51	78	P		P	02 27 54.2 +0.3
	baz=37,SNR=57						
L12A	House Creek Ra	37.52	85	⇓P		P	02 27 54.3 +0.2
	baz=37,SNR=20						
O10A	Cortez Mining,	37.77	88	⇓P		P	02 27 56.6 +0.5
	baz=38						
K13A	Stover Farm, H	37.77	83	⇑P		P	02 27 56.4 +0.3
	baz=38						
Q08A	Gabbs	37.81	91	P		P	02 27 57.3 +0.7
	baz=38,SNR=7.3						
NVAR	Mina Array Bea	37.87	92	P		P	02 27 57.5 +0.4
NVAR				sP		sP	02 28 35.2 -5.1
NVAR				PcP		PcP	02 30 11.1 +0.6
NVAR				pPcP			02 30 40.2
NVAR				ScP		ScP	02 33 48.0 +2.4
NVAR	Mina Array Bea	37.87	92	P		P	02 27 57.5 +0.4
	comp=Z,11nm,0.8s,mb4.5,baz=294,slow=7.8,SNR=61						
NVAR				sP		sP	02 28 35.2 -5.1
	comp=Z,4.7nm,0.8s,baz=292,slow=8.6,SNR=3.0						
NVAR				PcP		PcP	02 30 11.1 +0.6
	comp=Z,3.7nm,0.7s,baz=274,slow=3.2,SNR=11						
NVAR				pPcP			02 30 40.2
	comp=Z,2.3nm,0.6s,baz=315,slow=2.7,SNR=5.3						
NVAR				ScP		ScP	02 33 48.0 +2.4
	comp=Z,1.7nm,0.7s,baz=291,slow=4.2,SNR=10.0						
N11A	Elko Archery C	37.90	87	⇓P		P	02 27 57.7 +0.5
	baz=38						
T06C	Millerton Lake	37.97	95	⇓P		P	02 27 58.0 +0.1
	baz=38						
KCC	Kaiser Creek	37.99	94	⇓P		P	02 27 58.7 +0.7
	baz=38,SNR=9.7						
M12A	Wells	38.02	86	P		P	02 27 59.1 +0.9
	baz=38,SNR=8.8						
R08A	Mina	38.04	92	⇓P		P	02 27 59.2 +0.7
	baz=38						
QLMT	Earthquake Lak	38.08	79	*e*P		P	02 27 58.9 +0.2
QLMT				*e*PcP		PcP	02 30 11.4 +0.4
U05C	Westside ANR,	38.17	96	⇓P		P	02 28 00.3 +0.7
	baz=38						
L13A	Double Diamond	38.19	84	⇓P		P	02 27 59.9 +0.3
	baz=38,SNR=7.7						
N12A	Clover Valley,	38.29	87	⇓P		P	02 28 00.8 +0.3
	baz=38,SNR=12						
FFC	Flin Flon	38.32	60	P		P	02 28 00.5 -0.1
	comp=Z,514nm,0.6s,SNR=31						
FFC	Flin Flon	38.32	60	⇓*i*P		P	02 28 00.3 -0.3
FFC				*e*			02 30 10.6
FFC				pmax		pmax	
	comp=Z,55nm,0.7s,mb5.3						
FFC	Flin Flon	38.32	60	⇓*i*P		P	02 28 00.3 -0.3
	comp=Z,55nm,0.7s,mb5.3						
FFC				*e*PcP		PcP	02 30 10.6 -1.0
O11A	Cowboy Ranch,	38.37	88	⇓P		P	02 28 01.7 +0.5
	baz=38						
K14A	Jones Ranch, D	38.38	83	⇓P		P	02 28 01.6 +0.4
	baz=38						
M13A	Montello	38.50	85	P		P	02 28 02.8 +0.5
	baz=38,SNR=9.7						
S08C	White Mtn Res	38.56	93	⇑P		P	02 28 03.0 +0.2
	baz=38,SNR=13						
GCMT	Greycliff	38.57	76	*e*P		P	02 28 02.8 0.0
GCMT				*e*PcP		PcP	02 30 12.9 +0.4
YNR	Norris Junctio	38.58	78	*e*P		P	02 28 03.4 +0.5
HELL	Mitchell Peak	38.59	95	⇑P		P	02 28 03.0 -0.1
	baz=38,SNR=12						
YFT	Old Faithful	38.64	79	*e*P		P	02 28 04.0 +0.6
YFT				*e*PcP		PcP	02 30 15.1 +2.3
R09A	Tonopah	38.73	91	P		P	02 28 04.5 +0.2
	baz=39,SNR=19						
TPH	Tonopah	38.75	92	*e*P		P	02 28 04.6 +0.2
TPH				pmax		pmax	
	comp=Z,12nm,1.0s,mb4.5						
TPH	Tonopah	38.75	92	*e*P		P	02 28 04.6 +0.2
	comp=Z,12nm,1.0s,mb4.5						
Q10A	Clear Creek Ra	38.75	90	⇓P		P	02 28 04.8 +0.4
	baz=39,SNR=10						
N13A	Wendover, West	38.79	86	⇑P		P	02 28 05.2 +0.6
	baz=39						
TIN	Tinemaha	38.82	94	⇑P		P	02 28 05.7 +0.7
	baz=39						
O12A	Currie	38.83	87	P		P	02 28 05.3 +0.3
	baz=39,SNR=12						
LKWY	Lake	38.83	78	⇓*i*P		P	02 28 06.3 +1.3
LKWY				pmax		pmax	
	comp=Z,26nm,0.7s,mb5.0						
LKWY	Lake	38.83	78	⇓*i*P		P	02 28 06.3 +1.3
	comp=Z,26nm,0.7s,mb5.0						
M14A	Sheep Mountain	38.90	84	P		P	02 28 05.8 +0.2
	baz=39,SNR=12						
IMW	Indian Meadow	38.90	80	*e*P		P	02 28 04.9 -0.7
	comp=Z,25nm,0.9s,mb4.8						
FLWY	Flagg Ranch	38.94	79	⇓*i*P		P	02 28 06.3 +0.5
	comp=Z,26nm,0.8s,mb4.9						
S09A	Goldfield	38.98	92	P		P	02 28 06.4 +0.1
	baz=39,SNR=9.4						
HVU	Hansel Valley	39.07	84	*e*P		P	02 28 07.2 +0.2
HVU				*e*			02 30 14.3
HVU				pmax		pmax	
	comp=Z,10.0nm,0.5s,mb4.7						
HVU	Hansel Valley	39.07	84	*e*P		P	02 28 07.2 +0.1
	comp=Z,9.7nm,0.5s,mb4.7						
HVU				*e*PcP		PcP	02 30 14.3 +0.1
MOOW	Moose Ponds	39.10	80	*e*P		P	02 28 07.7 +0.4
	comp=Z,16nm,1.4s,mb4.5						
VES	Vestal, Richgr	39.13	96	P		P	02 28 07.6 0.0
	baz=39,SNR=6.3						
TPAW	Teton Pass	39.13	80	*e*P		P	02 28 07.5 0.0
	comp=Z,9.2nm,0.8s,mb4.5						
TPAW				*e*PcP		PcP	02 30 14.8 +0.4
R10A	Warm Springs	39.16	91	P		P	02 28 08.1 +0.3
	baz=39,SNR=5.3						
RLMT	Red Lodge	39.18	77	⇓*i*P		P	02 28 08.2 +0.4
	comp=Z,32nm,0.8s,mb5.0						
Q11A	Duckwater	39.19	89	P		P	02 28 08.4 +0.4
	baz=39,SNR=9.5						
S10A	Tonopah Range,	39.22	91	⇓P		P	02 28 08.3 0.0
	baz=39						
P12A	McGill	39.23	88	P		P	02 28 08.8 +0.4
	baz=39,SNR=9.4						
SNOW	Snow King Moun	39.27	80	*e*P		P	02 28 09.4 +0.8
	comp=Z,6.2nm,0.7s,mb4.3						
LOHW	Long Hollow	39.27	80	⇓*i*P		P	02 28 08.7 +0.1
	comp=Z,10nm,0.8s,mb4.5						
REDW	Red Top Meadow	39.27	80	*e*P		P	02 28 08.8 +0.1
	comp=Z,8.5nm,0.9s,mb4.4						
PKM	Peak Mountain	39.33	98	⇑P		P	02 28 09.9 +0.6
	baz=39						
GRAC	Grapevine Rang	39.37	93	⇑P		P	02 28 10.1 +0.5
	baz=39						
N14A	Grayback Hills	39.40	85	P		P	02 28 10.0 +0.3
	baz=39,SNR=25						
BGU	Big Grassy Mou	39.44	85	*e*P		P	02 28 09.7 -0.5
M15A	Larsen Ranch,	39.46	84	P		P	02 28 10.4 +0.2
	baz=39,SNR=9.4						
R11A	Troy Canyon, C	39.55	90	P		P	02 28 11.0 0.0
	baz=39,SNR=13						
Q12A	Willow Creek R	39.55	89	⇓P		P	02 28 11.3 +0.2
	baz=39						
SPUT	South Promonto	39.55	84	*e*P		P	02 28 10.7 -0.3
MJAR	Matsushiro Arr	39.58	266	pP		pP	02 28 37.1 -3.0
	comp=Z,2.5nm,0.5s,baz=40,slow=7.1,SNR=4.9						
MJAR				PcP		PcP	02 30 15.8 -0.1
	comp=Z,5.4nm,0.9s,baz=96,slow=1.7,SNR=10.0						
MJAR				pPcP			02 30 46.6
	comp=Z,1.1nm,0.4s,baz=358,slow=0.9,SNR=5.0						
MAT	Matsushiro	39.58	266	P		P	02 28 09.5 -1.8
ARVC	Arvin	39.76	96	⇑P		P	02 28 12.6 -0.2
	baz=40						
N15A	Stansbury Isla	39.77	85	P		P	02 28 13.0 +0.2
	baz=40,SNR=8.4						
P13A	Bates Ranch, G	39.78	87	P		P	02 28 13.0 +0.1
	baz=40,SNR=8.5						
HWUT	Hardware Ranch	39.90	83	*e*P		P	02 28 13.9 +0.1
	comp=Z,5.3nm,0.6s,mb4.3						
S11A	Rachel	39.91	91	⇑P		P	02 28 14.1 +0.1
	baz=40						
MPMC	Manual Prospec	39.92	94	⇓P		P	02 28 14.3 +0.1
	baz=40,SNR=11						
FURC	Furnace Creek,	40.02	93	⇑P		P	02 28 14.7 -0.2
	baz=40,SNR=11						
DUG	Dugway	40.03	86	⇓*i*P		P	02 28 14.9 -0.1
DUG				pmax		pmax	
	comp=Z,8.0nm,0.6s,mb4.5						
DUG	Dugway	40.03	86	⇓*i*P		P	02 28 14.9 -0.1
	comp=Z,7.8nm,0.6s,mb4.5						
DUG	Dugway	40.03	86	P		P	02 28 15.3 +0.3
	baz=40,SNR=19						
TPNV	Topopah Spring	40.07	92	⇓*i*P		P	02 28 15.3 -0.1
TPNV				pmax		pmax	
	comp=Z,11nm,0.7s,mb4.6						
TPNV	Topopah Spring	40.07	92	⇓*i*P		P	02 28 15.3 0.0
	comp=Z,11nm,0.7s,mb4.6						
TPNV	Topopah Spring	40.07	92	P		P	02 28 15.8 +0.4
	baz=40,SNR=22						
Q13A	Wheeler Ranch,	40.09	88	⇑P		P	02 28 15.4 -0.1
	baz=40						
R12A	Pony Springs,	40.15	89	⇑P		P	02 28 15.8 -0.1
	baz=40						
LRMC	Laurel Mountai	40.20	95	⇓P		P	02 28 15.7 -0.8
	baz=40						
DGMT	Dagmar	40.23	70	*e*P		P	02 28 16.2 -0.3
	comp=Z,22nm,0.6s,mb5.0						
BLG	Laguna Peak	40.33	98	⇓P		P	02 28 16.8 -0.7
	baz=40						
FCC	Fort Churchill	40.39	51	⇓*i*P		P	02 28 16.8 -0.9
FCC				*e*			02 30 17.4
FCC				pmax		pmax	
	comp=Z,35nm,0.7s,mb5.1						
FCC	Fort Churchill	40.39	51	⇓*i*P		P	02 28 16.8 -1.0
	comp=Z,35nm,0.7s,mb5.1						
FCC				*e*PcP		PcP	02 30 17.4 -0.7
FCC				*e*ScP		ScP	02 33 56.4 +1.3
EDW2	Edwards Air Fo	40.43	96	⇓P		P	02 28 18.4 0.0
	baz=40						
S12A	Delamar Landin	40.47	90	⇑P		P	02 28 18.5 -0.2
	baz=40,SNR=9.9						
T11A	Corn Creek, Al	40.49	91	P		P	02 28 19.1 +0.2
	baz=40,SNR=18						
JLU	Jordanelle	40.59	84	*e*P		P	02 28 19.6 0.0
NLU	North Lily Min	40.62	85	*e*P		P	02 28 20.1 +0.2
SHOC	Shoshone	40.75	93	⇓P		P	02 28 20.8 -0.2
	baz=41,SNR=5.3						
DAU	Daniels Canyon	40.82	84	*e*P		P	02 28 21.9 +0.4
GSC	Goldstone	40.85	95	*e*P		P	02 28 21.8 0.0
GSC				pmax		pmax	
	comp=Z,21nm,0.9s,mb4.8						
GSC	Goldstone	40.85	95	*e*P		P	02 28 21.8 0.0
	comp=Z,20nm,0.9s,mb4.8						
GSC	Goldstone	40.85	95	⇑P		P	02 28 21.6 -0.1
	baz=41,SNR=14						
BFSC	Mount Baldy St	41.07	96	⇓P		P	02 28 23.4 -0.2
	baz=41,SNR=7.8						
S13A	Holt Ranch, En	41.08	90	⇑P		P	02 28 23.9 +0.3
	baz=41						
BOD	Bodaibo	41.18	308	*e*P		P	02 28 23.1 -1.1
BOD				*e*		pP	02 28 52.0 -1.2
BOD				pmax		pmax	
	comp=Z,12nm,0.9s,mb4.5						
BOD				pmax		pmax	
	comp=Z,28nm,0.8s,mb4.9						
TUQ	Turquoise Mtn.	41.28	94	⇓P		P	02 28 25.0 -0.3
	baz=41						
V11A	Goodsprings	41.30	93	⇑P		P	02 28 25.2 -0.3
	baz=41						
S14A	Cedar City	41.38	89	⇑P		P	02 28 26.1 0.0
	baz=41						
CCUT	Cedar City	41.40	89	*e*P		P	02 28 26.9 +0.7
T13A	Saint George	41.42	90	⇓P		P	02 28 26.6 +0.1
	baz=41,SNR=11						
U12A	Valley of Fire	41.44	91	⇑P		P	02 28 26.3 -0.3
	baz=41						
HEC	Hector,Ludlow	41.45	95	⇓P		P	02 28 26.5 -0.3
	baz=41						
MSU	Marysvale	41.48	87	*e*P		P	02 28 27.2 +0.3
BBRC	Big Bear Sol-O	41.49	96	⇓P		P	02 28 27.4 +0.4
	baz=41						
TMUT	Trail Mountain	41.55	86	*e*P		P	02 28 27.7 +0.2
V12A	Nelson	41.73	92	⇓P		P	02 28 29.0 +0.1
	baz=42,SNR=8.4						
MURC	Murrieta	41.79	97	⇑P		P	02 28 29.2 -0.3
	baz=42						
U13A	Pakoon Wash	41.79	91	⇑P		P	02 28 29.6 +0.1
	baz=42,SNR=11						
GMRC	Granite Mounta	41.89	94	⇑P		P	02 28 30.0 -0.2
	baz=42,SNR=14						
T14A	Hurricane	41.89	90	⇓P		P	02 28 30.3 0.0
	baz=42						
SRU	San Rafael	42.08	85	*e*P		P	02 28 31.8 0.0
SRU				pmax		pmax	
	comp=Z,8.0nm,0.7s,mb4.5						
SRU	San Rafael	42.08	85	*e*P		P	02 28 31.8 0.0
	comp=Z,7.6nm,0.7s,mb4.4						
V13A	Grand Canyon W	42.16	92	⇑P		P	02 28 32.5 +0.1
	baz=42,SNR=7.5						
BELC	Belle Mtn.	42.23	95	P		P	02 28 32.7 -0.3
	baz=42,SNR=6.2						
PFO	Pinyon Flat Ob	42.23	96	*e*P		P	02 28 32.7 -0.3
PFO				pmax		pmax	
	comp=Z,14nm,1.2s,mb4.5						
PFO	Pinyon Flat Ob	42.23	96	*e*P		P	02 28 32.7 -0.3
	comp=Z,14nm,1.2s,mb4.5						
PFO	Pinyon Flat Ob	42.23	96	P		P	02 28 33.0 0.0
	baz=42,SNR=7.6						
U14A	Mt Trumbull	42.26	90	⇑P		P	02 28 33.3 0.0
	baz=42,SNR=14						
T15A	Red Dirt Ranch	42.34	89	⇓P		P	02 28 34.0 +0.2
	baz=42,SNR=7.7						
109C	Camp Elliot, M	42.35	97	⇑P		P	02 28 34.0 0.0
	baz=42						
RWWY	Rawlins	42.42	80	*e*P		P	02 28 33.8 -0.7
	comp=Z,24nm,0.8s,mb4.9						
CN2	Changchun	42.56	284	*e*P		P	02 28 35.0 -0.6
CN2				*e*AP		pP	02 29 00.6 -4.1
CN2				*e*S		S	02 34 47.8 -0.4
CN2				AMB		AMB	
	comp=Z,10.0nm,0.7s,mb4.5						
CN2				AMB		AMB	
	comp=Z,200nm,3.0s						
CN2				LR		LR	
	comp=N,200nm,16.0s						
CN2				LR		LR	
	comp=E,200nm,16.0s						
CN2				LR		LR	
	comp=Z,200nm,19.0s						
IRM	Iron Mountain	42.62	94	⇓P		P	02 28 35.8 -0.4
	baz=42,SNR=9.4						
W13A	Hualapai Mount	42.73	92	⇑P		P	02 28 37.0 0.0
	baz=43,SNR=6.0						
MONP	Monument Peak	42.75	97	⇑P		P	02 28 37.3 0.0
	baz=43,SNR=6.5						
BC3	Big Chuckw Mtn	42.79	95	⇓P		P	02 28 37.0 -0.6
	baz=43						
RSSD	Black Hills	42.80	75	⇓*i*P		P	02 28 37.0 -0.5
RSSD				*e*			02 30 26.0
RSSD				pmax		pmax	
	comp=Z,14nm,0.6s,mb4.8						
RSSD	Black Hills	42.80	75	⇓*i*P		P	02 28 37.0 -0.5
	comp=Z,14nm,0.6s,mb4.8						
RSSD				*e*PcP		PcP	02 30 26.0 -0.3
RSSD				*e*ScP		ScP	02 34 05.7 +0.8
V14A	Boquillas Ranc	42.83	91	⇓P		P	02 28 37.8 -0.1
	baz=43,SNR=9.8						
SWSC	Sam W. Stewart	43.09	96	⇑P		P	02 28 39.1 -0.8
	baz=43						
DVTC	Desert V Tower	43.11	97	⇑P		P	02 28 39.4 -0.7
	baz=43						
X13A	Yucca	43.11	93	⇑P		P	02 28 39.9 -0.3
	baz=43						
PDMCI	Parker Dam,Lak	43.13	93	⇓P		P	02 28 39.8 -0.4
	baz=43						
W14A	Seligman	43.13	92	P		P	02 28 40.6 +0.3
	baz=43,SNR=8.5						
V15A	Kaibab Nationa	43.26	90	⇓P		P	02 28 41.8 +0.4
	baz=43,SNR=23						
Y12C	Blythe	43.28	94	⇑P		P	02 28 41.2 -0.3
	baz=43,SNR=8.4						
PV10	Paradox Valley	43.44	85	*e*P		P	02 28 42.8 0.0
PV10				*e*PcP		PcP	02 30 29.2 +0.6
GLA	Glamis	43.59	95	*e*P		P	02 28 43.3 -0.7
GLA				pmax		pmax	
	comp=Z,18nm,1.1s,mb4.6						
GLA	Glamis	43.59	95	*e*P		P	02 28 43.3 -0.7
	comp=Z,18nm,1.1s,mb4.6						
GLA	Glamis	43.59	95	⇓P		P	02 28 43.7 -0.3
	baz=44,SNR=9.1						
W15A	Williams	43.64	91	⇓P		P	02 28 44.4 0.0
	baz=44,SNR=6.3						
Y13A	Salome	43.65	94	⇑P		P	02 28 43.8 -0.6
	baz=44						
PHWY	Pilot Hill	43.69	79	*e*P		P	02 28 43.8 -1.0
X14A	Yava	43.76	92	⇑P		P	02 28 45.1 -0.2
	baz=44,SNR=12						
PV01	Paradox Valley	43.88	85	*e*P		P	02 28 45.8 -0.5
WUAZ	Wupatki	43.95	90	*e*P		P	02 28 47.0 +0.2
	comp=Z,14nm,0.9s,mb4.6						
WUAZ				*e*pP		pP	02 29 12.9 -3.2
WUAZ	Wupatki	43.95	90	⇑P		P	02 28 46.7 -0.2
	baz=44,SNR=9.8						
Y14A	Wickenburg	44.05	93	P		P	02 28 47.5 -0.2
	baz=44,SNR=7.7						
X15A	Humboldt	44.13	92	⇓P		P	02 28 47.8 -0.6
	baz=44						
W16A	Flagstaff	44.14	90	⇑P		P	02 28 48.6 +0.2
	baz=44,SNR=13						
SMCO	Snowmass	44.15	83	⇓*i*P		P	02 28 47.7 -0.7
	comp=Z,8.2nm,0.8s,mb4.4						
SMCO				*e*PcP		PcP	02 30 31.5 +0.5
SMCO				*e*ScP		ScP	02 34 12.0 +1.5
113A	Mohawk Valley,	44.42	95	P		P	02 28 50.3 -0.3
	baz=44,SNR=6.0						
Y15A	Casa Rosa Ranc	44.45	92	⇓P		P	02 28 50.7 -0.1
	baz=44,SNR=9.3						
MVCO	Mesa Verde	44.53	86	*e*P		P	02 28 50.9 -0.6
	comp=Z,7.4nm,0.7s,mb4.4						
MVCO	Mesa Verde	44.53	86	⇑P		P	02 28 50.8 -0.7
	baz=44,SNR=6.4						
ISCO	Idaho Springs	44.55	81	*e*P		P	02 28 52.0 +0.4
ISCO				pmax		pmax	
	comp=Z,6.0nm,0.8s,mb4.3						
ISCO	Idaho Springs	44.55	81	*e*P		P	02 28 52.0 +0.4
	comp=Z,6.1nm,0.8s,mb4.3						
X16A	Lo Mia Camp, P	44.66	91	⇓P		P	02 28 52.7 +0.2
	baz=45,SNR=5.8						
AGMN	Agassiz Refuge	44.93	65	⇓*i*P		P	02 28 53.5 -1.0
	comp=Z,54nm,0.8s,mb5.2						
Y16A	Circle Bar Ran	45.01	92	⇓P		P	02 28 55.2 0.0
	baz=45						
KSRS	Korea Array	45.12	275	P		P	02 28 54.9 -1.2
	comp=Z,1.8nm,0.8s,mb3.7,baz=59,slow=7.5,SNR=3.9						
KSRS				pP		pP	02 29 22.9 -2.6
	comp=Z,6.7nm,0.8s,baz=55,slow=7.3,SNR=9.3						
KSRS				PcP		PcP	02 30 34.6 +0.3
	comp=Z,9.8nm,0.6s,baz=70,slow=3.8,SNR=18						
KSRS				ScP		ScP	02 34 15.4 +0.9
	comp=Z,4.4nm,0.9s,baz=90,slow=4.1,SNR=6.4						
115A	Sonoran Desert	45.38	93	⇓P		P	02 28 58.1 -0.2
	baz=45,SNR=5.0						
Z16A	Peralta Trail,	45.41	92

comp=Z,26nm,0.5s,mb5.1
EYMN eScP ScP 02 34 25.4 +1.2
Y22C IRIS PASSCAL I 47.60 88 ⇓P P 02 29 15.5 0.0
baz=48
LPM Los Pinos Moun 47.61 87 eP **P 02 29 15.4 -0.2**
318A Bisbee 47.61 93 ⇑P **P 02 29 15.3 -0.3**
baz=48,SNR=15
219A White Tail Can 47.65 92 ⇓P **P 02 29 15.5 -0.4**
baz=48,SNR=15
BNM Barren Site 47.72 87 eP **P 02 29 16.7 +0.2**
BNM ePcP PcP 02 30 43.8 +0.2
319A Douglas 48.08 92 ⇑P **P 02 29 18.7 -0.6**
baz=48
DAG Danmarks Havn 48.75 9⇑iP **P 02 29 23.4 -0.4**
DAG pmax pmax
comp=Z,5.0nm,0.9s,mb4.1
DAG Danmarks Havn 48.75 9⇑iP **P 02 29 23.4 -0.4**
comp=Z,5.0nm,0.9s,mb4.1
COWI Conover 49.90 64⇓iP **P 02 29 31.9 -1.1**
comp=Z,37nm,0.5s,mb5.3
AMTX Amarillo 50.16 83 eP **P 02 29 34.0 -1.0**
comp=Z,11nm,0.6s,mb4.7
MNTX Cornudas Mount 50.19 89⇓iP **P 02 29 34.9 -0.4**
comp=Z,11nm,0.7s,mb4.6
ULN Ulaanbaatar 50.24 300 eP **P 02 29 34.7 -0.7**
ULN e pP 02 30 06.6 +1.2
ULN pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
ULN Ulaanbaatar 50.24 300 eP **P 02 29 34.6 -0.8**
comp=Z,5.5nm,0.5s,mb4.4
ULN e pP 02 30 06.6 +1.2
KSU1 Kansas State U 50.28 75 eP **P 02 29 33.9 -2.0**
comp=Z,17nm,0.5s,mb4.9
SCIA State Center 50.36 70 eP **P 02 29 35.7 -0.8**
comp=Z,45nm,0.6s,mb5.3
ZAK Zakamensk 50.56 304 eP **P 02 29 33.5 -4.3**
ZAK e 02 30 08.9
ZAK e 02 30 53.5
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
ZAK pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
ZAK pmax pmax
comp=Z,4.0nm,0.9s,mb4.0
SONM Songino Array 50.60 300 P **P 02 29 38.0 -0.1**
SONM 02 30 53.8
SONM Songino Array 50.60 300 P **P 02 29 38.0 -0.2**
comp=Z,2.0nm,0.5s,mb4.0,baz=66,slow=5.2,SNR=17
SONM pP pP 02 30 08.1 0.0
comp=Z,5.9nm,0.7s,baz=53,slow=8.0,SNR=13
SONM PcP PcP 02 30 53.8 0.0
comp=Z,6.5nm,0.9s,baz=41,slow=2.4,SNR=10.0
SONM pPcP 02 31 25.4
comp=Z,4.9nm,0.8s,baz=47,slow=1.9,SNR=7.1
SONM ScP ScP 02 34 38.3 +0.8
comp=Z,4.3nm,1.0s,baz=51,slow=4.2,SNR=12
MOY Mondy 50.86 307 eP **P 02 29 40.8 +0.8**
JFWS Jewell Farm 51.36 68⇓iP **P 02 29 41.8 -2.1**
JFWS pmax pmax
comp=Z,48nm,0.8s,mb5.2
JFWS Jewell Farm 51.36 68⇓iP **P 02 29 41.8 -2.1**
comp=Z,48nm,0.8s,mb5.2
WMOK Wichita Mounta 51.98 81⇓iP **P 02 29 47.8 -0.8**
WMOK pmax pmax
comp=Z,19nm,0.8s,mb4.8
WMOK Wichita Mounta 51.98 81⇓iP **P 02 29 47.8 -0.8**
comp=Z,19nm,0.8s,mb4.8
HHC Hu-ho-hao-te 52.38 290 eP **P 02 29 51.8 +0.3**
HHC AP pP 02 30 18.9 -2.7
HHC XP sP 02 30 30.8 -5.2
HHC PCP PcP 02 31 02.1 +1.5
HHC PP PP 02 31 51.6 +0.5
HHC S **S 02 37 07.5 +0.5**
HHC XS sS 02 37 53.6 -5.5
HHC SCS ScS 02 39 27.1 -0.8
HHC SS SS 02 40 43.6 -2.3
HHC AMB AMB
comp=Z,32nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,259nm,6.3s
HHC LR LR
comp=N,971nm,19.8s
HHC LR LR
comp=E,1µm,18.8s
HHC LR LR
comp=Z,405nm,15.5s
TXAR Lajitas Array 52.91 90 P **P 02 29 55.1 -0.4**
TXAR *PP pP 02 30 21.1 -4.7
TXAR *SP sP 02 30 34.3 -5.8
TXAR Lajitas Array 52.91 90 P **P 02 29 55.1 -0.4**
comp=Z,19nm,0.9s,mb4.8,baz=299,slow=5.2,SNR=96
TXAR pP pP 02 30 21.1 -4.7
comp=Z,8.4nm,0.8s,baz=299,slow=4.7,SNR=5.0
TXAR sP sP 02 30 34.3 -5.7
comp=Z,4.9nm,0.7s,baz=311,slow=5.8,SNR=2.8
TXAR LR LR 02 48 38.7
comp=Z,51nm,21.3s,baz=5.0,slow=32
GLMI Grayling 53.14 62 eP **P 02 29 56.1 -1.0**
comp=Z,88nm,0.9s,mb5.5
HDIL Hopedale 53.47 69⇓iP **P 02 29 57.9 -1.5**
comp=Z,85nm,0.8s,mb5.5
CCM Cathedral Cave 54.07 73⇓iP **P 02 30 01.3 -2.6**
CCM pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
CCM Cathedral Cave 54.07 73⇓iP **P 02 30 01.3 -2.6**
comp=Z,10nm,0.8s,mb4.6
NJ2 Nanjing 54.23 277 eP **P 02 30 06.8 +1.7**
NJ2 AP pP 02 30 32.1 -3.4
NJ2 XP sP 02 30 46.1 -3.7
NJ2 S **S 02 37 32.0 -0.3**
NJ2 XS sS 02 38 19.0 -5.6
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.0
NJ2 AMB AMB
comp=Z,420nm,11.2s
NJ2 LR LR
comp=N,6µm,21.1s
NJ2 LR LR
comp=E,3µm,22.0s
NJ2 LR LR
comp=Z,3µm,23.2s
JCT Junction City 54.39 86 eP **P 02 30 04.9 -1.4**
JCT pmax pmax
comp=Z,15nm,0.6s,mb4.9
JCT Junction City 54.39 86 eP **P 02 30 04.9 -1.4**
comp=Z,15nm,0.6s,mb4.9
FVM French Village 54.59 72⇓iP **P 02 30 05.7 -1.9**
FVM pmax pmax
comp=Z,28nm,0.6s,mb5.2
FVM French Village 54.59 72⇓iP **P 02 30 05.7 -2.0**
comp=Z,28nm,0.6s,mb5.2
SCHQ Schefferville 54.77 44 eP **P 02 30 06.8 -1.9**
comp=Z,52nm,1.5s,mb5.0
SCHQ ePcP PcP 02 31 09.2 -0.3
SCHQ Schefferville 54.77 44 P **P 02 30 07.5 -1.2**
comp=Z,14nm,0.8s,mb4.8,baz=314,slow=7.2,SNR=21
SCHQ PcP PcP 02 31 07.6 -1.9
comp=Z,7.5nm,0.7s,baz=263,slow=4.5,SNR=5.5
SCHQ LR LR 02 54 01.6
comp=Z,69nm,19.5s,baz=206,slow=36
MIAR Mount Ida 55.17 77⇓iP **P 02 30 10.5 -1.4**
MIAR pmax pmax
comp=Z,38nm,1.3s,mb5.0
MIAR Mount Ida 55.17 77⇓iP **P 02 30 10.5 -1.4**
comp=Z,38nm,1.3s,mb5.0
AAM Ann Arbor 55.37 64 eP **P 02 30 12.2 -1.0**
AAM pmax pmax
comp=Z,36nm,0.4s,mb5.5
AAM Ann Arbor 55.37 64 eP **P 02 30 12.2 -0.9**
comp=Z,36nm,0.4s,mb5.5
SIUC Southern Illin 55.46 72 eP **P 02 30 12.2 -1.7**
comp=Z,30nm,0.6s,mb5.2
PARMO Parma 55.89 73 eP **P 02 30 15.5 -1.5**
BLO Bloomington 55.97 69 eP **P 02 30 15.6 -1.9**
BLO pmax pmax
comp=Z,28nm,0.6s,mb5.3
BLO Bloomington 55.97 69 eP **P 02 30 15.6 -1.9**
comp=Z,28nm,0.6s,mb5.3
USIN University of 56.17 70 eP **P 02 30 17.5 -1.4**
comp=Z,119nm,0.9s,mb5.7
ZAA0 Zalesovo Array 56.51 317 eP **P 02 30 19.4 -1.7**
ZAA0 epP pP 02 30 53.0 +1.4
ZALV Zalesovo Beam 56.51 317 P **P 02 30 19.6 -1.5**
ZALV pP pP 02 30 51.8 +0.1
ZALV PcP PcP 02 31 15.3 -1.0
ZALV Zalesovo Beam 56.51 317 P **P 02 30 19.6 -1.5**
comp=Z,1.7nm,0.6s,mb4.1,baz=37,slow=7.6,SNR=7.2
ZALV pP pP 02 30 51.8 +0.1
comp=Z,4.5nm,0.6s,baz=30,slow=6.8,SNR=6.9
ZALV PcP PcP 02 31 15.3 -1.0
comp=Z,2.3nm,0.5s,baz=35,slow=5.4,SNR=4.2
ZAL Zalesovo 56.53 317 P **P 02 30 19.6 -1.6**
ZAL 02 31 15.3
ARCES ARCESS Array B 56.83 354 P **P 02 30 22.0 -1.1**
ARCES *PP pP 02 30 54.5 +0.8
ARCES 02 31 16.2
ARCES ARCESS Array B 56.83 354 P **P 02 30 22.0 -1.1**
ARCES pP pP 02 30 54.5 +0.7
ARCES PcP PcP 02 31 16.2 -1.0
ARCES LR LR 02 54 26.9
ARCES ARCESS Array B 56.83 354 P **P 02 30 22.0 -1.1**
comp=Z,5.2nm,0.9s,mb4.4,baz=23,slow=8.8,SNR=8.6
ARCES pP pP 02 30 54.5 +0.8
comp=Z,6.1nm,0.8s,baz=34,slow=8.8,SNR=3.1
ARCES PcP PcP 02 31 16.2 -1.0
comp=Z,6.4nm,0.5s,baz=12,slow=4.6,SNR=20
ARCES LR LR 02 54 26.9
comp=Z,75nm,18.6s,baz=239,slow=35
ACSO Alum Creek Sta 57.17 65 eP **P 02 30 24.9 -1.1**
comp=Z,38nm,0.8s,mb5.3
ACSO ePcP PcP 02 31 18.7 -0.4
ERPA Erie 57.45 62 eP **P 02 30 27.1 -0.8**
comp=Z,74nm,1.0s,mb5.5
OXF Oxford 57.62 75 eP **P 02 30 27.3 -1.9**
OXF pmax pmax
comp=Z,117nm,0.9s,mb5.7
OXF Oxford 57.62 75 eP **P 02 30 27.3 -1.9**
comp=Z,117nm,0.9s,mb5.7
ALLY Alegheny Colle 57.70 62 eP **P 02 30 29.1 -0.6**
comp=Z,192nm,1.0s,mb5.9
MSNY Massena 58.05 56 eP **P 02 30 31.1 -1.0**
PLAL Pickwick Lake 58.05 73 eP **P 02 30 30.3 -1.9**
comp=Z,24nm,0.6s,mb5.2
LONY Lake Ozonia 58.45 57 eP **P 02 30 33.4 -1.5**
comp=Z,46nm,0.7s,mb5.4
FRNY Flat Rock 58.79 56 eP **P 02 30 35.4 -1.8**
comp=Z,37nm,0.9s,mb5.2
SWET Sewanee 59.10 72 eP **P 02 30 36.8 -2.7**
NCB Newcomb 59.10 57 eP **P 02 30 38.5 -0.9**
comp=Z,40nm,0.6s,mb5.4
NCB ePcP PcP 02 31 26.5 -0.1
MCWV Mont Chateau 59.28 64⇓iP **P 02 30 39.8 -0.8**
comp=Z,69nm,0.7s,mb5.6
BINY Binghamton 59.48 59⇓iP **P 02 30 41.6 -0.4**
comp=Z,86nm,0.8s,mb5.6
TZTN Tazewell 59.48 69⇓iP **P 02 30 40.8 -1.3**
comp=Z,19nm,0.8s,mb5.0
SSPA Standing Stone 59.62 62 eP **P 02 30 42.1 -0.9**
comp=Z,61nm,0.7s,mb5.5
SSPA ePcP PcP 02 31 28.5 -0.2
CPCT Cooper Cave 59.73 70 eP **P 02 30 41.9 -1.9**
ACCN Adirondack Com 59.80 57⇓iP **P 02 30 43.4 -0.8**
comp=Z,21nm,0.8s,mb5.0
TKL Tuckaleechee C 60.00 70⇓iP **P 02 30 43.9 -1.7**
LZH Lanzhou 60.03 291 eP **P 02 30 45.6 -0.2**
LZH AP pP 02 31 16.6 -0.1
LZH XP sP 02 31 25.0 -5.9
LZH PCP PcP 02 31 30.5 0.0
LZH PP PP 02 33 02.1 +2.8
LZH eS **S 02 38 47.0 -1.1**
LZH SS SS 02 42 47.0 +0.7
LZH AMB AMB
comp=Z,28nm,1.5s,mb4.9
LZH AMB AMB
comp=Z,60nm,4.4s
LBNH Lisbon 60.05 55 eP **P 02 30 44.5 -1.3**
LBNH pmax pmax
comp=Z,22nm,0.8s,mb5.0
LBNH Lisbon 60.05 55 eP **P 02 30 44.5 -1.3**
comp=Z,22nm,0.8s,mb5.0
ELN Prospectdale 60.54 66 eP **P 02 30 48.3 -1.0**
PKME Peaks-Kenny Pk 60.57 53 eP **P 02 30 48.1 -1.3**
comp=Z,194nm,1.8s,mb5.6
BLA Blacksburg 60.73 66⇓iP **P 02 30 50.0 -0.6**
BLA pmax pmax
comp=Z,61nm,0.7s,mb5.5
BLA Blacksburg 60.73 66⇓iP **P 02 30 50.0 -0.6**
comp=Z,61nm,0.7s,mb5.5
MVL Millersville 60.88 61 eP **P 02 30 50.4 -1.1**
comp=Z,31nm,0.8s,mb5.2
MVL ePcP PcP 02 31 33.7 -0.1
SDMD Soldier's Deli 61.06 62⇓iP **P 02 30 51.6 -1.1**
comp=Z,48nm,0.8s,mb5.4
PAL Palisades 61.42 59 eP **P 02 30 54.4 -0.8**
PAL e 02 31 35.6
PAL pmax pmax
comp=Z,56nm,0.8s,mb5.5
PAL Palisades 61.42 59 eP **P 02 30 54.4 -0.8**
comp=Z,56nm,0.8s,mb5.4
PAL ePcP PcP 02 31 35.6 -0.4
KURK Kurchatov 61.45 318 P **P 02 30 55.9 +0.7**
comp=Z,58nm,1.1s,mb5.3,SNR=7.4
KURK Kurchatov 61.45 318⇓iP **P 02 30 54.7 -0.5**
KURK e pP 02 31 27.4 +1.1
KURK pmax pmax
comp=Z,23nm,0.8s,mb5.1
KURK Kurchatov 61.45 318⇓iP **P 02 30 54.7 -0.5**
comp=Z,23nm,0.8s,mb5.0
KURK e pP 02 31 27.4 +1.2
CPNY Central Park 61.55 59 eP **P 02 30 55.8 -0.3**
comp=Z,43nm,0.8s,mb5.3
CBN Corbin 61.66 63 eP **P 02 30 56.2 -0.6**
comp=Z,20nm,0.3s,mb5.4
GOGA Godfrey 61.81 71⇓iP **P 02 30 55.9 -2.0**
GOGA pmax pmax
comp=Z,26nm,0.8s,mb5.1
GOGA Godfrey 61.81 71⇓iP **P 02 30 55.9 -2.0**
comp=Z,26nm,0.8s,mb5.1
URVA University of 62.03 64 eP **P 02 30 58.6 -0.8**
SVE Sverdlovsk 62.65 332 eP **P 02 31 03.9 +0.8**
SVE e 02 40 43.3
SVE eSSS 02 46 14.0
SVE pmax pmax
comp=Z,53nm,0.9s,mb5.4
SVE MLR MLR
comp=Z,364nm,22.0s
BVAR Borovoye Array 62.72 324 P **P 02 31 04.0 +0.3**
comp=Z,7.5nm,0.6s,mb4.7,baz=53,slow=6.1,SNR=44
BVAR pP pP 02 31 33.8 -1.0
comp=Z,19nm,0.8s,baz=53,slow=7.6,SNR=11
WMQ Urumqi 62.73 307 P **P 02 31 04.6 +0.7**
WMQ AP pP 02 31 31.6 -3.4
WMQ XP sP 02 31 44.6 -4.5
WMQ PP PP 02 33 25.6 +2.7
WMQ S **S 02 39 22.6 +0.5**
WMQ SS SS 02 43 31.6 +3.5
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,74nm,6.0s
WMQ LR LR
comp=N,98nm,16.0s
WMQ LR LR
comp=E,87nm,16.0s
WMQ LR LR
comp=Z,112nm,16.0s
BRVK Borovoye 62.73 324 P **P 02 31 04.4 +0.7**
comp=Z,64nm,0.5s,mb5.7,SNR=5.2
BRVK Borovoye 62.73 324⇓iP **P 02 31 03.8 +0.1**
BRVK e pP 02 31 36.5 +1.6
BRVK pmax pmax
comp=Z,9.0nm,0.8s,mb4.7
BRVK Borovoye 62.73 324⇓iP **P 02 31 03.8 0.0**
comp=Z,9.5nm,0.8s,mb4.7
BRVK e pP 02 31 36.5 +1.7
JOF Joensuu 62.81 349 ep **P 02 31 03.2 -0.9**
comp=Z,2.9nm,0.4s,mb4.5
MK31 Makanchi Array 62.94 313 eP **P 02 31 04.1 -1.1**
MK31 e pP 02 31 37.1 +0.8
MKAR Makanchi Array 62.94 313 P **P 02 31 04.5 -0.7**
comp=Z,6.2nm,0.8s,mb4.5,baz=50,slow=6.0,SNR=42
MKAR pP pP 02 31 36.4 0.0
comp=Z,9.3nm,0.8s,baz=70,slow=17,SNR=13
ZRNK Zerenda 63.27 325 iP **P 02 31 07.2 -0.1**
ZRNK pmax pmax
comp=Z,16nm,0.7s,mb5.0
COW Cow Castle Cre 63.39 69 eP **P 02 31 07.9 -0.5**
ARU Arti 63.58 332ciP **P 02 31 09.3 +0.1**
ARU e pP 02 31 41.4 +0.9
ARU e 02 33 26.6
ARU eS **S 02 39 33.7 +1.5**
ARU eSS SS 02 43 42.4 +1.7
ARU pmax pmax
comp=Z,26nm,1.2s,mb4.9
ARU Arti 63.58 332 eP **P 02 31 08.9 -0.3**
comp=Z,27nm,1.3s,mb4.9
ARU ePcP PcP 02 31 42.3 -2.2
CD2 Chengdu 63.88 287 eP **P 02 31 11.3 -0.3**
CD2 AP pP 02 31 38.3 -4.6
CD2 XP sP 02 31 50.9 -6.0
CD2 PP PP 02 33 34.3 +1.0
CD2 S **S 02 39 35.8 -0.9**
CD2 XS sS 02 40 23.0 -7.5
CD2 SS SS 02 43 47.3 +0.6
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
CD2 AMB AMB
comp=Z,40nm,9.2s
NHSC New Hope 63.88 69 eP **P 02 31 11.2 -0.5**
comp=Z,152nm,0.9s,mb5.8
FINES FINESS Array B 64.77 352 P **P 02 31 15.8 -1.2**
FINES *PP pP 02 31 48.8 +0.5
FINES FINESS Array B 64.77 352 P **P 02 31 15.8 -1.2**
FINES pP pP 02 31 48.8 +0.5
FINES LR LR 02 59 04.9
FINES FINESS Array B 64.77 352 P **P 02 31 15.8 -1.2**
comp=Z,6.3nm,0.9s,mb4.5,baz=18,slow=6.1,SNR=18
FINES pP pP 02 31 48.8 +0.5
comp=Z,5.1nm,0.7s,baz=26,slow=9.1,SNR=5.2
FINES LR LR 02 59 04.9
comp=Z,72nm,21.7s,baz=5.1,slow=35
GYA Guiyang 65.53 282⇑iP **P 02 31 22.8 +0.4**
GYA AP pP 02 31 50.3 -3.5
GYA PCP PcP 02 31 53.8 +0.7
GYA XP sP 02 32 02.8 -5.0
GYA PP PP 02 33 49.8 +1.9
GYA SCP 02 35 45.3
GYA PCS 02 35 56.8
GYA S S 02 39 56.6 -0.4
GYA PS 02 40 33.4
GYA SKS 02 41 03.6
GYA SS SS 02 44 13.1 +0.5
GYA AMB AMB
comp=Z,20nm,1.0s,mb4.9
GYA AMB AMB
comp=Z,130nm,5.2s
GYA LR LR
comp=N,590nm,19.8s
GYA LR LR
comp=E,470nm,20.3s
GYA LR LR
comp=Z,560nm,19.7s
NB2 NORSAR Subarra 65.86 360 P **P 02 31 23.6 -0.3**
comp=Z,0.4nm,0.6s,mb3.4,baz=2.2,slow=6.5
NOA NORSAR Array B 65.86 360 P **P 02 31 23.8 -0.1**
NOA *PP pP 02 31 56.0 +0.7
NOA NORSAR Array B 65.86 360 P **P 02 31 23.8 -0.2**
comp=Z,4.5nm,0.8s,mb4.3,baz=0.3,slow=6.3,SNR=18
NOA pP pP 02 31 56.0 +0.7
comp=Z,6.8nm,0.8s,baz=0.5,slow=6.3,SNR=7.2
NOA LR LR 03 02 54.8
comp=Z,25nm,18.1s,baz=330,slow=38
ORE Reay 67.78 8 eP **P 02 31 35.7 -0.4**
MCD Coleburn Disti 68.77 8 eP **P 02 31 42.2 -0.1**
KMI Kunming 68.83 284 P **P 02 31 43.6 +0.3**
KMI AP pP 02 32 11.1 -3.8
KMI XP sP 02 32 23.6 -5.3
KMI PP PP 02 34 18.1 +1.6
KMI S S 02 40 39.4 +2.8
KMI XS sS 02 41 23.8 -7.4
KMI SS SS 02 45 03.9 +0.3
KMI AMB AMB
comp=Z,8.0nm,1.2s,mb4.3
KMI AMB AMB
comp=Z,202nm,8.6s
KMI LR LR
comp=N,362nm,13.3s
KMI LR LR
comp=E,279nm,15.5s
TKM2 Tokmak 2 68.91 314 eP **P 02 31 42.5 -0.9**
TKM2 e*PP pP 02 32 17.1 +2.0
TKM2 pmax pmax
comp=Z,3.0nm,0.7s,mb4.1
TKM2 Tokmak 2 68.91 314 eP **P 02 31 42.5 -0.9**
comp=Z,3.3nm,0.7s,mb4.2
TKM2 epP pP 02 32 17.1 +2.0
AKTO Aktyubinsk 68.99 330 iP **P 02 31 43.4 -0.4**
USP Ospenovka 69.09 315 P **P 02 31 44.8 +0.2**
SNR=7.7
FRU Bishkek 69.40 315 eP **P 02 31 47.0 +0.5**
KBK Karagaybulak 69.40 315 P **P 02 31 47.0 +0.5**
SNR=6.0
OBN Obninsk 69.66 344⇓iP **P 02 31 46.8 -1.0**
OBN e pP 02 32 18.2 -1.3
OBN pmax pmax
comp=Z,26nm,1.2s,mb4.8
KZA Kyzart 69.74 314 P **P 02 31 49.5 +0.9**
SNR=5.5
EKS2 Erkin-Say 69.89 315 eP **P 02 31 49.5 0.0**
comp=Z,8.3nm,0.8s,mb4.5
EKS2 Erkin-Say 69.89 315 P **P 02 31 50.0 +0.5**
SNR=8.2
UCH Uchtor 69.94 315 eP **P 02 31 49.9 +0.1**
comp=Z,2.4nm,0.6s,mb4.1
EAB Aberfoyle 70.06 9 eP **P 02 31 50.5 +0.2**
EBH Black Hill 70.08 8⇑eP **P 02 31 50.6 +0.2**
AML Almayashu 70.36 315 eP **P 02 31 52.8 +0.5**
comp=Z,5.4nm,0.7s,mb4.4
AML e pP 02 32 27.0 +2.8
AML Almayashu 70.36 315 P **P 02 31 53.3 +0.9**
SNR=5.7
EAU Auchinoon 70.48 8⇑eP **P 02 31 53.3 +0.5**
PMOR Pomariorio Ree 70.69 158 eT 03 48 31.3
comp=Z,3.6nm,0.2s
KK31 Karatay Array 70.87 318 iP **P 02 31 54.7 -0.7**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.0
XSO Sourhope Farm 70.93 8⇑eP **P 02 31 55.7 +0.2**
ESK Eskdalemuir 71.02 8 eP **P 02 31 56.4 +0.2**
ESK AMb AMB 02 32 06.2
comp=Z,27nm,1.9s,mb4.7
ESK Eskdalemuir 71.02 8 eP **P 02 31 55.8 -0.3**
ESK pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
ESK Eskdalemuir 71.02 8 eP **P 02 31 55.8 -0.3**
comp=Z,6.9nm,0.7s,mb4.5
GAL1 Galloway 71.33 9 eP **P 02 31 58.0 0.0**
GAL1 eP 02 31 58.0
GAL1 AMb AMB 02 32 01.0
comp=Z,49nm,1.8s,mb4.9
XAL Allendale 71.56 8 eP **P 02 31 60.0 +0.6**
LSA Lhasa 71.82 295 eP **P 02 32 01.6 +0.2**
LSA pmax pmax
comp=Z,12nm,0.7s,mb4.7
LSA Lhasa 71.82 295 eP **P 02 32 01.6 +0.2**
comp=Z,12nm,0.7s,mb4.7
SUW Suwalki 72.38 352 eP **P 02 32 03.7 -0.5**
SUW e pP 02 32 36.9 +0.7
SUW Suwalki 72.38 352 eP **P 02 32 03.7 -0.6**
SUW e pP 02 32 36.9 +0.7
HPK Haverah Park 72.50 7 eP **P 02 32 05.3 +0.3**
HPK AMb AMB 02 32 12.3
comp=Z,68nm,1.9s,mb5.0
PPT Papeete 72.81 160 eLR LR 02 54 04.7
comp=Z,245nm,32.0s
LHO Holmfirth 72.89 8 eP **P 02 32 07.3 0.0**
KBI1 Birley Grange 73.21 7 eP **P 02 32 09.1 0.0**
SBD1 Bryn Du 73.41 9 eP **P 02 32 10.6 +0.2**
KWE Weaver Farm 73.42 8 eP **P 02 32 09.7 -0.8**
CWF Charnwood Fore 73.74 7 eP **P 02 32 12.1 -0.2**
CWF AMb AMB 02 32 15.2
comp=Z,70nm,1.9s,mb5.0
HTR Trewern Hill 74.23 9 eP **P 02 32 15.3 +0.1**
AKASG Malin Array Be 75.01 348 P **P 02 32 18.2 -1.5**
comp=Z,11nm,0.6s,mb4.7,baz=16,slow=5.7,SNR=32
AKASG pP pP 02 32 50.8 -1.1
comp=Z,4.4nm,0.6s,baz=11,slow=5.6,SNR=3.6
AKASG LR LR 03 07 32.5
comp=Z,63nm,21.9s,baz=60,slow=37
AKBB Malin Array Si 75.01 348 eP **P 02 32 18.5 -1.2**
AKBB e*PP pP 02 32 42.4 -9.4
AKBB e*PP pP 02 32 51.8 0.0
KIEV Kiev 75.02 348 eP **P 02 32 18.2 -1.5**

KIEV *e*PP pP 02 32 42.5 -9.4
KIEV *e*SP sP 02 32 51.6 -14
KIEV pmax pmax
comp=Z,19nm,1.0s,mb4.7
KIEV Kiev 75.02 348 *e*P **P 02 32 18.2 -1.6**
comp=Z,19nm,1.0s,mb4.7
KIEV *e*pP pP 02 32 42.5 -9.3
KIEV *e*sP sP 02 32 51.6 -14
CLZ Clausthal 75.08 360 *e*P **P 02 32 20.4 +0.3**
CLZ *e**PP pP 02 32 53.9 +1.7
CLZ pmax pmax
comp=Z,13nm,0.9s,mb4.6
CLZ Clausthal 75.08 360 *e*P **P 02 32 20.4 +0.3**
comp=Z,13nm,0.9s,mb4.6
CLZ *e*pP pP 02 32 53.9 +1.7
CLL Collm 75.59 358 ⇓*i*P **P 02 32 22.9 -0.1**
CLL pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
CLL MLR MLR
comp=Z,1μm,20.4s
CLL Collm 75.59 358 ⇓*i*P **P 02 32 22.9 -0.1**
comp=Z,6.0nm,0.7s,mb4.3
CLL *i* pP pP 02 32 55.9 +0.7
CLL LR LR
comp=Z,1μm,20.4s
CLL Collm 75.59 358 *e*P **P 02 32 22.7 -0.3**
comp=Z,6.0nm,0.7s,mb4.3
CLL Collm 75.59 358 ⇓*i*P **P 02 32 22.9 -0.1**
comp=Z,6.0nm,0.7s,mb4.3
CLL *i* pP pP 02 32 55.9 +0.7
KKM Kota Kinabalu 75.73 261 *e*P **P 02 32 24.2 -0.1**
CHTO Chiang Mai 75.93 283 *e*P **P 02 32 24.6 -0.8**
CHTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
CHTO Chiang Mai 75.93 283 *e*P **P 02 32 24.6 -0.8**
comp=Z,2.4nm,0.6s,mb4.0
FBE Freiberg 75.97 358 *e*P **P 02 32 26.0 +0.8**
comp=Z,9.0nm,0.8s,mb4.5
BRG Berggiesshubel 76.01 358 *e*P **P 02 32 25.4 0.0**
BRG pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
BRG Berggiesshubel 76.01 358 *e*P **P 02 32 25.3 -0.1**
comp=Z,7.0nm,0.8s,mb4.3
BRG Berggiesshubel 76.01 358 *e*P **P 02 32 25.4 +0.1**
comp=Z,6.8nm,0.8s,mb4.3
GUN Gumba 76.06 298 *e*P **P 02 32 25.7 -0.3**
comp=Z,31nm,0.5s,mb5.2
JIRN Jiri 76.09 298 *e*P **P 02 32 26.1 -0.1**
comp=Z,41nm,0.7s,mb5.2
CM31 Chiang Mai Arr 76.21 282 *e*P **P 02 32 26.7 -0.3**
comp=Z,22nm,0.6s,mb5.0
MEM Membach 76.25 3 P **P 02 32 25.8 -0.9**
MEM AP pP 02 32 53.8 -5.2
MOX Moxa 76.28 359 *e*P **P 02 32 27.2 +0.3**
MOX pmax pmax
comp=Z,13nm,1.3s,mb4.4
MOX Moxa 76.28 359 *e*P **P 02 32 27.2 +0.3**
comp=Z,8.0nm,0.9s,mb4.3
MOX *e*pP pP 02 33 00.1 +1.0
UPC Upice 76.31 356 *e*P **P 02 32 27.4 +0.3**
UPC *e*pP pP 02 33 00.8 +1.5
OJC Ojcow 76.40 354 *e*P **P 02 32 27.9 +0.3**
DPC Dobruska-Polom 76.45 356 *e*P **P 02 32 28.6 +0.7**
DPC *e*pP pP 02 33 00.9 +0.8
LVV L'vov 76.46 351 *i* P **P 02 32 27.5 -0.4**
WERD Werda 76.46 359 *e*P **P 02 32 28.1 +0.2**
comp=Z,11nm,1.4s,mb4.3
KKN Kakani 76.47 298 *e*P **P 02 32 28.0 -0.4**
TANN Tannenbergstha 76.50 359 *e*P **P 02 32 28.2 +0.1**
comp=Z,6.0nm,1.2s,mb4.1
GUNZ Gunzen 76.55 359 *e*P **P 02 32 28.9 +0.5**
comp=Z,8.0nm,0.9s,mb4.3
PKI Pulchoki 76.58 298 *e*P **P 02 32 28.3 -0.7**
comp=Z,32nm,1.0s,mb4.9
WERN Wernitzgruen 76.62 359 *e*P **P 02 32 29.3 +0.5**
comp=Z,8.0nm,0.9s,mb4.3
GKN Gorkha 76.63 299 *e*P **P 02 32 28.6 -0.7**
comp=Z,38nm,0.7s,mb5.1
DMN Daman 76.70 298 *e*P **P 02 32 29.2 -0.5**
comp=Z,26nm,1.0s,mb4.8
DOU Dourbes 76.72 4 P **P 02 32 29.4 0.0**
BAIF Baives 76.74 4 *e*P **P 02 32 29.5 0.0**
comp=Z,11nm,0.7s,mb4.3
BAIF Baives 76.74 4 *e*P **P 02 32 29.5 0.0**
BAIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BAIF Baives 76.74 4 *e*P **P 02 32 29.5 0.0**
comp=Z,5.7nm,0.7s,mb4.3
KWP Kalwaria 76.76 352 *e*P **P 02 32 29.9 +0.3**
KWP *e* pP 02 33 03.7 +1.8
KWP Kalwaria 76.76 352 ⇓*i*P **P 02 32 30.1 +0.5**
DANN Dangsing 76.81 300 *e*P **P 02 32 30.2 -0.1**
comp=Z,72nm,0.7s,mb5.4
PRU Pruhonice 76.88 357 *e*P **P 02 32 30.6 +0.3**
OKC Ostrava-Krasne 76.88 355 *e*P **P 02 32 29.6 -0.7**
MANZ Manzenberg 76.93 359 *e*P **P 02 32 31.0 +0.4**
comp=Z,6.0nm,1.2s,mb4.1
MORC Moravsky Berou 76.97 355 *e*P **P 02 32 30.6 -0.2**
comp=Z,6.4nm,0.8s,mb4.3
MORC Moravsky Berou 76.97 355 ⇓*i*P **P 02 32 31.3 +0.5**
STHS Stebnicka Huta 77.09 353 *i* P **P 02 32 32.8 +1.3**
STHS pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
STHS Stebnicka Huta 77.09 353 *i* P **P 02 32 32.8 +1.3**
comp=Z,8.3nm,0.8s,mb4.4
STHS *e* pP 02 33 06.2 +2.4
ROTZ Rotzenmuhle 77.15 359 *e*P **P 02 32 32.1 +0.3**
comp=Z,6.0nm,1.0s,mb4.2
NIE Niedzica 77.16 353 *e*P **P 02 32 32.5 +0.6**
WLF Walferdange 77.20 3 P **P 02 32 33.7 +1.6**
WLF AP pP 02 33 01.0 -3.4
GRA1 Grafenberg Arr 77.23 359 *e*P **P 02 32 33.0 +0.7**
comp=Z,12nm,0.8s,mb4.6
GRA1 *e*pP pP 02 33 06.2 +1.6
GRF Grafenberg Arr 77.23 359 *e*P **P 02 32 33.0 +0.7**
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.6
GRF Grafenberg Arr 77.23 359 *e*P **P 02 32 33.0 +0.7**
GRF pmax pmax
comp=Z,12nm,0.8s,mb4.6
GRF Grafenberg Arr 77.23 359 *e*P **P 02 32 33.0 +0.7**
comp=Z,12nm,0.8s,mb4.6
GRF *e*pP pP 02 33 06.2 +1.6
GRFO Grafenberg 77.23 359 *e*P **P 02 32 33.2 +0.9**
GRFO pmax pmax
comp=Z,73nm,0.8s,mb5.4
GRFO Grafenberg 77.23 359 *e*P **P 02 32 33.2 +0.9**
comp=Z,10.0nm,0.8s,mb4.5
GRFO *e*pP pP 02 33 06.5 +1.9
KOLN Koldanda 77.36 300 *e*P **P 02 32 32.8 -0.6**
comp=Z,28nm,0.8s,mb4.9
VRAC Vranov 77.48 356 ⇓*i*P **P 02 32 34.2 +0.5**
KOLS Kolonicke sedl 77.49 352 *e*P **P 02 32 34.0 +0.3**
KOLS *e*pP pP 02 33 08.6 +2.6
TREC Trest 77.54 357 *e*P **P 02 32 34.1 +0.1**
CRVS Cervenica-Dubn 77.59 353 *e*P **P 02 32 34.4 +0.1**
CRVS *e*pP pP 02 33 06.4 -0.2
KHC Kasperske Hory 77.76 358 *e*P **P 02 32 35.9 +0.7**
KHC *e* 02 32 40.5
KHC Kasperske Hory 77.76 358 *e*P **P 02 32 35.9 +0.7**
KHC *ex* x 02 32 40.5
KHC *e*pP pP 02 33 09.3 +1.8
WET Wettzell 77.76 358 *e*P **P 02 32 35.6 +0.4**
WET pmax pmax
comp=Z,28nm,2.1s,mb4.5
WET Wettzell 77.76 358 *e*P **P 02 32 35.6 +0.4**
comp=Z,28nm,2.1s,mb4.5
ROSF Rostrenen 77.94 9 *e*P **P 02 32 36.3 +0.1**
LDF La Druitiere 77.95 7 *e*P **P 02 32 35.7 -0.5**
comp=Z,12nm,0.5s,mb4.5
LDF La Druitiere 77.95 7 *e*P **P 02 32 35.7 -0.5**
LDF pmax pmax
comp=Z,6.0nm,0.5s,mb4.5
LDF La Druitiere 77.95 7 *e*P **P 02 32 35.7 -0.5**
comp=Z,6.0nm,0.5s,mb4.5
GEC2 GERESS Array S 78.04 358 *e*P **P 02 32 37.1 +0.3**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
GEC2 GERESS Array S 78.04 358 *e*P **P 02 32 37.1 +0.3**
comp=Z,7.0nm,1.0s,mb4.2
GERES GERESS Array B 78.04 358 P **P 02 32 36.7 -0.1**
comp=Z,4.1nm,0.7s,mb4.2,baz=3.3,slow=4.7,SNR=25
GERES pP pP 02 33 09.3 +0.2
comp=Z,1.2nm,0.7s,baz=357,slow=6.9,SNR=2.6
SGMF Saint Gilles 78.08 9 *e*P **P 02 32 37.2 +0.2**
comp=Z,41nm,1.0s,mb4.7
SGMF Saint Gilles 78.08 9 *e*P **P 02 32 37.2 +0.2**
SGMF pmax pmax
comp=Z,20nm,1.0s,mb4.7
SGMF Saint Gilles 78.08 9 *e*P **P 02 32 37.2 +0.2**
comp=Z,20nm,1.0s,mb4.7
GRR Gorron 78.09 8 *e*P **P 02 32 36.7 -0.4**
KOLL Kolacno 78.12 355 *e*P **P 02 32 37.9 +0.7**
STU Stuttgart 78.15 1 *e*P **P 02 32 37.5 +0.1**
comp=Z,7.0nm,0.6s,mb4.5
VYHS Vyhne 78.18 354 *e*P **P 02 32 38.1 +0.6**
VYHS pmax pmax
comp=Z,6.0nm,1.0s,mb4.2
VYHS Vyhne 78.18 354 *e*P **P 02 32 38.1 +0.6**
comp=Z,5.7nm,1.0s,mb4.2
VYHS *e* pP 02 33 10.8 +0.9
TRPA Tarpa 78.27 352 ⇑*i*P **P 02 32 38.2 +0.2**
MEZF Maizieres J'vi 78.33 4 *e*P **P 02 32 38.4 +0.1**
comp=Z,17nm,1.0s,mb4.3
MEZF Maizieres J'vi 78.33 4 *e*P **P 02 32 38.4 +0.1**
comp=Z,17nm,1.0s,mb4.6
MODS Modra-Piesok 78.38 355 *e*P **P 02 32 39.6 +0.9**
MODS *e*pP pP 02 33 11.8 +0.8
CDF Champ du Feu 78.48 2 *e*P **P 02 32 39.2 0.0**
comp=Z,7.7nm,0.6s,mb4.2
CDF Champ du Feu 78.48 2 *e*P **P 02 32 39.2 0.0**
CDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
CDF Champ du Feu 78.48 2 *e*P **P 02 32 39.2 0.0**
comp=Z,3.8nm,0.6s,mb4.2
BURAR Bucovina Array 78.52 350 ⇓*i*P **P 02 32 39.5 +0.1**
ZST Bratislava 78.57 355 *e*P **P 02 32 40.7 +1.0**
ZST pmax pmax
comp=Z,14nm,0.8s,mb4.6
ZST Bratislava 78.57 355 *e*P **P 02 32 40.7 +1.0**
comp=Z,14nm,0.8s,mb4.6
BFO Black Forest 78.58 1 *e*P **P 02 32 39.9 +0.1**
BFO pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
BFO Black Forest 78.58 1 *e*P **P 02 32 39.9 +0.1**
comp=Z,6.0nm,0.7s,mb4.3
PSZ Piszkesteto 78.68 353 *e*P **P 02 32 40.7 +0.4**
PSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
PSZ Piszkesteto 78.68 353 *e*P **P 02 32 40.7 +0.4**
comp=Z,7.2nm,0.9s,mb4.3
KBL Kabul 78.71 314 *e*P **P 02 32 39.6 -1.1**
KBL *e* pP 02 33 09.4 -3.7
KBL pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
KBL Kabul 78.71 314 *e*P **P 02 32 39.6 -1.1**
comp=Z,4.9nm,0.6s,mb4.3
KBL *e* pP 02 33 09.4 -3.7
HAU Haudompre 78.86 3 *e*P **P 02 32 41.2 -0.1**
comp=Z,22nm,0.9s,mb4.5
HAU Haudompre 78.86 3 *e*P **P 02 32 41.2 -0.1**
HAU pmax pmax
comp=Z,11nm,0.9s,mb4.5
HAU Haudompre 78.86 3 *e*P **P 02 32 41.2 -0.1**
comp=Z,11nm,0.9s,mb4.5
CONA Conrad Observa 78.89 356 *i* P **P 02 32 42.4 +0.9**
comp=Z,13nm,0.7s,mb4.6,SNR=18
CSNA Conrad Observa 78.89 356 ⇓*i*P **P 02 32 42.3 +0.9**
comp=Z,11nm,0.7s,mb4.6
HINF Hinteralfeld 79.07 2 *e*P **P 02 32 42.2 -0.2**
comp=Z,12nm,0.7s,mb4.3
HINF Hinteralfeld 79.07 2 *e*P **P 02 32 42.2 -0.2**
HINF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
HINF Hinteralfeld 79.07 2 *e*P **P 02 32 42.2 -0.2**
comp=Z,6.3nm,0.7s,mb4.3
KIV Kislovodsk 79.08 337 ⇓*i*P **P 02 32 43.3 +0.7**
KIV pmax pmax
comp=Z,19nm,1.0s,mb4.7
KIV Kislovodsk 79.08 337 *e*P **P 02 32 43.0 +0.4**
comp=Z,19nm,1.0s,mb4.7
KIV Kislovodsk 79.08 337 ⇓*i*P **P 02 32 43.5 +0.9**
ANN Anapa 79.42 341 *e*P **P 02 32 43.9 -0.5**
ANN pmax pmax
comp=Z,23nm,0.9s,mb4.8
LOR Lormes 79.51 4 *e*P **P 02 32 44.7 -0.1**
comp=Z,17nm,0.9s,mb4.4
LOR Lormes 79.51 4 *e*P **P 02 32 44.7 -0.1**
LOR pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
LOR Lormes 79.51 4 *e*P **P 02 32 44.7 -0.1**
comp=Z,8.6nm,0.9s,mb4.4
ARSA Arzberg 79.58 356 ⇓*i*P **P 02 32 46.1 +0.9**
comp=Z,8.8nm,0.7s,mb4.5
DRGR 79.58 351 ⇓*i*P **P 02 32 44.9 -0.3**
MOTA Moosalm 79.58 359 ⇑*i*P **P 02 32 45.8 +0.6**
comp=Z,9.3nm,0.9s,mb4.4,SNR=10.0
MOTA Moosalm 79.58 359 ⇑*i*P **P 02 32 45.8 +0.6**
MOTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.4
WATA Walderalm 79.59 359 ⇑*i*P **P 02 32 45.8 +0.6**
comp=Z,4.1nm,0.6s,mb4.3
WATA Walderalm 79.59 359 ⇑*i*P **P 02 32 45.8 +0.6**
WATA pmax pmax
comp=Z,4.0nm,0.6s,mb4.2
WTTA Wattenberg 79.66 359 ⇓*i*P **P 02 32 46.3 +0.7**
comp=Z,14nm,0.7s,mb4.7
WTTA Wattenberg 79.66 359 ⇓*i*P **P 02 32 46.3 +0.7**
WTTA pmax pmax
comp=Z,14nm,0.7s,mb4.7
WTTA Wattenberg 79.66 359 ⇓*i*P **P 02 32 46.3 +0.7**
comp=Z,14nm,0.7s,mb4.7
SSF Saint Saulge 79.70 5 *e*P **P 02 32 45.8 0.0**
comp=Z,15nm,0.6s,mb4.5
SSF Saint Saulge 79.70 5 *e*P **P 02 32 45.8 0.0**
SSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
SSF Saint Saulge 79.70 5 *e*P **P 02 32 45.8 0.0**
comp=Z,7.4nm,0.6s,mb4.5
SQTA Sankt Quirin 79.70 359 ⇓*i*P **P 02 32 46.7 +0.9**
comp=Z,14nm,0.8s,mb4.7,SNR=16
SQTA Sankt Quirin 79.70 359 ⇓*i*P **P 02 32 46.7 +0.8**
SQTA pmax pmax
comp=Z,14nm,0.8s,mb4.6
KBA Koelnbreinsper 79.82 358 *i* P **P 02 32 47.8 +1.3**
comp=Z,23nm,0.7s,mb4.9,SNR=14
KBA Koelnbreinsper 79.82 358 *i* P **P 02 32 47.8 +1.3**
KBA pmax pmax
comp=Z,23nm,0.7s,mb4.9
SIM Simferopol' 79.89 343 *e*P **P 02 32 47.0 +0.1**
SIM pmax pmax
comp=Z,11nm,0.5s,mb4.7
FETA Feichten 79.91 360 *i* P **P 02 32 47.9 +0.9**
comp=Z,11nm,0.8s,mb4.5,SNR=13
MFF Saint Martin d 79.92 7 *e*P **P 02 32 47.0 -0.1**
comp=Z,49nm,1.1s,mb4.8
MFF Saint Martin d 79.92 7 *e*P **P 02 32 47.0 -0.1**
MFF pmax pmax
comp=Z,25nm,1.1s,mb4.8
MFF Saint Martin d 79.92 7 *e*P **P 02 32 47.0 -0.1**
comp=Z,24nm,1.1s,mb4.8
AVF Avril sur Loir 79.96 5 *e*P **P 02 32 47.0 -0.3**
comp=Z,13nm,0.8s,mb4.3
AVF Avril sur Loir 79.96 5 *e*P **P 02 32 47.0 -0.3**
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
AVF Avril sur Loir 79.96 5 *e*P **P 02 32 47.0 -0.3**
comp=Z,6.7nm,0.8s,mb4.3
VRI Vrincioaia 80.08 348 ⇓*i*P **P 02 32 48.2 +0.3**
SOC Sochi 80.11 339 *e*P **P 02 32 48.6 +0.5**
SOC *e**PP pP 02 33 24.6 +4.0
SOC *e*PPP 02 37 40.5
SOC *e*S S 02 42 41.4 -0.2
SOC *e**SS sS 02 43 38.5 +0.8
SOC *e*SS SS 02 47 52.6 -0.6
SOC *e*SSS 02 51 27.4
SOC pmax pmax
comp=Z,8.0nm,0.6s,mb4.5
SMF Signal de Mont 80.13 5 *e*P **P 02 32 48.0 -0.2**
comp=Z,19nm,0.8s,mb4.5
SMF Signal de Mont 80.13 5 *e*P **P 02 32 48.0 -0.2**
SMF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
SMF Signal de Mont 80.13 5 *e*P **P 02 32 48.0 -0.2**
comp=Z,9.5nm,0.8s,mb4.5
BGF Bois d'Agland 80.17 5 *e*P **P 02 32 48.1 -0.3**
SOKA Soboth 80.17 357 ⇓*i*P **P 02 32 49.0 +0.7**
comp=Z,13nm,0.8s,mb4.6
CABF La Chapelle 80.25 3 *e*P **P 02 32 49.3 +0.5**
comp=Z,30nm,0.8s,mb4.7
CABF La Chapelle 80.25 3 *e*P **P 02 32 49.3 +0.5**
CABF pmax pmax
comp=Z,15nm,0.8s,mb4.7
CABF La Chapelle 80.25 3 *e*P **P 02 32 49.3 +0.5**
comp=Z,15nm,0.8s,mb4.7
FVI Forni Avoltri 80.31 358 P **P 02 32 49.9 +0.8**
FVI pmax pmax
comp=Z,11nm,1.0s,mb4.4
FVI Forni Avoltri 80.31 358 P **P 02 32 49.9 +0.8**
comp=Z,11nm,1.0s,mb4.4
OBKA Obir 80.35 357 ⇓*i*P **P 02 32 49.9 +0.6**
comp=Z,17nm,0.7s,mb4.8,SNR=19
TCF Toulx Ste Croi 80.40 6 *e*P **P 02 32 49.3 -0.3**
comp=Z,4.0nm,0.5s,mb4.0
TCF Toulx Ste Croi 80.40 6 *e*P **P 02 32 49.3 -0.3**
TCF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
TCF Toulx Ste Croi 80.40 6 *e*P **P 02 32 49.3 -0.3**
comp=Z,2.0nm,0.5s,mb4.0
BRMO Bormio 80.45 360 P **P 02 32 51.2 +1.3**
comp=Z,47nm,2.0s,mb4.8
PTCC Patocco-Chiusa 80.49 358 P **P 02 32 50.0 -0.1**
comp=Z,2.1nm,0.5s,mb4.0
MLR Muntele Rosu 80.54 349 ⇓*i*P **P 02 32 50.9 +0.5**
TBLG Delisi 80.67 335 P **P 02 32 51.4 +0.2**
MTA Mtatsminda 80.70 335 P **P 02 32 51.8 +0.5**
DGRG David-gareji 80.77 334 P **P 02 32 52.4 +0.7**
BZS Buzias 80.84 352 ⇓*i*P **P 02 32 51.6 -0.4**
GZR Gura Zlata 80.96 351 ⇑*i*P **P 02 32 52.7 +0.1**
RJF Les Rejaudoux 81.33 6 *e*P **P 02 32 54.1 -0.5**
LPL La Plagne 81.36 3 *e*P **P 02 32 55.8 +1.0**
LPG La Plagne 81.38 3 *e*P **P 02 32 56.1 +1.2**
comp=Z,8.7nm,0.8s,mb4.2
LPG La Plagne 81.38 3 *e*P **P 02 32 56.1 +1.2**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
LPG La Plagne 81.38 3 *e*P **P 02 32 56.1 +1.2**
comp=Z,4.3nm,0.8s,mb4.1
LFF La Frestale 81.64 7 *e*P **P 02 32 56.2 0.0**
comp=Z,20nm,0.5s,mb4.7
LFF La Frestale 81.64 7 *e*P **P 02 32 56.2 0.0**
LFF pmax pmax
comp=Z,10.0nm,0.5s,mb4.7
LFF La Frestale 81.64 7 *e*P **P 02 32 56.2 0.0**
comp=Z,9.9nm,0.5s,mb4.7
CAF Calviac 81.75 6 *e*P **P 02 32 56.8 0.0**
comp=Z,4.4nm,0.5s,mb4.0
CAF Calviac 81.75 6 *e*P **P 02 32 56.8 0.0**
CAF pmax pmax
comp=Z,2.0nm,0.5s,mb4.0
CAF Calviac 81.75 6 *e*P **P 02 32 56.8 0.0**
comp=Z,2.2nm,0.5s,mb4.0
BNI Bardonecchia 81.83 3 *e*P **P 02 32 58.5 +1.3**
BNI pmax pmax
comp=Z,9.0nm,0.6s,mb4.6
BNI Bardonecchia 81.83 3 *e*P **P 02 32 58.5 +1.3**
comp=Z,9.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 81.94 3 *e*P **P 02 32 58.5 +0.7**
comp=Z,14nm,0.7s,mb4.4
ORIF Oris-en-Rattie 81.94 3 *e*P **P 02 32 58.5 +0.7**
ORIF pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
ORIF Oris-en-Rattie 81.94 3 *e*P **P 02 32 58.5 +0.7**
comp=Z,6.9nm,0.7s,mb4.4
VIVF Saint-Julien-l 81.95 4 *e*P **P 02 32 58.2 +0.3**
comp=Z,14nm,0.7s,mb4.4
VIVF Saint-Julien-l 81.95 4 *e*P **P 02 32 58.2 +0.3**
VIVF pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
VIVF Saint-Julien-l 81.95 4 *e*P **P 02 32 58.2 +0.3**
comp=Z,6.8nm,0.7s,mb4.4
RKT Rikitea 81.96 148 *e*T 04 02 37.3
comp=Z,1.8nm,0.3s
MBDF Montbardon 82.15 3 *e*P **P 02 33 00.1 +1.2**
comp=Z,21nm,0.6s,mb4.6
MBDF Montbardon 82.15 3 *e*P **P 02 33 00.1 +1.2**
MBDF pmax pmax
comp=Z,11nm,0.6s,mb4.7
MBDF Montbardon 82.15 3 *e*P **P 02 33 00.1 +1.2**
comp=Z,10nm,0.6s,mb4.6
KAKA Kakadu 82.25 237 *e*P **P 02 33 01.1 +1.4**
comp=Z,4.1nm,0.6s,mb4.2
KAKA *e* 02 33 27.6
EPON Pontenova 82.44 13 P **P 02 33 00.6 +0.2**
comp=Z,32nm,0.9s,mb5.0
CTA Charters Tower 82.52 221 *e*P **P 02 32 59.7 -1.3**
comp=Z,3.8nm,0.6s,mb4.3
CTA Charters Tower 82.52 221 *e*P **P 02 32 59.7 -1.3**
CTA pmax pmax
comp=Z,4.0nm,0.6s
CTA Charters Tower 82.52 221 P **P 02 32 59.8 -1.2**
comp=Z,4.3nm,0.5s,mb4.4,baz=40,slow=10,SNR=5.2
CTAO Charters Tower 82.52 221 *e*P **P 02 32 59.9 -1.1**
CTAO pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
CTAO Charters Tower 82.52 221 *e*P **P 02 32 59.9 -1.1**
comp=Z,5.5nm,0.6s,mb4.5
KAPI Kappang 82.62 251 P **P 02 33 00.9 -0.8**
comp=Z,11nm,0.4s,mb4.9,baz=195,slow=4.7,SNR=11
EARI Arriondas 82.70 11 P **P 02 33 02.3 +0.5**
comp=Z,225nm,2.5s,mb5.5
SMRF Simiane la Rot 82.87 3 *e*P **P 02 33 03.6 +1.0**
comp=Z,18nm,0.9s,mb4.5
SMRF Simiane la Rot 82.87 3 *e*P **P 02 33 03.6 +1.0**
comp=Z,18nm,0.9s,mb4.8
SEI Scarperia 82.87 359 P **P 02 33 04.8 +2.2**
comp=Z,70nm,0.6s,mb5.6
KSM Kuching 82.88 263 *e*P **P 02 33 02.6 -0.5**
ELAN Lanestosa 82.97 10 P **P 02 33 03.8 +0.6**
comp=Z,87nm,1.7s,mb5.2
SFI Santa Sofia 83.02 359 P **P 02 33 05.1 +1.7**
SFI pmax pmax
comp=Z,15nm,0.7s,mb4.8
SFI Santa Sofia 83.02 359 P **P 02 33 05.1 +1.7**
comp=Z,15nm,0.7s,mb4.8
SBF Sospel 83.03 2 *e*P **P 02 33 03.6 +0.1**
comp=Z,21nm,0.6s,mb4.8
SBF Sospel 83.03 2 *e*P **P 02 33 03.6 +0.1**
SBF pmax pmax
comp=Z,10.0nm,0.6s,mb4.7
SBF Sospel 83.03 2 *e*P **P 02 33 03.6 +0.1**
comp=Z,10nm,0.6s,mb4.7
SJPF Ste Jean 83.30 8 *e*P **P 02 33 06.0 +1.1**
comp=Z,15nm,0.8s,mb4.5
SJPF Ste Jean 83.30 8 *e*P **P 02 33 06.0 +1.1**
SJPF pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
SJPF Ste Jean 83.30 8 *e*P **P 02 33 06.0 +1.1**
comp=Z,7.6nm,0.8s,mb4.5
FRF La Foret Royal 83.31 3 *e*P **P 02 33 06.4 +1.5**
MTLF Montolieu 83.33 6 *e*P **P 02 33 05.2 +0.2**
comp=Z,25nm,1.1s,mb4.6
MTLF Montolieu 83.33 6 *e*P **P 02 33 05.2 +0.2**
MTLF pmax pmax
comp=Z,13nm,1.0s,mb4.6
MTLF Montolieu 83.33 6 *e*P **P 02 33 05.2 +0.2**
comp=Z,13nm,1.0s,mb4.6
ERUA La Rua 83.36 13 P **P 02 33 05.5 +0.3**
ERUA pmax pmax
comp=Z,4.0nm,0.5s,mb4.4
ERUA La Rua 83.36 13 P **P 02 33 05.5 +0.4**
comp=Z,4.1nm,0.5s,mb4.4
LMR La Mourre 83.54 3 *e*P **P 02 33 06.4 +0.3**
ETSF Etsaut 83.57 8 *e*P **P 02 33 06.8 +0.5**
comp=Z,26nm,0.9s,mb4.7
ETSF Etsaut 83.57 8 *e*P **P 02 33 06.8 +0.5**
ETSF pmax pmax
comp=Z,13nm,0.9s,mb4.7
ETSF Etsaut 83.57 8 *e*P **P 02 33 06.8 +0.5**
comp=Z,13nm,0.9s,mb4.7
SNTG Esanatoglia 83.65 358 P **P 02 33 07.4 +0.8**
comp=Z,14nm,0.6s,mb4.9
EBIE Bielsa 83.84 8 P **P 02 33 08.5 +0.9**
comp=Z,7.8nm,0.6s,mb4.6
ASS Assisi 83.84 358 P **P 02 33 09.1 +1.5**
ASS pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
ASS Assisi 83.84 358 P **P 02 33 09.1 +1.5**
comp=Z,2.2nm,0.6s,mb4.1
ECAL Calabor 83.85 13 P **P 02 33 08.2 +0.5**
comp=Z,7.8nm,0.6s,mb4.6
NRCA Norcia 84.06 358 P **P 02 33 09.8 +1.0**
comp=Z,11nm,0.8s,mb4.6
PGF Pioggiola 84.37 1 *e*P **P 02 33 11.3 +1.0**
comp=Z,54nm,0.8s,mb5.0
PGF Pioggiola 84.37 1 *e*P **P 02 33 11.3 +1.0**
PGF pmax pmax
comp=Z,27nm,0.8s,mb5.0

PGF	Pioggiola	84.37	1	eP	P	02 33 11.3	+1.0
	comp=Z,27nm,0.8s,mb5.0						
AQU	L'Aquila	84.54	358	eP	P	02 33 11.5	+0.3
	comp=Z,15nm,0.7s,mb4.8						
AQU	L'Aquila	84.54	358	⇓iP	P	02 33 11.6	+0.4
FIAM	Fiamignano	84.63	358	P	P	02 33 12.1	+0.5
BATI	Kupang	84.72	245	P	P	02 33 11.6	-0.8
	comp=Z,17nm,0.4s,mb5.1,baz=209,slow=3.5,SNR=5.9						
ANTO	Ankara	85.05	343	eP	P	02 33 14.1	+0.3
ANTO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
ANTO	Ankara	85.05	343	eP	P	02 33 14.1	+0.4
	comp=Z,8.4nm,0.8s,mb4.5						
SDI	San Donato	85.17	357	P	P	02 33 14.2	-0.1
SDI				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0						
SDI	San Donato	85.17	357	P	P	02 33 14.2	-0.1
	comp=Z,18nm,0.6s,mb5.0						
EPOB	Poblet	85.24	7	P	P	02 33 15.0	+0.3
	comp=Z,21nm,1.0s,mb4.8						
MALT	Malatya	85.43	338	eP	P	02 33 16.3	+0.6
	comp=Z,2.5nm,0.6s,mb4.1						
MALT	Malatya	85.43	338	⇓iP	P	02 33 16.7	+1.0
GUD	Guadarrama	85.45	11	P	P	02 33 15.1	-0.7
GUD				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb4.4						
GUD	Guadarrama	85.45	11	P	P	02 33 15.1	-0.7
	comp=Z,3.1nm,0.4s,mb4.4						
ETOR	Torete	85.50	9	P	P	02 33 16.3	+0.3
ETOR				pmax	pmax		
	comp=Z,10.0nm,0.4s,mb4.9						
ETOR	Torete	85.50	9	P	P	02 33 16.3	+0.3
	comp=Z,10nm,0.4s,mb4.9						
KULM	Kulim	85.61	273	eP	P	02 33 16.2	-0.7
EMOS	Mosqueruela	86.10	8	P	P	02 33 19.7	+0.8
	comp=Z,24nm,1.0s,mb4.9						
ESDC	Sonseca Array	86.43	11	P	P	02 33 20.4	-0.2
	comp=Z,4.8nm,0.6s,mb4.4						
ESDC	Sonseca Array	86.43	11	P	P	02 33 19.9	-0.7
	comp=Z,1.7nm,0.5s,mb4.0,baz=350,slow=5.4,SNR=19						
WRAB	Tennant Creek	87.53	231	iP	P	02 33 24.3	-1.7
WB2	Warramunga Arr	87.53	231	eP	P	02 33 24.5	-1.5
WB2				e	pP	02 33 52.7	-6.3
WRA	Warramunga Arr	87.54	231	P	P	02 33 24.6	-1.5
	comp=Z,3.2nm,0.8s,mb4.2,baz=34,slow=6.0,SNR=17						
WRA				pP	pP	02 33 53.2	-5.8
	comp=Z,8.1nm,0.9s,baz=37,slow=6.0,SNR=12						
EADA	Adamuz	87.84	12	P	P	02 33 27.1	-0.3
	comp=Z,19nm,1.3s,mb4.8						
EMIN	Mina Concepcio	87.97	13	P	P	02 33 27.0	-1.0
	comp=Z,17nm,1.0s,mb4.8						
ECOG	Cogollos-Vega	88.84	11	P	P	02 33 31.9	-0.2
ECOG				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.5						
ECOG	Cogollos-Vega	88.84	11	P	P	02 33 31.9	-0.2
	comp=Z,3.5nm,0.7s,mb4.4						
EBER	Berja	89.29	11	P	P	02 33 33.7	-0.6
	comp=Z,15nm,1.0s,mb4.9						
EMIJ	Mijas	89.40	12	P	P	02 33 33.8	-1.0
	comp=Z,21nm,1.5s,mb4.8						
FITZ	Fitzroy Crossi	90.25	239	eP	P	02 33 36.6	-2.2
	comp=Z,8.9nm,1.1s,mb4.6						
FITZ				e	pP	02 34 07.7	-4.3
FITZ	Fitzroy Crossi	90.25	239	P	P	02 33 36.5	-2.3
	comp=Z,4.1nm,1.0s,mb4.3,baz=159,slow=10,SNR=6.9						
FITZ				pP	pP	02 34 07.6	-4.3
	comp=Z,4.4nm,0.8s,baz=301,slow=5.0,SNR=3.2						
ASAR	Alice Springs	90.96	230	P	P	02 33 40.5	-1.4
	comp=Z,1.9nm,0.7s,mb4.2,baz=30,slow=4.7,SNR=15						
ASAR				pP	pP	02 34 09.9	-5.2
	comp=Z,19nm,0.9s,baz=35,slow=4.3,SNR=34						
KEST	Kesra	91.18	1	P	P	02 33 43.9	+0.8
	comp=Z,2.1nm,1.1s,mb4.1,baz=108,slow=2.5,SNR=5.0						
STKA	Stephens Creek	94.91	220	P	P	02 34 01.9	+2.0
	comp=Z,1.1nm,0.6s,mb4.2,baz=3.7,slow=22,SNR=3.4						
STKA				pP	pP	02 34 28.1	-5.1
	comp=Z,3.6nm,0.8s,baz=29,slow=9.5,SNR=4.6						
TOA0	Torodi Ar. Sit	113.26	9	ePKP	PKiKP	02 39 14.2	-1.1
TORD	Torodi Ar. Bea	113.26	9	PKPdf	PKiKP	02 39 14.0	-1.3
TORD				PKKPbc	PKKPbc	02 49 57.9	-0.5
TORD				PKKPab	PKKPab	02 50 04.8	-6.5
TORD	Torodi Ar. Bea	113.26	9	PKiKP	PKiKP	02 39 14.0	-1.3
	comp=Z,3.3nm,0.6s,baz=342,slow=2.4,SNR=76						
TORD				PKKPbc	PKKPbc	02 49 57.9	-0.5
	comp=Z,0.4nm,0.4s,baz=176,slow=2.2,SNR=22						
TORD				PKKPab	PKKPab	02 50 04.8	-6.5
	comp=Z,2.0nm,0.7s,baz=171,slow=4.0,SNR=11						
TORD				tx	tx	02 50 34.6	
	comp=Z,1.3nm,0.8s,baz=172,slow=2.3,SNR=5.2						
DBIC	Dimbokro	118.74	17	ePKIKP	PKPdf	02 39 24.9	-1.0
DBIC	Dimbokro	118.74	17	PKP	PKPdf	02 39 25.1	-0.8
	comp=Z,11nm,0.5s,baz=355,slow=1.7,SNR=53						
KMBO	Kilima Mbogo	123.29	327	⇑iPKIKP	PKPdf	02 39 35.7	+1.1
KMBO	Kilima Mbogo	123.29	327	ePKPdf	PKPdf	02 39 35.2	+0.6
KMBO	Kilima Mbogo	123.29	327	PKP	PKPdf	02 39 34.9	+0.3
	comp=Z,9.0nm,0.8s,baz=5.3,slow=4.2,SNR=21						
KMBO				pPKP	pPKPdf	02 40 06.8	-2.5
	comp=Z,3.4nm,1.0s,baz=256,slow=4.6,SNR=2.8						
PLCA	Paso Flores	126.36	111	ePKIKP	PKPdf	02 39 39.0	-0.6
PLCA	Paso Flores	126.36	111	PKP	PKPdf	02 39 38.9	-0.6
	comp=Z,2.9nm,0.8s,baz=265,slow=3.8,SNR=6.7						
VNDA	Vanda	131.90	188	SKPbc	SKPbc	02 43 02.4	-0.4
	comp=Z,4.8nm,0.8s,baz=348,slow=2.6,SNR=24						
QSPA	South Pole Qui	143.21	180	ePKPpre		02 40 05.3	
TSUM	Tsumeb	145.36	348	ePKPbc	PKPbc	02 40 15.2	-0.2
TSUM				eSKPbc	SKPbc	02 43 44.3	+1.6
MAW	Mawson	151.60	220	PKPbc	PKPbc	02 40 29.8	-0.5
	comp=Z,1.7nm,0.4s,baz=107,slow=11,SNR=5.2						
MAW				pPKPbc	pPKPbc	02 41 00.4	-4.4
	comp=Z,18nm,0.9s,baz=171,slow=0.9,SNR=9.7						
BOSA	Boshof	152.87	330	ePKPdf	PKPdf	02 40 26.1	-0.9
BOSA				ePKPbc	PKPbc	02 40 34.1	-0.2
BOSA	Boshof	152.87	330	PKP	PKPdf	02 40 26.5	-0.6
	comp=Z,7.8nm,0.9s,baz=124,slow=1.5,SNR=9.1						
BOSA				PKPbc	PKPbc	02 40 34.2	-0.1
	comp=Z,14nm,0.5s,baz=38,slow=2.7,SNR=47						
SYO	Syowa Base	159.33	210	⇑epPKPdf	pPKPdf	02 41 03.4	-5.7
SYO	Syowa Base	159.33	210	⇑eX		02 41 09.4	
VNA3	Neumayer Olymp	160.07	161	ePKPdf	PKPdf	02 40 33.8	-1.2
VNA3				e		02 40 55.2	
VNA3				e		02 41 04.5	
VNA3				e		02 41 13.7	
VNA3				e		02 41 20.2	
VNA2	Neumayer--Watz	160.76	162	ePKPdf	PKPdf	02 40 36.2	+0.4
VNA2				e		02 40 57.3	
VNA2				e		02 41 08.4	
VNA2				e		02 41 16.7	
VNA2				e		02 41 23.9	
SNAA	Sanae	160.82	167	ePKPdf	PKPdf	02 40 35.1	-0.7
SNAA				e		02 40 56.5	
SNAA				e		02 41 08.1	
SNAA				e		02 41 15.0	
SNAA				e		02 41 20.9	
SNAA	Sanae	160.82	167	PKP	PKPdf	02 40 36.1	+0.3
	comp=Z,0.2nm,0.8s,baz=0.4,slow=10.0,SNR=3.5						
VNA1	Neumayer--Stat	160.83	161	ePKPdf	PKPdf	02 40 34.9	-0.9
VNA1				e		02 40 55.2	
VNA1				e		02 41 06.7	
VNA1				e		02 41 16.1	
VNA1				e		02 41 22.6	

NEIC ***17*** *02:46:26.6±2.2, 739S×15672E, h10km, mb4.1/2, Error ellipse: s-maj=69.5km s-min=14.8km az=116.0*

IDC 17 02:46:34.6±2.3, 702S×15584E, h35km±8km, mb3.6/5, mb1 3.7/5, mb1mx3.5/14, mbtmp3.6/5, Error ellipse: s-maj=78.3km s-min=24.2km az=117.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.48	236	eP	P	02 51 51.3	+0.7
	1.4nm,0.5s						
WRA	Warramunga Arr	24.49	236	P	P	02 51 51.4	+0.7
	0.5nm,0.3s,baz=60,slow=9.1,SNR=11						
WRA				pP	pP	02 52 00.7	0.0
	1.0nm,0.5s,baz=59,slow=9.1,SNR=7.5						
ASAR	Alice Springs	26.79	229	P	P	02 52 11.2	-0.2
	0.1nm,0.4s,baz=55,slow=10,SNR=4.0						
ASAR				pP	pP	02 52 21.0	-0.5
	0.3nm,0.6s,baz=61,slow=9.1,SNR=2.4						
FITZ	Fitzroy Crossi	31.41	247	P	P	02 52 53.1	+0.4
	1.6nm,0.8s,baz=9.5,slow=18,SNR=3.5						
ULN	Ulaanbaatar	69.47	327	eP	P	02 57 40.6	+1.2
	1.0nm,0.4s						
SONM	Songino Array	69.81	327	P	P	02 57 42.5	+1.1
	1.0nm,0.5s,baz=132,slow=5.9,SNR=13						
MK31	Makanchi Array	83.97	319	eP	P	02 59 01.4	+0.2
MKAR	Makanchi Array	83.97	319	P	P	02 59 01.4	+0.1
	1.3nm,0.7s,baz=105,slow=6.1,SNR=10						
TORD	Torodi Ar. Bea	153.84	286	PKPbc	PKPbc	03 06 29.2	-1.9
	0.4nm,0.8s,baz=77,slow=2.2,SNR=7.7						
TORD				pPKPbc	pPKPbc	03 06 43.0	+0.4
	0.3nm,0.9s,baz=79,slow=3.6,SNR=1.6						

NEIC ***17*** *02:56:01.8±2.6, 741S×15669E, h10km, mb3.9/1, Error ellipse: s-maj=85.9km s-min=22.7km az=120.0*

IDC 17 02:56:02.5±3.7, 715S×15623E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=113.6km s-min=34.4km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	24.74	237	eP	P	03 01 26.3	+0.5
	1.3nm,0.4s						
WB2	Warramunga Arr	24.74	237	eP	P	03 01 25.8	-0.1
WRA	Warramunga Arr	24.75	237	P	P	03 01 26.7	+0.7
	0.9nm,0.4s,baz=60,slow=9.1,SNR=23						
ASAR	Alice Springs	27.00	230	P	P	03 01 46.4	0.0
	0.6nm,0.6s,baz=60,slow=9.1,SNR=5.7						
FITZ	Fitzroy Crossi	31.72	247	P	P	03 02 27.7	-0.6
	2.0nm,0.7s,baz=45,slow=13,SNR=4.9						
SONM	Songino Array	70.14	327	P	P	03 07 18.0	+1.3
	0.3nm,0.4s,baz=130,slow=5.8,SNR=4.1						
TORD	Torodi Ar. Bea	154.25	285	PKPbc	PKPbc	03 16 04.2	-1.5
	1.1nm,1.1s,baz=60,slow=1.8,SNR=4.2						

BJI ***17*** *02:59:31.5, 3.10S×137.13E, h23km, mB5.4, mb4.9, Ms5.1, Msz4.9*

IDC ***17*** *02:59:32.5±0.5, 272S×13673E, h0km, mb4.7/17, mb1 4.8/21, mb1mx4.8/23, mbtmp4.7/21, ML5.0/4, MS5.1/18, Ms1 5.1/18, ms1mx5.0/26, Error ellipse: s-maj=19.2km s-min=11.1km az=77.0*

ISCJB ***17*** *02:59:33.9±0.2, 281S±002×13678E±004, h20km, mb5.3/82, MS5.2/199, Error ellipse: s-maj=6.2km s-min=3.4km az=173.5*

MOS ***17*** *02:59:35.5±1.1, 273S×13669E, h33km, mb5.3/25, MS5.0/21, Error ellipse: s-maj=13.1km s-min=6.6km az=100.5*

NEIC ***17*** *02:59:36.3±2.5, 275S×13675E, h23km±17km, mb5.4/36, MS5.3/172, MW5.5, Error ellipse: s-maj=8.0km s-min=5.2km az=60.0, Moment Tensor Solution. s9 Moment tensor: Scale 10^17^Nm; M_{rr}1.80; $M_{\theta\theta}$-1.94; $M_{\phi\phi}$0.15; $M_{r\theta}$-0.93; $M_{r\phi}$0.55; $M_{\theta r}$-0.56; Best double couple: $M_0$2.20000×10^17^ NP1:ϕ_s124.00000°, δ38.00000°, λ124.00000°. NP2:ϕ_p264.00000°, δ59.00000°, λ67.00000°. Principal axes: T 2.2300, Plg67.0000°, Azm128.0000°; N 0.0000, Plg20.0000°, Azm276.0000°; P -2.2300, Plg11.0000°, Azm10.0000°;*

NEIC Felt [IV] at Serui and [III] at Nabire.

GCMT ***17*** *02:59:36.3±0.1, 267S×13673E, h24km, MW5.5/100, Moment Tensor Solution. s89, c170; s100, c198; Duration: 1s4 Moment tensor: Scale 10^17^Nm; M_{rr}1.42±.04; $M_{\theta\theta}$-2.53±.03; $M_{\phi\phi}$1.11±.04; $M_{r\theta}$-0.41±.05; $M_{r\phi}$-0.05±.02; $M_{\theta r}$-0.78±.06; Best double couple: $M_0$2.32900×10^17^ NP1:ϕ_s122.00000°, δ51.00000°, λ143.00000°. NP2:ϕ_p238.00000°, δ62.00000°, λ45.00000°. Principal axes: T 2.0800, Plg51.0000°, Azm96.0000°; N 0.4970, Plg38.0000°, Azm263.0000°; P -2.5770, Plg6.0000°, Azm358.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 02:59:36.1±0.2, 276S±002×13682E±004, h22km, h22km±2.5km: pP-P, n379, σ1s10/205, mb5.3/81, MS5.2/199, 10C-14D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	10.80	203	eP	Pn	03 02 09.3	-0.2
	334nm,0.4s						
KAKA				eS	Sn	03 04 10.0	+0.2
COEN	Coen	12.78	151	ePn	Pn	03 02 37.4	+0.8
	11μm,1.5s						
BATI	Kupang	15.01	240	Pn	Pn	03 03 07.4	+0.3
	4.9nm,0.3s,baz=135,slow=1.8,SNR=36						
KAPI	Kappang	17.18	262	P	Pn	03 03 36.8	+1.9
	0.7nm,0.3s,baz=76,slow=16,SNR=6.4						
WRAB	Tennant Creek	17.24	188	Pn	Pn	03 03 34.0	-1.6
	964nm,0.7s,SNR=36						
WRAB	Tennant Creek	17.24	188	eP	Pn	03 03 33.6	-2.0
WRAB				e		03 06 39.9	
WRAB				pmax	pmax		
	comp=Z,357nm,1.0s						
WRAB	Tennant Creek	17.24	188	eP	Pn	03 03 33.6	-2.1
	comp=Z,357nm,1.0s						
WRAB				eSn	Sn	03 06 39.9	-7.1
WB2	Warramunga Arr	17.25	188	eP	Pn	03 03 33.6	-2.1
WB2				eS	Sn	03 06 38.1	-9.1
WRA	Warramunga Arr	17.25	188	P	Pn	03 03 33.5	-2.3
WRA				S	Sn	03 06 41.0	-6.2
WRA				pmax	pmax		
	comp=Z,3.0nm,0.3s						
WRA				smax			
	comp=N,9.0nm,0.3s						
WRA	Warramunga Arr	17.25	188	P	Pn	03 03 33.5	-2.2
	comp=N,2.9nm,0.3s,baz=7.9,slow=12,SNR=60						
WRA				S	Sn	03 06 41.0	-6.2
	comp=N,9.4nm,0.3s,baz=12,slow=22,SNR=8.6						
GUMO	Guam	18.10	26	LR	LR	03 10 39.0	
	comp=N,3μm,18.1s,baz=208,slow=37						
FITZ	Fitzroy Crossi	18.78	215	eP	Pn	03 03 54.7	+0.1
	comp=N,133nm,0.6s						
FITZ				eS	Sn	03 07 09.9	-14
FITZ	Fitzroy Crossi	18.78	215	P	Pn	03 03 54.4	-0.2
	comp=N,5.4nm,0.3s,baz=45,slow=14,SNR=58						
FITZ				S	Sn	03 07 15.5	-8.8
	comp=N,3.4nm,0.3s,baz=183,slow=17,SNR=3.8						
FITZ				LR	LR	03 11 51.5	
	comp=N,3μm,20.8s,baz=39,slow=39						
CTA	Charters Tower	19.53	153	eP	Pn	03 04 04.2	+0.6
	comp=N,125nm,1.2s						
CTA				eS	Sn	03 07 43.5	+1.1
CTA	Charters Tower	19.53	153	P	Pn	03 04 03.3	-0.3
CTA				pmax	pmax		
	comp=Z,5.0nm,0.3s						
CTA	Charters Tower	19.53	153	P	Pn	03 04 03.3	-0.3
	comp=Z,4.9nm,0.3s,baz=328,slow=12,SNR=22						
CTAO	Charters Tower	19.53	153	eP	Pn	03 04 04.1	+0.5
CTAO				pmax	pmax		
	comp=Z,270nm,1.1s						
CTAO	Charters Tower	19.53	153	eP	Pn	03 04 04.1	+0.5
	comp=Z,270nm,1.1s						
MYLDM	Lahad Datu	19.93	293	⇑P	Pn	03 04 11.2	+2.8
RCP	Roxas	19.95	316	⇑eP	Pn	03 04 08.4	-0.3
TSM	Tawau	20.19	290	⇓P	P	03 04 17.8	+8.3
ASAR	Alice Springs	20.98	187	P	P	03 04 18.4	+0.5
ASAR				S	S	03 08 03.0	-7.8
ASAR				pmax	pmax		
	comp=Z,79nm,0.8s						
ASAR				smax			
	comp=N,6.0nm,0.8s						
ASAR	Alice Springs	20.98	187	P	P	03 04 18.4	+0.5
	comp=N,79nm,0.8s,baz=8.7,slow=11,SNR=90						
ASAR				S	S	03 08 03.0	-7.8
	comp=N,6.1nm,0.8s,baz=6.1,slow=27,SNR=2.8						
SDKM	Sandakan	21.30	293	⇑P	P	03 04 28.9	+7.3
PPR	Puerto Princes	21.90	305	⇑iP	P	03 04 34.9	+6.9
KDM	Kudat	22.14	296	⇑P	pP	03 04 41.4	+4.7
KKM	Kota Kinabalu	22.36	293	eP	P	03 04 33.4	+0.5
KKM	Kota Kinabalu	22.36	293	⇓P	pP	03 04 42.9	+3.9
HNR	Honiara	23.92	107	P	P	03 04 49.4	+0.6
HNR				pmax	pmax		
	comp=Z,244nm,0.8s,mb5.7						
HNR	Honiara	23.92	107	eP	P	03 04 50.3	+1.5
	comp=Z,928nm,1.0s,mb6.2						
HNR				LR	LR		
	comp=Z,2μm,19.0s,MS4.7						
HNR	Honiara	23.92	107	P	P	03 04 49.4	+0.7
	comp=Z,244nm,0.8s,mb5.7,baz=257,slow=2.4,SNR=7.7						
BTM	Bintulu	24.45	284	⇑P	pP	03 05 00.7	+0.5
MBWA	Marble Bar	24.73	221	eP	P	03 04 55.7	-0.3
	comp=Z,310nm,1.4s,mb5.6						
MBWA				LR	LR		
	comp=Z,4μm,22.0s,MS4.9						
SBUM	Sibu	25.13	282	⇓P	pP	03 05 06.6	+0.3
EIDS	Eidsvold	26.34	150	eP	P	03 05 12.0	+1.4
	comp=Z,41nm,0.9s,mb5.0						
KSM	Kuching	26.84	279	eP	P	03 05 16.3	+1.0
KSM	Kuching	26.84	279	⇓P	pP	03 05 24.5	+2.7
FORT	Forrest	29.08	196	eP	P	03 05 35.0	-0.1
	comp=Z,48nm,0.6s,mb5.4						
STKA	Stephens Creek	29.31	172	eP	P	03 05 37.7	+0.5
	comp=Z,18nm,0.8s,mb4.9						
STKA				eS	S	03 11 00.6	+31
STKA	Stephens Creek	29.31	172	P	P	03 05 37.3	+0.1
	comp=Z,9.8nm,0.4s,mb4.9,baz=347,slow=8.4,SNR=18						
STKA				LR	LR	03 17 59.3	
	comp=Z,3μm,21.4s,MS4.8,baz=347,slow=38						
JOW	Kunigami	30.55	345	LR	LR	03 17 05.7	
	comp=Z,3μm,19.5s,MS5.0,baz=5.7,slow=35						
ARMA	Armidale	30.88	155	eP	P	03 05 51.0	0.0
TATO	Taipei	31.33	333	PFAKE		03 06 10.0	+15
TATO				LR	LR		
	comp=Z,2μm,21.0s,MS4.8						
QZH	Quanzhou	32.73	328	eP	P	03 06 09.0	+1.6
QZH				LR	LR		
	comp=N,4μm,24.5s						
QZH				LR	LR		
	comp=E,1μm,11.3s						
QZH				LR	LR		
	comp=Z,2μm,18.0s						
MYKOM	Kota Tinggi	33.27	277	⇑P	pP	03 06 20.5	+1.6
RIV	Riverview	33.69	158	eP	pP	03 06 20.5	-1.8
KGM	Kluang	33.82	278	⇓P	pP	03 06 25.1	+1.4
KLBR	Kellerberrin	33.84	210	eP	P	03 06 16.6	-0.4
	comp=Z,42nm,1.0s,mb5.3						
QIZ	Qiongzhong	34.24	310	P	P	03 06 22.4	+1.7
QIZ				XP	sP	03 06 29.4	-0.6
QIZ				S	S	03 11 47.4	+0.8
QIZ				LR	LR		
	comp=N,876nm,18.6s						
QIZ				LR	LR		
	comp=Z,1μm,21.5s,MS4.7						
QIZ	Qiongzhong	34.24	310	PFAKE		03 06 30.0	+9.3
QIZ				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
CNB	Canberra Magne	34.42	162	eP	P	03 06 23.1	+1.1
	comp=Z,110nm,1.2s,mb5.7						
KTGM	Kuala Trenggan	34.59	283	⇓P	pP	03 06 34.4	+3.9
MUN	Mundaring	34.94	211	eP	P	03 06 27.6	+1.0
NWAO	Narrogin (SRO)	35.18	209	P	P	03 06 28.7	+0.1
NWAO				pmax	pmax		
	comp=Z,7.0nm,0.8s						
NWAO	Narrogin (SRO)	35.18	209	P	P	03 06 28.7	+0.1
	comp=Z,7.4nm,0.8s,mb4.7,baz=38,slow=11,SNR=2.8						
TOO	Toolangi	35.55	168	eP	P	03 06 31.4	-0.3
	comp=Z,158nm,0.9s,mb5.9						
TOO	Toolangi	35.55	168	eP	P	03 06 31.4	-0.3
TOO				pmax	pmax		
	comp=Z,158nm,0.9s,mb5.9						
FRIM	Kepong	35.68	279	⇓P	pP	03 06 42.4	+2.5
JHJ	Hachijo jima 2	35.79	4	LR	LR	03 18 23.4	
	comp=Z,4μm,21.0s,MS5.1,baz=59,slow=32						
JNU	Nakatsue	36.12	352	LR	LR	03 19 22.6	
	comp=Z,3μm,20.8s,MS5.1,baz=142,slow=33						
IPM	Ipoh	36.48	281	⇑P	pP	03 06 48.1	+1.4
SSE	Sheshan	36.81	337	P	P	03 06 43.9	+1.3
SSE				S	S	03 12 27.4	+1.7
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,331nm,10.8s						
SSE				LR	LR		
	comp=N,821nm,17.8s,MS4.8						
SSE				LR	LR		
	comp=E,1μm,17.8s,MS4.8						
SSE				LR	LR		
	comp=Z,2μm,19.6s,MS4.8						
KULM	Kulim	37.01	282	eP	P	03 06 43.6	-0.9
KULM	Kulim	37.01	282	⇓P	pP	03 06 51.9	+0.7
PSI	Prapat	38.28	278	P	P	03 06 54.7	-0.6
PSI				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.3						
PSI	Prapat	38.28	278	P	P	03 06 54.7	-0.6
	comp=Z,2.3nm,0.3s,mb4.3,baz=135,slow=7.1,SNR=3.8						
NJ2	Nanjing	38.59	335	eP	P	03 07 00.0	+2.4
NJ2				AP	pP	03 07 06.0	+1.7
NJ2				XP	sP	03 07 08.6	-1.6
NJ2				PP	PP	03 08 32.3	+6.1
NJ2				S	S	03 12 54.0	+1.3
NJ2				AMB	AMB		
	comp=Z,170nm,1.3s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,460nm,10.0s						
NJ2				LR	LR		
	comp=N,5μm,27.9s						
NJ2				LR	LR		
	comp=E,3μm,21.2s						
NJ2				LR	LR		
	comp=Z,4μm,23.3s,MS5.1						
MAJO	Matsushiro	39.12	2	eP	P	03 07 01.5	-0.5
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.6						
MAJO				MLR	MLR		
	comp=Z,2μm,20.0s,MS5.0						
MAJO	Matsushiro	39.12	2	eP	P	03 07 01.5	-0.5
	comp=Z,9.8nm,0.8s,mb4.6						
MAJO				LR	LR		
	comp=Z,2μm,20.0s,MS5.0						
MAT	Matsushiro	39.12	2	P	P	03 06 57.7	-4.3
MAT				S	S	03 12 55.0	-5.5
MJAR	Matsushiro Arr	39.12	2	P	P	03 07 02.4	+0.4
	comp=Z,1.5nm,0.6s,baz=182,slow=9.8,SNR=2.4						
MJAR				LR	LR	03 20 48.6	
	comp=Z,2μm,19.5s,MS5.0,baz=190,slow=33						
WHN	Wuhan	39.45	329	P	P	03 07 06.3	+1.4
WHN				AP	pP	03 07 16.4	+4.9
WHN				S	S	03 13 06.0	+0.3
WHN				LR	LR		
	comp=N,1μm,9.4s						
WHN				LR	LR		
	com

KMI			S	**S**	**03 13 59.3**	**-1.3**
KMI			SS	SS	03 17 08.6	-5.2
KMI			SSS		03 17 57.6	
KMI			AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1					
KMI			AMB	AMB		
	comp=Z,153nm,4.1s					
KMI			LR	LR		
	comp=N,898nm,23.3s,MS4.8					
KMI			LR	LR		
	comp=E,1μm,18.3s,MS4.8					
KMI			LR	LR		
	comp=Z,1μm,16.3s,MS4.9					
DL2	**Dalian**	**43.76**	**343**	P	**P**	**03 07 43.3**	**+3.3**
DL2				PP	PP	03 09 20.8	-1.4
DL2				S	**S**	**03 14 12.4**	**+3.0**
DL2				AMB	AMB		
	comp=Z,20nm,1.1s,mb4.8					
DL2				AMB	AMB		
	comp=Z,150nm,4.4s					
DL2				LR	LR		
	comp=N,600nm,19.4s,MS4.6					
DL2				LR	LR		
	comp=E,430nm,19.0s,MS4.6					
DL2				LR	LR		
	comp=Z,930nm,18.8s,MS4.7					
ERM	**Erimo**	**44.93**	**7**	PFAKE		03 08 00.0	+11
ERM				LR	LR		
	comp=Z,1μm,20.0s,MS4.8					
XAN	**Xi'an**	**45.05**	**327**	P	**P**	**03 07 49.8**	**-0.7**
XAN				AP	pP	03 07 56.5	-0.7
XAN				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.5					
XAN				LR	LR		
	comp=Z,1μm,19.6s,MS4.8					
CD2	**Chengdu**	**45.97**	**319**	P	**P**	**03 07 59.0**	**+1.2**
CD2				AP	pP	03 08 03.4	-1.1
CD2				XP	sP	03 08 06.3	-0.9
CD2				PCP	PcP	03 09 35.9	+1.5
CD2				PP	PP	03 09 47.0	+1.2
CD2				PCS	PcS	03 13 28.9	+0.1
CD2				S	**S**	**03 14 42.8**	**+1.2**
CD2				SCS	ScS	03 17 51.6	-1.1
CD2				SS	SS	03 17 59.6	-7.2
CD2				AMB	AMB		
	comp=Z,50nm,1.1s,mb5.4					
CD2				AMB	AMB		
	comp=Z,490nm,9.0s					
CD2				LR	LR		
	comp=N,2μm,18.0s,MS5.1					
CD2				LR	LR		
	comp=E,1μm,18.0s,MS5.1					
CD2				LR	LR		
	comp=Z,2μm,19.2s,MS5.0					
TIY	**Taiyuan**	**46.18**	**333**	P	**P**	**03 08 03.4**	**+4.1**
TIY				S	**S**	**03 14 41.8**	**-2.7**
TIY				AMB	AMB		
	comp=Z,383nm,5.2s					
TIY				LR	LR		
	comp=N,4μm,23.6s					
TIY				LR	LR		
	comp=E,1μm,18.1s					
TIY				LR	LR		
	comp=Z,2μm,18.3s					
BJT	**Baijiatuau**	**46.59**	**338**	*e*P	**P**	**03 08 01.8**	**-0.7**
BJT				pmax	pmax		
	comp=Z,51nm,1.2s					
BJT				MLR	MLR		
	comp=Z,3μm,20.0s					
BJT	**Baijiatuau**	**46.59**	**338**	*e*P	**P**	**03 08 01.8**	**-0.7**
	comp=Z,51nm,1.2s,mb5.3					
BJT				LR	LR		
	comp=Z,3μm,20.0s,MS5.2					
BJI	**Beijing**	**46.61**	**338**	P	**P**	**03 08 01.8**	**-0.8**
BJI				PP	PP	03 09 53.3	+0.9
BJI				S	**S**	**03 14 48.3**	**-2.2**
BJI				AMB	AMB		
	comp=Z,8.0nm,1.5s,mb4.4					
BJI				AMB	AMB		
	comp=Z,338nm,4.3s					
BJI				LR	LR		
	comp=N,2μm,19.2s,MS5.2					
BJI				LR	LR		
	comp=E,780nm,20.3s,MS5.2					
BJI				LR	LR		
	comp=Z,2μm,19.2s,MS5.1					
ASAJ	**Asahikawa**	**46.95**	**6**	P	**P**	**03 08 04.6**	**-0.6**
	comp=Z,4.0nm,0.5s,mb4.6,baz=214,slow=3.6,SNR=3.0					
ASAJ				LR	LR	03 25 36.9	
	comp=Z,2μm,21.6s,MS4.9,baz=147,slow=33					
MDJ	**Mudanjiang**	**47.60**	**353**	P	**P**	**03 08 13.4**	**+3.1**
MDJ				AP	pP	03 08 15.9	-1.2
MDJ				XP	sP	03 08 17.8	-2.0
MDJ				PP	PP	03 10 04.9	+2.8
MDJ				S	**S**	**03 15 06.3**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0					
MDJ				LR	LR		
	comp=N,1μm,17.7s,MS5.0					
MDJ				LR	LR		
	comp=E,627nm,18.5s,MS5.0					
MDJ				LR	LR		
	comp=Z,2μm,17.7s,MS5.0					
MDJ	**Mudanjiang**	**47.60**	**353**	*e*P	**P**	**03 08 10.7**	**+0.4**
	comp=Z,42nm,1.2s,mb5.3					
MDJ				LR	LR		
	comp=Z,2μm,20.0s,MS5.0					
LZH	**Lanzhou**	**49.40**	**325**	*e*P	**P**	**03 08 26.0**	**+1.6**
LZH				AP	pP	03 08 29.0	-2.2
LZH				PP	PP	03 10 21.1	+2.4
LZH				*e*S	**S**	**03 15 31.1**	**+0.8**
LZH				SS	SS	03 18 59.0	-3.4
LZH				AMB	AMB		
	comp=Z,160nm,1.6s,mb5.8					
LZH				AMB	AMB		
	comp=Z,640nm,4.3s					
LZH				LR	LR		
	comp=E,3μm,14.9s					
LZH				LR	LR		
	comp=Z,3μm,15.6s,MS5.4					
YSS	**Yuzh-Sakhalins**	**49.78**	**5**	*e*P	**P**	**03 08 26.0**	**-1.0**
YSS				*e*		03 08 35.0	
YSS				*e*S	**S**	**03 15 34.0**	**-1.1**
YSS				*e*SS	ScS	03 18 14.0	-3.3
YSS				MLR	MLR		
	comp=Z,900nm,18.0s,MS4.8					
YSS	**Yuzh-Sakhalins**	**49.78**	**5**	PFAKE		03 08 40.0	+13
YSS				LR	LR		
	comp=Z,1μm,20.0s,MS5.0					
RAO	**Raoul Island**	**50.39**	**126**	PFAKE		03 08 40.0	+8.0
RAO				LR	LR		
	comp=Z,2μm,21.0s,MS5.2					
RPZ	**Rata Peaks**	**50.83**	**148**	P	**P**	**03 08 36.1**	**+1.1**
RPZ				LR	LR	03 29 22.5	
RPZ	**Rata Peaks**	**50.83**	**148**	P	**P**	**03 08 36.2**	**+1.1**
	comp=Z,29nm,0.9s,mb5.2,baz=324,slow=8.7,SNR=5.3					
RPZ				LR	LR	03 29 22.5	
	comp=Z,3μm,21.4s,MS5.3,baz=37,slow=35					
URZ	**Urewera**	**51.00**	**139**	P	**P**	**03 08 37.1**	**+0.6**
URZ				LR	LR	03 29 07.7	
URZ	**Urewera**	**51.00**	**139**	P	**P**	**03 08 37.1**	**+0.6**
	comp=Z,12nm,0.6s,mb5.0,baz=322,slow=3.0,SNR=7.4					
URZ				LR	LR	03 29 07.7	
	comp=Z,4μm,21.0s,MS5.5,baz=317,slow=35					
SNZO	**South Karori**	**51.29**	**144**	PFAKE		03 08 50.0	+11
SNZO				LR	LR		
	comp=Z,2μm,19.0s,MS5.2					
SHL	**Shillong**	**51.82**	**306**	*e*P	**P**	**03 08 43.0**	**+0.2**
SHL				*ex*	x	03 17 33.0	
KLR	**Kul'dur**	**51.96**	**356**	*e*P	**P**	**03 08 39.3**	**-4.1**
KLR				*e*S	**S**	**03 15 55.0**	**-10**
MIDW	**Midway**	**53.70**	**52**	PFAKE		03 09 10.0	+13
MIDW				LR	LR		
	comp=Z,3μm,20.0s,MS5.4					
HIA	**Hailar**	**53.89**	**346**	*e*P	**P**	**03 08 56.6**	**-1.0**
HIA				pmax	pmax		
	comp=Z,18nm,0.9s					
HIA				MLR	MLR		
	comp=Z,1μm,19.0s					
HIA	**Hailar**	**53.89**	**346**	*e*P	**P**	**03 08 56.6**	**-1.0**
	comp=Z,18nm,0.9s,mb5.0					
HIA				LR	LR		
	comp=Z,1μm,19.0s,MS5.0					
GTA	**Gaotai**	**54.00**	**325**	*e*P	**P**	**03 08 59.8**	**+1.1**
GTA				AP	pP	03 09 04.8	-0.7
GTA				XP	sP	03 09 08.5	+0.3
GTA				PP	PP	03 11 02.3	+2.0
GTA				S	**S**	**03 16 35.0**	**+1.5**
GTA				SS	SS	03 20 16.4	+1.1
GTA				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.7					
GTA				AMB	AMB		
	comp=Z,300nm,4.6s					
GTA				LR	LR		
	comp=N,700nm,18.0s					
GTA				LR	LR		
	comp=E,597nm,23.3s					
GTA				LR	LR		
	comp=Z,915nm,21.4s,MS4.8					
LSA	**Lhasa**	**54.29**	**310**	P	**P**	**03 09 03.8**	**+2.9**
LSA				AP	pP	03 09 12.6	+4.8
LSA				S	**S**	**03 16 35.4**	**-2.3**
LSA				XS	sS	03 16 55.3	+6.3
LSA				LR	LR		
	comp=N,830nm,47.5s					
LSA				LR	LR		
	comp=E,1μm,35.9s					
LSA				LR	LR		
	comp=Z,940nm,20.1s					
LSA	**Lhasa**	**54.29**	**310**	*e*P	**P**	**03 09 02.6**	**+1.7**
LSA				pmax	pmax		
	comp=Z,124nm,1.3s,mb5.7					
LSA				MLR	MLR		
	comp=Z,967nm,19.0s,MS4.9					
LSA	**Lhasa**	**54.29**	**310**	*e*P	**P**	**03 09 02.6**	**+1.6**
	comp=Z,124nm,1.3s,mb5.7					
LSA				LR	LR		
	comp=Z,967nm,19.0s,MS4.9					
SKR	**Severo-Kuril's**	**55.75**	**15**	P	**P**	**03 09 04.0**	**-7.1**
SKR				*e*		03 10 03.0	
SKR				*e*		03 11 16.0	
SKR				*e*S	**S**	**03 16 48.0**	**-8.5**
SKR				*e*PS		03 17 08.0	
SKR				pmax	pmax		
	comp=Z,1μm,5.0s						
SKR				smax			
	comp=N,1μm,10.0s						
SKR				smax			
	comp=E,1μm,10.0s						
SKR				MLR	MLR		
	comp=N,1μm,20.0s,MS5.1						
SKR				MLR	MLR		
	comp=E,1μm,20.0s,MS5.1						
SKR				MLR	MLR		
	comp=Z,1μm,20.0s,MS5.0						
BOK	**Bokaro**	**56.12**	**301**	⇓*e*P	**P**	**03 09 12.7**	**-1.6**
ULN	**Ulaanbaatar**	**56.73**	**336**	PFAKE		03 09 30.0	+12
ULN				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
PALK	**Pallekele**	**56.88**	**280**	PFAKE		03 09 30.0	+10
PALK				LR	LR		
	comp=Z,935nm,19.0s,MS4.9						
SONM	**Songino Array**	**56.98**	**336**	P	**P**	**03 09 19.1**	**-0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.6s						
SONM				MLR	MLR		
	comp=Z,2μm,19.5s						
SONM	**Songino Array**	**56.98**	**336**	P	**P**	**03 09 19.1**	**-0.8**
	comp=Z,1.8nm,0.6s,mb4.3,baz=160,slow=6.8,SNR=10						
SONM				LR	LR	03 33 40.3	
	comp=Z,2μm,19.5s,MS5.2,baz=152,slow=36						
JIRN	**Jiri**	**57.32**	**305**	*e*P	**P**	**03 09 23.0**	**+0.3**
	comp=Z,440nm,1.6s,mb6.2						
GUN	**Gumba**	**57.67**	**306**	*e*P	**P**	**03 09 26.2**	**+1.0**
	comp=Z,552nm,1.4s,mb6.4						
PKI	**Pulchoki**	**57.92**	**305**	*e*P	**P**	**03 09 27.4**	**+0.4**
	comp=Z,267nm,1.4s,mb6.1						
KKN	**Kakani**	**58.11**	**305**	*e*P	**P**	**03 09 28.9**	**+0.6**
	comp=Z,388nm,1.3s,mb6.3						
DMN	**Daman**	**58.19**	**305**	*e*P	**P**	**03 09 29.7**	**+0.9**
	comp=Z,480nm,1.4s,mb6.3						
PET	**Petropavlovsk**	**58.53**	**15**	*e*P	**P**	**03 09 28.8**	**-1.9**
PET				*e*S	**S**	**03 17 33.2**	**0.0**
PET				*e*PPS		03 17 56.1	
PET				*e*SS	SS	03 21 26.3	+0.2
PET				*e*SSS		03 23 46.7	
PET				pmax	pmax		
	comp=Z,42nm,0.3s,mb6.0						
PET				pmax	pmax		
	comp=Z,200nm,5.5s						
PET	**Petropavlovsk**	**58.53**	**15**	PFAKE		03 09 40.0	+9.3
PET				LR	LR		
	comp=Z,775nm,20.0s,MS4.8						
GKN	**Gorkha**	**58.72**	**305**	*e*P	**P**	**03 09 32.8**	**+0.2**
	comp=Z,547nm,1.4s,mb6.4						
BLSP	**Bilaspur**	**58.84**	**298**	*e*P	**P**	**03 09 32.7**	**-0.8**
BLSP				AMb	AMB	03 09 54.1	
	comp=Z,74nm,1.1s,mb5.6						
KOLN	**Koldanda**	**59.48**	**305**	*e*P	**P**	**03 09 38.3**	**+0.5**
	comp=Z,640nm,1.5s,mb6.4						
DANN	**Dangsing**	**59.57**	**305**	*e*P	**P**	**03 09 39.2**	**+0.8**
	comp=Z,826nm,1.7s						
NRGR	**Nerungri**	**60.03**	**352**	*e*P	pP	03 09 52.3	+4.3
NRGR				S	**S**	**03 17 52.1**	**-0.3**
NRGR				smax			
	comp=N,39nm,0.6s						
CLNS	**Chul'man**	**60.18**	**352**	*e*P	**P**	**03 09 39.6**	**-2.5**
CLNS				*e**PP	pP	03 09 46.9	-2.1
CLNS				*e*		03 10 25.5	
CLNS				*e*S	**S**	**03 17 48.9**	**-5.5**
CLNS				*e*PS		03 18 19.0	
CLNS				*e*SSS		03 24 23.1	
CLNS				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
CLNS				pmax	pmax		
	comp=N,7.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.9s						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.7s						
CLNS				smax			
	comp=E,80nm,10.1s						
CLNS				smax			
	comp=Z,107nm,12.9s						
CLNS				smax			
	comp=N,63nm,10.1s						
CLNS				MLR	MLR		
	comp=Z,700nm,17.0s,MS4.9						
CLNS				MLR	MLR		
	comp=N,400nm,14.0s,MS4.8						
CLNS				MLR	MLR		
	comp=E,400nm,18.0s,MS4.8						
ZAK	**Zakamensk**	**60.24**	**336**	*e*P	**P**	**03 09 41.4**	**-1.2**
ZAK				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
KOD	**Kodaikanal**	**60.48**	**283**	*e*P	**P**	**03 09 43.3**	**-1.6**
KOD				AMb	AMB	03 09 53.2	
	comp=Z,33nm,0.5s,mb5.7						
HYB	**Hyderabad**	**60.83**	**292**	*e*P	**P**	**03 09 47.0**	**-0.3**
HYB	**Hyderabad**	**60.83**	**292**	*i* P	**P**	**03 09 47.0**	**-0.3**
TLY	**Talaya**	**61.11**	**337**	P	**P**	**03 09 51.6**	**+3.1**
	comp=Z,81nm,0.8s,mb5.9,SNR=6.2						
TLY	**Talaya**	**61.11**	**337**	*i* P	**P**	**03 09 49.6**	**+1.1**
TLY	**Talaya**	**61.11**	**337**	PFAKE		03 10 00.0	+12
TLY				LR	LR		
	comp=Z,2μm,20.0s,MS5.3						
NGP	**Nagpur**	**61.31**	**296**	*e*P	**P**	**03 09 49.0**	**-1.4**
IRK	**Irkutsk**	**61.31**	**338**	*e*P	**P**	**03 09 58.8**	**+8.9**
IRK				pmax	pmax		
	comp=Z,96nm,2.0s,mb5.6						
MOY	**Mondy**	**62.16**	**336**	*e*P	pP	03 10 07.1	+4.6
MOY				pmax	pmax		
	comp=Z,24nm,1.7s,mb5.0						
AKL	**Akola**	**63.03**	**295**	*e*P	**P**	**03 10 01.9**	**-0.1**
AKL				AMb	AMB	03 10 13.2	
	comp=Z,63nm,2.0s,mb5.4						
MA2	**Magadan**	**63.11**	**8**	*e*P	**P**	**03 10 01.4**	**-0.4**
MA2				*e*S	**S**	**03 18 28.2**	**-3.2**
MA2				*e*PS		03 18 55.1	
MA2				*e*SS	SS	03 22 32.4	-5.3
MA2				*e*SSS		03 25 24.0	
MA2				pmax	pmax		
	comp=Z,60nm,1.7s,mb5.5						
MA2				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.4						
MA2	**Magadan**	**63.11**	**8**	PFAKE		03 10 10.0	+8.2
MA2				LR	LR		
	comp=Z,657nm,21.0s,MS4.8						
BHPL	**Bhopal**	**63.32**	**298**	*e*P	**P**	**03 10 03.6**	**-0.3**
BHPL				AMb	AMB	03 10 17.2	
	comp=Z,71nm,2.0s,mb5.4						
SMY	**Shemya**	**63.55**	**24**	PFAKE		03 10 20.0	+15
SMY				LR	LR		
	comp=Z,1μm,21.0s,MS5.1						
WMQ	**Urumqi**	**63.88**	**322**	P	**P**	**03 10 08.0**	**+0.8**
WMQ				XP	sP	03 10 17.0	+0.2
WMQ				PP	PP	03 12 28.0	+0.1
WMQ				S	**S**	**03 18 40.0**	**-1.6**
WMQ				AMB	AMB		
	comp=Z,45nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,71nm,6.0s						
WMQ				LR	LR		
	comp=N,925nm,16.0s,MS5.1						
WMQ				LR	LR		
	comp=E,539nm,16.0s,MS5.1						
WMQ				LR	LR		
	comp=Z,486nm,15.0s,MS4.8						
YAK	**Yakutsk**	**64.84**	**356**	*e*P	**P**	**03 10 12.4**	**-0.7**
YAK				*e**PP	pP	03 10 21.3	+1.2
YAK				*e*		03 10 25.5	
YAK				*e*		03 12 32.5	
YAK				*e*S	**S**	**03 18 52.7**	**-0.1**
YAK				*e**SS	sS	03 19 31.2	+27
YAK				*e*		03 20 03.3	
YAK				*e*SS	SS	03 23 06.5	+1.9
YAK				pmax	pmax		
	comp=Z,13nm,0.7s,mb5.1						
YAK				pmax	pmax		
	comp=N,5.0nm,1.0s						
YAK				pmax	pmax		
	comp=E,3.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,19nm,0.6s,mb5.3						
YAK				pmax	pmax		
	comp=N,29nm,1.5s						
YAK				pmax	pmax		
	comp=E,18nm,1.7s						
YAK				smax			
	comp=N,160nm,4.8s						
YAK				smax			
	comp=E,212nm,4.4s						
YAK	**Yakutsk**	**64.84**	**356**	*e*P	**P**	**03 10 13.4**	**+0.3**
	comp=E,72nm,0.8s,mb5.8						
YAK				LR	LR		
	comp=Z,2μm,20.0s,MS5.4						
KAD	**Karad**	**64.88**	**290**	*i* P	**P**	**03 10 13.7**	**-0.6**
DDI	**Dehra Dun**	**64.92**	**305**	*e*P	**P**	**03 10 14.0**	**-0.3**
NDI	**New Delhi**	**65.09**	**303**	*e*P	**P**	**03 10 13.5**	**-1.9**
POO	**Poona**	**65.44**	**292**	*e*P	**P**	**03 10 17.4**	**-0.5**
POO				AMb	AMB	03 10 25.5	
	comp=Z,54nm,2.0s,mb5.2						
SMLA	**Simla**	**65.91**	**306**	*e*P	**P**	**03 10 20.5**	**-0.2**
SMLA				AMb	AMB	03 10 32.8	
	comp=Z,107nm,1.5s,mb5.7						
SEY	**Seymchan**	**66.56**	**8**	*e*P	**P**	**03 10 24.5**	**+0.3**
KIP	**Kipapa**	**68.07**	**66**	PFAKE		03 10 50.0	+15
KIP				LR	LR		
	comp=Z,1μm,21.0s,MS5.2						
MK31	**Makanchi Array**	**68.68**	**323**	*i* P	**P**	**03 10 37.3**	**-0.6**
MK31				pmax	pmax		
	comp=Z,113nm,1.9s,mb5.5						
MK31	**Makanchi Array**	**68.68**	**323**	*e*P	**P**	**03 10 37.4**	**-0.5**
MKAR	**Makanchi Array**	**68.68**	**323**	P	**P**	**03 10 37.9**	**0.0**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR				MLR	MLR		
	comp=Z,808nm,19.5s						
MKAR	**Makanchi Array**	**68.68**	**323**	P	**P**	**03 10 37.9**	**0.0**
	comp=Z,2.1nm,0.6s,mb4.3,baz=105,slow=7.6,SNR=21						
MKAR				LR	LR	03 45 02.1	
	comp=Z,808nm,19.5s,MS5.0,baz=124,slow=40						
KSH	**Kashi**	**69.75**	**314**	P	**P**	**03 10 45.3**	**+0.6**
KSH				*e*AP	pP	03 10 50.1	-1.6
KSH				*e*XP	sP	03 10 53.5	-0.8
KSH				*e*PCP	PcP	03 11 08.3	+0.9
KSH				*e*PP	PP	03 13 22.3	+3.1
KSH				*e*PPP		03 15 01.3	
KSH				*e*S	S	03 19 50.8	-1.9
KSH				*e*SCS	ScS	03 20 43.0	-2.5
KSH				*e*SS	SS	03 24 23.5	+1.9
KSH				AMB	AMB		
	comp=Z,560nm,2.6s,mb6.0						
KSH				LR	LR		
	comp=N,687nm,7.4s						
KSH				LR	LR		
	comp=E,1μm,9.0s						
KSH				LR	LR		
	comp=Z,2μm,18.6s,MS5.4						
POHA	**Pohakuloa**	**70.02**	**68**	PFAKE		03 11 00.0	+13
POHA				LR	LR		
	comp=Z,1μm,19.0s,MS5.2						
MIR	**Mirnyy**	**70.59**	**197**	*e*P	**P**	**03 10 42.0**	**-7.3**
MIR				*i*	pP	03 10 50.0	-6.4
MIR				*i*		03 11 04.5	
MIR				pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7						
ZAA0	**Zalesovo Array**	**71.04**	**330**	*e*P	**P**	**03 10 51.0**	**-1.3**
ZALV	**Zalesovo Beam**	**71.04**	**330**	P	**P**	**03 10 51.1**	**-1.1**
	comp=Z,4.9nm,0.6s,mb4.6,baz=111,slow=6.9,SNR=9.5						
ZALV				LR	LR	03 45 32.5	
	comp=Z,564nm,18.6s,MS4.8,baz=128,slow=39						
ZAL	**Zalesovo**	**71.04**	**330**	P	**P**	**03 10 51.1**	**-1.2**
TKM2	**Tokmak 2**	**71.29**	**317**	*e*P	**P**	**03 10 54.1**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.2						
TKM2				MLR	MLR		
	comp=Z,577nm,20.0s,MS4.8						
TKM2	**Tokmak 2**	**71.29**	**317**	*e*P	**P**	**03 10 54.1**	**+0.1**
	comp=Z,42nm,1.4s,mb5.2						
TKM2				LR	LR		
	comp=Z,577nm,20.0s,MS4.8						
UCH	**Uchtor**	**71.77**	**316**	*e*P	**P**	**03 10 57.3**	**+0.4**
	comp=Z,102nm,1.6s,mb5.5						
UCH				LR	LR		
	comp=Z,1μm,22.0s,MS5.1						
FRU	**Bishkek**	**71.92**	**317**	*e*P	pP	03 11 08.4	+3.5
FRU				pmax	pmax		
	comp=Z,67nm,2.0s,mb5.2						
NVS	**Novosibirsk**	**72.30**	**331**	*e*P	**P**	**03 10 57.8**	**-2.0**
NVS				*e*S	S	03 20 21.1	-0.6
NVS				pmax	pmax		
	comp=N,36nm,1.8s						
NVS				pmax	pmax		
	comp=E,41nm,1.8s						
NVS				pmax	pmax		
	comp=Z,57nm,1.8s,mb5.2						
NVS				smax			
	comp=N,13nm,2.0s						
NVS				smax			
	comp=E,10.0nm,2.8s						
AML	**Almayashu**	**72.31**	**316**	*e*P	**P**	**03 11 01.2**	**+1.1**
	comp=E,64nm,1.2s,mb5.4						
AML				LR	LR		
	comp=Z,902nm,21.0s,MS5.0						
EKS2	**Erkin-Say**	**72.44**	**316**	*e*P	**P**	**03 11 01.3**	**+0.4**
	comp=Z,66nm,1.5s,mb5.3						
EKS2				LR	LR		
	comp=Z,919nm,20.0s,MS5.0						
KURK	**Kurchatov**	**72.68**	**326**	P	**P**	**03 11 01.5**	**-0.7**
	comp=Z,109nm,1.8s,mb5.5,SNR=6.2						
KURK	**Kurchatov**	**72.68**	**326**	⇑*i* P	**P**	**03 11 00.2**	**-2.0**
KURK	**Kurchatov**	**72.68**	**326**	*e*P	**P**	**03 11 00.7**	**-1.5**
	comp=Z,55nm,1.4s,mb5.3						
KURK				LR	LR		
	comp=Z,551nm,20.0s,MS4.8						
UNV	**Unalaska Valle**	**73.34**	**31**	PFAKE		03 11 20.0	+14
UNV				LR	LR		
	comp=Z,2μm,20.0s,MS5.5						
KBL	**Kabul**	**73.45**	**307**	*e*P	**P**	**03 11 06.5**	**-0.6**
	comp=Z,16nm,0.9s,mb4.9						
PPT	**Papeete**	**73.54**	**107**	*e*S	S	03 20 37.8	+0.5
	comp=Z,344nm,28.2s						
PPT	**Papeete**	**73.54**	**107**	*e*LR	LR	03 33 58.5	
	comp=Z,2μm,23.2s						
BILL	**Bilibino**	**73.57**	**11**	⇓*i* P	**P**	**03 11 07.3**	**+0.2**
BILL				*e**PP	pP	03 11 18.2	+4.0
BILL				pmax	pmax		
	comp=Z,14nm,2.0s,mb4.5						
BILL	**Bilibino**	**73.57**	**11**	*e*P	**P**	**03 11 06.6**	**-0.5**
	comp=Z,16nm,1.2s,mb4.8						
BILL				LR	LR		
	comp=Z,371nm,20.0s,MS4.7						

TIXI Tiksi 74.45 357 *e*P **P** 03 11 10.7 -1.5
TIXI *e*S S 03 20 39.5 -6.0
TIXI pmax pmax
comp=Z,35nm,1.8s,mb5.0
TIXI MLR MLR
comp=Z,875nm,19.0s,MS5.1
TIXI Tiksi 74.45 357 *e*P **P** 03 11 11.2 -1.0
comp=Z,33nm,1.3s,mb5.1
TIXI LR LR
comp=Z,2μm,20.0s,MS5.5
KK31 Karatay Array 74.84 316 *i*P **P** 03 11 14.2 -0.9
KK31 pmax pmax
comp=Z,48nm,1.4s,mb5.2
VNDA Vanda 75.91 175 *e*P **P** 03 11 20.8 +0.2
VNDA pmax pmax
comp=Z,19nm,1.0s
VNDA MLR MLR
comp=Z,4μm,19.0s
VNDA Vanda 75.91 175 *e*P **P** 03 11 20.8 +0.3
comp=Z,19nm,1.0s,mb5.0
VNDA LR LR
comp=Z,4μm,19.0s,MS5.7
VNDA Vanda 75.91 175 P **P** 03 11 19.8 -0.8
comp=Z,7.5nm,0.8s,mb4.7,baz=322,slow=6.0,SNR=46
VNDA LR LR 03 44 03.7
comp=Z,4μm,19.3s,MS5.7,baz=353,slow=35
SBA Scott Base 76.70 174 PFAKE 03 11 40.0 +15
SBA LR LR
comp=Z,2μm,19.0s,MS5.4
BVAR Borovoye Array 78.28 326 P **P** 03 11 32.9 -1.3
comp=Z,6.9nm,0.7s,mb4.7,baz=116,slow=6.8,SNR=26
BRVK Borovoye 78.35 326 *e*P **P** 03 11 33.7 -1.0
BRVK pmax pmax
comp=Z,32nm,1.1s,mb5.2
BRVK MLR MLR
comp=Z,508nm,20.0s,MS4.8
BRVK Borovoye 78.35 326 *e*P **P** 03 11 33.6 -1.0
comp=Z,32nm,1.1s,mb5.2
BRVK LR LR
comp=Z,508nm,20.0s,MS4.8
TNA Tin City 78.85 20 PFAKE 03 11 50.0 +13
TNA LR LR
comp=Z,372nm,19.0s,MS4.7
MSEY Mahe Island 81.16 266 PFAKE 03 12 00.0 +9.2
MSEY LR LR
comp=Z,370nm,19.0s,MS4.8
MAW Mawson 81.38 202 *e*P **P** 03 11 51.2 +0.4
MAW pmax pmax
comp=Z,42nm,1.3s
MAW MLR MLR
comp=Z,2μm,19.0s
MAW Mawson 81.38 202 *e*P **P** 03 11 51.2 +0.4
comp=Z,42nm,1.3s,mb5.2
MAW LR LR
comp=Z,2μm,19.0s,MS5.5
MAW Mawson 81.38 202 P **P** 03 11 50.7 -0.1
comp=Z,4.4nm,0.9s,mb4.4,baz=54,slow=7.4,SNR=4.4
MAW LR LR 03 44 40.7
comp=Z,1μm,19.3s,MS5.3,baz=73,slow=33
SVW2 Sparrevohn 81.77 27 *e*P **P** 03 11 53.7 +0.7
KDAK Kodiak Island 82.10 31 P **P** 03 11 56.3 +1.5
KDAK LR LR
comp=Z,365nm,21.0s,MS4.7
KDAK Kodiak Island 82.10 31 P **P** 03 11 56.3 +1.5
comp=Z,11nm,0.8s,mb4.9,baz=97,slow=0.3,SNR=3.6
TTA Tatalina 82.25 25 *e*P **P** 03 11 56.8 +1.3
TAOE Nuku Hiva Isla 82.70 99 *e*S S 03 22 14.5 -1.6
comp=Z,29μm,27.0s
TAOE Nuku Hiva Isla 82.70 99 *e*LQ 03 34 31.2
comp=Z,26μm,36.5s
TAOE *e*LR LR 03 38 04.7
comp=Z,30μm,27.4s
IMA2 Indian Mountai 84.31 23 *e*P **P** 03 12 06.1 +0.1
PMR Palmer 84.88 27 *e*P **P** 03 12 08.2 -0.8
PMR pmax pmax
comp=Z,19nm,1.4s,mb5.0
PMR MLR MLR
comp=Z,1μm,22.0s,MS5.2
PMR Palmer 84.88 27 *e*P **P** 03 12 08.2 -0.8
comp=Z,19nm,1.4s,mb5.0
PMR LR LR
comp=Z,1μm,22.0s,MS5.2
ARU Arti 85.80 327 *d i*P **P** 03 12 12.9 -0.8
ARU *e* 03 15 30.8
ARU *e*S S 03 22 34.3 -11
ARU pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
ARU MLR MLR
comp=Z,583nm,21.0s,MS5.0
ARU Arti 85.80 327 *e*P **P** 03 12 13.0 -0.7
comp=Z,15nm,0.8s,mb5.3
ARU LR LR
comp=Z,563nm,20.0s,MS5.0
COLA College 86.28 24‖ *e*P **P** 03 12 15.8 -0.1
COLA College 86.28 24 *e*P **P** 03 12 15.3 -0.6
COLA LR LR
comp=Z,603nm,20.0s,MS5.0
DIV Divide 86.34 28 *e*P **P** 03 12 16.2 -0.1
comp=Z,40nm,0.9s,mb5.7
DIV LR LR
comp=Z,3μm,20.0s,MS5.7
QSPA South Pole Qui 87.19 180 *e*P **P** 03 12 18.7 -1.4
comp=Z,39nm,1.1s,mb5.5
QSPA LR LR
comp=Z,3μm,20.0s,MS5.7
RKT Rikitea 87.28 113 *e*S S 03 22 59.9 -1.3
comp=Z,524nm,27.5s
RKT Rikitea 87.28 113 *e*LQ 03 36 26.8
comp=Z,712nm,31.2s
RKT *e*LR LR 03 40 09.2
comp=Z,1μm,30.2s
ABPO Ambohimpanom 88.73 251 PFAKE 03 12 40.0 +11
ABPO LR LR
comp=Z,413nm,22.0s,MS4.8
EGAK Eagle 89.07 25 *e*P **P** 03 12 29.8 +0.5
comp=Z,12nm,0.9s,mb5.2
EGAK LR LR
comp=Z,845nm,20.0s,MS5.2
DAWY Dawson 89.74 26 *e*P **P** 03 12 33.3 +0.8
SYO Syowa Base 90.04 201‖ *e*P **P** 03 12 33.8 0.0
SYO Syowa Base 90.04 201‖ *e*pP pP 03 12 42.6 +1.6
SIT Sitka 91.12 33 PFAKE 03 12 50.0 +11
SIT LR LR
comp=Z,942nm,20.0s,MS5.2
SKAG Skagway 91.26 31 *e*P **P** 03 12 40.7 +1.1
comp=Z,32nm,1.2s,mb5.5
INK Inuvik 92.42 22 *e*P **P** 03 12 43.9 -0.9
comp=Z,320nm,1.4s
WRAK Wrangell Islan 92.74 34 PFAKE 03 13 00.0 +13
WRAK LR LR
comp=Z,835nm,20.0s,MS5.2
GNI Garni 93.35 310 PFAKE 03 13 00.0 +10
GNI LR LR
comp=Z,243nm,21.0s,MS4.6
KIV Kislovodsk 94.88 314 PFAKE 03 13 10.0 +13
KIV LR LR
comp=Z,472nm,22.0s,MS4.9
SOC Sochi 97.04 313 *e*P **P** 03 13 03.0 -3.5
SOC *e*PPP 03 19 05.4
SOC *e*S S 03 23 37.6 -51
SOC *e* 03 24 23.1
SOC pmax pmax
comp=Z,12nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,389nm,21.0s,MS4.9
LVZ Lovozero 97.12 338 PFAKE 03 13 20.0 +14
LVZ LR LR
comp=Z,942nm,21.0s,MS5.2
OBN Obninsk 98.12 325 PFAKE 03 13 20.0 +8.9
OBN LR LR
comp=Z,828nm,20.0s,MS5.2
NLWA Neilton Lookou 98.33 43 PFAKE 03 13 20.0 +7.8
NLWA LR LR
comp=Z,2μm,21.0s,MS5.5
ANN Anapa 98.60 315 *e*P **P** 03 13 09.2 -4.3
ANN pmax pmax
comp=Z,13nm,1.6s,mb5.2
ANN MLR MLR
comp=Z,537nm,22.0s,MS5.0
COR Corvallis 98.97 45 PFAKE 03 13 30.0 +15
COR LR LR
comp=Z,766nm,19.0s,MS5.2
KBS Kingsbay 99.05 351 PFAKE 03 13 30.0 +15
KBS LR LR
comp=Z,642nm,20.0s,MS5.1
KEV Kevo 99.36 341 PFAKE 03 13 30.0 +14
KEV LR LR
comp=Z,994nm,19.0s,MS5.3
HUMO Hull Mountain 99.39 47 PFAKE 03 13 30.0 +13
HUMO LR LR
comp=Z,776nm,20.0s,MS5.2
KMBO Kilima Mbogo 99.50 268 PFAKE 03 13 30.0 +12
KMBO LR LR
comp=Z,348nm,20.0s,MS4.9
KMBO Kilima Mbogo 99.50 268 LR LR 03 53 23.4
comp=Z,339nm,20.4s,MS4.8,baz=92,slow=32
HOPS Hopland 99.59 51 PFAKE 03 13 30.0 +12
HOPS LR LR
comp=Z,2μm,20.0s,MS5.5
YBH Yreka Blue Hor 99.65 48 PFAKE 03 13 30.0 +12
YBH LR LR
comp=Z,1μm,21.0s,MS5.4
MCCM Marconi Confer 99.80 52 PFAKE 03 13 30.0 +11
MCCM LR LR
comp=Z,926nm,20.0s,MS5.3
WDC Whiskeytown Da 99.87 49 PFAKE 03 13 30.0 +11
WDC LR LR
comp=Z,2μm,20.0s,MS5.6
ARCES ARCESS Array B 99.93 341 P Pdif 03 13 18.1 -1.1
ARCES pmax pmax
comp=Z,5.0nm,0.9s
ARCES MLR MLR
comp=Z,1μm,21.8s
ARCES ARCESS Array B 99.93 341 P Pdif 03 13 18.1 -1.1
comp=Z,4.5nm,0.9s,baz=73,slow=8.1,SNR=11
ARCES LR LR 04 01 09.0
comp=Z,1μm,21.8s,MS5.3,baz=68,slow=37
YKA Yellowknife Ar 100.96 27 P Pdif 03 13 23.2 -0.6
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA Yellowknife Ar 100.96 27 P Pdif 03 13 23.2 -0.6
YKA Yellowknife Ar 100.96 27 P Pdif 03 13 23.2 -0.6
comp=Z,0.8nm,0.8s,baz=289,slow=4.8,SNR=9.6
SAO San Andreas Ge 101.05 53 PFAKE 03 13 40.0 +16
SAO LR LR
comp=Z,1μm,21.0s,MS5.4
SNAA Sanae 101.28 192 *e*Pdiff Pdif 03 13 21.4 -3.8
SNAA *e* 03 13 35.4
SNAA *e* 03 13 41.4
SNAA *e* 03 13 47.5
SNAA *e* 03 13 52.5
HAWA Hanford 101.40 43 PFAKE 03 13 40.0 +14
HAWA LR LR
comp=Z,1μm,20.0s,MS5.4
MOD Modoc 101.42 48 PFAKE 03 13 40.0 +14
MOD LR LR
comp=Z,1μm,21.0s,MS5.4
CMB Columbia Colle 101.77 52 PFAKE 03 13 40.0 +13
CMB LR LR
comp=Z,753nm,21.0s,MS5.2
ANTO Ankara 102.52 310 PFAKE 03 13 40.0 +9.3
ANTO LR LR
comp=Z,175nm,20.0s,MS4.6
WVOR Wild Horse Val 102.58 47 PFAKE 03 13 40.0 +9.0
WVOR LR LR
comp=Z,865nm,19.0s,MS5.3
NEW Newport 102.72 41 PFAKE 03 13 40.0 +8.4
NEW LR LR
comp=Z,2μm,22.0s,MS5.5
VNA2 Neumayer--Watz 102.78 191 *e*Pdiff Pdif 03 13 33.0 +1.1
VNA2 *e* 03 13 45.9
VNA2 *e* 03 13 52.0
VNA2 *e* 03 13 57.8
VNA2 *e* 03 14 02.7
SNCC San Nicolas Is 102.93 57 PFAKE 03 13 40.0 +7.5
SNCC LR LR
comp=Z,2μm,22.0s,MS5.5
BMO Blue Mountains 103.17 45 PFAKE 03 13 50.0 +16
BMO LR LR
comp=Z,780nm,21.0s,MS5.2
AKASG Malin Array Be 103.23 321 Pdiff Pdif 03 13 31.8 -2.1
comp=Z,0.3nm,0.4s,baz=66,slow=3.0,SNR=5.6
KIEV Kiev 103.24 321 PFAKE 03 13 50.0 +16
KIEV LR LR
comp=Z,599nm,22.0s,MS5.1
NVAR Mina Array Bea 103.36 51 Pdiff Pdif 03 13 35.1 +0.7
comp=Z,0.7nm,0.7s,baz=248,slow=6.1,SNR=5.9
BMN Battle Mountai 103.92 49 PFAKE 03 13 50.0 +13
BMN LR LR
comp=Z,1μm,20.0s,MS5.5
DAC Darwin (Calif) 104.18 53 PFAKE 03 13 50.0 +12
DAC LR LR
comp=Z,1μm,21.0s,MS5.5
TPH Tonopah 104.25 52 PFAKE 03 13 50.0 +12
TPH LR LR
comp=Z,874nm,20.0s,MS5.3
GSC Goldstone 104.94 54 PFAKE 03 13 50.0 +8.5
GSC LR LR
comp=Z,1μm,20.0s,MS5.4
MSO Missoula 105.11 42 PFAKE 03 18 10.0 +13
MSO LR LR
comp=Z,812nm,20.0s,MS5.3
TPNV Topopah Spring 105.17 53 PFAKE 03 18 10.0 +13
TPNV LR LR
comp=Z,855nm,22.0s,MS5.2
PFO Pinyon Flat Ob 105.44 56 PFAKE 03 18 10.0 +12
PFO LR LR
comp=Z,1μm,21.0s,MS5.4
GLA Glamis 106.86 56 PFAKE 03 18 10.0 +9.4
GLA LR LR
comp=Z,951nm,21.0s,MS5.3
BOZ Bozeman (W) 106.94 43 PFAKE 03 18 10.0 +10
BOZ LR LR
comp=Z,1μm,22.0s,MS5.4
BDRM Kayabasi 107.08 308 *i*P Pdif 03 13 48.3 -2.7
LSZ Lusaka 107.19 253 PFAKE 03 18 10.0 +8.3
LSZ LR LR
comp=Z,419nm,20.0s,MS5.0
DUG Dugway 107.28 49 PFAKE 03 18 10.0 +8.8
DUG LR LR
comp=Z,1μm,20.0s,MS5.4
BOSA Boshof 107.46 239 PFAKE 03 18 10.0 +8.1
BOSA LR LR
comp=Z,378nm,21.0s,MS4.9
EGMT Eagleton 107.58 40 PFAKE 03 18 10.0 +8.5
EGMT LR LR
comp=Z,2μm,21.0s,MS5.5
HWUT Hardware Ranch 107.91 47 PFAKE 03 18 10.0 +7.7
HWUT LR LR
comp=Z,1μm,20.0s,MS5.5
AHID Auburn Hatcher 107.99 46 PFAKE 03 18 10.0 +7.6
AHID LR LR
comp=Z,396nm,21.0s,MS5.0
MVU Marysvale 108.06 50 PFAKE 03 18 10.0 +7.3
MVU LR LR
comp=Z,643nm,20.0s,MS5.2
MPU Maple Canyon 108.20 49 PFAKE 03 18 10.0 +7.1
MPU LR LR
comp=Z,2μm,21.0s,MS5.7
RLMT Red Lodge 108.69 43 PFAKE 03 18 20.0 +16
RLMT LR LR
comp=Z,1μm,21.0s,MS5.4
BW06 Boulder Array 109.09 46 PFAKE 03 18 20.0 +16
BW06 LR LR
comp=Z,713nm,19.0s,MS5.3
NAO01 NORSAR Array S 109.19 335 PFAKE 03 18 20.0 +16
NAO01 LR LR
comp=Z,993nm,20.0s,MS5.4
WUAZ Wupatki 109.29 53 PFAKE 03 18 20.0 +15
WUAZ LR LR
comp=Z,898nm,21.0s,MS5.3
FFC Flin Flon 109.82 32 PFAKE 03 18 20.0 +15
FFC LR LR
comp=Z,924nm,20.0s,MS5.3
SUR Sutherland 110.19 234 PFAKE 03 18 20.0 +13
SUR LR LR
comp=Z,720nm,21.0s,MS5.2
OKC Ostrava-Krasne 110.29 323 AMS AMS 04 10 50.0
comp=Z,600nm,17.7s
TUC Tucson 110.35 57 PFAKE 03 18 20.0 +13
TUC LR LR
comp=Z,944nm,20.0s,MS5.4
KONO Kongsberg 110.36 334 PFAKE 03 18 20.0 +14
KONO LR LR
comp=Z,638nm,19.0s,MS5.2
DGMT Dagmar 110.97 39 PFAKE 03 18 20.0 +12
DGMT LR LR
comp=Z,1μm,20.0s,MS5.5
DPC Dobruska-Polom 111.19 324 *e*PP PP 03 18 59.4 +12
DPC AMS AMS 04 08 40.0
comp=Z,800nm,18.7s
MVCO Mesa Verde 111.21 51 PFAKE 03 18 20.0 +11
MVCO LR LR
comp=Z,785nm,22.0s,MS5.2
UPC Upice 111.31 324 *e*PP PP 03 19 01.9 +14
TREC Trest 112.10 323 AMS AMS 04 09 00.0
comp=Z,700nm,22.4s
PVCC Panska Ves 112.15 324 *e*PP PP 03 19 05.3 +11
PVCC AMS AMS 04 10 10.0
comp=Z,900nm,17.4s
PRU Pruhonice 112.38 324 AMS AMS 04 08 30.0
comp=Z,800nm,20.0s
RSSD Black Hills 112.55 43 PFAKE 03 18 20.0 +9.0
RSSD LR LR
comp=Z,1μm,21.0s,MS5.4
CLL Collm 112.72 326 *e*PS PS 03 28 29.0 -4.2
CLL *e*PPS 03 29 42.0
CLL *e*SSS 03 39 24.0
CLL LmH 04 09 00.0
comp=N,700nm,21.3s
CLL LmH 04 09 00.0
comp=E,600nm,21.4s
CLL LmV 04 10 00.0
comp=Z,1μm,20.4s
ISCO Idaho Springs 112.74 48 PFAKE 03 18 20.0 +8.5
ISCO LR LR
comp=Z,997nm,20.0s,MS5.4
KHC Kasperske Hory 113.31 323 *e*PP PP 03 19 09.3 +6.8
KHC AMS AMS 04 10 20.0
comp=Z,800nm,21.1s
ANMO Albuquerque 113.34 53 PFAKE 03 18 20.0 +7.2
ANMO LR LR
comp=Z,960nm,20.0s,MS5.4
SDCO Great Sand Dun 113.39 50 PFAKE 03 18 20.0 +7.2
SDCO LR LR
comp=Z,810nm,19.0s,MS5.3
NKC Novy Kostel 113.50 325 AMS AMS 04 10 20.0
comp=Z,1μm,20.7s
BOJS Bojanci 113.69 319 *e*PKPdf PKiKP 03 18 12.2 -0.9
GRFO Grafenberg 114.45 325 PFAKE 03 18 30.0 +16
GRFO LR LR
comp=Z,1μm,20.0s,MS5.4
MNTX Cornudas Mount 114.97 56 *e*PKP PKiKP 03 18 16.3 +0.3
MNTX LR LR
comp=Z,1μm,21.0s,MS5.5
SFJD Kangerlussuaq 115.67 3 PFAKE 03 18 30.0 +14
SFJD LR LR
comp=Z,479nm,21.0s,MS5.1
AGMN Agassiz Refuge 116.10 36 PFAKE 03 18 30.0 +12
AGMN LR LR
comp=Z,235nm,19.0s,MS4.8
TSUM Tsumeb 116.45 247 PFAKE 03 18 30.0 +11
TSUM LR LR
comp=Z,458nm,21.0s,MS5.1
BFO Black Forest 116.77 324 PFAKE 03 18 30.0 +11
BFO LR LR
comp=Z,817nm,20.0s,MS5.3
TXAR Lajitas Array 116.93 58 PKIKP PKPdf 03 18 20.5 +0.7
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 116.93 58 PKP PKPdf 03 18 20.5 +0.7
TXAR Lajitas Array 116.93 58 PKP PKPdf 03 18 20.5 +0.7
comp=Z,0.6nm,0.9s,baz=226,slow=4.8,SNR=3.4
AMTX Amarillo 117.15 52 PFAKE 03 18 30.0 +10
AMTX LR LR
comp=Z,1μm,21.0s,MS5.5
WLF Walferdange 117.34 326 *e*PKIKP PKPdf 03 18 20.8 +0.8
CBKS Cedar Bluff 117.38 47 PFAKE 03 18 30.0 +10
CBKS LR LR
comp=Z,893nm,20.0s,MS5.4
ECSD EROS,Sioux Fal 117.66 41 PFAKE 03 18 30.0 +9.2
ECSD LR LR
comp=Z,1μm,19.0s,MS5.5
ESK Eskdalemuir 118.47 335 PFAKE 03 18 30.0 +8.0
ESK LR LR
comp=Z,746nm,22.0s,MS5.3
EYMN Ely 118.81 35 PFAKE 03 18 30.0 +7.1
EYMN LR LR
comp=Z,911nm,20.0s,MS5.4
WMOK Wichita Mounta 119.46 51 PFAKE 03 18 40.0 +15
WMOK LR LR
comp=Z,734nm,20.0s,MS5.3
KSU1 Kansas State U 119.55 46 PFAKE 03 18 40.0 +15
KSU1 LR LR
comp=Z,1μm,21.0s,MS5.6
JCT Junction City 119.90 56 *e*PKIKP PKPdf 03 18 25.6 +0.1
JCT MLR MLR
comp=Z,797nm,21.0s,MS5.3
SCIA State Center 120.71 42 PFAKE 03 18 40.0 +13
SCIA LR LR
comp=Z,769nm,20.0s,MS5.3
COWI Conover 121.17 36 PFAKE 03 18 40.0 +13
COWI LR LR
comp=Z,2μm,22.0s,MS5.7
JFWS Jewell Farm 122.16 39 PFAKE 03 18 40.0 +11
JFWS LR LR
comp=Z,1μm,21.0s,MS5.5
KVTX Kingsville 122.30 59 PFAKE 03 18 40.0 +10
KVTX LR LR
comp=Z,627nm,20.0s,MS5.3
HKT Hockley 123.34 56 PFAKE 03 18 40.0 +7.8
HKT LR LR
comp=Z,742nm,20.0s,MS5.3
MIAR Mount Ida 123.55 50 PFAKE 03 18 40.0 +7.6
MIAR LR LR
comp=Z,992nm,20.0s,MS5.5
NATX Nacogdoches 123.71 53 PFAKE 03 18 40.0 +7.2
NATX LR LR
comp=Z,1μm,22.0s,MS5.6
CCM Cathedral Cave 123.80 45 PFAKE 03 18 40.0 +7.2
CCM LR LR
comp=Z,755nm,21.0s,MS5.3
HDIL Hopedale 123.95 41 PFAKE 03 18 40.0 +7.0
HDIL LR LR
comp=Z,803nm,20.0s,MS5.4
EFI East Falkland 124.31 169 PFAKE 03 18 40.0 +6.6
EFI LR LR
comp=Z,2μm,19.0s,MS5.7
GLMI Grayling 124.50 35 PFAKE 03 18 50.0 +16
GLMI LR LR
comp=Z,1μm,22.0s,MS5.5
SCHQ Schefferville 124.64 16 PFAKE 03 18 50.0 +16
SCHQ LR LR
comp=Z,846nm,20.0s,MS5.4
AAM Ann Arbor 126.56 37 PFAKE 03 18 50.0 +12
AAM LR LR
comp=Z,178nm,19.0s,MS4.8
OXF Oxford 126.70 48 PFAKE 03 18 50.0 +12
OXF LR LR
comp=Z,757nm,20.0s,MS5.4
VBMS Vicksburg 126.81 51 PFAKE 03 18 50.0 +11
VBMS LR LR
comp=Z,1μm,22.0s,MS5.5
PLAL Pickwick Lake 127.47 47 PFAKE 03 18 50.0 +10
PLAL LR LR
comp=Z,688nm,21.0s,MS5.3
ERPA Erie 128.82 35 PFAKE 03 18 50.0 +7.7
ERPA LR LR
comp=Z,1μm,22.0s,MS5.5
ESLA Sonseca Array 128.88 321 PFAKE 03 18 50.0 +7.5
ESLA LR LR
comp=Z,3μm,19.0s,MS6.0
PAB San Pablo 129.19 321 PFAKE 03 18 50.0 +6.9
PAB LR LR
comp=Z,493nm,19.0s,MS5.2
TZTN Tazewell 129.88 43 PFAKE 03 19 00.0 +16
TZTN LR LR
comp=Z,1μm,20.0s,MS5.5
LONY Lake Ozonia 129.96 29 PFAKE 03 19 00.0 +16
LONY LR LR
comp=Z,584nm,21.0s,MS5.2
BRAL Brewton 129.99 51 PFAKE 03 19 00.0 +15
BRAL LR LR
comp=Z,1μm,21.0s,MS5.5
PLCA Paso Flores 130.02 153 *e*PKIKP PKPdf 03 18 44.2 -0.4
PLCA MLR MLR
comp=Z,546nm,19.0s
PLCA Paso Flores 130.02 153 PKP PKPdf 03 18 43.9 -0.7
comp=Z,2.9nm,0.8s,baz=224,slow=6.2,SNR=4.0
MCWV Mont Chateau 130.46 37 PFAKE 03 19 00.0 +15
MCWV LR LR
comp=Z,2μm,22.0s,MS5.8
NCB Newcomb 130.62 29 PFAKE 03 19 00.0 +14
NCB LR LR
comp=Z,665nm,20.0s,MS5.3
BINY Binghamton 130.98 32 PFAKE 03 19 00.0 +14

BINY LR LR
comp=Z,2μm,21.0s,MS5.7
SSPA Standing Stone 130.99 35 PFAKE 03 19 00.0 +14
SSPA LR LR
comp=Z,2μm,21.0s,MS5.7
LBNH Lisbon 131.51 27 PFAKE 03 19 00.0 +13
LBNH LR LR
comp=Z,879nm,21.0s,MS5.4
GOGA Godfrey 131.57 46 PFAKE 03 19 00.0 +12
GOGA LR LR
comp=Z,1μm,22.0s,MS5.5
BLA Blacksburg 131.58 40 PFAKE 03 19 00.0 +12
BLA LR LR
comp=Z,170nm,21.0s,MS4.7
PKME Peaks-Kenny Pk 131.86 25 PFAKE 03 19 00.0 +12
PKME LR LR
comp=Z,1μm,20.0s,MS5.5
TEIG Tepich 132.73 65 PFAKE 03 19 00.0 +10
TEIG LR LR
comp=Z,556nm,21.0s,MS5.2
CBN Corbin 132.87 37 PFAKE 03 19 00.0 +10
CBN LR LR
comp=Z,2μm,22.0s,MS5.7
HRV Adam Dziewonsk 133.00 29 PFAKE 03 19 00.0 +10
HRV LR LR
comp=Z,768nm,20.0s,MS5.4
WES Weston 133.21 29 PFAKE 03 19 00.0 +9.4
WES LR LR
comp=Z,1μm,21.0s,MS5.6
NHSC New Hope 134.07 45 PFAKE 03 19 00.0 +7.5
NHSC LR LR
comp=Z,1μm,21.0s,MS5.5
CNNC Cliffs of the 134.39 41 PFAKE 03 19 00.0 +7.0
CNNC LR LR
comp=Z,1μm,22.0s,MS5.5
TOA0 Torodi Ar. Sit 134.45 286 *e*PKPdf PKPdf 03 18 52.8 -0.8
TORD Torodi Ar. Bea 134.45 286 PKP PKPdf 03 18 52.5 -1.1
comp=Z,3.4nm,0.8s,baz=60,slow=1.6,SNR=20
TGUH Tegucigalpa,Un 135.05 73 PFAKE 03 19 10.0 +15
TGUH LR LR
comp=Z,751nm,22.0s,MS5.4
DWPF Disney 135.67 52 PFAKE 03 19 10.0 +14
DWPF LR LR
comp=Z,899nm,21.0s,MS5.5
TRQA Tornquist 135.82 159 PFAKE 03 19 10.0 +14
TRQA LR LR
comp=Z,1μm,19.0s,MS5.6
JTS JuntasAbangare 137.87 78 PFAKE 03 19 10.0 +10
JTS LR LR
comp=Z,471nm,20.0s,MS5.2
DBIC Dimbokro 141.62 277 PKIKP PKPdf 03 19 08.0 +1.1
DBIC pmax pmax
comp=Z,4.0nm,0.9s
DBIC Dimbokro 141.62 277 PKP PKPdf 03 19 08.0 +1.0
comp=Z,4.0nm,0.9s,baz=245,slow=8.4,SNR=3.2
BCIP Isla Barro Col 143.01 78 PFAKE 03 19 20.0 +11
BCIP LR LR
comp=Z,250nm,19.0s,MS5.0
NNA Nana 143.48 114 PFAKE 03 19 20.0 +10
NNA LR LR
comp=Z,625nm,20.0s,MS5.4
BBSR BB Station 144.27 32 PFAKE 03 19 20.0 +8.9
BBSR LR LR
comp=Z,839nm,22.0s,MS5.5
ARE Arequipa 146.13 125 *e*PKP2 PKPab 03 19 17.0 +0.8
CPUP Villa Florida 148.01 156 *e*PKPbc PKPbc 03 19 21.6 +0.9
CPUP Villa Florida 148.01 156 PKPbc PKPbc 03 19 21.0 +0.3
comp=Z,16nm,1.0s,baz=202,slow=3.2,SNR=13
SDDR Presa de Saban 148.12 58 PFAKE 03 19 30.0 +12
SDDR LR LR
comp=Z,707nm,20.0s,MS5.5
ROSC El Rosal 148.85 85 *e*PKPbc PKPbc 03 19 24.7 +1.4
ROSC El Rosal 148.85 85 PKPbc PKPbc 03 19 24.1 +0.8
comp=Z,10nm,0.6s,baz=107,slow=12,SNR=9.5
LPAZ La Paz 148.92 128 *e*PKPdf PKPdf 03 19 20.7 +1.4
LPAZ LR LR
comp=Z,3μm,19.0s,MS6.1
LPAZ La Paz 148.92 128 PKPbc PKPbc 03 19 21.9 -1.4
comp=Z,14nm,1.2s,baz=89,slow=0.8,SNR=12
SDV Santo Domingo 152.03 76 *e*PKPdf PKPdf 03 19 24.6 +0.4
SDV *e*PKPbc PKPbc 03 19 31.2 +0.4
SDV *e*PKPab PKPab 03 19 40.1 -0.2
SDV LR LR
comp=Z,217nm,20.0s,MS5.0
SJG San Juan 152.80 54 PFAKE 03 19 40.0 +15
SJG LR LR
comp=Z,557nm,21.0s,MS5.3
GRGR Grenville 159.47 62 PFAKE 03 19 50.0 +16
GRGR LR LR
comp=Z,591nm,20.0s,MS5.4
BDFB Brasilia 161.10 165 PFAKE 03 19 50.0 +14
BDFB LR LR
comp=Z,989nm,22.0s
RCBR Riachuelo 168.79 220 PFAKE 03 19 50.0 +7.4
RCBR LR LR
comp=Z,921nm,20.0s

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*ISCJB **17** 03:03:07.0±0.9,3047N±0.10×1387E±.02,h454km±17km, Error ellipse: s-maj=31.1km s-min=10.7km az=159.2*
*IDC **17** 03:03:08.6±1.0,3039N×13879E,h439km±21km,mb4.0/1, mb1 3.5/6,mb1mx3.2/22,mbtmp3.6/6,Error ellipse: s-maj=40.3km s-min=14.0km az=64.0*
ISC 17 03:03:08.2±0.9,3045N±010×1388E±02,h444km±17km,n7, σ0°99/10,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JHJ	**Hachijo jima 2**	**2.80**	**17**	P	**P**	**03 04 14.4**	**+1.3**
	24nm,0.3s,baz=65,slow=22,SNR=15						
JHJ				S	**S**	**03 05 07.0**	**+1.0**
	46nm,0.3s,baz=263,slow=22,SNR=6.3						
CBIJ	**Chichi jima**	**4.48**	**137**	P	**P**	**03 04 28.2**	**+0.8**
	9.2nm,0.3s,baz=294,slow=20,SNR=4.3						
CBIJ				S	**S**	**03 05 30.2**	**-1.6**
	90nm,0.3s,baz=256,slow=22,SNR=17						
MJAR	**Matsushiro Arr**	**6.10**	**356**	P	**P**	**03 04 42.8**	**-0.4**
	3.0nm,0.3s,baz=170,slow=11,SNR=19						
MAT	**Matsushiro**	**6.10**	**356**	P	**P**	**03 04 43.1**	**-0.1**
MAT				S	**S**	**03 05 57.7**	**-3.2**
JOW	**Kunigami**	**9.91**	**251**	P	**P**	**03 05 24.2**	**-0.2**
	2.8nm,0.3s,baz=135,slow=28,SNR=7.6						
KSRS	**Korea Array**	**11.40**	**311**	P	**P**	**03 05 40.4**	**-0.2**
	0.3nm,0.3s,baz=129,slow=12,SNR=5.7						
WRA	**Warramunga Arr**	**50.28**	**185**	P	**P**	**03 11 22.9**	**+0.5**
	14nm,0.9s,baz=17,slow=8.1,SNR=2.5						

IDC 17 03:15:30.0±2.3,2050S×17476W,h116km±9km,mb3.7/4, mb1 4.0/4,mb1mx3.6/14,mbtmp3.7/4,Error ellipse: s-maj=133.2km s-min=26.1km az=151.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STKA	**Stephens Creek**	**40.53**	**245**	P	P	03 22 56.5	-1.5
	2.1nm,0.6s,baz=79,slow=10,SNR=3.2						
STKA				pP	pP	03 23 23.7	-0.5
	2.9nm,0.8s,baz=80,slow=12,SNR=2.0						
ASAR	**Alice Springs**	**47.48**	**256**	P	P	03 23 54.0	+0.4
	3.1nm,0.8s,baz=89,slow=8.3,SNR=21						
ASAR				pP	pP	03 24 20.6	+0.1
	4.4nm,0.8s,baz=91,slow=8.0,SNR=7.9						
WRA	**Warramunga Arr**	**47.61**	**261**	P	P	03 23 54.7	+0.1
	1.8nm,0.7s,baz=97,slow=7.1,SNR=15						
WRA				pP	pP	03 24 21.6	+0.1
	3.5nm,0.8s,baz=97,slow=8.1,SNR=7.2						
NVAR	**Mina Array Bea**	**78.97**	**42**	P	P	03 27 21.1	+0.1
	0.6nm,0.6s,baz=231,slow=6.9,SNR=4.5						
AKASG	**Malin Array Be**	**144.43**	**334**	PKP	PKPdf	03 34 53.3	+0.9
	1.9nm,0.7s,baz=41,slow=4.4,SNR=7.4						

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*NEIC **17** 03:18:43.4,3978S×17725E,h42km,ML3.9(WEL),After WEL.*
WEL 17 03:18:44.7±0.5,3981S×17709E,h42km±2km,ML3.7/19, Error ellipse: s-maj=4.6km s-min=2.6km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PXZ	**Pawanui**	**0.28**	**218**	PN	Pn	03 18 53.0	+0.1
PXZ				SN	Sn	03 18 59.7	+1.0
BKZ	**Black Stump Fm**	**0.79**	**324**	PN	Pn	03 18 58.4	-1.0
TSZ	**Takapari Road**	**0.90**	**254**	P	Pn	03 19 00.0	-1.0
TSZ	**Takapari Road**	**0.90**	**254**	PN	Pn	03 18 60.0	-1.0
KNZ	**Kokohu**	**0.91**	**30**	P	Pn	03 19 02.0	+1.0
KNZ	**Kokohu**	**0.91**	**30**	PN	Pn	03 19 02.0	+1.0
MOVZ	**Moawhango**	**1.11**	**291**	P	Pn	03 19 03.1	-0.6
MOVZ	**Moawhango**	**1.11**	**291**	PN	Pn	03 19 03.1	-0.7
HATZ	**Hinemaiaia**	**1.20**	**319**	P	Pn	03 19 04.8	-0.2
HATZ	**Hinemaiaia**	**1.20**	**319**	PN	Pn	03 19 04.8	-0.2
TUVZ	**Tukino**	**1.23**	**295**	P	Pn	03 19 05.6	+0.1
TUVZ	**Tukino**	**1.23**	**295**	PN	Pn	03 19 05.6	+0.2
WNVZ	**Wahianoa**	**1.25**	**292**	P	Pn	03 19 05.9	+0.2
WNVZ	**Wahianoa**	**1.25**	**292**	PN	Pn	03 19 05.9	+0.2
OTVZ	**Oturere**	**1.28**	**300**	PN	Pn	03 19 06.1	+0.1
DRZ	**Dome Shelter**	**1.29**	**294**	P	Pn	03 19 06.5	+0.2
DRZ	**Dome Shelter**	**1.29**	**294**	PN	Pn	03 19 06.5	+0.2
TRVZ	**Turoa**	**1.30**	**293**	PN	Pn	03 19 06.2	-0.1
FWVZ	**Far West T-bar**	**1.31**	**294**	P	Pn	03 19 06.3	-0.2
FWVZ	**Far West T-bar**	**1.31**	**294**	PN	Pn	03 19 06.3	-0.2
NGZ	**Ngauruhoe**	**1.31**	**298**	P	Pn	03 19 06.3	-0.3
NGZ	**Ngauruhoe**	**1.31**	**298**	PN	Pn	03 19 06.3	-0.3
MTVZ	**Mangateitei**	**1.32**	**288**	PN	Pn	03 19 06.9	+0.2
KRVZ	**Karewarewa**	**1.33**	**302**	PN	Pn	03 19 06.6	-0.2
TIWZ	**Tintock**	**1.34**	**223**	PN	Pn	03 19 06.4	-0.5
WPVZ	**Whakapapa**	**1.34**	**296**	P	Pn	03 19 06.5	-0.4
WPVZ	**Whakapapa**	**1.34**	**296**	PN	Pn	03 19 06.5	-0.4
WTVZ	**West Tongariro**	**1.35**	**300**	P	Pn	03 19 07.0	-0.1
WTVZ	**West Tongariro**	**1.35**	**300**	PN	Pn	03 19 07.0	-0.1
RATZ	**Rangitukua**	**1.39**	**312**	PN	Pn	03 19 07.6	0.0
PKVZ	**Pokaka**	**1.44**	**290**	PN	Pn	03 19 08.1	-0.3
TWVZ	**Taurewa**	**1.48**	**299**	P	Pn	03 19 08.1	-0.7
TWVZ	**Taurewa**	**1.48**	**299**	PN	Pn	03 19 08.1	-0.7
MWZ	**Matawai**	**1.51**	**13**	PN	Pn	03 19 09.4	+0.1
URZ	**Urewera**	**1.55**	**1**	P	Pn	03 19 09.6	-0.2
URZ	**Urewera**	**1.55**	**1**	PN	Pn	03 19 09.6	-0.2
WAZ	**Wanganui**	**1.62**	**271**	P	Pn	03 19 11.4	+0.6
WAZ	**Wanganui**	**1.62**	**271**	PN	Pn	03 19 11.4	+0.6
MTW	**Mount Morrison**	**1.81**	**221**	P	Pn	03 19 11.7	-1.7
MTW	**Mount Morrison**	**1.81**	**221**	PN	Pn	03 19 11.7	-1.7
TRWZ	**Traveller**	**1.92**	**213**	PN	Pn	03 19 13.4	-1.4
VRZ	**Vera Road**	**1.93**	**290**	PN	Pn	03 19 14.5	-0.5
KIW	**Kapiti Island**	**1.97**	**237**	P	Pn	03 19 14.5	-1.1
KIW	**Kapiti Island**	**1.97**	**237**	PN	Pn	03 19 14.5	-1.1
CAW	**Cannon Point**	**2.02**	**229**	P	Pn	03 19 15.0	-1.2
CAW	**Cannon Point**	**2.02**	**229**	PN	Pn	03 19 15.0	-1.2
PAWZ	**Paruwai Farm**	**2.02**	**218**	P	Pn	03 19 15.0	-1.3
PAWZ	**Paruwai Farm**	**2.02**	**218**	PN	Pn	03 19 15.0	-1.3
MSWZ	**Moikau Station**	**2.13**	**221**	PN	Pn	03 19 15.7	-2.1
HIZ	**Hauiti**	**2.17**	**306**	P	Pn	03 19 17.6	-0.7
HIZ	**Hauiti**	**2.17**	**306**	PN	Pn	03 19 17.6	-0.7
PLWZ	**Palliser**	**2.25**	**218**	PN	Pn	03 19 17.0	-2.4
WEL	**Wellington**	**2.30**	**229**	P	Pn	03 19 18.8	-1.4
WEL	**Wellington**	**2.30**	**229**	PN	Pn	03 19 18.8	-1.4
MRW	**Makara Radio**	**2.31**	**231**	P	Pn	03 19 18.6	-1.6
MRW	**Makara Radio**	**2.31**	**231**	PN	Pn	03 19 18.6	-1.7
SNZO	**South Karori**	**2.36**	**230**	P	Pn	03 19 18.9	-2.0
SNZO	**South Karori**	**2.36**	**230**	PN	Pn	03 19 18.9	-1.9
TCW	**Tory Channel**	**2.56**	**236**	PN	Pn	03 19 21.8	-1.9
DUWZ	**D'Urville Isla**	**2.62**	**247**	PN	Pn	03 19 22.8	-1.7
BSWZ	**Blackbirch Sta**	**3.10**	**231**	P	Pn	03 19 29.0	-2.0
BSWZ	**Blackbirch Sta**	**3.10**	**231**	PN	Pn	03 19 29.0	-2.1
NNZ	**Nelson**	**3.16**	**242**	P	Pn	03 19 30.0	-1.9
NNZ	**Nelson**	**3.16**	**242**	PN	Pn	03 19 30.0	-1.9
QRZ	**Quartz Range**	**3.63**	**252**	P	Pn	03 19 36.2	-2.2
QRZ	**Quartz Range**	**3.63**	**252**	PN	Pn	03 19 36.2	-2.2
THZ	**Tophouse**	**3.73**	**237**	P	Pn	03 19 37.4	-2.3
THZ	**Tophouse**	**3.73**	**237**	PN	Pn	03 19 37.4	-2.4
KHZ	**Kahutara**	**3.74**	**225**	P	Pn	03 19 35.9	-4.0
KHZ	**Kahutara**	**3.74**	**225**	PN	Pn	03 19 35.9	-3.9
DSZ	**Denniston Nort**	**4.46**	**243**	P	Pn	03 19 47.3	-2.4
DSZ	**Denniston Nort**	**4.46**	**243**	PN	Pn	03 19 47.3	-2.5
LTZ	**Lake Taylor**	**4.69**	**229**	P	Pn	03 19 49.9	-3.0
LTZ	**Lake Taylor**	**4.69**	**229**	PN	Pn	03 19 49.9	-3.0
MQZ	**McQueen's Vall**	**5.12**	**219**	P	Pn	03 19 55.8	-3.0
MQZ	**McQueen's Vall**	**5.12**	**219**	PN	Pn	03 19 55.8	-3.0
RPZ	**Rata Peaks**	**5.97**	**227**	P	Pn	03 20 07.9	-2.5
RPZ	**Rata Peaks**	**5.97**	**227**	PN	Pn	03 20 07.9	-2.5
FOZ	**Fox Glacier**	**6.69**	**233**	P	Pn	03 20 15.0	-5.4
FOZ	**Fox Glacier**	**6.69**	**233**	PN	Pn	03 20 15.0	-5.3
ODZ	**Otahua Downs**	**7.08**	**220**	P	Pn	03 20 22.3	-3.4
ODZ	**Otahua Downs**	**7.08**	**220**	PN	Pn	03 20 22.3	-3.3
JCZ	**Jackson Bay**	**7.53**	**233**	P	Pn	03 20 27.3	-4.6
JCZ	**Jackson Bay**	**7.53**	**233**	PN	Pn	03 20 27.3	-4.6

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*NEIC **17** 03:19:24.4±2.0,2788S×17668W,h47km±18km,mb4.6/17, Error ellipse: s-maj=15.8km s-min=10.3km az=182.0*
*GCMT **17** 03:19:24.5±0.4,2804S×17625W,h21km±1km,MW5.0/52, Moment Tensor Solution. s24,c31; s52,c72; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}2.67±.32; $M_{\theta\theta}$2.05±.25; $M_{\phi\phi}$-4.72±.23; $M_{r\theta}$0.89±.47; $M_{\phi\phi}$-2.24±.15; $M_{\phi r}$0.66±.34; Best double couple: $M_0$4.44900×10^{16} NP1:ϕ_s160.00000°,δ54.00000°,λ32.00000°. NP2: ϕ_s50.00000°,δ65.00000°,λ140.00000°. Principal axes: T 3.4070, Plg46.0000°, Azm11.0000°; N 2.0850, Plg44.0000°, Azm203.0000°; P -5.4920, Plg6.0000°, Azm107.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **17** 03:19:24.4,28.15S×17729W,h38km,mB4.9,mb5.1,Ms4.7, Msz4.4*
*ISCJB **17** 03:19:25.4±2.1,280S±0.1×17678W±0.10,h68km±18km, mb4.4/26,Error ellipse: s-maj=18.3km s-min=14.1km az=8.4*
*IDC **17** 03:19:25.7±3.6,2796S×17673W,h56km±31km,mb4.1/12, mb1 4.3/12,mb1mx4.2/15,mbtmp4.1/12,MS4.3/5, Ms1 4.3/5,ms1mx4.1/14,Error ellipse: s-maj=24.6km s-min=19.9km az=21.0*
ISC 17 03:19:25.3±2.3,280S±01×17671W±010,h53km±20km, h37km±.7km:pP-P,n65,σ0°90/46,mb4.5/26,MS4.3/5,1Ĉ-1D, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
RAO	**Raoul Island**	**1.65**	**220**	*e*Pn	**Pn**	**03 19 52.0**	**+0.1**
RAO				*e*Sn	**Sn**	**03 20 17.9**	**+6.1**
RAO	**Raoul Island**	**1.65**	**220**	P	**Pn**	**03 19 52.1**	**+0.2**
	202nm,0.3s,baz=79,slow=16,SNR=14						
RAO				S	**Sn**	**03 20 16.8**	**+5.0**
	476nm,0.3s,baz=85,slow=23,SNR=18						
URZ	**Urewera**	**11.47**	**205**	S	**Sn**	**03 24 06.0**	**-7.0**
	3.6nm,0.3s,baz=177,slow=21,SNR=9.1						
RPZ	**Rata Peaks**	**18.53**	**209**	P	**Pn**	**03 23 34.6**	**-3.4**
	1.8nm,0.3s,baz=38,slow=7.4,SNR=6.5						
HNR	**Honiara**	**28.70**	**306**	LR	LR	03 35 23.8	
	comp=Z,713nm,18.5s,MS4.3,baz=178,slow=33						
CTA	**Charters Tower**	**34.62**	**275**	*e*P	**P**	**03 26 10.9**	**+1.3**
	5.4nm,0.6s,mb4.7						
CTA	**Charters Tower**	**34.62**	**275**	P	**P**	**03 26 10.3**	**+0.7**
	6.9nm,0.6s,mb4.8,baz=103,slow=9.7,SNR=8.7						
CTAO	**Charters Tower**	**34.62**	**275**	*e*P	**P**	**03 26 11.1**	**+1.5**
	5.6nm,0.5s,mb4.8						
STKA	**Stephens Creek**	**36.18**	**253**	*e*P	**P**	**03 26 23.8**	**+0.9**
	4.6nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**36.18**	**253**	P	**P**	**03 26 23.1**	**+0.3**
	2.6nm,0.6s,mb4.3,baz=158,slow=23,SNR=4.2						
STKA				LR	LR	03 38 12.8	
	comp=Z,614nm,21.6s,MS4.3,baz=34,slow=31						
COEN	**Coen**	**39.78**	**282**	*e*P	**P**	**03 26 55.5**	**+2.1**
	2.4nm,0.6s,mb4.1						
ASAR	**Alice Springs**	**44.43**	**264**	P	**P**	**03 27 30.7**	**-0.4**
	4.8nm,0.8s,mb4.3,baz=96,slow=6.7,SNR=32						
WB2	**Warramunga Arr**	**45.19**	**269**	*e*P	**P**	**03 27 36.6**	**-0.6**
WRAB	**Tennant Creek**	**45.20**	**269**	*e*P	**P**	**03 27 36.3**	**-1.0**
	6.1nm,0.8s,mb4.5						
WRA	**Warramunga Arr**	**45.20**	**269**	P	**P**	**03 27 36.7**	**-0.7**
	3.7nm,0.5s,mb4.5,baz=109,slow=6.4,SNR=22						
WRA				LR	LR	03 47 13.1	
	comp=Z,336nm,18.1s,MS4.3,baz=280,slow=37						
FORT	**Forrest**	**47.80**	**253**	*e*P	**P**	**03 27 56.6**	**-0.9**
	3.0nm,0.7s,mb4.4						
KAKA	**Kakadu**	**49.69**	**277**	*e*P	**P**	**03 28 11.2**	**-1.1**
	5.9nm,0.5s,mb4.9						
SBA	**Scott Base**	**50.52**	**184**	*e*P	**P**	**03 28 26.6**	**+8.9**
	16nm,1.0s,mb4.9						
VNDA	**Vanda**	**50.60**	**186**	*e*P	**P**	**03 28 19.6**	**+1.3**
	2.1nm,0.9s,mb4.1						
VNDA	**Vanda**	**50.60**	**186**	P	**P**	**03 28 18.9**	**+0.6**
	0.5nm,0.5s,mb3.7,baz=4.1,slow=6.6,SNR=4.0						
FITZ	**Fitzroy Crossi**	**53.54**	**267**	P	**P**	**03 28 40.6**	**-0.4**
	3.2nm,0.9s,mb4.3,baz=199,slow=23,SNR=6.5						
MBWA	**Marble Bar**	**57.65**	**262**	*e*P	**P**	**03 29 11.1**	**+0.6**
	6.4nm,0.8s,mb4.7						
QSPA	**South Pole Qui**	**62.11**	**180**	*e*P	**P**	**03 29 40.9**	**+0.8**
	9.0nm,0.9s,mb4.9						
KSM	**Kuching**	**75.71**	**279**	*e*P	**P**	**03 31 05.8**	**+0.1**
MJAR	**Matsushiro Arr**	**76.93**	**324**	P	**P**	**03 31 11.8**	**-0.2**
MJAR				LR	LR	03 57 44.1	
MJAR	**Matsushiro Arr**	**76.93**	**324**	P	**P**	**03 31 11.8**	**-0.1**
	8.2nm,0.9s,mb4.6,baz=164,slow=6.1,SNR=15						
MJAR				LR	LR	03 57 44.1	
	comp=Z,243nm,20.5s,MS4.5,baz=265,slow=30						
MAJO	**Matsushiro**	**76.93**	**324**	*e*P	**P**	**03 31 11.7**	**-0.3**
	9.9nm,0.8s,mb4.8						
SYO	**Syowa Base**	**79.71**	**193⇑**	*e*PcP	PcP	03 31 33.1	-1.5
SYO	**Syowa Base**	**79.71**	**193‖**	*e*pP	pP	03 31 38.6	-3.5
SNAA	**Sanae**	**80.52**	**178**	*e*	**P**	**03 31 24.5**	**-6.8**
SNAA				*e*		03 31 29.4	
SNAA				*e*		03 31 33.9	
VNA3	**Neumayer Olymp**	**80.62**	**176**	*e*	**P**	**03 31 31.5**	**-0.3**
VNA3				*e*		03 31 37.7	
VNA3				*e*	pP	03 31 42.2	-4.8
ASAJ	**Asahikawa**	**80.85**	**332**	P	**P**	**03 31 34.6**	**+1.4**
	4.4nm,0.5s,mb4.6,baz=163,slow=19,SNR=3.9						
VNA2	**Neumayer--Watz**	**81.07**	**176**	*e*	**P**	**03 31 33.2**	**-1.0**
VNA2				*e*		03 31 39.6	
VNA2				*e*	pP	03 31 44.2	-5.3
VNA1	**Neumayer--Stat**	**81.30**	**176**	*e*	**P**	**03 31 27.7**	**-7.7**
VNA1				*e*		03 31 34.6	
VNA1				*e*	pP	03 31 39.1	-12
KSRS	**Korea Array**	**83.27**	**319**	P	**P**	**03 31 45.4**	**-0.8**
	3.2nm,0.9s,mb4.3,baz=142,slow=5.5,SNR=6.1						
KSRS				LR	LR	04 02 42.7	
	comp=Z,119nm,20.1s,MS4.3,baz=235,slow=31						
PLCA	**Paso Flores**	**83.31**	**133**	*e*P	**P**	**03 31 47.9**	**+1.4**
	4.7nm,1.0s,mb4.5						
PLCA	**Paso Flores**	**83.31**	**133**	P	**P**	**03 31 47.1**	**+0.6**
	2.5nm,0.9s,mb4.3,baz=248,slow=5.3,SNR=3.1						
NJ2	**Nanjing**	**85.56**	**310**	*e*P	**P**	**03 31 57.6**	**-0.2**
NJ2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.4						
NVAR	**Mina Array Bea**	**85.70**	**42**	P	**P**	**03 31 58.7**	**+0.3**
NVAR	**Mina Array Bea**	**85.70**	**42**	P	**P**	**03 31 58.7**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.3,baz=219,slow=8.0,SNR=9.4						
TUC	**Tucson**	**86.72**	**51**	*e*P	**P**	**03 32 04.1**	**+0.5**
	comp=Z,2.9nm,1.1s,mb4.4						
TXAR	**Lajitas Array**	**90.13**	**57**	P	**P**	**03 32 19.4**	**-0.4**
TXAR	**Lajitas Array**	**90.13**	**57**	P	**P**	**03 32 19.4**	**-0.4**
	comp=Z,0.3nm,0.6s,mb3.8,baz=238,slow=5.2,SNR=2.6						
MNTX	**Cornudas Mount**	**90.16**	**54**	*e*P	**P**	**03 32 18.5**	**-1.4**
	comp=Z,4.6nm,1.4s,mb4.6						
SNOW	**Snow King Moun**	**93.30**	**42**	*e*P	**P**	**03 32 34.1**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.8						
KMI	**Kunming**	**93.76**	**296**	P	**P**	**03 32 38.3**	**+1.6**
KMI				AP	pP	03 32 49.0	-3.2
KMI				XP	sP	03 32 53.9	-4.1
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb5.2						
BOZ	**Bozeman (W)**	**94.09**	**40**	*e*P	**P**	**03 32 37.2**	**-0.5**
	comp=Z,1.0nm,0.6s,mb4.4						
WMQ	**Urumqi**	**112.61**	**309**	*e*PKP	PKiKP	03 37 57.0	+1.4
MKAR	**Makanchi Array**	**117.08**	**311**	PKP	PKPdf	03 38 03.3	-0.7
	comp=Z,0.9nm,0.6s,baz=87,slow=1.0,SNR=8.2						
UCH	**Uchtor**	**121.60**	**304**	*e*PKPdf	PKPdf	03 38 13.6	+0.7
BVAR	**Borovoye Array**	**125.45**	**317**	PKP	PKPdf	03 38 19.7	-0.2
	comp=Z,1.4nm,0.6s,baz=103,slow=3.3,SNR=8.4						
ARCES	**ARCESS Array B**	**136.47**	**349**	PKP	PKPdf	03 38 40.1	-0.2
	comp=Z,2.4nm,0.5s,baz=308,slow=0.2,SNR=16						
FINES	**FINESS Array B**	**143.25**	**342**	PKhKP		03 38 48.9	
	comp=Z,1.8nm,0.9s,baz=53,slow=3.4,SNR=5.8						
ONI	**Oni**	**144.48**	**305**	P	PKPdf	03 38 55.7	+0.1
KIV	**Kislovodsk**	**144.73**	**307**	*e*PKPdf	PKPdf	03 38 57.7	+1.7
NB2	**NORSAR Subarra**	**146.53**	**353**	PKP	PKPdf	03 38 59.1	+0.6
	comp=Z,8.1nm,0.8s,baz=8.7,slow=2.9						
NOA	**NORSAR Array B**	**146.53**	**353**	PKPbc	PKPbc	03 38 59.5	-0.5
	comp=Z,6.2nm,0.8s,baz=14,slow=4.5,SNR=22						
NAO01	**NORSAR Array S**	**146.75**	**353**	*e*PKPbc	PKPbc	03 39 00.4	-0.3
MALT	**Malatya**	**149.00**	**298**	*e*PKPbc	PKPbc	03 39 08.3	+0.8
MALT				*e*PKPab	PKPab	03 39 13.2	+1.4
AKASG	**Malin Array Be**	**150.00**	**326**	PKPbc	PKPbc	03 39 09.1	-0.4
	comp=Z,5.5nm,0.7s,baz=44,slow=3.1,SNR=26						
AKBB	**Malin Array Si**	**150.00**	**326**	*e*PKPbc	PKPbc	03 39 08.9	-0.6
KIEV	**Kiev**	**150.01**	**326**	*e*PKPbc	PKPbc	03 39 08.6	-0.9
EKA	**Eskdalemuir Ar**	**152.28**	**8**	PKPbc	PKPbc	03 39 13.7	-0.9
	comp=Z,1.0nm,0.6s,baz=340,slow=1.3,SNR=9.0						
EKA				PKPab	PKPab	03 39 25.1	+0.4
	comp=Z,1.4nm,0.7s,baz=312,slow=2.3,SNR=5.9						
MORC	**Moravsky Berou**	**155.66**	**337**	*e*PKPdf	PKPdf	03 39 14.1	+1.3
TORD	**Torodi Ar. Bea**	**165.16**	**174**	PKP	PKPdf	03 39 23.3	-1.0
	comp=Z,0.8nm,0.9s,baz=107,slow=0.8,SNR=5.5						
TORD				PKPab	PKPab	03 40 21.3	0.0
	comp=Z,1.8nm,0.8s,baz=198,slow=3.4,SNR=11						

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*ISCJB **17** 03:25:44.3±0.3,2042N±004×10091E±002,h10km, mb3.6/8,Error ellipse: s-maj=5.8km s-min=2.6km az=167.7*
*IDC **17** 03:25:45.5±1.

MK31	Makanchi Array	30.29 334	*e*P	P	03 31 58.2	-0.1
MKAR	Makanchi Array	30.29 334	P	P	03 31 58.4	0.0
	comp=Z,0.5nm,0.4s,mb3.6,baz=143,slow=10,SNR=10					
TKM2	Tokmak 2	30.79 322	*e*P	P	03 32 02.1	-0.7
	comp=Z,1.5nm,0.5s,mb4.1					
UCH	Uchtor	31.00 320	*e*P	P	03 32 05.4	+0.8
	comp=Z,1.1nm,0.5s,mb3.9					
KURK	Kurchatov	34.88 335	*e*P	P	03 32 39.2	+0.8
	comp=Z,1.6nm,0.9s,mb4.0					
BVAR	Borovoye Array	40.05 332	P	P	03 33 21.6	-0.6
	comp=Z,0.7nm,0.4s,mb3.7,baz=123,slow=10,SNR=4.6					
WRA	Warramunga Arr	51.87 139	P	P	03 34 55.6	-0.3
	comp=Z,0.6nm,0.7s,mb3.6,baz=324,slow=8.1,SNR=4.7					
ASAR	Alice Springs	54.45 142	P	P	03 35 16.6	+1.7
	comp=Z,0.2nm,0.6s,mb3.2,baz=319,slow=7.1,SNR=2.9					

ISCJB ***17*** *03:34:54.9±0.2, 4831N±001×660E±001, h8km±1km, Error ellipse: s-maj=1.8km s-min=1.4km az=163.5*
NEIC ***17*** *03:34:56.9, 4836N×665E, h10km, ML3.2(LDG), ML3.1(STR), ML2.9(SZGRF), After STR.*
STR ***17*** *03:34:56.9±0.1, 4836N×665E, h10km, Ml3.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
CSEM ***17*** *03:34:57.4±0.0, 4834N×667E, h12km, ML3.3/33, Error ellipse: s-maj=0.7km s-min=0.5km az=165.0*
LEDBW ***17*** *03:34:57.9±0.2, 4833N±002×6660E±0009, h10km, ML3.1, Error ellipse: s-maj=6.0km s-min=4.0km az=1.0*
BGR ***17*** *03:34:57.5±0.4, 4837N×669E, h10km, ML2.9/6, Error ellipse: s-maj=5.6km s-min=3.3km az=169.0*
LDG ***17*** *03:34:57.7±0.0, 4832N×665E, h11km, Md3.4/8, Ml3.2/29, Error ellipse: s-maj=0.9km s-min=0.7km az=159.0*
BNS ***17*** *03:34:58.0±0.5, 4831N×655E, h10km, ML2.5*
ZUR ***17*** *03:34:58.7, 4817N×666E, h-4km±1km, ML2.9/6*
PRU ***17*** *03:34:59.3, 4841N×681E, h0km*
ISC 17 03:34:56.4±0.2, 48314N±0010×662E±001, h16km±1km, n197, σ1°17/441, 11C-10D, France

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
HAU	**Haudompre**	**0.36**	**211**	*e*Pg		**Pg**	**03 35 05.4**	**+1.7**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**03 35 10.5**	**+1.8**
	328nm,0.2s							
HAU	**Haudompre**	**0.36**	**211**	*e*Pg		**Pg**	**03 35 05.4**	**+1.7**
	SNR=1.0							
HAU				*e*Sg		**Sg**	**03 35 10.5**	**+1.8**
	164nm,0.2s							
ECH	**Echery**	**0.37**	**105**	⇓P*		**Pg**	**03 35 04.7**	**+0.7**
ECH				S*		**Sg**	**03 35 09.4**	**+0.3**
ECH	**Echery**	**0.37**	**105**	Pg		**Pg**	**03 35 04.7**	**+0.7**
ECH				Sg		**Sg**	**03 35 09.1**	**0.0**
THEF	**They Montfort**	**0.43**	**259**	⇑*i*P*		**Pb**	**03 35 06.5**	**+0.9**
THEF				S*		**Sg**	**03 35 13.5**	**+2.6**
THEF	**They Montfort**	**0.43**	**259**	⇑*i*Pg		**Pb**	**03 35 06.5**	**+0.9**
THEF				Sx		**Sg**	**03 35 13.5**	**+2.6**
THEF	**They Montfort**	**0.43**	**259**	Pg		**Pg**	**03 35 06.2**	**+1.1**
THEF				Sg		**Sg**	**03 35 12.5**	**+1.6**
CDF	**Champ du Feu**	**0.45**	**77**	*e*Pg		**Pg**	**03 35 05.7**	**+0.3**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**03 35 11.4**	**0.0**
	442nm,0.2s							
CDF	**Champ du Feu**	**0.45**	**77**	*e*Pg		**Pg**	**03 35 05.7**	**+0.3**
	SNR=1.0							
CDF				*e*Sg		**Sg**	**03 35 11.4**	**0.0**
	221nm,0.2s							
HINF	**Hinteralfeld**	**0.52**	**162**	*e*Pg		**Pg**	**03 35 07.8**	**+1.1**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**03 35 14.8**	**+1.1**
	315nm,0.2s,SNR=1.0							
HINF				*e*Sn		**Sg**	**03 35 17.6**	**+3.9**
HINF	**Hinteralfeld**	**0.52**	**162**	*e*Pg		**Pg**	**03 35 07.8**	**+1.1**
	SNR=1.0							
HINF				*e*Sg		**Sg**	**03 35 14.8**	**+1.1**
	157nm,0.2s,SNR=1.0							
HINF				*e*Sn		**Sg**	**03 35 17.6**	**+3.9**
MOF	**Molkenrain**	**0.58**	**143**	Pg		**Pg**	**03 35 08.6**	**+0.9**
MOF				Sg		**Sg**	**03 35 18.7**	**+3.3**
MOF	**Molkenrain**	**0.58**	**143**	⇓Pg		**Pg**	**03 35 08.9**	**+1.1**
BREM	**Bremgarten**	**0.79**	**120**	Pg		**Pg**	**03 35 12.9**	**+1.2**
STR	**Strasbourg**	**0.81**	**70**	Pg		**Pg**	**03 35 13.1**	**+1.0**
STR				Sg		**Sg**	**03 35 23.8**	**+1.0**
RFYF	**Reffroy**	**0.82**	**293**	*e*Pn		**Pn**	**03 35 14.2**	**+0.8**
	baz=117							
RFYF				*e*Sg		**Sg**	**03 35 24.7**	**+1.4**
RFYF				*e*Sn		**Sn**	**03 35 25.9**	**+0.7**
	592nm,0.2s,baz=112							
RFYF	**Reffroy**	**0.82**	**293**	*e*Pg		**Pg**	**03 35 13.8**	**+1.4**
RFYF				*e*Pn		**Pn**	**03 35 14.2**	**+0.8**
RFYF				*e*Sg		**Sg**	**03 35 24.7**	**+1.4**
RFYF				*e*Sn		**Sn**	**03 35 25.9**	**+0.7**
RFYF	**Reffroy**	**0.82**	**293**	*e*Pn		**Pn**	**03 35 14.2**	**+0.8**
RFYF				*e*Sg		**Sg**	**03 35 24.7**	**+1.4**
RFYF				*e*Sn		**Sn**	**03 35 25.9**	**+0.7**
	296nm,0.2s							
STAU	**Staufen im Bre**	**0.87**	**120**	Pn		**Pn**	**03 35 14.1**	**+0.2**
STAU				Sn		**Sn**	**03 35 25.1**	**-1.2**
FBB	**Freiburg im Br**	**0.88**	**110**	Pg		**Pg**	**03 35 14.4**	**+1.0**
FBB	**Freiburg im Br**	**0.88**	**110**	Pn		**Pn**	**03 35 14.3**	**+0.1**
OFBG	**Offenburg**	**0.91**	**81**	P		**Pb**	**03 35 14.9**	**+1.0**
KIZ	**Kirchzarten**	**0.94**	**112**	⇑P		**Pn**	**03 35 15.0**	**+0.1**
KIZ				Pg		**Pg**	**03 35 15.3**	**+0.7**
KIZ				S		**Sb**	**03 35 27.0**	**+0.4**
KIZ				Sg		**Sg**	**03 35 27.5**	**+0.6**
KIZ	**Kirchzarten**	**0.94**	**112**	⇑Pn		**Pn**	**03 35 15.0**	**+0.1**
KIZ				Sn		**Sb**	**03 35 27.0**	**+0.4**
KIZ	**Kirchzarten**	**0.94**	**112**	P		**Pg**	**03 35 15.3**	**+0.7**
KIZ				S		**Sg**	**03 35 27.5**	**+0.6**
ENDD	**Endenburg**	**0.96**	**128**	Pn		**Pn**	**03 35 15.7**	**+0.4**
ENDD				S		**Sb**	**03 35 27.9**	**+0.8**
LOMF	**Lomont**	**0.97**	**172**	⇓P		**Pb**	**03 35 16.7**	**+1.8**
LOMF				Sg		**Sg**	**03 35 30.3**	**+2.3**
LOMF	**Lomont**	**0.97**	**172**	Pg		**Pg**	**03 35 16.5**	**+1.3**
LOMF				Sg		**Sg**	**03 35 29.9**	**+1.9**
BOURR	**Bourrignon**	**1.01**	**156**	*e*P		**Pb**	**03 35 16.7**	**+1.2**
	982nm,2.0s							
FELD	**Feldberg im Sc**	**1.03**	**115**	Pg		**Pg**	**03 35 16.9**	**+0.7**
FELD	**Feldberg im Sc**	**1.03**	**115**	Px		**Pg**	**03 35 16.8**	**+0.6**
FELD	**Feldberg im Sc**	**1.03**	**115**	P		**Pg**	**03 35 16.9**	**+0.7**
FELD	**Feldberg im Sc**	**1.03**	**115**	Pg		**Pg**	**03 35 16.4**	**+0.2**
FELD				Sg		**Sg**	**03 35 29.7**	**+0.1**
LANF	**Langenberg**	**1.03**	**49**	Pg		**Pg**	**03 35 15.8**	**-0.5**
LANF				Sg		**Sg**	**03 35 29.2**	**-0.6**
LANF	**Langenberg**	**1.03**	**49**	Pn		**Pn**	**03 35 15.9**	**-0.3**
BBS	**Basel-Blauen**	**1.04**	**145**	Pg		**Pg**	**03 35 17.4**	**+1.0**
BBS	**Basel-Blauen**	**1.04**	**145**	Pg		**Pg**	**03 35 17.2**	**+0.7**
BBS				Sg		**Sg**	**03 35 31.6**	**+1.5**
WYH	**Wyhlen**	**1.05**	**136**	P		**Pb**	**03 35 17.6**	**+1.4**
MEZF	**Maizieres J'vi**	**1.06**	**281**	*e*Pg		**Pg**	**03 35 18.0**	**+1.1**
	baz=107,SNR=1.0							
MEZF				*e*Sg		**Sg**	**03 35 32.1**	**+1.3**
	178nm,0.3s,baz=106,SNR=1.0							
MEZF	**Maizieres J'vi**	**1.06**	**281**	*e*Pg		**Pg**	**03 35 18.0**	**+1.1**
	SNR=1.0							
MEZF				*e*Sg		**Sg**	**03 35 32.1**	**+1.3**
	89nm,0.3s,SNR=1.0							
SFTF	**Sexfontaines**	**1.06**	**265**	*e*Pg		**Pg**	**03 35 18.1**	**+1.2**
	baz=89							
SFTF				*e*Sg		**Sg**	**03 35 32.3**	**+1.5**
	185nm,0.2s,baz=98							
SFTF	**Sexfontaines**	**1.06**	**265**	*e*Pn		**Pn**	**03 35 17.7**	**+1.1**
SFTF				*e*Pg		**Pg**	**03 35 18.1**	**+1.2**
SFTF				*e*Sg		**Sg**	**03 35 32.3**	**+1.5**
SFTF	**Sexfontaines**	**1.06**	**265**	*e*Pg		**Pg**	**03 35 18.1**	**+1.2**
SFTF				*e*Sg		**Sg**	**03 35 32.3**	**+1.5**
	92nm,0.2s							
BFO	**Black Forest**	**1.14**	**89**	⇑P		**Pn**	**03 35 17.4**	**-0.3**
BFO				Pg		**Pg**	**03 35 18.9**	**+0.5**
BFO				Sg		**Sg**	**03 35 33.3**	**0.0**
BFO	**Black Forest**	**1.14**	**89**	⇑Pn		**Pn**	**03 35 17.4**	**-0.3**
BFO	**Black Forest**	**1.14**	**89**	P		**Pg**	**03 35 18.9**	**+0.5**
BFO				S		**Sg**	**03 35 33.3**	**0.0**
BFO	**Black Forest**	**1.14**	**89**	*e*Pg		**Pg**	**03 35 17.4**	**-1.0**
BFO				*e*Sg		**Sg**	**03 35 33.0**	**-0.3**
BALST	**Balsthal**	**1.22**	**143**	*e*P		**Pn**	**03 35 17.2**	**-1.6**
	228nm,0.3s							
BALST	**Balsthal**	**1.22**	**143**	*e*P		**Pn**	**03 35 19.6**	**+0.8**
SULZ	**Cheisacher**	**1.27**	**128**	*e*S		**Pn**	**03 35 19.6**	**+0.1**
	453nm,0.3s							
BRANT	**Les Verrieres**	**1.38**	**184**	*e*P		**Pn**	**03 35 22.5**	**+1.5**
	667nm,2.0s							
WLF	**Walferdange**	**1.39**	**347**	*e*Pg		**Pg**	**03 35 23.1**	**+0.1**
WLF				*e*Sg		**Sg**	**03 35 40.7**	**-0.4**
WLF	**Walferdange**	**1.39**	**347**	*e*Pn		**Pn**	**03 35 23.2**	**+2.1**
WLF				*e*Sg		**Sg**	**03 35 40.8**	**-0.3**
WLF	**Walferdange**	**1.39**	**347**	P		**Pn**	**03 35 22.9**	**+1.9**
WLF				S		**Sn**	**03 35 40.5**	**+1.4**
	comp=N,40nm,0.0s							
WLF	**Walferdange**	**1.39**	**347**	P		**Pn**	**03 35 22.9**	**+1.8**
WLF	**Walferdange**	**1.39**	**347**	*e*Pn		**Pn**	**03 35 23.2**	**+2.1**
WLF				S		**Sn**	**03 35 40.4**	**+1.3**
WLF				*e*Sg		**Sg**	**03 35 40.8**	**-0.3**
KTD	**Kalmit**	**1.40**	**43**	Pg		**Pg**	**03 35 23.2**	**-0.1**
KTD				Sg		**Sg**	**03 35 41.5**	**+0.1**
KTD	**Kalmit**	**1.40**	**43**	Pg		**Pg**	**03 35 23.3**	**+0.1**
KTD				Sg		**Sg**	**03 35 41.2**	**-0.2**
RUP	**Ruppelstein**	**1.42**	**12**	Pg		**Pg**	**03 35 23.7**	**0.0**
RUP	**Ruppelstein**	**1.42**	**12**	Pg		**Pg**	**03 35 23.4**	**-0.3**
RUP				Sg		**Sg**	**03 35 41.2**	**-0.9**
SPAK	**Spaichingen-Ko**	**1.46**	**98**	Pg		**Pg**	**03 35 25.1**	**+0.6**
SPAK	**Spaichingen-Ko**	**1.46**	**98**	Pg		**Pg**	**03 35 24.7**	**+0.2**
SPAK				Sg		**Sg**	**03 35 43.5**	**-0.1**
LBG	**Lerchenberg**	**1.49**	**76**	⇑P		**Pn**	**03 35 22.2**	**-0.3**
LBG				Pg		**Pg**	**03 35 25.2**	**+0.2**
LBG				S		**Sn**	**03 35 40.2**	**-1.4**
LBG				Sg		**Sg**	**03 35 43.9**	**-0.5**
LBG	**Lerchenberg**	**1.49**	**76**	⇑Pn		**Pn**	**03 35 22.2**	**-0.3**
LBG				Sn		**Sn**	**03 35 40.2**	**-1.4**
LBG	**Lerchenberg**	**1.49**	**76**	P		**Pg**	**03 35 25.2**	**+0.2**
LBG				Sx		**Sg**	**03 35 43.9**	**-0.5**
FLACH	**Flaach**	**1.50**	**119**	*i* Pn		**Pn**	**03 35 26.1**	**+3.4**
	comp=N,434nm,0.1s							
MSS	**Messtetten**	**1.57**	**94**	⇓P		**Pn**	**03 35 27.0**	**+3.4**
MSS	**Messtetten**	**1.57**	**94**	P		**Pn**	**03 35 27.1**	**+3.5**
TUBL	**Tuebingen-Lenn**	**1.65**	**82**	P		**Pn**	**03 35 25.4**	**+0.6**
TUBL				Pg		**Pg**	**03 35 29.3**	**+1.2**
TUBL				Sg		**Sg**	**03 35 50.2**	**+0.5**
TUBL	**Tuebingen-Lenn**	**1.65**	**82**	P		**Pg**	**03 35 29.3**	**+1.2**
TUBL				Sx		**Sg**	**03 35 50.2**	**+0.5**
ABH	**Alteburg**	**1.68**	**21**	Pg		**Pg**	**03 35 28.1**	**-0.6**
ABH				Sg		**Sg**	**03 35 50.0**	**-0.6**
ABH	**Alteburg**	**1.68**	**21**	Pg		**Pg**	**03 35 28.1**	**-0.6**
ABH				Sg		**Sg**	**03 35 49.7**	**-0.9**
GUT	**Gutenstein**	**1.69**	**97**	P		**Pn**	**03 35 25.3**	**+0.1**
GUT				Pg		**Pg**	**03 35 29.2**	**+0.4**
GUT				Sg		**Sg**	**03 35 50.8**	**+0.1**
GUT	**Gutenstein**	**1.69**	**97**	P		**Pg**	**03 35 29.2**	**+0.4**
GUT				S		**Sg**	**03 35 50.8**	**+0.1**
SISB	**Singen-Schiene**	**1.69**	**111**	Pg		**Pg**	**03 35 29.7**	**+0.8**
SISB				Sg		**Sg**	**03 35 51.2**	**+0.3**
CABF	**La Chapelle**	**1.74**	**192**	*e*Pg		**Pg**	**03 35 30.8**	**+1.0**
CABF				*e*Sn		**Sn**	**03 35 47.3**	**-0.5**
CABF				*e*Sg		**Sg**	**03 35 52.9**	**+0.5**
	comp=N,117nm,0.5s,SNR=1.0							
CABF	**La Chapelle**	**1.74**	**192**	*e*Pn		**Pn**	**03 35 27.0**	**+1.0**
CABF				*e*Pg		**Pg**	**03 35 30.8**	**+1.0**
CABF				*e*Sn		**Sn**	**03 35 47.3**	**-0.5**
CABF				*e*Sg		**Sg**	**03 35 52.9**	**+0.5**
CABF	**La Chapelle**	**1.74**	**192**	*e*Pg		**Pg**	**03 35 30.8**	**+1.0**
CABF				*e*Sn		**Sn**	**03 35 47.3**	**-0.5**
CABF				*e*Sg		**Sg**	**03 35 52.9**	**+0.5**
	comp=N,59nm,0.5s,SNR=1.0							
STU	**Stuttgart**	**1.77**	**74**	*e*Pn		**Pn**	**03 35 26.0**	**-0.4**
	SNR=1.5							
STU				*e*Pg		**Pg**	**03 35 30.4**	**+0.1**
STU				*e*Sg		**Sg**	**03 35 52.1**	**-1.3**
STU	**Stuttgart**	**1.77**	**74**	*e*Pn		**Pn**	**03 35 26.0**	**-0.4**
STU				*e*Pg		**Pg**	**03 35 30.4**	**0.0**
STU				*e*Sg		**Sg**	**03 35 52.1**	**-1.3**
SWS	**Schriesheim-Wi**	**1.81**	**49**	P		**Pn**	**03 35 25.9**	**-0.9**
SWS				Pg		**Pg**	**03 35 31.0**	**-0.1**
SWS				Sg		**Sg**	**03 35 53.9**	**-0.5**
SWS	**Schriesheim-Wi**	**1.81**	**49**	Px		**Pn**	**03 35 25.9**	**-0.9**
SWS	**Schriesheim-Wi**	**1.81**	**49**	P		**Pg**	**03 35 31.0**	**-0.1**
SWS				S		**Sg**	**03 35 53.9**	**-0.5**
BUCH	**Bad Urach**	**1.83**	**85**	P		**Pn**	**03 35 27.1**	**0.0**
BUCH				Pg		**Pg**	**03 35 31.8**	**+0.3**
BUCH				S		**Sn**	**03 35 47.8**	**-2.2**
BUCH				Sg		**Sg**	**03 35 55.2**	**+0.1**
BUCH	**Bad Urach**	**1.83**	**85**	Pn		**Pn**	**03 35 27.1**	**0.0**
BUCH				Sn		**Sn**	**03 35 47.8**	**-2.2**
BUCH	**Bad Urach**	**1.83**	**85**	P		**Pg**	**03 35 31.8**	**+0.3**
BUCH				Sx		**Sg**	**03 35 55.2**	**+0.1**
HASLI	**Hasliberg/Brie**	**1.87**	**146**	*e*Pn		**Pn**	**03 35 29.1**	**+1.3**
	comp=N,107nm,0.6s							
TOD	**Tromm**	**1.94**	**47**	*e*Pn		**Pn**	**03 35 27.2**	**-1.5**
	SNR=1.8							
TOD				Pg		**Pg**	**03 35 32.7**	**-0.8**
TOD				Sg		**Sg**	**03 35 58.4**	**-0.2**
TOD	**Tromm**	**1.94**	**47**	P		**Pg**	**03 35 32.7**	**-0.8**
TOD				S		**Sg**	**03 35 58.4**	**-0.2**
TOD	**Tromm**	**1.94**	**47**	Pg		**Pg**	**03 35 32.7**	**-0.8**
TOD				Sg		**Sg**	**03 35 57.8**	**-0.8**
BGG	**Burgeitz**	**1.95**	**14**	*e*Pg		**Pn**	**03 35 29.7**	**+0.8**
BGG				*e*Sg		**Sn**	**03 35 53.4**	**+0.4**
	comp=N,26nm,0.2s							
LOR	**Lormes**	**2.14**	**242**	*e*Pn		**Pn**	**03 35 31.9**	**+0.5**
	baz=62,SNR=1.0							
LOR	**Lormes**	**2.14**	**242**	*e*Pg		**Pg**	**03 35 37.6**	**+0.3**
	baz=67							
LOR				*e*Sn		**Sn**	**03 35 56.4**	**-1.2**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**03 36 05.5**	**+0.5**
	comp=N,50nm,0.2s,SNR=1.0							
LOR	**Lormes**	**2.14**	**242**	*e*Pn		**Pn**	**03 35 31.9**	**+0.5**
LOR				*e*Pg		**Pg**	**03 35 37.6**	**+0.3**
LOR				*e*Sn		**Sn**	**03 35 56.4**	**-1.2**
LOR				*e*Sg		**Sg**	**03 36 05.5**	**+0.5**
LOR	**Lormes**	**2.14**	**242**	*e*Pg		**Pg**	**03 35 37.6**	**+0.3**
LOR				*e*Sn		**Sn**	**03 35 56.4**	**-1.2**
	SNR=1.0							
LOR				*e*Sg		**Sg**	**03 36 05.5**	**+0.5**
	comp=N,25nm,0.2s,SNR=1.0							
GIVF	**Givet**	**2.14**	**327**	*e*P		**Pn**	**03 35 33.7**	**+2.2**
	SNR=1.0							
GIVF	**Givet**	**2.14**	**327**	*e*Pg		**Pg**	**03 35 37.3**	**-0.2**
GIVF				*e*Sn		**Sn**	**03 35 57.2**	**-0.5**
	SNR=1.0							
GIVF				*e*Sg		**Sg**	**03 36 05.0**	**-0.3**
	comp=N,16nm,0.2s,SNR=1.0							
GIVF	**Givet**	**2.14**	**327**	*e*Pn		**Pn**	**03 35 32.6**	**+1.1**
GIVF				*e*P			03 35 33.7	
GIVF				*e*Pg		**Pg**	**03 35 37.3**	**-0.2**
GIVF				*e*Sn		**Sn**	**03 35 57.2**	**-0.5**
GIVF				*e*Sg		**Sg**	**03 36 05.0**	**-0.3**
GIVF	**Givet**	**2.14**	**327**	*e*P		**Pn**	**03 35 33.7**	**+2.2**
	SNR=1.0							
GIVF	**Givet**	**2.14**	**327**	*e*Pg		**Pg**	**03 35 37.3**	**-0.2**
GIVF				*e*Sn		**Sn**	**03 35 57.2**	**-0.5**
	SNR=1.0							
GIVF				*e*Sg		**Sg**	**03 36 05.0**	**-0.3**
	comp=N,8.1nm,0.2s,SNR=1.0							
DOU	**Dourbes**	**2.22**	**324**	P		**Pn**	**03 35 34.7**	**+2.1**
DOU				XP			03 35 38.9	
DOU				S		**Sn**	**03 36 05.2**	**+5.4**
	comp=E,12nm,0.0s							
DOU				E			03 36 08.4	
DOU	**Dourbes**	**2.22**	**324**	P		**Pn**	**03 35 34.6**	**+2.0**
DOU				S		**Sn**	**03 36 05.1**	**+5.4**
SIND	**Sindeldorf**	**2.23**	**61**	P		**Pn**	**03 35 32.2**	**-0.5**
SIND				Pg		**Pg**	**03 35 39.0**	**-0.1**
SIND				Sg		**Sg**	**03 36 07.7**	**-0.3**
SIND	**Sindeldorf**	**2.23**	**61**	P		**Pg**	**03 35 39.0**	**-0.1**
SIND				S		**Sg**	**03 36 07.7**	**-0.3**
EMV	**Vieux Emosson**	**2.26**	**175**	*e*Pn		**Pn**	**03 35 34.6**	**+1.5**
	comp=E,4.4nm,0.1s							
BCLA	**Clavier**	**2.28**	**338**	P		**Pn**	**03 35 35.2**	**+1.9**
BCLA				XP			03 35 39.7	
BCLA				S		**Sn**	**03 36 07.0**	**+6.0**
	comp=E,8.4nm,0.0s							
BCLA	**Clavier**	**2.28**	**338**	P		**Pn**	**03 35 35.1**	**+1.8**
BCLA				S		**Sn**	**03 36 07.0**	**+6.0**
STB	**Steinbach**	**2.29**	**4**	*e*Pn		**Pn**	**03 35 34.8**	**+1.3**
STB				*e*Sn		**Sn**	**03 36 01.5**	**+0.2**
MEM	**Membach**	**2.33**	**350**	P		**Pn**	**03 35 36.8**	**+2.7**
MEM				XP			03 35 40.0	
BAIF	**Baives**	**2.36**	**319**	*e*Pg		**Pg**	**03 35 41.6**	**0.0**
BAIF				*e*Sg		**Sg**	**03 36 11.8**	**-0.3**
	comp=E,14nm,0.3s,SNR=1.0							
BAIF	**Baives**	**2.36**	**319**	*e*Pn		**Pn**	**03 35 35.7**	**+1.3**
BAIF				*e*Pg		**Pg**	**03 35 41.6**	**0.0**
BAIF				*e*Sg		**Sg**	**03 36 11.8**	**-0.3**
BAIF	**Baives**	**2.36**	**319**	*e*Pg		**Pg**	**03 35 41.6**	**0.0**
BAIF				*e*Sg		**Sg**	**03 36 11.8**	**-0.3**
	comp=E,7.2nm,0.3s,SNR=1.0							
DREG	**Dreilaegerbach**	**2.37**	**354**	*e*Pn		**Pn**	**03 35 35.3**	**+0.8**
HDH	**Heidenheim-Cha**	**2.40**	**82**	Pg		**Pg**	**03 35 42.3**	**-0.2**
HDH				Sg		**Sg**	**03 36 12.7**	**-0.9**
DAVA	**Damuels**	**2.43**	**114**	⇑*i*Pn		**Pn**	**03 35 37.3**	**+1.9**
DAVA				⇓*i*Sn		**Sn**	**03 36 07.1**	**+2.4**
DAVA				⇑*i*Sg		**Sg**	**03 36 14.9**	**+0.6**
	comp=E,18nm,0.3s							
DAVA	**Damuels**	**2.43**	**114**	⇑*i*Pn		**Pn**	**03 35 37.3**	**+1.9**
DAVA				*i* Sn		**Sn**	**03 36 07.1**	**+2.4**
DAVA				*i* Sg		**Sg**	**03 36 14.9**	**+0.6**
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pg		**Pg**	**03 35 43.8**	**+0.5**
SSF				*e*Sn		**Sn**	**03 36 04.4**	**-0.9**
SSF				*e*Sg		**Sg**	**03 36 15.5**	**+0.4**
	comp=E,30nm,0.3s,SNR=1.0							
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pn		**Pn**	**03 35 36.2**	**+0.5**
SSF				*e*Pg		**Pg**	**03 35 43.8**	**+0.5**
SSF				*e*Sn		**Sn**	**03 36 04.4**	**-0.9**
SSF				*e*Sg		**Sg**	**03 36 15.5**	**+0.4**
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pg		**Pg**	**03 35 43.8**	**+0.5**
SSF				*e*Sn		**Sn**	**03 36 04.4**	**-0.9**
SSF				*e*Sg		**Sg**	**03 36 15.5**	**+0.4**
	comp=E,15nm,0.3s,SNR=1.0							
HGN	**Heimansgroeve**	**2.49**	**350**	*e*Pn		**Pn**	**03 35 38.8**	**+2.5**
	comp=E,1.8nm,0.2s							
HGN	**Heimansgroeve**	**2.49**	**350**	*e*Pg		**Pg**	**03 35 43.0**	**-1.2**
	comp=E,7.3nm,0.2s							
HGN				*e*S		**Sn**	**03 36 13.6**	**+7.2**
HGN	**Heimansgroeve**	**2.49**	**350**	*e*Pg		**Pg**	**03 35 43.0**	**-1.2**
	comp=E,7.3nm,0.2s							
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg		**Pg**	**03 35 45.3**	**+0.7**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**03 36 05.4**	**-1.6**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**03 36 16.0**	**-1.3**
	comp=E,40nm,0.2s,SNR=1.0							
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pn		**Pn**	**03 35 36.5**	**-0.1**
SMF				*e*Pg		**Pg**	**03 35 45.3**	**+0.7**
SMF				*e*Sn		**Sn**	**03 36 05.4**	**-1.6**
SMF				*e*Sg		**Sg**	**03 36 16.0**	**-1.3**
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg		**Pg**	**03 35 45.3**	**+0.7**
	SNR=1.0							
SMF				*e*Sn		**Sn**	**03 36 05.4**	**-1.6**
	SNR=1.0							
SMF				*e*Sg		**Sg**	**03 36 16.0**	**-1.3**
	comp=E,20nm,0.2s,SNR=1.0							
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg		**Pg**	**03 35 47.9**	**0.0**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**03 36 10.0**	**-1.2**
	SNR=1.0							
AVF				*e*Sg		**Sg**	**03 36 22.4**	**-0.3**
	comp=E,11nm,0.2s,SNR=1.0							
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pn		**Pn**	**03 35 39.3**	**+0.3**
AVF				*e*Pg		**Pg**	**03 35 47.9**	**0.0**
AVF				*e*Sn		**Sn**	**03 36 10.0**	**-1.2**
AVF				*e*Sg		**Sg**	**03 36 22.4**	**-0.3**
AVF	**Avril sur Loir**	**2.69**	**237**	*e*Pg		**Pg**	**03 35 47.9**	**0.0**
	SNR=1.0							
AVF				*e*Sn		**Sn**	**03 36 10.0**

VIVF				*e*Sg	**Sg**	**03 36 54.2**	**-1.3**
VIVF	**Saint-Julien-l**	**3.71**	**202**	*e*Pg	**Pg**	**03 36 06.5**	**-0.9**
VIVF				*e*Sn	**Sn**	**03 36 34.3**	**-2.1**
	SNR=1.0						
VIVF				*e*Sg	**Sg**	**03 36 54.2**	**-1.3**
	comp=E,7.6nm,0.2s,SNR=1.0						
LBL	**Lubilhac**	**3.86**	**218**	Pn	**Pn**	**03 35 55.1**	**+0.1**
MOX	**Moxa**	**4.01**	**53**	*e*Pg	**Pg**	**03 36 10.6**	**-2.5**
MOX				*e*Sg	**Sg**	**03 37 03.2**	**-1.8**
MOX	**Moxa**	**4.01**	**53**	*e*PG	**Pg**	**03 36 10.9**	**-2.2**
MOX				*e*SG	**Sg**	**03 37 03.1**	**-1.8**
MOX	**Moxa**	**4.01**	**53**	*e*Pg	**Pg**	**03 36 10.9**	**-2.2**
MOX				*e*Sg	**Sg**	**03 37 03.1**	**-1.8**
WET	**Wettzell**	**4.22**	**76**	*e*Pn	**Pn**	**03 36 00.6**	**+0.6**
	SNR=3.4						
WET				*e*Pg	**Pg**	**03 36 15.8**	**-1.4**
WET				*e*(Sn)	**Sn**	**03 36 47.1**	**-2.0**
WET				*e*Sg	**Sg**	**03 37 09.0**	**-2.9**
WET	**Wettzell**	**4.22**	**76**	*e*Pn	**Pn**	**03 36 00.6**	**+0.5**
WET				*e*Pg	**Pg**	**03 36 15.8**	**-1.5**
WET				Sn	**Sn**	**03 36 47.1**	**-2.0**
WET				*e*Sg	**Sg**	**03 37 09.0**	**-2.9**
SMRF	**Simiane la Rot**	**4.40**	**190**	*e*P	**Pn**	**03 36 06.3**	**+3.8**
LDF	**La Druitiere**	**4.50**	**276**	*e*Pn	**Pn**	**03 36 04.4**	**+0.6**
LDF				*e*Sn	**Sn**	**03 36 53.0**	**-2.7**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**03 37 19.1**	**-1.5**
	comp=E,10nm,0.3s						
LDF	**La Druitiere**	**4.50**	**276**	*e*Pn	**Pn**	**03 36 04.4**	**+0.6**
LDF				*e*Sn	**Sn**	**03 36 53.0**	**-2.7**
	SNR=1.0						
LDF				*e*Sg	**Sg**	**03 37 19.1**	**-1.5**
	comp=E,5.2nm,0.3s						
CAF	**Calviac**	**4.62**	**224**	*e*Pg	**Pg**	**03 36 22.6**	**-2.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**03 37 23.2**	**-1.4**
	comp=E,5.7nm,0.3s						
CAF	**Calviac**	**4.62**	**224**	*e*Pn	**Pn**	**03 36 05.5**	**0.0**
CAF				*e*Pg	**Pg**	**03 36 22.6**	**-2.2**
CAF				*e*Sg	**Sg**	**03 37 23.2**	**-1.4**
CAF	**Calviac**	**4.62**	**224**	*e*Pg	**Pg**	**03 36 22.6**	**-2.2**
	SNR=1.0						
CAF				*e*Sg	**Sg**	**03 37 23.2**	**-1.4**
	comp=E,2.8nm,0.3s						
RJF	**Les Rejaudoux**	**4.62**	**231**	*e*Pg	**Pg**	**03 36 23.7**	**-1.1**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**03 36 56.2**	**-2.6**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**03 37 22.8**	**-1.8**
	comp=E,4.3nm,0.3s						
RJF	**Les Rejaudoux**	**4.62**	**231**	*e*Pn	**Pn**	**03 36 05.9**	**+0.4**
RJF				*e*Pg	**Pg**	**03 36 23.7**	**-1.1**
RJF				*e*Sn	**Sn**	**03 36 56.2**	**-2.6**
RJF				*e*Sg	**Sg**	**03 37 22.8**	**-1.8**
RJF	**Les Rejaudoux**	**4.62**	**231**	*e*Pg	**Pg**	**03 36 23.7**	**-1.1**
	SNR=1.0						
RJF				*e*Sn	**Sn**	**03 36 56.2**	**-2.6**
	SNR=1.0						
RJF				*e*Sg	**Sg**	**03 37 22.8**	**-1.8**
	comp=E,2.2nm,0.3s						
LASF	**Ste Croix**	**4.65**	**205**	*e*Pn	**Pn**	**03 36 05.8**	**-0.2**
LASF				*e*Sg	**Sg**	**03 37 23.7**	**-2.0**
	comp=E,9.9nm,0.5s						
LASF	**Ste Croix**	**4.65**	**205**	*e*Pn	**Pn**	**03 36 05.8**	**-0.2**
LASF				*e*Sg	**Sg**	**03 37 23.7**	**-2.0**
	comp=E,4.9nm,0.5s						
KHC	**Kasperske Hory**	**4.68**	**77**	*e*PN	**Pn**	**03 36 13.4**	**+7.1**
KHC				*e*PG	**Pg**	**03 36 24.2**	**-1.7**
KHC				*e*SG	**Sg**	**03 37 24.1**	**-2.4**
	comp=Z,4.2nm,0.4s						
GEC2	**GERESS Array S**	**4.73**	**81**	*e*Pn	**Pn**	**03 36 08.0**	**+0.9**
	SNR=4.8						
GEC2				*e*Pg	**Pg**	**03 36 25.1**	**-1.8**
GEC2				*e*(Sn)	**Sn**	**03 37 00.8**	**-0.7**
GEC2				*e*Sg	**Sg**	**03 37 24.4**	**-3.7**
GEC2	**GERESS Array S**	**4.73**	**81**	*e*Pn	**Pn**	**03 36 08.0**	**+1.0**
GEC2				*e*Pg	**Pg**	**03 36 25.1**	**-1.8**
GEC2				Sn	**Sn**	**03 37 00.8**	**-0.7**
GEC2				*e*Sg	**Sg**	**03 37 24.4**	**-3.8**
FLN	**La Foliniere**	**4.74**	**278**	*e*Pn	**Pn**	**03 36 08.0**	**+0.8**
	baz=105,SNR=1.0						
FLN				*e*Sn	**Sn**	**03 36 58.3**	**-3.5**
	comp=Z,9.4nm,0.5s,SNR=1.0						
FLN				*e*Sg	**Sg**	**03 37 27.0**	**-1.4**
	comp=Z,8.5nm,0.3s						
FLN	**La Foliniere**	**4.74**	**278**	*e*Pn	**Pn**	**03 36 08.0**	**+0.8**
	SNR=1.0						
FLN				*e*Sn	**Sn**	**03 36 58.3**	**-3.5**
	comp=Z,4.7nm,0.5s,SNR=1.0						
FLN				*e*Sg	**Sg**	**03 37 27.0**	**-1.4**
	comp=Z,4.2nm,0.3s						
FRF	**La Foret Royal**	**4.75**	**180**	*e*Pn	**Pn**	**03 36 08.0**	**+0.6**
FRF				*e*Sn	**Sn**	**03 36 59.2**	**-2.9**
MFF	**Saint Martin d**	**4.90**	**252**	*e*Pn	**Pn**	**03 36 09.4**	**+0.1**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**03 37 02.8**	**-2.9**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**03 37 32.0**	**-1.5**
	comp=Z,5.7nm,0.3s						
MFF	**Saint Martin d**	**4.90**	**252**	*e*Pn	**Pn**	**03 36 09.4**	**+0.1**
	SNR=1.0						
MFF				*e*Sn	**Sn**	**03 37 02.8**	**-2.9**
	SNR=1.0						
MFF				*e*Sg	**Sg**	**03 37 32.0**	**-1.5**
	comp=Z,2.8nm,0.3s						
GRR	**Gorron**	**4.99**	**274**	*e*Pn	**Pn**	**03 36 11.4**	**+0.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**03 37 04.5**	**-3.4**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**03 37 34.7**	**-1.7**
	comp=Z,14nm,0.3s						
GRR	**Gorron**	**4.99**	**274**	*e*Pn	**Pn**	**03 36 11.4**	**+0.8**
	SNR=1.0						
GRR				*e*Sn	**Sn**	**03 37 04.5**	**-3.4**
	SNR=1.0						
GRR				*e*Sg	**Sg**	**03 37 34.7**	**-1.7**
	comp=Z,7.1nm,0.3s						
CLL	**Collm**	**5.10**	**52**	*e*Pg	**Pg**	**03 36 32.0**	**-2.0**
CLL				*e*Sg	**Sg**	**03 37 36.0**	**-4.1**
LFF	**La Frestale**	**5.27**	**232**	*e*Pn	**Pn**	**03 36 14.3**	**-0.2**
LFF				*e*Sg	**Sg**	**03 37 43.6**	**-1.9**
	comp=Z,14nm,0.5s						
LFF	**La Frestale**	**5.27**	**232**	*e*Pn	**Pn**	**03 36 14.3**	**-0.2**
LFF				*e*Sg	**Sg**	**03 37 43.6**	**-1.9**
	comp=Z,7.0nm,0.5s						
BRG	**Berggiesshubel**	**5.41**	**59**	PG	**Pg**	**03 36 37.3**	**-2.5**
BRG				SG	**Sg**	**03 37 47.1**	**-2.7**
	comp=Z,4.3nm,1.1s						
PRU	**Pruhonice**	**5.46**	**69**	*e*Sg	**Sg**	**03 37 48.5**	**-3.1**
	comp=Z,2.3nm,0.4s						
PVCC	**Panska Ves**	**5.64**	**64**	*e*Sg	**Sg**	**03 37 54.3**	**-3.0**
MTLF	**Montolieu**	**5.85**	**213**	*e*Sg	**Sg**	**03 38 01.4**	**-2.6**
	comp=Z,2.8nm,0.3s						
MTLF	**Montolieu**	**5.85**	**213**	*e*Sg	**Sg**	**03 38 01.4**	**-2.6**
	comp=Z,1.4nm,0.3s						
SGMF	**Saint Gilles**	**6.13**	**273**	*e*Pn	**Pn**	**03 36 26.8**	**+0.6**
SGMF				*e*Sn	**Sn**	**03 37 30.8**	**-5.1**
	comp=Z,4.1nm,0.3s						
SGMF	**Saint Gilles**	**6.13**	**273**	*e*Pn	**Pn**	**03 36 26.8**	**+0.6**
SGMF				*e*Sn	**Sn**	**03 37 30.8**	**-5.1**
	comp=Z,2.0nm,0.3s						
QUIF	**Quistinic**	**6.56**	**270**	*e*Pn	**Pn**	**03 36 32.5**	**+0.3**
QUIF				*e*Sn	**Sn**	**03 37 40.4**	**-6.3**
ROSF	**Rostrenen**	**6.60**	**274**	*e*Pn	**Pn**	**03 36 33.3**	**+0.6**
ROSF				*e*Sn	**Sn**	**03 37 42.3**	**-5.2**

BJI 17 03:49:30.5, 2589N×10190E, h12km, ML3.5, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMI	**Kunming**	**1.08**	**135**	PG	Pg	03 49 47.8	-3.4
KMI				SG	Sg	03 50 01.8	-3.5
KMI				Smax			
	comp=N,290nm,0.6s						
KMI				Smax			
	comp=E,296nm,0.4s						
CD2	**Chengdu**	**5.26**	**18**	*e*P	Pn	03 50 49.3	+0.3
CD2				PG	Pg	03 51 07.8	-3.5
CD2				S	Sn	03 51 51.1	+1.5
CD2				SG	Sg	03 52 13.6	-5.9
CD2				Smax			
	comp=N,70nm,0.6s						
CD2				Smax			
	comp=E,60nm,0.8s						

IDC 17 03:56:50.6±3.1, 3388S×17889W, h0km, mb3.8/2, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, ML3.9/1, Error ellipse: s-maj=72.0km s-min=36.3km az=117.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.44**	**215**	Pn	Pn	03 58 13.8	+0.8
	3.9nm,0.3s,baz=274,slow=1.9,SNR=25						
URZ				Sn	Sn	03 59 15.2	-1.1
	2.7nm,0.3s,baz=143,slow=22,SNR=8.6						
ASAR	**Alice Springs**	**42.29**	**271**	P	P	04 04 46.1	0.0
	1.0nm,0.8s,baz=114,slow=7.1,SNR=8.9						
WRA	**Warramunga Arr**	**43.60**	**276**	P	P	04 04 56.7	0.0
	1.2nm,0.8s,baz=117,slow=7.7,SNR=12						
FINES	**FINESS Array B**	**148.10**	**337**	PKPbc	PKPbc	04 16 36.7	-0.8
	0.9nm,0.6s,baz=49,slow=3.5,SNR=4.8						

LDG ***17*** *04:20:03.1±0.2, 1684S×7230W, h10km, Mb5.3/16, Ms3.8/1, Error ellipse: s-maj=10.3km s-min=4.3km az=37.0*
MOS ***17*** *04:20:05.9±1.1, 17.19S×7242W, h33km, mb5.0/15, Error ellipse: s-maj=11.8km s-min=9.4km az=67.4*
ISCJB ***17*** *04:20:06.9±1.0, 1722S±005×7248W±006, h45km±8km, mb4.6/58, MS4.6/3, Error ellipse: s-maj=10.8km s-min=6.8km az=145.0*
IDC ***17*** *04:20:07.7±4.3, 17.16S×7226W, h32km±31km, mb4.3/13, mb1 4.4/18, mb1mx4.3/22, mbtmp4.2/18, ML3.8/5, MS4.0/5, Ms1 4.0/5, ms1mx3.6/27, Error ellipse: s-maj=20.3km s-min=14.5km az=52.0*
NEIC ***17*** *04:20:08.2±0.8, 1721S×7237W, h41km±7km, mb4.6/49, Error ellipse: s-maj=7.8km s-min=5.5km az=51.0*
BJI ***17*** *04:20:10.1, 1720S×7240W, h41km, mB4.7, Ms5.3, Msz4.8*
ISC 17 04:20:08.5±0.9, 1721S±005×7236W±006, h42km±7km, n160, σ0.89/137, mb4.6/58, MS4.6/3, 2C-1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.11**	**48**	||*iP*	**Pn**	**04 20 28.2**	**+0.6**
ARE				*e*S	**Sn**	**04 20 49.0**	**+7.2**
LPAZ	**La Paz**	**4.15**	**78**	*e*P	**Pn**	**04 21 14.2**	**+4.9**
LPAZ	**La Paz**	**4.15**	**78**	Pn	**Pn**	**04 21 14.5**	**+5.2**
	5.4nm,0.3s,baz=255,slow=10,SNR=280						
LPAZ				LR	LR	04 23 04.9	
	comp=Z,2μm,20.1s,baz=257,slow=44						
NNA	**Nana**	**6.77**	**320**	*e*Pn	**Pn**	**04 21 44.9**	**-0.4**
	74nm,0.6s						
NNA				*e*Sn	**Sn**	**04 23 03.2**	**+2.1**
NNA	**Nana**	**6.77**	**320**	Pn	**Pn**	**04 21 45.1**	**-0.2**
	1.8nm,0.3s,baz=163,slow=12,SNR=6.4						
NNA				Sn	**Sn**	**04 23 11.4**	**+10**
	14nm,0.3s,baz=53,slow=23,SNR=3.6						
NNA				LR	LR	04 24 56.1	
	comp=Z,297nm,21.8s,baz=236,slow=42						
SIV	**San Ignacio**	**10.88**	**85**	Pn	**Pn**	**04 22 41.6**	**-0.1**
	1.0nm,0.3s,baz=275,slow=14,SNR=50						
ATAH	**Atahualpa**	**11.74**	**329**	Pn	**Pn**	**04 22 53.0**	**-0.5**
	0.2nm,0.3s,baz=110,slow=18,SNR=2.0						
ATAH				LR	LR	04 27 57.6	
	comp=Z,978nm,18.8s,baz=269,slow=40						
CFAA	**Coronel Fontan**	**14.81**	**166**	Pn	**Pn**	**04 23 35.6**	**+0.5**
	0.1nm,0.3s,baz=336,slow=12,SNR=24						
CPUP	**Villa Florida**	**16.63**	**126**	*e*P	**Pn**	**04 23 58.2**	**-0.4**
CPUP				pmax	pmax		
	comp=Z,39nm,1.0s						
CPUP	**Villa Florida**	**16.63**	**126**	*e*P	**Pn**	**04 23 58.2**	**-0.4**
	comp=Z,40nm,1.0s						
CPUP	**Villa Florida**	**16.63**	**126**	Pn	**Pn**	**04 23 57.5**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=290,slow=11,SNR=12						
TRQA	**Tornquist**	**22.68**	**158**	*e*P	**P**	**04 25 05.2**	**-1.0**
	comp=Z,18nm,1.1s,mb4.4						
BDFB	**Brasilia**	**23.40**	**90**	P	**P**	**04 25 12.8**	**-1.1**
	comp=Z,3.6nm,0.7s,mb3.9,baz=248,slow=19,SNR=10						
PLCA	**Paso Flores**	**23.49**	**177**	*e*P	**P**	**04 25 14.0**	**-0.5**
PLCA				pmax	pmax		
	comp=Z,13nm,1.1s						
PLCA	**Paso Flores**	**23.49**	**177**	*e*P	**P**	**04 25 14.0**	**-0.4**
	comp=Z,13nm,1.1s,mb4.3						
PLCA	**Paso Flores**	**23.49**	**177**	P	**P**	**04 25 14.4**	**-0.1**
	comp=Z,9.8nm,1.0s,mb4.2,baz=0.3,slow=10,SNR=10						
PLCA				PcP	PcP	04 29 00.3	+1.1
	comp=Z,3.0nm,0.9s,baz=308,slow=5.7,SNR=3.5						
SDV	**Santo Domingo**	**25.99**	**4**	*e*P	**P**	**04 25 37.9**	**+0.5**
	comp=Z,17nm,1.0s,mb4.5						
TEIG	**Tepich**	**40.36**	**337**	P	**P**	**04 27 42.1**	**-0.1**
TEIG	**Tepich**	**40.36**	**337**	P	**P**	**04 27 42.1**	**-0.1**
	comp=Z,5.1nm,0.9s,mb4.3,baz=163,slow=17,SNR=4.1						
TXAR	**Lajitas Array**	**55.27**	**326**	P	**P**	**04 29 37.4**	**-0.2**
	comp=Z,0.8nm,0.8s,mb3.8,baz=153,slow=14,SNR=5.5						
MIAR	**Mount Ida**	**55.29**	**339**	*e*P	**P**	**04 29 37.1**	**-0.6**
MIAR				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
MIAR	**Mount Ida**	**55.29**	**339**	*e*P	**P**	**04 29 37.1**	**-0.6**
	comp=Z,5.9nm,0.8s,mb4.7						
USIN	**University of**	**56.74**	**346**	*e*P	**P**	**04 29 46.6**	**-1.4**
SIUC	**Southern Illin**	**56.89**	**344**	*e*P	**P**	**04 29 47.8**	**-1.3**
	comp=Z,25nm,0.8s,mb5.3						
FVM	**French Village**	**57.47**	**343**	*e*P	**P**	**04 29 54.4**	**+1.3**
FVM				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.9						
FVM	**French Village**	**57.47**	**343**	*e*P	**P**	**04 29 54.4**	**+1.3**
	comp=Z,10nm,0.8s,mb4.9						
MNTX	**Cornudas Mount**	**58.04**	**327**	*e*P	**P**	**04 29 55.9**	**-1.4**
	comp=Z,4.2nm,1.1s,mb4.4						
LAZ	**Ladron**	**61.08**	**327**	*e*P	**P**	**04 30 18.5**	**+0.3**
ANMO	**Albuquerque**	**61.16**	**328**	*e*P	**P**	**04 30 18.6**	**-0.1**
ANMO				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ANMO	**Albuquerque**	**61.16**	**328**	*e*P	**P**	**04 30 18.6**	**-0.1**
	comp=Z,1.6nm,0.7s,mb4.3						
TUC	**Tucson**	**61.47**	**323**	*e*P	**P**	**04 30 20.8**	**-0.1**
TUC				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
TUC	**Tucson**	**61.47**	**323**	*e*P	**P**	**04 30 20.8**	**-0.1**
	comp=Z,1.6nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**62.93**	**331**	*e*P	**P**	**04 30 30.4**	**-0.1**
	comp=Z,4.0nm,0.8s,mb4.6						
ECSD	**EROS,Sioux Fal**	**64.59**	**341**	*e*P	**P**	**04 30 40.5**	**-0.9**
	comp=Z,14nm,1.2s,mb4.9						
SMCO	**Snowmass**	**64.77**	**331**	*e*P	**P**	**04 30 43.1**	**+0.5**
	comp=Z,3.3nm,0.9s,mb4.4						
VNA3	**Neumayer Olymp**	**65.15**	**162**	*e*P	**P**	**04 30 45.2**	**+0.5**
VNA3				*e*		04 30 48.3	
VNA1	**Neumayer--Stat**	**65.39**	**161**	*e*P	**P**	**04 30 47.5**	**+1.3**
VNA1				*e*		04 30 50.3	
VNA2	**Neumayer--Watz**	**65.75**	**161**	*e*P	**P**	**04 30 48.6**	**+0.1**
	baz=280,slow=8.1						
VNA2				*e*		04 30 51.9	
MSU	**Marysvale**	**66.83**	**327**	*e*P	**P**	**04 30 56.5**	**+0.6**
ARUT	**Antelope Range**	**66.97**	**326**	*e*P	**P**	**04 30 57.7**	**+0.9**
SNAA	**Sanae**	**67.37**	**161**	*e*P	**P**	**04 30 56.8**	**-2.1**
SNAA				*e*		04 31 00.0	
SNAA	**Sanae**	**67.37**	**161**	*c iP*	**P**	**04 30 57.5**	**-1.4**
DUG	**Dugway**	**68.41**	**328**	*e*P	**P**	**04 31 06.1**	**+0.3**
DUG				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
DUG	**Dugway**	**68.41**	**328**	*e*P	**P**	**04 31 06.1**	**+0.3**
	comp=Z,3.5nm,1.0s,mb4.3						
AGMN	**Agassiz Refuge**	**68.51**	**343**	*e*P	**P**	**04 31 05.1**	**-1.2**
	comp=Z,9.4nm,0.9s,mb4.7						
HWUT	**Hardware Ranch**	**68.85**	**329**	*e*P	**P**	**04 31 08.2**	**-0.3**
	comp=Z,5.3nm,1.1s,mb4.4						
REDW	**Red Top Meadow**	**69.86**	**331**	*e*P	**P**	**04 31 14.6**	**-0.2**
	comp=Z,2.1nm,0.9s,mb4.1						
NVAR	**Mina Array Bea**	**70.13**	**323**	P	**P**	**04 31 17.7**	**+1.2**
	comp=Z,1.0nm,0.8s,mb3.8,baz=161,slow=8.6,SNR=4.7						
DBIC	**Dimbokro**	**70.77**	**76**	*e*P	**P**	**04 31 20.2**	**-0.8**
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
DBIC	**Dimbokro**	**70.77**	**76**	*e*P	**P**	**04 31 20.2**	**-0.8**
	comp=Z,5.9nm,0.6s,mb4.7						
DBIC	**Dimbokro**	**70.77**	**76**	P	**P**	**04 31 20.6**	**-0.4**
	comp=Z,4.6nm,0.5s,mb4.7,baz=255,slow=5.7,SNR=12						
DBIC				LR	LR	05 00 51.6	
	comp=Z,281nm,18.2s,MS4.6,baz=241,slow=35						
QSPA	**South Pole Qui**	**72.95**	**180**	*e*P	**P**	**04 31 33.4**	**+0.5**
	comp=Z,8.8nm,1.1s,mb4.6						
QSPA	**South Pole Qui**	**72.95**	**180**	LR	LR	05 00 44.4	
	comp=Z,100nm,20.6s,MS4.1,baz=162,slow=33						
TOA0	**Torodi Ar. Sit**	**79.08**	**73**	*e*P	**P**	**04 32 08.1**	**-0.9**
TORD	**Torodi Ar. Bea**	**79.08**	**73**	P	**P**	**04 32 08.3**	**-0.6**
TORD	**Torodi Ar. Bea**	**79.08**	**73**	P	**P**	**04 32 08.3**	**-0.6**
	comp=Z,9.7nm,0.7s,mb4.8,baz=254,slow=5.4,SNR=82						
VNDA	**Vanda**	**80.47**	**190**	*e*P	**P**	**04 32 16.3**	**+0.9**
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
VNDA	**Vanda**	**80.47**	**190**	*e*P	**P**	**04 32 16.3**	**+0.9**
	comp=Z,2.3nm,0.8s,mb4.2						
VNDA	**Vanda**	**80.47**	**190**	P	**P**	**04 32 17.1**	**+1.7**
	comp=Z,1.9nm,0.8s,mb4.1,baz=118,slow=6.7,SNR=11						
MDT	**Midelt**	**81.59**	**52**	P	**P**	**04 32 22.8**	**+0.7**
	comp=Z,2.9nm,0.8s,mb4.3,baz=269,slow=1.6,SNR=5.7						
SYO	**Syowa Base**	**81.63**	**160**	*e*P	**P**	**04 32 21.0**	**-0.7**
EVO	**Evora**	**81.83**	**46**	*e*P	**P**	**04 32 21.9**	**-1.3**
	comp=Z,33nm,1.2s,mb4.8						
EMIN	**Mina Concepcio**	**82.38**	**47**	P	**P**	**04 32 27.5**	**+1.4**
	comp=Z,0.2nm,0.2s,mb3.7						
EBAD	**Badajoz**	**82.62**	**46**	P	**P**	**04 32 28.5**	**+1.1**
	comp=Z,0.3nm,0.3s,mb3.8						
EADA	**Adamuz**	**84.03**	**47**	P	**P**	**04 32 35.5**	**+0.8**
	comp=Z,1.6nm,0.6s,mb4.3						
ECAL	**Calabor**	**84.35**	**43**	P	**P**	**04 32 37.1**	**+1.0**
	comp=Z,1.5nm,0.6s,mb4.3						
TSUM	**Tsumeb**	**84.43**	**108**	*e*P	**P**	**04 32 38.2**	**+1.1**
	comp=Z,19nm,0.9s,mb5.2						
TSUM				*e*pP	pP	04 32 51.3	+1.4
EBAN	**Banos Encina**	**84.59**	**47**	P	**P**	**04 32 39.0**	**+1.5**
EBAN				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.9						
EBAN	**Banos Encina**	**84.59**	**47**	P	**P**	**04 32 39.0**	**+1.5**
	comp=Z,3.6nm,0.4s,mb4.8						
EBER	**Berja**	**84.67**	**49**	P	**P**	**04 32 39.0**	**+1.2**
	comp=Z,1.2nm,0.6s,mb4.2						
PAB	**San Pablo**	**84.82**	**46**	*e*P	**P**	**04 32 39.5**	**+0.9**
PAB				*e**PP	pP	04 32 53.3	+1.9
PAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb5.2						
PAB	**San Pablo**	**84.82**	**46**	*e*P	**P**	**04 32 39.5**	**+0.9**
	comp=Z,16nm,0.8s,mb5.2						
PAB				*e*pP	pP	04 32 53.2	+1.9
EQES	**Quesada**	**84.94**	**48**	P	**P**	**04 32 39.9**	**+0.7**
	comp=Z,0.8nm,0.4s,mb4.2						
ESDC	**Sonseca Array**	**85.15**	**46**	P	**P**	**04 32 41.4**	**+1.2**
	comp=Z,7.1nm,0.8s,mb4.9,baz=256,slow=4.8,SNR=28						
EHUE	**Huescar**	**85.28**	**48**	P	**P**	**04 32 41.8**	**+0.9**
EHUE				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
EHUE	**Huescar**	**85.28**	**48**	P	**P**	**04 32 41.8**	**+0.9**
	comp=Z,0.7nm,0.3s,mb4.3						
GUD	**Guadarrama**	**85.45**	**45**	P	**P**	**04 32 43.1**	**+1.4**
GUD				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.2						
GUD	**Guadarrama**	**85.45**	**45**	P	**P**	**04 32 43.1**	**+1.4**
	comp=Z,0.9nm,0.5s,mb4.2						
EVIA	**Vianos**	**85.70**	**48**	P	**P**	**04 32 45.1**	**+2.1**
EVIA				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.5						
EVIA	**Vianos**	**85.70**	**48**	P	**P**	**04 32 45.1**	**+2.1**
	comp=Z,0.6nm,0.3s,mb4.3						
YKA	**Yellowknife Ar**	**86.10**	**342**	P	**P**	**04 32 44.1**	**-0.3**
	comp=Z,3.9nm,0.8s,mb4.7,baz=137,slow=5.0,SNR=69						
ETOB	**Tobarra**	**86.38**	**48**	P	**P**	**04 32 47.6**	**+1.2**
	comp=Z,1.6nm,0.5s,mb4.5						
ETOR	**Torete**	**86.96**	**46**	P	**P**	**04 32 50.6**	**+1.4**
ETOR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.5						
ETOR	**Torete**	**86.96**	**46**	P	**P**	**04 32 50.6**	**+1.4**
	comp=Z,2.2nm,0.6s,mb4.6						
ECHE	**Chera**	**87.19**	**47**	P	**P**	**04 32 51.7**	**+1.4**
	comp=Z,0.4nm,0.3s,mb4.1						
BOSA	**Boshof**	**88.35**	**119**	P	**P**	**04 32 56.8**	**+0.6**
	comp=Z,2.5nm,0.8s,mb4.5,baz=122,slow=12,SNR=3.8						
SJPF	**Ste Jean**	**88.51**	**44**	*e*P	**P**	**04 32 55.7**	**-0.8**
	comp=Z,62nm,1.4s,mb5.4						
SJPF	**Ste Jean**	**88.51**	**44**	*e*P	**P**	**04 32 55.7**	**-0.8**
SJPF				pmax	pmax		
	comp=Z,31nm,1.4s,mb5.5						
SJPF	**Ste Jean**	**88.51**	**44**	*e*P	**P**	**04 32 55.7**	**-0.8**
	comp=Z,31nm,1.4s,mb5.5						
ETSF	**Etsaut**	**88.86**	**44**	*e*P	**P**	**04 32 57.4**	**-0.7**
	comp=Z,12nm,0.8s,mb5.0						
ETSF	**Etsaut**	**88.86**	**44**	*e*P	**P**	**04 32 57.4**	**-0.7**
ETSF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb5.0						
ETSF	**Ets

PGF	Pioggiola	95.28	47	eP	P	04 33 27.0	-0.9
	comp=Z,19nm,0.9s,mb5.5						
INK	Inuvik	95.83	341	eP	P	04 33 28.9	-0.9
INK				pmax	pmax		
	comp=Z,53nm,1.0s						
INK	Inuvik	95.83	341	eP	P	04 33 28.9	-0.9
	comp=Z,53nm,1.0s						
TIXI	Tiksi	124.14	352	i PKIKP	PKPdf	04 38 59.9	-1.8
ASAR	Alice Springs	131.95	213	PKP	PKPdf	04 39 17.8	-0.3
	comp=Z,1.1nm,0.8s,baz=155,slow=2.2,SNR=8.7						
WRA	Warramunga Arr	134.72	216	PKP	PKPdf	04 39 23.5	+0.1
	comp=Z,2.3nm,0.7s,baz=144,slow=1.7,SNR=21						
ZALV	Zalesovo Beam	139.28	21	PKP	PKPdf	04 39 31.6	+1.0
	comp=Z,2.3nm,0.4s,baz=298,slow=3.2,SNR=10						
ZAL	Zalesovo	139.29	21	PKIKP	PKPdf	04 39 31.7	+1.0
UCH	Uchtor	142.32	42	ePKPdf	PKPdf	04 39 37.4	+0.8
MK31	Makanchi Array	143.82	30	ePKIKP	PKPdf	04 39 37.0	-2.0
MKAR	Makanchi Array	143.82	30	i PKIKP	PKPdf	04 39 37.0	-2.0
MKAR				pmax	pmax		
	comp=Z,4.0nm,0.7s						
MKAR	Makanchi Array	143.82	30	PKP	PKPdf	04 39 37.0	-2.0
	comp=Z,4.3nm,0.7s,baz=327,slow=4.0,SNR=33						
TLY	Talaya	145.47	4	ePKIKP	PKPdf	04 39 42.6	+0.9
TLY				pmax	pmax		
	comp=Z,14nm,1.3s						
ZAK	Zakamensk	146.73	5	ePKP2	PKPab	04 39 45.2	-1.6
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s						
MJAR	Matsushiro Arr	146.84	312	PKPbc	PKPbc	04 39 46.6	+0.2
	comp=Z,8.0nm,0.8s,baz=86,slow=0.9,SNR=16						
MAJO	Matsushiro	146.84	312	ePKP2	PKPab	04 39 46.4	-1.4
MAT	Matsushiro	146.84	312	PKP	PKPdf	04 39 46.6	+2.0
WMQ	Urumqi	148.57	28	ePKP	PKPdf	04 39 49.0	+1.8
ULN	Ulaanbaatar	149.43	1	i PKHKP		04 39 49.5	
ULN	Ulaanbaatar	149.43	1	ePKPbc	PKPbc	04 39 53.4	+0.5
SONM	Songino Array	149.44	2	PKP	PKPdf	04 39 50.1	+1.6
	comp=Z,6.4nm,0.8s,baz=175,slow=1.1,SNR=16						
SONM				PKPbc	PKPbc	04 39 53.1	+0.2
	comp=Z,6.6nm,0.8s,baz=274,slow=0.5,SNR=9.5						
DDI	Dehra Dun	150.04	59	ex	x	04 39 59.5	
KSRS	Korea Array	153.07	322	PKPbc	PKPbc	04 40 02.8	+1.1
	comp=Z,2.5nm,1.0s,baz=33,slow=2.5,SNR=5.4						
HHC	Hu-ho-hao-te	156.20	353	ePKP	PKPdf	04 39 59.8	+1.2
HHC				APKP		04 40 10.6	
HHC				XPKP		04 40 14.3	
HHC				PKS		04 43 34.3	
HHC				PP	PP	04 44 09.6	+6.8
HHC				SKS	SKSdf	04 47 03.5	+2.0
HHC				SKKS	SKKSac	04 50 52.4	+2.4
HHC				SS	SS	05 03 55.5	+7.0
HHC				PP	PP		
	comp=Z,295nm,9.1s						
HHC				LR	LR		
	comp=N,224nm,23.3s,MS5.4						
HHC				LR	LR		
	comp=E,675nm,22.7s,MS5.4						
HHC				LR	LR		
	comp=Z,233nm,21.8s,MS5.0						
LZH	Lanzhou	160.90	9	ePKP	PKPdf	04 40 07.0	+2.6
LZH				APKP		04 40 23.0	
NJ2	Nanjing	162.07	328	ePKP	PKPdf	04 40 02.1	-3.6
CD2	Chengdu	165.91	14	ePKP	PKPdf	04 40 06.8	-2.4
CD2				PP	PP	04 44 57.4	+2.4
CD2				SKS	SKSdf	04 47 05.4	-4.8
CD2				SKKS	SKKSac	04 51 39.3	-1.1
CD2				SS	SS	05 05 31.4	+1.1
CD2				PP	PP		
	comp=Z,80nm,10.2s						
GYA	Guiyang	170.75	5	PKP	PKPdf	04 40 10.4	-2.2
GYA				APKP		04 40 26.8	
GYA				XPKP		04 40 32.8	
GYA				PKP2	PKPab	04 41 30.9	+0.5
GYA				PKS		04 43 41.6	
GYA				PP	PP	04 45 22.0	+2.5
GYA				PP	PP		
	comp=Z,60nm,7.8s						

*IDC **17** 04:28:41.4±2.0, 2690N×3468E, h0km, mb3.4/4, mb1 3.5/7, mb1mx3.4/23, mbtmp3.4/7, ML3.2/3, Error ellipse: s-maj=42.5km s-min=19.7km az=124.0*
*ISCJB **17** 04:28:43.0±1.2, 2691N±006×3522E±009, h10km, mb3.3/4, Error ellipse: s-maj=13.4km s-min=5.3km az=144.3*
*SGS **17** 04:28:42.3, 2663N×3503E, h27km*
*CSEM **17** 04:28:43.9±0.8, 2681N×3528E, h25km, ML3.6, Error ellipse: s-maj=22.0km s-min=5.5km az=48.0*
*GII **17** 04:28:44.8±2.4, 2697N×3518E, h6km±417km, mb4.3/4, ML4.2/4*

ISC 17 04:28:42.8±1.0, 2682N±005×3520E±007, h10km, n24, σ19 02/35, mb3.3/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WJHS		1.07	95	P	Pg	04 29 02.2	-1.2
WJHS		1.07	95	P	Pg	04 29 02.2	-1.2
WJHS				S	Sg	04 29 16.9	-0.4
JLOS		1.92	8	P	Pn	04 29 15.0	-0.6
JLOS		1.92	8	P	Pn	04 29 15.0	-0.6
JLOS				S	Sn	04 29 39.2	-0.6
HQLS		2.47	357	S	Sn	04 29 51.7	-1.7
HQLS		2.47	357	P	Pn	04 29 21.7	-1.4
EIL	Elat	2.84	356	Pn	Pn	04 29 26.9	-1.4
	1.7nm,0.3s,baz=188,slow=11,SNR=33						
EIL				Sn	Sn	04 30 01.1	-1.5
	6.8nm,0.3s,baz=101,slow=11,SNR=9.0						
EIL	Elat	2.84	356	Pn	Pn	04 29 27.9	-0.4
EIL				Sn	Sn	04 30 01.9	-0.7
MBH	Mount Berech	2.97	355	Pn	Pn	04 29 29.8	-0.2
MBH				Sn	Sn	04 30 05.3	-0.4
HRFI	Mount Harif	3.21	357	Pn	Pn	04 29 32.8	-0.4
HRFI				Sn	Sn	04 30 10.2	-1.3
KRMI	Paran Flat	3.31	353	Pn	Pn	04 29 35.1	+0.5
PRNI	Paran	3.52	357	Pn	Pn	04 29 38.1	+0.5
PRNI				Sn	Sn	04 30 18.9	-0.4
ZFRI	Zfri	3.72	360	Pn	Pn	04 29 40.8	+0.5
ZFRI				Sn	Sn	04 30 24.6	+0.4
KZIT	Kziot	4.13	350	Pn	Pn	04 29 47.0	+1.0
KZIT				Sn	Sn	04 30 34.2	-0.1
RTMI	Retamim	4.24	354	Pn	Pn	04 29 48.8	+1.4
DSI	Dead Sea	4.73	2	Pn	Pn	04 29 55.1	+0.9
DSI				Sn	Sn	04 30 49.6	+0.4
SLTI	Sal'it	5.40	359	Sn	Sn	04 31 05.8	+0.1
ASF	Jabal al Asfar	5.53	15	Pn	Pn	04 30 06.9	+1.7
	0.9nm,0.3s,baz=44,slow=14,SNR=7.5						
ASF				Lg		04 31 38.9	
	2.2nm,0.3s,baz=263,slow=23,SNR=6.3						
MMLI	Mount Malkishu	5.60	2	Pn	Pn	04 30 07.6	+1.5
MMLI				Sn	Sn	04 31 11.8	+1.2
MMAI	Mount Meron Ar	6.17	2	Pn	Pn	04 30 15.0	+0.9
	1.1nm,0.3s,baz=180,slow=10,SNR=2.1						
AKASG	Malin Array Be	24.28	351	P	P	04 33 60.0	-0.1
	0.2nm,0.4s,mb2.9,baz=166,slow=11,SNR=4.1						
GERES	GERESS Array B	27.60	328	P	P	04 34 26.3	-3.9
	0.5nm,0.8s,mb3.2,baz=131,slow=12,SNR=2.1						
TORD	Torodi Ar. Bea	34.18	253	P	P	04 35 25.3	-3.3
	0.3nm,0.4s,mb3.6,baz=62,slow=9.2,SNR=8.9						
MKAR	Makanchi Array	41.91	49	P	P	04 36 35.5	+2.0
	1.1nm,0.7s,mb3.6,baz=254,slow=4.5,SNR=5.5						

NEIC 17 04:46:51.3±2.1, 3500S×17914E, h280km±21km, mb4.2/1, Error ellipse: s-maj=57.0km s-min=20.0km az=102.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	2.65	195	P	Pn	04 47 41.5	-0.6
MXZ	Matakaoa Point	2.65	195	PN	Pn	04 47 41.1	-0.9
MXZ				SN	S	04 48 25.9	+3.4
PUZ	Puketiti	3.15	193	P	Pn	04 47 47.0	-0.1
PUZ	Puketiti	3.15	193	PN	Pn	04 47 46.9	-0.3
PUZ				SN	S	04 48 37.4	+5.7
MWZ	Matawai	3.58	201	P	Pn	04 47 52.1	+0.4
MWZ	Matawai	3.58	201	PN	Pn	04 47 52.0	+0.4
URZ	Urewera	3.65	206	P	Pn	04 47 52.7	+0.3
URZ	Urewera	3.65	206	PN	Pn	04 47 52.2	-0.2
KNZ	Kokohu	4.19	196	P	Pn	04 47 58.5	+0.1
KNZ	Kokohu	4.19	196	PN	Pn	04 47 58.4	-0.1
BKZ	Black Stump Fm	4.67	206	P	Pn	04 48 04.8	+0.7
BKZ	Black Stump Fm	4.67	206	PN	Pn	04 48 04.8	+0.8
MOVZ	Moawhango	5.17	211	P	Pn	04 48 10.4	+0.5
MOVZ	Moawhango	5.17	211	ePN	Pn	04 48 09.6	-0.4
TSZ	Takapari Road	5.65	206	P	Pn	04 48 15.5	-0.2
TIWZ	Tintock	6.32	203	ePN	Pn	04 48 24.4	+0.6
KIW	Kapiti Island	6.74	208	P	Pn	04 48 28.9	-0.1
KIW	Kapiti Island	6.74	208	ePN	Pn	04 48 28.5	-0.5
MTW	Mount Morrison	6.79	204	P	Pn	04 48 29.0	-0.6
CAW	Cannon Point	6.90	207	P	Pn	04 48 30.6	-0.3
CAW	Cannon Point	6.90	207	ePN	Pn	04 48 30.3	-0.6
PAWZ	Paruwai Farm	7.01	204	P	Pn	04 48 32.6	+0.3
PAWZ	Paruwai Farm	7.01	204	ePN	Pn	04 48 31.5	-0.9
MSWZ	Moikau Station	7.10	204	P	Pn	04 48 33.6	+0.2
MSWZ	Moikau Station	7.10	204	ePN	Pn	04 48 33.1	-0.4
DUWZ	D'Urville Isla	7.12	214	ePN	Pn	04 48 33.1	-0.5
MRW	Makara Radio	7.14	208	P	Pn	04 48 34.1	+0.2
MRW	Makara Radio	7.14	208	ePN	Pn	04 48 33.7	-0.2
SNZO	South Karori	7.21	208	ePn	Pn	04 48 33.9	-0.8
SNZO	South Karori	7.21	208	ePN	Pn	04 48 34.6	-0.2
PLWZ	Palliser	7.24	204	ePN	Pn	04 48 34.4	-0.7
TCW	Tory Channel	7.30	210	P	Pn	04 48 35.1	-0.7
TCW	Tory Channel	7.30	210	ePN	Pn	04 48 34.4	-1.4
TCW				SN	S	04 50 05.8	+5.6
TUWZ	Tuamarina	7.62	211	ePN	Pn	04 48 38.8	-1.0
NNZ	Nelson	7.70	214	P	Pn	04 48 41.1	+0.3
NNZ	Nelson	7.70	214	ePN	Pn	04 48 40.4	-0.3
QRZ	Quartz Range	7.82	220	P	Pn	04 48 42.4	+0.1
BSWZ	Blackbirch Sta	7.88	210	P	Pn	04 48 43.4	+0.4
BSWZ	Blackbirch Sta	7.88	210	PN	Pn	04 48 43.2	+0.1
THZ	Tophouse	8.34	214	PN	Pn	04 48 48.8	0.0
KHZ	Kahutara	8.61	209	PN	Pn	04 48 51.4	-0.6
DSZ	Denniston Nort	8.87	218	P	Pn	04 48 55.3	0.0
DSZ	Denniston Nort	8.87	218	PN	Pn	04 48 54.9	-0.4
LTZ	Lake Taylor	9.44	213	P	Pn	04 49 02.3	-0.1
LTZ	Lake Taylor	9.44	213	ePN	Pn	04 49 02.2	-0.2
MQZ	McQueen's Vald	10.04	208	P	Pn	04 49 09.7	-0.2
MQZ	McQueen's Vald	10.04	208	ePN	Pn	04 49 09.6	-0.3
FOZ	Fox Glacier	11.26	218	P	Pn	04 49 24.5	-0.4
FOZ	Fox Glacier	11.26	218	ePN	Pn	04 49 24.3	-0.6
ODZ	Otahua Downs	11.96	210	P	Pn	04 49 35.6	+2.1
ODZ	Otahua Downs	11.96	210	ePN	Pn	04 49 34.2	+0.7
JCZ	Jackson Bay	12.09	218	P	Pn	04 49 35.3	+0.2
JCZ	Jackson Bay	12.09	218	ePN	Pn	04 49 34.7	-0.4
COEN	Coen	38.56	294	eP	P	04 53 50.0	+2.4
	14nm,1.4s						
WB2	Warramunga Arr	42.12	279	eP	P	04 54 13.8	-2.8

*IDC **17** 04:55:40.1±0.8, 006S×12477E, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/17, mbtmp4.3/7, ML4.8/1, Error ellipse: s-maj=38.1km s-min=16.4km az=70.0*
*ISCJB **17** 04:55:43.6±0.5, 007S±006×12487E±008, h33km, mb4.4/14, Error ellipse: s-maj=11.7km s-min=8.0km az=162.3*
*NEIC **17** 04:55:45.6±4.6, 021S×12469E, h34km±33km, mb4.5/8, Error ellipse: s-maj=20.4km s-min=9.7km az=47.0*

ISC 17 04:55:46.0±0.5, 022S±008×1247E±01, h35km, n29, σ0 76/27, mb4.4/14, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	6.85	226	Pn	Pn	04 57 23.8	-0.3
KAPI				Sn	Sn	04 58 48.5	+7.7
KAPI	Kappang	6.85	226	Pn	Pn	04 57 23.8	-0.3
	16nm,0.3s,baz=331,slow=17,SNR=31						
KAPI				Sn	Sn	04 58 48.5	+7.7
	1.9nm,0.3s,baz=28,slow=24,SNR=3.6						
KAKA	Kakadu	14.60	149	ePn	Pn	04 59 09.3	-0.8
	27nm,0.7s						
WRA	Warramunga Arr	21.76	155	P	P	05 00 33.8	-0.9
	2.8nm,0.7s,mb3.8,baz=334,slow=11,SNR=25						
COEN	Coen	22.83	127	eP	P	05 00 47.0	+0.8
	5.8nm,0.9s,mb4.0						
ASAR	Alice Springs	24.96	160	P	P	05 01 07.0	+0.6
	2.6nm,0.8s,mb3.8,baz=346,slow=11,SNR=22						
ASAR				PcP	PcP	05 04 41.4	+0.1
	0.5nm,0.4s,baz=347,slow=2.1,SNR=7.7						
STKA	Stephens Creek	35.31	155	P	P	05 02 38.4	+0.6
STKA	Stephens Creek	35.31	155	P	P	05 02 38.4	+0.6
	4.5nm,0.5s,mb4.6,baz=330,slow=6.9,SNR=13						
JIRN	Jiri	46.18	310	eP	P	05 04 07.6	0.0
GUN	Gumba	46.54	310	eP	P	05 04 10.0	-0.5
PKI	Pulchoki	46.73	309	eP	P	05 04 12.2	+0.2
KKN	Kakani	46.94	310	eP	P	05 04 13.6	0.0
DMN	Daman	46.99	309	eP	P	05 04 14.2	+0.2
KOLN	Koldanda	48.23	309	eP	P	05 04 23.3	-0.3
DANN	Dangsing	48.39	309	eP	P	05 04 24.3	-0.5
ULN	Ulaanbaatar	50.29	345	eP	P	05 04 38.4	-0.6
	2.4nm,0.9s,mb4.2						
SONM	Songino Array	50.44	344	P	P	05 04 39.0	-1.2
	1.2nm,0.6s,mb4.1,baz=158,slow=9.1,SNR=10						
MKAR	Makanchi Array	59.70	328	P	P	05 05 45.5	-1.5
	4.4nm,0.5s,mb4.8,baz=126,slow=8.0,SNR=60						
TKM2	Tokmak 2	61.42	321	eP	P	05 05 59.9	+1.0
	3.4nm,0.6s,mb4.7						
UCH	Uchtor	61.77	320	eP	P	05 06 02.8	+1.6
	3.1nm,1.0s,mb4.4						
AML	Almayashu	62.25	319	eP	P	05 06 05.7	+1.3
	8.3nm,1.3s,mb4.7						
EKS2	Erkin-Say	62.45	320	eP	P	05 06 06.5	+0.8
	1.5nm,0.5s,mb4.4						
ZALV	Zalesovo Beam	63.22	335	P	P	05 06 10.2	-0.5
	1.0nm,0.3s,mb4.4,baz=126,slow=7.5,SNR=3.6						
KURK	Kurchatov	64.02	329	eP	P	05 06 15.7	-0.3
	11nm,0.5s,mb5.2						
BRVK	Borovoye	69.62	328	eP	P	05 06 51.9	+0.2
	3.8nm,0.9s,mb4.3						
BW06	Boulder Array	115.65	42	ePKPdf	PKPdf	05 14 25.2	+0.3
RSSD	Black Hills	118.54	38	ePKPdf	PKPdf	05 14 30.1	-0.3
TOA0	Torodi Ar. Sit	122.09	285	ePKPdf	PKPdf	05 14 37.7	-0.3
TORD	Torodi Ar. Bea	122.09	285	PKP	PKPdf	05 14 36.4	-1.6
	0.7nm,0.6s,baz=50,slow=1.2,SNR=4.9						

*IDC **17** 04:59:40.6±0.9, 090N×12637E, h0km, mb4.1/7, mb1 4.2/8, mb1mx4.0/17, mbtmp4.1/8, ML3.4/1, Error ellipse: s-maj=40.1km s-min=17.4km az=64.0*
*ISCJB **17** 04:59:43.6±0.6, 087N±009×1262E±0.1, h33km, mb4.2/11, Error ellipse: s-maj=20.8km s-min=10.2km az=156.8*
*NEIC **17** 04:59:45.3±6.6, 088N×12630E, h33km±47km, mb4.5/5, Error ellipse: s-maj=25.6km s-min=8.9km az=51.0*

ISC 17 04:59:45.8±0.6, 087N±009×1263E±01, h35km, n18, σ0 62/17, mb4.2/11, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.76	228	Pn	Pn	05 01 49.6	-0.5
	0.4nm,0.3s,baz=37,slow=12,SNR=3.4						
WRAB	Tennant Creek	22.13	160	eP	P	05 04 38.4	-0.1
	15nm,0.8s,mb4.5						
WRA	Warramunga Arr	22.13	160	P	P	05 04 38.4	-0.1
	14nm,0.7s,mb4.5,baz=337,slow=12,SNR=31						
WB2	Warramunga Arr	22.14	160	eP	P	05 04 38.3	-0.3
WB2	Warramunga Arr	22.14	160	eP	P	05 04 38.7	+0.1
ASAR	Alice Springs	25.48	164	P	P	05 05 10.7	-0.2
	2.8nm,0.8s,mb3.8,baz=340,slow=8.2,SNR=17						
ASAR				PcP	PcP	05 08 43.0	+0.7
	0.3nm,0.5s,baz=357,slow=2.2,SNR=4.3						
PSI	Prapat	27.42	274	P	P	05 05 29.5	+1.0
PSI	Prapat	27.42	274	P	P	05 05 29.5	+1.0
	4.4nm,0.8s,mb4.0,baz=135,slow=9.4,SNR=5.1						
STKA	Stephens Creek	35.65	157	P	P	05 06 41.3	+0.8
	1.4nm,0.7s,mb4.0,baz=350,slow=15,SNR=3.5						
SONM	Songino Array	49.87	343	P	P	05 08 35.7	+0.1
	0.9nm,0.8s,mb3.9,baz=153,slow=8.7,SNR=7.1						
MK31	Makanchi Array	59.66	326	eP	P	05 09 46.5	-0.1
MKAR	Makanchi Array	59.66	326	P	P	05 09 47.0	+0.5
	1.6nm,0.5s,mb4.3,baz=127,slow=7.6,SNR=16						
KURK	Kurchatov	63.92	328	eP	P	05 10 13.7	-1.4
	5.6nm,0.6s,mb4.8						
BRVK	Borovoye	69.55	328	eP	P	05 10 50.3	-0.7
	1.9nm,0.5s,mb4.3						
ARU	Arti	77.11	328	eP	P	05 11 36.3	+0.8
	6.2nm,0.9s,mb4.5						
VNDA	Vanda	80.66	173	eP	P	05 11 54.4	-0.2
	0.4nm,0.6s,mb3.5						
VNDA	Vanda	80.66	173	P	P	05 11 54.8	+0.1
	0.6nm,0.8s,mb3.6,baz=317,slow=9.1,SNR=5.5						
TORD	Torodi Ar. Bea	123.34	286	PKP	PKPdf	05 18 39.6	-0.5
	0.7nm,0.7s,baz=30,slow=2.2,SNR=3.9						

*NEIC **17** 05:04:06.5, 1820N×10321W, h13km, MD4.0(MEX), After MEX.*

MEX 17 05:04:06.3±0.9, 1818N×10320W, h10km±10km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.17	310	i P	Pg	05 04 09.5	-0.6
MMIG				i S	Sg	05 04 12.6	-0.1
ZIIG	Zihuatanejo	1.75	109	i P	Pn	05 04 32.5	-4.1
ZIIG				i S	Sn	05 04 55.5	-3.5
CJM	Chamela	2.18	307	i P	Pn	05 04 40.3	-2.3
CJM				i S	Sn	05 05 03.3	-6.4
SFJM	Santa Fe	2.30	4	i P	Pn	05 04 44.0	-0.3
SFJM				i S	Sn	05 05 10.0	-2.6
SFJM	Santa Fe	2.30	4	i P	Pn	05 04 43.5	-0.8
SFJM				i S	Sn	05 05 08.5	-4.1
MOIG	Morelia	2.42	52	eP	Pn	05 04 44.1	-1.8
MOIG				i S	Sn	05 05 10.6	-5.0
CAIG	El Cayaco	3.02	111	i P	Pn	05 04 52.0	-2.1
CAIG				i S	Sn	05 05 27.1	-3.2
ANIG	Ahuacatlan	3.12	337	i P	Pn	05 04 48.8	-6.7
ANIG				i S	Sn	05 05 26.1	-6.7
MEIG	Mezcala	3.42	94	i S	Sn	05 05 38.0	-2.2
PLIG	Platanillo	3.52	86	eP	Pn	05 05 04.2	+3.1
PLIG				i S	Sn	05 05 41.3	-1.5
PLIG	Platanillo	3.52	86	i P	Pn	05 05 01.6	+0.5
PLIG				i S	Sn	05 05 41.3	-1.5
LNIG	Linares	7.54	27	i P	Pn	05 05 55.0	-1.2
LNIG				i S	Sn	05 07 20.6	-1.2

IDC 17 05:35:04.9±3.0, 6088S×14930E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.9/13, mbtmp3.8.4/4, ML3.6/1, MS3.8/3, Ms1 3.7/3, ms1mx3.4/23, Error ellipse: s-maj=317.8km s-min=34.9km az=77.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNDA	Vanda	17.22	171	P	Pn	05 39 06.4	+0.1
	0.2nm,0.3s,baz=339,slow=14,SNR=10						
VNDA				LR	LR	05 45 11.4	
	comp=Z,181nm,20.5s,baz=334,slow=35						
QSPA	South Pole Qui	29.21	180	LR	LR	05 53 35.6	
	comp=Z,102nm,20.5s,baz=360,slow=38						
STKA	Stephens Creek	29.45	347	P	P	05 41 10.1	0.0
	2.4nm,0.8s,baz=180,slow=5.1,SNR=3.1						
ASAR	Alice Springs	38.69	337	P	P	05 42 30.6	+0.5
	1.1nm,1.1s,baz=177,slow=11,SNR=4.8						
WRA	Warramunga Arr	42.25	339	P	P	05 42 59.0	-0.5
	1.4nm,1.1s,baz=168,slow=7.1,SNR=5.0						
BOSA	Boshof	79.93	228	LR	LR	06 20 12.8	
	comp=Z,126nm,19.4s,baz=285,slow=34						

*CSEM **17** 05:48:12.1±0.1, 3859N×1468E, h30km, ML4.5/7, Error ellipse: s-maj=1.7km s-min=1.4km az=119.0*
*NEIC **17** 05:48:13.0, 3857N×1469E, h19km±1km, ML3.6(ROM), After ROM.*

ROM 17 05:48:13.0±0.1, 3857N×1469E, h19km±1km, Ml3.6/32, 1C-1D, Error ellipse: s-maj=2.0km s-min=1.6km az=81.0, Sicily

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IFIL	Filicudi I Eol	0.10	266 ⇓	i Pg	Pg	05 48 17.0	+0.3
IFIL				Sg	Sg	05 48 19.3	+0.1
	209µm,0.7s						
SLNA	Salina	0.12	94 ⇑	i Pg	Pg	05 48 17.6	+0.7
LLI	Lipari	0.24	121	Pg	Pg	05 48 19.1	+0.5
LLI				Sg	Sg	05 48 22.7	+0.2
	44µm,0.6s						
VPL	Vulcano Piano	0.30	129	Pg	Pg	05 48 19.7	+0.1
VPL				Sg	Sg	05 48 23.7	-0.4
	10µm,0.5s						
MSRU	Castanea	0.71	115	Pg	Pg	05 48 27.0	-0.1
MSRU				Sg	Sg	05 48 38.0	+1.4
	4µm,0.3s						
MSI	Messina ING	0.77	118	Pg	Pg	05 48 28.4	+0.2
MMME	Mongiuffi-Meli	0.78	145	Pg	Pg	05 48 27.7	-0.5
MMME				Sg	Sg	05 48 39.2	+0.7
	5µm,0.4s						
GIB	Gibilmanna	0.78	222	Pg	Pg	05 48 28.0	-0.3
GIB				Sg	Sg	05 48 38.4	-0.2
	5µm,0.5s						
CSLB	Castelbuono	0.80	218	Pg	Pg	05 48 28.2	-0.5
	1µm,0.4s						
GALF	Gagliano Caste	0.86	186	Pg	Pg	05 48 30.7	+0.8
GALF				Sg	Sg	05 48 42.7	+1.4
SCLL	Scilla	0.87	111	Pg	Pg	05 48 29.3	-0.6
	372nm,0.4s						
ESLN	Serra La Nave	0.91	165	Pg	Pg	05 48 28.4	-2.2
	3µm,0.6s						
JOPP	Joppolo	0.94	87	Pg	Pg	05 48 31.0	-0.3
	593nm,0.5s						
MTTG	Motta San Giov	0.97	125	Pg	Pg	05 48 31.6	-0.4
	1µm,0.6s						
SOI	Samo	1.19	114	Pg	Pg	05 48 33.9	-2.0
SOI				Sg	Sg	05 48 51.0	-0.5
	557nm,0.7s						
USI	Ustica	1.19	277	Pg	Pg	05 48 34.2	-1.8
	2µm,0.6s						
MPAZ	Palizzi	1.21	120	Pg	Pg	05 48 34.5	-1.9
	1µm,0.4s						
MCT	Mte Cammarata	1.25	222	Pg	Pg	05 48 37.5	+0.3
	216nm,0.6s						
CORL	Corleone	1.28	239	Pg	Pg	05 48 36.2	-1.6
	791nm,0.7s						
HAGA	Augusta	1.34	164	Pg	Pg

ellipse: s-maj=1.8km s-min=1.5km az=116.0
SKO 17 05:50:13.9, 4201N×2343E, h0km
BEO 17 05:50:14.9±0.7, 4204N×2330E, h4km±5km, ML2.4/5
ATH 17 05:50:14.4, 4192N×2345E, h15km±3km, MD3.3/3
THE 17 05:50:14.2, 4198N×2340E, h1km, ML2.9

ISC 17 05:50:13.3±0.5, 4202N±002×2343E±003, h1km±7km, n25, σ1§05/43, Bulgaria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KKB	Krupnik	0.30	240	*i* Pg	Pg	05 50 19.5	+0.6
MMB	Musomiste	0.48	152	*i* Pg	Pg	05 50 23.7	+1.2
VTS	Vitosha	0.60	344	*e*Pg	Pg	05 50 24.9	+0.2
VTS				*e*Sg	Sg	05 50 35.5	+3.0
VTS	Vitosha	0.60	344	*i* Pg	Pg	05 50 24.8	+0.1
VTS				*e*Sg	Sg	05 50 33.2	+0.7
VTS	Vitosha	0.60	344	*i* Pg	Pg	05 50 24.8	+0.1
VTS				*e*Sg	Sg	05 50 35.5	+3.0
NVR	Nevrokopi	0.74	154	*e*PN	Pn	05 50 27.1	-3.7
NVR				*e*SN	Sg	05 50 35.9	-1.1
PGB	Panagyurishte	0.77	46	*i* Pg	Pg	05 50 27.2	-0.7
SRS	Serrai	0.91	172	*e*Pg	Pg	05 50 30.8	+0.2
SRS				*e*Sg	Sg	05 50 42.8	+0.4
KNT	Kendrikon	0.94	205	*e*Pg	Pg	05 50 31.4	+0.1
KNT				*e*Sg	Sg	05 50 43.5	+0.1
VAY	Valandovo	0.95	223	*e*Pg	Pg	05 50 31.3	-0.1
VAY				*e*Sg	Sg	05 50 44.1	+0.5
VAY	Valandovo	0.95	223	*i* Pg	Pg	05 50 31.0	-0.4
VAY				*e*Sg	Sg	05 50 43.9	+0.3
VAY	Valandovo	0.95	223	*e*Pg	Pg	05 50 31.3	-0.1
VAY				*e*Sg	Sg	05 50 43.5	-0.2
PLD	Plovdiv	0.95	84	*e*Pg	Pg	05 50 32.8	+1.3
PLD				*e*Sg	Sg	05 50 46.7	+2.8
STIP	Stip	0.98	251	*e*Pg	Pg	05 50 32.6	+0.5
STIP				*e*Sg	Sg	05 50 46.0	+1.3
STIP	Stip	0.98	251	*e*Pg	Pg	05 50 31.3	-0.8
STIP				*e*Sg	Sg	05 50 42.9	-1.9
STIP	Stip	0.98	251	*e*Pg	Pg	05 50 31.2	-0.8
STIP				*e*Sg	Sg	05 50 45.6	+0.8
STIP	Stip	0.98	251	*e*Pg	Pg	05 50 31.2	-0.9
STIP				*e*Sg	Sg	05 50 46.0	+1.2
RZN	Rozhen	1.02	108	*i* Pg	Pg	05 50 31.7	-1.0
SOH	Sokhos	1.20	183	*e*Pg	Pg	05 50 35.8	-0.3
SOH				*e*Sg	Sg	05 50 52.5	+0.9
BARS	Barje	1.44	304	*i* Pn	Pn	05 50 40.3	-0.1
BARS				*e*Sg	Sg	05 50 58.8	-0.6
KDZ	Kurdzhali	1.53	103	*i* Pg	Pg	05 50 40.1	-2.5
PLG	Polygyros	1.64	180	*e*PN	Pn	05 50 43.0	-0.2
OUR	Ouranopolis	1.73	166	*e*Pb	Pb	05 50 43.3	-2.5
OUR				*e*Sb	Sb	05 51 08.1	+0.1
RDO	Rodhopi	1.81	118	*e*PN	Pn	05 50 46.1	+0.7
RDO				*e*SN	Sn	05 51 09.7	+0.8
SZH	Strazhica	2.23	55	*i* Pg	Pg	05 50 54.9	-1.1

IDC 17 05:52:12.6±1.2, 3414N×8169E, h0km, mb3.4/5, mb1 3.6/6, mb1mx3.4/22, mbtmp3.5/6, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.8/26, Error ellipse: s-maj=35.4km s-min=28.9km az=67.0
NEIC 17 05:52:15.1±0.8, 3422N×8183E, h10km, mb3.7/3, Error ellipse: s-maj=15.8km s-min=12.5km az=63.0
ISCJB 17 05:52:18.2±1.8, 3427N±007×818E±0.1, h53km±20km, mb3.4/5, Error ellipse: s-maj=19.3km s-min=12.2km az=3.7

ISC 17 05:52:20.1±1.3, 3426N±007×818E±01, h52km±16km, n14, σ1§08/14, mb3.4/5, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	Dehra Dun	5.06	220	*ex*	Pn	05 53 33.0	-0.4
UCH	Uchtor	9.82	326	*e*Pn	Pn	05 54 40.1	+1.6
	1.7nm,0.8s						
TKM2	Tokmak 2	9.93	332	*e*Pn	Pn	05 54 42.3	+2.3
	4.5nm,1.2s						
KBL	Kabul	10.57	275	*e*Pn	Pn	05 54 48.4	-0.4
MK31	Makanchi Array	12.53	1	*e*Pn	Pn	05 55 14.2	-1.3
MKAR	Makanchi Array	12.53	1	Pn	Pn	05 55 14.5	-0.9
	0.2nm,0.3s,baz=185,slow=12,SNR=7.7						
KURK	Kurchatov	16.61	353	*e*P	Pn	05 56 09.6	+0.4
	1.8nm,0.6s						
BVAR	Borovoye Array	20.46	340	P	P	05 56 52.5	-0.5
	1.0nm,0.6s,baz=142,slow=13,SNR=2.2						
BRVK	Borovoye	20.52	340	*e*P	P	05 56 52.7	-1.0
	8.1nm,0.9s						
CHTO	Chiang Mai	21.65	131	*e*P	P	05 57 06.7	+0.5
	1.8nm,0.5s,mb3.8						
SONM	Songino Array	22.84	46	P	P	05 57 17.9	-0.6
	0.1nm,0.3s,mb2.7,baz=234,slow=12,SNR=2.9						
WRA	Warramunga Arr	73.48	129	P	P	06 03 47.6	+0.4
	0.5nm,0.9s,mb3.5,baz=328,slow=6.0,SNR=3.2						
TORD	Torodi Ar. Bea	74.64	276	P	P	06 03 53.0	-1.2
	0.3nm,0.4s,mb3.5,baz=43,slow=3.9,SNR=4.9						
YKA	Yellowknife Ar	82.68	8	P	P	06 04 39.4	+1.8
	0.2nm,0.5s,mb3.4,baz=341,slow=5.3,SNR=4.6						

IDC 17 06:15:04.2±1.4, 4755S×9837E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/14, mbtmp3.8/6, Error ellipse: s-maj=45.5km s-min=23.0km az=106.0, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	Alice Springs	36.96	62	P	P	06 22 15.2	+0.1
	0.7nm,0.7s,baz=211,slow=7.1,SNR=6.0						
VNDA	Vanda	38.40	162	P	P	06 22 26.2	-0.5
	0.5nm,0.8s,baz=290,slow=8.9,SNR=3.3						
WRA	Warramunga Arr	40.08	59	P	P	06 22 41.9	+0.6
	1.1nm,0.7s,baz=220,slow=9.0,SNR=13						
QSPA	South Pole Qui	42.60	180	P	P	06 23 02.4	+1.0
	0.9nm,0.6s,baz=315,slow=1.2,SNR=11						
RAR	Rarotonga	82.26	113	P	P	06 27 26.9	-0.6
	38nm,0.7s,baz=222,slow=8.9,SNR=6.8						
MKAR	Makanchi Array	95.00	349	P	P	06 28 28.9	+0.9
	0.7nm,0.6s,baz=162,slow=8.4,SNR=4.8						
SONM	Songino Array	95.25	5	P	P	06 28 27.5	-1.6
	0.2nm,0.3s,baz=222,slow=1.9,SNR=3.7						

ISCJB 17 06:20:51.1±0.4, 6110N±004×15111W±008, h73km±5km, mb3.5/4, Error ellipse: s-maj=6.8km s-min=6.1km az=20.8
IDC 17 06:20:53.5±2.2, 6098N×15117W, h75km±24km, mb3.3/4, mb1 3.7/7, mb1mx3.4/22, mbtmp3.4/7, Error ellipse: s-maj=21.3km s-min=16.4km az=131.0
NEIC 17 06:20:53.3, 6110N×15103W, h60km, ML3.8(PMR), ML3.4(AEIC), After AEIC.
NEIC Felt [III] at Anchorage. Also felt at Eagle River and Elmendorf AFB.

ISC 17 06:20:52.4±0.4, 6108N±004×15110W±008, h65km±6km, n35, σ0§66/38, mb3.5/4, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	Fire Island	0.46	79	P	Pn	06 21 05.3	+1.0
FIB				S	Sn	06 21 13.9	+0.9
RC01	Rabbit Creek A	0.66	89	P	Pn	06 21 06.5	0.0
RC01				S	Sn	06 21 17.0	+0.2
SLKM	Skilak Lake	0.72	143	P	Pn	06 21 07.4	+0.3
PMR	Palmer	1.08	61	P	Pn	06 21 11.4	-0.2
GHO	Glory Hole Cre	1.26	55	P	Pn	06 21 14.0	+0.1
SEW	Seward	1.27	139	P	Pn	06 21 13.8	-0.4
SML	Sawmill	1.52	60	P	Pn	06 21 17.2	-0.1
AUL	Augustine Lava	2.06	215	P	Pn	06 21 25.6	+0.9
SVW2	Sparrevohn	2.18	272	P	Pn	06 21 26.0	-0.2
KTH	Kantishna Hill	2.48	2	P	Pn	06 21 31.2	+0.8
DIV	Divide	2.59	87	P	Pn	06 21 31.0	-0.8
TT01	Tatalina	2.96	310	P	Pn	06 21 36.5	-0.3
TTA	Tatalina	2.97	311	P	Pn	06 21 36.9	-0.1
BMRM	Bremner River	3.17	89	P	Pn	06 21 38.3	-1.4
RAGM	Ragged Mountai	3.23	100	P	Pn	06 21 38.9	-1.7
PAX	Paxson	3.26	52	P	Pn	06 21 41.2	+0.2
KDAK	Kodiak Island	3.39	194	P	Pn	06 21 42.2	-0.6
KDAK	Kodiak Island	3.39	194	P	Pn	06 21 42.8	0.0
	2.4nm,0.3s,baz=356,slow=11,SNR=49						
KDAK				S	Sn	06 22 21.1	-0.7
	11nm,0.3s,baz=323,slow=19,SNR=7.5						
COLA	College	4.09	20	P	Pn	06 21 52.0	-0.3
DOT	Dot Lake	4.17	49	P	Pn	06 21 53.5	+0.1
IL1	Eielson Array	4.18	26	P	Pn	06 21 53.5	0.0
BCA3	Beaver Creek A	4.81	61	P	Pn	06 22 02.1	0.0
IM3	Indian Mountai	5.06	348	P	Pn	06 22 05.5	0.0
IMA2	Indian Mountai	5.14	348	P	Pn	06 22 06.5	-0.1
EGAK	Eagle	5.86	46	P	Pn	06 22 15.8	-0.7
DAWY	Dawson	6.18	56	*e*Pn	Pn	06 22 20.1	-0.8
COLD	Coldfoot	6.19	3	P	Pn	06 22 20.8	-0.1
BM3	Burnt Mountain	6.96	21	P	Pn	06 22 30.5	-1.0
INK	Inuvik	10.41	38	P	Pn	06 23 19.3	+0.7
	0.1nm,0.3s,baz=243,slow=17,SNR=5.7						
DLBC	Dease Lake	10.94	95	P	Pn	06 23 27.1	+1.2
YKA	Yellowknife Ar	17.17	69	P	Pn	06 24 48.5	+1.0
	0.3nm,0.3s,baz=276,slow=9.9,SNR=37						
NEW	Newport	23.14	108	P	P	06 25 53.2	+0.3
	1.3nm,0.6s,mb3.4,baz=335,slow=14,SNR=3.2						
NVAR	Mina Array Bea	30.48	123	P	P	06 26 59.5	+0.8
	0.2nm,0.4s,mb3.1,baz=312,slow=9.0,SNR=3.7						
TXAR	Lajitas Array	44.52	113	P	P	06 28 57.3	+0.1
	0.2nm,0.4s,mb3.2,baz=344,slow=6.3,SNR=4.0						
SONM	Songino Array	54.91	306	P	P	06 30 16.3	+0.5
	1.3nm,0.7s,mb4.0,baz=40,slow=7.6,SNR=8.2						

ISCJB 17 06:31:10.7±1.0, 3789N±003×3450E±0.10, h9km±6km, Error ellipse: s-maj=13.1km s-min=5.2km az=167.8
CSEM 17 06:31:10.1±0.1, 3791N×3450E, h12km, MD2.9, Error ellipse: s-maj=3.1km s-min=1.2km az=88.0
ISK 17 06:31:10.2, 3791N×3448E, h12km, MD2.9
DDA 17 06:31:16.3, 3839N×3525E, h7km±5km, Md2.9

ISC 17 06:31:11.3±1.0, 3791N±003×346E±01, h7km±5km, n12, σ0§92/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIG	Nigde	0.21	13	PG	Pg	06 31 15.5	0.0
NIG				*e*SG	Sg	06 31 19.4	+1.2
KARA	Karaisali	0.76	148	*e*PG	Pg	06 31 25.9	0.0
KARA				*e*SG	Sg	06 31 37.3	+1.5
AVNT	Avonos	0.90	15	*i* P	Pg	06 31 26.9	-1.7
AVNT				*i* S	Sg	06 31 39.9	-0.5
AVNT	Avonos	0.90	15	*i* P	Pg	06 31 26.9	-1.7
AVNT				*i* S	Sg	06 31 39.8	-0.6
MERS	Mersin	1.04	181	*e*PG	Pg	06 31 30.6	-0.6
KOZT	Kozan	1.10	112	*e*PN	Pn	06 31 33.2	+0.2
CEYT	Ceyhan	1.31	133	*e*PN	Pn	06 31 35.2	-0.7
BNN	Bunyan	1.39	47	*e*PN	Pn	06 31 36.0	-1.0
ANDN	Andirin	1.46	102	*i* P	Pn	06 31 38.2	+0.2
ANDN				*i* S	Sn	06 31 57.4	0.0
CDAG	Cicekdag	1.72	355	*i* P	Pn	06 31 42.4	+0.8
CDAG				*i* S	Sn	06 32 05.9	+2.2
YOZ	Yozgat	1.83	19	*e*PN	Pn	06 31 42.7	-0.4
KMRS	Kahramanmaras	1.91	101	*e*PN	Pn	06 31 43.8	-0.3

IDC 17 06:35:23.3±2.2, 4425×15412E, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/14, mbtmp4.2/5, ML3.7/1, MS3.7/2, Ms1 3.6/2, ms1mx3.0/28, Error ellipse: s-maj=60.9km s-min=41.5km az=111.0
NEIC 17 06:35:31.8±9.0, 4585×15403E, h59km±66km, mb4.5/2, Error ellipse: s-maj=57.6km s-min=26.2km az=216.0

ISC 17 06:35:28.5±3.3, 45S±04×1541E±03, h35km, n13, σ0§50/9, mb4.2/6, MS3.7/2, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	17.32	206	P	Pn	06 39 27.9	+0.3
	0.2nm,0.3s,baz=31,slow=15,SNR=3.4						
KAKA	Kakadu	22.93	248	*e*P	P	06 40 30.1	+0.4
	9.4nm,0.6s,mb4.4						
WB2	Warramunga Arr	24.64	230	*e*P	P	06 40 45.0	-1.0
WRA	Warramunga Arr	24.65	230	P	P	06 40 46.8	+0.7
	8.6nm,0.8s,mb4.3,baz=53,slow=9.5,SNR=59						
ASAR	Alice Springs	27.29	224	P	P	06 41 10.0	+0.1
	2.4nm,0.4s,mb4.1,baz=54,slow=8.7,SNR=47						
STKA	Stephens Creek	29.70	202	P	P	06 41 30.8	-0.5
STKA	Stephens Creek	29.70	202	P	P	06 41 30.8	-0.5
	1.6nm,0.5s,mb4.0,baz=29,slow=15,SNR=6.9						
FITZ	Fitzroy Crossi	30.97	242	*e*P	P	06 41 42.5	-0.2
	6.0nm,0.4s,mb4.8						
RAO	Raoul Island	36.19	136	LR	LR	06 53 25.4	
	comp=Z,640nm,18.5s,MS4.4,baz=108,slow=30						
VNDA	Vanda	73.12	178	P	P	06 46 55.2	+0.3
	0.8nm,0.9s,mb3.6,baz=337,slow=8.0,SNR=3.9						
NVAR	Mina Array Bea	90.85	52	LR	LR	07 24 15.5	
	comp=Z,5.8nm,20.0s,MS3.0,baz=135,slow=32						
TORD	Torodi Ar. Bea	151.44	289	PKPbc	PKPbc	06 55 20.3	+0.5
TORD	Torodi Ar. Bea	151.44	289	PKPbc	PKPbc	06 55 20.3	+0.5
	0.4nm,0.6s,baz=78,slow=1.9,SNR=7.7						

ISCJB 17 06:43:12.9±0.4, 4446N±006×14301E±008, h234km±3km, mb3.5/6, Error ellipse: s-maj=10.2km s-min=8.8km az=26.5
JMA 17 06:43:13.5±0.2, 4450N×14295E, h232km±2km, M3.7
NEIC 17 06:43:13.6, 4450N×14295E, h232km, MG3.7(JMA), After JMA.
IDC 17 06:43:14.0±0.6, 4453N×14293E, h225km±4km, mb3.4/6, mb1 3.6/6, mb1mx3.3/18, mbtmp3.4/6, Error ellipse: s-maj=20.1km s-min=18.6km az=149.0

ISC 17 06:43:13.9±0.4, 4445N±006×14300E±008, h229km±3km, n30, σ0§85/40, mb3.5/6, 8C-1D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAJ	Asahikawa	0.44	221	⇑P	Pn	06 43 44.6	+0.4
ASAJ				*e*S	S	06 44 08.5	+0.7
ASAJ	Asahikawa	0.44	221	P	Pn	06 43 44.7	+0.5
	44nm,0.3s,baz=348,slow=3.1,SNR=101						
ASAJ				S	S	06 44 08.1	+0.2
	3.8nm,0.3s,baz=277,slow=22,SNR=7.5						
JMP	Maruseppu	0.51	149	⇑P	Pn	06 43 45.0	+0.5
JMP				*e*S	S	06 44 08.3	+0.1
JSE	Soyaes	0.59	330	⇑P	Pn	06 43 44.3	-0.3
JSE				*e*S	S	06 44 08.0	-0.8
JKK2	Kamakawa 2	0.60	197	⇑P	Pn	06 43 45.2	+0.4
JTKR	Abashiri--Toko	0.81	126	P	Pn	06 43 46.4	+0.7
JTKR				*e*S	S	06 44 11.5	+1.1
JSS	Shosan	0.82	267	⇑P	Pn	06 43 45.9	+0.2
JYG	Yagishiri	1.12	269	⇑P	Pn	06 43 47.0	-0.5
JHR	Hokuryu	1.16	233	P	Pn	06 43 47.8	+0.1
JWK2	Keihoku	1.17	318	⇑P	Pn	06 43 47.4	-0.3
JAR	Ashorobuto	1.28	154	⇓P	Pn	06 43 49.6	+1.0
JAR				*e*S	S	06 44 17.3	+1.6
JFR	Furan	1.32	193	P	Pn	06 43 49.4	+0.5
JRA	Rausu	1.61	108	P	Pn	06 43 52.0	+0.9
JCH	Churui	1.85	172	⇑P	Pn	06 43 52.9	-0.4
JCH				*e*S	S	06 44 22.1	-2.1
JAK	Akkeshi	1.90	139	P	Pn	06 43 53.7	-0.1
JAK				*e*S	S	06 44 24.4	-0.6
JEW	Eniwo	1.96	215	P	Pn	06 43 55.2	+0.9
JSK	Shakotan	2.13	240	P	Pn	06 43 55.9	0.0
JNBK	Urakawa-nobuka	2.17	185	P	Pn	06 43 56.6	+0.2
NEM2	Nemuro 2	2.26	118	P	Pn	06 43 56.4	-0.8
NEM2				*e*S	S	06 44 29.6	-1.6
JKB	Kayabe	2.94	210	P	Pn	06 44 04.2	-0.2
JKB				*e*S	S	06 44 42.0	-2.2
SONM	Songino Array	25.43	291	P	P	06 48 20.7	+0.2
	4.9nm,0.7s,mb4.2,baz=82,slow=8.4,SNR=30						
IMA2	Indiadi Mountai	39.79	35	*e*P	P	06 50 23.2	-1.1
MK31	Makanchi Array	41.60	296	*e*P	P	06 50 38.9	-0.3
MKAR	Makanchi Array	41.60	296	P	P	06 50 38.7	-0.5
MKAR	Makanchi Array	41.60	296	P	P	06 50 38.7	-0.5
	0.7nm,0.4s,mb3.4,baz=78,slow=8.4,SNR=9.9						
INK	Inuvik	47.31	30	*e*P	P	06 51 22.8	-1.2
	35nm,0.3s						
INK				*e*PcP	PcP	06 52 51.3	+0.4
YKA	Yellowknife Ar	56.86	33	P	P	06 52 34.1	-0.1
	1.0nm,0.6s,mb3.6,baz=307,slow=6.5,SNR=27						
WRA	Warramunga Arr	64.56	189	P	P	06 53 27.0	+0.4
	0.4nm,0.7s,mb3.2,baz=6.5,slow=6.7,SNR=5.9						
ASAR	Alice Springs	68.29	189	P	P	06 53 51.6	+1.6
	0.2nm,0.6s,mb3.0,baz=1.5,slow=5.6,SNR=4.3						
TXAR	Lajitas Array	84.70	54	P	P	06 55 23.1	+1.0
	1.0nm,0.6s,mb3.7,baz=281,slow=3.8,SNR=11						

ISCJB 17 06:45:42.4±0.8, 9660N×00507276W±006, h171km±7km, mb3.1/2, Error ellipse: s-maj=10.9km s-min=7.5km az=38.3
FUNV 17 06:45:42.3, 9677N×7295W, h175km, MW3.4
IDC 17 06:45:46.5±5.1, 9477N×7322W, h190km±42km, mb2.9/2, mb1 3.1/3, mb1mx2.9/19, mbtmp3.0/3, Error ellipse: s-maj=96.3km s-min=26.6km az=75.0

ISC 17 06:45:43.4±0.8, 965N±005×7277W±006, h163km±7km, n17, σ0§83/25, mb3.1/2, 3C-5D, Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VIRV	Villa del Rosa	0.92	23	⇑*i*P	Pn	06 46 08.7	-0.3
VIRV				*e*S	Sn	06 46 27.4	-1.1
VIGV	El Vigia	1.61	120	⇑*i*P	Pn	06 46 16.0	+0.8
VIGV				*e*S	Sn	06 46 40.7	+1.2
CAPV	Capacho	1.83	166	⇓*i*P	Pn	06 46 17.7	+0.1
QARV	Quebrada Arrib	2.28	76	⇓*i*P	Pn	06 46 23.6	+0.9
QARV				*e*S	Sn	06 46 53.2	+0.3
SOCV	Socops	2.33	126	⇑*i*P	Pn	06 46 23.9	+0.7
SOCV				*e*S	Sn	06 46 54.0	0.0
DABV	Dabajuro	2.45	59	*e*P	Pn	06 46 24.9	+0.2
DABV				*e*S	Sn	06 46 56.9	+0.4
CURV	Curarigua	2.79	82	⇓*e*P	Pn	06 46 29.4	+0.6
SIQV	Siquisique	3.08	71	⇓*i*P	Pn	06 46 32.7	+0.3
SIQV				*e*S	Sn	06 47 09.6	-0.8
SANV	Sanarito	3.19	92	*e*P	Pn	06 46 34.7	+0.9
SANV				*e*S	Sn	06 47 12.1	-0.7
TEPV	Terepaima	3.54	85	⇓*i*P	Pn	06 46 38.2	+0.1
TEPV				*e*S	Sn	06 47 20.3	-0.4
ELOV	Elorza	4.19	129	*e*P	Pn	06 46 45.7	-0.8
BAUV	El Baul	4.72	98	*e*P	Pn	06 46 52.6	-0.8
ROSC	El Rosal	5.01	198	P	Pn	06 46 58.7	+1.5
	2.2nm,0.3s,baz=51,slow=3.5,SNR=22						
ROSC				S	Sn	06 47 53.2	-1.8
	12nm,0.3s,baz=254,slow=22,SNR=8.8						
CAOV	Caicara del Or	6.79	109	*e*P	Pn	06 47 18.8	-1.9
LPAZ	La Paz	26.18	170	P	P	06 51 03.3	+0.4
	0.5nm,0.6s,mb3.4,baz=325,slow=9.8,SNR=4.0						
YKA	Yellowknife Ar	60.75	339	P	P	06 55 37.5	0.0
	0.1nm,0.6s,mb2.8,baz=116,slow=6.8,SNR=4.2						
WRA	Warramunga Arr	151.91	246	PKPbc	PKPbc	07 05 19.0	-0.9
	0.2nm,0.4s,baz=104,slow=3.2,SNR=4.9						

JMA 17 06:50:17.7±0.2, 4350N×14757E, h32km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.34	265	P	Pn	06 50 40.9	+0.8
NEM2				*e*S	Sn	06 50 57.9	+1.1
JRA	Rausu	1.83	285	P	Pn	06 50 47.7	+0.8
JRA				*e*S	Sn	06 51 10.0	+1.1
JNK	Nakash	2.08	273	P	Pn	06 50 51.0	+0.8
JNK				*e*S	Sn	06 51 15.9	+0.9
JAK	Akkeshi	2.16	257	P	Pn	06 50 52.4	+1.0
JAK				*e*S	Sn	06 51 17.9	+0.9
JTKR	Abashiri--Toko	2.69	281	P	Pn	06 51 00.3	+1.5
JAR	Ashorobuto	2.78	267	P	Pn	06 51 01.6	+1.7
JAR				*e*S	Sn	06 51 34.2	+1.9
JOB	Onbets	2.80	259	P	Pn	06 51 01.7	+1.5
JOB				*e*S	Sn	06 51 34.3	+1.6
JMP	Maruseppu	3.09	281	P	Pn	06 51 06.4	+2.2
JCH	Churui	3.21	255	P	Pn	06 51 06.8	+1.0
JCH				*e*S	Sn	06 51 43.4	+0.5
JNBK	Urakawa-nobuka	3.74	253	P	Pn	06 51 14.5	+1.3
JNBK				*e*S	Sn	06 51 57.0	+0.9

IDC 17 07:20:08.0±26.0, 1810S×17376W, h0km, mb4.4/4, mb1 4.5/4, mb1mx4.0/15, mbtmp4.4/4, Error ellipse: s-maj=479.1km s-min=155.7km az=73.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	37.78	260	P	P	07 27 26.2	+0.1
	1.4nm,0.4s,baz=81,slow=14,SNR=6.0						
STKA	Stephens Creek	42.44	242	P	P	07 28 05.1	+0.3
	1.6nm,0.7s,baz=81,slow=12,SNR=4.7						
WB2	Warramunga Arr	48.93	259	*e*P	P	07 28 55.7	-0.6
WRA	Warramunga Arr	48.95	259	P	P	07 28 56.0	-0.4
	1.3nm,0.3s,baz=97,slow=7.0,SNR=63						
ASAR	Alice Springs	49.00	254	P	P	07 28 56.6	-0.1
	11nm,0.5s,baz=91,slow=8.4,SNR=214						
FITZ	Fitzroy Crossi	57.36	260	*e*P	P	07 29 59.8	+1.4
	3.9nm,0.4s						

ISCJB 17 07:20:36.7±1.3, 2794S±009×648W±0.1, h39km±19km, mb3.5/2, Error ellipse: s-maj=19.1km s-min=10.1km az=43.0
IDC 17 07:20:36.6±4.3, 2796S×6482W, h19km±29km, mb3.6/2, mb1 3.6/7, mb1mx3.5/18, mbtmp3.4/7, ML3.5/5, MS2.5/1, Ms1 2.6/1, ms1mx2.2/22, Error ellipse: s-maj=30.1km s-min=16.2km az=144.0
NEIC 17 07:20:37.3, 2795S×6476W, h30km, MD4.3(SJA), After SJA.
NEIC Felt [III] at Catamarca, Santiago del Estero and Tucuman.

ISC 17 07:20:39.3±1.0, 2793S±009×6485W±010, h40km±16km, n10, σ0§92/10, mb3.5/2, Santiago del Estero Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	Coronel Fontan	4.70	218	Pn	Pn	07 21 48.1	+0.5
	0.6nm,0.3s,baz=14,slow=12,SNR=104						
CFAA				Sn	Sn	07 22 40.8	-0.1
	4.5nm,0.3s,baz=250,slow=8.5,SNR=10						
CFAA				Lg		07 23 04.3	
	6.1nm,0.3s,baz=298,slow=18,SNR=6.2						
LCO	Las Campanas	5.26	257	*e*Pn	Pn	07 21 56.1	+0.7
	48nm,0.3s						
LCO				*e*Sn	Sn	07 22 51.7	-3.0
CPUP	Villa Florida	6.89	78	Pn	Pn	07 22 17.8	0.0
	2.7nm,0.3s,baz=227,slow=12,SNR=27						
CPUP				Lg	

MENT	Mentasta	7.93	48	eP	Pn	07 23 31.1	-0.7
IM3	Indian Mountai	7.93	9	P	Pn	07 23 31.8	0.0
IL1	Eielson Array	8.07	31	P	Pn	07 23 30.4	-3.2
BCA3	Beaver Creek A	8.76	50	P	Pn	07 23 42.6	-0.1
PNL	Peninsula	9.02	73	P	Pn	07 23 46.2	-0.1
DLBC	Dease Lake	13.94	78	P	Pn	07 24 49.8	-0.2
	baz=270,slow=6.1						
YKA	Yellowknife Ar	20.93	60	P	P	07 26 08.5	-0.6
	0.7nm,0.4s,baz=281,slow=9.6,SNR=11						
NVAR	Mina Array Bea	31.63	112	P	P	07 27 48.8	+1.8
	0.3nm,0.7s,mb3.1,baz=290,slow=9.4,SNR=3.5						
SCHQ	Schefferville	46.13	53	P	P	07 29 46.0	-1.0
	1.2nm,0.5s,mb3.8,baz=308,slow=12,SNR=4.2						
TXAR	Lajitas Array	46.20	105	P	P	07 29 49.0	+1.1
	0.2nm,0.5s,mb3.0,baz=320,slow=5.9,SNR=4.1						
SONM	Songino Array	54.32	305	P	P	07 30 47.5	-1.1
	0.3nm,0.4s,mb3.3,baz=24,slow=5.3,SNR=4.1						

NNC 17 07:29:56.8±3.1, 4975N×8792E, h8km±7km, mb3.6, mpv3.2, 4C-4D, Error ellipse: s-maj=25.0km s-min=10.1km az=49.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	Makanchi Array	4.78	234	⇓Pn	Pn	07 31 11.7	+2.7
	1.6nm,0.4s,baz=50,slow=16,SNR=2.7						
MK31				⇓Pg	Pg	07 31 23.7	-4.7
	2.7nm,0.3s,baz=49,slow=16						
MK31				⇓Lg		07 32 28.3	
	7.0nm,0.4s,baz=51,slow=31,SNR=2.6						
KURK	Kurchatov	6.05	283	⇑Pn	Pn	07 31 26.5	0.0
KURK				⇑Sn	Sn	07 32 37.1	+1.4
	12nm,0.7s						
KURBB	Kurchatov Arra	6.10	282	⇑Pn	Pn	07 31 28.7	+1.6
	0.9nm,0.6s,baz=92,slow=15						
KURBB				⇑Sn	Sn	07 32 37.3	+0.4
	4.5nm,0.7s						
KURBB				⇓Lg		07 33 09.6	
	7.6nm,0.5s,baz=94,slow=31						

SSNC 17 07:45:48.7, 1831N×7959W, h0km, MD3.9, ML2.5

JSN 17 07:45:44.9±1.0, 1827N×7952W, h0km±559km, MD3.8, 2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MCJ	Malvern	1.78	101	⇓eP	Pn	07 46 16.0	-0.9
MCJ				eS	Sn	07 46 37.9	-2.3
CVJ	Coleyville	1.89	91	⇓eP	Pn	07 46 16.7	-1.7
BBJ	Bamboo Saint A	2.15	87	eP	Pn	07 46 20.3	-1.7
BBJ				eS	Sn	07 46 47.9	-1.4
STH	Stony Hill	2.59	94	eS	Sn	07 46 58.2	-1.9
LMGC	Las Mercedes	2.97	53	ePG	Pn	07 46 34.4	+1.1
	baz=235						
LMGC				eSG	Sn	07 47 08.2	-1.5
	comp=N,10nm,0.1s						
LMGC				e			
	comp=E,12nm,0.2s						

KRSC 17 07:55:11.6±1.3, 5087N×15687E, h109km±70km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	Alaid	0.84	270	P	Pn	07 55 31.2	+0.2
MIPR	Malaya Ipel'ka	1.41	357	iP	Pn	07 55 38.2	+1.0
GRL	Gorelyy	1.84	23	eP	Pn	07 55 45.2	+2.7
RUS	Russkaya	1.87	33	eP	Pn	07 55 44.6	+1.8
RUS				iS	Sn	07 56 08.8	+2.1
PET	Petropavlovsk	2.42	26	P	Pn	07 55 52.1	+2.2
PET				iS	Sn	07 56 21.3	+2.0
SDLR	Sedlovina	2.71	26	iP	Pn	07 55 56.4	+2.7
GNL	Ganaly	2.91	13	iP	Pn	07 55 58.3	+2.1
SPN	Mys Shipunski	2.96	40	P	Pn	07 55 59.7	+2.7
SPN				iS	Sn	07 56 34.7	+2.7
MKZ	Mys Kozlova	4.73	37	eP	Pn	07 56 22.1	+1.5
KBTR	Krutoberegovo	6.42	31	P	Pn	07 56 44.8	+1.4

NEIC 17 07:56:45.0, 1055N×8498W, h1km, MD4.0(CASC), 2C-2D, After CASC., Costa Rica

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	JuntasAbangare	0.26	173	ePg	Pg	07 56 50.3	+0.4
JTS				eSg	Sg	07 56 54.8	+1.5
JCR	Jicaral	0.71	190	⇓eP	Pg	07 56 59.6	+1.1
JCR				eS	Sg	07 57 10.5	+2.8
CGA2	Cerro Gallo 2	0.73	136	eP	Pg	07 57 00.0	+0.9
CGA2				eS	Sg	07 57 10.3	+1.6
VCR	Vista de Mar	0.76	237	⇑eP	Pg	07 57 00.2	+0.5
PRS1	Puriscal	0.87	130	⇓eP	Pg	07 57 03.0	+1.4
PRS1				eS	Sg	07 57 17.7	+4.8
LAJ	Bijagual	1.09	129	⇑eP	Pg	07 57 03.5	-2.4
LAJ				eS	Sg	07 57 17.5	-2.6
LCR2	La Lucha 2	1.25	130	eP	Pg	07 57 08.4	-0.7
URSC	Urasca	1.38	121	eP	Pn	07 57 11.0	-0.4
BUS	Buena Vista	1.56	129	eP	Pn	07 57 13.7	-0.2
TGUH	Tegucigalpa,Un	4.14	328	ePn	Pn	07 57 50.9	+1.5
TGUH				eSg	Sg	07 59 00.4	+2.2

NEIC 17 08:09:20.0, 3832N×2116E, h10km, ML3.5(ATH), After ATH., Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIR	Tirane	3.18	342	P	Pn	08 10 10.3	+0.2
PRK	Paraskevi	4.10	75	P	Pn	08 10 24.1	+1.4
LAST	Lasithi	4.69	131	P	Pn	08 10 32.2	+1.4
NPS	Neapolis	4.70	129	P	Pn	08 10 31.4	+0.5
ARG	Arkhangelos	5.94	109	P	Pn	08 10 46.2	-1.8

WEL 17 08:37:08.1±0.3, 3815S×17621E, h144km±4km, ML3.5/12, Error ellipse: s-maj=3.1km s-min=2.3km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BKZ	Black Stump Fm	1.04	168	PN	Pn	08 37 32.8	+0.3
BKZ				SN	Sn	08 37 51.4	+0.1
MWZ	Matawai	1.05	101	PN	Pn	08 37 32.9	+0.2
MOVZ	Moawhango	1.31	196	PN	Pn	08 37 35.0	-0.1
PKVZ	Pokaka	1.33	210	PN	Pn	08 37 35.4	+0.2
KNZ	Kokohu	1.44	128	PN	Pn	08 37 36.6	+0.2
VRZ	Vera Road	1.50	229	PN	Pn	08 37 37.5	+0.4
PUZ	Puketiti	1.61	88	PN	Pn	08 37 38.0	-0.4
PUZ				SN	Sn	08 38 00.6	-0.9
MXZ	Matakaoa Point	1.76	71	PN	Pn	08 37 40.0	0.0
TSZ	Takapari Road	1.92	186	PN	Pn	08 37 41.1	-0.8
PXZ	Pawanui	1.95	165	PN	Pn	08 37 41.7	-0.4
TIWZ	Tintock	2.64	185	PN	Pn	08 37 48.7	-1.8
KIW	Kapiti Island	2.89	200	PN	Pn	08 37 51.2	-2.5
MTW	Mount Morrison	3.06	190	PN	Pn	08 37 53.0	-2.8
CAW	Cannon Point	3.09	196	PN	Pn	08 37 53.6	-2.6
TRWZ	Traveller	3.27	187	PN	Pn	08 37 55.8	-2.8
PAWZ	Paruwai Farm	3.29	190	PN	Pn	08 37 55.8	-3.0
MRW	Makara Radio	3.29	200	PN	Pn	08 37 55.9	-2.9
MSWZ	Moikau Station	3.35	193	PN	Pn	08 37 56.4	-3.2
TCW	Tory Channel	3.41	205	PN	Pn	08 37 57.3	-3.0
PLWZ	Palliser	3.50	192	PN	Pn	08 37 58.2	-3.3
TUWZ	Tuamarina	3.72	207	PN	Pn	08 38 00.9	-3.4
KHZ	Kahutara	4.73	205	PN	Pn	08 38 14.0	-3.7
LTZ	Lake Taylor	5.52	212	PN	Pn	08 38 23.8	-4.4

IDC 17 08:42:13.9±1.1, 2241S×1714 5E, h0km, mb4.1/6, mb1 4.3/6, mb1mx4.0/14, mbtmp4. 1/6, MS3.9/1, Ms1 3.9/1, ms1mx3.0/23, Error ellipse: s-maj=49.8km s-min=26.5km az=167.0
NEIC 17 08:42:19.6±0.7, 2231S×17136E, h35km, mb4.8/1, Error ellipse: s-maj=28.0km s-min=18.3km az=171.0
ISCJB 17 08:42:25.0±3.6, 224S±02×171.1E±02, h92km±29km, mb4.0/7, Error ellipse: s-maj=39.0km s-min=27.7km az=8.8

ISC 17 08:42:25.0±3.3, 224S±02×1712E±02, h79km±27km, n17, σ1§09/13, mb4.0/7, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	4.39	274	eP	Pn	08 43 30.3	+1.0
DZM				eS	Sn	08 44 17.8	-1.4
CTA	Charters Tower	23.33	271	P	P	08 47 28.4	+2.0
CTA	Charters Tower	23.33	271	P	P	08 47 28.4	+2.0
	2.8nm,0.7s,mb3.7,baz=96,slow=13,SNR=4.7						
ASAR	Alice Springs	34.25	261	P	P	08 49 04.1	+0.5
	2.1nm,0.7s,mb4.1,baz=84,slow=9.5,SNR=28						
WRA	Warramunga Arr	34.38	267	P	P	08 49 03.8	-0.9
	0.4nm,0.4s,mb3.6,baz=97,slow=8,4,SNR=20						
PPT	Papeete	37.13	90	LR	LR	09 01 58.6	
	comp=Z,178nm,18.6s,baz=226,slow=32						
FITZ	Fitzroy Crossi	42.81	267	P	P	08 50 15.9	+0.6
	3.0nm,0.7s,mb4.1,baz=222,slow=18,SNR=3.9						
QSPA	South Pole Qui	67.65	180	eP	P	08 53 14.2	+1.2
	9.4nm,1.0s,mb4.6						
MAW	Mawson	76.18	202	P	P	08 54 04.4	+0.2
	2.1nm,0.6s,mb4.0,baz=65,slow=7.2,SNR=4.5						
SNAA	Sanae	86.07	182	e	P	08 54 54.3	-2.3
VNA2	Neumayer--Watz	86.91	180	e	P	08 55 00.3	-0.4
	baz=183,slow=5.0						
VNA1	Neumayer--Stat	87.19	180	e	P	08 55 01.8	-0.3
NVAR	Mina Array Bea	89.57	48	P	P	08 55 13.2	-0.6
	0.7nm,0.6s,mb4.0,baz=225,slow=7.6,SNR=7.2						
BRG	Berggiesshubel	146.51	334	e(P)	PKPdf	09 01 56.2	+0.8
	8.7nm,1.7s						
CLL	Collm	146.55	335	ePKPbc	PKPbc	09 01 56.0	-1.1
	comp=Z,5.0nm,1.2s						
GERES	GERESS Array B	148.13	331	PKPbc	PKPbc	09 02 00.8	-0.7
	comp=Z,1.7nm,0.7s,baz=29,slow=3.0,SNR=12						
TORD	Torodi Ar. Bea	166.39	229	PKP	PKPdf	09 02 21.4	-0.6
	comp=Z,1.5nm,0.9s,baz=15,slow=0.4,SNR=5.9						
TORD				PKPab	PKPab	09 03 23.9	+0.1
	comp=Z,1.5nm,1.0s,baz=113,slow=3.5,SNR=5.9						

IDC 17 08:46:39.4±5.7, 717S×12962E, h180km±55km, mb3.3/1, mb1 3.2/5, mb1mx3.1/15, mbtmp3.1/5, Error ellipse: s-maj=67.2km s-min=22.9km az=60.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	6.62	242	P	Pn	08 48 15.2	+0.7
	3.9nm,0.3s,baz=42,slow=3.7,SNR=2.9						
FITZ	Fitzroy Crossi	11.54	199	P	Pn	08 49 17.7	-1.3
	0.4nm,0.3s,baz=326,slow=18,SNR=13						
WRA	Warramunga Arr	13.50	161	P	Pn	08 49 43.2	-0.7
	0.2nm,0.3s,baz=342,slow=12,SNR=7.4						
WRA				S	Sn	08 52 06.2	-8.0
	0.3nm,0.3s,baz=333,slow=22,SNR=6.8						
ASAR	Alice Springs	16.92	166	P	Pn	08 50 26.6	+0.9
	0.2nm,0.3s,baz=344,slow=9.5,SNR=9.7						
ASAR				S	S	08 53 32.8	+0.7
	0.1nm,0.3s,baz=349,slow=25,SNR=5.6						
MKAR	Makanchi Array	68.16	327	P	P	08 57 20.1	0.0
	0.4nm,0.4s,baz=111,slow=8.4,SNR=6.6						

ISCJB 17 09:09:30.9±0.4, 38.15N±002×2322E±004, h24km±5km, Error ellipse: s-maj=5.7km s-min=3.8km az=157.7
CSEM 17 09:09:30.7±0.1, 38.16N×2316E, h12km, ML3.2, Error ellipse: s-maj=1.6km s-min=1.2km az=79.0
ATH 17 09:09:30.4, 38.17N×2318E, h22km±2km, MD3.0/9, ML2.8
NEIC 17 09:09:30.4, 38.17N×2318E, h22km, ML2.8(ATH), After ATH.
THE 17 09:09:30.7, 38.15N×23.14E, h13km, ML3.2

ISC 17 09:09:30.7±0.4, 3817N±002×2316E±003, h11km±5km, n17, σ0§51/31, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LTK	Loutraki	0.21	227	ePg	Pg	09 09 34.9	-0.3
LTK				eSg	Sg	09 09 37.6	-0.5
ATH	Athens Observa	0.48	114	ePB	Pg	09 09 40.0	-0.1
ATH				eSB	Sg	09 09 46.5	+0.1
NAIG	Nisos Aigina	0.48	148	ePB	Pg	09 09 40.0	-0.2
NAIG				eSB	Sg	09 09 47.0	+0.5
LKR	Lokris	0.50	345	ePg	Pg	09 09 40.3	-0.2
LKR				eSg	Sg	09 09 48.8	+1.8
LKR	Lokris	0.50	345	⇑iPN	Pg	09 09 40.2	-0.2
LKR				eSN	Sg	09 09 48.1	+1.1
PTL	Penteli	0.57	102	ePN	Pg	09 09 42.0	+0.3
PTL				eSN	Sg	09 09 49.0	-0.2
KVR	Kavouri	0.59	125	ePN	Pg	09 09 42.5	+0.4
KVR				eSN	Sg	09 09 50.0	+0.2
DID	Didima	0.66	175	ePg	Pg	09 09 43.0	-0.6
DID				eSg	Sg	09 09 52.8	+0.6
VLX	Vlachokerasia	1.01	218	ePg	Pg	09 09 49.5	-0.6
VLX				eSg	Sg	09 10 03.4	+0.1
VLX	Vlachokerasia	1.01	218	ePg	Pg	09 09 49.5	-0.6
VLX				eSg	Sg	09 10 03.3	0.0
AGG	Agios Georgios	1.07	323	ePg	Pg	09 09 51.1	-0.2
AGG				eSg	Sg	09 10 05.9	+0.6
NEO	Neokhori	1.14	2	ePN	Pn	09 09 52.1	-0.5
NEO				eSN	Sn	09 10 07.7	-0.5
AOS	Alonnisos	1.15	29	ePg	Pg	09 09 52.2	-0.6
AOS				eSg	Sg	09 10 07.7	+0.1
XOR	Xorichti	1.20	1	ePg	Pg	09 09 53.0	-0.7
XOR				eSg	Sg	09 10 09.1	-0.2
EVR	Evrytania	1.30	306	ePN	Pn	09 09 55.4	+0.6
ITM	Ithomi	1.39	225	ePN	Pn	09 09 57.0	+0.9
VLI	Veliai	1.46	187	ePN	Pn	09 09 56.7	-0.3

JMA 17 09:13:25.9±0.2, 2797N×130.17E, h43km±3km, M3.5
ISCJB 17 09:13:26.9±0.6, 2798N±003×13009E±006, h43km, mb3.3/2, Error ellipse: s-maj=7.3km s-min=4.6km az=16.3

ISC 17 09:13:27.5±0.9, 2797N±004×13008E±006, h30km±6km, n13, σ0§85/18, mb3.3/2, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.36	345	P	Pb	09 13 35.2	-0.5
JZK				S	Sb	09 13 42.4	+1.1
JAM	Amami Oshima	0.61	317	P	Pb	09 13 38.9	-0.8
JAM				S	Sb	09 13 47.7	-0.2
JTK	Tokunoshima	1.02	260	P	Pn	09 13 45.7	0.0
JTK				S	Sn	09 13 59.0	+0.1
JNN	Nakanoshima	1.87	355	eS	Sn	09 14 18.8	-1.3
JOW	Kunigami	1.96	235	P	Pn	09 13 58.7	0.0
JIH	Iheya	2.09	244	P	Pn	09 14 00.5	0.0
JIH				eS	Sn	09 14 25.4	-0.2
JMZ	Minamidaito 2	2.37	154	eS	Sn	09 14 30.8	-1.6
JKC	Kuchinoerabu	2.49	2	eS	Sn	09 14 35.2	-0.1
JTN	Tanegashima 3	2.79	16	P	Pn	09 14 10.1	0.0
JTN				eS	Sn	09 14 43.3	+0.6
JAGN	Aguni-jima	2.88	242	P	Pn	09 14 11.9	+0.6
JKE	Kume jima 2	3.36	242	P	Pn	09 14 17.5	-0.4
WRA	Warramunga Arr	47.81	175	P	P	09 22 03.3	+1.1
	0.2nm,0.7s,mb3.3,baz=354,slow=8.3,SNR=4.7						
ASAR	Alice Springs	51.47	176	P	P	09 22 32.9	+2.7
	0.3nm,0.6s,mb3.4,baz=8.1,slow=13,SNR=4.3						

NIED 17 09:13:00, 2800N×13020E, h29km, Mw3.9 Best double couple: M0:8.31000×10^14 NP1:φs17.00000°, δ63.00000°, λ-115.00000° NP2:φs243.00000°, δ37.00000°, λ-51.00000°.
IDC 17 09:13:33.5±2.6, 2684N×13007E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.6/17, mbtmp3.5/5, MS2.9/1, Ms1 2.9/1, ms1mx2.5/26, Error ellipse: s-maj=213.1km s-min=23.1km az=72.0
JMA 17 09:13:43.6±0.2, 2794N×130.14E, h41km±3km, M3.6
JMA Felt I J1.
ISCJB 17 09:13:44.1±0.8, 2794N±005×130.10E±007, h41km±9km, mb3.5/3, Error ellipse: s-maj=10.7km s-min=7.5km az=8.6

ISC 17 09:13:44.5±1.1, 2793N±005×13009E±007, h29km±7km, n11, σ0§68/14, mb3.5/3, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JZK	Kikaishima	0.40	345	P	Pb	09 13 53.0	-0.3
JZK				S	Sb	09 14 00.1	+0.8
JAM	Amami Oshima	0.64	319	P	Pb	09 13 56.8	-0.5
JAM				S	Sb	09 14 05.3	-0.6
JTK	Tokunoshima	1.02	262	S	Sn	09 14 16.9	+0.8
JMZ	Minamidaito 2	2.33	154	eS	Sn	09 14 48.4	-0.1
JKC	Kuchinoerabu	2.53	2	P	Pn	09 14 24.4	+0.8
JKC				eS	Sn	09 14 52.5	-0.9
JTN	Tanegashima 3	2.83	16	P	Pn	09 14 28.6	+0.9
JTN				eS	Sn	09 15 00.8	0.0
JKE	Kume jima 2	3.35	242	P	Pn	09 14 34.4	-0.4
JNU	Nakatsue	5.22	7	LR	LR	09 17 32.4	
	comp=Z,108nm,18.6s,baz=177,slow=38						
SONM	Songino Array	27.10	324	P	P	09 19 25.5	+0.9
	0.2nm,0.6s,mb2.9,baz=108,slow=9.3,SNR=2.3						
FINES	FINESS Array B	72.20	331	P	P	09 25 06.1	-0.3
	0.6nm,0.4s,mb3.9,baz=72,slow=6.2,SNR=4.9						
NOA	NORSAR Array B	78.52	334	P	P	09 25 41.5	-1.1
	0.7nm,0.7s,mb3.7,baz=51,slow=5.5,SNR=3.4						

OTT 17 09:13:59.8±0.9, 7755N×10582W, h18km, MN4.3/7, 148km south from Isachsen, Nu Gustaf-Lougheed Arch Seismic Zone., Queen Elizabeth Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RES	Resolute Bay	3.89	132	PN	Pn	09 14 58.0	-0.6
RES				SN	Sn	09 15 42.1	-1.5
RES				LG		09 16 02.9	
RES				Trac		09 16 18.2	
	comp=Z,720nm,0.7s						
GIFN	Gifford Fjord,	10.04	126	PN	Pn	09 16 20.9	-2.0
GIFN				SN	Sn	09 18 07.4	-7.4
GIFN				LG		09 19 12.8	
GIFN				Trac		09 19 21.7	
	comp=Z,213nm,1.4s						
ILON	Igloolik, Nuna	10.56	128	PN	Pn	09 16 27.7	-2.2
ILON				SN	Sn	09 18 16.6	-11
ILON				LG		09 19 24.4	
ILON				Trac		09 19 36.0	
	comp=Z,330nm,1.5s						
SRLN	Sarcpa Lake, N	11.04	133	PN	Pn	09 16 34.8	-1.7
SRLN				SN	Sn	09 18 33.4	-5.9
SRLN				LG		09 19 44.5	
SRLN				Trac		09 20 03.5	
	comp=Z,170nm,1.1s						
JERN	Jeri Cho Mine,	11.71	191	PN	Pn	09 16 44.4	-1.2
JERN				SN	Sn	09 18 46.3	-9.3
JERN				LG		09 20 11.6	
INK	Inuvik	12.14	235	PN	Pn	09 16 52.2	+0.8
INK				SN	Sn	09 18 59.5	-6.6
QILN	Qililugaq Expl	12.35	142	PN	Pn	09 16 52.4	-2.0
QILN				SN	Sn	09 18 59.9	-11
QILN				Trac		09 20 44.0	
	comp=Z,172nm,1.2s						
COWN	Contwyoto Lake	12.45	191	PN	Pn	09 16 54.0	-1.8
COWN				SN	Sn	09 19 04.0	-10
COWN				LG		09 20 27.9	
GLWN	Glow Worm Lake	12.93	187	PN	Pn	09 17 00.6	-1.7
GLWN				SN	Sn	09 19 15.0	-10
GLWN				LG		09 20 48.7	
GLWN				Trac		09 21 15.5	
	comp=Z,172nm,0.9s						
MCKN	MacKay Lake No	13.49	188	PN	Pn	09 17 07.1	-2.8
MCKN				SN	Sn	09 19 28.7	-10
MCKN				LG		09 21 03.1	
MCKN				Trac		09 21 21.1	
	comp=Z,305nm,2.0s						
BOXN	Box Lake	13.82	187	PN	Pn	09 17 10.9	-3.5
BOXN				SN	Sn	09 19 35.7	-11
BOXN				LG		09 21 08.1	
BOXN				Trac		09 21 30.6	
	comp=Z,200nm,1.1s						
KNDN	Kennady Lake	14.24	186	PN	Pn	09 17 17.7	-2.4
KNDN				SN	Sn	09 19 46.7	-11
KNDN				LG		09 21 18.0	
KNDN				Trac		09 21 35.6	
	comp=Z,106nm,0.8s						
SEDN	First Sedna Si	15.09	154	PN	Pn	09 17 27.3	-4.3
SEDN				SN	Sn	09 20 07.6	-10
SEDN				LG		09 21 46.4	
SEDN				Trac		09 22 14.9	
	comp=Z,97nm,0.8s						
YKW3	Yellowknife Ar	15.32	196	PN	Pn	09 17 33.0	-1.6
YKW3				SN	Sn	09 20 12.9	-11
YKW3				LG		09 21 59.9	
IVKQ	Ivujivik	17.59	134	PN	Pn	09 18 03.2	-0.3
FRB	Frobisher Bay	17.99	119	PN	Pn	09 18 11.7	+3.3
FRB				SN	Sn	09 21 14.2	-14

TEH 17 09:15:35.9, 3186N×5093E, h25km, ML4.1
IDC 17 09:16:25.9±0.9, 3179N×5073E, h0km, mb4.2/15, mb1 4.3/19, mb1mx4.2/28, mbtmp4.2/19, ML4.0/4, MS3.3/3, Ms1 3.3/3, ms1mx2.9/33, Error ellipse: s-maj=22.5km s-min=14.2km az=158.0
THR 17 09:16:25.7±1.9, 3169N×5097E, h14km±12km, ML4.0
CSEM 17 09:16:29.4±0.1, 3180N×5087E, h35km, mb4.2/10, ML4.6/2, Error ellipse: s-maj=1.9km s-min=1.5km az=148.0
ISCJB 17 09:16:30.4±0.3, 3181N±002×5085E±003, h45km±4km, mb4.1/25, MS3.7/3, Error ellipse: s-maj=4.7km s-min=3.2km az=139.2
MOS 17 09:16:30.3±1.5, 3189N×5067E, h33km, mb4.3/13, Error ellipse: s-maj=12.7km s-min=7.8km az=105.9
NEIC 17 09:16:31.0, 3186N×5093E, h25km, mb4.2/7, ML4.0(THR), MN4.1(TEH), After TEH.

ISC 17 09:16:31.5±1.2, 3183N±003×5084E±003, h33km±10km, n151, σ1§27/173, mb4.1/25, MS3.7/3, 8C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IPIR	Pirpir	0.86	3	Pg	Pn	09 16 47.3	+0.1
IPIR				Sg	Sn	09 16 58.8	+0.2
IPIR	Pirpir	0.86	3	⇑ePg	Pn	09 16 47.3	+0.1
IPIR				eSg	Sn	09 16 58.9	+0.3
IPIR				e		09 17 11.5	
	comp=Z,40μm,0.2s						
IPIR	Pirpir	0.86	3	⇑ePg	Pn	09 16 47.3	+0.1
IPIR				eSg	Sn	09 16 58.9	+0.3
IGAR	Gharneh	1.17	60	ePg	Pn	09 16 52.0	+0.4
IGAR				eSg	Sn	09 17 06.2	-0.2
IGAR				e		09 17 16.7	
	comp=Z,54μm,0.3s						
IKLH	Kolahrood	1.61	23	Pn	Pn	09 16 59.5	+1.8
IKLH	Kolahrood	1.61	23	ePn	Pn	09 16 59.6	+1.9
IKLH				e		09 17 31.1	
	comp=Z,18μm,0.2s						
IZEF	Zefreh	1.65	49	ePn	Pn	09 17 00.6	+2.4
IZEF				e		09 17 06.9	
	comp=Z,10μm,0.3s						
IZEF	Zefreh	1.65	49	Pn	Pn	09 17 00.5	+2.3
SHGR	Shooshtar-Gavs	1.75	280	ePg	Pn	09 16 59.0	-0.6
SHGR				eSg	Sn	09 17 24.0	+3.2
SHGR	Shooshtar-Gavs	1.75	280	ePg	Pn	09 16 59.7	+0.2
SHGR				eSg	Sn	09 17 24.9	+4.1
SHGR				AML	AML	09 17 36.9	
	comp=N,1μm,0.8s						
SHGR	Shooshtar-Gavs	1.75	280	ePg	Pn	09 16 59.7	+0.1
	SNR=90						
SHGR				eSg	Sn	09 17 24.9	+4.1
	comp=N,1μm,0.8s,SNR=90						
NASN	Na'in	1.93	59	ePg	Pn	09 16 59.9	-2.1
NASN				eSg	Sn	09 17 26.1	+1.0
NASN	Na'in	1.93	59	ePg	Pn	09 16 59.0	-3.0
NASN				eSg	Sn	09 17 25.0	-0.1
ISAD	Sadrabad	2.42	87	Pn	Pn	09 17 09.4	+0

ASAO	Ashtian	2.80	346	ePn	Pn	09 17 14.4	+0.5
ASAO				AML	AML	09 18 06.2	
comp=N,513nm,0.7s							
ASAO				AML	AML	09 18 09.8	
comp=E,500nm,0.7s							
ICHK	Chekchek	3.06	81	Pn	Pn	09 17 16.6	-0.9
ICHK	Chekchek	3.06	81	ePn	Pn	09 17 16.7	-0.8
ICHK				e		09 17 32.5	
comp=Z,3μm,0.3s							
ISRV	Sarvestan	3.13	141	Pn	Pn	09 17 17.5	-1.0
ISRV	Sarvestan	3.13	141	ePn	Pn	09 17 17.6	-0.9
ISRV				e		09 18 34.5	
comp=Z,8μm,0.5s							
IMOK	Mouk	3.21	149	Pn	Pn	09 17 20.2	+0.6
IMOK	Mouk	3.21	149	ePn	Pn	09 17 20.3	+0.7
IMEH	Mehriz	3.25	97	ePn	Pn	09 17 20.0	-0.1
IMEH				e		09 18 31.9	
comp=Z,2μm,0.4s							
UMR	Umm Al-Rimmam	3.52	231	eP	Pn	09 17 22.9	-0.9
UMR				eS	Sn	09 18 05.7	+1.4
UMR				AML	AML	09 18 09.2	
comp=Z,72nm,0.4s							
UMR	Umm Al-Rimmam	3.52	231	eP	Pn	09 17 22.9	-0.9
UMR				eS	Sn	09 18 05.7	+1.4
comp=Z,72nm,0.4s							
MIB	Mutribah	3.62	237	eP	Pn	09 17 24.7	-0.6
MIB				eS	Sn	09 18 08.9	+2.0
MIB				AML	AML	09 18 10.0	
comp=Z,123nm,0.6s							
MIB	Mutribah	3.62	237	eP	Pn	09 17 24.7	-0.6
MIB				eS	Sn	09 18 08.9	+2.0
comp=Z,123nm,0.6s							
IKOM	Komasi	3.65	311	ePn	Pn	09 17 27.4	+1.8
IKOM				e		09 18 33.4	
comp=Z,8μm,0.4s							
IRAZ	Razeghan	3.65	348	Pn	Pn	09 17 26.1	+0.5
IRAZ	Razeghan	3.65	348	ePn	Pn	09 17 26.2	+0.6
IRAZ				e		09 18 40.8	
comp=Z,6μm,0.4s							
IMHD	Mahdasht	3.85	358	ePn	Pn	09 17 28.1	-0.3
IMHD				eSn	Sn	09 18 11.5	-1.0
IMHD				e		09 18 36.4	
comp=Z,3μm,0.5s							
IMHD	Mahdasht	3.85	358	ePn	Pn	09 17 28.1	-0.3
IMHD				eSn	Sn	09 18 11.5	-1.0
IDMV	Damavand	3.87	15	ePn	Pn	09 17 28.6	-0.1
IDMV				e		09 18 40.7	
comp=Z,2μm,0.5s							
DAMV	Damavand	3.91	14	ePn	Pn	09 17 28.9	-0.3
DAMV	Damavand	3.91	14	ePn	Pn	09 17 28.0	-1.2
ILAS	Lasjerd	3.96	26	ePn	Pn	09 17 36.3	+6.3
ILAS				e		09 18 44.0	
comp=Z,2μm,0.5s							
QRN	Al-Qurain	3.98	220	eP	Pn	09 17 28.8	-1.4
QRN				eS	Sn	09 18 17.1	+1.4
QRN				AML	AML	09 18 18.7	
comp=Z,139nm,0.4s							
GHIR	Ghir-Karzin	3.99	152	ePn	Pn	09 17 26.8	-3.5
NAY	Al-Naaiem	4.03	231	eP	Pn	09 17 30.4	-0.4
NAY				eS	Sn	09 18 18.5	+1.6
NAY				AML	AML	09 18 19.2	
comp=Z,52nm,0.6s							
NAY	Al-Naaiem	4.03	231	eP	Pn	09 17 30.4	-0.4
NAY				eS	Sn	09 18 18.5	+1.6
IBAF	Bafgh	4.04	92	ePn	Pn	09 17 30.6	-0.4
IBAF				e		09 17 50.9	
comp=Z,1μm,0.2s							
RDF	Al-Radifah	4.05	225	eP	Pn	09 17 31.0	-0.2
RDF				eS	Sn	09 18 19.3	+1.8
RDF				AML	AML	09 18 19.5	
comp=Z,139nm,0.6s							
RDF	Al-Radifah	4.05	225	eP	Pn	09 17 31.0	-0.2
RDF				eS	Sn	09 18 19.3	+1.8
comp=Z,139nm,0.6s							
CHTH	Charan	4.08	3	ePn	Pn	09 17 32.2	+0.7
CHTH	Charan	4.08	3	ePn	Pn	09 17 32.2	+0.7
SNR=52							
IAFJ	Afjeh	4.08	10	ePn	Pn	09 17 32.0	+0.4
IAFJ				e		09 18 53.0	
comp=Z,2μm,0.4s							
IFIR	Firoozkooh	4.13	22	ePn	Pn	09 17 32.5	+0.3
IFIR				e		09 17 47.4	
comp=Z,737nm,0.2s							
IVIS	Veis	4.29	310	ePn	Pn	09 17 31.6	-2.9
IVIS				e		09 19 05.0	
comp=Z,2μm,0.3s							
IVIS	Veis	4.29	310	Pn	Pn	09 17 31.5	-3.0
SNGE	Sanandaj	4.37	319	ePn	Pn	09 17 35.0	-0.6
SNGE	Sanandaj	4.37	319	ePn	Pn	09 17 35.8	+0.2
IANJ	Anjilo	4.45	34	ePn	Pn	09 17 36.0	-0.6
IANJ				e		09 19 03.9	
comp=Z,2μm,0.4s							
ISHM	Shahmirzad	4.46	27	ePn	Pn	09 17 36.7	-0.1
ISHM				e		09 18 17.9	
comp=Z,2μm,0.3s							
IALA	Alasht	4.55	21	ePn	Pn	09 17 38.5	+0.5
IALA				e		09 18 06.3	
comp=Z,1μm,0.3s							
IPRN	Peran	4.58	15	ePn	Pn	09 17 40.8	+2.4
IPRN				e		09 18 17.0	
comp=Z,2μm,0.3s							
IDHR	Dehrash	4.70	309	ePn	Pn	09 17 41.2	+1.1
IDHR				e		09 18 36.7	
comp=Z,4μm,0.2s							
IGLO	Ghaloghah	5.28	27	Pn	Pn	09 17 47.9	-0.2
IGLO	Ghaloghah	5.28	27	ePn	Pn	09 17 48.0	-0.1
IGLO				e		09 19 35.6	
comp=Z,2μm,0.4s							
BHD	Baghdad	5.64	286	ex	x	09 17 51.0	
BHD				ex	x	09 18 15.0	
BHD				ex	x	09 18 54.0	
BHD				ex	x	09 19 29.0	
ITEG	Tejag	6.78	79	ePn	Pn	09 18 07.9	-0.7
IDAH	Dahanechah	7.70	81	ePn	Pn	09 18 21.5	+0.2
MSL	Mosul	7.82	307	ex	x	09 18 22.0	
MSL				ex	x	09 19 49.0	
ASF	Jabal al Asfar	11.84	275	P	Pn	09 19 13.4	-4.6
ASF						09 21 22.3	
ASF				pmax	pmax		
comp=Z,2.0nm,0.3s							
ASF				MLR	MLR		
comp=Z,74nm,19.3s							
ASF	Jabal al Asfar	11.84	275	Pn	Pn	09 19 13.4	-4.6
comp=Z,1.5nm,0.3s,baz=316,slow=14,SNR=13							
ASF				Sn	Sn	09 21 22.3	-6.7
comp=Z,0.3nm,0.3s,baz=155,slow=18,SNR=6.6							
ASF				LR	LR	09 24 44.5	
comp=Z,74nm,19.3s,baz=122,slow=42							
MMAI	Mount Meron Ar	13.10	279	Pn	Pn	09 19 30.6	-4.5
comp=Z,1.4nm,0.3s,baz=84,slow=15,SNR=3.3							
KIV	Kislovodsk	13.70	334	iP	Pn	09 19 49.3	+5.9
EIL	Elat	13.83	265	Pn	Pn	09 19 42.7	-2.5
comp=Z,0.8nm,0.3s,baz=101,slow=8.0,SNR=5.7							
EIL				LR	LR	09 26 08.2	
comp=Z,72nm,20.4s,baz=139,slow=42							
ISP	Isparta	17.72	295⇑	eP	Pn	09 20 38.0	+2.4
AKTK	Aktyubinsk	19.34	14	P	Pn	09 20 54.5	-0.7
AKTK	Aktyubinsk	19.34	14	P	Pn	09 20 54.5	-0.7
AKTO	Aktyubinsk	19.34	14	P	Pn	09 20 54.5	-0.7
comp=Z,0.2nm,0.3s,baz=209,slow=11,SNR=8.6							
VRHR	Novokhopersk	20.42	343	eP	P	09 21 05.7	0.0
VRHR				pmax	pmax		
comp=Z,10.0nm,0.6s							
VRHR				pmax	pmax		
comp=N,20nm,0.9s							
VRHR				pmax	pmax		
comp=E,6.0nm,0.4s							
VRHR	Novokhopersk	20.42	343	eP	P	09 21 05.7	0.0
comp=E,20nm,0.9s							
AML	Almayashu	20.90	54	eP	P	09 21 11.4	+0.4
comp=E,6.2nm,0.8s							
AML	Almayashu	20.90	54	eP	P	09 21 11.4	+0.5
comp=E,6.2nm,0.8s							
EKS2	Erkin-Say	21.16	53	eP	P	09 21 15.9	+2.2
comp=E,1.8nm,0.8s,mb3.5							
EKS2	Erkin-Say	21.16	53	eP	P	09 21 15.9	+2.2
comp=E,1.8nm,0.8s,mb3.5							
VRSR	Storozhevoye	21.20	339	eP	P	09 21 12.6	-1.4
VRSR				pmax	pmax		
comp=Z,4.0nm,1.3s,mb3.6							
VRSR				pmax	pmax		
comp=N,3.0nm,1.0s							
VRSR				pmax	pmax		
comp=E,3.0nm,0.6s							
VRSR	Storozhevoye	21.20	339	eP	P	09 21 12.6	-1.4
comp=E,3.0nm,1.0s,mb3.6							
APE	Apeiranthos	21.49	291⇑	iP	P	09 21 20.9	+3.6
UCH	Uchtor	21.50	54	eP	P	09 21 19.7	+2.3
comp=E,6.7nm,1.0s,mb4.0							
UCH	Uchtor	21.50	54	eP	P	09 21 19.7	+2.3
comp=E,6.7nm,1.0s,mb4.0							
IDI	Anoyia	21.88	286	P	P	09 21 20.3	-1.2
comp=E,24nm,0.8s,mb4.7,baz=102,slow=8.8,SNR=10							
TKM2	Tokmak 2	22.50	54	eP	P	09 21 30.2	+2.2
TKM2				pmax	pmax		
comp=Z,6.0nm,1.0s,mb4.0							
TKM2	Tokmak 2	22.50	54	eP	P	09 21 30.2	+2.2
comp=Z,6.2nm,1.0s,mb4.0							
MLR	Muntele Rosu	23.63	312	P	P	09 21 40.1	+0.5
comp=Z,5.5nm,0.6s,mb4.1,baz=194,slow=1.6,SNR=6.9							
MLR				LR	LR	09 33 13.9	
comp=Z,182nm,19.6s,MS3.5,baz=49,slow=43							
MLR	Muntele Rosu	23.63	312⇑	iP	P	09 21 40.7	+1.0
VOIR		24.17	312	ij iP	P	09 21 46.2	+1.6
VTS	Vitosha	24.39	304⇑	iP	pP	09 21 58.8	+2.8
AKASG	Malin Array Be	24.73	326	P	P	09 21 47.6	-2.1
AKASG				pmax	pmax		
comp=Z,2.0nm,0.4s							
AKASG	Malin Array Be	24.73	326	P	P	09 21 47.5	-2.1
comp=Z,1.5nm,0.4s,mb3.9,baz=135,slow=9.0,SNR=21							
AKBB	Malin Array Si	24.73	326	eP	P	09 21 49.2	-0.5
KIEV	Kiev	24.74	326	P	P	09 21 48.2	-1.5
KIEV				pmax	pmax		
comp=Z,13nm,0.9s,mb4.5							
KIEV	Kiev	24.74	326	P	P	09 21 48.2	-1.5
comp=Z,13nm,0.9s,mb4.5							
KIEV	Kiev	24.74	326	P	P	09 21 48.2	-1.5
comp=Z,13nm,0.9s,mb4.5							
BURAR	Bucovina Array	25.08	316⇑	iP	P	09 21 52.2	-0.6
OBN	Obninsk	25.38	341⇑	eP	P	09 21 56.3	+0.8
OBN				eSS		09 27 28.6	
OBN				pmax	pmax		
comp=Z,17nm,1.4s,mb4.4							
OBN				MLR	MLR		
comp=Z,100nm,17.0s,MS3.4							
OBN	Obninsk	25.38	341	eP	P	09 21 56.3	+0.8
comp=Z,100nm,17.0s							
BVAR	Borovoye Array	25.48	28	P	P	09 21 56.7	+0.3
BVAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
BVAR	Borovoye Array	25.48	28	P	P	09 21 56.7	+0.3
comp=Z,1.2nm,0.5s,mb3.7,baz=223,slow=8.1,SNR=7.2							
KURK	Kurchatov	27.89	39	eP	P	09 22 19.3	+1.2
MK31	Makanchi Array	28.33	49	eP	P	09 22 22.7	+0.6
MKAR	Makanchi Array	28.33	49	P	P	09 22 23.7	+1.6
MKAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
MKAR	Makanchi Array	28.33	49	P	P	09 22 23.7	+1.6
comp=Z,1.2nm,0.7s,mb3.6,baz=242,slow=9.3,SNR=8.4							
GERES	GERESS Array B	32.62	312	P	P	09 23 00.2	+0.2
GERES				pmax	pmax		
comp=Z,1.0nm,0.7s							
GERES	GERESS Array B	32.62	312	P	P	09 23 00.2	+0.2
comp=Z,0.5nm,0.7s,mb3.6,baz=127,slow=8.5,SNR=4.0							
FINES	FINESS Array B	33.73	339	P	P	09 23 07.5	-2.0
FINES	FINESS Array B	33.73	339	P	P	09 23 07.5	-2.0
comp=Z,1.7nm,0.6s,mb4.2,baz=151,slow=8.7,SNR=9.4							
FINES	FINESS Array B	33.73	339	eP	P	09 23 10.1	+0.6
CLL	Collm	33.85	316	eP	P	09 23 12.0	+1.3
KEST	Kesra	34.52	288	P	P	09 23 17.1	+0.4
comp=Z,2.0nm,0.7s,mb4.2,baz=270,slow=8.1,SNR=4.1							
LPG	La Plagne	36.57	305	eP	P	09 23 33.5	-0.7
comp=Z,9.7nm,0.8s,mb4.4							
LPG	La Plagne	36.57	305	eP	P	09 23 33.5	-0.7
LPG				pmax	pmax		
comp=Z,5.0nm,0.8s,mb4.4							
LPG	La Plagne	36.57	305	eP	P	09 23 33.5	-0.7
comp=Z,9.0nm,0.8s,mb4.7							
LPL	La Plagne	36.59	305	eP	P	09 23 33.3	-1.0
comp=Z,7.2nm,0.8s,mb4.3							
LPL	La Plagne	36.59	305	eP	P	09 23 33.3	-1.0
LPL				pmax	pmax		
comp=Z,4.0nm,0.8s,mb4.3							
LPL	La Plagne	36.59	305	eP	P	09 23 33.3	-1.0
comp=Z,7.0nm,0.8s,mb4.6							
SMF	Signal de Mont	38.71	306	eP	P	09 23 49.6	-2.6
NB2	NORSAR Subarra	38.96	330	P	P	09 23 51.3	-2.9
comp=Z,6.1nm,0.8s,mb4.4,baz=122,slow=8.6							
NOA	NORSAR Array B	38.96	330	P	P	09 23 51.9	-2.3
NOA				pmax	pmax		
comp=Z,4.0nm,0.8s							
NOA	NORSAR Array B	38.96	330	P	P	09 23 51.9	-2.3
comp=Z,4.1nm,0.8s,mb4.2,baz=121,slow=8.3,SNR=13							
ARCES	ARCESS Array B	40.37	347	P	P	09 24 03.4	-2.4
ARCES				pmax	pmax		
comp=Z,3.0nm,0.8s							
ARCES	ARCESS Array B	40.37	347	P	P	09 24 03.4	-2.4
ARCES	ARCESS Array B	40.37	347	P	P	09 24 03.4	-2.3
comp=Z,2.8nm,0.8s,mb4.0,baz=163,slow=8.9,SNR=5.1							
SONM	Songino Array	44.59	52	P	P	09 24 42.1	+1.8
SONM				pmax	pmax		
comp=Z,1.0nm,0.9s							
SONM	Songino Array	44.59	52	P	P	09 24 42.1	+1.7
comp=Z,0.8nm,0.8s,mb3.6,baz=265,slow=7.4,SNR=4.8							
ULN	Ulaanbaatar	45.03	52	eP	P	09 24 45.9	+2.0
EVO	Evora	47.86	295	eP	P	09 25 05.6	-0.6
comp=Z,9.1nm,0.9s,mb4.5							
TOA0	Torodi Ar. Sit	48.62	259	eP	P	09 25 10.1	-2.2
TOA0	Torodi Ar. Sit	48.62	259	eP	P	09 25 10.1	-2.2
TORD	Torodi Ar. Bea	48.62	259	P	P	09 25 10.2	-2.1
comp=Z,8.5nm,0.6s,mb4.9,baz=56,slow=7.9,SNR=35							
SPB4	Spitsbergen Ar	48.84	351	eP	P	09 25 12.8	-0.4
SPB4	Spitsbergen Ar	48.84	351	eP	P	09 25 12.9	-0.3
BOD	Bodaibo	49.54	39	eP	P	09 25 17.3	-1.5
DBIC	Dimbokro	57.51	257	P	P	09 26 17.6	-0.3
DBIC				pmax	pmax		
comp=Z,5.0nm,0.6s							
DBIC	Dimbokro	57.51	257	P	P	09 26 17.6	-0.3
comp=Z,5.2nm,0.6s,mb4.7,baz=47,slow=9.4,SNR=10							
KSRS	Korea Array	62.02	61	P	P	09 26 47.0	-1.6
comp=Z,2.5nm,0.6s,mb4.5,baz=282,slow=6.7,SNR=9.1							
BOSA	Boshof	64.85	205	P	P	09 27 05.4	-1.8
BOSA				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.4							
BOSA	Boshof	64.85	205	P	P	09 27 05.4	-1.8
comp=Z,4.2nm,1.0s,mb4.4,baz=40,slow=6.4,SNR=3.6							
BILL	Bilibino	69.59	21	eP	P	09 27 38.3	+1.5
BILL				e		09 27 58.3	
BILL				pmax	pmax		
comp=Z,1.0nm,1.0s,mb3.7							
BILL	Bilibino	69.59	21	eP	P	09 27 38.3	+1.5
comp=Z,1.0nm,1.0s,mb3.7							
BILL	Bilibino	69.59	21	ePcP	PcP	09 27 58.3	-1.4
PET	Petropavlovsk	74.88	37	eP	P	09 28 00.7	-8.0
PET				pmax	pmax		
comp=Z,100nm,22.7s							
PET				MLR	MLR		
comp=Z,100nm,19.0s,MS4.1							

*NEIC **17** 09:18:20.7, 3662S×17832E, h12km, ML3.7(WEL), After WEL.*

WEL 17 09:18:20.8±0.6, 3663S×17832E, h12km, ML3.7/5, Error ellipse: s-maj=5.7km s-min=3.7km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.93	181	P	Pg	09 18 37.4	-1.4
MXZ				S	Sg	09 18 50.8	-0.2
MXZ	Matakaoa Point	0.93	181	P*	Pb	09 18 37.4	-1.5
MXZ				S*	Sb	09 18 50.8	-0.5
PUZ	Puketiti	1.44	182	P	Pn	09 18 45.9	-0.8
PUZ	Puketiti	1.44	182	PN	Pn	09 18 45.9	-0.9
MWZ	Matawai	1.82	200	P	Pn	09 18 50.3	-1.5
MWZ				S	Sn	09 19 11.3	-3.5
MWZ	Matawai	1.82	200	P*	Pb	09 18 50.3	-3.6
MWZ				S*	Sb	09 19 11.3	-5.4
OPRZ	Ohinepanea	1.86	229	P*	Pb	09 18 51.0	-3.7
URZ	Urewera	1.89	210	P	Pn	09 18 50.9	-2.0
URZ	Urewera	1.89	210	P*	Pb	09 18 50.9	-4.3
KUZ	Kuaotunu	2.09	266	P	Pn	09 18 54.7	-0.9
KUZ	Kuaotunu	2.09	266	PN	Pn	09 18 54.7	-0.9
MKAZ	Moumakai	2.57	258	P	Pn	09 19 01.8	-0.4
MKAZ	Moumakai	2.57	258	PN	Pn	09 19 01.8	-0.4
BKZ	Black Stump Fm	2.92	209	P	Pn	09 19 05.5	-1.5
BKZ	Black Stump Fm	2.92	209	P*	Pb	09 19 05.5	-7.2
MOVZ	Moawhango	3.44	215	P	Pn	09 19 13.0	-1.1
MOVZ	Moawhango	3.44	215	P*	Pb	09 19 13.0	-8.5
VRZ	Vera Road	3.76	227	P*	Pb	09 19 18.8	-8.3
TSZ	Takapari Road	3.90	208	P	Pn	09 19 17.5	-2.9
TSZ	Takapari Road	3.90	208	PN	Pn	09 19 17.5	-2.9
OUZ	Omahuta	4.08	289	P	Pn	09 19 21.9	-1.1
OUZ	Omahuta	4.08	289	PN	Pn	09 19 21.9	-1.1

*IDC **17** 09:18:17.9±0.7, 2786S×17665W, h0km, mb4.3/10, mb1 4.6/11, mb1mx4.4/15, mbtmp4.4/11, ML4.6/1, MS4.6/10, Ms1 4.6/10, ms1mx4.4/13, Error ellipse: s-maj=25.3km s-min=17.1km az=141.0*

*ISCJB **17** 09:18:25.7±2.5, 281S±02×1768W±0.1, h70km±21km, mb4.2/12, Error ellipse: s-maj=27.1km s-min=20.3km az=3.7*

*NEIC **17** 09:18:25.4±1.9, 2803S×17672W, h54km±16km, mb4.7/2, Error ellipse: s-maj=17.2km s-min=12.3km az=185.0*

*GCMT **17** 09:18:25.4±0.2, 2787S×17623W, h17km, MW5.2/75, Moment Tensor Solution. s49,c74; s75,c131; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}5.54±.22; $M_{\theta\theta}$0.48±.17; $M_{\phi\phi}$-6.02±.17; $M_{r\theta}$0.85±.45; $M_{\theta\phi}$-1.63±.12; $M_{\phi r}$4.62±.45; Best double couple: $M_0$7.59900×10^{16} NP1:ϕ_s196.00000°, δ26.00000°, λ94.00000°. NP2: ϕ_s11.00000°, δ64.00000°, λ88.00000°. Principal axes: T 7.1700, Plg71.0000°, Azm277.0000°; N 0.8580, Plg2.0000°, Azm12.0000°; P -8.0280, Plg19.0000°, Azm103.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 17 09:18:25.9±2.7, 281S±02×1767W±01, h59km±23km, n42, σ0^{s}60/20, mb4.4/12, MS4.6/9, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.57	221	Pn	Pn	09 18 51.7	+0.2
349nm,0.3s,baz=198,slow=23,SNR=11							
RAO				Sn	Sn	09 19 16.1	+5.3
979nm,0.3s,baz=82,slow=22,SNR=12							
RAO				LR	LR	09 19 18.3	
comp=Z,4μm,20.2s,baz=163,slow=34							
RAR	Rarotonga	16.86	70	LR	LR	09 27 50.5	
comp=Z,792nm,18.1s,baz=276,slow=34							
RPZ	Rata Peaks	18.45	209	P	Pn	09 22 36.8	-0.5
2.0nm,0.3s,baz=66,slow=4.3,SNR=6.2							
PPT	Papeete	27.07	73	eLQ		09 29 10.3	
2μm,24.5s							
PPT				eLR	LR	09 30 30.6	
2μm,29.0s							
PPT	Papeete	27.07	73	LR	LR	09 32 35.9	
comp=Z,333nm,20.8s,MS3.9,baz=256,slow=32							
EIDS	Eidsvold	28.83	268	eP	P	09 24 20.0	+1.4
8.8nm,1.4s,mb4.3							
CTA	Charters Tower	34.61	275	P	P	09 25 08.0	-1.5
CTA				LR	LR	09 37 53.2	
CTA	Charters Tower	34.61	275	P	P	09 25 08.0	-1.5
3.8nm,0.8s,mb4.4,baz=80,slow=12,SNR=3.0							
CTA				LR	LR	09 37 53.2	
comp=Z,2μm,18.8s,MS4.9,baz=113,slow=34							
STKA	Stephens Creek	36.14	254	eP	P	09 25 23.3	+0.8
4.7nm,1.0s,mb4.4							
STKA	Stephens Creek	36.14	254	P	P	09 25 22.7	+0.2
1.6nm,0.5s,mb4.2,baz=43,slow=18,SNR=4.7							
STKA				LR	LR	09 38 43.6	
comp=Z,882nm,19.8s,MS4.5,baz=89,slow=34							
RKT	Rikitea	37.85	92	eLR	LR	09 35 22.3	
1μm,29.0s							
TAOE	Nuku Hiva Isla	39.40	68	eLR	LR	09 36 13.2	
21μm,28.1s							
ASAR	Alice Springs	44.39	264	P	P	09 26 31.1	+0.3
7.6nm,1.1s,mb4.4,baz=118,slow=8.3,SNR=30							
WB2	Warramunga Arr	45.16	269	eP	P	09 26 36.2	-0.8
WRA	Warramunga Arr	45.17	269	P	P	09 26 37.2	+0.1
1.5nm,0.4s,mb4.2,baz=107,slow=6.3,SNR=32							
VNDA	Vanda	50.52	186	LR	LR	09 44 53.3	
comp=Z,305nm,21.1s,MS4.3,baz=299,slow=31							
BATI	Kupang	58.49	275	LR	LR	09 53 21.3	
comp=Z2μm,19.3s,MS5.2,baz=197,slow=36							
QSPA	South Pole Qui	62.03	180	LR	LR	09 50 38.5	
comp=Z,252nm,19.4s,MS4.4,baz=220,slow=31							
CBIJ	Chichi jima	67.56	321	LR	LR	09 58 03.3	
comp=Z,185nm,18.5s,MS4.3,baz=128,slow=35							
MAW	Mawson	74.87	200	eP	P	09 29 59.8	-0.1
27nm,1.1s,mb5.1							
MAW	Mawson	74.87	200	LR	LR	10 03 10.8	
comp=Z,568nm,18.8s,MS4.9,baz=66,slow=36							
MJAR	Matsushiro Arr	76.98	324	P	P	09 30 12.1	-0.1
8.0nm,1.0s,mb4.6,baz=163,slow=5.7,SNR=11							
PLCA	Paso Flores	83.28	133	P	P	09 30 46.5	+0.3
1.9nm,0.9s,mb4.1,baz=242,slow=3.4,SNR=3.6							
KSRS	Korea Array	83.31	319	P	P	09 30 46.5	+0.2
3.4nm,1.0s,mb4.3,baz=131,slow=6.8,SNR=8.3							
NVAR	Mina Array Bea	85.78	42	P	P	09 30 58.7	0.0
NVAR	Mina Array Bea	85.78	42	P	P	09 30 58.7	0.0
1.2nm,0.8s,mb4.2,baz=225,slow=8.8,SNR=8.0							
PSI	Prapat	86.31	275	P	P	09 31 02.2	+0.2
PSI				LR	LR	10 11 28.8	
PSI	Prapat	86.31	275	P	P	09 31 02.2	+0.2
4.3nm,0.7s,mb4.8,baz=237,slow=6.6,SNR=6.0							
PSI				LR	LR	10 11 28.8	
comp=Z,757nm,18.1s,MS5.1,baz=67,slow=37							
TXAR	Lajitas Array	90.20	57	P	P	09 31 19.9	-0.1
0.7nm,0.9s,mb4.0,baz=224,slow=5.2,SNR=5.0							
MKAR	Makanchi Array	117.11	311	PKP	PKPdf	09 37 03.4	-0.6
0.7nm,0.7s,baz=67,slow=4.1,SNR=5.8							
BVAR	Borovoye Array	125.49	317	PKP	PKPdf	09 37 19.8	-0.1
0.7nm,0.5s,baz=197,slow=4.6,SNR=5.9							
ARCES	ARCESS Array B	136.54	349	PKP	PKPdf	09 37 41.5	+1.2
3.8nm,0.9s,baz=249,slow=0.8,SNR=4.5							
FINES	FINESS Array B	143.31	342	PKP	PKPdf	09 37 53.

HTY eSG **Sg** **09 35 57.8 +1.8**
COBT Iskenderun 0.23 26 i P **Pg** **09 35 54.1 +0.2**
COBT i S **Sg** **09 35 57.1 +0.2**
BTCH Batrach 0.38 137 ⇑P **Pg** **09 35 57.3 +0.3**
BTCH ⇑S **Sg** **09 36 02.8 +0.8**
BTCH Batrach 0.38 137 ⇑iP **Pg** **09 35 57.3 +0.3**
BTCH ⇑iS **Sg** **09 36 02.8 +0.8**
ARNB Al Arnab 0.47 196 ⇓P **Pg** **09 35 58.2 -0.5**
ARNB ⇓S **Sg** **09 36 05.2 +0.3**
DRWC Darouich 0.53 55 ⇑P **Pg** **09 35 59.6 -0.1**
DRWC ⇑S **Sg** **09 36 06.9 +0.3**
DRWC Darouich 0.53 55 ⇑iP **Pg** **09 35 59.6 -0.2**
SLNF Slenfeh 0.72 174 ⇓P **Pg** **09 36 03.3 -0.2**
SLNF ⇓S **Sg** **09 36 13.0 +0.1**
SLNF Slenfeh 0.72 174 ⇓iP **Pg** **09 36 03.3 -0.2**
SLNF ⇓iS **Sg** **09 36 13.0 +0.1**
CEYT Ceyhan 0.76 336 ePG **Pg** **09 36 04.9 +0.7**
CEYT eSG **Sg** **09 36 15.6 +1.5**
WRDH Warideh 0.84 164 ⇓P **Pg** **09 36 05.0 -0.7**
WRDH ⇓S **Sg** **09 36 16.9 +0.3**
WRDH Warideh 0.84 164 ⇓iP **Pg** **09 36 05.1 -0.6**
WRDH ⇓iS **Sg** **09 36 16.9 +0.3**
KOZT Kozan 1.19 348 ePN **Pn** **09 36 12.9 -0.5**
KOZT eSN **Sn** **09 36 29.7 -0.5**
GAZ Gaziantep 1.22 45 ePN **Pn** **09 36 12.9 -0.9**
GAZ eSN **Sn** **09 36 29.7 -1.2**
ANDN Andirin 1.27 8 i P **Pg** **09 36 13.6 -0.5**
ANDN eS **Sg** **09 36 28.8 -1.8**
KARA Karaisali 1.28 318 ePN **Pn** **09 36 13.9 -0.8**
BIDA Albida 1.31 173 ⇑P **Pg** **09 36 12.5 -2.3**
BIDA ⇑S **Sg** **09 36 30.1 -1.6**
BIDA Albida 1.31 173 ⇑iP **Pg** **09 36 12.5 -2.3**
BIDA ⇑iS **Sg** **09 36 30.1 -1.6**
KMRS Kahramanmaras 1.33 27 ePN **Pn** **09 36 15.1 -0.4**
MERS Mersin 1.41 293 ePN **Pn** **09 36 16.8 +0.4**
GZT Gaziantep 1.55 47 i P **Pn** **09 36 18.9 +0.5**
GZT i S **Sn** **09 36 40.2 +1.1**
NIG Nigde 2.16 326 ePN **Pn** **09 36 27.2 +0.3**
LFK Lefkose 2.35 245 ePN **Pn** **09 36 30.2 +0.7**
URFA Urfa 2.43 62 ePN **Pn** **09 36 31.3 +0.7**
MALT Malatya 2.70 42 ePN **Pn** **09 36 35.5 +1.2**
MYA Malataya 2.71 42 ePN **Pn** **09 36 34.8 +0.3**

IDC 17 10:09:01.7±3.7, 436S×15160E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/13, mbtmp3.8/2, Error ellipse: s-maj=141.7km s-min=48.7km az=116.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.86**	**226**	P	P	10 14 07.3	+0.4
	2.1nm,0.4s,baz=51,slow=9.8,SNR=62						
ASAR	**Alice Springs**	**25.69**	**220**	P	P	10 14 33.4	-0.2
	0.7nm,0.4s,baz=51,slow=8.8,SNR=18						
TORD	**Torodi Ar. Bea**	**149.03**	**288**	PKPbc	PKPbc	10 28 52.4	-0.5
	0.8nm,1.0s,baz=90,slow=2.6,SNR=4.6						

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*CSEM **17** 10:12:00.1±0.1, 3943N×3543E, h2km, MD3.1, Error ellipse: s-maj=3.0km s-min=1.8km az=62.0*
*ISK **17** 10:12:00.5, 3946N×3543E, h4km, MD3.1*
*ISCJB **17** 10:12:01.4±0.5, 3944N±003×3538E±006, h4km, Error ellipse: s-maj=6.3km s-min=4.0km az=163.8*
*DDA **17** 10:12:04.5, 3939N×3498E, h6km, Md2.9*
ISC 17 10:12:01.7±0.7, 3944N±003×3539E±006, h2km±7km, n29, σ0§98/36, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.20**	**345**	PG	**Pg**	**10 12 05.5**	**-0.1**
YOZ	**Yozgat**	**0.20**	**345**	ePG	**Pg**	**10 12 05.9**	**+0.3**
YOZ	**Yozgat**	**0.20**	**345**	ePg	**Pg**	**10 12 05.9**	**+0.3**
BNN	**Bunyan**	**0.69**	**149**	ePG	**Pg**	**10 12 14.2**	**-0.7**
BNN	**Bunyan**	**0.69**	**149**	ePG	**Pg**	**10 12 15.9**	**+1.1**
BNN				eSG	**Sg**	**10 12 24.7**	**+0.9**
BNN	**Bunyan**	**0.69**	**149**	eSG	**Sg**	**10 12 25.1**	**+1.3**
BNN	**Bunyan**	**0.69**	**149**	ePg	**Pg**	**10 12 14.2**	**-0.6**
BNN				eSg	**Sg**	**10 12 24.7**	**+0.9**
AVNT	**Avonos**	**0.78**	**212**	i P	**Pg**	**10 12 15.9**	**-0.7**
AVNT				i S	**Sg**	**10 12 27.6**	**+0.8**
CDAG	**Cicekdag**	**0.81**	**283**	i P	**Pg**	**10 12 14.3**	**-2.8**
CDAG				i S	**Sg**	**10 12 22.9**	**-4.7**
CORM	**Corum**	**0.94**	**322**	ePG	**Pg**	**10 12 18.8**	**-0.8**
CORM	**Corum**	**0.94**	**322**	ePG	**Pg**	**10 12 19.9**	**+0.2**
CORM				eSG	**Sg**	**10 12 32.6**	**+0.8**
CORM	**Corum**	**0.94**	**322**	ePg	**Pg**	**10 12 18.8**	**-0.9**
CORM				eSg	**Sg**	**10 12 32.6**	**+0.8**
TOKT	**Tokat**	**1.25**	**45**	ePN	**Pn**	**10 12 23.9**	**-2.3**
TOKT	**Tokat**	**1.25**	**45**	ePN	**Pn**	**10 12 26.2**	**0.0**
SVSK	**Karacayir**	**1.33**	**69**	ePN	**Pn**	**10 12 25.9**	**-1.3**
SVSK	**Karacayir**	**1.33**	**69**	ePN	**Pn**	**10 12 26.8**	**-0.4**
NIG	**Nigde**	**1.46**	**205**	ePN	**Pn**	**10 12 28.4**	**-0.7**
NIG	**Nigde**	**1.46**	**205**	ePN	**Pn**	**10 12 28.5**	**-0.6**
NIG	**Nigde**	**1.46**	**205**	ePn	**Pn**	**10 12 28.5**	**-0.6**
KVT	**Kavak**	**1.71**	**17**	ePN	**Pn**	**10 12 31.9**	**-0.6**
KVT	**Kavak**	**1.71**	**17**	ePN	**Pn**	**10 12 32.7**	**+0.2**
CANT	**Cankiri**	**1.79**	**311**	ePN	**Pn**	**10 12 33.2**	**-0.3**
TOS	**Tosya**	**1.90**	**327**	ePN	**Pn**	**10 12 35.1**	**-0.1**
TOS	**Tosya**	**1.90**	**327**	ePN	**Pn**	**10 12 35.4**	**+0.3**
KOZT	**Kozan**	**1.99**	**170**	ePN	**Pn**	**10 12 35.9**	**-0.4**
BOYT	**Boyabat**	**2.01**	**350**	i P	**Pn**	**10 12 39.2**	**+2.6**
BOYT				i S	**Sn**	**10 13 07.1**	**+4.7**
ANTO	**Ankara**	**2.05**	**283**	ePN	**Pn**	**10 12 37.6**	**+0.5**
LOD	**Lodumlu**	**2.08**	**283**	ePN	**Pn**	**10 12 37.9**	**+0.4**
DIKM	**Dikmen**	**2.21**	**357**	ePN	**Pn**	**10 12 39.9**	**+0.6**

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*NIED **17** 10:37:00, 4230N×14460E, h32km, Mw3.7 Best double couple: M0=3.39000×10^14 NP1:φ0=21.00000°, δ69.00000°, λ63.00000°. NP2:φ0=256.00000°, δ34.00000°, λ140.00000°.*
JMA 17 10:37:12.8, 4230N×14457E, h40km±1km, M3.6, 3D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.70**	**8**	P	Pn	10 37 26.5	+0.2
JAK				eS	Sn	10 37 36.9	+1.0
JOB	**Onbets**	**0.81**	**318**	⇓P	Pn	10 37 28.1	+0.4
JOB				eS	Sn	10 37 39.9	+1.3
JCH	**Churui**	**0.95**	**290**	⇓P	Pn	10 37 29.9	+0.3
JCH				eS	Sn	10 37 42.5	+0.6
JEM	**Erimo**	**1.09**	**255**	P	Pn	10 37 32.1	+0.6
JEM				eS	Sn	10 37 46.4	+1.0
JAR	**Ashorobuto**	**1.16**	**330**	⇓P	Pn	10 37 32.6	+0.1
JAR				eS	Sn	10 37 47.4	+0.3
JNK	**Nakash**	**1.29**	**5**	P	Pn	10 37 34.3	0.0
JNK				eS	Sn	10 37 50.1	-0.2
JNBK	**Urakawa-nobuka**	**1.35**	**270**	P	Pn	10 37 35.2	+0.1
NEM2	**Nemuro 2**	**1.37**	**39**	P	Pn	10 37 36.2	+0.8
NEM2				eS	Sn	10 37 53.3	+1.0
JRA	**Rausu**	**1.69**	**14**	P	Pn	10 37 40.8	+1.1
JRA				eS	Sn	10 38 01.5	+1.4

IDC 17 11:01:52.5±1.9, 076N×12605E, h0km, mb3.6/3, mb1 3.9/3, mb1mx3.5/16, mbtmp3.7/3, Error ellipse: s-maj=169.5km s-min=25.1km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.13**	**159**	P	P	11 06 49.6	-0.2
	1.4nm,0.4s,baz=337,slow=11,SNR=45						
WB2	**Warramunga Arr**	**22.13**	**159**	eP	P	11 06 49.5	-0.4
ASAR	**Alice Springs**	**25.46**	**163**	P	P	11 07 22.6	+0.3
	0.5nm,0.3s,baz=346,slow=12,SNR=14						
MKAR	**Makanchi Array**	**59.61**	**327**	P	P	11 11 58.3	0.0
	0.2nm,0.4s,baz=121,slow=6.6,SNR=6.2						

IDC 17 11:02:06.4±4.1, 3087N×14111E, h0km, mb3.4/3, mb1 3.6/4, mb1mx3.4/18, mbtmp3.4/4, ML3.1/1, Error ellipse: s-maj=171.1km s-min=26.3km az=73.0, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**6.15**	**338**	Pn	Pn	11 03 38.2	-0.2
	0.4nm,0.3s,baz=156,slow=11,SNR=5.8						
SONM	**Songino Array**	**31.40**	**313**	P	P	11 08 29.2	+0.2
	0.2nm,0.4s,baz=104,slow=6.1,SNR=3.5						
WRA	**Warramunga Arr**	**50.94**	**188**	P	P	11 11 09.8	+0.2
	0.4nm,0.7s,baz=6.3,slow=7.7,SNR=4.8						
ASAR	**Alice Springs**	**54.66**	**188**	P	P	11 11 36.9	-0.2
	0.3nm,0.6s,baz=5.3,slow=5.5,SNR=4.5						

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*ISCJB **17** 11:10:32.3±0.2, 3496N±002×2762E±002, h10km, mb3.8/19, Error ellipse: s-maj=3.6km s-min=2.9km az=17.3*
*IDC **17** 11:10:34.4±0.9, 3532N×2777E, h0km, mb3.8/10, mb1 3.8/14, mb1mx3.8/23, mbtmp3.7/14, ML3.7/4, MS2.9/3, Ms1 3.0/3, ms1mx2.6/39, Error ellipse: s-maj=20.4km s-min=14.5km az=5.0*
*ATH **17** 11:10:35.5, 3506N×2774E, h7km±5km, MD3.9/10*
*NEIC **17** 11:10:35.7, 3507N×2773E, h8km, ML3.9(ATH), ML3.9(ISK), After ATH.*
*CSEM **17** 11:10:36.4±0.1, 3508N×2789E, h25km, MD3.9, Error ellipse: s-maj=2.6km s-min=1.9km az=86.0*
*MOS **17** 11:10:37.8±1.6, 3513N×2784E, h33km, mb4.0/6, Error ellipse: s-maj=10.3km s-min=7.0km az=82.9*
*HLW **17** 11:10:43.5, 3457N×2804E, h13km, Mb3.6*
ISC 17 11:10:37.1±0.7, 3508N±003×2763E±003, h29km±6km, n153, σ1§19/161, mb3.8/18, 4C-7D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.61**	**321**	⇑iPB	**Pb**	**11 10 48.7**	**-0.5**
KARP				eSB	**Sb**	**11 10 57.6**	**+0.1**
ARG	**Arkhangelos**	**1.21**	**19**	ePN	**Pn**	**11 10 57.7**	**-0.3**
ARG				eSB	**Sb**	**11 11 15.2**	**+0.7**
NISR	**Nisiros**	**1.58**	**345**	ePB	**Pb**	**11 11 06.0**	**+0.3**
DAT	**Datca**	**1.65**	**359**	ePN	**Pn**	**11 11 04.3**	**+0.3**
NPS	**Neapolis**	**1.66**	**277**	ePG	**Pn**	**11 11 09.0**	**+4.7**
NPS	**Neapolis**	**1.66**	**277**	ePg	**Pn**	**11 11 09.9**	**+5.6**
DALT	**Dalyan (Mudla)**	**1.88**	**26**	ePN	**Pn**	**11 11 05.9**	**-1.3**
KSL	**Kastellorizon**	**1.92**	**56**	ePG	**Pn**	**11 11 10.0**	**+2.2**
FETY	**Fethiye**	**1.95**	**37**	ePN	**Pn**	**11 11 05.4**	**-2.9**
FETY	**Fethiye**	**1.95**	**37**	Pn	**Pn**	**11 11 08.2**	**-0.1**
FETY	**Fethiye**	**1.95**	**37**	Pn	**Pn**	**11 11 08.2**	**0.0**
BDRM	**Kayabasi**	**1.99**	**356**	i P	**Pn**	**11 11 10.7**	**+1.9**
YER	**Yerkesik**	**2.12**	**14**	ePN	**Pn**	**11 11 13.0**	**+2.4**
SANT	**Santorini**	**2.19**	**307**	ePn	**Pn**	**11 11 14.3**	**+2.8**
SANT	**Santorini**	**2.19**	**307**	ePn	**Pn**	**11 11 14.3**	**+2.8**
MLSB	**Milas**	**2.22**	**3**	ePN	**Pn**	**11 11 12.5**	**+0.6**
IDI	**Anoyia**	**2.25**	**276**	Pg	**Pn**	**11 11 18.7**	**+6.3**
	11nm,0.3s,baz=99,slow=14,SNR=37						
ELL	**Elmali**	**2.49**	**47**	ePN	**Pn**	**11 11 13.0**	**-2.7**
AYDN	**Tasoluk**	**2.59**	**4**	eP	**Pn**	**11 11 18.2**	**+1.3**
AYDN	**Tasoluk**	**2.59**	**4**	eP	**Pn**	**11 11 18.2**	**+1.2**
APE	**Apeiranthos**	**2.62**	**320**	i P	**Pn**	**11 11 20.6**	**+3.2**
APE	**Apeiranthos**	**2.62**	**320**	ePB	**Pb**	**11 11 21.0**	**-2.3**
SMG	**Samos**	**2.70**	**347**	ePB	**Pb**	**11 11 21.0**	**-3.8**
SMG	**Samos**	**2.70**	**347**	ePb	**Pb**	**11 11 20.5**	**-4.3**
VAM	**Vamos**	**2.83**	**278**	ePN	**Pn**	**11 11 26.5**	**+6.2**
DENT	**Denizli**	**2.90**	**23**	ePN	**Pn**	**11 11 21.0**	**-0.3**
ANTB	**Antalya**	**3.05**	**53**	ePN	**Pn**	**11 11 22.8**	**-0.5**
KDAG	**Bornova**	**3.33**	**355**	i P	**Pn**	**11 11 31.1**	**+3.8**
KDAG	**Bornova**	**3.33**	**355**	i P	**Pn**	**11 11 31.0**	**+3.8**
BLCB	**Balcova**	**3.33**	**352**	ePN	**Pn**	**11 11 29.3**	**+2.0**
BCK	**Bucak**	**3.37**	**44**	ePN	**Pn**	**11 11 27.8**	**0.0**
BCK	**Bucak**	**3.37**	**44**	Pn	**Pn**	**11 11 29.3**	**+1.5**
BCK	**Bucak**	**3.37**	**44**	Pn	**Pn**	**11 11 29.3**	**+1.5**
KULA	**Kula-Manisa**	**3.53**	**13**	ePN	**Pn**	**11 11 29.9**	**0.0**
ISP	**Isparta**	**3.61**	**39**	ePN	**Pn**	**11 11 30.1**	**-0.9**
ISP	**Isparta**	**3.61**	**39**	ePn	**Pn**	**11 11 32.6**	**+1.7**
ISP				Sn	**Sn**	**11 12 14.9**	**+2.4**
TKTP	**Tekketepe**	**3.67**	**35**	i P	**Pn**	**11 11 33.7**	**+1.9**
AKHS	**Akhisar**	**3.80**	**2**	i P	**Pn**	**11 11 33.9**	**+0.3**
AKS	**Akhisar**	**3.80**	**2**	ePN	**Pn**	**11 11 33.9**	**+0.3**
AKMC	**Akamas**	**3.86**	**89**	P	**Pn**	**11 11 33.4**	**-1.0**
KYTH	**Kithira**	**3.93**	**289**	ePN	**Pn**	**11 11 40.0**	**+4.6**
HMAT	**Matruh**	**4.00**	**187**	⇓eP	**Pn**	**11 11 37.9**	**+1.5**
HMAT				S	**Sn**	**11 12 17.8**	**-4.4**
ALFC	**Alevga**	**4.07**	**87**	⇓iP	**Pn**	**11 11 36.8**	**-0.6**
	2.8nm,0.2s						
SLUM		**4.11**	**210**	⇓eP	**Pn**	**11 11 42.4**	**+4.5**
SLUM				S	**Sn**	**11 12 25.6**	**+0.6**
VLI	**Veliai**	**4.15**	**295**	ePN	**Pn**	**11 11 42.8**	**+4.4**
GDZ	**Gediz**	**4.27**	**20**	i P	**Pn**	**11 11 40.2**	**+0.1**
LEF	**Lefka**	**4.31**	**88**	ePN	**Pn**	**11 11 37.7**	**-3.0**
SZAC	**Souni-Zanaja**	**4.33**	**93**	P	**Pn**	**11 11 41.0**	**+0.1**
HDMB	**Hadim**	**4.36**	**63**	ePN	**Pn**	**11 11 40.5**	**-0.9**
ALT	**Altintas**	**4.44**	**26**	ePN	**Pn**	**11 11 43.7**	**+1.3**
BALB	**Balikesir**	**4.56**	**2**	ePN	**Pn**	**11 11 45.2**	**+1.1**
ERMK	**Ermenek**	**4.56**	**68**	i P	**Pn**	**11 11 43.8**	**-0.4**
CSS	**Prodhromos**	**4.68**	**90**	P	**Pn**	**11 11 46.4**	**+0.7**
	1.1nm,0.5s						
CSS	**Prodhromos**	**4.68**	**90**	ePn	**Pn**	**11 11 44.1**	**-1.6**
CSS	**Prodhromos**	**4.68**	**90**	ePn	**Pn**	**11 11 44.1**	**-1.6**
CSS	**Prodhromos**	**4.68**	**90**	P	**Pn**	**11 11 46.4**	**+0.7**
	1.1nm,0.5s						
KONT	**Konya-Tatoy**	**4.76**	**52**	ePN	**Pn**	**11 11 45.5**	**-1.4**
LFK	**Lefkose**	**4.84**	**86**	ePN	**Pn**	**11 11 46.3**	**-1.6**
ITM	**Ithomi**	**5.07**	**296**	ePN	**Pn**	**11 11 56.3**	**+5.2**
KIZT	**Kizilcal**	**5.10**	**41**	ePN	**Pn**	**11 11 50.6**	**-0.9**
ESKT	**Eskisehir**	**5.12**	**29**	ePN	**Pn**	**11 11 53.4**	**+1.5**
ESKT	**Eskisehir**	**5.12**	**29**	Pn	**Pn**	**11 11 53.3**	**+1.5**
PHNC	**Paralimni**	**5.25**	**89**	P	**Pn**	**11 11 58.5**	**+4.9**
EREN	**Erenkoy**	**5.37**	**83**	ePN	**Pn**	**11 11 53.1**	**-2.1**
MERS	**Mersin**	**5.87**	**70**	ePN	**Pn**	**11 12 00.7**	**-1.4**
MERS	**Mersin**	**5.87**	**70**	ePn	**Pn**	**11 12 00.6**	**-1.5**
SWA1		**6.02**	**196**	⇓P	**Pn**	**11 12 06.9**	**+2.7**
SWA1				S	**Sn**	**11 13 08.0**	**-4.2**
EVR	**Evrytania**	**6.03**	**311**	ePN	**Pn**	**11 12 10.0**	**+5.7**
SWA2		**6.10**	**198**	⇓eP	**Pn**	**11 12 08.4**	**+3.1**
KARA	**Karaisali**	**6.39**	**68**	ePN	**Pn**	**11 12 08.8**	**-0.4**
AMAG	**Maghara**	**6.45**	**132**	⇓P	**Pn**	**11 12 10.0**	**-0.1**
GLL	**Jalalah**	**6.48**	**147**	⇑eP	**Pn**	**11 12 10.3**	**-0.2**
MMAI	**Mount Meron Ar**	**6.77**	**105**	Pn	**Pn**	**11 12 13.9**	**-0.5**
	3.2nm,0.3s,baz=315,slow=12,SNR=5.1						
KOZT	**Kozan**	**7.04**	**68**	eP	**Pn**	**11 12 17.5**	**-0.7**
HNKL	**Nakhl**	**7.42**	**132**	⇑P	**Pn**	**11 12 23.6**	**+0.1**
HNKL	**Nakhl**	**7.42**	**132**	P	**Pn**	**11 12 23.5**	**+0.1**
EIL	**Elat**	**8.21**	**129**	Pn	**Pn**	**11 12 33.5**	**-0.7**
	0.7nm,0.3s,baz=353,slow=9.8,SNR=6.9						
EIL				Sn	**Sn**	**11 14 01.1**	**-4.9**
	1.1nm,0.3s,baz=332,slow=8.4,SNR=3.7						
ASF	**Jabal al Asfar**	**8.25**	**108**	Pn	**Pn**	**11 12 34.7**	**-0.1**
	0.3nm,0.3s,baz=179,slow=5.2,SNR=3.6						
ASF				Sn	**Sn**	**11 14 09.5**	**+2.4**
	0.4nm,0.3s,baz=333,slow=23,SNR=2.1						
ASF				LR	LR	11 17 32.7	
	comp=Z,59nm,19.0s,baz=302,slow=51						
HKAT	**Jabal Katrina**	**8.48**	**139**	⇓eP	**Pn**	**11 12 38.2**	**+0.2**
SOC	**Sochi**	**12.63**	**44**	eP	**Pn**	**11 13 35.0**	**+0.4**
SOC				e		11 15 51.9	
SOC				pmax	pmax		
	comp=Z,10.0nm,0.7s						
SOC				MLR	MLR		
	comp=Z,33nm,6.0s						
SOC	**Sochi**	**12.63**	**44**	eP	**Pn**	**11 13 35.0**	**+0.4**
	comp=Z,10.0nm,0.7s						
SOC				eS	**Sn**	**11 15 51.9**	**-2.3**
	comp=Z,33nm,6.0s						
KIV	**Kislovodsk**	**14.60**	**48**	i P	**Pn**	**11 14 02.7**	**+1.2**
KIV				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**15.66**	**4**	Pn	**Pn**	**11 14 16.6**	**+1.1**
	baz=193,slow=12,SNR=2.3						
PGF	**Pioggiola**	**16.31**	**303**	eP	**Pn**	**11 14 22.7**	**-1.2**
	comp=Z,47nm,1.2s						
VRAC	**Vranov**	**16.38**	**334**	LR	LR	11 21 05.7	
	comp=Z,47nm,20.2s,baz=337,slow=39						
GEC2	**GERESS Array S**	**17.18**	**327**	eP	**Pn**	**11 14 38.3**	**+3.5**
GERES	**GERESS Array B**	**17.18**	**327**	P	**Pn**	**11 14 35.8**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=138,slow=12,SNR=8.4						
KHC	**Kasperske Hory**	**17.45**	**328**	⇑eP	**Pn**	**11 14 39.8**	**+1.6**
KHC	**Kasperske Hory**	**17.45**	**328**	eP	**Pn**	**11 14 39.5**	**+1.3**
SBF	**Sospel**	**17.86**	**305**	eP	**Pn**	**11 14 42.1**	**-1.2**
FRF	**La Foret Royal**	**18.28**	**304**	eP	**Pn**	**11 14 47.4**	**-1.0**
MBDF	**Montbardon**	**18.64**	**307**	eP	**Pn**	**11 14 51.8**	**-1.0**
LPG	**La Plagne**	**18.98**	**310**	eP	**Pn**	**11 14 55.9**	**-0.9**
	comp=Z,5.2nm,0.6s						
LPG	**La Plagne**	**18.98**	**310**	eP	**Pn**	**11 14 55.9**	**-0.9**
	comp=Z,2.6nm,0.6s						
LPL	**La Plagne**	**19.00**	**310**	eP	**Pn**	**11 14 56.0**	**-1.1**
	comp=Z,3.9nm,0.5s						
LPL	**La Plagne**	**19.00**	**310**	eP	**Pn**	**11 14 56.0**	**-1.1**
	comp=Z,2.0nm,0.5s						
ORIF	**Oris-en-Rattie**	**19.29**	**307**	eP	**Pn**	**11 14 59.5**	**-1.2**
	comp=Z,24nm,1.2s						
ORIF	**Oris-en-Rattie**	**19.29**	**307**	eP	**Pn**	**11 14 59.5**	**-1.2**
	comp=Z,12nm,1.2s						
CLL	**Collm**	**19.35**	**331**	eP	**Pn**	**11 15 02.0**	**+0.7**
CLL				ex	x	11 15 10.0	
CABF	**La Chapelle**	**19.89**	**312**	eP	**Pn**	**11 15 06.1**	**-1.7**
	comp=Z,14nm,0.7s						
CABF	**La Chapelle**	**19.89**	**312**	eP	**Pn**	**11 15 06.1**	**-1.7**
	comp=Z,6.8nm,0.7s						
VIVF	**Saint-Julien-l**	**20.07**	**306**	eP	**P**	**11 15 08.2**	**+0.3**
	comp=Z,12nm,0.9s						
VIVF	**Saint-Julien-l**	**20.07**	**306**	eP	**P**	**11 15 08.2**	**+0.3**
	comp=Z,6.1nm,0.9s						
CDF	**Champ du Feu**	**20.12**	**318**	eP	**P**	**11 15 08.8**	**+0.3**
	comp=Z,4.9nm,0.7s						
CDF	**Champ du Feu**	**20.12**	**318**	eP	**P**	**11 15 08.8**	**+0.3**
	comp=Z,2.5nm,0.7s						
LASF	**Ste Croix**	**20.35**	**303**	eP	**P**	**11 15 11.5**	**+0.4**
	comp=Z,52nm,1.4s						
LASF	**Ste Croix**	**20.35**	**303**	eP	**P**	**11 15 11.5**	**+0.4**
	comp=Z,26nm,1.4s						
OBN	**Obninsk**	**20.97**	**14**	eP	**P**	**11 15 18.4**	**+0.8**
OBN				pmax	pmax		
	comp=Z,5.0nm,1.0s						
MTLF	**Montolieu**	**21.29**	**300**	eP	**P**	**11 15 21.5**	**+0.3**
SMF	**Signal de Mont**	**21.30**	**310**	eP	**P**	**11 15 21.3**	**+0.1**
	comp=Z,10nm,0.9s,mb3.9						
SMF	**Signal de Mont**	**21.30**	**310**	eP	**P**	**11 15 21.3**	**+0.1**
	comp=Z,5.2nm,0.9s,mb3.9						
LOR	**Lormes**	**21.55**	**312**	eP	**P**	**11 15 23.9**	**0.0**
	comp=Z,4.0nm,0.7s,mb3.7						
LOR	**Lormes**	**21.55**	**312**	eP	**P**	**11 15 23.9**	**0.0**
	comp=Z,2.0nm,0.7s,mb3.7						
AVF	**Avril sur Loir**	**21.66**	**310**	eP	**P**	**11 15 25.2**	**0.0**
SSF	**Saint Saulge**	**21.68**	**311**	eP	**P**	**11 15 25.2**	**-0.1**
	comp=Z,18nm,1.0s,mb4.2						
SSF	**Saint Saulge**	**21.68**	**311**	eP	**P**	**11 15 25.2**	**-0.1**
	comp=Z,8.8nm,1.0s,mb4.2						
CAF	**Calvlac**	**21.84**	**304**	eP	**P**	**11 15 27.1**	**+0.1**
BGF	**Bois d'Agland**	**21.89**	**309**	eP	**P**	**11 15 27.4**	**-0.2**
TCF	**Toulx Ste Croi**	**22.20**	**308**	eP	**P**	**11 15 30.5**	**-0.4**
EPF	**Esparros**	**22.56**	**299**	eP	**P**	**11 15 34.5**	**-0.3**
BAIF	**Baives**	**22.71**	**318**	eP	**P**	**11 15 35.0**	**-1.3**
LFF	**La Frestale**	**22.74**	**304**	eP	**P**	**11 15 35.7**	**-0.9**
ETSF	**Etsaut**	**23.19**	**298**	eP	**P**	**11 15 40.6**	**-0.8**
	comp=Z,13nm,0.9s,mb4.0						
ETSF	**Etsaut**	**23.19**	**298**	eP	**P**	**11 15 40.6**	**-0.8**
	comp=Z,6.4nm,0.9s,mb4.0						
SJPF	**Ste Jean**	**23.70**	**298**	eP	**P**	**11 15 45.7**	**-0.7**
	comp=Z,25nm,1.0s,mb4.3						
SJPF	**Ste Jean**	**23.70**	**298**	eP	**P**	**11 15 45.7**	**-0.7**
	comp=Z,12nm,1.0s,mb4.3						
MFF	**Saint Martin d**	**23.84**	**307**	eP	**P**	**11 15 46.3**	**-1.3**
	comp=Z,18nm,1.0s,mb4.1						
MFF	**Saint Martin d**	**23.84**	**307**	eP	**P**	**11 15 46.3**	**-1.3**
	comp=Z,8.9nm,1.0s,mb4.1						
FLN	**La Foliniere**	**24.82**	**312**	eP	**P**	**11 15 56.0**	**-0.6**
	comp=Z,8.4nm,0.6s,mb4.2						
FLN	**La Foliniere**	**24.82**	**312**	eP	**P**	**11 15 56.0**	**-0.6**
	comp=Z,4.2nm,0.6s,mb4.2						
GRR	**Gorron**	**24.91**	**311**	eP	**P**	**11 15 56.7**	**-0.7**
ESDC	**Sonseca Array**	**25.45**	**290**	P	**P**	**11 16 05.6**	**+3.3**
	comp=Z,0.3nm,0.3s,mb3.3,baz=84,slow=6.6,SNR=3.1						
SGMF	**Saint Gilles**	**25.92**	**310**	eP	**P**	**11 16 06.4**	**-0.2**
QUIF	**Quistinic**	**26.20**	**309**	eP	**P**	**11 16 08.9**	**-0.2**
	comp=Z,31nm,1.1s,mb4.4						
QUIF	**Quistinic**	**26.20**	**309**	eP	**P**	**11 16 08.9**	**-0.2**
	comp=Z,15nm,1.1s,mb4.4						
FINES	**FINESS Array B**	**26.40**	**358**	P	**P**	**11 16 10.1**	**-0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**26.40**	**358**	P	**P**	**11 16 10.1**	**-0.7**

KNZ	Kokohu	3.79	205	*e*PN	Pn	11 48 41.5	-0.3
MKAZ	Moumakai	3.97	246	P	Pn	11 48 45.4	+1.2
MKAZ	Moumakai	3.97	246	PN	Pn	11 48 45.3	+1.1
TOZ	Tahuroa Road	4.00	236	P	Pn	11 48 45.6	+0.9
TOZ	Tahuroa Road	4.00	236	*e*P*	Pn	11 48 45.5	+0.8
WCZ	Waipu Caves	4.37	264	P	Pn	11 48 50.4	+0.6
WCZ	Waipu Caves	4.37	264	PN	Pn	11 48 50.5	+0.7
BKZ	Black Stump Fm	4.40	215	P	Pn	11 48 49.9	-0.2
BKZ	Black Stump Fm	4.40	215	*e*P*	Pn	11 48 49.8	-0.3
NGZ	Ngauruhoe	4.85	221	P	Pn	11 48 57.2	+0.8
NGZ	Ngauruhoe	4.85	221	*e*P*	Pn	11 48 56.5	+0.1
HIZ	Hauiti	4.86	232	P	Pn	11 48 58.1	+1.7
HIZ	Hauiti	4.86	232	*e*PN	Pn	11 48 58.0	+1.5
TUVZ	Tukino	4.89	220	P	Pn	11 48 57.5	+0.6
TUVZ	Tukino	4.89	220	*e*P*	Pn	11 48 57.4	+0.5
MOVZ	Moawhango	4.95	218	P	Pn	11 48 56.8	-0.8
MOVZ	Moawhango	4.95	218	*e*P*	Pn	11 48 56.6	-1.0
PXZ	Pawanui	4.98	206	*e*PN	Pn	11 48 56.2	-1.9
OUZ	Omahuta	5.00	272	P	Pn	11 48 58.7	+0.3
OUZ	Omahuta	5.00	272	⇑PN	Pn	11 48 59.0	+0.6
PKVZ	Pokaka	5.07	222	*e*P*	Pn	11 48 59.2	-0.2
WPHZ	Waipukurau	5.17	209	*e*PN	Pn	11 48 59.3	-1.4
TSZ	Takapari Road	5.36	212	P	Pn	11 49 01.6	-1.8
TSZ	Takapari Road	5.36	212	PN	Pn	11 49 01.0	-2.4
WAZ	Wanganui	5.60	221	P	Pn	11 49 06.3	-0.3
TIWZ	Tintock	6.00	209	*e*PN	Pn	11 49 08.8	-3.2
CAW	Cannon Point	6.61	212	P	Pn	11 49 17.5	-3.0
CAW	Cannon Point	6.61	212	*e*PN	Pn	11 49 16.5	-4.0
SNZO	South Karori	6.93	213	*e*Pn	Pn	11 49 27.8	+2.8
SNZO				*e*Sn	Sn	11 50 33.3	-9.2
TCW	Tory Channel	7.05	216	P	Pn	11 49 22.8	-3.8
TCW	Tory Channel	7.05	216	*e*PN	Pn	11 49 21.4	-5.2
NNZ	Nelson	7.50	220	*e*PN	Pn	11 49 28.8	-4.0
THZ	Tophouse	8.14	219	P	Pn	11 49 37.1	-4.4
THZ	Tophouse	8.14	219	*e*PN	Pn	11 49 36.8	-4.8
KHZ	Kahutara	8.34	213	*e*PN	Pn	11 49 40.0	-4.3
LTZ	Lake Taylor	9.22	216	P	Pn	11 49 51.4	-4.8
LTZ	Lake Taylor	9.22	216	*e*PN	Pn	11 49 52.1	-4.2
RPZ	Rata Peaks	10.50	217	Pn	Pn	11 50 11.1	-2.8
	0.5nm,0.3s,baz=176,slow=23,SNR=3.7						
STKA	Stephens Creek	31.78	266	P	P	11 54 07.0	+0.3
	2.1nm,0.7s,mb4.1,baz=98,slow=8.3,SNR=4.5						
CTA	Charters Tower	33.17	289	P	P	11 54 19.4	+0.4
CTA	Charters Tower	33.17	289	P	P	11 54 19.4	+0.4
	3.0nm,0.6s,mb4.4,baz=113,slow=7.9,SNR=4.1						
ASAR	Alice Springs	41.21	274	P	P	11 55 26.8	-0.4
	3.4nm,0.6s,mb4.1,baz=118,slow=7.6,SNR=59						
WB2	Warramunga Arr	42.67	279	*e*P	P	11 55 38.4	-0.7
WRAB	Tennant Creek	42.67	279	*e*P	P	11 55 39.4	+0.3
	6.8nm,0.6s,mb4.5						
WRA	Warramunga Arr	42.68	279	P	P	11 55 38.3	-0.9
	6.7nm,0.6s,mb4.5,baz=121,slow=7.6,SNR=80						
MBWA	Marble Bar	53.94	268	*e*P	P	11 57 04.2	-1.8
	8.9nm,0.6s,mb4.9						
QSPA	South Pole Qui	54.54	180	*e*P	P	11 57 12.0	+2.4
	11nm,1.4s,mb4.7						
QSPA	South Pole Qui	54.54	180	P	P	11 57 12.4	+2.9
	3.0nm,0.7s,mb4.4,baz=69,slow=1.5,SNR=13						
SNAA	Sanae	73.03	179	*e*	P	11 59 11.0	-0.4
SNAA				*e*		11 59 16.3	
SNAA				*e*		11 59 27.1	
SNAA				*e*		11 59 31.4	
VNA2	Neumayer--Watz	73.67	178	*e*	P	11 59 16.6	+1.4
	baz=186,slow=4.9						
VNA2				*e*		11 59 23.9	
VNA2				*e*		11 59 33.1	
VNA2				*e*		11 59 37.3	
KSRS	Korea Array	87.10	321	P	P	12 00 26.4	-1.1
	1.7nm,0.7s,mb4.4,baz=133,slow=5.8,SNR=4.8						
NVAR	Mina Array Bea	93.32	44	P	P	12 00 58.4	+1.7
	0.3nm,0.7s,mb3.8,baz=219,slow=4.2,SNR=2.6						
JOF	Joensuu	146.38	334	*e*p	PKPdf	12 07 19.6	-0.9
	6.8nm,0.6s						
FINES	FINESS Array B	149.20	335	PKPbc	PKPbc	12 07 27.4	-2.1
	3.8nm,0.7s,baz=82,slow=4.0,SNR=12						
DBIC	Dimbokro	150.92	171	PKPbc	PKPbc	12 07 36.5	+1.3
	2.8nm,1.0s,baz=128,slow=1.5,SNR=5.2						
NB2	NORSAR Subarra	153.48	347	PKP	PKPbc	12 07 38.2	-1.2
	comp=Z,0.5nm,0.6s,baz=17,slow=2.6						

ISCJB ***17*** *12:01:33.3±1.5,392N±0.1×3542E±009,h3km±13km,Error ellipse: s-maj=16.9km s-min=11.8km az=2.0*
ISK ***17*** *12:01:34.6,3929N×3552E,h5km,MD2.8*
ISC 17 12:01:33.6±1.5,3917N±009×3543E±010,h2km±13km,n5,σ0§49/7,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	Yozgat	0.48	350	PG	Pg	12 01 43.0	+0.2
AVNT	Avonos	0.59	229	*i* P	Pg	12 01 45.0	+0.1
CDAG	Cicekdag	0.94	299	*i* P	Pg	12 01 51.1	-0.4
CORM	Corum	1.18	329	*e*PN	Pn	12 01 57.8	+0.7
CORM				*e*SN	Sn	12 02 13.5	-0.2
SVSK	Karacayir	1.43	58	*e*PN	Pn	12 02 00.2	-0.3
SVSK				*e*SN	Sn	12 02 19.9	0.0

ISCJB ***17*** *12:10:49.6±0.9,3538S±005×719W±0.1,h71km±7km, mb3.9/9,Error ellipse: s-maj=17.1km s-min=8.0km az=14.4*
GUC ***17*** *12:10:50.8±0.6,3530S×7190W,h62km±9km,MD3.9, ML4.1*
IDC ***17*** *12:10:50.5±0.8,3542S×7187W,h65km±6km,mb3.8/9, mb1 3.9/12,mb1mx3.8/18,mbtmp3.7/12,Error ellipse: s-maj=20.4km s-min=12.9km az=100.0*
NEIC ***17*** *12:10:50.8,3530S×7190W,h62km,MD3.9(GUC),After GUC.*
NEIC Felt [III] at Curico and Talca; [II] at Cauquenes, Constitucion, Iloca, Linares and Rancagua.
ISC 17 12:10:50.6±0.9,3537S±005×719W±01,h64km±8km, h67km±2.5km:pP-P,n32,σ0§69/39,mb4.0/9,7C-4D,Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.67	57	⇑*i*P	Pn	12 11 04.5	-0.1
NICH				*i* S	Sn	12 11 14.8	-0.1
SFDO	San Fernando	1.05	45	⇓*i*P	Pn	12 11 09.2	-0.3
SFDO				*i* S	Sn	12 11 23.2	-0.2
LNV	Longovilo	1.47	17	⇑*i*P	Pn	12 11 14.8	-0.1
CICH	Cipreses	1.61	50	⇓*i*P	Pn	12 11 17.0	+0.2
CICH				*i* S	Sn	12 11 37.0	+0.3
CACH	El Canelo	1.65	41	*e*P	Pn	12 11 17.2	-0.2
CHCH	Chadas Angostu	1.77	36	⇑*i*P	Pn	12 11 18.7	-0.2
TACH	Talagante	1.89	26	⇑*i*P	Pn	12 11 20.3	-0.3
LMEL	Las Melosas	2.07	44	⇑*i*P	Pn	12 11 23.5	+0.4
LMEL				*i* S	Sn	12 11 48.1	+0.4
LMEL	Las Melosas	2.07	44	⇑*i*P	Pn	12 11 23.5	+0.4
LMEL				*i* S	Sn	12 11 48.1	+0.4
LMEL				AML	AML	12 11 51.8	
	comp=N,1μm,0.5s						
PCH	Pirque	2.09	34	⇓*i*P	Pn	12 11 23.4	+0.1
SAN	Santiago	2.17	29	AML	AML	12 12 09.1	
	comp=N,1μm,0.5s						
CLCH	Cerro Calan	2.27	31	⇓*i*P	Pn	12 11 25.7	0.0
CLCH				*i* S	Sn	12 11 52.5	-0.2
CLCH				AML	AML	12 12 16.4	
	comp=N,2μm,0.6s						
FCH	Farellones	2.44	34	*e*P	Pn	12 11 28.2	+0.2
FCH				*i* S	Sn	12 11 56.2	-0.5
FCH				AML	AML	12 12 18.1	
	comp=N,691nm,0.2s						
PEL	Peldehue	2.44	25	⇑*i*P	Pn	12 11 27.9	-0.1
PEL				*i* S	Sn	12 11 55.9	-0.9
PEL				AML	AML	12 12 15.8	
	comp=E,2μm,0.6s						
CFAA	Coronel Fontan	4.85	40	P	Pn	12 12 00.8	-0.2
CFAA				S	Sn	12 12 57.0	+1.2
CFAA	Coronel Fontan	4.85	40	P	Pn	12 12 00.8	-0.2
	comp=E,0.3nm,0.3s,baz=208,slow=12,SNR=12						
CFAA				S	Sn	12 12 57.0	+1.2
	comp=E,0.8nm,0.3s,baz=122,slow=23,SNR=7.2						
PLCA	Paso Flores	5.47	169	*e*Pn	Pn	12 12 10.0	+0.7
	comp=E,17nm,0.8s						
PLCA	Paso Flores	5.47	169	P	Pn	12 12 10.3	+1.0
	comp=E,2.8nm,0.3s,baz=334,slow=12,SNR=65						
LPAZ	La Paz	19.30	11	P	Pn	12 15 12.8	+0.9
	comp=E,0.1nm,0.3s,baz=182,slow=7.0,SNR=7.8						
LPAZ				pP	pP	12 15 25.4	+1.6
	comp=E,0.1nm,0.3s,baz=163,slow=9.9,SNR=4.9						
SIV	San Ignacio	21.60	29	P	P	12 15 36.5	+1.3
	comp=E,0.9nm,0.7s,mb3.3,baz=216,slow=17,SNR=3.6						
SIV				pP		12 15 48.1	
	comp=E,3.2nm,0.8s,baz=221,slow=12,SNR=7.6						
ATAH	Atahualpa	28.85	347	P	P	12 16 42.0	-1.0
	comp=E,2.7nm,0.5s,mb4.3,baz=197,slow=11,SNR=3.5						
VNA2	Neumayer--Watz	48.72	157	*e*	P	12 19 28.2	+0.1
	baz=284,slow=8.4						
VNA2				*e*		12 19 35.5	
VNA2				*e*	pP	12 19 46.3	+1.8
SNAA	Sanae	50.29	157	*e*	P	12 19 38.1	-2.0
SNAA				*e*		12 19 44.9	
SNAA				*e*	pP	12 19 53.3	-3.2
SNAA	Sanae	50.29	157	P	P	12 19 38.8	-1.3
	comp=E,0.8nm,0.8s,mb3.8,baz=274,slow=6.4,SNR=4.7						
TXAR	Lajitas Array	70.97	331	P	P	12 22 01.9	+0.7
	comp=E,0.5nm,0.5s,mb3.7,baz=150,slow=7.8,SNR=7.7						
TXAR				pP	pP	12 22 19.6	+1.2
	comp=E,0.4nm,0.5s,baz=156,slow=8.3,SNR=5.0						
MAW	Mawson	71.85	163	P	P	12 22 06.0	-0.1
	comp=E,4.0nm,0.8s,mb4.4,baz=213,slow=7.3,SNR=9.3						
DBIC	Dimbokro	75.53	71	P	P	12 22 26.8	-1.6
	comp=E,6.7nm,1.1s,mb4.5,baz=222,slow=6.6,SNR=3.5						
BOSA	Boshof	79.35	117	P	P	12 22 51.0	+1.2
	comp=E,4.5nm,0.9s,mb4.4,baz=221,slow=5.9,SNR=4.9						
TORD	Torodi Ar. Bea	84.58	70	P	P	12 23 16.4	-0.8
	comp=E,1.3nm,0.7s,mb4.1,baz=262,slow=4.0,SNR=6.2						
TORD				pP	pP	12 23 34.9	0.0
	comp=E,0.8nm,0.9s,baz=288,slow=3.7,SNR=2.6						
TORD				sP	sP	12 23 41.5	-0.3
	comp=E,0.7nm,0.9s,baz=256,slow=3.2,SNR=3.7						
NVAR	Mina Array Bea	85.06	325	P	P	12 23 19.8	+0.7
	comp=E,0.6nm,0.8s,mb3.8,baz=153,slow=5.0,SNR=3.9						
ASAR	Alice Springs	116.40	206	PKP	PKPdf	12 29 25.7	-1.7
	comp=E,0.7nm,1.1s,baz=5.2,slow=29,SNR=4.4						
WRA	Warramunga Arr	119.62	209	PKP	PKPdf	12 29 32.3	-1.4
	comp=E,0.7nm,0.7s,baz=157,slow=1.7,SNR=9.8						

BJI ***17*** *12:12:50.2,1786S×17821W,h543km,mB4.6,mb4.4*
ISCJB ***17*** *12:12:51.5±1.1,1791S±007×17863W±005,h546km±14km, mb4.4/61,Error ellipse: s-maj=11.9km s-min=5.6km az=148.0*
NEIC ***17*** *12:12:52.6±0.8,1789S×17854W,h553km±9km,mb4.3/46, Error ellipse: s-maj=9.5km s-min=4.8km az=144.0*
IDC ***17*** *12:12:53.8±1.8,1799S×17852W,h564km±20km,mb3.9/20, mb1 4.0/20,mb1mx4.0/22,mbtmp3.9/20,Error ellipse: s-maj=12.7km s-min=11.5km az=123.0*
ISC 17 12:12:52.8±1.1,1790S±007×17860W±005,h549km±13km, h548km±3.7km:pP-P,n343,σ0§57/338,mb4.4/61,67C-92D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.67	60	*e*P	P	12 14 46.0	-1.3
	87nm,0.7s						
URZ	Urewera	20.63	190	P	P	12 16 53.6	-0.8
	7.0nm,0.6s,baz=337,slow=12,SNR=5.0						
HNR	Honiara	22.46	289	P	P	12 17 14.1	+2.9
	46nm,0.6s,mb5.3,baz=82,slow=19,SNR=3.2						
RPZ	Rata Peaks	27.18	197	P	P	12 17 51.9	-0.6
	8.1nm,0.5s,mb4.6,baz=318,slow=14,SNR=6.7						
EIDS	Eidsvold	29.10	250	*e*P	P	12 18 09.7	+0.2
	21nm,0.9s,mb4.8						
ARMA	Armidale	29.79	240	⇓*i*P	P	12 18 16.8	+1.4
CTA	Charters Tower	33.27	261	⇓*i*P	P	12 18 45.7	+0.4
	39nm,0.8s,mb5.0						
CTA	Charters Tower	33.27	261	P	P	12 18 45.9	+0.6
	34nm,0.6s,mb5.1,baz=88,slow=10,SNR=71						
CTAO	Charters Tower	33.27	261	*e*P	P	12 18 45.7	+0.4
	36nm,0.6s,mb5.1						
CNB	Canberra Magne	33.29	232	⇓*i*P	P	12 18 46.3	+1.1
	56nm,0.6s,mb5.3						
COEN	Coen	36.92	270	*e*P	P	12 19 16.6	+0.9
	26nm,0.8s,mb4.8						
TOO	Toolangi	37.03	231	⇓*i*P	P	12 19 17.1	+0.8
	584nm,0.6s						
TAU	Tasmania Unive	38.12	222	*e*P	P	12 19 25.3	+0.1
	11nm,0.7s,mb4.5						
STKA	Stephens Creek	38.47	241	⇓*i*P	P	12 19 29.2	+1.0
	34nm,0.6s,mb5.0						
STKA	Stephens Creek	38.47	241	P	P	12 19 29.2	+1.1
	41nm,0.5s,mb5.2,baz=92,slow=9.6,SNR=92						
WB2	Warramunga Arr	44.44	260	⇓*i*P	P	12 20 15.0	-0.5
WRAB	Tennant Creek	44.44	260	*e*P	P	12 20 15.0	-0.5
	34nm,0.6s,mb5.1						
WRA	Warramunga Arr	44.45	260	P	P	12 20 14.9	-0.7
	31nm,0.5s,mb5.1,baz=94,slow=7.0,SNR=975						
WRA				PcP	PcP	12 21 46.7	-0.6
	3.8nm,0.4s,baz=93,slow=3.1,SNR=5.6						
WRA				ScP	ScP	12 24 47.1	-0.1
	1.0nm,0.9s,baz=89,slow=4.7,SNR=3.9						
ASAR	Alice Springs	44.62	254	P	P	12 20 17.1	+0.3
	271nm,0.6s,baz=88,slow=8.4,SNR=3114						
ASAR				PcP	PcP	12 21 47.0	-0.7
	6.4nm,0.5s,baz=91,slow=4.2,SNR=5.9						
ASAR				ScP	ScP	12 24 47.6	-0.3
	1.7nm,1.0s,baz=128,slow=3.2,SNR=4.8						
KAKA	Kakadu	47.40	269	*e*P	P	12 20 37.4	-0.7
	72nm,0.4s,mb5.5						
FORT	Forrest	49.85	245	⇓*i*P	P	12 20 55.4	-0.6
	61nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	52.85	261	⇓*i*P	P	12 21 18.0	+0.1
	10.0nm,0.2s,mb4.8						
FITZ	Fitzroy Crossi	52.85	261	P	P	12 21 18.0	+0.1
	6.9nm,0.3s,mb4.5,baz=150,slow=5.0,SNR=92						
BATI	Kupang	56.35	270	P	P	12 21 43.9	+1.4
	26nm,0.4s,mb4.8,baz=135,slow=4.6,SNR=8.0						
MBWA	Marble Bar	57.90	256	*e*P	P	12 21 52.1	-0.8
	19nm,0.4s,mb4.7						
KLBR	Kellerberrin	58.67	244	⇓*i*P	P	12 21 57.0	-1.0
	33nm,0.6s,mb4.8						
NWAO	Narrogin (SRO)	59.05	242	*e*P	P	12 22 00.1	-0.5
	9.4nm,0.7s,mb4.1						
NWAO	Narrogin (SRO)	59.05	242	P	P	12 21 59.0	-1.5
	7.3nm,0.5s,mb4.1,baz=70,slow=3.0,SNR=11						
MUN	Mundaring	59.96	243	*e*P	P	12 22 06.1	-0.5
SBA	Scott Base	60.42	184	*e*P	P	12 22 09.6	+0.8
	3.6nm,0.5s,mb4.0						
VNDA	Vanda	60.44	185	*e*P	P	12 22 09.0	+0.1
	2.6nm,0.8s,mb3.6						
VNDA	Vanda	60.44	185	P	P	12 22 09.3	+0.4
	1.5nm,0.5s,mb3.6,baz=5.7,slow=5.9,SNR=10						
MJAR	Matsushiro Arr	67.79	323	P	P	12 22 55.8	-0.4
	1.8nm,0.4s,mb4.0,baz=152,slow=6.0,SNR=8.1						
MAJO	Matsushiro	67.79	323	*e*P	P	12 22 54.8	-1.4
	4.3nm,0.7s,mb4.2						
QSPA	South Pole Qui	72.16	180	*e*P	P	12 23 21.2	-0.3
	15nm,0.9s,mb4.4						
QSPA	South Pole Qui	72.16	180	P	P	12 23 21.3	-0.1
	12nm,0.7s,mb4.4,baz=43,slow=0.8,SNR=17						
UNV	Unalaska Valle	72.20	7	*e*P	P	12 23 20.1	-1.9
	13nm,0.5s,mb4.6						
KSM	Kuching	72.50	277	*e*P	P	12 23 25.1	+0.4
KSRS	Korea Array	74.57	318	P	P	12 23 36.6	+0.7
	0.8nm,0.5s,baz=138,slow=6.3,SNR=4.9						
HAST	Hastings Reser	76.26	44	⇑P	P	12 23 45.1	-0.2
	baz=76,SNR=5.2						
PACP	Pacheco Peak	76.79	44	⇑P	P	12 23 48.3	+0.1
	baz=77						
P01C	Double 8 Ranch	76.90	41	⇓P	P	12 23 48.6	-0.2
	baz=77						
O01C	Eel River Cons	77.01	40	⇑P	P	12 23 49.1	-0.2
	baz=77						
S04C	Ingram Canyon,	77.04	43	⇑P	P	12 23 49.5	-0.1
	baz=77						
Q03C	Winters	77.25	42	⇓P	P	12 23 50.8	+0.1
	baz=77						
GASB	Alder Springs	77.40	41	⇓P	P	12 23 51.8	+0.3
	baz=78						
S05C	Merced	77.61	44	⇓P	P	12 23 52.9	+0.2
	baz=78						
VES	Vestal, Richgr	77.62	46	⇑P	P	12 23 52.5	-0.3
	baz=78						
O02C	Red Bluff	77.66	40	⇑P	P	12 23 52.7	-0.1
	baz=78						
MURC	Murrieta	77.75	49	⇓P	P	12 23 53.8	+0.3
	baz=78						
BFSC	Mount Baldy St	77.76	48	P	P	12 23 53.2	-0.3
	baz=78,SNR=5.9						
T06C	Millerton Lake	77.83	45	P	P	12 23 53.6	-0.3
	baz=78,SNR=5.4						
EDW2	Edwards Air Fo	77.86	47	P	P	12 23 54.2	+0.1
	baz=78,SNR=10.0						
MONP	Monument Peak	77.95	50	P	P	12 23 55.0	+0.5
	baz=78,SNR=13						
CMB	Columbia Colle	77.96	43	*e*P	P	12 23 53.7	-0.8
	10nm,1.0s,mb4.1						
CMB	Columbia Colle	77.96	43	P	P	12 23 54.4	-0.2
	baz=78,SNR=5.4						
WDC	Whiskeytown Da	78.05	40	⇓P	P	12 23 55.6	+0.6
	baz=78						
DVTC	Desert V Tower	78.06	50	P	P	12 23 55.6	+0.3
	baz=78,SNR=9.9						
ORV	Oroville	78.11	42	⇑P	P	12 23 55.0	-0.2
	baz=78						
HELL	Mitchell Peak	78.12	45	⇓P	P	12 23 54.9	-0.5
	baz=78						
LAVA	Lava Cap Winer	78.13	43	⇓P	P	12 23 55.2	-0.3
	baz=78						
S06C	San Francisco	78.22	44	⇑P	P	12 23 55.8	-0.1
	baz=78						
KCC	Kaiser Creek	78.27	44	P	P	12 23 56.5	+0.3
	baz=78,SNR=5.2						
PFO	Pinyon Flat Ob	78.29	49	⇓P	P	12 23 56.4	0.0
	baz=78						
M02C	Callahan	78.34	39	⇑P	P	12 23 56.6	+0.1
	baz=78						
L02A	Cave Junction	78.35	38	⇓P	P	12 23 56.4	-0.1
	baz=78						
LRMC	Laurel Mountai	78.39	47	⇑P	P	12 23 56.8	-0.1
	baz=78						
SWSC	Sam W. Stewart	78.43	50	⇓P	P	12 23 57.2	0.0
	baz=78						
P05C	Yuba Gap, Truc	78.53	42	⇓P	P	12 23 57.4	-0.2
	baz=79						
R05C	Kirkwood Meado	78.53	43	P	P	12 23 57.8	+0.2
	baz=79,SNR=6.0						
CWC	Cottonwood Cre	78.63	46	⇓P	P	12 23 58.4	+0.2
	baz=79						
YBH	Yreka Blue Hor	78.63	39	*e*P	P	12 23 58.0	-0.1
	6.4nm,0.8s,mb4.0						
YBH	Yreka Blue Hor	78.63	39	P	P	12 23 58.3	+0.3
	9.7nm,0.7s,mb4.2,baz=187,slow=2.2,SNR=17						
YBH	Yreka Blue Hor	78.63	39	P	P	12 23 58.6	+0.5
	baz=79,SNR=9.2						
O05C	Quincy	78.71	41	⇓P	P	12 23 58.6	+0.1
	baz=79						
K02A	Glendale	78.79	38	⇓P	P	12 23 59.0	+0.2
	baz=79						
O04C	Chester	78.81	41	⇓P	P	12 23 59.2	+0.2
	baz=79,SNR=5.9						
BELC	Belle Mtn.	78.81	49	P	P	12 23 59.4	+0.2
	baz=79,SNR=6.5						
MPMC	Manual Prospec	78.83	46	P	P	12 23 59.4	+0.2
	baz=79,SNR=6.5						
R06C	Coleville	78.84	43	⇑P	P	12 23 59.5	+0.3
	baz=79						
HATC	Hat Creek Radi	78.86	41	⇑P	P	12 23 59.5	+0.2
	baz=79						
R07C	Lee Vining	78.87	44	⇑P	P	12 23 59.8	+0.4
	baz=79						
GSC	Goldstone	78.91	47	⇑P	P	12 23 59.7	+0.1
	baz=79						
HEC	Hector,Ludlow	79.00	48	⇓P	P	12 24 00.1	-0.1
	baz=79						
BEKR	Beckwourth	79.01	42	P	P	12 24 00.2	+0.1
	baz=79,SNR=10						
HUMO	Hull Mountain	79.01	38	⇑P	P	12 24 00.2	+0.2
	baz=79						
BC3	Big Chuckw Mtn	79.03	49	⇑P	P	12 24 00.7	+0.3
	baz=79						
WCN	Washoe City	79.08	43	P	P	12 24 00.9	+0.4
	baz=79,SNR=8.4						
J02A	Umpqua	79.10	37	⇓P	P	12 24 00.4	-0.1
	baz=79						
S08C	White Mtn Res	79.13	45	P	P	12 24 01.4	+0.7
	baz=79,SNR=14						
GLA	Glamis	79.19	50	*e*P	P	12 24 01.5	+0.3
	7.2nm,0.9s,mb4.0						
GLA	Glamis	79.19	50	⇓P	P	12 24 02.0	+0.8
	baz=79						
M04C	Macdoel	79.19	40	⇑P	P	12 24 01.0	0.0
	baz=79						
I02A	Mapleton	79.34	37	⇓P	P	12 24 01.9	+0.1
	baz=80						
M05C	Lookout	79.37	40	P	P	12 24 02.2	+0.3
	baz=80,SNR=9.0						
L04A	Klamath Falls	79.39	39	P	P	12 24 02.5	+0.5
	baz=80,SNR=5.3						
GRAC	Grapevine Rang	79.41	46	⇓P	P	12 24 02.5	+0.2
	baz=80						
GMRC	Granite Mounta	79.45	48	⇑P	P	12 24 02.6	+0.1
	baz=80						
J03A	Ideyld Park	79.46	38	⇓P	P	12 24 02.3	-0.1
	baz=80						
FURC	Furnace Creek,	79.48	46	⇑P	P	12 24 02.7	+0.1
	baz=80						
IRM	Iron Mountain	79.50	49	⇓P	P	12 24 03.4	+0.5
	baz=80						
O06A	Flanigan	79.51	42	P	P	12 24 02.8	0.0
	baz=80,SNR=16						
NVAR	Mina Array Bea	79.54	44	P	P	12 24 03.0	+0.1
	8.2nm,0.8s,mb4.1,baz=224,slow=8.8,SNR=51						
TUQ	Turquoise Mtn.	79.60	48	⇑P	P	12 24 03.7	+0.4
	baz=80						
M06C	Likely Place G	79.69	41	⇑

115A	Sonoran Desert baz=81	80.94	51	⇓P	P	12 24 10.9	+0.5
Y14A	Wickenburg baz=81	80.95	50	⇓P	P	12 24 10.6	+0.3
T11A	Corn Creek, Al baz=81,SNR=16	81.00	46	P	P	12 24 10.9	+0.3
Q10A	Clear Creek Ra baz=81,SNR=7.5	81.02	44	P	P	12 24 10.5	-0.1
E03A	Lebam baz=81	81.05	35	⇑P	P	12 24 09.8	-0.8
J06A	Christmas Vall baz=81,SNR=8.8	81.06	39	P	P	12 24 10.5	-0.2
U12A	Valley of Fire baz=81,SNR=5.6	81.07	47	P	P	12 24 11.3	+0.4
M08A	Happy Creek Ra baz=81,SNR=7.0	81.14	41	P	P	12 24 11.6	+0.5
V13A	Grand Canyon W baz=81,SNR=5.2	81.17	48	P	P	12 24 11.7	+0.2
O09A	Fish Creek Ran baz=81	81.21	43	⇑P	P	12 24 11.7	+0.2
H05A	Madras baz=81	81.23	37	⇓P	P	12 24 11.3	-0.3
116A	Eloy baz=81	81.26	52	⇑P	P	12 24 12.7	+0.7
X14A	Yava baz=81,SNR=12	81.28	50	P	P	12 24 12.7	+0.6
K07A	Rock Creek Ran baz=81,SNR=12	81.29	40	P	P	12 24 12.2	+0.3
F04A	Amboy baz=81	81.31	36	⇓P	P	12 24 11.7	-0.2
R11A	Troy Canyon, C baz=81	81.32	45	⇓P	P	12 24 12.2	0.0
BMN	Battle Mountai 2.5nm,0.6s,mb3.8	81.33	43	eP	P	12 24 12.3	+0.2
N09A	Rock Creek Ran baz=82,SNR=5.6	81.36	42	P	P	12 24 12.6	+0.3
P10A	Eureka baz=82	81.39	44	⇑P	P	12 24 12.6	+0.1
NLWA	Neilton Lookou baz=82	81.41	34	⇓P	P	12 24 11.8	-0.6
I06A	Prineville baz=82,SNR=16	81.42	38	P	P	12 24 13.0	+0.5
S12A	Delamar Landin baz=82,SNR=17	81.44	46	P	P	12 24 13.7	+0.8
Y15A	Casa Rosa Ranc baz=82,SNR=10	81.45	50	P	P	12 24 13.4	+0.4
U13A	Pakoon Wash baz=82,SNR=17	81.46	47	P	P	12 24 13.3	+0.3
W14A	Seligman baz=82,SNR=12	81.50	49	P	P	12 24 13.9	+0.7
WVOR	Wild Horse Val 12nm,1.0s,mb4.3	81.52	40	eP	P	12 24 12.7	-0.4
Q11A	Duckwater baz=82,SNR=12	81.53	45	P	P	12 24 13.3	+0.1
L08A	Fields baz=82,SNR=22	81.56	41	P	P	12 24 13.7	+0.4
217A	Green Valley baz=82	81.57	53	⇓P	P	12 24 14.5	+0.9
J07A	Hines baz=82,SNR=10	81.63	39	P	P	12 24 13.9	+0.2
V14A	Boquillas Ranc baz=82,SNR=16	81.69	49	P	P	12 24 14.7	+0.6
M09A	Marrel Ranch, baz=82,SNR=6.0	81.71	42	P	P	12 24 14.7	+0.5
O10A	Cortez Mining, baz=82	81.72	43	⇓P	P	12 24 14.0	-0.1
X15A	Humboldt baz=82,SNR=8.6	81.77	50	P	P	12 24 15.2	+0.6
K08A	Mann Creek Ran baz=82,SNR=14	81.78	40	P	P	12 24 14.8	+0.4
H06A	Lindquist Farm baz=82,SNR=12	81.80	38	P	P	12 24 14.4	0.0
T13A	Saint George baz=82,SNR=6.2	81.80	47	P	P	12 24 15.1	+0.5
F05A	White Salmon baz=82	81.82	36	⇑P	P	12 24 14.3	-0.2
P11A	Circle Ranch, baz=82	81.82	44	⇑P	P	12 24 14.7	0.0
TUC	Tucson 7.0nm,1.0s,mb4.0	81.84	52	eP	P	12 24 15.4	+0.5
L09A	Wilkinson Ranc baz=82,SNR=5.6	81.89	41	P	P	12 24 15.3	+0.3
G06A	Carlson Farm, baz=82	81.91	37	⇑P	P	12 24 14.8	-0.3
I07A	Izee baz=82,SNR=22	81.91	39	P	P	12 24 15.2	+0.1
N10A	Dunphy baz=82	81.94	43	⇓P	P	12 24 15.8	+0.5
R12A	Pony Springs, baz=82,SNR=5.1	81.97	46	⇓P	P	12 24 15.5	0.0
117A	Oracle baz=82,SNR=5.2	81.99	52	P	P	12 24 16.4	+0.6
U14A	Mt Trumbull baz=82,SNR=25	82.02	48	P	P	12 24 16.5	+0.7
Y16A	Circle Bar Ran baz=82,SNR=5.2	82.04	51	⇑P	P	12 24 16.3	+0.3
318A	Bisbee baz=82,SNR=7.6	82.05	53	P	P	12 24 16.9	+0.8
E05A	Randle baz=82	82.05	36	⇓P	P	12 24 15.1	-0.6
W15A	Williams baz=82	82.07	49	⇓P	P	12 24 16.5	+0.4
C04A	Brinnon baz=82	82.09	34	⇑P	P	12 24 15.5	-0.4
S13A	Holt Ranch, En baz=82,SNR=6.3	82.11	47	⇓P	P	12 24 16.5	+0.2
J08A	Circle Bar Ran baz=82,SNR=9.7	82.13	40	P	P	12 24 16.3	+0.1
H07A	Lands Inn, Kim baz=82,SNR=11	82.17	38	P	P	12 24 16.4	0.0
Q12A	Willow Creek R baz=82	82.18	45	⇓P	P	12 24 16.4	-0.1
O11A	Cowboy Ranch, baz=82,SNR=7.7	82.19	44	P	P	12 24 16.9	+0.4
K09A	Rome baz=82,SNR=21	82.23	41	⇓P	P	12 24 16.7	0.0
218A	Dragoon baz=82,SNR=8.9	82.25	53	P	P	12 24 17.9	+0.9
D05A	Enumclaw baz=82	82.30	35	⇓P	P	12 24 17.0	0.0
X16A	Lo Mia Camp, P baz=82,SNR=14	82.32	50	P	P	12 24 18.1	+0.7
M10A	I.L. Ranch, Tu baz=82,SNR=16	82.34	42	P	P	12 24 17.8	+0.5
P12A	McGill baz=82,SNR=5.4	82.34	44	⇓P	P	12 24 17.2	-0.2
I08A	Drewsey baz=82,SNR=11	82.38	39	P	P	12 24 17.6	+0.1
T14A	Hurricane baz=82,SNR=5.8	82.39	47	⇑P	P	12 24 18.0	+0.3
Y17A	Roosevelt baz=82	82.42	51	⇓P	P	12 24 18.4	+0.5
CCUT	Cedar City	82.44	47	eP	P	12 24 18.0	+0.1
V15A	Kaibab Nationa baz=82,SNR=10	82.44	49	P	P	12 24 18.7	+0.8
E06A	Yakima baz=83	82.48	36	⇓P	P	12 24 17.8	-0.1
G07A	Ruggs Ranch, H baz=83,SNR=5.6	82.49	38	P	P	12 24 17.8	-0.2
TTA	Tatalina 9.8nm,1.0s,mb4.2	82.50	10	eP	P	12 24 16.7	-0.8
J09A	Fry Pan Ranch, baz=83,SNR=9.9	82.56	40	⇓P	P	12 24 18.4	0.0
W16A	Flagstaff baz=83	82.57	50	⇓P	P	12 24 19.0	+0.4
319A	Douglas baz=83,SNR=6.6	82.57	54	⇓P	P	12 24 19.5	+0.8
118A	Homack Ranch, baz=83,SNR=6.1	82.60	52	P	P	12 24 19.5	+0.6
PMR	Palmer 8.2nm,0.7s,mb4.4	82.64	14	eP	P	12 24 19.4	+1.1
H08A	Prairie City baz=83,SNR=5.6	82.65	39	P	P	12 24 18.6	-0.2
S14A	Cedar City baz=83	82.67	47	⇓P	P	12 24 19.4	+0.3
L10A	Juniper Basin baz=83,SNR=15	82.68	42	P	P	12 24 19.1	+0.2
Q13A	Wheeler Ranch, baz=83,SNR=13	82.68	45	P	P	12 24 19.1	0.0
F07A	Phinny Hill Vi baz=83	82.70	37	⇑P	P	12 24 18.7	-0.2
C05A	Tolt Reservoir baz=83	82.76	35	⇓P	P	12 24 19.0	-0.3
M11A	Holland Ranch, baz=83,SNR=5.5	82.77	42	P	P	12 24 19.9	+0.5
K10A	MacKenzie Ranc baz=83,SNR=7.2	82.80	41	P	P	12 24 19.7	+0.1
O12A	Currie	82.86	44	P	P	12 24 19.9	0.0
	baz=83,SNR=7.4						
219A	White Tail Can baz=83,SNR=6.0	82.86	53	P	P	12 24 20.7	+0.5
T15A	Red Dirt Ranch baz=83,SNR=11	82.86	48	P	P	12 24 20.3	+0.2
WUAZ	Wupatki baz=83	82.88	49	⇓P	P	12 24 20.8	+0.7
B05A	Bryant baz=83	82.89	34	⇓P	P	12 24 19.5	-0.4
I09A	Lost Marbles R baz=83	82.91	39	⇓P	P	12 24 19.9	-0.2
G08A	Pilot Rock baz=83,SNR=9.5	82.91	38	⇑P	P	12 24 19.7	-0.4
D06A	Cle Elum baz=83	82.93	36	⇑P	P	12 24 19.7	-0.4
P13A	Bates Ranch, G baz=83,SNR=12	82.93	45	P	P	12 24 20.5	+0.2
N12A	Clover Valley, baz=83,SNR=7.9	82.96	43	P	P	12 24 20.6	+0.2
Y18A	Canyon Day Jun baz=83,SNR=6.9	83.06	51	P	P	12 24 22.0	+0.9
119A	Ashpeak Ranch, baz=83	83.16	53	⇓P	P	12 24 22.2	+0.6
L11A	Cat Creek Ranc baz=83,SNR=11	83.18	42	⇓P	P	12 24 21.6	+0.1
J10A	Berg Farm, Mel baz=83	83.21	40	⇓P	P	12 24 21.4	-0.2
K11A	Parker Ranch, baz=83,SNR=9.1	83.32	41	⇑P	P	12 24 22.3	+0.1
M12A	Wells baz=83,SNR=7.6	83.33	43	⇓P	P	12 24 22.2	0.0
H09A	Durkee baz=83,SNR=7.3	83.33	39	P	P	12 24 22.1	-0.1
D07A	Quincy baz=84	83.42	36	⇑P	P	12 24 22.2	-0.3
X18A	Snowflake baz=84	83.46	51	⇑P	P	12 24 23.5	+0.4
T16A	Glen Canyon Da baz=84	83.47	48	⇑P	P	12 24 23.2	+0.1
E08A	Dider Farm, El baz=84	83.53	37	⇑P	P	12 24 22.7	-0.4
I10A	Payette baz=84	83.54	40	⇑P	P	12 24 23.5	+0.2
L12A	House Creek Ra baz=84	83.64	42	⇓P	P	12 24 24.0	+0.2
C07A	Waterville baz=84,SNR=6.0	83.65	35	⇓P	P	12 24 23.0	-0.7
MSU	Marysvale	83.72	46	eP	P	12 24 24.8	+0.6
Y19A	Nutrioso baz=84,SNR=6.2	83.72	51	⇑P	P	12 24 25.1	+0.7
MFID	Camas Ranch baz=84,SNR=8.0	83.78	41	P	P	12 24 24.4	-0.1
M13A	Montello baz=84,SNR=7.9	83.79	43	P	P	12 24 24.9	+0.4
MAW	Mawson 6.1nm,0.6s,mb4.3	83.81	200	eP	P	12 24 23.5	-0.7
MAW	Mawson 4.8nm,0.5s,mb4.3,baz=137,slow=5.3,SNR=16	83.81	200	P	P	12 24 23.6	-0.6
H10A	Noah's Angus R baz=84,SNR=12	83.84	39	P	P	12 24 24.2	-0.5
X19A	St. Johns baz=84	83.91	51	⇓P	P	12 24 26.3	+1.0
D08A	Wollman Farm, baz=84,SNR=5.9	83.93	36	P	P	12 24 24.9	-0.2
K12A	Draper Farm, C baz=84	83.96	42	⇑P	P	12 24 25.4	0.0
I11A	Placerville baz=84,SNR=9.0	83.97	40	P	P	12 24 25.3	-0.1
G10A	Bishop Farm, J baz=84,SNR=5.3	84.00	39	P	P	12 24 25.1	-0.4
B07A	Winthrop baz=84,SNR=6.7	84.07	35	P	P	12 24 25.3	-0.4
DUG	Dugway baz=84	84.10	45	⇑P	P	12 24 26.6	+0.4
J12A	Stokes Ranch, baz=84,SNR=5.8	84.15	41	P	P	12 24 26.5	+0.2
N14A	Grayback Hills baz=84	84.17	44	⇑P	P	12 24 26.7	+0.3
A07A	Ashnola River, baz=84	84.27	34	⇑P	P	12 24 26.4	-0.3
C08A	Higginbotham F baz=84	84.27	36	⇓P	P	12 24 26.4	-0.4
D09A	Jones Farm, Ri baz=84,SNR=5.2	84.28	37	P	P	12 24 26.6	-0.2
F10A	Beach Ranch, E baz=84,SNR=12	84.31	38	P	P	12 24 26.4	-0.5
H11A	Donnelly baz=84,SNR=7.8	84.35	40	⇑P	P	12 24 27.0	-0.2
M14A	Sheep Mountain baz=84,SNR=8.6	84.39	43	P	P	12 24 27.5	0.0
B08A	Colville Reser baz=85,SNR=7.3	84.44	35	⇓P	P	12 24 26.5	-1.1
K13A	Stover Farm, H baz=85	84.49	42	⇓P	P	12 24 28.2	+0.3
G11A	Walters Elk Ra baz=85,SNR=9.4	84.56	39	⇓P	P	12 24 27.6	-0.7
C09A	Chrisman Ranch baz=85	84.71	36	⇑P	P	12 24 28.4	-0.6
HLID	Hailey baz=85,SNR=12	84.74	41	P	P	12 24 29.5	+0.3
A08A	Turner Farm, O baz=85,SNR=7.0	84.81	35	⇓P	P	12 24 28.9	-0.5
J13A	Cove Ranch, Pi baz=85,SNR=9.5	84.81	41	P	P	12 24 29.9	+0.4
D10A	Wagner Farm, O baz=85,SNR=5.8	84.86	37	P	P	12 24 28.9	-0.8
GYA	Guiyang	84.87	300	P	P	12 24 30.0	-0.2
GYA				AP	pP	12 26 30.8	+1.6
GYA				XP	sP	12 27 24.8	0.0
GYA				PP	PP	12 27 59.4	+2.2
GYA				SKS		12 34 01.3	
GYA				S	S	12 34 12.6	-0.8
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.3						
F11A	Grangeville baz=85	84.89	38	⇓P	P	12 24 28.5	-1.4
M15A	Larsen Ranch, baz=85	84.96	44	⇓P	P	12 24 29.7	-0.6
H12A	Diamond D Ranc baz=85,SNR=11	84.97	40	⇑P	P	12 24 29.7	-0.6
K14A	Jones Ranch, D baz=85	85.02	42	⇑P	P	12 24 30.5	0.0
I13A	Wildhorse Cree baz=85	85.11	41	⇓P	P	12 24 31.3	+0.3
E11A	Bogner Ranch, baz=85	85.11	38	⇑P	P	12 24 30.3	-0.5
B09A	Rice baz=85	85.13	36	⇑P	P	12 24 30.3	-0.6
SRU	San Rafael comp=Z,3.4nm,0.7s,mb4.0	85.14	46	eP	P	12 24 30.8	-0.5
A09A	Danville baz=85	85.19	35	⇑P	P	12 24 31.0	-0.2
H13A	Challis baz=86,SNR=5.6	85.35	40	P	P	12 24 32.4	+0.3
F12A	Elk City baz=86,SNR=18	85.36	39	P	P	12 24 31.7	-0.4
D11A	Klaveano Farm, baz=86	85.40	37	⇓P	P	12 24 31.9	-0.4
NEW	Newport comp=Z,3.9nm,0.7s,mb4.2	85.61	36	eP	P	12 24 31.8	-1.4
HWUT	Hardware Ranch	85.61	44	eP	P	12 24 32.5	-0.9
G13A	Cobalt baz=86	85.63	40	⇓P	P	12 24 33.0	-0.5
COLA	College comp=Z,6.3nm,0.9s,mb4.2	85.80	13	eP	P	12 24 31.1	-2.6
F13A	Darby baz=86,SNR=7.5	85.93	39	P	P	12 24 34.4	-0.5
D12A	Red Ives Fores baz=86	85.98	38	⇑P	P	12 24 34.7	-0.3
B11A	Sandpoint baz=86	86.13	36	⇓P	P	12 24 35.1	-0.6
TXAR	Lajitas Array comp=Z,6.9nm,0.7s,mb4.4,baz=221,slow=5.5,SNR=75	86.14	58	P	P	12 24 37.0	+0.7
ANMO	Albuquerque comp=Z,4.1nm,1.1s,mb4.0	86.23	52	eP	P	12 24 35.5	-1.0
E13A	Victor baz=86	86.35	39	⇑P	P	12 24 35.9	-0.9
MCMT	McKenzie Canyo	86.35	41	eP	P	12 24 36.9	+0.1
BILL	Bilibino comp=Z,1.1nm,0.4s,mb3.8	86.40	354	eP	P	12 24 36.5	-0.1
A11A	Hall Mountain, baz=86	86.41	36	⇑P	P	12 24 36.4	-0.7
D13A	Huson baz=87	86.52	38	⇓P	P	12 24 36.8	-0.8
G15A	Dillon baz=87,SNR=6.2	86.74	40	⇓P	P	12 24 38.5	-0.2
E14A	Clinton baz=87,SNR=5.8	86.75	39	P	P	12 24 38.4	-0.3
C13A	Hot Springs baz=87	86.75	37	⇓P	P	12 24 37.4	-1.3
TPAW	Teton Pass	86.90	42	eP	P	12 24 39.2	-0.2
REDW	Red Top Meadow comp=Z,11nm,1.0s,mb4.4	86.91	43	eP	P	12 24 39.2	-0.3
SNOW	Snow King Moun comp=Z,8.9nm,0.5s,mb4.7	87.02	42	eP	P	12 24 40.1	+0.1
F15A	Butte baz=87	87.07	40	⇑P	P	12 24 40.0	-0.2
D14A	Greenough baz=87	87.07	38	⇑P	P	12 24 39.1	-1.1
IMW	Indian Meadow comp=Z,13nm,1.0s,mb4.5	87.10	42	eP	P	12 24 39.4	-1.0
HHC	Hu-ho-hao-te	87.14	315	eP	P	12 24 42.1	+1.4
HHC				AP	pP	12 26 41.3	+0.8
HHC				XP	sP	12 27 35.8	-0.1
HHC				PP	PP	12 28 19.1	+4.2
HHC				SKS		12 34 17.3	
HHC				S	S	12 34 36.3	+2.0
HHC				XS	sS	12 38 07.0	-0.8
HHC				SS	SS	12 40 40.1	+5.1
HHC				AMB	AMB		
	comp=Z,25nm,1.1s,mb4.8						
HHC				AMB	AMB		
	comp=Z,171nm,4.5s						
MOOW	Moose Ponds comp=Z,2.5nm,0.8s,mb3.9	87.16	42	eP	P	12 24 40.1	-0.5
B13A	Whitefish baz=87	87.17	37	⇓P	P	12 24 39.9	-0.7
LOHW	Long Hollow comp=Z,3.1nm,0.6s,mb4.1	87.18	42	eP	P	12 24 40.4	-0.4
QLMT	Earthquake Lak	87.23	41	eP	P	12 24 41.3	+0.3
EGAK	Eagle comp=Z,2.2nm,0.6s,mb4.0	87.25	15	eP	P	12 24 39.2	-1.4
E15A	Deer Lodge baz=87	87.26	39	⇓P	P	12 24 40.6	-0.5
C14A	Swan Lake baz=87	87.28	38	⇑P	P	12 24 40.2	-1.0
FLWY	Flagg Ranch comp=Z,9.6nm,1.0s,mb4.4	87.34	42	eP	P	12 24 41.6	0.0
BOZ	Bozeman (W) comp=Z,3.6nm,1.2s,mb4.0	87.50	40	eP	P	12 24 42.0	-0.3
BOZ	Bozeman (W) baz=88	87.50	40	⇓P	P	12 24 42.1	-0.1
D15A	Lincoln baz=88	87.64	39	⇑P	P	12 24 42.6	-0.3
SMCO	Snowmass comp=Z,2.0nm,0.7s,mb4.0	87.64	48	eP	P	12 24 42.8	-0.3
KMI	Kunming	87.66	297	P	P	12 24 44.9	+1.4
KMI				AMB	AMB		
	comp=Z,7.0nm,1.1s,mb4.3						
HRY	Holter Researc	87.89	39	eP	P	12 24 43.2	-0.9
SDCO	Great Sand Dun comp=Z,1.2nm,0.8s,mb3.7	88.10	49	eP	P	12 24 44.6	-0.6
CD2	Chengdu	88.91	303	eP	P	12 24 49.8	+0.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.7						
SYO	Syowa Base	89.12	193	⇑eX		12 24 46.2	
SNAA	Sanae	90.61	179	eP	P	12 24 53.0	-3.3
SNAA				e		12 24 54.1	
SNAA				e		12 24 55.1	
SNAA	Sanae	90.61	179	P	P	12 24 54.6	-1.7
	comp=Z,0.9nm,0.6s,mb3.9,baz=221,slow=5.9,SNR=11						
LZH	Lanzhou	90.74	308	eP	P	12 24 59.0	+1.5
LZH				AP	pP	12 26 59.1	+0.9
LZH				XP	sP	12 27 52.5	-0.8
LZH				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.7						
LZH				AMB	AMB		
	comp=Z,65nm,4.3s						
VNA3	Neumayer Olymp	90.76	176	eP	P	12 24 55.7	-1.3
VNA3				e		12 24 56.8	
VNA3				e		12 24 58.6	
VNA2	Neumayer--Watz baz=201,slow=4.5	91.20	177	eP	P	12 24 58.0	-1.0
VNA2				e		12 24 59.0	
VNA2				e		12 25 00.0	
RSSD	Black Hills comp=Z,1.7nm,0.6s,mb4.2	91.69	44	eP	P	12 25 01.2	-0.5
INK	Inuvik comp=Z,122nm,1.0s	91.93	15	eP	P	12 25 00.8	-1.4
SONM	Songino Array	93.42	319	P	P	12 25 09.2	-0.3
	comp=Z,0.3nm,0.3s,mb3.8,baz=121,slow=3.4,SNR=3.9						
YKA	Yellowknife Ar	94.40	25	P	P	12 25 12.3	-1.3
	comp=Z,0.8nm,0.5s,mb4.1,baz=238,slow=4.6,SNR=23						
MKAR	Makanchi Array	109.00	314	PKiKP	PKiKP	12 30 18.1	-2.0
	comp=Z,0.4nm,0.4s,baz=88,slow=0.7,SNR=6.1						
MLR	Muntele Rosu	145.73	329	PKPbc	PKPbc	12 31 30.2	-0.4
	comp=Z,1.8nm,0.5s,baz=0.5,slow=12,SNR=4.1						
GERES	GERESS Array B	147.56	345	PKPbc	PKPbc	12 31 34.8	-0.6
	comp=Z,0.8nm,0.5s,baz=24,slow=3.9,SNR=7.4						
TORD	Torodi Ar. Bea	175.27	183	PKP	PKPdf	12 31 57.8	-2.9
	comp=Z,0.6nm,0.9s,baz=348,slow=2.9,SNR=2.9						

SGS ***17*** *12:34:38.0,3001N×3636E,h6km*
GII ***17*** *12:34:38.8±1.1,2989N×3623E,h0km,ML2.2/2*
HLW ***17*** *12:34:39.6,2971N×3661E,h25km,Mb2.9*
CSEM ***17*** *12:34:40.0±0.6,2970N×3627E,h10km,ML2.9,Error ellipse: s-maj=13.5km s-min=7.3km az=65.0*

ISC 17 12:34:37.5±0.9,2985N±003×3637E±005,h0km,n19, σ0:91/31,2C-4D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.17	280	Pg	Pg	12 34 59.2	-0.7
HRFI				Sg	Sg	12 35 15.7	+0.5
EIL	Elat	1.24	262	Pg	Pg	12 35 01.5	+0.1
EIL				Sg	Sg	12 35 18.1	+0.6
ZFRI	Zfri	1.25	305	Pg	Pn	12 35 00.5	-1.7
ZFRI				Sg	Sg	12 35 17.6	-0.1
HQLS		1.26	245	P	Pg	12 35 01.2	-0.5
HQLS				S	Sg	12 35 18.7	+0.7
MBH	Mount Berech	1.26	268	Pg	Pn	12 35 01.1	-1.3
MBH				Sg	Sg	12 35 17.7	-0.4
PRNI	Paran	1.28	293	Pg	Pn	12 35 01.2	-1.5
PRNI				Sg	Sg	12 35 18.1	-0.7
JLOS		1.34	215	P	Pg	12 35 03.3	0.0
JLOS		1.34	215	P	Pg	12 35 03.3	0.0
JLOS				S	Sg	12 35 22.2	+1.4
HBST	Basata	1.56	247	⇑P	Pn	12 35 06.8	+0.3
MZDA	Masada	1.70	330	Pn	Pn	12 35 08.5	+0.1
MZDA				Sn	Sn	12 35 31.2	+0.4
HDHB	Dhahab	1.89	234	⇓P	Pn	12 35 10.3	-0.8
DSI	Dead Sea	1.92	334	Pn	Pn	12 35 12.5	+1.0
DSI				Sn	Sn	12 35 36.9	+0.7
KZIT	Kziot	2.00	302	Sn	Sn	12 35 37.8	-0.7
RSHS		2.06	222	P	Pn	12 35 13.1	-0.4
HNKL	Nakhl	2.08	273	⇓eP	Pn	12 35 14.6	+1.0
HNKL				S	Sn	12 35 40.5	+0.4
HKAT	Jabal Katrina	2.46	238	⇑eP	Pn	12 35 18.7	-0.2
HKAT				S	Sn	12 35 47.7	-1.9
TR2		2.73	238	⇓P	Pn	12 35 22.3	-0.3
AMAG	Maghara	2.85	287	⇓P	Pn	12 35 25.9	+1.7
AMAG				S	Sn	12 35 59.5	+0.3
SUZ		3.07	271	P	Pn	12 35 29.2	+1.9

IDC 17 12:45:46.9±11.0,124N×9693W,h0km,mb3.5/3, mb1 3.9/3,mb1mx3.7/16,mbtmp3.5/3,MS3.4/1,Ms1 3.4/1, ms1mx2.8/21,Error ellipse: s-maj=247.1km s-min=178.0km az=28.0,West of Galapagos Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	La Paz	26.16	331	LR	LR	12 58 22.2	
	comp=Z,97nm,21.7s,baz=80,slow=29						
TXAR	Lajitas Array	28.66	348	P	P	12 51 45.7	+0.1
	0.4nm,0.9s,baz=158,slow=7.6,SNR=3.3						
NVAR	Mina Array Bea	41.88	335	P	P	12 53 39.1	+0.1
	0.6nm,0.7s,baz=163,slow=9.4,SNR=5.9						
YKA	Yellowknife Ar	62.53	351	P	P	12 56 12.3	+0.1
	0.5nm,0.9s,baz=158,slow=6.3,SNR=6.5						

BJI ***17*** *13:03:00.4,157S×13053E,h30km,mB5.2,mb4.9,Ms4.8, Msz4.5*
ISCJB ***17*** *13:03:05.4±1.7,068S±004×13005E±005,h10km±10km, mb4.9/50,MS4.2/11,Error ellipse: s-maj=8.8km s-min=6.1km az=157.2*
IDC ***17*** *13:03:05.8±0.6,063S×12998E,h0km,mb4.9/14, mb1 5.0/17,mb1mx4.8/22,mbtmp4.9/17,ML4.6/3,MS3.9/5,*

Ms1 3.9/5, ms1mx3.6/24, Error ellipse: s-maj=22.1km s-min=12.1km az=75.0
*MOS **17** 13:03:08.8±1.1, 064S×12998E, h33km, mb5.1/13, Error ellipse: s-maj=17.1km s-min=7.8km az=112.8*
*NEIC **17** 13:03:10.2±0.2, 070S×13004E, h30km, mb4.8/26, Error ellipse: s-maj=9.1km s-min=5.0km az=67.0*

ISC 17 13:03:08.8±1.6, 070S±004×13007E±005, h20km±11km, h35km±.5km: pP-P, n119, σ1º01/128, mb4.9/50, MS4.2/11, 5C-2D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.50**	**212**	P	**Pn**	13 04 02.4	**+0.2**
	2μm,0.9s						
KDI	**Kendari**	**8.11**	**246**	P	**Pn**	13 05 06.2	**+0.6**
	77nm,0.9s						
PCI	**Palu**	**10.23**	**269**	P	**Pn**	13 05 33.8	**-0.8**
	314nm,0.9s						
KAPI	**Kappang**	**11.15**	**247**	Pn	**Pn**	13 05 48.0	**+0.7**
	3.4nm,0.3s,baz=113,slow=7.0,SNR=68						
BATI	**Kupang**	**11.39**	**214**	Pn	**Pn**	13 05 51.3	**+0.9**
	0.8nm,0.3s,baz=289,slow=2.6,SNR=7.3						
BATI				LR	LR	13 10 54.6	
	comp=Z,989nm,18.5s,baz=354,slow=41						
KAKA	**Kakadu**	**12.16**	**169**	*e*P	**Pn**	13 05 56.7	**-4.3**
	126nm,0.6s						
KAKA				*e*S	**Sn**	13 08 04.4	**-12**
KHKI	**Kahang-Kahang**	**16.29**	**242**	P	**Pn**	13 06 57.9	**+1.3**
	75nm,1.2s						
KMMI	**Kalianget**	**17.25**	**248**	P	**Pn**	13 07 14.3	**+5.6**
	50nm,1.1s						
FITZ	**Fitzroy Crossi**	**17.83**	**194**	*e*P	**Pn**	13 07 12.1	**-3.7**
	24nm,0.6s						
FITZ				*e*S	**Sn**	13 10 22.4	**-12**
FITZ	**Fitzroy Crossi**	**17.83**	**194**	P	**Pn**	13 07 12.2	**-3.6**
	0.4nm,0.3s,baz=16,slow=10,SNR=15						
COEN	**Coen**	**18.48**	**136**	*e*P	**Pn**	13 07 22.7	**-1.2**
	19nm,0.9s						
WRAB	**Tennant Creek**	**19.57**	**168**	*e*P	**Pn**	13 07 34.1	**-2.8**
WRAB				pmax	pmax		
	comp=Z,55nm,0.6s						
WRAB	**Tennant Creek**	**19.57**	**168**	*e*P	**Pn**	13 07 34.1	**-2.8**
	comp=Z,55nm,0.6s						
WRAB				*e*S	**Sn**	13 10 59.0	**-17**
WRA	**Warramunga Arr**	**19.57**	**168**	P	**Pn**	13 07 35.5	**-1.5**
	comp=Z,5.0nm,0.3s,baz=346,slow=12,SNR=118						
WRA				S	**Sn**	13 10 59.6	**-17**
	comp=Z,1.3nm,0.3s,baz=346,slow=22,SNR=6.4						
WB2	**Warramunga Arr**	**19.57**	**168**	*e*P	**Pn**	13 07 33.6	**-3.4**
WB2				*e*S	**Sn**	13 10 58.7	**-18**
KSM	**Kuching**	**19.87**	**276**	*e*P	**Pn**	13 07 39.6	**-1.1**
TPI	**Tanjungpandan**	**22.49**	**265**	P	**P**	13 08 07.0	**-0.3**
	comp=Z,34nm,1.7s,mb4.5						
MBWA	**Marble Bar**	**22.70**	**206**	*e*P	**P**	13 08 08.1	**-1.2**
	comp=Z,13nm,0.7s,mb4.5						
ASAR	**Alice Springs**	**23.13**	**171**	P	**P**	13 08 14.6	**+0.7**
	comp=Z,54nm,0.7s,mb5.1,baz=351,slow=9.8,SNR=343						
ASAR				S	**S**	13 12 23.7	**-0.4**
	comp=Z,6.6nm,0.7s,baz=349,slow=17,SNR=7.3						
CTA	**Charters Tower**	**24.94**	**142**	*e*P	**P**	13 08 32.1	**+1.1**
	comp=Z,19nm,0.8s,mb4.7						
CTA	**Charters Tower**	**24.94**	**142**	*e*P	**P**	13 08 32.1	**+1.1**
CTA				pmax	pmax		
	comp=Z,19nm,0.8s						
CTA	**Charters Tower**	**24.94**	**142**	P	**P**	13 08 33.0	**+2.0**
	comp=Z,25nm,0.8s,mb4.8,baz=331,slow=8.9,SNR=20						
CTAO	**Charters Tower**	**24.94**	**142**	*e*P	**P**	13 08 32.2	**+1.2**
CTAO				*e*		13 08 46.3	
CTAO				pmax	pmax		
	comp=Z,27nm,0.8s,mb4.8						
CTAO	**Charters Tower**	**24.94**	**142**	*e*P	**P**	13 08 32.2	**+1.3**
	comp=Z,27nm,0.8s,mb4.8						
CTAO				*e*		13 08 46.3	
YHNB	**Yeheng**	**26.59**	**342**	*e*P	**P**	13 08 46.8	**+0.9**
FORT	**Forrest**	**29.97**	**183**	*e*P	**P**	13 09 16.0	**0.0**
	comp=Z,40nm,0.6s,mb5.3						
CBIJ	**Chichi jima**	**30.00**	**22**	LR	LR	13 20 41.9	
	comp=Z,106nm,19.5s,MS3.5,baz=256,slow=35						
HNR	**Honiara**	**30.97**	**107**	P	**P**	13 09 26.7	**+1.6**
	comp=Z,98nm,0.8s,mb5.7,baz=242,slow=0.8,SNR=3.9						
PSI	**Prapat**	**31.33**	**277**	P	**P**	13 09 27.3	**-0.9**
	comp=Z,17nm,0.9s,mb4.9,baz=124,slow=2.0,SNR=14						
EIDS	**Eidsvold**	**31.83**	**142**	*e*P	**P**	13 09 32.9	**+0.4**
	comp=Z,5.7nm,0.8s,mb4.5						
KLBR	**Kellerberrin**	**32.85**	**200**	⇓*i*P	**P**	13 09 41.9	**+0.6**
	comp=Z,20nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**32.86**	**162**	*e*P	**P**	13 09 42.6	**+1.2**
	comp=Z,6.1nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**32.86**	**162**	P	**P**	13 09 42.8	**+1.3**
	comp=Z,7.8nm,0.7s,mb4.8,baz=340,slow=9.2,SNR=12						
STKA				PP	PP	13 10 42.5	-13
	comp=Z,5.4nm,0.5s,baz=329,slow=10,SNR=3.2						
NWAO	**Narrogin (SRO)**	**34.25**	**199**	P	**P**	13 09 52.4	**-1.2**
	comp=Z,12nm,0.8s,mb4.9,baz=346,slow=7.6,SNR=5.0						
NJ2	**Nanjing**	**34.26**	**343**	*e*P	**P**	13 09 54.9	**+1.3**
NJ2				AP	pP	13 10 04.6	+4.8
NJ2				XP	sP	13 10 09.4	+7.0
NJ2				PPP		13 11 28.9	
NJ2				S	**S**	13 15 19.0	**-0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.5						
NJ2				LR	LR		
	comp=N,980nm,19.3s,MS4.6						
NJ2				LR	LR		
	comp=E,750nm,23.2s,MS4.6						
NJ2				LR	LR		
	comp=Z,710nm,21.2s,MS4.4						
WHN	**Wuhan**	**34.49**	**336**	P	**P**	13 09 57.1	**+1.5**
ARMA	**Armidale**	**35.96**	**147**	⇑*i*P	**P**	13 10 10.0	**+1.8**
CM31	**Chiang Mai Arr**	**36.03**	**303**	*e*P	**P**	13 10 09.8	**+0.7**
	comp=Z,16nm,1.1s,mb4.8						
CHTO	**Chiang Mai**	**36.20**	**304**	*e*P	**P**	13 10 11.2	**+0.7**
CHTO				pmax	pmax		
	comp=Z,14nm,0.9s,mb4.9						
CHTO	**Chiang Mai**	**36.20**	**304**	*e*P	**P**	13 10 11.2	**+0.7**
	comp=Z,14nm,0.9s,mb4.9						
KMI	**Kunming**	**36.86**	**316**	P	**P**	13 10 17.4	**+1.4**
KMI				AP	pP	13 10 26.3	+4.0
KMI				XP	sP	13 10 32.3	+7.5
KMI				S	**S**	13 16 03.8	**+4.1**
KMI				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.8						
KMI				LR	LR		
	comp=N,254nm,15.7s,MS4.2						
KMI				LR	LR		
	comp=E,196nm,19.3s,MS4.2						
KMI				LR	LR		
	comp=Z,196nm,21.7s,MS3.9						
MAJO	**Matsushiro**	**37.82**	**11**	*e*P	**P**	13 10 22.2	**-1.8**
MAJO				pmax	pmax		
	comp=Z,26nm,1.1s,mb4.9						
MAJO	**Matsushiro**	**37.82**	**11**	*e*P	**P**	13 10 22.2	**-1.9**
	comp=Z,26nm,1.1s,mb4.9						
MAT	**Matsushiro**	**37.82**	**11**	P	**P**	13 10 24.0	**0.0**
MJAR	**Matsushiro Arr**	**37.82**	**11**	P	**P**	13 10 22.5	**-1.5**
	comp=Z,11nm,0.9s,mb4.6,baz=189,slow=9.3,SNR=19						
KSRS	**Korea Array**	**39.02**	**357**	P	**P**	13 10 25.0	**-0.7**
	comp=Z,0.8nm,0.5s,baz=95,slow=25,SNR=6.5						
KSRS				LR	LR	13 25 18.8	
	comp=Z,133nm,18.4s,MS3.8,baz=359,slow=35						
TOO	**Toolangi**	**39.35**	**161**	*e*P	**P**	13 10 39.2	**+2.4**
	comp=Z,100nm,0.8s,mb5.6						
TOO	**Toolangi**	**39.35**	**161**	*e*P	**P**	13 10 39.2	**+2.4**
TOO				pmax	pmax		
	comp=Z,100nm,0.8s,mb5.6						
XAN	**Xi'an**	**39.86**	**332**	P	**P**	13 10 40.5	**-0.7**
XAN				AP	pP	13 10 50.4	+3.0
XAN				XP	sP	13 10 54.3	+4.3
XAN				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.3						
CD2	**Chengdu**	**40.17**	**324**	P	**P**	13 10 43.8	**0.0**
CD2				AP	pP	13 10 53.6	+3.5
CD2				XP	sP	13 10 57.9	+5.3
CD2				PP	PP	13 12 21.3	+4.9
CD2				S	**S**	13 16 49.6	**0.0**
CD2				XS	sS	13 17 05.9	+6.0
CD2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,50nm,5.2s						
CD2				LR	LR		
	comp=N,260nm,14.4s						
CD2				LR	LR		
	comp=E,420nm,9.6s						
CD2				LR	LR		
	comp=Z,320nm,10.8s,MS4.4						
BJT	**Baijiatuau**	**42.47**	**344**	*e*P	**P**	13 11 02.1	**-0.5**
BJT				pmax	pmax		
	comp=Z,68nm,1.4s						
BJT	**Baijiatuau**	**42.47**	**344**	*e*P	**P**	13 11 02.1	**-0.5**
	comp=Z,68nm,1.4s,mb5.1						
BJI	**Beijing**	**42.49**	**344**	P	**P**	13 11 01.3	**-1.4**
BJI				AMB	AMB		
	comp=Z,32nm,1.1s,mb4.9						
LZH	**Lanzhou**	**43.99**	**329**	*e*P	**P**	13 11 16.0	**+1.1**
LZH				AP	pP	13 11 26.0	+4.7
LZH				XP	sP	13 11 30.0	+6.2
LZH				PP	PP	13 13 00.3	+2.7
LZH				*e*S	**S**	13 17 46.1	**+0.1**
LZH				XS	sS	13 18 03.6	+7.2
LZH				AMB	AMB		
	comp=Z,51nm,1.0s,mb5.2						
LZH				AMB	AMB		
	comp=Z,150nm,4.9s						
LZH				LR	LR		
	comp=E,400nm,12.0s						
LZH				LR	LR		
	comp=Z,661nm,13.8s,MS4.7						
HHC	**Hu-ho-hao-te**	**44.65**	**340**	*e*P	**P**	13 11 23.3	**+3.2**
HHC				AP	pP	13 11 33.1	+6.6
HHC				XP	sP	13 11 37.3	+8.3
HHC				PP	PP	13 13 09.0	+4.4
HHC				S	**S**	13 17 58.8	**+3.4**
HHC				XS	sS	13 18 14.3	+8.5
HHC				SCS	ScS	13 21 15.3	-1.7
HHC				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,234nm,7.3s						
HHC				LR	LR		
	comp=N,407nm,18.2s,MS4.6						
HHC				LR	LR		
	comp=E,434nm,17.1s,MS4.6						
HHC				LR	LR		
	comp=Z,285nm,16.7s,MS4.3						
SHL	**Shillong**	**45.20**	**308**	*e*P	**P**	13 11 26.0	**+1.3**
LSA	**Lhasa**	**47.86**	**313**	P	**P**	13 11 46.0	**+0.4**
LSA	**Lhasa**	**47.86**	**313**	*e*P	**P**	13 11 47.1	**+1.5**
LSA				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
LSA	**Lhasa**	**47.86**	**313**	*e*P	**P**	13 11 47.1	**+1.5**
	comp=Z,12nm,0.9s,mb4.9						
GTA	**Gaotai**	**48.59**	**329**	*e*P	**P**	13 11 51.3	**+0.3**
GTA				AP	pP	13 12 01.8	+4.4
GTA				XP	sP	13 12 05.3	+5.4
GTA				PP	PP	13 13 43.4	-0.7
GTA				S	**S**	13 18 51.8	**-0.1**
GTA				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.8						
GTA				LR	LR		
	comp=N,183nm,11.5s,MS4.4						
GTA				LR	LR		
	comp=E,157nm,12.2s,MS4.4						
GTA				LR	LR		
	comp=Z,150nm,15.3s,MS4.1						
KLR	**Kul'dur**	**49.76**	**1**	*e*P	**P**	13 11 55.2	**-4.6**
JIRN	**Jiri**	**50.68**	**307**	*e*P	**P**	13 12 06.8	**-0.4**
GUN	**Gumba**	**51.03**	**308**	*e*P	**P**	13 12 09.8	**-0.1**
	comp=Z,34nm,0.9s,mb5.3						
PKI	**Pulchoki**	**51.26**	**307**	*e*P	**P**	13 12 11.4	**-0.2**
KKN	**Kakani**	**51.46**	**307**	*e*P	**P**	13 12 13.1	**+0.1**
DMN	**Daman**	**51.52**	**307**	*e*P	**P**	13 12 13.1	**-0.4**
GKN	**Gorkha**	**52.06**	**307**	*e*P	**P**	13 12 17.2	**-0.4**
	comp=Z,23nm,0.9s,mb5.1						
ULN	**Ulaanbaatar**	**52.36**	**341**	*c i*P	**P**	13 12 20.3	**+0.9**
ULN	**Ulaanbaatar**	**52.36**	**341**	*e*P	**P**	13 12 19.9	**+0.5**
	comp=Z,19nm,1.1s,mb5.0						
SONM	**Songino Array**	**52.55**	**340**	P	**P**	13 12 21.3	**+0.5**
	comp=Z,7.4nm,1.1s,mb4.5,baz=151,slow=7.8,SNR=26						
KOLN	**Koldanda**	**52.80**	**306**	*e*P	**P**	13 12 22.7	**-0.3**
	comp=Z,50nm,0.9s,mb5.5						
DANN	**Dangsing**	**52.91**	**307**	*e*P	**P**	13 12 23.1	**-0.7**
	comp=Z,45nm,0.9s,mb5.4						
HYB	**Hyderabad**	**53.81**	**292**	*e*P	**P**	13 12 30.0	**-0.6**
HYB	**Hyderabad**	**53.81**	**292**	*i* P	**P**	13 12 30.0	**-0.6**
ZAK	**Zakamensk**	**55.80**	**340**	*e*P	**P**	13 12 42.0	**-2.4**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
MOY	**Mondy**	**57.67**	**339**	*e*P	**P**	13 12 59.4	**+1.7**
WMQ	**Urumqi**	**58.24**	**325**	*e*P	**P**	13 13 02.0	**+0.1**
WMQ				XP	sP	13 13 16.0	+5.1
WMQ				PP	PP	13 15 13.0	+2.0
WMQ				S	**S**	13 21 00.0	**-2.9**
WMQ				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.3						
WMQ				LR	LR		
	comp=N,129nm,15.0s,MS4.4						
WMQ				LR	LR		
	comp=E,167nm,15.0s,MS4.4						
WMQ				LR	LR		
	comp=Z,98nm,14.0s,MS4.1						
DDI	**Dehra Dun**	**58.26**	**307**	*ex*	x	13 13 02.0	
YAK	**Yakutsk**	**62.57**	**360**	*e*P	**P**	13 13 30.6	**-0.5**
YAK				pmax	pmax		
	comp=Z,58nm,1.0s,mb5.7						
YAK				pmax	pmax		
	comp=N,13nm,1.3s						
YAK				pmax	pmax		
	comp=E,2.0nm,0.6s						
YAK	**Yakutsk**	**62.57**	**360**	*e*P	**P**	13 13 31.3	**+0.2**
	comp=E,81nm,0.8s,mb5.9						
MK31	**Makanchi Array**	**63.08**	**325**	*e*P	**P**	13 13 34.3	**-0.5**
MKAR	**Makanchi Array**	**63.08**	**325**	P	**P**	13 13 35.0	**+0.2**
	comp=E,10nm,0.8s,mb5.0,baz=124,slow=6.0,SNR=75						
MKAR				LR	LR	13 43 41.2	
	comp=E,69nm,18.2s,MS3.9,baz=274,slow=39						
KZA	**Kyzart**	**65.12**	**318**	P	**P**	13 13 49.1	**+0.9**
	SNR=6.8						
TKM2	**Tokmak 2**	**65.25**	**319**	*e*P	**P**	13 13 48.9	**-0.3**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	**65.25**	**319**	*e*P	**P**	13 13 48.9	**-0.2**
	comp=Z,7.7nm,0.8s,mb4.8						
TKM2	**Tokmak 2**	**65.25**	**319**	P	**P**	13 13 49.3	**+0.1**
	SNR=7.6						
SEY	**Seymchan**	**65.65**	**11**	*c i*P	**P**	13 13 52.8	**+1.5**
UCH	**Uchtor**	**65.67**	**318**	*e*P	**P**	13 13 52.5	**+0.5**
	comp=Z,9.8nm,1.0s,mb4.8						
UCH	**Uchtor**	**65.67**	**318**	P	**P**	13 13 53.0	**+1.1**
	SNR=10						
ZAA0	**Zalesovo Array**	**66.03**	**333**	*e*P	**P**	13 13 53.2	**-0.7**
ZALV	**Zalesovo Beam**	**66.03**	**333**	P	**P**	13 13 53.2	**-0.7**
	comp=Z,13nm,1.0s,mb4.9,baz=104,slow=6.3,SNR=30						
ZAL	**Zalesovo**	**66.03**	**333**	P	**P**	13 13 53.2	**-0.7**
USP	**Ospenovka**	**66.13**	**319**	P	**P**	13 13 54.5	**-0.3**
	SNR=9.5						
AML	**Almayashu**	**66.19**	**317**	*e*P	**P**	13 13 55.7	**+0.5**
	comp=Z,10nm,1.0s,mb4.8						
AML	**Almayashu**	**66.19**	**317**	P	**P**	13 13 56.1	**+0.9**
	SNR=8.4						
EKS2	**Erkin-Say**	**66.35**	**318**	*e*P	**P**	13 13 56.4	**+0.2**
	comp=Z,6.5nm,0.8s,mb4.7						
EKS2	**Erkin-Say**	**66.35**	**318**	P	**P**	13 13 56.6	**+0.4**
	SNR=8.6						
KURK	**Kurchatov**	**67.25**	**327**	*e*P	**P**	13 14 01.5	**-0.3**
NVS	**Novosibirsk**	**67.31**	**333**	⇑*i*P	**P**	13 14 01.3	**-0.8**
NVS				pmax	pmax		
	comp=N,16nm,1.2s						
NVS				pmax	pmax		
	comp=E,17nm,1.2s						
NVS				pmax	pmax		
	comp=Z,28nm,1.2s,mb5.2						
TIXI	**Tiksi**	**72.24**	**360**	*e*P	**P**	13 14 31.5	**-0.6**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
TIXI	**Tiksi**	**72.24**	**360**	*e*P	**P**	13 14 32.7	**+0.5**
	comp=Z,6.1nm,0.7s,mb4.6						
BRVK	**Borovoye**	**72.90**	**327**	*e*P	**P**	13 14 36.0	**-0.4**
BRVK				pmax	pmax		
	comp=Z,17nm,0.9s,mb5.0						
BRVK	**Borovoye**	**72.90**	**327**	*e*P	**P**	13 14 36.0	**-0.4**
	comp=Z,17nm,0.9s,mb5.0						
BILL	**Bilibino**	**73.01**	**13**	⇓*e*P	**P**	13 14 37.3	**+0.5**
BILL				*e*		13 14 55.2	
BILL				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BILL	**Bilibino**	**73.01**	**13**	*e*P	**P**	13 14 37.4	**+0.6**
	comp=Z,6.8nm,1.1s,mb4.5						
ZRNK	**Zerenda**	**73.56**	**326**	*i* P	**P**	13 14 39.3	**-1.0**
ZRNK				pmax	pmax		
	comp=Z,22nm,1.0s,mb5.0						
VNDA	**Vanda**	**78.65**	**173**	*e*P	**P**	13 15 09.3	**+0.4**
VNDA				pmax	pmax		
	comp=Z,4.0nm,0.7s						
VNDA	**Vanda**	**78.65**	**173**	*e*P	**P**	13 15 09.3	**+0.4**
	comp=Z,4.4nm,0.7s,mb4.5						
VNDA	**Vanda**	**78.65**	**173**	P	**P**	13 15 09.6	**+0.7**
	comp=Z,3.5nm,0.7s,mb4.4,baz=318,slow=7.1,SNR=21						
SVE	**Sverdlovsk**	**79.46**	**328**	*e*P	**P**	13 15 13.0	**-0.7**
SBA	**Scott Base**	**79.53**	**173**	*e*P	**P**	13 15 14.3	**+0.6**
SBA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
SBA	**Scott Base**	**79.53**	**173**	*e*P	**P**	13 15 14.3	**+0.6**
	comp=Z,3.3nm,0.7s,mb4.4						
QSPA	**South Pole Qui**	**89.23**	**180**	P	**P**	13 16 04.1	**+1.3**
	comp=Z,17nm,1.3s,mb5.2,baz=311,slow=3.2,SNR=28						
SYO	**Syowa Base**	**89.52**	**201**	⇑*e*P	**P**	13 16 03.6	**-0.7**
INK	**Inuvik**	**93.03**	**22**	*e*P	**P**	13 16 19.6	**-1.0**
INK				pmax	pmax		
	comp=Z,59nm,0.7s						
INK	**Inuvik**	**93.03**	**22**	*e*P	**P**	13 16 19.6	**-1.1**
	comp=Z,59nm,0.7s						
ARCES	**ARCESS Array B**	**95.73**	**340**	P	**P**	13 16 32.1	**-0.9**
	comp=Z,6.2nm,1.0s,mb5.0,baz=23,slow=6.6,SNR=3.9						
AKASG	**Malin Array Be**	**97.41**	**321**	LR	LR	14 03 44.8	
	comp=Z,64nm,19.9s,MS4.1,baz=150,slow=37						
TORD	**Torodi Ar. Bea**	**127.40**	**286**	PKP	PKPdf	13 22 12.2	-1.1
	comp=Z,0.5nm,0.7s,baz=60,slow=1.6,SNR=3.7						

IDC 17 13:11:27.5±1.3, 1104N×13864E, h0km, mb3.8/7, mb1 3.9/7, mb1mx3.8/17, mbtmp3.8/7, Error ellipse: s-maj=63.9km s-min=19.9km az=82.0, Western Caroline Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.08**	**188**	P	P	13 17 47.3	-0.2
	0.6nm,0.8s,baz=360,slow=9.9,SNR=2.6						
ASAR	**Alice Springs**	**34.80**	**188**	P	P	13 18 20.4	+0.3
	0.8nm,0.5s,baz=16,slow=12,SNR=14						
SONM	**Songino Array**	**45.57**	**330**	P	P	13 19 49.1	0.0
	0.2nm,0.5s,baz=109,slow=7.9,SNR=3.1						
MKAR	**Makanchi Array**	**59.20**	**318**	P	P	13 21 31.7	+1.3
	1.0nm,0.7s,baz=98,slow=8.7,SNR=10						
ZALV	**Zalesovo Beam**	**60.26**	**327**	P	P	13 21 36.9	-0.6
	0.5nm,0.3s,baz=81,slow=4.5,SNR=2.5						
YKA	**Yellowknife Ar**	**87.87**	**26**	P	P	13 24 19.3	+0.6
	0.6nm,0.8s,baz=294,slow=5.0,SNR=5.8						
FINES	**FINESS Array B**	**90.81**	**334**	P	P	13 24 31.2	-1.4
	1.8nm,1.0s,baz=65,slow=7.8,SNR=3.8						

NNC 17 13:12:21.9±2.2, 5013N×7874E, h0km, mb4.0, mpv2.8, 4C-1D, Error ellipse: s-maj=12.1km s-min=7.6km az=167.0, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KURBB	**Kurchatov Arra**	**0.51**	**345**	⇑P	Pg	13 12 30.7	-1.0
	3.8nm,0.7s,baz=166,slow=18						
KURBB				⇓S	Sg	13 12 39.7	+1.5
	9.6nm,0.6s,baz=163,slow=34						
KURK	**Kurchatov**	**0.59**	**352**	⇑P	Pg	13 12 32.4	-0.8
KURK				⇑S	Sg	13 12 42.9	+2.0
	14nm,0.5s						
MK31	**Makanchi Array**	**4.09**	**143**	⇑Pn	Pn	13 13 31.7	+6.1
	10.0nm,0.8s,baz=326,slow=15,SNR=57						
MK31				Sn	Sn	13 14 21.5	+7.4
	6.1nm,0.6s,baz=328,slow=28,SNR=7.1						

*ISCJB **17** 13:46:08.9±0.2, 4751N×002×765E±002, h15km±2km, Error ellipse: s-maj=2.8km s-min=2.0km az=158.3*
*CSEM **17** 13:46:10.4±0.0, 4752N×768E, h11km, ML2.4/13, Error ellipse: s-maj=0.9km s-min=0.7km az=151.0*
*LEDBW **17** 13:46:10.5±0.1, 47517N±0004×7688E±0004, h11km±2km, ML2.0, Error ellipse: s-maj=1.6km s-min=1.2km az=127.0*
*NEIC **17** 13:46:10.4, 4751N×769E, h11km, ML2.5(LDG), ML2.0(ZUR), ML2.1(STR), After ZUR.*
*STR **17** 13:46:10.0±0.4, 4752N×767E, h10km, Ml2.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **17** 13:46:10.2±0.1, 4751N×769E, h10km, Md2.6/2, Ml2.5/13, Error ellipse: s-maj=1.4km s-min=1.0km az=148.0*
*ZUR **17** 13:46:10.4, 4751N×769E, h11km, ML2.0/7*
*BGR **17** 13:46:15.3±1.9, 4772N×772E, h10km, ML2.1, Error ellipse: s-maj=42.3km s-min=17.8km az=137.0*

ISC 17 13:46:09.5±0.2, 4750N±002×767E±002, h18km±2km, n81, σ0º75/153, 14C-8D, Switzerland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WYH	**Wyhlen**	**0.05**	**23**	⇓*i*Pg	**Pg**	13 46 12.7	**-0.1**
WYH				*i* Sg	**Sg**	13 46 14.2	**-0.7**
BBS	**Basel-Blauen**	**0.12**	**250**	⇑*i*P*	**Pg**	13 46 13.8	**+0.5**
BBS				S*	**Sg**	13 46 15.8	**0.0**
BBS	**Basel-Blauen**	**0.12**	**250**	⇑*i*Pg	**Pg**	13 46 13.8	**+0.5**
BBS				Sg	**Sg**	13 46 15.8	**0.0**
BBS	**Basel-Blauen**	**0.12**	**250**	Pg	**Pg**	13 46 13.5	**+0.2**
BBS				Sg	**Sg**	13 46 15.5	**-0.3**
BALST	**Balsthal**	**0.17**	**175**	*i* Sg	**Sg**	13 46 14.5	**-2.4**
	683nm,0.3s						
BALST	**Balsthal**	**0.17**	**175**	⇓*i*Pg	**Sg**	13 46 17.3	**+0.4**
	683nm,0.3s						
BALST	**Balsthal**	**0.17**	**175**	⇓*i*Pg	**Pg**	13 46 14.5	**+0.6**
BALST				Sg	**Sg**	13 46 17.4	**+0.5**
BALST	**Balsthal**	**0.17**	**175**	⇓*i*Pg	**Sg**	13 46 17.3	**+0.4**
	683nm,0.3s						
ENDD	**Endenburg**	**0.21**	**12**	⇓*i*Pg	**Pg**	13 46 14.8	**+0

BNALP *e*Sg **Pb** **13 46 26.5 +1.4**
13nm,0.4s
STEIN Stein am Rhein 0.83 78⇑*i*Pg **Sg** **13 46 37.8 +1.3**
37nm,0.5s
STEIN Stein am Rhein 0.83 78⇑*i*P **Pb** **13 46 26.3 +1.0**
SISB Singen-Schiene 0.89 78 ⇑P* **Pn** **13 46 27.4 +0.3**
SISB S* **Sn** **13 46 39.4 -0.3**
SISB Singen-Schiene 0.89 78 ⇑Pn **Pn** **13 46 27.4 +0.3**
SISB Sn **Sn** **13 46 39.4 -0.3**
BFO Black Forest 0.94 28 *e*Pg **Pg** **13 46 27.9 +0.2**
BFO *e*Sg **Sg** **13 46 39.5 -0.5**
CDF Champ du Feu 0.95 344 *e*Pg **Pg** **13 46 28.4 +0.5**
CDF *e*Sg **Sg** **13 46 39.7 -0.7**
CDF *e*Sn **Sn** **13 46 41.4 +0.4**
45nm,0.4s
CDF Champ du Feu 0.95 344 *e*Pn **Pn** **13 46 27.8 -0.1**
CDF *e*Pg **Pg** **13 46 28.4 +0.5**
CDF *e*Sg **Sg** **13 46 39.7 -0.7**
CDF *e*Sn **Sn** **13 46 41.4 +0.4**
CDF Champ du Feu 0.95 344 *e*Pg **Pg** **13 46 28.4 +0.5**
CDF *e*Sg **Sg** **13 46 39.7 -0.7**
CDF *e*Sn **Sn** **13 46 41.4 +0.4**
22nm,0.4s
SPAK Spaichingen-Ko 0.96 51 P **Pb** **13 46 28.6 +1.0**
HAU Haudompre 1.02 300 *e*Pg **Pg** **13 46 29.6 +0.2**
HAU *e*Sg **Sg** **13 46 43.2 +0.4**
55nm,0.3s
HAU Haudompre 1.02 300 *e*Pn **Pn** **13 46 29.0 0.0**
HAU *e*Pg **Pg** **13 46 29.6 +0.2**
HAU *e*Sg **Sg** **13 46 43.2 +0.4**
HAU Haudompre 1.02 300 *e*Pg **Pg** **13 46 29.6 +0.2**
HAU *e*Sg **Sg** **13 46 43.2 +0.4**
28nm,0.3s
GUT Gutenstein 1.13 59⇑*i*P **Pn** **13 46 29.9 -0.5**
GUT Pg **Pg** **13 46 31.5 +0.2**
GUT Sg **Sg** **13 46 46.4 +0.4**
GUT Gutenstein 1.13 59⇑*i*Pn **Pn** **13 46 29.9 -0.5**
GUT S **Sg** **13 46 46.4 +0.4**
GUT Gutenstein 1.13 59 P **Pg** **13 46 31.5 +0.2**
THEF They Montfort 1.35 303 Pg **Pg** **13 46 35.3 -0.2**
THEF Sg **Sg** **13 46 52.6 -0.4**
LBG Lerchenberg 1.38 33 Pg **Pg** **13 46 36.4 +0.2**
LBG Sg **Sg** **13 46 53.5 -0.7**
TUBL Tuebingen-Lenn 1.39 42 Sg **Sg** **13 46 54.0 -0.5**
CABF La Chapelle 1.41 231 *e*Pg **Pg** **13 46 36.8 +0.2**
CABF *e*Sn **Sn** **13 46 52.0 -0.3**
CABF *e*Sg **Sg** **13 46 55.4 +0.5**
3.8nm,0.2s
CABF La Chapelle 1.41 231 *e*Pg **Pg** **13 46 36.8 +0.2**
CABF *e*Sn **Sn** **13 46 52.0 -0.3**
CABF *e*Sg **Sg** **13 46 55.4 +0.5**
1.9nm,0.2s
BUCH Bad Urach 1.47 49⇓*i*P **Pn** **13 46 34.5 -0.7**
BUCH Pg **Pg** **13 46 37.6 -0.3**
BUCH Sg **Sg** **13 46 56.8 -0.3**
BUCH Bad Urach 1.47 49 P **Pg** **13 46 37.6 -0.3**
BUCH S **Sg** **13 46 56.8 -0.3**
BUCH Bad Urach 1.47 49⇓*i*Pn **Pn** **13 46 34.5 -0.7**
DAVA Damuels 1.52 97⇑*i*Pg **Pg** **13 46 37.0 -1.6**
DAVA ⇑*i*Sg **Sg** **13 46 56.0 -2.4**
comp=Z,4.4nm,0.2s
STU Stuttgart 1.63 38 *e*Sg **Sg** **13 47 01.5 -0.5**
SFTF Sexfontaines 1.91 293 *e*Pn **Pn** **13 46 41.5 +0.4**
baz=119
SFTF Sexfontaines 1.91 293 *e*Pg **Pg** **13 46 46.0 -0.1**
baz=110
SFTF *e*Sn **Sn** **13 47 03.7 -1.0**
SFTF *e*Sg **Sg** **13 47 10.9 0.0**
7.0nm,0.3s,baz=109
SFTF Sexfontaines 1.91 293 *e*Pn **Pn** **13 46 41.5 +0.4**
SFTF *e*Pg **Pg** **13 46 46.0 -0.1**
SFTF *e*Sn **Sn** **13 47 03.7 -1.0**
SFTF *e*Sg **Sg** **13 47 10.9 0.0**
SFTF Sexfontaines 1.91 293 *e*Pg **Pg** **13 46 46.0 -0.1**
SFTF *e*Sn **Sn** **13 47 03.7 -1.0**
SFTF *e*Sg **Sg** **13 47 10.9 0.0**
3.5nm,0.3s
MEZF Maizieres J'vi 2.02 301 *e*P **Pn** **13 46 45.2 +2.5**
baz=118
MEZF *e*Sn **Sn** **13 47 06.5 -1.0**
baz=122
MEZF *e*Sg **Sg** **13 47 14.3 -0.3**
5.0nm,0.2s,baz=119
MEZF Maizieres J'vi 2.02 301 *e*P **Pn** **13 46 45.2 +2.5**
MEZF *e*Sn **Sn** **13 47 06.5 -1.0**
MEZF *e*Sg **Sg** **13 47 14.3 -0.3**
2.5nm,0.2s
LPL La Plagne 2.09 198 *e*Pg **Pg** **13 46 49.7 +0.1**
LPG La Plagne 2.11 198 *e*Pg **Pg** **13 46 49.9 0.0**
LPG *e*Sg **Sg** **13 47 17.8 +0.6**
1.6nm,0.2s
LPG La Plagne 2.11 198 *e*Pg **Pg** **13 46 49.9 0.0**
LPG *e*Sg **Sg** **13 47 17.8 +0.6**
0.8nm,0.2s
SIND Sindeldorf 2.25 34 Pg **Pg** **13 46 52.5 -0.1**
SIND Sg **Sg** **13 47 21.5 -0.4**
LOR Lormes 2.60 266 *e*Pg **Pg** **13 46 59.2 -0.2**
baz=94
LOR *e*Sg **Sg** **13 47 31.3 -1.8**
5.0nm,0.2s,baz=81
LOR Lormes 2.60 266 *e*Pg **Pg** **13 46 59.2 -0.2**
LOR *e*Sg **Sg** **13 47 31.3 -1.8**
2.5nm,0.2s
SMF Signal de Mont 2.76 253 *e*Pg **Pg** **13 47 01.7 -0.6**
SMF *e*Sg **Sg** **13 47 37.4 -0.6**
4.4nm,0.3s
SMF Signal de Mont 2.76 253 *e*Pg **Pg** **13 47 01.7 -0.6**
SMF *e*Sg **Sg** **13 47 37.4 -0.6**
2.2nm,0.3s
ORIF Oris-en-Rattie 2.87 206 *e*Sg **Sg** **13 47 40.8 -0.9**
1.0nm,0.2s
ORIF Oris-en-Rattie 2.87 206 *e*Sg **Sg** **13 47 40.8 -0.9**
0.5nm,0.2s
SSF Saint Saulge 2.87 263 *e*Pg **Pg** **13 47 03.8 -0.7**
SSF *e*Sg **Sg** **13 47 40.9 -0.8**
2.1nm,0.3s
SSF Saint Saulge 2.87 263 *e*Pg **Pg** **13 47 03.8 -0.7**
SSF *e*Sg **Sg** **13 47 40.9 -0.8**
1.0nm,0.3s
AVF Avril sur Loir 3.03 258 *e*Pg **Pg** **13 47 06.9 -0.7**
AVF *e*Sg **Sg** **13 47 46.0 -0.9**
0.9nm,0.2s
AVF Avril sur Loir 3.03 258 *e*Pg **Pg** **13 47 06.9 -0.7**
AVF *e*Sg **Sg** **13 47 46.0 -0.9**
0.4nm,0.2s
GRF Grafenberg Arr 3.22 46 *e*Pg **Pg** **13 47 10.4 -0.6**
GRF *e*Sg **Sg** **13 47 51.3 -1.5**
VIVF Saint-Julien-l 3.37 219 *e*Sg **Sg** **13 47 56.3 -1.4**
1.3nm,0.2s
VIVF Saint-Julien-l 3.37 219 *e*Sg **Sg** **13 47 56.3 -1.4**
0.6nm,0.2s

NNC 17 13:46:56.5±20.0, 3662N×6987E, h0km, mb3.8, mpv3.8, 2C-3D, Error ellipse: s-maj=175.5km s-min=141.3km az=34.0, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.50**	**4**	⇓P	Pn	13 48 35.8	+2.5
	3.8nm,0.3s,baz=182,slow=13,SNR=50						
KK31				⇑S	Sn	13 49 48.0	-0.1
	1.6nm,0.3s,baz=181,slow=21,SNR=16						
TKM2	**Tokmak 2**	**7.69**	**33**	⇓P	Pn	13 48 47.9	-1.8
	2.6nm,0.7s						
AB31	**Akbulak array**	**14.55**	**333**	⇑P	Pn	13 50 26.0	+2.4
	0.2nm,0.4s,baz=163,slow=12						
AB31				⇓S	Sn	13 53 05.9	+0.3
	0.4nm,0.5s,baz=161,slow=21						

MAN 17 13:48:38, 1663N×12208E, h22km, mb3.9, ML2.6, MS2.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.40**	**322**	*e*P	Pb	13 48 47.8	+1.3
PALP	**Palanan**	**0.55**	**37**⇑*i*P		Pb	13 48 51.3	+2.3
PALP				*i* S	Sb	13 49 05.5	+9.1
BALP	**Baler**	**1.00**	**209**	*e*P	Pb	13 48 56.8	+0.1
CVP	**Callao Caves**	**1.10**	**347**	*e*P	Pn	13 48 58.3	+0.2
CVP				*e*S	Sb	13 49 12.9	+0.6

IDC 17 14:02:08.2±48.0, 1588S×17429W, h0km, mb4.4/3, mb1 4.6/3, mb1mx3.9/13, mbtmp4.4/3, Error ellipse: s-maj=916.4km s-min=158.8km az=78.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**43.06**	**240**	*e*P	P	14 10 10.0	0.0
	2.1nm,0.5s						
STKA	**Stephens Creek**	**43.06**	**240**	P	P	14 10 10.2	+0.1
	2.7nm,0.5s,baz=89,slow=11,SNR=17						
WB2	**Warramunga Arr**	**48.89**	**257**	*e*P	P	14 10 55.9	-0.3
WRA	**Warramunga Arr**	**48.90**	**257**	P	P	14 10 56.1	-0.2
	0.9nm,0.5s,baz=94,slow=7.1,SNR=25						
ASAR	**Alice Springs**	**49.15**	**252**	P	P	14 10 58.0	-0.2
	10nm,0.6s,baz=88,slow=8.4,SNR=263						

MAN 17 14:02:11, 1647N×12099E, h25km, mb3.5, ML2.2, MS1.7, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.40**	**258**⇓*e*P		Pb	14 02 21.4	+1.9
BCPH				*i* S	Sb	14 02 29.5	+4.2
BALP	**Baler**	**0.92**	**142**	*e*P	Pb	14 02 28.7	+0.5
CAUP	**Cauayan**	**0.93**	**59**	*e*P	Pn	14 02 28.5	-0.1
BOLP	**Bolinao**	**1.03**	**266**	*e*P	Pn	14 02 27.0	-2.9
ABRA	**Dolores**	**1.21**	**348**	*e*P	Pn	14 02 32.6	+0.3
APYP	**Conner**	**1.41**	**10**	*e*P	Pn	14 02 36.3	+1.1

*IDC **17** 14:54:33.6±3.6, 509S×148.40E, h0km, mb4.2/3, mb1 4.5/3, mb1mx3.8/14, mbtmp4.2/3, MS4.0/1, Ms1 4.0/1, ms1mx3.0/21, Error ellipse: s-maj=100.8km s-min=47.0km az=111.0*

NEIC 17 14:54:34.4±2.2, 508S×14848E, h10km, mb4.1/2, 1D, Error ellipse: s-maj=56.3km s-min=28.1km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.56**	**243**	*e*P	Pn	14 58 40.0	+0.6
	4.8nm,0.3s						
WRAB	**Tennant Creek**	**20.18**	**222**	*e*Pn	P	14 59 09.8	+0.6
	7.7nm,0.6s						
WB2	**Warramunga Arr**	**20.18**	**222**⇓*i*P		P	14 59 09.7	+0.4
WRA	**Warramunga Arr**	**20.19**	**222**	P	P	14 59 09.9	+0.5
	5.8nm,0.3s,baz=48,slow=11,SNR=112						
ASAR	**Alice Springs**	**23.21**	**216**	P	P	14 59 42.5	+0.8
	3.1nm,0.4s,baz=48,slow=8.7,SNR=178						
FITZ	**Fitzroy Crossi**	**25.80**	**238**	*e*P	P	15 00 04.5	-1.4
	4.8nm,0.6s						
FITZ	**Fitzroy Crossi**	**25.80**	**238**	P	P	15 00 05.0	-0.8
	2.3nm,0.5s,baz=64,slow=9.2,SNR=15						
TORD	**Torodi Ar. Bea**	**146.27**	**286**	PKPbc	PKPbc	15 14 16.8	+0.4
TORD	**Torodi Ar. Bea**	**146.27**	**286**	PKPbc	PKPbc	15 14 16.8	+0.4
	0.3nm,0.5s,baz=63,slow=2.8,SNR=5.4						

*ISCJB **17** 15:01:49.2±1.3, 451S±02×970E±03, h10km, mb4.2/7, Error ellipse: s-maj=43.4km s-min=12.5km az=40.0*

*IDC **17** 15:01:50.7±1.6, 4524S×9705E, h0km, mb4.2/6, mb1 4.3/6, mb1mx4.0/16, mbtmp4.2/6, MS3.8/1, Ms1 3.9/1, ms1mx3.3/22, Error ellipse: s-maj=56.1km s-min=19.6km az=127.0*

*NEIC **17** 15:01:51.6±1.4, 45.15S×97.11E, h10km, mb4.4/3, Error ellipse: s-maj=46.8km s-min=16.4km az=122.0*

ISC 17 15:01:51.4±1.3, 451S±02×971E±03, h10km, n16, σ1°08/14, mb4.2/7, Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**35.94**	**51**	P	**P**	**15 08 51.0**	**-1.0**
ASAR	**Alice Springs**	**36.72**	**67**	P	**P**	**15 09 01.2**	**+2.6**
	8.9nm,0.6s,mb4.8,baz=345,slow=12,SNR=41						
STKA	**Stephens Creek**	**36.81**	**85**	P	**P**	**15 08 59.4**	**0.0**
	1.8nm,0.7s,mb4.0,baz=290,slow=13,SNR=5.1						
WRA	**Warramunga Arr**	**39.68**	**63**	P	**P**	**15 09 24.9**	**+1.3**
	3.2nm,0.9s,mb4.1,baz=222,slow=8.1,SNR=12						
WB2	**Warramunga Arr**	**39.69**	**63**	*e*P	**P**	**15 09 21.3**	**-2.4**
VNDA	**Vanda**	**40.99**	**163**	P	**P**	**15 09 33.9**	**-0.1**
	1.8nm,0.8s,mb3.7,baz=284,slow=8.1,SNR=8.9						
SBA	**Scott Base**	**42.09**	**163**	*e*P	**P**	**15 09 42.5**	**-0.3**
	2.1nm,0.9s,mb3.8						
QSPA	**South Pole Qui**	**45.04**	**180**	*e*P	**P**	**15 10 06.1**	**-0.5**
	5.3nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**45.04**	**180**	P	**P**	**15 10 06.5**	**-0.1**
	8.5nm,1.0s,mb4.5,baz=312,slow=3.5,SNR=21						
SNAA	**Sanae**	**50.86**	**204**	*e*	**P**	**15 10 50.1**	**-1.7**
SNAA				*e*		15 10 55.9	
SNAA	**Sanae**	**50.86**	**204**	P	**P**	**15 10 52.0**	**+0.2**
	2.2nm,0.8s,mb4.1,baz=123,slow=7.8,SNR=16						
VNA2	**Neumayer--Watz**	**52.51**	**204**	*e*	**P**	**15 11 04.4**	**+0.3**
	baz=109,slow=6.8						
VNA2				*e*		15 11 10.9	
VNA1	**Neumayer--Stat**	**52.90**	**204**	*e*	**P**	**15 11 07.6**	**+0.6**
VNA1				*e*		15 11 14.3	
VNA3	**Neumayer Olymp**	**52.98**	**203**	*e*	**P**	**15 11 07.8**	**+0.2**
VNA3				*e*		15 11 14.4	
NVAR	**Mina Array Bea**	**152.94**	**92**	PKPbc	PKPbc	15 21 50.2	+1.8
	1.5nm,0.7s,baz=224,slow=4.7,SNR=14						
YKA	**Yellowknife Ar**	**154.84**	**35**	PKPbc	PKPbc	15 21 51.9	+0.2
	0.1nm,0.6s,baz=297,slow=1.9,SNR=4.5						

*CSEM **17** 15:08:57.5±0.7, 4020N×2936W, h10km, ML2.8, Error ellipse: s-maj=8.8km s-min=4.0km az=77.0, After PDA*

PDA 17 15:08:57.5±0.7, 4020N×2936W, h10km, MD3.8, ML2.8, Error ellipse: s-maj=8.8km s-min=4.0km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRBC	**Serra Branca**	**1.54**	**138**	*e*P	Pn	15 09 20.9	-4.1
SRBC				*e*S	Sn	15 09 37.4	-7.6
CALA	**Caldeira**	**1.69**	**162**	*e*P	Pn	15 09 22.6	-4.4
CALA				*e*S	Sn	15 09 41.2	-7.5
ROSA	**Rosais**	**1.71**	**149**	*e*P	Pn	15 09 22.5	-4.8
ROSA				*e*S	Sn	15 09 41.2	-8.0
HOR	**Horta**	**1.76**	**161**	*e*P	Pn	15 09 23.1	-4.9
HOR				*e*S	Sn	15 09 42.9	-7.5
PICO	**Pico**	**1.84**	**157**	*e*P	Pn	15 09 24.4	-4.7
PICO				*e*S	Sn	15 09 45.2	-7.2
PMAN	**Manadas**	**1.84**	**147**	*e*P	Pn	15 09 24.4	-4.8
PMAN				*e*S	Sn	15 09 45.0	-7.5
PMAN				A		15 09 47.1	
	46nm,0.4s						
PMAN	**Manadas**	**1.84**	**147**	*e*P	Pn	15 09 24.4	-4.8
PMAN				*e*S	Sn	15 09 45.0	-7.5
ADH	**Angra Heroismo**	**2.25**	**132**	*e*P	Pn	15 09 30.1	-4.7

*IDC **17** 15:13:12.8±5.4, 3641N×7109E, h186km±50km, mb3.5/11, mb1 3.6/15, mb1mx3.4/24, mbtmp3.4/15, Error ellipse: s-maj=22.5km s-min=13.4km az=20.0*

*MOS **17** 15:13:13.6±0.7, 3651N×7106E, h206km, mb3.9/9, Error ellipse: s-maj=19.4km s-min=10.3km az=92.3*

*ISCJB **17** 15:13:14.5±0.3, 3658N±003×7110E±005, h215km±4km, mb3.9/16, Error ellipse: s-maj=6.0km s-min=4.1km az=167.8*

*BJI **17** 15:13:14.3, 3667N×7105E, h214km, mB4.7, mb4.5*

*NEIC **17** 15:13:15.2±0.7, 3655N×7114E, h208km±6km, mb4.2/3, Error ellipse: s-maj=9.0km s-min=7.6km az=111.0*

*NNC **17** 15:13:25.4±3.7, 3749N×7110E, h218km±32km, mb2.6, mpv3.9, Error ellipse: s-maj=43.9km s-min=22.8km az=41.0*

ISC 17 15:13:15.4±0.3, 3657N±003×7110E±005, h206km±4km, n86, σ0°93/104, mb3.9/16, 5C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.63**	**220**	*e*Pn	**Pn**	**15 14 02.4**	**+1.2**
KBL				*e*Sn	**Sn**	**15 14 37.2**	**+0.4**
CEP	**Cherat**	**2.82**	**166**	⇓P	**Pn**	**15 14 05.0**	**+1.7**
CHCP	**Chirah Chowk**	**3.41**	**148**	⇓P	**Pn**	**15 14 11.9**	**+1.7**
CHCP				S	**Sn**	**15 14 50.0**	**-3.1**
THW	**Thamme Wali**	**3.81**	**172**	P	**Pn**	**15 14 16.4**	**+1.4**
SARP	**Sargodha**	**4.82**	**164**	P	**Pn**	**15 14 28.3**	**+0.6**
KSH	**Kashi**	**4.84**	**51**⇑*i*P		**Pn**	**15 14 28.5**	**+0.7**
KSH				S	**Sn**	**15 15 23.9**	**-1.1**
KSH				Smax			
	comp=N,399nm,0.3s						
KSH				Smax			
	comp=E,361nm,0.2s						
DRP	**Derazinda**	**4.87**	**189**	P	**Pn**	**15 14 29.5**	**+1.1**
DRP				S	**Sn**	**15 15 25.0**	**-0.9**
THN	**Thein Dam**	**5.62**	**136**	*e*P	**Pn**	**15 14 37.5**	**-0.4**
THN				*ex*	x	15 15 41.0	
DLH	**Dalhousie**	**5.68**	**134**	*e*P	**Pn**	**15 14 40.0**	**+1.3**
DLH				*ex*	x	15 15 44.0	
AML	**Almayashu**	**5.90**	**19**	*e*Pn	**Pn**	**15 14 40.9**	**-0.4**
AML				*e*Sn	**Sn**	**15 15 43.0**	**-6.6**
AML	**Almayashu**	**5.90**	**19**	P	**Pn**	**15 14 41.2**	**-0.2**
	SNR=73						
UCH	**Uchtor**	**6.24**	**24**	*e*Pn	**Pn**	**15 14 45.4**	**-0.2**
UCH				*e*Sn	**Sn**	**15 15 49.5**	**-7.7**
UCH	**Uchtor**	**6.24**	**24**	P	**Pn**	**15 14 45.4**	**-0.3**
	SNR=34						
KZA	**Kyzart**	**6.37**	**29**	P	**Pn**	**15 14 47.4**	**0.0**
	SNR=6.5						
EKS2	**Erkin-Say**	**6.42**	**18**	*e*Pn	**Pn**	**15 14 47.6**	**-0.4**
	comp=E,8.4nm,0.4s						
EKS2				*e*Sn	**Sn**	**15 15 47.9**	**-14**
EKS2	**Erkin-Say**	**6.42**	**18**	P	**Pn**	**15 14 47.8**	**-0.3**
	SNR=20						
KK31	**Karatay Array**	**6.54**	**356**	⇓P	**Pn**	**15 14 48.5**	**-1.1**
	comp=E,2.8nm,0.3s,baz=178,slow=12,SNR=80						
KK31				⇓S	**Sn**	**15 15 54.1**	**-10**
	comp=E,28nm,0.6s,baz=173,slow=16,SNR=24						
KBK	**Karagaybulak**	**6.76**	**25**	P	**Pn**	**15 14 52.9**	**+0.4**
	SNR=9.3						
ULHL	**Ulahol**	**6.92**	**34**	P	**Pn**	**15 14 54.5**	**-0.1**
	SNR=7.0						
SDNR	**Sundarnagar**	**7.02**	**134**	*e*P	**Pn**	**15 14 55.5**	**-0.5**
SDNR				*e*S	**Sn**	**15 16 09.5**	**-6.4**
USP	**Ospenovka**	**7.18**	**20**	P	**Pn**	**15 14 57.5**	**-0.3**
	SNR=10						
TKM2	**Tokmak 2**	**7.22**	**27**	⇓P	**Pn**	**15 14 58.1**	**-0.4**
	comp=E,13nm,0.8s						
TKM2	**Tokmak 2**	**7.22**	**27**	*e*PN	**Pn**	**15 14 57.9**	**-0.5**
TKM2				pmax	pmax		
	comp=Z,11nm,0.6s						
TKM2	**Tokmak 2**	**7.22**	**27**	*e*Pn	**Pn**	**15 14 57.9**	**-0.6**
	comp=Z,11nm,0.6s						
TKM2	**Tokmak 2**	**7.22**	**27**	P	**Pn**	**15 14 58.3**	**-0.1**
	SNR=15						
KLP	**Kalpa**	**7.77**	**128**	*e*P	**Pn**	**15 15 05.0**	**-0.7**
KLP				*e*S	**Sn**	**15 16 26.2**	**-7.4**
KLP				AML	AML	15 16 33.1	
	comp=E,143nm,0.5s						
KLP				AML	AML	15 16 33.5	
	comp=N,118nm,0.5s						
DDI	**Dehra Dun**	**8.52**	**135**	*e*P	**Pn**	**15 15 16.0**	**+0.6**
DDI				*ex*	x	15 16 31.0	
KHET	**Khetri**	**9.36**	**154**	*e*P	**Pn**	**15 15 25.2**	**-1.1**
KHET				*e*S	**Sn**	**15 17 02.8**	**-8.5**
NDI	**New Delhi**	**9.40**	**145**	*e*P	**Pn**	**15 15 26.0**	**-0.9**
NDI				*ex*	x	15 17 06.5	
KUDL	**Kundal**	**9.56**	**150**	*e*P	**Pn**	**15 15 28.2**	**-0.7**
KUDL				*e*S	**Sn**	**15 17 07.2**	**-8.8**
SONA	**Sohna**	**9.71**	**147**	*e*P	**Pn**	**15 15 29.9**	**-1.0**
SONA				*e*S	**Sn**	**15 17 11.3**	**-8.4**
AGRA	**Agra**	**10.97**	**146**	*e*P	**Pn**	**15 15 46.5**	**-0.7**
AGRA				*e*S	**Sn**	**15 17 39.0**	**-11**
AGRA				AML	AML	15 18 22.9	
	comp=N,55nm,0.3s						
AGRA				AML	AML	15 18 24.0	
	comp=E,54nm,0.3s						
MKAR	**Makanchi Array**	**13.19**	**36**	P	**Pn**	**15 16 14.5**	**-0.3**
	comp=E,0.2nm,0.3s,baz=224,slow=8.5,SNR=6.5						
DANN	**Dangsing**	**13.46**	**124**	*e*P	**Pn**	**15 16 17.9**	**-0.5**
	comp=E,34nm,0.3s						
DANN				*e*S	**S**	**15 18 38.4**	**-10**
KOLN	**Koldanda**	**13.74**	**126**	*e*P	**Pn**	**15 16 21.1**	**-0.8**
	comp=E,16nm,0.3s						
GKN	**Gorkha**	**14.27**	**123**	*e*P	**Pn**	**15 16 28.2**	**-0.3**
GKN				*e*S	**S**	**15 18 58.1**	**-9.1**
WMQ	**Urumqi**	**14.59**	**55**	*e*P	**Pn**	**15 16 33.0**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,28nm,0.8s						
DMN	**Daman**	**14.84**	**123**	*e*P	**Pn**	**15 16 35.5**	**0.0**
	comp=Z,29nm,0.4s						
KKN	**Kakani**	**14.85**	**122**	*e*P	**Pn**	**15 16 35.2**	**-0.3**
	comp=Z,52nm,0.6s						
AB31	**Akbulak array**	**15.06**	**331**	⇑P	**Pn**	**15 16 36.5**	**-1.4**
	comp=Z,5.3nm,0.4s						
PKI	**Pulchoki**	**15.07**	**122**	*e*P	**Pn**	**15 16 38.2**	**-0.1**
	comp=Z,24nm,0.2s						
GUN	**Gumba**	**15.18**	**120**	*e*P	**Pn**	**15 16 39.6**	**0.0**
	comp=Z,25nm,0.4s						
JIRN	**Jiri**	**15.55**	**121**	*e*P	**Pn**	**15 16 44.7**	**+0.6**
	comp=Z,84nm,0.4s						
JIRN				*e*S	**S**	**15 19 28.2**	**-8.2**
VOSK	**Vostochnaya**	**16.15**	**360**	⇑P	**P**	**15 16 49.1**	**-1.3**
	comp=Z,2.2nm,0.8s						
ZRNK	**Zerenda**	**16.44**	**356**	⇓P	**P**	**15 16 51.4**	**-2.2**
	comp=Z,0.6nm,0.4s						
BVA0	**Borovoye Array**	**16.46**	**358**	⇑P	**P**	**15 16 55.2**	**+1.5**
	comp=Z,0.3nm,0.6s,baz=172,slow=13,SNR=6.6						
BVAR	**Borovoye Array**	**16.46**	**358**	P	**P**	**15 16 54.3**	**+0.6**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.46**	**358**	P	**P**	**15 16 54.3**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=160,slow=9.7,SNR=6.1						
BRVK	**Borovoye**	**16.50**	**358**	*e*P	**P**	**15 16 54.9**	**+0.8**
AKTK	**Aktyubinsk**	**16.76**	**330**	P	**P**	**15 16 57.8**	**+0.8**
AKTO	**Aktyubinsk**	**16.76**	**330**	⇑P	**P**	**15 16 57.6**	**+0.6**
	comp=Z,0.1nm,0.8s						
AKTO	**Aktyubinsk**	**16.76**	**330**	P	**P**	**15 16 57.8**	**+0.8**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.76**	**330**	P	**P**	**15 16 57.8**	**+0.8**
	comp=Z,0.9nm,0.3s,baz=141,slow=9.2,SNR=17						
LSA	**Lhasa**	**18.12**	**106**	*e*P	**P**	**15 17 13.1**	**+1.0**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
LSA	**Lhasa**	**18.12**	**106**	*e*P	**P**	**15 17 13.1**	**+1.0**
	comp=Z,3.6nm,0.5s						
ZAL	**Zalesovo**	**19.80**	**24**	P	**P**	**15 17 29.9**	**-0.1**
ZALV	**Zalesovo Beam**	**19.82**	**24**	P	**P**	**15 17 29.9**	**-0.2**
	comp=Z,0.9nm,0.3s,baz=216,slow=10,SNR=9.0						
LZH	**Lanzhou**	**26.32**	**81**	*e*P	**P**	**15 18 34.3**	**+2.1**
LZH				AP	pP	15 19 19.5	+6.2
LZH				XP	sP	15 19 39.4	+2.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.5						
LZH				AMB	AMB		
	comp=Z,55nm,4.3s						
CD2	**Chengdu**	**27.65**	**92**	*e*P	**P**	**15 18 44.9**	**+0.8**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.6						
SONM	**Songino Array**	**28.23**	**55**	P	**P**	**15 18 48.9**	**-0.1**
	comp=Z,0.3nm,0.5s,mb3.1,baz=272,slow=10,SNR=3.2						
KMI	**Kunming**	**29.34**	**104**	P	**P**	**15 19 00.5**	**+1.5**
KMI				AMB	AMB		
	comp=Z,3.0nm,0.7s,mb4.0						
HHC	**Hu-ho-hao-te**	**31.66**	**70**	*e*P	**P**	**15 19 20.6**	**+1.3**
HHC				AP	pP	15 20 03.4	+2.2
HHC				XP	sP	15 20 26.6	+1.7
HHC				PP	PP	15 20 34.1	-1.0

FINES	FINESS Array B	37.47	326	P	P	15 20 09.3	+0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	37.47	326	P	P	15 20 09.2	+0.5
	comp=Z,0.6nm,0.4s,mb3.5,baz=113,slow=9.6,SNR=6.0						
ARCES	ARCESS Array B	41.11	338	P	P	15 20 39.5	+0.8
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ARCES	ARCESS Array B	41.11	338	P	P	15 20 39.5	+0.8
	comp=Z,1.3nm,0.5s,mb3.6,baz=116,slow=8.5,SNR=12						
NB2	NORSAR Subarra	44.37	323	P	P	15 21 04.8	-0.2
	comp=Z,1.5nm,0.5s,mb3.6,baz=97,slow=7.9						
NOA	NORSAR Array B	44.37	323	P	P	15 21 05.0	0.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
NOA	NORSAR Array B	44.37	323	P	P	15 21 05.0	0.0
	comp=Z,1.9nm,0.5s,mb3.7,baz=96,slow=7.7,SNR=12						
TOA0	Torodi Ar. Sit	65.80	269	*e*P	P	15 23 36.9	-1.9
TORD	Torodi Ar. Bea	65.80	269	P	P	15 23 37.4	-1.5
	comp=Z,1.3nm,0.4s,mb3.9,baz=49,slow=5.9,SNR=26						
FITZ	Fitzroy Crossi	74.87	127	P	P	15 24 33.1	-0.4
	comp=Z,1.9nm,1.0s,mb3.7,baz=321,slow=6.5,SNR=3.3						
BOSA	Boshof	77.85	220	P	P	15 24 49.7	-0.4
BOSA				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.5						
BOSA	Boshof	77.85	220	P	P	15 24 49.7	-0.4
BOSA	Boshof	77.85	220	P	P	15 24 49.7	-0.4
	comp=Z,1.3nm,0.7s,mb3.6,baz=56,slow=3.6,SNR=2.9						
YKA	Yellowknife Ar	81.17	3	P	P	15 25 07.8	+0.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA	Yellowknife Ar	81.17	3	P	P	15 25 07.8	+0.3
YKA	Yellowknife Ar	81.17	3	P	P	15 25 07.8	+0.3
	comp=Z,1.1nm,0.5s,mb3.8,baz=350,slow=5.4,SNR=18						
WRA	Warramunga Arr	81.96	122	P	P	15 25 11.3	-1.0
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	Warramunga Arr	81.96	122	P	P	15 25 11.3	-1.1
	comp=Z,0.8nm,0.6s,mb3.5,baz=325,slow=5.1,SNR=12						
ASAR	Alice Springs	84.23	125	P	P	15 25 23.0	-0.9
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	84.23	125	P	P	15 25 22.9	-0.9
	comp=Z,1.1nm,0.7s,mb3.7,baz=310,slow=4.8,SNR=19						

*CSEM **17** 15:15:30.5±0.1,3770N×3617E,h2km,MD3.0,Error ellipse: s-maj=2.8km s-min=2.4km az=167.0*
*DDA **17** 15:15:30.7,3763N×3622E,h12km±1km,Md3.0*
*ISCJB **17** 15:15:31.9±0.5,3766N±004×3622E±003,h8km±6km, Error ellipse: s-maj=7.7km s-min=4.2km az=13.3*
*ISK **17** 15:15:31.1,3769N×3620E,h4km,MD3.1*

ISC 17 15:15:32.5±0.5,3765N±005×3623E±003,h10km±5km,n13, σ1§10/20,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	Andirin	0.12	126	*i* P	Pg	15 15 33.7	-1.6
ANDN				*i* S	Sg	15 15 36.4	-0.9
KOZT	Kozan	0.36	242	PG	Pg	15 15 39.2	-0.4
KOZT				SG	Sg	15 15 44.2	-0.1
KMRS	Kahramanmaras	0.55	105	PG	Pg	15 15 42.2	-1.1
KMRS				SG	Sg	15 15 51.9	+1.3
CEYT	Ceyhan	0.74	211	*e*PG	Pg	15 15 46.1	-0.6
CEYT				*e*SG	Sg	15 15 58.1	+1.6
GAZ	Gaziantep	0.92	121	*e*PG	Pg	15 15 50.4	+0.3
GAZ				*e*SG	Sg	15 16 03.7	+1.6
GZT	Gaziantep	1.10	105	*i* P	Pb	15 15 52.1	-1.5
GZT				*i* S	Sn	15 16 08.2	-1.0
BNN	Bunyan	1.24	346	*e*PN	Pn	15 15 54.7	-1.1
NIG	Nigde	1.36	290	*e*PN	Pn	15 15 56.6	-0.8
AVNT	Avonos	1.56	317	*i* P	Pn	15 16 00.2	-0.1
AVNT				*i* S	Sg	15 16 24.5	+1.8
MALT	Malatya	1.86	68	*e*PN	Pn	15 16 05.6	+1.3
MYA	Malataya	1.86	68	*e*PN	Pn	15 16 05.2	+0.8
URFA	Urfa	2.07	95	*e*PN	Pn	15 16 08.6	+1.3
YOZ	Yozgat	2.11	341	*e*PN	Pn	15 16 07.3	-0.5

*NEIC **17** 15:15:51.6,4438S×16983E,h5km,ML4.0(WEL),After WEL.*

WEL 17 15:15:51.6±0.2,4438S×16983E,h5km±2km,ML4.0/18, Error ellipse: s-maj=1.4km s-min=1.0km az=90.0,South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LBZ	Lake Benmore	0.25	91	P	Pg	15 15 56.6	+0.1
LBZ				S	Sg	15 16 00.5	+0.6
LBZ	Lake Benmore	0.25	91	PG	Pg	15 15 56.6	+0.1
LBZ				SG	Sg	15 16 00.5	+0.7
WKZ	Wanaka	0.73	232	P	Pg	15 16 05.8	+0.1
WKZ				S	Sg	15 16 16.0	+0.8
WKZ	Wanaka	0.73	232	P*	Pb	15 16 05.8	-1.0
WKZ				S*	Sb	15 16 16.0	-1.2
FOZ	Fox Glacier	0.82	353	P	Pg	15 16 07.1	-0.3
FOZ	Fox Glacier	0.82	353	P*	Pb	15 16 07.1	-1.2
JCZ	Jackson Bay	0.83	291	P	Pg	15 16 07.2	-0.3
JCZ	Jackson Bay	0.83	291	P*	Pb	15 16 07.2	-1.3
ODZ	Otahua Downs	0.88	139	P	Pg	15 16 08.1	-0.4
ODZ	Otahua Downs	0.88	139	P*	Pb	15 16 08.1	-1.3
EAZ	Earnscleugh	0.93	203	P	Pg	15 16 09.2	-0.2
EAZ	Earnscleugh	0.93	203	P*	Pb	15 16 09.2	-1.0
RPZ	Rata Peaks	1.10	53	P	Pg	15 16 12.1	-0.7
RPZ	Rata Peaks	1.10	53	P*	Pb	15 16 12.1	-1.1
MSZ	Milford Sound	1.39	257	P	Pn	15 16 17.4	-0.3
MSZ	Milford Sound	1.39	257	PN	Pn	15 16 17.4	-0.2
WVZ	Waitaha Valley	1.46	27	P	Pn	15 16 18.2	-0.4
WVZ	Waitaha Valley	1.46	27	PN	Pn	15 16 18.2	-0.4
MLZ	Mavora Lakes	1.52	230	P	Pn	15 16 19.9	+0.4
MLZ	Mavora Lakes	1.52	230	PN	Pn	15 16 19.9	+0.4
TUZ	Tuapeka	1.58	185	P	Pn	15 16 19.2	-1.1
TUZ	Tuapeka	1.58	185	PN	Pn	15 16 19.2	-1.0
HHSZ	Highcliff Hill	1.60	160	PN	Pn	15 16 20.8	+0.3
WHZ	Wether Hill Ro	2.02	221	P	Pn	15 16 25.1	-1.2
WHZ	Wether Hill Ro	2.02	221	PN	Pn	15 16 25.1	-1.2
MQZ	McQueen's Vall	2.14	73	P	Pn	15 16 26.8	-1.2
MQZ	McQueen's Vall	2.14	73	PN	Pn	15 16 26.8	-1.1
CRLZ	Canterbury Las	2.17	69	P	Pn	15 16 27.0	-1.3
CRLZ	Canterbury Las	2.17	69	PN	Pn	15 16 27.0	-1.3
DCZ	Deep Cove	2.20	239	P	Pn	15 16 28.3	-0.4
DCZ	Deep Cove	2.20	239	PN	Pn	15 16 28.3	-0.4
SYZ	Scrubby Hill	2.21	193	PN	Pn	15 16 27.9	-1.1
LTZ	Lake Taylor	2.38	49	P	Pn	15 16 30.7	-0.6
LTZ	Lake Taylor	2.38	49	PN	Pn	15 16 30.7	-0.6
APZ	The Paps	2.77	207	PN	Pn	15 16 35.1	-1.5
DSZ	Denniston Nort	3.00	29	P	Pn	15 16 39.5	-0.3
DSZ	Denniston Nort	3.00	29	PN	Pn	15 16 39.5	-0.3
KHZ	Kahutara	3.34	55	P	Pn	15 16 43.5	-0.9
KHZ	Kahutara	3.34	55	PN	Pn	15 16 43.5	-1.0
THZ	Tophouse	3.45	42	P	Pn	15 16 45.2	-0.8
THZ	Tophouse	3.45	42	PN	Pn	15 16 45.2	-0.7
QRZ	Quartz Range	4.07	30	P	Pn	15 16 53.9	-0.6
QRZ	Quartz Range	4.07	30	PN	Pn	15 16 53.9	-0.6

DDA 17 15:58:26.0,3677N×3899E,h9km,Md2.6,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	Bozova	0.89	322	*i* P	Pg	15 58 42.2	-0.9
ATAB				*i* S	Sg	15 58 53.6	-1.1
GZT	Gaziantep	1.28	298	*i* P	Pn	15 58 48.7	-1.3
GZT				*i* S	Sb	15 59 06.4	-0.3
MARD	Mardin	1.53	69	*i* P	Pn	15 58 52.8	-0.7
MARD				*i* S	Sn	15 59 12.9	-0.7

*ISCJB **17** 16:05:30.2±0.3,3317N±002×11561W±002,h10km±3km, Error ellipse: s-maj=4.0km s-min=2.9km az=43.7*
*NEIC **17** 16:05:30.8,3318N×11561W,h3km,ML3.2(PAS),After PAS.*
NEIC Felt in the Obsidian Butte area.

ISC 17 16:05:30.5±0.3,3317N±002×11561W±002,h9km±4km,n49, σ0§71/60,21C-24D,Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLIC	Calipatria	0.08	115	⇑*i*P	Pg	16 05 32.4	-0.1
FRK	Frink	0.23	354	⇑*i*P	Pg	16 05 35.1	0.0
SWSC	Sam W. Stewart	0.28	214	⇑*i*P	Pg	16 05 36.3	+0.3
SWSC				*e*S	Sg	16 05 40.5	+0.7
SWSC	Sam W. Stewart	0.28	214	⇓P	Pg	16 05 36.3	+0.3
	baz=0.3,SNR=534						
SWSC				⇑S	Sg	16 05 40.3	+0.6
	baz=0.3						
COK	Cook Ranch	0.34	197	⇓*i*P	Pg	16 05 38.0	+0.9
BATC	Bat Cave Butte	0.34	326	⇓*i*P	Pg	16 05 37.8	+0.5
WESC	Westside Schoo	0.43	194	*e*P	Pg	16 05 39.4	+0.6
ERPC	Ernies Place	0.43	186	⇓*i*P	Pg	16 05 39.8	+0.9
BC3	Big Chuckw Mtn	0.50	15	P	Pg	16 05 40.1	-0.1
	baz=0.5,SNR=253						
BC3				⇓S	Sg	16 05 47.1	+0.4
	baz=0.5						
COA	Coachella	0.51	127	⇑*i*P	Pg	16 05 40.6	+0.2
SGL	Mount Signal	0.53	190	⇓*i*P	Pg	16 05 40.6	-0.1
HAY	Hayfield	0.53	358	*e*P	Pg	16 05 40.8	0.0
LTC	Little Chuckwa	0.55	55	*i* P	Pg	16 05 40.7	-0.4
YUH	Yuha Desert	0.59	207	⇑*i*P	Pg	16 05 41.7	-0.1
CBKC	Canebrake	0.60	243	⇑*i*P	Pg	16 05 42.2	0.0
CBKC				*e*S	Sg	16 05 50.7	+0.7
DVTC	Desert V Tower	0.66	219	⇓*i*P	Pg	16 05 43.1	-0.1
DVTC				*e*S	Sg	16 05 52.2	+0.5
DVTC	Desert V Tower	0.66	219	P	Pg	16 05 43.1	-0.1
	baz=0.7,SNR=108						
DVTC				⇑S	Sg	16 05 52.3	+0.5
	baz=0.7						
MONP	Monument Peak	0.74	248	⇑P	Pg	16 05 44.4	-0.3
	baz=0.7,SNR=193						
MONP				⇓S	Sg	16 05 54.5	+0.3
	baz=0.7						
PFO	Pinyon Flat Ob	0.83	302	*e*P	Pg	16 05 45.8	-0.6
PFO				*e*S	Sg	16 05 57.5	+0.3
PFO	Pinyon Flat Ob	0.83	302	P	Pg	16 05 45.9	-0.5
	baz=0.8,SNR=145						
PFO				⇓S	Sg	16 05 57.5	+0.3
	baz=0.8						
BELC	Belle Mtn.	0.89	339	P	Pg	16 05 46.8	-0.7
	baz=0.9,SNR=50						
BELC				⇑S	Sg	16 05 59.5	+0.5
	baz=0.9						
BAR	Barrett	1.02	241	*e*P	Pg	16 05 48.7	-1.4
IRM	Iron Mountain	1.06	21	⇑P	Pg	16 05 49.6	-1.2
	baz=1.0,SNR=163						
PLM	Palomar	1.06	280	*e*P	Pg	16 05 49.5	-1.4
Y12C	Blythe	1.07	57	⇓P	Pg	16 05 49.9	-1.2
	baz=1.1,SNR=43						
112A	Yuma	1.08	126	⇑S	Sg	16 06 04.3	-0.8
	baz=1.1						
109C	Camp Elliot, M	1.29	258	⇑P	Pn	16 05 53.0	-1.7
	baz=1.3						
109C				⇑S	Sb	16 06 09.4	-2.1
	baz=1.3						
113A	Mohawk Valley,	1.60	104	⇑P	Pn	16 05 58.3	-0.7
	baz=1.6						
GMRC	Granite Mounta	1.60	359	⇓P	Pn	16 05 59.2	+0.2
	baz=1.6						
Y13A	Salome	1.62	66	⇑Pb	Pb	16 06 00.4	-0.1
	baz=1.6,SNR=61						
PDMCI	Parker Dam,Lak	1.66	47	⇑Pb	Pb	16 06 01.3	0.0
	baz=1.7						
HEC	Hector,Ludlow	1.76	340	⇓Pb	Pb	16 06 03.5	+0.6
	baz=1.8						
NEE2	Needles Airpor	1.79	27	⇓Pb	Pb	16 06 03.9	+0.4
	baz=1.8						
X13A	Yucca	2.05	46	⇓Pb	Pb	16 06 08.3	+0.4
	baz=2.0,SNR=35						
W12A	Cal Nev Ari	2.21	16	⇑Pg	Pg	16 06 12.2	-0.6
	baz=2.2						
Z14A	Wintersburg	2.24	84	⇓Pb	Pb	16 06 11.2	0.0
	baz=2.2,SNR=6.7						
TUQ	Turquoise Mtn.	2.27	354	⇓Pb	Pb	16 06 12.6	+0.9
	baz=2.3						
Y14A	Wickenburg	2.31	70	⇓Pb	Pb	16 06 12.4	+0.2
	baz=2.3,SNR=18						
GSC	Goldstone	2.34	335	*e*P	Pn	16 06 10.0	+0.8
W13A	Hualapai Mount	2.39	36	⇑P	Pn	16 06 09.9	0.0
	baz=2.4,SNR=11						
X14A	Yava	2.61	60	⇑P	Pn	16 06 12.2	-0.6
	baz=2.6						
EDW2	Edwards Air Fo	2.61	311	⇑Pb	Pb	16 06 18.5	+1.1
	baz=2.6						
V12A	Nelson	2.62	14	⇓Pb	Pb	16 06 19.0	+1.4
	baz=2.6,SNR=9.4						
SHOC	Shoshone	2.77	349	⇓Pg	Pg	16 06 22.8	-0.8
	baz=2.8						
115A	Sonoran Desert	2.88	99	⇓P	Pn	16 06 17.0	+0.4
	baz=2.9						
V14A	Boquillas Ranc	3.21	39	⇓P	Pn	16 06 21.1	0.0
	baz=3.2						
U13A	Pakoon Wash	3.50	22	⇑P	Pn	16 06 25.0	-0.1
	baz=3.5						
X16A	Lo Mia Camp, P	3.69	69	⇓P	Pn	16 06 28.1	+0.4
	baz=3.7						
V15A	Kaibab Nationa	3.88	46	⇓P	Pn	16 06 30.8	+0.6
	baz=3.9						

*ISCJB **17** 16:26:33.4±0.8,2416S±004×6692W±0.10,h177km±9km, mb3.8/8,Error ellipse: s-maj=14.4km s-min=7.1km az=1.3*
*IDC **17** 16:26:34.0±1.5,2415S×6694W,h169km±14km,mb3.5/4, mb1 3.6/9,mb1mx3.5/19,mbtmp3.4/9,Error ellipse: s-maj=20.2km s-min=12.1km az=90.0*
*NEIC **17** 16:26:34.7±0.8,2413S×6688W,h177km±9km,mb4.0/6, Error ellipse: s-maj=13.0km s-min=8.5km az=100.0*

ISC 17 16:26:34.1±0.7,2415S±004×6692W±010,h166km±8km, n29,σ1§12/28,mb3.8/8,1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	5.91	214	Pn	Pn	16 27 59.4	-0.4
LCO				*e*Sn	Sn	16 28 58.7	-8.3
CFAA	Coronel Fontan	7.52	189	P	Pn	16 28 22.2	+1.2
	0.2nm,0.3s,baz=359,slow=8.5,SNR=36						
CFAA				S	Sn	16 29 42.6	-2.8
	1.0nm,0.3s,baz=236,slow=17,SNR=20						
LPAZ	La Paz	7.90	352	P	Pn	16 28 28.5	+2.3
LPAZ				S	Sn	16 29 53.9	-0.7
LPAZ	La Paz	7.90	352	P	Pn	16 28 28.5	+2.3
	1.4nm,0.3s,baz=155,slow=8.4,SNR=23						
LPAZ				S	Sn	16 29 53.9	-0.7
	0.3nm,0.3s,baz=331,slow=18,SNR=7.3						
CPUP	Villa Florida	8.95	106	P	Pn	16 28 40.2	+0.2
	0.3nm,0.3s,baz=254,slow=13,SNR=2.8						
SIV	San Ignacio	9.79	35	P	Pn	16 28 50.9	-0.3
	0.6nm,0.3s,baz=227,slow=12,SNR=7.6						
TRQA	Tornquist	14.49	164	*e*Pn	Pn	16 29 50.7	-0.7
	5.7nm,0.5s						
PLCA	Paso Flores	16.82	190	P	Pn	16 30 21.4	+1.6
	0.1nm,0.3s,baz=198,slow=7.9,SNR=3.7						
BDFB	Brasilia	19.67	68	*e*P	P	16 30 50.7	+0.2
	14nm,0.7s						
BDFB	Brasilia	19.67	68	P	P	16 30 51.1	+0.6
	0.7nm,0.3s,baz=231,slow=18,SNR=21						
VNA1	Neumayer--Stat	57.19	160	*e*	P	16 36 07.1	+3.8
VNA1				*e*		16 36 09.6	
VNA1				*e*		16 36 13.0	
VNA2	Neumayer--Watz	57.56	160	*e*	P	16 36 07.2	+1.3
	baz=286,slow=7.9						
VNA2				*e*		16 36 09.5	
VNA2				*e*		16 36 13.2	
SNAA	Sanae	59.19	161	*e*	P	16 36 16.5	-0.7
SNAA				*e*		16 36 19.3	
SNAA				*e*		16 36 22.0	
SNAA	Sanae	59.19	161	P	P	16 36 17.3	+0.1
	0.8nm,0.7s,mb3.7,baz=270,slow=5.3,SNR=13						
SWET	Sewanee	61.73	342	*e*P	P	16 36 32.6	-2.2
TXAR	Lajitas Array	63.84	324	P	P	16 36 48.6	-0.3
	0.6nm,0.6s,mb3.6,baz=147,slow=8.5,SNR=5.9						
QSPA	South Pole Qui	66.06	180	*e*P	P	16 37 04.0	+1.5
	1.5nm,0.7s,mb3.9						
ANMO	Albuquerque	69.71	326	P	P	16 37 26.3	+0.4
	1.7nm,0.7s,mb3.9						
SDCO	Great Sand Dun	71.45	329	*e*P	P	16 37 37.0	+0.7
	1.5nm,0.8s,mb3.8						
SYO	Syowa Base	73.39	159	⇓*e*P	P	16 37 46.5	-1.0
SRU	San Rafael	74.98	326	P	P	16 37 49.7	-7.4
	2.5nm,0.6s,mb4.0						
TOA0	Torodi Ar. Sit	76.55	69	*e*P	P	16 38 05.9	-0.7
TORD	Torodi Ar. Bea	76.55	69	P	P	16 38 05.8	-0.8
	0.8nm,0.5s,mb3.6,baz=264,slow=6.1,SNR=12						
YKA	Yellowknife Ar	94.28	340	P	P	16 39 33.6	-0.3
	0.7nm,0.5s,mb4.0,baz=132,slow=4.4,SNR=19						
ASAR	Alice Springs	128.36	205	PKP	PKPdf	16 45 20.8	-0.9
	0.2nm,0.5s,baz=129,slow=1.8,SNR=6.7						
WRA	Warramunga Arr	131.53	207	PKP	PKPdf	16 45 27.4	-0.3
	0.2nm,0.4s,baz=154,slow=1.9,SNR=13						
ZALV	Zalesovo Beam	143.49	28	PKP	PKPdf	16 45 45.6	-2.9
	1.0nm,0.5s,baz=286,slow=4.5,SNR=5.8						
MKAR	Makanchi Array	146.59	40	PKPbc	PKPbc	16 45 54.5	-1.5
MKAR	Makanchi Array	146.59	40	PKPbc	PKPbc	16 45 54.5	-1.5
	1.1nm,0.6s,baz=288,slow=0.8,SNR=12						

*BJI **17** 16:46:45.7,046S×12637E,h10km,mB4.8,mb4.7,Ms4.7, Msz4.4*
*IDC **17** 16:46:48.7±0.8,0.12N×12597E,h0km,mb4.1/9, mb1 4.2/12,mb1mx4.1/19,mbtmp4.1/12,ML3.8/3,MS3.7/3, Ms1 3.7/3,ms1mx3.2/25,Error ellipse: s-maj=41.6km s-min=14.0km az=76.0*
*ISCJB **17** 16:46:49.4±0.4,005S±005×12601E±0.10,h10km, mb4.4/25,MS3.9/5,Error ellipse: s-maj=14.0km s-min=6.4km az=167.9*
*NEIC **17** 16:46:50.1±0.4,009N×12607E,h10km,mb4.5/12,Error ellipse: s-maj=14.7km s-min=7.1km az=70.0*

ISC 17 16:46:50.4±3.3,001S±006×1260E±01,h5km±20km, h13km±1.8km:pP-P,n37,σ1§33/39,mb4.4/25,MS3.9/5, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.00	232	Pn	Pn	16 48 48.4	+0.9
KAPI	Kappang	8.00	232	Pn	Pn	16 48 48.4	+0.9
	0.6nm,0.3s,baz=185,slow=8.8,SNR=4.2						
BATI	Kupang	10.40	193	Pn	Pn	16 49 22.0	+1.7
	0.6nm,0.3s,baz=349,slow=10,SNR=2.8						
KSM	Kuching	15.79	275	*e*P	Pn	16 50 33.5	-0.2
FITZ	Fitzroy Crossi	17.98	181	*e*P	Pn	16 51 01.7	+0.4
	10nm,0.8s						
FITZ	Fitzroy Crossi	17.98	181	*e*P	Pn	16 51 01.4	0.0
	14nm,0.8s						
FITZ	Fitzroy Crossi	17.98	181	P	Pn	16 51 01.4	+0.1
	0.4nm,0.3s,baz=29,slow=14,SNR=12						
WRAB	Tennant Creek	21.41	158	*e*P	P	16 51 39.0	-0.3
	19nm,1.1s,mb4.3						
WRA	Warramunga Arr	21.41	158	P	P	16 51 39.4	0.0
	5.3nm,0.6s,mb4.0,baz=337,slow=11,SNR=42						
WB2	Warramunga Arr	21.42	158	*e*P	P	16 51 39.3	-0.1
WB2	Warramunga Arr	21.42	158	*e*P	P	16 51 39.4	0.0
MBWA	Marble Bar	21.90	196	*e*P	P	16 51 43.0	-1.6
	12nm,0.9s,mb4.3						
ASAR	Alice Springs	24.72	163	P	P	16 52 13.3	+0.5
	5.3nm,0.7s,mb4.2,baz=342,slow=6.7,SNR=117						
NJ2	Nanjing	32.60	349	*e*P	P	16 53 24.5	+1.4
NJ2				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.0						
KMI	Kunming	33.64	320	P	P	16 53 35.1	+2.8
KMI				AMB	AMB		
	comp=Z,3.0nm,0.5s,mb4.5						
STKA	Stephens Creek	34.95	157	*e*P	P	16 53 44.2	+0.7
	comp=Z,5.5nm,0.6s,mb4.7						
STKA	Stephens Creek	34.95	157	*e*P	P	16 53 44.1	+0.7
	comp=Z,9.2nm,0.7s,mb4.8						
STKA	Stephens Creek	34.95	157	P	P	16 53 44.4	+0.9
	comp=Z,7.2nm,0.7s,mb4.7,baz=326,slow=8.4,SNR=26						
STKA				LR	LR	17 08 44.4	
	comp=Z,23nm,21.1s,MS2.9,baz=109,slow=38						
CD2	Chengdu	37.32	327	*e*P	P	16 54 05.5	+1.7
CD2				AP	pP	16 54 09.9	+4.6
CD2				XP	sP	16 54 12.8	+6.9
CD2				PP	PP	16 55 33.3	+4.3
CD2				S	S	16 59 53.3	+1.2
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,100nm,11.8s						
CD2				LR	LR		
	comp=Z,120nm,10.2s,MS4.0						
KSRS	Korea Array	37.32	2	P	P	16 54 03.2	-0.5
	comp=Z,1.8nm,0.8s,mb4.0,baz=180,slow=8.4,SNR=5.3						
LZH	Lanzhou	41.42	332	*e*P	P	16 54 37.4	-0.6
LZH				AP	pP	16 54 40.0	+0.5
LZH				AMB	AMB		
	comp=Z,15nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,66nm,4.2s						
HHC	Hu-ho-hao-te	42.74	344	*e*P	P	16 54 50.8	+2.1
HHC				AP	pP	16 54 55.1	+4.9
HHC				XP	sP	16 54 57.8	+7.0
HHC				PP	PP	16 56 33.1	+5.2
HHC				PCP	PcP	16 56 42.3	+2.0
HHC				SCP	ScP	17 00 32.0	-0.2
HHC				S	S	17 01 14.4	+1.4
HHC				SS	SS	17 04 19.3	-4.5
HHC				SCS	ScS	17 04 50.5	-0.4
HHC				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,301nm,6.3s						
HHC				LR	LR		
	comp=N,310nm,16.7s,MS4.4						
HHC				LR	LR		
	comp=E,255nm,16.3s,MS4.4						
HHC				LR	LR		
	comp=Z,292nm,16.0s,MS4.3						
ULN	Ulaanbaatar	50.46	344	*e*P	P	16 55 49.0	-0.2
	comp=Z,2.2nm,0.9s,mb4.2						
SONM	Songino Array	50.62	343	P	P	16 55 47.3	-3.1
SONM				LR	LR	17 19 30.6	
SONM	Songino Array	50.62	343	P	P	16 55 47.3	-3.1
	comp=Z,1.2nm,0.9s,mb3.8,baz=150,slow=6.9,SNR=6.7						
SONM				LR	LR	17 19 30.6	
	comp=Z,127nm,18.4s,MS4.0,baz=90,slow=39						
WMQ	Urumqi	55.42	327	*e*P	P	16 56 27.0	+1.1
WMQ				AMB	AMB		
	comp=Z,29nm,1.

6.0nm,0.8s
WB2 Warramunga Arr 17.04 138 *e*P **P 17 27 15.5 -0.3**
ASAR Alice Springs 19.61 147 P **P 17 27 39.8 +0.6**
0.5nm,0.3s,baz=323,slow=8.8,SNR=79
ASAR PcP PcP 17 31 31.9 0.0
0.1nm,0.3s,baz=346,slow=1.3,SNR=6.1
NWAO Narrogin (SRO) 25.90 190 P **P 17 28 36.2 +0.9**
NWAO Narrogin (SRO) 25.90 190 P **P 17 28 36.2 +0.9**
5.8nm,0.8s,mb4.2,baz=18,slow=6.4,SNR=4.0
STKA Stephens Creek 30.24 146 *e*P **P 17 29 13.7 +0.6**
1.1nm,0.3s,mb3.9
STKA Stephens Creek 30.24 146 P **P 17 29 12.9 -0.2**
1.8nm,0.4s,mb4.0,baz=311,slow=8.6,SNR=12
GUMO Guam 30.49 47 P **P 17 29 16.2 +0.7**
31nm,0.7s,mb5.0
MKAR Makanchi Array 64.62 331 P **P 17 33 30.2 +0.3**
0.1nm,0.2s,mb2.8,baz=146,slow=6.7,SNR=3.9

*ISCJB **17** 17:55:06.3±6.2,21.1S±0.1×1687E±0.1,h20km±42km, mb4.3/10,MS3.9/6,Error ellipse: s-maj=19.2km s-min=17.2km az=165.3*
*NEIC **17** 17:55:06.9±0.4,21.12S×16869E,h10km,mb4.8/5,Error ellipse: s-maj=17.7km s-min=15.0km az=108.0*
*SZGRF **17** 17:55:09.4,2180S×16855E,h33km,Loyalty Islands*
*IDC **17** 17:55:11.5±1.2,21.17S×16852E,h36km±5km,mb3.9/6, mb1 4.1/6,mb1mx4.0/11,mbtmp3.9/6,MS3.7/7,Ms1 3.7/7, ms1mx3.5/26,Error ellipse: s-maj=34.7km s-min=23.0km az=134.0*
ISC 17 17:55:07.8±6.0,212S±01×16869E±009,h16km±37km, h35km±.9km:pP-P,n60,σ0§93/17,mb4.3/10,MS3.9/6,5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.28**	**246**	*e*P	**Pn**	**17 55 44.6**	**-0.2**
DZM				*e*S	**Sn**	**17 56 12.4**	**-0.1**
CTA	**Charters Tower**	**21.02**	**269**	LR	LR	18 06 31.3	
	comp=Z,159nm,18.3s,MS3.4,baz=170,slow=33						
STKA	**Stephens Creek**	**26.43**	**241**	*e*P	**P**	**18 00 45.3**	**+1.5**
	2.2nm,0.6s,mb3.9						
STKA	**Stephens Creek**	**26.43**	**241**	P	**P**	**18 00 45.1**	**+1.3**
	2.2nm,0.6s,mb3.9,baz=88,slow=8.3,SNR=10.0						
STKA				LR	LR	18 09 48.7	
	comp=Z,212nm,21.6s,MS3.6,baz=210,slow=33						
RAR	**Rarotonga**	**29.39**	**96**	LR	LR	18 10 21.2	
	comp=Z,159nm,20.3s,MS3.6,baz=266,slow=31						
WRAB	**Tennant Creek**	**32.14**	**266**	*e*P	**P**	**18 01 35.1**	**+0.3**
	7.4nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**32.15**	**266**	P	**P**	**18 01 33.6**	**-1.2**
	0.7nm,0.6s,mb3.7,baz=102,slow=8.6,SNR=15						
WRA				pP	pP	18 01 44.1	+4.2
	2.0nm,0.6s,baz=102,slow=7.8,SNR=10						
ASAR	**Alice Springs**	**32.21**	**259**	P	**P**	**18 01 35.5**	**+0.1**
	5.4nm,0.6s,mb4.5,baz=85,slow=9.1,SNR=135						
ASAR				pP	pP	18 01 45.1	+4.8
	5.2nm,0.7s,baz=86,slow=9.0,SNR=15						
PPT	**Papeete**	**39.46**	**92**	LR	LR	18 15 15.8	
	comp=Z,121nm,20.5s,MS3.7,baz=224,slow=30						
MBWA	**Marble Bar**	**45.51**	**261**	*e*P	pP	18 03 37.2	+5.4
VNDA	**Vanda**	**56.52**	**182**	P	**P**	**18 04 47.9**	**-0.9**
	0.5nm,0.6s,mb3.7,baz=5,2,slow=6.9,SNR=3.6						
SBA	**Scott Base**	**56.76**	**180**	*e*P	**P**	**18 04 52.0**	**+1.5**
	32nm,2.1s,mb5.0						
SBA				*e*		18 05 02.5	
KSM	**Kuching**	**61.31**	**284**	*e*P	**P**	**18 05 23.0**	**0.0**
KSM				*e*		18 05 33.9	
MJAR	**Matsushiro Arr**	**64.20**	**333**	P	**P**	**18 05 40.4**	**-1.3**
	2.4nm,0.9s,mb4.2,baz=168,slow=6.6,SNR=4.2						
QSPA	**South Pole Qui**	**68.92**	**180**	*e*P	**P**	**18 06 11.8**	**+0.4**
	7.6nm,1.1s,mb4.5						
QSPA				*e*		18 06 22.4	
RPN	**Rapa Nui**	**73.81**	**113**	LR	LR	18 33 58.5	
	comp=Z,2.7nm,19.7s,baz=134,slow=32						
SNAA	**Sanae**	**87.24**	**183**	*e*	**P**	**18 07 51.2**	**-1.9**
SNAA				*e*		18 08 02.1	
SNAA				*e*		18 08 04.8	
VNA3	**Neumayer Olymp**	**87.85**	**181**	*e*	**P**	**18 07 55.7**	**-0.3**
VNA3				*e*		18 08 06.2	
VNA3				*e*		18 08 09.3	
ULN	**Ulaanbaatar**	**88.08**	**324**	*e*P	**P**	**18 07 58.4**	**+1.1**
	9.0nm,1.4s,mb4.8						
ULN				*e*		18 08 09.4	
VNA2	**Neumayer--Watz**	**88.14**	**181**	*e*	**P**	**18 07 57.5**	**+0.1**
	baz=186,slow=4.8						
VNA2				*e*		18 08 07.5	
VNA2				*e*		18 08 10.9	
SONM	**Songino Array**	**88.43**	**323**	P	**P**	**18 07 59.9**	**+1.0**
	2.1nm,0.8s,mb4.5,baz=139,slow=4.7,SNR=12						
SONM				pP	pP	18 08 10.3	+5.9
	0.9nm,0.5s,baz=123,slow=5.5,SNR=4.0						
PFO	**Pinyon Flat Ob**	**89.66**	**54**	LR	LR	18 43 05.4	
	comp=Z,70nm,18.1s,MS4.1,baz=138,slow=32						
PLCA	**Paso Flores**	**97.45**	**139**	LR	LR	18 44 31.7	
	comp=Z,181nm,19.8s,MS4.6,baz=180,slow=30						
ARCES	**ARCESS Array B**	**126.77**	**345**	PKP	PKPdf	18 14 10.3	+0.5
	2.5nm,0.8s,baz=316,slow=3.3,SNR=6.0						
CRVS	**Cervenica-Dubn**	**141.94**	**325**	*e*PKP	PKPdf	18 14 48.1	+9.3
CRVS	**Cervenica-Dubn**	**141.94**	**325**	*e*PKP	PKPdf	18 14 48.0	+9.2
DPC	**Dobruska-Polom**	**143.63**	**330**	*e*PKP	PKPdf	18 14 39.5	-2.2
PVCC	**Panska Ves**	**144.30**	**331**	*e*PKP	PKPdf	18 14 42.0	-0.9
BRG	**Berggiesshubel**	**144.33**	**332**	*e*PKPbc	PKPdf	18 14 41.7	-1.2
BRG	**Berggiesshubel**	**144.33**	**332**	*e*P	PKPdf	18 14 41.4	-1.5
	7.2nm,0.8s						
BRG				*e*		18 14 53.0	
	5.8nm,1.0s						
CLL	**Collm**	**144.41**	**334**	*e*PKPbc	PKPdf	18 14 42.0	-1.0
CLL	**Collm**	**144.41**	**334**	*i* PKPdf	PKPdf	18 14 41.8	-1.2
	comp=Z,8.0nm,0.8s						
CLL				*i* pPKPdf	pPKPdf	18 14 53.3	+4.7
	comp=Z,5.0nm,0.7s						
MODS	**Modra-Piesok**	**144.47**	**327**	*e*PKP	PKPdf	18 14 49.2	+6.0
PRU	**Pruhonice**	**144.70**	**331**	*e*PKP	PKPdf	18 14 43.1	-0.5
TREC	**Trest**	**144.75**	**329**	*e*PKP	PKPdf	18 14 43.1	-0.6
CLZ	**Clausthal**	**145.03**	**336**	*e*PKPbc	PKPbc	18 14 44.4	+1.0
TANN	**Tannenbergstha**	**145.30**	**333**	*e*PKPbc	PKPbc	18 14 45.2	+0.8
NKC	**Novy Kostel**	**145.44**	**333**	*e*PKP	PKPdf	18 14 45.6	+0.7
CONA	**Conrad Observa**	**145.48**	**327**	⇓*i* P	PKPdf	18 14 46.5	+1.5
	comp=Z,11nm,0.8s						
CONA	**Conrad Observa**	**145.48**	**327**	⇓*i* pPKPbc	PKPbc	18 14 46.5	+1.4
	comp=Z,11nm,0.8s						
MOX	**Moxa**	**145.48**	**334**	*e*PKP	PKPdf	18 14 45.9	+1.0
	comp=Z,11nm,1.2s						
MOX	**Moxa**	**145.48**	**334**	*e*PKPbc	PKPbc	18 14 45.8	+0.8
CSNA	**Conrad Observa**	**145.48**	**327**	⇓*i* pPKPbc	PKPbc	18 14 46.5	+1.4
	comp=Z,10nm,0.8s						
KHC	**Kasperske Hory**	**145.75**	**331**	*e*PKP	PKPdf	18 14 46.7	+1.3
MANZ	**Manzenberg**	**145.78**	**333**	*e*PKPbc	PKPbc	18 14 46.8	+0.9
ROTZ	**Rotzenmuhle**	**145.90**	**333**	*e*PKPbc	PKPbc	18 14 47.4	+1.1
GEC2	**GERESS Array S**	**145.90**	**330**	*e*PKPdf	PKPdf	18 14 47.0	+1.3
GEC2				*e*		18 14 58.3	
GEC2	**GERESS Array S**	**145.90**	**330**	*e*PKPbc	PKPbc	18 14 47.0	+0.7
GERES	**GERESS Array B**	**145.90**	**330**	PKPbc	PKPbc	18 14 47.3	+1.0
	comp=Z,7.2nm,0.7s,baz=38,slow=2.8,SNR=58						
GERES				pPKPbc	pPKPbc	18 14 58.4	+6.5
	comp=Z,2.9nm,0.6s,baz=30,slow=3.8,SNR=11						
UBBA	**Unterbreizbach**	**145.98**	**336**	*e*PKPbc	PKPbc	18 14 47.6	+1.1
WET	**Wettzell**	**146.06**	**331**	*e*PKPbc	PKPbc	18 14 46.7	-0.1
WET				*e*PKPab	PKPab	18 14 48.1	+0.7
GRA1	**Grafenberg Arr**	**146.37**	**333**	*e*PKPbc	PKPbc	18 14 48.8	+1.1
GRF	**Grafenberg Arr**	**146.37**	**333**	*e*PKPbc	PKPbc	18 14 48.8	+1.1
FUR	**Furstenfeldbru**	**147.50**	**331**	*e*PKPbc	PKPbc	18 14 51.8	+0.8
STU	**Stuttgart**	**147.93**	**334**	*e*PKPbc	PKPbc	18 14 53.0	+0.9
SQTA	**Sankt Quirin**	**148.23**	**330**	⇓*i* P	PKPbc	18 14 53.6	+0.6
	comp=Z,5.0nm,0.9s						
SQTA	**Sankt Quirin**	**148.23**	**330**	⇓*i* pPKPdf	PKPbc	18 14 53.6	+0.6
	comp=Z,5.0nm,0.9s						
WLF	**Walferdange**	**148.34**	**338**	*e*PKPbc	PKPbc	18 14 54.0	+0.8
BFO	**Black Forest**	**148.63**	**334**	*e*PKPbc	PKPbc	18 14 54.4	+0.4
TORD	**Torodi Ar. Bea**	**165.25**	**239**	PKP	PKPdf	18 15 12.4	+0.2
	comp=Z,0.4nm,0.6s,baz=8.2,slow=2.0,SNR=3.5						

*IDC **17** 18:39:57.7±1.5,2757S×17682W,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.8/12,mbtmp3.7/4,MS3.5/1,Ms1 3.5/1, ms1mx3.0/24,Error ellipse: s-maj=39.5km s-min=25.0km az=114.0*
*NEIC **17** 18:39:59.1±1.1,2759S×17672W,h10km,mb4.4/1,Error ellipse: s-maj=28.9km s-min=21.6km az=113.0*
ISC 17 18:40:03.4±5.2,277S±02×1767W±03,h45km±37km,n13, σ1§21/8,mb3.9/5,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.93**	**214**	Pn	**Pn**	**18 40 33.4**	**-0.3**
	249nm,0.3s,baz=72,slow=10,SNR=11						
RAO				Sn	**Sn**	**18 40 57.0**	**+0.2**
	530nm,0.3s,baz=93,slow=24,SNR=4.5						
RAR	**Rarotonga**	**16.68**	**71**	LR	LR	18 48 18.0	
	comp=Z,171nm,19.6s,baz=266,slow=30						
CTAO	**Charters Tower**	**34.61**	**274**	*e*P	**P**	**18 46 50.4**	**+2.0**
	5.5nm,1.0s,mb4.4						
STKA	**Stephens Creek**	**36.30**	**253**	P	**P**	**18 47 01.4**	**-1.3**
	1.2nm,0.9s,mb3.8,baz=85,slow=11,SNR=2.0						
ASAR	**Alice Springs**	**44.48**	**264**	P	**P**	**18 48 10.5**	**0.0**
	0.6nm,0.5s,mb3.6,baz=96,slow=7.6,SNR=9.2						
WB2	**Warramunga Arr**	**45.21**	**269**	*e*P	**P**	**18 48 15.9**	**-0.4**
WRA	**Warramunga Arr**	**45.22**	**269**	P	**P**	**18 48 16.1**	**-0.3**
	0.6nm,0.3s,mb3.9,baz=106,slow=6.2,SNR=34						
VNDA	**Vanda**	**50.94**	**186**	P	**P**	**18 49 00.1**	**+0.3**
	0.5nm,0.7s,mb3.6,baz=90,slow=3.2,SNR=3.7						
ARCES	**ARCESS Array B**	**136.14**	**349**	PKP	PKPdf	18 59 21.4	+2.5
	2.5nm,0.8s,baz=46,slow=3.5,SNR=4.9						
FINES	**FINESS Array B**	**142.93**	**342**	PKhKP		18 59 28.1	
	1.0nm,0.9s,baz=58,slow=5.2,SNR=3.1						
NB2	**NORSAR Subarra**	**146.19**	**353**	PKP	PKPdf	18 59 39.0	+1.9
	comp=Z,1.4nm,0.8s,baz=8.7,slow=3.0						
NOA	**NORSAR Array B**	**146.19**	**353**	PKPbc	PKPbc	18 59 39.3	+1.1
	comp=Z,1.9nm,0.8s,baz=12,slow=4.4,SNR=7.3						
AKASG	**Malin Array Be**	**149.73**	**327**	PKPbc	PKPbc	18 59 47.1	-0.8
	comp=Z,1.4nm,0.6s,baz=44,slow=3.3,SNR=8.9						

IDC 17 18:47:43.4±1.0,2188N×14316E,h0km,mb3.6/6, mb1 3.8/6,mb1mx3.7/19,mbtmp3.6/6,Error ellipse: s-maj=40.2km s-min=23.4km az=91.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.19**	**320**	P	P	18 55 13.0	0.0
	0.5nm,0.7s,baz=133,slow=6.6,SNR=4.4						
WRA	**Warramunga Arr**	**42.45**	**192**	P	P	18 55 40.2	+0.1
	0.3nm,0.6s,baz=19,slow=8.4,SNR=4.8						
ASAR	**Alice Springs**	**46.16**	**192**	P	P	18 56 09.6	-0.2
	0.5nm,0.7s,baz=18,slow=9.3,SNR=9.0						
MKAR	**Makanchi Array**	**54.56**	**313**	P	P	18 57 13.4	+0.1
	0.3nm,0.6s,baz=99,slow=8.0,SNR=4.5						
YKA	**Yellowknife Ar**	**76.31**	**28**	P	P	18 59 33.8	0.0
	0.4nm,0.4s,baz=292,slow=5.5,SNR=6.3						
NVAR	**Mina Array Bea**	**83.05**	**51**	P	P	19 00 11.4	+0.5
	0.4nm,0.7s,baz=268,slow=7.6,SNR=3.6						

*NEIC **17** 18:51:15.9±0.7,21.13S×16861E,h10km,mb4.1/3,Error ellipse: s-maj=37.5km s-min=11.4km az=153.0*
*ISCJB **17** 18:51:17.7±0.7,21.1S±02×1686E±0.1,h37km,mb4.3/9, Error ellipse: s-maj=24.6km s-min=10.8km az=157.0*
*IDC **17** 18:51:20.7±1.3,2099S×16848E,h37km±4km,mb4.1/7, mb1 4.3/7,mb1mx4.0/14,mbtmp4.1/7,MS3.8/1,Ms1 3.8/1, ms1mx3.1/26,Error ellipse: s-maj=55.1km s-min=17.8km az=149.0*
*SZGRF **17** 18:51:22.5,2025S×16992E,h38km,Vanuatu Islands*
ISC 17 18:51:19.5±0.7,212S±02×16868E±010,h39km, h39km±.6km:pP-P,n68,σ0§91/16,mb4.3/9,8C-4D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.27**	**246**	*e*P	**Pn**	**18 51 53.5**	**-1.0**
DZM				*e*S	**Sn**	**18 52 22.2**	**+1.1**
STKA	**Stephens Creek**	**26.41**	**241**	*e*P	**P**	**18 56 53.3**	**+0.8**
	1.6nm,0.6s,mb3.7						
STKA	**Stephens Creek**	**26.41**	**241**	P	**P**	**18 56 53.9**	**+1.4**
	1.7nm,0.6s,mb3.8,baz=40,slow=7.0,SNR=7.6						
STKA				pP	pP	18 57 04.1	+0.8
	2.4nm,0.9s,baz=136,slow=8.5,SNR=2.5						
WB2	**Warramunga Arr**	**32.13**	**266**	*e*P	**P**	**18 57 44.1**	**+0.6**
WRAB	**Tennant Creek**	**32.13**	**266**	*e*P	**P**	**18 57 41.8**	**-1.8**
	1.2nm,0.7s,mb3.8						
WRAB				*e*pP	pP	18 57 52.3	-2.0
WRA	**Warramunga Arr**	**32.14**	**266**	P	**P**	**18 57 42.5**	**-1.1**
	0.9nm,0.6s,mb3.8,baz=100,slow=7.4,SNR=18						
WRA				pP	pP	18 57 53.0	-1.4
	1.2nm,0.5s,baz=82,slow=6.0,SNR=9.5						
ASAR	**Alice Springs**	**32.20**	**259**	P	**P**	**18 57 44.2**	**+0.2**
	5.8nm,0.6s,mb4.6,baz=83,slow=9.0,SNR=101						
ASAR				pP	pP	18 57 54.2	-0.6
	7.9nm,0.7s,baz=84,slow=9.0,SNR=22						
FITZ	**Fitzroy Crossi**	**40.56**	**267**	*e*P	pP	18 59 06.5	0.0
	30nm,0.6s						
FITZ	**Fitzroy Crossi**	**40.56**	**267**	P	**P**	**18 58 55.0**	**-0.5**
	4.4nm,0.9s,mb4.1,baz=112,slow=18,SNR=6.6						
FITZ				pP	pP	18 59 06.5	0.0
	16nm,0.6s,baz=122,slow=9.6,SNR=17						
MBWA	**Marble Bar**	**45.49**	**261**	P	**P**	**18 59 35.1**	**-0.2**
	25nm,1.2s,mb4.9						
MBWA				*e*pP	pP	18 59 46.0	-0.5
NWAO	**Narrogin (SRO)**	**46.89**	**244**	P	**P**	**18 59 46.9**	**+0.7**
	8.9nm,1.0s,mb4.7,baz=39,slow=6.5,SNR=3.0						
SNAA	**Sanae**	**87.22**	**183**	*e*	**P**	**19 04 00.0**	**-1.4**
SNAA				*e*		19 04 01.6	
SNAA				*e*	pP	19 04 11.0	-2.4
SNAA				*e*		19 04 15.8	
VNA3	**Neumayer Olymp**	**87.83**	**181**	*e*	**P**	**19 04 04.2**	**-0.1**
VNA3				*e*		19 04 05.2	
VNA3				*e*	pP	19 04 15.4	-1.0
VNA3				*e*		19 04 20.3	
VNA2	**Neumayer--Watz**	**88.11**	**181**	*e*	**P**	**19 04 06.3**	**+0.6**
	baz=186,slow=4.7						
VNA2				*e*		19 04 07.6	
VNA2				*e*	pP	19 04 17.8	+0.1
VNA2				*e*		19 04 22.9	
SONM	**Songino Array**	**88.44**	**323**	P	**P**	**19 04 08.2**	**+0.8**
	2.1nm,0.8s,mb4.4,baz=137,slow=4.7,SNR=11						
SONM				pP	pP	19 04 19.7	+0.2
	2.0nm,0.8s,baz=141,slow=5.3,SNR=6.7						
NVAR	**Mina Array Bea**	**90.46**	**49**	P	**P**	**19 04 18.2**	**+1.0**
	1.3nm,0.7s,mb4.3,baz=226,slow=9.6,SNR=7.4						
ARCES	**ARCESS Array B**	**126.78**	**345**	PKP	PKPdf	19 10 18.4	+0.2
ARCES				pPKP	pPKPdf	19 10 29.7	-0.9
ARCES	**ARCESS Array B**	**126.78**	**345**	PKP	PKPdf	19 10 18.4	+0.2
	4.7nm,1.1s,baz=248,slow=2.0,SNR=7.2						
ARCES				pPKP	pPKPdf	19 10 29.7	-0.9
	4.1nm,1.0s,baz=80,slow=3.0,SNR=1.8						
FINES	**FINESS Array B**	**132.15**	**337**	PKP	PKPdf	19 10 29.3	+0.7
	0.8nm,0.9s,baz=42,slow=4.3,SNR=3.2						
AKASG	**Malin Array Be**	**136.72**	**323**	PKP	PKPdf	19 10 37.2	-0.3
AKASG				pPKP	pPKPdf	19 10 49.7	-0.2
AKASG	**Malin Array Be**	**136.72**	**323**	PKP	PKPdf	19 10 37.2	-0.3
	0.8nm,0.6s,baz=64,slow=1.7,SNR=5.3						
AKASG				pPKP	pPKPdf	19 10 49.7	-0.2
	0.4nm,0.4s,baz=52,slow=2.2,SNR=3.2						
DPC	**Dobruska-Polom**	**143.64**	**330**	*e*PKP	PKPdf	19 10 48.6	-1.4
UPC	**Upice**	**143.68**	**330**	*e*PKP	PKPdf	19 10 48.5	-1.6
PVCC	**Panska Ves**	**144.32**	**331**	*e*PKP	PKPdf	19 10 50.3	-0.9
BRG	**Berggiesshubel**	**144.34**	**332**	*e*PKPbc	PKPdf	19 10 50.7	-0.6
BRG	**Berggiesshubel**	**144.34**	**332**	*i* P	PKPdf	19 10 50.8	-0.4
	10.0nm,0.9s						
BRG				*e*		19 11 01.9	
	5.3nm,0.8s						
CLL	**Collm**	**144.42**	**334**	*e*PKPbc	PKPdf	19 10 50.6	-0.8
CLL	**Collm**	**144.42**	**334**	⇑*i* PKPdf	PKPdf	19 10 50.9	-0.5
	comp=Z,9.0nm,0.7s						
CLL				*i* pPKPdf	pPKPdf	19 11 02.0	-1.8
	comp=Z,6.0nm,0.7s						
FBE	**Freiberg**	**144.56**	**333**	*e*PKPbc	PKPdf	19 10 52.3	+0.7
PRU	**Pruhonice**	**144.72**	**331**	*e*PKP	PKPdf	19 10 51.9	0.0
CLZ	**Clausthal**	**145.04**	**336**	*e*PKPbc	PKPbc	19 10 53.3	+1.4
TANN	**Tannenbergstha**	**145.32**	**333**	*e*PKPbc	PKPbc	19 10 54.2	+1.4
WERD	**Werda**	**145.36**	**333**	*e*PKPbc	PKPbc	19 10 54.3	+1.4
GUNZ	**Gunzen**	**145.41**	**333**	*e*PKPbc	PKPbc	19 10 54.7	+1.6
WERN	**Wernitzgruen**	**145.45**	**333**	*e*PKPbc	PKPbc	19 10 54.8	+1.6
NKC	**Novy Kostel**	**145.46**	**333**	*e*PKP	PKPdf	19 10 54.7	+1.5
CONA	**Conrad Observa**	**145.49**	**327**	⇑*i* P	PKPdf	19 10 55.5	+2.2
	comp=Z,17nm,0.9s						
CONA	**Conrad Observa**	**145.49**	**327**	⇑*i* pPKPbc	PKPbc	19 10 55.5	+2.1
	comp=Z,17nm,0.9s						
CSNA	**Conrad Observa**	**145.49**	**327**	⇑*i* pPKPbc	PKPbc	19 10 55.6	+2.1
	comp=Z,17nm,1.0s						
MOX	**Moxa**	**145.50**	**334**	*e*PKP	PKPdf	19 10 54.5	+1.3
	comp=Z,20nm,1.5s						
MOX	**Moxa**	**145.50**	**334**	*e*PKPbc	PKPbc	19 10 54.6	+1.2
KHC	**Kasperske Hory**	**145.77**	**331**	*e*PKP	PKPdf	19 10 55.6	+1.8
KHC				*ex*	x	19 11 06.7	
MANZ	**Manzenberg**	**145.79**	**333**	*e*PKPbc	PKPbc	19 10 55.9	+1.6
ROTZ	**Rotzenmuhle**	**145.91**	**332**	*e*PKPbc	PKPbc	19 10 56.4	+1.7
GEC2	**GERESS Array S**	**145.91**	**330**	*e*PKPbc	PKPbc	19 10 56.1	+1.4
GEC2				*ep*PKPbc	pPKPbc	19 11 07.3	+0.3
GERES	**GERESS Array B**	**145.91**	**330**	PKPbc	PKPbc	19 10 55.8	+1.0
	comp=Z,8.8nm,0.7s,baz=36,slow=2.7,SNR=71						
GERES				pPKPbc	pPKPbc	19 11 06.9	-0.1
	comp=Z,4.8nm,0.6s,baz=39,slow=2.9,SNR=16						
GRF	**Grafenberg Arr**	**146.39**	**333**	*e*PKPbc	PKPbc	19 10 57.7	+1.6
SOKA	**Soboth**	**146.74**	**326**	⇑*i* PKPab	PKPab	19 10 58.4	0.0
	comp=Z,5.1nm,1.0s						
KBA	**Koelnbreinsper**	**147.32**	**328**	⇑*i* P	PKPbc	19 10 59.6	+0.7
	comp=Z,6.0nm,0.9s						
KBA	**Koelnbreinsper**	**147.32**	**328**	⇑*i* pPKPdf	PKPbc	19 10 59.6	+0.7
	comp=Z,6.0nm,0.9s						
STU	**Stuttgart**	**147.94**	**334**	*e*PKPbc	PKPbc	19 11 01.7	+1.2
MOTA	**Moosalm**	**148.20**	**331**	⇓*i* P	PKPbc	19 11 02.1	+0.9
	comp=Z,7.1nm,1.0s						
MOTA	**Moosalm**	**148.20**	**331**	⇓*i* pPKPdf	PKPbc	19 11 02.1	+0.9
	comp=Z,7.1nm,1.0s						
SQTA	**Sankt Quirin**	**148.25**	**330**	⇓*i* P	PKPbc	19 11 02.4	+1.1
	comp=Z,4.2nm,0.8s						
SQTA	**Sankt Quirin**	**148.25**	**330**	⇓*i* pPKPdf	PKPbc	19 11 02.4	+1.1
	comp=Z,4.2nm,0.8s						
WLF	**Walferdange**	**148.36**	**338**	*e*PKPbc	PKPbc	19 11 03.2	+1.6
FETA	**Feichten**	**148.61**	**330**	⇑*i* P	PKPbc	19 11 03.8	+1.5
	comp=Z,10nm,0.9s						
BFO	**Black Forest**	**148.64**	**334**	*e*PKPbc	PKPbc	19 11 03.0	+0.7
BAIF	**Baives**	**148.66**	**341**	*e*PKP1	PKPbc	19 11 02.9	+0.6
CDF	**Champ du Feu**	**148.99**	**336**	*e*PKP1	PKPbc	19 11 03.5	+0.3
	comp=Z,20nm,1.2s						
HAU	**Haudompre**	**149.68**	**336**	*e*PKP1	PKPbc	19 11 05.1	+0.2
	comp=Z,20nm,1.1s						
CABF	**La Chapelle**	**150.93**	**335**	*e*PKP1	PKPbc	19 11 08.7	+0.7
FLN	**La Foliniere**	**151.13**	**345**	*e*PKP1	PKPbc	19 11 08.1	-0.3
	comp=Z,18nm,0.9s						
LOR	**Lormes**	**151.20**	**338**	*e*PKP1	PKPbc	19 11 08.7	+0.1
	comp=Z,9.5nm,1.0s						
SSF	**Saint Saulge**	**151.50**	**338**	*e*PKP1	PKPbc	19 11 10.3	+1.0
	comp=Z,5.1nm,0.8s						
LPL	**La Plagne**	**151.55**	**333**	*e*PKP1	PKPbc	19 11 10.2	+0.8
	comp=Z,11nm,0.9s						
LPG	**La Plagne**	**151.55**	**333**	*e*PKP1	PKPbc	19 11 10.4	+0.9
	comp=Z,14nm,0.9s						
TORD	**Torodi Ar. Bea**	**165.23**	**239**	PKP	PKPdf	19 11 21.3	+0.8
	comp=Z,0.6nm,0.7s,baz=17,slow=0.6,SNR=3.1						

*SZGRF **17** 18:54:32.9,2253S×165.17E,h33km,New Caledonia*
IDC 17 18:54:32.9±4.0,2084S×16820E,h34km±6km,mb3.7/3, mb1 3.8/3,mb1mx3.5/12,mbtmp3.7/3,MS4.2/1,Ms1 4.2/1, ms1mx3.1/27,Error ellipse: s-maj=139.7km s-min=30.3km az=145.0,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.05**	**233**	*e*P	Pn	18 55 04.0	-0.9
DZM				*e*S	Sn	18 55 32.1	+2.8
WRA	**Warramunga Arr**	**31.72**	**266**	P	P	19 00 53.6	-0.1
	0.2nm,0.5s,baz=97,slow=8.1,SNR=3.9						
WRA				pP	pP	19 01 03.2	-0.3
	1.9nm,1.0s,baz=98,slow=7.9,SNR=8.6						
ASAR	**Alice Springs**	**31.83**	**258**	P	P	19 00 54.8	+0.2
	1.7nm,0.6s,baz=85,slow=9.1,SNR=14						
ASAR				pP	pP	19 01 04.8	+0.4
	2

BJI 17 19:07:32.0, 2180N×142.90E, h154km, mB4.9, mb4.6
NEIC 17 19:07:33.6±2.0, 2178N×142.94E, h154km±20km, mb4.2/6, Error ellipse: s-maj=19.0km s-min=10.5km az=67.0
IDC 17 19:07:33.7±3.5, 2179N×142.89E, h157km±33km, mb3.6/11, mb1 3.8/12, mb1mx3.8/20, mbtmp3.7/12, MS3.3/1, Ms1 3.3/1, ms1mx2.7/38, Error ellipse: s-maj=24.8km s-min=12.6km az=73.0

ISC 17 19:07:33.0±2.0, 2181N±007×1430E±01, h149km±20km, n43, σ1§02/41, mb4.0/22, 4C-2D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.31	353	LR		LR		19 10 49.9	
	comp=Z,285nm,19.6s,baz=113,slow=37								
GUMO	Guam	8.37	167	P		Pn		19 09 32.0	+0.5
	2.0nm,0.3s,baz=6.4,slow=19,SNR=2.9								
KSRS	Korea Array	20.30	323	P		P		19 11 58.3	+1.1
	3.4nm,0.6s,baz=139,slow=8.9,SNR=13								
NJ2	Nanjing	23.74	301	eP		P		19 12 28.9	-2.7
NJ2						AMB	AMB		
	comp=Z,20nm,1.1s,mb4.6								
PET	Petropavlovsk	33.41	17	iP		P		19 13 56.7	-0.5
ULN	Ulaanbaatar	38.75	321	↓eP		P		19 14 42.8	+0.2
ULN	Ulaanbaatar	38.75	321	eP		P		19 14 42.1	-0.5
	comp=Z,3.3nm,1.0s,mb3.9								
SONM	Songino Array	39.12	320	P		P		19 14 44.5	-1.2
	comp=Z,2.7nm,0.8s,mb4.0,baz=132,slow=8.8,SNR=9.7								
YAK	Yakutsk	41.23	351	iP		P		19 15 01.3	-1.6
YAK						pmax	pmax		
	comp=Z,15nm,1.2s,mb4.5								
SEY	Seymchan	41.60	6	↓eP		P		19 15 06.0	+0.1
ZAK	Zakamensk	42.13	322	eP		P		19 15 10.5	+0.1
ZAK						pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.8								
WRAB	Tennant Creek	42.33	192	eP		P		19 15 11.9	-0.4
WRA	Warramunga Arr	42.34	192	P		P		19 15 11.7	-0.7
	comp=Z,2.4nm,0.9s,mb3.8,baz=16,slow=8.8,SNR=9.5								
ASAR	Alice Springs	46.05	192	P		P		19 15 41.5	-0.3
	comp=Z,0.9nm,0.6s,mb3.6,baz=15,slow=9.6,SNR=20								
BILL	Bilibino	48.46	11⇑	eP		P		19 15 59.4	-0.5
BILL						pmax	pmax		
	comp=Z,4.0nm,1.6s,mb3.8								
STKA	Stephens Creek	53.39	181	eP		P		19 16 36.9	-0.4
STKA	Stephens Creek	53.39	181	P		P		19 16 37.1	-0.1
	comp=Z,2.5nm,0.8s,mb4.0,baz=350,slow=9.4,SNR=4.8								
ZAA0	Zalesovo Array	53.99	322	eP		P		19 16 41.4	-0.1
ZALV	Zalesovo Beam	53.99	322	P		P		19 16 41.0	-0.4
	comp=Z,3.7nm,0.9s,mb4.1,baz=102,slow=6.8,SNR=13								
ZAL	Zalesovo	54.00	322	P		P		19 16 41.0	-0.5
MKAR	Makanchi Array	54.47	313	iP		P		19 16 45.7	+0.7
MKAR						pmax	pmax		
	comp=Z,1.0nm,0.7s								
MKAR	Makanchi Array	54.47	313	P		P		19 16 45.1	+0.1
	comp=Z,1.0nm,0.7s,mb3.7,baz=93,slow=9.3,SNR=10								
NVS	Novosibirsk	55.09	322	eP		P		19 16 47.7	-1.6
KURK	Kurchatov	57.25	317⇑	eP		P		19 17 05.3	+0.6
KURK	Kurchatov	57.25	317	eP		P		19 17 05.0	+0.3
	comp=Z,3.9nm,0.9s,mb4.2								
TKM2	Tokmak 2	59.11	308	eP		P		19 17 19.8	+2.0
TKM2						pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2								
TKM2	Tokmak 2	59.11	308	eP		P		19 17 19.8	+2.0
	comp=Z,5.5nm,1.2s,mb4.3								
UCH	Uchtor	59.94	307	eP		P		19 17 26.3	+2.8
	comp=Z,2.8nm,1.0s,mb4.0								
BRVK	Borovoye	62.52	319	eP		P		19 17 41.6	+1.0
BRVK						pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2								
BRVK	Borovoye	62.52	319	eP		P		19 17 41.5	+1.0
	comp=Z,4.0nm,0.9s,mb4.2								
ARU	Arti	69.05	324	c iP		P		19 18 23.3	+0.9
ARU				e				19 18 44.1	
ARU				e				19 20 56.2	
ARU				ePPP				19 22 33.4	
ARU						pmax	pmax		
	comp=Z,14nm,2.5s,mb4.2								
YKA	Yellowknife Ar	76.46	28	iP		P		19 19 06.0	0.0
YKA						pmax	pmax		
	comp=Z,2.0nm,0.6s								
YKA	Yellowknife Ar	76.46	28	P		P		19 19 05.7	-0.3
	comp=Z,1.7nm,0.6s,mb3.8,baz=292,slow=5.6,SNR=22								
BMO	Blue Mountains	81.50	45	eP		P		19 19 34.7	+0.9
BMO						pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1								
BMO	Blue Mountains	81.50	45	eP		P		19 19 34.6	+0.9
	comp=Z,5.6nm,1.3s,mb4.0								
KIV	Kislovodsk	82.20	314⇑	eP		P		19 19 40.3	+2.9
KIV						pmax	pmax		
	comp=Z,13nm,1.5s,mb4.3								
FINES	FINESS Array B	82.99	334	iP		P		19 19 41.2	0.0
FINES						pmax	pmax		
	comp=Z,1.0nm,0.6s								
FINES	FINESS Array B	82.99	334	P		P		19 19 40.7	-0.5
	comp=Z,0.6nm,0.6s,mb3.5,baz=72,slow=6.3,SNR=5.0								
NVAR	Mina Array Bea	83.24	51	P		P		19 19 43.5	+0.5
NVAR	Mina Array Bea	83.24	51	P		P		19 19 43.5	+0.5
	comp=Z,2.2nm,0.9s,mb3.9,baz=265,slow=5.4,SNR=11								
AKASG	Malin Array Be	87.30	324	iP		P		19 20 02.2	-0.6
AKASG						pmax	pmax		
	comp=Z,1.0nm,0.5s								
AKASG	Malin Array Be	87.30	324	P		P		19 20 02.0	-0.8
	comp=Z,0.6nm,0.5s,mb3.7,baz=47,slow=5.1,SNR=5.3								
LPAZ	La Paz	150.14	85	PKPbc		PKPbc		19 27 08.3	+1.4
	comp=Z,1.1nm,0.8s,baz=319,slow=3.3,SNR=4.6								

IDC 17 19:08:42.0±3.2, 427S×15314E, h0km, mb3.4/2, mb1 3.6/2, mb1mx3.4/13, mbtmp3.4/2, Error ellipse: s-maj=138.1km s-min=45.5km az=121.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	24.05	228	P		P		19 14 00.3	+1.3
	1.0nm,0.4s,baz=55,slow=10,SNR=22								
ASAR	Alice Springs	26.77	222	P		P		19 14 23.5	-0.2
	0.2nm,0.7s,baz=55,slow=9.0,SNR=2.8								
TORD	Torodi Ar. Bea	150.46	289	PKPbc		PKPbc		19 28 35.6	-1.1
	0.4nm,0.5s,baz=70,slow=2.1,SNR=6.8								

IDC 17 19:25:24.4±7.3, 2143S×17894W, h631km±95km, mb2.5/4, mb1 2.9/4, mb1mx2.7/13, mbtmp2.5/4, Error ellipse: s-maj=240.4km s-min=35.7km az=161.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
ASAR	Alice Springs	43.46	258	P		P		19 32 34.2	+0.1
	0.1nm,0.4s,baz=99,slow=8.9,SNR=4.2								
WRA	Warramunga Arr	43.61	263	P		P		19 32 35.4	0.0
	0.3nm,0.8s,baz=97,slow=7.6,SNR=8.2								
NVAR	Mina Array Bea	82.30	44	P		P		19 36 41.9	+0.2
	0.8nm,0.7s,baz=225,slow=10.0,SNR=5.0								
TXAR	Lajitas Array	88.29	58	P		P		19 37 11.1	+0.4
	0.2nm,0.7s,baz=225,slow=6.9,SNR=4.2								
ARCES	ARCESS Array B	129.66	349	PKP		PKPdf		19 43 22.6	+0.1
	2.2nm,0.8s,baz=351,slow=3.9,SNR=4.8								
AKASG	Malin Array Be	143.38	330	PKP		PKPdf		19 43 47.1	-1.1
	1.8nm,0.5s,baz=41,slow=4.1,SNR=24								
GERES	GERESS Array B	150.84	343	PKPbc		PKPbc		19 44 07.3	+0.4
	0.5nm,0.6s,baz=306,slow=1.1,SNR=4.7								

ISCJB 17 19:29:07.8±0.1, 3081S±003×178.19W±004, h31km, mb5.5/90, MS5.6/226, Error ellipse: s-maj=5.5km s-min=2.3km az=36.3
MOS 17 19:29:09.4±0.9, 3047S×17822W, h33km, mb5.7/38, MS5.6/46, Error ellipse: s-maj=10.7km s-min=8.4km az=76.5
BJI 17 19:29:09.0, 3042S×17774W, h45km, mB6.1, mb5.4, Ms5.6, Msz5.5
IDC 17 19:29:10.2±1.9, 3044S×178.14W, h35km±13km, mb5.1/16, mb1 5.2/16, mb1mx5.2/17, mbtmp5.1/16, MS5.5/23, Ms1 5.5/23, ms1mx5.4/25, Error ellipse: s-maj=13.4km s-min=13.0km az=79.0
NEIC 17 19:29:10.2±0.6, 3066S×17820W, h41km±5km, mb5.5/60, MS5.6/186, MW5.9, Error ellipse: s-maj=6.5km s-min=4.3km az=134.0, Moment Tensor Solution. s45 Moment tensor: Scale 10^{17}Nm; M_{rr}7.74; $M_{\theta\theta}$-0.66; $M_{\phi\phi}$-7.07; $M_{r\theta}$1.20; $M_{\theta\phi}$-1.30; $M_{\phi r}$4.65; Best double couple: $M_0$8.90000×10^{17} NP1:ϕ_s189.00000°, δ29.00000°, λ87.00000°. NP2:ϕ_s13.00000°, δ61.00000°, λ92.00000°. Principal axes: T 9.1400, Plg74.0000°, Azm287.0000°; N -0.4200, Plg1.0000°, Azm192.0000°; P -8.7200, Plg16.0000°, Azm102.0000°;
GCMT 17 19:29:10.2±0.1, 3062S×17773W, h50km, MW6.0/113, Moment Tensor Solution. s112, c251; s113, c339; Duration: 2≈3 Moment tensor: Scale 10^{18}Nm; M_{rr}0.95±.01; $M_{\theta\theta}$0.00±.01; $M_{\phi\phi}$-0.95±.01; $M_{r\theta}$0.09±.01; $M_{\theta\phi}$-0.28±.01; $M_{\phi r}$0.44±.01; Best double couple: $M_0$1.08500×10^{18} NP1:ϕ_s198.00000°, δ33.00000°, λ93.00000°. NP2:ϕ_s13.00000°, δ57.00000°, λ88.00000°. Principal axes: T 1.0450, Plg78.0000°, Azm276.0000°; N 0.0810, Plg2.0000°, Azm15.0000°; P -1.1250, Plg12.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
IGIL 17 19:29:11.1, 3060S×17823W, h35km, MS5.9

ISC 17 19:29:09.8±0.1, 3075S±003×17817W±004, h33km, h33km±1.6km: pP-P, n1175, σ0§79/618, mb5.5/89, MS5.6/226, 235C-153D, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
RAO	Raoul Island	1.51	8	eP		Pn		19 29 31.8	-2.8
RAO	Raoul Island	1.51	8	Pn		Pn		19 29 32.0	-2.7
	2μm,0.3s,baz=99,slow=5.1,SNR=52								
MXZ	Matakaoa Point	7.39	202	P		Pn		19 30 55.3	-0.1
MXZ				S		Sn		19 32 18.6	+0.5
MXZ	Matakaoa Point	7.39	202	ePN		Pn		19 30 55.2	-0.2
MXZ				SN		Sn		19 32 18.5	+0.4
KUZ	Kuaotunu	7.85	219	P		Pn		19 31 10.0	+8.4
KUZ	Kuaotunu	7.85	219	PN		Pn		19 31 08.9	+7.2
PUZ	Puketiti	7.88	201	P		Pn		19 31 01.6	-0.4
PUZ				S		Sn		19 32 30.1	+0.1
PUZ	Puketiti	7.88	201	PN		Pn		19 31 01.2	-0.8
PUZ				SN		Sn		19 32 28.6	-1.3
WCZ	Waipu Caves	8.12	228	PN		Pn		19 31 13.7	+8.3
OUZ	Omahuta	8.23	235	P		Pn		19 31 16.2	+9.4
OUZ	Omahuta	8.23	235	PN		Pn		19 31 16.1	+9.2
OPRZ	Ohinepanea	8.31	210	PN		Pn		19 31 09.4	+1.5
OPRZ				SN		Sn		19 32 44.1	+3.4
MWZ	Matawai	8.35	204	P		Pn		19 31 08.2	-0.4
MWZ				S		Sn		19 32 43.7	+2.0
MWZ	Matawai	8.35	204	PN		Pn		19 31 07.8	-0.8
MWZ				SN		Sn		19 32 43.7	+2.0
MARZ	Manawahe	8.38	209	P		Pn		19 31 12.0	+3.1
MKAZ	Moumakai	8.41	219	P		Pn		19 31 16.5	+7.1
MKAZ	Moumakai	8.41	219	PN		Pn		19 31 16.4	+7.0
URZ	Urewera	8.44	206	P		Pn		19 31 09.8	+0.1
URZ	Urewera	8.44	206	Pn		Pn		19 31 09.7	-0.1
	12nm,0.3s,baz=306,slow=1.8,SNR=79								
URZ				Sn		Sn		19 32 44.9	+1.1
	112nm,0.3s,baz=188,slow=18,SNR=3.8								
URZ	Urewera	8.44	206	ePN		Pn		19 31 09.4	-0.4
URZ				SN		Sn		19 32 42.6	-1.2
KNZ	Kokohu	8.93	201	P		Pn		19 31 15.3	-1.1
KNZ	Kokohu	8.93	201	PN		Pn		19 31 14.7	-1.8
BKZ	Black Stump Fm	9.46	206	P		Pn		19 31 22.9	-0.9
BKZ	Black Stump Fm	9.46	206	PN		Pn		19 31 22.6	-1.2
OTVZ	Oturere	9.79	209	PN		Pn		19 31 28.0	-0.3
NGZ	Ngauruhoe	9.83	210	P		Pn		19 31 30.5	+1.7
NGZ	Ngauruhoe	9.83	210	PN		Pn		19 31 30.3	+1.5
WPVZ	Whakapapa	9.88	210	ePN		Pn		19 31 30.2	+0.7
TUVZ	Tukino	9.89	209	ePN		Pn		19 31 31.6	+2.0
FWVZ	Far West T-bar	9.92	210	P		Pn		19 31 31.4	+1.4
FWVZ	Far West T-bar	9.92	210	ePN		Pn		19 31 30.6	+0.5
WNVZ	Wahianoa	9.96	209	P		Pn		19 31 31.1	+0.5
WNVZ	Wahianoa	9.96	209	PN		Pn		19 31 30.9	+0.3
MOVZ	Moawhango	9.96	208	P		Pn		19 31 30.0	-0.6
MOVZ	Moawhango	9.96	208	PN		Pn		19 31 29.8	-0.9
PKVZ	Pokaka	10.04	210	PN		Pn		19 31 32.4	+0.8
PXZ	Pawanui	10.10	202	ePN		Pn		19 31 29.0	-3.5
WPHZ	Waipukurau	10.28	204	ePN		Pn		19 31 32.4	-2.6
WPHZ				SN		Sn		19 33 27.6	-1.3
TSZ	Takapari Road	10.44	206	P		Pn		19 31 34.5	-2.7
TSZ	Takapari Road	10.44	206	ePN		Pn		19 31 34.0	-3.2
WAZ	Wanganui	10.58	210	P		Pn		19 31 40.1	+1.1
TIWZ	Tintock	11.10	204	SN		Sn		19 33 46.1	-3.1
KIW	Kapiti Island	11.54	207	P		Pn		19 31 48.1	-4.1
KIW	Kapiti Island	11.54	207	ePN		Pn		19 31 47.9	-4.3
MTW	Mount Morrison	11.57	205	P		Pn		19 31 49.5	-3.2
MTW	Mount Morrison	11.57	205	ePN		Pn		19 31 49.3	-3.4
MTW				SN		Sn		19 33 55.8	-4.9
CAW	Cannon Point	11.69	206	P		Pn		19 31 50.7	-3.6
CAW	Cannon Point	11.69	206	ePN		Pn		19 31 49.9	-4.3
TRWZ	Traveller	11.72	203	SN		Sn		19 33 59.4	-5.0
PAWZ	Paruwai Farm	11.80	204	P		Pn		19 31 53.1	-2.6
PAWZ	Paruwai Farm	11.80	204	ePN		Pn		19 31 51.9	-3.8
PAWZ				SN		Sn		19 34 01.0	-5.2
MSWZ	Moikau Station	11.89	205	P		Pn		19 31 53.2	-3.8
MSWZ	Moikau Station	11.89	205	PN		Pn		19 31 52.7	-4.3
DUWZ	D'Urville Isla	11.90	210	ePN		Pn		19 31 55.3	-1.9
MRW	Makara Radio	11.94	207	P		Pn		19 31 54.7	-2.9
MRW	Makara Radio	11.94	207	ePN		Pn		19 31 54.3	-3.4
MRW				SN		Sn		19 34 04.3	-5.2
PLWZ	Palliser	12.03	204	PN		Pn		19 31 54.0	-4.9
TCW	Tory Channel	12.09	208	P		Pn		19 31 55.3	-4.4
TCW	Tory Channel	12.09	208	PN		Pn		19 31 54.9	-4.8
NNZ	Nelson	12.48	211	P		Pn		19 32 02.3	-2.7
NNZ	Nelson	12.48	211	ePN		Pn		19 32 01.6	-4.0
QRZ	Quartz Range	12.56	214	P		Pn		19 32 04.3	-1.9
QRZ	Quartz Range	12.56	214	ePN		Pn		19 32 04.3	-1.8
BSWZ	Blackbirch Sta	12.68	208	P		Pn		19 32 03.8	-3.9
BSWZ	Blackbirch Sta	12.68	208	ePN		Pn		19 32 02.9	-4.8
BSWZ				SN		Sn		19 34 23.1	-4.5
THZ	Tophouse	13.13	211	P		Pn		19 32 09.8	-4.1
THZ	Tophouse	13.13	211	ePN		Pn		19 32 08.7	-5.2
KHZ	Kahutara	13.40	207	P		Pn		19 32 13.3	-4.3
KHZ	Kahutara	13.40	207	ePN		Pn		19 32 12.4	-5.2
DSZ	Denniston Nort	13.62	214	ePN		Pn		19 32 18.2	-2.4
LTZ	Lake Taylor	14.23	210	P		Pn		19 32 23.8	-5.1
LTZ	Lake Taylor	14.23	210	ePN		Pn		19 32 24.3	-4.6
MQZ	McQueen's Vall	14.84	207	P		Pn		19 32 30.4	-6.8
MQZ	McQueen's Vall	14.84	207	PN		Pn		19 32 30.2	-7.0
WVZ	Waitaha Valley	15.15	213	P		Pn		19 32 39.4	-1.9
WVZ	Waitaha Valley	15.15	213	ePN		Pn		19 32 38.3	-3.0
RPZ	Rata Peaks	15.51	210	P		Pn		19 32 43.9	-2.1
RPZ	Rata Peaks	15.51	210	Pn		Pn		19 32 45.0	-1.0
	4.7nm,0.3s,baz=283,slow=0.3,SNR=15								
RPZ				Sn		Sn		19 35 25.2	-11
	18nm,0.3s,baz=198,slow=20,SNR=10								
RPZ	Rata Peaks	15.51	210	ePN		Pn		19 32 40.5	-5.5
FOZ	Fox Glacier	16.01	214	P		Pn		19 32 50.6	-1.9
FOZ	Fox Glacier	16.01	214	ePN		Pn		19 32 47.5	-5.0
DZM	Mont Dzumac	16.26	298	eP		Pn		19 33 02.3	+6.6
AFI	Afiamalu	17.77	21	eP		Pn		19 33 07.4	-7.3
AFI						pmax	pmax		
	comp=Z,57nm,0.5s								
AFI	Afiamalu	17.77	21	ePn		Pn		19 33 07.4	-7.3
	comp=Z,57nm,0.5s								
RAR	Rarotonga	19.05	64	P		Pn		19 33 24.8	-5.5
	comp=Z,3.8nm,0.3s,baz=235,slow=5.6,SNR=8.3								
RAR				S		Sn		19 36 38.8	-24
	comp=Z,4.1nm,0.3s,baz=105,slow=16,SNR=3.7								
RAR				LR		LR		19 39 21.9	
	comp=Z,5μm,20.0s,baz=232,slow=32								
ARMA	Armidale	25.97	263⇑	iP		P		19 34 45.0	+5.5
RIV	Riverview	26.06	255	eP		P		19 34 44.8	+4.5
CNB	Canberra Magne	27.52	252⇑	iP		P		19 34 58.2	+4.8
	comp=Z,174nm,0.9s,mb5.7								
EIDS	Eidsvold	27.61	274	eP		P		19 34 56.8	+2.5
	comp=Z,55nm,0.9s,mb5.2								
PPT	Papeete	29.11	70	eS		S		19 39 57.3	-0.2
	comp=Z,6μm,27.5s								
PPT				eLQ				19 40 52.2	
	comp=Z,20μm,26.2s								
PPT				eLR		LR		19 42 20.7	
	comp=Z,36μm,26.2s,baz=238								
PPT	Papeete	29.11	70	LR		LR		19 43 37.7	
	comp=Z,8μm,21.8s,MS5.3,baz=239,slow=30								
HNR	Honiara	29.42	312	PFAKE				19 35 20.0	+10
HNR				LR		LR			
	comp=Z,10μm,22.0s,MS5.4								
HNR	Honiara	29.42	312	LR		LR		19 45 05.6	
	comp=Z,9μm,21.8s,MS5.3,baz=176,slow=33								
TAU	Tasmania Unive	29.96	236	eP		P		19 35 17.5	+2.5
	comp=Z,93nm,0.8s,mb5.6								
TAU				LR		LR			
	comp=Z,16μm,20.0s,MS5.7								
TOO	Toolangi	30.69	247⇑	iP		P		19 35 25.4	+3.9
	comp=Z,2μm,1.1s,mb6.8								
TOO	Toolangi	30.69	247⇑	iP		P		19 35 25.4	+3.9
TOO				pmax		pmax			
	comp=Z,2μm,1.1s,mb6.8								
CTA	Charters Tower	33.71	280⇑	iP		P		19 35 51.4	+3.2
	comp=Z,464nm,0.8s,mb6.5								
CTA				eS		S		19 41 16.5	+7.0
CTA	Charters Tower	33.71	280⇑	iP		P		19 35 51.4	+3.2
CTA				eS		S		19 41 16.5	+7.0
CTA				pmax		pmax			
	comp=Z,464nm,0.8s								
CTA	Charters Tower	33.71	280	P		P		19 35 51.6	+3.4
	comp=Z,412nm,0.7s,mb6.5,baz=103,slow=10,SNR=705								
CTAO	Charters Tower	33.71	280	eP		P		19 35 51.3	+3.1
	comp=Z,435nm,0.7s,mb6.5								
CTAO				LR		LR			
	comp=Z,20μm,20.0s,MS5.8								
STKA	Stephens Creek	34.26	257⇑	iP		P		19 35 56.7	+3.9
	comp=Z,805nm,0.6s,mb6.8								
STKA				eS		S		19 41 20.3	+2.6
STKA	Stephens Creek	34.26	257	P		P		19 35 56.7	+3.9
	comp=Z,894nm,0.7s,mb6.8,baz=98,slow=9.7,SNR=1839								
STKA				PKiKP		PKiKP		19 45 50.4	-2.1
	comp=Z,2.0nm,0.7s,baz=63,slow=9.0,SNR=3.1								
STKA				LR		LR		19 49 08.3	
	comp=Z,16μm,18.5s,MS5.8,baz=90,slow=35								
RKT	Rikitea	39.06	90	eS		S		19 42 31.9	+0.7
	comp=Z,6μm,27.3s								
RKT				eLQ				19 45 31.2	
	comp=Z,5μm,24.8s								
RKT				eLR		LR		19 47 05.4	
	comp=Z,25μm,26.8s,baz=255								
TAOE	Nuku Hiva Isla	41.58	67	eS		S		19 43 09.3	+0.4
	comp=Z,79μm,24.0s								
TAOE				eLQ				19 46 16.0	
	comp=Z,176μm,27.6s								
TAOE				eLR		LR		19 48 05.9	
	comp=Z,537μm,26.9s,baz=240								
PTCN	Pitcairn Islan	42.60	95	PFAKE				19 37 10.0	+7.0
PTCN				LR		LR			
	comp=Z,12μm,22.0s,MS5.8								
ASAR	Alice Springs	42.95	267	P		P		19 37 07.2	+1.4
ASAR				pmax		pmax			
	comp=Z,88nm,0.5s								
ASAR				pmax		pmax			
	comp=N,5.0nm,0.8s								
ASAR				pmax		pmax			
	comp=Z,1.0nm,0.7s								
ASAR	Alice Springs	42.95	267	P		P		19 37 07.2	+1.3
ASAR				ScP		ScP		19 42 45.9	+1.1
ASAR	Alice Springs	42.95	267	P		P		19 37 07.2	+1.3
	comp=Z,88nm,0.5s,mb5.7,baz=104,slow=7.3,SNR=1249								
ASAR				ScP		ScP		19 42 45.9	+1.1
	comp=Z,5.4nm,0.8s,baz=123,slow=4.5,SNR=4.3								
ASAR				PKiKP		PKiKP		19 45 57.4	-2.5
	comp=Z,1.4nm,0.7s,baz=81,slow=1.5,SNR=4.7								
DRV	Dumont d'Urvil	43.76	203	P		P		19 37 20.0	+8.2
DRV				S		S		19 43 47.0	+7.3
DRV				L				19 47 00.0	
DRV				R				19 50 00.0	
DRV				R				10 18 00.0	
WB2	Warramunga Arr	43.95	273⇑	iP		P		19 37 15.1	+1.1
WB2				eS		S		19 43 32.6	-11
WRAB	Tennant Creek	43.96	273	c iP		P		19 37 15.2	+1.2
WRAB	Tennant Creek	43.96	273	eP		P		19 37 14.9	+0.9
	comp=Z,216nm,0.6s,mb6.1								
WRAB				LR		LR			
	comp=Z,17μm,22.0s,MS5.9								
WRA	Warramunga Arr	43.97	273	P		P		19 37 15.0	+0.9
WRA				S		S		19 43 44.4	+0.5
WRA				pmax		pmax			
	comp=Z,245nm,0.6s								
WRA				pmax		pmax			
	comp=N,7.0nm,1.1s								
WRA				smax					
	comp=N,13nm,1.1s								
WRA				pmax		pmax			
	comp=Z,1.0nm,0.5s								
WRA				MLR		MLR			
	comp=Z,13μm,18.0s								
WRA	Warramunga Arr	43.97	273	P		P		19 37 15.0	+0.9
WRA				ScP		ScP		19 42 49.1	+0.1
WRA				S		S		19 43 44.4	+0.5
WRA	Warramunga Arr	43.97	273	P		P		19 37 15.0	+0.9
	comp=Z,245nm,0.6s,mb6.1,baz=111,slow=7.9,SNR=1957								
WRA				ScP		ScP		19 42 49.1	+0.1
	comp=Z,7.1nm,1.1s,baz=112,slow=3.7,SNR=3.2								
WRA				S		S		19 43 44.4	+0.5
	comp=Z,13nm,1.1s,ba

MIR Mirnyy 61.74 207α iP P 19 39 26.0 +1.4
MIR i 19 39 41.0
MIR pmax pmax
comp=Z,600nm,1.0s,mb6.7
MIR MLR MLR
comp=Z,3µm,21.0s,MS5.4
KAPI Kappang 63.53 280 LR LR 20 06 43.5
comp=Z,3µm,18.7s,MS5.5,baz=139,slow=36
DAV Davao City (W) 65.64 295 PFAKE 19 40 00.0 +8.9
DAV LR LR
comp=Z,1µm,20.0s,MS5.2
MYLDM Lahad Datu 70.17 289 ⇑P P 19 40 20.2 +0.5
TSM Tawau 70.18 288 ⇑P P 19 40 20.2 +0.5
SDKM Sandakan 71.50 289 ⇓P P 19 40 27.4 -0.3
MAW Mawson 71.93 201⇑iP P 19 40 31.2 +1.8
MAW pmax pmax
comp=Z,65nm,0.8s
MAW MLR MLR
comp=Z,9µm,20.0s
MAW Mawson 71.93 201⇑iP P 19 40 31.2 +1.8
comp=Z,65nm,0.8s,mb5.6
MAW LR LR
comp=Z,9µm,20.0s,MS6.0
MAW Mawson 71.93 201 P P 19 40 31.0 +1.6
comp=Z,73nm,0.8s,mb5.7,baz=124,slow=7.2,SNR=64
MAW LR LR 20 10 49.1
comp=Z,6µm,20.9s,MS5.8,baz=119,slow=35
PMSA Palmer Station 72.00 156 PFAKE 19 40 40.0 +10
PMSA LR LR
comp=Z,2µm,20.0s,MS5.4
KKM Kota Kinabalu 72.53 288 eP P 19 40 32.2 -1.6
KKM Kota Kinabalu 72.53 288 ⇓P P 19 40 34.5 +0.7
BTM Bintulu 73.54 284 ⇑P P 19 40 39.9 0.0
SBUM Sibu 73.86 283 ⇓P P 19 40 42.1 +0.4
KSM Kuching 74.94 281 eP P 19 40 47.3 -0.8
KSM Kuching 74.94 281 ⇑P P 19 40 48.1 0.0
SYO Syowa Base 76.74 193⇓iP P 19 40 57.4 0.0
SYO Syowa Base 76.74 193⇓iP P 19 41 00.1 +2.7
SNAA Sanae 77.81 178 eP P 19 41 03.0 -0.4
SNAA e 19 41 09.5
SNAA e 19 41 19.4
SNAA Sanae 77.81 178c iP P 19 41 03.1 -0.3
SNAA Sanae 77.81 178 P P 19 41 04.8 +1.4
comp=Z,14nm,0.9s,mb4.9,baz=203,slow=5.1,SNR=73
VNA3 Neumayer Olymp 77.96 176 eP P 19 41 05.4 +1.2
VNA3 e 19 41 12.2
VNA3 e 19 41 19.3
VNA2 Neumayer--Watz 78.40 177 eP P 19 41 08.4 +1.8
baz=172,slow=5.4
VNA2 e 19 41 14.8
VNA2 e 19 41 22.1
MJAR Matsushiro Arr 78.45 325 P P 19 41 05.0 -2.3
MJAR pmax pmax
comp=Z,14nm,1.0s
MJAR MLR MLR
comp=Z,1µm,21.1s
MJAR Matsushiro Arr 78.45 325 P P 19 41 05.0 -2.3
comp=Z,14nm,0.9s,mb4.9,baz=162,slow=5.2,SNR=14
MJAR LR LR 20 09 24.0
comp=Z,1µm,21.1s,MS5.1,baz=135,slow=31
MAJO Matsushiro 78.45 325 P P 19 41 06.3 -1.0
MAJO pmax pmax
comp=Z,35nm,1.2s,mb5.2
MAJO Matsushiro 78.45 325 eP P 19 41 05.5 -1.8
comp=Z,35nm,1.2s,mb5.2
MAJO LR LR
comp=Z,2µm,20.0s,MS5.5
MAT Matsushiro 78.45 325 P P 19 41 04.9 -2.4
MAT S S 19 50 57.0 -4.0
MAIT Maitri 78.51 183 eP P 19 41 07.3 0.0
NVL N'lazarevskaya 78.52 183 eP P 19 41 10.0 +2.7
NVL eS S 19 51 02.7 +1.7
NVL pmax pmax
comp=Z,15nm,1.3s,mb4.8
VNA1 Neumayer--Stat 78.63 177 eP P 19 41 09.9 +2.0
VNA1 e 19 41 16.8
VNA1 e 19 41 23.7
COCO West Island 79.62 262 PFAKE 19 41 30.0 +16
COCO LR LR
comp=Z,7µm,19.0s,MS6.0
TATO Taipei 80.04 307 PFAKE 19 41 30.0 +14
TATO LR LR
comp=Z,2µm,20.0s,MS5.5
MYKOM Kota Tinggi 80.59 278 ⇑P P 19 41 20.0 +0.4
ERM Erimo 80.70 332 PFAKE 19 41 30.0 +11
ERM LR LR
comp=Z,3µm,21.0s,MS5.6
KGM Kluang 81.17 278 ⇓P P 19 41 23.0 +0.4
QZH Quanzhou 82.04 305⇑iP P 19 41 25.0 -1.9
QZH S S 19 51 34.3 -4.9
QZH AMB AMB
comp=Z,40nm,0.8s,mb5.4
QZH AMB AMB
comp=Z,1µm,4.2s
QZH LR LR
comp=N,600nm,14.2s
QZH LR LR
comp=E,3µm,19.6s
QZH LR LR
comp=Z,2µm,20.0s
PLCA Paso Flores 82.37 133 eP P 19 41 30.0 +1.5
comp=Z,62nm,1.1s,mb5.5
PLCA LR LR
comp=Z,4µm,21.0s,MS5.8
PLCA Paso Flores 82.37 133 P P 19 41 29.7 +1.1
comp=Z,37nm,1.0s,mb5.2,baz=231,slow=4.9,SNR=38
PLCA PKPPKP 20 07 55.5
comp=Z,2.2nm,0.9s,baz=1.7,slow=3.3,SNR=3.6
PLCA LR LR 20 09 16.5
comp=Z,4µm,21.5s,MS5.8,baz=255,slow=29
EFI East Falkland 82.58 147 i P P 19 41 29.7 +0.3
EFI East Falkland 82.58 147 PFAKE 19 41 40.0 +11
EFI LR LR
comp=Z,1µm,20.0s,MS5.3
KTGM Kuala Trenggan 83.05 280 ⇓P P 19 41 33.1 +0.6
FRIM Kepong 83.24 278 ⇓P P 19 41 33.8 +0.3
SMY Shemya 83.40 355 eP P 19 41 32.0 -1.3
SMY pmax pmax
comp=Z,202nm,1.2s,mb6.0
SMY MLR MLR
comp=Z,5µm,19.0s,MS5.9
SMY Shemya 83.40 355 eP P 19 41 32.0 -1.3
comp=Z,202nm,1.2s,mb6.0
SMY LR LR
comp=Z,5µm,19.0s,MS5.9
SKR Severo-Kuril's 84.21 344 eP P 19 41 32.0 -5.5
SKR e 19 41 37.0
SKR e 19 44 50.0
SKR eS S 19 51 50.0 -10
SKR e 19 51 55.0
SKR pmax pmax
comp=Z,70nm,0.9s,mb5.8
SKR pmax pmax
comp=Z,1µm,12.0s
SKR pmax pmax
comp=N,1µm,14.0s
SKR pmax pmax
comp=E,1µm,14.0s
SKR MLR MLR
comp=N,3µm,20.0s,MS5.7
SKR MLR MLR
comp=E,2µm,20.0s,MS5.7
SKR MLR MLR
comp=Z,2µm,20.0s,MS5.5
SSE Sheshan 84.23 311 P P 19 41 39.5 +1.4
SSE PP PP 19 44 55.0 +1.8
SSE S S 19 52 02.5 +1.4
SSE XS sS 19 52 23.8 +5.5
SSE SS SS 19 57 34.0 +2.3
SSE AMB AMB
comp=Z,39nm,0.7s,mb5.7
SSE AMB AMB
comp=Z,711nm,7.8s
SSE LR LR
comp=N,1µm,25.0s,MS5.3
SSE LR LR
comp=E,1µm,25.0s,MS5.3
SSE LR LR
comp=Z,2µm,19.7s
SNCC San Nicolas Is 84.39 46 PFAKE 19 41 50.0 +11
SNCC LR LR
comp=Z,2µm,19.0s,MS5.5
SNCC San Nicolas Is 84.39 46 ⇑P P 19 41 37.9 -1.0
baz=85
IPM Ipoh 84.39 279 ⇑P P 19 41 39.6 +0.2

KSRS Korea Array 84.52 320 P P 19 41 39.0 -0.4
comp=Z,8.4nm,0.8s,mb4.9,baz=145,slow=5.6,SNR=14
KSRS LR LR 20 15 28.5
comp=Z,2µm,22.0s,MS5.4,baz=316,slow=33
GZH Guangzhou 84.70 301 P P 19 41 41.4 +0.7
GZH S S 19 52 12.1 +5.9
GZH LR LR
comp=N,524nm,21.6s,MS5.0
GZH LR LR
comp=E,669nm,26.2s,MS5.0
GZH LR LR
comp=Z,2µm,20.7s
BSC Santa Cruz Isl 84.83 45 ⇓P P 19 41 41.0 0.0
baz=85
UNV Unalaska Valle 84.85 7 PFAKE 19 41 50.0 +9.4
UNV LR LR
comp=Z,4µm,20.0s,MS5.8
YSS Yuzh-Sakhalins 85.00 334αeP P 19 41 41.5 -0.1
YSS e 19 41 56.0
YSS eS S 19 52 08.0 -0.1
YSS ePPS 19 53 34.0
YSS pmax pmax
comp=Z,1µm,6.0s
YSS MLR MLR
comp=Z,2µm,18.0s,MS5.5
YSS MLR MLR
comp=N,2µm,20.0s
YSS Yuzh-Sakhalins 85.00 334 eP P 19 41 39.8 -1.8
comp=N,56nm,1.0s,mb5.7
YSS e 19 41 58.2
YSS LR LR
comp=Z,4µm,22.0s,MS5.8
QIZ Qiongzhong 85.01 295 P P 19 41 42.8 +0.5
QIZ XP sP 19 41 58.8 +2.4
QIZ PP PP 19 44 58.8 -1.0
QIZ S S 19 52 07.8 -1.6
QIZ SS SS 19 57 42.8 -0.7
QIZ AMB AMB
comp=Z,24nm,1.3s,mb5.2
QIZ AMB AMB
comp=Z,986nm,14.1s
QIZ LR LR
comp=E,1µm,23.4s
QIZ LR LR
comp=Z,3µm,37.1s
QIZ Qiongzhong 85.01 295 eP P 19 41 42.4 0.0
comp=Z,17nm,0.8s,mb5.2
QIZ LR LR
comp=Z,1µm,22.0s,MS5.3
SBC Santa Barbara 85.08 45 ⇑P P 19 41 42.1 -0.2
baz=85
KULM Kulim 85.13 279 eP P 19 41 42.6 -0.5
KULM Kulim 85.13 279 ⇓P P 19 41 43.5 +0.4
V04C Ramage Ranch, 85.20 43 ⇓P P 19 41 42.8 -0.1
baz=85
V03C Hunter Liggett 85.25 43 ⇓P P 19 41 43.6 +0.5
baz=85
BLG Laguna Peak 85.25 46 ⇓P P 19 41 42.7 -0.5
baz=85
INCN Inchon 85.26 319 PFAKE 19 41 50.0 +6.9
INCN LR LR
comp=Z,1µm,20.0s,MS5.3
HAST Hastings Reser 85.31 43 ⇓P P 19 41 43.4 0.0
baz=86
PKM Peak Mountain 85.32 45 ⇓P P 19 41 43.5 0.0
baz=86
FARB Farallon Islan 85.40 41 ⇑P P 19 41 43.8 0.0
baz=86
FMP Fort Macarthur 85.47 46 ⇓P P 19 41 43.7 -0.6
baz=86
BNLO Ben Lomond (Sa 85.47 42 ⇑P P 19 41 44.2 0.0
baz=86
SMMC Simmler 85.49 44 ⇑P P 19 41 44.8 +0.5
baz=86
PTRM Twissleman Ran 85.60 44 eP P 19 41 45.6 +0.8
PKD Parkfield 85.60 43 ⇑P P 19 41 45.1 +0.2
baz=86
JRSC Jasper Ridge 85.62 41 ⇑P P 19 41 44.6 -0.3
baz=86
SAO San Andreas Ge 85.64 42 PFAKE 19 42 00.0 +15
SAO LR LR
comp=Z,3µm,22.0s,MS5.6
109C Camp Elliot, M 85.67 48 ⇑P P 19 41 44.7 -0.6
baz=86
U04C Hernandez Rese 85.75 43 ⇑P P 19 41 46.0 +0.4
baz=86,SNR=9.8
MCCM Marconi Confer 85.78 41 PFAKE 19 42 00.0 +14
MCCM LR LR
comp=Z,2µm,20.0s,MS5.5
MCCM Marconi Confer 85.78 41 ⇓P P 19 41 46.5 +0.8
baz=86
DECC Green Verdugo 85.80 46 ⇓P P 19 41 45.5 -0.4
baz=86
OSI Osito Adit 85.80 45 ⇑P P 19 41 46.1 +0.2
baz=86
PET Petropavlovsk 85.84 346 eP P 19 41 44.1 -1.5
PET eS S 19 52 09.7 -6.4
PET eSS SS 19 57 50.5 -4.1
PET pmax pmax
comp=Z,1µm,7.4s
PET pmax pmax
comp=Z,1µm,18.5s
PET pmax pmax
comp=Z,39nm,0.8s,mb5.7
PET pmax pmax
comp=Z,300nm,27.5s
PET pmax pmax
comp=Z,300nm,24.8s
PET Petropavlovsk 85.84 346 eP P 19 41 44.5 -1.1
comp=Z,28nm,0.6s,mb5.7
PET LR LR
comp=Z,2µm,21.0s,MS5.5
PACP Pacheco Peak 85.90 42 ⇓P P 19 41 46.6 +0.3
baz=86
V05C Boulder Hill, 85.93 44 ⇓P P 19 41 47.4 +0.9
baz=86
WENL Wente Brothers 86.05 42 ⇑P P 19 41 47.0 -0.1
baz=86
MURC Murrieta 86.08 47 ⇑P P 19 41 47.5 +0.2
baz=86
ARVC Arvin 86.08 45 ⇑P P 19 41 47.3 0.0
baz=86
MONP Monument Peak 86.11 48 P P 19 41 48.1 +0.6
baz=86,SNR=11
U05C Westside ANR, 86.12 43 ⇑P P 19 41 47.8 +0.4
baz=86
CVS Carmenet Viney 86.16 41 ⇓P P 19 41 47.2 -0.3
baz=86
DVTC Desert V Tower 86.17 48 ⇑P P 19 41 47.7 -0.1
baz=86
T05C Eagle Field, D 86.17 43 ⇑P P 19 41 48.4 +0.7
baz=86
NSHM Saint Helena R 86.20 40 eP P 19 41 47.5 -0.3
BFSC Mount Baldy St 86.21 46 ⇓P P 19 41 47.9 0.0
baz=86,SNR=8.7
S04C Ingram Canyon, 86.22 42 ⇓P P 19 41 48.0 +0.1
baz=86,SNR=10.0
BDM Black Diamond 86.22 41 ⇑P P 19 41 48.2 +0.3
baz=86
HOPS Hopland 86.27 40 eP P 19 41 47.5 -0.6
comp=Z,28nm,1.1s,mb5.4
HOPS LR LR
comp=Z,3µm,19.0s,MS5.6
HOPS Hopland 86.27 40 ⇓P P 19 41 48.3 +0.2
baz=86
NJ2 Nanjing 86.36 311 eP P 19 41 50.5 +1.8
NJ2 AP pP 19 42 00.4 +1.3
NJ2 XP sP 19 42 05.5 +2.6
NJ2 SKS 19 52 07.0
NJ2 S S 19 52 24.0 +1.8
NJ2 AMB AMB
comp=Z,70nm,1.4s,mb5.7
NJ2 AMB AMB
comp=Z,1µm,10.2s
NJ2 LR LR
comp=N,3µm,25.3s,MS5.8
NJ2 LR LR
comp=E,5µm,25.2s,MS5.8
NJ2 LR LR
comp=Z,3µm,25.1s,MS5.6
VES Vestal, Richgr 86.40 44 ⇓P P 19 41 48.2 -0.6
baz=87,SNR=7.8
EDW2 Edwards Air Fo 86.43 46 P P 19 41 49.2 +0.2
baz=87,SNR=17
P01C Double 8 Ranch 86.46 39 ⇑P P 19 41 49.0 0.0
baz=87
MNRC McLaughlin Nat 86.54 40 ⇑P P 19 41 49.9 +0.5

baz=87
SWSC Sam W. Stewart 86.54 48 ⇑P P 19 41 49.3 -0.3
baz=87
PFO Pinyon Flat Ob 86.55 47 eP P 19 41 48.9 -0.8
comp=Z,29nm,1.2s,mb5.4
PFO LR LR
comp=Z,2µm,20.0s,MS5.5
PFO Pinyon Flat Ob 86.55 47 P P 19 41 49.5 -0.1
comp=Z,14nm,0.9s,mb5.2,baz=278,slow=3.5,SNR=14
PFO LR LR 20 12 15.7
comp=Z,2µm,19.8s,MS5.4,baz=244,slow=30
PFO Pinyon Flat Ob 86.55 47 P P 19 41 50.1 +0.5
baz=87,SNR=8.8
Q03C Winters 86.61 41 ⇓P P 19 41 50.3 +0.6
baz=87
KIPM Iron Peak 86.63 39 eP P 19 41 49.7 -0.1
O01C Eel River Cons 86.68 39 ⇑P P 19 41 50.2 +0.1
baz=87
S05C Merced 86.68 43 ⇓P P 19 41 49.5 -0.7
baz=87,SNR=6.8
BBRC Big Bear Sol-O 86.69 47 ⇑P P 19 41 49.7 -0.6
baz=87
T06C Millerton Lake 86.82 43 P P 19 41 50.9 0.0
baz=87,SNR=14
GASB Alder Springs 86.93 40 ⇓P P 19 41 52.2 +0.9
baz=87,SNR=33
R04C Big Horse Ranc 86.96 42 ⇑P P 19 41 50.7 -0.8
baz=87
HELL Mitchell Peak 87.00 44 P P 19 41 51.4 -0.3
baz=87,SNR=11
LRMC Laurel Mountai 87.01 45 ⇑P P 19 41 51.9 +0.1
baz=87,SNR=7.2
RRX Edison Barstow 87.04 46 ⇑P P 19 41 51.5 -0.5
baz=87
JCC Jacoby Creek 87.05 38 ⇓P P 19 41 51.9 0.0
baz=87
112A Yuma 87.07 49 ⇑P P 19 41 52.5 +0.4
baz=87
BELC Belle Mtn. 87.10 47 ⇓P P 19 41 52.5 +0.2
baz=87,SNR=17
Q04C Lincoln 87.11 41 ⇑P P 19 41 51.8 -0.4
baz=87
CMB Columbia Colle 87.12 42 eP P 19 41 52.1 -0.2
CMB pmax pmax
comp=Z,21nm,0.9s,mb5.4
CMB MLR MLR
comp=Z,3µm,22.0s,MS5.7
CMB Columbia Colle 87.12 42 eP P 19 41 52.0 -0.2
comp=Z,21nm,0.9s,mb5.4
CMB LR LR
comp=Z,3µm,22.0s,MS5.7
CMB Columbia Colle 87.12 42 ⇑P P 19 41 51.4 -0.8
baz=87,SNR=8.4
SUTB Sutter Butte 87.15 40 ⇓P P 19 41 51.7 -0.7
baz=87
BC3 Big Chuckw Mtn 87.22 48 P P 19 41 53.7 +0.8
baz=87,SNR=19
GLA Glamis 87.24 49 eP P 19 41 53.4 +0.4
GLA pmax pmax
comp=Z,63nm,1.4s,mb5.7
GLA MLR MLR
comp=Z,1µm,19.0s,MS5.2
GLA Glamis 87.24 49 eP P 19 41 53.4 +0.4
comp=Z,63nm,1.4s,mb5.7
GLA LR LR
comp=Z,1µm,19.0s,MS5.2
GLA Glamis 87.24 49 P P 19 41 53.7 +0.8
baz=87,SNR=12
KCC Kaiser Creek 87.26 43 ⇑P P 19 41 52.5 -0.5
baz=87,SNR=6.3
O02C Red Bluff 87.26 39 P P 19 41 53.5 +0.5
baz=87,SNR=46
S06C San Francisco 87.33 42 ⇓P P 19 41 52.9 -0.4
baz=88,SNR=11
CWC Cottonwood Cre 87.41 44 ⇓P P 19 41 53.5 -0.2
baz=88
LAVA Lava Cap Winer 87.41 41 ⇓P P 19 41 53.1 -0.6
baz=88
HEC Hector,Ludlow 87.42 47 P P 19 41 54.0 +0.2
baz=88,SNR=22
GSC Goldstone 87.44 46 eP P 19 41 54.2 +0.3
GSC e 19 42 08.3
GSC pmax pmax
comp=Z,44nm,1.1s,mb5.6
GSC MLR MLR
comp=Z,2µm,20.0s,MS5.4
GSC Goldstone 87.44 46 eP P 19 41 54.2 +0.3
comp=Z,44nm,1.1s,mb5.6
GSC e 19 42 08.3
GSC LR LR
comp=Z,2µm,20.0s,MS5.4
GSC Goldstone 87.44 46 P P 19 41 54.3 +0.4
baz=88,SNR=20
N02C Big Bar 87.44 38 ⇓P P 19 41 53.6 -0.2
baz=88,SNR=10.0
MPMC Manual Prospec 87.51 45 P P 19 41 54.5 +0.2
baz=88,SNR=27
ORV Oroville 87.54 40 ⇓P P 19 41 53.6 -0.7
baz=88
O03C Acorn Hollow, 87.55 40 ⇓P P 19 41 53.8 -0.5
baz=88
DAC Darwin (Calif) 87.59 45 PFAKE 19 42 10.0 +15
DAC LR LR
comp=Z,2µm,20.0s,MS5.6
KRMB Red Mountain 87.62 38 eP P 19 41 54.7 +0.1
WDC Whiskeytown Da 87.68 39 eP P 19 41 54.6 -0.3
WDC pmax pmax
comp=Z,52nm,1.4s,mb5.6
WDC MLR MLR
comp=Z,2µm,22.0s,MS5.5
WDC Whiskeytown Da 87.68 39 eP P 19 41 54.6 -0.3
comp=Z,52nm,1.4s,mb5.6
WDC LR LR
comp=Z,2µm,22.0s,MS5.5
WDC Whiskeytown Da 87.68 39 P P 19 41 54.9 0.0
baz=88,SNR=11
MTUM Tungsten Hills 87.72 43 eP P 19 41 55.4 +0.2
TIN Tinemaha 87.73 44 ⇑P P 19 41 55.4 +0.2
baz=88
IRM Iron Mountain 87.74 48 P P 19 41 56.1 +0.8
baz=88,SNR=25
M01C Crescent City 87.74 37 ⇑P P 19 41 55.6 +0.4
baz=88
113A Mohawk Valley, 87.75 50 P P 19 41 56.0 +0.5
baz=88,SNR=8.8
MLAC Mammoth Lakes 87.75 43 ⇓P P 19 41 55.6 +0.3
baz=88
R05C Kirkwood Meado 87.75 42 P P 19 41 55.5 +0.1
baz=88,SNR=10
GMRC Granite Mounta 87.81 47 P P 19 41 56.3 +0.7
baz=88,SNR=9.4
P05C Yuba Gap, Truc 87.86 41 P P 19 41 55.9 +0.1
baz=88,SNR=12
Y12C Blythe 87.88 48 ⇑P P 19 41 56.8 +0.8
baz=88,SNR=5.8
R07C Lee Vining 87.93 43 P P 19 41 56.5 +0.3
baz=88,SNR=13
R06C Coleville 87.99 42 ⇓P P 19 41 56.4 0.0
baz=88,SNR=8.5
S08C White Mtn Res 88.06 44 P P 19 41 57.1 +0.3
baz=88,SNR=20
TUQ Turquoise Mtn. 88.07 46 ⇑P P 19 41 57.3 +0.4
baz=88
M02C Callahan 88.08 38 P P 19 41 57.3 +0.5
baz=88,SNR=10
O05C Quincy 88.14 40 ⇓P P 19 41 56.7 -0.4
baz=88
SHOC Shoshone 88.15 46 ⇑P P 19 41 57.1 -0.2
baz=88
FURC Furnace Creek, 88.17 45 ⇓P P 19 41 57.4 0.0
baz=88
GRAC Grapevine Rang 88.20 44 ⇓P P 19 41 57.5 0.0
baz=88
L02A Cave Junction 88.23 37 ⇓P P 19 41 57.2 -0.3
baz=88
O04C Chester 88.30 40 ⇑P P 19 41 57.6 -0.2
baz=88
CHGN Chignik 88.33 11 eP P 19 41 57.2 -0.4
WCN Washoe City 88.34 41 ⇓P P 19 41 58.1 0.0
baz=88
Y13A Salome 88.36 49 ⇑P P 19 41 58.8 +0.4
baz=88,SNR=17
BEKR Beckwourth 88.39 41 P P 19 41 58.2 -0.1
baz=89,SNR=11
M03C McCloud 88.39 39 ⇓P P 19 41 58.0 -0.3
baz=89
YBH Yreka Blue Hor 88.40 38 P P 19 41 58.5 +0.2
YBH pmax pmax

comp=Z,8.0nm,0.8s
YBH Yreka Blue Hor 88.40 38 *e*P **P 19 41 58.3 0.0**
comp=Z,7.8nm,0.8s,mb5.0
YBH LR LR
comp=Z,2µm,22.0s,MS5.5
YBH Yreka Blue Hor 88.40 38 P **P 19 41 58.1 -0.2**
comp=Z,9.5nm,0.9s,mb5.0,baz=156,slow=2.6,SNR=22
YBH LR LR 20 14 08.8
comp=Z,2µm,21.8s,MS5.5,baz=235,slow=31
YBH Yreka Blue Hor 88.40 38 P **P 19 41 58.6 +0.3**
baz=89,SNR=9.7
HATC Hat Creek Radi 88.43 39 ⇑P **P 19 41 58.1 -0.4**
baz=89,SNR=7.0
WHN Wuhan 88.44 307 ⇓P **P 19 41 59.6 +0.8**
WHN AP pP 19 42 08.5 -0.7
WHN S S 19 52 39.5 -2.7
WHN AMB AMB
comp=Z,170nm,1.6s,mb6.0
WHN LR LR
comp=N,3µm,21.7s
WHN LR LR
comp=E,897nm,12.2s
WHN LR LR
comp=Z,3µm,15.2s
NEE2 Needles Airpor 88.46 48 ⇓P **P 19 41 59.0 +0.2**
baz=89
PDMCI Parker Dam,Lak 88.47 48 P **P 19 41 59.7 +0.8**
baz=89,SNR=6.8
P06A Stead Airport, 88.52 41 ⇑P **P 19 41 58.7 -0.2**
baz=89
NVAR Mina Array Bea 88.60 43 P **P 19 41 59.4 +0.1**
NVAR PKKPbc PKKPbc 19 59 39.4 -2.0
NVAR P'P' 20 07 46.4
NVAR Mina Array Bea 88.60 43 P **P 19 41 59.4 +0.1**
comp=Z,18nm,0.8s,mb5.4,baz=221,slow=8.4,SNR=72
NVAR PKKPbc PKKPbc 19 59 39.4 -2.0
comp=Z,1.7nm,0.7s,baz=77,slow=2.2,SNR=10
NVAR PKPPKP 20 07 46.4
comp=Z,1.4nm,0.9s,baz=102,slow=0.7,SNR=3.9
V11A Goodsprings 88.64 46 ⇓P **P 19 41 59.7 +0.2**
baz=89
W12A Cal Nev Ari 88.64 47 ⇓P **P 19 42 00.2 +0.6**
baz=89
Z14A Wintersburg 88.66 49 ⇓P **P 19 42 00.2 +0.5**
baz=89,SNR=8.8
R08A Mina 88.66 43 ⇓P **P 19 41 59.7 +0.1**
baz=89
ELFS Eagle Lake Fie 88.70 40 ⇓P **P 19 41 59.6 -0.2**
baz=89
115A Sonoran Desert 88.72 50 ⇑P **P 19 42 00.5 +0.5**
baz=89,SNR=7.6
K02A Glendale 88.72 37 ⇓P **P 19 41 59.9 +0.1**
baz=89,SNR=6.5
S09A Goldfield 88.77 44 ⇓P **P 19 42 00.0 -0.1**
baz=89
216A Three Points, 88.81 51 ⇑P **P 19 42 01.3 +0.9**
baz=89
PAHR Pah Rah Range 88.83 41 *e*P **P 19 42 00.1 -0.3**
comp=Z,23nm,1.1s,mb5.4
MDJ Mudanjiang 88.83 326 P **P 19 42 00.1 -0.2**
MDJ AP pP 19 42 10.0 -0.7
MDJ XP sP 19 42 13.0 -1.4
MDJ PP PP 19 45 28.8 -1.4
MDJ S S 19 52 45.1 -0.1
MDJ AMB AMB
comp=Z,17nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,950nm,5.2s
MDJ LR LR
comp=N,2µm,24.4s,MS5.4
MDJ LR LR
comp=E,1µm,28.0s,MS5.4
MDJ LR LR
comp=Z,3µm,25.0s,MS5.6
MDJ Mudanjiang 88.83 326 *e*P **P 19 42 00.2 -0.1**
comp=Z,9.7nm,0.6s,mb5.3
MDJ LR LR
comp=Z,2µm,21.0s,MS5.5
TPNV Topopah Spring 88.85 45 P **P 19 42 01.0 +0.5**
TPNV pmax pmax
comp=Z,17nm,1.0s,mb5.3
TPNV Topopah Spring 88.85 45 *e*P **P 19 42 00.8 +0.2**
comp=Z,17nm,0.9s,mb5.4
TPNV LR LR
comp=Z,2µm,20.0s,MS5.5
X13A Yucca 88.86 48 ⇑P **P 19 42 01.1 +0.4**
baz=89,SNR=31
HUMO Hull Mountain 88.89 37 *e*P **P 19 42 00.9 +0.3**
comp=Z,65nm,1.6s,mb5.7
HUMO LR LR
comp=Z,2µm,22.0s,MS5.4
HUMO Hull Mountain 88.89 37 P **P 19 42 01.1 +0.5**
baz=89,SNR=5.9
O06A Flanigan 88.89 41 ⇑P **P 19 42 00.2 -0.4**
baz=89,SNR=9.7
M04C Macdoel 88.90 39 ⇑P **P 19 42 00.2 -0.5**
baz=89
LCO Las Campanas 88.90 123 PFAKE 19 42 10.0 +8.8
LCO LR LR
comp=Z,6µm,22.0s,MS6.0
V12A Nelson 88.93 47 ⇓P **P 19 42 01.3 +0.4**
baz=89
Y14A Wickenburg 88.98 49 ⇑P **P 19 42 01.8 +0.6**
baz=89,SNR=12
M05C Lookout 88.98 39 ⇑P **P 19 42 00.7 -0.3**
baz=89
116A Eloy 88.98 51 ⇑P **P 19 42 02.0 +0.7**
baz=89,SNR=6.7
TPH Tonopah 89.00 44 P **P 19 42 01.6 +0.4**
TPH *e* 19 42 15.4
TPH pmax pmax
comp=Z,37nm,1.2s,mb5.6
TPH Tonopah 89.00 44 *e*P **P 19 42 01.1 -0.1**
comp=Z,20nm,0.8s,mb5.5
TPH LR LR
comp=Z,2µm,22.0s,MS5.4
P07A Fallon 89.00 42 ⇑P **P 19 42 01.1 0.0**
baz=89
U11A Corn Creek 89.04 46 ⇓P **P 19 42 01.7 +0.2**
baz=89
Q08A Gabbs 89.10 43 ⇑P **P 19 42 00.8 -0.9**
baz=89,SNR=9.4
217A Green Valley 89.10 52 P **P 19 42 02.9 +1.0**
baz=89,SNR=31
J02A Umpqua 89.11 36 ⇓P **P 19 42 01.7 +0.1**
baz=89
DL2 Dalian 89.11 317 ⇑*i*P **P 19 42 01.8 +0.1**
DL2 S S 19 52 47.6 -0.5
DL2 AMB AMB
comp=Z,20nm,1.2s,mb5.3
DL2 AMB AMB
comp=Z,440nm,6.2s
DL2 LR LR
comp=N,690nm,20.3s,MS5.2
DL2 LR LR
comp=E,820nm,21.2s,MS5.2
DL2 LR LR
comp=Z,1µm,23.5s,MS5.3
KKTK Khon Kaen 89.12 290 ⇑P **P 19 42 03.0 +0.7**
comp=Z,309nm,0.5s,mb6.9
Z15A Gila River Ind 89.13 50 ⇓P **P 19 42 02.1 +0.2**
baz=89
W13A Hualapai Mount 89.14 48 P **P 19 42 02.9 +1.0**
baz=89,SNR=21
L04A Klamath Falls 89.14 38 ⇑P **P 19 42 01.4 -0.4**
baz=89
R09A Tonopah 89.20 44 ⇑P **P 19 42 02.1 -0.1**
baz=89
M06C Likely Place G 89.24 40 ⇑P **P 19 42 02.0 -0.2**
baz=89,SNR=7.7
S10A Tonopah Range, 89.27 44 P **P 19 42 02.7 +0.2**
baz=89,SNR=35
N06A Buffalo Meadow 89.28 40 P **P 19 42 02.2 -0.2**
baz=90,SNR=18
TRQA Tornquist 89.29 135 *e*P **P 19 42 02.7 -0.1**
comp=Z,75nm,1.5s,mb5.8
TRQA LR LR
comp=Z,3µm,22.0s,MS5.6
X14A Yava 89.38 49 P **P 19 42 04.1 +1.0**
baz=90,SNR=29
J03A Ideyld Park 89.42 37 ⇓P **P 19 42 03.5 +0.4**
baz=90
O07A Toulon 89.42 41 P **P 19 42 03.0 -0.2**
baz=90,SNR=14
Y15A Casa Rosa Ranc 89.42 49 P **P 19 42 04.0 +0.7**
baz=90,SNR=23
I02A Mapleton 89.43 36 ⇓P **P 19 42 02.7 -0.4**
baz=90
TUC Tucson 89.45 51 P **P 19 42 04.2 +0.7**
TUC pmax pmax
comp=Z,93nm,1.6s,mb5.9
TUC Tucson 89.45 51 *e*P **P 19 42 04.0 +0.5**
comp=Z,93nm,1.6s,mb5.9
TUC LR LR
comp=Z,857nm,19.0s,MS5.2
318A Bisbee 89.46 53 P **P 19 42 04.5 +1.0**
baz=90,SNR=29
Q09A Carvers 89.52 43 ⇑P **P 19 42 03.3 -0.3**
baz=90
K04A Chilquin 89.54 38 ⇓P **P 19 42 03.4 -0.2**
baz=90
V13A Grand Canyon W 89.55 47 ⇓P **P 19 42 04.1 +0.2**
baz=90,SNR=22
P08A Dixie Valley 89.57 42 ⇓P **P 19 42 03.5 -0.3**
baz=90
S11A Rachel 89.60 45 ⇓P **P 19 42 04.4 +0.3**
baz=90
L05A Lakeview 89.62 39 ⇓P **P 19 42 04.2 +0.1**
baz=90,SNR=9.6
117A Oracle 89.64 51 ⇑P **P 19 42 04.8 +0.4**
baz=90,SNR=20
Z16A Peralta Trail, 89.64 50 ⇑P **P 19 42 05.0 +0.7**
baz=90
T12A Moapa 89.65 46 ⇓P **P 19 42 04.8 +0.5**
baz=90
T11A Corn Creek, Al 89.67 45 P **P 19 42 05.2 +0.9**
baz=90,SNR=25
R10A Warm Springs 89.69 44 P **P 19 42 05.0 +0.6**
baz=90,SNR=11
I03A Eugene 89.69 36 ⇓P **P 19 42 03.9 -0.3**
baz=90
W14A Seligman 89.72 48 P **P 19 42 05.8 +1.2**
baz=90,SNR=36
218A Dragoon 89.74 52 P **P 19 42 05.9 +1.0**
baz=90,SNR=34
N07B Gerlach 89.79 41 ⇑P **P 19 42 04.6 -0.2**
baz=90
MOD Modoc 89.81 39 *e*P **P 19 42 04.2 -0.8**
comp=Z,30nm,1.4s,mb5.4
MOD LR LR
comp=Z,2µm,22.0s,MS5.5
MOD Modoc 89.81 39 P **P 19 42 04.7 -0.2**
baz=90,SNR=7.5
X15A Humboldt 89.81 49 P **P 19 42 06.2 +1.1**
baz=90,SNR=22
H02A Toledo 89.83 35 ⇑P **P 19 42 05.4 +0.5**
baz=90
319A Douglas 89.91 53 ⇓P **P 19 42 05.9 +0.2**
baz=90,SNR=11
U13A Pakoon Wash 89.92 47 ⇓P **P 19 42 06.0 +0.4**
baz=90,SNR=18
O08A Rochester Mine 89.92 41 ⇓P **P 19 42 04.9 -0.6**
baz=90
Y16A Circle Bar Ran 89.94 50 P **P 19 42 06.9 +1.1**
baz=90,SNR=54
V14A Boquillas Ranc 89.97 48 P **P 19 42 06.9 +1.1**
baz=90,SNR=37
SNY Shenyang 89.97 321 ⇑P **P 19 42 05.6 -0.1**
SNY LR LR
comp=N,2µm,23.5s,MS5.5
SNY LR LR
comp=E,982nm,20.5s,MS5.5
SNY LR LR
comp=Z,2µm,25.0s,MS5.5
Q10A Clear Creek Ra 89.98 43 P **P 19 42 06.0 +0.2**
baz=90,SNR=11
I04A Tendick Farm, 90.01 37 ⇑P **P 19 42 05.2 -0.5**
baz=90,SNR=8.6
P09A Austin 90.02 43 ⇓P **P 19 42 05.6 -0.4**
baz=90
K05A Summer Lake 90.06 38 P **P 19 42 06.4 +0.4**
baz=90,SNR=14
M07A Soldier Meadow 90.08 40 ⇑P **P 19 42 05.7 -0.5**
baz=90
TIA Tai'an 90.10 313 ⇑P **P 19 42 06.6 +0.2**
TIA AMB AMB
comp=Z,33nm,1.0s,mb5.6
COR Corvallis 90.11 36 PFAKE 19 42 20.0 +14
COR LR LR
comp=Z,3µm,21.0s,MS5.6
S12A Delamar Landin 90.13 45 ⇑P **P 19 42 07.3 +0.7**
baz=90,SNR=8.4
R11A Troy Canyon, C 90.16 44 ⇑P **P 19 42 06.1 -0.5**
baz=90
118A Homack Ranch, 90.19 52 P **P 19 42 08.0 +1.0**
baz=90,SNR=51
W15A Williams 90.22 48 ⇑P **P 19 42 07.3 +0.3**
baz=90
Y17A Roosevelt 90.25 50 P **P 19 42 08.1 +1.0**
baz=90,SNR=33
Z17A San Carlos Hig 90.25 51 ⇑P **P 19 42 07.8 +0.6**
baz=90,SNR=6.5
N08A GE Springer Mi 90.26 41 P **P 19 42 07.0 0.0**
baz=90,SNR=15
J05A Fort Rock 90.26 38 P **P 19 42 07.2 +0.3**
baz=90,SNR=12
X16A Lo Mia Camp, P 90.29 49 ⇑P **P 19 42 08.0 +0.7**
baz=90,SNR=31
219A White Tail Can 90.29 52 P **P 19 42 08.4 +1.0**
baz=90,SNR=12
CN2 Changchun 90.33 323 ⇑P **P 19 42 06.8 -0.5**
CN2 *e*XP sP 19 42 21.3 -0.2
CN2 *e*S S 19 52 57.5 -1.8
CN2 XS sS 19 53 15.1 -1.5
CN2 AMB AMB
comp=Z,40nm,1.0s,mb5.7
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,1µm,23.0s,MS5.4
CN2 LR LR
comp=E,1µm,23.0s,MS5.4
CN2 LR LR
comp=Z,2µm,23.0s,MS5.5
T13A Saint George 90.33 46 ⇑P **P 19 42 08.1 +0.6**
baz=90
O09A Fish Creek Ran 90.39 42 P **P 19 42 07.5 -0.2**
baz=91,SNR=6.9
U14A Mt Trumbull 90.41 47 P **P 19 42 08.7 +0.9**
baz=91,SNR=25
Z18A Geronimo 90.42 51 ⇑P **P 19 42 08.6 +0.6**
baz=91
L07A Adell 90.42 40 P **P 19 42 08.0 +0.3**
baz=91,SNR=8.7
Q11A Duckwater 90.43 44 ⇑P **P 19 42 08.1 +0.2**
baz=91
K06A Valley Falls 90.45 39 ⇑P **P 19 42 07.8 -0.1**
baz=91,SNR=16
P10A Eureka 90.46 43 ⇑P **P 19 42 08.0 0.0**
baz=91
BMN Battle Mountai 90.55 42 P **P 19 42 08.8 +0.4**
BMN *e* 19 42 21.7
BMN pmax pmax
comp=Z,59nm,1.5s,mb5.7
BMN Battle Mountai 90.55 42 *e*P **P 19 42 08.3 -0.1**
comp=Z,24nm,1.3s,mb5.4
BMN LR LR
comp=Z,3µm,22.0s,MS5.7
M08A Happy Creek Ra 90.57 41 P **P 19 42 08.7 +0.2**
baz=91,SNR=14
G03A Yamhill 90.64 35 ⇑P **P 19 42 08.6 -0.1**
baz=91
W16A Flagstaff 90.65 49 ⇑P **P 19 42 09.8 +0.8**
baz=91,SNR=20
N09A Rock Creek Ran 90.65 41 ⇑P **P 19 42 09.0 +0.2**
baz=91
V15A Kaibab Nationa 90.68 48 P **P 19 42 10.3 +1.2**
baz=91,SNR=31
S13A Holt Ranch, Ein 90.72 46 P **P 19 42 10.1 +0.8**
baz=91,SNR=21
119A Ashpeak Ranch, 90.72 52 P **P 19 42 10.4 +1.1**
baz=91,SNR=14
R12A Pony Springs, 90.73 45 ⇑P **P 19 42 09.6 +0.3**
baz=91,SNR=11
H04A Detroit Lake 90.75 36 ⇓P **P 19 42 08.6 -0.6**
baz=91,SNR=14
KDAK Kodiak Island 90.78 13 PFAKE 19 42 20.0 +11
KDAK LR LR
comp=Z,666nm,20.0s,MS5.1
KDAK Kodiak Island 90.78 13 LR LR 20 15 55.9
comp=Z,1µm,21.7s,MS5.3,baz=211,slow=31
J06A Christmas Vall 90.81 38 ⇓P **P 19 42 08.9 -0.6**
baz=91,SNR=10
P11A Circle Ranch, 90.83 43 ⇓P **P 19 42 09.5 -0.2**
baz=91
Y18A Canyon Day Jun 90.83 51 P **P 19 42 11.2 +1.2**
baz=91,SNR=31
I05A Bend 90.86 37 ⇑P **P 19 42 09.5 -0.2**
baz=91
T14A Hurricane 90.87 47 ⇑P **P 19 42 10.6 +0.6**
baz=91
O10A Cortez Mining, 90.87 42 ⇓P **P 19 42 09.6 -0.3**
baz=91
K07A Rock Creek Ran 90.92 39 P **P 19 42 10.1 0.0**
baz=91,SNR=14
F03A Seaside 90.94 35 ⇑P **P 19 42 10.2 +0.1**
baz=91
G04A Mulino 90.96 36 ⇑P **P 19 42 09.7 -0.5**
baz=91
CCUT Cedar City 91.00 46 *e*P **P 19 42 11.3 +0.7**
WUAZ Wupatki 91.01 49 *e*P **P 19 42 11.2 +0.5**
WUAZ comp=Z,85nm,1.5s,mb5.8
WUAZ LR LR
comp=Z,1µm,22.0s,MS5.3
Q12A Willow Creek R 91.05 44 P **P 19 42 11.2 +0.5**
baz=91,SNR=12
Z19A T-Link Ranch, 91.06 51 ⇓P **P 19 42 11.9 +0.9**
baz=91,SNR=7.7
M09A Marrel Ranch, 91.07 41 ⇑P **P 19 42 10.9 +0.1**
baz=91,SNR=12
L08A Fields 91.08 40 P **P 19 42 10.9 +0.1**
baz=91,SNR=15
WVOR Wild Horse Val 91.08 40 P **P 19 42 10.7 -0.1**
WVOR pmax pmax
comp=Z,50nm,1.5s,mb5.6
WVOR Wild Horse Val 91.08 40 *e*P **P 19 42 10.6 -0.2**
comp=Z,50nm,1.5s,mb5.6
WVOR LR LR
comp=Z,2µm,21.0s,MS5.5
N10A Dunphy 91.15 42 ⇑P **P 19 42 10.9 -0.3**
baz=91
W17A Winslow 91.17 49 ⇑P **P 19 42 12.0 +0.6**
baz=91
H05A Madras 91.21 37 ⇓P **P 19 42 11.1 -0.3**
baz=91
S14A Cedar City 91.26 46 ⇑P **P 19 42 12.1 +0.3**
baz=91
I06A Prineville 91.26 38 ⇓P **P 19 42 11.7 +0.1**
baz=91,SNR=24
O11A Cowboy Ranch, 91.26 43 ⇑P **P 19 42 11.5 -0.3**
baz=91,SNR=18
KLR Kul'dur 91.27 330 *e*P **P 19 42 06.8 -4.7**
KLR *e*S SKSac 19 52 34.5 -6.4
KLR *e* 19 54 21.0
KLR pmax pmax
comp=Z,78nm,1.8s,mb5.7
KLR pmax pmax
comp=Z,1µm,9.5s
P12A McGill 91.28 44 ⇑P **P 19 42 11.9 +0.1**
baz=91,SNR=12
T15A Red Dirt Ranch 91.28 47 ⇑P **P 19 42 12.6 +0.7**
baz=91
X18A Snowflake 91.34 50 ⇑P **P 19 42 12.9 +0.6**
baz=92,SNR=6.2
L09A Wilkinson Ranc 91.34 40 ⇑P **P 19 42 11.9 -0.2**
baz=92,SNR=6.8
J07A Hines 91.35 39 ⇑P **P 19 42 11.7 -0.3**
baz=92,SNR=7.8
K08A Mann Creek Ran 91.36 40 ⇑P **P 19 42 11.8 -0.3**
baz=92,SNR=14
E03A Lebam 91.38 34 ⇓P **P 19 42 12.1 0.0**
baz=92
Y19A Nutrioso 91.46 51 ⇑P **P 19 42 14.1 +1.3**
baz=92,SNR=31
F04A Amboy 91.50 35 ⇓P **P 19 42 12.1 -0.6**
baz=92,SNR=6.3
G05A Wamic 91.58 36 ⇓P **P 19 42 13.0 -0.1**
baz=92
GYA Guiyang 91.60 300 ⇑*i*P **P 19 42 13.9 +0.3**
GYA AP pP 19 42 26.4 +2.3
GYA XP sP 19 42 30.6 +2.8
GYA PP PP 19 45 55.8 +3.3
GYA PPP 19 47 57.3
GYA SKS 19 52 42.9
GYA S S 19 53 09.9 -1.7
GYA PS PS 19 54 27.6 +2.6
GYA SS SS 19 59 20.8 +1.4
GYA SSS 20 02 58.3
GYA AMB AMB
comp=Z,90nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,2µm,8.4s
GYA LR LR
comp=N,5µm,21.0s,MS6.0
GYA LR LR
comp=E,3µm,20.8s,MS6.0
GYA LR LR
comp=Z,3µm,20.2s,MS5.7
M10A I.L. Ranch, Tu 91.65 41 ⇓P **P 19 42 13.4 -0.1**
baz=92,SNR=14
N11A Elko Archery C 91.66 42 ⇓P **P 19 42 13.2 -0.3**
baz=92
R14A James Farms, M 91.68 46 ⇓P **P 19 42 13.7 0.0**
baz=92
D03A Wishkah Elem. 91.68 34 ⇑P **P 19 42 14.2 +0.7**
baz=92
X19A St. Johns 91.72 50 ⇑P **P 19 42 14.3 +0.3**
baz=92
I07A Izee 91.72 38 P **P 19 42 13.9 +0.1**
baz=92,SNR=23
H06A Lindquist Farm 91.73 37 ⇑P **P 19 42 13.1 -0.7**
baz=92,SNR=35
K09A Rome 91.76 40 P **P 19 42 13.9 -0.1**
baz=92,SNR=22
J08A Circle Bar Ran 91.79 39 ⇑P **P 19 42 13.7 -0.3**
baz=92,SNR=9.2
P13A Bates Ranch, G 91.80 44 P **P 19 42 14.5 +0.2**
baz=92,SNR=21
T16A Glen Canyon Da 91.82 47 ⇓P **P 19 42 14.9 +0.5**
baz=92
W18A Petrified Fore 91.83 50 ⇑P **P 19 42 15.1 +0.6**
baz=92
NLWA Neilton Lookou 91.83 34 *e*P **P 19 42 14.6 +0.4**
comp=Z,22nm,1.0s,mb5.4
NLWA LR LR
comp=Z,2µm,22.0s,MS5.6
NLWA Neilton Lookou 91.83 34 ⇓P **P 19 42 14.3 +0.1**
baz=92
O12A Currie 91.88 43 ⇑P **P 19 42 14.2 -0.4**
baz=92,SNR=15
G06A Carlson Farm, 91.92 37 P **P 19 42 14.4 -0.2**
baz=92,SNR=14
F05A White Salmon 91.95 36 ⇑P **P 19 42 14.6 -0.1**
baz=92
M11A Holland Ranch, 92.02 42 ⇓P **P 19 42 15.0 -0.2**
baz=92,SNR=15
L10A Juniper Basin 92.05 41 ⇓P **P 19 42 15.1 -0.2**
baz=92,SNR=17
W19A Sanders 92.06 50 ⇓P **P 19 42 16.1 +0.5**
baz=92,SNR=10
N12A Clover Valley, 92.08 43 ⇓P **P 19 42 15.5 0.0**
baz=92,SNR=13
I08A Drewsey 92.11 39 ⇓P **P 19 42 15.0 -0.5**
baz=92,SNR=9.7
J09A Fry Pan Ranch, 92.17 39 ⇑P **P 19 42 15.5 -0.4**
baz=92,SNR=14
F06A Goldendale 92.21 36 ⇓P **P 19 42 15.5 -0.4**
baz=92
E05A Randle 92.27 35 ⇓P **P 19 42 15.8 -0.4**
baz=92
K10A MacKenzie Ranc 92.29 40 ⇓P **P 19 42 16.0 -0.4**
baz=92,SNR=18
MVU Marysvale 92.31 46 PFAKE 19 42 30.0 +13
MVU LR LR
comp=Z,1µm,20.0s,MS5.4
MSU Marysvale 92.33 46 P **P 19 42 17.8 +1.1**
MSU Marysvale 92.33 46 *e*P **P 19 42 17.4 +0.6**
G07A Ruggs Ranch, H 92.44 37 P **P 19 42 16.9 -0.1**
baz=93,SNR=14
H08A Prairie City 92.46 38 ⇓P **P 19 42 16.8 -0.3**
baz=93
B04A Port Angeles 92.48 33 ⇑P **P 19 42 17.7 +0.5**
baz=93
C04A Brinnon 92.49 34 ⇓P **P 19 42 17.1 -0.1**
baz=93
M12A Wells 92.52 42 P **P 19 42 17.7 +0.2**
baz=93,SNR=9.2
L11A Cat Creek Ranc 92.52 41 P **P 19 42 17.6 +0.1**
baz=93,SNR=17
N13A Wendover, West 92.58 43 ⇑P **P 19 42 17.6 -0.2**
baz=93,SNR=10
D05A Enumclaw 92.60 35 ⇑P **P 19 42 17.5 -0.2**
baz=93

I09A	**Lost Marbles R**	**92.60**	**39**	⇓P		**P**	**19 42 17.2**	**-0.6**
	baz=93							
E06A	**Yakima**	**92.65**	**36**	⇑P		**P**	**19 42 17.3**	**-0.7**
	baz=93,SNR=5.7							
TXAR	**Lajitas Array**	**92.70**	**57**	P		**P**	**19 42 18.5**	**-0.2**
TXAR							19 59 32.8	
TXAR				pmax	pmax			
	comp=Z,6.0nm,1.0s							
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR				MLR	MLR			
	comp=Z,2μm,18.0s							
TXAR	**Lajitas Array**	**92.70**	**57**	P		**P**	**19 42 18.5**	**-0.2**
	comp=Z,5.5nm,1.0s,mb4.9,baz=208,slow=6.1,SNR=20							
TXAR				PKKPbc	PKKPbc		19 59 32.8	+2.3
	comp=Z,0.8nm,0.8s,baz=104,slow=4.0,SNR=4.2							
TXAR				LR	LR		20 20 05.9	
	comp=Z,2μm,18.0s,MS5.7,baz=285,slow=33							
F07A	**Phinny Hill Vi**	**92.73**	**36**	⇓P		**P**	**19 42 17.7**	**-0.7**
	baz=93							
K11A	**Parker Ranch,**	**92.75**	**41**	P		**P**	**19 42 18.6**	**+0.1**
	baz=93,SNR=11							
J10A	**Berg Farm, Mel**	**92.77**	**40**	⇑P		**P**	**19 42 17.9**	**-0.7**
	baz=93							
MNTX	**Cornudas Mount**	**92.80**	**55**	*e*P		**P**	**19 42 18.4**	**-0.7**
	comp=Z,4.9nm,0.7s,mb5.0							
MNTX				LR	LR			
	comp=Z,798nm,19.0s,MS5.2							
G08A	**Pilot Rock**	**92.83**	**37**	⇓P		**P**	**19 42 18.5**	**-0.4**
	baz=93,SNR=25							
M13A	**Montello**	**92.92**	**43**	⇓P		**P**	**19 42 19.3**	**-0.1**
	baz=93,SNR=12							
L12A	**House Creek Ra**	**92.92**	**42**	⇓P		**P**	**19 42 19.0**	**-0.3**
	baz=93,SNR=11							
DUG	**Dugway**	**92.99**	**44**	PFAKE			19 42 30.0	+10
DUG				LR	LR			
	comp=Z,2μm,20.0s,MS5.5							
BJT	**Baijiatuau**	**93.06**	**316**	*e*P		**P**	**19 42 19.6**	**-0.5**
BJT				pmax	pmax			
	comp=Z,17nm,1.0s							
BJT				MLR	MLR			
	comp=Z,3μm,22.0s							
BJT	**Baijiatuau**	**93.06**	**316**	*e*P		**P**	**19 42 19.6**	**-0.5**
	comp=Z,17nm,1.0s,mb5.4							
BJT				LR	LR			
	comp=Z,3μm,22.0s,MS5.7							
BJI	**Beijing**	**93.07**	**316**	P		**P**	**19 42 19.6**	**-0.5**
BJI				AP	pP		19 42 30.8	+0.3
BJI				XP	sP		19 42 34.6	+0.3
BJI				PP	PP		19 46 06.0	+2.1
BJI				XS	sS		19 53 45.3	+3.7
BJI				SS	SS		19 59 38.5	-1.6
BJI				AMB	AMB			
	comp=Z,13nm,1.0s,mb5.3							
BJI				AMB	AMB			
	comp=Z,851nm,6.5s							
BJI				LR	LR			
	comp=N,1μm,23.5s,MS5.5							
BJI				LR	LR			
	comp=E,1μm,21.3s,MS5.5							
C05A	**Tolt Reservoir**	**93.09**	**34**	⇑P		**P**	**19 42 19.3**	**-0.7**
	baz=93							
H09A	**Durkee**	**93.09**	**38**	⇑P		**P**	**19 42 19.6**	**-0.5**
	baz=93,SNR=6.3							
Y22C	**IRIS PASSCAL I**	**93.10**	**52**	⇑P		**P**	**19 42 19.7**	**-0.7**
	baz=93							
LENM	**Lemitar**	**93.11**	**52**	*e*P		**P**	**19 42 21.1**	**+0.6**
LAZ	**Ladron**	**93.14**	**52**	*e*P		**P**	**19 42 21.1**	**+0.6**
D06A	**Cle Elum**	**93.16**	**35**	⇑P		**P**	**19 42 20.2**	**-0.1**
	baz=93							
N14A	**Grayback Hills**	**93.17**	**44**	⇑P		**P**	**19 42 20.1**	**-0.5**
	baz=93							
E07A	**Sunnyside**	**93.22**	**36**	⇑P		**P**	**19 42 20.6**	**0.0**
	baz=93							
F08A	**Pendleton**	**93.26**	**37**	⇑P		**P**	**19 42 20.3**	**-0.6**
	baz=93							
HAWA	**Hanford**	**93.27**	**36**	*e*P		**P**	**19 42 20.6**	**-0.3**
	comp=E,6.5nm,0.8s,mb5.1							
HAWA				LR	LR			
	comp=Z,2μm,19.0s,MS5.6							
MFID	**Camas Ranch**	**93.28**	**40**	⇓P		**P**	**19 42 20.3**	**-0.6**
	baz=94,SNR=10							
B05A	**Bryant**	**93.30**	**34**	⇓P		**P**	**19 42 20.7**	**-0.2**
	baz=94							
K12A	**Draper Farm, C**	**93.30**	**41**	⇓P		**P**	**19 42 20.7**	**-0.4**
	baz=94,SNR=6.2							
BGU	**Big Grassy Mou**	**93.31**	**44**	*e*P		**P**	**19 42 20.8**	**-0.4**
A04A	**Legoe Bay, Lum**	**93.33**	**33**	⇓P		**P**	**19 42 21.3**	**+0.3**
	baz=94							
BNM	**Barren Site**	**93.34**	**52**	*e*P		**P**	**19 42 21.8**	**+0.3**
CM31	**Chiang Mai Arr**	**93.38**	**289**	PFAKE			19 42 30.0	+8.0
CM31				LR	LR			
	comp=Z,2μm,20.0s,MS5.6							
BMO	**Blue Mountains**	**93.41**	**38**	P		**P**	**19 42 20.8**	**-0.7**
BMO				pmax	pmax			
	comp=Z,32nm,1.6s,mb5.5							
BMO	**Blue Mountains**	**93.41**	**38**	*e*P		**P**	**19 42 20.6**	**-1.0**
	comp=Z,32nm,1.7s,mb5.5							
BMO				LR	LR			
	comp=Z,2μm,21.0s,MS5.5							
TMUT	**Trail Mountain**	**93.41**	**46**	*e*P		**P**	**19 42 22.4**	**+0.7**
NNA	**Nana**	**93.47**	**106**	PFAKE			19 42 30.0	+7.4
NNA				LR	LR			
	comp=Z,3μm,22.0s,MS5.8							
M14A	**Sheep Mountain**	**93.49**	**43**	⇓P		**P**	**19 42 21.2**	**-0.8**
	baz=94,SNR=15							
L13A	**Double Diamond**	**93.50**	**42**	⇑P		**P**	**19 42 21.8**	**-0.3**
	baz=94							
I11A	**Placerville**	**93.53**	**40**	⇑P		**P**	**19 42 21.4**	**-0.7**
	baz=94,SNR=9.4							
H10A	**Noah's Angus R**	**93.54**	**39**	P		**P**	**19 42 21.6**	**-0.6**
	baz=94,SNR=8.7							
CHTO	**Chiang Mai**	**93.56**	**290**	P		**P**	**19 42 23.3**	**+0.4**
CHTO				pmax	pmax			
	comp=Z,27nm,1.4s,mb5.5							
CHTO	**Chiang Mai**	**93.56**	**290**	*e*P		**P**	**19 42 23.0**	**+0.1**
	comp=Z,27nm,1.4s,mb5.5							
CHTO				LR	LR			
	comp=Z,1μm,22.0s,MS5.4							
E08A	**Dider Farm, El**	**93.58**	**36**	⇑P		**P**	**19 42 21.9**	**-0.3**
	baz=94							
J12A	**Stokes Ranch,**	**93.58**	**41**	P		**P**	**19 42 22.3**	**-0.1**
	baz=94,SNR=21							
MPU	**Maple Canyon**	**93.59**	**45**	PFAKE			19 42 30.0	+7.5
MPU				LR	LR			
	comp=Z,3μm,20.0s,MS5.7							
MA2	**Magadan**	**93.59**	**345**	*d i*P		**P**	**19 42 19.4**	**-2.6**
MA2				*e*S	S		19 53 20.5	-7.3
MA2				*e*PS	PS		19 54 42.7	-3.2
MA2				pmax	pmax			
	comp=Z,40nm,1.8s,mb5.5							
MA2				MLR	MLR			
	comp=Z,2μm,20.6s,MS5.7							
MA2	**Magadan**	**93.59**	**345**	*e*P		**P**	**19 42 19.9**	**-2.1**
	comp=Z,13nm,0.8s,mb5.4							
MA2				LR	LR			
	comp=Z,2μm,20.0s,MS5.6							
N15A	**Stansbury Isla**	**93.59**	**44**	⇓P		**P**	**19 42 22.1**	**-0.4**
	baz=94							
D07A	**Quincy**	**93.60**	**36**	⇑P		**P**	**19 42 22.1**	**-0.2**
	baz=94							
F09A	**S2 Ranch, Elgi**	**93.66**	**38**	⇑P		**P**	**19 42 22.0**	**-0.6**
	baz=94							
SRU	**San Rafael**	**93.72**	**46**	P		**P**	**19 42 23.5**	**+0.4**
SRU				pmax	pmax			
	comp=Z,30nm,1.5s,mb5.5							
SRU	**San Rafael**	**93.72**	**46**	*e*P		**P**	**19 42 22.7**	**-0.4**
	comp=Z,30nm,1.5s,mb5.5							
B06A	**Marblemount**	**93.77**	**34**	⇑P		**P**	**19 42 22.2**	**-0.8**
	baz=94							
K13A	**Stover Farm, H**	**93.78**	**42**	⇓P		**P**	**19 42 22.6**	**-0.7**
	baz=94							
G10A	**Bishop Farm, J**	**93.80**	**38**	⇑P		**P**	**19 42 22.3**	**-1.0**
	baz=94,SNR=9.0							
A05A	**Maple Falls**	**93.81**	**33**	⇓P		**P**	**19 42 23.2**	**-0.1**
	baz=94							
KMI	**Kunming**	**93.85**	**297**	⇑P		**P**	**19 42 25.1**	**+1.0**
KMI				AP	pP		19 42 35.0	+0.5
KMI				XP	sP		19 42 40.8	+2.6
KMI				PP	PP		19 46 13.5	+3.2
KMI				PPP			19 48 18.8	
KMI				SKS			19 52 56.3	
KMI				S	S		19 53 30.4	-1.3
KMI				SS	SS		19 59 48.5	-3.2
KMI				AMB	AMB			
	comp=Z,11nm,1.6s,mb5.0							
KMI				AMB	AMB			
	comp=Z,295nm,4.3s							
KMI				LR	LR			
	comp=N,1μm,19.6s,MS5.5							
KMI				LR	LR			
	comp=E,930nm,17.4s,MS5.5							
KMI				LR	LR			
	comp=Z,2μm,18.3s,MS5.5							
MVCO	**Mesa Verde**	**93.88**	**49**	PFAKE			19 42 30.0	+6.1
MVCO				LR	LR			
	comp=Z,1μm,19.0s,MS5.4							
C07A	**Waterville**	**93.89**	**35**	⇓P		**P**	**19 42 23.1**	**-0.5**
	baz=94							
SPUT	**South Promonto**	**93.89**	**43**	*e*P		**P**	**19 42 23.8**	**0.0**
ANMO	**Albuquerque**	**93.91**	**51**	P		**P**	**19 42 24.4**	**+0.3**
ANMO				*e*			19 42 36.7	
ANMO				pmax	pmax			
	comp=Z,28nm,1.6s							
ANMO	**Albuquerque**	**93.91**	**51**	*e*P		**P**	**19 42 24.2**	**+0.1**
	comp=Z,10nm,1.2s,mb5.1							
ANMO				LR	LR			
	comp=Z,1μm,20.0s,MS5.4							
M15A	**Larsen Ranch,**	**93.99**	**43**	P		**P**	**19 42 24.0**	**-0.3**
	baz=94,SNR=16							
HVU	**Hansel Valley**	**93.99**	**43**	P		**P**	**19 42 24.3**	**0.0**
HVU				pmax	pmax			
	comp=Z,43nm,1.3s,mb5.7							
HVU	**Hansel Valley**	**93.99**	**43**	*e*P		**P**	**19 42 24.1**	**-0.2**
	comp=Z,43nm,1.3s,mb5.7							
H11A	**Donnelly**	**94.01**	**39**	⇓P		**P**	**19 42 23.6**	**-0.7**
	baz=94,SNR=8.7							
D08A	**Wollman Farm,**	**94.03**	**36**	⇑P		**P**	**19 42 23.7**	**-0.7**
	baz=94,SNR=5.4							
E09A	**Wood Farm, Sta**	**94.07**	**37**	⇑P		**P**	**19 42 23.2**	**-1.3**
	baz=94							
HLID	**Hailey**	**94.17**	**41**	P		**P**	**19 42 25.1**	**0.0**
	baz=94,SNR=12							
A06A	**Chilliwack**	**94.17**	**33**	⇑P		**P**	**19 42 24.9**	**0.0**
	baz=94							
F10A	**Beach Ranch, E**	**94.19**	**38**	⇓P		**P**	**19 42 23.8**	**-1.3**
	baz=94,SNR=9.0							
J13A	**Cove Ranch, Pi**	**94.20**	**41**	⇑P		**P**	**19 42 25.2**	**0.0**
	baz=94,SNR=14							
XAN	**Xi'an**	**94.21**	**307**	P		**P**	**19 42 25.3**	**-0.2**
XAN				AP	pP		19 42 33.5	-2.4
XAN				AMB	AMB			
	comp=Z,12nm,1.9s,mb5.0							
XAN				AMB	AMB			
	comp=Z,578nm,12.9s							
XAN				LR	LR			
	comp=N,463nm,21.1s,MS5.1							
XAN				LR	LR			
	comp=E,629nm,21.9s,MS5.1							
XAN				LR	LR			
	comp=Z,1μm,19.4s,MS5.4							
K14A	**Jones Ranch, D**	**94.23**	**42**	⇓P		**P**	**19 42 25.2**	**-0.2**
	baz=94							
G11A	**Walters Elk Ra**	**94.33**	**39**	P		**P**	**19 42 25.1**	**-0.7**
	baz=94,SNR=17							
D09A	**Jones Farm, Ri**	**94.35**	**36**	⇑P		**P**	**19 42 25.3**	**-0.5**
	baz=94							
GAMB	**Gambell**	**94.35**	**3**	*e*P		**P**	**19 42 25.6**	**+0.3**
	comp=Z,34nm,1.2s,mb5.7							
B07A	**Winthrop**	**94.39**	**35**	⇑P		**P**	**19 42 25.4**	**-0.6**
	baz=95							
C08A	**Higginbotham F**	**94.46**	**35**	⇑P		**P**	**19 42 25.9**	**-0.3**
	baz=95							
I13A	**Wildhorse Cree**	**94.56**	**41**	⇑P		**P**	**19 42 26.0**	**-0.8**
	baz=95							
E10A	**Myers Farm, Un**	**94.59**	**37**	⇑P		**P**	**19 42 25.7**	**-1.2**
	baz=95							
HWUT	**Hardware Ranch**	**94.60**	**44**	*e*P		**P**	**19 42 26.5**	**-0.6**
	comp=Z,5.1nm,0.9s,mb5.0							
HWUT				LR	LR			
	comp=Z,2μm,22.0s,MS5.6							
A07A	**Ashnola River,**	**94.66**	**34**	⇓P		**P**	**19 42 26.7**	**-0.5**
	baz=95							
SIT	**Sitka**	**94.66**	**22**	PFAKE			19 42 40.0	+13
SIT				LR	LR			
	comp=Z,3μm,21.0s,MS5.7							
F11A	**Grangeville**	**94.70**	**38**	⇓P		**P**	**19 42 26.1**	**-1.3**
	baz=95							
B08A	**Colville Reser**	**94.70**	**35**	P		**P**	**19 42 26.3**	**-1.1**
	baz=95,SNR=5.3							
C09A	**Chrisman Ranch**	**94.86**	**36**	⇓P		**P**	**19 42 27.5**	**-0.6**
	baz=95							
D10A	**Wagner Farm, O**	**94.87**	**37**	⇑P		**P**	**19 42 27.3**	**-0.9**
	baz=95							
E11A	**Bogner Ranch,**	**94.97**	**38**	⇓P		**P**	**19 42 27.0**	**-1.7**
	baz=95							
PMR	**Palmer**	**94.99**	**13**	PFAKE			19 42 40.0	+12
PMR				LR	LR			
	comp=Z,1μm,22.0s,MS5.4							
TTA	**Tatalina**	**95.03**	**10**	*e*P		**P**	**19 42 27.7**	**-0.8**
F12A	**Elk City**	**95.10**	**39**	P		**P**	**19 42 28.6**	**-0.6**
	baz=95,SNR=12							
A08A	**Turner Farm, O**	**95.13**	**35**	⇑P		**P**	**19 42 28.6**	**-0.7**
	baz=95							
WRAK	**Wrangell Islan**	**95.14**	**24**	PFAKE			19 42 40.0	+11
WRAK				LR	LR			
	comp=Z,2μm,22.0s,MS5.5							
G13A	**Cobalt**	**95.23**	**40**	⇓P		**P**	**19 42 28.8**	**-1.1**
	baz=95,SNR=7.3							
DIV	**Divide**	**95.28**	**15**	PFAKE			19 42 40.0	+10
DIV				LR	LR			
	comp=Z,6μm,20.0s,MS6.0							
B09A	**Rice**	**95.33**	**35**	⇓P		**P**	**19 42 29.2**	**-1.1**
	baz=96							
A09A	**Danville**	**95.48**	**35**	⇑P		**P**	**19 42 29.5**	**-1.5**
	baz=96							
AHID	**Auburn Hatcher**	**95.58**	**43**	PFAKE			19 42 40.0	+8.5
AHID				LR	LR			
	comp=Z,2μm,22.0s,MS5.6							
NEW	**Newport**	**95.74**	**36**	PFAKE			19 42 40.0	+7.9
NEW				LR	LR			
	comp=Z,2μm,22.0s,MS5.6							
NEW	**Newport**	**95.74**	**36**	LR	LR		20 17 33.1	
	comp=Z,2μm,21.8s,MS5.6,baz=221,slow=30							
KVTX	**Kingsville**	**96.03**	**62**	PFAKE			19 42 40.0	+6.0
KVTX				LR	LR			
	comp=Z,1μm,22.0s,MS5.4							
REDW	**Red Top Meadow**	**96.08**	**43**	*e*P		**P**	**19 42 33.3**	**-0.5**
	comp=Z,21nm,1.1s,mb5.5							
TPAW	**Teton Pass**	**96.10**	**42**	*e*P		**P**	**19 42 33.6**	**-0.3**
	comp=Z,8.2nm,1.0s,mb5.1							
SDCO	**Great Sand Dun**	**96.13**	**50**	PFAKE			19 42 50.0	+16
SDCO				LR	LR			
	comp=Z,869nm,21.0s,MS5.2							
JCT	**Junction City**	**96.14**	**58**	PFAKE			19 42 50.0	+16
JCT				LR	LR			
	comp=Z,3μm,19.0s,MS5.8							
CD2	**Chengdu**	**96.15**	**302**	P		**P**	**19 42 36.3**	**+1.8**
CD2				PP	PP		19 46 31.8	+3.7
CD2				S	S		19 53 51.6	+0.1
CD2				SS	SS		20 00 27.8	+3.5
CD2				AMB	AMB			
	comp=Z,10.0nm,0.8s,mb5.3							
CD2				AMB	AMB			
	comp=Z,640nm,8.4s							
CD2				LR	LR			
	comp=N,1μm,19.2s,MS5.5							
CD2				LR	LR			
	comp=E,970nm,19.2s,MS5.5							
CD2				LR	LR			
	comp=Z,1μm,21.0s,MS5.4							
G15A	**Dillon**	**96.25**	**40**	⇓P		**P**	**19 42 34.2**	**-0.3**
	baz=96,SNR=6.5							
SEY	**Seymchan**	**96.29**	**347**	⇑*e*P		**P**	**19 42 33.2**	**-1.0**
TNA	**Tin City**	**96.33**	**4**	PFAKE			19 42 40.0	+5.6
TNA				LR	LR			
	comp=Z,2μm,20.0s,MS5.5							
IMW	**Indian Meadow**	**96.36**	**42**	*e*P		**P**	**19 42 34.4**	**-0.7**
	comp=Z,9.7nm,1.0s,mb5.2							
HHC	**Hu-ho-hao-te**	**96.37**	**314**	*e*P		**P**	**19 42 35.3**	**+0.1**
HHC				AP	pP		19 42 46.4	+0.7
HHC				PP	PP		19 46 32.8	+3.2
HHC				SKS			19 53 08.6	
HHC				S	S		19 53 51.3	-1.6
HHC				XS	sS		19 54 09.0	-1.3
HHC				SS	SS		20 00 29.8	+2.7
HHC				AMB	AMB			
	comp=Z,30nm,1.0s,mb5.7							
HHC				AMB	AMB			
	comp=Z,712nm,8.8s							
HHC				LR	LR			
	comp=N,2μm,22.9s,MS5.7							
HHC				LR	LR			
	comp=E,2μm,22.9s,MS5.7							
HHC				LR	LR			
	comp=Z,4μm,21.6s,MS5.8							
D13A	**Huson**	**96.37**	**38**	⇓P		**P**	**19 42 34.0**	**-1.1**
	baz=96							
MOOW	**Moose Ponds**	**96.38**	**42**	*e*P		**P**	**19 42 34.6**	**-0.5**
	comp=Z,21nm,1.7s,mb5.3							
E14A	**Clinton**	**96.47**	**39**	⇑P		**P**	**19 42 34.9**	**-0.6**
	baz=97							
MSO	**Missoula**	**96.48**	**38**	PFAKE			19 42 50.0	+14
MSO				LR	LR			
	comp=Z,1μm,22.0s,MS5.4							
BW06	**Boulder Array**	**96.49**	**44**	PFAKE			19 42 50.0	+14
BW06				LR	LR			
	comp=Z,2μm,22.0s,MS5.6							
A11A	**Hall Mountain,**	**96.58**	**36**	⇑P		**P**	**19 42 35.6**	**-0.3**
	baz=97							
FLWY	**Flagg Ranch**	**96.61**	**42**	*e*P		**P**	**19 42 36.6**	**+0.4**
	comp=Z,12nm,1.0s,mb5.3							
QLMT	**Earthquake Lak**	**96.64**	**41**	*e*P		**P**	**19 42 37.6**	**+1.3**
YMR	**Madison River**	**96.80**	**41**	PFAKE			19 42 50.0	+13
YMR				LR	LR			
	comp=Z,2μm,21.0s,MS5.6							
HIA	**Hailar**	**96.92**	**324**	PFAKE			19 42 50.0	+13
HIA				LR	LR			
	comp=Z,2μm,20.0s,MS5.5							
E15A	**Deer Lodge**	**96.94**	**39**	⇑P		**P**	**19 42 36.8**	**-0.8**
	baz=97							
BOZ	**Bozeman (W)**	**97.02**	**40**	P		**P**	**19 42 38.1**	**+0.1**
BOZ				pmax	pmax			
	comp=Z,15nm,1.4s,mb5.2							
BOZ	**Bozeman (W)**	**97.02**	**40**	*e*P		**P**	**19 42 37.7**	**-0.3**
	comp=Z,15nm,1.5s,mb5.2							
BOZ				LR	LR			
	comp=Z,2μm,22.0s,MS5.4							
AMTX	**Amarillo**	**97.14**	**54**	PFAKE			19 42 50.0	+11
AMTX				LR	LR			
	comp=Z,2μm,22.0s,MS5.4							
ISCO	**Idaho Springs**	**97.21**	**48**	PFAKE			19 42 50.0	+11
ISCO				LR	LR			
	comp=Z,1μm,22.0s,MS5.4							
TGUH	**Tegucigalpa,Un**	**97.81**	**78**	PFAKE			19 42 50.0	+7.7
TGUH				LR	LR			
	comp=Z,3μm,21.0s,MS5.7							
JTS	**JuntasAbangare**	**97.92**	**83**	PFAKE			19 42 50.0	+7.1
JTS				LR	LR			
	comp=Z,1μm,20.0s,MS5.5							
JTS	**JuntasAbangare**	**97.92**	**83**	LR	LR		20 19 39.1	
	comp=Z,1μm,19.7s,MS5.4,baz=235,slow=31							
RLMT	**Red Lodge**	**98.05**	**42**	PFAKE			19 42 50.0	+7.3
RLMT				LR	LR			
	comp=Z,2μm,19.0s,MS5.6							
LPAZ	**La Paz**	**98.13**	**114**	P		**P**	**19 42 45.7**	**+1.9**
LPAZ				pmax	pmax			
	comp=Z,1.0nm,0.6s							
LPAZ				MLR	MLR			
	comp=Z,1μm,21.9s							
LPAZ	**La Paz**	**98.13**	**114**	*e*P		**P**	**19 42 43.6**	**-0.2**
	comp=Z,4.6nm,0.8s,mb5.1							
LPAZ				LR	LR			
	comp=Z,1μm,22.0s,MS5.3							
LPAZ	**La Paz**	**98.13**	**114**	P		**P**	**19 42 45.7**	**+1.9**
	comp=Z,1.3nm,0.6s,mb4.6,baz=181,slow=4.0,SNR=7.0							
LPAZ				LR	LR		20 18 48.5	
	comp=Z,1μm,21.9s,MS5.3,baz=165,slow=30							
COLA	**College**	**98.21**	**13**	⇑*e*P		**P**	**19 42 41.6**	**-1.3**
COLA				MLR	MLR			
	comp=Z,3μm,20.0s,MS5.7							
IMA2	**Indian Mountai**	**98.33**	**10**	*e*P		**P**	**19 42 42.8**	**-0.6**
HKT	**Hockley**	**98.81**	**61**	PFAKE			19 43 00.0	+14
HKT				LR	LR			
	comp=Z,1μm,22.0s,MS5.4							
LZH	**Lanzhou**	**98.81**	**307**	*e*P		**P**	**19 42 49.1**	**+2.8**
LZH				AP	pP		19 42 56.0	-0.8
LZH				XP	sP		19 43 03.8	+3.3
LZH				PP	PP		19 46 53.8	+5.3
LZH				SKS			19 53 22.3	
LZH				*e*S	S		19 54 13.9	-0.1
LZH				XS	sS		19 54 29.0	-2.4
LZH				SS	SS		20 01 05.0	+3.3
LZH				AMB	AMB			
	comp=Z,18nm,1.0s,mb5.6							
LZH				AMB	AMB			
	comp=Z,150nm,7.1s							
LZH				LR	LR			
	comp=E,1μm,17.7s							
LZH				LR	LR			
	comp=Z,1μm,19.0s,MS5.5							
WMOK	**Wichita Mounta**	**99.09**	**55**	PFAKE			19 43 00.0	+12
WMOK				LR	LR			
	comp=Z,1μm,19.0s,MS5.4							
BILL	**Bilibino**	**99.18**	**354**	⇓*e*P		**P**	**19 42 46.5**	**-0.7**
BILL				*e**PP	pP		19 42 56.8	-0.8
BILL				*e*			19 53 16.8	
BILL				*e*SS	SS		20 01 04.2	-1.2
BILL				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb5.1							
BILL				MLR	MLR			
	comp=Z,2μm,18.0s,MS5.6							
EGMT	**Eagleton**	**99.47**	**39**	PFAKE			19 43 00.0	+11
EGMT				LR	LR			
	comp=Z,2μm,20.0s,MS5.6							
EGAK	**Eagle**	**99.51**	**15**	PFAKE			19 43 00.0	+11
EGAK				LR	LR			
	comp=Z,2μm,20.0s,MS5.6							
CPUP	**Villa Florida**	**99.88**	**129**	P	Pdif		19 42 52.0	+0.9
CPUP				pmax	pmax			
	comp=Z,1.0nm,0.5s							
CPUP				pmax	pmax			
	comp=Z,2.0nm,0.6s							
CPUP	**Villa Florida**	**99.88**	**129**	P	Pdif		19 42 52.0	+0.9
CPUP				PKKPbc	PKKPbc		19 59 09.0	-1.4
CPUP				LR	LR			
	comp=Z,370nm,19.0s,MS4.9							
CPUP	**Villa Florida**	**99.88**	**129**	P	Pdif		19 42 52.0	+0.9
	comp=Z,1.1nm,0.5s,baz=314,slow=4.3,SNR=5.2							
CPUP				PKKPbc	PKKPbc		19 59 09.0	-1.4
	comp=Z,2.1nm,0.6s,baz=80,slow=2.4,SNR=7.6							
TEIG	**Tepich**	**99.98**	**72**	PFAKE			19 43 00.0	+8.4
TEIG				LR	LR			
	comp=Z,619nm,19.0s,MS5.1							
CBKS	**Cedar Bluff**	**100.53**	**51**	PFAKE			19 43 00.0	+6.0
CBKS				LR	LR			
	comp=Z,1μm,19.0s,MS5.5							
RSSD	**Black Hills**	**100.57**	**45**	*e*P	Pdif		19 42 52.9	-1.3
	comp=Z,5.5nm,0.9s							
RSSD				LR

SONM PKKPbc PKKPbc 19 59 02.7 +1.1
comp=Z,0.4nm,0.3s,baz=316,slow=8.3,SNR=3.8
VBMS Vicksburg 103.89 61 PFAKE 19 43 20.0 +11
VBMS LR LR
comp=Z,996nm,20.0s,MS5.3
ECSD EROS,Sioux Fal 105.00 48 PFAKE 19 43 20.0 +6.1
ECSD LR LR
comp=Z,1μm,22.0s,MS5.4
LSA Lhasa 105.05 296 PFAKE 19 43 30.0 +16
LSA LR LR
comp=Z,2μm,22.0s,MS5.5
OXF Oxford 105.76 59 PFAKE 19 47 40.0 +10
OXF LR LR
comp=Z,2μm,19.0s,MS5.7
YKA Yellowknife Ar 105.82 26 Pdiff Pdif 19 43 16.3 -1.2
comp=Z,0.1nm,0.4s,baz=311,slow=13,SNR=4.3
YKA PKiKP PKiKP 19 47 28.5 -0.8
comp=Z,1.0nm,0.6s,baz=251,slow=1.5,SNR=11
YKA PKKPbc PKKPbc 19 58 51.1 -3.2
comp=Z,4.8nm,0.8s,baz=36,slow=3.1,SNR=27
YKA PKPPKP 20 07 20.4
comp=Z,0.4nm,0.8s,baz=48,slow=1.8,SNR=5.8
BRAL Brewton 105.97 63 PFAKE 19 47 40.0 +9.5
BRAL LR LR
comp=Z,1μm,22.0s,MS5.3
CCM Cathedral Cave 106.01 55 PFAKE 19 47 40.0 +10
CCM LR LR
comp=Z,859nm,19.0s,MS5.3
ZAK Zakamensk 106.35 319 *e*P Pdif 19 43 16.1 -3.7
ZAK pmax pmax
comp=Z,2.0nm,1.2s
ZAK pmax pmax
comp=Z,3.0nm,1.9s
SCIA State Center 106.38 51 PFAKE 19 47 40.0 +9.1
SCIA LR LR
comp=Z,1μm,20.0s,MS5.4
TLY Talaya 106.76 320 PFAKE 19 47 40.0 +8.7
TLY LR LR
comp=Z,1μm,20.0s,MS5.4
PLAL Pickwick Lake 106.95 59 PFAKE 19 47 40.0 +7.8
PLAL LR LR
comp=Z,3μm,19.0s,MS5.8
FFC Flin Flon 107.17 36 PFAKE 19 47 40.0 +8.0
FFC LR LR
comp=Z,2μm,22.0s,MS5.6
AGMN Agassiz Refuge 107.57 44 PFAKE 19 47 40.0 +7.1
AGMN LR LR
comp=Z,1μm,22.0s,MS5.5
JIRN Jiri 108.06 292 *e*P PKiKP 19 47 33.8 -0.7
comp=Z,15nm,0.6s
GUN Gumba 108.42 292 *e*P PKiKP 19 47 34.9 -0.3
ULM Lac du Bonnet 108.42 42 PFAKE 19 47 50.0 +16
ULM LR LR
comp=Z,2μm,20.0s,MS5.6
HDIL Hopedale 108.46 53 PFAKE 19 47 50.0 +15
HDIL LR LR
comp=Z,1μm,19.0s,MS5.4
TIXI Tiksi 108.56 345 *e*PKiKP PKiKP 19 47 32.3 -1.8
TIXI LR LR
comp=Z,2μm,21.0s,MS5.6
PKI Pulchoki 108.65 291 *e*P PKiKP 19 47 35.4 -0.2
JFWS Jewell Farm 108.80 51 PFAKE 19 47 50.0 +15
JFWS LR LR
comp=Z,1μm,19.0s,MS5.5
KKN Kakani 108.84 292 *e*P PKiKP 19 47 35.1 -0.9
comp=Z,7.3nm,0.7s
DMN Daman 108.91 291 *e*P PKiKP 19 47 35.2 -0.9
DWPF Disney 109.13 68 PFAKE 19 47 50.0 +13
DWPF LR LR
comp=Z,1μm,22.0s,MS5.4
SDV Santo Domingo 109.54 91 PFAKE 19 47 50.0 +12
SDV LR LR
comp=Z,1μm,22.0s,MS5.4
GOGA Godfrey 109.75 62 PFAKE 19 47 50.0 +12
GOGA LR LR
comp=Z,1μm,22.0s,MS5.5
EYMN Ely 110.06 46 PFAKE 19 47 50.0 +12
EYMN LR LR
comp=Z,2μm,22.0s,MS5.6
KOLN Koldanda 110.18 291 *e*P PKiKP 19 47 37.6 -0.9
comp=Z,12nm,0.8s
DANN Dangsing 110.30 291 *e*P PKiKP 19 47 38.0 -0.7
comp=Z,15nm,0.6s
COWI Conover 110.81 48 PFAKE 19 47 50.0 +11
COWI LR LR
comp=Z,1μm,21.0s,MS5.5
TZTN Tazewell 110.95 59 PFAKE 19 47 50.0 +10
TZTN LR LR
comp=Z,1μm,21.0s,MS5.4
NHSC New Hope 112.15 64 PFAKE 19 47 50.0 +7.9
NHSC LR LR
comp=Z,1μm,19.0s,MS5.4
ACSO Alum Creek Sta 112.76 56 PFAKE 19 47 50.0 +7.0
ACSO LR LR
comp=Z,2μm,22.0s,MS5.7
AAM Ann Arbor 113.04 53 PFAKE 19 47 50.0 +6.5
AAM LR LR
comp=Z,1μm,22.0s,MS5.5
GLMI Grayling 113.29 51 PFAKE 19 47 50.0 +6.1
GLMI LR LR
comp=Z,1μm,22.0s,MS5.5
WMQ Urumqi 113.33 308 *e*PKP PKiKP 19 47 44.0 0.0
WMQ PP PP 19 48 40.0 +4.6
WMQ SKS SKSdf 19 54 51.0 -2.5
WMQ SKKS SKKSac 19 55 29.0 -5.3
WMQ SS SS 20 04 19.0 -0.2
WMQ LR LR
comp=N,812nm,20.0s,MS5.5
WMQ LR LR
comp=E,846nm,20.0s,MS5.5
WMQ LR LR
comp=Z,1μm,20.0s,MS5.4
BDFB Brasilia 113.49 127 PFAKE 19 48 00.0 +15
BDFB LR LR
comp=Z,3μm,22.0s,MS5.9
BLA Blacksburg 113.52 60 PFAKE 19 48 00.0 +15
BLA LR LR
comp=Z,1μm,19.0s,MS5.5
SDDR Presa de Saban 113.65 81 PFAKE 19 48 00.0 +15
SDDR LR LR
comp=Z,932nm,20.0s,MS5.4
ABPO Ambohimpanom 114.02 228 PFAKE 19 48 00.0 +14
ABPO LR LR
comp=Z,2μm,20.0s,MS5.7
SUR Sutherland 114.69 198 PFAKE 19 48 00.0 +13
SUR LR LR
comp=Z,2μm,22.0s,MS5.7
CNNC Cliffs of the 114.71 62 PFAKE 19 48 00.0 +13
CNNC LR LR
comp=Z,1μm,21.0s,MS5.4
MCWV Mont Chateau 114.81 57 PFAKE 19 48 00.0 +13
MCWV LR LR
comp=Z,3μm,19.0s,MS5.9
ERPA Erie 115.54 55 PFAKE 19 48 00.0 +12
ERPA LR LR
comp=Z,2μm,22.0s,MS5.6
CBN Corbin 116.13 60 PFAKE 19 48 00.0 +10
CBN LR LR
comp=Z,925nm,19.0s,MS5.4
SSPA Standing Stone 116.55 57 PFAKE 19 48 00.0 +10
SSPA LR LR
comp=Z,1μm,21.0s,MS5.5
BOSA Boshof 116.88 203 PKIKP PKPdf 19 47 51.7 +0.3
BOSA pmax pmax
comp=Z,11nm,0.8s
BOSA Boshof 116.88 203 PKP PKPdf 19 47 51.7 +0.3
comp=Z,10nm,0.8s,baz=177,slow=3.9,SNR=12
RES Resolute Bay 117.63 17 PKIKP PKPdf 19 47 50.1 -1.2
RES Resolute Bay 117.63 17 *e*P PKPdf 19 47 49.7 -1.7
SJG San Juan 117.66 85 PFAKE 19 48 00.0 +7.0
SJG LR LR
comp=Z,2μm,22.0s,MS5.6
MSEY Mahe Island 117.87 245 PFAKE 19 48 00.0 +6.3
MSEY LR LR
comp=Z,1μm,20.0s,MS5.5
MK31 Makanchi Array 117.89 310 PKIKP PKPdf 19 47 51.5 -1.1
MK31 Makanchi Array 117.89 310 *e*P PKPdf 19 47 51.3 -1.3
MKAR Makanchi Array 117.89 310 PKIKP PKPdf 19 47 51.4 -1.2
MKAR pmax pmax
comp=Z,7.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 117.89 310 PKP PKPdf 19 47 51.4 -1.3
comp=Z,6.5nm,0.5s,baz=208,slow=1.3,SNR=42
MKAR PKKPbc PKKPbc 19 58 13.6 -0.1
comp=Z,0.9nm,0.6s,baz=282,slow=3.9,SNR=7.8
ZAA0 Zalesovo Array 118.20 318 *e*P PKPdf 19 47 51.2 -1.8
ZALV Zalesovo Beam 118.20 318 PKP PKPdf 19 47 51.4 -1.6
comp=Z,2.5nm,0.4s,baz=168,slow=1.2,SNR=23
ZALV PKKPbc PKKPbc 19 58 14.6 +1.9
comp=Z,0.6nm,0.6s,baz=306,slow=5.0,SNR=3.6
ZAL Zalesovo 118.21 318 PKIKP PKPdf 19 47 51.4 -1.6
BINY Binghamton 118.39 56 PFAKE 19 48 00.0 +6.2
BINY LR LR
comp=Z,2μm,22.0s,MS5.7
GRGR Grenville 118.82 93 PFAKE 19 48 10.0 +15
GRGR LR LR
comp=Z,2μm,22.0s,MS5.6
NVS Novosibirsk 119.31 319⇑ *i*PKIKP PKPdf 19 47 52.5 -2.6
NVS *e* 19 49 27.2
NVS *e* 19 54 42.7
NVS pmax pmax
comp=N,7.0nm,1.5s
NVS pmax pmax
comp=E,16nm,1.4s
LONY Lake Ozonia 120.04 53 PFAKE 19 48 10.0 +13
LONY LR LR
comp=Z,1μm,22.0s,MS5.5
NCB Newcomb 120.12 54 PFAKE 19 48 10.0 +13
NCB LR LR
comp=Z,2μm,19.0s,MS5.7
KSH Kashi 120.29 300 *e*PKP PKPdf 19 47 58.0 +0.5
KSH *e*XPKP 19 48 12.3
KSH *e*PKS 19 51 31.5
KSH *e*PPP 19 52 02.0
KSH *e*SKS SKSdf 19 55 05.1 -1.9
KSH *e*SKKS SKKSac 19 56 17.0 -3.9
KSH *e*SS SS 20 05 52.3 +2.1
KSH PP PP
comp=Z,388nm,5.0s
KSH LR LR
comp=N,895nm,6.0s
KSH LR LR
comp=E,985nm,7.7s
KSH LR LR
comp=Z,4μm,21.6s,MS6.0
BBGH Gun Hill 121.10 93 PFAKE 19 48 10.0 +10
BBGH LR LR
comp=Z,4μm,21.0s,MS6.0
KURK Kurchatov 121.19 314 *c* *i*PKIKP PKPdf 19 47 57.2 -1.6
KURK Kurchatov 121.19 314⇑ *i*PKP PKPdf 19 47 57.3 -1.5
KURK LR LR
comp=Z,1μm,22.0s,MS5.5
TKM2 Tokmak 2 121.47 304 *e*PKIKP PKPdf 19 47 58.8 -0.8
TKM2 MLR MLR
comp=Z,1μm,22.0s,MS5.6
TKM2 Tokmak 2 121.47 304 P PKPdf 19 47 59.0 -0.6
SNR=23
KZA Kyzart 121.51 303 P PKPdf 19 48 00.3 +0.5
SNR=20
HRV Adam Dziewonsk 121.64 56 PFAKE 19 48 10.0 +10
HRV LR LR
comp=Z,2μm,19.0s,MS5.8
WES Weston 121.78 57 PFAKE 19 48 10.0 +10
WES LR LR
comp=Z,2μm,20.0s,MS5.7
LBNH Lisbon 121.79 54 PFAKE 19 48 10.0 +10
LBNH LR LR
comp=Z,1μm,19.0s,MS5.7
KBK Karagaybulak 121.87 304 P PKPdf 19 47 59.7 -0.7
SNR=20
UCH Uchtor 122.07 303 *e*P PKPdf 19 48 00.9 +0.1
UCH LR LR
comp=Z,965nm,21.0s,MS5.4
UCH Uchtor 122.07 303 P PKPdf 19 48 01.2 +0.4
SNR=34
CHMS Chumysh 122.09 304 P PKPdf 19 48 00.2 -0.6
SNR=20
FRU Bishkek 122.14 304 *e*PKIKP PKPdf 19 48 01.0 0.0
FRU MLR MLR
comp=Z,2μm,20.0s,MS5.7
AAK Ala-Archa 122.19 304 P PKPdf 19 48 00.8 -0.2
SNR=14
USP Ospenovka 122.33 304 P PKPdf 19 48 00.6 -0.7
SNR=24
AML Almayashu 122.64 303 *e*P PKPdf 19 48 02.0 0.0
AML LR LR
comp=Z,800nm,21.0s,MS5.3
AML Almayashu 122.64 303 P PKPdf 19 48 02.1 +0.2
SNR=28
EKS2 Erkin-Say 122.71 304 *e*P PKPdf 19 48 01.3 -0.8
EKS2 LR LR
comp=Z,1μm,22.0s,MS5.6
EKS2 Erkin-Say 122.71 304 P PKPdf 19 48 01.6 -0.4
SNR=19
PKME Peaks-Kenny Pk 123.84 54 PFAKE 19 48 20.0 +16
PKME LR LR
comp=Z,1μm,20.0s,MS5.6
BBSR BB Station 124.14 70 PFAKE 19 48 20.0 +15
BBSR LR LR
comp=Z,1μm,22.0s,MS5.5
KBL Kabul 124.22 293 *e*P PKPdf 19 48 05.1 -0.2
SCHQ Schefferville 126.60 42 PKP PKPdf 19 48 07.5 -1.6
SCHQ LR LR
comp=Z,3μm,22.0s,MS5.9
SCHQ Schefferville 126.60 42 PKP PKPdf 19 48 07.5 -1.6
comp=Z,8.8nm,0.9s,baz=265,slow=4.1,SNR=6.9
BRVK Borovoye 126.62 316⇑ *i*PKIKP PKPdf 19 48 08.3 -0.9
BRVK MLR MLR
comp=Z,1μm,20.0s,MS5.6
LSZ Lusaka 127.68 213 *e*PKIKP PKPdf 19 48 13.6 +1.2
LSZ MLR MLR
comp=Z,2μm,20.0s,MS5.7
TSUM Tsumeb 128.07 199 *e*P PKPdf 19 48 13.7 +0.5
TSUM LR LR
comp=Z,2μm,19.0s,MS5.9
RCBR Riachuelo 128.76 129 PFAKE 19 48 30.0 +15
RCBR LR LR
comp=Z,2μm,19.0s,MS5.7
KBS Kingsbay 131.53 357 *i* PKIKP PKPdf 19 48 17.6 -0.3
KBS Kingsbay 131.53 357 *i* PKP PKPdf 19 48 17.7 -0.2
KBS LR LR
comp=Z,1μm,22.0s,MS5.6
SPB4 Spitsbergen Ar 132.04 356 *e*P PKPdf 19 48 17.9 -1.0
SVE Sverdlovsk 132.08 321⇓ *i*PKIKP PKPdf 19 48 18.5 -0.9
SVE pmax pmax
comp=Z,30nm,1.1s
SFJD Kangerlussuaq 132.38 25 PFAKE 19 48 30.0 +10
SFJD LR LR
comp=Z,702nm,19.0s,MS5.4
DAG Danmarks Havn 132.91 6⇓ *e*PKIKP PKPdf 19 48 18.6 -1.9
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 132.91 6⇓ *i*P PKPdf 19 48 18.6 -1.9
comp=Z,5.2nm,0.8s
ARU Arti 133.27 320 *i* PKIKP PKPdf 19 48 20.4 -1.3
ARU 19 50 45.4
ARU SS SS 20 08 24.0 -7.0
ARU MLR MLR
comp=Z,3μm,23.0s,MS6.0
KMBO Kilima Mbogo 133.75 233 PKIKP PKPdf 19 48 24.9 +0.9
KMBO pmax pmax
comp=Z,4.0nm,0.5s
KMBO pmax pmax
comp=N,3.0nm,0.8s
KMBO Kilima Mbogo 133.75 233 PKP PKPdf 19 48 24.9 +0.9
KMBO SKPbc SKPbc 19 51 51.7 +1.2
KMBO LR LR
comp=Z,2μm,20.0s,MS5.8
KMBO Kilima Mbogo 133.75 233 PKP PKPdf 19 48 24.9 +0.9
comp=Z,4.0nm,0.5s,baz=44,slow=21,SNR=5.7
KMBO SKPbc SKPbc 19 51 51.7 +1.2
comp=Z,3.2nm,0.8s,baz=88,slow=2.7,SNR=5.7
LVZ Lovozero 138.14 342 PFAKE 19 48 40.0 +10
LVZ LR LR
comp=Z,2μm,21.0s,MS5.7
KEV Kevo 138.43 347 *e*p PKPdf 19 48 23.3 -7.7
comp=Z,4.2nm,0.6s
KEV Kevo 138.43 347 *e*P PKPdf 19 48 23.3 -7.7
KEV LR LR
comp=Z,2μm,22.0s,MS5.8
ASCN Ascension 138.52 155 PFAKE 19 48 40.0 +7.1
ASCN LR LR
comp=Z,1μm,19.0s,MS5.7
APA Apatity 138.71 342⇓ *i*PKIKP PKPdf 19 48 32.4 +0.9
APA *i* 19 48 42.0
APA pmax pmax
comp=Z,26nm,1.0s
ARCES ARCESS Array B 138.90 348 PKHKP 19 48 21.7
ARCES pmax pmax
comp=Z,12nm,0.8s
ARCES pmax pmax
comp=N,7.0nm,0.8s
ARCES ARCESS Array B 138.90 348 PKhKP 19 48 21.7
comp=N,12nm,0.8s,baz=49,slow=2.2,SNR=24
ARCES SKPbc SKPbc 19 52 02.8 -1.5
comp=N,6.6nm,0.8s,baz=46,slow=5.7,SNR=3.9
TMCR Tamitsa 139.62 336 *e*PKIKP PKPdf 19 48 28.2 -5.1
KTK1 Kautokeino 139.76 348 *e* PKPdf 19 48 27.9 -5.6
MAK Makhachkala 141.91 302 *c* *i*PKIKP PKPdf 19 48 35.0 -3.1
MAK *i* 19 51 40.9
MAK *e*PPP 19 54 50.4
MAK pmax pmax
comp=Z,378nm,1.2s
JOF Joensuu 142.69 338 *e*p PKPdf 19 48 32.7 -6.1
comp=Z,15nm,0.6s
JOF Joensuu 142.69 338 *e*PKHKP 19 48 32.7
JOF pmax pmax
comp=Z,15nm,0.6s
DGRG David-gareji 143.57 299 P PKPdf 19 48 37.5 -3.6
MOR8 Moi Rana 143.73 351 *e* PKPdf 19 48 36.6 -4.0
STOK Stokkvaagen 143.75 352 *e* PKPdf 19 48 37.8 -2.8
MTA Mtatsminda 144.00 300 P PKPdf 19 48 38.8 -3.0
BHD Baghdad 144.01 285 *ex* x 19 48 36.5
BHD *ex* x 19 51 54.0
BHD *ex* x 19 52 08.0
TBLG Delisi 144.03 300 P PKPdf 19 48 38.8 -3.1
GNI Garni 144.10 297 *e*P PKPdf 19 48 40.2 -1.8
GNI Garni 144.10 297 *c* *i*PKIKP PKPdf 19 48 39.8 -2.2
GNI Garni 144.10 297 PKP PKPdf 19 48 40.6 -1.5
GNI LR LR
comp=Z,2μm,22.0s,MS5.7
GNI Garni 144.10 297 PKP PKPdf 19 48 40.6 -1.5
comp=Z,9.4nm,0.5s,baz=255,slow=1.9,SNR=5.9
VRHR Novokhopersk 144.29 316 *i* PKIKP PKPdf 19 48 43.0 +1.0
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.5s
GOR Gori 144.49 300 P PKPdf 19 48 41.4 -1.2
MOS Moscow 144.54 325 *e*PKIKP PKPdf 19 48 38.9 -3.4
MOS pmax pmax
comp=Z,400nm,2.2s
MOS pmax pmax
comp=Z,176nm,1.8s
MOS MLR MLR
comp=Z,2μm,21.7s,MS5.8
CLDR Caldiran 144.76 295 *e*P PKPdf 19 48 42.9 -0.3
HKR Hakkari 144.88 293 *e*P PKPdf 19 48 41.4 -2.1
HAKT HAKKARI 144.91 293 *i* P PKPdf 19 48 42.4 -1.2
ONI Oni 144.92 301 P PKPdf 19 48 42.5 -0.8
DYDN Diyadin 144.93 296 *i* P PKPdf 19 48 43.2 -0.3
CUKT Cukurca 144.98 292 *e*P PKPdf 19 48 43.1 -0.5
TVAN Van 145.16 294 *i* P PKPbc 19 48 43.6 0.0
VANB Van 145.17 294 *e*P PKPbc 19 48 43.8 +0.2
KIV Kislovodsk 145.30 304 *c* *i*PKIKP PKPdf 19 48 43.1 -0.9
KIV Kislovodsk 145.30 304⇓ P PKPbc 19 48 43.2 -0.6
KIV LR LR
comp=Z,2μm,22.0s,MS5.8
KIV Kislovodsk 145.30 304⇓ *i*P PKPbc 19 48 43.3 -0.6
KARS Kars 145.34 298 *e*P PKPbc 19 48 44.8 +0.7
MSL Mosul 145.35 290 *ex* x 19 48 45.0
OBN Obninsk 145.38 325 *c* *i*PKP2 PKPab 19 48 42.3 -1.6
OBN *e* 19 55 44.7
OBN pmax pmax
comp=Z,139nm,1.2s
OBN MLR MLR
comp=Z,2μm,18.0s,MS5.8
OBN Obninsk 145.38 325⇑ *i*PKP PKPdf 19 48 42.4 -1.3
OBN LR LR
comp=Z,2μm,18.0s,MS5.8
FIA1 FINESS Array S 145.42 340 *e*P PKPdf 19 48 41.9 -1.7
FINES FINESS Array B 145.43 340 PKP2 PKPab 19 48 42.2 -1.7
FINES pmax pmax
comp=Z,219nm,0.8s
FINES FINESS Array B 145.43 340 PKPbc PKPbc 19 48 42.1 -1.5
comp=Z,219nm,0.8s,baz=64,slow=4.4,SNR=659
AGRB Hanur-Agry 145.47 296 *e*P PKPdf 19 48 46.1 +1.6
VOR Voronezh 145.48 318 *e*PKP2 PKPdf 19 48 43.0 -1.0
VOR pmax pmax
comp=Z,200nm,1.8s
VRSR Storozhevoye 145.68 317 *i* PKIKP PKPdf 19 48 43.7 -0.7
VRSR pmax pmax
comp=N,10.0nm,0.8s
VRSR pmax pmax
comp=Z,10.0nm,0.8s
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR MLR MLR
comp=Z,390nm,22.0s,MS5.1
VRSR MLR MLR
comp=N,300nm,28.0s
VRSR MLR MLR
comp=E,160nm,18.0s
VORD Divnogorie 145.72 317 *e*PKP2 PKPdf 19 48 43.6 -0.9
VORD pmax pmax
comp=Z,100nm,0.9s
VORD pmax pmax
comp=N,30nm,0.7s
VORD pmax pmax
comp=E,30nm,0.8s
VORD MLR MLR
comp=Z,2μm,25.0s,MS5.7
VORD MLR MLR
comp=N,1μm,24.0s
VORD MLR MLR
comp=E,470nm,17.0s
SIRT Sirnak 145.92 293 *e*P PKPdf 19 48 44.9 -0.4
ARTV Artvin 146.18 299 *i* P PKPdf 19 48 45.1 -0.5
BCA Borcka 146.39 300 *e*P PKPdf 19 48 44.9 -1.0
BTMT Batman 146.67 294 *e*P PKPdf 19 48 46.1 -0.4
ERZM Erzurum 146.70 297 *i* P PKPdf 19 48 47.7 +1.2
EZM Erzurum 146.71 297 *e*P PKPbc 19 48 49.7 +1.4
BNGL BINGOL 146.91 295 *i* P PKPbc 19 48 49.7 +0.8
MARD Mardin 147.24 292 *i* P PKPdf 19 48 47.1 -0.4
KOPT Kop Dagi 147.36 297 *i* P PKPdf 19 48 48.0 +0.4
BINT Bingol 147.43 295 *e*P PKPdf 19 48 47.2 -0.5
SOC Sochi 147.49 304 *c* *i*PKP2 PKPdf 19 48 49.3 +1.6
SOC *e* 19 52 14.4
SOC pmax pmax
comp=Z,57nm,0.8s
SOC MLR MLR
comp=Z,2μm,21.0s,MS5.8
SOC Sochi 147.49 304 *i* PKP PKPdf 19 48 49.1 +1.4
VSU Vasula 147.49 336 *i* PKP2 PKPab 19 48 51.4 -0.5
DIY Diyarbakir 147.67 293 *e*P PKPdf 19 48 47.2 -0.9
MACK Trabzon 147.83 299 *i* P PKPdf 19 48 47.2 -1.1
EZC Erzincan 147.90 297 *e*P PKPdf 19 48 47.2 -1.3
JAWL J.Aulia 147.97 248 *i* P PKPdf 19 48 49.2 -0.1
JAWL ⇑*e* 19 48 51.1
baz=124,slow=2.7
JAWL AMb AMB 19 48 55.7
comp=Z,25μm,4.1s
GUMT Gumushane 148.10 298 *e*P PKPbc 19 48 53.4 +1.4
PTK Pertek 148.29 295 *e*P PKPdf 19 48 49.9 +0.8
MRKH Merkhyat 148.32 249 *i* P PKPdf 19 48 49.8 -0.1
MRKH AMb AMB 19 48 56.7
comp=Z,33μm,1.7s
DOMB Dombas 148.35 354⇑ *i*P PKPbc 19 48 51.0 -1.0
DOMB AMb AMB 19 48 55.9
comp=Z,152nm,1.7s
SVRC Sivrice-ELAZID 148.38 294 *e*P PKPbc 19 48 53.9 +1.0
ESPY Espiye-Giresun 148.62 299 *e*P PKPdf 19 48 48.4 -1.2
ELZG Elazig 148.63 294 *i* P PKPbc 19 48 54.6 +1.1
URFA Urfa 148.79 292 *e*P PKPdf 19 48 50.3 +0.2
ANN Anapa 148.83 307 *c* *i*PKHKP 19 48 48.4
ANN *e* 19 55 53.2
ANN pmax pmax
comp=Z,213nm,0.9s
ANN MLR MLR
comp=Z,1μm,25.0s,MS5.7
GRSN GIRESUNGRSN 148.96 299 *i* P PKPbc 19 48 53.2 -1.1
MALT Malatya 149.07 294 PKP2 PKPbc 19 48 55.1 +0.5
MALT Malatya 149.07 294⇓ *i*P PKPbc 19 48 55.3 +0.7
NB2 NORSAR Subarra1 149.08 351 PKP PKPbc 19 48 52.7 -1.2
comp=Z,94nm,0.8s,baz=13,slow=2.8
NB2 NORSAR Subarra1 149.08 351 PKP PKPbc 19 48 52.7 -1.2
baz=13,slow=2.8
NOA NORSAR Array B 149.08 351 PKHKP PKPdf 19 48 48.7 -1.0
NOA pmax pmax
comp=Z,62nm,0.8s
NOA pmax pmax

comp=Z,46nm,0.8s
NOA NORSAR Array B 149.08 351 PKP PKPdf 19 48 48.7 -1.0
comp=Z,62nm,0.8s,baz=14,slow=4.2,SNR=154
NOA PKPbc PKPbc 19 48 53.0 -0.9
comp=Z,46nm,0.8s,baz=15,slow=4.2,SNR=153
ATAB Bozova 149.21 293 *i* P PKPbc 19 48 55.2 +0.2
NAO01 NORSAR Array S 149.31 351 *e*PKPdf PKPdf 19 48 49.9 -0.2
NAO01 *e*PKPbc PKPbc 19 48 53.6 -0.8
NAO01 LR LR
comp=Z,3μm,22.0s,MS6.0
HYA Hoyanger 149.45 356⇑*i*P PKPbc 19 48 54.5 -0.3
HYA AMb AMB 19 48 57.3
comp=Z,141nm,1.3s
GZT Gaziantep 149.80 292 *i* P PKPbc 19 48 56.8 +0.4
MNK Minsk 149.84 329 *e*PKIKP PKPdf 19 48 50.0 -1.1
MNK *e* 19 52 26.0
MNK pmax pmax
comp=Z,620nm,1.0s
MNK pmax pmax
comp=Z,340nm,1.5s
MNK MLR MLR
comp=Z,6μm,20.0s,MS6.4
SVSK Karacayir 150.05 297 *e*P PKPdf 19 48 52.0 +0.1
GAZ Gaziantep 150.09 292 *e*P PKPbc 19 48 57.8 +0.6
ASF Jabal al Asfar 150.13 282 PKIKP PKPdf 19 48 51.4 -1.0
ASF 19 48 57.1
ASF pmax pmax
comp=Z,5.0nm,1.1s
ASF pmax pmax
comp=Z,24nm,0.9s
ASF Jabal al Asfar 150.13 282 PKP PKPdf 19 48 51.4 -0.9
comp=Z,4.9nm,1.1s,baz=129,slow=0.7,SNR=7.6
ASF PKPbc PKPbc 19 48 57.1 -0.3
comp=Z,24nm,0.9s,baz=344,slow=1.4,SNR=44
ASK Askoy 150.18 357 *e*P PKPbc 19 48 56.0 -0.6
ASK AMb AMB 19 48 58.7
comp=Z,209nm,1.5s
OSL Oslo 150.21 351 *e*P PKPbc 19 48 55.9 -0.8
OSL AMb AMB 19 48 59.4
comp=Z,113nm,1.2s
RUND Rundenannen 150.24 356⇑*i*P PKPbc 19 48 58.3 +1.6
RUND AMb AMB 19 49 02.4
comp=Z,137nm,1.4s
BER Bergen 150.27 356 *e*P PKPbc 19 48 56.2 -0.6
BER AMb AMB 19 48 59.5
comp=Z,190nm,1.3s
KMRS Kahramanmaras 150.32 293 *e*P PKPbc 19 48 58.0 +0.3
EGD Espegrend 150.39 357 *e*P PKPbc 19 48 56.6 -0.5
EGD AMb AMB 19 48 59.4
comp=Z,151nm,2.2s
WAL1 Walls 150.40 3 *e*P PKPbc 19 48 56.5 -0.7
LRW Lerwick 150.55 3 *e*P PKPbc 19 48 57.0 -0.5
LRW *e*P 19 48 57.0
KVT Kavak 150.60 300 *e*P PKPbc 19 48 57.9 -0.4
KONO Kongsberg 150.63 352 *c* *i*PKIKP PKPbc 19 48 56.5 -1.2
KONO Kongsberg 150.63 352 *e*PKPbc PKPbc 19 48 56.4 -1.3
KONO LR LR
comp=Z,1μm,22.0s,MS5.7
ODD1 Odda 150.66 355⇑*i*P PKPbc 19 48 56.4 -1.4
ODD1 AMb AMB 19 49 00.2
comp=Z,185nm,1.1s
ANDN Andirin 150.76 293 *i* P PKPdf 19 48 52.4 -0.7
BNN Bunyan 151.05 296 *e*P PKPdf 19 48 53.1 -0.4
SIM Simferopol' 151.05 308 *i* PKIKP PKPbc 19 48 59.0 -0.2
SIM *e* 19 49 10.0
SIM pmax pmax
comp=N,70nm,15.6s
HWQ Hawqa 151.10 286 *e*P PKPdf 19 48 53.0 -0.8
BLS5 Blasjo 151.16 355⇑*i*P PKPbc 19 48 59.2 +0.3
BLS5 AMb AMB 19 49 02.3
comp=Z,55nm,1.1s
KOZT Kozan 151.17 293 *e*P PKPdf 19 48 55.5 +1.7
BHL Bhannes 151.32 285 *e*P PKPdf 19 48 53.1 -1.0
BOYT Boyabat 151.39 301 *i* P PKPbc 19 48 59.6 -0.4
KMY Karmoy 151.45 356⇑*i*P PKPbc 19 48 59.1 -0.6
KMY AMb AMB 19 49 02.9
comp=Z,180nm,1.2s
AKASG Malin Array Be 151.49 322 PKIKP PKPdf 19 48 52.2 -1.6
AKASG 19 48 59.1
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG pmax pmax
comp=Z,61nm,0.7s
AKASG Malin Array Be 151.49 322 PKP PKPdf 19 48 52.2 -1.7
AKASG PKPbc PKPbc 19 48 59.1 -0.9
AKASG Malin Array Be 151.49 322 PKP PKPdf 19 48 52.2 -1.7
comp=Z,1.8nm,0.7s,baz=46,slow=1.2,SNR=26
AKASG PKPbc PKPbc 19 48 59.1 -0.9
comp=Z,60nm,0.7s,baz=48,slow=2.9,SNR=210
AKBB Malin Array Si 151.49 322 PKIKP PKPdf 19 48 51.2 -2.6
AKBB *e* 19 48 59.1
KIEV Kiev 151.50 322 *e*PKIKP PKPdf 19 48 52.0 -1.9
KIEV *e* 19 48 59.0
KIEV MLR MLR
comp=Z,2μm,22.0s,MS5.8
KARA Karaisali 151.80 292 *e*P PKPdf 19 48 50.8 -4.0
CORM Corum 151.81 299 *e*P PKPdf 19 48 56.7 +2.0
RTO Tolsta 151.83 9 *e*P PKPbc 19 49 00.1 -0.5
BZK Bozkurt 151.93 302 *e*P PKPdf 19 48 53.1 -1.7
ORE Reay 151.95 6⇓*e*P PKPbc 19 49 00.5 -0.3
RSC Scourie 151.99 8⇓*e*P PKPbc 19 49 00.5 -0.4
NIG Nigde 152.09 294 *e*P PKPbc 19 49 02.4 +0.6
CDAG Cicekdag 152.09 297 *i* P PKPbc 19 48 59.2 -2.6
SUW Suwalki 152.12 333 *e*PKP PKPdf 19 48 53.8 -0.9
SUW *e* 19 49 00.9
SUW *e* 19 49 17.3
SUW Suwalki 152.12 333 *e*PKIKP PKPdf 19 48 53.8 -0.9
SUW *e* 19 49 00.9
SUW Suwalki 152.12 333 *e*PKP PKPdf 19 48 53.8 -0.9
SUW *e* 19 49 00.9
SUW *e* 19 49 17.3
SNART Snartemo 152.17 354⇑*i*P PKPbc 19 49 00.9 -0.4
SNART AMb AMB 19 49 04.6
comp=Z,72nm,1.3s
REB Eisghbrachaidh 152.20 8⇓*e*P PKPbc 19 49 00.9 -0.5
RRH Rhenigidale 152.21 10⇓*e*P PKPbc 19 49 00.8 -0.6
MLA1 Latheron 152.22 6⇓*e*P PKPbc 19 49 01.0 -0.4
MERS Mersin 152.25 292 *e*P PKPdf 19 48 50.8 -4.7
RRR Rubha Reidh 152.39 9⇓*e*P PKPbc 19 49 01.1 -0.7
CANT Cankiri 152.50 300 *e*P PKPdf 19 48 49.6 -6.1
MVH1 Achvaich 152.52 7⇓*e*P PKPbc 19 49 01.6 -0.5
EREN Erenkoy 152.58 289 *e*P PKPbc 19 49 03.2 +0.2
PHNC Paralimni 152.69 288 P PKPbc 19 49 02.9 -0.4
KAC Achmashellach 152.81 8⇓*e*P PKPbc 19 49 02.3 -0.5
MCD Coleburn Disti 152.95 6⇓*e*P PKPbc 19 49 02.2 -0.9
MDO Dochfour 152.97 7⇓*e*P PKPbc 19 49 02.5 -0.6
LFK Lefkose 153.10 288 *e*P PKPdf 19 48 48.4 -8.3
ANTO Ankara 153.25 298 *e*P PKPdf 19 48 56.0 -0.8
ANTO Ankara 153.25 298 PKIKP PKPdf 19 48 56.5 -0.3
ANTO Ankara 153.25 298 ⇑P PKPbc 19 49 03.9 -0.4
ANTO LR LR
comp=Z,1μm,22.0s,MS5.7
ANTO Ankara 153.25 298 PKPdf PKPdf 19 48 55.7 -1.1
ANTO PKPbc PKPbc 19 49 03.9 -0.5
ANTO Ankara 153.25 298⇑*i*P PKPbc 19 49 03.9 -0.4
CSS Prodhromos 153.27 287 P PKPbc 19 49 00.8 -3.7
comp=Z,1.0nm,0.5s
MAMC Mammari 153.36 288 P PKPbc 19 49 00.9 -3.8
LEF Lefka 153.63 288 *e*P PKPbc 19 49 05.1 -0.2
KIS Kishinev 153.64 316 *e*PKIKP PKPdf 19 48 50.0 -7.1
KIS *i* 19 49 03.0
KIS *e*PPS 20 05 52.0
KIS Kishinev 153.64 316 *e*PP PP 19 52 46.0 -6.0
MUD Monsted U'grnd 153.79 351 *i* PKIKP PKPdf 19 48 58.4 +1.4
MUD *i* 19 52 49.0
MUD pmax pmax
comp=Z,53nm,1.1s
MUD MLR MLR
comp=Z,1μm,20.0s,MS5.7
MUD Monsted U'grnd 153.79 351 *i* P PKPdf 19 48 58.4 +1.4
comp=Z,53nm,1.1s
MUD *i* 19 52 49.0
MUD
comp=Z,1μm,20.0s
ALFC Alevga 153.87 288 P PKPdf 19 48 58.8 +0.9
comp=Z,1.7nm,0.8s
BSD Bornholm Skovb 153.92 343⇑*i*PKIKP PKPdf 19 48 56.2 -1.1
BSD *i* 19 52 50.1
BSD pmax pmax
comp=Z,50nm,0.7s
BSD Bornholm Skovb 153.92 343⇑*i*P PKPdf 19 48 56.2 -1.1
comp=Z,50nm,0.7s
BSD *i* 19 52 50.1

COP Copenhagen 153.97 346 *e*PKIKP PKPdf 19 48 56.6 -0.7
COP *i* 19 52 50.8
COP pmax pmax
comp=Z,79nm,1.1s
COP MLR MLR
comp=Z,1μm,22.0s,MS5.7
COP Copenhagen 153.97 346 *i* P PKPdf 19 48 56.6 -0.7
comp=Z,79nm,1.1s
COP *i* 19 52 50.8
COP
comp=Z,1μm,22.0s
PPCY Paphos 154.08 287 P PKPdf 19 48 59.9 +1.7
KIZT Kizilcal 154.12 296 *e*P PKPbc 19 49 06.3 +0.1
EAB Aberfoyle 154.21 8 *e*P PKPbc 19 49 05.0 -0.8
WAR Warsaw 154.31 332 *e*PKP PKPdf 19 48 58.8 +0.9
WAR Warsaw 154.31 332 *e*PKP PKPdf 19 48 58.8 +0.9
PGBU Glenifferbraes 154.56 8 *e*P PKPbc 19 49 05.4 -1.2
ESY Stoneypath 154.65 6 *e*P PKPbc 19 49 05.9 -0.9
LVV L'vov 154.68 325 *i* PKIKP PKPdf 19 48 53.3 -5.2
TIRR Tirgusor 155.02 311⇓*i*P PKPdf 19 48 58.0 -1.2
ESK Eskdalemuir 155.19 7 *e*P PKPdf 19 49 06.7 +7.7
ESK Eskdalemuir 155.19 7 PFAKE 19 49 10.0 +11
ESK LR LR
comp=Z,2μm,22.0s,MS5.8
DBIC Dimbokro 155.23 164 PKIKP PKPdf 19 49 01.3 +0.9
DBIC Dimbokro 155.23 164 PKP PKPdf 19 48 59.0 -1.4
DBIC LR LR
comp=Z,2μm,22.0s,MS5.8
DBIC Dimbokro 155.23 164 PKP PKPdf 19 48 59.0 -1.4
comp=Z,8.3nm,0.9s,baz=136,slow=4.3,SNR=11
BURAR Bucovina Array 155.41 320⇑*i*P PKPdf 19 48 58.9 -0.7
KWP Kalwaria 155.45 326 *e*PKP PKPdf 19 49 08.8 +9.2
KWP *e* 19 49 24.3
KWP *e* 19 49 41.6
KWP Kalwaria 155.45 326 *e*PKIKP PKPdf 19 49 08.8 +9.2
KWP *e* 19 49 24.3
VRI Vrincioaia 155.45 315⇑*i*P PKPdf 19 48 58.9 -0.8
BSEG Bad Segeberg 156.03 348 *e*PKPdf PKPdf 19 48 58.8 -1.4
BSEG *e*PKPab PKPab 19 49 26.5 -1.1
MLR Muntele Rosu 156.12 315 PKIKP PKPdf 19 49 00.5 -0.1
MLR Muntele Rosu 156.12 315 PKP PKPdf 19 48 58.9 -1.7
comp=Z,3.4nm,1.1s,baz=352,slow=2.1,SNR=6.8
MLR Muntele Rosu 156.12 315⇑*i*P PKPdf 19 49 00.3 -0.3
KOLS Kolonicke sedl 156.13 325 *i* PKIKP PKPdf 19 49 00.2 -0.3
KOLS *e* 19 49 23.7
KOLS Kolonicke sedl 156.13 325 *i* PKP PKPdf 19 49 00.2 -0.3
KOLS *e* 19 49 23.6
PRD Provadia 156.19 309 *e*P PKPdf 19 48 59.0 -1.8
STHS Stebnicka Huta 156.29 327 *i* PKP PKPdf 19 49 01.0 +0.3
UZH Uzhgorod 156.32 325 *i* PKIKP PKPdf 19 49 01.3 +0.6
UZH *e* 19 49 15.0
OJC Ojcow 156.35 330 *e*PKPdf PKPdf 19 48 59.3 -1.4
OJC *e*pPKPdf pPKPdf 19 49 10.1 -1.4
OJC *e*PKPab PKPab 19 49 27.6 -1.5
OJC *e*SS SS 20 12 55.1 +0.8
OJC L 21 00 11.9
comp=Z,3.0nm,23.1s
OJC Ojcow 156.35 330 *e*PKIKP PKPdf 19 48 59.3 -1.4
OJC *e* 19 49 10.1
CMLA Cha da Macela 156.39 65 PFAKE 19 49 10.0 +8.8
CMLA LR LR
comp=Z,1μm,19.0s,MS5.8
TRPA Tarpa 156.52 324⇓*i*P PKPdf 19 48 59.0 -2.0
CRVS Cervenica-Dubn 156.54 326 *i* PKIKP PKPdf 19 49 00.1 -0.9
CRVS *e* 19 49 11.2
CRVS Cervenica-Dubn 156.54 326 *i* PKP PKPdf 19 49 00.1 -0.9
CRVS *e* 19 49 11.2
CRVS *i* 19 49 29.6
CRVS Cervenica-Dubn 156.54 326 *i* PKP PKPdf 19 49 00.1 -0.9
CRVS *i* 19 49 11.2
CRVS *i* 19 49 29.6
RUE Ruedersdorf 156.59 341 *e*PKPdf PKPdf 19 48 59.9 -1.1
RUE *e*PKPab PKPab 19 49 28.9 -1.1
VOIR 156.69 315⇓*i*P PKPdf 19 49 00.4 -0.9
NIE Niedzica 156.71 328 *e*PKPdf PKPdf 19 49 00.9 -0.3
NIE *e*pPKPdf pPKPdf 19 49 11.3 -0.7
NIE *e*PKPab PKPab 19 49 28.8 -1.9
NIE Niedzica 156.71 328 *e*PKIKP PKPdf 19 49 00.9 -0.3
NIE *e* 19 49 11.3
SZH Strazhica 157.15 310 *e*P PKPdf 19 48 59.0 -3.0
KSP Ksiaz 157.22 336 *e*PKP PKPdf 19 49 01.2 -0.6
KSP Ksiaz 157.22 336 *e*PKIKP PKPdf 19 49 00.5 -1.3
KSP *e* 19 49 11.2
KSP *e* 19 53 07.0
KSP *e*SS SS 20 12 57.0 -6.3
KSP MLR MLR
comp=Z,3μm,30.5s,MS5.9
KSP Ksiaz 157.22 336 *e*PKP PKPdf 19 49 00.5 -1.3
KSP *e*pPKP pPKPdf 19 49 11.2 -1.4
KSP *e*PP PP 19 53 07.0 -4.3
KSP *e* 20 03 18.0
KSP *e*SS SS 20 12 57.0 -6.3
KSP LR LR
comp=Z,3μm,30.5s,MS5.9
DRGR 157.27 321⇑*i*P PKPdf 19 49 00.9 -1.1
OKC Ostrava-Krasne 157.32 332 *e*PKIKP PKPdf 19 49 01.3 -0.7
OKC *e* 20 06 28.8
OKC Ostrava-Krasne 157.32 332 *e*PKPDF PKPdf 19 49 01.3 -0.7
OKC *e*x x 20 06 28.8
OKC AMS AMS 21 04 20.0
comp=Z,2μm,21.7s
UPC Upice 157.60 336 *e*PKPDF PKPdf 19 49 01.7 -0.6
UPC *e*PKPAB PKPab 19 49 34.0 -0.4
DPC Dobruska-Polom 157.62 335 *e*PKIKP PKPdf 19 49 01.4 -0.9
DPC *e* 19 49 16.2
DPC *e* 20 06 28.0
DPC MLR MLR
comp=Z,2μm,25.0s,MS5.8
DPC Dobruska-Polom 157.62 335 *e*PKPDF PKPdf 19 49 01.4 -0.9
DPC *e*pPKP pPKPdf 19 49 16.2 +3.1
DPC *e*PKPAB PKPab 19 49 34.2 -0.3
DPC *e*PP PP 19 53 05.8 -7.7
DPC *e*SKKS 20 03 30.4
DPC *e*x x 20 06 28.0
DPC AMS AMS 20 59 00.0
comp=Z,2μm,25.0s
MORC Moravsky Berou 157.62 333 P PKPdf 19 49 01.9 -0.5
MORC Moravsky Berou 157.62 333⇑*i*P PKPdf 19 49 01.8 -0.6
CLL Collm 157.85 341⇓*i*PKIKP PKPdf 19 49 01.0 -1.6
CLL *i* 19 49 12.7
CLL *e* 19 53 13.0
CLL pmax pmax
comp=Z,55nm,2.1s
CLL pmax pmax
comp=Z,11nm,0.9s
CLL pmax pmax
comp=Z,38nm,1.0s
CLL MLR MLR
comp=Z,2μm,24.2s,MS5.9
CLL Collm 157.85 341 *e*PKPdf PKPdf 19 49 01.3 -1.3
CLL *e*PKPdif 19 49 12.7
CLL *e*PKPab PKPab 19 49 34.6 -0.9
CLL *e*pPKPab pPKPab 19 49 43.9 -2.1
CLL *e*PP PP 19 53 12.0 -2.7
CLL *e*PPP 19 56 50.3
CLL *e*PPPP 19 59 20.2
CLL *e*PSKS 20 03 35.9
CLL *e*PPS 20 06 32.9
CLL *e*SS SS 20 13 14.9 +5.0
CLL *e*SSS 20 19 18.3
CLL *e*SSSS 20 23 31.4
CLL *e*LR LR 20 45 35.5
CLL Collm 157.85 341 *i* PKPdf PKPdf 19 49 01.0 -1.6
comp=Z,55nm,2.1s
CLL *i* PKPdiff 19 49 12.7
comp=Z,11nm,0.9s
CLL *i* x x 19 49 16.8
CLL ⇓*i*PKPab PKPab 19 49 34.5 -1.0
comp=Z,38nm,1.0s
CLL *i* x x 19 49 37.6
CLL *i* x x 19 49 43.8
CLL *e*PP PP 19 53 13.0 -1.7
comp=Z,500nm,24.4s
CLL *e*PPP 19 57 00.0
CLL *e*(PPPP) 19 59 28.0
CLL *e*x x 20 01 12.0
CLL *e*x x 20 01 54.0
CLL *e*PSKS 20 03 43.0
CLL *e*PPS 20 06 37.0
CLL *e*x x 20 08 15.0
CLL *e*x x 20 09 28.0
CLL *e*SS SS 20 13 13.0 +3.1

CLL *e*PSPS 20 14 54.0
CLL *e*(SSS) 20 19 42.0
CLL *e*SSSS 20 23 18.0
BRG Berggiesshubel 157.97 339 *e*PKIKP PKPdf 19 49 02.0 -0.8
BRG *e* 19 49 13.4
BRG *i* 19 49 34.0
BRG 19 53 11.0
BRG SS SS 20 13 06.0 -5.2
BRG pmax pmax
comp=Z,22nm,1.5s
BRG pmax pmax
comp=Z,6.0nm,0.8s
BRG Berggiesshubel 157.97 339 *e*PKPdf PKPdf 19 49 01.4 -1.4
BRG *e*PKPab PKPab 19 49 35.0 -1.0
BRG Berggiesshubel 157.97 339 *e*PKP PKPdf 19 49 02.0 -0.8
comp=Z,36nm,1.5s
BRG *e*pPKP pPKPdf 19 49 13.4 -0.2
comp=Z,10nm,0.8s
BRG *i* 19 49 34.0
BRG PP PP 19 53 11.0 -4.3
BRG SS SS 20 13 06.0 -5.2
PSZ Piszkesteto 157.98 326 PKIKP PKPdf 19 49 02.2 -0.7
PSZ Piszkesteto 157.98 326⇑*i*P PKPdf 19 49 01.5 -1.4
CLZ Clausthal 158.01 346 *e*PKPdf PKPdf 19 49 01.9 -0.9
CLZ *e*PKPab PKPab 19 49 35.2 -0.9
VYHS Vyhne 158.05 329 *i* PKP PKPdf 19 49 02.3 -0.6
VYHS *e* 19 49 11.5
VYHS *i* 19 49 35.9
GZR Gura Zlata 158.06 318 PKIKP PKPdf 19 49 01.9 -1.2
PVCC Panska Ves 158.07 338 *e*PKIKP PKPdf 19 49 02.2 -0.7
PVCC *e* 19 49 36.0
PVCC MLR MLR
comp=Z,2μm,22.0s,MS5.8
PVCC Panska Ves 158.07 338 *e*PKPDF PKPdf 19 49 02.2 -0.7
PVCC *e*PKPAB PKPab 19 49 36.0 -0.5
PVCC *e*x x 19 53 02.0
PVCC *e*SKKS 20 03 17.0
PVCC AMS AMS 20 57 50.0
comp=Z,2μm,22.0s
FBE Freiberg 158.10 340 *e*PKPdf PKPdf 19 49 02.8 -0.1
FBE *e*PKPab PKPab 19 49 36.4 -0.2
KOLL Kolacno 158.18 329 *e*PKP PKPdf 19 49 02.7 -0.4
VRAC Vranov 158.36 333 PKIKP PKPdf 19 49 03.3 0.0
VRAC Vranov 158.36 333⇑*i*P PKPdf 19 49 03.6 +0.3
PRU Pruhonice 158.54 337 *e*PKIKP PKPdf 19 49 02.3 -1.2
PRU *e* 19 49 37.7
PRU MLR MLR
comp=Z,2μm,20.5s,MS5.8
PRU Pruhonice 158.54 337 *e*PKPDF PKPdf 19 49 02.3 -1.2
PRU *e*PKPAB PKPab 19 49 37.7 -0.8
PRU *e*PP PP 19 53 09.2 -9.3
PRU *e*x x 20 03 31.9
PRU AMS AMS 21 02 00.0
comp=Z,2μm,20.5s
BZS Buzias 158.59 319 PKIKP PKPdf 19 49 02.7 -1.0
BZS Buzias 158.59 319⇓*i*P PKPdf 19 49 02.6 -1.1
PGB Panagyurishte 158.63 310 *e*P PKPdf 19 49 01.8 -2.0
BUD Budapest 158.70 326⇑*e*PKP PKPdf 19 49 02.3 -1.5
TREC Trest 158.79 335 *e*PKPDF PKPdf 19 49 03.0 -0.8
TREC *e*PKPAB PKPab 19 49 38.9 -0.7
TREC *e*PP PP 19 53 14.4 -5.6
TREC AMS AMS 21 00 10.0
comp=Z,2μm,25.6s
TANN Tannenbergstha 158.81 341 *e*PKPdf PKPdf 19 49 02.5 -1.3
TANN *e*PKPab PKPab 19 49 38.8 -0.8
WERD Werda 158.82 341 *e*PKPdf PKPdf 19 49 02.8 -1.0
WERD *e*PKPab PKPab 19 49 38.8 -0.9
MODS Modra-Piesok 158.82 331 *i* PKIKP PKPdf 19 49 03.8 -0.1
MODS *e* 19 49 14.8
MODS *e* 19 49 39.1
MODS Modra-Piesok 158.82 331 *i* PKP PKPdf 19 49 03.8 -0.1
MODS *i* 19 49 14.8
MODS *e* 19 49 39.1
MOX Moxa 158.83 343 *e*PKP PKPdf 19 49 02.9 -0.9
comp=Z,39nm,1.8s
MOX *e* 19 49 38.5
comp=Z,42nm,1.5s
MOX
comp=Z,1μm,22.0s
MOX Moxa 158.83 343 *e*PKPdf PKPdf 19 49 02.2 -1.6
MOX *e*PKPab PKPab 19 49 38.5 -1.2
GUNZ Gunzen 158.89 341 *e*PKPdf PKPdf 19 49 03.5 -0.4
GUNZ *e*PKPab PKPab 19 49 39.3 -0.7
BUG Bochum--Univer 158.94 350 *e*PKPdf PKPdf 19 49 02.5 -1.4
BUG *e*PKPab PKPab 19 49 38.6 -1.6
WERN Wernitzgruen 158.94 341 *e*PKPdf PKPdf 19 49 03.1 -0.9
WERN *e*PKPab PKPab 19 49 39.5 -0.8
NKC Novy Kostel 158.97 341 *e*PKIKP PKPdf 19 49 03.1 -0.9
NKC *e* 19 49 39.5
NKC *e* 19 53 16.1
NKC *e* 20 06 31.7
NKC Novy Kostel 158.97 341 *e*PKP PKPdf 19 49 03.1 -0.9
NKC *e* 19 49 20.1
NKC *e* 19 49 39.5
NKC *e* 19 53 16.1
NKC *e*SKKS 20 03 37.4
NKC *e* 20 06 31.7
NKC Novy Kostel 158.97 341 *e*PKPDF PKPdf 19 49 03.1 -0.9
NKC *e*pPKP pPKPdf 19 49 20.1 +5.3
NKC *e*PKPAB PKPab 19 49 39.5 -0.9
NKC *e*PP PP 19 53 16.1 -4.7
NKC *e*x x 20 03 37.4
NKC *e*x x 20 06 31.7
NKC AMS AMS 21 02 00.0
comp=Z,2μm,20.4s
ZST Bratislava 159.03 330 *i* PKIKP PKPdf 19 49 03.9 -0.2
ZST Bratislava 159.03 330 *i* PKP PKPdf 19 49 03.8 -0.3
UBBA Unterbreizbach 159.05 345 *e*PKPdf PKPdf 19 49 02.2 -1.9
UBBA *e*PKPab PKPdf 19 49 03.5 -0.6
VTS Vitosha 159.24 311 PKIKP PKPdf 19 49 03.6 -1.0
VTS Vitosha 159.24 311⇓*i*P PKPdf 19 49 03.0 -1.6
VTS Vitosha 159.24 311 *e*P PKPdf 19 49 03.0 -1.6
MANZ Manzenberg 159.29 341 *e*PKPdf PKPdf 19 49 02.8 -1.6
MANZ *e*PKPab PKPdf 19 49 04.1 -0.3
MMB Musomiste 159.33 308 *e*P PKPdf 19 49 03.0 -1.7
ROTZ Rotzenmuhle 159.46 341 *e*PKPdf PKPdf 19 49 02.8 -1.8
ROTZ *e*PKPab PKPab 19 49 41.9 -0.6
KHC Kasperske Hory 159.60 337 *e*PKIKP PKPdf 19 49 03.5 -1.3
KHC *e* 19 49 14.0
KHC *e* 19 49 41.8
KHC *e* 20 06 34.6
KHC MLR MLR
comp=Z,2μm,20.7s,MS6.0
KHC Kasperske Hory 159.60 337 *e*PKPDF PKPdf 19 49 03.5 -1.3
KHC *e*pPKP pPKPdf 19 49 14.0 -1.5
KHC *e*PKPAB PKPab 19 49 41.8 -1.3
KHC *e*PP PP 19 53 15.8 -8.5
KHC *e*SKKS 20 03 45.3
KHC *e*x x 20 06 34.6
KHC AMS AMS 20 59 00.0
comp=Z,2μm,20.7s
SOP Sopron 159.66 330⇑*e*PKP PKPdf 19 49 03.3 -1.6
CONA Conrad Observa 159.76 332 *i* PKPdf PKPdf 19 49 03.6 -1.4
comp=Z,353nm,4.8s,SNR=6.1
CONA ⇑*i*PKPab PKPab 19 49 41.9 -2.0
comp=Z,629nm,4.6s
BEBN Eben Emael 159.77 353 PKP PKPdf 19 49 03.5 -1.3
BEBN PKPab PKPab 19 49 41.6 -2.2
PKSM Moragy 159.78 324 PKIKP PKPdf 19 49 03.7 -1.4
PKSM Moragy 159.78 324⇓*i*P PKPdf 19 49 03.9 -1.2
GRA1 Grafenberg Arr 159.80 342 *e*PKPdf PKPdf 19 49 04.2 -0.8
GRA1 *e*PKPab PKPab 19 49 43.4 -0.6
GRA1 *e*PP PP 19 53 24.3 -1.0
GRA1 *e*SS SS 20 13 36.3 +5.8
GRA1 LR LR
comp=Z,1μm,20.4s,MS5.7
GRF Grafenberg Arr 159.80 342 *e*PKIKP PKPdf 19 49 04.2 -0.8
GRF *e* 19 49 43.4
GRF *e* 19 53 24.3
GRF MLR MLR
comp=Z,1μm,20.4s,MS5.7
GRF Grafenberg Arr 159.80 342 *e*PKPdf PKPdf 19 49 04.2 -0.8
GRF *e*PKPab PKPab 19 49 43.4 -0.6
GRF *e*PP PP 19 53 24.3 -1.0
GRF *e*SS SS 20 13 36.3 +5.8
GRF *e*L 21 03 17.6
comp=Z,1μm,20.4s
GRFO Grafenberg 159.80 342 PFAKE 19 49 20.0 +15
GRFO LR LR
comp=Z,1μm,21.0s,MS5.7
GEC2 GERESS Array S 159.80 337 *e*PKPdf PKPdf 19 49 02.9 -2.1

GEC2			*e*PKPab	PKPab	19 49 43.0	-1.0
GERES	**GERESS Array B**	**159.80 337**	PKIKP	PKPdf	19 49 03.5	-1.5
GERES					19 49 42.6	
GERES			pmax	pmax		
	comp=Z,4.0nm,0.9s					
GERES			pmax	pmax		
	comp=Z,4.0nm,0.7s					
GERES	**GERESS Array B**	**159.80 337**	PKP	PKPdf	19 49 03.5	-1.5
	comp=Z,4.0nm,0.9s,baz=90,slow=1.3,SNR=19					
GERES			PKPab	PKPab	19 49 42.6	-1.4
	comp=Z,4.4nm,0.7s,baz=38,slow=3.3,SNR=7.5					
WET	**Wettzell**	**159.81 339**	*e*PKPdf	PKPdf	19 49 03.5	-1.5
WET			*e*PKPab	PKPab	19 49 43.5	-0.6
UCC	**Uccle**	**159.89 355**	PKP	PKPdf	19 49 04.1	-0.9
UCC			PKPab	PKPab	19 49 42.1	-2.2
MEM	**Membach**	**159.92 352**	PKP	PKPdf	19 49 03.8	-1.2
MEM			PKPab	PKPab	19 49 43.2	-1.3
VAY	**Valandovo**	**160.24 308**	*e*PKP	PKPdf	19 49 01.9	-3.8
ABH	**Alteburg**	**160.41 349**	PKP	PKPdf	19 49 04.3	-1.3
MOA	**Molln**	**160.45 334**⇑	*i*P	PKPdf	19 49 02.2	-3.5
	comp=Z,353nm,5.0s					
MOA	**Molln**	**160.45 334**⇓	*i*PKPdf	PKPdf	19 49 03.7	-2.1
	comp=Z,353nm,5.0s					
MOA		⇑	*i*PKPab	PKPab	19 49 46.2	-0.7
	comp=Z,795nm,6.7s					
MOA	**Molln**	**160.45 334**⇑	*i*P	PKPdf	19 49 02.2	-3.5
MOA			*i*		19 49 46.2	
TOD	**Tromm**	**160.45 346**	PKIKP	PKPdf	19 49 04.1	-1.6
GIVF	**Givet**	**160.54 354**	*e*PKIKP	PKPdf	19 49 04.9	-0.9
DOU	**Dourbes**	**160.57 355**	PKP	PKPdf	19 49 04.8	-1.0
DOU			PKPab	PKPab	19 49 46.0	-1.3
BAIF	**Baives**	**160.63 355**	*e*PKIKP	PKPdf	19 49 05.2	-0.7
	comp=Z,31nm,1.2s					
RUP	**Ruppelstein**	**160.67 350**	PKIKP	PKPdf	19 49 04.8	-1.1
SKO	**Skopje**	**160.69 311**	*e*PKP	PKPdf	19 49 04.7	-1.5
WLF	**Walferdange**	**160.83 351**	PKP	PKPdf	19 49 06.3	+0.2
WLF			PKPab	PKPab	19 49 47.8	-0.7
WLF	**Walferdange**	**160.83 351**	*e*PKPdf	PKPdf	19 49 05.3	-0.8
WLF			*e*PKPab	PKPab	19 49 47.7	-0.7
PERS	**Pernice**	**161.09 331**	*i*PKPdf	PKPdf	19 49 04.8	-1.7
SOKA	**Soboth**	**161.10 331**⇓	*i*PKPdf	PKPdf	19 49 04.9	-1.6
	comp=Z,291nm,5.0s					
KRUS	**Krusevo**	**161.10 309**	*e*PKP	PKPdf	19 49 04.7	-2.0
STU	**Stuttgart**	**161.15 345**	*e*PKPdf	PKPdf	19 49 05.1	-1.4
STU			*e*PKPab	PKPab	19 49 48.7	-1.2
FUR	**Furstenfeldbru**	**161.17 340**	*e*PKPdf	PKPdf	19 49 04.1	-2.4
FUR			*e*PKPab	PKPab	19 49 49.3	-0.7
LANF	**Langenberg**	**161.24 348**	PKP	PKPdf	19 49 04.8	-1.8
KBA	**Koelnbreinsper**	**161.43 335**⇑	*i*P	PKPdf	19 49 04.9	-1.9
	comp=Z,213nm,4.2s					
OHR	**Ohrid**	**161.52 309**	*e*PKP	PKPdf	19 49 01.9	-5.2
BFO	**Black Forest**	**161.76 346**	PKIKP	PKPdf	19 49 06.3	-0.8
BFO	**Black Forest**	**161.76 346**	*e*PKPab	PKPab	19 49 51.2	-1.3
BFO			LR	LR		
	comp=Z,1μm,19.0s					
WTTA	**Wattenberg**	**161.86 338**⇑	*i*PKPdf	PKPdf	19 49 05.6	-1.7
	comp=Z,507nm,4.3s,SNR=7.9					
WTTA		⇑	*i*PKPab	PKPab	19 49 52.2	-0.9
	comp=Z,461nm,4.4s					
VISS	**Visnje**	**161.87 330**	*i*PKPdf	PKPdf	19 49 06.0	-1.3
SPAK	**Spaichingen-Ko**	**161.88 345**	PKP	PKPdf	19 49 05.5	-1.8
CDF	**Champ du Feu**	**161.88 348**⇑	*i*PKIKP	PKPdf	19 49 05.8	-1.5
	comp=Z,12nm,1.0s					
BOJS	**Bojanci**	**161.92 328**	*i*PKPdf	PKPdf	19 49 06.1	-1.3
FLN	**La Foliniere**	**161.93 5**	*e*PKIKP	PKPdf	19 49 06.5	-0.8
	comp=Z,80nm,1.2s					
FLN			*e*MLR	MLR		
	comp=Z,3μm,23.0s					
FLN	**La Foliniere**	**161.93 5**	*e*PKPdf	PKPdf	19 49 06.5	-0.8
FLN			LR	LR		
	comp=Z,3μm,23.0s					
RETA	**Reutte**	**161.93 340**⇑	*i*PKPdf	PKPdf	19 49 05.8	-1.5
	comp=Z,463nm,4.9s					
RETA		⇑	*i*PKPab	PKPab	19 49 52.4	-1.0
	comp=Z,261nm,3.6s,SNR=11					
MOTA	**Moosalm**	**161.96 339**⇑	*i*PKPdf	PKPdf	19 49 05.3	-2.1
	comp=Z,25nm,1.7s					
MOTA		⇓	*i*PKPab	PKPab	19 49 52.9	-0.6
	comp=Z,32nm,1.2s,SNR=6.0					
MOTA	**Moosalm**	**161.96 339**⇑	*i*P	PKPdf	19 49 05.3	-2.1
MOTA			*i*		19 49 52.9	
PTCC	**Patocco-Chiusa**	**161.99 333**	PKP	PKPdf	19 49 06.1	-1.3
ROSF	**Rostrenen**	**162.01 11**⇑	*i*PKIKP	PKPdf	19 49 06.5	-0.9
ABTA	**Abfaltersbach**	**162.02 336**⇑	*i*PKPdf	PKPdf	19 49 05.3	-2.1
	comp=Z,228nm,4.5s,SNR=6.9					
ABTA		⇑	*i*PKPab	PKPab	19 49 51.4	-2.4
	comp=Z,241nm,4.4s					
SQTA	**Sankt Quirin**	**162.04 339**⇑	*i*PKPdf	PKPdf	19 49 06.1	-1.4
	comp=Z,30nm,1.9s					
SQTA		⇓	*i*PKPab	PKPab	19 49 53.2	-0.6
	comp=Z,28nm,1.2s,SNR=7.6					
VOY	**Vojsko**	**162.09 332**	*e*PKPdf	PKPdf	19 49 05.9	-1.6
VOY			*e*		19 49 23.4	
VOY			*e*		19 50 08.7	
ECH	**Echery**	**162.09 348**	PKP	PKPdf	19 49 05.9	-1.6
MEZF	**Maizieres J'vi**	**162.10 353**⇑	*i*PKIKP	PKPdf	19 49 06.9	-0.6
	comp=Z,86nm,1.3s					
LDF	**La Druitiere**	**162.12 4**⇑	*i*PKIKP	PKPdf	19 49 06.5	-1.0
JAVS	**Javornik**	**162.13 331**	*e*PKPdf	PKPdf	19 49 05.9	-1.7
SGMF	**Saint Gilles**	**162.20 10**⇑	*i*PKIKP	PKPdf	19 49 06.7	-0.9
	comp=Z,62nm,1.2s					
FELD	**Feldberg im Sc**	**162.26 346**	PKP	PKPdf	19 49 05.7	-2.0
THEF	**They Montfort**	**162.26 351**	PKP	PKPdf	19 49 06.2	-1.4
GRR	**Gorron**	**162.27 6**	*e*PKIKP	PKPdf	19 49 06.6	-1.1
FETA	**Feichten**	**162.36 340**⇑	*i*PKPdf	PKPdf	19 49 06.8	-1.0
	comp=Z,254nm,4.3s,SNR=7.7					
FETA		⇓	*i*PKPab	PKPab	19 49 54.3	-1.0
	comp=Z,439nm,4.5s					
HAU	**Haudompre**	**162.43 350**⇑	*i*PKIKP	PKPdf	19 49 06.6	-1.2
	comp=Z,77nm,1.6s					
HAU			*e*MLR	MLR		
	comp=Z,2μm,22.8s					
HAU	**Haudompre**	**162.43 350**⇑	*i*PKPdf	PKPdf	19 49 06.6	-1.2
HAU			LR	LR		
	comp=Z,2μm,22.8s					
QUIF	**Quistinic**	**162.44 11**	*e*PKIKP	PKPdf	19 49 06.8	-1.0
	comp=Z,125nm,1.6s					
MOF	**Molkenrain**	**162.45 348**	PKP	PKPdf	19 49 06.7	-1.1
TOA0	**Torodi Ar. Sit**	**162.48 180**	*e*PKPdf	PKPdf	19 49 08.4	-0.5
TORD	**Torodi Ar. Bea**	**162.48 180**	PKP	PKPdf	19 49 07.9	-1.0
	comp=Z,16nm,1.1s,baz=296,slow=1.0,SNR=30					
TORD			PKPab	PKPab	19 49 57.2	+0.7
	comp=Z,33nm,0.7s,baz=180,slow=3.2,SNR=23					
TORD			PP	PP	19 53 43.8	+4.3
	comp=Z,7.8nm,1.0s,baz=195,slow=3.3,SNR=6.8					
HINF	**Hinteralfeld**	**162.53 349**⇑	*i*PKIKP	PKPdf	19 49 06.6	-1.3
	comp=Z,45nm,1.2s					
BBS	**Basel-Blauen**	**162.75 347**	PKIKP	PKPdf	19 49 06.7	-1.5
CTI	**Castel Tesino**	**162.92 336**	PKIKP	PKPdf	19 49 06.4	-2.0
LOMF	**Lomont**	**162.99 348**	PKP	PKPdf	19 49 07.4	-1.0
LOR	**Lormes**	**163.44 355**⇑	*i*PKIKP	PKPdf	19 49 08.0	-0.8
	comp=Z,45nm,1.2s					
LOR			*e*MLR	MLR		
	comp=Z,4μm,23.0s					
SSF	**Saint Saulge**	**163.66 356**	*e*PKIKP	PKPdf	19 49 08.1	-0.9
	comp=Z,37nm,1.2s					
CABF	**La Chapelle**	**163.83 349**⇑	*i*PKIKP	PKPdf	19 49 08.7	-0.5
	comp=Z,44nm,1.1s					
AVF	**Avril sur Loir**	**163.94 356**⇑	*i*PKIKP	PKPdf	19 49 08.0	-1.3
	comp=Z,67nm,1.7s					
VAI	**Varese**	**163.97 342**	PKIKP	PKPdf	19 49 07.5	-1.9
SMF	**Signal de Mont**	**164.06 355**⇑	*i*PKIKP	PKPdf	19 49 08.3	-1.1
	comp=Z,25nm,1.1s					
MFF	**Saint Martin d**	**164.10 5**⇑	*i*PKIKP	PKPdf	19 49 08.5	-1.0
	comp=Z,71nm,1.5s					
BGF	**Bois d'Agland**	**164.20 357**⇑	*i*PKIKP	PKPdf	19 49 08.8	-0.8
	comp=Z,32nm,1.1s					
RSM	**Repubblica di**	**164.39 330**	PKIKP	PKPdf	19 49 07.7	-2.1
FSSB	**Fossombrone**	**164.44 329**	PKP	PKPdf	19 49 09.0	-0.9
TCF	**Toulx Ste Croi**	**164.49 359**⇑	*i*PKIKP	PKPdf	19 49 09.0	-0.8
	comp=Z,34nm,1.1s					
AGO	**Saint Agoulin**	**164.69 357**	PKP	PKPdf	19 49 09.3	-0.7
SNTG	**Esanatoglia**	**164.71 328**	PKP	PKPdf	19 49 09.3	-0.8
LPL	**La Plagne**	**164.77 347**	*e*PKIKP	PKPdf	19 49 09.7	-0.4
	comp=Z,12nm,0.9s					
LPG	**La Plagne**	**164.78 347**⇑	*i*PKIKP	PKPdf	19 49 10.0	-0.1
	comp=Z,15nm,1.0s					
BADI	**Badiali**	**164.82 330**	PKP	PKPdf	19 49 09.1	-1.1
NRCA	**Norcia**	**164.95 326**	PKP	PKPdf	19 49 09.3	-1.0
TIP	**Timpagrande**	**165.17 309**	*e*PKPdf	PKPdf	19 49 10.2	-0.4
TIP			*e*PKPab	PKPab	19 50 06.8	-1.2
AQU	**L'Aquila**	**165.17 324**⇑	*i*PKIKP	PKPdf	19 49 05.1	-5.4
RJF	**Les Rejaudoux**	**165.47 1**	*e*PKIKP	PKPdf	19 49 09.5	-1.2
	comp=Z,39nm,1.1s					
RJF			*e*MLR	MLR		
	comp=Z,3μm,21.5s					
RJF	**Les Rejaudoux**	**165.47 1**	*e*PKPdf	PKPdf	19 49 09.5	-1.2
RJF			LR	LR		
	comp=Z,3μm,21.5s					
LBL	**Lubilhac**	**165.50 356**	PKP	PKPdf	19 49 10.7	0.0
ORIF	**Oris-en-Rattie**	**165.50 348**⇑	*i*PKIKP	PKPdf	19 49 10.2	-0.5
	comp=Z,16nm,0.9s					
ORIF			*e*MLR	MLR		
	comp=Z,3μm,21.2s					
MBDF	**Montbardon**	**165.52 346**⇑	*i*PKIKP	PKPdf	19 49 10.1	-0.7
	comp=Z,70nm,1.6s					
VIVF	**Saint-Julien-l**	**165.75 352**⇑	*i*PKIKP	PKPdf	19 49 10.5	-0.4
	comp=Z,44nm,1.2s					
CAF	**Calviac**	**165.85 359**⇑	*i*PKIKP	PKPdf	19 49 10.6	-0.4
	comp=Z,58nm,1.5s					
ERUA	**La Rua**	**166.34 29**	PKIKP	PKPdf	19 49 11.8	+0.3
SMRF	**Simiane la Rot**	**166.47 348**⇑	*i*PKIKP	PKPdf	19 49 11.5	0.0
	comp=Z,82nm,1.4s					
LASF	**Ste Croix**	**166.60 354**	*e*PKIKP	PKPdf	19 49 11.0	-0.6
	comp=Z,56nm,1.2s					
PGF	**Pioggiola**	**166.91 336**	*e*PKIKP	PKPdf	19 49 11.3	-0.6
	comp=Z,69nm,1.1s					
PVIS	**Viseu**	**167.31 36**	*e*PKPdf	PKPdf	19 49 14.9	+2.6
MVO	**Moncorvo**	**167.38 32**	*e*PKPdf	PKPdf	19 49 13.3	+1.0
MVO	**Moncorvo**	**167.38 32**	*e*PP	PP	19 54 06.7	+1.1
MVO			*e*-		20 07 52.3	
MVO			*e*SS	SS	20 15 00.8	+11
MVO			*e*-		20 21 24.0	
MVO			*e*LQ		20 37 58.5	
MVO			*e*LR	LR	20 47 57.8	
	comp=Z,2μm,13.2s					
MTLF	**Montolieu**	**167.43 359**⇑	*i*PKIKP	PKPdf	19 49 11.5	-0.8
	comp=Z,82nm,1.8s					
EPF	**Esparros**	**167.69 5**	*e*PKIKP	PKPdf	19 49 11.7	-0.8
MTE	**Manteigas**	**167.73 36**	*e*PKPdf	PKPdf	19 49 13.7	+1.1
MTE	**Manteigas**	**167.73 36**	*e*PP	PP	19 54 09.6	+2.1
MTE			*e*SS	SS	20 15 03.9	+11
MTE			*e*LQ		20 38 44.1	
MTE			*e*LR	LR	20 48 17.5	
	comp=Z,2μm,24.9s					
ETSF	**Etsaut**	**167.73 8**	*e*PKIKP	PKPdf	19 49 11.6	-0.9
	comp=Z,39nm,1.2s					
PMAFR	**Mafra**	**167.75 45**	*e*PP	PP	19 54 10.0	+2.1
PMAFR			*e*-		20 08 03.1	
PMAFR			*e*SS	SS	20 15 01.2	+7.3
PMAFR			*e*SS	SS	20 15 09.0	+15
PMAFR			*e*LR	LR	20 48 26.4	
	comp=Z,2μm,22.7s					
PTOM	**Tomar**	**167.83 41**	*e*PKPdf	PKPdf	19 49 13.6	+0.9
LIS	**Lisbon**	**167.98 46**	*e*P	PKPdf	19 49 13.5	+0.7
LIS			AMS	AMS	21 13 29.2	
	comp=E,2μm,19.4s					
EBIE	**Bielsa**	**168.01 6**	PKP	PKPdf	19 49 16.9	+4.1
PCBR	**Castelo Branco**	**168.18 37**	*e*PKPdf	PKPdf	19 49 14.0	+1.1
EVO	**Evora**	**168.78 44**	*e*PKIKP	PKPdf	19 49 12.3	-1.1
	comp=E,52nm,1.2s					
EVO			*e*MLR	MLR		
	comp=Z,3μm,22.8s					
EVO	**Evora**	**168.78 44**	*e*PKPdf	PKPdf	19 49 14.0	+0.6
PESTR	**Estremoz**	**168.81 41**	*e*PKPdf	PKPdf	19 49 13.5	+0.1
PESTR	**Estremoz**	**168.81 41**	*e*PP	PP	19 54 14.5	+1.4
PESTR			*e*-		20 08 10.0	
PESTR			*e*SS	SS	20 15 14.6	+10
PESTR			*e*LR	LR	20 47 59.4	
	comp=Z,2μm,23.0s					
GUD	**Guadarrama**	**169.00 25**	PKIKP	PKPdf	19 49 14.0	+0.6
PFVI	**Vila Bisbo**	**169.10 51**	*e*PP	PP	19 54 18.6	+3.6
PFVI			*e*-		20 08 12.3	
PFVI			*e*SS	SS	20 15 16.1	+8.3
PFVI			*e*LQ		20 39 17.4	
PFVI			*e*LR	LR	20 49 04.0	
	comp=Z,1μm,27.5s					
MORF	**Marmelete**	**169.13 50**	*e*PP	PP	19 54 18.6	+3.5
MORF			*e*SS	SS	20 15 13.1	+5.1
MORF			*e*LR	LR	20 48 27.7	
	comp=Z,1μm,24.6s					
PBEJ	**Beja**	**169.20 45**	*e*PKPdf	PKPdf	19 49 14.6	+1.0
ETOR	**Torete**	**169.47 16**	PKIKP	PKPdf	19 49 13.6	-0.1
PBAR	**Barrancos**	**169.59 42**	*e*PKPdf	PKPdf	19 49 14.7	+0.8
PBAR	**Barrancos**	**169.59 42**	*e*PP	PP	19 54 18.3	+1.1
PBAR			*e*-		20 08 16.1	
PBAR			*e*SS	SS	20 15 17.7	+5.6
PBAR			*e*LQ		20 39 39.6	
PBAR			*e*LR	LR	20 48 32.5	
	comp=Z,2μm,17.0s					
PBDV	**Barranco-do-Ve**	**169.63 49**	*e*PKPdf	PKPdf	19 49 15.3	+1.4
PBDV	**Barranco-do-Ve**	**169.63 49**	*e*PP	PP	19 54 20.5	+2.9
PBDV			*e*-		20 08 14.6	
PBDV			*e*SS	SS	20 15 20.2	+7.3
PBDV			*e*LQ		20 39 32.4	
PBDV			A		21 08 38.4	
	comp=Z,2μm,26.9s					
PVAQ	**Vaqueiros**	**169.68 47**	*e*PKPdf	PKPdf	19 49 15.1	+1.1
PVAQ	**Vaqueiros**	**169.68 47**	*e*PP	PP	19 54 21.3	+3.5
PVAQ			*e*-		20 08 14.6	
PVAQ			*e*SS	SS	20 15 18.2	+4.9
PVAQ			*e*LQ		20 39 34.1	
PVAQ			*e*LR	LR	20 48 28.9	
	comp=Z,2μm,22.1s					
PAB	**San Pablo**	**169.88 28**	*e*PKIKP	PKPdf	19 49 14.4	+0.4
PAB			MLR	MLR		
	comp=Z,2μm,20.0s					
ESDC	**Sonseca Array**	**169.92 26**	PKP	PKPdf	19 49 13.3	-0.7
ESDC	**Sonseca Array**	**169.92 26**	PKP	PKPdf	19 49 13.5	-0.5
	comp=Z,6.7nm,1.1s,baz=360,slow=1.7,SNR=12					
ESDC			PKPab	PKPab	19 50 27.0	-1.8
	comp=Z,3.4nm,0.9s,baz=333,slow=3.8,SNR=5.1					
ESDC			PP	PP	19 54 17.8	-0.5
	comp=Z,2.0nm,0.9s,baz=357,slow=6.1,SNR=4.4					
EMIN	**Mina Concepcio**	**170.08 43**	PKP	PKPdf	19 49 14.8	+0.6
EMOS	**Mosqueruela**	**170.23 10**	PKP	PKPdf	19 49 13.5	-0.7
ECHE	**Chera**	**170.89 14**	PKIKP	PKPdf	19 49 13.8	-0.8
EADA	**Adamuz**	**170.91 34**	PKP	PKPdf	19 49 14.1	-0.6
ESPR	**Espera**	**171.17 44**	PKP	PKPdf	19 49 14.8	0.0
EVIA	**Vianos**	**171.37 23**	PKIKP	PKPdf	19 49 15.5	+0.7
ELUQ	**Luque**	**171.54 35**	PKIKP	PKPdf	19 49 14.8	-0.2
ETOB	**Tobarra**	**171.65 19**	PKP	PKPdf	19 49 14.1	-0.9
EJIF	**Jimena Fronter**	**171.68 45**	PKIKP	PKPdf	19 49 16.1	+1.0
EQES	**Quesada**	**171.88 29**	PKP	PKPdf	19 49 14.0	-1.1
KEST	**Kesra**	**171.98 310**	PKP	PKPdf	19 49 15.3	+0.1
	comp=Z,3.2nm,0.9s,baz=290,slow=7.8,SNR=4.5					
KEST			PKPab	PKPab	19 50 37.4	-0.8
	comp=Z,4.5nm,0.9s,baz=232,slow=6.7,SNR=5.0					
EHUE	**Huescar**	**172.06 26**	PKIKP	PKPdf	19 49 14.9	-0.3
ECOG	**Cogollos-Vega**	**172.10 33**	PKIKP	PKPdf	19 49 14.7	-0.5
EMUR	**La Murta**	**172.49 19**	PKP	PKPdf	19 49 14.3	-1.1
EBER	**Berja**	**172.72 31**	PKP	PKPdf	19 49 16.3	+0.8
ENIJ	**Nijar**	**172.95 27**	PKIKP	PKPdf	19 49 16.3	+0.7

*NEIC **17** 19:51:54.1, 1824N×10105W, h60km, MD3.9(MEX), After MEX.*

MEX 17 19:51:54.1±0.7, 1825N×10105W, h59km±16km, MD3.9, 1C, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	**Zihuatanejo**	**0.75**	**212**⇑	*i*P	Pn	19 52 07.4	-1.5
ZIIG				*i*S	Sn	19 52 18.1	-1.6
MEIG	**Mezcala**	**1.40**	**103**	*e*P	Pn	19 52 16.1	-1.4
MEIG				*i*S	Sn	19 52 33.0	-1.9
CAIG	**El Cayaco**	**1.41**	**148**	*i*P	Pn	19 52 16.8	-0.7
CAIG				*i*S	Sn	19 52 32.3	-2.8
MOIG	**Morelia**	**1.43**	**355**	*i*P	Pn	19 52 16.2	-1.6
MOIG				*i*S	Sn	19 52 34.7	-1.0
PLIG	**Platanillo**	**1.48**	**84**	*e*P	Pn	19 52 18.0	-0.5
PLIG				*i*S	Sn	19 52 35.8	-1.1
ACX	**Acapulco**	**1.75**	**142**	*i*P	Pn	19 52 20.0	-2.1
SZVM	**Salazar**	**1.91**	**56**	*i*P	Pn	19 52 20.5	-3.8
SZVM				*i*S	Sn	19 52 44.8	-2.5
YAIG	**Yautepec**	**1.98**	**72**	*i*P	Pn	19 52 24.1	-1.1
YAIG				*i*S	Sn	19 52 47.5	-1.5
MMIG	**Aquila**	**2.18**	**271**	*i*P	Pn	19 52 26.4	-1.6
MMIG				*i*S	Sn	19 52 52.0	-1.8
PPM	**Popocatepetl**	**2.44**	**70**	*i*P	Pn	19 52 31.5	0.0
VHO	**Vista Hermosa**	**4.28**	**105**	*e*P	Pn	19 52 52.6	-4.1
VHO	**Vista Hermosa**	**4.28**	**105**	*i*P	Pn	19 52 53.9	-2.8

*ISCJB **17** 20:05:41.9±4.3, 214S±03×1688E±02, h43km±29km, mb4.2/9, Error ellipse: s-maj=48.0km s-min=25.4km az=14.3*

*IDC **17** 20:05:43.0±1.2, 2139S×168.10E, h0km, mb4.0/5, mb1 4.2/5, mb1mx4.1/13, mbtmp4.0/5, Error ellipse: s-maj=41.7km s-min=29.0km az=159.0*

*NEIC **17** 20:05:44.1±0.8, 2140S×168.14E, h10km, mb4.7/4, Error ellipse: s-maj=29.1km s-min=16.1km az=168.0*

*SZGRF **17** 20:05:47.5, 2070S×16909E, h18km, Vanuatu Islands*

ISC 17 20:05:42.5±6.6, 210S±02×1685E±01, h17km±44km, h18km±.3km:pP-P, n40, σ0°80/19, mb4.2/8, 1C-1D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.17**	**241**	*e*P	**Pn**	**20 06 17.8**	**0.0**
DZM				*e*S	**Sn**	**20 06 44.4**	**0.0**
CTA	**Charters Tower**	**20.84**	**269**	*e*P	**P**	**20 10 28.0**	**+4.5**
	5.9nm,0.8s						
CTA	**Charters Tower**	**20.84**	**269**	P	**P**	**20 10 28.4**	**+4.8**
	4.1nm,0.7s,baz=94,slow=13,SNR=3.1						
CTAO	**Charters Tower**	**20.84**	**269**	P	**P**	**20 10 22.0**	**-1.5**
STKA	**Stephens Creek**	**26.32**	**240**	*e*P	**P**	**20 11 22.1**	**+4.6**
	4.7nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**26.32**	**240**	P	**P**	**20 11 19.0**	**+1.5**
WB2	**Warramunga Arr**	**31.96**	**266**	*e*P	**P**	**20 12 08.2**	**+0.4**
WRAB	**Tennant Creek**	**31.97**	**266**	*e*P	**P**	**20 12 08.1**	**+0.3**
	6.2nm,1.1s,mb4.3						
WRA	**Warramunga Arr**	**31.98**	**266**	P	**P**	**20 12 07.9**	**0.0**
	1.0nm,0.8s,mb3.7,baz=96,slow=7.9,SNR=12						
ASAR	**Alice Springs**	**32.05**	**259**	P	**P**	**20 12 08.7**	**+0.2**
	1.8nm,0.7s,mb4.0,baz=86,slow=9.1,SNR=19						
MBWA	**Marble Bar**	**45.34**	**261**	P	**P**	**20 14 00.4**	**+0.4**
	26nm,1.1s,mb5.0						
NWAO	**Narrogin (SRO)**	**46.79**	**244**	*e*P	**P**	**20 14 09.0**	**-2.3**
	13nm,0.8s,mb4.9						
NWAO	**Narrogin (SRO)**	**46.79**	**244**	P	**P**	**20 14 09.6**	**-1.6**
	8.6nm,0.9s,mb4.7,baz=87,slow=17,SNR=2.6						
VNDA	**Vanda**	**56.63**	**182**	P	**P**	**20 15 24.4**	**+0.2**
	1.1nm,0.9s,mb3.9,baz=359,slow=11,SNR=5.1						
SNAA	**Sanae**	**87.36**	**183**	*e*	**P**	**20 18 22.0**	**-6.2**
SNAA				*e*	pP	20 18 27.4	-6.4
SNAA				*e*		20 18 32.2	
SNAA				*e*		20 18 38.5	
VNA3	**Neumayer Olymp**	**87.97**	**181**	*e*	**P**	**20 18 26.1**	**-5.0**
VNA3				*e*	pP	20 18 31.9	-4.9
VNA3				*e*		20 18 38.1	
VNA3				*e*		20 18 43.2	
VNA2	**Neumayer--Watz**	**88.26**	**181**	*e*	**P**	**20 18 28.3**	**-4.2**
	baz=187,slow=2.6						
VNA2				*e*	pP	20 18 33.8	-4.3
VNA2				*e*		20 18 46.2	
NVAR	**Mina Array Bea**	**90.50**	**49**	P	**P**	**20 18 50.3**	**+6.8**
	0.2nm,0.4s,mb3.8,baz=211,slow=8.1,SNR=3.9						
BRG	**Berggiesshubel**	**144.13**	**332**	*e*PKP	PKPdf	20 25 17.3	+0.2
BRG				*i*		20 25 22.8	
BRG				*e*		20 25 29.1	
BRG				*e*		20 28 33.2	
BRG				LR	LR		
	comp=Z,990nm,24.4s						
BRG	**Berggiesshubel**	**144.13**	**332**	*e*PKPbc	PKPdf	20 25 17.3	+0.2
BRG				*ep*PKPbc		20 25 22.8	
BRG	**Berggiesshubel**	**144.13**	**332**	*e*PKP	PKPdf	20 25 17.3	+0.2
	comp=Z,8.5nm,1.0s						
BRG				*i*		20 25 22.8	
	comp=Z,17nm,1.1s						
BRG				*e*		20 25 29.1	
	comp=Z,13nm,1.5s						
BRG				*e*		20 28 33.2	
	comp=Z,4.7nm,0.9s						
BRG							
	comp=N,1μm,22.7s						
BRG							
	comp=E,964nm,22.9s						
BRG							
	comp=Z,2μm,24.4s						
CLL	**Collm**	**144.21**	**334**	*e*PKPbc	PKPdf	20 25 16.9	-0.3
CLL				*ep*PKPbc		20 25 22.9	
CLL	**Collm**	**144.21**	**334**⇓	*i*PKPdf	PKPdf	20 25 17.1	-0.1
	comp=Z,7.0nm,1.0s						
CLL			⇑	*i*pPKPdf	pPKPdf

PET pmax pmax
comp=Z,6.0nm,0.4s
PET MLR MLR
comp=Z,200nm,15.0s
PET Petropavlovsk 19.70 285 *eP* **Pn 21 06 10.1 -3.1**
BILL Bilibino 19.82 332 *eP* **Pn 21 06 16.0 +1.5**
BILL pmax pmax
comp=Z,23nm,1.3s
BILL Bilibino 19.82 332 *eP* **Pn 21 06 16.0 +1.5**
comp=Z,23nm,1.3s
SKAG Skagway 19.87 56 *eP* **Pn 21 06 14.1 -1.0**
comp=Z,37nm,0.8s
DLBC Dease Lake 22.57 59 P **P 21 06 44.6 +2.0**
baz=270,slow=12
SEY Seymchan 22.99 313‖ *eP* **P 21 06 46.6 -0.3**
INK Inuvik 23.17 33 *eP* **P 21 06 46.0 -2.8**
INK pmax pmax
comp=Z,289nm,0.7s
INK Inuvik 23.17 33 *eP* **P 21 06 46.0 -2.8**
comp=Z,288nm,0.7s,mb5.8
MA2 Magadan 23.49 304 *eP* **P 21 06 52.6 +0.3**
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
YKA Yellowknife Ar 29.98 49 P **P 21 07 50.1 -0.4**
comp=Z,2.6nm,0.7s,mb4.1,baz=272,slow=8.4,SNR=34
YKA PcP PcP 21 10 52.6 +0.2
comp=Z,0.8nm,0.9s,baz=276,slow=3.1,SNR=4.7
YSS Yuzh-Sakhalins 31.39 280 *i P* **P 21 08 04.1 +0.9**
YSS MLR MLR
comp=Z,200nm,14.0s,MS3.9
HAWA Hanford 32.07 81 *eP* **P 21 08 07.7 -1.5**
comp=Z,11nm,0.9s,mb4.7
YBH Yreka Blue Hor 32.59 90 P **P 21 08 16.1 +2.4**
comp=Z,3.3nm,0.8s,mb4.3,baz=310,slow=4.9,SNR=9.6
ASAJ Asahikawa 32.91 275 P **P 21 08 16.2 -0.3**
comp=Z,8.2nm,0.9s,mb4.7,baz=41,slow=19,SNR=2.8
TIXI Tiksi 32.98 329 *i P* **P 21 08 20.5 +3.6**
TIXI pmax pmax
comp=Z,2.0nm,0.7s,mb4.2
TIXI MLR MLR
comp=Z,300nm,17.0s,MS4.1
YAK Yakutsk 33.50 311⇑‖ *eP* **P 21 08 25.1 +3.6**
YAK pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
YAK MLR MLR
comp=Z,200nm,15.0s,MS4.0
CHMT Chamberlain Mo 35.59 76 *eP* **P 21 08 39.2 -0.5**
CHMT Chamberlain Mo 35.59 76 *eP* **S 21 14 27.7 +13**
PAHR Pah Rah Range 35.82 91 *eP* **P 21 08 45.6 +3.8**
comp=Z,9.8nm,1.1s,mb4.7
MCMT McKenzie Canyo 36.90 79 *eP* **P 21 08 51.0 0.0**
EGMT Eagleton 37.10 72 *eP* **P 21 08 52.1 -0.5**
comp=Z,13nm,0.8s,mb4.8
BOZ Bozeman (W) 37.20 77 *eP* **P 21 08 53.2 -0.3**
BOZ pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
BOZ Bozeman (W) 37.20 77 *eP* **P 21 08 53.2 -0.3**
comp=Z,5.6nm,1.1s,mb4.3
NVAR Mina Array Bea 37.27 91 P **P 21 08 56.2 +2.0**
NVAR Mina Array Bea 37.27 91 P **P 21 08 56.2 +2.0**
comp=Z,1.8nm,0.9s,mb3.9,baz=296,slow=8.4,SNR=6.4
IMW Indian Meadow 38.56 79 *eP* **P 21 09 04.6 -0.4**
comp=Z,15nm,1.0s,mb4.7
REDW Red Top Meadow 38.91 80 *eP* **P 21 09 10.3 +2.4**
comp=Z,15nm,1.0s,mb4.7
TPNV Topopah Spring 39.47 92 *eP* **P 21 09 15.0 +2.3**
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
TPNV Topopah Spring 39.47 92 *eP* **P 21 09 15.0 +2.3**
comp=Z,3.9nm,0.8s,mb4.2
DUG Dugway 39.56 85 *eP* **P 21 09 13.9 +0.5**
DUG pmax pmax
comp=Z,5.0nm,0.8s,mb4.3
DUG Dugway 39.56 85 *eP* **P 21 09 13.8 +0.5**
comp=Z,5.2nm,0.8s,mb4.3
MJAR Matsushiro Arr 40.09 268 P **P 21 09 16.4 -1.4**
comp=Z,1.4nm,0.6s,mb3.9,baz=37,slow=6.5,SNR=5.0
MAT Matsushiro 40.09 268 P **P 21 09 17.3 -0.6**
DAU Daniels Canyon 40.38 84 *eP* **P 21 09 22.4 +2.2**
FCC Fort Churchill 40.67 50 *eP* **P 21 09 22.9 +0.5**
FCC pmax pmax
comp=Z,24nm,1.1s,mb4.7
FCC Fort Churchill 40.67 50 *eP* **P 21 09 22.9 +0.5**
comp=Z,24nm,1.1s,mb4.7
SRU San Rafael 41.62 85 *eP* **P 21 09 30.4 0.0**
SRU pmax pmax
comp=Z,6.0nm,0.9s,mb4.2
SRU San Rafael 41.62 85 *eP* **P 21 09 30.4 0.0**
comp=Z,6.1nm,0.9s,mb4.2
BOD Bodaibo 42.33 309 *eP* **P 21 09 34.0 -2.0**
BOD pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
CN2 Changchun 43.40 286 *eP* **P 21 09 43.0 -1.9**
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.7
PV01 Paradox Valley 43.42 84 *eP* **P 21 09 44.8 -0.3**
SDCO Great Sand Dun 45.54 83 *eP* **P 21 10 00.6 -1.4**
KSRS Korea Array 45.80 277 P **P 21 10 04.5 +0.4**
comp=Z,6.3nm,0.7s,mb4.7,baz=52,slow=7.6,SNR=18
LAZ Ladron 46.73 87 *eP* **P 21 10 13.4 +2.0**
ECSD EROS,Sioux Fal 47.12 70 *eP* **P 21 10 14.1 -0.2**
comp=Z,3.8nm,0.9s,mb4.3
BNM Barren Site 47.21 87 *eP* **P 21 10 14.7 -0.5**
MNTX Cornudas Mount 49.65 89 *eP* **P 21 10 35.4 +1.4**
comp=Z,5.3nm,1.1s,mb4.5
DAG Danmarks Havn 49.78 9 *eP* **P 21 10 34.2 -0.2**
DAG Danmarks Havn 49.78 9 *i P* **P 21 10 34.2 -0.2**
TLY Talaya 50.68 306⇑‖ *eP* **P 21 10 42.2 +0.6**
TLY pmax pmax
comp=Z,1.0nm,0.9s,mb3.8
TLY Talaya 50.68 306 *eP* **P 21 10 40.9 -0.7**
comp=Z,4.2nm,0.6s,mb4.5
ULN Ulaanbaatar 51.30 301⇑‖ *eP* **P 21 10 46.1 -0.1**
ULN Ulaanbaatar 51.30 301 *eP* **P 21 10 45.8 -0.5**
comp=Z,4.4nm,0.6s,mb4.6
WMOK Wichita Mounta 51.60 81 *eP* **P 21 10 47.0 -1.7**
WMOK pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WMOK Wichita Mounta 51.60 81 *eP* **P 21 10 47.0 -1.7**
comp=Z,8.9nm,1.0s,mb4.7
SONM Songino Array 51.66 301 P **P 21 10 49.3 +0.3**
comp=Z,2.1nm,0.6s,mb4.2,baz=53,slow=6.7,SNR=8.4
ZAK Zakamensk 51.66 305 *eP* **P 21 10 47.2 -1.8**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.9
ZAK pmax pmax
comp=Z,2.0nm,1.2s,mb3.9
MOY Mondy 51.99 308 *eP* **P 21 10 51.5 +0.1**
TXAR Lajitas Array 52.35 89 P **P 21 10 53.5 -0.9**
comp=Z,2.0nm,0.7s,mb4.2,baz=307,slow=5.5,SNR=16
JCT Junction City 53.91 85 *eP* **P 21 11 05.7 -0.2**
JCT pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
JCT Junction City 53.91 85 *eP* **P 21 11 05.7 -0.2**
comp=Z,7.0nm,0.5s,mb4.8
MIAR Mount Ida 54.87 77 *eP* **P 21 11 12.0 -0.8**
MIAR pmax pmax
comp=Z,17nm,1.5s,mb4.8
MIAR Mount Ida 54.87 77 *eP* **P 21 11 11.9 -0.8**
comp=Z,17nm,1.5s,mb4.8
SCHQ Schefferville 55.20 44 P **P 21 11 15.0 +0.2**
SCHQ Schefferville 55.20 44 P **P 21 11 15.0 +0.2**
comp=Z,3.6nm,0.8s,mb4.5,baz=327,slow=8.9,SNR=4.6
ACSO Alum Creek Sta 57.13 65 *eP* **P 21 11 27.0 -1.8**
comp=Z,51nm,0.8s,mb5.6
KEV Kevo 57.69 354 *ep* **P 21 11 30.9 -1.5**
NVS Novosibirsk 57.72 319 *eP* **P 21 11 28.3 -4.5**
ZALV Zalesovo Beam 57.72 318 P **P 21 11 32.5 -0.3**
comp=Z,1.1nm,0.6s,mb4.1,baz=51,slow=5.9,SNR=6.4
ZAL Zalesovo 57.74 318 P **P 21 11 32.5 -0.4**
ARCES ARCESS Array B 58.01 354 P **P 21 11 33.3 -1.3**
comp=Z,5.2nm,0.9s,mb4.5,baz=360,slow=7.3,SNR=14
WHN Wuhan 58.73 281‖ *eP* **P 21 11 40.0 -0.2**
XAN Xi'an 59.49 287 P **P 21 11 43.6 -1.8**
XAN AP pP 21 11 50.8 +0.3
XAN XP sP 21 11 54.3 +1.8
XAN AMB AMB
comp=Z,4.0nm,1.0s,mb4.4
GTA Gaotai 60.85 298 *eP* **P 21 11 55.3 +0.6**
GTA AP pP 21 12 00.0 +0.2
GTA XP sP 21 12 02.8 +1.1
GTA PP PP 21 14 11.8 +3.4
GTA S **S 21 20 10.8 -0.6**
GTA XS sS 21 20 18.8 -1.1
GTA SS SS 21 24 09.3 -0.5
GTA AMB AMB
comp=Z,4.0nm,0.8s,mb4.6
GTA LR LR
comp=N,166nm,12.6s,MS4.6
GTA LR LR
comp=E,218nm,14.1s,MS4.6
GTA LR LR
comp=Z,389nm,17.6s,MS4.6
LZH Lanzhou 60.97 292 *eP* **P 21 11 56.1 +0.6**
LZH AP pP 21 12 02.5 +1.8
LZH XP sP 21 12 04.8 +2.2
LZH AMB AMB
comp=Z,18nm,1.4s,mb5.0
LZH AMB AMB
comp=Z,91nm,5.3s
KURK Kurchatov 62.67 319⇑‖ *eP* **P 21 12 06.0 -0.7**
KURK Kurchatov 62.67 319 *eP* **P 21 12 05.9 -0.8**
comp=Z,3.8nm,0.8s,mb4.6
CNNC Cliffs of the 63.50 66 *eP* **P 21 12 11.3 -1.2**
comp=Z,30nm,0.6s,mb5.5
BVAR Borovoye Array 63.97 325 P **P 21 12 14.5 -0.8**
comp=Z,2.7nm,0.6s,mb4.5,baz=55,slow=6.3,SNR=18
JOF Joensuu 64.02 350 *ep* **P 21 12 14.1 -1.4**
MK31 Makanchi Array 64.12 314 *eP* **P 21 12 15.3 -1.1**
MKAR Makanchi Array 64.12 314 *i P* **P 21 12 15.6 -0.8**
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 64.12 314 P **P 21 12 15.4 -1.0**
comp=Z,2.8nm,0.8s,mb4.4,baz=45,slow=5.7,SNR=17
ARU Arti 64.84 333 *c i P* **P 21 12 21.2 +0.3**
ARU *e* 21 14 40.6
ARU *eS* **S 21 21 04.7 +3.8**
ARU *eSS* SS 21 25 12.8 +1.6
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
FINES FINESS Array B 65.97 352 P **P 21 12 26.9 -1.3**
comp=Z,4.0nm,0.6s,mb4.7,baz=21,slow=6.5,SNR=26
GYA Guiyang 66.32 283 P **P 21 12 33.8 +2.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.9
NB2 NORSAR Subarra 66.99 0 P **P 21 12 33.6 -1.1**
comp=Z,2.3nm,0.7s,mb4.3,baz=0.2,slow=6.2
NOA NORSAR Array B 66.99 0 P **P 21 12 33.7 -1.0**
comp=Z,1.9nm,0.6s,mb4.3,baz=360,slow=6.3,SNR=15
KMI Kunming 69.66 285 P **P 21 12 52.1 +0.1**
KMI AP pP 21 12 57.6 +0.4
KMI S S 21 22 02.6 +2.8
KMI AMB AMB
comp=Z,4.0nm,0.8s,mb4.4
KMI AMB AMB
comp=Z,117nm,4.8s
KMI LR LR
comp=N,448nm,10.1s,MS5.1
KMI LR LR
comp=E,427nm,13.7s,MS5.1
KMI LR LR
comp=Z,502nm,11.6s,MS5.0
AKTK Aktyubinsk 70.25 330 P **P 21 12 55.2 0.0**
AKTO Aktyubinsk 70.25 330 P **P 21 12 55.2 0.0**
comp=Z,4.3nm,0.8s,mb4.4,baz=54,slow=9.1,SNR=9.1
OBN Obninsk 70.89 345‖ *eP* **P 21 12 59.3 +0.2**
OBN *eS* S 21 22 16.0 +2.7
OBN *eSS* SS 21 26 50.6 +5.9
OBN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
OBN MLR MLR
comp=Z,200nm,18.0s,MS4.4
EKS2 Erkin-Say 71.09 316 *eP* **P 21 13 00.6 +0.1**
comp=Z,2.5nm,0.7s,mb4.2
LSA Lhasa 72.82 296 P **P 21 13 12.1 +1.0**
LSA Lhasa 72.82 296 *eP* **P 21 13 12.2 +1.1**
LSA pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LSA Lhasa 72.82 296 *eP* **P 21 13 12.2 +1.1**
comp=Z,6.3nm,0.7s,mb4.7
AKASG Malin Array Be 76.23 348 P **P 21 13 29.0 -1.5**
AKASG Malin Array Be 76.23 348 P **P 21 13 29.0 -1.5**
comp=Z,3.4nm,0.6s,mb4.5,baz=12,slow=5.5,SNR=15
GUN Gumba 77.09 299 *eP* **P 21 13 35.7 -0.1**
comp=Z,26nm,0.8s,mb5.2
JIRN Jiri 77.12 299 *eP* **P 21 13 36.1 +0.2**
BRG Berggiesshubel 77.15 358 P **P 21 13 36.7 +1.0**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 77.15 358 *e*(P) **P 21 13 36.7 +1.0**
comp=Z,2.5nm,0.8s,mb4.2
UPC Upice 77.47 357 *eP* **P 21 13 38.7 +1.2**
UPC *e*PCP PcP 21 13 48.1 +0.2
KKN Kakani 77.51 299 *eP* **P 21 13 38.1 0.0**
comp=Z,9.1nm,0.6s,mb4.9
DPC Dobruska-Polom 77.61 357 *eP* **P 21 13 39.8 +1.5**
DPC *e*PCP PcP 21 13 48.5 0.0
GKN Gorkha 77.68 300 *eP* **P 21 13 38.7 -0.4**
comp=Z,24nm,0.9s,mb5.1
DMN Daman 77.74 299 *eP* **P 21 13 39.5 +0.1**
comp=Z,16nm,0.9s,mb4.9
GIVF Givet 77.80 4 *eP* **P 21 13 38.7 -0.7**
BAIF Baives 77.82 5 *eP* **P 21 13 38.9 -0.6**
comp=Z,41nm,1.6s,mb4.8
BAIF Baives 77.82 5 *eP* **P 21 13 38.9 -0.6**
BAIF pmax pmax
comp=Z,21nm,1.6s,mb4.8
BAIF Baives 77.82 5 *eP* **P 21 13 38.9 -0.6**
comp=Z,21nm,1.6s,mb4.8
DANN Dangsing 77.87 301 *eP* **P 21 13 40.1 0.0**
comp=Z,23nm,0.6s,mb5.3
KWP Kalwaria 77.96 352⇑‖ *eP* **P 21 13 42.1 +1.9**
PRU Pruhonice 78.03 358 *eP* **P 21 13 42.2 +1.6**
MORC Moravsky Berou 78.14 356⇑‖ *eP* **P 21 13 42.9 +1.7**
STHS Stebnicka Huta 78.28 353 *i P* **P 21 13 44.2 +2.1**
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 78.28 353 *i P* **P 21 13 44.2 +2.1**
comp=Z,2.6nm,0.8s,mb4.2
GRA1 Grafenberg Arr 78.36 0 *eP* **P 21 13 44.0 +1.5**
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 78.36 0 *eP* **P 21 13 44.0 +1.5**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 78.36 0 *eP* **P 21 13 44.0 +1.5**
GRF pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
GRF Grafenberg Arr 78.36 0 *eP* **P 21 13 44.0 +1.5**
comp=Z,9.0nm,1.1s,mb4.6
KOLN Koldanda 78.42 300 *eP* **P 21 13 42.9 -0.3**
VRAC Vranov 78.64 356 P **P 21 13 45.7 +1.6**
comp=Z,2.9nm,0.7s,mb4.3,baz=3.3,slow=12,SNR=5.1
VRAC Vranov 78.64 356‖ *iP* **P 21 13 45.7 +1.7**
KOLS Kolonicke sedl 78.69 353 *eP* **P 21 13 47.1 +2.8**
FLN La Foliniere 78.79 8 *eP* **P 21 13 44.3 -0.6**
comp=Z,62nm,1.3s,mb5.1
FLN La Foliniere 78.79 8 *eP* **P 21 13 44.3 -0.6**
FLN pmax pmax
comp=Z,31nm,1.3s,mb5.1
FLN La Foliniere 78.79 8 *eP* **P 21 13 44.3 -0.6**
comp=Z,31nm,1.3s,mb5.1
KHC Kasperske Hory 78.90 358 *eP* **P 21 13 47.2 +1.7**
KHC *e*PCP PcP 21 13 56.5 +2.4
GERES GERESS Array B 79.19 358 P **P 21 13 48.0 +1.0**
comp=Z,0.8nm,0.7s,mb3.8,baz=7.4,slow=4.2,SNR=9.3
VYHS Vyhne 79.35 355 *i P* **P 21 13 49.6 +1.6**
VYHS pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
VYHS Vyhne 79.35 355 *i P* **P 21 13 49.6 +1.6**
comp=Z,1.3nm,0.8s,mb3.9
MEZF Maizieres J'vi 79.41 4 *eP* **P 21 13 47.4 -0.9**
TRPA Tarpa 79.46 352‖ *iP* **P 21 13 50.5 +1.9**
CDF Champ du Feu 79.58 3 *eP* **P 21 13 48.3 -0.9**
BURAR Bucovina Array 79.73 350⇑‖ *iP* **P 21 13 50.2 +0.2**
KBL Kabul 79.90 315 *eP* **P 21 13 51.2 0.0**
KBL pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
KBL Kabul 79.90 315 *eP* **P 21 13 51.2 0.0**
comp=Z,5.5nm,0.9s,mb4.5
HAU Haudompre 79.96 3 *eP* **P 21 13 51.1 -0.2**
comp=Z,21nm,1.2s,mb4.7
HAU Haudompre 79.96 3 *eP* **P 21 13 51.1 -0.2**
HAU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
HAU Haudompre 79.96 3 *eP* **P 21 13 51.1 -0.2**
comp=Z,10nm,1.2s,mb4.6
HINF Hinteralfeld 80.17 3 *eP* **P 21 13 51.9 -0.5**
KIV Kislovodsk 80.34 338 *i P* **P 21 13 53.8 +0.4**
KIV pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KIV MLR MLR
comp=Z,100nm,14.0s,MS4.3
LOR Lormes 80.58 5 *eP* **P 21 13 54.6 0.0**
comp=Z,13nm,1.0s,mb4.5
LOR Lormes 80.58 5 *eP* **P 21 13 54.6 0.0**
LOR pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
LOR Lormes 80.58 5 *eP* **P 21 13 54.6 0.0**
comp=Z,6.7nm,1.0s,mb4.5
SSF Saint Saulge 80.77 5 *eP* **P 21 13 55.3 -0.3**
comp=Z,8.0nm,0.8s,mb4.4
SSF Saint Saulge 80.77 5 *eP* **P 21 13 55.3 -0.3**
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
SSF Saint Saulge 80.77 5 *eP* **P 21 13 55.3 -0.3**
comp=Z,4.0nm,0.8s,mb4.4
MFF Saint Martin d 80.97 8 *eP* **P 21 13 56.1 -0.6**
AVF Avril sur Loir 81.03 6 *eP* **P 21 13 56.5 -0.5**
comp=Z,5.8nm,0.7s,mb4.3
AVF Avril sur Loir 81.03 6 *eP* **P 21 13 56.5 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
AVF Avril sur Loir 81.03 6 *eP* **P 21 13 56.5 -0.5**
comp=Z,2.9nm,0.7s,mb4.3
SMF Signal de Mont 81.20 5 *eP* **P 21 13 56.8 -1.2**
comp=Z,65nm,1.6s,mb5.0
SMF Signal de Mont 81.20 5 *eP* **P 21 13 56.8 -1.2**
SMF pmax pmax
comp=Z,33nm,1.6s,mb5.0
SMF Signal de Mont 81.20 5 *eP* **P 21 13 56.8 -1.2**
comp=Z,32nm,1.6s,mb5.0
DAVOS Davos 81.21 1 P **P 21 14 00.5 +2.5**
DAVOX Davos/Dischmat 81.27 1 P **P 21 14 00.5 +2.3**
comp=Z,3.2nm,0.8s,mb4.3,baz=338,slow=18,SNR=3.1
VRI Vrincioaia 81.29 349‖ *iP* **P 21 14 02.5 +4.1**
CABF La Chapelle 81.34 4 *eP* **P 21 13 58.3 -0.4**
comp=Z,13nm,0.8s,mb4.6
CABF La Chapelle 81.34 4 *eP* **P 21 13 58.3 -0.4**
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
CABF La Chapelle 81.34 4 *eP* **P 21 13 58.3 -0.4**
comp=Z,6.7nm,0.8s,mb4.6
TCF Toulx Ste Croi 81.46 6 *eP* **P 21 13 58.0 -1.3**
MLR Muntele Rosu 81.75 350⇑ *iP* **P 21 14 04.4 +3.5**
LPL La Plagne 82.46 3 *eP* **P 21 14 04.3 -0.3**
comp=Z,32nm,1.4s,mb4.8
LPL La Plagne 82.46 3 *eP* **P 21 14 04.3 -0.3**
LPL pmax pmax
comp=Z,16nm,1.4s,mb4.8
LPL La Plagne 82.46 3 *eP* **P 21 14 04.3 -0.3**
comp=Z,16nm,1.4s,mb4.8
TIRR Tirgusor 82.47 348‖ *iP* **P 21 14 05.8 +1.1**
LPG La Plagne 82.48 3 *eP* **P 21 14 04.3 -0.4**
MBDF Montbardon 83.25 3 *eP* **P 21 14 08.1 -0.6**
comp=Z,8.1nm,0.6s,mb4.6
MBDF Montbardon 83.25 3 *eP* **P 21 14 08.1 -0.6**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
MBDF Montbardon 83.25 3 *eP* **P 21 14 08.1 -0.6**
comp=Z,4.1nm,0.6s,mb4.6
WRA Warramunga Arr 87.28 232 P **P 21 14 27.1 -2.0**
comp=Z,0.9nm,0.6s,mb4.2,baz=33,slow=6.0,SNR=15
ESDC Sonseca Array 87.42 12 P **P 21 14 30.3 +0.7**
comp=Z,0.9nm,0.6s,mb4.2,baz=348,slow=4.7,SNR=6.8
ASAR Alice Springs 90.67 231 P **P 21 14 44.0 -0.9**
comp=Z,1.7nm,0.6s,mb4.5,baz=29,slow=4.4,SNR=26
MMAI Mount Meron Ar 92.44 340 P **P 21 14 53.8 +0.5**
comp=Z,1.3nm,0.8s,mb4.3,baz=285,slow=1.3,SNR=4.2

IDC ***17*** *21:02:46.1±2.1,3137N×4956E,h0km,mb3.6/9, mb1 3.7/11,mb1mx3.6/26,mbtmp3.6/11,ML3.7/2,Error ellipse: s-maj=45.4km s-min=20.2km az=159.0*
THR ***17*** *21:02:48.2±0.3,3123N×4966E,h14km±5km,ML3.3*
NEIC ***17*** *21:02:48.2,3123N×4966E,h14km,ML3.3(THR),After THR.*
ISCJB ***17*** *21:02:50.0±0.7,3123N±005×4951E±007,h57km±9km, mb3.7/9,Error ellipse: s-maj=10.3km s-min=8.8km az=18.0.*
CSEM ***17*** *21:02:49.3±0.1,3127N×4951E,h40km,ML3.3,Error ellipse: s-maj=3.2km s-min=2.3km az=76.0*
SGS ***17*** *21:02:51.4,3127N×4946E,h2km*
NAO ***17*** *21:02:55.6,3185N×4897E,h33km,mb3.4*
ISC 17 21:02:51.6±0.6,3128N±006×4947E±006,h49km±9km,n30, σ0:76/33,mb3.7/9,Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHGR	**Shooshtar-Gavs**	**1.00**	**326**	*eP*g	**Pn**	**21 03 09.3**	**-0.1**
SHGR				AML	AML	21 03 28.0	
	comp=N,805nm,0.3s						
SHGR				AML	AML	21 03 29.9	
	comp=E,479nm,0.4s						
NASN	**Na'in**	**3.22**	**61**	*eP*n	**Pn**	**21 03 39.0**	**-0.7**
ASAO	**Ashtian**	**3.29**	**8**	*eP*n	**Pn**	**21 03 42.0**	**+1.2**
ASAO				*e*Sg	**Sn**	**21 04 31.8**	**+13**
ASAO				AML	AML	21 04 48.4	
	comp=N,60nm,0.6s						
ASAO	**Ashtian**	**3.29**	**8**	*eP*n	**Pn**	**21 03 42.0**	**+1.3**
	SNR=52						
ASAO				*e*Sg	**Sn**	**21 04 31.8**	**+13**
	SNR=90						
GHVR	**GHOM**	**3.54**	**25**	*eP*n	**Pn**	**21 03 44.5**	**+0.4**
GHIR	**Ghir-Karzin**	**4.27**	**133**	*eP*n	**Pn**	**21 03 52.9**	**-1.2**
ASYS		**5.84**	**231**	P	**Pn**	**21 04 16.0**	**+0.3**
BTHS		**7.31**	**170**	P	**Pn**	**21 04 36.0**	**+0.3**
BTHS		**7.31**	**170**	P	**Pn**	**21 04 36.0**	**+0.2**
HRDDS		**8.32**	**180**	P	**Pn**	**21 04 50.1**	**+0.4**
ASF	**Jabal al Asfar**	**10.74**	**278**	Pn	**Pn**	**21 05 23.1**	**+0.3**
	comp=N,1.0nm,0.3s,baz=268,slow=4.1,SNR=12						
ASF				Sn	**Sn**	**21 07 19.8**	**-1.8**
	comp=N,0.2nm,0.3s,baz=60,slow=20,SNR=3.7						
MMAI	**Mount Meron Ar**	**12.05**	**282**	Pn	**Pn**	**21 05 41.2**	**+0.6**
	comp=N,0.2nm,0.3s,baz=95,slow=16,SNR=2.7						
AKTK	**Aktyubinsk**	**20.18**	**16**	P	**P**	**21 07 21.9**	**+0.1**
AKTK	**Aktyubinsk**	**20.18**	**16**	P	**P**	**21 07 22.0**	**+0.1**
AKTO	**Aktyubinsk**	**20.18**	**16**	P	**P**	**21 07 21.9**	**+0.1**
	comp=N,0.6nm,0.4s,baz=190,slow=11,SNR=3.6						
AKASG	**Malin Array Be**	**24.56**	**328**	P	**P**	**21 08 06.5**	**-0.1**
	comp=N,0.7nm,0.4s,mb3.5,baz=136,slow=8.1,SNR=4.1						
BVAR	**Borovoye Array**	**26.51**	**29**	P	**P**	**21 08 24.2**	**-0.2**
	comp=N,0.3nm,0.5s,mb3.1,baz=213,slow=10,SNR=3.6						
MKAR	**Makanchi Array**	**29.57**	**49**	P	**P**	**21 08 51.9**	**+0.2**
	comp=N,0.2nm,0.2s,mb3.4,baz=244,slow=10.0,SNR=2.3						
JOF	**Joensuu**	**33.73**	**345**	*ep*	**P**	**21 09 27.7**	**-0.3**
	comp=N,1.6nm,0.5s,mb4.2						
FIA1	**FINESS Array S**	**33.83**	**340**	*eP*	**P**	**21 09 28.0**	**-0.9**
FIA1	**FINESS Array S**	**33.83**	**340**	*eP*	**P**	**21 09 28.0**	**-0.9**
FINES	**FINESS Array B**	**33.83**	**340**	P	**P**	**21 09 29.3**	**+0.3**
FINES	**FINESS Array B**	**33.83**	**340**	P	**P**	**21 09 29.3**	**+0.3**
	comp=N,1.6nm,0.4s,mb4.3,baz=148,slow=10.0,SNR=34						
ZALV	**Zalesovo Beam**	**33.95**	**38**	P	**P**	**21 09 29.4**	**-0.7**
	comp=N,0.4nm,0.4s,mb3.7,baz=246,slow=8.8,SNR=3.1						
NB2	**NORSAR Subarra**	**38.87**	**331**	P	**P**	**21 10 11.4**	**-0.5**
	comp=Z,0.3nm,0.5s,mb3.3,baz=122,slow=8.6						
NOA	**NORSAR Array B**	**38.87**	**331**	P	**P**	**21 10 11.0**	**-0.9**
NOA	**NORSAR Array B**	**38.87**	**331**	P	**P**	**21 10 11.0**	**-0.9**
	comp=Z,0.3nm,0.5s,mb3.3,baz=123,slow=8.4,SNR=3.3						
ARCES	**ARCESS Array B**	**40.64**	**347**	P	**P**	**21 10 27.5**	**+1.0**
	comp=Z,4.7nm,1.1s,mb4.0,baz=159,slow=11,SNR=6.9						
TORD	**Torodi Ar. Bea**	**47.37**	**259**	P	**P**	**21 11 22.8**	**+1.6**
TORD	**Torodi Ar. Bea**	**47.37**	**259**	P	**P**	**21 11 22.8**	**+1.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=55,slow=7.9,SNR=6.0						

WEL 17 21:13:23.2±1.0,3794S×17667E,h10km±22km,ML3.6/2, Error ellipse: s-maj=63.1km s-min=37.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.04**	**172**	PG	P*g*	21 13 25.7	+0.5
MARZ				SG	S*g*	21 13 27.4	+0.8
OPRZ	**Ohinepanea**	**0.13**	**317**	PG	P*g*	21 13 26.9	+0.7
OPRZ				SG	S*g*	21 13 29.4	+1.1
URZ	**Urewera**	**0.47**	**132**	P*	P*g*	21 13 32.5	+0.1
URZ				S*	S*g*	21 13 38.9	+0.1

IDC 17 21:15:41.5±2.9,724N×12778E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=220.2km s-min=26.2km az=67.0,Philippine Islands region

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

WRA	**Warramunga Arr**	**27.77 167**	P		P	21 21 33.3	+1.1
	0.8nm,1.2s,baz=348,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**31.29 169**	P		P	21 22 02.1	-1.2
	0.3nm,0.8s,baz=339,slow=8.1,SNR=4.0						
MKAR	**Makanchi Array**	**55.33 323**	P		P	21 25 17.0	0.0
	0.6nm,0.5s,baz=121,slow=8.2,SNR=8.6						

CSEM ***17*** *21:18:44.2±0.2, 3778N×3613E, h2km, MD3.1, Error ellipse: s-maj=3.7km s-min=2.1km az=178.0*
ISCJB ***17*** *21:18:45.1±1.2, 3781N±007×3614E±004, h5km±7km, Error ellipse: s-maj=11.4km s-min=5.5km az=170.9*
DDA ***17*** *21:18:45.3, 3759N×3605E, h7km±1km, Md3.1*
ISK ***17*** *21:18:45.3, 3778N×3615E, h10km, MD2.8*
ISC 17 21:18:45.8±1.3, 3780N±008×3612E±004, h10km±7km, n8, σ1°03/15, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.28**	**141**	*i* P	**Pg**	**21 18 50.2**	**-1.2**
ANDN				*i* S	**Sg**	**21 18 54.4**	**-0.7**
KOZT	**Kozan**	**0.39**	**217**	*e*PG	**Pg**	**21 18 53.7**	**+0.2**
KOZT				*e*SG	**Sg**	**21 18 59.7**	**+1.0**
KMRS	**Kahramanmaras**	**0.68**	**115**	*e*PG	**Pg**	**21 18 58.4**	**-0.6**
KMRS				*e*SG	**Sg**	**21 19 08.5**	**+0.6**
CEYT	**Ceyhan**	**0.84**	**201**	*e*PG	**Pg**	**21 19 01.3**	**-0.7**
CEYT				*e*SG	**Sg**	**21 19 13.6**	**+0.7**
GAZ	**Gaziantep**	**1.06**	**125**	*e*PG	**Pn**	**21 19 05.0**	**-1.8**
GAZ				*e*SG	**Sn**	**21 19 20.7**	**-1.0**
GZT	**Gaziantep**	**1.23**	**111**	*i* P	**Pn**	**21 19 08.9**	**-0.1**
GZT				*i* S	**Sn**	**21 19 27.8**	**+2.1**
NIG	**Nigde**	**1.24**	**285**	*e*PN	**Pn**	**21 19 09.6**	**+0.4**
ATAB	**Bozova**	**1.75**	**100**	*i* P	**Pg**	**21 19 19.1**	**-0.3**
ATAB				*i* S	**Sg**	**21 19 44.1**	**+1.9**

SOF ***17*** *21:52:04.5, 4121N×2373E, h20km, MD2.5*
CSEM ***17*** *21:52:05.3±0.1, 4126N×2366E, h12km, ML2.5, Error ellipse: s-maj=3.1km s-min=2.5km az=128.0*
ISCJB ***17*** *21:52:05.1±0.5, 4123N±003×2369E±004, h7km±8km, Error ellipse: s-maj=4.9km s-min=3.9km az=36.4*
ATH ***17*** *21:52:05.8, 4121N×2375E, h3km±1km, MD3.0/3*
THE ***17*** *21:52:05.7, 4121N×2373E, h1km, ML2.5*
SKO ***17*** *21:52:07.0, 4121N×2365E, h0km*
ISC 17 21:52:05.6±0.5, 4123N±003×2371E±004, h7km±8km, n17, σ0°53/29, Greece-Bulgaria border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SRS	**Serrai**	**0.15**	**217**	*e*Pg	**Pg**	**21 52 08.6**	**-0.1**
SRS				*e*Sg	**Sg**	**21 52 10.8**	**+0.1**
NVR	**Nevrokopi**	**0.16**	**45**	*e*PG	**Pg**	**21 52 09.1**	**+0.1**
NVR				*e*SG	**Sg**	**21 52 11.6**	**+0.4**
MMB	**Musomiste**	**0.36**	**2**	*i* Pg	**Pg**	**21 52 12.6**	**+0.1**
SOH	**Sokhos**	**0.49**	**213**	*e*Pg	**Pg**	**21 52 14.8**	**-0.3**
SOH				*e*Sg	**Sg**	**21 52 21.7**	**+0.2**
KNT	**Kendrikon**	**0.62**	**264**	*e*Pg	**Pg**	**21 52 17.1**	**-0.4**
HORT	**Hortiatis**	**0.79**	**216**	*e*Pg	**Pg**	**21 52 20.5**	**-0.2**
HORT				*e*Sg	**Sg**	**21 52 31.9**	**+1.1**
KKB	**Krupnik**	**0.79**	**324**	*i* Pg	**Pg**	**21 52 20.1**	**-0.6**
VAY	**Valandovo**	**0.86**	**276**	*e*Pg	**Pg**	**21 52 21.8**	**-0.4**
VAY				*e*Sg	**Sg**	**21 52 33.0**	**-0.4**
VAY	**Valandovo**	**0.86**	**276**	*e*Pg	**Pg**	**21 52 21.7**	**-0.5**
VAY				*e*Sg	**Sg**	**21 52 32.9**	**-0.5**
PLG	**Polygyros**	**0.88**	**193**	*e*Pg	**Pg**	**21 52 21.9**	**-0.6**
PLG				*e*Sg	**Sg**	**21 52 34.5**	**+0.5**
PLG	**Polygyros**	**0.88**	**193**	*e*Pg	**Pg**	**21 52 21.9**	**-0.6**
PLG				*e*Sg	**Sg**	**21 52 33.6**	**-0.3**
RZN	**Rozhen**	**0.88**	**59**	*i* Pg	**Pg**	**21 52 23.4**	**+0.9**
OUR	**Ouranopolis**	**0.92**	**167**	*e*Pg	**Pg**	**21 52 22.9**	**-0.4**
OUR				*e*Sg	**Sg**	**21 52 35.2**	**0.0**
STIP	**Stip**	**1.23**	**292**	*e*Pg	**Pg**	**21 52 30.1**	**+0.8**
STIP				*e*Sg	**Sg**	**21 52 45.8**	**+0.5**
STIP	**Stip**	**1.23**	**292**	*e*Pg	**Pg**	**21 52 30.0**	**+0.7**
STIP				*e*Sg	**Sg**	**21 52 45.7**	**+0.4**
KDZ	**Kurdzhali**	**1.35**	**71**	*i* Pg	**Pg**	**21 52 30.1**	**-1.4**
RDO	**Rodhopi**	**1.38**	**93**	*e*PN	**Pn**	**21 52 31.5**	**+0.3**
RDO				*e*SB	**Sb**	**21 52 49.8**	**+0.2**

ISCJB ***17*** *22:09:47.0±1.5, 1519S±008×1786W±0.1, h385km±15km, mb4.2/18, Error ellipse: s-maj=16.5km s-min=11.6km az=21.1*
NEIC ***17*** *22:09:47.9±1.4, 1514S×17849W, h378km±13km, mb4.4/6, Error ellipse: s-maj=14.8km s-min=9.2km az=110.0*
IDC ***17*** *22:09:52.9±2.7, 1523S×17856W, h432km±29km, mb3.7/12, mb1 3.8/12, mb1mx3.7/18, mbtmp3.7/12, Error ellipse: s-maj=18.2km s-min=13.5km az=150.0*
ISC 17 22:09:48.1±1.5, 1518S±008×1785W±0.1, h382km±15km, n43, σ0°99/41, mb4.2/18, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FUNA	**Funafuti**	**6.98**	**341**	*e*P	**Pn**	**22 11 30.4**	**-0.7**
	162nm,0.9s						
URZ	**Urewera**	**23.31**	**189**	P	**P**	**22 14 22.7**	**-1.0**
	5.6nm,0.3s,mb4.5,baz=334,slow=5.1,SNR=11						
RPZ	**Rata Peaks**	**29.80**	**195**	P	**P**	**22 15 21.4**	**+0.2**
RPZ	**Rata Peaks**	**29.80**	**195**	P	**P**	**22 15 21.4**	**+0.2**
	10nm,0.8s,mb4.2,baz=353,slow=3.0,SNR=4.8						
CTA	**Charters Tower**	**33.88**	**257**	*e*P	**P**	**22 15 56.4**	**-0.4**
	6.0nm,0.4s,mb4.3						
CTA	**Charters Tower**	**33.88**	**257**	P	**P**	**22 15 59.0**	**+2.1**
	7.4nm,0.5s,mb4.3,baz=88,slow=10,SNR=15						
CTAO	**Charters Tower**	**33.88**	**257**	*e*P	**P**	**22 15 58.9**	**+2.0**
	7.1nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**39.90**	**238**	*e*P	**P**	**22 16 47.9**	**+1.1**
	4.6nm,1.0s,mb3.8						
STKA	**Stephens Creek**	**39.90**	**238**	*e*P	**P**	**22 16 48.0**	**+1.1**
	9.1nm,1.0s,mb4.1						
STKA				*e*pP	pP	22 17 59.4	-1.1
STKA	**Stephens Creek**	**39.90**	**238**	P	**P**	**22 16 47.4**	**+0.5**
	8.4nm,1.0s,mb4.0,baz=83,slow=3.3,SNR=11						
WB2	**Warramunga Arr**	**45.07**	**257**	*e*P	**P**	**22 17 27.9**	**-0.2**
WB2	**Warramunga Arr**	**45.07**	**257**	*e*P	**P**	**22 17 28.2**	**+0.1**
WRAB	**Tennant Creek**	**45.07**	**257**	*e*P	**P**	**22 17 27.8**	**-0.2**
	4.5nm,0.9s,mb3.8						
WRA	**Warramunga Arr**	**45.08**	**257**	P	**P**	**22 17 27.8**	**-0.3**
	1.4nm,0.7s,mb3.4,baz=80,slow=5.8,SNR=39						
ASAR	**Alice Springs**	**45.48**	**252**	P	**P**	**22 17 31.5**	**+0.2**
	26nm,0.5s,mb4.8,baz=84,slow=8.3,SNR=345						
ASAR				S	**S**	**22 23 41.3**	**-2.4**
	1.6nm,1.1s,baz=93,slow=14,SNR=6.2						
FORT	**Forrest**	**51.12**	**243**	*e*P	**P**	**22 18 14.1**	**+0.5**
	40nm,0.7s,mb4.8						
MBWA	**Marble Bar**	**58.67**	**254**	P	**P**	**22 19 08.7**	**+1.4**
KLBR	**Kellerberrin**	**59.97**	**242**	*e*P	**P**	**22 19 15.9**	**0.0**
	19nm,0.8s,mb4.6						
NWAO	**Narrogin (SRO)**	**60.42**	**241**	*e*P	**P**	**22 19 19.1**	**+0.2**
	82nm,1.6s,mb4.9						
NWAO	**Narrogin (SRO)**	**60.42**	**241**	P	**P**	**22 19 18.4**	**-0.5**
	9.5nm,0.9s,mb4.2,baz=113,slow=13,SNR=3.7						
VNDA	**Vanda**	**63.14**	**185**	P	**P**	**22 19 37.2**	**+1.1**
VNDA	**Vanda**	**63.14**	**185**	P	**P**	**22 19 37.2**	**+1.1**
	1.3nm,0.9s,mb3.5,baz=356,slow=5.8,SNR=7.8						
MJAR	**Matsushiro Arr**	**65.67**	**323**	P	**P**	**22 19 51.3**	**-1.6**
	0.8nm,0.5s,mb3.6,baz=158,slow=7.9,SNR=4.4						
MAJO	**Matsushiro**	**65.67**	**323**	P	**P**	**22 19 52.3**	**-0.6**
PET	**Petropavlovsk**	**70.72**	**346**	P	**P**	**22 20 25.1**	**+1.6**
YSS	**Yuzh-Sakhalins**	**70.94**	**333**	P	**P**	**22 20 24.4**	**-0.5**
	10.0nm,0.3s,mb4.8						
QSPA	**South Pole Qui**	**74.86**	**180**	*e*P	**P**	**22 20 48.4**	**+1.1**
	32nm,0.6s,mb5.1						
QSPA				*e*pP	pP	22 22 12.4	-0.1
NVAR	**Mina Array Bea**	**77.55**	**44**	P	**P**	**22 21 03.6**	**+0.6**
	0.4nm,0.6s,mb3.2,baz=243,slow=7.0,SNR=3.0						
COLA	**College**	**83.15**	**13**	P	**P**	**22 21 31.6**	**-0.2**
HIA	**Hailar**	**84.09**	**325**	*e*P	**P**	**22 21 37.7**	**+0.8**
	3.0nm,0.3s,mb4.5						
TXAR	**Lajitas Array**	**84.64**	**58**	P	**P**	**22 21 40.9**	**+0.8**
TXAR	**Lajitas Array**	**84.64**	**58**	P	**P**	**22 21 40.9**	**+0.8**
	0.6nm,0.7s,mb3.4,baz=212,slow=4.4,SNR=5.0						
MAW	**Mawson**	**86.38**	**200**	P	**P**	**22 21 48.8**	**+0.9**
	9.8nm,0.7s,mb4.7,baz=115,slow=6.6,SNR=21						
YAK	**Yakutsk**	**87.02**	**338**	*e*P	**P**	**22 21 51.0**	**+0.2**
INK	**Inuvik**	**89.30**	**15**	*e*P	**P**	**22 22 01.2**	**-0.1**
SNAA	**Sanae**	**93.31**	**179**	*e*	**P**	**22 22 15.2**	**-4.8**
SNAA				*e*		22 22 18.2	
SNAA				*e*		22 22 23.3	
VNA3	**Neumayer Olymp**	**93.45**	**176**	*e*	**P**	**22 22 19.3**	**-1.4**
VNA3				*e*		22 22 21.4	
VNA3				*e*		22 22 26.7	
VNA2	**Neumayer--Watz**	**93.89**	**177**	*e*	**P**	**22 22 20.5**	**-2.2**
VNA2				*e*		22 22 22.8	
VNA2				*e*		22 22 28.0	
VNA1	**Neumayer--Stat**	**94.12**	**177**	*e*	**P**	**22 22 22.0**	**-1.8**
VNA1				*e*		22 22 24.4	
VNA1				*e*		22 22 29.0	
LSA	**Lhasa**	**97.65**	**299**	*e*P	**P**	**22 22 40.2**	**-0.3**
BLA	**Blacksburg**	**105.39**	**55**	Pdif	Pdif	22 23 12.1	-2.4
	12nm,0.7s						
GERES	**GERESS Array B**	**144.96**	**346**	PKPbc	PKPdf	22 28 40.2	-0.1
	0.4nm,0.4s,baz=25,slow=4.4,SNR=6.6						
TORD	**Torodi Ar. Bea**	**177.97**	**186**	PKP	PKPdf	22 29 12.3	-1.9
	1.4nm,0.9s,baz=315,slow=1.4,SNR=7.4						

ISCJB ***17*** *22:13:05.4±0.7, 4001N±003×3891E±009, h10km, Error ellipse: s-maj=9.7km s-min=4.8km az=177.6*
CSEM ***17*** *22:13:05.4±0.2, 4006N×3892E, h8km, MD2.8, Error ellipse: s-maj=6.3km s-min=4.0km az=70.0*
DDA ***17*** *22:13:05.4, 4002N×3884E, h7km±2km, Md2.9*
ISK ***17*** *22:13:05.5, 4006N×3894E, h9km, MD2.8*
ISC 17 22:13:06.0±0.7, 4003N±003×3889E±008, h10km, n7, σ0°64/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMT	**Gumushane**	**0.62**	**46**	*e*PG	**Pg**	**22 13 17.4**	**-0.8**
EZC	**Erzincan**	**0.76**	**111**	*e*PG	**Pg**	**22 13 14.8**	**-5.9**
EZC				*e*SG	**Sg**	**22 13 20.9**	**-10**
ESPY	**Espiye-Giresun**	**0.90**	**352**	*e*PG	**Pg**	**22 13 23.2**	**-0.2**
ESPY				*e*SG	**Sg**	**22 13 35.0**	**0.0**
GRSN	**GIRESUNGRSN**	**1.01**	**332**	*i* P	**Pg**	**22 13 25.1**	**-0.5**
GRSN				*i* S	**Sg**	**22 13 38.6**	**-0.2**
MACK	**Trabzon**	**1.13**	**36**	*i* P	**Pn**	**22 13 28.7**	**+0.8**
MACK				*i* S	**Sn**	**22 13 44.2**	**+0.6**
SVSK	**Karacayir**	**1.46**	**266**	*e*PN	**Pn**	**22 13 33.4**	**+0.9**
ELZG	**Elazig**	**1.53**	**177**	*i* P	**Pg**	**22 13 34.2**	**-1.1**
ELZG				*i* S	**Sg**	**22 13 55.6**	**+0.4**

ISCJB ***17*** *22:30:19.6±0.4, 3443N±002×484W±003, h10km, Error ellipse: s-maj=4.1km s-min=3.2km az=6.8*
NEIC ***17*** *22:30:20.7, 3436N×473W, h0km, MG3.5(MDD), After MDD.*
CSEM ***17*** *22:30:21.7±0.1, 3437N×482W, h35km, MD3.4, Error ellipse: s-maj=2.9km s-min=1.3km az=105.0*
INMG ***17*** *22:30:22.8±0.8, 3429N×478W, h27km±15km, ML1.8, Error ellipse: s-maj=9.1km s-min=4.0km az=2.0*
MDD ***17*** *22:30:22.0±1.1, 3430N×467W, h13km±10km, mb3.4/3, Error ellipse: s-maj=9.3km s-min=4.9km az=91.0, PRXIMO*
CNRM ***17*** *22:30:23.3, 3423N×473W, h7km, MD3.4*
ISC 17 22:30:20.3±0.4, 3437N±002×480W±003, h10km, n40, σ1°18/72, Morocco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSA	**Sarsar**	**0.99**	**301**	*i* P	**Pg**	**22 30 43.0**	**+3.6**
RSA				*i* S	**Sg**	**22 30 58.0**	**+5.8**
MIF	**Mishlifen**	**1.02**	**201**	*i* P	**Pg**	**22 30 40.0**	**0.0**
MIF				*i* S	**Sg**	**22 30 53.0**	**-0.3**
TOU	**Touzarine**	**1.04**	**55**	*i* P	**Pg**	**22 30 43.0**	**+2.6**
TOU				*i* S	**Sg**	**22 30 58.0**	**+4.0**
DKH	**Dar Kharkhour**	**1.21**	**338**	*e*P	**Pn**	**22 30 46.0**	**+2.7**
DKH				*i* S	**Sb**	**22 31 05.0**	**+6.0**
CZD	**Col de Zad**	**1.35**	**189**	*i* P	**Pn**	**22 30 45.0**	**-0.2**
CZD				*i* S	**Sb**	**22 31 03.0**	**+0.1**
EMEL	**Melilla**	**1.78**	**58**	S	**Sn**	**22 31 12.6**	**-1.2**
	9.5nm,0.0s,SNR=7.9						
EMLI	**Melilla**	**1.78**	**58**	S	**Sn**	**22 31 12.6**	**-1.3**
	9.5nm,0.0s,SNR=7.9						
EALB	**Alboran**	**2.13**	**42**	S	**Sn**	**22 31 21.3**	**-1.2**
	0.9nm,0.1s,SNR=7.9						
EMIJ	**Mijas**	**2.19**	**1**	P	**Pn**	**22 30 56.3**	**-0.5**
	1.2nm,0.1s,SNR=10						
EMIJ				S	**Sn**	**22 31 23.9**	**0.0**
	1.3nm,0.2s						
ZFT	**Errachidia**	**2.36**	**171**	*e*P	**Pn**	**22 30 58.0**	**-1.1**
ZFT				*i* S	**Sn**	**22 31 25.0**	**-3.1**
ESPR	**Espera**	**2.64**	**341**	S	**Sn**	**22 31 36.9**	**+1.9**
	0.8nm,0.3s,SNR=7.9						
ESPR	**Espera**	**2.64**	**341**	S	**Sn**	**22 31 36.9**	**+1.9**
	0.8nm,0.3s,SNR=7.9						
EGUA	**Guajares**	**2.66**	**22**	P	**Pn**	**22 31 04.1**	**+0.9**
	1.0nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**22 31 35.1**	**-0.3**
	0.8nm,0.1s,SNR=7.9						
EBER	**Berja**	**2.96**	**31**	P	**Pn**	**22 31 06.7**	**-0.7**
	1.2nm,0.3s,SNR=4.9						
EBER				S	**Sn**	**22 31 43.1**	**+0.1**
	1.9nm,0.4s,SNR=6.3						
EBER	**Berja**	**2.96**	**31**	P	**Pn**	**22 31 06.7**	**-0.7**
	1.2nm,0.3s,SNR=4.9						
EBER				S	**Sn**	**22 31 43.1**	**+0.1**
	1.9nm,0.4s,SNR=6.3						
EQUE	**Quentar**	**3.04**	**21**	P	**Pn**	**22 31 09.0**	**+0.5**
	0.6nm,0.2s,SNR=5.0						
EQUE				S	**Sn**	**22 31 44.2**	**-0.6**
	0.3nm,0.2s,SNR=6.6						
EQES	**Quesada**	**3.70**	**22**	P	**Pn**	**22 31 16.6**	**-1.0**
EQES				P		22 31 19.9	
EQES				S	**Sn**	**22 32 05.5**	**+4.2**
EQES	**Quesada**	**3.70**	**22**	P	**Pn**	**22 31 19.9**	**+2.3**
	0.8nm,0.2s,SNR=5.8						
EQES				S	**Sn**	**22 32 01.8**	**+0.5**
	0.5nm,0.2s,SNR=4.8						
EQES	**Quesada**	**3.70**	**22**	P	**Pn**	**22 31 19.9**	**+2.3**
	0.8nm,0.2s,SNR=5.8						
EQES				S	**Sn**	**22 32 05.5**	**+4.3**
	0.5nm,0.2s,SNR=4.8						
EMIN	**Mina Concepcio**	**3.72**	**336**	P	**Pn**	**22 31 18.3**	**+0.6**
	0.6nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 32 00.8**	**-0.8**
	0.1nm,0.2s,SNR=7.9						
EMIN	**Mina Concepcio**	**3.72**	**336**	P	**Pn**	**22 31 18.3**	**+0.5**
	0.6nm,0.2s,SNR=7.9						
EMIN				S	**Sn**	**22 32 00.8**	**-0.8**
	0.1nm,0.2s,SNR=7.9						
EADA	**Adamuz**	**3.79**	**3**	P	**Pn**	**22 31 20.4**	**+1.5**
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**22 32 03.6**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.79**	**3**	P	**Pn**	**22 31 20.4**	**+1.6**
	0.4nm,0.2s,SNR=4.0						
EADA				S	**Sn**	**22 32 03.6**	**+0.1**
	0.2nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**3.84**	**326**	P	**Pn**	**22 31 19.9**	**+0.5**
	1.1nm,0.1s,SNR=8.9						
EGRO				S	**Sn**	**22 32 02.5**	**-2.0**
	0.8nm,0.2s						
EGRO	**El Granado**	**3.84**	**326**	P	**Pn**	**22 31 19.9**	**+0.5**
	1.1nm,0.1s,SNR=8.9						
EGRO				S	**Sn**	**22 32 02.5**	**-2.1**
	0.8nm,0.2s						
PVAQ	**Vaqueiros**	**3.84**	**323**	*e*Pn	**Pn**	**22 31 20.8**	**+1.3**
PVAQ				*e*Sn	**Sn**	**22 32 03.5**	**-1.3**
PVAQ				A		22 32 08.2	
	1.9nm,0.2s						
EHUE	**Huescar**	**3.88**	**27**	P	**Pn**	**22 31 20.0**	**0.0**
	0.4nm,0.2s,SNR=4.0						
EHUE				S	**Sn**	**22 32 09.7**	**+4.2**
	0.0nm,0.1s						
PBAR	**Barrancos**	**4.21**	**335**	*e*Pn	**Pn**	**22 31 26.1**	**+1.6**
PBAR				*e*Sn	**Sn**	**22 32 12.5**	**-1.2**
PBAR				A		22 32 15.1	
	1.3nm,0.2s						
PFVI	**Vila Bisbo**	**4.28**	**311**	*e*Sn	**Sn**	**22 32 14.5**	**-1.0**
PBEJ	**Beja**	**4.41**	**327**	*e*Pn	**Pn**	**22 31 28.6**	**+1.3**
PBEJ				*e*Sn	**Sn**	**22 32 17.8**	**-1.0**
PTEO	**Sao Teotonio**	**4.49**	**316**	*e*Pn	**Pn**	**22 31 29.6**	**+1.2**
PTEO				*e*Sn	**Sn**	**22 32 19.4**	**-1.3**
EBAD	**Badajoz**	**4.73**	**338**	P	**Pn**	**22 31 33.5**	**+1.8**
	0.4nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**22 32 25.1**	**-1.4**
	0.3nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**4.73**	**338**	P	**Pn**	**22 31 33.5**	**+1.9**
EBAD				S	**Sn**	**22 32 25.1**	**-1.4**
EVO	**Evora**	**4.90**	**329**	*e*Pn	**Pn**	**22 31 35.1**	**+1.1**
EVO				*e*Sn	**Sn**	**22 32 29.4**	**-1.3**
EVO				A		22 32 31.4	
	1.6nm,0.2s						
ETOB	**Tobarra**	**5.01**	**31**	P	**Pn**	**22 31 35.3**	**-0.2**
ETOB				P		22 31 38.5	
ETOB				S	**Sn**	**22 32 33.1**	**-0.3**
ETOB	**Tobarra**	**5.01**	**31**	P	**Pn**	**22 31 36.6**	**+1.1**
	0.1nm,0.2s,SNR=8.1						
ETOB	**Tobarra**	**5.01**	**31**	P	**Pn**	**22 31 35.3**	**-0.2**
PESTR	**Estremoz**	**5.02**	**334**	*e*Pn	**Pn**	**22 31 37.3**	**+1.6**
PESTR				*e*Sn	**Sn**	**22 32 32.3**	**-1.4**
ESDC	**Sonseca Array**	**5.34**	**7**	P	**Pn**	**22 31 40.0**	**-0.1**
ESDC				S	**Sn**	**22 32 41.9**	**+0.4**
ESDC	**Sonseca Array**	**5.34**	**7**	P	**Pn**	**22 31 40.0**	**0.0**
ESDC				S	**Sn**	**22 32 41.9**	**+0.3**

ISCJB ***17*** *23:18:48.4±0.7, 1553S±009×7191W±008, h133km±7km, mb3.7/8, Error ellipse: s-maj=15.1km s-min=10.8km az=28.7*
NEIC ***17*** *23:18:49.1±0.9, 1546S×7176W, h123km±9km, mb4.1/3, Error ellipse: s-maj=15.0km s-min=11.6km az=220.0*
IDC ***17*** *23:18:49.1±1.4, 1543S×7187W, h126km±12km, mb3.6/8, mb1 3.6/11, mb1mx3.5/21, mbtmp3.5/11, Error ellipse: s-maj=20.0km s-min=10.6km az=28.0*
ISC 17 23:18:48.9±0.6, 1550S±008×7195W±007, h126km±6km, n21, σ1°19/21, mb3.7/8, 1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.06**	**155**	||*i* P	**Pn**	**23 19 11.5**	**-0.5**
ARE				*i* S	**Sn**	**23 19 29.0**	**-0.6**
LPAZ	**La Paz**	**3.76**	**103**	P	**Pn**	**23 19 46.8**	**+1.4**
	4.0nm,0.3s,baz=284,slow=9.0,SNR=68						
LPAZ				S	**Sn**	**23 20 30.1**	**+0.9**
	1.0nm,0.3s,baz=177,slow=22,SNR=6.9						
NNA	**Nana**	**5.89**	**306**	P	**Pn**	**23 20 15.6**	**+1.6**
	8.0nm,0.3s,baz=142,slow=10,SNR=9.1						
NNA				S	**Sn**	**23 21 18.9**	**-1.5**
	17nm,0.3s,baz=20,slow=16,SNR=15						
SIV	**San Ignacio**	**10.49**	**94**	P	**Pn**	**23 21 11.6**	**-4.3**
	1.4nm,0.3s,baz=279,slow=12,SNR=26						
CFAA	**Coronel Fontan**	**16.39**	**169**	P	**Pn**	**23 22 32.0**	**+0.4**
	0.1nm,0.3s,baz=344,slow=10,SNR=9.8						
CPUP	**Villa Florida**	**17.38**	**131**	*e*P	**Pn**	**23 22 42.3**	**-1.5**
	17nm,1.4s						
BDFB	**Brasilia**	**23.06**	**94**	*e*P	**P**	**23 23 42.0**	**-1.6**
	4.9nm,0.5s,mb4.1						
BDFB	**Brasilia**	**23.06**	**94**	P	**P**	**23 23 42.0**	**-1.6**
	3.3nm,0.5s,mb3.9,baz=256,slow=18,SNR=13						
SDV	**Santo Domingo**	**24.26**	**3**	*e*P	**P**	**23 23 54.5**	**0.0**
SDV	**Santo Domingo**	**24.26**	**3**	P	**P**	**23 23 55.5**	**+1.0**
	1.3nm,0.4s,mb3.6,baz=356,slow=13,SNR=4.0						
PLCA	**Paso Flores**	**25.17**	**177**	*e*P	**P**	**23 24 03.2**	**+0.7**
	4.8nm,1.1s,mb3.8						
PLCA	**Paso Flores**	**25.17**	**177**	P	**P**	**23 24 02.9**	**+0.4**
	2.5nm,1.0s,mb3.6,baz=350,slow=10,SNR=3.6						
RCBR	**Riachuelo**	**36.65**	**79**	P	**P**	**23 25 44.0**	**+0.4**
DBIC	**Dimbokro**	**70.00**	**77**	P	**P**	**23 29 45.4**	**-2.1**
	0.8nm,0.3s,mb4.0,baz=249,slow=6.1,SNR=7.2						
TORD	**Torodi Ar. Bea**	**78.20**	**73**	P	**P**	**23 30 33.5**	**-1.6**
	1.5nm,0.7s,mb3.8,baz=234,slow=5.3,SNR=27						
VNDA	**Vanda**	**82.22**	**190**	P	**P**	**23 30 56.9**	**+1.3**
	0.5nm,0.4s,mb3.7,baz=144,slow=15,SNR=6.1						
ESDC	**Sonseca Array**	**83.68**	**46**	P	**P**	**23 31 04.1**	**+0.4**
	0.4nm,0.7s,mb3.4,baz=281,slow=8.6,SNR=4.3						
YKA	**Yellowknife Ar**	**84.60**	**342**	P	**P**	**23 31 09.1**	**+1.4**
	0.4nm,0.6s,mb3.5,baz=136,slow=4.8,SNR=8.9						
WRA	**Warramunga Arr**	**136.31**	**217**	PKP	PKPdf	23 37 57.9	+1.4
	1.0nm,1.3s,baz=135,slow=1.7,SNR=7.0						
SONM	**Songino Array**	**147.73**	**2**	PKPbc	PKPbc	23 38 20.5	+1.7
SONM	**Songino Array**	**147.73**	**2**	PKPbc	PKPbc	23 38 20.5	+1.7
	0.7nm,0.4s,baz=336,slow=3.2,SNR=3.5						

CSEM ***17*** *23:35:12.8±0.1, 4411N×1224E, h10km, ML4.1/5, Error ellipse: s-maj=1.1km s-min=0.9km az=92.0*
GEN ***17*** *23:35:12.1, 4397N×1239E, h2km, ML3.0*
ROM ***17*** *23:35:13.1±0.2, 4409N×1223E, h3km±2km, Ml3.0/40, Error ellipse: s-maj=2.1km s-min=1.4km az=154.0*
NEIC ***17*** *23:35:13.1, 4409N×1223E, h3km, ML3.7(STR), ML3.0(ROM), ML3.3(LDG), After ROM.*
ISCJB ***17*** *23:35:14.0±0.2, 4415N±001×1220E±002, h25km±2km, Error ellipse: s-maj=2.2km s-min=1.9km az=171.9*
LDG ***17*** *23:35:14.0±0.1, 4412N×1236E, h10km, Ml3.3/20, Error ellipse: s-maj=4.3km s-min=3.1km az=48.0*
*PRU

NOVE	Novellara	1.27	302	Pg	Pg	23 35 38.7	0.0
MAIM		1.27	261	Pg	Pn	23 35 36.8	-0.3
	172nm,0.6s						
TEOL	Teolo	1.29	342	⇓iPg	Pn	23 35 37.0	-0.4
PII	Pisa	1.29	252	Pg	Pg	23 35 36.8	-2.4
PII				Sg	Sg	23 35 56.4	+0.4
	109nm,0.2s						
SACS	San Casciano d	1.30	190	Pg	Pn	23 35 37.1	-0.5
SBPO	S.Benedetto Po	1.31	315	Pg	Pn	23 35 38.9	+1.2
	264nm,0.5s						
SARO	Sassorosso	1.31	273	P	Pn	23 35 37.8	+0.1
SARO				S	Sn	23 35 56.5	+1.6
VLC	Villacollemand	1.32	272	Pg	Pn	23 35 38.3	+0.4
	601nm,1.8s						
ERBM	Eremo	1.33	283	Pg	Pn	23 35 41.0	+3.0
GRFL	Gerfalco	1.34	223	Pg	Pn	23 35 37.6	-0.5
	28nm,0.3s						
ARCI	Arcidosso	1.39	203	Pg	Pn	23 35 38.3	-0.5
	219nm,0.8s						
VALM		1.44	279	P	Pn	23 35 39.9	+0.4
VALM				S	Sn	23 35 59.1	+1.2
NRCA	Norcia	1.45	153	Pg	Pn	23 35 39.2	-0.4
VINC	Vinca	1.49	271	P	Pn	23 35 40.5	+0.3
VINC				S	Sn	23 35 59.7	+0.4
LATE	Laterza	1.55	192	Pg	Pn	23 35 41.3	+0.3
	14nm,0.5s						
BACM		1.56	276	P	Pn	23 35 41.7	+0.6
GRAM		1.59	284	P	Pn	23 35 42.7	+1.1
LNSS	Leonessa	1.64	158	Pg	Pn	23 35 43.5	+1.3
	410nm,0.6s						
CGRP	Cima Grappa	1.77	350	⇓iPn	Pn	23 35 43.7	-0.3
CGRP				i Sn	Sn	23 36 05.8	-0.3
CGRP	Cima Grappa	1.77	350	i Pn	Pn	23 35 43.7	-0.4
CGRP				i Sn	Sn	23 36 05.8	-0.4
MNS	Montasola	1.78	169	Pg	Pn	23 35 44.3	+0.2
	96nm,0.6s						
TERO	Teramo	1.81	146	Pg	Pn	23 35 45.8	+1.2
	272nm,0.7s						
CAMP	Campotosto	1.82	151	Pg	Pn	23 35 45.5	+0.9
	40nm,0.7s						
CAE	Caneva	1.88	5	⇓iPn	Pn	23 35 44.9	-0.6
CAE				i Sn	Sn	23 36 08.8	0.0
TLI	Talmassons	1.89	19	⇑iPn	Pn	23 35 45.5	-0.3
SKDS	Skadanscina	1.90	41	i Pn	Pn	23 35 44.4	-1.4
SALO	Salr	1.92	321	Pg	Pn	23 35 46.4	+0.4
	225nm,0.7s						
NVLJ	Novalja	1.95	76	ePn	Pn	23 35 46.2	-0.2
NVLJ				Sn	Sn	23 36 10.0	-0.5
NVLJ	Novalja	1.95	76	ePn	Pn	23 35 46.2	-0.2
NVLJ				Sn	Sn	23 36 09.9	-0.6
SC2M	Scurtabr	1.95	279	Pg	Pn	23 35 48.6	+2.1
CTI	Castel Tesino	1.96	348	Pg	Pn	23 35 46.4	-0.2
	87nm,0.3s						
FIAM	Fiamignano	1.98	160	Pg	Pn	23 35 48.1	+1.3
AQU	L'Aquila	1.98	154	ePn	Pn	23 35 47.7	+0.9
AQU				Pg	Pn	23 35 48.6	+1.8
AQU				eSn	Sn	23 36 10.9	-0.2
AQU	L'Aquila	1.98	154	Pg	Pn	23 35 48.6	+1.8
	77nm,0.6s						
AQU	L'Aquila	1.98	154	ePn	Pn	23 35 47.7	+0.9
AQU	L'Aquila	1.98	154	Pg	Pn	23 35 48.6	+1.8
	77nm,0.6s						
MAGA	Magasa	2.00	326	Pg	Pn	23 35 47.0	-0.1
	339nm,0.5s						
MLNI	Malnisio	2.04	8	⇓iPn	Pn	23 35 47.1	-0.5
MLNI				i Sn	Sn	23 36 12.6	-0.1
KNDS	Knezji Dol	2.07	47	i Pn	Pn	23 35 47.4	-0.8
KNDS				i Sn	Sn	23 36 13.5	-0.1
KNDS	Knezji Dol	2.07	47	i Pn	Pn	23 35 47.4	-0.8
KNDS				i Sn	Sn	23 36 13.5	-0.1
KNDS							
	comp=Z,42nm,0.2s						
KNDS	Knezji Dol	2.07	47	i Pn	Pn	23 35 47.4	-0.8
KNDS				i Sn	Sn	23 36 13.5	-0.1
BOB	Bobbio (Coli)	2.09	289	Pg	Pn	23 35 51.5	+3.1
VCEL	Villa Celiera	2.10	145	Pg	Pn	23 35 51.6	+3.0
	comp=Z,219nm,0.8s						
FAGN	Fagnano	2.11	151	Pg	Pn	23 35 51.5	+2.7
COLI	Coloredo	2.16	22	⇓iPn	Pn	23 35 48.8	-0.5
COLI				i Sn	Sn	23 36 15.9	+0.1
MPRI	Monte Prat	2.18	14	⇓iPn	Pn	23 35 49.6	0.0
MPRI				i Sn	Sn	23 36 16.7	+0.5
BUA	Buia	2.18	17	⇑iPn	Pn	23 35 49.5	-0.2
BUA				i Sn	Sn	23 36 16.3	0.0
JAVS	Javornik	2.19	36	i Pn	Pn	23 35 48.7	-1.1
JAVS				i Sn	Sn	23 36 15.8	-0.7
JAVS	Javornik	2.19	36	i Pn	Pn	23 35 48.7	-1.1
JAVS				i Sn	Sn	23 36 15.8	-0.7
JAVS							
	comp=Z,48nm,0.3s						
JAVS	Javornik	2.19	36	i Pn	Pn	23 35 48.7	-1.1
JAVS				i Sn	Sn	23 36 15.8	-0.7
BAD	Bernadia	2.22	19	⇓iPn	Pn	23 35 49.7	-0.6
BAD				i Sn	Sn	23 36 16.6	-0.7
VOY	Vojsko	2.24	31	ePn	Pn	23 35 49.8	-0.6
VOY				eSn	Sn	23 36 17.6	0.0
CEY	Cerknica	2.24	43	i Pn	Pn	23 35 49.5	-1.0
CEY				eSn	Sn	23 36 17.4	-0.3
CEY	Cerknica	2.24	43	i Pn	Pn	23 35 49.5	-1.0
CEY				eSn	Sn	23 36 17.4	-0.3
CEY							
	comp=Z,36nm,0.2s						
CEY	Cerknica	2.24	43	i Pn	Pn	23 35 49.5	-1.0
CEY				eSn	Sn	23 36 17.4	-0.4
CERT	Cerreto	2.25	165	Pg	Pn	23 35 52.2	+1.5
GMNA	Gemona	2.26	18	Pg	Pn	23 35 50.2	-0.5
	comp=Z,165nm,0.5s						
MABI	Malga Bissina	2.27	328	Pg	Pn	23 35 51.0	+0.1
	comp=Z,28nm,0.6s						
DRE	Drenchia	2.27	26	⇑iPn	Pn	23 35 49.7	-1.2
DRE				i Sn	Sn	23 36 17.6	-0.9
ROBS	Robic	2.30	23	i Pn	Pn	23 35 50.6	-0.7
ROBS				eSn	Sn	23 36 18.0	-1.2
ROBS	Robic	2.30	23	i Pn	Pn	23 35 50.6	-0.7
ROBS				eSn	Sn	23 36 18.0	-1.2
ROBS							
	comp=Z,38nm,0.3s						
ROBS	Robic	2.30	23	i Pn	Pn	23 35 50.6	-0.7
ROBS				eSn	Sn	23 36 18.0	-1.2
PTCC	Patocco-Chiusa	2.41	19	Pg	Pn	23 35 52.4	-0.4
	comp=Z,57nm,0.7s						
MDI	Monti di Nese	2.43	314	Pg	Pn	23 35 53.1	+0.1
	comp=Z,51nm,0.7s						
APPI	Appiano	2.45	344	Pg	Pn	23 35 53.8	+0.5
	comp=Z,90nm,0.4s						
VVLD	Villa Vallelon	2.48	155	Pg	Pn	23 35 56.3	+2.5
FVI	Forni Avoltri	2.49	9	Pg	Pn	23 35 54.3	+0.3
	comp=Z,73nm,0.5s						
VISS	Visnje	2.50	47	i Pn	Pn	23 35 53.6	-0.4
VISS				i Sn	Sn	23 36 24.2	+0.2
VISS	Visnje	2.50	47	i Pn	Pn	23 35 53.6	-0.4
VISS				i Sn	Sn	23 36 24.2	+0.2
VISS							
	comp=Z,31nm,0.3s						
VISS	Visnje	2.50	47	i Pn	Pn	23 35 53.6	-0.4
VISS				i Sn	Sn	23 36 24.2	+0.2
LJU	Ljubljana	2.51	40	eSn	Sn	23 36 24.6	+0.2
GORS	Gorjuse	2.52	29	i Pn	Pn	23 35 53.9	-0.4
GORS				i Sn	Sn	23 36 24.1	-0.5
GORS	Gorjuse	2.52	29	i Pn	Pn	23 35 53.9	-0.4
GORS				i Sn	Sn	23 36 24.1	-0.5
GORS							
	comp=Z,41nm,0.3s						
GORS	Gorjuse	2.52	29	i Pn	Pn	23 35 53.8	-0.5
GORS				i Sn	Sn	23 36 24.1	-0.4
BOJS	Bojanci	2.55	56	i Pn	Pn	23 35 54.6	-0.1
BOJS				eSn	Sn	23 36 25.6	+0.1
BOJS	Bojanci	2.55	56	i Pn	Pn	23 35 54.6	-0.1
BOJS				eSn	Sn	23 36 25.6	+0.1
BOJS							
	comp=Z,7.0nm,0.2s						
BOJS	Bojanci	2.55	56	i Pn	Pn	23 35 54.6	-0.2
BOJS				eSn	Sn	23 36 25.6	+0.2
SEST	Monte Rota	2.62	360	Pg	Pn	23 35 56.5	+0.8
	comp=Z,88nm,0.8s						
ABTA	Abfaltersbach	2.62	4	ePn	Pn	23 35 56.1	+0.4
	SNR=11						
ABTA	Abfaltersbach	2.62	4	Pn	Pn	23 35 56.1	+0.4
	SNR=11						
VNDS	Vrh nad Dolski	2.64	41	i Pn	Pn	23 35 55.4	-0.5
VNDS				i Sn	Sn	23 36 27.3	-0.2
BRMO	Bormio	2.68	332	Pg	Pn	23 35 57.8	+1.2
	comp=Z,22nm,0.6s						
SDI	San Donato	2.69	154	Pg	Pn	23 35 59.8	+3.2
PGF	Pioggiola	2.84	237	ePn	Pn	23 35 58.1	-0.6
	SNR=1.0						
PGF				eSn	Sn	23 36 32.4	0.0
	comp=Z,31nm,0.4s,SNR=1.0						
PGF	Pioggiola	2.84	237	ePn	Pn	23 35 58.1	-0.6
	SNR=1.0						
PGF				eSn	Sn	23 36 32.4	0.0
	comp=Z,15nm,0.4s,SNR=1.0						
FUORN	Ofenpass-Fuorn	2.84	332	Pg	Pn	23 36 00.6	+1.8
LEGS	Legarje	2.85	49	i Pn	Pn	23 35 58.5	-0.3
LEGS	Legarje	2.85	49	i Pn	Pn	23 35 58.5	-0.3
CRES	Cresnjev	2.85	52	i Pn	Pn	23 35 58.8	-0.1
OBKA	Obir	2.89	34	⇑ePn	Pn	23 35 59.8	+0.5
	SNR=7.9						
OBKA				⇑iSg	Sg	23 36 44.7	-2.2
	comp=Z,99nm,0.6s						
OBKA	Obir	2.89	34	Pn	Pn	23 35 59.8	+0.4
	comp=Z,7.0nm,9.0s						
GCIS	Gornji Cirnik	2.97	53	i Pn	Pn	23 36 00.3	-0.3
VAI	Varese	3.00	306	Pg	Pn	23 36 01.1	+0.1
	comp=Z,23nm,0.5s						
KBA	Koelnbreinsper	3.05	15	⇓iSn	Sn	23 36 38.0	+0.3
KBA	Koelnbreinsper	3.05	15	i Pn	Pn	23 36 02.5	+0.9
	SNR=8.8						
KBA				⇓iSn	Sn	23 36 38.0	+0.3
KBA	Koelnbreinsper	3.05	15	ePn	Pn	23 36 02.5	+0.9
KBA				i Sn	Sn	23 36 38.0	+0.3
KBA	Koelnbreinsper	3.05	15	Pn	Pn	23 36 02.5	+0.9
	comp=Z,8.0nm,8.0s						
KBA				Sn	Sn	23 36 38.0	+0.3
GOLS	Golise	3.05	51	i Pn	Pn	23 36 01.9	+0.2
FETA	Feichten	3.07	341	i Pn	Pn	23 36 03.7	+1.8
	SNR=14						
TUE	Stuetta	3.10	320	Pg	Pn	23 36 03.5	+1.2
	comp=Z,24nm,0.6s						
DAVOX	Davos/Dischmat	3.12	329	Pg	Pn	23 36 04.9	+2.3
WTTA	Wattenberg	3.16	353	⇑iSn	Sn	23 36 42.0	+1.6
WTTA	Wattenberg	3.16	353	⇑iPn	Pn	23 36 04.5	+1.4
	SNR=14						
WTTA				⇑iSn	Sn	23 36 42.0	+1.6
WTTA	Wattenberg	3.16	353	Pn	Pn	23 36 04.5	+1.4
	comp=Z,13nm,8.0s						
WTTA				Sn	Sn	23 36 42.0	+1.6
SQTA	Sankt Quirin	3.17	347	⇓iPn	Pn	23 36 04.5	+1.3
	SNR=27						
SQTA				⇓iSn	Sn	23 36 42.3	+1.7
WATA	Walderalm	3.23	352	⇓iPn	Pn	23 36 06.0	+1.9
	SNR=13						
WATA				⇓iSn	Sn	23 36 43.1	+0.9
WATA	Walderalm	3.23	352	Pn	Pn	23 36 06.0	+1.8
	comp=Z,12nm,7.0s						
WATA				Sn	Sn	23 36 43.1	+0.8
MOTA	Moosalm	3.31	347	i Pn	Pn	23 36 06.8	+1.6
	SNR=42						
MOTA				⇓iSn	Sn	23 36 45.7	+1.7
MOTA	Moosalm	3.31	347	Pn	Pn	23 36 06.8	+1.7
	comp=Z,41nm,6.0s						
MOTA				Sn	Sn	23 36 45.7	+1.7
ORO	Oropa	3.37	298	Pg	Pn	23 36 05.4	-0.6
	comp=Z,14nm,0.3s						
SBF	Sospel	3.47	267	ePn	Pn	23 36 07.5	+0.2
	SNR=1.0						
SBF				eSn	Sn	23 36 46.0	-2.0
	comp=Z,28nm,0.4s,SNR=1.0						
SBF	Sospel	3.47	267	ePn	Pn	23 36 07.5	+0.2
	SNR=1.0						
SBF				eSn	Sn	23 36 46.0	-2.0
	comp=Z,14nm,0.4s,SNR=1.0						
RETA	Reutte	3.51	344	⇑iPn	Pn	23 36 09.4	+1.5
	SNR=19						
DAVA	Damuels	3.56	333	⇓iPn	Pn	23 36 10.1	+1.6
	SNR=11						
DAVA				⇑iSn	Sn	23 36 52.3	+2.2
DAVA	Damuels	3.56	333	Pn	Pn	23 36 10.1	+1.5
	comp=Z,11nm,3.0s						
DAVA				Sn	Sn	23 36 52.3	+2.1
ARSA	Arzberg	3.88	35	⇓iPn	Pn	23 36 11.7	-1.3
MBDF	Montbardon	3.95	281	ePn	Pn	23 36 14.4	+0.4
	SNR=1.0						
MBDF				eSn	Sn	23 36 58.0	-1.9
	comp=Z,8.7nm,0.4s,SNR=1.0						
MBDF	Montbardon	3.95	281	ePn	Pn	23 36 14.4	+0.4
	SNR=1.0						
MBDF				eSn	Sn	23 36 58.0	-1.9
	comp=Z,4.3nm,0.4s,SNR=1.0						
MOA	Molln	3.98	20	⇑iSn	Sn	23 36 60.0	-0.7
MOA	Molln	3.98	20	⇑iPn	Pn	23 36 15.1	+0.7
	SNR=7.8						
MOA				⇑iSn	Sn	23 36 60.0	-0.7
MOA	Molln	3.98	20	Pn	Pn	23 36 15.1	+0.7
	comp=Z,7.0nm,8.0s						
MOA				Sn	Sn	23 37 00.0	-0.6
FRF	La Foret Royal	4.08	264	ePn	Pn	23 36 16.1	+0.4
	SNR=1.0						
FRF				eSn	Sn	23 37 03.0	0.0
	comp=Z,12nm,0.4s,SNR=1.0						
FRF	La Foret Royal	4.08	264	ePn	Pn	23 36 16.1	+0.4
	SNR=1.0						
FRF				eSn	Sn	23 37 03.0	0.0
	comp=Z,6.2nm,0.4s,SNR=1.0						
LPG	La Plagne	4.13	291	ePn	Pn	23 36 16.0	-0.4
	SNR=1.0						
LPG				eSn	Sn	23 37 03.0	-1.2
	comp=Z,10nm,0.5s,SNR=1.0						
LPG	La Plagne	4.13	291	ePn	Pn	23 36 16.0	-0.4
	SNR=1.0						
LPG				eSn	Sn	23 37 03.0	-1.2
	comp=Z,5.1nm,0.5s,SNR=1.0						
LPL	La Plagne	4.14	291	ePn	Pn	23 36 16.6	-0.1
	SNR=1.0						
LPL				eSn	Sn	23 37 03.8	-0.9
	comp=Z,13nm,0.4s						
LPL	La Plagne	4.14	291	ePn	Pn	23 36 16.6	-0.1
	SNR=1.0						
LPL				eSn	Sn	23 37 03.8	-0.9
	comp=Z,6.6nm,0.4s						
STON	Ston	4.18	106	ePn	Pn	23 36 19.4	+2.3
STON				Sn	Sn	23 37 04.8	-0.7
LMR	La Mourre	4.22	261	ePn	Pn	23 36 17.4	-0.3
	SNR=1.0						
LMR				eSn	Sn	23 37 04.0	-2.5
	comp=Z,6.6nm,0.3s,SNR=1.0						
LMR	La Mourre	4.22	261	ePn	Pn	23 36 17.4	-0.3
	SNR=1.0						
LMR				eSn	Sn	23 37 04.0	-2.5
	comp=Z,3.3nm,0.3s,SNR=1.0						
ORIF	Oris-en-Rattie	4.61	282	ePn	Pn	23 36 23.2	+0.2
	SNR=1.0						
ORIF				eSn	Sn	23 37 14.0	-2.0
	comp=Z,5.6nm,0.3s						
ORIF	Oris-en-Rattie	4.61	282	ePn	Pn	23 36 23.2	+0.2
	SNR=1.0						
ORIF				eSn	Sn	23 37 14.0	-2.0
	comp=Z,2.8nm,0.3s						
FELD	Feldberg im Sc	4.76	323	P	Pn	23 36 24.9	-0.2
FELD				S	Sn	23 37 16.7	-3.1
SMRF	Simiane la Rot	4.80	270	ePn	Pn	23 36 26.5	+0.9
LOMF	Lomont	4.96	312	P	Pn	23 36 28.6	+0.7
CABF	La Chapelle	4.98	302	ePn	Pn	23 36 28.8	+0.6
	SNR=1.0						
CABF				eSn	Sn	23 37 23.9	-1.5
	comp=Z,6.2nm,0.5s						
CABF	La Chapelle	4.98	302	ePn	Pn	23 36 28.8	+0.6
	SNR=1.0						
CABF				eSn	Sn	23 37 23.9	-1.5
	comp=Z,3.1nm,0.5s						
KHC	Kasperske Hory	5.08	10	ePn	Pn	23 36 29.0	-0.6
KHC				eSn	Sn	23 37 25.2	-2.7
MOF	Molkenrain	5.14	318	P	Pn	23 36 30.2	-0.1
MOF				S	Sn	23 37 28.0	-1.2
HINF	Hinteralfeld	5.25	316	ePn	Pn	23 36 31.5	-0.4
	SNR=1.0						
HINF				eSn	Sn	23 37 27.6	-4.4
	comp=Z,11nm,0.4s,SNR=1.0						
HINF	Hinteralfeld	5.25	316	ePn	Pn	23 36 31.5	-0.4
	SNR=1.0						
HINF				eSn	Sn	23 37 27.6	-4.4
	comp=Z,5.4nm,0.4s,SNR=1.0						
ECH	Echery	5.39	321	P	Pn	23 36 33.8	+0.1
ECH				S	Sn	23 37 31.9	-3.4
VIVF	Saint-Julien-I	5.45	280	ePn	Pn	23 36 34.6	0.0
VIVF				eSn	Sn	23 37 35.0	-1.9
	comp=Z,1.4nm,0.3s						
CDF	Champ du Feu	5.48	323	ePn	Pn	23 36 35.4	+0.4
	SNR=1.0						
CDF				eSn	Sn	23 37 34.2	-3.5
	comp=Z,4.2nm,0.3s						
CDF	Champ du Feu	5.48	323	ePn	Pn	23 36 35.4	+0.4
	SNR=1.0						
CDF				eSn	Sn	23 37 34.2	-3.5
	comp=Z,2.1nm,0.3s						
HAU	Haudompre	5.63	316	ePn	Pn	23 36 36.9	-0.2
	SNR=1.0						
HAU				eSn	Sn	23 37 36.2	-5.1
	comp=Z,14nm,0.3s,SNR=1.0						
HAU	Haudompre	5.63	316	ePn	Pn	23 36 36.9	-0.2
	SNR=1.0						
HAU				eSn	Sn	23 37 36.2	-5.1
	comp=Z,7.1nm,0.3s,SNR=1.0						
THEF	They Montfort	5.96	316	P	Pn	23 36 42.0	+0.4
LASF	Ste Croix	6.03	272	ePn	Pn	23 36 42.6	+0.1
	SNR=1.0						
PRU	Pruhonice	6.07	14	eSn	Sn	23 37 47.4	-4.6
NKC	Novy Kostel	6.11	1	ePn	Pn	23 36 44.0	+0.4
NKC				eSn	Sn	23 37 49.5	-3.4
SMF	Signal de Mont	6.42	296	ePn	Pn	23 36 47.6	-0.2
	SNR=1.0						
SMF				eSn	Sn	23 37 57.3	-3.3
	comp=Z,6.2nm,0.4s,SNR=1.0						
SMF	Signal de Mont	6.42	296	ePn	Pn	23 36 47.6	-0.2
	SNR=1.0						
SMF				eSn	Sn	23 37 57.3	-3.3
	comp=Z,3.1nm,0.4s,SNR=1.0						
SFTF	Sexfontaines	6.44	312	ePn	Pn	23 36 48.5	+0.3
	baz=128						
RFYF	Reffroy	6.48	316	ePn	Pn	23 36 49.2	+0.5
	baz=141						
RFYF				eSn	Sn	23 37 58.5	-3.7
	comp=Z,5.7nm,0.4s						
RFYF	Reffroy	6.48	316	ePn	Pn	23 36 49.2	+0.5
RFYF				eSn	Sn	23 37 58.5	-3.7
	comp=Z,2.8nm,0.4s						
MOX	Moxa	6.53	357	eSN	Sn	23 37 58.8	-4.6
MEZF	Maizieres J'vi	6.61	314	ePn	Pn	23 36 51.3	+0.8
	baz=133,SNR=1.0						
LOR	Lormes	6.64	301	ePn	Pn	23 36 50.5	-0.5
	baz=123,SNR=1.0						
LOR				eSn	Sn	23 38 01.8	-4.4
	comp=Z,10nm,0.3s,SNR=1.0						
LOR	Lormes	6.64	301	ePn	Pn	23 36 50.5	-0.5
	SNR=1.0						
LOR				eSn	Sn	23 38 01.8	-4.4
	comp=Z,5.1nm,0.3s,SNR=1.0						
AVF	Avril sur Loir	6.78	296	ePn	Pn	23 36 53.3	+0.5
	SNR=1.0						
SSF	Saint Saulge	6.78	299	ePn	Pn	23 36 52.7	-0.1
	SNR=1.0						
SSF				eSn	Sn	23 38 06.3	-3.3
	comp=Z,4.2nm,0.5s						
SSF	Saint Saulge	6.78	299	ePn	Pn	23 36 52.7	-0.1
	SNR=1.0						
SSF				eSn	Sn	23 38 06.3	-3.3
	comp=Z,2.1nm,0.5s						
BGF	Bois d'Agland	7.04	293	ePn	Pn	23 36 56.2	-0.2
	SNR=1.0						
BGF				eSn	Sn	23 38 11.8	-4.2
	comp=Z,5.3nm,0.3s,SNR=1.0						
BGF	Bois d'Agland	7.04	293	ePn	Pn	23 36 56.2	-0.2
	SNR=1.0						
BGF				eSn	Sn	23 38 11.8	-4.2
	comp=Z,2.7nm,0.3s,SNR=1.0						
CLL	Collm	7.20	4	i Pn	Pn	23 36 58.0	-0.5
CLL				i x	Sb	23 38 43.5	-0.6
CLL				eSg	Sn	23 39 14.0	+54
MTLF	Montolieu	7.29	267	ePn	Pn	23 37 00.1	+0.2
	SNR=1.0						
CAF	Calviac	7.31	280	ePn	Pn	23 37 00.7	+0.6
TCF	Toulx Ste Croi	7.39	290	ePn	Pn	23 37 01.5	+0.2
	SNR=1.0						
TCF				eSn	Sn	23 38 21.9	-2.8
	comp=Z,1.7nm,0.3s,SNR=1.0						
GRR	Gorron	10.01	300	ePn	Pn	23 37 36.8	-0.3

*CSEM **17** 23:50:11.0±0.1, 44.11N×1225E, h20km, ML2.8/13, Error ellipse: s-maj=1.1km s-min=0.9km az=13.0*
*ISCJB **17** 23:50:12.0±0.3, 44.15N±002×12.15E±002, h27km±3km, Error ellipse: s-maj=3.7km s-min=2.7km az=174.0*
*ROM **17** 23:50:12.0±0.2, 4408N×1222E, h4km±2km, Md2.7/29, Ml2.3/19, Error ellipse: s-maj=2.6km s-min=1.5km az=158.0*
*NEIC **17** 23:50:12.0, 4408N×1222E, h4km, ML2.6(LDG), ML2.3(ROM), After ROM.*
*LDG **17** 23:50:12.6±0.1, 4409N×1222E, h10km, Ml2.6/10, Error ellipse: s-maj=4.1km s-min=2.4km az=39.0*
ISC 17 23:50:12.7±0.3,**4412N**±002×**1220E**±002,**h22**km±3km,**n68**, σ1§**12**/112,**Northern Italy**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	Barisano	0.19	332	Pg	Pb	23 50 17.5	-0.4
	345nm,0.2s						
RSM	Repubblica di	0.26	136	Pg	Pb	23 50 17.9	-0.9
RSM				Sg	Sb	23 50 21.9	-1.1
	52nm,0.4s						
SFI	Santa Sofia	0.33	231	Pg	Pb	23 50 18.9	-1.1
SFI				Sg	Sb	23 50 24.7	-0.3
	380nm,0.2s						
PESA	Pesaro	0.49	111	Pg	Pb	23 50 21.9	-0.7
PESA				Sg	Sb	23 50 30.2	+0.8
	532nm,0.2s						
VMG	Vicchio	0.50	252	Pg	Pb	23 50 22.0	-0.8
VMG				Sg	Sb	23 50 30.3	+0.7
	240nm,0.4s						
CRE	Caprese Michel	0.53	200	Pg	Pb	23 50 22.3	-1.0
CRE				Sg	Sb	23 50 31.1	+0.6
	143nm,0.3s						
CMPO	Campotto Po	0.55	329	Pg	Pb	23 50 25.0	+1.4
	370nm,0.9s						
FSSB	Fossombrone	0.59	135	Pg	Pb	23 50 22.9	-1.5
FSSB				Sg	Sb	23 50 32.3	0.0
	310nm,0.2s						
BADI	Badiali	0.61	177	Pg	Pb	23 50 23.3	-1.3
	36μm,18.0s						
SEI	Scarperia	0.61	265	Pg	Pb	23 50 24.1	-0.6
SEI				Sg	Sb	23 50 34.6	+1.7
	748nm,0.4s						
PIEI	Pieia	0.63	157	Pg	Pb	23 50

SKDS	**Skadanscina**	**1.93**	**41**	*i* Pn	**Pn**	**23 50 42.8**	**-1.2**
SKDS				*i* Sn	**Sn**	**23 51 07.5**	**0.0**
CTI	**Castel Tesino**	**1.97**	**349**	Pg	**Pn**	**23 50 44.9**	**+0.2**
MAGA	**Magasa**	**2.00**	**327**	Pg	**Pn**	**23 50 45.4**	**+0.3**
VOY	**Vojsko**	**2.26**	**31**	*e*Pn	**Pn**	**23 50 49.7**	**+1.1**
VOY				*e*Sn	**Sn**	**23 51 16.1**	**+0.3**
VOY				*e*		23 51 28.7	
VOY	**Vojsko**	**2.26**	**31**	*e*Pn	**Pn**	**23 50 49.7**	**+1.1**
VOY				*e*Sn	**Sn**	**23 51 16.1**	**+0.3**
CEY	**Cerknica**	**2.26**	**43**	*i* Pn	**Pn**	**23 50 47.6**	**-1.1**
CEY				*i* Sn	**Sn**	**23 51 15.9**	**0.0**
CEY	**Cerknica**	**2.26**	**43**	*i* Pn	**Pn**	**23 50 47.6**	**-1.1**
CEY				*i* Sn	**Sn**	**23 51 15.9**	**0.0**
CEY							
	comp=Z,6.0nm,0.2s						
CEY	**Cerknica**	**2.26**	**43**	*i* Pn	**Pn**	**23 50 47.6**	**-1.1**
CEY				*i* Sn	**Sn**	**23 51 15.9**	**0.0**
ROBS	**Robic**	**2.32**	**23**	*i* Sn	**Sn**	**23 51 17.4**	**+0.1**
VISS	**Visnje**	**2.52**	**47**	*i* Pn	**Pn**	**23 50 52.0**	**-0.2**
VISS				*i* Sn	**Sn**	**23 51 22.4**	**+0.2**
VISS	**Visnje**	**2.52**	**47**	*i* Pn	**Pn**	**23 50 52.0**	**-0.2**
VISS				*i* Sn	**Sn**	**23 51 22.4**	**+0.2**
VISS							
	comp=Z,3.0nm,0.2s						
VISS	**Visnje**	**2.52**	**47**	*i* Pn	**Pn**	**23 50 52.0**	**-0.2**
VISS				*i* Sn	**Sn**	**23 51 22.4**	**+0.2**
LJU	**Ljubljana**	**2.54**	**40**	*i* Sn	**Sn**	**23 51 23.4**	**+0.8**
GORS	**Gorjuse**	**2.54**	**29**	*i* Pn	**Pn**	**23 50 52.6**	**+0.1**
GORS				*i* Sn	**Sn**	**23 51 22.8**	**+0.1**
GORS	**Gorjuse**	**2.54**	**29**	*i* Pn	**Pn**	**23 50 52.6**	**+0.1**
GORS				*i* Sn	**Sn**	**23 51 22.8**	**+0.1**
GORS							
	comp=Z,2.0nm,0.1s						
GORS	**Gorjuse**	**2.54**	**29**	*i* Pn	**Pn**	**23 50 52.6**	**+0.1**
GORS				*i* Sn	**Sn**	**23 51 22.8**	**+0.1**
BOJS	**Bojanci**	**2.58**	**56**	*i* Pn	**Pn**	**23 50 54.0**	**+1.0**
BOJS				*i* Sn	**Sn**	**23 51 23.9**	**+0.3**
PGF	**Pioggiola**	**2.81**	**237**	*e*Pn	**Pn**	**23 50 55.3**	**-1.0**
PGF				*e*Sn	**Sn**	**23 51 29.6**	**+0.1**
	comp=Z,4.8nm,0.3s						
PGF	**Pioggiola**	**2.81**	**237**	*e*Pn	**Pn**	**23 50 55.3**	**-1.0**
PGF				*e*Sn	**Sn**	**23 51 29.6**	**+0.1**
	comp=Z,2.4nm,0.3s						
SBF	**Sospel**	**3.45**	**267**	*e*Pn	**Pn**	**23 51 04.5**	**-0.5**
SBF				*e*Sn	**Sn**	**23 51 43.1**	**-2.1**
	comp=Z,7.6nm,0.3s						
SBF	**Sospel**	**3.45**	**267**	*e*Pn	**Pn**	**23 51 04.5**	**-0.5**
SBF				*e*Sn	**Sn**	**23 51 43.1**	**-2.1**
	comp=Z,3.8nm,0.3s						
MBDF	**Montbardon**	**3.94**	**281**	*e*Pn	**Pn**	**23 51 11.6**	**-0.1**
MBDF				*e*Sn	**Sn**	**23 51 54.9**	**-2.3**
	comp=Z,0.8nm,0.2s						
MBDF	**Montbardon**	**3.94**	**281**	*e*Pn	**Pn**	**23 51 11.6**	**-0.1**
MBDF				*e*Sn	**Sn**	**23 51 54.9**	**-2.3**
	comp=Z,0.4nm,0.2s						
FRF	**La Foret Royal**	**4.06**	**264**	*e*Pn	**Pn**	**23 51 13.6**	**+0.2**
LPG	**La Plagne**	**4.12**	**291**	*e*Pn	**Pn**	**23 51 13.2**	**-1.0**
LPG				*e*Sn	**Sn**	**23 52 00.2**	**-1.4**
	comp=Z,1.8nm,0.4s						
LPG	**La Plagne**	**4.12**	**291**	*e*Pn	**Pn**	**23 51 13.2**	**-1.0**
LPG				*e*Sn	**Sn**	**23 52 00.2**	**-1.4**
	comp=Z,0.9nm,0.4s						
LPL	**La Plagne**	**4.14**	**292**	*e*Sn	**Sn**	**23 52 00.7**	**-1.4**
	comp=Z,2.0nm,0.4s						
LPL	**La Plagne**	**4.14**	**292**	*e*Sn	**Sn**	**23 52 00.7**	**-1.4**
	comp=Z,1.0nm,0.4s						
LMR	**La Mourre**	**4.20**	**261**	*e*Pn	**Pn**	**23 51 15.4**	**+0.1**
LMR				*e*Sn	**Sn**	**23 52 02.1**	**-1.6**
	comp=Z,1.1nm,0.3s						
LMR	**La Mourre**	**4.20**	**261**	*e*Pn	**Pn**	**23 51 15.4**	**+0.1**
LMR				*e*Sn	**Sn**	**23 52 02.1**	**-1.6**
	comp=Z,0.6nm,0.3s						
CABF	**La Chapelle**	**4.98**	**302**	*e*Pn	**Pn**	**23 51 26.5**	**+0.5**
HINF	**Hinteralfeld**	**5.25**	**317**	*e*Pn	**Pn**	**23 51 28.6**	**-1.2**
HINF				*e*Sn	**Sn**	**23 52 24.7**	**-4.9**
	comp=Z,1.8nm,0.3s						
HINF	**Hinteralfeld**	**5.25**	**317**	*e*Pn	**Pn**	**23 51 28.6**	**-1.2**
HINF				*e*Sn	**Sn**	**23 52 24.7**	**-4.9**
	comp=Z,0.9nm,0.3s						
VIVF	**Saint-Julien-l**	**5.44**	**280**	*e*Pn	**Pn**	**23 51 32.1**	**-0.2**
CDF	**Champ du Feu**	**5.49**	**323**	*e*Pn	**Pn**	**23 51 33.5**	**+0.5**
CDF				*e*Sn	**Sn**	**23 52 31.1**	**-4.3**
	comp=Z,0.6nm,0.3s						
HAU	**Haudompre**	**5.63**	**316**	*e*Pn	**Pn**	**23 51 34.1**	**-0.9**
HAU				*e*Sn	**Sn**	**23 52 33.3**	**-5.6**
	comp=Z,2.9nm,0.3s						
HAU	**Haudompre**	**5.63**	**316**	*e*Pn	**Pn**	**23 51 34.1**	**-0.9**
HAU				*e*Sn	**Sn**	**23 52 33.3**	**-5.6**
	comp=Z,1.5nm,0.3s						
SMF	**Signal de Mont**	**6.41**	**296**	*e*Pn	**Pn**	**23 51 44.8**	**-0.8**
LOR	**Lormes**	**6.64**	**301**	*e*Pn	**Pn**	**23 51 48.0**	**-0.8**

*IDC **17** 23:59:22.9±0.7, 3150N×14221E, h0km, mb3.8/9, mb1 4.0/12, mb1mx3.9/21, mbtmp3.8/12, ML3.9/3, Error ellipse: s-maj=24.7km s-min=16.0km az=68.0*
*ISCJB **17** 23:59:24.4±3.1, 3143N±006×142.1E±01, h24km±23km, mb3.8/9, Error ellipse: s-maj=20.8km s-min=6.8km az=157.8*

ISC 17 23:59:26.3±3.3, 3143N±006×1421E±01, h24km±24km, n16, σ0.972/18, mb3.8/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.59**	**311**	Pn	**Pn**	**00 00 06.1**	**-0.6**
	27nm,0.3s,baz=228,slow=23,SNR=8.1						
JHJ				Sn	**Sn**	**00 00 38.0**	**+0.6**
	39nm,0.3s,baz=85,slow=22,SNR=7.5						
CBIJ	**Chichi jima**	**4.32**	**179**	Pn	**Pn**	**00 00 31.1**	**+0.5**
	16nm,0.3s,baz=78,slow=17,SNR=9.7						
CBIJ				Sn	**Sn**	**00 01 18.8**	**-1.4**
	25nm,0.3s,baz=75,slow=22,SNR=5.9						
MJAR	**Matsushiro Arr**	**6.04**	**329**	Pn	**Pn**	**00 00 54.1**	**0.0**
	2.7nm,0.3s,baz=155,slow=13,SNR=11						
MJAR				Sn	**Sn**	**00 02 01.0**	**-1.5**
	1.2nm,0.3s,baz=125,slow=27,SNR=3.8						
MAT	**Matsushiro**	**6.04**	**329**	P	**Pn**	**00 00 54.4**	**+0.3**
MAT				*e*S	**Sn**	**00 02 02.5**	**0.0**
ZALV	**Zalesovo Beam**	**46.24**	**316**	P	**P**	**00 07 49.1**	**-0.4**
	0.4nm,0.5s,mb3.6,baz=101,slow=7.6,SNR=2.8						
MKAR	**Makanchi Array**	**47.75**	**307**	P	**P**	**00 08 02.8**	**+1.5**
	0.2nm,0.3s,mb3.6,baz=96,slow=8.7,SNR=5.3						
WRA	**Warramunga Arr**	**51.62**	**189**	P	**P**	**00 08 31.9**	**+1.0**
	0.9nm,0.5s,mb4.0,baz=5.0,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**55.34**	**189**	P	**P**	**00 08 58.3**	**0.0**
	0.4nm,0.5s,mb3.7,baz=351,slow=5.1,SNR=6.8						
YKA	**Yellowknife Ar**	**68.39**	**29**	P	**P**	**00 10 25.1**	**-0.5**
	0.1nm,0.3s,mb3.3,baz=307,slow=8.5,SNR=4.5						
FINES	**FINESS Array B**	**74.05**	**333**	P	**P**	**00 11 00.4**	**+0.5**
	0.9nm,0.7s,mb3.8,baz=46,slow=5.5,SNR=4.2						
NVAR	**Mina Array Bea**	**77.92**	**52**	P	**P**	**00 11 22.2**	**-0.2**
	0.8nm,0.6s,mb3.8,baz=288,slow=5.5,SNR=6.8						
NB2	**NORSAR Subarra**	**79.58**	**338**	P	**P**	**00 11 31.1**	**+0.1**
	comp=Z,0.5nm,0.6s,mb3.6,baz=40,slow=5.6						
NOA	**NORSAR Array B**	**79.58**	**338**	P	**P**	**00 11 31.0**	**-0.1**
	comp=Z,0.7nm,0.9s,mb3.6,baz=33,slow=4.0,SNR=3.6						
TXAR	**Lajitas Array**	**93.06**	**53**	P	**P**	**00 12 38.5**	**+0.1**
	comp=Z,0.9nm,0.7s,mb4.3,baz=323,slow=3.9,SNR=6.6						
TORD	**Torodi Ar. Bea**	**121.63**	**313**	PKP	PKPdf	00 18 18.9	+0.2
	comp=Z,0.1nm,0.5s,baz=14,slow=3.5,SNR=2.7						
LPAZ	**La Paz**	**148.64**	**68**	PKPbc	PKPbc	00 19 13.7	+1.7
	comp=Z,0.8nm,0.6s,baz=18,slow=6.4,SNR=5.1						

*NEIC **18** 00:09:58.6, 3135S×7173W, h33km, ML3.5(GUC), After GUC.*

GUC 18 00:09:58.6±0.7, 3135S×7173W, h33km±6km, MD4.0, ML3.5, 6C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.65**	**74**	⇑*i*P	Pn	00 10 11.2	-0.3
CMCH				*i* S	Sb	00 10 20.8	+0.4
CMCH	**Combarbala**	**0.65**	**74**	⇑*i*P	Pn	00 10 11.2	-0.3
CMCH				*i* S	Sb	00 10 20.8	+0.4
CMCH				AML	AML	00 10 25.6	
	comp=E,4μm,0.8s						
OVCH	**Ovalle**	**0.87**	**32**	⇓*i*P	Pn	00 10 14.5	0.0
OVCH				*i* S	Sn	00 10 26.4	+0.3
OVCH	**Ovalle**	**0.87**	**32**	⇓*i*P	Pn	00 10 14.5	0.0
OVCH				*i* S	Sn	00 10 26.4	+0.3
OVCH				AML	AML	00 10 31.3	
	comp=N,2μm,0.3s						
TLL	**Tololo Astrono**	**1.43**	**34**	⇓*i*P	Pn	00 10 23.9	+1.7
TLL				*i* S	Sn	00 10 43.1	+3.3
TLL	**Tololo Astrono**	**1.43**	**34**	⇓*i*P	Pn	00 10 23.9	+1.7
TLL				*i* S	Sn	00 10 43.1	+3.3
TLL				AML	AML	00 10 46.5	
	comp=E,749nm,0.4s						
LSCH	**La Serena**	**1.50**	**16**	⇑*i*P	Pn	00 10 24.4	+1.1
LSCH				*i* S	Sn	00 10 44.1	+2.4
JACH	**Jahuel**	**1.64**	**144**	⇑*i*P	Pn	00 10 27.1	+2.0
JACH				*i* S	Sn	00 10 48.6	+3.6
PEL	**Peldehue**	**1.99**	**154**	⇓*i*P	Pn	00 10 31.4	+1.4
PEL				*i* S	Sn	00 10 57.0	+3.2
PEL				AML	AML	00 10 60.0	
	comp=E,946nm,0.4s						
CLCH	**Cerro Calan**	**2.27**	**154**	*e*P	Pn	00 10 35.1	+1.3
CLCH				*i* S	Sn	00 11 03.2	+2.4
CLCH				AML	AML	00 11 14.4	
	comp=E,622nm,0.5s						
FCH	**Farellones**	**2.31**	**149**	⇓*i*P	Pn	00 10 36.5	+2.1
FCH				*i* S	Sn	00 11 05.3	+3.6
FCH				AML	AML	00 11 09.7	
	comp=E,289nm,0.2s						
TACH	**Talagante**	**2.39**	**164**	*e*P	Pn	00 10 36.6	+1.2
PCH	**Pirque**	**2.48**	**156**	*e*P	Pn	00 10 38.2	+1.5
LCO	**Las Campanas**	**2.50**	**21**	*e*Pn	Pn	00 10 38.0	+1.0
LCO				*e*Sn	Sn	00 11 08.0	+1.6
CHCH	**Chadas Angostu**	**2.73**	**161**	*e*P	Pn	00 10 41.7	+1.6
CHCH				*i* S	Sn	00 11 14.6	+2.6
LMEL	**Las Melosas**	**2.80**	**153**	⇑*i*P	Pn	00 10 43.1	+2.0
LMEL				*i* S	Sn	00 11 16.5	+2.8
LMEL	**Las Melosas**	**2.80**	**153**	⇑*i*P	Pn	00 10 43.1	+2.0
LMEL				*i* S	Sn	00 11 16.5	+2.8
LMEL				AML	AML	00 11 28.2	
	comp=N,246nm,0.2s						
CACH	**El Canelo**	**2.92**	**161**	*e*P	Pn	00 10 44.6	+2.0
CICH	**Cipreses**	**3.16**	**160**	*e*P	Pn	00 10 47.8	+1.8

*BJI **18** 00:12:54.2, 104N×97.09E, h32km, mB5.2, mb5.1, Ms4.9, Msz4.8*
*ISCJB **18** 00:12:56.0±1.0, 128N±004×97.12E±003, h28km±7km, mb5.0/77, MS4.5/39, Error ellipse: s-maj=6.5km s-min=5.0km az=33.8*
*MOS **18** 00:12:56.6±0.9, 138N×97.17E, h33km, mb5.0/22, MS4.5/8, Error ellipse: s-maj=12.8km s-min=6.7km az=104.6*
*IDC **18** 00:12:59.7±2.6, 134N×97.22E, h42km±21km, mb4.3/15, mb1 4.4/16, mb1mx4.2/21, mbtmp4.3/16, MS4.2/15, Ms1 4.2/15, ms1mx4.0/35, Error ellipse: s-maj=24.6km s-min=11.5km az=47.0*
*NEIC **18** 00:12:59.0±0.8, 132N×97.19E, h36km±7km, mb4.9/25, Error ellipse: s-maj=6.9km s-min=4.7km az=62.0*
NEIC Felt [III] at Gunungsitoli.
*SZGRF **18** 00:13:04.8, 1.16N×96.52E, h33km, mb4.4, Off west coast of northern Sumatera, Indonesia*

ISC 18 00:12:59.2±0.6, 128N±004×9714E±003, h38km±5km, h33km±2.6km: pP-P, n194, σ0.999/197, mb5.0/77, MS4.5/39, 30C-13D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.34**	**50**	P	**Pn**	**00 13 34.2**	**-1.0**
	31nm,0.3s,baz=231,slow=4.7,SNR=186						
PSI	**Prapat**	**2.34**	**50**	⇑*e*P	**Pn**	**00 13 34.5**	**-0.7**
PPI	**Padang Panjang**	**3.69**	**118**	P	**Pn**	**00 13 53.3**	**-0.5**
	552nm,1.3s						
BSI	**Banda Aceh**	**4.57**	**336**	P	**Pn**	**00 14 12.1**	**+6.1**
	291nm,1.1s						
FRIM	**Kepong**	**4.89**	**66**	⇑P	**Pn**	**00 14 10.7**	**+0.4**
IPM	**Ipoh**	**5.02**	**51**	⇓P	**Pn**	**00 14 12.6**	**+0.5**
KULM	**Kulim**	**5.31**	**41**	*e*Pn	**Pn**	**00 14 15.5**	**-0.6**
KULM				*e*Sn	**Sn**	**00 15 07.7**	**-8.3**
KULM	**Kulim**	**5.31**	**41**	⇑P	**Pn**	**00 14 16.4**	**+0.4**
KGM	**Kluang**	**6.22**	**83**	⇑P	**Pn**	**00 14 29.9**	**+1.2**
MYKOM	**Kota Tinggi**	**6.73**	**86**	⇓P	**Pn**	**00 14 36.9**	**+1.3**
SNG	**Songkhla**	**6.81**	**31**	P	**Pn**	**00 14 35.5**	**-1.2**
	710nm,1.0s						
KTGM	**Kuala Trenggan**	**7.21**	**56**	⇓P	**Pn**	**00 14 42.6**	**+0.4**
TPI	**Tanjungpandan**	**11.25**	**111**	P	**Pn**	**00 15 39.1**	**+1.5**
	46nm,1.6s						
KSM	**Kuching**	**13.17**	**89**	Pn	**Pn**	**00 16 03.7**	**-0.2**
KSM				Sn	**Sn**	**00 18 27.9**	**-1.3**
KSM	**Kuching**	**13.17**	**89**	⇑P	**Pn**	**00 16 05.0**	**+1.1**
COCO	**West Island**	**13.38**	**181**	*e*Pn	**Pn**	**00 16 06.2**	**-0.6**
SBUM	**Sibu**	**15.12**	**85**	⇑P	**Pn**	**00 16 32.0**	**+1.7**
BTM	**Bintulu**	**16.05**	**83**	⇑P	**Pn**	**00 16 44.1**	**+1.8**
CM31	**Chiang Mai Arr**	**17.16**	**6**	*e*Pn	**Pn**	**00 16 54.4**	**-1.8**
CHG	**Chiang Mai**	**17.52**	**6**	⇑P	**Pn**	**00 16 58.2**	**-2.4**
	45nm,1.0s						
CHTO	**Chiang Mai**	**17.52**	**6**	*e*P	**Pn**	**00 16 58.3**	**-2.3**
KKM	**Kota Kinabalu**	**19.61**	**76**	*e*P	**Pn**	**00 17 23.9**	**-2.3**
KKM	**Kota Kinabalu**	**19.61**	**76**	⇑P	**Pn**	**00 17 26.3**	**+0.1**
SDKM	**Sandakan**	**20.48**	**77**	⇓P	**P**	**00 17 34.5**	**+0.5**
KHKI	**Kahang-Kahang**	**20.76**	**118**	P	**P**	**00 17 40.5**	**+3.5**
	37nm,1.1s						
TSM	**Tawau**	**20.93**	**81**	⇓P	**P**	**00 17 39.3**	**+0.4**
QIZ	**Qiongzhong**	**21.59**	**34**	P	**P**	**00 17 45.3**	**-0.7**
QIZ				XS	sS	00 21 56.5	-2.4
QIZ				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.5						
QIZ				AMB	AMB		
	comp=Z,184nm,6.3s						
QIZ				LR	LR		
	comp=N,793nm,11.7s						
QIZ				LR	LR		
	comp=Z,800nm,13.9s,MS4.3						
QIZ	**Qiongzhong**	**21.59**	**34**	*e*P	**P**	**00 17 45.2**	**-0.7**
	comp=Z,23nm,0.8s,mb4.7						
MYLDM	**Lahad Datu**	**21.68**	**79**	⇑P	**P**	**00 17 48.1**	**+1.2**
KAPI	**Kappang**	**23.44**	**106**	P	**P**	**00 18 04.1**	**-1.4**
	comp=Z,141nm,1.0s,mb5.3,SNR=7.4						
KAPI	**Kappang**	**23.44**	**106**	P	**P**	**00 18 03.7**	**-1.9**
	comp=Z,27nm,1.0s,mb4.6,baz=298,slow=8.9,SNR=11						
HYB	**Hyderabad**	**24.31**	**312**	*e*P	**P**	**00 18 15.0**	**+1.6**
HYB				*e*		00 18 38.0	
HYB	**Hyderabad**	**24.31**	**312**	*i* P	**P**	**00 18 15.0**	**+1.6**
HYB				*e*		00 18 38.0	
KMI	**Kunming**	**24.32**	**12**	⇑P	**P**	**00 18 14.1**	**+0.7**
KMI				AP		00 18 23.0	
KMI				XP	sP	00 18 26.5	-2.0
KMI				PP		00 18 50.6	
KMI				PPP		00 19 02.1	
KMI				PCP	PcP	00 21 53.3	+0.6
KMI				S	**S**	**00 22 29.4**	**-0.7**
KMI				XS	sS	00 22 43.4	-4.2
KMI				SS		00 23 24.4	
KMI				SSS		00 23 41.1	
KMI				PCS	PcS	00 25 33.6	+1.0
KMI				AMB	AMB		
	comp=Z,105nm,1.1s,mb5.2						
KMI				AMB	AMB		
	comp=Z,447nm,3.1s						
KMI				LR	LR		
	comp=N,2μm,13.7s,MS4.9						
KMI				LR	LR		
	comp=E,1μm,11.9s,MS4.9						
KMI				LR	LR		
	comp=Z,3μm,13.1s,MS4.9						
SHL	**Shillong**	**24.67**	**349**	⇑*i*P	**P**	**00 18 17.5**	**+0.9**
SHL				*e*S	**S**	**00 22 42.6**	**+6.8**
KDI	**Kendari**	**25.99**	**102**	P	**P**	**00 18 28.1**	**-0.7**
	comp=Z,28nm,1.0s,mb4.8						
DGAR	**Diego Garcia**	**26.09**	**250**	P	**P**	**00 18 30.5**	**+0.8**
GYA	**Guiyang**	**26.66**	**19**	⇑*i*P	**P**	**00 18 33.6**	**-1.0**
GYA				AP	pP	00 18 41.8	-3.4
GYA				XP	sP	00 18 45.8	-4.0
GYA				PP		00 19 22.3	
GYA				PCP	PcP	00 22 00.8	+2.8
GYA				S	**S**	**00 23 09.3**	**+1.9**
GYA				XS	sS	00 23 23.9	-1.2
GYA				SS		00 24 21.6	
GYA				SCP	ScP	00 25 36.8	+1.6
GYA				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.0						
GYA				AMB	AMB		
	comp=Z,360nm,4.8s						
GYA				LR	LR		
	comp=N,2μm,14.2s,MS4.8						
GYA				LR	LR		
	comp=E,460nm,13.2s,MS4.8						
GYA				LR	LR		
	comp=Z,2μm,13.5s,MS4.9						
GZH	**Guangzhou**	**26.79**	**35**	P	**P**	**00 18 40.6**	**+4.8**
GZH				LR	LR		
	comp=N,755nm,14.8s,MS4.5						
GZH				LR	LR		
	comp=E,597nm,14.8s,MS4.5						
GZH				LR	LR		
	comp=Z,2μm,13.3s,MS4.8						
JIRN	**Jiri**	**28.25**	**339**	*e*P	**P**	**00 18 49.9**	**+1.0**
	comp=Z,146nm,0.9s,mb5.6						
PKI	**Pulchoki**	**28.46**	**338**	*e*P	**P**	**00 18 51.3**	**+0.6**
GUN	**Gumba**	**28.59**	**339**	*e*P	**P**	**00 18 52.8**	**+0.9**
	comp=Z,110nm,0.8s,mb5.7						
DMN	**Daman**	**28.61**	**337**	*e*P	**P**	**00 18 52.5**	**+0.5**
	comp=Z,70nm,1.1s,mb5.3						
KKN	**Kakani**	**28.70**	**338**	*e*P	**P**	**00 18 53.3**	**+0.4**
	comp=Z,89nm,1.0s,mb5.4						
LSA	**Lhasa**	**28.83**	**349**	P	**P**	**00 18 53.8**	**-0.2**
LSA				LR	LR		
	comp=E,460nm,22.0s						
LSA				LR	LR		
	comp=Z,580nm,18.2s,MS4.2						
LSA	**Lhasa**	**28.83**	**349**	*e*P	**P**	**00 18 54.8**	**+0.8**
LSA				pmax	pmax		
	comp=Z,25nm,0.8s,mb5.0						
LSA	**Lhasa**	**28.83**	**349**	*e*P	**P**	**00 18 54.8**	**+0.8**
	comp=Z,25nm,0.8s,mb5.0						
GKN	**Gorkha**	**29.14**	**337**	*e*P	**P**	**00 18 57.5**	**+0.7**
	comp=Z,117nm,1.0s,mb5.6						
KOLN	**Koldanda**	**29.36**	**335**	*e*P	**P**	**00 18 59.6**	**+0.9**
	comp=Z,71nm,0.9s,mb5.4						
DANN	**Dangsing**	**29.80**	**336**	*e*P	**P**	**00 19 03.1**	**+0.5**
	comp=Z,47nm,0.8s,mb5.3						
CD2	**Chengdu**	**30.13**	**11**	P	**P**	**00 19 04.1**	**-1.4**
CD2				AP	pP	00 19 12.0	-4.2
CD2				XP	sP	00 19 16.3	-4.5
CD2				PP	PP	00 20 05.5	-8.6
CD2				S	**S**	**00 24 01.0**	**-0.9**
CD2				XS	sS	00 24 17.3	-2.3
CD2				SS	SS	00 25 42.0	-29
CD2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.0						
CD2				AMB	AMB		
	comp=Z,240nm,8.4s						
CD2				LR	LR		
	comp=N,1μm,18.0s,MS4.9						
CD2				LR	LR		
	comp=E,2μm,15.0s,MS4.9						
CD2				LR	LR		
	comp=Z,2μm,13.2s,MS4.9						
QZH	**Quanzhou**	**31.35**	**40**	P	**P**	**00 19 16.0**	**-0.4**
QZH				S	**S**	**00 24 21.0**	**-0.2**
QZH				AMB	AMB		
	comp=Z,40nm,0.9s,mb5.2						
QZH				LR	LR		
	comp=N,2μm,12.6s,MS5.0						
QZH				LR	LR		
	comp=E,2μm,15.2s,MS5.0						
QZH				LR	LR		
	comp=Z,2μm,14.2s,MS4.8						
PTH	**Pithoragarh**	**32.40**	**332**	*e*P	**P**	**00 19 26.2**	**+0.6**
NACB	**Ninganchiao**	**32.84**	**44**	*e*P	**P**	**00 19 27.9**	**-1.6**
YHNB	**Yeheng**	**33.01**	**43**	*e*P	**P**	**00 19 29.9**	**-1.1**
WHN	**Wuhan**	**33.38**	**28**	*e*P	**P**	**00 19 36.3**	**+2.2**
DDI	**Dehra Dun**	**34.09**	**330**	*ex*	x	00 19 36.0	
XAN	**Xi'an**	**34.41**	**17**	P	**P**	**00 19 41.5**	**-1.5**
XAN				AMB	AMB		
	comp=Z,55nm,1.0s,mb5.4						
LZH	**Lanzhou**	**35.19**	**9**	*e*P	**P**	**00 19 49.9**	**+0.2**
LZH				AP	pP	00 19 56.6	-3.8
LZH				PP	PP	00 21 10.3	+0.2
LZH				*e*S	**S**	**00 25 22.0**	**+1.6**
LZH				XS	sS	00 25 38.0	-0.3
LZH				SS	SS	00 27 37.0	-18
LZH				AMB	AMB		
	comp=Z,42nm,1.2s,mb5.2						
LZH				AMB	AMB		
	comp=Z,140nm,4.2s						
LZH				LR	LR		
	comp=E,860nm,15.0s						
LZH				LR	LR		
	comp=Z,1μm,16.1s,MS4.8						
NJ2	**Nanjing**	**36.83**	**32**	*e*P	**P**	**00 20 05.4**	**+1.6**
NJ2				AP	pP	00 20 13.3	-1.3
NJ2				XP	sP	00 20 15.8	-3.4
NJ2				PP	PP	00 21 30.1	+1.8
NJ2				PPP		00 21 49.9	
NJ2				S	**S**	**00 25 46.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,470nm,10.8s						
NJ2				LR	LR		
	comp=N,1μm,21.6s,MS4.8						
NJ2				LR	LR		
	comp=E,1μm,18.4s,MS4.8						
NJ2				LR	LR		
	comp=Z,1μm,18.4s,MS4.7						
KAKA	**Kakadu**	**37.69**	**113**	*e*P	**P**	**00 20 09.3**	**-2.1**
	comp=Z,25nm,1.1s,mb4.9						
GTA	**Gaotai**	**38.03**	**3**	⇑P	**P**	**00 20 13.5**	**-0.3**
GTA				AP	pP	00 20 24.3	-0.4
GTA				XP	sP	00 20 28.0	-1.2
GTA				PP	PP	00 21 43.9	+2.6
GTA				PPP		00 22 06.0	
GTA				S	**S**	**00 26 04.0**	**+0.3**
GTA				XS	sS

WMQ SS SS 00 30 27.0 -7.4
WMQ AMB AMB
comp=Z,52nm,1.2s,mb5.1
WMQ AMB AMB
comp=Z,87nm,5.0s
WMQ LR LR
comp=N,157nm,14.0s,MS4.4
WMQ LR LR
comp=E,285nm,15.0s,MS4.4
WMQ LR LR
comp=Z,206nm,14.0s,MS4.2
FORT Forrest 43.38 140 *e*P **P 00 20 59.6 +1.5**
comp=Z,29nm,0.8s,mb5.0
ASAR Alice Springs 43.49 127 P **P 00 20 59.0 -0.2**
ASAR 00 22 45.1
ASAR S **S 00 27 24.7 -0.9**
ASAR Alice Springs 43.49 127 P **P 00 20 59.0 -0.2**
comp=Z,5.6nm,0.8s,mb4.3,baz=302,slow=7.7,SNR=40
ASAR PcP PcP 00 22 45.0 -1.8
comp=Z,1.7nm,0.9s,baz=316,slow=2.9,SNR=4.8
ASAR ScP ScP 00 26 36.8 +1.2
comp=Z,1.0nm,0.9s,baz=322,slow=3.8,SNR=4.2
ASAR S **S 00 27 24.6 -0.9**
comp=Z,1.1nm,1.1s,baz=290,slow=14,SNR=5.9
DL2 Dalian 43.64 28 P **P 00 21 00.1 0.0**
DL2 *e*S **S 00 27 28.8 +1.6**
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.0
DL2 LR LR
comp=N,230nm,12.6s,MS4.5
DL2 LR LR
comp=E,300nm,13.9s,MS4.5
DL2 LR LR
comp=Z,300nm,15.7s,MS4.3
UCH Uchtor 45.55 336 *e*P **P 00 21 16.1 +0.8**
comp=Z,21nm,1.0s,mb5.0
UCH Uchtor 45.55 336 P **P 00 21 16.5 +1.2**
SNR=14
TKM2 Tokmak 2 45.72 338 *e*P **P 00 21 17.3 +0.7**
TKM2 00 23 02.6
TKM2 pmax pmax
comp=Z,17nm,1.0s,mb4.9
TKM2 Tokmak 2 45.72 338 *e*P **P 00 21 17.3 +0.6**
comp=Z,17nm,1.0s,mb4.9
TKM2 PP PP 00 23 02.6 -1.7
TKM2 Tokmak 2 45.72 338 P **P 00 21 17.4 +0.8**
SNR=9.7
KBK Karagaybulak 45.74 337 P **P 00 21 18.1 +1.3**
SNR=14
AML Almayashu 45.80 336 *e*P **P 00 21 18.1 +0.8**
comp=Z,20nm,0.8s,mb5.1
AML Almayashu 45.80 336 P **P 00 21 18.5 +1.2**
SNR=7.4
KSRS Korea Array 45.82 35 P **P 00 21 16.8 -0.8**
comp=Z,32nm,0.9s,mb5.2,baz=223,slow=8.9,SNR=51
KSRS LR LR 00 40 49.7
comp=Z,208nm,19.7s,MS4.1,baz=231,slow=36
AAK Ala-Archa 45.90 337 P **P 00 21 23.1 +5.0**
SNR=5.2
FRU Bishkek 46.02 337 *e*P **P 00 21 24.5 +5.5**
EKS2 Erkin-Say 46.21 336 *e*P **P 00 21 21.3 +0.8**
comp=Z,12nm,0.8s,mb4.9
EKS2 *e*PcP PcP 00 22 55.1 -0.7
EKS2 Erkin-Say 46.21 336 P **P 00 21 21.6 +1.1**
SNR=9.4
USP Ospenovka 46.44 337 P **P 00 21 22.7 +0.5**
SNR=24
SNY Shenyang 46.86 27 ⇓P **P 00 21 25.3 -0.3**
SNY AMB AMB
comp=Z,31nm,0.8s,mb5.3
SONM Songino Array 47.06 9 P **P 00 21 27.3 +0.2**
comp=Z,21nm,0.8s,mb5.1,baz=190,slow=8.2,SNR=66
SONM LR LR 00 42 50.9
comp=Z,284nm,21.0s,MS4.2,baz=73,slow=38
MK31 Makanchi Array 47.15 346 *e*P **P 00 21 27.8 0.0**
MKAR Makanchi Array 47.15 346⇑*e*P **P 00 21 27.7 -0.1**
MKAR Makanchi Array 47.15 346 P **P 00 21 27.8 0.0**
comp=Z,6.2nm,0.5s,mb4.8,baz=161,slow=8.5,SNR=68
MKAR LR LR 00 45 01.7
comp=Z,173nm,20.4s,MS4.0,baz=162,slow=41
ULN Ulaanbaatar 47.19 9⇓*e*P **P 00 21 26.7 -1.4**
ULN Ulaanbaatar 47.19 9 *e*P **P 00 21 27.4 -0.7**
comp=Z,16nm,0.9s,mb4.9
KK31 Karatay Array 47.96 334 *i* P **P 00 21 33.8 -0.3**
KK31 pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
ZAK Zakamensk 49.20 5⇑*i*P **P 00 21 43.7 +0.1**
ZAK pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
CN2 Changchun 49.26 27⇑P **P 00 21 43.6 -0.6**
CN2 *e*AP pP 00 21 53.5 -1.8
CN2 *e*S **S 00 28 47.0 -0.7**
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.5
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,800nm,15.0s,MS5.0
CN2 LR LR
comp=E,700nm,15.0s,MS5.0
CN2 LR LR
comp=Z,800nm,16.0s,MS4.8
TLY Talaya 50.52 5 *e*P **P 00 21 54.0 +0.4**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.8
TLY MLR MLR
comp=Z,492nm,16.0s,MS4.6
TLY Talaya 50.52 5 *e*P **P 00 21 54.5 +1.0**
HIA Hailar 51.59 19*c i*P **P 00 22 01.5 -0.1**
HIA Hailar 51.59 19 *e*P **P 00 22 01.6 0.0**
comp=Z,22nm,0.8s,mb5.1
MJAR Matsushiro Arr 51.68 42 P **P 00 22 01.4 -1.1**
comp=Z,2.8nm,0.6s,mb4.3,baz=226,slow=6.4,SNR=6.5
MJAR LR LR 00 43 33.0
comp=Z,166nm,20.9s,MS4.0,baz=240,slow=36
KURK Kurchatov 51.70 345 P **P 00 22 02.9 +0.5**
comp=Z,108nm,0.8s,mb5.8,SNR=19
KURK Kurchatov 51.70 345⇑*e*P **P 00 22 01.4 -1.0**
KURK Kurchatov 51.70 345 *e*P **P 00 22 02.4 0.0**
comp=Z,26nm,1.1s,mb5.1
MDJ Mudanjiang 51.83 29 P **P 00 22 04.3 +0.8**
MDJ AMB AMB
comp=Z,26nm,1.0s,mb5.1
MDJ AMB AMB
comp=Z,459nm,5.0s
MDJ LR LR
comp=N,190nm,20.6s
MDJ LR LR
comp=Z,280nm,17.5s,MS4.3
MDJ Mudanjiang 51.83 29 *e*P **P 00 22 04.4 +0.8**
comp=Z,22nm,0.8s,mb5.1
CTA Charters Tower 52.59 117 LR LR 00 48 48.1
comp=Z,304nm,20.1s,MS4.3,baz=120,slow=41
CTAO Charters Tower 52.59 117 P **P 00 22 09.6 0.0**
STKA Stephens Creek 53.46 132 *e*P **P 00 22 16.7 +0.9**
comp=Z,7.6nm,0.8s,mb4.7
STKA Stephens Creek 53.46 132 P **P 00 22 16.7 +0.9**
comp=Z,7.1nm,0.8s,mb4.6,baz=304,slow=7.3,SNR=11
ZAL Zalesovo 53.46 351 P **P 00 22 15.3 -0.1**
ZAA0 Zalesovo Array 53.47 351 *e*P **P 00 22 15.4 -0.1**
ZALV Zalesovo Beam 53.47 351 P **P 00 22 15.3 -0.2**
ZALV LR LR 00 50 05.2
ZALV Zalesovo Beam 53.47 351 P **P 00 22 15.3 -0.2**
comp=Z,20nm,0.6s,mb5.3,baz=180,slow=5.9,SNR=128
ZALV LR LR 00 50 05.2
comp=Z,138nm,18.7s,MS4.0,baz=273,slow=42
NVS Novosibirsk 54.59 350⇑*i*P **P 00 22 22.3 -1.3**
NVS *i* pP 00 22 34.9 +0.1
NVS *e*S **S 00 29 52.9 -7.5**
NVS pmax pmax
comp=Z,20nm,1.0s,mb5.1
NVS pmax pmax
comp=N,18nm,1.1s
NVS pmax pmax
comp=E,7.0nm,1.0s
NVS smax
comp=N,20nm,1.7s
KLR Kul'dur 56.21 27 *e*P **P 00 22 31.8 -3.6**
KLR pmax pmax
comp=E,24nm,0.9s
KLR pmax pmax
comp=Z,64nm,0.9s,mb5.7
BRVK Borovoye 56.22 341 P **P 00 22 34.8 -0.6**
comp=Z,103nm,0.6s,SNR=5.9
BRVK Borovoye 56.22 341 *e*P **P 00 22 34.6 -0.7**
BOD Bodaibo 57.95 11⇓*i*P **P 00 22 47.1 -0.4**
BOD pmax pmax
comp=Z,23nm,1.1s,mb5.1
EIDS Eidsvold 58.48 121 *e*P **P 00 22 52.3 +0.5**
comp=Z,8.0nm,1.0s,mb4.7
AKTO Aktyubinsk 59.13 332 *i* P **P 00 22 54.4 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,1.2s
KMBO Kilima Mbogo 59.93 268 LR LR 00 47 35.7
comp=Z,165nm,18.5s,MS4.2,baz=93,slow=35
YSS Yuzh-Sakhalins 60.32 34⇓*i*P **P 00 23 04.7 +0.5**
YSS pmax pmax
comp=Z,60nm,1.1s,mb5.5
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.7
GNI Garni 61.19 316 *e*P **P 00 23 10.6 +0.3**
GNI pmax pmax
comp=Z,9.0nm,0.8s
GNI Garni 61.19 316 *e*P **P 00 23 10.6 +0.3**
comp=Z,9.3nm,0.8s,mb5.0
SVE Sverdlovsk 62.59 338⇓*e*P **P 00 23 18.5 -0.8**
SVE *e*S **S 00 31 55.0 +11**
SVE pmax pmax
comp=Z,21nm,0.9s,mb5.3
SVE MLR MLR
comp=Z,264nm,19.0s,MS4.4
TAU Tasmania Unive 62.92 141 P **P 00 23 22.3 +0.5**
ARU Arti 63.09 337*c i*P **P 00 23 21.5 -1.1**
ARU *e* 00 25 39.7
ARU *e*S **S 00 31 52.6 +1.9**
ARU *e*SS SS 00 35 57.3 +0.3
ARU pmax pmax
comp=Z,15nm,1.0s,mb5.1
ARU Arti 63.09 337 *e*P **P 00 23 21.6 -1.0**
comp=Z,14nm,1.0s,mb5.0
KIV Kislovodsk 64.20 319⇑*e*P **P 00 23 29.0 -1.3**
KIV pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
KIV Kislovodsk 64.20 319 *e*P **P 00 23 29.4 -0.9**
comp=Z,17nm,1.1s,mb5.0
YAK Yakutsk 65.36 16 *e*P **P 00 23 36.2 -1.2**
YAK pmax pmax
comp=Z,96nm,1.2s,mb5.7
YAK pmax pmax
comp=N,26nm,1.1s
YAK pmax pmax
comp=E,27nm,1.6s
YAK MLR MLR
comp=Z,568nm,22.0s,MS4.7
YAK MLR MLR
comp=N,297nm,19.0s,MS4.7
YAK MLR MLR
comp=E,274nm,18.0s,MS4.7
YAK Yakutsk 65.36 16 *e*P **P 00 23 36.9 -0.6**
SOC Sochi 66.02 318 *e*P **P 00 23 40.3 -1.7**
SOC *e**PP pP 00 23 49.1 -4.4
SOC *e* 00 24 07.5
SOC *e*PPP 00 27 44.5
SOC *e*S S 00 32 25.1 -2.2
SOC *e**SS sS 00 32 47.3 +1.0
SOC *e* 00 33 29.2
SOC pmax pmax
comp=Z,12nm,1.0s,mb4.9
VRHR Novokhopersk 68.03 326 *e*P **P 00 23 53.7 -0.9**
VRHR pmax pmax
comp=Z,8.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=N,50nm,1.1s
VRHR pmax pmax
comp=E,10.0nm,0.4s
VRSR Storozhevoye 69.45 325 *e*P **P 00 24 01.3 -2.2**
VRSR pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,2.0nm,0.9s
MA2 Magadan 71.29 26 *e*P **P 00 24 14.1 -0.5**
MA2 pmax pmax
comp=Z,30nm,1.0s,mb5.2
MA2 Magadan 71.29 26 *e*P **P 00 24 14.6 0.0**
PET Petropavlovsk 72.20 34⇓*e*P **P 00 24 20.2 0.0**
PET pmax pmax
comp=Z,18nm,0.6s,mb5.2
PET MLR MLR
comp=Z,100nm,14.0s,MS4.2
MOS Moscow 72.23 329 *e*P pP 00 24 34.1 +2.2
OBN Obninsk 72.52 328⇑*e*P **P 00 24 21.2 -0.8**
OBN *e* 00 27 03.4
OBN pmax pmax
comp=Z,15nm,1.2s,mb4.8
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
OBN Obninsk 72.52 328 *e*P **P 00 24 21.1 -0.9**
TIXI Tiksi 73.12 10 *e*P **P 00 24 23.8 -1.5**
TIXI pmax pmax
comp=Z,17nm,0.9s,mb5.0
TIXI MLR MLR
comp=Z,593nm,15.0s,MS5.0
TIXI Tiksi 73.12 10 *e*P **P 00 24 24.0 -1.3**
comp=Z,18nm,1.0s,mb5.0
SEY Seymchan 73.72 23⇑*e*P **P 00 24 28.5 -0.5**
TIRR Tirgusor 74.02 316⇑*i*P pP 00 24 42.7 -0.1
BOSA Boshof 74.76 240 LR LR 00 52 08.1
comp=Z,237nm,18.3s,MS4.5,baz=121,slow=31
AKASG Malin Array Be 75.16 322 P **P 00 24 36.1 -1.5**
comp=Z,1.6nm,0.6s,mb4.2,baz=90,slow=4.4,SNR=15
MLR Muntele Rosu 75.97 317⇑*i*P **P 00 24 42.5 +0.1**
BURAR Bucovina Array 76.92 319⇓*i*P **P 00 24 47.9 +0.2**
JOF Joensuu 78.05 335 *ep* **P 00 24 50.6 -3.1**
comp=Z,5.2nm,0.8s,mb4.5
BZS Buzias 78.97 316⇑*i*P **P 00 25 03.7 +4.5**
KOLS Kolonicke sedl 79.11 320 *i* P **P 00 25 00.5 +0.6**
RPZ Rata Peaks 79.31 135 LR LR 01 02 29.5
comp=Z,736nm,18.5s,MS5.0,baz=247,slow=38
STHS Stebnicka Huta 79.87 320 *i* P **P 00 25 04.9 +1.0**
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
STHS Stebnicka Huta 79.87 320 *i* P **P 00 25 04.9 +1.0**
comp=Z,2.1nm,0.9s,mb4.1
FINES FINESS Array B 79.90 333 *i* P **P 00 25 03.2 -0.7**
FINES pmax pmax
comp=Z,2.0nm,0.6s
FINES FINESS Array B 79.90 333 P **P 00 25 03.3 -0.6**
comp=Z,2.0nm,0.6s,mb4.2,baz=112,slow=7.1,SNR=14
BILL Bilibino 81.11 21⇑*e*P **P 00 25 09.0 -1.3**
BILL *e* 00 28 13.3
BILL pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BILL MLR MLR
comp=Z,200nm,13.0s,MS4.7
BILL Bilibino 81.11 21 *e*P **P 00 25 09.9 -0.3**
VYHS Vyhne 81.29 319 *i* P **P 00 25 11.4 -0.2**
MORC Moravsky Berou 82.30 320⇑*i*P **P 00 25 25.2 +8.3**
ARCES ARCESS Array B 82.44 340 P **P 00 25 17.1 -0.1**
comp=Z,2.9nm,0.8s,mb4.3,baz=104,slow=4.6,SNR=11
ARCES LR LR 01 06 09.9
comp=Z,193nm,19.3s,MS4.5,baz=212,slow=39
ARSA Arzberg 83.36 317⇓*i*P **P 00 25 22.5 0.0**
comp=Z,4.0nm,0.9s,mb4.4
BRG Berggiesshubel 84.71 321 *e*P **P 00 25 29.3 +0.1**
BRG pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
BRG Berggiesshubel 84.71 321 *e*P **P 00 25 29.3 +0.1**
comp=Z,6.8nm,1.2s,mb4.6
GERES GERESS Array B 84.71 319 P **P 00 25 29.5 +0.2**
comp=Z,1.5nm,0.9s,mb4.1,baz=104,slow=5.6,SNR=14
KHC Kasperske Hory 84.81 319 *i* P **P 00 25 29.2 -0.6**
CLL Collm 85.33 321 *e*P **P 00 25 32.0 -0.3**
VNDA Vanda 85.91 169 P **P 00 25 35.5 +0.8**
VNDA pmax pmax
comp=Z,19nm,1.9s
VNDA Vanda 85.91 169 P **P 00 25 35.5 +0.7**
comp=Z,19nm,1.9s,mb5.0
VNDA Vanda 85.91 169 P **P 00 25 36.5 +1.8**
comp=Z,0.8nm,1.0s,mb3.9,baz=343,slow=3.2,SNR=2.8
GRA1 Grafenberg Arr 86.38 320 *e*P **P 00 25 42.6 +5.0**
comp=Z,4.0nm,1.0s,mb4.6
GRF Grafenberg Arr 86.38 320 *e*P **P 00 25 42.6 +5.0**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
GRF Grafenberg Arr 86.38 320 *e*P **P 00 25 42.6 +5.0**
GRF pmax pmax
comp=Z,4.0nm,1.0s,mb4.6
GRF Grafenberg Arr 86.38 320 *e*P **P 00 25 42.6 +5.0**
comp=Z,4.0nm,1.0s,mb4.6
NB2 NORSAR Subarra 86.91 331 P **P 00 25 39.1 -0.8**
comp=Z,0.8nm,0.7s,mb4.1,baz=95,slow=4.8
NOA NORSAR Array B 86.91 331 P **P 00 25 39.4 -0.5**
comp=Z,2.1nm,0.9s,mb4.4,baz=94,slow=4.9,SNR=6.9
NOA LR LR 01 10 25.2
comp=Z,91nm,20.1s,MS4.2,baz=95,slow=40
KEST Kesra 87.46 306 LR LR 01 12 32.6
comp=Z,41nm,18.3s,MS3.9,baz=346,slow=41
JMIC Jan Mayen 93.87 342 LR LR 01 11 27.3
comp=Z,101nm,20.4s,MS4.3,baz=65,slow=37
TORD Torodi Ar. Bea 95.01 283 P **P 00 26 20.0 +1.3**
comp=Z,0.2nm,0.9s,baz=96,slow=6.8,SNR=2.3
IMA2 Indian Mountai 96.53 23 *e*P **P 00 26 24.5 0.0**
MDT Midelt 99.18 303 LR LR 01 14 56.4
comp=Z,104nm,18.8s,MS4.4,baz=280,slow=38
COLA College 99.23 23 *e*P **P 00 26 38.2 +1.5**
YKA Yellowknife Ar 112.03 15 PP PP 00 32 03.7 -10
comp=Z,0.3nm,0.9s,baz=324,slow=7.0,SNR=4.1
NVAR Mina Array Bea 128.76 36 PKP PKPdf 00 32 04.1 +1.1
comp=Z,1.4nm,1.0s,baz=290,slow=3.0,SNR=6.2
BW06 Boulder Array 130.00 26 PKPdf PKPdf 00 32 05.0 -0.2
TXAR Lajitas Array 143.64 32 PKP PKPdf 00 32 28.9 -2.0
comp=Z,1.2nm,0.8s,baz=204,slow=2.0,SNR=6.0
CPUP Villa Florida 145.02 222 *e*PKIKP PKPdf 00 32 32.6 -0.7
CPUP Villa Florida 145.02 222 PKPbc PKPbc 00 32 32.1 -0.5
comp=Z,1.0nm,0.5s,baz=174,slow=0.7,SNR=8.2
LPAZ La Paz 159.19 223 PKIKP PKPdf 00 32 56.3 +1.8

ISCJB ***18*** *00:45:18.4±0.2, 1943S±005×172.99W±004, h35km, mb5.2/75, MS4.7/37, Error ellipse: s-maj=7.7km s-min=3.5km az=151.1*

SZGRF ***18*** *00:45:18.4, 1992S×172.41W, h33km, mb4.8, Tonga Islands region*

BJI ***18*** *00:45:21.0, 1940S×173.10W, h33km, mB5.6, mb5.4, Ms5.4, Msz5.1*

IDC ***18*** *00:45:21.9±2.5, 1945S×173.16W, h48km±22km, mb4.9/22, mb1 4.9/22, mb1mx4.9/24, mbtmp4.8/22, MS4.5/20, Ms1 4.5/20, ms1mx4.3/29, Error ellipse: s-maj=17.0km s-min=11.1km az=156.0*

NEIC ***18*** *00:45:22.2±2.4, 1937S×173.13W, h54km±21km, mb5.2/33, MS4.7/4, Error ellipse: s-maj=8.6km s-min=4.7km az=147.0*

GCMT ***18*** *00:45:22.2±0.3, 1950S×172.52W, h20km, MW5.1/70, Moment Tensor Solution. s33,c48; s70,c109; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.60±.27; Mθθ=0.32±.17; Mφφ=5.28±.18; Mrθ=-0.67±.38; Mφθ=1.90±.12; Mφr=0.89±.32; Best double couple: Mo=5.86900×10^16 NP1:φs=195.00000°, δ=40.00000°, λ=-96.00000°. NP2: φs=22.00000°, δ=50.00000°, λ=-85.00000°. Principal axes: T 6.0200, Plg=5.0000°, Azm=109.0000°; N -0.3020, Plg=4.0000°, Azm=199.0000°; P -5.7180, Plg=84.0000°, Azm=324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

MOS ***18*** *00:45:24.3±2.8, 1905S×173.28W, h59km, mb5.5/22, MS4.5/5 Error ellipse: s-maj=10.7km s-min=8.0km az=57.5*

ISC 18 00:45:20.5±0.2, 1941S±005×17300W±004, h38km, h38km±1.8km: pP-P, n655, σ0=76/469, mb5.2/75, MS4.7/37, 129C-148D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**5.59**	**12**	*e*P	**Pn**	**00 46 33.5**	**-7.7**
AFI				pmax	pmax		
comp=Z,371nm,0.8s							
AFI	**Afiamalu**	**5.59**	**12**	*e*Pn	**Pn**	**00 46 33.5**	**-7.6**
comp=Z,371nm,0.8s							
AFI				*e*Sn	**Sn**	**00 47 31.8**	**-12**
RAR	**Rarotonga**	**12.54**	**100**	P	**Pn**	**00 48 06.9**	**-9.5**
comp=Z,40nm,0.3s,baz=258,slow=7.7,SNR=55							
RAR				S	Sn	00 50 11.4	-23
comp=Z,1.7nm,0.3s,baz=23,slow=16,SNR=2.3							
RAR				LR	LR	00 52 17.6	
comp=Z,1μm,18.9s,baz=248,slow=33							
DZM	**Mont Dzumac**	**19.41**	**259**	*e*P	**Pn**	**00 49 44.3**	**-0.6**
PPT	**Papeete**	**22.28**	**89**	*e*S	**S**	**00 54 14.0**	**-3.9**
comp=Z,2μm,30.8s							
PPT				*e*LR	LR	00 55 24.6	
comp=Z,3μm,26.8s,baz=255							
PPT	**Papeete**	**22.28**	**89**	LR	LR	00 56 58.8	
comp=Z,611nm,21.1s,MS4.0,baz=261,slow=31							
SNZO	**South Karori**	**24.23**	**203**	*e*Pn	**P**	**00 50 30.6**	**-3.0**
RPZ	**Rata Peaks**	**27.69**	**205**	P	**P**	**00 51 04.5**	**-0.5**
comp=Z,14nm,0.9s,mb4.6,baz=210,slow=14,SNR=3.2							
TAOE	**Nuku Hiva Isla**	**33.47**	**76**	*e*LR	LR	01 00 30.8	
comp=Z,29μm,27.1s,baz=252							
EIDS	**Eidsvold**	**33.67**	**253**	*e*P	**P**	**00 51 56.5**	**-1.5**
ARMA	**Armidale**	**33.78**	**244**	*e*P	**P**	**00 51 58.7**	**-0.2**
RKT	**Rikitea**	**35.56**	**103**	*e*S	**S**	**00 57 49.5**	**+1.7**
comp=Z,255nm,28.0s							
RKT				*e*LR	LR	01 01 35.2	
comp=Z,1μm,28.0s,baz=273							
CNB	**Canberra Magne**	**36.74**	**237**⇓*i*P		**P**	**00 52 24.2**	**-0.1**
comp=Z,124nm,0.9s,mb5.7							
CTA	**Charters Tower**	**38.29**	**262**⇓*i*P		**P**	**00 52 36.1**	**-1.5**
comp=Z,98nm,0.9s,mb5.5							
CTA	**Charters Tower**	**38.29**	**262**⇓*i*P		**P**	**00 52 36.1**	**-1.5**
CTA				pmax	pmax		
comp=Z,98nm,0.9s							
CTA	**Charters Tower**	**38.29**	**262**	P	**P**	**00 52 36.2**	**-1.5**
comp=Z,126nm,0.8s,mb5.7,baz=94,slow=10,SNR=42							
CTA				LR	LR	01 07 02.0	
comp=Z,1μm,18.5s,MS4.7,baz=90,slow=34							
CTAO	**Charters Tower**	**38.29**	**262**	*e*P	**P**	**00 52 36.2**	**-1.4**
CTAO				pmax	pmax		
comp=Z,97nm,0.7s,mb5.6							
CTAO	**Charters Tower**	**38.29**	**262**	*e*P	**P**	**00 52 36.2**	**-1.4**
comp=Z,97nm,0.7s,mb5.6							
TOO	**Toolangi**	**40.35**	**234**⇓*i*P		**P**	**00 52 54.3**	**-0.3**
comp=Z,1μm,0.8s							
TOO	**Toolangi**	**40.35**	**234**⇓*i*P		**P**	**00 52 54.3**	**-0.3**
TOO				pmax	pmax		
comp=Z,1μm,0.8s							
TAU	**Tasmania Unive**	**40.74**	**226**	P	**P**	**00 52 59.2**	**+1.5**
comp=Z,547nm,0.7s,mb6.3,SNR=8.8							
TAU	**Tasmania Unive**	**40.74**	**226**	*e*P	**P**	**00 52 58.6**	**+0.9**
COEN	**Coen**	**42.25**	**270**	*e*P	**P**	**00 53 09.2**	**-1.3**
comp=Z,21nm,0.9s,mb4.8							
STKA	**Stephens Creek**	**42.50**	**244**⇓*i*P		**P**	**00 53 11.4**	**-0.9**
comp=Z,34nm,0.9s,mb5.0							
STKA	**Stephens Creek**	**42.50**	**244**	P	**P**	**00 53 11.4**	**-0.8**
comp=Z,34nm,0.8s,mb5.0,baz=94,slow=8.9,SNR=36							
STKA				LR	LR	01 09 46.1	
comp=Z,720nm,19.4s,MS4.6,baz=201,slow=35							
ASAR	**Alice Springs**	**49.35**	**255**	P	**P**	**00 54 05.2**	**-1.2**
comp=Z,134nm,0.9s,mb6.0,baz=87,slow=8.3,SNR=488							
ASAR				S	**S**	**01 01 08.0**	**-2.8**
comp=Z,1.6nm,0.7s,baz=90,slow=15,SNR=7.4							
WB2	**Warramunga Arr**	**49.41**	**260**⇓*i*P		**P**	**00 54 04.9**	**-2.0**
WB2				*e*S	**S**	**01 01 07.3**	**-4.3**
WRAB	**Tennant Creek**	**49.41**	**260**	P	**P**	**00 54 05.9**	**-1.0**
comp=Z,430nm,1.1s,SNR=28							
WRAB	**Tennant Creek**	**49.41**	**260***d i*P		**P**	**00 54 04.9**	**-2.0**
WRAB	**Tennant Creek**	**49.41**	**260**	*e*P	**P**	**00 54 05.0**	**-2.0**
WRA	**Warramunga Arr**	**49.42**	**260**	P	**P**	**00 54 05.1**	**-1.9**
WRA				S	**S**	**01 01 09.5**	**-2.3**
WRA	**Warramunga Arr**	**49.42**	**260**	P	**P**	**00 54 05.1**	**-2.0**
comp=Z,52nm,0.9s,mb5.5,baz=98,slow=8.5,SNR=208							
WRA				S	**S**	**01 01 09.5**	**-2.3**
comp=Z,3.3nm,0.8s,baz=98,slow=13,SNR=94							
WRA				LR	LR	01 14 34.5	
comp=Z,820nm,18.7s,MS4.8,baz=120,slow=36							
KAKA	**Kakadu**	**52.68**	**269**	*e*P	**P**	**00 54 29.3**	**-2.3**
comp=Z,74nm,0.9s,mb5.6							
GUMO	**Guam**	**52.88**	**305**	P	**P**	**00 54 32.5**	**-0.5**
comp=Z,57nm,0.8s,mb5.6,baz=172,slow=8.4,SNR=4.3							
FORT	**Forrest**	**54.04**	**246**⇓*i*P		**P**	**00 54 40.4**	**-1.0**
comp=Z,44nm,0.6s,mb5.6							
FITZ	**Fitzroy Crossi**	**57.84**	**260**⇓*i*P		**P**	**00 55 07.9**	**-0.9**
comp=Z,38nm,1.1s,mb5.3							
FITZ	**Fitzroy Crossi**	**57.84**	**260**	P	**P**	**00 55 08.1**	**-0.6**
comp=Z,26nm,1.1s,mb5.2,baz=115,slow=4.6,SNR=34							
FITZ				LR	LR	01 15 28.4	
comp=Z,194nm,21.2s,MS4.2,baz=279,slow=31							
SBA	**Scott Base**	**59.31**	**185**	*e*P	**P**	**00 55 19.8**	**+1.7**
VNDA	**Vanda**	**59.45**	**186**	P	**P**	**00 55 18.8**	**-0.3**
VNDA				LR	LR	01 18 00.3	
VNDA	**Vanda**	**59.45**	**186**	P	**P**	**00 55 18.8**	**-0.3**
comp=Z,2.4nm,0.8s,mb4.3,baz=16,slow=5.5,SNR=13							
VNDA				LR	LR	01 18 00.3	
comp=Z,144nm,18.6s,MS4.1,baz=327,slow=33							
BATI	**Kupang**	**61.64**	**269**	P	**P**	**00 55 35.5**	**+0.5**

comp=Z,49nm,0.8s,mb5.7,baz=268,slow=2.7,SNR=8.0
MBWA **Marble Bar** 62.69 256 eP P 00 55 41.1 -0.8
KLBR **Kellerberrin** 62.77 244 eP P 00 55 42.0 -0.3
comp=Z,220nm,1.0s,mb6.2
NWAO **Narrogin (SRO)** 63.05 242 eP P 00 55 45.1 +1.0
CBIJ **Chichi jima** 63.43 315 LR LR 01 19 18.1
comp=Z,423nm,19.6s,MS4.6,baz=175,slow=32
MUN **Mundaring** 64.03 243 ⇓ iP P 00 55 50.8 +0.2
KAPI **Kappang** 66.91 273 P P 00 56 07.4 -2.1
comp=Z,4.9nm,0.7s,mb4.6,baz=167,slow=19,SNR=7.4
CASY **Casey** 66.96 205 ⇓ iP P 00 56 09.4 +0.5
QSPA **South Pole Qui** 70.66 180 eP P 00 56 32.7 +1.0
comp=Z,29nm,1.0s,mb5.2
MYLDM **Lahad Datu** 71.65 282 ⇓P P 00 56 41.0 +2.1
TSM **Tawau** 71.90 281 ⇑P P 00 56 42.2 +1.8
MJAR **Matsushiro Arr** 72.25 320 P P 00 56 42.3 +0.4
comp=Z,24nm,0.9s,mb5.1,baz=155,slow=5.7,SNR=32
MJAR LR LR 01 22 23.6
comp=Z,214nm,19.6s,MS4.4,baz=140,slow=31
MAJO **Matsushiro** 72.25 320 eP P 00 56 42.8 +0.9
MAJO pmax pmax
comp=Z,25nm,0.8s,mb5.2
MAJO **Matsushiro** 72.25 320 eP P 00 56 42.8 +0.9
comp=Z,25nm,0.8s,mb5.2
MAT **Matsushiro** 72.25 320 P P 00 56 42.1 +0.2
MAT eS S 01 06 08.4 +6.3
SDKM **Sandakan** 73.03 282 ⇑P P 00 56 49.0 +1.9
JOW **Kunigami** 73.17 307 P P 00 56 48.8 +1.2
comp=Z,18nm,1.0s,mb5.0,baz=120,slow=8.1,SNR=3.7
JOW LR LR 01 27 28.6
comp=Z,216nm,19.4s,MS4.4,baz=142,slow=35
MIR **Mirnyy** 73.95 205 ⇓ iP P 00 56 53.0 +1.4
MIR i pP 00 57 05.0 +1.8
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
KKM **Kota Kinabalu** 74.08 282 ⇑P P 00 56 54.5 +1.3
U04C **Hernandez Rese** 74.22 42 ⇑P P 00 56 53.6 0.0
baz=74
PACP **Pacheco Peak** 74.32 41 ⇑P P 00 56 54.7 +0.6
baz=74
S04C **Ingram Canyon,** 74.61 40 ⇑P P 00 56 55.7 -0.1
baz=75
P01C **Double 8 Ranch** 74.70 38 ⇓P P 00 56 56.1 -0.2
baz=75
JNU **Nakatsue** 74.82 314 LR LR 01 28 17.5
comp=Z,232nm,18.5s,MS4.5,baz=300,slow=34
LPIG **La Paz** 74.83 57 LR LR 01 23 11.5
comp=Z,483nm,18.8s,MS4.8,baz=194,slow=30
MNRC **McLaughlin Nat** 74.83 39 ⇑P P 00 56 57.2 +0.2
baz=75,SNR=6.9
KIPM **Iron Peak** 74.84 37 eP P 00 56 57.4 +0.3
KIPM ePcP PcP 00 57 11.2 +0.2
O01C **Eel River Cons** 74.87 37 ⇑P P 00 56 57.7 +0.5
baz=75
MURC **Murrieta** 74.87 46 ⇓P P 00 56 57.8 +0.4
baz=75
Q03C **Winters** 74.92 39 ⇓P P 00 56 57.4 -0.2
baz=75
BFSC **Mount Baldy St** 74.94 45 ⇑P P 00 56 57.8 0.0
baz=75
VES **Vestal, Richgr** 74.98 43 ⇓P P 00 56 57.5 -0.4
baz=75
MONP **Monument Peak** 74.99 47 ⇑P P 00 56 58.2 +0.1
baz=75
DVTC **Desert V Tower** 75.08 47 ⇑P P 00 56 58.4 -0.3
baz=75
EDW2 **Edwards Air Fo** 75.11 44 ⇓P P 00 56 58.1 -0.6
baz=75
GASB **Alder Springs** 75.18 38 ⇑P P 00 56 59.5 +0.4
baz=75
JCC **Jacoby Creek** 75.21 36 ⇓P P 00 57 00.1 +1.0
baz=75
T06C **Millerton Lake** 75.30 42 ⇑P P 00 56 59.8 0.0
baz=76
PFO **Pinyon Flat Ob** 75.38 46 P P 00 57 00.6 +0.3
comp=Z,43nm,1.2s,mb5.3,SNR=5.1
PFO **Pinyon Flat Ob** 75.38 46 eP P 00 57 00.4 +0.1
PFO **Pinyon Flat Ob** 75.38 46 LR LR 01 23 11.3
comp=Z,301nm,19.7s,MS4.6,baz=54,slow=30
PFO **Pinyon Flat Ob** 75.38 46 ⇓P P 00 57 00.4 0.0
baz=76
SWSC **Sam W. Stewart** 75.45 47 ⇓P P 00 57 00.2 -0.5
baz=76
O02C **Red Bluff** 75.48 37 ⇓P P 00 57 00.7 -0.1
baz=76,SNR=13
CMB **Columbia Colle** 75.52 40 eP P 00 57 00.9 -0.1
CMB **Columbia Colle** 75.52 40 ⇑P P 00 57 00.6 -0.5
baz=76,SNR=8.8
HELL **Mitchell Peak** 75.53 42 ⇑P P 00 57 01.0 -0.1
baz=76
N02C **Big Bar** 75.62 37 ⇑P P 00 57 01.4 -0.2
baz=76
LRMC **Laurel Mountai** 75.66 44 ⇓P P 00 57 01.9 0.0
baz=76
KCC **Kaiser Creek** 75.74 42 ⇓P P 00 57 01.7 -0.6
baz=76
KRMB **Red Mountain** 75.75 36 eP P 00 57 01.5 -0.8
ORV **Oroville** 75.83 39 ⇑P P 00 57 02.3 -0.4
baz=76
M01C **Crescent City** 75.86 35 ⇓P P 00 57 02.6 -0.3
baz=76
WDC **Whiskeytown Da** 75.89 37 eP P 00 57 03.0 -0.1
WDC **Whiskeytown Da** 75.89 37 ⇓P P 00 57 02.3 -0.8
baz=76,SNR=6.7
BELC **Belle Mtn.** 75.92 46 ⇓P P 00 57 03.2 -0.2
baz=76
BTM **Bintulu** 75.95 279 ⇑P P 00 57 05.6 +1.5
BC3 **Big Chuckw Mtn** 76.09 46 ⇓P P 00 57 04.3 -0.1
baz=76
R05C **Kirkwood Meado** 76.14 40 ⇓P P 00 57 04.2 -0.4
baz=76,SNR=7.1
GSC **Goldstone** 76.14 44 eP P 00 57 04.6 0.0
GSC **Goldstone** 76.14 44 ⇑P P 00 57 04.5 -0.1
baz=76
MPMC **Manual Prospec** 76.14 43 ⇓P P 00 57 04.3 -0.3
baz=76,SNR=14
HEC **Hector,Ludlow** 76.18 45 P P 00 57 04.3 -0.5
baz=76,SNR=11
GLA **Glamis** 76.18 47 eP P 00 57 05.3 +0.4
GLA **Glamis** 76.18 47 ⇓P P 00 57 04.9 0.0
baz=76
P05C **Yuba Gap, Truc** 76.19 39 ⇓P P 00 57 04.1 -0.7
baz=76
PET **Petropavlovsk** 76.20 343 i P P 00 57 05.4 +0.9
PET pmax pmax
comp=Z,39nm,1.5s,mb5.1
MTUM **Tungsten Hills** 76.23 42 eP P 00 57 05.6 +0.5
M02C **Callahan** 76.25 36 P P 00 57 05.4 +0.3
baz=76,SNR=12
L02A **Cave Junction** 76.35 36 ⇑P P 00 57 06.3 +0.6
baz=77
WAKR **Walker** 76.40 40 eP P 00 57 06.5 +0.4
R06C **Coleville** 76.40 40 P P 00 57 06.2 +0.2
baz=77,SNR=7.3
O05C **Quincy** 76.43 39 ⇑P P 00 57 05.7 -0.5
baz=77
SBUM **Sibu** 76.50 277 ⇓P P 00 57 09.2 +2.0
YBH **Yreka Blue Hor** 76.56 36 eP P 00 57 06.9 0.0
YBH pmax pmax
comp=Z,18nm,1.0s
YBH **Yreka Blue Hor** 76.56 36 eP P 00 57 06.9 +0.1
comp=Z,18nm,1.0s,mb5.0
YBH **Yreka Blue Hor** 76.56 36 P P 00 57 06.8 -0.1
baz=77,SNR=16
O04C **Chester** 76.56 38 ⇑P P 00 57 06.7 -0.2
baz=77
S08C **White Mtn Res** 76.57 42 P P 00 57 07.5 +0.4
baz=77,SNR=12
IRM **Iron Mountain** 76.59 46 ⇑P P 00 57 07.3 +0.1
baz=77,SNR=6.1
M03C **McCloud** 76.59 37 ⇓P P 00 57 07.2 +0.2
baz=77
GMRC **Granite Mounta** 76.60 45 ⇓P P 00 57 07.4 +0.2
baz=77
HATC **Hat Creek Radi** 76.67 38 ⇓P P 00 57 06.9 -0.6
baz=77
BEKR **Beckwourth** 76.70 39 ⇑P P 00 57 07.4 -0.3
baz=77
WCN **Washoe City** 76.70 40 ⇓P P 00 57 07.6 -0.1
baz=77
113A **Mohawk Valley,** 76.76 48 ⇑P P 00 57 08.4 +0.2
baz=77
GRAC **Grapevine Rang** 76.78 43 ⇓P P 00 57 08.4 +0.2
baz=77
Y12C **Blythe** 76.78 47 ⇓P P 00 57 08.6 +0.2
baz=77
K02A **Glendale** 76.83 35 ⇓P P 00 57 08.2 -0.1
baz=77
HUMO **Hull Mountain** 77.01 36 eP P 00 57 09.8 +0.4
HUMO **Hull Mountain** 77.01 36 ⇓P P 00 57 09.1 -0.3
baz=77,SNR=10
NVAR **Mina Array Bea** 77.05 41 P P 00 57 09.9 +0.2
comp=Z,14nm,1.0s,mb4.8,baz=225,slow=9.7,SNR=32
M04C **Macdoel** 77.08 37 ⇑P P 00 57 09.4 -0.4
baz=77,SNR=6.3
U10A **Ash Meadows, A** 77.11 44 ⇓P P 00 57 10.0 -0.1
baz=77
YSS **Yuzh-Sakhalins** 77.14 331 ⇑ eP P 00 57 11.8 +1.8
YSS pmax pmax
comp=Z,79nm,1.5s,mb5.4
YSS **Yuzh-Sakhalins** 77.14 331 ⇑ eP P 00 57 11.9 +1.9
PAHR **Pah Rah Range** 77.18 40 eP P 00 57 10.7 +0.3
comp=Z,20nm,1.2s,mb4.9
J02A **Umpqua** 77.18 35 ⇑P P 00 57 10.4 +0.1
baz=77
M05C **Lookout** 77.20 37 ⇑P P 00 57 10.4 -0.1
baz=77
O06A **Flanigan** 77.21 39 P P 00 57 10.8 +0.2
baz=77,SNR=10
Y13A **Salome** 77.30 47 ⇑P P 00 57 11.1 -0.1
baz=78
S09A **Goldfield** 77.30 42 ⇓P P 00 57 11.1 0.0
baz=78
L04A **Klamath Falls** 77.31 36 ⇓P P 00 57 11.2 +0.1
baz=78
PDMCI **Parker Dam,Lak** 77.36 47 ⇓P P 00 57 11.6 +0.1
baz=78
V11A **Goodsprings** 77.36 45 ⇑P P 00 57 11.3 -0.2
baz=78
YHNB **Yeheng** 77.45 302 P P 00 57 12.0 -0.3
TPNV **Topopah Spring** 77.47 43 eP P 00 57 12.3 +0.2
TPNV pmax pmax
comp=Z,24nm,1.5s,mb4.9
TPNV **Topopah Spring** 77.47 43 eP P 00 57 12.2 +0.2
comp=Z,24nm,1.5s,mb4.9
TPNV **Topopah Spring** 77.47 43 ⇓P P 00 57 12.0 -0.1
baz=78
M06C **Likely Place G** 77.49 38 ⇓P P 00 57 12.3 +0.2
baz=78
TPH **Tonopah** 77.52 42 eP P 00 57 12.3 0.0
J03A **Ideyld Park** 77.52 35 ⇓P P 00 57 12.7 +0.5
baz=78
Q08A **Gabbs** 77.55 41 P P 00 57 12.3 -0.2
baz=78,SNR=8.2
N06A **Buffalo Meadow** 77.57 39 P P 00 57 12.4 -0.1
baz=78,SNR=11
Z14A **Wintersburg** 77.67 48 ⇑P P 00 57 13.4 +0.1
baz=78
V12A **Nelson** 77.68 45 ⇓P P 00 57 13.3 0.0
baz=78
R09A **Tonopah** 77.71 42 ⇑P P 00 57 13.2 -0.2
baz=78,SNR=14
U11A **Corn Creek** 77.73 44 ⇓P P 00 57 13.7 +0.2
baz=78
X13A **Yucca** 77.73 46 P P 00 57 13.6 -0.1
baz=78,SNR=11
O07A **Toulon** 77.77 39 P P 00 57 13.4 -0.3
baz=78,SNR=18
S10A **Tonopah Range,** 77.82 42 ⇓P P 00 57 13.6 -0.4
baz=78,SNR=16
L05A **Lakeview** 77.83 37 ⇓P P 00 57 14.1 +0.2
baz=78,SNR=8.6
SHPR **Sheep Range** 77.92 44 eP P 00 57 15.1 +0.5
Y14A **Wickenburg** 77.94 47 ⇑P P 00 57 15.1 +0.3
baz=78
KSM **Kuching** 77.95 276 eP P 00 57 14.9 -0.5
KSM **Kuching** 77.95 276 ⇓P P 00 57 17.0 +1.6
P08A **Dixie Valley** 77.97 40 ⇓P P 00 57 15.4 +0.6
baz=78
W13A **Hualapai Mount** 77.98 46 ⇓P P 00 57 15.1 +0.1
baz=78
216A **Three Points,** 77.99 50 ⇑P P 00 57 15.2 0.0
baz=78
Q09A **Carvers** 78.00 41 ⇑P P 00 57 15.3 +0.3
baz=78
MOD **Modoc** 78.03 37 eP P 00 57 15.3 +0.2
MOD **Modoc** 78.03 37 ⇑P P 00 57 15.2 +0.1
baz=78
I04A **Tendick Farm,** 78.10 35 ⇑P P 00 57 15.2 -0.3
baz=78
N07B **Gerlach** 78.10 39 ⇑P P 00 57 15.7 +0.1
baz=78
S11A **Rachel** 78.20 43 ⇑P P 00 57 16.2 +0.1
baz=78
R10A **Warm Springs** 78.22 42 ⇑P P 00 57 16.6 +0.3
baz=78
K05A **Summer Lake** 78.23 36 P P 00 57 16.4 +0.2
baz=78,SNR=18
T11A **Corn Creek, Al** 78.31 44 P P 00 57 16.9 +0.2
baz=78,SNR=23
X14A **Yava** 78.31 47 ⇑P P 00 57 17.0 +0.2
baz=78,SNR=8.4
V13A **Grand Canyon W** 78.33 45 ⇓P P 00 57 16.9 0.0
baz=78
217A **Green Valley** 78.34 50 ⇑P P 00 57 16.9 -0.1
baz=78,SNR=12
M07A **Soldier Meadow** 78.36 38 ⇓P P 00 57 16.7 -0.2
baz=79,SNR=5.4
J05A **Fort Rock** 78.40 36 ⇑P P 00 57 17.1 0.0
baz=79,SNR=18
Y15A **Casa Rosa Ranc** 78.42 48 ⇓P P 00 57 17.3 -0.2
baz=79,SNR=19
P09A **Austin** 78.45 41 ⇑P P 00 57 17.2 -0.3
baz=79
Q10A **Clear Creek Ra** 78.48 42 ⇓P P 00 57 17.6 0.0
baz=79
W14A **Seligman** 78.59 46 P P 00 57 18.9 +0.5
baz=79,SNR=20
N08A **GE Springer Mi** 78.60 39 P P 00 57 18.2 -0.1
baz=79,SNR=18
K06A **Valley Falls** 78.64 37 P P 00 57 18.4 0.0
baz=79,SNR=7.5
TUC **Tucson** 78.64 50 eP P 00 57 19.3 +0.6
G03A **Yamhill** 78.66 33 ⇓P P 00 57 18.0 -0.5
baz=79
L07A **Adell** 78.66 38 ⇓P P 00 57 18.6 0.0
baz=79
U13A **Pakoon Wash** 78.66 45 P P 00 57 19.1 +0.4
baz=79,SNR=16
R11A **Troy Canyon, C** 78.72 42 ⇓P P 00 57 18.7 -0.3
baz=79,SNR=15
Z16A **Peralta Trail,** 78.72 49 ⇓P P 00 57 19.7 +0.5
baz=79
S12A **Delamar Landin** 78.76 43 ⇓P P 00 57 19.4 +0.2
baz=79,SNR=9.6
318A **Bisbee** 78.77 51 P P 00 57 19.6 +0.2
baz=79,SNR=10
X15A **Humboldt** 78.77 47 ⇓P P 00 57 19.6 +0.2
baz=79,SNR=14
O09A **Fish Creek Ran** 78.80 40 ⇑P P 00 57 20.0 +0.6
baz=79
V14A **Boquillas Ranc** 78.80 46 P P 00 57 20.0 +0.5
baz=79,SNR=16
117A **Oracle** 78.81 50 ⇓P P 00 57 19.8 +0.2
baz=79,SNR=13
H04A **Detroit Lake** 78.81 34 ⇑P P 00 57 19.4 +0.1
baz=79
M08A **Happy Creek Ra** 78.87 39 P P 00 57 19.8 +0.1
baz=79,SNR=8.6
P10A **Eureka** 78.91 41 ⇑P P 00 57 19.7 -0.3
baz=79
BMN **Battle Mountai** 78.94 40 eP P 00 57 20.5 +0.4
BMN pmax pmax
comp=Z,24nm,1.1s,mb5.0
BMN **Battle Mountai** 78.94 40 eP P 00 57 20.5 +0.3
comp=Z,24nm,1.1s,mb5.0
F03A **Seaside** 78.94 33 ⇑P P 00 57 19.5 -0.5
baz=79
Q11A **Duckwater** 78.96 42 P P 00 57 20.3 0.0
baz=79,SNR=23
Y16A **Circle Bar Ran** 78.97 48 ⇓P P 00 57 20.6 +0.1
baz=79,SNR=15
J06A **Christmas Vall** 78.98 36 P P 00 57 19.8 -0.6
baz=79,SNR=11
218A **Dragoon** 79.00 50 ⇓P P 00 57 20.8 +0.1
baz=79
G04A **Mulino** 79.01 34 ⇑P P 00 57 20.4 0.0
baz=79
N09A **Rock Creek Ran** 79.01 40 ⇓P P 00 57 20.5 0.0
baz=79
T13A **Saint George** 79.04 44 ⇑P P 00 57 20.8 0.0
baz=79
K07A **Rock Creek Ran** 79.14 37 P P 00 57 21.1 -0.1
baz=79,SNR=12
U14A **Mt Trumbull** 79.19 45 ⇓P P 00 57 21.7 +0.1
baz=79,SNR=17
319A **Douglas** 79.26 51 ⇑P P 00 57 22.2 +0.1
baz=80,SNR=9.4
KSRS **Korea Array** 79.28 316 P P 00 57 23.6 +1.5
comp=Z,30nm,1.0s,mb5.2,baz=134,slow=5.9,SNR=44
KSRS LR LR 01 31 09.8
comp=Z,204nm,18.4s,MS4.5,baz=225,slow=35
X16A **Lo Mia Camp, P** 79.29 48 ⇑P P 00 57 22.4 +0.2
baz=80,SNR=5.2
O10A **Cortez Mining,** 79.29 40 ⇓P P 00 57 21.7 -0.4
baz=80
H05A **Madras** 79.30 35 ⇓P P 00 57 22.5 +0.5
baz=80
KS15 **Wonju Array Si** 79.30 316 eP P 00 57 20.7 -1.5
P11A **Circle Ranch,** 79.31 41 ⇓P P 00 57 22.2 0.0
baz=80
Y17A **Roosevelt** 79.32 49 ⇑P P 00 57 22.7 +0.3
baz=80
R12A **Pony Springs,** 79.33 43 P P 00 57 22.6 +0.3
baz=80,SNR=14
WVOR **Wild Horse Val** 79.33 38 P P 00 57 22.3 +0.1
L08A **Fields** 79.35 38 ⇑P P 00 57 21.9 -0.5
baz=80,SNR=10
E03A **Lebam** 79.36 32 ⇑P P 00 57 21.9 -0.4
baz=80
S13A **Holt Ranch, En** 79.39 44 ⇓P P 00 57 23.0 +0.3
baz=80,SNR=15
I06A **Prineville** 79.40 36 P P 00 57 22.7 +0.1
baz=80,SNR=11
118A **Homack Ranch,** 79.40 50 P P 00 57 23.5 +0.6
baz=80,SNR=11
M09A **Marrel Ranch,** 79.40 39 ⇓P P 00 57 22.7 0.0
baz=80,SNR=9.9
F04A **Amboy** 79.52 33 ⇓P P 00 57 22.3 -0.9
baz=80
J07A **Hines** 79.54 37 ⇓P P 00 57 23.5 +0.2
baz=80
V15A **Kaibab Nationa** 79.54 46 P P 00 57 24.2 +0.7
baz=80,SNR=10.0
N10A **Dunphy** 79.54 40 ⇓P P 00 57 23.0 -0.4
baz=80
W16A **Flagstaff** 79.59 47 ⇑P P 00 57 24.4 +0.6
baz=80
219A **White Tail Can** 79.59 51 P P 00 57 24.6 +0.7
baz=80,SNR=10
Q12A **Willow Creek R** 79.60 42 P P 00 57 24.1 +0.4
baz=80,SNR=7.8
K08A **Mann Creek Ran** 79.60 38 ⇓P P 00 57 23.1 -0.6
baz=80,SNR=10.0
T14A **Hurricane** 79.61 45 ⇑P P 00 57 24.1 +0.3
baz=80,SNR=9.1
L09A **Wilkinson Ranc** 79.64 39 ⇓P P 00 57 23.9 0.0
baz=80
G05A **Wamic** 79.64 34 ⇑P P 00 57 23.2 -0.7
baz=80
CCUT **Cedar City** 79.70 44 eP P 00 57 24.9 +0.6
O11A **Cowboy Ranch,** 79.72 41 P P 00 57 24.5 +0.1
baz=80,SNR=17
NLWA **Neilton Lookou** 79.78 31 eP P 00 57 24.5 -0.1
comp=Z,21nm,1.3s,mb4.9
P12A **McGill** 79.80 42 ⇓P P 00 57 24.8 -0.1
baz=80
H06A **Lindquist Farm** 79.84 35 P P 00 57 24.4 -0.5
baz=80,SNR=9.7
I07A **Izee** 79.88 36 P P 00 57 25.1 -0.1
baz=80,SNR=11
WUAZ **Wupatki** 79.92 47 eP P 00 57 26.5 +0.8
WUAZ **Wupatki** 79.92 47 ⇑P P 00 57 26.0 +0.3
baz=80
Y18A **Canyon Day Jun** 79.94 49 ⇓P P 00 57 26.3 +0.5
baz=80,SNR=9.4
S14A **Cedar City** 79.94 44 ⇑P P 00 57 25.9 +0.3
baz=80
119A **Ashpeak Ranch,** 79.95 50 ⇑P P 00 57 26.2 +0.4
baz=80
F05A **White Salmon** 79.99 34 ⇓P P 00 57 26.0 +0.2
baz=80
J08A **Circle Bar Ran** 80.00 37 ⇓P P 00 57 25.4 -0.5
baz=80,SNR=5.8
G06A **Carlson Farm,** 80.00 35 P P 00 57 25.6 -0.2
baz=80,SNR=6.9
M10A **I.L. Ranch, Tu** 80.00 39 ⇓P P 00 57 25.5 -0.4
baz=80,SNR=14
K09A **Rome** 80.02 38 P P 00 57 25.8 -0.2
baz=80,SNR=12
T15A **Red Dirt Ranch** 80.05 45 ⇑P P 00 57 26.7 +0.4
baz=80,SNR=10
Q13A **Wheeler Ranch,** 80.06 43 ⇓P P 00 57 26.0 -0.3
baz=80
F06A **Goldendale** 80.27 34 ⇑P P 00 57 27.0 -0.3
baz=80
E05A **Randle** 80.28 33 P P 00 57 26.8 -0.5
baz=80,SNR=15
I08A **Drewsey** 80.29 37 ⇓P P 00 57 27.1 -0.3
baz=80
R14A **James Farms, M** 80.34 44 ⇑P P 00 57 28.1 +0.3
baz=81
P13A **Bates Ranch, G** 80.35 42 P P 00 57 27.9 +0.1
baz=81,SNR=11
O12A **Currie** 80.36 41 ⇑P P 00 57 28.2 +0.3
baz=81
L10A **Juniper Basin** 80.38 39 P P 00 57 27.8 -0.1
baz=81,SNR=13
M11A **Holland Ranch,** 80.40 40 ⇓P P 00 57 28.3 +0.2
baz=81,SNR=7.6
J09A **Fry Pan Ranch,** 80.41 37 ⇑P P 00 57 27.6 -0.5
baz=81,SNR=14
GNW **Green Mountain** 80.42 32 eP P 00 57 28.5 +0.5
C04A **Brinnon** 80.45 32 ⇓P P 00 57 28.3 +0.1
baz=81
N12A **Clover Valley,** 80.52 41 ⇑P P 00 57 28.4 -0.3
baz=81,SNR=7.9
G07A **Ruggs Ranch, H** 80.54 35 P P 00 57 28.2 -0.5
baz=81,SNR=8.4
K10A **MacKenzie Ranc** 80.57 38 P P 00 57 28.5 -0.4
baz=81,SNR=15
D05A **Enumclaw** 80.59 33 ⇓P P 00 57 28.9 0.0
baz=81
Y19A **Nutrioso** 80.59 49 P P 00 57 30.1 +0.9
baz=81,SNR=14
H08A **Prairie City** 80.62 36 ⇑P P 00 57 29.1 -0.1
baz=81
T16A **Glen Canyon Da** 80.62 45 ⇑P P 00 57 29.5 +0.1
baz=81
E06A **Yakima** 80.68 33 ⇑P P 00 57 29.1 -0.3
baz=81
X19A **St. Johns** 80.81 49 ⇑P P 00 57 30.7 +0.3
baz=81
L11A **Cat Creek Ranc** 80.86 39 P P 00 57 30.2 -0.3
baz=81,SNR=12
M12A **Wells** 80.92 40 ⇓P P 00 57 30.4 -0.4
baz=81,SNR=11
G08A **Pilot Rock** 80.94 35 ⇑P P 00 57 30.4 -0.5
baz=81,SNR=21
MSU **Marysvale** 81.01 44 eP P 00 57 32.3 +0.9
N13A **Wendover, West** 81.04 41 ⇑P P 00 57 31.0 -0.4
baz=81
K11A **Parker Ranch,** 81.06 39 ⇑P P 00 57 31.1 -0.4
baz=81,SNR=6.6
C05A **Tolt Reservoir** 81.08 32 ⇓P P 00 57 30.7 -0.8
baz=81
D06A **Cle Elum** 81.17 33 ⇑P P 00 57 31.8 -0.3
baz=81
B05A **Bryant** 81.25 32 ⇑P P 00 57 31.9 -0.5
baz=82
H09A **Durkee** 81.27 36 ⇑P P 00 57 31.9 -0.7
baz=82
E07A **Sunnyside** 81.28 34 ⇓P P 00 57 32.2 -0.4
baz=82
L12A **House Creek Ra** 81.29 40 ⇑P P 00 57 32.8 0.0
baz=82
HAWA **Hanford** 81.34 34 eP P 00 57 32.8 -0.1
comp=Z,24nm,1.3s,mb5.0
M13A **Montello** 81.35 41 ⇑P P 00 57 33.5 +0.3
baz=82
F08A **Pendleton** 81.37 35 ⇑P P 00 57 33.4 +0.3
baz=82
I10A **Payette** 81.40 37 ⇑P P 00 57 33.2 -0.1
baz=82
DUG **Dugway** 81.53 42 eP P 00 57 34.7 +0.6
DUG **Dugway** 81.53 42 ⇓P P 00 57 34.5 +0.4
baz=82
MFID **Camas Ranch** 81.56 38 ⇓P P 00 57 34.7 +0.5
baz=82
BMO **Blue Mountains** 81.59 36 eP P 00 57 33.9 -0.4
D07A **Quincy** 81.62 33 ⇑P P 00 57 34.3 -0.2
baz=82
K12A **Draper Farm, C** 81.65 39 ⇑P P 00 57 35.2 +0.6

	baz=82						
E08A	Dider Farm, El	81.65	34	⇓P	P	00 57 34.9	+0.3
	baz=82						
N14A	Grayback Hills	81.67	42	⇓P	P	00 57 34.6	-0.2
	baz=82						
H10A	Noah's Angus R	81.74	37	P	P	00 57 34.4	-0.7
	baz=82,SNR=12						
SLKM	Skilak Lake	81.74	11	eP	P	00 57 34.6	-0.1
SLKM				e		01 00 42.2	
J12A	Stokes Ranch,	81.89	39	⇓P	P	00 57 36.0	+0.1
	baz=82,SNR=9.7						
C07A	Waterville	81.90	33	⇑P	P	00 57 35.1	-0.8
	baz=82						
HABR	Khabarovsk	81.92	328	eP	P	00 57 34.3	-1.6
HABR				e		01 00 41.9	
HABR				eS	S	01 07 46.7	-0.2
HABR				eSS	SS	01 13 06.9	+0.3
M14A	Sheep Mountain	81.94	41	P	P	00 57 36.2	-0.1
	baz=82,SNR=11						
G10A	Bishop Farm, J	81.96	36	P	P	00 57 35.9	-0.4
	baz=82,SNR=5.7						
TMUT	Trail Mountain	82.07	44	eP	P	00 57 38.8	+1.8
D08A	Wollman Farm,	82.09	34	P	P	00 57 36.5	-0.4
	baz=82,SNR=7.6						
K13A	Stover Farm, H	82.15	40	⇓P	P	00 57 36.7	-0.6
	baz=82						
E09A	Wood Farm, Sta	82.16	35	⇓P	P	00 57 36.4	-0.8
	baz=82						
H11A	Donnelly	82.23	37	P	P	00 57 37.5	-0.2
	baz=82,SNR=7.0						
MNTX	Cornudas Mount	82.31	53	eP	P	00 57 38.9	+0.5
	comp=Z,25nm,1.2s,mb5.0						
F10A	Beach Ranch, E	82.32	36	P	P	00 57 37.3	-0.8
	baz=82,SNR=8.9						
LAZ	Ladron	82.33	50	eP	P	00 57 39.1	+0.7
B07A	Winthrop	82.37	32	⇑P	P	00 57 37.8	-0.5
	baz=83						
SPUT	South Promonto	82.39	41	eP	P	00 57 39.5	+0.9
OD2	Odessa Site #2	82.41	34	P	P	00 57 41.0	+2.5
D09A	Jones Farm, Ri	82.42	34	⇑P	P	00 57 38.0	-0.6
	baz=83						
SRU	San Rafael	82.42	44	eP	P	00 57 39.4	+0.6
MDJ	Mudanjiang	82.42	323	P	P	00 57 40.4	+1.7
MDJ				AP	pP	00 57 50.0	-0.4
MDJ				XP	sP	00 57 53.8	-0.9
MDJ				PP	PP	01 00 49.0	+0.7
MDJ				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,383nm,4.6s						
MDJ				LR	LR		
	comp=Z,174nm,30.4s,MS4.2						
HVU	Hansel Valley	82.45	41	eP	P	00 57 41.6	+2.7
M15A	Larsen Ranch,	82.47	41	⇓P	P	00 57 38.6	-0.5
	baz=83						
HLID	Hailey	82.48	39	P	P	00 57 39.2	+0.2
	baz=83,SNR=20						
CTU	Camp Tracy	82.49	42	eP	P	00 57 42.0	+2.9
C08A	Higginbotham F	82.49	33	⇑P	P	00 57 39.0	+0.1
	baz=83						
G11A	Walters Elk Ra	82.50	36	P	P	00 57 38.5	-0.6
	baz=83,SNR=14						
J13A	Cove Ranch, Pi	82.53	39	P	P	00 57 39.2	0.0
	baz=83,SNR=20						
TXAR	Lajitas Array	82.53	55	P	P	00 57 40.1	+0.4
	comp=Z,9.6nm,1.0s,mb4.8,baz=218,slow=5.9,SNR=16						
TXAR				LR	LR	01 28 13.8	
	comp=Z,270nm,18.6s,MS4.7,baz=5.0,slow=31						
BNM	Barren Site	82.57	50	eP	P	00 57 40.3	+0.6
A07A	Ashnola River,	82.62	32	⇓P	P	00 57 39.3	-0.3
	baz=83,SNR=7.6						
JLU	Jordanelle	82.63	42	eP	P	00 57 40.3	+0.5
K14A	Jones Ranch, D	82.64	40	⇓P	P	00 57 39.3	-0.6
	baz=83						
LPM	Los Pinos Moun	82.65	50	eP	P	00 57 41.0	+0.9
E10A	Myers Farm, Un	82.70	35	⇓P	P	00 57 39.1	-1.0
	baz=83						
B08A	Colville Reser	82.71	33	⇑P	P	00 57 39.0	-1.1
	baz=83,SNR=9.3						
I13A	Wildhorse Cree	82.86	39	⇑P	P	00 57 40.4	-0.5
	baz=83,SNR=7.9						
F11A	Grangeville	82.86	36	⇑P	P	00 57 39.9	-1.0
	baz=83						
NJ2	Nanjing	82.88	307	eP	P	00 57 42.0	+0.6
NJ2				AP	pP	00 57 52.1	-1.0
NJ2				XP	sP	00 57 56.8	-0.7
NJ2				S	S	01 07 59.0	+1.5
NJ2				XS	sS	01 08 16.0	-1.0
NJ2				PS		01 08 52.0	
NJ2				AMB	AMB		
	comp=Z,130nm,1.2s,mb5.8						
NJ2				AMB	AMB		
	comp=Z,710nm,10.9s						
NJ2				LR	LR		
	comp=N,3μm,25.7s,MS5.8						
NJ2				LR	LR		
	comp=E,4μm,28.0s,MS5.8						
NJ2				LR	LR		
	comp=Z,4μm,28.3s,MS5.7						
C09A	Chrisman Ranch	82.90	34	⇓P	P	00 57 40.5	-0.6
	baz=83						
GAMB	Gambell	82.91	1	eP	P	00 57 41.6	+0.8
PMR	Palmer	82.95	11	eP	P	00 57 40.3	-0.7
PMR				pmax	pmax		
	comp=Z,25nm,1.1s,mb5.2						
PMR				MLR	MLR		
	comp=Z,200nm,18.0s,MS4.5						
PMR	Palmer	82.95	11	eP	P	00 57 40.3	-0.7
	comp=Z,25nm,1.1s,mb5.2						
PMR				LR	LR		
	comp=Z,200nm,18.0s,MS4.5						
D10A	Wagner Farm, O	82.96	35	⇓P	P	00 57 40.5	-1.0
	baz=83						
PV10	Paradox Valley	83.02	45	eP	P	00 57 42.1	+0.2
ANMO	Albuquerque	83.08	49	⇑eP	P	00 57 43.1	+0.7
ANMO	Albuquerque	83.08	49	eP	P	00 57 42.8	+0.4
	comp=Z,17nm,1.1s,mb5.0						
E11A	Bogner Ranch,	83.11	36	⇑P	P	00 57 41.2	-1.0
	baz=83						
A08A	Turner Farm, O	83.12	32	⇓P	P	00 57 41.1	-1.1
	baz=83,SNR=11						
TTA	Tatalina	83.15	8	eP	P	00 57 42.2	+0.2
H13A	Challis	83.16	38	⇓P	P	00 57 42.2	-0.3
	baz=83,SNR=12						
DIV	Divide	83.19	13	eP	P	00 57 42.3	0.0
	comp=Z,29nm,1.2s,mb5.2						
PV01	Paradox Valley	83.21	46	eP	P	00 57 42.9	0.0
F12A	Elk City	83.29	37	⇑P	P	00 57 42.0	-1.1
	baz=84,SNR=28						
GDL2	Guadalupe Moun	83.31	53	eP	P	00 57 44.5	+0.9
B09A	Rice	83.36	33	⇓P	P	00 57 43.7	+0.3
	baz=84						
D11A	Klaveano Farm,	83.47	35	⇑P	P	00 57 43.2	-0.9
	baz=84						
G13A	Cobalt	83.48	38	P	P	00 57 43.8	-0.3
	baz=84,SNR=12						
A09A	Danville	83.48	33	⇑P	P	00 57 43.6	-0.5
	baz=84						
D12A	Red Ives Fores	84.00	36	⇑P	P	00 57 45.4	-1.4
	baz=84						
KLR	Kul'dur	84.07	327	eP	P	00 57 43.4	-3.7
KLR				pmax	pmax		
	comp=Z,43nm,1.4s,mb5.4						
MA2	Magadan	84.08	342	eP	P	00 57 46.4	-0.5
MA2				pmax	pmax		
	comp=Z,50nm,1.5s,mb5.4						
MA2	Magadan	84.08	342	i P	P	00 57 46.7	-0.2
MCMT	McKenzie Canyo	84.13	38	eP	P	00 57 48.1	+0.6
MYKOM	Kota Tinggi	84.14	274	⇓P	P	00 57 49.7	+1.4
MAW	Mawson	84.14	199	⇓iP	P	00 57 47.9	+0.6
	comp=Z,18nm,0.9s,mb5.2						
MAW	Mawson	84.14	199	⇓iP	P	00 57 47.9	+0.6
MAW				pmax	pmax		
	comp=Z,18nm,0.9s						
MAW	Mawson	84.14	199	P	P	00 57 47.6	+0.3
	comp=Z,24nm,1.0s,mb5.3,baz=134,slow=5.5,SNR=24						
MAW				LR	LR	01 33 24.5	
	comp=Z,400nm,21.4s,MS4.8,baz=80,slow=34						
E13A	Victor	84.29	36	⇑P	P	00 57 47.1	-1.2
	baz=84						
B11A	Sandpoint	84.30	34	⇑P	P	00 57 47.1	-1.1
	baz=84,SNR=9.2						
F14A	Wisdom	84.39	37	⇑P	P	00 57 48.5	-0.3
	baz=85						
CN2	Changchun	84.39	320	⇓P	P	00 57 50.3	+1.5
CN2				eAP	pP	00 58 00.8	+0.2
CN2				eXP	sP	00 58 04.8	-0.1
CN2				eS	S	01 08 12.5	+0.3
CN2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.6						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
SKAG	Skagway	84.40	18	eP	P	00 57 48.7	+0.2
	comp=Z,37nm,1.1s,mb5.4						
SNY	Shenyang	84.48	318	⇓P	P	00 57 49.8	+0.4
SNY				AMB	AMB		
	comp=Z,39nm,2.3s,mb5.1						
REDW	Red Top Meadow	84.51	40	eP	P	00 57 49.6	+0.2
	comp=Z,29nm,1.3s,mb5.2						
D13A	Huson	84.52	36	⇓P	P	00 57 48.3	-1.2
	baz=85,SNR=12						
G15A	Dillon	84.53	38	⇓P	P	00 57 49.2	-0.3
	baz=85,SNR=18						
DLMT	Dillon	84.58	38	P	P	00 57 49.7	0.0
	comp=Z,9.5nm,0.4s,mb5.3						
A11A	Hall Mountain,	84.62	34	⇓P	P	00 57 49.5	-0.4
	baz=85						
SNOW	Snow King Moun	84.62	40	eP	P	00 57 50.5	+0.5
	comp=Z,16nm,1.0s,mb5.1						
MSO	Missoula	84.65	36	eP	P	00 57 49.3	-0.8
E14A	Clinton	84.67	37	P	P	00 57 49.5	-0.6
	baz=85,SNR=11						
KGM	Kluang	84.71	274	⇑P	P	00 57 52.8	+1.6
B12A	Libby	84.73	34	⇑P	P	00 57 50.2	-0.3
	baz=85						
IMW	Indian Meadow	84.75	40	eP	P	00 57 50.3	-0.3
MOOW	Moose Ponds	84.78	40	eP	P	00 57 51.6	+0.8
	comp=Z,18nm,1.4s,mb5.0						
BSMT	Bassoo Peak	84.79	35	eP	P	00 57 49.7	-1.0
C13A	Hot Springs	84.80	35	⇓P	P	00 57 49.7	-1.2
	baz=85						
SMCO	Snowmass	84.81	45	eP	P	00 57 51.5	+0.4
	comp=Z,36nm,1.5s,mb5.3						
F15A	Butte	84.91	38	⇑P	P	00 57 50.8	-0.6
	baz=85,SNR=10.0						
LRM	Limekiln Ridge	84.92	38	eP	P	00 57 51.4	-0.1
QLMT	Earthquake Lak	84.97	39	eP	P	00 57 52.3	+0.6
FLWY	Flagg Ranch	84.99	40	eP	P	00 57 52.7	+0.8
D14A	Greenough	85.04	36	⇓P	P	00 57 51.0	-1.1
	baz=85,SNR=8.2						
CHMT	Chamberlain Mo	85.09	36	eP	P	00 57 51.8	-0.5
SDCO	Great Sand Dun	85.12	47	eP	P	00 57 53.2	+0.6
E15A	Deer Lodge	85.16	37	⇑P	P	00 57 52.0	-0.6
	baz=85,SNR=6.4						
B13A	Whitefish	85.27	35	⇑P	P	00 57 52.6	-0.5
	baz=86						
DLBC	Dease Lake	85.27	21	eP	P	00 57 53.0	+0.1
BOZ	Bozeman (W)	85.30	38	eP	P	00 57 52.9	-0.5
BOZ	Bozeman (W)	85.30	38	⇓P	P	00 57 53.1	-0.2
	baz=86						
C14A	Swan Lake	85.31	36	⇓P	P	00 57 52.4	-0.9
	baz=86						
D15A	Lincoln	85.57	37	⇑P	P	00 57 54.1	-0.6
	baz=86,SNR=11						
A13A	Flathead Natio	85.63	34	⇓P	P	00 57 53.9	-1.0
	baz=86						
WHN	Wuhan	85.66	304	⇑P	P	00 57 57.5	+2.0
HRY	Holter Researc	85.78	37	eP	P	00 57 50.5	-5.2
WALA	Waterton Lakes	85.97	34	eP	P	00 57 56.3	-0.3
	comp=Z,28nm,1.4s,mb5.3						
KTGM	Kuala Trenggan	85.99	277	⇑P	P	00 58 00.2	+2.6
ISCO	Idaho Springs	86.04	45	eP	P	00 57 58.5	+1.3
JCT	Junction City	86.05	56	eP	P	00 57 59.9	+2.4
JCT				pmax	pmax		
	comp=Z,17nm,1.3s,mb5.1						
JCT	Junction City	86.05	56	eP	P	00 57 59.9	+2.5
	comp=Z,17nm,1.3s,mb5.1						
COLA	College	86.21	10	d iP	P	00 57 56.4	-1.0
COLA	College	86.21	10	i P	P	00 57 56.4	-1.0
IMA2	Indian Mountai	86.45	8	eP	P	00 57 58.7	+0.1
SEY	Seymchan	86.47	345	⇓eP	P	00 57 58.6	-0.1
SEY	Seymchan	86.47	345	⇓eP	P	00 57 58.7	0.0
AMTX	Amarillo	86.53	51	eP	P	00 57 59.9	+0.2
PLCA	Paso Flores	86.55	132	P	P	00 58 01.1	+1.2
	comp=Z,10nm,1.1s,mb5.0,baz=253,slow=6.3,SNR=7.7						
PLCA				LR	LR	01 28 49.4	
	comp=Z,245nm,19.7s,MS4.6,baz=206,slow=30						
FRIM	Kepong	86.71	275	⇓P	P	00 58 02.4	+1.3
DAWY	Dawson	87.19	14	eP	P	00 58 02.3	+0.1
EGAK	Eagle	87.41	13	eP	P	00 58 03.0	-0.3
EGMT	Eagleton	87.68	37	⇑P	P	00 58 04.2	-0.8
	baz=88						
IPM	Ipoh	87.69	276	⇓P	P	00 58 08.0	+2.2
BJT	Baijiatuau	88.49	313	P	P	00 58 09.2	+0.2
BJT				pmax	pmax		
	comp=Z,83nm,1.4s						
BJT	Baijiatuau	88.49	313	P	P	00 58 09.2	+0.2
	comp=Z,83nm,1.4s,mb5.8						
BJI	Beijing	88.49	313	P	P	00 58 09.3	+0.3
BJI				PP	PP	01 01 37.8	+0.1
BJI				S	S	01 08 54.8	+2.6
BJI				SS	SS	01 14 49.8	+6.1
BJI				AMB	AMB		
	comp=Z,49nm,1.2s,mb5.6						
BJI				LR	LR		
	comp=N,180nm,19.7s,MS4.8						
BJI				LR	LR		
	comp=E,294nm,18.4s,MS4.8						
BJI				LR	LR		
	comp=Z,158nm,18.7s,MS4.5						
BILL	Bilibino	88.51	352	⇑eP	P	00 58 08.4	0.0
BILL				e		01 01 35.1	
BILL				eS	S	01 08 35.7	-15
BILL				pmax	pmax		
	comp=Z,15nm,1.3s,mb5.2						
BILL	Bilibino	88.51	352	i P	P	00 58 08.5	+0.1
WMOK	Wichita Mounta	88.62	52	eP	P	00 58 09.3	-0.5
WMOK				pmax	pmax		
	comp=Z,26nm,1.7s,mb5.3						
WMOK	Wichita Mounta	88.62	52	eP	P	00 58 09.3	-0.4
	comp=Z,26nm,1.7s,mb5.3						
EDM	Edmonton	88.69	31	eP	P	00 58 09.2	-0.4
SYO	Syowa Base	88.77	191	⇓eP	P	00 58 07.0	-2.9
SYO	Syowa Base	88.77	191	⇑eX	pP	00 58 17.4	-4.3
SNAA	Sanae	88.91	177	eP	P	00 58 08.1	-2.4
SNAA				e		00 58 11.2	
SNAA				e	pP	00 58 20.7	-1.7
SNAA	Sanae	88.91	177	d iP	P	00 58 08.2	-2.3
HKT	Hockley	88.97	58	eP	P	00 58 11.4	-0.1
HKT				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.4						
HKT	Hockley	88.97	58	eP	P	00 58 11.4	-0.2
	comp=Z,33nm,1.7s,mb5.4						
PSI	Prapat	89.11	273	P	P	00 58 12.6	0.0
	comp=Z,30nm,1.0s,mb5.6,baz=183,slow=3.5,SNR=14						
PSI	Prapat	89.11	273	⇓eP	P	00 58 11.9	-0.7
RSSD	Black Hills	89.14	42	eP	P	00 58 11.2	-0.8
RSSD				pmax	pmax		
	comp=Z,11nm,1.3s,mb5.0						
RSSD	Black Hills	89.14	42	eP	P	00 58 11.2	-0.8
	comp=Z,11nm,1.3s,mb5.0						
VNA2	Neumayer--Watz	89.35	175	eP	P	00 58 12.4	-0.2
VNA2				e		00 58 15.8	
VNA2				e	pP	00 58 26.4	+1.9
VNA1	Neumayer--Stat	89.55	175	eP	P	00 58 13.8	+0.2
VNA1				e		00 58 17.3	
VNA1				e	pP	00 58 27.6	+2.2
MAIT	Maitri	90.00	182	eP	P	00 58 13.2	-2.5
GYA	Guiyang	90.25	298	P	P	00 58 17.3	-0.3
GYA				AP	pP	00 58 29.4	0.0
GYA				XP	sP	00 58 33.8	0.0
GYA				PP	PP	01 01 54.0	+1.9
GYA				SKS		01 08 44.3	
GYA				S	S	01 09 06.8	-2.5
GYA				PS	PS	01 10 20.3	-0.3
GYA				SS	SS	01 15 09.6	-0.2
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.6						
GYA				AMB	AMB		
	comp=Z,120nm,8.9s						
GYA				LR	LR		
	comp=N,580nm,20.9s,MS5.1						
GYA				LR	LR		
	comp=E,540nm,21.7s,MS5.1						
GYA				LR	LR		
	comp=Z,560nm,22.8s,MS4.9						
XAN	Xi'an	91.27	306	P	P	00 58 23.8	+1.6
XAN				AP	pP	00 58 32.6	-1.4
XAN				XP	sP	00 58 36.9	-1.4
XAN				AMB	AMB		
	comp=Z,30nm,1.4s,mb5.4						
NRGR	Nerungri	91.89	331	eP	P	00 58 25.9	+1.5
CLNS	Chul'man	91.91	331	eP	P	00 58 23.6	-0.9
CLNS				pmax	pmax		
	comp=Z,36nm,1.0s,mb5.7						
CLNS				pmax	pmax		
	comp=N,16nm,0.9s						
CLNS				pmax	pmax		
	comp=E,8.0nm,0.8s						
HHC	Hu-ho-hao-te	92.02	313	eP	P	00 58 26.8	+1.3
HHC				AP	pP	00 58 37.3	0.0
HHC				XP	sP	00 58 41.3	-0.3
HHC				PP	PP	01 02 10.6	+4.8
HHC				SKS		01 08 55.3	
HHC				S	S	01 09 23.9	-0.8
HHC				XS	sS	01 09 40.9	-3.5
HHC				SS	SS	01 15 38.6	+3.9
HHC				AMB	AMB		
	comp=Z,63nm,1.0s,mb5.9						
HHC				AMB	AMB		
	comp=Z,217nm,7.6s						
HHC				LR	LR		
	comp=N,536nm,16.7s,MS5.2						
HHC				LR	LR		
	comp=E,489nm,16.6s,MS5.2						
HHC				LR	LR		
	comp=Z,446nm,18.2s,MS5.0						
INK	Inuvik	92.05	14	eP	P	00 58 24.3	-0.6
YAK	Yakutsk	92.92	337	i P	P	00 58 28.3	-0.8
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb5.3						
YAK	Yakutsk	92.92	337	i P	P	00 58 28.4	-0.7
KMI	Kunming	93.09	295	P	P	00 58 32.3	+1.5
KMI				AP	pP	00 58 44.0	+1.3
KMI				S	S	01 09 34.0	-1.0
KMI				XS	sS	01 09 49.8	-5.0
KMI				AMB	AMB		
	comp=Z,21nm,1.0s,mb5.5						
KMI				AMB	AMB		
	comp=Z,159nm,3.1s						
KMI				LR	LR		
	comp=N,274nm,17.3s,MS5.0						
KMI				LR	LR		
	comp=E,328nm,17.4s,MS5.0						
KMI				LR	LR		
	comp=Z,222nm,20.7s,MS4.6						
YKA	Yellowknife Ar	93.60	23	P	P	00 58 31.3	-0.9
YKA	Yellowknife Ar	93.60	23	P	P	00 58 31.3	-0.9
	comp=Z,2.2nm,1.0s,mb4.5,baz=238,slow=4.2,SNR=19						
ECSD	EROS,Sioux Fal	93.81	45	eP	P	00 58 33.2	-0.5
CD2	Chengdu	94.21	301	eP	P	00 58 35.9	+0.1
CD2				AP	pP	00 58 46.5	-1.2
CD2				XP	sP	00 58 50.8	-1.2
CD2				PP	PP	01 02 25.1	+1.9
CD2				SKS		01 09 06.6	
CD2				S	S	01 09 40.9	-3.7
CD2				XS	sS	01 09 58.8	-5.6
CD2				SS	SS	01 16 05.1	-1.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.3						
CD2				AMB	AMB		
	comp=Z,40nm,8.8s						
CD2				LR	LR		
	comp=N,270nm,10.8s						
CD2				LR	LR		
	comp=Z,270nm,12.0s,MS4.9						
CHTO	Chiang Mai	94.34	288	eP	P	00 58 36.4	-0.3
CHTO				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.7						
CHTO	Chiang Mai	94.34	288	eP	P	00 58 36.4	-0.3
	comp=Z,45nm,1.5s,mb5.7						
LZH	Lanzhou	95.89	306	eP	P	00 58 45.8	+2.4
LZH				AP	pP	00 58 56.3	+1.1
LZH				XP	sP	00 58 59.5	0.0
LZH				PP	PP	01 02 40.0	+3.8
LZH				SKS		01 09 17.1	
LZH				eS	S	01 09 57.0	-1.9
LZH				XS	sS	01 10 13.3	-5.5
LZH				SS	SS	01 16 31.0	+0.7
LZH				AMB	AMB		
	comp=Z,44nm,1.5s,mb5.7						
LZH				AMB	AMB		
	comp=Z,230nm,5.7s						
LZH				LR	LR		
	comp=N,1μm,18.3s						
LZH				LR	LR		
	comp=Z,2μm,19.2s,MS5.5						
ULM	Lac du Bonnet	96.78	39	P	P	00 58 48.4	+1.3
	comp=Z,1.9nm,0.8s,mb4.6,baz=270,slow=20,SNR=3.7						
ULM				LR	LR	01 37 50.7	
	comp=Z,387nm,19.3s,MS4.9,baz=270,slow=32						
ULN	Ulaanbaatar	97.66	318	⇑eP	P	00 58 52.6	+1.5
SONM	Songino Array	98.06	318	P	P	00 58 52.4	-0.6
	comp=Z,0.6nm,0.5s,mb4.4,baz=111,slow=2.0,SNR=3.2						
SONM				LR	LR	01 38 01.8	
	comp=Z,134nm,19.1s,MS4.5,baz=102,slow=32						
LPAZ	La Paz	98.08	110	P	P	00 58 56.8	+3.1
	comp=Z,1.1nm,0.8s,mb4.5,baz=271,slow=2.7,SNR=6.1						
LPAZ				LR	LR	01 33 41.8	
	comp=Z,191nm,21.1s,MS4.6,baz=61,slow=30						
TIXI	Tiksi	98.94	344	⇑eP	P	00 58 56.2	-0.1
TIXI				pmax	pmax		
	comp=Z,10.0nm,2.1s,mb5.0						
TIXI				MLR	MLR		
	comp=Z,100nm,20.0s,MS4.3						
TIXI	Tiksi	98.94	344	⇑eP	P	00 58 56.3	0.0
GTA	Gaotai	99.96	308	eP	Pdif	00 59 03.1	+1.6
GTA				AP		00 59 12.8	
GTA				XP		00 59 17.1	
GTA				PP	PP	01 03 08.0	+0.7
GTA				PPP		01 05 17.3	
GTA				SKS		01 09 38.1	
GTA				S	Sdif	01 10 31.3	-1.8
GTA				SS	SS	01 17 26.9	-0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.7s,mb4.6						
GTA				AMB	AMB		
	comp=Z,143nm,6.9s						
GTA				LR	LR		
	comp=N,147nm,13.3s,MS4.9						
GTA				LR	LR		
	comp=E,213nm,15.2s,MS4.9						
GTA				LR	LR		
	comp=Z,175nm,15.2s,MS4.7						
WMQ	Urumqi	109.78	311	ePDIF	Pdif	00 59 46.0	+0.9
WMQ				PP	PP	01 04 24.0	+4.0
WMQ				PS	PS	01 13 46.0	-2.9
WMQ				SS	SS	01 19 41.0	-0.6
WMQ				PP	PP		
	comp=Z,107nm,8.0s						
WMQ				LR	LR		
	comp=N,124nm,18.0s,MS4.7						
WMQ				LR	LR		
	comp=E,152nm,18.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,123nm,18.0s,MS4.5						
ZALV	Zalesovo Beam	112.59	321	PKiKP	PKiKP	01 03 50.8	-1.7
	comp=Z,0.6nm,0.5s,baz=114,slow=1.8,SNR=4.6						
ZALV				PP	PP	01 04 35.5	-4.4
	comp=Z,1.2nm,0.9s,baz=64,slow=6.8,SNR=3.7						
ZAL	Zalesovo	112.60	321	PKiKP	PKiKP	01 03 50.8	-1.7
ZAL						01 04 35.5	
MKAR	Makanchi Array	113.87	313	⇑iPKiKP	PKiKP	01 03 54.4	-0.8
MKAR	Makanchi Array	113.87	313	PKiKP	PKiKP	01 03 54.4	-0.8
	comp=Z,1.2nm,0.8s,baz=66,slow=3.0,SNR=8.7						
MKAR				PKKPbc	PKKPbc	01 14 38.4	-0.1
	comp=Z,0.7nm,0.8s,baz=289,slow=3.7,SNR=6.1						
KURK	Kurchatov	116.37	318	⇑iPKiKP	P

OBN	Obninsk	137.90	335	⇊ *i* PKIKP	PKPdf	01 04 41.1	+0.4
OBN				*e*		01 07 27.5	
OBN				pmax	pmax		
comp=Z,8.0nm,0.7s							
OBN	Obninsk	137.90	335	⇊ *e* PKP	PKPdf	01 04 41.1	+0.4
OBN				LR	LR		
comp=Z,100nm,15.0s,MS4.7							
KIV	Kislovodsk	141.46	317	⇊ *i* PKIKP	PKPdf	01 04 48.6	+1.1
KIV				*e*		01 07 48.8	
KIV				pmax	pmax		
comp=Z,7.0nm,1.1s							
SUW	Suwalki	143.29	344	*e* PKP	PKPdf	01 04 47.6	-2.8
SUW	Suwalki	143.29	344	*e* PKP	PKPdf	01 04 47.6	-2.8
BHD	Baghdad	143.97	300	*ex*	x	01 04 48.0	
KMBO	Kilima Mbogo	143.98	239	⇑ *i* PKIKP	PKPdf	01 04 52.7	-0.2
KMBO	Kilima Mbogo	143.98	239	PKP	PKPdf	01 04 51.7	-1.2
comp=Z,15nm,1.1s,baz=104,slow=4.4,SNR=18							
ERZM	Erzurum	144.13	312	*i* P	PKPdf	01 04 52.6	+0.3
AKASG	Malin Array Be	144.15	336	PKP	PKPdf	01 04 49.5	-2.6
AKASG	Malin Array Be	144.15	336	PKP	PKPdf	01 04 49.5	-2.6
comp=Z,3.7nm,0.6s,baz=36,slow=4.2,SNR=39							
AKBB	Malin Array Si	144.15	336	*e* PKHKP	PKPdf	01 04 49.3	-2.8
KIEV	Kiev	144.16	336	*e* PKHKP	PKPdf	01 04 49.6	-2.5
MSL	Mosul	144.19	306	*ex*	x	01 04 52.0	
ANN	Anapa	144.23	322	*i* PKIKP	PKPdf	01 04 50.4	-2.0
ANN				*e*		01 12 01.4	
ANN				pmax	pmax		
comp=Z,42nm,1.2s							
ANN	Anapa	144.23	322	*e* PKP	PKPdf	01 04 50.2	-2.2
BNGL	BINGOL	144.68	311	*i* P	PKPdf	01 04 54.7	+1.4
GKP	Gorka Klasztor	145.28	349	*e* PKP	PKPdf	01 04 53.6	-0.3
GKP	Gorka Klasztor	145.28	349	*e* PKP	PKPdf	01 04 53.6	-0.3
BSEG	Bad Segeberg	145.44	357	*e* PKPbc	PKPbc	01 04 54.4	+0.2
WAR	Warsaw	145.44	345	*e* PKP	PKPdf	01 04 55.5	+1.3
WAR	Warsaw	145.44	345	*e* PKP	PKPdf	01 04 55.6	+1.4
MARD	Mardin	145.58	308	*i* P	PKPdf	01 04 55.9	+0.9
GRSN	GIRESUNGRSN	145.78	316	*i* P	PKPdf	01 04 56.1	+0.9
ELZG	Elazig	146.41	311	*i* P	PKPab	01 04 59.5	+0.9
LVV	L'vov	146.74	340	*e* PKIKP	PKPdf	01 04 57.5	+1.0
MALT	Malatya	146.88	311	*e* PKP2	PKPab	01 05 00.3	-0.1
KIS	Kishinev	147.20	332	*e* PKIKP	PKPdf	01 04 59.0	+1.6
KIS				*e*		01 05 05.0	
KIS				*e*		01 05 12.0	
KIS				*e*		01 05 21.0	
KIS	Kishinev	147.20	332	*e* UNK	PKPdf	01 04 59.0	+1.6
KWP	Kalwaria	147.33	341	*e* PKP	PKPbc	01 05 00.3	+0.4
KWP	Kalwaria	147.33	341	⇊ *i* P	PKPbc	01 05 00.3	+0.4
ATAB	Bozova	147.33	310	*i* P	PKPab	01 05 01.5	-0.8
WTSB	Winterswijk	147.51	0	*e* P	PKPbc	01 05 00.6	+0.3
comp=Z,29nm,1.3s							
CLZ	Clausthal	147.52	356	*e* PKPbc	PKPbc	01 05 00.4	0.0
IAS	Iasi	147.59	333	PKP2	PKPbc	01 05 01.1	+0.4
OJC	Ojcow	147.61	345	*e* PKP	PKPbc	01 05 00.7	0.0
BOYT	Boyabat	147.68	319	*i* P	PKPab	01 05 02.5	-1.0
KSP	Ksiaz	147.78	349	*e* PKP	PKPbc	01 05 01.7	+0.6
KSP	Ksiaz	147.78	349	*e* PKP	PKPdf	01 04 58.9	+0.7
KSP				*e*		01 05 01.4	
KSP				*e*		01 05 14.0	
CLL	Collm	147.81	353	*e* PKIKP	PKPdf	01 04 58.0	-0.3
CLL				*i*		01 05 01.2	
CLL				MLR	MLR		
comp=Z,200nm,18.8s,MS4.9							
CLL	Collm	147.81	353	*e* PKPbc	PKPbc	01 05 00.9	-0.3
CLL	Collm	147.81	353	*e* PKPdf	PKPdf	01 04 58.0	-0.3
CLL				⇊ *i* PKPbc	PKPbc	01 05 01.2	0.0
comp=Z,32nm,1.1s							
CLL				*i* pPKPbc	pPKPbc	01 05 16.3	+3.0
CLL				LmV		02 18 00.0	
comp=Z,200nm,18.8s							
GZT	Gaziantep	147.91	310	*i* P	PKPab	01 05 02.9	-1.6
STHS	Stebnicka Huta	147.95	342	*i* PKP	PKPbc	01 05 02.4	+0.8
BUG	Bochum--Univer	148.03	360	*e* PKPbc	PKPbc	01 05 01.3	-0.5
KOLS	Kolonicke sedl	148.08	341	*i* PKP	PKPbc	01 05 02.5	+0.5
BRG	Berggiesshubel	148.12	352	*e* PKIKP	PKPdf	01 04 59.4	+0.6
BRG				pmax	pmax		
comp=Z,13nm,1.0s							
BRG	Berggiesshubel	148.12	352	*e* PKPbc	PKPbc	01 05 02.0	0.0
BRG	Berggiesshubel	148.12	352	*e* PKP	PKPdf	01 04 59.4	+0.6
comp=Z,22nm,1.0s							
UPC	Upice	148.15	349	*e* PKPbc	PKPbc	01 05 02.8	+0.7
BURAR	Bucovina Array	148.19	336	⇊ *i* P	PKPbc	01 05 03.0	+0.7
NIE	Niedzica	148.21	343	*e* PKP	PKPbc	01 05 03.0	+0.7
DPC	Dobruska-Polom	148.25	349	*e* PKP2	PKPbc	01 05 03.1	+0.7
UZH	Uzhgorod	148.34	341	*e* PKP2	PKPab	01 05 04.0	-1.8
CRVS	Cervenica-Dubn	148.35	342	*e* PKP	PKPbc	01 05 03.1	+0.4
OKC	Ostrava-Krasne	148.36	346	*e* PKPbc	PKPbc	01 05 03.1	+0.4
PVCC	Panska Ves	148.37	351	*e* PKPbc	PKPbc	01 05 03.3	+0.6
BALT	Daday	148.54	320	*i* P	PKPbc	01 05 04.3	+0.9
MORC	Moravsky Berou	148.55	347	⇑ *i* P	PKPbc	01 05 03.9	+0.7
UBBA	Unterbreizbach	148.57	356	*e* PKPbc	PKPbc	01 05 03.3	+0.1
UCC	Uccle	148.61	3	PKPbc	PKPbc	01 05 02.4	-0.9
MOX	Moxa	148.62	354	*e* PKP	PKPbc	01 05 03.7	+0.4
comp=Z,27nm,1.8s							
MOX	Moxa	148.62	354	*e* PKPbc	PKPbc	01 05 02.9	-0.4
ANDN	Andirin	148.68	312	*i* P	PKPbc	01 05 04.6	+0.7
TRPA	Tarpa	148.70	340	⇑ *i* P	PKPbc	01 05 04.0	+0.4
HGN	Heimansgroeve	148.70	1	*e* P	PKPbc	01 05 03.9	+0.4
comp=Z,2.1nm,0.3s							
TANN	Tannenbergstha	148.76	353	*e* PKPbc	PKPbc	01 05 03.9	+0.2
MEM	Membach	148.85	1	PKP	PKPdf	01 05 00.1	+0.1
MEM				PKPbc	PKPbc	01 05 03.6	-0.3
MEM				PKPab	PKPab	01 05 07.3	-0.5
MEM				APKiKP		01 05 17.0	
PRU	Pruhonice	148.90	351	*e* PKPbc	PKPbc	01 05 04.2	+0.1
NKC	Novy Kostel	148.94	353	*e* PKPbc	PKPbc	01 05 04.2	+0.1
VRI	Vrincioaia	148.99	333	⇊ *i* P	PKPbc	01 05 05.0	+0.6
CDAG	Cicekdag	149.00	316	*i* P	PKPbc	01 05 03.3	-1.4
BCLA	Clavier	149.03	2	PKP	PKPdf	01 05 01.4	+1.1
BCLA				PKPbc	PKPab	01 05 07.0	-1.5
BCLA				E		01 05 10.3	
AVNT	Avonos	149.13	315	*i* P	PKPbc	01 05 06.3	+1.2
VRAC	Vranov	149.19	348	PKP2	PKPbc	01 05 05.7	+0.9
VRAC	Vranov	149.19	348	PKPbc	PKPbc	01 05 04.8	-0.1
comp=Z,8.5nm,1.0s,baz=40,slow=1.7,SNR=9.2							
VRAC	Vranov	149.19	348	⇑ *i* P	PKPbc	01 05 05.6	+0.8
TIRR	Tirgusor	149.30	329	⇑ *i* P	PKPbc	01 05 05.9	+0.7
DOU	Dourbes	149.32	3	PKP	PKPdf	01 05 00.3	-0.5
DOU				PKPbc	PKPbc	01 05 05.2	+0.1
DOU				PKPab	PKPab	01 05 08.4	-1.4
DOU	Dourbes	149.32	3	APKiKP		01 05 17.8	
GIVF	Givet	149.32	3	*e* PKP1	PKPbc	01 05 04.6	-0.5
BAIF	Baives	149.34	4	*e* PKP1	PKPbc	01 05 04.8	-0.3
comp=Z,68nm,1.2s							
HARR	Harsova	149.35	330	PKP2	PKPbc	01 05 06.5	+1.1
HARR	Harsova	149.35	330	⇑ *i* P	PKPbc	01 05 06.1	+0.7
TREC	Trest	149.41	349	*e* PKPbc	PKPbc	01 05 05.5	+0.1
ROTZ	Rotzenmuhle	149.42	353	*e* PKPbc	PKPbc	01 05 05.4	0.0
VYHS	Vyhne	149.44	344	*i* PKP	PKPbc	01 05 06.0	+0.5
KOLL	Kolacno	149.47	345	*i* PKP	PKPbc	01 05 06.1	+0.6
ABH	Alteburg	149.59	359	PKP	PKPbc	01 05 04.8	-1.0
GRF	Grafenberg Arr	149.59	355	*e* PKPbc	PKPbc	01 05 06.2	+0.4
GRF				*e* L		02 15 30.9	
comp=Z,148nm,19.9s							
GRFO	Grafenberg	149.60	355	*e* PKIKP	PKPdf	01 05 00.6	-0.6
MLR	Muntele Rosu	149.63	333	PKP	PKPdf	01 05 00.7	-0.7
comp=Z,2.9nm,1.1s,baz=143,slow=2.8,SNR=3.3							
MLR				PKPbc	PKPbc	01 05 06.7	+0.7
comp=Z,23nm,1.1s,baz=47,slow=1.5,SNR=26							
MLR	Muntele Rosu	149.63	333	⇊ *i* P	PKPbc	01 05 06.7	+0.7
PSZ	Piszkesteto	149.69	343	*e* PKIKP	PKPdf	01 05 02.0	+0.6
PSZ				*e*		01 05 06.8	
RUP	Ruppelstein	149.77	360	PKHKP	PKPbc	01 05 06.2	0.0
DRGR		149.80	338	⇊ *i* P	PKPbc	01 05 06.7	+0.3
WLF	Walferdange	149.80	1	*e* PKHKP	PKPbc	01 05 05.9	-0.4
WLF	Walferdange	149.80	1	PKPbc	PKPbc	01 05 06.1	-0.2
WLF				PKPab	PKPab	01 05 10.1	-1.7
WLF	Walferdange	149.80	1	*e* PKPbc	PKPbc	01 05 06.1	-0.2
TOD	Tromm	149.84	358	PKHKP	PKPbc	01 05 05.5	-0.9
KHC	Kasperske Hory	149.88	351	*e* PKPbc	PKPbc	01 05 06.7	+0.2
ANTO	Ankara	149.88	318	⇑ *i* P	PKPbc	01 05 07.7	+0.9
MODS	Modra-Piesok	149.93	346	*i* PKP	PKPbc	01 05 07.4	+0.7
WET	Wettzell	149.96	352	*e* PKPbc	PKPbc	01 05 06.3	-0.4
VOIR		150.04	334	PKP2	PKPbc	01 05 07.5	+0.5
VOIR		150.04	334	⇑ *i* P	PKPbc	01 05 08.4	+1.4
FLN	La Foliniere	150.10	10	*e* PKP1	PKPbc	01 05 06.0	-1.1
comp=Z,77nm,1.1s							
FLN				*e* MLR	MLR		
comp=Z,133nm,21.0s,MS4.4							
FLN	La Foliniere	150.10	10	*e* PKP	PKPbc	01 05 06.0	-1.1
FLN				LR	LR		
comp=Z,130nm,21.0s,MS4.7							
ZST	Bratislava	150.13	346	*i* PKP	PKPbc	01 05 08.5	+1.3
GEC2	GERESS Array S	150.14	351	*e* PKIKP	PKPdf	01 05 02.7	+0.6
GEC2				*e*		01 05 07.4	
GEC2	GERESS Array S	150.14	351	*e* PKPbc	PKPbc	01 05 07.3	+0.1
GERES	GERESS Array B	150.14	351	PKPbc	PKPbc	01 05 07.6	+0.5
comp=Z,6.0nm,0.9s,baz=40,slow=2.3,SNR=37							
SGMF	Saint Gilles	150.20	13	*e* PKP1	PKPbc	01 05 07.0	-0.3
LDF	La Druitiere	150.32	10	*e* PKP1	PKPbc	01 05 06.5	-1.1
comp=Z,89nm,1.2s							
HWQ	Hawqa	150.36	306	*e* P	PKPbc	01 05 08.4	+0.2
GRR	Gorron	150.40	11	*e* PKP1	PKPbc	01 05 06.8	-1.0
comp=Z,94nm,1.2s							
HENT	Hendek	150.46	321	*i* P	PKPbc	01 05 08.7	+0.5
LANF	Langenberg	150.49	359	PKP	PKPbc	01 05 07.1	-0.9
STU	Stuttgart	150.65	357	*e* PKPbc	PKPbc	01 05 09.0	+0.6
CONA	Conrad Observa	150.65	348	*i* P	PKPbc	01 05 08.9	+0.5
comp=Z,32nm,1.4s,SNR=11							
CSNA	Conrad Observa	150.65	348	⇊ *i* PKiKP	PKiKP	01 05 09.0	-0.1
comp=Z,32nm,1.4s							
BHL	Bhannes	150.73	305	*e* P	PKPbc	01 05 09.4	+0.4
SOP	Sopron	150.74	347	⇊ *e* PKP	PKPbc	01 05 09.0	+0.4
STR	Strasbourg	150.89	359	PKP	PKPbc	01 05 08.1	-0.8
MEZF	Maizieres J'vi	150.93	3	*e* PKP1	PKPbc	01 05 08.7	-0.4
comp=Z,52nm,1.1s							
CDF	Champ du Feu	151.06	360	*e* PKP1	PKPbc	01 05 08.8	-0.6
comp=Z,61nm,1.2s							
FUR	Furstenfeldbru	151.10	354	*e* PKPbc	PKPbc	01 05 09.6	+0.1
BFO	Black Forest	151.13	358	*e* PKPbc	PKPbc	01 05 09.1	-0.4
BZS	Buzias	151.20	338	⇊ *i* P	PKPbc	01 05 09.8	0.0
THEF	They Montfort	151.24	1	PKP	PKPbc	01 05 09.0	-0.8
ECH	Echery	151.26	360	PKP	PKPbc	01 05 08.3	-1.5
ESKT	Eskisehir	151.29	319	*i* P	PKPbc	01 05 11.1	+0.9
HAU	Haudompre	151.47	1	*e* PKP1	PKPbc	01 05 09.7	-0.6
comp=Z,43nm,0.9s							
HAU				*e* MLR	MLR		
comp=Z,122nm,19.5s,MS4.4							
FELD	Feldberg im Sc	151.59	359	PKP	PKPdf	01 05 05.7	+1.3
PKSM	Moragy	151.60	343	⇑ *i* P	PKPbc	01 05 10.6	-0.1
MOF	Molkenrain	151.62	360	PKP	PKPbc	01 05 07.8	-2.9
HINF	Hinteralfeld	151.66	0	*e* PKP1	PKPbc	01 05 09.9	-0.9
comp=Z,18nm,1.0s							
MOTA	Moosalm	151.93	354	⇊ *i* P	PKPbc	01 05 11.2	-0.2
comp=Z,19nm,1.2s,SNR=9.9							
WTTA	Wattenberg	151.96	353	⇊ *i* P	PKPbc	01 05 11.6	+0.1
comp=Z,18nm,0.8s,SNR=5.5							
HYF	Humbligny	151.98	6	*e* PKP1	PKPbc	01 05 11.1	-0.4
BBS	Basel-Blauen	152.01	359	PKIKP	PKPdf	01 05 05.5	+0.5
PERS	Pernice	152.04	348	*i* PKPdf	PKPbc	01 05 10.9	-0.7
PERS				*i*		01 05 21.1	
CSS	Prodhromos	152.04	309	*e* PKPbc	PKPbc	01 05 11.8	-0.3
CSS				*e*		01 05 22.8	
SQTA	Sankt Quirin	152.04	354	⇊ *i* P	PKPbc	01 05 11.7	+0.1
comp=Z,24nm,1.3s,SNR=7.4							
LOR	Lormes	152.09	5	*e* PKP1	PKPbc	01 05 11.1	-0.7
comp=Z,68nm,1.3s							
LOR				*e* MLR	MLR		
comp=Z,176nm,20.5s,MS4.6							
LOMF	Lomont	152.13	0	PKP	PKPdf	01 05 07.1	+1.9
MFF	Saint Martin d	152.25	11	*e* PKP1	PKPbc	01 05 11.0	-1.1
SSF	Saint Saulge	152.27	5	*e* PKP1	PKPbc	01 05 11.6	-0.6
comp=Z,60nm,1.1s							
FETA	Feichten	152.29	355	*i* P	PKPbc	01 05 12.4	+0.2
comp=Z,11nm,0.9s,SNR=7.5							
ABTA	Abfaltersbach	152.36	352	⇊ *i* P	PKPbc	01 05 11.9	-0.4
comp=Z,22nm,1.1s,SNR=8.6							
AVF	Avril sur Loir	152.52	5	*e* PKP1	PKPbc	01 05 11.7	-1.0
comp=Z,29nm,1.2s							
DAVOX	Davos/Dischmat	152.60	356	PKPbc	PKPbc	01 05 13.3	+0.4
comp=Z,4.0nm,0.6s,baz=18,slow=22,SNR=7.7							
DAVOX				PKPab	PKPab	01 05 24.1	+0.7
comp=Z,6.5nm,0.8s,baz=42,slow=16,SNR=6.3							
VNDS	Vrh nad Dolski	152.63	348	*i* PKPdf	PKPbc	01 05 12.4	-0.6
BGF	Bois d'Agland	152.71	6	*e* PKP1	PKPbc	01 05 12.3	-0.9
comp=Z,21nm,0.8s							
SMF	Signal de Mont	152.71	5	*e* PKP1	PKPbc	01 05 12.2	-1.0
comp=Z,43nm,1.5s							
CABF	La Chapelle	152.86	1	*e* PKP1	PKPbc	01 05 13.5	0.0
comp=Z,37nm,1.0s							
TCF	Toulx Ste Croi	152.90	7	*e* PKP1	PKPbc	01 05 12.6	-1.0
comp=Z,33nm,1.2s							
JAVS	Javornik	152.95	349	*i* PKPdf	PKPbc	01 05 13.1	-0.6
BOJS	Bojanci	153.09	347	*i* PKPdf	PKPbc	01 05 13.2	-0.8
RJF	Les Rejaudoux	153.78	9	*e* PKP1	PKPbc	01 05 14.4	-1.1
RJF				*e* MLR	MLR		
comp=Z,207nm,21.2s,MS4.6							
CAF	Calviac	154.22	8	*e* PKP1	PKPbc	01 05 15.7	-0.8
LASF	Ste Croix	155.26	5	*e* PKP1	PKPdf	01 05 18.4	+8.6
comp=Z,117nm,1.5s							
ESDC	Sonseca Array	157.70	23	PKPab	PKPab	01 05 44.9	-0.5
comp=Z,0.6nm,0.7s,baz=317,slow=4.7,SNR=4.8							
MDT	Midelt	163.07	36	PKP	PKPdf	01 05 19.7	+0.5
comp=Z,2.2nm,1.1s,baz=93,slow=2.2,SNR=3.7							
TORD	Torodi Ar. Bea	171.96	140	PKP	PKPdf	01 05 24.1	-2.0
TORD				PKPab	PKPab	01 06 49.9	+1.2
TORD	Torodi Ar. Bea	171.96	140	PKP	PKPdf	01 05 24.1	-2.0
comp=Z,2.5nm,1.1s,baz=324,slow=1.9,SNR=9.2							
TORD				PKPab	PKPab	01 06 49.9	+1.2
comp=Z,4.0nm,1.2s,baz=231,slow=2.2,SNR=5.2							

IDC 18 00:55:06.5±67.0, 2048S×17705E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/13, mbtmp3.9/3, Error ellipse: s-maj=1171.0km s-min=150.1km az=81.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	33.64	243	P	P	01 01 49.4	+0.4
1.1nm,0.7s,baz=67,slow=7.7,SNR=3.0							
ASAR	Alice Springs	40.00	257	P	P	01 02 43.1	-0.2
2.2nm,0.8s,baz=97,slow=7.8,SNR=15							
WRA	Warramunga Arr	40.00	263	P	P	01 02 43.2	-0.2
0.6nm,0.4s,baz=98,slow=7.9,SNR=15							

IDC 18 00:55:42.0±49.0, 691S×10370E, h0km, mb4.0/3, mb1 4.0/3, mb1mx3.6/18, mbtmp4.0/3, Error ellipse: s-maj=1042.0km s-min=194.7km az=167.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	54.56	2	P	P	01 05 12.1	+0.2
0.7nm,0.4s,baz=165,slow=7.4,SNR=2.6							
MKAR	Makanchi Array	56.76	343	P	P	01 05 27.7	0.0
0.6nm,0.5s,baz=150,slow=8.8,SNR=18							
ZALV	Zalesovo Beam	62.69	348	P	P	01 06 08.3	-0.1
0.8nm,0.4s,baz=149,slow=6.2,SNR=4.5							

*ISCJB **18** 00:59:32.6±2.6, 369N±006×8231W±007, h7km±18km, mb3.8/6, Error ellipse: s-maj=13.6km s-min=7.0km az=145.6*
*IDC **18** 00:59:32.6±1.2, 361N×8242W, h0km, mb3.8/4, mb1 4.1/6, mb1mx3.8/21, mbtmp3.9/6, ML2.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.7/28, Error ellipse: s-maj=51.3km s-min=20.0km az=56.0*
*CASC **18** 00:59:33.8±0.9, 350N×8265W, h152km±728km, mb4.1(NEIC)*
*NEIC **18** 00:59:34.5±0.6, 360N×8241W, h10km, mb4.1/5, Error ellipse: s-maj=14.6km s-min=8.9km az=52.0*

ISC 18 00:59:34.9±3.1, 365N±006×8237W±007, h10km±21km, n24, σ0§94/26, mb3.8/6, South of Panama

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BAR1		5.63	350	*e* P	Pn	01 00 58.7	0.0
BCIP	Isla Barro Col	6.03	25	*e* Pn	Pn	01 01 11.2	+6.9
52nm,0.4s							
LCR2	La Lucha 2	6.27	345	*e* P	Pn	01 01 06.9	-0.6
LCR2				*e* S	Sn	01 02 20.4	+1.2
URSC	Urasca	6.30	347	*e* P	Pn	01 01 08.6	+0.7
PRS1	Puriscal	6.58	343	*e* P	Pn	01 01 09.6	-2.1
JCR	Jicaral	6.74	336	*e* P	Pn	01 01 13.2	-0.7
ROSC	El Rosal	8.11	81	*e* Pn	Pn	01 01 34.1	+1.3
ROSC				*e* Sn	Sn	01 03 04.2	-0.3
ROSC				LR	LR	01 04 08.6	
ROSC	El Rosal	8.11	81	Pn	Pn	01 01 33.5	+0.7
0.5nm,0.3s,baz=264,slow=17,SNR=2.3							
ROSC				LR	LR	01 04 08.6	
comp=Z,44nm,20.4s,baz=54,slow=34							
ATAH	Atahualpa	11.30	159	Pn	Pn	01 02 17.6	+1.1
baz=336,slow=6.2							
SDV	Santo Domingo	12.77	65	Pn	Pn	01 02 37.5	+0.8
SDV				LR	LR	01 07 23.9	
SDV	Santo Domingo	12.77	65	Pn	Pn	01 02 44.5	+7.8
0.2nm,0.3s,baz=250,slow=18,SNR=3.5							
SDV				LR	LR	01 07 23.9	
comp=Z,203nm,21.8s,baz=83,slow=37							
NNA	Nana	16.48	161	*e* Pn	Pn	01 03 26.9	+0.6
29nm,1.1s							
LPAZ	La Paz	24.30	145	*e* P	P	01 04 53.0	+0.3
7.0nm,0.9s,mb4.1							
LPAZ	La Paz	24.30	145	P	P	01 04 53.1	+0.4
6.3nm,1.0s,mb4.0,baz=334,slow=9.7,SNR=15							
ACSO	Alum Creek Sta	36.42	359	P	P	01 06 39.4	-0.3
CPUP	Villa Florida	38.41	142	*e* P	P	01 06 55.2	-1.6
8.2nm,1.0s,mb4.4							
CPUP	Villa Florida	38.41	142	P	P	01 06 55.3	-1.5
0.8nm,0.7s,mb3.5,baz=331,slow=10,SNR=3.4							
BDFB	Brasilia	39.03	120	P	P	01 07 00.6	-1.5
0.6nm,0.6s,mb3.5							
SDCO	Great Sand Dun	40.00	331	*e* P	P	01 07 11.0	+1.1
1.9nm,1.1s,mb3.7							
PV10	Paradox Valley	42.27	328	*e* P	P	01 07 29.1	+0.5
RSSD	Black Hills	44.61	338	*e* P	P	01 07 48.0	+0.6
NVAR	Mina Array Bea	47.64	321	P	P	01 08 11.4	+0.1
1.3nm,0.7s,mb4.1,baz=140,slow=7.7,SNR=11							
YKA	Yellowknife Ar	63.39	344	P	P	01 10 03.1	-1.1
YKA	Yellowknife Ar	63.39	344	P	P	01 10 03.1	-1.1
0.2nm,0.7s,mb3.3,baz=147,slow=6.0,SNR=4.9							

KRSC 18 01:09:33.9±1.5, 5031N×15948E, h10km±10km, ML3.9, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RUS	Russkaya	2.21	344	*i* P	Pn	01 10 11.5	+0.9
RUS				*i* S	Sn	01 10 38.9	+1.0
GRL	Gorelyy	2.41	339	*e* P	Pn	01 10 15.0	+1.6
GRL				*i* S	Sn	01 10 44.9	+2.0
MIPR	Malaya Ipel'ka	2.61	320	*e* P	Pn	01 10 16.1	+0.1
PET	Petropavlovsk	2.77	350	P	Pn	01 10 20.1	+1.9
PET				*i* S	Sn	01 10 53.8	+2.2
SPN	Mys Shipunski	2.81	7	*e* P	Pn	01 10 21.1	+2.2
SPN				*i* S	Sn	01 10 55.2	+2.4
NLC	Nalytchevo	2.87	358	*e* P	Pn	01 10 20.8	+1.2
NLC				*i* S	Sn	01 10 55.0	+0.9
AVH	Avacha	3.00	351	*e* P	Pn	01 10 23.4	+2.0
AVH				*i* S	Sn	01 10 59.4	+2.1
GNL	Ganaly	3.52	345	*i* P	Pn	01 10 30.6	+2.0
GNL				*e* S	Sn	01 11 12.0	+1.8
KII	Karymskiy	3.73	360	P	Pn	01 10 33.9	+2.4
KII				*i* S	Sn	01 11 18.2	+2.8
MKZ	Mys Kozlova	4.47	17	*e* P	Pn	01 10 42.7	+1.1
MKZ				*e* S	Sn	01 11 33.6	0.0
KBTR	Krutoberegovo	6.24	17	P	Pn	01 11 08.0	+2.1

*ISCJB **18** 01:21:43.1±0.9, 2787N±007×1394E±03, h482km±10km, mb3.2/6, Error ellipse: s-maj=38.0km s-min=8.7km az=168.2*
*IDC **18** 01:21:43.4±1.1, 2791N×13956E, h473km±13km, mb2.9/6, mb1 3.1/8, mb1mx2.9/19, mbtmp2.9/8, Error ellipse: s-maj=37.1km s-min=15.3km az=93.0*
*JMA **18** 01:21:45.7±0.1, 2812N×14041E, h512km, M3.7*

ISC 18 01:21:44.3±0.8, 2794N±007×1396E±03, h481km±10km, n14, σ1§08/18, mb3.2/6, Bonin Islands region

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---

ARVD	**Arcevia**	**0.80 141**	Pg	**Pg**	**01 38 29.8**	**-0.6**
ARVD			Sg	**Sg**	**01 38 43.4**	**+2.4**
	144nm,0.3s					
FNVD	**Fontana Vidola**	**0.81 273**	Pg	**Pg**	**01 38 30.3**	**-0.4**
FNVD			Sg	**Sg**	**01 38 42.9**	**+1.5**
	510nm,0.6s					
SENI	**Senigallia**	**0.82 121**	Pg	**Pg**	**01 38 31.7**	**+0.8**
MURB	**Monte Urbino**	**0.89 167**	Pg	**Pg**	**01 38 31.0**	**-1.0**
	684nm,0.3s					
CSNT	**Castellina Chi**	**0.96 227**	Pg	**Pg**	**01 38 32.7**	**-0.6**
CSNT			Sg	**Sg**	**01 38 45.5**	**-0.4**
	255nm,0.8s					
CRMI	**Carmignano**	**0.99 250**	Pg	**Pg**	**01 38 32.9**	**-1.0**
CRMI			Sg	**Sg**	**01 38 47.1**	**+0.3**
	268nm,0.9s					
PZZT	**Monte Pizzetto**	**1.00 271**	Pg	**Pg**	**01 38 34.9**	**+0.7**
PZZT			Sg	**Sg**	**01 38 48.6**	**+1.3**
	391nm,0.5s					
SNTG	**Esanatoglia**	**1.00 150**	Pg	**Pg**	**01 38 33.3**	**-1.0**
	100nm,0.3s					
CING	**Cingoli**	**1.02 137**	Pg	**Pg**	**01 38 34.1**	**-0.4**
	134nm,0.3s					
RAVA	**Ravarino**	**1.03 308**	Pg	**Pg**	**01 38 37.1**	**+2.4**
ASS	**Assisi**	**1.10 165**	Pg	**Pg**	**01 38 35.2**	**-0.9**
	5.0nm,0.4s					
AOI	**Ancona**	**1.13 120**	Pg	**Pg**	**01 38 37.4**	**+0.7**
	157nm,0.7s					
BDI	**Bagni Di Lucca**	**1.20 267**	Pg	**Pg**	**01 38 37.2**	**-0.7**
BDI			Sg	**Sg**	**01 38 54.3**	**+0.8**
	278nm,0.8s					
GSCL	**Gusciola**	**1.22 281**	Pg	**Pg**	**01 38 40.1**	**+1.8**
	46nm,0.5s					
CESI	**CESI - Serrava**	**1.22 157**	Pg	**Pg**	**01 38 36.8**	**-1.5**
	88nm,0.7s					
MAIM		**1.29 261**	Pg	**Pg**	**01 38 38.2**	**-1.5**
MAIM			Sg	**Sg**	**01 38 56.5**	**+0.1**
	99nm,0.5s					
TEOL	**Teolo**	**1.30 342**	⇓*i*Pg	**Pg**	**01 38 38.3**	**-1.6**
TEOL			*i* Sg	**Sg**	**01 38 55.9**	**-0.9**
SACS	**San Casciano d**	**1.30 191**	Pg	**Pg**	**01 38 38.5**	**-1.4**
SACS			Sg	**Sg**	**01 38 57.2**	**+0.3**
	140nm,0.8s					
PII	**Pisa**	**1.31 253**	Pg	**Pg**	**01 38 38.5**	**-1.6**
PII			Sg	**Sg**	**01 38 57.6**	**+0.4**
	45nm,0.2s					
VLC	**Villacollemand**	**1.34 272**	Pg	**Pg**	**01 38 39.7**	**-1.0**
VLC			S	**Sn**	**01 38 56.1**	**-0.6**
VLC	**Villacollemand**	**1.34 272**	Pg	**Pg**	**01 38 39.7**	**-1.0**
VLC			S	**Sn**	**01 38 56.1**	**-0.6**
ERBM	**Eremo**	**1.35 283**	Pg	**Pg**	**01 38 42.9**	**+2.0**
ARCI	**Arcidosso**	**1.40 204**	Pg	**Pg**	**01 38 39.7**	**-2.0**
	131nm,0.9s					
NRCA	**Norcia**	**1.44 154**	Pg	**Pg**	**01 38 40.6**	**-1.9**
	24nm,0.4s					
LNSS	**Leonessa**	**1.63 159**	Pg	**Pg**	**01 38 44.9**	**-1.2**
	241nm,0.7s					
MNS	**Montasola**	**1.77 170**	Pg	**Pn**	**01 38 46.1**	**+1.1**
	75nm,0.9s					
CGRP	**Cima Grappa**	**1.78 350**	⇓*i*Pn	**Pn**	**01 38 45.0**	**-0.1**
CGRP			*i* Sn	**Sn**	**01 39 07.4**	**-0.1**
TERO	**Teramo**	**1.80 146**	Pg	**Pn**	**01 38 47.2**	**+1.9**
	141nm,0.9s					
CAMP	**Campotosto**	**1.80 152**	Pg	**Pn**	**01 38 47.1**	**+1.7**
	29nm,1.0s					
SKDS	**Skadanscina**	**1.89 41**	*i* Pn	**Pn**	**01 38 46.3**	**-0.4**
SKDS			*e*Sn	**Sn**	**01 39 10.0**	**-0.2**
NVLJ	**Novalja**	**1.93 76**	*e*Pn	**Pn**	**01 38 47.8**	**+0.7**
NVLJ			Sn	**Sn**	**01 39 11.3**	**+0.2**
AQU	**L'Aquila**	**1.96 154**	*e*Pn	**Pn**	**01 38 49.5**	**+1.9**
AQU			Pg	**Pg**	**01 38 50.9**	**-1.6**
AQU			*e*Sn	**Sn**	**01 39 15.2**	**+3.3**
AQU	**L'Aquila**	**1.96 154**	Pg	**Pg**	**01 38 50.9**	**-1.6**
	68nm,0.8s					
AQU	**L'Aquila**	**1.96 154**	*e*Pn	**Pn**	**01 38 49.5**	**+1.9**
AQU	**L'Aquila**	**1.96 154**	Pg	**Pg**	**01 38 50.9**	**-1.6**
	68nm,0.8s					
FIAM	**Fiamignano**	**1.96 161**	Pg	**Pg**	**01 38 49.8**	**-2.7**
	67nm,0.7s					
CTI	**Castel Tesino**	**1.97 348**	Pg	**Pn**	**01 38 47.8**	**+0.1**
SC2M	**Scurtabr**	**1.97 279**	Pg	**Pg**	**01 38 50.0**	**-2.7**
MAGA	**Magasa**	**2.01 326**	Pg	**Pn**	**01 38 48.3**	**0.0**
MLNI	**Malnisio**	**2.04 7**	⇑*e*Pn	**Pn**	**01 38 48.6**	**0.0**
MLNI			*e*Sn	**Sn**	**01 39 13.9**	**+0.1**
VCEL	**Villa Celiera**	**2.08 146**	Pg	**Pg**	**01 38 54.0**	**-0.8**
FAGN	**Fagnano**	**2.10 152**	Pg	**Pg**	**01 38 53.5**	**-1.6**
	81nm,0.6s					
MPRI	**Monte Prat**	**2.18 14**	⇓*i*Pn	**Pn**	**01 38 50.9**	**+0.4**
MPRI			*i* Sn	**Sn**	**01 39 17.9**	**+0.6**
JAVS	**Javornik**	**2.18 35**	*i* Pn	**Pn**	**01 38 50.7**	**0.0**
JAVS			*e*Sn	**Sn**	**01 39 17.2**	**-0.2**
JAVS	**Javornik**	**2.18 35**	*i* Pn	**Pn**	**01 38 50.7**	**0.0**
JAVS			*e*Sn	**Sn**	**01 39 17.2**	**-0.2**
JAVS						
	comp=Z,68nm,0.6s					
JAVS	**Javornik**	**2.18 35**	*i* Pn	**Pn**	**01 38 50.7**	**+0.1**
JAVS			*e*Sn	**Sn**	**01 39 17.2**	**-0.2**
BAD	**Bernadia**	**2.22 18**	⇑*i*Pn	**Pn**	**01 38 51.1**	**-0.1**
BAD			*i* Sn	**Sn**	**01 39 17.9**	**-0.4**
VOY	**Vojsko**	**2.23 31**	*e*Pn	**Pn**	**01 38 46.8**	**-4.5**
VOY			*e*		01 38 57.9	
VOY			*e*Sn	**Sn**	**01 39 18.8**	**+0.3**
VOY			*e*		01 39 30.0	
VOY	**Vojsko**	**2.23 31**	*e*Pn	**Pn**	**01 38 46.8**	**-4.5**
VOY			*e*Sn	**Sn**	**01 39 18.8**	**+0.3**
CEY	**Cerknica**	**2.23 43**	*e*Sn	**Sn**	**01 39 16.6**	**-1.9**
DRE	**Drenchia**	**2.27 25**	⇑*i*Pn	**Pn**	**01 38 51.0**	**-0.8**
DRE			*i* Sn	**Sn**	**01 39 18.7**	**-0.8**
PTCC	**Patocco-Chiusa**	**2.41 18**	Pg	**Pn**	**01 38 54.0**	**+0.3**
FVI	**Forni Avoltri**	**2.50 8**	Pg	**Pn**	**01 38 55.8**	**+0.9**
	comp=Z,25nm,0.4s					
BRMO	**Bormio**	**2.70 331**	Pg	**Pn**	**01 38 59.1**	**+1.4**
	comp=Z,7.0nm,0.4s					
PGF	**Pioggiola**	**2.85 237**	*e*Pn	**Pn**	**01 38 59.7**	**-0.1**
PGF			*e*Sn	**Sn**	**01 39 34.1**	**+0.2**
	comp=Z,9.9nm,0.4s					
WTTA	**Wattenberg**	**3.17 352**	⇓*i*Pn	**Pn**	**01 39 04.9**	**+0.8**
WTTA			⇑*i*Sn	**Sn**	**01 39 43.8**	**+2.1**
WTTA	**Wattenberg**	**3.17 352**	⇓*i*Pn	**Pn**	**01 39 04.9**	**+0.8**
WTTA			*i* Sn	**Sn**	**01 39 43.1**	**+1.5**
WTTA	**Wattenberg**	**3.17 352**	Pn	**Pn**	**01 39 04.9**	**+0.8**
WTTA			Sn	**Sn**	**01 39 43.1**	**+1.5**
SQTA	**Sankt Quirin**	**3.18 347**	⇑*i*Pn	**Pn**	**01 39 05.9**	**+1.6**
	SNR=15					
SQTA			⇑*i*Sn	**Sn**	**01 39 45.8**	**+3.9**
SQTA	**Sankt Quirin**	**3.18 347**	Pn	**Pn**	**01 39 05.9**	**+1.6**
	comp=Z,14nm,9.0s					
SQTA			Sn	**Sn**	**01 39 45.8**	**+3.9**
MOTA	**Moosalm**	**3.32 346**	⇑*i*Pn	**Pn**	**01 39 07.7**	**+1.5**
	SNR=11					
MOTA			⇑*i*Sn	**Sn**	**01 39 49.6**	**+4.3**
MOTA	**Moosalm**	**3.32 346**	Pn	**Pn**	**01 39 07.7**	**+1.5**
	comp=Z,10.0nm,6.0s					
MOTA			Sn	**Sn**	**01 39 49.6**	**+4.3**
SBF	**Sospel**	**3.49 267**	*e*Pn	**Pn**	**01 39 08.9**	**+0.4**
SBF			*e*Sn	**Sn**	**01 39 47.2**	**-2.3**
	comp=Z,12nm,0.4s					
SBF	**Sospel**	**3.49 267**	*e*Pn	**Pn**	**01 39 08.9**	**+0.4**
SBF			*e*Sn	**Sn**	**01 39 47.2**	**-2.3**
	comp=Z,6.0nm,0.4s					
DAVA	**Damuels**	**3.57 333**	*i* Pn	**Pn**	**01 39 12.3**	**+2.6**
	SNR=7.9					
DAVA			⇑*i*Sn	**Sn**	**01 39 54.2**	**+2.6**
DAVA	**Damuels**	**3.57 333**	*i* Pn	**Pn**	**01 39 12.3**	**+2.6**
DAVA			*i* Sn	**Sn**	**01 39 54.0**	**+2.4**
DAVA	**Damuels**	**3.57 333**	Pn	**Pn**	**01 39 12.3**	**+2.6**
	comp=Z,7.0nm,9.0s					
DAVA			Sn	**Sn**	**01 39 54.2**	**+2.6**
MBDF	**Montbardon**	**3.97 281**	*e*Pn	**Pn**	**01 39 16.0**	**+0.8**
MBDF			*e*Sn	**Sn**	**01 39 59.2**	**-2.3**
	comp=Z,3.1nm,0.4s					
MBDF	**Montbardon**	**3.97 281**	*e*Pn	**Pn**	**01 39 16.0**	**+0.8**
MBDF			*e*Sn	**Sn**	**01 39 59.2**	**-2.3**
	comp=Z,1.5nm,0.4s					
FRF	**La Foret Royal**	**4.09 264**	*e*Pn	**Pn**	**01 39 17.4**	**+0.5**
FRF			*e*Sn	**Sn**	**01 40 04.5**	**0.0**
	comp=Z,2.5nm,0.3s					
LPG	**La Plagne**	**4.15 291**	*e*Pn	**Pn**	**01 39 17.4**	**-0.2**
LPG			*e*Sn	**Sn**	**01 40 04.7**	**-1.1**
	comp=Z,3.4nm,0.3s					
LPG	**La Plagne**	**4.15 291**	*e*Pn	**Pn**	**01 39 17.4**	**-0.2**
LPG			*e*Sn	**Sn**	**01 40 04.7**	**-1.1**
	comp=Z,1.7nm,0.3s					
STON	**Ston**	**4.16 106**	Sn	**Sn**	**01 40 06.7**	**+0.6**
STON	**Ston**	**4.16 106**	Sn	**Sn**	**01 40 06.6**	**+0.5**
LPL	**La Plagne**	**4.17 291**	*e*Pn	**Pn**	**01 39 18.5**	**+0.6**
LPL			*e*Sn	**Sn**	**01 40 05.3**	**-1.0**
	comp=Z,7.2nm,0.4s					
LPL	**La Plagne**	**4.17 291**	*e*Pn	**Pn**	**01 39 18.5**	**+0.6**
LPL			*e*Sn	**Sn**	**01 40 05.3**	**-1.0**
	comp=Z,3.6nm,0.4s					
LMR	**La Mourre**	**4.24 261**	*e*Pn	**Pn**	**01 39 18.9**	**0.0**
ORIF	**Oris-en-Rattie**	**4.62 282**	*e*Pn	**Pn**	**01 39 24.6**	**+0.4**
ORIF			*e*Sn	**Sn**	**01 40 15.0**	**-2.6**
	comp=Z,4.8nm,0.5s					
ORIF	**Oris-en-Rattie**	**4.62 282**	*e*Pn	**Pn**	**01 39 24.6**	**+0.4**
ORIF			*e*Sn	**Sn**	**01 40 15.0**	**-2.6**
	comp=Z,2.4nm,0.5s					
SMRF	**Simiane la Rot**	**4.82 271**	*e*Pn	**Pn**	**01 39 28.6**	**+1.8**
CABF	**La Chapelle**	**5.00 302**	*e*Pn	**Pn**	**01 39 30.2**	**+0.8**
CABF			*e*Sn	**Sn**	**01 40 25.7**	**-1.2**
	comp=Z,2.1nm,0.3s					
CABF	**La Chapelle**	**5.00 302**	*e*Pn	**Pn**	**01 39 30.2**	**+0.8**
CABF			*e*Sn	**Sn**	**01 40 25.7**	**-1.2**
	comp=Z,1.0nm,0.3s					
KHC	**Kasperske Hory**	**5.09 10**	*e*Pn	**Pn**	**01 39 30.2**	**-0.3**
KHC			*e*Sn	**Sn**	**01 40 27.6**	**-1.4**
KHC	**Kasperske Hory**	**5.09 10**	*e*PN	**Pn**	**01 39 30.2**	**-0.3**
KHC			*e*PG	**Pg**	**01 39 50.5**	**-1.7**
KHC			*e*SN	**Sn**	**01 40 27.6**	**-1.4**
KHC			*ex*	**Sg**	**01 40 56.0**	**-2.0**
HINF	**Hinteralfeld**	**5.27 316**	*e*Pn	**Pn**	**01 39 32.9**	**-0.1**
HINF			*e*Sn	**Sn**	**01 40 29.8**	**-3.7**
	comp=Z,7.8nm,0.5s					
HINF	**Hinteralfeld**	**5.27 316**	*e*Pn	**Pn**	**01 39 32.9**	**-0.1**
HINF			*e*Sn	**Sn**	**01 40 29.8**	**-3.7**
	comp=Z,3.9nm,0.5s					
VIVF	**Saint-Julien-l**	**5.47 280**	*e*Pn	**Pn**	**01 39 36.6**	**+0.8**
CDF	**Champ du Feu**	**5.50 323**	*e*Pn	**Pn**	**01 39 36.2**	**0.0**
CDF			*e*Sn	**Sn**	**01 40 36.3**	**-2.8**
	comp=Z,1.6nm,0.3s					
CDF	**Champ du Feu**	**5.50 323**	*e*Pn	**Pn**	**01 39 36.2**	**0.0**
CDF			*e*Sn	**Sn**	**01 40 36.3**	**-2.8**
	comp=Z,0.8nm,0.3s					
HAU	**Haudompre**	**5.65 315**	*e*Pn	**Pn**	**01 39 38.2**	**0.0**
HAU			*e*Sn	**Sn**	**01 40 37.7**	**-5.1**
	comp=Z,6.6nm,0.3s					
HAU	**Haudompre**	**5.65 315**	*e*Pn	**Pn**	**01 39 38.2**	**0.0**
HAU			*e*Sn	**Sn**	**01 40 37.7**	**-5.1**
	comp=Z,3.3nm,0.3s					
PRU	**Pruhonice**	**6.07 14**	*e*Sn	**Sn**	**01 40 49.2**	**-3.9**
NKC	**Novy Kostel**	**6.11 1**	*e*SN	**Sn**	**01 40 50.7**	**-3.4**
SMF	**Signal de Mont**	**6.44 296**	*e*Pn	**Pn**	**01 39 49.1**	**+0.1**
SMF			*e*Sn	**Sn**	**01 40 58.9**	**-3.3**
	comp=Z,3.5nm,0.3s					
SFTF	**Sexfontaines**	**6.46 312**	*e*Pn	**Pn**	**01 39 49.9**	**+0.6**
	baz=133					
RFYF	**Reffroy**	**6.50 316**	*e*Pn	**Pn**	**01 39 50.8**	**+0.9**
	baz=127					
RFYF			*e*Sn	**Sn**	**01 41 00.1**	**-3.6**
	comp=Z,2.2nm,0.3s					
LOR	**Lormes**	**6.66 301**	*e*Pn	**Pn**	**01 39 51.8**	**-0.4**
	baz=122					
LOR			*e*Sn	**Sn**	**01 41 03.5**	**-4.3**
	comp=Z,11nm,0.6s					
LOR	**Lormes**	**6.66 301**	*e*Pn	**Pn**	**01 39 51.8**	**-0.4**
LOR			*e*Sn	**Sn**	**01 41 03.5**	**-4.3**
	comp=Z,5.6nm,0.6s					
SSF	**Saint Saulge**	**6.80 299**	*e*Pn	**Pn**	**01 39 54.2**	**+0.1**
AVF	**Avril sur Loir**	**6.80 296**	*e*Pn	**Pn**	**01 39 54.8**	**+0.7**
BRG	**Berggiesshubel**	**6.84 9**	SG	Sx	01 41 52.5	
	comp=Z,7.7nm,1.3s					
BGF	**Bois d'Agland**	**7.06 293**	*e*Pn	**Pn**	**01 39 57.5**	**-0.1**
CLL	**Collm**	**7.20 4**	*e*Sg	Sx	01 42 14.0	
MTLF	**Montolieu**	**7.31 267**	*e*Pn	**Pn**	**01 40 01.7**	**+0.6**

IDC 18 01:59:50.8±2.6, 2071N×12263E, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/18, mbtmp3.8/3, Error ellipse: s-maj=226.9km s-min=26.2km az=63.0, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**41.78**	**318**	P	P	02 07 42.3	+0.3
	0.7nm,0.4s,baz=107,slow=8.4,SNR=9.3						
WRA	**Warramunga Arr**	**41.99**	**163**	P	P	02 07 43.9	0.0
	0.5nm,0.7s,baz=343,slow=9.0,SNR=6.2						
ZALV	**Zalesovo Beam**	**43.88**	**328**	P	P	02 07 58.5	-0.4
	2.8nm,0.6s,baz=114,slow=7.0,SNR=11						

*ISCJB **18** 02:01:26.4±0.8, 35N±0.1×1018W±0.1, h10km, mb4.2/33, MS3.9/7, Error ellipse: s-maj=21.0km s-min=9.5km az=143.0*
*IDC **18** 02:01:27.2±1.4, 369N×10162W, h0km, mb4.0/12, mb1 4.2/12, mb1mx4.1/19, mbtmp4.0/12, MS4.0/8, Ms1 4.0/8, ms1mx3.6/24, Error ellipse: s-maj=59.9km s-min=15.3km az=58.0*
*NEIC **18** 02:01:28.7±0.8, 360N×10173W, h10km, mb4.4/24, Error ellipse: s-maj=27.1km s-min=9.9km az=57.0*

ISC 18 02:01:28.6±0.8, 36N±01×1018W±01, h10km, n50, σ1§18/44, mb4.2/33, MS3.9/7, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**17.75**	**53**	*e*Pn	**Pn**	**02 05 36.5**	**+0.5**
	62nm,1.2s						
JTS	**JuntasAbangare**	**18.03**	**67**	LR	LR	02 10 39.1	
	comp=Z,414nm,20.5s,baz=250,slow=31						
TEIG	**Tepich**	**21.19**	**37**	LR	LR	02 13 30.8	
	comp=Z,255nm,18.7s,MS3.6,baz=37,slow=34						
ATAH	**Atahualpa**	**25.62**	**114**	P	**P**	**02 07 02.0**	**+3.5**
	2.6nm,0.5s,mb4.0,baz=303,slow=14,SNR=4.0						
ATAH				LR	LR	02 14 44.8	
	comp=Z,288nm,20.7s,MS3.8,baz=306,slow=31						
TXAR	**Lajitas Array**	**25.70**	**356**	P	**P**	**02 06 59.5**	**+0.5**
	2.2nm,0.9s,mb3.7,baz=182,slow=11,SNR=8.3						
TXAR				LR	LR	02 16 19.8	
	comp=Z,344nm,18.0s,MS3.9,baz=0.0,slow=35						
HKT	**Hockley**	**26.86**	**12**	*e*P	**P**	**02 07 07.3**	**-2.2**
MNTX	**Cornudas Mount**	**28.20**	**354**	*e*P	**P**	**02 07 19.8**	**-1.8**
	5.0nm,1.2s,mb4.0						
NNA	**Nana**	**29.24**	**122**	LR	LR	02 16 29.0	
	comp=Z,267nm,21.8s,MS3.8,baz=313,slow=31						
TUC	**Tucson**	**29.82**	**345**	*e*P	**P**	**02 07 40.6**	**+4.7**
	1.7nm,0.8s,mb3.8						
LAZ	**Ladron**	**31.09**	**351**	*e*P	**P**	**02 07 47.6**	**+0.4**
WMOK	**Wichita Mounta**	**31.16**	**5**	*e*P	**P**	**02 07 44.4**	**-3.3**
SDV	**Santo Domingo**	**31.44**	**79**	*e*P	**P**	**02 07 52.5**	**+2.0**
	8.1nm,0.9s,mb4.5						
MIAR	**Mount Ida**	**31.78**	**13**	*e*P	**P**	**02 07 53.4**	**+0.2**
	8.0nm,0.8s,mb4.6						
PFO	**Pinyon Flat Ob**	**32.88**	**337**	*e*P	**P**	**02 08 02.7**	**-0.1**
	7.7nm,1.2s,mb4.5						
PFO	**Pinyon Flat Ob**	**32.88**	**337**	P	**P**	**02 08 04.7**	**+1.9**
	3.9nm,0.9s,mb4.3,baz=149,slow=7.5,SNR=5.3						
WUAZ	**Wupatki**	**33.02**	**346**	*e*P	**P**	**02 08 06.0**	**+2.0**
	10nm,1.1s,mb4.7						
TPNV	**Topopah Spring**	**35.79**	**340**	*e*P	**P**	**02 08 29.6**	**+1.6**
	11nm,1.4s,mb4.6						
DUG	**Dugway**	**37.81**	**346**	*e*P	**P**	**02 08 45.5**	**+0.3**
	2.9nm,0.9s,mb4.0						
NVAR	**Mina Array Bea**	**37.84**	**339**	P	**P**	**02 08 45.6**	**+0.2**
	1.8nm,0.8s,mb3.9,baz=161,slow=8.5,SNR=8.5						
LPAZ	**La Paz**	**38.70**	**122**	P	**P**	**02 08 54.0**	**+0.9**
	1.8nm,1.1s,mb3.7,baz=318,slow=8.8,SNR=5.0						
LPAZ				LR	LR	02 22 47.6	
	comp=Z,225nm,20.2s,MS4.0,baz=336,slow=33						
BW06	**Boulder Array**	**39.66**	**351**	*e*P	**P**	**02 09 00.2**	**-0.4**
	5.0nm,0.9s,mb4.2						
ECSD	**EROS,Sioux Fal**	**40.28**	**6**	*e*P	**P**	**02 09 06.7**	**+0.9**
	9.7nm,1.1s,mb4.5						
RSSD	**Black Hills**	**40.45**	**358**	*e*P	**P**	**02 09 07.5**	**+0.3**
	3.6nm,1.0s,mb4.1						
JFWS	**Jewell Farm**	**40.53**	**13**	*e*P	**P**	**02 09 07.5**	**-0.4**
	6.9nm,0.6s,mb4.5						
SNOW	**Snow King Moun**	**40.53**	**350**	*e*P	**P**	**02 09 09.2**	**+1.3**
	4.0nm,0.6s,mb4.2						
TPAW	**Teton Pass**	**40.59**	**350**	*e*P	**P**	**02 09 09.2**	**+0.8**
	1.9nm,0.7s,mb3.8						
LOHW	**Long Hollow**	**40.65**	**350**	*e*P	**P**	**02 09 09.3**	**+0.4**
	5.3nm,0.9s,mb4.2						
MOOW	**Moose Ponds**	**40.81**	**350**	*e*P	**P**	**02 09 10.3**	**+0.2**
	3.0nm,0.9s,mb3.9						
FLWY	**Flagg Ranch**	**41.12**	**350**	*e*P	**P**	**02 09 14.5**	**+1.7**
	18nm,1.3s,mb4.5						
WVOR	**Wild Horse Val**	**41.53**	**341**	*e*P	**P**	**02 09 16.9**	**+0.7**
	3.2nm,0.8s,mb4.0						
RKT	**Rikitea**	**41.81**	**229**	*e*T		02 53 17.4	
	5.1nm,0.4s						
QLMT	**Earthquake Lak**	**41.98**	**350**	*e*P	**P**	**02 09 20.5**	**+0.7**
YBH	**Yreka Blue Hor**	**42.38**	**337**	P	**P**	**02 09 21.7**	**-1.4**
	3.2nm,0.8s,mb4.0,baz=75,slow=6.0,SNR=5.2						
CHMT	**Chamberlain Mo**	**44.32**	**349**	*e*P	**P**	**02 09 40.4**	**+1.7**
AGMN	**Agassiz Refuge**	**44.88**	**6**	*e*P	**P**	**02 09 42.3**	**-0.8**
	14nm,1.2s,mb4.7						
EYMN	**Ely**	**45.12**	**10**	*e*P	**P**	**02 09 44.0**	**-1.0**
	13nm,1.0s,mb4.7						
NEW	**Newport**	**46.45**	**346**	*e*P	**P**	**02 09 56.0**	**+0.4**
	4.9nm,0.8s,mb4.5						
NEW	**Newport**	**46.45**	**346**	P	**P**	**02 09 54.5**	**-1.1**
	5.6nm,0.9s,mb4.5,baz=160,slow=10,SNR=3.5						
ULM	**Lac du Bonnet**	**46.81**	**5**	*e*P	**P**	**02 09 56.5**	**-1.9**
	19nm,1.6s,mb4.8						
ULM	**Lac du Bonnet**	**46.81**	**5**	P	**P**	**02 09 57.1**	**-1.2**
	3.9nm,0.7s,mb4.5,baz=278,slow=22,SNR=7.4						
PPT	**Papeete**	**51.56**	**244**	*e*LR	LR	02 25 06.1	
	162nm,26.5s						
CPUP	**Villa Florida**	**52.27**	**127**	P	**P**	**02 10 39.5**	**-1.0**
	1.3nm,0.8s,mb3.9,baz=266,slow=9.2,SNR=4.0						
PLCA	**Paso Flores**	**52.53**	**150**	P	**P**	**02 10 41.8**	**-0.4**
	2.0nm,0.8s,mb4.1,baz=359,slow=9.4,SNR=3.6						
BDFB	**Brasilia**	**56.54**	**111**	P	**P**	**02 11 11.5**	**-0.2**
	2.1nm,0.9s,mb4.2,baz=266,slow=17,SNR=6.1						
SCHQ	**Schefferville**	**58.45**	**23**	P	**P**	**02 11 22.4**	**-2.1**
	1.9nm,0.7s,mb4.2,baz=220,slow=7.9,SNR=3.5						
SCHQ				LR	LR	02 37 41.8	
	comp=Z,106nm,18.2s,MS4.0,baz=53,slow=37						
YKA	**Yellowknife Ar**	**59.58**	**353**	P	**P**	**02 11 30.5**	**-1.7**
	0.9nm,0.7s,mb3.9,baz=162,slow=7.6,SNR=19						
YKA				LR	LR	02 37 23.6	
	comp=Z,173nm,18.4s,MS4.2,baz=175,slow=36						
EGAK	**Eagle**	**67.28**	**343**	*e*P	**P**	**02 12 21.9**	**-1.2**
	5.5nm,1.1s,mb4.5						
INK	**Inuvik**	**68.11**	**348**	*e*P	**P**	**02 12 27.0**	**-1.3**
RES	**Resolute Bay**	**71.18**	**2**	*e*P	**P**	**02 12 46.8**	**-0.4**
MKAR	**Makanchi Array**	**129.74**	**356**	PKP	PKPdf	02 20 39.5	+1.2
	0.8nm,0.9s,baz=119,slow=1.5,SNR=4.0						

*BJI **18** 02:01:50.4, 723S×10406E, h60km, mB5.1, mb5.0, Ms4.8, Msz4.6*
*MOS **18** 02:01:54.0±0.9, 631S×104.19E, h33km, mb5.0/26, Error ellipse: s-maj=13.5km s-min=6.6km az=104.6*
*ISCJB **18** 02:01:56.6±0.2, 639S±004×10409E±003, h55km, mb4.8/80, MS4.2/19, Error ellipse: s-maj=6.0km s-min=4.0km az=41.3*
*NEIC **18** 02:01:58.6±0.2, 639S×104.14E, mb4.8/32, Error ellipse: s-maj=7.9km s-min=5.4km az=57.0*
*IDC **18** 02:01:58.9±2.6, 636S×10421E, h58km±23km, mb4.3/19, mb1 4.3/21, mb1mx4.3/23, mbtmp4.2/21, ML3.9/2, MS4.1/11, Ms1 4.1/11, ms1mx3.9/26, Error ellipse: s-maj=14.0km s-min=9.3km az=37.0*

ISC 18 02:01:58.8±0.2, 640S±004×10415E±003, h57km, h57km±2.2km: pP-P, n174, σ1§03/161, mb4.8/80, MS4.2/19, 11C-10D, Sunda Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBJI	**Serang**	**1.99**	**82**	P	**Pn**	**02 02 29.2**	**-0.8**
	3μm,0.8s						
TNG	**Tangerang**	**2.49**	**85**	P	**Pn**	**02 02 37.2**	**+0.3**
	3μm,1.0s						
CBJI	**Citeko**	**2.68**	**91**	P	**Pn**	**02 02 40.5**	**+1.0**
	5μm,0.7s						
KSI	**Kapahiang**	**3.14**	**330**	P	**Pn**	**02 02 45.8**	**0.0**
	2μm,0.9s						
LEM	**Lembang**	**3.47**	**97**	P	**Pn**	**02 02 51.2**	**+0.9**
	1μm,1.0s						
XMIS	**Christmas Isla**	**4.32**	**160**	*e*Pn	**Pn**	**02 03 02.4**	**+0.5**
TPI	**Tanjungpandan**	**5.03**	**44**	P	**Pn**	**02 03 12.5**	**+0.8**
	163nm,0.7s						
KSM	**Kuching**	**9.95**	**38**	*e*Pn	**Pn**	**02 04 21.1**	**+2.0**
PSI	**Prapat**	**10.53**	**330**	P	**Pn**	**02 04 24.0**	**-3.0**
	0.5nm,0.3s,baz=173,slow=

LSA Lhasa 38.01 341 *e*P **P 02 09 11.8 +0.3**
comp=Z,10.0nm,0.5s,mb4.8
WHN Wuhan 38.01 14 *e*P **P 02 09 12.6 +1.1**
JIRN Jiri 38.05 334 *e*P **P 02 09 11.9 +0.1**
comp=Z,33nm,0.5s,mb5.3
PKI Pulchoki 38.33 333 *e*P **P 02 09 14.3 +0.1**
GUN Gumba 38.41 333 *e*P **P 02 09 15.0 +0.2**
comp=Z,49nm,0.4s,mb5.5
DMN Daman 38.50 332 *e*P **P 02 09 15.9 +0.3**
KKN Kakani 38.57 333 *e*P **P 02 09 16.0 -0.2**
comp=Z,33nm,0.7s,mb5.2
POO Poona 38.82 310 *e*P **P 02 09 17.5 -0.9**
GKN Gorkha 39.05 332 *e*P **P 02 09 20.1 -0.1**
comp=Z,16nm,0.3s,mb5.2
COEN Coen 39.09 104 *e*P **P 02 09 20.1 -0.7**
comp=Z,4.9nm,0.7s,mb4.3
KOLN Koldanda 39.35 331 *e*P **P 02 09 22.9 +0.2**
comp=Z,57nm,0.7s,mb5.4
DANN Dangsing 39.76 331 *e*P **P 02 09 26.3 +0.2**
comp=Z,76nm,0.8s,mb5.5
XAN Xi'an 40.47 6 P **P 02 09 30.8 -1.1**
XAN AMB AMB
comp=Z,16nm,1.0s,mb4.7
NJ2 Nanjing 40.73 19 *e*P **P 02 09 35.6 +1.5**
NJ2 AMB AMB
comp=Z,30nm,1.2s,mb4.8
LZH Lanzhou 42.26 360 *e*P **P 02 09 46.6 0.0**
LZH AP pP 02 09 59.3 -2.0
LZH XP sP 02 10 06.5 -1.4
LZH AMB AMB
comp=Z,16nm,1.2s,mb4.5
LZH AMB AMB
comp=Z,110nm,5.2s
STKA Stephens Creek 43.16 131 *e*P **P 02 09 54.5 +0.5**
comp=Z,12nm,0.6s,mb4.8
STKA Stephens Creek 43.16 131 P **P 02 09 54.6 +0.6**
comp=Z,11nm,0.5s,mb4.9,baz=308,slow=7.9,SNR=43
STKA LR LR 02 27 17.1
comp=Z,143nm,18.1s,MS3.9,baz=105,slow=35
DDI Dehra Dun 44.26 327 *ex* x 02 10 03.0
GTA Gaotai 45.76 355 *e*P **P 02 10 14.8 +0.3**
GTA AP pP 02 10 29.8 +0.4
GTA XP sP 02 10 36.6 +0.6
GTA PCP PcP 02 11 52.4 +0.9
GTA PP PP 02 12 04.3 +1.6
GTA PPP 02 12 48.1
GTA PCS PcS 02 15 45.4 -0.2
GTA S **S 02 16 54.8 +0.9**
GTA XS sS 02 17 21.4 +2.4
GTA SS SS 02 20 11.8 -7.5
GTA AMB AMB
comp=Z,8.0nm,0.9s,mb4.7
GTA AMB AMB
comp=Z,96nm,8.7s
GTA LR LR
comp=N,261nm,17.5s,MS4.4
GTA LR LR
comp=E,265nm,19.0s,MS4.4
GTA LR LR
comp=Z,309nm,22.0s,MS4.2
BJT Baijiatuau 47.50 13 *e*P **P 02 10 27.9 -0.3**
BJT pmax pmax
comp=Z,52nm,1.0s
BJT Baijiatuau 47.50 13 *e*P **P 02 10 27.9 -0.2**
comp=Z,52nm,1.0s,mb5.5
HHC Hu-ho-hao-te 47.51 8 ⇑P **P 02 10 28.0 -0.2**
HHC AP pP 02 10 43.6 +0.4
HHC XP sP 02 10 51.3 +1.6
HHC PCP PcP 02 11 56.4 -1.2
HHC PP PP 02 12 19.9 -0.3
HHC S **S 02 17 19.8 +0.9**
HHC XS sS 02 17 46.3 +2.2
HHC SCS ScS 02 20 12.9 -4.0
HHC SS SS 02 20 43.3 -4.4
HHC AMB AMB
comp=Z,74nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,285nm,7.7s
HHC LR LR
comp=N,519nm,15.6s,MS4.7
HHC LR LR
comp=E,433nm,16.9s,MS4.7
HHC LR LR
comp=Z,690nm,15.9s,MS4.7
BJI Beijing 47.52 13 P **P 02 10 28.4 +0.1**
BJI AMB AMB
comp=Z,47nm,0.7s,mb5.6
BJI AMB AMB
comp=Z,164nm,4.4s
BJI LR LR
comp=Z,219nm,22.9s,MS4.1
KS15 Wonju Array Si 48.92 25 *e*P **P 02 10 40.5 +1.3**
KSRS Korea Array 48.95 25 P **P 02 10 39.9 +0.5**
comp=Z,16nm,0.7s,mb5.2,baz=220,slow=7.5,SNR=38
KSRS LR LR 02 33 04.8
comp=Z,134nm,18.0s,MS4.0,baz=225,slow=38
WMQ Urumqi 52.16 345 P **P 02 11 04.0 +0.5**
WMQ AP pP 02 11 20.0 +1.4
WMQ XP sP 02 11 27.0 +1.9
WMQ PP PP 02 13 03.0 +0.6
WMQ S **S 02 18 22.0 -1.7**
WMQ SS SS 02 21 58.0 -4.0
WMQ AMB AMB
comp=Z,62nm,1.2s,mb5.4
WMQ AMB AMB
comp=Z,115nm,5.0s
WMQ LR LR
comp=N,138nm,14.0s,MS4.3
WMQ LR LR
comp=E,128nm,14.0s,MS4.3
WMQ LR LR
comp=Z,102nm,14.0s,MS4.0
KBL Kabul 52.51 323 *e*P **P 02 11 05.8 -0.4**
KBL pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
KBL Kabul 52.51 323 *e*P **P 02 11 05.8 -0.5**
comp=Z,4.6nm,0.8s,mb4.5
MAJO Matsushiro 53.31 34 *e*P **P 02 11 10.6 -1.6**
MAJO pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
MAJO Matsushiro 53.31 34 *e*P **P 02 11 10.6 -1.6**
comp=Z,7.3nm,0.6s,mb4.8
MJAR Matsushiro Arr 53.31 34 P **P 02 11 10.7 -1.4**
comp=Z,7.1nm,0.6s,mb4.8,baz=213,slow=8.1,SNR=16
CN2 Changchun 53.55 19 *e*P **P 02 11 13.1 -0.7**
CN2 AMB AMB
comp=Z,40nm,0.9s,mb5.3
SONM Songino Array 54.04 2 P **P 02 11 18.0 +0.8**
comp=Z,26nm,0.8s,mb5.2,baz=179,slow=8.4,SNR=63
SONM LR LR 02 36 52.1
comp=Z,261nm,19.4s,MS4.3,baz=224,slow=39
ULN Ulaanbaatar 54.09 2 *e*P **P 02 11 17.6 0.0**
ULN pmax pmax
comp=Z,28nm,1.3s,mb5.0
ULN Ulaanbaatar 54.09 2 *c i*P **P 02 11 17.9 +0.3**
ULN Ulaanbaatar 54.09 2 *e*P **P 02 11 17.6 0.0**
comp=Z,28nm,1.3s,mb5.0
KZA Kyzart 54.98 334 P **P 02 11 25.4 +1.2**
SNR=8.9
UCH Uchtor 55.43 334 *e*P **P 02 11 27.8 +0.4**
comp=Z,7.4nm,0.8s,mb4.8
TKM2 Tokmak 2 55.52 335 *e*P **P 02 11 27.6 -0.4**
TKM2 pmax pmax
comp=Z,12nm,0.5s,mb5.2
TKM2 Tokmak 2 55.52 335 *i*P **P 02 11 27.8 -0.2**
TKM2 pmax pmax
comp=Z,9.0nm,0.5s,mb5.1
TKM2 Tokmak 2 55.52 335 *e*P **P 02 11 27.6 -0.5**
comp=Z,12nm,0.5s,mb5.2
TKM2 Tokmak 2 55.52 335 P **P 02 11 28.1 +0.1**
SNR=18
KBK Karagaybulak 55.58 334 P **P 02 11 29.1 +0.5**
SNR=9.0
MDJ Mudanjiang 55.71 22 P **P 02 11 29.6 +0.3**
MDJ AMB AMB
comp=Z,493nm,4.6s
AML Almayashu 55.72 333 *e*P **P 02 11 29.5 0.0**
comp=Z,12nm,0.7s,mb5.0
AML Almayashu 55.72 333 P **P 02 11 29.8 +0.3**
SNR=8.8
EKS2 Erkin-Say 56.10 333 *e*P **P 02 11 32.2 0.0**
comp=Z,12nm,0.8s,mb5.0
EKS2 Erkin-Say 56.10 333 P **P 02 11 32.7 +0.5**
SNR=12
MK31 Makanchi Array 56.41 342 *i*P **P 02 11 33.7 -0.6**
MK31 pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
MK31 Makanchi Array 56.41 342 *e*P **P 02 11 33.4 -0.9**
MKAR Makanchi Array 56.41 342 P **P 02 11 33.9 -0.4**
comp=Z,7.6nm,0.5s,mb5.0,baz=151,slow=8.9,SNR=126
MKAR LR LR 02 40 08.6
comp=Z,134nm,18.5s,MS4.1,baz=352,slow=41
ZAK Zakamensk 56.56 359⇑ *i*P **P 02 11 35.5 +0.2**
ZAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
OPO Ambohidratompo 56.70 252 P **P 02 11 38.3 +1.4**
comp=Z,0.8nm,0.6s,mb4.0,baz=94,slow=7.8,SNR=4.1
HIA Hailar 57.09 12⇓ *e*P **P 02 11 38.5 -0.6**
TLY Talaya 57.85 360 *e*P **P 02 11 44.8 +0.4**
TLY pmax pmax
comp=Z,13nm,0.8s,mb5.0
TLY MLR MLR
comp=Z,195nm,18.0s,MS4.3
TLY Talaya 57.85 360 *e*P **P 02 11 45.1 +0.7**
comp=Z,8.7nm,0.8s,mb4.8
MOY Mondy 57.90 358 *e*P **P 02 11 45.0 +0.3**
KK31 Karatay Array 57.95 331 *i*P **P 02 11 44.4 -0.9**
CASY Casey 59.94 177 *e*P **P 02 11 57.9 -0.8**
comp=Z,3.9nm,0.8s,mb4.5
HABR Khabarovsk 61.00 23 *e*P pP 02 12 19.6 -2.0
HABR *e* 02 14 18.2
KURK Kurchatov 61.01 342 *e*P **P 02 12 05.8 -0.4**
KURK *e**PP pP 02 12 23.1 +1.4
KURK pmax pmax
comp=Z,17nm,1.0s,mb5.1
KURK Kurchatov 61.01 342 *e*P **P 02 12 05.8 -0.4**
comp=Z,17nm,1.0s,mb5.1
KURK *e*pP pP 02 12 23.1 +1.4
ZAL Zalesovo 62.28 347 P **P 02 12 14.0 -0.7**
ZAA0 Zalesovo Array 62.29 347 *e*P **P 02 12 13.8 -1.0**
ZAA0 *e*pP pP 02 12 31.2 +1.0
ZALV Zalesovo Beam 62.29 347 P **P 02 12 14.0 -0.7**
comp=Z,7.8nm,0.4s,mb5.2,baz=155,slow=4.9,SNR=47
ZALV LR LR 02 42 04.2
comp=Z,98nm,20.0s,MS4.0,baz=267,slow=39
YSS Yuzh-Sakhalins 63.17 29 *e*P **P 02 12 20.0 -0.8**
NVS Novosibirsk 63.47 347 *e*P **P 02 12 20.9 -1.7**
NVS *e*S **S 02 20 47.5 -3.8**
NVS pmax pmax
comp=N,12nm,1.5s
NVS pmax pmax
comp=Z,14nm,1.5s,mb4.9
NVS pmax pmax
comp=E,8.0nm,1.3s
NVS smax
comp=N,9.0nm,1.4s
NVS smax
comp=E,15nm,1.4s
BOD Bodaibo 64.50 6 *e*P **P 02 12 28.0 -1.3**
BOD *e* pP 02 12 40.5 -4.4
BOD pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
BOD pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
RDF Al-Radifah 64.77 306 *e*P **P 02 12 31.3 -0.4**
RDF AMb AMB 02 12 47.9
comp=Z,35nm,0.8s,mb5.4
UMR Umm Al-Rimmam 64.88 307 *e*P **P 02 12 32.6 +0.2**
UMR AMb AMB 02 12 48.9
comp=Z,50nm,0.6s,mb5.7
NAY Al-Naaiem 65.14 306 *e*P **P 02 12 34.0 0.0**
NAY AMb AMB 02 12 50.0
comp=Z,20nm,0.6s,mb5.3
MIB Mutribah 65.28 307 *e*P **P 02 12 34.7 -0.3**
MIB AMb AMB 02 12 50.9
comp=Z,26nm,0.6s,mb5.4
BRVK Borovoye 65.81 338 *e*P **P 02 12 37.2 -0.7**
BRVK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
BRVK Borovoye 65.81 338 *e*P **P 02 12 37.2 -0.6**
comp=Z,5.0nm,0.5s,mb4.8
KMBO Kilima Mbogo 66.92 271 P **P 02 12 45.7 -0.1**
comp=Z,0.7nm,0.3s,mb4.1,baz=41,slow=16,SNR=4.5
KMBO LR LR 02 35 50.6
comp=Z,164nm,18.4s,MS4.3,baz=277,slow=30
MAW Mawson 67.14 196 P **P 02 12 46.3 +0.2**
comp=Z,5.3nm,0.7s,mb4.7,baz=28,slow=4.1,SNR=11
MAW LR LR 02 38 04.1
comp=Z,287nm,18.3s,MS4.5,baz=174,slow=32
AKTO Aktyubinsk 69.19 330 *i*P **P 02 12 58.8 -0.5**
YAK Yakutsk 71.03 12 *e*P **P 02 13 08.8 -1.5**
YAK pmax pmax
comp=N,4.0nm,0.9s
YAK pmax pmax
comp=Z,26nm,0.9s,mb5.2
YAK pmax pmax
comp=E,7.0nm,1.3s
YAK Yakutsk 71.03 12 *e*P **P 02 13 09.5 -0.8**
comp=E,30nm,0.6s,mb5.4
SVE Sverdlovsk 72.32 337⇑ *e*P **P 02 13 18.9 +0.8**
SVE pmax pmax
comp=Z,17nm,0.9s,mb5.0
ARU Arti 72.89 335 *d i*P **P 02 13 21.8 +0.3**
ARU *e* pP 02 13 34.6 -2.8
ARU *e* 02 16 02.7
ARU *e*PPP 02 17 45.9
ARU *e*S S 02 22 43.9 +0.5
ARU *e*SS SS 02 27 24.0 -0.9
ARU pmax pmax
comp=Z,13nm,1.0s,mb4.8
ARU Arti 72.89 335 *e*P **P 02 13 21.2 -0.3**
comp=Z,3.8nm,0.4s,mb4.7
ARU *e*pP pP 02 13 34.7 -2.7
GOF Gofitskoye 74.80 320 *e*P pP 02 13 46.5 -2.4
LSZ Lusaka 74.83 256 *e*P **P 02 13 34.0 +0.2**
LSZ *e**PP pP 02 13 49.7 0.0
LSZ pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LSZ Lusaka 74.83 256 *e*P **P 02 13 34.0 +0.2**
comp=Z,2.4nm,0.6s,mb4.3
LSZ *e*pP pP 02 13 49.7 0.0
PET Petropavlovsk 74.91 31⇑ *e*P **P 02 13 32.7 -0.7**
PET pmax pmax
comp=Z,16nm,0.7s,mb5.1
MALT Malatya 75.34 312 *e*P **P 02 13 36.2 -0.1**
MALT pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
MALT Malatya 75.34 312 *e*P **P 02 13 36.2 0.0**
comp=Z,4.9nm,0.8s,mb4.5
MA2 Magadan 75.40 22 *e*P **P 02 13 36.2 +0.1**
MA2 pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
VNDA Vanda 77.08 169 *e*P **P 02 13 45.3 -0.1**
VNDA *e**PP pP 02 14 00.5 -0.9
VNDA pmax pmax
comp=Z,5.0nm,1.1s
VNDA Vanda 77.08 169 *e*P **P 02 13 45.3 -0.2**
comp=Z,4.8nm,1.1s,mb4.3
VNDA *e*pP pP 02 14 00.5 -0.9
VNDA Vanda 77.08 169 P **P 02 13 45.7 +0.3**
comp=Z,3.2nm,1.0s,mb4.2,baz=298,slow=4.9,SNR=11
VNDA LR LR 02 43 43.7
comp=Z,177nm,19.3s,MS4.4,baz=339,slow=32
BOSA Boshof 77.23 242 *e*P **P 02 13 47.0 -0.2**
BOSA pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BOSA Boshof 77.23 242 *e*P **P 02 13 47.0 -0.3**
comp=Z,3.5nm,0.7s,mb4.4
BOSA Boshof 77.23 242 P **P 02 13 47.7 +0.5**
comp=Z,3.2nm,0.6s,mb4.4,baz=272,slow=20,SNR=12
BOSA LR LR 02 42 41.4
comp=Z,155nm,18.0s,MS4.4,baz=2.7,slow=32
CSS Prodhromos 78.17 308 *e*P **P 02 13 53.4 +1.1**
comp=Z,11nm,0.6s,mb5.0
SEY Seymchan 78.21 20⇓ *e*P **P 02 13 52.2 +0.3**
VRHR Novokhopersk 78.28 325 *e*P **P 02 13 52.6 +0.1**
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,20nm,0.6s
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
ANN Anapa 78.35 318 *e*P **P 02 13 56.5 +3.4**
ANN *e* 02 14 04.6
ANN *e**PP pP 02 14 13.4 +4.3
ANN *e*S S 02 23 52.3 +8.0
ANN pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
TIXI Tiksi 79.58 8 *e*P **P 02 13 56.6 -2.6**
TIXI pmax pmax
comp=Z,11nm,2.4s,mb4.4
TIXI Tiksi 79.58 8 *e*P **P 02 13 57.8 -1.4**
comp=Z,6.2nm,0.9s,mb4.5
VRSR Storozhevoye 79.72 325 *e*P **P 02 14 00.0 -0.4**
VRSR pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,1.3s
VRSR pmax pmax
comp=E,2.0nm,0.8s
SUR Sutherland 80.99 238 *e*P **P 02 14 08.7 +0.9**
comp=E,9.7nm,0.8s,mb4.8
SUR *e*pP pP 02 14 23.6 -0.3
OBN Obninsk 82.70 328⇓ *e*P **P 02 14 17.3 +1.2**
OBN *e* 02 17 22.7
OBN pmax pmax
comp=Z,17nm,1.0s,mb5.0
QSPA South Pole Qui 83.59 180 *e*P **P 02 14 20.0 -0.3**
comp=Z,6.5nm,1.1s,mb4.7
QSPA *e*pP pP 02 14 36.4 0.0
TIRR Tirgusor 84.37 316⇑ *i*P pP 02 14 41.1 0.0
SANT Santorini 84.73 307 *e*P **P 02 14 23.5 -3.4**
comp=Z,26nm,0.6s,mb5.5
AKASG Malin Array Be 85.47 322 P **P 02 14 30.0 -0.3**
comp=Z,2.0nm,0.7s,mb4.4,baz=90,slow=4.6,SNR=9.4
BILL Bilibino 85.86 19⇑ *e*P **P 02 14 31.0 -0.9**
BILL *e* 02 17 47.2
BILL pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
BILL MLR MLR
comp=Z,100nm,17.0s,MS4.3
BILL Bilibino 85.86 19 *e*P **P 02 14 31.3 -0.6**
comp=Z,3.4nm,0.7s,mb4.7
VRI Vrincioaia 85.87 317⇑ *i*P **P 02 14 34.9 +2.5**
MLR Muntele Rosu 86.32 316⇓ *i*P **P 02 14 37.3 +2.6**
BURAR Bucovina Array 87.28 318 ⇓P **P 02 14 41.9 +2.6**
BURAR Bucovina Array 87.28 318⇓ *i*P **P 02 14 41.8 +2.5**
JOF Joensuu 87.95 334 *e*p **P 02 14 38.9 -3.2**
comp=Z,5.1nm,0.9s,mb4.8
DRGR 88.79 317⇓ *i*P pP 02 15 00.4 -2.3
VSU Vasula 88.88 329 *i*P **P 02 14 44.1 -2.5**
SNAA Sanae 89.24 198 *e*P **P 02 14 47.4 -0.8**
SNAA *e* 02 14 51.8
SNAA *e* pP 02 14 59.7 -4.8
SNAA *e* pP 02 15 03.4 -1.1
SNAA Sanae 89.24 198⇑ *e*P **P 02 14 48.3 +0.1**
BZS Buzias 89.33 316⇑ *i*P pP 02 15 05.4 +0.1
FINES FINESS Array B 89.91 332 P **P 02 14 51.6 +0.2**
comp=Z,1.2nm,0.5s,mb4.5,baz=119,slow=6.0,SNR=13
VNA2 Neumayer--Watz 90.88 198 *e*P **P 02 14 57.8 +2.0**
baz=65,slow=3.4
VNA2 *e* 02 15 01.3
VNA2 *e* pP 02 15 11.1 -1.0
VNA2 *e* pP 02 15 14.9 +2.8
PKSM Moragy 91.47 316⇓ *i*P pP 02 15 14.3 -1.0
ARCES ARCESS Array B 92.00 340 P **P 02 15 00.9 0.0**
comp=Z,0.9nm,0.5s,mb4.3,baz=66,slow=2.9,SNR=7.8
GERES GERESS Array B 95.06 318 P **P 02 15 15.0 -0.5**
comp=Z,0.1nm,0.3s,mb3.7,baz=228,slow=41,SNR=2.9
NVAR Mina Array Bea 130.13 44 SKPbc 02 24 23.1
comp=Z,0.2nm,0.3s,baz=323,slow=1.9,SNR=4.2
SCHQ Schefferville 131.17 353 SKPbc SKPbc 02 24 25.5 +1.3
comp=Z,3.0nm,0.8s,baz=22,slow=5.8,SNR=4.3
WMOK Wichita Mounta 144.75 34 *e*PKIKP PKPdf 02 21 28.4 -1.3
BDFB Brasilia 144.79 231 PKP PKPdf 02 21 30.3 0.0
comp=Z,1.4nm,0.5s,baz=124,slow=8.7,SNR=7.2
TXAR Lajitas Array 145.24 46 PKPbc PKPbc 02 21 31.2 +0.7
comp=Z,4.3nm,0.8s,baz=305,slow=1.6,SNR=22
CCM Cathedral Cave 145.53 22 *e*PKIKP PKPdf 02 21 30.7 -0.3
ACSO Alum Creek Sta 145.72 10 *e*PKPbc PKPbc 02 21 31.4 -0.2
SSPA Standing Stone 145.87 3 *e*PKPbc PKPbc 02 21 32.0 -0.1
JCT Junction City 147.14 40 *e*PKP2 PKPab 02 21 37.0 -0.8
MIAR Mount Ida 147.56 28 *e*PKP2 PKPab 02 21 37.6 -1.7
TZTN Tazewell 149.18 12 *e*PKPbc PKPbc 02 21 41.0 -0.3
TZTN *e*PKPab PKPab 02 21 45.6 -0.1
PLAL Pickwick Lake 149.41 20 *e*PKPbc PKPbc 02 21 41.0 -0.9
SWET Sewanee 149.86 17 *e*PKPbc PKPbc 02 21 42.0 -1.1
TKL Tuckaleechee C 149.99 13 *e*PKP2 PKPbc 02 21 43.3 0.0
CPCT Cooper Cave 150.01 14 *e*PKPbc PKPbc 02 21 43.3 -0.1

WEL 18 02:35:43.2±0.1, 4172S×17395E, h18km±1km, ML3.5/31, Error ellipse: s-maj=1.3km s-min=1.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSWZ	**Blackbirch Sta**	**0.06**	**273**	P*	Pg	02 35 45.8	-0.6
CMWZ	**Cape Campbell**	**0.20**	**99**	P*	Pg	02 35 48.4	+0.3
TUWZ	**Tuamarina**	**0.29**	**359**	P*	Pg	02 35 49.4	-0.1
TCW	**Tory Channel**	**0.56**	**26**	P*	Pb	02 35 53.8	-0.7
NNZ	**Nelson**	**0.66**	**319**	P*	Pb	02 35 55.7	-0.4
SNZO	**South Karori**	**0.70**	**55**	P*	Pb	02 35 56.7	-0.1
MRW	**Makara Radio**	**0.74**	**49**	P*	Pb	02 35 57.4	-0.2
MRW				S*	Sb	02 36 08.2	+0.7
WEL	**Wellington**	**0.75**	**55**	P*	Pb	02 35 57.8	0.0
BHW	**Baring Head**	**0.76**	**66**	P*	Pb	02 35 58.1	+0.2
KHZ	**Kahutara**	**0.76**	**203**	P*	Pb	02 35 57.8	-0.2
THZ	**Tophouse**	**0.79**	**266**	P*	Pb	02 35 57.6	-0.8
DUWZ	**D'Urville Isla**	**0.91**	**359**	P*	Pb	02 36 00.1	-0.4
PLWZ	**Palliser**	**0.99**	**82**	P*	Pb	02 36 01.6	-0.2
MSWZ	**Moikau Station**	**1.02**	**73**	P*	Pb	02 36 02.3	-0.1
CAW	**Cannon Point**	**1.04**	**54**	P*	Pb	02 36 02.5	-0.1
KIW	**Kapiti Island**	**1.12**	**41**	P*	Pb	02 36 03.3	-0.7
PAWZ	**Paruwai Farm**	**1.16**	**74**	P*	Pb	02 36 03.9	-0.7
MTW	**Mount Morrison**	**1.29**	**65**	P*	Pb	02 36 05.8	-1.1
TRWZ	**Traveller**	**1.34**	**77**	P*	Pb	02 36 06.1	-1.7
QRZ	**Quartz Range**	**1.39**	**309**	PN	Pn	02 36 08.4	+0.6
HOWZ	**Holdsworth Sta**	**1.43**	**56**	P*	Pb	02 36 07.2	-2.2
DSZ	**Denniston Nort**	**1.61**	**268**	PN	Pn	02 36 11.6	+0.8
LTZ	**Lake Taylor**	**1.64**	**229**	PN	Pn	02 36 11.5	+0.4
WAZ	**Wanganui**	**2.11**	**22**	PN	Pn	02 36 20.4	+2.8
MQZ	**McQueen's Vall**	**2.21**	**205**	PN	Pn	02 36 17.1	-1.9
TSZ	**Takapari Road**	**2.25**	**43**	PN	Pn	02 36 20.8	+1.2
MTVZ	**Mangateitei**	**2.60**	**27**	PN	Pn	02 36 28.8	+4.5
PKVZ	**Pokaka**	**2.65**	**24**	PN	Pn	02 36 28.7	+3.7
MOVZ	**Moawhango**	**2.68**	**31**	PN	Pn	02 36 29.0	+3.5
WNVZ	**Wahianoa**	**2.70**	**28**	PN	Pn	02 36 29.7	+4.0
TRVZ	**Turoa**	**2.70**	**27**	PN	Pn	02 36 29.9	+4.1
WVZ	**Waitaha Valley**	**2.74**	**239**	PN	Pn	02 36 28.3	+2.0
FWVZ	**Far West T-bar**	**2.75**	**27**	PN	Pn	02 36 30.8	+4.4
TUVZ	**Tukino**	**2.77**	**29**	PN	Pn	02 36 29.1	+2.4
NGZ	**Ngauruhoe**	**2.83**	**27**	PN	Pn	02 36 30.4	+2.8
OTVZ	**Oturere**	**2.87**	**28**	PN	Pn	02 36 30.3	+2.3
TWVZ	**Taurewa**	**2.88**	**24**	PN	Pn	02 36 33.7	+5.6
WTVZ	**West Tongariro**	**2.88**	**26**	PN	Pn	02 36 32.3	+4.0
KRVZ	**Karewarewa**	**2.92**	**27**	PN	Pn	02 36 34.7	+5.9
HIZ	**Hauiti**	**3.27**	**13**	PN	Pn	02 36 36.5	+2.9

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*NEIC **18** 02:39:16.5±5.4, 2814S×17739W, h75km±55km, mb4.2/1, Error ellipse: s-maj=110.9km s-min=25.2km az=167.0*
*IDC **18** 02:39:16.0±4.2, 2808S×17735W, h70km±35km, mb3.7/3, mb1 3.9/3, mb1mx3.6/12, mbtmp3.7/3, Error ellipse: s-maj=44.3km s-min=33.8km az=5.0*
ISC 18 02:39:15.8±5.2, 281S±03×1773W±03, h75km±32km, n18, σ0°89/9, mb3.9/4, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.26**	**205**	P	**Pn**	**02 39 37.7**	**-0.1**
	640nm,0.3s,baz=96,slow=4.0,SNR=50						
RAO				S	**Sn**	**02 39 54.4**	**+0.1**
	2μm,0.3s,baz=288,slow=24,SNR=47						
STKA	**Stephens Creek**	**35.65**	**254**	P	**P**	**02 46 07.6**	**+0.8**
STKA	**Stephens Creek**	**35.65**	**254**	P	**P**	**02 46 07.6**	**+0.8**
	1.1nm,0.5s,mb4.0,baz=107,slow=15,SNR=3.6						
ASAR	**Alice Springs**	**43.90**	**264**	P	**P**	**02 47 15.7**	**+0.4**
	0.9nm,0.6s,mb3.7,baz=94,slow=7.4,SNR=17						
WRA	**Warramunga Arr**	**44.68**	**269**	P	**P**	**02 47 21.6**	**0.0**
	1.0nm,0.3s,mb4.0,baz=108,slow=6.2,SNR=54						
FORT	**Forrest**	**47.27**	**253**	*e*P	**P**	**02 47 40.2**	**-1.5**
	2.3nm,0.8s,mb4.0						
SNAA	**Sanae**	**80.42**	**178**	*e*	**P**	**02 51 17.6**	**-1.2**
SNAA				*e*		02 51 22.5	
VNA2	**Neumayer--Watz**	**80.98**	**177**	*e*	**P**	**02 51 23.2**	**+1.4**
	baz=186,slow=6.2						
VNA2				*e*		02 51 27.6	
TKM2	**Tokmak 2**	**120.59**	**305**	*e*PKPdf	PKPdf	02 57 59.3	+0.5
EKS2	**Erkin-Say**	**121.86**	**305**	*e*PKPdf	PKPdf	02 58 02.9	+1.7
ARCES	**ARCESS Array B**	**136.48**	**349**	PKP	PKPdf	02 58 29.7	+1.5
ARCES	**ARCESS Array B**	**136.48**	**349**	PKP	PKPdf	02 58 29.7	+1.5
	4.3nm,0.9s,baz=29,slow=2.1,SNR=5.6						
FINES	**FINESS Array B**	**143.19**	**341**	PKP	PKPdf	02 58 37.4	-3.2

FINES FINESS Array B 143.19 341 PKhKP 02 58 37.4
0.4nm,0.4s,baz=22,slow=6.2,SNR=6.7
NB2 NORSAR Subarra146.58 352 PKP PKPdf 02 58 48.4 +2.0
comp=Z,0.8nm,0.6s,baz=11,slow=2.9
NOA NORSAR Array B146.58 352 PKPbc PKPbc 02 58 48.3 +0.3
comp=Z,1.4nm,0.7s,baz=14,slow=4.5,SNR=5.1
AKASG Malin Array Be 149.81 326 PKPbc PKPbc 02 58 56.8 -0.1
comp=Z,1.1nm,0.5s,baz=44,slow=3.3,SNR=7.1
TORD Torodi Ar. Bea 165.08 176 PKPab PKPab 03 00 09.4 +0.5
comp=Z,0.4nm,0.7s,baz=180,slow=3.6,SNR=7.6

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*ISCJB **18** 03:14:12.5±0.7,3459N±004×14067E±006,h59km±5km, mb3.9/2,Error ellipse: s-maj=8.0km s-min=6.1km az=154.1*
*JMA **18** 03:14:12.5±0.1,3459N×14067E,h58km±2km,M3.4*
*IDC **18** 03:14:13.2±3.1,3463N×14072E,h43km±29km,mb3.5/2, mb1 3.8/4,mb1mx3.3/21,mbtmp3.8/4,ML3.7/2,Error ellipse: s-maj=36.5km s-min=7.2km az=82.0*
ISC 18 03:14:13.8±0.6,3459N±004×14065E±005,h50km±6km, n16,σ0§64/27,mb3.9/2,3C-3D,Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO2	**Boso 2**	**0.18**	**29**	S	**Sn**	**03 14 29.1**	**+1.2**
BSO3	**Boso 3**	**0.24**	**332**	⇓P	**Pn**	**03 14 21.9**	**-0.6**
BSO3				S	**Sn**	**03 14 29.0**	**+0.4**
BSO1	**Boso 1**	**0.28**	**77**	⇑P	**Pn**	**03 14 22.1**	**-0.7**
BSO1				S	**Sn**	**03 14 28.4**	**-0.8**
BSO4	**Boso 4**	**0.47**	**328**	⇑P	**Pn**	**03 14 24.7**	**-0.1**
BSO4				S	**Sn**	**03 14 33.3**	**+0.7**
KTR	**Katsuura**	**0.62**	**334**	⇑P	**Pn**	**03 14 26.0**	**-0.5**
KTR				S	**Sn**	**03 14 35.4**	**-0.3**
TATJ	**Tateyama 2**	**0.76**	**306**	⇓P	**Pn**	**03 14 28.3**	**-0.1**
TATJ				S	**Sn**	**03 14 39.9**	**+0.9**
JCN	**Nagara**	**0.90**	**336**	P	**Pn**	**03 14 30.2**	**0.0**
JCN				*e*S	**Sn**	**03 14 42.8**	**+0.5**
JIM2	**Oshima 3**	**1.01**	**278**	⇓P	**Pn**	**03 14 30.8**	**-0.9**
JIM2				S	**Sn**	**03 14 43.5**	**-1.3**
JMY	**Miyakejima3**	**1.07**	**241**	*e*S	**Sn**	**03 14 45.8**	**-0.5**
JKO	**Kozu shima**	**1.31**	**253**	P	**Pn**	**03 14 36.2**	**+0.5**
JKO				S	**Sn**	**03 14 52.7**	**+0.6**
JHJ	**Hachijo jima 2**	**1.63**	**206**	P	**Pn**	**03 14 40.5**	**+0.3**
	37nm,0.3s,baz=84,slow=18,SNR=60						
JHJ				S	**Sn**	**03 15 00.4**	**+0.4**
	150nm,0.3s,baz=245,slow=23,SNR=15						
MJAR	**Matsushiro Arr**	**2.78**	**315**	P	**Pn**	**03 14 56.6**	**+0.7**
	4.0nm,0.3s,baz=144,slow=12,SNR=24						
MJAR				S	**Sn**	**03 15 27.3**	**-0.9**
	8.9nm,0.3s,baz=16,slow=26,SNR=14						
MAT	**Matsushiro**	**2.79**	**315**	P	**Pn**	**03 14 55.8**	**-0.1**
MAT				S	**Sn**	**03 15 28.2**	**0.0**
CBIJ	**Chichi jima**	**7.59**	**170**	P	**Pn**	**03 16 01.2**	**-0.5**
	6.8nm,0.3s,baz=270,slow=20,SNR=4.8						
WRA	**Warramunga Arr**	**54.56**	**187**	P	**P**	**03 23 36.8**	**-0.1**
	0.8nm,0.3s,mb4.2,baz=22,slow=7.3,SNR=68						
ASAR	**Alice Springs**	**58.29**	**187**	P	**P**	**03 24 04.5**	**+1.1**
	0.2nm,0.4s,mb3.5,baz=357,slow=6.3,SNR=6.2						

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*IDC **18** 03:24:59.3±1.9,1160S×16638E,h0km,mb4.0/6, mb1 4.1/6,mb1mx3.9/14,mbtmp4.0/6,MS3.4/2,Ms1 3.4/2, ms1mx3.0/23,Error ellipse: s-maj=44.9km s-min=35.1km az=40.0*
*NEIC **18** 03:25:00.7±0.9,1154S×16648E,h10km,mb4.4/3,Error ellipse: s-maj=24.7km s-min=19.0km az=98.0*
*ISCJB **18** 03:25:03.1±1.1,1165S±02×1663E±02,h33km,mb4.0/9, Error ellipse: s-maj=29.4km s-min=21.8km az=4.7*
ISC 18 03:25:04.9±1.1,1165S±02×1664E±02,h35km,n14, σ0§72/12,mb4.0/9,Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.69**	**288**	LR	LR	03 28 59.5	
	comp=Z,137nm,21.9s,baz=355,slow=36						
CTA	**Charters Tower**	**21.13**	**244**	P	**P**	**03 29 48.6**	**+1.7**
	1.4nm,0.4s,mb3.6,baz=270,slow=1.0,SNR=2.5						
STKA	**Stephens Creek**	**30.51**	**225**	P	**P**	**03 31 14.5**	**-0.4**
	1.3nm,0.7s,mb3.9,baz=40,slow=9.7,SNR=3.6						
WRA	**Warramunga Arr**	**31.91**	**251**	P	**P**	**03 31 26.6**	**-0.8**
	1.0nm,0.7s,mb3.8,baz=84,slow=8.9,SNR=11						
ASAR	**Alice Springs**	**33.14**	**244**	P	**P**	**03 31 37.0**	**-1.1**
	1.0nm,0.6s,mb3.9,baz=68,slow=9.7,SNR=14						
VNDA	**Vanda**	**65.99**	**181**	P	**P**	**03 35 47.2**	**-0.1**
VNDA	**Vanda**	**65.99**	**181**	P	**P**	**03 35 47.2**	**-0.1**
	0.3nm,0.4s,mb3.6,baz=357,slow=8.0,SNR=4.2						
CASY	**Casey**	**66.13**	**201**	*e*P	**P**	**03 35 49.0**	**+0.6**
	2.2nm,0.8s,mb4.2						
QSPA	**South Pole Qui**	**78.44**	**180**	*e*P	**P**	**03 37 01.6**	**-0.1**
	5.7nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**78.44**	**180**	P	**P**	**03 37 01.5**	**-0.1**
	3.4nm,1.0s,mb4.2,baz=337,slow=1.7,SNR=8.5						
ULN	**Ulaanbaatar**	**79.09**	**324**	*e*P	**P**	**03 37 06.1**	**+0.5**
	1.5nm,0.6s,mb4.1						
MK31	**Makanchi Array**	**94.33**	**317**	*e*P	**P**	**03 38 20.6**	**-0.2**
MKAR	**Makanchi Array**	**94.33**	**317**	P	**P**	**03 38 20.9**	**0.0**
	1.3nm,0.6s,mb4.5,baz=95,slow=6.4,SNR=15						
YKA	**Yellowknife Ar**	**95.14**	**27**	LR	LR	04 23 45.9	
	comp=Z,38nm,18.2s,baz=160,slow=37						

IDC 18 03:38:05.5±3.9,388N×10152W,h0km,mb3.8/4, mb1 3.9/4,mb1mx3.7/16,mbtmp3.8/4,MS3.5/5,Ms1 3.5/5, ms1mx3.2/21,Error ellipse: s-maj=155.3km s-min=30.3km az=54.0,Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TXAR	**Lajitas Array**	**25.40**	**356**	LR	LR	03 52 50.0	
	comp=Z,111nm,21.2s,baz=165,slow=35						
ROSC	**El Rosal**	**27.13**	**87**	LR	LR	03 51 19.7	
	comp=Z,64nm,19.8s,baz=192,slow=29						
LPAZ	**La Paz**	**38.62**	**122**	P	P	03 45 31.5	+0.7
	0.2nm,0.5s,baz=300,slow=8.1,SNR=3.5						
LPAZ				LR	LR	03 59 56.1	
	comp=Z,50nm,20.9s,baz=83,slow=34						
YBH	**Yreka Blue Hor**	**42.20**	**336**	P	P	03 46 00.3	+0.1
	0.6nm,0.4s,baz=80,slow=6.1,SNR=4.3						
ULM	**Lac du Bonnet**	**46.46**	**5**	P	P	03 46 34.8	+0.6
	2.3nm,0.7s,baz=157,slow=7.7,SNR=3.5						
SCHQ	**Schefferville**	**58.03**	**23**	LR	LR	04 12 01.4	
	comp=Z,60nm,18.3s,baz=205,slow=35						
YKA	**Yellowknife Ar**	**59.29**	**352**	P	P	03 48 08.2	-0.6
	1.0nm,0.9s,baz=158,slow=7.2,SNR=6.5						
YKA				LR	LR	04 14 02.0	
	comp=Z,48nm,18.7s,baz=70,slow=36						

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*NEIC **18** 03:52:09.3±0.9,2884S×6962W,h126km±17km,MD4.1, MD4.1(GUC),After GUC.*
GUC 18 03:52:09.3±0.9,2884S×6962W,h126km±17km,MD4.1, ML4.5,3C-3D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.96**	**259**	*e*Pn	Pn	03 52 32.4	+1.0
LCO				*e*Sn	Sn	03 52 49.5	+1.2
VACH	**Vallenar**	**1.03**	**284**	⇑*i*P	Pn	03 52 33.0	+0.9
VACH				*i* S	Sn	03 52 49.7	+0.3
VACH	**Vallenar**	**1.03**	**284**	⇑*i*P	Pn	03 52 33.0	+0.9
VACH				*i* S	Sn	03 52 49.7	+0.3
VACH				AML	AML	03 52 50.6	
	comp=N,10μm,0.4s						
CPCH	**Copiapo**	**1.61**	**336**	⇓*i*P	Pn	03 52 38.9	+0.5
CPCH				*i* S	Sn	03 53 00.7	+0.1
CPCH	**Copiapo**	**1.61**	**336**	⇓*i*P	Pn	03 52 38.9	+0.5
CPCH				*i* S	Sn	03 53 00.7	+0.1
CPCH				AML	AML	03 53 02.7	
	comp=E,12μm,0.1s						
TLL	**Tololo Astrono**	**1.68**	**218**	*e*P	Pn	03 52 40.6	+1.4
TLL				*i* S	Sn	03 53 03.7	+1.7
TLL	**Tololo Astrono**	**1.68**	**218**	*e*P	Pn	03 52 40.6	+1.4
TLL				*i* S	Sn	03 53 03.7	+1.7
TLL				AML	AML	03 53 06.2	
	comp=N,1μm,0.3s						
LSCH	**La Serena**	**1.77**	**233**	*e*P	Pn	03 52 40.7	+0.4
LSCH				*i* S	Sn	03 53 04.3	+0.3
OVCH	**Ovalle**	**2.24**	**218**	⇓*i*P	Pn	03 52 46.5	+0.5
OVCH				*i* S	Sn	03 53 14.2	0.0
CMCH	**Combarbala**	**2.62**	**207**	*e*P	Pn	03 52 51.2	+0.4
CMCH				*i* S	Sn	03 53 23.4	+0.6
CMCH	**Combarbala**	**2.62**	**207**	*e*P	Pn	03 52 51.2	+0.4
CMCH				*i* S	Sn	03 53 23.4	+0.6
CMCH				AML	AML	03 53 25.5	
	comp=N,3μm,0.8s						
PEL	**Peldehue**	**4.39**	**192**	⇑*i*P	Pn	03 53 14.5	+0.4
FCH	**Farellones**	**4.51**	**187**	*e*P	Pn	03 53 17.2	+1.5
FCH				*i* S	Sn	03 54 09.0	+1.6
LMEL	**Las Melosas**	**5.02**	**186**	*e*P	Pn	03 53 23.7	+1.1
LMEL				*e*S	Sn	03 54 20.8	+1.3
LPAZ	**La Paz**	**12.57**	**7**	*e*P	Pn	03 55 06.8	+3.0
	comp=N,1.6nm,0.6s						

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*ROM **18** 04:11:15.6±0.2,4407N×1223E,h4km±2km,Md2.7/29, Ml2.4/17,Error ellipse: s-maj=2.4km s-min=1.4km az=150.0*
*NEIC **18** 04:11:15.6,4407N×1223E,h4km,ML2.8(LDG), ML2.4(ROM),After ROM.*
*CSEM **18** 04:11:15.7±0.1,4412N×1226E,h30km,ML3.3/6,Error ellipse: s-maj=2.0km s-min=1.6km az=26.0*
*ISCJB **18** 04:11:16.1±0.3,4415N±002×1223E±002,h24km±3km, Error ellipse: s-maj=3.2km s-min=2.8km az=13.5*
*LDG **18** 04:11:17.0±0.1,4406N×1226E,h10km,Ml2.8/9,Error ellipse: s-maj=4.4km s-min=2.4km az=44.0*
ISC 18 04:11:16.0±0.3,4413N±002×1225E±002,h15km±2km,n70, σ1§05/111,3C-5D,Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	**Barisano**	**0.19**	**321**	Pg	**Pg**	**04 11 21.4**	**+0.8**
BRSN				Sg	**Sg**	**04 11 23.2**	**-0.5**
	578nm,0.2s						
RSM	**Repubblica di**	**0.25**	**144**	Pg	**Pg**	**04 11 21.7**	**+0.2**
	55nm,0.4s						
SFI	**Santa Sofia**	**0.37**	**232**	Pg	**Pg**	**04 11 22.7**	**-0.8**
SFI				Sg	**Sg**	**04 11 28.4**	**-0.2**
	437nm,0.3s						
PESA	**Pesaro**	**0.47**	**114**	Pg	**Pg**	**04 11 25.6**	**+0.2**
PESA				Sg	**Sg**	**04 11 34.0**	**+2.3**
	461nm,0.4s						
VMG	**Vicchio**	**0.54**	**251**	Pg	**Pg**	**04 11 25.8**	**-0.8**
VMG				Sg	**Sg**	**04 11 34.5**	**+0.8**
	183nm,0.2s						
CMPO	**Campotto Po**	**0.55**	**325**	Pg	**Pg**	**04 11 28.9**	**+2.1**
	678nm,1.1s						
CRE	**Caprese Michel**	**0.56**	**203**	Pg	**Pg**	**04 11 26.0**	**-1.0**
CRE				Sg	**Sg**	**04 11 34.6**	**+0.2**
FSSB	**Fossombrone**	**0.58**	**139**	Pg	**Pg**	**04 11 26.5**	**-1.0**
FSSB				Sg	**Sg**	**04 11 35.9**	**+0.6**
	224nm,0.3s						
BADI	**Badiali**	**0.62**	**180**	Pg	**Pg**	**04 11 27.4**	**-0.8**
BADI				Sg	**Sg**	**04 11 36.6**	**+0.1**
	14μm,11.0s						
PIEI	**Pieia**	**0.63**	**161**	Pg	**Pg**	**04 11 27.0**	**-1.4**
PIEI				Sg	**Sg**	**04 11 37.0**	**+0.2**
	184nm,0.3s						
SEI	**Scarperia**	**0.65**	**263**	Pg	**Pg**	**04 11 27.9**	**-0.8**
SEI				Sg	**Sg**	**04 11 38.4**	**+1.2**
	1μm,0.4s						
CDCA	**Citt' di Caste**	**0.68**	**181**	Pg	**Pg**	**04 11 31.0**	**+1.8**
FIU	**Minerbio Fiu**	**0.74**	**313**	Pg	**Pg**	**04 11 33.7**	**+3.3**
FNVD	**Fontana Vidola**	**0.81**	**273**	Pg	**Pg**	**04 11 31.3**	**-0.4**
FNVD				Sg	**Sg**	**04 11 43.7**	**+1.3**
	196nm,0.6s						
ARVD	**Arcevia**	**0.81**	**141**	Pg	**Pg**	**04 11 31.1**	**-0.7**
ARVD				Sg	**Sg**	**04 11 43.7**	**+1.3**
	57nm,0.4s						
MURB	**Monte Urbino**	**0.89**	**167**	Pg	**Pg**	**04 11 32.3**	**-1.0**
MURB				Sg	**Sg**	**04 11 46.9**	**+1.9**
	212nm,0.4s						
CSNT	**Castellina Chi**	**0.96**	**227**	Pg	**Pg**	**04 11 33.4**	**-1.1**
CSNT				Sg	**Sg**	**04 11 48.1**	**+1.0**
	103nm,0.7s						
CRMI	**Carmignano**	**0.98**	**250**	Pg	**Pg**	**04 11 34.1**	**-0.9**
CRMI				Sg	**Sg**	**04 11 48.0**	**+0.1**
	77nm,0.5s						
PZZT	**Monte Pizzetto**	**1.00**	**270**	Pg	**Pg**	**04 11 34.9**	**-0.4**
	150nm,0.5s						
SNTG	**Esanatoglia**	**1.01**	**150**	Pg	**Pg**	**04 11 34.3**	**-1.3**
	48nm,0.4s						
CING	**Cingoli**	**1.02**	**137**	Pg	**Pg**	**04 11 35.1**	**-0.7**
	67nm,0.5s						
ASS	**Assisi**	**1.11**	**164**	Pg	**Pg**	**04 11 36.4**	**-1.0**
	4.0nm,0.6s						
BDI	**Bagni Di Lucca**	**1.19**	**267**	Pg	**Pg**	**04 11 39.1**	**+0.1**
BDI				Sg	**Sg**	**04 11 55.6**	**+1.1**
	96nm,0.8s						
GSCL	**Gusciola**	**1.21**	**281**	Pg	**Pg**	**04 11 41.7**	**+2.3**
	22nm,0.6s						
CESI	**CESI - Serrava**	**1.23**	**157**	Pg	**Pg**	**04 11 37.8**	**-1.8**
	35nm,0.7s						
MAIM		**1.28**	**261**	Pg	**Pg**	**04 11 39.6**	**-1.2**
TEOL	**Teolo**	**1.29**	**342**	⇓*i*Pg	**Pg**	**04 11 39.2**	**-1.7**
TEOL				*i* Sg	**Sg**	**04 11 56.7**	**-1.1**
SACS	**San Casciano d**	**1.31**	**191**	Pg	**Pg**	**04 11 39.3**	**-1.9**
PII	**Pisa**	**1.31**	**252**	Pg	**Pg**	**04 11 39.9**	**-1.3**
	23nm,0.2s						
VLC	**Villacollemand**	**1.34**	**272**	*e*Pn	**Pn**	**04 11 41.8**	**+1.7**
VLC				*e*Sn	**Sn**	**04 12 01.0**	**+3.5**
VLC	**Villacollemand**	**1.34**	**272**	*e*Pn	**Pn**	**04 11 41.8**	**+1.7**
ARCI	**Arcidosso**	**1.40**	**204**	Pg	**Pn**	**04 11 40.6**	**-0.3**
NRCA	**Norcia**	**1.45**	**154**	Pg	**Pn**	**04 11 41.6**	**+0.1**
	13nm,0.4s						
TERO	**Teramo**	**1.81**	**146**	Pg	**Pn**	**04 11 48.2**	**+1.7**
SKDS	**Skadanscina**	**1.89**	**41**	*e*Pn	**Pn**	**04 11 47.1**	**-0.5**
SKDS				*e*Sn	**Sn**	**04 12 10.8**	**-0.4**
CTI	**Castel Tesino**	**1.96**	**348**	Pg	**Pn**	**04 11 48.4**	**-0.2**
MAGA	**Magasa**	**2.00**	**326**	Pg	**Pn**	**04 11 49.2**	**0.0**
	83nm,0.3s						
JAVS	**Javornik**	**2.18**	**36**	*e*Pn	**Pn**	**04 11 52.7**	**+1.1**
JAVS				*e*Sn	**Sn**	**04 12 17.6**	**-0.7**
JAVS	**Javornik**	**2.18**	**36**	*e*Pn	**Pn**	**04 11 52.7**	**+1.1**
JAVS				*e*Sn	**Sn**	**04 12 17.6**	**-0.7**
JAVS							
	comp=Z,18nm,0.3s						
JAVS	**Javornik**	**2.18**	**36**	*e*Pn	**Pn**	**04 11 52.7**	**+1.0**
JAVS				*e*Sn	**Sn**	**04 12 17.6**	**-0.7**
VOY	**Vojsko**	**2.23**	**31**	*e*Sn	**Sn**	**04 12 19.6**	**+0.1**
CEY	**Cerknica**	**2.23**	**43**	*e*Sn	**Sn**	**04 12 20.2**	**+0.6**
DRE	**Drenchia**	**2.27**	**25**	⇓*i*Pn	**Pn**	**04 11 52.5**	**-0.3**
DRE				*i* Sn	**Sn**	**04 12 20.2**	**-0.2**
DRE	**Drenchia**	**2.27**	**25**	*i* Pn	**Pn**	**04 11 52.5**	**-0.3**
DRE				*i* Sn	**Sn**	**04 12 20.2**	**-0.2**
BRMO	**Bormio**	**2.69**	**331**	Pg	**Pn**	**04 12 00.3**	**+1.7**
	comp=Z,3.0nm,0.3s						
PGF	**Pioggiola**	**2.85**	**237**	*e*Pn	**Pn**	**04 12 01.2**	**+0.4**
PGF				*e*Sn	**Sn**	**04 12 35.3**	**+0.5**
	comp=Z,6.8nm,0.4s						
PGF	**Pioggiola**	**2.85**	**237**	*e*Pn	**Pn**	**04 12 01.2**	**+0.4**
PGF				*e*Sn	**Sn**	**04 12 35.3**	**+0.5**
	comp=Z,3.4nm,0.4s						
OBKA	**Obir**	**2.88**	**34**	⇓*i*Pn	**Pn**	**04 12 00.3**	**-1.0**
OBKA	**Obir**	**2.88**	**34**	⇑*i*Pn	**Pn**	**04 12 00.8**	**-0.4**
SQTA	**Sankt Quirin**	**3.17**	**347**	⇓*i*Pn	**Pn**	**04 12 06.1**	**+0.9**
SQTA				⇑*i*Sn	**Sn**	**04 12 42.3**	**-0.5**
MOTA	**Moosalm**	**3.31**	**346**	⇓*i*Pn	**Pn**	**04 12 08.6**	**+1.4**
MOTA				⇑*i*Sn	**Sn**	**04 12 46.7**	**+0.5**
SBF	**Sospel**	**3.48**	**267**	*e*Pn	**Pn**	**04 12 10.2**	**+0.7**
SBF				*e*Sn	**Sn**	**04 12 48.9**	**-1.5**
	comp=Z,4.0nm,0.3s						
SBF	**Sospel**	**3.48**	**267**	*e*Pn	**Pn**	**04 12 10.2**	**+0.7**
SBF				*e*Sn	**Sn**	**04 12 48.9**	**-1.5**
	comp=Z,2.0nm,0.3s						
MBDF	**Montbardon**	**3.97**	**281**	*e*Pn	**Pn**	**04 12 16.9**	**+0.7**
MBDF				*e*Sn	**Sn**	**04 13 01.0**	**-1.4**
	comp=Z,2.0nm,0.3s						
MBDF	**Montbardon**	**3.97**	**281**	*e*Pn	**Pn**	**04 12 16.9**	**+0.7**
MBDF				*e*Sn	**Sn**	**04 13 01.0**	**-1.4**
	comp=Z,1.0nm,0.3s						
FRF	**La Foret Royal**	**4.09**	**264**	*e*Pn	**Pn**	**04 12 18.3**	**+0.4**
LPG	**La Plagne**	**4.14**	**291**	*e*Sn	**Sn**	**04 13 05.7**	**-1.0**
	comp=Z,1.5nm,0.3s						
LPG	**La Plagne**	**4.14**	**291**	*e*Sn	**Sn**	**04 13 05.7**	**-1.0**
	comp=Z,0.8nm,0.3s						
LPL	**La Plagne**	**4.16**	**291**	*e*Pn	**Pn**	**04 12 19.2**	**+0.4**
LPL				*e*Sn	**Sn**	**04 13 06.6**	**-0.5**
	comp=Z,6.3nm,0.5s						
LPL	**La Plagne**	**4.16**	**291**	*e*Pn	**Pn**	**04 12 19.2**	**+0.4**
LPL				*e*Sn	**Sn**	**04 13 06.6**	**-0.5**
	comp=Z,3.2nm,0.5s						
HINF	**Hinteralfeld**	**5.26**	**316**	*e*Pn	**Pn**	**04 12 34.0**	**0.0**
HINF				*e*Sn	**Sn**	**04 13 30.8**	**-3.5**
	comp=Z,3.4nm,0.3s						
HINF	**Hinteralfeld**	**5.26**	**316**	*e*Pn	**Pn**	**04 12 34.0**	**0.0**
HINF				*e*Sn	**Sn**	**04 13 30.8**	**-3.5**
	comp=Z,1.7nm,0.3s						
VIVF	**Saint-Julien-l**	**5.47**	**280**	*e*Pn	**Pn**	**04 12 37.0**	**+0.2**
CDF	**Champ du Feu**	**5.49**	**323**	*e*Pn	**Pn**	**04 12 37.1**	**0.0**
CDF				*e*Sn	**Sn**	**04 13 37.0**	**-3.0**
	comp=Z,1.6nm,0.3s						
CDF	**Champ du Feu**	**5.49**	**323**	*e*Pn	**Pn**	**04 12 37.1**	**0.0**
CDF				*e*Sn	**Sn**	**04 13 37.0**	**-3.0**
	comp=Z,0.8nm,0.3s						
HAU	**Haudompre**	**5.64**	**315**	*e*Pn	**Pn**	**04 12 39.3**	**+0.1**
HAU				*e*Sn	**Sn**	**04 13 39.3**	**-4.3**
	comp=Z,4.7nm,0.3s						
HAU	**Haudompre**	**5.64**	**315**	*e*Pn	**Pn**	**04 12 39.3**	**+0.1**
HAU				*e*Sn	**Sn**	**04 13 39.3**	**-4.3**
	comp=Z,2.3nm,0.3s						
RFYF	**Reffroy**	**6.49**	**316**	*e*Pn	**Pn**	**04 12 52.1**	**+1.3**
LOR	**Lormes**	**6.66**	**301**	*e*Pn	**Pn**	**04 12 53.2**	**+0.1**
	baz=119						
LOR				*e*Sn	**Sn**	**04 14 04.6**	**-4.0**
	comp=Z,2.7nm,0.4s						
LOR	**Lormes**	**6.66**	**301**	*e*Pn	**Pn**	**04 12 53.2**	**+0.1**
LOR				*e*Sn	**Sn**	**04 14 04.6**	**-4.0**
	comp=Z,1.4nm,0.4s						

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*MOS **18** 04:14:07.3±0.9,026N×9766E,h27km,mb5.1/18,MS4.2/4, Error ellipse: s-maj=15.2km s-min=7.5km az=94.3*
*ISCJB **18** 04:14:08.4±0.4,027N±005×9768E±004,h32km,mb4.8/57, MS4.3/18,Error ellipse: s-maj=7.5km s-min=4.8km az=35.8*
*BJI **18** 04:14:08.2,022N×9777E,h33km,mB5.2,mb4.8,Ms4.8, Msz4.4*
*NEIC **18** 04:14:10.0±0.3,026N×9773E,h30km,mb4.7/17,Error ellipse: s-maj=9.1km s-min=5.9km az=48.0*
*IDC **18** 04:14:12.8±3.2,030N×9779E,h51km±25km,mb4.3/15, mb1 4.3/16,mb1mx4.1/23,mbtmp4.3/16,ML3.7/1,MS3.8/6, Ms1 3.8/6,ms1mx3.5/35,Error ellipse: s-maj=28.9km s-min=12.0km az=46.0*
ISC 18 04:14:10.8±0.4,027N±005×9769E±004,h34km, h34km±1.6km:pP-P,n113,σ0§86/115,mb4.8/57,MS4.3/18, 10C-10D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPI	**Padang Panjang**	**2.80**	**105**	P	**Pn**	**04 14 53.0**	**-0.1**
	706nm,1.0s						
PSI	**Prapat**	**2.80**	**26**	P	**Pn**	**04 14 51.5**	**-1.7**
	15nm,0.3s,baz=188,slow=8.7,SNR=88						
PSI				LR	LR	04 15 25.5	
	comp=Z,910nm,20.1s,baz=159,slow=28						
TSI	**Tuntungan**	**3.33**	**15**	P	**Pn**	**04 14 59.8**	**-0.7**
	800nm,1.0s						
FRIM	**Kepong**	**4.92**	**53**	⇓P	**Pn**	**04 15 22.2**	**0.0**
IPM	**Ipoh**	**5.35**	**38**	⇑P	**Pn**	**04 15 29.5**	**+1.3**
BSI	**Banda Aceh**	**5.72**	**335**	P	**Pn**	**04 15 41.1**	**+7.7**
	102nm,0.6s						
KULM	**Kulim**	**5.80**	**31**	*e*Pn	**Pn**	**04 15 33.7**	**-0.8**
KULM	**Kulim**	**5.80**	**31**	⇑P	**Pn**	**04 15 34.6**	**+0.2**
KGM	**Kluang**	**5.89**	**73**	⇑P	**Pn**	**04 15 36.6**	**+1.0**
KSI	**Kapahiang**	**6.25**	**129**	P	**Pn**	**04 15 41.3**	**+0.6**
	458nm,0.9s						
MYKOM	**Kota Tinggi**	**6.34**	**76**	⇑P	**Pn**	**04 15 44.2**	**+2.3**
KTGM	**Kuala Trenggan**	**7.40**	**47**	⇓P	**Pn**	**04 15 57.3**	**+0.8**
TPI	**Tanjungpandan**	**10.40**	**107**	P	**Pn**	**04 16 39.1**	**+1.5**
	40nm,0.8s						
SBUM	**Sibu**	**14.68**	**81**	⇓P	**Pn**	**04 17 35.6**	**-0.6**
CHTO	**Chiang Mai**	**18.47**	**4**	*e*P	**Pn**	**04 18 22.4**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,12nm,0.8s						
CHTO	**Chiang Mai**	**18.47**	**4**	*e*P	**Pn**	**04 18 22.4**	**-1.8**
	comp=Z,12nm,0.8s						
KKM	**Kota Kinabalu**	**19.36**	**72**	*e*P	**Pn**	**04 18 34.2**	**-0.7**
KKM	**Kota Kinabalu**	**19.36**	**72**	⇑P	**Pn**	**04 18 33.8**	**-1.1**
SDKM	**Sandakan**	**20.19**	**74**	⇓P	**P**	**04 18 43.0**	**+0.3**
KDM	**Kudat**	**20.20**	**70**	⇓P	**P**	**04 18 43.5**	**+0.7**
KAPI	**Kappang**	**22.65**	**104**	P	**P**	**04 19 09.3**	**+0.2**
	comp=Z,5.5nm,0.6s,mb4.2,baz=360,slow=16,SNR=4.7						
KMI	**Kunming**	**25.19**	**11**	⇑P	**P**	**04 19 34.1**	**+0.8**
KMI				AP	pP	04 19 43.0	-0.1
KMI				XP	sP	04 19 46.4	-0.8
KMI				PP		04 20 11.0	
KMI				S	**S**	**04 23 53.3**	**-3.1**
KMI				SS		04 24 50.6	
KMI				AMB	AMB		
	comp=Z,35nm,0.9s,mb4.9						
KMI				AMB	AMB		
	comp=Z,152nm,3.7s						
KMI				LR	LR		
	comp=N,824nm,14.1s						
KMI				LR	LR		
	comp=E,380nm,9.3s						
KMI				LR	LR		
	comp=Z,795nm,16.5s,MS4.3						
SHL	**

LZH LR LR
comp=Z,582nm,14.4s,MS4.5
NJ2 Nanjing 37.41 30 *e*P **P 04 21 21.1 +0.4**
NJ2 AP pP 04 21 29.8 -0.9
NJ2 XP sP 04 21 35.3 +0.5
NJ2 PP PP 04 22 46.6 +0.1
NJ2 S **S 04 27 07.0 +0.2**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.8
NJ2 AMB AMB
comp=Z,620nm,10.0s
NJ2 LR LR
comp=N,2μm,27.2s,MS4.8
NJ2 LR LR
comp=E,1μm,25.6s,MS4.8
NJ2 LR LR
comp=Z,1μm,25.5s,MS4.6
GTA Gaotai 39.01 3 *e*P **P 04 21 33.8 -0.2**
GTA AP pP 04 21 44.3 +0.3
GTA XP sP 04 21 49.5 +1.4
GTA PP PP 04 23 05.9 +2.0
GTA PPP 04 23 28.4
GTA S **S 04 27 27.5 -3.2**
GTA XS sS 04 27 43.1 -4.1
GTA AMB AMB
comp=Z,6.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,145nm,6.9s
GTA LR LR
comp=N,167nm,15.2s,MS4.2
GTA LR LR
comp=E,260nm,16.4s,MS4.2
GTA LR LR
comp=Z,337nm,14.4s,MS4.3
WRA Warramunga Arr 41.13 121 P **P 04 21 50.9 -1.1**
comp=Z,9.7nm,0.7s,mb4.5,baz=302,slow=9.0,SNR=82
WRAB Tennant Creek 41.13 121 *d i*P **P 04 21 51.4 -0.6**
WB2 Warramunga Arr 41.14 121 *e*P **P 04 21 50.8 -1.2**
HHC Hu-ho-hao-te 42.31 16 *e*P **P 04 22 02.0 +0.7**
HHC AP pP 04 22 11.3 -0.1
HHC XP sP 04 22 15.5 0.0
HHC PP PP 04 23 42.9 +3.1
HHC SCP ScP 04 27 46.3 +3.5
HHC S **S 04 28 18.5 -1.5**
HHC XS sS 04 28 35.4 -1.2
HHC SS SS 04 31 21.1 -8.4
HHC SCS ScS 04 31 57.6 -3.1
HHC AMB AMB
comp=Z,47nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,476nm,5.7s
HHC LR LR
comp=N,811nm,14.6s,MS4.9
HHC LR LR
comp=E,706nm,13.2s,MS4.9
HHC LR LR
comp=Z,787nm,13.4s,MS4.8
ASAR Alice Springs 42.44 127 P **P 04 22 02.6 0.0**
comp=Z,10nm,0.8s,mb4.5,baz=303,slow=7.8,SNR=83
ASAR PcP PcP 04 23 55.5 +0.1
comp=Z,1.0nm,0.8s,baz=301,slow=3.6,SNR=4.3
ASAR S **S 04 28 20.1 -2.3**
comp=Z,0.6nm,0.8s,baz=290,slow=14,SNR=5.9
BJT Baijiatuau 43.00 21 *e*P **P 04 22 07.4 +0.5**
BJT pmax pmax
comp=Z,18nm,0.8s
BJT Baijiatuau 43.00 21 *e*P **P 04 22 07.4 +0.5**
comp=Z,18nm,0.8s,mb4.8
BJI Beijing 43.02 21 P **P 04 22 07.8 +0.7**
BJI AMB AMB
comp=Z,31nm,0.8s,mb5.1
WMQ Urumqi 44.27 350 *e*P **P 04 22 17.0 -0.1**
WMQ XP sP 04 22 31.0 -0.3
WMQ PP PP 04 24 00.0 -0.8
WMQ S **S 04 28 44.0 -4.6**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.0
WMQ LR LR
comp=N,125nm,13.0s,MS4.3
WMQ LR LR
comp=E,218nm,13.0s,MS4.3
WMQ LR LR
comp=Z,125nm,13.0s,MS4.0
JNU Nakatsue 45.19 40 P **P 04 22 24.5 0.0**
comp=Z,22nm,0.9s,mb5.0,baz=105,slow=7.2,SNR=6.1
KSRS Korea Array 46.34 34 P **P 04 22 33.1 -0.5**
comp=Z,12nm,0.8s,mb4.9,baz=222,slow=8.9,SNR=36
KSRS LR LR 04 43 34.5
comp=Z,157nm,18.1s,MS4.0,baz=220,slow=38
UCH Uchtor 46.70 336 *e*P **P 04 22 37.2 +0.9**
comp=Z,5.9nm,0.9s,mb4.5
TKM2 Tokmak 2 46.86 338 *e*P **P 04 22 37.9 +0.3**
TKM2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
TKM2 Tokmak 2 46.86 338 *e*P **P 04 22 37.9 +0.3**
comp=Z,5.1nm,0.9s,mb4.5
AML Almayashu 46.95 336 *e*P **P 04 22 39.5 +1.3**
comp=Z,3.5nm,0.8s,mb4.3
EKS2 Erkin-Say 47.36 336 *e*P **P 04 22 42.4 +1.0**
comp=Z,2.8nm,0.8s,mb4.2
SONM Songino Array 47.98 8 P **P 04 22 46.9 +0.7**
comp=Z,14nm,0.8s,mb5.0,baz=190,slow=8.2,SNR=43
SONM PcP PcP 04 24 14.5 +0.6
comp=Z,1.9nm,0.6s,baz=219,slow=2.2,SNR=2.7
ULN Ulaanbaatar 48.10 8 *c i*P **P 04 22 47.7 +0.6**
ULN Ulaanbaatar 48.10 8 *e*P **P 04 22 47.4 +0.3**
comp=Z,9.1nm,0.9s,mb4.8
MK31 Makanchi Array 48.26 346 *e*P **P 04 22 48.5 +0.1**
MKAR Makanchi Array 48.26 346 P **P 04 22 48.7 +0.3**
MKAR 04 24 15.1
MKAR Makanchi Array 48.26 346 P **P 04 22 48.7 +0.3**
comp=Z,14nm,0.7s,mb5.1,baz=157,slow=8.0,SNR=113
MKAR PcP PcP 04 24 15.1 +0.1
comp=Z,2.0nm,0.8s,baz=166,slow=7.0,SNR=1.9
MKAR LR LR 04 46 08.8
comp=Z,76nm,20.6s,MS3.7,baz=160,slow=40
CN2 Changchun 49.91 26 *e*P **P 04 23 00.5 -0.6**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.8
ZAK Zakamensk 50.16 5 ⇑ *i*P **P 04 23 03.2 +0.4**
ZAK pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TLY Talaya 51.48 5 *e*P **P 04 23 13.7 +1.0**
TLY pmax pmax
comp=Z,15nm,0.9s,mb4.9
TLY MLR MLR
comp=Z,161nm,15.0s,MS4.2
MJAR Matsushiro Arr 52.05 42 P **P 04 23 16.3 -1.0**
comp=Z,1.7nm,0.7s,mb4.1,baz=224,slow=7.1,SNR=6.0
MJAR LR LR 04 48 36.5
comp=Z,166nm,19.8s,MS4.1,baz=65,slow=40
HIA Hailar 52.37 18 *e*P **P 04 23 19.4 0.0**
HIA pmax pmax
comp=Z,12nm,0.8s
HIA Hailar 52.37 18 *e*P **P 04 23 19.4 0.0**
comp=Z,12nm,0.8s,mb4.9
STKA Stephens Creek 52.37 132 *e*P pP 04 23 28.2 -1.9
comp=Z,9.4nm,1.1s
STKA Stephens Creek 52.37 132 P **P 04 23 20.7 +1.0**
comp=Z,2.2nm,0.7s,mb4.2,baz=261,slow=5.3,SNR=4.2
MDJ Mudanjiang 52.44 28 P **P 04 23 21.1 +1.0**
MDJ AMB AMB
comp=Z,11nm,1.7s,mb4.5
MDJ AMB AMB
comp=Z,369nm,4.8s
MDJ LR LR
comp=N,201nm,17.2s,MS4.3
MDJ LR LR
comp=E,132nm,18.0s,MS4.3
MDJ LR LR
comp=Z,276nm,17.2s,MS4.4
KURK Kurchatov 52.82 345 *e*P **P 04 23 22.5 -0.2**
KURK *e**PP pP 04 23 34.0 +1.0
KURK pmax pmax
comp=Z,11nm,0.9s,mb4.8
KURK Kurchatov 52.82 345 *e*P **P 04 23 22.5 -0.2**
comp=Z,11nm,0.9s,mb4.8
KURK *e*pP pP 04 23 34.0 +0.9
ZAL Zalesovo 54.55 351 P **P 04 23 35.5 +0.2**
ZAA0 Zalesovo Array 54.55 351 *e*P **P 04 23 35.4 0.0**
ZALV Zalesovo Beam 54.55 351 P **P 04 23 35.5 +0.1**
ZALV LR LR 04 49 47.0
ZALV Zalesovo Beam 54.55 351 P **P 04 23 35.5 +0.1**
comp=Z,63nm,1.0s,mb5.6,baz=179,slow=6.2,SNR=93
ZALV LR LR 04 49 47.0
comp=Z,78nm,18.2s,MS3.8,baz=162,slow=39

RDF Al-Radifah 55.67 305 *e*P **P 04 23 43.7 -0.2**
RDF AMb AMB 04 23 45.6
comp=Z,30nm,0.8s,mb5.4
NVS Novosibirsk 55.68 350 *e*P **P 04 23 41.9 -1.5**
NVS pmax pmax
comp=Z,14nm,1.0s,mb5.0
NVS pmax pmax
comp=N,14nm,1.3s
NVS pmax pmax
comp=E,12nm,1.4s
NAY Al-Naaiem 56.04 306 *e*P **P 04 23 46.3 -0.2**
NAY AMb AMB 04 23 48.0
comp=Z,13nm,0.8s,mb5.0
MIB Mutribah 56.16 306 *e*P **P 04 23 47.7 +0.3**
MIB AMb AMB 04 23 49.2
comp=Z,42nm,0.8s,mb5.5
KLR Kul'dur 56.87 26 *e*P **P 04 23 47.7 -4.4**
BRVK Borovoye 57.35 341 *e*P **P 04 23 54.4 -1.0**
BRVK *e**PP pP 04 24 05.1 -0.7
BRVK pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BRVK Borovoye 57.35 341 *e*P **P 04 23 54.4 -1.0**
comp=Z,9.4nm,1.0s,mb4.8
BRVK *e*pP pP 04 24 05.1 -0.7
BOD Bodaibo 58.84 10 ⇓ *i*P **P 04 24 05.4 -0.3**
BOD pmax pmax
comp=Z,13nm,0.9s,mb5.0
YSS Yuzh-Sakhalins 60.84 34 ⇓ *e*P **P 04 24 19.9 +0.2**
YSS pmax pmax
comp=Z,24nm,0.6s,mb5.5
YSS Yuzh-Sakhalins 60.84 34 *e*P **P 04 24 19.6 -0.2**
comp=Z,23nm,0.7s,mb5.4
ARU Arti 64.23 337 ⇑ *e*P **P 04 24 41.1 -1.0**
ARU pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
ARU MLR MLR
comp=Z,100nm,23.0s,MS3.9
KIV Kislovodsk 65.33 319 ⇓ *e*P **P 04 24 49.8 +0.2**
KIV *e**PP pP 04 25 14.8 +15
KIV *e* 04 27 08.2
KIV *e*S S 04 33 23.5 -7.8
KIV pmax pmax
comp=Z,7.0nm,0.6s,mb4.9
MALT Malatya 66.12 312 *e*P **P 04 24 55.7 +0.9**
MALT *e**PP pP 04 25 03.3 -2.1
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
MALT Malatya 66.12 312 *e*P **P 04 24 55.7 +0.9**
comp=Z,4.2nm,0.9s,mb4.5
MALT *e*pP pP 04 25 03.3 -2.0
YAK Yakutsk 66.18 16 *e*P **P 04 24 53.0 -1.7**
YAK pmax pmax
comp=Z,30nm,0.9s,mb5.3
YAK pmax pmax
comp=N,13nm,1.7s
YAK pmax pmax
comp=E,6.0nm,1.5s
YAK MLR MLR
comp=Z,209nm,16.0s,MS4.4
YAK MLR MLR
comp=N,123nm,15.0s,MS4.3
YAK MLR MLR
comp=E,105nm,19.0s,MS4.3
YAK Yakutsk 66.18 16 *e*P **P 04 24 54.0 -0.7**
comp=E,33nm,0.8s,mb5.4
SOC Sochi 67.14 318 *e*P **P 04 24 58.4 -2.8**
SOC *e* 04 25 27.9
SOC *e* 04 27 28.7
SOC *e*PPP 04 29 01.5
SOC *e*S S 04 33 51.9 -1.4
SOC *e* 04 34 51.9
SOC *e*SS SS 04 38 15.5 +2.6
SOC pmax pmax
comp=Z,6.0nm,0.4s,mb5.0
MA2 Magadan 71.96 25 *e*P **P 04 25 30.5 -0.1**
MA2 *e*S S 04 34 49.9 +0.5
MA2 pmax pmax
comp=Z,20nm,1.0s,mb5.0
MA2 MLR MLR
comp=Z,300nm,21.0s,MS4.5
OBN Obninsk 73.67 328 ⇓ *e*P **P 04 25 40.7 -0.1**
OBN *e**PP pP 04 26 02.3 +11
OBN pmax pmax
comp=Z,11nm,0.6s,mb5.0
TIXI Tiksi 74.02 10 *e*P **P 04 25 41.3 -1.3**
TIXI pmax pmax
comp=Z,14nm,0.9s,mb4.9
TIXI Tiksi 74.02 10 *e*P **P 04 25 41.4 -1.2**
comp=Z,15nm,0.8s,mb5.0
SEY Seymchan 74.42 23 ⇑ *e*P **P 04 25 44.7 -0.4**
BOSA Boshof 74.75 240 LR LR 04 55 33.1
comp=Z,91nm,18.7s,MS4.1,baz=262,slow=33
AKASG Malin Array Be 76.30 322 P **P 04 25 55.1 -1.0**
comp=Z,3.1nm,0.8s,mb4.3,baz=89,slow=4.8,SNR=12
FINES FINESS Array B 81.05 333 P **P 04 26 21.8 -0.3**
comp=Z,2.1nm,0.8s,mb4.1,baz=109,slow=10,SNR=9.0
ARCES ARCESS Array B 83.58 340 P **P 04 26 35.3 +0.2**
comp=Z,3.8nm,0.9s,mb4.5,baz=99,slow=4.7,SNR=9.1
GERES GERESS Array B 85.84 319 P **P 04 26 47.5 +0.6**
comp=Z,1.0nm,0.8s,mb4.1,baz=82,slow=2.8,SNR=6.9
NB2 NORSAR Subarra 88.06 331 P **P 04 26 56.7 -0.7**
comp=Z,0.8nm,0.7s,mb4.1,baz=96,slow=5.3
NOA NORSAR Array B 88.06 331 P **P 04 26 56.5 -1.0**
comp=Z,1.0nm,0.7s,mb4.1,baz=94,slow=4.8,SNR=4.1
IMA2 Indian Mountai 97.24 23 *e*P **P 04 27 40.2 +0.4**
YKA Yellowknife Ar 112.86 16 PP PP 04 33 25.9 -5.6
comp=Z,0.3nm,0.8s,baz=329,slow=7.2,SNR=4.1
TXAR Lajitas Array 144.19 33 PKP PKPdf 04 33 42.7 -1.1
comp=Z,0.7nm,0.6s,baz=310,slow=1.1,SNR=6.0
CPUP Villa Florida 144.64 221 PKIKP PKPdf 04 33 45.8 +1.1
CPUP *e* 04 33 51.0
CPUP Villa Florida 144.64 221 PKP PKPdf 04 33 45.8 +1.1
comp=Z,1.3nm,0.7s,baz=46,slow=4.5,SNR=2.9

*ISCJB **18** 04:31:05.2±0.8, 181S±02×1794W±02, h600km, mb3.8/7, Error ellipse: s-maj=29.5km s-min=15.2km az=149.3*
*NEIC **18** 04:31:08.9±4.4, 18.12S×179.40W, h636km±54km, mb3.6/1, Error ellipse: s-maj=42.6km s-min=21.6km az=175.0*
*IDC **18** 04:31:10.9±5.3, 1827S×17932W, h666km±73km, mb3.2/7, mb1 3.5/7, mb1mx3.2/16, mbtmp3.2/7, Error ellipse: s-maj=48.8km s-min=20.6km az=177.0*
ISC 18 04:31:06.6±0.8, 181S±02×1794W±02, h600km, n15, σ0°74/10, mb3.8/7, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.37**	**188**	P		**P**		**04 35 02.9**	**-0.6**
	1.4nm,0.3s,baz=137,slow=22,SNR=8.5								
STKA	**Stephens Creek**	**37.75**	**241**	P		**P**		**04 37 34.7**	**+1.7**
	2.9nm,0.5s,mb4.1,baz=76,slow=12,SNR=10								
WB2	**Warramunga Arr**	**43.68**	**260**	*e*P		**P**		**04 38 19.3**	**-0.7**
WRAB	**Tennant Creek**	**43.69**	**260**	*e*P		**P**		**04 38 19.4**	**-0.7**
	1.1nm,0.4s,mb3.7								
WRA	**Warramunga Arr**	**43.70**	**260**	P		**P**		**04 38 19.8**	**-0.3**
	1.7nm,0.5s,mb3.8,baz=93,slow=6.9,SNR=65								
ASAR	**Alice Springs**	**43.86**	**254**	P		**P**		**04 38 21.9**	**+0.5**
	18nm,0.5s,mb4.8,baz=88,slow=8.2,SNR=327								
YBH	**Yreka Blue Hor**	**79.22**	**40**	P		**P**		**04 42 10.3**	**-0.2**
	1.1nm,0.6s,mb3.4,baz=200,slow=3.8,SNR=5.7								
NVAR	**Mina Array Bea**	**80.17**	**44**	P		**P**		**04 42 15.4**	**-0.2**
	1.2nm,0.8s,mb3.3,baz=216,slow=8.5,SNR=6.6								
TXAR	**Lajitas Array**	**86.85**	**58**	P		**P**		**04 42 49.4**	**+0.6**
TXAR	**Lajitas Array**	**86.85**	**58**	P		**P**		**04 42 49.4**	**+0.6**
	1.2nm,0.8s,mb3.7,baz=226,slow=3.3,SNR=5.1								
MKAR	**Makanchi Array**	**108.56**	**314**	PKiKP		PKiKP		04 48 26.1	-1.9
	0.2nm,0.4s,baz=106,slow=3.1,SNR=2.5								
ARCES	**ARCESS Array B**	**126.28**	**349**	PKP		PKPdf		04 48 59.0	-2.3
	2.9nm,0.9s,baz=8.7,slow=1.6,SNR=5.4								
CLL	**Collm**	**145.39**	**346**	*i* PKPbc		PKPbc		04 49 36.9	-1.3
	comp=Z,6.0nm,0.8s								
BRG	**Berggiesshubel**	**145.57**	**345**	*i* P		PKPdf		04 49 37.6	+0.4
	comp=Z,2.2nm,0.8s								
GERES	**GERESS Array B**	**147.50**	**344**	PKPbc		PKPbc		04 49 42.5	-1.6
	comp=Z,0.7nm,0.5s,baz=345,slow=2.1,SNR=7.0								

*NEIC **18** 05:02:14.4±7.5, 533S×149.22E, h165km±61km, mb4.2/3, Error ellipse: s-maj=55.7km s-min=26.5km az=195.0*
*IDC **18** 05:02:18.4±4.3, 555S×149.14E, h187km±46km, mb3.6/3, mb1 3.8/4, mb1mx3.3/15, mbtmp3.6/4, Error ellipse: s-maj=69.6km s-min=23.7km az=123.0*
ISC 18 05:02:16.7±2.9, 55S±03×1489E±03, h149km±43km, n9, σ0°28/10, mb3.9/2, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.72**	**190**	P		**P**		**05 05 37.9**	**+0.1**
	0.3nm,0.3s,baz=26,slow=13,SNR=8.7								
CTAO	**Charters Tower**	**14.72**	**190**	*e*P		**Pn**		**05 05 37.5**	**-0.3**
	12nm,0.9s								
KAKA	**Kakadu**	**17.73**	**245**	*e*P		**Pn**		**05 06 14.3**	**-0.2**
	4.6nm,0.4s								
WRAB	**Tennant Creek**	**20.13**	**223**	*e*P		**P**		**05 06 39.4**	**+0.1**
	6.0nm,0.6s								
WB2	**Warramunga Arr**	**20.14**	**223**	*e*P		**P**		**05 06 39.6**	**+0.2**
WB2				*e*S		**S**		**05 10 16.8**	**-0.6**
WRA	**Warramunga Arr**	**20.15**	**223**	P		**P**		**05 06 39.7**	**+0.3**
	4.3nm,0.4s,baz=49,slow=11,SNR=68								
WRA				S		**S**		**05 10 18.1**	**+0.5**
	1.8nm,0.8s,baz=50,slow=21,SNR=5.1								
ASAR	**Alice Springs**	**23.11**	**217**	P		**P**		**05 07 09.6**	**-0.1**
	2.4nm,0.5s,mb3.9,baz=57,slow=9.1,SNR=35								
FITZ	**Fitzroy Crossi**	**25.91**	**239**	P		**P**		**05 07 35.1**	**-0.1**
	3.0nm,0.9s,mb3.9,baz=73,slow=14,SNR=6.0								
TORD	**Torodi Ar. Bea**	**146.76**	**286**	PKPbc		PKPbc		05 21 39.1	-3.1
	0.5nm,0.5s,baz=63,slow=2.6,SNR=7.6								

*ROM **18** 05:21:26.3±0.2, 44.11N×1224E, h4km±2km, Md3.0/44, Ml2.9/34, Error ellipse: s-maj=2.2km s-min=1.4km az=151.0*
*NEIC **18** 05:21:26.3, 44.11N×1224E, h4km, ML3.2(LDG), ML2.9(ROM), After ROM.*
*PRU **18** 05:21:26.6, 44.25N×12.18E, h0km*
*GEN **18** 05:21:27.4, 44.02N×12.19E, h1km, ML3.0*
*LDG **18** 05:21:27.7±0.1, 44.07N×1228E, h10km, Ml3.2/16, Error ellipse: s-maj=4.2km s-min=2.6km az=49.0*
*CSEM **18** 05:21:27.5±0.1, 44.08N×1225E, h30km, ML3.8/12, Error ellipse: s-maj=1.3km s-min=1.3km az=114.0*
*ISCJB **18** 05:21:27.2±0.2, 44.15N±001×1221E±002, h22km±3km, Error ellipse: s-maj=2.5km s-min=2.1km az=168.6*
ISC 18 05:21:27.1±0.2, 4413N±001×1224E±001, h15km±2km, n140, σ1°04/235, 15C-4D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
BRSN	**Barisano**	**0.19**	**323**	Pg		**Pg**		**05 21 32.2**	**+0.7**
RSM	**Repubblica di**	**0.26**	**143**	Pg		**Pg**		**05 21 32.7**	**+0.2**
RSM				Sg		**Sg**		**05 21 36.4**	**+0.1**
	297nm,0.5s								
SFI	**Santa Sofia**	**0.36**	**231**	Pg		**Pg**		**05 21 33.6**	**-0.8**
SFI				Sg		**Sg**		**05 21 39.9**	**+0.5**
	2μm,0.2s								
PESA	**Pesaro**	**0.48**	**114**	Pg		**Pg**		**05 21 36.5**	**0.0**
PESA				Sg		**Sg**		**05 21 45.1**	**+2.2**
	2μm,0.2s								
PESA	**Pesaro**	**0.48**	**114**	Sg		**Sg**		**05 21 45.1**	**+2.2**
	2μm,0.2s								
VMG	**Vicchio**	**0.53**	**251**	Pg		**Pg**		**05 21 36.7**	**-0.8**
VMG				Sg		**Sg**		**05 21 45.2**	**+0.7**
	1μm,0.4s								
CMPO	**Campotto Po**	**0.54**	**325**	Pg		**Pg**		**05 21 39.0**	**+1.2**
	4μm,1.2s								
CRE	**Caprese Michel**	**0.55**	**202**	Pg		**Pg**		**05 21 37.1**	**-0.9**
CRE				Sg		**Sg**		**05 21 45.9**	**+0.6**
	693nm,0.4s								
FSSB	**Fossombrone**	**0.59**	**138**	Pg		**Pg**		**05 21 37.6**	**-1.0**
FSSB				Sg		**Sg**		**05 21 47.6**	**+1.1**
	1μm,0.2s								
BADI	**Badiali**	**0.62**	**179**	Pg		**Pg**		**05 21 38.1**	**-1.2**
BADI				Sg		**Sg**		**05 21 47.7**	**+0.2**
	197μm,21.0s								
PIEI	**Pieia**	**0.64**	**160**	Pg		**Pg**		**05 21 38.2**	**-1.3**
PIEI				Sg		**Sg**		**05 21 48.4**	**+0.5**
	655nm,0.2s								
SEI	**Scarperia**	**0.64**	**263**	Pg		**Pg**		**05 21 38.9**	**-0.7**
SEI				Sg		**Sg**		**05 21 49.4**	**+1.4**
	1μm,0.4s								
CDCA	**Citt' di Caste**	**0.68**	**180**	Pg		**Pg**		**05 21 40.2**	**0.0**
	147nm,0.6s								
FIU	**Minerbio Fiu**	**0.73**	**314**	Pg		**Pg**		**05 21 44.5**	**+3.1**
FNVD	**Fontana Vidola**	**0.80**	**273**	Pg		**Pg**		**05 21 42.1**	**-0.5**
FNVD				Sg		**Sg**		**05 21 54.7**	**+1.5**
	748nm,0.4s								
ARVD	**Arcevia**	**0.81**	**141**	Pg		**Pg**		**05 21 41.8**	**-1.1**
ARVD				Sg		**Sg**		**05 21 55.7**	**+2.1**
	290nm,0.6s								
MURB	**Monte Urbino**	**0.90**	**166**	Pg		**Pg**		**05 21 43.2**	**-1.2**
MURB				Sg		**Sg**		**05 21 58.0**	**+1.9**
	1μm,0.8s								
CSNT	**Castellina Chi**	**0.95**	**226**	Pg		**Pg**		**05 21 45.1**	**-0.4**
CSNT				Sg		**Sg**		**05 21 59.2**	**+1.3**
	405nm,0.7s								
CRMI	**Carmignano**	**0.98**	**250**	Pg		**Pg**		**05 21 44.9**	**-1.0**
CRMI				Sg		**Sg**		**05 21 58.8**	**+0.1**
	468nm,0.8s								
PZZT	**Monte Pizzetto**	**0.99**	**270**	Pg		**Pg**		**05 21 45.5**	**-0.7**
PZZT				Sg		**Sg**		**05 22 00.5**	**+1.4**
	504nm,0.5s								
SNTG	**Esanatoglia**	**1.02**	**150**	Pg		**Pg**		**05 21 45.3**	**-1.4**
	139nm,0.3s								
CING	**Cingoli**	**1.03**	**137**	Pg		**Pg**		**05 21 46.1**	**-0.8**
	237nm,0.4s								
ASS	**Assisi**	**1.11**	**164**	Pg		**Pg**		**05 21 47.3**	**-1.2**
	11nm,0.6s								
AOI	**Ancona**	**1.15**	**120**	Pg		**Pg**		**05 21 49.6**	**+0.4**
	198nm,0.4s								
BDI	**Bagni Di Lucca**	**1.18**	**267**	Pg		**Pg**		**05 21 49.5**	**-0.4**
BDI				Sg		**Sg**		**05 22 06.3**	**+1.0**
	358nm,0.6s								
GSCL	**Gusciola**	**1.21**	**281**	Pg		**Pg**		**05 21 51.9**	**+1.6**
	61nm,0.5s								
CESI	**CESI - Serrava**	**1.23**	**157**	Pg		**Pg**		**05 21 48.9**	**-1.8**
	109nm,0.6s								
MAIM		**1.28**	**261**	Pg		**Pg**		**05 21 50.3**	**-1.4**
MAIM				Sg		**Sg**		**05 22 08.2**	**-0.1**
	181nm,0.6s								
TEOL	**Teolo**	**1.29**	**342**	⇑ *i*Pg		**Pg**		**05 21 50.2**	**-1.7**
TEOL				*i* Sg		**Sg**		**05 22 08.2**	**-0.6**
PII	**Pisa**	**1.30**	**252**	Pg		**Pg**		**05 21 50.3**	**-1.8**
PII				Sg		**Sg**		**05 22 09.4**	**+0.3**
	87nm,0.2s								
SACS	**San Casciano d**	**1.31**	**191**	Pg		**Pg**		**05 21 50.4**	**-1.8**
SACS				Sg		**Sg**		**05 22 09.1**	**-0.1**
SARO	**Sassorosso**	**1.32**	**273**	P		**Pn**		**05 21 51.0**	**0.0**
VLC	**Villacollemand**	**1.33**	**272**	Pg		**Pg**		**05 21 51.6**	**-1.1**
VLC				*e*Pn		**Pn**		**05 21 52.5**	**+1.3**
VLC				*e*Sn		**Sn**		**05 22 10.2**	**+1.6**
VLC				Sg		**Sg**		**05 22 11.0**	**+1.0**
VLC	**Villacollemand**	**1.33**	**272**	Pg		**Pg**		**05 21 51.6**	**-1.1**
VLC				Sg		**Sg**		**05 22 11.0**	**+1.0**
	292nm,1.1s								
VLC	**Villacollemand**	**1.33**	**272**	*e*Pn		**Pn**		**05 21 52.5**	**+1.4**
VLC				Sg		**Sg**		**05 22 11.0**	**+1.0**
	292nm,1.1s								
ERBM	**Eremo**	**1.34**	**283**	Pg		**Pg**		**05 21 54.1**	**+1.2**
	301nm,1.3s								
ARCI	**Arcidosso**	**1.40**	**204**	Pg		**Pn**		**05 21 51.8**	**-0.2**
ARCI				Sg		**Sg**		**05 22 10.9**	**-1.2**
	172nm,0.8s								
VALM		**1.45**	**279**	P		**Pn**		**05 21 53.6**	**+0.9**
NRCA	**Norcia**	**1.45**	**154**	Pg		**Pn**		**05 21 52.7**	**0.0**
	58nm,0.4s								
VINC	**Vinca**	**1.50**	**271**	P		**Pn**		**05 21 54.0**	**+0.5**
BACM		**1.56**	**276**	P		**Pn**		**05 21 54.9**	**+0.6**
GRAM		**1.60**	**284**	P		**Pn**		**05 21 55.8**	**+1.0**
LNSS	**Leonessa**	**1.64**	**159**	Pg		**Pg**		**05 21 57.7**	**-0.8**
	297nm,0.5s								
CGRP	**Cima Grappa**	**1.77**	**350**	⇑ *i*Pg		**Pn**		**05 21 57.0**	**-0.2**
CGRP				*i* Sg		**Sn**		**05 22 18.9**	**-0.6**
MNS	**Montasola**	**1.78**	**169**	Pg		**Pn**		**05 21 58.8**	**+1.5**
	97nm,0.8s								
TERO	**Teramo**	**1.81**	**146**	Pg		**Pn**		**05 21 59.1**	**+1.4**
	173nm,0.6s								
CAMP	**Campotosto**	**1.81**	**151**	Pg		**Pn**		**05 21 59.1**	**+1.4**
	38nm,0.8s								
SKDS	**Skadanscina**	**1.90**	**41**	*e*Pn		**Pn**		**05 21 57.8**	**-1.1**
SKDS				*e*Sn		**Sn**		**05 22 21.9**	**-0.7**
SALO	**Salr**	**1.92**	**321**	Pg		**Pn**		**05 21 59.6**	**+0.4**
	170nm,0.5s								
NVLJ	**Novalja**	**1.94**	**76**	*e*Pn		**Pn**		**05 21 59.8**	**+0.3**
NVLJ				Sn		**Sn**		**05 22 23.5**	**-0.1**
NVLJ	**Novalja**	**1.94**	**76**	*e*Pn		**Pn**		**05 21 59.8**	**+0.3**
NVLJ				Sn		**Sn**		**05 22 23.4**	**-0.2**
CTI	**Castel Tesino**	**1.96**	**348**	Pg		**Pn**		**05 21 59.8**	**0.0**
	76nm,0.3s								
SC2M	**Scurtabr**	**1.96**	**279**	Pg		**Pg**		**05 22 02.2**	**-2.5**

AQU	**L'Aquila**	**1.97**	**154**	*e*Pn	**Pn**	**05 21 57.5**	**-2.5**
AQU	**L'Aquila**	**1.97**	**154**	*e*Pn	**Pn**	**05 21 57.5**	**-2.4**
MAGA	**Magasa**	**2.00**	**326**	Pg	**Pn**	**05 22 00.2**	**-0.1**
MAGA				Sg	**Sg**	**05 22 30.5**	**-0.8**
	260nm,0.4s						
MLNI	**Malnisio**	**2.03**	**7⇑**	*i*Pn	**Pn**	**05 22 00.5**	**-0.3**
MLNI				Sn	**Sn**	**05 22 25.3**	**-0.6**
VCEL	**Villa Celiera**	**2.10**	**145**	Pg	**Pg**	**05 22 06.4**	**-0.9**
FAGN	**Fagnano**	**2.11**	**152**	Pg	**Pg**	**05 22 05.3**	**-2.2**
MPRI	**Monte Prat**	**2.17**	**14⇑**	*i*Pn	**Pn**	**05 22 03.0**	**+0.2**
MPRI				Sn	**Sn**	**05 22 29.9**	**+0.6**
BUA	**Buia**	**2.18**	**16⇑**	*i*Pn	**Pn**	**05 22 02.8**	**+0.1**
BUA				Sn	**Sn**	**05 22 28.9**	**-0.5**
JAVS	**Javornik**	**2.19**	**36**	*i* Pn	**Pn**	**05 22 01.9**	**-0.9**
JAVS				*i* Pg	**Pg**	**05 22 06.8**	**-2.2**
JAVS				*i* Sn	**Sn**	**05 22 30.1**	**+0.4**
JAVS	**Javornik**	**2.19**	**36**	*i* Pn	**Pn**	**05 22 01.9**	**-0.9**
JAVS				*i* Pg	**Pg**	**05 22 06.8**	**-2.2**
JAVS				*i* Sn	**Sn**	**05 22 30.1**	**+0.4**
JAVS							
	comp=Z,34nm,0.3s						
JAVS	**Javornik**	**2.19**	**36**	*i* Pg	**Pg**	**05 22 06.8**	**-2.2**
JAVS				*i* Sn	**Sn**	**05 22 30.1**	**+0.4**
	comp=Z,34nm,0.3s						
BAD	**Bernadia**	**2.22**	**18⇓**	*i*Pn	**Pn**	**05 22 03.0**	**-0.4**
BAD				Sn	**Sn**	**05 22 30.0**	**-0.5**
VOY	**Vojsko**	**2.23**	**31**	*e*Pn	**Pn**	**05 22 03.2**	**-0.3**
VOY				*e*		05 22 09.0	
VOY				*e*(Sn)	**Sn**	**05 22 30.9**	**+0.1**
VOY				*e*		05 22 41.3	
CEY	**Cerknica**	**2.23**	**43**	*e*Pn	**Pb**	**05 22 07.6**	**+0.5**
CEY				*e*Sn	**Sn**	**05 22 29.7**	**-1.2**
CEY	**Cerknica**	**2.23**	**43**	*e*Pn	**Pb**	**05 22 07.6**	**+0.5**
CEY				*e*Sn	**Sn**	**05 22 29.7**	**-1.2**
CEY							
	comp=Z,27nm,0.2s						
CEY	**Cerknica**	**2.23**	**43**	*e*Pn	**Pb**	**05 22 07.6**	**+0.5**
CEY				*e*Sn	**Sn**	**05 22 29.7**	**-1.2**
DRE	**Drenchia**	**2.27**	**26⇑**	*i*Pn	**Pn**	**05 22 03.5**	**-0.5**
DRE				Sn	**Sn**	**05 22 31.3**	**-0.4**
MABI	**Malga Bissina**	**2.27**	**328**	Pg	**Pn**	**05 22 04.3**	**+0.2**
	comp=Z,33nm,0.8s						
PTCC	**Patocco-Chiusa**	**2.40**	**19**	Pg	**Pn**	**05 22 05.6**	**-0.3**
	comp=Z,20nm,0.3s						
MDI	**Monti di Nese**	**2.43**	**313**	Pg	**Pn**	**05 22 07.2**	**+0.9**
	comp=Z,39nm,0.5s						
VVLD	**Villa Vallelon**	**2.48**	**155**	Pg	**Pn**	**05 22 10.9**	**+4.0**
FVI	**Forni Avoltri**	**2.49**	**9**	Pg	**Pn**	**05 22 08.4**	**+1.3**
	comp=Z,68nm,0.5s						
LJU	**Ljubljana**	**2.51**	**40**	*i* Pn	**Pn**	**05 22 08.2**	**+0.9**
LJU				*i* Pg	**Pg**	**05 22 15.3**	**+0.2**
LJU				*i* Sn	**Sn**	**05 22 38.1**	**+0.5**
BOJS	**Bojanci**	**2.55**	**56**	*i* Pn	**Pn**	**05 22 08.3**	**+0.5**
BOJS				*i* Pg	**Pg**	**05 22 15.0**	**-0.9**
BOJS				*i* Sn	**Sn**	**05 22 39.7**	**+1.2**
BOJS				*i*		05 22 53.6	
BOJS	**Bojanci**	**2.55**	**56**	*i* Pn	**Pn**	**05 22 08.3**	**+0.5**
BOJS				*i* Sn	**Sn**	**05 22 39.7**	**+1.2**
SEST	**Monte Rota**	**2.62**	**360**	Pg	**Pn**	**05 22 09.8**	**+1.0**
	comp=Z,10µm,11.0s						
BRMO	**Bormio**	**2.69**	**331**	Pg	**Pn**	**05 22 11.0**	**+1.2**
	comp=Z,28nm,0.8s						
PGF	**Pioggiola**	**2.84**	**237**	*e*Pn	**Pn**	**05 22 11.6**	**-0.3**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 22 46.4**	**+0.5**
	comp=Z,27nm,0.4s,SNR=1.0						
PGF	**Pioggiola**	**2.84**	**237**	*e*Pn	**Pn**	**05 22 11.6**	**-0.3**
	SNR=1.0						
PGF				*e*Sn	**Sn**	**05 22 46.4**	**+0.5**
	comp=Z,13nm,0.4s,SNR=1.0						
OBKA	**Obir**	**2.88**	**34⇑**	*i*Pn	**Pn**	**05 22 13.8**	**+1.4**
OBKA				⇑*i*Sg	**Sg**	**05 23 01.5**	**+1.9**
	comp=Z,54nm,0.3s						
OBKA	**Obir**	**2.88**	**34⇑**	*i*Pn	**Pn**	**05 22 13.8**	**+1.4**
OBKA				*i* Sg	**Sg**	**05 23 01.4**	**+1.9**
VAI	**Varese**	**3.01**	**306**	Pg	**Pn**	**05 22 14.3**	**+0.1**
	comp=Z,18nm,0.5s						
KBA	**Koelnbreinsper**	**3.04**	**14⇓**	*i*Pn	**Pn**	**05 22 15.8**	**+1.1**
KBA				⇑*i*Sn	**Sn**	**05 22 51.5**	**+0.6**
TUE	**Stuetta**	**3.10**	**320**	Pg	**Pn**	**05 22 16.7**	**+1.2**
	comp=Z,22nm,0.6s						
DAVOX	**Davos/Dischmat**	**3.12**	**329**	Pg	**Pn**	**05 22 18.1**	**+2.3**
WTTA	**Wattenberg**	**3.16**	**353⇑**	*i*Pn	**Pn**	**05 22 17.9**	**+1.7**
WTTA				⇑*i*Sn	**Sn**	**05 22 54.5**	**+0.9**
WTTA	**Wattenberg**	**3.16**	**353**	Pn	**Pn**	**05 22 17.9**	**+1.7**
WTTA				Sn	**Sn**	**05 22 54.5**	**+0.8**
SQTA	**Sankt Quirin**	**3.17**	**347⇓**	*i*Pn	**Pn**	**05 22 17.3**	**+0.9**
	SNR=9.0						
MOTA	**Moosalm**	**3.31**	**347⇑**	*i*Pn	**Pn**	**05 22 19.2**	**+0.9**
	SNR=10						
MOTA				⇓*i*Sn	**Sn**	**05 22 56.6**	**-0.7**
MOTA	**Moosalm**	**3.31**	**347**	Pn	**Pn**	**05 22 19.2**	**+0.9**
	comp=Z,10.0nm,1.0s						
MOTA				Sn	**Sn**	**05 22 56.6**	**-0.7**
SBF	**Sospel**	**3.48**	**267**	*e*Pn	**Pn**	**05 22 20.8**	**+0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**05 22 59.8**	**-1.7**
	comp=Z,35nm,0.4s,SNR=1.0						
SBF	**Sospel**	**3.48**	**267**	*e*Pn	**Pn**	**05 22 20.8**	**+0.2**
	SNR=1.0						
SBF				*e*Sn	**Sn**	**05 22 59.8**	**-1.7**
	comp=Z,18nm,0.4s,SNR=1.0						
DAVA	**Damuels**	**3.56**	**333⇑**	*i*Pn	**Pn**	**05 22 22.7**	**+1.0**
	SNR=11						
DAVA				⇑*i*Sn	**Sn**	**05 23 02.7**	**-0.8**
DAVA	**Damuels**	**3.56**	**333**	Pn	**Pn**	**05 22 22.7**	**+1.0**
	comp=Z,11nm,4.0s						
DAVA				Sn	**Sn**	**05 23 02.7**	**-0.8**
MBDF	**Montbardon**	**3.96**	**281**	*e*Pn	**Pn**	**05 22 27.3**	**0.0**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**05 23 11.2**	**-2.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**05 23 34.2**	**0.0**
	comp=Z,4.1nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**3.96**	**281**	*e*Pn	**Pn**	**05 22 27.3**	**0.0**
	SNR=1.0						
MBDF				*e*Sn	**Sn**	**05 23 11.2**	**-2.2**
	SNR=1.0						
FRF	**La Foret Royal**	**4.08**	**264**	*e*Pn	**Pn**	**05 22 29.4**	**+0.4**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**05 23 16.6**	**+0.1**
	comp=Z,4.5nm,0.3s						
FRF	**La Foret Royal**	**4.08**	**264**	*e*Pn	**Pn**	**05 22 29.4**	**+0.4**
	SNR=1.0						
FRF				*e*Sn	**Sn**	**05 23 16.6**	**+0.1**
	comp=Z,2.2nm,0.3s						
LPG	**La Plagne**	**4.13**	**291**	*e*Pn	**Pn**	**05 22 29.5**	**-0.2**
LPG				*e*Sn	**Sn**	**05 23 16.6**	**-1.1**
	comp=Z,6.8nm,0.5s,SNR=1.0						
LPG	**La Plagne**	**4.13**	**291**	*e*Pn	**Pn**	**05 22 29.5**	**-0.2**
LPG				*e*Sn	**Sn**	**05 23 16.6**	**-1.1**
	comp=Z,3.4nm,0.5s,SNR=1.0						
LPL	**La Plagne**	**4.15**	**291**	*e*Pn	**Pn**	**05 22 29.9**	**0.0**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 23 16.6**	**-1.6**
	comp=Z,9.1nm,0.4s,SNR=1.0						
LPL	**La Plagne**	**4.15**	**291**	*e*Pn	**Pn**	**05 22 29.9**	**0.0**
	SNR=1.0						
LPL				*e*Sn	**Sn**	**05 23 16.6**	**-1.6**
	comp=Z,4.6nm,0.4s,SNR=1.0						
STON	**Ston**	**4.17**	**106**	*e*Pg	**Pb**	**05 22 39.5**	**-0.6**
STON				Sn	**Sn**	**05 23 20.4**	**+1.7**
LMR	**La Mourre**	**4.23**	**261**	*e*Pn	**Pn**	**05 22 30.9**	**0.0**
	SNR=1.0						
ORIF	**Oris-en-Rattie**	**4.61**	**282**	*e*Pn	**Pn**	**05 22 36.7**	**+0.5**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 23 27.5**	**-2.0**
	comp=Z,5.2nm,0.4s						
ORIF	**Oris-en-Rattie**	**4.61**	**282**	*e*Pn	**Pn**	**05 22 36.7**	**+0.5**
	SNR=1.0						
ORIF				*e*Sn	**Sn**	**05 23 27.5**	**-2.0**
	comp=Z,2.6nm,0.4s						
SMRF	**Simiane la Rot**	**4.80**	**270**	*e*Pn	**Pn**	**05 22 39.9**	**+1.0**
CABF	**La Chapelle**	**4.99**	**302**	*e*Pn	**Pn**	**05 22 41.9**	**+0.5**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**05 23 37.1**	**-1.7**
	comp=Z,1.4nm,0.2s						
CABF	**La Chapelle**	**4.99**	**302**	*e*Pn	**Pn**	**05 22 41.9**	**+0.5**
	SNR=1.0						
CABF				*e*Sn	**Sn**	**05 23 37.1**	**-1.7**
	comp=Z,0.7nm,0.2s						
KHC	**Kasperske Hory**	**5.08**	**10**	*e*Pn	**Pn**	**05 22 42.3**	**-0.4**
KHC				*e*Sn	**Sn**	**05 23 39.4**	**-1.7**
KHC	**Kasperske Hory**	**5.08**	**10**	*e*PN	**Pn**	**05 22 42.3**	**-0.4**
KHC				*e*PG	**Pg**	**05 23 00.0**	**-4.3**
KHC				*e*SN	**Sn**	**05 23 39.4**	**-1.7**
KHC				*ex*	x	05 24 25.0	
HINF	**Hinteralfeld**	**5.26**	**316**	*e*Pn	**Pn**	**05 22 44.4**	**-0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 23 41.1**	**-4.3**
	comp=Z,8.6nm,0.3s,SNR=1.0						
HINF	**Hinteralfeld**	**5.26**	**316**	*e*Pn	**Pn**	**05 22 44.4**	**-0.7**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 23 41.1**	**-4.3**
	comp=Z,4.3nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**5.46**	**280**	*e*Pn	**Pn**	**05 22 48.0**	**+0.1**
CDF	**Champ du Feu**	**5.49**	**323**	*e*Pn	**Pn**	**05 22 48.4**	**+0.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 23 47.4**	**-3.7**
	comp=Z,2.6nm,0.2s						
CDF	**Champ du Feu**	**5.49**	**323**	*e*Pn	**Pn**	**05 22 48.4**	**+0.2**
	SNR=1.0						
CDF				*e*Sn	**Sn**	**05 23 47.4**	**-3.7**
	comp=Z,1.3nm,0.2s						
HAU	**Haudompre**	**5.64**	**315**	*e*Pn	**Pn**	**05 22 49.9**	**-0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**05 23 50.0**	**-4.7**
	comp=Z,16nm,0.4s,SNR=1.0						
HAU	**Haudompre**	**5.64**	**315**	*e*Pn	**Pn**	**05 22 49.9**	**-0.4**
	SNR=1.0						
HAU				*e*Sn	**Sn**	**05 23 50.0**	**-4.7**
	comp=Z,7.9nm,0.4s,SNR=1.0						
PRU	**Pruhonice**	**6.06**	**14**	*e*Pn	**Pn**	**05 22 56.3**	**+0.2**
PRU				*e*Sn	**Sn**	**05 24 01.6**	**-3.6**
NKC	**Novy Kostel**	**6.10**	**1**	*e*SN	**Sn**	**05 24 02.7**	**-3.5**
SMF	**Signal de Mont**	**6.42**	**296**	*e*Pn	**Pn**	**05 23 00.9**	**-0.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 24 10.3**	**-3.8**
	comp=Z,7.1nm,0.5s,SNR=1.0						
SMF	**Signal de Mont**	**6.42**	**296**	*e*Pn	**Pn**	**05 23 00.9**	**-0.2**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 24 10.3**	**-3.8**
	comp=Z,3.5nm,0.5s,SNR=1.0						
SFTF	**Sexfontaines**	**6.45**	**312**	*e*Pn	**Pn**	**05 23 01.9**	**+0.5**
	baz=127						
RFYF	**Reffroy**	**6.49**	**316**	*e*Pn	**Pn**	**05 23 02.8**	**+0.9**
	baz=134						
RFYF				*e*Sn	**Sn**	**05 24 12.4**	**-3.2**
	comp=Z,4.4nm,0.3s						
RFYF	**Reffroy**	**6.49**	**316**	*e*Pn	**Pn**	**05 23 02.8**	**+0.9**
RFYF				*e*Sn	**Sn**	**05 24 12.4**	**-3.2**
	comp=Z,2.2nm,0.3s						
LOR	**Lormes**	**6.65**	**301**	*e*Pn	**Pn**	**05 23 04.4**	**+0.2**
	baz=118,SNR=1.0						
LOR				*e*Sn	**Sn**	**05 24 15.3**	**-4.4**
	comp=Z,6.2nm,0.3s,SNR=1.0						
LOR	**Lormes**	**6.65**	**301**	*e*Pn	**Pn**	**05 23 04.4**	**+0.2**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**05 24 15.3**	**-4.4**
	comp=Z,3.1nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**6.79**	**296**	*e*Pn	**Pn**	**05 23 06.5**	**+0.4**
	SNR=1.0						
SSF	**Saint Saulge**	**6.79**	**299**	*e*Pn	**Pn**	**05 23 05.7**	**-0.4**
BRG	**Berggiesshubel**	**6.84**	**9**	SG	**Sg**	**05 25 13.5**	**+7.0**
	comp=Z,3.7nm,0.9s						
BRG	**Berggiesshubel**	**6.84**	**9**	*e*	**Sn**	**05 24 21.9**	**-2.5**
BGF	**Bois d'Agland**	**7.05**	**293**	*e*Pn	**Pn**	**05 23 09.5**	**-0.1**
BGF				*e*Sn	**Sn**	**05 24 25.3**	**-4.1**
	comp=Z,4.2nm,0.4s						
BGF	**Bois d'Agland**	**7.05**	**293**	*e*Pn	**Pn**	**05 23 09.5**	**-0.1**
BGF				*e*Sn	**Sn**	**05 24 25.3**	**-4.1**
	comp=Z,2.1nm,0.4s						
CLL	**Collm**	**7.20**	**4**	*e*Sb	**Sb**	**05 24 46.0**	**-11**
CLL				*ex*	x	05 25 18.0	
CLL				*e*Sg	Sn	05 25 28.0	+55
MTLF	**Montolieu**	**7.30**	**267**	*e*Pn	**Pn**	**05 23 13.7**	**+0.6**
	SNR=1.0						
CAF	**Calviac**	**7.31**	**280**	*e*Pn	**Pn**	**05 23 14.2**	**+0.9**
TCF	**Toulx Ste Croi**	**7.40**	**290**	*e*Pn	**Pn**	**05 23 15.0**	**+0.5**

ISCJB ***18*** *05:33:56.2±0.7, 37.18N±006×2203E±007, h18km±8km, Error ellipse: s-maj=12.5km s-min=6.8km az=139.6*
CSEM ***18*** *05:33:56.5±0.1, 37.18N×2206E, h12km, ML3.1, Error ellipse: s-maj=2.0km s-min=1.3km az=147.0*
ATH ***18*** *05:33:56.0, 37.18N×2203E, h16km, MD2.9/3*
THE ***18*** *05:33:56.9, 37.17N×2205E, h1km, ML3.1*
ISC 18 05:33:56.1±0.8, 3716N±005×2204E±006, h19km±6km, n7, σ0§91/12, 1D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ITM	**Ithomi**	**0.09**	**283⇓**	*i*PB	**Pg**	**05 33 59.4**	**-0.4**
ITM				*e*SB	**Sg**	**05 34 01.8**	**-0.5**
VLX	**Vlachokerasia**	**0.34**	**52**	*e*Pg	**Pg**	**05 34 02.9**	**-0.5**
VLX				*e*Sg	**Sg**	**05 34 07.7**	**-0.7**
PYL	**PYLOS**	**0.35**	**222**	*e*Pg	**Pg**	**05 34 04.0**	**+0.4**
PYL				*e*Sg	**Sg**	**05 34 09.6**	**+0.9**
VLI	**Veliai**	**0.84**	**121**	*e*PN	**Pn**	**05 34 12.6**	**-0.3**
RLS	**Riolos of Patr**	**1.00**	**333**	*e*PN	**Pn**	**05 34 14.7**	**-0.4**
DID	**Didima**	**1.02**	**70**	*e*Pg	**Pg**	**05 34 15.2**	**-0.6**
DID				*e*Sg	**Sg**	**05 34 31.0**	**+1.8**
SELA	**Sela**	**1.12**	**354**	*e*Pg	**Pg**	**05 34 16.9**	**-1.0**
SELA				*e*Sg	**Sg**	**05 34 34.4**	**+1.9**

IDC ***18*** *05:44:22.6±4.0, 4.13S×14073E, h0km, mb3.7/3, mb1 4.2/4, mb1mx3.9/12, mbtmp4.0/4, ML4.5/1, Error ellipse: s-maj=116.6km s-min=32.6km az=94.0*
NEIC ***18*** *05:44:29.1±1.7, 4.17S×14042E, h35km, mb4.2/2, Error ellipse: s-maj=41.7km s-min=15.6km az=94.0*
ISCJB ***18*** *05:44:34.5±2.5, 4.4S±01×1400E±03, h90km±28km, Error ellipse: s-maj=43.9km s-min=17.4km az=15.7*
ISC 18 05:44:37.5±2.0, 44S±01×1397E±02, h90km±17km, n9, σ1§25/12, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**10.93**	**221**	*e*P	**Pn**	**05 47 12.0**	**+1.1**
	38nm,0.5s						
WRAB	**Tennant Creek**	**16.27**	**198**	*e*P	**Pn**	**05 48 21.6**	**+0.9**
	32nm,1.3s						
WB2	**Warramunga Arr**	**16.27**	**198**	*e*P	**Pn**	**05 48 20.5**	**-0.3**
WB2	**Warramunga Arr**	**16.27**	**198**	*e*P	**Pn**	**05 48 21.4**	**+0.7**
WRA	**Warramunga Arr**	**16.28**	**198**	Pn	**Pn**	**05 48 20.5**	**-0.3**
	1.8nm,0.3s,baz=25,slow=13,SNR=61						
WRA				Sn	**Sn**	**05 51 18.9**	**-2.2**
	0.4nm,0.3s,baz=21,slow=23,SNR=4.6						
FITZ	**Fitzroy Crossi**	**19.35**	**224**	*e*P	**Pn**	**05 48 59.4**	**+1.4**
	2.9nm,0.3s						
FITZ	**Fitzroy Crossi**	**19.35**	**224**	P	**Pn**	**05 48 59.5**	**+1.6**
	1.7nm,0.4s,baz=54,slow=18,SNR=10						
FITZ				S	**S**	**05 52 29.4**	**-0.8**
	1.8nm,0.5s,baz=207,slow=19,SNR=4.0						
ASAR	**Alice Springs**	**19.92**	**196**	P	**Pn**	**05 49 03.2**	**-1.4**
	8.0nm,0.8s,baz=28,slow=9.8,SNR=49						
ASAR				S	**S**	**05 52 43.4**	**+1.9**
	0.5nm,0.6s,baz=16,slow=28,SNR=4.3						
MKAR	**Makanchi Array**	**71.77**	**322**	P	**P**	**05 55 49.2**	**-0.9**
	0.3nm,0.6s,baz=114,slow=6.5,SNR=3.0						

ISCJB ***18*** *05:50:59.5±0.6, 5155N±003×16.13E±004, h0km, Error ellipse: s-maj=4.3km s-min=2.9km az=26.5*
CSEM ***18*** *05:51:01.2±0.3, 5162N×16.14E, h2km, ML2.6, Error ellipse: s-maj=4.5km s-min=3.3km az=31.0*
NEIC ***18*** *05:51:01.9±1.2, 5154N×16.15E, h5km, ML2.6(SZGRF), ML2.6(CLL), Error ellipse: s-maj=12.5km s-min=6.3km az=198.0*
PRU ***18*** *05:51:02.9, 5152N×1612E, h0km*
WAR ***18*** *05:51:03.3, 5154N×1609E, ML2.5, Mining Induced*
ISC 18 05:51:01.0±0.6, 5158N±003×1614E±004, h0km, n24, σ0§83/47, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.74**	**172**	*e*Pg	**Pg**	**05 51 16.3**	**+1.0**
KSP				*e*Sg	**Sg**	**05 51 25.8**	**+0.9**
KSP	**Ksiaz**	**0.74**	**172**	*e*Pg	**Pg**	**05 51 16.2**	**+0.9**
KSP				*e*Sg	**Sg**	**05 51 25.4**	**+0.5**
UPC	**Upice**	**1.08**	**184**	*e*Pg	**Pg**	**05 51 22.2**	**+0.6**
DPC	**Dobruska-Polom**	**1.24**	**174**	*e*PG	**Pg**	**05 51 24.9**	**+0.2**
DPC				*e*SG	**Sg**	**05 51 40.7**	**0.0**
	comp=Z,24nm,0.2s						
PVCC	**Panska Ves**	**1.45**	**224**	*e*PG	**Pg**	**05 51 29.3**	**+0.6**
PVCC				*e*SG	**Sg**	**05 51 48.5**	**+1.1**
	comp=Z,152nm,0.2s						
BRG	**Berggiesshubel**	**1.55**	**244**	PN	**Pn**	**05 51 30.7**	**+0.8**
BRG				PG	**Pg**	**05 51 31.0**	**+0.3**
BRG				SG	**Sg**	**05 51 51.4**	**+0.6**
	comp=Z,45nm,0.3s						
PRU	**Pruhonice**	**1.89**	**213**	*e*PG	**Pg**	**05 51 36.4**	**-0.8**
PRU				*e*SG	**Sg**	**05 52 00.9**	**-0.7**
	comp=Z,15nm,0.3s						
CLL	**Collm**	**1.98**	**263**	*e*Pn	**Pn**	**05 51 36.0**	**+0.3**
CLL				*e*Pg	**Pg**	**05 51 39.0**	**+0.1**
CLL				*i* Sg	**Sg**	**05 52 04.0**	**-0.6**
	comp=Z,20nm,0.4s						
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**05 51 36.1**	**-0.1**
MORC				*e*Pg	**Pg**	**05 51 39.5**	**-0.1**
MORC				*e*Sg	**Sg**	**05 52 04.7**	**-1.1**
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pn	**Pn**	**05 51 36.1**	**-0.1**
MORC	**Moravsky Berou**	**2.02**	**153**	*e*Pg	**Pg**	**05 51 39.5**	**-0.1**
MORC				*e*Sg	**Sg**	**05 52 05.2**	**-0.5**
OKC	**Ostrava-Krasne**	**2.16**	**143**	*e*SG	**Sg**	**05 52 09.6**	**-0.9**
	comp=Z,29nm,0.4s						
VRAC	**Vranov**	**2.29**	**173**	*e*Sg	**Sg**	**05 52 12.8**	**-1.8**
OJC	**Ojcow**	**2.69**	**119**	*e*Pg	**Pg**	**05 51 52.1**	**-0.4**
OJC				*e*Sg	**Sg**	**05 52 28.4**	**+1.1**
NKC	**Novy Kostel**	**2.70**	**241**	*e*Pg	**Pg**	**05 51 52.2**	**-0.5**
NKC				*e*Sg	**Sg**	**05 52 27.6**	**0.0**
NKC	**Novy Kostel**	**2.70**	**241**	*e*PN	**Pn**	**05 51 46.6**	**+1.0**
NKC				*e*PG	**Pg**	**05 51 52.2**	**-0.5**
NKC				*e*SG	**Sg**	**05 52 27.6**	**0.0**
	comp=Z,34nm,0.3s						
KHC	**Kasperske Hory**	**2.95**	**215**	*e*Pg	**Pg**	**05 51 55.7**	**-1.8**
KHC				*e*Sn	**Sn**	**05 52 24.0**	**-1.1**
KHC				*e*Sg	**Sg**	**05 52 34.7**	**-1.0**
KHC	**Kasperske Hory**	**2.95**	**215**	*e*PN	**Pn**	**05 51 49.9**	**+0.9**
KHC				*e*PG	**Pg**	**05 51 55.7**	**-1.8**
KHC				*e*SN	**Sn**	**05 52 24.0**	**-1.1**
KHC				*e*SG	**Sg**	**05 52 34.7**	**-1.0**
MOX	**Moxa**	**3.00**	**254**	*e*PG	**Pg**	**05 51 58.4**	**-0.1**
MOX				*e*SG	**Sg**	**05 52 38.5**	**+1.2**
GEC2	**GERESS Array S**	**3.15**	**211**	*e*Pg	**Pg**	**05 52 00.6**	**-0.8**
GEC2	**GERESS Array S**	**3.15**	**211**	*e*Pg	**Pg**	**05 52 00.6**	**-0.8**
MODS	**Modra-Piesok**	**3.29**	**167**	*e*SG	**Sg**	**05 52 47.5**	**+0.7**
KOLL	**Kolacno**	**3.34**	**153**	*e*SG	**Sg**	**05 52 49.4**	**+1.1**
BSD	**Bornholm Skovb**	**3.62**	**349**	*i* P	**Pn**	**05 51 58.4**	**+0.2**
BSD				*i* S	**Sn**	**05 52 40.2**	**-1.3**

MOS ***18*** *05:54:47.1±3.2, 2348S×17982W, h417km, mb4.4/8, Error ellipse: s-maj=15.2km s-min=13.0km az=140.7*
ISCJB ***18*** *05:54:54.8±1.0, 2339S±005×17986W±007, h524km±12km, mb4.3/30, Error ellipse: s-maj=10.6km s-min=7.3km az=25.6*
BGS ***18*** *05:54:57.1±3.0, 2342S×17984W, h545km, mb4.3(NEIC)*
NEIC ***18*** *05:54:57.2±1.6, 2342S×17984W, h545km±16km, mb4.3/19, Error ellipse: s-maj=13.7km s-min=9.7km az=213.0*
IDC ***18*** *05:54:57.8±1.9, 2335S×17987W, h540km±17km, mb3.8/13, mb1 4.0/13, mb1mx3.9/17, mbtmp3.8/13, Error ellipse: s-maj=17.3km s-min=12.0km az=54.0*
BJI ***18*** *05:55:01.1, 2340S×17980W, h603km, mB5.4, mb4.8*
ISC 18 05:54:54.6±1.0, 2337S±006×17981W±008, h510km±12km, h595km±5.6km; pP-P, n183, σ1§10/94, mb4.3/30, 11C-6D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.10**	**164**	S	**S**	**05 58 02.8**	**+11**
	112nm,0.3s,baz=98,slow=23,SNR=5.7						
AFI	**Afiamalu**	**12.10**	**40**	*e*P	**P**	**05 57 34.4**	**+0.2**
AFI				*e*S	**S**	**05 59 42.9**	**-2.8**
AFI				pmax	pmax		
	comp=Z,107nm,0.8s						
AFI	**Afiamalu**	**12.10**	**40**	*e*P	**P**	**05 57 34.4**	**+0.2**
	comp=Z,107nm,0.8s						
AFI				*e*S	**S**	**05 59 42.9**	**-2.8**
PUZ	**Puketiti**	**14.75**	**186**	P	**P**	**05 58 04.6**	**+2.8**
PUZ	**Puketiti**	**14.75**	**186**	*e*PN	**P**	**05 58 02.1**	**+0.4**
URZ	**Urewera**	**15.07**	**189**	P	**P**	**05 58 03.9**	**-1.3**
URZ	**Urewera**	**15.07**	**189**	P	**P**	**05 58 04.1**	**-1.0**
	comp=Z,3.7nm,0.3s,baz=324,slow=4.3,SNR=16						
URZ				S	**S**	**06 00 36.1**	**-6.2**
	comp=Z,0.6nm

comp=Z,6.0nm,0.8s
VNDA Vanda 54.92 185 *e*P **P 06 03 37.6 +1.3**
comp=Z,6.2nm,0.8s,mb3.9
VNDA *e*PcP PcP 06 04 29.8 -0.7
VNDA Vanda 54.92 185 P **P 06 03 38.4 +2.2**
comp=Z,6.3nm,0.7s,mb3.9,baz=1.9,slow=7.4,SNR=47
VNDA PcP PcP 06 04 30.8 +0.3
comp=Z,3.9nm,0.7s,baz=344,slow=4.1,SNR=7.1
KLBR Kellerberrin 55.36 247 *e*P **P 06 03 39.6 -0.5**
comp=Z,10nm,0.5s,mb4.3
MUN Mundaring 56.61 246 *e*P **P 06 03 48.6 -0.1**
CASY Casey 60.66 206 *e*P **P 06 04 15.0 -0.5**
QSPA South Pole Qui 66.71 180 P **P 06 04 55.4 +1.5**
comp=Z,35nm,0.8s,mb5.0,baz=25,slow=2.2,SNR=160
MJAR Matsushiro Arr 71.56 325 P **P 06 05 23.6 -0.1**
comp=Z,0.7nm,0.3s,mb3.6,baz=165,slow=10,SNR=2.9
KSM Kuching 72.19 280 *e*P **P 06 05 27.6 -0.4**
KSRS Korea Array 77.96 320 P **P 06 06 01.0 +1.3**
comp=Z,0.6nm,0.3s,mb3.4,baz=146,slow=4.7,SNR=3.7
MAW Mawson 78.31 200 *e*P **P 06 06 01.3 +0.2**
comp=Z,6.6nm,0.6s,mb4.1
MAW Mawson 78.31 200 *e*P **P 06 06 01.3 +0.2**
MAW pmax pmax
comp=Z,7.0nm,0.6s
MAW Mawson 78.31 200 P **P 06 06 01.6 +0.5**
comp=Z,7.6nm,0.6s,mb4.2,baz=120,slow=7.3,SNR=13
SYO Syowa Base 83.57 193⇑ *e*P **P 06 06 25.8 -2.5**
SYO Syowa Base 83.57 193⇓ *e*PcP PcP 06 06 31.4 +0.1
SNAA Sanae 85.19 179 *e*P **P 06 06 32.9 -3.3**
SNAA *e* 06 06 37.3
SNAA *e* 06 06 41.4
SNAA *e* 06 06 46.4
SNAA Sanae 85.19 179⇑ *e*P **P 06 06 33.8 -2.4**
VNA3 Neumayer Olymp 85.39 177 *e*P **P 06 06 35.5 -1.7**
VNA3 *e* 06 06 40.8
VNA3 *e* 06 06 44.7
VNA3 *e* 06 06 48.8
VNA2 Neumayer--Watz 85.81 178 *e*P **P 06 06 37.6 -1.6**
VNA2 *e* 06 06 42.3
VNA2 *e* 06 06 46.6
VNA2 *e* 06 06 51.5
TUC Tucson 86.06 52 *e*P **P 06 06 42.7 +1.7**
TUC pmax pmax
comp=Z,1.0nm,0.8s,mb3.5
TUC Tucson 86.06 52 *e*P **P 06 06 42.7 +1.7**
comp=Z,0.8nm,0.8s,mb3.4
MA2 Magadan 86.11 345 *e*P **P 06 06 40.4 -0.2**
MA2 pmax pmax
comp=Z,4.0nm,1.3s,mb3.9
GYA Guiyang 86.63 301 *e*P **P 06 06 43.6 -0.3**
GYA AP pP 06 08 54.3 +18
GYA XP sP 06 09 53.3 +25
GYA PP PP 06 10 20.4 +4.9
GYA SKS 06 16 13.1
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.4
PLCA Paso Flores 88.50 134 *e*P **P 06 06 53.1 +0.6**
PLCA pmax pmax
comp=Z,5.0nm,1.1s
PLCA Paso Flores 88.50 134 *e*P **P 06 06 53.1 +0.6**
comp=Z,4.5nm,1.1s,mb4.2
PLCA Paso Flores 88.50 134 P **P 06 06 53.3 +0.8**
comp=Z,2.8nm,0.8s,mb4.1,baz=198,slow=6.4,SNR=5.2
SEY Seymchan 88.79 348⇑ *e*P **P 06 06 53.9 +0.8**
CHTO Chiang Mai 89.66 291 *e*P **P 06 06 58.9 +0.7**
CHTO pmax pmax
comp=Z,9.0nm,1.3s,mb4.4
CHTO Chiang Mai 89.66 291 *e*P **P 06 06 58.9 +0.7**
comp=Z,8.8nm,1.3s,mb4.4
MNTX Cornudas Mount 89.77 55 *e*P **P 06 06 59.2 +0.8**
comp=Z,1.2nm,0.6s,mb3.9
TXAR Lajitas Array 90.00 58 P **P 06 07 01.0 +1.4**
comp=Z,1.5nm,0.8s,mb3.9,baz=215,slow=6.1,SNR=14
HHC Hu-ho-hao-te 90.17 315 *e*P **P 06 06 59.8 -0.3**
HHC AP pP 06 09 09.0 +16
HHC XP sP 06 10 09.0 +24
HHC PP PP 06 10 47.4 +4.2
HHC SKS 06 16 30.8
HHC S S 06 17 00.0 -10
HHC XS sS 06 20 53.5 +21
HHC SS SS 06 23 24.3 -0.9
HHC AMB AMB
comp=Z,18nm,1.0s,mb4.9
HHC AMB AMB
comp=Z,314nm,6.2s
HWUT Hardware Ranch 90.31 44 *e*P **P 06 07 00.1 -0.6**
comp=Z,1.5nm,0.6s,mb4.0
ANMO Albuquerque 90.49 52 *e*P **P 06 07 02.5 +0.8**
ANMO pmax pmax
comp=Z,2.0nm,1.0s
ANMO Albuquerque 90.49 52 *e*P **P 06 07 02.5 +0.7**
comp=Z,2.2nm,1.0s,mb3.9
CD2 Chengdu 90.94 303 *e*P **P 06 07 03.6 -0.3**
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
BILL Bilibino 91.72 355 *e*P **P 06 07 03.9 -2.7**
BILL *e* 06 10 53.9
BILL pmax pmax
comp=Z,2.0nm,1.2s,mb4.0
BOZ Bozeman (W) 92.38 41 *e*P **P 06 07 09.5 -0.6**
LZH Lanzhou 93.19 308 *e*P **P 06 07 12.5 -1.6**
LZH AP pP 06 09 21.0 +13
LZH XP sP 06 10 19.9 +21
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.9
LZH AMB AMB
comp=Z,55nm,4.0s
MK31 Makanchi Array 111.93 313 *e*PKIKP PKiKP 06 12 29.5 -1.7
MKAR Makanchi Array 111.93 313⇑ *i*PKIKP PKiKP 06 12 29.7 -1.5
MKAR Makanchi Array 111.93 313 PKiKP PKiKP 06 12 29.8 -1.4
comp=Z,0.8nm,0.6s,baz=180,slow=0.8,SNR=13
KURK Kurchatov 114.94 317⇑ *i*PKIKP PKPdf 06 12 35.7 -1.2
KURK Kurchatov 114.94 317 *e*PKPdf PKPdf 06 12 35.1 -1.7
TKM2 Tokmak 2 115.96 308 *e*PKIKP PKPdf 06 12 37.8 -1.3
UCH Uchtor 116.65 307 *e*PKPdf PKPdf 06 12 39.1 -1.3
EKS2 Erkin-Say 117.25 307 *e*PKPdf PKPdf 06 12 40.6 -1.0
KBL Kabul 119.76 298 *e*PKIKP PKPdf 06 12 46.1 -0.6
BRVK Borovoye 120.22 319 *e*PKIKP PKPdf 06 12 45.3 -1.7
SUR Sutherland 121.17 200 *e*PKPdf PKPdf 06 12 48.8 -0.8
BOSA Boshof 122.95 206 *e*PKIKP PKPdf 06 12 52.3 -0.8
BOSA Boshof 122.95 206 PKP PKPdf 06 12 52.3 -0.9
comp=Z,2.4nm,0.8s,baz=120,slow=8.5,SNR=4.4
KBS Kingsbay 124.12 357⇑ *i*PKIKP PKPdf 06 12 49.2 -4.6
ARU Arti 126.56 324⇑ *i*PKIKP PKPdf 06 12 57.1 -1.9
AKTK Aktyubinsk 128.04 317 PKP PKPdf 06 13 01.5 -0.5
AKTO Aktyubinsk 128.04 317 PKP PKPdf 06 13 01.5 -0.5
comp=Z,2.3nm,0.6s,baz=93,slow=6.7,SNR=11
ARCES ARCESS Array B 131.41 348 PKP PKPdf 06 13 06.6 -1.3
comp=Z,1.7nm,0.5s,baz=47,slow=1.0,SNR=21
LSZ Lusaka 132.83 218 *e*PKIKP PKPdf 06 13 12.5 +0.3
KMBO Kilima Mbogo 136.51 241 *e*PKIKP PKPdf 06 13 20.7 +1.5
FINES FINESS Array B 138.00 342 PKP PKPdf 06 13 12.9 -7.5
FINES SKPbc SKPbc 06 16 02.2 -4.2
FINES FINESS Array B 138.00 342 PKhKP 06 13 12.9
comp=Z,0.6nm,0.4s,baz=67,slow=4.6,SNR=8.5
FINES SKPbc SKPbc 06 16 02.2 -4.2
comp=Z,3.9nm,0.8s,baz=104,slow=3.9,SNR=12
OBN Obninsk 138.41 329⇓ *i*PKIKP PKPdf 06 13 21.7 +0.4
OBN pmax pmax
comp=Z,5.0nm,0.5s
GNI Garni 139.05 305 *e*PKHKP 06 13 20.2
NB2 NORSAR Subarra141.59 351 PKP PKPdf 06 13 21.3 -5.6
comp=Z,1.1nm,0.5s,baz=15,slow=3.2
NOA NORSAR Array B 141.59 351 PKhKP 06 13 22.1
comp=Z,2.8nm,0.8s,baz=16,slow=4.5,SNR=7.5
NOA SKPbc SKPbc 06 16 12.4 -3.4
comp=Z,1.3nm,0.9s,baz=16,slow=4.6,SNR=3.9
ANN Anapa 142.92 314 *i*PKHKP 06 13 26.7
ANN pmax pmax
comp=Z,32nm,0.9s
AKASG Malin Array Be 144.62 328 PKP PKPdf 06 13 31.4 -1.1
AKASG SKPbc SKPbc 06 16 19.4 -4.0
AKASG Malin Array Be 144.62 328 PKP PKPdf 06 13 31.4 -1.1
comp=Z,6.6nm,0.5s,baz=42,slow=4.0,SNR=45
AKASG SKPbc SKPbc 06 16 19.4 -4.0
comp=Z,3.0nm,0.8s,baz=49,slow=2.3,SNR=11
AKBB Malin Array Si 144.62 328 *e*PKHKP PKPdf 06 13 31.2 -1.3
ASCN Ascension 145.79 154 *e*PKPdf PKPdf 06 13 32.7 -3.0
MDO Dochfour 145.80 4 *e*P PKPdf 06 13 35.1 +0.8
BSD Bornholm Skovb 146.46 345 *i*PKIKP PKPdf 06 13 37.0 +1.5
BSD pmax pmax
comp=Z,4.0nm,0.4s
BSD Bornholm Skovb 146.46 345 *i*P PKPdf 06 13 37.0 +1.5
comp=Z,4.0nm,0.4s
ASF Jabal al Asfar 146.49 293 PKPbc PKPbc 06 13 39.0 +0.3
comp=Z,6.9nm,0.8s,baz=288,slow=1.5,SNR=15
EBH Black Hill 147.05 4 *e*P PKPbc 06 13 38.5 -0.9
EAB Aberfoyle 147.05 5 *e*P PKPbc 06 13 38.5 -0.9
PGBU Gleniffer braes 147.41 5 *e*P PKPdf 06 13 38.3 +1.3
ESY Stoneypath 147.43 3 *e*P PKPbc 06 13 39.3 -1.1
EBL Broad Law 147.55 3 *e*P PKPbc 06 13 39.7 -1.0
MMAI Mount Meron Ar 147.64 295 PKPbc PKPbc 06 13 42.2 +0.5
comp=Z,12nm,0.5s,baz=77,slow=4.4,SNR=22
ESK Eskdalemuir 147.99 4 *e*P PKPbc 06 13 40.6 -1.2
ECK Cauldkaine Hil 148.13 4 *e*P PKPbc 06 13 40.9 -1.4
GAL1 Galloway 148.33 5 *e*P PKPbc 06 13 41.6 -1.1
EIL Elat 148.35 289 PKPbc PKPbc 06 13 43.9 +0.3
comp=Z,9.3nm,0.7s,baz=28,slow=3.5,SNR=12
BSEG Bad Segeberg 148.54 349 *e*PKP PKPbc 06 13 43.4 +0.1
BURAR Bucovina Array 148.63 327⇑ *i*P PKPbc 06 13 45.0 +1.3
CSS Prodhromos 148.98 299 *e*PKPbc PKPbc 06 13 44.3 -0.7
KOLS Kolonicke sedl 149.10 331 *i*PKP PKPbc 06 13 45.0 +0.2
RUE Ruedersdorf 149.13 344 *e*PKP PKPbc 06 13 44.3 -0.5
OJC Ojcow 149.13 335 *e*PKP PKPbc 06 13 44.6 -0.3
STHS Stebnicka Huta 149.18 333 *e*PKP PKPbc 06 13 46.4 +1.4
MLR Muntele Rosu 149.60 323⇑ *i*P PKPbc 06 13 45.8 -0.4
LHO Holmfirth 149.83 2 *e*P PKPbc 06 13 44.3 -2.1
KSP Ksiaz 149.86 340 *e*PKHKP PKPbc 06 13 46.6 0.0
UPC Upice 150.24 339 *e*PKPbc PKPbc 06 13 46.9 -0.6
DPC Dobruska-Polom 150.27 339 *e*PKPbc PKPbc 06 13 47.6 0.0
MORC Moravsky Berou 150.34 337 *e*PKIKP PKPbc 06 13 46.7 -1.0
SBD1 Bryn Du 150.39 4 *e*P PKPdf 06 13 45.5 +3.6
CLL Collm 150.40 344 *i*PKIKP PKPbc 06 13 47.5 -0.3
CLL *e* 06 13 57.0
CLL Collm 150.40 344 *i*PKP PKPbc 06 13 47.5 -0.3
CLL *e*PKP PKPab 06 13 57.0 +0.5
CLL *e*pPKP pPKPab 06 15 56.0 +4.2
CLL *i*pPKP pPKPab 06 16 00.4 +8.6
CLL Collm 150.40 344 *e*PKPdf PKPdf 06 13 42.1 +0.1
CLL *e*PKPbc PKPbc 06 13 47.5 -0.3
CLL *e*PKPab PKPab 06 13 56.5 0.0
CLL *e*pPKPbc pPKPbc 06 15 56.4 +8.8
CLL Collm 150.40 344 *e*(PKPdf) PKPdf 06 13 43.0 +1.0
CLL *i*PKPbc PKPbc 06 13 47.5 -0.3
comp=Z,22nm,0.8s
CLL *i*(PKiKP) 06 13 50.1
CLL *e*PKPab PKPab 06 13 57.0 +0.5
CLL *e*pPKPbc pPKPbc 06 15 56.0 +8.4
CLL *i*pPKPab pPKPab 06 16 00.4 +8.6
CLZ Clausthal 150.51 347 *e*PKP PKPbc 06 13 47.9 -0.2
BRG Berggiesshubel 150.54 342 *e*PKP PKPbc 06 13 47.9 -0.3
BRG *e*sPKP 06 16 01.0
BRG Berggiesshubel 150.54 342 *i*PKP PKPbc 06 13 47.8 -0.3
comp=Z,16nm,0.9s
BRG *e*pPKP pPKPab 06 16 01.0 +8.5
comp=Z,19nm,1.4s
FBE Freiberg 150.66 343 *e*PKP PKPbc 06 13 48.8 +0.4
FBE *e*sPKP 06 16 02.3
PVCC Panska Ves 150.67 341 *e*PKPbc PKPbc 06 13 48.3 -0.2
VYHS Vyhne 150.89 334 *i*PKP PKPbc 06 13 48.7 -0.3
VYHS *e* 06 13 59.3
PSZ Piszkesteto 150.91 332 *e*PKIKP PKPbc 06 13 48.1 -1.0
PRU Pruhonice 151.15 341 *e*PKP PKPbc 06 13 48.0 -1.6
HTR Trewern Hill 151.22 4 *e*P PKPbc 06 13 48.1 -1.5
TANN Tannenbergstha 151.36 344 *e*PKP PKPbc 06 13 49.9 -0.1
MOX Moxa 151.36 345 *e*PKP PKPbc 06 13 50.2 +0.2
MOX Moxa 151.36 345 *e*PKP PKPbc 06 13 49.6 -0.4
WERD Werda 151.37 344 *e*PKP PKPbc 06 13 49.7 -0.4
GUNZ Gunzen 151.44 344 *e*PKP PKPbc 06 13 49.9 -0.3
WERN Wernitzgruen 151.50 344 *e*PKP PKPbc 06 13 50.3 -0.1
WERN *e*sPKP 06 16 03.5
SKP1 Kophill 151.69 1 *e*P PKPbc 06 13 49.4 -1.3
MANZ Manzenberg 151.84 344 *e*PKP PKPbc 06 13 50.1 -1.0
MANZ *e*sPKP 06 16 04.1
ROTZ Rotzenmuhle 152.02 343 *e*PKP PKPbc 06 13 51.2 -0.3
KHC Kasperske Hory 152.20 341 *e*PKPbc PKPbc 06 13 51.5 -0.5
GRA1 Grafenberg Arr 152.34 344 *e*PKP PKPbc 06 13 49.8 -2.4
GRF Grafenberg Arr 152.34 344 *e*PKP PKPbc 06 13 49.8 -2.4
WET Wettzell 152.40 342 *e*PKP PKPbc 06 13 50.9 -1.5
GEC2 GERESS Array S 152.42 341 *e*PKP PKPbc 06 13 51.1 -1.4
GEC2 *e*sPKP 06 16 05.2
GERES GERESS Array B 152.42 341 PKPbc PKPbc 06 13 52.1 -0.4
comp=Z,0.8nm,0.4s,baz=28,slow=3.5,SNR=8.1
CONA Conrad Observa 152.49 337⇑ *i*P PKPbc 06 13 52.6 -0.1
comp=Z,4.3nm,1.0s
CSNA Conrad Observa 152.49 337⇑ *i*PKiKP PKiKP 06 13 52.5 -0.2
comp=Z,4.6nm,1.1s
DBIC Dimbokro 162.70 163 PKP PKPdf 06 13 56.9 -1.8
comp=Z,3.1nm,0.8s,baz=242,slow=2.3,SNR=3.8
DBIC PKPab PKPab 06 14 50.3 -0.2
comp=Z,7.0nm,0.9s,baz=146,slow=5.5,SNR=5.3
MDT Midelt 169.68 23 PKP PKPdf 06 14 03.0 -0.5
comp=Z,2.2nm,1.0s,baz=337,slow=2.3,SNR=3.5
TOA0 Torodi Ar. Sit 169.73 188 *e*PKPdf PKPdf 06 14 01.1 -3.0
TORD Torodi Ar. Bea 169.73 188 PKP PKPdf 06 14 02.1 -2.0
comp=Z,3.7nm,1.1s,baz=332,slow=0.4,SNR=10
TORD PKPab PKPab 06 15 20.6 -0.9
comp=Z,4.2nm,0.8s,baz=179,slow=3.9,SNR=17

IDC ***18*** *06:10:21.6±0.9, 2231S×11444W, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/18, mbtmp3.9/8, MS3.8/6, Ms1 3.8/6, ms1mx3.4/27, Error ellipse: s-maj=39.8km s-min=20.5km az=46.0*
ISCJB ***18*** *06:10:22.2±1.0, 222S±02×1143W±02, h10km, mb3.8/8, MS3.7/6, Error ellipse: s-maj=31.8km s-min=20.0km az=151.0*
NEIC ***18*** *06:10:23.5±1.0, 2230S×11436W, h10km, Error ellipse: s-maj=33.4km s-min=16.5km az=54.0*
ISC 18 06:10:24.0±1.0,**223S**±02×**1143W**±02,**h10**km,**n20,**
σ1º**00**/12,**mb3.8/8,MS3.7**/6,**Easter Island region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**33.44**	**272**	LR	LR	06 25 44.5	
	comp=Z,146nm,19.4s,MS3.7,baz=142,slow=28						
ATAH	**Atahualpa**	**37.78**	**72**	LR	LR	06 28 48.1	
	comp=Z,116nm,21.9s,MS3.6,baz=54,slow=29						
PLCA	**Paso Flores**	**41.13**	**127**	P	**P**	**06 18 07.6**	**-0.7**
	2.9nm,1.1s,mb3.8,baz=259,slow=12,SNR=2.2						
PLCA				LR	LR	06 30 08.9	
	comp=Z,136nm,20.4s,MS3.8,baz=196,slow=29						
CFAA	**Coronel Fontan**	**41.86**	**113**	P	**P**	**06 18 14.6**	**+0.1**
	0.2nm,0.6s,mb3.0,baz=274,slow=4.7,SNR=4.7						
LPAZ	**La Paz**	**43.87**	**91**	P	**P**	**06 18 32.1**	**+1.3**
	4.3nm,1.0s,mb4.2,baz=255,slow=6.2,SNR=15						
LPAZ				LR	LR	06 32 04.4	
	comp=Z,106nm,21.6s,MS3.7,baz=86,slow=30						
SIV	**San Ignacio**	**50.48**	**93**	P	**P**	**06 19 21.9**	**-0.6**
	2.9nm,1.1s,mb4.2,baz=246,slow=13,SNR=6.9						
CPUP	**Villa Florida**	**51.75**	**107**	P	**P**	**06 19 31.6**	**-0.3**
	0.4nm,0.5s,mb3.6,baz=225,slow=16,SNR=2.4						
CPUP				LR	LR	06 36 43.5	
	comp=Z,91nm,18.5s,MS3.8,baz=228,slow=30						
PFO	**Pinyon Flat Ob**	**55.59**	**358**	LR	LR	06 36 45.0	
	comp=Z,69nm,21.6s,MS3.7,baz=15,slow=28						
NVAR	**Mina Array Bea**	**60.48**	**356**	P	**P**	**06 20 34.5**	**+0.6**
	0.8nm,0.7s,mb3.9,baz=190,slow=9.9,SNR=4.5						
VNA1	**Neumayer--Stat**	**74.36**	**161**	*e*	**P**	**06 22 04.4**	**+2.9**
VNA2	**Neumayer--Watz**	**74.52**	**161**	*e*	**P**	**06 22 02.6**	**+0.2**
	baz=234,slow=8.5						
SNAA	**Sanae**	**75.53**	**162**	*e*	**P**	**06 22 06.3**	**-2.0**
SNAA	**Sanae**	**75.53**	**162**	P	**P**	**06 22 08.0**	**-0.2**
	0.9nm,0.8s,mb3.8,baz=240,slow=6.3,SNR=12						
YKA	**Yellowknife Ar**	**84.45**	**360**	P	**P**	**06 22 55.5**	**-0.9**
YKA	**Yellowknife Ar**	**84.45**	**360**	P	**P**	**06 22 55.5**	**-0.8**
	1.5nm,1.1s,mb4.0,baz=176,slow=5.4,SNR=15						
KMBO	**Kilima Mbogo**	**143.81**	**126**	PKP	PKPdf	06 29 58.7	-1.7
	3.6nm,1.1s,baz=117,slow=6.5,SNR=3.3						
ZALV	**Zalesovo Beam**	**145.19**	**340**	PKPbc	PKPbc	06 29 59.9	-1.3
	3.4nm,0.9s,baz=46,slow=4.3,SNR=13						
BVAR	**Borovoye Array**	**149.07**	**354**	PKPbc	PKPbc	06 30 11.2	-1.0
	2.6nm,0.8s,baz=332,slow=2.1,SNR=9.9						
AKTO	**Aktyubinsk**	**151.24**	**10**	PKPbc	PKPbc	06 30 16.9	-0.6
	1.8nm,0.9s,baz=350,slow=4.1,SNR=4.3						
MKAR	**Makanchi Array**	**152.07**	**335**	PKPbc	PKPbc	06 30 18.0	-1.5
	1.8nm,0.9s,baz=38,slow=2.2,SNR=11						

CSEM ***18*** *06:28:06.3±0.2, 3964N×2941E, h15km, MD2.8, Error ellipse: s-maj=4.1km s-min=3.3km az=135.0*
ISK ***18*** *06:28:06.5, 3965N×2939E, h15km, MD2.8*
ISCJB ***18*** *06:28:07.1±0.9, 3968N±004×2933E±005, h11km±9km, Error ellipse: s-maj=7.9km s-min=6.3km az=140.4*
ISC 18 06:28:07.5±0.6,**3967N**±003×**2935E**±005,**h15**km±6km,**n16,**
σ0º**67**/20,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DST	**Dursunbey**	**0.56**	**264**	*e*PG	**Pg**	**06 28 18.5**	**0.0**
GDZ	**Gediz**	**0.59**	**170**	*i*P	**Pg**	**06 28 18.8**	**-0.3**
GDZ	**Gediz**	**0.59**	**170**	*i*P	**Pg**	**06 28 18.8**	**-0.3**
GDZ				*i*S	**Sg**	**06 28 27.0**	**+0.1**
IZI	**Iznik**	**0.67**	**8**	*e*PG	**Pg**	**06 28 20.4**	**-0.2**
IZI				*e*SG	**Sg**	**06 28 29.9**	**+0.4**
ADVT	**Abdulvahap**	**0.82**	**21**	*e*PG	**Pg**	**06 28 22.7**	**-0.7**
BORA	**Eskisehir**	**0.88**	**76**	*i*P	**Pb**	**06 28 22.8**	**-1.6**
BORA	**Eskisehir**	**0.88**	**76**	*i*P	**Pb**	**06 28 22.8**	**-1.6**
BORA				*i*S	**Sb**	**06 28 35.8**	**-0.1**
YLV	**Yalova**	**0.90**	**1**	*e*PG	**Pg**	**06 28 25.2**	**+0.4**
KCT	**Karacabey**	**0.97**	**308**	*e*PG	**Pg**	**06 28 26.9**	**+0.7**
BALB	**Balikesir**	**1.13**	**269**	*e*PN	**Pn**	**06 28 28.5**	**-0.3**
ESKT	**Eskisehir**	**1.17**	**97**	*i*P	**Pn**	**06 28 29.1**	**-0.2**
SEYT	**Eskypehyr**	**1.17**	**97**	*i*P	**Pn**	**06 28 29.1**	**-0.2**
SEYT				*i*S	**Sb**	**06 28 46.3**	**+1.9**
GULT	**Gulveren**	**1.18**	**49**	*e*PN	**Pn**	**06 28 29.1**	**-0.3**
HRT	**Hereke**	**1.18**	**12**	*e*PN	**Pn**	**06 28 29.5**	**+0.1**
BNT	**Bandirma**	**1.29**	**302**	*e*PN	**Pn**	**06 28 31.4**	**+0.4**
KLYT	**Kilyos**	**1.60**	**352**	*e*PN	**Pn**	**06 28 34.9**	**-0.3**

JMA 18 06:33:46.2±0.1,**2847N**×**12924E, h19**km±2km,**M3.7,**
Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAM	**Amami Oshima**	**0.33**	**100**	P	Pg	06 33 53.1	-0.2
JAM				S	Sg	06 33 57.3	-0.8
JZK	**Kikaishima**	**0.66**	**103**	P	Pb	06 33 58.8	-0.4
JZK				S	Sb	06 34 08.1	+0.1
JTK	**Tokunoshima**	**0.73**	**201**	P	Pb	06 33 59.8	-0.5
JTK				S	Sb	06 34 09.0	-0.8
JNN	**Nakanoshima**	**1.48**	**22**	P	Pn	06 34 11.4	-0.3
JNN				S	Sn	06 34 29.7	-0.8
JIH	**Iheya**	**1.82**	**219**	P	Pn	06 34 16.0	-0.5
JIH				S	Sn	06 34 37.0	-2.0
JOW	**Kunigami**	**1.84**	**208**	P	Pn	06 34 16.6	-0.2
JOW				S	Sn	06 34 39.8	+0.2
JKC	**Kuchinoerabu**	**2.15**	**23**	P	Pn	06 34 21.0	-0.1
JKC				S	Sn	06 34 46.1	-1.1
JAGN	**Aguni-jima**	**2.58**	**224**	P	Pn	06 34 27.2	+0.3
JAGN				S	Sn	06 34 56.8	-1.0
JTN	**Tanegashima 3**	**2.65**	**34**	P	Pn	06 34 28.5	+0.6
JTN				*e*S	Sn	06 34 59.2	-0.4
JKE	**Kume jima 2**	**3.05**	**226**	P	Pn	06 34 33.7	+0.3
JKE				S	Sn	06 35 09.1	-0.4
JMZ	**Minamidaito 2**	**3.18**	**146**	P	Pn	06 34 32.2	-2.9
JMZ				S	Sn	06 35 05.7	-6.8

BJI ***18*** *06:46:45.1, 885S×15467E, h10km, mB5.4, mb5.0, Ms5.2, Msz4.9*
ISCJB ***18*** *06:46:47.5±0.1, 869S±003×15440E±003, h10km, mb5.2/75, MS4.7/157, Error ellipse: s-maj=5.0km s-min=4.1km az=162.5*
NEIC ***18*** *06:46:48.9±0.2, 862S×15441E, h10km, mb5.4/36, MS4.7/128, Error ellipse: s-maj=7.3km s-min=5.0km az=122.0*
GCMT ***18*** *06:46:48.9±0.2, 872S×15472E, h12km, MW5.2/83, Moment Tensor Solution. s58,c95; s83,c146; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}~5.24±.12; $M_{\theta\theta}$4.58±.11; $M_{\phi\phi}$0.65±.12; $M_{r\theta}$1.54±.30; $M_{\theta\phi}$4.26±.10; $M_{\phi r}$-2.88±.33; Best double couple: $M_0$7.29700×10^16 NP1:ϕ_s265.00000°, δ52.00000°, λ-48.00000°. NP2: ϕ_s29.00000°, δ54.00000°, λ-131.00000°. Principal axes: T 7.3140, Plg1.0000°, Azm147.0000°; N -0.0380, Plg32.0000°, Azm56.0000°; P -7.2800, Plg58.0000°, Azm239.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***18*** *06:46:51.3±1.1, 862S×15431E, h33km, mb5.5/25, MS4.5/18 Error ellipse: s-maj=10.1km s-min=7.1km az=88.3*
IDC ***18*** *06:46:56.1±2.7, 872S×15444E, h70km±24km, mb4.7/17, mb1 4.8/19, mb1mx4.8/20, mbtmp4.7/19, MS4.3/22, Ms1 4.3/22, ms1mx4.2/25, Error ellipse: s-maj=16.0km s-min=12.4km az=80.0*
ISC 18 06:46:49.6±1.4,**869S**±004×**15446E**±003,**h13**km±8km,
h18km±2.6km:**pP-P,n477,**σ0º**73**/307,**mb5.2**/75,**MS4.7**/157,
79C-62D,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.47**	**98**	P	**Pn**	**06 48 16.0**	**+5.2**
	27nm,0.3s,baz=238,slow=2.9,SNR=5.2						
HNR				LR	LR	06 50 01.9	
	comp=Z,3μm,18.8s,baz=349,slow=34						
COEN	**Coen**	**12.24**	**244**	*e*Pn	**Pn**	**06 49 45.2**	**+1.5**
	32nm,1.4s						
CTA	**Charters Tower**	**13.83**	**214**	*e*P	**Pn**	**06 50 06.5**	**+1.1**
	34nm,1.0s						
CTA				*i*S	Sn	06 52 59.6	+21
CTA	**Charters Tower**	**13.83**	**214**	*e*P	**Pn**	**06 50 06.5**	**+1.1**
CTA				pmax	pmax		
	comp=Z,34nm,1.0s						
CTA	**Charters Tower**	**13.83**	**214**	P	**Pn**	**06 50 08.9**	**+3.4**
	comp=Z,0.3nm,0.3s,baz=42,slow=14,SNR=9.8						
CTA				LR	LR	06 54 50.9	
	comp=Z,540nm,19.1s,baz=34,slow=34						
CTAO	**Charters Tower**	**13.83**	**214**	*e*P	**Pn**	**06 50 07.5**	**+2.1**
EIDS	**Eidsvold**	**16.90**	**191**	*e*Pn	**Pn**	**06 50 48.3**	**+2.5**
	comp=Z,59nm,1.2s						
DZM	**Mont Dzumac**	**17.61**	**140**	*e*P	**Pn**	**06 50 54.6**	**-0.2**
ARMA	**Armidale**	**21.78**	**187**	*e*P	**P**	**06 51 42.0**	**+0.8**
KAKA	**Kakadu**	**22.00**	**258**⇓ *i*P		**P**	**06 51 44.0**	**+0.4**
	comp=Z,69nm,0.6s,mb5.3						
KAKA	**Kakadu**	**22.00**	**258**	*e*P	**P**	**06 51 44.0**	**+0.3**
	comp=Z,130nm,0.6s,mb5.5						
WRAB	**Tennant Creek**	**22.43**	**238**	P	**P**	**06 51 48.6**	**+0.4**
	comp=Z,799nm,0.8s,SNR=56						
WRAB	**Tennant Creek**	**22.43**	**238**	*d i*P	**P**	**06 51 48.0**	**-0.2**
WRAB	**Tennant Creek**	**22.43**	**238**	*e*P	**P**	**06 51 48.2**	**0.0**
	comp=Z,129nm,0.9s,mb5.4						
WRAB				LR	LR		
	comp=Z,1μm,20.0s,MS4.4						
WB2	**Warramunga Arr**	**22.43**	**238**⇓ *i*P		**P**	**06 51 48.7**	**+0.4**
WRA	**Warramunga Arr**	**22.44**	**238**	P	**P**	**06 51 48.8**	**+0.5**
WRA				LR	LR	07 00 28.3	
WRA	**Warramunga Arr**	**22.44**	**238**	P	**P**	**06 51 48.8**	**+0.5**
	comp=Z,75nm,0.8s,mb5.2,baz=62,slow=9.8,SNR=91						
WRA				LR	LR	07 00 28.3	
	comp=Z,1μm,18.5s,MS4.3,baz=65,slow=36						
WRA				PKiKP	PKiKP	07 03 25.8	-2.8
	comp=Z,0.2nm,0.6s,baz=331,slow=0.9,SNR=4.9						
GUMO	**Guam**	**24.09**	**337**	*e*P	**P**	**06 52 04.6**	**-0.4**
GUMO				pmax	p

RAO	**Raoul Island**	**33.02 132**	LR	LR	07 04 24.9	
	comp=Z,992nm,20.2s,MS4.5,baz=196,slow=32					
KAPI	**Kappang**	**34.64 274**	P	**P**	**06 53 38.3**	**-0.6**
	comp=Z,222nm,1.1s,SNR=7.0					
TAU	**Tasmania Unive**	**34.66 189**	*e*P	**P**	**06 53 39.8**	**+1.1**
MBWA	**Marble Bar**	**35.68 246**	*e*P	**P**	**06 53 47.4**	**-0.4**
	comp=Z,24nm,0.8s,mb5.2					
URZ	**Urewera**	**35.82 149**	P	**P**	**06 53 48.0**	**-0.8**
	comp=Z,7.7nm,0.8s,mb4.7,baz=329,slow=17,SNR=6.0					
URZ			LR	LR	07 07 15.5	
	comp=Z,870nm,18.5s,MS4.5,baz=241,slow=34					
SNZO	**South Karori**	**37.11 154**	PFAKE		06 54 10.0	+10
SNZO			LR	LR		
	comp=Z,1μm,20.0s,MS4.8					
RPZ	**Rata Peaks**	**37.78 160**	P	**P**	**06 54 05.1**	**-0.3**
	comp=Z,9.3nm,0.7s,mb4.6,baz=28,slow=13,SNR=4.1					
RPZ			LR	LR	07 08 38.8	
	comp=Z,1μm,18.4s,MS4.8,baz=319,slow=34					
KKM	**Kota Kinabalu**	**40.84 290**	*e*P	**P**	**06 54 31.3**	**0.0**
KLBR	**Kellerberrin**	**41.00 231**	*e*P	**P**	**06 54 31.2**	**-1.3**
	comp=Z,37nm,1.1s,mb4.9					
JOW	**Kunigami**	**43.50 325**	LR	LR	07 09 25.5	
	comp=Z,565nm,21.7s,MS4.4,baz=128,slow=31					
JHJ	**Hachijo jima 2**	**43.86 342**	LR	LR	07 11 13.0	
	comp=Z,214nm,20.3s,MS4.0,baz=71,slow=33					
KSM	**Kuching**	**45.14 281**	*e*P	**P**	**06 55 06.7**	**+0.5**
RAR	**Rarotonga**	**45.78 111**	PFAKE		06 55 20.0	+8.8
RAR			LR	LR		
	comp=Z,1.0nm,22.0s					
RAR	**Rarotonga**	**45.78 111**	LR	LR	07 10 02.0	
	comp=Z,197nm,19.3s,MS4.1,baz=281,slow=30					
TATO	**Taipei**	**46.39 317**	PFAKE		06 55 30.0	+14
TATO			LR	LR		
	comp=Z,530nm,19.0s,MS4.5					
MJAR	**Matsushiro Arr**	**47.51 342**	P	**P**	**06 55 23.6**	**-0.9**
	comp=Z,19nm,0.9s,mb5.1,baz=159,slow=7.3,SNR=22					
MJAR			LR	LR	07 13 39.8	
	comp=Z,225nm,21.6s,MS4.1,baz=180,slow=34					
MAJO	**Matsushiro**	**47.51 342**	*e*P	**P**	**06 55 23.7**	**-0.8**
MAJO			pmax	pmax		
	comp=Z,41nm,1.0s,mb5.4					
MAJO			MLR	MLR		
	comp=Z,618nm,21.0s,MS4.5					
MAJO	**Matsushiro**	**47.51 342**	*e*P	**P**	**06 55 23.7**	**-0.8**
	comp=Z,41nm,1.0s,mb5.4					
MAJO			LR	LR		
	comp=Z,618nm,21.0s,MS4.5					
MAT	**Matsushiro**	**47.51 342**	P	**P**	**06 55 23.8**	**-0.7**
MAT			S	**S**	**07 02 16.0**	**-3.1**
ERM	**Erimo**	**51.51 349**	PFAKE		06 56 10.0	+15
ERM			LR	LR		
	comp=Z,527nm,22.0s,MS4.5					
QIZ	**Qiongzhong**	**51.89 302**	P	**P**	**06 55 57.9**	**-0.3**
QIZ			S	**S**	**07 03 21.8**	**+0.9**
QIZ			SS	SS	07 06 56.3	-1.7
QIZ			LR	LR		
	comp=E,387nm,20.6s					
QIZ			LR	LR		
	comp=Z,695nm,21.9s,MS4.7					
QIZ	**Qiongzhong**	**51.89 302**	PFAKE		06 56 10.0	+12
QIZ			LR	LR		
	comp=Z,739nm,21.0s,MS4.7					
KSRS	**Korea Array**	**52.19 333**	P	**P**	**06 55 59.8**	**-0.3**
	comp=Z,6.4nm,0.7s,mb4.7,baz=150,slow=7.4,SNR=14					
KSRS			LR	LR	07 13 24.2	
	comp=Z,151nm,21.3s,MS4.0,baz=135,slow=30					
INCN	**Inchon**	**52.80 332**	PFAKE		06 56 20.0	+15
INCN			LR	LR		
	comp=Z,672nm,21.0s,MS4.7					
NJ2	**Nanjing**	**52.89 322**	*e*P	**P**	**06 56 05.6**	**+0.2**
NJ2			AP	pP	06 56 10.1	+0.5
NJ2			XP	sP	06 56 12.9	+1.7
NJ2			PCP	PcP	06 57 15.0	+0.6
NJ2			S	**S**	**07 03 33.0**	**-1.2**
NJ2			XS	sS	07 03 40.0	-1.1
NJ2			AMB	AMB		
	comp=Z,170nm,1.0s					
NJ2			AMB	AMB		
	comp=Z,180nm,9.8s					
NJ2			LR	LR		
	comp=N,1μm,21.4s,MS5.0					
NJ2			LR	LR		
	comp=E,1μm,24.1s,MS5.0					
NJ2			LR	LR		
	comp=Z,1μm,18.5s					
WHN	**Wuhan**	**54.80 317**	*e*P	**P**	**06 56 19.8**	**+0.4**
PPT	**Papeete**	**55.05 105**	*e*S	**S**	**07 04 11.0**	**+7.0**
	comp=Z,247nm,27.2s					
PPT			*e*LQ		07 10 04.8	
	comp=Z,573nm,30.5s					
PPT			*e*LR	LR	07 12 39.7	
	comp=Z,246nm,26.2s					
PPT	**Papeete**	**55.05 105**	LR	LR	07 15 57.6	
	comp=Z,235nm,19.6s,MS4.3,baz=278,slow=32					
VLA	**Vladivostok**	**55.51 340**	*e*P	**P**	**06 56 25.9**	**+1.7**
VLA			pmax	pmax		
	comp=Z,16nm,0.8s,mb5.1					
DL2	**Dalian**	**56.34 329**	P	**P**	**06 56 32.6**	**+2.3**
DL2			*e*S	**S**	**07 04 23.1**	**+2.8**
DL2			AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2					
DL2			LR	LR		
	comp=N,340nm,16.4s,MS4.7					
DL2			LR	LR		
	comp=E,310nm,16.9s,MS4.7					
DL2			LR	LR		
	comp=Z,300nm,19.6s,MS4.4					
YSS	**Yuzh-Sakhalins**	**56.37 350**⇑	*e*P	**P**	**06 56 29.6**	**-0.7**
YSS			pmax	pmax		
	comp=Z,28nm,1.1s,mb5.2					
YSS	**Yuzh-Sakhalins**	**56.37 350**	PFAKE		06 56 40.0	+10
YSS			LR	LR		
	comp=Z,628nm,19.0s,MS4.7					
MDJ	**Mudanjiang**	**57.62 339**	P	**P**	**06 56 40.8**	**+1.6**
MDJ			XP	sP	06 56 45.3	+0.2
MDJ			S	**S**	**07 04 42.0**	**+5.0**
MDJ			SS	SS	07 08 33.1	+5.5
MDJ			AMB	AMB		
	comp=Z,26nm,2.2s,mb4.9					
MDJ			AMB	AMB		
	comp=Z,315nm,3.8s					
MDJ			LR	LR		
	comp=N,212nm,30.8s					
MDJ			LR	LR		
	comp=Z,319nm,29.0s,MS4.3					
ENH	**Enshi**	**58.01 314**	PFAKE		06 56 50.0	+7.7
ENH			LR	LR		
	comp=Z,3.0nm,21.0s					
GYA	**Guiyang**	**58.07 309**	P	**P**	**06 56 45.8**	**+3.0**
GYA			PCP	PcP	06 57 36.5	+1.9
GYA			PP	PP	06 58 55.8	+4.2
GYA			SCP	ScP	07 01 35.4	+0.7
GYA			S	**S**	**07 04 44.8**	**+1.2**
GYA			PS		07 04 58.6	
GYA			SCS	ScS	07 06 31.3	-1.3
GYA			SS	SS	07 08 37.3	+2.0
GYA			AMB	AMB		
	comp=Z,40nm,1.0s,mb5.4					
GYA			AMB	AMB		
	comp=Z,130nm,6.4s					
GYA			LR	LR		
	comp=N,680nm,19.8s,MS4.9					
GYA			LR	LR		
	comp=E,620nm,20.7s,MS4.9					
GYA			LR	LR		
	comp=Z,760nm,20.8s,MS4.8					
CN2	**Changchun**	**58.50 336**	*e*P	**P**	**06 56 45.5**	**+0.1**
CN2			AMB	AMB		
	comp=Z,30nm,1.3s,mb5.2					
HABR	**Khabarovsk**	**59.43 345**	*e*P	**P**	**06 56 52.2**	**+0.4**
HABR			*e*S	**S**	**07 04 59.9**	**-0.7**
HABR			*e*SS	SS	07 08 53.4	-2.6
HABR			pmax	pmax		
	comp=Z,14nm,0.3s,mb5.5					
BJT	**Baijiatuau**	**60.01 327**	PFAKE		06 57 10.0	+14
BJT			LR	LR		
	comp=Z,623nm,22.0s,MS4.7					
BJI	**Beijing**	**60.02 327**	P	**P**	**06 56 56.1**	**0.0**
BJI			PP	PP	06 59 10.6	+1.9
BJI			S	**S**	**07 05 09.5**	**+1.0**
BJI			SS	SS	07 09 10.6	+5.0
BJI			AMB	AMB		
	comp=Z,8.0nm,1.6s,mb4.5					
BJI			AMB	AMB		
	comp=Z,243nm,3.8s					
BJI			LR	LR		
	comp=N,341nm,24.2s					
BJI			LR	LR		
	comp=E,284nm,18.8s					
BJI			LR	LR		
	comp=Z,547nm,24.2s,MS4.6					
KMI	**Kunming**	**60.53 305** ⇑	P	**P**	**06 57 01.4**	**+1.5**
KMI			AP	pP	06 57 05.3	+1.1
KMI			PCP	PcP	06 57 46.5	+2.1
KMI			PP	PP	06 59 17.8	+4.3
KMI			PCS	PcS	07 01 47.4	+0.3
KMI			S	**S**	**07 05 15.3**	**-0.3**
KMI			XS	sS	07 05 22.4	-0.3
KMI			PS		07 05 32.6	
KMI			SS	SS	07 09 16.3	+2.2
KMI			AMB	AMB		
	comp=Z,20nm,1.4s,mb5.0					
KMI			AMB	AMB		
	comp=Z,411nm,6.6s					
KMI			LR	LR		
	comp=N,514nm,12.8s,MS4.9					
KMI			LR	LR		
	comp=E,394nm,14.7s,MS4.9					
KMI			LR	LR		
	comp=Z,545nm,27.5s					
XAN	**Xi'an**	**60.56 317**	P	**P**	**06 56 58.9**	**-1.0**
XAN			AP	pP	06 57 07.9	+3.7
XAN			XP	sP	06 57 11.9	+6.1
XAN			AMB	AMB		
	comp=Z,10.0nm,1.1s,mb4.9					
TIY	**Taiyuan**	**60.59 322**	P	**P**	**06 56 57.3**	**-2.7**
TIY			S	**S**	**07 05 17.8**	**+1.9**
TIY			AMB	AMB		
	comp=Z,467nm,10.4s					
TIY			LR	LR		
	comp=N,449nm,7.6s					
TIY			LR	LR		
	comp=E,238nm,2.9s					
TIY			LR	LR		
	comp=Z,795nm,16.5s,MS4.9					
KLR	**Kul'dur**	**61.02 343**	*e*P	**P**	**06 57 00.0**	**-2.7**
KLR			pmax	pmax		
	comp=E,40nm,1.6s					
KLR			pmax	pmax		
	comp=Z,100nm,1.6s,mb5.7					
CM31	**Chiang Mai Arr**	**61.04 297**	PFAKE		06 57 20.0	+17
CM31			LR	LR		
	comp=Z,410nm,21.0s,MS4.5					
CHTO	**Chiang Mai**	**61.17 297**	*e*P	**P**	**06 57 04.6**	**+0.3**
CHTO			pmax	pmax		
	comp=Z,11nm,0.9s,mb5.0					
CHTO			MLR	MLR		
	comp=Z,464nm,19.0s,MS4.7					
CHTO	**Chiang Mai**	**61.17 297**	*e*P	**P**	**06 57 04.6**	**+0.2**
	comp=Z,11nm,0.9s,mb5.0					
CHTO			LR	LR		
	comp=Z,464nm,19.0s,MS4.7					
PET	**Petropavlovsk**	**61.57 3**	*e*P	**P**	**06 57 08.8**	**+2.5**
PET			*e*		06 59 25.0	
PET			*e*PPP		07 00 47.2	
PET			*e*S	**S**	**07 05 28.9**	**+1.1**
PET			*e*SS	SS	07 09 31.5	+2.1
PET			pmax	pmax		
	comp=Z,15nm,0.8s,mb5.2					
PET	**Petropavlovsk**	**61.57 3**	PFAKE		06 57 20.0	+14
PET			LR	LR		
	comp=Z,379nm,20.0s,MS4.5					
CD2	**Chengdu**	**62.51 311**	*e*P	**P**	**06 57 13.4**	**+0.2**
CD2			AP	pP	06 57 18.0	+0.6
CD2			XP	sP	06 57 20.8	+1.8
CD2			PP	PP	06 59 33.0	+2.1
CD2			PCS	PcS	07 01 53.5	-2.2
CD2			S	**S**	**07 05 39.3**	**-1.3**
CD2			SCS	ScS	07 07 01.5	-4.1
CD2			SS	SS	07 09 45.4	+0.4
CD2			AMB	AMB		
	comp=Z,30nm,1.6s,mb5.2					
CD2			AMB	AMB		
	comp=Z,280nm,7.2s					
CD2			LR	LR		
	comp=N,540nm,18.0s,MS5.1					
CD2			LR	LR		
	comp=E,1μm,19.2s,MS5.1					
CD2			LR	LR		
	comp=Z,840nm,19.2s,MS4.9					
HHC	**Hu-ho-hao-te**	**63.15 325**	*e*P	**P**	**06 57 19.0**	**+1.8**
HHC			XP	sP	06 57 27.1	+4.1
HHC			PP	PP	06 59 43.3	+7.0
HHC			SCP	ScP	07 01 56.9	0.0
HHC			S	**S**	**07 05 49.6**	**+1.5**
HHC			XS	sS	07 05 56.4	+1.2
HHC			SCS	ScS	07 07 07.8	-2.2
HHC			SS	SS	07 09 58.8	+4.3
HHC			AMB	AMB		
	comp=Z,548nm,9.9s					
HHC			LR	LR		
	comp=N,607nm,18.2s,MS5.0					
HHC			LR	LR		
	comp=E,771nm,19.0s,MS5.0					
HHC			LR	LR		
	comp=Z,839nm,20.8s,MS4.9					
SMY	**Shemya**	**63.44 13**	PFAKE		06 57 30.0	+11
SMY			LR	LR		
	comp=Z,769nm,20.0s,MS4.9					
BTO	**Baotou**	**63.88 324**	*e*P	**P**	**06 57 22.5**	**+0.5**
TAOE	**Nuku Hiva Isla**	**64.55 96**	*e*LR	LR	07 16 35.0	
	comp=Z,7μm,24.8s					
CASY	**Casey**	**64.83 198**	*e*P	**P**	**06 57 26.3**	**-1.5**
CASY			LR	LR		
	comp=Z,848nm,22.0s,MS4.9					
LZH	**Lanzhou**	**65.15 316**	*e*P	**P**	**06 57 31.5**	**+1.0**
LZH			AP	pP	06 57 34.5	-0.3
LZH			XP	sP	06 57 36.5	+0.1
LZH			PP	PP	06 59 57.3	+3.3
LZH			*e*S	S	07 06 12.3	-0.9
LZH			SS	SS	07 10 25.0	-1.0
LZH			AMB	AMB		
	comp=Z,69nm,1.5s,mb5.5					
LZH			AMB	AMB		
	comp=Z,240nm,5.2s					
LZH			LR	LR		
	comp=E,860nm,15.8s					
LZH			LR	LR		
	comp=Z,2μm,17.0s,MS5.3					
HIA	**Hailar**	**65.23 336**	*e*P	**P**	**06 57 30.8**	**+0.2**
HIA			pmax	pmax		
	comp=Z,38nm,0.8s					
HIA			MLR	MLR		
	comp=Z,274nm,19.0s					
HIA	**Hailar**	**65.23 336**	*e*P	**P**	**06 57 30.8**	**+0.1**
	comp=Z,38nm,0.8s,mb5.5					
HIA			LR	LR		
	comp=Z,274nm,19.0s,MS4.5					
MA2	**Magadan**	**68.10 358**	*c i*P	**P**	**06 57 48.2**	**-0.6**
MA2			*e*S	S	07 06 45.2	-2.8
MA2			*e*PS		07 07 11.8	
MA2			*e*SS	SS	07 11 06.2	-4.7
MA2			pmax	pmax		
	comp=Z,60nm,1.1s,mb5.5					
MA2			MLR	MLR		
	comp=Z,200nm,21.1s,MS4.3					
MA2	**Magadan**	**68.10 358**	*e*P	**P**	**06 57 49.2**	**+0.4**
	comp=Z,44nm,1.2s,mb5.4					
MA2			LR	LR		
	comp=Z,259nm,22.0s,MS4.4					
RKT	**Rikitea**	**68.82 111**	*e*LR	LR	07 18 57.8	
	comp=Z,576nm,33.5s					
VNDA	**Vanda**	**68.91 178**	P	**P**	**06 57 52.5**	**-1.2**
VNDA			LR	LR	07 25 39.3	
VNDA	**Vanda**	**68.91 178**	P	**P**	**06 57 52.5**	**-1.2**
	comp=Z,8.3nm,1.1s,mb4.6,baz=339,slow=8.7,SNR=14					
VNDA			LR	LR	07 25 39.3	
	comp=Z,192nm,19.7s,MS4.3,baz=347,slow=34					
SBA	**Scott Base**	**69.43 177**	*e*P	**P**	**06 57 57.5**	**+0.6**
GTA	**Gaotai**	**69.61 318**	P	**P**	**06 57 59.3**	**+0.7**
GTA			AP	pP	06 58 04.8	+1.8
GTA			XP	sP	06 58 06.9	+2.3
GTA			PP	PP	07 00 37.1	+4.3
GTA			PPP		07 02 17.1	
GTA			S	S	07 07 09.1	+2.4
GTA			XS	sS	07 07 14.8	+0.9
GTA			PS		07 07 36.9	
GTA			SKS		07 07 55.9	
GTA			SS	SS	07 11 39.5	+4.4
GTA			AMB	AMB		
	comp=Z,10.0nm,1.9s,mb4.4					
GTA			AMB	AMB		
	comp=Z,181nm,7.2s					
GTA			LR	LR		
	comp=N,222nm,19.0s,MS4.6					
GTA			LR	LR		
	comp=E,211nm,19.0s,MS4.6					
GTA			LR	LR		
	comp=Z,241nm,16.7s,MS4.5					
CLNS	**Chul'man**	**69.68 343**	*e*P	**P**	**06 58 00.6**	**+2.0**
CLNS			pmax	pmax		
	comp=Z,54nm,0.9s,mb5.5					
CLNS			pmax	pmax		
	comp=N,28nm,1.0s					
CLNS			pmax	pmax		
	comp=E,19nm,0.7s					
SHL	**Shillong**	**69.70 301**	*e*P	**P**	**06 57 58.5**	**-1.0**
ULN	**Ulaanbaatar**	**70.14 328**	*e*P	**P**	**06 58 02.1**	**+0.4**
	comp=E,40nm,1.3s,mb5.2					
ULN			LR	LR		
	comp=Z,351nm,20.0s,MS4.6					
SONM	**Songino Array**	**70.47 328**	P	**P**	**06 58 04.2**	**+0.5**
	comp=Z,23nm,1.0s,mb5.1,baz=135,slow=4.5,SNR=18					
SONM			LR	LR	07 26 27.8	
	comp=Z,350nm,20.4s,MS4.6,baz=254,slow=34					
UNV	**Unalaska Valle**	**70.48 23**	PFAKE		06 58 20.0	+16
UNV			LR	LR		
	comp=Z,1μm,20.0s,MS5.1					
MIR	**Mirnyy**	**70.93 202**⇓	*i*P	**P**	**06 58 06.0**	**-0.2**
MIR			*i*		06 58 21.0	
MIR			pmax	pmax		
	comp=Z,200nm,1.5s,mb5.8					
SEY	**Seymchan**	**71.42 359**⇑	*e*P	**P**	**06 58 09.1**	**-0.1**
LSA	**Lhasa**	**71.79 305**	P	**P**	**06 58 13.0**	**+0.9**
LSA	**Lhasa**	**71.79 305**	*e*P	**P**	**06 58 13.0**	**+0.9**
LSA			pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2					
LSA			MLR	MLR		
	comp=Z,370nm,21.0s,MS4.6					
LSA	**Lhasa**	**71.79 305**	*e*P	**P**	**06 58 13.0**	**+0.9**
	comp=Z,28nm,1.0s,mb5.2					
LSA			LR	LR		
	comp=Z,370nm,21.0s,MS4.6					
YAK	**Yakutsk**	**73.09 348**	*e*P	**P**	**06 58 21.0**	**+1.9**
YAK			*e**PP	pP	06 58 28.7	+5.2
YAK			*e*		06 58 40.9	
YAK			*e*S	S	07 07 42.4	-3.6
YAK			*e*		07 08 29.6	
YAK			*e*SS	SS	07 12 19.7	-7.8
YAK			*e*SSS		07 15 38.1	
YAK			pmax	pmax		
	comp=Z,119nm,1.2s,mb5.7					
YAK			pmax	pmax		
	comp=N,31nm,1.1s					
YAK			pmax	pmax		
	comp=E,24nm,1.5s					
YAK			smax			
	comp=N,260nm,5.0s					
YAK			smax			
	comp=E,202nm,4.1s					
YAK	**Yakutsk**	**73.09 348**	*e*P	**P**	**06 58 19.6**	**+0.5**
	comp=E,30nm,0.4s,mb5.6					
YAK			LR	LR		
	comp=Z,348nm,22.0s,MS4.6					
ZAK	**Zakamensk**	**73.65 329**	*e*P	**P**	**06 58 22.5**	**-0.2**
ZAK			pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8					
BOD	**Bodaibo**	**73.99 339**	*e*P	**P**	**06 58 23.3**	**-1.2**
BOD			pmax	pmax		
	comp=Z,24nm,1.1s,mb5.0					
TLY	**Talaya**	**74.25 330**	*e*P	**P**	**06 58 25.8**	**-0.4**
TLY			pmax	pmax		
	comp=Z,11nm,1.7s,mb4.5					
TLY	**Talaya**	**74.25 330**	*e*P	**P**	**06 58 26.4**	**+0.2**
TLY			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7					
TLY			MLR	MLR		
	comp=Z,433nm,22.0s,MS4.7					
TLY	**Talaya**	**74.25 330**	*e*P	**P**	**06 58 26.4**	**+0.3**
	comp=Z,9.6nm,1.0s,mb4.7					
TLY			LR	LR		
	comp=Z,433nm,22.0s,MS4.7					
PALK	**Pallekele**	**75.19 280**	PFAKE		06 58 40.0	+7.5
PALK			LR	LR		
	comp=Z,385nm,20.0s,MS4.7					
JIRN	**Jiri**	**75.20 302**	*e*P	**P**	**06 58 32.2**	**-0.1**
	comp=Z,28nm,0.7s,mb5.3					
GUN	**Gumba**	**75.54 302**	*e*P	**P**	**06 58 34.2**	**0.0**
	comp=Z,56nm,0.7s,mb5.6					
PKI	**Pulchoki**	**75.83 301**	*e*P	**P**	**06 58 35.4**	**-0.5**
KKN	**Kakani**	**76.01 301**	*e*P	**P**	**06 58 36.6**	**-0.3**
DMN	**Daman**	**76.10 301**	*e*P	**P**	**06 58 37.3**	**-0.1**
	comp=Z,69nm,1.0s,mb5.5					
GKN	**Gorkha**	**76.61 301**	*e*P	**P**	**06 58 39.8**	**-0.5**
	comp=Z,68nm,1.0s,mb5.5					
BILL	**Bilibino**	**77.00 5**⇑	*e*P	**P**	**06 58 41.1**	**-0.5**
BILL			pmax	pmax		
	comp=Z,20nm,1.0s,mb5.0					
BILL	**Bilibino**	**77.00 5**	*e*P	**P**	**06 58 41.6**	**0.0**
	comp=Z,52nm,1.2s,mb5.3					
BILL			LR	LR		
	comp=Z,232nm,22.0s,MS4.5					
KOLN	**Koldanda**	**77.42 301**	*e*P	**P**	**06 58 44.3**	**-0.6**
	comp=Z,107nm,1.4s,mb5.6					
DANN	**Dangsing**	**77.46 302**	*e*P	**P**	**06 58 44.2**	**-0.9**
KDAK	**Kodiak Island**	**78.91 26**	PFAKE		06 59 00.0	+7.6
KDAK			LR	LR		
	comp=Z,58nm,19.0s,MS3.9					
TNA	**Tin City**	**79.09 15**	PFAKE		06 59 00.0	+6.8
TNA			LR	LR		
	comp=Z,359nm,21.0s,MS4.7					
WMQ	**Urumqi**	**79.70 317**	P	**P**	**06 58 57.0**	**-0.1**
WMQ			XP	sP	06 59 04.0	+1.0
WMQ			PP	PP	07 01 59.0	+0.7
WMQ			S	S	07 08 57.0	-2.3
WMQ			SS	SS	07 14 08.0	-0.3
WMQ			AMB	AMB		
	comp=Z,38nm,1.0s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,84nm,7.0s					
WMQ			LR	LR		
	comp=N,217nm,16.0s,MS4.8					
WMQ			LR	LR		
	comp=E,325nm,17.0s,MS4.8					
WMQ			LR	LR		
	comp=Z,239nm,15.0s,MS4.7					
SVW2	**Sparrevohn**	**79.76 22**	*e*P	**P**	**06 58 57.4**	**+0.4**
TTA	**Tatalina**	**80.79 21**	*e*P	**P**	**06 59 02.4**	**-0.1**
QSPA	**South Pole Qui**	**81.30 180**	*e*P	**P**	**06 59 04.5**	**-0.5**
	comp=Z,74nm,1.1s,mb5.5					
SLKM	**Skilak Lake**	**81.49 24**	*e*P	**P**	**06 59 05.8**	**-0.5**
TIXI	**Tiksi**	**81.95 352**	*e*P	**P**	**06 59 07.6**	**-0.9**
TIXI			pmax	pmax		
	comp=Z,58nm,1.8s,mb5.2					
TIXI	**Tiksi**	**81.95 352**	*e*P	**P**	**06 59 08.6**	**+0.1**
	comp=Z,101nm,1.8s,mb5.5					
TIXI			LR	LR		
	comp=Z,237nm,20.0s,MS4.5					
PMR	**Palmer**	**82.55 24**	*e*P	**P**	**06 59 10.8**	**-1.0**
PMR			pmax	pmax		
	comp=Z,183nm,2.7s,mb5.6					
PMR			MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5					
PMR	**Palmer**	**82.55 24**	*e*P	**P**	**06 59 10.8**	**-1.0**
	comp=Z,183nm,2.7s,mb5.6					
PMR			LR	LR		
	comp=Z,200nm,19.0s,MS4.5					
MAW	**Mawson**	**82.64 203**	*e*P	**P**	**06 59 12.2**	**-0.1**
MAW			pmax	pmax		
	comp=Z,151nm,2.1s					
MAW	**Mawson**	**82.64 203**	*e*P	**P**	**06 59 12.2**	**-0.1**
	comp=Z,151nm,2.1s,mb5.7					
MAW	**Mawson**	**82.64 203**	P	**P**	**06 59 11.7**	**-0.6**
	comp=Z,7.9nm,0.9s,mb4.7,baz=79,slow=6.8,SNR=8.1					
MAW			LR	LR	07 31 10.3	
	comp=Z,161nm,19.9s,MS4.4,baz=78,slow=32					
DDI	**Dehra Dun**	**82.78 302**	*ex*	**P**	**06 59 13.0**	**-0.8**
SML	**Sawmill**	**82.98 24**	*e*P	**P**	**06 59 14.1**	**0.0**
NDI	**New Delhi**	**83.10 300**	*e*P	**P**	**06 59 13.0**	**-2.4**
IMA2	**Indian Mountai**	**83.56 19**	*e*P	**P**	**06 59 17.0**	**0.0**
	comp=Z,0.3nm,1.2s					
DIV	**Divide**	**83.67 25**	*e*P	**P**	**06 59 18.0**	**+0.4**
	comp=Z,22nm,0.8s,mb5.3					
DIV			LR	LR		
	comp=Z,644nm,20.0s,MS5.0					
MK31	**Makanchi Array**	**84.32 319**	*e*P	**P**	**06 59 21.2**	**-0.1**
MKAR	**Makanchi Array**	**84.32 319**	P	**P**	**06 59 20.8**	**-0.5**

comp=Z,7.3nm,0.8s,mb4.8,baz=100,slow=6.1,SNR=32
MKAR LR LR 07 37 10.2
comp=Z,165nm,20.0s,MS4.4,baz=124,slow=36
COLA College 84.84 21 *e*P **P 06 59 21.9 -1.6**
COLA College 84.84 21 *e*P **P 06 59 22.0 -1.5**
comp=Z,30nm,1.0s,mb5.4
COLA LR LR
comp=Z,303nm,21.0s,MS4.7
ZAA0 Zalesovo Array 85.28 326 *e*P **P 06 59 24.7 -1.3**
ZALV Zalesovo Beam 85.28 326 P **P 06 59 24.3 -1.6**
comp=Z,8.7nm,0.8s,mb4.9,baz=112,slow=5.7,SNR=21
ZALV LR LR 07 35 23.1
comp=Z,211nm,20.8s,MS4.5,baz=139,slow=34
ZAL Zalesovo 85.29 326 P **P 06 59 24.3 -1.7**
NVS Novosibirsk 86.46 327 *e*P **P 06 59 29.0 -2.8**
NVS *e*S S 07 09 57.7 -10
NVS *e*PS 07 11 00.7
NVS pmax pmax
comp=N,26nm,1.8s
NVS pmax pmax
comp=Z,53nm,1.8s,mb5.5
NVS pmax pmax
comp=E,37nm,1.7s
NVS smax
comp=E,36nm,1.9s
SIT Sitka 86.72 31 PFAKE 06 59 40.0 +7.0
SIT LR LR
comp=Z,536nm,21.0s,MS4.9
EGAK Eagle 87.28 23 *e*P **P 06 59 35.2 -0.4**
comp=Z,33nm,0.9s,mb5.6
EGAK LR LR
comp=Z,384nm,22.0s,MS4.8
SKAG Skagway 87.60 29 *e*P **P 06 59 37.0 -0.2**
comp=Z,134nm,2.5s,mb5.7
SKAG LR LR
comp=Z,200nm,19.0s,MS4.5
TKM2 Tokmak 2 87.79 314 *e*P **P 06 59 38.4 -0.2**
TKM2 pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
TKM2 MLR MLR
comp=Z,254nm,21.0s,MS4.6
TKM2 Tokmak 2 87.79 314 *e*P **P 06 59 38.4 -0.1**
comp=Z,9.6nm,1.0s,mb5.0
TKM2 LR LR
comp=Z,254nm,21.0s,MS4.6
KURK Kurchatov 87.83 322⇑*e*P **P 06 59 37.2 -1.3**
KURK Kurchatov 87.83 322 *e*P **P 06 59 37.6 -0.9**
KURK LR LR
comp=Z,255nm,20.0s,MS4.6
WRAK Wrangell Islan 88.05 32 PFAKE 06 59 50.0 +11
WRAK LR LR
comp=Z,211nm,19.0s,MS4.6
UCH Uchtor 88.41 313 *e*P **P 06 59 41.9 +0.4**
comp=Z,18nm,1.3s,mb5.1
UCH LR LR
comp=Z,258nm,21.0s,MS4.6
FRU Bishkek 88.47 314 *e*P **P 06 59 40.0 -1.8**
FRU *e* 06 59 55.0
FRU pmax pmax
comp=Z,60nm,1.9s,mb5.5
AML Almayashu 88.98 313 *e*P **P 06 59 44.4 +0.2**
comp=Z,26nm,1.0s,mb5.5
AML LR LR
comp=Z,351nm,21.0s,MS4.8
EKS2 Erkin-Say 89.04 313 *e*P **P 06 59 44.2 -0.2**
comp=Z,15nm,1.1s,mb5.2
EKS2 LR LR
comp=Z,290nm,20.0s,MS4.7
N02C Big Bar 89.79 49 ⇑P **P 06 59 49.0 +1.0**
baz=90
O02C Red Bluff 90.05 49 ⇓P **P 06 59 49.6 +0.3**
baz=90
M02C Callahan 90.24 48 ⇑P **P 06 59 50.4 +0.2**
baz=90
WDC Whiskeytown Da 90.32 49 *e*P **P 06 59 51.1 +0.6**
WDC MLR MLR
comp=Z,168nm,20.0s,MS4.5
WDC Whiskeytown Da 90.32 49 ⇑P **P 06 59 50.6 +0.1**
baz=90
Q03C Winters 90.35 51 ⇑P **P 06 59 51.6 +0.9**
baz=90
HUMO Hull Mountain 90.40 47 *e*P **P 06 59 53.8 +2.9**
HUMO LR LR
comp=Z,210nm,19.0s,MS4.6
HUMO Hull Mountain 90.40 47 ⇓P **P 06 59 50.9 0.0**
baz=90
YBH Yreka Blue Hor 90.41 48 *e*P **P 06 59 51.2 +0.3**
YBH pmax pmax
comp=Z,16nm,1.6s
YBH MLR MLR
comp=Z,291nm,20.0s
YBH Yreka Blue Hor 90.41 48 *e*P **P 06 59 51.2 +0.3**
comp=Z,16nm,1.6s,mb5.1
YBH LR LR
comp=Z,291nm,20.0s,MS4.7
YBH Yreka Blue Hor 90.41 48 ⇑P **P 06 59 51.3 +0.4**
baz=90
SAO San Andreas Ge 90.45 53 PFAKE 07 00 00.0 +8.8
SAO LR LR
comp=Z,254nm,21.0s,MS4.6
COR Corvallis 90.55 45 PFAKE 07 00 00.0 +8.5
COR LR LR
comp=Z,209nm,19.0s,MS4.6
SYO Syowa Base 90.56 199⇑*e*X **P 06 59 48.0 -3.1**
SYO Syowa Base 90.56 199⇑*e*X **P 06 59 49.2 -1.9**
H03A Soap Creek Ran 90.58 45 ⇑P **P 06 59 51.3 -0.3**
baz=91
S04C Ingram Canyon, 90.67 52 ⇑P **P 06 59 52.2 0.0**
baz=91
NLWA Neilton Lookou 90.74 42 PFAKE 07 00 00.0 +7.7
NLWA LR LR
comp=Z,96nm,19.0s,MS4.2
M03C McCloud 90.76 48 ⇓P **P 06 59 52.5 0.0**
baz=91
ORV Oroville 90.91 50 ⇓P **P 06 59 53.5 +0.2**
baz=91
PKD Parkfield 91.02 54 ⇓P **P 06 59 54.3 +0.5**
baz=91
M04C Macdoel 91.06 48 ⇓P **P 06 59 54.0 +0.1**
baz=91
L04A Klamath Falls 91.10 48 ⇓P **P 06 59 54.1 0.0**
baz=91
HATC Hat Creek Radi 91.17 49 ⇑P **P 06 59 55.0 +0.6**
baz=91
LAVA Lava Cap Winer 91.35 51 ⇓P **P 06 59 55.7 +0.4**
baz=91
H04A Detroit Lake 91.35 45 ⇓P **P 06 59 56.2 +1.0**
baz=91
O04C Chester 91.36 50 ⇑P **P 06 59 55.8 +0.4**
baz=91
O05C Quincy 91.42 50 ⇓P **P 06 59 55.8 +0.2**
baz=92
F04A Amboy 91.43 44 ⇓P **P 06 59 56.0 +0.4**
baz=92
PKM Peak Mountain 91.43 55 ⇑P **P 06 59 56.0 +0.2**
baz=92
S05C Merced 91.43 53 ⇑P **P 06 59 55.7 0.0**
baz=92
GNW Green Mountain 91.47 42 *e*P **P 06 59 56.1 +0.5**
M05C Lookout 91.50 49 ⇓P **P 06 59 56.4 +0.5**
baz=92
CMB Columbia Colle 91.50 52 *e*P **P 06 59 56.3 +0.2**
CMB pmax pmax
comp=Z,11nm,1.3s,mb5.0
CMB MLR MLR
comp=Z,176nm,21.0s,MS4.5
CMB Columbia Colle 91.50 52 *e*P **P 06 59 56.3 +0.2**
comp=Z,11nm,1.3s,mb5.0
CMB LR LR
comp=Z,176nm,21.0s,MS4.5
CMB Columbia Colle 91.50 52 ⇑P **P 06 59 56.2 +0.1**
baz=92
P05C Yuba Gap, Truc 91.55 51 ⇑P **P 06 59 56.5 +0.3**
baz=92
J05A Fort Rock 91.77 47 P **P 06 59 57.3 +0.1**
baz=92,SNR=6.6
BEKR Beckwourth 91.83 50 ⇑P **P 06 59 57.3 -0.2**
baz=92
L05A Lakeview 91.85 48 ⇓P **P 06 59 57.3 -0.3**
baz=92
R05C Kirkwood Meado 91.85 51 ⇓P **P 06 59 57.3 -0.4**
baz=92
T06C Millerton Lake 91.86 53 ⇓P **P 06 59 57.3 -0.4**
baz=92
S06C San Francisco 91.89 52 P **P 06 59 58.0 +0.1**
baz=92,SNR=5.4
K05A Summer Lake 91.92 47 ⇑P **P 06 59 58.0 +0.1**
baz=92,SNR=8.3
M06C Likely Place G 91.97 49 ⇑P **P 06 59 58.0 -0.2**
baz=92
E05A Randle 91.99 43 ⇓P **P 06 59 58.2 +0.1**
baz=92
H05A Madras 92.02 45 ⇓P **P 06 59 58.3 0.0**
baz=92
F05A White Salmon 92.08 44 ⇓P **P 06 59 58.5 -0.1**
baz=92
B05A Bryant 92.08 42 ⇓P **P 06 59 58.2 -0.3**
baz=92
VES Vestal, Richgr 92.17 54 ⇓P **P 06 59 59.3 0.0**
baz=92
WCN Washoe City 92.20 51 ⇑P **P 06 59 59.4 +0.1**
baz=92
MOD Modoc 92.21 48 PFAKE 07 00 10.0 +11
MOD LR LR
comp=Z,218nm,22.0s,MS4.6
MOD Modoc 92.21 48 ⇓P **P 06 59 59.2 0.0**
baz=92
KCC Kaiser Creek 92.22 53 ⇑P **P 06 59 59.5 +0.1**
baz=92
O06A Flanigan 92.28 50 ⇓P **P 06 59 59.3 -0.3**
baz=92
R06C Coleville 92.31 52 ⇓P **P 06 59 59.9 +0.1**
baz=92
WAKR Walker 92.31 52 *e*P **P 07 00 00.6 +0.8**
HELL Mitchell Peak 92.35 53 ⇑P **P 06 59 59.9 -0.2**
baz=92
N06A Buffalo Meadow 92.37 49 P **P 07 00 00.3 +0.3**
baz=92,SNR=10
K06A Valley Falls 92.40 47 ⇑P **P 06 59 59.7 -0.4**
baz=92
E06A Yakima 92.52 43 ⇑P **P 07 00 00.1 -0.4**
baz=93
J06A Christmas Vall 92.55 47 ⇑P **P 07 00 00.4 -0.4**
baz=93
PAHR Pah Rah Range 92.55 50 *e*P **P 07 00 01.2 +0.4**
comp=Z,22nm,1.4s,mb5.4
I06A Prineville 92.62 46 ⇓P **P 07 00 00.7 -0.4**
baz=93
ISA Isabella 92.63 54 PFAKE 07 00 10.0 +8.6
ISA LR LR
comp=Z,3.0nm,20.0s
H06A Lindquist Farm 92.66 45 ⇑P **P 07 00 00.5 -0.7**
baz=93
MWC Mount Wilson 92.76 56 *e*P **P 07 00 02.6 +0.6**
MTUM Tungsten Hills 92.82 53 *e*P **P 07 00 03.5 +1.4**
EDW2 Edwards Air Fo 92.91 55 ⇑P **P 07 00 02.6 0.0**
baz=93
L07A Adell 92.94 48 P **P 07 00 02.9 +0.2**
baz=93,SNR=10
M07A Soldier Meadow 92.97 49 P **P 07 00 02.8 0.0**
baz=93,SNR=8.5
O07A Toulon 93.00 50 P **P 07 00 03.4 +0.4**
baz=93,SNR=9.4
N07B Gerlach 93.03 49 P **P 07 00 03.5 +0.4**
baz=93,SNR=17
CWC Cottonwood Cre 93.06 54 ⇓P **P 07 00 03.5 +0.2**
baz=93
BFSC Mount Baldy St 93.09 56 ⇓P **P 07 00 03.8 +0.4**
baz=93
K07A Rock Creek Ran 93.11 47 P **P 07 00 03.5 0.0**
baz=93,SNR=6.4
I07A Izee 93.14 46 ⇑P **P 07 00 03.1 -0.4**
baz=93
S08C White Mtn Res 93.15 53 ⇑P **P 07 00 03.3 -0.4**
baz=93
J07A Hines 93.17 47 ⇑P **P 07 00 03.0 -0.7**
baz=93
H07A Lands Inn, Kim 93.18 46 ⇓P **P 07 00 03.5 -0.1**
baz=93
NVAR Mina Array Bea 93.18 52 P **P 07 00 04.2 +0.3**
comp=Z,7.8nm,1.1s,mb5.0,baz=249,slow=6.2,SNR=26
G07A Ruggs Ranch, H 93.21 45 ⇑P **P 07 00 03.5 -0.2**
baz=93
LRMC Laurel Mountai 93.24 55 ⇑P **P 07 00 03.8 -0.3**
baz=93
BVAR Borovoye Array 93.32 323 LR LR 07 45 14.7
comp=Z,161nm,18.4s,MS4.5,baz=275,slow=38
A07A Ashnola River, 93.33 41 ⇑P **P 07 00 03.7 -0.5**
baz=93
BRVK Borovoye 93.39 323 PFAKE 07 00 20.0 +16
BRVK LR LR
comp=Z,294nm,22.0s,MS4.7
B07A Winthrop 93.41 42 ⇓P **P 07 00 04.2 -0.4**
baz=93
DAC Darwin (Calif) 93.43 54 PFAKE 07 00 20.0 +15
DAC LR LR
comp=Z,197nm,20.0s,MS4.6
HAWA Hanford 93.48 44 PFAKE 07 00 20.0 +15
HAWA LR LR
comp=Z,250nm,22.0s,MS4.6
MPMC Manual Prospec 93.48 54 ⇑P **P 07 00 05.4 +0.1**
baz=94
WVOR Wild Horse Val 93.52 48 *e*P **P 07 00 05.2 -0.1**
WVOR *e* 07 03 48.2
WVOR pmax pmax
comp=Z,23nm,1.4s,mb5.4
WVOR MLR MLR
comp=Z,159nm,19.0s,MS4.5
WVOR Wild Horse Val 93.52 48 *e*P **P 07 00 05.2 0.0**
comp=Z,23nm,1.4s,mb5.4
WVOR *e*PP PP 07 03 48.2 -1.8
WVOR LR LR
comp=Z,159nm,19.0s,MS4.5
Q08A Gabbs 93.53 51 P **P 07 00 05.8 +0.3**
baz=94,SNR=6.8
N08A GE Springer Mi 93.65 49 ⇑P **P 07 00 05.8 -0.1**
baz=94,SNR=7.9
L08A Fields 93.70 48 P **P 07 00 06.4 +0.3**
baz=94,SNR=7.2
G08A Pilot Rock 93.71 45 ⇑P **P 07 00 05.7 -0.4**
baz=94
J08A Circle Bar Ran 93.77 47 ⇓P **P 07 00 06.0 -0.4**
baz=94
I08A Drewsey 93.78 46 ⇑P **P 07 00 06.5 +0.1**
baz=94
H08A Prairie City 93.80 46 ⇑P **P 07 00 07.0 +0.5**
baz=94
E08A Dider Farm, El 93.82 44 ⇓P **P 07 00 06.2 -0.4**
baz=94
B08A Colville Reser 93.91 42 ⇑P **P 07 00 06.9 -0.1**
baz=94
S09A Goldfield 93.92 53 P **P 07 00 07.7 +0.4**
baz=94,SNR=9.1
GSC Goldstone 93.93 55 PFAKE 07 00 20.0 +13
GSC LR LR
comp=Z,231nm,20.0s,MS4.6
TPH Tonopah 93.97 52 PFAKE 07 00 20.0 +13
TPH LR LR
comp=Z,156nm,20.0s,MS4.5
PFO Pinyon Flat Ob 93.99 57 PFAKE 07 00 20.0 +12
PFO LR LR
comp=Z,231nm,20.0s,MS4.6
FURC Furnace Creek, 94.04 54 ⇑P **P 07 00 07.7 -0.1**
baz=94
R09A Tonopah 94.11 52 P **P 07 00 08.4 +0.3**
baz=94,SNR=7.0
N09A Rock Creek Ran 94.12 49 ⇓P **P 07 00 08.0 -0.1**
baz=94
L09A Wilkinson Ranc 94.17 48 ⇑P **P 07 00 07.8 -0.5**
baz=94
K09A Rome 94.22 48 ⇑P **P 07 00 08.4 -0.1**
baz=94
M09A Marrel Ranch, 94.25 49 P **P 07 00 09.4 +0.7**
baz=94,SNR=11
O09A Fish Creek Ran 94.28 50 P **P 07 00 09.5 +0.6**
baz=94,SNR=9.3
J09A Fry Pan Ranch, 94.29 47 ⇓P **P 07 00 08.7 -0.1**
baz=94
BMN Battle Mountai 94.29 50 PFAKE 07 00 20.0 +11
BMN LR LR
comp=Z,177nm,19.0s,MS4.5
BELC Belle Mtn. 94.42 56 ⇑P **P 07 00 10.2 +0.6**
baz=94
SHOC Shoshone 94.43 55 ⇑P **P 07 00 10.3 +0.6**
baz=94
S10A Tonopah Range, 94.45 52 P **P 07 00 10.3 +0.6**
baz=94,SNR=9.2
TPNV Topopah Spring 94.59 53 *e*P **P 07 00 10.7 +0.3**
TPNV pmax pmax
comp=Z,44nm,2.2s,mb5.5
TPNV MLR MLR
comp=Z,210nm,19.0s,MS4.6
TPNV Topopah Spring 94.59 53 *e*P **P 07 00 10.7 +0.3**
comp=Z,44nm,2.2s,mb5.5
TPNV LR LR
comp=Z,210nm,19.0s,MS4.6
TPNV Topopah Spring 94.59 53 ⇑P **P 07 00 10.5 +0.1**
baz=95
Q10A Clear Creek Ra 94.71 52 ⇑P **P 07 00 10.8 -0.1**
baz=95
R10A Warm Springs 94.72 52 ⇑P **P 07 00 11.4 +0.5**
baz=95
P10A Eureka 94.77 51 ⇑P **P 07 00 11.3 +0.2**
baz=95
GMRC Granite Mounta 94.79 56 ⇑P **P 07 00 11.4 +0.1**
baz=95
BMO Blue Mountains 94.81 46 *e*P **P 07 00 10.3 -0.9**
BMO MLR MLR
comp=Z,221nm,22.0s,MS4.6
O10A Cortez Mining, 94.82 50 ⇓P **P 07 00 11.8 +0.4**
baz=95
K10A MacKenzie Ranc 94.86 48 ⇓P **P 07 00 11.7 +0.3**
baz=95
N10A Dunphy 94.87 50 ⇑P **P 07 00 11.6 +0.1**
baz=95
M10A I.L. Ranch, Tu 94.95 49 ⇑P **P 07 00 12.2 +0.3**
baz=95
G10A Bishop Farm, J 95.00 45 ⇓P **P 07 00 11.8 -0.2**
baz=95
L10A Juniper Basin 95.06 48 ⇓P **P 07 00 12.1 -0.3**
baz=95
S11A Rachel 95.08 53 ⇑P **P 07 00 13.1 +0.5**
baz=95
IRM Iron Mountain 95.14 56 ⇑P **P 07 00 13.5 +0.6**
baz=95
A10A Northport 95.16 41 ⇓P **P 07 00 13.4 +0.8**
baz=95
H10A Noah's Angus R 95.17 46 ⇓P **P 07 00 12.6 -0.2**
baz=95
GLA Glamis 95.27 57 PFAKE 07 00 20.0 +6.5
GLA LR LR
comp=Z,192nm,19.0s,MS4.6
LDFC Landfair 95.28 55 *e*P **P 07 00 14.2 +0.7**
R11A Troy Canyon, C 95.29 52 ⇑P **P 07 00 13.6 +0.1**
baz=95
Q11A Duckwater 95.29 52 P **P 07 00 14.0 +0.5**
baz=95,SNR=8.7
NEW Newport 95.36 42 PFAKE 07 00 20.0 +6.4
NEW LR LR
comp=Z,304nm,20.0s,MS4.8
SHPR Sheep Range 95.41 54 *e*P **P 07 00 15.0 +0.9**
O11A Cowboy Ranch, 95.44 50 ⇑P **P 07 00 14.6 +0.4**
baz=96
T11A Corn Creek, Al 95.44 53 ⇓P **P 07 00 14.3 +0.1**
baz=96
K11A Parker Ranch, 95.47 48 ⇓P **P 07 00 14.1 -0.1**
baz=96
M11A Holland Ranch, 95.49 49 ⇑P **P 07 00 14.6 +0.2**
baz=96
L11A Cat Creek Ranc 95.61 48 ⇑P **P 07 00 14.7 -0.2**
baz=96
G11A Walters Elk Ra 95.61 45 ⇓P **P 07 00 14.9 +0.2**
baz=96
I11A Placerville 95.66 47 ⇑P **P 07 00 14.5 -0.5**
baz=96
MFID Camas Ranch 95.69 47 ⇓P **P 07 00 15.0 -0.3**
baz=96
H11A Donnelly 95.71 46 ⇓P **P 07 00 14.8 -0.5**
baz=96
D11A Klaveano Farm, 95.75 43 ⇑P **P 07 00 15.3 -0.1**
baz=96
E11A Bogner Ranch, 95.76 44 ⇓P **P 07 00 14.6 -0.8**
baz=96
P12A McGill 95.94 51 ⇓P **P 07 00 16.5 0.0**
baz=96
A11A Hall Mountain, 95.94 42 ⇑P **P 07 00 16.1 -0.2**
baz=96
Q12A Willow Creek R 95.95 52 ⇓P **P 07 00 16.5 0.0**
baz=96
N12A Clover Valley, 95.99 50 ⇑P **P 07 00 16.7 0.0**
baz=96
R12A Pony Springs, 96.05 52 ⇓P **P 07 00 17.2 +0.2**
baz=96
M12A Wells 96.15 49 ⇑P **P 07 00 16.9 -0.5**
baz=96
L12A House Creek Ra 96.15 48 ⇓P **P 07 00 17.0 -0.3**
baz=96
O12A Currie 96.15 50 ⇑P **P 07 00 17.4 0.0**
baz=96
J12A Stokes Ranch, 96.20 47 ⇓P **P 07 00 17.4 -0.2**
baz=96
V13A Grand Canyon W 96.28 55 ⇑P **P 07 00 17.5 -0.6**
baz=96
K12A Draper Farm, C 96.28 48 ⇓P **P 07 00 17.1 -0.8**
baz=96
F12A Elk City 96.35 45 ⇓P **P 07 00 17.8 -0.4**
baz=96
D12A Red Ives Fores 96.42 43 ⇑P **P 07 00 18.0 -0.5**
baz=96
T13A Saint George 96.46 54 ⇓P **P 07 00 19.3 +0.4**
baz=96
S13A Holt Ranch, En 96.56 53 ⇓P **P 07 00 19.2 -0.1**
baz=97
Q13A Wheeler Ranch, 96.57 52 ⇓P **P 07 00 18.9 -0.4**
baz=97
P13A Bates Ranch, G 96.63 51 ⇑P **P 07 00 19.0 -0.5**
baz=97
M13A Montello 96.70 49 ⇓P **P 07 00 19.5 -0.4**
baz=97
H13A Challis 96.94 46 ⇑P **P 07 00 20.2 -0.7**
baz=97
U14A Mt Trumbull 96.98 54 ⇓P **P 07 00 21.6 +0.4**
baz=97
M14A Sheep Mountain 97.33 49 ⇑P **P 07 00 22.5 -0.1**
baz=97
MSO Missoula 97.36 44 PFAKE 07 00 30.0 +7.3
MSO LR LR
comp=Z,147nm,20.0s,MS4.5
DUG Dugway 97.62 51 PFAKE 07 00 40.0 +16
DUG LR LR
comp=Z,139nm,19.0s,MS4.5
MVU Marysvale 97.94 52 PFAKE 07 00 40.0 +14
MVU LR LR
comp=Z,151nm,19.0s,MS4.5
YKA Yellowknife Ar 98.07 28 P **P 07 00 24.7 -0.8**
comp=Z,2.1nm,0.8s,mb4.7,baz=266,slow=4.5,SNR=29
YKA PKiKP PKiKP 07 04 57.3 -1.3
comp=Z,0.2nm,0.6s,baz=257,slow=1.3,SNR=5.4
YKA PKKPbc PKKPbc 07 16 59.5 -1.5
comp=Z,0.3nm,0.7s,baz=85,slow=2.6,SNR=4.9
YKA LR LR 07 43 45.2
comp=Z,90nm,18.6s,MS4.3,baz=270,slow=35
MSEY Mahe Island 98.14 264 PFAKE 07 00 40.0 +13
MSEY LR LR
comp=Z,107nm,19.0s,MS4.4
WUAZ Wupatki 98.36 55 PFAKE 07 00 40.0 +12
WUAZ LR LR
comp=Z,212nm,20.0s,MS4.6
SNAA Sanae 98.41 187⇑*e*P **P 07 00 26.0 -1.0**
TUC Tucson 98.59 59 PFAKE 07 00 40.0 +11
TUC LR LR
comp=Z,208nm,19.0s,MS4.7
HWUT Hardware Ranch 98.67 49 PFAKE 07 00 40.0 +11
HWUT LR LR
comp=Z,230nm,19.0s,MS4.7
BOZ Bozeman (W) 98.88 45 PFAKE 07 00 40.0 +10
BOZ LR LR
comp=Z,118nm,20.0s,MS4.4
AHID Auburn Hatcher 99.09 48 PFAKE 07 00 40.0 +9.4
AHID LR LR
comp=Z,183nm,20.0s,MS4.6
TPAW Teton Pass 99.24 47 *e*P **P 07 00 31.5 +0.3**
comp=Z,16nm,1.5s,mb5.3
YMR Madison River 99.29 46 PFAKE 07 00 40.0 +8.6
YMR LR LR
comp=Z,1μm,19.0s,MS5.3
BW06 Boulder Array 100.22 48 PFAKE 07 00 50.0 +15
BW06 LR LR
comp=Z,217nm,19.0s,MS4.7
EGMT Eagleton 100.26 43 PFAKE 07 00 50.0 +14
EGMT LR LR
comp=Z,187nm,19.0s,MS4.6
ARU Arti 100.44 326 *e*P Pdif 07 00 35.5 -0.8
ARU *e* 07 04 43.0
ARU *e*S SKSac 07 11 11.8 -3.0
ARU *e*SS SS 07 19 11.1 +3.4
ARU Arti 100.44 326 PFAKE 07 00 50.0 +14
ARU LR LR
comp=Z,366nm,21.0s,MS4.9
MVCO Mesa Verde 100.79 54 PFAKE 07 00 50.0 +12
MVCO LR LR
comp=Z,168nm,19.0s,MS4.6

ANMO	**Albuquerque**	**102.35**	**56**	PFAKE			07 01 00.0	+15
ANMO				LR	LR			
comp=Z,199nm,20.0s,MS4.6								
ISCO	**Idaho Springs**	**103.12**	**51**	PFAKE			07 01 00.0	+12
ISCO				LR	LR			
comp=Z,177nm,20.0s,MS4.6								
MNTX	**Cornudas Mount**	**103.13**	**59**	PFAKE			07 01 00.0	+12
MNTX				LR	LR			
comp=Z,219nm,20.0s,MS4.7								
SDCO	**Great Sand Dun**	**103.19**	**53**	PFAKE			07 01 00.0	+11
SDCO				LR	LR			
comp=Z,235nm,19.0s,MS4.7								
ABPO	**Ambohimpanom**	**103.20**	**248**	PFAKE			07 01 00.0	+11
ABPO				LR	LR			
comp=Z,355nm,22.0s,MS4.8								
FFC	**Flin Flon**	**104.88**	**36**	PFAKE			07 01 10.0	+14
FFC				LR	LR			
comp=Z,263nm,20.0s,MS4.8								
AMTX	**Amarillo**	**106.27**	**56**	PFAKE			07 05 30.0	+16
AMTX				LR	LR			
comp=Z,243nm,20.0s,MS4.8								
KBS	**Kingsbay**	**107.39**	**353**	PFAKE			07 05 30.0	+15
KBS				LR	LR			
comp=Z,320nm,21.0s,MS4.8								
CBKS	**Cedar Bluff**	**107.70**	**52**	PFAKE			07 05 30.0	+14
CBKS				LR	LR			
comp=Z,199nm,19.0s,MS4.7								
JCT	**Junction City**	**107.90**	**61**	PFAKE			07 05 30.0	+13
JCT				LR	LR			
comp=Z,200nm,22.0s,MS4.6								
LVZ	**Lovozero**	**108.96**	**340**	PFAKE			07 05 30.0	+12
LVZ				LR	LR			
comp=Z,296nm,22.0s,MS4.8								
ULM	**Lac du Bonnet**	**109.19**	**40**	PFAKE			07 05 30.0	+11
ULM				LR	LR			
comp=Z,410nm,21.0s,MS5.0								
AGMN	**Agassiz Refuge**	**109.52**	**42**	PFAKE			07 05 30.0	+10
AGMN				LR	LR			
comp=Z,159nm,19.0s,MS4.6								
ECSD	**EROS,Sioux Fal**	**109.63**	**47**	PFAKE			07 05 30.0	+10
ECSD				LR	LR			
comp=Z,177nm,20.0s,MS4.6								
KSU1	**Kansas State U**	**110.11**	**52**	PFAKE			07 05 30.0	+8.6
KSU1				LR	LR			
comp=Z,112nm,19.0s,MS4.5								
GNI	**Garni**	**110.61**	**310**	PFAKE			07 05 30.0	+7.7
GNI				LR	LR			
comp=Z,149nm,20.0s,MS4.6								
HKT	**Hockley**	**111.34**	**61**	PFAKE			07 05 40.0	+16
HKT				LR	LR			
comp=Z,233nm,20.0s,MS4.8								
KIV	**Kislovodsk**	**111.63**	**314**	PFAKE			07 05 40.0	+16
KIV				LR	LR			
comp=Z,141nm,21.0s,MS4.5								
NATX	**Nacogdoches**	**112.26**	**59**	PFAKE			07 05 40.0	+14
NATX				LR	LR			
comp=Z,215nm,20.0s,MS4.7								
EYMN	**Ely**	**112.46**	**42**	PFAKE			07 05 40.0	+14
EYMN				LR	LR			
comp=Z,172nm,20.0s,MS4.6								
OBN	**Obninsk**	**112.86**	**327**	PFAKE			07 05 40.0	+14
OBN				LR	LR			
comp=Z,359nm,22.0s,MS4.9								
MIAR	**Mount Ida**	**112.96**	**56**	PFAKE			07 05 40.0	+13
MIAR				LR	LR			
comp=Z,211nm,19.0s,MS4.8								
JFWS	**Jewell Farm**	**114.34**	**47**	PFAKE			07 05 40.0	+11
JFWS				LR	LR			
comp=Z,159nm,19.0s,MS4.6								
CCM	**Cathedral Cave**	**114.41**	**52**	PFAKE			07 05 40.0	+10
CCM				LR	LR			
comp=Z,232nm,19.0s,MS4.8								
FINES	**FINESS Array B**	**115.25**	**335**	PKP	PKiKP		07 05 28.9	-1.6
comp=Z,1.9nm,0.9s,baz=94,slow=8.5,SNR=3.0								
HDIL	**Hopedale**	**115.49**	**49**	PFAKE			07 05 40.0	+8.4
HDIL				LR	LR			
comp=Z,186nm,20.0s,MS4.7								
PLCA	**Paso Flores**	**115.70**	**143**	PKP	PKPdf		07 05 31.3	-0.8
comp=Z,0.6nm,0.5s,baz=330,slow=16,SNR=3.0								
OXF	**Oxford**	**116.38**	**56**	PFAKE			07 05 40.0	+6.5
OXF				LR	LR			
comp=Z,197nm,20.0s,MS4.7								
HOPE	**Hope Point**	**116.59**	**173**	PFAKE			07 05 40.0	+6.7
HOPE				LR	LR			
comp=Z,4.0nm,21.0s								
KMBO	**Kilima Mbogo**	**116.68**	**264**	PFAKE			07 05 50.0	+15
KMBO				LR	LR			
comp=Z,195nm,20.0s,MS4.7								
PLAL	**Pickwick Lake**	**117.39**	**55**	PFAKE			07 05 50.0	+15
PLAL				LR	LR			
comp=Z,185nm,20.0s,MS4.7								
TEIG	**Tepich**	**118.49**	**72**	PFAKE			07 05 50.0	+12
TEIG				LR	LR			
comp=Z,152nm,19.0s,MS4.7								
AKASG	**Malin Array Be**	**118.59**	**324**	PKP	PKPdf		07 05 35.7	-1.5
AKASG				PKKPbc	PKKPbc		07 15 52.2	-3.2
AKASG	**Malin Array Be**	**118.59**	**324**	PKP	PKPdf		07 05 35.7	-1.5
comp=Z,1.1nm,0.7s,baz=67,slow=1.6,SNR=7.2								
AKASG				PKKPbc	PKKPbc		07 15 52.2	-3.2
comp=Z,0.5nm,0.4s,baz=257,slow=5.6,SNR=5.6								
KIEV	**Kiev**	**118.60**	**324**	PFAKE			07 05 50.0	+13
KIEV				LR	LR			
comp=Z,276nm,22.0s,MS4.8								
BRAL	**Brewton**	**118.80**	**59**	PFAKE			07 05 50.0	+12
BRAL				LR	LR			
comp=Z,324nm,20.0s,MS5.0								
AAM	**Ann Arbor**	**119.22**	**46**	PFAKE			07 05 50.0	+11
AAM				LR	LR			
comp=Z,243nm,20.0s,MS4.8								
TGUH	**Tegucigalpa,Un**	**119.38**	**79**	PFAKE			07 05 50.0	+10
TGUH				LR	LR			
comp=Z,99nm,19.0s,MS4.5								
ANTO	**Ankara**	**119.69**	**311**	PFAKE			07 05 50.0	+10
ANTO				LR	LR			
comp=Z,128nm,19.0s,MS4.6								
TZTN	**Tazewell**	**120.72**	**53**	*e*PKPdf	PKPdf		07 05 40.8	-0.9
TZTN				LR	LR			
comp=Z,269nm,19.0s,MS4.9								
NB2	**NORSAR Subarra**	**121.11**	**340**	PKPdf	PKPdf		07 05 40.4	-1.3
comp=Z,1.3nm,0.8s,baz=44,slow=1.9								
NOA	**NORSAR Array B**	**121.11**	**340**	PKP	PKPdf		07 05 40.1	-1.7
comp=Z,1.1nm,0.6s,baz=47,slow=2.0,SNR=6.3								
GOGA	**Godfrey**	**121.43**	**56**	PFAKE			07 05 50.0	+6.8
GOGA				LR	LR			
comp=Z,152nm,19.0s,MS4.7								
JTS	**JuntasAbangare**	**121.45**	**83**	PFAKE			07 06 00.0	+16
JTS				LR	LR			
comp=Z,125nm,20.0s,MS4.6								
LSZ	**Lusaka**	**121.68**	**246**	PFAKE			07 06 00.0	+16
LSZ				LR	LR			
comp=Z,175nm,20.0s,MS4.7								
ERPA	**Erie**	**121.87**	**45**	PFAKE			07 06 00.0	+16
ERPA				LR	LR			
comp=Z,288nm,22.0s,MS4.9								
MCWV	**Mont Chateau**	**122.73**	**48**	PFAKE			07 06 00.0	+14
MCWV				LR	LR			
comp=Z,258nm,20.0s,MS4.9								
BLA	**Blacksburg**	**122.99**	**51**	PFAKE			07 06 00.0	+14
BLA				LR	LR			
comp=Z,228nm,20.0s,MS4.8								
SCHQ	**Schefferville**	**123.52**	**27**	PFAKE			07 06 00.0	+13
SCHQ				LR	LR			
comp=Z,507nm,22.0s,MS5.1								
SSPA	**Standing Stone**	**123.85**	**47**	PFAKE			07 06 00.0	+12
SSPA				LR	LR			
comp=Z,185nm,20.0s,MS4.7								
NHSC	**New Hope**	**124.19**	**56**	PFAKE			07 06 00.0	+11
NHSC				LR	LR			
comp=Z,119nm,20.0s,MS4.5								
CBN	**Corbin**	**125.02**	**49**	PFAKE			07 06 00.0	+10
CBN				LR	LR			
comp=Z,203nm,19.0s,MS4.8								
CNNC	**Cliffs of the**	**125.49**	**53**	PFAKE			07 06 00.0	+9.0
CNNC				LR	LR			
comp=Z,187nm,19.0s,MS4.8								
DPC	**Dobruska-Polom**	**125.94**	**328**	*e*PKPdf	PKPdf		07 05 47.8	-3.5
UPC	**Upice**	**126.01**	**328**	*e*PKPdf	PKPdf		07 05 52.0	+0.5
PVCC	**Panska Ves**	**126.74**	**329**	*e*PKPdf	PKPdf		07 05 53.5	+0.6
BRG	**Berggiesshubel**	**126.84**	**330**	*e*PKIKP	PKPdf		07 05 53.6	+0.6
BRG				pmax	pmax			
comp=Z,9.0nm,1.3s								
BRG	**Berggiesshubel**	**126.84**	**330**	*e*PKPdf	PKPdf		07 05 52.7	-0.3
BRG	**Berggiesshubel**	**126.84**	**330**	*e*PKP	PKPdf		07 05 53.6	+0.6
comp=Z,16nm,1.3s								
CLL	**Collm**	**127.03**	**331**	*e*PKP	PKPdf		07 05 53.0	-0.4
CLL				*e*			07 06 14.0	
CLL	**Collm**	**127.03**	**331**	*e*PKPdf	PKPdf		07 05 52.9	-0.5
CLL	**Collm**	**127.03**	**331**	*e*PKPdf	PKPdf		07 05 53.0	-0.4
comp=Z,12nm,1.3s								
CLL				LmV			08 04 00.0	
comp=Z,100nm,21.1s								
FBE	**Freiberg**	**127.10**	**330**	*e*PKPdf	PKPdf		07 05 54.3	+0.8
CONA	**Conrad Observa**	**127.58**	**326**	⇑*i*P	PKPdf		07 05 57.2	+2.7
comp=Z,11nm,1.9s								
CONA	**Conrad Observa**	**127.58**	**326**	⇑*i*pPKPdf	pPKPdf		07 05 57.2	-1.9
comp=Z,11nm,1.9s								
CSNA	**Conrad Observa**	**127.58**	**326**	⇑*i*pPKPdf	pPKPdf		07 05 57.2	-1.9
comp=Z,8.4nm,1.5s								
WES	**Weston**	**127.71**	**42**	PFAKE			07 06 10.0	+15
WES				LR	LR			
comp=Z,708nm,21.0s,MS5.3								
TANN	**Tannenbergstha**	**127.86**	**330**	*e*PKPdf	PKPdf		07 05 56.1	+1.1
CLZ	**Clausthal**	**127.91**	**333**	*e*PKPdf	PKPdf		07 05 55.3	+0.2
WERD	**Werda**	**127.92**	**330**	*e*PKPdf	PKPdf		07 05 55.3	+0.2
GUNZ	**Gunzen**	**127.96**	**330**	*e*PKPdf	PKPdf		07 05 55.1	-0.1
WERN	**Wernitzgruen**	**127.98**	**330**	*e*PKPdf	PKPdf		07 05 54.9	-0.3
KHC	**Kasperske Hory**	**128.10**	**328**	⇑*i*PKIKP	PKPdf		07 05 55.4	-0.1
KHC	**Kasperske Hory**	**128.10**	**328**	*e*PKPdf	PKPdf		07 05 55.0	-0.5
GEC2	**GERESS Array S**	**128.21**	**328**	*e*PKPdf	PKPdf		07 05 55.5	-0.2
GERES	**GERESS Array B**	**128.21**	**328**	PKP	PKPdf		07 05 55.6	-0.1
comp=Z,1.0nm,0.5s,baz=48,slow=2.0,SNR=9.1								
MANZ	**Manzenberg**	**128.31**	**330**	*e*PKPdf	PKPdf		07 05 55.3	-0.6
ROTZ	**Rotzenmuhle**	**128.40**	**330**	*e*PKPdf	PKPdf		07 05 55.6	-0.5
WET	**Wettzell**	**128.45**	**329**	*e*PKPdf	PKPdf		07 05 57.3	+1.1
GRA1	**Grafenberg Arr**	**128.94**	**330**	*e*PKPdf	PKPdf		07 05 57.5	+0.4
GRA1				LR	LR			
comp=Z,100nm,20.5s,MS4.5								
GRF	**Grafenberg Arr**	**128.94**	**330**	*e*PKPdf	PKPdf		07 05 57.5	+0.4
GRF				*e*L			07 59 15.4	
comp=Z,145nm,20.5s								
TSUM	**Tsumeb**	**129.26**	**237**	PFAKE			07 06 10.0	+11
TSUM				LR	LR			
comp=Z,292nm,19.0s,MS5.0								
STU	**Stuttgart**	**130.54**	**330**	*e*PKPdf	PKPdf		07 06 01.3	+1.1
FETA	**Feichten**	**130.91**	**328**	⇑*i*P	PKPdf		07 06 00.9	0.0
comp=Z,12nm,1.8s								
LPAZ	**La Paz**	**131.09**	**120**	PKP	PKPdf		07 06 02.4	+0.3
comp=Z,4.2nm,1.1s,baz=324,slow=1.2,SNR=9.6								
BFO	**Black Forest**	**131.27**	**330**	PFAKE			07 06 10.0	+8.4
BFO				LR	LR			
comp=Z,177nm,20.0s,MS4.8								
WLF	**Walferdange**	**131.35**	**333**	*e*PKPdf	PKPdf		07 06 04.1	+2.4
CPUP	**Villa Florida**	**133.47**	**139**	PKP	PKPdf		07 06 05.4	-1.0
comp=Z,1.3nm,0.6s,baz=267,slow=4.8,SNR=5.3								
ECRI	**Cripan**	**140.62**	**333**	PKIKP	PKPdf		07 06 21.1	+2.0
GUD	**Guadarrama**	**142.93**	**333**	PKIKP	PKPdf		07 06 22.3	-1.0
ESDC	**Sonseca Array**	**143.61**	**331**	PKP	PKPdf		07 06 21.7	-2.8
comp=Z,0.3nm,0.3s,baz=48,slow=1.9,SNR=6.7								
ESLA	**Sonseca Array**	**143.61**	**331**	PFAKE			07 06 40.0	+15
ESLA				LR	LR			
comp=Z,1μm,22.0s,MS5.6								
EMUR	**La Murta**	**143.62**	**327**	PKP	PKPdf		07 06 20.0	-4.6
EVIA	**Vianos**	**143.69**	**329**	PKIKP	PKPdf		07 06 20.9	-3.8
EHUE	**Huescar**	**144.36**	**328**	PKIKP	PKPdf		07 06 22.7	-3.2
PVIS	**Viseu**	**144.46**	**337**	*e*PKPdf	PKPdf		07 06 24.6	-1.4
PVIS				*ep*PKPdf	pPKPdf		07 06 27.7	-2.8
MTE	**Manteigas**	**144.59**	**336**	*e*PKPdf	PKPdf		07 06 25.2	-1.0
MTE	**Manteigas**	**144.59**	**336**	*e*PKPdf	PKPdf		07 06 24.9	-1.3
MTE				*ep*PKPdf	pPKPdf		07 06 27.7	-3.1
EQES	**Quesada**	**144.62**	**328**	PKP	PKPdf		07 06 23.2	-3.1
EBAN	**Banos Encina**	**144.70**	**330**	PKIKP	PKPdf		07 06 24.5	-2.0
ENIJ	**Nijar**	**144.78**	**327**	PKIKP	PKPdf		07 06 23.6	-3.1
PCBR	**Castelo Branco**	**145.03**	**335**	*e*PKP	PKPdf		07 06 27.8	+0.8
PCBR				*e*-			07 06 48.7	
EADA	**Adamuz**	**145.09**	**330**	PKP	PKPdf		07 06 21.8	-5.4
EBER	**Berja**	**145.20**	**327**	PKP	PKPdf		07 06 25.2	-2.2
ECOG	**Cogollos-Vega**	**145.27**	**328**	PKP2	PKPab		07 06 25.5	-1.8
ELUQ	**Luque**	**145.41**	**329**	PKIKP	PKPdf		07 06 26.5	-1.2
ERON	**Agron**	**145.59**	**328**	PKP	PKPdf		07 06 25.0	-3.0
EGUA	**Guajares**	**145.60**	**328**	PKP2	PKPab		07 06 25.8	-2.7
ELOJ	**Sierra Loja**	**145.67**	**329**	PKP2	PKPab		07 06 26.9	-1.9
EBAD	**Badajoz**	**145.74**	**334**	PKP	PKPdf		07 06 26.5	-1.8
EALB	**Alboran**	**145.99**	**326**	PKP	PKPdf		07 06 26.3	-2.5
PBAR	**Barrancos**	**146.23**	**333**	*e*PKP	PKPdf		07 06 29.7	+0.6
EMIN	**Mina Concepcio**	**146.40**	**332**	PKP	PKPdf		07 06 28.2	-1.3
EMIJ	**Mijas**	**146.44**	**329**	PKP	PKPdf		07 06 28.7	-0.9
PBEJ	**Beja**	**146.72**	**334**	*e*PKP	PKPab		07 06 34.8	+2.1
ESPR	**Espera**	**146.74**	**330**	PKP	PKPdf		07 06 30.4	+0.4
EJIF	**Jimena Fronter**	**146.88**	**330**	PKIKP	PKPdf		07 06 29.0	-1.3
EGRO	**El Granado**	**146.96**	**333**	PKP	PKPdf		07 06 30.6	+0.2
BDFB	**Brasilia**	**147.14**	**137**	*e*PKIKP	PKPdf		07 06 31.2	-0.1
BDFB				*e*			07 06 36.0	
BDFB				MLR	MLR			
comp=Z,216nm,19.0s								
BDFB	**Brasilia**	**147.14**	**137**	PKPbc	PKPdf		07 06 30.9	-0.4
comp=Z,7.9nm,0.8s,baz=168,slow=1.4,SNR=28								
PVAQ	**Vaqueiros**	**147.17**	**333**	*e*PKP	PKPab		07 06 34.1	-0.4
MORF	**Marmelete**	**147.66**	**334**	*e*PKP	PKPab		07 06 37.8	+1.4
PFVI	**Vila Bisbo**	**147.88**	**334**	*e*PKP	PKPab		07 06 37.2	-0.1
TORD	**Torodi Ar. Bea**	**152.90**	**282**	PKP	PKPdf		07 06 40.1	-0.2
comp=Z,4.2nm,0.7s,baz=52,slow=1.6,SNR=5.9								
TORD				PKPbc	PKPbc		07 06 46.3	-1.3
comp=Z,8.7nm,0.9s,baz=67,slow=2.2,SNR=18								
TORD				PP	PP		07 10 33.3	+1.3
comp=Z,0.8nm,0.9s,baz=58,slow=3.3,SNR=3.6								
DBIC	**Dimbokro**	**159.40**	**266**	PFAKE			07 07 00.0	+11
DBIC				LR	LR			
comp=Z,156nm,20.0s,MS4.8								
DBIC	**Dimbokro**	**159.40**	**266**	PKPab	PKPab		07 07 24.5	-2.1
comp=Z,2.0nm,0.6s,baz=113,slow=6.7,SNR=4.3								
RCBR	**Riachuelo**	**162.26**	**144**	PFAKE			07 07 00.0	+7.9
RCBR				LR	LR			
comp=Z,213nm,21.0s								

IDC 18 07:02:13.9±3.0, 874S×15424E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/13, mbtmp3.7/3, Error ellipse: s-maj=93.3km s-min=51.1km az=123.0, D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.23**	**238**	P	P	07 07 12.8	+0.4
1.5nm,0.7s,baz=62,slow=10,SNR=12							
ASAR	**Alice Springs**	**24.47**	**230**	P	P	07 07 34.8	0.0
1.9nm,0.8s,baz=60,slow=9.7,SNR=10							
STKA	**Stephens Creek**	**25.84**	**205**	P	P	07 07 47.2	0.0
1.2nm,0.6s,baz=28,slow=14,SNR=4.6							
TORD	**Torodi Ar. Bea**	**152.70**	**282**	PKPbc	PKPbc	07 22 13.6	-0.2
0.7nm,0.8s,baz=97,slow=1.8,SNR=4.1							

KRSC 18 07:24:13.2±0.5, 5049N×15720E, h11km±11km, ML3.7, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**1.12**	**291**	*i* P	Pb	07 24 32.0	-2.5
ALID				*i* S	Sb	07 24 45.8	-3.2
MIPR	**Malaya Ipel'ka**	**1.81**	**351**	*e*P	Pn	07 24 45.0	+0.7
MIPR				*e*S	Sn	07 25 08.8	+1.6
RUS	**Russkaya**	**2.11**	**22**	*e*P	Pn	07 24 49.1	+0.7
RUS				*i* S	Sn	07 25 15.2	+0.6
GRL	**Gorelyy**	**2.14**	**14**	*e*P	Pn	07 24 50.5	+1.8
GRL				*i* S	Sn	07 25 16.9	+1.7
PET	**Petropavlovsk**	**2.69**	**19**	P	Pn	07 24 58.1	+1.7
PET				*i* S	Sn	07 25 31.4	+2.4
SDLR	**Sedlovina**	**2.98**	**20**	*i* P	Pn	07 25 02.1	+1.8
SDLR				*i* S	Sn	07 25 37.8	+1.8
NLC	**Nalytchevo**	**3.00**	**26**	P	Pn	07 25 00.3	-0.3
NLC				*i* S	Sn	07 25 34.7	-1.7
SPN	**Mys Shipunski**	**3.15**	**33**	*e*P	Pn	07 25 04.1	+1.5
SPN				*i* S	Sn	07 25 41.9	+1.8
GNL	**Ganaly**	**3.24**	**8**	*e*P	Pn	07 25 07.2	+3.3
GNL				*e*S	Sn	07 25 46.5	+4.0
MKZ	**Mys Kozlova**	**4.92**	**32**	*e*P	Pn	07 25 27.6	+0.6
MKZ				*e*S	Sn	07 26 22.4	-1.5
KBTR	**Krutoberegovo**	**6.64**	**28**	*e*P	Pn	07 25 51.7	+1.1

KRSC 18 07:57:20.6±0.8, 5552N×16124E, h141km±30km, ML3.7, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMNR	**Kamenistaya**	**0.62**	**293**	*i* P	Pn	07 57 43.1	+1.6
KMNR				*e*S	Sn	07 57 59.1	+1.7
TUMR	**Tumrok**	**0.67**	**250**	*i* P	Pn	07 57 43.7	+1.9
TUMR				*e*S	Sn	07 58 00.1	+2.1
KLY	**Klyuchi**	**0.86**	**338**	P	Pn	07 57 43.7	+0.4
KOZ	**Kozyrevsk**	**0.94**	**306**	P	Pn	07 57 44.1	+0.2
MKZ	**Mys Kozlova**	**1.01**	**164**	*i* P	Pn	07 57 46.1	+1.6
MKZ				*e*S	Sn	07 58 04.4	+1.7
KBTR	**Krutoberegovo**	**1.13**	**52**	*i* P	Pn	07 57 46.1	+0.5
KBTR				*e*S	Sn	07 58 04.2	-0.5
SRKR	**Sorokina**	**1.14**	**358**	*e*P	Pn	07 57 45.9	+0.2
SRKR				*e*S	Sn	07 58 04.3	-0.6
SRDR	**Sredinnyy**	**1.17**	**314**	*i* P	Pn	07 57 45.9	-0.1
KII	**Karymskiy**	**1.81**	**216**	*e*P	Pn	07 57 54.9	+2.0
SPN	**Mys Shipunski**	**2.53**	**197**	*e*P	Pn	07 58 01.8	+0.2
SPN				*e*S	Sn	07 58 32.5	-0.6
GNL	**Ganaly**	**2.65**	**228**	*i* P	Pn	07 58 04.7	+1.6
AVH	**Avacha**	**2.69**	**214**	*i* P	Pn	07 58 05.9	+2.3
PET	**Petropavlovsk**	**2.92**	**212**	S	Sn	07 58 44.1	+2.0
RUS	**Russkaya**	**3.49**	**209**	P	Pn	07 58 14.2	+0.4
RUS				S	Sn	07 58 53.3	-1.7

NIED ***18*** *08:02:00, 3640N×14080E, h59km, Mw3.9 Best double couple: M₀9.05000×10¹⁴ NP1:φ₀s30.00000°, δ77.00000°, λ93.00000°. NP2:φ₀s198.00000°, δ14.00000°, λ78.00000°.*
ISCJB ***18*** *08:02:14.8±0.6, 3641N±004×14081E±006, h58km±4km, mb4.0/11, Error ellipse: s-maj=9.4km s-min=6.1km az=30.8*
IDC ***18*** *08:02:16.3±1.8, 3651N×14075E, h50km±17km, mb3.7/10, mb1 3.8/14, mb1mx3.8/24, mbtmp3.8/14, ML3.7/4, MS3.4/2, Ms1 3.5/2, ms1mx2.8/35, Error ellipse: s-maj=22.2km s-min=10.3km az=91.0*
JMA ***18*** *08:02:16.4±0.1, 3642N×14069E, h52km±1km, M3.9 Broadband fault plane solution: P waves. NP1: φ₀s236.00000°, δ15.00000°, λ117.00000°. NP2: φ₀s28.00000°, δ76.00000°, λ83.00000°. Principal axes: T Plg58.0000°, Azm289.0000°; N Plg7.0000°, Azm30.0000°; P Plg31.0000°, Azm124.0000°;*
JMA Felt II J1.
NEIC ***18*** *08:02:17.9±1.9, 3638N×14061E, h68km±15km, MG4.0(JMA) Error ellipse: s-maj=21.0km s-min=13.8km az=78.0*
NEIC Recorded [2 JMA] in Fukushima, Ibaraki and Tochigi; [1 JMA] in Gumma Prefectures.

ISC 18 08:02:15.7±0.7, 3643N±004×14082E±006, h49km±5km, n32, σ0s87/40, mb4.0/11, 1C-6D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHO	**Hitachi**	**0.27**	**312**	⇑P	**Pn**	**08 02 25.1**	**+0.6**
JHO				S	**Sn**	**08 02 30.9**	**+0.2**
JYT	**Yasato**	**0.55**	**249**	⇓P	**Pn**	**08 02 27.3**	**-0.1**
JYT				S	**Sn**	**08 02 34.7**	**-1.1**
ONAJ	**Iwakimizuishiy**	**0.67**	**358**	⇓P	**Pn**	**08 02 29.4**	**+0.4**
ONAJ				S	**Sn**	**08 02 38.8**	**+0.2**
JFK	**Kawauchi**	**0.94**	**3**	P	**Pn**	**08 02 32.7**	**+0.2**
JFK				S	**Sn**	**08 02 44.6**	**-0.3**
JAG	**Ashikaga**	**1.10**	**270**	⇓P	**Pn**	**08 02 34.4**	**-0.4**
JAG				S	**Sn**	**08 02 47.2**	**-1.7**
JFT	**Otama**	**1.15**	**340**	⇓P	**Pn**	**08 02 36.0**	**+0.5**
JFT				S	**Sn**	**08 02 50.9**	**+0.8**
JKT	**Katashina**	**1.31**	**285**	⇓P	**Pn**	**08 02 37.5**	**-0.1**
JKT				S	**Sn**	**08 02 53.2**	**-0.7**
JFY	**Yanaizu**	**1.32**	**318**	⇓P	**Pn**	**08 02 38.2**	**+0.4**
JFY				S	**Sn**	**08 02 55.2**	**+0.9**
MJAR	**Matsushiro Arr**	**2.11**	**274**	P	**Pn**	**08 02 48.4**	**-0.1**
54nm,0.3s,baz=97,slow=9.2,SNR=285							
MAJO	**Matsushiro**	**2.11**	**274**	*e*Pn	**Pn**	**08 02 49.1**	**+0.6**
MAT	**Matsushiro**	**2.11**	**274**	P	**Pn**	**08 02 49.1**	**+0.6**
MAT				S	**Sn**	**08 03 14.8**	**+1.2**
JHJ	**Hachijo jima 2**	**3.41**	**195**	P	**Pn**	**08 03 06.0**	**-0.4**
12nm,0.3s,baz=59,slow=20,SNR=7.8							
JHJ				S	**Sn**	**08 03 49.0**	**+3.5**
61nm,0.3s,baz=73,slow=19,SNR=7.8							
ASAJ	**Asahikawa**	**7.80**	**9**	P	**Pn**	**08 04 04.4**	**-2.0**
1.4nm,0.3s,baz=209,slow=11,SNR=4.1							
ASAJ				S	**Sn**	**08 05 31.5**	**-1.8**
0.9nm,0.3s,baz=128,slow=27,SNR=2.8							
JNU	**Nakatsue**	**8.82**	**251**	LR	LR	08 07 59.2	
comp=Z,116nm,18.1s,baz=221,slow=39							
KSRS	**Korea Array**	**10.38**	**279**	P	**Pn**	**08 04 42.6

LFK	Lefkose	1.01	20	*e*PG	Pg	08 49 10.9	-0.2
EREN	Erenkoy	1.48	35	*e*PN	Pn	08 49 20.0	+0.5
EREN	Erenkoy	1.48	35	*e*PN	Pn	08 49 19.5	0.0
ERMK	Ermenek	2.32	356	*i* P	Pn	08 49 31.1	+0.1
ERMK	Ermenek	2.32	356	*i* P	Pn	08 49 31.1	+0.1
ERMK				*i* S	Sn	08 50 00.0	-0.2
HDMB	Hadim	2.68	349	*e*PN	Pn	08 49 36.6	+0.5
AMAG	Maghara	3.67	179	P	Pn	08 49 50.4	+0.7
HNKL	Nakhl	4.45	170	P	Pn	08 50 00.3	+0.1
HNKL				S	Sn	08 50 48.8	-3.8
HNKL	Nakhl	4.45	170	P	Pn	08 50 00.3	0.0
HNKL				S	Sn	08 50 48.8	-3.9
SUZ		4.48	183	P	Pn	08 50 01.1	+0.3
AVNT	Avonos	4.66	17	*i* P	Pn	08 49 53.5	-10
HKAT	Jabal Katrina	5.83	172	P	Pn	08 50 19.6	+0.2
TR2		5.95	175	P	Pn	08 50 21.0	+0.1
HMAT	Matruh	6.01	239	P	Pn	08 50 20.4	-1.5

ISCJB ***18*** *08:52:00.5±0.8, 357N×0.10×1023W±0.1, h10km, mb4.2/20, MS4.3/18, Error ellipse: s-maj=22.2km s-min=9.5km az=147.6*
IDC ***18*** *08:52:00.9±1.3, 366N×10222W, h0km, mb4.0/11, mb1 4.2/11, mb1mx4.1/20, mbtmp4.0/11, MS4.4/19, Ms1 4.4/19, ms1mx4.1/26, Error ellipse: s-maj=48.0km s-min=15.6km az=59.0*
NEIC ***18*** *08:52:02.1±0.7, 357N×10227W, h10km, mb4.5/10, Error ellipse: s-maj=20.3km s-min=9.2km az=58.0*
GCMT ***18*** *08:52:02.1±0.3, 338N×10220W, h15km±1km, MW5.0/73, Moment Tensor Solution. s29,c33; s73,c101; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr0.14±.15; M_θθ-2.81±.14; M_φφ2.67±.15; M_rθ0.93±.28; M_θφ2.68±.13; M_φr-1.22±.34; Best double couple: M_o4.11800×10^16 NP1:φ_s246.00000°, δ69.00000°, λ-3.00000°. NP2: φ_s338.00000°, δ87.00000°, λ-159.00000°. Principal axes: T 3.9320, Plg12.0000°, Azm110.0000°; N 0.3740, Plg69.0000°, Azm346.0000°; P -4.3040, Plg17.0000°, Azm204.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 18 08:52:02.5±0.8, 360N±010×1023W±01, h10km, n39, σ1§01/24, mb4.2/20, MS4.3/18, Galapagos Triple Junction region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	Tegucigalpa,Un	18.09	54	*e*P	Pn	08 56 15.0	+0.8
	49nm,1.3s						
JTS	JuntasAbangare	18.43	68	LR	LR	09 01 13.9	
	comp=Z,1μm,20.0s,baz=248,slow=30						
TEIG	Tepich	21.44	38	P	P	08 56 50.3	-0.7
	7.1nm,0.9s,mb4.0,baz=56,slow=3.6,SNR=3.3						
TEIG				LR	LR	09 04 06.0	
	comp=Z,1μm,18.6s,MS4.3,baz=259,slow=34						
LPIG	La Paz	21.81	340	LR	LR	09 03 14.1	
	comp=Z,394nm,19.9s,MS3.8,baz=358,slow=31						
TXAR	Lajitas Array	25.63	357	P	P	08 57 33.7	+1.4
TXAR				PcP	PcP	09 01 02.6	-0.5
TXAR				LR	LR	09 06 46.7	
TXAR	Lajitas Array	25.63	357	P	P	08 57 33.7	+1.4
	1.5nm,0.9s,mb3.5,baz=177,slow=10,SNR=12						
TXAR				PcP	PcP	09 01 02.6	-0.5
	0.4nm,0.7s,baz=186,slow=5.9,SNR=4.0						
TXAR				LR	LR	09 06 46.7	
	comp=Z,884nm,21.0s,MS4.3,baz=275,slow=35						
ATAH	Atahualpa	26.06	114	P	P	08 57 38.5	+2.1
	4.9nm,0.8s,mb4.1,baz=290,slow=14,SNR=5.2						
ATAH				LR	LR	09 05 17.9	
	comp=Z,1μm,21.3s,MS4.4,baz=293,slow=31						
JCT	Junction City	26.84	5	*e*P	P	08 57 43.8	+0.5
	2.4nm,0.4s,mb4.1						
ROSC	El Rosal	27.90	86	LR	LR	09 07 12.8	
	comp=Z,332nm,19.9s,MS3.9,baz=213,slow=33						
NNA	Nana	29.65	122	LR	LR	09 07 11.4	
	comp=Z,900nm,18.3s,MS4.4,baz=312,slow=31						
LPAZ	La Paz	39.12	121	P	P	08 59 29.3	-1.2
LPAZ				LR	LR	09 13 20.5	
LPAZ	La Paz	39.12	121	P	P	08 59 29.3	-1.2
	2.2nm,1.0s,mb3.8,baz=309,slow=12,SNR=5.3						
LPAZ				LR	LR	09 13 20.5	
	comp=Z,747nm,20.3s,MS4.5,baz=290,slow=33						
TAOE	Nuku Hiva Isla	39.73	252	*e*LR	LR	09 10 12.9	
	17μm,24.5s						
REDW	Red Top Meadow	40.32	350	*e*P	P	08 59 40.4	+0.2
	25nm,1.8s,mb4.6						
LOHW	Long Hollow	40.53	351	*e*P	P	08 59 42.4	+0.6
	17nm,1.5s,mb4.5						
IMW	Indian Meadow	40.86	350	*e*P	P	08 59 44.4	-0.1
	22nm,1.6s,mb4.5						
FLWY	Flagg Ranch	41.00	351	*e*P	P	08 59 46.8	+1.1
	25nm,1.3s,mb4.7						
WVOR	Wild Horse Val	41.34	342	*e*P	P	08 59 49.2	+0.7
	12nm,1.7s,mb4.3						
RKT	Rikitea	41.50	229	*e*LQ		09 09 26.6	
	1μm,29.2s						
RKT				*e*LR	LR	09 11 18.6	
	291nm,26.2s						
MCMT	McKenzie Canyo	42.10	349	*e*P	P	08 59 56.3	+1.5
YBH	Yreka Blue Hor	42.15	337	P	P	08 59 54.8	-0.4
	1.3nm,0.7s,mb3.7,baz=138,slow=3.6,SNR=4.8						
AGMN	Agassiz Refuge	44.88	6	*e*P	P	09 00 16.4	-0.7
	4.8nm,0.8s,mb4.4						
EYMN	Ely	45.15	10	*e*P	P	09 00 17.8	-1.4
	6.3nm,0.8s,mb4.5						
SIV	San Ignacio	45.16	117	P	P	09 00 19.4	-0.5
	1.1nm,1.0s,mb3.6,baz=336,slow=2.9,SNR=3.1						
ULM	Lac du Bonnet	46.80	6	P	P	09 00 30.0	-2.3
	3.1nm,0.8s,mb4.3,baz=194,slow=4.2,SNR=4.9						
ULM				LR	LR	09 19 58.9	
	comp=Z,323nm,18.4s,MS4.3,baz=340,slow=36						
PPT	Papeete	51.17	244	*e*LR	LR	09 15 38.2	
	454nm,25.8s,baz=57						
PPT	Papeete	51.17	244	LR	LR	09 16 26.9	
	comp=Z,379nm,18.4s,MS4.5,baz=82,slow=29						
CPUP	Villa Florida	52.67	127	P	P	09 01 17.4	0.0
	3.8nm,0.9s,mb4.3,baz=284,slow=6.5,SNR=6.8						
PLCA	Paso Flores	52.80	150	P	P	09 01 18.4	+0.3
	1.8nm,0.9s,mb4.0,baz=311,slow=6.6,SNR=2.8						
PLCA				LR	LR	09 18 39.0	
	comp=Z,271nm,18.4s,MS4.3,baz=321,slow=30						
BDFB	Brasilia	56.98	111	P	P	09 01 48.7	-0.1
	3.0nm,0.8s,mb4.3,baz=239,slow=18,SNR=7.5						
BDFB				LR	LR	09 24 33.3	
	comp=Z,405nm,20.0s,MS4.5,baz=96,slow=34						
SCHQ	Schefferville	58.59	23	LR	LR	09 28 18.7	
	comp=Z,360nm,18.5s,MS4.5,baz=255,slow=37						
YKA	Yellowknife Ar	59.48	353	P	P	09 02 04.2	-1.2
	1.1nm,0.8s,mb3.9,baz=162,slow=6.6,SNR=16						
YKA				LR	LR	09 27 59.5	
	comp=Z,531nm,18.1s,MS4.7,baz=160,slow=36						
EGAK	Eagle	67.09	343	*e*P	P	09 02 55.1	-0.8
	3.1nm,1.0s,mb4.3						
ESDC	Sonseca Array	94.12	50	LR	LR	09 41 30.3	
	comp=Z,83nm,20.4s,MS4.2,baz=300,slow=32						
DBIC	Dimbokro	96.95	83	LR	LR	09 46 01.3	
	comp=Z,143nm,18.6s,MS4.5,baz=315,slow=33						
NOA	NORSAR Array B	98.00	27	LR	LR	09 48 38.7	
	comp=Z,65nm,18.5s,MS4.2,baz=105,slow=35						
ARCES	ARCESS Array B	99.02	16	LR	LR	09 50 38.7	
	comp=Z,142nm,18.6s,MS4.5,baz=299,slow=36						
HFS	Hagfors	99.49	27	LR	LR	09 47 57.5	
	comp=Z,130nm,20.0s,MS4.4,baz=261,slow=34						
MKAR	Makanchi Array	129.67	356	PKhKP		09 11 09.0	
	0.3nm,0.8s,baz=211,slow=0.8,SNR=2.8						
MKAR				PKP	PKPdf	09 11 13.8	+1.7
	0.6nm,0.9s,baz=2.5,slow=2.8,SNR=3.8						

IDC 18 09:00:50.8±2.9, 5109N×3808E, h0km, mb3.3/1, mb1 3.4/4, mb1mx3.3/20, mbtmp3.4/4, ML3.0/3, Error ellipse: s-maj=33.5km s-min=23.6km az=132.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	Malin Array Be	5.62	269	Pn	Pn	09 02 14.5	-1.0
	1.4nm,0.3s,baz=80,slow=14,SNR=9.6						
AKASG				Sn	Sn	09 03 16.5	-4.1
	1.0nm,0.3s,baz=74,slow=26,SNR=5.8						
FINES	FINESS Array B	12.31	332	Pn	Pn	09 03 41.8	-5.2
	0.1nm,0.3s,baz=139,slow=13,SNR=4.3						
HFS	Hagfors	16.39	313	Pn	Pn	09 04 32.5	-9.4
	0.3nm,0.3s,baz=96,slow=15,SNR=4.4						
TORD	Torodi Ar. Bea	47.94	231	P	P	09 09 30.3	-0.6
	0.3nm,0.7s,baz=19,slow=9.7,SNR=3.0						

ATH ***18*** *09:20:05.2, 3689N×2267E, h87km±2km*
CSEM ***18*** *09:20:06.3±0.3, 3646N×2234E, h40km, ML3.2, Error ellipse: s-maj=7.2km s-min=3.0km az=10.0*
ISCJB ***18*** *09:20:07.3±1.3, 3647N±007×2224E±007, h32km±6km, Error ellipse: s-maj=13.1km s-min=7.6km az=28.5*
THE ***18*** *09:20:07.4, 3653N×2236E, h8km, ML3.2*

ISC 18 09:20:07.2±1.4, 3646N±008×2223E±007, h32km±7km, n10, σ1§08/18, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	PYLOS	0.59	319	*e*Pg	Pb	09 20 19.3	+0.2
PYL				*e*Sg	Sb	09 20 28.3	+1.1
VLI	Veliai	0.63	65	*e*P	Pb	09 20 18.9	-1.0
VLI				*e*S	Sb	09 20 28.3	-0.1
KYTH	Kithira	0.68	105	*e*P	Pb	09 20 21.8	+1.2
ITM	Ithomi	0.76	342	*e*P	Pn	09 20 21.5	-0.3
ITM				*e*S	Sb	09 20 34.0	+1.9
VLX	Vlachokerasia	0.92	8	*e*Pg	Pn	09 20 23.1	-0.8
VLX				*e*Sg	Sn	09 20 35.5	-0.6
DID	Didima	1.33	37	*e*Pg	Pn	09 20 29.1	-0.4
DID				*e*Sg	Sn	09 20 47.5	+1.4
NAIG	Nisos Aigina	1.65	37	*e*P	Pn	09 20 26.5	-7.4
LTK	Loutraki	1.67	21	*e*Pg	Pn	09 20 34.2	0.0
LTK				*e*Sg	Sn	09 20 55.9	+1.2
LTK	Loutraki	1.67	21	*e*Pg	Pn	09 20 34.2	-0.1
LTK				*e*Sg	Sn	09 20 55.9	+1.2
SELA	Sela	1.84	352	*e*Pb	Pb	09 20 38.3	-1.9
SELA				*e*Sb	Sb	09 21 01.0	-1.7

IDC 18 09:36:39.4±11.0, 4878N×15056E, h470km±217km, mb3.0/7, mb1 3.1/7, mb1mx2.8/23, mbtmp3.0/7, Error ellipse: s-maj=205.0km s-min=27.5km az=162.0, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	Inuvik	40.88	33	P	P	09 43 38.5	-0.2
	0.2nm,0.3s,baz=288,slow=9.5,SNR=8.3						
MKAR	Makanchi Array	44.50	294	P	P	09 44 07.8	+0.2
	0.5nm,0.5s,baz=71,slow=5.5,SNR=3.4						
BVAR	Borovoye Array	48.25	307	P	P	09 44 36.5	+0.6
	0.9nm,0.3s,baz=62,slow=8.1,SNR=3.1						
ARCES	ARCESS Array B	55.35	340	P	P	09 45 27.1	-0.1
	2.5nm,1.0s,baz=36,slow=7.2,SNR=8.4						
AKTO	Aktyubinsk	56.09	310	P	P	09 45 31.7	-0.9
	1.0nm,0.6s,baz=63,slow=4.5,SNR=5.0						
FINES	FINESS Array B	61.46	333	P	P	09 46 08.5	-0.2
	0.6nm,0.5s,baz=38,slow=9.6,SNR=6.5						
NOA	NORSAR Array B	65.73	340	P	P	09 46 36.9	+0.8
	2.0nm,0.9s,baz=29,slow=6.5,SNR=3.6						

NEIC ***18*** *09:45:17.7±0.8, 071N×12686E, h10km, mb4.3/1, Error ellipse: s-maj=48.6km s-min=12.4km az=76.0*
ISCJB ***18*** *09:45:19.1±0.9, 07N±01×1267E±04, h33km, mb4.1/7, Error ellipse: s-maj=60.5km s-min=14.8km az=166.7*
IDC ***18*** *09:45:24.1±8.3, 067N×12682E, h61km±79km, mb3.9/6, mb1 4.1/6, mb1mx3.8/15, mbtmp3.9/6, Error ellipse: s-maj=70.1km s-min=18.4km az=77.0*

ISC 18 09:45:21.4±0.9, 07N±01×1268E±04, h35km, n9, σ0§38/9, mb4.1/7, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRAB	Tennant Creek	21.79	160	*e*P	P	09 50 10.4	0.0
	5.6nm,0.4s,mb4.3						
WRA	Warramunga Arr	21.79	161	P	P	09 50 10.4	0.0
	8.1nm,0.5s,mb4.4,baz=339,slow=11,SNR=114						
WB2	Warramunga Arr	21.79	161	*e*P	P	09 50 10.3	-0.2
ASAR	Alice Springs	25.17	164	P	P	09 50 44.3	+0.7
	3.5nm,0.6s,mb4.1,baz=354,slow=16,SNR=42						
ASAR				PcP	PcP	09 54 16.6	-0.6
	0.3nm,0.6s,baz=353,slow=2.1,SNR=5.2						
STKA	Stephens Creek	35.29	158	P	P	09 52 13.3	+0.2
STKA	Stephens Creek	35.29	158	P	P	09 52 13.3	+0.2
	3.8nm,0.7s,mb4.5,baz=328,slow=8.3,SNR=11						
MJAR	Matsushiro Arr	37.22	15	P	P	09 52 29.5	0.0
	0.4nm,0.4s,mb3.6,baz=184,slow=9.6,SNR=4.3						
MKAR	Makanchi Array	60.09	326	P	P	09 55 25.3	+0.2
	1.5nm,0.4s,mb4.4,baz=118,slow=7.8,SNR=13						
VNDA	Vanda	80.41	173	P	P	09 57 28.1	-0.8
	0.5nm,0.5s,mb3.7,baz=309,slow=6.4,SNR=2.6						

IDC ***18*** *09:48:56.4±0.4, 1527S×17360W, h0km, mb5.0/15, mb1 5.1/16, mb1mx5.1/18, mbtmp5.0/16, ML4.8/1, MS4.3/12, Ms1 4.3/12, ms1mx4.2/16, Error ellipse: s-maj=18.9km s-min=14.5km az=117.0*
ISCJB ***18*** *09:49:00.8±0.1, 1528S±004×17370W±004, h42km, mb5.1/73, MS4.7/31, Error ellipse: s-maj=7.7km s-min=3.6km az=135.2*
SZGRF ***18*** *09:49:01.0, 1597S×17411W, h42km, mb4.9, Tonga Islands*
MOS ***18*** *09:49:01.2±1.3, 1511S×17372W, h33km, mb5.4/19, MS4.9/11, Error ellipse: s-maj=11.8km s-min=7.6km az=60.4*
BJI ***18*** *09:49:01.0, 1478S×17390W, h20km, mB5.5, mb5.1, Ms5.3, Msz5.0*
GCMT ***18*** *09:49:02.7±0.2, 1520S×17334W, h52km±3km, MW5.2/90, Moment Tensor Solution. s59,c79; s90,c138; Duration: 1s0 Moment tensor: Scale 10^16Nm; M_rr-1.32±.23; M_θθ2.13±.22; M_φφ-0.80±.24; M_rθ-7.92±.29; M_θφ1.44±.18; M_φr2.29±.16; Best double couple: M_o8.57300×10^16 NP1:φ_s213.00000°, δ14.00000°, λ-162.00000°. NP2: φ_s105.00000°, δ86.00000°, λ-77.00000°. Principal axes: T 8.5220, Plg39.0000°, Azm183.0000°; N 0.1060, Plg13.0000°, Azm284.0000°; P -8.6250, Plg48.0000°, Azm29.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***18*** *09:49:02.7±0.1, 1531S×17363W, mb5.2/44 Error ellipse: s-maj=8.8km s-min=4.2km az=135.0*

ISC 18 09:49:02.8±0.1, 1528S±004×17371W±004, h44km, h44km±4km: pP-P, n733, σ0§56/526, mb5.1/73, MS4.7/31, 105C-67D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	2.32	54	⇑*i*P	Pn	09 49 32.2	-6.3
RAR	Rarotonga	14.49	116	Pn	Pn	09 52 20.9	-4.3
RAR				LR	LR	09 57 02.2	
RAR	Rarotonga	14.49	116	Pn	Pn	09 52 20.9	-4.3
	3.9nm,0.3s,baz=248,slow=6.2,SNR=4.6						
RAR				LR	LR	09 57 02.2	
	comp=Z,373nm,18.6s,baz=302,slow=34						
RAR				T		10 07 12.9	
	26nm,0.3s,baz=187,slow=6.1,SNR=3.8						
PPT	Papeete	23.26	99	*e*LR	LR	09 59 30.3	
	711nm,27.8s						
PPT	Papeete	23.26	99	LR	LR	10 00 51.4	
	comp=Z,104nm,18.2s,baz=272,slow=31						
MKAZ	Moumakai	23.88	202	P	P	09 54 14.2	+1.9
MKAZ	Moumakai	23.88	202	PN	P	09 54 14.0	+1.7
MWZ	Matawai	24.23	197	P	P	09 54 16.4	+0.9
MWZ	Matawai	24.23	197	PN	P	09 54 16.1	+0.6
URZ	Urewera	24.28	198	P	P	09 54 14.7	-1.3
URZ	Urewera	24.28	198	P	P	09 54 14.9	-1.1
	31nm,0.5s,mb5.0,baz=62,slow=1.6,SNR=32						
URZ				LR	LR	10 02 37.3	
	comp=Z,2μm,18.6s,MS4.6,baz=189,slow=34						
URZ	Urewera	24.28	198	*e*PN	P	09 54 13.9	-2.0
BKZ	Black Stump Fm	25.30	198	P	P	09 54 24.0	-1.3
BKZ	Black Stump Fm	25.30	198	*e*PN	P	09 54 23.9	-1.4
PXZ	Pawanui	26.00	197	*e*PN	P	09 54 31.7	+0.1
HNR	Honiara	26.37	280	LR	LR	10 01 50.1	
	comp=Z,184nm,20.9s,MS3.6,baz=176,slow=29						
QRZ	Quartz Range	28.12	203	P	P	09 54 51.1	+0.5
QRZ	Quartz Range	28.12	203	PN	P	09 54 50.8	+0.2
THZ	Tophouse	28.81	201	P	P	09 54 56.7	-0.1
THZ	Tophouse	28.81	201	PN	P	09 54 56.6	-0.2
LTZ	Lake Taylor	29.93	201	P	P	09 55 05.0	-1.7
LTZ	Lake Taylor	29.93	201	PN	P	09 55 05.1	-1.6
WVZ	Waitaha Valley	30.74	203	PN	P	09 55 12.3	-1.5
RPZ	Rata Peaks	31.18	202	P	P	09 55 17.8	+0.1
	28nm,0.6s,mb5.3,baz=167,slow=0.4,SNR=16						
JCZ	Jackson Bay	32.34	204	P	P	09 55 26.7	-1.2
JCZ	Jackson Bay	32.34	204	PN	P	09 55 26.7	-1.2
TAOE	Nuku Hiva Isla	33.41	83	*e*LR	LR	10 04 03.4	
	37μm,28.5s						
EIDS	Eidsvold	34.41	247	*e*P	P	09 55 45.0	-1.2
ARMA	Armidale	35.15	239	*e*P	P	09 55 52.9	+0.4
RKT	Rikitea	37.31	108	*e*LQ		10 05 03.3	
	497nm,25.8s						
RKT				*e*LR	LR	10 06 45.0	
	300nm,26.5s						
CTA	Charters Tower	38.38	257	*e*P	P	09 56 20.0	-0.1
	5.7nm,0.6s,mb4.5						
CTA	Charters Tower	38.38	257	*e*P	P	09 56 20.0	-0.1
CTA				pmax	pmax		
	comp=Z,6.0nm,0.6s						
CTAO	Charters Tower	38.38	257	*e*P	P	09 56 20.1	0.0
CTAO				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
CTAO	Charters Tower	38.38	257	*e*P	P	09 56 20.1	0.0
	comp=Z,6.9nm,0.6s,mb4.6						
CNB	Canberra Magne	38.59	232	⇑*i*P	P	09 56 21.9	+0.2
	comp=Z,19nm,0.5s,mb5.1						
KIP	Kipapa	39.60	23	*e*P	P	09 56 29.4	-0.8
KIP				*e**PP	pP	09 56 41.3	-0.8
KIP				pmax	pmax		
	comp=Z,93nm,0.9s,mb5.5						
KIP	Kipapa	39.60	23	*e*P	P	09 56 29.4	-0.8
	comp=Z,93nm,0.9s,mb5.5						
KIP				*e*pP	pP	09 56 41.2	-0.9
COEN	Coen	41.69	266	*e*P	P	09 56 47.7	0.0
	comp=Z,8.5nm,0.7s,mb4.5						
TOO	Toolangi	42.31	230	⇑*i*P	P	09 56 52.6	+0.2
	comp=Z,402nm,0.7s,mb6.2						
TOO	Toolangi	42.31	230	⇑*i*P	P	09 56 52.6	+0.2
TOO				pmax	pmax		
	comp=Z,403nm,0.7s,mb6.2						
TAU	Tasmania Unive	43.20	222	P	P	09 56 59.2	-0.3
	comp=Z,209nm,0.6s,mb6.0,SNR=10						
STKA	Stephens Creek	43.84	240	*e*P	P	09 57 04.5	-0.3
	comp=Z,16nm,0.6s,mb4.9						
STKA	Stephens Creek	43.84	240	P	P	09 57 05.1	+0.3
	comp=Z,23nm,0.7s,mb5.0,baz=90,slow=7.6,SNR=50						
STKA				LR	LR	10 12 34.6	
	comp=Z,492nm,18.9s,MS4.4,baz=45,slow=32						
WB2	Warramunga Arr	49.57	257	*e*P	P	09 57 49.0	-0.9
WRAB	Tennant Creek	49.57	257	P	P	09 57 49.3	-0.6
	comp=Z,147nm,1.4s,mb5.8,SNR=33						
WRAB	Tennant Creek	49.57	257	*e*P	P	09 57 49.0	-0.9
WRAB	Tennant Creek	49.57	257	*e*P	P	09 57 49.1	-0.8
	comp=Z,17nm,0.7s,mb5.2						
WRA	Warramunga Arr	49.58	257	P	P	09 57 49.4	-0.6
	comp=Z,10nm,0.5s,mb5.1,baz=92,slow=7.5,SNR=385						
ASAR	Alice Springs	49.86	252	P	P	09 57 52.0	-0.1
	comp=Z,68nm,0.6s,mb5.8,baz=86,slow=8.0,SNR=899						
KAKA	Kakadu	52.21	266	*e*P	P	09 58 09.3	-0.5
	comp=Z,16nm,0.4s,mb5.3						
FORT	Forrest	55.20	243	*e*P	P	09 58 30.7	-0.8
	comp=Z,46nm,0.7s,mb5.6						
FITZ	Fitzroy Crossi	57.94	258	*e*P	P	09 58 51.2	0.0
	comp=Z,5.3nm,0.6s,mb4.8						
SBA	Scott Base	63.34	185	*e*P	P	09 59 29.8	+2.8
VNDA	Vanda	63.46	186	*e*P	P	09 59 29.8	+2.0
VNDA				pmax	pmax		
	comp=Z,30nm,0.9s						
VNDA	Vanda	63.46	186	*e*P	P	09 59 29.8	+2.1
	comp=Z,30nm,0.9s,mb5.4						
VNDA	Vanda	63.46	186	P	P	09 59 29.8	+2.0
	comp=Z,22nm,0.8s,mb5.3,baz=5.3,slow=6.6,SNR=122						
KLBR	Kellerberrin	64.03	242	*e*P	P	09 59 32.5	+0.2
	comp=Z,41nm,1.2s,mb5.3						
MJAR	Matsushiro Arr	68.66	320	P	P	10 00 02.2	+0.5
MJAR				LR	LR	10 24 20.5	
MJAR	Matsushiro Arr	68.66	320	P	P	10 00 02.2	+0.5
	comp=Z,6.7nm,1.0s,mb4.5,baz=158,slow=5.2,SNR=11						
MJAR				LR	LR	10 24 20.5	
	comp=Z,318nm,21.4s,MS4.5,baz=120,slow=31						
CASY	Casey	70.39	205	*e*P	P	10 00 12.0	0.0
	comp=Z,11nm,0.9s,mb4.8						
FARB	Farallon Islan	71.02	40	⇓P	P	10 00 16.3	+0.1
	baz=71						
BSC	Santa Cruz Isl	71.06	45	⇑P	P	10 00 16.8	+0.2
	baz=71						
V03C	Hunter Liggett	71.14	43	⇓P	P	10 00 17.8	+0.8
	baz=71						
HAST	Hastings Reser	71.16	42	P	P	10 00 16.9	-0.2
	baz=71,SNR=6.6						
BNLO	Ben Lomond (Sa	71.20	41	⇓P	P	10 00 17.4	+0.1
	baz=71						
JNU	Nakatsue	71.50	313	P	P	10 00 18.9	-0.3
	comp=Z,12nm,0.9s,mb4.8,baz=140,slow=13,SNR=5.6						
SMMC	Simmler	71.55	44	⇓P	P	10 00 19.9	+0.4
	baz=72						
PKD	Parkfield	71.56	43	⇓P	P	10 00 20.3	+0.8
	baz=72						
PTRM	Twissleman Ran	71.61	44	*e*P	P	10 00 19.4	-0.4
U04C	Hernandez Rese	71.64	43	P	P	10 00 20.7	+0.7
	baz=72,SNR=7.5						
PACP	Pacheco Peak	71.69	42	P	P	10 00 21.1	+0.8
	baz=72,SNR=6.4						
CVS	Carmenet Viney	71.75	40	⇓P	P	10 00 20.6	0.0
	baz=72						
WENL	Wente Brothers	71.76	41	⇑P	P	10 00 21.0	+0.3
	baz=72						
NSHM	Saint Helena R	71.77	40	*e*P	P	10 00 20.2	-0.5
HOPS	Hopland	71.77	39	*e*P	P	10 00 20.4	-0.4
HOPS	Hopland	71.77	39	P	P	10 00 21.2	+0.5
	baz=72,SNR=6.4						
P01C	Double 8 Ranch	71.90	39	⇑P	P	10 00 21.6	+0.1
	baz=72,SNR=7.5						
V05C	Boulder Hill,	71.94	44	⇑P	P	10 00 22.7	+0.9
	baz=72						
S04C	Ingram Canyon,	71.96	41	P	P	10 00 22.1	+0.2
	baz=72,SNR=13						
O01C	Eel River Cons	72.03	38	⇓P	P	10 00 22.9	+0.7
	baz=72						

M01C	Crescent City	72.94	37	⇑P	P	10 00 28.2	+0.6
	baz=73						
OHCM	Honcut	72.96	40	eP	P	10 00 27.6	-0.2
HELL	Mitchell Peak	72.98	43	P	P	10 00 27.3	-0.7
	baz=73,SNR=13						
O03C	Acorn Hollow,	73.02	39	⇓P	P	10 00 27.9	-0.2
	baz=73						
PFO	Pinyon Flat Ob	73.06	47	P	P	10 00 28.6	+0.1
	comp=Z,62nm,1.3s,mb5.4,SNR=5.1						
PFO	Pinyon Flat Ob	73.06	47	eP	P	10 00 27.8	-0.8
PFO				pmax	pmax		
	comp=Z,36nm,1.6s,mb5.0						
PFO	Pinyon Flat Ob	73.06	47	eP	P	10 00 27.8	-0.8
	comp=Z,36nm,1.6s,mb5.0						
PFO	Pinyon Flat Ob	73.06	47	P	P	10 00 28.5	-0.1
	baz=73,SNR=7.8						
WDC	Whiskeytown Da	73.07	38	eP	P	10 00 28.3	-0.1
WDC	Whiskeytown Da	73.07	38	P	P	10 00 28.3	-0.1
	baz=73,SNR=16						
LAVA	Lava Cap Winer	73.08	41	P	P	10 00 28.2	-0.3
	baz=73,SNR=7.8						
ORV	Oroville	73.08	40	P	P	10 00 28.0	-0.5
	baz=73,SNR=16						
BBRC	Big Bear Sol-O	73.08	46	⇓P	P	10 00 28.9	+0.2
	baz=73						
KBO	Bosley Butte	73.12	36	eP	P	10 00 28.7	+0.1
S06C	San Francisco	73.13	42	P	P	10 00 28.3	-0.5
	baz=73,SNR=7.6						
KCC	Kaiser Creek	73.15	43	P	P	10 00 28.8	-0.2
	baz=73,SNR=8.4						
SWSC	Sam W. Stewart	73.18	48	⇓P	P	10 00 28.8	-0.4
	baz=73						
LRMC	Laurel Mountai	73.21	45	⇓P	P	10 00 29.2	-0.2
	baz=73						
YSS	Yuzh-Sakhalins	73.23	330	eP	P	10 00 30.4	+1.2
RRX	Edison Barstow	73.36	46	⇑P	P	10 00 30.4	+0.1
	baz=74						
K01A	Sixes	73.36	36	⇓P	P	10 00 30.2	+0.1
	baz=74						
M02C	Callahan	73.39	38	P	P	10 00 30.7	+0.4
	baz=74,SNR=12						
L02A	Cave Junction	73.44	37	P	P	10 00 31.0	+0.4
	baz=74,SNR=8.0						
R05C	Kirkwood Meado	73.46	41	P	P	10 00 30.8	0.0
	baz=74,SNR=21						
CWC	Cottonwood Cre	73.47	44	⇑P	P	10 00 30.8	-0.1
	baz=74						
KEBM	Edson Butte	73.48	36	eP	P	10 00 30.1	-0.6
P05C	Yuba Gap, Truc	73.48	40	P	P	10 00 30.9	0.0
	baz=74,SNR=11						
BELC	Belle Mtn.	73.59	47	P	P	10 00 31.8	+0.1
	baz=74,SNR=9.8						
MLAC	Mammoth Lakes	73.64	43	P	P	10 00 32.6	+0.7
	baz=74,SNR=6.7						
MPMC	Manual Prospec	73.66	45	P	P	10 00 32.0	0.0
	baz=74,SNR=28						
MTUM	Tungsten Hills	73.67	43	eP	P	10 00 32.2	+0.2
O05C	Quincy	73.68	40	P	P	10 00 31.9	-0.1
	baz=74,SNR=8.9						
YBH	Yreka Blue Hor	73.69	37	eP	P	10 00 32.5	+0.5
YBH				pmax	pmax		
	comp=Z,37nm,1.0s						
YBH	Yreka Blue Hor	73.69	37	eP	P	10 00 32.5	+0.4
	comp=Z,37nm,1.0s,mb5.3						
YBH	Yreka Blue Hor	73.69	37	P	P	10 00 32.5	+0.5
	baz=74,SNR=18						
GSC	Goldstone	73.72	46	eP	P	10 00 31.8	-0.6
GSC				pmax	pmax		
	comp=Z,24nm,1.2s,mb5.0						
GSC	Goldstone	73.72	46	eP	P	10 00 31.8	-0.6
	comp=Z,24nm,1.2s,mb5.0						
GSC	Goldstone	73.72	46	P	P	10 00 32.0	-0.4
	baz=74,SNR=11						
TIN	Tinemaha	73.72	43	⇑P	P	10 00 32.1	-0.2
	baz=74						
M03C	McCloud	73.75	38	P	P	10 00 32.5	+0.1
	baz=74,SNR=11						
WAKR	Walker	73.75	42	eP	P	10 00 32.6	+0.1
WAKR				epP	pP	10 00 44.8	-0.5
R06C	Coleville	73.76	42	P	P	10 00 32.7	+0.2
	baz=74,SNR=11						
R07C	Lee Vining	73.77	42	P	P	10 00 32.8	+0.2
	baz=74,SNR=7.9						
O04C	Chester	73.79	39	P	P	10 00 32.8	+0.1
	baz=74,SNR=14						
HEC	Hector,Ludlow	73.80	46	P	P	10 00 32.3	-0.5
	baz=74,SNR=6.1						
BC3	Big Chuckw Mtn	73.80	48	P	P	10 00 32.8	-0.1
	baz=74,SNR=9.9						
112A	Yuma	73.86	49	P	P	10 00 33.5	+0.3
	baz=74,SNR=8.5						
HATC	Hat Creek Radi	73.87	39	P	P	10 00 33.2	+0.1
	baz=74,SNR=9.9						
K02A	Glendale	73.89	36	P	P	10 00 33.3	+0.1
	baz=74,SNR=6.8						
GLA	Glamis	73.94	48	eP	P	10 00 33.7	0.0
GLA				pmax	pmax		
	comp=Z,34nm,1.3s,mb5.1						
GLA	Glamis	73.94	48	eP	P	10 00 33.7	0.0
	comp=Z,34nm,1.3s,mb5.1						
GLA	Glamis	73.94	48	P	P	10 00 33.8	+0.1
	baz=74,SNR=13						
BEKR	Beckwourth	73.97	40	P	P	10 00 33.4	-0.3
	baz=74,SNR=36						
S08C	White Mtn Res	74.01	43	P	P	10 00 34.5	+0.4
	baz=74,SNR=18						
WCN	Washoe City	74.02	41	P	P	10 00 34.1	+0.1
	baz=74,SNR=41						
HUMO	Hull Mountain	74.09	36	eP	P	10 00 34.7	+0.3
HUMO	Hull Mountain	74.09	36	P	P	10 00 34.9	+0.5
	baz=74,SNR=15						
P06A	Stead Airport,	74.15	40	⇑P	P	10 00 35.1	+0.4
	baz=74,SNR=6.6						
ELFS	Eagle Lake Fie	74.19	39	⇓P	P	10 00 35.1	+0.1
	baz=74						
J02A	Umpqua	74.22	36	P	P	10 00 35.8	+0.6
	baz=74,SNR=6.2						
M04C	Macdoel	74.23	38	P	P	10 00 35.5	+0.3
	baz=74,SNR=14						
GMRC	Granite Mounta	74.24	47	P	P	10 00 34.9	-0.5
	baz=74,SNR=13						
GRAC	Grapevine Rang	74.26	44	P	P	10 00 35.6	+0.1
	baz=74,SNR=6.1						
IRM	Iron Mountain	74.28	47	P	P	10 00 35.3	-0.3
	baz=74,SNR=18						
FURC	Furnace Creek,	74.31	45	P	P	10 00 35.5	-0.3
	baz=74,SNR=9.8						
M05C	Lookout	74.38	38	P	P	10 00 36.4	+0.3
	baz=74,SNR=7.3						
TUQ	Turquoise Mtn.	74.40	46	P	P	10 00 36.2	-0.2
	baz=74,SNR=13						
SHOC	Shoshone	74.40	45	P	P	10 00 35.9	-0.5
	baz=74,SNR=8.5						
BBOR	Butler Butte	74.43	36	P	P	10 00 36.6	+0.3
L04A	Klamath Falls	74.44	37	P	P	10 00 36.7	+0.2
	baz=74,SNR=16						
NVAR	Mina Array Bea	74.44	42	P	P	10 00 36.5	-0.1
	comp=Z,18nm,0.8s,mb5.0,baz=227,slow=10.0,SNR=116						
O06A	Flanigan	74.48	40	P	P	10 00 36.7	0.0
	baz=75,SNR=25						
PAHR	Pah Rah Range	74.48	41	eP	P	10 00 36.7	0.0
	comp=Z,36nm,1.1s,mb5.2						
PAHR				epP	pP	10 00 48.8	-0.8
I02A	Mapleton	74.49	35	⇑P	P	10 00 36.9	+0.2
	baz=75						
VSP	Spence Mountai	74.51	37	P	P	10 00 37.7	+0.9
Y12C	Blythe	74.51	48	P	P	10 00 36.9	-0.2
	baz=75,SNR=7.2						
R08A	Mina	74.53	42	P	P	10 00 37.1	+0.1
	baz=75,SNR=9.6						
113A	Mohawk Valley,	74.56	49	P	P	10 00 37.0	-0.4
	baz=75,SNR=9.4						
J03A	Ideyld Park	74.57	36	P	P	10 00 37.4	+0.2
	baz=75,SNR=6.1						
U10A	Ash Meadows, A	74.65	45	P	P	10 00 38.2	+0.4
	baz=75,SNR=11						
M06C	Likely Place G	74.69	39	P	P	10 00 38.1	+0.2
	baz=75,SNR=24						
P07A	Fallon	74.70	41	⇓P	P	10 00 38.0	0.0
	baz=75						
S09A	Goldfield	74.75	43	⇑P	P	10 00 38.2	-0.2
	baz=75,SNR=22						
QSPA	South Pole Qui	74.76	180	eP	P	10 00 39.7	+1.9
I03A	Eugene	74.78	35	⇑P	P	10 00 38.3	0.0
	baz=75						
LDFC	Landfair	74.78	47	eP	P	10 00 38.6	+0.1
LDFC				epP	pP	10 00 50.1	-1.3
K04A	Chilquin	74.80	37	⇓P	P	10 00 38.8	+0.3
	baz=75						
N06A	Buffalo Meadow	74.81	39	P	P	10 00 38.6	0.0
	baz=75,SNR=35						
H02A	Toledo	74.83	34	⇑P	P	10 00 39.0	+0.4
	baz=75						
Q08A	Gabbs	74.93	42	P	P	10 00 39.2	-0.1
	baz=75,SNR=24						
EUO	Eugene	74.93	35	P	P	10 00 40.1	+1.0
TPH	Tonopah	74.95	43	eP	P	10 00 39.8	+0.3
TPH				e*PP	pP	10 00 51.7	-0.7
V11A	Goodsprings	74.95	46	P	P	10 00 39.5	-0.1
	baz=75,SNR=9.1						
NEE2	Needles Airpor	74.96	47	⇓P	P	10 00 39.3	-0.3
	baz=75						
TPNV	Topopah Spring	74.98	44	eP	P	10 00 39.5	-0.2
TPNV	Topopah Spring	74.98	44	P	P	10 00 39.6	-0.1
	baz=75,SNR=12						
L05A	Lakeview	74.99	38	P	P	10 00 40.1	+0.5
	baz=75,SNR=22						
Y13A	Salome	75.04	48	P	P	10 00 40.1	0.0
	baz=75,SNR=12						
W12A	Cal Nev Ari	75.06	46	⇑P	P	10 00 40.0	-0.2
	baz=75						
PDMCI	Parker Dam,Lak	75.06	48	P	P	10 00 40.0	-0.2
	baz=75,SNR=8.6						
O07A	Toulon	75.07	40	P	P	10 00 40.1	+0.1
	baz=75,SNR=53						
R09A	Tonopah	75.14	43	P	P	10 00 40.4	-0.1
	baz=75,SNR=24						
I04A	Tendick Farm,	75.15	36	P	P	10 00 40.1	-0.4
	baz=75,SNR=14						
MOD	Modoc	75.22	38	eP	P	10 00 40.9	0.0
MOD				epP	pP	10 00 53.1	-0.7
MOD	Modoc	75.22	38	P	P	10 00 41.0	+0.1
	baz=75,SNR=16						
H03A	Soap Creek Ran	75.22	35	⇓P	P	10 00 41.2	+0.3
	baz=75						
S10A	Tonopah Range,	75.28	43	P	P	10 00 41.2	-0.1
	baz=75,SNR=19						
U11A	Corn Creek	75.29	45	⇑P	P	10 00 41.5	0.0
	baz=75						
V12A	Nelson	75.30	46	P	P	10 00 41.4	-0.2
	baz=75,SNR=14						
P08A	Dixie Valley	75.30	41	P	P	10 00 41.9	+0.5
	baz=75,SNR=7.8						
K05A	Summer Lake	75.36	37	P	P	10 00 42.2	+0.4
	baz=76,SNR=33						
N07B	Gerlach	75.36	40	P	P	10 00 41.9	+0.1
	baz=76,SNR=34						
Q09A	Carvers	75.40	42	⇓P	P	10 00 41.8	-0.2
	baz=76						
X13A	Yucca	75.43	48	P	P	10 00 42.0	-0.3
	baz=76,SNR=19						
Z14A	Wintersburg	75.46	49	P	P	10 00 42.5	0.0
	baz=76,SNR=5.3						
SHPR	Sheep Range	75.49	45	eP	P	10 00 42.6	0.0
J05A	Fort Rock	75.50	37	P	P	10 00 42.9	+0.4
	baz=76,SNR=35						
M07A	Soldier Meadow	75.60	39	P	P	10 00 43.4	+0.3
	baz=76,SNR=29						
G03A	Yamhill	75.63	34	⇑P	P	10 00 43.4	+0.2
	baz=76						
WIFE	Three Sisters-	75.65	36	P	P	10 00 43.7	+0.4
W13A	Hualapai Mount	75.65	47	P	P	10 00 43.6	+0.1
	baz=76,SNR=15						
115A	Sonoran Desert	75.66	50	⇑P	P	10 00 43.5	-0.2
	baz=76						
R10A	Warm Springs	75.67	43	P	P	10 00 43.9	+0.2
	baz=76,SNR=30						
S11A	Rachel	75.70	44	P	P	10 00 43.7	-0.1
	baz=76,SNR=12						
Y14A	Wickenburg	75.70	48	P	P	10 00 43.2	-0.7
	baz=76,SNR=18						
K06A	Valley Falls	75.78	38	P	P	10 00 44.3	+0.2
	baz=76,SNR=32						
P09A	Austin	75.82	42	⇓P	P	10 00 44.6	+0.2
	baz=76						
H04A	Detroit Lake	75.83	35	P	P	10 00 43.9	-0.5
	baz=76,SNR=14						
T11A	Corn Creek, Al	75.84	45	P	P	10 00 44.8	+0.2
	baz=76,SNR=32						
L07A	Adell	75.86	39	P	P	10 00 45.0	+0.4
	baz=76,SNR=37						
KSRS	Korea Array	75.87	316	P	P	10 00 47.0	+2.2
	comp=Z,3.1nm,0.7s,mb4.3,baz=125,slow=5.9,SNR=9.4						
KSRS				LR	LR	10 27 55.0	
	comp=Z,137nm,21.1s,MS4.2,baz=141,slow=31						
F03A	Seaside	75.88	34	⇓P	P	10 00 45.1	+0.5
	baz=76						
U12A	Valley of Fire	75.88	46	P	P	10 00 45.1	+0.2
	baz=76,SNR=12						
N08A	GE Springer Mi	75.89	40	P	P	10 00 44.8	0.0
	baz=76,SNR=11						
216A	Three Points,	75.90	51	P	P	10 00 45.3	+0.2
	baz=76,SNR=8.9						
Q10A	Clear Creek Ra	75.90	43	P	P	10 00 44.7	-0.2
	baz=76,SNR=14						
T12A	Moapa	75.91	45	⇓P	P	10 00 44.9	-0.1
	baz=76						
V13A	Grand Canyon W	75.97	46	P	P	10 00 45.1	-0.2
	baz=76,SNR=14						
116A	Eloy	75.98	50	⇓P	P	10 00 45.4	-0.1
	baz=76						
G04A	Mulino	76.00	35	⇓P	P	10 00 46.5	+1.2
	baz=76						
I05A	Bend	76.02	36	⇓P	P	10 00 45.8	+0.3
	baz=76,SNR=5.8						
X14A	Yava	76.04	48	P	P	10 00 46.0	+0.2
	baz=76,SNR=16						
J06A	Christmas Vall	76.11	37	P	P	10 00 45.5	-0.5
	baz=76,SNR=30						
O09A	Fish Creek Ran	76.13	41	P	P	10 00 46.2	0.0
	baz=76,SNR=17						
R11A	Troy Canyon, C	76.18	43	P	P	10 00 46.2	-0.3
	baz=76,SNR=14						
Y15A	Casa Rosa Ranc	76.19	49	P	P	10 00 46.8	+0.1
	baz=76,SNR=37						
BMN	Battle Mountai	76.26	41	eP	P	10 00 47.0	+0.1
BMN				pmax	pmax		
	comp=Z,42nm,1.4s,mb5.2						
BMN	Battle Mountai	76.26	41	eP	P	10 00 47.0	+0.1
	comp=Z,42nm,1.4s,mb5.2						
U13A	Pakoon Wash	76.27	46	P	P	10 00 47.4	+0.3
	baz=76,SNR=46						
E03A	Lebam	76.27	33	P	P	10 00 47.1	+0.3
	baz=76,SNR=5.6						
217A	Green Valley	76.28	51	P	P	10 00 47.3	+0.1
	baz=76,SNR=19						
W14A	Seligman	76.28	47	P	P	10 00 47.5	+0.4
	baz=76,SNR=23						
S12A	Delamar Landin	76.28	44	P	P	10 00 47.6	+0.5
	baz=76,SNR=15						
P10A	Eureka	76.30	42	P	P	10 00 47.2	+0.1
	baz=76,SNR=12						
N09A	Rock Creek Ran	76.31	40	P	P	10 00 47.2	0.0
	baz=76,SNR=12						
K07A	Rock Creek Ran	76.31	38	P	P	10 00 47.3	+0.1
	baz=76,SNR=34						
H05A	Madras	76.34	36	P	P	10 00 47.5	+0.2
	baz=76,SNR=12						
Q11A	Duckwater	76.40	43	P	P	10 00 47.7	-0.1
	baz=76,SNR=28						
V14A	Boquillas Ranc	76.47	47	P	P	10 00 48.5	+0.3
	baz=77,SNR=28						
F04A	Amboy	76.49	34	⇓P	P	10 00 47.8	-0.3
	baz=77						
I06A	Prineville	76.50	37	P	P	10 00 48.4	+0.3
	baz=77,SNR=36						
X15A	Humboldt	76.52	48	P	P	10 00 48.6	+0.1
	baz=77,SNR=16						
VLA	Vladivostok	76.53	322	eP	P	10 00 49.1	+0.7
VLA				pmax	pmax		
	comp=Z,29nm,0.7s,mb5.3						
WVOR	Wild Horse Val	76.53	39	eP	P	10 00 48.1	-0.3
	comp=Z,31nm,1.2s,mb5.1						
D03A	Wishkah Elem.	76.53	33	⇓P	P	10 00 48.8	+0.5
	baz=77						
TUC	Tucson	76.55	51	eP	P	10 00 48.7	-0.1
Z16A	Peralta Trail,	76.56	50	P	P	10 00 48.6	-0.2
	baz=77,SNR=13						
L08A	Fields	76.56	39	⇑P	P	10 00 48.9	+0.3
	baz=77,SNR=32						
T13A	Saint George	76.62	45	P	P	10 00 49.2	+0.2
	baz=77,SNR=18						
O10A	Cortez Mining,	76.64	41	P	P	10 00 49.0	0.0
	baz=77,SNR=7.7						
G05A	Wamic	76.66	35	P	P	10 00 50.0	+0.9
	baz=77,SNR=6.2						
NLWA	Neilton Lookou	76.66	32	eP	P	10 00 49.5	+0.4
NLWA	Neilton Lookou	76.66	32	⇑P	P	10 00 49.4	+0.4
	baz=77						
C03A	Quillayute Air	76.67	32	⇑P	P	10 00 49.5	+0.4
	baz=77						
M09A	Marrel Ranch,	76.67	40	P	P	10 00 49.4	+0.1
	baz=77,SNR=20						
J07A	Hines	76.68	38	P	P	10 00 49.2	0.0
	baz=77,SNR=26						
117A	Oracle	76.70	51	P	P	10 00 50.0	+0.3
	baz=77,SNR=17						
P11A	Circle Ranch,	76.72	42	⇓P	P	10 00 49.2	-0.3
	baz=77						
318A	Bisbee	76.75	52	P	P	10 00 50.0	+0.1
	baz=77,SNR=18						
E04A	Onalaska	76.75	33	⇑P	P	10 00 49.9	+0.4
	baz=77						
Y16A	Circle Bar Ran	76.78	49	P	P	10 00 50.2	+0.2
	baz=77,SNR=14						
K08A	Mann Creek Ran	76.79	38	P	P	10 00 49.9	0.0
	baz=77,SNR=32						
U14A	Mt Trumbull	76.81	46	P	P	10 00 50.5	+0.4
	baz=77,SNR=41						
R12A	Pony Springs,	76.82	44	P	P	10 00 50.1	0.0
	baz=77,SNR=26						
W15A	Williams	76.84	48	⇑P	P	10 00 50.9	+0.6
	baz=77,SNR=5.7						
N10A	Dunphy	76.87	41	⇓P	P	10 00 50.7	+0.3
	baz=77						
L09A	Wilkinson Ranc	76.88	39	P	P	10 00 50.5	+0.1
	baz=77,SNR=11						
H06A	Lindquist Farm	76.90	36	P	P	10 00 50.1	-0.3
	baz=77,SNR=28						
S13A	Holt Ranch, En	76.94	45	P	P	10 00 51.0	+0.2
	baz=77,SNR=28						
218A	Dragoon	76.95	51	P	P	10 00 51.4	+0.4
	baz=77,SNR=14						
F05A	White Salmon	76.98	35	⇓P	P	10 00 51.3	+0.5
	baz=77						
I07A	Izee	76.99	37	P	P	10 00 50.9	0.0
	baz=77,SNR=26						
OSD	Olympics--Snow	77.03	32	P	P	10 00 51.9	+0.8
G06A	Carlson Farm,	77.04	35	⇑P	P	10 00 51.4	+0.2
	baz=77,SNR=7.1						
Q12A	Willow Creek R	77.05	43	P	P	10 00 51.4	-0.1
	baz=77,SNR=11						
X16A	Lo Mia Camp, P	77.06	49	P	P	10 00 52.1	+0.5
	baz=77,SNR=20						
O11A	Cowboy Ranch,	77.09	42	⇑P	P	10 00 51.7	+0.1
	baz=77						
Y17A	Roosevelt	77.16	50	P	P	10 00 52.2	+0.1
	baz=77,SNR=12						
J08A	Circle Bar Ran	77.16	38	P	P	10 00 51.7	-0.2
	baz=77,SNR=28						
T14A	Hurricane	77.20	46	P	P	10 00 52.5	+0.1
	baz=77,SNR=19						
V15A	Kaibab Nationa	77.22	47	P	P	10 00 53.1	+0.6
	baz=77,SNR=26						
P12A	McGill	77.23	43	P	P	10 00 52.3	-0.1
	baz=77,SNR=8.7						
K09A	Rome	77.23	39	⇑P	P	10 00 52.7	+0.4
	baz=77,SNR=42						
E05A	Randle	77.24	34	⇓P	P	10 00 52.8	+0.5
	baz=77,SNR=6.8						
H07A	Lands Inn, Kim	77.25	36	⇑P	P	10 00 52.6	+0.2
	baz=77						
319A	Douglas	77.26	52	P	P	10 00 53.0	+0.3
	baz=77,SNR=17						
CCUT	Cedar City	77.26	45	eP	P	10 00 52.8	+0.2
M10A	I.L. Ranch, Tu	77.30	40	P	P	10 00 53.0	+0.3
	baz=77,SNR=20						
118A	Homack Ranch,	77.31	51	P	P	10 00 53.4	+0.3
	baz=77,SNR=18						
GNW	Green Mountain	77.31	33	eP	P	10 00 52.4	-0.3
GNW				epP	pP	10 01 04.9	-0.8
W16A	Flagstaff	77.32	48	P	P	10 00 53.5	+0.4
	baz=77,SNR=14						
ARUT	Antelope Range	77.33	45	eP	P	10 00 53.0	0.0
C04A	Brinnon	77.34	32	⇑P	P	10 00 52.8	0.0
	baz=77						
MIR	Mirnyy	77.41	204	⇑iP	P	10 00 54.0	+1.0
MIR				pmax	pmax		
	comp=Z,200nm,1.5s,mb5.8						
I08A	Drewsey	77.43	37	P	P	10 00 53.3	-0.1
	baz=78,SNR=17						
SVW2	Sparrevohn	77.49	9	eP	P	10 00 52.6	-0.8
S14A	Cedar City	77.50	45	P	P	10 00 54.3	+0.4
	baz=78,SNR=9.3						
D05A	Enumclaw	77.51	33	⇑P	P	10 00 54.7	+0.9
	baz=78,SNR=5.2						
Q13A	Wheeler Ranch,	77.54	44	P	P	10 00 54.0	-0.2
	baz=78,SNR=23						
219A	White Tail Can	77.55	52	P	P	10 00 54.6	+0.2
	baz=78,SNR=18						
J09A	Fry Pan Ranch,	77.59	38	⇓P	P	10 00 54.3	0.0
	baz=78,SNR=15						
G07A	Ruggs Ranch, H	77.60	36	P	P	10 00 53.8	-0.5
	baz=78,SNR=12						
WUAZ	Wupatki	77.64	48	eP	P	10 00 55.2	+0.4
	comp=Z,48nm,1.5s,mb5.2						
WUAZ	Wupatki	77.64	48	⇑P	P	10 00 54.7	-0.1
	baz=78,SNR=12						
L10A	Juniper Basin	77.65	40	P	P	10 00 54.6	-0.1
	baz=78,SNR=27						
E06A	Yakima	77.65	34	P	P	10 00 54.3	-0.3
	baz=78,SNR=8.0						
T15A	Red Dirt Ranch	77.67	46	P	P	10 00 55.3	+0.4
	baz=78,SNR=47						
M11A	Holland Ranch,	77.72	41	P	P	10 00 55.4	+0.3
	baz=78,SNR=15						
H08A	Prairie City	77.73	37	P	P	10 00 55.1	+0.1
	baz=78,SNR=12						
O12A	Currie	77.76	42	P	P	10 00 55.3	0.0
	baz=78,SNR=18						
Y18A	Canyon Day Jun	77.79	50	P	P	10 00 56.2	+0.5
	baz=78,SNR=22						
K10A	MacKenzie Ranc	77.80	39	⇓P	P	10 00 55.2	-0.3
	baz=78						
P13A	Bates Ranch, G	77.81	43	P	P	10 00 55.6	0.0
	baz=78,SNR=16						
F07A	Phinny Hill Vi	77.83	35	⇓P	P	10 00 55.8	+0.2
	baz=78						
SLKM	Skilak Lake	77.86	12	eP	P	10 00 55.0	-0.4
119A	Ashpeak Ranch,	77.87	51	⇑P	P	10 00 55.9	-0.3
	baz=78,SNR=7.0						
R14A	James Farms, M	77.87	45	⇓P	P	10 00 55.9	-0.1
	baz=78						
N12A	Clover Valley,	77.88	42	P	P	10 00 56.0	0.0
	baz=78,SNR=18						
I09A	Lost Marbles R	77.95	38	⇑P	P	10 00 55.9	-0.5
	baz=78						
C05A	Tolt Reservoir	77.99	33	⇓P	P	10 00 56.1	-0.4
	baz=78						
G08A	Pilot Rock	78.02	36	P	P	10 00 56.9	+0.2
	baz=78,SNR=23						
HABR	Khabarovsk	78.08	328	eP	P	10 00 57.1	+0.2
TWW	Teanaway	78.08	34	P	P	10 00 59.2	+2.2
A04A	Legoe Bay, Lum	78.12	32	⇑P	P	10 00 57.0	-0.1
	baz=78

Y19A	**Nutrioso**	**78.45**	**50**	P	**P**	**10 01 00.1**	**+0.8**
	baz=78,SNR=24						
MSU	**Marysvale**	**78.55**	**45**	*eP*	**P**	**10 01 00.4**	**+0.6**
I10A	**Payette**	**78.57**	**38**	P	**P**	**10 00 60.0**	**+0.2**
	baz=79,SNR=7.6						
L12A	**House Creek Ra**	**78.59**	**40**	P	**P**	**10 01 00.0**	**+0.1**
	baz=79,SNR=13						
X19A	**St. Johns**	**78.64**	**50**	P	**P**	**10 01 01.0**	**+0.6**
	baz=79,SNR=13						
M13A	**Montello**	**78.71**	**41**	P	**P**	**10 01 00.5**	**-0.1**
	baz=79,SNR=16						
BMO	**Blue Mountains**	**78.71**	**37**	*eP*	**P**	**10 01 00.2**	**-0.3**
BMO				*e*PP*	pP	10 01 12.5	-1.0
BMO				pmax	pmax		
	comp=Z,53nm,1.8s,mb5.2						
BMO	**Blue Mountains**	**78.71**	**37**	*eP*	**P**	**10 01 00.2**	**-0.3**
	comp=Z,53nm,1.8s,mb5.2						
BMO				*epP*	pP	10 01 12.5	-1.0
MDJ	**Mudanjiang**	**78.75**	**323**	P	**P**	**10 01 01.5**	**+0.8**
MDJ				AP	pP	10 01 13.3	-0.4
MDJ				AMB	AMB		
	comp=Z,12nm,1.6s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,166nm,4.7s						
MDJ				LR	LR		
	comp=N,170nm,37.4s,MS4.3						
MDJ				LR	LR		
	comp=E,231nm,36.1s,MS4.3						
MDJ				LR	LR		
	comp=Z,414nm,32.3s,MS4.6						
MFID	**Camas Ranch**	**78.78**	**39**	⇑P	**P**	**10 01 00.8**	**-0.1**
	baz=79						
C07A	**Waterville**	**78.85**	**34**	⇓P	**P**	**10 01 00.8**	**-0.4**
	baz=79						
F09A	**S2 Ranch, Elgi**	**78.86**	**36**	⇑P	**P**	**10 01 01.2**	**-0.1**
	baz=79						
H10A	**Noah's Angus R**	**78.89**	**38**	P	**P**	**10 01 00.8**	**-0.7**
	baz=79,SNR=20						
K12A	**Draper Farm, C**	**78.93**	**40**	P	**P**	**10 01 01.4**	**-0.3**
	baz=79,SNR=12						
DUG	**Dugway**	**78.98**	**43**	*eP*	**P**	**10 01 01.9**	**-0.2**
DUG				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
DUG	**Dugway**	**78.98**	**43**	*eP*	**P**	**10 01 01.9**	**-0.2**
	comp=Z,17nm,1.1s,mb4.9						
DUG	**Dugway**	**78.98**	**43**	P	**P**	**10 01 02.0**	**-0.1**
	baz=79,SNR=14						
I11A	**Placerville**	**78.98**	**39**	P	**P**	**10 01 01.6**	**-0.4**
	baz=79,SNR=14						
PMR	**Palmer**	**79.07**	**12**	*eP*	**P**	**10 01 01.1**	**-1.0**
PMR				pmax	pmax		
	comp=Z,72nm,2.1s,mb5.2						
PMR				MLR	MLR		
	comp=Z,100nm,22.0s,MS4.1						
PMR	**Palmer**	**79.07**	**12**	*eP*	**P**	**10 01 01.1**	**-1.0**
	comp=Z,72nm,2.1s,mb5.2						
PMR				LR	LR		
	comp=Z,100nm,22.0s,MS4.1						
G10A	**Bishop Farm, J**	**79.07**	**37**	P	**P**	**10 01 02.0**	**-0.5**
	baz=79,SNR=12						
N14A	**Grayback Hills**	**79.07**	**42**	P	**P**	**10 01 02.1**	**-0.5**
	baz=79,SNR=10						
D08A	**Wollman Farm,**	**79.09**	**35**	⇓P	**P**	**10 01 02.3**	**-0.2**
	baz=79						
J12A	**Stokes Ranch,**	**79.14**	**39**	P	**P**	**10 01 02.7**	**-0.2**
	baz=79,SNR=22						
TTA	**Tatalina**	**79.18**	**8**	*eP*	**P**	**10 01 03.1**	**+0.4**
E09A	**Wood Farm, Sta**	**79.20**	**35**	⇑P	**P**	**10 01 02.8**	**-0.3**
	baz=79						
BGU	**Big Grassy Mou**	**79.21**	**42**	*eP*	**P**	**10 01 03.2**	**-0.2**
L13A	**Double Diamond**	**79.23**	**41**	P	**P**	**10 01 03.5**	**+0.1**
	baz=79,SNR=11						
B07A	**Winthrop**	**79.29**	**33**	⇑P	**P**	**10 01 03.0**	**-0.6**
	baz=79						
M14A	**Sheep Mountain**	**79.31**	**42**	P	**P**	**10 01 03.8**	**0.0**
	baz=79,SNR=45						
NLU	**North Lily Min**	**79.35**	**43**	*eP*	**P**	**10 01 04.1**	**0.0**
DIV	**Divide**	**79.35**	**13**	*eP*	**P**	**10 01 02.9**	**-0.7**
	comp=Z,24nm,0.9s,mb5.1						
DIV				*epP*	pP	10 01 15.4	-1.2
H11A	**Donnelly**	**79.39**	**38**	P	**P**	**10 01 03.8**	**-0.5**
	baz=80,SNR=12						
F10A	**Beach Ranch, E**	**79.40**	**36**	⇓P	**P**	**10 01 03.7**	**-0.6**
	baz=80,SNR=7.7						
OD2	**Odessa Site #2**	**79.40**	**34**	P	**P**	**10 01 03.9**	**-0.4**
SML	**Sawmill**	**79.42**	**12**	*eP*	**P**	**10 01 03.0**	**-1.0**
D09A	**Jones Farm, Ri**	**79.43**	**35**	P	**P**	**10 01 03.9**	**-0.5**
	baz=80,SNR=6.4						
K13A	**Stover Farm, H**	**79.44**	**40**	P	**P**	**10 01 04.5**	**0.0**
	baz=80,SNR=12						
A07A	**Ashnola River,**	**79.52**	**32**	⇑P	**P**	**10 01 04.5**	**-0.3**
	baz=80						
TMUT	**Trail Mountain**	**79.60**	**44**	*eP*	**P**	**10 01 06.0**	**+0.5**
G11A	**Walters Elk Ra**	**79.63**	**37**	P	**P**	**10 01 04.8**	**-0.7**
	baz=80,SNR=13						
B08A	**Colville Reser**	**79.65**	**33**	⇑P	**P**	**10 01 04.4**	**-1.2**
	baz=80						
MPU	**Maple Canyon**	**79.67**	**44**	*eP*	**P**	**10 01 06.0**	**+0.1**
HLID	**Hailey**	**79.73**	**39**	P	**P**	**10 01 06.3**	**+0.2**
	baz=80,SNR=25						
E10A	**Myers Farm, Un**	**79.76**	**36**	⇓P	**P**	**10 01 05.7**	**-0.5**
	baz=80						
J13A	**Cove Ranch, Pi**	**79.79**	**40**	P	**P**	**10 01 06.6**	**+0.2**
	baz=80,SNR=26						
SPUT	**South Promonto**	**79.79**	**42**	*eP*	**P**	**10 01 06.2**	**-0.3**
HVU	**Hansel Valley**	**79.82**	**42**	*eP*	**P**	**10 01 06.2**	**-0.4**
NJ2	**Nanjing**	**79.86**	**307**	*eP*	**P**	**10 01 08.0**	**+0.9**
NJ2				PCP	PcP	10 01 16.3	+1.7
NJ2				S	S	10 11 06.0	-1.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,310nm,9.7s						
NJ2				LR	LR		
	comp=N,3µm,23.7s,MS5.7						
NJ2				LR	LR		
	comp=E,2µm,23.5s,MS5.7						
NJ2				LR	LR		
	comp=Z,2µm,23.4s,MS5.4						
C09A	**Chrisman Ranch**	**79.88**	**34**	⇓P	**P**	**10 01 06.5**	**-0.3**
	baz=80						
CTU	**Camp Tracy**	**79.93**	**43**	*eP*	**P**	**10 01 07.4**	**+0.2**
K14A	**Jones Ranch, D**	**79.96**	**41**	P	**P**	**10 01 07.4**	**+0.1**
	baz=80,SNR=22						
MA2	**Magadan**	**79.96**	**343**	*eP*	**P**	**10 01 05.5**	**-1.5**
MA2				*eS*	S	10 11 03.8	-3.5
MA2				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
MA2				MLR	MLR		
	comp=Z,200nm,19.7s,MS4.5						
F11A	**Grangeville**	**79.97**	**37**	⇓P	**P**	**10 01 06.2**	**-1.1**
	baz=80						
SRU	**San Rafael**	**79.97**	**45**	*eP*	**P**	**10 01 07.8**	**+0.3**
SRU				*e*PP*	pP	10 01 20.0	-0.5
D10A	**Wagner Farm, O**	**80.00**	**35**	⇓P	**P**	**10 01 06.4**	**-1.1**
	baz=80						
A08A	**Turner Farm, O**	**80.04**	**33**	⇑P	**P**	**10 01 06.9**	**-0.8**
	baz=80						
JLU	**Jordanelle**	**80.08**	**43**	*eP*	**P**	**10 01 08.4**	**+0.3**
I13A	**Wildhorse Cree**	**80.10**	**39**	⇓P	**P**	**10 01 07.7**	**-0.4**
	baz=80,SNR=7.0						
E11A	**Bogner Ranch,**	**80.20**	**36**	⇑P	**P**	**10 01 07.4**	**-1.2**
	baz=80						
LAZ	**Ladron**	**80.21**	**50**	*eP*	**P**	**10 01 09.4**	**+0.5**
B09A	**Rice**	**80.32**	**34**	⇓P	**P**	**10 01 08.5**	**-0.7**
	baz=80						
H13A	**Challis**	**80.36**	**39**	P	**P**	**10 01 09.2**	**-0.3**
	baz=80,SNR=14						
MNTX	**Cornudas Mount**	**80.40**	**53**	*eP*	**P**	**10 01 09.8**	**-0.2**
A09A	**Danville**	**80.41**	**33**	⇑P	**P**	**10 01 09.2**	**-0.4**
	baz=80						
F12A	**Elk City**	**80.42**	**37**	P	**P**	**10 01 09.2**	**-0.6**
	baz=80,SNR=20						
BNM	**Barren Site**	**80.48**	**51**	*eP*	**P**	**10 01 09.9**	**-0.5**
MVCO	**Mesa Verde**	**80.48**	**47**	*eP*	**P**	**10 01 11.0**	**+0.6**
MVCO	**Mesa Verde**	**80.48**	**47**	⇑P	**P**	**10 01 09.9**	**-0.5**
	baz=81						
HWUT	**Hardware Ranch**	**80.51**	**42**	*eP*	**P**	**10 01 09.8**	**-0.6**
D11A	**Klaveano Farm,**	**80.52**	**36**	P	**P**	**10 01 09.2**	**-1.0**
	baz=81,SNR=7.0						
LPM	**Los Pinos Moun**	**80.55**	**51**	*eP*	**P**	**10 01 11.1**	**+0.3**
PV10	**Paradox Valley**	**80.64**	**46**	*eP*	**P**	**10 01 11.3**	**+0.2**
G13A	**Cobalt**	**80.66**	**38**	⇓P	**P**	**10 01 10.4**	**-0.6**
	baz=81,SNR=8.8						
SKAG	**Skagway**	**80.73**	**19**	*eP*	**P**	**10 01 10.9**	**-0.2**
	comp=Z,40nm,1.7s,mb5.1						
SKAG				LR	LR		
	comp=Z,700nm,23.0s,MS5.0						
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**10 01 12.5**	**+0.3**
TXAR				LR	LR	10 28 15.2	
TXAR	**Lajitas Array**	**80.80**	**56**	P	**P**	**10 01 12.5**	**+0.3**
	comp=Z,5.2nm,1.1s,mb4.4,baz=229,slow=5.8,SNR=33						
TXAR				LR	LR	10 28 15.2	
	comp=Z,285nm,20.8s,MS4.6,baz=185,slow=29						
CN2	**Changchun**	**80.81**	**320**	⇑P	**P**	**10 01 12.9**	**+1.0**
CN2				*eAP*	pP	10 01 26.1	+1.2
CN2				*eS*	S	10 11 16.1	-0.7
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
PV01	**Paradox Valley**	**80.86**	**46**	*eP*	**P**	**10 01 12.3**	**0.0**
ANMO	**Albuquerque**	**80.96**	**50**	⇑*eP*	**P**	**10 01 12.9**	**0.0**
ANMO	**Albuquerque**	**80.96**	**50**	*eP*	**P**	**10 01 13.2**	**+0.3**
D12A	**Red Ives Fores**	**81.08**	**36**	⇑P	**P**	**10 01 12.5**	**-0.7**
	baz=81						
MCMT	**McKenzie Canyo**	**81.35**	**39**	*eP*	**P**	**10 01 15.0**	**+0.3**
MCMT				*epP*	pP	10 01 27.6	-0.2
GDL2	**Guadalupe Moun**	**81.39**	**53**	*eP*	**P**	**10 01 15.7**	**+0.4**
GDL2				*epP*	pP	10 01 28.6	+0.3
MENT	**Mentasta**	**81.41**	**13**	*eP*	**P**	**10 01 13.9**	**-0.8**
E13A	**Victor**	**81.42**	**37**	P	**P**	**10 01 14.1**	**-0.9**
	baz=82,SNR=9.9						
F14A	**Wisdom**	**81.56**	**38**	⇑P	**P**	**10 01 15.6**	**-0.3**
	baz=82						
A11A	**Hall Mountain,**	**81.59**	**34**	⇓P	**P**	**10 01 15.2**	**-0.7**
	baz=82						
D13A	**Huson**	**81.61**	**36**	⇑P	**P**	**10 01 15.2**	**-0.9**
	baz=82						
G15A	**Dillon**	**81.75**	**39**	P	**P**	**10 01 16.8**	**-0.1**
	baz=82,SNR=15						
DCID1	**Drake Creek**	**81.75**	**41**	*eP*	**P**	**10 01 17.5**	**+0.6**
DCID1				*epP*	pP	10 01 30.1	+0.1
MSO	**Missoula**	**81.77**	**37**	*eP*	**P**	**10 01 16.1**	**-0.8**
MSO				*epP*	pP	10 01 28.3	-1.7
E14A	**Clinton**	**81.81**	**37**	P	**P**	**10 01 16.7**	**-0.5**
	baz=82,SNR=12						
REDW	**Red Top Meadow**	**81.84**	**41**	*eP*	**P**	**10 01 17.2**	**-0.2**
TPAW	**Teton Pass**	**81.84**	**41**	*eP*	**P**	**10 01 17.6**	**+0.2**
	comp=Z,70nm,1.8s,mb5.3						
C13A	**Hot Springs**	**81.87**	**36**	⇓P	**P**	**10 01 16.2**	**-1.2**
	baz=82						
SNOW	**Snow King Moun**	**81.95**	**41**	*eP*	**P**	**10 01 18.1**	**+0.1**
IMW	**Indian Meadow**	**82.06**	**40**	*eP*	**P**	**10 01 17.8**	**-0.7**
	comp=Z,21nm,1.0s,mb5.0						
F15A	**Butte**	**82.09**	**38**	P	**P**	**10 01 18.3**	**-0.4**
	baz=82,SNR=10						
MOOW	**Moose Ponds**	**82.10**	**41**	*eP*	**P**	**10 01 18.9**	**+0.1**
	comp=Z,35nm,1.7s,mb5.0						
LRM	**Limekiln Ridge**	**82.11**	**38**	*eP*	**P**	**10 01 18.4**	**-0.3**
LOHW	**Long Hollow**	**82.12**	**41**	*eP*	**P**	**10 01 19.0**	**+0.2**
	comp=Z,37nm,1.5s,mb5.1						
D14A	**Greenough**	**82.15**	**37**	P	**P**	**10 01 18.1**	**-0.9**
	baz=82,SNR=8.7						
CHMT	**Chamberlain Mo**	**82.21**	**37**	*eP*	**P**	**10 01 18.7**	**-0.6**
QLMT	**Earthquake Lak**	**82.22**	**39**	*eP*	**P**	**10 01 20.3**	**+0.9**
QLMT				*epP*	pP	10 01 32.5	+0.1
FLWY	**Flagg Ranch**	**82.30**	**40**	*eP*	**P**	**10 01 20.1**	**+0.4**
COLA	**College**	**82.30**	**11**	*eP*	**P**	**10 01 18.5**	**-0.8**
COLA				pmax	pmax		
	comp=Z,36nm,0.8s,mb5.3						
COLA	**College**	**82.30**	**11**	*eP*	**P**	**10 01 18.5**	**-0.8**
	comp=Z,36nm,0.8s,mb5.3						
B13A	**Whitefish**	**82.31**	**35**	⇑P	**P**	**10 01 18.8**	**-0.9**
	baz=82						
E15A	**Deer Lodge**	**82.31**	**38**	P	**P**	**10 01 19.6**	**-0.2**
	baz=82,SNR=8.7						
SEY	**Seymchan**	**82.33**	**345**	⇑*eP*	**P**	**10 01 18.5**	**-1.0**
BW06	**Boulder Array**	**82.38**	**42**	*eP*	**P**	**10 01 19.6**	**-0.6**
	comp=Z,53nm,1.9s,mb5.2						
C14A	**Swan Lake**	**82.39**	**36**	⇑P	**P**	**10 01 19.1**	**-1.0**
	baz=82						
YFT	**Old Faithful**	**82.40**	**40**	*eP*	**P**	**10 01 21.8**	**+1.5**
YMR	**Madison River**	**82.42**	**40**	*eP*	**P**	**10 01 21.2**	**+0.7**
	comp=Z,52nm,1.4s,mb5.3						
YMR				*epP*	pP	10 01 33.8	+0.3
SMCO	**Snowmass**	**82.45**	**46**	*eP*	**P**	**10 01 20.9**	**+0.3**
	comp=Z,49nm,1.6s,mb5.2						
IMA2	**Indian Mountai**	**82.49**	**8**	*eP*	**P**	**10 01 20.3**	**0.0**
BOZ	**Bozeman (W)**	**82.51**	**39**	*eP*	**P**	**10 01 20.5**	**-0.4**
BOZ				pmax	pmax		
	comp=Z,33nm,1.7s,mb5.1						
BOZ	**Bozeman (W)**	**82.51**	**39**	*eP*	**P**	**10 01 20.5**	**-0.4**
	comp=Z,33nm,1.7s,mb5.1						
BOZ	**Bozeman (W)**	**82.51**	**39**	P	**P**	**10 01 20.6**	**-0.3**
	baz=83,SNR=16						
YNR	**Norris Junctio**	**82.62**	**40**	*eP*	**P**	**10 01 23.1**	**+1.6**
D15A	**Lincoln**	**82.70**	**37**	P	**P**	**10 01 21.7**	**-0.1**
	baz=83,SNR=12						
LKWY	**Lake**	**82.72**	**40**	*eP*	**P**	**10 01 23.7**	**+1.7**
LKWY				*e*PP*	pP	10 01 36.2	+1.2
LKWY				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.1						
LKWY	**Lake**	**82.72**	**40**	*eP*	**P**	**10 01 23.7**	**+1.8**
	comp=Z,20nm,1.1s,mb5.1						
LKWY				*epP*	pP	10 01 36.2	+1.2
SDCO	**Great Sand Dun**	**82.86**	**48**	*eP*	**P**	**10 01 23.1**	**+0.2**
	comp=Z,46nm,2.1s,mb5.1						
RWWY	**Rawlins**	**83.42**	**44**	*epP*	pP	10 01 38.4	-0.2
EGAK	**Eagle**	**83.58**	**13**	*eP*	**P**	**10 01 25.6**	**-0.3**
ISCO	**Idaho Springs**	**83.66**	**46**	*eP*	**P**	**10 01 27.0**	**0.0**
ISCO				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
ISCO	**Idaho Springs**	**83.66**	**46**	*eP*	**P**	**10 01 27.0**	**+0.1**
	comp=Z,7.1nm,1.0s,mb4.8						
GCMT	**Greycliff**	**83.78**	**39**	*eP*	**P**	**10 01 27.4**	**+0.1**
GCMT				*epP*	pP	10 01 40.3	-0.1
JCT	**Junction City**	**84.33**	**56**	*eP*	**P**	**10 01 30.8**	**+0.2**
BILL	**Bilibino**	**84.36**	**353**	⇑*eP*	**P**	**10 01 28.4**	**-1.4**
BILL				*eS*	S	10 11 52.8	+0.7
BILL				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.9						
BILL	**Bilibino**	**84.36**	**353**	*eP*	**P**	**10 01 29.5**	**-0.4**
	comp=Z,12nm,1.0s,mb5.0						
PHWY	**Pilot Hill**	**84.42**	**45**	*eP*	**P**	**10 01 30.8**	**0.0**
PHWY				*epP*	pP	10 01 43.1	-0.7
AMTX	**Amarillo**	**84.51**	**52**	*eP*	**P**	**10 01 31.1**	**-0.3**
AMTX				*epP*	pP	10 01 43.4	-1.1
EGMT	**Eagleton**	**84.82**	**37**	*eP*	**P**	**10 01 32.2**	**-0.4**
	comp=Z,23nm,1.3s,mb5.2						
EGMT	**Eagleton**	**84.82**	**37**	⇓P	**P**	**10 01 32.1**	**-0.5**
	baz=85,SNR=7.2						
BJI	**Beijing**	**85.17**	**314**	P	**P**	**10 01 35.5**	**+0.9**
BJI				PP	PP	10 04 52.3	-0.4
BJI				S	S	10 12 01.4	0.0
BJI				SS	SS	10 17 34.0	-2.4
BJI				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.8						
BJI				LR	LR		
	comp=Z,232nm,34.0s,MS4.3						
RSSD	**Black Hills**	**86.58**	**43**	*eP*	**P**	**10 01 41.6**	**+0.2**
WMOK	**Wichita Mounta**	**86.67**	**53**	*eP*	**P**	**10 01 42.3**	**+0.2**
GYA	**Guiyang**	**87.72**	**298**	*eP*	**P**	**10 01 49.3**	**+1.9**
GYA				AP	pP	10 02 01.4	+0.8
GYA				PP	PP	10 05 16.8	+3.2
GYA				SKS		10 12 10.3	
GYA				S	S	10 12 25.3	-1.5
GYA				SS	SS	10 18 15.3	+0.9
GYA				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.5						
GYA				AMB	AMB		
	comp=Z,120nm,7.6s						
GYA				LR	LR		
	comp=N,580nm,20.8s,MS5.0						
GYA				LR	LR		
	comp=E,420nm,22.7s,MS5.0						
GYA				LR	LR		
	comp=Z,560nm,21.8s,MS4.9						
MAW	**Mawson**	**87.81**	**199**	⇑*iP*	**P**	**10 01 48.0**	**+0.9**
	comp=Z,30nm,0.6s,mb5.7						
MAW	**Mawson**	**87.81**	**199**	⇑*iP*	**P**	**10 01 48.0**	**+0.9**
MAW				pmax	pmax		
	comp=Z,30nm,0.6s						
MAW	**Mawson**	**87.81**	**199**	P	**P**	**10 01 47.9**	**+0.9**
	comp=Z,36nm,0.6s,mb5.8,baz=133,slow=8.5,SNR=76						
MAW				LR	LR	10 38 30.5	
	comp=Z,551nm,19.6s,MS5.0,baz=88,slow=34						
DGMT	**Dagmar**	**88.32**	**39**	*eP*	**P**	**10 01 49.7**	**0.0**
DGMT				*epP*	pP	10 02 02.4	-0.5
HHC	**Hu-ho-hao-te**	**88.73**	**313**	*eP*	**P**	**10 01 51.8**	**0.0**
HHC				AP	pP	10 02 05.1	+0.1
HHC				PP	PP	10 05 23.6	+2.2
HHC				SKS		10 12 15.8	
HHC				S	S	10 12 33.8	-1.9
HHC				SS	SS	10 18 28.3	-0.2
HHC				AMB	AMB		
	comp=Z,43nm,1.4s,mb5.6						
HHC				AMB	AMB		
	comp=Z,216nm,6.2s						
HHC				LR	LR		
	comp=N,356nm,16.8s,MS5.1						
HHC				LR	LR		
	comp=E,479nm,15.9s,MS5.1						
HHC				LR	LR		
	comp=Z,556nm,18.7s,MS5.0						
YAK	**Yakutsk**	**88.89**	**337**	*eP*	**P**	**10 01 52.5**	**+0.4**
YAK				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
NATX	**Nacogdoches**	**88.91**	**57**	*eP*	**P**	**10 01 52.6**	**-0.4**
	comp=Z,41nm,1.3s,mb5.6						
PLCA	**Paso Flores**	**89.81**	**132**	P	**P**	**10 01 58.3**	**+1.2**
	comp=Z,1.7nm,0.9s,mb4.4,baz=240,slow=7.5,SNR=3.3						
PLCA				LR	LR	10 34 30.7	
	comp=Z,240nm,21.4s,MS4.6,baz=206,slow=30						
YKA	**Yellowknife Ar**	**90.11**	**23**	P	**P**	**10 01 57.2**	**-0.6**
YKA						10 05 40.0	
YKA	**Yellowknife Ar**	**90.11**	**23**	P	**P**	**10 01 57.1**	**-0.6**
	comp=Z,4.2nm,0.9s,mb4.8,baz=239,slow=4.4,SNR=51						
YKA				PP	PP	10 05 40.0	+8.2
	comp=Z,0.9nm,1.1s,baz=244,slow=8.9,SNR=4.2						
YKA				LR	LR	10 37 12.0	
	comp=Z,231nm,19.5s,MS4.6,baz=200,slow=32						
KMI	**Kunming**	**90.71**	**296**	P	**P**	**10 02 02.3**	**+0.8**
KMI				S	S	10 12 50.8	-3.9
KMI				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.9						
KMI				LR	LR		
	comp=N,410nm,12.4s						
KMI				LR	LR		
	comp=E,563nm,9.9s						
KMI				LR	LR		
	comp=Z,320nm,12.4s,MS5.0						
ECSD	**EROS,Sioux Fal**	**91.39**	**45**	*eP*	**P**	**10 02 04.0**	**-0.2**
JTS	**JuntasAbangare**	**91.48**	**80**	*eP*	**P**	**10 02 06.1**	**+0.8**
CD2	**Chengdu**	**91.50**	**302**	*eP*	**P**	**10 02 04.3**	**-0.7**
CD2				AP	pP	10 02 17.8	-0.4
CD2				XP	sP	10 02 22.9	-0.2
CD2				PP	PP	10 05 44.6	+1.0
CD2				SKS		10 12 30.9	
CD2				S	S	10 12 57.3	-4.4
CD2				XS	sS	10 13 20.1	-3.7
CD2				SS	SS	10 19 07.0	-2.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,30nm,9.2s						
CD2				LR	LR		
	comp=N,260nm,10.8s						
CD2				LR	LR		
	comp=Z,330nm,10.8s,MS5.0						
SYO	**Syowa Base**	**92.65**	**191**	⇑*eP*	**P**	**10 02 07.3**	**-2.4**
LZH	**Lanzhou**	**92.92**	**306**	*eP*	**P**	**10 02 12.1**	**+0.7**
LZH				AP	pP	10 02 25.8	+1.2
LZH				PP	PP	10 05 57.5	+2.8
LZH				SKS		10 12 40.0	
LZH				*eS*	S	10 13 11.0	-3.2
LZH				XS	sS	10 13 31.3	-5.0
LZH				SS	SS	10 19 29.0	-0.1
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb5.3						
LZH				AMB	AMB		
	comp=Z,70nm,5.6s						
LZH				LR	LR		
	comp=E,490nm,15.0s						
LZH				LR	LR		
	comp=Z,631nm,16.2s,MS5.2						
SNAA	**Sanae**	**93.04**	**177**	*eP*	**P**	**10 02 09.5**	**-1.9**
SNAA				*e*		10 02 11.0	
SNAA				*e*		10 02 26.2	
SNAA				*e*		10 02 34.1	
SNAA	**Sanae**	**93.04**	**177**	⇑*eP*	**P**	**10 02 10.6**	**-0.8**
AGMN	**Agassiz Refuge**	**93.40**	**41**	*eP*	**P**	**10 02 13.0**	**-0.4**
AGMN				*epP*	pP	10 02 24.7	-1.8
VNA2	**Neumayer--Watz**	**93.49**	**176**	*eP*	**P**	**10 02 13.8**	**+0.3**
VNA2				*e*		10 02 15.1	
VNA2				*e*		10 02 31.4	
VNA2				*e*		10 02 41.3	
VNA2				*e*		10 02 48.2	
VNA2				*e*		10 02 54.7	
VNA1	**Neumayer--Stat**	**93.69**	**175**	*eP*	**P**	**10 02 14.9**	**+0.5**
VNA1				*e*		10 02 16.3	
VNA1				*e*		10 02 32.2	
VNA1				*e*		10 02 42.2	
ULM	**Lac du Bonnet**	**94.03**	**39**	LR	LR	10 39 12.8	
	comp=Z,540nm,19.6s,MS5.0,baz=91,slow=32						
ULN	**Ulaanbaatar**	**94.15**	**318**	*eP*	**P**	**10 02 16.2**	**-0.6**
ULN	**Ulaanbaatar**	**94.15**	**318**	*epP*	pP	10 02 31.7	+1.7
SONM	**Songino Array**	**94.56**	**318**	P	**P**	**10 02 19.6**	**+0.9**
	comp=Z,0.9nm,0.7s,mb4.3,baz=126,slow=4.5,SNR=6.2						
TIXI	**Tiksi**	**94.81**	**344**	⇑*eP*	**P**	**10 02 18.5**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb4.4						
GTA	**Gaotai**	**96.87**	**309**	P	**P**	**10 02 30.8**	**+1.3**
GTA				AP	pP	10 02 44.6	+1.9
GTA				PP	PP	10 06 30.9	+5.5
GTA				PPP		10 08 38.3	
GTA				SKS		10 13 02.9	

AKASG PKP PKPdf 10 08 26.2 -0.3
comp=Z,4.5nm,0.9s,baz=29,slow=1.8,SNR=12
AKBB Malin Array Si 140.12 337 *e*PKIKP PKPdf 10 08 26.6 0.0
MALT Malatya 143.57 315 P PKPdf 10 08 32.3 -0.8
MALT Malatya 143.57 315 ⇓*i*P PKPdf 10 08 32.2 -0.9
CLL Collm 143.66 353 *e*PKP PKPdf 10 08 30.0 -2.9
CLL *i* 10 08 54.7
CLL LR LR
comp=Z,200nm,20.1s,MS4.9
CLL Collm 143.66 353 *e*PKPbc PKPdf 10 08 29.8 -3.1
CLL Collm 143.66 353 *e*PKPdf PKPdf 10 08 30.0 -2.9
comp=Z,6.0nm,0.9s
CLL LmV 11 10 00.0
comp=Z,200nm,20.1s
STHS Stebnicka Huta 143.83 343 *i* PKP PKPdf 10 08 31.6 -1.6
BRG Berggiesshubel 143.97 352 *e*PKIKP PKPdf 10 08 36.1 +2.7
BRG pmax pmax
comp=Z,4.0nm,0.8s
BRG pmax pmax
comp=Z,9.0nm,1.3s
BRG Berggiesshubel 143.97 352 *e*PKP PKPdf 10 08 36.1 +2.6
comp=Z,6.5nm,0.8s
BRG *e* 10 08 57.5
comp=Z,15nm,1.3s
TSUM Tsumeb 143.97 198 *e*PKPdf PKPdf 10 08 33.3 -1.2
DPC Dobruska-Polom 144.09 349 *e*PKP PKPdf 10 08 32.5 -1.2
DPC *ep*PKP pPKPdf 10 08 45.5 -1.8
DPC AMS AMS 11 08 00.0
comp=Z,300nm,22.6s
BURAR Bucovina Array 144.15 338 ⇓*i*P PKPdf 10 08 32.7 -1.1
OKC Ostrava-Krasne 144.21 347 *e*PKP PKPdf 10 08 32.9 -1.0
PVCC Panska Ves 144.21 351 *e*PKP PKPdf 10 08 34.9 +1.0
UZH Uzhgorod 144.24 342 *e*PKIKP PKPdf 10 08 31.5 -2.5
UZH *i* 10 08 38.0
UZH *i* 10 08 46.5
CRVS Cervenica-Dubn 144.24 343 *i* PKP PKPdf 10 08 32.7 -1.3
MORC Moravsky Berou 144.40 347 PKIKP PKPdf 10 08 33.9 -0.3
MORC Moravsky Berou 144.40 347 *e*PKPdf PKPdf 10 08 33.6 -0.6
MORC Moravsky Berou 144.40 347 ⇓*i*P PKPdf 10 08 33.4 -0.8
MOX Moxa 144.47 354 *e*PKP PKPdf 10 08 33.7 -0.6
comp=Z,42nm,2.0s
MOX Moxa 144.47 354 *e*PKPbc PKPdf 10 08 32.6 -1.7
MOX *ep*PKPbc 10 08 47.0
TANN Tannenbergstha 144.61 353 *e*PKPbc PKPdf 10 08 33.6 -0.9
TRPA Tarpa 144.61 341 ⇑*i*P PKPdf 10 08 33.8 -0.8
PRU Pruhonice 144.74 351 *e*PKP PKPdf 10 08 34.3 -0.5
PRU *ep*PKP pPKPdf 10 08 48.3 -0.1
PRU AMS AMS 11 11 10.0
comp=Z,300nm,20.4s
NKC Novy Kostel 144.79 353 *e*PKP PKPdf 10 08 34.0 -0.9
BCLA Clavier 144.95 1 PKP PKPdf 10 08 34.7 -0.4
BCLA APKP 10 08 47.1
VRI Vrincioaia 145.01 335 PKIKP PKPdf 10 08 35.4 0.0
VRI Vrincioaia 145.01 335 ⇑*i*P PKPbc 10 08 35.3 +0.5
VRAC Vranov 145.04 348 PKIKP PKPdf 10 08 36.0 +0.7
VRAC Vranov 145.04 348 PKPbc PKPbc 10 08 34.0 -0.8
comp=Z,3.4nm,0.5s,baz=35,slow=6.5,SNR=10.0
VRAC Vranov 145.04 348 ⇑*i*P PKPbc 10 08 35.8 +1.1
PLOR Plostina 145.06 335 PKIKP PKPdf 10 08 35.5 0.0
DOU Dourbes 145.25 2 PKP PKPdf 10 08 35.6 0.0
GIVF Givet 145.25 2 *e*PKP1 PKPbc 10 08 35.6 +0.2
TREC Trest 145.26 349 *e*PKP PKPdf 10 08 35.9 +0.2
ROTZ Rotzenmuhle 145.27 353 *e*PKPbc PKPbc 10 08 35.9 +0.4
ROTZ *ep*PKPbc pPKPbc 10 08 49.3 +0.4
BAIF Baives 145.28 2 *e*PKP1 PKPbc 10 08 35.9 +0.4
comp=Z,73nm,1.2s
VYHS Vyhne 145.31 345 *i* PKP PKPdf 10 08 35.2 -0.6
KMBO Kilima Mbogo 145.31 245 *e*PKIKP PKPdf 10 08 37.8 +0.9
KMBO Kilima Mbogo 145.31 245 PKPbc PKPbc 10 08 37.1 +0.4
comp=Z,5.1nm,0.8s,baz=106,slow=2.0,SNR=12
KOLL Kolacno 145.34 346 *e*PKP PKPdf 10 08 36.9 +1.0
TIRR Tirgusor 145.39 332 PKIKP PKPdf 10 08 37.2 +1.1
TIRR Tirgusor 145.39 332 ⇓*i*P PKPbc 10 08 36.7 +0.6
HARR Harsova 145.43 332 PKIKP PKPdf 10 08 37.1 +0.9
HARR Harsova 145.43 332 ⇑*i*P PKPdf 10 08 37.0 +0.8
GRA1 Grafenberg Arr 145.45 354 *e*PKP PKPdf 10 08 36.6 +0.6
GRA1 LR LR
comp=Z,200nm,21.1s,MS4.9
GRF Grafenberg Arr 145.45 354 *e*PKP PKPdf 10 08 36.6 +0.6
ABH Alteburg 145.48 359 PKP PKPdf 10 08 37.3 +1.2
PSZ Piszkesteto 145.57 344 PKIKP PKPdf 10 08 37.6 +1.3
PSZ Piszkesteto 145.57 344 *e*PKPbc PKPbc 10 08 36.9 +0.4
PSZ Piszkesteto 145.57 344 ⇑*i*P PKPdf 10 08 37.1 +0.8
MLR Muntele Rosu 145.64 335 PKIKP PKPdf 10 08 37.7 +1.2
MLR Muntele Rosu 145.64 335 PKPbc PKPbc 10 08 37.3 +0.5
comp=Z,40nm,0.8s,baz=111,slow=2.6,SNR=66
MLR Muntele Rosu 145.64 335 ⇑*i*P PKPdf 10 08 37.5 +1.0
RUP Ruppelstein 145.67 359 PKIKP PKPdf 10 08 38.2 +1.8
ISR Istrita 145.69 334 ⇑*i*P PKPdf 10 08 37.6 +1.0
TOD Tromm 145.71 357 PKP2 PKPab 10 08 37.5 +0.3
WLF Walferdange 145.71 0 *e*PKP2 PKPab 10 08 37.2 0.0
WLF Walferdange 145.71 0 PKP PKPdf 10 08 37.6 +1.1
WLF APKP 10 08 47.6
WLF Walferdange 145.71 0 *e*PKPbc PKPbc 10 08 37.6 +0.7
WLF *ep*PKPbc pPKPbc 10 08 46.7 -3.6
KHC Kasperske Hory 145.72 351 *e*PKP PKPdf 10 08 37.0 +0.5
KHC *ep*PKP pPKPdf 10 08 48.6 -1.5
DRGR 145.73 340 P PKPdf 10 08 37.5 +0.9
DRGR 145.73 340 ⇑*i*P PKPdf 10 08 37.1 +0.5
MODS Modra-Piesok 145.78 347 *i* PKP PKPdf 10 08 38.4 +1.8
WET Wettzell 145.81 352 *e*PKPbc PKPbc 10 08 38.5 +1.3
WET *ep*PKPbc pPKPbc 10 08 51.0 +0.4
SNX Sinaia 145.92 336 ⇓*i*P PKPab 10 08 39.0 +0.8
GEC2 GERESS Array S 145.98 351 *e*PKPbc PKPbc 10 08 36.8 -0.9
GEC2 *ep*PKPbc pPKPbc 10 08 51.7 +0.5
GERES GERESS Array B 145.98 351 PKPbc PKPbc 10 08 38.0 +0.3
comp=Z,4.8nm,0.7s,baz=8.5,slow=2.7,SNR=27
VOIR 146.04 336 P PKPdf 10 08 38.7 +1.5
VOIR 146.04 336 ⇑*i*P PKPdf 10 08 39.1 +1.9
ROSF Rostrenen 146.11 11 *e*PKP1 PKPbc 10 08 38.2 +0.1
FLN La Foliniere 146.15 8 *e*PKP1 PKPbc 10 08 36.9 -1.3
comp=Z,68nm,1.0s
FLN *e*MLR MLR
comp=Z,564nm,21.5s,MS5.0
FLN La Foliniere 146.15 8 *e*PKP PKPdf 10 08 36.9 -0.4
FLN LR LR
comp=Z,560nm,21.5s,MS5.3
ANTO Ankara 146.30 322 *e*PKPab PKPab 10 08 39.6 -0.2
ANTO Ankara 146.30 322 ⇑*i*P PKPdf 10 08 39.0 +1.2
SGMF Saint Gilles 146.32 11 *e*PKP1 PKPbc 10 08 38.5 -0.3
comp=Z,13nm,0.7s
LDF La Druitiere 146.37 8 *e*PKP1 PKPbc 10 08 38.1 -0.8
comp=Z,22nm,0.9s
LANF Langenberg 146.37 358 PKP PKPbc 10 08 40.2 +1.3
GRR Gorron 146.47 9 *e*PKP1 PKPbc 10 08 38.6 -0.6
comp=Z,14nm,0.7s
CONA Conrad Observa 146.50 348 ⇑*i* 10 08 54.1
comp=Z,219nm,2.2s
CONA Conrad Observa 146.50 348 ⇑*i*PKPab PKPab 10 08 40.1 -0.1
comp=Z,38nm,1.3s
CONA ⇑*ip*PKiKP 10 08 54.1
comp=Z,219nm,2.2s
CSNA Conrad Observa 146.50 348 ⇑*i*PKPab PKPab 10 08 40.1 -0.1
comp=Z,38nm,1.4s
CSNA ⇓*ip*PKiKP 10 08 54.1
comp=Z,218nm,2.2s
STU Stuttgart 146.52 357 *e*PKPbc PKPbc 10 08 39.8 +0.5
QUIF Quistinic 146.53 12 *e*PKP1 PKPbc 10 08 39.4 0.0
SOP Sopron 146.59 347 ⇓*e*PKP PKPdf 10 08 40.5 +2.5
MEZF Maizieres J'vi 146.86 2 *e*PKP1 PKPbc 10 08 40.5 +0.2
MOA Molln 146.86 350 ⇑⇑*i*P PKPbc 10 08 40.7 +0.4
comp=Z,49nm,1.6s
GZR Gura Zlata 146.92 339 PKIKP PKPbc 10 08 41.0 +0.4
CDF Champ du Feu 146.96 359 *e*PKP1 PKPbc 10 08 40.3 -0.3
comp=Z,48nm,1.1s
BFO Black Forest 147.00 358 *e*PKPbc PKPbc 10 08 40.8 +0.1
BZS Buzias 147.12 340 PKP2 PKPbc 10 08 41.4 +0.2
BZS Buzias 147.12 340 ⇑*i*P PKPbc 10 08 41.3 +0.1
THEF They Montfort 147.15 0 PKP PKPdf 10 08 40.4 +1.4
ECH Echery 147.16 359 PKP PKPbc 10 08 41.9 +0.7
SPAK Spaichingen-Ko 147.21 357 PKP PKPbc 10 08 41.2 -0.1
ARSA Arzberg 147.22 348 ⇑*i*P PKPdf 10 08 39.7 +0.7
comp=Z,65nm,2.1s
HAU Haudompre 147.37 360 *e*PKP1 PKPbc 10 08 42.0 +0.2
comp=Z,50nm,1.0s
HAU *e*MLR MLR
comp=Z,133nm,21.8s,MS4.4
HAU Haudompre 147.37 360 *e*PKP PKPbc 10 08 42.0 +0.2
HAU LR LR
comp=Z,130nm,21.8s,MS4.7
ZIMR 147.37 334 PKP2 PKPab 10 08 42.8 -1.0
FELD Feldberg im Sc 147.47 358 PKP PKPdf 10 08 40.8 +1.3
PKSM Moragy 147.47 344 P PKPdf 10 08 40.2 +0.6
PKSM Moragy 147.47 344 ⇓*i*P PKPbc 10 08 42.0 -0.1
ASF Jabal al Asfar 147.48 307 PKPbc PKPbc 10 08 42.6 -0.1
comp=Z,4.4nm,0.9s,baz=3.9,slow=1.2,SNR=8.0
MOF Molkenrain 147.52 359 PKP PKPdf 10 08 40.6 +1.0
HINF Hinteralfeld 147.56 359 *e*PKP1 PKPbc 10 08 42.6 +0.3
RETA Reutte 147.68 354 ⇑*i* pPKPab 10 08 56.8 -1.4
comp=Z,40nm,1.4s
RETA Reutte 147.68 354 ⇑*i*PKPbc PKPbc 10 08 42.8 +0.1
comp=Z,28nm,1.4s
RETA ⇑*ip*PKPab pPKPab 10 08 56.8 -1.4
comp=Z,40nm,1.4s
KBA Koelnbreinsper 147.76 351 ⇑*i*P PKPbc 10 08 42.6 -0.3
comp=Z,16nm,1.3s
MOTA Moosalm 147.78 354 ⇓*i* 10 08 57.8
comp=Z,28nm,1.1s
MOTA Moosalm 147.78 354 ⇓*i*PKPbc PKPbc 10 08 43.1 +0.2
comp=Z,16nm,1.1s
MOTA ⇓*ip*PKiKP 10 08 57.8
comp=Z,28nm,1.1s
MOTA Moosalm 147.78 354 ⇓*i*P PKPbc 10 08 43.1 +0.2
MOTA *i* 10 08 57.8
WTTA Wattenberg 147.81 353 ⇑*i* pPKPab 10 08 57.2 -1.5
comp=Z,107nm,2.4s
WTTA Wattenberg 147.81 353 ⇑*i*PKPbc PKPbc 10 08 43.3 +0.3
comp=Z,26nm,1.3s
WTTA ⇑*ip*PKPab pPKPab 10 08 57.2 -1.5
comp=Z,107nm,2.4s
PERS Pernice 147.88 349 *i* PKPdf PKPbc 10 08 42.8 -0.5
BBS Basel-Blauen 147.90 358 PKIKP PKPdf 10 08 39.1 -1.1
DAVA Damuels 147.95 355 ⇑*i*P PKPbc 10 08 43.8 +0.4
comp=Z,16nm,1.0s
DAVA Damuels 147.95 355 ⇑*i* pPKPab 10 08 57.8 -1.5
comp=Z,138nm,1.8s
DAVA Damuels 147.95 355 ⇑*i*P PKPbc 10 08 43.8 +0.4
DAVA *i* pPKPab 10 08 57.8 -1.5
LOMF Lomont 148.03 359 PKP PKPdf 10 08 42.1 +1.7
LOR Lormes 148.05 3 *e*PKP1 PKPbc 10 08 43.7 +0.1
comp=Z,28nm,0.9s
LOR *e*MLR MLR
comp=Z,412nm,21.5s,MS4.9
LOR Lormes 148.05 3 *e*PKP PKPbc 10 08 43.7 +0.1
LOR LR LR
comp=Z,410nm,21.5s,MS5.2
OBKA Obir 148.11 349 ⇑⇑*i*P PKPbc 10 08 43.5 -0.3
MYKA Terra Mystica 148.15 350 ⇑*i* 10 08 57.3
comp=Z,191nm,1.8s
MYKA Terra Mystica 148.15 350 ⇑*i*PKPbc PKPbc 10 08 43.3 -0.7
comp=Z,58nm,1.6s
MYKA ⇑*ip*PKiKP 10 08 57.3
comp=Z,191nm,1.8s
ABTA Abfaltersbach 148.20 352 ⇑*i* 10 08 57.8
comp=Z,103nm,1.9s
ABTA Abfaltersbach 148.20 352 ⇓*i*PKPbc PKPbc 10 08 43.7 -0.4
comp=Z,17nm,1.0s
ABTA ⇑*ip*PKiKP 10 08 57.8
comp=Z,103nm,1.9s
SSF Saint Saulge 148.23 4 *e*PKP1 PKPbc 10 08 44.4 +0.3
comp=Z,59nm,1.1s
MMAI Mount Meron Ar 148.26 309 PKPbc PKPbc 10 08 45.7 +1.0
comp=Z,15nm,0.9s,baz=46,slow=4.8,SNR=11
MFF Saint Martin d 148.32 8 *e*PKP1 PKPbc 10 08 44.6 +0.2
comp=Z,10nm,0.7s
DAVOS Davos/Dischmat 148.46 355 PKPbc PKPbc 10 08 45.4 +0.7
comp=Z,14nm,0.6s,baz=320,slow=3.5,SNR=27
VNDS Vrh nad Dolski 148.48 349 *i* PKPdf PKPbc 10 08 44.9 +0.1
AVF Avril sur Loir 148.49 4 *e*PKP1 PKPbc 10 08 44.6 -0.2
comp=Z,34nm,1.1s
SMF Signal de Mont 148.67 3 *e*PKP1 PKPbc 10 08 45.0 -0.3
BGF Bois d'Agland 148.69 5 *e*PKP1 PKPbc 10 08 45.6 +0.3
comp=Z,10nm,0.5s
BRMO Bormio 148.72 355 PKP PKPbc 10 08 46.1 +0.7
CABF La Chapelle 148.77 0 *e*PKP1 PKPbc 10 08 45.9 +0.4
comp=Z,53nm,1.0s
JAVS Javornik 148.79 349 *e*PKPdf PKPbc 10 08 45.0 -0.6
TCF Toulx Ste Croi 148.90 5 *e*PKP1 PKPbc 10 08 46.3 +0.4
comp=Z,52nm,1.4s
BOJS Bojanci 148.94 348 *i* PKPdf PKPbc 10 08 46.3 +0.3
BOJS *i* 10 09 10.2
CTI Castel Tesino 149.00 353 PKP2 PKPbc 10 08 46.4 +0.3
VTS Vitosha 149.15 335 P PKPbc 10 08 47.5 +0.9
VTS Vitosha 149.15 335 ⇑*i*P PKPbc 10 08 47.1 +0.5
AGO Saint Agoulin 149.21 4 PKP PKPbc 10 08 47.7 +1.0
PLDF La Plantade 149.33 4 PKP PKPbc 10 08 47.4 +0.4
VAI Varese 149.44 357 PKP2 PKPbc 10 08 47.3 +0.1
RJF Les Rejaudoux 149.81 7 *e*PKP1 PKPbc 10 08 48.6 +0.4
RJF *e*MLR MLR
comp=Z,402nm,22.5s,MS4.9
RJF Les Rejaudoux 149.81 7 *e*PKP PKPbc 10 08 48.6 +0.4
RJF LR LR
comp=Z,400nm,22.5s,MS5.2
LPL La Plagne 149.86 359 *e*PKP1 PKPbc 10 08 49.0 +0.7
comp=Z,41nm,1.1s
LPG La Plagne 149.88 359 *e*PKP1 PKPbc 10 08 49.1 +0.8
comp=Z,36nm,0.9s
EIL Elat 150.00 303 PKPbc PKPbc 10 08 49.4 +0.2
comp=Z,10nm,1.0s,baz=34,slow=3.8,SNR=11
LBL Lubilhac 150.04 4 PKP PKPbc 10 08 49.5 +0.8
LFF La Frestale 150.07 8 *e*PKP1 PKPbc 10 08 49.2 +0.4
CAF Calviac 150.24 6 *e*PKP1 PKPbc 10 08 49.8 +0.6
BNI Bardonecchia 150.32 359 *e*PKIKP PKPbc 10 08 50.8 +1.4
ORIF Oris-en-Rattie 150.46 1 *e*PKP1 PKPbc 10 08 50.6 +0.9
comp=Z,36nm,1.1s
ORIF *e*MLR MLR
comp=Z,259nm,20.5s,MS4.7
VIVF Saint-Julien-l 150.49 2 *e*PKP1 PKPbc 10 08 50.5 +0.7
comp=Z,54nm,1.2s
MBDF Montbardon 150.65 359 *e*PKP1 PKPbc 10 08 50.9 +0.7
comp=Z,28nm,0.9s
PCAB Cabril 150.90 22 *e-* pPKPab 10 09 14.7 +3.2
LASF Ste Croix 151.23 4 *e*PKP1 PKPbc 10 08 52.2 +0.6
comp=Z,31nm,1.0s
PBRG Braganca 151.27 21 *e-* pPKPab 10 09 15.2 +2.2
PVRL Vila Real 151.40 22 *e-* pPKPab 10 09 15.8 +2.3
SMRF Simiane la Rot 151.40 1 *e*PKP1 PKPbc 10 08 52.7 +0.7
comp=Z,54nm,0.9s
SJPF Ste Jean 151.53 12 *e*PKP1 PKPbc 10 08 53.1 +0.8
MVO Moncorvo 151.74 22 *e-* pPKPab 10 09 16.1 +1.1
MVO *e-* 10 09 16.8
MVO *e*LR LR 10 59 46.5
comp=Z,169nm,18.4s
PVIS Viseu 151.81 23 *e-* pPKPab 10 09 15.4 +0.1
MTLF Montolieu 151.82 6 *e*PKP1 PKPbc 10 08 53.3 +0.3
ETSF Etsaut 151.86 11 *e*PKP1 PKPbc 10 08 53.8 +0.7
comp=Z,16nm,0.8s
EPF Esparros 151.88 9 *e*PKP1 PKPbc 10 08 54.3 +1.2
MTE Manteigas 152.22 23 *e-* pPKPab 10 09 17.3 +0.3
MTE *e-* 10 09 17.5
MTE *e*LR LR 10 59 48.3
comp=Z,289nm,26.5s
PGF Pioggiola 152.73 356 *e*PKP1 PKPbc 10 08 55.3 +0.3
PMAFR Mafra 152.73 27 *e*LR LR 11 00 12.2
comp=Z,188nm,21.7s
PESTR Estremoz 153.52 25 *e*LR LR 11 00 34.5
comp=Z,163nm,19.2s
ESDC Sonseca Array 154.09 18 PKPbc PKPbc 10 08 58.8 +0.7
comp=Z,0.2nm,0.3s,baz=328,slow=4.6,SNR=2.9
ESDC PKPab PKPab 10 09 10.8 -0.8
comp=Z,0.3nm,0.3s,baz=322,slow=4.1,SNR=5.7
PBEJ Beja 154.12 26 *e-* pPKPab 10 09 21.8 -3.3
PBAR Barrancos 154.34 25 *e*LR LR 11 00 25.1
comp=Z,191nm,22.6s
MORF Marmelete 154.37 28 A 11 10 08.0
comp=Z,215nm,21.0s
PFVI Vila Bisbo 154.43 29 *e*LR LR 11 00 28.8
comp=Z,235nm,19.1s
PVAQ Vaqueiros 154.71 27 *e*LR LR 11 00 17.7
comp=Z,216nm,26.4s
PBDV Barranco-do-Ve 154.75 27 *e*LR LR 11 00 39.8
comp=Z,239nm,18.5s
DBIC Dimbokro 166.11 127 PKP PKPdf 10 09 01.9 -2.3
comp=Z,3.5nm,0.9s,baz=236,slow=3.6,SNR=4.4
TORD Torodi Ar. Bea 175.06 115 PKP PKPdf 10 09 07.1 -1.8
comp=Z,3.2nm,1.0s,baz=207,slow=0.5,SNR=11
TORD PKPab PKPab 10 10 41.6 -2.8
comp=Z,1.0nm,0.9s,baz=281,slow=3.5,SNR=3.1

DDA ***18*** *10:21:08.4, 40.35N×31.53E, h5km±1km, Md3.2*
ISCJB ***18*** *10:21:09.9±0.6, 40.34N±002×31.48E±003, h3km±6km, Error ellipse: s-maj=5.0km s-min=3.5km az=41.9*
CSEM ***18*** *10:21:10.5±0.1, 40.38N×31.41E, h20km, MD3.2, Error ellipse: s-maj=2.3km s-min=1.9km az=140.0*
ISK ***18*** *10:21:10.1, 40.34N×31.48E, h9km, MD2.9*
ISC 18 10:21:11.0±0.5,**4035N**±003×**3145E**±004,**h13**km±6km,**n22,**
σ0.98/37,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HENT	**Hendek**	**0.63**	**319**	*i* P	**Pg**	**10 21 22.2**	**-1.2**
HENT				*i* S	**Sg**	**10 21 31.9**	**+0.1**
GULT	**Gulveren**	**0.72**	**277**	*e*PG	**Pg**	**10 21 24.4**	**-0.6**
GPA	**Golpazari**	**0.87**	**267**	*e*PG	**Pg**	**10 21 27.4**	**-0.5**
GPA				*e*SG	**Sg**	**10 21 40.6**	**+1.2**
BORA	**Eskisehir**	**0.90**	**239**	*i* P	**Pg**	**10 21 26.4**	**-2.0**
BORA				*i* S	**Sg**	**10 21 40.9**	**+0.9**
ESKT	**Eskisehir**	**0.95**	**209**	*e*PG	**Pg**	**10 21 28.2**	**-1.1**
ESKT				*e*SG	**Sg**	**10 21 42.9**	**+1.2**
ESKT	**Eskisehir**	**0.95**	**209**	*i* P	**Pb**	**10 21 27.6**	**-1.7**
ESKT				*i* S	**Sg**	**10 21 43.0**	**+1.3**
SEYT	**Eskypehyr**	**0.95**	**209**	*i* P	**Pb**	**10 21 27.6**	**-1.7**
SEYT				*i* S	**Sg**	**10 21 43.0**	**+1.3**
KDZE	**Karadeniz Ereo**	**0.96**	**360**	*e*PG	**Pg**	**10 21 29.1**	**-0.6**
KDZE				*e*SG	**Sg**	**10 21 43.7**	**+1.4**
LOD	**Lodumlu**	**1.11**	**114**	*e*PN	**Pn**	**10 21 30.8**	**-1.4**
LOD				*e*SN	**Sn**	**10 21 46.2**	**-1.1**
ANTO	**Ankara**	**1.14**	**114**	*e*PN	**Pn**	**10 21 32.2**	**-0.4**
ANTO				*e*SN	**Sn**	**10 21 48.3**	**+0.3**
SAFT	**Safranbolu**	**1.29**	**46**	*e*PN	**Pn**	**10 21 34.2**	**-0.6**
KIZT	**Kizilcal**	**1.50**	**167**	*e*PN	**Pn**	**10 21 37.6**	**-0.1**
CANT	**Cankiri**	**1.68**	**80**	*e*PN	**Pn**	**10 21 40.1**	**0.0**
BALT	**Daday**	**1.89**	**50**	*i* P	**Pn**	**10 21 43.2**	**+0.2**
BALT				*i* S	**Sg**	**10 22 12.3**	**+0.7**
KDHN	**Kadinhani**	**1.90**	**164**	*i* P	**Pn**	**10 21 42.6**	**-0.4**
KDHN				*i* S	**Sg**	**10 22 11.8**	**-0.2**
SHUT	**Suhut-Afyon**	**1.92**	**202**	*e*PN	**Pn**	**10 21 43.9**	**+0.4**
GDZ	**Gediz**	**1.97**	**231**	*i* P	**Pb**	**10 21 47.0**	**+0.2**
GDZ				*i* S	**Sb**	**10 22 12.1**	**+0.9**
TOS	**Tosya**	**2.07**	**70**	*e*PN	**Pn**	**10 21 45.9**	**+0.4**
CDAG	**Cicekdag**	**2.36**	**107**	*i* P	**Pn**	**10 21 51.7**	**+2.2**
CDAG				*i* S	**Sb**	**10 22 23.0**	**+0.6**
TKTP	**Tekketepe**	**2.47**	**201**	*i* P	**Pg**	**10 21 59.4**	**+1.1**
TKTP				*i* S	**Sg**	**10 22 35.2**	**+4.9**
KONT	**Konya--Tatoy**	**2.50**	**163**	*e*PN	**Pn**	**10 21 52.3**	**+0.9**
BTOK	**Tokmak**	**2.69**	**259**	*i* P	**Pg**	**10 22 00.6**	**-1.9**
BTOK				*i* S	**Sg**	**10 22 38.1**	**+0.7**

NEIC ***18*** *10:37:14.7, 6759N×13596W, h20km, ML3.9(PGC), ML3.6(AEIC), After PGC.*
PGC 18 10:37:14.7±2.0,**6759N**×**13596W**,**h20**km,**ML3.9**/2,**10D, 67km west of Fort McPherson, Nt Northwest Territories, Canada,Northwest Territories**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**1.17**	**51**	P	Pn	10 37 35.7	-0.1
INK				S	Sb	10 37 52.3	+1.5
BM3	**Burnt Mountain**	**3.33**	**271**	P	Pn	10 38 07.2	+1.6
BM3				S	Sn	10 38 48.3	+3.8
EGAK	**Eagle**	**3.53**	**219**	P	Pn	10 38 07.2	-1.0
DAWY	**Dawson**	**3.81**	**203**	Pn	Pn	10 38 11.1	-1.1
DAWY				Sn	Sn	10 38 55.2	-1.1
BCA3	**Beaver Creek A**	**5.16**	**211**	P	Pn	10 38 29.3	-1.4
BCA3				S	Sn	10 39 30.4	+1.0
DOT	**Dot Lake**	**5.19**	**224**	P	Pn	10 38 30.9	-0.2
IL1	**Eielson Array**	**5.25**	**243**	P	Pn	10 38 31.9	-0.1
COLD	**Coldfoot**	**5.50**	**273**	P	Pn	10 38 38.3	+2.9
COLA	**College**	**5.53**	**246**	P	Pn	10 38 36.8	+1.1
PAX	**Paxson**	**6.11**	**225**	P	Pn	10 38 44.4	+0.6
PAX				S	Sn	10 39 53.3	+0.3
HYT	**Haines Junctio**	**6.83**	**186**	Pn	Pn	10 38 53.1	-0.4
HYT				Sn	Sn	10 40 05.0	-5.5
HYT	**Haines Junctio**	**6.83**	**186**	⇑Pn	Pn	10 38 53.1	-0.4
HYT				⇓Sn	Sn	10 40 05.0	-5.5
HYT				⇓Sg	Sn	10 40 48.0	+37
WHY	**Whitehorse**	**6.98**	**176**	⇑Pn	Pn	10 38 54.9	-0.7
WHY				⇓Sn	Sn	10 40 10.5	-3.7
WHY				⇓Sg	Sn	10 40 50.3	+36
IMA2	**Indian Mountai**	**7.16**	**266**	*e*Pn	Pn	10 38 59.2	+1.2
IM3	**Indian Mountai**	**7.21**	**265**	P	Pn	10 39 00.6	+1.8
IM3				S	Sn	10 40 22.5	+2.6
SKAG	**Skagway**	**8.17**	**178**	*e*Pn	Pn	10 39 10.9	-1.1
	7.4nm,0.7s						
PLBC	**Pleasant Camp**	**8.17**	**181**	⇓Pn	Pn	10 39 12.4	+0.5
DLBC	**Dease Lake**	**9.57**	**161**	⇑Pn	Pn	10 39 30.4	-0.7
DLBC				⇓Sn	Sn	10 41 12.4	-5.5
YKW3	**Yellowknife Ar**	**10.28**	**109**	⇓Pn	Pn	10 39 37.3	-3.6
YKW3				⇓Sn	Sn	10 41 23.4	-12
FNBB	**Fort Nelson**	**10.47**	**140**	⇓Pn	Pn	10 39 40.9	-2.6
FNBB				⇑Sn	Sn	10 41 32.1	-8.0
RES	**Resolute Bay**	**14.71**	**43**	⇑Pn	Pn	10 40 38.8	-2.4
RES				⇓Sn	Sn	10 43 11.2	-12

NEIC ***18*** *10:47:57.0, 18.13N×99.18W, h85km, MD3.7(MEX), After MEX.*
MEX 18 10:47:57.1±1.1,**1811N**×**9914W**,**h82**km±16km,**MD3.7, Guerrero**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	**Platanillo**	**0.44**	**309**	*i* P	Pn	10 48 10.0	-0.7
PLIG				*i* S	Sn	10 48 19.3	-1.3
MEIG	**Mezcala**	**0.49**	**248**	*i* P	Pn	10 48 10.1	-0.9
MEIG				*i* S	Sn	10 48 19.5	-1.8
YAIG	**Yautepec**	**0.75**	**5**	*i* P	Pn	10 48 12.2	-1.2
YAIG				*i* S	Sn	10 48 22.8	-2.8
ACX	**Acapulco**	**1.44**	**211**	*i* P	Pn	10 48 19.0	-2.8
CAIG	**El Cayaco**	**1.51**	**226**	*i* P	Pn	10 48 21.4	-1.2
CAIG				*i* S	Sn	10 48 40.5	-1.4
CAIG	**El Cayaco**	**1.51**	**226**	*i* P	Pn	10 48 21.4	-1.2
CAIG				*i* S	Sn	10 48 40.1	-1.8
ZIIG	**Zihuatanejo**	**2.27**	**258**	*e*P	Pn	10 48 31.0	-1.7
ZIIG				*i* S	Sn	10 48 55.3	-4.6
ZIIG	**Zihuatanejo**	**2.27**	**258**	*e*P	Pn	10 48 31.0	-1.7
ZIIG				*i* S	Sn	10 48 57.0	-2.8
VHO	**Vista Hermosa**	**2.52**	**114**	*i* P	Pn	10 48 36.9	+0.9
VHO				*i* S	Sn	10 49 14.8	+9.0
VHO	**Vista Hermosa**	**2.52**	**114**	*i* P	Pn	10 48 36.9	+0.9
VHO				*i* S	Sn	10 49 10.0	+4.2

BJI ***18*** *10:51:04.2, 52.79N×161.09E, h38km, mB5.1, mb4.7, Ms4.8, Msz4.6*
IDC ***18*** *10:51:05.3±0.5, 52.85N×166.40E, h0km, mb4.4/21, mb1 4.6/22, mb1mx4.5/24, mbtmp4.4/22, ML4.5/1, MS4.3/25, Ms1 4.3/25, ms1mx4.1/45, Error ellipse: s-maj=17.8km s-min=12.1km az=145.0*
MOS ***18*** *10:51:06.3±1.1, 52.88N×160.31E, h18km, mb4.9/51, MS4.3/20, Error ellipse: s-maj=9.3km s-min=4.9km az=97.2*
KRSC ***18*** *10:51:08.8±0.8, 52.80N×160.55E, h11km±11km, ML5.0*
ISCJB ***18*** *10:51:10.9±0.5, 52.75N±003×160.41E±005, h59km±3km, mb4.7/104, MS4.4/36, Error ellipse: s-maj=6.4km s-min=3.6km az=140.3*
NEIC ***18*** *10:51:10.8±1.3, 52.85N×160.39E, h38km±11km, mb4.7/54, Error ellipse: s-maj=9.2km s-min=5.2km az=177.0*
GCMT ***18*** *10:51:10.8±0.4, 52.56N×160.80E, h32km±1km, MW5.0/58, Moment Tensor Solution. s36,c43; s58,c80; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr3.33±.20; Mθθ-1.93±.14; M

comp=Z,3μm,1.2s
PET Petropavlovsk 1.07 285 *e*P **Pn 10 51 29.7 -1.5**
PET Petropavlovsk 1.07 285 *i* P **Pn 10 51 30.0 -1.2**
PET *e*S **Sn 10 51 45.5 +0.3**
AVH Avacha 1.11 298 *i* P **Pn 10 51 30.8 -0.9**
INSR Institute 1.11 287 *e*P **Pn 10 51 30.8 -1.0**
INSR *i* S **Sn 10 51 46.5 +0.3**
RUS Russkaya 1.18 255 *i* P **Pn 10 51 31.5 -1.1**
RUS *i* S **Sn 10 51 48.5 +0.8**
KII Karymskiy 1.40 337 *e*P **Pn 10 51 34.3 -1.3**
GRL Gorelyy 1.42 263 *i* P **Pn 10 51 35.7 -0.1**
GRL *i* S **Sn 10 51 55.4 +2.0**
GNL Ganaly 1.74 304 *i* P **Pn 10 51 40.8 +0.6**
GNL *i* S **Sn 10 52 04.0 +2.8**
MKZ Mys Kozlova 1.98 24 *i* P **Pn 10 51 39.7 -3.7**
MKZ *i* S **Sn 10 52 02.3 -4.7**
MIPR Malaya Ipel'ka 2.26 259 *e*P **Pn 10 51 49.2 +1.9**
MIPR *i* S **Sn 10 52 18.6 +4.6**
TUMR Tumrok 2.54 357 *i* P **Pn 10 51 50.6 -0.4**
TUMR *i* S **Sn 10 52 20.4 -0.3**
KMNR Kamenistaya 3.01 359 *e*P **Pn 10 51 57.6 +0.1**
KMNR *i* S **Sn 10 52 33.9 +1.7**
KOZ Kozyrevsk 3.32 355 P **Pn 10 52 03.1 +1.3**
KOZR Kozyr 3.33 355 PN **Pn 10 52 03.1 +1.2**
SKR Severo-Kuril's 3.36 234 *e*PN **Pn 10 52 01.2 -1.2**
SKR *e*S **Sn 10 52 40.0 -1.0**
SKR pmax pmax
comp=E,60nm,0.4s
SKR pmax pmax
comp=Z,80nm,0.4s
SKR pmax pmax
comp=Z,600nm,4.0s
SKR smax
comp=N,650nm,0.5s
SKR smax
comp=E,770nm,0.5s
SKR smax
comp=N,3μm,4.0s
SKR smax
comp=E,2μm,4.0s
SKR MLR MLR
comp=N,3μm,18.0s
SKR MLR MLR
comp=E,6μm,18.0s
SKR MLR MLR
comp=Z,5μm,18.0s
KLY Klyuchi 3.57 3 P **Pn 10 52 05.2 0.0**
SRDR Sredinnyy 3.59 354 *e*P **Pn 10 52 06.1 +0.7**
SRDR *i* S **Sn 10 52 47.9 +1.4**
KBTR Krutoberegovo 3.74 21 *e*P **Pn 10 52 04.7 -2.8**
KBTR *i* S **Sn 10 52 44.7 -5.6**
SRKR Sorokina 3.93 6 *e*P **Pn 10 52 10.9 +0.7**
SRKR *i* S **Sn 10 52 55.4 +0.4**
MA2 Magadan 8.68 326 *e*PN **Pn 10 53 16.1 +1.1**
MA2 pmax pmax
comp=Z,20nm,0.8s
MA2 Magadan 8.68 326 *e*P **Pn 10 53 17.2 +2.1**
comp=Z,10nm,0.7s
SEY Seymchan 11.04 341 *e*PN **Pn 10 53 51.2 +3.8**
UGL Uglegorsk 12.12 260 PN **Pn 10 54 07.0 +4.9**
UGL pmax pmax
comp=Z,1μm,3.0s
UGL pmax pmax
comp=Z,112nm,1.0s
UGL MLR MLR
comp=Z,1μm,18.0s
UGL MLR MLR
comp=N,1μm,12.0s
UGL MLR MLR
comp=E,2μm,18.0s
ASAJ Asahikawa 14.59 241 P **Pn 10 54 35.4 -0.1**
ASAJ pmax pmax
comp=Z,3.0nm,0.3s
ASAJ MLR MLR
comp=Z,614nm,18.4s
ASAJ Asahikawa 14.59 241 Pn **Pn 10 54 35.4 -0.1**
comp=Z,3.1nm,0.3s,baz=89,slow=13,SNR=19
ASAJ LR LR 11 01 24.4
comp=Z,614nm,18.4s,baz=44,slow=42
BILL Bilibino 15.60 8⇑ *e*P **Pn 10 54 48.2 -0.1**
BILL pmax pmax
comp=Z,8.0nm,1.3s
BILL MLR MLR
comp=Z,1μm,22.0s
BILL Bilibino 15.60 8 *e*P **Pn 10 54 47.7 -0.6**
comp=Z,26nm,0.6s
HABR Khabarovsk 16.60 265 *e*P **Pn 10 54 58.4 -2.6**
HABR *e*S **S 10 58 00.4 -13**
KLR Kul'dur 18.30 270 *e*P **Pn 10 55 19.0 -3.0**
KLR MLR MLR
comp=N,1μm,10.0s
KLR MLR MLR
comp=Z,2μm,10.0s
YAK Yakutsk 18.79 312 *e*P **Pn 10 55 25.7 -2.0**
YAK pmax pmax
comp=Z,45nm,1.0s
YAK pmax pmax
comp=N,10.0nm,1.1s
YAK pmax pmax
comp=E,25nm,1.3s
YAK pmax pmax
comp=Z,60nm,0.8s
YAK pmax pmax
comp=N,6.0nm,0.9s
YAK pmax pmax
comp=E,13nm,0.9s
YAK Yakutsk 18.79 312 *e*P **Pn 10 55 24.5 -3.2**
comp=E,65nm,0.6s
MAJO Matsushiro 22.47 233 *e*P **P 10 56 08.0 +1.3**
MAJO pmax pmax
comp=Z,27nm,0.6s,mb4.8
MAJO Matsushiro 22.47 233 *e*P **P 10 56 08.0 +1.4**
comp=Z,27nm,0.6s,mb4.8
MAT Matsushiro 22.47 233 P **P 10 56 08.8 +2.1**
MAT S **S 11 00 13.0 +3.3**
MJAR Matsushiro Arr 22.47 233 P **P 10 56 07.7 +1.0**
MJAR pmax pmax
comp=Z,23nm,0.7s
MJAR MLR MLR
comp=Z,555nm,21.8s
MJAR Matsushiro Arr 22.47 233 P **P 10 56 07.7 +1.0**
comp=Z,23nm,0.7s,mb4.7,baz=20,slow=12,SNR=24
MJAR LR LR 11 05 03.1
comp=Z,555nm,21.8s,MS4.0,baz=35,slow=37
TIXI Tiksi 23.46 335 *e*P **P 10 56 12.6 -3.8**
TIXI pmax pmax
comp=Z,28nm,1.2s,mb4.6
TIXI MLR MLR
comp=Z,915nm,15.0s,MS4.4
TIXI Tiksi 23.46 335 *e*P **P 10 56 13.9 -2.4**
comp=Z,16nm,0.7s,mb4.5
CN2 Changchun 24.70 263 *e*P **P 10 56 27.9 0.0**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.5
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,1μm,16.0s,MS4.7
CN2 LR LR
comp=E,1μm,16.0s,MS4.7
CN2 LR LR
comp=Z,2μm,16.0s,MS4.6
TTA Tatalina 24.85 49 *e*P **P 10 56 28.8 -0.3**
TTA pmax pmax
comp=Z,42nm,1.3s,mb4.8
TTA Tatalina 24.85 49 *e*P **P 10 56 28.8 -0.3**
comp=Z,42nm,1.3s,mb4.8
SVW2 Sparrevohn 25.00 53 *e*P **P 10 56 30.1 -0.4**
HIA Hailar 25.56 279 *e*P **P 10 56 34.7 -1.0**
HIA pmax pmax
comp=Z,18nm,0.8s
HIA Hailar 25.56 279 *e*P **P 10 56 34.7 -1.0**
comp=Z,18nm,0.8s,mb4.6
IMA2 Indian Mountai 26.18 42 *e*P **P 10 56 40.4 -0.8**
BOD Bodaibo 26.46 300 *e*P **P 10 56 42.9 -0.8**
BOD pmax pmax
comp=Z,10.0nm,1.2s,mb4.2
KDAK Kodiak Island 26.82 60 P **P 10 56 44.4 -2.6**
comp=Z,5.0nm,0.7s,mb4.2,baz=46,slow=5.3,SNR=5.7
KSRS Korea Array 27.25 249 P **P 10 56 52.0 +1.0**
comp=Z,4.4nm,0.7s,mb4.1,baz=40,slow=9.1,SNR=16
KSRS LR LR 11 07 05.3
comp=Z,319nm,20.0s,MS3.9,baz=197,slow=35
COLA College 28.52 45 *e*P **P 10 57 01.6 -0.5**
EGAK Eagle 31.38 45 *e*P **P 10 57 25.2 -2.2**
comp=Z,5.6nm,0.9s,mb4.4
ULN Ulaanbaatar 33.74 284⇑ *e*P **P 10 57 47.2 -1.0**
ULN Ulaanbaatar 33.74 284 *e*P **P 10 57 48.2 0.0**
comp=Z,2.4nm,0.6s,mb4.3
TLY Talaya 34.00 291 *e*P **P 10 57 49.9 -0.5**
TLY pmax pmax
comp=Z,4.0nm,2.5s,mb3.9
INK Inuvik 34.03 37 P **P 10 57 50.5 0.0**
INK 11 00 27.4
INK pmax pmax
comp=Z,1.0nm,0.4s
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 34.03 37 P **P 10 57 50.5 0.0**
INK PcP PcP 11 00 27.4 +0.6
INK Inuvik 34.03 37 P **P 10 57 50.5 0.0**
comp=Z,0.9nm,0.4s,mb4.1,baz=289,slow=6.2,SNR=18
INK PcP PcP 11 00 27.4 +0.6
comp=Z,1.4nm,0.4s,baz=311,slow=3.3,SNR=10
SONM Songino Array 34.14 284 P **P 10 57 51.9 +0.2**
SONM 11 00 29.3
SONM pmax pmax
comp=Z,2.0nm,0.5s
SONM pmax pmax
comp=Z,2.0nm,0.7s
SONM MLR MLR
comp=Z,775nm,18.4s
SONM Songino Array 34.14 284 P **P 10 57 51.9 +0.2**
comp=Z,1.9nm,0.5s,mb4.2,baz=51,slow=8.1,SNR=20
SONM PcP PcP 11 00 29.3 +1.8
comp=Z,2.1nm,0.7s,baz=41,slow=1.9,SNR=8.8
SONM LR LR 11 13 17.9
comp=Z,774nm,18.4s,MS4.5,baz=61,slow=39
ZAK Zakamensk 34.77 290 *e*P **P 10 57 56.8 -0.3**
ZAK pmax pmax
comp=Z,2.0nm,1.8s,mb3.8
NJ2 Nanjing 36.31 252 *e*P **P 10 58 09.3 -1.1**
NJ2 PP PP 10 59 33.6 -0.2
NJ2 S **S 11 03 43.0 -4.2**
NJ2 XS sS 11 04 13.0 +1.7
NJ2 AMB AMB
comp=Z,50nm,1.4s,mb5.2
NJ2 LR LR
comp=N,1μm,20.8s,MS4.8
NJ2 LR LR
comp=E,620nm,19.5s,MS4.8
NJ2 LR LR
comp=Z,740nm,27.3s
GUMO Guam 40.98 203 LR LR 11 14 14.7
comp=Z,88nm,19.1s,MS3.6,baz=214,slow=34
GTA Gaotai 42.81 277 *e*P **P 10 59 04.9 +0.5**
GTA AP pP 10 59 12.1 -6.8
GTA XP sP 10 59 15.8 -10
GTA PCP PcP 11 00 56.8 +2.1
GTA AMB AMB
comp=Z,6.0nm,1.2s,mb4.2
ZALV Zalesovo Beam 43.10 303 P **P 10 59 04.7 -1.9**
comp=Z,2.9nm,0.7s,mb4.1,baz=74,slow=5.4,SNR=6.5
ZALV PcP PcP 11 00 56.2 +0.8
comp=Z,1.5nm,0.6s,baz=27,slow=6.6,SNR=3.4
ZALV LR LR 11 18 26.5
comp=Z,384nm,18.3s,MS4.3,baz=174,slow=38
ZAL Zalesovo 43.12 303 P **P 10 59 04.7 -2.0**
ZAL 11 00 56.2
YKA Yellowknife Ar 43.30 42 P **P 10 59 07.7 -0.3**
YKA pmax pmax
comp=Z,2.0nm,0.8s
YKA Yellowknife Ar 43.30 42 P **P 10 59 07.7 -0.3**
YKA Yellowknife Ar 43.30 42 P **P 10 59 07.7 -0.3**
comp=Z,1.8nm,0.8s,mb3.9,baz=298,slow=8.4,SNR=18
NVS Novosibirsk 43.45 305⇑ *i*P **P 10 59 08.1 -1.2**
NVS *e* pP 10 59 17.8 -6.1
NVS pmax pmax
comp=Z,36nm,1.3s,mb4.9
NVS pmax pmax
comp=N,14nm,1.5s
NVS pmax pmax
comp=E,27nm,1.3s
SPB4 Spitsbergen Ar 47.50 351 *e*P **P 10 59 41.2 +0.1**
KURK Kurchatov 48.06 302 *c i*P **P 10 59 44.7 -1.0**
KURK Kurchatov 48.06 302 *e*P **P 10 59 43.8 -1.9**
comp=E,13nm,0.4s,mb5.3
MK31 Makanchi Array 48.45 296 *e*P **P 10 59 47.5 -1.3**
MKAR Makanchi Array 48.45 296 P **P 10 59 47.6 -1.2**
MKAR pmax pmax
comp=Z,5.0nm,0.5s
MKAR MLR MLR
comp=Z,177nm,20.7s
MKAR Makanchi Array 48.45 296 P **P 10 59 47.6 -1.2**
comp=Z,5.4nm,0.5s,mb4.8,baz=58,slow=7.3,SNR=81
MKAR LR LR 11 20 43.9
comp=Z,177nm,20.7s,MS4.0,baz=312,slow=37
BVAR Borovoye Array 50.73 309 LR LR 11 23 42.1
comp=Z,436nm,18.5s,MS4.5,baz=60,slow=39
DAG Danmarks Havn 50.74 360⇓ *i*P **P 11 00 06.6 +0.7**
DAG pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
DAG Danmarks Havn 50.74 360⇓ *i*P **P 11 00 06.6 +0.7**
comp=Z,6.0nm,0.6s,mb4.7
BRVK Borovoye 50.76 309 *e*P **P 11 00 05.3 -1.0**
BRVK pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
BRVK Borovoye 50.76 309 *e*P **P 11 00 05.3 -1.0**
comp=Z,9.7nm,0.6s,mb4.9
WDC Whiskeytown Da 51.83 71 *e*P **P 11 00 15.0 +0.5**
WDC pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
WDC Whiskeytown Da 51.83 71 *e*P **P 11 00 14.9 +0.5**
comp=Z,2.7nm,0.9s,mb4.2
CHMT Chamberlain Mo 52.81 59 *e*P **P 11 00 20.8 -0.8**
WVOR Wild Horse Val 52.82 67 *e*P **P 11 00 22.1 +0.3**
WVOR pmax pmax
comp=Z,5.0nm,1.4s,mb4.2
WVOR Wild Horse Val 52.82 67 *e*P **P 11 00 22.1 +0.3**
comp=Z,5.1nm,1.4s,mb4.3
KEV Kevo 53.19 342 *e*p **P 11 00 22.6 -1.5**
comp=Z,7.3nm,0.5s,mb4.9
KEV Kevo 53.19 342 *e*P **P 11 00 22.6 -1.5**
KEV pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
OHCM Honcut 53.26 71 *e*P **P 11 00 22.7 -2.4**
ARCES ARCESS Array B 53.66 342 P **P 11 00 27.2 -0.3**
comp=Z,5.0nm,0.5s,mb4.7,baz=40,slow=7.7,SNR=42
ARCES LR LR 11 31 09.5
comp=Z,270nm,18.2s,MS4.3,baz=58,slow=45
ARU Arti 53.76 318 *e*P **P 11 00 27.3 -1.2**
ARU pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
BOZ Bozeman (W) 54.49 59 *e*P **P 11 00 33.8 -0.1**
BOZ pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
BOZ Bozeman (W) 54.49 59 *e*P **P 11 00 33.8 -0.1**
comp=Z,2.0nm,0.9s,mb4.0
TKM2 Tokmak 2 54.59 296 *e*P **P 11 00 34.3 -0.4**
TKM2 pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TKM2 Tokmak 2 54.59 296 *e*P **P 11 00 34.3 -0.3**
comp=Z,4.0nm,0.9s,mb4.5
QLMT Earthquake Lak 55.14 60 *e*P **P 11 00 38.4 -0.2**
TMCR Tamitsa 55.16 333 *e*P **P 11 00 36.1 -2.4**
TMCR *e* 11 01 46.6
FRU Bishkek 55.18 297 *e*P **P 11 00 39.0 0.0**
NVAR Mina Array Bea 55.70 70 P **P 11 00 43.8 +1.0**
comp=Z,0.8nm,0.5s,mb4.0,baz=288,slow=7.9,SNR=13
EKS2 Erkin-Say 55.75 297 *e*P **P 11 00 41.9 -1.1**
comp=Z,5.9nm,0.7s,mb4.7
FLWY Flagg Ranch 56.03 60 *e*P **P 11 00 46.1 +1.0**
comp=Z,4.1nm,0.9s,mb4.5
IMW Indian Meadow 56.03 61 *e*P **P 11 00 44.0 -1.1**
HWUT Hardware Ranch 57.27 63 *e*P **P 11 00 54.9 +1.0**
comp=Z,6.2nm,1.1s,mb4.5
DUG Dugway 57.56 65 *e*P **P 11 00 56.0 0.0**
DUG pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
DUG Dugway 57.56 65 *e*P **P 11 00 56.0 0.0**
comp=Z,2.4nm,0.9s,mb4.2
JOF Joensuu 57.94 335 *e*p **P 11 00 57.4 -0.9**
comp=Z,27nm,0.7s,mb5.4
AKTO Aktyubinsk 58.18 313 LR LR 11 28 48.1
comp=Z,405nm,19.2s,MS4.5,baz=250,slow=39
ARUT Antelope Range 58.90 67 *e*P **P 11 01 06.1 +0.8**
ULM Lac du Bonnet 58.93 47 P **P 11 01 05.2 -0.2**
comp=Z,1.5nm,0.4s,mb4.4,baz=18,slow=6.1,SNR=7.8
JIRN Jiri 59.09 276 *e*P **P 11 01 07.3 +0.5**
comp=Z,6.8nm,0.5s,mb4.9
MSU Marysvale 59.09 66 *e*P **P 11 01 08.4 +1.7**
GUN Gumba 59.10 276 *e*P **P 11 01 07.5 +0.7**
comp=Z,16nm,0.4s,mb5.4
RSSD Black Hills 59.45 56 *e*P **P 11 01 08.9 -0.1**
RSSD pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
RSSD Black Hills 59.45 56 *e*P **P 11 01 08.9 -0.1**
comp=Z,4.6nm,0.6s,mb4.7
KKN Kakani 59.55 277 *e*P **P 11 01 10.7 +0.8**
comp=Z,22nm,0.4s,mb5.5
SRU San Rafael 59.58 64 *e*P **P 11 01 10.9 +0.9**
SRU pmax pmax
comp=Z,4.0nm,0.8s,mb4.5
SRU San Rafael 59.58 64 *e*P **P 11 01 10.9 +0.9**
comp=Z,3.5nm,0.8s,mb4.4
PKI Pulchoki 59.63 276 *e*P **P 11 01 10.9 +0.4**
GKN Gorkha 59.78 277 *e*P **P 11 01 12.2 +0.7**
comp=Z,17nm,0.4s,mb5.4
DMN Daman 59.78 277 *e*P **P 11 01 12.7 +1.1**
comp=Z,20nm,0.4s,mb5.5
DANN Dangsing 60.06 278 *e*P **P 11 01 14.2 +0.8**
comp=Z,19nm,0.6s,mb5.3
FIA1 FINESS Array S 60.50 337 *e*P **P 11 01 16.3 +0.4**
FINES FINESS Array B 60.50 337 P **P 11 01 16.5 +0.6**
FINES pmax pmax
comp=Z,15nm,0.5s
FINES MLR MLR
comp=Z,172nm,20.3s
FINES FINESS Array B 60.50 337 P **P 11 01 16.4 +0.5**
comp=Z,15nm,0.5s,mb5.2,baz=39,slow=8.3,SNR=91
FINES LR LR 11 31 09.7
comp=Z,172nm,20.3s,MS4.2,baz=7.9,slow=40
KOLN Koldanda 60.58 278 *e*P **P 11 01 17.4 +0.4**
comp=Z,13nm,0.5s,mb5.3
PV10 Paradox Valley 60.92 64 *e*P **P 11 01 20.1 +1.0**
SMCO Snowmass 61.46 62 *e*P **P 11 01 23.6 +0.8**
comp=Z,3.4nm,0.9s,mb4.5
WUAZ Wupatki 61.68 68 *e*P **P 11 01 25.2 +0.9**
comp=Z,7.7nm,1.3s,mb4.7
ISCO Idaho Springs 61.74 61 *e*P **P 11 01 25.8 +1.1**
ISCO pmax pmax
comp=Z,11nm,1.4s,mb4.8
ISCO Idaho Springs 61.74 61 *e*P **P 11 01 25.8 +1.1**
comp=Z,11nm,1.4s,mb4.8
HNR Honiara 61.94 180 LR LR 11 24 37.8
comp=Z,173nm,18.5s,MS4.2,baz=358,slow=32
OBN Obninsk 62.89 328⇓ *e*P **P 11 01 32.4 +0.3**
OBN pmax pmax
comp=Z,68nm,1.8s,mb5.5
OBN MLR MLR
comp=Z,300nm,20.0s,MS4.5
NB2 NORSAR Subarra 63.91 344 P **P 11 01 38.7 -0.1**
comp=Z,16nm,1.0s,mb5.0,baz=21,slow=6.9
NOA NORSAR Array B 63.91 344 P **P 11 01 39.0 +0.2**
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA MLR MLR
comp=Z,152nm,19.3s
NOA NORSAR Array B 63.91 344 P **P 11 01 39.0 +0.3**
comp=Z,6.0nm,0.8s,mb4.7,baz=21,slow=6.8,SNR=15
NOA LR LR 11 31 35.2
comp=Z,152nm,19.3s,MS4.2,baz=75,slow=38
HFS Hagfors 64.32 342 LR LR 11 34 49.8
comp=Z,220nm,18.2s,MS4.4,baz=38,slow=41
VRHR Novokhopersk 64.41 322 *e*P **P 11 01 42.1 -0.1**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.4
VRHR pmax pmax
comp=N,40nm,1.0s
VRHR pmax pmax
comp=E,10.0nm,0.4s
ANMO Albuquerque 64.83 65⇑ *e*P **P 11 01 45.1 -0.1**
VRSR Storozhevoye 65.20 324 *e*P **P 11 01 47.5 +0.2**
VRSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
VRSR pmax pmax
comp=N,6.0nm,1.1s
VRSR pmax pmax
comp=E,4.0nm,0.9s
SCHQ Schefferville 65.87 28 P **P 11 01 51.7 +0.1**
SCHQ LR LR 11 32 41.4
SCHQ Schefferville 65.87 28 P **P 11 01 51.7 +0.1**
comp=E,4.4nm,0.8s,mb4.6,baz=348,slow=6.3,SNR=4.8
SCHQ LR LR 11 32 41.4
comp=E,97nm,19.1s,MS4.0,baz=268,slow=38
MNTX Cornudas Mount 67.86 67 *e*P **P 11 02 04.4 -0.2**
comp=E,7.1nm,1.5s,mb4.5
AKASG Malin Array Be 68.99 329 P **P 11 02 11.2 -0.1**
AKASG pmax pmax
comp=Z,11nm,0.5s
AKASG MLR MLR
comp=Z,455nm,19.1s
AKASG Malin Array Be 68.99 329 P **P 11 02 11.2 -0.2**
comp=Z,11nm,0.5s,mb5.0,baz=29,slow=6.4,SNR=5.8
AKASG LR LR 11 35 52.6
comp=Z,455nm,19.1s,MS4.7,baz=30,slow=39
AKBB Malin Array Si 68.99 329 *e*P **P 11 02 11.0 -0.3**
KIEV Kiev 69.00 329 *e*P **P 11 02 11.0 -0.4**
KIEV pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
KIEV Kiev 69.00 329 *e*P **P 11 02 10.9 -0.5**
comp=Z,7.9nm,0.6s,mb4.8
WMOK Wichita Mounta 69.13 60 *e*P **P 11 02 12.0 -0.5**
WMOK pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
WMOK Wichita Mounta 69.13 60 *e*P **P 11 02 12.0 -0.5**
comp=Z,6.9nm,1.0s,mb4.5
KIV Kislovodsk 69.80 317⇑ *e*P **P 11 02 14.6 -1.9**
KIV pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
KIV MLR MLR
comp=Z,300nm,19.0s,MS4.6
TXAR Lajitas Array 70.61 67 P **P 11 02 22.0 +0.3**
comp=Z,1.4nm,0.5s,mb4.1,baz=301,slow=4.8,SNR=29
TXAR LR LR 11 32 23.8
comp=Z,128nm,20.1s,MS4.2,baz=0.0,slow=35
BSEG Bad Segeberg 70.79 342 *e*P **P 11 02 23.0 +0.7**
comp=Z,27nm,1.4s,mb5.0
ANN Anapa 71.19 321 *e*P **P 11 02 20.4 -4.5**
ANN *i* *PP pP 11 02 39.1 -1.4
ANN *e*S S 11 11 30.7 -6.7
ANN pmax pmax
comp=Z,22nm,1.2s,mb5.0
ANN MLR MLR
comp=N,666nm,18.0s,MS5.0
ANN MLR MLR
comp=E,431nm,18.0s,MS5.0
ANN MLR MLR
comp=Z,209nm,18.0s,MS4.4
SOC Sochi 71.32 319 *e*P **P 11 02 25.4 -0.3**
SOC *e* 11 11 41.9
SOC MLR MLR
comp=Z,482nm,18.0s,MS4.8
HYB Hyderabad 71.41 274 *e*P **P 11 02 27.5 +0.9**
HYB Hyderabad 71.41 274 *i* P **P 11 02 27.5 +0.9**
KWP Kalwaria 71.87 333⇑ *i*P **P 11 02 30.1 +1.2**
GNI Garni 72.03 313⇑ *e*P **P 11 02 28.8 -1.3**
GNI pmax pmax
comp=Z,13nm,1.1s
GNI Garni 72.03 313 *e*P **P 11 02 30.7 +0.6**
comp=Z,33nm,1.3s,mb5.1
GNI Garni 72.03 313 LR LR 11 38 34.1
comp=Z,236nm,20.8s,MS4.4,baz=249,slow=40
OJC Ojcow 72.12 335 *e*P **P 11 02 31.6 +1.2**
KIS Kishinev 72.36 327 *e*P **P 11 02 30.0 -1.9**
KIS LRM 11 36 40.0
comp=Z,500nm,15.0s
STHS Stebnicka Huta 72.47 333 *e*P **P 11 02 34.4 +1.9**
STHS pmax pmax
comp=Z,11nm,1.1s,mb4.7
STHS Stebnicka Huta 72.47 333 *e*P **P 11 02 34.4 +1.9**
comp=Z,11nm,1.1s,mb4.7
CLL Collm 72.73 339 *i* P **P 11 02 34.6 +0.6**
CLL *i* 11 02 42.9
CLL pmax pmax
comp=Z,23nm,1.3s,mb5.0
CLL MLR MLR
comp=Z,200nm,22.7s,MS4.3
CLL Collm 72.73 339 *i* P **P 11 02 34.6 +0.6**
comp=Z,23nm,1.3s,mb5.0
CLL *i* 11 02 42.9
CLL LR LR
comp=Z,200nm,22.7s,MS4.3
CLL Collm 72.73 339 *e*P **P 11 02 34.6 +0.6**
comp=Z,23nm,1.3s,mb5.0
CLL *e*pP pP 11 02 43.1 -6.5
CLL Collm 72.73 339 *i* P **P 11 02 34.6 +0.6**

comp=Z,23nm,1.3s,mb5.0
CLL *i* pP pP 11 02 42.9 -6.7
comp=Z,19nm,1.1s
CLL *e*PP PP 11 05 16.0 +0.4
CLZ Clausthal 72.77 341 *e*P **P 11 02 35.4 +1.2**
CLZ pmax pmax
comp=Z,273nm,3.4s
CLZ Clausthal 72.77 341 *e*P **P 11 02 35.4 +1.2**
comp=Z,273nm,3.4s
UPC Upice 72.80 337 *e*P **P 11 02 35.6 +1.2**
DPC Dobruska-Polom 72.87 337 *e*P **P 11 02 36.4 +1.5**
DPC *e*pP pP 11 02 44.9 -5.6
OKC Ostrava-Krasne 72.90 335 *e*P **P 11 02 36.2 +1.2**
BRG Berggiesshubel 72.93 338 *e*P **P 11 02 35.1 -0.1**
BRG pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BRG Berggiesshubel 72.93 338 *e*P **P 11 02 35.4 +0.2**
comp=Z,11nm,1.6s,mb4.5
BRG Berggiesshubel 72.93 338 *e*P **P 11 02 35.1 -0.1**
comp=Z,5.7nm,0.9s,mb4.5
BURAR Bucovina Array 72.95 330⇑*i*P **P 11 02 36.3 +0.9**
MORC Moravsky Berou 73.11 336⇓*i*P **P 11 02 37.3 +1.0**
PRU Pruhonice 73.63 338 *e*P **P 11 02 37.8 -1.5**
PRU *e*pP pP 11 02 48.7 -6.2
MOX Moxa 73.65 340 *e*P **P 11 02 40.3 +0.8**
MOX Moxa 73.65 340 *e*P **P 11 02 40.2 +0.7**
comp=Z,17nm,1.4s,mb4.8
MOX *e*pP pP 11 02 49.3 -5.8
BUG Bochum--Univer 73.74 343 *e*P **P 11 02 40.6 +0.7**
comp=Z,39nm,1.5s,mb5.1
VRAC Vranov 73.77 336 LR LR 11 39 13.0
comp=Z,299nm,18.7s,MS4.6,baz=21,slow=39
VYHS Vyhne 73.96 334 *e*P **P 11 02 42.6 +1.3**
VYHS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
VYHS Vyhne 73.96 334 *e*P **P 11 02 42.6 +1.3**
comp=Z,8.7nm,1.4s,mb4.5
KAD Karad 74.13 278 *i*P **P 11 02 43.0 +0.2**
ROTZ Rotzenmuhle 74.35 339 *e*P **P 11 02 44.1 +0.5**
comp=Z,20nm,1.7s,mb4.8
ROTZ *e*pP pP 11 02 51.9 -7.3
DRGR 74.44 331⇓*i*P **P 11 02 45.4 +1.3**
MODS Modra-Piesok 74.47 335 *e*P **P 11 02 45.6 +1.3**
MLR Muntele Rosu 74.62 329 LR LR 11 40 23.8
comp=Z,343nm,18.4s,MS4.7,baz=207,slow=40
MLR Muntele Rosu 74.62 329⇓*i*P **P 11 02 47.4 +2.2**
GRA1 Grafenberg Arr 74.64 340 *e*P **P 11 02 46.7 +1.5**
comp=Z,36nm,1.6s,mb5.0
GRA1 *e*pP pP 11 02 55.7 -5.1
GRA1 LR LR
comp=Z,200nm,21.1s,MS4.4
GRF Grafenberg Arr 74.64 340 *e*P **P 11 02 46.7 +1.5**
GRF *e**PP pP 11 02 55.7 -5.1
GRF pmax pmax
comp=Z,36nm,1.6s,mb5.0
GRF MLR MLR
comp=Z,200nm,21.1s,MS4.4
GRF Grafenberg Arr 74.64 340 *e*P **P 11 02 46.7 +1.5**
GRF *e**PP pP 11 02 55.7 -5.1
GRF pmax pmax
comp=Z,36nm,1.6s,mb5.0
GRF MLR MLR
comp=Z,200nm,21.1s,MS4.4
GRF Grafenberg Arr 74.64 340 *e*P **P 11 02 46.7 +1.5**
comp=Z,36nm,1.6s,mb5.0
GRF *e*pP pP 11 02 55.7 -5.1
GRF *e*L 11 37 15.5
comp=Z,193nm,21.1s
GRF Grafenberg Arr 74.64 340 *e*L 11 37 15.5
comp=Z,193nm,21.1s
KHC Kasperske Hory 74.65 338 *e*P **P 11 02 46.8 +1.5**
KHC *e*pP pP 11 02 54.5 -6.4
ZST Bratislava 74.68 335 *e*P **P 11 02 47.6 +2.1**
ZST pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
ZST Bratislava 74.68 335 *e*P **P 11 02 47.6 +2.1**
comp=Z,9.2nm,1.1s,mb4.6
ZST Bratislava 74.68 335 *e*P **P 11 02 47.5 +2.0**
TIRR Tirgusor 74.74 326⇑*i*P **P 11 02 46.7 +0.8**
WET Wettzell 74.79 339 *e*P **P 11 02 47.5 +1.4**
WET *e**PP pP 11 02 56.5 -5.3
WET pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
WET Wettzell 74.79 339 *e*P **P 11 02 47.5 +1.4**
comp=Z,9.0nm,1.0s,mb4.7
WET *e*pP pP 11 02 56.5 -5.3
GEC2 GERESS Array S 74.89 338 *e*P **P 11 02 47.4 +0.7**
GEC2 pmax pmax
comp=Z,14nm,1.5s,mb4.7
GEC2 GERESS Array S 74.89 338 *e*P **P 11 02 47.4 +0.7**
comp=Z,14nm,1.5s,mb4.7
GERES GERESS Array B 74.89 338 P **P 11 02 48.0 +1.3**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,183nm,18.4s
GERES GERESS Array B 74.89 338 P **P 11 02 48.0 +1.3**
comp=Z,1.9nm,0.5s,mb4.3,baz=40,slow=4.4,SNR=15
GERES LR LR 11 40 00.7
comp=Z,183nm,18.4s,MS4.4,baz=288,slow=39
VOIR 74.95 329⇑*i*P **P 11 02 49.0 +1.9**
SWET Sewanee 75.18 51 *e*P **P 11 02 48.2 -0.4**
CONA Conrad Observa 75.24 336⇑*i*P **P 11 02 50.5 +1.8**
comp=Z,18nm,1.3s,mb4.8
CSNA Conrad Observa 75.24 336⇑*i*P **P 11 02 50.5 +1.8**
comp=Z,17nm,1.3s,mb4.8
BAIF Baives 75.59 344 *e*P **P 11 02 49.9 -0.8**
WLF Walferdange 75.64 343 *e*P **P 11 02 51.8 +0.8**
comp=Z,12nm,1.0s,mb4.8
WRA Warramunga Arr 75.84 205 P **P 11 02 53.2 +0.8**
WRA pmax pmax
comp=Z,2.0nm,0.6s
WRA Warramunga Arr 75.84 205 P **P 11 02 53.2 +0.8**
comp=Z,2.4nm,0.6s,mb4.3,baz=24,slow=6.3,SNR=45
FUR Furstenfeldbru 76.07 339 *e*pP pP 11 03 04.8 -4.3
MALT Malatya 76.27 317⇓*i*P **P 11 02 56.3 +1.5**
SOKA Soboth 76.61 336⇑*i*P **P 11 02 57.3 +0.8**
KBA Koelnbreinsper 76.63 338⇑*i*P **P 11 02 58.4 +1.7**
comp=Z,31nm,1.2s,mb5.1
KBA Koelnbreinsper 76.63 338⇑*i*P **P 11 02 58.4 +1.7**
KBA pmax pmax
comp=Z,31nm,1.2s,mb5.1
CDF Champ du Feu 76.64 342 *e*P **P 11 02 55.9 -0.8**
comp=Z,8.8nm,0.9s,mb4.4
CDF Champ du Feu 76.64 342 *e*P **P 11 02 55.9 -0.8**
CDF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
CDF Champ du Feu 76.64 342 *e*P **P 11 02 55.9 -0.8**
comp=Z,4.4nm,0.9s,mb4.4
WTTA Wattenberg 76.84 339⇓*i*P **P 11 02 59.8 +2.0**
comp=Z,30nm,1.6s,mb5.0
WTTA Wattenberg 76.84 339⇓*i*P **P 11 02 59.8 +1.9**
WTTA pmax pmax
comp=Z,30nm,1.6s,mb5.0
OBKA Obir 76.88 337⇓*i*P **P 11 03 00.0 +2.0**
comp=Z,14nm,1.1s,mb4.8
MOTA Moosalm 76.89 339⇓*i*P **P 11 02 59.7 +1.7**
comp=Z,6.5nm,1.1s,mb4.5
MOTA Moosalm 76.89 339⇓*i*P **P 11 02 59.8 +1.7**
MOTA pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
MEZF Maizieres J'vi 76.96 343 *e*P **P 11 02 57.5 -1.0**
HAU Haudompre 77.20 342 *e*P **P 11 02 59.2 -0.7**
HAU *e*MLR MLR
comp=Z,253nm,20.2s,MS4.2
HAU Haudompre 77.20 342 *e*P **P 11 02 59.2 -0.7**
HAU LR LR
comp=Z,250nm,20.3s,MS4.5
HINF Hinteralfeld 77.29 342 *e*P **P 11 02 59.6 -0.8**
DAVOX Davos/Dischmat 77.68 340 LR LR 11 44 19.1
comp=Z,182nm,18.2s,MS4.4,baz=255,slow=41
GRR Gorron 77.97 347 *e*P **P 11 03 03.3 -0.8**
comp=Z,27nm,1.0s,mb4.8
GRR Gorron 77.97 347 *e*P **P 11 03 03.3 -0.8**
GRR pmax pmax
comp=Z,14nm,1.0s,mb4.8
GRR Gorron 77.97 347 *e*P **P 11 03 03.3 -0.8**
comp=Z,14nm,1.0s,mb4.8
SGMF Saint Gilles 78.32 348 *e*P **P 11 03 05.4 -0.7**
comp=Z,24nm,0.9s,mb4.8
SGMF Saint Gilles 78.32 348 *e*P **P 11 03 05.4 -0.7**
SGMF pmax pmax
comp=Z,12nm,0.9s,mb4.8
SGMF Saint Gilles 78.32 348 *e*P **P 11 03 05.4 -0.7**
comp=Z,12nm,0.9s,mb4.8
ROSF Rostrenen 78.33 349 *e*P **P 11 03 05.2 -0.9**
LOR Lormes 78.36 344 *e*P **P 11 03 05.3 -1.0**
LOR *e*MLR MLR
comp=Z,285nm,21.2s,MS4.3
LOR Lormes 78.36 344 *e*P **P 11 03 05.3 -1.0**
LOR LR LR
comp=Z,290nm,21.3s,MS4.6
CABF La Chapelle 78.60 342 *e*P **P 11 03 06.9 -0.7**
SSF Saint Saulge 78.61 344 *e*P **P 11 03 06.8 -0.9**
QUIF Quistinic 78.73 349 *e*P **P 11 03 07.3 -1.0**
AVF Avril sur Loir 78.90 344 *e*P **P 11 03 08.4 -0.9**
SMF Signal de Mont 78.96 344 *e*P **P 11 03 08.8 -0.8**
comp=Z,3.5nm,0.6s,mb4.2
SMF Signal de Mont 78.96 344 *e*P **P 11 03 08.8 -0.8**
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
SMF Signal de Mont 78.96 344 *e*P **P 11 03 08.8 -0.8**
comp=Z,1.8nm,0.6s,mb4.2
BGF Bois d'Agland 79.21 344 *e*P **P 11 03 10.1 -0.9**
MIB Mutribah 79.28 306 *e*P **P 11 03 10.6 -1.0**
MIB AMb AMB 11 03 13.2
comp=Z,65nm,0.6s,mb5.7
UMR Umm Al-Rimmam 79.30 305 *e*P **P 11 03 10.8 -0.9**
UMR AMb AMB 11 03 12.9
comp=Z,29nm,0.6s,mb5.4
ASAR Alice Springs 79.52 205 P **P 11 03 14.0 +1.2**
ASAR pmax pmax
comp=Z,2.0nm,0.5s
ASAR Alice Springs 79.52 205 P **P 11 03 13.9 +1.2**
comp=Z,2.4nm,0.5s,mb4.3,baz=16,slow=4.9,SNR=83
LPL La Plagne 79.53 341 *e*P **P 11 03 12.0 -0.7**
comp=Z,17nm,0.9s,mb4.7
LPL La Plagne 79.53 341 *e*P **P 11 03 12.0 -0.7**
LPL pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LPL La Plagne 79.53 341 *e*P **P 11 03 12.0 -0.7**
comp=Z,8.7nm,0.9s,mb4.7
LPG La Plagne 79.54 341 *e*P **P 11 03 12.2 -0.6**
comp=Z,34nm,1.0s,mb4.9
LPG La Plagne 79.54 341 *e*P **P 11 03 12.2 -0.6**
LPG pmax pmax
comp=Z,17nm,1.0s,mb4.9
LPG La Plagne 79.54 341 *e*P **P 11 03 12.2 -0.6**
comp=Z,17nm,1.0s,mb4.9
TCF Toulx Ste Croi 79.58 345 *e*P **P 11 03 11.9 -1.1**
comp=Z,31nm,1.4s,mb4.7
TCF Toulx Ste Croi 79.58 345 *e*P **P 11 03 11.9 -1.1**
TCF pmax pmax
comp=Z,15nm,1.4s,mb4.7
TCF Toulx Ste Croi 79.58 345 *e*P **P 11 03 11.9 -1.1**
comp=Z,15nm,1.4s,mb4.7
MFF Saint Martin d 79.63 346 *e*P **P 11 03 12.2 -1.0**
comp=Z,7.3nm,0.7s,mb4.4
MFF Saint Martin d 79.63 346 *e*P **P 11 03 12.2 -1.0**
MFF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
MFF Saint Martin d 79.63 346 *e*P **P 11 03 12.2 -1.0**
comp=Z,3.7nm,0.7s,mb4.4
NAY Al-Naaiem 79.78 305 *e*P **P 11 03 13.2 -1.2**
NAY AMb AMB 11 03 15.6
comp=Z,20nm,0.7s,mb5.1
QRN Al-Qurain 79.86 304 *e*P **P 11 03 13.6 -1.2**
QRN AMb AMB 11 03 16.5
comp=Z,34nm,0.5s,mb5.5
RDF Al-Radifah 79.89 305 *e*P **P 11 03 14.6 -0.4**
RDF AMb AMB 11 03 16.6
comp=Z,58nm,0.9s,mb5.5
ORIF Oris-en-Rattie 80.27 342 *e*P **P 11 03 15.9 -0.8**
comp=Z,9.0nm,0.7s,mb4.5
ORIF *e*MLR MLR
comp=Z,204nm,20.0s,MS4.2
ORIF Oris-en-Rattie 80.27 342 *e*P **P 11 03 15.9 -0.8**
ORIF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ORIF Oris-en-Rattie 80.27 342 *e*P **P 11 03 15.9 -0.8**
comp=Z,4.5nm,0.6s,mb4.6
MBDF Montbardon 80.28 341 *e*P **P 11 03 15.7 -1.1**
comp=Z,20nm,1.1s,mb4.7
MBDF Montbardon 80.28 341 *e*P **P 11 03 15.7 -1.1**
MBDF pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MBDF Montbardon 80.28 341 *e*P **P 11 03 15.7 -1.1**
comp=Z,10nm,1.1s,mb4.7
VIVF Saint-Julien-l 80.55 343 *e*P **P 11 03 17.0 -1.2**
comp=Z,33nm,1.1s,mb4.9
VIVF Saint-Julien-l 80.55 343 *e*P **P 11 03 17.0 -1.2**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb4.9
VIVF Saint-Julien-l 80.55 343 *e*P **P 11 03 17.0 -1.2**
comp=Z,16nm,1.1s,mb4.9
PMOR Pomariorio Ree 80.82 130 *e*T 12 32 16.9
comp=Z,1.6nm,0.2s
CAF Calviac 80.93 345 *e*P **P 11 03 19.3 -1.0**
comp=Z,5.3nm,0.6s,mb4.3
CAF Calviac 80.93 345 *e*P **P 11 03 19.3 -1.0**
CAF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CAF Calviac 80.93 345 *e*P **P 11 03 19.3 -1.0**
comp=Z,2.7nm,0.6s,mb4.3
SBF Sospel 80.98 341 *e*P **P 11 03 19.5 -1.1**
SMRF Simiane la Rot 81.23 342 *e*P **P 11 03 20.8 -1.1**
FRF La Foret Royal 81.42 341 *e*P **P 11 03 21.9 -1.0**
LMR La Mourre 81.67 341 *e*P **P 11 03 23.2 -1.0**
PGF Pioggiola 81.91 339 *e*P **P 11 03 24.4 -1.1**
PPT Papeete 82.30 132 *e*LR LR 11 28 54.8
comp=Z,251nm,24.2s
PPT Papeete 82.30 132 LR LR 11 40 06.5
comp=Z,134nm,18.0s,MS4.3,baz=84,slow=36
MTLF Montolieu 82.44 344 *e*P **P 11 03 27.2 -1.1**
IDI Anoyia 84.14 325 LR LR 11 45 51.9
comp=Z,152nm,19.9s,MS4.4,baz=79,slow=39
STKA Stephens Creek 85.86 196 P **P 11 03 46.5 +1.1**
comp=Z,1.4nm,0.6s,mb4.3,baz=348,slow=14,SNR=4.5
ESDC Sonseca Array 86.95 348 P **P 11 03 51.2 +0.2**
comp=Z,0.3nm,0.3s,mb4.1,baz=358,slow=5.4,SNR=6.2
ATD Arta Tunnel 96.75 299 LR LR 11 53 20.9
comp=Z,180nm,18.5s,MS4.6,baz=46,slow=39

KRSC 18 10:59:29.4±0.6,5284N×16055E,h13km±13km,ML3.9,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.41**	**309**	*i* P	Pg	10 59 39.2	+1.6
SPN				*i* S	Sg	10 59 46.4	+3.3
NLC	**Nalytchevo**	**0.80**	**295**	*i* P	Pg	10 59 45.0	+0.1
NLC				*i* S	Sg	10 59 55.9	+0.5
PET	**Petropavlovsk**	**1.16**	**280**	*i* P	Pb	10 59 50.6	-0.7
PET				*i* S	Sb	11 00 06.3	0.0
AVH	**Avacha**	**1.17**	**292**	*i* P	Pn	10 59 51.2	-0.3
AVH				*e*S	Sb	11 00 07.5	+0.9
RUS	**Russkaya**	**1.31**	**253**	*i* P	Pn	10 59 52.1	-1.2
RUS				*i* S	Sb	11 00 08.6	-1.8
KII	**Karymskiy**	**1.37**	**332**	*e*P	Pn	10 59 54.9	+0.8
KII				*i* S	Sn	11 00 14.2	+2.1
GRL	**Gorelyy**	**1.54**	**260**	*i* P	Pn	10 59 56.3	-0.1
GRL				*i* S	Sn	11 00 16.2	0.0
GNL	**Ganaly**	**1.79**	**300**	*i* P	Pn	11 00 01.2	+1.3
GNL				*i* S	Sn	11 00 24.0	+1.6
MKZ	**Mys Kozlova**	**1.86**	**22**	*i* P	Pn	10 59 59.8	-1.1
MKZ				*i* S	Sn	11 00 21.6	-2.6
MIPR	**Malaya Ipel'ka**	**2.38**	**258**	*i* P	Pn	11 00 09.7	+1.6
MIPR				*e*S	Sn	11 00 39.0	+1.9
TUMR	**Tumrok**	**2.46**	**355**	*e*P	Pn	11 00 11.6	+2.5
KBTR	**Krutoberegovo**	**3.62**	**20**	*e*P	Pn	11 00 25.7	+0.6
KBTR				*i* S	Sn	11 01 07.8	+0.1

*SGS **18** 11:14:05.1,3024N×3640E,h6km*
*GII **18** 11:14:05.8±1.2,2982N×3612E,h0km,ML3.0/10*
*ISCJB **18** 11:14:10.0±0.9,2982N±004×3622E±006,h0km, Error ellipse: s-maj=7.1km s-min=5.1km az=10.4*
*HLW **18** 11:14:11.6,2993N×3647E,h18km,Mb3.2*
*CSEM **18** 11:14:12.5±0.5,2990N×3634E,h35km,ML3.0, Error ellipse: s-maj=11.7km s-min=7.3km az=74.0*

ISC 18 11:14:10.1±0.9,2981N±004×3626E±006,h0km,n20, σ1$02/28,2D,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.09**	**282**	Pg	**Pg**	**11 14 29.4**	**-1.5**
HRFI				Sg	**Sg**	**11 14 45.4**	**+0.4**
EIL	**Elat**	**1.15**	**263**	Pg	**Pg**	**11 14 31.1**	**-1.1**
EIL				Sg	**Sg**	**11 14 47.5**	**+0.5**
HQLS		**1.16**	**244**	P	**Pg**	**11 14 30.5**	**-1.9**
HQLS		**1.16**	**244**	P	**Pg**	**11 14 30.5**	**-1.9**
HQLS				S	**Sg**	**11 14 49.6**	**+2.1**
MBH	**Mount Berech**	**1.17**	**269**	Pg	**Pg**	**11 14 31.4**	**-1.2**
ZFRI	**Zfri**	**1.20**	**309**	Pg	**Pg**	**11 14 32.8**	**-0.3**
PRNI	**Paran**	**1.22**	**297**	Pg	**Pg**	**11 14 33.5**	**+0.1**
PRNI				Sg	**Sg**	**11 14 49.4**	**+0.2**
JLOS		**1.27**	**212**	P	**Pg**	**11 14 33.3**	**-1.0**
HBST	**Basata**	**1.46**	**246**	P	**Pn**	**11 14 39.0**	**+1.3**
MZDA	**Masada**	**1.68**	**333**	Pn	**Pn**	**11 14 40.8**	**+0.1**
MZDA				Sn	**Sn**	**11 15 02.7**	**-0.4**
HDHB	**Dhahab**	**1.80**	**233**	P	**Pn**	**11 14 43.2**	**+0.8**
RTMI	**Retamim**	**1.84**	**313**	Pn	**Pn**	**11 14 42.8**	**-0.1**
DSI	**Dead Sea**	**1.91**	**337**	Pn	**Pn**	**11 14 44.3**	**+0.4**
DSI				Sn	**Sn**	**11 15 09.8**	**+1.2**
KZIT	**Kziot**	**1.95**	**305**	Pn	**Pn**	**11 14 43.6**	**-0.8**
KZIT				Sn	**Sn**	**11 15 08.3**	**-1.3**
RSHS		**1.98**	**221**	P	**Pn**	**11 14 42.8**	**-2.0**
HNKL	**Nakhl**	**1.98**	**274**	⇓P	**Pn**	**11 14 45.4**	**+0.5**
HNKL				S	**Sn**	**11 15 10.4**	**-0.1**
HKAT	**Jabal Katrina**	**2.36**	**238**	P	**Pn**	**11 14 51.8**	**+1.6**
HMDT	**Nahal Hemdat**	**2.52**	**346**	Pn	**Pn**	**11 14 53.1**	**+0.9**
TR2		**2.64**	**238**	⇓P	**Pn**	**11 14 55.0**	**+1.1**
AMAG	**Maghara**	**2.77**	**288**	P	**Pn**	**11 14 56.0**	**+0.3**

*NEIC **18** 11:19:24.6,19.11N×6266W,h34km,MD3.5(RSPR),After RSPR.*

RSPR 18 11:19:24.6,1911N×6266W,h34km±19km,MD3.5/7, MD3.5/7,7C,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	**Anegada**	**1.63**	**257**⇑	*e*P	Pn	11 19 49.5	-1.3
ABV	**Anegada**	**1.63**	**257**	*e*S	Sn	11 20 09.6	-1.0
TBVI	**Tortola**	**1.98**	**250**⇑	*e*P	Pn	11 19 54.7	-1.0
TBVI				*e*S	Sn	11 20 17.6	-1.7
STVI	**Saint Thomas**	**2.30**	**251**	*e*S	Sn	11 20 25.7	-1.5
MTP	**Monte Pirata**	**2.92**	**250**⇑	*e*P	Pn	11 20 08.1	-0.6
MTP				*e*S	Sn	11 20 41.9	-0.8
CBYP	**Canovanas**	**3.14**	**255**⇑	*e*P	Pn	11 20 11.2	-0.6
CBYP				*e*S	Sn	11 20 46.7	-1.3
HUMP	**Col San Antoni**	**3.17**	**253**⇑	*e*P	Pn	11 20 11.3	-0.8
HUMP				*e*S	Sn	11 20 47.5	-1.3
CPD	**Cerro la Pandu**	**3.27**	**252**⇑	*e*P	Pn	11 20 12.9	-0.5
CPD				*e*S	Sn	11 20 50.7	-0.4
CELP	**Cerrillos**	**3.86**	**255**⇑	*e*P	Pn	11 20 20.6	-1.0
CELP				*e*S	Sn	11 21 05.5	-0.1

*BJI **18** 11:32:32.5,250S×6850E,h10km,mB5.2,mb4.4*
*MOS **18** 11:32:32.5±1.0,246S×6844E,h10km,mb4.8/9,Error ellipse: s-maj=14.0km s-min=9.7km az=77.0*
*ISCJB **18** 11:32:32.6±0.5,251S±008×6845E±006,h10km,mb4.5/41, MS4.0/15,Error ellipse: s-maj=11.2km s-min=8.5km az=160.3*
*IDC **18** 11:32:33.3±0.6,245S×6840E,h0km,mb4.1/19, mb1 4.2/19,mb1mx4.1/27,mbtmp4.1/19,MS4.0/12, Ms1 4.0/12,ms1mx3.8/32,Error ellipse: s-maj=18.8km s-min=15.2km az=177.0*
*GCMT **18** 11:32:34.8±0.3,258S×6854E,h13km±2km,MW4.9/71, Moment Tensor Solution. s14,c16; s71,c101; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-0.26±.10; Mθθ2.27±.10; Mφφ-2.01±.09; Mrθ0.90±.31; Mrφ0.83±.10; Mθφ-1.00±.31; Best double couple: M0=2.66600×10^16 NP1:φs37.00000°,δ61.00000°,λ-172.00000°. NP2: φs303.00000°,δ83.00000°,λ-30.00000°. Principal axes: T 2.6130, Plg15.0000°, Azm353.0000°; N 0.1050, Plg60.0000°, Azm110.0000°; P -2.7190, Plg26.0000°, Azm256.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **18** 11:32:34.8±0.3,246S×6846E,h10km,mb4.7/9 Error ellipse: s-maj=10.4km s-min=8.3km az=155.0*

ISC 18 11:32:34.6±0.5,252S±008×6845E±006,h10km,n85, σ0$89/69,mb4.5/41,MS4.0/15,6C,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PALK	**Pallekele**	**15.62**	**51**	*e*P	**Pn**	**11 36 13.6**	**-1.5**
	33nm,0.9s						
POO	**Poona**	**21.58**	**14**	*e*x	**P**	**11 37 25.5**	**+0.9**
HYB	**Hyderabad**	**22.18**	**26**	*e*P	**P**	**11 37 31.0**	**0.0**
HYB	**Hyderabad**	**22.18**	**26**	*i* P	**P**	**11 37 31.0**	**0.0**
KMBO	**Kilima Mbogo**	**31.21**	**272**	P	**P**	**11 38 54.8**	**+0.3**
	3.0nm,0.8s,mb4.2,baz=66,slow=15,SNR=5.4						
KMBO				LR	LR	11 49 50.6	
	comp=Z,207nm,18.1s,MS3.8,baz=91,slow=33						
KOLN	**Koldanda**	**33.46**	**25**	*e*P	**P**	**11 39 14.5**	**+0.5**
	35nm,1.2s,mb5.2						
DMN	**Daman**	**33.98**	**27**	*e*P	**P**	**11 39 19.6**	**+1.1**
	50nm,1.1s,mb5.4						
DANN	**Dangsing**	**34.04**	**25**	*e*P	**P**	**11 39 20.0**	**+1.0**
	49nm,1.2s,mb5.3						
GKN	**Gorkha**	**34.11**	**26**	*e*P	**P**	**11 39 20.3**	**+0.7**
KKN	**Kakani**	**34.21**	**27**	*e*P	**P**	**11 39 21.2**	**+0.7**
JIRN	**Jiri**	**34.53**	**28**	*e*P	**P**	**11 39 23.4**	**+0.1**
GUN	**Gumba**	**34.59**	**28**	*e*P	**P**	**11 39 24.8**	**+1.0**
	67nm,1.0s,mb5.5						
CHTO	**Chiang Mai**	**36.73**	**53**	*e*P	**P**	**11 39 42.9**	**+0.5**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.6						
CHTO	**Chiang Mai**	**36.73**	**53**	*e*P	**P**	**11 39 42.9**	**+0.5**
	comp=Z,10nm,1.0s,mb4.6						
RDF	**Al-Radifah**	**37.14**	**329**	*e*P	**P**	**11 39 45.8**	**+0.1**
RDF				AMb	AMB	11 39 47.0	
	comp=Z,18nm,0.8s,mb4.9						
NAY	**Al-Naaiem**	**37.56**	**329**	*e*P	**P**	**11 39 49.2**	**0.0**
NAY				AMb	AMB	11 39 51.1	
	comp=Z,8.8nm,1.1s,mb4.4						
UMR	**Umm Al-Rimmam**	**37.56**	**330**	*e*P	**P**	**11 39 49.1**	**-0.1**
MIB	**Mutribah**	**37.95**	**329**	*e*P	**P**	**11 39 52.9**	**+0.4**
MIB				AMb	AMB	11 39 53.7	
	comp=Z,29nm,0.9s,mb5.0						
LSZ	**Lusaka**	**41.65**	**250**	P	**P**	**11 40 24.9**	**+1.3**
	comp=Z,3.8nm,0.9s,mb4.0,baz=76,slow=7.0,SNR=8.1						
UCH	**Uchtor**	**44.87**	**6**	*e*P	**P**	**11 40 50.2**	**+1.0**
	comp=Z,7.1nm,1.2s,mb4.4						
EKS2	**Erkin-Say**	**45.23**	**6**	*e*P	**P**	**11 40 52.6**	**+0.6**
	comp=Z,23nm,1.4s,mb4.8						
EIL	**Elat**	**45.28**	**317**	LR	LR	11 58 21.2	
	comp=Z,176nm,18.9s,MS4.0,baz=287,slow=34						
FRU	**Bishkek**	**45.48**	**6**	*e*P	**P**	**11 40 55.0**	**+1.0**
TKM2	**Tokmak 2**	**45.69**	**7**	*e*P	**P**	**11 40 55.8**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
TKM2	**Tokmak 2**	**45.69**	**7**	*e*P	**P**	**11 40 55.8**	**+0.2**
	comp=Z,13nm,1.1s,mb4.8						
GNI	**Garni**	**47.69**	**335**	P	**P**	**11 41 12.1**	**+0.7**
	comp=Z,7.4nm,0.5s,mb5.0,baz=160,slow=16,SNR=4.9						
GNI				PP	PP	11 43 00.5	-2.7
	comp=Z,11nm,0.5s,baz=169,slow=18,SNR=7.4						
BOSA	**Boshof**	**48.61**	**233**	*e*P	**P**	**11 41 18.8**	**+0.1**
BOSA				LR	LR	11 59 30.6	
BOSA	**Boshof**	**48.61**	**233**	P	**P**	**11 41 17.9**	**-0.9**
	comp=Z,3.5nm,0.7s,mb4.5,baz=79,slow=9.6,SNR=7.0						
BOSA				LR	LR	11 59 30.6	
	comp=Z,164nm,18.9s,MS4.0,baz=72,slow=33						
MK31	**Makanchi Array**	**50.60**	**12**	*e*P	**P**	**11 41 32.4**	**-1.1**
MKAR	**Makanchi Array**	**50.60**	**12**	P	**P**	**11 41 32.9**	**-0.7**
	comp=Z,1.5nm,0.8s,mb4.0,baz=189,slow=7.2,SNR=15						
MKAR				LR	LR	12 01 58.8	
	comp=Z,72nm,21.1s,MS3.7,baz=43,slow=35						
GTA	**Gaotai**	**50.71**	**31**	*e*P	**P**	**11 41 34.3**	**-0.2**
GTA				AP	pP	11 41 42.8	+5.1
GTA				XP	sP	11 41 46.1	+7.2
GTA				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.3						
KIV	**Kislovodsk**	**51.71**	**336**	*e*P	**P**	**11 41 50.7**	**+8.7**
KIV				*e*S	**S**	**11 48 52.8**	**-11**
KIV				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.4						
KIV				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.9						
XAN	**Xi'an**	**52.64**	**43**	P	**P**	**11 41 48.3**	**-0.8**
XAN				AP	pP	11 41 57.4	+5.1
XAN				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
AKTK	**Aktyubinsk**	**53.50**	**352**	P	**P**	**11 41 54.1**	**-1.0**
AKTO	**Aktyubinsk**	**53.50**	**352**	P	**P**	**11 41 54.1**	**-1.0**
	comp=Z,1.7nm,0.7s,mb4.1,baz=180,slow=10,SNR=6.7						

KURK	Kurchatov	53.74	8	⇑eP	P	11 41 56.4	-0.4
KURK	Kurchatov	53.74	8	eP	P	11 41 56.3	-0.6
	comp=Z,5.3nm,0.7s,mb4.6						
ZAL	Zalesovo	57.88	11	P	P	11 42 25.4	-1.1
ZALV	Zalesovo Beam	57.90	11	P	P	11 42 25.4	-1.2
	comp=Z,1.3nm,0.6s,mb4.1,baz=224,slow=4.1,SNR=6.3						
ZALV				ScP	ScP	11 47 18.5	-0.8
	comp=Z,1.0nm,0.3s,baz=35,slow=6.0,SNR=5.5						
ZALV				LR	LR	12 06 54.0	
	comp=Z,133nm,20.1s,MS4.0,baz=188,slow=36						
NVS	Novosibirsk	58.45	10	eP	P	11 42 24.5	-6.0
ARU	Arti	59.30	354	⇑eP	P	11 42 36.9	+0.5
ARU				pmax	pmax		
	comp=Z,12nm,0.7s,mb5.0						
SONM	Songino Array	60.09	29	P	P	11 42 42.6	+0.6
	comp=Z,6.0nm,0.8s,mb4.7,baz=230,slow=6.6,SNR=9.0						
ULN	Ulaanbaatar	60.43	29	⇑eP	P	11 42 43.1	-1.2
ZAK	Zakamensk	60.56	25	eP	P	11 42 44.9	-0.3
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.1						
MLR	Muntele Rosu	60.85	327	P	P	11 42 46.7	-0.5
	comp=Z,1.3nm,0.4s,mb4.4,baz=78,slow=2.2,SNR=3.4						
TLY	Talaya	61.70	24	eP	P	11 42 53.5	+0.7
TLY				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
TLY	Talaya	61.70	24	eP	P	11 42 53.8	+1.0
	comp=Z,5.1nm,1.0s,mb4.6						
AKASG	Malin Array Be	62.71	333	P	P	11 42 58.6	-1.0
	comp=Z,1.3nm,0.6s,mb4.3,baz=130,slow=5.7,SNR=12						
AKASG				PP	PP	11 45 21.6	+3.9
	comp=Z,0.4nm,0.3s,baz=141,slow=8.3,SNR=4.1						
OBN	Obninsk	63.15	340	eP	P	11 43 06.4	+3.9
OBN				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.5						
OBN				MLR	MLR		
	comp=Z,100nm,17.0s,MS4.1						
MAW	Mawson	65.08	182	LR	LR	12 05 13.2	
	comp=Z,281nm,20.4s,MS4.5,baz=79,slow=30						
WRA	Warramunga Arr	66.50	111	P	P	11 43 25.4	+0.3
	comp=Z,2.9nm,0.9s,mb4.3,baz=284,slow=6.3,SNR=16						
WRAB	Tennant Creek	66.51	111	eP	P	11 43 24.3	-0.8
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
WRAB	Tennant Creek	66.51	111	eP	P	11 43 24.3	-0.8
	comp=Z,6.2nm,0.7s,mb4.8						
WB2	Warramunga Arr	66.52	111	eP	P	11 43 25.1	-0.1
VYHS	Vyhne	66.54	326	eP	P	11 43 23.5	-1.2
ASAR	Alice Springs	66.55	115	P	P	11 43 25.4	+0.1
	comp=Z,2.0nm,0.9s,mb4.1,baz=286,slow=6.2,SNR=16						
KSRS	Korea Array	67.83	48	P	P	11 43 35.2	+2.0
	comp=Z,0.4nm,0.4s,mb3.8,baz=248,slow=6.4,SNR=3.2						
TORD	Torodi Ar. Bea	68.02	285	P	P	11 43 35.5	+0.7
	comp=Z,1.0nm,1.1s,mb3.8,baz=101,slow=7.7,SNR=3.9						
JNU	Nakatsue	68.64	53	LR	LR	12 10 41.5	
	comp=Z,123nm,20.8s,MS4.1,baz=141,slow=33						
GERES	GERESS Array B	69.62	325	LR	LR	12 16 30.9	
	comp=Z,81nm,18.5s,MS4.0,baz=92,slow=38						
KHC	Kasperske Hory	69.83	325	⇑eP	P	11 43 51.2	+5.8
BOD	Bodaibo	70.27	24	eP	P	11 43 44.3	-3.6
DAVOX	Davos/Dischmat	70.95	322	P	P	11 43 51.9	-0.4
	comp=Z,1.7nm,0.4s,mb4.3,baz=157,slow=15,SNR=3.8						
DAVOS	Davos	71.03	322	P	P	11 43 51.9	-0.9
FINES	FINESS Array B	71.55	340	LR	LR	12 17 06.1	
	comp=Z,87nm,19.0s,MS4.0,baz=143,slow=37						
DBIC	Dimbokro	73.73	278	P	P	11 44 09.3	-0.3
	comp=Z,1.8nm,0.8s,mb4.0,baz=101,slow=10,SNR=2.5						
DBIC				LR	LR	12 15 33.3	
	comp=Z,79nm,18.1s,MS4.0,baz=63,slow=35						
MJAR	Matsushiro Arr	75.38	51	P	P	11 44 20.5	+1.8
	comp=Z,0.4nm,0.3s,mb3.8,baz=240,slow=5.3,SNR=3.4						
HFS	Hagfors	75.47	335	P	P	11 44 18.6	-0.1
	comp=Z,1.1nm,0.5s,mb4.1,baz=124,slow=7.9,SNR=9.2						
NOA	NORSAR Array B	76.99	335	LR	LR	12 19 13.3	
	comp=Z,94nm,19.5s,MS4.1,baz=280,slow=36						
ARCES	ARCESS Array B	77.50	346	LR	LR	12 17 18.8	
	comp=Z,107nm,18.7s,MS4.2,baz=310,slow=35						
ESDC	Sonseca Array	78.15	311	P	P	11 44 35.7	+1.4
	comp=Z,0.2nm,0.3s,mb3.5,baz=89,slow=4.8,SNR=3.8						
TIXI	Tiksi	83.41	16	eP	P	11 45 00.0	-1.7
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
TIXI	Tiksi	83.41	16	eP	P	11 45 00.8	-1.0
	comp=Z,6.1nm,0.9s,mb4.6						
SEY	Seymchan	89.46	27	⇑eP	P	11 45 30.0	-1.6
BILL	Bilibino	95.25	22	eP	P	11 45 57.8	-0.5
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb4.1						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
YKA	Yellowknife Ar	120.12	2	PKP	PKPdf	11 51 27.2	+1.7
	comp=Z,0.2nm,0.9s,baz=355,slow=2.3,SNR=3.2						
NVAR	Mina Array Bea	143.73	9	PKP	PKPdf	11 52 10.4	0.0
	comp=Z,0.2nm,0.5s,baz=48,slow=1.3,SNR=3.3						
PV10	Paradox Valley	144.24	357	ePKPdf	PKPdf	11 52 11.1	-0.2
CCUT	Cedar City	145.10	3	ePKPdf	PKPdf	11 52 12.0	-0.9
GSC	Goldstone	147.02	8	ePKP2	PKPab	11 52 18.8	-0.8
WUAZ	Wupatki	147.17	360	PKPdf	PKPdf	11 52 18.2	+1.7
ANMO	Albuquerque	147.39	352	⇑iPKP2	PKPab	11 52 22.7	+1.7
TUC	Tucson	150.36	359	ePKIKP	PKPbc	11 52 26.6	-0.3
MNTX	Cornudas Mount	150.40	349	ePKPbc	PKPbc	11 52 27.1	+0.1
TXAR	Lajitas Array	152.30	345	PKP	PKPdf	11 52 26.7	+2.0
	comp=Z,0.6nm,0.9s,baz=333,slow=1.4,SNR=3.5						
TXAR				PKPbc	PKPbc	11 52 31.8	+0.3
	comp=Z,1.2nm,0.8s,baz=42,slow=2.0,SNR=8.0						
TXAR				PKPab	PKPab	11 52 40.0	-1.2
	comp=Z,2.8nm,1.0s,baz=166,slow=1.5,SNR=11						

ATH ***18*** *11:34:35.6,3904N×2178E,h25km±6km*
ISCJB ***18*** *11:34:37.5±0.5,3905N±003×2172E±005,h17km±9km, Error ellipse: s-maj=6.3km s-min=4.8km az=29.1*
CSEM ***18*** *11:34:37.1±0.2,3906N×2173E,h15km,ML2.9,Error ellipse: s-maj=4.2km s-min=3.3km az=131.0*
THE ***18*** *11:34:37.3,3907N×2172E,h8km,ML2.9*

ISC 18 11:34:36.9±0.5,3906N±003×2172E±004,h19km±6km,n12, σ0°93/21,1D,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.16	155	⇓iPB	Pg	11 34 40.6	-0.8
EVR				eSB	Sg	11 34 44.2	-0.3
AGG	Agios Georgios	0.48	95	ePg	Pg	11 34 46.0	-0.6
AGG				eSg	Sg	11 34 53.8	+0.6
THL	Klokotos Trika	0.55	24	ePg	Pg	11 34 46.8	-1.1
THL				eSg	Sg	11 34 55.9	+0.5
THL	Klokotos Trika	0.55	24	ePN	Pg	11 34 46.6	-1.4
THL				eSN	Sg	11 34 55.5	+0.1
SELA	Sela	0.80	170	ePg	Pg	11 34 52.2	-0.3
SELA				eSg	Sg	11 35 04.9	+1.8
MEV	Metsovon	0.81	332	ePg	Pg	11 34 52.8	-0.1
MEV				eSg	Sg	11 35 04.5	+0.8
LKD	Levkas	0.91	247	ePg	Pg	11 34 53.9	-0.7
LKD				eSg	Sg	11 35 08.1	+1.6
RLS	Riolos of Patr	1.02	191	ePN	Pn	11 34 55.6	-0.5
XOR	Xorichti	1.18	75	ePg	Pg	11 34 59.1	-0.7
XOR				eSg	Sg	11 35 16.5	+1.1
LIT	Litokhoron	1.20	30	ePg	Pg	11 34 58.7	-1.3
LIT				eSg	Sg	11 35 16.9	+1.2
VLS	Valsamata	1.25	225	ePg	Pg	11 34 59.9	-1.2
VLS	Valsamata	1.25	225	ePN	Pn	11 34 59.8	+0.5

ISCJB ***18*** *11:56:16.7±0.7,4359N±005×7546E±006,h10km,Error ellipse: s-maj=8.8km s-min=5.1km az=142.7*
KNET ***18*** *11:56:17.9±0.5,4350N×7537E,h10km±3km,ml2.1,Error ellipse: s-maj=3.5km s-min=1.8km az=16.0*
NNC ***18*** *11:56:17.1±0.9,4352N×7594E,h0km,mb3.8,mpv3.3, Error ellipse: s-maj=13.6km s-min=5.0km az=118.0*

ISC 18 11:56:18.1±0.7,4354N±005×7542E±006,h10km,n13, σ0°90/20,11C-3D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKM2	Tokmak 2	0.63	168	⇑P	Pg	11 56 29.5	-0.7
TKM2	11nm,0.2s						
				⇑S	Sg	11 56 38.9	+0.4
	28nm,0.3s						
TKM2	Tokmak 2	0.63	168	P	Pg	11 56 29.5	-0.7
	60nm,0.2s,SNR=115						
TKM2				⇓S	Sg	11 56 38.9	+0.5
	73nm,0.1s						
USP	Ospenovka	0.72	248	P	Pg	11 56 30.7	-1.3
	29nm,0.1s,SNR=23						
USP				⇑S	Sg	11 56 40.8	-0.6
	78nm,0.3s						
CHMS	Chumysh	0.73	223	⇑P	Pg	11 56 31.1	-0.9
	27nm,0.2s,SNR=38						
CHMS				⇑S	Sg	11 56 41.7	+0.2
	36nm,0.2s						
KBK	Karagaybulak	0.94	202	P	Pg	11 56 35.7	-0.5
	18nm,0.1s,SNR=79						
AAK	Ala-Archa	1.13	217	⇓P	Pb	11 56 38.5	-1.2
	18nm,0.2s,SNR=13						
AAK				⇑S	Sg	11 56 54.6	+0.2
	24nm,0.2s						
ULHL	Ulahol	1.42	155	P	Pn	11 56 44.0	0.0
	19nm,0.1s,SNR=58						
KZA	Kyzart	1.46	185	⇑P	Pn	11 56 45.2	+0.7
	13nm,0.1s,SNR=32						
UCH	Uchtor	1.47	207	⇑P	Pn	11 56 44.9	+0.3
	12nm,0.2s,SNR=46						
EKS2	Erkin-Say	1.49	235	P	Pn	11 56 45.2	+0.3
	31nm,0.1s,SNR=79						
AML	Almayashu	1.89	223	P	Pn	11 56 52.7	+2.2
	29nm,0.2s,SNR=43						
KK31	Karatay Array	3.61	265	⇑Pn	Pb	11 57 23.9	+2.0
	6.5nm,0.3s,baz=85,slow=17,SNR=56						
KK31				⇑Sn	Sb	11 58 12.0	+6.2
	2.4nm,0.3s,baz=81,slow=29,SNR=9.3						
MK31	Makanchi Array	5.85	54	⇓Pn	Pn	11 57 44.8	+0.1
	0.8nm,0.4s,baz=233,slow=13,SNR=34						
MK31				⇑Sn	Sn	11 58 51.3	-0.5
	0.6nm,0.6s,baz=230,slow=25,SNR=4.8						

BJI ***18*** *12:03:17.1,025N×9663E,h35km,mB5.1,mb4.7*
IDC ***18*** *12:03:22.0±1.2,101N×97.10E,h0km,mb4.1/8,mb1 4.2/9, mb1mx4.0/21,mbtmp4.1/9,MS3.8/2,Ms1 3.8/2, ms1mx3.5/23,Error ellipse: s-maj=35.7km s-min=20.2km az=56.0*
ISCJB ***18*** *12:03:27.4±3.2,12N±02×973E±02,h49km±24km, mb4.3/19,Error ellipse: s-maj=33.2km s-min=14.7km az=136.3*
NEIC ***18*** *12:03:27.7±0.6,1.14N×9722E,h35km,mb4.2/4,Error ellipse: s-maj=13.7km s-min=11.7km az=62.0*

ISC 18 12:03:28.7±3.1,11N±02×973E±02,h44km±23km,n34, σ0°82/32,mb4.3/19,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.30	44	Pn	Pn	12 04 04.4	+0.3
	2.9nm,0.3s,baz=218,slow=9.4,SNR=11						
PSI				LR	LR	12 05 07.1	
	comp=Z,867nm,21.3s,baz=127,slow=42						
KULM	Kulim	5.29	39	ePn	Pn	12 04 45.2	-0.1
CHTO	Chiang Mai	17.64	5	eP	Pn	12 07 29.9	-1.4
KMI	Kunming	24.41	12	P	P	12 08 44.8	+1.6
KMI				AMB	AMB		
	comp=Z,15nm,1.3s,mb4.3						
SHL	Shillong	24.84	348	eP	P	12 08 46.5	-0.6
JIRN	Jiri	28.45	339	eP	P	12 09 20.1	+0.5
	comp=Z,23nm,1.2s,mb4.7						
GUN	Gumba	28.79	339	eP	P	12 09 23.3	+0.7
	comp=Z,15nm,0.7s,mb4.8						
KKN	Kakani	28.90	338	eP	P	12 09 23.8	+0.2
	comp=Z,19nm,0.9s,mb4.8						
GKN	Gorkha	29.34	337	eP	P	12 09 28.0	+0.5
KOLN	Koldanda	29.56	335	eP	P	12 09 30.0	+0.5
	comp=Z,13nm,0.8s,mb4.8						
DANN	Dangsing	30.00	336	eP	P	12 09 34.1	+0.7
XAN	Xi'an	34.48	17	P	P	12 10 11.5	-1.1
XAN				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.7						
GTA	Gaotai	38.16	3	eP	P	12 10 44.3	+0.4
GTA				AP	pP	12 10 54.8	-1.0
GTA				XP	sP	12 10 59.3	-1.6
GTA				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
WRA	Warramunga Arr	41.90	122	P	P	12 11 15.0	-0.2
	comp=Z,1.6nm,0.7s,mb3.8,baz=300,slow=9.1,SNR=13						
ASAR	Alice Springs	43.26	127	P	P	12 11 26.6	+0.4
	comp=Z,0.8nm,0.8s,mb3.5,baz=295,slow=6.8,SNR=6.6						
UCH	Uchtor	45.75	336	eP	P	12 11 45.7	-0.1
	comp=Z,2.4nm,0.8s,mb4.2						
KSRS	Korea Array	45.83	34	P	P	12 11 46.8	+0.3
	comp=Z,4.3nm,0.8s,mb4.4,baz=221,slow=9.0,SNR=13						
TKM2	Tokmak 2	45.92	338	eP	P	12 11 47.1	0.0
AML	Almayashu	46.01	336	eP	P	12 11 48.1	+0.3
	comp=Z,3.0nm,1.0s,mb4.2						
EKS2	Erkin-Say	46.41	336	P	P	12 11 49.8	-1.3
SONM	Songino Array	47.17	8	P	P	12 11 58.4	+1.6
	comp=Z,2.9nm,0.8s,mb4.2,baz=181,slow=6.8,SNR=4.6						
ULN	Ulaanbaatar	47.30	9	eP	P	12 11 59.9	+2.1
MK31	Makanchi Array	47.33	346	eP	P	12 11 57.5	-0.6
MKAR	Makanchi Array	47.33	346	P	P	12 11 58.2	+0.1
MKAR	Makanchi Array	47.33	346	P	P	12 11 58.2	+0.1
	comp=Z,1.7nm,0.7s,mb4.1,baz=153,slow=8.2,SNR=14						
HIA	Hailar	51.66	19	eP	P	12 12 29.5	-1.6
KURK	Kurchatov	51.88	345	eP	P	12 12 31.8	-0.9
	comp=Z,2.4nm,0.9s,mb4.1						
ZAA0	Zalesovo Array	53.63	351	eP	P	12 12 45.3	-0.3
ZALV	Zalesovo Beam	53.63	351	P	P	12 12 45.6	0.0
	comp=Z,5.6nm,0.9s,mb4.5,baz=177,slow=5.6,SNR=17						
TIXI	Tiksi	73.22	10	eP	P	12 14 53.9	-0.9
	comp=Z,2.0nm,0.2s,mb4.7						
ARCES	ARCESS Array B	82.63	340	P	P	12 15 46.8	-0.3
	comp=Z,3.2nm,1.0s,mb4.3,baz=131,slow=6.6,SNR=4.2						
GERES	GERESS Array B	84.94	319	P	P	12 15 58.8	-0.4
	comp=Z,0.2nm,0.2s,mb3.8,baz=164,slow=10,SNR=3.6						
TORD	Torodi Ar. Bea	95.22	283	LR	LR	12 59 21.1	
	comp=Z,108nm,18.2s,baz=135,slow=35						
CPUP	Villa Florida	145.04	222	PKP	PKPdf	12 23 02.5	+0.4
	comp=Z,0.8nm,0.5s,baz=148,slow=12,SNR=2.9						

IDC ***18*** *12:03:58.9±0.8,1.10N×97.14E,h0km,mb4.3/13, mb1 4.3/14,mb1mx4.2/23,mbtmp4.3/14,ML3.6/1,MS4.1/2, Ms1 4.2/2,ms1mx3.4/22,Error ellipse: s-maj=23.8km s-min=15.7km az=57.0*
BJI ***18*** *12:03:59.5,090N×9720E,h32km,mB5.0,mb4.8,Ms4.6, Msz4.5*
ISCJB ***18*** *12:04:02.5±2.2,1.12N±008×9727E±010,h35km±17km, mb4.6/33,MS4.3/5,Error ellipse: s-maj=18.9km s-min=9.6km az=142.6*
NEIC ***18*** *12:04:02.0±4.2,1.10N×97.19E,h20km±28km,mb4.6/12, Error ellipse: s-maj=15.1km s-min=6.8km az=57.0*

ISC 18 12:04:04.3±4.9,112N±008×9729E±010,h33km±34km,n52, σ0°77/45,mb4.6/33,MS4.3/5,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.33	44	Pn	Pn	12 04 40.8	+0.4
	13nm,0.3s,baz=202,slow=9.9,SNR=4.3						
KULM	Kulim	5.33	39	eP	Pn	12 05 21.3	-0.3
CHTO	Chiang Mai	17.66	5	eP	Pn	12 08 06.5	-1.3
	6.7nm,0.6s						
KMI	Kunming	24.43	12	P	P	12 09 20.8	+0.8
KMI				AP		12 09 27.1	
KMI				XP	sP	12 09 30.1	-3.5
KMI				AMB	AMB		
	comp=Z,28nm,1.2s,mb4.6						
KMI				AMB	AMB		
	comp=Z,331nm,6.3s						
KMI				LR	LR		
	comp=N,1μm,12.8s,MS4.6						
KMI				LR	LR		
	comp=E,651nm,12.8s,MS4.6						
KMI				LR	LR		
	comp=Z,1μm,13.3s,MS4.6						
JIRN	Jiri	28.45	339	eP	P	12 09 57.2	+0.9
	comp=Z,30nm,0.7s,mb5.0						
GUN	Gumba	28.79	339	eP	P	12 09 59.5	+0.2
	comp=Z,48nm,0.6s,mb5.4						
DMN	Daman	28.81	337	eP	P	12 10 00.8	+1.3
KKN	Kakani	28.91	338	eP	P	12 10 01.0	+0.7
LSA	Lhasa	29.01	349	eP	P	12 09 59.2	-2.1
GKN	Gorkha	29.35	337	eP	P	12 10 04.6	+0.4
	comp=Z,29nm,0.8s,mb5.0						
KOLN	Koldanda	29.57	335	eP	P	12 10 06.8	+0.6
	comp=Z,34nm,0.7s,mb5.2						
DANN	Dangsing	30.01	336	eP	P	12 10 10.6	+0.5
	comp=Z,18nm,0.6s,mb5.0						
FITZ	Fitzroy Crossi	33.81	126	P	P	12 10 43.4	-0.2
	comp=Z,2.5nm,1.0s,mb4.1,baz=302,slow=22,SNR=3.9						
XAN	Xi'an	34.51	17	P	P	12 10 48.3	-1.2
XAN				AP	pP	12 10 57.9	-1.2
XAN				AMB	AMB		
	comp=Z,22nm,0.8s,mb5.1						

GTA	Gaotai	38.17	3	eP	P	12 11 20.6	-0.1
GTA				AP	pP	12 11 31.5	+1.1
GTA				XP	sP	12 11 37.3	+2.9
GTA				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
WRA	Warramunga Arr	41.92	122	P	P	12 11 52.3	+0.2
	comp=Z,5.2nm,0.7s,mb4.3,baz=300,slow=9.1,SNR=22						
WB2	Warramunga Arr	41.93	122	eP	P	12 11 51.7	-0.4
BJT	Baijiatuau	42.35	22	eP	P	12 11 54.6	-0.7
	comp=Z,15nm,0.6s,mb4.8						
BJI	Beijing	42.38	22	P	P	12 11 56.3	+0.8
BJI				AMB	AMB		
	comp=Z,18nm,0.6s,mb4.9						
BJI				AMB	AMB		
	comp=Z,380nm,4.2s						
BJI				LR	LR		
	comp=N,252nm,16.9s,MS4.4						
BJI				LR	LR		
	comp=E,313nm,18.6s,MS4.4						
BJI				LR	LR		
	comp=Z,143nm,16.9s,MS3.9						
ASAR	Alice Springs	43.27	127	P	P	12 12 03.2	+0.1
	comp=Z,1.6nm,0.6s,mb3.9,baz=300,slow=7.9,SNR=11						
UCH	Uchtor	45.76	336	eP	P	12 12 23.2	+0.7
	comp=Z,6.3nm,0.8s,mb4.6						
KSRS	Korea Array	45.86	34	P	P	12 12 23.4	-0.1
	comp=Z,6.9nm,0.7s,mb4.7,baz=221,slow=9.3,SNR=20						
TKM2	Tokmak 2	45.92	338	eP	P	12 12 24.1	+0.2
	comp=Z,2.3nm,0.7s,mb4.2						
AML	Almayashu	46.01	336	eP	P	12 12 25.0	+0.4
	comp=Z,7.5nm,0.7s,mb4.7						
EKS2	Erkin-Say	46.42	336	eP	P	12 12 27.6	-0.2
	comp=Z,6.2nm,0.7s,mb4.7						
SONM	Songino Array	47.19	8	P	P	12 12 34.1	+0.3
	comp=Z,3.8nm,0.7s,mb4.4,baz=188,slow=7.4,SNR=6.0						
ULN	Ulaanbaatar	47.32	9	eP	P	12 12 36.8	+2.0
	comp=Z,2.9nm,0.6s,mb4.4						
MK31	Makanchi Array	47.34	346	eP	P	12 12 35.0	+0.2
MKAR	Makanchi Array	47.34	346	P	P	12 12 35.1	+0.2
	comp=Z,4.6nm,0.6s,mb4.6,baz=158,slow=7.7,SNR=14						
CN2	Changchun	49.33	27	eP	P	12 12 49.8	-0.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2				LR	LR		
	comp=Z,400nm,17.0s,MS4.5						
HIA	Hailar	51.68	19	eP	P	12 13 07.8	-0.2
	comp=Z,13nm,0.8s,mb4.9						
MJAR	Matsushiro Arr	51.68	42	P	P	12 13 08.5	+0.2
	comp=Z,1.3nm,0.6s,mb4.0,baz=230,slow=6.1,SNR=5.2						
KURK	Kurchatov	51.89	345	eP	P	12 13 08.8	-0.7
	comp=Z,5.6nm,1.0s,mb4.5						
OPO	Ambohidratompo	52.98	246	P	P	12 13 16.9	-1.3
	comp=Z,4.3nm,1.0s,mb4.3,baz=98,slow=10,SNR=3.9						
STKA	Stephens Creek	53.24	132	eP	P	12 13 20.2	+0.4
	comp=Z,3.9nm,1.5s,mb4.1						
STKA	Stephens Creek	53.24	132	P	P	12 13 21.1	+1.3
	comp=Z,3.5nm,0.6s,mb4.5,baz=297,slow=5.8,SNR=8.4						
ZAA0	Zalesovo Array	53.65	351	eP	P	12 13 21.6	-0.9
ZALV	Zalesovo Beam	53.65	351	P	P	12 13 21.6	-0.9
	comp=Z,8.5nm,0.7s,mb4.8,baz=183,slow=5.9,SNR=14						
EIDS	Eidsvold	58.26	121	eP	P	12 13 56.5	+0.5
	comp=Z,4.2nm,0.6s,mb4.7						
ASF	Jabal al Asfar	64.58	305	LR	LR	12 44 42.7	
	comp=Z,113nm,18.4s,MS4.1,baz=331,slow=38						
TIXI	Tiksi	73.25	10	eP	P	12 15 30.3	-1.4
	comp=Z,2.4nm,0.6s,mb4.3						
FINES	FINESS Array B	80.11	332	P	P	12 16 09.9	-0.8
	comp=Z,0.6nm,0.5s,mb3.8,baz=96,slow=7.7,SNR=4.0						
ARCES	ARCESS Array B	82.64	340	P	P	12 16 23.4	-0.5
ARCES	ARCESS Array B	82.64	340	P	P	12 16 23.4	-0.5
	comp=Z,3.2nm,0.9s,mb4.3,baz=96,slow=5.4,SNR=8.7						
GERES	GERESS Array B	84.93	319	P	P	12 16 36.5	+0.4
	comp=Z,0.2nm,0.3s,mb3.8,baz=69,slow=4.4,SNR=3.9						
VNDA	Vanda	85.73	169	LR	LR	12 48 49.0	
	comp=Z,143nm,21.4s,MS4.3,baz=279,slow=31						
IMA2	Indian Mountai	96.61	23	eP	P	12 17 31.0	+0.4
YKA	Yellowknife Ar	112.14	15	PP	PP	12 23 17.1	-3.0
	comp=Z,0.3nm,0.7s,baz=328,slow=7.2,SNR=6.1						
TXAR	Lajitas Array	143.68	32	PKP	PKPdf	12 23 34.4	-2.2
TXAR	Lajitas Array	143.68	32	PKP	PKPdf	12 23 34.4	-2.2
	comp=Z,0.5nm,0.6s,baz=84,slow=1.5,SNR=6.1						
CPUP	Villa Florida	145.01	222	ePKPdf	PKPdf	12 23 38.2	-0.8
CPUP				PKP	PKPdf	12 23 38.8	-0.2
CPUP	Villa Florida	145.01	222	PKP	PKPdf	12 23 38.8	-0.2
	comp=Z,1.5nm,0.5s,baz=118,slow=2.9,SNR=4.6						

ISCJB ***18*** *12:25:04.9±0.6,5152N±003×1607E±004,h0km,Error ellipse: s-maj=4.5km s-min=3.4km az=19.6*
PRU ***18*** *12:25:08.2,5147N×1605E,h0km*
WAR ***18*** *12:25:08.4,5149N×1605E,ML2.5,Mining Induced*

ISC 18 12:25:06.5±0.6,5152N±003×1607E±004,h0km,n13, σ0°73/28,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	Ksiaz	0.69	168	ePg

YKW3	**Yellowknife Ar**	**14.13 105**	⇓Pn	Pn	12 41 08.3	-5.6
YKW3			⇑Sn	Sn	12 43 32.4	-18
RES	**Resolute Bay**	**15.77 49**	⇑Pn	Pn	12 41 33.0	-2.7
RES			⇓Sn	Sn	12 44 14.0	-16

LDG ***18*** *12:39:58.1±0.2,2736N×8809E,h10km,Mb4.8/14,Ms3.8/5, Error ellipse: s-maj=11.2km s-min=7.8km az=169.0*
BJI ***18*** *12:39:58.7,2724N×8819E,h15km,mB5.0,mb4.7,ML4.4, Ms4.3,Msz4.0*
IDC ***18*** *12:39:59.1±0.6,2731N×8820E,h0km,mb4.2/21, mb1 4.4/22,mb1mx4.3/25,mbtmp4.2/22,MS3.7/10, Ms1 3.7/10,ms1mx3.5/35,Error ellipse: s-maj=19.1km s-min=12.9km az=40.0*
DMN ***18*** *12:39:59.9±0.4,27.13N×8871E,h60km,Ml5.7/5,Error ellipse: s-maj=36.1km s-min=8.5km az=15.0*
NEIC ***18*** *12:40:01.2±2.9,2728N×88.15E,h15km±18km,mb4.7/40, Error ellipse: s-maj=7.6km s-min=5.1km az=222.0*
NDI ***18*** *12:40:01.6±3.3,2731N×8837E,h10km,ML4.6, mb4.7(NEIC)*
ISCJB ***18*** *12:40:02.3±0.5,2726N±003×88.16E±002,h37km±4km, mb4.5/68,MS3.8/18,Error ellipse: s-maj=4.6km s-min=3.6km az=176.3*
MOS ***18*** *12:40:02.0±1.1,2726N×88.14E,h33km,mb4.7/41,Error ellipse: s-maj=9.3km s-min=5.7km az=114.4*
ISC 18 12:40:04.4±0.4,2728N±003×8822E±003,h37km±4km, n222,σ1§21/252,mb4.5/68,MS3.8/18,11C-4D,Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**0.35**	**81**	*ex*	**Pn**	**12 40 14.0**	**+0.9**
SLGI	**Shiliguri**	**0.60**	**163**	*i* P	**Pn**	**12 40 12.0**	**-4.5**
SLGI				*i* x	x	12 40 17.2	
JIRN	**Jiri**	**1.85**	**282**	*e*Pn	**Pn**	**12 40 36.0**	**+2.4**
JIRN				*e*Sn	**Sn**	**12 41 02.3**	**+6.6**
	17μm,0.4s						
SHBG	**Sahibganj**	**2.11**	**194**	*e*P	**Pn**	**12 40 36.5**	**-0.8**
SHBG				*e*S	**Sn**	**12 41 06.0**	**+3.7**
GUN	**Gumba**	**2.17**	**287**	*e*Pn	**Pn**	**12 40 40.7**	**+2.6**
GUN				*e*Sn	**Sn**	**12 41 10.7**	**+7.0**
	15μm,0.3s						
PKI	**Pulchoki**	**2.52**	**277**	*e*Pn	**Pn**	**12 40 44.9**	**+2.1**
PKI				*e*Sn	**Sn**	**12 41 18.9**	**+6.6**
	5μm,0.4s						
KKN	**Kakani**	**2.66**	**282**	*e*Pn	**Pn**	**12 40 46.9**	**+2.1**
KKN				*e*Sn	**Sn**	**12 41 21.2**	**+5.4**
	5μm,0.5s						
DMN	**Daman**	**2.79**	**277**	*e*Pn	**Pn**	**12 40 48.3**	**+1.8**
GKN	**Gorkha**	**3.26**	**284**	*e*Pn	**Pn**	**12 40 55.1**	**+2.1**
GKN				*e*Sn	**Sn**	**12 41 35.0**	**+4.4**
	3μm,0.3s						
LSA	**Lhasa**	**3.53**	**46**	PG	**Pn**	**12 41 03.4**	**+6.7**
LSA				SG	**Sn**	**12 41 45.9**	**+8.7**
LSA				Smax			
	comp=E,770nm,0.9s						
LSA	**Lhasa**	**3.53**	**46**	*e*Pn	**Pn**	**12 40 58.4**	**+1.7**
LSA				*e*Sn	**Sn**	**12 41 42.3**	**+5.1**
SHL	**Shillong**	**3.70**	**117**	*i* P	**Pn**	**12 40 57.5**	**-1.5**
SHL				*ex*	x	12 41 48.5	
BOK	**Bokaro**	**4.06**	**212**	*e*P	**Pn**	**12 41 05.3**	**+1.2**
BOK				*e*S	**Sn**	**12 41 52.0**	**+1.7**
BOK				AML	AML	12 42 13.8	
	comp=N,1μm,0.3s						
BOK				AML	AML	12 42 15.1	
	comp=E,1μm,0.4s						
DANN	**Dangsing**	**4.09**	**286**	*e*Pn	**Pn**	**12 41 05.5**	**+1.0**
KOLN	**Koldanda**	**4.13**	**278**	*e*Pn	**Pn**	**12 41 06.2**	**+1.2**
AGT	**Agartala**	**4.35**	**140**	*i* x	x	12 41 16.0	
AGT				*i* x	x	12 42 19.0	
IMP	**Imphal**	**5.71**	**115**	*e*P	**Pn**	**12 41 26.0**	**-0.6**
IMP				*e*S	**Sn**	**12 42 27.0**	**-3.9**
PTH	**Pithoragarh**	**7.40**	**290**	*e*P	**Pn**	**12 41 51.3**	**+1.4**
PTH				*e*S	**Sn**	**12 43 12.2**	**-0.5**
BLSP	**Bilaspur**	**7.55**	**229**	*e*P	**Pn**	**12 41 52.7**	**+0.7**
BLSP				*e*S	**Sn**	**12 43 14.5**	**-1.7**
JHNI	**Jhansi**	**8.87**	**260**	*i* P	**Pn**	**12 42 11.0**	**+0.9**
JHNI				*i* x	x	12 43 48.0	
DDI	**Dehra Dun**	**9.42**	**291**	*e*P	**Pn**	**12 42 16.5**	**-1.1**
DDI				*e*S	**Sn**	**12 43 59.5**	**-2.7**
NDI	**New Delhi**	**9.83**	**281**	*e*P	**Pn**	**12 42 22.7**	**-0.5**
NDI				*e*S	**Sn**	**12 44 07.1**	**-5.2**
NGP	**Nagpur**	**10.36**	**236**	*e*P	**Pn**	**12 42 30.4**	**-0.1**
NGP				*e*S	**Sn**	**12 44 21.6**	**-3.7**
SMLA	**Simla**	**10.39**	**294**	*e*P	**Pn**	**12 42 30.4**	**-0.6**
SMLA				*e*S	**Sn**	**12 44 21.5**	**-4.6**
SMLA				AML	AML	12 44 27.4	
	comp=N,210nm,0.3s						
SMLA				AML	AML	12 44 27.4	
	comp=E,393nm,0.4s						
VIS	**Vishakhapatnam**	**10.53**	**206**	*e*P	**Pn**	**12 42 33.2**	**+0.4**
VIS				*e*S	**Sn**	**12 44 24.5**	**-5.1**
BHPL	**Bhopal**	**10.57**	**250**	*e*P	**Pn**	**12 42 32.7**	**-0.7**
BHPL				*e*S	**Sn**	**12 44 25.5**	**-4.9**
SDNR	**Sundarnagar**	**10.68**	**296**	*e*P	**Pn**	**12 42 34.6**	**-0.2**
SDNR				*ex*	x	12 44 30.0	
DLH	**Dalhousie**	**11.85**	**299**	*ex*	**Pn**	**12 42 49.0**	**-1.9**
DLH				*e*S	**Sn**	**12 44 56.0**	**-5.8**
THN	**Thein Dam**	**12.01**	**298**	*ex*	**Pn**	**12 42 49.6**	**-3.4**
THN				*e*S	**Sn**	**12 45 00.0**	**-5.6**
AJM	**Ajmer**	**12.15**	**269**	*ex*	**Pn**	**12 42 52.8**	**-2.2**
AJM				*e*S	**Sn**	**12 45 01.6**	**-7.6**
AJM				AML	AML	12 45 10.7	
	comp=N,119nm,0.1s						
AJM				AML	AML	12 45 11.4	
	comp=E,153nm,0.3s						
AKL	**Akola**	**12.15**	**240**	*e*P	**Pn**	**12 42 53.6**	**-1.5**
AKL				*e*S	**Sn**	**12 45 03.5**	**-5.8**
AKL				AML	AML	12 45 36.4	
	comp=N,64nm,0.4s						
AKL				AML	AML	12 45 36.9	
	comp=E,60nm,0.4s						
KMI	**Kunming**	**13.21**	**96**	P	**Pn**	**12 43 10.5**	**+1.0**
KMI				S	**Sn**	**12 45 42.4**	**+7.3**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s						
KMI				LR	LR		
	comp=N,530nm,9.4s						
KMI				LR	LR		
	comp=E,467nm,15.1s						
KMI				LR	LR		
	comp=Z,495nm,16.7s						
CM31	**Chiang Mai Arr**	**13.21**	**129**	Pn	**Pn**	**12 43 09.2**	**-0.3**
HYB	**Hyderabad**	**13.27**	**224**	*e*P	**Pn**	**12 43 07.5**	**-2.9**
HYB				*e*S	**Sn**	**12 45 30.0**	**-6.7**
HYB				pmax	pmax		
	comp=Z,50nm,0.8s						
HYB	**Hyderabad**	**13.27**	**224**	*e*P	**Pn**	**12 43 07.5**	**-2.9**
	comp=Z,50nm,0.8s						
HYB				*e*S	**Sn**	**12 45 30.0**	**-6.7**
HYB	**Hyderabad**	**13.27**	**224**	⇓*i*P	**Pn**	**12 43 07.5**	**-2.9**
	comp=Z,50nm,0.8s						
HYB				*e*		12 43 15.0	
HYB				*e*S	**Sn**	**12 45 41.0**	**+4.3**
LATR	**Latur**	**13.90**	**233**	*ex*	x	12 43 17.0	
CD2	**Chengdu**	**14.06**	**71**	P	**Pn**	**12 43 18.9**	**-2.1**
CD2				XP		12 43 28.6	
CD2				PP		12 43 30.0	
CD2				S	**Sn**	**12 45 52.0**	**-3.7**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s						
CD2				AMB	AMB		
	comp=Z,360nm,9.3s						
CD2				LR	LR		
	comp=N,520nm,9.0s						
CD2				LR	LR		
	comp=E,480nm,8.4s						
CD2				LR	LR		
	comp=Z,430nm,11.7s						
GTA	**Gaotai**	**15.48**	**36**	*e*P	**Pn**	**12 43 39.0**	**-0.9**
GTA				AP	pP	12 43 46.3	-7.1
GTA				XP	sP	12 43 49.6	-8.6
GTA				S	**S**	**12 46 30.4**	**-15**
GTA				LG2		12 48 30.3	
GTA				AMB	AMB		
	comp=Z,79nm,5.7s						
GTA				LR	LR		
	comp=N,704nm,12.6s						
GTA				LR	LR		
	comp=E,795nm,12.6s						
GTA				LR	LR		
	comp=Z,141nm,12.9s						
POO	**Poona**	**15.84**	**240**	*e*P	**Pn**	**12 43 41.5**	**-3.1**
POO				*e*S	S	12 46 24.6	-28
POO				AML	AML	12 48 30.9	
	comp=N,44nm,1.0s						
POO				AML	AML	12 48 32.1	
	comp=E,34nm,1.0s						
LZH	**Lanzhou**	**15.92**	**53**	*e*P	**Pn**	**12 43 46.9**	**+1.3**
LZH				AP	pP	12 43 51.4	-6.9
LZH				XP	sP	12 43 54.8	-8.3
LZH				PP		12 43 59.9	
LZH				*e*S	**S**	**12 46 42.0**	**-12**
LZH				XS	sS	12 46 50.3	-19
LZH				SS		12 47 01.5	
LZH				AMB	AMB		
	comp=Z,13nm,1.0s						
LZH				AMB	AMB		
	comp=Z,110nm,6.2s						
LZH				LR	LR		
	comp=N,460nm,9.4s						
LZH				LR	LR		
	comp=Z,580nm,11.0s						
KAD	**Karad**	**16.33**	**235**	*ex*	**Pn**	**12 43 48.5**	**-2.5**
KAD				*e*S	S	12 46 39.7	-23
KAD				AML	AML	12 48 39.8	
	comp=E,34nm,0.5s						
KAD				AML	AML	12 48 41.7	
	comp=N,51nm,0.7s						
GYA	**Guiyang**	**16.48**	**89**	P	**Pn**	**12 43 53.3**	**+0.5**
GYA				AP	pP	12 43 58.6	-6.0
GYA				XP	sP	12 44 04.3	-5.0
GYA				PP		12 44 07.5	
GYA				S	**S**	**12 46 56.3**	**-9.2**
GYA				XS	sS	12 47 03.8	-17
GYA				SS		12 47 16.4	
GYA				PCP	PcP	12 48 45.8	+2.6
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s						
GYA				AMB	AMB		
	comp=Z,70nm,4.2s						
GYA				LR	LR		
	comp=N,480nm,11.8s						
GYA				LR	LR		
	comp=E,420nm,10.7s						
GYA				LR	LR		
	comp=Z,460nm,11.8s						
WMQ	**Urumqi**	**16.51**	**359**	P	**Pn**	**12 43 51.0**	**-2.1**
WMQ				XP	sP	12 44 00.0	-10
WMQ				PP		12 44 05.0	
WMQ				S	**S**	**12 46 53.0**	**-13**
WMQ				SS		12 47 12.0	
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s						
WMQ				AMB	AMB		
	comp=Z,72nm,3.0s						
WMQ				LR	LR		
	comp=N,178nm,7.0s						
WMQ				LR	LR		
	comp=E,245nm,7.0s						
WMQ				LR	LR		
	comp=Z,154nm,7.0s						
ULHL	**Ulahol**	**17.85**	**330**	P	**Pn**	**12 44 12.1**	**+2.3**
	SNR=6.3						
KBL	**Kabul**	**17.96**	**298**	*e*Pn	**Pn**	**12 44 09.7**	**-1.6**
	comp=Z,38nm,1.0s						
KBL				*e*Sn	**Sn**	**12 47 14.1**	**-16**
KZA	**Kyzart**	**18.18**	**328**	P	**Pn**	**12 44 12.9**	**-0.9**
	SNR=13						
UCH	**Uchtor**	**18.65**	**327**	*e*Pn	**Pn**	**12 44 17.3**	**-2.3**
	comp=Z,16nm,0.9s						
UCH	**Uchtor**	**18.65**	**327**	P	**Pn**	**12 44 21.2**	**+1.6**
	SNR=14						
TKM2	**Tokmak 2**	**18.68**	**330**	*e*P	**Pn**	**12 44 19.2**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,8.0nm,0.6s						
TKM2	**Tokmak 2**	**18.68**	**330**	*e*Pn	**Pn**	**12 44 19.2**	**-0.7**
	comp=Z,8.4nm,0.6s						
TKM2	**Tokmak 2**	**18.68**	**330**	P	**Pn**	**12 44 19.7**	**-0.2**
	SNR=12						
AAK	**Ala-Archa**	**18.97**	**327**	P	**Pn**	**12 44 24.4**	**+1.1**
	SNR=12						
AML	**Almayashu**	**18.99**	**325**	*e*Pn	**Pn**	**12 44 21.4**	**-2.2**
	comp=Z,24nm,0.7s						
AML	**Almayashu**	**18.99**	**325**	P	**Pn**	**12 44 22.3**	**-1.3**
	SNR=27						
XAN	**Xi'an**	**19.02**	**64**	P	**Pn**	**12 44 21.8**	**-2.3**
XAN				AP	pP	12 44 28.8	-3.9
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s						
FRU	**Bishkek**	**19.06**	**328**	*e*P	**Pn**	**12 44 26.0**	**+1.5**
FRU				pmax	pmax		
	comp=Z,30nm,1.4s						
EKS2	**Erkin-Say**	**19.34**	**326**	*e*P	**Pn**	**12 44 28.0**	**+0.3**
	comp=Z,11nm,0.6s						
EKS2	**Erkin-Say**	**19.34**	**326**	P	**Pn**	**12 44 28.6**	**+0.8**
	SNR=21						
MK31	**Makanchi Array**	**20.03**	**348**	*e*P	**P**	**12 44 32.8**	**-1.2**
MKAR	**Makanchi Array**	**20.03**	**348**	P	**P**	**12 44 33.4**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,172nm,19.1s						
MKAR	**Makanchi Array**	**20.03**	**348**	P	**P**	**12 44 33.4**	**-0.7**
	comp=Z,2.4nm,0.3s,baz=169,slow=10,SNR=103						
MKAR				LR	LR	12 53 48.1	
	comp=Z,172nm,19.1s,MS3.4,baz=155,slow=42						
QIZ	**Qiongzhong**	**21.48**	**108**	*e*P	**P**	**12 44 49.1**	**-0.8**
	comp=Z,26nm,1.0s,mb4.5						
HHC	**Hu-ho-hao-te**	**23.51**	**49**	*e*P	**P**	**12 45 11.6**	**+0.5**
HHC				AP		12 45 17.3	
HHC				XP	sP	12 45 20.8	-5.0
HHC				PP		12 45 44.1	
HHC				PCP	PcP	12 48 58.0	+2.2
HHC				S	**S**	**12 49 23.3**	**+1.2**
HHC				XS	sS	12 49 33.4	-5.9
HHC				SS		12 50 10.6	
HHC				AMB	AMB		
	comp=Z,32nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,273nm,9.3s						
HHC				LR	LR		
	comp=N,650nm,14.2s,MS4.4						
HHC				LR	LR		
	comp=E,562nm,14.4s,MS4.4						
HHC				LR	LR		
	comp=Z,481nm,16.7s,MS4.0						
KURK	**Kurchatov**	**24.52**	**345⇑**	*e*P	**P**	**12 45 19.8**	**-0.4**
KURK	**Kurchatov**	**24.52**	**345**	*e*P	**P**	**12 45 19.2**	**-0.9**
	comp=Z,48nm,1.2s,mb4.9						
SONM	**Songino Array**	**24.95**	**30**	P	**P**	**12 45 24.9**	**+0.8**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.5s						
SONM	**Songino Array**	**24.95**	**30**	P	**P**	**12 45 24.9**	**+0.8**
	comp=Z,4.7nm,0.5s,mb4.3,baz=221,slow=9.6,SNR=7.9						
ULN	**Ulaanbaatar**	**25.27**	**31**	*e*P	**P**	**12 45 26.7**	**-0.3**
ULN				*e*	pP	12 45 33.7	-3.8
ULN				pmax	pmax		
	comp=Z,14nm,0.7s,mb4.6						
ULN	**Ulaanbaatar**	**25.27**	**31**	*e*P	**P**	**12 45 26.7**	**-0.3**
	comp=Z,14nm,0.7s,mb4.6						
ULN				*e*	pP	12 45 33.7	-3.8
ZAK	**Zakamensk**	**25.78**	**22**	*e*P	**P**	**12 45 31.8**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb3.9						
BJI	**Beijing**	**26.40**	**54**	P	**P**	**12 45 36.8**	**-0.5**
BJI				S	**S**	**12 50 09.0**	**+0.8**
BJI				AMB	AMB		
	comp=Z,8.0nm,0.4s,mb4.6						
BJI				LR	LR		
	comp=N,656nm,12.8s,MS4.5						
BJI				LR	LR		
	comp=E,330nm,10.1s,MS4.5						
BJI				LR	LR		
	comp=Z,421nm,24.7s						
ZAL	**Zalesovo**	**26.75**	**355**	P	**P**	**12 45 40.4**	**+0.1**
ZAA0	**Zalesovo Array**	**26.76**	**356**	*e*P	**P**	**12 45 39.6**	**-0.8**
ZALV	**Zalesovo Beam**	**26.76**	**356**	P	**P**	**12 45 40.4**	**0.0**
	comp=Z,3.4nm,0.4s,mb4.2,baz=180,slow=8.6,SNR=26						
ZALV				LR	LR	12 57 36.9	
	comp=Z,109nm,18.2s,MS3.5,baz=52,slow=40						
NJ2	**Nanjing**	**26.99**	**72**	*e*P	**P**	**12 45 44.3**	**+1.6**
NJ2				AP	pP	12 45 51.1	-2.1
NJ2				XP	sP	12 45 54.5	-3.2
NJ2				PPP		12 46 43.5	
NJ2				S	**S**	**12 50 15.0**	**-2.7**
NJ2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,160nm,8.5s						
NJ2				LR	LR		
	comp=N,4μm,14.5s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,15.6s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,14.4s,MS4.7						
BVAR	**Borovoye Array**	**28.94**	**338**	P	**P**	**12 46 00.0**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR				MLR	MLR		
	comp=Z,69nm,18.2s						
BVAR	**Borovoye Array**	**28.94**	**338**	P	**P**	**12 45 60.0**	**+0.1**
BVAR				LR	LR	12 59 41.4	
BVAR	**Borovoye Array**	**28.94**	**338**	P	**P**	**12 45 60.0**	**+0.1**
	comp=Z,0.9nm,0.4s,mb3.8,baz=151,slow=11,SNR=7.7						
BVAR				LR	LR	12 59 41.4	
	comp=Z,69nm,18.2s,MS3.3,baz=150,slow=41						
BRVK	**Borovoye**	**29.00**	**337**	P	**P**	**12 45 57.1**	**-3.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
BRVK	**Borovoye**	**29.00**	**337**	P	**P**	**12 45 57.1**	**-3.4**
	comp=Z,2.4nm,0.7s,mb4.0						
AKTK	**Aktyubinsk**	**32.61**	**323**	P	**P**	**12 46 32.4**	**+0.1**
AKTK				LR	LR	13 01 09.9	
AKTO	**Aktyubinsk**	**32.61**	**323**	P	**P**	**12 46 32.4**	**+0.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
AKTO				MLR	MLR		
	comp=Z,172nm,20.0s,MS3.8						
AKTO	**Aktyubinsk**	**32.61**	**323**	P	**P**	**12 46 32.4**	**+0.1**
	comp=Z,2.2nm,0.5s,mb4.4,baz=110,slow=8.5,SNR=10						
AKTO				LR	LR	13 01 09.9	
	comp=Z,172nm,20.0s,MS3.8,baz=293,slow=39						
KSM	**Kuching**	**33.27**	**137**	*e*P	**P**	**12 46 38.6**	**+0.2**
KSRS	**Korea Array**	**34.81**	**63**	P	**P**	**12 46 51.2**	**-0.4**
	comp=Z,1.3nm,0.5s,mb4.1,baz=259,slow=7.8,SNR=7.7						
KSRS				LR	LR	13 03 21.0	
	comp=Z,171nm,18.1s,MS3.8,baz=338,slow=40						
SVE	**Sverdlovsk**	**35.46**	**334**	*e*P	**P**	**12 46 57.8**	**+0.8**
SVE				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
BOD	**Bodaibo**	**35.51**	**24**	*e*P	**P**	**12 46 56.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.6						
ARU	**Arti**	**36.03**	**332⇑**	*e*P	**P**	**12 47 01.3**	**-0.5**
ARU				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
ARU	**Arti**	**36.03**	**332**	P	**P**	**12 47 00.9**	**-0.9**
	comp=Z,6.8nm,0.5s,mb4.8						
MDJ	**Mudanjiang**	**37.24**	**51**	P	**P**	**12 47 11.8**	**-0.5**
MDJ				AMB	AMB		
	comp=Z,271nm,4.2s						
MDJ				LR	LR		
	comp=N,148nm,19.7s						
MDJ				LR	LR		
	comp=Z,182nm,21.1s,MS3.8						
GNI	**Garni**	**38.02**	**301⇑**	*e*P	**P**	**12 47 20.8**	**+1.8**
GNI				pmax	pmax		
	comp=Z,24nm,1.8s						
GNI	**Garni**	**38.02**	**301**	P	**P**	**12 47 20.6**	**+1.7**
	comp=Z,11nm,0.9s,mb4.6						
GNI	**Garni**	**38.02**	**301**	LR	LR	13 05 36.4	
	comp=Z,77nm,19.6s,MS3.5,baz=92,slow=40						
KLR	**Kul'dur**	**39.89**	**45**	*e*P	**P**	**12 47 26.2**	**-8.3**
KIV	**Kislovodsk**	**40.04**	**307⇑**	*e*P	**P**	**12 47 36.1**	**+0.3**
KIV				*e*		12 49 09.3	
KIV				*e*S	**S**	**12 53 41.9**	**+2.8**
KIV				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.3						
KIV				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.7						
MALT	**Malatya**	**42.83**	**298**	*e*P	**P**	**12 47 58.9**	**+0.2**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
MALT	**Malatya**	**42.83**	**298**	*e*P	**P**	**12 47 58.9**	**+0.1**
	comp=Z,5.5nm,1.0s,mb4.2						
MJAR	**Matsushiro Arr**	**43.02**	**65**	P	**P**	**12 48 00.6**	**+0.3**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**43.02**	**65**	P	**P**	**12 48 00.6**	**+0.3**
	comp=Z,1.7nm,0.7s,mb3.9,baz=275,slow=11,SNR=5.0						
ASF	**Jabal al Asfar**	**44.50**	**289**	P	**P**	**12 48 13.7**	**+1.4**
ASF				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ASF	**Jabal al Asfar**	**44.50**	**289**	P	**P**	**12 48 13.7**	**+1.4**
	comp=Z,2.5nm,1.0s,mb4.0,baz=28,slow=4.5,SNR=3.7						
OBN	**Obninsk**	**46.34**	**321⇓**	*e*P	**P**	**12 48 25.3**	**-1.2**
OBN				*e*		12 50 10.9	
OBN				*e*S	**S**	**12 55 09.8**	**-1.2**
OBN				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
OBN				MLR	MLR		
	comp=Z,100nm,20.0s,MS3.8						
ASAJ	**Asahikawa**	**46.40**	**54**	LR	LR	13 09 42.1	
	comp=Z,76nm,19.0s,MS3.7,baz=325,slow=38						
YSS	**Yuzh-Sakhalins**	**46.69**	**50**	⇓*i*P	**P**	**12 48 30.8**	**+1.4**
YSS				pmax	pmax		
	comp=Z,60nm,1.0s,mb5.5						
YSS	**Yuzh-Sakhalins**	**46.69**	**50**	*e*P	**P**	**12 48 30.1**	**+0.7**
	comp=Z,80nm,1.4s,mb5.5						
TIXI	**Tiksi**	**49.73**	**16**	*e*P	**P**	**12 48 50.5**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
TIXI	**Tiksi**	**49.73**	**16**	*e*P	**P**	**12 48 51.4**	**-1.1**
	comp=Z,4.4nm,0.6s,mb4.7						
AKASG	**Malin Array Be**	**49.96**	**315**	P	**P**	**12 48 53.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**49.96**	**315**	P	**P**	**12 48 53.8**	**-0.7**
	comp=Z,0.7nm,0.4s,mb4.1,baz=80,slow=7.2,SNR=7.0						
JOF	**Joensuu**	**51.12**	**330**	*ep*	**P**	**12 49 02.8**	**-0.3**
	comp=Z,6.3nm,0.4s,mb4.9						
VRI	**Vrincioaia**	**51.47**	**308⇑**	*i*P	**P**	**12 49 08.9**	**+2.9**
PLOR	**Plostina**	**51.52**	**308⇑**	*i*P	**P**	**12 49 08.4**	**+2.0**
MLR	**Muntele Rosu**	**52.03**	**308⇑**	*i*P	**P**	**12 49 12.4**	**+2.2**
BURAR	**Bucovina Array**	**52.48**	**311⇑**	*i*P	**P**	**12 49 15.3**	**+1.8**
MA2	**Magadan**	**53.04**	**34**	*c i*P	**P**	**12 49 17.7**	**+0.3**
MA2				pmax	pmax		
	comp=Z,20nm,1.1s,mb5.0						
MA2	**Magadan**	**53.04**	**34**	*e*P	**P**	**12 49 17.5**	**+0.1**
	comp=Z,10nm,0.8s,mb4.8						
FIA1	**FINESS Array S**	**53.16**	**328**	*e*P	**P**	**12 49 17.8**	**-0.5**
FINES	**FINESS Array B**	**53.16**	**328**	*i* P	**P**	**12 49 18.3**	**+0.1**
FINES				pmax	pmax		
	comp=Z,3.0nm,0.4s						
FINES	**FINESS Array B**	**53.16**	**328**	P	**P**	**12 49 17.6**	**-0.7**
	comp=Z,2.7nm,0.4s,mb4.5,baz=112,slow=8.1,SNR=23						
FINES				LR	LR	13 12 01.0	
	comp=Z,87nm,18.6s,MS3.8,baz=219,slow=36						
VTS	**Vitosha**	**54.20**	**304⇑**	*i*P	**P**	**12 49 27.2**	**+1.0**
SEY	**Seymchan**	**54.35**	**30⇑**	*e*P	**P**	**12 49 28.3**	**+1.4**
STHS	**Stebnicka Huta**	**55.07**	**313**	*e*P	**P**	**12 49 32.5**	**+0.1**
ARCES	**ARCESS Array B**	**55.23**	**338**	P	**P**	**12 49 33.5**	**+0.3**
ARCES				pmax	pmax		
	comp

BRG Berggiesshubel 59.64 315 *eP* **P 12 50 05.4 +0.8**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
BRG Berggiesshubel 59.64 315 *eP* **P 12 50 05.5 +0.9**
comp=Z,26nm,2.1s,mb4.9
BRG Berggiesshubel 59.64 315 *eP* **P 12 50 05.4 +0.8**
comp=Z,3.7nm,0.8s,mb4.5
FBE Freiberg 60.00 315 *eP* **P 12 50 06.9 -0.2**
comp=Z,6.0nm,0.8s,mb4.7
GEC2 GERESS Array S 60.05 313 *eP* **P 12 50 08.5 +1.0**
GEC2 pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
GEC2 GERESS Array S 60.05 313 *eP* **P 12 50 08.5 +1.0**
comp=Z,5.0nm,0.9s,mb4.5
GERES GERESS Array B 60.05 313 P **P 12 50 07.1 -0.4**
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 60.05 313 P **P 12 50 07.1 -0.4**
comp=Z,3.0nm,0.8s,mb4.4,baz=86,slow=5.9,SNR=14
KHC Kasperske Hory 60.09 313 *eP* **P 12 50 10.3 +2.5**
NB2 NORSAR Subarra 60.29 327 P **P 12 50 08.1 -0.8**
comp=Z,1.5nm,0.5s,mb4.3,baz=86,slow=6.5
NOA NORSAR Array B 60.29 327 P **P 12 50 07.5 -1.4**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 60.29 327 P **P 12 50 07.5 -1.4**
comp=Z,2.3nm,0.8s,mb4.3,baz=87,slow=6.7,SNR=5.0
BILL Bilibino 60.55 25⇓*eP* **P 12 50 11.2 +0.7**
BILL *e* 12 52 21.7
BILL *eS* **S 12 58 14.9 -8.5**
BILL pmax pmax
comp=Z,8.0nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,100nm,18.0s,MS4.0
WET Wettzell 60.55 313 *eP* **P 12 50 11.7 +0.8**
WET pmax pmax
comp=Z,6.0nm,0.9s,mb4.7
WET Wettzell 60.55 313 *eP* **P 12 50 11.7 +0.8**
comp=Z,6.0nm,0.9s,mb4.7
TANN Tannenbergstha 60.63 315 *eP* **P 12 50 12.2 +0.8**
comp=Z,21nm,2.0s,mb4.9
GUNZ Gunzen 60.72 315 *eP* **P 12 50 14.7 +2.7**
comp=Z,6.0nm,1.1s,mb4.6
ROTZ Rotzenmuhle 60.89 314 *eP* **P 12 50 14.5 +1.3**
comp=Z,18nm,1.7s,mb4.9
CDF Champ du Feu 64.33 313 *eP* **P 12 50 35.1 -1.0**
PGF Pioggiola 64.52 306 *eP* **P 12 50 36.2 -1.3**
comp=Z,33nm,0.9s,mb5.1
PGF Pioggiola 64.52 306 *eP* **P 12 50 36.2 -1.3**
PGF pmax pmax
comp=Z,17nm,0.9s,mb5.1
PGF Pioggiola 64.52 306 *eP* **P 12 50 36.2 -1.3**
comp=Z,17nm,0.9s,mb5.1
WRA Warramunga Arr 64.80 131 P **P 12 50 40.2 +0.7**
WRA pmax pmax
comp=Z,6.0nm,0.5s
WRA Warramunga Arr 64.80 131 P **P 12 50 40.2 +0.7**
comp=Z,6.2nm,0.5s,mb4.9,baz=323,slow=6.7,SNR=79
WRAB Tennant Creek 64.80 131 *eP* **P 12 50 39.6 +0.1**
WRAB pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
WRAB Tennant Creek 64.80 131 *eP* **P 12 50 39.6 +0.1**
comp=Z,7.8nm,0.6s,mb4.9
WB2 Warramunga Arr 64.80 131 *eP* **P 12 50 39.6 +0.1**
SBF Sospel 65.30 308 *eP* **P 12 50 41.6 -0.9**
comp=Z,8.1nm,0.5s,mb4.8
SBF Sospel 65.30 308 *eP* **P 12 50 41.6 -0.9**
SBF pmax pmax
comp=Z,4.0nm,0.4s,mb4.8
SBF Sospel 65.30 308 *eP* **P 12 50 41.6 -0.9**
comp=Z,4.1nm,0.4s,mb4.8
LPG La Plagne 65.36 310 *eP* **P 12 50 42.2 -0.7**
comp=Z,9.3nm,0.5s,mb4.7
LPG La Plagne 65.36 310 *eP* **P 12 50 42.2 -0.7**
LPG pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
LPG La Plagne 65.36 310 *eP* **P 12 50 42.2 -0.7**
comp=Z,4.7nm,0.5s,mb4.8
LPL La Plagne 65.37 310 *eP* **P 12 50 42.3 -0.7**
comp=Z,10nm,0.5s,mb4.8
LPL La Plagne 65.37 310 *eP* **P 12 50 42.3 -0.7**
LPL pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
LPL La Plagne 65.37 310 *eP* **P 12 50 42.3 -0.7**
comp=Z,5.1nm,0.5s,mb4.8
MBDF Montbardon 65.54 309 *eP* **P 12 50 43.2 -0.9**
comp=Z,12nm,0.7s,mb4.7
MBDF Montbardon 65.54 309 *eP* **P 12 50 43.2 -0.9**
MBDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
MBDF Montbardon 65.54 309 *eP* **P 12 50 43.2 -0.9**
comp=Z,6.0nm,0.7s,mb4.7
NWAO Narrogin (SRO) 65.92 153 *eP* **P 12 50 46.1 -0.4**
NWAO pmax pmax
comp=Z,21nm,1.1s
NWAO Narrogin (SRO) 65.92 153 *eP* **P 12 50 46.1 -0.4**
comp=Z,21nm,1.1s,mb5.1
FRF La Foret Royal 65.93 308 *eP* **P 12 50 45.6 -1.0**
ORIF Oris-en-Rattie 66.10 310 *eP* **P 12 50 46.7 -1.0**
comp=Z,5.4nm,0.5s,mb4.5
ORIF *e*MLR MLR
comp=Z,110nm,21.0s,MS3.7
ORIF Oris-en-Rattie 66.10 310 *eP* **P 12 50 46.7 -1.0**
ORIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
ORIF Oris-en-Rattie 66.10 310 *eP* **P 12 50 46.7 -1.0**
comp=Z,2.7nm,0.5s,mb4.5
KEST Kesra 66.12 299 P **P 12 50 47.9 -0.1**
comp=Z,2.4nm,0.9s,mb4.2,baz=333,slow=4.5,SNR=2.7
SMRF Simiane la Rot 66.57 309 *eP* **P 12 50 49.3 -1.4**
comp=Z,9.9nm,0.8s,mb4.6
SMRF Simiane la Rot 66.57 309 *eP* **P 12 50 49.3 -1.4**
comp=Z,9.9nm,0.8s,mb4.9
VIVF Saint-Julien-l 66.95 310 *eP* **P 12 50 51.8 -1.3**
SSF Saint Saulge 67.12 312 *eP* **P 12 50 53.1 -1.1**
comp=Z,12nm,0.9s,mb4.6
SSF Saint Saulge 67.12 312 *eP* **P 12 50 53.1 -1.1**
SSF pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
SSF Saint Saulge 67.12 312 *eP* **P 12 50 53.1 -1.1**
comp=Z,5.9nm,0.9s,mb4.6
ASAR Alice Springs 67.16 135 P **P 12 50 55.6 +1.0**
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR Alice Springs 67.16 135 P **P 12 50 55.6 +1.0**
comp=Z,5.1nm,0.7s,mb4.7,baz=315,slow=6.2,SNR=83
AVF Avril sur Loir 67.30 312 *eP* **P 12 50 54.0 -1.3**
comp=Z,4.2nm,0.5s,mb4.4
AVF Avril sur Loir 67.30 312 *eP* **P 12 50 54.0 -1.3**
AVF pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AVF Avril sur Loir 67.30 312 *eP* **P 12 50 54.0 -1.3**
comp=Z,2.1nm,0.5s,mb4.4
LASF Ste Croix 67.73 309 *eP* **P 12 50 56.9 -1.2**
comp=Z,101nm,1.6s,mb5.3
TCF Toulx Ste Croi 68.20 312 *eP* **P 12 50 59.7 -1.3**
MTLF Montolieu 69.08 309 *eP* **P 12 51 05.2 -1.3**
SGMF Saint Gilles 70.67 315 *eP* **P 12 51 15.0 -1.2**
SJPF Ste Jean 71.53 309 *eP* **P 12 51 20.1 -1.4**
CTAO Charters Tower 73.31 124 *eP* **P 12 51 32.8 +0.5**
CTAO pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
CTAO Charters Tower 73.31 124 *eP* **P 12 51 32.8 +0.5**
comp=Z,7.4nm,1.1s,mb4.5
ESDC Sonseca Array 74.71 307 P **P 12 51 41.8 +1.4**
comp=Z,0.4nm,0.5s,mb3.6,baz=74,slow=14,SNR=3.2
STKA Stephens Creek 77.75 136 *eP* **P 12 51 57.8 +0.2**
comp=Z,4.6nm,0.7s,mb4.5
STKA Stephens Creek 77.75 136 P **P 12 51 57.9 +0.3**
comp=Z,1.9nm,0.7s,mb4.2,baz=290,slow=10,SNR=5.8
COLA College 78.45 21 *eP* **P 12 52 00.8 -0.2**
COLA pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
COLA College 78.45 21 *eP* **P 12 52 00.8 -0.3**
comp=Z,8.8nm,1.2s,mb4.6
LBTB Lobatse 79.65 235 *eP* **P 12 52 08.7 +0.5**
LBTB pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LBTB Lobatse 79.65 235 *eP* **P 12 52 08.7 +0.5**
comp=Z,3.4nm,0.8s,mb4.3
PMR Palmer 80.17 24 *eP* **P 12 52 10.6 +0.2**
PMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
PMR Palmer 80.17 24 *eP* **P 12 52 10.6 +0.2**
comp=Z,4.5nm,0.9s,mb4.4
EGAK Eagle 80.58 19 *eP* **P 12 52 13.9 +1.2**
comp=Z,4.1nm,1.1s,mb4.3

TOA0 Torodi Ar. Sit 81.05 280 *eP* **P 12 52 15.8 -0.2**
TORD Torodi Ar. Bea 81.05 280 P **P 12 52 16.2 +0.2**
comp=Z,1.1nm,0.4s,mb4.1,baz=65,slow=4.5,SNR=32
BOSA Boshof 82.04 232 P **P 12 52 21.8 +0.9**
BOSA pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
BOSA Boshof 82.04 232 P **P 12 52 21.5 +0.6**
comp=Z,6.9nm,1.1s,mb4.5
BOSA Boshof 82.04 232 P **P 12 52 21.8 +0.9**
comp=Z,1.0nm,0.7s,mb3.9,baz=130,slow=3.6,SNR=3.1
YKA Yellowknife Ar 88.69 10 P **P 12 52 53.3 -0.2**
comp=Z,0.9nm,0.7s,mb4.2,baz=330,slow=4.7,SNR=8.5
DBIC Dimbokro 89.71 277 P **P 12 52 59.1 -0.1**
DBIC pmax pmax
comp=Z,2.0nm,0.8s
DBIC Dimbokro 89.71 277 P **P 12 52 59.1 -0.1**
comp=Z,2.1nm,0.8s,mb4.5,baz=40,slow=5.6,SNR=4.1
TXAR Lajitas Array 122.57 12 PKP PKPdf 12 58 56.4 0.0
comp=Z,0.3nm,0.6s,baz=2.7,slow=2.6,SNR=4.7
CPUP Villa Florida 149.29 264 *e*PKHKP 12 59 44.8
CPUP *e* 12 59 50.1
CPUP Villa Florida 149.29 264 PKPbc PKPbc 12 59 50.4 +0.8
comp=Z,0.5nm,0.4s,baz=88,slow=4.8,SNR=4.5

ISCJB ***18*** *13:05:17.4±0.6,2056N±004×10060E±007,h10km, mb3.6/4, Error ellipse: s-maj=9.8km s-min=5.5km az=23.4*
IDC ***18*** *13:05:18.3±3.3,2063N×100.74E,h0km,mb3.5/3, mb1 3.7/3,mb1mx3.5/20,mbtmp3.5/3,Error ellipse: s-maj=432.1km s-min=28.2km az=58.0*
NEIC ***18*** *13:05:19.6±0.8,2056N×10061E,h10km,mb3.9/1,Error ellipse: s-maj=17.7km s-min=13.2km az=94.0*
BJI ***18*** *13:05:20.6,2060N×10060E,h10km,mB4.0,ML4.0,Ms3.8, Msz3.7*
ISC 18 13:05:19.4±0.6,2048N±004×10068E±006,h10km,n12, σ0f97/18,mb3.6/4,1D,Laos

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NANT	**Nan**	**1.67**	**179**	⇓P	**Pn**	**13 05 46.0**	**-2.8**
	2μm,0.9s						
CHG	**Chiang Mai**	**2.33**	**225**	PG	**Pg**	**13 06 04.5**	**+0.4**
CHG				SG	**Sg**	**13 06 34.6**	**+0.3**
CHTO	**Chiang Mai**	**2.33**	**225**	*e*P	**Pn**	**13 05 59.0**	**+1.2**
CM31	**Chiang Mai Arr**	**2.59**	**219**	*e*Pn	**Pn**	**13 06 01.2**	**-0.2**
CM31				*e*Pg	**Pg**	**13 06 08.5**	**-0.7**
KKTK	**Khon Kaen**	**4.60**	**153**	PN	**Pb**	**13 06 39.5**	**-0.7**
KKTK				PG	**Pg**	**13 06 52.5**	**+4.9**
KKTK				SG	**Sg**	**13 07 47.5**	**+0.3**
KMI	**Kunming**	**5.00**	**22**	PG	**Pg**	**13 06 49.8**	**-5.4**
KMI				SG	**Sg**	**13 07 51.6**	**-8.4**
KMI				Smax			
	comp=N,34nm,1.0s						
KMI				Smax			
	comp=E,36nm,1.5s						
CD2	**Chengdu**	**10.75**	**14**	*e*P	**Pn**	**13 07 52.0**	**-1.4**
CD2				PP		13 07 59.9	
CD2				S	**Sn**	**13 09 55.0**	**+1.1**
CD2				SS		13 10 08.8	
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,440nm,12.0s						
CD2				LR	LR		
	comp=Z,310nm,9.6s						
MKAR	**Makanchi Array**	**30.23**	**335**	P	**P**	**13 11 29.8**	**-0.4**
MKAR	**Makanchi Array**	**30.23**	**335**	P	**P**	**13 11 29.8**	**-0.4**
	comp=Z,0.4nm,0.5s,mb3.4,baz=138,slow=10,SNR=5.0						
UCH	**Uchtor**	**30.92**	**320**	*e*P	**P**	**13 11 36.0**	**-0.4**
	comp=Z,0.9nm,0.5s,mb3.9						
WRA	**Warramunga Arr**	**51.96**	**139**	P	**P**	**13 14 30.2**	**+1.2**
	comp=Z,0.5nm,0.8s,mb3.5,baz=323,slow=8.1,SNR=6.6						
ASAR	**Alice Springs**	**54.53**	**142**	P	**P**	**13 14 48.5**	**+0.8**
	comp=Z,0.5nm,0.8s,mb3.6,baz=322,slow=7.1,SNR=5.1						

CSEM ***18*** *13:05:38.2±0.1,3525N×6.16W,h75km±1km,MD3.7,Error ellipse: s-maj=2.1km s-min=1.5km az=110.0*
LDG ***18*** *13:05:38.9±0.3,3538N×620W,h30km,Ml3.4/4,Error ellipse: s-maj=5.8km s-min=4.1km az=18.0*
ISCJB ***18*** *13:05:39.3±0.3,3536N±002×625W±002,h44km,Error ellipse: s-maj=3.5km s-min=2.5km az=31.9*
SFS ***18*** *13:05:40.0,3528N×622W,h73km,ML3.6*
NEIC ***18*** *13:05:41.0,3529N×622W,h74km,MG4.0(MDD),After MDD.*
CNRM ***18*** *13:05:41.5,3519N×633W,h25km,MD3.7*
MDD ***18*** *13:05:41.0±0.5,3527N×625W,h44km±6km,mb4.6/17, Error ellipse: s-maj=5.6km s-min=3.9km az=87.0,PRXIMO*
INMG ***18*** *13:05:42.2±1.3,3531N×625W,h31km±14km,ML2.9,Error ellipse: s-maj=9.3km s-min=3.7km az=8.0*
ISC 18 13:05:40.8±0.4,3536N±002×625W±002,h48km±7km,n113, σ1f22/190,1C-11D,Strait of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSY	**Tnine Yamani**	**0.23**	**86**	P	**Pn**	**13 05 49.0**	**-0.1**
TSY				S	**Sn**	**13 05 54.0**	**-1.0**
TSY	**Tnine Yamani**	**0.23**	**86**	*i* P	**Pn**	**13 05 49.0**	**-0.1**
RSA	**Sarsar**	**0.59**	**144**	P	**Pn**	**13 05 51.0**	**-2.0**
RSA				S	**Sn**	**13 05 59.5**	**-2.3**
RSA	**Sarsar**	**0.59**	**144**	*i* P	**Pn**	**13 05 51.0**	**-2.0**
DKH	**Dar Kharkhour**	**0.74**	**79**	*i* P	**Pn**	**13 05 56.0**	**+1.0**
DKH				*i* S	**Sn**	**13 06 08.0**	**+2.8**
ECEU	**Ceuta**	**0.90**	**53**	⇓P	**Pn**	**13 05 58.1**	**+1.0**
	SNR=18						
ECEU				S	**Sn**	**13 06 11.2**	**+2.3**
	20nm,0.1s,SNR=7.9						
ECEU	**Ceuta**	**0.90**	**53**	P	**Pn**	**13 05 58.1**	**+1.1**
	SNR=18						
ECEU				S	**Sn**	**13 06 11.2**	**+2.3**
	20nm,0.1s,SNR=7.9						
CNIL	**Conil**	**1.02**	**9**	P	**Pn**	**13 06 01.7**	**+2.9**
CNIL	**Conil**	**1.02**	**9**	*e*P	**Pn**	**13 06 01.7**	**+2.9**
MOMI	**Momias**	**1.06**	**24**	P	**Pn**	**13 06 02.5**	**+3.2**
MOMI	**Momias**	**1.06**	**24**	*e*P	**Pn**	**13 06 02.5**	**+3.2**
EJIF	**Jimena Fronter**	**1.27**	**30**	⇓P	**Pn**	**13 06 03.7**	**+1.7**
EJIF				S	**Sn**	**13 06 20.5**	**+2.6**
EJIF	**Jimena Fronter**	**1.27**	**30**	⇓P	**Pn**	**13 06 03.7**	**+1.7**
	14nm,0.2s,SNR=18						
EJIF				S	**Sn**	**13 06 20.5**	**+2.6**
	8.2nm,0.3s,SNR=7.9						
GIBL	**Gibalbin**	**1.49**	**9**	⇓P	**Pn**	**13 06 07.1**	**+1.9**
GIBL				S	**Sn**	**13 06 24.5**	**+1.1**
GIBL	**Gibalbin**	**1.49**	**9**	*i* P	**Pn**	**13 06 07.1**	**+2.0**
GIBL				*e*S	**Sn**	**13 06 24.5**	**+1.1**
ESPR	**Espera**	**1.54**	**12**	⇓P	**Pn**	**13 06 06.8**	**+0.9**
	7.1nm,0.1s,SNR=18						
ESPR				S	**Sn**	**13 06 26.3**	**+1.6**
	31nm,0.3s,SNR=7.9						
ESPR	**Espera**	**1.54**	**12**	P	**Pn**	**13 06 06.8**	**+0.9**
	7.1nm,0.1s,SNR=18						
ESPR				S	**Sn**	**13 06 26.3**	**+1.6**
	31nm,0.3s,SNR=7.9						
LIJA	**Lijar**	**1.69**	**24**	⇑P	**Pn**	**13 06 09.7**	**+1.8**
LIJA				S	**Sn**	**13 06 28.9**	**+0.5**
LIJA	**Lijar**	**1.69**	**24**	*i* P	**Pn**	**13 06 09.7**	**+1.8**
LIJA				*e*S	**Sn**	**13 06 28.9**	**+0.5**
EMIJ	**Mijas**	**1.70**	**44**	⇓P	**Pn**	**13 06 07.8**	**-0.3**
	9.1nm,0.1s,SNR=18						
EMIJ				S	**Sn**	**13 06 28.3**	**-0.3**
	24nm,0.3s,SNR=8.7						
EMAL	**Malaga-Limoner**	**2.04**	**46**	P	**Pn**	**13 06 13.3**	**+0.7**
EMAL				S	**Sn**	**13 06 36.0**	**-0.8**
EMAL	**Malaga-Limoner**	**2.04**	**46**	*i* P	**Pn**	**13 06 13.3**	**+0.7**
EMAL				*e*S	**Sn**	**13 06 36.0**	**-0.8**
TOU	**Touzarine**	**2.08**	**100**	P	**Pn**	**13 06 14.0**	**+0.7**
TOU				S	**Sn**	**13 06 39.0**	**+1.0**
ERIP	**Rio Piedras**	**2.17**	**338**	⇓P	**Pn**	**13 06 15.1**	**+0.7**
	53nm,0.1s,SNR=18						
ERIP				S	**Sn**	**13 06 39.8**	**-0.3**
	117nm,0.1s,SNR=7.9						
PBDV	**Barranco-do-Ve**	**2.32**	**325**	*e*Pn	**Pn**	**13 06 16.9**	**+0.4**
PBDV				*e*Sn	**Sn**	**13 06 43.3**	**-0.5**
PBDV				A		13 06 44.7	
	36nm,0.2s						
PVAQ	**Vaqueiros**	**2.36**	**330**	*e*Pn	**Pn**	**13 06 17.6**	**+0.5**
PVAQ				*e*Sn	**Sn**	**13 06 44.7**	**-0.1**
PVAQ				A		13 06 46.0	
	90nm,0.1s						
EGRO	**El Granado**	**2.39**	**336**	⇓P	**Pn**	**13 06 18.2**	**+0.7**
	42nm,0.1s,SNR=18						
EGRO				S	**Sn**	**13 06 44.9**	**-0.6**
	40nm,0.1s,SNR=7.9						
EGRO	**El Granado**	**2.39**	**336**	P	**Pn**	**13 06 18.2**	**+0.7**
	42nm,0.1s,SNR=18						
EGRO				S	**Sn**	**13 06 44.9**	**-0.6**
	40nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.43**	**352**	⇓P	**Pn**	**13 06 18.5**	**+0.5**
	10nm,0.1s,SNR=18						
EMIN				S	**Sn**	**13 06 46.3**	**-0.2**
	4.7nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**2.43**	**352**	P	**Pn**	**13 06 18.5**	**+0.5**
	10nm,0.1s,SNR=18						
EMIN				S	**Sn**	**13 06 46.3**	**-0.2**
	4.7nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**2.46**	**43**	P	**Pn**	**13 06 19.9**	**+1.4**
	2.3nm,0.1s,SNR=7.9						
ELOJ				S	**Sn**	**13 06 47.8**	**+0.4**
	2.7nm,0.1s,SNR=7.9						
CZD	**Col de Zad**	**2.52**	**156**	*e*P	**Pn**	**13 06 19.0**	**-0.3**
CZD				*i* S	**Sn**	**13 06 45.0**	**-3.8**
ERON	**Agron**	**2.58**	**49**	P	**Pn**	**13 06 19.7**	**-0.4**
	1.5nm,0.1s,SNR=8.2						
ERON				S	**Sn**	**13 06 48.6**	**-1.6**
	4.6nm,0.2s,SNR=7.9						
EGUA	**Guajares**	**2.63**	**55**	P	**Pn**	**13 06 19.9**	**-0.9**
	2.5nm,0.1s,SNR=7.9						
EGUA				S	**Sn**	**13 06 49.5**	**-1.9**
	SNR=7.9						
EALB	**Alboran**	**2.69**	**77**	P	**Pn**	**13 06 21.2**	**-0.3**
	1.7nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**13 06 49.7**	**-3.0**
	5.2nm,0.1s,SNR=7.9						
EALB	**Alboran**	**2.69**	**77**	P	**Pn**	**13 06 21.2**	**-0.3**
	1.7nm,0.1s,SNR=7.9						
EALB				S	**Sn**	**13 06 49.7**	**-3.1**
	5.2nm,0.1s,SNR=7.9						
ELUQ	**Luque**	**2.72**	**35**	P	**Pn**	**13 06 22.8**	**+0.8**
	5.0nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**13 06 52.4**	**-1.2**
	11nm,0.2s,SNR=7.9						
PFVI	**Vila Bisbo**	**2.73**	**311**	*e*Pn	**Pn**	**13 06 22.3**	**+0.1**
PFVI				*e*Sn	**Sn**	**13 06 53.1**	**-0.9**
PFVI				A		13 06 57.0	
	29nm,0.1s						
MORF	**Marmelete**	**2.75**	**316**	P	**Pn**	**13 06 22.4**	**+0.1**
MORF				S	**Sn**	**13 06 52.4**	**-1.9**
MORF	**Marmelete**	**2.75**	**316**	*e*Pn	**Pn**	**13 06 22.4**	**+0.1**
MORF				*e*Sn	**Sn**	**13 06 53.6**	**-0.7**
MORF				A		13 06 55.1	
	49nm,0.1s						
EQUE	**Quentar**	**2.93**	**50**	P	**Pn**	**13 06 25.4**	**+0.5**
	0.6nm,0.1s,SNR=7.7						
EQUE				S	**Sn**	**13 06 58.9**	**+0.2**
	4.5nm,0.2s,SNR=7.9						
PTEO	**Sao Teotonio**	**2.96**	**318**	*e*Pn	**Pn**	**13 06 25.8**	**+0.6**
PTEO				*e*Sn	**Sn**	**13 06 58.7**	**-0.8**
PTEO				A		13 07 01.4	
	29nm,0.1s						
PBEJ	**Beja**	**2.96**	**335**	A		13 07 00.6	
	22nm,0.1s						
EADA	**Adamuz**	**3.11**	**25**	⇓P	**Pn**	**13 06 27.8**	**+0.5**
	7.2nm,0.1s,SNR=18						
EADA				S	**Sn**	**13 07 00.9**	**-2.4**
	5.0nm,0.1s,SNR=7.9						
EADA	**Adamuz**	**3.11**	**25**	P	**Pn**	**13 06 27.8**	**+0.5**
	7.2nm,0.1s,SNR=18						
EADA				S	**Sn**	**13 07 00.9**	**-2.4**
	5.0nm,0.1s,SNR=7.9						
EBER	**Berja**	**3.13**	**60**	P	**Pn**	**13 06 26.6**	**-0.9**
	2.9nm,0.2s,SNR=16						
EBER				S	**Sn**	**13 07 02.8**	**-0.9**
	8.4nm,0.2s,SNR=7.9						
EBER	**Berja**	**3.13**	**60**	P	**Pn**	**13 06 26.6**	**-1.0**
	2.9nm,0.2s,SNR=16						
EBER				S	**Sn**	**13 07 02.8**	**-0.8**
	8.4nm,0.2s,SNR=7.9						
EBAN	**Banos Encina**	**3.43**	**35**	S	**Sn**	**13 07 08.6**	**-2.6**
	16nm,0.2s,SNR=7.9						
EBAD	**Badajoz**	**3.45**	**350**	⇓P	**Pn**	**13 06 32.5**	**+0.6**
	5.2nm,0.1s,SNR=18						
EBAD				S	**Sn**	**13 07 10.1**	**-1.5**
	9.6nm,0.1s,SNR=7.9						
EBAD	**Badajoz**	**3.45**	**350**	P	**Pn**	**13 06 32.5**	**+0.5**
	5.2nm,0.1s,SNR=18						
EBAD				S	**Sn**	**13 07 10.1**	**-1.4**
	9.6nm,0.1s,SNR=7.9						
EVO	**Evora**	**3.47**	**337**	*e*Pn	**Pn**	**13 06 33.1**	**+0.8**
EVO				*e*Sn	**Sn**	**13 07 12.5**	**+0.4**
	56nm,0.2s						
EVO	**Evora**	**3.47**	**337**	*e*Pn	**Pn**	**13 06 33.1**	**+0.8**
EVO				*e*Sn	**Sn**	**13 07 11.1**	**-1.0**
EVO				A		13 07 13.7	
	48nm,0.1s						
EVOP	**Sao Brissos**	**3.50**	**335**	*e*Pn	**Pn**	**13 06 33.1**	**+0.4**
EVOP				*e*Sn	**Sn**	**13 07 12.5**	**-0.4**
EQES	**Quesada**	**3.54**	**45**	P	**Pn**	**13 06 33.5**	**+0.3**
	1.8nm,0.1s,SNR=6.2						
EQES				S	**Sn**	**13 07 11.9**	**-1.8**
	4.4nm,0.1s,SNR=7.9						
EQES	**Quesada**	**3.54**	**45**	P	**Pn**	**13 06 33.5**	**+0.3**
	1.8nm,0.1s,SNR=6.2						
EQES				S	**Sn**	**13 07 11.9**	**-1.9**
	4.4nm,0.1s,SNR=7.9						
MOE	**Montemor**	**3.58**	**333**	*e*Pn	**Pn**	**13 06 34.7**	**+0.9**
MOE				*e*Sn	**Sn**	**13 07 13.7**	**-1.1**
PESTR	**Estremoz**	**3.66**	**343**	*e*Pn	**Pn**	**13 06 35.5**	**+0.6**
PESTR				*e*Sn	**Sn**	**13 07 15.9**	**-1.0**
PESTR				A		13 07 19.4	
	8.0nm,0.3s						
ZFT	**Errachidia**	**3.67**	**154**	*i* P	**Pn**	**13 06 34.0**	**-1.1**
ZFT				*i* S	**Sn**	**13 07 13.0**	**-4.1**
EHUE	**Huescar**	**3.83**	**49**	P	**Pn**	**13 06 37.7**	**+0.5**
	1.6nm,0.2s,SNR=12						
EHUE				S	**Sn**	**13 07 19.5**	**-1.6**
	3.2nm,0.1s,SNR=7.9						
CIA	**Chichaoua**	**4.32**	**210**	P	**Pn**	**13 06 42.5**	**-1.5**
CIA				S	**Sn**	**13 07 27.0**	**-6.1**
CIA	**Chichaoua**	**4.32**	**210**	*i* P	**Pn**	**13 06 42.5**	**-1.5**
PMAFR	**Mafra**	**4.33**	**327**	*e*Pn	**Pn**	**13 06 45.1**	**+1.0**
PMAFR				*e*Sn	**Sn**	**13 07 31.3**	**-2.0**
PMAFR				A		13 07 36.5	
	28nm,0.2s						
OUK	**Oukaimeden**	**4.35**	**199**	P	**Pn**	**13 06 43.0**	**-1.4**
OUK				S	**Sn**	**13 07 29.0**	**-4.8**
OUK	**Oukaimeden**	**4.35**	**199**	*e*P	**Pn**	**13 06 43.0**	**-1.4**
EVIA	**Vianos**	**4.44**	**41**	P	**Pn**	**13 06 45.3**	**-0.3**
	6.9nm,0.1s,SNR=22						
EVIA				S	**Sn**	**13 07 31.3**	**-4.7**
	8.8nm,0.1s,SNR=7.9						
PCBR	**Castelo Branco**	**4.58**	**348**	*e*Pn	**Pn**	**13 06 48.7**	**+1.2**
PCBR				*e*Sn	**Sn**	**13 07 37.4**	**-2.0**
PCBR				A		13 07 39.5	
	12nm,0.1s						
ETOB	**Tobarra**	**5.00**	**48**	P	**Pn**	**13 06 52.8**	**-0.3**
	6.0nm,0.1s,SNR=40						
ETOB				S	**Sn**	**13 07 46.0**	**-3.6**
	4.4nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**5.00**	**48**	P	**Pn**	**13 06 52.8**	**-0.4**
	6.0nm,0.1s,SNR=40						
ETOB				S	**Sn**	**13 07 46.0**	**-3.6**
	4.4nm,0.2s,SNR=7.9						
PVIS	**Viseu**	**5.51**	**347**	*e*Pn	**Pn**	**13 07 01.2**	**+1.0**
PVIS				*e*Sn	**Sn**	**13 07 59.8**	**-2.3**
PVIS				A		13 08 02.8

ETOR Torete 6.38 30 P **Pn 13 07 12.5 +0.3**
31nm,0.1s,SNR=35
ETOR S **Sn 13 08 19.1 -4.5**
6.2nm,0.1s,SNR=7.9
ETOR Torete 6.38 30 P **Pn 13 07 12.4 +0.2**
ETOR Torete 6.38 30 P **Pn 13 07 12.5 +0.3**
31nm,0.1s,SNR=35
PBRG Braganca 6.45 357 *e*Pn **Pn 13 07 14.1 +1.0**
PBRG *e*Sn **Sn 13 08 22.3 -3.1**
PBRG A 13 08 26.1
3.1nm,0.2s
PCAB Cabril 6.50 348 *e*Pn **Pn 13 07 14.6 +0.9**
PCAB *e*Sn **Sn 13 08 22.9 -3.6**
PCAB A 13 08 26.6
3.1nm,0.2s
ELOB Lobios 6.65 348 P **Pn 13 07 16.8 +0.9**
2.5nm,0.1s,SNR=20
ELOB S **Sn 13 08 26.1 -4.2**
1.1nm,0.1s,SNR=7.9
ELOB Lobios 6.65 348 P **Pn 13 07 16.8 +0.9**
2.5nm,0.1s,SNR=20
EMOS Mosqueruela 6.77 41 P **Pn 13 07 18.1 +0.5**
0.9nm,0.2s,SNR=7.9
EMOS S **Sn 13 08 29.1 -4.3**
0.9nm,0.1s,SNR=7.9
EMOS Mosqueruela 6.77 41 P **Pn 13 07 18.1 +0.5**
0.9nm,0.2s,SNR=7.9
ERUA La Rua 7.06 355 P **Pn 13 07 22.7 +1.2**
ERUA La Rua 7.06 355 P **Pn 13 07 22.7 +1.2**
18nm,0.1s,SNR=7.9
EARI Arriondas 7.98 5 P **Pn 13 07 35.3 +1.2**
0.7nm,0.1s,SNR=13
EARI S **Sn 13 08 58.1 -4.7**
1.6nm,0.3s,SNR=7.9
EARI Arriondas 7.98 5 P **Pn 13 07 35.3 +1.3**
0.7nm,0.1s,SNR=13
EPON Pontenova 7.99 355 P **Pn 13 07 35.4 +1.2**
1.5nm,0.2s,SNR=5.6
EPON Pontenova 7.99 355 P **Pn 13 07 35.4 +1.2**
1.5nm,0.2s,SNR=5.6
ELAN Lanestosa 8.16 15 P **Pn 13 07 37.8 +1.2**
1.1nm,0.1s,SNR=6.5
ELAN Lanestosa 8.16 15 P **Pn 13 07 37.8 +1.2**
1.1nm,0.1s,SNR=6.5
EALK Alkurruntz 8.67 24 P **Pn 13 07 45.2 +1.6**
4.5nm,0.3s,SNR=11
SJPF Ste Jean 8.67 25 *e*P **Pn 13 07 44.1 +0.6**
SJPF *e*Sn **Sn 13 09 11.9 -8.0**
1.6nm,0.3s
SJPF Ste Jean 8.67 25 P **Pn 13 07 44.1 +0.6**
SJPF Sn **Sn 13 09 11.9 -8.0**
0.8nm,0.3s
ETSF Etsaut 8.73 29 *e*P **Pn 13 07 45.3 +0.9**
ETSF *e*Sn **Sn 13 09 13.5 -7.9**
0.5nm,0.2s
ETSF Etsaut 8.73 29 *e*Pn **Pn 13 07 41.6 -2.8**
ETSF *e*P 13 07 45.3
ETSF *e*Sn **Sn 13 09 13.5 -7.9**
ETSF Etsaut 8.73 29 P **Pn 13 07 45.3 +0.9**
ETSF Sn **Sn 13 09 13.5 -7.9**
0.2nm,0.2s
ETSF Etsaut 8.73 29 *e*P **Pn 13 07 45.3 +0.9**
EBIE Bielsa 8.85 32 P **Pn 13 07 47.7 +1.8**
2.6nm,0.4s,SNR=6.5
EBIE Bielsa 8.85 32 P **Pn 13 07 47.8 +1.8**
EPF Esparros 9.21 32 *e*P **Pn 13 07 51.6 +0.6**
EPF *e*Sn **Sn 13 09 25.4 -7.8**
2.7nm,0.3s
EPF Esparros 9.21 32 *e*Pn **Pn 13 07 47.2 -3.8**
EPF *e*P 13 07 51.6
EPF *e*Sn **Sn 13 09 25.4 -7.8**
EPF Esparros 9.21 32 Pn **Pn 13 07 47.2 -3.8**
EPF P 13 07 51.6
EPF Sn **Sn 13 09 25.4 -7.8**
1.4nm,0.3s
EPF Esparros 9.21 32 *e*P **Pn 13 07 51.6 +0.6**
CAF Calviac 11.48 31 *e*P **Pn 13 08 21.9 0.0**
QUIF Quistinic 12.76 9 *e*P **Pn 13 08 39.5 +0.1**
ROSF Rostrenen 13.16 9 *e*P **Pn 13 08 44.5 -0.3**
SGMF Saint Gilles 13.18 11 *e*Pn **Pn 13 08 42.3 -2.8**
SGMF Saint Gilles 13.18 11 *e*P **Pn 13 08 44.8 -0.3**
SGMF Saint Gilles 13.18 11 *e*P **Pn 13 08 44.8 -0.3**
SSF Saint Saulge 13.79 29 *e*P **Pn 13 08 52.4 -1.1**

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*IDC **18** 13:06:49.1±0.7,5286N×16043E,h0km,mb3.8/13,*
mb1 4.0/14,mb1mx3.9/24,mbtmp3.9/14,ML3.8/1,MS4.7/1,
Ms1 4.7/1,ms1mx3.0/42,Error ellipse: s-maj=23.6km
s-min=15.9km az=126.0
*ISCJB **18** 13:06:53.7±1.0,5279N±005×16059E±0.10,h48km±8km,*
mb3.9/14,Error ellipse: s-maj=11.2km s-min=5.9km
az=30.5
*KRSC **18** 13:06:54.4±0.6,5280N×16030E,h12km±11km,ML4.2*
*MOS **18** 13:06:54.0±1.5,5283N×16036E,h51km,mb4.2/9,Error*
ellipse: s-maj=17.8km s-min=11.9km az=81.9
*NEIC **18** 13:06:57.7±1.7,5283N×160.17E,h66km±14km,mb3.8/2,*
Error ellipse: s-maj=20.5km s-min=12.2km az=125.0
ISC 18 13:06:54.7±1.1,5276N±005×1606E±01,h39km±9km,n45,
σ1§21/57,mb3.9/14,1C-1D,Off east coast of Kamchatka
Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.47**	**317**	*i* P	**Pn**	**13 07 03.1**	**-1.8**
SPN				*i* S	**Sn**	**13 07 08.9**	**-3.2**
NLC	**Nalytchevo**	**0.84**	**300**	*i* P	**Pn**	**13 07 08.8**	**-1.2**
NLC				*i* S	**Sn**	**13 07 19.1**	**-2.0**
PET	**Petropavlovsk**	**1.18**	**284**	‖*i* PN	**Pn**	**13 07 14.3**	**-0.4**
PET				*i* S	**Sn**	**13 07 30.9**	**+1.4**
PET	comp=Z,506nm,0.6s			pmax	pmax		
PET	comp=N,1μm,0.6s			smax			
PET	comp=E,2μm,0.6s			smax			
PET	comp=N,26nm,0.6s			smax			
PET	comp=E,48nm,0.6s			smax			
PET	**Petropavlovsk**	**1.18**	**284**	*e*P	**Pn**	**13 07 14.2**	**-0.5**
PET	**Petropavlovsk**	**1.18**	**284**	*i* P	**Pn**	**13 07 14.3**	**-0.4**
PET				*i* S	**Sn**	**13 07 28.9**	**-0.6**
AVH	**Avacha**	**1.21**	**295**	*i* P	**Pn**	**13 07 15.1**	**+0.1**
AVH				*i* S	**Sn**	**13 07 30.6**	**+0.4**
RUS	**Russkaya**	**1.29**	**256**	*i* P	**Pn**	**13 07 15.7**	**-0.4**
RUS				*i* S	**Sn**	**13 07 31.5**	**-0.6**
KII	**Karymskiy**	**1.44**	**333**	*e*P	**Pn**	**13 07 18.4**	**+0.2**
KII				*i* S	**Sn**	**13 07 36.7**	**+0.8**
GRL	**Gorelyy**	**1.53**	**263**	*e*P	**Pn**	**13 07 20.0**	**+0.6**
GRL				*i* S	**Sn**	**13 07 39.0**	**+1.0**
GNL	**Ganaly**	**1.83**	**302**	*i* P	**Pn**	**13 07 24.8**	**+1.3**
GNL				*i* S	**Sn**	**13 07 46.8**	**+1.4**
MIPR	**Malaya Ipel'ka**	**2.37**	**260**	*e*P	**Pn**	**13 07 32.5**	**+1.5**
MIPR				*i* S	**Sn**	**13 08 00.5**	**+1.7**
TUMR	**Tumrok**	**2.54**	**355**	*e*P	**Pn**	**13 07 34.4**	**+1.1**
TUMR				*i* S	**Sn**	**13 08 03.8**	**+0.9**
SKR	**Severo-Kuril's**	**3.46**	**235**	*e*PN	**Pn**	**13 07 44.2**	**-1.7**
SKR				*e*S	**Sn**	**13 08 22.7**	**-2.8**
SKR	comp=E,30nm,0.5s			pmax	pmax		
SKR	comp=Z,30nm,0.5s			pmax	pmax		
SKR	comp=N,160nm,0.5s			smax			
SKR	comp=E,130nm,0.5s			smax			
ASAJ	**Asahikawa**	**14.69**	**241**	P	**Pn**	**13 10 19.5**	**-0.2**
ASAJ	comp=Z,1.0nm,0.3s			pmax	pmax		
ASAJ	**Asahikawa**	**14.69**	**241**	Pn	**Pn**	**13 10 19.5**	**-0.2**
	comp=Z,0.6nm,0.3s,baz=98,slow=20,SNR=4.5						
BILL	**Bilibino**	**15.57**	**8**	‖*e*P	**Pn**	**13 10 35.2**	**+4.2**
BILL				*e*S	**S**	**13 13 20.6**	**-16**
BILL	comp=Z,4.0nm,1.0s			pmax	pmax		
BILL	**Bilibino**	**15.57**	**8**	*e*P	**Pn**	**13 10 35.1**	**+4.1**
	comp=Z,3.7nm,1.1s						
MAT	**Matsushiro**	**22.56**	**233**	P	**P**	**13 11 52.6**	**+1.4**
MJAR	**Matsushiro Arr**	**22.56**	**233**	P	**P**	**13 11 52.0**	**+0.8**
MJAR	comp=Z,3.0nm,0.7s			pmax	pmax		
MJAR	**Matsushiro Arr**	**22.56**	**233**	P	**P**	**13 11 52.0**	**+0.8**
	comp=Z,2.8nm,0.7s,mb3.8,baz=22,slow=12,SNR=11						
TIXI	**Tiksi**	**23.50**	**335**	*e*P	**P**	**13 11 57.2**	**-3.4**
TIXI	comp=Z,2.0nm,1.0s,mb3.5			pmax	pmax		
KSRS	**Korea Array**	**27.35**	**249**	P	**P**	**13 12 37.4**	**+1.6**
	comp=Z,0.5nm,0.3s,mb3.5,baz=42,slow=8.5,SNR=4.9						
INK	**Inuvik**	**33.97**	**37**	P	**P**	**13 13 34.0**	**+0.2**
INK						13 16 11.1	
INK	comp=Z,1.0nm,1.1s			pmax	pmax		
INK	**Inuvik**	**33.97**	**37**	P	**P**	**13 13 34.0**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.4,baz=287,slow=5.9,SNR=3.7						
INK				PcP	PcP	13 16 11.1	+0.1
	comp=Z,1.1nm,1.1s,baz=321,slow=6.5,SNR=4.1						
GUMO Guam		**41.03**	**204**	LR	LR	13 27 33.4	
	comp=Z,1μm,21.5s,baz=253,slow=30						
YKA	**Yellowknife Ar**	**43.22**	**42**	P	**P**	**13 14 51.5**	**+0.1**
	comp=Z,0.1nm,0.6s,baz=289,slow=13,SNR=4.2						
KURK	**Kurchatov**	**48.15**	**302**	*e*P	**P**	**13 15 28.2**	**-2.2**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**48.15**	**302**	*e*P	**P**	**13 15 28.2**	**-2.2**
	comp=Z,1.8nm,0.6s,mb4.3						
MKAR	**Makanchi Array**	**48.55**	**296**	P	**P**	**13 15 31.5**	**-2.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.55**	**296**	P	**P**	**13 15 31.5**	**-2.1**
MKAR	**Makanchi Array**	**48.55**	**296**	P	**P**	**13 15 31.5**	**-2.1**
	comp=Z,0.7nm,0.5s,mb4.0,baz=59,slow=7.8,SNR=13						
BVAR	**Borovoye Array**	**50.82**	**309**	P	**P**	**13 15 48.9**	**-1.8**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.82**	**309**	P	**P**	**13 15 48.9**	**-1.8**
	comp=Z,0.9nm,0.4s,mb4.0,baz=54,slow=8.4,SNR=6.0						
ARCES	**ARCESS Array B**	**53.69**	**342**	P	**P**	**13 16 10.9**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
ARCES	**ARCESS Array B**	**53.69**	**342**	P	**P**	**13 16 10.9**	**-0.9**
	comp=Z,2.4nm,1.0s,mb4.1,baz=51,slow=9.1,SNR=7.3						
FINES	**FINESS Array B**	**60.54**	**337**	*i* P	**P**	**13 17 00.9**	**+0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**60.54**	**337**	P	**P**	**13 17 00.1**	**-0.1**
	comp=Z,1.9nm,0.5s,mb4.5,baz=43,slow=8.1,SNR=17						
NOA	**NORSAR Array B**	**63.94**	**344**	P	**P**	**13 17 22.9**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=15,slow=5.6,SNR=2.9						
AKASG	**Malin Array Be**	**69.04**	**329**	*i* P	**P**	**13 17 49.2**	**-6.6**
TXAR	**Lajitas Array**	**70.51**	**67**	P	**P**	**13 18 05.8**	**+0.6**
	comp=Z,0.4nm,0.6s,mb3.5,baz=306,slow=3.8,SNR=6.4						
WRA	**Warramunga Arr**	**75.90**	**205**	*i* P	**P**	**13 18 37.4**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**75.90**	**205**	P	**P**	**13 18 36.6**	**-0.2**
	comp=Z,0.5nm,0.6s,mb3.6,baz=25,slow=6.3,SNR=7.7						
ASAR	**Alice Springs**	**79.57**	**205**	P	**P**	**13 18 58.2**	**+1.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**79.57**	**205**	P	**P**	**13 18 58.1**	**+0.9**
	comp=Z,0.5nm,0.6s,mb3.7,baz=17,slow=4.7,SNR=14						
STKA	**Stephens Creek**	**85.89**	**196**	P	**P**	**13 19 30.0**	**+0.1**
	comp=Z,2.7nm,0.9s,mb4.5,baz=90,slow=1.0,SNR=3.8						

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*ISK **18** 13:09:32.7,3872N×3928E,h2km,MD3.0*
*ISCJB **18** 13:09:33.6±0.5,3876N±003×3926E±004,h1km±7km,*
Error ellipse: s-maj=6.7km s-min=3.7km az=39.3
*CSEM **18** 13:09:33.0±0.2,3871N×3928E,h5km±1km,MD3.0,Error*
ellipse: s-maj=2.9km s-min=1.9km az=100.0
*DDA **18** 13:09:34.8,3863N×3933E,h7km±4km,Md3.0*
ISC 18 13:09:34.2±0.5,3875N±003×3925E±004,h3km±6km,n14,
σ0§95/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PTK	**Pertek**	**0.18**	**38**	PG	**Pg**	**13 09 37.4**	**-0.3**
PTK				*e*SG	**Sg**	**13 09 41.4**	**+1.3**
ELZG	**Elazig**	**0.33**	**219**	*i* P	**Pg**	**13 09 40.2**	**-0.2**
ELZG				*i* S	**Sg**	**13 09 46.5**	**+1.8**
SVRC	**Sivrice-ELAZID**	**0.38**	**173**	PG	**Pg**	**13 09 40.2**	**-1.2**
SVRC				*e*SG	**Sg**	**13 09 45.9**	**-0.4**
MYA	**Malataya**	**0.77**	**237**	*e*PG	**Pg**	**13 09 48.5**	**-0.5**
MALT	**Malatya**	**0.78**	**236**	*e*PG	**Pg**	**13 09 48.0**	**-1.1**
MALT				*e*SG	**Sg**	**13 10 00.7**	**+1.5**
EZC	**Erzincan**	**1.09**	**24**	*e*PG	**Pg**	**13 09 54.1**	**-1.0**
EZC				*e*SG	**Sg**	**13 10 08.4**	**-0.8**
DIY	**Diyarbakir**	**1.15**	**138**	*e*PN	**Pn**	**13 09 55.8**	**-1.4**
URFA	**Urfa**	**1.35**	**195**	*e*PN	**Pn**	**13 09 58.6**	**-1.2**
BNGL	**BINGOL**	**1.50**	**82**	*e*P	**Pn**	**13 10 01.6**	**-0.3**
BNGL				*i* S	**Sg**	**13 10 23.6**	**+1.3**
GUMT	**Gumushane**	**1.72**	**6**	*e*PN	**Pn**	**13 10 05.9**	**+1.0**
MARD	**Mardin**	**1.88**	**139**	*i* P	**Pn**	**13 10 08.0**	**+0.8**
MARD				*i* S	**Sn**	**13 10 31.9**	**+0.6**
GZT	**Gaziantep**	**1.93**	**224**	*i* P	**Pg**	**13 10 10.8**	**-0.3**
GZT				*i* S	**Sg**	**13 10 40.4**	**+4.3**
SVSK	**Karacayir**	**2.10**	**304**	*e*PN	**Pn**	**13 10 10.2**	**+0.1**
KMRS	**Kahramanmaras**	**2.23**	**237**	*e*PN	**Pn**	**13 10 12.4**	**+0.4**

KRSC 18 13:28:10.4±1.2,5279N×16025E,h12km±11km,ML3.6,Off
east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.34**	**336**	*i* P	Pg	13 28 18.6	+1.4
SPN				*i* S	Sg	13 28 24.4	+2.6
NLC	**Nalytchevo**	**0.67**	**305**	*i* P	Pg	13 28 24.3	+1.0
NLC				*e*S	Sg	13 28 34.5	+2.4
PET	**Petropavlovsk**	**0.99**	**284**	*i* P	Pb	13 28 29.8	+0.3
PET				*e*S	Sg	13 28 43.9	+1.4
AVH	**Avacha**	**1.03**	**298**	*i* P	Pb	13 28 30.5	+0.4
AVH				*e*S	Sb	13 28 44.9	+1.3
RUS	**Russkaya**	**1.12**	**252**	*e*P	Pb	13 28 31.2	-0.4
RUS				*i* S	Sb	13 28 47.0	+0.9
KII	**Karymskiy**	**1.34**	**339**	*e*P	Pn	13 28 34.1	-0.7
KII				*e*S	Sb	13 28 51.1	-1.3
GRL	**Gorelyy**	**1.35**	**261**	*i* P	Pn	13 28 35.6	+0.6
GRL				*e*S	Sb	13 28 53.9	+1.2
GNL	**Ganaly**	**1.66**	**304**	*i* P	Pn	13 28 40.6	+1.4
GNL				*i* S	Sn	13 29 02.6	+2.2
MIPR	**Malaya Ipel'ka**	**2.19**	**258**	*e*P	Pn	13 28 47.8	+1.2
TUMR	**Tumrok**	**2.50**	**359**	P	Pn	13 28 50.0	-0.8

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*IDC **18** 13:40:25.8±1.2,2125N×9346E,h0km,mb3.8/8,mb1 3.9/8,*
mb1mx3.7/22,mbtmp3.8/8,Error ellipse: s-maj=94.3km
s-min=17.7km az=57.0
*ISCJB **18** 13:40:31.4±2.0,2128N±0.1×9346E±0.1,h60km±17km,*
mb3.9/8,Error ellipse: s-maj=26.2km s-min=17.1km
az=26.9
ISC 18 13:40:34.8±1.5,2148N±01×9346E±01,h67km±13km,n19,
σ0§95/21,mb3.8/8,Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGT	**Agartala**	**3.20**	**322**	*e*P	**Pn**	**13 41 18.0**	**-4.7**
IMP	**Imphal**	**3.45**	**8**	*ex*	**Pn**	**13 41 26.0**	**-0.2**
IMP				*ex*	x	13 42 16.0	
SHL	**Shillong**	**4.42**	**342**	*e*P	**Pn**	**13 41 39.0**	**-0.4**
JIRN	**Jiri**	**9.08**	**315**	*e*P	**Pn**	**13 42 43.9**	**+0.8**
	30nm,0.3s						
GUN	**Gumba**	**9.45**	**315**	*e*P	**Pn**	**13 42 48.5**	**+0.4**
	49nm,0.3s						
GUN				*e*S	**Sn**	**13 44 30.4**	**-2.4**
PKI	**Pulchoki**	**9.55**	**312**	*e*P	**Pn**	**13 42 50.0**	**+0.5**
KKN	**Kakani**	**9.77**	**313**	*e*P	**Pn**	**13 42 53.4**	**+0.8**
DMN	**Daman**	**9.78**	**311**	*e*P	**Pn**	**13 42 53.5**	**+0.8**
GKN	**Gorkha**	**10.35**	**312**	*e*P	**Pn**	**13 43 00.7**	**+0.2**
	32nm,0.3s						
GKN				*e*S	**Sn**	**13 44 51.8**	**-3.0**
KOLN	**Koldanda**	**10.96**	**308**	*e*P	**Pn**	**13 43 08.9**	**+0.1**
	16nm,0.2s						
DANN	**Dangsing**	**11.18**	**310**	*e*P	**Pn**	**13 43 10.8**	**-0.9**
MKAR	**Makanchi Array**	**26.94**	**343**	P	**P**	**13 46 10.6**	**+0.9**
	1.4nm,0.5s,mb3.7,baz=156,slow=9.2,SNR=18						
ZALV	**Zalesovo Beam**	**33.19**	**351**	P	**P**	**13 47 05.1**	**+0.2**
	1.3nm,0.5s,mb4.0,baz=181,slow=8.6,SNR=5.2						
BVAR	**Borovoye Array**	**36.22**	**336**	P	**P**	**13 47 30.6**	**-0.4**
	0.4nm,0.4s,mb3.7,baz=145,slow=12,SNR=4.3						
WRA	**Warramunga Arr**	**57.34**	**133**	P	**P**	**13 50 14.8**	**-1.4**
	0.3nm,0.3s,mb3.8,baz=317,slow=8.1,SNR=11						
ASAR	**Alice Springs**	**59.65**	**136**	P	**P**	**13 50 31.5**	**-0.7**
	0.2nm,0.5s,mb3.4,baz=318,slow=7.0,SNR=12						
FINES	**FINESS Array B**	**60.65**	**329**	P	**P**	**13 50 38.4**	**-0.1**
	0.7nm,0.5s,mb3.9,baz=102,slow=8.2,SNR=6.7						
ARCES	**ARCESS Array B**	**62.47**	**338**	P	**P**	**13 50 50.7**	**+0.1**
	3.8nm,1.1s,mb4.3,baz=91,slow=7.2,SNR=3.8						
GERES	**GERESS Array B**	**67.54**	**315**	P	**P**	**13 51 25.6**	**+1.6**
	0.4nm,0.5s,mb3.5,baz=116,slow=4.6,SNR=3.6						

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*JMA **18** 13:42:30.9±0.4,3280N×13852E,h325km,M3.3*
*ISCJB **18** 13:42:31.2±0.5,3282N±005×13852E±008,h315km±7km,*
mb3.0/3,Error ellipse: s-maj=10.5km s-min=8.3km
az=153.4
*IDC **18** 13:42:33.4±0.7,3292N×13828E,h321km±14km,mb2.8/3,*
mb1 3.2/6,mb1mx3.0/23,mbtmp3.1/6,Error ellipse:
s-maj=40.5km s-min=12.3km az=67.0
ISC 18 13:42:32.5±0.6,3288N±007×13848E±008,h311km±7km,
n24,σ0§98/34,mb3.0/3,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**1.12**	**77**	P	**Pn**	**13 43 18.1**	**+3.5**
	5.5nm,0.3s,baz=81,slow=22,SNR=2.6						
JHJ				S	**S**	**13 43 53.1**	**+5.0**
	14nm,0.3s,baz=247,slow=24,SNR=4.5						
TK02	**Tokai 2**	**1.23**	**331**	P	**Pn**	**13 43 16.2**	**+1.1**
TK04	**Tokai 4**	**1.59**	**342**	P	**Pn**	**13 43 18.6**	**+1.4**
JIE	**Ise**	**2.12**	**316**	P	**Pn**	**13 43 21.5**	**+0.4**
JIE				*e*S	**S**	**13 43 58.9**	**-1.0**
JWZ	**Kozaga**	**2.41**	**286**	P	**Pn**	**13 43 22.9**	**-0.7**
JOD2	**Odawara 2**	**2.43**	**12**	P	**Pn**	**13 43 24.6**	**+0.9**
JOD2				*e*S	**S**	**13 44 05.4**	**+0.8**
JYN	**Shimob**	**2.62**	**1**	P	**Pn**	**13 43 27.0**	**+1.7**
BSO1	**Boso 1**	**2.73**	**49**	P	**Pn**	**13 43 25.8**	**-0.6**
BSO1				*e*S	**S**	**13 44 07.8**	**-1.7**
JWY	**Kouya**	**2.76**	**300**	P	**Pn**	**13 43 26.8**	**+0.1**
JRY	**Ryogami san**	**3.15**	**6**	P	**Pn**	**13 43 31.7**	**+1.3**
JRY				*e*S	**S**	**13 44 16.2**	**-0.6**
JGM	**Miyama**	**3.17**	**333**	P	**Pn**	**13 43 31.2**	**+0.6**
JAI	**Aioi**	**3.50**	**286**	P	**Pn**	**13 43 33.2**	**-0.7**
JWT	**Wachi**	**3.51**	**314**	P	**Pn**	**13 43 33.9**	**-0.1**
JAG	**Ashikaga**	**3.63**	**12**	P	**Pn**	**13 43 34.8**	**-0.5**
JAG				S	**S**	**13 44 22.8**	**-2.8**
MJAR	**Matsushiro Arr**	**3.66**	**357**	P	**Pn**	**13 43 36.0**	**+0.4**
	6.1nm,0.3s,baz=189,slow=6.4,SNR=56						
MJAR				S	**S**	**13 44 26.4**	**+0.2**
	1.4nm,0.3s,baz=145,slow=24,SNR=6.7						
MAT	**Matsushiro**	**3.67**	**357**	P	**Pn**	**13 43 36.4**	**+0.8**
MAT				S	**S**	**13 44 24.5**	**-1.7**
MAT	**Matsushiro**	**3.67**	**357**	P	**Pn**	**13 43 36.5**	**+0.9**
MAT				*e*S	**S**	**13 44 24.5**	**-1.7**
JHS	**Saijyo**	**4.94**	**297**	P	**Pn**	**13 43 49.3**	**-0.4**
CBIJ	**Chichi jima**	**6.59**	**150**	P	**Pn**	**13 44 08.4**	**-0.9**
	9.7nm,0.3s,baz=286,slow=19,SNR=5.2						
CBIJ				S	**S**	**13 45 22.1**	**-5.4**
	19nm,0.3s,baz=287,slow=23,SNR=7.2						
KSRS	**Korea Array**	**9.77**	**301**	P	**Pn**	**13 44 47.4**	**-0.4**
	0.9nm,0.3s,baz=113,slow=13,SNR=27						
ASAJ	**Asahikawa**	**11.67**	**15**	P	**Pn**	**13 45 11.8**	**+1.1**
	1.0nm,0.3s,baz=245,slow=16,SNR=6.5						
MKAR	**Makanchi Array**	**44.42**	**305**	P	**P**	**13 50 12.6**	**-0.4**
	0.4nm,0.4s,mb3.0,baz=85,slow=11,SNR=6.6						
WRA	**Warramunga Arr**	**52.67**	**185**	P	**P**	**13 51 15.7**	**+0.1**
	0.4nm,0.4s,mb3.1,baz=0.4,slow=7.7,SNR=19						
ASAR	**Alice Springs**	**56.39**	**185**	P	**P**	**13 51 41.5**	**-0.7**
	0.5nm,1.0s,mb2.9,baz=0.3,slow=5.4,SNR=5.2						

IDC 18 13:48:56.9±36.0,1704S×17457E,h0km,mb4.3/4,
mb1 4.4/4,mb1mx3.9/14,mbtmp4.3/4,Error ellipse:
s-maj=621.0km s-min=130.7km az=70.0,Fiji Islands
region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**27.00**	**259**	P	P	13 54 41.0	+0.2
	3.6nm,0.7s,baz=77,slow=12,SNR=8.0						
STKA	**Stephens Creek**	**33.30**	**238**	P	P	13 55 36.6	+0.1
	2.0nm,0.9s,baz=61,slow=10,SNR=3.8						
WRA	**Warramunga Arr**	**38.21**	**259**	P	P	13 56 18.7	0.0
	0.8nm,0.3s,baz=93,slow=8.1,SNR=61						
ASAR	**Alice Springs**	**38.60**	**253**	P	P	13 56 21.7	-0.3
	7.3nm,0.5s,baz=80,slow=9.3,SNR=266						

IDC 18 13:55:17.9±4.3,1550S×17351W,h0km,mb4.0/4,
mb1 4.2/4,mb1mx3.9/16,mbtmp4.0/4,Error ellipse:
s-maj=305.8km s-min=23.6km az=149.0,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**49.72**	**257**	P	P	14 04 11.7	-0.5
	0.4nm,0.6s,baz=94,slow=7.8,SNR=14						
ASAR	**Alice Springs**	**49.98**	**252**	P	P	14 04 14.7	+0.5
	1.3nm,0.5s,baz=88,slow=8.1,SNR=38						
YBH	**Yreka Blue Hor**	**73.74**	**37**	P	P	14 06 54.1	+0.2
	1.8nm,0.7s,baz=301,slow=0.8,SNR=7.2						
NVAR	**Mina Array Bea**	**74.47**	**42**	P	P	14 06 58.7	+0.4
	1.1nm,0.7s,baz=226,slow=9.1,SNR=8.2						

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*SZGRF **18** 14:05:28.0,3377N×2465E,h10km,mb3.9,Central*
Mediterranean Sea
*ISCJB **18** 14:05:38.8±0.4,3441N±003×2341E±004,h34km±5km,*
mb4.2/21,Error ellipse: s-maj=6.2km s-min=2.9km
az=44.9
*THE **18** 14:05:38.7,3452N×2316E,h3km,ML4.2*
*CSEM **18** 14:05:40.7±0.1,3447N×2322E,h40km,MD3.8,Error*
ellipse: s-maj=3.4km s-min=2.3km az=11.0
*NEIC **18** 14:05:40.3,3460N×2334E,h29km,mb3.9/11,*
MD3.8(ATH),ML4.2(THE),After ATH.
*ATH **18** 14:05:42.1,3475N×2344E,h30km±4km,MD3.8/7*
*IDC **18** 14:05:44.9±2.0,3472N×2334E,h67km±16km,mb3.8/11,*
mb1 3.8/13,mb1mx3.7/27,mbtmp3.8/13,MS3.2/2,
Ms1 3.2/2,ms1mx2.5/42,Error ellipse: s-maj=23.6km
s-min=17.0km az=165.0
*GII **18** 14:05:48.9±0.0,3418N×2443E,h0km±1km,mb5.2/8,*
ML5.3/8
*HLW **18** 14:05:49.2,3424N×2391E,h35km,Mb3.1*
ISC 18 14:05:41.7±0.3,3448N±003×2342E±003,h38km±4km,
n140,σ1§22/172,mb4.2/21,3C,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.65**	**57**	*e*Pg	**Pn**	**14 05 55.0**	**+0.6**
GVD				*e*Sg

ARG Arkhangelos 4.21 64 *e*PN **Pn 14 06 45.0 +1.6**
VLS Valsamata 4.34 329 *e*Pn **Pn 14 06 43.0 -2.1**
VLS *e*Sn **Sn 14 07 34.5 0.0**
HMAT Matruh 4.58 136 P **Pn 14 06 49.2 +0.8**
HMAT S **Sn 14 07 33.8 -6.6**
EVR Evrytania 4.62 344 *e*PN **Pn 14 06 50.1 +1.2**
AGG Agios Georgios 4.62 349 *e*Pn **Pn 14 06 48.4 -0.5**
NEO Neokhori 4.82 358 P **Pn 14 06 51.3 -0.4**
XOR Xorichti 4.88 358 *e*Pn **Pn 14 06 52.2 -0.3**
XOR Xorichti 4.88 358 *e*Pn **Pn 14 06 52.2 -0.3**
SWA2 5.50 161 P **Pn 14 07 03.0 +1.9**
SWA1 5.55 159 P **Pn 14 07 03.6 +1.9**
SWA1 S **Sn 14 07 58.9 -5.4**
MEV Metsovon 5.58 342 *e*Pn **Pn 14 07 02.1 0.0**
MEV *e*Sn **Sn 14 08 06.3 +1.4**
PLG Polygyros 5.88 0 P **Pn 14 07 06.0 -0.3**
SOI Samo 6.95 303 Pn **Pn 14 07 20.0 -0.9**
SOI Sn **Sn 14 08 30.1 -8.5**
TIP Timpagrande 7.11 313 *e*Pn **Pn 14 07 21.1 -2.0**
10nm,0.7s
TIP Timpagrande 7.11 313 *e*Pn **Pn 14 07 21.1 -2.0**
10nm,0.7s
MTTG Motta San Giov 7.17 302 Pn **Pn 14 07 20.6 -3.3**
MTTG Sn **Sn 14 08 36.8 -7.2**
HAVL Avola 7.19 293 Pn **Pn 14 07 22.5 -1.7**
HAVL Sn **Sn 14 08 34.8 -10**
SSY Sortino 7.29 294 Pn **Pn 14 07 24.8 -0.8**
SSY Sn **Sn 14 08 39.0 -8.1**
HVZN Vizzini 7.57 293 Pn **Pn 14 07 29.8 +0.4**
HVZN Sn **Sn 14 08 45.1 -8.8**
AWBH 7.72 141 P **Pn 14 07 31.9 +0.3**
VAE Valguarnera 7.89 295 S **Sn 14 09 02.5 +0.6**
6.0nm,0.3s,baz=53,slow=2.2,SNR=3.6
CSS Prodhromos 8.17 84 Pn **Pn 14 07 34.2 -3.5**
CSS *e*Sn **Sn 14 09 04.3 -4.4**
HFRF Wahat Farafira 8.43 149 ⇑P **Pn 14 07 42.4 +1.1**
HSAF As Saff 8.43 123 P **Pn 14 07 41.3 +0.1**
KOT Kottamia 8.44 120 P **Pn 14 07 41.6 +0.2**
GLL Jalalah 8.56 123 P **Pn 14 07 42.7 -0.4**
SUZ 9.22 118 P **Pn 14 07 52.1 0.0**
KZIT Kziot 9.91 108 Pn **Pn 14 08 00.7 -0.9**
KZIT Sn **Sn 14 09 44.4 -7.1**
SLTI Sal'it 9.97 100 Sn **Sn 14 09 45.8 -7.1**
HNKL Nakhl 10.03 114 ⇑P **Pn 14 08 03.2 0.0**
MMB4 Mount Meron ar 10.08 95 Pn **Pn 14 08 04.1 +0.3**
MMAI Mount Meron Ar 10.08 95 P **Pn 14 08 01.6 -2.3**
1.8nm,0.3s,baz=266,slow=12,SNR=9.2
MMAI S **Sn 14 09 54.5 -1.1**
2.2nm,0.3s,baz=312,slow=30,SNR=4.8
MMLI Mount Malkishu 10.23 98 Pn **Pn 14 08 05.2 -0.7**
MMLI Sn **Sn 14 09 52.3 -6.9**
KSDI Kefar Szold 10.26 94 Pn **Pn 14 08 05.1 -1.2**
KSDI Sn **Sn 14 09 53.4 -6.6**
HMDT Nahal Hemdat 10.36 99 Pn **Pn 14 08 06.0 -1.7**
HMDT Sn **Sn 14 09 56.2 -6.3**
DSI Dead Sea 10.45 103 Pn **Pn 14 08 07.2 -1.7**
DSI Sn **Sn 14 09 57.5 -7.2**
MZDA Masada 10.52 104 Pn **Pn 14 08 08.8 -1.1**
MZDA Sn **Sn 14 09 59.3 -7.2**
PRNI Paran 10.62 110 Pn **Pn 14 08 10.3 -0.9**
PRNI Sn **Sn 14 10 01.1 -7.7**
ZFRI Zfri 10.66 108 Sn **Sn 14 10 02.0 -8.1**
TR2 10.69 122 P **Pn 14 08 11.4 -0.8**
HRFI Mount Harif 10.78 111 Pn **Pn 14 08 12.8 -0.7**
HRFI Sn **Sn 14 10 05.2 -7.7**
MBH Mount Berech 10.80 112 Pn **Pn 14 08 12.9 -0.9**
MBH Sn **Sn 14 10 06.1 -7.3**
AKRG Al Kharijah 10.84 144 P **Pn 14 08 14.4 +0.1**
GTR Jabal at Tayr 10.87 143 P **Pn 14 08 14.9 +0.3**
EIL Elat 10.89 113 P **Pn 14 08 14.4 -0.6**
0.8nm,0.3s,baz=20,slow=10,SNR=14
EIL S **Sn 14 10 09.5 -6.0**
1.4nm,0.3s,baz=85,slow=8.2,SNR=9.5
EIL Elat 10.89 113 Pn **Pn 14 08 14.2 -0.7**
EIL Sn **Sn 14 10 08.3 -7.1**
AQU L'Aquila 11.11 318 Pn **Pn 14 08 13.3 -4.6**
HDHB Dhahab 11.13 118 ⇑P **Pn 14 08 17.5 -0.8**
HHRG Al Ghardaqah 11.32 127 P **Pn 14 08 20.4 -0.5**
ASF Jabal al Asfar 11.50 98 S **Sn 14 10 33.1 +2.6**
0.4nm,0.3s,baz=315,slow=18,SNR=3.0
VYHS Vyhne 14.41 348 *e*Pn **Pn 14 09 06.3 +3.3**
VYHS Vyhne 14.41 348 *e*P **Pn 14 09 06.2 +3.2**
VRAC Vranov 15.65 343 P **Pn 14 09 21.6 +2.2**
1.1nm,0.3s,baz=163,slow=7.4,SNR=5.0
MORC Moravsky Berou 15.89 346 *e*Pn **Pn 14 09 19.9 -2.5**
2.4nm,0.6s
MORC Moravsky Berou 15.89 346 *e*Pn **Pn 14 09 19.9 -2.4**
2.4nm,0.6s
TREC Trest 15.93 341 *e*P **Pn 14 09 25.0 +2.2**
GEC2 GERESS Array S 16.07 336 *e*Pn **Pn 14 09 27.4 +2.8**
comp=Z,9.0nm,1.1s
GERES GERESS Array B 16.07 336 P **Pn 14 09 22.6 -2.0**
comp=Z,0.4nm,0.3s,baz=146,slow=14,SNR=5.3
KHC Kasperske Hory 16.35 336 *e*P **Pn 14 09 30.5 +2.2**
KHC *e*pP pP 14 09 38.0 -2.2
WET Wettzell 16.60 335 *e*Pn **Pn 14 09 32.8 +1.4**
comp=Z,6.0nm,0.9s
DPC Dobruska-Polom 16.69 344 *e*P **Pn 14 09 33.9 +1.4**
KIEV Kiev 16.75 13 *e*Pn **Pn 14 09 31.7 -1.5**
comp=Z,3.9nm,0.4s
KIEV Kiev 16.75 13 *e*Pn **Pn 14 09 31.7 -1.5**
comp=Z,3.9nm,0.4s
AKASG Malin Array Be 16.75 13 P **Pn 14 09 32.1 -1.2**
comp=Z,4.4nm,0.3s,baz=206,slow=9.7,SNR=9.5
PRU Pruhonice 16.82 340 *e*P **Pn 14 09 34.4 +0.3**
UPC Upice 16.91 344 *e*P **Pn 14 09 36.5 +1.3**
ROTZ Rotzenmuhle 17.36 335 *e*P **Pn 14 09 42.0 +1.1**
comp=Z,7.0nm,0.9s
MANZ Manzenberg 17.58 335 *e*P **Pn 14 09 45.0 +1.4**
comp=Z,8.0nm,0.8s
GRA1 Grafenberg Arr 17.66 333 *e*P **Pn 14 09 45.8 +1.3**
comp=Z,9.0nm,0.6s
GRF Grafenberg Arr 17.66 333 *e*P **Pn 14 09 45.8 +1.3**
comp=Z,9.0nm,0.6s
WERN Wernitzgruen 17.75 336 *e*P **Pn 14 09 46.2 +0.6**
comp=Z,5.0nm,1.1s
GUNZ Gunzen 17.83 336 *e*P **Pn 14 09 47.6 +1.0**
comp=Z,7.0nm,1.0s
TANN Tannenbergstha 17.83 337 *e*P **Pn 14 09 48.0 +1.4**
comp=Z,4.0nm,1.1s
GNI Garni 17.86 65 LR LR 14 18 08.6
comp=Z,80nm,19.0s,baz=144,slow=42
FBE Freiberg 17.99 339 *e*P **Pn 14 09 49.5 +0.9**
comp=Z,9.0nm,0.8s
MOX Moxa 18.31 335 *e*P **Pn 14 09 51.4 -1.1**
comp=Z,3.0nm,0.8s
CLL Collm 18.44 339 *e*P **Pn 14 09 52.8 -1.3**
comp=Z,5.0nm,0.7s
CLL Collm 18.44 339 *i*P **Pn 14 09 52.8 -1.3**
comp=Z,5.0nm,0.7s
WLF Walferdange 19.79 325 P **Pn 14 10 10.9 +0.6**
comp=Z,18nm,1.2s
NAY Al-Naaiem 20.87 98 *e*P **P 14 10 21.0 +0.5**
NAY AMb AMB 14 10 21.9
comp=Z,3.6nm,0.4s
NAY Al-Naaiem 20.87 98 *e*P **P 14 10 21.0 +0.5**
comp=Z,3.6nm,0.4s
UMR Umm Al-Rimmam 21.16 97 *e*P **P 14 10 23.9 +0.4**
UMR AMb AMB 14 10 25.3
comp=Z,24nm,0.6s,mb4.7
UMR Umm Al-Rimmam 21.16 97 *e*P **P 14 10 24.0 +0.5**
comp=Z,24nm,0.6s,mb4.7
RDF Al-Radifah 21.24 98 *e*P **P 14 10 24.4 0.0**
RDF AMb AMB 14 10 33.1
comp=Z,6.5nm,0.6s,mb4.1
RDF Al-Radifah 21.24 98 *e*P **P 14 10 24.4 0.0**
comp=Z,6.5nm,0.6s,mb4.1
HFS Hagfors 26.44 349 P **P 14 11 12.9 -1.8**
comp=Z,2.8nm,0.4s,mb4.2,baz=150,slow=12,SNR=22
HFS LR LR 14 23 16.1
comp=Z,48nm,19.0s,baz=309,slow=40
FINES FINESS Array B 27.04 3 P **P 14 11 17.5 -2.5**
FINES FINESS Array B 27.04 3 P **P 14 11 17.5 -2.5**
comp=Z,0.3nm,0.3s,mb3.3,baz=177,slow=9.6,SNR=5.8
NB2 NORSAR Subarra 27.72 347 P **P 14 11 24.5 -1.6**
comp=Z,0.4nm,0.4s,mb3.4,baz=158,slow=9.3
NOA NORSAR Array B 27.72 347 P **P 14 11 24.8 -1.3**
comp=Z,0.6nm,0.5s,mb3.5,baz=152,slow=11,SNR=4.3
EKA Eskdalemuir Ar 27.80 327 P **P 14 11 25.8 -1.1**
comp=Z,5.7nm,0.6s,mb4.4,baz=123,slow=8.2,SNR=22
TOA0 Torodi Ar. Sit 28.97 228 *e*P **P 14 11 38.9 +1.2**
TORD Torodi Ar. Bea 28.97 228 P **P 14 11 39.0 +1.3**
comp=Z,0.8nm,0.6s,mb3.6,baz=33,slow=8.8,SNR=10
AKTK Aktyubinsk 29.76 47 P **P 14 11 43.4 -1.0**
comp=Z,1.0nm,0.3s,mb4.0,baz=219,slow=9.7,SNR=3.4
BVAR Borovoye Array 37.85 46 P **P 14 12 53.8 -0.7**
comp=Z,0.5nm,0.5s,mb3.5,baz=256,slow=6.0,SNR=4.0
EKS2 Erkin-Say 39.71 63 *e*P **P 14 13 10.4 +0.2**
comp=Z,2.9nm,0.8s,mb4.1
EKS2 Erkin-Say 39.71 63 *e*P **P 14 13 10.4 +0.1**
comp=Z,2.9nm,0.8s,mb4.1
TKM2 Tokmak 2 41.02 62 *e*P **P 14 13 21.7 +0.7**
comp=Z,1.3nm,0.5s,mb3.8
TKM2 Tokmak 2 41.02 62 *e*P **P 14 13 21.7 +0.6**
comp=Z,1.3nm,0.5s,mb3.8
KURK Kurchatov 42.71 50 *e*P **P 14 13 33.5 -1.3**
comp=Z,1.3nm,0.5s,mb3.9
KURK Kurchatov 42.71 50 *e*P **P 14 13 33.5 -1.3**
comp=Z,1.3nm,0.5s,mb3.9
MK31 Makanchi Array 45.34 56 *e*P **P 14 13 55.5 -0.5**
MK31 Makanchi Array 45.34 56 *e*P **P 14 13 55.5 -0.4**
MKAR Makanchi Array 45.34 56 P **P 14 13 55.8 -0.2**
comp=Z,5.1nm,0.4s,mb4.7,baz=266,slow=7.4,SNR=68
ZALV Zalesovo Beam 46.50 46 P **P 14 14 03.6 -1.3**
comp=Z,2.5nm,0.4s,mb4.5,baz=270,slow=9.8,SNR=11
DANN Dangsing 51.20 79 *e*P **P 14 14 42.5 +1.1**
comp=Z,13nm,0.5s,mb5.1
GKN Gorkha 52.05 79 *e*P **P 14 14 48.4 +0.6**
comp=Z,7.4nm,0.4s,mb5.0
DMN Daman 52.59 80 *e*P **P 14 14 52.6 +0.8**
comp=Z,6.5nm,0.4s,mb5.0
GUN Gumba 53.10 79 *e*P **P 14 14 55.8 +0.3**
comp=Z,8.1nm,0.5s,mb4.9
JIRN Jiri 53.45 79 *e*P **P 14 14 59.4 +1.3**
comp=Z,3.9nm,0.3s,mb4.8
YKA Yellowknife Ar 77.65 341 P **P 14 17 33.1 -0.7**
comp=Z,0.1nm,0.3s,mb3.2,baz=39,slow=5.8,SNR=5.2
KSRS Korea Array 79.83 52 P **P 14 17 45.9 -0.4**
comp=Z,0.8nm,0.5s,mb3.9,baz=308,slow=4.7,SNR=4.4

MAN 18 14:07:18, 1805N×12056E, h31km, mb3.7, ML2.5, MS2.1, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	**Pasuquin**	**0.28**	**11**	⇑*i*P	Pb	14 07 26.5	+1.2
PIP				*e*S	Sb	14 07 33.5	+3.3
ABRA	**Dolores**	**0.43**	**160**	*e*P	Pb	14 07 28.4	+1.1
APYP	**Conner**	**0.68**	**106**	*e*P	Pb	14 07 31.8	+0.5
APYP				*e*S	Sb	14 07 41.8	+1.4

*ISCJB **18** 14:09:01.7±0.6, 5270N±004×16072E±006, h10km, mb4.0/12, Error ellipse: s-maj=5.6km s-min=5.0km az=177.5*
*MOS **18** 14:09:02.9±2.1, 5272N×16073E, h24km, mb4.3/8, Error ellipse: s-maj=15.0km s-min=10.6km az=101.8*
*IDC **18** 14:09:02.8±1.2, 5310N×16045E, h0km, mb3.8/10, mb1 4.0/10, mb1mx3.8/23, mbtmp3.8/10, Error ellipse: s-maj=32.6km s-min=22.9km az=176.0*
*NEIC **18** 14:09:04.1±0.7, 5308N×16047E, h10km, mb4.0/2, Error ellipse: s-maj=17.8km s-min=10.9km az=146.0*
*KRSC **18** 14:09:07.7±1.0, 5282N×16027E, h13km±12km, ML4.1*
ISC 18 14:09:05.8±1.1, 5275N±004×16055E±007, h24km±7km, n40, σ1§24/52, mb4.0/12, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.47**	**318**	*i*P	**Pb**	**14 09 15.5**	**0.0**
SPN				*e*S	**Sb**	**14 09 21.3**	**-0.8**
NLC	**Nalytchevo**	**0.84**	**301**	*i*P	**Pb**	**14 09 21.2**	**-0.5**
NLC				*i*S	**Sb**	**14 09 31.4**	**-1.2**
PET	**Petropavlovsk**	**1.18**	**284**	⇓*i*PN	**Pn**	**14 09 26.8**	**+0.1**
PET				*e*S	**Sn**	**14 09 43.8**	**+1.8**
PET				pmax	pmax		
	comp=Z,425nm,0.5s						
PET				smax			
	comp=E,1μm,0.6s						
PET				smax			
	comp=N,950nm,0.8s						
PET	**Petropavlovsk**	**1.18**	**284**	*e*Pn	**Pn**	**14 09 26.3**	**-0.4**
PET				*e*Sn	**Sn**	**14 09 37.4**	**-4.6**
PET	**Petropavlovsk**	**1.18**	**284**	*i*P	**Pn**	**14 09 26.8**	**+0.1**
PET				*i*S	**Sn**	**14 09 41.2**	**-0.8**
AVH	**Avacha**	**1.21**	**296**	*i*P	**Pn**	**14 09 27.6**	**+0.5**
AVH				*i*S	**Sn**	**14 09 42.2**	**-0.5**
RUS	**Russkaya**	**1.28**	**257**	*i*P	**Pn**	**14 09 28.3**	**+0.2**
RUS				*i*S	**Sn**	**14 09 44.0**	**-0.5**
KII	**Karymskiy**	**1.45**	**333**	*i*P	**Pn**	**14 09 31.2**	**+0.8**
KII				*i*S	**Sn**	**14 09 48.6**	**0.0**
GRL	**Gorelyy**	**1.52**	**264**	*i*P	**Pn**	**14 09 32.6**	**+1.2**
GRL				*i*S	**Sn**	**14 09 50.4**	**0.0**
GNL	**Ganaly**	**1.83**	**302**	*i*P	**Pn**	**14 09 37.4**	**+1.7**
GNL				*i*S	**Sn**	**14 09 59.1**	**+1.0**
MIPR	**Malaya Ipel'ka**	**2.37**	**260**	*i*P	**Pn**	**14 09 46.1**	**+3.1**
MIPR				*i*S	**Sn**	**14 10 14.2**	**+3.0**
TUMR	**Tumrok**	**2.55**	**355**	*e*P	**Pn**	**14 09 47.2**	**+1.6**
TUMR				*i*S	**Sn**	**14 10 16.2**	**+0.4**
KMNR	**Kamenistaya**	**3.02**	**357**	P	**Pn**	**14 09 53.8**	**+1.8**
SKR	**Severo-Kuril's**	**3.45**	**235**	*e*PN	**Pn**	**14 09 56.7**	**-1.2**
SKR				pmax	pmax		
	comp=Z,90nm,1.0s						
SKR				pmax	pmax		
	comp=N,20nm,0.5s						
SKR				pmax	pmax		
	comp=E,20nm,0.5s						
YSS	**Yuzh-Sakhalins**	**12.85**	**250**	*e*PN	**Pn**	**14 12 06.3**	**-0.4**
BILL	**Bilibino**	**15.59**	**8**	*e*P	**Pn**	**14 12 46.3**	**+2.8**
BILL				pmax	pmax		
	comp=Z,4.0nm,0.7s						
BILL	**Bilibino**	**15.59**	**8**	*e*Pn	**Pn**	**14 12 46.2**	**+2.7**
	comp=Z,3.5nm,0.7s						
MAJO	**Matsushiro**	**22.55**	**233**	P	**P**	**14 14 04.7**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.2						
MAJO	**Matsushiro**	**22.55**	**233**	P	**P**	**14 14 04.7**	**+0.9**
	comp=Z,9.2nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**22.55**	**233**	P	**P**	**14 14 07.0**	**+3.2**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MJAR	**Matsushiro Arr**	**22.55**	**233**	P	**P**	**14 14 07.0**	**+3.2**
	comp=Z,1.8nm,0.7s,mb3.6,baz=21,slow=12,SNR=6.7						
MKAR	**Makanchi Array**	**48.55**	**296**	P	**P**	**14 17 44.4**	**-2.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**48.55**	**296**	P	**P**	**14 17 44.4**	**-2.2**
MKAR	**Makanchi Array**	**48.55**	**296**	P	**P**	**14 17 44.4**	**-2.2**
	comp=Z,0.7nm,0.5s,mb3.9,baz=56,slow=7.9,SNR=8.3						
BVAR	**Borovoye Array**	**50.82**	**309**	P	**P**	**14 18 01.9**	**-1.9**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
BVAR	**Borovoye Array**	**50.82**	**309**	P	**P**	**14 18 01.9**	**-1.9**
	comp=Z,0.8nm,0.4s,mb4.0,baz=65,slow=7.0,SNR=5.5						
ARCES	**ARCESS Array B**	**53.70**	**342**	P	**P**	**14 18 23.1**	**-1.8**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**53.70**	**342**	P	**P**	**14 18 23.1**	**-1.8**
	comp=Z,2.1nm,0.9s,mb4.1,baz=40,slow=8.4,SNR=7.1						
NVAR	**Mina Array Bea**	**55.60**	**70**	P	**P**	**14 18 39.7**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.6,baz=294,slow=6.8,SNR=3.4						
IMP	**Imphal**	**56.61**	**268**	*e*P	**P**	**14 18 47.0**	**+0.5**
JOF	**Joensuu**	**58.00**	**335**	*e*p	**P**	**14 18 53.5**	**-2.3**
	comp=Z,3.8nm,0.6s,mb4.6						
FINES	**FINESS Array B**	**60.55**	**337**	*i*P	**P**	**14 19 13.1**	**-0.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**60.55**	**337**	P	**P**	**14 19 12.5**	**-0.9**
FINES	**FINESS Array B**	**60.55**	**337**	P	**P**	**14 19 12.5**	**-0.9**
	comp=Z,1.8nm,0.5s,mb4.4,baz=44,slow=8.2,SNR=17						
NOA	**NORSAR Array B**	**63.95**	**344**	P	**P**	**14 19 35.4**	**-0.8**
	comp=Z,0.3nm,0.4s,mb3.7,baz=15,slow=5.3,SNR=2.7						
HFS	**Hagfors**	**64.36**	**342**	P	**P**	**14 19 37.9**	**-1.0**
HFS				pmax	pmax		
	comp=Z,2.0nm,0.7s						
HFS	**Hagfors**	**64.36**	**342**	P	**P**	**14 19 37.9**	**-1.0**
	comp=Z,1.5nm,0.7s,mb4.1,baz=62,slow=3.5,SNR=6.4						
AKASG	**Malin Array Be**	**69.05**	**329**	P	**P**	**14 20 07.6**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**69.05**	**329**	P	**P**	**14 20 07.6**	**-1.4**
	comp=Z,1.6nm,0.5s,mb4.2,baz=28,slow=6.7,SNR=3.5						
TXAR	**Lajitas Array**	**70.52**	**67**	P	**P**	**14 20 18.4**	**+0.1**
	comp=Z,0.4nm,0.7s,mb3.5,baz=298,slow=2.7,SNR=5.3						

*IDC **18** 14:10:47.6±2.2, 3645×10071E, h0km, mb4.0/7, mb1 4.1/8, mb1mx3.9/22, mbtmp4.0/8, ML3.1/1, Error ellipse: s-maj=104.2km s-min=21.6km az=55.0*
*ISCJB **18** 14:10:50.8±1.1, 3658±02×1008E±03, h33km, mb4.2/10, Error ellipse: s-maj=46.0km s-min=14.1km az=149.4*
*NEIC **18** 14:10:52.2±0.8, 3625×10072E, h30km, mb4.4/4, Error ellipse: s-maj=36.1km s-min=10.6km az=61.0*
ISC 18 14:10:52.8±1.1, 36S±02×1007E±03, h35km, n17, σ0§81/15, mb4.2/10, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**6.63**	**344**	Pn	**Pn**	**14 12 24.9**	**-3.0**
PSI	**Prapat**	**6.63**	**344**	Pn	**Pn**	**14 12 24.9**	**-3.0**
0.4nm,0.3s,baz=127,slow=18,SNR=2.2							
KULM	**Kulim**	**8.86**	**359**	*e*Pn	**Pn**	**14 12 59.0**	**+0.6**
CTA	**Charters Tower**	**47.26**	**114**	P	**P**	**14 19 22.2**	**-0.8**
1.1nm,0.2s,mb4.4,baz=265,slow=7.9,SNR=3.6							
STKA	**Stephens Creek**	**47.53**	**131**	*e*P	**P**	**14 19 25.2**	**+0.2**
16nm,1.2s,mb4.9							
STKA	**Stephens Creek**	**47.53**	**131**	P	**P**	**14 19 25.4**	**+0.5**
4.0nm,0.6s,mb4.6,baz=321,slow=10,SNR=3.8							
SONM	**Songino Array**	**51.48**	**5**	P	**P**	**14 19 55.4**	**+0.6**
1.2nm,0.5s,mb4.0,baz=188,slow=6.8,SNR=2.9							
TKM2	**Tokmak 2**	**51.60**	**337**	P	**P**	**14 19 57.0**	**+1.2**
5.7nm,1.2s,mb4.4							
EKS2	**Erkin-Say**	**52.14**	**335**	*e*P	**P**	**14 19 59.1**	**-0.6**
4.9nm,0.9s,mb4.4							
MK31	**Makanchi Array**	**52.78**	**344**	*e*P	**P**	**14 20 04.2**	**-0.3**
MKAR	**Makanchi Array**	**52.78**	**344**	P	**P**	**14 20 04.4**	**0.0**
0.5nm,0.4s,mb3.8,baz=147,slow=7.8,SNR=8.4							
KURK	**Kurchatov**	**57.36**	**343**	P	**P**	**14 20 45.1**	**+7.7**
1.8nm,0.8s,mb4.2							
ZALV	**Zalesovo Beam**	**58.89**	**349**	P	**P**	**14 20 48.0**	**-0.1**
0.8nm,0.4s,mb4.1,baz=162,slow=6.1,SNR=6.0							
BVAR	**Borovoye Array**	**61.95**	**340**	P	**P**	**14 21 08.8**	**-0.2**
0.4nm,0.5s,mb3.9,baz=141,slow=9.3,SNR=3.0							
ARCES	**ARCESS Array B**	**88.24**	**340**	P	**P**	**14 23 40.6**	**+0.5**
0.9nm,0.7s,mb4.1,baz=90,slow=5.6,SNR=4.1							
TXAR	**Lajitas Array**	**145.51**	**40**	PKPbc	PKPbc	14 30 28.3	+0.2
2.5nm,0.7s,baz=312,slow=1.1,SNR=37							
JCT	**Junction City**	**146.98**	**34**	*e*PKPdf	PKPdf	14 30 31.9	+1.4

*NEIC **18** 14:15:40.8, 3647N×1226W, h93km, MG3.0(MDD), After MDD.*
*MDD **18** 14:15:40.6±3.5, 3661N×1204W, h0km, mb3.8/3, Error ellipse: s-maj=31.8km s-min=24.3km az=42.0, PRXIMO*
*INMG **18** 14:15:42.2±1.0, 3643N×1243W, h10km±112km, ML2.4, Error ellipse: s-maj=57.5km s-min=5.8km az=61.0*
ISC 18 14:15:42.8±1.3, 3681N±005×1194W±008, h10km, n29, σ1§00/50, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PFVI	**Vila Bisbo**	**2.52**	**82**	*e*Pn	**Pn**	**14 16 23.2**	**-0.6**
PFVI				*e*Sn	**Sn**	**14 16 54.7**	**+0.2**
PFVI				A		14 16 56.7	
5.9nm,0.3s							
PTEO	**Sao Teotonio**	**2.67**	**73**	*e*Pn	**Pn**	**14 16 26.3**	**+0.4**
PTEO				*e*Sn	**Sn**	**14 17 00.6**	**+2.3**
MORF	**Marmelete**	**2.68**	**78**	*e*Pn	**Pn**	**14 16 25.9**	**-0.1**
MORF				*e*Sn	**Sn**	**14 16 59.3**	**+0.8**
MORF				A		14 17 02.5	
6.4nm,0.2s							
PMAFR	**Mafra**	**3.00**	**44**	*e*Sn	**Sn**	**14 17 08.9**	**+2.4**
PMAFR				A		14 17 10.7	
44nm,0.2s							
PBDV	**Barranco-do-Ve**	**3.24**	**81**	*e*Pn	**Pn**	**14 16 33.5**	**-0.2**
PBDV				*e*Sn	**Sn**	**14 17 12.1**	**-0.2**
PBDV				A		14 17 18.4	
3.0nm,0.3s							
MOE	**Montemor**	**3.32**	**58**	*e*Sn	**Sn**	**14 17 15.5**	**+1.1**
PVAQ	**Vaqueiros**	**3.43**	**79**	*e*Pn	**Pn**	**14 16 36.4**	**+0.1**
PVAQ				*e*Sn	**Sn**	**14 17 17.2**	**+0.2**
PVAQ				A		14 17 19.7	
3.8nm,0.2s							
EVO	**Evora**	**3.56**	**60**	A		14 17 25.8	
5.1nm,0.1s							
EGRO	**El Granado**	**3.63**	**77**	P	**Pn**	**14 16 39.1**	**0.0**
1.1nm,0.2s,SNR=7.9							
EGRO				S	**Sn**	**14 17 21.6**	**-0.5**
1.3nm,0.1s,SNR=7.9							
EGRO	**El Granado**	**3.63**	**77**	P	**Pn**	**14 16 39.1**	**0.0**
1.1nm,0.2s,SNR=7.9							
EGRO				S	**Sn**	**14 17 21.6**	**-0.5**
1.3nm,0.1s,SNR=7.9							
PESTR	**Estremoz**	**4.01**	**58**	*e*Pn	**Pn**	**14 16 45.3**	**+1.0**
PESTR				*e*Sn	**Sn**	**14 17 32.4**	**+1.1**
PBAR	**Barrancos**	**4.13**	**69**	*e*Pn	**Pn**	**14 16 46.7**	**+0.7**
PBAR				*e*Sn	**Sn**	**14 17 34.7**	**+0.4**
EMIN	**Mina Concepcio**	**4.31**	**76**	P	**Pn**	**14 16 48.1**	**-0.3**
EMIN				S	**Sn**	**14 17 38.1**	**-0.6**
EMIN	**Mina Concepcio**	**4.31**	**76**	P	**Pn**	**14 16 48.2**	**-0.2**
0.9nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**14 17 38.1**	**-0.6**
0.8nm,0.1s,SNR=7.9							
EMIN	**Mina Concepcio**	**4.31**	**76**	P	**Pn**	**14 16 48.2**	**-0.2**
0.9nm,0.1s,SNR=7.9							
EMIN				S	**Sn**	**14 17 38.1**	**-0.6**
0.8nm,0.1s,SNR=7.9							
EBAD	**Badajoz**	**4.36**	**62**	P	**Pn**	**14 16 49.3**	**+0.2**
0.9nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**14 17 39.9**	**0.0**
2.0nm,0.2s,SNR=7.9							
EBAD	**Badajoz**	**4.36**	**62**	P	**Pn**	**14 16 49.3**	**+0.2**
0.9nm,0.1s,SNR=7.9							
EBAD				S	**Sn**	**14 17 39.9**	**-0.1**
2.0nm,0.2s,SNR=7.9							
ESPR	**Espera**	**4.88**	**88**	P	**Pn**	**14 16 54.3**	**-2.0**
3.0nm,0.7s,SNR=9.8							
ESPR				S	**Sn**	**14 17 49.5**	**-3.4**
2.4nm,0.3s,SNR=7.9							
ESPR	**Espera**	**4.88**	**88**	P	**Pn**	**14 16 54.3**	**-2.0**
3.0nm,0.7s,SNR=9.8							
ESPR				S	**Sn**	**14 17 49.5**	**-3.3**
2.4nm,0.3s,SNR=7.9							
PVIS	**Viseu**	**5.02**	**38**	*e*Sn	**Sn**	**14 17 56.6**	**+0.4**
PVIS				A		14 18 00.3	
6.2nm,0.1s							
PCAB	**Cabril**	**5.76**	**31**	*e*Sn	**Sn**	**14 18 13.9**	**-0.5**
MVO	**Moncorvo**	**5.79**	**40**	*e*Sn	**Sn**	**14 18 14.7**	**-0.5**
**

SRDR	**Sredinnyy**	**1.65 313**	P	Pn	14 34 34.4	+1.3
KII	**Karymskiy**	**1.85 231**	*i* P	Pn	14 34 37.5	+1.7
KII			*e*S	Sn	14 35 00.2	+2.1
SPN	**Mys Shipunski**	**2.39 208**	*e*P	Pn	14 34 43.9	+0.7
SPN			*i* S	Sn	14 35 10.9	-0.4
NLC	**Nalytchevo**	**2.54 217**	*i* P	Pn	14 34 46.8	+1.6
NLC			*i* S	Sn	14 35 16.3	+1.4
AVH	**Avacha**	**2.69 225**	*e*P	Pn	14 34 49.5	+2.2
AVH			*e*S	Sn	14 35 21.5	+2.8
GNL	**Ganaly**	**2.77 238**	*i* P	Pn	14 34 50.6	+2.4
PET	**Petropavlovsk**	**2.91 222**	*e*P	Pn	14 34 52.3	+2.1
PET			*i* S	Sn	14 35 26.0	+2.0
RUS	**Russkaya**	**3.44 217**	*e*P	Pn	14 34 58.8	+1.4
RUS			*e*S	Sn	14 35 36.6	-0.2
MIPR	**Malaya Ipel'ka**	**4.24 228**	P	Pn	14 35 11.6	+3.2

NEIC ***18*** *14:56:04.7, 33.68S×72.84W, h27km, ML2.6(GUC), After GUC.*

GUC 18 14:56:04.7±0.5, 33.68S×72.84W, h27km±2km, MD3.7, ML2.6, 6C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	**Longovilo**	**1.22**	**103**	⇑*i*P	Pn	14 56 26.3	+0.2
LNV				*i* S	Sn	14 56 41.8	+0.1
TACH	**Talagante**	**1.59**	**90**	*e*P	Pn	14 56 31.5	+0.4
SAN	**Santiago**	**1.83**	**84**	*e*S	Sn	14 56 59.2	+2.4
CHCH	**Chadas Angostu**	**1.84**	**99**	⇓*i*P	Pn	14 56 35.8	+1.3
CHCH				*i* S	Sn	14 56 59.6	+2.7
CACH	**El Canelo**	**1.91**	**104**	⇓*i*P	Pn	14 56 37.5	+2.0
CACH				*i* S	Sn	14 57 02.6	+3.8
PCH	**Pirque**	**1.94**	**89**	⇑*i*P	Pn	14 56 37.2	+1.3
CICH	**Cipreses**	**2.11**	**108**	⇑*i*P	Pn	14 56 39.8	+1.5
FCH	**Farellones**	**2.16**	**81**	⇑*i*P	Pn	14 56 41.0	+2.1
FCH				*i* S	Sn	14 57 08.6	+3.8
FCH				AML	AML	14 57 14.7	
	comp=E,40nm,0.2s						
LMEL	**Las Melosas**	**2.20**	**95**	⇑*i*P	Pn	14 56 41.3	+1.7
LMEL				*i* S	Sn	14 57 09.1	+3.2
LMEL	**Las Melosas**	**2.20**	**95**	⇑*i*P	Pn	14 56 41.3	+1.7
LMEL				*i* S	Sn	14 57 09.1	+3.2
LMEL				AML	AML	14 57 16.6	
	comp=N,59nm,0.1s						

ISCJB ***18*** *15:00:43.1±1.5, 225N±02×93.3E±0.3, h33km, mb3.3/3, Error ellipse: s-maj=46.0km s-min=11.6km az=155.3*

IDC ***18*** *15:00:43.8±4.4, 2355N×9523E, h0km, mb3.4/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=399.7km s-min=28.1km az=60.0*

ISC 18 15:00:48.1±4.8, 228N±04×936E±04, h54km±44km, n5, σ1§02/6, mb3.3/3, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**2.04**	**9**	*e*P	**Pn**	**15 01 20.0**	**0.0**
SHL	**Shillong**	**3.20**	**331**	*e*PN	**Pn**	**15 01 40.2**	**+4.3**
SHL				*e*SN	**Sn**	**15 02 12.2**	**-0.6**
MKAR	**Makanchi Array**	**25.66**	**342**	P	**P**	**15 06 13.1**	**+0.4**
	0.3nm,0.5s,mb3.1,baz=147,slow=9.5,SNR=5.2						
WRA	**Warramunga Arr**	**58.17**	**134**	P	**P**	**15 10 35.9**	**-0.8**
	0.3nm,0.8s,mb3.4,baz=323,slow=7.5,SNR=7.2						
ASAR	**Alice Springs**	**60.54**	**137**	P	**P**	**15 10 53.5**	**+0.4**
	0.3nm,0.7s,mb3.5,baz=317,slow=6.7,SNR=6.3						

IDC ***18*** *15:57:20.6±0.4, 4.14N×96.06E, h0km, mb4.8/26, mb1 4.8/26, mb1mx4.8/29, mbtmp4.8/26, MS4.3/6, Ms1 4.3/6, ms1mx4.0/28, Error ellipse: s-maj=17.7km s-min=10.7km az=43.0*

MOS ***18*** *15:57:24.1±0.8, 423N×96.18E, h33km, mb5.3/52, Error ellipse: s-maj=10.2km s-min=4.8km az=122.3*

NEIC ***18*** *15:57:25.1±0.1, 4.11N×96.03E, h30km, mb5.0/63, MS5.1/1, Error ellipse: s-maj=5.9km s-min=3.6km az=223.0*

NEIC Felt [III] at Meulaboh.

SZGRF ***18*** *15:57:25.8, 401N×95.98E, h40km, mb5.0, Northern Sumatera, Indonesia*

GCMT ***18*** *15:57:25.1±0.5, 368N×96.07E, h56km±2km, MW5.2/51, Moment Tensor Solution. s27,c32; s51,c68; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_r5.12±.47; $M_{\theta\theta}$-5.47±.35; $M_{\phi\phi}$0.34±.43; $M_{r\theta}$2.32±.20; $M_{\theta\phi}$4.06±.23; $M_{\phi r}$-2.17±.28; Best double couple: $M_0$7.13800×10^{16} NP1:ϕ_s282.00000°, δ34.00000°, λ67.00000°. NP2: ϕ_s129.00000°, δ59.00000°, λ105.00000°. Principal axes: T 6.0190, Plg72.0000°, Azm74.0000°; N 2.2370, Plg13.0000°, Azm301.0000°; P -8.2570, Plg13.0000°, Azm208.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISCJB ***18*** *15:57:26.1±0.2, 408N±003×9597E±003, h50km, mb5.0/129, MS4.6/19 Error ellipse: s-maj=5.3km s-min=3.1km az=28.7*

BJI ***18*** *15:57:27.2, 385N×9582E, h86km, mB5.2, mb5.1, Ms4.8, Msz4.5*

ISC 18 15:57:27.9±0.2, 405N±003×9594E±003, h52km, h52km±2.7km: pP-P, n369, σ0§99/349, mb5.0/129, MS4.6/19, 53C-14D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**1.57**	**336**	P	**Pn**	**15 57 53.5**	**0.0**
	29μm,0.7s						
TSI	**Tuntungan**	**2.67**	**102**	P	**Pn**	**15 58 08.8**	**+0.3**
	7μm,1.1s						
PSI	**Prapat**	**3.22**	**113**	Pn	**Pn**	**15 58 18.1**	**+2.0**
	31nm,0.3s,baz=292,slow=8.8,SNR=61						
KULM	**Kulim**	**4.85**	**75**	⇓*i*Pn	**Pn**	**15 58 39.5**	**+1.1**
KULM				*e*Sn	**Sn**	**15 59 32.0**	**-1.3**
KULM	**Kulim**	**4.85**	**75**	⇑P	**Pn**	**15 58 40.1**	**+1.7**
IPM	**Ipoh**	**5.09**	**85**	⇓P	**Pn**	**15 58 42.7**	**+1.1**
SNG	**Songkhla**	**5.59**	**56**	P	**Pn**	**15 58 51.0**	**+2.4**
	640nm,1.8s						
FRIM	**Kepong**	**5.73**	**98**	⇓P	**Pn**	**15 58 50.8**	**+0.4**
PPI	**Padang Panjang**	**6.31**	**135**	P	**Pn**	**15 59 02.8**	**+4.3**
	163nm,0.9s						
KGM	**Kluang**	**7.64**	**105**	⇓P	**Pn**	**15 59 19.5**	**+2.9**
MYKOM	**Kota Tinggi**	**8.21**	**106**	⇓P	**Pn**	**15 59 26.8**	**+2.3**
NNT	**Nongplab**	**9.28**	**24**	P	**Pn**	**15 59 43.7**	**+4.6**
KSI	**Kapahiang**	**10.13**	**139**	P	**Pn**	**15 59 50.2**	**-0.6**
	376nm,0.9s						
KKTK	**Khon Kaen**	**13.96**	**28**	P	**Pn**	**16 00 52.4**	**+9.4**
	1μm,0.8s						
KSM	**Kuching**	**14.57**	**100**	*e*Pn	**Pn**	**16 00 52.2**	**+0.9**
KSM	**Kuching**	**14.57**	**100**	⇑P	**Pn**	**16 00 58.4**	**+7.2**
CHG	**Chiang Mai**	**14.96**	**11**	⇑P	**Pn**	**16 00 58.9**	**+2.6**
	109nm,0.9s						
CHTO	**Chiang Mai**	**14.96**	**11**	*e*P	**Pn**	**16 00 58.8**	**+2.5**
CHTO				pmax	pmax		
	comp=Z,79nm,1.3s						
CHTO	**Chiang Mai**	**14.96**	**11**	*e*Pn	**Pn**	**16 00 58.8**	**+2.5**
	comp=Z,79nm,1.3s						
NANT	**Nan**	**15.38**	**17**	⇓P	**Pn**	**16 01 04.0**	**+2.3**
	comp=Z,206nm,0.9s						
PALK	**Pallekele**	**15.50**	**283**	*e*Pn	**Pn**	**16 01 06.3**	**+3.0**
	comp=Z,41nm,0.9s						
PALK				*e*Sn	**Sn**	**16 03 36.0**	**-18**
COCO	**West Island**	**16.16**	**177**	*e*Pn	**Pn**	**16 01 07.1**	**-4.6**
	comp=Z,333nm,1.3s						
SBUM	**Sibu**	**16.33**	**95**	⇓P	**Pn**	**16 01 15.5**	**+1.6**
BTM	**Bintulu**	**17.13**	**92**	⇓P	**Pn**	**16 01 28.8**	**+4.9**
VIS	**Vishakhapatnam**	**18.36**	**319**	*e*P	**Pn**	**16 01 37.2**	**-1.8**
VIS				AMb	AMB	16 02 03.7	
	comp=Z,97nm,1.2s						
KOD	**Kodaikanal**	**19.33**	**290**	*e*P	**Pn**	**16 01 50.3**	**-0.3**
KOD				AMb	AMB	16 02 06.2	
	comp=Z,38nm,1.2s						
QIZ	**Qiongzhong**	**20.15**	**41**	P	**P**	**16 01 58.4**	**+0.4**
QIZ				AP		16 02 15.8	
QIZ				XP	sP	16 02 26.0	+10
QIZ				S	**S**	**16 05 42.6**	**+1.0**
QIZ				XS	sS	16 06 08.4	+7.8
QIZ				AMB	AMB		
	comp=Z,24nm,1.1s						
QIZ				AMB	AMB		
	comp=Z,399nm,10.5s						
QIZ				LR	LR		
	comp=N,719nm,16.1s						
QIZ				LR	LR		
	comp=Z,915nm,22.1s						
QIZ	**Qiongzhong**	**20.15**	**41**	*e*P	**P**	**16 01 57.9**	**-0.1**
	comp=Z,295nm,1.9s						
KKM	**Kota Kinabalu**	**20.29**	**84**	⇑*i*P	**P**	**16 01 60.0**	**+0.4**
KKM	**Kota Kinabalu**	**20.29**	**84**	⇑P	**P**	**16 02 01.2**	**+1.6**
KDM	**Kudat**	**20.99**	**81**	⇑P	**P**	**16 02 08.9**	**+1.7**
KMMI	**Kalianget**	**21.10**	**121**	P	**P**	**16 02 08.6**	**+0.3**
	comp=Z,219nm,1.1s,mb5.4						
SDKM	**Sandakan**	**21.23**	**85**	⇑P	**P**	**16 02 10.3**	**+0.5**
HYB	**Hyderabad**	**21.61**	**309**	*e*P	**P**	**16 02 16.0**	**+2.2**
HYB				*e*		16 02 24.0	
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**21.61**	**309**	*e*P	**P**	**16 02 16.0**	**+2.2**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*		16 02 24.0	
HYB	**Hyderabad**	**21.61**	**309**	⇑*i*P	**P**	**16 02 16.0**	**+2.2**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**16 06 10.0**	**-0.4**
SHL	**Shillong**	**21.75**	**350**	*e*P	**P**	**16 02 12.2**	**-2.9**
TSM	**Tawau**	**21.87**	**89**	⇑P	**P**	**16 02 16.8**	**+0.2**
BOK	**Bokaro**	**21.90**	**335**	*e*P	**P**	**16 02 15.3**	**-1.5**
BOK				AMb	AMB	16 02 20.7	
	comp=Z,42nm,0.5s,mb5.1						
KMI	**Kunming**	**21.95**	**17**	P	**P**	**16 02 19.1**	**+1.8**
KMI				AP		16 02 34.5	
KMI				PP		16 02 47.8	
KMI				PPP		16 02 56.8	
KMI				S	**S**	**16 06 11.3**	**-5.5**
KMI				SS		16 06 53.6	
KMI				AMB	AMB		
	comp=Z,34nm,0.9s,mb4.8						
KMI				AMB	AMB		
	comp=Z,258nm,5.8s						
KMI				LR	LR		
	comp=N,786nm,13.3s,MS4.4						
KMI				LR	LR		
	comp=E,594nm,13.8s,MS4.4						
KMI				LR	LR		
	comp=Z,957nm,18.1s,MS4.2						
BLSP	**Bilaspur**	**22.41**	**325**	*e*P	**P**	**16 02 21.1**	**-1.2**
BLSP				AMb	AMB	16 02 26.4	
	comp=Z,99nm,0.8s,mb5.3						
MYLDM	**Lahad Datu**	**22.51**	**86**	⇓P	**P**	**16 02 24.6**	**+1.2**
KHKI	**Kahang-Kahang**	**23.17**	**122**	P	**P**	**16 02 28.4**	**-1.9**
	comp=Z,74nm,1.1s,mb5.0						
NGP	**Nagpur**	**23.63**	**317**	*e*P	**P**	**16 02 34.8**	**+0.2**
NGP				AMb	AMB	16 02 39.9	
	comp=Z,47nm,1.6s,mb4.7						
PCI	**Palu**	**24.38**	**101**	P	**P**	**16 02 41.3**	**-0.2**
	comp=Z,174nm,1.5s,mb5.3						
GYA	**Guiyang**	**24.53**	**24**	P	**P**	**16 02 43.1**	**+0.3**
GYA				AP		16 03 03.8	
GYA				XP	sP	16 03 15.3	+13
GYA				PP		16 03 23.4	
GYA				PCP	PcP	16 06 21.6	+1.4
GYA				AMB	AMB		
	comp=Z,40nm,0.7s,mb5.1						
GYA				AMB	AMB		
	comp=Z,150nm,6.1s						
GYA				LR	LR		
	comp=N,780nm,16.8s,MS4.4						
GYA				LR	LR		
	comp=E,620nm,17.7s,MS4.4						
GYA				LR	LR		
	comp=Z,860nm,17.8s,MS4.3						
AKL	**Akola**	**24.76**	**314**	*e*P	**P**	**16 02 44.3**	**-0.6**
AKL				AMb	AMB	16 02 49.1	
	comp=Z,66nm,2.1s,mb4.8						
KAD	**Karad**	**25.07**	**303**	*i* P	**P**	**16 02 50.3**	**+2.5**
JIRN	**Jiri**	**25.25**	**339**	*e*P	**P**	**16 02 49.7**	**+0.4**
	comp=Z,97nm,0.7s,mb5.4						
KAPI	**Kappang**	**25.43**	**111**	P	**P**	**16 02 50.9**	**-0.2**
	comp=Z,494nm,0.7s,mb6.2,SNR=22						
KAPI	**Kappang**	**25.43**	**111**	P	**P**	**16 02 49.6**	**-1.5**
	comp=Z,61nm,0.8s,mb5.2,baz=283,slow=8.9,SNR=11						
KAPI				LR	LR	16 13 50.6	
	comp=Z,431nm,19.9s,MS4.0,baz=330,slow=39						
PKI	**Pulchoki**	**25.46**	**338**	*e*P	**P**	**16 02 51.0**	**-0.2**
	comp=Z,27nm,0.7s,mb4.9						
GUN	**Gumba**	**25.59**	**339**	*e*P	**P**	**16 02 52.6**	**+0.2**
	comp=Z,108nm,0.7s,mb5.5						
DMN	**Daman**	**25.61**	**337**	*e*P	**P**	**16 02 52.4**	**-0.1**
	comp=Z,46nm,0.7s,mb5.1						
KKN	**Kakani**	**25.70**	**338**	*e*P	**P**	**16 02 53.2**	**-0.2**
	comp=Z,53nm,0.8s,mb5.1						
LSA	**Lhasa**	**25.91**	**350**	P	**P**	**16 02 55.1**	**-0.1**
LSA	**Lhasa**	**25.91**	**350**	*e*P	**P**	**16 02 55.5**	**+0.3**
LSA				pmax	pmax		
	comp=Z,35nm,0.7s,mb5.0						
LSA	**Lhasa**	**25.91**	**350**	*e*P	**P**	**16 02 55.5**	**+0.2**
	comp=Z,35nm,0.7s,mb5.0						
POO	**Poona**	**25.96**	**305**	*e*P	**P**	**16 03 05.0**	**+9.2**
GKN	**Gorkha**	**26.14**	**337**	*e*P	**P**	**16 02 57.1**	**-0.3**
	comp=Z,30nm,0.4s,mb5.2						
BHPL	**Bhopal**	**26.16**	**318**	*e*P	**P**	**16 02 57.9**	**+0.3**
BHPL				AMb	AMB	16 03 03.9	
	comp=Z,14nm,0.9s,mb4.5						
KOLN	**Koldanda**	**26.36**	**335**	*e*P	**P**	**16 02 59.6**	**+0.3**
	comp=Z,109nm,0.7s,mb5.5						
DANN	**Dangsing**	**26.80**	**336**	*e*P	**P**	**16 03 03.3**	**0.0**
CD2	**Chengdu**	**27.71**	**15**	P	**P**	**16 03 10.8**	**-0.7**
CD2				AP	pP	16 03 30.8	+6.2
CD2				XP	sP	16 03 43.0	+12
CD2				PP	PP	16 04 04.3	-11
CD2				AMB	AMB		
	comp=Z,80nm,0.6s,mb5.5						
CD2				AMB	AMB		
	comp=Z,200nm,7.8s						
CD2				LR	LR		
	comp=N,1μm,14.4s,MS4.7						
CD2				LR	LR		
	comp=E,1μm,19.2s,MS4.7						
CD2				LR	LR		
	comp=Z,1μm,28.8s						
KDI	**Kendari**	**27.82**	**106**	P	**P**	**16 03 13.6**	**+1.0**
	comp=Z,19nm,0.9s,mb4.7						
PTH	**Pithoragarh**	**29.41**	**331**	*e*P	**P**	**16 03 27.9**	**+1.3**
AJM	**Ajmer**	**30.22**	**320**	*e*P	**P**	**16 03 34.0**	**+0.2**
NDI	**New Delhi**	**30.28**	**326**	*e*P	**P**	**16 03 34.0**	**-0.3**
NDI				AMb	AMB	16 03 35.5	
	comp=Z,47nm,0.6s,mb5.4						
BATI	**Kupang**	**31.03**	**117**	P	**P**	**16 03 38.5**	**-2.5**
	comp=Z,32nm,0.7s,mb5.2,baz=275,slow=4.9,SNR=5.6						
DDI	**Dehra Dun**	**31.12**	**329**	*e*P	**P**	**16 03 43.0**	**+1.3**
XAN	**Xi'an**	**32.19**	**20**	P	**P**	**16 03 50.0**	**-1.0**
XAN				SS	SS	16 10 54.8	-26
XAN				AMB	AMB		
	comp=Z,44nm,0.8s,mb5.3						
XAN				AMB	AMB		
	comp=Z,208nm,9.5s						
XAN				LR	LR		
	comp=N,322nm,12.9s						
XAN				LR	LR		
	comp=E,748nm,31.2s						
XAN				LR	LR		
	comp=Z,2μm,36.9s						
LZH	**Lanzhou**	**32.70**	**12**	⇑P	**P**	**16 03 55.6**	**+0.1**
LZH				AP	pP	16 04 16.8	+8.0
LZH				XP	sP	16 04 27.9	+13
LZH				PP	PP	16 05 08.5	-1.7
LZH				AMB	AMB		
	comp=Z,74nm,1.0s,mb5.6						
LZH				AMB	AMB		
	comp=Z,190nm,4.9s						
DLH	**Dalhousie**	**33.96**	**329**	*e*P	**P**	**16 04 07.0**	**+0.5**
MBWA	**Marble Bar**	**34.23**	**138**	*e*P	**P**	**16 04 07.7**	**-1.3**
	comp=Z,17nm,1.1s,mb4.9						
NJ2	**Nanjing**	**35.18**	**35**	*e*P	**P**	**16 04 17.8**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.9s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,510nm,10.8s						
NJ2				LR	LR		
	comp=N,2μm,17.0s,MS5.0						
NJ2				LR	LR		
	comp=E,1μm,22.0s,MS5.0						
NJ2				LR	LR		
	comp=Z,1μm,22.0s,MS4.7						
GTA	**Gaotai**	**35.37**	**5**	⇑*i*P	**P**	**16 04 18.3**	**-0.3**
GTA				AP	pP	16 04 40.9	+8.9
GTA				XP	sP	16 04 52.6	+15
GTA				PP	PP	16 05 41.9	+2.2
GTA				PPP		16 06 03.3	
GTA				AMB	AMB		
	comp=Z,23nm,1.0s,mb5.1						
GTA				AMB	AMB		
	comp=Z,103nm,6.1s						
GTA				LR	LR		
	comp=N,830nm,20.9s,MS4.9						
GTA				LR	LR		
	comp=E,2μm,17.1s,MS4.9						
GTA				LR	LR		
	comp=Z,3μm,27.0s						
FITZ	**Fitzroy Crossi**	**36.63**	**128**	⇑*i*P	**P**	**16 04 27.7**	**-1.9**
	comp=Z,12nm,0.6s,mb4.9						
FITZ	**Fitzroy Crossi**	**36.63**	**128**	P	**P**	**16 04 27.9**	**-1.7**
	comp=Z,7.2nm,0.8s,mb4.6,baz=325,slow=13,SNR=16						
JOW	**Kunigami**	**38.31**	**50**	P	**P**	**16 04 42.5**	**-1.3**
	comp=Z,40nm,0.6s,mb5.3,baz=189,slow=30,SNR=3.7						
HHC	**Hu-ho-hao-te**	**39.24**	**19**	*e*P	**P**	**16 04 52.1**	**+0.8**
HHC				AMB	AMB		
	comp=Z,70nm,1.0s,mb5.3						
HHC				AMB	AMB		
	comp=Z,579nm,9.4s						
HHC				LR	LR		
	comp=N,992nm,16.9s,MS4.9						
HHC				LR	LR		
	comp=E,1μm,16.5s,MS4.9						
HHC				LR	LR		
	comp=Z,947nm,17.6s,MS4.7						
KBL	**Kabul**	**39.29**	**324**	⇑*e*P	**P**	**16 04 50.8**	**-1.0**
	comp=Z,16nm,0.9s,mb4.7						
KSH	**Kashi**	**39.67**	**336**	*e*P	**P**	**16 04 57.0**	**+2.0**
KSH				*e*AP	pP	16 05 19.0	+10
KSH				*e*PP	PP	16 06 34.1	+7.2
KSH				*e*PCP	PcP	16 07 02.0	+1.0
KSH				AMB	AMB		
	comp=Z,420nm,5.8s						
KSH				LR	LR		
	comp=N,5μm,18.5s						
KSH				LR	LR		
	comp=E,1μm,7.2s						
KSH				LR	LR		
	comp=Z,4μm,17.3s,MS5.3						
KAKA	**Kakadu**	**39.90**	**115**	*e*P	**P**	**16 04 54.9**	**-2.3**
	comp=Z,21nm,0.6s,mb5.0						
WMQ	**Urumqi**	**40.27**	**351**	*e*P	**P**	**16 04 59.0**	**-0.9**
WMQ				AP	pP	16 05 22.0	+8.6
WMQ				XP	sP	16 05 34.0	+15
WMQ				PP	PP	16 06 37.0	+3.6
WMQ				AMB	AMB		
	comp=Z,38nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,68nm,4.0s						
WMQ				LR	LR		
	comp=N,632nm,14.0s,MS4.9						
WMQ				LR	LR		
	comp=E,986nm,15.0s,MS4.9						
WMQ				LR	LR		
	comp=Z,1μm,15.0s,MS4.8						
MUN	**Mundaring**	**40.69**	**153**	*e*P	**P**	**16 05 04.0**	**+0.6**
DL2	**Dalian**	**41.81**	**30**	P	**P**	**16 05 13.9**	**+1.2**
DL2				*e*S	**S**	**16 11 26.4**	**-0.3**
DL2				XS	sS	16 11 59.3	+10
DL2				AMB	AMB		
	comp=Z,50nm,0.7s,mb5.2						
DL2				LR	LR		
	comp=N,170nm,15.9s,MS4.3						
DL2				LR	LR		
	comp=E,250nm,13.0s,MS4.3						
DL2				LR	LR		
	comp=Z,250nm,15.5s,MS4.2						
NWAO	**Narrogin (SRO)**	**41.95**	**153**	*e*P	**P**	**16 05 14.1**	**+0.3**
NWAO				pmax	pmax		
	comp=Z,25nm,1.1s						
NWAO	**Narrogin (SRO)**	**41.95**	**153**	*e*P	**P**	**16 05 14.1**	**+0.3**
	comp=Z,25nm,1.1s,mb4.8						
NWAO	**Narrogin (SRO)**	**41.95**	**153**	P	**P**	**16 05 13.6**	**-0.2**
	comp=Z,7.5nm,0.8s,mb4.4,baz=357,slow=12,SNR=4.7						
KZA	**Kyzart**	**42.13**	**337**	P	**P**	**16 05 15.8**	**+0.7**
	SNR=6.8						
UCH	**Uchtor**	**42.55**	**336**	⇑*i*P	**P**	**16 05 19.1**	**+0.5**
	comp=Z,21nm,0.8s,mb4.9						
UCH	**Uchtor**	**42.55**	**336**	P	**P**	**16 05 19.5**	**+0.9**
	SNR=28						
TKM2	**Tokmak 2**	**42.72**	**338**	⇑*e*P	**P**	**16 05 20.0**	**0.0**
TKM2				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**42.72**	**338**	⇑*e*P	**P**	**16 05 20.0**	**+0.1**
	comp=Z,13nm,0.8s,mb4.7						
TKM2	**Tokmak 2**	**42.72**	**338**	P	**P**	**16 05 20.3**	**+0.3**
	SNR=9.0						
KBK	**Karagaybulak**	**42.74**	**337**	P	**P**	**16 05 21.1**	**+0.9**
	SNR=16						
AML	**Almayashu**	**42.80**	**336**	⇑*i*P	**P**	**16 05 21.1**	**+0.5**
	comp=Z,52nm,1.0s,mb5.2						
AML	**Almayashu**	**42.80**	**336**	P	**P**	**16 05 21.3**	**+0.7**
	SNR=16						
AAK	**Ala-Archa**	**42.90**	**337**	P	**P**	**16 05 23.4**	**+2.0**
	SNR=5.5						
FRU	**Bishkek**	**43.02**	**337**	*e*P	pP	16 05 38.0	+1.9
FRU				*e*		16 05 51.0	
FRU				pmax	pmax		
	comp=Z,40nm,2.0s,mb4.8						
EKS2	**Erkin-Say**	**43.21**	**336**	⇑*i*P	**P**	**16 05 24.5**	**+0.6**
	comp=Z,13nm,0.7s,mb4.8						
EKS2	**Erkin-Say**	**43.21**	**336**	P	**P**	**16 05 24.8**	**+0.9**
	SNR=10						
USP	**Ospenovka**	**43.44**	**337**	P	**P**	**16 05 26.0**	**+0.3**
	SNR=21						
MK31	**Makanchi Array**	**44.19**	**347**	*i* P	**P**	**16 05 30.8**	**-0.9**
MK31				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.9						
MK31	**Makanchi Array**	**44.19**	**347**	⇑*i*P	**P**	**16 05 30.6**	**-1.1**
MKAR	**Makanchi Array**	**44.19**	**347**	⇑*e*P	**P**	**16 05 31.0**	**-0.7**
MKAR	**Makanchi Array**	**44.19**	**347**	P	**P**	**16 05 31.0**	**-0.8**
	comp=Z,15nm,0.7s,mb4.8,baz=166,slow=7.8,SNR=149						
KSRS	**Korea Array**	**44.29**	**37**	LR	LR	16 23 28.2	
	comp=Z,341nm,21.5s,MS4.2,baz=185,slow=36						
SONM	**Songino Array**	**44.54**	**10**	P	**P**	**16 05 34.2**	**-0.2**
	comp=Z,24nm,0.6s,mb5.2,baz=194,slow=9.4,SNR=10						
SONM				PcP	PcP	16 07 17.3	+0.4
	comp=Z,3.9nm,0.6s,baz=182,slow=2.6,SNR=4.5						
WRA	**Warramunga Arr**	**44.63**	**124**	P	**P**	**16 05 34.9**	**-0.7**
	comp=Z,30nm,0.8s,mb5.2,baz=303,slow=9.2,SNR=151						
WRAB	**Tennant Creek**	**44.63**	**124**	P	**P**	**16 05 34.7**	**-1.0**
	comp=Z,278nm,1.1s,mb6.0,SNR=38						
WRAB	**Tennant Creek**	**44.63**	**124**	*e*P	**P**	**16 05 33.7**	**-2.0**
WRAB	**Tennant Creek**	**44.63**	**124**	⇑*i*P	**P**	**16 05 35.1**	**-0.6**
	comp=Z,42nm,0.6s,mb5.5						
WB2	**Warramunga Arr**	**44.64**	**124**	⇑*i*P	**P**	**16 05 34.8**	**-0.9**
ULN	**Ulaanbaatar**	**44.69**	**11**	*e*P	**P**	**16 05 34.7**	**-0

comp=Z,365nm,20.7s,MS4.4,baz=255,slow=35
ZAL Zalesovo 50.56 351 P **P 16 06 20.6 -0.5**
ZALV Zalesovo Beam 50.57 352 P **P 16 06 20.6 -0.6**
comp=Z,40nm,0.6s,mb5.5,baz=179,slow=7.1,SNR=179
NVS Novosibirsk 51.67 351⇑ *i*P **P 16 06 28.2 -1.2**
NVS *i* *PP pP 16 06 41.4 -2.0
NVS pmax pmax
comp=Z,23nm,0.9s,mb5.1
NVS pmax pmax
comp=N,22nm,1.0s
NVS pmax pmax
comp=E,15nm,1.0s
OPO Ambohidratompo 53.01 243 P **P 16 06 40.8 +0.8**
comp=E,4.8nm,1.0s,mb4.4,baz=30,slow=10,SNR=3.9
BRVK Borovoye 53.23 341 P **P 16 06 40.8 -0.2**
comp=E,124nm,0.7s,mb6.0,SNR=12
CHKZ Chkalovo 53.64 342 *i* P **P 16 06 43.4 -0.6**
CHKZ pmax pmax
comp=Z,36nm,0.8s,mb5.3
KLR Kul'dur 54.32 28 *e*P **P 16 06 46.0 -3.0**
AB31 Akbulak array 54.42 332 *i* P **P 16 06 49.5 -0.3**
CTA Charters Tower 54.91 118⇑ *i*P **P 16 06 53.4 -0.5**
comp=Z,20nm,1.0s,mb5.1
CTA Charters Tower 54.91 118⇑ *i*P **P 16 06 53.4 -0.5**
CTA pmax pmax
comp=Z,20nm,1.0s
CTAO Charters Tower 54.91 118⇑ *i*P **P 16 06 53.0 -0.9**
CTAO pmax pmax
comp=Z,42nm,1.1s,mb5.4
CTAO Charters Tower 54.91 118⇑ *i*P **P 16 06 53.0 -0.8**
comp=Z,42nm,1.1s,mb5.4
HABR Khabarovsk 55.42 31 *e*P **P 16 06 53.5 -3.6**
HABR *e* 16 08 57.7
HABR *e*S **S 16 14 33.5 -4.5**
HABR *e*SS SS 16 18 18.1 -5.3
STKA Stephens Creek 56.20 133⇑ *i*P **P 16 07 02.3 -0.6**
comp=Z,11nm,0.8s,mb4.9
STKA Stephens Creek 56.20 133 P **P 16 07 02.5 -0.4**
comp=Z,12nm,0.7s,mb5.0,baz=307,slow=6.8,SNR=24
DGRG David-gareji 58.50 317 P **P 16 07 19.6 +0.7**
YSS Yuzh-Sakhalins 58.75 36 *e*P **P 16 07 20.8 +0.2**
YSS pmax pmax
comp=Z,22nm,1.3s,mb5.0
YSS Yuzh-Sakhalins 58.75 36 *e*P **P 16 07 20.9 +0.3**
KMBO Kilima Mbogo 58.88 266 *e*P **P 16 07 23.5 +1.4**
KMBO pmax pmax
comp=Z,6.0nm,0.9s
KMBO Kilima Mbogo 58.88 266 *e*P **P 16 07 23.5 +1.4**
comp=Z,5.9nm,0.9s,mb4.6
KMBO Kilima Mbogo 58.88 266 P **P 16 07 23.6 +1.5**
comp=Z,3.0nm,0.6s,mb4.5,baz=194,slow=23,SNR=7.7
KMBO LR LR 16 28 10.5
comp=Z,262nm,20.3s,MS4.3,baz=109,slow=31
MTA Mtatsminda 58.99 317 P **P 16 07 23.7 +1.3**
TBLG Delisi 59.05 317 P **P 16 07 22.5 -0.2**
SVE Sverdlovsk 59.59 338 *e*P **P 16 07 26.4 +0.2**
SVE pmax pmax
comp=Z,57nm,1.0s,mb5.6
ARU Arti 60.09 337 P **P 16 07 28.6 -1.0**
comp=Z,126nm,1.1s,mb5.9,SNR=6.8
ARU Arti 60.09 337*c* *i*P **P 16 07 28.7 -0.9**
ARU *e* *PP pP 16 07 46.3 +2.4
ARU *e* 16 09 41.2
ARU *e*S **S 16 15 38.2 -0.6**
ARU *e*SS SS 16 19 32.5 -3.9
ARU pmax pmax
comp=Z,50nm,1.7s,mb5.3
ARU Arti 60.09 337⇑ *e*P **P 16 07 28.4 -1.2**
comp=Z,28nm,1.1s,mb5.2
ONI Oni 60.27 318 P **P 16 07 32.2 +1.1**
KIV Kislovodsk 61.35 319⇓ *e*P **P 16 07 38.8 +0.4**
KIV *e* 16 09 49.5
KIV *e*S **S 16 15 55.5 +0.2**
KIV pmax pmax
comp=Z,15nm,0.7s,mb5.2
KIV Kislovodsk 61.35 319⇑ *e*P **P 16 07 37.0 -1.4**
comp=Z,11nm,0.4s,mb5.3
ASF Jabal al Asfar 61.82 304 P **P 16 07 43.5 +1.6**
comp=Z,3.2nm,0.9s,mb4.5,baz=327,slow=4.6,SNR=7.1
MALT Malatya 62.30 311⇑ *i*P **P 16 07 45.3 +0.3**
MALT *e* pP 16 08 01.1 +1.7
MALT pmax pmax
comp=Z,18nm,1.3s,mb5.0
MALT Malatya 62.30 311⇑ *i*P **P 16 07 45.2 +0.2**
comp=Z,18nm,1.3s,mb5.0
MALT *e* pP 16 08 01.1 +1.7
YAK Yakutsk 63.07 17 *e*P **P 16 07 48.6 -1.0**
YAK pmax pmax
comp=Z,108nm,1.0s,mb5.9
YAK pmax pmax
comp=N,25nm,1.1s
YAK pmax pmax
comp=E,42nm,1.2s
YAK Yakutsk 63.07 17⇑ *i*P **P 16 07 48.6 -1.0**
comp=E,166nm,1.0s,mb6.1
VRHR Novokhopersk 65.08 326 *e*P **P 16 08 01.8 -1.2**
VRHR *e* *PP pP 16 08 15.9 -1.5
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.2
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
ANN Anapa 65.15 318 *e* *PP **P 16 08 06.8 +3.2**
HNR Honiara 65.17 102 P **P 16 08 00.2 -4.1**
HNR *e* pP 16 08 18.4 -0.3
HNR pmax pmax
comp=Z,111nm,0.9s,mb5.9
HNR Honiara 65.17 102 P **P 16 08 00.2 -4.1**
comp=Z,111nm,0.9s,mb5.9
HNR *e* pP 16 08 18.4 -0.3
TAU Tasmania Unive 65.80 141 *e*P **P 16 08 07.8 0.0**
TAU *e* 16 08 15.9
TAU pmax pmax
comp=Z,52nm,1.3s,mb5.4
TAU Tasmania Unive 65.80 141 *e*P **P 16 08 07.8 0.0**
comp=Z,52nm,1.3s,mb5.4
TAU *e* 16 08 15.9
VORD Divnogorie 66.35 325 *e*P **P 16 08 09.7 -1.5**
VORD *e* *PP pP 16 08 24.1 -1.6
VORD pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,30nm,0.9s
VRSR Storozhevoye 66.51 325 *e*P **P 16 08 10.5 -1.8**
VRSR *e* *PP pP 16 08 24.7 -2.0
VRSR pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,2.0nm,0.7s
SIM Simferopol' 67.43 317 P **P 16 08 18.0 -0.2**
SIM *e* *PP pP 16 08 33.0 +0.3
SIM S S 16 17 19.0 +8.6
SIM pmax pmax
comp=Z,14nm,0.9s,mb5.0
SIM MLR MLR
comp=Z,1μm,19.0s,MS5.1
SKR Severo-Kuril's 68.30 36 *e*P **P 16 08 21.5 -2.1**
SKR *e* pP 16 08 32.2 -5.9
SKR *e* 16 08 42.5
SKR *e* 16 17 51.0
SKR pmax pmax
comp=N,20nm,0.6s
SKR pmax pmax
comp=Z,90nm,0.6s,mb6.0
SKR pmax pmax
comp=E,30nm,0.5s
MOS Moscow 69.26 329 *e*P **P 16 08 25.7 -3.7**
MOS *e* pP 16 08 42.7 -1.3
MOS *e* 16 08 55.7
MOS pmax pmax
comp=Z,54nm,0.6s,mb5.7
MA2 Magadan 69.34 26 *e*P **P 16 08 29.6 -0.2**
MA2 pmax pmax
comp=Z,70nm,1.0s,mb5.5
MA2 Magadan 69.34 26 *e*P **P 16 08 29.1 -0.7**
comp=Z,34nm,0.8s,mb5.3
MA2 LR LR
comp=Z,1μm,20.0s,MS5.0
OBN Obninsk 69.55 328⇑ *e*P **P 16 08 30.3 -0.9**
OBN *e* 16 11 04.1
OBN pmax pmax
comp=Z,35nm,1.5s,mb5.1
LSZ Lusaka 69.75 252 *e*P **P 16 08 32.5 -0.7**
LSZ pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
LSZ Lusaka 69.75 252 *e*P **P 16 08 32.5 -0.7**
comp=Z,3.1nm,0.7s,mb4.3
PET Petropavlovsk 70.60 35⇑ *e*P **P 16 08 36.9 -0.8**
PET pmax pmax
comp=Z,23nm,0.6s,mb5.3
PET Petropavlovsk 70.60 35⇑ *e*P **P 16 08 36.0 -1.7**
PET Petropavlovsk 70.60 35 *e*PcP **P 16 08 36.5 -1.2**
TIXI Tiksi 70.62 11⇑ *e*P **P 16 08 35.5 -2.0**
TIXI pmax pmax
comp=Z,40nm,1.2s,mb5.2
TIXI Tiksi 70.62 11⇑ *e*P **P 16 08 35.6 -1.9**
CASY Casey 70.95 174 *e*P **P 16 08 35.4 -4.2**
comp=Z,9.0nm,0.8s,mb4.8
TIRR Tirgusor 71.22 316⇓ *i*P **P 16 08 41.5 -0.1**
KIS Kishinev 71.55 318 *e*P **P 16 08 42.0 -1.6**
SEY Seymchan 71.66 24⇑ *e*P **P 16 08 43.5 -0.4**
SEY Seymchan 71.66 24⇑ *e*P **P 16 08 43.6 -0.3**
SANT Santorini 71.92 307 P **P 16 08 45.2 -0.8**
comp=Z,33nm,0.8s,mb5.3
AKASG Malin Array Be 72.25 322 P **P 16 08 46.6 -1.1**
comp=Z,2.1nm,0.6s,mb4.2,baz=87,slow=5.0,SNR=24
KIEV Kiev 72.26 322 *e*P **P 16 08 44.8 -3.0**
KIEV *e* pP 16 09 02.1 -0.3
KIEV pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
KIEV Kiev 72.26 322 *e*P **P 16 08 44.8 -3.0**
comp=Z,9.9nm,1.2s,mb4.6
KIEV *e* pP 16 09 02.1 -0.3
VRI Vrincioaia 72.69 317⇑ *i*P **P 16 08 51.1 +0.7**
PLOR Plostina 72.74 317⇑ *i*P **P 16 08 51.7 +1.0**
TMCR Tamitsa 72.83 337 *e*P **P 16 08 58.2 +7.3**
TMCR pmax pmax
comp=Z,38nm,1.1s,mb5.2
MLR Muntele Rosu 73.15 316 P **P 16 08 52.8 -0.4**
comp=Z,11nm,1.0s,mb4.7,baz=78,slow=1.9,SNR=14
MLR Muntele Rosu 73.15 316⇑ *i*P **P 16 08 53.6 +0.4**
LBTB Lobatse 74.04 243 *e*P **P 16 08 59.7 +0.9**
LBTB pmax pmax
comp=Z,41nm,1.2s,mb5.2
LBTB Lobatse 74.04 243 *e*P **P 16 08 59.6 +0.8**
comp=Z,41nm,1.2s,mb5.2
BURAR Bucovina Array 74.07 318⇑ *i*P **P 16 08 59.2 +0.7**
VAY Valandovo 74.86 312 *i* PKP **P 16 08 55.9 -7.4**
JOF Joensuu 75.05 335 *e*p **P 16 09 02.1 -1.8**
comp=Z,7.0nm,0.6s,mb4.8
BOSA Boshof 75.13 239 *e*P **P 16 09 07.1 +2.0**
BOSA pmax pmax
comp=Z,22nm,1.2s,mb5.0
BOSA Boshof 75.13 239 *e*P **P 16 09 07.1 +2.1**
comp=Z,22nm,1.2s,mb5.0
BOSA Boshof 75.13 239 P **P 16 09 05.3 +0.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=79,slow=5.2,SNR=2.5
MAW Mawson 75.19 192 P **P 16 09 13.2 +8.6**
MAW pmax pmax
comp=Z,14nm,0.9s
MAW Mawson 75.19 192 P **P 16 09 13.2 +8.6**
comp=Z,14nm,0.9s,mb4.9
MAW Mawson 75.19 192 LR LR 16 36 27.0
comp=Z,333nm,20.4s,MS4.6,baz=82,slow=31
LVV L'vov 75.28 320 *e*P **P 16 09 05.1 -0.4**
KRUS Krusevo 75.85 312 *i* PKP **P 16 09 08.3 -0.7**
APA Apatity 76.03 339⇑ *i*P pP 16 09 23.0 -1.2
APA pmax pmax
comp=Z,36nm,1.1s,mb5.2
KWP Kalwaria 76.09 320 *e*P **P 16 09 10.7 +0.5**
KWP Kalwaria 76.09 320 *e*P **P 16 09 10.7 +0.6**
BZS Buzias 76.17 316⇑ *i*P **P 16 09 10.8 +0.2**
UZH Uzhgorod 76.19 319 *e* **P 16 09 11.0 +0.3**
UZH *i* pP 16 09 27.3 +1.9
SUW Suwalki 76.64 325 *e*P **P 16 09 12.5 -0.7**
SUW Suwalki 76.64 325 *e*P **P 16 09 12.5 -0.6**
CRVS Cervenica-Dubn 76.77 319 *e*P **P 16 09 15.3 +1.3**
FIA1 FINESS Array S 76.91 332 *e*P **P 16 09 13.6 -0.9**
FINES FINESS Array B 76.91 332 P **P 16 09 13.6 -0.9**
comp=Z,4.8nm,0.7s,mb4.6,baz=104,slow=8.0,SNR=25
STHS Stebnicka Huta 77.00 320 *e*P **P 16 09 16.7 +1.5**
STHS pmax pmax
comp=Z,9.0nm,1.1s,mb4.6
STHS Stebnicka Huta 77.00 320 *e*P **P 16 09 16.7 +1.5**
comp=Z,8.9nm,1.1s,mb4.6
STHS *e* 16 09 44.9
DRV Dumont d'Urvil 77.22 163 Pdif 16 15 23.0
NIE Niedzica 77.60 320 *e*P **P 16 09 19.7 +1.1**
PSZ Piszkesteto 77.66 318 *e*P **P 16 09 18.5 -0.5**
PSZ pmax pmax
comp=Z,27nm,1.3s,mb5.0
PSZ Piszkesteto 77.66 318 *e*P **P 16 09 18.5 -0.5**
comp=Z,27nm,1.3s,mb5.0
PSZ Piszkesteto 77.66 318⇑ *e*P **P 16 09 19.5 +0.5**
PSZ Piszkesteto 77.66 318⇑ *i*P **P 16 09 18.9 -0.1**
OJC Ojcow 78.04 320 *e*P **P 16 09 21.2 +0.1**
PKSM Moragy 78.30 316⇑ *i*P **P 16 09 22.6 0.0**
VYHS Vyhne 78.44 319 *e*P **P 16 09 23.3 0.0**
VYHS *e* pP 16 09 38.9 +0.8
VYHS pmax pmax
comp=Z,9.0nm,1.4s,mb4.5
VYHS Vyhne 78.44 319 *e*P **P 16 09 23.3 0.0**
comp=Z,8.5nm,1.4s,mb4.5
VYHS *e* pP 16 09 38.9 +0.8
BILL Bilibino 78.97 21⇓ *e*P **P 16 09 25.8 0.0**
BILL *e* 16 12 18.1
BILL *e*S S 16 19 18.5 -1.9
BILL pmax pmax
comp=Z,16nm,1.2s,mb4.8
BILL MLR MLR
comp=Z,200nm,18.0s,MS4.5
BILL Bilibino 78.97 21 *e*P **P 16 09 24.9 -0.9**
comp=Z,12nm,0.9s,mb4.8
OKC Ostrava-Krasne 79.05 320 *e*P **P 16 09 27.0 +0.4**
MORC Moravsky Berou 79.43 320 *e*P **P 16 09 29.1 +0.4**
comp=Z,22nm,1.4s,mb4.9
MORC *e* pP 16 09 39.8 -3.8
MORC Moravsky Berou 79.43 320⇓ *i*P **P 16 09 29.1 +0.4**
ARCES ARCESS Array B 79.45 340 P **P 16 09 27.5 -0.9**
comp=Z,3.4nm,0.5s,mb4.5,baz=97,slow=6.1,SNR=33
ARE0 ARCESS Array S 79.45 340 *e*P **P 16 09 25.7 -2.7**
MODS Modra-Piesok 79.45 318 *e*P **P 16 09 29.1 +0.2**
MODS *e* pP 16 09 42.1 -1.6
MODS Modra-Piesok 79.45 318 *e*P **P 16 09 29.1 +0.2**
MODS *e*pP pP 16 09 42.0 -1.7
ZST Bratislava 79.55 318 *e*P **P 16 09 30.2 +0.8**
ZST pmax pmax
comp=Z,13nm,0.8s,mb4.9
ZST Bratislava 79.55 318 *e*P **P 16 09 30.2 +0.8**
comp=Z,13nm,0.8s,mb4.9
SOP Sopron 79.87 318⇓ *e*P **P 16 09 30.9 -0.2**
DPC Dobruska-Polom 80.27 320 *e*P **P 16 09 34.2 +1.0**
DPC *e*x x 16 09 48.9
UPC Upice 80.48 320 *e*P **P 16 09 35.0 +0.6**
UPC *e*x x 16 09 48.9
BOJS Bojanci 80.60 315 *i* P **P 16 09 35.4 +0.3**
TREC Trest 80.72 319 *e*P **P 16 09 36.0 +0.3**
PERS Pernice 80.77 316 *i* P **P 16 09 36.5 +0.5**
VNDS Vrh nad Dolski 81.02 316 *i* P **P 16 09 38.4 +1.0**
PRU Pruhonice 81.38 320 *e*P **P 16 09 39.7 +0.5**
PRU *e*x x 16 09 54.5
PVCC Panska Ves 81.40 320 *e*P **P 16 09 39.8 +0.5**
PVCC *e*x x 16 09 54.7
JAVS Javornik 81.45 316 *i* P **P 16 09 39.9 +0.2**
VOY Vojsko 81.58 316 *e*P **P 16 09 39.0 -1.3**
BRG Berggiesshubel 81.82 321 *e*P **P 16 09 41.8 +0.3**
BRG pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
BRG Berggiesshubel 81.82 321 *e*P **P 16 09 41.8 +0.3**
comp=Z,17nm,1.4s,mb4.8
GEC2 GERESS Array S 81.86 319 *e*P **P 16 09 41.8 +0.1**
GEC2 *e* pP 16 09 52.7 -3.9
GERES GERESS Array B 81.86 319 P **P 16 09 42.1 +0.4**
comp=Z,5.8nm,1.0s,mb4.5,baz=101,slow=6.9,SNR=34
KHC Kasperske Hory 81.95 319 *e*P **P 16 09 41.7 -0.5**
KHC *e* pP 16 09 56.0 -1.1
KHC Kasperske Hory 81.95 319 *e*P **P 16 09 41.7 -0.5**
KHC *e*x x 16 09 56.0
KHC *e*x x 16 10 02.5
SYO Syowa Base 82.31 198⇑ *e*X 16 10 00.6
CLL Collm 82.44 321 *e*P **P 16 09 45.0 +0.3**
CLL *e*(sP) sP 16 10 00.0 -5.3
NKC Novy Kostel 82.74 320 *e*P **P 16 09 47.0 +0.7**
MOX Moxa 83.29 320 *e*P **P 16 09 49.6 +0.5**
MOX *e* pP 16 10 05.2 +1.2
comp=Z,18nm,1.6s
MOX Moxa 83.29 320 *e*P **P 16 09 49.6 +0.5**
MOX *e* pP 16 10 05.2 +1.2
MOX pmax pmax
comp=Z,18nm,1.6s,mb4.8
MOX Moxa 83.29 320 *e*P **P 16 09 49.6 +0.5**
comp=Z,18nm,1.6s,mb4.8
MOX *e* pP 16 10 05.2 +1.2
GRA1 Grafenberg Arr 83.52 319 *e*P **P 16 09 50.9 +0.6**
comp=Z,12nm,1.1s,mb4.9
GRA1 *e*pP pP 16 10 02.4 -2.8
GRF Grafenberg Arr 83.52 319 *e*P **P 16 09 50.9 +0.6**
GRF *e* *PP pP 16 10 02.4 -2.8
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.9
GRF Grafenberg Arr 83.52 319 *e*P **P 16 09 50.9 +0.6**
GRF *e* *PP pP 16 10 02.4 -2.8
GRF pmax pmax
comp=Z,12nm,1.1s,mb4.9
GRF Grafenberg Arr 83.52 319 *e*P **P 16 09 50.9 +0.6**
comp=Z,12nm,1.1s,mb4.9
GRF *e*pP pP 16 10 02.4 -2.8
NOA NORSAR Array B 83.92 331 P **P 16 09 51.4 -0.7**
comp=Z,4.8nm,0.9s,mb4.6,baz=93,slow=5.2,SNR=8.1
KBS Kingsbay 84.89 349 *e*P **P 16 09 55.8 -1.0**
KBS Kingsbay 84.89 349 *e*P **P 16 09 55.9 -0.9**
KEST Kesra 84.90 305 P **P 16 09 59.2 +1.6**
comp=Z,10nm,0.8s,mb5.0,baz=284,slow=1.1,SNR=21
PGF Pioggiola 85.03 312 *e*P **P 16 09 58.4 +0.2**
CDF Champ du Feu 86.11 318 *e*P **P 16 10 03.4 0.0**
SBF Sospel 86.14 314 *e*P **P 16 10 03.6 -0.1**
comp=Z,28nm,0.7s,mb5.3
SBF Sospel 86.14 314 *e*P **P 16 10 03.6 -0.1**
SBF pmax pmax
comp=Z,14nm,0.7s,mb5.3
SBF Sospel 86.14 314 *e*P **P 16 10 03.6 -0.1**
comp=Z,14nm,0.7s,mb5.3
LPG La Plagne 86.57 315 *e*P **P 16 10 06.0 +0.3**
comp=Z,19nm,0.8s,mb5.1
LPG La Plagne 86.57 315 *e*P **P 16 10 06.0 +0.3**
LPG pmax pmax
comp=Z,10.0nm,0.8s,mb5.1
LPG La Plagne 86.57 315 *e*P **P 16 10 06.0 +0.3**
comp=Z,9.5nm,0.8s,mb5.1
LPL La Plagne 86.59 315 *e*P **P 16 10 06.0 +0.2**
comp=Z,29nm,0.9s,mb5.2
LPL La Plagne 86.59 315 *e*P **P 16 10 06.0 +0.2**
LPL pmax pmax
comp=Z,15nm,0.9s,mb5.2
LPL La Plagne 86.59 315 *e*P **P 16 10 06.0 +0.2**
comp=Z,15nm,0.9s,mb5.2
MBDF Montbardon 86.59 314 *e*P **P 16 10 05.6 -0.2**
comp=Z,14nm,0.9s,mb4.9
MBDF Montbardon 86.59 314 *e*P **P 16 10 05.6 -0.2**
MBDF pmax pmax
comp=Z,7.0nm,0.9s,mb4.9
MBDF Montbardon 86.59 314 *e*P **P 16 10 05.6 -0.2**
comp=Z,7.2nm,0.9s,mb4.9
FRF La Foret Royal 86.73 313 *e*P **P 16 10 06.3 -0.3**
comp=Z,32nm,0.9s,mb5.2
FRF La Foret Royal 86.73 313 *e*P **P 16 10 06.3 -0.3**
FRF pmax pmax
comp=Z,16nm,0.9s,mb5.2
FRF La Foret Royal 86.73 313 *e*P **P 16 10 06.3 -0.3**
comp=Z,16nm,0.9s,mb5.2
HAU Haudompre 86.75 318 *e*P **P 16 10 06.5 0.0**
LMR La Mourre 86.84 313 *e*P **P 16 10 06.7 -0.4**
CABF La Chapelle 86.99 316 *e*P **P 16 10 07.8 +0.1**
comp=Z,14nm,0.8s,mb5.0
CABF La Chapelle 86.99 316 *e*P **P 16 10 07.8 +0.1**
CABF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
CABF La Chapelle 86.99 316 *e*P **P 16 10 07.8 +0.1**
comp=Z,7.1nm,0.8s,mb5.0
ORIF Oris-en-Rattie 87.22 315 *e*P **P 16 10 08.8 -0.1**
comp=Z,6.3nm,0.5s,mb4.8
ORIF Oris-en-Rattie 87.22 315 *e*P **P 16 10 08.8 -0.1**
ORIF pmax pmax
comp=Z,3.0nm,0.5s,mb4.8
ORIF Oris-en-Rattie 87.22 315 *e*P **P 16 10 08.8 -0.1**
comp=Z,3.2nm,0.5s,mb4.8
SMRF Simiane la Rot 87.48 314 *e*P **P 16 10 10.0 -0.2**
comp=Z,9.1nm,0.8s,mb4.8
SMRF Simiane la Rot 87.48 314 *e*P **P 16 10 10.0 -0.2**
comp=Z,9.1nm,0.8s,mb5.1
BAIF Baives 88.04 320 *e*P **P 16 10 13.2 +0.5**
comp=Z,13nm,0.8s,mb4.9
BAIF Baives 88.04 320 *e*P **P 16 10 13.2 +0.5**
BAIF pmax pmax
comp=Z,6.0nm,0.8s,mb4.9
BAIF Baives 88.04 320 *e*P **P 16 10 13.2 +0.5**
comp=Z,6.3nm,0.8s,mb4.9
VIVF Saint-Julien-l 88.08 315 *e*P **P 16 10 13.0 0.0**
LOR Lormes 88.47 317 *e*P **P 16 10 14.8 0.0**
comp=Z,14nm,0.8s,mb5.0
LOR Lormes 88.47 317 *e*P **P 16 10 14.8 0.0**
LOR pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
LOR Lormes 88.47 317 *e*P **P 16 10 14.8 0.0**
comp=Z,6.8nm,0.8s,mb4.9
SMF Signal de Mont 88.53 316 *e*P **P 16 10 15.1 0.0**
comp=Z,17nm,0.7s,mb5.2
SMF Signal de Mont 88.53 316 *e*P **P 16 10 15.1 0.0**
SMF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
SMF Signal de Mont 88.53 316 *e*P **P 16 10 15.1 0.0**
comp=Z,8.5nm,0.7s,mb5.2
LASF Ste Croix 88.71 314 *e*P **P 16 10 16.1 +0.1**
SSF Saint Saulge 88.73 317 *e*P **P 16 10 16.1 +0.1**
comp=Z,6.0nm,0.7s,mb4.7
SSF Saint Saulge 88.73 317 *e*P **P 16 10 16.1 +0.1**
SSF pmax pmax
comp=Z,3.0nm,0.7s,mb4.7
SSF Saint Saulge 88.73 317 *e*P **P 16 10 16.1 +0.1**
comp=Z,3.0nm,0.7s,mb4.7
VNDA Vanda 88.85 169 P **P 16 10 16.6 +0.6**
comp=Z,1.2nm,0.7s,mb4.3,baz=286,slow=9.9,SNR=4.5
AVF Avril sur Loir 88.85 317 *e*P **P 16 10 16.7 +0.1**
BGF Bois d'Agland 89.22 316 *e*P **P 16 10 18.3 -0.1**
TCF Toulx Ste Croi 89.68 316 *e*P **P 16 10 20.7 +0.2**
CAF Calviac 89.92 315 *e*P **P 16 10 21.3 -0.4**
SBA Scott Base 89.95 168 *e*P **P 16 10 22.1 +1.0**
SBA pmax pmax
comp=Z,21nm,1.4s,mb5.3
SBA Scott Base 89.95 168 *e*P **P 16 10 22.1 +1.0**
comp=Z,21nm,1.4s,mb5.3
MTLF Montolieu 89.96 313 *e*P **P 16 10 21.5 -0.4**
RJF Les Rejaudoux 90.27 315 *e*P **P 16 10 23.0 -0.3**
comp=Z,7.8nm,0.5s,mb5.0
RJF Les Rejaudoux 90.27 315 *e*P **P 16 10 23.0 -0.3**
RJF pmax pmax
comp=Z,4.0nm,0.5s,mb5.0
RJF Les Rejaudoux 90.27 315 *e*P **P 16 10 23.0 -0.3**
comp=Z,3.9nm,0.5s,mb5.0
LFF La Frestale 90.85 315 *e*P **P 16 10 25.7 -0.3**
JMIC Jan Mayen 90.88 341 LR LR 16 54 27.9
comp=Z,164nm,18.5s,MS4.5,baz=262,slow=38
LDF La Druitiere 91.00 319 *e*P **P 16 10 26.4 -0.2**
comp=Z,25nm,1.0s,mb5.2
LDF La Druitiere 91.00 319 *e*P **P 16 10 26.4 -0.2**
LDF pmax pmax
comp=Z,12nm,1.0s,mb5.2
LDF La Druitiere 91.00 319 *e*P **P 16 10 26.4 -0.2**
comp=Z,12nm,1.0s,mb5.2
FLN La Foliniere 91.22 319 *e*P **P 16 10 27.2 -0.4**
comp=Z,73nm,1.2s,mb5.6
FLN La Foliniere 91.22 319 *e*P **P 16 10 27.2 -0.4**
FLN pmax pmax
comp=Z,36nm,1.2s,mb5.6
FLN La Foliniere 91.22 319 *e*P **P 16 10 27.2 -0.4**
comp=Z,36nm,1.2s,mb5.6
MFF Saint Martin d 91.27 317 *e*P **P 16 10 27.5 -0.4**
comp=Z,21nm,0.9s,mb5.2
MFF Saint Martin d 91.27 317 *e*P **P 16 10 27.5 -0.4**
MFF pmax pmax
comp=Z,11nm,0.9s,mb5.2
MFF Saint Martin d 91.27 317 *e*P **P 16 10 27.5 -0.4**
comp=Z,11nm,0.9s,mb5.2
EPF Esparros 91.36 313 *e*P **P 16 10 28.0 -0.4**
GRR Gorron 91.52 319 *e*P **P 16 10 28.5 -0.5**
MAIT Maitri 91.88 199 *e*P pP 16 10 42.7 -2.5
SJPF Ste Jean 92.49 313 *e*P **P 16 10 32.9 -0.7**
TOA0 Torodi Ar. Sit 93.22 283 *e*P **P 16 10 38.1 +0.5**
TOA0 *e* pP 16 10 52.8 +0.1

TORD	**Torodi Ar. Bea**	**93.22**	**283**	P	**P**	**16 10 38.1**	**+0.5**
	comp=Z,1.4nm,0.7s,mb4.5,baz=85,slow=4.6,SNR=8.6						
ESDC	**Sonseca Array**	**95.04**	**310**	P	**P**	**16 10 46.2**	**+0.7**
	comp=Z,0.3nm,0.3s,mb4.2,baz=114,slow=4.9,SNR=6.0						
YKA	**Yellowknife Ar**	**109.68**	**15**	PP	PP	16 16 19.5	-4.4
	comp=Z,1.4nm,1.0s,baz=328,slow=7.6,SNR=3.7						
YKA				PKKPbc	PKKPbc	16 27 07.8	+8.6
	comp=Z,0.2nm,0.4s,baz=148,slow=2.5,SNR=6.0						
ULM	**Lac du Bonnet**	**124.96**	**9**	PKP	PKPdf	16 16 21.8	-0.6
	comp=Z,3.9nm,0.6s,baz=304,slow=1.6,SNR=7.5						
REDW	**Red Top Meadow**	**126.97**	**24**	*e*PKPdf	PKPdf	16 16 25.4	-1.1
NVAR	**Mina Array Bea**	**127.17**	**34**	PKP	PKPdf	16 16 27.4	+0.4
	comp=Z,5.2nm,0.9s,baz=268,slow=2.9,SNR=13						
ARUT	**Antelope Range**	**130.23**	**31**	*e*PKIKP	PKPdf	16 16 34.5	+1.6
MVU	**Marysvale**	**130.28**	**29**	*e*PKPpre		16 16 15.2	
MSU	**Marysvale**	**130.29**	**29**	*e*PKIKP	PKPdf	16 16 35.2	+2.2
CCUT	**Cedar City**	**130.45**	**31**	*e*PKPpre		16 16 28.1	
PV10	**Paradox Valley**	**131.86**	**26**	*e*PKPdf	PKPdf	16 16 36.2	+0.3
GLA	**Glamis**	**132.98**	**36**	*e*PKPdf	PKPdf	16 16 39.0	+0.8
GLA				*e*		16 16 56.3	
ANMO	**Albuquerque**	**135.85**	**27**	*e*PKIKP	PKPdf	16 16 44.8	+1.3
URVA	**University of**	**138.15**	**352**	*e*PKPdf	PKPdf	16 16 47.0	-0.7
PLCA	**Paso Flores**	**141.51**	**197**	PKP	PKPdf	16 16 59.5	+5.8
	comp=Z,3.2nm,0.8s,baz=267,slow=1.9,SNR=4.6						
TXAR	**Lajitas Array**	**141.84**	**28**	PKhKP		16 16 48.9	
	comp=Z,1.4nm,0.6s,baz=163,slow=0.9,SNR=8.2						
JCT	**Junction City**	**142.51**	**23**	*e*PKIKP	PKPdf	16 16 52.4	-3.4
GOGA	**Godfrey**	**142.74**	**359**	*e*PKHKP		16 16 50.9	
CPUP	**Villa Florida**	**146.15**	**226**	*e*PKPdf	PKPdf	16 17 02.5	+0.3
CPUP				*e*		16 17 14.1	
CPUP	**Villa Florida**	**146.15**	**226**	PKPbc	PKPbc	16 17 03.3	0.0
	comp=Z,5.4nm,0.6s,baz=103,slow=2.5,SNR=15						
LPAZ	**La Paz**	**160.18**	**231**	*e*PKIKP	PKPdf	16 17 22.9	+0.3
LPAZ				*e*		16 17 37.1	
LPAZ	**La Paz**	**160.18**	**231**	PKP	PKPdf	16 17 23.5	+0.9
	comp=Z,1.9nm,0.8s,baz=50,slow=3.0,SNR=8.2						
LPAZ				PKPab	PKPab	16 18 06.2	+3.3
	comp=Z,1.3nm,0.6s,baz=90,slow=1.5,SNR=2.9						

NIED ***18*** *15:59:00,4160N×142.10E,h56km,Mw5.4 Best double couple: M0=1.30000×10^17 NP1:φs=23.00000°,δ72.00000°,λ94.00000°. NP2:φs=191.00000°,δ18.00000°,λ79.00000°.*

MOS ***18*** *15:59:55.0±0.9,4151N×142.01E,h42km,mb5.8/129, MS4.8/46,Error ellipse: s-maj=6.4km s-min=3.4km az=107.3*

BJI ***18*** *15:59:55.7,4147N×142.24E,h70km,mB5.3,mb5.4,Ms4.9, Msz4.7*

JMA ***18*** *15:59:57.5±0.2,4156N×142.05E,h68km±4km,M5.3 Broadband fault plane solution: P waves. NP1: φs=203.00000°,δ25.00000°,λ98.00000°. NP2:φs=14.00000°, δ65.00000°,λ86.00000°. Principal axes: T Plg70.0000°, Azm277.0000°; N Plg3.0000°, Azm16.0000°; P Plg20.0000°, Azm107.0000°;*

JMA Felt IV J1.

ISCJB ***18*** *15:59:57.8±0.1,4157N±002×142.04E±002,h64km, mb5.5/285 Error ellipse: s-maj=2.7km s-min=1.8km az=154.4*

GCMT ***18*** *15:59:58.5±0.1,4158N×142.27E,h64km,MW5.4/101, Moment Tensor Solution. s88,c170; s101,c207; Duration: 1s3 Moment tensor: Scale 10^17Nm; Mrr1.45±.03; Mθθ-0.08±.02; Mφφ-1.37±.02; Mrθ0.41±.02; Mθφ-0.51±.02; Mφr0.72±.02; Best double couple: M0=1.71300×10^17 NP1:φs=194.00000°,δ31.00000°, λ81.00000°. NP2:φs=24.00000°,δ59.00000°,λ96.00000°. Principal axes: T 1.6700, Plg75.0000°, Azm310.0000°; N 0.0880, Plg5.0000°, Azm202.0000°; P -1.7550, Plg14.0000°, Azm110.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***18*** *15:59:58.5±0.1,4160N×141.99E,mb5.5/214,MW5.5, MW5.3(NIED) Error ellipse: s-maj=3.9km s-min=2.8km az=164.0,Moment Tensor Solution. s17 Moment tensor: Scale 10^17Nm; Mrr1.37; Mθθ-0.02; Mφφ-1.35; Mrθ0.17; Mθφ0.82; Mφr1.32; Best double couple: M0=2.10000×10^17 NP1:φs=131.00000°,δ32.00000°,λ49.00000°. NP2: φs=356.00000°,δ67.00000°,λ112.00000°. Principal axes: T 2.0200, Plg62.0000°, Azm300.0000°; N 0.1000, Plg20.0000°, Azm167.0000°; P -2.1200, Plg19.0000°, Azm70.0000°;*

NEIC Felt [IV] at Misawa, Honshu. Felt [II] at Sapporo, Hokkaido. Also felt at Hanamaki, Honshu. Recorded [4 JMA] in Aomori, [3 JMA] in Iwate and [1 JMA] in Akita and Miyagi Prefectures, Honshu. Also recorded [3 JMA] in south-central Hokkaido and [2 JMA] in southern and eastern Hokkaido.

IDC ***18*** *15:59:58.8±0.5,4156N×142.05E,h64km±3km,mb4.9/26, mb1 4.9/32,mb1mx4.9/33,mbtmp4.9/32,MS4.6/24, Ms1 4.6/24,ms1mx4.5/33 Error ellipse: s-maj=12.7km s-min=7.5km az=101.0*

BGS ***18*** *16:00:01.9±2.0,4307N×14559E,h60km,mb5.4*

SZGRF ***18*** *16:00:03.2,4250N×14150E,h61km,mb5.5,Hokkaido, Japan, region*

ISC 18 15:59:59.7±0.1,4160N±002×14200E±002,h66km, h66km±.7km:pP-P,n996,σ0s92/994,mb5.3/285,149C-74D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOT	**Ohata**	**0.75**	**253**	⇓P	**Pn**	**16 00 13.2**	**-1.7**
JKB	**Kayabe**	**0.78**	**292**	⇓P	**Pn**	**16 00 13.5**	**-1.7**
JNBK	**Urakawa-nobuka**	**0.88**	**39**	⇑P	**Pn**	**16 00 13.9**	**-2.6**
ERM	**Erimo**	**0.96**	**64**	Pn	**Pn**	**16 00 15.2**	**-2.3**
	154μm,0.7s						
ERM	**Erimo**	**0.96**	**64**	⇓*i*Pn	**Pn**	**16 00 15.2**	**-2.3**
ERM				*e*Sn	**Sn**	**16 00 27.3**	**-3.4**
JEM	**Erimo**	**0.96**	**64**	⇑P	**Pn**	**16 00 15.1**	**-2.4**
JEM				*e*S	**Sn**	**16 00 28.1**	**-2.6**
JTM	**Tenmabayashi**	**1.07**	**221**	⇓P	**Pn**	**16 00 17.4**	**-1.5**
JNB	**Noboribetsu**	**1.12**	**321**	⇓P	**Pn**	**16 00 17.9**	**-1.7**
JNB				*e*S	**Sn**	**16 00 33.2**	**-1.2**
JANG	**Nango**	**1.28**	**197**	⇓P	**Pn**	**16 00 19.3**	**-2.3**
JANG				*e*S	**Sn**	**16 00 35.6**	**-2.4**
JEW	**Eniwo**	**1.30**	**342**	⇓P	**Pn**	**16 00 21.0**	**-0.9**
JYM2	**Yakumo 2**	**1.32**	**293**	⇓P	**Pn**	**16 00 21.5**	**-0.6**
JCH	**Churui**	**1.43**	**45**	P	**Pn**	**16 00 22.4**	**-1.2**
JCH				*e*S	**Sn**	**16 00 40.5**	**-1.1**
JFR	**Furan**	**1.62**	**16**	⇓P	**Pn**	**16 00 24.7**	**-1.4**
JIW	**Iwasaki**	**1.81**	**237**	⇓P	**Pn**	**16 00 27.6**	**-1.1**
JOSM	**Okushiri--Mats**	**1.95**	**285**	⇓P	**Pn**	**16 00 29.1**	**-1.4**
JSK	**Shakotan**	**2.08**	**328**	P	**Pn**	**16 00 31.7**	**-0.6**
JAR	**Ashorobuto**	**2.14**	**37**	⇓P	**Pn**	**16 00 31.7**	**-1.4**
JAR				*e*S	**Sn**	**16 00 56.8**	**-1.8**
ASAJ	**Asahikawa**	**2.55**	**10**	P	**Pn**	**16 00 38.6**	**-0.1**
ASAJ				S	**Sn**	**16 01 09.6**	**+1.0**
ASAJ				pmax	pmax		
	comp=Z,169nm,0.3s						
ASAJ				smax			
	comp=N,349nm,0.3s						
ASAJ	**Asahikawa**	**2.55**	**10**	P	**Pn**	**16 00 38.5**	**-0.1**
	comp=N,168nm,0.3s,baz=223,slow=13,SNR=336						
ASAJ				S	**Sn**	**16 01 09.6**	**+1.0**
	comp=N,349nm,0.3s,baz=353,slow=31,SNR=6.0						
JIO	**Ouri**	**3.18**	**189**	P	**Pn**	**16 00 45.8**	**-1.5**
YUK	**Yuzh-Kuril'sk**	**3.74**	**48**	⇓*i*P	**Pn**	**16 00 53.0**	**-1.9**
YUK				*i* S	**Sn**	**16 01 32.5**	**-5.1**
YUK				pmax	pmax		
	comp=N,1μm,0.4s						
YUK				pmax	pmax		
	comp=Z,810nm,0.4s						
YUK				pmax	pmax		
	comp=E,1μm,0.5s						
YUK				pmax	pmax		
	comp=Z,7μm,1.0s						
YUK				pmax	pmax		
	comp=N,8μm,2.0s						
YUK				pmax	pmax		
	comp=E,8μm,2.0s						
YUK				smax			
	comp=N,19μm,0.5s						
YUK				smax			
	comp=E,23μm,0.5s						
YUK				smax			
	comp=N,6μm,2.0s						
YUK				smax			
	comp=E,38μm,1.0s						
YSS	**Yuzh-Sakhalins**	**5.38**	**6**	⇓*i*P	**Pn**	**16 01 18.0**	**+0.7**
YSS				*e*S	**Sn**	**16 02 16.0**	**-1.8**
YSS				pmax	pmax		
	comp=Z,340nm,1.0s						
YSS				pmax	pmax		
	comp=N,30nm,0.9s						
YSS				smax			
	comp=N,430nm,1.0s						
YSS				MLR	MLR		
	comp=N,5μm,12.0s						
YSS				MLR	MLR		
	comp=E,3μm,14.0s						
YSS				MLR	MLR		
	comp=Z,5μm,14.0s						
YSS	**Yuzh-Sakhalins**	**5.38**	**6**	⇑*e*Pn	**Pn**	**16 01 17.7**	**+0.4**
	comp=Z,272nm,0.7s						
KUR	**Kuril'sk**	**5.61**	**48**	⇑*i*P	**Pn**	**16 01 18.8**	**-1.6**
KUR				*i* S	**Sn**	**16 02 19.5**	**-3.9**
KUR				pmax	pmax		
	comp=Z,10μm,2.0s						
KUR				pmax	pmax		
	comp=N,720nm,1.0s						
KUR				pmax	pmax		
	comp=E,2μm,1.0s						
KUR				pmax	pmax		
	comp=Z,5μm,1.0s						
KUR				smax			
	comp=N,3μm,0.5s						
KUR				smax			
	comp=E,2μm,0.5s						
KUR				smax			
	comp=N,16μm,2.0s						
KUR				smax			
	comp=E,14μm,2.0s						
KUR				MLR	MLR		
	comp=N,12μm,12.0s						
KUR				MLR	MLR		
	comp=E,13μm,12.0s						
KUR				MLR	MLR		
	comp=Z,8μm,12.0s						
MAJO	**Matsushiro**	**5.85**	**212**	*e*P	**Pn**	**16 01 24.5**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,290nm,0.6s						
MAJO	**Matsushiro**	**5.85**	**212**	*e*Pn	**Pn**	**16 01 24.5**	**+0.8**
	comp=Z,294nm,0.6s						
MAT	**Matsushiro**	**5.85**	**212**	P	**Pn**	**16 01 24.4**	**+0.6**
MAT				*e*S	**Sn**	**16 02 30.4**	**+1.0**
MJAR	**Matsushiro Arr**	**5.85**	**211**	P	**Pn**	**16 01 24.2**	**+0.5**
	comp=Z,8.8nm,0.3s,baz=22,slow=15,SNR=57						
MJAR				LR	LR	16 03 12.8	
	comp=Z,929nm,21.4s,baz=30,slow=33						
UGL	**Uglegorsk**	**7.48**	**0**	*e*P	**Pn**	**16 01 44.0**	**-1.9**
UGL				*e*		16 03 10.0	
UGL				pmax	pmax		
	comp=Z,1μm,3.0s						
UGL				pmax	pmax		
	comp=Z,115nm,0.9s						
UGL				MLR	MLR		
	comp=N,6μm,23.0s						
UGL				MLR	MLR		
	comp=E,7μm,23.0s						
UGL				MLR	MLR		
	comp=Z,6μm,23.0s						
VLA	**Vladivostok**	**7.64**	**285**	*e*P	**Pn**	**16 01 48.3**	**+0.1**
VLA				pmax	pmax		
	comp=Z,155nm,1.0s						
VLA	**Vladivostok**	**7.64**	**285**	*e*P	**Pn**	**16 01 48.4**	**+0.2**
HABR	**Khabarovsk**	**8.45**	**327**	⇑*i*P	**Pn**	**16 01 58.9**	**-0.3**
HABR				*e*S	**Sn**	**16 03 34.9**	**+2.0**
HABR				pmax	pmax		
	comp=Z,189nm,1.1s						
JHJ	**Hachijo jima 2**	**8.65**	**192**	P	**Pn**	**16 01 58.9**	**-3.2**
	comp=Z,37nm,0.3s,baz=69,slow=23,SNR=11						
JHJ				S	**Sn**	**16 03 28.9**	**-9.1**
	comp=Z,40nm,0.3s,baz=258,slow=23,SNR=2.9						
MDJ	**Mudanjiang**	**9.56**	**293**	P	**Pn**	**16 02 17.5**	**+3.1**
MDJ				XP		16 02 38.3	
MDJ				S	**Sn**	**16 04 07.9**	**+7.7**
MDJ				AMB	AMB		
	comp=Z,80nm,1.1s						
MDJ				AMB	AMB		
	comp=Z,230nm,3.9s						
MDJ				LR	LR		
	comp=E,4μm,23.0s						
MDJ				LR	LR		
	comp=Z,6μm,21.3s						
MDJ	**Mudanjiang**	**9.56**	**293**	⇓*e*Pn	**Pn**	**16 02 16.6**	**+2.2**
	comp=Z,170nm,0.9s						
KLR	**Kul'dur**	**10.48**	**320**	*e*P	**Pn**	**16 02 24.8**	**-2.2**
KLR				*e*		16 04 22.5	
KLR				pmax	pmax		
	comp=N,74nm,1.6s						
KLR				pmax	pmax		
	comp=E,380nm,1.6s						
KLR				pmax	pmax		
	comp=Z,400nm,1.6s						
KLR				MLR	MLR		
	comp=Z,5μm,12.5s						
KSRS	**Korea Array**	**11.63**	**254**	P	**Pn**	**16 02 45.9**	**+3.2**
	comp=Z,13nm,0.3s,baz=64,slow=14,SNR=123						
KSRS				S	**Sn**	**16 04 59.0**	**+8.1**
	comp=Z,4.5nm,0.3s,baz=69,slow=24,SNR=6.3						
KSRS				LR	LR	16 06 47.7	
	comp=Z,3μm,21.8s,baz=70,slow=35						
OKH	**Okha**	**11.97**	**3**	*e*P	**Pn**	**16 02 49.6**	**+2.4**
OKH				*e*S	**Sn**	**16 05 07.0**	**+8.1**
OKH				pmax	pmax		
	comp=Z,1μm,10.0s						
OKH				smax			
	comp=N,1μm,5.0s						
OKH				smax			
	comp=Z,3μm,16.0s						
JNU	**Nakatsue**	**12.23**	**230**	P	**Pn**	**16 02 51.5**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=45,slow=14,SNR=21						
JNU				LR	LR	16 07 22.1	
	comp=Z,3μm,21.5s,baz=177,slow=36						
CN2	**Changchun**	**12.38**	**286**	*e*P	**Pn**	**16 02 55.8**	**+3.0**
CN2				*e*AP		16 03 04.3	
CN2				*e*XP		16 03 13.3	
CN2				*e*S	**Sn**	**16 05 12.3**	**+3.4**
CN2				AMB	AMB		
	comp=Z,50nm,1.0s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,2μm,18.0s						
CN2				LR	LR		
	comp=E,5μm,18.0s						
CN2				LR	LR		
	comp=Z,5μm,17.0s						
INCN	**Inchon**	**12.55**	**256**	*e*Pn	**Pn**	**16 02 55.5**	**+0.2**
	comp=Z,69nm,0.9s						
SKR	**Severo-Kuril's**	**13.33**	**42**	*e*P	**Pn**	**16 03 02.0**	**-3.8**
SKR				pmax	pmax		
	comp=Z,110nm,0.9s						
SKR				pmax	pmax		
	comp=E,320nm,1.4s						
SKR				pmax	pmax		
	comp=N,800nm,2.0s						
SKR				pmax	pmax		
	comp=Z,1μm,2.0s						
SKR				MLR	MLR		
	comp=Z,2μm,14.0s						
SNY	**Shenyang**	**13.77**	**277**	⇓P	**Pn**	**16 03 14.3**	**+2.7**
SNY				AP		16 03 21.6	
SNY				S	**Sn**	**16 05 54.5**	**+12**
SNY				AMB	AMB		
	comp=Z,91nm,1.3s						
SNY				LR	LR		
	comp=N,1μm,10.8s						
SNY				LR	LR		
	comp=E,2μm,22.1s						
SNY				LR	LR		
	comp=Z,5μm,27.0s						
CBIJ	**Chichi jima**	**14.47**	**179**	P	**Pn**	**16 03 18.1**	**-2.9**
	comp=Z,9.7nm,0.3s,baz=284,slow=22,SNR=6.3						
CBIJ				S	**Sn**	**16 05 42.7**	**-17**
	comp=Z,11nm,0.3s,baz=265,slow=22,SNR=2.7						
DL2	**Dalian**	**15.78**	**267**	⇑*i*P	**Pn**	**16 03 38.4**	**+0.7**
DL2				XP	sP	16 03 55.1	-7.4
DL2				AMB	AMB		
	comp=Z,130nm,0.9s						
DL2				AMB	AMB		
	comp=Z,310nm,4.6s						
DL2				LR	LR		
	comp=N,620nm,23.3s						
DL2				LR	LR		
	comp=E,670nm,24.2s						
DL2				LR	LR		
	comp=Z,2μm,23.0s						
PET	**Petropavlovsk**	**16.02**	**39**	*e*P	**Pn**	**16 03 37.2**	**-3.4**
PET				*e*S	**S**	**16 06 29.6**	**-18**
PET				pmax	pmax		
	comp=Z,300nm,3.8s						
PET				pmax	pmax		
	comp=Z,15nm,0.9s						
PET				MLR	MLR		
	comp=Z,2μm,16.0s						
PET				MLR	MLR		
	comp=Z,2μm,18.0s						
PET	**Petropavlovsk**	**16.02**	**39**	*e*Pn	**Pn**	**16 03 38.1**	**-2.5**
	comp=Z,21nm,0.6s						
HIA	**Hailar**	**17.36**	**304**	⇑*i*P	**Pn**	**16 03 55.4**	**-1.9**
HIA				pmax	pmax		
	comp=Z,59nm,0.8s						
HIA	**Hailar**	**17.36**	**304**	⇑*i*P	**Pn**	**16 03 55.4**	**-1.9**
	comp=Z,59nm,0.8s						
JOW	**Kunigami**	**18.56**	**222**	P	**Pn**	**16 04 10.7**	**-1.4**
	comp=Z,4.7nm,0.3s,baz=22,slow=11,SNR=12						
JOW				LR	LR	16 11 42.4	
	comp=Z,2μm,21.5s,baz=318,slow=38						
NRGR	**Nerungri**	**18.75**	**329**	*e*P	**Pn**	**16 04 12.3**	**-1.8**
NRGR				S	**S**	**16 07 37.7**	**-4.9**
NRGR				smax			
	comp=E,86nm,0.8s						
MA2	**Magadan**	**18.81**	**14**	*i* P	**Pn**	**16 04 11.1**	**-3.6**
MA2				*e*S	**S**	**16 07 35.9**	**-7.8**
MA2				pmax	pmax		
	comp=Z,200nm,1.3s						
MA2				MLR	MLR		
	comp=Z,2μm,17.0s						
MA2	**Magadan**	**18.81**	**14**	*e*Pn	**Pn**	**16 04 09.9**	**-4.8**
	comp=Z,497nm,1.6s						
MA2				*e*		16 04 26.0	
CLNS	**Chul'man**	**18.82**	**330**	*e*P	**Pn**	**16 04 11.0**	**-3.8**
CLNS				*e*S	**S**	**16 07 40.0**	**-4.0**
CLNS				pmax	pmax		
	comp=E,45nm,0.8s						
CLNS				pmax	pmax		
	comp=Z,158nm,0.8s						
CLNS				pmax	pmax		
	comp=N,78nm,0.9s						
CLNS				smax			
	comp=N,304nm,11.9s						
CLNS				smax			
	comp=Z,708nm,15.1s						
CLNS				smax			
	comp=E,507nm,14.4s						
CLNS				MLR	MLR		
	comp=Z,3μm,16.0s						
CLNS				MLR	MLR		
	comp=N,3μm,17.0s						
CLNS				MLR	MLR		
	comp=E,1μm,13.0s						
BJT	**Baijiatuau**	**19.60**	**274**	⇑*i*P	**Pn**	**16 04 20.2**	**-4.1**
BJT				pmax	pmax		
	comp=Z,239nm,0.8s						
BJT	**Baijiatuau**	**19.60**	**274**	⇑*i*P	**Pn**	**16 04 20.2**	**-4.1**
	comp=Z,239nm,0.8s						
BJT				*e*		16 05 00.6	
SSE	**Sheshan**	**19.73**	**245**	P	**Pn**	**16 04 23.0**	**-2.8**
SSE				S	**S**	**16 08 00.6**	**-2.0**
SSE				XS	sS	16 08 22.8	-2.5
SSE				AMB	AMB		
	comp=Z,110nm,0.7s						
SSE				AMB	AMB		
	comp=Z,624nm,10.7s						
SSE				LR	LR		
	comp=N,1μm,20.5s						
SSE				LR	LR		
	comp=E,2μm,20.5s						
SSE				LR	LR		
	comp=Z,2μm,18.7s						
TIA	**Tai'an**	**20.06**	**263**	*e*P	**P**	**16 04 25.8**	**-1.6**
TIA				S	**S**	**16 08 00.0**	**-9.2**
TIA				AMB	AMB		
	comp=Z,153nm,0.8s						
TIA				LR	LR		
	comp=N,580nm,13.0s						
TIA				LR	LR		
	comp=E,562nm,13.0s						
NJ2	**Nanjing**	**20.78**	**250**	*e*P	**P**	**16 04 33.5**	**-1.7**
NJ2				AP		16 04 46.5	
NJ2				PP		16 04 55.3	
NJ2				PPP		16 05 06.1	
NJ2				S	**S**	**16 08 17.0**	**-6.5**
NJ2				AMB	AMB		
	comp=Z,210nm,0.9s						
NJ2				AMB	AMB		
	comp=Z,950nm,10.2s						
NJ2				LR	LR		
	comp=N,5μm,17.2s						
NJ2				LR	LR		
	comp=E,3μm,23.6s						
NJ2				LR	LR		
	comp=Z,3μm,23.6s						
YAK	**Yakutsk**	**21.75**	**344**	*c i*P	**P**	**16 04 41.3**	**-4.1**
YAK				*e*		16 04 55.0	
YAK				*e*S	**S**	**16 08 31.8**	**-10**
YAK				*e*		16 08 47.4	
YAK				*e*		16 15 53.1	
YAK				pmax	pmax		
	comp=E,57nm,0.9s						
YAK				pmax	pmax		
	comp=Z,215nm,0.9s,mb5.5						
YAK				pmax	pmax		
	comp=N,99nm,1.3s						
YAK				smax			
	comp=N,618nm,2.6s						
YAK				smax			
	comp=E,324nm,2.6s						
YAK				MLR	MLR		
	comp=Z,2μm,24.0s						
YAK				MLR	MLR		
	comp=N,1μm,19.0s						
YAK				MLR	MLR		
	comp=E,1μm,18.0s						
YAK	**Yakutsk**	**21.75**	**344**	⇑*e*P	**P**	**16 04 40.8**	**-4.6**
	comp=E,229nm,0.8s,mb5.6						
YAK				LR	LR		
	comp=Z,1μm,19.0s						
SEY	**Seymchan**	**22.23**	**13**	⇑*e*P	**P**	**16 04 47.2**	**-3.2**
SEY	**Seymchan**	**22.23**	**13**	⇑*e*P	**P**	**16 04 47.3**	**-3.1**
HHC	**Hu-ho-hao-te**	**22.85**	**278**	*e*P	**P**	**16 04 56.3**	**-0.9**
HHC				AP		16 05 10.8	
HHC				XP	sP	16 05 18.3	-1.5
HHC				PP		16 05 27.6	
HHC				PCP	PcP	16 08 47.8	+1.9
HHC				S	**S**	**16 08 58.6**	**-3.0**
HHC				XS	sS	16 09 20.5	-6.7
HHC				SS		16 09 44.0	
HHC				AMB	AMB		
	comp=Z,70nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,579nm,6.3s						
HHC				LR	LR		
	comp=N,2μm,13.5s						
HHC				LR	LR		
	comp=E,3μm,18.8s						
HHC				LR	LR		
	comp=Z,4μm,18.4s						
TIY	**Taiyuan**	**23.04**	**270**	⇑*i*P	**P**	**16 04 56.3**	**-2.9**
TIY				PP		16 05 28.8	
TIY				S	**S**	**16 09 07.3**	**+2.7**
TIY				XS	sS	16 09 32.8	+2.0
TIY				LR	LR		
	comp=N,2μm,17.5s						
TIY				LR	LR		
	comp=E,2μm,15.7s						
TIY				LR	LR		
	comp=Z,2μm,18.5s						
TATO	**Taipei**	**23.76**	**232**	⇑*i*P	**P**	**16 05 03.7**	**-2.2**
	comp=Z,115nm,0.9s,mb5.2						
TATO				LR	LR		
	comp=Z,2μm,19.0s						
BTO	**Baotou**	**24.05**	**278**	*e*P	**P**	**16 05 06.9**	**-1.6**
BOD	**Bodaibo**	**24.05**	**322**	*e*P	**P**	**16 05 05.1**	**-3.2**
BOD				pmax	pmax		
	comp=Z,48nm,1.0s,mb4.8						
YHNB	**Yeheng**	**24.05**	**232**	*e*P	**P**	**16 05 05.7**	**-2.9**
NACB	**Ninganchiao**	**24.31**	**231**	P	**P**	**16 05 06.0**	**-5.0**
WHN	**Wuhan**	**24.82**	**252**	⇑P	**P**	**16 05 13.1**	**-2.5**
WHN				S	**S**	**16 09 34.3**	**+0.8**
WHN				LR	LR		
	comp=N,3μm,14.0s						

WHN			LR	LR		
	comp=E,3μm,16.0s					
WHN			LR	LR		
	comp=Z,5μm,17.7s					
ULN	**Ulaanbaatar**	**25.45 296⇑**	*eP*	**P**	**16 05 20.5**	**-0.6**
ULN	**Ulaanbaatar**	**25.45 296⇑**	*eP*	**P**	**16 05 20.0**	**-1.1**
	comp=Z,69nm,0.9s,mb5.1					
ULN			LR	LR		
	comp=Z,2μm,19.0s					
QZH	**Quanzhou**	**25.55 237⇑**	*iP*	**P**	**16 05 22.0**	**-0.2**
QZH			S	**S**	**16 09 46.4**	**+1.3**
QZH			AMB	AMB		
	comp=Z,150nm,0.8s,mb5.5					
QZH			AMB	AMB		
	comp=Z,1μm,2.7s,mb5.8					
QZH			LR	LR		
	comp=N,890nm,14.4s					
QZH			LR	LR		
	comp=E,540nm,7.4s					
QZH			LR	LR		
	comp=Z,1μm,15.8s					
SONM	**Songino Array**	**25.89 296**	P	**P**	**16 05 24.8**	**-0.3**
SONM			pmax	pmax		
	comp=Z,74nm,0.9s					
SONM			MLR	MLR		
	comp=Z,2μm,18.6s					
SONM	**Songino Array**	**25.89 296**	P	**P**	**16 05 24.8**	**-0.3**
	comp=Z,74nm,0.8s,mb5.1,baz=65,slow=8.7,SNR=22					
SONM			LR	LR	16 16 23.3	
	comp=Z,2μm,18.6s,baz=25,slow=38					
IRK	**Irkutsk**	**27.58 306**	*eP*	**P**	**16 05 40.2**	**0.0**
IRK			*e*		16 06 34.2	
IRK			pmax	pmax		
	comp=Z,142nm,1.0s,mb5.5					
TLY	**Talaya**	**27.90 304**	P	**P**	**16 05 43.2**	**+0.1**
	comp=Z,346nm,0.8s,mb5.9,SNR=20					
TLY	**Talaya**	**27.90 304***c*	*iP*	**P**	**16 05 42.1**	**-1.0**
TLY			*e*PPP		16 06 28.0	
TLY			*i* S	**S**	**16 10 21.7**	**0.0**
TLY			pmax	pmax		
	comp=Z,70nm,1.0s,mb5.2					
TLY			MLR	MLR		
	comp=Z,2μm,16.0s					
TLY	**Talaya**	**27.90 304⇑**	*iP*	**P**	**16 05 42.5**	**-0.6**
	comp=Z,62nm,1.0s,mb5.1					
TLY			*e*PcP	PcP	16 08 58.2	+1.1
TLY			LR	LR		
	comp=Z,2μm,19.0s					
GUMO	**Guam**	**28.02 174**	PFAKE		16 06 00.0	+16
GUMO			LR	LR		
	comp=Z,1μm,22.0s					
GUMO	**Guam**	**28.02 174**	LR	LR	16 15 51.2	
	comp=Z,704nm,20.3s,baz=175,slow=34					
ZAK	**Zakamensk**	**28.02 302**	*eP*	**P**	**16 05 44.0**	**-0.2**
ZAK			pmax	pmax		
	comp=Z,31nm,1.4s,mb4.7					
BILL	**Bilibino**	**29.54 18***d*	*iP*	**P**	**16 05 56.1**	**-1.3**
BILL			*e*S	**S**	**16 10 43.6**	**-3.5**
BILL			pmax	pmax		
	comp=Z,40nm,1.2s,mb4.9					
BILL			MLR	MLR		
	comp=Z,1μm,19.0s					
BILL	**Bilibino**	**29.54 18**	*eP*	**P**	**16 05 54.9**	**-2.6**
	comp=Z,29nm,0.9s,mb4.9					
BILL			LR	LR		
	comp=Z,1μm,19.0s					
MOY	**Mondy**	**29.54 304**	*eP*	**P**	**16 05 57.7**	**0.0**
MOY			pmax	pmax		
	comp=Z,115nm,2.5s,mb5.1					
LZH	**Lanzhou**	**30.05 272**	*eP*	**P**	**16 06 02.4**	**0.0**
LZH			AP	pP	16 06 18.5	+0.1
LZH			PP	PP	16 07 02.0	-9.1
LZH			PCP	PcP	16 09 04.0	+1.2
LZH			*e*S	**S**	**16 10 55.0**	**-0.8**
LZH			SS	SS	16 12 33.0	-33
LZH			SCP	ScP	16 12 38.5	-0.5
LZH			AMB	AMB		
	comp=Z,65nm,1.2s,mb5.1					
LZH			AMB	AMB		
	comp=Z,200nm,5.5s					
LZH			LR	LR		
	comp=E,1μm,13.1s					
LZH			LR	LR		
	comp=Z,2μm,15.4s					
GZH	**Guangzhou**	**30.24 241**	P	**P**	**16 05 59.6**	**-4.5**
GZH			S	**S**	**16 10 49.8**	**-9.2**
GZH			LR	LR		
	comp=N,1μm,18.2s					
GZH			LR	LR		
	comp=E,1μm,17.9s					
GZH			LR	LR		
	comp=Z,2μm,18.2s					
TIXI	**Tiksi**	**30.82 352**	*eP*	**P**	**16 06 04.0**	**-4.8**
TIXI			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.6					
TIXI			MLR	MLR		
	comp=Z,796nm,14.0s					
TIXI	**Tiksi**	**30.82 352**	*eP*	**P**	**16 06 05.1**	**-3.7**
	comp=Z,9.4nm,0.8s,mb4.6					
GTA	**Gaotai**	**31.92 280**	⇓P	**P**	**16 06 19.3**	**+0.5**
GTA			AP	pP	16 06 35.4	+0.5
GTA			XP	sP	16 06 41.5	-1.2
GTA			PP	PP	16 07 27.3	-4.5
GTA			PPP		16 07 43.6	
GTA			PCP	PcP	16 09 09.3	+1.6
GTA			S	**S**	**16 11 26.0**	**+1.0**
GTA			XS	sS	16 11 50.8	-1.7
GTA			SCP	ScP	16 12 44.3	-0.9
GTA			PCS	PcS	16 12 51.9	-0.5
GTA			SS	SS	16 13 20.9	-23
GTA			SCS	ScS	16 16 42.6	-1.1
GTA			AMB	AMB		
	comp=Z,43nm,1.0s,mb5.1					
GTA			AMB	AMB		
	comp=Z,185nm,4.9s					
GTA			LR	LR		
	comp=N,830nm,17.5s					
GTA			LR	LR		
	comp=E,2μm,16.7s					
GTA			LR	LR		
	comp=Z,3μm,17.1s					
CD2	**Chengdu**	**32.39 263**	P	**P**	**16 06 21.5**	**-1.5**
CD2			XP	sP	16 06 43.1	-3.8
CD2			PP	PP	16 07 30.1	-7.1
CD2			PCP	PcP	16 09 07.9	-1.2
CD2			S	**S**	**16 11 29.9**	**-2.6**
CD2			SS	SS	16 13 27.9	-26
CD2			SCS	ScS	16 16 43.0	-3.4
CD2			AMB	AMB		
	comp=Z,130nm,0.6s,mb5.8					
CD2			AMB	AMB		
	comp=Z,330nm,9.6s					
CD2			LR	LR		
	comp=N,970nm,10.5s					
CD2			LR	LR		
	comp=E,830nm,15.6s					
CD2			LR	LR		
	comp=Z,1μm,19.8s					
GYA	**Guiyang**	**32.69 254**	P	**P**	**16 06 24.8**	**-0.9**
GYA			AP	pP	16 06 42.5	+0.7
GYA			XP	sP	16 06 49.6	+0.1
GYA			PP	PP	16 07 37.8	-2.7
GYA			PCP	PcP	16 09 12.4	+2.4
GYA			S	**S**	**16 11 34.6**	**-2.6**
GYA			XS	sS	16 12 04.3	-0.4
GYA			PCS	PcS	16 12 51.4	-4.0
GYA			SS	SS	16 13 38.3	-22
GYA			SCS	ScS	16 16 48.1	+0.1
GYA			AMB	AMB		
	comp=Z,30nm,0.6s,mb5.3					
GYA			AMB	AMB		
	comp=Z,210nm,4.8s					
GYA			LR	LR		
	comp=N,2μm,15.6s					
GYA			LR	LR		
	comp=E,690nm,17.4s					
GYA			LR	LR		
	comp=Z,2μm,16.5s					
GAMB	**Gambell**	**34.63 34**	*eP*	**P**	**16 06 39.3**	**-2.8**
	comp=Z,13nm,0.9s,mb4.8					
QIZ	**Qiongzhong**	**35.41 240**	P	**P**	**16 06 50.1**	**+0.9**
QIZ			S	**S**	**16 12 21.0**	**+1.7**
QIZ			AMB	AMB		
	comp=Z,19nm,1.6s,mb4.7					
QIZ			LR	LR		
	comp=N,719nm,22.7s					
QIZ			LR	LR		
	comp=Z,1μm,18.8s					
QIZ	**Qiongzhong**	**35.41 240**	PFAKE		16 07 00.0	+11
QIZ			LR	LR		
	comp=Z,1μm,20.0s					
UNV	**Unalaska Valle**	**35.96 52**	PFAKE		16 07 10.0	+16
UNV			LR	LR		
	comp=Z,2μm,21.0s					
KMI	**Kunming**	**36.32 256**	P	**P**	**16 06 56.9**	**-0.1**
KMI			AP	pP	16 07 12.0	-1.3
KMI			XP	sP	16 07 18.3	-2.7
KMI			PP	PP	16 08 22.8	+2.1
KMI			PPP		16 08 43.3	
KMI			S	**S**	**16 12 33.3**	**+0.1**
KMI			XS	sS	16 12 59.9	-1.0
KMI			SS	SS	16 15 00.4	-14
KMI			SSS		16 15 30.8	
KMI			SCS	ScS	16 17 07.4	0.0
KMI			AMB	AMB		
	comp=Z,32nm,1.3s,mb5.1					
KMI			AMB	AMB		
	comp=Z,481nm,3.6s					
KMI			LR	LR		
	comp=N,731nm,15.9s					
KMI			LR	LR		
	comp=E,790nm,20.8s					
KMI			LR	LR		
	comp=Z,1μm,18.6s					
TNA	**Tin City**	**36.70 32**	*eP*	**P**	**16 06 58.4**	**-1.4**
	comp=Z,31nm,0.9s,mb5.2					
TNA			*e*	pP	16 07 15.1	-1.0
DAV	**Davao City (W)**	**37.36 208⇑**	*eP*	**P**	**16 06 58.3**	**-7.6**
ZAA0	**Zalesovo Array**	**39.30 308**	*eP*	**P**	**16 07 22.0**	**+0.2**
ZAA0			*e*	pP	16 07 34.6	-3.6
ZALV	**Zalesovo Beam**	**39.30 308**	P	**P**	**16 07 21.5**	**-0.3**
	comp=Z,104nm,0.8s,mb5.7,baz=90,slow=7.3,SNR=41					
ZALV			PcP	PcP	16 09 28.5	-0.7
	comp=Z,35nm,0.6s,baz=93,slow=2.3,SNR=7.5					
ZALV			ScP	ScP	16 13 12.5	+0.7
	comp=Z,2.6nm,0.7s,baz=101,slow=4.6,SNR=4.4					
ZALV			LR	LR	16 24 38.3	
	comp=Z,1μm,19.0s,baz=89,slow=38					
ZAL	**Zalesovo**	**39.32 308**	P	**P**	**16 07 21.5**	**-0.4**
ZAL					16 09 28.5	
ZAL					16 13 12.5	
WMQ	**Urumqi**	**39.36 292**	P	**P**	**16 07 23.0**	**+0.5**
WMQ			AP	pP	16 07 38.0	-0.9
WMQ			XP	sP	16 07 46.0	-0.6
WMQ			PP	PP	16 08 58.0	+4.3
WMQ			S	**S**	**16 13 19.0**	**+0.2**
WMQ			SS	SS	16 16 09.0	-5.6
WMQ			AMB	AMB		
	comp=Z,235nm,1.0s,mb6.0					
WMQ			AMB	AMB		
	comp=Z,725nm,4.0s					
WMQ			LR	LR		
	comp=N,756nm,15.0s					
WMQ			LR	LR		
	comp=E,1μm,15.0s					
WMQ			LR	LR		
	comp=Z,2μm,15.0s					
NVS	**Novosibirsk**	**40.13 310**	*i* P	**P**	**16 07 28.5**	**-0.2**
NVS			*i*		16 09 31.6	
NVS			pmax	pmax		
	comp=E,141nm,1.9s					
NVS			pmax	pmax		
	comp=Z,148nm,1.9s,mb5.5					
NVS			pmax	pmax		
	comp=N,53nm,2.0s					
TTA	**Tatalina**	**41.47 38**	*eP*	**P**	**16 07 39.7**	**+0.1**
SVW2	**Sparrevohn**	**41.68 40**	*eP*	**P**	**16 07 42.2**	**+0.9**
MYLDM	**Lahad Datu**	**41.90 216**	⇑P	**P**	**16 07 47.1**	**+3.5**
KKTK	**Khon Kaen**	**42.00 245**	P	**P**	**16 07 45.1**	**+0.6**
	comp=N,1μm,0.6s					
SDKM	**Sandakan**	**42.09 219**	⇓P	**P**	**16 07 46.1**	**+0.9**
KKM	**Kota Kinabalu**	**42.20 220**	P	**P**	**16 07 46.9**	**+0.9**
MK31	**Makanchi Array**	**42.23 298⇑**	*eP*	**P**	**16 07 45.4**	**-0.6**
MK31			*e*		16 09 38.9	
MKAR	**Makanchi Array**	**42.23 298**	P	**P**	**16 07 45.5**	**-0.5**
MKAR					16 09 39.0	
MKAR			pmax	pmax		
	comp=Z,82nm,1.0s					
MKAR	**Makanchi Array**	**42.23 298**	P	**P**	**16 07 45.5**	**-0.5**
	comp=Z,82nm,0.9s,mb5.4,baz=82,slow=8.8,SNR=31					
MKAR			PcP	PcP	16 09 39.0	+0.1
	comp=Z,16nm,0.8s,baz=66,slow=3.0,SNR=4.1					
LSA	**Lhasa**	**42.44 271**	P	**P**	**16 07 45.4**	**-2.5**
LSA	**Lhasa**	**42.44 271⇑**	*iP*	**P**	**16 07 49.0**	**+1.1**
LSA			pmax	pmax		
	comp=Z,110nm,1.1s,mb5.5					
LSA			MLR	MLR		
	comp=Z,1μm,20.0s					
LSA	**Lhasa**	**42.44 271⇑**	*iP*	**P**	**16 07 49.0**	**+1.1**
	comp=Z,110nm,1.1s,mb5.5					
LSA			LR	LR		
	comp=Z,1μm,20.0s					
IMA2	**Indian Mountai**	**42.56 33**	*eP*	**P**	**16 07 48.2**	**-0.2**
TSM	**Tawau**	**42.97 217**	⇑P	pP	16 08 04.9	-4.0
KDAK	**Kodiak Island**	**43.48 45**	P	**P**	**16 07 55.0**	**-0.9**
	comp=Z,274nm,0.9s,mb6.0,SNR=8.4					
KDAK	**Kodiak Island**	**43.48 45⇑**	*iP*	**P**	**16 07 54.9**	**-1.0**
	comp=Z,61nm,1.0s,mb5.3					
KDAK			*e*	pP	16 08 11.4	-1.1
KDAK			*e*PcP	PcP	16 09 42.4	-0.4
KDAK	**Kodiak Island**	**43.48 45**	P	**P**	**16 07 54.5**	**-1.5**
	comp=Z,33nm,0.8s,mb5.1,baz=308,slow=4.5,SNR=21					
KURK	**Kurchatov**	**43.60 304**	P	**P**	**16 07 56.5**	**-0.5**
	comp=Z,1μm,0.8s,SNR=20					
KURK	**Kurchatov**	**43.60 304⇑**	*eP*	**P**	**16 07 56.5**	**-0.5**
KURK	**Kurchatov**	**43.60 304⇑**	*iP*	**P**	**16 07 56.5**	**-0.5**
	comp=Z,209nm,0.8s,mb5.9					
KURK			LR	LR		
	comp=Z,1μm,19.0s					
SHL	**Shillong**	**44.09 265**	*eP*	**P**	**16 08 01.0**	**-0.2**
SLKM	**Skilak Lake**	**44.35 41**	*eP*	**P**	**16 08 02.3**	**-0.5**
SLKM			*e*		16 09 44.9	
PMR	**Palmer**	**44.75 39**	*eP*	**P**	**16 08 05.9**	**-0.1**
PMR			pmax	pmax		
	comp=Z,45nm,0.9s,mb5.2					
PMR	**Palmer**	**44.75 39**	*eP*	**P**	**16 08 05.9**	**-0.1**
	comp=Z,45nm,0.9s,mb5.2					
COLA	**College**	**45.02 35⇑**	*iP*	**P**	**16 08 08.1**	**0.0**
COLA			*e*	pP	16 08 25.1	+0.2
COLA			pmax	pmax		
	comp=Z,141nm,0.8s,mb5.8					
COLA			MLR	MLR		
	comp=Z,827nm,21.0s					
COLA	**College**	**45.02 35⇑**	*iP*	**P**	**16 08 08.1**	**-0.1**
	comp=Z,141nm,0.8s,mb5.8					
COLA			*e*	pP	16 08 25.1	+0.2
COLA			LR	LR		
	comp=Z,827nm,21.0s					
SML	**Sawmill**	**45.10 39⇑**	*eP*	**P**	**16 08 08.6**	**-0.2**
DIV	**Divide**	**46.42 40⇑**	*iP*	**P**	**16 08 19.2**	**+0.1**
	comp=Z,201nm,1.4s,mb5.7					
MENT	**Mentasta**	**47.07 37**	*eP*	**P**	**16 08 25.0**	**+0.7**
JIRN	**Jiri**	**47.21 271**	*eP*	**P**	**16 08 26.5**	**+0.6**
SBUM	**Sibu**	**47.28 222**	⇓P	**P**	**16 08 27.6**	**+1.1**
GUN	**Gumba**	**47.31 272**	*eP*	**P**	**16 08 27.8**	**+1.1**
ULHL	**Ulahol**	**47.80 294**	P	**P**	**16 08 31.6**	**+1.3**
SNR=13						
KKN	**Kakani**	**47.83 272**	*eP*	**P**	**16 08 31.8**	**+1.2**
	comp=Z,415nm,0.9s					
PKI	**Pulchoki**	**47.85 272**	*eP*	**P**	**16 08 31.8**	**+1.0**
	comp=Z,343nm,1.1s					
EGAK	**Eagle**	**47.87 34⇑**	*iP*	**P**	**16 08 29.9**	**-0.5**
	comp=Z,115nm,1.2s,mb5.6					
BRVK	**Borovoye**	**47.98 310**	P	**P**	**16 08 32.2**	**+0.7**
	comp=Z,451nm,0.9s,SNR=12					
BRVK	**Borovoye**	**47.98 310⇑**	*iP*	**P**	**16 08 31.3**	**-0.2**
BRVK			pmax	pmax		
	comp=Z,75nm,0.9s,mb5.5					
BRVK			MLR	MLR		
	comp=Z,2μm,19.0s					
BRVK	**Borovoye**	**47.98 310⇑**	*iP*	**P**	**16 08 31.3**	**-0.2**
	comp=Z,75nm,0.9s,mb5.5					
BRVK			LR	LR		
	comp=Z,2μm,19.0s					
TKM2	**Tokmak 2**	**47.98 295⇑**	*iP*	**P**	**16 08 32.2**	**+0.6**
TKM2			pmax	pmax		
	comp=Z,165nm,0.8s					
TKM2			MLR	MLR		
	comp=Z,2μm,21.0s					
TKM2	**Tokmak 2**	**47.98 295⇑**	*iP*	**P**	**16 08 32.2**	**+0.6**
	comp=Z,165nm,0.8s					
TKM2			LR	LR		
	comp=Z,2μm,21.0s					
TKM2	**Tokmak 2**	**47.98 295**	P	**P**	**16 08 33.3**	**+1.6**
SNR=11						
DMN	**Daman**	**48.05 272**	*eP*	**P**	**16 08 32.6**	**+0.2**
	comp=Z,375nm,1.0s					
GKN	**Gorkha**	**48.20 273**	*eP*	**P**	**16 08 34.1**	**+0.6**
	comp=Z,347nm,0.9s					
KBK	**Karagaybulak**	**48.53 295**	P	**P**	**16 08 36.5**	**+0.6**
SNR=73						
CHMS	**Chumysh**	**48.53 295**	P	**P**	**16 08 36.7**	**+0.9**
SNR=12						
KZA	**Kyzart**	**48.55 294**	P	**P**	**16 08 38.5**	**+2.5**
SNR=16						
USP	**Ospenovka**	**48.59 296**	P	**P**	**16 08 36.5**	**+0.1**
SNR=27						
DANN	**Dangsing**	**48.67 274**	*eP*	**P**	**16 08 37.9**	**+0.8**
	comp=Z,952nm,0.6s					
FRU	**Bishkek**	**48.68 295**	*eP*	**P**	**16 08 36.0**	**-1.0**
FRU			*i*	pP	16 08 51.0	-2.9
FRU			*e*		16 15 38.0	
FRU			pmax	pmax		
	comp=Z,200nm,2.0s,mb5.7					
FRU			MLR	MLR		
	comp=Z,600nm,20.0s					
AAK	**Ala-Archa**	**48.84 295**	P	**P**	**16 08 37.1**	**-1.2**
	comp=Z,254nm,0.4s,SNR=8.7					
AAK	**Ala-Archa**	**48.84 295**	P	**P**	**16 08 39.4**	**+1.2**
SNR=5.3						
UCH	**Uchtor**	**48.99 295⇑**	*iP*	**P**	**16 08 39.8**	**+0.5**
	comp=Z,21nm,0.8s,mb5.1					
UCH			LR	LR		
	comp=Z,2μm,22.0s					
UCH	**Uchtor**	**48.99 295**	P	**P**	**16 08 41.2**	**+1.8**
SNR=9.8						
KSH	**Kashi**	**49.09 291⇑**	*iP*	**P**	**16 08 41.0**	**+0.8**
KSH			*e*AP	pP	16 08 56.3	-0.8
KSH			*e*XP	sP	16 09 03.1	-1.6
KSH			*e*PCP	PcP	16 10 04.0	+1.1
KSH			*e*PP	PP	16 10 35.1	+1.0
KSH			*e*PPP		16 11 29.1	
KSH			*e*SCP	ScP	16 13 52.1	0.0
KSH			*e*PCS	PcS	16 13 59.1	-0.2
KSH			*e*S	**S**	**16 15 38.0**	**-2.1**
KSH			*e*SCS	ScS	16 18 24.3	-1.6
KSH			*e*SS	SS	16 19 06.3	-5.3
KSH			LR	LR		
	comp=N,4μm,15.5s					
KSH			LR	LR		
	comp=E,1μm,6.2s					
KSH			LR	LR		
	comp=Z,4μm,17.3s					
KSM	**Kuching**	**49.09 224**	*eP*	**P**	**16 08 40.8**	**+0.3**
KSM	**Kuching**	**49.09 224**	⇑P	**P**	**16 08 40.7**	**+0.3**
KOLN	**Koldanda**	**49.10 273**	*eP*	**P**	**16 08 40.6**	**+0.2**
	comp=Z,344nm,0.9s					
EKS2	**Erkin-Say**	**49.32 295⇑**	*iP*	**P**	**16 08 41.8**	**-0.1**
	comp=Z,36nm,0.6s,mb5.5					
EKS2			*e*PcP	PcP	16 10 04.5	+0.9
EKS2			LR	LR		
	comp=Z,657nm,20.0s					
EKS2	**Erkin-Say**	**49.32 295**	P	**P**	**16 08 42.1**	**+0.2**
SNR=21						
BOK	**Bokaro**	**49.58 267**	*eP*	**P**	**16 08 44.7**	**+0.6**
BOK			AMb	AMB	16 08 48.2	
	comp=Z,46nm,1.2s,mb5.3					
AML	**Almayashu**	**49.59 295⇑**	*iP*	**P**	**16 08 44.6**	**+0.7**
	comp=Z,67nm,0.9s,mb5.6					
AML			LR	LR		
	comp=Z,2μm,20.0s					
AML	**Almayashu**	**49.59 295**	P	**P**	**16 08 45.0**	**+1.0**
SNR=25						
KTGM	**Kuala Trenggan**	**50.02 235**	⇓P	**P**	**16 08 48.5**	**+0.9**
KAPI	**Kappang**	**50.65 209**	P	**P**	**16 08 51.0**	**-1.2**
	comp=Z,254nm,1.7s,mb6.0,SNR=7.8					
KAPI	**Kappang**	**50.65 209**	P	**P**	**16 08 51.1**	**-1.1**
	comp=Z,12nm,0.6s,mb5.1,baz=34,slow=6.2,SNR=16					
PTH	**Pithoragarh**	**50.69 277**	*eP*	**P**	**16 08 53.9**	**+1.5**
LGTI	**Lohaghat**	**50.72 277**	*eP*	**P**	**16 08 54.0**	**+1.3**
KULM	**Kulim**	**51.59 237⇑**	*iP*	**P**	**16 08 59.5**	**+0.1**
KULM			*e*PcP	PcP	16 10 12.3	-0.1
KULM	**Kulim**	**51.59 237**	⇓P	**P**	**16 09 00.8**	**+1.4**
SKAG	**Skagway**	**51.86 40**	*eP*	**P**	**16 09 01.8**	**+1.0**
	comp=Z,7.5nm,0.4s,mb5.1					
IPM	**Ipoh**	**51.98 236**	⇓P	**P**	**16 09 02.8**	**+0.6**
SVE	**Sverdlovsk**	**52.09 316⇓**	*eP*	**P**	**16 09 02.6**	**+0.1**
SVE			*e*S	**S**	**16 16 37.6**	**+16**
SVE			pmax	pmax		
	comp=Z,126nm,0.9s,mb6.0					
SVE			MLR	MLR		
	comp=Z,3μm,16.0s					
SMLA	**Simla**	**52.14 281**	*eP*	**P**	**16 09 03.1**	**-0.1**
SMLA			AMb	AMB	16 09 06.2	
	comp=Z,285nm,0.9s,mb6.3					
DLH	**Dalhousie**	**52.31 283**	*eP*	**P**	**16 09 06.0**	**+1.5**
MYKOM	**Kota Tinggi**	**52.41 231**	⇓P	**P**	**16 09 07.4**	**+2.0**
KGM	**Kluang**	**52.54 232**	⇑P	**P**	**16 09 08.4**	**+2.1**
BHK	**Bhakra**	**52.54 281**	*eP*	**P**	**16 09 06.4**	**+0.1**
THN	**Thein Dam**	**52.54 283**	*eP*	**P**	**16 09 05.8**	**-0.5**
FRIM	**Kepong**	**52.59 235**	⇑P	**P**	**16 09 08.3**	**+1.5**
SIT	**Sitka**	**52.68 43**	*eP*	**P**	**16 09 08.1**	**+1.2**
SIT			pmax	pmax		
	comp=Z,192nm,1.5s,mb5.9					
SIT			MLR	MLR		
	comp=Z,750nm,20.0s					
SIT	**Sitka**	**52.68 43**	*eP*	**P**	**16 09 08.1**	**+1.2**
	comp=Z,192nm,1.5s,mb5.9					
SIT			LR	LR		
	comp=Z,750nm,20.0s					
ARU	**Arti**	**53.30 317**	P	**P**	**16 09 12.1**	**+0.6**
	comp=Z,602nm,0.9s,SNR=11					
ARU	**Arti**	**53.30 317⇑**	*eP*	**P**	**16 09 11.1**	**-0.4**
ARU			pmax	pmax		
	comp=Z,143nm,1.2s,mb5.9					
ARU	**Arti**	**53.30 317⇑**	*iP*	**P**	**16 09 10.9**	**-0.5**
	comp=Z,100nm,0.9s,mb5.8					
ARU			*e*PcP	PcP	16 10 18.1	-0.1
ARU			LR	LR		
	comp=Z,2μm,20.0s					
BLSP	**Bilaspur**	**53.36 268**	*eP*	**P**	**16 09 12.2**	**-0.1**
BLSP			AMb	AMB	16 09 16.5	
	comp=Z,145nm,0.6s					
NDI	**New Delhi**	**53.37 278**	*eP*	**P**	**16 09 12.3**	**-0.1**
NDI			AMb	AMB	16 09 13.4	
	comp=Z,108nm,0.6s,mb6.0					
HNR	**Honiara**	**53.40 158**	LR	LR	16 30 03.9	
	comp=Z,709nm,21.8s,baz=359,slow=34					
BATI	**Kupang**	**54.24 202**	P	**P**	**16 09 18.1**	**-0.7**
	comp=Z,16nm,0.5s,mb5.3,baz=2.6,slow=3.5,SNR=6.0					
CRAG	**Craig**	**54.42 44**	P	**P**	**16 09 20.1**	**+0.4**
	comp=Z,113nm,1.4s,mb5.7					
CRAG			*e*	pP	16 09 39.4	+2.6
WRAK	**Wrangell Islan**	**54.44 43**	*eP*	**P**	**16 09 19.2**	**-0.6**
	comp=Z,154nm,1.6s,mb5.8					
WRAK			*e*	pP	16 09 39.9	+3.0
KAKA	**Kakadu**	**54.76 191**	*eP*	**P**	**16 09 21.0**	**-1.4**
	comp=Z,47nm,1.2s,mb5.4					
VIS	**Vishakhapatnam**	**55.12 263**	*eP*	**P**	**16 09 25.1**	**-0.1**
VIS			AMb	AMB	16 09 27.2	
	comp=Z,36nm,0.8s,mb5.5					
COEN	**Coen**	**55.29 179**	*eP*	**P**	**16 09 26.4**	**+0.1**
	comp=Z,22nm,1.1s,mb5.1					
ALE	**Alert**	**55.53 4**	P	**P**	**16 09 27.0**	**-0.3**
	comp=Z,465nm,1.0s,SNR=52					
SPB4	**Spitsbergen Ar**	**56.14 348**	*eP*	**P**	**16 09 31.1**	**-0.7**
BHPL	**Bhopal**	**56.24 272**	*eP*	**P**	**16 09 33.0**	**-0.2**
BHPL			AMb	AMB	16 09 38.2	
	comp=Z,59nm,1.0s,mb5.6					
KBS	**Kingsbay**	**56.24 350**	*e*	**P**	**16 09 33.1**	**+0.6**
KBS			*eP*		16 09 33.1	
KBS			*e*S	**S**	**16 17 18.8**	**+2.1**
KBS			AMS	AMS	16 37 48.1	
	comp=Z,168nm,11.3s					
KBS	**Kingsbay**	**56.24 350⇑**	*eP*	**P**	**16 09 32.2**	**-0.2**
KBS	**Kingsbay**	**56.24 350⇑**	*eP*	**P**	**16 09 32.4**	**0.0**
	comp=Z,80nm,0.9s,mb5.8					
NGP	**Nagpur**	**56.24 269**	*eP*	**P**	**16 09 33.4**	**+0.2**
NGP			AMb	AMB	16 09 37.8	
	comp=Z,87nm,0.3s					
KBL	**Kabul**	**56.30 288⇑**	*iP*	**P**	**16 09 32.4**	**-1.1**
	comp=Z,97nm,0.9s,mb5.8					
AJM	**Ajmer**	**56.49 277**	*ex*	x	16 09 29.4	
AJM			AM

comp=Z,254nm,1.1s
POHA e pP 16 09 55.5 +1.7
POHA LR LR
comp=Z,1μm,20.0s
KHU Kahuku 56.96 93 eP **P 16 09 36.4 -1.9**
KHU e pP 16 09 56.9 +1.3
AKL Akola 58.04 270 eP **P 16 09 46.0 +0.1**
AKL AMb AMB 16 09 47.1
comp=Z,135nm,1.5s,mb5.7
APA Apatity 58.73 335⇑iP **P 16 09 48.8 -1.2**
APA i pP 16 10 06.0 -1.4
APA pmax pmax
comp=Z,42nm,1.0s,mb5.4
APA MLR MLR
comp=Z,1μm,18.0s
HYB Hyderabad 58.88 266 eP **P 16 09 50.5 -1.3**
HYB pmax pmax
comp=Z,67nm,0.6s,mb5.8
HYB Hyderabad 58.88 266 eP **P 16 09 50.5 -1.3**
comp=Z,67nm,0.6s,mb5.8
HYB Hyderabad 58.88 266 iP **P 16 09 50.5 -1.3**
comp=Z,67nm,0.6s,mb5.8
HYB esP sP 16 10 14.5 -2.1
HYB ePcP PcP 16 10 41.0 +0.5
HYB eS **S 16 18 00.0 +7.3**
TMCR Tamitsa 58.98 330 eP **P 16 09 51.6 -0.2**
TMCR e*PP pP 16 10 06.0 -3.2
TMCR pmax pmax
comp=Z,107nm,0.8s,mb5.9
KEV Kevo 59.35 338 ep **P 16 09 53.2 -1.1**
comp=Z,44nm,0.7s,mb5.6
KEV Kevo 59.35 338 P **P 16 09 54.3 0.0**
KEV pmax pmax
comp=Z,47nm,0.8s,mb5.6
YKA Yellowknife Ar 59.66 32 iP **P 16 09 56.0 -0.5**
YKA pmax pmax
comp=Z,10.0nm,0.8s
YKA Yellowknife Ar 59.66 32 P **P 16 09 56.1 -0.4**
YKA P'P' 16 39 24.9
YKA LR LR 16 40 38.0
YKA Yellowknife Ar 59.66 32 P **P 16 09 56.1 -0.4**
comp=Z,10nm,0.8s,mb4.9,baz=304,slow=6.6,SNR=117
YKA PKPPKP 16 39 24.9
comp=Z,0.1nm,0.5s,baz=94,slow=2.1,SNR=3.6
YKA LR LR 16 40 38.0
comp=Z,184nm,18.6s,baz=260,slow=41
LATR Latur 59.76 268 eP **P 16 09 58.5 +0.7**
ARCES ARCESS Array B 59.90 339 P **P 16 09 57.6 -0.5**
ARCES pmax pmax
comp=Z,16nm,0.8s
ARCES MLR MLR
comp=Z,667nm,21.6s
ARCES ARCESS Array B 59.90 339 P **P 16 09 57.6 -0.5**
comp=Z,16nm,0.8s,mb5.1,baz=55,slow=6.5,SNR=9.0
ARCES LR LR 16 38 25.2
comp=Z,667nm,21.6s,baz=44,slow=38
DAG Danmarks Havn 61.27 355⇓eP **P 16 10 06.4 -0.9**
DAG pmax pmax
comp=Z,81nm,0.6s,mb5.9
DAG Danmarks Havn 61.27 355⇓iP **P 16 10 06.4 -0.9**
comp=Z,81nm,0.6s,mb5.9
FITZ Fitzroy Crossi 61.30 198 eP **P 16 10 07.6 -0.6**
comp=Z,24nm,1.1s,mb5.1
CTAO Charters Tower 61.50 175 eP **P 16 10 08.3 -1.2**
CTAO pmax pmax
comp=Z,15nm,1.2s,mb4.9
CTAO MLR MLR
comp=Z,346nm,21.0s
CTAO Charters Tower 61.50 175 eP **P 16 10 08.3 -1.2**
comp=Z,15nm,1.2s,mb4.9
CTAO LR LR
comp=Z,346nm,21.0s
TRO Tromso 61.56 341 eP **P 16 10 09.0 -0.3**
TRO eS **S 16 18 22.8 -2.8**
WRAB Tennant Creek 61.63 188 P **P 16 10 09.0 -1.3**
comp=Z,221nm,0.9s,SNR=10
WRAB Tennant Creek 61.63 188 eP **P 16 10 08.6 -1.7**
WRAB Tennant Creek 61.63 188⇓eP **P 16 10 09.0 -1.3**
comp=Z,31nm,0.9s,mb5.3
WRAB LR LR
comp=Z,1μm,20.0s
WB2 Warramunga Arr 61.64 188 eP **P 16 10 08.1 -2.3**
WRA Warramunga Arr 61.64 188 P **P 16 10 08.8 -1.6**
comp=Z,24nm,0.7s,mb5.4,baz=6.2,slow=7.0,SNR=62
WRA LR LR 16 35 36.1
comp=Z,451nm,20.9s,baz=275,slow=35
WRA PKPPKP 16 39 24.9
comp=Z,1.8nm,0.9s,baz=201,slow=2.7,SNR=7.8
POO Poona 61.72 270 eP **P 16 10 10.4 -0.8**
POO AMb AMB 16 10 12.8
comp=Z,80nm,1.0s,mb5.7
BHJ Bhuj 62.04 277 ex x 16 10 11.4
BHJ AMb AMB 16 10 24.5
comp=Z,86nm,1.4s,mb5.6
ABKT Ailbek 62.09 297 P **P 16 10 13.4 0.0**
comp=Z,570nm,0.6s,SNR=14
JOF Joensuu 62.17 331 ep **P 16 10 11.7 -1.8**
comp=Z,96nm,0.8s,mb5.9
KAD Karad 62.22 269 eP **P 16 10 14.2 -0.4**
KAD AMb AMB 16 10 15.9
comp=Z,177nm,1.1s
B04A Port Angeles 63.19 49 ⇓P **P 16 10 20.8 +0.2**
baz=63
A04A Legoe Bay, Lum 63.27 48 ⇑P **P 16 10 21.5 +0.4**
baz=63
NLWA Neilton Lookou 63.35 49 eP **P 16 10 22.6 +1.0**
comp=Z,219nm,1.6s,mb5.8
NLWA Neilton Lookou 63.35 49 ⇓P **P 16 10 21.8 +0.2**
baz=63
A05A Maple Falls 63.46 47 ⇑P **P 16 10 21.7 -0.6**
baz=63
HDW Hoodsport 63.67 49 ⇑P **P 16 10 25.1 +1.4**
C04A Brinnon 63.67 49 ⇓P **P 16 10 23.6 -0.2**
baz=64
B05A Bryant 63.86 48 ⇓P **P 16 10 25.3 +0.3**
baz=64
PALK Pallekele 63.86 256 eP **P 16 10 25.6 +0.1**
comp=Z,24nm,1.0s,mb5.0
PALK LR LR
comp=Z,479nm,19.0s
MOS Moscow 63.88 322 eP **P 16 10 23.0 -2.0**
MOS e pP 16 10 42.7 +0.1
MOS e 16 11 02.8
MOS e 16 12 43.1
MOS pmax pmax
comp=Z,400nm,2.2s
MOS pmax pmax
comp=Z,125nm,1.4s,mb5.5
MOS MLR MLR
comp=Z,1μm,20.1s
E03A Lebam 63.99 50 ⇑P **P 16 10 25.3 -0.6**
baz=64
LOF Lofoten 63.99 341 eP **P 16 10 27.8 +2.3**
LOF AMb AMB 16 10 36.4
comp=Z,116nm,1.6s,mb5.5
LOF Lofoten 63.99 341 eP **P 16 10 27.8 +2.3**
comp=Z,116nm,1.6s,mb5.5
B06A Marblemount 64.06 47 ⇑P **P 16 10 25.9 -0.4**
baz=64
KOD Kodaikanal 64.27 261 eP **P 16 10 28.8 +0.7**
KOD AMb AMB 16 10 30.0
comp=Z,73nm,0.8s,mb5.6
A07A Ashnola River, 64.36 46 ⇑P **P 16 10 28.1 -0.2**
baz=64,SNR=8.0
C05A Tolt Reservoir 64.41 48 ⇑P **P 16 10 28.3 -0.3**
baz=64
PUL Pulkovo 64.52 329⇑eP **P 16 10 29.6 +0.5**
D05A Enumclaw 64.52 49 ⇑P **P 16 10 30.0 +0.7**
baz=64
OBN Obninsk 64.74 322⇓eP **P 16 10 30.4 -0.2**
OBN eS **S 16 19 03.6 -2.1**
OBN pmax pmax
comp=Z,151nm,1.2s,mb5.7
OBN MLR MLR
comp=Z,1μm,17.0s
OBN Obninsk 64.74 322 eP **P 16 10 30.1 -0.5**
comp=Z,74nm,1.0s,mb5.5
OBN LR LR
comp=Z,848nm,19.0s
B07A Winthrop 64.84 47 ⇑P **P 16 10 31.1 -0.2**
baz=65,SNR=7.6
RCS Mount Rainier- 64.85 49 P **P 16 10 33.6 +2.2**
TDL Tradedollar La 64.87 50 P **P 16 10 34.0 +2.4**
NLW Nelson Butte 64.94 47 P **P 16 10 34.0 +2.0**
F04A Amboy 64.99 50 ⇑P **P 16 10 32.4 0.0**
baz=65

FIA1 FINESS Array S 65.00 332⇑iP **P 16 10 31.2 -1.0**
FIA1 e pP 16 10 48.9 -0.9
FINES FINESS Array B 65.00 332 P **P 16 10 31.8 -0.4**
FINES *PP pP 16 10 50.2 +0.4
FINES pmax pmax
comp=Z,70nm,0.8s
FINES MLR MLR
comp=Z,1μm,20.4s
FINES FINESS Array B 65.00 332 P **P 16 10 31.8 -0.4**
comp=Z,70nm,0.8s,mb5.5,baz=55,slow=7.7,SNR=64
FINES pP pP 16 10 50.1 +0.3
comp=Z,23nm,0.4s,baz=56,slow=6.4,SNR=6.0
FINES LR LR 16 41 11.7
comp=Z,1μm,20.4s,baz=216,slow=38
E05A Randle 65.01 49 ⇑P **P 16 10 32.8 +0.3**
baz=65
A08A Turner Farm, O 65.02 46 ⇓P **P 16 10 32.5 0.0**
baz=65,SNR=9.2
WPW White Pass 65.05 49 P **P 16 10 33.8 +1.1**
D06A Cle Elum 65.16 48 ⇓P **P 16 10 33.6 +0.1**
baz=65
COR Corvallis 65.24 52 eP **P 16 10 35.2 +1.2**
COR pmax pmax
comp=Z,31nm,0.7s,mb5.2
COR Corvallis 65.24 52 eP **P 16 10 35.2 +1.2**
comp=Z,31nm,0.7s,mb5.2
MOR8 Moi Rana 65.25 339 eP **P 16 10 31.7 -2.0**
MOR8 AMb AMB 16 10 33.9
comp=Z,112nm,0.8s,mb5.7
MOR8 Moi Rana 65.25 339 eP **P 16 10 31.7 -2.0**
comp=Z,112nm,0.8s,mb5.8
I02A Mapleton 65.26 52 ⇑P **P 16 10 34.5 +0.3**
baz=65
C07A Waterville 65.31 47 ⇓P **P 16 10 34.0 -0.4**
baz=65
TBM Table Mountain 65.31 48 P **P 16 10 35.2 +0.8**
B08A Colville Reser 65.33 47 ⇓P **P 16 10 34.3 -0.2**
baz=65,SNR=5.9
ASAR Alice Springs 65.37 188 P **P 16 10 33.9 -1.0**
comp=Z,14nm,0.7s,mb4.9,baz=4.4,slow=6.2,SNR=48
ASAR PKPPKP 16 39 17.4
comp=Z,3.7nm,1.2s,baz=209,slow=2.4,SNR=7.5
WTV Waterville 65.37 47 P **P 16 10 36.0 +1.2**
A09A Danville 65.37 46 P **P 16 10 35.6 +0.8**
baz=65,SNR=7.8
E06A Yakima 65.46 49 P **P 16 10 36.5 +1.1**
baz=65,SNR=6.7
EBG Ellensburg 65.48 48 P **P 16 10 36.6 +1.1**
K01A Sixes 65.55 54 ⇓P **P 16 10 36.5 +0.5**
baz=65
F05A White Salmon 65.57 50 ⇓P **P 16 10 36.8 +0.7**
baz=65
KEBM Edson Butte 65.60 54 eP **P 16 10 37.4 +1.0**
KEBM e pP 16 10 53.2 -0.8
I03A Eugene 65.60 52 ⇓P **P 16 10 37.3 +0.9**
baz=65
MBWA Marble Bar 65.77 203 eP **P 16 10 36.4 -1.1**
comp=Z,30nm,1.3s,mb5.0
MBWA LR LR
comp=Z,524nm,19.0s
J02A Umpqua 65.77 53 ⇑P **P 16 10 38.1 +0.6**
baz=66
TRD Trivandrum 65.78 260 eP **P 16 10 37.9 0.0**
TRD AMb AMB 16 10 39.9
comp=Z,102nm,1.4s,mb5.5
C08A Higginbotham F 65.82 47 P **P 16 10 38.1 +0.4**
baz=66,SNR=5.8
VRSR Storozhevoye 65.82 318 eP **P 16 10 37.0 -0.6**
VRSR e*SP sP 16 10 56.7 -6.0
VRSR pmax pmax
comp=Z,20nm,0.6s,mb5.1
VRSR pmax pmax
comp=N,20nm,0.9s
VRSR pmax pmax
comp=E,20nm,0.9s
VRSR MLR MLR
comp=N,130nm,18.0s
VRSR MLR MLR
comp=Z,150nm,18.0s
VRSR MLR MLR
comp=E,130nm,17.0s
H04A Detroit Lake 65.84 51 ⇑P **P 16 10 38.0 +0.1**
baz=66,SNR=7.6
VORD Divnogorie 65.91 317 eP **P 16 10 37.2 -1.1**
VORD e*SP sP 16 10 56.7 -6.6
VORD e 16 11 16.3
VORD pmax pmax
comp=Z,70nm,0.9s,mb5.5
VORD pmax pmax
comp=N,60nm,1.1s
VORD pmax pmax
comp=E,30nm,0.7s
VORD MLR MLR
comp=N,370nm,17.0s
VORD MLR MLR
comp=E,550nm,17.0s
VORD MLR MLR
comp=Z,810nm,17.0s
A10A Northport 65.92 45 ⇓P **P 16 10 38.2 -0.2**
baz=66
B09A Rice 65.93 46 P **P 16 10 39.1 +0.7**
baz=66,SNR=5.5
G05A Wamic 66.02 50 ⇑P **P 16 10 39.5 +0.4**
baz=66
KBO Bosley Butte 66.04 54 eP **P 16 10 38.4 -0.9**
KBO e pP 16 10 55.4 -1.5
E07A Sunnyside 66.08 48 ⇑P **P 16 10 39.6 +0.1**
baz=66
J03A Ideyld Park 66.13 53 ⇑P **P 16 10 40.5 +0.7**
baz=66
K02A Glendale 66.17 53 ⇑P **P 16 10 40.8 +0.7**
baz=66
I04A Tendick Farm, 66.22 52 ⇓P **P 16 10 40.1 -0.2**
baz=66,SNR=7.1
C09A Chrisman Ranch 66.23 47 ⇓P **P 16 10 40.7 +0.4**
baz=66
D08A Wollman Farm, 66.31 48 P **P 16 10 41.3 +0.4**
baz=66,SNR=6.3
HAWA Hanford 66.36 48 eP **P 16 10 42.1 +0.9**
comp=Z,35nm,0.8s,mb5.2
HAWA e pP 16 10 55.9 -3.0
G06A Carlson Farm, 66.41 50 ⇓P **P 16 10 42.1 +0.5**
baz=66
H05A Madras 66.42 51 ⇑P **P 16 10 41.7 +0.1**
baz=66
F07A Phinny Hill Vi 66.43 49 ⇓P **P 16 10 41.7 0.0**
baz=66
L02A Cave Junction 66.45 54 ⇑P **P 16 10 41.9 0.0**
baz=66
A11A Hall Mountain, 66.56 45 P **P 16 10 43.4 +0.9**
baz=66,SNR=7.2
E08A Dider Farm, El 66.57 48 ⇑P **P 16 10 42.9 +0.4**
baz=66
NEW Newport 66.58 46 eP **P 16 10 42.5 0.0**
NEW e pP 16 10 57.6 -2.6
NEW pmax pmax
comp=Z,101nm,1.5s
NEW MLR MLR
comp=Z,283nm,20.0s
NEW Newport 66.58 46 eP **P 16 10 42.5 0.0**
comp=Z,101nm,1.5s,mb5.4
NEW e pP 16 10 57.6 -2.6
NEW LR LR
comp=Z,283nm,20.0s
HUMO Hull Mountain 66.58 53 eP **P 16 10 42.5 -0.2**
comp=Z,54nm,1.4s,mb5.2
HUMO e pP 16 10 58.2 -2.2
HUMO Hull Mountain 66.58 53 ⇓P **P 16 10 43.1 +0.4**
baz=66
KRMB Red Mountain 66.63 55 eP **P 16 10 43.9 +0.9**
KRMB e pP 16 10 59.2 -1.6
D09A Jones Farm, Ri 66.65 47 ⇓P **P 16 10 42.7 -0.3**
baz=66
C10A Spilker Farm, 66.74 46 ⇓P **P 16 10 43.9 +0.3**
baz=66
VSU Vasula 66.77 329 eP **P 16 10 44.0 +0.4**
B11A Sandpoint 66.88 45 ⇓P **P 16 10 44.2 -0.2**
baz=67,SNR=6.0
H06A Lindquist Farm 66.88 50 ⇑P **P 16 10 44.5 -0.1**
baz=67
G07A Ruggs Ranch, H 66.95 49 ⇑P **P 16 10 45.1 +0.1**
baz=67
A12A Yaak River Ran 66.95 44 ⇑P **P 16 10 45.0 +0.1**
baz=67
JCC Jacoby Creek 66.97 55 ⇓P **P 16 10 45.9 +0.7**
baz=67
E09A Wood Farm, Sta 67.06 48 ⇓P **P 16 10 46.0 +0.4**
baz=67

F08A Pendleton 67.14 49 ⇑P **P 16 10 46.2 +0.1**
baz=67
EIDS Eidsvold 67.16 171 eP **P 16 10 46.3 -0.1**
comp=Z,21nm,1.4s,mb4.8
J05A Fort Rock 67.21 52 ⇑P **P 16 10 47.2 +0.6**
baz=67,SNR=7.4
D10A Wagner Farm, O 67.22 47 ⇑P **P 16 10 46.1 -0.5**
baz=67,SNR=5.2
YBH Yreka Blue Hor 67.24 54 eP **P 16 10 47.6 +0.7**
YBH e pP 16 11 05.3 +0.7
YBH pmax pmax
comp=Z,32nm,1.0s
YBH Yreka Blue Hor 67.24 54 eP **P 16 10 47.6 +0.7**
comp=Z,32nm,1.0s,mb5.1
YBH e pP 16 11 05.3 +0.7
YBH Yreka Blue Hor 67.24 54 ⇑P **P 16 10 47.5 +0.7**
baz=67,SNR=9.5
K04A Chilquin 67.31 53 ⇓P **P 16 10 47.3 -0.1**
baz=67
G08A Pilot Rock 67.34 49 ⇓P **P 16 10 47.9 +0.5**
baz=67
M02C Callahan 67.35 54 ⇓P **P 16 10 48.5 +0.9**
baz=67,SNR=11
N02C Big Bar 67.41 55 ⇑P **P 16 10 48.6 +0.7**
baz=67,SNR=7.1
I06A Prineville 67.42 51 ⇑P **P 16 10 49.0 +1.0**
baz=67
L04A Klamath Falls 67.47 53 ⇑P **P 16 10 49.2 +0.8**
baz=67
E10A Myers Farm, Un 67.65 47 ⇓P **P 16 10 49.6 +0.2**
baz=67
F09A S2 Ranch, Elgi 67.68 48 ⇑P **P 16 10 50.0 +0.4**
baz=67
D11A Klaveano Farm, 67.73 46 ⇑P **P 16 10 49.6 -0.3**
baz=68
M04C Macdoel 67.74 53 ⇓P **P 16 10 50.1 +0.1**
baz=68,SNR=6.1
K05A Summer Lake 67.74 52 ⇓P **P 16 10 50.2 +0.2**
baz=68,SNR=11
I07A Izee 67.75 50 ⇑P **P 16 10 50.4 +0.4**
baz=68
J06A Christmas Vall 67.87 51 ⇓P **P 16 10 51.0 +0.2**
baz=68
M03C McCloud 67.87 54 ⇑P **P 16 10 51.1 +0.3**
baz=68
F10A Beach Ranch, E 67.90 48 ⇑P **P 16 10 51.2 +0.3**
baz=68
KIPM Iron Peak 67.90 56 eP **P 16 10 51.4 +0.3**
KIPM e pP 16 11 06.6 -2.2
KCPM Cahto Peak 67.91 56 eP **P 16 10 52.0 +0.9**
KCPM e pP 16 11 06.3 -2.6
B13A Whitefish 67.92 44 P **P 16 10 52.1 +1.0**
baz=68,SNR=7.7
H08A Prairie City 67.96 50 P **P 16 10 52.4 +1.0**
baz=68,SNR=5.9
WDC Whiskeytown Da 68.02 55 eP **P 16 10 51.7 -0.1**
WDC pmax pmax
comp=Z,81nm,1.4s,mb5.4
WDC Whiskeytown Da 68.02 55 eP **P 16 10 51.7 -0.2**
comp=Z,81nm,1.4s,mb5.4
WDC Whiskeytown Da 68.02 55 ⇑P **P 16 10 52.0 +0.2**
baz=68,SNR=9.2
DGRG David-gareji 68.21 306 S **P 16 11 01.6 +8.6**
E11A Bogner Ranch, 68.23 47 ⇓P **P 16 10 52.6 -0.4**
baz=68
KIV Kislovodsk 68.29 310 P **P 16 10 54.4 +0.9**
comp=Z,1μm,0.9s,SNR=18
KIV Kislovodsk 68.29 310⇓eP **P 16 10 54.0 +0.5**
KIV e 16 13 22.9
KIV eS S 16 19 48.3 -0.7
KIV pmax pmax
comp=Z,311nm,1.2s
KIV MLR MLR
comp=Z,1μm,18.0s
KIV Kislovodsk 68.29 310⇑iP **P 16 10 53.9 +0.5**
comp=Z,244nm,1.0s
KIV LR LR
comp=Z,658nm,19.0s
KIV Kislovodsk 68.29 310⇑iP **P 16 10 54.2 +0.7**
MTA Mtatsminda 68.42 307 S **P 16 10 55.5 +1.2**
TBLG Delisi 68.43 307 S **P 16 10 55.5 +1.1**
BMO Blue Mountains 68.54 49 eP **P 16 10 54.9 0.0**
comp=Z,78nm,1.5s,mb5.3
BMO e pP 16 11 12.8 +0.1
MOD Modoc 68.59 53 eP **P 16 10 55.6 +0.3**
comp=Z,24nm,0.9s,mb5.0
MOD e pP 16 11 12.7 -0.4
ONI Oni 68.68 308 S **P 16 10 57.1 +1.2**
MNK Minsk 69.01 325⇓eP **P 16 10 58.0 +0.3**
MNK e pP 16 11 15.0 -0.5
MNK pmax pmax
comp=Z,280nm,1.0s
MNK MLR MLR
comp=Z,5μm,20.0s
MSO Missoula 69.16 45 eP **P 16 10 58.5 -0.3**
comp=Z,6.3nm,1.0s,mb4.4
MSO e pP 16 11 17.2 +0.6
NSHM Saint Helena R 69.21 57 eP **P 16 10 57.9 -1.4**
NSHM e pP 16 11 13.8 -3.2
WVOR Wild Horse Val 69.25 51 eP **P 16 10 59.8 +0.4**
WVOR e pP 16 11 14.4 -2.8
WVOR pmax pmax
comp=Z,165nm,1.9s,mb5.5
WVOR Wild Horse Val 69.25 51 eP **P 16 10 59.8 +0.3**
comp=Z,165nm,1.9s,mb5.5
WVOR e pP 16 11 14.4 -2.8
GNI Garni 69.38 306⇑eP **P 16 11 02.2 +1.9**
GNI pmax pmax
comp=Z,110nm,1.6s
GNI Garni 69.38 306 eP **P 16 11 01.0 +0.7**
comp=Z,148nm,1.5s,mb5.6
GNI LR LR
comp=Z,387nm,20.0s
GNI Garni 69.38 306 P **P 16 11 00.9 +0.7**
comp=Z,6.8nm,0.4s,mb4.8,baz=172,slow=17,SNR=10.0
GNI LR LR 16 47 20.5
comp=Z,392nm,18.7s,baz=47,slow=41
OHCM Honcut 69.42 55 eP **P 16 10 59.9 -0.7**
OHCM e pP 16 11 15.8 -2.5
CHMT Chamberlain Mo 69.47 45 eP **P 16 11 00.6 -0.2**
CHMT e pP 16 11 19.3 +0.8
FFC Flin Flon 69.64 34 P **P 16 11 01.5 -0.1**
comp=Z,202nm,0.8s,SNR=7.3
FFC Flin Flon 69.64 34 eP **P 16 11 00.9 -0.7**
FFC e pP 16 11 16.9 -2.5
FFC pmax pmax
comp=Z,170nm,1.1s,mb5.8
FFC MLR MLR
comp=Z,494nm,21.0s
FFC Flin Flon 69.64 34 eP **P 16 11 00.9 -0.7**
comp=Z,170nm,1.1s,mb5.8
FFC e pP 16 11 16.9 -2.5
FFC e 16 11 54.7
FFC LR LR
comp=Z,494nm,21.0s
NB2 NORSAR Subarra 70.16 337 P **P 16 11 04.0 -0.7**
comp=Z,60nm,0.8s,mb5.5,baz=37,slow=6.2
NOA NORSAR Array B 70.16 337 P **P 16 11 04.1 -0.6**
NOA *PP pP 16 11 20.6 -1.9
NOA pmax pmax
comp=Z,33nm,0.7s
NOA MLR MLR
comp=Z,689nm,20.5s
NOA NORSAR Array B 70.16 337 P **P 16 11 04.1 -0.6**
NOA pP pP 16 11 20.6 -1.9
NOA LR LR 16 45 04.0
NOA NORSAR Array B 70.16 337 P **P 16 11 04.1 -0.6**
comp=Z,33nm,0.7s,mb5.3,baz=37,slow=6.1,SNR=88
NOA pP pP 16 11 20.6 -1.9
comp=Z,23nm,0.8s,baz=36,slow=6.1,SNR=6.5
NOA LR LR 16 45 04.0
comp=Z,689nm,20.5s,baz=35,slow=38
SOC Sochi 70.22 311c iP **P 16 11 05.2 -0.2**
SOC e pP 16 11 24.8 +1.6
SOC e*SP sP 16 11 28.5 -2.0
SOC ePPP 16 15 16.6
SOC eS S 16 20 12.6 +0.9
SOC e*SS sS 16 20 34.6 -7.3
SOC e 16 21 01.7
SOC eSSS 16 27 56.0
SOC pmax pmax
comp=Z,80nm,0.8s,mb5.6
SOC pmax pmax
comp=Z,479nm,2.6s,mb5.9
SOC MLR MLR

comp=Z,673nm,20.0s
HRY Holter Researc 70.35 45 *e*P **P 16 11 06.3 +0.2**
HRY *e* pP 16 11 24.1 +0.1
NAO01 NORSAR Array S 70.41 337 *e*P **P 16 11 05.5 -0.8**
comp=Z,18nm,0.8s,mb4.9
PAHR Pah Rah Range 70.48 54 *e*P **P 16 11 06.8 -0.3**
comp=Z,97nm,1.1s,mb5.5
PAHR *e* pP 16 11 22.6 -2.2
EGMT Eagleton 70.57 43 *e*P **P 16 11 05.6 -1.8**
comp=Z,18nm,0.8s,mb5.0
EGMT *e* pP 16 11 26.4 +1.1
ANN Anapa 70.72 313 *d i*P **P 16 11 07.8 -0.6**
ANN *e**PP pP 16 11 23.0 -3.2
ANN *e* pP 16 11 28.6 +2.4
ANN *e* 16 13 45.4
ANN *e*S S 16 20 19.5 +2.0
ANN *e*SS SS 16 24 53.4 +3.7
ANN pmax pmax
comp=Z,89nm,0.8s,mb5.7
ANN MLR MLR
comp=N,555nm,21.0s
ANN MLR MLR
comp=E,837nm,21.0s
ANN MLR MLR
comp=Z,569nm,21.0s
DLMT Dillon 70.81 46 *e*P **P 16 11 09.2 +0.2**
comp=Z,353nm,1.8s,mb5.9
DLMT *e* pP 16 11 25.9 -0.9
CMB Columbia Colle 70.89 56 *e*P **P 16 11 09.7 +0.1**
CMB *e* pP 16 11 25.3 -2.1
CMB pmax pmax
comp=Z,131nm,1.3s,mb5.6
CMB MLR MLR
comp=Z,324nm,22.0s
CMB Columbia Colle 70.89 56 *e*P **P 16 11 09.7 +0.1**
comp=Z,131nm,1.3s,mb5.6
CMB *e* pP 16 11 25.3 -2.1
CMB LR LR
comp=Z,324nm,22.0s
AKASG Malin Array Be 70.98 322 P **P 16 11 09.1 -0.8**
comp=Z,49nm,0.7s,mb5.4,baz=44,slow=6.2,SNR=127
AKASG pP pP 16 11 25.8 -2.0
comp=Z,34nm,0.7s,baz=44,slow=6.1,SNR=8.1
AKBB Malin Array Si 70.98 322 P **P 16 11 09.3 -0.6**
AKBB Malin Array Si 70.98 322 *e*P **P 16 11 08.7 -1.2**
AKBB *e* pP 16 11 25.8 -1.9
KIEV Kiev 71.00 322 *e*P **P 16 11 09.1 -0.9**
KIEV pmax pmax
comp=Z,59nm,0.8s,mb5.5
KIEV Kiev 71.00 322 *e*P **P 16 11 08.6 -1.4**
comp=Z,59nm,0.8s,mb5.5
KIEV *e* pP 16 11 26.1 -1.7
SAO San Andreas Ge 71.01 58 P **P 16 11 10.2 -0.1**
SAO pmax pmax
comp=Z,25nm,1.0s,mb5.0
SAO San Andreas Ge 71.01 58 P **P 16 11 10.2 -0.1**
comp=Z,25nm,1.0s,mb5.0
MCMT McKenzie Canyo 71.02 47 *e*P **P 16 11 10.2 0.0**
BOZ Bozeman (W) 71.15 45 *e*P **P 16 11 11.1 +0.1**
BOZ *e* pP 16 11 29.4 +0.6
BOZ pmax pmax
comp=Z,108nm,1.5s,mb5.5
BOZ Bozeman (W) 71.15 45 *e*P **P 16 11 11.1 +0.1**
comp=Z,108nm,1.5s,mb5.5
BOZ *e* pP 16 11 29.4 +0.5
SUW Suwalki 71.30 327 *e*P **P 16 11 11.3 -0.4**
SUW Suwalki 71.30 327 *e*P **P 16 11 11.3 -0.4**
SFJD Kangerlussuaq 71.30 5 *e*P **P 16 11 10.8 -0.7**
SFJD pmax pmax
comp=Z,58nm,0.9s,mb5.4
SFJD Kangerlussuaq 71.30 5 *e*P **P 16 11 10.8 -0.8**
comp=Z,58nm,0.9s,mb5.4
BMN Battle Mountai 71.32 52 *e*P **P 16 11 12.2 +0.1**
BMN *e* pP 16 11 28.3 -1.7
BMN pmax pmax
comp=Z,11nm,1.1s,mb4.6
BMN Battle Mountai 71.32 52 *e*P **P 16 11 12.2 +0.1**
comp=Z,11nm,1.1s,mb4.6
BMN *e* pP 16 11 28.3 -1.7
KONO Kongsberg 71.76 337 *e*P **P 16 11 14.6 +0.2**
KONO AMS AMS 16 46 06.8
comp=Z,708nm,21.5s
KONO Kongsberg 71.76 337⇑ *e*P **P 16 11 14.8 +0.4**
QLMT Earthquake Lak 71.79 46 *e*P **P 16 11 15.0 +0.2**
QLMT *e* pP 16 11 34.5 +1.8
NVAR Mina Array Bea 71.93 55 P **P 16 11 15.9 +0.1**
comp=Z,12nm,0.7s,mb4.8,baz=286,slow=6.0,SNR=103
NVAR pP pP 16 11 32.3 -1.4
comp=Z,47nm,0.8s,baz=292,slow=5.9,SNR=18
GCMT Greycliff 72.09 44 *e*P **P 16 11 16.6 0.0**
GCMT *e* pP 16 11 35.3 +0.8
YMR Madison River 72.14 46 *e*P **P 16 11 17.3 +0.3**
comp=Z,7.3nm,0.4s,mb4.9
YMR *e* pP 16 11 36.1 +1.3
YNR Norris Junctio 72.27 46 *e*P **P 16 11 19.2 +1.5**
YNR *e* pP 16 11 37.5 +1.9
YFT Old Faithful 72.36 46 *e*P **P 16 11 20.5 +2.2**
YFT *e* pP 16 11 37.6 +1.4
SIM Simferopol' 72.41 315 *de*P **P 16 11 19.2 +0.6**
SIM *e**PP pP 16 11 36.0 -0.5
SIM *e*S S 16 20 30.0 -7.0
SIM pmax pmax
comp=Z,73nm,0.8s,mb5.6
SIM MLR MLR
comp=Z,1μm,19.0s
MTUM Tungsten Hills 72.45 56 *e*P **P 16 11 19.6 +0.7**
MTUM *e* pP 16 11 38.0 +1.2
PTRM Twissleman Ran 72.48 58 *e*P **P 16 11 19.8 +0.6**
PTRM *e* pP 16 11 33.1 -3.9
LKWY Lake 72.52 46 *e*P **P 16 11 20.9 +1.7**
LKWY *e* pP 16 11 39.9 +2.8
LKWY pmax pmax
comp=Z,67nm,1.4s,mb5.3
LKWY Lake 72.52 46 *e*P **P 16 11 20.9 +1.7**
comp=Z,67nm,1.4s,mb5.3
LKWY *e* pP 16 11 39.9 +2.8
IMW Indian Meadow 72.67 46 *e*P **P 16 11 20.6 +0.4**
comp=Z,66nm,1.1s,mb5.4
IMW *e* pP 16 11 35.9 -2.1
FLWY Flagg Ranch 72.67 46 *e*P **P 16 11 21.8 +1.6**
comp=Z,274nm,1.7s,mb5.8
FLWY *e* pP 16 11 40.5 +2.4
DCID1 Drake Creek 72.73 47 *e*P **P 16 11 20.2 -0.3**
TPH Tonopah 72.81 54 *e*P **P 16 11 21.3 +0.2**
TPH *e* pP 16 11 39.4 +0.4
TPH pmax pmax
comp=Z,6.0nm,0.3s,mb4.9
TPH MLR MLR
comp=Z,235nm,20.0s
TPH Tonopah 72.81 54 *e*P **P 16 11 21.3 +0.2**
comp=Z,6.4nm,0.3s,mb4.9
TPH *e* pP 16 11 39.4 +0.5
TPH LR LR
comp=Z,235nm,20.0s
MOOW Moose Ponds 72.87 46 *e*P **P 16 11 22.5 +1.2**
comp=Z,159nm,1.5s,mb5.6
MOOW *e* pP 16 11 41.2 +2.0
TPAW Teton Pass 72.93 47 *e*P **P 16 11 22.2 +0.6**
comp=Z,142nm,1.3s,mb5.6
TPAW *e* pP 16 11 41.5 +1.9
DGMT Dagmar 73.01 40 *e*P **P 16 11 22.1 0.0**
comp=Z,18nm,0.5s,mb5.2
DGMT *e* pP 16 11 36.8 -3.1
LOHW Long Hollow 73.04 46 *e*P **P 16 11 22.8 +0.5**
comp=Z,165nm,1.7s,mb5.6
LOHW *e* pP 16 11 42.3 +2.1
HVU Hansel Valley 73.04 49 *e*P **P 16 11 23.1 +0.8**
HVU *e* pP 16 11 41.8 +1.5
HVU pmax pmax
comp=Z,44nm,1.0s,mb5.2
HVU Hansel Valley 73.04 49 *e*P **P 16 11 23.1 +0.7**
comp=Z,44nm,1.0s,mb5.2
HVU *e* pP 16 11 41.8 +1.5
SNOW Snow King Moun 73.05 47 P **P 16 11 23.4 +1.0**
comp=Z,68nm,1.1s,mb5.4
REDW Red Top Meadow 73.07 47 *e*P **P 16 11 23.4 +0.9**
comp=Z,95nm,1.2s,mb5.5
REDW *e* pP 16 11 42.0 +1.6
STKA Stephens Creek 73.11 180 *e*P **P 16 11 22.4 -0.2**
comp=Z,9.4nm,0.9s,mb4.6
STKA Stephens Creek 73.11 180 P **P 16 11 22.8 +0.1**
comp=Z,16nm,1.0s,mb4.8,baz=360,slow=7.2,SNR=9.4
STKA LR LR 16 40 14.6
comp=Z,490nm,20.5s,baz=17,slow=33
FORT Forrest 73.16 193 *e*P **P 16 11 23.1 +0.2**
comp=Z,20nm,0.6s,mb5.1
BORG Borgarnes 73.18 353 P **P 16 11 22.7 -0.1**
BORG LR LR 16 42 31.5
BORG Borgarnes 73.18 353 P **P 16 11 22.7 -0.1**
comp=Z,38nm,0.8s,mb5.3,baz=336,slow=4.5,SNR=7.2
BORG LR LR 16 42 31.5
comp=Z,317nm,21.2s,baz=216,slow=35
BGU Big Grassy Mou 73.45 50 *e*P **P 16 11 25.3 +0.5**
BGU *e* pP 16 11 44.2 +1.5
SPUT South Promonto 73.53 49 *e*P **P 16 11 25.8 +0.5**
SPUT *e* pP 16 11 44.7 +1.5
MARD Mardin 73.57 305 *i* P **P 16 11 26.5 +1.0**
ISA Isabella 73.57 57 PFAKE 16 11 40.0 +14
ISA LR LR
comp=Z,4.0nm,21.0s
BSD Bornholm Skovb 73.65 331⇑ *i*P **P 16 11 25.5 -0.2**
BSD pmax pmax
comp=Z,58nm,0.9s,mb5.3
BSD MLR MLR
comp=Z,1μm,20.0s
BSD Bornholm Skovb 73.65 331⇑ *i*P **P 16 11 25.5 -0.2**
comp=Z,58nm,0.9s,mb5.3
BSD *e* 16 20 17.7
BSD
comp=Z,1μm,20.0s
KIS Kishinev 73.73 319 *e*P **P 16 11 25.0 -1.3**
KIS *e* pP 16 11 44.0 -0.3
KIS *e* 16 14 10.0
KIS *e* 16 21 20.0
KIS MLR MLR
comp=Z,2μm,15.0s
KIS MLR MLR
comp=Z,800nm,16.0s
HWUT Hardware Ranch 73.83 48 *e*P **P 16 11 27.7 +0.7**
comp=Z,86nm,1.2s,mb5.4
HWUT *e* pP 16 11 46.6 +1.6
HWUT LR LR
comp=Z,286nm,20.0s
LVV L'vov 73.97 323 *e*P **P 16 11 27.5 -0.2**
LVV *e* pP 16 11 44.3 -1.3
LVV MLR MLR
comp=N,400nm,19.0s
LVV MLR MLR
comp=E,500nm,19.0s
LVV MLR MLR
comp=Z,600nm,19.0s
UMR Umm Al-Rimmam 73.99 295 *e*P **P 16 11 27.1 -1.1**
UMR AMb AMB 16 11 28.9
comp=Z,186nm,0.6s
DUG Dugway 74.06 50 *e*P **P 16 11 28.7 +0.4**
DUG *e* pP 16 11 44.4 -1.9
DUG pmax pmax
comp=Z,65nm,1.1s,mb5.3
DUG Dugway 74.06 50 *e*P **P 16 11 28.7 +0.4**
comp=Z,65nm,1.1s,mb5.3
DUG *e* pP 16 11 44.4 -1.9
COP Copenhagen 74.06 333⇑ *i*P **P 16 11 28.4 +0.3**
COP pmax pmax
comp=Z,56nm,0.9s,mb5.3
COP MLR MLR
comp=Z,680nm,20.0s
COP Copenhagen 74.06 333⇑ *i*P **P 16 11 28.4 +0.3**
comp=Z,56nm,0.9s,mb5.3
COP *e* 16 20 14.0
COP
comp=Z,670nm,20.0s
MIB Mutribah 74.09 296 *e*P **P 16 11 27.6 -1.1**
MIB AMb AMB 16 11 29.9
comp=Z,314nm,0.8s
TPNV Topopah Spring 74.13 55 *e*P **P 16 11 28.8 0.0**
TPNV *e* pP 16 11 47.5 +0.7
TPNV pmax pmax
comp=Z,151nm,1.3s,mb5.6
TPNV MLR MLR
comp=Z,336nm,22.0s
TPNV Topopah Spring 74.13 55 *e*P **P 16 11 28.8 0.0**
comp=Z,151nm,1.3s,mb5.6
TPNV *e* pP 16 11 47.5 +0.7
TPNV LR LR
comp=Z,336nm,22.0s
NOQ North Oquirrh 74.15 50 *e*P **P 16 11 29.6 +0.7**
comp=Z,21nm,0.7s,mb5.0
NOQ *e* pP 16 11 48.6 +1.8
BW06 Boulder Array 74.17 47 *e*P **P 16 11 28.8 -0.2**
comp=Z,80nm,1.2s,mb5.3
BW06 *e* pP 16 11 47.6 +0.6
BW06 LR LR
comp=Z,304nm,20.0s
GKP Gorka Klasztor 74.22 329 *e*P **P 16 11 29.5 +0.5**
CTU Camp Tracy 74.34 49 *e*P **P 16 11 30.6 +0.6**
comp=Z,7.1nm,0.7s,mb4.5
CTU *e* pP 16 11 49.5 +1.5
MALT Malatya 74.34 307⇑ *i*P **P 16 11 31.1 +1.1**
MALT pmax pmax
comp=Z,80nm,1.1s,mb5.4
MALT Malatya 74.34 307⇑ *i*P **P 16 11 31.1 +1.1**
comp=Z,80nm,1.1s,mb5.4
MALT Malatya 74.34 307⇑ *i*P **P 16 11 31.3 +1.3**
QRN Al-Qurain 74.36 295 *e*P **P 16 11 29.4 -0.9**
QRN AMb AMB 16 11 31.6
comp=Z,314nm,0.8s
RDF Al-Radifah 74.50 295 *e*P **P 16 11 30.1 -1.0**
RDF AMb AMB 16 11 31.8
comp=Z,274nm,0.7s
NAY Al-Naaiem 74.50 295 *e*P **P 16 11 30.1 -1.0**
NAY AMb AMB 16 11 32.3
comp=Z,117nm,0.8s,mb5.7
MUD Monsted U'grnd 74.51 335 *i* P **P 16 11 31.2 +0.5**
MUD pmax pmax
comp=Z,43nm,1.0s,mb5.1
MUD MLR MLR
comp=Z,400nm,22.0s
MUD Monsted U'grnd 74.51 335 *i* P **P 16 11 31.2 +0.5**
comp=Z,43nm,1.0s,mb5.1
MUD
comp=Z,400nm,22.0s
JLU Jordanelle 74.57 49 *e*P **P 16 11 32.0 +0.7**
JLU *e* pP 16 11 51.0 +1.7
NLU North Lily Min 74.64 50 *e*P **P 16 11 32.5 +0.7**
NLU *e* pP 16 11 51.5 +1.8
KWP Kalwaria 74.70 324 *e*P **P 16 11 33.0 +1.2**
KWP Kalwaria 74.70 324 *e*P **P 16 11 33.0 +1.1**
KWP Kalwaria 74.70 324⇑ *i*P **P 16 11 32.2 +0.3**
DAU Daniels Canyon 74.80 49 P **P 16 11 32.3 -0.4**
DAU Daniels Canyon 74.80 49 *e*P **P 16 11 31.9 -0.7**
DAU *e* pP 16 11 52.7 +2.1
GSC Goldstone 74.85 56 *e*P **P 16 11 32.7 -0.3**
GSC *e* pP 16 11 52.0 +1.0
GSC pmax pmax
comp=Z,63nm,1.3s,mb5.2
GSC Goldstone 74.85 56 *e*P **P 16 11 32.7 -0.3**
comp=Z,63nm,1.3s,mb5.2
GSC *e* pP 16 11 52.0 +1.0
CTKT Corum 74.92 311 *i* P **P 16 11 34.3 +1.0**
BURAR Bucovina Array 75.02 321⇑ *i*P **P 16 11 34.6 +0.8**
BALT Daday 75.10 313 *i* P **P 16 11 35.6 +1.3**
ARUT Antelope Range 75.27 52 *e*P **P 16 11 35.5 +0.1**
ARUT *e* pP 16 11 54.6 +1.2
ULM Lac du Bonnet 75.46 34 *e*P **P 16 11 34.8 -1.4**
comp=Z,58nm,1.3s,mb5.2
ULM *e* pP 16 11 51.8 -2.5
ULM Lac du Bonnet 75.46 34 P **P 16 11 35.8 -0.5**
comp=Z,7.1nm,0.7s,mb4.5,baz=354,slow=3.6,SNR=9.5
ULM pP pP 16 11 52.6 -1.6
comp=Z,29nm,1.0s,baz=0.7,slow=5.9,SNR=11
ULM LR LR 16 47 02.0
comp=Z,341nm,19.4s,baz=263,slow=37
CCUT Cedar City 75.48 53 *e*P **P 16 11 36.9 +0.3**
CCUT *e* pP 16 11 56.2 +1.6
GZT Gaziantep 75.48 307 *i* P **P 16 11 38.1 +1.5**
STHS Stebnicka Huta 75.50 325 *e*P **P 16 11 37.2 +0.7**
STHS pmax pmax
comp=Z,34nm,1.3s,mb4.9
STHS Stebnicka Huta 75.50 325 *e*P **P 16 11 37.2 +0.7**
comp=Z,34nm,1.3s,mb4.9
OJC Ojcow 75.51 326 *i* P **P 16 11 36.8 +0.2**
MSU Marysvale 75.54 51 *e*P **P 16 11 37.4 +0.5**
MSU *e* pP 16 11 56.7 +1.8
VRI Vrincioaia 75.56 319 P **P 16 11 38.3 +1.4**
VRI Vrincioaia 75.56 319⇑ *i*P **P 16 11 37.3 +0.4**
TMUT Trail Mountain 75.58 50 *e*P **P 16 11 38.1 +0.9**
TMUT *e* pP 16 11 56.9 +1.7
PLOR Plostina 75.60 319 P **P 16 11 38.5 +1.3**
UZH Uzhgorod 75.62 323 *e*P **P 16 11 36.0 -1.2**
TIRR Tirgusor 75.71 317 P **P 16 11 38.7 +0.9**
TIRR Tirgusor 75.71 317⇑ *i*P **P 16 11 38.0 +0.2**
CRVS Cervenica-Dubn 75.79 324 *e*P **P 16 11 38.9 +0.8**
HARR Harsova 75.79 318 P **P 16 11 39.4 +1.1**
CDAG Cicekdag 75.83 311 *i* P **P 16 11 36.9 -1.8**
TRPA Tarpa 75.88 323⇓ *i*P **P 16 11 39.6 +0.9**
NIE Niedzica 75.90 325 *e*P **P 16 11 40.0 +1.2**
NIE e pP 16 11 59.2 +2.4
SRU San Rafael 76.09 50 *e*P **P 16 11 40.1 0.0**
comp=Z,44nm,0.9s,mb5.2
SRU *e* pP 16 11 59.6 +1.5
RSSD Black Hills 76.14 43 *e*P **P 16 11 39.7 -0.6**
RSSD *e* pP 16 11 58.6 +0.3
RSSD pmax pmax
comp=Z,183nm,1.8s,mb5.5
RSSD MLR MLR
comp=Z,552nm,19.0s
RSSD Black Hills 76.14 43 *e*P **P 16 11 39.7 -0.6**
comp=Z,183nm,1.8s,mb5.5
RSSD *e* pP 16 11 58.6 +0.3
RSSD LR LR
comp=Z,552nm,19.0s
PFO Pinyon Flat Ob 76.17 57 *e*P **P 16 11 40.7 +0.1**
PFO *e* pP 16 11 59.4 +0.8
PFO pmax pmax
comp=Z,57nm,1.2s,mb5.2
PFO Pinyon Flat Ob 76.17 57 *e*P **P 16 11 40.7 +0.1**
comp=Z,57nm,1.2s,mb5.2
PFO *e* pP 16 11 59.4 +0.8
RWWY Rawlins 76.18 46 *e*P **P 16 11 40.4 -0.1**
comp=Z,264nm,1.5s,mb5.7
RWWY *e* pP 16 11 59.0 +0.5
KLBR Kellerberrin 76.19 201 *e*P **P 16 11 38.6 -1.8**
comp=Z,27nm,1.1s,mb4.9
BSEG Bad Segeberg 76.20 333 *e*P **P 16 11 41.1 +0.7**
comp=Z,84nm,0.9s,mb5.5
MLR Muntele Rosu 76.21 319 P **P 16 11 41.7 +1.1**
MLR Muntele Rosu 76.21 319 P **P 16 11 41.0 +0.4**
comp=Z,7.2nm,0.6s,mb4.6,baz=341,slow=3.1,SNR=9.5
MLR Muntele Rosu 76.21 319⇑ *i*P **P 16 11 40.8 +0.2**
PSN Preselentsi 76.38 317 *i* P **P 16 11 42.2 +0.6**
KSP Ksiaz 76.47 328 *e*P **P 16 11 42.9 +0.9**
KSP *e* pP 16 12 02.1 +2.1
KSP Ksiaz 76.47 328 *e*P **P 16 11 42.1 +0.1**
KSP *e* 16 11 54.3
KSP *e**PP pP 16 12 01.8 +1.8
KSP MLR MLR
comp=Z,2μm,18.7s
KSP Ksiaz 76.47 328 *e*P **P 16 11 42.1 +0.1**
KSP *e*PcP PcP 16 11 54.3 +0.9
KSP *e*pP pP 16 12 01.8 +1.8
KSP *e* 16 12 19.9
KSP LR LR
comp=Z,2μm,18.7s
OKC Ostrava-Krasne 76.49 326 *e*P **P 16 11 43.2 +1.1**
OKC *e**PP pP 16 11 58.6 -1.6
OKC Ostrava-Krasne 76.49 326 *e*P **P 16 11 43.2 +1.1**
OKC *e*pP pP 16 11 58.6 -1.6
OKC AMS AMS 16 47 50.0
comp=Z,900nm,15.6s
ANTO Ankara 76.56 312 *e*P **P 16 11 43.3 +0.6**
ANTO *e* pP 16 11 59.8 -1.0
ANTO pmax pmax
comp=Z,80nm,0.9s,mb5.5
ANTO Ankara 76.56 312 *e*P **P 16 11 43.3 +0.6**
comp=Z,80nm,0.9s,mb5.5
ANTO *e* pP 16 11 59.8 -1.0
ANTO Ankara 76.56 312⇑ *i*P **P 16 11 43.5 +0.8**
VOIR 76.68 320 P **P 16 11 44.1 +0.8**
VOIR 76.68 320⇓ *i*P **P 16 11 43.8 +0.5**
MORC Moravsky Berou 76.79 327 *e*P **P 16 11 44.5 +0.7**
MORC pmax pmax
comp=Z,60nm,1.0s,mb5.3
MORC Moravsky Berou 76.79 327 *e*P **P 16 11 44.8 +0.9**
comp=Z,60nm,1.0s,mb5.3
MORC *e* pP 16 12 01.0 -0.9
MORC Moravsky Berou 76.79 327⇑ *i*P **P 16 11 44.0 +0.2**
DRGR 76.79 322 P **P 16 11 45.3 +1.4**
DPC Dobruska-Polom 76.84 328 *e*P **P 16 11 45.6 +1.5**
DPC *e*pP pP 16 12 02.0 -0.1
DPC AMS AMS 16 48 20.0
comp=Z,700nm,17.7s
UPC Upice 76.84 328 *e*P **P 16 11 45.2 +1.1**
UPC *e*pP pP 16 12 01.7 -0.5
AGMN Agassiz Refuge 76.94 35 *e*P **P 16 11 43.5 -1.2**
comp=Z,63nm,1.2s,mb5.2
AGMN *e* pP 16 12 01.6 -1.1
PRD Provadia 77.12 317 *i* P **P 16 11 46.5 +0.7**
PSZ Piszkesteto 77.21 324 *e*P **P 16 11 46.5 +0.3**
PSZ *e* pP 16 12 03.7 -0.6
PSZ Piszkesteto 77.21 324⇑ *e*P **P 16 11 47.3 +1.1**
PSZ Piszkesteto 77.21 324⇑ *i*P **P 16 11 46.8 +0.6**
VYHS Vyhne 77.23 325 *e*P **P 16 11 47.3 +1.0**
VYHS *e* pP 16 12 04.0 -0.4
VYHS pmax pmax
comp=Z,29nm,1.2s,mb4.9
VYHS Vyhne 77.23 325 *e*P **P 16 11 47.3 +1.0**
comp=Z,29nm,1.2s,mb4.9
VYHS *e* pP 16 12 04.0 -0.4
KOLL Kolacno 77.35 325 *e*P **P 16 11 47.5 +0.5**
BRG Berggiesshubel 77.36 329 *e*P **P 16 11 47.0 0.0**
BRG *e* pP 16 12 03.3 -1.8
BRG pmax pmax
comp=Z,19nm,1.1s,mb4.7
BRG MLR MLR
comp=N,348nm,19.3s
BRG MLR MLR
comp=E,423nm,20.6s
BRG MLR MLR
comp=Z,499nm,19.8s
BRG Berggiesshubel 77.36 329 *e*P **P 16 11 47.0 +0.1**
comp=Z,19nm,1.1s,mb4.7
BRG *e* pP 16 12 03.3 -1.8
BRG LR LR
comp=Z,500nm,19.8s
BRG Berggiesshubel 77.36 329 *e*P **P 16 11 47.0 0.0**
comp=Z,31nm,1.1s,mb5.0
BRG Berggiesshubel 77.36 329 *e*P **P 16 11 47.0 +0.1**
comp=Z,32nm,1.1s,mb5.0
BRG *e* pP 16 12 03.3 -1.8
comp=Z,48nm,1.7s
BRG
comp=N,581nm,19.3s
BRG
comp=E,706nm,20.6s
BRG
comp=Z,833nm,19.8s
CLL Collm 77.37 330⇓ *i*P **P 16 11 47.5 +0.5**
CLL *i* *PP pP 16 12 03.6 -1.5
CLL pmax pmax
comp=Z,55nm,0.9s,mb5.3
CLL MLR MLR
comp=Z,1μm,21.1s
CLL Collm 77.37 330⇓ *i*P **P 16 11 47.5 +0.5**
comp=Z,55nm,0.9s,mb5.3
CLL *i* pP pP 16 12 03.6 -1.5
CLL S S 16 21 17.0 -15
CLL LR LR
comp=Z,1μm,21.1s
CLL Collm 77.37 330 *e*P **P 16 11 47.1 +0.1**
comp=Z,55nm,0.9s,mb5.3
CLL Collm 77.37 330⇓ *i*P **P 16 11 47.5 +0.5**
comp=Z,55nm,0.9s,mb5.3
CLL *i* pP pP 16 12 03.6 -1.5
CLL *i* x x 16 12 06.4
CLL *e*sP sP 16 12 11.0 -1.4
CLL *e*PP PP 16 14 40.0 -1.4
CLL *e*sPP 16 15 00.0
CLL *e*PPP 16 16 48.0
CLL *e*S S 16 21 30.0 -1.9
CLL *e*sS sS 16 22 02.0 -0.6
CLL *e*x x 16 27 36.0
CLL *e*SSS 16 29 58.0
CLL Lm 16 48 00.0
comp=N,800nm,20.0s
CLL Lm 16 48 00.0
comp=E,500nm,19.8s
CLL Lm 16 48 00.0
comp=Z,1μm,21.1s
PHWY Pilot Hill 77.39 45 *e*P **P 16 11 47.8 +0.4**
PHWY *e* pP 16 12 05.2 -0.3
PVCC Panska Ves 77.39 329 *e*P **P 16 11 48.1 +0.9**
PVCC *e*pP pP 16 12 03.9 -1.4
PVCC AMS AMS 16 48 40.0

comp=Z,800nm,16.7s
PV10 Paradox Valley 77.44 50 *e*P **P 16 11 48.3 +0.6**
PV10 *e* pP 16 12 08.0 +2.2
VRAC Vranov 77.54 327 P **P 16 11 49.6 +1.5**
VRAC Vranov 77.54 327⇑ *i*P **P 16 11 48.6 +0.5**
GLA Glamis 77.56 57 *e*P **P 16 11 48.9 +0.5**
GLA *e* pP 16 12 08.2 +1.7
GLA pmax pmax
comp=Z,85nm,1.1s,mb5.4
GLA Glamis 77.56 57 *e*P **P 16 11 48.9 +0.4**
comp=Z,85nm,1.1s,mb5.4
GLA *e* pP 16 12 08.2 +1.7
NWAO Narrogin (SRO) 77.59 201 *e*P **P 16 11 47.5 -0.8**
NWAO pmax pmax
comp=Z,37nm,1.1s
NWAO Narrogin (SRO) 77.59 201 *e*P **P 16 11 47.5 -0.8**
comp=Z,37nm,1.1s,mb5.0
NWAO Narrogin (SRO) 77.59 201 P **P 16 11 48.0 -0.3**
comp=Z,13nm,0.6s,mb4.9,baz=20,slow=5.9,SNR=14
PRA Prague 77.81 328 P **P 16 11 50.0 +0.5**
PRA pP pP 16 12 10.0 +2.4
PRA *ex* x 16 12 29.0
SZH Strazhica 77.82 318 *i* P **P 16 11 50.1 +0.4**
ZIMR 77.82 318 P **P 16 11 50.7 +1.0**
PRU Pruhonice 77.83 328 *e*P **P 16 11 50.6 +1.0**
PRU *e*pP pP 16 12 07.2 -0.5
PRU AMS AMS 16 49 00.0
comp=Z,800nm,17.5s
PV01 Paradox Valley 77.88 50 *e*P **P 16 11 50.2 +0.1**
PV01 *e* pP 16 12 09.9 +1.7
ESKT Eskisehir 77.88 312 *i* P **P 16 11 50.8 +0.7**
CLZ Clausthal 77.90 332 *e*P **P 16 11 50.8 +0.8**
CLZ pmax pmax
comp=Z,69nm,1.0s,mb5.3
CLZ Clausthal 77.90 332 *e*P **P 16 11 50.8 +0.8**
comp=Z,69nm,1.0s,mb5.3
BUD Budapest 77.93 324⇑ *e*P **P 16 11 50.2 0.0**
MODS Modra-Piesok 77.99 326 *e*P **P 16 11 51.4 +0.9**
TREC Trest 78.00 327 *e*P **P 16 11 51.6 +1.0**
TREC *e*pP pP 16 12 07.9 -0.8
TREC AMS AMS 16 48 40.0
comp=Z,900nm,23.9s
WUAZ Wupatki 78.03 53 *e*P **P 16 11 51.7 +0.7**
comp=Z,59nm,1.0s,mb5.3
WUAZ *e* pP 16 12 11.1 +2.0
SMCO Snowmass 78.05 48 *e*P **P 16 11 51.2 +0.1**
comp=Z,108nm,1.4s,mb5.4
SMCO *e* pP 16 12 11.1 +1.9
JMB Yambol 78.07 317 *i* P **P 16 11 51.6 +0.5**
BZS Buzias 78.17 322 P **P 16 11 52.4 +0.8**
BZS Buzias 78.17 322 ⇓ *i*P **P 16 11 52.1 +0.5**
ZST Bratislava 78.20 326 *e*P **P 16 11 53.3 +1.6**
ZST *e* pP 16 12 12.3 +2.5
ZST pmax pmax
comp=Z,21nm,1.0s,mb4.8
ZST MLR MLR
comp=Z,500nm,19.2s
ZST Bratislava 78.20 326 *e*P **P 16 11 53.3 +1.6**
comp=Z,21nm,1.0s,mb4.8
ZST *e* pP 16 12 12.3 +2.5
ZST LR LR
comp=Z,500nm,19.2s
ZST Bratislava 78.20 326 *e*P **P 16 11 53.3 +1.6**
ZST *e*pP pP 16 12 12.3 +2.5
FKH Fakeheh 78.27 305 *e*P **P 16 11 53.8 +1.4**
TANN Tannenbergstha 78.29 330 *e*P **P 16 11 52.4 +0.2**
comp=Z,121nm,2.4s,mb5.2
ESY Stoneypath 78.32 341 *e*P **P 16 11 52.0 -0.2**
ISCO Idaho Springs 78.37 47 *e*P **P 16 11 53.0 +0.2**
ISCO *e* pP 16 12 12.8 +1.9
ISCO pmax pmax
comp=Z,215nm,1.9s,mb5.5
ISCO MLR MLR
comp=Z,319nm,20.0s
ISCO Idaho Springs 78.37 47 *e*P **P 16 11 53.0 +0.2**
comp=Z,215nm,1.9s,mb5.5
ISCO *e* pP 16 12 12.8 +1.9
ISCO LR LR
comp=Z,319nm,20.0s
IBBN Ibbenburen 78.42 333 *e*P **P 16 11 53.3 +0.5**
comp=Z,75nm,1.0s,mb5.4
MOX Moxa 78.42 330 *e*P **P 16 11 52.6 -0.3**
comp=Z,59nm,1.6s,mb5.1
MOX
comp=Z,600nm,20.0s
MOX Moxa 78.42 330 *e*P **P 16 11 52.6 -0.3**
MOX pmax pmax
comp=Z,59nm,1.6s,mb5.1
MOX MLR MLR
comp=Z,600nm,20.0s
MOX Moxa 78.42 330 *e*P **P 16 11 53.2 +0.3**
comp=Z,30nm,1.1s,mb4.9
NKC Novy Kostel 78.44 330 *e*P **P 16 11 53.7 +0.7**
NKC *e**PP pP 16 12 09.5 -1.6
NKC Novy Kostel 78.44 330 *e*P **P 16 11 53.7 +0.7**
NKC *e*pP pP 16 12 09.5 -1.6
NKC AMS AMS 16 48 40.0
comp=Z,900nm,17.6s
EAB Aberfoyle 78.50 342 *e*P **P 16 11 52.9 -0.3**
HWQ Hawqa 78.52 306 *e*P **P 16 11 53.6 -0.2**
MVCO Mesa Verde 78.56 50 *e*P **P 16 11 53.9 0.0**
comp=Z,96nm,1.4s,mb5.4
MVCO *e* pP 16 12 09.9 -2.1
SOP Sopron 78.83 326⇑ *e*P **P 16 11 56.3 +1.1**
UBBA Unterbreizbach 78.87 331 *e*P **P 16 11 55.2 -0.2**
comp=Z,48nm,1.6s,mb5.1
KHC Kasperske Hory 78.89 328⇑ *e*P **P 16 11 55.6 +0.1**
KHC Kasperske Hory 78.89 328 *e*P **P 16 11 56.0 +0.5**
KHC *e*PCP PcP 16 12 05.5 +1.5
KHC *e*pP pP 16 12 15.7 +2.1
KHC *ex* x 16 12 31.0
KHC AMS AMS 16 49 30.0
comp=Z,900nm,15.7s
ROTZ Rotzenmuhle 78.91 329 *e*P **P 16 11 56.6 +1.0**
comp=Z,39nm,1.1s,mb5.2
CONA Conrad Observa 78.93 326⇑ *i*P **P 16 11 56.3 +0.6**
comp=Z,254nm,2.9s,mb5.5,SNR=14
CSNA Conrad Observa 78.93 326⇑ *i*P **P 16 11 56.2 +0.5**
comp=Z,241nm,2.9s,mb5.5
GDZ Gediz 78.94 313 *i* P **P 16 11 56.9 +0.9**
BHL Bhannes 78.95 306 *e*P **P 16 11 55.8 -0.3**
ESK Eskdalemuir 79.01 341⇑ *e*P **P 16 11 55.1 -1.0**
ESK AMb AMB 16 11 59.2
comp=Z,77nm,2.3s,mb5.1
WTSB Winterswijk 79.02 334⇑ *e*P **P 16 11 55.5 -0.7**
comp=Z,38nm,1.4s,mb5.0
WTSB Winterswijk 79.02 334 *e*P pP 16 12 12.7 -1.6
EYMN Ely 79.07 33 *e*P **P 16 11 51.8 -4.7**
comp=Z,205nm,0.9s
EYMN *e* 16 12 15.2
PKSM Moragy 79.07 324⇑ *i*P **P 16 11 56.1 -0.4**
GEC2 GERESS Array S 79.08 328 *e*P **P 16 11 57.0 +0.5**
GEC2 pmax pmax
comp=Z,28nm,1.3s,mb4.9
GEC2 GERESS Array S 79.08 328 *e*P **P 16 11 57.0 +0.5**
comp=Z,28nm,1.3s,mb4.9
GERES GERESS Array B 79.08 328 P **P 16 11 55.9 -0.6**
GERES 16 14 53.6
GERES pmax pmax
comp=Z,8.0nm,0.7s
GERES pmax pmax
comp=Z,3.0nm,0.8s
GERES GERESS Array B 79.08 328 P **P 16 11 55.9 -0.6**
GERES PP PP 16 14 53.6 -2.1
GERES GERESS Array B 79.08 328 P **P 16 11 55.9 -0.6**
comp=Z,7.7nm,0.7s,mb4.7,baz=36,slow=5.2,SNR=16
GERES PP PP 16 14 53.6 -2.1
comp=Z,2.6nm,0.8s,baz=45,slow=9.6,SNR=3.6
ECK Cauldkaine Hil 79.11 340 *e*P **P 16 11 56.8 +0.2**
WET Wettzell 79.16 329 *e*P **P 16 11 57.9 +0.9**
WET pmax pmax
comp=Z,54nm,1.1s,mb5.3
WET Wettzell 79.16 329 *e*P **P 16 11 57.9 +0.9**
comp=Z,54nm,1.1s,mb5.3
PGB Panagyurishte 79.23 318 *i* P **P 16 11 58.2 +0.7**
BTOK Tokmak 79.25 314 *i* P **P 16 11 58.2 +0.6**
PLD Plovdiv 79.29 318 *e*P **P 16 11 58.0 +0.2**
BUG Bochum--Univer 79.31 333 *e*P **P 16 11 57.8 +0.1**
comp=Z,54nm,1.0s,mb5.3
GRA1 Grafenberg Arr 79.35 330 *e*P **P 16 11 58.3 +0.3**
comp=Z,88nm,1.0s,mb5.5
GRA1 *e*pP pP 16 12 15.1 -1.0
GRA1 *e* 16 12 36.7
GRF Grafenberg Arr 79.35 330 *e*P **P 16 11 58.3 +0.3**
GRF *e**PP pP 16 12 15.1 -1.0
GRF pmax pmax
comp=Z,88nm,1.0s,mb5.5
GRF Grafenberg Arr 79.35 330 *e*P **P 16 11 58.3 +0.3**
comp=Z,88nm,1.0s,mb5.5
GRF *e*pP pP 16 12 15.1 -1.0
GRF *e* 16 12 36.7
GRFO Grafenberg 79.35 330 P **P 16 11 58.3 +0.3**
GRFO pmax pmax
comp=Z,63nm,1.0s,mb5.4
GRFO Grafenberg 79.35 330 *e*P **P 16 11 58.3 +0.3**
comp=Z,63nm,0.9s,mb5.5
ASF Jabal al Asfar 79.35 304 P **P 16 11 59.0 +0.7**
ASF pmax pmax
comp=Z,19nm,0.8s
ASF MLR MLR
comp=Z,157nm,18.9s
ASF Jabal al Asfar 79.35 304 P **P 16 11 59.0 +0.6**
comp=Z,19nm,0.8s,mb5.0,baz=267,slow=3.8,SNR=30
ASF LR LR 16 51 58.1
comp=Z,157nm,18.9s,baz=280,slow=39
ALN Alexandroupoli 79.48 316 *e*P **P 16 11 59.3 +0.4**
RZN Rozhen 79.59 317 *i* P **P 16 12 00.4 +1.0**
ARSA Arzberg 79.60 326⇑ *i*P **P 16 11 59.7 +0.3**
comp=Z,170nm,3.4s,SNR=7.0
CKE Keswick 79.64 340 *e*P **P 16 11 59.8 +0.3**
MOA Molln 79.64 327⇑ *i*P **P 16 11 59.9 +0.3**
comp=Z,83nm,2.3s,mb5.2
VTS Vitosha 79.67 319 *e*P **P 16 12 01.0 +1.1**
VTS Vitosha 79.67 319⇑ *i*P **P 16 12 01.0 +1.1**
VTS Vitosha 79.67 319 *i* P **P 16 12 00.5 +0.6**
GAL1 Galloway 79.79 341⇑ *e*P **P 16 11 59.3 -1.0**
GAL1 AMb AMB 16 12 01.6
comp=Z,102nm,1.1s,mb5.6
HPK Haverah Park 79.82 339 *e*P **P 16 12 00.8 +0.3**
HPK AMb AMB 16 12 05.0
comp=Z,202nm,1.8s,mb5.7
MANT Manisa 79.87 313 *i* P **P 16 12 01.6 +0.5**
SDCO Great Sand Dun 79.88 48 *e*P **P 16 12 00.9 -0.2**
comp=Z,39nm,1.4s,mb5.0
SDCO *e* pP 16 12 20.9 +1.6
SDCO LR LR
comp=Z,203nm,19.0s
ECSD EROS,Sioux Fal 80.07 39 *e*P **P 16 12 00.9 -1.1**
comp=Z,105nm,1.3s,mb5.5
ECSD *e* pP 16 12 19.6 -0.6
DIVS Divibare 80.08 322 *e*P **P 16 12 01.8 -0.2**
MMB Musomiste 80.16 318 *i* P **P 16 12 03.4 +0.9**
GOLH Golhisar 80.21 312 *i* P **P 16 12 02.8 -0.1**
LHO Holmfirth 80.25 339 *e*P **P 16 12 03.1 +0.3**
PERS Pernice 80.26 326 *i* P **P 16 12 03.2 +0.2**
SOKA Soboth 80.26 326⇑ *i*P **P 16 12 03.0 0.0**
KKB Krupnik 80.27 318 *i* P **P 16 12 03.8 +0.7**
TOD Tromm 80.31 331 *e*P **P 16 12 03.2 0.0**
HGN Heimansgroeve 80.33 333 *e*P **P 16 12 02.7 -0.6**
comp=Z,47nm,1.7s,mb5.0
HGN Heimansgroeve 80.33 333 *e*P pP 16 12 18.8 -2.7
comp=Z,48nm,1.6s
HGN Heimansgroeve 80.33 333 *ex* x 16 12 40.2
KBI1 Birley Grange 80.42 339 *e*P **P 16 12 03.5 -0.2**
MEM Membach 80.44 333 P **P 16 12 04.1 +0.3**
comp=Z,17nm,1.0s,mb4.8
MEM AP pP 16 12 20.4 -1.7
MEM XP sP 16 12 26.9 -2.5
ABH Alteburg 80.52 332 *e*P **P 16 12 04.1 -0.2**
TUC Tucson 80.57 55 *e*P **P 16 12 04.8 -0.1**
TUC *e* pP 16 12 21.2 -1.9
TUC pmax pmax
comp=Z,40nm,1.4s,mb5.1
TUC Tucson 80.57 55 *e*P **P 16 12 04.8 -0.1**
comp=Z,40nm,1.4s,mb5.0
TUC *e* pP 16 12 21.1 -1.9
FUR Furstenfeldbru 80.57 329 *e*P **P 16 12 05.7 +1.1**
FUR pmax pmax
comp=Z,87nm,0.9s,mb5.6
FUR Furstenfeldbru 80.57 329 *e*P **P 16 12 05.7 +1.1**
comp=Z,87nm,0.9s,mb5.6
SRS Serrai 80.58 318 *e*P **P 16 12 05.4 +0.7**
OBKA Obir 80.60 326⇑ *i*P **P 16 12 04.5 -0.3**
comp=Z,328nm,3.6s,SNR=15
KBA Koelnbreinsper 80.64 327⇑ *i*P **P 16 12 05.0 0.0**
comp=Z,136nm,1.6s,mb5.5,SNR=15
KBA Koelnbreinsper 80.64 327⇑ *i*P **P 16 12 05.0 0.0**
KBA pmax pmax
comp=Z,136nm,1.6s,mb5.5
BLCB Balcova 80.77 314 *e*P **P 16 12 04.3 -1.6**
SCHQ Schefferville 80.83 16 *e*P **P 16 12 05.3 -0.6**
comp=Z,41nm,0.9s,mb5.2
SCHQ *e* pP 16 12 23.6 -0.5
SCHQ LR LR
comp=Z,391nm,19.0s
SCHQ Schefferville 80.83 16 P **P 16 12 05.2 -0.7**
comp=Z,36nm,0.8s,mb5.2,baz=356,slow=6.1,SNR=31
SCHQ LR LR 16 52 19.2
comp=Z,264nm,20.3s,baz=276,slow=39
BCLA Clavier 80.84 334 P **P 16 12 06.0 0.0**
comp=Z,12nm,1.1s,mb4.6
BCLA E 16 12 09.2
AYDN Tasoluk 80.84 313 *i* P **P 16 12 07.6 +1.3**
RUP Ruppelstein 80.85 332 *e*P **P 16 12 05.7 -0.4**
STIP Stip 80.85 319 *e*P **P 16 12 06.7 +0.5**
STIP Stip 80.85 319 *i* P **P 16 12 05.7 -0.5**
STU Stuttgart 80.86 331 *e*P **P 16 12 06.9 +0.8**
comp=Z,59nm,0.9s,mb5.4
VNDS Vrh nad Dolski 80.86 326 *i* P **P 16 12 05.7 -0.5**
MYKA Terra Mystica 80.88 327⇑ *i*P **P 16 12 05.8 -0.5**
comp=Z,197nm,1.5s,mb5.7
KNT Kendrikon 80.89 318 *e*P **P 16 12 07.0 +0.5**
SOH Sokhos 80.92 318 *e*P **P 16 12 06.7 +0.1**
VAY Valandovo 80.94 318 *e*P **P 16 12 06.2 -0.5**
VAY Valandovo 80.94 318 *i* P **P 16 12 06.4 -0.3**
PLE Pljevlja 80.95 322⇑ *i*P **P 16 12 07.2 +0.5**
SKO Skopje 81.00 319 *e*P **P 16 12 08.4 +1.4**
SKO Skopje 81.00 319 *i* P **P 16 12 08.4 +1.3**
IVA Berane 81.06 321⇑ *i*P **P 16 12 08.0 +0.7**
BOJS Bojanci 81.10 325 *i* P **P 16 12 07.1 -0.4**
WATA Walderalm 81.14 328⇑ *i*P **P 16 12 08.4 +0.7**
comp=Z,44nm,1.2s,mb5.2
WATA Walderalm 81.14 328⇑ *i*P **P 16 12 08.4 +0.8**
WATA pmax pmax
comp=Z,44nm,1.2s,mb5.2
WTTA Wattenberg 81.17 328⇑ *i*P **P 16 12 08.1 +0.2**
comp=Z,187nm,2.0s,mb5.6,SNR=10
WTTA Wattenberg 81.17 328⇑ *i*P **P 16 12 08.1 +0.3**
WTTA pmax pmax
comp=Z,187nm,2.0s,mb5.6
PTCC Patocco-Chiusa 81.18 327 P **P 16 12 07.0 -0.9**
comp=Z,13nm,0.6s,mb4.9
LANF Langenberg 81.19 331 *e*P **P 16 12 06.9 -1.0**
WLF Walferdange 81.19 333 *e*P **P 16 12 07.4 -0.5**
WLF pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
WLF Walferdange 81.19 333 *e*P **P 16 12 07.4 -0.5**
comp=Z,8.9nm,0.7s,mb4.7
WLF Walferdange 81.19 333 P **P 16 12 09.6 +1.7**
WLF E 16 12 46.0
WLF Walferdange 81.19 333 *e*P **P 16 12 09.1 +1.2**
comp=Z,28nm,1.0s,mb5.0
SBD1 Bryn Du 81.20 340⇑ *e*P **P 16 12 08.4 +0.5**
PLG Polygyros 81.20 317 *e*P **P 16 12 07.9 -0.3**
PVY Plav 81.24 321⇑ *i*P **P 16 12 08.3 0.0**
ABTA Abfaltersbach 81.24 328⇑ *i*P **P 16 12 07.4 -0.8**
comp=Z,80nm,1.9s,mb5.2
VOY Vojsko 81.25 326 *e*P **P 16 12 07.6 -0.7**
VOY *e* pP 16 12 27.3 +0.8
GIVF Givet 81.27 334 *e*P **P 16 12 07.7 -0.6**
GIVF *e*pP pP 16 12 24.1 -2.4
UPM Unac-Piva 81.27 322⇑ *i*P **P 16 12 08.0 -0.4**
JAVS Javornik 81.29 326 *i* P **P 16 12 08.1 -0.4**
GRG Griva 81.30 318 *e*P **P 16 12 08.2 -0.4**
LAZ Ladron 81.31 51 *e*P **P 16 12 09.4 +0.6**
LAZ *e* pP 16 12 28.8 +1.8
MOTA Moosalm 81.31 329⇑ *i*P **P 16 12 08.1 -0.4**
comp=Z,66nm,1.1s,mb5.4,SNR=23
MOTA Moosalm 81.31 329⇑ *i*P **P 16 12 08.1 -0.5**
MOTA pmax pmax
comp=Z,66nm,1.1s,mb5.4
ANMO Albuquerque 81.31 51 *e*P **P 16 12 09.5 +0.7**
ANMO *e* pP 16 12 29.0 +2.0
ANMO pmax pmax
comp=Z,53nm,1.4s
ANMO MLR MLR
comp=Z,324nm,22.0s
ANMO Albuquerque 81.31 51 *e*P **P 16 12 09.5 +0.6**
comp=Z,53nm,1.4s,mb5.2
ANMO *e* pP 16 12 29.0 +2.0
ANMO LR LR
comp=Z,324nm,22.0s
RETA Reutte 81.33 329⇓ *i*P **P 16 12 08.7 0.0**
comp=Z,150nm,1.5s,mb5.6,SNR=20
DOU Dourbes 81.35 334 P **P 16 12 08.8 +0.1**
SQTA Sankt Quirin 81.37 329⇓ *i*P **P 16 12 09.2 +0.3**
comp=Z,44nm,1.2s,mb5.2,SNR=8.3
SQTA Sankt Quirin 81.37 329⇓ *i*P **P 16 12 09.2 +0.3**
SQTA pmax pmax
comp=Z,44nm,1.2s,mb5.2
PAIG Paliouri 81.42 317 *e*P **P 16 12 09.1 -0.2**
BAIF Baives 81.51 334 *e*P **P 16 12 09.0 -0.6**
comp=Z,36nm,1.1s,mb4.8
BAIF Baives 81.51 334 *e*P **P 16 12 09.0 -0.6**
BAIF pmax pmax
comp=Z,18nm,1.1s,mb4.8
BAIF Baives 81.51 334 *e*P **P 16 12 09.0 -0.6**
comp=Z,18nm,1.1s,mb4.8
BDRM Kayabasi 81.51 313 *i* P **P 16 12 11.2 +1.3**
COWI Conover 81.51 33 *e*P **P 16 12 08.0 -1.6**
comp=Z,12nm,1.0s,mb4.7
COWI *e* pP 16 12 26.8 -1.1
NKY Niksic 81.53 321⇑ *i*P **P 16 12 09.7 -0.1**
BFO Black Forest 81.55 331 P **P 16 12 10.1 +0.3**
comp=Z,161nm,1.0s,mb5.8,SNR=15
BFO Black Forest 81.55 331 *e*P **P 16 12 09.7 -0.1**
BFO pmax pmax
comp=Z,79nm,1.5s,mb5.3
BFO Black Forest 81.55 331 *e*P **P 16 12 09.7 -0.1**
comp=Z,79nm,1.5s,mb5.3
KRUS Krusevo 81.56 319 *i* P **P 16 12 10.5 +0.6**
SPAK Spaichingen-Ko 81.57 330 *e*P **P 16 12 09.0 -0.9**
DLF Lyons Farm 81.66 342⇓ *i*P **P 16 12 11.0 +0.7**
LPM Los Pinos Moun 81.67 51 *e*P **P 16 12 11.5 +0.8**
LPM *e* pP 16 12 25.7 -3.2
BRY Bratogost 81.67 322⇑ *i*P **P 16 12 09.7 -0.9**
PUK Puka 81.70 320 *e*PN **P 16 12 11.4 +0.7**
TTG Podgorica 81.70 321⇑ *i*P **P 16 12 10.4 -0.3**
PHP Peshkopia 81.71 320 *e*PN **P 16 12 11.4 +0.6**
FETA Feichten 81.72 329⇑ *i*P **P 16 12 10.9 +0.2**
comp=Z,37nm,1.1s,mb5.1,SNR=19
BIA Bitola 81.78 319 *i* P **P 16 12 10.5 -0.7**
BNM Barren Site 81.78 51 *e*P **P 16 12 11.6 +0.3**
BNM *e* pP 16 12 31.2 +1.7
DCN Croghan 81.79 342⇓ *i*P **P 16 12 11.7 +0.7**
DAVA Damuels 81.83 329⇑ *i*P **P 16 12 11.5 +0.2**
comp=Z,126nm,1.4s,mb5.5,SNR=18
CDF Champ du Feu 81.86 331 *e*P **P 16 12 11.2 -0.2**
comp=Z,72nm,1.1s,mb5.1
CDF *e*pP pP 16 12 27.6 -2.1
CDF Champ du Feu 81.86 331 *e*P **P 16 12 11.2 -0.2**
CDF *e**PP pP 16 12 27.6 -2.1
CDF pmax pmax
comp=Z,36nm,1.1s,mb5.1
CDF Champ du Feu 81.86 331 *e*P **P 16 12 11.2 -0.2**
comp=Z,36nm,1.1s,mb5.1
CDF *e*pP pP 16 12 27.6 -2.1
LIT Litokhoron 81.89 318 *e*P **P 16 12 10.9 -0.9**
FNA Florina 81.94 319 *e*P **P 16 12 11.7 -0.3**
HTR Trewern Hill 81.95 339⇑ *e*P **P 16 12 11.9 0.0**
MCH1 Michaelchurch 81.95 339 *e*P **P 16 12 12.5 +0.6**
MCH1 ⇑ *e*P 16 12 12.5
MCH1 AMb AMB 16 12 13.4
comp=Z,66nm,1.6s,mb5.2
BUM Brajici-Budva 81.97 321⇑ *i*P **P 16 12 11.9 -0.2**
OHR Ohrid 81.97 319 *e*P **P 16 12 12.3 +0.1**
OHR Ohrid 81.97 319 *i* P **P 16 12 12.0 -0.1**
FELD Feldberg im Sc 82.05 331 *e*P **P 16 12 10.4 -2.0**
HCY Herceg Novi 82.05 321⇑ *i*P **P 16 12 12.7 +0.2**
ULC Ulcinj 82.06 321⇑ *i*P **P 16 12 12.7 +0.1**
ECH Echery 82.07 331 *e*P **P 16 12 11.1 -1.4**
CTI Castel Tesino 82.16 328 P **P 16 12 12.8 -0.2**
CTI pmax pmax
comp=Z,77nm,1.2s,mb5.4
CTI Castel Tesino 82.16 328 P **P 16 12 12.8 -0.2**
comp=Z,77nm,1.2s,mb5.4
CBKS Cedar Bluff 82.22 44 *e*P **P 16 12 12.0 -1.5**
CBKS *e* pP 16 12 30.7 -1.0
CBKS pmax pmax
comp=Z,35nm,1.0s,mb5.1
CBKS Cedar Bluff 82.22 44 *e*P **P 16 12 12.0 -1.5**
comp=Z,35nm,1.0s,mb5.1
CBKS *e* pP 16 12 30.7 -1.1
HGH Gray Hill 82.22 339 *e*P **P 16 12 13.2 0.0**
TIR Tirane 82.24 320 *e*P **P 16 12 13.6 0.0**
BRMO Bormio 82.31 329 P **P 16 12 15.0 +1.1**
comp=Z,37nm,1.0s,mb5.2
KBN Korca 82.35 319 *e*PN **P 16 12 14.8 +0.6**
MOF Molkenrain 82.38 331 *e*P **P 16 12 11.4 -2.8**
HINF Hinteralfeld 82.51 331 *e*P **P 16 12 14.1 -0.8**
HAU Haudompre 82.53 332 *e*P **P 16 12 14.4 -0.6**
comp=Z,33nm,0.9s,mb4.9
HAU *e*MLR MLR
comp=Z,830nm,22.0s
HAU Haudompre 82.53 332 *e*P **P 16 12 14.4 -0.6**
HAU pmax pmax
comp=Z,17nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,830nm,22.0s
HAU Haudompre 82.53 332 *e*P **P 16 12 14.4 -0.6**
comp=Z,16nm,0.9s,mb4.9
HAU LR LR
comp=Z,830nm,22.0s
THL Klokotos Trika 82.54 318 *e*P **P 16 12 13.6 -1.6**
MEZF Maizieres J'vi 82.56 333 *e*P **P 16 12 15.0 -0.1**
comp=Z,125nm,1.2s,mb5.3
MEZF Maizieres J'vi 82.56 333 *e*P **P 16 12 15.0 -0.1**
comp=Z,125nm,1.2s,mb5.6
BBS Basel-Blauen 82.57 331 *e*P **P 16 12 13.7 -1.5**
MABI Malga Bissina 82.60 328 P **P 16 12 15.1 -0.3**
LKR Lokris 82.72 316 *e*P **P 16 12 14.9 -1.3**
AGG Agios Georgios 82.78 317 *e*P **P 16 12 15.3 -1.1**
LOMF Lomont 82.92 331 *e*P **P 16 12 16.3 -0.7**
SCIA State Center 83.06 38 *e*P **P 16 12 17.5 -0.4**
comp=Z,161nm,1.4s,mb5.7
SCIA *e* pP 16 12 36.0 -0.1
SANT Santorini 83.10 313 *e*P **P 16 12 15.7 -2.5**
SRN Sarande 83.30 319 *e*PN **P 16 12 20.4 +1.3**
IGT Igoumenitsa 83.41 319 *e*P **P 16 12 19.6 0.0**
VAI Varese 83.44 329 P **P 16 12 19.1 -0.6**
VAI pmax pmax
comp=Z,242nm,1.3s
VAI Varese 83.44 329 P **P 16 12 19.1 -0.6**
comp=Z,242nm,1.3s
CABF La Chapelle 83.81 331 *e*P **P 16 12 21.3 -0.3**
LKD Levkas 83.88 318 *e*P **P 16 12 21.2 -0.8**
SNTG Esanatoglia 83.89 325 P **P 16 12 22.5 +0.4**
comp=Z,20nm,0.6s,mb5.1
VMG Vicchio 83.91 326 P **P 16 12 23.9 +1.8**
comp=Z,90nm,0.9s,mb5.6
ORO Oropa 83.94 330 P **P 16 12 21.8 -0.5**
ORO pmax pmax
comp=Z,21nm,0.6s,mb5.1
ORO Oropa 83.94 330 P **P 16 12 21.8 -0.5**
comp=Z,21nm,0.6s,mb5.2
GSCL Gusciola 83.98 327 P **P 16 12 23.9 +1.4**
comp=Z,46nm,1.0s,mb5.3
LAST Lasithi 83.98 313 *e*P **P 16 12 16.8 -5.9**
ERBM Eremo 83.99 327 P **P 16 12 23.7 +1.1**
comp=Z,108nm,1.0s,mb5.6
LOR Lormes 84.03 333 *e*P **P 16 12 22.2 -0.5**
comp=Z,121nm,1.1s,mb5.4
LOR *e*pP pP 16 12 38.6 -2.4
LOR *e*MLR MLR
comp=Z,1μm,22.2s
LOR Lormes 84.03 333 *e*P **P 16 12 22.2 -0.5**
LOR *e**PP pP 16 12 38.6 -2.4
LOR pmax pmax
comp=Z,60nm,1.1s,mb5.3
LOR MLR MLR
comp=Z,1μm,22.3s
LOR Lormes 84.03 333 *e*P **P 16 12 22.2 -0.5**
comp=Z,60nm,1.1s,mb5.3
LOR *e*pP pP 16 12 38.6 -2.4
LOR LR LR
comp=Z,1μm,22.3s
AMTX Amarillo 84.08 48 *e*P **P 16 12 22.6 -0.5**
comp=Z,67nm,1.4s,mb5.3
AMTX *e* pP 16 12 39.1 -2.4

BOB Bobbio (Coli) 84.09 328 P **P** **16 12 23.2 +1.0**
FLN La Foliniere 84.13 336 *e*P **P** **16 12 22.5 -0.6**
comp=Z,31nm,0.8s,mb4.9
FLN *e*MLR MLR
comp=Z,947nm,22.8s
FLN La Foliniere 84.13 336 *e*P **P** **16 12 22.5 -0.6**
FLN pmax pmax
comp=Z,15nm,0.8s,mb4.9
FLN MLR MLR
comp=Z,950nm,22.8s
FLN La Foliniere 84.13 336 *e*P **P** **16 12 22.5 -0.6**
comp=Z,15nm,0.8s,mb4.9
FLN LR LR
comp=Z,950nm,22.8s
NRCA Norcia 84.16 325 P **P** **16 12 24.6 +1.2**
comp=Z,92nm,1.0s,mb5.6
LDF La Druitiere 84.17 336 *e*P **P** **16 12 22.6 -0.8**
comp=Z,29nm,0.8s,mb4.9
LDF La Druitiere 84.17 336 *e*P **P** **16 12 22.6 -0.8**
LDF pmax pmax
comp=Z,15nm,0.8s,mb4.9
LDF La Druitiere 84.17 336 *e*P **P** **16 12 22.6 -0.8**
comp=Z,15nm,0.8s,mb4.9
VLC Villacollemand 84.22 327 *e*P **P** **16 12 19.8 -3.9**
comp=Z,28nm,1.1s,mb5.0
MNTX Cornudas Mount 84.26 52 *e*P **P** **16 12 23.9 -0.3**
comp=Z,53nm,1.3s,mb5.2
MNTX *e* pP 16 12 43.4 +1.0
TAU Tasmania Unive 84.26 176 *e*P **P** **16 12 23.7 +0.1**
VLS Valsamata 84.31 317 *e*P **P** **16 12 22.9 -1.4**
SSF Saint Saulge 84.33 333 *e*P **P** **16 12 23.8 -0.4**
comp=Z,48nm,0.9s,mb5.0
SSF Saint Saulge 84.33 333 *e*P **P** **16 12 23.8 -0.4**
SSF pmax pmax
comp=Z,24nm,0.9s,mb5.0
SSF Saint Saulge 84.33 333 *e*P **P** **16 12 23.8 -0.4**
comp=Z,24nm,0.9s,mb5.0
RSL Roselend 84.40 330 *e*P **P** **16 12 24.3 -0.3**
HYF Humbligny 84.45 334 *e*P **P** **16 12 24.8 0.0**
FG5 Orsara di Pugl 84.45 323 P **P** **16 12 26.1 +1.2**
FG5 pmax pmax
comp=Z,92nm,1.0s,mb5.6
FG5 Orsara di Pugl 84.45 323 P **P** **16 12 26.1 +1.2**
comp=Z,92nm,1.0s,mb5.6
FG4 Candela 84.46 322 P **P** **16 12 25.9 +0.9**
FG4 pmax pmax
comp=Z,292nm,1.1s
FG4 Candela 84.46 322 P **P** **16 12 25.9 +0.9**
comp=Z,292nm,1.1s
LPL La Plagne 84.51 330 *e*P **P** **16 12 25.4 +0.3**
comp=Z,96nm,0.9s,mb5.4
LPL La Plagne 84.51 330 *e*P **P** **16 12 25.4 +0.3**
LPL pmax pmax
comp=Z,48nm,0.9s,mb5.4
LPL La Plagne 84.51 330 *e*P **P** **16 12 25.4 +0.3**
comp=Z,48nm,0.9s,mb5.4
LPG La Plagne 84.52 330 *e*P **P** **16 12 25.6 +0.4**
comp=Z,131nm,0.9s,mb5.5
LPG *e*pP pP 16 12 41.9 -1.6
LPG La Plagne 84.52 330 *e*P **P** **16 12 25.6 +0.4**
LPG *e**PP pP 16 12 41.9 -1.6
LPG pmax pmax
comp=Z,65nm,0.9s,mb5.6
LPG La Plagne 84.52 330 *e*P **P** **16 12 25.6 +0.4**
comp=Z,65nm,0.9s,mb5.6
LPG *e*pP pP 16 12 41.9 -1.6
OG05 Jujurieux 84.53 331 *e*P **P** **16 12 25.2 0.0**
GRR Gorron 84.57 336 *e*P **P** **16 12 24.6 -0.8**
comp=Z,47nm,0.8s,mb5.2
GRR Gorron 84.57 336 *e*P **P** **16 12 24.6 -0.8**
GRR pmax pmax
comp=Z,24nm,0.8s,mb5.2
GRR Gorron 84.57 336 *e*P **P** **16 12 24.6 -0.8**
comp=Z,24nm,0.8s,mb5.2
SMF Signal de Mont 84.58 333 *e*P **P** **16 12 25.2 -0.3**
comp=Z,171nm,1.2s,mb5.5
SMF *e*pP pP 16 12 41.6 -2.2
SMF Signal de Mont 84.58 333 *e*P **P** **16 12 25.2 -0.3**
SMF *e**PP pP 16 12 41.6 -2.2
SMF pmax pmax
comp=Z,86nm,1.2s,mb5.6
SMF Signal de Mont 84.58 333 *e*P **P** **16 12 25.2 -0.3**
comp=Z,86nm,1.2s,mb5.5
SMF *e*pP pP 16 12 41.6 -2.2
AVF Avril sur Loir 84.62 333 *e*P **P** **16 12 25.4 -0.3**
comp=Z,100nm,0.8s,mb5.5
AVF Avril sur Loir 84.62 333 *e*P **P** **16 12 25.4 -0.3**
AVF pmax pmax
comp=Z,50nm,0.8s,mb5.5
AVF Avril sur Loir 84.62 333 *e*P **P** **16 12 25.4 -0.3**
comp=Z,50nm,0.8s,mb5.5
PTRP Pietrapertosa 84.69 322 P **P** **16 12 27.4 +1.2**
ORI Oriolo Calabro 84.87 321 P **P** **16 12 28.4 +1.3**
BNI Bardonecchia 84.92 330 P **P** **16 12 27.6 +0.4**
BNI pmax pmax
comp=Z,26nm,0.9s,mb5.2
BNI Bardonecchia 84.92 330 *e*P **P** **16 12 27.2 0.0**
comp=Z,26nm,0.9s,mb5.2
GVD Gavdhos 84.99 313 *e*P **P** **16 12 27.8 0.0**
comp=Z,85nm,0.9s,mb5.7
BGF Bois d'Agland 85.00 333 *e*P **P** **16 12 27.3 -0.3**
comp=Z,55nm,1.0s,mb5.1
BGF Bois d'Agland 85.00 333 *e*P **P** **16 12 27.3 -0.3**
BGF pmax pmax
comp=Z,28nm,1.0s,mb5.2
BGF Bois d'Agland 85.00 333 *e*P **P** **16 12 27.3 -0.3**
comp=Z,28nm,1.0s,mb5.1
GDM Grand'Maison 85.00 330 *e*P **P** **16 12 27.5 -0.1**
SGO Sicignano 85.01 322 P **P** **16 12 28.0 +0.2**
SGO pmax pmax
comp=Z,34nm,1.1s,mb5.2
SGO Sicignano 85.01 322 P **P** **16 12 28.0 +0.2**
comp=Z,34nm,1.1s,mb5.2
GRN Grenoble 85.11 331 *e*P **P** **16 12 28.1 0.0**
MBDF Montbardon 85.16 330 *e*P **P** **16 12 28.0 -0.4**
comp=Z,65nm,0.8s,mb5.3
MBDF Montbardon 85.16 330 *e*P **P** **16 12 28.0 -0.4**
MBDF pmax pmax
comp=Z,32nm,0.8s,mb5.3
MBDF Montbardon 85.16 330 *e*P **P** **16 12 28.0 -0.4**
comp=Z,32nm,0.8s,mb5.3
SGMF Saint Gilles 85.20 337 *e*P **P** **16 12 28.5 -0.1**
comp=Z,89nm,1.1s,mb5.3
SGMF Saint Gilles 85.20 337 *e*P **P** **16 12 28.5 -0.1**
SGMF pmax pmax
comp=Z,44nm,1.1s,mb5.3
SGMF Saint Gilles 85.20 337 *e*P **P** **16 12 28.5 -0.1**
comp=Z,44nm,1.1s,mb5.3
PLDF La Plantade 85.24 332 *e*P **P** **16 12 27.4 -1.4**
TDS Terranova Siba 85.24 321 P **P** **16 12 29.9 +1.0**
TDS pmax pmax
comp=Z,130nm,1.0s,mb5.8
TDS Terranova Siba 85.24 321 P **P** **16 12 29.9 +1.0**
comp=Z,130nm,1.0s,mb5.8
ORIF Oris-en-Rattie 85.33 330 *e*P **P** **16 12 29.3 0.0**
comp=Z,73nm,0.8s,mb5.4
ORIF *e*MLR MLR
comp=Z,549nm,22.5s
ORIF Oris-en-Rattie 85.33 330 *e*P **P** **16 12 29.3 0.0**
ORIF pmax pmax
comp=Z,36nm,0.8s,mb5.3
ORIF Oris-en-Rattie 85.33 330 *e*P **P** **16 12 29.3 0.0**
comp=Z,36nm,0.8s,mb5.4
ROSF Rostrenen 85.33 338 *e*P **P** **16 12 29.3 +0.1**
comp=Z,273nm,1.3s,mb5.7
ROSF *e*pP pP 16 12 45.7 -1.9
ROSF Rostrenen 85.33 338 *e*P **P** **16 12 29.3 +0.1**
ROSF *e**PP pP 16 12 45.7 -1.9
ROSF pmax pmax
comp=Z,137nm,1.3s,mb5.7
ROSF Rostrenen 85.33 338 *e*P **P** **16 12 29.3 +0.1**
comp=Z,137nm,1.3s,mb5.7
ROSF *e*pP pP 16 12 45.7 -1.9
AGO Saint Agoulin 85.34 333 *e*P **P** **16 12 29.5 +0.2**
SURF Saint Ours 85.35 330 *e*P **P** **16 12 29.0 -0.4**
TIP Timpagrande 85.42 320 *e*P **P** **16 12 30.1 +0.3**
comp=Z,80nm,1.3s,mb5.5
TCF Toulx Ste Croi 85.45 333 *e*P **P** **16 12 29.8 0.0**
comp=Z,109nm,1.3s,mb5.3
TCF *e*pP pP 16 12 46.3 -1.9
TCF Toulx Ste Croi 85.45 333 *e*P **P** **16 12 29.8 0.0**
TCF *e**PP pP 16 12 46.3 -1.9
TCF pmax pmax
comp=Z,54nm,1.3s,mb5.3
TCF Toulx Ste Croi 85.45 333 *e*P **P** **16 12 29.8 0.0**
comp=Z,54nm,1.3s,mb5.3
TCF *e*pP pP 16 12 46.3 -1.9
SAOF Saorge 85.49 329 *e*P **P** **16 12 28.8 -1.3**
AUTN L'Aution 85.53 329 *e*P **P** **16 12 29.1 -1.2**
TOUF Mont Tournerai 85.58 329 *e*P **P** **16 12 29.4 -1.1**
SBF Sospel 85.64 329 *e*P **P** **16 12 29.9 -0.9**
comp=Z,136nm,1.0s,mb5.5
SBF Sospel 85.64 329 *e*P **P** **16 12 29.9 -0.9**
SBF pmax pmax
comp=Z,68nm,1.0s,mb5.5
SBF Sospel 85.64 329 *e*P **P** **16 12 29.9 -0.9**
comp=Z,68nm,1.0s,mb5.5
PYM Petit Puy Mans 85.64 333 *e*P **P** **16 12 30.9 +0.1**
LUCF Luceram 85.65 329 *e*P **P** **16 12 28.7 -2.2**
QUIF Quistinic 85.68 337 *e*P **P** **16 12 30.7 -0.3**
comp=Z,86nm,0.9s,mb5.4
QUIF Quistinic 85.68 337 *e*P **P** **16 12 30.7 -0.3**
QUIF pmax pmax
comp=Z,43nm,0.9s,mb5.4
QUIF Quistinic 85.68 337 *e*P **P** **16 12 30.7 -0.3**
comp=Z,43nm,0.9s,mb5.4
MVIF Mont Vial 85.72 329 *e*P **P** **16 12 29.4 -1.8**
OG25 Le Caire 85.73 330 *e*P **P** **16 12 30.8 -0.5**
REVF Revere 85.77 329 *e*P **P** **16 12 29.3 -2.2**
WMOK Wichita Mounta 85.78 46 *e*P **P** **16 12 30.8 -0.9**
WMOK *e* pP 16 12 45.2 -4.8
WMOK pmax pmax
comp=Z,21nm,1.1s,mb5.0
WMOK MLR MLR
comp=Z,243nm,20.0s
WMOK Wichita Mounta 85.78 46 *e*P **P** **16 12 30.8 -0.9**
comp=Z,21nm,1.1s,mb5.0
WMOK *e* pP 16 12 45.2 -4.8
WMOK LR LR
comp=Z,243nm,20.0s
VIVF Saint-Julien-l 85.83 331 *e*P **P** **16 12 31.7 0.0**
comp=Z,130nm,1.0s,mb5.5
VIVF Saint-Julien-l 85.83 331 *e*P **P** **16 12 31.7 0.0**
VIVF pmax pmax
comp=Z,65nm,1.0s,mb5.5
VIVF Saint-Julien-l 85.83 331 *e*P **P** **16 12 31.7 0.0**
comp=Z,65nm,1.0s,mb5.5
OCF Saint Nazaire 85.84 331 *e*P **P** **16 12 31.3 -0.5**
OG26 St.-Nazaire-De 85.84 331 *e*P **P** **16 12 31.3 -0.5**
GRI Girifalco 85.86 320 P **P** **16 12 32.8 +0.7**
HDIL Hopedale 85.93 37 *e*P **P** **16 12 31.3 -1.0**
HDIL *e* pP 16 12 50.3 -0.4
MFF Saint Martin d 85.94 335 *e*P **P** **16 12 32.4 +0.1**
comp=Z,145nm,1.0s,mb5.5
MFF *e*pP pP 16 12 48.9 -1.7
MFF Saint Martin d 85.94 335 *e*P **P** **16 12 32.4 +0.1**
MFF *e**PP pP 16 12 48.9 -1.7
MFF pmax pmax
comp=Z,73nm,1.0s,mb5.6
MFF Saint Martin d 85.94 335 *e*P **P** **16 12 32.4 +0.1**
comp=Z,73nm,1.0s,mb5.6
MFF *e*pP pP 16 12 48.9 -1.7
LBL Lubilhac 86.01 332 *e*P **P** **16 12 32.3 -0.3**
LCHF La Chataignera 86.07 335 *e*P **P** **16 12 32.3 -0.6**
PGF Pioggiola 86.12 327 *e*P **P** **16 12 32.5 -0.7**
FRF La Foret Royal 86.20 329 *e*P **P** **16 12 32.7 -0.9**
SMRF Simiane la Rot 86.25 330 *e*P **P** **16 12 33.8 0.0**
comp=Z,67nm,1.3s,mb5.1
SMRF Simiane la Rot 86.25 330 *e*P **P** **16 12 33.8 0.0**
comp=Z,67nm,1.3s,mb5.4
PPT Papeete 86.29 117 *e*S S 16 23 03.5 -1.0
comp=Z,550nm,24.0s
PPT Papeete 86.29 117 *e*LR LR 16 39 40.6
comp=Z,2µm,26.2s,baz=317
PPT Papeete 86.29 117 LR LR 16 44 33.4
comp=Z,886nm,21.3s,baz=303,slow=31
LMR La Mourre 86.44 329 *e*P **P** **16 12 34.2 -0.6**
comp=Z,139nm,1.3s,mb5.4
LMR La Mourre 86.44 329 *e*P **P** **16 12 34.2 -0.6**
LMR pmax pmax
comp=Z,69nm,1.3s,mb5.4
LMR La Mourre 86.44 329 *e*P **P** **16 12 34.2 -0.6**
comp=Z,69nm,1.3s,mb5.4
RJF Les Rejaudoux 86.54 333 *e*P **P** **16 12 35.5 +0.2**
comp=Z,106nm,1.1s,mb5.4
RJF *e*MLR MLR
comp=Z,1µm,21.8s
RJF Les Rejaudoux 86.54 333 *e*P **P** **16 12 35.5 +0.2**
RJF pmax pmax
comp=Z,53nm,1.0s,mb5.4
RJF MLR MLR
comp=Z,1µm,21.8s
RJF Les Rejaudoux 86.54 333 *e*P **P** **16 12 35.5 +0.2**
comp=Z,53nm,1.0s,mb5.4
RJF LR LR
comp=Z,1µm,21.8s
TREF Trevaresse 86.62 330 *e*P **P** **16 12 33.7 -2.0**
CAF Calviac 86.69 333 *e*P **P** **16 12 36.6 +0.6**
comp=Z,162nm,0.9s,mb5.7
CAF Calviac 86.69 333 *e*P **P** **16 12 36.6 +0.6**
CAF pmax pmax
comp=Z,81nm,0.9s,mb5.7
CAF Calviac 86.69 333 *e*P **P** **16 12 36.6 +0.6**
comp=Z,81nm,0.9s,mb5.7
LASF Ste Croix 86.80 331 *e*P **P** **16 12 36.7 +0.2**
comp=Z,149nm,1.2s,mb5.5
GELF Grande-Etoile 86.81 330 *e*P **P** **16 12 33.7 -2.9**
TAOE Nuku Hiva Isla 86.86 105 *e*LR LR 16 40 02.4
comp=Z,32µm,22.8s
TXAR Lajitas Array 86.99 53 P **P** **16 12 36.9 -0.8**
comp=Z,5.9nm,0.9s,mb4.5,baz=295,slow=3.6,SNR=59
TXAR pP pP 16 12 56.9 +0.8
comp=Z,18nm,1.0s,baz=288,slow=4.4,SNR=14
TXAR PKKPbc PKKPbc 16 30 29.9 +1.6
comp=Z,0.5nm,0.7s,baz=144,slow=4.5,SNR=5.1
TXAR LR LR 16 49 18.2
comp=Z,237nm,21.7s,baz=0.0,slow=34
CCM Cathedral Cave 87.03 39 *e*P **P** **16 12 37.2 -0.6**
CCM *e* pP 16 12 56.0 -0.2
CCM pmax pmax
comp=Z,42nm,1.1s,mb5.3
CCM Cathedral Cave 87.03 39 *e*P **P** **16 12 37.2 -0.6**
comp=Z,42nm,1.1s,mb5.3
CCM *e* pP 16 12 56.0 -0.2
LFF La Frestale 87.12 334 *e*P **P** **16 12 38.6 +0.5**
comp=Z,182nm,1.0s,mb5.7
LFF *e*pP pP 16 12 55.1 -1.4
LFF La Frestale 87.12 334 *e*P **P** **16 12 38.6 +0.5**
LFF *e**PP pP 16 12 55.1 -1.4
LFF pmax pmax
comp=Z,91nm,1.0s,mb5.7
LFF La Frestale 87.12 334 *e*P **P** **16 12 38.6 +0.5**
comp=Z,91nm,1.0s,mb5.7
LFF *e*pP pP 16 12 55.1 -1.4
VAE Valguarnera 87.89 321 LR LR 16 56 03.3
comp=Z,545nm,21.5s,baz=356,slow=38
MTLF Montolieu 88.02 332 *e*P **P** **16 12 42.7 +0.3**
comp=Z,54nm,1.1s,mb5.2
MTLF *e*pP pP 16 12 59.3 -1.6
MTLF Montolieu 88.02 332 *e*P **P** **16 12 42.7 +0.3**
MTLF *e**PP pP 16 12 59.3 -1.6
MTLF pmax pmax
comp=Z,27nm,1.1s,mb5.2
MTLF Montolieu 88.02 332 *e*P **P** **16 12 42.7 +0.3**
comp=Z,27nm,1.1s,mb5.2
MTLF *e*pP pP 16 12 59.3 -1.6
JCT Junction City 88.40 50 *e*P **P** **16 12 44.1 -0.4**
JCT *e* pP 16 13 03.3 +0.4
JCT pmax pmax
comp=Z,53nm,1.6s,mb5.3
JCT Junction City 88.40 50 *e*P **P** **16 12 44.1 -0.4**
comp=Z,53nm,1.6s,mb5.3
JCT *e* pP 16 13 03.3 +0.4
ERPA Erie 88.44 30 *e*P **P** **16 12 44.0 -0.4**
comp=Z,39nm,0.8s,mb5.5
ERPA *e* pP 16 13 03.4 +0.5
MIAR Mount Ida 88.66 43 *e*P **P** **16 12 45.4 -0.2**
MIAR *e* pP 16 13 04.7 +0.6
MIAR pmax pmax
comp=Z,34nm,0.9s,mb5.4
MIAR Mount Ida 88.66 43 *e*P **P** **16 12 45.4 -0.2**
comp=Z,34nm,0.9s,mb5.4
MIAR *e* pP 16 13 04.7 +0.6
ALLY Alegheny Colle 88.79 30 *e*P **P** **16 12 46.4 +0.4**
comp=Z,43nm,0.8s,mb5.5
ALLY *e* pP 16 13 05.2 +0.7
NCB Newcomb 88.81 25 *e*P **P** **16 12 46.0 -0.1**
comp=Z,17nm,0.8s,mb5.1
NCB *e* pP 16 13 04.8 +0.2
ACSO Alum Creek Sta 88.89 33 *e*P **P** **16 12 46.9 +0.4**
comp=Z,25nm,0.8s,mb5.3
ACSO *e* pP 16 13 05.5 +0.5
EPF Esparros 88.95 333 *e*P **P** **16 12 46.5 -0.3**
comp=Z,32nm,1.1s,mb5.0
EPF Esparros 88.95 333 *e*P **P** **16 12 46.5 -0.3**
EPF pmax pmax
comp=Z,16nm,1.1s,mb5.0
EPF Esparros 88.95 333 *e*P **P** **16 12 46.5 -0.3**
comp=Z,16nm,1.1s,mb5.0
EBIE Bielsa 89.32 333 P **P** **16 12 47.6 -1.0**
comp=Z,58nm,1.7s,mb5.3
ETSF Etsaut 89.37 333 *e*P **P** **16 12 49.4 +0.6**
comp=Z,53nm,0.9s,mb5.3
ETSF Etsaut 89.37 333 *e*P **P** **16 12 49.4 +0.6**
ETSF pmax pmax
comp=Z,27nm,0.9s,mb5.3
ETSF Etsaut 89.37 333 *e*P **P** **16 12 49.4 +0.6**
comp=Z,27nm,0.9s,mb5.3
ELIZ Elizondo 89.45 334 P **P** **16 12 48.8 -0.4**
ELIZ pmax pmax
comp=Z,13nm,0.9s,mb5.0
ELIZ Elizondo 89.45 334 P **P** **16 12 48.8 -0.3**
comp=Z,13nm,0.9s,mb5.0
ACCN Adirondack Com 89.51 25 *e*P **P** **16 12 48.8 -0.6**
comp=Z,11nm,0.9s,mb5.0
ACCN *e* pP 16 13 08.5 +0.6
ELAN Lanestosa 90.00 336 P **P** **16 12 51.9 +0.2**
comp=Z,33nm,0.8s,mb5.5
EPOB Poblet 90.17 332 P **P** **16 12 52.0 -0.5**
comp=Z,31nm,1.0s,mb5.4
NATX Nacogdoches 90.27 45 P **P** **16 12 54.1 +0.9**
ESAC San Caprasio 90.38 333 P **P** **16 12 54.7 +1.1**
comp=Z,77nm,1.0s,mb5.8
SSPA Standing Stone 90.51 29 *e*P **P** **16 12 54.2 0.0**
comp=Z,19nm,0.8s,mb5.3
SSPA *e* pP 16 13 12.3 -0.3
OXF Oxford 90.76 40 *e*P **P** **16 12 54.6 -0.8**
OXF *e* pP 16 13 12.2 -1.7
OXF pmax pmax
comp=Z,81nm,1.2s,mb5.7
OXF Oxford 90.76 40 *e*P **P** **16 12 54.6 -0.9**
comp=Z,80nm,1.2s,mb5.7
OXF *e* pP 16 13 12.2 -1.7
ERTA Horta de San J 90.78 332 P **P** **16 12 55.3 -0.1**
comp=Z,47nm,1.1s,mb5.5
EPON Pontenova 91.01 338 P **P** **16 12 55.5 -1.0**
comp=Z,23nm,1.1s,mb5.2
EMOS Mosqueruela 91.59 332 P **P** **16 12 59.8 +0.6**
comp=Z,17nm,0.7s,mb5.4
KEST Kesra 91.66 323 P **P** **16 12 59.1 -0.5**
comp=Z,5.0nm,0.9s,mb4.7,baz=264,slow=4.4,SNR=6.3
KEST LR LR 16 58 59.2
comp=Z,394nm,19.2s,baz=184,slow=39
ETOR Torete 91.73 334 P **P** **16 13 00.7 +0.9**
ETOR pmax pmax
comp=Z,20nm,0.9s,mb5.3
ETOR Torete 91.73 334 P **P** **16 13 00.7 +0.9**
comp=Z,20nm,0.9s,mb5.3
ERUA La Rua 91.87 338 P **P** **16 13 00.3 -0.1**
ERUA pmax pmax
comp=Z,5.0nm,0.6s,mb4.9
ERUA La Rua 91.87 338 P **P** **16 13 00.3 -0.1**
comp=Z,5.0nm,0.6s,mb4.9
GUD Guadarrama 92.57 335 P **P** **16 13 04.4 +0.7**
GUD pmax pmax
comp=Z,17nm,0.8s,mb5.4
GUD Guadarrama 92.57 335 P **P** **16 13 04.4 +0.8**
comp=Z,16nm,0.8s,mb5.4
MVO Moncorvo 92.97 337 *e*P **P** **16 13 05.7 +0.2**
MVO *e*LR LR 16 44 12.6
comp=Z,433nm,23.5s
PVRL Vila Real 93.06 338 *e*P **P** **16 13 06.3 +0.3**
ESDC Sonseca Array 93.39 334 P **P** **16 13 07.4 -0.1**
comp=Z,11nm,0.8s,mb5.2
ESDC Sonseca Array 93.39 334 P **P** **16 13 06.9 -0.6**
comp=Z,6.5nm,0.8s,mb5.0,baz=18,slow=4.1,SNR=15
ESDC PP PP 16 16 52.1 +0.9
comp=Z,3.4nm,0.8s,baz=26,slow=7.9,SNR=8.4
ESLA Sonseca Array 93.39 334 PFAKE 16 13 20.0 +13
ESLA LR LR
comp=Z,3µm,20.0s
ETOB Tobarra 93.50 332 P **P** **16 13 04.1 -3.9**
comp=Z,7.3nm,0.9s,mb5.0
PVIS Viseu 93.63 338 *e*P **P** **16 13 08.6 0.0**
MTE Manteigas 93.83 337 *e*P **P** **16 13 09.6 +0.1**
MTE *e*LR LR 16 44 30.2
comp=Z,353nm,23.8s
EVIA Vianos 93.83 333 P **P** **16 13 10.1 +0.6**
EVIA pmax pmax
comp=Z,22nm,0.7s,mb5.6
EVIA Vianos 93.83 333 P **P** **16 13 10.1 +0.6**
comp=Z,22nm,0.7s,mb5.6
EMUR La Murta 94.11 332 P **P** **16 13 11.1 +0.3**
comp=Z,9.1nm,0.6s,mb5.3
GOGA Godfrey 94.44 37 *e*P **P** **16 13 10.2 -2.2**
GOGA pmax pmax
comp=Z,23nm,0.8s,mb5.6
EHUE Huescar 94.61 333 P **P** **16 13 13.1 0.0**
EQES Quesada 94.78 333 P **P** **16 13 14.1 +0.2**
PESTR Estremoz 95.25 337 *e*LR LR 16 45 54.9
comp=Z,516nm,26.7s
ELUQ Luque 95.40 334 P **P** **16 13 16.5 -0.2**
PMAFR Mafra 95.66 338 *e*LR LR 16 45 37.2
comp=Z,443nm,18.7s
PBAR Barrancos 95.73 336 *e*P **P** **16 13 18.5 +0.3**
PBAR A 17 00 59.7
comp=Z,1µm,16.1s
ESPR Espera 96.55 335 P **P** **16 13 21.6 -0.3**
PVAQ Vaqueiros 96.64 336 *e*LR LR 16 46 10.6
comp=Z,856nm,26.8s
PBDV Barranco-do-Ve 96.86 336 *e*LR LR 16 46 49.5
comp=Z,799nm,15.9s
MORF Marmelete 97.01 337 *e*LR LR 16 47 01.9
PFVI Vila Bisbo 97.22 337 *e*LR LR 16 47 06.0
comp=Z,271nm,28.1s
MDT Midelt 99.82 332 LR LR 16 59 32.0
comp=Z,233nm,20.8s,baz=32,slow=36
RKT Rikitea 100.05 112 *e*LR LR 16 46 10.2
comp=Z,1µm,32.5s,baz=306
KMBO Kilima Mbogo 101.76 279 *i* P Pdif 16 13 45.2 -0.1
KMBO pmax pmax
comp=Z,3.0nm,0.5s
KMBO Kilima Mbogo 101.76 279 P Pdif 16 13 45.2 0.0
comp=Z,2.8nm,0.5s,baz=37,slow=8.1,SNR=8.8
TEIG Tepich 102.87 48 PFAKE 16 14 00.0 +10
TEIG LR LR
comp=Z,200nm,19.0s
DRV R 16 52 00.0
DRV Dumont d'Urvil 107.94 181 SS SS 16 33 50.0 +0.6
JTS JuntasAbangare 112.73 51 PFAKE 16 18 40.0 +11
JTS LR LR
comp=Z,276nm,20.0s
TORD Torodi Ar. Bea 114.37 317 PKP PKiKP 16 18 30.9 -1.4
comp=Z,1.3nm,0.6s,baz=29,slow=1.5,SNR=6.8
TORD PP PP 16 19 19.4 -8.7
comp=Z,3.4nm,0.9s,baz=27,slow=6.3,SNR=7.0
SJG San Juan 115.12 30 PFAKE 16 18 50.0 +16
SJG LR LR
comp=Z,355nm,22.0s
VNDA Vanda 119.48 175 PKP PKPdf 16 18 39.8 -0.4
comp=Z,0.3nm,0.6s,baz=322,slow=3.9,SNR=5.2
VNDA PKKPbc PKKPbc 16 28 52.9 -0.4
comp=Z,0.8nm,0.8s,baz=107,slow=2.1,SNR=4.2
SBA Scott Base 120.14 174 PFAKE 16 18 50.0 +8.6
SBA LR LR
comp=Z,277nm,21.0s
DBIC Dimbokro 123.19 320 PKIKP PKPdf 16 18 48.3 -0.9
DBIC 16 19 08.5
DBIC 16 20 25.5
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC pmax pmax
comp=Z,7.0nm,0.8s
DBIC Dimbokro 123.19 320 PKP PKPdf 16 18 48.3 -1.0
comp=Z,6.1nm,0.8s,baz=13,slow=4.4,SNR=9.2
DBIC pPKP pPKPdf 16 19 08.4 0.0
comp=Z,2.6nm,0.5s,baz=10,slow=5.0,SNR=3.1
DBIC PP PP 16 20 25.4 -3.5
comp=Z,6.7nm,0.8s,baz=21,slow=7.1,SNR=5.9
MAW Mawson 123.83 207 PKIKP PKPdf 16 18 48.8 +0.1
MAW 16 19 07.3
MAW pmax pmax
comp=Z,2.0nm,0.8s
MAW Mawson 123.83 207 PKP PKPdf 16 18 48.8 +0.1
comp=Z,2.4nm,0.8s,baz=344,slow=7.4,SNR=3.7
MAW pPKP pPKPdf 16 19 07.3 -0.5
comp=Z,5.9nm,0.9s,baz=305,slow=6.2,SNR=3.1

MAIT	**Maitri**	**141.69**	**204**	*e*PKPdf	PKPdf	16 19 14.3	-7.8
LPAZ	**La Paz**	**143.84**	**55**	*e*PKIKP	PKPdf	16 19 24.4	-3.1
LPAZ				MLR	MLR		
	comp=Z,313nm,19.0s						
LPAZ	**La Paz**	**143.84**	**55**	PKP	PKPdf	16 19 25.3	-2.3
	comp=Z,3.4nm,0.9s,baz=351,slow=2.7,SNR=3.7						
RCBR	**Riachuelo**	**144.33**	**356**	PFAKE		16 19 40.0	+11
RCBR				LR	LR		
	comp=Z,292nm,20.0s						
SNAA	**Sanae**	**145.23**	**199**	*e*PKPdf	PKPdf	16 19 26.3	-2.0
SNAA				*e*		16 19 27.7	
SNAA				*e*		16 19 46.1	
SNAA				*e*		16 19 49.5	
SNAA				*e*		16 19 53.7	
VNA2	**Neumayer--Watz**	**146.81**	**198**	*e*PKPdf	PKPdf	16 19 32.9	+1.9
	baz=120,slow=1.7						
VNA2				*e*		16 19 34.4	
VNA2				*e*		16 19 36.3	
VNA2				*e*		16 19 43.7	
VNA2				*e*		16 19 50.9	
VNA2				*e*		16 19 54.6	
VNA2				*e*		16 19 59.5	
VNA3	**Neumayer Olymp**	**147.08**	**196**	*e*PKPdf	PKPdf	16 19 33.1	+1.6
VNA3				*e*		16 19 34.8	
VNA3				*e*		16 19 36.6	
VNA3				*e*		16 19 43.3	
VNA3				*e*		16 19 50.5	
VNA3				*e*		16 19 54.3	
VNA3				*e*		16 19 59.6	
VNA1	**Neumayer--Stat**	**147.21**	**198**	*e*PKPdf	PKPdf	16 19 34.2	+2.5
VNA1				*e*		16 19 36.2	
VNA1				*e*		16 19 38.5	
VNA1				*e*		16 19 53.1	
VNA1				*e*		16 19 56.3	
VNA1				*e*		16 20 01.5	
BDFB	**Brasilia**	**152.72**	**21**	PKIKP	PKPbc	16 19 48.7	-0.4
BDFB						16 19 59.8	
BDFB				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BDFB	**Brasilia**	**152.72**	**21**	PKPbc	PKPbc	16 19 48.7	-0.4
	comp=Z,7.6nm,0.7s,baz=214,slow=2.0,SNR=14						
BDFB				PKPab	PKPab	16 19 59.8	-0.1
	comp=Z,9.6nm,0.7s,baz=278,slow=9.1,SNR=11						
TRQA	**Tornquist**	**161.26**	**87**	PFAKE		16 20 00.0	+7.8
TRQA				LR	LR		
	comp=Z,5μm,22.0s						

*CSEM **18** 16:16:27.6±0.1, 4432N×22.12E, h2km, MD2.5, Error ellipse: s-maj=4.1km s-min=2.0km az=80.0*
*ISCJB **18** 16:16:28.2±0.4, 4433N±002×22.10E±003, h6km, Error ellipse: s-maj=3.5km s-min=3.1km az=31.7*
*BEO **18** 16:16:29.0±0.4, 4431N×22.14E, h6km±3km, ML2.6/8*
*NEIC **18** 16:16:29.8, 4437N×22.11E, h10km, ML2.5(BUC), After BUC.*
*SOF **18** 16:16:31.2, 4420N×22.47E, h20km, MD2.5*

ISC 18 16:16:28.5±0.6, 4432N±002×2214E±004, h3km±6km, n31, σ1°05/49, 10C-6D, Romania

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BOLS	**Boljevac**	**0.50**	**195**	*i* Pg		**Pg**	**16 16 39.1**	**+0.9**
BOLS				*e*Sg		**Sg**	**16 16 45.8**	**+1.1**
SVIS	**Svilajnac**	**0.66**	**266**	*i* Pg		**Pg**	**16 16 41.7**	**+0.5**
SVIS				*e*Sg		**Sg**	**16 16 50.6**	**+0.8**
GRUS	**Gruza**	**1.11**	**248**	*i* Pg		**Pg**	**16 16 49.5**	**-0.3**
GRUS				*e*Sg		**Sg**	**16 17 05.1**	**+1.0**
GZR	**Gura Zlata**	**1.17**	**23**	⇓P		**Pg**	**16 16 51.0**	**0.0**
GZR				S		**Sg**	**16 17 07.4**	**+1.2**
GZR	**Gura Zlata**	**1.17**	**23**	⇓*i*P		**Pg**	**16 16 51.0**	**0.0**
GZR	**Gura Zlata**	**1.17**	**23**	⇓P		**Pg**	**16 16 51.0**	**0.0**
GZR				S		**Sg**	**16 17 07.4**	**+1.3**
BEO	**Beograd**	**1.29**	**293**	*e*Sg		**Sg**	**16 17 10.2**	**+0.3**
BZS	**Buzias**	**1.35**	**344**	⇑P		**Pn**	**16 16 53.2**	**-1.1**
BZS				S		**Sg**	**16 17 12.1**	**+0.1**
BZS	**Buzias**	**1.35**	**344**	*i* Pg		**Pg**	**16 16 53.4**	**-1.0**
BZS				*e*Sg		**Sg**	**16 17 12.0**	**0.0**
BZS	**Buzias**	**1.35**	**344**	⇑*i*P		**Pn**	**16 16 53.2**	**-1.1**
BZS	**Buzias**	**1.35**	**344**	⇑P		**Pn**	**16 16 53.2**	**-1.1**
BZS				S		**Sg**	**16 17 12.1**	**+0.1**
BARS	**Barje**	**1.52**	**189**	*i* Pg		**Pg**	**16 16 55.1**	**-2.4**
BARS				*e*Sg		**Sg**	**16 17 15.6**	**-1.6**
DIVS	**Divibare**	**1.56**	**263**	*i* Pn		**Pn**	**16 16 55.7**	**-1.4**
DIVS				*e*Sg		**Sg**	**16 17 19.1**	**+0.6**
FGSL	**Fruska Gora**	**1.86**	**298**	*e*Sg		**Sg**	**16 17 27.9**	**-0.3**
VTS	**Vitosha**	**1.89**	**155**	⇑P		**Pn**	**16 17 03.3**	**+1.6**
VTS				S		**Sn**	**16 17 28.4**	**+2.4**
VTS	**Vitosha**	**1.89**	**155**	*e*Pn		**Pn**	**16 17 01.9**	**+0.2**
VTS				*e*Sn		**Sn**	**16 17 27.0**	**+1.0**
VTS	**Vitosha**	**1.89**	**155**	⇑*i*P		**Pn**	**16 17 03.3**	**+1.6**
VTS	**Vitosha**	**1.89**	**155**	*i* P		**Pn**	**16 17 01.6**	**-0.1**
VTS				*i* Pg		**Pg**	**16 17 03.9**	**-0.8**
VTS	**Vitosha**	**1.89**	**155**	*i* Pg		**Pg**	**16 17 03.9**	**-0.8**
VTS				S		**Sn**	**16 17 28.4**	**+2.4**
VOIR		**2.36**	**61**	⇑P		**Pn**	**16 17 08.0**	**0.0**
VOIR		**2.36**	**61**	⇑*i*P		**Pn**	**16 17 08.0**	**-0.1**
DRGR		**2.51**	**9**	⇓P		**Pn**	**16 17 10.5**	**+0.3**
DRGR				S		**Sn**	**16 17 41.2**	**0.0**
DRGR		**2.51**	**9**	⇓*i*P		**Pn**	**16 17 10.5**	**+0.3**
DRGR		**2.51**	**9**	⇓P		**Pn**	**16 17 10.5**	**+0.3**
DRGR				S		**Sn**	**16 17 41.2**	**-0.1**
PVL	**Pavlikeni**	**2.56**	**114**	*i* P		**Pn**	**16 17 14.8**	**+3.9**
SZH	**Strazhica**	**2.94**	**110**	*i* P		**Pn**	**16 17 14.1**	**-2.0**
MLR	**Muntele Rosu**	**2.95**	**65**	⇑P		**Pn**	**16 17 17.0**	**+0.7**
MLR				S		**Sn**	**16 17 53.0**	**+0.9**
MLR	**Muntele Rosu**	**2.95**	**65**	*e*Pn		**Pn**	**16 17 16.6**	**+0.4**
MLR	**Muntele Rosu**	**2.95**	**65**	⇑*i*P		**Pn**	**16 17 17.0**	**+0.8**
MLR	**Muntele Rosu**	**2.95**	**65**	⇑P		**Pn**	**16 17 17.0**	**+0.8**
MLR				S		**Sn**	**16 17 53.0**	**+0.9**
PKSM	**Moragy**	**3.11**	**309**	*i* Pn		**Pn**	**16 17 17.2**	**-1.3**

*NEIC **18** 16:32:58.3±2.8, 3755N×7244E, h98km±17km, mb4.4/1, Error ellipse: s-maj=30.9km s-min=15.8km az=174.0*
*IDC **18** 16:32:59.8±6.9, 3769N×7241E, h103km±53km, mb3.4/5, mb1 3.4/9, mb1mx3.3/24, mbtmp3.3/9, Error ellipse: s-maj=57.3km s-min=35.5km az=160.0*
*ISCJB **18** 16:33:00.8±0.9, 3789N±005×7244E±0.1, h115km±13km, mb3.8/6, Error ellipse: s-maj=16.3km s-min=8.1km az=170.4*
*NNC **18** 16:33:06.8±1.7, 3837N×7089E, h0km, mb4.0, mpv3.7, Error ellipse: s-maj=19.3km s-min=14.0km az=117.0*

ISC 18 16:33:00.7±3.2, 378N±02×724E±01, h107km±20km, n28, σ1°28/33, mb3.8/6, 4C-2D, Tajikistan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**4.48**	**13**	*e*Pn		**Pn**	**16 34 07.0**	**+0.7**
AML				*e*Sn		**Sn**	**16 34 46.3**	**-11**
UCH	**Uchtor**	**4.75**	**20**	*e*Pn		**Pn**	**16 34 10.6**	**+0.6**
UCH				*e*Sn		**Sn**	**16 35 01.4**	**-2.6**
EKS2	**Erkin-Say**	**5.01**	**12**	*e*Pn		**Pn**	**16 34 14.5**	**+1.0**
	22nm,0.8s							
KK31	**Karatay Array**	**5.52**	**346**	⇓P		**Pn**	**16 34 19.5**	**-0.9**
	5.1nm,0.4s,baz=156,slow=11							
KK31				⇓S		**Sn**	**16 35 16.4**	**-6.1**
	17nm,0.4s,baz=170,slow=24							
TKM2	**Tokmak 2**	**5.71**	**25**	*e*Pn		**Pn**	**16 34 21.8**	**-1.2**
THN	**Thein Dam**	**5.98**	**152**	*e*P		**Pn**	**16 34 29.7**	**+2.9**
THN				*ex*		x	16 35 34.7	
DLH	**Dalhousie**	**5.98**	**149**	*e*P		**Pn**	**16 34 30.0**	**+3.2**
DLH				*ex*		x	16 35 37.0	
KLP	**Kalpa**	**7.88**	**140**	*e*P		**Pn**	**16 34 55.0**	**+2.5**
KLP				AMb		AMB	16 34 58.4	
	comp=Z,15nm,0.5s							
KLP				*e*S		**Sn**	**16 36 09.2**	**-11**
KHET	**Khetri**	**10.08**	**162**	*e*S		**Sn**	**16 37 02.4**	**-11**
SONA	**Sohna**	**10.28**	**156**	*e*S		**Sn**	**16 37 05.4**	**-13**
MK31	**Makanchi Array**	**11.63**	**36**	*e*Pn		**Pn**	**16 35 42.8**	**-0.2**
MKAR	**Makanchi Array**	**11.63**	**36**	P		**Pn**	**16 35 42.9**	**-0.1**
MKAR	**Makanchi Array**	**11.63**	**36**	P		**Pn**	**16 35 42.9**	**-0.1**
	comp=Z,0.1nm,0.3s,baz=225,slow=15,SNR=4.5							
KURK	**Kurchatov**	**13.69**	**17**	Pn		**Pn**	**16 36 11.5**	**+1.4**
	comp=Z,1.4nm,0.6s							
AB31	**Akbulak array**	**14.58**	**326**	⇑P		**Pn**	**16 36 18.0**	**-3.5**
	comp=Z,0.6nm,0.3s,baz=165,slow=10							
AB31				⇑S		**Sn**	**16 38 49.3**	**-13**
	comp=Z,0.8nm,0.3s,baz=170,slow=37							
BVAR	**Borovoye Array**	**15.32**	**355**	P		**Pn**	**16 36 32.7**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=165,slow=9.8,SNR=8.1							
AKTK	**Aktyubinsk**	**16.30**	**326**	P		**Pn**	**16 36 43.0**	**0.0**
AKTO	**Aktyubinsk**	**16.30**	**326**	⇑P		**Pn**	**16 36 42.3**	**-0.7**
AKTO				⇑S		S	16 39 31.0	-18
	comp=Z,0.4nm,2.1s							
AKTO	**Aktyubinsk**	**16.30**	**326**	P		**Pn**	**16 36 43.0**	**0.0**
	comp=Z,0.2nm,0.3s,baz=131,slow=11,SNR=6.0							
ZALV	**Zalesovo Beam**	**18.32**	**24**	P		**Pn**	**16 37 05.7**	**-1.7**
ZALV	**Zalesovo Beam**	**18.32**	**24**	P		**Pn**	**16 37 05.7**	**-1.7**
	comp=Z,0.3nm,0.3s,baz=225,slow=12,SNR=5.1							
MALT	**Malatya**	**26.66**	**282**	P		**P**	**16 38 33.1**	**+3.7**
	comp=Z,7.5nm,0.6s,mb4.4							
FINES	**FINESS Array B**	**37.07**	**325**	P		**P**	**16 39 59.6**	**-0.3**
	comp=Z,0.4nm,0.3s,mb3.8,baz=110,slow=9.1,SNR=5.0							
ARCES	**ARCESS Array B**	**40.41**	**337**	P		**P**	**16 40 27.6**	**-0.1**
	comp=Z,2.2nm,0.9s,mb4.0,baz=103,slow=7.7,SNR=6.5							
NOA	**NORSAR Array B**	**44.05**	**322**	P		**P**	**16 40 57.9**	**+0.6**
	comp=Z,1.1nm,1.0s,mb3.5,baz=93,slow=8.5,SNR=2.7							
TORD	**Torodi Ar. Bea**	**66.84**	**269**	P		**P**	**16 43 41.0**	**-0.2**
	comp=Z,0.2nm,0.4s,mb3.3,baz=53,slow=5.5,SNR=4.4							
YKA	**Yellowknife Ar**	**79.93**	**3**	P		**P**	**16 44 57.5**	**+0.2**
YKA	**Yellowknife Ar**	**79.93**	**3**	P		**P**	**16 44 57.5**	**+0.2**
	comp=Z,0.3nm,0.4s,mb3.5,baz=351,slow=5.6,SNR=6.5							

*NEIC **18** 16:50:46.2±1.6, 4125×15267E, h35km, mb4.7/4, Error ellipse: s-maj=33.0km s-min=26.7km az=169.0*
*IDC **18** 16:50:48.4±3.9, 4225×15258E, h46km±37km, mb4.0/5, mb1 4.2/5, mb1mx3.7/14, mbtmp4.0/5, MS3.3/1, Ms1 3.3/1, ms1mx2.9/33, Error ellipse: s-maj=45.1km s-min=28.7km az=136.0*

ISC 18 16:50:47.0±4.6, 49S±03×1526E±02, h1km±31km, n14, σ0°78/13, mb4.3/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.92**	**337**	LR		LR	17 01 03.1	
	comp=Z,88nm,19.2s,baz=282,slow=32							
KAKA	**Kakadu**	**21.34**	**247**	*e*P		**P**	**16 55 35.5**	**-0.3**
	7.6nm,0.2s,mb4.7							
WRAB	**Tennant Creek**	**23.18**	**228**	*e*P		**P**	**16 55 55.6**	**+0.2**
	11nm,0.6s,mb4.6							
WB2	**Warramunga Arr**	**23.19**	**228**	*e*P		**P**	**16 55 56.2**	**+0.7**
WB2	**Warramunga Arr**	**23.19**	**228**	*e*P		**P**	**16 55 56.0**	**+0.5**
WRA	**Warramunga Arr**	**23.20**	**228**	P		**P**	**16 55 56.3**	**+0.8**
	12nm,0.5s,mb4.6,baz=54,slow=9.8,SNR=118							
WRA				S		**S**	**17 00 08.6**	**+0.2**
	1.0nm,0.9s,baz=46,slow=16,SNR=4.5							
ASAR	**Alice Springs**	**25.91**	**222**	P		**P**	**16 56 21.1**	**+0.3**
	1.4nm,0.5s,mb3.9,baz=56,slow=9.3,SNR=38							
STKA	**Stephens Creek**	**28.72**	**200**	P		**P**	**16 56 46.0**	**0.0**
	1.4nm,0.7s,mb3.9,baz=25,slow=13,SNR=5.3							
FITZ	**Fitzroy Crossi**	**29.41**	**241**	*e*P		**P**	**16 56 50.8**	**-1.4**
	3.9nm,0.3s,mb4.7							
FITZ	**Fitzroy Crossi**	**29.41**	**241**	P		**P**	**16 56 51.3**	**-1.0**
	1.8nm,0.3s,mb4.4,baz=52,slow=11,SNR=24							
MBWA	**Marble Bar**	**35.72**	**240**	*e*P		**P**	**16 57 45.8**	**-1.7**
	7.9nm,0.6s,mb4.7							
KSM	**Kuching**	**42.70**	**277**	P		**P**	**16 58 47.1**	**+1.1**
VNDA	**Vanda**	**72.72**	**178**	P		**P**	**17 02 16.3**	**+0.1**
	0.6nm,0.7s,mb3.9,baz=336,slow=5.2,SNR=6.9							
TORD	**Torodi Ar. Bea**	**150.13**	**288**	PKPbc		PKPbc	17 10 33.7	-7.1
	2.5nm,0.7s,baz=68,slow=2.1,SNR=26							

*BJI **18** 16:50:36.9, 4337N×8336E, h17km, ML2.9*
*NNC **18** 16:50:45.6±4.2, 4391N×8404E, h0km, mb3.2, mpv2.9, Error ellipse: s-maj=43.2km s-min=12.8km az=92.0*
*ISCJB **18** 16:50:53.4±1.1, 4405N±007×8394E±007, h33km, Error ellipse: s-maj=11.1km s-min=6.4km az=25.3*

ISC 18 16:50:55.7±1.1, 4403N±007×8401E±007, h35km, n5, σ0°81/8, 4C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**2.67**	**93**	*e*PG		**Pn**	**16 51 34.5**	**-1.6**
WMQ				S		**Sn**	**16 52 08.5**	**+1.3**
WMQ				Smax				
	comp=N,38nm,0.5s							
WMQ				Smax				
	comp=E,41nm,0.5s							
MK31	**Makanchi Array**	**3.02**	**337**	Pn		**Pn**	**16 51 40.5**	**-0.4**
	comp=E,0.5nm,0.3s,baz=159,slow=15,SNR=7.5							
MK31				⇓Sn		**Sn**	**16 52 15.5**	**-0.2**
	comp=E,2.6nm,0.4s,baz=158,slow=26,SNR=3.8							
MK31				⇑Lg			16 52 24.2	
	comp=E,9.2nm,0.5s,baz=166,slow=29,SNR=7.0							
TKM2	**Tokmak 2**	**6.22**	**263**	⇓Pn		**Pn**	**16 52 18.2**	**-6.7**
	comp=E,2.5nm,0.8s							
TKM2				⇑Sn		**Sn**	**16 53 35.2**	**+0.3**
	comp=E,6.9nm,0.8s							
KURBB	**Kurchatov Arra**	**7.57**	**332**	⇓Sn		**Sn**	**16 54 08.1**	**+0.1**
	comp=E,0.5nm,0.8s							
KURBB				⇓Lg			16 54 50.1	
	comp=E,1.1nm,0.7s							
KURK	**Kurchatov**	**7.62**	**333**	⇑Sn		**Sn**	**16 54 09.6**	**+0.4**
KURK				⇑Lg			16 54 51.5	
	comp=E,9.1nm,1.3s							

*ISCJB **18** 16:51:38.3±0.8, 5149N±004×16.10E±004, h0km, Error ellipse: s-maj=6.3km s-min=2.9km az=18.5*
*WAR **18** 16:51:40.9, 5150N×1609E, ML2.6, Mining Induced*
*PRU **18** 16:51:41.3, 5145N×1610E, h0km*

ISC 18 16:51:39.9±0.8, 5151N±004×1608E±004, h0km, n15, σ0°91/33, Poland

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**169**	*e*Pg		**Pg**	**16 51 53.2**	**+0.3**
KSP				*e*Sg		**Sg**	**16 52 02.2**	**+0.5**
UPC	**Upice**	**1.00**	**183**	*e*PG		**Pg**	**16 51 59.2**	**+0.1**
DPC	**Dobruska-Polom**	**1.17**	**172**	*e*PG		**Pg**	**16 52 01.9**	**-0.4**
DPC				*e*SG		**Sg**	**16 52 17.3**	**-0.1**
	comp=Z,68nm,0.6s							
PVCC	**Panska Ves**	**1.37**	**225**	*e*PG		**Pg**	**16 52 06.3**	**+0.1**
PVCC				*e*SG		**Sg**	**16 52 24.9**	**+1.0**
	comp=Z,157nm,0.3s							
BRG	**Berggiesshubel**	**1.49**	**246**	PN		**Pn**	**16 52 08.0**	**+0.1**
BRG				PG		**Pg**	**16 52 08.6**	**+0.2**
BRG				SG		**Sg**	**16 52 28.2**	**+0.4**
	comp=Z,61nm,0.4s							
PRU	**Pruhonice**	**1.81**	**213**	*e*PG		**Pg**	**16 52 13.3**	**-1.3**
PRU				*e*SG		**Sg**	**16 52 37.2**	**-0.8**
	comp=Z,27nm,0.4s							
CLL	**Collm**	**1.94**	**265**	*e*Pn		**Pn**	**16 52 14.0**	**-0.1**
CLL				*i* Pg		**Pg**	**16 52 16.5**	**-0.6**
CLL				*ex*		x	16 52 20.0	
CLL				*i* Sg		**Sg**	**16 52 42.3**	**+0.1**
	comp=Z,17nm,0.7s							
OKC	**Ostrava-Krasne**	**2.13**	**141**	*e*PG		**Pg**	**16 52 19.4**	**-1.3**
OKC				*e*SG		**Sg**	**16 52 46.4**	**-1.8**
	comp=Z,23nm,0.5s							
NKC	**Novy Kostel**	**2.63**	**242**	*e*PN		**Pn**	**16 52 25.4**	**+1.8**
NKC				*e*PG		**Pg**	**16 52 30.4**	**0.0**
NKC				*e*SG		**Sg**	**16 53 04.1**	**-0.4**
	comp=Z,36nm,0.4s							
OJC	**Ojcow**	**2.69**	**117**	*e*Pg		**Pg**	**16 52 31.1**	**-0.2**
OJC				*e*Sg		**Sg**	**16 53 06.0**	**-0.1**
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN		**Pn**	**16 52 27.3**	**+0.4**
KHC				*e*PG		**Pg**	**16 52 33.2**	**-1.7**
KHC				*e*SN		**Sn**	**16 53 00.9**	**-1.2**
KHC				*e*SG		**Sg**	**16 53 10.6**	**-1.5**
	comp=Z,8.3nm,0.4s							
MOX	**Moxa**	**2.95**	**255**	*e*PG		**Pg**	**16 52 36.8**	**+0.4**
MOX				*e*SG		**Sg**	**16 53 15.6**	**+1.1**
MODS	**Modra-Piesok**	**3.23**	**166**	*e*PG		**Pg**	**16 52 42.1**	**+0.3**
MODS				*e*SG		**Sg**	**16 53 25.4**	**+1.7**
KOLL	**Kolacno**	**3.29**	**152**	*e*SG		**Sg**	**16 53 27.9**	**+2.3**
VYHS	**Vyhne**	**3.50**	**148**	*e*PG		**Pg**	**16 52 47.3**	**+0.3**
VYHS				*e*SG		**Sg**	**16 53 32.9**	**+0.6**

*IDC **18** 17:11:10.3±2.0, 1301N×124.16E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/18, mbtmp4.0/5, Error ellipse: s-maj=213.1km s-min=19.1km az=65.0*
*NEIC **18** 17:11:11.5±0.5, 1294N×12405E, h10km, mb4.3/8, Error ellipse: s-maj=39.1km s-min=9.1km az=64.0*
*ISCJB **18** 17:11:17.6±0.5, 1327N±004×12439E±008, h79km±4km, mb4.2/12, Error ellipse: s-maj=13.8km s-min=4.9km az=154.4*

*MAN **18** 17:11:17, 1330N×12439E, h64km, mb4.2, ML3.0, MS2.7*

ISC 18 17:11:18.9±0.5, 1326N±005×12440E±008, h71km±4km, n33, σ1°03/37, mb4.2/12, Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.41**	**325**	*e*P		**Pn**	**17 11 30.8**	**-0.2**
PVCP				*e*S		**Sn**	**17 11 39.6**	**-0.3**
CNP	**Cataman**	**0.79**	**161**	*e*P		**Pn**	**17 11 35.2**	**+0.4**
CNP				*e*S		**Sn**	**17 11 47.8**	**+1.2**
PLP	**Palo**	**2.15**	**165**	*e*P		**Pn**	**17 11 52.7**	**0.0**
PLP				*e*S		**Sn**	**17 12 18.5**	**+0.1**
OCLP	**Ormoc**	**2.20**	**175**	*e*P		**Pn**	**17 11 53.6**	**+0.4**
OTRP	**Odiongan**	**2.48**	**249**	*e*P		**Pn**	**17 11 56.5**	**-0.6**
POLP	**Polilio Island**	**2.80**	**302**	*e*P		**Pn**	**17 12 02.0**	**+0.6**
MSLP	**Maasin**	**3.14**	**172**	*e*P		**Pn**	**17 12 06.4**	**+0.4**
GUIM	**Jordan**	**3.16**	**214**	*e*P		**Pn**	**17 12 05.7**	**-0.6**
SCPH	**Surigao**	**3.61**	**163**	*e*P		**Pn**	**17 12 12.4**	**-0.1**
SCPH				*e*S		**Sn**	**17 12 53.4**	**-0.6**
BALP	**Baler**	**3.69**	**312**	*e*P		**Pn**	**17 12 11.4**	**-2.1**
LUBP	**Lubang**	**4.07**	**277**	*e*P		**Pn**	**17 12 19.3**	**+0.6**
CUYO	**Cuyo Island**	**4.08**	**234**	*e*P		**Pn**	**17 12 18.4**	**-0.5**
PALP	**Palanan**	**4.24**	**334**	*e*P		**Pn**	**17 12 19.7**	**-1.3**
CAUP	**Cauayan**	**4.43**	**326**	*e*P		**Pn**	**17 12 23.1**	**-0.6**
ENPP	**El Nido**	**5.27**	**248**	*e*P		**Pn**	**17 12 36.4**	**+1.2**
BUKP	**Musuan**	**5.38**	**173**	*e*P		**Pn**	**17 12 38.2**	**+1.5**
APYP	**Conner**	**5.50**	**327**	*e*P		**Pn**	**17 12 37.7**	**-0.5**
ABRA	**Dolores**	**5.63**	**321**	*e*P		**Pn**	**17 12 40.4**	**+0.4**
WRAB	**Tennant Creek**	**34.40**	**163**	*e*P		**P**	**17 17 56.2**	**-3.3**
	1.6nm,0.7s,mb4.0							
WRA	**Warramunga Arr**	**34.41**	**163**	P		**P**	**17 17 57.4**	**-2.2**
	0.7nm,0.6s,mb3.7,baz=341,slow=8.6,SNR=21							
ULN	**Ulaanbaatar**	**37.41**	**341**	*e*P		**P**	**17 18 26.8**	**+1.8**
	2.5nm,0.9s,mb4.1							
ULN				*e*		pP	17 18 42.0	-0.2
ASAR	**Alice Springs**	**37.85**	**166**	P		**P**	**17 18 27.8**	**-1.2**
	1.4nm,0.4s,mb4.2,baz=352,slow=8.7,SNR=40							
CTAO	**Charters Tower**	**39.50**	**147**	P		**P**	**17 18 42.4**	**-0.4**
	18nm,1.5s,mb4.7							
STKA	**Stephens Creek**	**47.81**	**160**	*e*P		**P**	**17 19 48.2**	**-1.1**
	5.2nm,1.1s,mb4.3							
STKA	**Stephens Creek**	**47.81**	**160**	P		**P**	**17 19 48.6**	**-0.7**
	1.9nm,0.8s,mb4.0,baz=337,slow=10,SNR=6.0							
MK31	**Makanchi Array**	**48.56**	**322**	*e*P		**P**	**17 19 54.8**	**-0.1**
MKAR	**Makanchi Array**	**48.56**	**322**	P		**P**	**17 19 56.5**	**+1.5**
	2.3nm,0.8s,mb4.2,baz=122,slow=8.7,SNR=12							
ZALV	**Zalesovo Beam**	**51.14**	**331**	P		**P**	**17 20 14.7**	**+0.3**
	1.4nm,0.7s,mb4.1,baz=120,slow=7.0,SNR=6.8							
UCH	**Uchtor**	**51.79**	**314**	P		**P**	**17 20 21.2**	**+1.7**
	1.6nm,0.9s,mb4.0							
KURK	**Kurchatov**	**52.59**	**325**	*e*P		**P**	**17 20 26.4**	**+1.2**
	6.8nm,1.4s,mb4.5							
BRVK	**Borovoye**	**58.26**	**325**	*e*P		**P**	**17 21 05.7**	**-0.3**
	2.2nm,0.8s,mb4.2							
ARU	**Arti**	**65.74**	**326**	*e*P		**P**	**17 21 55.1**	**-1.0**
PMR	**Palmer**	**76.78**	**29**	*e*P		**P**	**17 23 05.8**	**+3.3**
	12nm,0.8s,mb4.7							

IDC 18 17:13:30.6±1.8, 039N×12639E, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.7/16, mbtmp4.0/3, Error ellipse: s-maj=153.0km s-min=23.9km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.66**	**159**	P		P	17 18 22.8	-0.1
	3.4nm,0.5s,baz=338,slow=10,SNR=32							
ASAR	**Alice Springs**	**25.00**	**164**	P		P	17 18 56.6	+0.2
	1.7nm,0.6s,baz=351,slow=15,SNR=18							
MKAR	**Makanchi Array**	**60.11**	**327**	P		P	17 23 39.9	0.0
	2.0nm,0.7s,baz=122,slow=8.3,SNR=11							

*BJI **18** 17:19:39.8, 4.17N×9481E, h30km, mB5.1, mb4.8, Ms4.5, Msz4.3*
*MOS **18** 17:19:43.0±1.0, 478N×9557E, h33km, mb4.8/17, Error ellipse: s-maj=24.5km s-min=8.2km az=112.5*
*NEIC **18** 17:19:45.2±0.5, 462N×9488E, h30km, mb4.7/16, Error ellipse: s-maj=18.0km s-min=7.1km az=221.0*
NEIC Felt [II] at Banda Aceh.
*ISCJB **18** 17:19:46.9±1.4, 457N±006×9498E±006, h58km±12km, mb4.6/55, MS4.0/11,

CD2				AP	pP	17 25 37.3	-7.9
CD2				XP	sP	17 25 41.6	-11
CD2				PP		17 26 17.8	
CD2				S	**S**	**17 30 06.9**	**+1.5**
CD2				XS	sS	17 30 22.9	-10
CD2				SS		17 31 28.0	
CD2				AMB	AMB		
	comp=Z,20nm,0.5s,mb4.9						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,130nm,12.4s						
CD2				LR	LR		
	comp=Z,120nm,11.8s						
XAN	**Xi'an**	**32.05**	**22**	P	**P**	**17 26 07.3**	**-2.6**
XAN				AP	pP	17 26 20.4	-5.5
XAN				AMB	AMB		
	comp=Z,19nm,0.8s,mb4.9						
LZH	**Lanzhou**	**32.41**	**13**	*e*P	**P**	**17 26 16.5**	**+3.5**
LZH				AP	pP	17 26 25.6	-3.4
LZH				XP	sP	17 26 30.5	-6.2
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
LZH				AMB	AMB		
	comp=Z,70nm,4.7s						
GTA	**Gaotai**	**34.96**	**7**	*e*P	**P**	**17 26 33.5**	**-1.6**
GTA				AP	pP	17 26 44.8	-6.4
GTA				XP	sP	17 26 49.1	-10
GTA				PP	PP	17 27 53.4	-2.1
GTA				PPP		17 28 12.4	
GTA				S	**S**	**17 32 03.9**	**+1.8**
GTA				XS	sS	17 32 19.3	-10
GTA				SS	SS	17 34 24.3	-12
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s,mb4.6						
GTA				AMB	AMB		
	comp=Z,185nm,4.9s						
GTA				LR	LR		
	comp=N,114nm,13.7s						
GTA				LR	LR		
	comp=E,124nm,17.9s						
GTA				LR	LR		
	comp=Z,138nm,15.2s						
NJ2	**Nanjing**	**35.31**	**36**	*e*P	**P**	**17 26 40.3**	**+2.0**
NJ2				AP	pP	17 26 49.1	-5.3
NJ2				XP	sP	17 26 53.6	-8.5
NJ2				PP	PP	17 28 01.3	+1.7
NJ2				PPP		17 28 20.0	
NJ2				S	**S**	**17 32 14.0**	**+6.2**
NJ2				XS	sS	17 32 30.0	-5.3
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,270nm,10.7s						
NJ2				LR	LR		
	comp=N,590nm,22.4s						
NJ2				LR	LR		
	comp=E,340nm,22.0s						
NJ2				LR	LR		
	comp=Z,340nm,22.0s						
FITZ	**Fitzroy Crossi**	**37.68**	**128**	P	**P**	**17 26 58.1**	**-0.5**
	comp=Z,4.1nm,1.1s,mb4.2,baz=12,slow=9.3,SNR=2.7						
HHC	**Hu-ho-hao-te**	**39.07**	**20**	*e*P	**P**	**17 27 13.0**	**+3.1**
HHC				AP	pP	17 27 23.4	-2.9
HHC				PCP	PcP	17 29 20.8	+2.0
HHC				SCP	ScP	17 33 05.8	+4.2
HHC				S	**S**	**17 33 13.9**	**+9.3**
HHC				XS	sS	17 33 30.8	-1.6
HHC				SCS	ScS	17 37 16.5	+3.5
HHC				AMB	AMB		
	comp=Z,39nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,216nm,6.8s						
HHC				LR	LR		
	comp=N,436nm,12.7s						
HHC				LR	LR		
	comp=E,405nm,12.8s						
HHC				LR	LR		
	comp=Z,256nm,11.4s						
WMQ	**Urumqi**	**39.62**	**352**	*e*P	**P**	**17 27 16.0**	**+1.5**
WMQ				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.1						
BJT	**Baijiatuan**	**40.13**	**25**	*e*P	**P**	**17 27 18.6**	**-0.2**
BJT				pmax	pmax		
	comp=Z,13nm,0.8s						
BJT	**Baijiatuan**	**40.13**	**25**	*e*P	**P**	**17 27 18.6**	**-0.2**
	comp=Z,13nm,0.8s,mb4.8						
BJI	**Beijing**	**40.15**	**25**	P	**P**	**17 27 18.8**	**-0.2**
BJI				AMB	AMB		
	comp=Z,18nm,1.0s,mb4.9						
ULHL	**Ulahol**	**41.08**	**339**	P	**P**	**17 27 27.2**	**+0.6**
	SNR=12						
UCH	**Uchtor**	**41.71**	**337**	*e*Pn	**P**	**17 27 32.9**	**+1.1**
	comp=Z,17nm,0.9s,mb4.8						
UCH	**Uchtor**	**41.71**	**337**	P	**P**	**17 27 33.1**	**+1.3**
	SNR=21						
TKM2	**Tokmak 2**	**41.90**	**339**	*e*P	**P**	**17 27 33.4**	**+0.1**
TKM2				pmax	pmax		
	comp=Z,22nm,1.4s,mb4.7						
TKM2	**Tokmak 2**	**41.90**	**339**	*e*Pn	**P**	**17 27 33.4**	**+0.1**
	comp=Z,22nm,1.4s,mb4.7						
TKM2	**Tokmak 2**	**41.90**	**339**	P	**P**	**17 27 34.1**	**+0.8**
	SNR=9.3						
KBK	**Karagaybulak**	**41.91**	**338**	P	**P**	**17 27 34.9**	**+1.5**
	SNR=24						
AML	**Almayashu**	**41.95**	**336**	*e*Pn	**P**	**17 27 34.7**	**+0.9**
	comp=Z,20nm,0.8s,mb4.9						
AML	**Almayashu**	**41.95**	**336**	P	**P**	**17 27 34.7**	**+0.9**
	SNR=17						
AAK	**Ala-Archa**	**42.06**	**337**	P	**P**	**17 27 36.9**	**+2.2**
	SNR=8.2						
CHMS	**Chumysh**	**42.28**	**338**	P	**P**	**17 27 36.9**	**+0.6**
	SNR=5.2						
EKS2	**Erkin-Say**	**42.37**	**337**	*e*Pn	**P**	**17 27 38.0**	**+0.8**
	comp=Z,8.0nm,0.7s,mb4.6						
EKS2				*e*	pP	17 27 51.1	-2.5
EKS2	**Erkin-Say**	**42.37**	**337**	P	**P**	**17 27 38.4**	**+1.2**
	SNR=13						
USP	**Ospenovka**	**42.60**	**338**	P	**P**	**17 27 39.6**	**+0.6**
	SNR=14						
MK31	**Makanchi Array**	**43.48**	**347**	*e*P	**P**	**17 27 44.6**	**-1.4**
MK31				*e*	pP	17 28 01.9	-0.7
MKAR	**Makanchi Array**	**43.48**	**347**⇑	*e*P	**P**	**17 27 45.2**	**-0.8**
MKAR	**Makanchi Array**	**43.48**	**347**	P	**P**	**17 27 44.4**	**-1.7**
	comp=Z,2.4nm,0.4s,mb4.3,baz=166,slow=7.7,SNR=30						
MKAR				LR	LR	17 47 54.6	
	comp=Z,72nm,18.1s,baz=8.8,slow=39						
KK31	**Karatay Array**	**44.09**	**334**	*i* P	**P**	**17 27 50.8**	**-0.2**
KK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.2						
SONM	**Songino Array**	**44.20**	**11**	PcP	PcP	17 29 34.4	-1.1
	comp=Z,1.6nm,0.7s,baz=198,slow=3.8,SNR=3.5						
KSRS	**Korea Array**	**44.45**	**38**	P	**P**	**17 27 51.5**	**-2.5**
	comp=Z,1.9nm,0.8s,mb3.9,baz=222,slow=7.9,SNR=6.8						
WRA	**Warramunga Arr**	**45.69**	**124**	P	**P**	**17 28 04.5**	**+0.5**
	comp=Z,17nm,0.9s,mb4.8,baz=302,slow=9.2,SNR=103						
WRAB	**Tennant Creek**	**45.69**	**124**	*e*P	**P**	**17 28 04.6**	**+0.5**
WRAB				pmax	pmax		
	comp=Z,20nm,1.0s,mb4.8						
WRAB	**Tennant Creek**	**45.69**	**124**	*e*P	**P**	**17 28 04.6**	**+0.5**
	comp=Z,20nm,1.0s,mb4.8						
WB2	**Warramunga Arr**	**45.70**	**124**	*e*P	**P**	**17 28 04.6**	**+0.5**
WB2	**Warramunga Arr**	**45.70**	**124**	*e*P	**P**	**17 28 04.4**	**+0.3**
ASAR	**Alice Springs**	**47.17**	**128**	P	**P**	**17 28 16.2**	**+0.6**
	comp=Z,2.3nm,0.7s,mb4.0,baz=299,slow=7.9,SNR=36						
ASAR				PcP	PcP	17 29 47.9	+1.5
	comp=Z,0.7nm,0.7s,baz=297,slow=4.1,SNR=2.9						
ASAR				PP	PP	17 30 08.4	+1.3
	comp=Z,0.9nm,0.5s,baz=304,slow=10,SNR=4.6						
CN2	**Changchun**	**47.40**	**30**	*e*P	**P**	**17 28 20.1**	**+3.0**
CN2				*e*AP	pP	17 28 29.9	-4.0
CN2				*e*XP	sP	17 28 33.8	-7.6
CN2				LR	LR		
	comp=Z,200nm,13.0s						
KURK	**Kurchatov**	**48.01**	**346**⇑	*e*P	**P**	**17 28 20.2**	**-1.5**
KURK	**Kurchatov**	**48.01**	**346**	*e*P	**P**	**17 28 20.9**	**-0.8**
	comp=Z,5.3nm,0.3s,mb4.8						
HIA	**Hailar**	**49.24**	**21**	*e*P	**P**	**17 28 30.4**	**-0.8**
ZAL	**Zalesovo**	**49.92**	**352**	P	**P**	**17 28 35.3**	**-0.9**
ZAA0	**Zalesovo Array**	**49.93**	**352**	*e*P	**P**	**17 28 34.9**	**-1.4**
ZALV	**Zalesovo Beam**	**49.93**	**352**	P	**P**	**17 28 35.3**	**-1.0**
	comp=Z,5.0nm,0.7s,mb4.6,baz=183,slow=8.0,SNR=24						
MDJ	**Mudanjiang**	**50.09**	**32**	P	**P**	**17 28 38.5**	**+0.8**
MDJ				AMB	AMB		
	comp=Z,8.0nm,1.0s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,151nm,3.8s						
MDJ				LR	LR		
	comp=E,79nm,20.9s						
MDJ				LR	LR		
	comp=Z,91nm,20.2s						
RDF	**Al-Radifah**	**51.03**	**304**	*e*P	**P**	**17 28 45.4**	**+0.3**
RDF				AMb	AMB	17 28 50.2	
	comp=Z,8.6nm,1.2s,mb4.7						
NAY	**Al-Naaiem**	**51.39**	**304**	*e*P	**P**	**17 28 48.1**	**+0.3**
NAY				AMb	AMB	17 28 50.4	
	comp=Z,6.3nm,0.7s,mb4.7						
MIB	**Mutribah**	**51.49**	**305**	*e*P	**P**	**17 28 49.5**	**+1.0**
MIB				AMb	AMB	17 28 51.5	
	comp=Z,13nm,1.0s,mb4.9						
BVAR	**Borovoye Array**	**52.38**	**341**	P	**P**	**17 28 53.8**	**-0.9**
	comp=Z,10nm,0.7s,mb5.0,baz=144,slow=9.1,SNR=22						
BRVK	**Borovoye**	**52.44**	**341**	*e*P	**P**	**17 28 53.9**	**-1.2**
BRVK				pmax	pmax		
	comp=Z,19nm,1.1s,mb5.0						
BRVK	**Borovoye**	**52.44**	**341**	*e*P	**P**	**17 28 53.9**	**-1.2**
	comp=Z,19nm,1.1s,mb5.0						
KLR	**Kul'dur**	**54.31**	**29**	*e*P	**P**	**17 29 03.9**	**-5.0**
AKTO	**Aktyubinsk**	**55.25**	**332**	*i* P	**P**	**17 29 15.0**	**-0.7**
SVE	**Sverdlovsk**	**58.77**	**339**	*e*P	**P**	**17 29 40.6**	**+0.1**
SVE				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.9						
ARU	**Arti**	**59.25**	**337**⇑	*e*P	**P**	**17 29 43.3**	**-0.5**
ARU				pmax	pmax		
	comp=Z,11nm,2.1s,mb4.5						
ARU	**Arti**	**59.25**	**337**	P	**P**	**17 29 42.9**	**-0.9**
	comp=Z,7.3nm,1.1s,mb4.6						
KIV	**Kislovodsk**	**60.35**	**319**⇓	*e*P	**P**	**17 29 50.9**	**-0.7**
KIV				*e*		17 32 01.3	
KIV				*e*S	**S**	**17 38 09.3**	**+8.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
KIV				MLR	MLR		
	comp=Z,100nm,17.0s						
KIV	**Kislovodsk**	**60.35**	**319**	P	**P**	**17 29 51.1**	**-0.5**
	comp=Z,4.9nm,0.6s,mb4.7						
YAK	**Yakutsk**	**62.85**	**18**⇑	*e*P	**P**	**17 30 05.2**	**-2.9**
YAK				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.3						
ANN	**Anapa**	**64.15**	**318**	*e*P	**P**	**17 30 08.5**	**-8.5**
ANN				*e**PP	pP	17 30 24.1	-10
ANN				*e*		17 30 46.1	
ANN				pmax	pmax		
	comp=Z,26nm,1.5s,mb4.8						
OBN	**Obninsk**	**68.62**	**328**⇓	*e*P	**P**	**17 30 45.0**	**-0.4**
OBN				*e*		17 33 19.4	
OBN				*e*SS	SS	17 44 16.1	+7.7
OBN				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.4						
OBN				MLR	MLR		
	comp=Z,100nm,14.0s						
MA2	**Magadan**	**69.30**	**27**	*e*P	**P**	**17 30 47.6**	**-1.8**
MA2				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MA2	**Magadan**	**69.30**	**27**	P	**P**	**17 30 48.1**	**-1.3**
	comp=Z,5.3nm,1.0s,mb4.3						
TIRR	**Tirgusor**	**70.20**	**316**⇓	*i* P	**P**	**17 30 55.4**	**+0.1**
TIXI	**Tiksi**	**70.29**	**11**	*e*P	**P**	**17 30 50.7**	**-4.7**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
TIXI	**Tiksi**	**70.29**	**11**	*e*P	**P**	**17 30 52.9**	**-2.5**
	comp=Z,3.2nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**71.27**	**322**	P	**P**	**17 31 00.6**	**-1.2**
	comp=Z,2.9nm,0.6s,mb4.3,baz=93,slow=5.3,SNR=15						
VRI	**Vrincioaia**	**71.68**	**317**⇓	*i* P	**P**	**17 31 05.4**	**+1.1**
MLR	**Muntele Rosu**	**72.13**	**316**⇓	*i* P	**P**	**17 31 08.2**	**+1.2**
BURAR	**Bucovina Array**	**73.07**	**318**⇑	*i* P	**P**	**17 31 13.5**	**+1.0**
JOF	**Joensuu**	**74.19**	**335**	*e*p	**P**	**17 31 15.8**	**-2.9**
	comp=Z,5.9nm,0.7s,mb4.4						
KWP	**Kalwaria**	**75.10**	**320**	*e*P	**P**	**17 31 23.7**	**-0.6**
KWP				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.4						
KWP	**Kalwaria**	**75.10**	**320**	*e*P	**P**	**17 31 23.7**	**-0.6**
	comp=Z,6.5nm,0.8s,mb4.4						
STHS	**Stebnicka Huta**	**76.00**	**320**	*e*P	**P**	**17 31 31.4**	**+1.9**
STHS				*e*		17 31 43.3	
STHS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
STHS	**Stebnicka Huta**	**76.00**	**320**	*e*P	**P**	**17 31 31.4**	**+1.9**
	comp=Z,4.5nm,0.7s,mb4.3						
STHS				*e*		17 31 43.3	
STHS	**Stebnicka Huta**	**76.00**	**320**	*e*P	**P**	**17 31 31.4**	**+1.9**
STHS				*e*pP	pP	17 31 43.3	-4.1
FINES	**FINESS Array B**	**76.02**	**332**	*i* P	**P**	**17 31 29.1**	**-0.2**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.3s						
FINES	**FINESS Array B**	**76.02**	**332**	P	**P**	**17 31 28.7**	**-0.6**
FINES	**FINESS Array B**	**76.02**	**332**	P	**P**	**17 31 28.7**	**-0.6**
	comp=Z,1.7nm,0.3s,mb4.2,baz=108,slow=5.5,SNR=28						
OJC	**Ojcow**	**77.05**	**320**	*e*P	**P**	**17 31 36.2**	**+0.8**
VYHS	**Vyhne**	**77.44**	**319**	*e*P	**P**	**17 31 38.2**	**+0.6**
ARCES	**ARCESS Array B**	**78.65**	**340**	P	**P**	**17 31 43.9**	**0.0**
	comp=Z,1.5nm,0.3s,mb4.3,baz=97,slow=6.5,SNR=40						
BILL	**Bilibino**	**78.83**	**21**⇑	*e*P	**P**	**17 31 43.9**	**-1.0**
BILL				*e*		17 34 41.8	
BILL				*e*S	S	17 41 35.4	-2.0
BILL				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.5						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s						
BILL	**Bilibino**	**78.83**	**21**	P	**P**	**17 31 43.2**	**-1.7**
	comp=Z,1.8nm,0.9s,mb3.9						
GERES	**GERESS Array B**	**80.86**	**319**	P	**P**	**17 31 56.8**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.1,baz=106,slow=4.7,SNR=17						
NB2	**NORSAR Subarra**	**83.02**	**331**	P	**P**	**17 32 06.2**	**-1.1**
	comp=Z,3.7nm,1.1s,mb4.1,baz=96,slow=5.1						
CDF	**Champ du Feu**	**85.11**	**318**	*e*P	**P**	**17 32 18.3**	**+0.1**
LPG	**La Plagne**	**85.55**	**315**	*e*P	**P**	**17 32 21.2**	**+0.7**
LPL	**La Plagne**	**85.56**	**315**	*e*P	**P**	**17 32 20.8**	**+0.2**
	comp=Z,4.6nm,0.7s,mb4.2						
HAU	**Haudompre**	**85.74**	**318**	*e*P	**P**	**17 32 21.3**	**-0.1**
	comp=Z,3.1nm,0.4s,mb4.3						
VIVF	**Saint-Julien-l**	**87.05**	**315**	*e*P	**P**	**17 32 28.0**	**+0.1**
LOR	**Lormes**	**87.46**	**317**	*e*P	**P**	**17 32 29.3**	**-0.5**
SMF	**Signal de Mont**	**87.52**	**316**	*e*P	**P**	**17 32 30.1**	**0.0**
	comp=Z,6.9nm,0.7s,mb4.5						
SSF	**Saint Saulge**	**87.72**	**317**	*e*P	**P**	**17 32 30.9**	**-0.1**
AVF	**Avril sur Loir**	**87.84**	**317**	*e*P	**P**	**17 32 31.1**	**-0.5**
TCF	**Toulx Ste Croi**	**88.67**	**316**	*e*P	**P**	**17 32 35.5**	**-0.1**
CPUP	**Villa Florida**	**145.82**	**228**	PKPbc	PKPbc	17 39 21.5	-0.4
	comp=Z,1.1nm,0.6s,baz=124,slow=3.7,SNR=2.9						

BJI ***18*** *17:34:46.8,2159N×14385E,h35km,mB5.0,mb4.7,Ms4.5,Msz4.2*
ISCJB ***18*** *17:34:52.0±1.5,2188N±006×143.19E±008,h36km±13km,mb4.4/39,MS3.8/12,Error ellipse: s-maj=12.7km s-min=8.8km az=160.7*
NEIC ***18*** *17:34:53.8±0.3,2192N×143.12E,h35km,mb4.6/14,Error ellipse: s-maj=11.4km s-min=7.2km az=80.0*
IDC ***18*** *17:34:55.5±3.2,2190N×14303E,h50km±28km,mb3.9/17,mb1 4.0/18,mb1mx3.9/25,mbtmp3.9/18,ML3.6/1,MS3.7/9,Ms1 3.6/9,ms1mx3.4/37,Error ellipse: s-maj=21.1km s-min=13.1km az=89.0*

ISC 18 17:34:55.1±1.3,2189N±006×14319E±008,h47km±11km,h32km±2.2km:pP-P,n57,o0°99/54,mb4.4/39,MS3.8/12,
Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.27**	**350**	P	**Pn**	**17 36 11.7**	**+0.5**
	4.5nm,0.3s,baz=150,slow=20,SNR=2.3						
CBIJ				S	**Sn**	**17 37 09.6**	**-1.1**
	7.1nm,0.3s,baz=292,slow=23,SNR=4.0						
GUMO	**Guam**	**8.40**	**169**	LR	LR	17 39 34.0	
	comp=Z,221nm,18.4s,baz=243,slow=33						
JOW	**Kunigami**	**14.46**	**293**	LR	LR	17 42 55.9	
	comp=Z,311nm,19.5s,baz=354,slow=34						
MAJO	**Matsushiro**	**15.23**	**345**	P	**Pn**	**17 38 31.5**	**+4.5**
	33nm,1.6s						
KSRS	**Korea Array**	**20.37**	**323**	P	**P**	**17 39 28.8**	**+1.1**
	4.5nm,0.7s,baz=143,slow=8.6,SNR=18						
KSRS				LR	LR	17 46 25.0	
	comp=Z,111nm,19.8s,MS3.2,baz=185,slow=34						
ASAJ	**Asahikawa**	**22.18**	**359**	LR	LR	17 49 43.5	
	comp=Z,65nm,18.7s,MS3.1,baz=211,slow=40						
NJ2	**Nanjing**	**23.89**	**300**	*e*P	**P**	**17 40 05.1**	**+0.7**
NJ2				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.1						
MDJ	**Mudanjiang**	**25.29**	**337**	P	**P**	**17 40 17.6**	**+0.5**
MDJ				AMB	AMB		
	comp=Z,319nm,4.0s						
HHC	**Hu-ho-hao-te**	**32.71**	**313**	*e*P	**P**	**17 41 24.6**	**+1.5**
HHC				AP	pP	17 41 34.3	-1.2
HHC				XP	sP	17 41 38.8	-2.2
HHC				PP	PP	17 42 35.4	-2.2
HHC				PCP	PcP	17 44 08.3	+0.4
HHC				S	**S**	**17 46 39.5**	**+3.1**
HHC				XS	sS	17 46 53.8	-3.3
HHC				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,301nm,5.6s						
HHC				LR	LR		
	comp=N,336nm,16.5s,MS4.4						
HHC				LR	LR		
	comp=E,447nm,15.7s,MS4.4						
HHC				LR	LR		
	comp=Z,335nm,15.7s,MS4.1						
GYA	**Guiyang**	**33.56**	**285**	P	**P**	**17 41 32.0**	**+1.3**
GYA				AP	pP	17 41 42.3	-0.8
GYA				XP	sP	17 41 46.4	-2.3
GYA				PP	PP	17 42 45.3	-2.0
GYA				PCP	PcP	17 44 12.8	+2.2
GYA				S	**S**	**17 46 50.9**	**+1.0**
GYA				SCP	ScP	17 47 53.5	+2.1
GYA				SCS	ScS	17 51 52.9	+0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,70nm,4.8s						
GYA				LR	LR		
	comp=N,460nm,18.8s,MS4.4						
GYA				LR	LR		
	comp=E,440nm,17.7s,MS4.4						
GYA				LR	LR		
	comp=Z,480nm,18.8s,MS4.2						
HNR	**Honiara**	**35.20**	**150**	LR	LR	17 53 44.9	
	comp=Z,124nm,18.7s,MS3.7,baz=179,slow=32						
CD2	**Chengdu**	**36.29**	**293**	*e*P	**P**	**17 41 54.3**	**+0.1**
CD2				AP	pP	17 42 03.9	-2.8
CD2				XP	sP	17 42 07.8	-4.4
CD2				PP	PP	17 43 17.3	-0.1
CD2				S	**S**	**17 47 31.4**	**-0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,120nm,12.2s						
CD2				LR	LR		
	comp=Z,100nm,11.2s,MS3.8						
LZH	**Lanzhou**	**36.95**	**301**	*e*P	**P**	**17 41 59.9**	**+0.1**
LZH				AP	pP	17 42 09.8	-2.5
LZH				XP	sP	17 42 14.1	-3.7
LZH				AMB	AMB		
	comp=Z,14nm,1.0s,mb4.8						
LZH				AMB	AMB		
	comp=Z,65nm,4.3s						
KMI	**Kunming**	**37.14**	**283**	P	**P**	**17 42 01.4**	**-0.1**
KMI				AP	pP	17 42 10.3	-3.7
KMI				XP	sP	17 42 13.3	-6.2
KMI				AMB	AMB		
	comp=Z,2.0nm,0.9s,mb4.0						
KMI				LR	LR		
	comp=Z,164nm,20.3s,MS3.8						
ULN	**Ulaanbaatar**	**38.83**	**321**	*e*P	**P**	**17 42 15.7**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.1						
SONM	**Songino Array**	**39.20**	**320**	P	**P**	**17 42 18.5**	**0.0**
	comp=Z,1.5nm,0.7s,mb3.9,baz=132,slow=6.2,SNR=4.0						
GTA	**Gaotai**	**40.77**	**305**	*e*P	**P**	**17 42 32.3**	**+0.6**
GTA				AP	pP	17 42 38.8	-5.5
GTA				XP	sP	17 42 42.3	-7.5
GTA				AMB	AMB		
	comp=Z,4.0nm,1.5s,mb3.8						
YAK	**Yakutsk**	**41.18**	**350**	P	**P**	**17 42 34.4**	**-0.3**
	comp=Z,13nm,0.9s,mb4.5						
CTA	**Charters Tower**	**41.83**	**176**	P	**P**	**17 42 42.1**	**+1.7**
	comp=Z,3.2nm,0.8s,mb4.0,baz=0.4,slow=10,SNR=4.7						
CTA				LR	LR	17 58 36.1	
	comp=Z,162nm,19.4s,MS3.9,baz=49,slow=34						
CTAO	**Charters Tower**	**41.83**	**176**	P	**P**	**17 42 41.6**	**+1.2**
	comp=Z,5.5nm,1.0s,mb4.1						
WRAB	**Tennant Creek**	**42.45**	**192**	*e*P	**P**	**17 42 45.0**	**-0.6**
	comp=Z,12nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**42.46**	**192**	P	**P**	**17 42 44.4**	**-1.2**
	comp=Z,4.2nm,1.1s,mb4.0,baz=17,slow=9.1,SNR=6.0						
FITZ	**Fitzroy Crossi**	**43.30**	**205**	LR	LR	18 02 28.2	
	comp=Z,96nm,18.4s,MS3.7,baz=180,slow=38						
ASAR	**Alice Springs**	**46.17**	**192**	P	**P**	**17 43 14.9**	**-0.4**
	comp=Z,1.1nm,0.6s,mb3.9,baz=16,slow=10,SNR=6.0						
MBWA	**Marble Bar**	**48.53**	**210**	*e*P	**P**	**17 43 35.0**	**+1.4**
	comp=Z,22nm,1.2s,mb5.1						
WMQ	**Urumqi**	**50.47**	**309**	*e*P	**P**	**17 43 49.0**	**+0.8**
WMQ				AP	pP	17 43 59.0	-2.1
WMQ				XP	sP	17 44 03.0	-3.6
WMQ				PP	PP	17 45 46.0	+1.9
WMQ				S	**S**	**17 50 59.0**	**+0.3**
WMQ				SS	SS	17 54 30.0	-2.9
WMQ				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,94nm,5.0s						
WMQ				LR	LR		
	comp=N,98nm,14.0s,MS4.2						
WMQ				LR	LR		
	comp=E,127nm,14.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,75nm,13.0s,MS3.9						
STKA	**Stephens Creek**	**53.48**	**182**	P	**P**	**17 44 09.6**	**-1.0**
	comp=Z,2.7nm,0.9s,mb4.2,baz=359,slow=5.2,SNR=2.5						
ZAA0	**Zalesovo Array**	**54.07**	**322**	*e*P	**P**	**17 44 14.1**	**-0.7**
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	**P**	**17 44 13.5**	**-1.3**
	comp=Z,2.9nm,0.7s,mb4.3,baz=104,slow=6.3,SNR=13						
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**17 44 17.9**	**-0.7**
	comp=Z,1.0nm,0.6s,mb4.0,baz=91,slow=8.6,SNR=11						
KURK	**Kurchatov**	**57.34**	**317**	*e*P	**P**	**17 44 37.3**	**-1.0**
	comp=Z,16nm,1.6s,mb4.8						
KDAK	**Kodiak Island**	**58.04**	**35**	LR	LR	18

FFC	Flin Flon	85.66	32	*e*P	P	17 47 29.2	+0.5
	comp=Z,7.9nm,0.8s,mb5.0						
AKASG	Malin Array Be	87.36 324		P	P	17 47 35.1	-2.0
	comp=Z,1.0nm,0.7s,mb4.2,baz=51,slow=5.5,SNR=4.7						
PLCA	Paso Flores	145.87 131		PKPbc	PKPbc	17 54 29.6	+0.2
	comp=Z,0.7nm,0.7s,baz=225,slow=4.3,SNR=3.3						
LPAZ	La Paz	149.91	85	PKPbc	PKPbc	17 54 41.5	+0.4
	comp=Z,1.4nm,0.9s,baz=9.5,slow=6.1,SNR=3.9						

IDC ***18*** *17:36:53.5±2.0, 061S×13294E, h0km, mb3.7/3, mb1 3.9/5, mb1mx3.7/16, mbtmp3.8/5, ML3.4/2, Error ellipse: s-maj=92.3km s-min=22.7km az=79.0*
ISCJB ***18*** *17:36:55.7±1.5, 06S±0.1×133.1E±0.5, h33km, mb3.7/3, Error ellipse: s-maj=66.2km s-min=15.3km az=169.2*
NEIC ***18*** *17:36:58.1±1.2, 061S×133.19E, h35km, mb3.7/1, Error ellipse: s-maj=55.0km s-min=11.6km az=78.0*
ISC 18 17:36:57.9±1.6, 07S±01×1332E±05, h35km, n7, σ0§58/7, mb3.7/3, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	18.85	203	P	Pn	17 41 15.8	0.0
	0.1nm,0.3s,baz=29,slow=12,SNR=6.7						
WRAB	Tennant Creek	19.18	177	*e*P	Pn	17 41 19.1	-0.6
	3.1nm,0.7s						
WRA	Warramunga Arr	19.19	177	P	Pn	17 41 19.1	-0.7
	0.1nm,0.3s,baz=355,slow=11,SNR=18						
WB2	Warramunga Arr	19.19	177	*e*P	Pn	17 41 20.1	+0.3
ASAR	Alice Springs	22.87	178	P	P	17 41 59.5	+1.1
	2.6nm,0.8s,mb3.7,baz=356,slow=9.2,SNR=21						
MKAR	Makanchi Array	64.86	324	P	P	17 47 33.1	-0.3
	0.3nm,0.4s,mb3.7,baz=105,slow=9.1,SNR=3.0						
ZALV	Zalesovo Beam	67.46	331	P	P	17 47 50.2	+0.2
	0.4nm,0.4s,mb3.8,baz=109,slow=7.8,SNR=1.7						

IDC ***18*** *17:45:16.8±0.6, 201S×16872E, h0km, mb4.7/15, mb1 4.8/16, mb1mx4.7/20, mbtmp4.7/16, ML4.2/1, MS4.0/3, Ms1 3.9/3, ms1mx3.3/18, Error ellipse: s-maj=20.3km s-min=16.2km az=158.0*
BJI ***18*** *17:45:18.9, 1977S×16940E, h21km, mB5.1, mb4.6, Ms5.0, Msz4.6*
NEIC ***18*** *17:45:18.1±0.3, 201S×16871E, h10km, mb4.8/16, Error ellipse: s-maj=11.9km s-min=8.9km az=157.0*
ISCJB ***18*** *17:45:19.6±2.5, 2023S±008×16866E±008, h33km±21km, mb4.6/36, MS4.5/9, Error ellipse: s-maj=13.6km s-min=11.9km az=27.4*
MOS ***18*** *17:45:20.1±1.1, 2024S×16865E, h33km, mb4.9/12, Error ellipse: s-maj=15.8km s-min=12.5km az=160.1*
LDG ***18*** *17:45:22.7±0.4, 1957S×16678E, h10km, Mb4.8/4, Error ellipse: s-maj=55.3km s-min=8.3km az=91.0*
ISC 18 17:45:23.1±3.0, 2024S±008×16870E±008, h46km±27km, h15km±4.6km; pP-P, n118, σ1§07/71, mb4.6/36, MS4.5/9, 4C-5D, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	2.79	229	*e*P	Pn	17 46 01.5	-3.6
ARMA	Armidale	18.44	233	*e*P	Pn	17 49 36.9	+1.6
URZ	Urewera	19.38	160	P	Pn	17 49 46.6	+0.1
	0.7nm,0.3s,baz=21,slow=6.2,SNR=8.7						
CTA	Charters Tower	21.07	267	⇓*i*P	P	17 50 04.9	+1.3
	22nm,1.0s,mb4.5						
CTA	Charters Tower	21.07	267	⇓*i*P	P	17 50 04.9	+1.3
CTA				pmax	pmax		
	comp=Z,22nm,1.0s						
CTA	Charters Tower	21.07	267	P	P	17 50 04.3	+0.8
	comp=Z,28nm,0.9s,mb4.6,baz=90,slow=13,SNR=25						
CTAO	Charters Tower	21.07	267	*e*P	P	17 50 04.5	+0.9
CTAO				pmax	pmax		
	comp=Z,43nm,1.0s,mb4.7						
CTAO	Charters Tower	21.07	267	*e*P	P	17 50 04.5	+0.9
	comp=Z,43nm,1.0s,mb4.7						
RPZ	Rata Peaks	23.50	176	P	P	17 50 30.2	+1.5
	comp=Z,9.8nm,0.8s,mb4.3,baz=90,slow=5.1,SNR=4.3						
STKA	Stephens Creek	26.89	239	⇓*i*P	P	17 51 00.3	+0.5
	comp=Z,12nm,0.7s,mb4.5						
STKA	Stephens Creek	26.89	239	P	P	17 50 59.8	0.0
	comp=Z,14nm,0.7s,mb4.6,baz=66,slow=7.9,SNR=17						
STKA				LR	LR	18 01 40.5	
	comp=Z,129nm,19.2s,MS3.5,baz=22,slow=36						
WB2	Warramunga Arr	32.23	264	*e*P	P	17 51 46.1	-1.1
WRAB	Tennant Creek	32.23	264	*e*P	P	17 51 45.5	-1.7
WRAB				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
WRAB	Tennant Creek	32.23	264	*e*P	P	17 51 45.5	-1.8
	comp=Z,11nm,1.0s,mb4.7						
WRA	Warramunga Arr	32.24	264	P	P	17 51 46.2	-1.1
	comp=Z,9.4nm,0.9s,mb4.6,baz=90,slow=8.4,SNR=59						
ASAR	Alice Springs	32.41	258	P	P	17 51 48.4	-0.4
	comp=Z,21nm,0.6s,mb5.1,baz=86,slow=9.1,SNR=414						
KAKA	Kakadu	35.51	276	*e*P	P	17 52 15.8	0.0
	comp=Z,14nm,0.9s,mb4.9						
PPT	Papeete	39.49	93	*e*LR	LR	18 03 38.3	
	comp=Z,98nm,23.2s						
FITZ	Fitzroy Crossi	40.65	266	⇓*i*P	P	17 52 59.4	+0.4
	comp=Z,54nm,0.9s,mb5.2						
FITZ	Fitzroy Crossi	40.65	266	P	P	17 52 59.4	+0.4
	comp=Z,32nm,0.8s,mb5.0,baz=120,slow=9.1,SNR=52						
BATI	Kupang	44.46	276	P	P	17 53 31.3	+1.3
	comp=Z,39nm,1.1s,mb5.1,baz=206,slow=6.7,SNR=4.5						
MBWA	Marble Bar	45.67	260	*e*P	P	17 53 39.6	-0.1
	comp=Z,35nm,1.0s,mb5.2						
KLBR	Kellerberrin	46.83	245	⇑*i*P	P	17 53 47.9	-0.7
	comp=Z,38nm,0.9s,mb5.3						
NWAO	Narrogin (SRO)	47.31	244	*e*P	P	17 53 51.3	-1.0
NWAO				pmax	pmax		
	comp=Z,20nm,0.8s						
NWAO	Narrogin (SRO)	47.31	244	*e*P	P	17 53 51.3	-1.0
	comp=Z,20nm,0.8s,mb5.1						
NWAO	Narrogin (SRO)	47.31	244	P	P	17 53 51.7	-0.6
	comp=Z,26nm,0.8s,mb5.2,baz=102,slow=6.2,SNR=15						
NWAO				LR	LR	18 14 21.4	
	comp=Z,282nm,20.2s,MS4.2,baz=17,slow=37						
MUN	Mundaring	48.16	245	*e*P	P	17 53 58.3	-0.6
KAPI	Kapparg	49.89	281	P	P	17 54 12.1	-0.3
	comp=Z,5.0nm,0.4s,mb4.9,baz=166,slow=7.1,SNR=6.1						
VNDA	Vanda	57.42	182	P	P	17 55 06.8	+0.2
	comp=Z,0.6nm,0.6s,mb3.8,baz=342,slow=9.5,SNR=5.1						
SBA	Scott Base	57.67	180	*e*P	P	17 55 09.1	+0.8
SBA				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
SBA	Scott Base	57.67	180	*e*P	P	17 55 09.1	+0.8
	comp=Z,6.8nm,1.0s,mb4.6						
KKM	Kota Kinabalu	57.81	291	P	P	17 55 10.6	+0.4
CASY	Casey	59.01	204	*e*P	P	17 55 16.3	-1.6
	comp=Z,3.6nm,0.7s,mb4.5						
KSM	Kuching	61.11	283	*e*P	P	17 55 31.4	-1.7
COCO	West Island	69.03	264	P	P	17 56 27.5	+3.1
KULM	Kulim	71.46	283	*e*P	P	17 56 36.9	-2.4
PSI	Prapat	72.09	280	P	P	17 56 43.3	+0.1
	comp=Z,2.3nm,0.4s,mb4.5,baz=130,slow=4.6,SNR=5.4						
MDJ	Mudanjiang	73.76	332	P	P	17 56 53.5	+1.2
MDJ				AMB	AMB		
	comp=Z,7.0nm,2.0s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,207nm,5.6s						
CN2	Changchun	75.05	329	*e*P	P	17 57 01.8	+2.0
CN2				*e*XP	sP	17 57 08.8	-10
CN2				*e*S	S	18 06 38.9	+4.5
GYA	Guiyang	75.97	305	P	P	17 57 06.8	+1.3
GYA				PCP	PcP	17 57 20.3	+2.6
GYA				PP	PP	18 00 00.4	+3.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
GYA				AMB	AMB		
	comp=Z,80nm,5.4s						
GYA				LR	LR		
	comp=N,470nm,20.8s,MS4.9						
GYA				LR	LR		
	comp=E,480nm,19.7s,MS4.9						
GYA				LR	LR		
	comp=Z,510nm,20.8s,MS4.8						
KLR	Kul'dur	76.57	336	*e*P	P	17 57 07.0	-1.4
MAW	Mawson	77.33	202	*e*P	P	17 57 12.7	+0.2
MAW				pmax	pmax		
	comp=Z,15nm,1.1s						
MAW	Mawson	77.33	202	*e*P	P	17 57 12.7	+0.2
	comp=Z,15nm,1.1s,mb4.8						
MAW	Mawson	77.33	202	P	P	17 57 13.8	+1.3
	comp=Z,2.8nm,0.8s,mb4.2,baz=123,slow=9.7,SNR=3.7						
KMI	Kunming	78.37	302	P	P	17 57 21.9	+2.9
KMI				S	S	18 07 16.8	+5.3
KMI				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.1						
KMI				LR	LR		
	comp=N,327nm,10.7s,MS5.0						
KMI				LR	LR		
	comp=E,276nm,10.7s,MS5.0						
KMI				LR	LR		
	comp=Z,230nm,14.3s,MS4.7						
CD2	Chengdu	80.44	308	*e*P	P	17 57 31.0	+0.8
CD2				AP	pP	17 57 35.8	-7.8
CD2				PP	PP	18 00 36.6	+2.6
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,5.2s						
CD2				LR	LR		
	comp=N,150nm,16.2s,MS4.5						
CD2				LR	LR		
	comp=E,130nm,18.2s,MS4.5						
CD2				LR	LR		
	comp=Z,120nm,14.8s,MS4.4						
HHC	Hu-ho-hao-te	80.65	320	*e*P	P	17 57 31.6	+0.6
HHC				AP	pP	17 57 36.8	-7.7
HHC				XP	sP	17 57 39.3	-10
HHC				PP	PP	18 00 36.0	+0.5
HHC				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.1						
HHC				AMB	AMB		
	comp=Z,283nm,8.4s						
HHC				LR	LR		
	comp=N,423nm,15.5s,MS5.0						
HHC				LR	LR		
	comp=E,284nm,15.8s,MS5.0						
HHC				LR	LR		
	comp=Z,309nm,17.6s,MS4.7						
MA2	Magadan	80.87	351	⇑*e*P	P	17 57 31.1	-0.6
LZH	Lanzhou	83.02	312	*e*P	P	17 57 46.3	+2.7
LZH				AP	pP	17 57 49.3	-7.9
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,70nm,5.5s						
LZH				LR	LR		
	comp=E,295nm,13.8s						
LZH				LR	LR		
	comp=Z,359nm,15.0s,MS4.9						
SEY	Seymchan	83.89	353	*e*P	P	17 57 46.7	-0.7
ULN	Ulaanbaatar	87.36	324	*e*P	P	17 58 04.9	-0.1
GTA	Gaotai	87.44	314	P	P	17 58 12.4	+6.7
GTA				AP	pP	17 58 17.3	-2.0
GTA				XP	sP	17 58 20.1	-4.3
GTA				PP	PP	18 01 34.9	+3.8
GTA				PPP		18 03 29.4	
GTA				SKS		18 08 35.1	
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.5						
GTA				AMB	AMB		
	comp=Z,105nm,6.5s						
GTA				LR	LR		
	comp=N,115nm,14.8s,MS4.6						
GTA				LR	LR		
	comp=E,149nm,15.6s,MS4.6						
GTA				LR	LR		
	comp=Z,116nm,15.2s,MS4.4						
YAK	Yakutsk	87.67	343	⇑*e*P	P	17 58 05.9	-0.3
YAK				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.7						
SONM	Songino Array	87.71	323	P	P	17 58 08.1	+1.4
	comp=Z,1.7nm,0.7s,mb4.4,baz=147,slow=3.5,SNR=5.4						
BILL	Bilibino	88.03	359	⇓*e*P	P	17 58 07.2	-0.6
BILL				*e*S	S	18 08 36.5	-11
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.5						
BILL	Bilibino	88.03	359	*e*P	P	17 58 07.8	0.0
	comp=Z,4.6nm,1.0s,mb4.7						
SNAA	Sanae	88.15	183	*e*P	P	17 58 07.9	-0.7
SNAA				*e*		17 58 10.0	
SNAA				*e*		17 58 12.3	
SNAA				*e*	pP	17 58 16.1	-6.1
SNAA	Sanae	88.15	183	*e*P	P	17 58 03.3	-5.3
CMB	Columbia Colle	88.19	48	*e*P	P	17 58 09.2	-0.1
CMB				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.8						
CMB	Columbia Colle	88.19	48	*e*P	P	17 58 09.2	-0.1
	comp=Z,5.8nm,1.0s,mb4.8						
YBH	Yreka Blue Hor	88.36	44	P	P	17 58 09.7	-0.3
	comp=Z,2.7nm,1.0s,mb4.4,baz=191,slow=4.4,SNR=4.9						
VNA2	Neumayer--Watz	89.04	181	*e*P	P	17 58 12.7	-0.1
	baz=196,slow=3.4						
VNA2				*e*		17 58 13.8	
VNA2				*e*		17 58 15.9	
VNA2				*e*		17 58 19.4	
VNA2				*e*	pP	17 58 23.2	-3.2
NVAR	Mina Array Bea	89.84	49	P	P	17 58 16.6	-0.4
	comp=Z,3.5nm,1.0s,mb4.6,baz=228,slow=8.9,SNR=13						
TPNV	Topopah Spring	90.67	51	*e*P	P	17 58 20.7	-0.2
TPNV				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
TPNV	Topopah Spring	90.67	51	*e*P	P	17 58 20.7	-0.2
	comp=Z,3.0nm,0.8s,mb4.7						
ZAK	Zakamensk	90.81	324	*e*P	P	17 58 22.0	+0.8
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb4.3						
WVOR	Wild Horse Val	91.37	45	*e*P	P	17 58 24.0	0.0
WVOR				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
WVOR	Wild Horse Val	91.37	45	*e*P	P	17 58 24.0	0.0
	comp=Z,3.2nm,1.0s,mb4.6						
DLBC	Dease Lake	93.15	28	P	P	17 58 32.3	+0.5
	baz=156,slow=10.0						
TIXI	Tiksi	95.61	348	*e*P	P	17 58 41.4	-1.5
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb4.1						
WMQ	Urumqi	97.53	314	*e*P	P	17 58 51.0	-1.2
TXAR	Lajitas Array	97.68	62	P	P	17 58 52.5	-0.8
	comp=Z,0.6nm,1.0s,mb4.1,baz=251,slow=3.8,SNR=4.1						
TXAR				LR	LR	18 39 57.2	
	comp=Z,71nm,18.3s,MS4.2,baz=5.0,slow=34						
ARCES	ARCESS Array B	125.89	345	PKP	PKPdf	18 04 19.9	+0.7
	comp=Z,2.0nm,0.9s,baz=61,slow=2.3,SNR=7.2						
OBN	Obninsk	130.04	326	⇑*i*PKIKP	PKPdf	18 04 27.7	+0.2
OBN				*e*		18 11 33.3	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.4s						
FINES	FINESS Array B	131.31	337	PKP	PKPdf	18 04 30.5	+0.8
FINES				SKPbc	SKPbc	18 07 56.9	+5.9
FINES	FINESS Array B	131.31	337	PKP	PKPdf	18 04 30.5	+0.8
	comp=Z,0.3nm,0.5s,baz=132,slow=3.9,SNR=3.1						
FINES				SKPbc	SKPbc	18 07 56.9	+5.9
	comp=Z,2.5nm,0.9s,baz=31,slow=4.4,SNR=6.7						
CLL	Collm	143.60	334	*e*PKPdf	PKPdf	18 04 51.0	-1.6
CLL				*e*PKiKP	PKiKP	18 04 56.0	0.0
CLL				*e*(sPKiKP)		18 05 05.0	
PRU	Pruhonice	143.91	331	*e*PKP	PKPdf	18 04 54.3	+1.1
TANN	Tannenbergstha	144.50	334	*e*PKP	PKPdf	18 04 55.9	+1.7
NKC	Novy Kostel	144.64	333	*e*PKP	PKPdf	18 04 56.3	+1.8
MOX	Moxa	144.67	335	*e*PKP	PKPdf	18 04 56.5	+2.0
	comp=Z,20nm,1.6s						
MOX	Moxa	144.67	335	*e*PKP	PKPdf	18 04 55.8	+1.3
IBBN	Ibbenburen	144.72	340	*e*PKP	PKPdf	18 04 54.9	+0.3
IDI	Anoyia	144.86	303	PKP	PKPdf	18 04 55.5	+0.1
	comp=Z,5.2nm,0.6s,baz=90,slow=6.1,SNR=5.8						
KHC	Kasperske Hory	144.97	331	*e*PKP	PKPdf	18 04 57.6	+2.5
ROTZ	Rotzenmuhle	145.10	333	*e*PKP	PKPdf	18 04 58.0	+2.7
GERES	GERESS Array B	145.12	331	PKPbc	PKPbc	18 04 55.9	+1.0
	comp=Z,1.2nm,0.7s,baz=56,slow=2.4,SNR=8.6						
UBBA	Unterbreizbach	145.16	336	*e*PKP	PKPdf	18 04 56.3	+0.9
GRA1	Grafenberg Arr	145.57	334	*e*PKP	PKPab	18 04 59.6	+3.0
GRA1				*ep*PKP	pPKPdf	18 05 07.7	-2.5
GRF	Grafenberg Arr	145.57	334	*e*PKP	PKPdf	18 04 59.6	+3.5
GRF				*ep*PKP	pPKPdf	18 05 07.7	-2.5
BUG	Bochum--Univer	145.62	339	*e*PKP	PKPdf	18 04 57.5	+1.4
FUR	Furstenfeldbru	146.71	332	*e*PKP	PKPbc	18 05 01.7	+1.9
STU	Stuttgart	147.11	335	*e*PKP	PKPab	18 05 04.4	+1.8
WLF	Walferdange	147.50	339	*e*PKIKP	PKPdf	18 04 58.9	-0.5
WLF	Walferdange	147.50	339	*e*PKP	PKPbc	18 05 03.9	+1.9
GIVF	Givet	147.56	341	*e*PKP1	PKPbc	18 05 02.7	+0.6
DOU	Dourbes	147.64	341	PKPab	PKPab	18 05 03.4	-1.2
BAIF	Baives	147.79	341	*e*PKP1	PKPbc	18 05 03.5	+0.8
	comp=Z,15nm,0.9s						
BFO	Black Forest	147.81	335	*e*PKP	PKPab	18 05 05.0	-0.3
CDF	Champ du Feu	148.15	336	*e*PKP1	PKPbc	18 05 05.6	+1.8
	comp=Z,34nm,1.4s						
HINF	Hinteralfeld	148.80	336	*e*PKP1	PKPbc	18 05 07.1	+1.6
HAU	Haudompre	148.84	337	*e*PKP1	PKPbc	18 05 07.3	+1.8
	comp=Z,21nm,1.1s						
MEZF	Maizieres J'vi	148.88	339	*e*PKP1	PKPab	18 05 07.8	-1.8
CABF	La Chapelle	150.09	336	*e*PKP1	PKPbc	18 05 09.9	+1.2
FLN	La Foliniere	150.24	346	*e*PKP1	PKPbc	18 05 09.4	+0.4
	comp=Z,38nm,1.2s						
LDF	La Druitiere	150.31	345	*e*PKP1	PKPbc	18 05 10.3	+1.2
	comp=Z,20nm,1.0s						
LOR	Lormes	150.35	339	*e*PKP1	PKPbc	18 05 11.0	+1.7
	comp=Z,18nm,1.0s						
SSF	Saint Saulge	150.65	339	*e*PKP1	PKPbc	18 05 11.8	+1.8
	comp=Z,21nm,1.1s						
GRR	Gorron	150.68	346	*e*PKP1	PKPbc	18 05 11.5	+1.5
	comp=Z,55nm,1.2s						
LPL	La Plagne	150.73	334	*e*PKP1	PKPbc	18 05 11.5	+1.3
	comp=Z,6.4nm,0.8s						
LPG	La Plagne	150.74	334	*e*PKP1	PKPbc	18 05 11.6	+1.3
	comp=Z,9.2nm,0.7s						
AVF	Avril sur Loir	150.93	339	*e*PKP1	PKPbc	18 05 11.9	+1.2
BNI	Bardonecchia	151.12	333	*e*PKIKP	PKPdf	18 05 04.3	-1.0
BNI				*e*		18 05 11.0	
BGF	Bois d'Agland	151.31	339	*e*PKP1	PKPbc	18 05 14.1	+2.5
ORIF	Oris-en-Rattie	151.57	334	*e*PKP1	PKPbc	18 05 13.0	+0.8
	comp=Z,27nm,1.1s						
TCF	Toulx Ste Croi	151.75	340	*e*PKP1	PKPbc	18 05 14.1	+1.5
VIVF	Saint-Julien-l	152.10	335	*e*PKP1	PKPbc	18 05 15.3	+1.9
TORD	Torodi Ar. Bea	165.70	242	PKPab	PKPab	18 06 22.3	-0.5
	comp=Z,0.2nm,0.5s,baz=139,slow=5.0,SNR=3.4						

IDC ***18*** *17:54:52.5±2.8, 6008N×15293W, h70km±21km, mb3.5/3, mb1 3.9/6, mb1mx3.5/23, mbtmp3.7/6, Error ellipse: s-maj=34.9km s-min=16.6km az=110.0*
BJI ***18*** *17:54:53.0, 6000N×15230W, h89km, mB5.1, mb4.8, Ms4.6, Msz4.2*
ISCJB ***18*** *17:54:54.2±0.3, 5997N±004×15227W±007, h90km±5km, mb4.4/8, Error ellipse: s-maj=6.7km s-min=4.6km az=137.3*
NEIC ***18*** *17:54:57.0, 5997N×15234W, h90km, MG3.7(AEIC), After AEIC.*
ISC 18 17:54:55.7±0.3, 5997N±004×15227W±007, h83km±5km, n48, σ1§02/52, mb4.4/8, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AUL	Augustine Lava	0.84	225	P	Pn	17 55 14.2	+1.2
AUL				S	Sn	17 55 28.3	+2.4
SLKM	Skilak Lake	1.16	61	*e*Pn	Pn	17 55 17.4	+0.7
SLKM				*e*Sn	Sn	17 55 31.6	-0.9
FIB	Fire Island	1.58	40	P	Pn	17 55 23.9	+1.8
SVW2	Sparrevohn	1.99	306	P	Pn	17 55 27.4	0.0
KDAK	Kodiak Island	2.20	184	*e*Pn	Pn	17 55 29.6	-0.7
KDAK				*e*Sn	Sn	17 55 53.3	-3.4
KDAK	Kodiak Island	2.20	184	P	Pn	17 55 29.6	-0.7
	124nm,0.3s,baz=197,slow=2.1,SNR=1102						
KDAK				S	Sn	17 55 56.0	-0.8
	58nm,0.3s,baz=249,slow=21,SNR=15						
PMR	Palmer	2.24	42	*e*P	Pn	17 55 30.6	-0.1
SML	Sawmill	2.66	45	*e*Pn	Pn	17 55 36.1	-0.4
DIV	Divide	3.41	67	*e*Pn	Pn	17 55 45.5	-1.1
DIV				*e*Sn	Sn	17 56 20.9	-5.0
TT01	Tatalina	3.45	330	P	Pn	17 55 47.2	+0.1
TTA	Tatalina	3.47	330	*e*P	Pn	17 55 47.1	-0.2
KTH	Kantishna Hill	3.65	10	P	Pn	17 55 50.4	+0.6
PAX	Paxson	4.44	44	P	Pn	17 56 00.5	+0.1
CHGN	Chignik	4.91	224	*e*P	Pn	17 56 06.8	-0.1
MENT	Mentasta	5.07	50	P	Pn	17 56 08.6	-0.4
COLA	College	5.33	21	P	Pn	17 56 12.6	0.0
DOT	Dot Lake	5.36	43	P	Pn	17 56 13.3	+0.3
IL1	Eielson Array	5.43	25	P	Pn	17 56 13.3	-0.6
BCA3	Beaver Creek A	5.90	54	P	Pn	17 56 20.1	-0.2
IM3	Indian Mountai	6.07	354	P	Pn	17 56 22.2	-0.5
IMA2	Indian Mountai	6.15	355	*e*P	Pn	17 56 23.8	0.0
SDPT	Sand Point	6.39	227	*e*P	Pn	17 56 26.1	-1.0
PNL	Peninsula	6.50	87	P	Pn	17 56 28.8	+0.3
EGAK	Eagle	7.06	42	*e*Pn	Pn	17 56 35.3	-0.8
	15nm,0.6s						
COLD	Coldfoot	7.34	6	P	Pn	17 56 40.2	+0.3
FALS	False Pass	7.90	234	*e*Pn	Pn	17 56 46.6	-1.0
SKAG	Skagway	8.58	86	*e*P	Pn	17 56 55.6	-1.2
TNA	Tin City	9.09	315	*e*Pn	Pn	17 57 05.7	+2.0
AKUT	Akutan	9.39	237	*e*Pn	Pn	17 57 07.9	0.0
UNV	Unalaska Valle	9.90	238	P	Pn	17 57 14.2	-0.6
CRAG	Craig	11.17	105	*e*Pn	Pn	17 57 32.5	+0.3
DLBC	Dease Lake	11.49	88	P	Pn	17 57 37.5	+1.0
DLBC	Dease Lake	11.49	88	P	Pn	17 57 37.5	+1.0
	baz=250,slow=7.9						
NIKO	Nikolski	11.52	240	*e*Pn	Pn	17 57 34.5	-2.4
INK	Inuvik	11.64	36	P	Pn	17 57 37.5	-1.0
	0.4nm,0.3s,baz=229,slow=15,SNR=20						
YKA	Yellowknife Ar	18.13	66	P	Pn	17 59 00.7	-0.8
YKA	Yellowknife Ar	18.13	66	P	Pn	17 59 00.7	-0.8
	0.4nm,0.3s,baz=281,slow=11,SNR=16						
YBH	Yreka Blue Hor	25.76	122	P	P	18 00 20.4	+2.2
	0.4nm,0.3s,mb3.3,baz=312,slow=3.7,SNR=4.0						
NVAR	Mina Array Bea	30.39	120	P	P	18 01 01.2	+1.7
	1.0nm,0.6s,mb3.6,baz=307,slow=9.1,SNR=7.0						
TXAR	Lajitas Array	44.63	111	P	P	18 03 00.2	+0.6
	0.7nm,0.8s,m

*MOS **18** 18:03:24.8±1.4,34.30N×8179E,h33km,mb4.0/11,Error ellipse: s-maj=20.3km s-min=8.0km az=107.1*
*NEIC **18** 18:03:27.8±1.0,34.30N×8178E,h47km±9km,mb4.2/2, Error ellipse: s-maj=11.3km s-min=8.6km az=223.0*
*BJI **18** 18:03:28.1,34.55N×8221E,h27km,mb4.2,ML3.8*
ISC 18 18:03:22.5±0.5,3421N±007×8180E±008,h10km,n58, σ1§10/56,mb4.0/16,Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	7.06	320	*e*PG	Pg	18 05 35.1	-2.7
KSH				S	Sn	18 06 21.9	-4.4
KSH				Smax			
	comp=N,83nm,1.0s						
KSH				Smax			
	comp=E,112nm,1.1s						
LSA	Lhasa	9.12	117	P	Pn	18 05 40.3	+6.1
LSA	Lhasa	9.12	117	*e*P	Pn	18 05 39.7	+5.5
LSA				pmax	pmax		
	comp=Z,5.0nm,0.6s						
LSA	Lhasa	9.12	117	*e*Pn	Pn	18 05 39.7	+5.4
	comp=Z,4.9nm,0.6s						
UCH	Uchtor	9.84	327	*e*Pn	Pn	18 05 45.9	+1.8
	comp=Z,6.1nm,0.8s						
UCH				*e*S	Sn	18 08 00.8	+26
TKM2	Tokmak 2	9.96	333	*e*P	Pn	18 05 48.7	+3.0
TKM2				pmax	pmax		
	comp=Z,11nm,1.1s						
TKM2	Tokmak 2	9.96	333	*e*Pn	Pn	18 05 48.7	+3.0
	comp=Z,11nm,1.1s						
AML	Almayashu	10.16	323	*e*Pn	Pn	18 05 50.4	+2.0
	comp=Z,4.6nm,1.0s						
FRU	Bishkek	10.28	329	*e*P	Pn	18 05 54.0	+3.9
KBL	Kabul	10.55	275	*e*Pn	Pn	18 05 55.8	+1.9
	comp=Z,6.0nm,0.7s						
MK31	Makanchi Array	12.58	2	*e*P	Pn	18 06 20.6	-0.9
MKAR	Makanchi Array	12.58	2	Pn	Pn	18 06 20.9	-0.5
	comp=Z,0.4nm,0.3s,baz=182,slow=13,SNR=17						
KURK	Kurchatov	16.66	353	*e*P	Pn	18 07 17.9	+1.9
KURK				pmax	pmax		
	comp=Z,12nm,0.9s						
KURK	Kurchatov	16.66	353	*e*P	Pn	18 07 17.9	+1.9
	comp=Z,12nm,0.9s						
ZAL	Zalesovo	19.84	5	P	Pn	18 07 54.8	-0.1
ZAA0	Zalesovo Array	19.85	5	*e*P	Pn	18 07 53.4	-1.6
ZALV	Zalesovo Beam	19.85	5	P	Pn	18 07 54.8	-0.3
	comp=Z,0.2nm,0.3s,baz=187,slow=8.5,SNR=7.3						
KMI	Kunming	20.29	111	P	P	18 08 00.0	+1.5
KMI				AMB	AMB		
	comp=Z,6.0nm,0.6s						
BVAR	Borovoye Array	20.50	340	P	P	18 08 01.2	+0.7
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
BVAR	Borovoye Array	20.50	340	P	P	18 08 01.2	+0.7
	comp=Z,5.0nm,0.7s,baz=145,slow=11,SNR=33						
BRVK	Borovoye	20.56	340	*e*P	P	18 08 01.7	+0.6
BRVK				pmax	pmax		
	comp=Z,17nm,1.0s						
BRVK	Borovoye	20.56	340	*e*P	P	18 08 01.7	+0.6
	comp=Z,17nm,1.0s						
SONM	Songino Array	22.89	46	P	P	18 08 26.8	+0.6
SONM				pmax	pmax		
	comp=Z,1.0nm,0.5s						
SONM	Songino Array	22.89	46	P	P	18 08 26.8	+0.6
	comp=Z,1.0nm,0.5s,mb3.5,baz=233,slow=7.2,SNR=4.8						
AKTK	Aktyubinsk	23.77	320	P	P	18 08 34.9	-0.2
AKTO	Aktyubinsk	23.77	320	P	P	18 08 34.9	-0.2
AKTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.7						
AKTO	Aktyubinsk	23.77	320	P	P	18 08 34.9	-0.2
	comp=Z,3.0nm,0.9s,mb3.7,baz=114,slow=12,SNR=11						
AKASG	Malin Array Be	41.23	310	P	P	18 11 06.7	-0.7
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	41.23	310	P	P	18 11 06.7	-0.7
	comp=Z,0.6nm,0.4s,mb3.6,baz=79,slow=8.5,SNR=4.9						
FINES	FINESS Array B	44.35	325	P	P	18 11 31.7	-0.9
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	44.35	325	P	P	18 11 31.6	-1.0
	comp=Z,0.8nm,0.6s,mb3.6,baz=108,slow=12,SNR=5.8						
ARCES	ARCESS Array B	46.72	336	P	P	18 11 51.4	+0.2
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	ARCESS Array B	46.72	336	P	P	18 11 51.4	+0.1
	comp=Z,1.7nm,0.9s,mb4.0,baz=98,slow=6.2,SNR=5.0						
GERES	GERESS Array B	51.37	308	P	P	18 12 27.4	+0.2
GERES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
GERES	GERESS Array B	51.37	308	P	P	18 12 27.4	+0.3
	comp=Z,0.5nm,0.8s,mb3.5,baz=76,slow=5.6,SNR=3.6						
NOA	NORSAR Array B	51.47	324	P	P	18 12 29.3	+1.6
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	51.47	324	P	P	18 12 29.3	+1.5
	comp=Z,0.6nm,0.6s,mb3.7,baz=89,slow=7.4,SNR=2.8						
HINF	Hinteralfeld	56.05	308	*e*P	P	18 13 00.3	-1.2
LPG	La Plagne	56.76	306	*e*P	P	18 13 06.8	+0.2
	comp=Z,14nm,0.9s,mb4.7						
LPL	La Plagne	56.77	306	*e*P	P	18 13 06.8	+0.2
	comp=Z,16nm,0.8s,mb4.8						
LOR	Lormes	58.15	308	*e*P	P	18 13 15.3	-1.1
	comp=Z,6.7nm,0.9s,mb4.4						
SMF	Signal de Mont	58.35	308	*e*P	P	18 13 16.8	-1.0
SSF	Saint Saulge	58.45	308	*e*P	P	18 13 17.0	-1.4
	comp=Z,2.3nm,0.5s,mb4.2						
IMA2	Indian Mountai	71.37	21	*e*P	P	18 14 42.3	0.0
WRA	Warramunga Arr	73.47	129	P	P	18 14 55.2	-0.2
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	73.47	129	P	P	18 14 55.2	-0.2
	comp=Z,1.4nm,0.9s,mb3.9,baz=327,slow=5.6,SNR=21						
TORD	Torodi Ar. Bea	74.62	276	P	P	18 15 02.2	-0.2
TORD	Torodi Ar. Bea	74.62	276	P	P	18 15 02.2	-0.2
	comp=Z,1.5nm,0.7s,mb4.0,baz=42,slow=5.3,SNR=12						
ASAR	Alice Springs	75.91	132	P	P	18 15 09.0	-0.5
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	Alice Springs	75.91	132	P	P	18 15 08.9	-0.5
	comp=Z,0.7nm,0.7s,mb3.7,baz=313,slow=5.6,SNR=16						
BOSA	Boshof	82.24	228	P	P	18 15 43.7	-0.3
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
BOSA	Boshof	82.24	228	P	P	18 15 43.7	-0.3
BOSA	Boshof	82.24	228	P	P	18 15 43.7	-0.3
	comp=Z,3.8nm,0.9s,mb4.3,baz=69,slow=4.8,SNR=3.3						
YKA	Yellowknife Ar	82.73	8	P	P	18 15 45.4	-0.8
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	Yellowknife Ar	82.73	8	P	P	18 15 45.4	-0.8
	comp=Z,1.8nm,0.6s,mb4.2,baz=341,slow=5.2,SNR=22						
LPAZ	La Paz	147.65	296	PKP2	PKPbc	18 23 06.5	-1.3
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.4s						
LPAZ	La Paz	147.65	296	*e*PKPdf	PKPbc	18 23 06.5	-1.3
LPAZ				PKPbc	PKPbc	18 23 06.5	-1.2
LPAZ	La Paz	147.65	296	PKPbc	PKPbc	18 23 06.5	-1.2
	comp=Z,0.7nm,0.4s,baz=31,slow=7.4,SNR=3.7						

*IDC **18** 18:10:47.2±3.2,43.30N×10524W,h0km,mb3.5/3, mb1 3.8/4,mb1mx3.6/23,mbtmp3.7/4,Error ellipse: s-maj=77.3km s-min=29.0km az=145.0*
*ISCJB **18** 18:10:49.3±0.5,43.71N±005×10528W±005,h0km,mb4.0/2, Error ellipse: s-maj=6.8km s-min=5.6km az=175.5*
*NEIC **18** 18:10:50.5±0.5,43.67N×10521W,h0km,ML3.3,Error ellipse: s-maj=8.1km s-min=6.3km az=152.0,Suspected Mining explosion.*
NEIC 75 km [45 miles] SSE of Gillette.
ISC 18 18:10:50.7±0.5,4369N±005×10526W±005,h0km,n31, σ1§08/39,mb4.0/2,Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.98	63	*e*Pg	Pg	18 11 09.4	-0.1
PHWY	Pilot Hill	2.39	184	*e*Pn	Pn	18 11 31.5	+0.5
RWWY	Rawlins	2.46	216	*e*Pn	Pn	18 11 33.0	+1.0
RLMT	Red Lodge	3.21	298	*e*Pn	Pn	18 11 43.6	+1.2
BW06	Boulder Array	3.27	255	*e*Pn	Pn	18 11 43.3	+0.1
GCMT	Greycliff	3.78	305	*e*Pn	Pn	18 11 50.9	+0.8
GCMT				*e*Sn	Sn	18 12 36.1	+0.8
LKWY	Lake	3.81	285	*e*Pg	Pg	18 11 57.8	-5.7
LOHW	Long Hollow	3.88	271	*e*Pn	Pn	18 11 51.6	0.0
LOHW				*e*Sg	Sg	18 12 49.9	-5.5
ISCO	Idaho Springs	3.89	184	*e*Pn	Pn	18 11 52.3	+0.6
FLWY	Flagg Ranch	3.95	278	*e*Pn	Pn	18 11 53.3	+0.8
FLWY				*e*Pg	Pg	18 12 02.0	-4.4
MOOW	Moose Ponds	3.98	273	*e*Pn	Pn	18 11 53.5	+0.7
SNOW	Snow King Moun	4.00	269	*e*Pg	Pg	18 12 00.8	-6.6
REDW	Red Top Meadow	4.08	267	*e*Pn	Pn	18 11 55.1	+0.8
REDW				*e*Pg	Pg	18 12 05.3	-3.6
YFT	Old Faithful	4.09	283	*e*Pn	Pn	18 11 54.7	+0.2
YFT				*e*Sn	Sn	18 12 47.8	+4.8
IMW	Indian Meadow	4.12	275	*e*Pn	Pn	18 11 55.2	+0.4
IMW				*e*Pg	Pg	18 12 03.4	-6.2
TPAW	Teton Pass	4.14	269	*e*Pn	Pn	18 11 55.8	+0.6
TPAW				*e*Pg	Pg	18 12 09.0	-1.0
TPAW				*e*Sn	Sn	18 12 42.3	-1.9
YMR	Madison River	4.22	285	*e*Pn	Pn	18 11 53.4	-2.8
DGMT	Dagmar	4.84	8	*e*Pn	Pn	18 12 06.2	+1.5
BOZ	Bozeman (W)	4.95	296	*e*Pn	Pn	18 12 06.2	0.0
DLMT	Dillon	5.51	290	*e*Pn	Pn	18 12 13.6	-0.3
	3.7nm,0.3s						
DAU	Daniels Canyon	5.54	236	*e*Pn	Pn	18 12 17.6	+3.3
SRU	San Rafael	6.05	223	*e*Pn	Pn	18 12 20.3	-1.0
	7.5nm,0.3s						
PV01	Paradox Valley	6.09	205	*e*Pn	Pn	18 12 18.5	-3.3
TMUT	Trail Mountain	6.26	228	*e*Pn	Pn	18 12 24.2	0.0
ECSD	EROS,Sioux Fal	6.26	87	*e*Pn	Pn	18 12 25.1	+0.8
	8.3nm,0.4s						
CHMT	Chamberlain Mo	6.50	303	*e*Pn	Pn	18 12 27.7	+0.2
ULM	Lac du Bonnet	9.17	41	*e*Pn	Pn	18 13 01.5	-2.6
ULM				Lg		18 15 37.7	
ULM	Lac du Bonnet	9.17	41	Pn	Pn	18 13 02.5	-1.6
	baz=181,slow=8.6						
ULM				Lg		18 15 37.7	
	baz=360,slow=19						
YKA	Yellowknife Ar	19.62	347	P	Pn	18 15 21.5	-0.1
	0.2nm,0.3s,baz=155,slow=8.9,SNR=6.5						
ARCES	ARCESS Array B	61.46	18	P	P	18 21 06.8	-1.6
	1.4nm,0.9s,mb4.1,baz=326,slow=7.7,SNR=8.0						
FINES	FINESS Array B	68.08	23	P	P	18 21 50.4	-1.2
	0.2nm,0.3s,mb3.8,baz=321,slow=7.8,SNR=4.5						

IDC 18 18:49:16.4±17.0,1924S×17131E,h0km,mb4.1/5, mb1 4.3/5,mb1mx4.0/15,mbtmp4.2/5,Error ellipse: s-maj=293.8km s-min=104.3km az=74.0,Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	23.60	264	P	P	18 54 29.6	+0.3
	3.1nm,0.7s,baz=103,slow=14,SNR=3.8						
STKA	Stephens Creek	29.50	239	P	P	18 55 22.1	-0.4
	5.8nm,1.1s,baz=68,slow=11,SNR=5.4						
WRA	Warramunga Arr	34.79	263	P	P	18 56 07.9	-1.1
	0.6nm,0.4s,baz=90,slow=8.5,SNR=13						
ASAR	Alice Springs	35.02	256	P	P	18 56 10.3	-0.6
	3.3nm,0.6s,baz=86,slow=8.9,SNR=58						
FITZ	Fitzroy Crossi	43.18	264	P	P	18 57 21.0	+1.7
	2.5nm,0.6s,baz=102,slow=8.6,SNR=8.9						

*CSEM **18** 19:27:11.7±0.1,3505N×2270E,h80km,ML3.6,Error ellipse: s-maj=4.9km s-min=2.9km az=76.0*
*ATH **18** 19:27:13.6,3524N×2285E,h35km±7km,MD3.6/6*
*HLW **18** 19:27:15.3,35.14N×2356E,h33km,Mb3.6*
ISC 18 19:27:09.0±1.4,3510N±005×226E±01,h6km±9km,n13, σ1§03/16,2C-2D,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	Kithira	1.23	17	*e*PN	Pg	19 27 33.0	+0.4
KYTH				*e*SN	Sn	19 27 48.0	-1.7
VAM	Vamos	1.35	76	*e*PN	Pg	19 27 35.3	+0.5
VLI	Veliai	1.64	10	*e*PN	Pg	19 27 40.1	-0.3
ITM	Ithomi	2.15	346	*e*PB	Pg	19 27 48.7	-1.4
NPS	Neapolis	2.48	85	*e*PN	Pn	19 27 49.8	0.0
APE	Apeiranthos	3.08	50	*e*PN	Pn	19 27 58.8	+0.6
RLS	Riolos of Patr	3.09	343	*e*PN	Pn	19 28 00.7	+2.5
KARP	Karpathos	3.76	82	*e*PN	Pn	19 28 08.1	+0.7
NEO	Neokhori	4.23	7	*e*PN	Pn	19 28 14.9	+1.0
SWA2		6.32	157⇓	*e*P	Pn	19 28 42.9	+0.3
SWA2				S	Sn	19 29 48.0	-7.2
SWA1		6.39	155⇑	*e*P	Pn	19 28 44.0	+0.4
AWBH		8.63	140	⇑P	Pn	19 29 12.7	-1.7
AWBH				S	Sn	19 30 37.8	-14
HFRF	Wahat Farafira	9.31	147⇓	*e*P	Pn	19 29 23.0	-0.8

*ISCJB **18** 19:31:45.2±0.6,2447S±003×67.12W±005,h157km±5km, mb4.7/67,Error ellipse: s-maj=7.5km s-min=4.6km az=173.8*
*IDC **18** 19:31:47.9±0.7,2438S×6694W,h168km±5km,mb4.4/11, mb1 4.5/17,mb1mx4.5/19,mbtmp4.4/17,Error ellipse: s-maj=14.5km s-min=11.8km az=75.0*
*GUC **18** 19:31:47.5±0.6,2453S×6728W,h152km,ML5.5*
*NEIC **18** 19:31:47.1±0.2,2445S×67.15W,mb4.7/43,Error ellipse: s-maj=7.7km s-min=5.3km az=98.0*
*BJI **18** 19:31:49.0,2440S×67.10W,h164km,mB4.8*
*LDG **18** 19:32:00.0,2309S×6607W,h220km*
ISC 18 19:31:45.8±0.5,2446S±003×6706W±005,h148km±5km, h162km±5.6km:pP-P,n140,σ0§91/134,mb4.7/67,6C-1D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	3.05	266⇑	*i*P	Pn	19 32 35.1	+1.4
CPN1				*i*S	Sn	19 33 11.1	+0.5
CPN1				AML	AML	19 33 22.9	
	comp=E,6μm,0.4s						
CEN1	Los Morros	3.06	290	*e*P	Pn	19 32 35.9	+2.1
CEN1				*i*S	Sn	19 33 11.9	+0.9
CEN1				AML	AML	19 33 14.1	
	comp=E,16μm,0.6s						
CPCH	Copiapo	4.14	225⇑	*i*P	Pn	19 32 48.8	+1.0
CPCH				*i*S	Sn	19 33 35.9	0.0
VACH	Vallenar	5.27	218⇓	*i*P	Pn	19 33 02.6	-0.1
VACH				*i*S	Sn	19 34 01.4	-1.3
LCO	Las Campanas	5.58	215	*e*Pn	Pn	19 33 06.7	-0.1
	comp=E,751nm,0.4s						
LCO				*e*Sn	Sn	19 34 09.0	-1.1
TLL	Tololo Astrono	6.59	210	*e*P	Pn	19 33 19.8	-0.5
TLL				*i*S	Sn	19 34 32.9	-1.4
CFAA	Coronel Fontan	7.19	188	P	Pn	19 33 28.9	+0.6
CFAA				S	Sn	19 34 46.4	-2.4
CFAA	Coronel Fontan	7.19	188	P	Pn	19 33 28.9	+0.6
	comp=E,1.7nm,0.3s,baz=4.4,slow=12,SNR=106						
CFAA				S	Sn	19 34 46.4	-2.4
	comp=E,2.5nm,0.3s,baz=131,slow=16,SNR=8.3						
LPAZ	La Paz	8.19	353	*e*Pn	Pn	19 33 42.8	+1.0
	comp=E,133nm,0.3s						
LPAZ				*e*Sn	Sn	19 35 13.0	-0.1
LPAZ	La Paz	8.19	353	P	Pn	19 33 43.0	+1.1
	comp=E,58nm,0.3s,baz=157,slow=7.3,SNR=795						
LPAZ				S	Sn	19 35 09.9	-3.1
	comp=E,1.9nm,0.3s,baz=169,slow=25,SNR=3.1						
ARE	Arequipa	8.97	332	*e*P	Pn	19 33 51.0	-1.2
ARE				*e*S	Sn	19 35 26.0	-5.9
CPUP	Villa Florida	8.99	104	*e*Pn	Pn	19 33 53.7	+1.2
	comp=E,370nm,0.5s						
CPUP	Villa Florida	8.99	104	P	Pn	19 33 52.9	+0.5
	comp=E,2.6nm,0.3s,baz=269,slow=11,SNR=44						
SIV	San Ignacio	10.13	35	P	Pn	19 34 06.7	-0.8
	comp=E,12nm,0.3s,baz=222,slow=12,SNR=458						
SIV				S	Sn	19 35 47.2	-13
	baz=233,slow=17,SNR=7.7						
TRQA	Tornquist	14.23	163	*e*Pn	Pn	19 34 59.7	-0.8
	comp=E,234nm,0.6s						
NNA	Nana	15.49	322	P	Pn	19 35 17.4	+1.0
	comp=E,1.3nm,0.3s,baz=156,slow=13,SNR=3.7						
NNA				S	S	19 38 02.2	-7.0
	comp=E,1.2nm,0.3s,baz=267,slow=13,SNR=2.2						
PLCA	Paso Flores	16.49	189	*e*P	Pn	19 35 29.3	+0.9
	comp=E,72nm,0.8s						
PLCA	Paso Flores	16.49	189	P	Pn	19 35 29.7	+1.3
	comp=E,1.4nm,0.3s,baz=8.4,slow=13,SNR=75						
BDFB	Brasilia	19.91	67	P	P	19 36 06.1	+0.1
	comp=E,5.8nm,0.3s,baz=232,slow=16,SNR=79						
ATAH	Atahualpa	20.48	326	P	P	19 36 12.8	+0.7
	comp=E,2.4nm,0.5s,baz=171,slow=19,SNR=2.6						
CAM4	Nova Friburgo	22.57	90⇑	*i*P	P	19 36 33.4	-0.4
CAM4				*i*		19 36 34.4	
CAM4				*i*		19 36 35.5	
CAM4				*i*		19 36 39.0	
CAM4				*i*		19 36 45.7	
CAM4				*i*		19 36 57.1	
EFI	East Falkland	28.04	168	*e*P	P	19 37 23.1	+0.3
	comp=E,28nm,0.6s,mb5.2						
USHA	Ushuaia	30.35	182	P	P	19 37 43.5	+0.3
	comp=E,10nm,0.8s,mb4.6,baz=10,slow=7.6,SNR=5.9						
RCBR	Riachuelo	35.18	63	*e*P	P	19 38 22.3	-3.5
	comp=E,34nm,0.8s,mb5.0						
RCBR				*e*pP	pP	19 38 54.0	-3.6
GRGR	Grenville	36.75	9	*e*P	P	19 38 37.6	-1.3
	comp=E,109nm,0.6s,mb5.7						
SJG	San Juan	42.32	1	*e*P	P	19 39 22.0	-3.0
	comp=E,34nm,0.6s,mb5.2						
TEIG	Tepich	48.98	333	*e*P	P	19 40 16.2	-1.1
	comp=E,6.7nm,0.7s,mb4.4						
VNA3	Neumayer Olymp	56.74	161	*e*P	P	19 41 14.5	+0.9
VNA3				*e*		19 41 18.1	
VNA3				*e*		19 41 20.0	
VNA3				*e*		19 42 08.2	
VNA1	Neumayer--Stat	56.94	160	*e*P	P	19 41 16.5	+1.5
VNA1				*e*		19 41 19.3	
VNA1				*e*		19 42 08.0	
VNA2	Neumayer--Watz	57.30	160	*e*P	P	19 41 18.7	+1.1
	baz=284,slow=7.9						
VNA2				*e*		19 41 21.6	
VNA2				*e*		19 41 23.3	
VNA2				*e*		19 42 10.6	
SNAA	Sanae	58.94	161	*e*P	P	19 41 27.8	-1.1
SNAA				*e*		19 41 30.9	
SNAA				*e*		19 42 15.3	
JSC	Jenkinsville	59.95	346	*e*P	P	19 41 35.6	-0.7
CPCT	Cooper Cave	61.83	344	*e*P	P	19 41 47.9	-1.1
SWET	Sewanee	61.98	343	*e*P	P	19 41 48.8	-1.2
MIAR	Mount Ida	63.85	336	*e*P	P	19 41 60.0	-2.4
	comp=E,2.5nm,0.6s,mb4.2						
TXAR	Lajitas Array	64.02	325	P	P	19 42 02.7	-0.9
	comp=E,0.5nm,0.8s,baz=183,slow=8.9,SNR=5.4						
ACSO	Alum Creek Sta	66.05	347	*e*P	P	19 42 15.2	-1.2
	comp=E,22nm,1.1s,mb4.9						
CCM	Cathedral Cave	66.20	339	*e*P	P	19 42 16.4	-1.1
	comp=E,9.8nm,0.6s,mb4.8						
DBIC	Dimbokro	68.00	71	*e*P	P	19 42 28.0	-1.4
	comp=E,10.0nm,0.6s,mb4.7						
DBIC	Dimbokro	68.00	71	P	P	19 42 27.7	-1.7
	comp=E,12nm,0.4s,mb5.0,baz=215,slow=7.2,SNR=38						
ANMO	Albuquerque	69.90	326	*e*P	P	19 42 41.5	+0.9
	comp=E,2.3nm,0.8s,mb4.0						
JFWS	Jewell Farm	70.36	342	*e*P	P	19 42 42.2	-1.1
	comp=E,10nm,0.8s,mb4.6						
SDCO	Great Sand Dun	71.65	329	*e*P	P	19 42 52.2	+1.0
	comp=E,2.1nm,0.8s,mb3.9						
SYO	Syowa Base	73.14	159⇑	*e*P	P	19 42 58.9	-0.7
SYO	Syowa Base	73.14	159⇑	*e*PcP	PcP	19 43 14.8	-0.7
SYO	Syowa Base	73.14	159⇑	*e*pP	pP	19 43 34.0	-1.9
SBA	Scott Base	73.23	190	*e*P	P	19 43 01.5	+1.5
	comp=E,74nm,2.1s,mb5.0						
CFTV	Fuerteventura	73.24	47	P	P	19 43 00.0	-0.8
	comp=E,14nm,0.8s,mb4.7						
PV01	Paradox Valley	73.44	327	*e*P	P	19 43 03.8	+2.0
VNDA	Vanda	74.24	190	P	P	19 43 07.0	+1.1
	comp=E,7.6nm,0.9s,mb4.4,baz=133,slow=5.0,SNR=36						
EYMN	Ely	75.34	343	*e*P	P	19 43 11.4	-1.1
	comp=E,15nm,1.3s,mb4.5						
TOA0	Torodi Ar. Sit	76.79	69	*e*P	P	19 43 20.2	-1.2
TORD	Torodi Ar. Bea	76.79	69	P	P	19 43 20.5	-0.9
TORD				pP	pP	19 44 00.2	+2.2
TORD				P'P'		20 10 34.5	
TORD	Torodi Ar. Bea	76.79	69	P	P	19 43 20.5	-0.9
	comp=E,24nm,0.5s,mb5.1,baz=255,slow=5.3,SNR=330						
TORD				pP	pP	19 44 00.2	+2.2
	comp=E,1.7nm,0.6s,baz=255,slow=5.4,SNR=0.7						
TORD				PKPPKP		20 10 34.5	
	comp=E,0.1nm,0.4s,baz=311,slow=4.8,SNR=4.9						
AGMN	Agassiz Refuge	76.89	341	*e*P	P	19 43 20.3	-1.0
	comp=E,5.0nm,0.7s,mb4.2						
TSUM	Tsumeb	77.59	106	*e*P	P	19 43 25.4	-0.5
	comp=E,5.0nm,0.7s,mb4.2						
TPH	Tonopah	78.00	322	*e*P	P	19 43 27.9	+0.2
	comp=E,5.7nm,0.4s,mb4.5						
ULM	Lac du Bonnet	78.64	342	P	P	19 43 30.1	-0.8
	comp=E,4.9nm,0.5s,mb4.4,baz=187,slow=4.7,SNR=7.6						
NVAR	Mina Array Bea	78.86	321	P	P	19 43 33.1	+0.7
	comp=E,0.5nm,0.6s,baz=132,slow=4.4,SNR=4.4						
SCHQ	Schefferville	78.97	0	*e*P	P	19 43 31.7	-0.9
	comp=E,4.6nm,0.7s,mb4.2						
SCHQ	Schefferville	78.97	0	P	P	19 43 31.8	-0.7
	comp=E,2.8nm,0.5s,mb4.1,baz=209,slow=14,SNR=5.8						
BOSA	Boshof	80.58	117	P	P	19 43 41.6	-0.4
	comp=E,4.9nm,0.5s,mb4.4,baz=253,slow=4.1,SNR=31						
MAW	Mawson	81.02	163	P	P	19 43 44.1	+0.5
	comp=E,15nm,0.9s,mb4.6,baz=214,slow=5.5,SNR=10						
LBTB	Lobatse	82.25	114	*e*P	P	19 43 50.9	-0.1
	comp=E,4.9nm,0.5s,mb4.4						
PTEO	Sao Teotonio	82.51	43	*e*P	P	19 43 51.7	-0.1
PBDV	Barranco-do-Ve	82.82	44	*e*P	P	19 43 54.5	+1.1
EGRO	El Granado	82.28	44	P	P	19 43 56.7	+0.9
	comp=E,30nm,1.1s,mb4.9						
PBEJ	Beja	83

SGMF	Saint Gilles	92.53	37	*e*P		P	19 44 38.9	-1.0
LFF	La Frestale	92.60	41	*e*P		P	19 44 40.1	-0.2
	comp=E,14nm,0.7s,mb4.9							
MTLF	Montolieu	92.66	43	*e*P		P	19 44 40.2	-0.4
	comp=E,20nm,1.2s,mb4.8							
MFF	Saint Martin d	92.97	39	*e*P		P	19 44 41.7	-0.3
	comp=E,10nm,0.7s,mb4.8							
CAF	Calviac	93.39	42	*e*P		P	19 44 43.7	-0.3
	comp=E,8.3nm,1.0s,mb4.5							
GRR	Gorron	93.55	38	*e*P		P	19 44 43.5	-1.1
KEST	Kesra	93.73	52	P		P	19 44 46.0	+0.2
	comp=E,1.1nm,0.8s,mb4.0,baz=263,slow=8.1,SNR=3.4							
LDF	La Druitiere	94.07	38	*e*P		P	19 44 46.1	-0.9
	comp=E,9.5nm,0.8s,mb4.7							
YKA	Yellowknife Ar	94.53	340	P		P	19 44 48.3	-0.4
	comp=E,1.4nm,0.5s,mb4.4,baz=129,slow=4.6,SNR=41							
YKA				pP		pP	19 45 30.9	+4.5
	comp=E,0.4nm,0.7s,baz=134,slow=4.3,SNR=1.7							
VIVF	Saint-Julien-l	94.95	43	*e*P		P	19 44 51.5	+0.4
SMRF	Simiane la Rot	95.08	44	*e*P		P	19 44 51.5	-0.2
	comp=E,29nm,1.2s,mb5.1							
ORIF	Oris-en-Rattie	95.73	43	*e*P		P	19 44 55.3	+0.6
	comp=E,36nm,1.3s,mb5.2							
MBDF	Montbardon	96.19	44	*e*P		P	19 44 56.6	-0.2
SBF	Sospel	96.21	45	*e*P		P	19 44 57.2	+0.3
	comp=E,41nm,1.0s,mb5.4							
LPL	La Plagne	96.54	43	*e*P		P	19 44 59.2	+0.9
	comp=E,16nm,1.2s,mb4.9							
LPG	La Plagne	96.55	43	*e*P		P	19 44 59.3	+0.9
	comp=E,14nm,1.2s,mb4.9							
AKASG	Malin Array Be	112.41	43	PKKPbc		PKKPbc	20 00 54.1	-1.2
	comp=E,0.1nm,0.3s,baz=57,slow=4.1,SNR=4.0							
ARCES	ARCESS Array B	113.57	23	PKKPbc		PKKPbc	20 00 48.8	-3.2
	comp=E,3.2nm,0.9s,baz=46,slow=3.5,SNR=9.6							
ASAR	Alice Springs	128.02	205	PKhKP			19 50 20.5	
	comp=E,0.2nm,0.7s,baz=140,slow=1.4,SNR=3.6							
ASAR				PKP		PKPdf	19 50 33.1	-1.6
	comp=E,3.4nm,0.7s,baz=138,slow=1.9,SNR=30							
WB2	Warramunga Arr	131.19	207	*e*PKPdf		PKPdf	19 50 40.2	-0.7
WRA	Warramunga Arr	131.19	207	PKhKP			19 50 24.5	
	comp=E,0.4nm,0.6s,baz=138,slow=1.1,SNR=8.8							
WRA				PKP		PKPdf	19 50 39.9	-1.0
	comp=E,1.9nm,0.5s,baz=158,slow=1.7,SNR=40							
WRA				SKPbc		SKPbc	19 53 48.5	-3.5
	comp=E,3.4nm,0.8s,baz=152,slow=3.6,SNR=19							
ZAA0	Zalesovo Array	143.82	28	*e*PKPdf		PKPdf	19 51 00.5	-2.5
ZALV	Zalesovo Beam	143.82	28	PKP		PKPdf	19 51 00.9	-2.0
	comp=E,6.5nm,0.5s,baz=306,slow=4.5,SNR=30							
ZALV				pPKP		pPKPdf	19 51 46.7	+4.4
	comp=E,2.2nm,0.8s,baz=308,slow=5.3,SNR=1.4							
ZALV				SKPbc		SKPbc	19 54 25.8	-2.1
	comp=E,4.4nm,0.8s,baz=298,slow=3.2,SNR=11							
MK31	Makanchi Array	146.91	40	*e*PKPdf		PKPdf	19 51 09.1	+0.7
MK31				*e*PKPbc		PKPbc	19 51 10.9	+0.3
MKAR	Makanchi Array	146.91	40	PKP		PKPdf	19 51 08.4	0.0
	comp=E,12nm,0.6s,baz=317,slow=1.9,SNR=107							
MKAR				PKPbc		PKPbc	19 51 10.9	+0.3
	comp=E,11nm,0.6s,baz=304,slow=3.2,SNR=105							
MKAR				pPKPbc		pPKPbc	19 51 54.3	+4.8
	comp=E,2.0nm,0.7s,baz=311,slow=2.7,SNR=1.4							
MKAR				SKPbc		SKPbc	19 54 33.2	-2.0
	comp=E,1.3nm,0.8s,baz=349,slow=2.9,SNR=5.3							
WMQ	Urumqi	151.73	41	*e*PKP		PKPdf	19 51 13.6	-2.6
MJAR	Matsushiro Arr	155.20	305	PKPab		PKPab	19 51 46.4	-0.7
	comp=E,3.4nm,0.9s,baz=94,slow=2.3,SNR=7.5							
ULN	Ulaanbaatar	156.18	10	*e*PKPab		PKPab	19 51 50.2	-0.6
HHC	Hu-ho-hao-te	163.62	4	*e*PKP		PKPdf	19 51 27.8	-3.2
HHC				APKP			19 52 10.3	
HHC				XPKP			19 52 28.8	
HHC				PKS			19 54 58.8	
HHC				PP		PP	19 56 09.4	+1.3
HHC				SKS		SKSdf	19 58 14.8	-6.9
HHC				SKKS		SKKSac	20 02 38.8	-3.7
HHC				SS		SS	20 16 22.6	+0.1
HHC				PP		PP		
	comp=Z,190nm,6.8s							
HHC				LR		LR		
	comp=N,170nm,20.1s							
HHC				LR		LR		
	comp=E,176nm,20.6s							
HHC				LR		LR		
	comp=Z,132nm,19.2s							
LZH	Lanzhou	166.01	32	*e*PKP		PKPdf	19 51 31.0	-2.2
LZH				APKP			19 52 14.3	
LZH				XPKP			19 52 30.5	
CD2	Chengdu	169.64	50	*e*PKP		PKPdf	19 51 32.4	-3.5
CD2				APKP			19 52 15.3	
CD2				XPKP			19 52 31.8	
CD2				PKP2		PKPab	19 52 48.9	-1.5
CD2				PP		PP	19 56 39.8	-0.5
CD2				SKS		SKSdf	19 58 18.4	-7.3
CD2				SKKS		SKKSac	20 03 08.8	-4.5
CD2				SS		SS	20 17 20.8	-4.8
CD2				PP		PP		
	comp=Z,100nm,10.2s							
CD2				LR		LR		
	comp=N,120nm,22.2s							
CD2				LR		LR		
	comp=Z,100nm,21.8s							
KMI	Kunming	170.71	84	PKP		PKPdf	19 51 34.0	-2.6
GYA	Guiyang	173.99	69	*e*PKP		PKPdf	19 51 36.8	-1.2
GYA				APKP			19 52 17.8	
GYA				XPKP			19 52 33.6	
GYA				PKP2		PKPab	19 53 10.5	+0.6
GYA				PKS			19 55 07.6	
GYA				PP		PP	19 57 03.4	+0.9
GYA				PP		PP		
	comp=Z,80nm,8.4s							

*NEIC **18** 19:59:02.4, 3155S×7138W, h46km, MD4.1(GUC), After GUC.*

GUC 18 19:59:02.4±0.6, 3155S×7138W, h46km±2km, MD4.1, ML3.5, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	Combarbala	0.49	40	⇓*i*P	Pn	19 59 13.7	+0.4
CMCH				*i* S	Sn	19 59 22.5	+1.3
CMCH	Combarbala	0.49	40	⇓*i*P	Pn	19 59 13.7	+0.4
CMCH				*i* S	Sn	19 59 22.5	+1.3
CMCH				AML	AML	19 59 23.4	
	comp=E,9μm,0.4s						
OVCH	Ovalle	0.95	9	⇓*i*P	Pn	19 59 20.0	+0.6
OVCH				*i* S	Sn	19 59 33.4	+1.6
JACH	Jahuel	1.31	150	*e*P	Pn	19 59 25.0	+0.8
JACH				*i* S	Sn	19 59 42.4	+1.8
TLL	Tololo Astrono	1.47	20	⇓*i*P	Pn	19 59 27.4	+1.1
TLL				*i* S	Sn	19 59 46.5	+2.1
TLL	Tololo Astrono	1.47	20	⇓*i*P	Pn	19 59 27.4	+1.1
TLL				*i* S	Sn	19 59 46.5	+2.1
TLL				AML	AML	19 59 48.6	
	comp=N,918nm,0.6s						
LSCH	La Serena	1.64	4	*i* S	Sn	19 59 49.5	+0.7
PEL	Peldehue	1.69	160	⇓*i*P	Pn	19 59 30.1	+0.6
PEL				*i* S	Sn	19 59 50.9	+1.0
PEL				AML	AML	19 59 54.5	
	comp=E,1μm,0.2s						
CLCH	Cerro Calan	1.97	159	*e*P	Pn	19 59 34.5	+1.2
CLCH				*i* S	Sn	19 59 58.3	+1.5
CLCH				AML	AML	20 00 11.9	
	comp=E,354nm,0.7s						
RCDM	Rinconada Maip	1.99	166	*e*P	Pn	19 59 34.2	+0.6
RCDM				*i* S	Sn	19 59 58.6	+1.3
RCDM	Rinconada Maip	1.99	166	*e*P	Pn	19 59 34.2	+0.6
RCDM				*i* S	Sn	19 59 58.6	+1.3
RCDM				AML	AML	20 00 06.3	
	comp=E,542nm,0.1s						
FCH	Farellones	1.99	153	*e*P	Pn	19 59 34.9	+1.3
FCH				*i* S	Sn	19 59 59.7	+2.3
FCH				AML	AML	20 00 06.1	
	comp=E,244nm,0.8s						
TACH	Talagante	2.13	170	*e*P	Pn	19 59 36.0	+0.5
PCH	Pirque	2.19	161	*e*P	Pn	19 59 37.0	+0.7
LMEL	Las Melosas	2.49	157	*e*P	Pn	19 59 41.9	+1.4
LMEL				AML	AML	20 00 20.8	
	comp=N,299nm,0.4s						
LCO	Las Campanas	2.60	13	*e*Pn	Pn	19 59 42.6	+0.6
LCO				*e*Sn	Sn	20 00 14.2	+1.9
VACH	Vallenar	3.01	10	*i* S	Sn	20 00 23.4	+0.9
SFDO	San Fernando	3.07	174	*e*P	Pn	19 59 48.9	+0.5

IDC 18 20:40:50.7±2.9, 379S×15301E, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=77.2km s-min=45.8km az=110.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	24.26	227	*e*P	P	20 46 10.4	+0.7
WRA	Warramunga Arr	24.27	227	P	P	20 46 10.6	+0.8
	4.1nm,0.5s,baz=52,slow=9.8,SNR=87						
ASAR	Alice Springs	27.04	221	P	P	20 46 35.2	+0.4
	0.3nm,0.4s,baz=55,slow=8.8,SNR=13						
STKA	Stephens Creek	29.93	200	P	P	20 47 00.2	-0.3
	0.9nm,0.6s,baz=31,slow=13,SNR=4.4						
FITZ	Fitzroy Crossi	30.33	240	P	P	20 47 04.2	-0.1
	1.4nm,0.7s,baz=63,slow=6.8,SNR=4.4						
TORD	Torodi Ar. Bea	150.18	290	PKPbc	PKPbc	21 00 43.8	-1.0
	0.1nm,0.4s,baz=53,slow=2.1,SNR=5.9						

IDC 18 20:54:32.2±5.6, 2866S×17760W, h38km±40km, mb3.7/5, mb1 3.9/5, mb1mx3.6/14, mbtmp3.7/5, Error ellipse: s-maj=44.6km s-min=27.0km az=43.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.65	205	Pn	Pn	20 54 45.2	+0.2
	1μm,0.3s,baz=95,slow=22,SNR=90						
RAO				Sn	Sn	20 54 53.1	-1.0
	6μm,0.3s,baz=60,slow=20,SNR=65						
CTA	Charters Tower	33.91	276	P	P	21 01 13.2	+1.5
	0.8nm,0.3s,baz=107,slow=14,SNR=3.4						
STKA	Stephens Creek	35.24	254	P	P	21 01 23.1	-0.1
	2.5nm,0.9s,baz=98,slow=11,SNR=10						
ASAR	Alice Springs	43.58	265	P	P	21 02 32.2	-0.6
	0.3nm,0.4s,baz=104,slow=7.3,SNR=8.6						
WRA	Warramunga Arr	44.41	270	P	P	21 02 39.6	+0.1
	2.0nm,0.4s,baz=112,slow=6.3,SNR=69						
QSPA	South Pole Qui	61.44	180	P	P	21 04 44.6	+0.3
	0.8nm,0.7s,baz=108,slow=1.9,SNR=5.1						
FINES	FINESS Array B	143.63	341	PKP	PKPdf	21 14 02.6	+0.3
	0.8nm,0.5s,baz=60,slow=4.3,SNR=8.7						
AKASG	Malin Array Be	150.11	325	PKPbc	PKPbc	21 14 16.2	-2.3
	0.4nm,0.4s,baz=47,slow=2.4,SNR=5.8						
TORD	Torodi Ar. Bea	164.55	177	PKPab	PKPab	21 15 28.5	+1.1
	0.3nm,0.7s,baz=182,slow=5.5,SNR=5.4						

IDC 18 21:11:15.3±3.5, 2867S×17805W, h0km, mb3.7/2, mb1 4.0/2, mb1mx3.7/12, mbtmp3.7/2, Error ellipse: s-maj=79.2km s-min=16.7km az=59.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.59	169	Pn	Pg	21 11 31.7	+5.1
	728nm,0.3s,baz=76,slow=3.2,SNR=32						
RAO				Sn	Sg	21 11 40.4	+6.2
	3μm,0.3s,baz=102,slow=22,SNR=34						
ASAR	Alice Springs	43.19	265	P	P	21 19 17.9	-0.2
	0.4nm,0.5s,baz=101,slow=7.3,SNR=5.0						
WRA	Warramunga Arr	44.02	270	P	P	21 19 24.9	+0.1
	1.1nm,0.6s,baz=110,slow=7.6,SNR=8.9						
FINES	FINESS Array B	143.51	341	PKP	PKPdf	21 30 48.8	-2.4
	0.8nm,0.6s,baz=47,slow=4.4,SNR=8.3						

*NEIC **18** 21:16:15.8, 2863S×7082W, h62km, MG4.0(GUC), After GUC.*

GUC 18 21:16:15.8±0.6, 2863S×7082W, h62km±3km, ML4.0, 4C-2D, Central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	Vallenar	0.07	46	⇑*i*P	Pn	21 16 25.4	+0.4
VACH				*i* S	Sn	21 16 32.2	+0.6
VACH				AML	AML	21 16 32.4	
	comp=N,60μm,0.1s						
LCO	Las Campanas	0.40	165	*e*Pn	Pn	21 16 27.4	+0.5
LCO				*e*Sn	Sn	21 16 35.7	+0.7
LSCH	La Serena	1.33	196	⇑*i*P	Pn	21 16 38.5	+0.2
LSCH				*i* S	Sn	21 16 56.0	+1.0
CPCH	Copiapo	1.33	18	⇑*i*P	Pn	21 16 38.8	+0.5
CPCH				*i* S	Sn	21 16 55.9	+0.9
CPCH	Copiapo	1.33	18	⇑*i*P	Pn	21 16 38.8	+0.5
CPCH				*i* S	Sn	21 16 55.9	+0.9
CPCH				AML	AML	21 16 59.5	
	comp=E,8μm,0.1s						
TLL	Tololo Astrono	1.54	179	⇓*i*P	Pn	21 16 42.4	+1.4
TLL				*i* S	Sn	21 17 02.0	+2.1
TLL	Tololo Astrono	1.54	179	⇓*i*P	Pn	21 16 42.4	+1.4
TLL				*i* S	Sn	21 17 02.0	+2.1
TLL				AML	AML	21 17 05.9	
	comp=N,572nm,0.3s						
OVCH	Ovalle	2.00	189	*i* S	Sn	21 17 11.6	+0.4
CMCH	Combarbala	2.54	184	*e*P	Pn	21 16 54.7	+0.1
CMCH				*i* S	Sn	21 17 24.5	0.0
CMCH	Combarbala	2.54	184	*e*P	Pn	21 16 54.7	+0.1
CMCH				*i* S	Sn	21 17 24.5	0.0
CMCH				AML	AML	21 17 34.6	
	comp=E,905nm,0.7s						

*IDC **18** 21:42:07.5±1.8, 102N×97.14E, h0km, mb3.8/5, mb1 3.8/6, mb1mx3.6/21, mbtmp3.7/6, ML2.5/1, Error ellipse: s-maj=47.9km s-min=23.3km az=60.0*

*ISCJB **18** 21:42:14.8±7.3, 12N±03×974E±05, h65km±51km, mb3.7/5, Error ellipse: s-maj=92.9km s-min=24.8km az=149.3*

ISC 18 21:42:15.9±7.3, 12N±03×974E±05, h56km±52km, n7, σ0§26/7, mb3.8/5, 1C, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.18	43	Pn	Pn	21 42 50.0	+0.1
	1.0nm,0.3s,baz=217,slow=10,SNR=12						
PSI	Prapat	2.18	43	⇑*e*P	Pn	21 42 49.8	-0.1
WRA	Warramunga Arr	41.84	122	P	P	21 50 00.4	-0.3
	0.7nm,0.7s,mb3.4,baz=301,slow=9.0,SNR=6.5						
ASAR	Alice Springs	43.21	127	P	P	21 50 12.0	+0.3
	0.7nm,1.0s,mb3.3,baz=301,slow=7.5,SNR=4.3						
KSRS	Korea Array	45.72	34	P	P	21 50 31.6	0.0
	2.5nm,0.9s,mb4.1,baz=225,slow=9.2,SNR=6.9						
MKAR	Makanchi Array	47.30	346	P	P	21 50 43.6	-0.2
	0.8nm,0.7s,mb3.8,baz=160,slow=7.6,SNR=6.5						
ZALV	Zalesovo Beam	53.60	351	P	P	21 51 31.4	+0.2
	2.5nm,0.8s,mb4.2,baz=182,slow=5.3,SNR=12						

*ATH **18** 21:50:36.5, 3959N×2057E, h25km±2km, MD3.1/5*

*NEIC **18** 21:50:36.5, 3959N×2057E, h25km, MD3.1(ATH), After ATH.*

*ISCJB **18** 21:50:37.6±0.5, 3952N±003×2060E±004, h6km±5km, Error ellipse: s-maj=5.0km s-min=4.5km az=27.3*

*CSEM **18** 21:50:37.4±0.1, 3960N×2056E, h15km, ML2.9, Error ellipse: s-maj=1.8km s-min=1.3km az=159.0*

*THE **18** 21:50:38.3, 3954N×2056E, h3km, ML2.9*

ISC 18 21:50:38.0±0.5, 3952N±003×2056E±004, h6km±4km, n21, σ1§29/35, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	Igoumenitsa	0.17	274	*e*Pg	Pg	21 50 41.9	+0.4
IGT				*e*Sg	Sg	21 50 45.4	+1.5
JAN	Janina	0.26	59	⇓*i*PB	Pg	21 50 42.3	-0.9
JAN				*e*SB	Sg	21 50 46.6	-0.1
MEV	Metsovon	0.58	63	*e*Pg	Pg	21 50 48.4	-0.8
MEV				*e*Sg	Sg	21 50 58.1	+1.3
KEK	Kerkira	0.62	288	*e*PN	Pg	21 50 48.8	-1.1
THL	Klokotos Trika	1.13	87	*e*Pg	Pg	21 50 58.3	-1.4
THL				*e*Sg	Sg	21 51 16.4	+2.2
THL	Klokotos Trika	1.13	87	*e*Pn	Pn	21 50 57.7	-2.6
THL	Klokotos Trika	1.13	87	*e*Pg	Pg	21 50 58.3	-1.3
EVR	Evrytania	1.14	121	*e*PN	Pn	21 50 59.4	-1.1
KZN	Kozani	1.22	49	*e*PN	Pn	21 50 59.3	-2.3
VLS	Valsamata	1.34	179	*e*Pg	Pg	21 51 03.6	-0.2
VLS				*e*Sg	Sg	21 51 23.6	+2.5
VLS	Valsamata	1.34	179	*e*Pn	Pn	21 51 02.8	-0.4
VLS	Valsamata	1.34	179	*e*Pg	Pg	21 51 03.6	-0.1
VLS				*e*Sg	Sg	21 51 23.6	+2.5
FNA	Florina	1.41	26	*e*Pg	Pg	21 51 03.1	-1.9
FNA				*e*Sg	Sg	21 51 24.3	+1.0
AGG	Agios Georgios	1.46	109	*e*Pg	Pg	21 51 05.2	-0.9
AGG				*e*Sg	Sg	21 51 26.9	+1.9
OHR	Ohrid	1.60	7	*e*Pn	Pn	21 51 07.4	+0.5
OHR				*e*Sn	Sn	21 51 28.5	+0.7
OHR	Ohrid	1.60	7	*e*Pn	Pn	21 51 07.3	+0.5
OHR				*e*Sn	Sn	21 51 28.4	+0.6
BIA	Bitola	1.61	21	*e*Pg	Pg	21 51 06.1	-2.8
BIA				*e*Sg	Sg	21 51 29.8	+0.1
BIA	Bitola	1.61	21	*e*Pn	Pn	21 51 07.1	+0.2
BIA				*e*Sn	Sn	21 51 29.7	+1.7
KRUS	Krusevo	1.92	16	*e*Pn	Pn	21 51 11.7	+0.5
KRUS				*e*Sn	Sn	21 51 36.2	+0.5
KRUS	Krusevo	1.92	16	*e*Pn	Pn	21 51 11.7	+0.5
KRUS				*e*Sn	Sn	21 51 36.1	+0.4
GRG	Griva	2.01	44	*e*Pn	Pn	21 51 13.3	+0.8

IDC 18 22:07:45.2±3.1, 887S×11239E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.4/16, mbtmp3.3/3, Error ellipse: s-maj=181.3km s-min=26.6km az=48.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.91	120	P	P	22 13 01.0	+0.1
	1.0nm,0.8s,baz=295,slow=11,SNR=6.0						
ASAR	Alice Springs	25.30	128	P	P	22 13 13.7	0.0
	0.4nm,0.6s,baz=303,slow=9.1,SNR=10						
MKAR	Makanchi Array	61.57	337	P	P	22 18 04.3	+0.1
	0.1nm,0.3s,baz=153,slow=8.1,SNR=5.9						

*ISCJB **18** 22:31:02.2±0.7, 2489S±003×6875W±008, h93km±9km, mb4.2/8, Error ellipse: s-maj=12.0km s-min=5.6km az=0.4*

*GUC **18** 22:31:04.6±0.8, 2489S×6901W, h100km, ML4.8*

*NEIC **18** 22:31:04.6, 2489S×6901W, h100km, mb4.7/2, After GUC.*

*IDC **18** 22:31:06.2±0.7, 2474S×6873W, h114km±5km, mb4.0/7, mb1 3.9/10, mb1mx3.8/17, mbtmp3.8/10, Error ellipse: s-maj=24.2km s-min=18.7km az=123.0*

ISC 18 22:31:03.3±0.5, 2486S±003×6876W±007, h87km±7km, n39, σ1§16/41, mb4.2/8, 2C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	Cerro Paranal	1.51	278	*e*P	Pn	22 31 29.6	+0.6
CPN1				*i* S	Sn	22 31 48.1	-0.3
CPN1				AML	AML	22 31 50.9	
	comp=E,11μm,0.4s						
ANCH	Antofagasta	1.90	307	⇓*i*P	Pn	22 31 34.6	+0.5
ANCH				*i* S	Sn	22 31 57.1	-0.5
ANCH	Antofagasta	1.90	307	⇓*i*P	Pn	22 31 34.6	+0.5
ANCH				*i* S	Sn	22 31 57.1	-0.5
ANCH				AML	AML	22 31 59.1	
	comp=E,12μm,0.6s						
CEN1	Los Morros	1.96	318	⇑*i*P	Pn	22 31 37.1	+2.3
CEN1				*i* S	Sn	22 31 58.8	-0.1
CEN1				AML	AML	22 32 05.3	
	comp=N,5μm,0.6s						
CPCH	Copiapo	2.87	209	*e*P	Pn	22 31 47.8	+0.8
CPCH				*i* S	Sn	22 32 21.1	+0.4
CPCH	Copiapo	2.87	209	*e*P	Pn	22 31 47.8	+0.8
CPCH				*i* S	Sn	22 32 21.1	+0.4
CPCH				AML	AML	22 32 23.8	
	comp=E,10μm,0.1s						
VACH	Vallenar	4.11	205	*i* P	Pn	22 32 03.4	-0.3
VACH				*i* S	Sn	22 32 49.8	-1.0
LCO	Las Campanas	4.49	202	*e*Pn	Pn	22 32 08.6	-0.3
LCO				*e*Sn	Sn	22 32 58.8	-1.1
CFAA	Coronel Fontan	6.74	176	P	Pn	22 32 41.0	+1.5
	comp=E,1.9nm,0.3s,baz=351,slow=14,SNR=135						
CFAA				S	Sn	22 33 52.5	-2.3
	comp=E,2.2nm,0.3s,baz=247,slow=19,SNR=12						
LPAZ	La Paz	8.54	4	*e*Pn	Pn	22 33 05.1	+0.9
	comp=E,4.4nm,0.4s						
LPAZ	La Paz	8.54	4	P	Pn	22 33 05.2	+1.0
	comp=E,1.1nm,0.3s,baz=192,slow=5.3,SNR=27						
ARE	Arequipa	8.73	342	*e*P	Pn	22 33 04.0	-2.8
ARE				*e*S	Sn	22 34 36.0	-7.6
CPUP	Villa Florida	10.43	101	P	Pn	22 33 31.6	+1.8
	comp=E,0.3nm,0.3s,baz=267,slow=14,SNR=3.3						
SIV	San Ignacio	11.39	41	P	Pn	22 33 40.4	-2.5
	comp=E,11nm,0.3s,baz=231,slow=10.0,SNR=228						
SIV				S	Sn	22 35 41.3	-7.0
	comp=E,0.7nm,0.3s,baz=254,slow=20,SNR=3.1						
PLCA	Paso Flores	15.90	185	P	Pn	22 34 44.6	+2.8
	comp=E,0.2nm,0.3s,baz=15,slow=14,SNR=15						
BDFB	Brasilia	21.49	69	P	P	22 35 43.8	-1.2
	comp=E,3.8nm,0.5s,mb4.0,baz=228,slow=17,SNR=16						
SDV	Santo Domingo	33.58	357	PcP	PcP	22 40 15.4	+1.5
	comp=E,3.6nm,0.7s,baz=204,slow=10.0,SNR=4.9						
VNA3	Neumayer Olymp	56.88	161	*e*	P	22 40 39.2	+0.6
VNA3				*e*		22 40 40.5	
VNA2	Neumayer--Watz	57.46	160	*e*	P	22 40 43.5	+0.8
VNA2				*e*		22 40 45.1	
SNAA	Sanae	59.09	160	*e*	P	22 40 52.8	-1.2
SNAA				*e*		22 40 54.2	
TXAR	Lajitas Array	63.46	326	pP	pP	22 41 51.0	+5.0
	comp=E,0.3nm,0.5s,baz=151,slow=8.2,SNR=4.4						
QSPA	South Pole Qui	65.35	180	*e*P	P	22 41 36.7	+0.9
	comp=E,15nm,1.0s,mb4.8						
DBIC	Dimbokro	69.59	72	P	P	22 42 03.9	+0.3
	comp=E,9.4nm,1.2s,mb4.5,baz=226,slow=8.0,SNR=4.9						
SYO	Syowa Base	73.33	159	⇑*e*P	P	22 42 23.8	-1.3
VNDA	Vanda	73.59	190	P	P	22 42 27.7	+1.2
	comp=E,1.1nm,0.8s,mb3.6,baz=143,slow=3.1,SNR=6.1						
TOA0	Torodi Ar. Sit	78.37	70	*e*P	P	22 42 54.6	-0.1
TORD	Torodi Ar. Bea	78.37	70	P	P	22 42 54.9	+0.2
TORD				pP	pP	22 43 24.0	+6.6
TORD	Torodi Ar. Bea	78.37	70	P	P	22 42 54.9	+0.2
	comp=E,2.4nm,0.5s,mb4.2,baz=261,slow=5.4,SNR=32						
TORD				pP	pP	22 43 24.0	+6.6
	comp=E,3.5nm,0.7s,baz=256,sl

JFK	**Kawauchi**	**0.86 242**	⫼P	**Pn**	**22 39 21.0 -0.7**
JFK			S	**Sn**	**22 39 32.1 -1.0**
ONAJ	**Iwakimizuishiy**	**1.06 231**	⫼P	**Pn**	**22 39 23.8 -0.6**
ONAJ			S	**Sn**	**22 39 36.6 -1.4**
JOU	**Okura**	**1.09 303**	⫼P	**Pn**	**22 39 24.9 0.0**
JFT	**Otama**	**1.21 258**	⫼P	**Pn**	**22 39 27.0 +0.5**
JFT			*e*S	**Sn**	**22 39 42.1 +0.4**
JMK	**Ichinoseki**	**1.27 338**	⫼P	**Pn**	**22 39 27.3 -0.1**
JMK			S	**Sn**	**22 39 43.3 +0.1**
JYS	**Shiratake**	**1.46 288**	⫼P	**Pn**	**22 39 30.3 +0.3**
JYK	**Kaneyama**	**1.63 315**	⫼P	**Pn**	**22 39 32.4 +0.2**
JFY	**Yanaizu**	**1.73 258**	⫼P	**Pn**	**22 39 34.1 +0.5**
JOM	**Ohasama**	**1.75 346**	⫼P	**Pn**	**22 39 34.2 +0.3**
JYA	**Atsumi**	**1.86 297**	P	**Pn**	**22 39 35.9 +0.5**
MJAR	**Matsushiro Arr**	**3.14 248**	P	**Pn**	**22 39 54.4 +1.4**
	1.8nm,0.3s,baz=68,slow=8.5,SNR=15				
MAJO	**Matsushiro**	**3.14 248**	*e*Pn	**Pn**	**22 39 54.4 +1.3**
MAT	**Matsushiro**	**3.14 248**	P	**Pn**	**22 39 54.4 +1.3**
MAT			*e*S	**Sn**	**22 40 29.8 +0.5**
JNU	**Nakatsue**	**10.06 246**	LR	LR	22 45 06.0
	comp=Z,116nm,20.0s,baz=146,slow=36				
KSRS	**Korea Array**	**11.04 273**	LR	LR	22 45 25.8
	comp=Z,68nm,21.5s,baz=220,slow=35				
ZALV	**Zalesovo Beam**	**41.67 312**	P	**P**	**22 46 50.5 +0.2**
	1.1nm,0.5s,mb3.8,baz=87,slow=7.9,SNR=6.7				
MKAR	**Makanchi Array**	**44.01 302**	P	**P**	**22 47 09.4 -0.1**
	0.3nm,0.5s,mb3.3,baz=88,slow=9.2,SNR=7.7				
WRA	**Warramunga Arr**	**57.84 188**	P	**P**	**22 48 52.8 -0.8**
	0.6nm,0.6s,mb3.8,baz=5.6,slow=7.1,SNR=9.5				
AKTO	**Aktyubinsk**	**58.43 312**	P	**P**	**22 48 57.5 0.0**
	0.4nm,0.5s,mb3.7,baz=89,slow=14,SNR=4.0				
ASAR	**Alice Springs**	**61.56 188**	P	**P**	**22 49 19.0 -0.2**
	0.4nm,0.8s,mb3.6,baz=0.0,slow=5.7,SNR=3.4				

IDC 18 22:39:59.1±5.3,2953S×17795W,h0km,mb3.7/2, mb1 3.9/2,mb1mx3.6/12,mbtmp3.7/2,Error ellipse: s-maj=294.2km s-min=76.4km az=166.0,Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.21**	**266**	P	P	22 48 02.0	-0.1
	0.3nm,0.4s,baz=100,slow=7.6,SNR=6.1						
WRA	**Warramunga Arr**	**44.12**	**271**	P	P	22 48 09.5	0.0
	0.8nm,0.5s,baz=110,slow=8.1,SNR=12						
FINES	**FINESS Array B**	**144.34**	**340**	PKP	PKPdf	22 59 36.0	-0.5
	0.5nm,0.5s,baz=57,slow=3.1,SNR=8.8						

*IDC **18** 22:53:17.7±1.0,1170N×8559W,h0km,mb3.7/4,mb1 4.1/4, mb1mx3.7/19,mbtmp3.7/4,MS3.1/1,Ms1 3.1/1, ms1mx2.5/38,Error ellipse: s-maj=85.7km s-min=12.0km az=65.0*

*ISCJB **18** 22:53:20.6±2.0,118N±02×850W±04,h38km±20km, mb3.6/4,Error ellipse: s-maj=65.2km s-min=16.4km az=160.0*

*NEIC **18** 22:53:22.1±1.0,1176N×8504W,h35km,Error ellipse: s-maj=40.7km s-min=10.9km az=75.0*

ISC 18 22:53:22.2±1.6,118N±02×851W±04,h36km±18km,n11, σ0988/11,mb3.6/4,Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTS	**JuntasAbangare**	**1.46 173**		Pg	**Pn**	**22 53 46.0**	**-0.1**
JTS				Lg		22 54 06.3	
JTS	**JuntasAbangare**	**1.46 173**		Pg	**Pn**	**22 53 46.0**	**-0.1**
	26nm,0.3s,baz=314,slow=20,SNR=128						
JTS				Lg		22 54 06.3	
	41nm,0.3s,baz=288,slow=21,SNR=7.8						
TGUH	**Tegucigalpa,Un**	**3.11 318**		*e*Pn	**Pn**	**22 54 09.5 +0.7**	
TGUH				*e*Sn	**Sn**	**22 54 30.3 -14**	
TEIG	**Tepich**	**8.96 341**		Pn	**Pn**	**22 55 28.5 -0.7**	
	13nm,0.4s						
TEIG				*e*Sn	**Sn**	**22 57 15.4 +6.5**	
ATAH	**Atahualpa**	**19.79 160**		LR	LR	23 04 33.3	
	comp=Z,53nm,18.8s,baz=177,slow=34						
TXAR	**Lajitas Array**	**24.59 318**		P	**P**	**22 58 35.8 -3.2**	
	1.6nm,0.8s,mb3.6,baz=140,slow=9.6,SNR=15						
ULM	**Lac du Bonnet**	**39.40 349**		P	**P**	**23 00 48.9 +0.6**	
ULM	**Lac du Bonnet**	**39.40 349**		P	**P**	**23 00 48.9 +0.6**	
	1.5nm,0.5s,mb4.0,baz=181,slow=8.8,SNR=3.1						
NVAR	**Mina Array Bea**	**39.74 318**		P	**P**	**23 00 52.0 +0.6**	
	0.5nm,0.6s,mb3.4,baz=140,slow=7.2,SNR=4.8						
NVAR				PcP	PcP	23 02 57.5	+0.1
	0.2nm,0.5s,baz=128,slow=4.8,SNR=3.9						
YKA	**Yellowknife Ar**	**54.90 344**		P	**P**	**23 02 49.1 +0.2**	
	0.2nm,0.4s,mb3.5,baz=138,slow=7.3,SNR=9.3						
WRA	**Warramunga Arr**	**141.24 253**		PKP	PKPdf	23 12 48.3	-1.6
	0.4nm,0.8s,baz=113,slow=2.7,SNR=4.7						

*TEH **18** 23:02:52.5,2764N×5329E,h14km,ML4.6*

*BJI **18** 23:03:29.9,2760N×5264E,h32km,mB5.1,mb4.9,Ms5.0, Msz4.6*

*IDC **18** 23:03:33.0±0.6,2782N×5345E,h0km,mb4.5/21, mb1 4.5/25,mb1mx4.5/31,mbtmp4.4/25,ML3.8/4,MS3.5/6, Ms1 3.5/6,ms1mx3.3/43,Error ellipse: s-maj=16.4km s-min=13.0km az=155.0*

*ISCJB **18** 23:03:33.2±0.2,2784N±002×5337E±002,h10km, mb4.6/116,MS4.3/9,Error ellipse: s-maj=3.4km s-min=2.2km az=20.2*

*NEIC **18** 23:03:34.6,2773N×5316E,h32km,mb4.7/30, ML4.7(THR),MN4.6(TEH),After THR.*

*THR **18** 23:03:34.1±0.5,2770N×5317E,h31km±4km,ML4.7*

*SZGRF **18** 23:03:35.5,2760N×5356E,h33km,mb4.4,Southern Iran*

*CSEM **18** 23:03:35.9±0.0,2789N×5335E,h30km,mb4.6/67,Error ellipse: s-maj=1.7km s-min=1.3km az=30.0*

*MOS **18** 23:03:36.1±0.7,2783N×5338E,h33km,mb4.8/39,Error ellipse: s-maj=7.4km s-min=3.6km az=123.7*

ISC 18 23:03:34.9±0.2,2780N±002×5336E±002,h10km, (h34km±1.7km:pP-P),n431,σ1902/443,mb4.6/116,MS4.3/9, 33C-13D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.59**	**326**	*e*Pg	**Pg**	**23 03 46.4**	**+0.1**
GHIR				*e*Sg	**Sg**	**23 03 55.3**	**+1.3**
GHIR				AML	AML	23 03 58.0	
	comp=E,38μm,0.4s						
GHIR				AML	AML	23 04 02.8	
	comp=N,44μm,0.4s						
GHIR	**Ghir-Karzin**	**0.59**	**326**	*e*Pg	**Pg**	**23 03 46.3**	**0.0**
	SNR=110						
GHIR				*e*Sg	**Sg**	**23 03 55.3**	**+1.3**
	comp=N,44μm,0.4s,SNR=110						
IMOK	**Mouk**	**1.37**	**335**	Pg	**Pg**	**23 04 02.5**	**+1.4**
IMOK				Sg	**Sg**	**23 04 22.7**	**+3.8**
IMOK	**Mouk**	**1.37**	**335**	*e*Pg	**Pg**	**23 04 02.5**	**+1.4**
IMOK				*e*Sg	**Sg**	**23 04 22.7**	**+3.8**
IMOK				*e*		23 04 27.4	
	comp=Z,56μm,0.3s						
ISRV	**Sarvestan**	**1.59**	**352**	Pn	**Pn**	**23 04 06.0**	**+2.9**
ISRV				Sn	**Sn**	**23 04 28.4**	**+4.7**
ISRV	**Sarvestan**	**1.59**	**352**	*e*Pn	**Pn**	**23 04 06.1**	**+3.0**
ISRV				*e*Sn	**Sn**	**23 04 28.5**	**+4.8**
ISRV				*e*		23 04 34.3	
	comp=Z,61μm,0.5s						
SHI	**Shiraz**	**1.98**	**338**	*e*Pn	**Pn**	**23 04 10.8**	**+2.4**
SHI				*e*		23 04 52.0	
	comp=Z,43μm,0.4s						
IPAR	**Pars**	**2.05**	**352**	Pn	**Pn**	**23 04 12.0**	**+2.6**
IPAR				Sn	**Sn**	**23 04 39.2**	**+4.1**
IPAR	**Pars**	**2.05**	**352**	*e*Pn	**Pn**	**23 04 12.0**	**+2.6**
IPAR				*e*Sn	**Sn**	**23 04 39.2**	**+4.1**
IPAR				*e*		23 04 45.2	
	comp=Z,30μm,0.5s						
IBND	**Bandar-abas**	**2.84**	**96**	*e*Pn	**Pn**	**23 04 22.0**	**+1.8**
BANOM	**Banah**	**3.22**	**125**	P	**Pn**	**23 04 27.9**	**+2.4**
	SNR=66						
BANOM				S	**Sn**	**23 05 05.7**	**+1.8**
NAZ	**Nazwa, Dubai**	**3.48**	**143**	P	**Pn**	**23 04 31.8**	**+2.8**
	SNR=18						
NAZ				S	**Sn**	**23 05 12.0**	**+1.8**
ASUD	**Al Ashush, Dub**	**3.62**	**150**	P	**Pn**	**23 04 34.0**	**+3.0**
	SNR=79						
ASUD				S	**Sn**	**23 05 16.2**	**+2.4**
KRBR	**Kerman**	**3.69**	**53**	*e*Pn	**Pn**	**23 04 34.0**	**+2.1**
KRBR				*e*Sg	**Sg**	**23 05 32.1**	**-1.2**
KRBR				AML	AML	23 05 39.4	
	comp=N,791nm,0.6s						
IMEH	**Mehriz**	**3.74**	**17**	*e*Pn	**Pn**	**23 04 34.9**	**+2.3**
SLWS		**3.86**	**220**	P	**Pn**	**23 04 36.4**	**+2.1**
HATD	**Hatta, Dubai**	**3.87**	**139**	P	**Pn**	**23 04 36.1**	**+1.7**
	SNR=14						
ASHO	**Ashiyiah**	**3.94**	**141**	P	**Pn**	**23 04 37.2**	**+1.9**
	SNR=52						
BOQSS		**4.05**	**243**	P	**Pn**	**23 04 38.3**	**+1.4**
IBAF	**Bafgh**	**4.24**	**26**	Pn	**Pn**	**23 04 41.0**	**+1.6**
IBAF	**Bafgh**	**4.24**	**26**	*e*Pn	**Pn**	**23 04 41.1**	**+1.7**
IBAF				*e*		23 06 05.7	
	comp=Z,5μm,0.5s						
BTHS		**4.37**	**212**	P	**Pn**	**23 04 43.8**	**+2.4**
ICHK	**Chekchek**	**4.52**	**11**	*e*Pn	**Pn**	**23 04 45.5**	**+2.1**
ICHK				*e*		23 05 00.1	
	comp=Z,8μm,0.4s						
IGAR	**Gharneh**	**4.73**	**346**	*e*Pn	**Pn**	**23 04 53.9**	**+7.7**
IGAR				*e*		23 05 10.8	
	comp=Z,4μm,0.3s						
QRN	**Al-Qurain**	**4.89**	**282**	*e*P	**Pn**	**23 04 49.6**	**+1.1**
QRN				AML	AML	23 05 46.6	
	comp=Z,143nm,0.4s						
NASN	**Na'in**	**5.00**	**355**	*e*Pn	**Pn**	**23 04 51.1**	**+1.1**
IZEF	**Zefreh**	**5.16**	**350**	Pn	**Pn**	**23 04 58.9**	**+6.8**
IZEF	**Zefreh**	**5.16**	**350**	*e*Pn	**Pn**	**23 04 59.0**	**+6.9**
RDF	**Al-Radifah**	**5.25**	**284**	*e*P	**Pn**	**23 04 54.4**	**+1.1**
RDF				AML	AML	23 05 54.4	
	comp=Z,70nm,0.5s						
UMR	**Umm Al-Rimmam**	**5.26**	**291**	*e*P	**Pn**	**23 04 55.2**	**+1.7**
UMR				AML	AML	23 05 56.7	
	comp=Z,68nm,0.3s						
IPIR	**Pirpir**	**5.32**	**337**	*e*Pn	**Pn**	**23 05 00.5**	**+6.2**
IPIR				*e*		23 07 04.1	
	comp=Z,3μm,0.5s						
NAY	**Al-Naaiem**	**5.58**	**286**	*e*P	**Pn**	**23 04 58.8**	**+0.9**
NAY				AML	AML	23 06 04.8	
	comp=Z,51nm,0.4s						
MIB	**Mutribah**	**5.65**	**292**	*e*P	**Pn**	**23 05 00.1**	**+1.2**
MIB				AML	AML	23 06 04.2	
	comp=Z,140nm,0.6s						
IKLH	**Kolahrood**	**5.71**	**345**	*e*Pn	**Pn**	**23 05 07.2**	**+7.5**
IKLH				*e*		23 06 04.5	
	comp=Z,2μm,0.2s						
SHGR	**Shooshtar-Gavs**	**5.84**	**318**	*e*Pn	**Pn**	**23 05 00.3**	**-1.2**
HRDDS		**6.00**	**217**	P	**Pn**	**23 05 06.2**	**+2.4**
ISFB	**Sefidab**	**6.60**	**352**	*e*Pn	**Pn**	**23 05 12.3**	**+0.3**
ISFB				*e*		23 07 28.0	
	comp=Z,4μm,1.1s						
ZHSF	**Zahedan**	**6.75**	**73**	*e*Pn	**Pn**	**23 05 16.8**	**+2.7**
ITEG	**Tejag**	**6.89**	**41**	*e*Pn	**Pn**	**23 05 18.0**	**+2.1**
GHVR	**GHOM**	**6.89**	**346**	*e*Pn	**Pn**	**23 05 16.7**	**+0.8**
ASAO	**Ashtian**	**7.31**	**338**	*e*Pn	**Pn**	**23 05 22.0**	**+0.3**
IDAH	**Dahanechah**	**7.47**	**47**	*e*Pn	**Pn**	**23 05 26.0**	**+2.1**
ILAS	**Lasjerd**	**7.57**	**357**	*e*Pn	**Pn**	**23 05 26.9**	**+1.7**
IANJ	**Anjilo**	**7.66**	**3**	Pn	**Pn**	**23 05 27.6**	**+1.1**
IANJ	**Anjilo**	**7.66**	**3**	*e*Pn	**Pn**	**23 05 27.7**	**+1.2**
IANJ				*e*		23 05 35.9	
	comp=Z,2μm,0.4s						
IFIR	**Firoozkooh**	**7.83**	**356**	Pn	**Pn**	**23 05 30.8**	**+1.9**
IFIR	**Firoozkooh**	**7.83**	**356**	*e*Pn	**Pn**	**23 05 30.9**	**+2.0**
IFIR				*e*		23 05 49.2	
	comp=Z,157nm,0.2s						
DAMV	**Damavand**	**7.90**	**352**	*e*Pn	**Pn**	**23 05 30.3**	**+0.6**
ISHM	**Shahmirzad**	**7.98**	**360**	Pn	**Pn**	**23 05 31.9**	**+1.0**
ISHM	**Shahmirzad**	**7.98**	**360**	*e*Pn	**Pn**	**23 05 32.0**	**+1.1**
ISHM				*e*		23 05 47.8	
	comp=Z,762nm,0.3s						
IKOM	**Komasi**	**8.10**	**323**	Pn	**Pn**	**23 05 32.5**	**0.0**
IKOM	**Komasi**	**8.10**	**323**	*e*Pn	**Pn**	**23 05 32.6**	**+0.1**
IKOM				*e*		23 07 11.1	
	comp=Z,2μm,0.3s						
IRAZ	**Razeghan**	**8.13**	**340**	*e*Pn	**Pn**	**23 05 32.6**	**-0.3**
IRAZ				*e*		23 06 12.0	
	comp=Z,535nm,0.4s						
IAFJ	**Afjeh**	**8.15**	**350**	*e*Pn	**Pn**	**23 05 34.3**	**+1.1**
IAFJ				*e*		23 05 37.6	
	comp=Z,511nm,0.3s						
IALA	**Alasht**	**8.27**	**357**	*e*Pn	**Pn**	**23 05 35.8**	**+0.9**
IALA				*e*		23 05 52.2	
	comp=Z,374nm,0.2s						
CHTH	**Charan**	**8.30**	**347**	*e*Pn	**Pn**	**23 05 35.9**	**+0.6**
IPRN	**Peran**	**8.46**	**354**	*e*Pn	**Pn**	**23 05 39.1**	**+1.6**
IGLO	**Ghaloghah**	**8.69**	**2**	*e*Pn	**Pn**	**23 05 43.7**	**+3.1**
IGLO				*e*		23 05 54.1	
	comp=Z,2μm,0.3s						
IVIS	**Veis**	**8.72**	**322**	*e*Pn	**Pn**	**23 05 40.4**	**-0.6**
IGHG	**Ghaleghazi**	**8.73**	**320**	Pn	**Pn**	**23 05 37.3**	**-3.9**
IGHG	**Ghaleghazi**	**8.73**	**320**	*e*Pn	**Pn**	**23 05 37.4**	**-3.8**
IGHG				*e*		23 07 24.4	
	comp=Z,1μm,0.3s						
BHD	**Baghdad**	**9.47**	**307**	*ex*	x	23 05 51.0	
BHD				*ex*	x	23 07 35.0	
BHD				*ex*	x	23 08 26.0	
BHD				*ex*	x	23 08 39.0	
ISFR	**Sfrayin**	**10.02**	**22**	*e*Pn	**Pn**	**23 06 02.7**	**+3.8**
ISFR	**Sfrayin**	**10.02**	**22**	Pn	**Pn**	**23 06 02.6**	**+3.7**
MSL	**Mosul**	**12.14**	**317**	*ex*	x	23 06 25.0	
MSL				*ex*	x	23 08 39.0	
HAKT	**HAKKARI**	**12.67**	**323**	*i* P	**Pn**	**23 06 34.8**	**-0.3**
MARD	**Mardin**	**14.22**	**315**	*e*P	**Pn**	**23 06 52.8**	**-3.5**
GNI	**Garni**	**14.23**	**332**	*e*P	**Pn**	**23 07 04.8**	**+8.4**
GNI				pmax	pmax		
	comp=Z,18nm,0.8s						
GNI	**Garni**	**14.23**	**332**	*e*Pn	**Pn**	**23 07 06.1**	**+10**
GNI	**Garni**	**14.23**	**332**	Pn	**Pn**	**23 07 06.1**	**+10**
	comp=Z,1.8nm,0.3s,baz=282,slow=1.2,SNR=11						
GNI				LR	LR	23 12 30.4	
	comp=Z,109nm,18.1s,baz=331,slow=38						
ASF	**Jabal al Asfar**	**14.92**	**291**	P	**Pn**	**23 07 05.6**	**-0.2**
ASF						23 09 43.1	
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF				MLR	MLR		
	comp=Z,185nm,18.8s						
ASF	**Jabal al Asfar**	**14.92**	**291**	Pn	**Pn**	**23 07 05.6**	**-0.3**
	comp=Z,0.5nm,0.3s,baz=291,slow=6.2,SNR=11						
ASF				Sn	**Sn**	**23 09 43.1**	**-8.1**
	comp=Z,0.4nm,0.3s,baz=180,slow=17,SNR=4.5						
ASF				LR	LR	23 14 13.1	
	comp=Z,185nm,18.8s,baz=326,slow=43						
KBL	**Kabul**	**15.00**	**60**	*e*Pn	**Pn**	**23 07 08.1**	**+1.2**
	comp=Z,25nm,1.0s						
KBL	**Kabul**	**15.00**	**60**	*e*Pn	**Pn**	**23 07 08.1**	**+1.2**
	comp=Z,25nm,1.0s						
DRP	**Derazinda**	**15.14**	**71**	P	**Pn**	**23 07 14.2**	**+5.4**
BHJ	**Bhuj**	**15.38**	**103**	*e*P	**Pn**	**23 07 12.5**	**+0.5**
BHJ				AMb	AMB	23 07 19.8	
	comp=Z,77nm,1.4s						
ELZG	**Elazig**	**16.07**	**315**	*i* P	**Pn**	**23 07 20.6**	**-0.2**
HWQ	**Hawqa**	**16.26**	**298**	*e*P	**Pn**	**23 07 23.3**	**0.0**
EIL	**Elat**	**16.26**	**281**	Pn	**Pn**	**23 07 24.1**	**+0.7**
	comp=Z,0.3nm,0.3s,baz=70,slow=5.5,SNR=8.0						
EIL				LR	LR	23 14 54.9	
	comp=Z,234nm,18.9s,baz=282,slow=42						
MALT	**Malatya**	**16.31**	**314**	*e*P	**Pn**	**23 07 24.6**	**+0.6**
MALT				pmax	pmax		
	comp=Z,31nm,0.8s						
MALT	**Malatya**	**16.31**	**314**	*e*Pn	**Pn**	**23 07 24.6**	**+0.7**
	comp=Z,31nm,0.8s						
MALT	**Malatya**	**16.31**	**314**	*e*P	**Pn**	**23 07 24.6**	**+0.6**
	comp=Z,31nm,0.8s						
MMAI	**Mount Meron Ar**	**16.34**	**293**	Pn	**Pn**	**23 07 23.1**	**-1.2**
	comp=Z,0.8nm,0.3s,baz=105,slow=16,SNR=17						
MMAI				Sn	**Sn**	**23 10 18.9**	**-6.8**
	comp=Z,0.6nm,0.3s,baz=103,slow=31,SNR=4.4						
MMAI				LR	LR	23 15 19.7	
	comp=Z,211nm,18.8s,baz=105,slow=43						
GZT	**Gaziantep**	**16.36**	**310**	*i* P	**Pn**	**23 07 23.5**	**-1.0**
BHL	**Bhannes**	**16.37**	**296**	*e*P	**Pn**	**23 07 25.3**	**+0.5**
BEYL	**Beyrouth**	**16.49**	**296**	*e*P	**Pn**	**23 07 25.2**	**-1.1**
THW	**Thamme Wali**	**16.63**	**68**	P	**Pn**	**23 07 26.5**	**-1.6**
CEP	**Cherat**	**17.02**	**65**	P	**Pn**	**23 07 32.9**	**-0.1**
CHCP	**Chirah Chowk**	**18.07**	**66**	P	**Pn**	**23 07 45.4**	**-0.6**
KIV	**Kislovodsk**	**18.27**	**335**	⫼*e*P	**Pn**	**23 07 50.1**	**+1.7**
KIV				pmax	pmax		
	comp=Z,63nm,1.7s						
KIV				MLR	MLR		
	comp=N,300nm,17.0s						
KIV	**Kislovodsk**	**18.27**	**335**	*e*P	**Pn**	**23 07 50.2**	**+1.8**
	comp=N,63nm,1.2s						
KIV	**Kislovodsk**	**18.27**	**335**	*e*P	**Pn**	**23 07 50.1**	**+1.7**
	comp=N,300nm,17.0s						
CSS	**Prodhromos**	**18.52**	**298**	*e*P	**Pn**	**23 07 51.4**	**-0.1**
	comp=N,49nm,1.0s						
CSS	**Prodhromos**	**18.52**	**298**	*e*P	**Pn**	**23 07 51.4**	**-0.1**
	comp=N,49nm,1.0s						
AVNT	**Avonos**	**18.92**	**310**	*i* P	**Pn**	**23 07 57.4**	**+1.0**
ATD	**Arta Tunnel**	**18.95**	**213**	P	**Pn**	**23 07 57.4**	**+0.5**
ATD				LR	LR	23 15 44.3	
ATD	**Arta Tunnel**	**18.95**	**213**	P	**Pn**	**23 07 57.4**	**+0.5**
	comp=N,0.1nm,0.3s,baz=60,slow=16,SNR=5.0						
ATD				LR	LR	23 15 44.3	
	comp=N,75nm,20.4s,baz=16,slow=38						
AJM	**Ajmer**	**18.98**	**89**	*e*P	**Pn**	**23 07 57.3**	**0.0**
AJM				AMb	AMB	23 07 58.6	
	comp=Z,22nm,1.0s						
SOC	**Sochi**	**19.22**	**329**	*e*P	**Pn**	**23 07 59.0**	**-0.9**
SOC				*e*		23 11 34.3	
SOC				pmax	pmax		
	comp=Z,11nm,0.7s						
SOC				MLR	MLR		
	comp=Z,321nm,14.0s						
SOC	**Sochi**	**19.22**	**329**	*e*P	**Pn**	**23 07 59.0**	**-0.9**
	comp=Z,11nm,0.7s						
CDAG	**Cicekdag**	**19.67**	**312**	*i* P	**Pn**	**23 08 02.5**	**-2.8**
CTKT	**Corum**	**19.94**	**315**	*i* P	**Pn**	**23 08 09.2**	**+0.7**
KK31	**Karatay Array**	**20.63**	**38**	*i* P	**P**	**23 08 13.6**	**-0.8**
KK31				pmax	pmax		
	comp=Z,34nm,1.1s						
KK31	**Karatay Array**	**20.63**	**38**	*i* P	**P**	**23 08 13.6**	**-0.8**
	comp=Z,34nm,1.1s						
KDHN	**Kadinhani**	**20.71**	**306**	*i* P	**P**	**23 08 16.7**	**+1.4**
ANTO	**Ankara**	**20.85**	**311**	*e*P	**P**	**23 08 16.7**	**0.0**
ANTO				pmax	pmax		
	comp=Z,11nm,0.8s						
ANTO	**Ankara**	**20.85**	**311**	*e*P	**P**	**23 08 16.7**	**-0.1**
	comp=Z,11nm,0.8s						
ANTO	**Ankara**	**20.85**	**311**	⇑*i*P	**P**	**23 08 18.3**	**+1.6**
ANTO	**Ankara**	**20.85**	**311**	*e*P	**P**	**23 08 16.7**	**0.0**
	comp=Z,11nm,0.8s						
POO	**Poona**	**20.95**	**112**	*e*P	**P**	**23 08 16.9**	**-1.1**
POO				AMb	AMB	23 08 22.0	
	comp=Z,34nm,1.4s						
SMLA	**Simla**	**20.98**	**75**	*e*P	**P**	**23 08 18.2**	**-0.1**
SMLA				AMb	AMB	23 08 18.9	
	comp=Z,49nm,0.7s						
NDI	**New Delhi**	**21.03**	**82**	*e*P	**P**	**23 08 18.5**	**-0.3**
NDI				AMb	AMB	23 08 23.5	
	comp=Z,59nm,1.3s,mb4.8						
ANN	**Anapa**	**21.21**	**327**	*e*P	**P**	**23 08 21.6**	**+1.0**
ANN				*e**PP		23 08 30.5	
ANN				*e*		23 08 43.2	
ANN				*e*S	**S**	**23 12 20.2**	**+3.9**
ANN				*e*SS		23 12 44.4	
	comp=Z,46nm,1.7s,mb4.5						
ANN				MLR	MLR		
	comp=Z,366nm,15.0s,MS3.9						
ANN	**Anapa**	**21.21**	**327**	*e*P	**P**	**23 08 21.6**	**+1.0**
	comp=Z,46nm,1.7s,mb4.5						
BALT	**Daday**	**21.33**	**315**	*i* P	**P**	**23 08 22.1**	**+0.2**
KAD	**Karad**	**21.85**	**114**	*e*P	**P**	**23 08 25.9**	**-1.8**
KAD				AMb	AMB	23 08 33.3	
	comp=Z,31nm,0.8s,mb4.8						
AML	**Almayashu**	**21.88**	**44**	*e*P	**P**	**23 08 27.9**	**0.0**
	comp=Z,69nm,1.2s,mb5.0						
AML	**Almayashu**	**21.88**	**44**	P	**P**	**23 08 27.9**	**+0.1**
	SNR=14						
AML	**Almayashu**	**21.88**	**44**	*e*P	**P**	**23 08 27.9**	**+0.1**
	comp=Z,69nm,1.2s,mb5.0						
KSH	**Kashi**	**22.09**	**52**	*e*P	**P**	**23 08 29.0**	**-1.1**
KSH				*e*PPP		23 09 13.1	
KSH				*e*PCP	PcP	23 12 20.3	-7.3
KSH				*e*S	**S**	**23 12 23.3**	**-10**
KSH				AMB	AMB		
	comp=Z,509nm,4.0s						
KSH				LR	LR		
	comp=N,914nm,6.2s						
KSH				LR	LR		
	comp=E,2μm,8.0s						
KSH				LR	LR		
	comp=Z,2μm,13.2s,MS4.7						
BHPL	**Bhopal**	**22.17**	**96**	*e*P	**P**	**23 08 30.6**	**-0.5**
BHPL				AMb	AMB	23 08 36.4	
	comp=Z,41nm,1.2s,mb4.7						
EKS2	**Erkin-Say**	**22.23**	**43**	P	**P**	**23 08 32.3**	**+0.7**
	SNR=11						
UCH	**Uchtor**	**22.44**	**45**	*e*P	**P**	**23 08 33.8**	**-0.1**
	comp=Z,50nm,1.4s,mb4.8						
UCH	**Uchtor**	**22.44**	**45**	P	**P**	**23 08 33.8**	**-0.1**
	SNR=8.1						
UCH	**Uchtor**	**22.44**	**45**	*e*P	**P**	**23 08 33.8**	**0.0**
	comp=Z,50nm,1.4s,mb4.8						
AAK	**Ala-Archa**	**22.65**	**44**	P	**P**	**23 08 37.2**	**+1.1**
	SNR=7.5						
AKL	**Akola**	**22.67**	**103**	*e*P	**P**	**23 08 34.4**	**-2.0**
AKL				AMb	AMB	23 08 43.4	
	comp=Z,53nm,1.6s,mb4.7						
FRU	**Bishkek**	**22.84**	**43**	*e*P	**P**	**23 08 42.0**	**+4.0**
FRU				*i*		23 08 48.0	
FRU				pmax	pmax		
	comp=Z,40nm,1.8s,mb4.5						
AKTK	**Aktyubinsk**	**22.88**	**8**

GKN Gorkha 27.60 82 *eP* **P 23 09 21.8 -0.7**
comp=Z,4.6nm,0.3s,mb4.6
VRI Vrincioaia 27.73 318⇓*iP* **P 23 09 25.0 +1.7**
PLOR Plostina 27.76 318⇑*iP* **P 23 09 24.9 +1.2**
MLR Muntele Rosu 28.01 316 P **P 23 09 28.8 +2.9**
MLR Muntele Rosu 28.01 316 P **P 23 09 27.7 +1.8**
comp=Z,4.6nm,0.7s,mb4.2,baz=134,slow=5.3,SNR=10
MLR Muntele Rosu 28.01 316⇑*iP* **P 23 09 27.5 +1.6**
DMN Daman 28.07 83 *eP* **P 23 09 26.3 -0.3**
BRVK Borovoye 28.18 22 *eP* **P 23 09 27.6 +0.3**
BVAR Borovoye Array 28.19 22 P **P 23 09 27.7 +0.3**
BVAR 23 12 40.8
BVAR pmax pmax
comp=Z,17nm,0.8s
BVAR pmax pmax
comp=Z,3.0nm,0.7s
BVAR Borovoye Array 28.19 22 P **P 23 09 27.7 +0.3**
comp=Z,17nm,0.8s,mb4.7,baz=212,slow=7.7,SNR=96
BVAR PcP PcP 23 12 40.8 -0.1
comp=Z,3.3nm,0.7s,baz=235,slow=1.5,SNR=7.7
KKN Kakani 28.19 82 *eP* **P 23 09 27.3 -0.4**
PKI Pulchoki 28.34 83 *eP* **P 23 09 28.6 -0.4**
VOIR 28.53 316⇑*iP* **P 23 09 32.2 +1.7**
VOIR 28.53 316 P **P 23 09 32.5 +2.0**
GUN Gumba 28.70 82 *eP* **P 23 09 32.0 -0.3**
ARU Arti 28.85 6 *eP* **P 23 09 33.2 0.0**
ARU *e* 23 10 26.1
ARU *e* 23 12 40.7
ARU *e*S **S 23 14 23.8 +0.7**
ARU *e*SS SS 23 15 48.0 -37
ARU Arti 28.85 6 *eP* **P 23 09 33.4 +0.2**
comp=Z,4.5nm,0.8s,mb4.2
ARU Arti 28.85 6 *e*PcP PcP 23 12 40.7 -1.8
JIRN Jiri 29.01 83 *eP* **P 23 09 34.7 -0.3**
comp=Z,14nm,0.5s,mb4.9
AKASG Malin Array Be 29.29 328 P **P 23 09 36.4 -0.8**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 29.29 328 P **P 23 09 36.4 -0.8**
AKASG Malin Array Be 29.29 328 P **P 23 09 36.4 -0.8**
comp=Z,3.0nm,0.6s,mb4.2,baz=134,slow=8.3,SNR=24
AKBB Malin Array Si 29.29 328 *eP* **P 23 09 36.5 -0.7**
KIEV Kiev 29.30 328 *eP* **P 23 09 36.6 -0.7**
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
KIEV Kiev 29.30 328 *eP* **P 23 09 36.6 -0.7**
comp=Z,6.3nm,0.6s,mb4.5
KIEV Kiev 29.30 328 *eP* **P 23 09 36.6 -0.7**
comp=Z,6.3nm,0.6s,mb4.5
BOK Bokaro 29.50 90 *eP* **P 23 09 38.1 -1.3**
BOK AMb AMB 23 09 40.6
comp=Z,15nm,0.5s,mb4.9
BURAR Bucovina Array 29.53 320⇑*iP* **P 23 09 39.9 +0.5**
MK31 Makanchi Array 29.56 42 *eP* **P 23 09 39.7 0.0**
MKAR Makanchi Array 29.56 42 P **P 23 09 39.6 -0.1**
MKAR 23 12 43.6
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 29.56 42 P **P 23 09 39.6 -0.1**
comp=Z,2.0nm,0.6s,mb4.0,baz=226,slow=9.0,SNR=32
MKAR PcP PcP 23 12 43.5 -1.0
comp=Z,1.2nm,0.6s,baz=239,slow=2.9,SNR=7.0
MKAR Makanchi Array 29.56 42 PcP PcP 23 12 43.5 -1.0
KURK Kurchatov 29.84 33 *eP* **P 23 09 42.1 +0.1**
KURK Kurchatov 29.84 33 *eP* **P 23 09 40.9 -1.2**
OBN Obninsk 29.89 341⇑*eP* **P 23 09 41.2 -1.3**
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
OBN MLR MLR
comp=Z,200nm,18.0s,MS3.8
OBN Obninsk 29.89 341 *eP* **P 23 09 41.2 -1.3**
comp=Z,200nm,18.0s
DRGR 30.60 317⇑*iP* **P 23 09 49.9 +1.0**
BZS Buzias 30.77 314 P **P 23 09 50.9 +0.5**
BZS Buzias 30.77 314 P **P 23 09 50.8 +0.4**
UZH Uzhgorod 31.73 319⇓*iP* **P 23 09 56.0 -2.8**
WMQ Urumqi 31.83 51 P **P 23 10 01.0 +1.3**
WMQ XP sP 23 10 15.0 +11
WMQ PP PP 23 11 08.0 -3.6
WMQ S **S 23 15 09.0 -1.1**
WMQ SS SS 23 17 03.0 -23
WMQ AMB AMB
comp=Z,31nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,64nm,4.0s
WMQ LR LR
comp=N,426nm,11.0s,MS4.5
WMQ LR LR
comp=E,214nm,10.0s,MS4.5
WMQ LR LR
comp=Z,156nm,10.0s,MS4.0
KWP Kalwaria 32.01 321 *eP* **P 23 10 01.4 +0.2**
KWP pmax pmax
comp=Z,16nm,1.2s,mb4.7
KWP Kalwaria 32.01 321 *eP* **P 23 10 01.4 +0.2**
comp=Z,16nm,1.2s,mb4.7
KWP Kalwaria 32.01 321 *eP* **P 23 10 01.4 +0.2**
comp=Z,16nm,1.2s,mb4.7
CRVS Cervenica-Dubn 32.34 319 *eP* **P 23 10 04.8 +0.6**
STHS Stebnicka Huta 32.72 320 *eP* **P 23 10 15.0 +7.5**
STHS *e* 23 30 23.6
STHS *e* 23 30 23.6
STHS Stebnicka Huta 32.72 320 *e* **P 23 10 15.0 +7.5**
PKSM Moragy 32.92 313⇓*eP* **P 23 10 10.2 +0.9**
VYHS Vyhne 33.71 317 *eP* **P 23 10 16.4 +0.3**
VYHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
VYHS Vyhne 33.71 317 *eP* **P 23 10 16.4 +0.3**
comp=Z,3.2nm,1.1s,mb4.2
OJC Ojcow 33.93 320 *eP* **P 23 10 18.3 +0.3**
KOLL Kolacno 34.01 317 *eP* **P 23 10 19.1 +0.4**
MODS Modra-Piesok 34.60 316 *eP* **P 23 10 24.2 +0.3**
MODS pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
MODS Modra-Piesok 34.60 316 *eP* **P 23 10 24.2 +0.3**
comp=Z,4.9nm,1.2s,mb4.3
MODS *e* 23 30 28.7
NVS Novosibirsk 34.63 30 *eP* **P 23 10 22.7 -1.4**
NVS pmax pmax
comp=Z,16nm,1.5s,mb4.7
NVS pmax pmax
comp=N,12nm,1.7s
NVS pmax pmax
comp=E,9.0nm,1.7s
NVS Novosibirsk 34.63 30 *eP* **P 23 10 22.7 -1.4**
comp=E,16nm,1.5s,mb4.7
OKC Ostrava-Krasne 34.70 319 *eP* **P 23 10 24.5 -0.2**
OKC *ex* x 23 10 39.6
SOP Sopron 34.79 315⇓*eP* **P 23 10 26.2 +0.7**
ZAL Zalesovo 34.81 33 P **P 23 10 25.1 -0.5**
ZAA0 Zalesovo Array 34.83 33 *eP* **P 23 10 25.1 -0.6**
ZAA0 Zalesovo Array 34.83 33 *eP* **P 23 10 25.1 -0.6**
ZALV Zalesovo Beam 34.83 33 P **P 23 10 25.1 -0.6**
comp=E,7.3nm,0.6s,mb4.8,baz=240,slow=9.2,SNR=42
MORC Moravsky Berou 35.02 319 *eP* **P 23 10 27.7 +0.2**
MORC pmax pmax
comp=Z,17nm,1.2s,mb4.8
MORC Moravsky Berou 35.02 319 *eP* **P 23 10 27.6 +0.1**
comp=Z,17nm,1.2s,mb4.8
MORC Moravsky Berou 35.02 319⇑*iP* **P 23 10 27.5 0.0**
MORC Moravsky Berou 35.02 319 *eP* **P 23 10 27.5 0.0**
ARSA Arzberg 35.29 314⇑*iP* **P 23 10 30.4 +0.6**
comp=Z,6.5nm,1.1s,mb4.5
ARSA Arzberg 35.29 314⇑*iP* **P 23 10 30.4 +0.6**
comp=Z,6.5nm,1.1s,mb4.5
ARSA Arzberg 35.29 314 P **P 23 10 30.4 +0.6**
comp=Z,6.5nm,1.1s,mb4.5
CONA Conrad Observa 35.31 315⇑*iP* **P 23 10 30.4 +0.4**
comp=Z,9.4nm,1.1s,mb4.6
CONA Conrad Observa 35.31 315⇑*iP* **P 23 10 30.4 +0.4**
comp=Z,9.4nm,1.1s,mb4.6
VRAC Vranov 35.39 317 *eP* **P 23 10 30.9 +0.2**
DPC Dobruska-Polom 35.98 319 *eP* **P 23 10 35.7 0.0**
TREC Trest 36.05 317 *eP* **P 23 10 36.8 +0.5**
TREC *ex* x 23 11 00.0
UPC Upice 36.23 319 *eP* **P 23 10 37.6 -0.2**
KBA Koelnbreinsper 36.65 313⇑*iP* **P 23 10 41.9 +0.5**
comp=Z,12nm,0.8s,mb4.8,SNR=6.4
KBA Koelnbreinsper 36.65 313⇑*iP* **P 23 10 41.9 +0.5**
comp=Z,12nm,0.8s,mb4.8,SNR=6.4
KBA Koelnbreinsper 36.65 313⇑*iP* **P 23 10 41.9 +0.4**
KBA pmax pmax
comp=Z,12nm,0.8s,mb4.8
PRU Pruhonice 36.88 318 *eP* **P 23 10 43.8 +0.4**
GERES GERESS Array B 36.98 316 P **P 23 10 44.0 -0.3**
GERES 23 13 04.7
GERES pmax pmax
comp=Z,1.0nm,0.6s
GERES pmax pmax
comp=Z,1.0nm,0.8s
GERES GERESS Array B 36.98 316 P **P 23 10 44.0 -0.3**
comp=Z,1.3nm,0.6s,mb3.9,baz=106,slow=8.3,SNR=13
GERES PcP PcP 23 13 04.7 -0.5
comp=Z,1.0nm,0.8s,baz=116,slow=3.1,SNR=5.2
GERES GERESS Array B 36.98 316 PcP PcP 23 13 04.7 -0.6
PVCC Panska Ves 37.08 318 *eP* **P 23 10 45.0 -0.1**
ABTA Abfaltersbach 37.10 312⇑*iP* **P 23 10 45.6 +0.3**
comp=Z,8.4nm,0.8s,mb4.6
ABTA Abfaltersbach 37.10 312⇑*iP* **P 23 10 45.6 +0.3**
comp=Z,8.4nm,0.8s,mb4.6
KHC Kasperske Hory 37.16 316 *eP* **P 23 10 45.0 -0.8**
KHC *ex* x 23 11 09.0
BRG Berggiesshubel 37.58 319 *eP* **P 23 10 48.5 -0.8**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
BRG Berggiesshubel 37.58 319 *eP* **P 23 10 48.5 -0.8**
comp=Z,2.1nm,0.8s,mb3.9
TMCR Tamitsa 37.69 349 *eP* **P 23 10 48.5 -1.5**
WTTA Wattenberg 37.82 312 *iP* **P 23 10 51.3 -0.1**
comp=Z,33nm,1.6s,mb4.8,SNR=11
WTTA Wattenberg 37.82 312 *iP* **P 23 10 51.3 -0.1**
WTTA pmax pmax
comp=Z,33nm,1.6s,mb4.8
WATA Walderalm 37.88 312⇑*iP* **P 23 10 51.5 -0.4**
comp=Z,17nm,1.1s,mb4.7,SNR=7.2
WATA Walderalm 37.88 312⇑*iP* **P 23 10 51.5 -0.4**
WATA pmax pmax
comp=Z,17nm,1.1s,mb4.7
JOF Joensuu 37.97 344 *ep* **P 23 10 51.2 -1.3**
comp=Z,9.2nm,0.8s,mb4.6
KEST Kesra 38.00 293 P **P 23 10 55.1 +2.0**
comp=Z,1.7nm,0.8s,mb3.8,baz=214,slow=4.6,SNR=5.1
SQTA Sankt Quirin 38.09 312 *iP* **P 23 10 53.5 -0.2**
comp=Z,6.8nm,0.7s,mb4.5,SNR=17
SQTA Sankt Quirin 38.09 312 *iP* **P 23 10 53.5 -0.2**
SQTA pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
MOTA Moosalm 38.19 312⇑*iP* **P 23 10 53.8 -0.7**
comp=Z,20nm,1.2s,mb4.7,SNR=8.9
MOTA Moosalm 38.19 312⇑*iP* **P 23 10 53.8 -0.7**
MOTA pmax pmax
comp=Z,20nm,1.2s,mb4.7
NKC Novy Kostel 38.23 317 *eP* **P 23 10 55.2 +0.4**
FINES FINESS Array B 38.26 339 P **P 23 10 54.4 -0.6**
FINES pmax pmax
comp=Z,5.0nm,0.6s
FINES FINESS Array B 38.26 339 P **P 23 10 54.4 -0.5**
FINES FINESS Array B 38.26 339 P **P 23 10 54.4 -0.5**
comp=Z,4.6nm,0.6s,mb4.4,baz=139,slow=11,SNR=30
CLL Collm 38.29 319⇑*iP* **P 23 10 55.0 -0.3**
CLL pmax pmax
comp=Z,15nm,1.3s,mb4.6
CLL Collm 38.29 319⇑*iP* **P 23 10 55.0 -0.3**
comp=Z,15nm,1.3s,mb4.6
CLL *i* pP 23 10 58.4 0.0
CLL Collm 38.29 319⇑*iP* **P 23 10 55.0 -0.3**
comp=Z,15nm,1.3s,mb4.6
CLL *i* sP x 23 10 58.4
FETA Feichten 38.35 312 *iP* **P 23 10 55.9 +0.1**
comp=Z,20nm,0.9s,mb4.8,SNR=14
FETA Feichten 38.35 312 *iP* **P 23 10 55.9 +0.1**
comp=Z,20nm,0.9s,mb4.8,SNR=14
RETA Reutte 38.45 312⇑*iP* **P 23 10 56.1 -0.6**
comp=Z,8.0nm,0.6s,mb4.6,SNR=7.7
PGF Pioggiola 38.69 304 *eP* **P 23 10 58.2 -0.6**
comp=Z,20nm,1.0s,mb4.5
PGF Pioggiola 38.69 304 *eP* **P 23 10 58.2 -0.6**
comp=Z,10nm,1.0s,mb4.5
GRA1 Grafenberg Arr 38.80 316 *eP* **P 23 10 59.2 -0.4**
comp=Z,13nm,1.3s,mb4.5
GRF Grafenberg Arr 38.80 316 *eP* **P 23 10 59.2 -0.4**
GRF pmax pmax
comp=Z,13nm,1.3s,mb4.5
GRF Grafenberg Arr 38.80 316 *eP* **P 23 10 59.2 -0.4**
GRF pmax pmax
comp=Z,13nm,1.3s,mb4.5
GRF Grafenberg Arr 38.80 316 *eP* **P 23 10 59.2 -0.4**
comp=Z,13nm,1.3s,mb4.5
MOX Moxa 38.87 318 *eP* **P 23 10 55.9 -4.3**
BSD Bornholm Skovb 38.89 325⇓*iP* **P 23 10 59.2 -1.1**
BSD pmax pmax
comp=Z,32nm,1.1s,mb5.0
BSD Bornholm Skovb 38.89 325⇓*iP* **P 23 10 59.2 -1.1**
comp=Z,32nm,1.1s,mb5.0
DAVA Damuels 38.98 312 *iP* **P 23 11 00.9 -0.3**
comp=Z,48nm,0.5s,mb5.5,SNR=41
GTA Gaotai 39.99 61 *eP* **P 23 11 10.1 +0.4**
GTA AP pP 23 11 20.0 +7.2
GTA XP sP 23 11 24.4 +10
GTA AMB AMB
comp=Z,21nm,0.8s,mb4.9
SBF Sospel 40.00 306 *eP* **P 23 11 09.2 -0.5**
comp=Z,21nm,0.8s,mb4.6
SBF Sospel 40.00 306 *eP* **P 23 11 09.2 -0.5**
comp=Z,10nm,0.8s,mb4.6
COP Copenhagen 40.41 325⇓*eP* **P 23 11 13.2 +0.2**
COP pmax pmax
comp=Z,41nm,0.9s,mb5.2
COP Copenhagen 40.41 325⇓*iP* **P 23 11 13.2 +0.2**
comp=Z,41nm,0.9s,mb5.2
COP Copenhagen 40.41 325 *eP* **P 23 11 13.2 +0.2**
comp=Z,41nm,0.9s,mb5.2
MBDF Montbardon 40.60 307 *eP* **P 23 11 14.2 -0.5**
comp=Z,13nm,0.6s,mb4.4
MBDF Montbardon 40.60 307 *eP* **P 23 11 14.2 -0.5**
comp=Z,6.7nm,0.6s,mb4.4
BNI Bardonecchia 40.71 308 *eP* **P 23 11 15.4 -0.2**
LPG La Plagne 40.73 308 *eP* **P 23 11 15.3 -0.5**
comp=Z,7.0nm,0.8s,mb4.0
LPG La Plagne 40.73 308 *eP* **P 23 11 15.3 -0.5**
comp=Z,3.5nm,0.8s,mb4.0
LPL La Plagne 40.75 308 *eP* **P 23 11 15.2 -0.7**
comp=Z,8.0nm,0.7s,mb4.2
LPL La Plagne 40.75 308 *eP* **P 23 11 15.2 -0.7**
comp=Z,4.0nm,0.7s,mb4.2
CDF Champ du Feu 40.95 313 *eP* **P 23 11 16.3 -1.2**
comp=Z,12nm,0.9s,mb4.2
CDF Champ du Feu 40.95 313 *eP* **P 23 11 16.3 -1.2**
comp=Z,6.1nm,0.9s,mb4.2
HINF Hinteralfeld 41.09 312 *eP* **P 23 11 17.7 -1.0**
comp=Z,13nm,0.8s,mb4.3
HINF Hinteralfeld 41.09 312 *eP* **P 23 11 17.7 -1.0**
comp=Z,6.4nm,0.8s,mb4.3
ORIF Oris-en-Rattie 41.25 307 *eP* **P 23 11 19.5 -0.6**
SMRF Simiane la Rot 41.35 306 *eP* **P 23 11 20.0 -0.9**
CABF La Chapelle 41.37 310 *eP* **P 23 11 20.6 -0.4**
comp=Z,22nm,0.8s,mb4.5
CABF La Chapelle 41.37 310 *eP* **P 23 11 20.6 -0.4**
comp=Z,11nm,0.8s,mb4.5
HAU Haudompre 41.47 312 *eP* **P 23 11 20.6 -1.2**
comp=Z,9.0nm,0.6s,mb4.3
HAU Haudompre 41.47 312 *eP* **P 23 11 20.6 -1.2**
comp=Z,4.5nm,0.6s,mb4.3
APA Apatity 41.59 349⇑*iP* **P 23 11 22.3 -0.2**
APA pmax pmax
comp=Z,29nm,1.2s,mb4.8
APA MLR MLR
comp=Z,700nm,14.0s,MS4.7
APA Apatity 41.59 349 *iP* **P 23 11 22.3 -0.2**
comp=Z,700nm,14.0s
WLF Walferdange 41.96 314 P **P 23 11 25.4 -0.4**
WLF Walferdange 41.96 314 P **P 23 11 25.3 -0.5**
VIVF Saint-Julien-l 42.09 307 *eP* **P 23 11 26.3 -0.7**
MEM Membach 42.27 316 E **P 23 11 33.3 +5.0**
MEZF Maizieres J'vi 42.41 313 *eP* **P 23 11 28.7 -0.8**
comp=Z,21nm,0.7s,mb4.6
MEZF Maizieres J'vi 42.41 313 *eP* **P 23 11 28.7 -0.8**
comp=Z,11nm,0.7s,mb4.6
LASF Ste Croix 42.59 306 *eP* **P 23 11 30.2 -0.8**
CHTO Chiang Mai 42.61 92 *eP* **P 23 11 30.8 -0.7**
MOY Mondy 42.71 43 *eP* **P 23 11 33.1 +1.2**
GIVF Givet 42.89 315 *eP* **P 23 11 32.9 -0.5**
SMF Signal de Mont 42.91 310 *eP* **P 23 11 32.7 -0.9**
comp=Z,16nm,0.7s,mb4.6
SMF Signal de Mont 42.91 310 *eP* **P 23 11 32.7 -0.9**
comp=Z,7.9nm,0.7s,mb4.6
LOR Lormes 42.99 311 *eP* **P 23 11 33.2 -1.0**
comp=Z,16nm,1.1s,mb4.4
LOR Lormes 42.99 311 *eP* **P 23 11 33.2 -1.0**
comp=Z,8.1nm,1.1s,mb4.4
SSF Saint Saulge 43.20 310 *eP* **P 23 11 34.8 -1.1**
comp=Z,13nm,0.9s,mb4.3
SSF Saint Saulge 43.20 310 *eP* **P 23 11 34.8 -1.1**
comp=Z,6.6nm,0.9s,mb4.3
LZH Lanzhou 43.23 66⇑P **P 23 11 36.5 +0.2**
LZH AP pP 23 11 47.0 +7.6
LZH XP sP 23 11 50.5 +10
LZH AMB AMB
comp=Z,33nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,170nm,6.0s
AVF Avril sur Loir 43.26 310 *eP* **P 23 11 35.6 -0.8**
BAIF Baives 43.27 315 *eP* **P 23 11 35.9 -0.5**
comp=Z,42nm,0.9s,mb4.9
BAIF Baives 43.27 315 *eP* **P 23 11 35.9 -0.5**
comp=Z,21nm,0.9s,mb4.9
NB2 NORSAR Subarra 43.54 332 P **P 23 11 37.2 -1.2**
comp=Z,1.7nm,0.6s,mb4.0,baz=120,slow=7.9
NOA NORSAR Array B 43.54 332 P **P 23 11 37.2 -1.2**
NOA pmax pmax
comp=Z,3.0nm,0.7s
NOA NORSAR Array B 43.54 332 P **P 23 11 37.2 -1.2**
NOA NORSAR Array B 43.54 332 P **P 23 11 37.2 -1.2**
comp=Z,2.7nm,0.7s,mb4.1,baz=120,slow=8.1,SNR=8.9
BGF Bois d'Agland 43.58 309 *eP* **P 23 11 38.3 -0.7**
comp=Z,19nm,0.9s,mb4.5
BGF Bois d'Agland 43.58 309 *eP* **P 23 11 38.3 -0.7**
comp=Z,9.4nm,0.9s,mb4.5
MTLF Montolieu 43.72 305 *eP* **P 23 11 39.6 -0.6**
comp=Z,31nm,1.3s,mb4.6
MTLF Montolieu 43.72 305 *eP* **P 23 11 39.6 -0.6**
comp=Z,15nm,1.3s,mb4.6
CD2 Chengdu 43.74 73 *eP* **P 23 11 39.3 -1.2**
CD2 XP sP 23 11 53.0 +8.1
CD2 PP PP 23 13 22.8 +0.6
CD2 S **S 23 18 05.9 -5.0**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
CD2 AMB AMB
comp=Z,20nm,5.8s
HYF Humbligny 43.81 310 *eP* **P 23 11 40.3 -0.5**
ZAK Zakamensk 43.81 45 *eP* **P 23 11 40.5 -0.3**
ZAK *e* 23 13 26.8
ZAK pmax pmax
comp=Z,3.0nm,1.0s,mb4.0
ZAK pmax pmax
comp=Z,2.0nm,0.9s,mb3.9
ZAK Zakamensk 43.81 45 *eP* **P 23 11 40.5 -0.3**
comp=Z,3.0nm,1.0s,mb4.0
ZAK Zakamensk 43.81 45 *e*PcP PcP 23 13 26.8 -0.4
comp=Z,2.0nm,0.9s
CAF Calviac 43.95 307 *eP* **P 23 11 41.3 -0.7**
comp=Z,48nm,1.3s,mb4.8
CAF Calviac 43.95 307 *eP* **P 23 11 41.3 -0.7**
comp=Z,24nm,1.3s,mb4.8
TCF Toulx Ste Croi 43.98 309 *eP* **P 23 11 41.6 -0.6**
comp=Z,7.9nm,0.6s,mb4.4
TCF Toulx Ste Croi 43.98 309 *eP* **P 23 11 41.6 -0.6**
comp=Z,4.0nm,0.6s,mb4.4
KMI Kunming 44.05 82 P **P 23 11 42.6 -0.5**
KMI AMB AMB
comp=Z,5.0nm,1.0s,mb4.2
TLY Talaya 44.32 43 *eP* **P 23 11 45.5 +0.7**
TLY pmax pmax
comp=Z,4.0nm,1.7s,mb3.9
TLY Talaya 44.32 43 *eP* **P 23 11 45.5 +0.7**
comp=Z,4.0nm,1.7s,mb3.9
RJF Les Rejaudoux 44.37 307 *eP* **P 23 11 44.8 -0.5**
comp=Z,17nm,0.8s,mb4.5
RJF Les Rejaudoux 44.37 307 *eP* **P 23 11 44.8 -0.5**
comp=Z,8.4nm,0.8s,mb4.5
KEV Kevo 44.67 347 *ep* **P 23 11 45.3 -2.1**
comp=Z,7.6nm,0.7s,mb4.6
KEV Kevo 44.67 347 *eP* **P 23 11 45.3 -2.1**
KEV pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
ARCES ARCESS Array B 44.78 347 P **P 23 11 48.0 -0.3**
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES ARCESS Array B 44.78 347 P **P 23 11 48.0 -0.4**
ARCES ARCESS Array B 44.78 347 P **P 23 11 48.0 -0.3**
comp=Z,1.8nm,0.5s,mb4.1,baz=145,slow=8.9,SNR=18
LFF La Frestale 44.88 307 *eP* **P 23 11 49.0 -0.5**
comp=Z,25nm,0.7s,mb4.9
LFF La Frestale 44.88 307 *eP* **P 23 11 49.0 -0.5**
comp=Z,13nm,0.7s,mb4.9
ERTA Horta de San J 45.05 301 P **P 23 11 50.9 0.0**
ERTA Horta de San J 45.05 301 P **P 23 11 50.9 0.0**
EPF Esparros 45.08 304 *eP* **P 23 11 50.4 -0.6**
SONM Songino Array 45.43 49 P **P 23 11 53.2 -0.6**
SONM pmax pmax
comp=Z,4.0nm,0.5s
SONM Songino Array 45.43 49 P **P 23 11 53.2 -0.6**
comp=Z,4.1nm,0.5s,mb4.5,baz=282,slow=7.2,SNR=3.3
MFF Saint Martin d 45.63 309 *eP* **P 23 11 54.7 -0.7**
ETSF Etsaut 45.73 304 *eP* **P 23 11 55.8 -0.4**
comp=Z,13nm,0.8s,mb4.6
ETSF Etsaut 45.73 304 *eP* **P 23 11 55.8 -0.4**
comp=Z,6.4nm,0.8s,mb4.6
LDF La Druitiere 45.82 312 *eP* **P 23 11 55.7 -1.2**
comp=Z,19nm,0.6s,mb4.9
LDF La Druitiere 45.82 312 *eP* **P 23 11 55.7 -1.2**
comp=Z,9.4nm,0.6s,mb4.9
ULN Ulaanbaatar 45.88 49⇑*eP* **P 23 11 57.3 0.0**
ULN Ulaanbaatar 45.88 49⇑*iP* **P 23 11 57.3 0.0**
comp=Z,8.0nm,0.8s,mb4.7
ULN Ulaanbaatar 45.88 49⇑*iP* **P 23 11 57.3 0.0**
comp=Z,8.0nm,0.8s,mb4.7
FLN La Foliniere 46.08 312 *eP* **P 23 11 58.1 -0.8**
SJPF Ste Jean 46.23 304 *eP* **P 23 11 59.7 -0.4**
comp=Z,14nm,0.6s,mb4.7
SJPF Ste Jean 46.23 304 *eP* **P 23 11 59.7 -0.4**
comp=Z,7.1nm,0.6s,mb4.8
GRR Gorron 46.29 312 *eP* **P 23 11 59.8 -0.7**
GYA Guiyang 47.14 79 P **P 23 12 05.8 -1.7**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
EVIA Vianos 47.33 298 P **P 23 12 09.4 +0.6**
SGMF Saint Gilles 47.40 311 *eP* **P 23 12 08.2 -1.1**
comp=Z,8.5nm,0.5s,mb4.7
SGMF Saint Gilles 47.40 311 *eP* **P 23 12 08.2 -1.1**
comp=Z,4.2nm,0.5s,mb4.7
XAN Xi'an 47.58 68 P **P 23 12 09.4 -1.5**
XAN AMB AMB
comp=Z,15nm,0.7s,mb5.1
QUIF Quistinic 47.78 311 *eP* **P 23 12 11.5 -0.7**
EBER Berja 47.79 296 P **P 23 12 12.8 +0.4**
EBER Berja 47.79 296 P **P 23 12 12.8 +0.3**
EQES Quesada 47.84 297 P **P 23 12 11.5 -1.4**
EQES Quesada 47.84 297 P **P 23 12 11.5 -1.4**
ROSF Rostrenen 47.88 311 *eP* **P 23 12 12.4 -0.6**
ESDC Sonseca Array 48.39 300 P **P 23 12 17.2 +0.2**
comp=Z,1.7nm,0.6s,mb4.3,baz=66,slow=7.7,SNR=12
HHC Hu-ho-hao-te 48.97 59 *eP* **P 23 12 21.6 +0.1**
HHC AP pP 23 12 31.5 +6.8
HHC XP sP 23 12 35.4 +9.5
HHC PCP PcP 23 13 45.3 -0.3
HHC PP PP 23 14 15.3 +0.4
HHC SCP ScP 23 17 38.4 -2.4
HHC S **S 23 19 23.9 -1.9**
HHC XS sS 23 19 38.8 +7.8
HHC AMB AMB
comp=Z,32nm,1.1s,mb5.3
HHC AMB AMB
comp=Z,183nm,6.1s
HHC LR LR
comp=N,424nm,15.7s,MS4.7
HHC LR LR
comp=E,474nm,16.7s,MS4.7
HHC LR LR
comp=Z,343nm,16.7s,MS4.4
EADA Adamuz 48.99 298 P **P 23 12 22.0 +0.3**
EADA Adamuz 48.99 298 P **P 23 12 22.0 +0.3**
EMIJ Mijas 49.33 296 P **P 23 12 23.2 -1.1**
EMIJ Mijas 49.33 296 P **P 23 12 23.2 -1.1**
ESPR Espera 50.16 296 P **P 23 12 29.7 -0.9**
ESPR Espera 50.16 296 P **P 23 12 29.7 -0.9**
TOA0 Torodi Ar. Sit 50.20 264 *eP* **P 23 12 30.9 -0.3**
TOA0 Torodi Ar. Sit 50.20 264 *eP* **P 23 12 30.9 -0.3**
TORD Torodi Ar. Bea 50.20 264 P **P 23 12 31.1 -0.1**
comp=Z,4.3nm,0.7s,mb4.6,baz=62,slow=8.2,SNR=63
RSA Sarsar 50.42 294 *iP* **P 23 12 33.0 +0.3**
BOD Bodaibo 51.37 37 *eP* **P 23 12 38.4 -1.0**

BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
BOD	Bodaibo	51.37	37	eP	P	23 12 38.4	-1.0
	comp=Z,13nm,1.1s,mb4.8						
EVO	Evora	51.64	299	eP	P	23 12 41.8	+0.1
	comp=Z,17nm,0.9s,mb4.7						
EVOP	Sao Brissos	51.72	299	eP	P	23 12 41.8	-0.6
	comp=Z,8.3nm,0.9s,mb4.7						
BJI	Beijing	52.55	59	P	P	23 12 48.1	-0.4
BJI				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.7						
HIA	Hailar	54.33	48	eP	P	23 13 01.8	+0.3
NJ2	Nanjing	56.15	68	eP	P	23 13 15.3	+0.5
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
CN2	Changchun	58.85	54	eP	P	23 13 33.4	-0.3
CN2				eAP	pP	23 13 43.5	+6.6
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,1μm,19.0s,MS5.2						
CN2				LR	LR		
	comp=E,1μm,19.0s,MS5.2						
CN2				LR	LR		
	comp=Z,2μm,21.0s,MS5.2						
DBIC	Dimbokro	58.87	261	P	P	23 13 34.1	-0.2
DBIC				pmax	pmax		
	comp=Z,7.0nm,0.7s						
DBIC	Dimbokro	58.87	261	P	P	23 13 34.1	-0.2
	comp=Z,6.8nm,0.7s,mb4.8,baz=57,slow=8.7,SNR=14						
TIXI	Tiksi	59.32	21	⇑eP	P	23 13 34.7	-1.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
TIXI	Tiksi	59.32	21	eP	P	23 13 35.6	-0.9
	comp=Z,2.4nm,0.6s,mb4.4						
TIXI	Tiksi	59.32	21	eP	P	23 13 34.7	-1.8
	comp=Z,3.0nm,1.3s,mb4.2						
YAK	Yakutsk	59.47	32	eP	P	23 13 36.8	-0.9
YAK				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.7						
YAK	Yakutsk	59.47	32	eP	P	23 13 36.8	-0.9
	comp=Z,11nm,1.3s,mb4.7						
MDJ	Mudanjiang	61.62	52	P	P	23 13 50.9	-1.7
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,95nm,4.7s						
KSRS	Korea Array	62.05	60	P	P	23 13 54.1	-1.6
	comp=Z,3.0nm,0.7s,mb4.5,baz=276,slow=6.9,SNR=13						
KLR	Kul'dur	62.14	47	eP	P	23 13 50.2	-5.9
BOSA	Boshof	62.23	208	P	P	23 13 57.7	+0.9
BOSA				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
BOSA	Boshof	62.23	208	P	P	23 13 57.7	+0.9
BOSA	Boshof	62.23	208	P	P	23 13 57.7	+0.9
	comp=Z,5.0nm,0.7s,mb4.8,baz=25,slow=7.2,SNR=9.8						
XMIS	Christmas Isla	63.31	119	eP	P	23 13 58.0	-6.3
SEY	Seymchan	69.57	29	⇑eP	P	23 14 42.9	-0.8
YSS	Yuzh-Sakhalins	69.85	47	⇑eP	P	23 14 43.9	-1.8
YSS				pmax	pmax		
	comp=Z,20nm,1.3s,mb4.9						
YSS	Yuzh-Sakhalins	69.85	47	eP	P	23 14 43.9	-1.8
	comp=Z,20nm,1.3s,mb4.9						
MA2	Magadan	70.05	32	eP	P	23 14 45.2	-1.5
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
MA2	Magadan	70.05	32	eP	P	23 14 45.2	-1.5
	comp=Z,10.0nm,0.7s,mb4.8						
BILL	Bilibino	72.53	21	⇓eP	P	23 15 01.1	-0.5
BILL				e		23 17 39.6	
BILL				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.5						
BILL				MLR	MLR		
	comp=Z,400nm,20.0s,MS4.7						
BILL	Bilibino	72.53	21	eP	P	23 15 01.1	-0.5
	comp=Z,7.0nm,1.2s,mb4.5						
SCHQ	Schefferville	83.07	330	P	P	23 15 59.8	-0.7
	comp=Z,9.0nm,1.1s,mb4.7,baz=54,slow=5.3,SNR=6.4						
FITZ	Fitzroy Crossi	83.50	114	P	P	23 16 02.7	-0.6
	comp=Z,2.6nm,0.7s,mb4.4,baz=257,slow=7.5,SNR=6.9						
IMA2	Indian Mountai	84.16	11	eP	P	23 16 05.0	-0.8
IMA2	Indian Mountai	84.16	11	eP	P	23 16 05.1	-0.8
TTA	Tatalina	86.60	13	eP	P	23 16 17.9	-0.2
TTA				pmax	pmax		
	comp=Z,20nm,1.5s,mb5.1						
TTA	Tatalina	86.60	13	eP	P	23 16 17.9	-0.2
	comp=Z,20nm,1.5s,mb5.1						
TTA	Tatalina	86.60	13	eP	P	23 16 17.9	-0.2
	comp=Z,20nm,1.5s,mb5.1						
EGAK	Eagle	87.03	6	eP	P	23 16 18.9	-1.3
	comp=Z,9.2nm,1.3s,mb4.8						
EGAK	Eagle	87.03	6	eP	P	23 16 18.9	-1.3
	comp=Z,9.2nm,1.3s,mb4.8						
YKA	Yellowknife Ar	89.51	354	P	P	23 16 31.7	-0.2
	comp=Z,2.7nm,0.7s,mb4.7,baz=5.6,slow=5.0,SNR=61						
NVAR	Mina Array Bea	113.66	353	PKiKP	PKiKP	23 22 14.5	+0.7
	comp=Z,0.5nm,0.6s,baz=51,slow=1.7,SNR=4.7						
CPUP	Villa Florida	119.05	254	PKP	PKPdf	23 22 23.5	-0.8
	comp=Z,1.1nm,0.8s,baz=291,slow=5.4,SNR=3.5						
TXAR	Lajitas Array	119.08	337	PKP	PKPdf	23 22 22.5	-1.9
	comp=Z,0.3nm,0.7s,baz=207,slow=5.8,SNR=3.8						

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*IDC **18** 23:04:32.2±1.7, 1184N×8532W, h0km, mb3.7/3, mb1 4.1/3, mb1mx3.7/19, mbtmp3.7/3, MS3.1/1, Ms1 3.1/1, ms1mx2.7/35, Error ellipse: s-maj=100.5km s-min=12.2km az=72.0*

*CASC **18** 23:04:33.9±2.0, 1089N×8645W, h3km±9km, MD3.8, ML3.7, mb4.4(NEIC)*

*ISCJB **18** 23:04:35.4±1.0, 1089N±007×8645W±010, h52km±11km, mb3.8/5, Error ellipse: s-maj=18.7km s-min=5.4km az=145.3*

*NEIC **18** 23:04:35.8±1.5, 1092N×8639W, h35km, mb4.4/3, Error ellipse: s-maj=43.3km s-min=12.3km az=217.0*

ISC 18 23:04:37.0±1.0**, 1097N**±008×**864W**±01**, h48**km±12km**, n40, σ1s11**/41**, mb3.8**/5**, 4C-8D, Off coast of Costa Rica**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.62	59	⇓eP	Pn	23 04 48.2	-1.4
SSNN				eS	Sn	23 04 58.5	-0.3
MADN	Villa Maderas	0.95	63	⇓eP	Pn	23 04 53.6	-0.4
CONN	Concepcion	0.96	52	⇓eP	Pn	23 04 53.7	-0.4
APON	Apoyo	0.99	19	⇑eP	Pn	23 04 54.7	+0.1
CRUN	El Crucero	1.01	5	eP	Pn	23 04 55.7	+0.9
VCR	Vista de Mar	1.13	138	eP	Pn	23 04 52.7	-3.7
TISN	Laguna Tiscapa	1.17	6	⇑eP	Pn	23 04 57.2	+0.1
MGAN	Managua	1.18	7	eP	Pn	23 04 57.5	+0.4
MGAN				⇑i		23 05 30.8	
	comp=E,938nm,0.6s						
CSAN		1.21	359	⇑eP	Pn	23 04 57.2	-0.3
COPN	Copaltepe	1.22	351	⇓eP	Pn	23 04 57.2	-0.4
COPN				eS	Sn	23 05 16.4	+3.4
COPN				i		23 05 18.1	
	comp=Z,2μm,0.7s						
2RIO	Dos Rios de Up	1.22	111	iP	Pn	23 04 53.9	-3.8
CUI		1.24	104	iP	Pn	23 04 57.2	-0.7
CUI				iS	Sn	23 05 15.3	+1.9
HUEN		1.38	9	eP	Pn	23 04 59.8	0.0
HUEN				⇓eP		23 05 00.2	
MOMJ	Momotombo	1.44	354	⇓eP	Pn	23 05 00.8	+0.2
JTS	JuntasAbangare	1.57	115	Pg	Pn	23 05 00.6	-1.9
JTS				Lg		23 05 22.4	
JTS	JuntasAbangare	1.57	115	Pg	Pn	23 05 00.6	-1.9
	comp=Z,21nm,0.3s,baz=310,slow=21,SNR=79						
JTS				Lg		23 05 22.4	
	comp=Z,57nm,0.3s,baz=295,slow=19,SNR=7.7						
TEL3	Telica 3	1.65	345	⇓eP	Pn	23 05 03.4	-0.2
JCR	Jicaral	1.68	131	eP	Pn	23 05 02.5	-1.5
JCR				eS	Sn	23 05 28.5	+4.1
CGA2	Cerro Gallo 2	2.12	116	eP	Pn	23 05 09.6	-0.4
PRS1	Puriscal	2.27	115	eP	Pn	23 05 14.5	+2.5
LCR2	La Lucha 2	2.65	117	eP	Pn	23 05 18.0	+0.7
URSC	Urasca	2.81	113	eP	Pn	23 05 21.7	+2.3
BUS	Buena Vista	2.95	118	eP	Pn	23 05 22.2	+0.8
TGUH	Tegucigalpa,Un	3.19	344	ePn	Pn	23 05 24.8	+0.2
BAR1		3.49	119	eP	Pn	23 05 28.9	+0.1
BCIP	Isla Barro Col	6.70	105	ePn	Pn	23 06 12.3	-0.6
TEIG	Tepich	9.38	349	LR	LR	23 11 00.7	
	comp=Z,123nm,18.5s,baz=282,slow=44						
CHI2		14.02	116	⇓eP	Px	23 05 04.9	
LAPE	La Pedrera	15.01	102	iP	Px	23 04 53.1	
LAPE				iS	Sx	23 05 07.4	
BRAL	Brewton	19.95	358	P	Pn	23 09 05.8	-1.3
	comp=Z,67nm,0.5s						
MIAR	Mount Ida	24.36	346	eP	P	23 09 49.9	-0.6
	comp=Z,2.8nm,0.7s,mb3.8						
TXAR	Lajitas Array	24.37	321	P	P	23 09 51.2	+0.7
	comp=Z,2.0nm,0.8s,mb3.6,baz=140,slow=9.8,SNR=24						
WMOK	Wichita Mounta	26.22	336	eP	P	23 10 08.8	+1.5
	comp=Z,7.6nm,1.0s,mb4.2						
LPM	Los Pinos Moun	29.69	325	P	P	23 10 39.6	+1.3
JLU	Jordanelle	36.88	328	eP	P	23 11 40.5	-0.4
NVAR	Mina Array Bea	39.49	319	P	P	23 12 06.5	+3.6
NVAR				PcP	PcP	23 14 12.8	+2.9
NVAR	Mina Array Bea	39.49	319	P	P	23 12 06.5	+3.6
	comp=Z,0.6nm,0.7s,mb3.5,baz=115,slow=8.1,SNR=6.0						
NVAR				PcP	PcP	23 14 12.8	+2.9
	comp=Z,0.7nm,0.7s,baz=140,slow=4.7,SNR=5.6						
OHCM	Honcut	42.05	318	P	P	23 12 23.6	-0.4
YKA	Yellowknife Ar	55.30	345	P	P	23 14 03.2	-2.1
YKA	Yellowknife Ar	55.30	345	P	P	23 14 03.2	-2.1
	comp=Z,0.5nm,0.6s,mb3.7,baz=142,slow=7.1,SNR=9.9						

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*BJI **18** 23:11:21.5, 770S×15225E, h35km, mB5.6, mb5.3, Ms5.3, Msz5.0*

*ISCJB **18** 23:11:23.3±1.0, 735S±003×15191E±003, h24km±7km, mb5.3/108, MS5.1/129, Error ellipse: s-maj=6.0km s-min=5.6km az=136.3*

*IDC **18** 23:11:25.6±4.8, 731S×15198E, h31km±35km, mb4.9/20, mb1 5.0/22, mb1mx5.0/23, mbtmp4.9/22, ML4.8/2, MS5.0/16, Ms1 5.0/16, ms1mx4.8/22, Error ellipse: s-maj=16.2km s-min=11.9km az=70.0*

*MOS **18** 23:11:25.2±1.1, 725S×15177E, h35km, mb5.6/38, MS5.0/17, Error ellipse: s-maj=10.0km s-min=6.6km az=88.6*

*NEIC **18** 23:11:26.3±0.2, 732S×15191E, h35km, mb5.5/54, MS5.2/99, MW5.7, Error ellipse: s-maj=5.8km s-min=4.2km az=114.0, Moment Tensor Solution. s10 Moment tensor: Scale 10^{17}Nm; Mrr-0.10; Mθθ-4.94; Mφφ5.03; Mrθ-0.61; Mθφ-1.11; Mφr-0.62; Best double couple: Mo5.20000×10^{17} NP1:φs129.00000°, δ80.00000°, λ-179.00000°. NP2: φs39.00000°, δ89.00000°, λ-10.00000°. Principal axes: T 5.2100, Plg6.0000°, Azm84.0000°; N -0.0600, Plg80.0000°, Azm211.0000°; P -5.1500, Plg8.0000°, Azm353.0000°;*

*GCMT **18** 23:11:26.3±0.1, 729S×15209E, h27km, MW5.8/110, Moment Tensor Solution. s106,c208; s110,c327; Duration: 1s8 Moment tensor: Scale 10^{17}Nm; Mrr-0.38±.04; Mθθ-2.52±.04; Mφφ2.90±.04; Mrθ-0.59±.08; Mθφ-4.28±.04; Mφr0.73±.09; Best double couple: Mo5.14200×10^{17} NP1:φs17.00000°, δ82.00000°, λ5.00000°. NP2:φs286.00000°, δ85.00000°, λ172.00000°. Principal axes: T 5.4030, Plg9.0000°, Azm241.0000°; N -0.5220, Plg81.0000°, Azm75.0000°; P -4.8820, Plg2.0000°, Azm331.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

ISC 18 23:11:27.0±0.7**, 737S**±004×**15195E**±003**, h39**km±7km**,** **h34**km±2.4km**: pP-P, n352, σ1s11**/261**, mb5.3**/108**, MS5.1**/129**, 34C-13D, New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
HNR	Honiara	8.18	105	eP	Pn	23 13 23.4	+0.2
HNR				pmax	pmax		
	comp=Z,410nm,0.6s						
HNR	Honiara	8.18	105	ePn	Pn	23 13 23.4	+0.2
HNR	Honiara	8.18	105	Pn	Pn	23 13 23.2	0.0
	comp=Z,31nm,0.3s,baz=288,slow=1.6,SNR=8.5						
HNR				Sn	Sn	23 14 51.8	-2.6
	baz=264,slow=16,SNR=1.2						
HNR				LR	LR	23 15 44.2	
	comp=Z,9μm,19.9s,baz=336,slow=32						
COEN	Coen	10.82	232	ePn	Pn	23 13 59.7	+0.1
	comp=Z,22nm,0.6s						
CTA	Charters Tower	13.80	203	eP	Pn	23 14 41.8	+1.6
	comp=Z,39nm,1.3s						
CTA				eS	Sn	23 17 20.0	+7.9
CTA	Charters Tower	13.80	203	eP	Pn	23 14 41.8	+1.6
CTA				eS	Sn	23 17 20.0	+7.9
CTA				pmax	pmax		
	comp=Z,39nm,1.3s						
CTA	Charters Tower	13.80	203	Pn	Pn	23 14 40.9	+0.7
	comp=Z,1.8nm,0.3s,baz=32,slow=14,SNR=20						
CTA				LR	LR	23 19 24.6	
	comp=Z,8μm,18.8s,baz=23,slow=35						
CTAO	Charters Tower	13.80	203	eP	Pn	23 14 40.9	+0.7
EIDS	Eidsvold	17.92	183	ePn	Pn	23 15 32.9	-0.4
KAKA	Kakadu	19.92	253	⇑iP	Pn	23 15 55.3	-2.2
	comp=Z,526nm,0.6s						
DZM	Mont Dzumac	20.23	138	eP	P	23 15 59.6	+0.7
WRAB	Tennant Creek	21.15	232	P	P	23 16 09.0	+0.1
	comp=Z,3μm,0.8s						
WRAB	Tennant Creek	21.15	232	eP	P	23 16 08.5	-0.4
WRAB				pmax	pmax		
	comp=Z,330nm,0.7s,mb5.8						
WRAB	Tennant Creek	21.15	232	eP	P	23 16 08.5	-0.4
	comp=Z,331nm,0.7s,mb5.8						
WB2	Warramunga Arr	21.15	232	⇑iP	P	23 16 08.6	-0.3
WB2				eS	S	23 20 11.0	+8.8
WRA	Warramunga Arr	21.16	232	P	P	23 16 08.8	-0.2
	comp=Z,250nm,0.8s,mb5.6,baz=56,slow=11,SNR=287						
WRA				LR	LR	23 24 36.4	
	comp=Z,6μm,18.6s,MS5.0,baz=55,slow=37						
GUMO	Guam	21.97	341	eP	P	23 16 17.0	-0.7
GUMO	Guam	21.97	341	eP	P	23 16 16.0	-1.7
	comp=Z,1μm,1.1s,mb6.2						
GUMO				LR	LR		
	comp=Z,5μm,19.0s,MS4.9						
GUMO	Guam	21.97	341	P	P	23 16 15.9	-1.8
	comp=Z,709nm,1.1s,mb6.0,baz=170,slow=6.6,SNR=14						
ARMA	Armidale	22.93	181	eP	P	23 16 27.3	-0.5
ARMA				eS	S	23 20 37.8	+2.6
ASAR	Alice Springs	23.72	225	P	P	23 16 35.5	-0.1
	comp=Z,154nm,0.8s,mb5.5,baz=60,slow=8.7,SNR=939						
STKA	Stephens Creek	26.23	200	eP	P	23 16 57.2	-1.1
	comp=Z,58nm,0.8s,mb5.2						
STKA				eS	S	23 21 40.8	+13
STKA	Stephens Creek	26.23	200	P	P	23 16 57.5	-0.8
	comp=Z,24nm,0.7s,mb4.8,baz=16,slow=10,SNR=26						
STKA				LR	LR	23 27 13.5	
	comp=Z,6μm,18.9s,MS5.1,baz=209,slow=36						
RIV	Riverview	26.34	181	eP	P	23 17 01.9	+2.5
FUNA	Funafuti	27.01	94	eP	P	23 17 03.3	-2.4
	comp=Z,157nm,1.2s,mb5.4						
FUNA				LR	LR		
	comp=Z,7μm,19.0s,MS5.2						
FITZ	Fitzroy Crossi	27.75	245	⇑iP	P	23 17 11.8	-0.4
	comp=Z,202nm,0.5s,mb6.0						
FITZ				eS	S	23 21 50.9	-1.5
FITZ	Fitzroy Crossi	27.75	245	P	P	23 17 12.0	-0.2
	comp=Z,94nm,0.5s,mb5.7,baz=68,slow=9.4,SNR=340						
FITZ				LR	LR	23 28 56.1	
	comp=Z,3μm,19.2s,MS4.8,baz=256,slow=38						
CNB	Canberra Magne	27.92	185	eP	P	23 17 15.2	+1.7
	comp=Z,58nm,1.0s,mb5.2						
BATI	Kupang	28.09	262	P	P	23 17 16.4	+1.1
	comp=Z,201nm,0.8s,mb5.8,baz=132,slow=0.7,SNR=19						
DAV	Davao City (W)	29.95	298	PFAKE		23 17 40.0	+8.1
DAV				LR	LR		
	comp=Z,3μm,19.0s,MS4.9						
KAPI	Kappang	32.09	272	P	P	23 17 50.6	-0.1
	comp=Z,1μm,0.9s,SNR=34						
FORT	Forrest	32.29	221	eP	P	23 17 51.9	-0.3
	comp=Z,281nm,0.7s,mb6.2						
MBWA	Marble Bar	34.01	243	eP	P	23 18 07.2	-0.2
	comp=Z,469nm,2.3s,mb6.0						
MBWA				LR	LR		
	comp=Z,3μm,22.0s,MS5.0						
TAU	Tasmania Unive	35.63	186	eP	P	23 18 22.0	+0.9
TAU				pmax	pmax		
	comp=Z,168nm,1.4s,mb5.8						
TAU	Tasmania Unive	35.63	186	eP	P	23 18 21.9	+0.9
	comp=Z,168nm,1.4s,mb5.8						
TSM	Tawau	35.92	288	⇓P	P	23 18 24.3	+0.3
AFI	Afiamalu	36.21	103	eP	P	23 18 30.7	+4.3
AFI				pmax	pmax		
	comp=Z,188nm,1.4s,mb5.8						
AFI				MLR	MLR		
	comp=Z,3μm,22.0s,MS5.1						
AFI	Afiamalu	36.21	103	eP	P	23 18 30.7	+4.3
	comp=Z,188nm,1.4s,mb5.8						
AFI				LR	LR		
	comp=Z,3μm,22.0s,MS5.1						
SDKM	Sandakan	37.00	290	⇓P	P	23 18 34.0	+0.8
KKM	Kota Kinabalu	38.06	290	eP	P	23 18 41.4	-0.7
KKM	Kota Kinabalu	38.06	290	⇓P	P	23 18 42.3	+0.1
URZ	Urewera	38.25	147	P	P	23 18 42.9	-0.5
	comp=Z,8.3nm,0.6s,mb4.6,baz=320,slow=4.0,SNR=13						
SNZO	South Karori	39.39	153	PFAKE		23 19 00.0	+7.0
SNZO				LR	LR		
	comp=Z,2μm,20.0s,MS4.9						
RPZ	Rata Peaks	39.89	158	P	P	23 18 56.0	-1.1
RPZ	Rata Peaks	39.89	158	P	P	23 18 56.0	-1.1
	comp=Z,12nm,0.6s,mb4.8,baz=222,slow=5.3,SNR=12						
KLBR	Kellerberrin	39.96	228	⇑iP	P	23 18 56.5	-1.3
	comp=Z,51nm,1.0s,mb5.2						
BTM	Bintulu	40.18	284	⇑P	P	23 19 02.3	+2.4
SBUM	Sibu	40.82	282	⇑P	P	23 19 07.1	+1.8
NWAO	Narrogin (SRO)	41.01	227	PFAKE		23 19 20.0	+14
NWAO				LR	LR		
	comp=Z,5μm,19.0s,MS5.4						
MUN	Mundaring	41.30	229	⇑iP	P	23 19 08.3	-0.6
MUN				eS	S	23 25 23.2	+2.7
KSM	Kuching	42.46	280	eP	P	23 19 18.9	+0.3
KSM	Kuching	42.46	280	⇑P	P	23 19 19.8	+1.2
NACB	Ninganchiao	43.13	318	eP	P	23 19 23.1	-0.7
YHNB	Yeheng	43.61	318	eP	P	23 19 27.2	-0.5
TATO	Taipei	43.74	318	PFAKE		23 19 40.0	+11
TATO				LR	LR		
	comp=Z,2μm,21.0s,MS5.0						
MJAR	Matsushiro Arr	45.54	344	P	P	23 19 40.7	-2.2
	comp=Z,8.9nm,0.9s,mb4.7,baz=171,slow=7.3,SNR=20						
MJAR				LR	LR	23 35 51.6	
	comp=Z,1μm,21.7s,MS4.8,baz=170,slow=32						
MAJO	Matsushiro	45.54	344	eP	P	23 19 41.8	-1.2
	comp=Z,32nm,1.0s,mb5.2						
MAJO				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
MAT	Matsushiro	45.54	344	P	P	23 19 42.0	-0.9
MAT				S	S	23 26 23.0	+0.6
QZH	Quanzhou	45.68	316	P	P	23 19 46.6	+2.4
QZH				S	S	23 26 25.1	+0.3
QZH				LR	LR		
	comp=N,1μm,12.9s						
QZH				LR	LR		
	comp=E,2μm,21.4s						
QZH				LR	LR		
	comp=Z,2μm,19.3s						
XMIS	Christmas Isla	45.81	263	eP	P	23 19 38.6	-6.8
MIDW	Midway	46.14	39	PFAKE		23 20 00.0	+12
MIDW				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
SSE	Sheshan	48.27	324	P	P	23 20 06.0	+1.7
SSE				XP	sP	23 20 22.8	+2.5
SSE				S	S	23 27 04.8	+3.3
SSE				XS	sS	23 27 23.3	+3.0
SSE				AMB	AMB		
	comp=Z,35nm,0.9s,mb5.4						
SSE				AMB	AMB		
	comp=Z,317nm,11.2s						
SSE				LR	LR		
	comp=N,1μm,18.4s,MS5.0						
SSE				LR	LR		
	comp=E,1μm,18.4s,MS5.0						
SSE				LR	LR		
	comp=Z,1μm,19.6s,MS4.9						
RAR	Rarotonga	48.57	112	PFAKE		23 20 20.0	+13
RAR				LR	LR		
	comp=Z,1.0nm,22.0s						
MYKOM	Kota Tinggi	48.84	279	⇑P	P	23 20 09.7	+0.5
QIZ	Qiongzhong	49.09	303	P	P	23 20 11.6	+0.7
QIZ				XP	sP	23 20 25.8	-1.1
QIZ				PP	PP	23 22 01.8	-3.1
QIZ				S	S	23 27 11.6	-1.9
QIZ				SS	SS	23 30 46.3	+1.1
QIZ				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.1						
QIZ				AMB	AMB		
	comp=Z,206nm,5.1s						
QIZ				LR	LR		
	comp=N,2μm,25.0s						
QIZ				LR	LR		
	comp=Z,1μm,22.1s,MS4.8						
KGM	Kluang	49.41	279	⇑P	P	23 20 14.2	+0.7
ERM	Erimo	49.80	351	PFAKE		23 20 30.0	+14
ERM				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
KSRS	Korea Array	49.92	335	P	P	23 20 16.9	0.0
	comp=Z,14nm,0.9s,mb5.0,baz=153,slow=8.1,SNR=26						
KSRS				LR	LR	23 38 13.0	
	comp=Z,853nm,21.8s,MS4.7,baz=290,slow=32						
KS15	Wonju Array Si	49.93	335	eP	P	23 20 16.5	-0.4
KTGM	Kuala Trenggan	50.31	283	⇑P	P	23 20 21.4	+1.1
NJ2	Nanjing	50.33	323	eP	P	23 20 21.4	+1.3
NJ2				AP	pP	23 20 30.9	-0.6
NJ2				XP	sP	23 20 35.5	-0.6
NJ2				PCP	PcP	23 21 34.3	-4.2
NJ2				S	S	23 27 29.0	-1.4
NJ2				XS	sS	23 27 54.0	+4.7
NJ2				AMB	AMB		
	comp=Z,70nm,1.2s,mb5.6						
NJ2				AMB	AMB		
	comp=Z,650nm,4.1s						
NJ2				LR	LR		
	comp=N,3μm,21.4s,MS5.3						
NJ2				LR	LR		
	comp=E,2μm,24.0s,MS5.3						
NJ2				LR	LR		
	comp=Z,2μm,24.0s,MS5.0						
INCN	Inchon	50.50	334	PFAKE		23 20 30.0	+8.7
INCN				LR	LR		
	comp=Z,1μm,20.0s,MS4.9						
FRIM	Kepong	51.31	280	⇑P	P	23 20 27.3	-0.5
WHN	Wuhan	52.15	318	⇓P	P	23 20 35.8	+2.0
WHN				S	S	23 27 53.8	-1.8
WHN				LR	LR		
	comp=N,2μm,16.4s,MS5.3						
WHN				LR	LR		
	comp=E,1μm,16.0s,MS5.3						
WHN				LR	LR		
	comp=Z,2μm,20.0s,MS5.2						
IPM	Ipoh	52.16	281	⇓P	P	23 20 34.3	+0.1
KULM	Kulim	52.71	282	eP	P	23 20 37.6	-0.7
KULM	Kulim	52.71	282	⇓P	P	23 20 38.0	-0.2
PSI	Prapat	53.86	279	P	P	23 20 45.8	-0.9
	comp=Z,5.7nm,0.6s,mb4.7,baz=136,slow=5.6,SNR=10						
PSI	Prapat	53.86	279	⇓eP	P	23 20 45.6	-1.2
DL2	Dalian	53.96	331	⇑P	P	23 20 49.4	+2.4
DL2				S	S	23 28 24.8	+4.9
DL2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
DL2				AMB	AMB		
	comp=Z,140nm,5.9s						
DL2				LR	LR		
	comp=N,440nm,22.8s,MS4.7						
DL2				LR	LR		
	comp=E,550nm,21.7s,MS4.7						
DL2				LR	LR		
	comp=Z,700nm,20.1s,MS4.7						
KKTK	Khon Kaen	54.01	296	P	P	23 20 48.4	+0.7
	comp=Z,432nm,1.0s						
COCO	West Island	54.45	260	PFAKE		23 21 00.0	+9.0
COCO				LR	LR		
	comp=Z,714nm,22.0s,MS4.7						
YSS	Yuzh-Sakhalins	54.69	352	eP	P	23 20 56.0	+3.9
YSS				eS	S	23 28 30.0	+0.5
YSS				ePS		23 28 39.0	
YSS				pmax	pmax		
	comp=E,40nm,1.0s						
YSS				pmax	pmax		
	comp=Z,40nm,1.0s,mb5.4						
YSS				MLR	MLR		
	comp=Z,500nm,17.0s,MS4.7						
YSS	Yuzh-Sakhalins	54.69	352	eP	P	23 20 53.6	+1.4
	comp=Z,34nm,1.0s,mb5.3						
YSS				LR	LR		
	comp=Z,1μm,22.0s,MS4.9						
GYA	Guiyang	55.31	309	P	P	23 20 57.3	+0.3
GYA				AP	pP	23 21 12.8	+4.3
GYA				XP	sP	23 21 16.8	+3.7
GYA				PP	PP	23 23 05.6	+4.5
GYA				PPP		23 24 19.4	
GYA				S	S	23 28 35.9	-2.6
GYA				SCS	ScS	23 30 42.6	-0.8
GYA				AMB	AMB		

comp=Z,50nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,350nm,5.6s
GYA LR LR
comp=N,3μm,22.2s,MS5.3
GYA LR LR
comp=E,1μm,19.8s,MS5.3
GYA LR LR
comp=Z,1μm,21.0s,MS4.9
ENH Enshi 55.31 315 PFAKE 23 21 10.0 +13
ENH LR LR
comp=Z,2.0nm,22.0s
SNY Shenyang 55.41 334 ⇑P **P** **23 20 58.1 +0.7**
SNY S **S** **23 28 39.6 +0.2**
SNY AMB AMB
comp=Z,14nm,0.7s,mb5.1
SNY AMB AMB
comp=Z,575nm,6.0s
SNY LR LR
comp=N,1μm,18.1s,MS5.2
SNY LR LR
comp=E,1μm,18.4s,MS5.2
SNY LR LR
comp=Z,1μm,19.8s,MS4.9
MDJ Mudanjiang 55.53 341 P **P** **23 20 59.1 +0.9**
MDJ AP pP 23 21 07.5 -2.2
MDJ XP sP 23 21 11.6 -2.7
MDJ S **S** **23 28 41.9 +1.1**
MDJ AMB AMB
comp=Z,27nm,1.5s,mb5.1
MDJ AMB AMB
comp=Z,404nm,5.4s
MDJ LR LR
comp=N,1μm,36.6s,MS5.0
MDJ LR LR
comp=E,2μm,37.2s,MS5.0
MDJ LR LR
comp=Z,933nm,30.5s
CN2 Changchun 56.30 337 *e*P **P** **23 21 07.9 +4.2**
CN2 *e*AP pP 23 21 18.0 +2.7
CN2 *e*XP sP 23 21 21.9 +2.0
CN2 *e*S **S** **23 28 55.8 +4.7**
CN2 AMB AMB
comp=Z,20nm,1.3s,mb5.0
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,700nm,15.0s,MS4.9
CN2 LR LR
comp=E,400nm,15.0s,MS4.9
CN2 LR LR
comp=Z,800nm,21.0s
NANT Nan 56.81 298 ⇓P **P** **23 21 07.0 -0.9**
comp=Z,572nm,1.0s
KIP Kipapa 56.82 59 *e*P **P** **23 21 08.5 +0.6**
KIP pmax pmax
comp=Z,99nm,1.0s,mb5.8
KIP Kipapa 56.82 59 *e*P **P** **23 21 08.5 +0.6**
comp=Z,99nm,1.0s,mb5.8
HABR Khabarovsk 57.56 347 *e*P **P** **23 21 10.4 -2.1**
HABR *e* 23 23 18.0
HABR *e*S **S** **23 29 06.5 -1.0**
BJT Baijiatuau 57.56 328 *e*P **P** **23 21 13.3 +0.5**
BJT pmax pmax
comp=Z,19nm,1.1s
BJT Baijiatuau 57.56 328 *e*P **P** **23 21 13.2 +0.5**
comp=Z,19nm,1.1s,mb5.0
BJI Beijing 57.58 328 P **P** **23 21 12.6 -0.3**
BJI AP pP 23 21 23.5 -0.9
BJI XP sP 23 21 28.3 -0.7
BJI PP PP 23 23 24.4 +3.4
BJI S **S** **23 29 00.5 -7.6**
BJI XS sS 23 29 27.8 +0.5
BJI SS SS 23 33 04.8 +5.9
BJI AMB AMB
comp=Z,11nm,1.8s,mb4.6
BJI AMB AMB
comp=Z,480nm,4.9s
BJI LR LR
comp=N,1μm,19.3s,MS5.1
BJI LR LR
comp=E,905nm,20.7s,MS5.1
BJI LR LR
comp=Z,1μm,20.7s,MS4.9
KMI Kunming 57.75 306 P **P** **23 21 15.6 +1.2**
KMI AP pP 23 21 23.3 -2.7
KMI XP sP 23 21 28.8 -1.8
KMI PP PP 23 23 24.5 +1.6
KMI PPP 23 24 39.0
KMI S **S** **23 29 07.8 -3.1**
KMI AMB AMB
comp=Z,60nm,1.0s,mb5.6
KMI AMB AMB
comp=Z,448nm,5.3s
KMI LR LR
comp=N,1μm,24.7s,MS5.0
KMI LR LR
comp=E,849nm,24.7s,MS5.0
KMI LR LR
comp=Z,1μm,21.4s,MS5.0
PPT Papeete 57.80 106 *e*S **S** **23 29 12.3 +0.5**
comp=Z,2μm,28.0s
PPT *e*LQ 23 35 53.0
comp=Z,12μm,30.8s
PPT *e*LR LR 23 37 59.8
comp=Z,2μm,23.2s,baz=271
PPT Papeete 57.80 106 LR LR 23 40 11.1
comp=Z,1μm,20.3s,MS4.9,baz=274,slow=30
XAN Xi'an 57.92 318 P **P** **23 21 14.8 -0.6**
XAN AMB AMB
comp=Z,51nm,1.2s,mb5.4
SKR Severo-Kuril's 57.92 3 *e*P **P** **23 21 12.0 -3.1**
SKR *e*S **S** **23 29 15.0 +2.7**
SKR *e*PS 23 29 38.0
SKR *e*SSS 23 35 24.0
SKR pmax pmax
comp=Z,80nm,0.9s,mb5.8
SKR pmax pmax
comp=Z,800nm,4.0s
SKR smax
comp=N,1μm,10.0s
SKR smax
comp=E,2μm,10.0s
SKR MLR MLR
comp=Z,1μm,18.0s,MS5.0
SKR MLR MLR
comp=E,1μm,16.0s
KHU Kahuku 58.02 62 *e*P **P** **23 21 16.6 +0.2**
TIY Taiyuan 58.05 324 ⇑*i*P **P** **23 21 18.8 +2.6**
TIY PP PP 23 23 23.8 -1.4
TIY PPP 23 24 48.3
TIY S **S** **23 29 14.4 +0.1**
TIY AMB AMB
comp=Z,548nm,7.2s
TIY LR LR
comp=N,1μm,18.6s,MS5.2
TIY LR LR
comp=E,987nm,15.3s,MS5.2
TIY LR LR
comp=Z,2μm,19.0s,MS5.2
CHG Chiang Mai 58.36 297 ⇑P **P** **23 21 18.9 +0.1**
comp=Z,146nm,1.3s,mb5.8
CHTO Chiang Mai 58.36 297 *e*P **P** **23 21 18.5 -0.3**
CHTO pmax pmax
comp=Z,99nm,1.3s,mb5.7
CHTO MLR MLR
comp=Z,723nm,22.0s,MS4.8
CHTO Chiang Mai 58.36 297 *e*P **P** **23 21 18.5 -0.3**
comp=Z,99nm,1.3s,mb5.7
CHTO LR LR
comp=Z,723nm,22.0s,MS4.8
KLR Kul'dur 59.07 345 *e*P **P** **23 21 19.4 -3.7**
KLR pmax pmax
comp=E,58nm,2.0s
KLR pmax pmax
comp=Z,140nm,2.0s,mb5.7
CD2 Chengdu 59.79 312 ⇑*i*P **P** **23 21 28.4 -0.1**
CD2 AP pP 23 21 39.3 -0.8
CD2 XP sP 23 21 42.6 -2.0
CD2 PP PP 23 23 41.9 +1.1
CD2 PCS PcS 23 26 13.8 -3.4
CD2 S **S** **23 29 35.0 -2.2**
CD2 XS sS 23 29 53.8 -2.7
CD2 SCS ScS 23 31 12.5 -3.5
CD2 SS SS 23 33 34.3 +0.3
CD2 AMB AMB
comp=Z,70nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,510nm,5.5s
CD2 LR LR
comp=N,2μm,28.2s,MS5.1
CD2 LR LR
comp=E,1μm,30.0s,MS5.1
CD2 LR LR
comp=Z,1μm,25.8s,MS5.0
PET Petropavlovsk 60.43 5 *e*P **P** **23 21 34.2 +1.8**
PET *e*S **S** **23 29 48.7 +4.2**
PET *e*PS 23 30 02.8
PET pmax pmax
comp=Z,200nm,6.4s
PET pmax pmax
comp=Z,400nm,3.8s
PET pmax pmax
comp=Z,31nm,0.7s,mb5.5
PET pmax pmax
comp=Z,100nm,14.8s
PET Petropavlovsk 60.43 5 *e*P **P** **23 21 31.6 -0.7**
comp=Z,16nm,0.6s,mb5.2
PET LR LR
comp=Z,643nm,19.0s,MS4.8
HHC Hu-ho-hao-te 60.65 326 ⇑P **P** **23 21 35.3 +1.1**
HHC AP pP 23 21 46.0 +0.2
HHC XP sP 23 21 49.3 -1.1
HHC PCP PcP 23 22 19.8 +1.7
HHC PP PP 23 23 52.0 +3.7
HHC SCP ScP 23 26 15.6 -0.9
HHC S **S** **23 29 49.3 +1.4**
HHC XS sS 23 30 06.4 -0.8
HHC SCS ScS 23 31 19.5 -2.5
HHC SS SS 23 33 48.9 +1.8
HHC AMB AMB
comp=Z,52nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,742nm,5.8s
HHC LR LR
comp=N,1μm,19.2s,MS5.3
HHC LR LR
comp=E,2μm,18.4s,MS5.3
HHC LR LR
comp=Z,3μm,18.8s,MS5.4
BTO Baotou 61.36 325 *e*P **P** **23 21 39.3 +0.3**
LZH Lanzhou 62.50 317 ⇑P **P** **23 21 47.9 +1.2**
LZH AP pP 23 21 58.3 -0.1
LZH XP sP 23 22 01.6 -1.4
LZH PP PP 23 24 07.5 +2.8
LZH *e*S **S** **23 30 11.5 0.0**
LZH XS sS 23 30 29.3 -1.6
LZH SS SS 23 34 15.0 -1.3
LZH AMB AMB
comp=Z,114nm,1.5s,mb5.8
LZH AMB AMB
comp=Z,380nm,4.0s
LZH LR LR
comp=E,2μm,16.1s
LZH LR LR
comp=Z,3μm,17.0s,MS5.5
HIA Hailar 63.03 337 *d i*P **P** **23 21 50.2 +0.2**
HIA Hailar 63.03 337 *e*P **P** **23 21 50.0 0.0**
comp=Z,70nm,1.1s,mb5.7
HIA LR LR
comp=Z,1μm,22.0s,MS5.0
ADK Adak 64.85 21 *e*P **P** **23 22 01.0 -0.9**
ADK pmax pmax
comp=Z,115nm,1.3s,mb5.8
ADK MLR MLR
comp=Z,1μm,20.0s,MS5.1
ADK Adak 64.85 21 *e*P **P** **23 22 01.0 -0.9**
comp=Z,115nm,1.3s,mb5.8
ADK LR LR
comp=Z,1μm,20.0s,MS5.1
IMP Imphal 64.88 302 *e*P **P** **23 22 03.0 +0.3**
CASY Casey 65.33 197 *e*P **P** **23 22 04.5 -0.3**
CASY LR LR
comp=Z,3μm,19.0s,MS5.5
MA2 Magadan 66.73 359 *e*P **P** **23 22 14.0 +0.2**
MA2 *e* 23 22 49.3
MA2 *e*S S 23 31 00.0 -2.8
MA2 Magadan 66.73 359 *e*P **P** **23 22 13.7 -0.1**
comp=Z,117nm,1.3s,mb5.8
MA2 LR LR
comp=Z,568nm,19.0s,MS4.8
SHL Shillong 66.90 302 ⇑*i*P **P** **23 22 16.0 +0.4**
SHL *e*S S 23 31 08.0 +1.9
GTA Gaotai 66.98 318 P **P** **23 22 15.8 -0.1**
GTA AP pP 23 22 26.3 -1.3
GTA XP sP 23 22 30.3 -1.9
GTA PP PP 23 24 45.6 +1.7
GTA PPP 23 26 21.8
GTA S S 23 31 05.8 -0.8
GTA XS sS 23 31 22.5 -3.6
GTA PS 23 31 32.4
GTA SS SS 23 35 26.3 +0.3
GTA AMB AMB
comp=Z,28nm,1.6s,mb5.0
GTA AMB AMB
comp=Z,457nm,6.1s
GTA LR LR
comp=N,554nm,19.0s,MS4.9
GTA LR LR
comp=E,567nm,22.8s,MS4.9
GTA LR LR
comp=Z,747nm,27.0s,MS4.8
NRGR Nerungri 67.61 344 *e*P **P** **23 22 21.6 +2.1**
NRGR S S 23 31 20.6 +7.1
NRGR smax
comp=N,30nm,0.4s
CLNS Chul'man 67.72 344 *e*P **P** **23 22 19.2 -1.0**
CLNS *e**PP pP 23 22 25.8 -6.2
CLNS *e* 23 22 46.1
CLNS *e*S S 23 31 15.3 +0.5
CLNS *e*PS 23 31 52.6
CLNS *e* 23 32 10.1
CLNS pmax pmax
comp=Z,49nm,1.2s,mb5.4
CLNS pmax pmax
comp=N,24nm,1.0s
CLNS pmax pmax
comp=E,14nm,0.8s
CLNS pmax pmax
comp=Z,12nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,16nm,0.8s
CLNS pmax pmax
comp=E,9.0nm,0.8s
CLNS smax
comp=N,377nm,11.2s
CLNS smax
comp=E,264nm,13.5s
CLNS MLR MLR
comp=Z,400nm,16.0s,MS4.7
CLNS MLR MLR
comp=N,300nm,15.0s,MS4.7
CLNS MLR MLR
comp=E,200nm,15.0s,MS4.7
ULN Ulaanbaatar 67.73 329 ⇑*e*P **P** **23 22 21.2 +0.8**
ULN Ulaanbaatar 67.73 329 *e*P **P** **23 22 21.1 +0.7**
comp=E,57nm,1.1s,mb5.5
ULN LR LR
comp=Z,957nm,20.0s,MS5.0
SONM Songino Array 68.05 329 P **P** **23 22 23.2 +0.8**
comp=Z,49nm,1.0s,mb5.5,baz=123,slow=5.5,SNR=24
SONM LR LR 23 51 37.7
comp=Z,775nm,19.3s,MS5.0,baz=256,slow=36
LSA Lhasa 69.01 306 P **P** **23 22 30.1 +1.3**
LSA PCP PcP 23 22 54.0 +1.1
LSA S S 23 31 25.3 -5.9
LSA XS sS 23 31 56.4 +5.6
LSA LR LR
comp=N,790nm,43.6s,MS4.8
LSA LR LR
comp=E,810nm,47.4s,MS4.8
LSA LR LR
comp=Z,840nm,41.7s
LSA Lhasa 69.01 306 *e*P **P** **23 22 29.8 +1.0**
LSA pmax pmax
comp=Z,127nm,1.3s,mb5.7
LSA MLR MLR
comp=Z,549nm,20.0s,MS4.8
LSA Lhasa 69.01 306 *e*P **P** **23 22 29.8 +0.9**
comp=Z,127nm,1.3s,mb5.7
LSA LR LR
comp=Z,549nm,20.0s,MS4.8
SEY Seymchan 70.09 0 ⇑*e*P **P** **23 22 35.1 +0.3**
UNV Unalaska Valle 70.29 25 PFAKE 23 22 50.0 +14
UNV LR LR
comp=Z,5μm,22.0s,MS5.7
VNDA Vanda 70.31 178 P **P** **23 22 36.6 +0.6**
comp=Z,5.3nm,0.9s,mb4.5,baz=331,slow=6.3,SNR=23
VNDA LR LR 23 51 44.6
comp=Z,692nm,19.1s,MS4.9,baz=346,slow=34
SBA Scott Base 70.88 177 *e*P **P** **23 22 40.5 +1.0**
SBA pmax pmax
comp=Z,25nm,1.2s,mb5.0
SBA MLR MLR
comp=Z,895nm,20.0s,MS5.0
SBA Scott Base 70.88 177 *e*P **P** **23 22 40.5 +1.0**
comp=Z,25nm,1.2s,mb5.0
SBA LR LR
comp=Z,895nm,20.0s,MS5.0
MIR Mirnyy 71.24 201 *e*P pP 23 22 51.0 -2.7
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
ZAK Zakamensk 71.25 329 ⇑*i*P **P** **23 22 42.7 +0.6**
ZAK pmax pmax
comp=Z,70nm,1.2s,mb5.5
ZAK pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
ZAK pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
YAK Yakutsk 71.31 349 *e*P **P** **23 22 44.2 +2.0**
YAK *e* pP 23 22 58.1 +4.0
YAK *e* 23 32 18.8
YAK pmax pmax
comp=Z,50nm,1.1s,mb5.4
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,11nm,1.1s
YAK pmax pmax
comp=Z,72nm,1.8s,mb5.3
YAK pmax pmax
comp=N,134nm,4.3s
YAK pmax pmax
comp=E,195nm,8.9s
YAK Yakutsk 71.31 349 PFAKE 23 22 50.0 +7.8
YAK LR LR
comp=Z,805nm,22.0s,MS4.9
BOK Bokaro 71.49 298 *e*P **P** **23 22 42.0 -2.1**
RKT Rikitea 71.61 112 *e*S S 23 31 59.6 -2.3
comp=Z,296nm,27.5s
RKT *e*LQ 23 41 42.3
comp=Z,3μm,38.0s
RKT *e*LR LR 23 44 44.2
comp=Z,2μm,27.5s,baz=278
TLY Talaya 71.88 331 P **P** **23 22 46.4 +0.6**
comp=Z,156nm,1.2s,mb5.8,SNR=5.8
TLY Talaya 71.88 331 *d i*P **P** **23 22 46.8 +1.0**
TLY *e* 23 25 25.7
TLY *e*S S 23 32 03.9 +0.1
TLY *e* 23 32 40.3
TLY pmax pmax
comp=Z,43nm,1.3s,mb5.2
BOD Bodaibo 71.88 340 *e*P **P** **23 22 45.0 -0.7**
BOD pmax pmax
comp=Z,38nm,1.5s,mb5.1
JIRN Jiri 72.40 302 *e*P **P** **23 22 49.7 +0.2**
comp=Z,48nm,0.8s,mb5.5
GUN Gumba 72.74 302 *e*P **P** **23 22 51.6 +0.1**
comp=Z,105nm,0.7s,mb5.9
PKI Pulchoki 73.03 302 *e*P **P** **23 22 53.0 -0.3**
MOY Mondy 73.17 330 *e*P **P** **23 22 54.7 +1.1**
MOY pmax pmax
comp=Z,170nm,1.5s,mb5.8
KKN Kakani 73.20 302 *e*P **P** **23 22 54.3 0.0**
DMN Daman 73.30 302 *e*P **P** **23 22 55.1 +0.2**
comp=Z,100nm,0.8s,mb5.8
GKN Gorkha 73.81 302 *e*P **P** **23 22 57.4 -0.5**
comp=Z,212nm,1.3s,mb5.9
SDPT Sand Point 73.88 26 *e*P **P** **23 23 03.1 +5.4**
comp=Z,70nm,0.9s,mb5.6
BLSP Bilaspur 74.36 295 *e*P **P** **23 23 00.6 -0.6**
BLSP AMb AMB 23 23 16.7
comp=Z,30nm,0.7s,mb5.3
KOLN Koldanda 74.62 301 *e*P **P** **23 23 02.0 -0.6**
comp=Z,61nm,0.7s,mb5.7
DANN Dangsing 74.65 302 *e*P **P** **23 23 02.1 -0.7**
comp=Z,103nm,1.0s,mb5.7
BILL Bilibino 75.91 6 ⇑*e*P **P** **23 23 09.5 +0.4**
BILL *e* 23 25 56.1
BILL *e*S S 23 32 51.2 +2.6
BILL pmax pmax
comp=Z,45nm,1.2s,mb5.3
BILL Bilibino 75.91 6 *e*P **P** **23 23 09.4 +0.3**
comp=Z,58nm,1.0s,mb5.5
BILL LR LR
comp=Z,611nm,20.0s,MS4.9
GAMB Gambell 76.07 16 *e*P **P** **23 23 12.0 +1.9**
comp=Z,68nm,1.3s,mb5.4
KOD Kodaikanal 76.19 282 *e*P **P** **23 23 12.5 +0.6**
HYB Hyderabad 76.54 290 *e*P **P** **23 23 13.5 -0.3**
HYB Hyderabad 76.54 290 *i* P **P** **23 23 13.5 -0.3**
NGP Nagpur 76.90 294 *ex* x 23 22 55.1
WMQ Urumqi 77.06 318 P **P** **23 23 17.0 +0.8**
WMQ XP sP 23 23 31.0 -1.6
WMQ PP PP 23 26 12.0 +1.9
WMQ S S 23 33 02.0 -0.1
WMQ SS SS 23 38 02.0 +1.8
WMQ AMB AMB
comp=Z,35nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,75nm,6.0s
WMQ LR LR
comp=N,584nm,16.0s,MS5.1
WMQ LR LR
comp=E,475nm,16.0s,MS5.1
WMQ LR LR
comp=Z,562nm,15.0s,MS5.0
PTH Pithoragarh 77.97 302 *e*P **P** **23 23 17.3 -4.3**
AKL Akola 78.66 293 *e*P **P** **23 23 26.2 +0.6**
KDAK Kodiak Island 78.83 27 *e*P **P** **23 23 25.8 +0.1**
comp=Z,54nm,1.1s,mb5.4
KDAK LR LR
comp=Z,504nm,22.0s,MS4.8
BHPL Bhopal 78.84 295 *e*P **P** **23 23 24.4 -2.2**
SVW2 Sparrevohn 79.50 23 *e*P **P** **23 23 30.1 +0.8**
NDI New Delhi 80.29 301 *e*P **P** **23 23 32.7 -1.6**
TIXI Tiksi 80.32 353 *e*P **P** **23 23 33.1 -0.4**
TIXI *e*S S 23 33 36.2 +0.3
TIXI pmax pmax
comp=Z,19nm,1.3s,mb4.9
TIXI Tiksi 80.32 353 *e*P **P** **23 23 32.4 -1.1**
comp=Z,41nm,1.4s,mb5.2
TIXI LR LR
comp=Z,594nm,22.0s,MS4.9
TTA Tatalina 80.45 21 *e*P **P** **23 23 34.8 +0.4**
TTA pmax pmax
comp=Z,85nm,1.6s,mb5.4
TTA Tatalina 80.45 21 *e*P **P** **23 23 34.8 +0.4**
comp=Z,85nm,1.6s,mb5.4
KAD Karad 80.61 289 *e*P **P** **23 23 36.4 +0.1**
KAD AMb AMB 23 23 49.4
comp=Z,34nm,1.0s,mb5.2
SMLA Simla 80.92 303 *e*P **P** **23 23 37.5 -0.2**
SMLA AMb AMB 23 23 44.9
comp=Z,35nm,1.0s,mb5.2
POO Poona 81.15 290 *e*P **P** **23 23 39.6 +0.5**
POO AMb AMB 23 23 41.6
comp=Z,40nm,1.1s,mb5.2
SLKM Skilak Lake 81.34 25 *e*P **P** **23 23 38.8 -0.4**
MK31 Makanchi Array 81.70 319 ⇑*i*P **P** **23 23 41.2 -0.2**
MKAR Makanchi Array 81.70 319 P **P** **23 23 41.3 -0.1**
comp=Z,17nm,1.0s,mb4.9,baz=102,slow=6.4,SNR=82
MKAR PKKPbc PKKPbc 23 42 19.6 +4.2
comp=Z,0.3nm,0.7s,baz=266,slow=3.2,SNR=3.6
MKAR LR LR 00 01 54.4
comp=Z,518nm,18.9s,MS4.9,baz=247,slow=37
AJM Ajmer 82.02 298 *e*P **P** **23 23 41.1 -2.4**
SML Sawmill 82.80 24 *e*P **P** **23 23 46.6 -0.2**
ZAA0 Zalesovo Array 82.81 327 *e*P **P** **23 23 45.4 -1.7**
ZALV Zalesovo Beam 82.81 327 P **P** **23 23 45.8 -1.2**
comp=Z,11nm,0.6s,mb5.0,baz=108,slow=5.7,SNR=40
ZALV LR LR 00 01 46.4
comp=Z,429nm,21.0s,MS4.8,baz=290,slow=36
ZAL Zalesovo 82.82 327 P **P** **23 23 45.8 -1.3**
MAW Mawson 82.89 203 *e*P **P** **23 23 47.3 0.0**
comp=Z,9.2nm,0.6s,mb5.0
MAW Mawson 82.89 203 *e*P **P** **23 23 47.3 0.0**

MAW pmax pmax
comp=Z,9.0nm,0.6s
MAW Mawson 82.89 203 P **P 23 23 47.6 +0.4**
comp=Z,6.6nm,0.7s,mb4.8,baz=106,slow=5.0,SNR=14
MAW LR LR 23 58 07.4
comp=Z,708nm,20.6s,MS5.0,baz=192,slow=34
IMA2 Indian Mountai 83.14 20 *e*P **P 23 23 48.5 0.0**
DIV Divide 83.54 26 *e*P **P 23 23 50.4 -0.2**
comp=Z,21nm,0.7s,mb5.4
KSH Kashi 83.96 311 P **P 23 23 54.6 +1.3**
KSH *e*AP pP 23 24 04.1 -1.3
KSH *e*XP sP 23 24 08.0 -1.9
KSH *e*PP PP 23 27 09.3 +1.8
KSH *e*PPP 23 29 04.3
KSH *e*SKS 23 34 10.1
KSH *e*S S 23 34 13.5 -1.1
KSH *e*XS sS 23 34 31.4 -3.3
KSH *e*SS SS 23 39 45.1 +1.6
KSH AMB AMB
comp=Z,1μm,6.0s
KSH LR LR
comp=N,1μm,7.3s
KSH LR LR
comp=E,928nm,7.8s
KSH LR LR
comp=Z,894nm,11.2s,MS5.4
NVS Novosibirsk 84.01 327⇑ *i*P **P 23 23 51.2 -2.0**
NVS *i* S S 23 34 11.0 -3.4
NVS pmax pmax
comp=Z,108nm,2.2s,mb5.6
NVS pmax pmax
comp=N,43nm,2.4s
NVS pmax pmax
comp=E,60nm,2.4s
NVS pmax pmax
comp=Z,22nm,2.0s,mb4.9
NVS pmax pmax
comp=N,20nm,1.7s
NVS pmax pmax
comp=E,21nm,2.0s
NVS smax
comp=N,39nm,2.6s
NVS smax
comp=E,65nm,2.5s
COLA College 84.53 22 *e*P **P 23 23 55.0 -0.6**
COLA College 84.53 22 *e*P **P 23 23 54.0 -1.6**
comp=E,39nm,0.9s,mb5.5
COLA LR LR
comp=Z,977nm,20.0s,MS5.2
TKM2 Tokmak 2 85.09 314⇑ *i*P **P 23 23 58.9 -0.1**
TKM2 pmax pmax
comp=Z,46nm,1.2s,mb5.5
TKM2 Tokmak 2 85.09 314⇑ *i*P **P 23 23 58.9 -0.1**
comp=Z,46nm,1.2s,mb5.5
TKM2 Tokmak 2 85.09 314 P **P 23 23 59.2 +0.3**
SNR=25
KURK Kurchatov 85.26 322 P **P 23 23 59.5 -0.1**
comp=Z,262nm,1.2s,mb6.2,SNR=17
KURK Kurchatov 85.26 322⇑ *e*P **P 23 23 58.6 -1.0**
KURK Kurchatov 85.26 322⇑ *i*P **P 23 23 58.5 -1.1**
comp=Z,74nm,1.1s,mb5.7
KURK LR LR
comp=Z,623nm,20.0s,MS5.0
KBK Karagaybulak 85.49 314 P **P 23 24 01.5 +0.5**
SNR=21
UCH Uchtor 85.70 313 *e*P **P 23 24 02.8 +0.8**
comp=Z,42nm,1.1s,mb5.6
UCH Uchtor 85.70 313 P **P 23 24 02.9 +0.9**
SNR=33
CHMS Chumysh 85.72 314 P **P 23 24 02.1 +0.1**
FRU Bishkek 85.77 314⇑ *i*P **P 23 24 02.5 +0.2**
FRU pmax pmax
comp=Z,120nm,1.8s,mb5.8
AAK Ala-Archa 85.81 314 P **P 23 24 02.8 +0.3**
comp=Z,158nm,1.1s,mb6.2,SNR=20
AAK Ala-Archa 85.81 314 P **P 23 24 03.1 +0.6**
SNR=21
USP Ospenovka 85.96 314 P **P 23 24 03.3 +0.1**
SNR=44
AML Almayashu 86.27 313 *e*P **P 23 24 05.0 +0.2**
comp=Z,119nm,1.1s,mb6.0
AML LR LR
comp=Z,565nm,20.0s,MS5.0
AML Almayashu 86.27 313 P **P 23 24 05.8 +1.0**
SNR=25
EKS2 Erkin-Say 86.33 314⇑ *e*P **P 23 24 05.1 0.0**
comp=Z,48nm,1.0s,mb5.7
EKS2 LR LR
comp=Z,910nm,21.0s,MS5.2
EKS2 Erkin-Say 86.33 314 P **P 23 24 05.6 +0.5**
SNR=26
EGAK Eagle 87.04 23 *e*P **P 23 24 08.0 -0.1**
comp=Z,28nm,0.9s,mb5.5
DAWY Dawson 87.46 24 *e*P **P 23 24 10.6 +0.5**
SKAG Skagway 87.66 29 *e*P **P 23 24 11.2 +0.1**
comp=Z,26nm,1.0s,mb5.4
KBL Kabul 88.32 305 *e*P **P 23 24 13.3 -1.6**
comp=Z,4.7nm,0.8s,mb4.8
DLBC Dease Lake 90.00 31 *e*P **P 23 24 23.1 +0.9**
HOPS Hopland 90.70 51 PFAKE 23 24 40.0 +14
HOPS LR LR
comp=Z,1μm,19.0s,MS5.4
MCCM Marconi Confer 90.72 52 PFAKE 23 24 40.0 +14
MCCM LR LR
comp=Z,919nm,19.0s,MS5.2
BVAR Borovoye Array 90.78 323 P **P 23 24 24.0 -1.9**
comp=Z,1.2nm,0.6s,mb4.4,baz=104,slow=6.3,SNR=16
BRVK Borovoye 90.85 323 *e*P **P 23 24 24.7 -1.6**
BRVK pmax pmax
comp=Z,11nm,1.0s,mb5.1
BRVK MLR MLR
comp=Z,509nm,21.0s,MS4.9
BRVK Borovoye 90.85 323 *e*P **P 23 24 24.7 -1.5**
comp=Z,11nm,1.0s,mb5.2
BRVK LR LR
comp=Z,509nm,21.0s,MS4.9
SYO Syowa Base 90.98 199⇓ *e*P **P 23 24 24.6 -2.1**
INK Inuvik 91.14 21 *e*P **P 23 24 26.5 -0.8**
comp=Z,861nm,1.1s
HUMO Hull Mountain 91.34 47 *e*P **P 23 24 29.3 +0.5**
comp=Z,11nm,0.9s,mb5.2
HUMO LR LR
comp=Z,2μm,21.0s,MS5.6
WDC Whiskeytown Da 91.34 49 *e*P **P 23 24 30.2 +1.3**
WDC pmax pmax
comp=Z,32nm,1.7s,mb5.4
WDC Whiskeytown Da 91.34 49 *e*P **P 23 24 30.2 +1.3**
comp=Z,32nm,1.7s,mb5.4
YBH Yreka Blue Hor 91.39 48 *e*P **P 23 24 28.9 -0.2**
YBH pmax pmax
comp=Z,14nm,1.4s
YBH Yreka Blue Hor 91.39 48 *e*P **P 23 24 28.9 -0.1**
comp=Z,14nm,1.4s,mb5.1
ZRNK Zerenda 91.59 323 *i* P **P 23 24 27.5 -2.2**
ZRNK pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
CMB Columbia Colle 92.65 52 *e*P **P 23 24 34.7 -0.3**
CMB pmax pmax
comp=Z,20nm,1.6s,mb5.3
CMB MLR MLR
comp=Z,818nm,19.0s,MS5.2
CMB Columbia Colle 92.65 52 *e*P **P 23 24 34.6 -0.4**
comp=Z,20nm,1.6s,mb5.3
CMB LR LR
comp=Z,818nm,19.0s,MS5.2
MOD Modoc 93.19 48 PFAKE 23 24 50.0 +13
MOD LR LR
comp=Z,2μm,20.0s,MS5.6
PAHR Pah Rah Range 93.63 51 *e*P **P 23 24 39.5 +0.1**
comp=Z,12nm,1.0s,mb5.3
ISA Isabella 93.90 55 PFAKE 23 24 50.0 +9.2
ISA LR LR
comp=Z,3.0nm,19.0s
HAWA Hanford 94.25 44 *e*P **P 23 24 42.7 +0.5**
comp=Z,10nm,1.0s,mb5.2
NVAR Mina Array Bea 94.33 52 P **P 23 24 43.8 +1.1**
comp=Z,6.3nm,1.0s,mb5.0,baz=250,slow=7.0,SNR=14
DAC Darwin (Calif) 94.67 54 PFAKE 23 25 00.0 +16
DAC LR LR
comp=Z,716nm,19.0s,MS5.2
GSC Goldstone 95.22 55 PFAKE 23 25 00.0 +13
GSC LR LR
comp=Z,920nm,20.0s,MS5.2
BMN Battle Mountai 95.35 50 PFAKE 23 25 00.0 +13
BMN LR LR
comp=Z,983nm,21.0s,MS5.3
BMO Blue Mountains 95.67 46 *e*P **P 23 24 49.7 +1.0**
BMO pmax pmax
comp=Z,23nm,1.6s,mb5.4
BMO MLR MLR
comp=Z,878nm,20.0s,MS5.2
BMO Blue Mountains 95.67 46 *e*P **P 23 24 49.7 +1.0**
comp=Z,23nm,1.6s,mb5.3
BMO LR LR
comp=Z,878nm,20.0s,MS5.2
MSEY Mahe Island 95.80 265 PFAKE 23 25 00.0 +10
MSEY LR LR
comp=Z,399nm,19.0s,MS4.9
TPNV Topopah Spring 95.81 54 *e*P **P 23 24 52.2 +2.7**
TPNV pmax pmax
comp=Z,12nm,1.1s,mb5.2
TPNV Topopah Spring 95.81 54 *e*P **P 23 24 52.2 +2.6**
comp=Z,12nm,1.1s,mb5.2
NEW Newport 96.06 42 *e*P **P 23 24 52.4 +2.0**
NEW pmax pmax
comp=Z,9.0nm,1.0s
NEW Newport 96.06 42 *e*P **P 23 24 52.4 +2.0**
comp=Z,8.6nm,1.0s,mb5.1
GLA Glamis 96.66 58 PFAKE 23 25 00.0 +6.5
GLA LR LR
comp=Z,505nm,20.0s,MS5.0
ARU Arti 97.96 326 *d i*P **P 23 24 57.0 -1.8**
ARU *e* 23 28 55.8
ARU *e*PPP 23 31 00.2
ARU *e*S SKSac 23 35 31.8 -1.4
ARU *e*PS PS 23 37 46.9 -4.0
ARU *e*SS SS 23 43 02.3 -2.2
ARU pmax pmax
comp=Z,7.0nm,1.7s,mb4.9
ARU Arti 97.96 326 PFAKE 23 25 10.0 +11
ARU LR LR
comp=Z,805nm,21.0s,MS5.2
YKA Yellowknife Ar 98.08 28 P **P 23 24 57.9 -1.3**
YKA PKKPbc PKKPbc 23 41 30.7 -4.0
YKA LR LR 00 05 20.0
YKA Yellowknife Ar 98.08 28 P **P 23 24 57.8 -1.3**
comp=Z,1.5nm,0.8s,mb4.6,baz=269,slow=4.5,SNR=17
YKA PKKPbc PKKPbc 23 41 30.7 -4.0
comp=Z,0.2nm,0.6s,baz=90,slow=2.8,SNR=5.3
YKA LR LR 00 05 20.0
comp=Z,1μm,20.1s,MS5.3,baz=290,slow=33
AKTK Aktyubinsk 98.13 320 P **P 23 24 57.2 -2.5**
AKTO Aktyubinsk 98.13 320 P **P 23 24 57.2 -2.5**
comp=Z,1.0nm,0.6s,mb4.5,baz=49,slow=2.3,SNR=4.1
AKTO LR LR 00 11 59.9
comp=Z,736nm,20.3s,MS5.2,baz=294,slow=37
MSO Missoula 98.13 44 PFAKE 23 25 10.0 +10
MSO LR LR
comp=Z,687nm,22.0s,MS5.1
WALA Waterton Lakes 98.22 42 *e*P **P 23 24 59.9 -0.3**
comp=Z,3.4nm,0.9s,mb4.9
CHMT Chamberlain Mo 98.61 44 *e*P **P 23 25 01.1 -0.8**
MCMT McKenzie Canyo 98.83 46 *e*P **P 23 25 02.8 -0.1**
MVU Marysvale 99.10 52 PFAKE 23 25 20.0 +16
MVU LR LR
comp=Z,624nm,21.0s,MS5.1
MSU Marysvale 99.13 52 *e*P **P 23 25 09.7 +5.2**
MPU Maple Canyon 99.60 51 PFAKE 23 25 20.0 +14
MPU LR LR
comp=Z,1μm,21.0s,MS5.4
HWUT Hardware Ranch 99.69 49 PFAKE 23 25 20.0 +13
HWUT LR LR
comp=Z,758nm,19.0s,MS5.2
BOZ Bozeman (W) 99.71 45 *e*P Pdif 23 25 06.5 -0.2
BOZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
BOZ MLR MLR
comp=Z,650nm,22.0s,MS5.1
BOZ Bozeman (W) 99.71 45 *e*P Pdif 23 25 06.5 -0.2
comp=Z,2.9nm,0.8s
BOZ LR LR
comp=Z,650nm,22.0s,MS5.1
LPIG La Paz 100.01 67 LR LR 00 03 27.9
comp=Z,926nm,19.7s,MS5.3,baz=186,slow=31
TUC Tucson 100.02 59 PFAKE 23 25 20.0 +12
TUC LR LR
comp=Z,670nm,21.0s,MS5.1
AHID Auburn Hatcher 100.05 48 PFAKE 23 25 20.0 +12
AHID LR LR
comp=Z,1μm,21.0s,MS5.4
MOOW Moose Ponds 100.32 47 *e*Pdif Pdif 23 25 10.0 +0.6
comp=Z,3.5nm,1.0s
BW06 Boulder Array 101.19 48 PFAKE 23 25 30.0 +17
BW06 LR LR
comp=Z,2μm,20.0s,MS5.5
ANMO Albuquerque 103.67 56 PFAKE 23 25 40.0 +16
ANMO LR LR
comp=Z,434nm,19.0s,MS5.0
MNTX Cornudas Mount 104.60 59 PFAKE 23 25 40.0 +12
MNTX LR LR
comp=Z,799nm,20.0s,MS5.2
FFC Flin Flon 105.25 35 PFAKE 23 30 00.0 +15
FFC LR LR
comp=Z,654nm,20.0s,MS5.2
KBS Kingsbay 105.78 353 PFAKE 23 30 00.0 +14
KBS LR LR
comp=Z,403nm,19.0s,MS5.0
TXAR Lajitas Array 106.10 62 PP PP 23 30 01.7 +1.9
comp=Z,1.2nm,1.0s,baz=262,slow=7.2,SNR=6.4
LVZ Lovozero 106.86 339 PFAKE 23 30 00.0 +12
LVZ LR LR
comp=Z,477nm,22.0s,MS5.0
AMTX Amarillo 107.60 56 PFAKE 23 30 00.0 +10
AMTX LR LR
comp=Z,431nm,21.0s,MS5.0
KEV Kevo 108.49 342 PFAKE 23 30 00.0 +9.1
KEV LR LR
comp=Z,530nm,19.0s,MS5.1
CBKS Cedar Bluff 108.84 52 PFAKE 23 30 00.0 +7.5
CBKS LR LR
comp=Z,842nm,22.0s,MS5.3
KIV Kislovodsk 108.93 314 PFAKE 23 30 00.0 +7.5
KIV LR LR
comp=Z,462nm,21.0s,MS5.0
AGMN Agassiz Refuge 110.18 41 PFAKE 23 30 10.0 +15
AGMN LR LR
comp=Z,908nm,21.0s,MS5.3
KSU1 Kansas State U 111.23 51 PFAKE 23 30 10.0 +13
KSU1 LR LR
comp=Z,1μm,22.0s,MS5.3
NATX Nacogdoches 113.71 59 PFAKE 23 30 10.0 +8.1
NATX LR LR
comp=Z,646nm,21.0s,MS5.2
KMBO Kilima Mbogo 114.32 265 PFAKE 23 30 20.0 +16
KMBO LR LR
comp=Z,482nm,19.0s,MS5.1
CCM Cathedral Cave 115.55 51 PFAKE 23 30 20.0 +15
CCM LR LR
comp=Z,510nm,20.0s,MS5.1
AKASG Malin Array Be 116.06 323 PKP PKPdf 23 30 04.0 -1.8
comp=Z,0.2nm,0.3s,baz=65,slow=0.9,SNR=3.7
KIEV Kiev 116.07 323 PFAKE 23 30 20.0 +14
KIEV LR LR
comp=Z,542nm,20.0s,MS5.2
HDIL Hopedale 116.49 48 PFAKE 23 30 20.0 +13
HDIL LR LR
comp=Z,1μm,19.0s,MS5.5
ANTO Ankara 116.95 311 PFAKE 23 30 20.0 +12
ANTO LR LR
comp=Z,309nm,21.0s,MS4.9
BOSA Boshof 117.41 233 PKIKP PKPdf 23 30 08.0 -1.2
BOSA MLR MLR
comp=Z,2μm,19.0s,MS5.7
BOSA Boshof 117.41 233 PKP PKPdf 23 30 08.0 -1.1
comp=Z,2.5nm,0.7s,baz=162,slow=4.2,SNR=5.2
KIS Kishinev 117.64 320 *e*P PKPdf 23 30 12.0 +3.0
HOPE Hope Point 118.17 174 PFAKE 23 30 20.0 +10
HOPE LR LR
comp=Z,5.0nm,19.0s
PLCA Paso Flores 118.22 144 PKIKP PKPdf 23 30 10.6 +0.2
PLCA MLR MLR
comp=Z,397nm,19.0s
PLCA Paso Flores 118.22 144 PKP PKPdf 23 30 10.6 +0.2
comp=Z,2.4nm,1.1s,baz=98,slow=7.5,SNR=4.2
SFJD Kangerlussuaq 118.50 10 PFAKE 23 30 20.0 +10
SFJD LR LR
comp=Z,897nm,20.0s,MS5.4
PLOR Plostina 119.45 319⇓ *i*P PKPdf 23 30 09.0 -3.5
LSZ Lusaka 119.91 248 PKIKP PKPdf 23 30 13.6 -0.6
LSZ MLR MLR
comp=Z,657nm,22.0s,MS5.2
LSZ Lusaka 119.91 248 PKP PKPdf 23 30 13.5 -0.7
comp=Z,0.5nm,0.5s,baz=63,slow=6.8,SNR=4.2
AAM Ann Arbor 120.07 45 PFAKE 23 30 30.0 +16
AAM LR LR
comp=Z,592nm,20.0s,MS5.2
BRAL Brewton 120.25 58 PFAKE 23 30 30.0 +15
BRAL LR LR
comp=Z,579nm,22.0s,MS5.2
KONO Kongsberg 120.57 339 PFAKE 23 30 30.0 +16
KONO LR LR
comp=Z,643nm,19.0s,MS5.3
ACSO Alum Creek Sta 121.22 47 PFAKE 23 30 30.0 +14
ACSO LR LR
comp=Z,1μm,20.0s,MS5.5
NIE Niedzica 121.79 325 *e*PKPdf PKPdf 23 30 17.2 +0.3
ERPA Erie 122.69 44 PFAKE 23 30 30.0 +11
ERPA LR LR
comp=Z,998nm,21.0s,MS5.4
GOGA Godfrey 122.73 55 PFAKE 23 30 30.0 +11
GOGA LR LR
comp=Z,770nm,22.0s,MS5.3
VYHS Vyhne 123.09 325 *e*PKP PKPdf 23 30 18.9 -0.5
MCWV Mont Chateau 123.68 47 PFAKE 23 30 30.0 +9.2
MCWV LR LR
comp=Z,1μm,21.0s,MS5.6
JTS JuntasAbangare 123.76 83 PFAKE 23 30 30.0 +8.3
JTS LR LR
comp=Z,701nm,20.0s,MS5.3
PVCC Panska Ves 124.33 328 *e*PKPdf PKPdf 23 30 21.2 -0.5
PVCC *e*x x 23 30 50.3
BRG Berggiesshubel 124.44 329 *e*PKIKP PKPdf 23 30 20.9 -1.0
BRG *e* 23 32 03.6
BRG pmax pmax
comp=Z,4.0nm,1.3s
BRG pmax pmax
comp=Z,4.0nm,1.3s
BRG Berggiesshubel 124.44 329 *e*PKP PKPdf 23 30 20.9 -1.0
comp=Z,6.8nm,1.3s
BRG *e* 23 32 03.6
comp=Z,6.0nm,1.3s
CLL Collm 124.66 330 *e*PKIKP PKPdf 23 30 22.0 -0.3
CLL *e* 23 30 29.0
CLL MLR MLR
comp=Z,800nm,19.9s,MS5.4
CLL Collm 124.66 330 *e*PKPdf PKPdf 23 30 22.0 -0.3
CLL *e*x x 23 30 29.0
CLL *i* sPKPdf 23 30 37.0
CLL *i* x x 23 30 49.0
CLL *e*PS PS 23 42 00.0 -9.5
CLL *e*PPS 23 43 30.0
CLL *e*SS SS 23 49 09.0 +9.1
CLL *e*SSS 23 53 48.0
CLL *e*x x 23 54 49.0
CLL LmV 00 25 00.0
comp=Z,800nm,19.9s
TRQA Tornquist 124.85 148 PFAKE 23 30 30.0 +6.8
TRQA LR LR
comp=Z,405nm,19.0s,MS5.1
LCO Las Campanas 125.28 133 PFAKE 23 30 40.0 +16
LCO LR LR
comp=Z,558nm,20.0s,MS5.2
BINY Binghamton 125.38 43 PFAKE 23 30 40.0 +16
BINY LR LR
comp=Z,2μm,20.0s,MS5.7
ARSA Arzberg 125.65 325⇑ *i*P PKPdf 23 30 14.9 -9.5
comp=Z,3.5nm,1.2s
ARSA Arzberg 125.65 325⇑ *i*P PKPdf 23 30 14.9 -9.5
KHC Kasperske Hory 125.66 328 *e*PKIKP PKPdf 23 30 23.9 -0.4
KHC *e* 23 30 35.5
KHC Kasperske Hory 125.66 328 *e*PKPdf PKPdf 23 30 23.9 -0.4
KHC *e*pPKP pPKPdf 23 30 35.5 -1.4
KHC *e*x x 23 30 51.5
KHC *e*x x 23 32 04.0
GERES GERESS Array B 125.76 327 PKP PKPdf 23 30 24.4 -0.1
comp=Z,0.9nm,0.6s,baz=69,slow=1.9,SNR=10.0
CBN Corbin 126.00 48 PFAKE 23 30 40.0 +15
CBN LR LR
comp=Z,1μm,20.0s,MS5.5
GRA1 Grafenberg Arr 126.55 329 *e*PKP PKPdf 23 30 25.7 -0.3
GRF Grafenberg Arr 126.55 329 *e*PKPdf PKPdf 23 30 25.7 -0.3
KBA Koelnbreinsper 126.98 326⇑ *i*P PKPdf 23 30 28.0 +1.1
comp=Z,6.8nm,1.5s
KBA Koelnbreinsper 126.98 326⇑ *i*P PKPdf 23 30 28.0 +1.1
LBNH Lisbon 127.05 39 PFAKE 23 30 40.0 +13
LBNH LR LR
comp=Z,948nm,20.0s,MS5.5
WES Weston 128.36 40 PFAKE 23 30 40.0 +10
WES LR LR
comp=Z,1μm,21.0s,MS5.5
BCIP Isla Barro Col 128.76 84 PFAKE 23 30 40.0 +8.7
BCIP LR LR
comp=Z,439nm,19.0s,MS5.2
DAVOX Davos/Dischmat 129.06 327 PKP PKPdf 23 30 30.7 -0.2
comp=Z,3.7nm,0.9s,baz=296,slow=5.3,SNR=3.9
CDF Champ du Feu 129.36 330 *e*PKP1 PKPdf 23 30 28.3 -3.1
HINF Hinteralfeld 129.97 330 *e*PKP1 PKPdf 23 30 31.5 -1.1
HAU Haudompre 130.09 330 *e*PKP1 PKPdf 23 30 31.6 -1.2
comp=Z,9.8nm,1.0s
LPG La Plagne 131.56 328 *e*PKP1 PKPdf 23 30 34.9 -0.8
comp=Z,8.7nm,1.1s
TCF Toulx Ste Croi 133.30 331 *e*PKP1 PKPdf 23 30 38.2 -0.8
comp=Z,11nm,1.0s
LPAZ La Paz 133.90 121 PKIKP PKPdf 23 30 41.1 +0.2
LPAZ MLR MLR
comp=Z,266nm,22.0s
LPAZ La Paz 133.90 121 PKP PKPdf 23 30 41.1 +0.2
comp=Z,1.6nm,0.7s,baz=90,slow=2.5,SNR=7.0
CPUP Villa Florida 136.07 141 PKP PKPdf 23 30 43.1 -1.7
comp=Z,1.3nm,0.6s,baz=181,slow=6.6,SNR=3.7
BBSR BB Station 137.84 49 PFAKE 23 31 00.0 +12
BBSR LR LR
comp=Z,786nm,19.0s,MS5.5
SJG San Juan 141.42 70 PFAKE 23 31 10.0 +15
SJG LR LR
comp=Z,426nm,21.0s,MS5.2
PAB San Pablo 141.54 330 PFAKE 23 31 10.0 +16
PAB LR LR
comp=Z,691nm,20.0s,MS5.4
EVO Evora 144.08 333 *e*PKIKP PKPdf 23 30 59.0 +0.1
comp=Z,98nm,1.6s
GRGR Grenville 146.56 79 PFAKE 23 31 20.0 +16
GRGR LR LR
comp=Z,371nm,19.0s,MS5.2
MDT Midelt 146.62 323 PKPbc PKPbc 23 31 05.0 0.0
comp=Z,3.7nm,0.9s,baz=31,slow=7.5,SNR=6.3
CAM4 Nova Friburgo 147.22 155 (P) pPKPdf 23 31 14.4 -2.9
CAM4 *i* 23 31 21.4
CAM4 *i* 23 31 29.0
BDFB Brasilia 149.77 139 PKHKP 23 31 13.6
BDFB MLR MLR
comp=Z,466nm,20.0s
BDFB Brasilia 149.77 139 PKPbc PKPbc 23 31 13.6 -0.2
comp=Z,5.8nm,0.8s,baz=206,slow=8.0,SNR=13
TOA0 Torodi Ar. Sit 150.19 284 *e*PKPbc PKPbc 23 31 13.9 -1.0
TORD Torodi Ar. Bea 150.19 284 PKP PKPdf 23 31 09.2 -0.5
comp=Z,18nm,0.9s,baz=43,slow=2.0,SNR=79
TORD PKPbc PKPbc 23 31 13.3 -1.5
comp=Z,18nm,0.9s,baz=47,slow=2.6,SNR=102
DBIC Dimbokro 156.97 270 PFAKE 23 31 30.0 +11
DBIC LR LR
comp=Z,563nm,20.0s,MS5.4
DBIC Dimbokro 156.97 270 PKPab PKPab 23 31 49.6 -0.1
comp=Z,14nm,1.1s,baz=72,slow=4.7,SNR=13
ASCN Ascension 159.57 222 PFAKE 23 31 30.0 +7.4
ASCN LR LR
comp=Z,769nm,19.0s,MS5.6

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*CSEM **18** 23:22:28.9,2768N×5315E,h30km,ML3.2,After THR*
THR 18 23:22:28.9±0.3,2768N×5315E,h30km±2km,ML3.2,
Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.62**	**347**	*e*Pg	Pb	23 22 41.2	0.0
GHIR				*e*Sg	Sb	23 22 50.4	+0.7
GHIR				AML	AML	23 22 59.1	
comp=E,1μm,0.4s							
GHIR	**Ghir-Karzin**	**0.62**	**347**	*e*Pg	Pb	23 22 41.2	-0.1
SNR=109							
GHIR				*e*Sg	Sb	23 22 50.4	+0.7
comp=E,1μm,0.4s,SNR=109							
KRBR	**Kerman**	**3.91**	**53**	*e*Pn	Pn	23 23 29.4	+2.5
KRBR				Sn	Sn	23 24 13.6	+1.8
KRBR				AML	AML	23 24 40.2	

comp=N,33nm,0.7s
KRBR Kerman 3.91 53 *e*Pn Pn 23 23 29.4 +2.5
SNR=54
KRBR Sn Sn 23 24 13.6 +1.8
comp=N,33nm,0.7s,SNR=54
NASN Na'in 5.11 357 *e*Pn Pn 23 23 46.1 +2.8
NASN Sn Sn 23 24 42.1 +0.9

TEH ***18*** *23:23:21.7, 2791N×5322E, h26km, ML3.6*
THR ***18*** *23:24:54.1±0.5, 2759N×5314E, h23km±7km, ML3.5*
ISCJB ***18*** *23:24:54.9±0.5, 2773N±004×5326E±005, h10km, mb4.0/8, Error ellipse: s-maj=6.4km s-min=4.5km az=146.6*
NEIC ***18*** *23:24:55.1±2.3, 2767N×5326E, h7km±11km, ML3.6(THR), MN3.6(TEH), Error ellipse: s-maj=17.0km s-min=12.6km az=202.0*
IDC ***18*** *23:24:55.3±2.4, 2784N×5349E, h0km, mb3.9/6, mb1 4.0/6, mb1mx3.8/23, mbtmp3.9/6, MS3.2/1, Ms1 3.2/1, ms1mx2.7/40, Error ellipse: s-maj=74.6km s-min=34.9km az=89.0*
CSEM ***18*** *23:24:56.8±0.1, 2772N×5325E, h30km, mb4.5/9, Error ellipse: s-maj=3.6km s-min=2.5km az=13.0*
ISC 18 23:24:56.1±0.5**, 2772N**±004×**5321E**±005**, h10**km**, n49,** σ1§**39**/57**, mb4.0**/8**, 2D, Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.60**	**341**	Pg	**Pg**	**23 25 07.0**	**-0.8**
GHIR				Sg	**Sg**	**23 25 17.0**	**+1.3**
GHIR	**Ghir-Karzin**	**0.60**	**341**	*e*Pg	**Pg**	**23 25 07.9**	**+0.1**
GHIR				*e*Sg	**Sg**	**23 25 17.6**	**+1.9**
GHIR				AML	AML	23 25 22.2	
	comp=N,2μm,0.3s						
GHIR				AML	AML	23 25 25.6	
	comp=E,2μm,0.5s						
GHIR	**Ghir-Karzin**	**0.60**	**341**	*e*Pg	**Pg**	**23 25 07.9**	**+0.1**
	SNR=98						
GHIR				*e*Sg	**Sg**	**23 25 17.6**	**+1.9**
	SNR=98						
IMOK	**Mouk**	**1.40**	**342**	*e*	**Sg**	**23 25 48.5**	**+7.4**
	comp=Z,5μm,0.4s						
IMOK	**Mouk**	**1.40**	**342**	Pg	**Pg**	**23 25 23.3**	**+0.4**
ISRV	**Sarvestan**	**1.66**	**357**	Pg	**Pg**	**23 25 27.8**	**-0.2**
ISRV				Sg	**Sg**	**23 25 47.6**	**-2.0**
ISRV	**Sarvestan**	**1.66**	**357**	⇓*e*Pg	**Pg**	**23 25 28.2**	**+0.2**
ISRV				*e*Sg	**Sg**	**23 25 47.6**	**-2.0**
ISRV				*e*		23 26 00.9	
	comp=Z,19μm,0.5s						
ISRV	**Sarvestan**	**1.66**	**357**	⇓*e*Pg	**Pg**	**23 25 28.2**	**+0.2**
ISRV				*e*Sg	**Sg**	**23 25 47.6**	**-2.0**
SHI	**Shiraz**	**2.02**	**342**	*e*Sg	**Sg**	**23 25 59.6**	**-1.3**
IPAR	**Pars**	**2.12**	**356**	*e*	**Sg**	**23 26 13.5**	**+9.1**
	comp=Z,3μm,0.4s						
IPAR	**Pars**	**2.12**	**356**	Pn	**Pn**	**23 25 33.1**	**+1.4**
BANOM	**Banah**	**3.29**	**122**	P	**Pn**	**23 25 50.1**	**+2.4**
	SNR=18						
BANOM				S	**Sn**	**23 26 25.6**	**-1.2**
NAZ	**Nazwa, Dubai**	**3.49**	**140**	P	**Pn**	**23 25 53.2**	**+2.7**
ASUD	**Al Ashush, Dub**	**3.62**	**148**	P	**Pn**	**23 25 55.5**	**+3.3**
	SNR=13						
KRBR	**Kerman**	**3.85**	**53**	Pn	**Pn**	**23 25 55.0**	**-0.4**
KRBR				Sn	**Sn**	**23 26 41.0**	**+0.4**
KRBR	**Kerman**	**3.85**	**53**	*e*Pn	**Pn**	**23 25 55.9**	**+0.5**
KRBR				Sn	**Sn**	**23 26 41.5**	**+0.9**
KRBR				AML	AML	23 27 01.9	
	comp=N,140nm,0.9s						
IMEH	**Mehriz**	**3.86**	**18**	*e*	**Sg**	**23 27 03.4**	**+3.2**
	comp=Z,895nm,0.4s						
IMEH	**Mehriz**	**3.86**	**18**	Pn	**Pn**	**23 25 56.8**	**+1.3**
HATD	**Hatta, Dubai**	**3.89**	**137**	P	**Pn**	**23 26 00.0**	**+4.0**
IBAF	**Bafgh**	**4.37**	**27**	*e*Pn	**Pn**	**23 26 02.5**	**-0.1**
IBAF				*e*		23 27 28.9	
	comp=Z,1μm,0.5s						
ICHK	**Chekchek**	**4.63**	**13**	*e*Pn	**Pn**	**23 26 07.0**	**+0.9**
ICHK				*e*		23 26 21.1	
	comp=Z,2μm,0.4s						
NASN	**Na'in**	**5.08**	**356**	Pn	**Pn**	**23 26 13.0**	**+0.7**
NASN	**Na'in**	**5.08**	**356**	*e*Pn	**Pn**	**23 26 13.1**	**+0.8**
ZHSF	**Zahedan**	**6.91**	**72**	Pn	**Pn**	**23 26 37.0**	**-0.4**
ZHSF	**Zahedan**	**6.91**	**72**	*e*Pn	**Pn**	**23 26 37.8**	**+0.4**
GNI	**Garni**	**14.25**	**333**	LR	LR	23 34 49.5	
	comp=Z,92nm,20.0s,baz=74,slow=42						
HWQ	**Hawqa**	**16.18**	**298**	*e*Pn	**Pn**	**23 28 44.7**	**+1.2**
MALT	**Malatya**	**16.27**	**314**	*e*PN	**Pn**	**23 28 51.7**	**+6.9**
BHL	**Bhannes**	**16.29**	**297**	*e*Pn	**Pn**	**23 28 46.3**	**+1.3**
BEYL	**Beyrouth**	**16.41**	**296**	*e*Pn	**Pn**	**23 28 48.4**	**+1.9**
AML	**Almayashu**	**22.03**	**44**	*e*P	**P**	**23 29 49.7**	**-1.1**
	comp=Z,32nm,1.4s,mb4.5						
AML	**Almayashu**	**22.03**	**44**	*e*P	**P**	**23 29 49.7**	**-1.1**
	comp=Z,32nm,1.4s,mb4.5						
UCH	**Uchtor**	**22.59**	**45**	*e*P	**P**	**23 29 56.0**	**-0.7**
	comp=Z,13nm,1.3s,mb4.2						
UCH	**Uchtor**	**22.59**	**45**	*e*P	**P**	**23 29 56.0**	**-0.7**
	comp=Z,13nm,1.3s,mb4.2						
BVAR	**Borovoye Array**	**28.32**	**22**	P	**P**	**23 30 49.5**	**-0.3**
	comp=Z,1.7nm,0.7s,mb3.8,baz=216,slow=7.3,SNR=7.3						
MKAR	**Makanchi Array**	**29.72**	**42**	P	**P**	**23 31 00.5**	**-1.8**
	comp=Z,0.3nm,0.6s,mb3.2,baz=236,slow=10,SNR=3.7						
CRVS	**Cervenica-Dubn**	**32.32**	**320**	*e*P	**P**	**23 31 23.3**	**-2.0**
OKC	**Ostrava-Krasne**	**34.67**	**319**	*e*P	**P**	**23 31 42.7**	**-3.0**
ZALV	**Zalesovo Beam**	**34.97**	**33**	P	**P**	**23 31 46.8**	**-1.5**
	comp=Z,1.1nm,0.7s,mb3.9,baz=237,slow=7.5,SNR=4.7						
TREC	**Trest**	**36.02**	**317**	*e*P	**P**	**23 31 54.6**	**-2.8**
PVCC	**Panska Ves**	**37.05**	**319**	*e*P	**P**	**23 32 09.6**	**+3.5**
KHC	**Kasperske Hory**	**37.13**	**316**	*e*P	**P**	**23 32 06.6**	**-0.2**
NKC	**Novy Kostel**	**38.20**	**317**	*e*P	**P**	**23 32 12.5**	**-3.4**
FIA1	**FINESS Array S**	**38.30**	**339**	P	**P**	**23 32 15.2**	**-1.3**
FIA1	**FINESS Array S**	**38.30**	**339**	P	**P**	**23 32 15.2**	**-1.3**
DOI	**San Damiano**	**40.17**	**307**	P	**P**	**23 32 31.3**	**-1.1**
YKA	**Yellowknife Ar**	**89.58**	**354**	P	**P**	**23 37 53.6**	**0.0**
	comp=Z,0.5nm,1.0s,mb3.8,baz=2.1,slow=4.8,SNR=4.5						
WRA	**Warramunga Arr**	**91.62**	**112**	P	**P**	**23 38 04.7**	**+1.0**
	comp=Z,0.6nm,0.8s,mb4.0,baz=317,slow=4.4,SNR=3.6						
ASAR	**Alice Springs**	**93.05**	**115**	P	**P**	**23 38 09.7**	**-0.7**
	comp=Z,0.8nm,0.9s,mb4.2,baz=292,slow=4.9,SNR=4.0						

SZGRF ***18*** *23:27:29.3, 3606N×3484E, h10km, mb4.4, Turkey*
NIC ***18*** *23:27:39.8±0.5, 3792N×3348E, h56km, mb4.6, ML4.4, MW4.0*
NSSC ***18*** *23:27:41.4, 3744N×3280E, h7km±6km*
NEIC ***18*** *23:27:44.0, 3731N×3328E, h6km, mb4.5/51, ML4.5(ISK), After ISK.*
ISK ***18*** *23:27:44.8, 3732N×3329E, h6km, ML4.5*
MOS ***18*** *23:27:44.7±0.9, 3736N×3322E, h10km, mb4.5/51, Error ellipse: s-maj=6.5km s-min=3.6km az=114.0*
IDC ***18*** *23:27:45.5±0.5, 3741N×3330E, h0km, mb4.3/18, mb1 4.3/27, mb1mx4.3/30, mbtmp4.2/27, ML4.1/9, MS3.4/2, Ms1 3.4/2, ms1mx2.9/41, Error ellipse: s-maj=13.2km s-min=10.6km az=75.0*
DDA ***18*** *23:27:45.0, 3728N×3330E, h19km±3km, Md4.4*
ISCJB ***18*** *23:27:47.0±0.5, 3731N±001×3325E±002, h26km±4km, mb4.4/67, MS4.2/2, Error ellipse: s-maj=2.4km s-min=1.7km az=147.4*
CSEM ***18*** *23:27:46.0±0.0, 3731N×3327E, h20km, mb4.4/31, Mw4.0, Error ellipse: s-maj=1.1km s-min=0.8km az=14.0*
HLW ***18*** *23:27:47.0, 3741N×3321E, h33km, Mb4.5*
GII ***18*** *23:29:47.5±1.0, 3733N×3325E, h17km±15km, mb4.7/12, ML4.6/12*
ISC 18 23:27:46.7±0.5**, 3732N**±001×**3326E**±002**, h8**km±3km**, n414,** σ1§**11**/459**, mb4.4**/67**, MS4.2**/2**, 21C-16D, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.71**	**240**	PG	**Pg**	**23 27 58.8**	**-1.6**
HDMB				SG	**Sg**	**23 28 10.3**	**+0.6**
ERMK	**Ermenek**	**0.73**	**202**	*i* P	**Pg**	**23 27 59.1**	**-1.6**
ERMK				*i* S	**Sg**	**23 28 12.7**	**+2.3**
KONT	**Konya--Tatoy**	**0.95**	**311**	PG	**Pg**	**23 28 03.6**	**-1.2**
KONT				SG	**Sg**	**23 28 18.4**	**+1.2**
MERS	**Mersin**	**1.11**	**114**	PN	**Pn**	**23 28 05.2**	**-3.3**
MERS				*e*SN	**Sn**	**23 28 21.9**	**-1.9**
KARA	**Karaisali**	**1.43**	**92**	PN	**Pn**	**23 28 11.3**	**-1.6**
KARA				*e*SN	**Sn**	**23 28 31.3**	**-0.6**
KDHN	**Kadinhani**	**1.50**	**323**	*i* P	**Pn**	**23 28 13.6**	**-0.3**
KDHN				*i* S	**Sn**	**23 28 35.9**	**+2.4**
KIZT	**Kizilcal**	**1.90**	**325**	PN	**Pn**	**23 28 18.6**	**-0.7**
AVNT	**Avonos**	**1.93**	**40**	*i* P	**Pn**	**23 28 19.1**	**-0.6**
AVNT				*i* S	**Sn**	**23 28 46.7**	**+2.7**
EREN	**Erenkoy**	**1.93**	**157**	*e*PN	**Pn**	**23 28 19.1**	**-0.7**
EREN				*e*SN	**Sn**	**23 28 44.5**	**+0.3**
CEYT	**Ceyhan**	**2.01**	**98**	*e*PN	**Pn**	**23 28 19.9**	**-1.0**
KOZT	**Kozan**	**2.05**	**85**	*e*PN	**Pn**	**23 28 22.9**	**+1.5**
LFK	**Lefkose**	**2.05**	**174**	*e*PN	**Pn**	**23 28 20.6**	**-0.8**
KAMT	**Kaman**	**2.08**	**10**	*e*PN	**Pn**	**23 28 20.9**	**-0.9**
ANTB	**Antalya**	**2.12**	**259**	*e*PN	**Pn**	**23 28 21.9**	**-0.5**
BCK	**Bucak**	**2.13**	**275**	*e*PN	**Pn**	**23 28 22.3**	**-0.2**
MAMC	**Mammari**	**2.15**	**181**	⇑*i*P	**Pn**	**23 28 22.3**	**-0.4**
LEF	**Lefka**	**2.22**	**188**	*e*PN	**Pn**	**23 28 22.6**	**-1.1**
ALFC	**Alevga**	**2.23**	**194**	P	**Pn**	**23 28 22.5**	**-1.3**
	37nm,0.5s						
ALFC				S	**Sg**	**23 28 56.9**	**-1.3**
CSS	**Prodhromos**	**2.36**	**179**	P	**Pn**	**23 28 24.3**	**-1.3**
	23nm,0.7s						
CSS				S	**Sg**	**23 28 59.9**	**-2.4**
CSS	**Prodhromos**	**2.36**	**179**	*e*Pn	**Pn**	**23 28 23.9**	**-1.7**
CSS	**Prodhromos**	**2.36**	**179**	P	**Pn**	**23 28 24.3**	**-1.3**
	23nm,0.7s						
PHNC	**Paralimni**	**2.40**	**165**	P	**Pn**	**23 28 24.9**	**-1.2**
	27nm,0.6s						
PHNC				S	**Sn**	**23 28 55.8**	**+0.1**
AKMC	**Akamas**	**2.41**	**198**	P	**Pn**	**23 28 26.1**	**-0.2**
TKTP	**Tekketepe**	**2.44**	**288**	*i* P	**Pn**	**23 28 27.9**	**+1.1**
TKTP				*i* S	**Sg**	**23 29 10.3**	**+5.3**
CDAG	**Cicekdag**	**2.46**	**20**	*i* P	**Pn**	**23 28 25.0**	**-2.0**
CDAG				*i* S	**Sn**	**23 28 57.1**	**-0.1**
SHUT	**Suhut-Afyon**	**2.47**	**301**	*e*PN	**Pn**	**23 28 27.5**	**+0.4**
COBT	**Iskenderun**	**2.53**	**108**	*i* P	**Pn**	**23 28 22.6**	**-5.4**
COBT				*i* S	**Sn**	**23 29 03.2**	**+4.2**
PPCY	**Paphos**	**2.54**	**197**	P	**Pn**	**23 28 28.4**	**+0.2**
BNN	**Bunyan**	**2.55**	**52**	*e*PN	**Pn**	**23 28 27.6**	**-0.7**
ANTO	**Ankara**	**2.57**	**352**	*e*PN	**Pn**	**23 28 28.4**	**-0.2**
ANTO	**Ankara**	**2.57**	**352**	⇑P	**Pn**	**23 28 28.0**	**-0.6**
ANTO	**Ankara**	**2.57**	**352**	⇑*i*P	**Pn**	**23 28 28.0**	**-0.5**
ANTO	**Ankara**	**2.57**	**352**	*e*Pn	**Pn**	**23 28 28.4**	**-0.1**
SZAC	**Souni-Zanaja**	**2.58**	**187**	P	**Pn**	**23 28 28.6**	**-0.1**
SZAC				S	**Sg**	**23 29 06.2**	**-3.3**
LOD	**Lodumlu**	**2.59**	**352**	*e*PN	**Pn**	**23 28 28.6**	**-0.2**
ARNB	**Al Arnab**	**2.63**	**123**	⇑P	**Pn**	**23 28 28.6**	**-0.7**
ARNB				⇑S	**Sn**	**23 29 04.2**	**+2.8**
ELL	**Elmali**	**2.74**	**259**	*e*PN	**Pn**	**23 28 31.1**	**+0.2**
DRWC	**Darouich**	**2.82**	**103**	⇑P	**Pn**	**23 28 32.0**	**+0.1**
DRWC				⇑S	**Sn**	**23 29 08.6**	**+2.6**
DRWC	**Darouich**	**2.82**	**103**	⇑*i*P	**Pn**	**23 28 32.0**	**+0.1**
DRWC				⇑*i*S	**Sn**	**23 29 08.6**	**+2.5**
YOZ	**Yozgat**	**2.82**	**34**	*e*PN	**Pn**	**23 28 31.7**	**-0.3**
BTCH	**Batrach**	**2.88**	**116**	⇓P	**Pn**	**23 28 32.8**	**+0.1**
BTCH				⇓S	**Sn**	**23 29 10.3**	**+2.8**
BTCH	**Batrach**	**2.88**	**116**	⇓*i*P	**Pn**	**23 28 32.8**	**+0.1**
ESKT	**Eskisehir**	**2.90**	**320**	*e*PN	**Pn**	**23 28 33.0**	**0.0**
ESKT	**Eskisehir**	**2.90**	**320**	*i* P	**Pn**	**23 28 32.7**	**-0.3**
SEYT	**Eskypehyr**	**2.90**	**320**	*i* P	**Pn**	**23 28 32.7**	**-0.3**
KMRS	**Kahramanmaras**	**2.91**	**85**	*e*PN	**Pn**	**23 28 32.5**	**-0.6**
SLNF	**Slenfeh**	**2.95**	**125**	⇑P	**Pn**	**23 28 33.8**	**+0.1**
SLNF				⇑S	**Sn**	**23 29 11.7**	**+2.5**
SLNF	**Slenfeh**	**2.95**	**125**	⇑*i*P	**Pn**	**23 28 33.8**	**+0.1**
ALT	**Altintas**	**3.02**	**306**	*e*PN	**Pn**	**23 28 34.8**	**0.0**
CORM	**Corum**	**3.05**	**20**	*e*PN	**Pn**	**23 28 34.8**	**-0.3**
KHL	**Karahalli**	**3.12**	**290**	*e*PN	**Pn**	**23 28 36.0**	**-0.1**
WRDH	**Warideh**	**3.12**	**124**	⇑P	**Pn**	**23 28 36.1**	**-0.1**
WRDH				⇑S	**Sn**	**23 29 16.0**	**+2.4**
WRDH	**Warideh**	**3.12**	**124**	⇑*i*P	**Pn**	**23 28 36.0**	**-0.1**
WRDH				⇑*i*S	**Sn**	**23 29 16.0**	**+2.4**
GAZ	**Gaziantep**	**3.16**	**92**	*e*PN	**Pn**	**23 28 36.1**	**-0.5**
CANT	**Cankiri**	**3.29**	**5**	*e*PN	**Pn**	**23 28 38.6**	**+0.1**
BIDA	**Albida**	**3.38**	**132**	⇑P	**Pn**	**23 28 39.0**	**-0.7**
BIDA				⇑S	**Sn**	**23 29 21.4**	**+1.4**
BIDA	**Albida**	**3.38**	**132**	⇑*i*P	**Pn**	**23 28 39.0**	**-0.7**
BIDA				⇑*i*S	**Sn**	**23 29 21.4**	**+1.4**
DENT	**Denizli**	**3.39**	**279**	*e*PN	**Pn**	**23 28 40.0**	**+0.3**
FETY	**Fethiye**	**3.41**	**260**	*e*PN	**Pn**	**23 28 40.5**	**+0.4**
GZT	**Gaziantep**	**3.43**	**88**	*i* P	**Pn**	**23 28 41.4**	**+1.0**
GZT				*i* S	**Sg**	**23 29 29.8**	**-7.1**
GDZ	**Gediz**	**3.46**	**302**	*i* P	**Pn**	**23 28 40.9**	**+0.2**
GDZ				*i* S	**Sg**	**23 29 33.2**	**-4.6**
DALT	**Dalyan (Mudla)**	**3.74**	**263**	*e*PN	**Pn**	**23 28 45.3**	**+0.7**
GPA	**Golpazari**	**3.75**	**323**	*e*PN	**Pn**	**23 28 44.5**	**-0.2**
TOS	**Tosya**	**3.76**	**9**	*e*PN	**Pn**	**23 28 44.9**	**+0.1**
KULA	**Kula-Manisa**	**3.83**	**290**	*e*PN	**Pn**	**23 28 46.2**	**+0.4**
SLMH	**Al Salmeh**	**3.91**	**105**	⇑P	**Pn**	**23 28 47.5**	**+0.6**
SLMH	**Al Salmeh**	**3.91**	**105**	⇑*i*P	**Pn**	**23 28 47.5**	**+0.6**
SVSK	**Karacayir**	**3.91**	**47**	*e*PN	**Pn**	**23 28 46.7**	**-0.3**
SAFT	**Safranbolu**	**3.94**	**354**	*e*PN	**Pn**	**23 28 48.2**	**+0.9**
YER	**Yerkesik**	**3.98**	**269**	*e*PN	**Pn**	**23 28 49.1**	**+1.2**
FKH	**Fakeheh**	**4.00**	**139**	*e*Pn	**Pn**	**23 28 48.2**	**0.0**
ATAB	**Bozova**	**4.01**	**86**	*i* P	**Pn**	**23 28 49.7**	**+1.4**
ADVT	**Abdulvahap**	**4.15**	**320**	*e*PN	**Pn**	**23 28 50.7**	**+0.5**
MATL	**Matirih**	**4.18**	**156**	*e*Pn	**Pn**	**23 28 49.7**	**-1.0**
MALT	**Malatya**	**4.21**	**75**	⇓P	**Pn**	**23 28 51.1**	**0.0**
MALT	**Malatya**	**4.21**	**75**	⇓*i*P	**Pn**	**23 28 51.1**	**0.0**
MALT	**Malatya**	**4.21**	**75**	Pn	**Pn**	**23 28 51.0**	**-0.1**
MALT	**Malatya**	**4.21**	**75**	⇓P	**Pn**	**23 28 51.1**	**0.0**
IZI	**Iznik**	**4.22**	**317**	*e*PN	**Pn**	**23 28 51.6**	**+0.4**
KDZE	**Karadeniz Ereo**	**4.23**	**341**	*e*PN	**Pn**	**23 28 51.8**	**+0.5**
ARG	**Arkhangelos**	**4.27**	**257**	*e*P	**Pn**	**23 28 54.1**	**+2.2**
DST	**Dursunbey**	**4.29**	**304**	*e*PN	**Pn**	**23 28 52.8**	**+0.7**
BYBT	**Boyabat**	**4.30**	**15**	*e*PN	**Pn**	**23 28 53.4**	**+1.0**
KVT	**Kavak**	**4.33**	**29**	*e*PN	**Pn**	**23 28 53.5**	**+0.8**
RCY	**Rachaya**	**4.36**	**151**	*e*Pn	**Pn**	**23 28 52.6**	**-0.6**
MLSB	**Milas**	**4.37**	**271**	*e*PN	**Pn**	**23 28 53.9**	**+0.6**
URFA	**Urfa**	**4.43**	**87**	*e*PN	**Pn**	**23 28 54.2**	**+0.1**
YLV	**Yalova**	**4.43**	**318**	*e*PN	**Pn**	**23 28 55.6**	**+1.4**
GEMT	**Gemlik**	**4.44**	**316**	*e*PN	**Pn**	**23 28 54.9**	**+0.6**
HRT	**Hereke**	**4.47**	**322**	*e*PN	**Pn**	**23 28 54.6**	**-0.1**
HNTI	**Hanita**	**4.51**	**159**	Pn	**Pn**	**23 28 55.2**	**0.0**
HNTI				Sn	**Sn**	**23 29 47.1**	**-0.7**
KSDI	**Kefar Szold**	**4.56**	**154**	Pn	**Pn**	**23 28 55.2**	**-0.7**
KSDI				Sn	**Sn**	**23 29 49.1**	**0.0**
AKHS	**Akhisar**	**4.57**	**292**	*i* P	**Pn**	**23 28 56.7**	**+0.7**
AKS	**Akhisar**	**4.57**	**292**	*e*PN	**Pn**	**23 28 56.4**	**+0.4**
DAT	**Datca**	**4.58**	**264**	*e*PN	**Pn**	**23 28 57.1**	**+0.8**
DIKM	**Dikmen**	**4.59**	**19**	*e*PN	**Pn**	**23 28 56.8**	**+0.5**
MMAOB	**Mount Meron ar**	**4.64**	**157**	Pn	**Pn**	**23 28 56.3**	**-0.7**
MMAOB				Sn	**Sn**	**23 29 51.4**	**+0.4**
MMAI	**Mount Meron Ar**	**4.64**	**157**	Pn	**Pn**	**23 28 56.3**	**-0.8**
	31nm,0.3s,baz=344,slow=13,SNR=164						
MMAI				Sn	**Sn**	**23 29 50.1**	**-1.0**
	13nm,0.3s,baz=354,slow=12,SNR=4.1						
BZK	**Bozkurt**	**4.67**	**7**	*e*PN	**Pn**	**23 28 57.9**	**+0.6**
ELZG	**Elazig**	**4.68**	**74**	*i* P	**Pn**	**23 28 57.6**	**+0.1**
BALB	**Balikesir**	**4.81**	**300**	*e*PN	**Pn**	**23 29 00.1**	**+0.8**
OFRI	**'Ofer**	**4.90**	**163**	Pn	**Pn**	**23 29 00.1**	**-0.5**
SVRC	**Sivrice-ELAZID**	**4.90**	**76**	*e*PN	**Pn**	**23 29 01.1**	**+0.5**
BLCB	**Balcova**	**5.03**	**284**	*e*PN	**Pn**	**23 29 03.3**	**+0.9**
PTK	**Pertek**	**5.08**	**70**	*e*PN	**Pn**	**23 29 03.8**	**+0.6**
KLYT	**Kilyos**	**5.11**	**322**	*e*PN	**Pn**	**23 29 03.5**	**+0.1**
SMG	**Samos**	**5.12**	**276**	*e*P	**Pn**	**23 29 04.6**	**+1.0**
BNT	**Bandirma**	**5.15**	**308**	*e*PN	**Pn**	**23 29 04.6**	**+0.6**
EDC	**Edincik**	**5.18**	**307**	*e*PN	**Pn**	**23 29 05.1**	**+0.7**
MMLI	**Mount Malkishu**	**5.19**	**159**	Pn	**Pn**	**23 29 04.5**	**0.0**
MMLI				Sn	**Sn**	**23 30 04.6**	**+0.1**
KARP	**Karpathos**	**5.22**	**252**	*e*P	**Pn**	**23 29 06.9**	**+1.9**
SLTI	**Sal'it**	**5.28**	**163**	Pn	**Pn**	**23 29 05.8**	**+0.1**
SLTI				Sn	**Sn**	**23 30 06.6**	**-0.1**
CTT	**Catalca**	**5.35**	**317**	*e*PN	**Pn**	**23 29 07.7**	**+1.0**
HMDT	**Nahal Hemdat**	**5.39**	**159**	Pn	**Pn**	**23 29 07.7**	**+0.3**
MRMT	**Marmara Adasi**	**5.50**	**308**	*e*PN	**Pn**	**23 29 10.2**	**+1.5**
DIY	**Diyarbakir**	**5.56**	**82**	*e*PN	**Pn**	**23 29 10.5**	**+0.8**
CRLT	**Corlu**	**5.73**	**313**	*e*PN	**Pn**	**23 29 13.3**	**+1.3**
GUMT	**Gumushane**	**5.78**	**55**	*e*PN	**Pn**	**23 29 13.7**	**+1.1**
MFT	**Murefte**	**5.80**	**308**	*e*PN	**Pn**	**23 29 15.1**	**+2.3**
RKY	**Sarkoy-Tekirda**	**5.81**	**307**	*e*PN	**Pn**	**23 29 14.5**	**+1.5**
LPK	**Lapseki**	**5.92**	**303**	*e*PN	**Pn**	**23 29 15.8**	**+1.3**
ASF	**Jabal al Asfar**	**5.95**	**149**	P	**Pn**	**23 29 16.0**	**+1.0**
ASF						23 30 22.6	
ASF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASF	**Jabal al Asfar**	**5.95**	**149**	Pn	**Pn**	**23 29 16.0**	**+1.1**
	comp=Z,1.2nm,0.3s,baz=216,slow=6.7,SNR=24						
ASF				Sn	**Sn**	**23 30 22.6**	**-0.6**
	baz=66,slow=20,SNR=1.9						
MARD	**Mardin**	**5.99**	**88**	*i* P	**Pn**	**23 29 16.2**	**+0.6**
DSI	**Dead Sea**	**6.00**	**162**	Pn	**Pn**	**23 29 16.6**	**+0.9**
MZDA	**Masada**	**6.25**	**163**	Pn	**Pn**	**23 29 20.2**	**+1.2**
MZDA				Sn	**Sn**	**23 30 31.6**	**+1.1**
SANT	**Santorini**	**6.33**	**264**	*e*Pn	**Pn**	**23 29 17.2**	**-3.0**
	comp=Z,106nm,0.9s						
SANT	**Santorini**	**6.33**	**264**	*e*Pn	**Pn**	**23 29 17.2**	**-3.0**
	comp=Z,106nm,0.9s						
RTMI	**Retamim**	**6.36**	**169**	Pn	**Pn**	**23 29 21.3**	**+0.6**
GADA	**Gvkgeada**	**6.42**	**299**	*e*PN	**Pn**	**23 29 23.2**	**+1.7**
KZIT	**Kziot**	**6.47**	**171**	Pn	**Pn**	**23 29 23.1**	**+0.9**
KZIT				Sn	**Sn**	**23 30 36.5**	**+0.4**
ENEZ	**Enez**	**6.50**	**304**	*e*PN	**Pn**	**23 29 24.2**	**+1.8**
NPS	**Neapolis**	**6.51**	**254**	*e*P	**Pn**	**23 29 24.7**	**+2.0**
AMAG	**Maghara**	**6.66**	**180**	⇓P	**Pn**	**23 29 24.9**	**+0.1**
EDRB	**Edirne**	**6.76**	**314**	*e*PN	**Pn**	**23 29 27.5**	**+1.4**
EZM	**Erzurum**	**6.85**	**65**	*e*PN	**Pn**	**23 29 28.5**	**+1.2**
ZFRI	**Zfri**	**6.94**	**166**	Pn	**Pn**	**23 29 29.5**	**+1.0**
IDI	**Anoyia**	**7.05**	**256**	Pn	**Pn**	**23 29 30.7**	**+0.5**
	comp=Z,2.2nm,0.3s,baz=85,slow=12,SNR=18						
PRNI	**Paran**	**7.10**	**168**	Pn	**Pn**	**23 29 31.4**	**+0.6**
PRNI				Sn	**Sn**	**23 30 52.9**	**+1.2**
RDO	**Rodhopi**	**7.11**	**305**	*e*P	**Pn**	**23 29 31.9**	**+1.1**
SEV	**Sevastopol'**	**7.22**	**2**	*e*P	**Pn**	**23 29 31.0**	**-1.4**
SEV				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SEV	**Sevastopol'**	**7.22**	**2**	*e*P	**Pn**	**23 29 31.0**	**-1.4**
	comp=Z,1.0nm,0.3s						
SIRT	**Sirnak**	**7.31**	**86**	*e*PN	**Pn**	**23 29 36.3**	**+2.7**
HNKL	**Nakhl**	**7.40**	**175**	⇑*e*P	**Pn**	**23 29 34.6**	**-0.3**
HNKL				S	**Sn**	**23 30 53.5**	**-5.4**
HRFI	**Mount Harif**	**7.42**	**168**	Pn	**Pn**	**23 29 35.4**	**+0.3**
HRFI				Sn	**Sn**	**23 31 00.2**	**+0.7**
VAM	**Vamos**	**7.55**	**258**	*e*P	**Pn**	**23 29 43.2**	**+6.2**
MBH	**Mount Berech**	**7.64**	**169**	Pn	**Pn**	**23 29 39.2**	**+1.0**
MBH				Sn	**Sn**	**23 31 06.6**	**+1.7**
SIM	**Simferopol'**	**7.65**	**5**	⇓*e*P	**Pn**	**23 29 41.4**	**+3.1**
SIM				*e*S	**Sn**	**23 31 05.0**	**0.0**
SIM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SIM	**Simferopol'**	**7.65**	**5**	*e*P	**Pn**	**23 29 41.4**	**+3.1**
	comp=Z,10.0nm,0.9s						
SIM				*e*S	**Sn**	**23 31 05.0**	**0.0**
SUDU	**Sudak**	**7.67**	**9**	*e*P	**Pn

SFI	Santa Sofia	17.51 299	P	Pn	23 31 59.6	+8.5
KBA	Koelnbreinsper	17.64 310	⇓ *i*	Pn	23 31 59.5	+6.9
	comp=Z,16nm,1.1s					
DPC	Dobruska-Polom	17.80 322	*e*P	Pn	23 31 56.9	+2.3
OBN	Obninsk	17.94 6	⇑ *e*P	Pn	23 31 55.0	-1.2
OBN			*e*S	Sn	23 35 04.7	-12
OBN			pmax	pmax		
	comp=Z,16nm,1.4s					
OBN			MLR	MLR		
	comp=Z,200nm,17.0s					
OBN	Obninsk	17.94 6	*e*P	Pn	23 31 55.0	-1.2
	comp=Z,16nm,1.4s					
UPC	Upice	18.05 322	*e*P	Pn	23 31 59.9	+2.2
GEC2	GERESS Array S	18.29 315	*e*P	Pn	23 32 02.4	+1.8
GEC2			pmax	pmax		
	comp=Z,7.0nm,1.2s					
GEC2	GERESS Array S	18.29 315	*e*P	Pn	23 32 02.4	+1.8
	comp=Z,7.0nm,1.2s					
GERES	GERESS Array B	18.29 315	P	Pn	23 32 00.9	+0.3
	comp=Z,0.1nm,0.3s,baz=122,slow=10,SNR=9.0					
PRU	Pruhonice	18.47 319	*e*P	Pn	23 32 05.6	+2.8
GSCL	Gusciola	18.50 299	P	Pn	23 32 06.8	+3.6
KHC	Kasperske Hory	18.51 316	*e*P	Pn	23 32 02.9	-0.4
WET	Wettzell	18.91 315	*e*P	Pn	23 32 08.6	+0.5
WET			pmax	pmax		
	comp=Z,20nm,1.2s					
WET	Wettzell	18.91 315	*e*P	Pn	23 32 08.6	+0.5
	comp=Z,20nm,1.2s					
KEST	Kesra	19.27 273	P	Pn	23 32 13.7	+1.0
	comp=Z,0.0nm,0.3s,baz=135,slow=4.3,SNR=2.3					
PGF	Pioggiola	19.30 293	*e*P	Pn	23 32 10.5	-2.3
	comp=Z,39nm,0.9s					
PGF	Pioggiola	19.30 293	*e*P	Pn	23 32 10.5	-2.3
PGF			pmax	pmax		
	comp=Z,20nm,0.9s					
PGF	Pioggiola	19.30 293	*e*P	Pn	23 32 10.5	-2.3
	comp=Z,20nm,0.9s					
BRG	Berggiesshubel	19.31 321	*e*P	Pn	23 32 13.0	+0.1
	comp=Z,16nm,1.6s					
FUR	Furstenfeldbru	19.38 311	*e*P	Pn	23 32 14.6	+0.8
FUR			pmax	pmax		
	comp=Z,15nm,1.1s					
FUR	Furstenfeldbru	19.38 311	*e*P	Pn	23 32 14.6	+0.8
	comp=Z,15nm,1.1s					
ROTZ	Rotzenmuhle	19.61 316	*e*P	Pn	23 32 16.2	-0.3
	comp=Z,25nm,1.2s					
FBE	Freiberg	19.64 320	*e*P	Pn	23 32 17.8	+0.9
	comp=Z,20nm,1.5s					
DAVOX	Davos/Dischmat	19.70 306	P	Pn	23 32 17.7	0.0
	comp=Z,0.2nm,0.3s,baz=153,slow=7.6,SNR=3.3					
MANZ	Manzenberg	19.78 316	*e*P	Pn	23 32 17.9	-0.6
	comp=Z,20nm,1.3s					
WERN	Wernitzgruen	19.79 318	*e*P	Pn	23 32 18.5	-0.2
	comp=Z,18nm,1.1s					
TANN	Tannenbergstha	19.82 318	*e*P	Pn	23 32 18.8	-0.2
	comp=Z,19nm,1.3s					
GUNZ	Gunzen	19.86 318	*e*P	Pn	23 32 19.4	-0.1
	comp=Z,31nm,1.4s					
WERD	Werda	19.92 318	*e*P	Pn	23 32 19.6	-0.6
	comp=Z,25nm,1.3s					
CLL	Collm	20.05 321	*i* P	P	23 32 20.0	+0.1
CLL			pmax	pmax		
	comp=Z,41nm,2.2s					
CLL	Collm	20.05 321	*i* P	P	23 32 20.0	+0.1
	comp=Z,41nm,2.2s					
CLL			*i*		23 32 23.6	
CLL			*i*		23 32 27.6	
CLL	Collm	20.05 321	*e*P	P	23 32 20.0	+0.1
	comp=Z,42nm,2.2s					
CLL	Collm	20.05 321	*i* (P)	P	23 32 20.0	+0.1
CLL			*i* pP		23 32 23.6	
	comp=Z,41nm,2.2s					
CLL			*i* sP	sP	23 32 27.6	+4.2
GRF	Grafenberg Arr	20.12 315	*e*P	P	23 32 20.4	-0.4
GRF			pmax	pmax		
	comp=Z,17nm,1.1s					
GRF	Grafenberg Arr	20.12 315	*e*P	P	23 32 20.4	-0.4
GRF			pmax	pmax		
	comp=Z,17nm,1.1s					
GRF	Grafenberg Arr	20.12 315	*e*P	P	23 32 20.4	-0.4
	comp=Z,17nm,1.1s					
GRFO	Grafenberg	20.12 315	*e*P	P	23 32 20.2	-0.6
GRFO			pmax	pmax		
	comp=Z,10.0nm,0.8s					
MOX	Moxa	20.39 318	*e*P	P	23 32 24.7	+1.0
	comp=Z,36nm,1.6s					
MOX	Moxa	20.39 318	*e*P	P	23 32 24.7	+1.0
MOX			pmax	pmax		
	comp=Z,36nm,1.6s					
MOX	Moxa	20.39 318	*e*P	P	23 32 23.6	-0.1
	comp=Z,35nm,1.6s					
SBF	Sospel	20.62 297	*e*P	P	23 32 26.6	+0.3
	comp=Z,57nm,0.8s					
SBF	Sospel	20.62 297	*e*P	P	23 32 26.6	+0.3
SBF			pmax	pmax		
	comp=Z,29nm,0.8s					
SBF	Sospel	20.62 297	*e*P	P	23 32 26.6	+0.3
	comp=Z,28nm,0.8s					
STU	Stuttgart	20.89 311	*e*P	P	23 32 30.3	+1.2
	comp=Z,15nm,0.9s					
FRF	La Foret Royal	21.14 295	*e*P	P	23 32 32.1	+0.2
	comp=Z,30nm,1.0s,mb4.3					
FRF	La Foret Royal	21.14 295	*e*P	P	23 32 32.1	+0.2
FRF			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.3					
FRF	La Foret Royal	21.14 295	*e*P	P	23 32 32.1	+0.2
	comp=Z,15nm,1.0s,mb4.3					
LMR	La Mourre	21.21 295	*e*P	P	23 32 32.7	+0.1
	comp=Z,28nm,1.1s,mb4.2					
LMR	La Mourre	21.21 295	*e*P	P	23 32 32.7	+0.1
LMR			pmax	pmax		
	comp=Z,14nm,1.1s,mb4.2					
LMR	La Mourre	21.21 295	*e*P	P	23 32 32.7	+0.1
	comp=Z,14nm,1.1s,mb4.2					
BFO	Black Forest	21.24 309	*e*P	P	23 32 31.4	-1.5
BFO			*e*		23 32 33.1	
BFO	Black Forest	21.24 309	*e*P	P	23 32 33.1	+0.2
	comp=Z,30nm,1.7s,mb4.3					
MBDF	Montbardon	21.25 299	*e*P	P	23 32 33.0	0.0
	comp=Z,54nm,0.8s,mb4.6					
MBDF	Montbardon	21.25 299	*e*P	P	23 32 33.0	0.0
MBDF			pmax	pmax		
	comp=Z,27nm,0.8s,mb4.6					
MBDF	Montbardon	21.25 299	*e*P	P	23 32 33.0	0.0
	comp=Z,27nm,0.8s,mb4.6					
BNI	Bardonecchia	21.38 300	*e*P	P	23 32 36.6	+2.2
BNI			pmax	pmax		
	comp=Z,24nm,0.9s,mb4.5					
BNI	Bardonecchia	21.38 300	*e*P	P	23 32 36.6	+2.2
	comp=Z,24nm,0.9s,mb4.5					
LPG	La Plagne	21.42 301	*e*P	P	23 32 34.4	-0.5
	comp=Z,32nm,0.8s,mb4.4					
LPG	La Plagne	21.42 301	*e*P	P	23 32 34.4	-0.5
LPG			pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4					
LPG	La Plagne	21.42 301	*e*P	P	23 32 34.4	-0.5
	comp=Z,16nm,0.8s,mb4.4					
LPL	La Plagne	21.44 301	*e*P	P	23 32 34.4	-0.7
	comp=Z,53nm,1.0s,mb4.5					
LPL	La Plagne	21.44 301	*e*P	P	23 32 34.4	-0.7
LPL			pmax	pmax		
	comp=Z,27nm,1.0s,mb4.5					
LPL	La Plagne	21.44 301	*e*P	P	23 32 34.4	-0.7
	comp=Z,27nm,1.0s,mb4.5					
VSU	Vasula	21.58 351	*e*P	P	23 32 35.2	-1.3
CLZ	Clausthal	21.70 319	*e*P	P	23 32 38.1	+0.3
CLZ			pmax	pmax		
	comp=Z,46nm,1.7s,mb4.6					
CLZ	Clausthal	21.70 319	*e*P	P	23 32 38.1	+0.3
	comp=Z,46nm,1.7s,mb4.6					
ORIF	Oris-en-Rattie	21.91 299	*e*P	P	23 32 39.4	-0.7
	comp=Z,34nm,1.0s,mb4.4					
ORIF	Oris-en-Rattie	21.91 299	*e*P	P	23 32 39.4	-0.7
ORIF			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.4					
ORIF	Oris-en-Rattie	21.91 299	*e*P	P	23 32 39.4	-0.7
	comp=Z,17nm,1.0s,mb4.4					
CDF	Champ du Feu	21.93 309	*e*P	P	23 32 39.2	-1.1
	comp=Z,17nm,1.1s,mb4.1					
CDF	Champ du Feu	21.93 309	*e*P	P	23 32 39.2	-1.1
CDF			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1					
CDF	Champ du Feu	21.93 309	*e*P	P	23 32 39.2	-1.1
	comp=Z,8.4nm,1.1s,mb4.1					
SMRF	Simiane la Rot	21.97 296	*e*P	P	23 32 40.3	-0.5
	comp=Z,20nm,0.9s,mb4.2					
SMRF	Simiane la Rot	21.97 296	*e*P	P	23 32 40.3	-0.5
	comp=Z,10nm,0.9s,mb4.2					
HINF	Hinteralfeld	21.99 307	*e*P	P	23 32 39.9	-1.1
AKTK	Aktyubinsk	22.02 46	P	P	23 32 41.6	+0.4
AKTO	Aktyubinsk	22.02 46	P	P	23 32 41.6	+0.4
AKTO			pmax	pmax		
	comp=Z,13nm,0.7s,mb4.5					
AKTO	Aktyubinsk	22.02 46	P	P	23 32 41.6	+0.4
	comp=Z,13nm,0.7s,mb4.5,baz=241,slow=8.4,SNR=22					
CABF	La Chapelle	22.14 303	*e*P	P	23 32 41.8	-0.8
	comp=Z,19nm,1.0s,mb4.2					
CABF	La Chapelle	22.14 303	*e*P	P	23 32 41.8	-0.8
CABF			pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.2					
CABF	La Chapelle	22.14 303	*e*P	P	23 32 41.8	-0.8
	comp=Z,9.4nm,1.0s,mb4.2					
HAU	Haudompre	22.38 307	*e*P	P	23 32 43.7	-1.4
VIVF	Saint-Julien-l	22.74 298	*e*P	P	23 32 47.5	-1.5
	comp=Z,20nm,1.0s,mb4.2					
VIVF	Saint-Julien-l	22.74 298	*e*P	P	23 32 47.5	-1.5
VIVF			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2					
VIVF	Saint-Julien-l	22.74 298	*e*P	P	23 32 47.5	-1.5
	comp=Z,9.9nm,1.0s,mb4.2					
LASF	Ste Croix	23.21 296	*e*P	P	23 32 52.4	-1.6
	comp=Z,34nm,1.3s,mb4.3					
LASF	Ste Croix	23.21 296	*e*P	P	23 32 52.4	-1.6
	comp=Z,17nm,1.3s,mb4.3					
MEZF	Maizieres J'vi	23.35 308	*e*P	P	23 32 53.3	-2.1
	comp=Z,36nm,1.2s,mb4.4					
MEZF	Maizieres J'vi	23.35 308	*e*P	P	23 32 53.3	-2.1
	comp=Z,18nm,1.2s,mb4.4					
SMF	Signal de Mont	23.65 302	*e*P	P	23 32 56.6	-1.8
	comp=Z,24nm,0.9s,mb4.3					
SMF	Signal de Mont	23.65 302	*e*P	P	23 32 56.6	-1.8
SMF			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.3					
SMF	Signal de Mont	23.65 302	*e*P	P	23 32 56.6	-1.8
	comp=Z,12nm,0.9s,mb4.3					
LOR	Lormes	23.78 304	*e*P	P	23 32 57.6	-2.0
	comp=Z,32nm,1.2s,mb4.3					
LOR	Lormes	23.78 304	*e*P	P	23 32 57.6	-2.0
LOR			pmax	pmax		
	comp=Z,16nm,1.2s,mb4.3					
LOR	Lormes	23.78 304	*e*P	P	23 32 57.6	-2.0
	comp=Z,16nm,1.2s,mb4.3					
SSF	Saint Saulge	23.97 303	*e*P	P	23 32 59.5	-1.8
	comp=Z,18nm,0.8s,mb4.2					
SSF	Saint Saulge	23.97 303	*e*P	P	23 32 59.5	-1.8
SSF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.2					
SSF	Saint Saulge	23.97 303	*e*P	P	23 32 59.5	-1.8
	comp=Z,9.1nm,0.8s,mb4.2					
AVF	Avril sur Loir	24.01 303	*e*P	P	23 32 59.9	-1.8
	comp=Z,19nm,1.1s,mb4.2					
AVF	Avril sur Loir	24.01 303	*e*P	P	23 32 59.9	-1.8
AVF			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.2					
AVF	Avril sur Loir	24.01 303	*e*P	P	23 32 59.9	-1.8
	comp=Z,9.5nm,1.1s,mb4.2					
BGF	Bois d'Agland	24.31 302	*e*P	P	23 33 02.9	-1.5
	comp=Z,7.7nm,0.7s,mb3.9					
BGF	Bois d'Agland	24.31 302	*e*P	P	23 33 02.9	-1.5
BGF			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.0					
BGF	Bois d'Agland	24.31 302	*e*P	P	23 33 02.9	-1.5
	comp=Z,3.8nm,0.7s,mb3.9					
MTLF	Montolieu	24.33 294	*e*P	P	23 33 03.3	-1.3
	comp=Z,31nm,0.9s,mb4.4					
MTLF	Montolieu	24.33 294	*e*P	P	23 33 03.3	-1.3
MTLF			pmax	pmax		
	comp=Z,16nm,0.9s,mb4.5					
MTLF	Montolieu	24.33 294	*e*P	P	23 33 03.3	-1.3
	comp=Z,16nm,0.9s,mb4.4					
BAIF	Baives	24.39 311	*e*P	P	23 33 02.7	-2.4
FINES	FINESS Array B	24.56 352	P	P	23 33 05.1	-1.5
FINES			pmax	pmax		
	comp=Z,3.0nm,0.5s					
FINES	FINESS Array B	24.56 352	P	P	23 33 05.1	-1.5
	comp=Z,2.8nm,0.5s,mb4.1,baz=154,slow=11,SNR=19					
CAF	Calviac	24.59 298	*e*P	P	23 33 05.6	-1.4
	comp=Z,44nm,1.5s,mb4.5					
CAF	Calviac	24.59 298	*e*P	P	23 33 05.6	-1.4
CAF			pmax	pmax		
	comp=Z,22nm,1.5s,mb4.5					
CAF	Calviac	24.59 298	*e*P	P	23 33 05.6	-1.4
	comp=Z,22nm,1.5s,mb4.5					
TCF	Toulx Ste Croi	24.69 301	*e*P	P	23 33 06.3	-1.6
	comp=Z,12nm,1.0s,mb4.1					
TCF	Toulx Ste Croi	24.69 301	*e*P	P	23 33 06.3	-1.6
TCF			pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.1					
TCF	Toulx Ste Croi	24.69 301	*e*P	P	23 33 06.3	-1.6
	comp=Z,6.2nm,1.0s,mb4.1					
RJF	Les Rejaudoux	25.02 299	*e*P	P	23 33 09.9	-1.0
	comp=Z,20nm,1.0s,mb4.3					
RJF	Les Rejaudoux	25.02 299	*e*P	P	23 33 09.9	-1.0
RJF			pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.3					
RJF	Les Rejaudoux	25.02 299	*e*P	P	23 33 09.9	-1.0
	comp=Z,9.8nm,1.0s,mb4.3					
LFF	La Frestale	25.52 298	*e*P	P	23 33 14.6	-0.9
	comp=Z,22nm,1.0s,mb4.3					
LFF	La Frestale	25.52 298	*e*P	P	23 33 14.6	-0.9
LFF			pmax	pmax		
	comp=Z,11nm,1.0s,mb4.3					
LFF	La Frestale	25.52 298	*e*P	P	23 33 14.6	-0.9
	comp=Z,11nm,1.0s,mb4.3					
ARU	Arti	25.53 33 *c*	*i* P	P	23 33 14.7	-0.7
ARU			*e*PPP		23 33 57.8	
ARU			*e*S	S	23 37 40.5	-2.4
ARU			*e*SS		23 38 35.0	
ARU			pmax	pmax		
	comp=Z,15nm,1.7s,mb4.2					
ARU	Arti	25.53 33	*e*P	P	23 33 14.3	-1.1
	comp=Z,17nm,1.0s,mb4.5					
JOF	Joensuu	25.65 358	*e*p	P	23 33 13.8	-2.7
	comp=Z,6.0nm,0.8s,mb4.2					
EPF	Esparros	25.68 293	*e*P	P	23 33 16.2	-0.8
	comp=Z,10nm,0.8s,mb4.1					
EPF	Esparros	25.68 293	*e*P	P	23 33 16.2	-0.8
EPF			pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1					
EPF	Esparros	25.68 293	*e*P	P	23 33 16.2	-0.8
	comp=Z,5.1nm,0.8s,mb4.1					
HFS	Hagfors	26.02 338	P	P	23 33 19.5	-0.4
HFS			pmax	pmax		
	comp=Z,2.0nm,0.8s					
HFS	Hagfors	26.02 338	P	P	23 33 19.5	-0.4
	comp=Z,2.4nm,0.8s,mb3.8,baz=128,slow=12,SNR=6.0					
ETSF	Etsaut	26.34 293	*e*P	P	23 33 22.7	-0.2
	comp=Z,17nm,1.1s,mb4.2					
ETSF	Etsaut	26.34 293	*e*P	P	23 33 22.7	-0.2
ETSF			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.2					
ETSF	Etsaut	26.34 293	*e*P	P	23 33 22.7	-0.2
	comp=Z,8.4nm,1.1s,mb4.2					
MFF	Saint Martin d	26.35 301	*e*P	P	23 33 21.9	-1.0
	comp=Z,18nm,0.8s,mb4.4					
MFF	Saint Martin d	26.35 301	*e*P	P	23 33 21.9	-1.0
MFF			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.3					
MFF	Saint Martin d	26.35 301	*e*P	P	23 33 21.9	-1.0
	comp=Z,9.2nm,0.8s,mb4.4					
SVE	Sverdlovsk	26.69 34	⇑ *e*P	P	23 33 26.1	+0.2
SVE			*e*S	S	23 37 53.0	-8.2
SVE			pmax	pmax		
	comp=Z,15nm,0.9s,mb4.5					
LDF	La Druitiere	26.69 306	*e*P	P	23 33 24.8	-1.3
	comp=Z,65nm,1.5s,mb4.6					
LDF	La Druitiere	26.69 306	*e*P	P	23 33 24.8	-1.3
LDF			pmax	pmax		
	comp=Z,32nm,1.5s,mb4.6					
LDF	La Druitiere	26.69 306	*e*P	P	23 33 24.8	-1.3
	comp=Z,32nm,1.5s,mb4.6					
SJPF	Ste Jean	26.83 293	*e*P	P	23 33 27.1	-0.3
	comp=Z,20nm,1.1s,mb4.3					
SJPF	Ste Jean	26.83 293	*e*P	P	23 33 27.1	-0.3
SJPF			pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.3					
SJPF	Ste Jean	26.83 293	*e*P	P	23 33 27.1	-0.3
	comp=Z,9.8nm,1.1s,mb4.3					
FLN	La Foliniere	26.96 306	*e*P	P	23 33 27.5	-1.0
	comp=Z,53nm,1.4s,mb4.6					
FLN	La Foliniere	26.96 306	*e*P	P	23 33 27.5	-1.0
FLN			pmax	pmax		
	comp=Z,26nm,1.4s,mb4.6					
FLN	La Foliniere	26.96 306	*e*P	P	23 33 27.5	-1.0
	comp=Z,26nm,1.4s,mb4.6					
KONO	Kongsberg	27.02 333	*e*P	P	23 33 28.8	0.0
KONO			pmax	pmax		
	comp=Z,70nm,1.6s,mb4.9					
KONO	Kongsberg	27.02 333	*e*P	P	23 33 28.8	0.0
	comp=Z,70nm,1.6s,mb4.9					
TMCR	Tamitsa	27.03 5	*e*P	P	23 33 30.1	+1.2
TMCR			pmax	pmax		
	comp=Z,16nm,1.0s,mb4.5					
GRR	Gorron	27.13 305	*e*P	P	23 33 29.3	-0.7
	comp=Z,34nm,1.0s,mb4.5					
GRR	Gorron	27.13 305	*e*P	P	23 33 29.3	-0.7
GRR			pmax	pmax		
	comp=Z,17nm,1.0s,mb4.5					
GRR	Gorron	27.13 305	*e*P	P	23 33 29.3	-0.7
	comp=Z,17nm,1.0s,mb4.5					
NB2	NORSAR Subarra	27.50 337	P	P	23 33 34.8	+1.6
	comp=Z,3.5nm,0.8s,mb3.9,baz=139,slow=9.3					
NOA	NORSAR Array B	27.50 337	P	P	23 33 32.2	-0.9
NOA			pmax	pmax		
	comp=Z,1.0nm,0.9s					
NOA	NORSAR Array B	27.50 337	P	P	23 33 32.2	-1.0
NOA	NORSAR Array B	27.50 337	P	P	23 33 32.2	-1.0
	comp=Z,0.9nm,0.9s,mb3.3,baz=137,slow=8.8,SNR=2.9					
SGMF	Saint Gilles	28.22 304	*e*P	P	23 33 39.0	-0.8
	comp=Z,130nm,1.5s,mb5.0					
SGMF	Saint Gilles	28.22 304	*e*P	P	23 33 39.0	-0.8
SGMF			pmax	pmax		
	comp=Z,65nm,1.5s,mb5.0					
SGMF	Saint Gilles	28.22 304	*e*P	P	23 33 39.0	-0.8
	comp=Z,65nm,1.5s,mb5.0					
QUIF	Quistinic	28.57 303	*e*P	P	23 33 42.1	-0.8
ESDC	Sonseca Array	29.09 286	P	P	23 33 47.4	-0.2
	comp=Z,3.7nm,0.9s,mb4.1,baz=72,slow=9.4,SNR=7.6					
BRVK	Borovoye	30.06 47	*e*P	P	23 33 55.5	-0.5
BRVK			pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.5					
BRVK	Borovoye	30.06 47	*e*P	P	23 33 55.5	-0.5
	comp=Z,3.1nm,0.9s,mb4.5					
BVAR	Borovoye Array	30.11 47	P	P	23 33 56.5	0.0
BVAR			pmax	pmax		
	comp=Z,5.0nm,0.9s					
BVAR	Borovoye Array	30.11 47	P	P	23 33 56.5	0.0
	comp=Z,4.7nm,0.9s,mb4.2,baz=240,slow=4.5,SNR=14					
FRU	Bishkek	31.88 67	*e*P	P	23 34 13.5	+1.3
FRU			pmax	pmax		
	comp=Z,40nm,2.0s,mb4.9					
EVO	Evora	32.39 285	*e*P	P	23 34 17.6	+0.9
	comp=Z,23nm,1.0s,mb4.7					
EVOP	Sao Brissos	32.47 285	*e*P	P	23 34 17.6	+0.2
	comp=Z,11nm,1.0s,mb4.7					
ARCES	ARCESS Array B	32.55 355	P	P	23 34 16.2	-1.5
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.6s					
ARCES	ARCESS Array B	32.55 355	P	P	23 34 16.2	-1.5
	comp=Z,1.6nm,0.6s,mb4.1,baz=169,slow=7.6,SNR=14					
KURK	Kurchatov	34.70 53	⇑ *e*P	P	23 34 36.8	+0.1
KURK	Kurchatov	34.70 53	*e*P	P	23 34 35.8	-0.9
	comp=Z,11nm,0.8s,mb4.8					
TORD	Torodi Ar. Bea	37.05 238	P	P	23 34 57.2	+0.1
	comp=Z,6.7nm,0.8s,mb4.5,baz=32,slow=8.6,SNR=8.6					
MK31	Makanchi Array	37.08 59	*e*P	P	23 34 56.8	-0.4
MKAR	Makanchi Array	37.08 59	P	P	23 34 57.3	+0.1
MKAR					23 37 17.3	
MKAR			pmax	pmax		
	comp=Z,6.0nm,0.7s					
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.8s					
MKAR	Makanchi Array	37.08 59	P	P	23 34 57.3	+0.1
	comp=Z,5.9nm,0.7s,mb4.5,baz=278,slow=6.6,SNR=45					
MKAR			PcP	PcP	23 37 17.3	-0.3
	comp=Z,1.1nm,0.8s,baz=267,slow=5.8,SNR=3.6					
NVS	Novosibirsk	37.91 46	*i* P	P	23 35 03.9	-0.1
ZAL	Zalesovo	38.73 48	P	P	23 35 10.2	-0.8
ZAA0	Zalesovo Array	38.75 48	*e*P	P	23 35 09.9	-1.2
ZALV	Zalesovo Beam	38.75 48	P	P	23 35 10.2	-0.9
	comp=Z,2.9nm,0.5s,mb4.3,baz=264,slow=9.2,SNR=11					
DBIC	Dimbokro	46.16 238	P	P	23 36 10.1	-1.8
DBIC			pmax	pmax		
	comp=Z,3.0nm,0.7s					
DBIC	Dimbokro	46.16 238	P	P	23 36 10.1	-1.7
	comp=Z,2.8nm,0.7s,mb4.3,baz=315,slow=18,SNR=4.8					
ZAK	Zakamensk	50.35 51	⇓ *i* P	P	23 36 44.2	+0.4
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.2					
LSZ	Lusaka	52.53 186	P	P	23 37 01.7	+1.3
LSZ			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9					
LSZ	Lusaka	52.53 186	P	P	23 37 01.7	+1.3
	comp=Z,1.4nm,0.6s,mb4.1,baz=22,slow=9.6,SNR=4.8					
SONM	Songino Array	52.99 54	P	P	23 37 03.6	0.0
SONM			pmax	pmax		
	comp=Z,5.0nm,0.8s					
SONM	Songino Array	52.99 54	P	P	23 37 03.6	0.0
	comp=Z,5.4nm,0.8s,mb4.5,baz=332,slow=12,SNR=4.1					
ULN	Ulaanbaatar	53.41 54	⇑ *e*P	P	23 37 06.5	-0.2
BOD	Bodaibo	54.65 40	*e*P	P	23 37 12.1	-3.5
BOD			pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6					
TIXI	Tiksi	56.77 22	⇑ *e*P	P	23 37 28.5	-2.1
TIXI			pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1					
TIXI	Tiksi	56.77 22	P	P	23 37 30.2	-0.4
	comp=Z,2.0nm,0.6s,mb4.3					
OPO	Ambohidratompo	57.12 164	P	P	23 37 36.3	+2.6
	comp=Z,2.4nm,0.9s,mb4.2,baz=2.8,slow=8.4,SNR=4.6					
SCHQ	Schefferville	65.70 321	P	P	23 38 32.0	+0.7
	comp=Z,3.7nm,0.9s,mb4.4,baz=84,slow=5.9,SNR=4.3					
BOSA	Boshof	66.02 188	P	P	23 38 34.2	+0.6
BOSA			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.5					
BOSA	Boshof	66.02 188	P	P	23 38 34.2	+0.6
	comp=Z,2.6nm,0.6s,mb4.5,baz=2.5,slow=10,SNR=8.8					
SEY	Seymchan	68.94 25	⇑ *e*P	P	23 38 50.3	-1.4
BILL	Bilibino	69.22 17	⇑ *e*P	P	23 38 52.3	-1.1
BILL			*e*		23 41 21.8	
BILL			*e*S	S	23 47 49.6	-10
BILL			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4					
BILL			MLR	MLR		
	comp=Z,200nm,17.0s,MS4.4		

σ1$06/48, mb3.8/14, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	Ghir-Karzin	0.50	332	*e*Pg	Pb	23 47 22.1	-3.1
GHIR				*e*Sg	Sb	23 47 31.0	-1.3
GHIR	comp=N,4μm,0.3s			AML	AML	23 47 37.4	
GHIR	comp=E,5μm,0.4s			AML	AML	23 47 39.9	
GHIR	Ghir-Karzin SNR=100	0.50	332	*e*Pg	Pb	23 47 22.1	-3.1
GHIR	comp=E,5μm,0.4s,SNR=100			*e*Sg	Sb	23 47 31.0	-1.3
IMOK	Mouk	1.29	339	*e*Pn	Pn	23 47 38.3	+1.8
IMOK				*e*Sn	Sn	23 47 58.5	+5.8
IMOK	comp=Z,17μm,0.4s			*e*		23 48 04.8	
ISRV	Sarvestan	1.54	355	*e*Pn	Pn	23 47 41.6	+1.7
ISRV				*e*Sn	Sn	23 48 04.2	+5.3
ISRV	comp=Z,14μm,0.5s			*e*		23 48 09.6	
SHI	Shiraz	1.91	340	*e*Sn	Sn	23 48 13.5	+5.5
SHI				*e*Sg	Sn	23 48 19.5	+12
IPAR	Pars	2.00	355	*e*Pn	Pn	23 47 47.9	+1.6
IPAR	comp=Z,3μm,0.3s			*e*		23 48 25.9	
IMEH	Mehriz	3.73	18	*e*Pn	Pn	23 48 10.9	+0.8
IMEH	comp=Z,758nm,0.3s			*e*		23 48 23.4	
KRBR	Kerman	3.74	54	*e*Pn	Pn	23 48 10.2	0.0
KRBR				Sn	Sn	23 48 54.9	+1.7
KRBR	comp=N,96nm,0.6s			AML	AML	23 49 21.6	
KRBR	Kerman SNR=54	3.74	54	*e*Pn	Pn	23 48 10.2	0.0
KRBR	SNR=54			Sn	Sn	23 48 54.9	+1.7
SLWS		3.83	218	P	Pn	23 48 12.1	+0.6
IBAF	Bafgh	4.24	28	*e*Pn	Pn	23 48 17.0	-0.1
IBAF	comp=Z,614nm,0.1s			*e*		23 48 18.6	
BTHS		4.36	210	P	Pn	23 48 19.6	+0.9
ICHK	Chekchek	4.50	13	*e*Pn	Pn	23 48 21.4	+0.8
ICHK	comp=Z,1μm,0.4s			*e*		23 48 35.6	
NASN	Na'in	4.95	356	*e*Pn	Pn	23 48 27.4	+0.5
NASN				Sn	Sn	23 49 24.2	+1.1
RDF	Al-Radifah	5.14	283	*e*P	Pn	23 48 29.5	0.0
RDF	comp=Z,5.8nm,0.3s			AML	AML	23 49 30.0	
UMR	Umm Al-Rimmam	5.15	291	*e*P	Pn	23 48 30.6	+0.9
UMR	comp=Z,10nm,0.2s			AML	AML	23 49 30.3	
NAY	Al-Naaiem	5.47	286	*e*P	Pn	23 48 34.7	+0.7
NAY	comp=Z,6.2nm,0.4s			AML	AML	23 49 39.5	
MIB	Mutribah	5.54	292	*e*P	Pn	23 48 35.5	+0.4
MIB	comp=Z,10nm,0.4s			AML	AML	23 49 39.8	
HRDDS		5.98	216	P	Pn	23 48 42.0	+1.0
LYLS		7.95	225	P	Pn	23 49 08.8	+0.8
ASF	Jabal al Asfar	14.81	291	Pn	Pn	23 50 41.8	-0.1
MALT	comp=Z,0.2nm,0.3s,baz=256,slow=4.2,SNR=4.6 Malatya	16.21	314	*e*Pn	Pn	23 50 59.2	-0.8
MMAI	comp=Z,5.1nm,0.8s Mount Meron Ar	16.23	293	Pn	Pn	23 51 00.3	-0.1
AML	comp=Z,0.2nm,0.3s,baz=111,slow=16,SNR=3.7 Almayashu	21.92	44	*e*P	P	23 51 59.8	-5.4
AKTK	comp=Z,3.7nm,0.7s,mb3.9 Aktyubinsk	22.85	8	P	P	23 52 15.2	0.0
AKTK	Aktyubinsk	22.85	8	P	P	23 52 15.1	0.0
AKTO	Aktyubinsk	22.85	8	P	P	23 52 15.2	0.0
BVAR	comp=Z,1.6nm,0.5s,mb3.7,baz=191,slow=14,SNR=7.3 Borovoye Array	28.19	22	P	P	23 53 02.9	-1.3
MKAR	comp=Z,1.9nm,0.8s,mb3.8,baz=201,slow=6.3,SNR=8.3 Makanchi Array	29.60	42	P	P	23 53 15.3	-1.4
MKAR				PcP	PcP	23 56 19.8	-1.2
MKAR	Makanchi Array	29.60	42	P	P	23 53 15.3	-1.4
MKAR	comp=Z,0.2nm,0.5s,mb3.1,baz=236,slow=10,SNR=3.2			PcP	PcP	23 56 19.8	-1.2
ZALV	comp=Z,0.2nm,0.5s,baz=237,slow=4.2,SNR=4.1 Zalesovo Beam	34.84	33	P	P	23 54 01.1	-1.6
FINES	comp=Z,1.1nm,0.6s,mb4.0,baz=234,slow=14,SNR=4.3 FINESS Array B	38.19	339	P	P	23 54 30.1	-1.0
HFS	comp=Z,0.7nm,0.5s,mb3.6,baz=142,slow=7.2,SNR=6.1 Hagfors	41.93	332	P	P	23 55 01.2	-1.0
NOA	comp=Z,0.7nm,0.4s,mb3.6,baz=117,slow=9.0,SNR=5.0 NORSAR Array B	43.45	332	P	P	23 55 12.1	-2.4
TORD	comp=Z,1.3nm,0.9s,mb3.7,baz=121,slow=8.2,SNR=3.2 Torodi Ar. Bea	50.11	264	P	P	23 56 06.5	-0.7
DBIC	comp=Z,0.7nm,0.6s,mb3.9,baz=58,slow=6.7,SNR=13 Dimbokro	58.78	260	P	P	23 57 09.9	-0.4
BOSA	comp=Z,3.2nm,1.1s,mb4.3,baz=76,slow=4.2,SNR=3.5 Boshof	62.22	208	P	P	23 57 33.5	+0.2
YKA	comp=Z,4.2nm,0.9s,mb4.5,baz=45,slow=5.7,SNR=3.2 Yellowknife Ar	89.45	354	P	P	00 00 07.3	-0.9
WRA	comp=Z,0.4nm,0.6s,mb3.9,baz=8.1,slow=5.2,SNR=7.3 Warramunga Arr	91.63	112	P	P	00 00 19.3	+0.3
ASAR	comp=Z,0.3nm,0.6s,mb3.8,baz=286,slow=3.4,SNR=4.9 Alice Springs	93.07	115	P	P	00 00 23.7	-1.9
	comp=Z,0.3nm,0.7s,mb3.9,baz=294,slow=4.6,SNR=3.1						

BJI ***18*** *23:47:48.4, 11.10N×86.10W, h35km, mB5.1, Ms5.2, Msz4.8*
CASC ***18*** *23:47:49.2±1.7, 1082N×8649W, h18km±4km, MD3.9, ML4.3, mb4.6(NEIC)*
NEIC ***18*** *23:47:50.4±0.4, 1106N×8614W, h35km, mb4.6/32, Error ellipse: s-maj=11.3km s-min=6.0km az=45.0*
IDC ***18*** *23:47:50.8±2.3, 1129N×8593W, h33km±18km, mb4.2/10, mb1 4.4/10, mb1mx4.0/20, mbtmp4.2/10, MS4.0/4, Ms1 4.0/4, ms1mx3.5/32, Error ellipse: s-maj=31.6km s-min=13.9km az=55.0*
ISCJB ***18*** *23:47:53.4±0.4, 11.14N±005×8605W±005, h77km±3km, mb4.5/40, Error ellipse: s-maj=10.6km s-min=3.9km az=137.3*

ISC 18 23:47:54.4±0.4, 1116N±005×8604W±005, h68km±3km, n291, σ0$80/283, mb4.5/40, 74C-70D, Near coast of Nicaragua

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SSNN	San Juan del S	0.23	57	⇓*e*P	Pn	23 48 04.1	-0.8
MADN	Villa Maderas	0.55	64	⇓*e*P	Pn	23 48 09.7	+2.1
CONN	Concepcion	0.57	46	⇓*e*P	Pn	23 48 09.6	+1.7
APON	Apoyo	0.75	358	⇑*e*P	Pn	23 48 10.3	+0.5
CRUN	El Crucero	0.85	343	⇓*e*P	Pn	23 48 11.1	+0.1
LIM1	Limonal	0.90	121	⇑*i*P	Pn	23 48 10.4	-1.1
LIM1				*i* S	Sn	23 48 26.8	+2.5
CUI		0.98	120	*i* P	Pn	23 48 12.0	-0.6
CUI				*i* S	Sn	23 48 30.3	+4.2
MGAN	Managua	1.00	348	⇑*e*P	Pn	23 48 12.8	-0.1
MGAN	comp=E,5μm,0.8s			*e*S	Sn	23 48 32.3	+5.8
TISN	Laguna Tiscapa	1.00	347	⇓*e*P	Pn	23 48 12.9	0.0
TISN				*e*S	Sn	23 48 30.8	+4.3
2RIO	Dos Rios de Up	1.01	128	*i* P	Pn	23 48 08.5	-4.5
CSAN		1.08	340	⇓*e*P	Pn	23 48 13.1	-0.8
VCR	Vista de Mar	1.11	159	⇓*e*P	Pn	23 48 08.2	-6.0
COPN	Copaltepe	1.15	332	⇓*e*P	Pn	23 48 13.3	-1.4
COPN				*e*S	Sn	23 48 31.9	+2.1
HUEN		1.17	354	⇑*e*P	Pn	23 48 15.7	+0.6
HUEN				*e*S	Sn	23 48 35.8	+5.3
BOAB	BOACO BROADBAN	.33	16	⇑*e*P	Pn	23 48 18.2	+1.1
MOMJ	Momotombo	1.33	338	⇑*e*P	Pn	23 48 16.1	-1.0
JTS	JuntasAbangare	1.38	129	*e*P	Pn	23 48 14.9	-2.8
JTS				*e*S	Sn	23 48 37.2	+2.0
JTS	JuntasAbangare	1.38	129	Pg	Pn	23 48 14.7	-3.1
JTS	comp=E,104nm,0.3s,baz=313,slow=19,SNR=221			Lg		23 48 37.9	
CNGN	comp=E,337nm,0.3s,baz=290,slow=15,SNR=8.9 Cerro Negro	1.48	334	⇑*e*P	Pn	23 48 16.7	-2.4
FORC	Fortuna	1.51	117	*i* P	Pn	23 48 19.7	+0.2
FORC				*e*P		23 48 20.3	
FORC				*i* S	Sn	23 48 44.9	+6.4
JCR	Jicaral	1.59	145	*e*P	Pn	23 48 16.9	-3.7
TEL3	Telica 3	1.61	331	⇑*e*P	Pn	23 48 19.3	-1.4
TELN	Telica	1.63	332	*e*P	Pn	23 48 19.3	-1.7
CRIN	San Cristobal	1.82	327	⇑*e*P	Pn	23 48 20.2	-3.4
CGA2	Cerro Gallo 2	1.92	126	*e*P	Pn	23 48 24.7	-0.3
PRS1	Puriscal	2.06	124	*e*P	Pn	23 48 27.3	+0.4
LCR2	La Lucha 2	2.45	125	*e*P	Pn	23 48 31.7	-0.5
URSC	Urasca	2.59	120	*e*P	Pn	23 48 33.7	-0.3
BUS	Buena Vista	2.76	125	*e*P	Pn	23 48 35.3	-1.0
TGUH	Tegucigalpa,Un	3.12	337	*e*Pn	Pn	23 48 40.4	-0.9
BAR1		3.29	125	*e*P	Pn	23 48 43.2	-0.4
TEIG	Tepich	9.26	347	*e*Pn	Pn	23 50 03.2	-2.1
TEIG	comp=E,19nm,1.4s Tepich	9.26	347	Pn	Pn	23 50 07.8	+2.5
TEIG	comp=E,0.2nm,0.3s,baz=180,slow=20,SNR=3.0			LR	LR	23 54 16.1	
ROSC	comp=E,1μm,18.1s,baz=150,slow=42 El Rosal	13.18	117	LR	LR	23 55 39.0	
CHI2	comp=E,282nm,20.7s,baz=12,slow=36	13.79	117	*e*P	Px	23 48 20.2	
CHI2				*e*S	Sx	23 48 45.3	
LAPE	La Pedrera	14.71	103	*i* P	Px	23 48 07.6	
LAPE				*i* S	Sx	23 48 21.2	
SDV	Santo Domingo	15.34	97	Pn	Pn	23 51 29.9	+2.9
ATAH	comp=E,0.2nm,0.3s,baz=256,slow=22,SNR=6.7 Atahualpa	19.58	157	LR	LR	23 59 03.3	
SJG	comp=E,492nm,18.0s,baz=183,slow=34 San Juan	20.44	68	P	P	23 52 26.1	-0.2
CPD	comp=E,7.8nm,0.7s Cerro la Pandu	20.63	68	*e*P	P	23 52 22.4	-6.1
HKT	Hockley	20.80	335	*e*P	P	23 52 30.4	+0.2
MTP	comp=E,92nm,1.6s Monte Pirata	20.98	68	*e*P	P	23 52 31.4	-0.8
PCRV	Puerto La Cruz	21.06	91	P	P	23 52 32.7	-0.4
VBMS	comp=E,18nm,0.8s,mb4.4,baz=324,slow=10,SNR=2.1 Vicksburg	21.36	350	*e*P	P	23 52 39.6	+3.4
NATX	Nacogdoches	21.99	340	*e*P	P	23 52 43.3	+0.4
GOGA	comp=E,78nm,0.7s,mb5.2 Godfrey	22.27	6	*e*P	P	23 52 48.3	+2.4
JCT	Junction City	23.08	328	*e*P	P	23 52 53.3	-1.2
JSC	Jenkinsville	23.42	10	*e*P	P	23 52 58.5	+1.0
JSC				*e*		23 53 07.3	
OXF	Oxford	23.44	353	*e*P	P	23 52 57.2	-0.5
PLAL	comp=E,72nm,0.9s,mb5.0 Pickwick Lake	23.78	356	*e*P	P	23 53 01.2	+0.4
SWET	comp=E,22nm,0.8s,mb4.5 Sewanee	23.95	0	*e*P	P	23 53 02.9	+0.6
CPCT	Cooper Cave	24.22	3	*e*P	P	23 53 05.7	+1.0
MIAR	Mount Ida	24.27	345	*e*P	P	23 53 04.5	-0.7
TXAR	comp=E,29nm,0.8s,mb4.7 Lajitas Array	24.44	320	P	P	23 53 06.3	-0.6
TXAR	comp=E,15nm,0.8s,mb4.4,baz=138,slow=9.6,SNR=88			PcP	PcP	23 56 46.3	+2.0
TXAR	comp=E,1.1nm,0.8s,baz=128,slow=5.8,SNR=4.7			LR	LR	00 05 33.3	
TKL	comp=E,294nm,20.0s,baz=215,slow=44 Tuckaleechee C	24.47	4	*e*P	P	23 53 08.7	+1.7
WMOK	Wichita Mounta	26.18	336	*e*P	P	23 53 21.8	-0.8
MNTX	comp=E,47nm,0.9s,mb4.9 Cornudas Mount	27.14	322	*e*P	P	23 53 30.9	-0.4
CCM	Cathedral Cave	27.18	351	*e*P	P	23 53 30.9	-0.6
AMTX	Amarillo	27.57	331	*e*P	P	23 53 34.7	-0.4
ACSO	Alum Creek Sta	29.08	5	*e*P	P	23 53 49.5	+1.1
HDIL	comp=E,16nm,0.8s,mb4.7 Hopedale	29.42	355	*e*P	P	23 53 51.5	+0.1
219A	White Tail Can	29.81	318	⇑P	P	23 53 55.3	+0.3
318A	baz=30 Bisbee	29.96	316	⇓P	P	23 53 56.4	+0.1
ANMO	baz=30 Albuquerque	30.10	325	*e*P	P	23 53 57.9	+0.3
ANMO	Albuquerque	30.10	325	P	P	23 53 58.0	+0.5
SSPA	comp=E,5.4nm,0.8s,mb4.2,baz=133,slow=5.5,SNR=18 Standing Stone	30.23	12	*e*P	P	23 53 59.0	+0.4
SSPA	comp=E,8.2nm,0.8s,mb4.4			*e*		23 54 09.5	
218A	Dragoon	30.32	317	⇑P	P	23 53 59.4	-0.1
118A	baz=30 Homack Ranch,	30.68	318	⇑P	P	23 54 02.6	-0.1
217A	baz=31 Green Valley	30.72	316	⇓P	P	23 54 02.9	-0.2
Y19A	baz=31 Nutrioso	31.07	321	⇑P	P	23 54 06.4	+0.3
X19A	baz=31 St. Johns	31.40	321	⇓P	P	23 54 08.8	-0.2
Z17A	baz=32 San Carlos Hig	31.42	318	⇑P	P	23 54 09.7	+0.6
Y18A	baz=32 Canyon Day Jun	31.44	320	⇓P	P	23 54 09.2	-0.1
JFWS	baz=32 Jewell Farm	31.84	354	*e*P	P	23 54 12.4	-0.4
X18A	Snowflake	31.88	321	⇓P	P	23 54 13.5	+0.3
W18A	baz=32 Petrified Fore	32.13	322	⇓P	P	23 54 15.7	+0.2
BINY	baz=32 Binghamton	32.14	14	*e*P	P	23 54 16.4	+1.0
BINY	comp=E,24nm,1.0s,mb4.9			*e*		23 54 26.0	
Y16A	Circle Bar Ran	32.44	318	⇑P	P	23 54 18.4	+0.3
LPAZ	baz=32 La Paz	32.52	147	*e*P	P	23 54 20.1	+1.1
X16A	comp=E,6.7nm,1.5s,mb4.2 Lo Mia Camp, P	32.75	319	⇑P	P	23 54 20.8	0.0
MVCO	baz=33,SNR=5.5 Mesa Verde	32.87	326	*e*P	P	23 54 22.0	+0.1
ISCO	Idaho Springs	33.39	332	*e*P	P	23 54 26.1	-0.3
SMCO	comp=E,6.2nm,1.2s,mb4.3 Snowmass	33.55	330	*e*P	P	23 54 28.3	+0.6
PV01	Paradox Valley	33.58	327	*e*P	P	23 54 28.8	+0.7
ECSD	EROS,Sioux Fal	33.72	346	*e*P	P	23 54 27.7	-1.5
X14A	Yava	33.72	318	⇓P	P	23 54 29.2	-0.1
PV10	baz=34 Paradox Valley	34.01	327	*e*P	P	23 54 31.2	-0.6
V15A	Kaibab Nationa	34.10	320	⇓P	P	23 54 33.0	+0.4
GLA	baz=34 Glamis	34.24	314	*e*P	P	23 54 34.3	+0.5
GLA	Glamis	34.24	314	⇓P	P	23 54 33.9	+0.1
W14A	baz=34 Seligman	34.30	319	⇑P	P	23 54 34.9	+0.5
PHWY	baz=34 Pilot Hill	34.53	334	*e*P	P	23 54 36.7	+0.5
W13A	Hualapai Mount	34.76	318	⇑P	P	23 54 38.6	+0.3
SWSC	baz=35 Sam W. Stewart	34.87	313	⇑P	P	23 54 39.4	+0.1
DVTC	baz=35 Desert V Tower	34.94	312	⇓P	P	23 54 40.0	+0.1
T15A	baz=35 Red Dirt Ranch	35.00	322	⇓P	P	23 54 40.8	+0.5
BC3	baz=35 Big Chuckw Mtn	35.00	314	⇑P	P	23 54 40.4	0.0
U14A	baz=35 Mt Trumbull	35.11	320	⇓P	P	23 54 42.6	+1.4
MONP	baz=35 Monument Peak	35.29	313	⇑P	P	23 54 43.5	+0.6
SRU	baz=35 San Rafael	35.35	326	*e*P	P	23 54 43.3	0.0
T14A	Hurricane	35.45	321	⇓P	P	23 54 45.3	+1.0
BELC	baz=36 Belle Mtn.	35.57	315	⇓P	P	23 54 46.0	+0.7
RWWY	baz=36 Rawlins	35.62	332	*e*P	P	23 54 45.8	+0.1
GMRC	comp=E,9.7nm,0.8s,mb4.8 Granite Mounta	35.76	316	⇑P	P	23 54 46.7	-0.2
MSU	baz=36 Marysvale	35.86	324	*e*P	P	23 54 48.8	+1.1
V11A	Goodsprings	36.21	318	⇑P	P	23 54 51.2	+0.5
MURC	baz=36 Murrieta	36.21	313	⇑P	P	23 54 51.0	+0.2
HEC	baz=36 Hector,Ludlow	36.25	315	⇑P	P	23 54 51.7	+0.7
RSSD	baz=36 Black Hills	36.33	338	*e*P	P	23 54 51.0	-0.6
MPU	comp=E,4.6nm,0.8s,mb4.5 Maple Canyon	36.59	326	*e*P	P	23 54 54.9	+1.0
DAU	Daniels Canyon	36.67	327	*e*P	P	23 54 55.8	+1.2
GSC	Goldstone	36.83	316	*e*P	P	23 54 56.7	+0.6
GSC	Goldstone	36.83	316	⇓P	P	23 54 56.1	0.0
JLU	baz=37 Jordanelle	36.91	327	*e*P	P	23 54 57.6	+1.0
R12A	Pony Springs,	37.19	322	⇓P	P	23 55 00.2	+1.2
EDW2	baz=37 Edwards Air Fo	37.43	314	⇓P	P	23 55 01.4	+0.2
FURC	baz=38 Furnace Creek,	37.52	317	⇑P	P	23 55 02.3	+0.5
P13A	baz=38 Bates Ranch, G	37.56	323	⇓P	P	23 55 02.7	+0.5
HWUT	baz=38,SNR=5.3 Hardware Ranch	37.69	328	*e*P	P	23 55 02.4	-0.8
MPMC	comp=E,9.7nm,0.8s,mb4.7 Manual Prospec	37.71	316	⇓P	P	23 55 03.4	-0.1
R11A	baz=38 Troy Canyon, C	37.80	321	⇓P	P	23 55 04.7	+0.5
AGMN	baz=38 Agassiz Refuge	37.92	349	*e*P	P	23 55 03.3	-1.7
	comp=E,21nm,0.9s,mb5.0						
SPUT	South Promonto	37.94	327	*e*P	P	23 55 06.2	+0.9
BGU	Big Grassy Mou	37.99	326	*e*P	P	23 55 06.0	+0.2
N14A	Grayback Hills	38.02	326	⇑P	P	23 55 06.5	+0.5
M15A	baz=38 Larsen Ranch,	38.05	327	⇓P	P	23 55 06.7	+0.5
P12A	baz=38,SNR=9.3 McGill	38.10	323	⇑P	P	23 55 06.9	+0.2
Q11A	baz=38 Duckwater	38.15	321	⇓P	P	23 55 07.4	+0.3
S10A	baz=38 Tonopah Range,	38.18	319	⇓P	P	23 55 08.2	+0.8
M14A	baz=38 Sheep Mountain	38.56	326	⇑P	P	23 55 11.0	+0.4
N13A	baz=39,SNR=12 Wendover, West	38.59	325	⇓P	P	23 55 10.9	+0.1
Q10A	baz=39 Clear Creek Ra	38.60	321	⇑P	P	23 55 11.2	+0.3
REDW	baz=39 Red Top Meadow	38.62	331	*e*P	P	23 55 10.5	-0.5
REDW	comp=E,17nm,0.8s,mb4.9			*e*		23 55 20.0	
REDW				*e*PcP	PcP	23 57 20.0	-2.1
SNOW	Snow King Moun	38.65	331	*e*P	P	23 55 11.1	-0.2
R09A	comp=E,15nm,0.8s,mb4.9 Tonopah	38.67	319	⇓P	P	23 55 11.9	+0.3
LOHW	baz=39 Long Hollow	38.70	331	*e*P	P	23 55 11.3	-0.3
PKM	comp=E.5.1nm,0.6s,mb4.5 Peak Mountain	38.74	313	⇓P	P	23 55 12.2	+0.1
TPAW	baz=39 Teton Pass	38.77	331	*e*P	P	23 55 12.7	+0.4
MOOW	comp=E,11nm,0.8s,mb4.7 Moose Ponds	38.87	331	*e*P	P	23 55 11.3	-1.7
M13A	comp=E,4.3nm,0.8s,mb4.3 Montello	38.91	326	⇑P	P	23 55 13.6	+0.1
O11A	baz=39 Cowboy Ranch,	38.96	323	⇑P	P	23 55 14.4	+0.5
S08C	baz=39 White Mtn Res	38.96	318	⇑P	P	23 55 14.5	+0.5
N12A	baz=39 Clover Valley,	39.07	324	P	P	23 55 15.5	+0.7
HELL	baz=39,SNR=6.4 Mitchell Peak	39.09	316	⇓P	P	23 55 15.7	+0.7
FLWY	baz=39,SNR=10 Flagg Ranch	39.10	332	*e*P	P	23 55 15.0	0.0
P10A	comp=E,5.8nm,0.7s,mb4.5 Eureka	39.12	322	⇑P	P	23 55 15.7	+0.4
K14A	baz=39 Jones Ranch, D	39.20	328	P	P	23 55 16.1	+0.3
M12A	baz=39,SNR=9.8 Wells	39.37	325	P	P	23 55 17.6	+0.3
O10A	baz=40,SNR=5.8 Cortez Mining,	39.56	322	⇑P	P	23 55 19.4	+0.5
NVAR	baz=40 Mina Array Bea	39.57	319	P	P	23 55 19.9	+0.8
NVAR	comp=E,4.5nm,0.7s,mb4.4,baz=141,slow=7.6,SNR=36			PcP	PcP	23 57 27.1	+1.9
Q08A	comp=E,5.0nm,0.7s,baz=138,slow=4.4,SNR=24 Gabbs	39.58	320	⇑P	P	23 55 19.9	+0.8
KCC	baz=40 Kaiser Creek	39.63	317	⇓P	P	23 55 19.6	+0.1
T06C	baz=40 Millerton Lake	39.73	316	⇑P	P	23 55 20.4	0.0
ULM	baz=40 Lac du Bonnet	39.80	350	P	P	23 55 19.1	-1.7
O09A	comp=E,16nm,0.7s,mb4.9,baz=179,slow=8.0,SNR=19 Fish Creek Ran	39.90	322	⇓P	P	23 55 22.3	+0.6
L12A	baz=40,SNR=7.3 House Creek Ra	39.91	326	⇑P	P	23 55 21.6	-0.1
QLMT	baz=40 Earthquake Lak	40.01	332	*e*P	P	23 55 23.0	+0.5
BMN	Battle Mountai	40.08	322	*e*P	P	23 55 23.6	+0.3
U04C	comp=E,7.4nm,0.9s,mb4.5 Hernandez Rese	40.14	314	⇑P	P	23 55 24.0	+0.2
K12A	baz=40 Draper Farm, C	40.18	326	⇓P	P	23 55 24.2	+0.2
S06C	baz=40 San Francisco	40.29	317	⇓P	P	23 55 25.7	+0.7
J13A	baz=40 Cove Ranch, Pi	40.32	328	⇑P	P	23 55 24.8	-0.3
L11A	baz=40 Cat Creek Ranc	40.34	325	P	P	23 55 25.5	+0.2
R06C	baz=40,SNR=7.6 Coleville	40.37	318	⇓P	P	23 55 26.4	+0.8
N09A	baz=40 Rock Creek Ran	40.52	322	P	P	23 55 27.8	+0.9
HLID	baz=41,SNR=8.3 Hailey	40.56	328	P	P	23 55 27.7	+0.6
I13A	baz=41,SNR=8.7 Wildhorse Cree	40.65	329	⇑P	P	23 55 28.5	+0.6
MCMT	baz=41,SNR=9.1 McKenzie Canyo	40.68	331	*e*P	P	23 55 25.4	-2.6
J12A	Stokes Ranch,	40.70	327	⇑P	P	23 55 28.6	+0.3
BOZ	baz=41,SNR=8.1 Bozeman (W)	40.72	332	*e*P	P	23 55 27.6	-0.8
CMB	comp=E,3.6nm,0.7s,mb4.3 Columbia Colle	40.73	317	⇑P	P	23 55 28.7	+0.1
G15A	baz=41 Dillon	40.75	331	P	P	23 55 29.1	+0.4
N08A	baz=41,SNR=6.9 GE Springer Mi	40.84	322	⇑P	P	23 55 29.4	-0.1
R05C	baz=41 Kirkwood Meado	40.88	318	⇑P	P	23 55 30.5	+0.6
K11A	baz=41 Parker Ranch,	40.89	326	P	P	23 55 30.1	+0.3
O07A	baz=41,SNR=9.2 Toulon	40.93	321	P	P	23 55 30.4	+0.2
DLMT	baz=41,SNR=6.4 Dillon	40.95	331	*e*P	P	23 55 29.6	-0.7
F15A	comp=E,5.3nm,0.9s,mb4.4 Butte	41.26	332	P	P	23 55 32.8	0.0
L09A	baz=41,SNR=7.2 Wilkinson Ranc	41.33	324	⇓P	P	23 55 33.7	+0.2
LAVA	baz=41 Lava Cap Winer	41.34	318	⇓P	P	23 55 33.5	-0.1
N07B	baz=41 Gerlach	41.35	321	⇓P	P	23 55 34.2	+0.5
K10A	baz=41 MacKenzie Ranc	41.36	325	⇓P	P	23 55 33.9	+0.1
M08A	baz=42 Happy Creek Ra	41.40	323	⇓P	P	23 55 34.5	+0.4
H12A	baz=42 Diamond D Ranc	41.47	329	P	P	23 55 34.6	0.0
O06A	baz=42,SNR=5.2 Flanigan	41.53	320	⇓P	P	23 55 35.6	+0.5
G13A	baz=42,SNR=6.4 Cobalt	41.55	330	⇑P	P	23 55 34.7	-0.5
I11A	baz=42 Placerville	41.61	327	⇑P	P	23 55 35.8	+0.1
BEKR	baz=42 Beckwourth	41.70	319	⇑P	P	23 55 37.6	+1.1
E15A	baz=42 Deer Lodge	41.77	332	P	P	23 55 36.8	-0.2
EGMT	baz=42,SNR=6.7 Eagleton	41.78	336	*e*P	P	23 55 36.4	-0.6
EGMT	comp=E,6.8nm,1.3s,mb4.2			*e*		23 55 45.4	
K09A	Rome	41.79	324	P	P	23 55 38.5	+1.2
L08A	baz=42,SNR=11 Fields	41.83	323	P	P	23 55 38.1	+0.5
N06A	baz=42,SNR=8.9 Buffalo Meadow	41.87	321	⇑P	P	23 55 38.8	+0.9
E14A	baz=42 Clinton	42.15	332	P	P	23 55 40.2	+0.1
WVOR	baz=42,SNR=7.0 Wild Horse Val	42.15	324	*e*P	P	23 55 39.6	-0.6
D15A	comp=E,5.1nm,0.6s,mb4.4 Lincoln	42.18	333	P	P	23 55 40.0	-0.3
H11A	baz=42,SNR=6.4 Donnelly	42.18	328	P	P	23 55 40.5	+0.2
I10A	baz=42,S

F12A	Elk City	42.52	330	P		P	23 55 42.4 -0.8
	baz=43,SNR=19						
I09A	Lost Marbles R	42.62	326	P		P	23 55 43.8 -0.1
	baz=43,SNR=5.5						
J08A	Circle Bar Ran	42.63	325	P		P	23 55 44.2 +0.1
	baz=43,SNR=6.2						
D14A	Greenough	42.65	332	⇑P		P	23 55 43.1 -1.0
	baz=43						
K07A	Rock Creek Ran	42.66	323	P		P	23 55 44.6 +0.3
	baz=43,SNR=11						
MSO	Missoula	42.66	332	*e*P		P	23 55 42.0 -2.3
	comp=E,2.4nm,0.8s,mb4.0						
BMO	Blue Mountains	42.96	327	*e*P		P	23 55 45.1 -1.6
	comp=E,4.8nm,0.8s,mb4.3						
BMO				*e*			23 55 54.1
M05C	Lookout	43.03	321	⇑P		P	23 55 47.9 +0.6
	baz=43						
D13A	Huson	43.10	332	P		P	23 55 47.1 -0.6
	baz=43,SNR=5.8						
J07A	Hines	43.12	324	⇑P		P	23 55 47.9 -0.1
	baz=43						
GASB	Alder Springs	43.12	318	⇓P		P	23 55 49.2 +1.1
	baz=43,SNR=5.8						
G10A	Bishop Farm, J	43.16	328	⇑P		P	23 55 47.4 -0.8
	baz=43						
K06A	Valley Falls	43.32	323	⇓P		P	23 55 49.8 +0.2
	baz=43						
E11A	Bogner Ranch,	43.42	330	P		P	23 55 49.0 -1.4
	baz=44,SNR=6.6						
O02C	Red Bluff	43.44	318	⇑P		P	23 55 49.8 -0.9
	baz=44						
P01C	Double 8 Ranch	43.44	317	⇑P		P	23 55 51.2 +0.5
	baz=44						
H08A	Prairie City	43.48	326	⇑P		P	23 55 50.7 -0.2
	baz=44						
J06A	Christmas Vall	43.53	323	⇓P		P	23 55 51.0 -0.4
	baz=44						
C13A	Hot Springs	43.58	332	⇑P		P	23 55 50.9 -0.8
	baz=44						
M04C	Macdoel	43.70	321	⇓P		P	23 55 52.6 -0.1
	baz=44						
KIPM	Iron Peak	43.71	317	*e*P		P	23 55 54.0 +1.2
F09A	S2 Ranch, Elgi	43.85	328	⇑P		P	23 55 53.8 0.0
	baz=44						
L04A	Klamath Falls	43.95	321	⇑P		P	23 55 54.6 -0.1
	baz=44						
D11A	Klaveano Farm,	43.96	330	⇓P		P	23 55 53.9 -0.9
	baz=44						
I06A	Prineville	43.99	324	⇑P		P	23 55 55.0 0.0
	baz=44						
B13A	Whitefish	44.05	333	P		P	23 55 55.0 -0.4
	baz=44,SNR=6.1						
N02C	Big Bar	44.11	319	⇓P		P	23 55 56.5 +0.4
	baz=44						
WALA	Waterton Lakes	44.31	334	*e*P		P	23 55 56.4 -1.1
	comp=E,3.3nm,0.8s,mb4.1						
WALA				*e*			23 56 06.4
F08A	Pendleton	44.36	327	⇑P		P	23 55 57.1 -0.9
	baz=44						
D10A	Wagner Farm, O	44.43	330	P		P	23 55 57.3 -1.2
	baz=44,SNR=6.0						
G07A	Ruggs Ranch, H	44.50	326	⇑P		P	23 55 59.1 0.0
	baz=45						
E09A	Wood Farm, Sta	44.51	328	⇓P		P	23 55 59.0 -0.1
	baz=45						
J04A	Umpqua Nationa	44.69	322	⇑P		P	23 56 00.9 +0.3
	baz=45						
D09A	Jones Farm, Ri	44.95	329	⇑P		P	23 56 02.5 -0.2
	baz=45						
B11A	Sandpoint	44.96	332	P		P	23 56 02.1 -0.5
	baz=45,SNR=7.1						
L02A	Cave Junction	45.01	320	⇓P		P	23 56 03.0 -0.1
	baz=45						
HAWA	Hanford	45.15	327	*e*P		P	23 56 03.1 -1.1
	comp=E,6.5nm,0.7s,mb4.5						
HAWA				*e*			23 56 12.6
I04A	Tendick Farm,	45.18	323	P		P	23 56 04.2 -0.3
	baz=45,SNR=6.1						
D08A	Wollman Farm,	45.26	328	⇓P		P	23 56 04.8 -0.3
	baz=45						
A11A	Hall Mountain,	45.33	332	P		P	23 56 05.7 +0.1
	baz=46,SNR=5.1						
G05A	Wamic	45.40	325	⇓P		P	23 56 06.8 +0.6
	baz=46						
E07A	Sunnyside	45.42	327	⇑P		P	23 56 06.1 -0.3
	baz=46						
F06A	Goldendale	45.42	326	⇓P		P	23 56 07.0 +0.6
	baz=46						
C09A	Chrisman Ranch	45.44	330	⇑P		P	23 56 05.0 -1.4
	baz=46						
H04A	Detroit Lake	45.56	324	⇑P		P	23 56 07.6 +0.1
	baz=46						
J02A	Umpqua	45.64	322	⇓P		P	23 56 08.2 +0.1
	baz=46						
B09A	Rice	45.80	330	⇑P		P	23 56 08.3 -1.0
	baz=46						
F05A	White Salmon	45.87	326	⇓P		P	23 56 09.8 -0.1
	baz=46						
E06A	Yakima	46.02	327	⇑P		P	23 56 10.9 -0.1
	baz=46						
G04A	Mulino	46.04	324	⇓P		P	23 56 11.3 +0.1
	baz=46						
BDFB	Brasilia	46.12	125	P		P	23 56 13.2 +1.0
	comp=E,1.3nm,0.6s,mb3.8,baz=281,slow=25,SNR=4.6						
SCHQ	Schefferville	46.13	15	P		P	23 56 10.8 -0.9
	comp=E,3.0nm,0.7s,mb4.1,baz=222,slow=6.3,SNR=8.4						
I02A	Mapleton	46.15	322	⇓P		P	23 56 12.3 +0.2
	baz=46						
C07A	Waterville	46.26	328	⇓P		P	23 56 12.5 -0.4
	baz=46						
B08A	Colville Reser	46.34	330	⇑P		P	23 56 12.6 -0.9
	baz=46						
A09A	Danville	46.39	331	⇓P		P	23 56 13.0 -0.9
	baz=46						
F04A	Amboy	46.44	325	⇓P		P	23 56 13.7 -0.6
	baz=46						
CPUP	Villa Florida	46.56	144	P		P	23 56 15.2 -0.4
	comp=E,1.1nm,0.7s,mb3.7,baz=330,slow=10.0,SNR=2.6						
G03A	Yamhill	46.56	324	⇑P		P	23 56 15.7 +0.3
	baz=47						
A08A	Turner Farm, O	46.71	330	⇓P		P	23 56 16.2 -0.3
	baz=47						
C05A	Tolt Reservoir	47.12	327	⇓P		P	23 56 19.6 -0.1
	baz=47						
A07A	Ashnola River,	47.32	330	⇑P		P	23 56 21.0 -0.2
	baz=47						
NLWA	Neilton Lookou	48.10	326	⇑P		P	23 56 27.4 +0.1
	baz=48						
PLCA	Paso Flores	53.59	165	P		P	23 57 08.3 -0.2
PLCA	Paso Flores	53.59	165	P		P	23 57 08.3 -0.2
	comp=E,0.8nm,0.6s,mb4.0,baz=332,slow=5.4,SNR=3.6						
YKA	Yellowknife Ar	55.21	344	P		P	23 57 18.5 -1.5
YKA				PcP		PcP	23 58 20.2 0.0
YKA	Yellowknife Ar	55.21	344	P		P	23 57 18.5 -1.5
	comp=E,3.6nm,0.7s,mb4.5,baz=140,slow=7.1,SNR=73						
YKA				PcP		PcP	23 58 20.2 0.0
	comp=E,0.8nm,0.7s,baz=145,slow=4.1,SNR=6.4						
RES	Resolute Bay	63.70	357	*e*P		P	23 58 17.6 -0.7
	comp=E,75nm,0.5s						
INK	Inuvik	64.84	342	*e*P		P	23 58 24.9 -1.0
	comp=E,161nm,0.9s						
INK				*e*			23 58 34.1
EGAK	Eagle	65.53	337	*e*P		P	23 58 28.8 -1.6
	comp=E,6.8nm,1.3s,mb4.3						
SVW2	Sparrevohn	70.44	331	*e*P		P	23 58 59.5 -1.7
IMA2	Indian Mountai	70.86	336	*e*P		P	23 59 02.5 -1.2
IMA2				*e*PcP		PcP	23 59 23.6 -0.3
TORD	Torodi Ar. Bea	85.34	78	P		P	00 00 23.0 -1.8
	comp=E,0.3nm,0.9s,baz=298,slow=5.5,SNR=2.6						
CN2	Changchun	118.25	335	*e*PKP		PKPdf	00 06 34.5 +0.4
MKAR	Makanchi Array	121.37	9	PKP		PKPdf	00 06 39.7 -0.3
	comp=E,0.2nm,0.5s,baz=13,slow=1.7,SNR=3.6						
KSRS	Korea Array	122.09	328	PKP		PKPdf	00 06 42.3 +0.6
	comp=E,0.6nm,0.4s,baz=38,slow=0.9,SNR=8.5						
WMQ	Urumqi	124.98	6	*e*PKP		PKPdf	00 06 47.0 -0.1
HHC	Hu-ho-hao-te	125.75	344	*e*PKP		PKPdf	00 06 48.0 -0.6
HHC				XPKP			00 07 02.6
HHC				PP		PP	00 08 45.0 +4.8
HHC				PKS			00 10 23.3
HHC				SKS		SKSdf	00 13 54.6 -0.1
HHC				SKKS		SKKSac	00 15 33.8 +0.3
HHC				SS		SS	00 25 41.0 +6.5
HHC				PP		PP	
	comp=Z,86nm,6.5s						
HHC				LR		LR	
	comp=N,194nm,23.4s						
HHC				LR		LR	
	comp=E,203nm,21.3s						
HHC				LR		LR	
	comp=Z,159nm,23.7s						
NJ2	Nanjing	130.87	332	*e*PKP		PKPdf	00 06 58.9 +0.3
LZH	Lanzhou	132.09	349	*e*PKP		PKPdf	00 07 01.9 +1.1
LZH				XPKP			00 07 16.5
CD2	Chengdu	137.12	348	*e*PKP		PKPdf	00 07 03.9 -6.5
CD2				XPKP			00 07 18.3
CD2				PKS			00 10 38.5
CD2				SKS		SKSdf	00 14 09.6 -6.0
CD2				PP		PP	
	comp=Z,80nm,9.6s						
ASAR	Alice Springs	140.05	246	PKhKP			00 07 10.3
	comp=Z,0.4nm,0.7s,baz=101,slow=2.4,SNR=3.7						
ASAR				PKP		PKPdf	00 07 15.9 0.0
	comp=Z,0.5nm,0.7s,baz=99,slow=1.3,SNR=7.0						
WRA	Warramunga Arr	140.22	252	PKhKP			00 07 09.1
	comp=Z,0.3nm,0.8s,baz=113,slow=2.1,SNR=2.3						
WRA				PKP		PKPdf	00 07 16.7 +0.4
	comp=Z,1.1nm,0.7s,baz=96,slow=2.4,SNR=12						
GYA	Guiyang	140.62	342	*e*PKP		PKPdf	00 07 15.8 -1.1
GYA				XPKP			00 07 32.3
GYA				PP		PP	00 10 19.4 +4.2
GYA				PP		PP	
	comp=Z,60nm,7.4s						
FITZ	Fitzroy Crossi	148.62	254	PKPbc		PKPbc	00 07 34.3 -0.4
	comp=Z,1.8nm,0.7s,baz=113,slow=7.7,SNR=3.5						

IDC ***19*** *00:09:35.9±1.7, 1984S×16992E, h0km, mb4.4/7, mb1 4.6/7, mb1mx4.3/15, mbtmp4.4/7, MS3.6/3, Ms1 3.6/3, ms1mx3.3/24, Error ellipse: s-maj=79.1km s-min=26.2km az=153.0*

ICSJB ***19*** *00:09:39.9±1.4, 194S±03×1696E±02, h33km, mb4.4/7, MS3.6/2, Error ellipse: s-maj=52.7km s-min=22.0km az=149.9*

NEIC ***19*** *00:09:41.2±1.0, 1937S×16978E, h35km, mb4.2/4, Error ellipse: s-maj=47.5km s-min=16.6km az=154.0*

ISC 19 00:09:41.6±1.4, 195S±03×1697E±02, h35km, n18, σ0.97/14, mb4.4/7, MS3.6/2, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	Armidale	19.66	233	*e*P		Pn	00 14 08.5 -0.6
URZ	Urewera	19.81	163	LR		LR	00 19 55.7
	comp=Z,123nm,21.2s,baz=269,slow=32						
CTA	Charters Tower	22.07	264	*e*P		P	00 14 36.2 +2.5
	6.4nm,0.9s,mb4.0						
CTA	Charters Tower	22.07	264	P		P	00 14 35.4 +1.7
	5.9nm,0.9s,mb4.0,baz=112,slow=12,SNR=7.2						
CTA				LR		LR	00 21 57.6
	comp=Z,181nm,19.7s,MS3.5,baz=66,slow=33						
CTAO	Charters Tower	22.07	264	*e*P		P	00 14 35.0 +1.3
	8.2nm,0.8s,mb4.2						
STKA	Stephens Creek	28.10	238	*e*P		P	00 15 31.3 +1.1
	6.2nm,0.9s,mb4.2						
STKA	Stephens Creek	28.10	238	P		P	00 15 30.5 +0.3
	6.0nm,0.8s,mb4.3,baz=82,slow=12,SNR=7.3						
STKA				LR		LR	00 24 50.3
	comp=Z,230nm,21.3s,MS3.7,baz=34,slow=33						
WB2	Warramunga Arr	33.25	263	*e*P		P	00 16 14.6 -1.2
WRA	Warramunga Arr	33.26	263	P		P	00 16 15.4 -0.5
	5.8nm,1.1s,mb4.4,baz=98,slow=8.3,SNR=15						
ASAR	Alice Springs	33.50	256	P		P	00 16 16.6 -1.3
	9.2nm,0.8s,mb4.8,baz=90,slow=9.1,SNR=75						
FITZ	Fitzroy Crossi	41.66	264	*e*P		P	00 17 27.2 +0.2
	9.2nm,1.0s,mb4.4						
FITZ	Fitzroy Crossi	41.66	264	P		P	00 17 27.3 +0.3
	3.5nm,0.8s,mb4.0,baz=108,slow=12,SNR=5.3						
NWAO	Narrogin (SRO)	48.50	243	P		P	00 18 22.3 +1.0
NWAO	Narrogin (SRO)	48.50	243	P		P	00 18 22.3 +1.0
	12nm,0.8s,mb5.0,baz=109,slow=9.2,SNR=3.6						
NVAR	Mina Array Bea	88.62	48	P		P	00 22 31.1 0.0
	0.8nm,0.7s,mb4.2,baz=223,slow=9.1,SNR=5.0						
BRG	Berggiesshubel	143.26	334	*e*PKP		PKPdf	00 29 10.0 -2.0
	8.7nm,1.5s						
KHC	Kasperske Hory	144.74	333	*e*PKP		PKPdf	00 29 14.5 -0.1
GERES	GERESS Array B	144.90	332	PKPbc		PKPdf	00 29 15.4 +0.5
	1.5nm,0.7s,baz=45,slow=2.6,SNR=15						

ISCJB ***19*** *00:12:14.6±0.4, 3186S±009×5737E±009, h10km, mb4.4/23, MS4.3/4, Error ellipse: s-maj=14.4km s-min=10.1km az=27.7*

IDC ***19*** *00:12:14.9±0.5, 3188S×5739E, h0km, mb4.3/18, mb1 4.4/19, mb1mx4.3/31, mbtmp4.3/19, ML4.5/1, MS4.3/4, Ms1 4.3/4, ms1mx3.8/30, Error ellipse: s-maj=20.8km s-min=13.3km az=21.0*

NEIC ***19*** *00:12:16.4±0.3, 3190S×5735E, h10km, mb4.8/3, Error ellipse: s-maj=11.3km s-min=7.4km az=204.0*

ISC 19 00:12:16.6±0.4, 3184S±009×5738E±009, h10km, n42, σ0.76/31, mb4.4/23, MS4.3/4, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	Ambohidratompo	16.10	323	Pn		Pn	00 16 02.8 -0.3
	1.9nm,0.3s,baz=155,slow=11,SNR=24						
OPO				Sn		Sn	00 18 54.0 -7.7
	1.4nm,0.3s,baz=90,slow=22,SNR=5.7						
BOSA	Boshof	27.89	268	P		P	00 18 05.8 -0.8
	5.2nm,0.7s,mb4.3,baz=98,slow=11,SNR=13						
LBTB	Lobatse	28.70	276	P		P	00 18 13.7 -0.2
	4.2nm,0.8s,mb4.2,baz=179,slow=6.4,SNR=4.8						
LSZ	Lusaka	31.29	295	P		P	00 18 36.9 0.0
	1.7nm,0.6s,mb4.1,baz=159,slow=6.6,SNR=6.1						
MAW	Mawson	35.94	176	LR		LR	00 29 56.9
	comp=Z,369nm,20.6s,MS4.1,baz=12,slow=30						
KMBO	Kilima Mbogo	35.98	324	LR		LR	00 33 35.3
	comp=Z,161nm,18.4s,MS3.8,baz=270,slow=36						
TSUM	Tsumeb	37.85	280	P		P	00 19 33.9 +0.2
	4.4nm,0.9s,mb4.2,baz=103,slow=5.9,SNR=11						
SNAA	Sanae	50.82	201	P		P	00 21 16.8 +0.1
	2.5nm,0.8s,mb4.2,baz=87,slow=3.6,SNR=12						
QSPA	South Pole Qui	58.33	180	*e*P		P	00 22 11.0 -0.1
	16nm,1.1s,mb5.0						
QSPA	South Pole Qui	58.33	180	P		P	00 22 11.3 +0.2
	9.4nm,1.0s,mb4.8,baz=274,slow=3.5,SNR=28						
RDF	Al-Radifah	61.15	350	*e*P		P	00 22 30.2 -0.9
RDF				AMb		AMB	00 22 33.6
	comp=Z,15nm,0.9s,mb5.1						
UMR	Umm Al-Rimmam	61.74	350	*e*P		P	00 22 34.4 -0.7
UMR				AMb		AMB	00 22 37.5
	comp=Z,59nm,0.8s,mb5.8						
MIB	Mutribah	62.04	350	*e*P		P	00 22 35.8 -1.3
MIB				AMb		AMB	00 22 40.4
	comp=Z,26nm,0.8s,mb5.4						
VNDA	Vanda	62.21	166	LR		LR	00 45 56.6
	comp=Z,200nm,18.6s,MS4.3,baz=263,slow=32						
FITZ	Fitzroy Crossi	62.48	95	P		P	00 22 41.2 +0.7
	comp=Z,2.5nm,0.7s,mb4.4,baz=251,slow=10,SNR=3.8						
ASAR	Alice Springs	66.96	104	P		P	00 23 09.3 -0.3
	comp=Z,2.6nm,0.8s,mb4.3,baz=235,slow=6.4,SNR=22						
WRA	Warramunga Arr	68.98	101	P		P	00 23 22.0 -0.4
	comp=Z,3.4nm,0.9s,mb4.3,baz=241,slow=5.5,SNR=22						
WB2	Warramunga Arr	68.99	101	*e*P		P	00 23 21.4 -1.1
STKA	Stephens Creek	69.58	115	P		P	00 23 25.9 0.0
	comp=Z,3.4nm,0.8s,mb4.3,baz=109,slow=4.7,SNR=3.4						
TOA0	Torodi Ar. Sit	69.59	301	*e*P		P	00 23 25.3 -0.8
TORD	Torodi Ar. Bea	69.59	301	P		P	00 23 26.4 +0.3
TORD	Torodi Ar. Bea	69.59	301	P		P	00 23 26.4 +0.3
	comp=Z,5.0nm,0.8s,mb4.5,baz=130,slow=5.4,SNR=30						
DBIC	Dimbokro	70.53	291	P		P	00 23 33.5 +1.5
	comp=Z,6.1nm,1.0s,mb4.5,baz=114,slow=9.0,SNR=4.6						
EKS2	Erkin-Say	75.65	12	*e*P		P	00 24 03.2 +1.6
	comp=Z,5.0nm,0.9s,mb4.4						
CTA	Charters Tower	78.76	107	P		P	00 24 19.8 +0.1
	comp=Z,4.7nm,0.9s,mb4.4,baz=229,slow=12,SNR=4.5						
MK31	Makanchi Array	81.44	17	*e*P		P	00 24 33.7 +0.3
MKAR	Makanchi Array	81.44	17	P		P	00 24 33.9 +0.5
	comp=Z,1.4nm,0.8s,mb4.0,baz=214,slow=5.3,SNR=15						
MLR	Muntele Rosu	82.09	338	P		P	00 24 37.6 +0.8
	comp=Z,2.5nm,0.8s,mb4.2,baz=268,slow=16,SNR=5.1						
RPZ	Rata Peaks	83.47	138	LR		LR	00 53 14.1
	comp=Z,520nm,19.6s,MS4.9,baz=289,slow=30						
KURK	Kurchatov	84.32	13	*e*P		P	00 24 48.5 +0.2
	comp=Z,6.7nm,1.0s,mb4.7						
AKASG	Malin Array Be	85.87	342	P		P	00 24 55.8 -0.3
	comp=Z,0.2nm,0.3s,mb3.9,baz=172,slow=4.5,SNR=6.1						
ZALV	Zalesovo Beam	88.68	16	P		P	00 25 08.8 -0.8
ZALV	Zalesovo Beam	88.68	16	P		P	00 25 08.8 -0.8
	comp=Z,0.5nm,0.4s,mb4.2,baz=215,slow=4.7,SNR=4.6						
GERES	GERESS Array B	89.28	333	P		P	00 25 14.3 +1.8
	comp=Z,0.2nm,0.5s,mb3.7,baz=12,slow=31,SNR=2.8						
INK	Inuvik	142.95	7	*e*PKPdf		PKPdf	00 31 45.6 -3.9
EGAK	Eagle	145.10	14	*e*PKPdf		PKPdf	00 31 52.9 -0.4
DAWY	Dawson	146.09	13	*e*PKPdf		PKPdf	00 31 56.4 +1.3
FCC	Fort Churchill	146.91	333	*e*PKPbc		PKPbc	00 31 58.3 -0.2
YKA	Yellowknife Ar	148.90	353	PKPbc		PKPbc	00 32 03.6 -0.1
	comp=Z,7.0nm,0.7s,baz=4.8,slow=2.4,SNR=125						
COWI	Conover	150.58	309	*e*PKPbc		PKPbc	00 32 07.3 -1.1
EYMN	Ely	151.46	313	*e*PKPbc		PKPbc	00 32 10.5 +0.1
ULM	Lac du Bonnet	152.93	321	PKPbc		PKPbc	00 32 13.2 -0.4
	baz=1.5,slow=4.0						

MOS ***19*** *00:24:09.7±1.9, 5283N×16066E, h20km, mb4.4/15, Error ellipse: s-maj=13.8km s-min=9.4km az=108.9*

IDC ***19*** *00:24:09.2±0.9, 5292N×16044E, h0km, mb4.1/14, mb1 4.3/14, mb1mx4.2/24, mbtmp4.2/14, MS3.4/1, Ms1 3.4/1, ms1mx2.9/31, Error ellipse: s-maj=25.8km s-min=17.5km az=116.0*

ISCJB ***19*** *00:24:12.2±0.4, 5274N±004×16068E±005, h33km, mb4.3/24, Error ellipse: s-maj=5.4km s-min=4.4km az=148.6*

KRSC ***19*** *00:24:13.8±0.5, 5279N×16033E, h12km±12km, ML4.5*

NEIC ***19*** *00:24:15.3±0.9, 5316N×16018E, h35km, mb4.4/5, Error ellipse: s-maj=20.5km s-min=11.8km az=142.0*

ISC 19 00:24:13.1±1.0, 5278N±004×16059E±006, h27km±6km, n67, σ1.36/80, mb4.3/24, 1C-4D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.47	313	*i* P		Pb	00 24 22.7 -0.2
SPN				*e*S		Sb	00 24 28.7 -0.8
NLC	Nalytchevo	0.85	298	*i* P		Pb	00 24 28.5 -0.7
NLC				*e*S		Sb	00 24 38.7 -1.5
PET	Petropavlovsk	1.20	283	⇓*i* PN		Pn	00 24 34.0 -0.1
PET				*e*S		Sn	00 24 50.1 +0.6
PET				pmax		pmax	
	comp=E,850nm,0.2s						
PET				pmax		pmax	
	comp=Z,900nm,0.2s						
PET				smax			
	comp=E,5μm,1.3s						
PET				smax			
	comp=E,5μm,0.7s						
PET				smax			
	comp=E,36nm,0.5s						
PET				smax			
	comp=N,44nm,0.4s						
PET	Petropavlovsk	1.20	283	⇓*i* P		Pn	00 24 33.9 -0.1
PET				*e*S		Sn	00 24 50.6 +1.1
PET	Petropavlovsk	1.20	283	*i* P		Pn	00 24 34.0 -0.1
PET				*e*S		Sn	00 24 48.6 -0.9
AVH	Avacha	1.22	294	*i* P		Pn	00 24 34.7 +0.3
AVH				*e*S		Sn	00 24 49.5 -0.5
RUS	Russkaya	1.31	256	*i* P		Pn	00 24 35.5 -0.1
RUS				*i* S		Sn	00 24 51.3 -0.9
KII	Karymskiy	1.44	332	*e*P		Pn	00 24 38.1 +0.8
KII				*e*S		Sn	00 24 55.6 +0.3
GRL	Gorelyy	1.55	263	*i* P		Pn	00 24 39.9 +1.0
GRL				*i* S		Sn	00 24 58.7 +0.6
GNL	Ganaly	1.84	301	*i* P		Pn	00 24 44.6 +1.7
GNL				*i* S		Sn	00 25 07.7 +2.5
MIPR	Malaya Ipel'ka	2.40	259	P		Pn	00 24 52.4 +1.9
MIPR				*i* S		Sn	00 25 20.5 +1.6
TUMR	Tumrok	2.53	354	*i* P		Pn	00 24 54.3 +2.0
TUMR				*i* S		Sn	00 25 23.6 +1.4
KMNR	Kamenistaya	2.99	356	P		Pn	00 25 01.3 +2.6
SKR	Severo-Kuril's	3.48	235	*e*PN		Pn	00 25 03.5 -1.9
SKR				pmax		pmax	
	comp=Z,40nm,0.4s						
ALID	Alaid	3.66	241	P		Pn	00 25 09.5 +1.6
ALID				*i* S		Sn	00 25 49.5 -0.7
SRKR	Sorokina	3.90	5	P		Pn	00 25 13.8 +2.6
MA2	Magadan	8.74	325	*e*PN		Pn	00 26 22.3 +4.8
MA2				pmax		pmax	
	comp=Z,9.0nm,0.7s						
ASAJ	Asahikawa	14.72	241	LR		LR	00 34 29.6
	comp=Z,149nm,18.8s,baz=54,slow=42						
BILL	Bilibino	15.56	8	P		Pn	00 27 56.0 +5.8
BILL				pmax		pmax	
	comp=Z,10.0nm,1.0s						
BILL	Bilibino	15.56	8	*e*P		Pn	00 27 54.8 +4.6
	comp=Z,8.4nm,0.9s						
MAJO	Matsushiro	22.59	233	*e*P		P	00 29 12.6 +1.3
MAJO				pmax		pmax	
	comp=Z,12nm,0.8s,mb4.4						
MAJO	Matsushiro	22.59	233	*e*P		P	00 29 12.6 +1.3
	comp=Z,12nm,0.8s,mb4.4						
MAT	Matsushiro	22.59	233	P		P	00 29 12.0 +0.7
MJAR	Matsushiro Arr	22.59	233	P		P	00 29 12.7 +1.4
MJAR				pmax		pmax	
	comp=Z,6.0nm,0.7s						
MJAR	Matsushiro Arr	22.59	233	P		P	00 29 12.7 +1.5
	comp=Z,6.4nm,0.7s,mb4.2,baz=21,slow=12,SNR=15						
TIXI	Tiksi	23.50	335	*e*P		P	00 29 16.5 -4.0
TIXI				pmax		pmax	
	comp=Z,4.0nm,0.9s,mb3.9						
TIXI	Tiksi	23.50	335	*e*P		P	00 29 17.3 -3.1
	comp=Z,2.5nm,0.5s,mb3.9						
HIA	Hailar	25.68	279	*e*P		P	00 29 34.4 -6.2
KSRS	Korea Array	27.38	249	P		P	00 29 57.5 +1.5
	comp=Z,1.9nm,0.7s,mb3.8,baz=41,slow=10,SNR=5.9						
ULN	Ulaanbaatar	33.87	284	*e*P		P	00 30 50.0 -3.1
INK	Inuvik	33.94	37	P		P	00 30 53.7 +0.2
	comp=Z,0.3nm,0.3s,mb3.7,baz=293,slow=7.0,SNR=7.0						
KURK	Kurchatov	48.16	302	*e*P		P	00 32 47.0 -3.5
KURK				pmax		pmax	
	comp=Z,5.0nm,0.6s,mb4.7						
KURK	Kurchatov	48.16	302	*e*P	

comp=Z,0.7nm,0.7s,mb3.7,baz=300,slow=5.0,SNR=4.1
BURAR Bucovina Array 73.00 330 ||i P **P 00 35 40.0 +0.1**
MLR Muntele Rosu 74.68 329 P **P 00 35 50.3 +0.5**
MLR pmax pmax
comp=Z,2.0nm,0.5s
MLR Muntele Rosu 74.68 329 P **P 00 35 50.3 +0.5**
comp=Z,1.5nm,0.5s,mb4.2,baz=328,slow=7.2,SNR=6.4
MLR Muntele Rosu 74.68 329 ||i P **P 00 35 50.3 +0.5**
GERES GERESS Array B 74.92 338 P **P 00 35 51.2 +0.1**
GERES pmax pmax
comp=Z,1.0nm,0.5s
GERES GERESS Array B 74.92 338 P **P 00 35 51.2 +0.1**
comp=Z,0.5nm,0.5s,mb3.7,baz=34,slow=5.7,SNR=7.9
WRA Warramunga Arr 75.92 205 P **P 00 35 57.0 -0.1**
WRA pmax pmax
comp=Z,1.0nm,0.9s
WRA Warramunga Arr 75.92 205 P **P 00 35 57.0 -0.1**
comp=Z,1.2nm,0.9s,mb3.8,baz=24,slow=6.3,SNR=3.8
LPL La Plagne 79.55 342 *e*P **P 00 36 15.1 -2.1**
comp=Z,5.0nm,0.7s,mb4.3
LPG La Plagne 79.57 342 *e*P **P 00 36 15.5 -1.7**
comp=Z,6.3nm,0.8s,mb4.3
ASAR Alice Springs 79.59 205 P **P 00 36 18.0 +0.5**
ASAR pmax pmax
comp=Z,1.0nm,0.6s
ASAR Alice Springs 79.59 205 P **P 00 36 18.0 +0.5**
comp=Z,1.0nm,0.6s,mb3.9,baz=14,slow=5.4,SNR=10
ORIF Oris-en-Rattie 80.29 342 *e*P **P 00 36 19.1 -2.1**
comp=Z,9.8nm,1.0s,mb4.4

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*IDC **19** 01:15:39.6±1.1, 302S×1298E, h0km, mb4.1/4, mb1 4.3/7, mb1mx4.1/18, mbtmp4.2/7, ML4.2/3, Error ellipse: s-maj=40.7km s-min=13.6km az=71.0*
*ISCJB **19** 01:15:41.5±0.8, 308S±008×1296E±0.1, h30km, mb3.9/4, Error ellipse: s-maj=20.8km s-min=8.9km az=153.9*
*NEIC **19** 01:15:43.6±0.8, 308S×1296E, h30km, mb4.1/3, Error ellipse: s-maj=22.3km s-min=11.2km az=63.0*
ISC 19 01:15:47.0±2.1, 32S±01×1295E±02, h62km±19km**, n14,** σ1§**08**/16**, mb3.9**/4**, Seram**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.85**	**163**	*e*P	**Pn**	**01 18 07.0**	**+1.2**
	8.2nm,0.6s						
KAPI	**Kappang**	**9.90**	**259**	Pn	**Pn**	**01 18 06.7**	**0.0**
	1.2nm,0.3s,baz=136,slow=8.9,SNR=5.6						
FITZ	**Fitzroy Crossi**	**15.25**	**194**	*e*P	**Pn**	**01 19 19.4**	**+0.7**
	12nm,0.8s						
FITZ	**Fitzroy Crossi**	**15.25**	**194**	Pn	**Pn**	**01 19 20.1**	**+1.4**
	0.5nm,0.3s,baz=44,slow=12,SNR=12						
WRAB	**Tennant Creek**	**17.25**	**165**	*e*Pn	**Pn**	**01 19 42.4**	**-1.4**
	5.7nm,0.6s						
WRAB				*e*Sn	**Sn**	**01 22 54.0**	**-1.1**
WRA	**Warramunga Arr**	**17.25**	**165**	P	**Pn**	**01 19 43.1**	**-0.7**
	1.3nm,0.3s,baz=354,slow=12,SNR=12						
WRA				S	**S**	**01 23 01.2**	**+0.3**
	0.1nm,0.3s,baz=344,slow=21,SNR=5.0						
WB2	**Warramunga Arr**	**17.26**	**165**	*e*P	**Pn**	**01 19 42.6**	**-1.3**
ASAR	**Alice Springs**	**20.75**	**169**	P	**P**	**01 20 24.3**	**+1.7**
	25nm,0.5s,baz=347,slow=10,SNR=361						
ASAR				S	**S**	**01 24 18.4**	**+7.4**
	1.7nm,0.9s,baz=350,slow=22,SNR=5.7						
ASAR				PcP	PcP	01 24 32.0	+1.8
	0.6nm,0.5s,baz=358,slow=2.6,SNR=5.4						
CTA	**Charters Tower**	**23.39**	**137**	P	**P**	**01 20 51.8**	**+1.3**
	3.6nm,0.7s,mb3.9,baz=332,slow=9.6,SNR=6.8						
MKAR	**Makanchi Array**	**64.85**	**326**	P	**P**	**01 26 19.0**	**-0.4**
	0.3nm,0.4s,mb3.7,baz=126,slow=8.2,SNR=4.2						
ZALV	**Zalesovo Beam**	**68.02**	**333**	P	**P**	**01 26 40.4**	**+0.8**
ZALV	**Zalesovo Beam**	**68.02**	**333**	P	**P**	**01 26 40.4**	**+0.8**
	0.4nm,0.3s,mb3.9,baz=126,slow=7.5,SNR=3.7						
KURK	**Kurchatov**	**69.08**	**328**	*e*P	**P**	**01 26 44.8**	**-1.5**
	2.5nm,0.9s,mb4.1						
CPUP	**Villa Florida**	**149.87**	**168**	PKPbc	PKPbc	01 35 33.0	+2.1
	1.7nm,0.6s,baz=153,slow=2.9,SNR=6.9						

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*IDC **19** 01:19:18.9±2.0, 7055N×6.16E, h0km, mb3.4/1, mb1 3.4/5, mb1mx3.2/24, mbtmp3.4/5, ML2.9/4, Error ellipse: s-maj=30.3km s-min=17.7km az=167.0*
*ISCJB **19** 01:19:20.4±0.7, 7057N±004×70E±0.1, h10km, Error ellipse: s-maj=6.6km s-min=6.2km az=160.1*
*NAO **19** 01:19:21.2±2.1, 7052N×675E, ML2.5*
*BER **19** 01:19:22.2±4.8, 7058N×604E, h10km, MD2.7, ML2.1, ML2.5(NAO)*
*HEL **19** 01:19:24.4±0.4, 7063N×688E, h10km, ML2.9, MD2.7(BER), ML2.1(BER)*
ISC 19 01:19:23.3±0.7, 7057N±004×**70E**±01**, h10**km**, n47,** σ1§**28**/62**, Norwegian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**3.37**	**134**	*e*P	**Pn**	**01 20 19.0**	**+3.1**
LOF				*e*S	**Sn**	**01 20 58.3**	**+2.5**
TRO	**Tromso**	**4.18**	**97**	*e*P	**Pn**	**01 20 27.3**	**+0.3**
TRO				*e*S	**Sn**	**01 21 14.3**	**-1.4**
TRO				AML	AML	01 21 19.3	
	comp=Z,9.0nm,0.1s						
TRO	**Tromso**	**4.18**	**97**	*e*P	**Pn**	**01 20 27.3**	**+0.3**
TRO				*e*S	**Sn**	**01 21 14.8**	**-1.0**
TRO				AML	AML	01 21 19.3	
	comp=Z,9.0nm,0.1s						
STOK1	**Konsvik**	**4.66**	**148**	*e*P	**Pn**	**01 20 34.2**	**+0.6**
STOK1	**Konsvik**	**4.66**	**148**	*e*S	**Sn**	**01 21 23.1**	**-4.6**
STOK1	**Konsvik**	**4.66**	**148**	AML	AML	01 21 29.2	
	comp=Z,8.3nm,0.5s						
STOK1	**Konsvik**	**4.66**	**148**	AML	AML	01 21 29.2	
	comp=Z,8.3nm,0.5s						
STOK	**Stokkvaagen**	**4.79**	**150**	*e*P	**Pn**	**01 20 36.5**	**+1.0**
STOK	**Stokkvaagen**	**4.79**	**150**	*e*S	**Sn**	**01 21 26.4**	**-4.5**
STOK	**Stokkvaagen**	**4.79**	**150**	AML	AML	01 21 32.5	
	comp=Z,5.5nm,0.6s						
STOK	**Stokkvaagen**	**4.79**	**150**	AML	AML	01 21 32.5	
	comp=Z,5.5nm,0.6s						
KIF	**Kilpisjarvi**	**5.03**	**102**	*e*P	**Pn**	**01 20 40.2**	**+1.5**
KIF				MPN		01 20 43.0	
	comp=Z,2.0nm,0.2s						
KIF				*e*S	**Sn**	**01 21 36.8**	**+0.1**
JNE	**Jan Mayen East**	**5.08**	**282**	*e*P	**Pn**	**01 20 30.6**	**-8.7**
JNW	**Jan Mayen West**	**5.12**	**282**	*e*P	**Pn**	**01 20 31.1**	**-8.7**
JMIC	**Jan Mayen**	**5.15**	**282**	Pn	**Pn**	**01 20 31.3**	**-9.0**
	comp=Z,24nm,0.3s,baz=176,slow=1.4,SNR=94						
MOR8	**Moi Rana**	**5.20**	**145**	*e*P	**Pn**	**01 20 41.9**	**+0.9**
MOR8				*e*S	**Sn**	**01 21 38.3**	**-2.6**
MOR8				AML	AML	01 21 47.0	
	comp=Z,5.1nm,0.1s						
MOR8	**Moi Rana**	**5.20**	**145**	*e*P	**Pn**	**01 20 41.6**	**+0.6**
MOR8				*e*S	**Sn**	**01 21 38.3**	**-2.6**
MOR8				AML	AML	01 21 47.0	
	comp=Z,5.1nm,0.1s						
JMI	**Jan Mayen**	**5.22**	**281**	*e*P	**Pn**	**01 20 32.9**	**-8.4**
BJO1	**Bjornoya**	**5.34**	**37**	*e*P	**Pn**	**01 20 41.9**	**-1.1**
BJO	**Bjornoya**	**5.38**	**37**	*e*P	**Pn**	**01 20 41.9**	**-1.6**
KTK1	**Kautokeino**	**5.83**	**98**	*e*P	**Pn**	**01 20 52.9**	**+3.2**
KTK1				*e*S	**Sn**	**01 21 57.5**	**+1.1**
HEF	**Hetta**	**6.23**	**102**	*e*P	**Pn**	**01 20 56.6**	**+1.4**
HEF				MPN		01 21 00.4	
	comp=Z,0.8nm,0.2s						
HEF				*e*S	**Sn**	**01 22 05.9**	**-0.4**
ARA0	**ARCESS Array S**	**6.41**	**91**	Pn	**Pn**	**01 20 58.8**	**+1.3**
	baz=280,slow=12						
ARA0				Sn	**Sn**	**01 22 09.8**	**-0.8**
	baz=289,slow=22						
ARA0	**ARCESS Array S**	**6.41**	**91**	*e*P	**Pn**	**01 20 58.9**	**+1.4**
ARA0				*e*S	**Sn**	**01 22 10.4**	**-0.2**
ARCES	**ARCESS Array B**	**6.41**	**91**	Pn	**Pn**	**01 20 58.7**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=281,slow=12,SNR=19						
ARCES				Sn	**Sn**	**01 22 12.1**	**+1.6**
	comp=Z,0.7nm,0.3s,baz=286,slow=20,SNR=3.8						
KEV	**Kevo**	**6.84**	**87**	*e*P	**Pn**	**01 21 05.4**	**+1.9**
KEV				MPN		01 21 06.5	
	comp=Z,0.7nm,0.2s						
KEV				*e*S	**Sn**	**01 22 20.9**	**-0.4**
SGF	**Sodankyl**	**7.66**	**105**	*e*P	**Pn**	**01 21 15.7**	**+1.0**
SGF				MPN		01 21 19.2	
	comp=Z,1.1nm,0.2s						
SGF				*e*S	**Sn**	**01 22 40.1**	**-1.3**
SPA0	**Spitsbergen Ar**	**8.04**	**14**	Pn	**Pn**	**01 21 18.7**	**-1.3**
	baz=173,slow=16						
SPA0	**Spitsbergen Ar**	**8.04**	**14**	*e*P	**Pn**	**01 21 18.7**	**-1.3**
KBS	**Kingsbay**	**8.50**	**6**	*e*P	**Pn**	**01 21 25.8**	**-0.4**
OUL	**Oulu**	**8.98**	**119**	*e*P	**Pn**	**01 21 32.5**	**-0.2**
OUL				MPN		01 21 35.3	
	comp=Z,0.5nm,0.2s						
OUL				*e*S	**Sn**	**01 23 11.4**	**-2.3**
MSF	**Maaselka**	**9.38**	**109**	*e*P	**Pn**	**01 21 38.2**	**0.0**
MSF				MPN		01 21 42.2	
	comp=Z,0.4nm,0.2s						
MSF				*e*S	**Sn**	**01 23 18.7**	**-4.8**
KU6	**Riekki**	**9.57**	**107**	*e*P	**Pn**	**01 21 40.9**	**0.0**
KU6				MPN		01 21 44.8	
	comp=Z,0.3nm,0.2s						
KU6				*e*S	**Sn**	**01 23 24.8**	**-3.6**
NB2	**NORSAR Subarra**	**9.72**	**168**	Pn	**Pn**	**01 21 43.0**	**0.0**
	baz=349,slow=14						
NB2	**NORSAR Subarra**	**9.72**	**168**	*e*P	**Pn**	**01 21 43.0**	**0.0**
NOA	**NORSAR Array B**	**9.72**	**168**	Pn	**Pn**	**01 21 42.5**	**-0.4**
	comp=Z,0.2nm,0.3s,baz=347,slow=12,SNR=2.6						
VAF	**Ylistaro**	**9.72**	**133**	*e*S	**Sn**	**01 23 28.7**	**-3.2**
KJN	**Kajaani**	**10.25**	**119**	*e*P	**Pn**	**01 21 50.6**	**+0.5**
KJN				*e*S	**Sn**	**01 23 38.7**	**-6.2**
HFS	**Hagfors**	**10.83**	**162**	Pn	**Pn**	**01 21 58.4**	**+0.3**
	baz=355,slow=11						
HFS	**Hagfors**	**10.83**	**162**	*e*P	**Pn**	**01 21 58.4**	**+0.3**
HFS	**Hagfors**	**10.83**	**162**	Pn	**Pn**	**01 21 58.3**	**+0.2**
	comp=Z,0.3nm,0.3s,baz=355,slow=11,SNR=10						
SUF	**Sumiainen**	**10.88**	**127**	*e*P	**Pn**	**01 21 58.6**	**-0.2**
SUF				*e*S	**Sn**	**01 23 54.9**	**-5.5**
KEF	**Keuruu**	**11.01**	**131**	*e*P	**Pn**	**01 22 00.7**	**+0.2**
KEF				*e*S	**Sn**	**01 24 00.4**	**-3.1**
FIA0	**FINESS Array S**	**11.93**	**131**	Pn	**Pn**	**01 22 13.5**	**+0.4**
	baz=336,slow=14						
FIA0	**FINESS Array S**	**11.93**	**131**	*e*P	**Pn**	**01 22 13.5**	**+0.4**
FINES	**FINESS Array B**	**11.93**	**131**	Pn	**Pn**	**01 22 13.4**	**+0.3**
	comp=Z,0.1nm,0.3s,baz=337,slow=14,SNR=2.8						
TORD	**Torodi Ar. Bea**	**57.48**	**186**	P	**P**	**01 29 10.2**	**-2.0**
	comp=Z,0.7nm,1.1s,baz=6.2,slow=5.9,SNR=4.0						

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*IDC **19** 01:22:41.7±3.0, 256S×14036E, h0km, mb3.9/4, mb1 4.1/5, mb1mx3.9/14, mbtmp4.0/5, ML4.2/1, MS3.1/1, Ms1 3.1/1, ms1mx2.9/20, Error ellipse: s-maj=103.0km s-min=23.7km az=94.0*
*NEIC **19** 01:22:46.8±2.0, 265S×140.17E, h30km, mb3.8/1, Error ellipse: s-maj=53.2km s-min=18.2km az=92.0*
*ISCJB **19** 01:22:51.1±3.5, 28S±0.1×1397E±0.2, h71km±33km, mb3.8/3, Error ellipse: s-maj=40.6km s-min=15.9km az=14.1*
ISC 19 01:22:49.3±4.8, 27S±02×**1398E**±02**, h39**km±45km**, n9,** σ0§**90**/10**, mb3.9**/3**, Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**12.36**	**216**	*e*P	**Pn**	**01 25 43.2**	**+0.3**
	10nm,0.4s						
KAKA				*e*S	**Sn**	**01 27 58.7**	**-0.7**
GUMO	**Guam**	**16.92**	**17**	LR	LR	01 32 43.3	
	comp=Z,61nm,18.0s,baz=115,slow=36						
WRAB	**Tennant Creek**	**17.96**	**197**	*e*Pn	**Pn**	**01 26 54.8**	**-1.4**
	5.6nm,0.7s						
WB2	**Warramunga Arr**	**17.97**	**197**	*e*P	**Pn**	**01 26 56.9**	**+0.6**
WB2				*e*S	**S**	**01 30 08.8**	**-12**
WRA	**Warramunga Arr**	**17.98**	**197**	P	**Pn**	**01 26 56.3**	**0.0**
	0.9nm,0.3s,baz=17,slow=12,SNR=15						
FITZ	**Fitzroy Crossi**	**20.70**	**221**	P	**P**	**01 27 28.5**	**+2.2**
	2.9nm,0.8s,baz=48,slow=16,SNR=10						
ASAR	**Alice Springs**	**21.64**	**195**	P	**P**	**01 27 36.5**	**+0.1**
	3.5nm,0.6s,mb4.0,baz=29,slow=9.9,SNR=30						
MKAR	**Makanchi Array**	**70.45**	**322**	P	**P**	**01 33 59.3**	**-0.4**
	1.3nm,0.9s,mb3.9,baz=105,slow=7.6,SNR=5.2						
BVAR	**Borovoye Array**	**79.93**	**325**	P	**P**	**01 34 53.8**	**-0.4**
	0.7nm,0.4s,mb3.9,baz=97,slow=7.4,SNR=3.7						

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*IDC **19** 01:24:49.5±2.8, 303N×9677E, h0km, mb4.0/3, mb1 4.0/4, mb1mx3.6/21, mbtmp3.9/4, ML3.0/1, MS3.0/1, Ms1 3.0/1, ms1mx2.8/35, Error ellipse: s-maj=91.4km s-min=23.2km az=46.0*
*ISCJB **19** 01:24:50.9±1.6, 28N±02×965E±01, h33km, mb4.0/3, Error ellipse: s-maj=32.8km s-min=15.8km az=28.0*
*NEIC **19** 01:24:52.2±1.5, 275N×9655E, h30km, Error ellipse: s-maj=33.0km s-min=15.7km az=210.0*
ISC 19 01:24:53.1±1.6, 28N±02×**966E**±02**, h35**km**, n7,** σ0§**95**/7**, mb4.0**/3**, Northern Sumatera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.36**	**89**	Pn	**Pn**	**01 25 27.4**	**-1.9**
	4.5nm,0.3s,baz=284,slow=8.6,SNR=20						
PSI				LR	LR	01 26 12.6	
	comp=Z,356nm,20.9s,baz=271,slow=38						
KULM	**Kulim**	**4.78**	**58**	*e*Pn	**Pn**	**01 26 03.9**	**+1.3**
WRA	**Warramunga Arr**	**43.41**	**123**	P	**P**	**01 32 53.7**	**+1.0**
	0.7nm,0.5s,mb3.6,baz=304,slow=9.0,SNR=4.4						
MK31	**Makanchi Array**	**45.57**	**346**	*e*P	**P**	**01 33 09.4**	**-0.1**
MKAR	**Makanchi Array**	**45.57**	**346**	P	**P**	**01 33 09.7**	**+0.1**
	0.9nm,0.4s,mb4.0,baz=157,slow=8.2,SNR=15						
ZAA0	**Zalesovo Array**	**51.91**	**351**	*e*P	**P**	**01 33 57.6**	**-0.5**
ZALV	**Zalesovo Beam**	**51.91**	**351**	P	**P**	**01 33 58.0**	**-0.2**
	2.4nm,0.4s,mb4.4,baz=178,slow=6.3,SNR=12						

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*IDC **19** 01:32:52.0±3.2, 3294N×2357E, h0km, mb3.9/4, mb1 3.6/8, mb1mx3.5/24, mbtmp3.6/8, ML3.3/4, Error ellipse: s-maj=51.5km s-min=29.9km az=37.0*
ISC 19 01:32:53.6±4.2, 329N±01×**237E**±01**, h12**km±31km**, n8,** σ0§**71**/10**, mb3.8**/4**, Near coast of Libya**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IDI	**Anoyia**	**2.62**	**23**	Pn	**Pn**	**01 33 36.1**	**+0.5**
	1.6nm,0.3s,baz=341,slow=10,SNR=14						
IDI				Sn	**Sn**	**01 34 07.6**	**+0.3**
	3.0nm,0.3s,baz=310,slow=22,SNR=9.0						
MMAI	**Mount Meron Ar**	**9.88**	**86**	Pn	**Pn**	**01 35 15.7**	**+0.3**
	0.8nm,0.3s,baz=262,slow=12,SNR=13						
MMAI				Sn	**Sn**	**01 37 05.6**	**-0.6**
	1.0nm,0.3s,baz=253,slow=20,SNR=6.4						
ASF	**Jabal al Asfar**	**11.21**	**90**	Pn	**Pn**	**01 35 33.3**	**-0.3**
	0.1nm,0.3s,baz=276,slow=9.2,SNR=3.4						
AKASG	**Malin Array Be**	**18.28**	**11**	P	**Pn**	**01 37 05.8**	**-1.1**
	0.4nm,0.3s,baz=205,slow=11,SNR=3.5						
HFS	**Hagfors**	**28.05**	**349**	P	**P**	**01 38 44.3**	**-0.1**
	0.8nm,0.5s,mb3.6,baz=152,slow=10,SNR=6.0						
ARCES	**ARCESS Array B**	**36.72**	**1**	P	**P**	**01 39 59.3**	**-0.9**
	2.1nm,1.0s,mb3.9,baz=178,slow=9.7,SNR=5.7						
MKAR	**Makanchi Array**	**46.10**	**55**	P	**P**	**01 41 18.8**	**+1.4**
	0.2nm,0.5s,mb3.3,baz=280,slow=7.0,SNR=4.2						
ZALV	**Zalesovo Beam**	**47.50**	**45**	P	**P**	**01 41 28.7**	**+0.5**
	1.1nm,0.3s,mb4.2,baz=268,slow=9.9,SNR=3.6						

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*NIED **19** 01:46:00, 4630N×15340E, h53km, Mw4.7 Best double couple: M0 1.23000×10^16 NP1:φs 78.00000°, δ 81.00000°, λ 82.00000°. NP2:φs 301.00000°, δ 12.00000°, λ 132.00000°.*
*IDC **19** 01:46:34.4±0.6, 4560N×15391E, h0km, mb4.3/18, mb1 4.4/20, mb1mx4.3/27, mbtmp4.3/20, ML3.6/1, Error ellipse: s-maj=17.6km s-min=14.6km az=155.0*
*ISCJB **19** 01:46:39.9±0.4, 4524N±007×15367E±006, h68km, mb4.5/55, Error ellipse: s-maj=10.9km s-min=3.9km az=157.1*
*MOS **19** 01:46:41.3±1.5, 4554N×15372E, h68km, mb4.8/34, Error ellipse: s-maj=10.1km s-min=7.2km az=104.0*
*SZGRF **19** 01:46:44.7, 4612N×15327E, h136km, mb4.8, Kuril Islands, Russia*
*NEIC **19** 01:46:50.8±0.6, 4569N×15391E, h132km±5km, mb4.5/21, Error ellipse: s-maj=11.1km s-min=6.6km az=172.0*
ISC 19 01:46:36.8±1.7, 4561N±005×**15376E**±005**, h13**km±11km**, n167,** σ1§**20**/172**, mb4.5**/55**, MS4.0**/9**, 13C-4D, East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.17**	**267**	||i PN	**Pn**	**01 47 40.7**	**+0.7**
KUR				pmax	pmax		
	comp=N,80nm,0.4s						
KUR				pmax	pmax		
	comp=E,40nm,0.4s						
KUR				pmax	pmax		
	comp=Z,240nm,0.4s						
SKR	**Severo-Kuril's**	**5.32**	**16**	*e*PN	**Pn**	**01 47 51.5**	**-4.3**
SKR				pmax	pmax		
	comp=N,40nm,0.5s						
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
SKR				pmax	pmax		
	comp=E,60nm,0.4s						
SKR				MLR	MLR		
	comp=N,900nm,18.0s						
SKR				MLR	MLR		
	comp=E,2μm,18.0s						
SKR				MLR	MLR		
	comp=Z,1μm,18.0s						
NEM2	**Nemuro 2**	**6.16**	**251**	P	**Pn**	**01 48 06.0**	**-1.3**
NEM2				*e*S	**Sn**	**01 49 11.9**	**-5.6**
JRA	**Rausu**	**6.37**	**258**	P	**Pn**	**01 48 10.9**	**+0.7**
JNK	**Nakash**	**6.76**	**256**	P	**Pn**	**01 48 15.5**	**-0.1**
JNK				*e*S	**Sn**	**01 49 29.5**	**-2.9**
JAK	**Akkeshi**	**7.01**	**251**	P	**Pn**	**01 48 17.6**	**-1.4**
JAR	**Ashorobuto**	**7.51**	**256**	P	**Pn**	**01 48 26.2**	**+0.3**
JAR				*e*S	**Sn**	**01 49 49.6**	**-1.3**
JMP	**Maruseppu**	**7.57**	**261**	P	**Pn**	**01 48 28.3**	**+1.6**
JOB	**Onbets**	**7.62**	**253**	P	**Pn**	**01 48 26.9**	**-0.5**
JOB				*e*S	**Sn**	**01 49 48.2**	**-5.3**
YSS	**Yuzh-Sakhalins**	**7.74**	**284**	*e*PN	**Pn**	**01 48 31.6**	**+2.5**
JCH	**Churui**	**8.06**	**252**	P	**Pn**	**01 48 33.0**	**-0.4**
JCH				*e*S	**Sn**	**01 49 59.0**	**-5.3**
ASAJ	**Asahikawa**	**8.07**	**263**	PN	**Pn**	**01 48 33.2**	**-0.4**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	**8.07**	**263**	Pn	**Pn**	**01 48 33.2**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=261,slow=22,SNR=2.6						
PET	**Petropavlovsk**	**8.08**	**22**	PN	**Pn**	**01 48 37.4**	**+3.7**
PET				pmax	pmax		
	comp=Z,21nm,0.6s						
PET	**Petropavlovsk**	**8.08**	**22**	Pn	**Pn**	**01 48 37.4**	**+3.7**
	comp=Z,22nm,0.6s						
PET				*e*Sn	**Sn**	**01 50 01.1**	**-3.7**
JEM	**Erimo**	**8.46**	**249**	P	**Pn**	**01 48 38.7**	**-0.3**
ERM	**Erimo**	**8.46**	**249**	*e*PN	**Pn**	**01 48 40.2**	**+1.2**
JNBK	**Urakawa-nobuka**	**8.61**	**251**	P	**Pn**	**01 48 39.6**	**-1.4**
JBT2	**Biratori 2**	**8.66**	**255**	P	**Pn**	**01 48 40.7**	**-1.0**
JKB	**Kayabe**	**9.93**	**253**	P	**Pn**	**01 48 57.2**	**-1.9**
JKB				*e*S	**Sn**	**01 50 41.4**	**-8.9**
JYM2	**Yakumo 2**	**10.28**	**255**	P	**Pn**	**01 49 03.2**	**-0.6**
JANG	**Nango**	**10.38**	**244**	P	**Pn**	**01 49 02.1**	**-3.1**
JANG				*e*S	**Sn**	**01 50 50.2**	**-11**
JTM	**Tenmabayashi**	**10.44**	**247**	P	**Pn**	**01 49 04.2**	**-1.8**
JIO	**Ouri**	**11.66**	**237**	*e*S	**Sn**	**01 51 20.1**	**-13**
HABR	**Khabarovsk**	**13.08**	**289**	*e*PN	**Pn**	**01 49 41.5**	**-0.5**
MA2	**Magadan**	**14.11**	**354**	*e*P	**Pn**	**01 49 54.9**	**-1.1**
MA2				*e*S	**Sn**	**01 52 30.6**	**-1.6**
MA2				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MA2				MLR	MLR		
	comp=Z,200nm,16.2s						
MA2	**Magadan**	**14.11**	**354**	*e*Pn	**Pn**	**01 49 57.8**	**+1.7**
MAJO	**Matsushiro**	**14.80**	**238**	*e*P	**Pn**	**01 50 13.1**	**+7.5**
MAJO				pmax	pmax		
	comp=Z,18nm,1.0s						
MAJO	**Matsushiro**	**14.80**	**238**	*e*Pn	**Pn**	**01 50 13.1**	**+7.6**
	comp=Z,18nm,1.0s						
MAT	**Matsushiro**	**14.80**	**238**	P	**Pn**	**01 50 12.6**	**+7.0**
MJAR	**Matsushiro Arr**	**14.80**	**238**	Pn	**Pn**	**01 50 04.2**	**-1.4**
	baz=34,slow=14,SNR=4.3						
KLR	**Kul'dur**	**15.32**	**292**	*e*P	**Pn**	**01 50 09.8**	**-2.7**
KLR				MLR	MLR		
	comp=N,500nm,15.0s						
KLR				MLR	MLR		
	comp=E,700nm,15.0s						
KLR				MLR	MLR		
	comp=Z,900nm,15.0s						
MDJ	**Mudanjiang**	**17.08**	**275**	P	**Pn**	**01 50 43.6**	**+8.6**
MDJ				SCS	ScS	02 02 23.9	-10
MDJ				AMB	AMB		
	comp=Z,14nm,1.4s						
MDJ				AMB	AMB		
	comp=Z,94nm,5.1s						
MDJ				LR	LR		
	comp=N,153nm,10.7s						
MDJ				LR	LR		
	comp=E,269nm,13.5s						
MDJ				LR	LR		
	comp=Z,384nm,15.7s						
SEY	**Seymchan**	**17.38**	**358**	||i *e*P	**Pn**	**01 50 37.0**	**-1.7**
CN2	**Changchun**	**20.16**	**275**	*e*P	**P**	**01 51 19.5**	**+8.8**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
KSRS	**Korea Array**	**20.92**	**256**	P	**P**	**01 51 21.0**	**+2.1**
	comp=Z,2.1nm,0.7s,baz=60,slow=9.7,SNR=6.7						
YAK	**Yakutsk**	**21.53**	**328**	*e*P	**P**	**01 51 25.3**	**+0.1**
YAK				*e*		01 51 46.3	
YAK				*e*S	**S**	**01 55 21.2**	**-2.0**
YAK				*e*		01 55 26.7	
YAK				*e*SS		01 55 50.3	
YAK				*e*		02 02 37.1	
YAK				pmax	pmax		
	comp=Z,14nm,0.8s,mb4.4						
YAK				pmax	pmax		
	comp=N,7.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,7.0nm,1.3s						
YAK				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.5						
YAK				pmax	pmax		
	comp=N,79nm,3.6s						
YAK				pmax	pmax		
	comp=E,90nm,3.2s						
YAK				smax			
	comp=N,77nm,2.5s						
YAK				smax			
	comp=E,81nm,3.1s						
YAK				MLR	MLR		
	comp=Z,250nm,16.0s,MS3.7						
YAK				MLR	MLR		
	comp=N,229nm,15.0s,MS3.7						
YAK				MLR	MLR		
	comp=E,113nm,16.0s,MS3.7						
HIA	**

ZAK pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
IMA2 Indian Mountai 34.48 35 *e*P **P 01 53 23.3 -0.5**
KDAK Kodiak Island 34.49 50 P **P 01 53 22.6 -1.4**
comp=Z,7.3nm,0.7s,mb4.7,baz=311,slow=4.3,SNR=6.0
SML Sawmill 36.50 43 *e*P **P 01 53 40.8 -0.5**
COLA College 36.76 37 *e*P **P 01 53 41.8 -1.7**
LZH Lanzhou 38.39 274 ⇑P **P 01 53 59.6 +2.0**
LZH AMB AMB
comp=Z,21nm,1.1s,mb4.8
LZH AMB AMB
comp=Z,105nm,5.2s
LZH LR LR
comp=E,125nm,14.2s
LZH LR LR
comp=Z,183nm,17.8s,MS3.9
GTA Gaotai 39.61 281 *e*P **P 01 54 09.1 +1.4**
GTA PP PP 01 55 46.8 +8.2
GTA PPP 01 56 14.4
GTA S **S 01 59 59.5 -11**
GTA SS SS 02 02 51.8 -13
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.2
GTA AMB AMB
comp=Z,77nm,5.7s
GTA LR LR
comp=N,178nm,17.1s,MS4.1
GTA LR LR
comp=E,170nm,17.1s,MS4.1
GTA LR LR
comp=Z,259nm,17.5s,MS4.1
EGAK Eagle 39.63 38 *e*P **P 01 54 06.6 -1.0**
CD2 Chengdu 41.25 267 P **P 01 54 22.5 +1.1**
CD2 PP PP 01 56 03.0 +6.4
CD2 S **S 02 00 27.6 -7.2**
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.0
CD2 AMB AMB
comp=Z,30nm,3.8s
GYA Guiyang 41.92 259 P **P 01 54 27.4 +0.4**
GYA PCP PcP 01 56 27.3 +4.9
GYA SCP ScP 02 00 03.8 -8.4
GYA PCS PcS 02 00 17.8 +3.7
GYA S **S 02 00 31.1 -14**
GYA SCS ScS 02 04 20.3 -9.2
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,250nm,9.3s
GYA LR LR
comp=N,280nm,17.4s,MS4.3
GYA LR LR
comp=E,220nm,16.6s,MS4.3
GYA LR LR
comp=Z,210nm,17.0s,MS4.1
INK Inuvik 42.38 32 *e*P **P 01 54 29.4 -0.8**
comp=Z,182nm,0.9s
INK Inuvik 42.38 32 P **P 01 54 30.4 +0.2**
comp=Z,5.1nm,0.8s,mb4.2,baz=277,slow=6.7,SNR=23
ZALV Zalesovo Beam 43.65 307 P **P 01 54 42.6 +1.9**
comp=Z,0.7nm,0.4s,mb3.7,baz=76,slow=6.3,SNR=4.3
ZALV PcP PcP 01 56 27.8 +0.1
comp=Z,0.6nm,0.5s,baz=90,slow=3.0,SNR=3.5
ZAL Zalesovo 43.67 307 P **P 01 54 42.6 +1.8**
ZAL 01 56 27.8
KMI Kunming 45.49 261 P **P 01 55 01.5 +5.8**
KMI AMB AMB
comp=Z,8.0nm,0.5s,mb4.8
WMQ Urumqi 45.77 293 P **P 01 55 00.0 +2.3**
WMQ PP PP 01 56 49.0 +4.3
WMQ S **S 02 01 31.0 -10**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,62nm,5.0s
WMQ LR LR
comp=N,165nm,15.0s,MS4.2
WMQ LR LR
comp=E,143nm,15.0s,MS4.2
WMQ LR LR
comp=Z,123nm,14.0s,MS4.0
MK31 Makanchi Array 47.87 299 *e*P **P 01 55 15.0 +0.9**
MKAR Makanchi Array 47.87 299 P **P 01 55 15.0 +0.9**
MKAR pmax pmax
comp=Z,4.0nm,0.9s
MKAR Makanchi Array 47.87 299 P **P 01 55 15.0 +0.9**
MKAR Makanchi Array 47.87 299 P **P 01 55 15.0 +0.9**
comp=Z,4.3nm,0.9s,mb4.5,baz=66,slow=9.4,SNR=25
KURK Kurchatov 48.38 305 *e*P **P 01 55 19.5 +1.5**
KURK pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
KURK Kurchatov 48.38 305 *e*P **P 01 55 19.5 +1.5**
comp=Z,9.3nm,0.9s,mb4.8
YKA Yellowknife Ar 51.58 36 P **P 01 55 41.4 -0.7**
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA Yellowknife Ar 51.58 36 P **P 01 55 41.4 -0.6**
YKA Yellowknife Ar 51.58 36 P **P 01 55 41.4 -0.6**
comp=Z,3.3nm,0.9s,mb4.2,baz=297,slow=7.3,SNR=26
BVAR Borovoye Array 51.94 310 P **P 01 55 44.9 0.0**
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR Borovoye Array 51.94 310 P **P 01 55 44.9 0.0**
comp=Z,2.0nm,0.6s,mb4.2,baz=55,slow=13,SNR=12
BRVK Borovoye 51.98 310 *e*P **P 01 55 47.7 +2.5**
TKM2 Tokmak 2 53.91 297 *e*P **P 01 56 00.6 +1.0**
TKM2 pmax pmax
comp=Z,14nm,1.3s,mb4.7
TKM2 Tokmak 2 53.91 297 *e*P **P 01 56 00.6 +1.0**
comp=Z,14nm,1.3s,mb4.7
FRU Bishkek 54.57 298 *e*P **P 01 56 06.5 +2.1**
SVE Sverdlovsk 54.98 318 *e*P **P 01 56 06.0 -1.2**
SVE pmax pmax
comp=Z,8.0nm,0.6s,mb4.9
EKS2 Erkin-Say 55.18 298 *e*P **P 01 56 09.7 +0.8**
comp=Z,11nm,1.1s,mb4.8
AML Almayashu 55.52 297 *e*P **P 01 56 13.4 +2.0**
comp=Z,13nm,1.3s,mb4.8
ARU Arti 56.16 318 *d*iP **P 01 56 15.1 -0.6**
ARU *e*S **S 02 04 01.6 -2.6**
ARU *e*SS SS 02 07 43.7 -6.2
ARU pmax pmax
comp=Z,15nm,1.7s,mb4.8
ARU Arti 56.16 318 *e*P **P 01 56 16.1 +0.5**
ARCES ARCESS Array B 59.08 341 P **P 01 56 36.4 +0.4**
ARCES pmax pmax
comp=Z,4.0nm,0.8s
ARCES ARCESS Array B 59.08 341 P **P 01 56 36.4 +0.3**
comp=Z,4.3nm,0.8s,mb4.5,baz=46,slow=6.9,SNR=8.3
AKTK Aktyubinsk 59.83 313 P **P 01 56 42.5 +1.0**
AKTO Aktyubinsk 59.83 313 P **P 01 56 42.5 +1.0**
AKTO pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
AKTO Aktyubinsk 59.83 313 P **P 01 56 42.5 +1.0**
comp=Z,1.6nm,0.7s,mb4.2,baz=40,slow=5.9,SNR=4.9
BOZ Bozeman (W) 62.10 52 *e*P **P 01 56 57.1 +0.1**
BOZ pmax pmax
comp=Z,11nm,1.4s,mb4.8
BOZ Bozeman (W) 62.10 52 *e*P **P 01 56 57.1 +0.2**
comp=Z,11nm,1.4s,mb4.8
JOF Joensuu 62.56 334 *e*p **P 01 56 58.6 -1.2**
comp=Z,4.0nm,0.7s,mb4.7
NVAR Mina Array Bea 62.57 62 P **P 01 57 00.2 -0.1**
NVAR Mina Array Bea 62.57 62 P **P 01 57 00.2 -0.1**
comp=Z,2.6nm,0.8s,mb4.4,baz=283,slow=7.1,SNR=17
TPAW Teton Pass 63.81 54 *e*P **P 01 57 09.2 +0.8**
comp=Z,7.0nm,0.9s,mb4.7
LOHW Long Hollow 63.93 54 *e*P **P 01 57 09.8 +0.7**
comp=Z,12nm,1.4s,mb4.7
REDW Red Top Meadow 63.95 54 *e*P **P 01 57 09.8 +0.5**
TPNV Topopah Spring 64.77 62 *e*P **P 01 57 14.3 -0.5**
TPNV pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
TPNV Topopah Spring 64.77 62 *e*P **P 01 57 14.3 -0.4**
comp=Z,6.5nm,1.1s,mb4.6
DUG Dugway 64.81 58 *e*P **P 01 57 14.6 -0.4**
DUG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
DUG Dugway 64.81 58 *e*P **P 01 57 14.6 -0.4**
comp=Z,4.5nm,1.0s,mb4.5
BW06 Boulder Array 65.06 54 *e*P **P 01 57 16.4 -0.2**
comp=Z,6.7nm,1.1s,mb4.6
FINES FINESS Array B 65.27 335 *i*P **P 01 57 17.7 +0.1**
FINES pmax pmax
comp=Z,5.0nm,0.8s
FINES FINESS Array B 65.27 335 P **P 01 57 17.1 -0.5**
comp=Z,4.8nm,0.8s,mb4.6,baz=35,slow=6.1,SNR=20
OBN Obninsk 66.51 326 ⇑*e*P **P 01 57 25.5 -0.2**
OBN pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
SRU San Rafael 66.86 57 *e*P **P 01 57 27.9 -0.3**
RSSD Black Hills 67.22 50 *e*P **P 01 57 28.8 -1.6**
VRHR Novokhopersk 67.30 321 *e*P **P 01 57 27.5 -3.3**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
VRHR pmax pmax
comp=N,8.0nm,0.4s
VRHR pmax pmax
comp=E,10.0nm,0.5s
WRA Warramunga Arr 67.58 200 *i*P **P 01 57 33.5 +0.7**
WRA pmax pmax
comp=Z,4.0nm,0.8s
WRA Warramunga Arr 67.58 200 P **P 01 57 32.3 -0.5**
comp=Z,4.4nm,0.8s,mb4.5,baz=16,slow=6.6,SNR=11
VRSR Storozhevoye 68.28 322 *e*P **P 01 57 36.9 -0.1**
VRSR pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,0.8s
VRSR pmax pmax
comp=E,2.0nm,0.8s
SMCO Snowmass 68.89 55 *e*P **P 01 57 40.5 -0.5**
ISCO Idaho Springs 69.25 54 *e*P **P 01 57 43.6 +0.4**
NB2 NORSAR Subarra 69.46 342 P **P 01 57 43.6 -0.5**
comp=Z,8.9nm,1.0s,mb4.7,baz=30,slow=6.5
NOA NORSAR Array B 69.46 342 P **P 01 57 43.8 -0.3**
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 69.46 342 P **P 01 57 43.8 -0.3**
comp=Z,4.3nm,0.9s,mb4.4,baz=26,slow=6.3,SNR=7.8
HFS Hagfors 69.69 340 P **P 01 57 45.2 -0.4**
HFS pmax pmax
comp=Z,8.0nm,0.8s
HFS Hagfors 69.69 340 P **P 01 57 45.2 -0.3**
comp=Z,7.6nm,0.8s,mb4.7,baz=46,slow=6.4,SNR=13
ASAR Alice Springs 71.27 199 P **P 01 57 56.5 +0.9**
ASAR pmax pmax
comp=Z,2.0nm,0.7s
ASAR Alice Springs 71.27 199 P **P 01 57 56.5 +0.9**
comp=Z,2.4nm,0.7s,mb4.2,baz=24,slow=5.3,SNR=12
KIV Kislovodsk 71.92 315 *de*P **P 01 58 02.0 +2.6**
KIV pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
ANMO Albuquerque 72.05 58 ⇑*e*P **P 01 57 58.6 -1.8**
AKASG Malin Array Be 72.75 327 P **P 01 58 04.1 -0.2**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG Malin Array Be 72.75 327 P **P 01 58 04.1 -0.1**
comp=Z,2.5nm,0.5s,mb4.4,baz=34,slow=5.8,SNR=27
AKBB Malin Array Si 72.75 327 *e*P **P 01 58 03.9 -0.4**
KIEV Kiev 72.76 327 *e*P **P 01 58 04.3 0.0**
KIEV pmax pmax
comp=Z,14nm,1.1s,mb4.8
KIEV Kiev 72.76 327 *e*P **P 01 58 04.3 0.0**
comp=Z,14nm,1.1s,mb4.8
KWP Kalwaria 76.04 330 *e*P **P 01 58 23.9 +0.5**
KWP pmax pmax
comp=Z,18nm,1.2s,mb4.9
KWP Kalwaria 76.04 330 *e*P **P 01 58 23.9 +0.4**
comp=Z,18nm,1.2s,mb4.9
KWP Kalwaria 76.04 330 ⇑*i*P **P 01 58 23.8 +0.4**
BURAR Bucovina Array 76.79 327 ⇑*i*P **P 01 58 28.6 +0.9**
OKC Ostrava-Krasne 77.41 332 *e*P **P 01 58 36.0 +4.8**
UPC Upice 77.51 334 *e*P **P 01 58 34.3 +2.6**
DPC Dobruska-Polom 77.55 334 *e*P **P 01 58 32.6 +0.7**
DPC *e*PCP PcP 01 58 43.9 +1.7
TXAR Lajitas Array 77.66 61 P **P 01 58 32.3 -0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.7s
TXAR Lajitas Array 77.66 61 P **P 01 58 32.2 -0.7**
comp=Z,2.4nm,0.7s,mb4.2,baz=304,slow=3.8,SNR=15
CLL Collm 77.69 336 ⇑*i*P **P 01 58 32.5 -0.2**
CLL *e* 01 58 44.0
CLL pmax pmax
comp=Z,13nm,1.4s,mb4.7
CLL Collm 77.69 336 ⇑*i*P **P 01 58 32.5 -0.2**
comp=Z,13nm,1.4s,mb4.7
CLL *e* 01 58 44.0
CLL Collm 77.69 336 ⇑*i*P **P 01 58 32.5 -0.2**
comp=Z,13nm,1.4s,mb4.7
CLL *e*(PcP) PcP 01 58 44.0 +1.2
CLL *e*PP PP 02 01 24.0 -3.2
BRG Berggiesshubel 77.81 335 ⇑*i*P **P 01 58 34.5 +1.1**
BRG pmax pmax
comp=Z,2.0nm,1.3s,mb3.9
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
BRG Berggiesshubel 77.81 335 *i*P **P 01 58 34.5 +1.2**
comp=Z,2.8nm,1.3s,mb4.0
PVCC Panska Ves 77.93 335 *e*P **P 01 58 34.7 +0.7**
MLR Muntele Rosu 78.26 325 ⇓*i*P **P 01 58 41.7 +5.7**
PRU Pruhonice 78.41 335 *e*P **P 01 58 37.6 +0.9**
KHC Kasperske Hory 79.46 335 *e*P **P 01 58 42.7 +0.2**
KHC *e*PCP PcP 01 58 50.9 +0.4
GRA1 Grafenberg Arr 79.65 336 *e*P **P 01 58 44.0 +0.5**
comp=Z,14nm,1.5s,mb4.7
GRF Grafenberg Arr 79.65 336 *e*P **P 01 58 44.0 +0.5**
comp=Z,14nm,1.5s,mb4.7
GERES GERESS Array B 79.68 334 P **P 01 58 45.3 +1.6**
comp=Z,0.4nm,0.6s,mb3.5,baz=24,slow=4.7,SNR=4.0
SSF Saint Saulge 84.08 340 *e*P **P 01 59 06.2 -0.7**
comp=Z,14nm,1.1s,mb4.7
SSF Saint Saulge 84.08 340 *e*P **P 01 59 06.2 -0.7**
SSF pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
SSF Saint Saulge 84.08 340 *e*P **P 01 59 06.2 -0.7**
comp=Z,6.8nm,1.1s,mb4.7
LPL La Plagne 84.70 337 *e*P **P 01 59 08.8 -1.3**
LPG La Plagne 84.71 337 *e*P **P 01 59 09.1 -1.0**
comp=Z,7.6nm,0.8s,mb4.6
LPG La Plagne 84.71 337 *e*P **P 01 59 09.1 -1.0**
LPG pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
LPG La Plagne 84.71 337 *e*P **P 01 59 09.1 -1.0**
comp=Z,3.8nm,0.8s,mb4.6
TORD Torodi Ar. Bea 116.31 329 PKP PKPdf 02 05 18.1 -2.2
comp=Z,0.4nm,0.8s,baz=8.6,slow=2.3,SNR=7.0
CFAA Coronel Fontan 144.74 81 PKP PKPdf 02 06 10.6 -2.4
comp=Z,0.6nm,0.7s,baz=327,slow=3.2,SNR=7.5
BDFB Brasilia 144.97 39 PKIKP PKPdf 02 06 12.3 -1.5
BDFB pmax pmax
comp=Z,2.0nm,1.0s
BDFB Brasilia 144.97 39 PKP PKPdf 02 06 12.3 -1.5
comp=Z,2.1nm,1.0s,baz=70,slow=11,SNR=4.1
PLCA Paso Flores 147.63 97 PKP2 PKPbc 02 06 19.9 -0.4
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA Paso Flores 147.63 97 PKPbc PKPbc 02 06 19.9 -0.4
PLCA Paso Flores 147.63 97 PKPbc PKPbc 02 06 19.9 -0.4
comp=Z,1.9nm,0.9s,baz=280,slow=2.9,SNR=5.9
CPUP Villa Florida 148.61 63 PKP2 PKPbc 02 06 24.2 +0.8
CPUP pmax pmax
comp=Z,3.0nm,0.9s
CPUP Villa Florida 148.61 63 PKPbc PKPbc 02 06 24.1 +0.8
comp=Z,2.5nm,0.8s,baz=308,slow=2.1,SNR=3.1
SNAA Sanae 151.57 195 *e*PKPdf PKPdf 02 06 24.5 +1.6
SNAA *e* 02 06 27.9
SNAA *e* 02 06 58.5
SNAA *e* 02 07 01.1
SNAA *e* 02 07 09.5
VNA2 Neumayer--Watz 153.00 194 *e*PKPdf PKPbc 02 06 30.1 -2.2
VNA2 *e* 02 06 33.8
VNA2 *e* 02 07 04.0
VNA2 *e* 02 07 07.4
VNA3 Neumayer Olymp 153.07 192 *e*PKPdf PKPdf 02 06 28.6 +3.5
VNA3 *e* 02 06 33.1
VNA3 *e* 02 07 04.5
VNA3 *e* 02 07 07.2
VNA3 *e* 02 07 16.3

BJI ***19*** *01:46:54.1, 4650N×15303E, h132km, mB4.9, mb4.6*
IDC ***19*** *01:47:08.0±0.6, 4560N×15399E, h0km, mb4.4/19, mb1 4.6/21, mb1mx4.5/27, mbtmp4.4/21, ML3.9/2, MS3.3/1, Ms1 3.3/1, ms1mx2.7/29, Error ellipse: s-maj=16.8km s-min=14.8km az=145.0*
MOS ***19*** *01:47:11.7±0.8, 4559N×15380E, h38km, mb4.8/17, Error ellipse: s-maj=13.1km s-min=10.1km az=92.1*
ISCJB ***19*** *01:47:12.0±0.4, 4563N×006×15384E±006, h38km, mb4.6/27, MS3.6/2, Error ellipse: s-maj=9.4km s-min=5.2km az=154.3*
SKHL ***19*** *01:47:13.7±9.8, 4561N×15334E, h33km, mb4.8/3, Ms4.1/3*
NEIC ***19*** *01:47:13.1±0.3, 4559N×15396E, h35km, mb4.8/2, Error ellipse: s-maj=9.1km s-min=7.1km az=135.0*

ISC 19 01:47:09.2±3.0, 4563N±006×15395E±007, h5km±18km, h52km±3.6km:pP-P, n112, σ0.85/99, mb4.6/28, MS3.6/2, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**5.96**	**257**	*e*P	**Pn**	**01 48 37.0**	**-1.0**
YUK				AMB	AMB	01 48 56.6	
	200nm,0.5s						
YUK				*e*S	**Sn**	**01 49 39.5**	**-7.2**
YUK				A		01 49 50.0	
	400nm,0.5s						
YUK				A		01 49 50.0	
	600nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.87**	**284**	*e*PN	**Pn**	**01 49 05.1**	**+1.0**
YSS				pmax	pmax		
	comp=Z,40nm,1.0s						
YSS				MLR	MLR		
	comp=Z,600nm,14.0s						
YSS				MLR	MLR		
	comp=E,600nm,15.0s						
YSS	**Yuzh-Sakhalins**	**7.87**	**284**	*e*Pn	**Pn**	**01 49 05.2**	**+1.1**
	comp=E,24nm,0.4s						
YSS	**Yuzh-Sakhalins**	**7.87**	**284**	*e*P	**Pn**	**01 49 05.1**	**+1.0**
YSS				AMB	AMB	01 49 07.0	
	comp=E,40nm,1.0s						
YSS				*e*rx	rx	01 49 20.0	
YSS				AMS	AMS	01 53 51.0	
	comp=E,600nm,14.0s						
YSS				AMS	AMS	01 53 51.0	
	comp=E,600nm,15.0s						
PET	**Petropavlovsk**	**8.02**	**21**	*e*PN	**Pn**	**01 49 04.5**	**-1.7**
PET				pmax	pmax		
	comp=Z,21nm,0.4s						
PET				MLR	MLR		
	comp=Z,300nm,17.0s						
ASAJ	**Asahikawa**	**8.20**	**263**	PN	**Pn**	**01 49 08.8**	**+0.1**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**8.20**	**263**	Pn	**Pn**	**01 49 08.8**	**0.0**
	comp=Z,2.1nm,0.3s,baz=89,slow=17,SNR=2.9						
ERM	**Erimo**	**8.59**	**249**	*e*Sn	**Sn**	**01 50 40.2**	**-11**
UGL	**Uglegorsk**	**8.77**	**297**	*e*rx	rx	01 50 40.0	
UGL				AMS	AMS	01 54 05.0	
	comp=Z,700nm,16.0s						
UGL				AMS	AMS	01 54 05.0	
	comp=Z,400nm,15.0s						
UGL				AMS	AMS	01 54 05.0	
	comp=Z,900nm,15.0s						
TYV	**Tymovskoe**	**9.17**	**309**	*e*P	**Pn**	**01 49 22.8**	**+0.8**
TYV				AMB	AMB	01 49 25.8	
	comp=Z,11nm,0.8s						
TYV				AMB	AMB	01 49 25.8	
	comp=Z,18nm,0.8s						
TYV				AMS	AMS	01 54 36.0	
	comp=Z,500nm,16.0s						
TYV				AMS	AMS	01 54 36.0	
	comp=Z,1μm,16.0s						
MA2	**Magadan**	**14.10**	**353**	*e*P	**Pn**	**01 50 30.2**	**+0.8**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.5s						
MA2	**Magadan**	**14.10**	**353**	*e*Pn	**Pn**	**01 50 30.1**	**+0.8**
	comp=Z,7.3nm,0.5s						
MAJO	**Matsushiro**	**14.92**	**238**	*e*P	**Pn**	**01 50 41.3**	**+0.7**
MAJO				pmax	pmax		
	comp=Z,20nm,0.8s						
MAJO	**Matsushiro**	**14.92**	**238**	*e*Pn	**Pn**	**01 50 41.3**	**+0.7**
	comp=Z,20nm,0.8s						
MAT	**Matsushiro**	**14.92**	**238**	*e*S	**Sn**	**01 53 27.0**	**+0.9**
MJAR	**Matsushiro Arr**	**14.92**	**238**	Pn	**Pn**	**01 50 39.9**	**-0.7**
	comp=Z,0.3nm,0.3s,baz=34,slow=12,SNR=2.9						
CN2	**Changchun**	**20.29**	**275**	*e*AP	**P**	**01 51 44.4**	**-1.2**
KSRS	**Korea Array**	**21.05**	**256**	P	**P**	**01 51 55.0**	**+1.1**
	comp=Z,2.8nm,0.7s,mb3.7,baz=67,slow=11,SNR=4.9						
CLNS	**Chul'man**	**21.20**	**312**	*e*P	**P**	**01 51 56.8**	**+1.5**
CLNS				pmax	pmax		
	comp=Z,12nm,0.5s,mb4.5						
CLNS				pmax	pmax		
	comp=N,15nm,0.7s						
CLNS				pmax	pmax		
	comp=E,6.0nm,0.8s						
CLNS				MLR	MLR		
	comp=Z,500nm,13.0s,MS4.1						
CLNS				MLR	MLR		
	comp=N,100nm,15.0s,MS4.0						
CLNS				MLR	MLR		
	comp=E,400nm,13.0s,MS4.0						
YAK	**Yakutsk**	**21.58**	**328**	*e*P	**P**	**01 51 59.2**	**-0.2**
YAK				pmax	pmax		
	comp=Z,58nm,0.8s,mb5.1						
YAK	**Yakutsk**	**21.58**	**328**	*e*P	**P**	**01 51 59.2**	**-0.1**
	comp=Z,58nm,0.8s,mb5.1						
BILL	**Bilibino**	**23.37**	**12**	*e*P	**P**	**01 52 18.3**	**0.0**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.5s,mb4.5						
BILL	**Bilibino**	**23.37**	**12**	*e*P	**P**	**01 52 18.3**	**0.0**
	comp=Z,8.8nm,0.5s,mb4.5						
BILL	**Bilibino**	**23.37**	**12**	*e*	**P**	**01 52 18.9**	**+0.6**
BJI				XP	pP	01 53 14.9	+12
BJI	**Beijing**	**28.07**	**272**	AP	**P**	**01 52 59.5**	**-1.9**
HHC				XP	pP	01 53 44.3	+16
HHC	**Hu-ho-hao-te**	**30.97**	**276**	AP	**P**	**01 53 27.8**	**+0.7**
GUMO	**Guam**	**32.84**	**196**	LR	LR	02 07 51.1	
	comp=Z,46nm,18.2s,MS3.2,baz=102,slow=38						
KDAK	**Kodiak Island**	**34.38**	**50**	P	**P**	**01 53 55.9**	**-0.8**
	comp=Z,8.9nm,0.8s,mb4.7,baz=73,slow=0.9,SNR=4.6						
IMA2	**Indian Mountai**	**34.39**	**35**	*e*pP	**P**	**01 53 57.5**	**+0.8**
SML	**Sawmill**	**36.40**	**43**	*e*pP	**P**	**01 54 14.4**	**+0.4**
LZH				XP	pP	01 54 47.5	+14
LZH	**Lanzhou**	**38.52**	**274**	AP	**P**	**01 54 32.0**	**-0.3**
GTA				XP	pP	01 54 57.8	+14
GTA				XS	sS	02 00 53.5	+4.3
GTA	**Gaotai**	**39.73**	**281**	AP	**P**	**01 54 41.8**	**-0.6**
CD2				XP	pP	01 55 07.5	+10
CD2				XS	sS	02 01 18.5	+4.5
CD2	**Chengdu**	**41.38**	**267**	AP	**P**	**01 54 52.0**	**-4.2**
GYA				XP	pP	01 55 20.8	+17
GYA	**Guiyang**	**42.06**	**259**	AP	**P**	**01 55 01.0**	**-0.7**
INK	**Inuvik**	**42.30**	**32**	P	**P**	**01 55 03.6**	**+0.4**
INK				pmax	pmax		
	comp=Z,7.0nm,0.9s						
INK	**Inuvik**	**42.30**	**32**	P	**P**	**01 55 03.6**	**+0.4**
	comp=Z,6.5nm,0.9s,mb4.3,baz=286,slow=7.0,SNR=12						
ZALV	**Zalesovo Beam**	**43.74**	**307**	P	**P**	**01 55 15.7**	**+0.6**
	comp=Z,1.4nm,0.4s,mb4.0,baz=68,slow=7.8,SNR=4.3						
ZALV				PcP	PcP	01 57 01.4	-0.4
	comp=Z,1.1nm,0.6s,baz=117,slow=5.2,SNR=4.0						
ZAL	**Zalesovo**	**43.76**	**307**	P	**P**	**01 55 15.7**	**+0.5**
ZAL						01 57 01.4	
WMQ	**Urumqi**	**45.88**	**293**	AP	**P**	**01 55 32.0**	**-0.3**
MK31	**Makanchi Array**	**47.98**	**299**	*e*pP	**P**	**01 55 48.5**	**-0.1**
MKAR	**Makanchi Array**	**47.98**	**299**	P	**P**	**01 55 48.8**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MKAR	**Makanchi Array**	**47.98**	**299**	P	**P**	**01 55 48.8**	**+0.2**
	comp=Z,9.0nm,0.9s,mb4.8,baz=68,slow=7.7,SNR=14						
KURK	**Kurchatov**	**48.48**	**305**	*e*pP	**P**	**01 55 51.7**	**-0.7**
YKA	**Yellowknife Ar**	**51.48**	**36**	P	**P**	**01 56 15.2**	**+0.1**
YKA						01 57 28.4	
YKA				pmax	pmax		
	comp=Z,4.0nm,0.9s						
YKA	**Yellowknife Ar**	**51.48**	**36**	P	**P**	**01 56 15.2**	**+0.2**
YKA				PcP	PcP	01 57 28.4	-0.8
YKA	**Yellowknife Ar**	**51.48**	**36**	P	**P**	**01 56 15.2**	**+0.2**
	comp=Z,4.1nm,0.9s,mb4.4,baz=297,slow=7.1,SNR=11						
YKA				PcP	PcP	01 57 28.4	-0.8
	comp=Z,0.3nm,0.5s,baz=301,slow=3.8,SNR=5.0						
BVAR	**Borovoye Array**	**52.02**	**310**	P	**P**	**01 56 19.3**	**+0.1**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.4s						
BVAR	**Borovoye Array**	**52.02**	**310**	P	**P**	**01 56 19.3**	**0.0**
	comp=Z,3.7nm,0.4s,mb4.6,baz=41,slow=7.5,SNR=10						
BRVK	**Borovoye**	**52.07**	**310**	*e*pP	**P**	**01 56 19.6**	**+0.1**
TKM2	**Tokmak 2**	**54.02**	**297**	*e*	**P**	**01 56 34.6**	**+0.5**
EKS2	**Erkin-Say**	**55.29**	**298**	*e*P	**P**	**01 56 43.2**	**-0.2**
ARU	**Arti**	**56.23**	**318**	*e*	pP	01 57 07.4	+16
ARU	**Arti**	**56.23**	**318**	*e*pP	**P**	**01 56 49.6**	**-0.3**
ARCES	**ARCESS Array B**	**59.11**	**341**	P	**P**	**01 57 10.2**	**+0.3**
ARCES				pmax	pmax		

comp=Z,6.0nm,0.8s
ARCES **ARCESS Array B 59.11 341** P **P** **01 57 10.2 +0.3**
comp=Z,5.8nm,0.8s,mb4.7,baz=43,slow=9.0,SNR=8.5
AKTK **Aktyubinsk 59.91 313** P **P** **01 57 15.8 0.0**
AKTO **Aktyubinsk 59.91 313** P **P** **01 57 15.8 +0.1**
AKTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
AKTO **Aktyubinsk 59.91 313** P **P** **01 57 15.8 0.0**
comp=Z,3.3nm,0.8s,mb4.4,baz=46,slow=7.6,SNR=6.4
NVAR **Mina Array Bea 62.45 62** P **P** **01 57 33.5 +0.4**
comp=Z,3.4nm,0.9s,mb4.5,baz=286,slow=6.9,SNR=7.7
LOHW **Long Hollow 63.82 54** *e*pP **P** **01 57 43.5 +1.3**
REDW **Red Top Meadow 63.83 54** *e*pP **P** **01 57 44.2 +1.9**
TPNV **Topopah Spring 64.64 62** *e*pP **P** **01 57 48.0 +0.4**
TPNV **Topopah Spring 64.64 62** *e**PP **P** **01 57 48.0 +0.3**
DUG **Dugway 64.69 58** *e**PP **P** **01 57 48.5 +0.6**
DUG **Dugway 64.69 58** *e*pP **P** **01 57 48.5 +0.6**
BW06 **Boulder Array 64.94 54** *e*pP **P** **01 57 49.9 +0.3**
FINES **FINESS Array B 65.31 335** P **P** **01 57 50.8 -0.8**
FINES pmax pmax
comp=Z,6.0nm,0.6s
FINES **FINESS Array B 65.31 335** P **P** **01 57 50.8 -0.8**
comp=Z,5.8nm,0.6s,mb4.8,baz=41,slow=7.6,SNR=18
OBN **Obninsk 66.57 326** *e* **P** **01 57 58.7 -1.1**
WRA **Warramunga Arr 67.64 200** P **P** **01 58 06.1 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA **Warramunga Arr 67.64 200** P **P** **01 58 06.1 -0.8**
comp=Z,2.5nm,0.5s,mb4.5,baz=20,slow=7.1,SNR=8.3
AGMN **Agassiz Refuge 68.37 42** *e*pP **P** **01 58 10.9 -0.4**
SMCO **Snowmass 68.77 55** *e*pP **P** **01 58 14.1 +0.1**
ISCO **Idaho Springs 69.13 54** *e*pP **P** **01 58 15.6 -0.6**
NB2 **NORSAR Subarra 69.48 342** P **P** **01 58 17.0 -1.0**
comp=Z,13nm,1.0s,mb4.8,baz=30,slow=6.5
NOA **NORSAR Array B 69.48 342** P **P** **01 58 17.7 -0.3**
NOA pmax pmax
comp=Z,10.0nm,1.0s
NOA **NORSAR Array B 69.48 342** P **P** **01 58 17.7 -0.3**
comp=Z,9.8nm,1.0s,mb4.7,baz=27,slow=6.3,SNR=4.6
HFS **Hagfors 69.71 340** P **P** **01 58 18.9 -0.6**
HFS pmax pmax
comp=Z,8.0nm,0.6s
HFS **Hagfors 69.71 340** P **P** **01 58 18.9 -0.5**
comp=Z,8.3nm,0.6s,mb4.8,baz=47,slow=6.3,SNR=15
XMIS **Christmas Isla 70.70 231** *e*pP pP 01 58 33.7 +5.9
ECSD **EROS,Sioux Fal 71.25 46** *e*pP **P** **01 58 27.9 -1.2**
ASAR **Alice Springs 71.33 199** P **P** **01 58 29.4 -0.2**
ASAR pmax pmax
comp=Z,3.0nm,0.7s
ASAR **Alice Springs 71.33 199** P **P** **01 58 29.4 -0.2**
comp=Z,2.7nm,0.7s,mb4.3,baz=16,slow=5.5,SNR=9.3
AKASG **Malin Array Be 72.81 327** P **P** **01 58 37.8 -0.5**
AKASG pmax pmax
comp=Z,3.0nm,0.5s
AKASG **Malin Array Be 72.81 327** P **P** **01 58 37.8 -0.5**
comp=Z,3.3nm,0.5s,mb4.5,baz=33,slow=6.0,SNR=13
AKBB sP pP 01 58 49.5 +9.5
AKBB **Malin Array Si 72.81 327** *e*pP **P** **01 58 37.0 -1.4**
KIEV *e*sP pP 01 58 49.8 +10
KIEV **Kiev 72.82 327** *e*pP **P** **01 58 37.5 -0.9**
KWP **Kalwaria 76.09 330** *e*pP **P** **01 58 57.3 -0.1**
TXAR **Lajitas Array 77.54 61** P **P** **01 59 05.4 -0.6**
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TXAR **Lajitas Array 77.54 61** P **P** **01 59 05.4 -0.6**
comp=Z,1.7nm,0.5s,mb4.2,baz=302,slow=3.9,SNR=8.6
CLL **Collm 77.73 336** *i* P **P** **01 59 05.5 -1.2**
CLL *i* 01 59 18.0
CLL pmax pmax
comp=Z,26nm,1.5s,mb4.9
CLL **Collm 77.73 336** *i* P **P** **01 59 05.5 -1.2**
comp=Z,26nm,1.5s,mb4.9
CLL *i* 01 59 18.0
CLL **Collm 77.73 336** *i* P **P** **01 59 05.5 -1.2**
comp=Z,26nm,1.5s,mb4.9
CLL *i* x x 01 59 11.1
CLL *i* pP pP 01 59 18.0 +10
CLL *i* pPcP 01 59 27.2
BRG **Berggiesshubel 77.85 335** *e* **P** **01 59 07.3 0.0**
comp=Z,4.8nm,0.9s,mb4.4
STKA **Stephens Creek 77.95 191** P **P** **01 59 08.7 +0.8**
comp=Z,1.3nm,0.5s,mb4.1,baz=338,slow=11,SNR=4.2
GRA1 **Grafenberg Arr 79.68 336** *e*pP **P** **01 59 17.9 +0.5**
GRF **Grafenberg Arr 79.68 336** *e*pP **P** **01 59 17.9 +0.5**
comp=Z,14nm,1.5s,mb4.7
UMR **Umm Al-Rimmam 79.71 302** *e*P **P** **01 59 21.6 +3.7**
UMR AMb AMB 01 59 26.1
comp=Z,26nm,0.5s,mb5.4
GERES **GERESS Array B 79.72 335** P **P** **01 59 18.8 +1.1**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES **GERESS Array B 79.72 335** P **P** **01 59 18.8 +1.1**
comp=Z,0.6nm,0.7s,mb3.7,baz=46,slow=7.0,SNR=4.1
MIB **Mutribah 79.75 302** *e*P **P** **01 59 21.0 +2.9**
MIB AMb AMB 01 59 27.1
comp=Z,24nm,0.7s,mb5.2
RDF **Al-Radifah 80.26 301** *e*P **P** **01 59 24.4 +3.5**
RDF AMb AMB 01 59 30.0
comp=Z,30nm,0.5s,mb5.5
TORD **Torodi Ar. Bea 116.36 330** PKP PKPdf 02 05 52.4 -1.7
comp=Z,0.4nm,0.5s,baz=31,slow=1.5,SNR=9.6
CFAA **Coronel Fontan 144.61 82** PKP PKPdf 02 06 43.7 -2.8
CFAA **Coronel Fontan 144.61 82** PKP PKPdf 02 06 43.7 -2.8
comp=Z,0.6nm,0.8s,baz=278,slow=3.3,SNR=4.5
BDFB **Brasilia 144.88 39** PKIKP PKPdf 02 06 45.5 -1.9
BDFB pmax pmax
comp=Z,2.0nm,0.8s
BDFB **Brasilia 144.88 39** PKP PKPdf 02 06 45.5 -1.9
comp=Z,1.8nm,0.8s,baz=9.5,slow=12,SNR=4.7
PLCA **Paso Flores 147.51 97** PKP2 PKPbc 02 06 53.1 -0.7
PLCA pmax pmax
comp=Z,3.0nm,0.5s
PLCA **Paso Flores 147.51 97** PKPbc PKPbc 02 06 53.1 -0.6
comp=Z,2.8nm,0.5s,baz=236,slow=2.3,SNR=7.4
CPUP **Villa Florida 148.49 63** PKP2 PKPbc 02 06 56.4 -0.4
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP **Villa Florida 148.49 63** PKPbc PKPbc 02 06 56.4 -0.4
comp=Z,1.0nm,0.5s,baz=293,slow=3.7,SNR=4.4
VNA1 **Neumayer--Stat 153.43 193** *e*PKPdf PKPbc 02 07 04.8 -2.3
VNA1 *e* 02 07 07.5
VNA1 *e* 02 07 16.6

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*NEIC **19** 01:57:29.6±1.7, 659S×151.16E, h35km, mb3.9/1, Error ellipse: s-maj=41.9km s-min=26.4km az=123.0*
IDC 19 01:57:24.1±2.6, 645S×15118E, h0km, mb4.1/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.2/4, MS3.2/2, Ms1 3.2/2, ms1mx2.9/20, Error ellipse: s-maj=68.6km s-min=41.9km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.18**	**109**	LR	LR	02 02 17.2	
	comp=Z,42nm,19.8s,baz=177,slow=32						
WRAB	**Tennant Creek**	**21.14**	**229**	*e*P	P	02 02 10.5	-0.3
	2.5nm,0.4s						
WB2	**Warramunga Arr**	**21.14**	**229**	*e*P	P	02 02 10.4	-0.5
WRA	**Warramunga Arr**	**21.15**	**229**	P	P	02 02 10.8	-0.2
	2.5nm,0.6s,baz=53,slow=10,SNR=7.9						
ASAR	**Alice Springs**	**23.85**	**222**	P	P	02 02 38.9	-0.4
	3.5nm,0.6s,baz=55,slow=8.5,SNR=18						
STKA	**Stephens Creek**	**26.84**	**198**	P	P	02 03 05.8	-0.5
	2.1nm,0.5s,baz=3.7,slow=11,SNR=7.0						
FITZ	**Fitzroy Crossi**	**27.47**	**243**	P	P	02 03 12.5	+0.3
	3.8nm,0.8s,baz=68,slow=8.9,SNR=6.0						
RAO	**Raoul Island**	**36.93**	**132**	LR	LR	02 15 01.4	
	comp=Z,131nm,19.7s,baz=153,slow=29						
TORD	**Torodi Ar. Bea**	**149.22**	**285**	PKPbc	PKPbc	02 17 15.9	+0.1
	0.6nm,0.6s,baz=54,slow=2.7,SNR=11						

IDC 19 02:05:36.1±2.1, 689S×12929E, h0km, mb3.4/1, mb1 3.8/5, mb1mx3.7/15, mbtmp3.7/5, ML3.8/4, Error ellipse: s-maj=52.6km s-min=29.1km az=81.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.46**	**239**	Pn	Pn	02 07 13.7	+1.1
	5.8nm,0.3s,baz=83,slow=2.5,SNR=4.8						
BATI				Sn	Sn	02 08 21.2	-5.9
	6.2nm,0.3s,baz=198,slow=20,SNR=4.4						
FITZ	**Fitzroy Crossi**	**11.70**	**197**	Pn	Pn	02 08 22.3	-2.2
	0.2nm,0.3s,baz=13,slow=17,SNR=10						
FITZ				Sn	Sn	02 10 18.4	-17
	0.7nm,0.3s,baz=239,slow=16,SNR=7.5						
WRA	**Warramunga Arr**	**13.87**	**160**	Pn	Pn	02 08 54.9	+0.8
	0.6nm,0.3s,baz=343,slow=13,SNR=6.8						
WRA				Sn	Sn	02 11 17.1	-12
	0.6nm,0.3s,baz=335,slow=23,SNR=5.6						
ASAR	**Alice Springs**	**17.26**	**166**	Pn	Pn	02 09 39.8	+1.0
	0.2nm,0.3s,baz=340,slow=9.1,SNR=8.1						
MKAR	**Makanchi Array**	**67.74**	**327**	P	P	02 16 35.6	0.0
	0.2nm,0.3s,baz=126,slow=8.2,SNR=4.2						

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*NEIC **19** 02:10:15.8, 1634N×9833W, h14km, MD3.9(MEX), After MEX.*
MEX 19 02:10:15.9±0.8, 1635N×9833W, h13km±5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.20**	**78**	*i* P	Pg	02 10 19.4	-0.9
PNIG				*i* S	Sg	02 10 23.4	0.0
ACX	**Acapulco**	**1.60**	**289**	*i* P	Pn	02 10 41.0	-3.0
ACX				*i* S	Sn	02 10 59.0	-5.6
VHO	**Vista Hermosa**	**1.69**	**65**	*e*P	Pn	02 10 42.5	-2.7
VHO				*i* S	Sn	02 11 00.9	-5.8
OXX	**Oaxaca**	**1.70**	**64**	*i* P	Pn	02 10 42.8	-2.5
OXX				*i* S	Sn	02 11 05.5	-1.5
CAIG	**El Cayaco**	**1.98**	**291**	*i* P	Pn	02 10 45.8	-3.3
CAIG				*i* S	Sn	02 11 08.9	-5.0
HUIG	**Huatulco**	**2.21**	**105**	*i* P	Pn	02 10 53.2	+0.9
HUIG	**Huatulco**	**2.21**	**105**	*i* P	Pn	02 10 49.4	-3.0
TPIG	**Tehuac#an**	**2.26**	**24**	*i* P	Pn	02 10 51.4	-1.5
TPIG				*i* S	Sn	02 11 16.5	-4.2
PLIG	**Platanillo**	**2.32**	**331**	*i* P	Pn	02 10 50.9	-3.0
PLIG				*i* S	Sn	02 11 17.9	-4.4
CMIG	**Matias Romero**	**3.38**	**77**	*e*P	Pn	02 11 04.6	-3.8

IDC 19 02:18:26.6±3.7, 639S×14910E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/14, mbtmp3.4/3, Error ellipse: s-maj=116.9km s-min=47.5km az=118.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.67**	**225**	P	Pn	02 22 57.3	-1.4
	0.1nm,0.3s,baz=53,slow=10,SNR=4.8						
ASAR	**Alice Springs**	**22.55**	**219**	P	P	02 23 29.1	+0.7
	0.3nm,0.4s,baz=51,slow=8.9,SNR=7.1						
FITZ	**Fitzroy Crossi**	**25.67**	**241**	P	P	02 23 57.8	-0.7
	0.5nm,0.3s,baz=67,slow=14,SNR=9.0						
TORD	**Torodi Ar. Bea**	**147.21**	**284**	PKPbc	PKPbc	02 38 12.5	-0.5
	0.2nm,0.3s,baz=89,slow=3.2,SNR=7.6						

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*ISCJB **19** 02:18:45.8±1.3, 5275N±005×16074E±008, h23km±7km, Error ellipse: s-maj=10.6km s-min=5.3km az=142.7*
*MOS **19** 02:18:45.5±0.9, 5331N×16055E, h11km, mb4.3/2, Error ellipse: s-maj=46.7km s-min=37.3km az=70.9*
*KRSC **19** 02:18:47.2±0.2, 5285N×16056E, h13km±13km, ML4.0*
ISC 19 02:18:46.7±1.4, 5276N±005×16067E±007, h18km±6km, n19, σ1°09/32, 1D, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.51**	**311**	*i* P	**Pg**	**02 18 57.0**	**0.0**
SPN				*e*S	**Sg**	**02 19 04.1**	**+0.1**
NLC	**Nalytchevo**	**0.90**	**298**	*i* P	**Pb**	**02 19 02.7**	**-1.0**
NLC				*i* S	**Sb**	**02 19 13.7**	**-1.6**
PET	**Petropavlovsk**	**1.25**	**283**	*d i* PN	**Pn**	**02 19 08.3**	**-0.8**
PET				*e*S	**Sb**	**02 19 25.2**	**-0.1**
PET	**Petropavlovsk**	**1.25**	**283**	*e*P	**Pn**	**02 19 08.5**	**-0.6**
PET				*i* S	**Sb**	**02 19 24.0**	**-1.3**
AVH	**Avacha**	**1.27**	**294**	*i* P	**Pn**	**02 19 09.2**	**-0.2**
AVH				*e*S	**Sb**	**02 19 25.3**	**-0.6**
RUS	**Russkaya**	**1.35**	**257**	*i* P	**Pn**	**02 19 09.8**	**-0.8**
RUS				*i* S	**Sn**	**02 19 26.8**	**-1.3**
KII	**Karymskiy**	**1.47**	**331**	*e*P	**Pn**	**02 19 12.4**	**+0.2**
KII				*i* S	**Sn**	**02 19 30.9**	**0.0**
GRL	**Gorelyy**	**1.59**	**263**	*e*P	**Pn**	**02 19 14.0**	**+0.1**
GRL				*i* S	**Sn**	**02 19 34.2**	**+0.2**
GNL	**Ganaly**	**1.89**	**301**	*i* P	**Pn**	**02 19 19.1**	**+1.2**
GNL				*i* S	**Sn**	**02 19 42.6**	**+1.5**
MKZ	**Mys Kozlova**	**1.90**	**19**	*i* P	**Pn**	**02 19 17.6**	**-0.5**
MKZ				*i* S	**Sn**	**02 19 40.6**	**-1.0**
MIPR	**Malaya Ipel'ka**	**2.44**	**260**	*e*P	**Pn**	**02 19 27.0**	**+1.5**
MIPR				*i* S	**Sn**	**02 19 56.9**	**+2.1**
TUMR	**Tumrok**	**2.54**	**353**	*e*P	**Pn**	**02 19 29.2**	**+2.3**
TUMR				*i* S	**Sn**	**02 19 58.7**	**+1.3**
KMNR	**Kamenistaya**	**3.01**	**355**	P	**Pn**	**02 19 35.4**	**+2.1**
SKR	**Severo-Kuril's**	**3.51**	**235**	*e*PN	**Pn**	**02 19 45.5**	**+5.2**
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
KBTR	**Krutoberegovo**	**3.67**	**19**	P	**Pn**	**02 19 42.4**	**0.0**
KBTR				*i* S	**Sn**	**02 20 24.1**	**-1.1**
BILL	**Bilibino**	**15.56**	**8**	P	**Pn**	**02 22 30.0**	**+5.3**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s						
YAK	**Yakutsk**	**18.92**	**312**	*e*P	**Pn**	**02 23 02.5**	**-4.2**
FINES	**FINESS Array B**	**60.56**	**337**	*i* P	**P**	**02 28 54.7**	**-0.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
AKASG	**Malin Array Be**	**69.08**	**329**	*i* P	**P**	**02 29 49.5**	**-1.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						

KRSC 19 02:45:48.8±1.6, 5255N×15678E, h263km±53km, ML3.6, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	**Malaya Ipel'ka**	**0.28**	**183**	*i* P	Pn	02 46 23.4	+0.7
GRL	**Gorelyy**	**0.79**	**89**	P	Pn	02 46 26.4	+2.3
RUS	**Russkaya**	**1.07**	**96**	*i* P	Pn	02 46 26.7	+1.2
RUS				*i* S	S	02 46 54.3	-0.1
PET	**Petropavlovsk**	**1.23**	**67**	*e*P	Pn	02 46 28.4	+2.0
GNL	**Ganaly**	**1.34**	**31**	*e*P	Pn	02 46 28.7	+1.6
AVH	**Avacha**	**1.39**	**58**	*i* P	Pn	02 46 30.0	+2.6
NLC	**Nalytchevo**	**1.68**	**67**	*e*P	Pn	02 46 31.2	+1.7
SPN	**Mys Shipunski**	**2.04**	**73**	P	Pn	02 46 34.0	+1.4
SPN				*i* S	S	02 47 06.8	-0.5
MKZ	**Mys Kozlova**	**3.57**	**54**	*i* P	Pn	02 46 49.7	+1.6
MKZ				*i* S	S	02 47 34.0	-1.4
KBTR	**Krutoberegovo**	**5.09**	**42**	P	Pn	02 47 08.1	+2.2

IDC 19 02:47:58.2±2.4, 426S×12935E, h0km, mb3.8/1, mb1 3.6/3, mb1mx3.5/14, mbtmp3.4/3, ML3.1/1, MS4.0/2, Ms1 3.9/2, ms1mx3.3/22, Error ellipse: s-maj=183.2km s-min=29.0km az=69.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.33**	**163**	Pn	Pn	02 51 47.2	-1.9
	0.1nm,0.3s,baz=346,slow=13,SNR=4.8						
ASAR	**Alice Springs**	**19.79**	**168**	P	Pn	02 52 31.2	-0.5
	0.1nm,0.3s,baz=349,slow=10,SNR=8.4						
STKA	**Stephens Creek**	**29.78**	**159**	LR	LR	03 07 56.3	
	comp=Z,102nm,18.5s,baz=219,slow=40						
CBIJ	**Chichi jima**	**33.55**	**21**	LR	LR	03 05 19.3	
	comp=Z,578nm,21.7s,baz=125,slow=31						
MKAR	**Makanchi Array**	**65.59**	**326**	P	P	02 58 44.0	+0.1
	0.6nm,0.5s,baz=123,slow=7.9,SNR=7.6						

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*ATH **19** 02:50:19.8, 3973N×2044E, h37km, MD3.1/5*
*NEIC **19** 02:50:19.8, 3973N×2044E, h37km, MD3.1(ATH), After ATH.*
*ISCJB **19** 02:50:21.7±0.6, 3945N±003×2047E±004, h2km±5km, Error ellipse: s-maj=5.4km s-min=4.8km az=145.1*
*CSEM **19** 02:50:22.1±0.1, 3954N×2041E, h12km, ML2.9, Error ellipse: s-maj=2.4km s-min=1.7km az=112.0*
*THE **19** 02:50:22.8, 3947N×2046E, h3km, ML2.9*
ISC 19 02:50:21.5±0.7, 3943N±003×2040E±004, h0km±5km, n23, σ1°11/38, 1D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.12**	**334**	*e*Pg	**Pg**	**02 50 24.4**	**+0.7**
IGT				*e*Sg	**Sg**	**02 50 26.8**	**+1.6**
JAN	**Janina**	**0.42**	**57**	⇓*i*PB	**Pg**	**02 50 28.5**	**-1.0**
JAN				*e*SB	**Sg**	**02 50 34.5**	**-0.4**
KEK	**Kerkira**	**0.54**	**302**	*e*PB	**Pg**	**02 50 30.8**	**-1.1**
MEV	**Metsovon**	**0.73**	**61**	*e*Pg	**Pg**	**02 50 34.8**	**-0.7**
MEV				*e*Sg	**Sg**	**02 50 46.4**	**+1.3**
EVR	**Evrytania**	**1.21**	**115**	*e*PN	**Pn**	**02 50 43.8**	**-1.8**
THL	**Klokotos Trika**	**1.26**	**83**	*e*Pg	**Pg**	**02 50 45.1**	**-0.5**
THL				*e*Sg	**Sg**	**02 51 02.8**	**+0.9**
THL	**Klokotos Trika**	**1.26**	**83**	*e*Pn	**Pn**	**02 50 42.2**	**-4.1**
THL	**Klokotos Trika**	**1.26**	**83**	*e*Pg	**Pg**	**02 50 45.1**	**-0.5**
THL				*e*Sg	**Sg**	**02 51 02.8**	**+0.9**
VLS	**Valsamata**	**1.26**	**173**	*e*Pg	**Pg**	**02 50 47.5**	**+1.9**
VLS				*e*Sg	**Sg**	**02 51 06.8**	**+5.0**
VLS	**Valsamata**	**1.26**	**173**	*e*Pn	**Pn**	**02 50 47.0**	**+0.7**
VLS	**Valsamata**	**1.26**	**173**	*e*Pg	**Pg**	**02 50 47.5**	**+1.9**
VLS				*e*Sg	**Sg**	**02 51 06.8**	**+4.9**
KZN	**Kozani**	**1.37**	**50**	*e*PN	**Pn**	**02 50 41.6**	**-6.3**
FNA	**Florina**	**1.55**	**29**	*e*Pg	**Pg**	**02 50 49.6**	**-1.5**
FNA				*e*Sg	**Sg**	**02 51 11.8**	**+0.6**
AGG	**Agios Georgios**	**1.56**	**105**	*e*Pg	**Pg**	**02 50 50.2**	**-1.1**
AGG				*e*Sg	**Sg**	**02 51 12.4**	**+1.0**
OHR	**Ohrid**	**1.71**	**10**	*e*Pn	**Pn**	**02 50 50.5**	**-2.0**
OHR				*i* Sn	**Sn**	**02 51 16.6**	**+1.6**
OHR	**Ohrid**	**1.71**	**10**	*e*Pn	**Pn**	**02 50 50.4**	**-2.1**
OHR				*i* Sn	**Sn**	**02 51 16.6**	**+1.6**
BIA	**Bitola**	**1.74**	**24**	*e*Pb	**Pb**	**02 50 52.4**	**-1.9**
BIA				*e*Sb	**Sb**	**02 51 16.2**	**-0.4**
BIA	**Bitola**	**1.74**	**24**	*e*Pn	**Pn**	**02 50 52.2**	**-0.7**
BIA				*i* Sn	**Sn**	**02 51 16.2**	**+0.5**
BIA	**Bitola**	**1.74**	**24**	*e*Pn	**Pn**	**02 50 52.2**	**-0.7**
BIA				*i* Sn	**Sn**	**02 51 16.2**	**+0.4**
KRUS	**Krusevo**	**2.04**	**18**	*e*Pn	**Pn**	**02 50 57.3**	**+0.3**
KRUS				*i* Sn	**Sn**	**02 51 23.6**	**+0.3**
VAY	**Valandovo**	**2.52**	**41**	*e*Pn	**Pn**	**02 51 05.0**	**+1.4**
STIP	**Stip**	**2.64**	**30**	*e*Pn	**Pn**	**02 51 05.1**	**-0.2**
SOH	**Sokhos**	**2.66**	**58**	*e*Pn	**Pn**	**02 51 05.7**	**+0.1**

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*ISCJB **19** 02:51:19.8±0.5, 2280S±005×6373W±006, h541km±7km, mb3.8/13, Error ellipse: s-maj=8.5km s-min=7.7km az=167.5*
*IDC **19** 02:51:19.9±0.9, 2274S×6370W, h526km±9km, mb3.6/9, mb1 3.6/16, mb1mx3.5/25, mbtmp3.6/16, Error ellipse: s-maj=14.6km s-min=11.9km az=70.0*
*NEIC **19** 02:51:20.2±0.4, 2275S×6369W, h532km±5km, mb3.6/5, Error ellipse: s-maj=8.2km s-min=7.3km az=77.0*
ISC 19 02:51:20.3±0.5, 2275S±006×6367W±006, h533km±6km, n30, σ0°80/33, mb3.8/13, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**6.79**	**123**	P	**P**	**02 53 06.4**	**+0.9**
	19nm,0.3s,baz=298,slow=9.2,SNR=155						
CPUP				S	**S**	**02 54 32.1**	**+0.5**
	baz=70,slow=15,SNR=1.5						
SIV	**San Ignacio**	**7.16**	**21**	P	**P**	**02 53 09.8**	**+0.5**
	2.9nm,0.3s,baz=201,slow=9.0,SNR=57						
SIV				S	**S**	**02 54 38.5**	**+0.1**
	0.3nm,0.3s,baz=225,slow=23,SNR=6.5						
LPAZ	**La Paz**	**7.68**	**326**	P	**P**	**02 53 15.0**	**+0.6**
	14nm,0.3s,baz=115,slow=5.7,SNR=462						
LPAZ				S	**S**	**02 54 46.0**	**-2.0**
	1.0nm,0.3s,baz=60,slow=25,SNR=6.0						
LCO	**Las Campanas**	**8.88**	**224**	*e*P	**P**	**02 53 26.1**	**-0.3**
	35nm,0.6s						
ARE	**Arequipa**	**9.66**	**309**	*e*P	**P**	**02 53 35.0**	**+0.4**
ARE				*e*S	**S**	**02 55 26.0**	**+1.1**
CFAA	**Coronel Fontan**	**9.71**	**204**	P	**P**	**02 53 33.9**	**-0.9**
CFAA				S	**S**	**02 55 21.7**	**-3.7**
CFAA	**Coronel Fontan**	**9.71**	**204**	P	**P**	**02 53 33.9**	**-0.9**
	3.3nm,0.3s,baz=25,slow=11,SNR=291						
CFAA				S	**S**	**02 55 21.7**	**-3.7**
	1.1nm,0.3s,baz=298,slow=19,SNR=12						
BDFB	**Brasilia**	**16.39**	**67**	P	**P**	**02 54 43.2**	**-1.2**
	0.5nm,0.3s,baz=231,slow=19,SNR=12						
BDFB				S	**S**	**02 57 27.7**	**-3.3**
	0.1nm,0.3s,baz=54,slow=18,SNR=3.3						
NNA	**Nana**	**16.50**	**308**	*e*P	**P**	**02 54 44.8**	**-0.6**
	21nm,0.7s						
NNA	**Nana**	**16.50**	**308**	P	**P**	**02 54 44.9**	**-0.4**
	3.8nm,0.3s,baz=126,slow=11,SNR=9.2						
PLCA	**Paso Flores**	**18.84**	**196**	P	**P**	**02 55 06.8**	**+0.3**
	0.4nm,0.3s,baz=16,slow=11,SNR=6.7						
PCRV	**Puerto La Cruz**	**32.74**	**358**	P	**P**	**02 57 09.3**	**0.0**
	6.5nm,0.5s,mb4.4,baz=164,slow=18,SNR=4.7						
SJG	**San Juan**	**40.68**	**356**	P	**P**	**02 58 13.6**	**-1.0**
	7.7nm,0.5s,mb4.5,baz=209,slow=10,SNR=5.1						
DBIC	**Dimbokro**	**64.51**	**70**	P	**P**	**03 01 05.3**	**+0.2**
	4.8nm,0.6s,mb4.1,baz=217,slow=6.6,SNR=13						
TXAR	**Lajitas Array**	**64.52**	**322**	P	**P**	**03 01 05.6**	**+0.7**
	0.3nm,0.6s,mb2.9,baz=149,slow=7.2,SNR=2.9						
MNTX	**Cornudas Mount**	**67.27**	**322**	*e*P	**P**	**03 01 21.5**	**-0.4**
	1.0nm,0.8s,mb3.4						
SDCO	**Great Sand Dun**	**71.89**	**326**	*e*P	**P**	**03 01 50.7**	**+1.3**
	0.6nm,0.4s,mb3.4						
TOA0	**Torodi Ar. Sit**	**73.27**	**68**	*e*P	**P**	**03 01 57.6**	**-0.2**
TORD	**Torodi Ar. Bea**	**73.27**	**68**	P	**P**	**03 01 57.8**	**-0.1**
	9.0nm,0.6s,mb4.4,baz=258,slow=5.9,SNR=255						
SCHQ	**Schefferville**	**77.31**	**358**	P	**P**	**03 02 19.4**	**-0.1**
SCHQ	**Schefferville**	**77.31**	**358**	P	**P**	**03 02 19.4**	**-0.1**
	1.5nm,0.5s,mb3.6,baz=216,slow=13,SNR=4.4						
BW06	**Boulder Array**	**77.70**	**327**	*e*P	**P**	**03 02 22.6**	**+0.7**
	0.8nm,0.5s,mb3.3						
HWUT	**Hardware Ranch**	**77.89**	**325**	*e*P	**P**	**03 02 22.5**	**-0.4**
	2.8nm,0.5s,mb3.9						
ULM	**Lac du Bonnet**	**78.07**	**340**	P	**P**	**03 02 23.7**	**0.0**
	3.3nm,0.5s,mb3.9,baz=199,slow=3.6,SNR=5.2						
ESDC	**Sonseca Array**	**83.41**	**42**	P	**P**	**03 02 52.4**	**+0.8**
	0.9nm,0.5s,mb3.5,baz=236,slow=3.8,SNR=8.2						
YKA	**Yellowknife Ar**	**94.04**	**339**	P	**P**	**03 03 41.1**	**+0.1**
	0.4nm,0.5s,mb3.8,baz=129,slow=4.5,SNR=11						
ASAR	**Alice Springs**	**130.80**	**201**	PKP	PKPdf	03 09 32.0	+0.4
	0.2nm,0.5s,baz=128,slow=1.9,SNR=4.8						
ASAR				S

TPP				*e*S		**Sn**	**03 07 19.1**	**+1.1**
TBH	**Brigand Hill**	**1.35**	**100**	*e*P		**Pn**	**03 07 07.6**	**+0.9**
TBH				*e*S		**Sn**	**03 07 26.3**	**+1.6**
GRW	**Mount Saint Ca**	**1.61**	**28**	*e*P		**Pn**	**03 07 10.0**	**+0.1**
GRW				*e*S		**Sn**	**03 07 29.3**	**-1.2**
TPR	**Prospect**	**1.68**	**74**	*e*P		**Pn**	**03 07 11.0**	**+0.2**
TPR				*e*S		**Sn**	**03 07 31.6**	**-0.6**
PCRV	**Puerto La Cruz**	**2.24**	**256**	*e*P		**Pn**	**03 07 18.8**	**+0.6**
PCRV				*e*S		**Sn**	**03 07 45.0**	**-0.2**
IBAV	**Isla La Blanqu**	**2.38**	**298**	*e*P		**Pn**	**03 07 20.6**	**+0.6**
IBAV				*e*S		**Sn**	**03 07 47.9**	**-0.6**
RIOV	**Rio Grande**	**2.70**	**167**	*e*P		**Pn**	**03 07 24.6**	**+0.2**
RIOV				*e*S		**Sn**	**03 07 55.2**	**-1.0**
PRGV	**PARIAGUAN**	**2.93**	**229**	*e*P		**Pn**	**03 07 28.3**	**+1.0**
PRGV				*e*S		**Sn**	**03 08 02.1**	**+0.4**
GURV	**El Guri**	**3.01**	**193**	*e*P		**Pn**	**03 07 28.4**	**-0.1**
GURV				*e*S		**Sn**	**03 08 01.9**	**-1.8**
BIRV	**Birongo**	**3.79**	**267**	*e*P		**Pn**	**03 07 40.0**	**+1.1**
LUEV	**Luepa**	**4.94**	**169**	*e*P		**Pn**	**03 07 53.3**	**-1.3**
LUEV				*e*S		**Sn**	**03 08 45.4**	**-5.1**
CAOV	**Caicara del Or**	**5.12**	**229**	*e*P		**Pn**	**03 07 57.2**	**+0.1**
CAOV				*e*S		**Sn**	**03 08 51.4**	**-3.4**
BAUV	**El Baul**	**5.81**	**253**	*e*P		**Pn**	**03 08 05.8**	**-0.7**
BAUV				*e*S		**Sn**	**03 09 08.8**	**-2.9**

*ISCJB **19** 03:10:10.0±0.6, 3864N±003×3022E±004, h6km±7km, Error ellipse: s-maj=5.8km s-min=4.6km az=139.1*
*CSEM **19** 03:10:09.2±0.2, 3862N×3021E, h15km, MD2.7, Error ellipse: s-maj=5.9km s-min=5.5km az=17.0*
*DDA **19** 03:10:09.9, 3867N×3028E, h7km±3km, Md2.3*
*ISK **19** 03:10:09.0, 3861N×3025E, h14km, MD2.7*
ISC 19 03:10:10.3±0.5, 3864N±003×3024E±004, h7km±6km, n10, σ0§84/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	**Suhut-Afyon**	**0.26**	**110**	*e*PG	**Pg**	**03 10 14.8**	**-0.6**
SHUT				*e*SG	**Sg**	**03 10 18.4**	**-0.5**
ALT	**Altintas**	**0.42**	**346**	*e*PG	**Pg**	**03 10 18.4**	**-0.2**
ALT				*e*SG	**Sg**	**03 10 25.2**	**+1.1**
TKTP	**Tekketepe**	**0.61**	**174**	*i* P	**Pg**	**03 10 21.6**	**-0.3**
TKTP				*i* S	**Sg**	**03 10 31.9**	**+2.0**
KHL	**Karahalli**	**0.65**	**241**	*e*PG	**Pg**	**03 10 22.0**	**-0.7**
KHL				*e*SG	**Sg**	**03 10 30.9**	**-0.3**
GDZ	**Gediz**	**0.74**	**307**	*i* P	**Pg**	**03 10 24.7**	**+0.1**
GDZ				*i* S	**Sg**	**03 10 35.2**	**+1.0**
ESKT	**Eskisehir**	**0.99**	**28**	*e*P	**Pg**	**03 10 24.1**	**-5.3**
ESKT				*i* S	**Sg**	**03 10 41.5**	**-0.9**
SEYT	**Eskypehyr**	**0.99**	**28**	*e*P	**Pg**	**03 10 24.1**	**-5.3**
SEYT				*i* S	**Sg**	**03 10 41.5**	**-0.9**
KULA	**Kula-Manisa**	**1.25**	**265**	*e*PN	**Pn**	**03 10 32.7**	**-1.4**
BORA	**Eskisehir**	**1.25**	**8**	*i* P	**Pn**	**03 10 33.6**	**-0.5**
BORA				*i* S	**Sb**	**03 10 50.6**	**+0.3**
KDHN	**Kadinhani**	**1.48**	**94**	*i* P	**Pn**	**03 10 37.3**	**+0.1**
KDHN				*i* S	**Sn**	**03 10 57.9**	**+1.2**

IDC 19 03:15:44.4±2.6, 2226S×14818E, h0km, mb1 3.5/4, mb1mx3.4/12, mbtmp3.3/4, ML3.0/4, Error ellipse: s-maj=36.8km s-min=21.6km az=59.0, Queensland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**2.81**	**320**	Pn	Pn	03 16 30.9	+0.3
	1.1nm,0.3s,baz=125,slow=15,SNR=16						
CTA				Lg		03 17 12.1	
	6.6nm,0.3s,baz=53,slow=21,SNR=11						
STKA	**Stephens Creek**	**11.23**	**210**	Pn	Pn	03 18 24.1	-2.1
	0.1nm,0.3s,baz=13,slow=15,SNR=3.6						
WRA	**Warramunga Arr**	**13.12**	**278**	Pn	Pn	03 18 53.2	+1.1
	0.1nm,0.3s,baz=95,slow=12,SNR=7.0						
WRA				Lg		03 22 45.5	
	0.1nm,0.3s,baz=107,slow=28,SNR=5.5						
ASAR	**Alice Springs**	**13.23**	**261**	Pn	Pn	03 18 52.4	-1.3
	0.1nm,0.3s,baz=90,slow=14,SNR=2.8						
ASAR				Lg		03 22 47.2	
	0.1nm,0.3s,baz=83,slow=29,SNR=5.0						
TORD	**Torodi Ar. Bea**	**146.88**	**260**	PKPbc	PKPbc	03 35 29.4	-0.2
	0.4nm,0.7s,baz=97,slow=4.0,SNR=6.0						

*NIED **19** 03:20:00, 2490N×12540E, h41km, Mw4.2 Best double couple: M0=2.22000×10^15 NP1:φ=48.00000°, δ=72.00000°, λ=94.00000°. NP2:φ=215.00000°, δ=19.00000°, λ=77.00000°.*
*JMA **19** 03:20:05.2±0.1, 2481N×12540E, h50km±1km, M4.4*
JMA Felt III J1.
*BJI **19** 03:20:05.0, 2502N×12530E, h49km, mB4.6, mb4.5*
*ISCJB **19** 03:20:05.0±0.3, 2491N±006×12536E±004, h49km±3km, mb4.1/21, Error ellipse: s-maj=11.5km s-min=4.9km az=153.5*
*IDC **19** 03:20:06.1±4.2, 2495N×12535E, h44km±40km, mb3.9/12, mb1 4.0/13, mb1mx3.9/20, mbtmp3.9/13, ML3.4/1, MS3.0/3, Ms1 3.0/3, ms1mx2.7/32, Error ellipse: s-maj=33.6km s-min=19.0km az=72.0*
*NEIC **19** 03:20:06.9±0.8, 2493N×12534E, h50km±8km, mb4.3/7, Error ellipse: s-maj=9.6km s-min=8.0km az=177.0*
NEIC Recorded [3 JMA] on Miyako-jima and [1 JMA] on Tarama-shima.
ISC 19 03:20:06.1±0.3, 2489N±006×12536E±004, h43km±3km, h47km±2.3km: pP-P, n58, σ0§86/60, mb4.1/21, 2C-1D, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**0.10**	**215**	P	**Pn**	**03 20 12.9**	**-0.1**
JMJ				S	**Sn**	**03 20 18.2**	**+0.3**
JOGS	**Gusukube**	**0.14**	**161**	P	**Pn**	**03 20 12.8**	**-0.5**
JOGS				S	**Sn**	**03 20 18.4**	**+0.1**
JTJ	**Tarama**	**0.65**	**247**	P	**Pn**	**03 20 18.5**	**-0.3**
JTJ				S	**Sn**	**03 20 28.1**	**+0.1**
JIJ	**Ishigaki jima**	**1.22**	**245**	P	**Pn**	**03 20 26.1**	**-0.6**
JIJ				S	**Sn**	**03 20 42.4**	**+0.4**
JKRS	**Kuro-shima**	**1.39**	**242**	P	**Pn**	**03 20 29.1**	**+0.1**
IRIF	**Iriomote-Funau**	**1.58**	**250**	P	**Pn**	**03 20 30.8**	**-0.8**
HATJ	**Hateruma jima**	**1.64**	**240**	P	**Pn**	**03 20 31.5**	**-0.9**
JKE	**Kume jima 2**	**1.92**	**42**	P	**Pn**	**03 20 36.8**	**+0.5**
YOJ	**Yonaguni jima**	**2.18**	**259**	P	**Pn**	**03 20 39.4**	**-0.4**
JAGN	**Aguni-jima**	**2.40**	**45**	P	**Pn**	**03 20 43.2**	**+0.4**
JIH	**Iheya**	**3.17**	**47**	P	**Pn**	**03 20 53.7**	**+0.2**
JOW	**Kunigami**	**3.26**	**53**	P	**Pn**	**03 20 54.9**	**+0.2**
JOW	**Kunigami**	**3.26**	**53**	P	**Pn**	**03 20 55.0**	**+0.3**
	8.1nm,0.3s,baz=207,slow=11,SNR=19						
NACB	**Ninganchiao**	**3.50**	**259**	*e*Pn	**Pn**	**03 20 57.4**	**-0.5**
NACB				*e*Sn	**Sn**	**03 21 38.5**	**+0.4**
TATO	**Taipei**	**3.51**	**272**	*e*Pn	**Pn**	**03 21 00.1**	**+2.0**
YHNB	**Yeheng**	**3.62**	**267**	*e*Pn	**Pn**	**03 21 01.0**	**+1.3**
JTK	**Tokunoshima**	**4.32**	**47**	P	**Pn**	**03 21 08.5**	**-0.8**
JAM	**Amami Oshima**	**5.17**	**46**	P	**Pn**	**03 21 19.7**	**-1.2**
JMZ	**Minamidaito 2**	**5.39**	**79**	P	**Pn**	**03 21 20.2**	**-3.7**
JMZ				S	**Sn**	**03 22 17.6**	**-7.0**
JNU	**Nakatsue**	**9.52**	**29**	LR	LR	03 26 26.9	
	comp=Z,44nm,18.6s,baz=15,slow=40						
KSRS	**Korea Array**	**12.71**	**9**	P	**Pn**	**03 23 06.6**	**+2.5**
	0.2nm,0.3s,baz=191,slow=13,SNR=8.9						
KSRS				LR	LR	03 27 46.5	
	comp=Z,86nm,19.6s,baz=190,slow=36						
MJAR	**Matsushiro Arr**	**16.01**	**41**	P	**Pn**	**03 23 42.7**	**-5.4**
MJAR	**Matsushiro Arr**	**16.01**	**41**	P	**Pn**	**03 23 42.7**	**-5.4**
	0.5nm,0.3s,baz=221,slow=6.9,SNR=5.9						
CD2	**Chengdu**	**19.99**	**292**	P	**Pn**	**03 24 35.0**	**-1.9**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.4s						
GUMO	**Guam**	**21.55**	**118**	LR	LR	03 32 10.8	
	comp=Z,50nm,18.8s,baz=56,slow=34						
ASAJ	**Asahikawa**	**23.78**	**32**	P	**P**	**03 25 13.1**	**-1.5**
	comp=Z,8.3nm,0.7s,mb4.3,baz=291,slow=6.2,SNR=4.7						
GTA	**Gaotai**	**25.91**	**310**	*e*P	**P**	**03 25 33.5**	**-0.5**
GTA				AP	pP	03 25 44.6	-0.9
GTA				XP	sP	03 25 49.8	-0.9
GTA				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.0						
ULN	**Ulaanbaatar**	**27.12**	**332**	*e*P	**P**	**03 25 44.7**	**-0.1**
	comp=Z,2.0nm,0.6s,mb3.8						
MK31	**Makanchi Array**	**40.53**	**314**	*e*P	**P**	**03 27 40.2**	**-0.7**
MKAR	**Makanchi Array**	**40.53**	**314**	P	**P**	**03 27 40.5**	**-0.4**
	comp=Z,2.8nm,0.5s,mb4.2,baz=100,slow=10,SNR=32						
ZALV	**Zalesovo Beam**	**41.79**	**325**	P	**P**	**03 27 50.2**	**-0.9**
ZALV	**Zalesovo Beam**	**41.79**	**325**	P	**P**	**03 27 50.2**	**-0.9**
	comp=Z,2.4nm,0.3s,mb4.2,baz=111,slow=9.2,SNR=5.2						
COEN	**Coen**	**42.35**	**154**	*e*P	**P**	**03 27 56.6**	**+0.5**
	comp=Z,3.4nm,0.8s,mb4.0						
KURK	**Kurchatov**	**44.04**	**318**	*e*P	**P**	**03 28 08.6**	**-0.8**
	comp=Z,1.6nm,0.3s,mb4.2						
TKM2	**Tokmak 2**	**44.36**	**307**	*e*P	**P**	**03 28 12.9**	**+0.9**
	comp=Z,4.9nm,0.9s,mb4.2						
UCH	**Uchtor**	**45.07**	**306**	*e*P	**P**	**03 28 19.5**	**+1.7**
	comp=Z,4.3nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**45.42**	**168**	P	**P**	**03 28 21.4**	**+0.7**
	comp=Z,1.0nm,0.7s,mb3.8,baz=349,slow=8.7,SNR=4.9						
WRA				pP	pP	03 28 33.3	+0.7
	comp=Z,7.9nm,0.8s,baz=349,slow=8.3,SNR=21						
WB2	**Warramunga Arr**	**45.42**	**168**	*e*P	pP	03 28 32.0	-0.7
ASAR	**Alice Springs**	**48.98**	**170**	P	**P**	**03 28 48.1**	**-0.2**
	comp=Z,0.3nm,0.5s,mb3.6,baz=358,slow=8.9,SNR=5.4						
ASAR				pP	pP	03 29 01.7	+1.2
	comp=Z,1.2nm,0.5s,baz=355,slow=14,SNR=16						
STKA	**Stephens Creek**	**58.55**	**164**	pP	pP	03 30 11.3	+0.7
	comp=Z,4.7nm,1.1s,baz=344,slow=23,SNR=5.8						
SVW2	**Sparrevohn**	**63.28**	**32**	*e*P	**P**	**03 30 29.8**	**-0.2**
EGAK	**Eagle**	**69.23**	**27**	*e*P	**P**	**03 31 09.6**	**+1.5**
	comp=Z,2.2nm,0.6s,mb4.3						
JOF	**Joensuu**	**69.95**	**331**	*e*p	**P**	**03 31 11.1**	**-1.4**
	comp=Z,1.7nm,0.5s,mb4.2						
DAWY	**Dawson**	**70.16**	**28**	*e*P	**P**	**03 31 14.4**	**+0.6**
ARCES	**ARCESS Array B**	**70.29**	**338**	P	**P**	**03 31 14.6**	**+0.1**
	comp=Z,0.8nm,0.6s,mb3.8,baz=73,slow=6.6,SNR=7.1						
INK	**Inuvik**	**71.13**	**23**	*e*P	**P**	**03 31 21.0**	**+1.4**
	comp=Z,108nm,0.8s						
FINES	**FINESS Array B**	**72.74**	**330**	P	**P**	**03 31 29.0**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=65,slow=5.9,SNR=16						
MALT	**Malatya**	**72.74**	**305**	*e*P	**P**	**03 31 30.6**	**+0.7**
	comp=Z,13nm,1.1s,mb4.8						
MALT	**Malatya**	**72.74**	**305**	↑*i* P	**P**	**03 31 30.9**	**+1.0**
AKASG	**Malin Array Be**	**74.85**	**319**	P	**P**	**03 31 41.2**	**-0.7**
	comp=Z,1.5nm,0.4s,mb4.3,baz=58,slow=6.0,SNR=7.2						
RES	**Resolute Bay**	**77.33**	**10**	*e*P	**P**	**03 31 55.9**	**+0.2**
	comp=Z,104nm,0.8s						
MLR	**Muntele Rosu**	**78.87**	**315**	↑*i*P	**P**	**03 32 04.1**	**-0.6**
KWP	**Kalwaria**	**79.12**	**320**	↓*i*P	**P**	**03 32 06.5**	**+0.5**
NB2	**NORSAR Subarra**	**79.34**	**333**	P	**P**	**03 32 06.3**	**-0.7**
	comp=Z,1.0nm,0.6s,mb3.9,baz=56,slow=5.6						
NOA	**NORSAR Array B**	**79.34**	**333**	P	**P**	**03 32 06.6**	**-0.4**
	comp=Z,1.1nm,0.6s,mb4.0,baz=54,slow=5.6,SNR=5.4						
YKA	**Yellowknife Ar**	**80.81**	**24**	P	**P**	**03 32 14.9**	**0.0**
	comp=Z,0.9nm,0.6s,mb3.9,baz=300,slow=5.6,SNR=14						
GERES	**GERESS Array B**	**84.67**	**322**	P	**P**	**03 32 35.5**	**+0.3**
	comp=Z,0.8nm,0.7s,mb4.0,baz=64,slow=6.1,SNR=7.9						
DAVOX	**Davos/Dischmat**	**87.96**	**322**	P	**P**	**03 32 52.1**	**+0.7**
	comp=Z,2.6nm,0.7s,mb4.6,baz=127,slow=7.8,SNR=5.3						

IDC 19 03:22:44.4±8.0, 1663S×6991W, h202km±25km, mb2.9/2, mb1 2.9/3, mb1mx2.8/18, mbtmp2.8/3, Error ellipse: s-maj=229.1km s-min=47.3km az=21.0, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**1.74**	**79**	P	Pn	03 23 20.8	+0.3
	0.4nm,0.3s,baz=264,slow=11,SNR=9.6						
LPAZ				S	Sn	03 23 41.6	-6.9
	0.4nm,0.3s,baz=16,slow=17,SNR=5.7						
SIV	**San Ignacio**	**8.51**	**87**	P	Pn	03 24 45.9	+1.6
	0.1nm,0.3s,baz=285,slow=15,SNR=2.4						
TORD	**Torodi Ar. Bea**	**76.68**	**72**	P	P	03 34 13.2	-0.4
	0.6nm,0.9s,baz=242,slow=4.3,SNR=4.5						
YKA	**Yellowknife Ar**	**86.30**	**341**	P	P	03 35 03.4	+0.5
	0.2nm,0.8s,baz=126,slow=5.2,SNR=4.2						

*VIE **19** 03:36:11.7±0.1, 4649N×1273E, h10km±2km, mb1.9/13, ML2.8/15, Error ellipse: s-maj=1.4km s-min=0.7km az=10.0*
*ISCJB **19** 03:36:11.9±0.2, 4651N±001×1269E±001, h6km±2km, Error ellipse: s-maj=2.3km s-min=1.5km az=19.4*
*ROM **19** 03:36:12.5±0.2, 4652N×1277E, h10km±3km, Md2.8/8, Ml2.4/7, Error ellipse: s-maj=6.4km s-min=2.0km az=105.0*
*NEIC **19** 03:36:12.5, 4652N×1277E, h10km, ML2.6(FUR), ML2.5(LDG), ML2.4(ROM), After ROM.*
*CSEM **19** 03:36:12.0±0.0, 4646N×1270E, h12km, ML3.0/16, Error ellipse: s-maj=1.1km s-min=0.7km az=19.0*
*LDG **19** 03:36:13.0±0.1, 4646N×1278E, h10km, Ml2.5/4, Error ellipse: s-maj=3.7km s-min=1.9km az=14.0*
*PRU **19** 03:36:13.9, 4656N×1281E, h0km*
ISC 19 03:36:12.7±0.2, 4650N±001×1270E±001, h4km±2km, n86, σ1§02/162, 25C-20D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CSMI	**Casera Mimoias**	**0.03**	**284**	↓*i*Pg	**Pg**	**03 36 14.1**	**+0.5**
CSMI				*i* Sg	**Sg**	**03 36 15.0**	**+0.8**
FVI	**Forni Avoltri**	**0.11**	**32**	Pg	**Pg**	**03 36 15.3**	**+0.4**
FVI				Sg	**Sg**	**03 36 17.4**	**+1.0**
	4μm,0.1s						
ZOU	**Zoufplan**	**0.20**	**75**	↑*i*Pg	**Pg**	**03 36 16.6**	**0.0**
ZOU				*i* Sg	**Sg**	**03 36 19.9**	**+0.7**
ABTA	**Abfaltersbach**	**0.27**	**333**	↓*i*Pg	**Pg**	**03 36 18.6**	**+0.6**
ABTA				↑↑*i*Sg	**Sg**	**03 36 22.5**	**+0.9**
	comp=N,205nm,0.1s						
ABTA	**Abfaltersbach**	**0.27**	**333**	Pg	**Pg**	**03 36 18.6**	**+0.6**
ABTA				Sg	**Sg**	**03 36 22.5**	**+0.9**
	205nm,0.1s						
PLRO	**Paularo**	**0.32**	**82**	↑*i*Pg	**Pg**	**03 36 18.6**	**-0.2**
PLRO				*i* Sg	**Sg**	**03 36 23.6**	**+0.7**
PLRO	**Paularo**	**0.32**	**82**	*i* Pg	**Pg**	**03 36 18.6**	**-0.2**
PLRO				*i* Sg	**Sg**	**03 36 23.5**	**+0.6**
MPRI	**Monte Prat**	**0.33**	**142**	↓*i*Pg	**Pg**	**03 36 18.2**	**-0.8**
MPRI				*i* Sg	**Sg**	**03 36 23.0**	**-0.4**
MPRI	**Monte Prat**	**0.33**	**142**	*i* Pg	**Pg**	**03 36 18.2**	**-0.9**
MPRI				*i* Sg	**Sg**	**03 36 23.0**	**-0.4**
BOO	**Bordano**	**0.34**	**123**	↑*i*Pg	**Pg**	**03 36 18.4**	**-0.7**
BOO				*i* Sg	**Sg**	**03 36 23.3**	**-0.2**
CSO	**Casso**	**0.35**	**228**	↑*i*Pg	**Pg**	**03 36 18.7**	**-0.7**
CSO				Sg	**Sg**	**03 36 23.7**	**-0.1**
AFL	**Alpe Faloria**	**0.36**	**274**	↑*i*Pg	**Pg**	**03 36 19.8**	**+0.2**
AFL				*i* Sg	**Sg**	**03 36 25.9**	**+1.7**
MLNI	**Malnisio**	**0.36**	**190**	↑*i*Pg	**Pg**	**03 36 18.8**	**-0.8**
MLNI				*i* Sg	**Sg**	**03 36 24.2**	**0.0**
SEST	**Monte Rota**	**0.41**	**307**	Pg	**Pg**	**03 36 21.1**	**+0.5**
SEST				Sg	**Sg**	**03 36 27.1**	**+1.1**
	260nm,0.3s						
BUA	**Buia**	**0.41**	**134**	↓*e*Pg	**Pg**	**03 36 19.9**	**-0.7**
BUA				*e*Sg	**Sg**	**03 36 26.6**	**+0.7**
GMNA	**Gemona**	**0.44**	**121**	Pg	**Pg**	**03 36 19.5**	**-1.6**
GMNA				Sg	**Sg**	**03 36 25.0**	**-1.8**
	153nm,0.2s						
BAD	**Bernadia**	**0.46**	**125**	↑*i*Pg	**Pg**	**03 36 20.9**	**-0.8**
BAD				Sg	**Sg**	**03 36 28.0**	**+0.4**
PTCC	**Patocco-Chiusa**	**0.47**	**102**	Pg	**Pg**	**03 36 21.0**	**-0.6**
PTCC				Sg	**Sg**	**03 36 28.4**	**+0.7**
	69nm,0.2s						
CAE	**Caneva**	**0.53**	**200**	↓*i*Pg	**Pg**	**03 36 22.2**	**-0.7**
CAE				*i* Sg	**Sg**	**03 36 30.2**	**+0.5**
FAU	**Forcella Aurin**	**0.57**	**241**	↑*e*Pg	**Pg**	**03 36 23.3**	**-0.2**
LSR	**Lussari**	**0.57**	**93**	↓*e*Pg	**Pg**	**03 36 23.0**	**-0.7**
LSR				*e*Sg	**Sg**	**03 36 32.9**	**+1.7**
COLI	**Coloredo**	**0.60**	**128**	↑*i*Pg	**Pg**	**03 36 23.5**	**-0.8**
COLI				Sg	**Sg**	**03 36 32.6**	**+0.6**
ROBS	**Robic**	**0.62**	**114**	*i* Pg	**Pg**	**03 36 23.8**	**-0.8**
ROBS				*i* Sg	**Sg**	**03 36 33.9**	**+1.3**
ROBS	**Robic**	**0.62**	**114**	*i* Pg	**Pg**	**03 36 23.8**	**-0.8**
ROBS				*i* Sg	**Sg**	**03 36 33.9**	**+1.3**
ROBS							
	comp=Z,7.0nm,0.1s						
ROBS	**Robic**	**0.62**	**114**	*i* Pg	**Pg**	**03 36 23.8**	**-0.8**
ROBS				*i* Sg	**Sg**	**03 36 33.9**	**+1.3**
TLI	**Talmassons**	**0.65**	**154**	↑*i*Pg	**Pg**	**03 36 24.2**	**-0.9**
TLI	**Talmassons**	**0.65**	**154**	*i* Pg	**Pg**	**03 36 24.2**	**-0.9**
MYKA	**Terra Mystica**	**0.66**	**79**	↑*i*Pg	**Pg**	**03 36 24.5**	**-1.0**
MYKA				↓↓*i*Sg	**Sg**	**03 36 33.4**	**-0.7**
	comp=Z,11nm,0.1s						
KBA	**Koelnbreinsper**	**0.73**	**38**	↑*i*Pg	**Pg**	**03 36 26.3**	**-0.3**
KBA				↑↑*i*Sg	**Sg**	**03 36 36.4**	**+0.3**
	comp=Z,37nm,0.1s						
DRE	**Drenchia**	**0.73**	**116**	↓↓*i*Pg	**Pg**	**03 36 25.9**	**-0.9**
DRE				*i* Sg	**Sg**	**03 36 36.9**	**+0.6**
CTI	**Castel Tesino**	**0.86**	**238**	Pg	**Pg**	**03 36 29.0**	**-0.1**
	comp=Z,64nm,0.2s						
SCE	**Schlegeis**	**0.86**	**309**	↓↓*i*Pg	**Pg**	**03 36 29.5**	**+0.2**
SCE				*i* Sg	**Sg**	**03 36 41.1**	**+0.6**
GORS	**Gorjuse**	**0.92**	**101**	*i* Pg	**Pg**	**03 36 29.6**	**-0.7**
GORS				*i* Sg	**Sg**	**03 36 44.0**	**+1.8**
GORS	**Gorjuse**	**0.92**	**101**	*i* Pg	**Pg**	**03 36 29.6**	**-0.7**
GORS				*i* Sg	**Sg**	**03 36 44.0**	**+1.8**
	comp=Z,28nm,0.3s						
GORS	**Gorjuse**	**0.92**	**101**	*i* Pg	**Pg**	**03 36 29.6**	**-0.7**
GORS				*i* Sg	**Sg**	**03 36 44.0**	**+1.8**
	comp=Z,28nm,0.3s						
VOY	**Vojsko**	**0.96**	**119**	*e*Pg	**Pg**	**03 36 31.1**	**+0.1**
VOY				*e*		03 36 32.8	
VOY				*e*Sg	**Sg**	**03 36 44.8**	**+1.4**
APPI	**Appiano**	**1.01**	**269**	Pg	**Pg**	**03 36 32.2**	**0.0**
	comp=Z,50nm,0.4s						
WTTA	**Wattenberg**	**1.05**	**317**	↑↑*i*Pg	**Pg**	**03 36 33.1**	**+0.2**
WTTA				↑↑*i*Sg	**Sg**	**03 36 47.4**	**+0.9**
	comp=Z,25nm,0.2s						
WATA	**Walderalm**	**1.13**	**318**	↓↓*i*Pg	**Pg**	**03 36 34.4**	**0.0**
WATA				↓↓*i*Sg	**Sg**	**03 36 50.3**	**+1.2**
	comp=Z,22nm,0.2s						
BGLD	**Berchtesgaden**	**1.17**	**11**	*e*Pg	**Pg**	**03 36 35.1**	**0.0**
BGLD				*i* Sg	**Sg**	**03 36 51.2**	**+0.9**
SQTA	**Sankt Quirin**	**1.25**	**306**	↑↑*i*Pg	**Pg**	**03 36 36.6**	**0.0**
SQTA				↑↑*i*Sg	**Sg**	**03 36 53.3**	**+0.6**
	comp=Z,24nm,0.3s						
SQTA	**Sankt Quirin**	**1.25**	**306**	Pg	**Pg**	**03 36 36.6**	**0.0**
SQTA				Sg	**Sg**	**03 36 53.3**	**+0.5**
	comp=Z,24nm,0.3s						
OBKA	**Obir**	**1.28**	**89**	↓↓*i*Pg	**Pg**	**03 36 36.0**	**-1.2**
OBKA				↓↓*i*Sg	**Sg**	**03 36 53.2**	**-0.6**
	comp=Z,18nm,0.2s						
TEOL	**Teolo**	**1.35**	**212**	↑*e*Pg	**Pg**	**03 36 38.1**	**-0.4**
TEOL				*e*Sg	**Sg**	**03 36 57.6**	**+1.5**
LJU	**Ljubljana**	**1.35**	**109**	*i* Pn	**Pn**	**03 36 39.3**	**+0.9**
LJU				*i* Sg	**Sg**	**03 36 58.6**	**+2.5**
LJU	**Ljubljana**	**1.35**	**109**	*i* Pn	**Pn**	**03 36 39.3**	**+0.9**
LJU				*i* Sg	**Sg**	**03 36 58.6**	**+2.5**
LJU							
	comp=Z,9.0nm,0.1s						
MOTA	**Moosalm**	**1.38**	**308**	↓↓*i*Pg	**Pg**	**03 36 38.7**	**-0.5**
MOTA				↓↓*i*Sg	**Sg**	**03 36 57.7**	**+0.7**
	comp=Z,20nm,0.4s						
CEY	**Cerknica**	**1.43**	**122**	*i* Pn	**Pn**	**03 36 39.7**	**+0.3**
CEY				*i* Sg	**Sg**	**03 37 01.1**	**+2.6**
CEY	**Cerknica**	**1.43**	**122**	*i* Pn	**Pn**	**03 36 39.7**	**+0.3**
CEY				*i* Sg	**Sg**	**03 37 01.1**	**+2.6**
CEY							
	comp=Z,11nm,0.1s						
CEY	**Cerknica**	**1.43**	**122**	*i* Pn	**Pn**	**03 36 39.7**	**+0.3**
CEY				*i* Sg	**Sg**	**03 37 01.1**	**+2.6**
	comp=Z,11nm,0.1s						
FETA	**Feichten**	**1.45**	**292**	↑↑*i*Pg	**Pg**	**03 36 40.0**	**-0.4**
FETA				↓↓*i*Sn	**Sn**	**03 36 59.0**	**-0.2**
	comp=Z,8.8nm,0.2s						
FETA				↑↑*i*Sg	**Sg**	**03 37 00.4**	**+1.2**
	comp=Z,8.8nm,0.2s						
MABI	**Malga Bissina**	**1.58**	**254**	Pg	**Pg**	**03 36 41.9**	**-1.1**
	comp=Z,24nm,0.7s						
BRMO	**Bormio**	**1.60**	**270**	Pg	**Pg**	**03 36 42.7**	**-0.8**
BRMO				Sg	**Sg**	**03 37 03.7**	**-0.6**
	comp=Z,19nm,0.4s						
MAGA	**Magasa**	**1.61**	**244**	Pg	**Pg**	**03 36 42.9**	**-0.7**
MAGA				Sg	**Sg**	**03 37 06.0**	**+1.5**
	comp=Z,136nm,0.5s						
SOKA	**Soboth**	**1.62**	**83**	↓↓*i*Pg	**Pg**	**03 36 42.2**	**-1.6**
SOKA				↑↑*i*Sg	**Sg**	**03 37 04.4**	**-0.4**

ML4.2
*NEIC **19** 04:39:35.3,3093S×7167W,h37km,mb4.3/1, MD4.3(GUC),After GUC.*
ISC 19 04:39:35.9±0.7,3089S±002×7179W±008,h39km±8km,n37, σ0§99/54,mb4.0/4,4C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.58**	**61**	⇓*i*P	**Pn**	**04 39 46.2**	**-1.5**
OVCH				*i* S	**Sn**	**04 39 54.4**	**-1.6**
CMCH	**Combarbala**	**0.74**	**113**	⇑*i*P	**Pn**	**04 39 47.4**	**-2.4**
CMCH				*i* S	**Sn**	**04 39 56.7**	**-3.1**
CMCH	**Combarbala**	**0.74**	**113**	⇑*i*P	**Pn**	**04 39 47.4**	**-2.4**
CMCH				*i* S	**Sn**	**04 39 56.7**	**-3.1**
CMCH				AML	AML	04 39 57.9	
	comp=N,28μm,0.7s						
LSCH	**La Serena**	**1.09**	**26**	*i* P	**Pn**	**04 39 54.7**	**+0.2**
LSCH				*i* S	**Sn**	**04 40 09.2**	**+0.9**
TLL	**Tololo Astrono**	**1.12**	**50**	⇓*i*P	**Pn**	**04 39 55.0**	**+0.1**
TLL				*i* S	**Sn**	**04 40 09.9**	**+0.8**
TLL	**Tololo Astrono**	**1.12**	**50**	⇓*i*P	**Pn**	**04 39 55.0**	**+0.1**
TLL				*i* S	**Sn**	**04 40 09.9**	**+0.8**
TLL				AML	AML	04 40 14.4	
	comp=N,8μm,0.3s						
LCO	**Las Campanas**	**2.10**	**27**	*e*Pn	**Pn**	**04 40 08.7**	**+0.3**
PEL	**Peldehue**	**2.44**	**158**	*e*P	**Pn**	**04 40 12.6**	**-0.5**
PEL				*e*S	**Sn**	**04 40 43.8**	**+2.1**
PEL				AML	AML	04 40 52.7	
	comp=E,3μm,0.5s						
VACH	**Vallenar**	**2.48**	**22**	*e*P	**Pn**	**04 40 14.3**	**+0.6**
VACH				*i* S	**Sn**	**04 40 43.7**	**+1.1**
CLCH	**Cerro Calan**	**2.72**	**157**	*e*P	**Pn**	**04 40 16.9**	**-0.1**
CLCH				*i* S	**Sn**	**04 40 49.1**	**+0.5**
CLCH				AML	AML	04 41 03.4	
	comp=E,2μm,0.4s						
RCDM	**Rinconada Maip**	**2.72**	**162**	⇑*i*P	**Pn**	**04 40 16.6**	**-0.5**
RCDM				*i* S	**Sn**	**04 40 48.9**	**+0.1**
RCDM	**Rinconada Maip**	**2.72**	**162**	⇑*i*P	**Pn**	**04 40 16.6**	**-0.5**
RCDM				*i* S	**Sn**	**04 40 48.9**	**+0.1**
RCDM				AML	AML	04 41 00.1	
	comp=E,621nm,0.4s						
FCH	**Farellones**	**2.75**	**153**	*e*P	**Pn**	**04 40 17.6**	**+0.2**
FCH				*i* S	**Sn**	**04 40 50.5**	**+1.2**
FCH				AML	AML	04 41 06.7	
	comp=E,570nm,0.6s						
FSR	**Penalolen**	**2.80**	**158**	*e*P	**Pn**	**04 40 18.0**	**0.0**
FSR				*i* S	**Sn**	**04 40 50.1**	**-0.4**
FSR	**Penalolen**	**2.80**	**158**	*e*P	**Pn**	**04 40 18.0**	**0.0**
FSR				*i* S	**Sn**	**04 40 50.1**	**-0.4**
FSR				AML	AML	04 41 02.3	
	comp=E,1μm,0.5s						
TACH	**Talagante**	**2.85**	**166**	*e*P	**Pn**	**04 40 18.2**	**-0.6**
PCH	**Pirque**	**2.93**	**159**	*e*P	**Pn**	**04 40 19.9**	**-0.1**
CFAA	**Coronel Fontan**	**3.13**	**104**	Pn	**Pn**	**04 40 25.1**	**+2.4**
	comp=E,4.5nm,0.3s,baz=299,slow=11,SNR=139						
CFAA				Sn	**Sn**	**04 41 06.0**	**+7.3**
	comp=E,12nm,0.3s,baz=166,slow=21,SNR=16						
CHCH	**Chadas Angostu**	**3.19**	**163**	*e*P	**Pn**	**04 40 23.1**	**-0.4**
LMEL	**Las Melosas**	**3.24**	**156**	*e*P	**Pn**	**04 40 24.2**	**0.0**
LMEL				*i* S	**Sn**	**04 41 01.3**	**-0.2**
LMEL	**Las Melosas**	**3.24**	**156**	*e*P	**Pn**	**04 40 24.2**	**0.0**
LMEL				*i* S	**Sn**	**04 41 01.3**	**-0.2**
LMEL				AML	AML	04 41 13.2	
	comp=E,514nm,0.4s						
CACH	**El Canelo**	**3.37**	**163**	*e*P	**Pn**	**04 40 26.2**	**+0.2**
CICH	**Cipreses**	**3.61**	**162**	*e*P	**Pn**	**04 40 29.5**	**+0.3**
SFDO	**San Fernando**	**3.77**	**170**	*e*P	**Pn**	**04 40 31.5**	**0.0**
TRQA	**Tornquist**	**10.80**	**134**	*e*Pn	**Pn**	**04 42 08.2**	**+0.4**
	comp=E,8.5nm,0.8s						
CPUP	**Villa Florida**	**13.49**	**74**	*e*Pn	**Pn**	**04 42 41.7**	**-3.0**
CPUP				Sn	**Sn**	**04 45 14.7**	**+1.4**
CPUP	**Villa Florida**	**13.49**	**74**	Pn	**Pn**	**04 42 42.4**	**-2.3**
	comp=E,0.5nm,0.3s,baz=240,slow=12,SNR=4.2						
CPUP				Sn	**Sn**	**04 45 14.7**	**+1.4**
	comp=E,0.8nm,0.3s,baz=220,slow=11,SNR=3.4						
LPAZ	**La Paz**	**14.91**	**14**	*e*P	**Pn**	**04 43 05.6**	**+1.5**
	comp=E,2.0nm,0.8s						
LPAZ	**La Paz**	**14.91**	**14**	Pn	**Pn**	**04 43 04.3**	**+0.3**
	comp=E,0.1nm,0.3s,baz=195,slow=7.8,SNR=10						
SIV	**San Ignacio**	**17.78**	**36**	P	**Pn**	**04 43 38.3**	**-2.0**
	comp=E,0.1nm,0.3s,baz=223,slow=14,SNR=6.7						
BDFB	**Brasilia**	**26.52**	**60**	P	**P**	**04 45 09.1**	**-0.8**
	comp=E,0.7nm,0.5s,mb3.4,baz=206,slow=19,SNR=3.4						
AMTX	**Amarillo**	**71.22**	**334**	*e*P	**P**	**04 50 50.2**	**-0.6**
	comp=E,1.6nm,0.5s,mb4.2						
DBIC	**Dimbokro**	**74.00**	**72**	P	**P**	**04 51 07.9**	**+0.1**
	comp=E,1.5nm,0.5s,mb4.2,baz=212,slow=9.5,SNR=3.8						
TOA0	**Torodi Ar. Sit**	**82.96**	**70**	*e*P	**P**	**04 51 57.4**	**+0.2**
TORD	**Torodi Ar. Bea**	**82.96**	**70**	P	**P**	**04 51 57.2**	**0.0**
	comp=E,4.3nm,1.4s,mb4.3,baz=235,slow=3.9,SNR=11						
WRA	**Warramunga Arr**	**123.57**	**210**	PKP	PKPdf	04 58 28.9	-0.8
	comp=E,0.5nm,0.9s,baz=142,slow=2.9,SNR=5.2						
ZALV	**Zalesovo Beam**	**151.46**	**29**	PKPbc	PKPbc	04 59 24.6	-0.4
	comp=E,0.9nm,0.4s,baz=300,slow=2.8,SNR=3.6						

*IDC **19** 04:59:27.8±2.7,8.14N×8300W,h0km,mb3.9/4,mb1 4.1/5, mb1mx3.8/20,mbtmp3.9/5,ML4.1/1,MS3.4/6,Ms1 3.4/6, ms1mx3.1/36,Error ellipse: s-maj=100.1km s-min=20.4km az=39.0*
*ISCJB **19** 04:59:31.6±1.2,8.1N±0.1×8278W±007,h44km±8km, mb4.0/13,MS3.6/3,Error ellipse: s-maj=21.7km s-min=8.5km az=25.5*
*NEIC **19** 04:59:31.1±4.8,784N×8297W,h33km±32km,mb4.0/9, Error ellipse: s-maj=30.1km s-min=12.2km az=212.0*
*CASC **19** 04:59:33.3±2.4,833N×8281W,h6km±12km,MD4.4,ML3.6, mb4.0(NEIC)*
ISC 19 04:59:35.2±1.2,83N±01×8276W±008,h45km±7km,n46, σ1§26/40,mb4.0/13,MS3.6/3,1C-2D,Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.34**	**66**	*e*P	**Pn**	**04 59 41.5**	**-2.8**
BAR1		**1.08**	**330**	*e*P	**Pn**	**04 59 51.4**	**-2.6**
CNI	**Changuinola**	**1.14**	**12**	⇓*i*P	**Pn**	**04 59 53.8**	**-1.0**
BUS	**Buena Vista**	**1.59**	**322**	*e*P	**Pn**	**04 59 59.4**	**-1.5**
URSC	**Urasca**	**1.82**	**327**	*e*P	**Pn**	**05 00 03.2**	**-1.0**
LCR2	**La Lucha 2**	**1.89**	**320**	*e*P	**Pn**	**05 00 03.8**	**-1.1**
LAJ	**Bijagual**	**2.05**	**319**	*e*P	**Pn**	**05 00 08.5**	**+1.3**
SJS	**Escuela Geolog**	**2.07**	**322**	*e*S	**Sn**	**05 00 33.9**	**+1.8**
PRS1	**Puriscal**	**2.27**	**318**	*e*P	**Pn**	**05 00 09.1**	**-1.1**
CGA2	**Cerro Gallo 2**	**2.39**	**316**	*e*P	**Pn**	**05 00 11.6**	**-0.3**
CGA2				*e*S	**Sn**	**05 00 42.7**	**+2.6**
AZU	**Azuero**	**2.52**	**101**	⇓*i*P	**Pn**	**05 00 15.5**	**+1.8**
JCR	**Jicaral**	**2.78**	**304**	*e*P	**Pn**	**05 00 16.8**	**-0.5**
FORC	**Fortuna**	**2.86**	**319**	*i* P	**Pn**	**05 00 19.8**	**+1.4**
JTS	**JuntasAbangare**	**2.93**	**313**	Pn	**Pn**	**05 00 16.8**	**-2.5**
	27nm,0.3s,baz=134,slow=23,SNR=82						
JTS				Sn	**Sn**	**05 00 52.2**	**-1.1**
	53nm,0.3s,baz=321,slow=21,SNR=9.6						
JTS				Lg		05 00 58.4	
	70nm,0.3s,baz=345,slow=20,SNR=11						
JTS				LR	LR	05 01 38.2	
	comp=Z,440nm,18.5s,baz=147,slow=45						
BCIP	**Isla Barro Col**	**3.02**	**73**	*e*Pn	**Pn**	**05 00 21.1**	**+0.6**
BCIP				*e*Sn	**Sn**	**05 01 07.5**	**+12**
2RIO	**Dos Rios de Up**	**3.29**	**312**	*i* P	**Pn**	**05 00 29.7**	**+5.4**
CUI		**3.34**	**315**	*i* P	**Pn**	**05 00 25.4**	**+0.4**
VCR	**Vista de Mar**	**3.36**	**303**	*e*P	**Pn**	**05 00 24.1**	**-1.1**
LIM1	**Limonal**	**3.42**	**314**	*i* P	**Pn**	**05 00 27.5**	**+1.4**
MADN	**Villa Maderas**	**4.12**	**319**	*e*P	**Pn**	**05 00 36.8**	**+1.1**
MADN				*i*		05 00 47.1	
	comp=Z,164nm,0.5s						
SSNN	**San Juan del S**	**4.25**	**315**	*e*P	**Pn**	**05 00 38.5**	**+1.0**
CONN	**Concepcion**	**4.30**	**319**	*e*P	**Pn**	**05 00 39.2**	**+1.1**
TGUH	**Tegucigalpa,Un**	**7.23**	**323**	*e*Pn	**Pn**	**05 01 19.7**	**+1.3**
	comp=Z,39nm,0.7s						
TEIG	**Tepich**	**13.00**	**336**	LR	LR	05 07 21.2	
	comp=Z,74nm,21.3s,baz=238,slow=36						
SJG	**San Juan**	**18.87**	**57**	LR	LR	05 10 37.4	
	comp=Z,81nm,18.1s,baz=175,slow=35						
PTP	**Ponta Puerca**	**19.37**	**58**	⇑*i*P	Px	04 59 36.6	
TXAR	**Lajitas Array**	**28.70**	**320**	LR	LR	05 17 05.2	
	comp=Z,57nm,20.6s,MS3.2,baz=0.0,slow=37						
PFO	**Pinyon Flat Ob**	**39.99**	**314**	LR	LR	05 23 31.8	
	comp=Z,58nm,20.6s,MS3.4,baz=146,slow=36						
RSSD	**Black Hills**	**40.21**	**336**	*e*P	**P**	**05 07 06.2**	**-1.1**
	comp=Z,2.1nm,0.9s,mb3.9						
HWUT	**Hardware Ranch**	**41.82**	**327**	*e*P	**P**	**05 07 20.9**	**+0.3**
	comp=Z,1.6nm,0.8s,mb3.7						
CPUP	**Villa Florida**	**42.37**	**145**	*e*P	**P**	**05 07 20.1**	**-5.2**
	comp=Z,13nm,1.0s,mb4.5						
REDW	**Red Top Meadow**	**42.70**	**330**	*e*P	**P**	**05 07 28.1**	**+0.3**
	comp=Z,17nm,1.8s,mb4.5						
TPAW	**Teton Pass**	**42.84**	**330**	*e*P	**P**	**05 07 29.3**	**+0.4**
	comp=Z,2.3nm,0.9s,mb3.9						
MOOW	**Moose Ponds**	**42.93**	**330**	*e*P	**P**	**05 07 30.1**	**+0.5**
	comp=Z,1.0nm,0.6s,mb3.7						
ULM	**Lac du Bonnet**	**43.22**	**348**	P	**P**	**05 07 30.9**	**-0.9**
	comp=Z,4.9nm,0.9s,mb4.2,baz=180,slow=8.1,SNR=4.8						
NVAR	**Mina Array Bea**	**43.84**	**319**	P	**P**	**05 07 35.8**	**-1.2**
	comp=Z,1.4nm,0.8s,mb3.8,baz=130,slow=8.3,SNR=5.2						
BOZ	**Bozeman (W)**	**44.75**	**331**	*e*P	**P**	**05 07 44.7**	**+0.5**
	comp=Z,1.8nm,0.9s,mb3.9						
WVOR	**Wild Horse Val**	**46.36**	**323**	*e*P	**P**	**05 07 58.0**	**+1.0**
	comp=Z,2.6nm,0.7s,mb4.3						
NEW	**Newport**	**49.26**	**330**	*e*P	**P**	**05 08 17.2**	**-2.1**
	comp=Z,1.2nm,0.8s,mb4.0						
YKA	**Yellowknife Ar**	**58.84**	**343**	P	**P**	**05 09 28.4**	**-0.5**
YKA	**Yellowknife Ar**	**58.84**	**343**	P	**P**	**05 09 28.4**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=139,slow=6.9,SNR=14						
TORD	**Torodi Ar. Bea**	**82.79**	**78**	P	**P**	**05 11 56.4**	**+1.0**
	comp=Z,0.5nm,0.9s,mb3.5,baz=289,slow=5.0,SNR=3.6						
VRAC	**Vranov**	**89.82**	**40**	LR	LR	05 47 44.6	
	comp=Z,129nm,21.6s,MS4.3,baz=64,slow=32						
ASAR	**Alice Springs**	**141.73**	**242**	PKP		05 18 55.3	
ASAR	**Alice Springs**	**141.73**	**242**	PKhKP		05 18 55.3	
	comp=Z,0.2nm,0.3s,baz=123,slow=3.6,SNR=4.5						
WRA	**Warramunga Arr**	**142.30**	**248**	PKP	PKPdf	05 18 59.9	-3.8
	comp=Z,0.7nm,1.0s,baz=122,slow=2.2,SNR=5.4						

*NEIC **19** 05:02:13.4,3095S×7169W,h16km,ML3.2(GUC),After GUC.*
GUC 19 05:02:13.4±0.7,3095S×7169W,h16km±9km,MD4.0, ML3.2,2C-3D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.54**	**51**	⇓*i*P	Pg	05 02 24.1	0.0
OVCH				*i* S	Sg	05 02 32.1	+0.7
CMCH	**Combarbala**	**0.63**	**111**	⇑*i*P	Pg	05 02 25.3	-0.5
CMCH				*i* S	Sg	05 02 34.6	+0.3
CMCH				AML	AML	05 02 34.8	
	comp=E,4μm,0.2s						
TLL	**Tololo Astrono**	**1.09**	**45**	⇓*i*P	Pb	05 02 33.0	-1.0
TLL				*i* S	Sb	05 02 47.6	-0.4
TLL	**Tololo Astrono**	**1.09**	**45**	⇓*i*P	Pb	05 02 33.0	-1.0
TLL				*i* S	Sb	05 02 47.6	-0.4
TLL				AML	AML	05 02 52.7	
	comp=N,591nm,0.4s						
LSCH	**La Serena**	**1.11**	**20**	⇑*i*P	Pb	05 02 32.8	-1.5
LSCH				*i* S	Sb	05 02 47.5	-1.0
LCO	**Las Campanas**	**2.12**	**24**	*e*Pn	Pn	05 02 47.3	-0.9
LCO				*e*Sn	Sn	05 03 13.9	-0.3
PEL	**Peldehue**	**2.35**	**159**	*e*P	Pn	05 02 51.9	+0.5
PEL				*i* S	Sn	05 03 22.2	+2.3
PEL				AML	AML	05 03 30.7	
	comp=E,240nm,0.4s						
FCH	**Farellones**	**2.65**	**154**	*e*P	Pn	05 02 57.3	+1.7
FCH				*i* S	Sn	05 03 30.4	+3.1
FCH				AML	AML	05 03 38.1	
	comp=E,68nm,0.2s						
LMEL	**Las Melosas**	**3.15**	**157**	*e*P	Pn	05 03 04.0	+1.6
LMEL				S	Sn	05 03 39.5	-0.2
LMEL	**Las Melosas**	**3.15**	**157**	*e*P	Pn	05 03 04.0	+1.6
LMEL				*i* S	Sn	05 03 39.5	-0.2
LMEL				AML	AML	05 03 55.9	
	comp=N,86nm,0.2s						

*NEIC **19** 05:08:53.4,3809S×17625E,h157km,MG3.9(WEL),After WEL.*
WEL 19 05:08:53.5±0.3,3810S×17628E,h157km±2km,ML3.7/9, Error ellipse: s-maj=2.2km s-min=1.8km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.67**	**104**	P	Pn	05 09 16.6	+0.1
URZ	**Urewera**	**0.67**	**104**	PN	Pn	05 09 16.6	0.0
URZ				SN	Sn	05 09 34.2	+0.1
KATZ	**Kakaramea**	**0.98**	**208**	P	Pn	05 09 19.3	+0.5
KATZ	**Kakaramea**	**0.98**	**208**	PN	Pn	05 09 19.3	+0.5
MWZ	**Matawai**	**1.01**	**104**	P	Pn	05 09 19.4	+0.4
MWZ	**Matawai**	**1.01**	**104**	PN	Pn	05 09 19.4	+0.4
BKZ	**Black Stump Fm**	**1.07**	**171**	P	Pn	05 09 19.7	+0.2
BKZ				S	Sn	05 09 39.4	-0.1
BKZ	**Black Stump Fm**	**1.07**	**171**	PN	Pn	05 09 19.7	+0.1
BKZ				SN	Sn	05 09 39.4	-0.2
KRVZ	**Karewarewa**	**1.11**	**207**	PN	Pn	05 09 20.1	+0.3
WTVZ	**West Tongariro**	**1.15**	**208**	P	Pn	05 09 20.0	-0.1
WTVZ	**West Tongariro**	**1.15**	**208**	PN	Pn	05 09 20.0	-0.2
OTVZ	**Oturere**	**1.16**	**204**	PN	Pn	05 09 20.8	+0.5
TWVZ	**Taurewa**	**1.17**	**214**	P	Pn	05 09 20.5	+0.1
TWVZ	**Taurewa**	**1.17**	**214**	PN	Pn	05 09 20.5	+0.2
NGZ	**Ngauruhoe**	**1.20**	**206**	PN	Pn	05 09 21.0	+0.4
TUVZ	**Tukino**	**1.26**	**203**	P	Pn	05 09 21.5	+0.3
TUVZ	**Tukino**	**1.26**	**203**	PN	Pn	05 09 21.5	+0.3
FWVZ	**Far West T-bar**	**1.28**	**206**	PN	Pn	05 09 21.7	+0.3
TRVZ	**Turoa**	**1.32**	**205**	PN	Pn	05 09 21.5	-0.3
MKAZ	**Moumakai**	**1.33**	**318**	P	Pn	05 09 21.5	-0.4
MKAZ	**Moumakai**	**1.33**	**318**	PN	Pn	05 09 21.5	-0.3
WNVZ	**Wahianoa**	**1.33**	**203**	P	Pn	05 09 22.0	+0.1
WNVZ	**Wahianoa**	**1.33**	**203**	PN	Pn	05 09 22.0	+0.1
MOVZ	**Moawhango**	**1.37**	**197**	P	Pn	05 09 21.9	-0.3
MOVZ	**Moawhango**	**1.37**	**197**	PN	Pn	05 09 21.9	-0.3
PKVZ	**Pokaka**	**1.39**	**211**	PN	Pn	05 09 22.5	+0.1
KNZ	**Kokohu**	**1.43**	**130**	P	Pn	05 09 23.2	+0.4
KNZ	**Kokohu**	**1.43**	**130**	PN	Pn	05 09 23.2	+0.4
PUZ	**Puketiti**	**1.56**	**89**	P	Pn	05 09 24.1	-0.1
PUZ	**Puketiti**	**1.56**	**89**	PN	Pn	05 09 24.1	-0.1
MXZ	**Matakaoa Point**	**1.69**	**72**	P	Pn	05 09 25.7	+0.1
MXZ	**Matakaoa Point**	**1.69**	**72**	PN	Pn	05 09 25.7	+0.1
WAZ	**Wanganui**	**1.93**	**211**	P	Pn	05 09 27.8	-0.5
WAZ	**Wanganui**	**1.93**	**211**	PN	Pn	05 09 27.8	-0.4
WPHZ	**Waipukurau**	**1.96**	**176**	PN	Pn	05 09 28.1	-0.4
TSZ	**Takapari Road**	**1.97**	**187**	P	Pn	05 09 28.0	-0.6
TSZ	**Takapari Road**	**1.97**	**187**	PN	Pn	05 09 28.0	-0.7
PXZ	**Pawanui**	**1.98**	**167**	PN	Pn	05 09 28.5	-0.2
MRZ	**Mangatainoka R**	**2.61**	**192**	P	Pn	05 09 34.5	-1.8
MRZ	**Mangatainoka R**	**2.61**	**192**	PN	Pn	05 09 34.5	-1.8
TIWZ	**Tintock**	**2.69**	**186**	PN	Pn	05 09 35.6	-1.6
HOWZ	**Holdsworth Sta**	**2.85**	**192**	PN	Pn	05 09 37.0	-2.2
KIW	**Kapiti Island**	**2.95**	**201**	PN	Pn	05 09 38.0	-2.5
MTW	**Mount Morrison**	**3.11**	**191**	P	Pn	05 09 39.8	-2.7
MTW	**Mount Morrison**	**3.11**	**191**	PN	Pn	05 09 39.8	-2.6
CAW	**Cannon Point**	**3.14**	**197**	PN	Pn	05 09 40.3	-2.6
DUWZ	**D'Urville Isla**	**3.26**	**213**	PN	Pn	05 09 41.5	-2.8
TRWZ	**Traveller**	**3.32**	**188**	PN	Pn	05 09 42.6	-2.6
PAWZ	**Paruwai Farm**	**3.34**	**191**	P	Pn	05 09 42.6	-2.8
PAWZ	**Paruwai Farm**	**3.34**	**191**	PN	Pn	05 09 42.6	-2.8
MRW	**Makara Radio**	**3.35**	**201**	P	Pn	05 09 42.6	-2.9
MRW	**Makara Radio**	**3.35**	**201**	PN	Pn	05 09 42.6	-2.9
MSWZ	**Moikau Station**	**3.40**	**193**	P	Pn	05 09 43.2	-3.0
MSWZ	**Moikau Station**	**3.40**	**193**	PN	Pn	05 09 43.2	-2.9
SNZO	**South Karori**	**3.42**	**200**	P	Pn	05 09 43.3	-3.2
SNZO	**South Karori**	**3.42**	**200**	PN	Pn	05 09 43.3	-3.1
TCW	**Tory Channel**	**3.47**	**206**	P	Pn	05 09 43.9	-3.1
TCW	**Tory Channel**	**3.47**	**206**	PN	Pn	05 09 43.9	-3.1
PLWZ	**Palliser**	**3.55**	**193**	PN	Pn	05 09 44.8	-3.2
TUWZ	**Tuamarina**	**3.78**	**208**	PN	Pn	05 09 47.9	-3.1
NNZ	**Nelson**	**3.83**	**215**	P	Pn	05 09 48.0	-3.7
NNZ	**Nelson**	**3.83**	**215**	PN	Pn	05 09 48.0	-3.7
QRZ	**Quartz Range**	**3.98**	**226**	PN	Pn	05 09 49.7	-3.9
BSWZ	**Blackbirch Sta**	**4.05**	**206**	P	Pn	05 09 51.3	-3.2
BSWZ	**Blackbirch Sta**	**4.05**	**206**	PN	Pn	05 09 51.3	-3.2
THZ	**Tophouse**	**4.48**	**214**	P	Pn	05 09 55.9	-4.3
THZ	**Tophouse**	**4.48**	**214**	PN	Pn	05 09 55.9	-4.3
KHZ	**Kahutara**	**4.79**	**205**	P	Pn	05 10 00.4	-3.8
KHZ	**Kahutara**	**4.79**	**205**	PN	Pn	05 10 00.4	-3.8
DSZ	**Denniston Nort**	**5.01**	**222**	PN	Pn	05 10 01.8	-5.3
LTZ	**Lake Taylor**	**5.58**	**212**	P	Pn	05 10 09.7	-5.0
LTZ	**Lake Taylor**	**5.58**	**212**	PN	Pn	05 10 09.7	-5.0
MQZ	**McQueen's Vall**	**6.24**	**205**	PN	Pn	05 10 17.5	-5.8
ODZ	**Otahua Downs**	**8.12**	**210**	P	Pn	05 10 42.9	-5.4
ODZ	**Otahua Downs**	**8.12**	**210**	PN	Pn	05 10 42.9	-5.5

*ISCJB **19** 05:12:21.0±0.8,334N±0.1×13153E±009,h127km±6km, mb3.4/4,Error ellipse: s-maj=22.4km s-min=11.4km az=169.0*
*NEIC **19** 05:12:21.6±2.2,3326N×13151E,h133km±16km, MG3.1(JMA),Error ellipse: s-maj=85.0km s-min=13.3km az=165.0*
*IDC **19** 05:12:21.2±1.5,3324N×13144E,h128km±11km,mb3.3/4, mb1 3.5/5,mb1mx3.2/21,mbtmp3.3/5,Error ellipse: s-maj=49.6km s-min=26.6km az=178.0*
*JMA **19** 05:12:22.5±0.1,3355N×13152E,h115km±1km,M3.1*
ISC 19 05:12:22.0±0.8,334N±01×13153E±009,h122km±6km,n14, σ0§82/18,mb3.4/4,Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OIT2	**Oita 2**	**0.15**	**205**	P	**Pn**	**05 12 39.1**	**+0.3**
JKI	**Kunimi**	**0.22**	**9**	P	**Pn**	**05 12 38.5**	**-0.4**
JKI				S	**Sn**	**05 12 50.5**	**-1.2**
JUS	**Usuki**	**0.40**	**151**	P	**Pn**	**05 12 40.1**	**+0.5**
JUS				S	**Sn**	**05 12 53.3**	**+0.4**
JNU	**Nakatsue**	**0.62**	**242**	P	**Pn**	**05 12 41.4**	**+0.4**
	91nm,0.3s,baz=20,slow=8.4,SNR=503						
JNU				S	**Sn**	**05 12 55.2**	**0.0**
	19nm,0.3s,baz=120,slow=23,SNR=5.4						
JNA	**Nagahama**	**0.81**	**80**	P	**Pn**	**05 12 42.1**	**-0.3**
JNA				S	**Sn**	**05 12 57.1**	**-0.8**
KSRS	**Korea Array**	**4.99**	**325**	P	**Pn**	**05 13 36.2**	**+1.5**
	baz=148,slow=14,SNR=3.8						
MAJO	**Matsushiro**	**6.31**	**58**	*e*Pn	**Pn**	**05 13 53.4**	**+0.8**
MJAR	**Matsushiro Arr**	**6.31**	**58**	P	**Pn**	**05 13 53.7**	**+1.1**
	0.7nm,0.3s,baz=240,slow=13,SNR=8.3						
SONM	**Songino Array**	**23.76**	**315**	P	**P**	**05 17 23.3**	**+0.3**
	0.8nm,0.6s,mb3.2,baz=115,slow=9.7,SNR=3.5						
ARCES	**ARCESS Array B**	**64.41**	**338**	P	**P**	**05 22 43.7**	**-0.9**
ARCES	**ARCESS Array B**	**64.41**	**338**	P	**P**	**05 22 43.7**	**-0.9**
	3.6nm,1.0s,mb4.1,baz=46,slow=6.9,SNR=4.9						
FINES	**FINESS Array B**	**68.06**	**330**	P	**P**	**05 23 06.2**	**-1.7**
FINES	**FINESS Array B**	**68.06**	**330**	P	**P**	**05 23 06.2**	**-1.7**
	0.3nm,0.4s,mb3.5,baz=93,slow=7.0,SNR=4.4						
YKA	**Yellowknife Ar**	**70.83**	**27**	P	**P**	**05 23 25.0**	**+0.1**
	0.1nm,0.5s,mb2.9,baz=306,slow=6.3,SNR=4.5						

IDC 19 05:47:57.6±1.4,2194N×14312E,h0km,mb3.7/4, mb1 3.9/4,mb1mx3.5/19,mbtmp3.7/4,Error ellipse: s-maj=86.7km s-min=30.1km az=96.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.50**	**192**	P	P	05 55 54.9	+0.1
	0.1nm,0.3s,baz=17,slow=9.7,SNR=7.4						
YKA	**Yellowknife Ar**	**76.27**	**28**	P	P	05 59 48.4	+0.6
	0.3nm,0.8s,baz=290,slow=6.5,SNR=3.9						
ARCES	**ARCESS Array B**	**78.68**	**341**	P	P	06 00 02.0	+0.7
	1.5nm,0.9s,baz=68,slow=9.8,SNR=5.3						
FINES	**FINESS Array B**	**82.94**	**334**	P	P	06 00 22.7	-1.4
	0.5nm,0.5s,baz=66,slow=3.5,SNR=4.0						

*IDC **19** 06:01:57.9±2.3,1421S×16877E,h0km,mb4.1/6, mb1 4.2/6,mb1mx4.0/15,mbtmp4.0/6,MS3.1/2,Ms1 3.1/2, ms1mx2.9/26,Error ellipse: s-maj=96.4km s-min=29.0km az=139.0*
*ISCJB **19** 06:02:00.7±1.9,146S±04×1690E±04,h33km,mb4.0/7, Error ellipse: s-maj=71.9km s-min=21.1km az=136.2*
*NEIC **19** 06:02:02.9±1.6,1431S×16884E,h35km,mb4.2/2,Error ellipse: s-maj=62.2km s-min=19.0km az=138.0*
**ISC 19 06:02

1.3nm,0.3s,baz=30,slow=9.3,SNR=22
BATI Kupang 15.37 189 P **Pn 06 17 03.1 +1.4**
2.6nm,0.3s,baz=279,slow=1.5,SNR=7.7
BATI S **S 06 20 02.6 +0.8**
1.2nm,0.3s,baz=114,slow=20,SNR=3.3
KSM Kuching 16.25 258 P **Pn 06 17 13.4 +0.6**
KAKA Kakadu 18.71 161 *e*P **Pn 06 17 41.3 -1.4**
24nm,0.6s
NACB Ninganchiao 19.52 347 *e*P **Pn 06 17 47.4 -4.7**
GUMO Guam 20.27 64 LR LR 06 25 08.0
comp=Z,74nm,18.8s,baz=250,slow=34
QIZ Qiongzhong 21.15 312 P **P 06 18 06.9 -0.7**
JOW Kunigami 21.75 5 P **P 06 18 13.8 -0.1**
11nm,0.5s,mb4.5,baz=187,slow=20,SNR=8.4
JOW LR LR 06 25 24.1
comp=Z,115nm,21.0s,baz=263,slow=33
FITZ Fitzroy Crossi 23.02 181 *e*P **P 06 18 27.6 +0.4**
25nm,0.8s,mb4.6
FITZ *e*S **S 06 22 31.1 +0.3**
FITZ Fitzroy Crossi 23.02 181 P **P 06 18 27.4 +0.2**
14nm,0.7s,mb4.4,baz=12,slow=16,SNR=25
FITZ S **S 06 22 30.9 +0.1**
5.7nm,1.0s,baz=213,slow=18,SNR=3.4
FITZ ScP ScP 06 25 44.1 +0.3
2.2nm,0.6s,baz=258,slow=6.4,SNR=6.8
COEN Coen 25.32 138 *e*P **P 06 18 48.8 +0.6**
64nm,1.4s,mb4.9
WRAB Tennant Creek 26.10 162⇑ *e*P **P 06 18 54.5 -0.7**
WRAB Tennant Creek 26.10 162 *e*P **P 06 18 54.9 -0.2**
15nm,0.5s,mb4.7
WRA Warramunga Arr 26.10 162 P **P 06 18 55.1 -0.1**
WRA S **S 06 23 30.1 +10**
WRA Warramunga Arr 26.10 162 P **P 06 18 55.1 -0.1**
14nm,0.4s,mb4.7,baz=340,slow=10,SNR=121
WRA S **S 06 23 30.1 +10**
2.3nm,0.9s,baz=333,slow=16,SNR=5.4
WRA ScP ScP 06 25 53.1 +0.6
3.5nm,0.7s,baz=339,slow=3.4,SNR=14
WB2 Warramunga Arr 26.11 162 *e*P **P 06 18 55.1 -0.2**
WB2 *e*S **S 06 23 29.7 +10**
CBIJ Chichi jima 26.70 33 P **P 06 18 58.6 -2.0**
119nm,0.5s,mb5.7,baz=276,slow=8.8,SNR=7.0
CBIJ LR LR 06 27 56.8
comp=Z,333nm,19.2s,baz=143,slow=32
MBWA Marble Bar 26.81 193 *e*P **P 06 19 02.5 +0.9**
12nm,0.7s,mb4.5
PSI Prapat 27.29 266 P **P 06 19 07.2 +1.0**
2.1nm,0.5s,mb4.0,baz=131,slow=11,SNR=9.0
PSI ScP ScP 06 25 54.2 -2.0
3.6nm,0.6s,baz=245,slow=5.6,SNR=5.0
PSI LR LR 06 31 55.0
comp=Z,406nm,19.2s,baz=164,slow=41
NJ2 Nanjing 27.72 347 *e*P **P 06 19 10.3 +0.6**
NJ2 AP pP 06 19 31.1 +0.8
NJ2 XP sP 06 19 44.3 +3.3
NJ2 PP PP 06 20 02.5 -11
NJ2 PPP 06 20 15.4
NJ2 S **S 06 23 43.0 -2.5**
NJ2 XS sS 06 24 21.0 -0.4
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.0
NJ2 AMB AMB
comp=Z,230nm,10.8s
NJ2 LR LR
comp=N,310nm,15.6s
NJ2 LR LR
comp=E,290nm,13.6s
NJ2 LR LR
comp=Z,290nm,13.6s
JNU Nakatsue 28.26 8 P **P 06 19 13.8 -0.7**
comp=Z,13nm,0.8s,mb4.5,baz=339,slow=6.7,SNR=4.8
JNU LR LR 06 31 14.6
comp=Z,76nm,19.0s,baz=228,slow=38
GYA Guiyang 28.30 321 P **P 06 19 16.3 +1.4**
GYA AP pP 06 19 37.6 +2.0
GYA XP sP 06 19 49.0 +2.7
GYA PP PP 06 20 10.8 -10
GYA PCP PcP 06 22 27.8 +1.8
GYA S **S 06 23 54.3 -0.5**
GYA XS sS 06 24 31.0 +0.3
GYA SS SS 06 25 24.4 -34
GYA SCP ScP 06 25 58.6 -0.4
GYA PCS PcS 06 26 08.6 +0.1
GYA SCS ScS 06 29 50.3 -1.8
GYA AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
GYA AMB AMB
comp=Z,290nm,5.7s
GYA LR LR
comp=N,420nm,15.6s
GYA LR LR
comp=E,340nm,14.8s
GYA LR LR
comp=Z,420nm,15.0s
ASAR Alice Springs 29.52 166 P **P 06 19 25.9 +0.2**
ASAR 06 22 29.6
ASAR Alice Springs 29.52 166 P **P 06 19 25.9 +0.2**
comp=Z,3.5nm,0.7s,mb4.1,baz=345,slow=6.9,SNR=55
ASAR PcP PcP 06 22 29.6 +0.5
comp=Z,3.3nm,0.7s,baz=341,slow=2.2,SNR=7.9
ASAR ScP ScP 06 26 03.2 +0.4
comp=Z,4.9nm,0.9s,baz=344,slow=2.9,SNR=18
KMI Kunming 30.07 314 P **P 06 19 35.4 +4.8**
KMI AMB AMB
comp=Z,7.0nm,0.5s,mb4.5
CTA Charters Tower 31.83 142 *e*P **P 06 19 50.7 +4.5**
comp=Z,7.2nm,0.6s,mb4.6
CTA Charters Tower 31.83 142 *e*P **P 06 19 50.7 +4.5**
CTA pmax pmax
comp=Z,7.0nm,0.6s
CTA Charters Tower 31.83 142 P **P 06 19 49.0 +2.8**
comp=Z,8.5nm,0.6s,mb4.6,baz=325,slow=10,SNR=23
CTAO Charters Tower 31.83 142 *e*P **P 06 19 49.5 +3.3**
CTAO pmax pmax
comp=Z,9.0nm,0.6s,mb4.7
CTAO Charters Tower 31.83 142 *e*P **P 06 19 49.5 +3.4**
comp=Z,8.6nm,0.6s,mb4.7
KS15 Wonju Array Si 32.27 3 *e*P **P 06 19 50.0 +0.3**
KSRS Korea Array 32.28 3 P **P 06 19 50.0 0.0**
comp=Z,5.2nm,0.6s,mb4.5,baz=182,slow=10.0,SNR=23
KSRS LR LR 06 31 58.0
comp=Z,58nm,18.9s,baz=356,slow=34
XAN Xi'an 33.00 333 P **P 06 19 54.3 -1.9**
XAN AMB AMB
comp=Z,6.0nm,0.9s,mb4.4
MJAR Matsushiro Arr 33.22 18 P **P 06 19 56.2 -1.9**
comp=Z,2.1nm,0.8s,mb4.0,baz=194,slow=8.3,SNR=5.2
MJAR LR LR 06 31 52.9
comp=Z,98nm,20.1s,baz=225,slow=33
CD2 Chengdu 33.26 323 *e*P **P 06 19 58.3 -0.3**
CD2 AP pP 06 20 20.3 +0.8
CD2 XP sP 06 20 32.0 +1.9
CD2 PP PP 06 21 12.5 -3.0
CD2 S **S 06 25 09.8 -2.5**
CD2 XS sS 06 25 48.4 -0.1
CD2 SS SS 06 27 18.0 -21
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,20nm,5.8s
CD2 LR LR
comp=N,160nm,12.2s
CD2 LR LR
comp=Z,120nm,13.2s
FORT Forrest 35.68 177 *e*P **P 06 20 19.6 +0.3**
comp=Z,18nm,0.6s,mb5.2
BJT Baijiatuau 35.96 347 *e*P **P 06 20 20.7 -1.0**
BJT pmax pmax
comp=Z,9.0nm,0.6s
BJT Baijiatuau 35.96 347 *e*P **P 06 20 20.7 -1.0**
comp=Z,8.6nm,0.6s,mb4.9
BJI Beijing 35.98 347 P **P 06 20 20.8 -1.0**
BJI AP pP 06 20 41.4 -1.6
BJI XP sP 06 20 52.3 -1.2
BJI S **S 06 25 51.1 -2.7**
BJI AMB AMB
comp=Z,23nm,0.6s,mb5.3
BJI AMB AMB
comp=Z,119nm,4.7s
BJI LR LR
comp=N,150nm,11.9s
BJI LR LR
comp=E,116nm,12.2s
BJI LR LR
comp=Z,70nm,18.9s
SNY Shenyang 36.69 357 ⇑P **P 06 20 28.1 +0.3**
SNY AMB AMB
comp=Z,23nm,0.7s,mb5.2
LZH Lanzhou 37.09 329 *e*P **P 06 20 30.3 -1.1**
LZH AMB AMB
comp=Z,18nm,1.5s,mb4.8
LZH AMB AMB
comp=Z,83nm,4.3s
KLBR Kellerberrin 37.32 192 *e*P **P 06 20 33.6 +0.3**
comp=Z,24nm,1.1s,mb5.0
HHC Hu-ho-hao-te 37.98 342 *e*P **P 06 20 40.0 +1.2**
HHC AP pP 06 21 02.9 +2.9
HHC XP sP 06 21 14.3 +3.7
HHC PP PP 06 22 13.6 +6.3
HHC PCP PcP 06 22 53.8 +1.0
HHC S **S 06 26 24.1 0.0**
HHC XS sS 06 27 03.8 +3.0
HHC SS SS 06 29 07.8 -6.9
HHC SCS ScS 06 30 39.5 -2.1
HHC AMB AMB
comp=Z,21nm,1.2s,mb4.8
HHC AMB AMB
comp=Z,186nm,6.8s
HHC LR LR
comp=N,261nm,17.1s
HHC LR LR
comp=E,1μm,17.1s
HHC LR LR
comp=Z,331nm,15.5s
MUN Mundaring 38.04 194 *e*P **P 06 20 39.7 +0.4**
CN2 Changchun 38.59 359 *e*P **P 06 20 46.8 +2.9**
SHL Shillong 38.67 305 *e*P **P 06 20 45.0 +0.2**
NWAO Narrogin (SRO) 38.72 192 *e*P **P 06 20 45.8 +0.7**
NWAO pmax pmax
comp=Z,5.0nm,0.6s
NWAO Narrogin (SRO) 38.72 192 *e*P **P 06 20 45.8 +0.7**
comp=Z,4.7nm,0.6s,mb4.5
EIDS Eidsvold 38.72 143 *e*P **P 06 20 45.8 +0.6**
comp=Z,3.6nm,0.7s,mb4.3
MDJ Mudanjiang 39.51 4 P **P 06 20 52.3 +0.8**
MDJ AP pP 06 21 13.3 +0.4
MDJ XP sP 06 21 23.9 +0.5
MDJ PP PP 06 22 24.8 +0.8
MDJ SCP ScP 06 26 38.1 0.0
MDJ S **S 06 26 48.8 +1.7**
MDJ XS sS 06 27 26.0 +2.1
MDJ AMB AMB
comp=Z,30nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,39nm,3.7s
MDJ LR LR
comp=N,23nm,4.8s
MDJ LR LR
comp=E,118nm,4.3s
MDJ LR LR
comp=Z,234nm,4.5s
STKA Stephens Creek 39.55 159 *e*P **P 06 20 52.7 +0.7**
comp=Z,7.5nm,0.4s,mb4.9
STKA Stephens Creek 39.55 159 P **P 06 20 52.7 +0.7**
comp=Z,9.3nm,0.7s,mb4.7,baz=322,slow=5.7,SNR=13
STKA LR LR 06 37 30.9
comp=Z,162nm,19.1s,baz=216,slow=36
GTA Gaotai 41.69 329 *e*P **P 06 21 08.6 -1.0**
GTA AP pP 06 21 30.0 -1.1
GTA XP sP 06 21 42.3 +0.7
GTA PP PP 06 22 49.3 +1.6
GTA PCP PcP 06 23 05.5 +0.8
GTA PPP 06 23 20.8
GTA SCP ScP 06 26 46.4 -0.4
GTA PCS PcS 06 26 54.9 -1.2
GTA S **S 06 27 15.3 -4.4**
GTA XS sS 06 27 54.6 -2.1
GTA SS SS 06 30 17.3 -11
GTA AMB AMB
comp=Z,3.0nm,1.3s,mb3.9
GTA AMB AMB
comp=Z,118nm,6.5s
GTA LR LR
comp=N,107nm,16.0s
GTA LR LR
comp=E,195nm,14.4s
GTA LR LR
comp=Z,190nm,13.7s
ARMA Armidale 42.86 147 *e*P **P 06 21 20.6 +1.4**
HABR Khabarovsk 43.92 8 *e*P **P 06 21 26.9 -0.5**
HABR *e*S **S 06 27 52.3 +0.3**
HABR pmax pmax
comp=Z,35nm,1.0s,mb5.0
YSS Yuzh-Sakhalins 44.12 16⇑ *e*P **P 06 21 28.6 -0.5**
YSS pmax pmax
comp=Z,79nm,2.5s,mb5.0
KLR Kul'dur 44.27 5 *e*P **P 06 21 26.3 -3.9**
SONM Songino Array 45.88 341 P **P 06 21 41.6 -1.4**
comp=Z,1.4nm,0.6s,mb3.9,baz=160,slow=4.6,SNR=2.3
SONM PcP PcP 06 23 19.0 +0.3
comp=Z,2.1nm,0.6s,baz=152,slow=4.2,SNR=3.2
TLY Talaya 50.11 342⇑ *i*P **P 06 22 14.9 -0.6**
TLY Talaya 50.11 342 *e*P **P 06 22 16.9 +1.4**
WMQ Urumqi 51.34 325 *e*P **P 06 22 26.0 +1.1**
WMQ AMB AMB
comp=Z,28nm,1.0s,mb5.2
BOD Bodaibo 53.48 352 *e* **P 06 22 39.4 -1.1**
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
PET Petropavlovsk 54.73 23⇑ *e*P **P 06 22 49.6 0.0**
PET pmax pmax
comp=Z,44nm,1.6s,mb5.2
MK31 Makanchi Array 56.17 325 *e*P **P 06 22 59.1 -1.0**
MK31 *e*pP pP 06 23 18.9 -3.7
MKAR Makanchi Array 56.17 325 P **P 06 22 59.0 -1.1**
comp=Z,2.8nm,0.6s,mb4.5,baz=125,slow=8.1,SNR=40
MKAR ScP ScP 06 27 46.1 -1.9
comp=Z,1.6nm,0.8s,baz=114,slow=4.8,SNR=7.9
YAK Yakutsk 56.91 2 *e*P **P 06 23 04.0 -1.0**
YAK pmax pmax
comp=Z,34nm,0.9s,mb5.4
YAK pmax pmax
comp=N,19nm,1.3s
YAK pmax pmax
comp=E,6.0nm,1.2s
MA2 Magadan 57.56 15 *e*P **P 06 23 10.2 +0.5**
MA2 pmax pmax
comp=Z,30nm,0.7s,mb5.4
MA2 Magadan 57.56 15 *e*P **P 06 23 09.7 0.0**
comp=Z,16nm,0.7s,mb5.2
TKM2 Tokmak 2 58.40 318 *e*P **P 06 23 15.4 -0.5**
TKM2 pmax pmax
comp=Z,2.0nm,0.7s,mb4.3
TKM2 Tokmak 2 58.40 318 *e*P **P 06 23 15.4 -0.5**
comp=Z,2.0nm,0.7s,mb4.3
TKM2 *e*pP pP 06 23 36.1 -2.6
UCH Uchtor 58.84 317 *e*P **P 06 23 19.5 +0.6**
comp=Z,4.1nm,0.8s,mb4.5
UCH *e*pP pP 06 23 40.8 -0.9
ZALV Zalesovo Beam 59.17 333 P **P 06 23 18.8 -2.2**
comp=Z,1.5nm,0.4s,mb4.3,baz=119,slow=5.3,SNR=5.5
ZAL Zalesovo 59.17 333 P **P 06 23 18.8 -2.2**
AML Almayashu 59.36 317 *e*P **P 06 23 22.4 -0.1**
comp=Z,2.0nm,0.6s,mb4.3
KURK Kurchatov 60.34 327 *e*P **P 06 23 27.8 -1.3**
KURK *e*PP pP 06 23 46.8 -5.1
KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.8
KURK Kurchatov 60.34 327 *e*P **P 06 23 27.8 -1.3**
comp=Z,5.2nm,0.5s,mb4.8
KURK *e*pP pP 06 23 46.8 -5.2
SEY Seymchan 60.87 13⇑ *e*P **P 06 23 33.7 +1.2**
URZ Urewera 63.87 137 P **P 06 23 53.5 +0.5**
comp=Z,3.4nm,0.6s,mb4.3,baz=318,slow=5.5,SNR=3.7
BRVK Borovoye 66.00 327 *e*P **P 06 24 05.0 -1.4**
BRVK pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
BRVK Borovoye 66.00 327 *e*P **P 06 24 05.0 -1.5**
comp=Z,5.7nm,0.7s,mb4.5
TIXI Tiksi 66.53 1⇑ *e*P **P 06 24 08.7 -0.8**
TIXI pmax pmax
comp=Z,20nm,1.5s,mb4.7
TIXI Tiksi 66.53 1 *e*P **P 06 24 08.5 -1.1**
comp=Z,14nm,1.0s,mb4.7
BILL Bilibino 68.42 15 *e*P **P 06 24 21.0 -0.5**
BILL pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
BILL Bilibino 68.42 15 *e*P **P 06 24 21.0 -0.4**
comp=Z,5.3nm,0.6s,mb4.5
AKTO Aktyubinsk 72.29 321 LR LR 06 57 08.4
comp=Z,81nm,20.6s,baz=123,slow=36
SVE Sverdlovsk 72.56 328 *e*P **P 06 24 43.9 -3.0**
SVE pmax pmax
comp=Z,14nm,0.7s,mb4.9
UNV Unalaska Valle 72.65 35 *e*P **P 06 24 47.4 0.0**
comp=Z,26nm,0.8s,mb5.1
ARU Arti 73.54 328 *e*P **P 06 24 50.6 -2.0**
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.3
ARU Arti 73.54 328 *e*P **P 06 24 50.6 -2.1**
comp=Z,4.1nm,0.6s,mb4.3
SDPT Sand Point 76.41 34 *e*P **P 06 25 09.0 -0.2**
comp=Z,26nm,0.6s,mb5.1
CHGN Chignik 77.72 34 *e*P **P 06 25 15.8 -0.7**
SVW2 Sparrevohn 79.91 29 *e*P **P 06 25 29.4 +1.0**
TTA Tatalina 79.97 27 *e*P **P 06 25 29.6 +0.9**
KDAK Kodiak Island 81.06 32 *e*P **P 06 25 34.4 -0.3**
comp=Z,13nm,0.6s,mb4.9
KDAK Kodiak Island 81.06 32 P **P 06 25 35.1 +0.4**
comp=Z,12nm,0.6s,mb4.9,baz=250,slow=4.1,SNR=20
IMA2 Indian Mountai 81.39 24 *e*P **P 06 25 37.2 +0.9**
IMA2 *e*pP pP 06 26 01.9 +1.6
PMR Palmer 83.05 29 *e*P **P 06 25 44.8 -0.2**
PMR pmax pmax
comp=Z,19nm,1.0s,mb4.9
PMR Palmer 83.05 29 *e*P **P 06 25 44.8 -0.2**
comp=Z,19nm,1.0s,mb4.9
SML Sawmill 83.43 28 *e*P **P 06 25 47.3 +0.3**
SML *e*pP pP 06 26 11.4 +0.4
COLA College 83.73 25 *e*P **P 06 25 47.5 -0.9**
COLA pmax pmax
comp=Z,4.0nm,0.8s,mb4.3
COLA College 83.73 25 *e*P **P 06 25 47.5 -0.9**
comp=Z,3.5nm,0.8s,mb4.2
COLA *e*pP pP 06 26 13.4 +0.9
SOC Sochi 83.99 313 *e*P **P 06 25 57.1 +6.9**
SOC *e*S S 06 36 12.8 +5.7
SOC *e*SS SS 06 41 37.4 +0.3
SOC pmax pmax
comp=Z,80nm,1.1s,mb5.5
DIV Divide 84.66 29 *e*P **P 06 25 54.4 +1.2**
comp=Z,21nm,0.9s,mb5.1
VNDA Vanda 84.80 173 P **P 06 25 53.8 +0.3**
comp=Z,2.4nm,0.9s,mb4.2,baz=306,slow=6.5,SNR=13
EGAK Eagle 86.60 25 *e*P **P 06 26 02.4 -0.3**
comp=Z,2.1nm,0.6s,mb4.2
EGAK *e*pP pP 06 26 27.6 +0.7
JOF Joensuu 87.76 333 *e*p **P 06 26 05.6 -2.8**
comp=Z,3.3nm,0.5s,mb4.6
ARCES ARCESS Array B 89.03 340 P **P 06 26 13.1 -1.1**
comp=Z,4.2nm,0.6s,mb4.7,baz=79,slow=6.5,SNR=20
FINES FINESS Array B 90.42 332 *i* P **P 06 26 20.0 -0.9**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 90.42 332 P **P 06 26 19.4 -1.5**
comp=Z,0.8nm,0.4s,mb4.2,baz=86,slow=5.5,SNR=9.5
AKASG Malin Array Be 90.53 321 P **P 06 26 19.4 -2.3**
comp=Z,0.5nm,0.5s,mb3.9,baz=64,slow=3.2,SNR=4.3
NB2 NORSAR Subarra 97.37 334 P **P 06 26 50.9 -1.9**
comp=Z,1.1nm,0.6s,mb4.5,baz=65,slow=4.6
NOA NORSAR Array B 97.37 334 P **P 06 26 51.3 -1.5**
comp=Z,1.6nm,0.7s,mb4.5,baz=66,slow=4.5,SNR=5.5
YKA Yellowknife Ar 98.52 24 *i* P **P 06 26 57.7 -0.2**
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 98.52 24 P **P 06 26 57.8 -0.1**
YKA PKKPbc PKKPbc 06 43 25.7 -4.2
YKA Yellowknife Ar 98.52 24 P **P 06 26 57.8 -0.1**
comp=Z,1.4nm,0.8s,mb4.5,baz=300,slow=4.5,SNR=18
YKA PKKPbc PKKPbc 06 43 25.7 -4.2
comp=Z,0.1nm,0.5s,baz=122,slow=2.8,SNR=5.0
ANMO Albuquerque 116.52 47⇑ *i*PKIKP PKPdf 06 32 02.9 -0.8
TXAR Lajitas Array 121.20 51 PKP PKPdf 06 32 12.6 -0.2
comp=Z,0.5nm,0.6s,baz=226,slow=0.5,SNR=6.1
TORD Torodi Ar. Bea 121.99 289 PKP PKPdf 06 32 13.9 -0.7
comp=Z,2.8nm,0.7s,baz=68,slow=1.6,SNR=21
JCT Junction City 123.59 48 *e*PKIKP PKPdf 06 32 18.0 +0.6
DBIC Dimbokro 129.77 283 SKPbc 06 35 43.0
comp=Z,7.8nm,0.7s,baz=63,slow=2.9,SNR=11
PLCA Paso Flores 141.43 159 PKP PKPdf 06 32 49.5 -1.1
comp=Z,1.1nm,0.7s,baz=185,slow=1.3,SNR=5.8
PLCA SKPbc SKPbc 06 36 21.1 +1.5
comp=Z,2.1nm,0.9s,baz=136,slow=2.9,SNR=4.0
JTS JuntasAbangare 145.44 64 *e*PKP2 PKPab 06 32 58.6 -0.1
MTP Monte Pirata 154.24 26 *e*PKPab PKPab 06 33 34.4 +0.1
LPAZ La Paz 162.06 130 PKP PKPdf 06 33 22.5 +1.0
comp=Z,0.7nm,0.5s,baz=261,slow=4.2,SNR=3.5

ISCJB ***19*** *06:56:15.3*±*0.5,3901N*±*002×2331E*±*004,h12km*±*4km,*
Error ellipse: s-maj=4.7km s-min=3.6km az=175.2
CSEM ***19*** *06:56:15.9*±*0.1,3899N×2331E,h15km,ML3.2,Error*
ellipse: s-maj=1.9km s-min=1.6km az=93.0
ATH ***19*** *06:56:15.4,3901N×2329E,h24km*±*1km,MD3.1/9,ML3.2*
NEIC ***19*** *06:56:15.4,3901N×2329E,h24km,ML3.2(ATH),*
ML3.1(THE),After ATH.
THE ***19*** *06:56:16.3,3899N×2329E,h9km,ML3.1*
ISC 19 06:56:15.9±**0.4,3901N**±**002×2331E**±**004,h16**km±**4km,n19,**
σ0°**57/36,2C,Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.31**	**347⇑**	*i*PB	**Pg**	**06 56 22.6**	**+0.2**
NEO				*e*SB	**Sg**	**06 56 27.0**	**+0.2**
XOR	**Xorichti**	**0.37**	**346**	*e*Pg	**Pg**	**06 56 23.8**	**+0.3**
XOR				*e*Sg	**Sg**	**06 56 29.8**	**+1.1**
LKR	**Lokris**	**0.43**	**215**	*e*Pg	**Pg**	**06 56 24.5**	**0.0**
LKR				*e*Sg	**Sg**	**06 56 30.1**	**-0.3**
LKR	**Lokris**	**0.43**	**215⇑**	*i*PB	**Pb**	**06 56 24.4**	**-0.7**
LKR				*e*SB	**Sg**	**06 56 30.1**	**-0.3**
AOS	**Alonnisos**	**0.47**	**69**	*e*Pg	**Pg**	**06 56 25.5**	**+0.1**
AOS				*e*Sg	**Sg**	**06 56 32.5**	**+0.8**
AGG	**Agios Georgios**	**0.76**	**272**	*e*Pg	**Pg**	**06 56 30.3**	**-0.5**
AGG				*e*Sg	**Sg**	**06 56 41.0**	**+0.2**
PTL	**Penteli**	**1.05**	**155**	*e*PN	**Pn**	**06 56 36.0**	**+0.1**
PTL				*e*SN	**Sn**	**06 56 50.5**	**+0.3**
ATH	**Athens Observa**	**1.08**	**163**	*e*PN	**Pn**	**06 56 35.6**	**-0.7**
ATH				*e*SN	**Sn**	**06 56 51.0**	**+0.1**
THL	**Klokotos Trika**	**1.15**	**299**	*e*Pg	**Pg**	**06 56 38.2**	**+0.1**
THL				*e*Sg	**Sg**	**06 56 53.5**	**+0.4**
THL	**Klokotos Trika**	**1.15**	**299**	*e*PN	**Pn**	**06 56 37.5**	**+0.2**
THL				*e*SN	**Sn**	**06 56 53.0**	**+0.3**
THL	**Klokotos Trika**	**1.15**	**299**	*e*Pg	**Pg**	**06 56 38.2**	**+0.1**
THL				*e*Sn	**Sn**	**06 56 53.0**	**+0.3**
THL				*e*Sg	**Sg**	**06 56 53.5**	**+0.4**
EVR	**Evrytania**	**1.18**	**266**	*e*PN	**Pn**	**06 56 37.8**	**+0.2**
NAIG	**Nisos Aigina**	**1.25**	**174**	*e*PN	**Pn**	**06 56 39.5**	**+0.8**
LIT	**Litokhoron**	**1.27**	**330**	*e*Pg	**Pg**	**06 56 39.5**	**-0.8**
LIT				*e*Sg	**Sg**	**06 56 57.3**	**+0.5**
PLG	**Polygyros**	**1.37**	**4**	*e*Pg	**Pg**	**06 56 41.0**	**-1.2**
PLG				*e*Sg	**Sg**	**06 56 59.4**	**-0.8**
PLG	**Polygyros**	**1.37**	**4**	*e*PN	**Pn**	**06 56 41.1**	**+0.7**
PLG				*e*SN	**Sn**	**06 56 57.8**	**-0.4**
PLG	**Polygyros**	**1.37**	**4**	*e*Pg	**Pg**	**06 56 41.0**	**-1.3**
PLG				*e*Sn	**Sn**	**06 56 57.8**	**-0.4**
PLG				*e*Sg	**Sg**	**06 56 59.4**	**-0.8**
OUR	**Ouranopolis**	**1.43**	**21**	*e*Pg	**Pg**	**06 56 42.2**	**-1.2**
VLI	**Veliai**	**2.30**	**188**	*e*PN	**Pn**	**06 56 53.3**	**+0.2**

SGS ***19*** *07:21:19.0,30.11N×3627E,h14km*
GII ***19*** *07:21:18.9*±*1.0,2990N×3620E,h0km,ML2.9/5*
ISC 19 07:21:17.1±**1.7,2988N**±**006×3637E**±**008,h0**km**,n9,**
σ0°**30/14,Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.16**	**278**	Pg	**Pg**	**07 21 38.9**	**-0.5**
HRFI				Sg	**Sg**	**07 21 54.8**	**+0.3**
ZFRI	**Zfri**	**1.23**	**303**	Pg	**Pg**	**07 21 41.0**	**+0.4**
ZFRI				Sg	**Sg**	**07 21 56.5**	**-0.1**
EIL	**Elat**	**1.25**	**261**	Pg	**Pg**	**07 21 40.6**	**-0.4**
EIL				Sg	**Sg**	**07 21 57.3**	**+0.1**
MBH	**Mount Berech**	**1.26**	**266**	Pg	**Pg**	**07 21 41.3**	**0.0**
MBH				Sg	**Sg**	**07 21 57.9**	**+0.2**
PRNI	**Paran**	**1.27**	**292**	Pg	**Pg**	**07 21 41.2**	**-0.2**
PRNI				Sg	**Sg**	**07 21 58.0**	**+0.1**
HQLS		**1.27**	**243**	S	**Sg**	**07 21 57.8**	**-0.3**
HQLS		**1.27**	**243**	P	**Pg**	**07 21 41.1**	**-0.4**
JLOS		**1.37**	**214**	P	**Pg**	**07 21 44.0**	**+0.5**
RSHS		**2.09**	**221**	P	**Pn**	**07 21 53.5**	**+0.1**

*ISCJB **19** 07:25:41.7±0.7,3263N±005×1402E±01,h139km±4km, mb3.6/8, Error ellipse: s-maj=14.8km s-min=8.8km az=179.9*
*IDC **19** 07:25:42.4±0.8,3257N×140.14E,h131km±3km, mb3.5/8, mb1 3.7/8, mb1mx3.5/18, mbtmp3.5/8, Error ellipse: s-maj=38.4km s-min=12.8km az=74.0*
*JMA **19** 07:25:43.2±0.2,3269N×14026E,h134km±2km, M3.5*
*NEIC **19** 07:25:43.2,3269N×14026E,h134km, MG3.5(JMA), After JMA.*

ISC 19 07:25:43.0±0.7,3264N±005×1402E±01,h136km±4km,n23, σ0°62/33,mb3.6/8,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**0.58**	**324**	P	**Pn**	**07 26 03.4**	**+0.3**
JHJ2				*e*S	**Sn**	**07 26 18.3**	**-0.1**
JHJ	**Hachijo jima 2**	**0.60**	**322**	P	**Pn**	**07 26 03.5**	**+0.2**
	316nm,0.3s,baz=79,slow=21,SNR=98						
JHJ				S	**Sn**	**07 26 18.5**	**-0.2**
	553nm,0.3s,baz=83,slow=22,SNR=32						
BSO1	**Boso 1**	**2.10**	**17**	P	**Pn**	**07 26 18.0**	**-0.4**
BSO1				*e*S	**Sn**	**07 26 45.6**	**-0.1**
BSO2	**Boso 2**	**2.15**	**12**	*e*S	**Sn**	**07 26 47.0**	**+0.3**
BSO3	**Boso 3**	**2.17**	**6**	P	**Pn**	**07 26 19.0**	**-0.2**
BSO3				S	**Sn**	**07 26 46.8**	**-0.3**
JIM2	**Oshima 3**	**2.17**	**343**	P	**Pn**	**07 26 19.5**	**+0.2**
JIM2				S	**Sn**	**07 26 46.0**	**-1.2**
BSO4	**Boso 4**	**2.34**	**2**	P	**Pn**	**07 26 22.1**	**+0.7**
BSO4				S	**Sn**	**07 26 51.3**	**+0.3**
JOD2	**Odawara 2**	**2.78**	**340**	P	**Pn**	**07 26 27.4**	**+0.5**
JOD2				*e*S	**Sn**	**07 27 01.3**	**+0.5**
JYN	**Shimob**	**3.17**	**334**	P	**Pn**	**07 26 33.5**	**+1.6**
JHU	**Hanno**	**3.29**	**347**	P	**Pn**	**07 26 33.5**	**0.0**
JHU				S	**Sn**	**07 27 11.8**	**-0.9**
JRY	**Ryogami san**	**3.54**	**342**	P	**Pn**	**07 26 37.3**	**+0.6**
JRY				*e*S	**Sn**	**07 27 18.0**	**-0.4**
JAG	**Ashikaga**	**3.83**	**351**	P	**Pn**	**07 26 39.5**	**-1.0**
MJAR	**Matsushiro Arr**	**4.23**	**337**	P	**Pn**	**07 26 46.3**	**+0.5**
	1.2nm,0.3s,baz=136,slow=13,SNR=5.2						
MJAR				S	**Sn**	**07 27 34.6**	**-0.1**
	1.1nm,0.3s,baz=358,slow=16,SNR=6.1						
SONM	**Songino Array**	**29.67**	**311**	P	**P**	**07 31 36.6**	**+0.9**
	0.9nm,0.7s,mb3.6,baz=100,slow=7.9,SNR=3.1						
MK31	**Makanchi Array**	**45.75**	**306**	*e*P	**P**	**07 33 50.5**	**0.0**
MKAR	**Makanchi Array**	**45.75**	**306**	P	**P**	**07 33 50.6**	**0.0**
	1.4nm,0.4s,mb3.9,baz=87,slow=9.7,SNR=14						
WRA	**Warramunga Arr**	**52.59**	**187**	P	**P**	**07 34 41.6**	**-1.2**
	0.4nm,0.4s,mb3.5,baz=2.7,slow=7.6,SNR=23						
ASAR	**Alice Springs**	**56.32**	**187**	P	**P**	**07 35 09.2**	**-0.5**
	0.3nm,0.5s,mb3.4,baz=2.6,slow=6.5,SNR=7.4						
ARCES	**ARCESS Array B**	**67.76**	**340**	P	**P**	**07 36 25.3**	**-0.2**
	2.6nm,1.0s,mb3.9,baz=59,slow=8.7,SNR=2.8						
FINES	**FINESS Array B**	**72.24**	**333**	P	**P**	**07 36 52.4**	**-0.5**
FINES	**FINESS Array B**	**72.24**	**333**	P	**P**	**07 36 52.4**	**-0.5**
	1.4nm,0.7s,mb3.8,baz=56,slow=7.4,SNR=4.3						
AKASG	**Malin Array Be**	**77.17**	**322**	P	**P**	**07 37 21.2**	**-0.3**
	0.2nm,0.3s,mb3.2,baz=51,slow=5.3,SNR=5.9						
TXAR	**Lajitas Array**	**93.59**	**52**	P	**P**	**07 38 45.1**	**+1.2**
	0.4nm,0.6s,mb3.8,baz=288,slow=2.7,SNR=7.4						

*CSEM **19** 07:26:36.9,3807N×2036E,h5km, MD3.0/3, After ATH*

ATH 19 07:26:36.9,3807N×2036E,h5km,MD3.0/3,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.21**	**59**	*e*P	Pg	07 26 41.8	+0.8
VLS				*e*S	Sg	07 26 45.1	+1.3
VLS	**Valsamata**	**0.21**	**59**	*e*Pg	Pg	07 26 41.7	+0.7
VLS				*e*Sg	Sg	07 26 44.8	+1.0
LKD	**Levkas**	**0.68**	**20**	*e*P	Pg	07 26 45.6	-4.3
LKD				*e*S	Sg	07 26 51.4	-7.3
RLS	**Riolos of Patr**	**0.87**	**90**	*e*PG	Pg	07 26 53.5	-0.2
RLS				*e*SB	Sb	07 27 06.4	-0.1
EVR	**Evrytania**	**1.42**	**53**	*e*PB	Pb	07 27 04.1	+0.3

IDC 19 07:31:50.6±2.5,582S×13036E,h0km,mb3.4/1,mb1 3.4/3, mb1mx3.3/12,mbtmp3.2/3,ML3.4/2,Error ellipse: s-maj=150.0km s-min=32.6km az=70.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.56**	**165**	Pn	Pn	07 35 19.0	+0.9
	0.2nm,0.3s,baz=348,slow=14,SNR=16						
WRA				Sn	Sn	07 37 45.0	-15
	0.5nm,0.3s,baz=339,slow=22,SNR=9.8						
ASAR	**Alice Springs**	**18.07**	**169**	P	Pn	07 36 02.8	-0.5
	0.1nm,0.3s,baz=347,slow=9.2,SNR=6.6						
ASAR				S	Sn	07 39 10.9	-15
	0.1nm,0.3s,baz=349,slow=25,SNR=5.2						
MKAR	**Makanchi Array**	**67.44**	**326**	P	P	07 42 48.3	+0.1
	0.2nm,0.5s,baz=111,slow=6.9,SNR=3.6						

NNC 19 07:34:07.4±2.1,3690N×6872E,h0km,mb3.6,mpv3.2, 3C-3D,Error ellipse: s-maj=19.7km s-min=16.1km az=113.0,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KK31	**Karatay Array**	**6.34**	**12**	⇑Pn	Pn	07 35 45.2	+3.1
	0.6nm,0.3s,baz=192,slow=14,SNR=16						
KK31				⇑Sn	Sn	07 37 01.8	+6.5
	0.6nm,0.3s,baz=190,slow=23,SNR=4.0						
TKM2	**Tokmak 2**	**8.00**	**39**	⇓Pn	Pn	07 36 04.4	-0.4
	1.6nm,0.8s						
TKM2				⇓Sn	Sn	07 37 37.7	+1.7
	1.9nm,0.7s						
AB31	**Akbulak array**	**13.90**	**335**	⇓Pn	Pn	07 37 23.7	-1.9
	0.7nm,0.7s,baz=161,slow=12,SNR=4.5						
AB31				⇑Sn	Sn	07 40 02.5	+2.0
	0.7nm,0.6s,baz=161,slow=23,SNR=3.6						

*ISCJB **19** 07:35:33.6±0.7,691N×006×7299W±007,h171km±7km, Error ellipse: s-maj=13.3km s-min=6.9km az=39.2*
*FUNV **19** 07:35:34.1,680N×73.15W,h168km, MW3.4*
*IDC **19** 07:35:36.9±6.8,673N×7573W,h133km±82km, mb3.3/1, mb1 3.6/2, mb1mx3.1/20, mbtmp3.5/2, Error ellipse: s-maj=180.0km s-min=36.4km az=81.0*

ISC 19 07:35:34.7±0.7,690N±006×7298W±007,h165km±8km,n19, σ1°02/27,10D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.16**	**34**	⇓*i*P	**Pn**	**07 36 03.2**	**+1.0**
CAPV				*e*S	**Sn**	**07 36 24.4**	**+1.0**
ROSC	**El Rosal**	**2.44**	**214**	P	**Pn**	**07 36 15.4**	**-0.4**
	30nm,0.3s,baz=316,slow=1.7,SNR=57						
ROSC				S	**Sn**	**07 36 45.9**	**-1.6**
	65nm,0.3s,baz=90,slow=19,SNR=22						
VIGV	**El Vigia**	**2.50**	**39**	⇓*i*P	**Pn**	**07 36 17.6**	**+1.0**
VIGV				*e*S	**Sn**	**07 36 49.8**	**+0.8**
SOCV	**Socops**	**2.51**	**57**	⇓*i*P	**Pn**	**07 36 17.9**	**+1.2**
SOCV				*e*S	**Sn**	**07 36 50.2**	**+1.1**
ELOV	**Elorza**	**3.47**	**88**	*e*P	**Pn**	**07 36 29.6**	**+1.0**
VIRV	**Villa del Rosa**	**3.63**	**9**	⇓*i*P	**Pn**	**07 36 29.9**	**-0.7**
VIRV				*e*S	**Sn**	**07 37 12.4**	**-1.6**
QARV	**Quebrada Arrib**	**4.08**	**36**	⇓*i*P	**Pn**	**07 36 37.5**	**+1.1**
QARV				*e*S	**Sn**	**07 37 23.1**	**-1.5**
SANV	**Sanarito**	**4.28**	**53**	⇓*e*P	**Pn**	**07 36 39.4**	**+0.5**
CURV	**Curarigua**	**4.30**	**44**	⇓*e*P	**Pn**	**07 36 39.8**	**+0.7**
CURV				*e*S	**Sn**	**07 37 27.9**	**-1.6**
DABV	**Dabajuro**	**4.62**	**30**	*e*P	**Pn**	**07 36 43.7**	**+0.3**
TEPV	**Terepaima**	**4.83**	**51**	⇓*i*P	**Pn**	**07 36 46.8**	**+0.7**
TEPV				*e*S	**Sn**	**07 37 40.7**	**-1.2**
SIQV	**Siquisique**	**4.87**	**40**	⇓*i*P	**Pn**	**07 36 46.9**	**+0.3**
BAUV	**El Baul**	**5.29**	**67**	⇓*i*P	**Pn**	**07 36 51.5**	**-0.7**
BAUV				*e*S	**Sn**	**07 37 50.4**	**-2.5**
TURV	**Turiamo**	**6.18**	**55**	*e*P	**Pn**	**07 37 04.4**	**+0.5**
CAOV	**Caicara del Or**	**6.62**	**86**	*e*P	**Pn**	**07 37 08.9**	**-0.7**
BIRV	**Birongo**	**7.52**	**61**	*e*P	**Pn**	**07 37 21.8**	**+0.1**
CUPV	**Cœpira**	**7.77**	**66**	*e*P	**Pn**	**07 37 24.8**	**-0.2**
YKA	**Yellowknife Ar**	**63.24**	**340**	P	**P**	**07 45 45.8**	**+0.6**
	0.6nm,0.6s,baz=132,slow=6.6,SNR=18						
WRA	**Warramunga Arr**	**150.50**	**241**	PKPbc	PKPbc	07 55 07.0	-0.8
	0.2nm,0.4s,baz=107,slow=2.8,SNR=12						

KRSC 19 07:47:33.4±0.4,5597N×16150E,h100km±30km,ML3.9, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KLY	**Klyuchi**	**0.59**	**306**	*i*P	Pn	07 47 49.7	-0.1
KLY				*i*S	Sn	07 48 01.5	-0.6
SRKR	**Sorokina**	**0.71**	**345**	*i*P	Pn	07 47 51.6	+0.8
SRKR				*i*S	Sn	07 48 04.1	+0.2
KMNR	**Kamenistaya**	**0.74**	**254**	*e*P	Pn	07 47 52.8	+1.7
KMNR				*e*S	Sn	07 48 06.8	+2.3
KBTR	**Krutoberegovo**	**0.78**	**72**	*i*P	Pn	07 47 52.5	+1.0
KBTR				*i*S	Sn	07 48 06.2	+1.2
KOZ	**Kozyrevsk**	**0.92**	**276**	*e*P	Pn	07 47 53.7	+0.8
KOZ				*i*S	Sn	07 48 08.0	+0.5
TUMR	**Tumrok**	**1.03**	**229**	*e*P	Pn	07 47 56.0	+1.9
TUMR				*e*S	Sn	07 48 11.6	+1.9
SRDR	**Sredinnyy**	**1.06**	**290**	*i*P	Pn	07 47 54.6	+0.2
SRDR				*i*S	Sn	07 48 10.0	-0.2
MKZ	**Mys Kozlova**	**1.42**	**175**	*e*P	Pn	07 48 00.0	+1.3
MKZ				*i*S	Sn	07 48 19.6	+1.8
SPN	**Mys Shipunski**	**3.00**	**197**	*e*P	Pn	07 48 19.8	+0.7
SPN				*i*S	Sn	07 48 53.8	-0.6
GNL	**Ganaly**	**3.07**	**224**	*e*P	Pn	07 48 21.7	+1.7
NLC	**Nalytchevo**	**3.07**	**205**	*e*P	Pn	07 48 21.7	+1.7
NLC				*i*S	Sn	07 48 56.2	+0.2
AVH	**Avacha**	**3.15**	**212**	*e*P	Pn	07 48 24.1	+3.0
AVH				*e*S	Sn	07 49 00.6	+2.7
PET	**Petropavlovsk**	**3.39**	**211**	*e*P	Pn	07 48 27.1	+2.9
PET				*i*S	Sn	07 49 07.4	+3.9
RUS	**Russkaya**	**3.95**	**208**	*e*P	Pn	07 48 33.1	+1.2
RUS				*i*S	Sn	07 49 18.1	+0.9
MIPR	**Malaya Ipel'ka**	**4.63**	**219**	P	Pn	07 48 43.6	+2.6

*CSEM **19** 08:12:22.5±0.1,3838N×3893E,h13km±1km, MD2.5, Error ellipse: s-maj=3.2km s-min=2.0km az=153.0*
*ISK **19** 08:12:22.7,3839N×3891E,h12km, MD2.9*
*ISCJB **19** 08:12:23.9±0.6,3847N±005×3889E±004,h13km, Error ellipse: s-maj=7.6km s-min=3.9km az=150.2*
*DDA **19** 08:12:23.7,3835N×3908E,h7km±2km, Md2.5*

ISC 19 08:12:24.4±0.6,3840N±004×3892E±004,h2km±7km,n9, σ1°20/16,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.11**	**28**	*i*P	**Pg**	**08 12 27.3**	**+0.7**
ELZG				*i*S	**Sg**	**08 12 30.4**	**+2.3**
SVRC	**Sivrice-ELAZID**	**0.31**	**93**	PG	**Pg**	**08 12 29.4**	**-0.9**
SVRC				SG	**Sg**	**08 12 34.3**	**0.0**
MALT	**Malatya**	**0.39**	**258**	PG	**Pg**	**08 12 30.9**	**-1.1**
MALT				SG	**Sg**	**08 12 36.9**	**-0.2**
PTK	**Pertek**	**0.62**	**37**	*e*PG	**Pg**	**08 12 35.8**	**-0.5**
PTK				*e*SG	**Sg**	**08 12 43.9**	**-0.4**
URFA	**Urfa**	**0.96**	**185**	*e*PG	**Pg**	**08 12 41.2**	**-1.6**
ATAB	**Bozova**	**1.05**	**208**	*e*P	**Pg**	**08 12 44.7**	**+0.2**
ATAB				*i*S	**Sg**	**08 13 00.0**	**+1.9**
GZT	**Gaziantep**	**1.49**	**226**	*i*P	**Pn**	**08 12 52.6**	**+0.4**
GZT				*i*S	**Sn**	**08 13 14.1**	**+1.9**
KMRS	**Kahramanmaras**	**1.83**	**241**	*e*PN	**Pn**	**08 12 54.5**	**-2.2**
MARD	**Mardin**	**1.83**	**126**	*e*P	**Pn**	**08 12 55.7**	**-1.1**
MARD				*i*S	**Sn**	**08 13 21.4**	**+0.9**

*ISCJB **19** 08:55:39.0±0.6,792N±004×7208W±003,h30km±4km, mb4.2/26, Error ellipse: s-maj=6.3km s-min=5.0km az=155.9*
*FUNV **19** 08:55:40.3,801N×7209W,h5km, MW4.1*
*NEIC **19** 08:55:43.3±1.2,806N×7195W,h48km±14km,mb4.3/1, Error ellipse: s-maj=15.2km s-min=10.4km az=89.0*
*IDC **19** 08:55:43.7±2.5,799N×7196W,h50km±23km,mb3.8/11, mb1 4.1/13,mb1mx3.9/22,mbtmp3.9/13,ML3.3/2,MS2.8/2, Ms1 2.8/2,ms1mx2.5/26,Error ellipse: s-maj=15.9km s-min=13.5km az=96.0*

ISC 19 08:55:40.1±0.6,796N±004×7211W±003,h24km±5km,n65, σ0°81/73,mb4.2/26,1C-5D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.23**	**245**	⇓*i*P	**Pb**	**08 55 45.1**	**-0.9**
CAPV				*e*S	**Sb**	**08 55 49.7**	**-0.3**
VIGV	**El Vigia**	**1.14**	**40**	*e*P	**Pn**	**08 55 60.0**	**-0.7**
VIGV				*e*S	**Sn**	**08 56 15.9**	**+0.3**
SOCV	**Socops**	**1.28**	**75**	⇓*e*P	**Pn**	**08 56 02.0**	**-0.6**
SOCV				*e*S	**Sn**	**08 56 19.8**	**+0.8**
VIRV	**Villa del Rosa**	**2.54**	**353**	*e*P	**Pn**	**08 56 20.3**	**+0.4**
VIRV				*e*S	**Sn**	**08 56 50.7**	**+0.5**
QARV	**Quebrada Arrib**	**2.72**	**35**	*e*P	**Pn**	**08 56 23.3**	**+0.8**
ELOV	**Elorza**	**2.77**	**110**	*e*P	**Pn**	**08 56 24.5**	**+1.4**
ELOV				*e*S	**Sn**	**08 56 57.6**	**+1.7**
CURV	**Curarigua**	**2.94**	**46**	*e*P	**Pn**	**08 56 26.4**	**+0.9**
SANV	**Sanarito**	**2.97**	**59**	*e*P	**Pn**	**08 56 26.3**	**+0.5**
SANV				*e*S	**Sn**	**08 57 00.6**	**-0.1**
DABV	**Dabajuro**	**3.28**	**26**	*e*P	**Pn**	**08 56 30.7**	**+0.6**
DABV				*e*S	**Sn**	**08 57 08.2**	**-0.2**
TEPV	**Terepaima**	**3.50**	**55**	*e*P	**Pn**	**08 56 34.7**	**+1.6**
TEPV				*e*S	**Sn**	**08 57 14.2**	**+0.4**
SIQV	**Siquisique**	**3.50**	**40**	⇓*e*P	**Pn**	**08 56 34.5**	**+1.3**
SIQV				*e*S	**Sn**	**08 57 13.4**	**-0.5**
ROSC	**El Rosal**	**3.79**	**216**	P	**Pn**	**08 56 42.7**	**+5.5**
	9.4nm,0.3s,baz=280,slow=8.7,SNR=16						
ROSC				S	**Sn**	**08 57 38.5**	**+17**
	16nm,0.3s,baz=239,slow=22,SNR=4.3						
BAUV	**El Baul**	**4.14**	**76**	*e*P	**Pn**	**08 56 41.8**	**-0.1**
BAUV				*e*S	**Sn**	**08 57 27.9**	**-1.7**
JACV	**Jacura**	**4.48**	**46**	*e*P	**Pn**	**08 56 47.1**	**+0.5**
TURV	**Turiamo**	**4.88**	**59**	*e*P	**Pn**	**08 56 53.1**	**+0.9**
PAYV	**Puerto Ayacuch**	**5.09**	**119**	*e*P	**Pn**	**08 56 55.8**	**+0.8**
CAOV	**Caicara del Or**	**5.77**	**96**	*e*P	**Pn**	**08 57 04.2**	**-0.1**
FUNV	**FUNVISIS**	**5.79**	**64**	*e*P	**Pn**	**08 57 05.5**	**+0.8**
MERV	**Las Mercedes**	**5.89**	**77**	⇓*i*P	**Pn**	**08 57 06.2**	**+0.3**
BIRV	**Birongo**	**6.28**	**66**	*e*P	**Pn**	**08 57 11.5**	**+0.2**
CUPV	**Cœpira**	**6.58**	**71**	⇑*e*P	**Pn**	**08 57 15.9**	**+0.4**
PRGV	**PARIAGUAN**	**7.42**	**83**	*e*P	**Pn**	**08 57 26.1**	**-1.0**
PCRV	**Puerto La Cruz**	**7.70**	**73**	*e*P	**Pn**	**08 57 31.0**	**+0.1**
PCRV	**Puerto La Cruz**	**7.70**	**73**	P	**Pn**	**08 57 31.4**	**+0.5**
	4.1nm,0.3s,baz=212,slow=6.7,SNR=24						
PCRV				S	**Sn**	**08 58 57.2**	**-0.2**
	12nm,0.3s,baz=314,slow=23,SNR=10						
PCRV				LR	LR	09 00 31.3	
	comp=Z,73nm,19.9s,baz=347,slow=38						
GURV	**El Guri**	**8.94**	**91**	⇓*i*P	**Pn**	**08 57 46.5**	**-1.4**
GUNV	**Guanoco**	**9.31**	**76**	*e*P	**Pn**	**08 57 52.4**	**-0.6**
RIOV	**Rio Grande**	**10.19**	**89**	*e*P	**Pn**	**08 58 04.0**	**-1.1**
LUEV	**Luepa**	**10.78**	**101**	*e*P	**Pn**	**08 58 11.9**	**-1.2**
SDDR	**Presa de Saban**	**10.98**	**4**	*e*Pn	**Pn**	**08 58 15.0**	**-0.9**
	20nm,0.8s						
SJG	**San Juan**	**11.63**	**29**	LR	LR	09 02 57.8	
	comp=Z,56nm,21.5s,baz=264,slow=38						
LPAZ	**La Paz**	**24.41**	**171**	P	**P**	**09 00 58.3**	**+1.3**
	6.7nm,1.1s,mb4.0,baz=353,slow=6.0,SNR=11						
SIV	**San Ignacio**	**26.19**	**155**	P	**P**	**09 01 13.6**	**+0.5**
	5.6nm,0.9s,mb4.1,baz=335,slow=9.4,SNR=19						
TXAR	**Lajitas Array**	**36.48**	**310**	P	**P**	**09 02 44.3**	**+0.7**
	0.6nm,0.6s,mb3.7,baz=125,slow=9.5,SNR=10						
TXAR				PcP	PcP	09 05 08.9	+1.6
	0.6nm,0.5s,baz=137,slow=5.9,SNR=10						
MNTX	**Cornudas Mount**	**38.94**	**312**	*e*P	**P**	**09 03 05.5**	**+1.1**
	3.2nm,0.6s,mb4.2						
CFAA	**Coronel Fontan**	**39.52**	**175**	P	**P**	**09 03 08.6**	**-0.6**
CFAA	**Coronel Fontan**	**39.52**	**175**	P	**P**	**09 03 08.6**	**-0.6**
	0.2nm,0.8s,mb2.9,baz=30,slow=8.1,SNR=3.1						
SCHQ	**Schefferville**	**46.93**	**4**	P	**P**	**09 04 09.3**	**+0.6**
	9.9nm,0.6s,mb5.0,baz=192,slow=6.6,SNR=38						
PLCA	**Paso Flores**	**48.47**	**178**	P	**P**	**09 04 23.4**	**+2.5**
	2.1nm,1.0s,mb4.1,baz=346,slow=6.5,SNR=3.7						
NVAR	**Mina Array Bea**	**51.42**	**314**	P	**P**	**09 04 44.8**	**+1.4**
	0.5nm,0.5s,mb3.7,baz=113,slow=6.5,SNR=3.9						
NVAR				PcP	PcP	09 05 58.8	+1.0
	0.6nm,0.7s,baz=143,slow=5.3,SNR=3.8						
YKA	**Yellowknife Ar**	**62.55**	**339**	P	**P**	**09 06 01.6**	**-0.2**
	2.7nm,0.6s,mb4.6,baz=126,slow=7.0,SNR=62						
EVO	**Evora**	**64.86**	**51**	*e*P	**P**	**09 06 17.0**	**-0.6**
	3.8nm,0.5s,mb4.4						
DBIC	**Dimbokro**	**66.65**	**86**	P	**P**	**09 06 29.2**	**-0.3**
	1.5nm,0.7s,mb4.1,baz=284,slow=8.3,SNR=3.2						
SJPF	**Ste Jean**	**70.65**	**47**	*e*P	**P**	**09 06 53.6**	**-0.4**
	9.3nm,0.8s,mb4.5						
ETSF	**Etsaut**	**71.11**	**47**	*e*P	**P**	**09 06 56.3**	**-0.5**
	3.1nm,0.7s,mb4.0						
EPF	**Esparros**	**71.78**	**47**	*e*P	**P**	**09 07 00.3**	**-0.5**
	6.6nm,0.7s,mb4.4						
MFF	**Saint Martin d**	**71.87**	**44**	*e*P	**P**	**09 07 00.6**	**-0.7**
	16nm,1.1s,mb4.6						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TORD	**Torodi Ar. Bea**	**72.53**	**79**	P	**P**	**09 07 04.4**	**-1.4**
	0.6nm,0.6s,mb3.7,baz=284,slow=7.0,SNR=7.4						
MTLF	**Montolieu**	**73.18**	**47**	*e*P	**P**	**09 07 08.6**	**-0.6**
	2.1nm,0.6s,mb3.9						
CAF	**Calviac**	**73.22**	**46**	*e*P	**P**	**09 07 08.9**	**-0.4**
	9.6nm,0.9s,mb4.4						
BGF	**Bois d'Agland**	**73.92**	**44**	*e*P	**P**	**09 07 12.7**	**-0.7**
SMF	**Signal de Mont**	**74.61**	**44**	*e*P	**P**	**09 07 16.8**	**-0.6**
	6.3nm,0.7s,mb4.4						
LOR	**Lormes**	**74.67**	**43**	*e*P	**P**	**09 07 17.1**	**-0.7**
	7.4nm,0.7s,mb4.4						
VIVF	**Saint-Julien-l**	**75.06**	**46**	*e*P	**P**	**09 07 19.5**	**-0.6**
	10nm,1.1s,mb4.4						
BAIF	**Baives**	**75.15**	**40**	*e*P	**P**	**09 07 20.1**	**-0.4**
MEZF	**Maizieres J'vi**	**75.57**	**42**	*e*P	**P**	**09 07 22.8**	**-0.2**
FRF	**La Foret Royal**	**76.41**	**47**	*e*P	**P**	**09 07 27.4**	**-0.5**
LPL	**La Plagne**	**76.55**	**45**	*e*P	**P**	**09 07 28.2**	**-0.4**
	5.9nm,0.8s,mb4.3						
LPG	**La Plagne**	**76.56**	**45**	*e*P	**P**	**09 07 28.6**	**-0.1**
	7.8nm,0.9s,mb4.3						
HINF	**Hinteralfeld**	**76.73**	**43**	*e*P	**P**	**09 07 28.7**	**-0.9**
	7.2nm,0.9s,mb4.3						
NB2	**NORSAR Subarra**	**79.85**	**29**	P	**P**	**09 07 46.9**	**+0.4**
	comp=Z,3.3nm,0.9s,mb4.3,baz=268,slow=5.6						
NOA	**NORSAR Array B**	**79.85**	**29**	P	**P**	**09 07 47.2**	**+0.7**
	comp=Z,2.2nm,0.8s,mb4.2,baz=267,slow=5.5,SNR=7.0						
GERES	**GERESS Array B**	**81.31**	**42**	P	**P**	**09 07 54.3**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.7,baz=248,slow=5.6,SNR=5.5						
STKA	**Stephens Creek**	**140.66**	**228**	PKP	PKPdf	09 15 09.2	+0.8
	comp=Z,5.2nm,1.1s,baz=308,slow=22,SNR=3.2						
ASAR	**Alice Springs**	**150.59**	**235**	PKP	PKPdf	09 15 25.4	-0.1
	comp=Z,1.2nm,0.8s,baz=153,slow=1.4,SNR=4.9						
ASAR				PKPbc	PKPbc	09 15 29.9	-1.0
	comp=Z,1.6nm,0.8s,baz=124,slow=3.4,SNR=18						
WRA	**Warramunga Arr**	**151.76**	**242**	PKP	PKPdf	09 15 27.8	+0.4
	comp=Z,0.5nm,0.8s,baz=103,slow=2.5,SNR=4.6						
WRA				PKPbc	PKPbc	09 15 33.4	-0.4
	comp=Z,4.8nm,0.4s,baz=106,slow=2.7,SNR=96						

KRSC 19 08:56:11.6±0.8,5275N×16036E,h11km±11km,ML3.9,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.40**	**330**	*i*P	Pg	08 56 20.9	+1.3
SPN				*i*S	Sg	08 56 27.4	+2.4
NLC	**Nalytchevo**	**0.74**	**305**	*i*P	Pg	08 56 26.6	+0.6
NLC				*i*S	Sg	08 56 37.3	+1.6
PET	**Petropavlovsk**	**1.07**	**286**	*i*P	Pb	08 56 32.2	+0.1
PET				*i*S	Sb	08 56 47.4	+1.3
AVH	**Avacha**	**1.11**	**298**	*i*P	Pb	08 56 32.9	+0.2
AVH				*e*S	Sb	08 56 47.9	+0.8
RUS	**Russkaya**	**1.17**	**255**	*i*P	Pb	08 56 33.6	-0.2
RUS				*i*S	Sb	08 56 49.6	+0.7
KII	**Karymskiy**	**1.40**	**337**	*e*P	Pn	08 56 37.0	0.0
KII				*i*S	Sn	08 56 55.2	-0.2
GRL	**Gorelyy**	**1.41**	**263**	*i*P	Pn	08 56 38.0	+0.9
GRL				*i*S	Sn	08 56 56.9	+1.3
GNL	**Ganaly**	**1.73**	**304**	*i*P	Pn	08 56 42.8	+1.2
GNL				*i*S	Sn	08 57 05.4	+1.7
MIPR	**Malaya Ipel'ka**	**2.25**	**259**	*i*P	Pn	08 56 51.2	+2.5
TUMR	**Tumrok**	**2.54**	**357**	*e*P	Pn	08 56 52.6	-0.1
TUMR				*e*S	Sn	08 57 23.1	-0.5

**IDC 19 09:59:50.7±39.0,5820S×14769E,h0km,mb3.7/3, mb1 3.9/3,mb1mx3.8/11,mbtmp3.7/3,MS3.7/3,Ms1 3.7/3, ms1mx3.3/25,Error ellipse: s-maj=679.2km s-min=217.3km az=149.0,West of

STOK	**Stokkvaagen**	**1.71**	**211**	*e*P		**Pn**	**10 03 23.7 -0.2**
	SNR=50						
STOK				*e*Sg		**Sg**	**10 03 48.7 -0.3**
	SNR=90						
TRO	**Tromso**	**2.28**	**35**	*e*P		**Pg**	**10 03 35.5 -2.2**
TRO				*e*S		**Sg**	**10 04 04.6 -2.6**
KIF	**Kilpisjarvi**	**2.40**	**57**	*e*P		**Pn**	**10 03 35.4 +2.1**
KIF				*e*S		**Sn**	**10 04 04.1 +1.4**
KIF				*e*SG		**Sg**	**10 04 10.0 -0.9**
KIF				MSG			10 04 13.1
	comp=Z,16nm,0.1s						
HEF	**Hetta**	**3.23**	**75**	*e*P		**Pn**	**10 03 46.7 +2.0**
HEF				*e*S		**Sn**	**10 04 25.9 +2.7**
HEF				*e*SG		**Sg**	**10 04 34.5 -3.1**
HEF				MSG			10 04 45.2
	comp=Z,7.8nm,0.3s						
ARCES	**ARCESS Array B**	**4.14**	**61**	Pn		**Pn**	**10 03 58.1 +0.8**
ARCES				Pg		**Pg**	**10 04 08.8 -4.5**
ARCES				Sn		**Sn**	**10 04 44.9 -0.8**
ARCES				Lg			10 05 02.9
ARCES	**ARCESS Array B**	**4.14**	**61**	Pn		**Pn**	**10 03 58.1 +0.8**
	comp=Z,0.4nm,0.3s,baz=248,slow=13,SNR=19						
ARCES				Pg		**Pg**	**10 04 08.8 -4.5**
	comp=Z,2.8nm,0.3s,baz=245,slow=12,SNR=38						
ARCES				Sn		**Sn**	**10 04 44.9 -0.8**
	comp=Z,1.3nm,0.3s,baz=246,slow=20,SNR=5.4						
ARCES				Lg			10 05 02.9
	comp=Z,5.3nm,0.3s,baz=244,slow=27,SNR=21						
ARCES	**ARCESS Array B**	**4.14**	**61**	Pg		**Pg**	**10 04 08.8 -4.5**
ARA0	**ARCESS Array S**	**4.15**	**61**	Pn		**Pn**	**10 03 57.9 +0.6**
	baz=247,slow=14						
ARA0				Pg		**Pg**	**10 04 09.5 -3.8**
	baz=243,slow=16						
ARA0				Sn		**Sn**	**10 04 46.2 +0.5**
	baz=242,slow=18						
ARA0				Lg			10 05 01.7
	baz=249,slow=28						
ARA0	**ARCESS Array S**	**4.15**	**61**	*e*P		**Pn**	**10 03 58.1 +0.8**
ARA0				*e*PG		**Pg**	**10 04 09.1 -4.2**
ARA0				*e*S		**Sn**	**10 04 46.4 +0.7**
ARA0	**ARCESS Array S**	**4.15**	**61**	Pg		**Pg**	**10 04 09.5 -3.8**
	SNR=90						
ARA0				Sn		**Sn**	**10 04 46.2 +0.4**
	SNR=50						
SGF	**Sodankyl**	**4.35**	**90**	*e*P		**Pn**	**10 04 01.3 +1.2**
SGF				*e*S		**Sn**	**10 04 51.9 +1.1**
SGF				*e*SG		**Sg**	**10 05 10.2 -3.3**
SGF				MSG			10 05 15.6
	comp=Z,11nm,0.2s						
KEV	**Kevo**	**4.71**	**60**	*e*P		**Pn**	**10 04 06.9 +1.8**
KEV				*e*S		**Sn**	**10 04 59.9 +0.1**
KEV				*e*SG		**Sg**	**10 05 20.3 -4.9**
KEV				MSG			10 05 21.9
	comp=Z,8.6nm,0.3s						
OUL	**Oulu**	**5.09**	**117**	*e*P		**Pn**	**10 04 12.2 +1.9**
OUL				*e*S		**Sn**	**10 05 08.7 -0.3**
OUL				*e*SG		**Sg**	**10 05 32.8 -4.5**
OUL				MSG			10 05 41.9
	comp=Z,4.7nm,0.2s						
VAF	**Ylistaro**	**5.71**	**143**	*e*P		**Pn**	**10 04 20.8 +2.0**
VAF				*e*S		**Sn**	**10 05 23.7 -0.7**
VAF				*e*SG		**Sg**	**10 05 52.6 -4.6**
VAF				MSG			10 05 56.3
	comp=Z,7.8nm,0.3s						
MSF	**Maaselka**	**5.78**	**103**	*e*P		**Pn**	**10 04 20.7 +0.9**
MSF				*e*S		**Sn**	**10 05 25.5 -0.6**
MSF				*e*SG		**Sg**	**10 05 54.8 -4.6**
MSF				MSG			10 06 00.9
	comp=Z,4.5nm,0.3s						
KU6	**Riekki**	**6.05**	**100**	*e*P		**Pn**	**10 04 23.9 +0.5**
KU6				*e*S		**Sn**	**10 05 32.8 +0.1**
KU6				*e*SG		**Sg**	**10 06 02.5 -5.5**
KJN	**Kajaani**	**6.33**	**120**	*e*S		**Sn**	**10 05 38.5 -1.1**
KJN				*e*SG		**Sg**	**10 06 12.2 -4.9**
KJN				MSG			10 06 18.0
	comp=Z,3.3nm,0.3s						
SUF	**Sumiainen**	**6.87**	**133**	*e*P		**Pn**	**10 04 36.2 +1.6**
SUF				*e*S		**Sn**	**10 05 52.0 -0.7**
KEF	**Keuruu**	**6.99**	**140**	*e*P		**Pn**	**10 04 38.3 +2.0**
KEF				*e*S		**Sn**	**10 05 55.2 -0.6**
NOA	**NORSAR Array B**	**7.01**	**196**	Pn		**Pn**	**10 04 36.8 +0.1**
	comp=Z,0.5nm,0.3s,baz=3.1,slow=13,SNR=2.8						
NOA				Sn		**Sn**	**10 05 54.6 -1.8**
	comp=Z,0.5nm,0.3s,baz=12,slow=15,SNR=3.1						
NOA				Lg			10 06 32.5
	comp=Z,1.5nm,0.3s,baz=64,slow=6.9,SNR=5.7						
RAF	**Rauma**	**7.38**	**154**	*e*P		**Pn**	**10 04 43.1 +1.4**
RAF				*e*S		**Sn**	**10 06 04.2 -1.1**
HFS	**Hagfors**	**7.74**	**186**	Pn		**Pn**	**10 04 47.6 +1.0**
	baz=8.8,slow=16						
HFS				Sn		**Sn**	**10 06 12.8 -1.3**
	baz=17,slow=28						
HFS				Lg			10 06 55.0
	slow=28						
HFS	**Hagfors**	**7.74**	**186**	*e*P		**Pn**	**10 04 47.6 +1.0**
HFS				*e*S		**Sn**	**10 06 12.8 -1.3**
HFS				*e*SG			10 06 55.0
HFS	**Hagfors**	**7.74**	**186**	Pn		**Pn**	**10 04 47.4 +0.8**
	comp=Z,0.4nm,0.3s,baz=7.6,slow=12,SNR=17						
HFS				Sn		**Sn**	**10 06 13.4 -0.7**
	comp=Z,0.7nm,0.3s,baz=12,slow=21,SNR=9.9						
HFS				Lg			10 06 55.4
	comp=Z,1.2nm,0.3s,baz=360,slow=27,SNR=6.7						
FIA0	**FINESS Array S**	**7.91**	**139**	*e*P		**Pn**	**10 04 49.6 +0.7**
FIA0				*e*S		**Sn**	**10 06 16.3 -2.0**
FIA0	**FINESS Array S**	**7.91**	**139**	Pn		**Pn**	**10 04 50.4 +1.5**
	baz=334,slow=14						
FIA0				Sn		**Sn**	**10 06 16.8 -1.5**
	baz=336,slow=28						
FIA0				Lg			10 06 58.5
	baz=331,slow=28						
FIA0	**FINESS Array S**	**7.91**	**139**	Pn		**Pn**	**10 04 50.4 +1.5**
	SNR=50						
FIA0				Sn		**Sn**	**10 06 16.8 -1.5**
	SNR=50						
FINES	**FINESS Array B**	**7.91**	**139**	Pn		**Pn**	**10 04 50.7 +1.8**
FINES				Sn		**Sn**	**10 06 16.2 -2.1**
FINES				Lg			10 06 59.7
FINES	**FINESS Array B**	**7.91**	**139**	Pn		**Pn**	**10 04 50.7 +1.8**
	comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=9.1						
FINES				Sn		**Sn**	**10 06 16.2 -2.1**
	comp=Z,0.5nm,0.3s,baz=329,slow=21,SNR=7.3						
FINES				Lg			10 06 59.7
	comp=Z,0.6nm,0.3s,baz=331,slow=27,SNR=4.2						
FINES	**FINESS Array B**	**7.91**	**139**	Pn		**Pn**	**10 04 50.7 +1.8**
FINES				Sn		**Sn**	**10 06 16.2 -2.1**
JOF	**Joensuu**	**8.32**	**119**	*e*P		**Pn**	**10 04 54.4 -0.1**
JOF				*e*S		**Sn**	**10 06 25.2 -3.2**

IDC ***19*** *10:15:08.8±1.1, 1979N×12139E, h0km, mb3.9/4, mb1 4.0/6, mb1mx3.8/21, mbtmp3.9/6, ML3.3/2, MS3.4/1, Ms1 3.4/1, ms1mx2.6/46, Error ellipse: s-maj=43.6km s-min=20.5km az=81.0*

ISCJB ***19*** *10:15:14.6±1.4, 1992N±009×1216E±02, h57km±16km, mb3.8/4, Error ellipse: s-maj=30.3km s-min=13.0km az=15.6*

MAN ***19*** *10:15:14, 1991N×12155E, h97km, mb4.6, ML3.4, MS3.4*

ISC 19 10:15:16.2±1.2, 1989N±009×1215E±02, h57km±14km, n11, σ0°68/11, mb3.8/4, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APYP	**Conner**	**2.03**	**187**	*e*P	**Pn**	**10 15 47.1**	**-1.0**
APYP				*e*S	**Sn**	**10 16 12.8**	**+0.6**
CVP	**Callao Caves**	**2.19**	**172**	*e*P	**Pn**	**10 15 50.9**	**+0.7**
CAUP	**Cauayan**	**2.94**	**174**	*e*P	**Pn**	**10 16 00.2**	**-0.3**
BOLP	**Bolinao**	**3.80**	**204**	*e*P	**Pn**	**10 16 12.2**	**-0.1**
BALP	**Baler**	**4.12**	**179**	*e*P	**Pn**	**10 16 17.0**	**+0.3**
JOW	**Kunigami**	**9.29**	**41**	Pn	**Pn**	**10 17 27.4**	**-0.1**
	0.7nm,0.3s,baz=233,slow=10,SNR=4.3						
MJAR	**Matsushiro Arr**	**22.12**	**38**	LR	LR	10 30 00.0	
	comp=Z,99nm,18.6s,baz=220,slow=40						
WRA	**Warramunga Arr**	**41.53**	**162**	P	**P**	**10 22 56.8**	**-1.4**
	2.3nm,0.6s,mb4.0,baz=342,slow=9.1,SNR=34						
MKAR	**Makanchi Array**	**41.71**	**319**	P	**P**	**10 22 59.3**	**-0.1**
	0.8nm,0.7s,mb3.4,baz=104,slow=10,SNR=7.8						
ASAR	**Alice Springs**	**44.94**	**164**	P	**P**	**10 23 26.1**	**+0.4**
	1.1nm,0.4s,mb4.0,baz=344,slow=6.9,SNR=39						
YKA	**Yellowknife Ar**	**86.80**	**23**	P	**P**	**10 27 55.1**	**+1.0**
	0.2nm,0.4s,mb3.7,baz=310,slow=4.7,SNR=6.1						

ISCJB ***19*** *10:38:32.2±0.3, 5693S±005×2497W±009, h10km, mb5.2/35, MS4.9/156, Error ellipse: s-maj=8.5km s-min=5.8km az=138.7*

GCMT ***19*** *10:38:33.7±0.2, 5693S×2437W, h16km, MW5.2/70, Moment Tensor Solution. s51,c70; s70,c103; Duration: 1s0 Moment tensor: Scale 10^{17}Nm; M_{rr}=0.39±.02; $M_{\theta\theta}$=-0.31±.02; $M_{\phi\phi}$=0.69±.02; $M_{r\theta}$=-0.30±.06; $M_{\theta\phi}$=-0.19±.01; $M_{r\phi}$=0.51±.06; Best double couple: M_0=0.84000×10^{17} NP1:ϕ_s23.00000°, δ31.00000°, λ-38.00000°. NP2: ϕ_s147.00000°, δ72.00000°, λ-115.00000°. Principal axes: T 0.9640, Plg23.0000°, Azm256.0000°; N -0.2490, Plg24.0000°, Azm155.0000°; P -0.7160, Plg56.0000°, Azm24.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

NEIC ***19*** *10:38:33.7±0.1, 5690S×2496W, h10km, mb5.5/21, MS4.9/128 Error ellipse: s-maj=6.9km s-min=5.7km az=213.0*

BJI ***19*** *10:38:33.7, 5690S×2500W, h10km, mB5.5, Ms5.5, Msz5.1*

IDC ***19*** *10:38:35.1±1.9, 5692S×2506W, h17km±10km, mb5.0/23, mb1 5.0/24, mb1mx5.0/26, mbtmp5.0/24, ML4.8/1, MS4.7/25, Ms1 4.6/25, ms1mx4.6/29, Error ellipse: s-maj=13.5km s-min=10.8km az=33.0*

MOS ***19*** *10:38:36.4±1.1, 5694S×2493W, h33km, mb5.7/10, MS4.9/10, Error ellipse: s-maj=23.1km s-min=11.8km az=100.4*

ISC 19 10:38:34.6±4.1, 5696S±006×250W±01, h14km±26km, n491, σ1°00/76, mb5.2/35, MS4.9/156, 97C-91D, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HOPE	**Hope Point**	**7.05**	**287**	Pn	**Pn**	**10 40 19.5**	**+2.2**
	3μm,1.1s,SNR=20						
VNA1	**Neumayer--Stat**	**15.50**	**159**	*e*Pn	**Pn**	**10 42 12.8**	**+0.4**
VNA1				*e*		10 42 16.8	
VNA1				*e*		10 42 21.7	
VNA1				*e*		10 42 28.7	
VNA1				*e*		10 47 15.1	
VNA1				*e*		10 47 23.6	
VNA1				*e*		10 50 57.3	
VNA1				*e*		10 51 00.0	
VNA3	**Neumayer Olymp**	**15.73**	**162**	*e*Pn	**Pn**	**10 42 14.9**	**-0.5**
VNA3				*e*		10 42 20.3	
VNA3				*e*		10 42 24.3	
VNA3				*e*		10 42 31.2	
VNA3				*e*		10 47 14.8	
VNA3				*e*		10 47 22.7	
VNA3				*e*		10 47 29.5	
VNA3				*e*		10 50 57.9	
VNA3				*e*		10 51 00.5	
VNA2	**Neumayer--Watz**	**15.89**	**159**	*e*Pn	**Pn**	**10 42 17.8**	**+0.3**
	baz=330,slow=16						
VNA2				*e*		10 42 22.8	
VNA2				*e*		10 42 27.2	
VNA2				*e*		10 42 35.2	
VNA2				*e*		10 47 15.4	
VNA2				*e*		10 47 24.0	
VNA2				*e*		10 47 30.1	
VNA2				*e*		10 50 57.5	
VNA2				*e*		10 51 00.2	
SNAA	**Sanae**	**17.42**	**157**	*e*Pn	**Pn**	**10 42 35.4**	**-1.3**
SNAA				*e*		10 42 39.2	
SNAA				*e*		10 42 44.4	
SNAA				*e*		10 42 53.0	
SNAA				*e*		10 47 14.9	
SNAA				*e*		10 47 23.3	
SNAA				*e*		10 47 30.0	
SNAA				*e*		10 50 57.8	
SNAA				*e*		10 51 00.6	
SNAA	**Sanae**	**17.42**	**157**	P	**Pn**	**10 42 36.8**	**+0.1**
SNAA				LR	LR	10 48 01.3	
SNAA				ScP	ScP	10 50 51.9	+0.5
SNAA	**Sanae**	**17.42**	**157**	P	**Pn**	**10 42 36.8**	**+0.1**
	3.1nm,0.3s,baz=326,slow=13,SNR=192						
SNAA				LR	LR	10 48 01.3	
	comp=Z,556nm,20.1s,baz=322,slow=32						
SNAA				ScP	ScP	10 50 51.9	+0.5
	0.0nm,0.3s,baz=225,slow=13,SNR=3.0						
EFI	**East Falkland**	**19.88**	**271**	Pn	**Pn**	**10 43 05.5**	**-1.3**
	2μm,0.7s,SNR=18						
EFI	**East Falkland**	**19.88**	**271**	*c i*P	**Pn**	**10 43 05.1**	**-1.7**
EFI	**East Falkland**	**19.88**	**271**	*e*P	**Pn**	**10 43 05.6**	**-1.2**
	223nm,0.7s						
PMSA	**Palmer Station**	**20.26**	**231**	P	**P**	**10 43 10.1**	**+0.9**
	85nm,0.9s,baz=87,slow=7.5,SNR=12						
PMSA				LR	LR	10 49 26.7	
	comp=Z,3μm,21.4s,MS4.7,baz=77,slow=32						
MAIT	**Maitri**	**20.80**	**146**	*e*P	**P**	**10 43 14.0**	**-1.0**
USHA	**Ushuaia**	**24.16**	**256**	P	**P**	**10 43 49.8**	**-0.1**
	76nm,0.9s,mb5.2,baz=82,slow=11,SNR=19						
USHA				LR	LR	10 51 04.8	
	comp=Z,3μm,22.0s,MS4.8,baz=83,slow=31						
SYO	**Syowa Base**	**30.10**	**140⇑**	*e*P	**P**	**10 44 41.5**	**-1.6**
SYO	**Syowa Base**	**30.10**	**140⇑**	*e*pP	pP	10 44 44.0	-3.3
TRQA	**Tornquist**	**30.81**	**292**	*e*P	**P**	**10 44 48.2**	**-1.5**
	18nm,0.6s,mb5.1						
TRQA				LR	LR		
	comp=Z,940nm,20.0s,MS4.4						
QSPA	**South Pole Qui**	**33.29**	**180**	*e*P	**P**	**10 45 12.2**	**+1.2**
	comp=Z,34nm,0.5s,mb5.5						
QSPA				*e*PcP	PcP	10 47 52.8	+0.2
QSPA				LR	LR		
	comp=Z,1μm,20.0s,MS4.7						
QSPA	**South Pole Qui**	**33.29**	**180**	P	**P**	**10 45 12.3**	**+1.3**
	comp=Z,32nm,0.6s,mb5.5,baz=198,slow=2.8,SNR=68						
QSPA				PcP	PcP	10 47 53.7	+1.1
	comp=Z,26nm,1.0s,baz=224,slow=1.6,SNR=3.6						
QSPA				ScP	ScP	10 51 35.3	-1.0
	comp=Z,5.5nm,1.1s,baz=129,slow=6.5,SNR=3.3						
QSPA				LR	LR	10 58 01.6	
	comp=Z,1μm,20.0s,MS4.6,baz=9.1,slow=35						
PLCA	**Paso Flores**	**33.37**	**279**	*e*P	**P**	**10 45 10.3**	**-1.8**
PLCA				pmax	pmax		
	comp=Z,39nm,1.1s						
PLCA				MLR	MLR		
	comp=Z,2μm,19.0s						
PLCA	**Paso Flores**	**33.37**	**279**	*e*P	**P**	**10 45 10.3**	**-1.8**
	comp=Z,39nm,1.1s,mb5.2						
PLCA				LR	LR		
	comp=Z,2μm,19.0s,MS5.0						
PLCA	**Paso Flores**	**33.37**	**279**	P	**P**	**10 45 10.3**	**-1.8**
	comp=Z,22nm,1.0s,mb5.1,baz=147,slow=7.9,SNR=33						
PLCA				ScP	ScP	10 51 35.6	-1.5
	comp=Z,7.5nm,0.9s,baz=127,slow=3.8,SNR=14						
PLCA				LR	LR	10 57 42.5	
	comp=Z,2μm,21.1s,MS4.8,baz=126,slow=34						
CAM4	**Nova Friburgo**	**36.89**	**332⇑**	*i*P	**P**	**10 45 44.6**	**+2.1**
CAM4				*i*	pP	10 45 47.1	+0.3
CAM4				*i*	pP	10 45 49.1	+2.3
CAM4				*i*		10 45 59.4	
CAM4				*i*		10 46 13.4	
CPUP	**Villa Florida**	**38.34**	**309**	*e*P	**P**	**10 45 54.7**	**-0.1**
	comp=Z,263nm,0.9s,mb6.0						
CPUP				LR	LR		
	comp=Z,173nm,21.0s,MS3.8						
CPUP	**Villa Florida**	**38.34**	**309**	P	**P**	**10 45 54.9**	**+0.1**
	comp=Z,65nm,0.9s,mb5.3,baz=133,slow=7.6,SNR=87						
CPUP				LR	LR	11 00 25.4	
	comp=Z,586nm,19.9s,MS4.4,baz=138,slow=34						
MAW	**Mawson**	**38.68**	**142**	*e*P	**P**	**10 45 56.7**	**-0.6**
MAW				pmax	pmax		
	comp=Z,65nm,0.7s						
MAW	**Mawson**	**38.68**	**142**	*e*P	**P**	**10 45 56.7**	**-0.6**
	comp=Z,65nm,0.7s,mb5.5						
MAW	**Mawson**	**38.68**	**142**	P	**P**	**10 45 58.0**	**+0.7**
	comp=Z,77nm,1.1s,mb5.3,baz=253,slow=9.9,SNR=25						
MAW				PcP	PcP	10 48 09.4	+0.6
	comp=Z,17nm,0.9s,baz=252,slow=6.6,SNR=6.9						
MAW				LR	LR	10 59 37.4	
	comp=Z,1μm,19.7s,MS4.7,baz=251,slow=33						
CFAA	**Coronel Fontan**	**39.04**	**292**	P	**P**	**10 45 58.4**	**-2.3**
	comp=Z,3.0nm,0.7s,mb4.2,baz=146,slow=8.5,SNR=76						
CFAA				ScP	ScP	10 51 58.3	+0.2
	comp=Z,1.1nm,0.8s,baz=118,slow=1.2,SNR=10.0						
SUR	**Sutherland**	**39.72**	**72**	P	**P**	**10 46 07.0**	**+0.6**
	comp=Z,18nm,0.8s,mb4.9,baz=177,slow=9.3,SNR=9.0						
SUR				LR	LR	10 59 51.6	
	comp=Z,2μm,19.4s,MS4.9,baz=100,slow=32						
LCO	**Las Campanas**	**42.39**	**292**	*e*P	**P**	**10 46 26.9**	**-1.4**
	comp=Z,93nm,1.4s,mb5.2						
LCO				LR	LR		
	comp=Z,1μm,19.0s,MS4.8						
BDFB	**Brasilia**	**44.78**	**328**	P	**P**	**10 46 48.0**	**+0.4**
	comp=Z,4.2nm,0.8s,mb4.3,baz=155,slow=19,SNR=6.0						
BDFB				LR	LR	11 02 35.9	
	comp=Z,662nm,21.0s,MS4.5,baz=159,slow=32						
BOSA	**Boshof**	**45.03**	**73**	P	**P**	**10 46 48.6**	**-1.0**
BOSA						10 48 30.8	
BOSA	**Boshof**	**45.03**	**73**	P	**P**	**10 46 48.6**	**-1.0**
BOSA				PcP	PcP	10 48 30.8	+0.4
BOSA				LR	LR	11 02 00.3	
BOSA	**Boshof**	**45.03**	**73**	P	**P**	**10 46 48.6**	**-1.0**
	comp=Z,23nm,0.9s,mb5.0,baz=218,slow=7.3,SNR=19						
BOSA				PcP	PcP	10 48 30.8	+0.4
	comp=Z,14nm,1.1s,baz=198,slow=3.2,SNR=3.6						
BOSA				LR	LR	11 02 00.3	
	comp=Z,2μm,19.1s,MS5.2,baz=213,slow=31						
SBA	**Scott Base**	**45.26**	**183**	*e*P	**P**	**10 46 52.6**	**+1.8**
SBA				pmax	pmax		
	comp=Z,79nm,1.7s,mb5.3						
SBA	**Scott Base**	**45.26**	**183**	*e*P	**P**	**10 46 52.2**	**+1.4**
	comp=Z,79nm,1.7s,mb5.3						
VNDA	**Vanda**	**45.72**	**182**	*e*P	**P**	**10 46 55.5**	**+1.0**
VNDA				pmax	pmax		
	comp=Z,18nm,1.0s						
VNDA	**Vanda**	**45.72**	**182**	*e*P	**P**	**10 46 55.5**	**+1.1**
	comp=Z,18nm,1.0s,mb5.0						
VNDA	**Vanda**	**45.72**	**182**	P	**P**	**10 46 55.7**	**+1.2**
	comp=Z,14nm,1.0s,mb4.8,baz=186,slow=6.5,SNR=39						
VNDA				ScP	ScP	10 52 23.9	-0.3
	comp=Z,5.5nm,1.0s,baz=279,slow=4.6,SNR=3.9						
VNDA				LR	LR	11 04 33.8	
	comp=Z,437nm,19.6s,MS4.4,baz=163,slow=34						
LBTB	**Lobatse**	**48.12**	**70**	*e*P	**P**	**10 47 13.6**	**-0.3**
LBTB				pmax	pmax		
	comp=Z,68nm,1.4s,mb5.5						
LBTB				MLR	MLR		
	comp=Z,2μm,22.0s,MS5.0						
LBTB	**Lobatse**	**48.12**	**70**	*e*P	**P**	**10 47 13.6**	**-0.2**
	comp=Z,68nm,1.4s,mb5.5						
LBTB				LR	LR		
	comp=Z,2μm,22.0s,MS5.0						
LBTB	**Lobatse**	**48.12**	**70**	LR	LR	11 03 31.5	
	comp=Z,1μm,19.8s,MS5.0,baz=226,slow=31						
TSUM	**Tsumeb**	**49.09**	**58**	*e*P	**P**	**10 47 21.1**	**-0.2**
TSUM				LR	LR		
	comp=Z,718nm,20.0s,MS4.7						
TSUM	**Tsumeb**	**49.09**	**58**	LR	LR	11 02 53.4	
	comp=Z,556nm,21.4s,MS4.5,baz=145,slow=30						
RCBR	**Riachuelo**	**51.72**	**346**	PFAKE		10 47 50.0	+8.8
RCBR				LR	LR		
	comp=Z,452nm,22.0s,MS4.5						
LPAZ	**La Paz**	**51.91**	**303**	*e*P	**P**	**10 47 43.6**	**+1.0**
LPAZ				pmax	pmax		
	comp=Z,108nm,0.7s						
LPAZ				MLR	MLR		
	comp=Z,366nm,21.0s						
LPAZ	**La Paz**	**51.91**	**303**	*e*P	**P**	**10 47 43.6**	**+1.0**
	comp=Z,108nm,0.7s,mb5.9						
LPAZ				LR	LR		
	comp=Z,366nm,21.0s,MS4.4						
LPAZ	**La Paz**	**51.91**	**303**	P	**P**	**10 47 43.8**	**+1.2**
	comp=Z,85nm,0.6s,mb5.8,baz=140,slow=6.6,SNR=419						
CASY	**Casey**	**52.63**	**159**	*e*P	**P**	**10 47 47.5**	**+0.1**
	comp=Z,70nm,1.0s,mb5.5						
CASY				LR	LR		
	comp=Z,2μm,19.0s,MS5.1						
ARE	**Arequipa**	**53.32**	**300**	*e*P	**P**	**10 47 53.0**	**-0.1**
LSZ	**Lusaka**	**57.58**	**66**	*e*P	**P**	**10 48 23.2**	**-0.6**
LSZ				LR	LR		
	comp=Z,1μm,21.0s,MS5.0						
LSZ	**Lusaka**	**57.58**	**66**	LR	LR	11 09 20.0	
	comp=Z,1μm,19.9s,MS5.0,baz=173,slow=32						
NNA	**Nana**	**59.76**	**297**	P	**P**	**10 48 37.9**	**-1.0**
NNA				LR	LR		
	comp=Z,633nm,20.0s,MS4.8						
NNA	**Nana**	**59.76**	**297**	P	**P**	**10 48 37.9**	**-1.0**
	comp=Z,17nm,0.8s,mb5.1,baz=169,slow=6.4,SNR=6.8						
ATAH	**Atahualpa**	**64.83**	**298**	P	**P**	**10 49 13.0**	**+0.1**
	comp=Z,16nm,1.0s,mb5.0,baz=137,slow=10,SNR=9.5						
DBIC	**Dimbokro**	**65.51**	**22**	P	**P**	**10 49 16.7**	**-0.6**
	comp=Z,15nm,1.0s,mb5.0,baz=176,slow=7.3,SNR=10						
DBIC				LR	LR	11 11 01.1	
	comp=Z,387nm,20.0s,MS4.6,baz=177,slow=30						
TOA0	**Torodi Ar. Sit**	**73.27**	**27**	*e*P	**P**	**10 50 04.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**73.27**	**27**	P	**P**	**10 50 04.7**	**-0.5**
TORD				LR	LR	11 14 22.1	
TORD	**Torodi Ar. Bea**	**73.27**	**27**	P	**P**	**10 50 04.7**	**-0.5**
	comp=Z,38nm,0.8s,mb5.4,baz=195,slow=6.3,SNR=184						
TORD				LR	LR	11 14 22.1	
	comp=Z,380nm,21.6s,MS4.6,baz=190,slow=29						
ROSC	**El Rosal**	**73.43**	**308**	*e*P	**P**	**10 50 08.6**	**+2.3**
ROSC	**El Rosal**	**73.43**	**308**	P	**P**	**10 50 07.2**	**+1.0**
	comp=Z,10nm,0.7s,mb4.9,baz=87,slow=22,SNR=7.1						
ROSC				LR	LR	11 21 06.1	
	comp=Z,328nm,21.8s,MS4.6,baz=25,slow=35						
KMBO	**Kilima Mbogo**	**74.24**	**67**	P	**P**	**10 50 13.7**	**+2.6**
	comp=Z,2.3nm,0.2s,mb4.7,baz=231,slow=24,SNR=10						
KMBO				LR	LR	11 22 49.4	
	comp=Z,457nm,18.4s,MS4.8,baz=144,slow=36						
PCRV	**Puerto La Cruz**	**74.43**	**319**	P	**P**	**10 50 12.1**	**+0.1**
	comp=Z,97nm,0.9s,mb5.7,baz=161,slow=3.1,SNR=17						
GRGR	**Grenville**	**75.23**	**323**	PFAKE		10 50 30.0	+13
GRGR				LR	LR		
	comp=Z,497nm,19.0s,MS4.8						
RPZ	**Rata Peaks**	**78.80**	**192**	LR	LR	11 22 51.6	
	comp=Z,327nm,19.3s,MS4.7,baz=218,slow=34						
BCIP	**Isla Barro Col**	**79.69**	**305**	PFAKE		10 50 50.0	+8.3
BCIP				LR	LR

comp=Z,1µm,24.5s,baz=154
PPT Papeete 92.63 232 LR LR 11 23 33.7
comp=Z,701nm,21.0s,MS5.1,baz=135,slow=29
TEIG Tepich 93.23 303 PFAKE 10 52 00.0 +12
TEIG LR LR
comp=Z,304nm,20.0s,MS4.8
RAR Rarotonga 93.40 222 PFAKE 10 52 00.0 +11
RAR LR LR
comp=Z,1.0nm,21.0s
RAR Rarotonga 93.40 222 LR LR 11 25 09.9
comp=Z,155nm,19.4s,MS4.5,baz=289,slow=30
TAOE Nuku Hiva Isla 95.88 244 *e*S S 11 03 14.2 -4.3
comp=Z,6µm,28.1s
TAOE Nuku Hiva Isla 95.88 244 *e*LR LR 11 23 06.2
comp=Z,8µm,24.0s
KEST Kesra 96.79 28 P **P** **10 52 05.0 +0.8**
comp=Z,1.8nm,0.8s,mb4.5,baz=203,slow=6.2,SNR=2.8
KEST LR LR 11 28 56.1
comp=Z,118nm,21.1s,MS4.3,baz=192,slow=31
DWPF Disney 97.17 312 PFAKE 10 52 20.0 +14
DWPF LR LR
comp=Z,887nm,20.0s,MS5.2
ASAR Alice Springs 97.74 161 P **P** **10 52 08.1 -1.0**
ASAR 10 56 03.5
ASAR Alice Springs 97.74 161 P **P** **10 52 08.1 -1.0**
comp=Z,8.0nm,0.9s,mb5.2,baz=194,slow=4.4,SNR=49
ASAR PP PP 10 56 03.5 -2.6
comp=Z,3.5nm,1.0s,baz=192,slow=6.9,SNR=7.4
ASAR PKKPbc PKKPbc 11 08 42.8 +1.2
comp=Z,1.2nm,1.2s,baz=350,slow=3.3,SNR=5.1
ESDC Sonseca Array 97.89 16 LR LR 11 33 57.3
comp=Z,171nm,19.4s,MS4.5,baz=60,slow=34
ESLA Sonseca Array 97.89 16 PFAKE 10 52 20.0 +11
ESLA LR LR
comp=Z,1µm,19.0s,MS5.5
WRA Warramunga Arr 101.45 160 P Pdif 10 52 24.8 -1.0
WRA 10 56 31.4
WRA Warramunga Arr 101.45 160 P Pdif 10 52 24.8 -1.0
comp=Z,1.7nm,0.9s,baz=198,slow=4.5,SNR=11
WRA PP PP 10 56 31.4 -2.9
comp=Z,3.7nm,1.2s,baz=201,slow=5.1,SNR=4.1
WRA PKKPbc PKKPbc 11 08 32.9 +1.7
comp=Z,0.9nm,0.8s,baz=356,slow=3.1,SNR=7.2
WRAB Tennant Creek 101.46 160 PFAKE 10 52 40.0 +14
WRAB LR LR
comp=Z,925nm,22.0s,MS5.2
BRAL Brewton 102.04 309 PFAKE 10 52 40.0 +12
BRAL LR LR
comp=Z,478nm,21.0s,MS5.0
CNNC Cliffs of the 102.13 318 PFAKE 10 52 40.0 +11
CNNC LR LR
comp=Z,303nm,19.0s,MS4.8
GOGA Godfrey 102.65 313 PFAKE 10 52 40.0 +8.9
GOGA LR LR
comp=Z,406nm,21.0s,MS4.9
CTAO Charters Tower 102.90 172 PFAKE 10 52 40.0 +7.8
CTAO LR LR
comp=Z,778nm,19.0s,MS5.2
KVTX Kingsville 104.00 299 PFAKE 10 52 50.0 +13
KVTX LR LR
comp=Z,173nm,19.0s,MS4.6
VBMS Vicksburg 104.57 307 PFAKE 10 52 50.0 +10
VBMS LR LR
comp=Z,192nm,19.0s,MS4.7
CBN Corbin 104.59 320 PFAKE 10 52 50.0 +10
CBN LR LR
comp=Z,310nm,19.0s,MS4.9
PALK Pallekele 104.60 99 PFAKE 10 52 50.0 +10
PALK LR LR
comp=Z,534nm,19.0s,MS5.1
BLA Blacksburg 104.81 317 PFAKE 10 52 50.0 +9.3
BLA LR LR
comp=Z,295nm,22.0s,MS4.8
HKT Hockley 105.05 302 PFAKE 10 57 10.0 +14
HKT LR LR
comp=Z,177nm,19.0s,MS4.6
TZTN Tazewell 105.42 315 PFAKE 10 57 10.0 +14
TZTN LR LR
comp=Z,381nm,20.0s,MS4.9
PLAL Pickwick Lake 105.90 310 PFAKE 10 57 10.0 +13
PLAL LR LR
comp=Z,661nm,20.0s,MS5.2
NATX Nacogdoches 106.03 304 PFAKE 10 57 10.0 +12
NATX LR LR
comp=Z,276nm,22.0s,MS4.8
OXF Oxford 106.06 309 PFAKE 10 57 10.0 +13
OXF LR LR
comp=Z,338nm,20.0s,MS4.9
WES Weston 106.36 326 PFAKE 10 57 10.0 +12
WES LR LR
comp=Z,1µm,22.0s,MS5.3
MCWV Mont Chateau 106.76 319 PFAKE 10 57 10.0 +11
MCWV LR LR
comp=Z,565nm,19.0s,MS5.1
SSPA Standing Stone 106.94 321 PFAKE 10 57 10.0 +11
SSPA LR LR
comp=Z,304nm,20.0s,MS4.8
JCT Junction City 107.36 299 PFAKE 10 57 10.0 +10
JCT LR LR
comp=Z,167nm,22.0s,MS4.5
MIAR Mount Ida 107.89 306 PFAKE 10 57 10.0 +9.1
MIAR LR LR
comp=Z,154nm,21.0s,MS4.5
ANTO Ankara 108.01 43 PFAKE 10 57 10.0 +9.1
ANTO LR LR
comp=Z,165nm,20.0s,MS4.6
TXAR Lajitas Array 108.30 296 PKiKP PKiKP 10 57 01.6 -0.2
comp=Z,0.2nm,0.5s,baz=161,slow=3.8,SNR=4.5
ACSO Alum Creek Sta 108.42 317 PFAKE 10 57 10.0 +8.3
ACSO LR LR
comp=Z,369nm,20.0s,MS4.9
NCB Newcomb 108.70 325 PFAKE 10 57 10.0 +7.9
NCB LR LR
comp=Z,403nm,19.0s,MS5.0
ERPA Erie 108.98 320 PFAKE 10 57 10.0 +7.3
ERPA LR LR
comp=Z,348nm,19.0s,MS4.9
LONY Lake Ozonia 109.39 325 PFAKE 10 57 10.0 +6.6
LONY LR LR
comp=Z,485nm,19.0s,MS5.1
CCM Cathedral Cave 109.85 310 PFAKE 10 57 20.0 +16
CCM LR LR
comp=Z,567nm,19.0s,MS5.2
AAM Ann Arbor 110.47 317 PFAKE 10 57 20.0 +15
AAM LR LR
comp=Z,334nm,20.0s,MS4.9
MNTX Cornudas Mount 111.08 296 PFAKE 10 57 20.0 +13
MNTX LR LR
comp=Z,256nm,20.0s,MS4.8
HDIL Hopedale 111.16 313 PFAKE 10 57 20.0 +13
HDIL LR LR
comp=Z,284nm,19.0s,MS4.9
FUNA Funafuti 111.79 206 PFAKE 10 57 20.0 +11
FUNA LR LR
comp=Z,7µm,19.0s
AMTX Amarillo 111.88 300 PFAKE 10 57 20.0 +12
AMTX LR LR
comp=Z,227nm,20.0s,MS4.8
KSU1 Kansas State U 113.03 307 PFAKE 10 57 20.0 +10
KSU1 LR LR
comp=Z,397nm,21.0s,MS5.0
JFWS Jewell Farm 113.53 313 PFAKE 10 57 20.0 +8.7
JFWS LR LR
comp=Z,393nm,21.0s,MS5.0
HNR Honiara 113.73 185 PFAKE 10 57 20.0 +7.3
HNR LR LR
comp=Z,189nm,19.0s,MS4.7
SCIA State Center 113.90 311 PFAKE 10 57 20.0 +8.0
SCIA LR LR
comp=Z,701nm,21.0s,MS5.2
CBKS Cedar Bluff 114.19 304 PFAKE 10 57 20.0 +7.3
CBKS LR LR
comp=Z,219nm,20.0s,MS4.8
ANMO Albuquerque 114.23 297 *i* PKIKP PKiKP 10 57 12.4 -0.5
ANMO Albuquerque 114.23 297 PFAKE 10 57 20.0 +7.1
ANMO LR LR
comp=Z,15nm,21.0s
TUC Tucson 114.28 292 PFAKE 10 57 20.0 +6.9
TUC LR LR
comp=Z,154nm,21.0s,MS4.6
Y18A Canyon Day Jun 115.07 294 ⇑PKIKP PKiKP 10 57 15.4 +0.8
baz=115
KIV Kislovodsk 115.35 48 PFAKE 10 57 30.0 +15
KIV LR LR
comp=Z,180nm,20.0s,MS4.7
Y17A Roosevelt 115.41 293 ⇓PKIKP PKPdf 10 57 15.9 +0.7
baz=116
Z16A Peralta Trail, 115.42 292 ⇓PKIKP PKPdf 10 57 15.8 +0.6
baz=116
X18A Snowflake 115.62 294 ⇓PKIKP PKPdf 10 57 16.5 +0.9
baz=116
COWI Conover 115.77 316 PFAKE 10 57 30.0 +15
COWI LR LR
comp=Z,351nm,21.0s,MS5.0
Y16A Circle Bar Ran 115.88 293 ⇑PKIKP PKPdf 10 57 16.9 +0.8
baz=116
SDCO Great Sand Dun 116.01 300 PFAKE 10 57 30.0 +14
SDCO LR LR
comp=Z,203nm,21.0s,MS4.7
113A Mohawk Valley, 116.16 290 ⇓PKIKP PKPdf 10 57 17.1 +0.4
baz=116
Z14A Wintersburg 116.21 291 ⇑PKIKP PKPdf 10 57 17.5 +0.8
baz=116
AKASG Malin Array Be 116.22 35 PKP PKPdf 10 57 13.9 -2.3
comp=Z,0.3nm,0.3s,baz=237,slow=2.0,SNR=7.1
X16A Lo Mia Camp, P 116.28 293 ⇑PKIKP PKPdf 10 57 17.8 +0.9
baz=116
Y15A Casa Rosa Ranc 116.37 292 ⇓PKIKP PKPdf 10 57 17.4 +0.4
baz=117
SCHQ Schefferville 116.50 334 PKP PKPdf 10 57 15.4 -1.1
SCHQ LR LR
comp=Z,528nm,22.0s,MS5.1
SCHQ Schefferville 116.50 334 PKP PKPdf 10 57 15.4 -1.1
comp=Z,1.0nm,0.5s,baz=149,slow=12,SNR=3.7
Y14A Wickenburg 116.70 292 ⇓PKIKP PKPdf 10 57 18.0 +0.4
baz=117
X15A Humboldt 116.74 292 ⇑PKIKP PKPdf 10 57 18.3 +0.6
baz=117
ECSD EROS,Sioux Fal 116.82 310 PFAKE 10 57 30.0 +12
ECSD LR LR
comp=Z,546nm,20.0s,MS5.2
GLA Glamis 116.93 290 PFAKE 10 57 30.0 +12
GLA LR LR
comp=Z,184nm,20.0s,MS4.7
GLA Glamis 116.93 290 ⇑PKIKP PKPdf 10 57 18.7 +0.5
baz=117
MVCO Mesa Verde 117.03 297 PFAKE 10 57 30.0 +12
MVCO LR LR
comp=Z,245nm,19.0s,MS4.8
MVCO Mesa Verde 117.03 297 ⇑PKIKP PKPdf 10 57 18.8 +0.6
baz=117
X14A Yava 117.06 292 ⇓PKIKP PKPdf 10 57 18.9 +0.6
baz=117
WUAZ Wupatki 117.12 294 PFAKE 10 57 30.0 +12
WUAZ LR LR
comp=Z,221nm,19.0s,MS4.8
WUAZ Wupatki 117.12 294 ⇑PKIKP PKPdf 10 57 19.1 +0.7
baz=117
PDMCI Parker Dam,Lak 117.56 291 ⇑PKIKP PKPdf 10 57 19.9 +0.5
baz=118
ISCO Idaho Springs 117.69 301 PFAKE 10 57 30.0 +11
ISCO LR LR
comp=Z,170nm,21.0s,MS4.7
BC3 Big Chuckw Mtn 117.73 290 ⇑PKIKP PKPdf 10 57 20.1 +0.5
baz=118
W14A Seligman 117.74 292 ⇓PKIKP PKPdf 10 57 20.6 +0.9
baz=118
V15A Kaibab Nationa 117.75 293 ⇑PKIKP PKPdf 10 57 20.5 +0.9
baz=118
PV01 Paradox Valley 117.79 298 *e*PKPdf PKPdf 10 57 19.8 +0.2
IRM Iron Mountain 117.97 290 ⇓PKIKP PKPdf 10 57 20.9 +0.7
baz=118
W13A Hualapai Mount 118.06 292 ⇑PKIKP PKPdf 10 57 21.1 +0.9
baz=118
V14A Boquillas Ranc 118.08 293 ⇑PKIKP PKPdf 10 57 21.3 +1.1
baz=118
EYMN Ely 118.20 316 PFAKE 10 57 30.0 +10
EYMN LR LR
comp=Z,309nm,20.0s,MS4.9
PFO Pinyon Flat Ob 118.21 289 PFAKE 10 57 30.0 +9.4
PFO LR LR
comp=Z,77nm,20.0s,MS4.3
BELC Belle Mtn. 118.28 289 ⇓PKIKP PKPdf 10 57 21.6 +0.9
baz=118
T16A Glen Canyon Da 118.33 295 ⇓PKIKP PKPdf 10 57 21.2 +0.5
baz=118
V13A Grand Canyon W 118.69 292 ⇓PKIKP PKPdf 10 57 22.0 +0.5
baz=119
GMRC Granite Mounta 118.72 290 ⇓PKIKP PKPdf 10 57 22.6 +1.0
baz=119
U14A Mt Trumbull 118.73 293 ⇓PKIKP PKPdf 10 57 22.1 +0.6
baz=119
T15A Red Dirt Ranch 118.80 294 ⇓PKIKP PKPdf 10 57 22.0 +0.4
baz=119
BBRC Big Bear Sol-O 118.96 289 ⇓PKIKP PKPdf 10 57 22.7 +0.7
baz=119
V12A Nelson 119.04 291 ⇑PKIKP PKPdf 10 57 22.8 +0.7
baz=119
HEC Hector,Ludlow 119.10 290 ⇑PKIKP PKPdf 10 57 23.2 +0.9
baz=119
U13A Pakoon Wash 119.12 293 ⇓PKIKP PKPdf 10 57 23.2 +1.0
baz=119
T14A Hurricane 119.18 294 ⇑PKIKP PKPdf 10 57 23.3 +1.0
baz=119
V11A Goodsprings 119.42 291 ⇑PKIKP PKPdf 10 57 23.6 +0.8
baz=120
U12A Valley of Fire 119.43 292 ⇑PKIKP PKPdf 10 57 23.6 +0.7
baz=120
GSC Goldstone 119.71 290 PFAKE 10 57 30.0 +6.6
GSC LR LR
comp=Z,204nm,21.0s,MS4.7
MSU Marysvale 119.86 295 *e*PKIKP PKPdf 10 57 24.6 +1.0
MVU Marysvale 119.87 295 PFAKE 10 57 40.0 +16
MVU LR LR
comp=Z,184nm,20.0s,MS4.7
AGMN Agassiz Refuge 120.20 313 PFAKE 10 57 40.0 +16
AGMN LR LR
comp=Z,313nm,21.0s,MS4.9
LRMC Laurel Mountai 120.30 289 ⇓PKIKP PKPdf 10 57 25.6 +1.1
baz=120
U10A Ash Meadows, A 120.33 291 ⇓PKIKP PKPdf 10 57 25.0 +0.4
baz=120
RSSD Black Hills 120.37 305 *e*PKIKP PKPdf 10 57 23.2 -1.2
RSSD MLR MLR
comp=Z,574nm,19.0s,MS5.2
T11A Corn Creek, Al 120.40 292 ⇑PKIKP PKPdf 10 57 25.8 +1.1
baz=121
S12A Delamar Landin 120.49 293 ⇑PKIKP PKPdf 10 57 26.1 +1.2
baz=121
TPNV Topopah Spring 120.70 291 *e*PKPdf PKPdf 10 57 25.8 +0.6
TPNV LR LR
comp=Z,238nm,19.0s,MS4.8
TPNV Topopah Spring 120.70 291 ⇓PKIKP PKPdf 10 57 26.4 +1.2
baz=121
DAC Darwin (Calif) 120.87 290 PFAKE 10 57 40.0 +14
DAC LR LR
comp=Z,189nm,21.0s,MS4.7
R12A Pony Springs, 120.93 294 ⇑PKIKP PKPdf 10 57 26.5 +0.9
baz=121
Q13A Wheeler Ranch, 121.11 294 ⇑PKIKP PKPdf 10 57 27.4 +1.4
baz=121
R11A Troy Canyon, C 121.43 293 ⇓PKIKP PKPdf 10 57 27.6 +1.0
baz=122
DUG Dugway 121.47 296 *e*PKPdf PKPdf 10 57 26.9 +0.3
DUG LR LR
comp=Z,207nm,21.0s,MS4.8
DUG Dugway 121.47 296 ⇓PKIKP PKPdf 10 57 27.4 +0.8
baz=122
P13A Bates Ranch, G 121.49 295 ⇑PKIKP PKPdf 10 57 27.5 +0.8
baz=122
Q12A Willow Creek R 121.58 294 ⇑PKIKP PKPdf 10 57 27.6 +0.7
baz=122
S10A Tonopah Range, 121.62 292 ⇑PKIKP PKPdf 10 57 27.8 +0.8
baz=122
R10A Warm Springs 121.75 292 ⇓PKIKP PKPdf 10 57 28.1 +0.9
baz=122
ULM Lac du Bonnet 121.76 314 PKP PKPdf 10 57 24.9 -1.9
ULM LR LR
comp=Z,446nm,21.0s,MS5.1
ULM Lac du Bonnet 121.76 314 PKP PKPdf 10 57 24.9 -1.9
comp=Z,7.6nm,0.8s,baz=145,slow=1.5,SNR=6.3
S09A Goldfield 121.79 291 ⇓PKIKP PKPdf 10 57 28.3 +0.9
baz=122
DDI Dehra Dun 121.80 82 *ex* x 10 57 29.2
Q11A Duckwater 121.85 293 ⇓PKIKP PKPdf 10 57 28.2 +0.8
baz=122
BW06 Boulder Array 121.86 300 PFAKE 10 57 40.0 +13
BW06 LR LR
comp=Z,253nm,20.0s,MS4.9
HWUT Hardware Ranch 121.94 298 *e*PKPdf PKPdf 10 57 27.3 -0.1
HWUT LR LR
comp=Z,241nm,19.0s,MS4.9
TPH Tonopah 122.06 291 PFAKE 10 57 40.0 +12
TPH LR LR
comp=Z,160nm,20.0s,MS4.7
R09A Tonopah 122.10 292 ⇑PKIKP PKPdf 10 57 28.8 +0.8
baz=122
BGU Big Grassy Mou 122.13 297 *e*PKPdf PKPdf 10 57 28.0 +0.1
N14A Grayback Hills 122.15 296 ⇓PKIKP PKPdf 10 57 28.7 +0.8
baz=122
Q10A Clear Creek Ra 122.21 293 ⇑PKIKP PKPdf 10 57 29.3 +1.2
baz=122
VSU Vasula 122.22 29 *i* PKIKP PKPdf 10 57 24.8 -2.7
M15A Larsen Ranch, 122.26 297 ⇓PKIKP PKPdf 10 57 28.8 +0.7
baz=122
OBN Obninsk 122.32 37 ⇑*i* PKIKP PKPdf 10 57 27.0 -0.8
OBN pmax pmax
comp=Z,29nm,1.2s
OBN Obninsk 122.32 37 ⇑*e*PKP PKPdf 10 57 27.3 -0.5
O12A Currie 122.48 295 ⇑PKIKP PKPdf 10 57 29.4 +0.9
baz=123
T06C Millerton Lake 122.52 289 ⇑PKIKP PKPdf 10 57 29.4 +0.6
baz=123
AHID Auburn Hatcher 122.60 299 PFAKE 10 57 40.0 +11
AHID LR LR
comp=Z,220nm,21.0s,MS4.8
Q09A Carvers 122.61 292 ⇓PKIKP PKPdf 10 57 30.3 +1.4
baz=123
N13A Wendover, West 122.66 296 ⇓PKIKP PKPdf 10 57 29.8 +0.9
baz=123
R08A Mina 122.72 291 ⇑PKIKP PKPdf 10 57 30.3 +1.2
baz=123
M14A Sheep Mountain 122.72 297 ⇓PKIKP PKPdf 10 57 29.4 +0.4
baz=123
O11A Cowboy Ranch, 122.83 294 ⇓PKIKP PKPdf 10 57 30.2 +0.9
baz=123
NVAR Mina Array Bea 122.88 291 PKP PKPdf 10 57 30.8 +1.4
NVAR PKKPbc PKKPbc 11 07 22.5 +2.3
NVAR Mina Array Bea 122.88 291 PKP PKPdf 10 57 30.8 +1.4
comp=Z,2.5nm,0.7s,baz=139,slow=3.4,SNR=21
NVAR PKKPbc PKKPbc 11 07 22.5 +2.3
comp=Z,0.8nm,0.9s,baz=280,slow=4.0,SNR=4.9
REDW Red Top Meadow 122.93 300 *e*PKPdf PKPdf 10 57 29.7 +0.4
SNOW Snow King Moun 122.96 300 *e*PKPdf PKPdf 10 57 29.9 +0.5
LOHW Long Hollow 123.00 300 *e*PKPdf PKPdf 10 57 29.8 +0.3
Q08A Gabbs 123.01 292 ⇓PKIKP PKPdf 10 57 30.5 +0.9
baz=123
M13A Montello 123.02 296 ⇑PKIKP PKPdf 10 57 30.5 +0.9
baz=123
N12A Clover Valley, 123.06 295 ⇑PKIKP PKPdf 10 57 30.8 +1.2
baz=123
TPAW Teton Pass 123.08 300 *e*PKPdf PKPdf 10 57 29.8 +0.2
P09A Austin 123.13 293 ⇑PKIKP PKPdf 10 57 30.8 +1.0
baz=123
MOOW Moose Ponds 123.17 300 *e*PKPdf PKPdf 10 57 29.8 0.0
MOS Moscow 123.18 37 *e*PKIKP PKPdf 10 57 35.7 +6.3
SAO San Andreas Ge 123.24 287 PFAKE 10 57 40.0 +10
SAO LR LR
comp=Z,221nm,19.0s,MS4.8
O10A Cortez Mining, 123.37 294 ⇑PKIKP PKPdf 10 57 31.3 +1.1
baz=124
IMW Indian Meadow 123.38 300 *e*PKPdf PKPdf 10 57 30.0 -0.2
FLWY Flagg Ranch 123.41 301 *e*PKPdf PKPdf 10 57 30.8 +0.6
M12A Wells 123.43 296 ⇑PKIKP PKPdf 10 57 31.5 +1.2
baz=124
K14A Jones Ranch, D 123.43 298 ⇓PKIKP PKPdf 10 57 31.3 +1.0
baz=124
L13A Double Diamond 123.46 297 ⇑PKIKP PKPdf 10 57 31.6 +1.2
baz=124
O09A Fish Creek Ran 123.63 293 ⇓PKIKP PKPdf 10 57 31.6 +0.9
baz=124
CMB Columbia Colle 123.65 289 PKIKP PKPdf 10 57 32.0 +1.1
CMB Columbia Colle 123.65 289 *e*PKPdf PKPdf 10 57 31.5 +0.6
CMB LR LR
comp=Z,162nm,21.0s,MS4.7
CMB Columbia Colle 123.65 289 ⇑PKIKP PKPdf 10 57 31.9 +1.0
baz=124
S04C Ingram Canyon, 123.74 288 ⇓PKIKP PKPdf 10 57 32.0 +0.9
baz=124
KKTK Khon Kaen 123.79 114 P PKPdf 10 57 31.5 -0.3
DGMT Dagmar 123.80 308 PFAKE 10 57 40.0 +9.2
DGMT LR LR
comp=Z,510nm,21.0s,MS5.2
BMN Battle Mountai 123.84 293 PFAKE 10 57 40.0 +8.8
BMN LR LR
comp=Z,210nm,19.0s,MS4.8
M11A Holland Ranch, 123.87 295 ⇑PKIKP PKPdf 10 57 32.6 +1.4
baz=124
CHG Chiang Mai 123.90 109 ⇓P PKPdf 10 57 31.2 -0.8
comp=Z,30nm,1.0s
CHTO Chiang Mai 123.90 109 *e*PKPdf PKPdf 10 57 31.6 -0.4
CHTO LR LR
comp=Z,381nm,21.0s,MS5.0
K13A Stover Farm, H 123.95 297 ⇑PKIKP PKPdf 10 57 32.6 +1.3
baz=124
R05C Kirkwood Meado 123.99 290 ⇓PKIKP PKPdf 10 57 33.0 +1.4
baz=124
L12A House Creek Ra 124.03 296 ⇓PKIKP PKPdf 10 57 32.7 +1.2
baz=124
N09A Rock Creek Ran 124.31 293 ⇓PKIKP PKPdf 10 57 33.0 +1.0
baz=124
M10A I.L. Ranch, Tu 124.31 295 ⇑PKIKP PKPdf 10 57 33.2 +1.1
baz=124
K12A Draper Farm, C 124.34 297 ⇑PKIKP PKPdf 10 57 33.3 +1.3
baz=124
LAVA Lava Cap Winer 124.37 290 ⇑PKIKP PKPdf 10 57 33.1 +0.9
baz=125
L11A Cat Creek Ranc 124.41 296 ⇓PKIKP PKPdf 10 57 33.1 +0.9
baz=125
O07A Toulon 124.47 292 ⇑PKIKP PKPdf 10 57 33.2 +0.8
baz=125
J13A Cove Ranch, Pi 124.55 298 ⇓PKIKP PKPdf 10 57 33.4 +1.0
baz=125
N08A GE Springer Mi 124.56 293 ⇑PKIKP PKPdf 10 57 33.8 +1.3
baz=125
FINES FINESS Array B 124.62 27 *i* PKIKP PKPdf 10 57 31.7 -0.3
FINES pmax pmax
comp=Z,7.0nm,0.7s
FINES FINESS Array B 124.62 27 PKP PKPdf 10 57 31.8 -0.2
comp=Z,6.7nm,0.7s,baz=169,slow=1.9,SNR=19
L10A Juniper Basin 124.69 295 ⇓PKIKP PKPdf 10 57 33.8 +1.1
baz=125
M09A Marrel Ranch, 124.69 294 ⇑PKIKP PKPdf 10 57 33.5 +0.7
baz=125
P05C Yuba Gap, Truc 124.72 290 ⇑PKIKP PKPdf 10 57 34.0 +1.1
baz=125
HLID Hailey 124.79 298 ⇓PKIKP PKPdf 10 57 34.1 +1.2
baz=125
J12A Stokes Ranch, 124.89 297 ⇓PKIKP PKPdf 10 57 34.2 +1.1
baz=125
I13A Wildhorse Cree 124.91 298 ⇑PKIKP PKPdf 10 57 34.2 +1.1
baz=125
O06A Flanigan 124.96 291 ⇑PKIKP PKPdf 10 57 34.5 +1.1
baz=125
N07B Gerlach 124.98 292 ⇓PKIKP PKPdf 10 57 34.8 +1.4
baz=125
K11A Parker Ranch, 125.00 296 ⇓PKIKP PKPdf 10 57 34.4 +1.1
baz=125
BEKR Beckwourth 125.01 291 ⇓PKIKP PKPdf 10 57 34.5 +1.0
baz=125
BOZ Bozeman (W) 125.02 301 PFAKE 10 57 40.0 +6.8
BOZ LR LR
comp=Z,226nm,19.0s,MS4.9
BOZ Bozeman (W) 125.02 301 ⇓PKIKP PKPdf 10 57 34.1 +0.8
baz=125
MCCM Marconi Confer 125.03 287 PFAKE 10 57 40.0 +6.5
MCCM LR LR
comp=Z,157nm,20.0s,MS4.7
G15A Dillon 125.06 300 ⇑PKIKP PKPdf 10 57 34.4 +1.1
baz=125
DAV Davao City (W) 125.15 143 PFAKE 10 57 50.0 +15
DAV LR LR
comp=Z,371nm,22.0s,MS5.0
M08A Happy Creek Ra 125.18 293 ⇓PKIKP PKPdf 10 57 34.5 +0.8
baz=125
OHCM Honcut 125.19 289 *e*PKPdf PKPdf 10 57 34.5 +0.7
L09A Wilkinson Ranc 125.25 294 ⇓PKIKP PKPdf 10 57 35.0 +1.2
baz=125
DLMT Dillon 125.26 300 *e*PKPdf PKPdf 10 57 34.9 +1.1
SUTB Sutter Butte 125.27 289 ⇑PKIKP PKPdf 10 57 34.7 +0.8
baz=126
O05C Quincy 125.37 290 ⇑PKIKP PKPdf 10 57 35.4 +1.3
baz=126
MFID Camas Ranch 125.37 297 ⇑PKIKP PKPdf 10 57 34.7 +0.7
baz=126
N06A Buffalo Meadow 125.40 292 ⇓PKIKP PKPdf 10 57 35.2 +1.0
baz=126
K10A MacKenzie Ranc 125.41 295 ⇓PKIKP PKPdf 10 57 35.3 +1.2
baz=126
H13A Challis 125.46 299 ⇑PKIKP PKPdf 10 57 35.0 +0.8

baz=126
M07A Soldier Meadow 125.53 293 ⇓PKIKP PKPdf 10 57 35.8 +1.4
baz=126
F15A Butte 125.57 301 ⇑PKIKP PKPdf 10 57 35.1 +0.8
baz=126
SHL Shillong 125.63 98 eP PKPdf 10 57 36.0 +0.9
L08A Fields 125.71 294 ⇓PKIKP PKPdf 10 57 35.9 +1.2
baz=126
O04C Chester 125.72 291 ⇓PKIKP PKPdf 10 57 35.9 +1.1
baz=126
H12A Diamond D Ranc 125.74 298 ⇓PKIKP PKPdf 10 57 35.6 +0.9
baz=126
HOPS Hopland 125.76 288 PFAKE 10 57 50.0 +15
HOPS LR LR
comp=Z,264nm,21.0s,MS4.9
K09A Rome 125.78 295 ⇑PKIKP PKPdf 10 57 35.8 +0.9
baz=126
I11A Placerville 125.80 297 ⇓PKIKP PKPdf 10 57 35.5 +0.7
baz=126
G13A Cobalt 125.84 299 ⇓PKIKP PKPdf 10 57 35.0 +0.1
baz=126
EGMT Eagleton 125.92 304 ePKPdf PKPdf 10 57 35.2 +0.3
EGMT LR LR
comp=Z,484nm,22.0s,MS5.1
EGMT Eagleton 125.92 304 ⇓PKIKP PKPdf 10 57 35.4 +0.5
baz=126
WVOR Wild Horse Val 126.04 294 ePKIKP PKPdf 10 57 36.0 +0.7
WVOR MLR MLR
comp=Z,197nm,20.0s,MS4.8
M06C Likely Place G 126.06 292 ⇑PKIKP PKPdf 10 57 36.6 +1.2
baz=126
E15A Deer Lodge 126.07 301 ⇓PKIKP PKPdf 10 57 35.8 +0.6
baz=126
GASB Alder Springs 126.07 289 ⇓PKIKP PKPdf 10 57 36.9 +1.4
baz=126
L07A Adell 126.08 293 ⇑PKIKP PKPdf 10 57 36.8 +1.4
baz=126
K08A Mann Creek Ran 126.18 294 ⇓PKIKP PKPdf 10 57 36.3 +0.7
baz=126
J09A Fry Pan Ranch, 126.27 295 ⇑PKIKP PKPdf 10 57 36.9 +1.2
baz=126
HATC Hat Creek Radi 126.28 291 ⇑PKIKP PKPdf 10 57 37.1 +1.3
baz=126
F13A Darby 126.40 300 ⇑PKIKP PKPdf 10 57 36.2 +0.3
baz=127
H11A Donnelly 126.41 298 ⇓PKIKP PKPdf 10 57 36.6 +0.7
baz=127
E14A Clinton 126.46 301 ⇓PKIKP PKPdf 10 57 37.0 +1.0
baz=127
D15A Lincoln 126.46 302 ⇑PKIKP PKPdf 10 57 36.8 +0.8
baz=127
MOD Modoc 126.49 292 ePKPdf PKPdf 10 57 36.8 +0.6
MOD LR LR
comp=Z,163nm,20.0s,MS4.7
MOD Modoc 126.49 292 ⇓PKIKP PKPdf 10 57 37.1 +0.9
baz=127
M05C Lookout 126.52 291 ⇑PKIKP PKPdf 10 57 37.1 +0.8
baz=127
K07A Rock Creek Ran 126.53 294 ⇓PKIKP PKPdf 10 57 37.0 +0.7
baz=127
J08A Circle Bar Ran 126.64 295 ⇑PKIKP PKPdf 10 57 37.6 +1.2
baz=127
WDC Whiskeytown Da 126.66 290 ePKIKP PKPdf 10 57 36.8 +0.2
WDC MLR MLR
comp=Z,157nm,20.0s,MS4.7
WDC Whiskeytown Da 126.66 290 ⇑PKIKP PKPdf 10 57 36.9 +0.4
baz=127
H10A Noah's Angus R 126.69 297 ⇓PKIKP PKPdf 10 57 36.6 +0.1
baz=127
CHMT Chamberlain Mo 126.71 301 ePKPdf PKPdf 10 57 37.0 +0.6
E13A Victor 126.81 300 ⇑PKIKP PKPdf 10 57 37.0 +0.4
baz=127
L05A Lakeview 126.86 292 ⇓PKIKP PKPdf 10 57 38.4 +1.5
baz=127
AKTK Aktyubinsk 126.90 53 PKP PKPdf 10 57 36.3 -0.4
AKTO Aktyubinsk 126.90 53 PKP PKPdf 10 57 36.3 -0.4
comp=Z,11nm,0.9s,baz=180,slow=2.5,SNR=32
D14A Greenough 126.95 301 ⇓PKIKP PKPdf 10 57 37.0 +0.1
baz=127
M03C McCloud 126.95 291 ⇑PKIKP PKPdf 10 57 38.5 +1.3
baz=127
MSO Missoula 126.97 301 ePKPdf PKPdf 10 57 37.1 +0.2
MSO LR LR
comp=Z,251nm,21.0s,MS4.9
G11A Walters Elk Ra 127.04 298 ⇑PKIKP PKPdf 10 57 37.8 +0.7
baz=127
J07A Hines 127.06 294 ⇓PKIKP PKPdf 10 57 38.3 +1.1
baz=127
I08A Drewsey 127.09 295 ⇑PKIKP PKPdf 10 57 38.4 +1.1
baz=127
K06A Valley Falls 127.12 293 ⇓PKIKP PKPdf 10 57 38.5 +1.1
baz=127
BMO Blue Mountains 127.15 297 ePKIKP PKPdf 10 57 37.6 +0.2
JOF Joensuu 127.20 29 ep PKPdf 10 57 35.8 -1.1
comp=Z,15nm,0.9s
F11A Grangeville 127.34 299 ⇑PKIKP PKPdf 10 57 37.7 0.0
baz=128
G10A Bishop Farm, J 127.38 297 ⇑PKIKP PKPdf 10 57 38.2 +0.4
baz=128
K05A Summer Lake 127.39 293 ⇑PKIKP PKPdf 10 57 39.3 +1.4
baz=128
J06A Christmas Vall 127.40 294 ⇑PKIKP PKPdf 10 57 38.6 +0.7
baz=128
D13A Huson 127.41 301 ⇑PKIKP PKPdf 10 57 37.8 +0.1
baz=128
M02C Callahan 127.42 290 ⇓PKIKP PKPdf 10 57 39.0 +1.0
baz=128
L04A Klamath Falls 127.49 292 ⇑PKIKP PKPdf 10 57 38.6 +0.5
baz=128
C14A Swan Lake 127.56 302 ⇑PKIKP PKPdf 10 57 38.2 +0.2
baz=128
H08A Prairie City 127.58 296 ⇓PKIKP PKPdf 10 57 39.1 +0.9
baz=128
FFC Flin Flon 127.59 314 PFAKE 10 57 50.0 +12
FFC LR LR
comp=Z,345nm,19.0s,MS5.0
YBH Yreka Blue Hor 127.59 291 PKIKP PKPdf 10 57 38.3 0.0
YBH MLR MLR
comp=Z,171nm,21.0s
YBH Yreka Blue Hor 127.59 291 PKP PKPdf 10 57 38.3 0.0
comp=Z,1.5nm,0.7s,baz=63,slow=5.1,SNR=7.2
YBH Yreka Blue Hor 127.59 291 ⇓PKIKP PKPdf 10 57 38.3 0.0
baz=128
JCC Jacoby Creek 127.60 289 ⇓PKIKP PKPdf 10 57 38.8 +0.4
baz=128
KSH Kashi 127.64 74 ePKP PKPdf 10 57 40.1 +1.6
KSH ePP PP 10 59 39.4 -1.0
KSH ePKS 11 01 15.0
KSH eSKS SKSdf 11 04 46.0 -3.4
KSH PP PP
comp=Z,515nm,4.6s
KSH LR LR
comp=N,557nm,5.4s
KSH LR LR
comp=E,640nm,5.0s
KSH LR LR
comp=Z,622nm,8.7s
I07A Izee 127.67 295 ⇑PKIKP PKPdf 10 57 39.0 +0.6
baz=128
G09A Cove 127.69 297 ⇓PKIKP PKPdf 10 57 38.6 +0.3
baz=128
E11A Bogner Ranch, 127.71 299 ⇓PKIKP PKPdf 10 57 38.0 -0.4
baz=128
D12A Red Ives Fores 127.80 300 ⇑PKIKP PKPdf 10 57 38.4 -0.1
baz=128
C13A Hot Springs 127.89 301 ⇑PKIKP PKPdf 10 57 38.7 0.0
baz=128
F10A Beach Ranch, E 127.92 298 ⇓PKIKP PKPdf 10 57 38.6 -0.2
baz=128
I06A Prineville 127.93 294 ⇑PKIKP PKPdf 10 57 40.2 +1.4
baz=128
J05A Fort Rock 127.97 293 ⇑PKIKP PKPdf 10 57 38.8 -0.2
baz=128
H07A Lands Inn, Kim 128.07 295 ⇑PKIKP PKPdf 10 57 39.6 +0.5
baz=128
E10A Myers Farm, Un 128.23 298 ⇑PKIKP PKPdf 10 57 39.7 +0.3
baz=128
D11A Klaveano Farm, 128.26 299 ⇓PKIKP PKPdf 10 57 39.0 -0.4
baz=128
G08A Pilot Rock 128.28 296 ⇑PKIKP PKPdf 10 57 40.3 +0.8
baz=128
B13A Whitefish 128.34 302 ⇓PKIKP PKPdf 10 57 39.5 0.0
baz=128
HUMO Hull Mountain 128.35 291 ePKPdf PKPdf 10 57 39.6 -0.1
HUMO LR LR
comp=Z,184nm,19.0s,MS4.8
HUMO Hull Mountain 128.35 291 ⇑PKIKP PKPdf 10 57 40.1 +0.3
baz=128

AML Almayashu 128.35 70 PFAKE 10 57 50.0 +10
AML LR LR
comp=Z,246nm,21.0s,MS4.9
AML Almayashu 128.35 70 P PKPdf 10 57 40.1 +0.4
SNR=8.4
LSA Lhasa 128.48 94 ePKPdf PKPdf 10 57 41.4 +1.0
LSA eSKPdf SKPdf 11 01 15.6 +0.6
LSA LR LR
comp=Z,289nm,19.0s,MS5.0
H06A Lindquist Farm 128.56 295 ⇓PKIKP PKPdf 10 57 41.3 +1.2
baz=129
WALA Waterton Lakes 128.57 303 ePKPdf PKPdf 10 57 40.1 +0.2
G07A Ruggs Ranch, H 128.61 296 ⇓PKIKP PKPdf 10 57 41.0 +0.9
baz=129
D10A Wagner Farm, O 128.72 299 ⇓PKIKP PKPdf 10 57 40.0 -0.3
baz=129
EKS2 Erkin-Say 128.78 69 ePKPdf PKPdf 10 57 40.6 +0.1
EKS2 LR LR
comp=Z,266nm,20.0s,MS4.9
EKS2 Erkin-Say 128.78 69 P PKPdf 10 57 41.0 +0.5
SNR=13
UCH Uchtor 128.84 70 PFAKE 10 57 50.0 +9.3
UCH LR LR
comp=Z,218nm,20.0s,MS4.8
UCH Uchtor 128.84 70 P PKPdf 10 57 41.2 +0.5
SNR=17
I04A Tendick Farm, 128.93 293 ⇑PKIKP PKPdf 10 57 40.9 +0.1
baz=129
KZA Kyzart 129.12 71 P PKPdf 10 57 42.1 +0.9
SNR=21
D09A Jones Farm, Ri 129.22 298 ⇓PKIKP PKPdf 10 57 41.7 +0.4
baz=129
FRU Bishkek 129.33 70 ⇓ePKIKP PKPdf 10 57 41.5 -0.1
FRU pmax pmax
comp=Z,40nm,1.7s
HAWA Hanford 129.34 297 PFAKE 10 57 50.0 +8.5
HAWA LR LR
comp=Z,253nm,20.0s,MS4.9
KBK Karagaybulak 129.38 70 P PKPdf 10 57 41.9 +0.2
SNR=8.3
NEW Newport 129.50 300 PFAKE 10 57 50.0 +8.3
NEW LR LR
comp=Z,339nm,20.0s,MS5.0
QIZ Qiongzhong 129.53 120 PFAKE 10 57 50.0 +7.3
QIZ LR LR
comp=Z,373nm,19.0s,MS5.1
USP Ospenovka 129.58 69 P PKPdf 10 57 41.6 -0.4
SNR=12
TKM2 Tokmak 2 129.90 70 ePKIKP PKPdf 10 57 42.2 -0.5
TKM2 MLR MLR
comp=Z,194nm,20.0s,MS4.8
TKM2 Tokmak 2 129.90 70 P PKPdf 10 57 42.3 -0.4
SNR=9.2
COR Corvallis 129.94 293 PFAKE 10 57 50.0 +7.3
COR LR LR
comp=Z,283nm,19.0s,MS5.0
TMCR Tamitsa 130.02 31 ePKIKP PKPdf 10 57 40.6 -1.6
B08A Colville Reser 130.62 299 ⇓PKIKP PKPdf 10 57 44.1 +0.2
baz=131
A09A Danville 130.70 300 ⇑PKIKP PKPdf 10 57 44.8 +0.9
baz=131
A08A Turner Farm, O 131.01 299 ⇑PKIKP PKPdf 10 57 45.1 +0.6
baz=131
KMI Kunming 131.07 108 PKP PKPdf 10 57 46.3 +0.8
KMI PKS 11 01 21.9
KMI SS SS 11 17 37.6 +4.1
KMI LR LR
comp=Z,153nm,27.1s,MS4.6
EDM Edmonton 131.23 307 ePKIKP PKPdf 10 57 44.4 -0.4
C05A Tolt Reservoir 131.31 297 ⇓PKIKP PKPdf 10 57 45.6 +0.4
baz=132
ARCES ARCESS Array B 131.34 21 PKP PKPdf 10 57 45.4 +0.8
comp=Z,2.6nm,0.6s,baz=193,slow=2.1,SNR=11
ARU Arti 131.40 47 i PKIKP PKPdf 10 57 44.6 -0.5
ARU Arti 131.40 47 ePKPdf PKPdf 10 57 44.9 -0.1
ARU LR LR
comp=Z,240nm,19.0s,MS4.9
B05A Bryant 131.90 297 ⇑PKIKP PKPdf 10 57 46.7 +0.5
baz=132
LVZ Lovozero 132.03 26 PFAKE 10 58 00.0 +14
LVZ LR LR
comp=Z,193nm,19.0s,MS4.8
NLWA Neilton Lookou 132.17 295 PFAKE 10 58 00.0 +13
NLWA LR LR
comp=Z,282nm,21.0s,MS5.0
SVE Sverdlovsk 132.51 48 ⇓iPKIKP PKPdf 10 57 47.4 +0.3
SVE pmax pmax
comp=Z,36nm,1.5s
SVE MLR MLR
comp=Z,533nm,23.0s,MS5.2
GYA Guiyang 134.19 111 ⇑iPKP PKPdf 10 57 51.3 0.0
GYA PP PP 11 00 27.8 +5.1
GYA PKS 11 01 27.3
GYA PPP 11 03 23.3
GYA SKS SKSdf 11 05 00.8 -1.1
GYA SKKS SKKSac 11 07 17.6 +0.1
GYA SS SS 11 18 14.4 +3.1
GYA PP PP
comp=Z,180nm,8.6s
GYA LR LR
comp=N,2μm,22.6s,MS5.9
GYA LR LR
comp=E,1μm,23.8s,MS5.9
GYA LR LR
comp=Z,2μm,22.0s,MS5.9
BRVK Borovoye 134.21 57 i PKIKP PKPdf 10 57 50.3 -0.2
BRVK MLR MLR
comp=Z,452nm,20.0s,MS5.2
BVAR Borovoye Array 134.24 57 PKIKP PKPdf 10 57 50.4 -0.1
BVAR Borovoye Array 134.24 57 PKhKP 10 57 36.6
comp=Z,1.4nm,0.7s,baz=242,slow=3.2,SNR=6.8
BVAR PKP PKPdf 10 57 50.4 -0.1
comp=Z,14nm,0.8s,baz=241,slow=1.5,SNR=38
MKAR Makanchi Array 136.02 71 PKIKP PKPdf 10 57 53.0 -1.0
MKAR Makanchi Array 136.02 71 PKhKP 10 57 41.9
comp=Z,1.1nm,0.7s,baz=242,slow=2.5,SNR=5.1
MKAR PKP PKPdf 10 57 53.0 -1.1
comp=Z,4.2nm,0.8s,baz=259,slow=1.2,SNR=19
CD2 Chengdu 136.24 104 ePKP PKPdf 10 57 55.6 +0.6
CD2 PP PP 11 00 39.6 +3.9
CD2 PKS 11 01 30.5
CD2 SKS SKSdf 11 05 01.1 -4.2
CD2 SKKS SKKSac 11 07 26.5 -3.2
CD2 SS SS 11 18 35.3 -0.7
CD2 PP PP
comp=Z,220nm,8.4s
CD2 LR LR
comp=N,300nm,19.2s,MS5.3
CD2 LR LR
comp=E,560nm,20.4s,MS5.3
CD2 LR LR
comp=Z,300nm,19.2s,MS5.0
KURK Kurchatov 136.69 64 ⇑iPKIKP PKPdf 10 57 54.2 -1.0
KURK Kurchatov 136.69 64 ⇑ePKP PKPdf 10 57 54.3 -0.9
KURK LR LR
comp=Z,286nm,20.0s,MS5.0
WMQ Urumqi 136.89 78 ePKP PKPdf 10 57 59.0 +3.2
WMQ PP PP 11 00 45.0 +5.2
WMQ SKS SKSdf 11 05 08.0 +2.3
WMQ SKKS SKKSac 11 07 36.0 +3.0
WMQ SS SS 11 18 48.0 +4.1
WMQ PP PP
comp=Z,75nm,8.0s
WMQ LR LR
comp=N,219nm,20.0s,MS5.0
WMQ LR LR
comp=E,187nm,19.0s,MS5.0
WMQ LR LR
comp=Z,149nm,18.0s,MS4.8
KBS Kingsbay 137.40 10 PFAKE 10 58 10.0 +14
KBS LR LR
comp=Z,190nm,19.0s,MS4.8
YKA Yellowknife Ar 137.67 316 PKIKP PKPdf 10 57 56.3 -0.3
YKA 11 00 41.7
YKA Yellowknife Ar 137.67 316 PKP PKPdf 10 57 56.3 -0.3
YKA PP PP 11 00 41.7 -2.7
YKA SKPbc SKPbc 11 01 28.1 -1.5
YKA Yellowknife Ar 137.67 316 PKhKP 10 57 43.8
comp=Z,0.4nm,0.6s,baz=118,slow=3.7,SNR=9.5
YKA PKP PKPdf 10 57 56.3 -0.3
comp=Z,14nm,0.9s,baz=124,slow=2.2,SNR=82
YKA PP PP 11 00 41.7 -2.7
comp=Z,1.5nm,0.9s,baz=120,slow=6.3,SNR=6.0
YKA SKPbc SKPbc 11 01 28.0 -1.5
comp=Z,4.7nm,0.9s,baz=126,slow=2.0,SNR=18

ENH Enshi 138.72 111 PFAKE 10 58 10.0 +10
ENH LR LR
comp=Z,3.0nm,22.0s
RES Resolute Bay 139.16 338 ePKIKP PKPdf 10 57 59.2 +0.2
LZH Lanzhou 140.24 99 ePKP PKPdf 10 57 59.0 -3.2
LZH PP PP 11 01 01.3 +0.7
LZH eSS SS 11 19 19.5 -3.9
LZH PP PP
comp=Z,143nm,6.8s
LZH LR LR
comp=E,458nm,18.5s
LZH LR LR
comp=Z,512nm,20.3s,MS5.3
NVS Novosibirsk 141.39 62 ePKHKP 10 57 58.0
WHN Wuhan 141.40 116 ePKP PKPdf 10 58 00.0 -4.5
ZAL Zalesovo 141.65 64 PKIKP PKPdf 10 58 04.9 +0.8
ZALV Zalesovo Beam 141.67 64 PKP PKPdf 10 58 04.9 +0.8
comp=Z,3.4nm,0.3s,baz=245,slow=3.1,SNR=4.4
DLBC Dease Lake 141.85 305 ePKPdf PKPdf 10 58 02.8 -1.5
WRAK Wrangell Islan 141.85 301 PFAKE 10 58 20.0 +16
WRAK LR LR
comp=Z,356nm,21.0s,MS5.1
SIT Sitka 143.59 300 PFAKE 10 58 20.0 +13
SIT LR LR
comp=Z,471nm,22.0s,MS5.2
JOW Kunigami 144.36 136 PKP PKPdf 10 58 07.9 -1.9
comp=Z,72nm,0.9s,baz=220,slow=4.6,SNR=9.3
SKAG Skagway 144.75 304 eP PKPdf 10 58 08.7 -0.7
SKAG LR LR
comp=Z,200nm,19.0s,MS4.9
NJ2 Nanjing 144.82 120 ePKP PKPdf 10 58 10.1 -0.4
NJ2 PP PP 11 01 32.0 +3.9
NJ2 PKS 11 01 44.0
NJ2 PP PP
comp=Z,230nm,10.0s
NJ2 LR LR
comp=N,260nm,29.8s,MS5.0
NJ2 LR LR
comp=E,230nm,28.0s,MS5.0
NJ2 LR LR
comp=Z,230nm,28.0s,MS4.8
SSE Sheshan 145.11 123 PKP PKPdf 10 58 10.8 -0.2
SSE PP PP 11 01 34.0 +4.2
SSE SS SS 11 20 20.8 +1.5
SSE PP PP
comp=Z,38nm,14.5s
SSE LR LR
comp=N,126nm,12.4s,MS5.0
SSE LR LR
comp=E,102nm,12.4s,MS5.0
SSE LR LR
comp=Z,182nm,14.4s,MS5.0
BTO Baotou 146.85 100 ePKP PKPdf 10 58 15.3 +1.7
INK Inuvik 147.29 319 ePKIKP PKPdf 10 58 11.4 -2.1
INK e 10 58 15.8
INK e 10 58 21.9
TIA Tai'an 147.31 113 PKP PKPdf 10 58 16.3 +1.7
HHC Hu-ho-hao-te 147.86 101 ⇓iPKP PKPbc 10 58 18.3 0.0
HHC PP PP 11 01 51.1 +4.9
HHC PP PP
comp=Z,226nm,9.4s
HHC LR LR
comp=N,385nm,21.2s,MS5.3
HHC LR LR
comp=E,294nm,19.6s,MS5.3
HHC LR LR
comp=Z,359nm,21.4s,MS5.1
EGAK Eagle 149.26 311 PFAKE 10 58 30.0 +13
EGAK LR LR
comp=Z,263nm,20.0s,MS5.0
ZAK Zakamensk 149.29 80 ⇓iPKIKP PKPdf 10 58 16.2 -1.1
ZAK pmax pmax
comp=Z,38nm,1.6s
SONM Songino Array 149.56 86 PKP PKPdf 10 58 17.1 -0.7
comp=Z,54nm,0.8s,baz=232,slow=2.4,SNR=131
SONM PKPbc PKPbc 10 58 22.0 -0.4
comp=Z,54nm,0.8s,baz=240,slow=2.5,SNR=155
BJT Baijiatuau 149.70 107 PFAKE 10 58 30.0 +12
BJT LR LR
comp=Z,240nm,19.0s,MS5.0
BJI Beijing 149.72 107 PKP PKPbc 10 58 22.9 -0.2
BJI SKS SKSdf 11 05 20.8 -4.7
BJI LR LR
comp=N,176nm,7.2s
BJI LR LR
comp=E,125nm,16.7s
BJI LR LR
comp=Z,221nm,37.8s
ULN Ulaanbaatar 149.93 87 PFAKE 10 58 30.0 +12
ULN LR LR
comp=Z,198nm,22.0s,MS4.9
TLY Talaya 150.17 78 PFAKE 10 58 30.0 +11
TLY LR LR
comp=Z,183nm,20.0s,MS4.9
DIV Divide 150.18 303 PFAKE 10 58 30.0 +12
DIV LR LR
comp=Z,733nm,22.0s,MS5.4
IRK Irkutsk 150.79 77 ePKIKP PKPbc 10 58 24.0 -1.2
IRK pmax pmax
comp=Z,107nm,1.4s
JNU Nakatsue 150.98 135 PKPbc PKPbc 10 58 26.0 -0.3
comp=Z,42nm,0.8s,baz=335,slow=6.2,SNR=22
DL2 Dalian 151.66 115 PKP PKPbc 10 58 27.4 -0.3
PMR Palmer 151.86 303 PFAKE 10 58 30.0 +9.1
PMR LR LR
comp=Z,269nm,22.0s,MS5.0
COLA College 152.06 310 i PKIKP PKPbc 10 58 26.6 -1.2
COLA College 152.06 310 PFAKE 10 58 30.0 +8.9
COLA LR LR
comp=Z,291nm,21.0s,MS5.1
KDAK Kodiak Island 152.32 294 PFAKE 10 58 30.0 +8.3
KDAK LR LR
comp=Z,88nm,21.0s,MS4.5
KDAK Kodiak Island 152.32 294 PKPbc PKPbc 10 58 29.1 +0.6
comp=Z,17nm,0.7s,baz=122,slow=2.4,SNR=28
INCN Inchon 152.91 124 PFAKE 10 58 30.0 +6.7
INCN LR LR
comp=Z,425nm,19.0s,MS5.3
KSRS Korea Array 153.47 126 PKP PKPdf 10 58 23.2 -0.9
comp=Z,1.1nm,0.7s,baz=229,slow=1.5,SNR=6.0
KSRS PKPbc PKPbc 10 58 31.6 -0.2
comp=Z,7.5nm,0.7s,baz=203,slow=2.3,SNR=28
KSRS PKPab PKPab 10 58 44.3 +0.2
comp=Z,9.7nm,0.9s,baz=216,slow=3.9,SNR=12
TTA Tatalina 155.29 304 ePKP2 PKPab 10 58 50.3 -0.9
MJAR Matsushiro Arr 156.67 144 PKPbc pPKPdf 10 58 38.6 +5.4
comp=Z,4.6nm,1.1s,baz=192,slow=3.0,SNR=5.0
MJAR PKPab PKPab 10 58 58.5 +0.7
comp=Z,6.3nm,0.8s,baz=189,slow=5.2,SNR=11
MAJO Matsushiro 156.68 144 PFAKE 10 58 40.0 +11
MAJO LR LR
comp=Z,183nm,19.0s,MS4.9
MAT Matsushiro 156.68 144 PKP pPKPdf 10 58 34.1 +0.9
CN2 Changchun 157.22 113 ePKP PKPdf 10 58 28.3 -0.7
HIA Hailar 157.67 95 PFAKE 10 58 40.0 +11
HIA LR LR
comp=Z,250nm,19.0s,MS5.1
BOD Bodaibo 158.11 70 ePKIKP PKPdf 10 58 26.9 -2.7
BOD e 10 59 01.4
BOD pmax pmax
comp=Z,8.0nm,1.2s
BOD pmax pmax
comp=Z,14nm,0.9s
UNV Unalaska Valle 158.13 278 PFAKE 10 58 40.0 +10
UNV LR LR
comp=Z,671nm,20.0s,MS5.5
MDJ Mudanjiang 159.87 117 PKP PKPdf 10 58 31.1 -1.0
MDJ SKS SKSdf 11 05 35.0 -1.6
MDJ LR LR
comp=N,58nm,24.0s
MDJ LR LR
comp=E,41nm,18.7s
MDJ LR LR
comp=Z,87nm,22.8s,MS4.5
TNA Tin City 160.50 311 PFAKE 10 58 40.0 +7.9
TNA LR LR
comp=Z,199nm,20.0s
TIXI Tiksi 161.67 26 ePKP2 PKPab 10 59 16.5 -2.1
TIXI pmax pmax
comp=Z,22nm,1.7s
TIXI Tiksi 161.67 26 PFAKE 10 58 40.0 +6.8
TIXI LR LR
comp=Z,199nm,19.0s
ADK Adak 162.85 265 PFAKE 10 58 50.0 +15
ADK LR LR

comp=Z,259nm,20.0s
KLR Kul'dur 164.08 109 *e*PKP2 PKPab 10 59 25.0 -4.8
KLR pmax pmax
comp=E,24nm,1.4s
KLR pmax pmax
comp=Z,57nm,1.4s
HABR Khabarovsk 165.26 117 *e*PKIKP PKPdf 10 58 35.6 -1.7
HABR *e* 11 03 22.4
HABR *e* 11 05 36.5
YAK Yakutsk 166.21 58 PFAKE 10 58 50.0 +12
YAK LR LR
comp=Z,151nm,19.0s
YSS Yuzh-Sakhalins 167.47 138 PFAKE 10 58 50.0 +11
YSS LR LR
comp=Z,220nm,19.0s
BILL Biiibino 167.76 340 PKIKP PKPdf 10 58 35.0 -3.6
BILL pmax pmax
comp=Z,8.0nm,1.0s
BILL Biiibino 167.76 340 PFAKE 10 58 50.0 +11
BILL LR LR
comp=Z,286nm,20.0s
SMY Shemya 168.23 257 PFAKE 10 58 50.0 +11
SMY LR LR
comp=Z,253nm,20.0s
PET Petropavlovsk 175.54 209 PFAKE 10 58 50.0 +7.2
PET LR LR
comp=Z,313nm,21.0s
MA2 Magadan 176.54 39 PFAKE 10 58 50.0 +7.2
MA2 LR LR
comp=Z,180nm,20.0s

IDC 19 11:09:07.5±4.7, 596S×14936E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=123.6km s-min=32.3km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.16**	**225**	P		P	P	11 13 43.2	-0.4
	2.9nm,0.6s,baz=49,slow=12,SNR=9.4								
ASAR	**Alice Springs**	**23.05**	**219**	P		P	P	11 14 13.8	-0.8
	2.9nm,0.9s,baz=53,slow=9.4,SNR=4.9								
FITZ	**Fitzroy Crossi**	**26.11**	**240**	P		P	P	11 14 44.0	+0.7
	6.0nm,0.6s,baz=53,slow=12,SNR=7.3								
SONM	**Songino Array**	**65.53**	**330**	P		P	P	11 19 53.2	+0.4
	0.5nm,0.8s,baz=150,slow=6.0,SNR=3.7								

IDC 19 11:09:14.6±3.8, 837S×14668E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, Error ellipse: s-maj=115.3km s-min=51.4km az=120.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.59**	**225**			Pn	Pn	11 13 10.8	+2.1
	baz=51,slow=11,SNR=3.4								
ASAR	**Alice Springs**	**19.53**	**217**	P		Pn		11 13 43.3	-1.6
	0.0nm,0.3s,baz=42,slow=9.9,SNR=3.6								
FITZ	**Fitzroy Crossi**	**22.63**	**243**	P		P		11 14 16.9	-0.4
	1.8nm,0.9s,baz=66,slow=14,SNR=3.0								
TORD	**Torodi Ar. Bea**	**145.30**	**281**	PKPbc		PKPbc	PKPbc	11 28 54.5	-0.8
	0.2nm,0.8s,baz=77,slow=3.2,SNR=2.6								

IDC 19 11:10:20.4±4.7, 574S×14761E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.8/14, mbtmp3.8/4, ML3.8/1, Error ellipse: s-maj=151.2km s-min=28.4km az=107.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.13**	**221**	P		Pn		11 14 45.4	-0.5
	0.3nm,0.3s,baz=52,slow=13,SNR=5.1								
ASAR	**Alice Springs**	**22.18**	**215**	P		P		11 15 16.8	-1.4
	2.3nm,0.7s,baz=50,slow=8.7,SNR=3.0								
FITZ	**Fitzroy Crossi**	**24.72**	**238**	P		P		11 15 44.3	+0.7
	4.2nm,0.6s,baz=62,slow=9.3,SNR=3.6								
SONM	**Songino Array**	**64.48**	**331**	P		P		11 20 57.9	-0.8
	0.3nm,0.6s,baz=117,slow=8.3,SNR=2.0								
TORD	**Torodi Ar. Bea**	**145.62**	**285**	PKPbc		PKPbc	PKPbc	11 30 03.1	+1.1
	0.4nm,0.8s,baz=77,slow=2.8,SNR=2.9								

IDC 19 11:11:05.9±7.6, 590S×14946E, h0km, mb4.1/3, mb1 4.4/3, mb1mx3.9/13, mbtmp4.2/3, Error ellipse: s-maj=231.4km s-min=32.6km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.27**	**225**	P		P		11 15 43.4	+0.2
	4.8nm,0.7s,baz=50,slow=12,SNR=3.0								
ASAR	**Alice Springs**	**23.16**	**219**	P		P		11 16 14.0	-0.1
	13nm,1.0s,baz=51,slow=9.1,SNR=5.3								
SONM	**Songino Array**	**65.53**	**330**	P		P		11 21 51.4	+0.3
	1.8nm,1.1s,baz=139,slow=6.8,SNR=4.7								

*IDC **19** 11:11:50.9±3.6, 3556N×77.42E, h0km, mb3.6/2, mb1 3.6/4, mb1mx3.4/22, mbtmp3.4/4, ML3.4/2, Error ellipse: s-maj=103.0km s-min=37.9km az=126.0*
*ISCJB **19** 11:11:56.0±2.2, 358N±02×773E±05, h37km±29km, mb3.5/2, Error ellipse: s-maj=74.9km s-min=20.1km az=18.0*
ISC 19 11:11:58.2±1.9, 357N±02×772E±06, h41km±26km, n5, σ0§10/5, mb3.5/2, Eastern Kashmir

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**3.51**	**201**	*e*P		**Pn**		**11 12 50.2**	**0.0**
MKAR	**Makanchi Array**	**11.69**	**18**	Pn		**Pn**		**11 14 42.3**	**0.0**
	0.1nm,0.3s,baz=204,slow=14,SNR=6.1								
BVAR	**Borovoye Array**	**17.94**	**347**	P		**Pn**		**11 16 04.2**	**0.0**
	0.2nm,0.3s,baz=163,slow=15,SNR=2.2								
TORD	**Torodi Ar. Bea**	**70.74**	**273**	P		**P**		**11 23 10.4**	**+0.1**
	0.6nm,0.9s,mb3.5,baz=58,slow=5.2,SNR=4.3								
YKA	**Yellowknife Ar**	**81.65**	**6**	P		**P**		**11 24 11.5**	**0.0**
	0.3nm,0.6s,mb3.4,baz=344,slow=5.0,SNR=5.3								

IDC 19 11:12:48.3±4.6, 547S×14887E, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.1/14, mbtmp4.3/4, Error ellipse: s-maj=125.6km s-min=30.9km az=105.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.17**	**223**	P		P	P	11 17 23.3	-1.2
	5.1nm,0.5s,baz=48,slow=11,SNR=6.0								
ASAR	**Alice Springs**	**23.14**	**217**	P		P	P	11 17 56.5	+0.2
	9.5nm,0.8s,baz=50,slow=9.0,SNR=6.7								
FITZ	**Fitzroy Crossi**	**25.93**	**239**	P		P	P	11 18 23.3	+0.7
	7.8nm,0.6s,baz=65,slow=10.0,SNR=3.8								
SONM	**Songino Array**	**64.87**	**330**	P		P	P	11 23 29.4	+0.2
	1.7nm,1.1s,baz=140,slow=4.6,SNR=4.7								

IDC 19 11:13:36.0±4.6, 597S×14984E, h0km, mb4.2/4, mb1 4.5/4, mb1mx4.0/14, mbtmp4.3/4, Error ellipse: s-maj=125.6km s-min=32.0km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.49**	**226**	P		P	P	11 18 16.0	+0.3
	4.9nm,0.9s,baz=50,slow=10,SNR=3.7								
ASAR	**Alice Springs**	**23.34**	**219**	P		P		11 18 45.8	-0.4
	8.1nm,1.0s,baz=53,slow=8.3,SNR=4.2								
FITZ	**Fitzroy Crossi**	**26.51**	**241**	P		P		11 19 14.6	-0.9
	12nm,1.0s,baz=53,slow=13,SNR=3.0								
SONM	**Songino Array**	**65.78**	**329**	P		P		11 24 23.8	+0.9
	1.5nm,1.0s,baz=145,slow=5.4,SNR=4.3								

IDC 19 11:17:33.4±3.5, 550S×14831E, h0km, mb4.1/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML3.9/1, Error ellipse: s-maj=107.5km s-min=30.2km az=108.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.77**	**222**	P		Pn		11 22 04.7	-1.9
	0.4nm,0.3s,baz=48,slow=12,SNR=4.6								
ASAR	**Alice Springs**	**22.78**	**216**	P		P		11 22 37.5	-0.1
	10nm,1.0s,baz=53,slow=9.0,SNR=4.3								
FITZ	**Fitzroy Crossi**	**25.44**	**239**	P		P		11 23 02.9	-0.2
	4.0nm,0.6s,baz=62,slow=13,SNR=4.2								
SONM	**Songino Array**	**64.61**	**330**	P		P		11 28 12.0	-0.7
	0.6nm,0.7s,baz=145,slow=5.3,SNR=4.0								
TORD	**Torodi Ar. Bea**	**146.22**	**285**	PKPbc		PKPbc		11 37 17.6	+0.7
	0.7nm,1.1s,baz=109,slow=3.4,SNR=2.7								

IDC 19 11:20:08.2±4.9, 566S×14897E, h0km, mb3.8/4, mb1 4.1/4, mb1mx3.7/14, mbtmp3.9/4, MS4.2/1, Ms1 4.2/1, ms1mx3.1/19, Error ellipse: s-maj=133.5km s-min=30.7km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.11**	**224**	P		P	P	11 24 43.3	-0.4
	2.9nm,0.8s,baz=46,slow=11,SNR=8.2								
ASAR	**Alice Springs**	**23.05**	**218**	P		P		11 25 14.9	-0.4
	2.9nm,0.4s,baz=52,slow=8.4,SNR=11								
FITZ	**Fitzroy Crossi**	**25.93**	**240**	P		P		11 25 43.0	+0.5
	2.1nm,0.5s,baz=58,slow=15,SNR=5.9								
RAO	**Raoul Island**	**39.10**	**131**	LR		LR	LR	11 38 50.1	
	comp=Z,371nm,21.9s,baz=116,slow=29								
SONM	**Songino Array**	**65.08**	**330**	P		P	P	11 30 50.9	+0.3
	1.1nm,1.0s,baz=134,slow=6.2,SNR=4.4								

IDC 19 11:20:44.9±4.3, 553S×14787E, h0km, mb4.0/4, mb1 4.2/5, mb1mx4.0/14, mbtmp4.0/5, ML3.9/1, Error ellipse: s-maj=124.0km s-min=27.1km az=105.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.46**	**221**	P		Pn		11 25 13.4	-1.0
	0.4nm,0.3s,baz=46,slow=11,SNR=5.6								
ASAR	**Alice Springs**	**22.50**	**215**	P		P		11 25 45.9	-0.3
	10.0nm,0.9s,baz=49,slow=9.2,SNR=7.3								
FITZ	**Fitzroy Crossi**	**25.05**	**238**	P		P		11 26 11.6	+0.4
	9.9nm,0.9s,baz=71,slow=9.0,SNR=2.6								
SONM	**Songino Array**	**64.42**	**330**	P		P		11 31 24.0	+1.0
	0.8nm,0.9s,baz=123,slow=5.5,SNR=3.9								
MKAR	**Makanchi Array**	**77.69**	**320**	P		P		11 32 42.7	-0.8
	0.5nm,0.9s,baz=116,slow=6.7,SNR=3.6								

IDC 19 11:22:54.0±4.8, 580S×14985E, h0km, mb4.0/4, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=132.8km s-min=32.2km az=107.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.62**	**226**	P		P		11 27 33.9	-1.1
	3.0nm,0.9s,baz=49,slow=9.9,SNR=3.5								
ASAR	**Alice Springs**	**23.48**	**219**	P		P		11 28 06.1	+0.5
	9.0nm,0.9s,baz=54,slow=9.2,SNR=7.2								
FITZ	**Fitzroy Crossi**	**26.61**	**241**	P		P		11 28 34.2	-0.1
	5.9nm,0.7s,baz=68,slow=9.2,SNR=3.6								
SONM	**Songino Array**	**65.64**	**329**	P		P		11 33 40.4	+0.5
	0.3nm,0.4s,baz=117,slow=5.4,SNR=3.7								

IDC 19 11:23:30.5±5.2, 577S×14937E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/19, Error ellipse: s-maj=141.4km s-min=31.3km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**19.74**	**347**	LR		LR	LR	11 33 59.8	
	comp=Z,116nm,18.1s,baz=114,slow=32								
WRA	**Warramunga Arr**	**20.30**	**225**	P		P		11 28 08.0	-0.1
	1.7nm,0.7s,baz=47,slow=11,SNR=3.3								
ASAR	**Alice Springs**	**23.20**	**218**	P		P		11 28 38.0	-1.3
	5.8nm,1.0s,baz=51,slow=8.7,SNR=3.3								
FITZ	**Fitzroy Crossi**	**26.21**	**240**	P		P		11 29 08.4	+1.2
	4.2nm,0.7s,baz=78,slow=11,SNR=2.8								
SONM	**Songino Array**	**65.37**	**330**	P		P		11 34 14.9	+0.2
	1.3nm,1.0s,baz=138,slow=5.4,SNR=4.3								

IDC 19 11:24:11.3±4.8, 573S×14913E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.8/14, mbtmp4.0/4, Error ellipse: s-maj=129.4km s-min=31.8km az=106.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.16**	**224**	P		P		11 28 46.2	-1.2
	2.2nm,0.8s,baz=48,slow=11,SNR=3.1								
ASAR	**Alice Springs**	**23.09**	**218**	P		P		11 29 19.4	+0.6
	7.8nm,1.0s,baz=54,slow=8.7,SNR=4.7								
FITZ	**Fitzroy Crossi**	**26.02**	**240**	P		P		11 29 46.2	-0.1
	7.9nm,1.1s,baz=58,slow=13,SNR=1.8								
SONM	**Songino Array**	**65.22**	**330**	P		P		11 34 55.2	+0.7
	1.0nm,1.0s,baz=133,slow=6.3,SNR=3.9								

IDC 19 11:33:25.0±9.4, 128S×12670E, h96km±93km, mb3.1/4, mb1 3.3/5, mb1mx3.2/17, mbtmp3.2/5, ML3.9/1, Error ellipse: s-maj=95.6km s-min=20.5km az=60.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**7.87**	**242**	P		Pn		11 35 16.8	+0.1
	1.7nm,0.3s,baz=83,slow=5.2,SNR=8.2								
WRA	**Warramunga Arr**	**20.00**	**159**	P		Pn		11 37 49.5	-3.2
	0.6nm,0.4s,baz=339,slow=11,SNR=17								
ASAR	**Alice Springs**	**23.33**	**163**	P		P		11 38 25.6	+0.8
	0.6nm,0.6s,baz=343,slow=9.5,SNR=11								
SONM	**Songino Array**	**52.02**	**343**	P		P		11 42 26.1	+1.5
	0.3nm,0.4s,baz=155,slow=6.8,SNR=3.6								
MKAR	**Makanchi Array**	**61.66**	**327**	P		P		11 43 31.4	-1.4
	0.3nm,0.4s,baz=110,slow=7.8,SNR=6.2								

*MOS **19** 12:22:24.5±2.0, 5040N×15561E, h226km, mb4.2/1, Error ellipse: s-maj=99.9km s-min=27.1km az=62.5*
KRSC 19 12:22:24.5±2.0, 5040N×15561E, h226km±65km, ML4.1, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**0.43**	**49**	*e*PN		Pn		12 22 50.9	-3.4
SKR				*e*S		S		12 23 13.6	-4.1
SKR				pmax		pmax			
	comp=Z,50nm,0.5s								
SKR				pmax		pmax			
	comp=N,50nm,0.3s								
SKR				smax					
	comp=N,60nm,0.3s								
SKR				smax					
	comp=E,60nm,0.3s								
MIPR	**Malaya Ipel'ka**	**2.01**	**21**	P		Pn		12 23 04.9	-0.1
RUS	**Russkaya**	**2.73**	**41**	P		Pn		12 23 14.2	+1.8
RUS				S		S		12 23 50.4	+0.2
SDLR	**Sedlovina**	**3.53**	**34**	*i* P		Pn		12 23 23.8	+2.4
GNL	**Ganaly**	**3.60**	**23**	P		Pn		12 23 24.8	+2.5
NLC	**Nalytchevo**	**3.62**	**38**	S		S		12 24 06.4	-2.0
SPN	**Mys Shipunski**	**3.85**	**44**	P		Pn		12 23 26.9	+1.6
SPN				*e*S		S		12 24 12.2	-1.2
MKZ	**Mys Kozlova**	**5.59**	**40**	*e*P		Pn		12 23 47.7	+0.9
MKZ				*e*S		S		12 24 48.8	-3.6
KBTR	**Krutoberegovo**	**7.24**	**34**	*e*P		Pn		12 24 09.0	+1.2

*IDC **19** 13:19:42.4±0.7, 3402S×17865W, h0km, mb4.7/6, mb1 4.9/8, mb1mx4.4/17, mbtmp4.7/8, ML4.5/2, MS4.1/2, Ms1 4.1/2, ms1mx3.3/23, Error ellipse: s-maj=24.1km s-min=19.6km az=132.0*
*ISCJB **19** 13:19:46.8±1.2, 34.19S±007×1789W±0.1, h34km±11km, mb4.7/13, MS4.1/2, Error ellipse: s-maj=20.2km s-min=9.4km az=21.7*
*NEIC **19** 13:19:49.4±1.2, 3422S×17886W, h45km±10km, mb4.9/11, Error ellipse: s-maj=17.2km s-min=11.0km az=112.0*
ISC 19 13:19:49.1±1.1, 3418S±007×1789W±0.1, h36km±10km, n63, σ1§16/51, mb4.7/13, MS4.1/2, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.07**	**213**	P		**Pn**		**13 20 49.4**	**+0.6**
MXZ				S		**Sn**		**13 21 41.5**	**+6.3**
MXZ	**Matakaoa Point**	**4.07**	**213**	PN		**Pn**		**13 20 48.5**	**-0.4**
MXZ				SN		**Sn**		**13 21 41.5**	**+6.4**
PUZ	**Puketiti**	**4.51**	**210**	P		**Pn**		**13 20 54.4**	**-0.6**
PUZ				S		**Sn**		**13 21 53.5**	**+7.3**
PUZ	**Puketiti**	**4.51**	**210**	PN		**Pn**		**13 20 54.2**	**-0.8**
PUZ				SN		**Sn**		**13 21 53.2**	**+7.0**
RAO	**Raoul Island**	**4.98**	**10**	*e*Pn		**Pn**		**13 21 03.1**	**+1.6**
RAO	**Raoul Island**	**4.98**	**10**	Pn		**Pn**		**13 21 02.5**	**+1.0**
	70nm,0.3s,baz=119,slow=19,SNR=2.7								
RAO				Sn		Sx		13 21 45.8	
	35nm,0.3s,baz=208,slow=22,SNR=2.3								
MWZ	**Matawai**	**5.05**	**214**	P		**Pn**		**13 21 02.5**	**+0.2**
MWZ	**Matawai**	**5.05**	**214**	*e*PN		**Pn**		**13 21 02.2**	**-0.2**
URZ	**Urewera**	**5.19**	**217**	P		**Pn**		**13 21 05.0**	**+0.7**
URZ	**Urewera**	**5.19**	**217**	Pn		**Pn**		**13 21 04.2**	**0.0**
	25nm,0.3s,baz=56,slow=2.7,SNR=130								
URZ				Sn		**Sn**		**13 22 07.4**	**+4.5**
	8.6nm,0.3s,baz=158,slow=19,SNR=9.4								
URZ	**Urewera**	**5.19**	**217**	*e*PN		**Pn**		**13 21 04.5**	**+0.2**
URZ				SN		**Sn**		**13 22 04.2**	**+1.3**
KNZ	**Kokohu**	**5.56**	**209**	P		**Pn**		**13 21 09.7**	**+0.4**
KNZ	**Kokohu**	**5.56**	**209**	PN		**Pn**		**13 21 09.7**	**+0.4**
BKZ	**Black Stump Fm**	**6.20**	**215**	P		**Pn**		**13 21 17.7**	**-0.4**
BKZ	**Black Stump Fm**	**6.20**	**215**	PN		**Pn**		**13 21 17.5**	**-0.6**
BKZ				SN		**Sn**		**13 22 32.0**	**+4.3**
TSZ	**Takapari Road**	**7.16**	**213**	P		**Pn**		**13 21 31.1**	**-0.2**
TSZ	**Takapari Road**	**7.16**	**213**	*e*PN		**Pn**		**13 21 30.1**	**-1.2**
TSZ				SN		**Sn**		**13 22 54.0**	**+2.7**
THZ	**Tophouse**	**9.95**	**218**	P		**Pn**		**13 22 08.5**	**-1.1**
THZ	**Tophouse**	**9.95**	**218**	*e*PN		**Pn**		**13 22 08.3**	**-1.2**
THZ				SN		**Sn**		**13 23 57.1**	**-2.9**
KHZ	**Kahutara**	**10.14**	**214**	P		**Pn**		**13 22 12.6**	**+0.5**
KHZ	**Kahutara**	**10.14**	**214**	*e*PN		**Pn**		**13 22 11.7**	**-0.5**
RPZ	**Rata Peaks**	**12.31**	**216**	Pn		**Pn**		**13 22 40.3**	**-1.5**
	1.7nm,0.3s,baz=12,slow=3.3,SNR=14								
RPZ				Sn		**Sn**		**13 24 50.1**	**-7.6**
	0.8nm,0.3s,baz=181,slow=18,SNR=7.5								
EIDS	**Eidsvold**	**27.41**	**281**	*e*P		**P**		**13 25 33.0**	**+1.6**
	2.7nm,0.8s,mb3.8								
PPT	**Papeete**	**30.99**	**65**	LR		LR		13 36 28.9	
	comp=Z,215nm,18.2s,MS3.9,baz=327,slow=33								
STKA	**Stephens Creek**	**33.06**	**263**	*e*P		**P**		**13 26 22.7**	**+1.5**
	4.7nm,0.8s,mb4.5								
STKA	**Stephens Creek**	**33.06**	**263**	P		**P**		**13 26 23.0**	**+1.8**
	6.7nm,0.8s,mb4.6,baz=91,slow=8.7,SNR=9.5								
CTA	**Charters Tower**	**33.85**	**285**	*e*P		**P**		**13 26 29.6**	**+1.4**
	8.0nm,0.6s,mb4.8								
CTA	**Charters Tower**	**33.85**	**285**	P		**P**		**13 26 29.2**	**+1.0**
	9.7nm,0.7s,mb4.9,baz=110,slow=12,SNR=22								
CTAO	**Charters Tower**	**33.85**	**285**	*e*P		**P**		**13 26 29.2**	**+1.0**
	8.5nm,0.6s,mb4.8								
ASAR	**Alice Springs**	**42.29**	**271**	P		**P**		**13 27 39.1**	**-0.1**
	18nm,0.7s,mb4.8,baz=111,slow=6.6,SNR=198								
ASAR				PcP		PcP		13 29 31.9	-0.7
	1.9nm,0.8s,baz=117,slow=3.9,SNR=4.8								
WB2	**Warramunga Arr**	**43.61**	**277**	*e*P		**P**		**13 27 49.3**	**-0.7**
WRAB	**Tennant Creek**	**43.61**	**277**	*e*P		**P**		**13 27 49.2**	**-0.8**
	19nm,0.7s,mb4.9								
WRA	**Warramunga Arr**	**43.62**	**277**	P		**P**		**13 27 49.7**	**-0.4**
	16nm,0.7s,mb4.9,baz=119,slow=7.3,SNR=176								
FORT	**Forrest**	**44.45**	**259**	*e*P		**P**		**13 27 56.7**	**0.0**
	19nm,0.5s,mb5.1								
KAKA	**Kakadu**	**48.95**	**284**	*e*P		**P**		**13 28 31.0**	**-1.1**
	8.3nm,0.7s,mb4.9								
CASY	**Casey**	**51.46**	**209**	*e*P		**P**		**13 28 52.6**	**+2.2**
	6.8nm,0.8s,mb4.6								
FITZ	**Fitzroy Crossi**	**51.70**	**273**	*e*P		**P**		**13 28 52.7**	**-0.1**
	9.7nm,0.6s,mb4.9								
KLBR	**Kellerberrin**	**52.48**	**254**	*e*P		**P**		**13 28 56.6**	**-1.9**
	15nm,0.8s,mb5.0								
QSPA	**South Pole Qui**	**55.94**	**180**	*e*P		**P**		**13 29 24.7**	**+1.7**
	8.9nm,0.8s,mb4.8								
QSPA	**South Pole Qui**	**55.94**	**180**	P		**P**		**13 29 23.8**	**+0.8**
	5.9nm,1.0s,mb4.6,baz=30,slow=2.4,SNR=9.3								
SYO	**Syowa Base**	**73.27**	**194**	*e*P		**P**		**13 31 15.8**	**-0.4**
PFO	**Pinyon Flat Ob**	**89.32**	**48**	LR		LR		14 05 41.7	
	comp=Z,110nm,18.3s,MS4.3,baz=292,slow=31								
NVAR	**Mina Array Bea**	**91.52**	**43**	P		**P**		**13 32 50.5**	**-1.2**
	1.2nm,0.9s,mb4.2,baz=215,slow=7.8,SNR=6.4								
MK31	**Makanchi Array**	**119.57**	**309**	*e*PKPdf		PKPdf		13 38 32.9	-1.6
MKAR	**Makanchi Array**	**119.57**	**309**	PKP		PKPdf		13 38 33.4	-1.2
	1.2nm,0.8s,baz=49,slow=2.4,SNR=13								
KURK	**Kurchatov**	**123.06**	**312**	*e*PKPdf		PKPdf		13 38 39.3	-1.8
AML	**Almayashu**	**123.92**	**301**	*e*PKPdf		PKPdf		13 38 41.5	-1.6
ARCES	**ARCESS Array B**	**142.09**	**346**	PKP		PKPdf		13 39 17.0	+0.7
ARCES	**ARCESS Array B**	**142.09**	**346**	PKhKP				13 39 11.6	
	2.1nm,0.9s,baz=36,slow=3.4,SNR=4.1								
ARCES				PKP		PKPdf		13 39 17.0	+0.7
	1.4nm,0.7s,baz=35,slow=2.2,SNR=4.7								
JOF	**Joensuu**	**145.59**	**336**	*e*p		PKPdf		13 39 19.8	-2.8
	11nm,0.9s								
FIA1	**FINESS Array S**	**148.37**	**337**	*e*PKPdf		PKPbc		13 39 29.2	-1.6
FINES	**FINESS Array B**	**148.37**	**337**	PKPbc		PKPbc		13 39 28.6	-2.1
	21nm,0.8s,baz=66,slow=3.2,SNR=43								
MALT	**Malatya**	**149.74**	**289**	*e*PKPdf		PKPbc		13 39 34.5	-0.5
DBIC	**Dimbokro**	**152.08**	**167**	PKPbc		PKPbc		13 39 40.0	-1.2
	4.7nm,0.8s,baz=190,slow=3.8,SNR=5.1								
NB2	**NORSAR Subarra**	**152.34**	**349**	PKP		PKPbc		13 39 38.9	-1.4
	comp=Z,3.6nm,0.6s,baz=16,slow=2.6								
NOA	**NORSAR Array B**	**152.34**	**349**	PKPbc		PKPbc		13 39 39.4	-0.9
	comp=Z,4.7nm,0.7s,baz=13,slow=4.0,SNR=15								
NOA				PKPab		PKPab		13 39 46.8	-3.6
	comp=Z,2.5nm,0.8s,baz=16,slow=4.1,SNR=3.6								
HFS	**Hagfors**	**152.75**	**346**	PKPbc		PKPbc		13 39 39.7	-1.5
	comp=Z,6.9nm,0.7s,baz=106,slow=3.6,SNR=7.6								
HFS				PKPab		PKPab		13 39 50.8	-1.3
	comp=Z,2.6nm,0.6s,baz=46,slow=4.3,SNR=5.5								
AKASG	**Malin Array Be**	**153.70**	**317**	PKPbc		PKPbc		13 39 42.9	-0.7
	comp=Z,4.1nm,0.7s,baz=62,slow=2.6,SNR=18								
AKASG				PKPab		PKPab		13 39 54.5

comp=Z,715nm,19.0s,MS4.1,baz=93,slow=35
CTAO Charters Tower 21.12 270 *e*P **P 14 00 55.1 0.0**
CTAO pmax pmax
comp=Z,18nm,0.9s,mb4.4
CTAO Charters Tower 21.12 270 *e*P **P 14 00 55.1 -0.1**
comp=Z,18nm,0.9s,mb4.4
CNB Canberra Magne 21.73 227 *e*P **P 14 01 04.5 +2.9**
comp=Z,21nm,0.8s,mb4.6
RPZ Rata Peaks 22.00 176 LR LR 14 07 53.0
comp=Z,248nm,21.3s,MS3.6,baz=354,slow=32
COEN Coen 25.56 283 *e*P **P 14 01 40.9 +2.0**
comp=Z,5.6nm,0.6s,mb4.3
STKA Stephens Creek 26.23 242 *e*P **P 14 01 46.0 +1.1**
comp=Z,8.3nm,0.8s,mb4.3
STKA Stephens Creek 26.23 242 P **P 14 01 44.6 -0.3**
comp=Z,9.4nm,0.8s,mb4.4,baz=86,slow=11,SNR=10.0
STKA LR LR 14 12 32.8
comp=Z,815nm,18.3s,MS4.3,baz=33,slow=37
RAR Rarotonga 29.23 95 LR LR 14 10 31.3
comp=Z,203nm,20.0s,MS3.7,baz=279,slow=29
ASAR Alice Springs 32.20 260 P **P 14 02 36.4 -1.6**
comp=Z,4.6nm,0.7s,mb4.4,baz=88,slow=9.3,SNR=78
WB2 Warramunga Arr 32.21 267 *e*P **P 14 02 37.2 -0.9**
WRAB Tennant Creek 32.21 267⇑ *e*P **P 14 02 42.6 +4.5**
WRA Warramunga Arr 32.22 267 P **P 14 02 36.5 -1.7**
comp=Z,3.5nm,0.8s,mb4.2,baz=97,slow=7.9,SNR=26
WRA LR LR 14 16 07.9
comp=Z,397nm,18.4s,MS4.1,baz=110,slow=37
KAKA Kakadu 35.79 278 *e*P **P 14 03 09.2 0.0**
comp=Z,12nm,0.6s,mb5.0
FORT Forrest 37.46 247 *e*P **P 14 03 24.6 +1.3**
comp=Z,16nm,0.7s,mb5.0
PPT Papeete 39.34 91 *e*LR LR 14 14 17.7
comp=Z,220nm,27.0s
PPT Papeete 39.34 91 LR LR 14 15 30.0
comp=Z,174nm,18.6s,MS3.9,baz=268,slow=29
FITZ Fitzroy Crossi 40.65 267 *e*P **P 14 03 50.4 +0.3**
comp=Z,13nm,0.7s,mb4.7
FITZ Fitzroy Crossi 40.65 267 LR LR 14 21 47.3
comp=Z,322nm,18.6s,MS4.2,baz=102,slow=38
GUMO Guam 42.23 324 LR LR 14 18 46.5
comp=Z,96nm,19.4s,MS3.7,baz=269,slow=32
MBWA Marble Bar 45.52 261 *e*P **P 14 04 29.7 +0.3**
comp=Z,18nm,0.8s,mb5.1
KLBR Kellerberrin 46.31 247 *e*P **P 14 04 35.5 0.0**
comp=Z,19nm,0.7s,mb5.1
VNDA Vanda 55.94 182 *e*P **P 14 05 46.8 -0.3**
VNDA pmax pmax
comp=Z,2.0nm,1.0s
VNDA Vanda 55.94 182 *e*P **P 14 05 46.8 -0.3**
comp=Z,2.0nm,1.0s,mb4.1
VNDA Vanda 55.94 182 P **P 14 05 45.9 -1.2**
comp=Z,1.3nm,0.8s,mb4.0,baz=350,slow=8.0,SNR=6.2
SBA Scott Base 56.18 181 *e*P **P 14 05 49.1 +0.3**
SBA pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SBA Scott Base 56.18 181 *e*P **P 14 05 49.1 +0.3**
comp=Z,7.9nm,0.9s,mb4.7
CASY Casey 57.69 204 *e*P **P 14 05 59.6 0.0**
MJAR Matsushiro Arr 64.77 333 P **P 14 06 47.4 -0.5**
comp=Z,2.1nm,0.8s,mb4.2,baz=158,slow=6.9,SNR=5.9
QSPA South Pole Qui 68.33 180 *e*P **P 14 07 09.7 -0.3**
comp=Z,6.5nm,0.9s,mb4.7
QSPA South Pole Qui 68.33 180 LR LR 14 34 21.4
comp=Z,362nm,18.5s,MS4.6,baz=76,slow=34
KSRS Korea Array 70.33 326 P **P 14 07 22.5 -0.4**
comp=Z,1.5nm,1.0s,mb3.9,baz=76,slow=32,SNR=2.7
KSRS LR LR 14 36 38.8
comp=Z,42nm,18.4s,MS3.7,baz=170,slow=34
YSS Yuzh-Sakhalins 72.30 342 *e*P **P 14 07 36.1 +1.5**
YSS pmax pmax
comp=Z,21nm,0.9s,mb5.1
YSS Yuzh-Sakhalins 72.30 342 *e*P **P 14 07 36.1 +1.4**
comp=Z,21nm,0.9s,mb5.1
HABR Khabarovsk 76.13 338 *e*P **P 14 08 04.9 +8.0**
HABR *e* 14 11 02.6
SEY Seymchan 85.38 353⇑ *e*P **P 14 08 52.8 +6.8**
SNAA Sanae 86.66 183 *e*P **P 14 08 48.8 -3.7**
SNAA *e* 14 08 56.8
SNAA *e* pP 14 09 01.7 -4.3
SNAA *e* 14 09 28.2
SNAA Sanae 86.66 183⇑ *i*P **P 14 08 49.0 -3.5**
VNA2 Neumayer--Watz 87.55 181 *e*P **P 14 08 56.3 -0.5**
VNA2 *e* 14 09 03.9
VNA2 *e* pP 14 09 10.8 +0.4
VNA2 *e* 14 09 35.8
SONM Songino Array 88.96 323 P **P 14 09 03.8 +0.2**
comp=Z,1.1nm,0.7s,mb4.3,baz=146,slow=4.6,SNR=8.7
SONM LR LR 14 45 03.6
comp=Z,50nm,19.3s,MS4.0,baz=337,slow=33
YAK Yakutsk 89.12 343⇑ *e*P **P 14 09 11.7 +7.7**
YAK pmax pmax
comp=Z,23nm,1.7s,mb5.2
YBH Yreka Blue Hor 89.37 44 P **P 14 09 06.2 +0.5**
comp=Z,1.2nm,0.7s,mb4.3,baz=158,slow=9.5,SNR=2.9
USHA Ushuaia 89.48 151 LR LR 14 42 04.8
comp=Z,240nm,21.1s,MS4.6,baz=187,slow=31
BILL Bilibino 89.53 359 P **P 14 09 14.0 +8.2**
BILL pmax pmax
comp=Z,9.0nm,1.5s,mb4.9
BILL Bilibino 89.53 359 *e*P **P 14 09 04.9 -0.9**
comp=Z,4.4nm,0.9s,mb4.8
NVAR Mina Array Bea 90.75 49 P **P 14 09 11.9 -0.4**
comp=Z,1.7nm,0.8s,mb4.4,baz=223,slow=8.4,SNR=12
LPIG La Paz 90.86 64 LR LR 14 40 43.5
comp=Z,129nm,18.6s,MS4.4,baz=210,slow=29
BOD Bodaibo 91.38 334 *e*P **P 14 09 11.6 -3.1**
BOD pmax pmax
comp=Z,3.0nm,1.4s,mb4.4
BOD pmax pmax
comp=Z,2.0nm,0.8s,mb4.5
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.7
TPNV Topopah Spring 91.55 51 *e*P **P 14 09 15.4 -0.6**
TPNV pmax pmax
comp=Z,18nm,1.9s,mb5.1
TPNV Topopah Spring 91.55 51 *e*P **P 14 09 15.4 -0.6**
comp=Z,18nm,1.9s,mb5.1
COLA College 92.54 17⇑ *e*P **P 14 09 27.9 +8.0**
TLY Talaya 92.57 326⇑ *e*P **P 14 09 27.2 +6.8**
TLY pmax pmax
comp=Z,1.0nm,1.3s,mb4.1
PLCA Paso Flores 96.94 139 LR LR 14 48 05.6
comp=Z,178nm,18.6s,MS4.6,baz=29,slow=32
TIXI Tiksi 97.09 348⇑ *e*P **P 14 09 48.5 +7.9**
TIXI pmax pmax
comp=Z,5.0nm,2.2s,mb4.6
TXAR Lajitas Array 98.31 62 LR LR 14 45 49.2
comp=Z,104nm,18.3s,MS4.4,baz=90,slow=30
MKAR Makanchi Array 103.22 315 Pdiff Pdif 14 10 08.6 0.0
comp=Z,0.3nm,0.8s,baz=100,slow=6.3,SNR=3.7
ARCES ARCESS Array B 127.36 345 PKP PKPdf 14 15 12.6 -0.4
comp=Z,2.4nm,0.8s,baz=50,slow=1.9,SNR=7.2
AKASG Malin Array Be 137.24 323 PKP PKPdf 14 15 28.6 -3.5
comp=Z,1.5nm,0.4s,baz=45,slow=4.1,SNR=15
STHS Stebnicka Huta 142.30 325 *e*PKP PKPdf 14 15 42.0 +0.6
PSZ Piszkesteto 143.90 324⇑ *e*PKP PKiKP 14 15 50.7 +2.9
VYHS Vyhne 144.13 325 *e*PKP PKPdf 14 15 43.8 -0.9
DPC Dobruska-Polom 144.19 330 *e*PKP PKPdf 14 15 43.4 -1.3
DPC *ep*PKP pPKPdf 14 15 49.9 -8.9
UPC Upice 144.22 330 *e*PKP PKPdf 14 15 43.7 -1.1
UPC *ep*PKP pPKPdf 14 15 51.7 -7.2
PVCC Panska Ves 144.87 331 *e*PKP PKPdf 14 15 45.5 -0.4
BRG Berggiesshubel 144.90 332 *e*PKPbc PKPdf 14 15 45.3 -0.6
BRG *e* 14 16 24.5
BRG Berggiesshubel 144.90 332 *e*PKP PKPdf 14 15 44.9 -1.0
comp=Z,20nm,0.8s
BRG *i* 14 15 52.3
comp=Z,13nm,0.7s
BRG *i* 14 16 24.9
comp=Z,11nm,0.9s
CLL Collm 144.98 333⇓ *i*PKP PKPdf 14 15 45.3 -0.7
CLL *i* pPKP pPKPdf 14 15 52.5 -7.6
CLL Collm 144.98 333 *e*PKPdf PKPdf 14 15 44.5 -1.5
CLL *e* 14 15 52.6
CLL Collm 144.98 333 *i* PKPdf PKPdf 14 15 44.4 -1.6
CLL ⇓*i*PKPbc PKPdf 14 15 45.3 -0.7
comp=Z,25nm,0.9s
CLL *i* PKiKP PKiKP 14 15 48.7 -1.2
CLL *i* pPKPdf pPKPdf 14 15 52.5 -7.6
CLL *i* x x 14 15 53.5
MODS Modra-Piesok 145.01 326 *e*PKP PKPdf 14 15 47.1 +0.9
TREC Trest 145.30 329 *e*PKP PKPdf 14 15 47.4 +0.7
TREC *ep*PKP pPKPdf 14 15 54.5 -6.3
CLZ Clausthal 145.61 336 *e*PKPbc PKPbc 14 15 47.5 +0.1
SOP Sopron 145.83 326⇑ *e*PKP PKPab 14 15 50.1 +1.4

TANN Tannenbergstha 145.87 333 *e*PKPbc PKPbc 14 15 48.3 0.0
NKC Novy Kostel 146.01 333 *e*PKP PKPdf 14 15 49.1 +1.3
NKC *ep*PKP pPKPdf 14 15 55.9 -6.0
CONA Conrad Observa 146.03 327⇑ *i*P PKPab 14 15 49.3 -0.2
comp=Z,30nm,1.7s,SNR=8.8
CSNA Conrad Observa 146.03 327⇑ *i*PKPab PKPab 14 15 49.3 -0.1
comp=Z,14nm,1.0s
MOX Moxa 146.05 334 *e*PKP PKPbc 14 15 49.2 +0.4
MOX *e* 14 15 55.6
comp=Z,19nm,1.4s
MOX Moxa 146.05 334 *e*PKIKP PKPbc 14 15 49.2 +0.4
MOX *e* 14 15 55.6
MOX pmax pmax
comp=Z,19nm,1.4s
MOX Moxa 146.05 334 *e*PKPbc PKPbc 14 15 49.3 +0.5
IBBN Ibbenburen 146.15 339 *e*PKPbc PKPbc 14 15 49.2 +0.2
KHC Kasperske Hory 146.31 330 *e*PKP PKPbc 14 15 49.8 +0.2
KHC *ex* x 14 15 58.1
KHC *ex* x 14 16 29.0
MANZ Manzenberg 146.34 333 *e*PKPbc PKPbc 14 15 50.1 +0.4
GEC2 GERESS Array S 146.46 330 *e*PKPbc PKPbc 14 15 49.9 -0.2
GEC2 *e* 14 16 29.6
GERES GERESS Array B 146.46 330 PKPbc PKPbc 14 15 49.3 -0.8
comp=Z,6.9nm,0.7s,baz=33,slow=3.2,SNR=44
ROTZ Rotzenmuhle 146.47 332 *e*PKPbc PKPbc 14 15 50.1 +0.1
WET Wettzell 146.62 331 *e*PKPbc PKPbc 14 15 50.9 +0.4
GRF Grafenberg Arr 146.94 333 *e*PKIKP PKPbc 14 15 51.6 +0.2
GRF *e* 14 15 58.6
GRF Grafenberg Arr 146.94 333 *e*PKPbc PKPbc 14 15 51.6 +0.2
GRF *e* 14 15 58.6
GRF *e* 14 16 30.9
CRES Cresnjev 147.59 324 *i* PKPdf PKPdf 14 15 51.5 +0.8
CRES *i* PKPbc PKPbc 14 15 54.0 +0.6
KBA Koelnbreinsper 147.86 328 *i* P PKPbc 14 15 53.8 -0.2
comp=Z,8.0nm,0.8s,SNR=8.0
KBA Koelnbreinsper 147.86 328 *i* pPKPdf PKPbc 14 15 53.8 -0.2
comp=Z,8.0nm,0.8s,SNR=8.0
LJU Ljubljana 147.95 325 *e*PKPbc PKPbc 14 15 55.0 +0.7
CEY Cerknica 148.20 325 *e*PKPbc PKPbc 14 15 55.3 +0.4
MOTA Moosalm 148.75 330⇓ *i*P PKPbc 14 15 56.1 -0.2
comp=Z,8.9nm,0.9s
SQTA Sankt Quirin 148.79 330⇓ *i*P PKPbc 14 15 56.6 +0.2
comp=Z,8.3nm,0.9s
LANF Langenberg 148.88 335 *e*P PKPbc 14 15 57.3 +0.7
WLF Walferdange 148.93 338 *e*PKPbc PKPbc 14 15 58.0 +1.3
GIVF Givet 149.00 340 *e*PKP1 PKPbc 14 15 55.3 -1.6
FETA Feichten 149.16 330⇑ *i*P PKPbc 14 15 57.2 -0.2
comp=Z,12nm,0.9s,SNR=5.8
BFO Black Forest 149.20 334 *e*PKPbc PKPbc 14 15 57.9 +0.4
BAIF Baives 149.23 340 *e*PKP1 PKPbc 14 15 56.0 -1.5
DAVA Daunuls 149.35 331⇑ *i*P PKPbc 14 15 58.2 +0.4
comp=Z,11nm,1.0s
CDF Champ du Feu 149.55 335 *e*PKP1 PKPbc 14 15 57.5 -0.8
comp=Z,61nm,1.4s
MOF Molkenrain 150.06 335 *e*P PKPab 14 16 04.4 -1.1
THEF They Montfort 150.19 337 *e*P PKPab 14 16 04.0 -2.0
HINF Hinteralfeld 150.20 335 *e*PKP1 PKPbc 14 15 59.0 -0.9
HAU Haudompre 150.24 336 *e*PKP1 PKPbc 14 15 59.1 -0.9
comp=Z,20nm,0.9s
MEZF Maizieres J'vi 150.30 338 *e*PKP1 PKPbc 14 15 59.7 -0.4
comp=Z,48nm,0.9s
LOMF Lomont 150.59 335 *e*P PKPbc 14 16 01.2 +0.3
CABF La Chapelle 151.49 335 *e*PKP1 PKPbc 14 16 02.5 -0.5
comp=Z,28nm,1.1s
FLN La Foliniere 151.71 345 *e*PKP1 PKPbc 14 16 02.2 -1.2
comp=Z,18nm,0.8s
LOR Lormes 151.77 338 *e*PKP1 PKPbc 14 16 02.7 -0.9
comp=Z,10nm,0.8s
LDF La Druitiere 151.77 344 *e*PKP1 PKPbc 14 16 02.3 -1.3
SSF Saint Saulge 152.07 338 *e*PKP1 PKPbc 14 16 03.4 -0.9
comp=Z,34nm,1.2s
LPL La Plagne 152.10 332 *e*PKP1 PKPbc 14 16 04.1 -0.3
comp=Z,8.2nm,0.8s
LPG La Plagne 152.10 332 *e*PKP1 PKPbc 14 16 04.3 -0.1
comp=Z,11nm,0.7s
SMF Signal de Mont 152.31 337 *e*PKP1 PKPbc 14 16 04.5 -0.3
comp=Z,38nm,1.1s
AVF Avril sur Loir 152.36 338 *e*PKP1 PKPbc 14 16 04.5 -0.4
comp=Z,18nm,1.0s
BNI Bardonecchia 152.49 332 *e*PKIKP PKPbc 14 16 02.7 -2.6
MBDF Montbardon 152.70 331 *e*PKP1 PKPbc 14 16 05.4 -0.4
ORIF Oris-en-Rattie 152.94 333 *e*PKP1 PKPbc 14 16 05.6 -0.7
comp=Z,14nm,0.9s
PLDF La Plantade 152.97 337 *e*P PKPab 14 16 18.3 +0.7
TCF Toulx Ste Croi 153.18 339 *e*PKP1 PKPbc 14 16 05.8 -1.0
PGF Pioggiola 153.23 325 *e*PKP1 PKPbc 14 16 06.0 -1.0
comp=Z,18nm,0.8s
MFF Saint Martin d 153.62 343 *e*PKP1 PKPbc 14 16 06.6 -1.1
SMRF Simiane la Rot 153.82 332 *e*PKP1 PKPbc 14 16 07.6 -0.7
LMR La Mourre 153.90 330 *e*PKP1 PKPbc 14 16 07.6 -0.9
comp=Z,28nm,1.0s
EVO Evora 163.03 351 *e*PKIKP PKPdf 14 16 11.4 -0.2
comp=Z,51nm,1.4s
TORD Torodi Ar. Bea 165.03 237 PKP PKPdf 14 16 13.8 -0.3
comp=Z,0.6nm,0.8s,baz=349,slow=0.5,SNR=3.1
TORD PKPab PKPab 14 17 08.0 -2.8
comp=Z,0.6nm,0.6s,baz=163,slow=3.7,SNR=3.5

*ISCJB **19** 13:56:43.9±2.2,2476S∘0.10×1799W±0.1,h82km±25km, mb4.2/14, Error ellipse: s-maj=18.6km s-min=14.2km az=155.1*
*NEIC **19** 13:56:44.2±2.5,2474S×17978W,h477km±26km,mb4.5/9, Error ellipse: s-maj=20.9km s-min=12.4km az=220.0*
*IDC **19** 13:56:45.2±1.7,2476S×17984W,h481km±17km,mb3.7/9, mb1 3.8/10,mb1mx3.7/15,mbtmp3.7/10,Error ellipse: s-maj=18.0km s-min=15.5km az=31.0*
ISC 19 13:56:45.1±2.0,248S±01×1798W±01,h482km±23km,n29, σ0969/29,mb4.2/14,3D,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**13.64**	**190**	P		**P**	**13 59 40.9**	**-0.1**
	0.6nm,0.3s,baz=276,slow=21,SNR=4.8							
URZ				S		**S**	**14 02 06.0**	**-0.1**
	2.6nm,0.3s,baz=180,slow=23,SNR=12							
RPZ	**Rata Peaks**	**20.26**	**199**	P		**P**	**14 00 46.2**	**-0.6**
	8.6nm,0.5s,baz=351,slow=2.4,SNR=12							
EIDS	**Eidsvold**	**26.31**	**263**	*e*P		**P**	**14 01 41.5**	**+0.2**
CTA	**Charters Tower**	**31.63**	**272**	⇓*i*P		**P**	**14 02 28.9**	**+1.2**
	18nm,0.4s,mb4.8							
CTA	**Charters Tower**	**31.63**	**272**	P		**P**	**14 02 29.0**	**+1.3**
	31nm,0.6s,mb4.9,baz=98,slow=11,SNR=28							
CTAO	**Charters Tower**	**31.63**	**272**	*e*P		**P**	**14 02 28.4**	**+0.7**
	15nm,0.4s,mb4.8							
STKA	**Stephens Creek**	**34.52**	**249**	*e*P		**P**	**14 02 53.0**	**+0.9**
	3.7nm,0.4s,mb4.2							
STKA	**Stephens Creek**	**34.52**	**249**	*e*P		**P**	**14 02 52.4**	**+0.3**
	5.1nm,0.5s,mb4.2							
STKA	**Stephens Creek**	**34.52**	**249**	P		**P**	**14 02 53.1**	**+1.0**
	4.6nm,0.4s,mb4.3,baz=116,slow=13,SNR=26							
ASAR	**Alice Springs**	**42.03**	**262**	P		**P**	**14 03 54.0**	**+0.5**
	3.9nm,0.3s,mb4.3,baz=94,slow=7.2,SNR=43							
ASAR				ScP		ScP	14 08 42.9	+0.9
	0.5nm,0.8s,baz=117,slow=3.3,SNR=3.7							
ASAR				S		**S**	**14 09 37.5**	**+0.3**
	0.3nm,0.6s,baz=95,slow=16,SNR=4.3							
WB2	**Warramunga Arr**	**42.48**	**267**	⇓*i*P		**P**	**14 03 56.7**	**-0.5**
WRAB	**Tennant Creek**	**42.49**	**267**	*e*P		**P**	**14 03 57.0**	**-0.2**
	29nm,1.0s,mb4.7							
WRA	**Warramunga Arr**	**42.49**	**267**	P		**P**	**14 03 57.1**	**-0.2**
	13nm,0.3s,mb4.8,baz=100,slow=7.7,SNR=161							
WRA				ScP		ScP	14 08 45.2	+1.3
	2.2nm,0.8s,baz=100,slow=3.7,SNR=12							
WRA				S		**S**	**14 09 43.6**	**-0.3**
	1.7nm,0.9s,baz=103,slow=15,SNR=8.8							
FORT	**Forrest**	**46.13**	**250**	*e*P		**P**	**14 04 24.3**	**-1.0**
	22nm,0.7s,mb4.7							
FORT	**Forrest**	**46.13**	**250**	*e*P		**P**	**14 04 24.8**	**-0.5**
	3.1nm,0.6s,mb3.9							
KAKA	**Kakadu**	**46.54**	**276**	*e*P		**P**	**14 04 27.9**	**-0.8**
	5.6nm,0.3s,mb4.5							
FITZ	**Fitzroy Crossi**	**50.90**	**266**	*e*P		**P**	**14 05 01.6**	**+0.4**
	17nm,0.7s,mb4.5							
FITZ	**Fitzroy Crossi**	**50.90**	**266**	*e*P		**P**	**14 05 01.5**	**+0.4**
	17nm,0.6s,mb4.6							
VNDA	**Vanda**	**53.47**	**185**	P		**P**	**14 05 20.1**	**+1.4**
	1.1nm,0.8s,mb3.2,baz=19,slow=6.9,SNR=6.3							
MBWA	**Marble Bar**	**55.36**	**261**	*e*P		**P**	**14 05 32.5**	**-0.4**
	1.8nm,0.3s,mb3.9							
CASY	**Casey**	**59.34**	**206**	*e*P		**P**	**14 05 59.3**	**-0.2**
	8.2nm,0.7s,mb4.2							
MJAR	**Matsushiro Arr**	**72.74**	**326**	P		**P**	**14 07 22.7**	**-0.9**
	1.8nm,0.8s,mb3.6,baz=157,slow=4.8,SNR=3.4							
MAW	**Mawson**	**76.93**	**200**	P		**P**	**14 07 47.8**	**+1.1**
	3.8nm,0.6s,mb4.1,baz=137,slow=7.7,SNR=9.2							
KSRS	**Korea Array**	**79.05**	**320**	P		**P**	**14 07 59.1**	**+0.6**
	1.1nm,0.7s,mb3.5,baz=126,slow=5.3,SNR=5.7							
SYO	**Syowa Base**	**82.14**	**193⇓**	*e*P		**P**	**14 08 12.8**	**-1.4**
PV10	**Paradox Valley**	**91.34**	**48**	*e*P		**P**	**14 08 58.8**	**+0.1**
BVAR	**Borovoye Array**	**121.23**	**318**	PKP		PKPdf	14 14 41.6	-0.7
	0.6nm,0.5s,baz=80,slow=1.6,SNR=3.1							
ARCES	**ARCESS Array B**	**132.82**	**348**	PKP		PKPdf	14 15 02.0	-1.9
	2.2nm,0.7s,baz=31,slow=3.7,SNR=3.4							
TORD	**Torodi Ar. Bea**	**168.29**	**187**	PKP		PKPdf	14 15 55.7	-0.8
	0.8nm,1.0s,baz=204,slow=3.2,SNR=2.9							

IDC 19 13:57:30.2±27.0,1908S×17628W,h419km±279km, mb3.5/3,mb1 3.6/4,mb1mx3.2/16,mbtmp3.5/4,1C,Error ellipse: s-maj=159.4km s-min=33.9km az=32.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**19.96**	**195**	P		P	14 01 32.9	+0.1
	0.8nm,0.3s,baz=208,slow=18,SNR=3.7							
CTA	**Charters Tower**	**35.27**	**262**	P		P	14 03 48.4	+0.5
	2.6nm,0.3s,baz=95,slow=9.9,SNR=3.3							
WRA	**Warramunga Arr**	**46.42**	**260**	P		P	14 05 17.2	-0.3
	2.5nm,0.8s,baz=96,slow=7.6,SNR=4.9							
ASAR	**Alice Springs**	**46.44**	**255**	P		P	14 05 17.2	-0.4
	1.8nm,0.5s,baz=91,slow=7.6,SNR=4.9							
CLL	**Collm**	**147.02**	**349⇑**	*i*P		PKPdf	14 16 25.0	+3.3
	comp=Z,10.0nm,0.8s							
GERES	**GERESS Array B**	**149.23**	**347**	PKPbc		PKPbc	14 16 29.9	-0.2
	comp=Z,5.4nm,0.7s,baz=46,slow=2.8,SNR=7.0							

*SKHL **19** 14:04:36.3±0.8,4607N×150.18E,h145km±14km,mb4.8/4, msh5.7/1*
*MOS **19** 14:04:37.4±1.1,4640N×14964E,h166km,mb4.0/16,Error ellipse: s-maj=12.1km s-min=8.0km az=73.0*
*ISCJB **19** 14:04:38.2±0.3,4608N±005×14977E±005,h180km, mb4.2/38,Error ellipse: s-maj=7.5km s-min=3.6km az=143.3*
*JMA **19** 14:04:40.6±0.5,4529N×15002E,h185km,M4.2*
*BJI **19** 14:04:40.1,4639N×14962E,h183km,mB4.7,mb4.5*
*NEIC **19** 14:04:41.6±0.6,4653N×14961E,mb4.3/10,Error ellipse: s-maj=17.0km s-min=7.8km az=157.0*
*IDC **19** 14:04:41.5±0.9,4637N×14954E,h188km±7km,mb3.6/16, mb1 3.8/19,mb1mx3.8/25,mbtmp3.7/19,Error ellipse: s-maj=15.4km s-min=10.2km az=153.0*
ISC 19 14:04:40.1±0.3,4612N±005×14959E±006,h182km, h182km±2.3km:pP-P,n118,σ1943/140,mb4.2/38,8C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.50**	**234**	⇓*i*PN		**Pn**	**14 05 10.5**	**-1.7**
KUR				*i* S		**Sn**	**14 05 35.6**	**-1.3**
KUR				pmax	pmax			
	comp=N,220nm,0.8s							
KUR				pmax	pmax			
	comp=E,320nm,0.8s							
KUR				pmax	pmax			
	comp=Z,1μm,0.8s							
KUR				smax				
	comp=N,1μm,0.8s							
KUR				smax				
	comp=E,490nm,0.8s							
KUR	**Kuril'sk**	**1.50**	**234**	*e*P		**Pn**	**14 05 10.5**	**-1.7**
YUK	**Yuzh-Kuril'sk**	**3.37**	**235⇓**	*i*PN		**Pn**	**14 05 32.9**	**-0.4**
YUK				*i* S		**Sn**	**14 06 15.4**	**+0.7**
YUK				pmax	pmax			
	comp=Z,300nm,0.5s							
YUK				smax				
	comp=N,500nm,0.5s							
YUK				smax				
	comp=E,400nm,0.5s							
YUK				smax				
	comp=E,2μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**3.37**	**233⇓**	*e*P		**Pn**	**14 05 32.9**	**-0.4**
YUK				AMB		AMB	14 05 33.0	
	comp=E,300nm,0.5s							
YUK				*i* S		**Sn**	**14 06 15.4**	**+0.7**
YUK				A			14 06 19.0	
	comp=E,500nm,0.5s							
YUK				A			14 06 19.0	
	comp=E,400nm,0.5s							
YUK				A			14 06 20.5	
	comp=E,2μm,1.0s							
JRA	**Rausu**	**3.85**	**237**	P		**Pn**	**14 05 39.4**	**+0.1**
NEM2	**Nemuro 2**	**3.89**	**226**	P		**Pn**	**14 05 37.4**	**-2.4**
NEM2				*e*S		**Sn**	**14 06 21.8**	**-4.6**
JNK	**Nakash**	**4.29**	**236**	P		**Pn**	**14 05 45.1**	**+0.2**
JTKR	**Abashiri--Toko**	**4.56**	**244**	P		**Pn**	**14 05 49.2**	**+0.8**
JTKR				*e*S		**Sn**	**14 06 43.4**	**+1.5**
JAK	**Akkeshi**	**4.69**	**230**	P		**Pn**	**14 05 48.2**	**-1.8**
JAK				*e*S		**Sn**	**14 06 40.7**	**-4.1**
YSS	**Yuzh-Sakhalins**	**4.79**	**282**	*e*PN		**Pn**	**14 05 54.0**	**+2.7**
YSS				pmax	pmax			
	comp=Z,30nm,1.0s							
YSS	**Yuzh-Sakhalins**	**4.79**	**282**	*e*Pn		**Pn**	**14 05 52.7**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.79**	**282**	*e*P		**Pn**	**14 05 54.0**	**+2.7**
YSS				AMB		AMB	14 05 55.5	
	comp=Z,30nm,1.0s							
YSS				*e*rx		rx	14 05 58.5	
YSS				*e*rx		rx	14 06 14.5	
YSS				*e*S		**Sn**	**14 06 51.9**	**+4.8**
JMP	**Maruseppu**	**4.89**	**247**	P		**Pn**	**14 05 53.9**	**+1.2**
JAR	**Ashorobuto**	**5.02**	**238**	P		**Pn**	**14 05 54.8**	**+0.5**
JOB	**Onbets**	**5.22**	**234**	P		**Pn**	**14 05 56.2**	**-0.7**
JOB				*e*S		**Sn**	**14 06 54.2**	**-3.1**
ASAJ	**Asahikawa**	**5.34**	**250**	PN		**Pn**	**14 06 00.9**	**+2.5**
ASAJ				pmax	pmax			
	comp=Z,3.0nm,0.3s							
ASAJ	**Asahikawa**	**5.34**	**250**	P		**Pn**	**14 06 00.8**	**+2.4**
	comp=Z,2.6nm,0.3s,baz=76,slow=12,SNR=21							
JKK2	**Kamakawa 2**	**5.35**	**248**	P		**Pn**	**14 05 59.9**	**+1.4**
JCH	**Churui**	**5.67**	**234**	P		**Pn**	**14 06 01.7**	**-1.1**
JCH				*e*S		**Sn**	**14 07 03.4**	**-4.5**
JFR	**Furan**	**5.80**	**242**	P		**Pn**	**14 06 05.6**	**+1.1**
UGL	**Uglegorsk**	**5.89**	**303**	*e*P		**Pn**	**14 06 13.5**	**+8.0**
UGL				AMB		AMB	14 06 24.0	
	comp=Z,49nm,0.9s							
JBT2	**Biratori 2**	**6.16**	**240**	P		**Pn**	**14 06 08.7**	**-0.4**
ERM	**Erimo**	**6.19**	**231⇑**	*e*PN		**Pn**	**14 06 09.4**	**-0.2**
JEM	**Erimo**	**6.19**	**231**	P		**Pn**	**14 06 08.5**	**-1.0**
JNBK	**Urakawa-nobuka**	**6.24**	**234**	P		**Pn**	**14 06 07.6**	**-2.6**
SKR	**Severo-Kuril's**	**6.30**	**41**	*e*PN		**Pn**	**14 06 04.5**	**-6.4**
SKR				*e*S		**Sn**	**14 07 11.5**	**-11**
SKR				pmax	pmax			
	comp=N,40nm,0.6s							
SKR				pmax	pmax			
	comp=Z,40nm,0.6s							
SKR				pmax	pmax			
	comp=E,20nm,0.5s							
SKR				smax				
	comp=N,50nm,0.5s							
SKR				smax				
	comp=E,50nm,0.5s							
SKR	**Severo-Kuril's**	**6.30**	**41**	*e*P		**Pn**	**14 06 04.5**	**-6.4**
SKR				AMB		AMB	14 06 05.9	
	comp=E,20nm,0.5s							
SKR				AMB		AMB	14 06 05.9	
	comp=E,40nm,0.6s							
SKR	

MAT Matsushiro 12.82 226 P **Pn 14 07 42.3 +6.4**
MJAR Matsushiro Arr 12.82 226 P **Pn 14 07 36.6 +0.7**
comp=E,0.4nm,0.3s,baz=24,slow=12,SNR=7.3
MDJ Mudanjiang 14.14 271 P **Pn 14 07 52.6 +0.3**
MDJ S **Sn 14 10 28.8 -0.9**
MDJ SCP ScP 14 16 16.8 +3.5
MDJ PCS PcS 14 16 34.3 +2.5
MDJ SCS ScS 14 19 54.1 +3.5
MDJ AMB AMB
comp=Z,8.0nm,1.6s
MDJ AMB AMB
comp=Z,121nm,6.8s
ZEA Zeya 16.23 306 *e*P **Pn 14 08 15.4 -2.4**
ZEA AMB AMB 14 08 16.4
comp=Z,18nm,1.0s
ZEA AMB AMB 14 08 16.4
comp=Z,20nm,1.0s
SEY Seymchan 16.92 4⇑ *e*P **Pn 14 08 22.7 -3.3**
CN2 Changchun 17.23 271 *e*P **Pn 14 08 31.9 +2.1**
CN2 *e*XP sP 14 09 19.9 -1.8
CN2 *e*S **S 14 11 35.8 -2.6**
CN2 AMB AMB
comp=Z,10.0nm,0.6s
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,200nm,14.0s
CN2 LR LR
comp=E,200nm,14.0s
KSRS Korea Array 18.29 249 P **P 14 08 42.4 +2.2**
comp=E,0.5nm,0.3s,baz=56,slow=11,SNR=31
CLNS Chul'man 18.64 314 *e*P **P 14 08 47.9 +4.1**
CLNS pmax pmax
comp=Z,24nm,0.9s
CLNS pmax pmax
comp=N,12nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,1.1s
JNU Nakatsue 19.34 234 P **P 14 08 54.1 +2.6**
comp=E,1.2nm,0.3s,baz=126,slow=6.4,SNR=12
YAK Yakutsk 19.62 331 *e*P **P 14 08 54.3 0.0**
YAK pmax pmax
comp=Z,15nm,0.9s
YAK pmax pmax
comp=N,6.0nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.8s
YAK Yakutsk 19.62 331 *e*P **P 14 08 54.4 +0.2**
comp=E,17nm,0.8s
BJI Beijing 25.03 268 P **P 14 09 49.1 +1.9**
BJI AMB AMB
comp=Z,6.0nm,0.5s,mb4.4
TIXI Tiksi 27.44 346⇑ *e*P **P 14 10 05.8 -2.6**
TIXI pmax pmax
comp=Z,5.0nm,1.6s,mb3.9
NJ2 Nanjing 27.49 250 *e*P **P 14 10 14.5 +5.2**
NJ2 AP pP 14 10 49.1 +2.6
NJ2 XP sP 14 11 09.5 +2.0
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb4.9
HHC Hu-ho-hao-te 27.90 273 *e*P **P 14 10 16.6 +3.7**
HHC AP pP 14 10 52.5 +2.3
HHC PP PP 14 11 14.5 -5.0
HHC PCP PcP 14 13 27.4 +3.8
HHC S **S 14 14 47.5 +4.7**
HHC XS sS 14 15 49.8 +0.7
HHC SS SS 14 16 24.5 -24
HHC AMB AMB
comp=Z,23nm,1.1s,mb4.8
HHC AMB AMB
comp=Z,100nm,6.1s
HHC LR LR
comp=N,175nm,13.9s
HHC LR LR
comp=E,309nm,15.5s
HHC LR LR
comp=Z,244nm,13.4s
SONM Songino Array 29.24 289 P **P 14 10 25.0 +0.2**
comp=Z,0.3nm,0.4s,mb3.4,baz=317,slow=46,SNR=3.9
TLY Talaya 30.31 298⇑ *e*P **P 14 10 34.0 0.0**
WHN Wuhan 31.42 253 ⇑P **P 14 10 46.0 +2.0**
LZH Lanzhou 35.46 270 ⇑P **P 14 11 21.6 +2.7**
LZH AP pP 14 11 59.3 +2.2
LZH XP sP 14 12 19.3 +1.4
LZH AMB AMB
comp=Z,20nm,1.0s,mb4.7
LZH AMB AMB
comp=Z,103nm,5.3s
IMA2 Indian Mountai 35.74 36 *e*P **P 14 11 20.5 -0.4**
KDAK Kodiak Island 36.38 50 P **P 14 11 24.8 -1.7**
KDAK Kodiak Island 36.38 50 P **P 14 11 24.8 -1.7**
comp=Z,4.9nm,0.6s,mb4.3,baz=271,slow=1.7,SNR=8.2
GTA Gaotai 36.65 278 ⇓ *i*P **P 14 11 30.9 +1.9**
GTA AP pP 14 12 08.4 +1.1
GTA XP sP 14 12 28.3 +0.2
GTA PP PP 14 13 02.1 +5.9
GTA PCP PcP 14 13 50.3 +2.6
GTA S **S 14 17 01.8 +3.5**
GTA SCP ScP 14 17 19.1 +2.1
GTA PCS PcS 14 17 36.9 +1.1
GTA XS sS 14 18 07.1 +1.2
GTA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
GTA AMB AMB
comp=Z,58nm,8.4s
GTA LR LR
comp=N,168nm,17.9s
GTA LR LR
comp=E,205nm,20.5s
GTA LR LR
comp=Z,104nm,16.0s
SML Sawmill 38.10 43 *e*P **P 14 11 40.4 -0.4**
COLA College 38.14 38 *c i*P **P 14 11 40.1 -1.0**
COLA *e**PP pP 14 12 19.4 -0.3
COLA College 38.14 38 *e*P **P 14 11 40.8 -0.3**
comp=Z,5.6nm,0.8s,mb4.2
CD2 Chengdu 38.39 263 *e*P **P 14 11 46.6 +2.9**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA Guiyang 39.20 255 P **P 14 11 51.9 +1.5**
GYA AP pP 14 12 32.4 +3.2
GYA XP sP 14 12 52.3 +2.5
GYA PCP PcP 14 14 00.8 +5.0
GYA SCP ScP 14 17 31.4 +4.6
GYA S **S 14 17 42.5 +5.6**
GYA PCS PcS 14 17 49.3 +3.4
GYA SCS ScS 14 21 42.3 +3.1
GYA AMB AMB
comp=Z,10.0nm,1.1s,mb4.4
ZALV Zalesovo Beam 41.00 305 P **P 14 12 04.7 -0.1**
comp=Z,1.0nm,0.3s,mb3.9,baz=71,slow=9.8,SNR=1.7
ZAL Zalesovo 41.01 305 P **P 14 12 04.7 -0.3**
KMI Kunming 42.73 257 P **P 14 12 22.8 +3.5**
KMI AP pP 14 13 01.8 +3.2
KMI AMB AMB
comp=Z,9.0nm,1.0s,mb4.3
WMQ Urumqi 42.87 290 *e*P **P 14 12 23.0 +2.8**
WMQ AP pP 14 13 01.0 +1.5
WMQ PP PP 14 14 07.0 +3.7
WMQ S **S 14 18 33.0 +2.3**
WMQ SS SS 14 21 43.0 -6.0
WMQ AMB AMB
comp=Z,31nm,1.0s,mb4.9
WMQ LR LR
comp=N,85nm,15.0s
WMQ LR LR
comp=E,76nm,15.0s
WMQ LR LR
comp=Z,58nm,15.0s
INK Inuvik 43.48 32 *e*P **P 14 12 24.5 -0.2**
comp=Z,26nm,0.6s,mb5.0
MK31 Makanchi Array 45.05 296 *e*P **P 14 12 37.1 -0.4**
MKAR Makanchi Array 45.05 296 P **P 14 12 37.3 -0.2**
MKAR *PP pP 14 13 18.1 +0.9
MKAR 14 14 16.3
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR Makanchi Array 45.05 296 P **P 14 12 37.3 -0.2**
comp=Z,1.0nm,0.5s,mb3.7,baz=70,slow=7.8,SNR=13
MKAR pP pP 14 13 18.1 +0.9
comp=Z,0.7nm,0.7s,baz=67,slow=8.5,SNR=3.3
MKAR PcP PcP 14 14 16.3 +1.3
comp=Z,1.2nm,0.6s,baz=65,slow=3.2,SNR=9.5
KURK Kurchatov 45.67 303 *e*P **P 14 12 41.2 -1.1**
KURK pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
KURK Kurchatov 45.67 303 *e*P **P 14 12 41.2 -1.1**
comp=Z,4.9nm,0.6s,mb4.3
DLBC Dease Lake 47.77 44 P **P 14 12 59.6 +1.2**
baz=220,slow=18
LSA Lhasa 47.86 271 P **P 14 13 02.9 +3.3**
LSA Lhasa 47.86 271 *e*P **P 14 13 03.1 +3.5**
LSA pmax pmax
comp=Z,20nm,0.6s,mb4.9
LSA Lhasa 47.86 271 *e*P **P 14 13 03.1 +3.5**
comp=Z,20nm,0.6s,mb4.9
BVAR Borovoye Array 49.36 309 P **P 14 13 10.0 -0.6**
BVAR 14 14 30.6
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 49.36 309 P **P 14 13 10.0 -0.6**
comp=Z,1.0nm,0.6s,mb3.7,baz=69,slow=6.7,SNR=9.2
BVAR PcP PcP 14 14 30.6 +0.3
comp=Z,0.8nm,0.5s,baz=64,slow=3.4,SNR=4.6
SHL Shillong 49.91 266 *e*P **P 14 13 18.0 +2.8**
YKA Yellowknife Ar 52.87 35 P **P 14 13 36.4 -0.2**
YKA *PP pP 14 14 16.2 -1.3
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 52.87 35 P **P 14 13 36.4 -0.2**
comp=Z,0.9nm,0.5s,mb3.8,baz=299,slow=7.0,SNR=15
YKA pP pP 14 14 16.1 -1.3
comp=Z,0.3nm,0.7s,baz=298,slow=7.2,SNR=4.8
ARU Arti 53.81 317 *d i*P **P 14 13 42.2 -1.3**
ARU *e**PP pP 14 14 23.9 -0.7
ARU *e* 14 14 44.4
ARU *e* 14 15 43.5
ARU *e*S **S 14 21 03.8 +0.2**
ARU *e*SS SS 14 24 45.8 -0.6
ARU pmax pmax
comp=Z,13nm,1.7s,mb4.4
ARU Arti 53.81 317 *e*P **P 14 13 42.3 -1.2**
comp=Z,9.2nm,1.3s,mb4.3
ARCES ARCESS Array B 57.63 340 P **P 14 14 09.6 -0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.9s
ARCES ARCESS Array B 57.63 340 P **P 14 14 09.6 -0.8**
comp=Z,3.6nm,0.9s,mb4.2,baz=13,slow=7.5,SNR=5.1
YBH Yreka Blue Hor 60.18 60 P **P 14 14 29.3 +0.9**
YBH pmax pmax
comp=Z,1.0nm,0.6s
YBH Yreka Blue Hor 60.18 60 P **P 14 14 29.3 +0.8**
comp=Z,0.8nm,0.6s,mb3.7,baz=117,slow=2.2,SNR=3.6
WALA Waterton Lakes 60.70 49 *e*P **P 14 14 31.6 -0.3**
comp=Z,2.8nm,0.6s,mb4.3
FINES FINESS Array B 63.54 333 *i*P **P 14 14 49.2 -1.4**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 63.54 333 P **P 14 14 48.9 -1.7**
comp=Z,1.6nm,0.5s,mb4.1,baz=40,slow=8.0,SNR=19
BOZ Bozeman (W) 64.05 50 *e*P **P 14 14 54.4 +0.2**
BOZ pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
BOZ Bozeman (W) 64.05 50 *e*P **P 14 14 54.4 +0.2**
comp=Z,1.7nm,0.7s,mb4.0
OBN Obninsk 64.42 324 ⇑P **P 14 14 55.2 -1.2**
OBN pmax pmax
comp=Z,8.0nm,0.6s,mb4.7
NVAR Mina Array Bea 64.87 60 P **P 14 14 59.9 +0.3**
comp=Z,1.2nm,0.5s,mb4.0,baz=292,slow=7.7,SNR=4.2
BW06 Boulder Array 67.07 52 *e*P **P 14 15 13.6 +0.1**
comp=Z,1.0nm,0.5s,mb3.9
WRA Warramunga Arr 67.19 196 *i*P **P 14 15 16.2 +1.8**
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 67.19 196 P **P 14 15 15.5 +1.1**
comp=Z,0.8nm,0.6s,mb3.7,baz=10,slow=6.5,SNR=5.0
NB2 NORSAR Subarra 68.00 340 P **P 14 15 17.5 -1.6**
comp=Z,1.6nm,0.6s,mb3.9,baz=28,slow=6.5
NOA NORSAR Array B 68.00 340 P **P 14 15 17.7 -1.4**
comp=Z,2.6nm,0.6s,mb4.2,baz=30,slow=6.3,SNR=7.2
RSSD Black Hills 69.07 48 *e*P **P 14 15 26.1 +0.1**
RSSD pmax pmax
comp=Z,3.0nm,0.8s,mb4.1
RSSD Black Hills 69.07 48 *e*P **P 14 15 26.1 +0.1**
comp=Z,2.5nm,0.8s,mb4.0
AKASG Malin Array Be 70.68 324 P **P 14 15 34.4 -1.2**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG pmax pmax
comp=Z,2.0nm,0.5s
AKASG Malin Array Be 70.68 324 P **P 14 15 34.4 -1.2**
comp=Z,1.7nm,0.4s,mb4.1,baz=38,slow=6.2,SNR=10
AKASG pP pP 14 16 20.7 +1.8
comp=Z,2.0nm,0.5s,baz=44,slow=4.1,SNR=11
ASAR Alice Springs 70.90 195 P **P 14 15 39.7 +2.5**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 70.90 195 P **P 14 15 39.7 +2.5**
comp=Z,1.0nm,0.5s,mb3.8,baz=13,slow=6.3,SNR=6.7
SCHQ Schefferville 74.80 21 P **P 14 16 00.3 +0.5**
comp=Z,2.4nm,0.8s,mb3.9,baz=2.0,slow=9.2,SNR=3.5
UMR Umm Al-Rimmam 76.83 299 *e*P **P 14 16 12.7 +0.9**
UMR AMb AMB 14 16 13.6
comp=Z,64nm,0.5s
MIB Mutribah 76.88 299 *e*P **P 14 16 12.9 +0.9**
MIB AMb AMB 14 16 14.0
comp=Z,38nm,0.5s,mb5.3
QRN Al-Qurain 77.28 298 *e*P **P 14 16 15.4 +1.1**
QRN AMb AMB 14 16 16.2
comp=Z,71nm,0.4s
NAY Al-Naaiem 77.34 299 *e*P **P 14 16 15.4 +0.8**
NAY AMb AMB 14 16 16.5
comp=Z,15nm,0.7s,mb4.7
RDF Al-Radifah 77.38 299 *e*P **P 14 16 16.1 +1.2**
RDF AMb AMB 14 16 16.9
comp=Z,61nm,0.4s
TXAR Lajitas Array 79.91 58 P **P 14 16 29.2 +0.5**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 79.91 58 P **P 14 16 29.2 +0.5**
comp=Z,1.2nm,0.5s,mb3.8,baz=294,slow=4.5,SNR=35

IDC 19 14:08:57.2±1.9, 165N×12659E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML3.3/1, Error ellipse: s-maj=114.6km s-min=23.5km az=69.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.65**	**183**	P	Pn	14 13 27.7	-1.4
	0.1nm,0.3s,baz=13,slow=14,SNR=3.1						
WRA	**Warramunga Arr**	**22.77**	**161**	P	P	14 14 01.2	-0.1
	4.2nm,0.8s,baz=340,slow=11,SNR=27						
WB2	**Warramunga Arr**	**22.77**	**161**	*e*P	P	14 14 01.4	0.0
ASAR	**Alice Springs**	**26.15**	**165**	P	P	14 14 33.6	+0.2
	1.0nm,0.3s,baz=343,slow=11,SNR=23						
MKAR	**Makanchi Array**	**59.18**	**326**	P	P	14 19 00.1	+0.1
	0.4nm,0.4s,baz=124,slow=8.2,SNR=7.0						

IDC 19 14:17:54.4±1.2, 272S×12169E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.6/17, mbtmp3.6/5, MS3.2/1, Ms1 3.2/1, ms1mx2.8/20, Error ellipse: s-maj=35.0km s-min=20.2km az=77.0, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**2.99**	**220**	Pn	Pn	14 18 43.6	+0.5
	30nm,0.3s,baz=30,slow=5.2,SNR=56						
KAPI				Sn	Sn	14 19 21.1	+1.4
	22nm,0.3s,baz=123,slow=20,SNR=12						
KAPI				LR	LR	14 20 00.5	
	comp=Z,341nm,18.4s,baz=220,slow=42						
FITZ	**Fitzroy Crossi**	**15.77**	**166**	Pn	Pn	14 21 43.6	+5.6
	0.1nm,0.3s,baz=17,slow=14,SNR=6.7						
WRA	**Warramunga Arr**	**21.11**	**145**	P	P	14 22 40.2	-0.6
	2.2nm,1.1s,baz=317,slow=12,SNR=7.3						
ASAR	**Alice Springs**	**23.94**	**151**	P	P	14 23 10.8	+0.4
	1.9nm,0.8s,baz=326,slow=8.9,SNR=16						
SONM	**Songino Array**	**52.10**	**347**	P	P	14 27 07.6	+1.4
	0.4nm,0.9s,baz=165,slow=6.0,SNR=2.7						
MKAR	**Makanchi Array**	**60.26**	**330**	P	P	14 28 03.5	-1.1
	0.7nm,1.0s,baz=132,slow=5.8,SNR=3.5						

ISCJB ***19*** *14:22:19.2±0.5, 717S×01×1163W±03, h10km, mb4.3/14, MS3.8/3, Error ellipse: s-maj=17.3km s-min=9.9km az=141.3*
IDC ***19*** *14:22:19.4±0.6, 7176S×11638W, h0km, mb4.2/13, mb1 4.4/14, mb1mx4.3/18, mbtmp4.3/14, ML5.0/1, MS3.8/3, Ms1 3.8/3, ms1mx3.2/20, Error ellipse: s-maj=27.2km s-min=14.0km az=149.0*
NEIC ***19*** *14:22:20.9±0.3, 7164S×11639W, h10km, mb4.5/7, Error ellipse: s-maj=16.4km s-min=8.7km az=144.0*
BJI ***19*** *14:22:20.8, 7160S×11640W, h10km*
SZGRF ***19*** *14:22:21.5, 7238S×11901W, h33km, Southern Pacific Ocean*

ISC 19 14:22:21.1±0.5, 717S±01×1164W±03, h10km, n79, σ0.93/24, mb4.3/14, MS3.8/3, 4C-4D, Southern Pacific Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QSPA	**South Pole Qui**	**18.42**	**180**	*e*P	**Pn**	**14 26 37.2**	**+1.3**
	22nm,0.9s						
QSPA	**South Pole Qui**	**18.42**	**180**	P	**Pn**	**14 26 36.8**	**+0.9**
	0.5nm,0.3s,baz=110,slow=6.3,SNR=30						
SBA	**Scott Base**	**19.52**	**218**	*e*P	**Pn**	**14 26 50.9**	**+1.6**
	14nm,1.4s						
VNDA	**Vanda**	**20.61**	**218**	*e*P	**P**	**14 27 02.9**	**+3.0**
	3.3nm,0.9s						
VNDA	**Vanda**	**20.61**	**218**	P	**P**	**14 27 00.8**	**+0.9**
	3.4nm,1.0s,baz=119,slow=9.7,SNR=10.0						
SNAA	**Sanae**	**30.66**	**145**	P	**P**	**14 28 33.6**	**-1.4**
	0.9nm,0.7s,mb3.7,baz=230,slow=3.1,SNR=5.6						
SNAA				LR	LR	14 41 07.4	
	comp=Z,105nm,21.6s,MS3.5,baz=205,slow=37						
SYO	**Syowa Base**	**38.63**	**166⇑**	*e*P	**P**	**14 29 42.6**	**-1.1**
MAW	**Mawson**	**40.94**	**180**	P	**P**	**14 30 02.5**	**-0.4**
	5.3nm,0.7s,mb4.3,baz=171,slow=6.2,SNR=6.3						
TRQA	**Tornquist**	**43.32**	**69**	*e*P	**P**	**14 30 22.6**	**-0.1**
	11nm,1.0s,mb4.5						
CFAA	**Coronel Fontan**	**47.58**	**59**	P	**P**	**14 30 56.8**	**+0.3**
	0.3nm,0.4s,mb3.7,baz=192,slow=5.9,SNR=5.9						
RKT	**Rikitea**	**49.76**	**337**	*e*T		15 24 42.6	
	3.6nm,0.3s						
CPUP	**Villa Florida**	**55.65**	**69**	P	**P**	**14 31 56.4**	**-0.4**
CPUP	**Villa Florida**	**55.65**	**69**	P	**P**	**14 31 56.4**	**-0.4**
	0.2nm,0.3s,mb3.6,baz=177,slow=9.6,SNR=3.1						
CPUP				LR	LR	14 57 02.9	
	comp=Z,68nm,18.2s,MS3.8,baz=2.2,slow=37						
PAE	**Paea**	**57.45**	**322**	*e*T		15 34 21.5	
	20nm,0.4s						
PPT	**Papeete**	**57.54**	**322**	*e*LR	LR	14 49 08.1	
	112nm,27.8s						
PPT				*e*LR	LR	14 49 08.1	
	112nm,27.8s						
PPT	**Papeete**	**57.54**	**322**	LR	LR	14 52 53.9	
	comp=Z,114nm,18.0s,MS4.0,baz=194,slow=32						
LPAZ	**La Paz**	**62.20**	**54**	P	**P**	**14 32 43.8**	**+1.4**
	1.6nm,0.6s,mb4.3,baz=243,slow=3.0,SNR=4.7						
STKA	**Stephens Creek**	**63.72**	**248**	*e*P	**P**	**14 32 53.3**	**+0.9**
	6.7nm,0.6s,mb4.8						
STKA	**Stephens Creek**	**63.72**	**248**	P	**P**	**14 32 53.3**	**+0.9**
	8.9nm,0.6s,mb5.0,baz=140,slow=6.5,SNR=18						
SIV	**San Ignacio**	**64.37**	**61**	P	**P**	**14 32 57.3**	**+0.6**
	3.2nm,0.8s,mb4.4,baz=211,slow=7.1,SNR=16						
BDFB	**Brasilia**	**68.51**	**74**	P	**P**	**14 33 23.8**	**+0.5**
	1.6nm,0.5s,mb4.2,baz=186,slow=20,SNR=4.8						
CTA	**Charters Tower**	**73.38**	**257**	P	**P**	**14 33 52.6**	**-0.3**
	4.8nm,1.0s,mb4.4,baz=58,slow=3.9,SNR=4.6						
ASAR	**Alice Springs**	**73.67**	**244**	P	**P**	**14 33 54.0**	**-0.5**
	3.7nm,0.7s,mb4.4,baz=158,slow=5.7,SNR=32						
WB2	**Warramunga Arr**	**77.07**	**246**	*e*P	**P**	**14 34 13.0**	**-1.1**
WRA	**Warramunga Arr**	**77.08**	**246**	P	**P**	**14 34 13.3**	**-0.8**
	5.2nm,0.8s,mb4.5,baz=160,slow=5.1,SNR=22						
WRAB	**Tennant Creek**	**77.08**	**246**	*e*P	**P**	**14 34 13.1**	**-1.0**
	6.0nm,0.8s,mb4.6						
FITZ	**Fitzroy Crossi**	**81.25**	**238**	*e*P	**P**	**14 34 36.3**	**-0.6**
	4.9nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**81.25**	**238**	P	**P**	**14 34 36.9**	**-0.1**
	4.3nm,1.0s,mb4.3,baz=180,slow=7.1,SNR=4.9						
YKA	**Yellowknife Ar**	**133.94**	**1**	PKP	PKPdf	14 41 36.4	0.0
YKA	**Yellowknife Ar**	**133.94**	**1**	PKhKP		14 41 22.2	
	0.1nm,0.4s,baz=163,slow=3.4,SNR=4.0						
YKA				PKP	PKPdf	14 41 36.4	0.0
	1.8nm,0.6s,baz=172,slow=2.1,SNR=22						
GTA	**Gaotai**	**142.88**	**229**	*e*PKP	PKPdf	14 41 50.4	-3.1
GTA				APKP		14 41 56.3	
GTA				XPKP		14 42 00.1	
DAVOX	**Davos/Dischmat**	**144.85**	**106**	PKP	PKPdf	14 41 56.0	-0.7
	8.4nm,0.9s,baz=182,slow=2.1,SNR=6.3						
CRES	**Cresnjev**	**145.65**	**113**	*i* PKPbc	PKPbc	14 41 58.6	+0.2
LEGS	**Legarje**	**145.72**	**112**	*e*PKPbc	PKPbc	14 41 59.0	+0.3
PDKS	**Podkum**	**145.73**	**112**	*i* PKPbc	PKPbc	14 41 59.0	+0.3
BFO	**Black Forest**	**145.76**	**103**	*e*PKPdf	PKPdf	14 41 58.1	-0.1
BFO	**Black Forest**	**145.76**	**103**	*e*PKPbc	PKPbc	14 41 58.5	-0.3
RES	**Resolute Bay**	**146.79**	**10**	*e*PKPdf	PKPdf	14 42 00.1	+0.9
PKSM	**Moragy**	**146.92**	**116** ⇓	*i*P	PKPbc	14 42 02.2	0.0
BZS	**Buzias**	**147.20**	**120** ⇓	*i*P	PKPbc	14 42 03.1	0.0
GEC2	**GERESS Array S**	**147.85**	**108**	*e*PKPbc	PKPbc	14 42 04.1	-0.6
GERES	**GERESS Array B**	**147.85**	**108**	PKPbc	PKPbc	14 42 04.2	-0.5
	3.3nm,0.9s,baz=202,slow=2.9,SNR=18						
GRF	**Grafenberg Arr**	**147.85**	**105**	*e*PKPbc	PKPbc	14 42 04.7	0.0
TIRR	**Tirgusor**	**147.89**	**129** ⇑	*i*P	PKPbc	14 42 04.4	-0.6
KHC	**Kasperske Hory**	**148.07**	**108**	*e*PKP	PKPbc	14 42 04.6	-0.7
MANZ	**Manzenberg**	**148.38**	**106**	*e*PKPbc	PKPbc	14 42 05.7	-0.4
DRGR		**148.58**	**120** ⇓	*i*P	PKPbc	14 42 06.6	-0.1
NKC	**Novy Kostel**	**148.70**	**106**	*e*PKP	PKPbc	14 42 06.7	-0.2
WERN	**Wernitzgruen**	**148.73**	**106**	*e*PKPbc	PKPbc	14 42 06.7	-0.3
GUNZ	**Gunzen**	**148.78**	**105**	*e*PKPbc	PKPbc	14 42 06.9	-0.2
TREC	**Trest**	**148.78**	**110**	*e*PKP	PKPbc	14 42 07.0	-0.1
WERD	**Werda**	**148.85**	**105**	*e*PKPbc	PKPbc	14 42 07.1	-0.2
ULN	**Ulaanbaatar**	**148.85**	**244**	*e*PKPbc	PKPbc	14 42 06.6	-0.8
TANN	**Tannenbergstha**	**148.87**	**105**	*e*PKPbc	PKPbc	14 42 07.4	+0.1
SONM	**Songino Array**	**149.01**	**243**	PKPbc	PKPbc	14 42 07.6	-0.2
	2.8nm,1.0s,baz=163,slow=2.8,SNR=16						
VYHS	**Vyhne**	**149.04**	**114**	*i* PKP	PKPbc	14 42 07.6	-0.2
WMQ	**Urumqi**	**149.69**	**216**	*e*PKP	PKPbc	14 42 09.0	-0.6
BRG	**Berggiesshubel**	**149.72**	**107**	*e*P	PKPbc	14 42 09.3	-0.1
	4.2nm,1.0s						
CLL	**Collm**	**149.81**	**105**	*e*PKPbc	PKPbc	14 42 09.2	-0.4
CLL	**Collm**	**149.81**	**105**	*e*(PKPdf)	PKPdf	14 42 07.0	+2.2
CLL				⇑ *i*PKPbc	PKPbc	14 42 09.5	-0.1
	comp=Z,8.0nm,0.8s						
CLL				*i* PKPab	PKPab	14 42 17.1	+1.9
MORC	**Moravsky Berou**	**149.82**	**112** ⇓	*i*P	PKPbc	14 42 10.2	+0.5
AML	**Almayashu**	**149.93**	**195**	*e*PKPdf	PKPdf	14 42 05.6	+0.2
AML				*e*PKPbc	PKPbc	14 42 10.6	+0.4
AML	**Almayashu**	**149.93**	**195**	P	PKPbc	14 42 11.1	+0.8
	SNR=9.1						
UCH	**Uchtor**	**149.95**	**196**	*e*PKPbc	PKPbc	14 42 10.9	+0.7
UCH	**Uchtor**	**149.95**	**196**	P	PKPbc	14 42 11.4	+1.1
	SNR=10						
DPC	**Dobruska-Polom**	**149.97**	**110**	*e*PKP	PKPbc	14 42 10.4	+0.4
BURAR	**Bucovina Array**	**150.01**	**123** ⇑	*i*P	PKPbc	14 42 10.6	+0.4
OKC	**Ostrava-Krasne**	**150.05**	**112**	*e*PKP	PKPbc	14 42 10.6	+0.4
KBK	**Karagaybulak**	**150.34**	**197**	P	PKPbc	14 42 12.0	+0.8
	SNR=6.5						
AAK	**Ala-Archa**	**150.36**	**196**	P	PKPbc	14 42 12.3	+1.0
	SNR=5.3						
EKS2	**Erkin-Say**	**150.45**	**195**	*e*PKPbc	PKPbc	14 42 11.8	+0.4
TKM2	**Tokmak 2**	**150.54**	**198**	*e*PKPbc	PKPbc	14 42 11.2	-0.5
TKM2	**Tokmak 2**	**150.54**	**198**	P	PKPbc	14 42 11.9	+0.2
	SNR=5.2						
STHS	**Stebnicka Huta**	**150.56**	**116**	*e*PKP	PKPbc	14 42 11.7	+0.2
STHS				*e*		14 42 17.0	
MK31	**Makanchi Array**	**153.50**	**210**	*e*PKPbc	PKPbc	14 42 17.2	-1.0
MK31				*e*PKPab	PKPab	14 42 29.8	-0.9
MKAR	**Makanchi Array**	**153.50**	**210**	PKPbc	PKPbc	14 42 17.6	-0.6
MKAR				PKPab	PKPab	14 42 29.5	-1.2
MKAR	**Makanchi Array**	**153.50**	**210**	PKPbc	PKPbc	14 42 17.6	-0.6
	comp=Z,1.0nm,0.7s,baz=119,slow=1.5,SNR=10						
MKAR				PKPab	PKPab	14 42 29.5	-1.2
	comp=Z,1.6nm,0.8s,baz=138,slow=5.7,SNR=9.1						
AKASG	**Malin Array Be**	**153.89**	**125**	PKP	PKPdf	14 42 09.8	-1.2
AKASG				PKPbc	PKPbc	14 42 18.0	-1.0
AKASG	**Malin Array Be**	**153.89**	**125**	PKP	PKPdf	14 42 09.8	-1.1
	comp=Z,0.1nm,0.3s,baz=242,slow=1.7,SNR=5.8						
AKASG				PKPbc	PKPbc	14 42 18.0	-1.0
	comp=Z,0.2nm,0.3s,baz=220,slow=2.0,SNR=5.6						

IDC 19 14:24:44.2±2.9, 3393S×17890W, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.9/15, mbtmp4.1/4, ML4.2/1, Error ellipse: s-maj=65.8km s-min=35.2km az=120.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.40**	**216**	Pn	Pn	14 26 06.6	+0.6
	8.3nm,0.3s,baz=306,slow=1.9,SNR=46						
URZ				Sn	Sn	14 27 07.8	-1.0
	2.1nm,0.3s,baz=160,slow=19,SNR=10						
ASAR	**Alice Springs**	**42.29**	**271**	P	P	14 32 39.8	+0.1
	1.4nm,0.7s,baz=114,slow=7.3,SNR=21						
WB2	**Warramunga Arr**	**43.59**	**276**	*e*P	P	14 32 49.4	-0.8
WRA	**Warramunga Arr**	**43.60**	**276**	P	P	14 32 50.2	-0.2
	1.4nm,0.6s,baz=117,slow=7.4,SNR=32						
FITZ	**Fitzroy Crossi**	**51.69**	**273**	P	P	14 33 53.1	-0.1
	2.5nm,1.0s,baz=106,slow=7.4,SNR=3.9						
FINES	**FINESS Array B**	**148.15**	**337**	PKPbc	PKPbc	14 44 30.5	-0.7
	2.5nm,0.8s,baz=62,slow=4.5,SNR=9.2						

*ISCJB **19** 14:44:59.4±1.3, 4627N±009×15334E±009, h38km±11km, mb3.9/13, Error ellipse: s-maj=15.9km s-min=7.9km az=149.5*
*MOS **19** 14:44:59.8±1.3, 4628N×153.18E, h42km, mb4.2/10, Error ellipse: s-maj=13.2km s-min=9.5km az=80.6*
*IDC **19** 14:45:05.3±4.2, 4631N×15307E, h70km±38km, mb3.6/13, mb1 3.8/14, mb1mx3.7/22, mbtmp3.7/14, ML3.8/1, MS3.2/2, Ms1 3.2/2, ms1mx2.7/31, Error ellipse: s-maj=22.7km s-min=18.2km az=135.0*

ISC 19 14:45:01.7±1.2, 4625N±009×1534E±01, h42km±10km, n38, σ1§26/39, mb3.9/13, 7C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.99**	**257**	⇓*i*PN	Pn	**14 45 59.3**	**-0.9**
KUR				*e*S	Sn	**14 46 46.6**	**+0.9**
KUR				pmax	pmax		
	comp=Z,200nm,0.5s						
KUR				smax			
	comp=N,220nm,0.8s						
KUR				smax			
	comp=E,190nm,0.8s						
SKR	**Severo-Kuril's**	**4.79**	**21**	*e*PN	Pn	**14 46 09.5**	**-1.8**
SKR				pmax	pmax		
	comp=N,30nm,0.5s						
SKR				pmax	pmax		
	comp=E,30nm,0.5s						
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.35**	**279**	⇑*e*PN	Pn	**14 46 48.3**	**+2.0**
PET	**Petropavlovsk**	**7.59**	**25**	⇑*e*PN	Pn	**14 46 50.1**	**+0.5**
ASAJ	**Asahikawa**	**7.91**	**258**	PN	Pn	**14 46 54.5**	**+0.5**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,100nm,18.5s						
ASAJ	**Asahikawa**	**7.91**	**258**	P	Pn	**14 46 54.5**	**+0.5**
	comp=Z,1.6nm,0.3s,baz=78,slow=11,SNR=10						
ASAJ				LR	LR	14 49 43.4	
	comp=Z,100nm,18.4s,baz=34,slow=36						
ERM	**Erimo**	**8.48**	**244**	⇑*e*PN	Pn	**14 46 59.1**	**-2.7**
HABR	**Khabarovsk**	**12.62**	**287**	*e*PN	Pn	**14 47 56.1**	**-2.3**
HABR				*e*S	Sn	**14 50 19.6**	**+2.1**
MJAR	**Matsushiro Arr**	**14.93**	**235**	P	Pn	**14 48 34.8**	**+5.0**
	comp=Z,0.1nm,0.3s,baz=29,slow=10,SNR=5.7						
SEY	**Seymchan**	**16.73**	**358**	⇑*e*P	Pn	**14 48 54.5**	**+1.9**
KSRS	**Korea Array**	**20.83**	**254**	P	P	**14 49 40.4**	**+0.9**
	comp=Z,1.8nm,0.7s,baz=58,slow=9.8,SNR=11						
YAK	**Yakutsk**	**20.84**	**328**	*c i*P	P	**14 49 38.4**	**-1.0**
YAK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BILL	**Bilibino**	**22.84**	**12**	⇑*i*P	P	**14 50 00.5**	**-0.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
SONM	**Songino Array**	**31.67**	**290**	P	P	**14 51 20.0**	**-0.7**
	comp=Z,0.3nm,0.6s,mb3.3,baz=61,slow=12,SNR=3.4						
INK	**Inuvik**	**41.98**	**32**	P	P	**14 52 49.6**	**+1.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**41.98**	**32**	P	P	**14 52 49.6**	**+1.6**
	comp=Z,1.3nm,0.6s,mb3.8,baz=300,slow=3.9,SNR=11						
ZALV	**Zalesovo Beam**	**43.05**	**306**	LR	LR	15 13 46.2	
	comp=Z,49nm,19.1s,baz=318,slow=40						
MKAR	**Makanchi Array**	**47.33**	**298**	P	P	**14 53 29.7**	**-1.3**
MKAR						14 55 02.0	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.33**	**298**	P	P	**14 53 29.7**	**-1.3**
	comp=Z,1.1nm,0.6s,mb4.0,baz=69,slow=7.8,SNR=21						
MKAR				PcP	PcP	14 55 02.0	+0.7
	comp=Z,0.2nm,0.5s,baz=52,slow=2.7,SNR=3.3						
KURK	**Kurchatov**	**47.79**	**304**	⇑*e*P	P	**14 53 32.1**	**-2.4**
YKA	**Yellowknife Ar**	**51.22**	**37**	*i* P	P	**14 54 01.2**	**+0.8**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA	**Yellowknife Ar**	**51.22**	**37**	P	P	**14 54 01.8**	**+1.4**
	comp=Z,0.8nm,0.8s,mb3.7,baz=299,slow=7.3,SNR=7.7						
ARCES	**ARCESS Array B**	**58.38**	**341**	P	P	**14 54 51.4**	**-0.7**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**58.38**	**341**	P	P	**14 54 51.4**	**-0.7**
	comp=Z,2.7nm,0.8s,mb4.3,baz=27,slow=7.6,SNR=8.3						
FINES	**FINESS Array B**	**64.57**	**335**	*i* P	P	**14 55 33.2**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.57**	**335**	P	P	**14 55 33.3**	**-0.7**
	comp=Z,1.2nm,0.4s,mb4.3,baz=45,slow=6.8,SNR=18						
WRA	**Warramunga Arr**	**68.10**	**199**	P	P	**14 55 56.5**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.5,baz=17,slow=6.4,SNR=3.2						
NB2	**NORSAR Subarra**	**68.76**	**341**	P	P	**14 56 00.3**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=28,slow=6.5						
NOA	**NORSAR Array B**	**68.76**	**341**	P	P	**14 56 00.8**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**68.76**	**341**	P	P	**14 56 00.8**	**+0.1**
	comp=Z,1.2nm,0.5s,mb4.1,baz=27,slow=6.3,SNR=5.4						
ASAR	**Alice Springs**	**71.79**	**199**	P	P	**14 56 20.3**	**+0.7**
	comp=Z,0.3nm,0.7s,mb3.3,baz=9.0,slow=5.9,SNR=4.1						
AKASG	**Malin Array Be**	**72.06**	**326**	*i* P	P	**14 56 20.3**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.6s						
AKASG	**Malin Array Be**	**72.06**	**326**	P	P	**14 56 20.4**	**-0.6**
	comp=Z,4.5nm,0.6s,mb4.6,baz=34,slow=6.2,SNR=15						
CLL	**Collm**	**77.00**	**336**	*e*P	P	**14 56 50.0**	**+0.4**
TXAR	**Lajitas Array**	**77.58**	**61**	P	P	**14 56 54.8**	**+1.5**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**77.58**	**61**	P	P	**14 56 54.8**	**+1.5**
	comp=Z,0.9nm,0.5s,mb4.0,baz=302,slow=4.5,SNR=18						
GERES	**GERESS Array B**	**78.98**	**334**	P	P	**14 57 01.1**	**+0.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
GERES	**GERESS Array B**	**78.98**	**334**	P	P	**14 57 01.1**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.6,baz=38,slow=6.8,SNR=5.9						

IDC 19 15:01:20.4±0.8, 1374S×6616E, h0km, mb4.1/9, mb1 4.2/10, mb1mx4.0/22, mbtmp4.1/10, ML4.6/1, MS3.8/6, Ms1 3.8/6, ms1mx3.6/26, Error ellipse: s-maj=29.1km s-min=18.2km az=11.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**18.85**	**253**	P	Pn	15 05 43.3	+0.7
	2.0nm,0.3s,baz=73,slow=16,SNR=13						
KMBO	**Kilima Mbogo**	**31.23**	**291**	P	P	15 07 42.7	+0.7
	2.8nm,0.7s,baz=56,slow=11,SNR=7.9						
KMBO				LR	LR	15 17 40.8	
	comp=Z,145nm,19.1s,baz=101,slow=31						
PSI	**Prapat**	**36.41**	**66**	LR	LR	15 18 36.7	
	comp=Z,127nm,20.5s,baz=264,slow=28						
BOSA	**Boshof**	**40.70**	**242**	LR	LR	15 24 58.1	
	comp=Z,89nm,19.3s,baz=260,slow=35						
MKAR	**Makanchi Array**	**61.97**	**12**	P	P	15 11 41.5	-0.5
	0.8nm,0.8s,baz=216,slow=10,SNR=7.6						
MKAR				LR	LR	15 35 34.4	
	comp=Z,73nm,18.2s,baz=75,slow=33						
ASAR	**Alice Springs**	**64.42**	**110**	P	P	15 11 58.5	-0.5
	1.6nm,0.9s,baz=270,slow=5.9,SNR=11						
WRA	**Warramunga Arr**	**65.17**	**106**	P	P	15 12 04.3	+0.4
	3.1nm,0.8s,baz=272,slow=5.7,SNR=18						
TORD	**Torodi Ar. Bea**	**69.23**	**290**	P	P	15 12 29.0	-0.7
	2.3nm,1.0s,baz=66,slow=3.2,SNR=9.1						
ZALV	**Zalesovo Beam**	**69.27**	**12**	P	P	15 12 28.8	-0.3
	1.0nm,0.3s,baz=211,slow=5.0,SNR=3.2						
ZALV				LR	LR	15 39 33.1	
	comp=Z,65nm,18.3s,baz=92,slow=33						
SONM	**Songino Array**	**71.00**	**27**	P	P	15 12 40.8	+0.9
	1.0nm,0.6s,baz=227,slow=5.7,SNR=10						
AKASG	**Malin Array Be**	**71.83**	**336**	P	P	15 12 45.6	+0.8
	0.2nm,0.3s,baz=145,slow=5.5,SNR=3.9						
DBIC	**Dimbokro**	**73.34**	**281**	P	P	15 12 54.0	-0.6
	5.6nm,0.9s,baz=117,slow=5.1,SNR=5.5						
VNDA	**Vanda**	**77.92**	**167**	LR	LR	15 44 12.2	
	comp=Z,86nm,20.4s,baz=284,slow=33						
YKA	**Yellowknife Ar**	**131.31**	**0**	PKP	PKPdf	15 20 33.8	-0.4
	0.1nm,0.7s,baz=15,slow=1.8,SNR=3.8						
NVAR	**Mina Array Bea**	**155.09**	**8**	PKP	PKPdf	15 21 17.1	+1.2
	0.1nm,0.4s,baz=354,slow=0.9,SNR=2.7						

*ISCJB **19** 15:06:10.8±0.2, 4543N±001×11206W±002, h10km, Error ellipse: s-maj=2.1km s-min=1.9km az=141.8*
*NEIC **19** 15:06:10.0, 4540N×112.15W, h10km, ML2.5(BUT), After BUT.*

ISC 19 15:06:11.2±0.2, 4542N±001×11209W±002, h10km, n47, σ1§17/86, 29C-27D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLMT	**Dillon**	**0.36**	**261**	*e*Pg	Pg	**15 06 16.9**	**-1.4**
DLMT				*e*Sg	Sg	**15 06 20.4**	**-2.8**
G15A	**Dillon**	**0.38**	**228**	⇑P	Pg	**15 06 17.1**	**-1.7**
G15A	baz=0.3			⇑S	Sg	**15 06 21.9**	**-1.9**
	baz=0.3						
BOZ	**Bozeman (W)**	**0.39**	**55**	*e*Pg	Pg	**15 06 18.1**	**-0.9**
BOZ				*e*Sg	Sg	**15 06 23.1**	**-1.2**
BOZ	**Bozeman (W)**	**0.39**	**55**	⇓P	Pg	**15 06 18.4**	**-0.6**
	baz=0.4,SNR=364						
BOZ				⇑S	Sg	**15 06 23.8**	**-0.5**
	baz=0.4						
F15A	**Butte**	**0.51**	**326**	⇓P	Pg	**15 06 19.9**	**-1.2**
	baz=0.5,SNR=88						
F15A				⇓S	Sg	**15 06 26.8**	**-1.0**
	baz=0.5						
QLMT	**Earthquake Lak**	**0.75**	**141**	*e*Pg	Pg	**15 06 24.8**	**-1.0**
QLMT				*e*Sg	Sg	**15 06 34.5**	**-1.1**
MCMT	**McKenzie Canyo**	**0.80**	**222**	*e*Pg	Pg	**15 06 25.0**	**-1.7**
MCMT				*e*Sg	Sg	**15 06 35.0**	**-2.2**
F14A	**Wisdom**	**0.98**	**294**	⇑P	Pg	**15 06 28.6**	**-1.5**
	baz=0.9,SNR=43						
F14A				⇑S	Sg	**15 06 41.3**	**-1.5**
	baz=0.9						
E15A	**Deer Lodge**	**1.07**	**339**	⇓P	Pb	**15 06 30.5**	**-1.3**
	baz=1.1,SNR=118						
E15A				⇑S	Sg	**15 06 44.9**	**-0.9**
	baz=1.1						
YMR	**Madison River**	**1.10**	**133**	*e*Pg	Pg	**15 06 31.8**	**-0.5**
YMR				*e*Sg	Sg	**15 06 46.7**	**+0.1**
YNR	**Norris Junctio**	**1.22**	**125**	*e*Pn	Pn	**15 06 33.2**	**-1.1**
YNR				*e*Sn	Sn	**15 06 49.2**	**-1.7**
YFT	**Old Faithful**	**1.32**	**137**	Pn	Pn	**15 06 35.6**	**0.0**
E14A	**Clinton**	**1.40**	**316**	⇑P	Pn	**15 06 36.1**	**-0.5**
	baz=1.4,SNR=65						
E14A				⇓S	Sn	**15 06 55.1**	**0.0**
	baz=1.4						
G13A	**Cobalt**	**1.55**	**258**	⇓P	Pn	**15 06 38.5**	**-0.3**
	baz=1.5,SNR=138						
G13A				⇑S	Sn	**15 06 58.4**	**-0.4**
	baz=1.5						
D15A	**Lincoln**	**1.65**	**350**	⇑P	Pn	**15 06 39.9**	**-0.3**
	baz=1.6,SNR=223						
D15A				⇓S	Sn	**15 07 02.0**	**+0.7**
	baz=1.6						
FLWY	**Flagg Ranch**	**1.67**	**143**	*e*Pn	Pn	**15 06 39.8**	**-0.6**
FLWY				*e*Sn	Sn	**15 07 03.0**	**+1.2**
CHMT	**Chamberlain Mo**	**1.70**	**332**	*e*Pn	Pn	**15 06 40.2**	**-0.6**
CHMT				*e*Sn	Sn	**15 07 03.2**	**+0.6**
GCMT	**Greycliff**	**1.74**	**77**	*e*Pn	Pn	**15 06 43.4**	**+2.0**
GCMT				*e*Sn	Sn	**15 07 02.8**	**-0.8**
GCMT				*e*Sg	Sg	**15 07 06.9**	**-0.2**
H13A	**Challis**	**1.76**	**242**	⇑P	Pn	**15 06 41.1**	**-0.6**
	baz=1.7,SNR=38						
H13A				⇓S	Sn	**15 07 04.6**	**+0.5**
	baz=1.7						
E13A	**Victor**	**1.79**	**306**	⇑P	Pn	**15 06 41.3**	**-0.7**
	baz=1.8						
E13A				⇑S	Sn	**15 07 05.9**	**+1.2**
	baz=1.8						
MSO	**Missoula**	**1.91**	**318**	*e*Pn	Pn	**15 06 42.9**	**-0.8**
MSO				*e*Sn	Sn	**15 07 05.3**	**-2.4**
D14A	**Greenough**	**1.93**	**330**	⇑Pn	Pn	**15 06 43.6**	**-0.4**
	baz=1.9						
D14A				⇓Sb	Sb	**15 07 11.3**	**+0.8**
	baz=1.9						
MOOW	**Moose Ponds**	**1.93**	**150**	*e*Pn	Pn	**15 06 44.7**	**+0.6**
MOOW				*e*Sn	Sn	**15 07 09.9**	**+1.7**
I13A	**Wildhorse Cree**	**2.09**	**225**	⇑Pn	Pn	**15 06 45.8**	**-0.4**
	baz=2.1						
I13A				⇑Pb	Pb	**15 06 48.4**	**-0.7**
	baz=2.1						
I13A				⇓Sb	Sb	**15 07 15.6**	**+0.5**
	baz=2.1						
TPAW	**Teton Pass**	**2.10**	**157**	*e*Pn	Pn	**15 06 47.8**	**+1.5**
TPAW				*e*Sn	Sn	**15 07 15.9**	**+3.5**
LOHW	**Long Hollow**	**2.10**	**149**	*e*Pn	Pn	**15 06 47.8**	**+1.4**
LOHW				*e*Sn	Sn	**15 07 15.6**	**+3.1**
H12A	**Diamond D Ranc**	**2.15**	**247**	⇓Pn	Pn	**15 06 46.4**	**-0.6**
	baz=2.1						
H12A				⇓Sb	Sb	**15 07 16.9**	**+0.2**
	baz=2.1						
REDW	**Red Top Meadow**	**2.24**	**156**	*e*Pn	Pn	**15 06 49.6**	**+1.3**
REDW				*e*Sn	Sn	**15 07 20.1**	**+4.1**
F12A	**Elk City**	**2.25**	**280**	⇑Pn	Pn	**15 06 47.8**	**-0.6**
	baz=2.2						
F12A				⇓Sb	Sb	**15 07 20.0**	**+0.4**
	baz=2.2						
D13A	**Huson**	**2.34**	**316**	⇑Pn	Pn	**15 06 49.4**	**-0.3**
	baz=2.3,SNR=5.3						
D13A				⇑Sb	Sb	**15 07 24.1**	**+1.6**
	baz=2.3						
HLID	**Hailey**	**2.50**	**223**	⇓Pn	Pn	**15 06 51.4**	**-0.4**
	baz=2.5,SNR=16						
HLID				⇑Pb	Pb	**15 06 55.2**	**-0.8**
	baz=2.5						
HLID				⇑Sb	Sb	**15 07 27.0**	**+0.2**
	baz=2.5						
J13A	**Cove Ranch, Pi**	**2.52**	**217**	⇓Pn	Pn	**15 06 51.8**	**-0.2**
	baz=2.5,SNR=7.8						
J13A				⇑Pb	Pb	**15 06 55.1**	**-1.3**
	baz=2.5						
J13A				⇓Sb	Sb	**15 07 27.5**	**+0.1**
	baz=2.5						
C14A	**Swan Lake**	**2.61**	**335**	⇓Sb	Sb	**15 07 31.8**	**+1.7**
	baz=2.6						
C13A	**Hot Springs**	**2.83**	**324**	⇓Pn	Pn	**15 06 56.4**	**-0.1**
	baz=2.8,SNR=15						
C13A				⇑Sb	Sb	**15 07 37.9**	**+1.3**
	baz=2.8						
H11A	**Donnelly**	**2.87**	**257**	⇓Sb	Sb	**15 07 38.6**	**+1.0**
	baz=2.8						
F11A	**Grangeville**	**2.89**	**281**	⇑Pn	Pn	**15 06 56.5**	**-0.7**
	baz=2.8						
F11A				⇑Sb	Sb	**15 07 39.1**	**+1.0**
	baz=2.8						
G11A	**Walters Elk Ra**	**2.94**	**271**	⇓Sb	Sb	**15 07 40.7**	**+1.0**
	baz=2.9						
EGMT	**Eagleton**	**3.06**	**31**	⇓Sn	Sn	**15 07 37.4**	**+1.3**
	baz=3.1						
EGMT				⇓Sb	Sb	**15 07 45.9**	**+2.9**
	baz=3.1						
J12A	**Stokes Ranch,**	**3.06**	**226**	⇑Pb	Pb	**15 07 04.7**	**-1.0**
	baz=3.0						
J12A				⇓Sb	Sb	**15 07 44.3**	**+1.2**
	baz=3.0						
I11A	**Placerville**	**3.15**	**243**	⇑Sb	Sb	**15 07 47.4**	**+1.9**
	baz=3.1						
MFID	**Camas Ranch**	**3.35**	**234**	⇑Sb	Sb	**15 07 52.7**	**+1.5**
	baz=3.3						
B13A	**Whitefish**	**3.37**	**332**	⇑Sb	Sb	**15 07 53.9**	**+1.9**
	baz=3.4						
H10A	**Noah's Angus R**	**3.41**	**257**	⇓Sb	Sb	**15 07 54.1**	**+1.1**
	baz=3.4						
K12A	**Draper Farm, C**	**3.45**	**217**	⇓Sb	Sb	**15 07 55.1**	**+0.9**
	baz=3.4						
A13A	**Flathead Natio**	**3.85**	**337**	⇓Sn	Sn	**15 07 56.6**	**+0.9**
	baz=3.8						
K11A	**Parker Ranch,**	**3.88**	**228**	⇓Sb	Sb	**15 08 08.9**	**+2.1**
	baz=3.8						
M14A	**Sheep Mountain**	**4.02**	**194**	⇑Sb	Sb	**15 08 13.5**	**+2.8**
	baz=4.0						

IDC 19 15:18:53.7±1.0, 1516S×17387W, mb4.3/6, mb1 4.5/6, mb1mx4.1/15, mbtmp4.3/6, Error ellipse: s-maj=37.6km s-min=23.3km az=132.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**24.35**	**197**	P	P	15 24 13.4	0.0
	7.5nm,0.3s,baz=276,slow=15,SNR=16						
STKA	**Stephens Creek**	**43.77**	**240**	P	P	15 27 01.8	+0.5
	4.4nm,0.8s,baz=4.0,slow=7.9,SNR=7.7						
WRA	**Warramunga Arr**	**49.46**	**257**	P	P	15 27 46.0	-0.1
	2.0nm,0.5s,baz=90,slow=6.8,SNR=78						
WRA				PcP	PcP	15 29 07.1	-1.3
	0.8nm,0.7s,baz=79,slow=3.8,SNR=5.3						
ASAR	**Alice Springs**	**49.76**	**252**	P	P	15 27 48.2	-0.1
	3.9nm,0.4s,baz=90,slow=7.8,SNR=109						
VNDA	**Vanda**	**63.57**	**186**	P	P	15 29 25.7	0.0
	1.3nm,0.7s,baz=9.7,slow=6.9,SNR=7.8						
NVAR	**Mina Array Bea**	**74.45**	**42**	P	P	15 30 34.4	+0.5
	1.0nm,0.7s,baz=224,slow=9.9,SNR=8.8						
GERES	**GERESS Array B**	**145.84**	**351**	PKPbc	PKPbc	15 38 34.5	-0.4
	0.4nm,0.4s,baz=18,slow=3.4,SNR=5.0						

IDC 19 15:27:49.4±53.0, 1585S×17267W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/16, mbtmp3.8/3, Error ellipse: s-maj=1032.0km s-min=181.1km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.43**	**241**	P	P	15 36 02.8	+0.6
	1.3nm,0.8s,baz=69,slow=8.6,SNR=3.3						
WRA	**Warramunga Arr**	**50.43**	**257**	P	P	15 36 48.5	-0.7
	0.1nm,0.4s,baz=97,slow=7.0,SNR=6.4						
ASAR	**Alice Springs**	**50.65**	**252**	P	P	15 36 50.6	-0.1
	2.0nm,0.6s,baz=89,slow=7.9,SNR=63						

*LDG **19** 15:58:22.1±0.1, 1494S×16706E, h10km, Mb4.8/4, Error ellipse: s-maj=18.3km s-min=2.9km az=87.0*
*BJI **19** 15:58:24.6, 1500S×168.10E, h41km, mB4.9, mb4.7*
*ISCJB **19** 15:58:26.5±3.3, 1507S±008×168.1E±0.1, h73km±28km, mb4.2/20, Error ellipse: s-maj=20.7km s-min=13.9km az=173.4*
*NEIC **19** 15:58:28.6±2.4, 1498S×168.11E, h81km±20km, mb4.4/9, Error ellipse: s-maj=18.3km s-min=12.2km az=82.0*
*IDC **19** 15:58:30.3±4.3, 1502S×16806E, h95km±37km, mb3.9/12, mb1 4.0/13, mb1mx4.0/17, mbtmp3.9/13, MS3.4/4, Ms1 3.4/4, ms1mx3.0/29, Error ellipse: s-maj=22.9km s-min=17.4km az=82.0*

ISC 19 15:58:28.5±2.5, 1506S±008×1681E±01, h76km±21km, n46, σ0§86/27, mb4.2/20, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.73**	**304**	*e*Pn	Pn	**16 00 45.0**	**-0.7**
HNR	**Honiara**	**9.73**	**304**	P	Pn	**16 00 46.3**	**+0.7**
	4.0nm,0.3s,baz=89,slow=20,SNR=3.4						
HNR				LR	LR	16 04 08.5	
	comp=Z,65nm,20.4s,baz=178,slow=35						
EIDS	**Eidsvold**	**18.96**	**235**	*e*P	Pn	**16 02 44.8**	**-0.3**
	3.0nm,0.7s						
CTA	**Charters Tower**	**21.41**	**253**	P	P	**16 03 11.8**	**+1.6**
	1.2nm,0.3s,mb3.7,baz=55,slow=22,SNR=2.2						
CTA				LR	LR	16 10 16.5	
	comp=Z,133nm,22.0s,baz=287,slow=33						
URZ	**Urewera**	**24.45**	**163**	P	P	**16 03 41.1**	**+1.0**
	4.6nm,0.8s,mb3.9,baz=94,slow=20,SNR=2.9						
STKA	**Stephens Creek**	**29.40**	**231**	*e*P	P	**16 04 25.0**	**+0.3**
	1.6nm,0.5s,mb3.9						
STKA	**Stephens Creek**	**29.40**	**231**	P	P	**16 04 24.9**	**+0.3**
	1.6nm,0.5s,mb3.9,baz=67,slow=6.1,SNR=5.7						
STKA				LR	LR	16 16 30.4	
	comp=Z,108nm,21.6s,baz=26,slow=37						
WB2	**Warramunga Arr**	**32.51**	**256**	*e*P	P	**16 04 46.5**	**-5.7**
WRAB	**Tennant Creek**	**32.51**	**257**	*e*P	P	**16 04 51.0**	**-1.3**
	7.6nm,1.1s,mb4.4						
WRA	**Warramunga Arr**	**32.52**	**256**	P	P	**16 04 51.3**	**-1.1**
	0.9nm,0.6s,mb3.8,baz=80,slow=6.0,SNR=14						
ASAR	**Alice Springs**	**33.31**	**250**	P	P	**16 04 58.8**	**-0.3**
	2.7nm,0.7s,mb4.2,baz=81,slow=8.8,SNR=40						
FITZ	**Fitzroy Crossi**	**40.74**	**260**	*e*P	P	**16 06 02.3**	**+0.1**
	9.0nm,0.9s,mb4.6						
FITZ	**Fitzroy Crossi**	**40.74**	**260**	LR	LR	16 20 41.1	
	comp=Z,144nm,20.9s,baz=123,slow=33						
MJAR	**Matsushiro Arr**	**58.56**	**332**	P	P	**16 08 16.3**	**-1.0**
	3.1nm,0.8s,mb4.4,baz=170,slow=8.7,SNR=9.1						
VNDA	**Vanda**	**62.55**	**182**	*e*P	P	**16 08 43.4**	**-0.4**
	2.2nm,1.0s,mb4.0						
VNDA	**Vanda**	**62.55**	**182**	P	P	**16 08 43.0**	**-0.8**
	1.0nm,0.8s,mb3.8,baz=5.2,slow=7.2,SNR=5.5						
SBA	**Scott Base**	**62.81**	**180**	*e*P	P	**16 08 45.8**	**+0.2**
	3.4nm,0.8s,mb4.3						
KSRS	**Korea Array**	**64.46**	**325**	P	P	**16 08 56.2**	**-0.8**
	1.4nm,1.0s,mb3.8,baz=130,slow=6.7,SNR=4.9						
QSPA	**South Pole Qui**	**74.97**	**180**	*e*P	P	**16 10 00.1**	**-0.9**
	8.9nm,0.9s,mb4.5						
LZH	**Lanzhou**	**79.13**	**312**	*e*P	P	**16 10 27.1**	**+2.1**
LZH				AP	pP	16 10 36.0	-9.4
LZH				XP	sP	16 10 42.5	-11
LZH				AMB	AMB		
	comp=Z,15nm,1.4s,mb4.6						
LZH				AMB	AMB		
	comp=Z,72nm,4.6s						
ULN	**Ulaanbaatar**	**82.87**	**324**	*e*P	P	**16 10 45.1**	**+0.5**
	comp=Z,7.7nm,1.0s

BUSP				*e*S		Sn	16 02 24.4 +2.0
BALP	**Baler**	**2.36**	**27**	*e*P		Pn	16 02 14.1 +1.7
ENPP	**El Nido**	**2.61**	**203**	*e*P		Pn	16 02 17.4 +1.6
CUYO	**Cuyo Island**	**2.81**	**169**	*e*P		Pn	16 02 20.0 +1.5

ISCJB ***19*** *16:19:37.9±0.1,47217N±0007×10621E±0009,h4km, mb3.5/4,Error ellipse: s-maj=1.0km s-min=0.9km az=5.9*
LEDBW ***19*** *16:19:38.7±0.6,47.16N±002×1079E±004,h5km,ML4.1, Error ellipse: s-maj=14.0km s-min=8.0km az=88.0*
IDC ***19*** *16:19:38.6±0.7,4714N×1068E,h0km,mb3.4/3,mb1 3.7/8, mb1mx3.6/24,mbtmp3.5/8,ML3.7/5,MS2.8/1,Ms1 2.8/1, ms1mx2.0/32,Error ellipse: s-maj=32.0km s-min=5.6km az=144.0*
NEIC ***19*** *16:19:38.7,47.18N×1059E,h4km,ML4.1(FUR), ML4.1(SZGRF),ML4.0(ZUR),ML3.9(LDG),ML3.8(STR), After ZUR.*
VIE ***19*** *16:19:38.6±0.2,47.18N×1062E,h12km±3km,mb3.4/10, ML4.2/14,Error ellipse: s-maj=1.3km s-min=0.8km az=179.0*
ZUR ***19*** *16:19:38.7,47.19N×1060E,h5km,ML3.8/6*
CSEM ***19*** *16:19:39.5±0.0,4715N×1069E,h12km,mb3.8/1,ML4.1/36, Error ellipse: s-maj=0.9km s-min=0.6km az=4.0*
BGR ***19*** *16:19:39.7±0.4,4713N×1054E,h10km,ML4.1,Error ellipse: s-maj=7.8km s-min=4.4km az=4.0*
MOS ***19*** *16:19:39.6±0.9,4729N×1060E,h18km,mb4.0/1,Error ellipse: s-maj=4.0km s-min=2.9km az=52.1*
PRU ***19*** *16:19:40.1,4726N×1062E,h0km*
IPEC ***19*** *16:19:40.4±0.1,4717N×1065E,h10km,ML3.7/3,Error ellipse: s-maj=0.9km s-min=0.4km az=160.0*
LDG ***19*** *16:19:40.1±0.1,4733N×1070E,h10km,Ml3.9/40,ms3.5/1*
ROM ***19*** *16:19:41.2±0.2,4704N×1059E,h3km,Md3.3/23,Ml3.5/19, Error ellipse: s-maj=3.2km s-min=2.1km az=166.0*
STR ***19*** *16:19:44.9±0.2,4729N×1029E,h10km,Ml3.9,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
ISC 19 16:19:39.1±0.1,47204N±0007×10610E±0008,h1km±1km, n488,σ1§31/816,mb3.5/4,50C-76D,Austria

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FETA	**Feichten**	**0.20**	**156**	⇓*e*Pg			**Pg**	**16 19 43.4**	**+0.5**
	comp=Z,2µm,0.1s,SNR=45353								
FETA	**Feichten**	**0.20**	**156**	⇓*i*Pg			**Pg**	**16 19 43.4**	**+0.5**
	2µm,0.1s								
FETA				⇑*i*Sg			**Sg**	16 19 45.9	+0.4
	16µm,0.2s								
OBER	**Oberstdorf**	**0.30**	**313**	⇓*i*Pg			**Pg**	**16 19 44.6**	**-0.1**
RETA	**Reutte**	**0.30**	**20**	*e*Pg			**Pg**	**16 19 45.7**	**+0.8**
	comp=Z,967nm,0.1s,SNR=3469								
RETA	**Reutte**	**0.30**	**20**	⇑*i*Sg			**Sg**	**16 19 49.6**	**+0.9**
	comp=E,2µm,0.1s								
RETA	**Reutte**	**0.30**	**20**	*i* Pg			**Pg**	**16 19 45.7**	**+0.8**
	967nm,0.1s,SNR=3469								
RETA				⇑*e*Sg			**Sg**	16 19 50.6	+1.8
	2µm,0.1s								
MOTA	**Moosalm**	**0.36**	**67**	*e*Pg			**Pg**	**16 19 46.5**	**+0.4**
	comp=Z,891nm,0.1s,SNR=4005								
MOTA	**Moosalm**	**0.36**	**67**	⇑*i*Pg			**Pg**	**16 19 46.5**	**+0.4**
	891nm,0.1s,SNR=4005								
MOTA				⇑*i*Sg			**Sg**	16 19 51.4	+0.6
	2µm,0.2s								
MOTA	**Moosalm**	**0.36**	**67**	*e*Pg			**Pg**	**16 19 46.5**	**+0.4**
MOTA				*i* Sg			**Sg**	16 19 51.4	+0.6
SQTA	**Sankt Quirin**	**0.41**	**88**	⇑*i*Pg			**Pg**	**16 19 47.5**	**+0.6**
	comp=Z,1µm,0.1s								
SQTA	**Sankt Quirin**	**0.41**	**88**	⇑*i*Pg			**Pg**	**16 19 47.5**	**+0.6**
	1µm,0.1s								
SQTA				⇑*i*Sg			**Sg**	16 19 52.4	+0.2
	3µm,0.2s								
SQTA	**Sankt Quirin**	**0.41**	**88**	⇑*i*Pg			**Pg**	**16 19 47.5**	**+0.6**
SQTA				*i* Sg			**Sg**	16 19 52.4	+0.2
SQTA	**Sankt Quirin**	**0.41**	**88**	*e*Pg			**Pg**	**16 19 47.4**	**+0.5**
SQTA				*i* Sg			**Sg**	16 19 52.3	+0.1
DAVA	**Damuels**	**0.50**	**280**	⇑*e*Pg			**Pg**	**16 19 48.8**	**+0.1**
	comp=Z,589nm,0.2s,SNR=1376								
DAVA	**Damuels**	**0.50**	**280**	⇑*i*P*			**Pg**	**16 19 48.7**	**0.0**
DAVA				*e*Sg			**Sg**	16 19 58.0	+2.7
DAVA	**Damuels**	**0.50**	**280**	⇓*e*Pg			**Pg**	**16 19 48.7**	**-0.1**
	68nm,0.2s,SNR=1376								
DAVA				⇑*i*Sg			**Sg**	16 19 56.1	+0.8
	2µm,0.3s								
DAVA	**Damuels**	**0.50**	**280**	⇑*e*Pg			**Pg**	**16 19 48.8**	**+0.1**
DAVA				*i* Sg			**Sg**	16 19 56.1	+0.8
DAVA	**Damuels**	**0.50**	**280**	*e*Pg			**Pg**	**16 19 49.0**	**+0.3**
DAVA				*e*Sg			**Sg**	16 19 58.4	+3.1
FUORN	**Ofenpass-Fuorn**	**0.63**	**202**	⇑*i*P			**Pg**	**16 19 51.2**	**+0.1**
FUORN	**Ofenpass-Fuorn**	**0.63**	**202**	⇑*i*Pg			**Pg**	**16 19 51.2**	**+0.1**
	7µm,0.6s								
FUORN				Sg			**Sg**	16 19 59.2	-0.1
DAVOX	**Davos/Dischmat**	**0.66**	**230**	Pg			**Pg**	**16 19 51.6**	**0.0**
	187nm,0.3s,baz=37,slow=10.0,SNR=1833								
DAVOX				Lg				16 19 59.7	
	479nm,0.3s,baz=323,slow=20,SNR=87								
DAVOX	**Davos/Dischmat**	**0.66**	**230**	Pg			**Pg**	**16 19 51.7**	**+0.1**
DAVOX				Sg			**Sg**	16 20 00.4	+0.3
DAVOX	**Davos/Dischmat**	**0.66**	**230**	⇑*i*Pg			**Pg**	**16 19 51.6**	**0.0**
	11µm,0.3s								
DAVOX				*i* Sg			**Sg**	16 20 00.6	+0.5
	11µm,0.3s								
DAVOX	**Davos/Dischmat**	**0.66**	**230**	Pg			**Pg**	**16 19 51.7**	**+0.1**
DAVOX				*i* Sg			**Sg**	16 20 00.6	+0.5
	11µm,0.3s								
WATA	**Walderalm**	**0.67**	**78**	⇓*e*Pg			**Pg**	**16 19 51.8**	**-0.1**
	comp=Z,301nm,0.1s,SNR=238								
WATA	**Walderalm**	**0.67**	**78**	⇑*i*Pg			**Pg**	**16 19 51.7**	**-0.3**
	301nm,0.1s,SNR=238								
WATA				⇓*i*Sg			**Sg**	16 20 00.7	+0.1
	1µm,0.2s								
WATA	**Walderalm**	**0.67**	**78**	⇓*e*Pg			**Pg**	**16 19 51.8**	**-0.1**
WATA				*i* Sg			**Sg**	16 20 00.7	+0.1
WATA	**Walderalm**	**0.67**	**78**	*e*Pg			**Pg**	**16 19 51.8**	**-0.1**
WATA				Sg			**Sg**	16 20 00.7	+0.1
	1µm,0.2s								
WTTA	**Wattenberg**	**0.70**	**85**	*e*Pg			**Pg**	**16 19 52.6**	**+0.1**
	comp=Z,578nm,0.2s,SNR=1214								
WTTA	**Wattenberg**	**0.70**	**85**	⇓*i*Sg			**Sg**	**16 20 01.9**	**+0.3**
	comp=E,2µm,0.2s								
WTTA	**Wattenberg**	**0.70**	**85**	*e*Pg			**Pg**	**16 19 52.6**	**+0.1**
	578nm,0.2s,SNR=1214								
WTTA				⇓*i*Sg				16 20 03.1	
	2µm,0.3s								
WTTA	**Wattenberg**	**0.70**	**85**	*e*Pg			**Pg**	**16 19 52.6**	**+0.1**
WTTA				*i* Sg			**Sg**	16 20 01.9	+0.3
WTTA	**Wattenberg**	**0.70**	**85**	Pg			**Pg**	**16 19 52.6**	**+0.1**
	578nm,0.1s,SNR=1000								
WTTA				*i* Sg			**Sg**	16 20 01.9	+0.3
BRMO	**Bormio**	**0.75**	**193**	Pg			**Pg**	**16 19 52.8**	**-0.6**
BRMO				Sg			**Sg**	16 20 02.2	-0.8
	1µm,0.5s								
LIENZ	**Kamor/St.Gall**	**0.77**	**277**	⇑*i*Pg			**Pg**	**16 19 54.2**	**+0.4**
	4µm,0.3s								
APPI	**Appiano**	**0.84**	**149**	Pg			**Pg**	**16 19 55.1**	**-0.1**
APPI				Sg			**Sg**	16 20 05.4	-0.6
	2µm,0.4s								
PLONS	**Plons/SG**	**0.85**	**260**	*e*Pg			**Pg**	**16 19 54.9**	**-0.5**
	3µm,0.6s								
BERNI	**Berninapass**	**0.89**	**207**	⇑*i*Pg			**Pg**	**16 19 55.5**	**-0.6**
	2µm,0.4s								
FUR	**Furstenfeldbru**	**1.06**	**25**	*e*Pn			**Pn**	**16 20 00.7**	**-0.4**
FUR				*e*Sg			**Sn**	16 20 18.1	+1.6
FUR	**Furstenfeldbru**	**1.06**	**25**	*e*Pn			**Pn**	**16 20 00.7**	**-0.3**
FUR				*e*Sg			**Sn**	16 20 18.1	+1.7
FUR	**Furstenfeldbru**	**1.06**	**25**	*e*Pg			**Pg**	**16 20 00.6**	**+1.2**
FUR				*e*Sg			**Sn**	16 20 15.8	-0.6
VDL	**Val di Lei**	**1.07**	**228**	⇑*i*Pg			**Pg**	**16 19 59.0**	**-0.6**
	2µm,0.4s								
TUE	**Stuetta**	**1.14**	**230**	Pg			**Pg**	**16 20 00.1**	**-0.7**
TUE				Sg			**Sg**	16 20 16.3	+0.8
	959nm,0.4s								
WEIN	**Weingarten**	**1.15**	**287**	⇑*i*P			**Pg**	**16 20 02.0**	**+0.9**
WEIN	**Weingarten**	**1.15**	**287**	⇓*i*Pg			**Pg**	**16 20 02.0**	**+0.9**
	3µm,0.4s								
MABI	**Malga Bissina**	**1.15**	**183**	Pg			**Pg**	**16 20 00.3**	**-0.8**
MABI				Sg			**Sg**	16 20 15.1	-0.9
	393nm,0.3s								
LLS	**Linth-Limmern**	**1.15**	**253**	*e*Pg			**Pg**	**16 20 01.8**	**+0.7**
WILA	**Wila**	**1.18**	**281**	⇓*e*P*			**Pb**	**16 20 02.6**	**+0.4**
WILA				⇓*i*Pg			**Pg**	**16 20 03.8**	**+2.2**
WILA	**Wila**	**1.18**	**281**	*e*P			**Pg**	**16 20 02.1**	**+0.5**
WILA	**Wila**	**1.18**	**281**	*e*Pg			**Pg**	**16 20 02.4**	**+0.8**
	14µm,0.4s								
WILA	**Wila**	**1.18**	**281**	⇓*i*P			**Pg**	**16 20 03.8**	**+2.2**
SEST	**Monte Rota**	**1.19**	**112**	Pg			**Pg**	**16 20 01.6**	**-0.3**
	1µm,0.4s								
SISB	**Singen-Schiene**	**1.22**	**294**	⇓*i*P*			**Pb**	**16 20 03.4**	**+0.6**
SISB				⇑*i*Pg			**Pg**	**16 20 04.3**	**+1.9**
SISB	**Singen-Schiene**	**1.22**	**294**	⇑*i*P			**Pg**	**16 20 04.3**	**+1.9**
STEIN	**Stein am Rhein**	**1.27**	**292**	⇓*i*Pn			**Pn**	**16 20 04.3**	**+0.4**
	2µm,0.6s								
AFL	**Alpe Faloria**	**1.27**	**121**	⇓*i*Pg			**Pg**	**16 20 03.3**	**-0.1**
GUT	**Gutenstein**	**1.33**	**311**	⇓*i*P			**Pn**	**16 20 04.8**	**0.0**
GUT				⇓*e*Pg			**Pg**	**16 20 05.8**	**+1.2**
GUT				S			**Sn**	16 20 22.9	-0.2
GUT				*i* Sg			**Sn**	16 20 24.8	+1.8
GUT	**Gutenstein**	**1.33**	**311**	⇓*i*Pn			**Pn**	**16 20 04.8**	**0.0**
GUT				Sn			**Sn**	16 20 22.9	-0.2
GUT	**Gutenstein**	**1.33**	**311**	⇓*e*P			**Pg**	**16 20 05.8**	**+1.2**
GUT				*i* S			**Sn**	16 20 24.8	+1.8
FAU	**Forcella Aurin**	**1.36**	**135**	⇓*i*Pg			**Pg**	**16 20 04.3**	**-0.7**
CTI	**Castel Tesino**	**1.36**	**148**	Pg			**Pg**	**16 20 04.3**	**-0.8**
	804nm,0.3s								
MUO	**Muotathal**	**1.37**	**261**	*e*P*			**Pb**	**16 20 05.0**	**-0.4**
	15µm,0.4s								
ABTA	**Abfaltersbach**	**1.38**	**109**	⇓*e*Pg			**Pg**	**16 20 04.9**	**-0.6**
	44nm,0.2s,SNR=152								
ABTA				⇑*i*Sg			**Sg**	16 20 23.6	+0.2
	838nm,0.3s								
TRULL	**Truellikon**	**1.38**	**289**	⇓*i*Pn			**Pn**	**16 20 05.8**	**+0.4**
	1µm,0.4s								
ZUR	**Degenried**	**1.39**	**278**	⇓*i*Pn			**Pn**	**16 20 06.1**	**+0.5**
	6µm,0.4s								
HDH	**Heidenheim-Cha**	**1.41**	**349**	⇑*i*P			**Pn**	**16 20 05.7**	**-0.1**
HDH	**Heidenheim-Cha**	**1.41**	**349**	⇑*i*Pn			**Pn**	**16 20 05.7**	**-0.1**
MAGA	**Magasa**	**1.43**	**179**	Pg			**Pg**	**16 20 05.9**	**-0.5**
	3µm,0.5s								
FLACH	**Flaach**	**1.44**	**286**	⇓*i*Pn			**Pn**	**16 20 06.6**	**+0.4**
	2µm,0.3s								
MSS	**Messtetten**	**1.48**	**312**	⇓*e*Pn			**Pn**	**16 20 07.0**	**+0.2**
MSS	**Messtetten**	**1.48**	**312**	Px			Px	16 20 07.0	
CSO	**Casso**	**1.50**	**128**	⇓*i*Pg			**Pg**	**16 20 07.0**	**-0.8**
CSO				*i* Sg			**Sg**	16 20 30.1	+2.7
BHBD	**Braunhartsberg**	**1.50**	**315**	⇓*i*Pn			**Pn**	**16 20 07.4**	**+0.3**
BHBD	**Braunhartsberg**	**1.50**	**315**	Pn			**Pn**	**16 20 07.3**	**+0.2**
BUCH	**Bad Urach**	**1.51**	**326**	⇓*i*P			**Pn**	**16 20 07.5**	**+0.4**
BUCH				S			**Sn**	16 20 26.9	-0.5
NORI	**Noerdlinger Ri**	**1.52**	**0**	⇑*i*Pn			**Pg**	**16 20 06.9**	**-1.2**
NORI				*i* Sn			**Sg**	16 20 30.1	+2.3
SPAK	**Spaichingen-Ko**	**1.53**	**307**	⇓*i*P			**Pn**	**16 20 07.7**	**+0.3**
SPAK	**Spaichingen-Ko**	**1.53**	**307**	Pn			**Pn**	**16 20 07.8**	**+0.4**
SPAK				Sg			**Sg**	16 20 27.7	-0.4
BNALP	**Bannalp**	**1.53**	**258**	*e*P			**Pn**	**16 20 08.1**	**+0.6**
BNALP	**Bannalp**	**1.53**	**258**	*e*Pn			**Pn**	**16 20 07.9**	**+0.4**
	4µm,0.5s								
BNALP	**Bannalp**	**1.53**	**258**	*e*Pn			**Pn**	**16 20 08.9**	**+1.4**
BNALP				*e*Sg			**Sg**	16 20 30.0	+1.8
FUSIO	**Fusio**	**1.53**	**241**	⇓*i*P*			**Pb**	**16 20 07.7**	**-0.5**
	3µm,0.4s								
FUSIO	**Fusio**	**1.53**	**241**	⇓*i*P			**Pn**	**16 20 07.9**	**+0.4**
SLE	**Schleitheim**	**1.54**	**292**	⇓*i*P			**Pn**	**16 20 07.7**	**+0.1**
SLE	**Schleitheim**	**1.54**	**292**	⇓*i*Pn			**Pn**	**16 20 08.1**	**+0.5**
	5µm,0.3s								
SLE	**Schleitheim**	**1.54**	**292**	⇓*i*Pn			**Pn**	**16 20 07.7**	**+0.1**
SLE	**Schleitheim**	**1.54**	**292**	*e*Pg			**Pg**	**16 20 09.3**	**+0.7**
SLE				*e*Sg			**Sg**	16 20 30.1	+1.5
JUND	**Jungingen**	**1.55**	**317**	Px			Px	16 20 07.1	
MDI	**Monti di Nese**	**1.56**	**204**	Pg			**Pg**	**16 20 07.9**	**-1.0**
	646nm,0.4s								
CGRP	**Cima Grappa**	**1.56**	**148**	⇓*i*Pg			**Pg**	**16 20 07.6**	**-1.3**
CGRP				*i* Sg			**Sg**	16 20 28.9	-0.2
CSMI	**Casera Mimoias**	**1.56**	**116**	⇓*i*Pg			**Pg**	**16 20 08.2**	**-0.8**
CSMI	**Casera Mimoias**	**1.56**	**116**	*i* Pg			**Pg**	**16 20 08.2**	**-0.8**
RJOB	**Jochberg**	**1.58**	**69**	⇑*i*Pn			**Pg**	**16 20 09.5**	**+0.2**
RJOB				*i* Sn			**Sg**	16 20 32.7	+3.0
SALO	**Salr**	**1.59**	**182**	Pg			**Pg**	**16 20 08.2**	**-1.3**
SALO				Sg			**Sg**	16 20 27.1	-2.9
	2µm,0.8s								
FVI	**Forni Avoltri**	**1.61**	**111**	Pg			**Pg**	**16 20 08.8**	**-1.1**
	608nm,0.3s								
ENGD	**Engstlatt**	**1.61**	**314**	Px			Px	16 20 08.8	
MUGIO	**Muggio**	**1.68**	**221**	⇑*i*Pn			**Pn**	**16 20 09.8**	**+0.3**
	1µm,0.5s								
MUGIO	**Muggio**	**1.68**	**221**	Pg			**Pg**	**16 20 09.9**	**-1.3**
BGLD	**Berchtesgaden**	**1.69**	**74**	⇑*i*Pn			**Pg**	**16 20 10.9**	**-0.6**
BGLD				*i* Sn			**Sg**	16 20 35.8	+2.4
SULZ	**Cheisacher**	**1.73**	**282**	⇓*i*Pn			**Pn**	**16 20 10.4**	**+0.2**
	7µm,1.1s								
MLNI	**Malnisio**	**1.73**	**127**	⇑*i*Pg			**Pg**	**16 20 11.4**	**-0.9**
MLNI				*i* Sg			**Sg**	16 20 37.1	+2.4
CAE	**Caneva**	**1.74**	**133**	⇓*e*Pg			**Pg**	**16 20 11.6**	**-0.8**
CAE				*e*Sg			**Sg**	16 20 36.3	+1.5
HASLI	**Hasliberg/Brie**	**1.74**	**256**	⇓*i*Pn			**Pn**	**16 20 11.4**	**+1.0**
	4µm,0.5s								
ZOU	**Zoufplan**	**1.75**	**111**	⇓*i*Pg			**Pg**	**16 20 11.1**	**-1.4**
ZOU				*i* Sg			**Sg**	16 20 36.4	+1.3
STU	**Stuttgart**	**1.83**	**329**	*e*Pn			**Pn**	**16 20 11.9**	**+0.3**
VAI	**Varese**	**1.84**	**224**	Pg			**Pg**	**16 20 13.3**	**-1.1**
PLRO	**Paularo**	**1.86**	**110**	⇓*e*Pn			**Pg**	**16 20 13.2**	**-1.5**
PLRO				*e*Sn			**Sg**	16 20 39.5	+0.7
KBA	**Koelnbreinsper**	**1.87**	**93**	*e*Pn			**Pg**	**16 20 13.6**	**-1.3**
KBA				*e*Sg			**Sg**	16 20 41.8	+2.7
KBA	**Koelnbreinsper**	**1.87**	**93**	*e*Pg			**Pg**	**16 20 13.7**	**-1.2**
	268nm,0.2s,SNR=571								
KBA				⇓*i*Sg			**Sg**	16 20 40.1	+0.9
	627nm,0.3s								
FELD	**Feldberg im Sc**	**1.89**	**292**	⇓*i*P			**Pn**	**16 20 12.5**	**+0.1**
FELD	**Feldberg im Sc**	**1.89**	**292**	Pn			**Pn**	**16 20 12.5**	**+0.1**
FELD				Pg			**Pg**	**16 20 15.8**	**+0.5**
FELD				Sg			**Sg**	16 20 41.4	+1.7
FELD	**Feldberg im Sc**	**1.89**	**292**	Px			**Pn**	**16 20 12.5**	**+0.1**
FELD	**Feldberg im Sc**	**1.89**	**292**	⇓*i*P			**Pn**	**16 20 12.5**	**+0.1**
FELD	**Feldberg im Sc**	**1.89**	**292**	Pg			**Pg**	**16 20 15.8**	**+0.5**
FELD				Sg			**Sg**	16 20 41.4	+1.7
MPRI	**Monte Prat**	**1.90**	**120**	⇓*e*Pn			**Pg**	**16 20 14.4**	**-1.0**
MPRI				*e*Sn			**Sg**	16 20 41.5	+1.5
LBG	**Lerchenberg**	**1.90**	**321**	⇓*e*P			**Pn**	**16 20 12.8**	**+0.2**
LBG				*i* S			**Sn**	16 20 35.9	-1.3
BFO	**Black Forest**	**1.91**	**307**	⇓*e*P			**Pn**	**16 20 12.7**	**0.0**
BFO				*e*Sg			**Sg**	16 20 42.2	+1.9
BFO	**Black Forest**	**1.91**	**307**	*e*P			**Pn**	**16 20 12.3**	**-0.3**
BFO				*e*				16 20 34.1	
BFO	**Black Forest**	**1.91**	**307**	*e*Pn			**Pn**	**16 20 12.2**	**-0.4**
BFO				*e*Pn			**Pn**	**16 20 12.7**	**+0.1**
BFO				*e*Pg			**Pg**	**16 20 16.3**	**+0.7**
BFO				*e*Sn			**Sn**	16 20 34.1	-3.2
BFO				*e*Sg			**Sg**	16 20 42.2	+1.9
BFO	**Black Forest**	**1.91**	**307**	*e*Pn			**Pn**	**16 20 12.2**	**-0.4**
BFO	**Black Forest**	**1.91**	**307**	*e*Pg			**Pg**	**16 20 16.1**	**+0.5**
BFO				*e*S			**Sn**	16 20 34.1	-3.1
BFO				*e*Sg			**Sg**	16 20 42.2	+1.9
BOO	**Bordano**	**1.93**	**116**	⇑*e*Pn			**Pg**	**16 20 14.9**	**-1.1**
KIZ	**Kirchzarten**	**1.97**	**293**	⇓*i*P			**Pn**	**16 20 13.4**	**-0.1**
KIZ				⇑*i*Pg			**Pg**	**16 20 17.4**	**+0.6**
KIZ				S			**Sn**	16 20 37.7	-1.1
KIZ	**Kirchzarten**	**1.97**	**293**	⇑*i*P			**Pg**	**16 20 17.4**	**+0.6**
TEOL	**Teolo**	**1.99**	**158**	⇓*e*Pn			**Pg**	**16 20 15.5**	**-1.6**
TEOL				*e*Sn			**Sg**	16 20 42.0	-0.9
BALST	**Balsthal**	**1.99**	**275**	⇓*i*Pn			**Pn**	**16 20 14.0**	**+0.2**
	3µm,0.6s								
BUA	**Buia**	**1.99**	**119**	⇓*i*Pn			**Pg**	**16 20 16.9**	**-0.3**
BUA				*i* Sn			**Sg**	16 20 44.6	+1.6
WYH	**Wyhlen**	**2.01**	**281**	Px			**Pg**	**16 20 17.7**	**+0.2**
ENDD	**Endenburg**	**2.02**	**286**	⇑*i*Pn			**Pn**	**16 20 14.1**	**0.0**
ENDD	**Endenburg**	**2.02**	**286**	Px			**Pn**	**16 20 14.4**	**+0.3**
GMNA	**Gemona**	**2.03**	**116**	Pg			**Pg**	**16 20 15.9**	**-2.1**
PTCC	**Patocco-Chiusa**	**2.05**	**112**	Pg			**Pg**	**16 20 16.6**	**-1.7**
BAD	**Bernadia**	**2.05**	**117**	⇑*e*Pn			**Pg**	**16 20 17.4**	**-1.1**
BAD				*e*Sn			**Sg**	16 20 46.0	+1.0
BBS	**Basel-Blauen**	**2.12**	**278**	⇓*i*P			**Pn**	**16 20 15.9**	**+0.2**
BBS	**Basel-Blauen**	**2.12**	**278**	Pn			**Pn**	**16 20 15.7**	**+0.1**
BBS				Pg			**Pg**	**16 20 20.6**	**+0.8**
BBS	**Basel-Blauen**	**2.12**	**278**	Pg			**Pg**	**16 20 20.6**	**+0.8**
LSR	**Lussari**	**2.13**	**109**	⇑*i*Pn			**Pg**	**16 20 18.2**	**-1.7**
LSR				*i* Sn			**Sg**	16 20 47.5	-0.1
TLI	**Talmassons**	**2.15**	**126**	⇑*i*Pn			**Pg**	**16 20 18.6**	**-1.6**
TLI				*i* Sn			**Sg**	16 20 47.3	-0.6
MYKA	**Terra Mystica**	**2.16**	**104**	⇑*i*Pg			**Pg**	**16 20 18.9**	**-1.5**
	comp=Z,121nm,0.3s								
MYKA	**Terra Mystica**	**2.16**	**104**	⇑*e*Pg			**Pg**	**16 20 18.8**	**-1.6**
	121nm,0.3s								
MYKA				⇓*i*Sg			**Sg**	16 20 46.9	-1.4
	153nm,0.3s								
MMK	**Mattmark**	**2.16**	**239**	*e*Pn			**Pg**	**16 20 17.8**	**-2.6**
MMK	**Mattmark**	**2.16**	**239**	Pg			**Pg**	**16 20 18.0**	**-2.4**
MMK				*e*Sg			**Sg**	16 20 49.3	+0.9
COLI	**Coloredo**	**2.19**	**118**	⇓*i*Pn			**Pg**	**16 20 19.3**	**-1.6**
COLI				*i* Sn			**Sg**	16 20 50.1	+0.8
LKBD	**Leukerbad**	**2.21**	**249**	⇓*i*Pn			**Pg**	**16 20 18.2**	**-3.1**
	1µm,0.8s								
ROBS	**Robic**	**2.21**	**115**	⇓*i*Pn			**Pg**	**16 20 19.2**	**-2.2**
ROBS				*i* Sn			**Sg**	16 20 50.0	-0.1
SIND	**Sindeldorf**	**2.25**	**343**	⇑*i*P			**Pn**	**16 20 16.9**	**-0.5**
SIND				S			**Sn**	16 20 44.9	-0.8
SIND	**Sindeldorf**	**2.25**	**343**	⇑*i*P			**Pn**	**16 20 16.9**	**-0.5**
SIND				S			**Sn**	16 20 44.9	-0.8
BOURR	**Bourrignon**	**2.31**	**276**	⇓*i*Pn			**Pn**	**16 20 18.4**	**+0.2**
	2µm,1.0s								
DRE	**Drenchia**	**2.33**	**115**	⇓*i*Pn			**Pg**	**16 20 20.5**	**-3.2**
DRE				*i* Sn			**Sg**	16 20 52.2	-1.7
ORX	**Oropa**	**2.40**	**230**	P			**Pn**	**16 20 18.7**	**-0.8**
ORX				S			**Sn**	16 20 45.7	-3.8
ORO	**Oropa**	**2.41**	**230**	Pg			**Pg**	**16 20 22.5**	**-2.7**
SENIN	**Lac Senin/Sane**	**2.42**	**251**	*e*Sg			**Sg**	**16 20 57.2**	**+0.2**
MOF	**Molkenrain**	**2.44**	**287**	P			**Pn**	**16 20 20.1**	**+0.1**
MOF	**Molkenrain**	**2.44**	**287**	Pg			**Pg**	**16 20 27.5**	**+1.6**
MOF	**Molkenrain**	**2.44**	**287**	Pn			**Pn**	**16 20 19.9**	**-0.1**
MOF				Pg			**Pg**	**16 20 27.5**	**+1.6**
MOF	**Molkenrain**	**2.44**	**287**	Pg			**Pg**	**16 20 27.5**	**+1.6**
WET	**Wettzell**	**2.46**	**37**	*e*Pn			**Pn**	**16 20 20.5**	**+0.2**
WET				*e*Sn			**Sn**	16 20 51.1	+0.2
WET				*e*Sg			**Sg**	16 20 58.8	+0.6
	SNR=2.0

OG01 Pg **Pg** **16 20 33.8 +0.4**
OG01 Sn **Sn** **16 21 02.2 +2.0**
OG01 Sg **Sg** **16 21 10.2 0.0**
OG01 Vacheresse 2.84 253 Pg **Pg** **16 20 33.8 +0.4**
OG01 Sg **Sg** **16 21 10.2 0.0**
MRGE Morge 2.84 241 Pg **Pb** **16 20 28.1 -2.4**
comp=Z,338nm,0.8s
GSCL Gusciola 2.85 180 Pg **Pg** **16 20 29.9 -3.8**
CODM 2.86 191 S **Sn** **16 20 58.6 -2.2**
VALM 2.87 185 P **Pn** **16 20 26.3 +0.5**
VALM S **Sn** **16 20 57.8 -3.1**
SC2M Scurtabr 2.90 195 Pg **Pg** **16 20 29.9 -4.7**
LJU Ljubljana 2.94 112 *e*Pn **Pn** **16 20 29.5 +2.7**
LJU *e* 16 20 32.0
LJU *e*Sn **Sn** **16 21 06.0 +3.3**
BACM 2.95 188 P **Pn** **16 20 27.1 +0.1**
BACM S **Sn** **16 20 59.5 -3.5**
LSD Ceresole Reale 2.96 235 P **Pn** **16 20 28.5 +1.3**
MGBB Grossbuechelbe 2.97 20⇑*i*Pn **Pn** **16 20 25.9 -1.3**
MGBB *e*Sn **Sn** **16 21 02.2 -1.2**
HAU Haudompre 2.99 287 *e*Pg **Pg** **16 20 36.1 -0.3**
HAU *e*Sn **Sn** **16 21 00.4 -3.6**
SNR=1.0
HAU *e*Sg **Sg** **16 21 14.9 -0.3**
comp=Z,264nm,0.3s,SNR=1.0
HAU Haudompre 2.99 287 *e*P **Pn** **16 20 27.3 -0.3**
HAU *e* 16 21 00.4
HAU Haudompre 2.99 287 *e*Pn **Pn** **16 20 27.3 -0.3**
HAU *e*Pg **Pg** **16 20 36.1 -0.3**
HAU *e*Sn **Sn** **16 21 00.4 -3.6**
HAU *e*Sg **Sg** **16 21 14.9 -0.3**
HAU Haudompre 2.99 287 *e*Pg **Pg** **16 20 36.1 -0.3**
HAU *e*Sn **Sn** **16 21 00.4 -3.6**
SNR=1.0
HAU *e*Sg **Sg** **16 21 14.9 -0.3**
comp=Z,132nm,0.3s,SNR=1.0
CEY Cerknica 3.02 118⇓*i*Pn **Pn** **16 20 30.1 +2.2**
CEY *i* Sn **Sn** **16 21 08.8 +4.2**
SARO Sassorosso 3.02 183 P **Pn** **16 20 28.7 +0.7**
PCP Pian Castagno 3.03 209 Pg **Pn** **16 20 29.3 +1.2**
VLC Villacollemand 3.05 183 *e*Pb **Pb** **16 20 30.8 -3.3**
VLC Pg **Pb** **16 20 31.7 -2.4**
VLC *e*Sg **Sg** **16 21 10.2 -6.8**
VLC Villacollemand 3.05 183 Pg **Pb** **16 20 31.7 -2.4**
FNVD Fontana Vidola 3.06 173 Pg **Pb** **16 20 31.7 -2.5**
PZZT Monte Pizzetto 3.08 177 Pg **Pb** **16 20 31.8 -2.8**
KNDS Knezji Dol 3.10 121⇓*i*Pn **Pn** **16 20 31.1 +2.0**
KNDS *i* Sn **Sn** **16 21 11.1 +4.4**
RSP Reno Superiore 3.10 230 Pg **Pn** **16 20 28.8 -0.3**
PERS Pernice 3.14 99 *i* Pn **Pn** **16 20 31.6 +2.0**
BDI Bagni Di Lucca 3.14 180 Pg **Pb** **16 20 33.0 -2.7**
RSL Roselend 3.14 243 Pn **Pn** **16 20 31.3 +1.7**
RSL Sg **Sg** **16 21 19.8 -0.2**
CABF La Chapelle 3.16 261 *e*Pg **Pg** **16 20 39.6 +0.1**
CABF *e*Sg **Sg** **16 21 20.5 +0.1**
comp=Z,249nm,0.6s,SNR=1.0
CABF La Chapelle 3.16 261 *e*Pn **Pn** **16 20 29.6 -0.2**
CABF *e*Pg **Pg** **16 20 39.6 +0.1**
CABF *e*Sg **Sg** **16 21 20.5 +0.1**
CABF La Chapelle 3.16 261 *e*Pg **Pg** **16 20 39.6 +0.1**
CABF *e*Sg **Sg** **16 21 20.5 +0.1**
comp=Z,125nm,0.6s,SNR=1.0
LPG La Plagne 3.17 239 *e*Pn **Pn** **16 20 32.3 +2.3**
SNR=1.0
LPG *e*Sn **Sn** **16 21 06.8 -1.6**
comp=Z,144nm,0.5s,SNR=1.0
LPG La Plagne 3.17 239 *e*P **Pn** **16 20 32.3 +2.3**
LPG *e*Sn **Sn** **16 21 06.8 -1.6**
comp=Z,72nm,0.5s,SNR=1.0
LPL La Plagne 3.17 239 *e*Pn **Pn** **16 20 32.2 +2.2**
SNR=1.0
LPL *e*Sn **Sn** **16 21 06.7 -1.7**
LPL *e*Sg **Sg** **16 21 22.5 +1.6**
comp=Z,101nm,0.5s
LPL La Plagne 3.17 239 *e*P **Pn** **16 20 32.2 +2.2**
LPL *e* 16 21 06.7
LPL La Plagne 3.17 239 *e*P **Pn** **16 20 32.2 +2.2**
LPL *e*Sn **Sn** **16 21 06.7 -1.7**
LPL *e*Sg **Sg** **16 21 22.5 +1.6**
comp=Z,50nm,0.5s
SEI Scarperia 3.19 170 Pg **Pb** **16 20 33.6 -2.9**
VISS Visnje 3.24 114 *i* Pn **Pn** **16 20 33.6 +2.6**
VISS *i* Sn **Sn** **16 21 13.7 +3.6**
NKC Novy Kostel 3.27 21 *e*P **Pn** **16 20 29.9 -1.4**
NKC *e* 16 21 09.8
NKC Novy Kostel 3.27 21 *e*Pg **Pg** **16 20 37.3 -4.3**
NKC *e*Sn **Sn** **16 21 09.8 -1.0**
NKC *e*Sg **Sg** **16 21 23.8 -0.2**
comp=Z,166nm,0.4s
NKC Novy Kostel 3.27 21 *e*PN **Pn** **16 20 29.9 -1.4**
NKC *e*PG **Pg** **16 20 37.3 -4.3**
NKC *e*SN **Sn** **16 21 09.8 -1.0**
NKC *e*SG **Sg** **16 21 23.8 -0.2**
comp=Z,166nm,0.4s
THEF They Montfort 3.29 290 P **Pn** **16 20 32.2 +0.6**
THEF They Montfort 3.29 290 Pg **Pg** **16 20 42.1 +0.1**
THEF They Montfort 3.29 290 Pn **Pn** **16 20 32.4 +0.8**
THEF Pg **Pg** **16 20 42.1 +0.1**
QLNO Quiliano 3.29 210 Pg **Pn** **16 20 34.1 +2.5**
MAIM 3.29 181 Pg **Pn** **16 20 34.7 +3.0**
WERN Wernitzgruen 3.30 20 *e*Pn **Pn** **16 20 30.2 -1.6**
WERN *e*Sn **Sn** **16 21 11.1 -0.5**
VMG Vicchio 3.31 168 Pg **Pn** **16 20 34.7 +2.8**
ARSA Arzberg 3.35 87⇓*i*Pn **Pn** **16 20 33.9 +1.5**
SNR=13
ARSA ⇑*i*Sg **Sg** **16 21 26.3 -0.3**
comp=Z,122nm,0.5s
ARSA Arzberg 3.35 87 *e*Pg **Pg** **16 20 40.9 -2.3**
ARSA *e*Sg **Sg** **16 21 25.9 -0.7**
GUNZ Gunzen 3.36 19 *e*Pn **Pn** **16 20 31.0 -1.7**
GUNZ *e*Sn **Sn** **16 21 11.1 -2.0**
SNR=4.9
GUNZ *e*Sg **Sg** **16 21 27.7 +0.7**
SNR=3.5
ABH Alteburg 3.36 324 P **Pn** **16 20 33.5 +0.8**
ABH Alteburg 3.36 324 Pn **Pn** **16 20 33.6 +0.9**
ABH Sg **Sg** **16 21 29.2 +2.1**
SFI Santa Sofia 3.41 165 Pg **Pn** **16 20 35.1 +1.8**
comp=Z,172nm,0.8s
CRMI Carmignano 3.42 176 Pg **Pn** **16 20 35.8 +2.3**
WERD Werda 3.43 18 *e*Pn **Pn** **16 20 31.6 -2.0**
WERD *e*Sn **Sn** **16 21 14.2 -0.7**
WERD *e*Sg **Sg** **16 21 29.2 -0.1**
SNR=3.6
FIN Finale Ligure 3.44 210 P **Pn** **16 20 34.2 +0.6**
TANN Tannenbergstha 3.44 20 *e*Pn **Pn** **16 20 32.0 -1.7**
TANN *e*Sn **Sn** **16 21 14.0 -1.0**
TANN *e*Sg **Sg** **16 21 29.7 +0.2**
SNR=1.7
RUP Ruppelstein 3.44 318 P **Pn** **16 20 34.5 +0.8**
RUP Ruppelstein 3.44 318 Px Px 16 20 34.5
BNI Bardonecchia 3.48 233 *e*Pb **Pn** **16 20 36.6 +2.4**
BNI Pg **Pn** **16 20 37.1 +2.9**
BNI *e*Pg **Pg** **16 20 41.4 -4.3**
BNI *e*Sg **Sg** **16 21 23.4 -7.4**
BNI Bardonecchia 3.48 233 Pg **Pn** **16 20 37.1 +2.9**
BNI Bardonecchia 3.48 233 *e*P **Pn** **16 20 36.6 +2.4**
PII Pisa 3.48 181 Pg **Pn** **16 20 36.4 +2.1**
comp=Z,33nm,0.2s
ROB Roburent 3.48 214 P **Pn** **16 20 35.2 +0.9**
MOX Moxa 3.51 11 *e*Pn **Pn** **16 20 32.8 -1.8**
MOX *e*Sn **Sn** **16 21 14.7 -1.9**
MOX *e*Sg **Sg** **16 21 31.6 0.0**
SNR=2.8
MOX Moxa 3.51 11 *e*PN **Pn** **16 20 32.8 -1.8**
MOX *e*SN **Sn** **16 21 14.8 -1.9**
MOX *e*SG **Sg** **16 21 31.4 -0.3**
MOX Moxa 3.51 11 *e*Pn **Pn** **16 20 32.8 -1.8**
MOX *e*Sn **Sn** **16 21 14.8 -1.9**
MOX *e*Sg **Sg** **16 21 31.4 -0.3**
MOX Moxa 3.51 11 *e*Pn **Pn** **16 20 32.8 -1.8**
MOX *e*Sn **Sn** **16 21 14.8 -1.9**
RRL Cesana Torines 3.51 231 P **Pn** **16 20 35.8 +1.1**
RORO 3.57 211 P **Pn** **16 20 35.1 -0.4**
DOI San Damiano 3.58 222 Pg **Pn** **16 20 36.3 +0.7**
comp=Z,34nm,0.4s
CONA Conrad Observa 3.63 77⇑*i* **Pn** **16 20 37.2 +0.9**
SNR=43
CONA Conrad Observa 3.63 77⇑*i* **Sg** **16 21 33.9 -1.7**
CONA Conrad Observa 3.63 77⇑*i*Pn **Pn** **16 20 37.2 +0.9**
SNR=43
CONA ⇑*i*Sg **Sg** **16 21 33.9 -1.7**
comp=Z,187nm,0.3s
CONA Conrad Observa 3.63 77 *i* P **Pn** **16 20 37.2 +0.9**
CONA *i* 16 21 33.9
BOJS Bojanci 3.64 116 *i* Pn **Pn** **16 20 39.1 +2.7**
BOJS *i* Sn **Sn** **16 21 23.5 +3.6**
UBBA Unterbreizbach 3.64 354 *e*Pn **Pn** **16 20 36.0 -0.4**
PZZ Prazzo 3.65 224 Pg **Pn** **16 20 36.9 +0.4**
comp=Z,112nm,0.8s
MBDF Montbardon 3.65 229 *e*Pn **Pn** **16 20 37.1 +0.5**
SNR=1.0
MBDF *e*Sn **Sn** **16 21 17.5 -2.7**
comp=Z,133nm,0.7s
MBDF Montbardon 3.65 229 *e*Pn **Pn** **16 20 37.1 +0.5**
SNR=1.0
MBDF *e*Sn **Sn** **16 21 17.5 -2.7**
comp=Z,67nm,0.7s
CRE Caprese Michel 3.71 165 Pg **Pn** **16 20 40.5 +3.1**
MONE Monesi 3.71 214 P **Pn** **16 20 38.3 +0.9**
ENR Entracque 3.72 218 P **Pn** **16 20 37.6 0.0**
OG05 Jujurieux 3.74 254 Pn **Pn** **16 20 38.0 +0.2**
OG05 Sn **Sn** **16 21 19.9 -2.5**
RFYF Reffroy 3.74 294 *e*Pn **Pn** **16 20 38.6 +0.8**
baz=113
RFYF Reffroy 3.74 294 *e*Pg **Pg** **16 20 49.6 -1.0**
baz=118
RFYF *e*Sg **Sg** **16 21 38.7 -0.3**
comp=Z,166nm,0.5s
RFYF Reffroy 3.74 294 *e*Pn **Pn** **16 20 38.6 +0.8**
RFYF *e*Pg **Pg** **16 20 49.6 -1.0**
RFYF *e*Sg **Sg** **16 21 38.7 -0.3**
RFYF Reffroy 3.74 294 *e*Pg **Pg** **16 20 49.6 -1.0**
RFYF *e*Sg **Sg** **16 21 38.7 -0.3**
comp=Z,83nm,0.5s
STV Sta Anna Valdi 3.75 219 P **Pn** **16 20 37.2 -0.8**
CSNT Castellina Chi 3.76 172 Pg **Pn** **16 20 39.8 +1.6**
comp=Z,38nm,0.5s
GROG Isola di Gorgo 3.81 188 Pg **Pn** **16 20 40.5 +1.7**
PRA Prague 3.83 40 PN **Pn** **16 20 45.0 +6.0**
PRA SG **Sg** **16 21 41.0 -1.0**
FSSB Fossombrone 3.83 156 Pg **Pn** **16 20 40.4 +1.3**
comp=Z,25nm,0.2s
WLF Walferdange 3.86 311 *e*Pn **Pn** **16 20 41.0 +1.6**
SNR=11
WLF *e*Sg **Sg** **16 21 43.2 +0.4**
SNR=3.3
WLF Walferdange 3.86 311 *e*P **Pn** **16 20 40.2 +0.8**
WLF *e* 16 21 24.5
WLF Walferdange 3.86 311 *e*Pn **Pn** **16 20 40.2 +0.8**
WLF *e*Sn **Sn** **16 21 24.5 -0.8**
WLF *e*Sg **Sg** **16 21 42.5 -0.3**
WLF Walferdange 3.86 311 PN **Pn** **16 20 41.1 +1.7**
WLF PG **Pg** **16 20 54.3 +1.4**
WLF SN **Sn** **16 21 24.5 -0.8**
comp=N,43nm,0.4s
WLF SG **Sg** **16 21 44.8 +1.9**
SAOF Saorge 3.87 215 Pn **Pn** **16 20 41.6 +2.0**
BADI Badiali 3.87 162 Pg **Pn** **16 20 42.6 +3.0**
TREC Trest 3.87 56 *e*Pn **Pn** **16 20 40.3 +0.7**
SFTF Sexfontaines 3.89 287 *e*Pn **Pn** **16 20 40.7 +0.8**
baz=104
SFTF *e*Sg **Sg** **16 21 43.3 -0.8**
comp=N,87nm,0.4s
SFTF Sexfontaines 3.89 287 *e*Pn **Pn** **16 20 40.7 +0.8**
SFTF *e*Sg **Sg** **16 21 43.3 -0.8**
comp=N,43nm,0.4s
GRN Grenoble 3.91 242 Pn **Pn** **16 20 42.3 +2.2**
AUTN L'Aution 3.91 216 Pn **Pn** **16 20 42.4 +2.2**
PIEI Pieia 3.91 159 Pg **Pn** **16 20 41.7 +1.5**
comp=N,91nm,0.6s
NEGI Negi 3.93 212 P **Pn** **16 20 41.0 +0.6**
MEZF Maizieres J'vi 3.96 291 *e*Pn **Pn** **16 20 40.8 -0.1**
baz=109,SNR=1.0
MEZF Maizieres J'vi 3.96 291 *e*Pg **Pg** **16 20 53.3 -1.6**
baz=106,SNR=1.0
MEZF *e*Sn **Sn** **16 21 23.1 -4.8**
SNR=1.0
MEZF *e*Sg **Sg** **16 21 46.0 -0.3**
comp=N,173nm,0.7s
MEZF Maizieres J'vi 3.96 291 *e*Pn **Pn** **16 20 40.8 -0.1**
MEZF *e*Pg **Pg** **16 20 53.3 -1.6**
MEZF *e*Sn **Sn** **16 21 23.1 -4.8**
MEZF *e*Sg **Sg** **16 21 46.0 -0.3**
MEZF Maizieres J'vi 3.96 291 *e*Pg **Pg** **16 20 53.3 -1.6**
SNR=1.0
MEZF *e*Sn **Sn** **16 21 23.1 -4.8**
SNR=1.0
MEZF *e*Sg **Sg** **16 21 46.0 -0.3**
comp=N,86nm,0.7s
TOUF Mont Tournerai 3.97 218 Pn **Pn** **16 20 42.4 +1.4**
NVLJ Novalja 3.98 130 *e*Pn **Pn** **16 20 42.8 +1.7**
NVLJ Sn **Sn** **16 21 30.7 +2.4**
NVLJ Novalja 3.98 130 *e*Pn **Pn** **16 20 42.7 +1.6**
ORIF Oris-en-Rattie 4.01 237 *e*Pn **Pn** **16 20 43.8 +2.3**
SNR=1.0
ORIF *e*Sn **Sn** **16 21 25.9 -3.2**
comp=N,118nm,0.6s,SNR=1.0
ORIF Oris-en-Rattie 4.01 237 *e*P **Pn** **16 20 43.8 +2.3**
ORIF *e*Sn **Sn** **16 21 25.9 -3.2**
comp=N,59nm,0.6s,SNR=1.0
SBF Sospel 4.02 215 *e*Pn **Pn** **16 20 43.3 +1.7**
SNR=1.0
SBF *e*Sn **Sn** **16 21 27.9 -1.4**
comp=N,142nm,0.6s,SNR=1.0
LUCF Luceram 4.03 216 Pn **Pn** **16 20 43.7 +1.9**
ARVD Arcevia 4.05 155 Pg **Pn** **16 20 44.0 +1.8**
comp=N,44nm,0.7s
SOP Sopron 4.07 81⇓*e*PB **Pb** **16 20 54.1 +2.7**
SOP *e*Sg **Sg** **16 21 49.1 -0.5**
NEUB Neuenburg 4.08 10 *e*Sn **Sn** **16 21 29.0 -1.8**
SNR=2.0
NEUB *e*Sg **Sg** **16 21 49.7 -0.4**
SNR=3.2
MVIF Mont Vial 4.10 218 Pn **Pn** **16 20 44.9 +2.1**
MURB Monte Urbino 4.17 160 Pg **Pn** **16 20 46.4 +2.7**
AOI Ancona 4.22 149 Pg **Pn** **16 20 46.3 +1.9**
comp=N,154nm,1.2s
PVCC Panska Ves 4.23 37 *e*Pn **Pn** **16 20 44.4 -0.2**
CING Cingoli 4.24 154 Pg **Pn** **16 20 46.8 +2.1**
comp=N,70nm,1.0s
OG25 Le Caire 4.25 230 Pn **Pn** **16 20 46.7 +1.8**
BRG Berggiesshubel 4.28 30 *e*Pn **Pn** **16 20 44.2 -1.0**
BRG Berggiesshubel 4.28 30 PN **Pn** **16 20 44.2 -1.0**
BRG PB **Pb** **16 20 52.6 -2.4**
BRG PG **Pg** **16 20 59.9 -1.1**
BRG SG **Sg** **16 21 56.4 0.0**
comp=N,64nm,0.5s
SNTG Esanatoglia 4.28 157 Pg **Pn** **16 20 46.9 +1.7**
comp=N,46nm,0.7s
KRUC Moravsky 4.30 62 *e*Pn **Pn** **16 20 45.3 -0.2**
KRUC *e*Sg **Sg** **16 21 54.9 -2.1**
comp=N,197nm,0.3s
CALN Calern 4.33 219 Pn **Pn** **16 20 49.2 +3.2**
ASS Assisi 4.39 160 Pg **Pn** **16 20 50.0 +3.3**
CLL Collm 4.40 20 *e*Pn **Pn** **16 20 44.7 -2.1**
CLL *i* Pg **Pg** **16 21 04.4 +1.1**
CLL *i* Sg **Sg** **16 22 01.8 +1.6**
CLL Collm 4.40 20 *e*Pn **Pn** **16 20 45.0 -1.8**
CLL *i* Pg **Pg** **16 21 04.4 +1.1**
CLL *i* Sg **Sg** **16 22 01.8 +1.6**
CLL Collm 4.40 20 *e*Pn **Pn** **16 20 45.0 -1.8**
CLL *i* Pg **Pg** **16 21 04.4 +1.1**
CLL *ex* x 16 21 42.0
CLL *i* Sg **Sg** **16 22 01.8 +1.6**
comp=Z,156nm,0.9s
ZST Bratislava 4.50 75 *e*PN **Pn** **16 20 48.7 +0.5**
ZST *e*SG **Sg** **16 22 00.4 -3.0**
VRAC Vranov 4.52 60 P **Pn** **16 20 48.2 -0.3**
VRAC 16 21 41.0
VRAC pmax pmax
comp=Z,1.0nm,0.3s
VRAC pmax pmax
comp=Z,6.0nm,0.3s
VRAC smax
comp=N,10.0nm,0.3s
VRAC MLR MLR
comp=Z,111nm,19.3s
VRAC Vranov 4.52 60⇓P **Pn** **16 20 48.8 +0.3**
VRAC S **Sg** **16 22 00.6 -3.5**
VRAC Vranov 4.52 60 Pn **Pn** **16 20 48.2 -0.3**
comp=Z,1.4nm,0.3s,baz=250,slow=13,SNR=24
VRAC Pg **Pg** **16 21 03.2 -2.4**
comp=Z,5.9nm,0.3s,baz=248,slow=16,SNR=11
VRAC Sn **Sn** **16 21 41.0 -0.6**
comp=Z,10.0nm,0.3s,baz=307,slow=20,SNR=7.8
VRAC Lg 16 22 00.2
comp=Z,36nm,0.3s,baz=339,slow=22,SNR=9.8
VRAC LR LR 16 23 02.7
comp=Z,111nm,19.3s,baz=236,slow=45
VRAC Vranov 4.52 60⇓*i*P **Pn** **16 20 48.8 +0.3**
VRAC Vranov 4.52 60 S **Sg** **16 22 00.6 -3.5**
VRAC Vranov 4.52 60 *e*Pn **Pn** **16 20 48.2 -0.3**
VRAC *e*Sg **Sg** **16 22 01.4 -2.7**
comp=Z,122nm,0.4s
OCF Saint Nazaire 4.54 237 Pn **Pn** **16 20 50.4 +1.6**
OG26 St.-Nazaire-De 4.54 237 Pn **Pn** **16 20 50.4 +1.6**
MEM Membach 4.56 320 PN **Pn** **16 20 50.4 +1.2**
MEM PG **Pg** **16 21 08.8 +2.4**
MEM SN **Sn** **16 21 41.5 -1.3**
comp=N,29nm,0.6s
MEM SG **Sg** **16 22 09.3 +3.7**
MEM Membach 4.56 320 Pn **Pn** **16 20 50.3 +1.2**
FRF La Foret Royal 4.59 219 *e*Pn **Pn** **16 20 51.3 +1.8**
SNR=1.0
FRF *e*Sn **Sn** **16 21 41.0 -2.4**
comp=N,38nm,0.4s,SNR=1.0
FRF La Foret Royal 4.59 219 *e*P **Pn** **16 20 51.3 +1.8**
FRF *e*Sn **Sn** **16 21 41.0 -2.4**
comp=N,19nm,0.4s,SNR=1.0
LOR Lormes 4.60 273 *e*Pn **Pn** **16 20 49.8 +0.2**
baz=94,SNR=1.0
LOR Lormes 4.60 273 *e*Pg **Pg** **16 21 05.8 -1.4**
baz=90,SNR=1.0
LOR *e*Sn **Sn** **16 21 40.5 -3.1**
SNR=1.0
LOR *e*Sg **Sg** **16 22 05.5 -1.2**
comp=N,39nm,0.2s,SNR=1.0
LOR Lormes 4.60 273 *e*P **Pn** **16 20 49.8 +0.2**
LOR *e* 16 21 40.5
LOR Lormes 4.60 273 *e*Pn **Pn** **16 20 49.8 +0.2**
LOR *e*Pg **Pg** **16 21 05.8 -1.4**
LOR *e*Sn **Sn** **16 21 40.5 -3.1**
LOR *e*Sg **Sg** **16 22 05.5 -1.2**
LOR Lormes 4.60 273 *e*Pg **Pg** **16 21 05.8 -1.4**
SNR=1.0
LOR *e*Sn **Sn** **16 21 40.5 -3.1**
SNR=1.0
LOR *e*Sg **Sg** **16 22 05.5 -1.2**
comp=N,19nm,0.2s,SNR=1.0
STOF St-Etienne Org 4.60 228 Pn **Pn** **16 20 52.0 +2.3**
SSB Saint Sauveur 4.63 248 Pn **Pn** **16 20 50.1 0.0**
MODS Modra-Piesok 4.64 73 *e*PN **Pn** **16 20 51.1 +0.8**
MODS *e*SG **Sg** **16 22 04.0 -4.2**
SMF Signal de Mont 4.67 266 *e*Pn **Pn** **16 20 51.3 +0.7**
SNR=1.0
SMF *e*Sn **Sn** **16 21 41.5 -3.9**
SNR=1.0
SMF *e*Sg **Sg** **16 22 07.8 -1.3**
comp=N,56nm,0.3s,SNR=1.0
SMF Signal de Mont 4.67 266 *e*P **Pn** **16 20 51.3 +0.7**
SMF *e* 16 21 41.5
SMF Signal de Mont 4.67 266 *e*Pn **Pn** **16 20 51.3 +0.7**
SNR=1.0
SMF *e*Sn **Sn** **16 21 41.5 -3.9**
SNR=1.0
SMF *e*Sg **Sg** **16 22 07.8 -1.3**
comp=N,28nm,0.3s,SNR=1.0
HGN Heimansgroeve 4.71 321 *e*P **Pn** **16 20 52.3 +1.2**
comp=N,19nm,0.4s
HGN Heimansgroeve 4.71 321 *i* x **Pn** **16 20 53.5 +2.4**
comp=N,25nm,0.2s
HGN Heimansgroeve 4.71 321 *e*S **Sn** **16 21 44.0 -2.3**
NRCA Norcia 4.72 157 Pg **Pn** **16 20 53.4 +2.1**
VIVF Saint-Julien-I 4.75 243 *e*Pn **Pn** **16 20 52.3 +0.5**
SNR=1.0
VIVF *e*Sn **Sn** **16 21 44.1 -3.4**
VIVF *e*Sg **Sg** **16 22 12.5 +0.8**
comp=N,75nm,0.7s
VIVF Saint-Julien-I 4.75 243 *e*P **Pn** **16 20 52.3 +0.5**
VIVF *e* 16 21 44.1
VIVF Saint-Julien-I 4.75 243 *e*Pn **Pn** **16 20 52.3 +0.5**
SNR=1.0
VIVF *e*Sn **Sn** **16 21 44.1 -3.4**
VIVF *e*Sg **Sg** **16 22 12.5 +0.8**
comp=N,37nm,0.7s
BCLA Clavier 4.76 314 PN **Pn** **16 20 53.3 +1.4**
BCLA PG **Pg** **16 21 03.0 -7.2**
BCLA SN **Sn** **16 21 45.0 -2.6**
BCLA SG **Sg** **16 22 13.1 +1.3**
BCLA Clavier 4.76 314 Pn **Pn** **16 20 53.2 +1.4**
BCLA Sn **Sn** **16 21 44.9 -2.6**
BCLA Sg **Sg** **16 22 13.1 +1.3**
SMRF Simiane la Rot 4.79 229 *e*Pn **Pn** **16 20 52.8 +0.6**
SNR=1.0
SMRF *e*Sn **Sn** **16 21 45.7 -2.5**
comp=N,27nm,0.6s
SMRF Simiane la Rot 4.79 229 *e*Pn **Pn** **16 20 52.8 +0.6**
SNR=1.0
SMRF *e*Sn **Sn** **16 21 45.7 -2.5**
comp=N,13nm,0.6s
PGF Pioggiola 4.79 194 *e*Pn **Pn** **16 20 53.9 +1.6**
SNR=1.0
PGF *e*Sn **Sn** **16 21 46.3 -2.2**
comp=N,11nm,0.5s,SNR=1.0
VILF Villemus 4.80 228 Pn **Pn** **16 20 54.9 +2.5**
GIVF Givet 4.81 309 *e*P **Pn** **16 20 53.9 +1.4**
SNR=1.0
GIVF *e*Sn **Sn** **16 21 43.0 -5.8**
SNR=1.0
GIVF *e*Sg **Sg** **16 22 09.1 -4.3**
comp=N,57nm,0.3s,SNR=1.0
GIVF Givet 4.81 309 *e*P **Pn** **16 20 53.9 +1.4**
GIVF *e* 16 21 43.0
TAVF Tavernes 4.81 223 Pn **Pn** **16 20 55.6 +3.1**
LMR La Mourre 4.83 218 *e*Pn **Pn** **16 20 53.8 +1.0**
SNR=1.0
LMR *e*Sn **Sn** **16 21 47.1 -2.3**
comp=N,27nm,0.4s,SNR=1.0
LMR La Mourre 4.83 218 *e*Pn **Pn** **16 20 53.8 +1.0**
SNR=1.0
LMR *e*Sn **Sn** **16 21 47.1 -2.3**
comp=N,14nm,0.4s,SNR=1.0
SSF Saint Saulge 4.85 271 *e*Pn **Pn** **16 20 53.6 +0.5**
SNR=1.0
SSF *e*Sn **Sn** **16 21 45.0 -4.8**
SNR=1.0
SSF *e*Sg **Sg** **16 22 13.8 -1.0**
comp=N,37nm,0.4s
SSF Saint Saulge 4.85 271 *e*P **Pn** **16 20 53.6 +0.5**
SSF *e* 16 21 45.0
SSF Saint Saulge 4.85 271 *e*Pn **Pn** **16 20 53.6 +0.5**
SNR=1.0
SSF *e*Sn **Sn** **16 21 45.0 -4.8**
SNR=1.0
SSF *e*Sg **Sg** **16 22 13.8 -1.0**
comp=N,19nm,0.4s
UPC Upice 4.86 45 *e*Pn **Pn** **16 20 52.7 -0.5**
LNSS Leonessa 4.91 159 Pg **Pn** **16 20 55.6 +1.6**
DPC Dobruska-Polom 4.92 48 *e*P **Pn** **16 20 54.2 +0.2**
DPC *e* 16 21 49.3
DPC Dobruska-Polom 4.92 48 *e*Pn **Pn** **16 20 53.4 -0.6**
DPC *e*Sn **Sn** **16 21 49.3 -2.1**
DPC *e*Sg **Sg** **16 22 14.3 -2.6**
comp=N,73nm,0.4s
DPC Dobruska-Polom 4.92 48 *e*PN **Pn** **16 20 54.2 +0.2**
DPC *e*SN **Sn** **16 21 49.3 -2.1**
DPC *e*SG **Sg** **16 22 14.3 -2.6**
comp=Z,73nm,0.4s
DOU Dourbes 4.93 308 PN **Pn** **16 20 55.6 +1.5**
DOU PG **Pg** **16 21 16.2 +2.8**
DOU SN **Sn** **16 21 50.1 -1.6**
PLDF La Plantade 4.97 258 Pn **Pn** **16 20 55.4 +0.6**
AVF Avril sur Loir 4.98 268 *e*Pn **Pn** **16 20 55.3 +0.4**
SNR=1.0
AVF *e*Sn **Sn** **16 21 48.9 -4.2**
SNR=1.0
AVF *e*Sg **Sg** **16 22 17.6 -1.5**
comp=Z,29nm,0.5s,SNR=1.0
AVF Avril sur Loir 4.98 268 *e*P **Pn** **16 20 55.3 +0.4**
AVF *e* 16 21 48.9
AVF Avril sur Loir 4.98 268 *e*Pn **Pn** **16 20 55.3 +0.4**
SNR=1.0
AVF *e*Sn **Sn** **16 21 48.9 -4.2**
SNR=1.0
AVF *e*Sg **Sg** **16 22 17.6 -1.5**
comp=Z,14nm,0.5s,SNR=1.0
CORF Corte 5.01 192 Pn **Pn** **16 20 58.7 +3.4**
JAVC Velka Javorina 5.02 68 *e*Pn **Pn** **16 20 56.4 +1.0**
TERO Teramo 5.05 154 Pg **Pn** **16 20 57.1 +1.3**
COLF Collangettes 5.08 253 Pn **Pn** **16 20 56.4 +0.2**

BAIF Baives 5.12 306 *e*Pg **Pg 16 21 13.9 -3.2**
SNR=1.0
BAIF *e*Sn **Sn 16 21 49.9 -6.5**
SNR=1.0
BAIF *e*Sg **Sg 16 22 20.6 -2.7**
comp=Z,62nm,0.6s
BAIF Baives 5.12 306 *e*P **Pn 16 20 57.9 +1.2**
BAIF *e* 16 21 49.9
BAIF Baives 5.12 306 *e*P **Pn 16 20 57.9 +1.2**
BAIF *e*Pg **Pg 16 21 13.9 -3.2**
BAIF *e*Sn **Sn 16 21 49.9 -6.5**
BAIF *e*Sg **Sg 16 22 20.6 -2.7**
BAIF Baives 5.12 306 *e*Pg **Pg 16 21 13.9 -3.2**
SNR=1.0
BAIF *e*Sn **Sn 16 21 49.9 -6.5**
SNR=1.0
BAIF *e*Sg **Sg 16 22 20.6 -2.7**
comp=Z,31nm,0.6s
PRAF Pradon 5.12 230 Pn **Pn 16 20 57.8 +1.1**
KSP Ksiaz 5.22 44 *e*P **Pn 16 20 58.6 +0.5**
KSP Ksiaz 5.22 44 *e*P **Pn 16 20 58.5 +0.4**
KSP *e* 16 21 55.1
KSP Ksiaz 5.22 44 *e*Pn **Pn 16 20 58.5 +0.4**
KSP *e* 16 20 59.5
KSP *e*Sn **Sn 16 21 55.1 -3.8**
KSP *e*Sg **Sg 16 22 21.6 -5.0**
KSP Ksiaz 5.22 44 *e*Pn **Pn 16 20 58.5 +0.4**
KSP *e*Sn **Sn 16 21 55.1 -3.8**
KSP *e*Sg **Sg 16 22 21.6 -5.0**
AQU L'Aquila 5.24 157 *e*P **Pn 16 20 54.7 -3.8**
AQU *e*S **Sn 16 22 04.4 +4.9**
AGO Saint Agoulin 5.28 260 Pn **Pn 16 20 59.1 +0.1**
MORC Moravsky Berou 5.28 58 *e*P **Pn 16 20 58.4 -0.6**
MORC *e* 16 21 58.6
MORC Moravsky Berou 5.28 58 ⇑P **Pn 16 20 58.7 -0.3**
MORC Moravsky Berou 5.28 58 *e*Pn **Pn 16 20 58.4 -0.6**
MORC ⇑P 16 20 58.7
MORC *e*Pg **Pg 16 21 22.7 +2.5**
MORC *e*Sn **Sn 16 21 58.5 -1.8**
MORC *e*Sg **Sg 16 22 26.6 -1.9**
MORC Moravsky Berou 5.28 58 ⇑*i*P **Pn 16 20 58.7 -0.3**
MORC Moravsky Berou 5.28 58 *e*Pn **Pn 16 20 58.3 -0.7**
MORC *e*S **Sn 16 21 58.6 -1.8**
MORC *e*Sg **Sg 16 22 26.0 -2.5**
comp=Z,111nm,0.5s
PKSG 5.30 85⇓*e*Pn **Pn 16 20 59.6 +0.4**
BGF Bois d'Agland 5.36 266 *e*Pn **Pn 16 21 00.0 -0.1**
SNR=1.0
BGF *e*Sn **Sn 16 21 57.7 -4.7**
SNR=1.0
BGF *e*Sg **Sg 16 22 30.0 -1.2**
comp=Z,54nm,0.3s
BGF Bois d'Agland 5.36 266 *e*P **Pn 16 21 00.0 -0.1**
BGF *e* 16 21 57.7
BGF Bois d'Agland 5.36 266 *e*P **Pn 16 21 00.0 -0.1**
BGF *e*Sn **Sn 16 21 57.7 -4.7**
SNR=1.0
BGF *e*Sg **Sg 16 22 30.0 -1.2**
comp=Z,27nm,0.3s
WTSB Winterswijk 5.37 334 *e*P **Pn 16 21 01.4 +1.2**
WTSB Winterswijk 5.37 334 *e*S **Sn 16 21 50.2 -12**
KOLL Kolacno 5.42 72 *e*PN **Pn 16 21 00.9 0.0**
KOLL *e*SG **Sg 16 22 28.8 -4.2**
HYF Humbligny 5.43 274 *e*Pn **Pn 16 20 59.4 -1.6**
HYF *e*Sg **Sg 16 22 32.4 -1.0**
PYM Petit Puy Mans 5.45 257 Pn **Pn 16 21 00.8 -0.5**
LBL Lubilhac 5.48 252 Pn **Pn 16 21 01.8 +0.1**
PKSM Moragy 5.61 97⇑*i*P **Pn 16 21 03.6 0.0**
PKSM Moragy 5.61 97⇓*e*Pn **Pn 16 21 04.0 +0.4**
OKC Ostrava-Krasne 5.66 59 *e*PN **Pn 16 21 04.6 +0.4**
OKC *e*SN **Sn 16 22 08.0 -1.7**
LASF Ste Croix 5.67 239 *e*Pn **Pn 16 21 04.6 +0.2**
LASF *e*Sn **Sn 16 22 06.5 -3.6**
comp=Z,43nm,0.4s
VYHS Vyhne 5.69 74 *e*P **Pn 16 21 04.4 -0.2**
VYHS pmax pmax
comp=Z,10.0nm,0.5s
VYHS Vyhne 5.69 74 *e*P **Pn 16 21 04.4 -0.2**
comp=Z,10.0nm,0.5s
VYHS *e*Sg **Sg 16 22 37.4 -4.2**
TCF Toulx Ste Croi 5.85 264 *e*Pn **Pn 16 21 06.8 0.0**
SNR=1.0
TCF *e*Sn **Sn 16 22 10.6 -3.7**
SNR=1.0
TCF *e*Sg **Sg 16 22 45.4 -1.3**
comp=Z,21nm,0.4s
TCF Toulx Ste Croi 5.85 264 *e*P **Pn 16 21 06.8 0.0**
TCF *e* 16 22 10.6
TCF Toulx Ste Croi 5.85 264 *e*P **Pn 16 21 06.8 0.0**
TCF *e*Sg **Sg 16 22 45.4 -1.3**
comp=Z,10nm,0.4s
PENC Penc 5.91 81⇑*e*Pn **Pn 16 21 08.1 +0.5**
PSZ Piszkesteto 6.33 80 *e*P **Pn 16 21 13.1 -0.2**
PSZ pmax pmax
comp=Z,7.0nm,0.8s
PSZ Piszkesteto 6.33 80 *e*Pn **Pn 16 21 13.1 -0.2**
comp=Z,6.8nm,0.8s
PSZ Piszkesteto 6.33 80⇓*e*Pn **Pn 16 21 13.7 +0.4**
PSZ Piszkesteto 6.33 80 *e*Pn **Pn 16 21 13.1 -0.2**
comp=Z,6.8nm,0.8s
CAF Calviac 6.37 252 *e*Pn **Pn 16 21 14.6 +0.7**
SNR=1.0
CAF *e*Sg **Sg 16 23 01.4 -2.1**
comp=Z,54nm,0.9s
CAF Calviac 6.37 252 *e*P **Pn 16 21 14.6 +0.7**
CAF *e*Sg **Sg 16 23 01.4 -2.1**
comp=Z,27nm,0.9s
RJF Les Rejaudoux 6.58 257 *e*Pn **Pn 16 21 16.6 -0.3**
SNR=1.0
RJF *e*Sg **Sg 16 23 08.8 -1.7**
comp=Z,34nm,0.7s,SNR=1.0
OJC Ojcow 6.79 60 *e*P **Pn 16 21 20.3 +0.6**
OJC *e*S **Sg 16 23 17.6 +0.7**
MTLF Montolieu 7.07 240 *e*Pn **Pn 16 21 23.5 0.0**
SNR=1.0
MTLF *e*Sg **Sg 16 23 24.8 -1.2**
comp=Z,19nm,0.8s
LFF La Frestale 7.23 255 *e*Pn **Pn 16 21 24.7 -1.0**
LFF *e*Sg **Sg 16 23 29.9 -1.2**
comp=Z,51nm,0.8s
LDF La Druitiere 7.35 285 *e*Pn **Pn 16 21 25.9 -1.5**
SNR=1.0
LDF *e*Sn **Sn 16 22 46.3 -5.0**
LDF *e*Sg **Sg 16 23 31.8 -3.1**
comp=Z,51nm,0.9s
LDF La Druitiere 7.35 285 *e*P **Pn 16 21 25.9 -1.5**
LDF *e* 16 22 46.3
LDF La Druitiere 7.35 285 *e*Pn **Pn 16 21 25.9 -1.5**
SNR=1.0
LDF *e*Sg **Sg 16 23 31.8 -3.1**
comp=Z,26nm,0.9s
MFF Saint Martin d 7.39 269 *e*Pn **Pn 16 21 27.9 -0.1**
SNR=1.0
MFF *e*Sn **Sn 16 22 46.1 -6.3**
comp=Z,5.2nm,0.2s,SNR=1.0
MFF *e*Sg **Sg 16 23 34.2 -2.2**
comp=Z,18nm,0.6s
MFF Saint Martin d 7.39 269 *e*P **Pn 16 21 27.9 -0.1**
MFF *e* 16 22 46.1
MFF Saint Martin d 7.39 269 *e*P **Pn 16 21 27.9 -0.1**
MFF *e*Sn **Sn 16 22 46.1 -6.3**
comp=Z,2.6nm,0.2s,SNR=1.0
MFF *e*Sg **Sg 16 23 34.2 -2.2**
comp=Z,8.9nm,0.6s
STHS Stebnicka Huta 7.43 69 *e*PN **Pn 16 21 30.0 +1.5**
STHS *e*SG **Sg 16 23 39.7 +2.2**
CRVS Cervenica-Dubn 7.47 73 *e*PN **Pn 16 21 29.7 +0.7**
CRVS *e*SG **Sg 16 23 37.6 -1.2**
FLN La Foliniere 7.61 286 *e*Pn **Pn 16 21 30.9 0.0**
baz=105,SNR=1.0
FLN *e*Sn **Sn 16 22 51.0 -6.6**
FLN *e*Sg **Sg 16 23 39.4 -3.8**
comp=Z,60nm,0.9s
FLN La Foliniere 7.61 286 *e*P **Pn 16 21 30.9 0.0**
FLN *e* 16 22 51.0
BZS Buzias 7.77 98⇓*i*P **Pn 16 21 34.3 +1.1**
GRR Gorron 7.81 283 *e*Pn **Pn 16 21 32.9 -0.9**
SNR=1.0
GRR *e*Sn **Sn 16 22 56.8 -6.0**
GRR *e*Sg **Sg 16 23 45.6 -4.3**
comp=Z,18nm,0.5s
GRR Gorron 7.81 283 *e*P **Pn 16 21 32.9 -0.9**
GRR *e* 16 22 56.8
GRR Gorron 7.81 283 *e*Pn **Pn 16 21 32.9 -0.9**
SNR=1.0
GRR *e*Sn **Sn 16 22 56.8 -6.0**
GRR *e*Sg **Sg 16 23 45.6 -4.3**
comp=Z,9.2nm,0.5s
DRGR 8.29 88⇓*i*P **Pn 16 21 41.7 +1.5**
EPF Esparros 8.37 244 *e*Pn **Pn 16 21 41.0 -0.5**
SNR=1.0
EPF *e*Sg **Sg 16 24 05.4 -2.4**
comp=Z,7.5nm,0.6s,SNR=1.0
ETSF Etsaut 9.00 245 *e*Pn **Pn 16 21 49.8 -0.2**
SNR=1.0
SJPF Ste Jean 9.31 248 *e*Pn **Pn 16 21 53.9 -0.3**
SJPF *e*Sg Sn 16 24 34.5 +55
comp=Z,5.5nm,0.5s
QUIF Quistinic 9.35 279 *e*Sn **Sn 16 23 33.0 -7.4**
ROSF Rostrenen 9.42 282 *e*Pn **Pn 16 21 55.2 -0.6**
ROSF *e*Sn **Sn 16 23 34.0 -8.2**
EKA Eskdalemuir Ar 11.84 318 Pn **Pn 16 22 29.4 +0.6**
comp=Z,0.4nm,0.3s,baz=128,slow=13,SNR=9.9
EKA Sn **Sn 16 24 38.4 -3.0**
comp=Z,0.3nm,0.3s,baz=123,slow=26,SNR=4.4
KONO Kongsberg 12.48 358⇑*e*P **Pn 16 22 32.8 -4.8**
ESDC Sonseca Array 12.98 240 Pn **Pn 16 22 44.7 +0.2**
comp=Z,0.4nm,0.3s,baz=53,slow=15,SNR=3.0
GVD Gavdhos 15.97 136 Pn **Pn 16 23 24.4 -0.4**
comp=Z,34nm,0.4s
GVD Gavdhos 15.97 136 Pn **Pn 16 23 24.4 -0.4**
comp=Z,34nm,0.4s
FINES FINESS Array B 16.81 26 Pn **Pn 16 23 32.6 -2.7**
comp=Z,0.1nm,0.3s,baz=210,slow=11,SNR=4.5
OBN Obninsk 18.02 54 P **Pn 16 23 51.0 +0.5**
OBN pmax pmax
comp=Z,5.0nm,0.4s
OBN MLR MLR
comp=Z,100nm,14.0s
OBN Obninsk 18.02 54 P **Pn 16 23 51.0 +0.5**
comp=Z,100nm,14.0s
ANN Anapa 18.76 87 *e*P **Pn 16 23 52.1 -7.5**
ANN pmax pmax
comp=Z,35nm,1.3s
KIV Kislovodsk 22.60 86⇑*e*P **P 16 24 38.9 -1.9**
KIV pmax pmax
comp=Z,3.0nm,0.8s,mb3.9
KIV Kislovodsk 22.60 86 *e*P **P 16 24 38.9 -1.9**
comp=Z,3.0nm,0.8s,mb3.9
TORD Torodi Ar. Bea 34.76 195 P **P 16 26 30.9 0.0**
comp=Z,0.2nm,0.6s,mb3.3,baz=7.2,slow=8.8,SNR=3.8
MK31 Makanchi Array 47.26 63 *e*P **P 16 28 13.3 -0.2**
MKAR Makanchi Array 47.26 63 P **P 16 28 13.5 0.0**
comp=Z,0.3nm,0.4s,mb3.8,baz=284,slow=6.3,SNR=3.1
SONM Songino Array 60.38 50 P **P 16 29 48.4 -1.1**
comp=Z,0.1nm,0.3s,mb3.3,baz=297,slow=6.3,SNR=3.4

GUC ***19*** *16:26:02.1±1.0,2854S×6866W,h125km±32km,ML5.3*
MOS ***19*** *16:26:02.5±1.0,2849S×6853W,h87km,mb4.8/18,Error ellipse: s-maj=13.6km s-min=9.5km az=100.1*
ISCJB ***19*** *16:26:04.8±0.2,2872S±002×6865W±004,h112km, mb4.8/56,Error ellipse: s-maj=5.1km s-min=2.8km az=12.9*
NEIC ***19*** *16:26:05.8±0.1,2876S×6870W,mb4.9/51,MD4.8(SJA), Error ellipse: s-maj=5.8km s-min=3.8km az=89.0*
NEIC Felt [III] at Villa Union and Vinchina.
GCMT ***19*** *16:26:05.8±0.3,2877S×6866W,h124km±2km,MW5.0/63, Moment Tensor Solution. s44,c51; s63,c84; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}~3.55±.12; $M_{\theta\theta}$1.58±.16; $M_{\phi\phi}$1.98±.16; $M_{r\theta}$-1.14±.11; $M_{\theta\phi}$-2.97±.15; $M_{\phi r}$~0.44±.15; Best double couple: M_0=4.40500×10^{16} NP1:ϕ_s338.00000°,δ46.00000°,λ-59.00000°. NP2: ϕ_s117.00000°,δ52.00000°,λ-118.00000°. Principal axes: T 4.7820, Plg3.0000°, Azm226.0000°; N -0.7440, Plg22.0000°, Azm135.0000°; P -4.0280, Plg68.0000°, Azm324.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***19*** *16:26:05.7±0.4,2866S×6848W,h109km±3km,mb4.4/12, mb1 4.4/15,mb1mx4.3/19,mbtmp4.3/15,MS3.8/10, Ms1 3.8/10,ms1mx3.6/24 Error ellipse: s-maj=14.5km s-min=8.6km az=85.0*
BJI ***19*** *16:26:08.0,2880S×6870W,h111km,mB4.8*
ISC 19 16:26:06.6±0.2,2875S±002×6870W±004,h114km, h114km±1.3km:pP-P,n422,σ0.77/362,mb4.8/56, 105C-100D,La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**1.78**	**261**	*e*P	**Pn**	**16 26 35.5**	**-1.5**
LCO				*e*S	**Sn**	**16 26 59.9**	**-0.2**
VACH	**Vallenar**	**1.82**	**275**	*e*P	**Pn**	**16 26 35.2**	**-2.3**
VACH				*i* S	**Sn**	**16 26 59.0**	**-2.1**
VACH	**Vallenar**	**1.82**	**275**	*e*P	**Pn**	**16 26 35.2**	**-2.3**
VACH				*i* S	**Sn**	**16 26 59.0**	**-2.1**
VACH				AML	AML	16 26 59.8	
comp=N,32μm,0.6s							
CPCH	**Copiapo**	**2.02**	**313**	⇑*i*P	**Pn**	**16 26 35.4**	**-4.6**
CPCH				*i* S	**Sn**	**16 26 59.6**	**-5.8**
CPCH	**Copiapo**	**2.02**	**313**	⇑*i*P	**Pn**	**16 26 35.4**	**-4.6**
CPCH				*i* S	**Sn**	**16 26 59.6**	**-5.8**
CPCH				AML	AML	16 27 00.7	
comp=E,84μm,0.1s							
TLL	**Tololo Astrono**	**2.32**	**232**	*e*P	**Pn**	**16 26 43.2**	**-0.6**
TLL				*i* S	**Sn**	**16 27 14.0**	**+1.7**
TLL	**Tololo Astrono**	**2.32**	**232**	*e*P	**Pn**	**16 26 43.2**	**-0.5**
TLL				*i* S	**Sn**	**16 27 14.0**	**+1.7**
TLL				AML	AML	16 27 23.3	
comp=E,5μm,0.7s							
LSCH	**La Serena**	**2.51**	**242**	*e*P	**Pn**	**16 26 44.5**	**-1.7**
LSCH				*i* S	**Sn**	**16 27 16.1**	**-0.5**
OVCH	**Ovalle**	**2.86**	**229**	*e*P	**Pn**	**16 26 49.2**	**-1.6**
OVCH				*i* S	**Sn**	**16 27 25.0**	**+0.1**
CFAA	**Coronel Fontan**	**2.87**	**172**	P	**Pn**	**16 26 51.0**	**0.0**
CFAA				S	**Sn**	**16 27 25.2**	**0.0**
CFAA				LR	LR	16 28 03.9	
CFAA	**Coronel Fontan**	**2.87**	**172**	P	**Pn**	**16 26 51.0**	**0.0**
comp=E,40nm,0.3s,baz=350,slow=13,SNR=2387							
CFAA				S	**Sn**	**16 27 25.2**	**0.0**
comp=E,164nm,0.3s,baz=165,slow=16,SNR=34							
CFAA				LR	LR	16 28 03.9	
comp=E,206nm,19.1s,baz=223,slow=40							
CMCH	**Combarbala**	**3.14**	**219**	⇓*i*P	**Pn**	**16 26 52.8**	**-1.6**
CMCH				*i* S	**Sn**	**16 27 31.6**	**+0.1**
JACH	**Jahuel**	**4.25**	**202**	*e*P	**Pn**	**16 27 09.1**	**-0.2**
CPN1	**Cerro Paranal**	**4.38**	**339**	*e*P	**Pn**	**16 27 07.8**	**-3.4**
CPN1				*i* S	**Sn**	**16 27 54.1**	**-7.2**
PEL	**Peldehue**	**4.70**	**201**	⇓*i*P	**Pn**	**16 27 14.0**	**-1.4**
PEL				*i* S	**Sn**	**16 28 09.0**	**+0.2**
FCH	**Farellones**	**4.76**	**196**	⇑*i*P	**Pn**	**16 27 16.2**	**0.0**
FCH				*i* S	**Sn**	**16 28 12.7**	**+2.3**
CLCH	**Cerro Calan**	**4.89**	**198**	⇑*i*P	**Pn**	**16 27 17.0**	**-1.0**
CLCH				*i* S	**Sn**	**16 28 14.9**	**+1.4**
FSR	**Penalolen**	**4.97**	**198**	*e*P	**Pn**	**16 27 18.4**	**-0.6**
PCH	**Pirque**	**5.10**	**197**	⇑*i*P	**Pn**	**16 27 19.8**	**-1.0**
LMEL	**Las Melosas**	**5.24**	**194**	⇑*i*P	**Pn**	**16 27 22.1**	**-0.6**
ANCH	**Antofagasta**	**5.28**	**343**	*e*P	**Pn**	**16 27 17.5**	**-5.7**
CICH	**Cipreses**	**5.75**	**194**	⇓*i*P	**Pn**	**16 27 28.9**	**-0.6**
CPUP	**Villa Florida**	**10.37**	**79**	*e*P	**Pn**	**16 28 26.3**	**-5.9**
CPUP				pmax	pmax		
comp=Z,2.0nm,1.0s							
CPUP	**Villa Florida**	**10.37**	**79**	*e*Pn	**Pn**	**16 28 26.3**	**-5.9**
comp=Z,2.0nm,1.0s							
CPUP	**Villa Florida**	**10.37**	**79**	P	**Pn**	**16 28 26.8**	**-5.4**
comp=Z,10nm,0.3s,baz=238,slow=12,SNR=48							
CPUP				LR	LR	16 32 39.9	
comp=Z,337nm,19.6s,baz=19,slow=39							
TRQA	**Tornquist**	**10.84**	**151**	*e*Pn	**Pn**	**16 28 35.4**	**-3.1**
comp=Z,733nm,0.7s							
PLCA	**Paso Flores**	**12.05**	**187**	*e*P	**Pn**	**16 28 49.7**	**-4.7**
PLCA				pmax	pmax		
comp=Z,9.0nm,0.7s							
PLCA	**Paso Flores**	**12.05**	**187**	*e*Pn	**Pn**	**16 28 49.7**	**-4.7**
comp=Z,9.1nm,0.7s							
PLCA	**Paso Flores**	**12.05**	**187**	P	**Pn**	**16 28 50.6**	**-3.9**
comp=Z,0.5nm,0.3s,baz=356,slow=13,SNR=19							
LPAZ	**La Paz**	**12.41**	**3**	*e*P	**Pn**	**16 28 54.3**	**-5.1**
LPAZ				pmax	pmax		
comp=Z,15nm,0.8s							
LPAZ	**La Paz**	**12.41**	**3**	*e*Pn	**Pn**	**16 28 54.3**	**-5.1**
comp=Z,15nm,0.8s							
LPAZ	**La Paz**	**12.41**	**3**	P	**Pn**	**16 28 54.6**	**-4.7**
comp=Z,1.3nm,0.3s,baz=175,slow=5.8,SNR=28							
LPAZ				LR	LR	16 33 48.1	
comp=Z,379nm,18.1s,baz=174,slow=38							

ARE	**Arequipa**	**12.50**	**348**	*e*P	**Pn**	**16 29 08.0 +7.5**
ARE				*e*S	**Sn**	**16 31 04.0 -14**
SIV	**San Ignacio**	**14.52**	**31**	P	**Pn**	**16 29 20.1 -6.5**
comp=Z,0.8nm,0.3s,baz=242,slow=13,SNR=16						
NNA	**Nana**	**18.33**	**334**	*e*P	**P**	**16 30 11.9 -0.2**
comp=Z,32nm,0.9s						
NNA	**Nana**	**18.33**	**334**	P	**P**	**16 30 11.8 -0.3**
comp=Z,1.2nm,0.3s,baz=174,slow=10,SNR=4.3						
BDFB	**Brasilia**	**23.12**	**60**	*e*P	**P**	**16 30 58.2 -4.6**
BDFB	**Brasilia**	**23.12**	**60**	P	**P**	**16 30 58.8 -4.0**
comp=Z,3.7nm,0.5s,mb4.0,baz=222,slow=17,SNR=10						
ATAH	**Atahualpa**	**23.49**	**335**	P	**P**	**16 31 04.8 -1.5**
comp=Z,8.1nm,0.8s,mb4.1,baz=158,slow=7.6,SNR=11						
USHA	**Ushuaia**	**26.06**	**180**	P	**P**	**16 31 32.1 +3.0**
comp=Z,13nm,0.7s,mb4.4,baz=314,slow=8.0,SNR=3.6						
USHA				LR	LR	16 41 21.9
comp=Z,495nm,20.9s,baz=225,slow=35						
JTS	**JuntasAbangare**	**41.87**	**336**⇑	*e*P	**P**	**16 33 43.7 -1.9**
TGUH	**Tegucigalpa,Un**	**46.19**	**335**	*e*P	**P**	**16 34 19.1 -1.1**
comp=Z,40nm,1.0s,mb5.1						
SDDR	**Presa de Saban**	**47.52**	**357**	*e*P	**P**	**16 34 30.0 -0.4**
comp=Z,17nm,0.9s,mb4.9						
TEIG	**Tepich**	**52.23**	**337**	*e*P	**P**	**16 35 04.5 -1.6**
comp=Z,52nm,0.9s,mb5.6						
VNA1	**Neumayer--Stat**	**53.45**	**159**	*e*Pdiff	**P**	**16 35 15.9 +1.5**
VNA1				*e*		16 35 18.4
VNA1				*e*		16 35 28.4
VNA1				*e*	pP	16 35 40.9 -0.5
VNA2	**Neumayer--Watz**	**53.81**	**159**	*e*Pdiff	**P**	**16 35 17.9 +0.9**
VNA2				*e*		16 35 20.5
VNA2				*e*		16 35 29.6
VNA2				*e*	pP	16 35 43.0 -1.1
SNAA	**Sanae**	**55.42**	**159**	*e*Pdiff	**P**	**16 35 26.5 -2.2**
SNAA				*e*		16 35 28.4
SNAA				*e*		16 35 39.8
SNAA				*e*	pP	16 35 51.6 -4.3
SNAA	**Sanae**	**55.42**	**159**⇑	*e*P	**P**	**16 35 26.3 -2.4**
SNAA				*i* *PP	pP	16 35 51.5 -4.4
CPCT	**Cooper Cave**	**65.58**	**346**	*e*P	**P**	**16 36 36.1 -1.9**
SWET	**Sewanee**	**65.67**	**345**	*e*P	**P**	**16 36 37.0 -1.6**
JCT	**Junction City**	**65.95**	**331**	*e*P	**P**	**16 36 40.0 -0.5**
JCT				*e*	pP	16 37 09.0 +0.4
JCT				pmax	pmax	
comp=Z,69nm,1.5s,mb5.3						
JCT	**Junction City**	**65.95**	**331**	*e*P	**P**	**16 36 40.0 -0.5**
comp=Z,69nm,1.5s,mb5.3						
JCT				*e*	pP	16 37 09.0 +0.4
TXAR	**Lajitas Array**	**66.73**	**327**	P	**P**	**16 36 45.4 -0.1**
comp=Z,3.4nm,0.7s,mb4.3,baz=152,slow=9.2,SNR=47						
TXAR				pP	pP	16 37 13.3 -0.3
comp=Z,1.1nm,0.7s,baz=146,slow=9.1,SNR=3.9						
MIAR	**Mount Ida**	**67.20**	**338**	*e*P	**P**	**16 36 45.9 -2.5**
MIAR				pmax	pmax	
comp=Z,32nm,1.3s,mb5.0						
MIAR	**Mount Ida**	**67.20**	**338**	*e*P	**P**	**16 36 45.9 -2.5**
comp=Z,32nm,1.3s,mb5.0						
SBA	**Scott Base**	**68.77**	**191**	*e*P	**P**	**16 36 59.4 +1.7**
SBA				pmax	pmax	
comp=Z,95nm,2.4s,mb5.2						
SBA	**Scott Base**	**68.77**	**191**	*e*P	**P**	**16 36 59.4 +1.6**
comp=Z,95nm,2.4s,mb5.2						
WMOK	**Wichita Mounta**	**69.25**	**334**	*e*P	**P**	**16 36 59.8 -1.4**
WMOK				pmax	pmax	
comp=Z,14nm,1.2s,mb4.7						
WMOK	**Wichita Mounta**	**69.25**	**334**	*e*P	**P**	**16 36 59.8 -1.4**
comp=Z,14nm,1.2s,mb4.7						
MNTX	**Cornudas Mount**	**69.51**	**327**	*e*P	**P**	**16 37 01.5 -1.3**
comp=Z,18nm,1.2s,mb4.8						
CCM	**Cathedral Cave**	**69.73**	**341**	*e*P	**P**	**16 37 02.3 -1.7**
CCM				pmax	pmax	
comp=Z,27nm,1.1s,mb5.0						
CCM	**Cathedral Cave**	**69.73**	**341**	*e*P	**P**	**16 37 02.3 -1.8**
comp=Z,27nm,1.1s,mb5.0						
VNDA	**Vanda**	**69.78**	**190**	*e*P	**P**	**16 37 05.7 +1.7**
VNDA				*e*PP	pP	16 37 33.3 +1.1
VNDA				pmax	pmax	
comp=Z,34nm,2.0s						
VNDA	**Vanda**	**69.78**	**190**	*e*P	**P**	**16 37 05.7 +1.7**
comp=Z,34nm,2.0s,mb4.8						
VNDA				*e*pP	pP	16 37 33.3 +1.1
VNDA	**Vanda**	**69.78**	**190**	P	**P**	**16 37 05.8 +1.8**
comp=Z,2.9nm,0.7s,mb4.2,baz=135,slow=5.9,SNR=20						
VNDA				pP	pP	16 37 32.9 +0.7
comp=Z,2.2nm,0.8s,baz=129,slow=4.8,SNR=3.5						
ACSO	**Alum Creek Sta**	**69.90**	**348**	*e*P	**P**	**16 37 03.6 -1.4**
comp=Z,53nm,1.7s,mb5.1						
DBIC	**Dimbokro**	**70.77**	**71**	*e*P	**P**	**16 37 09.9 -1.1**
DBIC				*e*PP	pP	16 37 36.9 -2.5
DBIC				pmax	pmax	
comp=Z,5.0nm,0.7s						
DBIC	**Dimbokro**	**70.77**	**71**	*e*P	**P**	**16 37 09.8 -1.1**
comp=Z,5.4nm,0.7s,mb4.5						
DBIC				*e*pP	pP	16 37 36.9 -2.5
DBIC	**Dimbokro**	**70.77**	**71**	P	**P**	**16 37 09.8 -1.1**
comp=Z,9.0nm,0.8s,mb4.7,baz=222,slow=7.0,SNR=11						
DBIC				pP	pP	16 37 37.3 -2.1
comp=Z,4.0nm,0.6s,baz=226,slow=6.9,SNR=3.3						
DBIC				LR	LR	17 03 15.3
comp=Z,69nm,22.0s,baz=204,slow=32						
319A	**Douglas**	**71.19**	**324**	⇑P	**P**	**16 37 13.8 +0.7**
baz=72,SNR=9.3						
318A	**Bisbee**	**71.61**	**324**	⇓P	**P**	**16 37 16.0 +0.5**
baz=72,SNR=27						
219A	**White Tail Can**	**71.67**	**324**	⇓P	**P**	**16 37 16.6 +0.6**
baz=72,SNR=23						
218A	**Dragoon**	**72.06**	**324**	⇑P	**P**	**16 37 18.6 +0.3**
baz=72,SNR=11						
BNM	**Barren Site**	**72.12**	**328**	*e*P	**P**	**16 37 19.1 +0.5**
LPM	**Los Pinos Moun**	**72.25**	**328**	*e*P	**P**	**16 37 19.2 -0.2**
217A	**Green Valley**	**72.30**	**323**	P	**P**	**16 37 20.3 +0.5**
baz=73,SNR=16						
119A	**Ashpeak Ranch,**	**72.31**	**325**	⇑P	**P**	**16 37 20.4 +0.7**
baz=73,SNR=7.8						
118A	**Homack Ranch,**	**72.54**	**324**	⇓P	**P**	**16 37 21.7 +0.5**
baz=73,SNR=8.3						
ANMO	**Albuquerque**	**72.70**	**328**⇑	*e*P	**P**	**16 37 20.1 -1.9**
TUC	**Tucson**	**72.70**	**324**	*e*P	**P**	**16 37 22.6 +0.5**
TUC				pmax	pmax	
comp=Z,15nm,1.4s,mb4.6						
TUC	**Tucson**	**72.70**	**324**	*e*P	**P**	**16 37 22.6 +0.4**
comp=Z,15nm,1.4s,mb4.6						
Z19A	**T-Link Ranch,**	**72.71**	**325**	⇓P	**P**	**16 37 23.0 +0.9**
baz=73						
216A	**Three Points,**	**72.82**	**323**	⇓P	**P**	**16 37 23.3 +0.5**
baz=73,SNR=5.2						
117A	**Oracle**	**72.89**	**324**	⇓P	**P**	**16 37 23.5 +0.3**
baz=73,SNR=6.7						
Y19A	**Nutrioso**	**73.23**	**326**	P	**P**	**16 37 26.4 +1.2**
baz=74,SNR=22						
Z17A	**San Carlos Hig**	**73.32**	**324**	⇓P	**P**	**16 37 26.0 +0.3**
baz=74						
116A	**Eloy**	**73.39**	**323**	⇓P	**P**	**16 37 26.6 +0.5**
baz=74						
Y18A	**Canyon Day Jun**	**73.48**	**325**	⇑P	**P**	**16 37 27.3 +0.6**
baz=74,SNR=6.0						
X19A	**St. Johns**	**73.63**	**326**	⇓P	**P**	**16 37 28.0 +0.5**
baz=74,SNR=5.4						
115A	**Sonoran Desert**	**73.77**	**323**	⇓P	**P**	**16 37 28.9 +0.5**
baz=74						
Y17A	**Roosevelt**	**73.83**	**324**	⇑P	**P**	**16 37 29.4 +0.7**
baz=74,SNR=22						
Z16A	**Peralta Trail,**	**73.85**	**324**	⇓P	**P**	**16 37 29.3 +0.5**
baz=74						
X18A	**Snowflake**	**74.03**	**326**	⇑P	**P**	**16 37 30.7 +0.8**
baz

Y14A **Wickenburg** 75.14 323 ⇑P P 16 37 36.4 +0.2
baz=75,SNR=7.6
X15A **Humboldt** 75.16 324 ⇓P P 16 37 37.0 +0.6
baz=75,SNR=16
W16A **Flagstaff** 75.28 325 ⇓P P 16 37 38.1 +1.1
baz=76,SNR=9.7
GLA **Glamis** 75.44 321 ⇓P P 16 37 38.5 +0.4
baz=76
Y13A **Salome** 75.48 322 ⇓P P 16 37 38.9 +0.6
baz=76,SNR=7.1
X14A **Yava** 75.49 323 ⇑P P 16 37 38.9 +0.6
baz=76,SNR=8.8
MVCO **Mesa Verde** 75.50 328 eP P 16 37 38.5 +0.2
comp=Z,49nm,1.6s,mb5.0
MVCO epP pP 16 38 07.8 +0.9
MVCO **Mesa Verde** 75.50 328 P P 16 37 38.9 +0.6
baz=76,SNR=8.9
WUAZ **Wupatki** 75.53 325 eP P 16 37 39.3 +0.9
comp=Z,37nm,1.4s,mb4.9
WUAZ **Wupatki** 75.53 325 ⇓P P 16 37 39.3 +0.9
baz=76
W15A **Williams** 75.72 324 ⇑P P 16 37 40.6 +1.1
baz=76
Y12C **Blythe** 75.81 322 ⇓P P 16 37 40.7 +0.6
baz=76
SWSC **Sam W. Stewart** 75.89 321 ⇓P P 16 37 41.3 +0.7
baz=76
X13A **Yucca** 76.08 323 P P 16 37 42.2 +0.6
baz=76,SNR=19
W14A **Seligman** 76.16 324 ⇑P P 16 37 43.0 +0.9
baz=76,SNR=8.4
V15A **Kaibab Nationa** 76.17 325 ⇑P P 16 37 43.2 +1.1
baz=76,SNR=20
BC3 **Big Chuckw Mtn** 76.24 321 ⇓P P 16 37 43.0 +0.5
baz=76,SNR=8.3
PV01 **Paradox Valley** 76.28 329 eP P 16 37 43.5 +0.8
PV01 epP pP 16 38 13.2 +1.7
ISCO **Idaho Springs** 76.36 332 eP P 16 37 43.7 +0.6
ISCO e*PP pP 16 38 12.9 +1.1
ISCO pmax pmax
comp=Z,15nm,1.4s,mb4.5
ISCO **Idaho Springs** 76.36 332 eP P 16 37 43.6 +0.6
comp=Z,15nm,1.4s,mb4.5
ISCO epP pP 16 38 12.9 +1.1
SMCO **Snowmass** 76.42 330 eP P 16 37 44.2 +0.8
comp=Z,45nm,1.5s,mb5.0
SMCO epP pP 16 38 12.5 +0.3
IRM **Iron Mountain** 76.45 322 ⇑P P 16 37 44.2 +0.5
baz=77,SNR=6.4
W13A **Hualapai Mount** 76.49 323 ⇓P P 16 37 44.8 +0.8
baz=77,SNR=8.0
V14A **Boquillas Ranc** 76.50 324 ⇓P P 16 37 45.0 +1.0
baz=77,SNR=18
ECSD **EROS,Sioux Fal** 76.54 340 eP P 16 37 42.6 -1.4
comp=Z,25nm,1.3s,mb4.8
PV10 **Paradox Valley** 76.69 328 P P 16 37 44.8 -0.2
T16A **Glen Canyon Da** 76.75 326 ⇑P P 16 37 46.1 +0.8
baz=77
PFO **Pinyon Flat Ob** 76.76 321 ⇑P P 16 37 46.4 +0.9
baz=77
BELC **Belle Mtn.** 76.80 321 ⇑P P 16 37 46.1 +0.5
baz=77
V13A **Grand Canyon W** 77.12 324 ⇓P P 16 37 47.9 +0.5
baz=77
U14A **Mt Trumbull** 77.14 325 ⇑P P 16 37 48.6 +1.1
baz=77,SNR=17
W12A **Cal Nev Ari** 77.17 323 ⇑P P 16 37 48.2 +0.4
baz=77
GMRC **Granite Mounta** 77.20 322 ⇓P P 16 37 48.6 +0.7
baz=78,SNR=8.5
T15A **Red Dirt Ranch** 77.21 325 ⇑P P 16 37 48.9 +1.0
baz=78,SNR=14
MAW **Mawson** 77.37 163 eP P 16 37 48.4 -0.1
MAW e*PP pP 16 38 16.9 -0.4
MAW pmax pmax
comp=Z,9.0nm,0.7s
MAW **Mawson** 77.37 163 eP P 16 37 48.4 0.0
comp=Z,8.8nm,0.7s,mb4.6
MAW epP pP 16 38 16.9 -0.3
MAW **Mawson** 77.37 163 P P 16 37 47.8 -0.7
comp=Z,5.0nm,0.6s,mb4.4,baz=224,slow=6.5,SNR=9.5
MAW pP pP 16 38 16.7 -0.5
comp=Z,5.4nm,0.6s,baz=173,slow=6.1,SNR=4.5
V12A **Nelson** 77.48 323 ⇑P P 16 37 49.8 +0.3
baz=78,SNR=8.3
U13A **Pakoon Wash** 77.54 324 ⇑P P 16 37 50.5 +0.7
baz=78,SNR=9.7
T14A **Hurricane** 77.59 325 ⇑P P 16 37 50.8 +0.7
baz=78
HEC **Hector,Ludlow** 77.60 322 ⇓P P 16 37 50.8 +0.7
baz=78
TUQ **Turquoise Mtn.** 77.83 322 ⇓P P 16 37 52.0 +0.6
baz=78,SNR=6.7
U12A **Valley of Fire** 77.85 324 ⇑P P 16 37 51.9 +0.4
baz=78
TSUM **Tsumeb** 77.86 105 eP P 16 37 51.9 -0.2
comp=Z,8.9nm,0.8s,mb4.5
TSUM epP pP 16 38 19.3 -1.6
V11A **Goodsprings** 77.87 323 ⇓P P 16 37 51.9 +0.3
baz=78
SRU **San Rafael** 77.97 328 eP P 16 37 52.2 +0.1
SRU e*PP pP 16 38 22.0 +1.1
SRU pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
SRU **San Rafael** 77.97 328 eP P 16 37 52.1 +0.1
comp=Z,9.1nm,0.9s,mb4.5
SRU epP pP 16 38 22.0 +1.1
T13A **Saint George** 77.98 324 ⇑P P 16 37 53.1 +0.9
baz=78,SNR=11
CCUT **Cedar City** 78.11 325 eP P 16 37 54.0 +1.0
CCUT epP pP 16 38 24.1 +2.3
GSC **Goldstone** 78.21 322 ⇓P P 16 37 54.1 +0.5
baz=78,SNR=6.6
MSU **Marysvale** 78.28 327 eP P 16 37 54.2 +0.4
MSU e*PP pP 16 38 24.4 +1.7
ARUT **Antelope Range** 78.34 325 eP P 16 37 55.1 +0.9
S13A **Holt Ranch, En** 78.39 325 ⇓P P 16 37 55.3 +0.9
baz=79,SNR=12
TMUT **Trail Mountain** 78.44 328 eP P 16 37 55.5 +0.8
EDW2 **Edwards Air Fo** 78.55 321 ⇑P P 16 37 55.4 0.0
baz=79
RWWY **Rawlins** 78.61 332 eP P 16 37 55.6 +0.1
comp=Z,36nm,1.1s,mb5.1
OSI **Osito Adit** 78.77 320 ⇑P P 16 37 56.8 +0.2
baz=79
T11A **Corn Creek, Al** 78.82 324 ⇑P P 16 37 57.7 +0.8
baz=79,SNR=22
LRMC **Laurel Mountai** 78.83 321 ⇑P P 16 37 57.2 +0.3
baz=79
S12A **Delamar Landin** 78.91 324 ⇑P P 16 37 58.2 +0.9
baz=79,SNR=6.2
FURC **Furnace Creek,** 79.11 322 ⇑P P 16 37 58.6 +0.2
baz=79
TPNV **Topopah Spring** 79.14 323 eP P 16 37 59.2 +0.6
TPNV pmax pmax
comp=Z,13nm,1.2s,mb4.6
TPNV **Topopah Spring** 79.14 323 eP P 16 37 59.2 +0.6
comp=Z,13nm,1.2s,mb4.6
TPNV **Topopah Spring** 79.14 323 ⇓P P 16 37 59.4 +0.8
baz=79
MPMC **Manual Prospec** 79.15 322 ⇓P P 16 37 58.8 +0.1
baz=79,SNR=5.6
R12A **Pony Springs,** 79.34 325 ⇓P P 16 38 00.4 +0.8
baz=80
RSSD **Black Hills** 79.40 335 eP P 16 37 59.3 -0.5
RSSD e*PP pP 16 38 28.7 0.0
RSSD pmax pmax
comp=Z,13nm,1.3s,mb4.6
RSSD **Black Hills** 79.40 335 eP P 16 37 59.3 -0.5
comp=Z,13nm,1.3s,mb4.6
RSSD epP pP 16 38 28.7 0.0
S11A **Rachel** 79.40 324 ⇓P P 16 38 00.8 +0.8
baz=80
Q13A **Wheeler Ranch,** 79.53 326 ⇑P P 16 38 01.1 +0.5
baz=80
JLU **Jordanelle** 79.59 328 eP P 16 38 01.3 +0.4
PKM **Peak Mountain** 79.60 319 ⇓P P 16 38 01.7 +0.6
baz=80
TOA0 **Torodi Ar. Sit** 79.69 69 eP P 16 38 01.1 -1.0
TOA0 epP pP 16 38 28.4 -2.6
TORD **Torodi Ar. Bea** 79.69 69 P P 16 38 01.4 -0.7
comp=Z,14nm,0.7s,mb4.9,baz=270,slow=5.2,SNR=102
TORD pP pP 16 38 28.6 -2.4
comp=Z,12nm,0.7s,baz=257,slow=5.1,SNR=9.3
TORD sP sP 16 38 40.7 -2.5
comp=Z,6.9nm,0.8s,baz=256,slow=5.2,SNR=4.6
TORD LR LR 17 13 13.4
comp=Z,92nm,18.4s,baz=250,slow=36
R11A **Troy Canyon, C** 79.85 324 ⇓P P 16 38 02.2 -0.2
baz=80,SNR=15
VES **Vestal, Richgr** 79.86 321 ⇓P P 16 38 02.8 +0.3
baz=80
DUG **Dugway** 79.90 327 eP P 16 38 02.9 +0.3
DUG pmax pmax
comp=Z,40nm,1.7s,mb5.0
DUG **Dugway** 79.90 327 eP P 16 38 02.9 +0.3
comp=Z,40nm,1.7s,mb5.0
DUG **Dugway** 79.90 327 ⇑P P 16 38 02.8 +0.2
baz=80
P13A **Bates Ranch, G** 79.91 326 ⇑P P 16 38 03.3 +0.6
baz=80,SNR=8.6
BOSA **Boshof** 79.94 117 P P 16 38 02.7 -0.6
BOSA *PP pP 16 38 29.9 -2.3
BOSA **Boshof** 79.94 117 P P 16 38 02.7 -0.6
BOSA pP pP 16 38 29.9 -2.3
BOSA LR LR 17 08 27.2
BOSA **Boshof** 79.94 117 P P 16 38 02.7 -0.6
comp=Z,7.8nm,0.7s,mb4.6,baz=267,slow=8.5,SNR=17
BOSA pP pP 16 38 29.9 -2.3
comp=Z,5.2nm,0.7s,baz=104,slow=2.2,SNR=2.3
BOSA LR LR 17 08 27.2
comp=Z,85nm,18.5s,baz=331,slow=32
Q12A **Willow Creek R** 80.00 325 ⇑P P 16 38 02.1 -1.1
baz=80
SMMC **Simmler** 80.00 320 ⇑P P 16 38 03.4 +0.1
baz=80
S10A **Tonopah Range,** 80.05 323 ⇓P P 16 38 03.7 +0.2
baz=80,SNR=8.6
R10A **Warm Springs** 80.17 324 ⇓P P 16 38 05.0 +0.9
baz=80,SNR=12
S09A **Goldfield** 80.24 323 ⇑P P 16 38 04.7 +0.2
baz=80,SNR=7.6
Q11A **Duckwater** 80.26 325 ⇑P P 16 38 05.1 +0.5
baz=80,SNR=9.3
N15A **Stansbury Isla** 80.31 328 ⇑P P 16 38 04.8 -0.1
baz=81
HWUT **Hardware Ranch** 80.44 329 eP P 16 38 05.3 -0.2
comp=Z,8.2nm,0.8s,mb4.6
HWUT epP pP 16 38 34.3 -0.2
HELL **Mitchell Peak** 80.44 321 ⇑P P 16 38 05.2 -0.4
baz=81,SNR=7.9
TPH **Tonopah** 80.50 323 eP P 16 38 05.8 -0.1
TPH pmax pmax
comp=Z,22nm,1.3s,mb4.8
TPH **Tonopah** 80.50 323 eP P 16 38 05.8 -0.1
comp=Z,22nm,1.3s,mb4.8
R09A **Tonopah** 80.54 323 ⇓P P 16 38 06.0 -0.1
baz=81,SNR=8.2
S08C **White Mtn Res** 80.58 322 ⇓P P 16 38 06.9 +0.6
baz=81,SNR=5.3
BGU **Big Grassy Mou** 80.58 328 eP P 16 38 06.2 -0.1
BGU epP pP 16 38 34.9 -0.3
N14A **Grayback Hills** 80.59 327 ⇑P P 16 38 06.1 -0.2
baz=81
SPUT **South Promonto** 80.61 328 eP P 16 38 05.7 -0.7
Q10A **Clear Creek Ra** 80.63 324 ⇓P P 16 38 07.1 +0.6
baz=81,SNR=7.0
MTUM **Tungsten Hills** 80.68 322 eP P 16 38 06.6 -0.3
M15A **Larsen Ranch,** 80.73 328 ⇑P P 16 38 06.6 -0.4
baz=81,SNR=9.2
O12A **Currie** 80.89 326 ⇓P P 16 38 07.9 0.0
baz=81,SNR=5.2
KCC **Kaiser Creek** 81.07 321 ⇓P P 16 38 08.0 -0.9
baz=81
M14A **Sheep Mountain** 81.18 328 P P 16 38 09.3 -0.1
baz=82,SNR=9.9
O11A **Cowboy Ranch,** 81.24 325 ⇓P P 16 38 10.0 +0.2
baz=82,SNR=10
P10A **Eureka** 81.26 325 ⇑P P 16 38 10.4 +0.5
baz=82
NVAR **Mina Array Bea** 81.33 323 P P 16 38 10.1 -0.2
NVAR **Mina Array Bea** 81.33 323 P P 16 38 10.1 -0.2
comp=Z,2.7nm,0.8s,mb4.1,baz=159,slow=7.2,SNR=18
Q08A **Gabbs** 81.45 323 ⇑P P 16 38 11.0 +0.1
baz=82
N12A **Clover Valley,** 81.48 326 ⇓P P 16 38 10.8 -0.3
baz=82
REDW **Red Top Meadow** 81.52 330 eP P 16 38 11.1 0.0
comp=Z,28nm,1.3s,mb4.9
LOHW **Long Hollow** 81.62 331 eP P 16 38 11.8 +0.1
comp=Z,26nm,1.4s,mb4.9
LOHW epP pP 16 38 40.0 -0.7
S05C **Merced** 81.64 321 ⇑P P 16 38 12.1 +0.1
baz=82
HAST **Hastings Reser** 81.65 319 ⇑P P 16 38 11.9 -0.1
baz=82
TPAW **Teton Pass** 81.67 330 eP P 16 38 12.2 +0.3
comp=Z,24nm,1.2s,mb4.9
S06C **San Francisco** 81.76 321 ⇓P P 16 38 12.8 +0.2
baz=82
MOOW **Moose Ponds** 81.79 331 eP P 16 38 12.3 -0.2
comp=Z,8.6nm,1.3s,mb4.4
M12A **Wells** 81.86 327 P P 16 38 12.9 -0.1
baz=82,SNR=5.8
LBTB **Lobatse** 81.86 114 eP P 16 38 13.1 -0.5
LBTB e*PP pP 16 38 40.3 -2.4
K14A **Jones Ranch, D** 81.91 328 ⇓P P 16 38 12.9 -0.3
baz=82
L13A **Double Diamond** 81.92 328 ⇑P P 16 38 13.5 +0.2
baz=82,SNR=7.8
PACP **Pacheco Peak** 81.94 320 ⇓P P 16 38 13.8 +0.3
baz=82
Q07A **Schurz** 81.97 323 ⇑P P 16 38 14.4 +0.8
baz=82
IMW **Indian Meadow** 81.99 331 eP P 16 38 12.4 -1.3
comp=Z,37nm,1.2s,mb5.1
IMW epP pP 16 38 42.0 -0.7
R06C **Coleville** 82.01 322 ⇓P P 16 38 14.8 +1.0
baz=82
FLWY **Flagg Ranch** 82.04 331 eP P 16 38 13.9 0.0
comp=Z,61nm,1.5s,mb5.2
CMB **Columbia Colle** 82.17 321 P P 16 38 16.0 +1.3
CMB pmax pmax
comp=Z,4.0nm,1.0s,mb4.2
CMB **Columbia Colle** 82.17 321 P P 16 38 16.0 +1.3
comp=Z,4.0nm,1.0s,mb4.2
ULM **Lac du Bonnet** 82.26 343 P P 16 38 12.8 -2.0
ULM **Lac du Bonnet** 82.26 343 P P 16 38 12.8 -2.0
comp=Z,35nm,1.4s,mb5.0,baz=216,slow=3.8,SNR=7.4
M11A **Holland Ranch,** 82.29 326 ⇓P P 16 38 15.6 +0.3
baz=83,SNR=12
YMR **Madison River** 82.62 331 eP P 16 38 17.7 +0.8
comp=Z,45nm,1.2s,mb5.2
M10A **I.L. Ranch, Tu** 82.73 326 ⇓P P 16 38 17.6 0.0
baz=83
K12A **Draper Farm, C** 82.79 328 ⇑P P 16 38 18.2 +0.4
baz=83
L11A **Cat Creek Ranc** 82.83 327 ⇑P P 16 38 17.9 -0.2
baz=83,SNR=6.6
PAHR **Pah Rah Range** 82.84 323 eP P 16 38 18.1 0.0
comp=Z,36nm,1.6s,mb5.0
PAHR ePP PP 16 41 23.8 -6.5
QLMT **Earthquake Lak** 82.95 331 eP P 16 38 19.1 +0.5
GCMT **Greycliff** 82.99 332 eP P 16 38 18.6 -0.1
M09A **Marrel Ranch,** 83.11 325 ⇑P P 16 38 19.1 -0.4
baz=83
L10A **Juniper Basin** 83.11 326 P P 16 38 19.6 +0.1
baz=83,SNR=9.1
DGMT **Dagmar** 83.19 337 eP P 16 38 19.6 -0.1
comp=Z,26nm,1.0s,mb5.0
P05C **Yuba Gap, Truc** 83.20 322 ⇑P P 16 38 20.1 +0.1
baz=84,SNR=5.5
SCHQ **Schefferville** 83.25 1 eP P 16 38 18.3 -1.5
comp=Z,7.3nm,1.1s,mb4.4
SCHQ **Schefferville** 83.25 1 P P 16 38 17.8 -2.1
comp=Z,5.9nm,0.9s,mb4.4,baz=138,slow=2.0,SNR=4.8
HLID **Hailey** 83.28 328 ⇓P P 16 38 20.7 +0.4
baz=84,SNR=14
J12A **Stokes Ranch,** 83.35 328 ⇑P P 16 38 20.6 -0.1
baz=84,SNR=9.6
N07B **Gerlach** 83.40 324 ⇓P P 16 38 20.9 -0.1
baz=84
I13A **Wildhorse Cree** 83.41 329 ⇓P P 16 38 21.0 0.0
baz=84,SNR=18
K11A **Parker Ranch,** 83.43 327 ⇓P P 16 38 21.0 -0.1
baz=84,SNR=5.5
BEKR **Beckwourth** 83.47 323 ⇑P P 16 38 21.6 +0.2
baz=84,SNR=6.0
MCMT **McKenzie Canyo** 83.56 330 eP P 16 38 22.1 +0.4
G15A **Dillon** 83.67 330 ⇓P P 16 38 22.4 +0.1
baz=84,SNR=8.9
BOZ **Bozeman (W)** 83.69 331 eP P 16 38 21.9 -0.4
BOZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
BOZ **Bozeman (W)** 83.69 331 eP P 16 38 21.9 -0.4
comp=Z,4.2nm,1.1s,mb4.2
BOZ **Bozeman (W)** 83.69 331 ⇓P P 16 38 21.8 -0.5
baz=84
MFID **Camas Ranch** 83.82 328 ⇓P P 16 38 23.0 -0.1
baz=84
N06A **Buffalo Meadow** 83.83 323 ⇓P P 16 38 23.2 0.0
baz=84,SNR=9.1
O05C **Quincy** 83.84 322 ⇓P P 16 38 23.1 -0.1
baz=84
ORV **Oroville** 83.86 322 ⇑P P 16 38 23.5 +0.1
baz=84,SNR=6.3
DLMT **Dillon** 83.87 331 eP P 16 38 23.1 -0.1
comp=Z,30nm,1.4s,mb4.9
DLMT epP pP 16 38 54.2 +1.7
M07A **Soldier Meadow** 83.95 324 ⇓P P 16 38 23.7 -0.1
baz=84
H13A **Challis** 83.98 329 ⇓P P 16 38 24.0 +0.1
baz=84,SNR=13
O04C **Chester** 84.18 322 ⇓P P 16 38 24.5 -0.5
baz=84
K09A **Rome** 84.19 326 ⇓P P 16 38 24.6 -0.3
baz=84
ELFS **Eagle Lake Fie** 84.21 323 ⇓P P 16 38 25.1 0.0
baz=84,SNR=7.4
F15A **Butte** 84.21 331 ⇑P P 16 38 25.1 +0.1
baz=84,SNR=17
H12A **Diamond D Ranc** 84.24 329 ⇓P P 16 38 25.2 0.0
baz=84,SNR=5.9
G13A **Cobalt** 84.38 329 ⇑P P 16 38 26.0 +0.1
baz=85,SNR=17
M06C **Likely Place G** 84.50 323 ⇑P P 16 38 26.5 -0.1
baz=85
L07A **Adell** 84.50 325 ⇑P P 16 38 26.7 +0.2
baz=85,SNR=6.8
K08A **Mann Creek Ran** 84.59 326 ⇓P P 16 38 27.0 0.0
baz=85
HRY **Holter Researc** 84.62 332 eP P 16 38 27.0 0.0
J09A **Fry Pan Ranch,** 84.69 326 ⇑P P 16 38 27.3 -0.2
baz=85
E15A **Deer Lodge** 84.73 331 ⇑P P 16 38 27.5 -0.1
baz=85,SNR=6.0
HATC **Hat Creek Radi** 84.74 323 ⇓P P 16 38 27.4 -0.4
baz=85
EGMT **Eagleton** 84.84 334 ⇑P P 16 38 27.8 -0.3
baz=85
H11A **Donnelly** 84.89 328 ⇑P P 16 38 28.2 -0.3
baz=85,SNR=6.3
K07A **Rock Creek Ran** 84.94 325 ⇑P P 16 38 29.1 +0.3
baz=85,SNR=16
J08A **Circle Bar Ran** 85.05 326 P P 16 38 29.6 +0.3
baz=85,SNR=16
E14A **Clinton** 85.09 331 ⇑P P 16 38 29.8 +0.4
baz=85
H10A **Noah's Angus R** 85.14 328 ⇓P P 16 38 29.6 -0.1
baz=85,SNR=9.7
I09A **Lost Marbles R** 85.15 327 ⇓P P 16 38 30.0 +0.2
baz=85
D15A **Lincoln** 85.17 332 ⇑P P 16 38 30.0 +0.2
baz=86,SNR=12
CASY **Casey** 85.28 180 eP P 16 38 31.0 +0.8
L05A **Lakeview** 85.29 324 ⇑P P 16 38 30.5 0.0
baz=86,SNR=5.1
F12A **Elk City** 85.35 329 ⇓P P 16 38 30.6 -0.1
baz=86,SNR=12
CHMT **Chamberlain Mo** 85.38 331 eP P 16 38 30.5 -0.3
E13A **Victor** 85.41 330 ⇓P P 16 38 31.1 +0.1
baz=86,SNR=10
J07A **Hines** 85.48 326 ⇓P P 16 38 31.4 0.0
baz=86
I08A **Drewsey** 85.51 326 ⇓P P 16 38 31.7 +0.2
baz=86
K06A **Valley Falls** 85.53 325 ⇑P P 16 38 31.6 -0.1
baz=86,SNR=6.5
G11A **Walters Elk Ra** 85.54 329 ⇑P P 16 38 31.9 +0.3
baz=86,SNR=20
O01C **Eel River Cons** 85.55 321 ⇓P P 16 38 31.7 -0.1
baz=86
BMO **Blue Mountains** 85.60 328 eP P 16 38 31.4 -0.6
BMO e*PP pP 16 39 03.4 +2.1
BMO pmax pmax
comp=Z,29nm,1.9s,mb4.9
BMO **Blue Mountains** 85.60 328 eP P 16 38 31.4 -0.6
comp=Z,29nm,1.9s,mb4.9
BMO epP pP 16 39 03.4 +2.1
D14A **Greenough** 85.62 331 ⇑P P 16 38 32.1 +0.1
baz=86,SNR=7.8
K05A **Summer Lake** 85.81 324 P P 16 38 33.6 +0.6
baz=86,SNR=9.1
J06A **Christmas Vall** 85.81 325 ⇓P P 16 38 33.3 +0.2
baz=86,SNR=9.2
G10A **Bishop Farm, J** 85.85 328 ⇓P P 16 38 33.1 0.0
baz=86
F11A **Grangeville** 85.86 329 ⇓P P 16 38 32.7 -0.5
baz=86,SNR=7.3
L04A **Klamath Falls** 85.93 323 ⇓P P 16 38 33.3 -0.4
baz=86
H08A **Prairie City** 86.00 327 ⇑P P 16 38 33.5 -0.5
baz=86
D13A **Huson** 86.03 331 ⇑P P 16 38 33.7 -0.3
baz=86,SNR=17
I07A **Izee** 86.09 326 ⇑P P 16 38 34.9 +0.5
baz=86,SNR=9.2
G09A **Cove** 86.14 328 ⇓P P 16 38 34.6 -0.1
baz=86
E11A **Bogner Ranch,** 86.24 329 ⇑P P 16 38 34.1 -1.0
baz=86,SNR=7.4
C14A **Swan Lake** 86.26 331 ⇓P P 16 38 34.8 -0.3
baz=87
J05A **Fort Rock** 86.38 324 ⇓P P 16 38 35.8 0.0
baz=87,SNR=6.1
D12A **Red Ives Fores** 86.39 330 ⇓P P 16 38 35.4 -0.4
baz=87
C13A **Hot Springs** 86.54 331 ⇓P P 16 38 36.3 -0.2
baz=87,SNR=12
G08A **Pilot Rock** 86.71 327 ⇓P P 16 38 36.9 -0.5
baz=87
E10A **Myers Farm, Un** 86.74 329 ⇓P P 16 38 37.1 -0.5
baz=87,SNR=8.4
J04A **Umpqua Nationa** 86.80 324 ⇓P P 16 38 38.2 +0.3
baz=87
H06A **Lindquist Farm** 86.97 326 ⇓P P 16 38 39.1 +0.4
baz=87,SNR=5.5
B13A **Whitefish** 87.03 331 P P 16 38 38.5 -0.4
baz=87,SNR=7.5
G07A **Ruggs Ranch, H** 87.04 327 ⇑P P 16 38 39.2 +0.2
baz=87,SNR=6.1
D10A **Wagner Farm, O** 87.25 329 ⇓P P 16 38 39.3 -0.7
baz=88,SNR=6.1
WALA **Waterton Lakes** 87.33 332 eP P 16 38 39.6 -0.7
comp=Z,84nm,1.7s,mb5.4
WALA epP pP 16 39 08.8 -1.0
H05A **Madras** 87.35 325 ⇑P P 16 38 40.4 -0.2
baz=88
A13A **Flathead Natio** 87.44 332 ⇑P P 16 38 40.9 0.0
baz=88
B12A **Libby** 87.58 331 ⇓P P 16 38 40.9 -0.6
baz=88,SNR=5.1
HAWA **Hanford** 87.79 328 eP P 16 38 42.0 -0.6
comp=Z,37nm,1.6s,mb5.2
C10A **Spilker Farm,** 87.83 330 ⇓P P 16 38 42.0 -0.7
baz=88
B11A **Sandpoint** 87.89 330 ⇓P P 16 38 41.4 -1.5
baz=88
A12A **Yaak River Ran** 87.96 331 ⇑P P 16 38 42.5 -0.9
baz=88
D08A **Wollman Farm,** 88.00 328 ⇓P P 16 38 42.7 -0.8
baz=88
NEW **Newport** 88.09 330 eP P 16 38 42.0 -1.9
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW **Newport** 88.09 330 eP P 16 38 42.0 -1.9
comp=Z,4.9nm,1.1s,mb4.5
A11A **Hall Mountain,** 88.28 331 ⇑P P 16 38 44.0 -0.8
baz=89,SNR=7.2
H03A **Soap Creek Ran** 88.41 324 ⇑P P 16 38 44.9 -0.7
baz=89
E06A **Yakima** 88.59 327 ⇑P P 16 38 45.3 -1.1
baz=89
B09A **Rice** 88.66 330 ⇑P P 16 38 45.9 -0.7
baz=89,SNR=6.4
C07A **Waterville** 88.99 328 ⇑P P 16 38 47.6 -0.6
baz=89,SNR=5.9
A09A **Danville** 89.27 330 ⇓P P 16 38 48.8 -0.7
baz=90
B07A **Winthrop** 89.58 329 ⇓P P 16 38 49.8 -1.1
baz=90,SNR=5.6
FCC **Fort Churchill** 89.71 347 eP P 16 38 50.3 -1.0

Code	Station Name	Δ°	AZ°	Phase Op	Phase ISC	Time h m s	Res ISC
FCC				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.2						
FCC	**Fort Churchill**	**89.71**	**347**	*e*P	**P**	**16 38 50.3**	**-0.9**
	comp=Z,26nm,1.4s,mb5.2						
A07A	**Ashnola River,**	**90.12**	**329**	⇓P	**P**	**16 38 53.0**	**-0.5**
	baz=90						
EDM	**Edmonton**	**90.38**	**335**	*e*P	**P**	**16 38 58.5**	**+3.9**
ESDC	**Sonseca Array**	**90.86**	**44**	LR	LR	17 21 05.9	
	comp=Z,120nm,19.2s,baz=5.0,slow=36						
KEST	**Kesra**	**97.48**	**53**	LR	LR	17 25 21.8	
	comp=Z,52nm,20.3s,baz=205,slow=37						
YKA	**Yellowknife Ar**	**98.05**	**340**	P	**P**	**16 39 27.8**	**-1.7**
YKA				*PP	pP	16 39 57.3	-1.8
YKA						16 43 29.8	
YKA	**Yellowknife Ar**	**98.05**	**340**	P	**P**	**16 39 27.7**	**-1.7**
	comp=Z,2.0nm,0.8s,mb4.7,baz=136,slow=4.5,SNR=31						
YKA				pP	pP	16 39 57.3	-1.8
	comp=Z,0.5nm,0.7s,baz=139,slow=4.2,SNR=3.6						
YKA				PP	PP	16 43 29.8	-0.6
	comp=Z,0.1nm,0.3s,baz=123,slow=7.8,SNR=4.0						
YKA				LR	LR	17 32 29.0	
	comp=Z,30nm,18.0s,baz=225,slow=41						
AKASG	**Malin Array Be**	**116.50**	**45**	*i* PKIKP	PKPdf	16 44 35.0	-1.6
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**116.50**	**45**	PKP	PKPdf	16 44 34.4	-2.2
	comp=Z,0.9nm,0.5s,baz=259,slow=2.8,SNR=9.6						
ARCES	**ARCESS Array B**	**118.07**	**23**	PKP	PKPdf	16 44 39.5	+0.4
	comp=Z,5.9nm,0.9s,baz=272,slow=3.2,SNR=3.5						
MALT	**Malatya**	**119.92**	**60**	*e*PKIKP	PKPdf	16 44 43.5	-0.1
CTA	**Charters Tower**	**120.87**	**219**	PKP	PKPdf	16 44 45.9	-0.2
	comp=Z,2.4nm,0.7s,baz=198,slow=3.2,SNR=3.8						
OBN	**Obninsk**	**121.63**	**41**	⇑*i*PKIKP	PKPdf	16 44 45.0	-1.3
OBN				pmax	pmax		
	comp=Z,20nm,1.5s						
ASAR	**Alice Springs**	**123.53**	**205**	PKP	PKPdf	16 44 50.2	-0.9
	comp=Z,4.5nm,0.5s,baz=132,slow=1.6,SNR=162						
ASAR				pPKP	pPKPdf	16 45 19.4	-2.5
	comp=Z,1.7nm,0.5s,baz=142,slow=1.9,SNR=6.8						
KIV	**Kislovodsk**	**124.21**	**54***c*	*i*PKIKP	PKPdf	16 44 51.5	-0.1
KIV				pmax	pmax		
	comp=Z,15nm,1.3s						
KIV				MLR	MLR		
	comp=Z,100nm,15.0s						
WB2	**Warramunga Arr**	**126.72**	**207**	*e*P	PKPdf	16 44 56.9	-0.4
WB2	**Warramunga Arr**	**126.72**	**207**	*e*P	pPKPdf	16 45 26.2	-1.9
WRA	**Warramunga Arr**	**126.73**	**207**	PKP	PKPdf	16 44 56.7	-0.6
	comp=Z,9.4nm,0.6s,baz=165,slow=1.6,SNR=171						
WRA				pPKP	pPKPdf	16 45 26.0	-2.1
	comp=Z,4.3nm,0.5s,baz=162,slow=1.8,SNR=8.6						
WRAB	**Tennant Creek**	**126.73**	**207**	⇑*i*PKIKP	PKPdf	16 44 56.5	-0.8
WRAB	**Tennant Creek**	**126.73**	**207**	*e*PKPdf	PKPdf	16 44 56.8	-0.5
WRAB				*e*		16 45 25.8	
BILL	**Bilibino**	**129.27**	**337**	⇑*i*PKIKP	PKPdf	16 45 00.8	+0.2
BILL				pmax	pmax		
	comp=Z,5.0nm,1.4s						
FITZ	**Fitzroy Crossi**	**131.41**	**198**	*e*P	PKPdf	16 45 06.1	-0.1
	comp=Z,7.6nm,0.6s						
FITZ	**Fitzroy Crossi**	**131.41**	**198**	*e*P	pPKPdf	16 45 35.8	-1.3
	comp=Z,2.9nm,0.6s						
FITZ	**Fitzroy Crossi**	**131.41**	**198**	PKP	PKPdf	16 45 05.8	-0.5
	comp=Z,4.4nm,0.5s,baz=179,slow=12,SNR=28						
FITZ				pPKP	pPKPdf	16 45 34.7	-2.4
	comp=Z,1.5nm,0.6s,baz=198,slow=11,SNR=2.3						
ARU	**Arti**	**133.88**	**38**	⇑*i*PKIKP	PKPdf	16 45 10.2	+0.6
KAKA	**Kakadu**	**134.00**	**209**	*e*P	PKPdf	16 45 11.8	+0.6
	comp=Z,6.8nm,0.6s						
AKTK	**Aktyubinsk**	**134.71**	**46**	PKP	PKPdf	16 45 09.7	-1.7
AKTO	**Aktyubinsk**	**134.71**	**46**	PKP	PKPdf	16 45 09.7	-1.7
	comp=Z,0.7nm,0.5s,baz=208,slow=2.0,SNR=3.8						
TIXI	**Tiksi**	**135.97**	**352**	⇑*i*PKIKP	PKPdf	16 45 12.4	-0.7
SEY	**Seymchan**	**136.74**	**334**	⇑*i*PKIKP	PKPdf	16 45 14.8	0.0
MA2	**Magadan**	**139.19**	**330**	*i* PKIKP	PKPdf	16 45 19.8	+0.4
MA2				pmax	pmax		
	comp=Z,6.0nm,1.0s						
YAK	**Yakutsk**	**144.57**	**345**	*e*PKIKP	PKPdf	16 45 26.9	-2.0
GUMO	**Guam**	**145.40**	**251**	PKPbc	PKPbc	16 45 32.0	0.0
	comp=Z,32nm,0.8s,baz=188,slow=4.9,SNR=4.0						
KAPI	**Kappang**	**145.46**	**195**	PKPbc	PKPbc	16 45 31.5	-0.7
	comp=Z,28nm,0.6s,baz=231,slow=2.2,SNR=34						
KAPI				pPKPbc	pPKPbc	16 46 00.6	-1.9
	comp=Z,20nm,0.6s,baz=222,slow=1.3,SNR=4.6						
EKS2	**Erkin-Say**	**146.80**	**55**	*e*PKPdf	PKPdf	16 45 34.0	+0.7
EKS2				*e*		16 46 04.0	
EKS2	**Erkin-Say**	**146.80**	**55**	P	PKPdf	16 45 34.4	+1.1
	SNR=19						
AML	**Almayashu**	**146.85**	**56**	*e*PKPdf	PKPdf	16 45 34.4	+0.9
AML				*e*		16 46 04.3	
AML	**Almayashu**	**146.85**	**56**	P	PKPdf	16 45 34.8	+1.3
	SNR=9.8						
NVS	**Novosibirsk**	**146.98**	**30**	*i* PKIKP	PKPdf	16 45 33.0	-0.2
NVS				pmax	pmax		
	comp=Z,70nm,1.4s						
NVS				pmax	pmax		
	comp=N,3.0nm,0.7s						
NVS				pmax	pmax		
	comp=E,4.0nm,0.7s						
KURK	**Kurchatov**	**147.06**	**39**	*e*PKPdf	PKPdf	16 45 33.7	+0.2
KURK				*e*		16 46 03.1	
USP	**Ospenovka**	**147.18**	**54**	P	PKPdf	16 45 34.7	+0.7
	SNR=13						
FRU	**Bishkek**	**147.36**	**55**	*e*PKP2	PKPdf	16 45 35.5	+1.2
FRU				pmax	pmax		
	comp=Z,80nm,1.8s						
UCH	**Uchtor**	**147.43**	**56**	P	PKPbc	16 45 36.6	-0.5
	SNR=13						
KBK	**Karagaybulak**	**147.64**	**55**	P	PKPdf	16 45 36.1	+1.4
	SNR=8.8						
HYB	**Hyderabad**	**147.93**	**103**	*e*PKP2	PKPbc	16 45 39.0	-0.1
HYB	**Hyderabad**	**147.93**	**103**	*i* PKP	PKPbc	16 45 39.0	-0.1
	comp=Z,50nm,1.0s						
HYB				*e*		16 45 42.0	
HYB				*e*		16 46 08.0	
KZA	**Kyzart**	**147.99**	**56**	P	PKPdf	16 45 36.3	+0.9
	SNR=12						
TKM2	**Tokmak 2**	**148.04**	**54**	*e*PKIKP	PKPdf	16 45 35.9	+0.5
TKM2				*e*		16 46 06.8	
TKM2	**Tokmak 2**	**148.04**	**54**	P	PKPdf	16 45 36.3	+0.9
	SNR=17						
ZAL	**Zalesovo**	**148.27**	**30**	PKIKP	PKPdf	16 45 35.2	-0.2
ZAL						16 45 38.6	
ZAL						16 46 07.1	
ZAA0	**Zalesovo Array**	**148.27**	**30**	*e*PKPdf	PKPdf	16 45 35.1	-0.3
ZAA0				*e*PKPbc	PKPbc	16 45 38.5	-0.4
ZALV	**Zalesovo Beam**	**148.27**	**30**	PKP	PKPdf	16 45 35.2	-0.2
ZALV				PKPbc	PKPbc	16 45 38.6	-0.3
ZALV				pPKPbc	pPKPbc	16 46 07.1	-2.4
ZALV	**Zalesovo Beam**	**148.27**	**30**	PKP	PKPdf	16 45 35.2	-0.2
	comp=Z,36nm,0.7s,baz=285,slow=2.8,SNR=36						
ZALV				PKPbc	PKPbc	16 45 38.6	-0.3
	comp=Z,36nm,0.7s,baz=298,slow=3.2,SNR=32						
ZALV				pPKPbc	pPKPbc	16 46 07.1	-2.4
	comp=Z,6.0nm,0.3s,baz=305,slow=3.8,SNR=3.5						
KSH	**Kashi**	**149.02**	**60**	*e*PKP	PKPbc	16 45 41.3	0.0
KSH				*e*APKP		16 46 07.0	
KSH				*e*XPKP		16 46 18.0	
KSH				*e*PKS		16 49 15.1	
KSH				PP	PP		
	comp=Z,375nm,5.8s						
KSH				LR	LR		
	comp=N,772nm,9.3s						
KSH				LR	LR		
	comp=E,827nm,8.0s						
KSH				LR	LR		
	comp=Z,574nm,4.7s						
YSS	**Yuzh-Sakhalins**	**149.51**	**315**	⇑*i*PKHKP	PKPbc	16 45 41.0	-1.3
YSS	**Yuzh-Sakhalins**	**149.51**	**315**	*e*PKPdf	PKPbc	16 45 41.6	-0.7
YSS				*e*		16 46 10.7	
CLNS	**Chul'man**	**150.32**	**345**	*e*PKIKP	PKPdf	16 45 37.5	-1.1
CLNS				pmax	pmax		
	comp=Z,27nm,1.1s						
CLNS				pmax	pmax		
	comp=N,5.0nm,0.8s						
BOD	**Bodaibo**	**150.88**	**357**	*e*PKIKP	PKPdf	16 45 37.8	-1.6
BOD				pmax	pmax		
	comp=Z,15nm,1.2s						
MK31	**Makanchi Array**	**151.08**	**44**	*e*PKIKP	PKPbc	16 45 45.4	-0.6
MKAR	**Makanchi Array**	**151.08**	**44**	PKP	PKPdf	16 45 39.6	-0.5
MKAR				PKPbc	PKPbc	16 45 45.6	-0.4
MKAR				PKPab	PKPab	16 45 53.7	-0.4
MKAR				pPKP	pPKPdf	16 46 08.5	-2.5
MKAR				pPKPbc	pPKPbc	16 46 14.6	-2.1
MKAR	**Makanchi Array**	**151.08**	**44**	PKP	PKPdf	16 45 39.6	-0.5
	comp=Z,0.4nm,0.6s,baz=276,slow=1.4,SNR=6.3						
MKAR				PKPbc	PKPbc	16 45 45.6	-0.4
	comp=Z,29nm,0.8s,baz=304,slow=2.1,SNR=187						
MKAR				PKPab	PKPab	16 45 53.7	-0.4
	comp=Z,4.4nm,0.6s,baz=294,slow=3.9,SNR=7.2						
MKAR				pPKP	pPKPdf	16 46 08.5	-2.5
	comp=Z,2.1nm,0.5s,baz=297,slow=2.9,SNR=1.9						
MKAR				pPKPbc	pPKPbc	16 46 14.6	-2.1
	comp=Z,6.2nm,0.8s,baz=318,slow=1.6,SNR=2.7						
DDI	**Dehra Dun**	**151.09**	**79**	*e*PN	PKPbc	16 45 47.9	+1.3
DDI				*e*SN	pPKPbc	16 46 17.2	-0.1
PSI	**Prapat**	**151.63**	**153**	PKPbc	PKPbc	16 45 46.4	-2.0
	comp=Z,6.0nm,0.6s,baz=303,slow=14,SNR=7.2						
PSI				PKPab	PKPab	16 45 56.8	-0.4
	comp=Z,2.4nm,0.4s,baz=282,slow=6.7,SNR=4.6						
HABR	**Khabarovsk**	**153.13**	**324**	*e*PKIKP	PKPdf	16 45 42.1	-1.0
HABR				*e*		16 52 45.4	
KLR	**Kul'dur**	**154.25**	**328**	*e*PKIKP	PKPdf	16 45 40.6	-4.1
WMQ	**Urumqi**	**155.86**	**45**	*e*PKP	PKPdf	16 45 45.0	-2.0
MJAR	**Matsushiro Arr**	**156.10**	**296**	PKP	PKPdf	16 45 46.8	-0.8
	comp=Z,1.5nm,0.9s,baz=224,slow=4.5,SNR=4.1						
MJAR				PKPab	PKPab	16 46 15.4	-0.3
	comp=Z,1.5nm,0.6s,baz=78,slow=3.7,SNR=6.2						
MAT	**Matsushiro**	**156.10**	**296**	*e*PKP	PKPdf	16 45 55.0	+7.4
ZAK	**Zakamensk**	**157.55**	**14**	*e*PKIKP	PKPdf	16 45 49.2	+0.2
ZAK				*e*		16 46 20.9	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.5s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s						
MDJ	**Mudanjiang**	**158.49**	**322**	PKP	PKPdf	16 45 50.0	-0.3
SONM	**Songino Array**	**160.57**	**10**	PKIKP	PKPdf	16 45 52.7	+0.1
SONM						16 46 21.7	
SONM						16 46 33.3	
SONM	**Songino Array**	**160.57**	**10**	PKP	PKPdf	16 45 52.7	+0.1
	comp=Z,1.5nm,1.1s,baz=282,slow=0.4,SNR=9.5						
SONM				pPKP	pPKPdf	16 46 21.7	-1.9
	comp=Z,0.3nm,0.4s,baz=148,slow=1.8,SNR=2.5						
SONM				PKPab	PKPab	16 46 33.3	-1.2
	comp=Z,2.5nm,1.0s,baz=335,slow=5.7,SNR=9.4						
SONM				pPKPab	pPKPab	16 47 02.7	-1.5
	comp=Z,0.7nm,0.6s,baz=327,slow=4.3,SNR=2.7						
CN2	**Changchun**	**161.18**	**327**	*e*PKP	PKPdf	16 45 51.5	-1.9
KSRS	**Korea Array**	**163.61**	**306**	PKP	PKPdf	16 45 56.0	-0.1
	comp=Z,2.3nm,0.9s,baz=23,slow=4.0,SNR=9.7						
KSRS				PKPab	PKPab	16 46 48.6	+0.2
	comp=Z,0.7nm,0.8s,baz=72,slow=5.4,SNR=4.1						
GTA	**Gaotai**	**165.74**	**39**	PKP	PKPdf	16 45 58.0	+0.2
GTA				PKP2	PKPab	16 46 57.0	-0.6
GTA				SKS	SKSdf	16 52 51.3	-0.2
GTA				PP	PP		
	comp=Z,77nm,11.4s						
GTA				LR	LR		
	comp=N,93nm,13.3s						
GTA				LR	LR		
	comp=E,144nm,15.2s						
GTA				LR	LR		
	comp=Z,162nm,16.0s						
HHC	**Hu-ho-hao-te**	**167.93**	**359**	*e*PKP	PKPdf	16 45 57.3	-2.1
HHC				PKS		16 49 29.6	
HHC				PP	PP	16 50 55.4	+0.3
HHC				SKS	SKSdf	16 52 49.4	-3.3
HHC				SKKS	SKKSac	16 57 32.3	0.0
HHC				PP	PP		
	comp=Z,111nm,6.1s						
HHC				LR	LR		
	comp=N,228nm,23.5s						
HHC				LR	LR		
	comp=E,274nm,19.2s						
HHC				LR	LR		
	comp=Z,284nm,19.7s						
BJI	**Beijing**	**168.04**	**342**	PKP	PKPdf	16 45 59.5	0.0
BJI				LR	LR		
	comp=N,109nm,7.0s						
BJI				LR	LR		
	comp=E,121nm,6.3s						
LZH	**Lanzhou**	**170.35**	**39**	⇑PKP	PKPdf	16 46 02.0	+0.9
LZH				APKP		16 46 29.5	
LZH				XPKP		16 46 39.8	
LZH				PKP2	PKPab	16 47 20.3	+2.2
LZH				*e*PP	PP	16 51 10.3	+2.1
LZH				*e*SS	SS	17 11 59.8	+0.2
LZH				PP	PP		
	comp=Z,117nm,9.5s						
LZH				LR	LR		
	comp=E,123nm,18.3s						
LZH				LR	LR		
	comp=Z,165nm,20.5s						
KMI	**Kunming**	**171.55**	**113**	PKP	PKPdf	16 45 58.6	-3.4
NJ2	**Nanjing**	**172.70**	**299**	*e*PKP	PKPdf	16 46 00.3	-2.0
CD2	**Chengdu**	**173.10**	**70**	*e*PKP	PKPdf	16 46 01.5	-1.0
CD2				PP	PP	16 51 23.0	+0.2
CD2				SKS	SKSdf	16 52 53.3	-2.1
CD2				SKKS	SKKSac	16 57 59.1	+0.6
CD2				SS	SS	17 12 26.3	-2.1
CD2				PP	PP		
	comp=Z,100nm,10.2s						
CD2				LR	LR		
	comp=N,120nm,18.6s						
CD2				LR	LR		
	comp=Z,130nm,21.6s						
GYA	**Guiyang**	**175.29**	**118**	PKP	PKPdf	16 46 02.3	-1.1
GYA				PKP2	PKPab	16 47 40.9	+0.5
GYA				PKS		16 49 33.5	
GYA				PP	PP	16 51 34.3	+1.1
GYA				PP	PP		
	comp=Z,120nm,6.8s						
GYA				LR	LR		
	comp=N,460nm,23.6s						
GYA				LR	LR		
	comp=E,350nm,22.8s						
GYA				LR	LR		
	comp=Z,440nm,24.0s						

IDC ***19*** *17:11:18.2±1.1, 3091N×14221E, h0km, mb3.6/6, mb1 3.8/10, mb1mx3.7/21, mbtmp3.7/10, ML3.3/4, MS3.4/1, Ms1 3.4/1, ms1mx2.4/25, Error ellipse: s-maj=39.4km s-min=17.1km az=78.0*
ISCJB ***19*** *17:11:20.0±1.1, 3102N±006×1423E±0.1, h33km±11km, mb3.8/8, Error ellipse: s-maj=19.1km s-min=7.7km az=159.9*
NEIC ***19*** *17:11:20.8±7.0, 3095N×14219E, h20km±43km, mb4.2/2, Error ellipse: s-maj=22.7km s-min=13.3km az=84.0*
JMA ***19*** *17:11:24.9±0.4, 3134N×14247E, h122km, M3.1*
ISC 19 17:11:23.0±1.2**, 3108N**±007×**1424E**±01**, h41**km±12km**, n27, σ1ˢ02**/37**, mb3.8**/8**, Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BSO1	**Boso 1**	**3.77**	**342**	P	**Pn**	**17 12 19.0**	**+0.4**
BSO1				*e*S	**Sn**	**17 13 01.7**	**0.0**
CBIJ	**Chichi jima**	**3.97**	**183**	Pn	**Pn**	**17 12 17.3**	**-4.2**
	4.4nm,0.3s,baz=280,slow=19,SNR=2.0						
CBIJ				Sn	**Sn**	**17 12 59.5**	**-7.3**
	8.1nm,0.3s,baz=319,slow=19,SNR=3.1						
JYO	**Yokosk**	**4.74**	**332**	*e*S	**Sn**	**17 13 25.3**	**-0.3**
JHU	**Hanno**	**5.44**	**332**	P	**Pn**	**17 12 41.6**	**+0.1**
JHU				*e*S	**Sn**	**17 13 39.8**	**-3.0**
JYN	**Shimob**	**5.47**	**325**	P	**Pn**	**17 12 42.8**	**+0.8**
JYN				*e*S	**Sn**	**17 13 45.6**	**+1.9**
JNY	**Yasuok**	**5.73**	**319**	P	**Pn**	**17 12 47.1**	**+1.6**
JRY	**Ryogami san**	**5.74**	**330**	P	**Pn**	**17 12 45.9**	**+0.3**
JRY				*e*S	**Sn**	**17 13 50.2**	**+0.1**
JNG	**Nsakai**	**6.42**	**327**	P	**Pn**	**17 12 56.5**	**+1.5**
JNG				*e*S	**Sn**	**17 14 07.5**	**+0.5**
MJAR	**Matsushiro Arr**	**6.48**	**328**	Pn	**Pn**	**17 12 55.2**	**-0.6**
	1.7nm,0.3s,baz=156,slow=11,SNR=30						
MJAR				Sn	**Sn**	**17 14 06.7**	**-1.7**
	0.8nm,0.3s,baz=110,slow=11,SNR=6.0						
MAJO	**Matsushiro**	**6.48**	**328**	*e*Pn	**Pn**	**17 12 55.4**	**-0.5**
	6.2nm,0.4s						
MAJO				*e*Sn	**Sn**	**17 13 57.4**	**-11**
MAT	**Matsushiro**	**6.48**	**328**	P	**Pn**	**17 12 56.0**	**+0.1**
MAT				*e*S	**Sn**	**17 14 07.8**	**-0.7**
JFT	**Otama**	**6.65**	**346**	P	**Pn**	**17 12 57.9**	**-0.3**
JFT				*e*S	**Sn**	**17 14 08.8**	**-3.9**
JMM	**Marumori**	**6.90**	**349**	P	**Pn**	**17 13 01.8**	**+0.1**
JMM				*e*S	**Sn**	**17 14 13.6**	**-5.3**
JOU	**Okura**	**7.41**	**349**	*e*S	**Sn**	**17 14 28.7**	**-2.7**
ASAJ	**Asahikawa**	**13.02**	**1**	Pn	**Pn**	**17 14 25.0**	**-0.3**
	0.2nm,0.3s,baz=163,slow=17,SNR=3.0						
KSRS	**Korea Array**	**13.57**	**302**	Pn	**Pn**	**17 14 33.3**	**+0.5**
	0.1nm,0.3s,baz=117,slow=14,SNR=3.6						
SONM	**Songino Array**	**32.10**	**312**	P	**P**	**17 17 46.8**	**+0.6**
	1.0nm,0.9s,mb3.6,baz=108,slow=9.7,SNR=7.3						
ZALV	**Zalesovo Beam**	**46.68**	**317**	LR	LR	17 38 48.6	
	comp=Z,36nm,18.1s,baz=267,slow=35						
MK31	**Makanchi Array**	**48.18**	**307**	*e*P	**P**	**17 19 58.4**	**-0.8**
MKAR	**Makanchi Array**	**48.18**	**307**	P	**P**	**17 19 59.6**	**+0.4**
	0.7nm,0.5s,mb4.0,baz=89,slow=9.7,SNR=13						
KURK	**Kurchatov**	**50.41**	**312**	P	**P**	**17 20 15.1**	**-1.1**
	1.5nm,0.7s,mb4.1						
WRAB	**Tennant Creek**	**51.31**	**190**	*e*P	**P**	**17 20 22.2**	**-0.9**
	4.3nm,0.9s,mb4.4						
WRA	**Warramunga Arr**	**51.32**	**190**	P	**P**	**17 20 22.6**	**-0.7**
	0.5nm,0.4s,mb3.8,baz=5.2,slow=7.5,SNR=20						
SML	**Sawmill**	**53.39**	**34**	*e*P	**P**	**17 20 39.1**	**+0.9**
ASAR	**Alice Springs**	**55.04**	**190**	P	**P**	**17 20 50.4**	**-0.3**
	0.3nm,0.4s,mb3.7,baz=357,slow=5.1,SNR=18						
YKA	**Yellowknife Ar**	**68.56**	**29**	P	**P**	**17 22 24.5**	**+3.3**
	0.1nm,0.5s,mb3.0,baz=286,slow=5.8,SNR=4.1						
AKASG	**Malin Array Be**	**79.54**	**324**	P	**P**	**17 23 26.6**	**+1.1**
	0.4nm,0.5s,mb3.6,baz=48,slow=5.9,SNR=5.1						

NEIC ***19*** *17:14:13.9, 16.11N×9754W, h16km, MD3.6(MEX), After MEX.*
MEX 19 17:14:13.3±1.1**, 1615N**×**9752W, h13**km±13km**, MD3.6, Oaxaca**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**292**	*i* P	Pg	17 14 24.1	-1.6
PNIG				*i* S	Sg	17 14 32.3	-1.8
VHO	**Vista Hermosa**	**1.19**	**39**	*i* P	Pn	17 14 32.9	-2.7
VHO				*i* S	Sb	17 14 47.6	-3.3
OXX	**Oaxaca**	**1.20**	**39**	*i* P	Pn	17 14 31.5	-4.2
OXX				*i* S	Sb	17 14 46.0	-5.3
HUIG	**Huatulco**	**1.41**	**105**	*e*P	Pn	17 14 37.1	-1.5
HUIG				*i* S	Sn	17 14 51.9	-5.1
HUIG	**Huatulco**	**1.41**	**105**	*e*P	Pn	17 14 36.3	-2.3
HUIG				*i* S	Sn	17 14 51.9	-5.1
CMIG	**Matias Romero**	**2.69**	**69**	*i* P	Pn	17 14 53.2	-3.1
CMIG				*i* S	Sn	17 15 26.6	-2.2
CAIG	**El Cayaco**	**2.78**	**289**	*i* P	Pn	17 15 02.1	+4.6
CAIG				*i* S	Sn	17 15 24.1	-6.9
CAIG	**El Cayaco**	**2.78**	**289**	*i* P	Pn	17 14 57.1	-0.5
CAIG				*i* S	Sn	17 15 28.5	-2.5
PPM	**Popocatepetl**	**3.09**	**340**	*i* P	Pn	17 15 07.1	+5.4
PPM				*i* S	Sn	17 15 40.9	+2.4
PPM	**Popocatepetl**	**3.09**	**340**	*i* P	Pn	17 15 03.9	+2.1
PPM				*i* S	Sn	17 15 33.8	-4.7

CSEM ***19*** *17:15:17.5±0.1, 3903N×4044E, h2km, MD2.9, Error ellipse: s-maj=2.9km s-min=1.9km az=138.0*
ISK ***19*** *17:15:18.7, 3904N×4043E, h13km, ML3.1*
ISCJB ***19*** *17:15:19.5±0.8, 3901N±004×4041E±004, h8km±7km, Error ellipse: s-maj=7.4km s-min=4.8km az=153.9*
DDA ***19*** *17:15:19.1, 3901N×4040E, h7km±4km, Md2.9*
ISC 19 17:15:20.3±0.7**, 3903N**±004×**4042E**±004**, h14**km±6km**, n13, σ1ˢ05**/20**, 1C, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.57**	**97**	⇑*i*P	**Pg**	**17 15 30.6**	**-0.9**
BNGL				*i* S	**Sg**	**17 15 39.9**	**+0.8**
PTK	**Pertek**	**0.81**	**261**	*e*PG	**Pg**	**17 15 34.9**	**-1.1**
PTK				*e*SG	**Sg**	**17 15 47.4**	**+0.7**
KOPT	**Kop Dagi**	**0.99**	**3**	*i* P	**Pb**	**17 15 38.6**	**-0.6**
KOPT				*i* S	**Sg**	**17 15 53.4**	**+1.1**
EZM	**Erzurum**	**1.14**	**40**	*e*PN	**Pn**	**17 15 40.0**	**-1.8**
EZM				*e*SN	**Sn**	**17 15 57.3**	**+0.1**
ERZM	**Erzurum**	**1.14**	**40**	*i* P	**Pb**	**17 15 40.6**	**-1.1**
ERZM				*i* S	**Sb**	**17 15 58.2**	**+1.8**
DIY	**Diyarbakir**	**1.14**	**188**	*e*PN	**Pn**	**17 15 41.1**	**-0.7**
ELZG	**Elazig**	**1.24**	**245**	*e*P	**Pn**	**17 15 42.4**	**-0.8**
ELZG				*i* S	**Sb**	**17 16 01.5**	**+2.2**
HOMI	**Horasan**	**1.53**	**48**	*i* P	**Pn**	**17 15 47.5**	**+0.3**
HOMI				*i* S	**Sn**	**17 16 12.8**	**+5.9**
GUMT	**Gumushane**	**1.60**	**333**	*e*PN	**Pn**	**17 15 47.4**	**-0.7**
MALT	**Malatya**	**1.71**	**246**	*e*PN	**Pn**	**17 15 49.3**	**-0.4**
MARD	**Mardin**	**1.74**	**170**	*i* P	**Pn**	**17 15 51.7**	**+1.8**
URFA	**Urfa**	**2.02**	**219**	*e*PN	**Pn**	**17 15 53.4**	**-0.5**
SIRT	**Sirnak**	**2.20**	**133**	*e*PN	**Pn**	**17 15 56.6**	**+0.2**

NEIC ***19*** *17:27:40.4, 3889S×17505E, h224km, MG4.0(WEL), After WEL.*
WEL 19 17:27:40.4±0.5**, 3889S**×**17505E, h224**km±3km**, ML3.9**/16**, Error ellipse: s-maj=6.1km s-min=3.9km az=90.0, North Island**

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
VRZ	**Vera Road**	**0.33**	**225**	P	Pn	17 28 07.5	-2.2
VRZ				S	S	17 28 31.4	-1.3
VRZ	**Vera Road**	**0.33**	**225**	PN	Pn	17 28 07.5	-2.2
VRZ				SN	S	17 28 31.4	-1.3
TWVZ	**Taurewa**	**0.35**	**121**	PN	Pn	17 28 09.7	-0.1
HIZ	**Hauiti**	**0.41**	**338**	P	Pn	17 28 09.2	-0.8
HIZ	**Hauiti**	**0.41**	**338**	PN	Pn	17 28 09.2	-0.8
WTVZ	**West Tongariro**	**0.47**	**118**	P	Pn	17 28 10.2	+0.1
WTVZ				S	S	17 28 32.7	-0.7
WTVZ	**West Tongariro**	**0.47**	**118**	PN	Pn	17 28 10.2	+0.1
WTVZ				SN	S	17 28 32.7	-0.7
WPVZ	**Whakapapa**	**0.49**	**129**	P	Pn	17 28 10.3	+0.1
WPVZ	**Whakapapa**	**0.49**	**129**	PN	Pn	17 28 10.3	+0.1
KRVZ	**Karewarewa**	**0.50**	**114**	PN	Pn	17 28 10.4	+0.2
KATZ	**Kakaramea**	**0.51**	**99**	P	Pn	17 28 10.2	0.0
KATZ	**Kakaramea**	**0.51**	**99**	PN	Pn	17 28 10.2	-0.1
FWVZ	**Far West T-bar**	**0.53**	**133**	P	Pn	17 28 10.5	+0.2
FWVZ				S	S	17 28 33.4	-0.3
FWVZ	**Far West T-bar**	**0.53**	**133**	PN	Pn	17 28 10.5	+0.2
FWVZ				SN	S	17 28 33.4	-0.4
OTVZ	**Oturere**	**0.55**	**120**	PN	Pn	17 28 10.7	+0.3
RATZ	**Rangitukua**	**0.56**	**88**	P	Pn	17 28 10.4	0.0
RATZ	**Rangitukua**	**0.56**	**88**	PN	Pn	17 28 10.4	-0.1
WNVZ	**Wahianoa**	**0.61**	**136**	P	Pn	17 28 10.9	+0.3
WNVZ	**Wahianoa**	**0.61**	**136**	PN	Pn	17 28 10.9	+0.3
RITZ	**Rihia Road**	**0.63**	**98**	P	Pn	17 28 10.8	+0.1
RITZ	**Rihia Road**	**0.63**	**98**	PN	Pn	17 28 10.8	+0.1
MOVZ	**Moawhango**	**0.75**	**134**	PN	Pn	17 28 10.9	-0.3
HATZ	**Hinemaiaia**	**0.81**	**90**	P	Pn	17 28 11.2	-0.3
HATZ	**Hinemaiaia**	**0.81**	**90**	PN	Pn	17 28 11.2	-0.3
WAZ	**Wanganui**	**0.86**	**183**	P	Pn	17 28 11.7	-0.1
WAZ	**Wanganui**	**0.86**	**183**	PN	Pn	17 28 11.7	0.0
BKZ	**Black Stump Fm**	**1.15**	**104**	P	Pn	17 28 13.3	-0.3
BKZ	**Black Stump Fm**	**1.15**	**104**	PN	Pn	17 28 13.3	-0.2
TSZ	**Takapari Road**	**1.36**	**149**	P	Pn	17 28 14.9	-0.1
TSZ	**Takapari Road**	**1.36**	**149**	PN	Pn	17 28 14.9	-0.2
WPHZ	**Waipukurau**	**1.59**	**138**	PN	Pn	17 28 16.8	-0.1
URZ	**Urewera**	**1.73**	**69**	P	Pn	17 28 17.1	-1.1
URZ	**Urewera**	**1.73**	**69**	PN	Pn	17 28 17.1	-1.1
PXZ	**Pawanui**	**1.80**	**130**	PN	Pn	17 28 18.6	-0.2
KIW	**Kapiti Island**	**1.97**	**183**	PN	Pn	17 28 19.0	-1.3
TIWZ	**Tintock**	**1.99**	**161**	PN	Pn	17 28 19.5	-1.0
MWZ	**Matawai**	**2.02**	**75**	P	Pn	17 28 20.1	-0.8
MWZ	**Matawai**	**2.02**	**75**	PN	Pn	17 28 20.1	-0.8
HOWZ	**Holdsworth Sta**	**2.03**	**170**	PN	Pn	17 28 19.6	-1.3
KNZ	**Kokohu**	**2.05**	**94**	P	Pn	17 28 20.9	-0.2
KNZ	**Kokohu**	**2.05**	**94**	PN	Pn	17 28 20.9	-0.2
DUWZ	**D'Urville Isla**	**2.10**	**204**	PN	Pn	17 28 20.0	-1.6
CAW	**Cannon Point**	**2.21**	**180**	P	Pn	17 28 21.2	-1.5
CAW	**Cannon Point**	**2.21**	**180**	PN	Pn	17 28 21.2	-1.5
MRW	**Makara Radio**	**2.35**	**186**	P	Pn	17 28 22.4	-1.7
MRW	**Makara Radio**	**2.35**	**186**	PN	Pn	17 28 22.4	-1.7
TCW	**Tory Channel**	**2.39**	**194**	P	Pn	17 28 23.0	-1.6
TCW	**Tory Channel**	**2.39**	**194**	PN	Pn	17 28 23.0	-1.6
WEL	**Wellington**	**2.40**	**185**	P	Pn	17 28 22.9	-1.7
WEL	**Wellington**	**2.40**	**185**	PN	Pn	17 28 22.9	-1.7
SNZO	**South Karori**	**2.43**	**186**	P	Pn	17 28 23.1	-1.8
SNZO	**South Karori**	**2.43**	**186**	PN	Pn	17 28 23.1	-1.9
PAWZ	**Paruwai Farm**	**2.50**	**174**	P	Pn	17 28 24.0	-1.7
PAWZ	**Paruwai Farm**	**2.50**	**174**	PN	Pn	17 28 24.0	-1.7
BHW	**Baring Head**	**2.52**	**183**	P	Pn	17 28 24.0	-1.9
BHW	**Baring Head**	**2.52**	**183**	PN	Pn	17 28 24.0	-1.9
MSWZ	**Moikau Station**	**2.52**	**177**	P	Pn	17 28 24.1	-1.8
MSWZ	**Moikau Station**	**2.52**	**177**	PN	Pn	17 28 24.1	-1.8
TRWZ	**Traveller**	**2.55**	**169**	PN	Pn	17 28 24.6	-1.7
PUZ	**Puketiti**	**2.65**	**73**	P	Pn	17 28 26.2	-1.1
PUZ	**Puketiti**	**2.65**	**73**	PN	Pn	17 28 26.2	-1.2
NNZ	**Nelson**	**2.65**	**208**	P	Pn	17 28 25.1	-2.2
NNZ	**Nelson**	**2.65**	**208**	PN	Pn	17 28 25.1	-2.3
TUWZ	**Tuamarina**	**2.67**	**198**	PN	Pn	17 28 25.7	-1.9

PLWZ	Palliser	2.68 177	PN	Pn	17 28 25.6	-2.0
QRZ	Quartz Range	2.74 224	P	Pn	17 28 25.2	-3.1
QRZ	Quartz Range	2.74 224	PN	Pn	17 28 25.2	-3.0
MXZ	Matakaoa Point	2.89 64	P	Pn	17 28 29.1	-0.9
MXZ	Matakaoa Point	2.89 64	PN	Pn	17 28 29.1	-0.9
BSWZ	Blackbirch Sta	2.96 197	PN	Pn	17 28 28.9	-1.8
THZ	Tophouse	3.30 209	P	Pn	17 28 31.9	-2.8
THZ	Tophouse	3.30 209	PN	Pn	17 28 31.9	-2.8
KHZ	Kahutara	3.70 198	P	Pn	17 28 36.7	-2.7
KHZ	Kahutara	3.70 198	PN	Pn	17 28 36.7	-2.6
DSZ	Denniston Nort	3.78 220	P	Pn	17 28 36.8	-3.5
DSZ	Denniston Nort	3.78 220	PN	Pn	17 28 36.8	-3.5
LTZ	Lake Taylor	4.42 208	P	Pn	17 28 44.8	-3.3
LTZ	Lake Taylor	4.42 208	PN	Pn	17 28 44.8	-3.2
CRLZ	Canterbury Las	5.02 201	P	Pn	17 28 51.4	-4.2
CRLZ	Canterbury Las	5.02 201	PN	Pn	17 28 51.4	-4.1
MQZ	McQueen's Vall	5.14 200	P	Pn	17 28 52.5	-4.5
MQZ	McQueen's Vall	5.14 200	PN	Pn	17 28 52.5	-4.5
RPZ	Rata Peaks	5.68 211	P	Pn	17 28 59.3	-4.5
RPZ	Rata Peaks	5.68 211	PN	Pn	17 28 59.3	-4.5
FOZ	Fox Glacier	6.17 219	P	Pn	17 29 04.0	-6.1
FOZ	Fox Glacier	6.17 219	PN	Pn	17 29 04.0	-6.1
LBZ	Lake Benmore	6.59 212	P	Pn	17 29 10.7	-4.7
LBZ	Lake Benmore	6.59 212	PN	Pn	17 29 10.7	-4.6
ODZ	Otahua Downs	6.97 207	P	Pn	17 29 16.6	-3.6
ODZ	Otahua Downs	6.97 207	PN	Pn	17 29 16.6	-3.6

*ISCJB **19** 17:28:17.8±0.9, 20N±01×9907E±009, h144km±6km, mb3.8/16, Error ellipse: s-maj=19.1km s-min=12.5km az=39.7*
*IDC **19** 17:28:18.7±0.7, 200N×9922E, h138km±3km, mb3.7/10, mb1 3.8/10, mb1mx3.6/19, mbtmp3.7/10, Error ellipse: s-maj=25.0km s-min=13.9km az=58.0*
*NEIC **19** 17:28:19.4±1.0, 198N×9906E, h145km±8km, mb3.9/5, Error ellipse: s-maj=15.4km s-min=9.4km az=221.0*
ISC 19 17:28:18.9±0.9, 20N±01×9908E±009, h140km±6km, n26, σ0°93/25, mb3.8/16, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	0.83	349	P	Pn	17 28 41.4	0.0
PSI				S	Sn	17 28 58.0	-0.4
PSI	Prapat	0.83	349	P	Pn	17 28 41.4	0.0
	78nm,0.3s,baz=164,slow=8.1,SNR=484						
PSI				S	Sn	17 28 58.0	-0.4
	38nm,0.3s,baz=300,slow=18,SNR=34						
TSI	Tuntungan	1.60	341	eP	Pn	17 28 45.0	-3.8
KULM	Kulim	3.65	25	ePn	Pn	17 29 14.4	+0.1
KSM	Kuching	11.24	92	ePn	Pn	17 30 58.1	+2.5
KKM	Kota Kinabalu	17.56	76	ePn	Pn	17 32 15.9	+0.7
LSA	Lhasa	28.58	345	eP	P	17 34 02.5	+0.5
	2.6nm,0.7s,mb4.1						
WRA	Warramunga Arr	40.88	124	P	P	17 35 46.6	-0.9
	9.6nm,0.5s,mb4.7,baz=302,slow=9.1,SNR=110						
WRAB	Tennant Creek	40.88	124	eP	P	17 35 47.2	-0.4
	12nm,0.6s,mb4.7						
ASAR	Alice Springs	42.39	129	P	P	17 35 58.5	-1.3
	0.8nm,0.7s,mb3.5,baz=303,slow=7.6,SNR=15						
ASAR				PcP	PcP	17 37 50.6	0.0
	0.4nm,0.8s,baz=290,slow=1.6,SNR=4.2						
KSRS	Korea Array	44.16	33	P	P	17 36 12.0	-1.8
	0.3nm,0.5s,mb3.2,baz=219,slow=9.3,SNR=4.8						
UCH	Uchtor	45.73	334	eP	P	17 36 26.8	+0.7
	1.1nm,0.6s,mb3.7						
SONM	Songino Array	46.12	7	P	P	17 36 29.7	+0.6
	0.3nm,0.4s,mb3.3,baz=195,slow=7.6,SNR=3.2						
SONM				PcP	PcP	17 38 03.0	+0.2
	0.3nm,0.5s,baz=209,slow=1.5,SNR=2.5						
EKS2	Erkin-Say	46.40	334	P	P	17 36 31.4	+0.1
	1.1nm,0.6s,mb3.7						
MK31	Makanchi Array	46.98	344	eP	P	17 36 36.0	+0.2
MKAR	Makanchi Array	46.98	344	P	P	17 36 35.8	0.0
	0.6nm,0.4s,mb3.5,baz=153,slow=9.0,SNR=11						
ZALV	Zalesovo Beam	53.12	350	P	P	17 37 21.9	0.0
	1.3nm,0.4s,mb4.1,baz=178,slow=5.7,SNR=11						
ZALV				PcP	PcP	17 38 27.6	-0.7
	0.5nm,0.5s,baz=145,slow=5.3,SNR=2.9						
LSZ	Lusaka	72.13	253	eP	P	17 39 29.8	+0.9
	1.8nm,0.6s,mb4.0						
AKASG	Malin Array Be	75.80	322	P	P	17 39 46.6	-2.9
	1.3nm,0.7s,mb3.7,baz=88,slow=4.7,SNR=5.7						
BOSA	Boshof	76.79	240	P	P	17 39 56.5	+1.0
	6.3nm,1.1s,mb4.2,baz=87,slow=10.0,SNR=3.2						
FINES	FINESS Array B	80.19	332	P	P	17 40 13.4	-0.1
	1.0nm,0.5s,mb3.7,baz=106,slow=7.0,SNR=10						
ARCES	ARCESS Array B	82.44	340	P	P	17 40 25.0	-0.3
	1.5nm,0.5s,mb3.9,baz=104,slow=5.1,SNR=10.0						
GERES	GERESS Array B	85.47	319	P	P	17 40 41.3	+0.3
	0.2nm,0.4s,mb3.2,baz=151,slow=5.8,SNR=3.4						
TXAR	Lajitas Array	142.01	33	PKP	PKPdf	17 47 31.4	-3.7
TXAR	Lajitas Array	142.01	33	PKhKP		17 47 31.4	
	0.2nm,0.5s,baz=235,slow=3.2,SNR=3.5						
BDFB	Brasilia	144.84	245	PKP	PKPdf	17 47 40.5	+0.1
	0.4nm,0.4s,baz=128,slow=11,SNR=4.4						

*ISCJB **19** 17:38:54.8±1.1, 1284N±009×1448E±02, h87km±9km, mb3.5/8, Error ellipse: s-maj=30.2km s-min=15.4km az=1.5*
*NEIC **19** 17:38:55.9±1.0, 1284N×14484E, h82km±9km, mb4.4/1, Error ellipse: s-maj=18.8km s-min=10.0km az=93.0*
*IDC **19** 17:38:55.7±1.1, 1290N×14489E, h80km±8km, mb3.3/8, mb1 3.4/8, mb1mx3.4/19, mbtmp3.3/8, Error ellipse: s-maj=41.1km s-min=16.0km az=86.0*
ISC 19 17:38:55.9±1.1, 1285N±009×1448E±02, h82km±9km, n13, σ0°56/14, mb3.5/8, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	Guam	0.73	2	P	Pn	17 39 12.2	0.0
	242nm,0.3s,baz=212,slow=15,SNR=713						
GUMO				S	Sn	17 39 24.1	0.0
	454nm,0.3s,baz=17,slow=19,SNR=36						
JOW	Kunigami	20.85	314	P	P	17 43 32.0	+0.9
	7.9nm,0.7s,baz=114,slow=16,SNR=3.3						
MJAR	Matsushiro Arr	24.33	347	P	P	17 44 05.4	-0.5
	1.2nm,0.8s,mb3.3,baz=165,slow=8.8,SNR=6.4						
KSRS	Korea Array	28.79	331	P	P	17 44 44.8	-1.2
	0.8nm,0.9s,mb3.4,baz=140,slow=9.4,SNR=4.9						
WRAB	Tennant Creek	34.17	198	P	P	17 45 32.5	-1.0
WRA	Warramunga Arr	34.19	198	P	P	17 45 33.8	+0.2
	0.4nm,0.5s,mb3.5,baz=23,slow=9.0,SNR=7.9						
KSM	Kuching	36.02	255	P	P	17 45 49.6	+0.1
ASAR	Alice Springs	37.84	196	P	P	17 46 05.2	+0.5
	0.6nm,0.5s,mb3.7,baz=20,slow=11,SNR=20						
SONM	Songino Array	47.32	325	P	P	17 47 21.6	+0.4
	0.3nm,0.7s,mb3.2,baz=139,slow=6.8,SNR=2.4						
LSA	Lhasa	52.31	298	P	P	17 47 59.3	-0.1
	4.8nm,1.1s,mb4.4						
MKAR	Makanchi Array	62.00	316	P	P	17 49 07.5	+0.1
	0.1nm,0.3s,mb3.3,baz=92,slow=7.6,SNR=2.1						
INK	Inuvik	75.06	22	P	P	17 50 29.0	+0.7
	83nm,1.2s						
YKA	Yellowknife Ar	83.52	27	P	P	17 51 14.5	0.0
	0.1nm,0.5s,mb2.9,baz=229,slow=5.7,SNR=2.6						

*ISCJB **19** 18:16:27.5±0.6, 4363N±006×10504W±006, h0km, Error ellipse: s-maj=8.7km s-min=5.5km az=163.1*
*NEIC **19** 18:16:29.9±0.5, 4376N×105.15W, h0km, ML3.3, Error ellipse: s-maj=7.8km s-min=5.4km az=178.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **19** 18:17:01.1±2.3, 4642N×104.17W, h0km, mb1 3.6/3, mb1mx3.3/24, mbtmp3.3/3, ML3.0/3, Error ellipse: s-maj=42.3km s-min=15.6km az=116.0*
ISC 19 18:16:30.0±0.5, 4371N±005×10514W±005, h0km, n32, σ1°03/33, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	Black Hills	0.89	62	ePn	Pn	18 16 49.7	0.0
BW06	Boulder Array	3.37	255	ePn	Pn	18 17 23.4	-0.3
BW06				eSn	Sn	18 18 05.6	+1.2
GCMT	Greycliff	3.84	304	ePn	Pn	18 17 30.2	0.0
LOHW	Long Hollow	3.97	270	ePn	Pn	18 17 33.0	+1.0
FLWY	Flagg Ranch	4.04	277	ePn	Pn	18 17 32.9	-0.1
MOOW	Moose Ponds	4.07	272	ePn	Pn	18 17 34.2	+0.8
SNOW	Snow King Moun	4.09	268	ePn	Pn	18 17 34.8	+1.1
REDW	Red Top Meadow	4.17	267	ePn	Pn	18 17 35.2	+0.4
YFT	Old Faithful	4.17	282	ePn	Pn	18 17 41.6	+6.8
IMW	Indian Meadow	4.21	275	ePn	Pn	18 17 34.0	-1.3
TPAW	Teton Pass	4.23	269	ePn	Pn	18 17 35.8	+0.2
YMR	Madison River	4.30	285	Pn	Pb	18 17 46.6	+0.3
DCID1	Drake Creek	4.39	271	ePn	Pn	18 17 37.6	-0.3
AHID	Auburn Hatcher	4.46	260	ePn	Pb	18 17 49.0	-0.1
QLMT	Earthquake Lak	4.66	286	ePn	Pn	18 17 41.6	+0.1
SMCO	Snowmass	4.74	198	ePn	Pn	18 17 45.6	+3.1
DGMT	Dagmar	4.80	7	ePn	Pn	18 17 46.1	+2.6
BOZ	Bozeman (W)	5.02	295	ePn	Pn	18 17 46.1	-0.3
HWUT	Hardware Ranch	5.19	248	ePn	Pn	18 17 47.8	-1.0
	7.3nm,0.4s						
EGMT	Eagleton	5.38	325	ePn	Pn	18 17 50.7	-0.8
	19nm,0.6s						
HRY	Holter Researc	5.60	305	ePn	Pn	18 17 51.9	-2.5
NOQ	North Oquirrh	6.02	242	ePg	Pg	18 18 20.0	-5.4
ECSD	EROS,Sioux Fal	6.17	87	ePn	Pn	18 18 04.2	+1.8
	4.9nm,0.4s						
CBKS	Cedar Bluff	6.36	138	ePg	Pg	18 18 30.6	-1.3
CHMT	Chamberlain Mo	6.56	302	ePn	Pn	18 18 07.4	-0.2
DUG	Dugway	6.71	241	ePn	Pn	18 18 09.2	-0.6
	3.5nm,0.4s						
AGMN	Agassiz Refuge	7.92	51	ePn	Pn	18 18 26.4	+0.2
	8.5nm,0.4s						
ARUT	Antelope Range	8.64	230	Pn	Pn	18 18 32.8	-3.4
ULM	Lac du Bonnet	9.10	41	Pn	Pn	18 18 41.0	-1.3
	2.2nm,0.3s,baz=196,slow=11,SNR=13						
ULM				Lg		18 20 25.4	
	0.3nm,0.3s,baz=195,slow=12,SNR=5.9						
WUAZ	Wupatki	9.49	213	ePn	Pn	18 18 48.0	+0.1
	4.9nm,0.5s						
YKA	Yellowknife Ar	19.61	347	P	Pn	18 21 00.9	+0.1
YKA	Yellowknife Ar	19.61	347	P	Pn	18 21 00.9	+0.1
	0.1nm,0.3s,baz=155,slow=11,SNR=5.4						

*NEIC **19** 18:28:54.0, 1566N×9282W, h158km, MD4.1(MEX), After MEX.*
MEX 19 18:28:54.0±0.7, 1565N×9282W, h158km±16km, MD4.2, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	Comitan	0.91	46	iP	Pn	18 29 17.5	-1.2
CCIG				iS	Sn	18 29 36.2	-1.4
SCX	San Cristobal	1.09	9	iP	Pn	18 29 16.8	-3.4
SCX				iS	Sn	18 29 38.0	-2.4
CMIG	Matias Romero	2.44	306	iP	Pn	18 29 33.6	-1.2
CMIG				iS	Sn	18 30 04.4	-2.0
TUIG	Tuzandepetl	2.82	327	iP	Pn	18 29 38.4	-1.1
TUIG				iS	Sn	18 30 11.2	-3.5
HUIG	Huatulco	3.17	272	iP	Pn	18 29 42.5	-1.3
HUIG				iS	Sn	18 30 19.5	-2.9
OXX	Oaxaca	4.01	291	iP	Pn	18 29 52.9	-1.7
OXX				iS	Sn	18 30 42.0	+0.3
OXX	Oaxaca	4.01	291	iP	Pn	18 29 52.0	-2.6
OXX				iS	Sn	18 30 38.5	-3.2
VHO	Vista Hermosa	4.01	291	iP	Pn	18 29 55.1	+0.5
VHO				iS	Sn	18 30 41.2	-0.6
PPM	Popocatepetl	6.50	302	iP	Pn	18 30 27.0	-0.4
PLIG	Platanillo	6.95	294	iP	Pn	18 30 34.5	+1.1
PLIG				iS	Sn	18 31 50.8	-0.6
CAIG	El Cayaco	7.28	282	iP	Pn	18 30 38.2	+0.3
MMIG	Aquila	10.41	286	iP	Pn	18 31 21.7	+2.4

IDC 19 18:43:30.0±2.5, 174N×9968E, h159km±28km, mb3.0/3, mb1 3.2/3, mb1mx2.9/20, mbtmp3.0/3, Error ellipse: s-maj=259.9km s-min=25.1km az=55.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.29	324	P	Pn	18 43 58.4	+0.2
	12nm,0.3s,baz=327,slow=22,SNR=27						
PSI				S	Sn	18 44 18.6	-1.2
	2.5nm,0.3s,baz=254,slow=20,SNR=11						
WRA	Warramunga Arr	40.25	124	P	P	18 50 51.7	+0.1
	0.3nm,0.3s,baz=302,slow=9.1,SNR=17						
ASAR	Alice Springs	41.78	129	P	P	18 51 03.5	-0.6
	0.3nm,0.9s,baz=298,slow=7.1,SNR=4.0						
MKAR	Makanchi Array	47.36	344	P	P	18 51 47.9	0.0
	0.3nm,0.3s,baz=160,slow=5.5,SNR=2.4						

*ISCJB **19** 18:46:41.3±0.5, 5791S±009×254W±02, h10km, mb4.3/11, MS3.7/2, Error ellipse: s-maj=20.0km s-min=10.8km az=159.3*
*IDC **19** 18:46:41.1±0.6, 5797S×2524W, h0km, mb4.3/8, mb1 4.4/9, mb1mx4.2/18, mbtmp4.3/9, ML4.2/1, MS3.4/3, Ms1 3.4/3, ms1mx3.1/17, Error ellipse: s-maj=28.3km s-min=17.6km az=79.0*
*NEIC **19** 18:46:48.0±2.6, 5797S×2538W, h51km±23km, mb4.4/8, Error ellipse: s-maj=16.4km s-min=9.7km az=62.0*
ISC 19 18:46:43.1±0.5, 5793S±009×253W±02, h10km, n32, σ0°85/21, mb4.3/11, MS3.7/2, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	Sanae	16.61	155	Pn	Pn	18 50 35.8	+0.1
	0.9nm,0.3s,baz=324,slow=15,SNR=59						
SNAA				Sn	Sn	18 53 30.3	-10
	0.1nm,0.3s,baz=287,slow=19,SNR=3.9						
SNAA				LR	LR	18 55 13.0	
	comp=Z,28nm,19.6s,baz=28,slow=31						
QSPA	South Pole Qui	32.32	180	eP	P	18 53 12.2	+0.5
	5.1nm,0.5s,mb4.6						
QSPA	South Pole Qui	32.32	180	P	P	18 53 12.0	+0.3
	6.2nm,0.6s,mb4.7,baz=231,slow=1.4,SNR=37						
PLCA	Paso Flores	33.35	281	eP	P	18 53 20.4	-0.6
	2.0nm,0.8s,mb4.1						
PLCA	Paso Flores	33.35	281	P	P	18 53 20.9	-0.1
	1.1nm,0.8s,mb3.9,baz=151,slow=7.5,SNR=4.2						
MAW	Mawson	38.04	142	eP	P	18 54 00.2	-0.8
	2.7nm,0.7s,mb4.1						
CPUP	Villa Florida	38.81	311	P	P	18 54 06.8	-1.1
SBA	Scott Base	44.27	184	eP	P	18 54 53.1	+1.0
	2.6nm,0.8s,mb4.0						
VNDA	Vanda	44.74	182	eP	P	18 54 56.6	+0.7
	3.1nm,0.6s,mb4.3						
VNDA	Vanda	44.74	182	P	P	18 54 56.5	+0.7
	4.5nm,0.6s,mb4.5,baz=187,slow=6.3,SNR=20						
VNDA				LR	LR	19 11 46.1	
	comp=Z,104nm,21.5s,MS3.7,baz=63,slow=34						
BDFB	Brasilia	45.50	329	P	P	18 55 03.7	+1.2
BDFB				LR	LR	19 09 51.9	
BDFB	Brasilia	45.50	329	P	P	18 55 03.7	+1.2
	1.8nm,0.7s,mb4.0,baz=120,slow=27,SNR=5.0						
BDFB				LR	LR	19 09 51.9	
	comp=Z,76nm,18.8s,MS3.7,baz=3.0,slow=30						
LPAZ	La Paz	52.29	304	eP	P	18 55 54.6	+0.1
	1.7nm,0.5s,mb4.2						
LPAZ	La Paz	52.29	304	P	P	18 55 54.9	+0.2
	1.7nm,0.5s,mb4.2,baz=154,slow=2.5,SNR=9.2						
DBIC	Dimbokro	66.48	22	eP	P	18 57 33.0	+0.3
	2.6nm,0.4s,mb4.6						
DBIC	Dimbokro	66.48	22	P	P	18 57 33.1	+0.5
	1.8nm,0.4s,mb4.4,baz=149,slow=8.2,SNR=6.1						
TOA0	Torodi Ar. Sit	74.22	27	eP	P	18 58 20.2	+0.3
TORD	Torodi Ar. Bea	74.22	27	P	P	18 58 20.6	+0.6
	2.7nm,0.5s,mb4.5,baz=198,slow=6.3,SNR=23						
ASAR	Alice Springs	96.89	161	P	P	19 00 12.2	-2.2
	0.5nm,0.6s,mb4.1,baz=182,slow=3.9,SNR=12						
ESLA	Sonseca Array	98.87	17	P	P	19 00 21.9	-0.8
	3.2nm,1.2s,mb4.7						
WRA	Warramunga Arr	100.60	161	P	Pdif	19 00 28.5	-2.7
WRA	Warramunga Arr	100.60	161	P	Pdif	19 00 28.5	-2.7
	0.3nm,0.8s,baz=204,slow=5.0,SNR=3.2						
FINES	FINESS Array B	125.57	27	PKP	PKPdf	19 05 42.0	-1.0
FINES	FINESS Array B	125.57	27	PKP	PKPdf	19 05 42.0	-1.0
	0.6nm,0.5s,baz=141,slow=4.1,SNR=11						
ARCES	ARCESS Array B	132.31	22	PKP	PKPdf	19 05 54.5	-1.1
	2.4nm,0.9s,baz=204,slow=2.7,SNR=5.6						
YKA	Yellowknife Ar	138.24	316	PKP	PKPdf	19 06 06.2	-0.6
	1.6nm,0.6s,baz=130,slow=2.2,SNR=26						
INK	Inuvik	147.89	318	ePKPbc	PKPbc	19 06 25.5	-1.2
DAWY	Dawson	148.79	309	ePKPbc	PKPbc	19 06 28.0	-1.1
EGAK	Eagle	149.74	310	ePKPbc	PKPbc	19 06 30.0	-1.5
SONM	Songino Array	149.79	88	PKPbc	PKPbc	19 06 31.5	-0.6
	2.6nm,0.5s,baz=238,slow=2.8,SNR=28						
SML	Sawmill	151.92	302	ePKPbc	PKPbc	19 06 35.9	-0.8
KSRS	Korea Array	153.04	128	PKPbc	PKPbc	19 06 37.7	-2.3
	0.3nm,0.4s,baz=187,slow=3.2,SNR=3.2						

IDC 19 19:04:48.0±1.7, 326S×12719E, h0km, mb3.7/2, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, ML3.7/2, MS3.5/1, Ms1 3.5/1, ms1mx2.9/19, Error ellipse: s-maj=52.4km s-min=25.3km az=62.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	7.62	257	Pn	Pn	19 06 38.7	-1.7
	1.1nm,0.3s,baz=84,slow=7.8,SNR=5.7						
FITZ	Fitzroy Crossi	14.82	186	Pn	Pn	19 08 22.9	+3.8
	0.0nm,0.3s,baz=15,slow=12,SNR=2.2						
WRA	Warramunga Arr	17.99	158	P	Pn	19 08 59.3	-0.4
	0.2nm,0.3s,baz=339,slow=12,SNR=17						
WB2	Warramunga Arr	17.99	158	eP	Pn	19 08 59.3	-0.4
ASAR	Alice Springs	21.30	163	P	P	19 09 36.0	-0.3
	4.9nm,0.8s,baz=343,slow=11,SNR=68						
CTA	Charters Tower	25.01	133	LR	LR	19 20 16.8	
	comp=Z,109nm,21.9s,baz=198,slow=37						
MKAR	Makanchi Array	63.58	327	P	P	19 15 21.3	+0.7
	0.3nm,0.7s,baz=131,slow=5.9,SNR=3.4						

*THE **19** 19:14:22.9, 3805N×2169E, h3km, ML3.2*
*ISCJB **19** 19:14:23.2±0.8, 3819N±004×2163E±004, h4km±5km, Error ellipse: s-maj=6.5km s-min=4.6km az=146.9*
*CSEM **19** 19:14:24.2±0.2, 3815N×2170E, h5km, MD3.3, Error ellipse: s-maj=4.8km s-min=3.8km az=157.0*
*ATH **19** 19:14:24.6, 3823N×2162E, h16km±3km, MD3.3/4*
*NEIC **19** 19:14:24.6, 3823N×2162E, h16km, MD3.3(ATH), After ATH.*
ISC 19 19:14:24.0±0.8, 3817N±004×2164E±004, h9km±5km, n16, σ1°32/29, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EVR	Evrytania	0.75	10	ePB	Pg	19 14 37.5	-1.0
EVR				eSN	Sg	19 14 48.1	-0.3
VLS	Valsamata	0.83	271	ePg	Pg	19 14 39.0	-1.0
VLS				eSg	Sg	19 14 52.5	+1.7
VLS	Valsamata	0.83	271	ePB	Pb	19 14 39.8	-0.7
VLS				eSN	Sn	19 14 52.3	-1.8
VLS	Valsamata	0.83	271	ePb	Pb	19 14 39.8	-0.7
VLS				eSn	Sn	19 14 52.3	-1.8
VLS				eSg	Sg	19 14 52.5	+1.8
LKD	Levkas	0.94	305	ePg	Pg	19 14 42.8	+0.7
LKD				eSg	Sn	19 14 57.5	+0.6
AGG	Agios Georgios	1.00	32	ePg	Pg	19 14 43.5	+0.2
AGG				eSg	Sn	19 14 58.9	+0.5
ITM	Ithomi	1.02	167	ePN	Pg	19 14 45.2	+1.7
LKR	Lokris	1.17	66	ePg	Pg	19 14 44.7	-1.7
THL	Klokotos Trika	1.42	12	ePg	Pg	19 14 50.3	-0.9
THL				eSg	Sg	19 15 11.9	+2.2
JAN	Janina	1.60	338	ePN	Pg	19 14 53.5	-1.3
MEV	Metsovon	1.64	349	ePb	Pg	19 14 54.5	-1.0
MEV				eSb	Sg	19 15 18.9	+2.1
IGT	Igoumenitsa	1.70	323	ePb	Pg	19 14 54.9	-1.6
IGT				eSb	Sg	19 15 19.4	+0.8
XOR	Xorichti	1.70	45	ePb	Pb	19 14 54.2	-1.2
XOR				eSb	Sb	19 15 18.4	+1.6
FNA	Florina	2.62	356	ePn	Pn	19 15 07.8	+1.5
FNA				eSn	Sb	19 15 42.3	-0.9
GRG	Griva	2.84	12	ePn	Pn	19 15 10.0	+0.6
KNT	Kendrikon	3.14	18	ePn	Pn	19 15 15.4	+1.9
KNT				eSn	Sb	19 15 55.7	-2.5

WEL 19 19:19:21.4±0.5, 3888S×17517E, h213km±24km, ML3.5/12, Error ellipse: s-maj=4.7km s-min=3.5km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WPVZ	Whakapapa	0.44	138	PN	Pn	19 19 49.6	-0.1
WPVZ				SN	S	19 20 11.6	-0.3
FWVZ	Far West T-bar	0.48	142	SN	S	19 20 11.5	-0.6
MOVZ	Moawhango	0.69	140	SN	S	19 20 12.5	-1.2
WAZ	Wanganui	0.89	189	PN	Pn	19 19 51.6	-0.2
BKZ	Black Stump Fm	1.07	106	PN	Pn	19 19 53.2	+0.3
TSZ	Takapari Road	1.33	153	PN	Pn	19 19 54.9	+0.1
TSZ				SN	S	19 20 19.9	-1.0
WPHZ	Waipukurau	1.54	141	SN	S	19 20 23.3	-0.7
URZ	Urewera	1.64	68	PN	Pn	19 19 57.2	-0.3
PXZ	Pawanui	1.74	132	PN	Pn	19 19 58.4	0.0
KNZ	Kokohu	1.96	95	PN	Pn	19 20 01.0	+0.6
KIW	Kapiti Island	1.99	186	PN	Pn	19 19 59.1	-1.6
HOWZ	Holdsworth Sta	2.04	173	PN	Pn	19 19 59.7	-1.5
DUWZ	D'Urville Isla	2.15	206	PN	Pn	19 20 00.2	-2.1
CAW	Cannon Point	2.23	182	PN	Pn	19 20 01.4	-1.8
MRW	Makara Radio	2.38	189	PN	Pn	19 20 02.7	-2.0
TCW	Tory Channel	2.43	196	PN	Pn	19 20 03.3	-2.0
MSWZ	Moikau Station	2.54	179	PN	Pn	19 20 04.3	-2.2
PUZ	Puketiti	2.55	73	PN	Pn	19 20 06.4	-0.3
PLWZ	Palliser	2.69	179	PN	Pn	19 20 05.8	-2.3
NNZ	Nelson	2.71	210	PN	Pn	19 20 05.4	-3.0
MXZ	Matakaoa Point	2.80	63	PN	Pn	19 20 09.2	-0.2
QRZ	Quartz Range	2.81	225	PN	Pn	19 20 05.6	-3.9
THZ	Tophouse	3.36	210	PN	Pn	19 20 12.3	-3.6
KHZ	Kahutara	3.75	199	PN	Pn	19 20 17.3	-3

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

AFI Afiamalu 7.76 60 *e*P **P 20 57 01.0 -1.8**
AFI pmax pmax
comp=Z,485nm,0.6s
AFI Afiamalu 7.76 60 *e*P **P 20 57 01.0 -1.7**
comp=Z,485nm,0.6s
RAO Raoul Island 11.32 176 S **S 20 59 42.3 -1.2**
comp=Z,84nm,0.3s,baz=93,slow=23,SNR=4.2
DZM Mont Dzumac 14.55 251 *e*P **P 20 58 14.0 +1.4**
PUZ Puketiti 20.27 187 *e*PN **P 20 59 06.0 -0.5**
URZ Urewera 20.61 189 P **P 20 59 07.5 -2.0**
URZ Urewera 20.61 189 P **P 20 59 07.7 -1.8**
comp=Z,41nm,0.7s,baz=22,slow=4.0,SNR=25
URZ S **S 21 02 28.7 +3.3**
comp=Z,12nm,0.8s,baz=198,slow=23,SNR=6.3
URZ Urewera 20.61 189 PN **P 20 59 07.4 -2.1**
HNR Honiara 22.36 289 P **P 20 59 27.3 +1.7**
comp=Z,42nm,0.5s,mb5.3,baz=232,slow=2.8,SNR=5.6
MRZ Mangatainoka R 23.21 191 P **P 20 59 31.2 -1.6**
MRZ Mangatainoka R 23.21 191 *e*PN **P 20 59 31.1 -1.7**
MRZ SN **S 21 09 16.8 +10**
QRZ Quartz Range 24.06 196 P **P 20 59 40.7 +0.3**
QRZ Quartz Range 24.06 196 PN **P 20 59 40.5 +0.1**
NNZ Nelson 24.21 195 P **P 20 59 41.3 -0.4**
NNZ Nelson 24.21 195 PN **P 20 59 41.1 -0.6**
THZ Tophouse 24.84 195 P **P 20 59 46.6 -0.7**
THZ Tophouse 24.84 195 PN **P 20 59 46.5 -0.7**
LTZ Lake Taylor 25.96 195 P **P 20 59 54.1 -3.0**
RPZ Rata Peaks 27.15 196 P **P 21 00 07.6 0.0**
comp=Z,12nm,0.6s,mb4.7,baz=181,slow=4.3,SNR=8.1
LBZ Lake Benmore 28.01 197 P **P 21 00 13.6 -1.5**
LBZ Lake Benmore 28.01 197 PN **P 21 00 13.3 -1.8**
WKZ Wanaka 28.75 198 P **P 21 00 20.6 -0.9**
WKZ Wanaka 28.75 198 PN **P 21 00 20.6 -0.9**
ARMA Armidale 29.69 240 *e*P **P 21 00 31.9 +1.9**
WHZ Wether Hill Ro 30.03 199 P **P 21 00 33.2 +0.5**
WHZ Wether Hill Ro 30.03 199 PN **P 21 00 33.2 +0.5**
RIV Riverview 31.26 234 *e*P **P 21 00 45.2 +1.8**
CTA Charters Tower 33.16 261⇓*i*P **P 21 01 00.5 +0.7**
comp=Z,26nm,0.8s,mb4.8
CTA Charters Tower 33.16 261⇓*i*P **P 21 01 00.5 +0.7**
CTA pmax pmax
comp=Z,26nm,0.8s
CTA Charters Tower 33.16 261 P **P 21 01 00.5 +0.7**
comp=Z,31nm,0.6s,mb5.0,baz=88,slow=10,SNR=59
CNB Canberra Magne 33.20 232⇓*i*P **P 21 01 01.5 +1.6**
comp=Z,143nm,0.7s,mb5.6
TOO Toolangi 36.95 231⇓*i*P **P 21 01 32.5 +1.5**
comp=Z,2μm,0.6s
TOO Toolangi 36.95 231⇓*i*P **P 21 01 32.5 +1.5**
TOO pmax pmax
comp=Z,2μm,0.6s
STKA Stephens Creek 38.38 241⇓*i*P **P 21 01 44.3 +1.5**
comp=Z,50nm,0.6s,mb5.2
STKA Stephens Creek 38.38 241 P **P 21 01 44.4 +1.5**
comp=Z,100nm,0.8s,mb5.4,baz=89,slow=9.2,SNR=244
POHA Pohakuloa 43.80 32 P **P 21 02 24.4 -1.6**
comp=Z,69nm,0.8s,mb5.2
WB2 Warramunga Arr 44.34 260⇓*i*P **P 21 02 29.8 -0.3**
WB2 *e*S **S 21 08 22.1 -3.3**
WB2 *e*SCS ScS 21 11 28.0 -0.7
WRAB Tennant Creek 44.34 260*d i*P **P 21 02 29.7 -0.5**
WRAB Tennant Creek 44.34 260 *e*P **P 21 02 30.0 -0.2**
comp=Z,18nm,0.5s,mb4.8
WRA Warramunga Arr 44.35 260 P **P 21 02 29.9 -0.3**
comp=Z,28nm,0.7s,mb4.9,baz=93,slow=7.0,SNR=564
WRA ScP ScP 21 07 02.1 -1.3
comp=Z,1.2nm,0.8s,baz=89,slow=3.9,SNR=4.3
WRA S **S 21 08 23.0 -2.5**
comp=Z,0.6nm,0.7s,baz=96,slow=13,SNR=3.0
ASAR Alice Springs 44.51 254 P **P 21 02 32.1 +0.6**
comp=Z,329nm,0.6s,baz=89,slow=7.8,SNR=5967
ASAR ScP ScP 21 07 02.6 -1.4
comp=Z,2.2nm,0.9s,baz=101,slow=4.8,SNR=5.0
ASAR S **S 21 08 25.9 -1.9**
comp=Z,3.3nm,1.0s,baz=90,slow=16,SNR=10
KAKA Kakadu 47.29 269⇓*i*P **P 21 02 52.7 0.0**
comp=Z,32nm,0.4s,mb5.2
FORT Forrest 49.75 245⇓*i*P **P 21 03 10.7 -0.1**
comp=Z,111nm,0.6s,mb5.5
FITZ Fitzroy Crossi 52.74 261⇓*i*P **P 21 03 32.9 +0.3**
comp=Z,12nm,0.6s,mb4.4
BATI Kupang 56.24 270 P **P 21 03 58.6 +1.4**
baz=73,slow=4.0
KLBR Kellerberrin 58.57 244⇓*i*P **P 21 04 12.5 -0.4**
comp=Z,33nm,0.6s,mb4.7
NWAO Narrogin (SRO) 58.96 242 P **P 21 04 15.3 -0.2**
comp=Z,11nm,0.6s,mb4.3,baz=86,slow=5.7,SNR=13
MUN Mundaring 59.87 243 *e*P **P 21 04 21.7 +0.2**
VNDA Vanda 60.43 185 P **P 21 04 25.6 +1.1**
comp=Z,4.3nm,0.8s,mb3.9,baz=358,slow=7.4,SNR=14
KAPI Kappang 61.40 274 P **P 21 04 31.2 -0.7**
KAPI Kappang 61.40 274 P **P 21 04 31.3 -0.7**
comp=Z,4.8nm,0.5s,mb4.0,baz=111,slow=8.6,SNR=3.2
SDKM Sandakan 67.40 284⇑P **P 21 05 12.0 +2.1**
MJAR Matsushiro Arr 67.73 324 P **P 21 05 10.8 -0.7**
comp=Z,6.5nm,0.7s,mb4.3,baz=154,slow=6.1,SNR=27
MAJO Matsushiro 67.73 324 *e*P **P 21 05 09.9 -1.5**
MAJO pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
MAJO Matsushiro 67.73 324 *e*P **P 21 05 09.8 -1.6**
comp=Z,9.9nm,0.7s,mb4.5
MAT Matsushiro 67.73 324 P **P 21 05 11.0 -0.4**
KKM Kota Kinabalu 68.46 284 *e*P **P 21 05 16.4 0.0**
KKM Kota Kinabalu 68.46 284⇓P **P 21 05 17.0 +0.6**
SBUM Sibu 70.92 279⇑P **P 21 05 32.2 +1.1**
QSPA South Pole Qui 72.15 180 *e*P **P 21 05 37.7 +0.7**
comp=Z,35nm,0.8s,mb4.8
QSPA South Pole Qui 72.15 180 P **P 21 05 37.9 +0.8**
comp=Z,29nm,0.9s,mb4.7,baz=25,slow=1.5,SNR=73
KSM Kuching 72.40 277 *e*P **P 21 05 40.0 +0.3**
KSM Kuching 72.40 277⇑P **P 21 05 41.1 +1.4**
YSS Yuzh-Sakhalins 73.28 334⇑*e*P **P 21 05 43.2 -0.8**
YSS pmax pmax
comp=Z,67nm,2.9s,mb4.6
PET Petropavlovsk 73.30 346⇑*e*P **P 21 05 42.7 -1.2**
PET pmax pmax
comp=Z,33nm,1.7s,mb4.5
KSRS Korea Array 74.50 318 P **P 21 05 52.4 +1.2**
comp=Z,0.4nm,0.4s,baz=129,slow=7.2,SNR=4.4
HAST Hastings Reser 76.34 44⇓P **P 21 06 01.9 +0.5**
baz=76,SNR=6.1
PKD Parkfield 76.77 45⇑P **P 21 06 03.5 -0.3**
baz=77
BLG Laguna Peak 76.78 47⇑P **P 21 06 04.0 +0.2**
baz=77
SMMC Simmler 76.78 46⇓P **P 21 06 04.3 +0.5**
baz=77
U04C Hernandez Rese 76.84 45⇓P **P 21 06 05.2 +1.1**
baz=77,SNR=5.7
PACP Pacheco Peak 76.86 44⇓P **P 21 06 05.2 +0.9**
baz=77
S04C Ingram Canyon, 77.12 43⇓P **P 21 06 06.1 +0.5**
baz=77
V05C Boulder Hill, 77.16 45⇓P **P 21 06 07.0 +1.1**
baz=77
MNRC McLaughlin Nat 77.19 42⇑P **P 21 06 06.5 +0.5**
baz=77
GASB Alder Springs 77.47 41⇑P **P 21 06 08.8 +1.3**
baz=78,SNR=5.7
VES Vestal, Richgr 77.70 46⇓P **P 21 06 08.7 -0.1**
baz=78,SNR=5.6
NJ2 Nanjing 77.71 310 *e*P **P 21 06 05.9 -3.1**
NJ2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.3
O02C Red Bluff 77.74 41⇓P **P 21 06 09.3 +0.4**
baz=78,SNR=7.5
N02C Big Bar 77.80 40⇑P **P 21 06 09.6 +0.4**
baz=78
SUTB Sutter Butte 77.81 42⇑P **P 21 06 09.6 +0.3**
baz=78
MURC Murrieta 77.83 49⇓P **P 21 06 09.9 +0.3**
baz=78
BFSC Mount Baldy St 77.84 48⇑P **P 21 06 09.8 +0.2**
baz=78
HABR Khabarovsk 77.86 331 *e*P **P 21 06 09.2 -0.2**
HABR *e* 21 09 15.4
HABR *e*S S 21 15 16.7 -1.6
HABR *e*SS SS 21 20 34.3 -0.5
HABR pmax pmax
comp=Z,16nm,1.2s,mb4.2
T06C Millerton Lake 77.91 45⇑P **P 21 06 09.8 -0.1**
baz=78,SNR=9.9
EDW2 Edwards Air Fo 77.94 47 P **P 21 06 10.4 +0.2**
baz=78,SNR=15
MONP Monument Peak 78.03 50 P **P 21 06 11.2 +0.5**
baz=78,SNR=16
CMB Columbia Colle 78.03 43 *e*P **P 21 06 09.9 -0.7**
CMB pmax pmax
comp=Z,24nm,1.1s,mb4.4
CMB Columbia Colle 78.03 43 *e*P **P 21 06 09.9 -0.7**
comp=Z,24nm,1.1s,mb4.4
CMB Columbia Colle 78.03 43⇑P **P 21 06 10.7 +0.2**
baz=78,SNR=10
OHCM Honcut 78.06 42 *e*P **P 21 06 09.6 -1.1**
O03C Acorn Hollow, 78.10 41⇑P **P 21 06 11.1 +0.2**
baz=78
WDC Whiskeytown Da 78.13 40⇑P **P 21 06 11.3 +0.3**
baz=78,SNR=6.7
DVTC Desert V Tower 78.15 50⇑P **P 21 06 11.5 +0.2**
baz=78,SNR=7.2
ORV Oroville 78.18 42 P **P 21 06 11.3 0.0**
baz=78,SNR=7.7
HELL Mitchell Peak 78.19 45⇑P **P 21 06 11.1 -0.3**
baz=78,SNR=11
LAVA Lava Cap Winer 78.21 43⇓P **P 21 06 11.6 +0.1**
baz=78
S06C San Francisco 78.30 44⇑P **P 21 06 12.2 +0.2**
baz=78
KCC Kaiser Creek 78.35 44⇓P **P 21 06 12.6 +0.4**
baz=78,SNR=8.1
PFO Pinyon Flat Ob 78.37 49 P **P 21 06 12.8 +0.3**
comp=Z,5.5nm,1.0s,mb3.8,baz=251,slow=6.3,SNR=3.9
PFO Pinyon Flat Ob 78.37 49⇓P **P 21 06 12.6 +0.1**
baz=78
M02C Callahan 78.42 39⇓P **P 21 06 13.3 +0.8**
baz=79,SNR=8.0
KDAK Kodiak Island 78.47 14 *e*P **P 21 06 11.8 -0.6**
comp=Z,61nm,1.3s,mb4.8
KDAK Kodiak Island 78.47 14 P **P 21 06 11.8 -0.6**
comp=Z,17nm,0.7s,mb4.5,baz=218,slow=3.9,SNR=18
P05C Yuba Gap, Truc 78.60 42⇓P **P 21 06 13.8 +0.3**
baz=79,SNR=7.2
MYKOM Kota Tinggi 78.61 276⇑P **P 21 06 15.2 +1.0**
R05C Kirkwood Meado 78.61 43⇓P **P 21 06 13.8 +0.1**
baz=79,SNR=9.8
YBH Yreka Blue Hor 78.70 39 *e*P **P 21 06 14.2 +0.1**
YBH pmax pmax
comp=Z,16nm,0.9s
YBH Yreka Blue Hor 78.70 39 *e*P **P 21 06 14.2 +0.1**
comp=Z,16nm,0.9s,mb4.3
YBH Yreka Blue Hor 78.70 39 P **P 21 06 13.9 -0.1**
comp=Z,14nm,0.8s,mb4.2,baz=147,slow=0.5,SNR=36
YBH Yreka Blue Hor 78.70 39⇓P **P 21 06 14.4 +0.3**
baz=79,SNR=12
M03C McCloud 78.79 40⇓P **P 21 06 14.9 +0.4**
baz=79,SNR=8.0
K02A Glendale 78.86 38⇓P **P 21 06 14.9 0.0**
baz=79
MTUM Tungsten Hills 78.87 45 *e*P **P 21 06 14.9 -0.1**
O04C Chester 78.88 41⇓P **P 21 06 15.1 +0.1**
baz=79,SNR=7.7
BELC Belle Mtn. 78.90 49⇑P **P 21 06 15.5 +0.2**
baz=79,SNR=7.9
MPMC Manual Prospec 78.91 46⇓P **P 21 06 15.1 -0.1**
baz=79,SNR=12
R06C Coleville 78.92 43 P **P 21 06 15.8 +0.6**
baz=79,SNR=9.1
HATC Hat Creek Radi 78.93 41⇑P **P 21 06 15.5 +0.2**
baz=79,SNR=8.7
TIN Tinemaha 78.93 45⇓P **P 21 06 15.5 +0.1**
baz=79
LHEM Herd Peak 78.94 40 P **P 21 06 15.7 +0.4**
R07C Lee Vining 78.94 44⇑P **P 21 06 15.7 +0.3**
baz=79,SNR=8.3
GSC Goldstone 78.99 47 *e*P **P 21 06 15.4 -0.3**
GSC pmax pmax
comp=Z,14nm,1.4s,mb4.1
GSC Goldstone 78.99 47 *e*P **P 21 06 15.4 -0.3**
comp=Z,14nm,1.4s,mb4.1
GSC Goldstone 78.99 47⇑P **P 21 06 15.6 -0.1**
baz=79
LBCM Butte Creek Ri 79.01 41 P **P 21 06 15.8 +0.1**
HUMO Hull Mountain 79.08 38 *e*P **P 21 06 16.2 +0.1**
comp=Z,17nm,1.0s,mb4.3
HUMO Hull Mountain 79.08 38⇓P **P 21 06 16.5 +0.5**
baz=79,SNR=9.1
BEKR Beckwourth 79.08 42⇑P **P 21 06 16.2 +0.1**
baz=79,SNR=9.6
HEC Hector,Ludlow 79.08 48⇑P **P 21 06 16.0 -0.2**
baz=79,SNR=6.9
BC3 Big Chuckw Mtn 79.12 49⇑P **P 21 06 16.6 +0.1**
baz=79
LTIM Timbered Crate 79.12 40 P **P 21 06 16.5 +0.3**
WCN Washoe City 79.15 43⇑P **P 21 06 17.1 +0.6**
baz=79,SNR=5.7
KGM Kluang 79.18 276⇓P **P 21 06 18.3 +1.0**
S08C White Mtn Res 79.21 45⇓P **P 21 06 17.5 +0.7**
baz=79,SNR=16
M04C Macdoel 79.26 40⇓P **P 21 06 17.5 +0.5**
baz=79,SNR=5.7
GLA Glamis 79.27 50 *e*P **P 21 06 17.8 +0.5**
GLA pmax pmax
comp=Z,36nm,1.4s,mb4.5
GLA Glamis 79.27 50 *e*P **P 21 06 17.8 +0.5**
comp=Z,36nm,1.4s,mb4.5
GLA Glamis 79.27 50⇑P **P 21 06 17.9 +0.7**
baz=79,SNR=9.3
BUOR Burton Butte 79.31 39 P **P 21 06 17.7 +0.5**
LASM Arnica Sink 79.31 40 P **P 21 06 17.6 +0.3**
M05C Lookout 79.44 40⇓P **P 21 06 18.2 +0.2**
baz=80,SNR=13
L04A Klamath Falls 79.46 39⇑P **P 21 06 18.3 +0.2**
baz=80,SNR=6.3
GRAC Grapevine Rang 79.48 46⇓P **P 21 06 19.1 +0.8**
baz=80,SNR=5.3
J03A Ideyld Park 79.53 38⇓P **P 21 06 18.2 -0.2**
baz=80
GMRC Granite Mounta 79.53 48⇑P **P 21 06 18.4 -0.3**
baz=80,SNR=5.2
FURC Furnace Creek, 79.56 46 P **P 21 06 18.8 +0.1**
baz=80,SNR=8.1
O06A Flanigan 79.58 42⇑P **P 21 06 19.3 +0.5**
baz=80,SNR=7.4
IRM Iron Mountain 79.59 49⇓P **P 21 06 19.0 +0.1**
baz=80,SNR=8.1
PAHR Pah Rah Range 79.61 42 *e*P **P 21 06 17.8 -1.1**
comp=Z,20nm,1.0s,mb4.4
NVAR Mina Array Bea 79.62 44 P **P 21 06 19.2 +0.2**
comp=Z,13nm,0.8s,mb4.3,baz=224,slow=9.1,SNR=74
NVAR pP pP 21 08 18.0 +3.6
comp=Z,2.1nm,1.0s,baz=232,slow=9.2,SNR=5.2
SHOC Shoshone 79.67 47⇓P **P 21 06 19.7 +0.4**
baz=80
R08A Mina 79.71 44⇓P **P 21 06 20.0 +0.6**
baz=80,SNR=5.2
I03A Eugene 79.71 37⇑P **P 21 06 19.6 +0.2**
baz=80
M06C Likely Place G 79.76 41⇓P **P 21 06 20.0 +0.4**
baz=80,SNR=11
K04A Chilquin 79.81 39⇑P **P 21 06 20.1 +0.2**
baz=80
CN2 Changchun 79.84 323 *e*P **P 21 06 20.8 +0.8**
CN2 AMB AMB
comp=Z,10.0nm,1.1s,mb4.1
MPOR Mary's Peak 79.88 37 P **P 21 06 20.7 +0.5**
N06A Buffalo Meadow 79.91 41⇓P **P 21 06 20.6 +0.1**
baz=80,SNR=17
113A Mohawk Valley, 79.91 51⇑P **P 21 06 21.4 +0.8**
baz=80,SNR=5.5
J04A Umpqua Nationa 79.95 38 P **P 21 06 21.5 +0.9**
baz=80,SNR=8.6
KLR Kul'dur 79.96 330 *e*P **P 21 06 16.2 -4.3**
S09A Goldfield 79.97 45⇑P **P 21 06 21.0 +0.1**
baz=80,SNR=8.4
L05A Lakeview 80.02 40⇑P **P 21 06 21.4 +0.4**
baz=80,SNR=9.2
Q08A Gabbs 80.10 44⇓P **P 21 06 21.6 +0.1**
baz=80,SNR=16
I04A Tendick Farm, 80.10 38⇓P **P 21 06 21.1 -0.3**
baz=80
H03A Soap Creek Ran 80.13 37⇑P **P 21 06 21.5 0.0**
baz=80
TPH Tonopah 80.15 45 *e*P **P 21 06 21.9 +0.1**
TPH pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
TPH Tonopah 80.15 45 *e*P **P 21 06 21.9 +0.1**
comp=Z,4.2nm,0.6s,mb4.0
O07A Toulon 80.19 42⇑P **P 21 06 22.1 +0.1**
baz=80,SNR=21
TPNV Topopah Spring 80.22 46 *e*P **P 21 06 21.5 -0.7**
TPNV pmax pmax
comp=Z,19nm,1.2s,mb4.3
TPNV Topopah Spring 80.22 46 *e*P **P 21 06 21.5 -0.7**
comp=Z,19nm,1.2s,mb4.3
TPNV Topopah Spring 80.22 46⇓P **P 21 06 22.5 +0.3**
baz=80,SNR=11
V11A Goodsprings 80.23 47⇑P **P 21 06 22.1 -0.1**
baz=80,SNR=6.8
MOD Modoc 80.27 40 *e*P **P 21 06 22.0 -0.3**
comp=Z,20nm,0.7s,mb4.6
MOD Modoc 80.27 40 P **P 21 06 22.5 +0.2**
baz=80,SNR=20
R09A Tonopah 80.34 45⇑P **P 21 06 22.7 -0.1**
baz=80,SNR=9.5
Y13A Salome 80.37 50⇑P **P 21 06 23.3 +0.3**
baz=80,SNR=7.5
K05A Summer Lake 80.38 39⇑P **P 21 06 23.4 +0.5**
baz=80,SNR=14
KTGM Kuala Trenggan 80.42 279⇑P **P 21 06 25.0 +1.2**
N07B Gerlach 80.47 42⇓P **P 21 06 23.6 +0.2**
baz=81
S10A Tonopah Range, 80.49 45⇓P **P 21 06 23.7 +0.2**
baz=81,SNR=23
J05A Fort Rock 80.50 39⇑P **P 21 06 23.9 +0.4**
baz=81,SNR=16
M07A Soldier Meadow 80.68 41⇑P **P 21 06 24.9 +0.4**
baz=81,SNR=9.6
X13A Yucca 80.75 49⇓P **P 21 06 25.1 +0.1**
baz=81,SNR=7.2
H04A Detroit Lake 80.76 37⇑P **P 21 06 24.2 -0.6**
baz=81,SNR=6.3
K06A Valley Falls 80.81 39⇓P **P 21 06 25.3 +0.2**
baz=81,SNR=22
R10A Warm Springs 80.88 45⇓P **P 21 06 26.3 +0.7**
baz=81,SNR=6.8
SVW2 Sparrevohn 80.89 11 *e*P **P 21 06 23.5 -1.6**
S11A Rachel 80.92 46⇑P **P 21 06 25.9 +0.1**
baz=81,SNR=5.8
L07A Adell 80.93 40 P **P 21 06 26.4 +0.7**
baz=81,SNR=11
W13A Hualapai Mount 80.95 49⇓P **P 21 06 26.1 +0.1**
baz=81
P09A Austin 80.99 44⇑P **P 21 06 26.1 +0.1**
baz=81
I05A Bend 80.99 38⇓P **P 21 06 26.4 +0.4**
baz=81
N08A GE Springer Mi 81.00 42 P **P 21 06 26.3 +0.1**
baz=81,SNR=20
115A Sonoran Desert 81.02 52⇓P **P 21 06 26.7 +0.2**
baz=81
Y14A Wickenburg 81.03 50⇓P **P 21 06 26.3 -0.1**
baz=81,SNR=9.3
T11A Corn Creek, Al 81.08 46⇓P **P 21 06 27.1 +0.4**
baz=81,SNR=22
MA2 Magadan 81.11 345⇑*e*P **P 21 06 24.5 -1.7**
MA2 pmax pmax
comp=Z,13nm,1.1s,mb4.3
J06A Christmas Vall 81.12 39⇓P **P 21 06 26.3 -0.4**
baz=81,SNR=13
U12A Valley of Fire 81.15 47⇑P **P 21 06 27.5 +0.5**
baz=81
M08A Happy Creek Ra 81.21 41⇑P **P 21 06 27.6 +0.5**
baz=81,SNR=12
V13A Grand Canyon W 81.25 48⇑P **P 21 06 27.4 -0.2**
baz=81
216A Three Points, 81.28 52⇓P **P 21 06 28.7 +0.9**
baz=81,SNR=7.7
O09A Fish Creek Ran 81.28 43⇑P **P 21 06 27.6 +0.1**
baz=81,SNR=12
H05A Madras 81.29 38⇓P **P 21 06 27.8 +0.2**
baz=81
TDH Tom, Dick, Har 81.35 37 P **P 21 06 27.6 -0.2**
116A Eloy 81.35 52⇓P **P 21 06 28.5 +0.3**
baz=81
K07A Rock Creek Ran 81.36 40⇑P **P 21 06 28.3 +0.3**
baz=82,SNR=25
X14A Yava 81.37 50⇓P **P 21 06 28.7 +0.5**
baz=82,SNR=15
F04A Amboy 81.38 36⇑P **P 21 06 27.9 0.0**
baz=82
R11A Troy Canyon, C 81.39 45⇓P **P 21 06 28.4 +0.2**
baz=82,SNR=6.3
BMN Battle Mountai 81.40 43 *e*P **P 21 06 28.2 0.0**
BMN pmax pmax
comp=Z,29nm,1.2s,mb4.6
BMN Battle Mountai 81.40 43 *e*P **P 21 06 28.2 0.0**
comp=Z,29nm,1.2s,mb4.6
N09A Rock Creek Ran 81.43 42⇓P **P 21 06 28.5 +0.2**
baz=82,SNR=7.6
SLKM Skilak Lake 81.45 14 *e*P **P 21 06 26.6 -1.4**
P10A Eureka 81.47 44⇑P **P 21 06 29.0 +0.4**
baz=82,SNR=6.6
NLWA Neilton Lookou 81.47 34 *e*P **P 21 06 28.1 -0.3**
comp=Z,11nm,0.8s,mb4.3
NLWA Neilton Lookou 81.47 34⇑P **P 21 06 28.5 +0.2**
baz=82
I06A Prineville 81.48 39⇓P **P 21 06 29.0 +0.5**
baz=82,SNR=7.4
S12A Delamar Landin 81.52 46 P **P 21 06 29.9 +1.0**
baz=82,SNR=15
Y15A Casa Rosa Ranc 81.53 50⇑P **P 21 06 29.9 +0.8**
baz=82,SNR=6.9
U13A Pakoon Wash 81.54 48⇑P **P 21 06 29.4 +0.4**
baz=82,SNR=22
VIPM Ingram Point 81.57 38 P **P 21 06 29.0 +0.1**
W14A Seligman 81.58 49 P **P 21 06 30.1 +0.9**
baz=82,SNR=15
G05A Wamic 81.59 37⇓P **P 21 06 28.7 -0.4**
baz=82
WVOR Wild Horse Val 81.59 40 P **P 21 06 29.0 -0.1**
WVOR pmax pmax
comp=Z,26nm,0.9s,mb4.7
WVOR Wild Horse Val 81.59 40 P **P 21 06 29.0 -0.1**
comp=Z,26nm,0.9s,mb4.7
Q11A Duckwater 81.60 45 P **P 21 06 29.5 +0.2**
baz=82,SNR=22
E04A Onalaska 81.61 35⇓P **P 21 06 29.9 +0.9**
baz=82
L08A Fields 81.64 41 P **P 21 06 29.8 +0.5**
baz=82,SNR=31
217A Green Valley 81.66 53⇑P **P 21 06 30.6 +0.9**
baz=82,SNR=15
J07A Hines 81.70 39⇑P **P 21 06 30.1 +0.5**
baz=82,SNR=8.0
V14A Boquillas Ranc 81.77 49⇑P **P 21 06 31.2 +1.0**
baz=82,SNR=17
M09A Marrel Ranch, 81.78 42⇓P **P 21 06 30.7 +0.5**
baz=82,SNR=11
O10A Cortez Mining, 81.79 43⇓P **P 21 06 30.6 +0.4**
baz=82,SNR=8.4
K08A Mann Creek Ran 81.85 40 P **P 21 06 30.9 +0.5**
baz=82,SNR=29
X15A Humboldt 81.85 50⇓P **P 21 06 31.3 +0.7**
baz=82,SNR=18
H06A Lindquist Farm 81.86 38⇓P **P 21 06 30.0 -0.4**
baz=82,SNR=24
T13A Saint George 81.88 47⇑P **P 21 06 31.1 +0.4**
baz=82,SNR=14
F05A White Salmon 81.89 36⇑P **P 21 06 30.7 +0.1**
baz=82
L09A Wilkinson Ranc 81.97 41⇓P **P 21 06 31.2 +0.2**
baz=82,SNR=17
G06A Carlson Farm, 81.98 37⇑P **P 21 06 30.8 -0.2**
baz=82,SNR=6.9
I07A Izee 81.98 39⇑P **P 21 06 31.3 +0.3**
baz=82,SNR=18
R12A Pony Springs, 82.05 46⇓P **P 21 06 31.8 +0.3**
baz=82,SNR=8.2
117A Oracle 82.08 52 P **P 21 06 32.6 +0.8**
baz=82,SNR=14
U14A Mt Trumbull 82.10 48⇑P **P 21 06 32.2 +0.4**
baz=82,SNR=26
E05A Randle 82.12 36⇓P **P 21 06 31.6 -0.1**
baz=82,SNR=5.8
Y16A Circle Bar Ran 82.13 51⇓P **P 21 06 32.3 +0.3**
baz=82,SNR=12
IPM Ipoh 82.13 277⇑P **P 21 06 33.7 +1.1**
GNW Green Mountain 82.14 34 P **P 21 06 31.6 -0.2**
318A Bisbee 82.14 54 P **P 21 06 33.0 +0.8**
baz=82,SNR=19
C04A Brinnon 82.15 34⇑P **P 21 06 32.1 +0.3**
baz=82
W15A Williams 82.16 49⇓P **P 21 06 32.4 +0.3**
baz=82
S13A Holt Ranch, En 82.19 47⇑P **P 21 06 32.8 +0.5**
baz=82,SNR=13
J08A Circle Bar Ran 82.20 40⇓P **P 21 06 32.3 +0.1**

baz=82,SNR=22
F06A Goldendale 82.20 37 ⇑P P 21 06 32.2 +0.1
baz=82
H07A Lands Inn, Kim 82.23 38 ⇑P P 21 06 32.4 +0.1
baz=82
Q12A Willow Creek R 82.25 45 ⇑P P 21 06 32.8 +0.2
baz=82,SNR=10
O11A Cowboy Ranch, 82.26 44 ⇑P P 21 06 33.0 +0.4
baz=82
K09A Rome 82.30 41 ⇓P P 21 06 32.7 0.0
baz=82,SNR=41
218A Dragoon 82.33 53 ⇑P P 21 06 34.0 +0.9
baz=82,SNR=13
D05A Enumclaw 82.36 35 ⇓P P 21 06 33.2 +0.3
baz=82
X16A Lo Mia Camp, P 82.40 50 ⇓P P 21 06 33.3 -0.1
baz=82,SNR=17
M10A I.L. Ranch, Tu 82.42 42 ⇑P P 21 06 33.9 +0.6
baz=82,SNR=25
P12A McGill 82.42 44 ⇓P P 21 06 33.8 +0.4
baz=82,SNR=7.1
I08A Drewsey 82.45 39 ⇓P P 21 06 33.9 +0.4
baz=83,SNR=21
T14A Hurricane 82.47 47 ⇓P P 21 06 34.1 +0.4
baz=83,SNR=11
Y17A Roosevelt 82.51 51 ⇓P P 21 06 34.1 +0.1
baz=83,SNR=5.6
CCUT Cedar City 82.52 47 eP P 21 06 34.2 +0.2
TTA Tatalina 82.52 10 eP P 21 06 32.5 -0.8
TTA pmax pmax
comp=Z,47nm,1.5s,mb4.8
TTA Tatalina 82.52 10 eP P 21 06 32.5 -0.8
comp=Z,47nm,1.5s,mb4.8
V15A Kaibab Nationa 82.53 49 ⇑P P 21 06 34.1 0.0
baz=83,SNR=17
E06A Yakima 82.54 36 ⇑P P 21 06 34.0 +0.1
baz=83,SNR=7.2
G07A Ruggs Ranch, H 82.56 38 P P 21 06 33.6 -0.3
baz=83,SNR=10
ARUT Antelope Range 82.58 47 eP P 21 06 32.5 -1.8
J09A Fry Pan Ranch, 82.63 40 ⇑P P 21 06 34.5 +0.2
baz=83,SNR=36
W16A Flagstaff 82.65 50 ⇑P P 21 06 35.5 +0.8
baz=83,SNR=7.0
319A Douglas 82.66 54 ⇓P P 21 06 35.7 +1.0
baz=83,SNR=14
PMR Palmer 82.66 14 eP P 21 06 32.7 -1.4
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
PMR Palmer 82.66 14 eP P 21 06 32.7 -1.4
comp=Z,7.6nm,0.6s,mb4.4
118A Homack Ranch, 82.69 52 ⇓P P 21 06 35.6 +0.7
baz=83,SNR=11
H08A Prairie City 82.72 39 ⇑P P 21 06 34.3 -0.5
baz=83,SNR=10
KULM Kulim 82.75 278 eP P 21 06 35.7 +0.1
L10A Juniper Basin 82.75 42 ⇓P P 21 06 35.3 +0.3
baz=83,SNR=13
Q13A Wheeler Ranch, 82.76 45 ⇑P P 21 06 35.3 +0.2
baz=83,SNR=22
C05A Tolt Reservoir 82.83 35 ⇓P P 21 06 35.2 -0.1
baz=83,SNR=6.2
M11A Holland Ranch, 82.85 42 ⇓P P 21 06 36.0 +0.5
baz=83,SNR=6.5
K10A MacKenzie Ranc 82.87 41 ⇓P P 21 06 35.7 +0.1
baz=83,SNR=24
O12A Currie 82.93 44 ⇑P P 21 06 36.0 +0.1
baz=83,SNR=11
219A White Tail Can 82.94 53 ⇑P P 21 06 36.7 +0.5
baz=83,SNR=8.9
T15A Red Dirt Ranch 82.95 48 ⇓P P 21 06 36.6 +0.5
baz=83,SNR=17
B05A Bryant 82.95 34 ⇓P P 21 06 35.5 -0.3
baz=83
WUAZ Wupatki 82.96 49 eP P 21 06 36.5 +0.3
comp=Z,22nm,1.1s,mb4.6
I09A Lost Marbles R 82.98 40 ⇓P P 21 06 35.9 -0.2
baz=83,SNR=6.1
G08A Pilot Rock 82.98 38 P P 21 06 36.0 -0.1
baz=83,SNR=20
D06A Cle Elum 83.00 36 ⇑P P 21 06 36.2 +0.1
baz=83,SNR=5.7
P13A Bates Ranch, G 83.01 45 P P 21 06 36.7 +0.3
baz=83,SNR=19
N12A Clover Valley, 83.04 43 ⇑P P 21 06 36.5 0.0
baz=83,SNR=17
Y18A Canyon Day Jun 83.15 51 ⇑P P 21 06 38.0 +0.8
baz=83,SNR=11
L11A Cat Creek Ranc 83.25 42 ⇑P P 21 06 38.0 +0.4
baz=83,SNR=8.8
HAWA Hanford 83.27 37 eP P 21 06 37.3 -0.2
comp=Z,35nm,1.3s,mb4.7
K11A Parker Ranch, 83.39 41 ⇑P P 21 06 38.4 +0.2
baz=84,SNR=16
H09A Durkee 83.40 39 ⇓P P 21 06 38.3 +0.1
baz=84
M12A Wells 83.40 43 ⇓P P 21 06 38.3 +0.1
baz=84,SNR=14
D07A Quincy 83.48 36 ⇑P P 21 06 38.5 0.0
baz=84
T16A Glen Canyon Da 83.55 48 ⇑P P 21 06 39.7 +0.6
baz=84
X18A Snowflake 83.55 51 ⇓P P 21 06 39.6 +0.4
baz=84
N13A Wendover, West 83.58 44 ⇓P P 21 06 39.4 +0.2
baz=84,SNR=5.9
I10A Payette 83.61 40 ⇑P P 21 06 39.6 +0.4
baz=84
WRAK Wrangell Islan 83.62 24 eP P 21 06 38.5 -0.5
comp=Z,29nm,1.1s,mb4.7
G09A Cove 83.67 38 ⇓P P 21 06 39.6 +0.1
baz=84,SNR=7.8
SEY Seymchan 83.70 347⇑eP P 21 06 38.4 -0.9
L12A House Creek Ra 83.71 42 P P 21 06 40.2 +0.5
baz=84,SNR=9.4
C07A Waterville 83.72 35 P P 21 06 39.2 -0.5
baz=84,SNR=8.0
BMO Blue Mountains 83.72 39 eP P 21 06 38.5 -1.3
BMO pmax pmax
comp=Z,13nm,1.4s,mb4.3
BMO Blue Mountains 83.72 39 eP P 21 06 38.5 -1.3
comp=Z,13nm,1.4s,mb4.3
MAW Mawson 83.77 200 P P 21 06 39.5 -0.2
comp=Z,11nm,0.8s,mb4.4,baz=120,slow=6.0,SNR=14
MSU Marysvale 83.80 46 eP P 21 06 40.8 +0.5
Y19A Nutrioso 83.81 52 ⇓P P 21 06 41.4 +0.9
baz=84,SNR=11
F09A S2 Ranch, Elgi 83.83 38 ⇑P P 21 06 40.6 +0.3
baz=84
MFID Camas Ranch 83.86 41 ⇑P P 21 06 40.6 +0.1
baz=84,SNR=15
M13A Montello 83.86 43 ⇓P P 21 06 40.9 +0.3
baz=84,SNR=18
H10A Noah's Angus R 83.91 39 P P 21 06 40.4 -0.3
baz=84,SNR=21
W18A Petrified Fore 83.97 50 ⇓P P 21 06 40.9 -0.4
baz=84
X19A St. Johns 83.99 51 ⇑P P 21 06 42.3 +0.9
baz=84,SNR=5.4
D08A Wollman Farm, 84.00 36 ⇑P P 21 06 40.8 -0.3
baz=84,SNR=6.0
I11A Placerville 84.04 40 ⇑P P 21 06 41.3 -0.1
baz=84,SNR=7.4
G10A Bishop Farm, J 84.07 39 ⇑P P 21 06 41.0 -0.5
baz=84,SNR=9.4
B07A Winthrop 84.13 35 ⇑P P 21 06 41.3 -0.4
baz=84,SNR=9.4
E09A Wood Farm, Sta 84.14 37 ⇓P P 21 06 41.6 -0.1
baz=84
DUG Dugway 84.18 45 P P 21 06 41.4 -0.7
baz=84
J12A Stokes Ranch, 84.23 41 ⇓P P 21 06 42.4 +0.1
baz=84,SNR=9.6
A07A Ashnola River, 84.33 34 ⇑P P 21 06 42.4 -0.2
baz=84
D09A Jones Farm, Ri 84.34 37 ⇑P P 21 06 42.9 +0.1
baz=84,SNR=5.2
F10A Beach Ranch, E 84.37 38 ⇓P P 21 06 42.8 -0.2
baz=84
H11A Donnelly 84.42 40 ⇑P P 21 06 43.4 +0.2
baz=84,SNR=10
M14A Sheep Mountain 84.47 43 ⇓P P 21 06 43.1 -0.4
baz=85,SNR=16
B08A Colville Reser 84.50 35 ⇑P P 21 06 42.5 -1.0
baz=85,SNR=12
G11A Walters Elk Ra 84.63 39 ⇓P P 21 06 43.7 -0.5
baz=85,SNR=30
E10A Myers Farm, Un 84.72 38 ⇑P P 21 06 44.8 +0.2
baz=85
C09A Chrisman Ranch 84.78 36 ⇑P P 21 06 44.6 -0.3
baz=85
SKAG Skagway 84.80 21 eP P 21 06 44.4 -0.3
comp=Z,6.7nm,0.7s,mb4.3
HLID Hailey 84.81 41 P P 21 06 45.7 +0.5
baz=85,SNR=11
A08A Turner Farm, O 84.87 35 ⇓P P 21 06 44.9 -0.4
baz=85,SNR=7.9
J13A Cove Ranch, Pi 84.88 41 ⇑P P 21 06 45.6 0.0
baz=85,SNR=18
D10A Wagner Farm, O 84.93 37 ⇑P P 21 06 44.9 -0.8
baz=85,SNR=5.2
F11A Grangeville 84.96 38 P P 21 06 44.5 -1.4
baz=85,SNR=5.8
M15A Larsen Ranch, 85.04 44 ⇓P P 21 06 46.2 -0.2
baz=85,SNR=5.7
H12A Diamond D Ranc 85.05 40 ⇓P P 21 06 46.2 -0.1
baz=85
K14A Jones Ranch, D 85.09 42 ⇑P P 21 06 46.3 -0.2
baz=85,SNR=6.9
E11A Bogner Ranch, 85.18 38 ⇑P P 21 06 45.7 -1.1
baz=85,SNR=6.7
I13A Wildhorse Cree 85.18 41 ⇓P P 21 06 46.9 0.0
baz=85,SNR=6.4
B09A Rice 85.19 36 ⇓P P 21 06 46.1 -0.8
baz=85,SNR=7.7
SRU San Rafael 85.22 46 eP P 21 06 47.1 -0.2
SRU pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
SRU San Rafael 85.22 46 eP P 21 06 47.1 -0.2
comp=Z,5.0nm,0.7s,mb4.2
A09A Danville 85.26 35 ⇓P P 21 06 47.0 -0.2
baz=85
H13A Challis 85.42 40 ⇓P P 21 06 47.9 -0.2
baz=86,SNR=6.1
F12A Elk City 85.43 39 P P 21 06 47.8 -0.3
baz=86,SNR=38
D11A Klaveano Farm, 85.47 37 ⇓P P 21 06 47.5 -0.7
baz=86,SNR=7.7
LAZ Ladron 85.58 52 eP P 21 06 49.2 0.0
NEW Newport 85.68 36 eP P 21 06 47.6 -1.6
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW Newport 85.68 36 eP P 21 06 47.6 -1.7
comp=Z,3.0nm,0.6s,mb4.1
NEW Newport 85.68 36 P P 21 06 47.9 -1.4
comp=Z,6.0nm,0.7s,mb4.4,baz=219,slow=4.1,SNR=9.8
HWUT Hardware Ranch 85.69 44 eP P 21 06 48.5 -0.9
comp=Z,3.9nm,0.9s,mb4.0
G13A Cobalt 85.70 40 ⇓P P 21 06 49.3 -0.1
baz=86,SNR=7.8
MNTX Cornudas Mount 85.81 55 eP P 21 06 50.0 -0.3
comp=Z,5.8nm,1.0s,mb4.2
IMA2 Indian Mountai 85.81 10 eP P 21 06 48.2 -1.3
COLA College 85.83 13c iP P 21 06 47.7 -1.9
BNM Barren Site 85.86 52 eP P 21 06 50.2 -0.3
PV10 Paradox Valley 85.92 48 eP P 21 06 50.3 -0.4
DLBC Dease Lake 85.94 23 P P 21 06 50.0 -0.2
baz=225,slow=6.9
D12A Red Ives Fores 86.04 38 ⇑P P 21 06 50.4 -0.6
baz=86
PV01 Paradox Valley 86.15 48 eP P 21 06 50.8 -0.9
B11A Sandpoint 86.19 36 ⇑P P 21 06 51.4 -0.3
baz=86,SNR=7.6
HIA Hailar 86.20 325d iP P 21 06 51.3 -0.4
TXAR Lajitas Array 86.24 58 P P 21 06 53.2 +0.9
comp=Z,11nm,0.8s,mb4.5,baz=219,slow=5.9,SNR=116
TXAR pP pP 21 08 55.5 +5.4
comp=Z,1.0nm,0.9s,baz=255,slow=2.5,SNR=5.3
ANMO Albuquerque 86.32 52c iP P 21 06 50.9 -1.7
BILL Bilibino 86.40 354⇓iP P 21 06 51.9 -0.3
BILL pmax pmax
comp=Z,16nm,1.2s,mb4.5
E13A Victor 86.42 39 ⇓P P 21 06 52.0 -0.8
baz=86
MCMT McKenzie Canyo 86.42 41 eP P 21 06 52.9 +0.1
A11A Hall Mountain, 86.47 36 ⇓P P 21 06 53.0 0.0
baz=87,SNR=7.4
D13A Huson 86.59 38 ⇑P P 21 06 52.6 -0.9
baz=87,SNR=6.7
B12A Libby 86.65 36 ⇑P P 21 06 54.1 +0.2
baz=87
G15A Dillon 86.81 40 P P 21 06 55.0 +0.3
baz=87,SNR=15
E14A Clinton 86.82 39 ⇓P P 21 06 54.7 0.0
baz=87
C13A Hot Springs 86.82 38 ⇓P P 21 06 53.9 -0.7
baz=87
A12A Yaak River Ran 86.86 36 ⇑P P 21 06 54.9 +0.1
baz=87
TPAW Teton Pass 86.98 42 eP P 21 06 55.5 0.0
comp=Z,19nm,1.3s,mb4.6
REDW Red Top Meadow 86.98 43 eP P 21 06 53.4 -2.2
comp=Z,26nm,1.0s,mb4.8
SNOW Snow King Moun 87.09 43 eP P 21 06 56.1 0.0
comp=Z,27nm,1.0s,mb4.8
F15A Butte 87.14 40 ⇑P P 21 06 56.3 +0.1
baz=87,SNR=6.1
D14A Greenough 87.14 38 ⇑P P 21 06 55.4 -0.8
baz=87,SNR=5.2
IMW Indian Meadow 87.18 42 eP P 21 06 55.4 -1.0
comp=Z,36nm,1.2s,mb4.9
CHMT Chamberlain Mo 87.21 39 eP P 21 06 55.6 -0.9
MOOW Moose Ponds 87.23 42 eP P 21 06 56.0 -0.6
comp=Z,5.6nm,0.9s,mb4.2
B13A Whitefish 87.24 37 ⇑P P 21 06 55.8 -0.8
baz=87,SNR=5.6
LOHW Long Hollow 87.26 42 eP P 21 06 56.5 -0.3
comp=Z,3.0nm,0.5s,mb4.2
EGAK Eagle 87.28 15 eP P 21 06 55.1 -1.3
comp=Z,4.8nm,0.7s,mb4.2
E15A Deer Lodge 87.33 39 ⇓P P 21 06 56.7 -0.4
baz=88,SNR=5.1
C14A Swan Lake 87.35 38 ⇑P P 21 06 56.3 -0.9
baz=88
A13A Flathead Natio 87.56 36 ⇓P P 21 06 57.9 -0.1
baz=88
KMI Kunming 87.57 297 P P 21 06 56.8 -1.9
KMI AMB AMB
comp=Z,3.0nm,0.7s,mb4.1
BOZ Bozeman (W) 87.57 40 ⇑P P 21 06 58.4 +0.2
baz=88
D15A Lincoln 87.71 39 ⇑P P 21 06 58.6 -0.2
baz=88,SNR=10
SMCO Snowmass 87.73 48 eP P 21 06 59.0 -0.1
comp=Z,7.8nm,1.0s,mb4.4
WALA Waterton Lakes 87.91 37 eP P 21 06 58.2 -1.5
comp=Z,7.7nm,0.8s,mb4.5
HRY Holter Researc 87.96 39 eP P 21 06 59.7 -0.3
SDCO Great Sand Dun 88.18 49 eP P 21 07 00.9 -0.4
comp=Z,2.2nm,0.9s,mb3.9
CD2 Chengdu 88.82 303 eP P 21 07 03.8 -0.6
CD2 XP sP 21 09 56.3 -1.1
CD2 PP PP 21 10 45.1 +1.3
CD2 SKS 21 16 40.8
CD2 S S 21 17 04.0 -2.7
CD2 SS SS 21 23 16.0 +0.4
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.7
CD2 AMB AMB
comp=Z,20nm,9.2s
SYO Syowa Base 89.10 193⇑eP P 21 07 02.5 -2.5
SYO Syowa Base 89.10 193⇓ePcP PcP 21 07 04.4 -1.6
YAK Yakutsk 89.46 338⇑eP P 21 07 05.0 -1.6
YAK pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
PHWY Pilot Hill 89.67 46 eP P 21 07 07.7 -0.4
JCT Junction City 89.78 58 eP P 21 07 08.1 -0.8
JCT pmax pmax
comp=Z,3.0nm,0.4s,mb4.5
JCT Junction City 89.78 58 eP P 21 07 08.1 -0.8
comp=Z,3.0nm,0.4s,mb4.5
SNAA Sanae 90.61 179 eP P 21 07 08.6 -3.4
SNAA e 21 07 09.9
SNAA e 21 07 15.0
SNAA Sanae 90.61 179⇑eP P 21 07 07.9 -4.1
VNA3 Neumayer Olymp 90.76 176 eP P 21 07 12.0 -0.7
VNA3 e 21 07 13.1
VNA3 e 21 07 18.0
VNA2 Neumayer--Watz 91.20 177 eP P 21 07 14.7 0.0
VNA2 e 21 07 15.6
VNA2 e 21 07 20.6
VNA1 Neumayer--Stat 91.43 177 eP P 21 07 16.1 +0.3
VNA1 e 21 07 17.4
VNA1 e 21 07 21.2
RSSD Black Hills 91.76 44 eP P 21 07 16.6 -1.1
RSSD pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
RSSD Black Hills 91.76 44 eP P 21 07 16.6 -1.1
comp=Z,7.3nm,1.0s,mb4.7
INK Inuvik 91.96 15 eP P 21 07 16.2 -1.8
INK pmax pmax
comp=Z,436nm,1.0s
INK Inuvik 91.96 15 eP P 21 07 16.2 -1.9
comp=Z,436nm,1.0s
ULN Ulaanbaatar 92.96 320⇑eP P 21 07 22.3 -0.8
SONM Songino Array 93.36 319 P P 21 07 26.1 +1.1
comp=Z,0.2nm,0.6s,baz=107,slow=5.1,SNR=3.5
YKA Yellowknife Ar 94.45 25 P P 21 07 28.2 -1.3
comp=Z,3.4nm,0.8s,mb4.5,baz=244,slow=4.5,SNR=40
TIXI Tiksi 96.08 345⇑eP P 21 07 35.0 -1.7
TIXI pmax pmax
comp=Z,2.0nm,0.9s,mb4.3
MKAR Makanchi Array 108.92 314 PKiKP PKiKP 21 12 34.3 -1.3
comp=Z,0.1nm,0.3s,baz=80,slow=0.8,SNR=2.4
ARCES ARCESS Array B 126.26 350 PKP PKPdf 21 13 07.0 -1.3
comp=Z,3.2nm,0.8s,baz=327,slow=2.0,SNR=3.8
AKASG Malin Array Be 140.42 332 PKhKP 21 13 27.8
comp=Z,0.3nm,0.4s,baz=43,slow=4.2,SNR=4.6
BSEG Bad Segeberg 143.36 351 ePKPbc PKPdf 21 13 38.0 -2.4
KWP Kalwaria 143.95 336 ePKP PKPdf 21 13 40.5 -1.0
KWP Kalwaria 143.95 336 ePKP PKPdf 21 13 40.5 -1.0
KWP Kalwaria 143.95 336⇑iP PKPdf 21 13 40.8 -0.7
BURAR Bucovina Array 144.47 332⇑iP PKPdf 21 13 43.3 +0.8
OJC Ojcow 144.51 339 ePKP PKPdf 21 13 41.8 -0.7
STHS Stebnicka Huta 144.68 337 ePKP PKPdf 21 13 43.0 +0.2
UZH Uzhgorod 144.92 336⇓iPKIKP PKPdf 21 13 43.4 +0.2
NIE Niedzica 145.01 338 ePKPc PKPbc 21 13 44.1 0.0
CRVS Cervenica-Dubn 145.02 337 ePKP PKPdf 21 13 42.9 -0.5
KSP Ksiaz 145.02 343 ePKIKP PKPdf 21 13 43.6 +0.3
PLOR Plostina 145.07 328⇑iP PKPdf 21 13 44.0 +0.4
HARR Harsova 145.20 326⇓iP PKPdf 21 13 44.8 +0.9
TRPA Tarpa 145.22 335⇑iP PKPdf 21 13 44.2 +0.4
IBBN Ibbenburen 145.29 353 ePKPbc PKPbc 21 13 44.1 -0.7
OKC Ostrava-Krasne 145.37 341 ePKP PKPdf 21 13 44.7 +0.7
CLZ Clausthal 145.38 350 ePKPbc PKPbc 21 13 44.6 -0.5
CLL Collm 145.39 347⇑iPKP PKPdf 21 13 44.2 +0.2
CLL Collm 145.39 347 ePKPbc PKPbc 21 13 44.4 -0.8
CLL Collm 145.39 347⇑iPKPbc PKPbc 21 13 44.2 -1.0
comp=Z,22nm,0.9s
UPC Upice 145.40 343 ePKP PKPdf 21 13 45.0 +1.0
DPC Dobruska-Polom 145.46 343 ePKP PKPdf 21 13 45.4 +1.3
BRG Berggiesshubel 145.59 346 ePKPbc PKPbc 21 13 45.1 -0.6
BRG Berggiesshubel 145.59 346 ePKP PKPdf 21 13 45.4 +1.1
comp=Z,13nm,0.9s
MORC Moravsky Berou 145.61 341⇑iP PKPdf 21 13 45.9 +1.5
MLR Muntele Rosu 145.68 329⇑iP PKPbc 21 13 46.8 +0.6
WTSB Winterswijk 145.73 354 eP PKPdf 21 13 45.5 +1.0
comp=Z,20nm,1.1s
PVCC Panska Ves 145.76 345 ePKP PKPdf 21 13 46.1 +1.5
MMAI Mount Meron Ar 145.90 303 pPKPbc pPKPdf 21 15 55.3 +3.0
comp=Z,6.0nm,1.0s,baz=12,slow=4.5,SNR=5.9
BUG Bochum--Univer 146.20 353 ePKPab PKPab 21 13 49.1 -0.5
DRGR 146.20 333⇓iP PKPbc 21 13 47.5 -0.1
MOX Moxa 146.31 348 ePKP PKPdf 21 13 47.1 +1.6
comp=Z,15nm,1.3s
MOX Moxa 146.31 348 ePKPbc PKPbc 21 13 47.1 -0.7
MOX ePKPab PKPab 21 13 49.0 -1.0
VYHS Vyhne 146.31 339 iPKP PKPbc 21 13 47.8 0.0
TANN Tannenbergstha 146.35 347 ePKPbc PKPbc 21 13 47.4 -0.5
KOLL Kolacno 146.38 339 iPKP PKPbc 21 13 48.2 +0.2
PSZ Piszkesteto 146.42 337⇓iP PKPbc 21 13 48.1 -0.1
UBBA Unterbreizbach 146.43 350 ePKPbc PKPbc 21 13 48.1 0.0
NKC Novy Kostel 146.53 347 ePKP PKPdf 21 13 47.8 +1.9
TREC Trest 146.65 343 ePKP PKPdf 21 13 47.2 +1.1
MANZ Manzenberg 146.83 347 ePKPbc PKPbc 21 13 48.7 -0.5
MODS Modra-Piesok 146.93 340 ePKP PKPbc 21 13 49.8 +0.3
HGN Heimansgroeve 147.01 355 eP PKPdf 21 13 47.6 +0.9
comp=Z,7.6nm,1.8s
ROTZ Rotzenmuhle 147.02 347 ePKPbc PKPbc 21 13 49.4 -0.3
ROTZ ePKPab PKPab 21 13 52.6 -0.3
MEM Membach 147.15 354 PKPbc PKPbc 21 13 49.9 -0.2
GRA1 Grafenberg Arr 147.29 348 ePKPbc PKPbc 21 13 49.9 -0.5
GRA1 ePKPab PKPab 21 13 53.7 -0.3
GRF Grafenberg Arr 147.29 348 ePKPbc PKPbc 21 13 49.9 -0.5
GRF ePKPab PKPab 21 13 53.7 -0.3
GRFO Grafenberg 147.29 348 ePKP2 PKPbc 21 13 50.1 -0.3
KHC Kasperske Hory 147.30 345 ePKP PKPbc 21 13 50.1 -0.4
KHC ex x 21 13 54.0
WET Wettzell 147.45 346 ePKPbc PKPbc 21 13 50.3 -0.6
WET ePKPab PKPab 21 13 54.6 -0.1
GEC2 GERESS Array S 147.53 345 ePKPbc PKPbc 21 13 50.6 -0.5
GERES GERESS Array B 147.53 345 PKPbc PKPbc 21 13 50.4 -0.6
comp=Z,4.3nm,0.6s,baz=22,slow=2.8,SNR=56
BZS Buzias 147.60 333⇑iP PKPbc 21 13 51.3 -0.1
GIVF Givet 147.75 356 ePKP1 PKPbc 21 13 51.0 -0.6
CONA Conrad Observa 147.77 341⇓iP PKPbc 21 13 51.1 -0.6
comp=Z,16nm,1.8s
CSNA Conrad Observa 147.77 342 PKPbc 21 13 51.2 -0.5
comp=Z,14nm,1.8s
DOU Dourbes 147.77 356 PKPbc PKPbc 21 13 51.5 -0.2
BAIF Baives 147.84 356 ePKP1 PKPbc 21 13 51.3 -0.5
comp=Z,31nm,1.1s
WLF Walferdange 148.07 354 PKPbc PKPbc 21 13 52.8 +0.4
WLF Walferdange 148.07 354 ePKPbc PKPbc 21 13 52.4 0.0
MOA Molln 148.30 343⇑iP PKPbc 21 13 52.5 -0.5
comp=Z,11nm,1.1s
STU Stuttgart 148.54 350 ePKPbc PKPbc 21 13 52.8 -0.8
FUR Furstenfeldbru 148.73 347 ePKPbc PKPbc 21 13 53.1 -1.0
FUR ePKPab PKPab 21 13 59.7 -0.3
KOGS Kog 148.96 340 ePKPbc PKPbc 21 13 53.7 -1.0
BFO Black Forest 149.11 351 ePKPbc PKPbc 21 13 54.2 -0.8
BFO ePKPab PKPab 21 14 00.6 -0.9
CDF Champ du Feu 149.18 352 ePKP1 PKPbc 21 13 54.5 -0.7
FLN La Foliniere 149.19 2 ePKP1 PKPbc 21 13 54.2 -1.0
KBA Koelnbreinsper 149.25 344⇓iP PKPbc 21 13 54.5 -0.9
comp=Z,7.1nm,1.1s
MEZF Maizieres J'vi 149.33 355 ePKP1 PKPbc 21 13 55.1 -0.4
LDF La Druitiere 149.37 2 ePKP1 PKPbc 21 13 54.5 -1.1
GRR Gorron 149.54 3 ePKP1 PKPbc 21 13 55.2 -0.9
comp=Z,15nm,0.7s
MOTA Moosalm 149.55 347⇑iP PKPbc 21 13 55.3 -0.8
comp=Z,6.6nm,1.0s
SQTA Sankt Quirin 149.64 347⇑iP PKPbc 21 13 56.1 -0.3
comp=Z,6.8nm,1.0s
HAU Haudompre 149.69 353 ePKP1 PKPbc 21 13 55.6 -0.8
PDKS Podkum 149.70 341 ePKPbc PKPbc 21 13 55.4 -1.1
HINF Hinteralfeld 149.82 353 ePKP1 PKPbc 21 13 55.8 -0.9
LJU Ljubljana 149.86 341 ePKPbc PKPbc 21 13 56.1 -0.8
BOJS Bojanci 150.12 340 ePKPbc PKPbc 21 13 57.1 -0.4
LOR Lormes 150.64 356 ePKP1 PKPbc 21 13 58.0 -0.7
comp=Z,16nm,0.7s
HYF Humbligny 150.69 358 ePKP1 PKPbc 21 13 58.4 -0.4
SSF Saint Saulge 150.86 357 ePKP1 PKPbc 21 13 58.5 -0.7
comp=Z,10nm,0.6s
CABF La Chapelle 151.10 353 ePKP1 PKPbc 21 13 59.6 -0.1
comp=Z,66nm,1.4s
AVF Avril sur Loir 151.14 357 ePKP1 PKPbc 21 13 58.8 -1.0
SMF Signal de Mont 151.26 356 ePKP1 PKPbc 21 13 59.0 -1.1
MFF Saint Martin d 151.36 2 ePKP1 PKPbc 21 13 59.3 -1.0
comp=Z,15nm,0.8s
BGF Bois d'Agland 151.40 358 ePKP1 PKPbc 21 13 59.6 -0.8
comp=Z,9.4nm,0.6s
TCF Toulx Ste Croi 151.68 359 ePKP1 PKPbc 21 14 00.1 -1.0
LPL La Plagne 152.09 352 ePKP1 PKPbc 21 14 02.1 +0.1
LPG La Plagne 152.11 352 ePKP1 PKPbc 21 14 02.2 +0.2
RJF Les Rejaudoux 152.68 360 ePKP1 PKPbc 21 14 03.0 -0.3
ORIF Oris-en-Rattie 152.79 353 ePKP1 PKPbc 21 14 03.0 -0.5
MBDF Montbardon 152.86 351 ePKP1 PKPbc 21 14 03.8 +0.1
comp=Z,7.6nm,0.7s
CAF Calviac 153.05 359 ePKP1 PKPbc 21 14 03.4 -0.7
comp=Z,5.4nm,0.7s
SBF Sospel 153.60 350 ePKP1 PKPbc 21 14 05.2 -0.1
FRF La Foret Royal 154.02 351 ePKP1 PKPbc 21 14 05.4 -0.8
ESDC Sonseca Array 157.83 11 PKPab PKPab 21 14 37.3 -1.6
comp=Z,1.4nm,0.6s,baz=334,slow=4.1,SNR=9.3
EVO Evora 157.90 20 ePKIKP PKPdf 21 14 00.5 -2.4
comp=Z,16nm,1.0s

*IDC **19** 21:18:05.8±1.2, 34.37N×2.361E, h0km, mb3.7/8, mb1 3.7/11, mb1mx3.6/26, mbtmp3.6/11, ML3.8/3, Error ellipse: s-maj=24.8km s-min=20.5km az=3.0*
*ISCJB **19** 21:18:10.6±1.2, 34.26N±0.008×2.384E±0.008, h64km±10km, mb3.5/8, Error ellipse: s-maj=15.4km s-min=9.6km az=32.6*
*CSEM **19** 21:18:11.4±0.1, 34.53N×2.346E, h60km, MD3.5/1, Error*

ellipse: s-maj=5.6km s-min=3.6km az=132.0
*ATH **19** 21:18:17.6, 3461N×2398E, h26km±1km, MD3.5/4*
*NEIC **19** 21:18:17.6, 3461N×2398E, h26km, MD3.5(ATH), After ATH.*

ISC 19 21:18:11.4±1.4, 3429N±007×2373E±009, h46km±14km, n21, σ1°40/24, mb3.5/8, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	Gavdhos	0.62	28	*e*PB	Pn	21 18 24.0	0.0
VAM	Vamos	1.18	19	*e*PN	Pn	21 18 34.1	+2.6
VAM				*e*SN	Sn	21 18 45.5	-0.9
IDI	Anoyia	1.38	43	Pn	Pn	21 18 36.3	+2.1
	3.6nm,0.3s,baz=246,slow=13,SNR=43						
IDI				Sn	Sn	21 18 51.7	+0.4
	8.9nm,0.3s,baz=112,slow=23,SNR=10						
NPS	Neapolis	1.83	57	*e*PN	Pn	21 18 44.2	+3.9
KYTH	Kithira	2.07	344	*e*PN	Pn	21 18 49.5	+5.9
VAE	Valguarnera	8.20	295	Sn	Sn	21 21 29.5	-10
	0.5nm,0.3s,baz=324,slow=23,SNR=2.3						
MMAI	Mount Meron Ar	9.81	94	Pn	Pn	21 20 29.5	-0.4
	0.8nm,0.3s,baz=280,slow=10,SNR=8.0						
MMAI				Sn	Sn	21 22 17.7	-0.9
	1.0nm,0.3s,baz=267,slow=24,SNR=6.0						
EIL	Elat	10.58	113	Pn	Pn	21 20 39.6	-0.8
	0.6nm,0.3s,baz=135,slow=17,SNR=8.3						
GERES	GERESS Array B	16.34	336	Pn	Pn	21 21 54.4	-3.0
	0.1nm,0.3s,baz=152,slow=35,SNR=2.5						
KHC	Kasperske Hory	16.63	336	*e*P	Pn	21 22 02.5	+1.4
AKASG	Malin Array Be	16.89	12	Pn	Pn	21 22 02.2	-2.0
AKASG	Malin Array Be	16.89	12	Pn	Pn	21 22 02.2	-2.0
	0.5nm,0.3s,baz=203,slow=10,SNR=6.0						
ESDC	Sonseca Array	22.72	292	P	P	21 23 06.0	-3.2
	0.2nm,0.4s,mb2.9,baz=120,slow=22,SNR=5.2						
HFS	Hagfors	26.68	349	P	P	21 23 44.3	-1.5
	0.9nm,0.5s,mb3.6,baz=148,slow=14,SNR=5.5						
FINES	FINESS Array B	27.21	2	P	P	21 23 49.4	-1.2
	0.4nm,0.6s,mb3.1,baz=177,slow=9.2,SNR=2.2						
EKA	Eskdalemuir Ar	28.10	327	P	P	21 23 59.5	+1.0
	1.8nm,1.0s,mb3.7,baz=124,slow=8.1,SNR=4.6						
TORD	Torodi Ar. Bea	29.03	229	P	P	21 24 08.2	+0.9
	0.4nm,0.8s,mb3.2,baz=39,slow=10,SNR=4.7						
ARCES	ARCESS Array B	35.31	1	P	P	21 25 03.0	+1.4
	3.9nm,0.8s,mb4.4,baz=33,slow=28,SNR=3.1						
MKAR	Makanchi Array	45.24	56	P	P	21 26 25.2	+1.2
	1.0nm,0.5s,mb3.9,baz=276,slow=7.4,SNR=15						
MKAR	Makanchi Array	45.24	56	P	P	21 26 25.2	+1.2
SONM	Songino Array	60.95	50	P	P	21 28 20.3	+0.7
	0.1nm,0.3s,mb3.4,baz=288,slow=7.5,SNR=4.1						

*ISCJB **19** 21:29:39.9±2.7, 4355±008×1438E±01.1, h99km±25km, mb4.2/11, Error ellipse: s-maj=23.2km s-min=12.1km az=9.4*
*NEIC **19** 21:29:40.6±2.5, 4335×1438?E, h94km±21km, mb4.8/4, Error ellipse: s-maj=18.8km s-min=11.3km az=81.0*
*IDC **19** 21:29:40.0±6.1, 4325×1439?E, h87km±55km, mb3.7/9, mb1 3.9/11, mb1mx3.9/16, mbtmp3.8/11, ML4.2/2, Error ellipse: s-maj=37.4km s-min=16.9km az=83.0*

ISC 19 21:29:39.5±3.1, 4325N±009×1439E±02, h80km±28km, n28, σ0°57/24, mb4.2/11, 2C, New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	14.04	233	⇑*i*P	Pn	21 32 54.6	-0.2
	15nm,0.6s						
CTA	Charters Tower	15.85	172	P	Pn	21 33 19.0	+1.1
CTA	Charters Tower	15.85	172	P	Pn	21 33 19.0	+1.1
	0.1nm,0.3s,baz=336,slow=10.0,SNR=4.1						
WRAB	Tennant Creek	18.08	210	*e*Pn	Pn	21 33 44.6	-0.8
	15nm,0.8s						
WB2	Warramunga Arr	18.09	210	⇑*i*P	Pn	21 33 44.9	-0.6
WB2				*e*S	S	21 36 58.8	-8.9
WRA	Warramunga Arr	18.09	210	P	Pn	21 33 45.0	-0.6
	2.6nm,0.3s,baz=37,slow=9.6,SNR=110						
BATI	Kupang	20.87	253	P	P	21 34 16.8	+1.5
	14nm,0.5s,baz=105,slow=20,SNR=3.9						
ASAR	Alice Springs	21.51	206	P	P	21 34 21.6	-0.3
	8.9nm,0.6s,mb4.3,baz=28,slow=11,SNR=96						
FITZ	Fitzroy Crossi	22.49	231	*e*P	P	21 34 32.6	+0.1
	19nm,0.4s,mb4.8						
FITZ	Fitzroy Crossi	22.49	231	P	P	21 34 33.1	+0.6
	12nm,0.6s,mb4.4,baz=50,slow=11,SNR=64						
STKA	Stephens Creek	27.50	184	*e*P	P	21 35 18.6	+0.2
	6.0nm,1.3s,mb4.0						
STKA	Stephens Creek	27.50	184	P	P	21 35 18.2	-0.2
STKA	Stephens Creek	27.50	184	P	P	21 35 18.2	-0.2
	2.8nm,0.7s,mb3.9,baz=346,slow=9.4,SNR=12						
FORT	Forrest	30.25	208	*e*P	P	21 35 43.0	+0.2
	12nm,0.4s,mb4.9						
KLBR	Kellerberrin	36.57	219	*e*P	P	21 36 37.8	0.0
	102nm,1.8s,mb5.5						
MUN	Mundaring	37.81	220	*e*P	P	21 36 48.5	+0.2
MJAR	Matsushiro Arr	40.99	353	P	P	21 37 14.9	+0.3
	0.4nm,0.4s,mb3.6,baz=359,slow=15,SNR=4.2						
KSRS	Korea Array	44.13	342	P	P	21 37 39.4	-0.7
	0.7nm,0.5s,mb3.7,baz=163,slow=9.1,SNR=5.2						
SONM	Songino Array	61.45	332	P	P	21 39 47.3	-0.1
	0.3nm,0.7s,mb3.4,baz=190,slow=7.5,SNR=4.0						
VNDA	Vanda	73.78	176	P	P	21 41 04.5	-0.2
VNDA	Vanda	73.78	176	P	P	21 41 04.5	-0.2
	1.3nm,0.7s,mb3.8,baz=328,slow=6.6,SNR=6.5						
MKAR	Makanchi Array	74.23	321	P	P	21 41 07.8	0.0
	0.3nm,0.5s,mb3.3,baz=94,slow=9.3,SNR=9.4						
QSPA	South Pole Qui	85.64	180	*e*P	P	21 42 08.6	-0.1
	4.7nm,0.6s,mb4.6						
QSPA				*ep*P	pP	21 42 34.4	+4.0
QSPA				*es*P	sP	21 42 45.4	+6.3
TORD	Torodi Ar. Bea	141.65	286	PKhKP		21 48 53.5	
	1.2nm,1.2s,baz=146,slow=0.5,SNR=3.0						
LPAZ	La Paz	142.31	124	PKP	PKPdf	21 49 01.7	-2.1
LPAZ	La Paz	142.31	124	PKhKP		21 49 01.7	
	0.3nm,0.4s,baz=260,slow=4.0,SNR=4.0						
CPUP	Villa Florida	143.26	147	PKP	PKPdf	21 49 05.2	-0.1
	0.9nm,0.5s,baz=348,slow=3.8,SNR=4.6						
DBIC	Dimbokro	148.79	276	PKPbc	PKPbc	21 49 18.4	-0.5
	2.0nm,0.5s,baz=112,slow=4.1,SNR=5.7						

*NIED **19** 21:58:00, 2840N×12860E, h65km, Mw4.0 Best double couple: M0:1.28000×10^15 NP1:φ=214.00000°, δ71.00000°, λ151.00000°. NP2:φ=314.00000°, δ63.00000°, λ22.00000°.*
*BJI **19** 21:58:26.5, 2804N×12875E, h105km, mB4.2, mb4.3*
*ISCJB **19** 21:58:27.0±0.3, 2827N±003×12881E±005, h94km±3km, mb4.1/19, Error ellipse: s-maj=8.7km s-min=3.6km az=33.8*
*JMA **19** 21:58:27.8±0.2, 2842N×12862E, h53km, M4.0*
JMA Felt I J1.
*NEIC **19** 21:58:28.9±0.7, 2825N×12875E, h97km±7km, mb4.2/6, Error ellipse: s-maj=9.9km s-min=7.0km az=94.0*
NEIC Recorded [1 JMA] on Tokuno-shima.
*IDC **19** 21:58:28.3±1.0, 2824N×12862E, h92km±9km, mb3.7/11, mb1 3.8/14, mb1mx3.7/24, mbtmp3.7/14, MS3.0/1, Ms1 3.0/1, ms1mx2.3/24, Error ellipse: s-maj=22.0km s-min=10.2km az=88.0*

ISC 19 21:58:28.0±0.3, 2827N±003×12881E±005, h87km±3km, n47, σ0°93/60, mb4.1/19, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTK	Tokunoshima	0.50	165	P	Pn	21 58 41.8	-0.6
JTK				S	Sn	21 58 52.0	-1.1
JAM	Amami Oshima	0.72	78	P	Pn	21 58 43.5	-0.9
JAM				S	Sn	21 58 55.1	-1.5
JZK	Kikaishima	1.03	87	P	Pn	21 58 49.2	+1.4
JZK				S	Sn	21 59 05.0	+4.9
JIH	Iheya	1.44	211	P	Pn	21 58 52.8	0.0
JIH				S	Sn	21 59 11.2	+1.1
JOW	Kunigami	1.51	198	P	Pn	21 58 53.7	0.0
JOW				S	Sn	21 59 13.2	+1.4
JOW	Kunigami	1.51	198	P	Pn	21 58 53.7	0.0
	170nm,0.3s,baz=86,slow=15,SNR=357						
JOW				S	Sn	21 59 11.9	+0.1
	309nm,0.3s,baz=95,slow=28,SNR=24						
JNN	Nakanoshima	1.82	31	P	Pn	21 58 57.3	-0.5
JNN				S	Sn	21 59 19.5	-0.1
JAGN	Aguni-jima	2.17	220	P	Pn	21 59 02.5	0.0
JAGN				S	Sn	21 59 28.2	+0.1
NAH1	Naha	2.28	206	P	Pn	21 59 04.4	+0.5
NAH1				S	Sn	21 59 31.7	+0.9
JJT2	Tamagusuku 2	2.32	204	P	Pn	21 59 04.7	+0.3
JJT2				S	Sn	21 59 33.4	+1.7
JKC	Kuchinoerabu	2.50	29	P	Pn	21 59 06.6	-0.2
JKC				S	Sn	21 59 36.2	+0.2
JKE	Kume jima 2	2.64	223	P	Pn	21 59 08.5	-0.2
JKE				S	Sn	21 59 40.1	+0.6
JTN	Tanegashima 3	3.04	38	P	Pn	21 59 14.1	+0.1
JTN				S	Sn	21 59 49.0	-0.2
JNU	Nakatsue	5.16	20	P	Pn	21 59 44.4	+1.7
	9.2nm,0.3s,baz=192,slow=8.7,SNR=74						
YHNB	Yeheng	7.56	243	*e*Pn	Pn	22 00 17.1	+1.6
NACB	Ninganchiao	7.65	239	Pn	Pn	22 00 15.4	-1.4
KSRS	Korea Array	9.19	356	P	Pn	22 00 39.5	+1.8
	0.7nm,0.3s,baz=176,slow=14,SNR=22						
MJAR	Matsushiro Arr	11.45	42	P	Pn	22 01 10.3	+1.9
MJAR				LR	LR	22 05 57.5	
MJAR	Matsushiro Arr	11.45	42	P	Pn	22 01 10.3	+1.9
	0.5nm,0.3s,baz=241,slow=13,SNR=73						
MJAR				LR	LR	22 05 57.5	
	comp=Z,62nm,18.6s,baz=5.0,slow=39						
BJT	Baijiatuau	15.69	322	P	Pn	22 02 08.6	+4.6
	12nm,0.9s						
XAN	Xi'an	17.96	294	P	Pn	22 02 31.8	-0.1
XAN				AMB	AMB		
	comp=Z,32nm,0.6s						
CD2	Chengdu	21.93	283	*e*P	P	22 03 14.8	+0.4
CD2				AP		22 03 38.3	
CD2				PP		22 03 45.5	
CD2				XP	sP	22 03 52.8	+10
CD2				S	S	22 07 03.8	-7.8
CD2				SS		22 07 50.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.3						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
CD2				LR	LR		
	comp=N,120nm,13.2s						
CD2				LR	LR		
	comp=Z,150nm,14.4s						
ULN	Ulaanbaatar	25.85	325	*e*P	P	22 03 53.2	+2.0
	comp=Z,3.1nm,0.6s,mb3.9						
SONM	Songino Array	26.16	324	P	P	22 03 55.1	+1.0
	comp=Z,2.6nm,0.8s,mb3.7,baz=140,slow=10.0,SNR=25						
GTA	Gaotai	26.41	302	*e*P	P	22 03 56.8	+0.3
GTA				AMB	AMB		
	comp=Z,8.0nm,0.7s,mb4.3						
MK31	Makanchi Array	40.59	310	*e*P	P	22 05 58.8	-0.2
MKAR	Makanchi Array	40.59	310	P	P	22 05 58.2	-0.9
	comp=Z,0.9nm,0.4s,mb4.0,baz=91,slow=9.9,SNR=16						
ZALV	Zalesovo Beam	40.96	321	P	P	22 06 01.0	-1.0
	comp=Z,2.8nm,0.5s,mb4.3,baz=101,slow=7.9,SNR=3.6						
KURK	Kurchatov	43.72	315	P	P	22 06 23.8	-0.6
	comp=Z,1.8nm,0.7s,mb3.9						
TKM2	Tokmak 2	44.95	304	*e*P	P	22 06 35.2	+0.8
	comp=Z,1.8nm,0.3s,mb4.3						
UCH	Uchtor	45.75	303	*e*P	P	22 06 42.2	+1.5
FITZ	Fitzroy Crossi	46.20	184	*e*P	P	22 06 44.8	+0.5
	comp=Z,6.2nm,1.0s,mb4.3						
EKS2	Erkin-Say	46.29	303	*e*P	P	22 06 45.0	+0.1
WRAB	Tennant Creek	48.22	173	*e*P	P	22 06 59.1	-0.9
WRA	Warramunga Arr	48.22	173	P	P	22 06 59.9	-0.1
	comp=Z,1.6nm,0.5s,mb4.1,baz=353,slow=8.2,SNR=21						
WB2	Warramunga Arr	48.23	173	*e*P	P	22 07 00.2	+0.1
BRVK	Borovoye	49.19	317	*e*P	P	22 07 06.8	-0.3
	comp=Z,1.8nm,0.4s,mb4.3						
CTA	Charters Tower	50.95	159	P	P	22 07 21.4	+0.6
	comp=Z,0.8nm,0.3s,mb4.2,baz=306,slow=8.7,SNR=2.9						
ASAR	Alice Springs	51.87	174	P	P	22 07 27.9	+0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=4.7,slow=14,SNR=21						
INK	Inuvik	66.82	24	*e*P	P	22 09 09.2	-0.9
	comp=Z,59nm,0.5s,mb5.7						
FINES	FINESS Array B	71.35	330	P	P	22 09 35.8	-2.4
	comp=Z,1.4nm,0.7s,mb3.9,baz=57,slow=7.0,SNR=6.8						
MALT	Malatya	73.36	305	P	P	22 09 49.7	-0.9
AKASG	Malin Array Be	74.32	319	P	P	22 09 54.7	-1.2
	comp=Z,1.3nm,0.5s,mb3.9,baz=62,slow=6.1,SNR=3.2						
YKA	Yellowknife Ar	76.47	25	P	P	22 10 07.8	-0.2
	comp=Z,1.5nm,0.7s,mb3.9,baz=305,slow=6.1,SNR=22						
HFS	Hagfors	77.26	332	P	P	22 10 12.2	-0.4
	comp=Z,4.1nm,1.1s,mb4.1,baz=126,slow=14,SNR=4.0						
GERES	GERESS Array B	83.89	323	P	P	22 10 47.6	-0.6
	comp=Z,0.6nm,0.7s,mb3.5,baz=46,slow=5.8,SNR=7.5						
TORD	Torodi Ar. Bea	114.33	302	PKP	PKiKP	22 16 57.0	-1.3
	comp=Z,0.3nm,0.6s,baz=30,slow=0.9,SNR=5.8						

*IDC **19** 22:07:28.9±1.2, 3504N×2677E, h0km, mb3.6/4, mb1 3.6/6, mb1mx3.4/20, mbtmp3.5/6, ML3.2/2, Error ellipse: s-maj=29.1km s-min=17.6km az=180.0*
*ISCJB **19** 22:07:30.5±1.1, 3485N±005×2679E±004, h31km±10km, mb3.5/4, Error ellipse: s-maj=8.1km s-min=5.7km az=22.5*
*ATH **19** 22:07:34.4, 3524N×2649E, h29km±1km, MD3.6/7*
*NEIC **19** 22:07:34.4, 3524N×2649E, h29km, MD3.6(ATH), After ATH.*
*CSEM **19** 22:07:35.0±0.1, 3525N×2653E, h16km±1km, MD3.6, Error ellipse: s-maj=3.7km s-min=2.6km az=158.0*

ISC 19 22:07:32.1±1.2, 3490N±005×2671E±004, h26km±11km, n22, σ1°28/31, mb3.5/4, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	Khrisi	0.84	269	*e*PN	Pn	22 07 49.0	+0.9
XRY				*e*SN	Sb	22 08 00.0	+1.2
NPS	Neapolis	0.97	292	*e*PN	Pn	22 07 48.5	-1.5
NPS				*e*SN	Sn	22 07 58.8	-4.2
IDI	Anoyia	1.54	285	Pn	Pn	22 07 58.6	+0.7
	38nm,0.3s,baz=98,slow=18,SNR=109						
IDI				Sn	Sn	22 08 25.6	+8.5
	52nm,0.3s,baz=347,slow=17,SNR=11						
ARG	Arkhangelos	1.75	41	*e*PN	Pn	22 08 03.4	+2.7
VAM	Vamos	2.12	285	*e*PN	Pb	22 08 07.7	-2.1
VAM				*e*SN	Sn	22 08 30.5	-0.8
GVD	Gavdhos	2.16	269	*e*Pn	Pn	22 08 13.5	+7.1
GVD	Gavdhos	2.16	269	*e*PN	Pb	22 08 08.6	-1.8
BDRM	Kayabasi	2.24	15	*i* P	Pn	22 08 07.8	+0.3
BDRM	Kayabasi	2.24	15	*i* P	Pn	22 08 07.8	+0.3
BDRM				*i* S	Sn	22 08 32.9	-1.5
APE	Apeiranthos	2.37	337	*e*PB	Pn	22 08 08.6	-0.6
APE				*e*SN	Sn	22 08 32.7	-4.7
SMG	Samos	2.81	2	P	Pn	22 08 17.4	+2.1
AYDN	Tasoluk	2.91	19	*e*P	Pn	22 08 18.2	+1.5
AYDN	Tasoluk	2.91	19	*e*P	Pn	22 08 18.2	+1.5
AYDN				*i* S	Sn	22 08 50.5	-0.4
KYTH	Kithira	3.30	296	*e*PN	Pn	22 08 22.5	+0.5
MMAI	Mount Meron Ar	7.46	102	Pn	Pn	22 09 18.3	-0.9
	0.8nm,0.3s,baz=292,slow=12,SNR=9.5						
MMAI				Sn	Sn	22 10 41.3	-1.7
	0.8nm,0.3s,baz=290,slow=17,SNR=2.7						
EIL	Elat	8.71	125	Sn	Sn	22 11 12.3	-1.4
	0.5nm,0.3s,baz=332,slow=12,SNR=4.2						
ASF	Jabal al Asfar	8.93	105	Pn	Pn	22 09 40.8	+1.5
	0.1nm,0.3s,baz=206,slow=23,SNR=2.4						
ASF				Sn	Sn	22 11 20.1	+1.0
	0.1nm,0.3s,baz=90,slow=22,SNR=2.0						
ASF	Jabal al Asfar	8.93	105	Sn	Sn	22 11 20.1	+1.1
ESDC	Sonseca Array	24.80	290	P	P	22 12 52.9	+1.0
	0.3nm,0.5s,mb3.1,baz=82,slow=9.3,SNR=4.6						
TORD	Torodi Ar. Bea	31.32	232	P	P	22 13 51.4	+1.1
	0.3nm,0.7s,mb3.2,baz=31,slow=8.8,SNR=7.2						
ARCES	ARCESS Array B	34.70	359	P	P	22 14 18.2	-1.1
	1.8nm,0.9s,mb4.0,baz=186,slow=8.0,SNR=3.4						
MKAR	Makanchi Array	42.86	56	P	P	22 15 28.1	+0.1
	0.5nm,0.6s,mb3.4,baz=294,slow=6.0,SNR=5.3						

*DDA **19** 22:46:20.9, 3843N×3945E, h7km±3km, Md2.8*
*CSEM **19** 22:46:21.2±0.1, 3835N×3930E, h5km, MD2.8, Error ellipse: s-maj=2.7km s-min=2.0km az=179.0*
*ISK **19** 22:46:21.8, 3834N×3930E, h4km, MD2.8*
*ISCJB **19** 22:46:22.4±0.6, 3835N±003×3934E±004, h5km, Error ellipse: s-maj=4.8km s-min=4.5km az=146.1*

ISC 19 22:46:22.6±0.7, 3833N±004×3934E±006, h1km±12km, n9, σ0°87/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.05	328	PG	Pg	22 46 23.0	-0.7
SVRC				SG	Sg	22 46 24.4	-0.1
ELZG	Elazig	0.33	300	*i* P	Pg	22 46 28.0	-0.9
ELZG				*i* S	Sg	22 46 34.1	+1.0
PTK	Pertek	0.56	4	*e*PG	Pg	22 46 32.6	-0.8
PTK				*e*SG	Sg	22 46 42.1	+1.5
MALT	Malatya	0.72	269	*e*PG	Pg	22 46 34.8	-1.6
MALT				*e*SG	Sg	22 46 45.7	0.0
DIY	Diyarbakir	0.82	122	*e*PG	Pg	22 46 38.6	+0.2
URFA	Urfa	0.98	205	*e*PG	Pg	22 46 42.0	+0.5
ATAB	Bozova	1.20	224	*i* P	Pg	22 46 45.9	+0.3
ATAB				*i* S	Sg	22 47 00.9	-0.1
MARD	Mardin	1.52	131	*e*P	Pn	22 46 49.9	-1.2
MARD				*i* S	Sn	22 47 12.1	+0.6
GZT	Gaziantep	1.71	236	*i* P	Pg	22 46 56.3	+0.8
GZT				*i* S	Sg	22 47 21.5	+3.8

*IDC **19** 22:51:35.0±0.8, 4341N×8673E, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/22, mbtmp3.9/11, ML4.1/1, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=41.7km s-min=16.8km az=41.0*
*BJI **19** 22:51:37.7, 4374N×8711E, h13km, mb4.2, ML3.9, Ms3.4, Msz3.1*
*ISCJB **19** 22:51:39.4±0.8, 4401N±005×8704E±007, h35km±9km, mb4.0/14, Error ellipse: s-maj=10.5km s-min=5.9km az=41.5*
*NEIC **19** 22:51:40.8±0.7, 4380N×8706E, h35km, mb4.2/6, Error ellipse: s-maj=12.9km s-min=11.3km az=200.0*
*NNC **19** 22:51:42.1±2.6, 4406N×8686E, h21km±17km, mb3.7, mpv3.8, Error ellipse: s-maj=22.5km s-min=13.9km az=76.0*

ISC 19 22:51:40.4±0.6, 4392N±006×8722E±007, h38km±6km, n42, σ1°32/55, mb4.0/14, 11C-12D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	0.35	105	PG	Pn	22 51 47.8	-1.4
WMQ				SG	Sn	22 51 56.5	+1.3
WMQ				Smax			
	comp=N,2μm,0.4s						
WMQ				Smax			
	comp=E,1μm,0.4s						
MK31	Makanchi Array	4.51	311	Pn	Pn	22 52 47.8	+1.6
	comp=E,3.5nm,0.3s,baz=129,slow=14,SNR=161						
MK31				⇑Sn	Sn	22 53 40.3	+2.9
	comp=E,15nm,0.4s,baz=132,slow=24,SNR=7.4						
MK31				⇓Lg		22 53 57.6	
	comp=E,30nm,0.3s,baz=128,slow=32,SNR=11						
MK31	Makanchi Array	4.51	311	*e*Pn	Pn	22 52 47.6	+1.5
MK31				*e*Sn	Sn	22 53 40.0	+2.6
MKAR	Makanchi Array	4.51	311	Pn	Pn	22 52 47.6	+1.4
MKAR				Sn	Sn	22 53 31.5	-5.9
MKAR				Lg		22 53 58.4	
MKAR	Makanchi Array	4.51	311	Pn	Pn	22 52 47.6	+1.4
	comp=E,8.5nm,0.3s,baz=127,slow=13,SNR=85						
MKAR				Sn	Sn	22 53 31.5	-5.9
	comp=E,9.6nm,0.3s,baz=128,slow=18,SNR=6.7						
MKAR				Lg		22 53 58.4	
	comp=E,41nm,0.3s,baz=128,slow=33,SNR=13						
KNDC	Almaty	7.48	268	⇑Pn	Pn	22 53 31.3	+4.4
	comp=E,5.6nm,0.4s						
KNDC				⇑Lg		22 55 33.3	
	comp=E,111nm,1.2s						
TKM2	Tokmak 2	8.52	267	⇓Pn	Pn	22 53 40.8	-0.4
	comp=E,1.9nm,0.4s						
TKM2				⇓Lg		22 56 05.0	
	comp=E,11nm,0.6s						
TKM2	Tokmak 2	8.52	267	*e*Pn	Pn	22 53 40.4	-0.8
	comp=E,5.1nm,0.6s						
KURBB	Kurchatov Arra	8.94	322	⇑Pn	Pn	22 53 47.3	+0.5
	comp=E,1.6nm,0.5s						
KURBB				⇑Sn	Sn	22 55 26.0	-0.1
	comp=E,3.8nm,0.6s						
KURBB				⇓Lg		22 56 20.9	
	comp=E,14nm,0.6s						
KURK	Kurchatov	8.96	322	⇑Pn	Pn	22 53 46.7	-0.4
KURK				⇑Sn	Sn	22 55 25.1	-1.6
	comp=E,12nm,0.5s						
KURK				⇑Lg		22 56 19.4	
	comp=E,58nm,0.7s						
ZAA0	Zalesovo Array	10.16	352	*e*Pn	Pn	22 54 04.3	+0.7
ZALV	Zalesovo Beam	10.16	352	Pn	Pn	22 54 04.3	+0.7
	comp=E,0.9nm,0.3s,baz=171,slow=13,SNR=12						
ZALV				Pg	Pn	22 54 46.4	+43
	comp=E,0.6nm,0.3s,baz=176,slow=14,SNR=2.7						
ZALV				Sn	Sn	22 55 56.1	-0.1
	comp=E,2.2nm,0.3s,baz=169,slow=26,SNR=8.9						
ZALV				Lg		22 57 06.0	
	baz=168,slow=29,SNR=2.3						
ZALV				LR	LR	22 58 34.2	
	comp=E,27nm,19.4s,baz=301,slow=40						
GTA	Gaotai	10.44	111	*e*P	Pn	22 54 06.4	-1.1
GTA				S	Sn	22 56 00.8	-2.3
GTA				LG2		22 57 06.8	
GTA				AMB	AMB		
	comp=Z,2.0nm,0.8s						
GTA				LR	LR		
	comp=N,121nm,9.9s						
GTA				LR	LR		
	comp=E,134nm,11.0s						
GTA				LR	LR		
	comp=Z,134nm,14.8s						
KK31	Karatay Array	12.16	272	⇓Pn	Pn	22 54 32.3	+1.3
	comp=Z,0.5nm,0.5s,baz=70,slow=12,SNR=4.3						
KK31				⇑Lg		22 57 52.7	
	comp=Z,4.5nm,0.8s,baz=73,slow=26,SNR=3.8						
SONM	Songino Array	13.91	67	Pn	Pn	22 54 59.7	+4.8
	baz=272,slow=5.6,SNR=1.4						
SONM				Sn	Sn	22 57 37.0	+9.0
	comp=Z,0.1nm,0.3s,baz=245,slow=27,SNR=3.0						
SONM				Lg		22 59 05.9	
	comp=Z,0.1nm,0.3s,baz=279,slow=30,SNR=6.9						
VOSK	Vostochnaya	13.92	315	⇓Pn	Pn	22 54 55.7

comp=Z,0.5nm,0.6s,mb3.6,baz=331,slow=5.8,SNR=7.8
DBIC Dimbokro 86.92 276 P **P** **23 04 21.4 -0.2**
comp=Z,1.9nm,0.4s,mb4.6,baz=15,slow=8.5,SNR=4.7
CPUP Villa Florida 146.44 290 PKPbc PKPbc 23 11 17.2 -0.1
comp=Z,0.6nm,0.5s,baz=63,slow=4.5,SNR=4.4

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*IDC **19** 22:56:04.1±3.4, 7.14S×103.13E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.6/18, mbtmp3.6/6, Error ellipse: s-maj=148.8km s-min=19.7km az=54.0*
*ISCJB **19** 22:56:07.1±2.9, 7.1S±05×1032E±07, h33km, mb3.7/7, Error ellipse: s-maj=125.2km s-min=16.3km az=143.4*
*NEIC **19** 22:56:08.7±2.2, 7.12S×10320E, h30km, mb3.7/1, Error ellipse: s-maj=97.5km s-min=12.8km az=53.0*
ISC 19 22:56:09.4±2.9, 71S±05×1032E±07, h35km, n8, σ0§49/8, mb3.7/7, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.78 116**		P	**P**	**23 02 39.6**	**+0.1**
	0.3nm,0.8s,mb3.3,baz=285,slow=12,SNR=3.1						
WRAB	**Tennant Creek**	**32.79 116**		P	**P**	**23 02 39.3**	**-0.2**
	0.5nm,0.5s,mb3.7						
ASAR	**Alice Springs**	**33.75 123**		P	**P**	**23 02 47.8**	**-0.2**
	0.2nm,0.6s,mb3.2,baz=303,slow=8.0,SNR=3.8						
STKA	**Stephens Creek**	**43.41 130**		P	**P**	**23 04 09.2**	**+0.3**
	1.5nm,0.5s,mb4.0,baz=309,slow=6.5,SNR=7.5						
SONM	**Songino Array**	**54.81**	**3**	P	**P**	**23 05 36.2**	**+0.4**
	0.8nm,0.7s,mb3.9,baz=178,slow=8.9,SNR=7.7						
MKAR	**Makanchi Array**	**56.82 343**		P	**P**	**23 05 50.8**	**+0.6**
	0.7nm,0.7s,mb3.8,baz=146,slow=8.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**62.80 348**		P	**P**	**23 06 30.2**	**-1.0**
ZALV	**Zalesovo Beam**	**62.80 348**		P	**P**	**23 06 30.2**	**-1.0**
	0.6nm,0.4s,mb4.1,baz=178,slow=4.3,SNR=5.0						

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*ISCJB **19** 23:01:45.1±0.5, 167S±0.1×1738W±0.1, h45km, mb4.1/14, MS3.6/8, Error ellipse: s-maj=23.3km s-min=12.4km az=37.6*
*NEIC **19** 23:01:45.6±0.5, 1670S×17376W, h35km, mb4.3/5, Error ellipse: s-maj=25.8km s-min=11.7km az=126.0*
*IDC **19** 23:01:47.8±0.7, 1677S×17378W, h48km±6km, mb3.8/10, mb1 4.0/10, mb1mx3.9/18, mbtmp3.8/10, MS3.6/9, Ms1 3.6/9, ms1mx3.4/28, Error ellipse: s-maj=28.2km s-min=15.4km az=134.0*
ISC 19 23:01:47.3±0.6, 167S±01×1738W±01, h47km, h47km±2.8km:pP-P, n30, σ0§98/18, mb4.1/14, MS3.6/8, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.43**	**35**	*e*Pn	**Pn**	**23 02 33.2**	**-5.1**
AFI				*e*Sn	**Sn**	**23 03 10.0**	**-7.6**
RAR	**Rarotonga**	**14.02 111**		LR	LR	23 08 16.8	
	comp=Z,111nm,19.5s,baz=213,slow=28						
URZ	**Urewera**	**22.88 199**		P	**P**	**23 06 45.1**	**-1.7**
	8.0nm,0.4s,mb4.5,baz=321,slow=10.0,SNR=15						
PAE	**Paea**	**23.18**	**96**	*e*T		23 30 01.3	
	11nm,0.2s						
PPT	**Papeete**	**23.18**	**96**	*e*LR	LR	23 11 59.7	
	134nm,27.0s						
PPT	**Papeete**	**23.18**	**96**	LR	LR	23 14 27.2	
	comp=Z,37nm,18.0s,MS2.9,baz=318,slow=33						
TVO	**Taravao**	**23.48**	**96**	*e*T		23 30 24.7	
	4.8nm,0.2s						
PMOR	**Pomariorio Ree**	**24.99**	**90**	*e*T		23 32 19.9	
	2.3nm,0.2s						
HNR	**Honiara**	**26.54 283**		LR	LR	23 15 40.1	
	comp=Z,53nm,19.3s,MS3.1,baz=182,slow=31						
TAOE	**Nuku Hiva Isla**	**33.72**	**81**	*e*T		23 43 17.0	
	4μm,0.3s						
RKT	**Rikitea**	**36.99 106**		*e*T		23 47 12.8	
	3.0nm,0.3s						
STKA	**Stephens Creek**	**43.03 241**		*e*P	**P**	**23 09 42.3**	**-0.3**
STKA	**Stephens Creek**	**43.03 241**		P	**P**	**23 09 44.9**	**+2.3**
	2.4nm,0.7s,mb4.0,baz=66,slow=10,SNR=6.3						
STKA				pP	pP	23 09 55.6	+0.4
	3.9nm,0.7s,baz=94,slow=7.1,SNR=3.8						
STKA				LR	LR	23 24 48.1	
	comp=Z,129nm,19.2s,MS3.8,baz=24,slow=32						
WRAB	**Tennant Creek**	**49.15 258**		*e*P	**P**	**23 10 30.7**	**-0.1**
	1.1nm,0.4s,mb4.2						
WRA	**Warramunga Arr**	**49.16 258**		P	**P**	**23 10 30.3**	**-0.6**
	0.6nm,0.4s,mb4.0,baz=97,slow=6.9,SNR=10						
WRA				pP	pP	23 10 44.3	+0.5
	2.0nm,0.5s,baz=96,slow=7.1,SNR=10.0						
ASAR	**Alice Springs**	**49.33 253**		P	**P**	**23 10 33.0**	**+0.8**
	4.4nm,0.6s,mb4.7,baz=88,slow=8.6,SNR=100						
ASAR				pP	pP	23 10 45.0	0.0
	8.8nm,0.6s,baz=90,slow=8.3,SNR=21						
SBA	**Scott Base**	**61.90 185**		*e*P	**P**	**23 12 02.6**	**+1.0**
	2.5nm,0.8s,mb4.4						
VNDA	**Vanda**	**62.02 186**		*e*P	**P**	**23 12 03.0**	**+0.7**
	1.0nm,0.7s,mb4.0						
VNDA	**Vanda**	**62.02 186**		P	**P**	**23 12 03.2**	**+0.9**
	0.6nm,0.8s,mb3.8,baz=1.2,slow=7.7,SNR=5.1						
VNDA				pP	pP	23 12 16.2	+0.6
	1.2nm,0.8s,baz=358,slow=7.1,SNR=4.3						
CASY	**Casey**	**69.04 205**		*e*P	**P**	**23 12 45.5**	**-2.3**
	4.2nm,1.0s,mb4.3						
JNU	**Nakatsue**	**72.41 314**		LR	LR	23 42 42.2	
	comp=Z,34nm,18.9s,MS3.6,baz=58,slow=34						
QSPA	**South Pole Qui**	**73.32 180**		*e*P	**P**	**23 13 13.6**	**+0.2**
	2.7nm,0.7s,mb4.3						
YBH	**Yreka Blue Hor**	**74.90**	**37**	P	**P**	**23 13 24.0**	**+0.9**
	2.0nm,0.9s,mb4.1,baz=121,slow=12,SNR=4.9						
YBH				LR	LR	23 37 13.9	
	comp=Z,101nm,21.3s,MS4.1,baz=81,slow=28						
NVAR	**Mina Array Bea**	**75.58**	**42**	P	**P**	**23 13 27.5**	**+0.3**
	1.0nm,0.7s,mb3.8,baz=224,slow=8.9,SNR=7.0						
KDAK	**Kodiak Island**	**76.30**	**12**	P	**P**	**23 13 29.9**	**-0.9**
	2.7nm,0.8s,mb4.2,baz=171,slow=9.4,SNR=3.0						
TXAR	**Lajitas Array**	**81.69**	**56**	P	**P**	**23 14 01.1**	**0.0**
	0.4nm,0.8s,mb3.4,baz=234,slow=6.0,SNR=4.4						
TXAR				LR	LR	23 43 34.9	
	comp=Z,57nm,18.0s,MS4.0,baz=180,slow=31						
INK	**Inuvik**	**89.65**	**14**	LR	LR	23 50 16.5	
	comp=Z,42nm,20.4s,MS3.9,baz=114,slow=32						
YKA	**Yellowknife Ar**	**91.47**	**24**	P	**P**	**23 14 48.1**	**0.0**
	0.2nm,0.6s,mb3.6,baz=245,slow=4.1,SNR=5.0						
YKA				LR	LR	23 49 45.4	
	comp=Z,28nm,18.6s,MS3.7,baz=170,slow=32						
CLL	**Collm**	**145.07 353**		*e*PKPdf	PKPdf	23 21 20.0	+0.6
GERES	**GERESS Array B**	**147.38 351**		PKPbc	PKPbc	23 21 27.4	+1.6
	0.4nm,0.7s,baz=333,slow=1.8,SNR=4.3						
GERES				pPKPbc	pPKPbc	23 21 41.4	+1.3
	0.8nm,0.8s,baz=48,slow=2.0,SNR=4.4						

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*THR **19** 23:28:53.7±0.3, 2917N×5109E, h14km±11km, ML2.9*
*KISR **19** 23:28:53.5±1.0, 2903N×5155E, h44km±762km, ML2.8*
*CSEM **19** 23:28:54.1±0.2, 2933N×5138E, h2km, ML2.8, Error ellipse: s-maj=6.5km s-min=3.1km az=15.0*
*ISCJB **19** 23:28:55.4±0.8, 2931N±009×5138E±005, h10km, Error ellipse: s-maj=13.5km s-min=4.8km az=17.5*
ISC 19 23:28:56.8±0.8, 2930N±009×5138E±005, h10km, n13, σ0§89/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**1.74 125**		*e*Pn	**Pn**	**23 29 27.5**	**+0.5**
GHIR				*e*Sg	**Sg**	**23 29 53.2**	**+0.5**
GHIR				AML	AML	23 30 01.6	
	comp=E,227nm,0.7s						
GHIR				AML	AML	23 30 01.9	
	comp=N,137nm,0.7s						
GHIR	**Ghir-Karzin**	**1.74 125**		*e*Pn	**Pn**	**23 29 27.5**	**+0.4**
	SNR=52						
GHIR				*e*Sg	**Sg**	**23 29 53.2**	**+0.5**
	SNR=90						
QRN	**Al-Qurain**	**3.08 260**		*e*P	**Pn**	**23 29 43.6**	**-1.9**
QRN				*e*S	**Sn**	**23 30 21.7**	**-0.8**
QRN				AML	AML	23 30 21.7	
	comp=Z,21nm,0.2s						
UMR	**Umm Al-Rimmam**	**3.21 275**		*e*P	**Pn**	**23 29 46.6**	**-0.6**
UMR				*e*S	**Sn**	**23 30 26.7**	**+1.2**
UMR				AML	AML	23 30 27.3	
	comp=Z,24nm,0.3s						
UMR	**Umm Al-Rimmam**	**3.21 275**		*e*P	**Pn**	**23 29 46.6**	**-0.7**
UMR				*e*S	**Sn**	**23 30 26.7**	**+1.2**
RDF	**Al-Radifah**	**3.37 265**		*e*P	**Pn**	**23 29 48.4**	**-1.1**
RDF				*e*S	**Sn**	**23 30 30.1**	**+0.5**
RDF				AML	AML	23 30 31.2	
	comp=Z,18nm,0.3s						
RDF	**Al-Radifah**	**3.37 265**		*e*P	**Pn**	**23 29 48.4**	**-1.1**
RDF				*e*S	**Sn**	**23 30 30.1**	**+0.5**
MIB	**Mutribah**	**3.56 279**		*e*P	**Pn**	**23 29 52.4**	**+0.3**
MIB				*e*S	**Sn**	**23 30 35.3**	**+1.1**
MIB				AML	AML	23 30 36.6	
	comp=Z,25nm,0.5s						
MIB	**Mutribah**	**3.56 279**		*e*P	**Pn**	**23 29 52.4**	**+0.3**
MIB				*e*S	**Sn**	**23 30 35.3**	**+1.2**
NAY	**Al-Naaiem**	**3.62 270**		*e*P	**Pn**	**23 29 52.2**	**-0.7**
NAY				*e*S	**Sn**	**23 30 36.5**	**+0.8**
NAY				AML	AML	23 30 37.1	
	comp=Z,5.3nm,0.3s						
NAY	**Al-Naaiem**	**3.62 270**		*e*P	**Pn**	**23 29 52.2**	**-0.7**
NAY				*e*S	**Sn**	**23 30 36.5**	**+0.9**
NASN	**Na'in**	**3.69**	**19**	*e*PN5		23 29 55.7	
NASN				AML	AML	23 30 47.3	
	comp=E,7.2nm,0.6s						
ASAO	**Ashtian**	**5.36 348**		*e*Pn	**Pn**	**23 30 16.7**	**-0.1**
ASAO				AML	AML	23 31 25.4	
	comp=E,6.3nm,1.1s						

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*SZGRF **19** 23:37:31.3, 21.16S×17695W, h33km, Fiji Islands region*
*ISCJB **19** 23:37:55.2±0.4, 2081S±005×17657W±008, h233km, mb4.6/34, Error ellipse: s-maj=10.6km s-min=6.7km az=15.3*
*BJI **19** 23:37:56.6, 2057S×17648W, h246km, mB4.8, mb4.7*
*IDC **19** 23:37:56.0±0.7, 2068S×17657W, h229km±6km, mb4.1/11, mb1 4.3/12, mb1mx4.1/17, mbtmp4.1/12, Error ellipse: s-maj=15.9km s-min=11.5km az=129.0*
*MOS **19** 23:37:56.1±1.3, 21.32S×17708W, h193km, mb5.0/8, Error ellipse: s-maj=19.0km s-min=12.5km az=161.4*
*NEIC **19** 23:37:58.0±0.5, 2070S×17661W, h247km±4km, mb4.7/18, Error ellipse: s-maj=11.0km s-min=6.9km az=134.0*
ISC 19 23:37:56.9±0.4, 2072S±006×17656W±008, h235km, h235km±3.6km:pP-P, n176, σ1§01/79, mb4.6/34, 19C-21D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**8.58 188**		S	**S**	**23 41 28.5**	**-6.2**
	212nm,0.3s,baz=272,slow=23,SNR=8.8						
RAR	**Rarotonga**	**15.69**	**95**	P	**Pn**	**23 41 31.6**	**+5.6**
	1.6nm,0.3s,baz=264,slow=9.2,SNR=3.1						
DZM	**Mont Dzumac**	**15.89 262**		*e*P	**Pn**	**23 41 31.9**	**+3.4**
URZ	**Urewera**	**18.32 196**		P	**P**	**23 41 51.7**	**-2.1**
	13nm,0.3s,baz=1.0,slow=3.4,SNR=61						
URZ				S	**S**	**23 45 02.2**	**-8.5**
	5.0nm,0.3s,baz=311,slow=22,SNR=13						
SNZO	**South Karori**	**21.82 198**		*e*P	**P**	**23 42 31.2**	**+0.8**
RPZ	**Rata Peaks**	**25.16 201**		P	**P**	**23 43 00.5**	**-0.1**
	26nm,0.5s,mb5.1,baz=240,slow=1.0,SNR=10.0						
EIDS	**Eidsvold**	**30.09 255**		*e*P	**P**	**23 43 44.8**	**0.0**
	16nm,1.1s,mb4.5						
ARMA	**Armidale**	**30.19 245**		⇓*i*P	**P**	**23 43 46.8**	**+1.2**
CNB	**Canberra Magne**	**33.23 237**		*e*P	**P**	**23 44 12.6**	**+0.6**
	34nm,0.6s,mb5.0						
CTA	**Charters Tower**	**34.81 264**		⇓*i*P	**P**	**23 44 26.5**	**+0.7**
	29nm,0.9s,mb4.8						
CTA	**Charters Tower**	**34.81 264**		⇓*i*P	**P**	**23 44 26.5**	**+0.7**
CTA				pmax	pmax		
	comp=Z,29nm,0.9s						
CTA	**Charters Tower**	**34.81 264**		P	**P**	**23 44 26.5**	**+0.7**
	comp=Z,34nm,0.8s,mb4.9,baz=98,slow=10,SNR=36						
CTAO	**Charters Tower**	**34.81 264**		*e*P	**P**	**23 44 26.6**	**+0.8**
CTAO				pmax	pmax		
	comp=Z,60nm,1.1s,mb5.0						
CTAO	**Charters Tower**	**34.81 264**		*e*P	**P**	**23 44 26.6**	**+0.8**
	comp=Z,60nm,1.1s,mb5.0						
TOO	**Toolangi**	**36.87 235**		⇓*i*P	**P**	**23 44 42.6**	**-0.3**
	comp=Z,363nm,0.6s						
TOO	**Toolangi**	**36.87 235**		⇓*i*P	**P**	**23 44 42.6**	**-0.3**
TOO				pmax	pmax		
	comp=Z,363nm,0.6s						
TAU	**Tasmania Unive**	**37.43 225**		*e*P	**P**	**23 44 47.1**	**-0.5**
TAU				pmax	pmax		
	comp=Z,18nm,0.8s,mb4.7						
TAU	**Tasmania Unive**	**37.43 225**		*e*P	**P**	**23 44 47.1**	**-0.4**
	comp=Z,18nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**38.91 245**		⇓*i*P	**P**	**23 45 00.2**	**+0.1**
	comp=Z,22nm,0.9s,mb4.7						
STKA	**Stephens Creek**	**38.91 245**		P	**P**	**23 45 00.2**	**+0.1**
	comp=Z,24nm,0.7s,mb4.8,baz=90,slow=9.1,SNR=37						
COEN	**Coen**	**38.95 273**		*e*P	**P**	**23 45 01.2**	**+0.6**
	comp=Z,22nm,0.9s,mb4.7						
ASAR	**Alice Springs**	**45.78 257**		P	**P**	**23 45 55.0**	**-0.5**
	comp=Z,32nm,0.9s,mb4.6,baz=97,slow=8.2,SNR=206						
ASAR				pP	pP	23 46 44.0	-1.6
	comp=Z,2.0nm,0.8s,baz=91,slow=8.1,SNR=1.3						
ASAR				PcP	PcP	23 47 28.5	-0.5
	comp=Z,2.7nm,0.7s,baz=104,slow=3.6,SNR=6.6						
WB2	**Warramunga Arr**	**45.90 262**		*e*P	**P**	**23 45 55.4**	**-1.0**
WRAB	**Tennant Creek**	**45.90 262**		*d i*P	**P**	**23 45 55.5**	**-0.9**
WRAB	**Tennant Creek**	**45.90 262**		*e*P	**P**	**23 45 55.6**	**-0.9**
	comp=Z,33nm,0.9s,mb4.7						
WRA	**Warramunga Arr**	**45.91 262**		P	**P**	**23 45 55.6**	**-1.0**
	comp=Z,25nm,0.8s,mb4.6,baz=96,slow=8.0,SNR=121						
WRA				pP	pP	23 46 44.5	-2.0
	comp=Z,1.1nm,0.6s,baz=96,slow=8.3,SNR=1.2						
KAKA	**Kakadu**	**49.33 271**		*e*P	**P**	**23 46 22.4**	**-0.4**
	comp=Z,24nm,0.6s,mb4.7						
FORT	**Forrest**	**50.45 247**		*e*P	**P**	**23 46 30.1**	**-0.9**
	comp=Z,16nm,0.5s,mb4.6						
GUMO	**Guam**	**50.99 309**		*e*P	**P**	**23 46 34.8**	**-0.3**
GUMO				pmax	pmax		
	comp=Z,49nm,0.9s,mb4.9						
GUMO	**Guam**	**50.99 309**		*e*P	**P**	**23 46 34.8**	**-0.3**
	comp=Z,49nm,0.9s,mb4.9						
FITZ	**Fitzroy Crossi**	**54.34 262**		*e*P	**P**	**23 46 59.6**	**-0.1**
	comp=Z,4.5nm,0.6s,mb4.2						
SBA	**Scott Base**	**57.75 184**		*e*P	**P**	**23 47 25.4**	**+2.6**
SBA				pmax	pmax		
	comp=Z,98nm,2.4s,mb5.0						
SBA	**Scott Base**	**57.75 184**		*e*P	**P**	**23 47 25.4**	**+2.5**
	comp=Z,98nm,2.4s,mb5.0						
VNDA	**Vanda**	**57.82 185**		P	**P**	**23 47 23.8**	**+0.4**
	comp=Z,2.0nm,0.7s,mb3.8,baz=357,slow=7.1,SNR=16						
MBWA	**Marble Bar**	**59.12 257**		*e*P	**P**	**23 47 32.0**	**-1.3**
	comp=Z,17nm,1.0s,mb4.6						
KLBR	**Kellerberrin**	**59.19 245**		*e*P	**P**	**23 47 32.2**	**-1.4**
	comp=Z,14nm,0.7s,mb4.7						
MUN	**Mundaring**	**60.45 244**		*e*P	**P**	**23 47 41.3**	**-0.8**
CASY	**Casey**	**64.34 205**		*e*P	**P**	**23 48 07.5**	**+0.3**
	comp=Z,31nm,0.9s,mb4.9						
QSPA	**South Pole Qui**	**69.35 180**		*e*P	**P**	**23 48 39.5**	**+1.0**
	comp=Z,9.8nm,0.9s,mb4.4						
SDKM	**Sandakan**	**70.07 284**		⇑P	**P**	**23 48 45.5**	**+1.4**
KKM	**Kota Kinabalu**	**71.12 284**		⇑P	**P**	**23 48 51.1**	**+0.7**
MJAR	**Matsushiro Arr**	**71.19 323**		P	**P**	**23 48 49.3**	**-1.0**
	comp=Z,1.1nm,0.6s,mb3.6,baz=153,slow=6.2,SNR=8.4						
BTM	**Bintulu**	**72.86 280**		⇓P	**P**	**23 49 02.6**	**+1.9**
KSM	**Kuching**	**74.78 277**		*e*P	**P**	**23 49 11.9**	**0.0**
KSM	**Kuching**	**74.78 277**		⇓P	**P**	**23 49 12.8**	**+0.9**
YSS	**Yuzh-Sakhalins**	**76.70 333**		⇑*e*P	**P**	**23 49 19.1**	**-2.8**
YSS				pmax	pmax		
	comp=Z,52nm,2.5s,mb4.7						
NVAR	**Mina Array Bea**	**80.26**	**43**	P	**P**	**23 49 42.6**	**+1.1**
	comp=Z,0.7nm,0.6s,baz=223,slow=10,SNR=5.6						
NVAR				pP	pP	23 50 36.3	-1.3
	comp=Z,2.1nm,0.9s,baz=227,slow=8.8,SNR=5.8						
MYKOM	**Kota Tinggi**	**80.90 275**		⇑P	**P**	**23 49 46.2**	**+0.6**
NJ2	**Nanjing**	**81.06 309**		*e*P	**P**	**23 49 45.3**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
HABR	**Khabarovsk**	**81.31 330**		*e*P	**P**	**23 49 39.6**	**-7.2**
MDJ	**Mudanjiang**	**81.48 324**		P	**P**	**23 49 48.8**	**+1.0**
MDJ				AP	pP	23 50 45.9	+1.9
MDJ				XP	sP	23 51 11.6	+2.8
MDJ				PP	PP	23 52 58.0	+0.1
MDJ				S	S	23 59 40.4	+1.1
MDJ				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,48nm,3.9s						
KGM	**Kluang**	**81.48 275**		⇑P	**P**	**23 49 49.3**	**+0.7**
MAW	**Mawson**	**81.81 199**		*e*P	**P**	**23 49 49.3**	**0.0**
MAW				pmax	pmax		
	comp=Z,7.0nm,0.8s						
MAW	**Mawson**	**81.81 199**		*e*P	**P**	**23 49 49.3**	**0.0**
	comp=Z,7.3nm,0.8s,mb4.4						
MAW	**Mawson**	**81.81 199**		P	**P**	**23 49 49.2**	**-0.1**
	comp=Z,4.9nm,0.7s,mb4.3,baz=123,slow=5.3,SNR=8.7						
TUC	**Tucson**	**82.06**	**51**	*e*pP	pP	23 50 49.8	+2.4
CN2	**Changchun**	**83.30 322**		*e*P	**P**	**23 49 57.9**	**+0.6**
CN2				*e*XP	sP	23 51 25.5	+7.1
CN2				*e*S	S	23 59 55.8	-2.0
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,800nm,21.0s						
CN2				LR	LR		
	comp=E,500nm,21.0s						
CN2				LR	LR		
	comp=Z,1μm,22.0s						
MVU	**Marysvale**	**84.26**	**45**	*e*pP	pP	23 51 02.4	+3.6
SRU	**San Rafael**	**85.70**	**45**	*e*P	**P**	**23 50 10.2**	**+0.7**
SRU				*e*pP	pP	23 51 07.5	+1.3
MNTX	**Cornudas Mount**	**85.78**	**54**	*e*pP	pP	23 51 09.2	+2.4
TXAR	**Lajitas Array**	**86.04**	**57**	P	**P**	**23 50 11.4**	**+0.2**
	comp=Z,0.4nm,0.8s,baz=236,slow=6.8,SNR=5.3						
TXAR				pP	pP	23 51 07.4	-0.7
	comp=Z,2.8nm,1.0s,baz=218,slow=5.9,SNR=11						
LPM	**Los Pinos Moun**	**86.06**	**51**	*e*P	**P**	**23 50 15.4**	**+4.1**
GDL2	**Guadalupe Moun**	**86.78**	**54**	*e*P	**P**	**23 50 18.9**	**+4.1**
GDL2				*e*pP	pP	23 51 11.3	-0.4
SYO	**Syowa Base**	**86.81 192**		⇓*e*P	**P**	**23 50 12.4**	**-1.9**
SEY	**Seymchan**	**86.90 346**		⇓*e*P	**P**	**23 50 13.4**	**-1.2**
BJI	**Beijing**	**87.00 315**		P	**P**	**23 50 15.9**	**+0.2**
BJI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.5						
REDW	**Red Top Meadow**	**87.69**	**42**	*e*P	**P**	**23 50 17.7**	**-1.2**
SNAA	**Sanae**	**87.75 178**		⇑*e*P	**P**	**23 50 14.0**	**-4.8**
GYA	**Guiyang**	**87.93 299**		P	**P**	**23 50 21.4**	**+1.0**
GYA				AP	pP	23 51 20.8	+3.3
GYA				XP	sP	23 51 46.6	+4.5
GYA				PP	PP	23 53 53.3	+2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.6						
GYA				AMB	AMB		
	comp=Z,110nm,5.9s						
IMA2	**Indian Mountai**	**88.24**	**9**	*e*P	**P**	**23 50 20.6**	**-0.3**
DAWY	**Dawson**	**89.30**	**15**	*e*P	**P**	**23 50 26.4**	**+0.5**
BILL	**Bilibino**	**89.40 354**		⇑*e*P	**P**	**23 50 25.4**	**-0.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb4.2						
EGAK	**Eagle**	**89.47**	**14**	*e*P	**P**	**23 50 26.9**	**+0.2**
HHC	**Hu-ho-hao-te**	**90.47 314**		*e*P	**P**	**23 50 32.1**	**+0.1**
HHC				AP	pP	23 51 33.8	+4.6
HHC				XP	sP	23 52 00.3	+6.6
HHC				PP	PP	23 54 14.0	+3.6
HHC				AMB	AMB		
	comp=Z,21nm,1.2s,mb4.8						
HHC				LR	LR		
	comp=N,228nm,20.2s						
HHC				LR	LR		
	comp=E,719nm,22.0s						
HHC				LR	LR		
	comp=Z,213nm,20.4s						
KMI	**Kunming**	**90.66 297**		P	**P**	**23 50 34.5**	**+1.3**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**91.59 289**		*e*P	**P**	**23 50 38.5**	**+0.9**
CD2	**Chengdu**	**92.05 302**		*e*P	**P**	**23 50 39.3**	**-0.2**
CD2				AP	pP	23 51 41.1	+4.3
CD2				XP	sP	23 52 06.3	+5.0
CD2				PP	PP	23 54 25.0	+2.0
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,8.4s						
YAK	**Yakutsk**	**92.83 338**		⇑*e*P	**P**	**23 50 39.3**	**-3.0**
YAK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.9						
LZH	**Lanzhou**	**93.98 307**		*e*P	**P**	**23 50 48.5**	**+0.2**
LZH				XP	sP	23 52 16.8	+6.7
LZH				PP	PP	23 54 41.0	+3.0
LZH				AMB	AMB		
	comp=Z,18nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,83nm,8.8s						
YKA	**Yellowknife Ar**	**96.15**	**24**	P	**P**	**23 50 56.2**	**-1.3**
YKA				pP	pP	23 51 52.2	-2.7
YKA	**Yellowknife Ar**	**96.15**	**24**	P	**P**	**23 50 56.2**	**-1.3**
	comp=Z,0.2nm,0.6s,baz=249,slow=4.5,SNR=5.9						
YKA				pP	pP	23 51 52.2	-2.7
	comp=Z,0.1nm,0.4s,baz=242,slow=4.7,SNR=1.9						
ZALV	**Zalesovo Beam**	**111.51 321**		PKiKP	PKiKP	23 56 01.5	-1.3
	comp=Z,1.3nm,0.5s,baz=97,slow=0.9,SNR=7.2						
ZAL	**Zalesovo**	**111.52 321**		PKIKP	PKiKP	23 56 01.5	-1.4
MKAR	**Makanchi Array**	**112.33 313**		⇑*i*PKIKP	PKiKP	23 56 03.4	-1.2
MKAR	**Makanchi Array**	**112.33 313**		PKiKP	PKiKP	23 56 02.8	-1.8
	comp=Z,1.5nm,0.6s,baz=117,slow=0.1,SNR=20						
KURK	**Kurchatov**	**115.07 317**		⇑*i*PKIKP	PKPdf	23 56 07.5	-2.2
BVAR	**Borovoye Array**	**120.11 320**		PKP	PKPdf	23 56 18.4	-1.0
	comp=Z,4.1nm,

DRGR		149.62 333	⇑PKIKP	PKPbc	23 57 18.4	-0.1
VYHS	Vyhne	149.65 340	*i* PKP	PKPbc	23 57 18.6	+0.1
WERN	Wernitzgruen	149.66 349	*e*PKPbc	PKPbc	23 57 18.6	+0.1
WERN			*e*PKPab	PKPab	23 57 24.2	-0.2
NKC	Novy Kostel	149.70 349	*e*PKPbc	PKPbc	23 57 18.8	+0.2
KOLL	Kolacno	149.72 340	*e*PKP	PKPbc	23 57 19.0	+0.3
PSZ	Piszkesteto	149.79 338	⇑PKIKP	PKPbc	23 57 18.7	-0.2
PSZ	Piszkesteto	149.79 338	*e*PKPdf	PKPbc	23 57 18.9	0.0
TREC	Trest	149.91 344	*e*PKPbc	PKPbc	23 57 19.0	-0.1
MANZ	Manzenberg	150.00 349	*e*PKPbc	PKPbc	23 57 19.3	0.0
MEM	Membach	150.10 357	PKPbc	PKPbc	23 57 20.1	+0.5
ROTZ	Rotzenmuhle	150.19 349	*e*PKPbc	PKPbc	23 57 20.1	+0.3
MODS	Modra-Piesok	150.25 341	*e*PKP	PKPbc	23 57 20.7	+0.7
GRA1	Grafenberg Arr	150.44 350	*e*PKPbc	PKPbc	23 57 20.7	+0.3
GRA1			*e*PKPab	PKPab	23 57 27.5	-0.1
GRF	Grafenberg Arr	150.44 350	*e*PKPbc	PKPbc	23 57 20.7	+0.3
GRF			*e*PKPab	PKPab	23 57 27.5	-0.1
ZST	Bratislava	150.46 341	*e*PKP	PKPbc	23 57 20.5	0.0
KHC	Kasperske Hory	150.52 346	*e*PKPbc	PKPbc	23 57 20.6	0.0
KHC			*e*pPKP	pPKPdf	23 58 22.0	+6.7
WET	Wettzell	150.65 347	*e*PKPbc	PKPbc	23 57 20.7	-0.2
WET			*e*PKPab	PKPab	23 57 28.5	-0.1
GIVF	Givet	150.66 358	*e*PKP1	PKPbc	23 57 19.7	-1.2
DOU	Dourbes	150.67 358	PKPbc	PKPbc	23 57 21.1	+0.2
BAIF	Baives	150.72 359	*e*PKP1	PKPbc	23 57 20.0	-1.0
	comp=Z,22nm,1.1s					
GEC2	GERESS Array S	150.76 346	*e*PKPbc	PKPbc	23 57 20.8	-0.3
GERES	GERESS Array B	150.76 346	PKP	PKPdf	23 57 15.1	-0.3
	comp=Z,0.9nm,0.8s,baz=260,slow=2.4,SNR=3.7					
GERES			PKPbc	PKPbc	23 57 21.3	+0.1
	comp=Z,5.6nm,0.8s,baz=42,slow=2.2,SNR=58					
BZS	Buzias	151.02 333	⇑PKIKP	PKPbc	23 57 21.7	-0.2
CONA	Conrad Observa	151.06 343	⇑*i*P	PKPbc	23 57 22.3	+0.5
	comp=Z,11nm,0.9s					
CSNA	Conrad Observa	151.06 343	⇑*i*PKiKP	PKiKP	23 57 22.3	-0.1
	comp=Z,10nm,0.9s					
PKSM	Moragy	151.69 337	⇓PKIKP	PKPbc	23 57 23.0	-0.4
FLN	La Foliniere	151.84 6	*e*PKP1	PKPbc	23 57 21.8	-1.8
	comp=Z,25nm,0.9s					
FUR	Furstenfeldbru	151.90 349	*e*PKPbc	PKPbc	23 57 23.8	0.0
FUR			*e*PKPab	PKPab	23 57 33.5	-0.3
LDF	La Druitiere	152.04 5	*e*PKP1	PKPbc	23 57 22.4	-1.7
BFO	Black Forest	152.17 353	*e*PKIKP	PKPab	23 57 34.4	-0.6
BFO	Black Forest	152.17 353	*e*PKPab	PKPab	23 57 34.5	-0.5
GRR	Gorron	152.18 6	*e*PKP1	PKPbc	23 57 23.0	-1.4
	comp=Z,10nm,0.8s					
MEZF	Maizieres J'vi	152.25 358	*e*PKP1	PKPbc	23 57 23.6	-1.0
LOR	Lormes	153.51 359	*e*PKP1	PKPbc	23 57 26.1	-1.3
	comp=Z,14nm,1.3s					
SSF	Saint Saulge	153.72 360	*e*PKP1	PKPbc	23 57 26.5	-1.3
	comp=Z,16nm,1.2s					
MFF	Saint Martin d	154.02 6	*e*PKP1	PKPbc	23 57 26.8	-1.7
	comp=Z,8.4nm,0.9s					
LPL	La Plagne	155.12 354	*e*PKP1	PKPdf	23 57 29.7	+7.9
LPG	La Plagne	155.14 354	*e*PKP1	PKPdf	23 57 29.2	+7.4
ORIF	Oris-en-Rattie	155.78 356	*e*PKP1	PKPdf	23 57 29.6	+6.9
	comp=Z,6.3nm,1.0s					
TORD	Torodi Ar. Bea	172.29 167	PKP	PKPdf	23 57 36.0	-2.3
TORD			PKPab	PKPab	23 59 03.9	+0.4
TORD	Torodi Ar. Bea	172.29 167	PKP	PKPdf	23 57 36.0	-2.3
	comp=Z,0.8nm,0.9s,baz=355,slow=1.7,SNR=3.9					
TORD			PKPab	PKPab	23 59 03.9	+0.4
	comp=Z,1.8nm,0.8s,baz=184,slow=5.4,SNR=10					

IDC 19 23:45:19.5±52.0, 1846S×17531W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/14, mbtmp3.9/3, Error ellipse: s-maj=982.6km s-min=181.7km az=81.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.97	242	P	P	23 53 04.3	+0.1
	1.1nm,0.5s,baz=59,slow=5.9,SNR=2.9						
WRA	Warramunga Arr	47.43	260	P	P	23 53 55.9	-0.2
	0.4nm,0.3s,baz=98,slow=7.4,SNR=8.1						
ASAR	Alice Springs	47.48	255	P	P	23 53 56.5	0.0
	0.8nm,0.4s,baz=87,slow=8.1,SNR=15						

*ISCJB **19** 23:49:15.9±0.4, 3785N±003×3802E±003, h2km, Error ellipse: s-maj=4.4km s-min=3.0km az=148.4*
*CSEM **19** 23:49:15.1±0.1, 3784N×3803E, h2km, MD3.4, Error ellipse: s-maj=1.9km s-min=1.3km az=170.0*
*DDA **19** 23:49:15.7, 3785N×3799E, h7km±6km, Md3.4*
*ISK **19** 23:49:15.0, 3782N×3801E, h5km, MD3.3*
ISC 19 23:49:16.6±0.6, 3785N±003×3802E±003, h3km±6km, n21, σ0§98/29, 2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	Bozova	0.44	150	⇓*i*P	Pg	23 49 24.5	-0.5
ATAB				*i* S	Sg	23 49 31.1	+0.4
MALT	Malatya	0.56	35	*e*PG	Pg	23 49 25.9	-1.6
GZT	Gaziantep	0.61	216	⇓*i*P	Pg	23 49 27.3	-1.1
GZT				*i* S	Sg	23 49 37.8	+1.5
URFA	Urfa	0.76	122	*e*PG	Pg	23 49 30.4	-0.7
URFA				*e*SG	Sg	23 49 41.4	+0.5
GAZ	Gaziantep	0.93	224	*e*PG	Pg	23 49 34.0	-0.5
GAZ				*e*SG	Sg	23 49 47.1	+0.5
KMRS	Kahramanmaras	0.95	249	*e*PG	Pg	23 49 33.5	-1.4
ELZG	Elazig	1.00	49	*e*P	Pg	23 49 34.4	-1.3
ELZG				*i* S	Sg	23 49 50.8	+2.0
SVRC	Sivrice-ELAZID	1.14	62	*e*PN	Pn	23 49 38.4	-1.1
SVRC				*e*SN	Sn	23 49 55.9	+0.2
ANDN	Andirin	1.35	259	*i* P	Pn	23 49 40.2	-2.2
ANDN				*i* S	Sg	23 50 01.9	+1.7
PTK	Pertek	1.50	46	*e*PN	Pn	23 49 44.2	-0.2
PTK				*e*SN	Sg	23 50 05.7	+0.9
DIY	Diyarbakir	1.75	88	*e*PN	Pn	23 49 47.7	-0.1
KOZT	Kozan	1.78	259	*e*PN	Pn	23 49 48.0	-0.3
BNN	Bunyan	1.98	301	*e*PN	Pn	23 49 51.1	+0.1
CEYT	Ceyhan	1.99	246	*e*PN	Pn	23 49 51.0	-0.2
SVSK	Karacayir	2.21	339	*e*PN	Pn	23 49 54.1	-0.1
MARD	Mardin	2.26	103	*e*P	Pn	23 49 54.1	-0.7
KARA	Karaisali	2.43	257	*e*PN	Pn	23 49 57.7	+0.5
GUMT	Gumushane	2.84	23	*e*PN	Pn	23 50 04.0	+1.2
MERS	Mersin	2.95	252	*e*PN	Pn	23 50 05.0	+0.6
CORM	Corum	3.52	312	*e*PN	Pn	23 50 12.4	+0.2
SIRT	Sirnak	3.52	94	*e*PN	Pn	23 50 13.5	+1.3

IDC 19 23:50:26.6±0.9, 2585N×4505W, h0km, mb3.8/8, mb1 3.9/8, mb1mx3.6/25, mbtmp3.8/8, Error ellipse: s-maj=35.0km s-min=20.6km az=118.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SIV	San Ignacio	44.41	202	P	P	23 58 38.8	-0.4
	0.7nm,0.7s,baz=346,slow=2.4,SNR=5.0						
TORD	Torodi Ar. Bea	45.62	97	P	P	23 58 48.9	-0.1
	0.8nm,0.7s,baz=300,slow=7.5,SNR=4.5						
LPAZ	La Paz	47.52	211	P	P	23 59 04.7	+0.9
	1.6nm,0.8s,baz=10,slow=8.6,SNR=6.8						
YKA	Yellowknife Ar	57.98	329	P	P	00 00 20.2	-0.4
	0.1nm,0.6s,baz=45,slow=11,SNR=3.3						
FINES	FINESS Array B	58.65	32	P	P	00 00 25.0	-0.3
	2.4nm,0.9s,baz=251,slow=8.7,SNR=3.4						
ARCES	ARCESS Array B	59.25	23	P	P	00 00 30.1	+0.8
	3.2nm,0.9s,baz=268,slow=5.7,SNR=6.3						
AKASG	Malin Array Be	60.67	45	P	P	00 00 38.4	-1.1
	1.1nm,0.6s,baz=279,slow=5.8,SNR=7.7						
BVAR	Borovoye Array	83.59	33	P	P	00 02 57.9	+1.3
	0.7nm,0.7s,baz=316,slow=6.2,SNR=5.3						

*NEIC **19** 23:56:39.2±0.9, 122N×1258**4E, h35km, mb3.9/1, Error ellipse: s-maj=21.5km s-min=14.2km az=64.0*
IDC 19 23:56:56.2±4.0, 048N×12467E, h170km±39km, mb3.5/4, mb1 3.4/6, mb1mx3.2/17, mbtmp3.4/6, Error ellipse: s-maj=44.6km s-min=15.4km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	7.34	222	P	Pn	23 58 42.6	+1.8
	1.2nm,0.3s,baz=35,slow=3.9,SNR=9.9						
KAPI				S	Sn	00 00 12.1	+8.9
	0.3nm,0.3s,baz=152,slow=9.7,SNR=2.2						
FITZ	Fitzroy Crossi	18.48	177	P	P	00 00 59.8	+0.5
	0.1nm,0.3s,baz=3.6,slow=16,SNR=1.9						
WRAB	Tennant Creek	22.39	155	*e*P	P	00 01 36.8	-3.8
	1.5nm,0.3s						
WRA	Warramunga Arr	22.40	155	P	P	00 01 36.5	-4.2
	1.3nm,0.5s,baz=337,slow=11,SNR=6.1						
ASAR	Alice Springs	25.62	160	P	P	00 02 09.6	-0.3
	3.0nm,0.6s,baz=355,slow=18,SNR=47						
ASAR				PcP	PcP	00 05 38.2	+1.9
	0.5nm,0.5s,baz=354,slow=2.2,SNR=6.9						
STKA	Stephens Creek	35.95	155	P	P	00 03 39.1	-1.4
	1.2nm,0.5s,baz=339,slow=8.8,SNR=10.0						
KSRS	Korea Array	36.92	4	P	P	00 03 50.1	+1.6
	1.5nm,0.9s,baz=178,slow=10.0,SNR=5.5						
MKAR	Makanchi Array	59.10	327	P	P	00 06 36.6	-1.9
	0.5nm,0.4s,baz=121,slow=7.8,SNR=11						
TORD	Torodi Ar. Bea	121.89	286	PKP	PKPdf	00 15 32.1	+1.0
	0.7nm,0.9s,baz=72,slow=2.2,SNR=3.5						

*ISCJB **20** 00:04:11.8±1.0, 3914N±003×4104E±008, h7km±11km, Error ellipse: s-maj=10.3km s-min=5.1km az=165.0*
*CSEM **20** 00:04:11.0±0.1, 3914N×4109E, h15km, MD3.0, Error ellipse: s-maj=3.8km s-min=2.3km az=134.0*
*DDA **20** 00:04:11.7, 3911N×4103E, h7km±4km, Md2.9*
*ISK **20** 00:04:11.0, 3915N×4106E, h11km, MD3.0*
ISC 20 00:04:12.2±0.6, 3913N±003×4107E±007, h10km±6km, n11, σ1§03/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	BINGOL	0.19	160	*i* P	Pg	00 04 15.4	-0.8
BNGL				*i* S	Sg	00 04 19.2	+0.3
ERZM	Erzurum	0.81	17	*i* P	Pg	00 04 27.1	-0.7
ERZM				*i* S	Sg	00 04 40.4	+2.1
ERZM	Erzurum	0.81	17	*i* P	Pg	00 04 27.1	-0.7
ERZM				*i* S	Sg	00 04 40.3	+2.0
EZM	Erzurum	0.81	16	PG	Pg	00 04 26.7	-1.0
EZM				SG	Sg	00 04 38.3	0.0
KOPT	Kop Dagi	0.99	334	*i* P	Pg	00 04 30.6	-0.7
KOPT				*i* S	Sg	00 04 45.7	+1.6
PTK	Pertek	1.33	260	*e*PN	Pn	00 04 35.2	-1.5
PTK				*e*SN	Sn	00 04 53.9	-0.6
AGRB	Hanur-Agry	1.56	73	*e*PN	Pn	00 04 39.1	-0.8
SVRC	Sivrice-ELAZID	1.57	242	*e*PN	Pn	00 04 39.7	-0.4
SVRC				*e*SN	Sn	00 05 00.7	+0.3
GUMT	Gumushane	1.81	318	*e*PN	Pn	00 04 42.9	-0.5
MARD	Mardin	1.83	187	*i* P	Pn	00 04 44.2	+0.6
MARD				*i* S	Sn	00 05 09.4	+2.6
MALT	Malatya	2.22	249	*e*PN	Pn	00 04 49.7	+0.7

MEX 20 00:34:51.6±1.0, 1635N×10031W, h16km±437km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.64	36	*i* P	Pg	00 35 01.6	-2.7
ACX				*i* S	Sg	00 35 10.7	-2.2
CAIG	El Cayaco	0.70	4	*i* P	Pg	00 35 03.4	-1.9
CAIG				*i* S	Sg	00 35 11.2	-3.4
MEIG	Mezcala	1.71	23	*i* P	Pn	00 35 18.0	-2.7
MEIG				*i* S	Sn	00 35 38.5	-3.7

*NEIC **20** 00:47:51.7, 3248S×7190W, h32km, ML3.0(GUC), After GUC.*
GUC 20 00:47:51.7±0.7, 3248S×7190W, h32km±3km, MD3.7, ML3.0, 3C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.59	158	*e*P	Pb	00 48 03.1	-0.6
IHA				*i* S	Sb	00 48 11.5	-0.4
JACH	Jahuel	1.13	101	⇑*i*P	Pn	00 48 11.8	+0.6
JACH				*i* S	Sn	00 48 27.0	+1.3
PEL	Peldehue	1.22	123	⇑*i*P	Pn	00 48 13.6	+1.0
PEL				*i* S	Sn	00 48 29.9	+1.9
PEL				AML	AML	00 48 33.1	
	comp=E,852nm,0.6s						
TACH	Talagante	1.43	146	⇓*i*P	Pn	00 48 16.7	+1.3
TACH				*i* S	Sn	00 48 34.8	+1.7
CLCH	Cerro Calan	1.47	129	*e*P	Pn	00 48 17.1	+1.1
CLCH				*i* S	Sn	00 48 36.6	+2.4
CLCH				AML	AML	00 48 40.4	
	comp=E,246nm,0.6s						
CMCH	Combarbala	1.51	31	*e*P	Pn	00 48 17.5	+1.0
CMCH				*i* S	Sn	00 48 37.4	+2.4
CMCH	Combarbala	1.51	31	*e*P	Pn	00 48 17.5	+1.0
CMCH				*i* S	Sn	00 48 37.4	+2.4
CMCH				AML	AML	00 48 39.6	
	comp=E,596nm,0.5s						
FCH	Farellones	1.60	122	⇑*i*P	Pn	00 48 19.5	+1.7
FCH				*i* S	Sn	00 48 40.7	+3.3
FCH				AML	AML	00 48 42.3	
	comp=N,170nm,0.5s						
PCH	Pirque	1.63	135	*e*P	Pn	00 48 20.0	+1.7
PCH				*i* S	Sn	00 48 41.0	+2.8
CHCH	Chadas Angostu	1.79	145	*e*P	Pn	00 48 21.8	+1.4
CHCH				*i* S	Sn	00 48 44.6	+2.5
LMEL	Las Melosas	1.98	134	*e*P	Pn	00 48 25.0	+2.1
LMEL				*i* S	Sn	00 48 49.7	+3.1
LMEL	Las Melosas	1.98	134	*e*P	Pn	00 48 25.0	+2.1
LMEL				*i* S	Sn	00 48 49.7	+3.1
LMEL				AML	AML	00 48 57.5	
	comp=N,176nm,0.1s						

*CSEM **20** 00:53:52.0±0.4, 3961N×4111E, h12km, MD3.0, Error ellipse: s-maj=11.2km s-min=8.2km az=149.0*
*ISK **20** 00:53:52.2, 3958N×4112E, h10km, MD3.0*
*DDA **20** 00:53:52.7, 3963N×4113E, h7km±3km, Md3.0*
*ISCJB **20** 00:53:53.1±0.6, 3960N±003×4112E±005, h10km, Error ellipse: s-maj=5.7km s-min=4.7km az=25.6*
ISC 20 00:53:53.6±0.6, 3961N±004×4112E±005, h14km±6km, n8, σ0§87/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EZM	Erzurum	0.35	32	PG	Pg	00 53 59.6	-1.1
EZM				SG	Sg	00 54 06.3	+0.9
ERZM	Erzurum	0.35	32	*i* P	Pg	00 53 59.5	-1.2
ERZM				*i* S	Sg	00 54 06.2	+0.7
KOPT	Kop Dagi	0.63	310	*i* P	Pg	00 54 04.9	-1.1
KOPT				*i* S	Sg	00 54 15.6	+1.3
BNGL	BINGOL	0.66	178	*i* P	Pg	00 54 05.4	-1.0
BNGL				*i* S	Sg	00 54 16.3	+1.3
AGRB	Hanur-Agry	1.45	91	*e*PN	Pn	00 54 18.9	-0.5
AGRB				*e*SN	Sn	00 54 38.9	+0.7
GUMT	Gumushane	1.52	304	*e*PN	Pn	00 54 20.5	+0.1
PTK	Pertek	1.52	242	*e*PN	Pn	00 54 20.6	+0.1
SVRC	Sivrice-ELAZID	1.88	230	*e*PN	Pn	00 54 25.1	-0.2

*TIR **20** 01:05:01.4±1.9, 3973N×1961E, h6km±6km*
*IDC **20** 01:05:04.9±10.0, 4008N×1988E, h0km, mb3.6/3, mb1 3.6/4, mb1mx3.3/22, mbtmp3.5/4, ML3.3/1, Error ellipse: s-maj=193.5km s-min=26.8km az=34.0*
*ROM **20** 01:05:06.4±0.3, 3989N×1979E, h10km, Ml2.9/10, Error ellipse: s-maj=5.2km s-min=3.0km az=118.0*
*ATH **20** 01:05:06.4, 3992N×1968E, h17km±2km, MD3.5/10*
*NEIC **20** 01:05:06.4, 3992N×1968E, h17km, MD3.5(ATH), ML2.9(ROM), After ATH.*
*ISCJB **20** 01:05:06.3±0.6, 3988N±003×1968E±002, h5km±4km, mb3.6/3, Error ellipse: s-maj=4.5km s-min=2.9km az=13.6*
*CSEM **20** 01:05:07.0±0.1, 4002N×1974E, h2km, MD3.5, Error ellipse: s-maj=3.1km s-min=1.4km az=20.0*
ISC 20 01:05:06.7±0.7, 3994N±003×1969E±002, h2km±5km, n56, σ1§15/73, mb3.6/3, 1C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KEK	Kerkira	0.24	159	*e*PB	Pg	01 05 11.5	+0.3
KEK				*e*SB	Sg	01 05 15.9	+1.6
KEK	Kerkira	0.24	159	Pn	Pg	01 05 10.6	-0.6
KEK				Sg	Sg	01 05 16.0	+1.7
	2μm,0.3s						
SRN	Sarande	0.25	103	*i* PG	Pg	01 05 09.5	-1.9
SRN				*i* SG	Sg	01 05 14.0	-0.6
VLO	Vlora	0.55	345	*i* PG	Pg	01 05 18.1	+0.8
VLO				*i* SG	Sg	01 05 28.6	+4.1
JAN	Janina	0.94	107	*e*PB	Pb	01 05 23.5	-2.2
JAN				*e*SN	Sn	01 05 36.9	-4.0
SCTE	Santa Cesarea	0.95	279	Pn	Pn	01 05 25.4	-1.6
SCTE				Sn	Sn	01 05 40.7	-0.5
	1μm,0.2s						
KBN	Korca	1.09	50	*i* PN	Pn	01 05 29.1	+0.2
KBN				*i* SN	Sn	01 05 43.7	-0.9
LCI	Lecce	1.27	289	Pn	Pn	01 05 31.1	-0.4
	204nm,0.3s						
TIR	Tirane	1.42	5	Pn	Pn	01 05 33.9	+0.4
	239nm,0.8s						
TIR	Tirane	1.42	5	*e*PN	Pn	01 05 34.0	+0.5
OHR	Ohrid	1.45	35	*i* Pn	Pn	01 05 33.6	-0.3
OHR				*i* Sn	Sn	01 05 55.8	+2.3
KZN	Kozani	1.64	76	*e*PN	Pn	01 05 38.9	+2.4
KZN				*e*SN	Sn	01 05 59.1	+0.9
BIA	Bitola	1.65	49	*i* Pn	Pn	01 05 36.4	-0.4
BIA				*i* Sn	Sn	01 05 59.9	+1.3
BIA	Bitola	1.65	49	*i* Pn	Pn	01 05 36.3	-0.4
BIA				*i* Sn	Sn	01 05 59.8	+1.3
THL	Klokotos Trika	1.83	101	*e*PN	Pn	01 05 39.3	+0.1
THL				*e*SN	Sn	01 06 03.9	+1.0
PHP	Peshkopia	1.84	18	*e*PN	Pn	01 05 39.3	0.0
PHP				*i* SN	Sn	01 06 07.0	+3.9
VLS	Valsamata	1.89	158	*e*PN	Pn	01 05 39.6	-0.4
EVR	Evrytania	1.93	121	⇑*i*PN	Pn	01 05 41.4	+0.8
PE1	Pezze di Greco	1.94	297	*e*Pn	Pn	01 05 43.3	+2.7
PE1				*e*Sn	Sn	01 06 05.3	-0.3
PUK	Puka	2.11	4	*i* PN	Pn	01 05 42.7	-0.3
NOCI	Noci	2.18	294	Pn	Pn	01 05 42.9	-1.1
RLS	Riolos of Patr	2.33	143	*e*PB	Pb	01 05 45.7	-3.7
TIP	Timpagrande	2.39	252	Pn	Pn	01 05 46.1	-0.7
	55nm,1.4s						
BCI	Bajram Curri	2.45	7	*e*PN	Pn	01 05 47.8	+0.2
BCI				*i* SN	Sn	01 06 23.6	+5.5
SG1	Sgolgore (BA)	2.47	292	*e*Pn	Pn	01 05 47.7	-0.3
SG1				*e*Sn	Sn	01 06 17.7	-1.0
SERS	Sersale	2.49	250	Pn	Pn	01 05 47.0	-1.2
	22nm,0.7s						
AMUR	Altamura	2.55	293	Pn	Pn	01 05 48.5	-0.5
VAY	Valandovo	2.59	57	*i* Pn	Pn	01 05 48.7	-1.0
VAY	Valandovo	2.59	57	*i* Pn	Pn	01 05 48.6	-1.1
GRI	Girifalco	2.77	247	Pn	Pn	01 05 51.1	-0.9
	149μm,53.0s						
SCHR	S. Chirico Rap	2.79	277	Pn	Pn	01 05 52.8	+0.5
	41nm,0.9s						
NEO	Neokhori	2.80	102	*e*PN	Pn	01 05 53.1	+0.6
NEO				*e*SN	Sn	01 06 26.3	-0.6
PTRP	Pietrapertosa	2.84	283	Pn	Pn	01 05 55.5	+2.5
CDT	Castel del Mon	2.84	295	*e*Pn	Pn	01 05 55.0	+1.9
LKR	Lokris	2.87	115	*e*PN	Pn	01 05 53.8	+0.3
PLG	Polygyros	2.91	80	*e*PN	Pn	01 05 53.7	-0.3
SIRI	Monte Sirino -	2.94	276	Pn	Pn	01 05 55.4	+0.9
MCEL	Monticello	3.00	279	Pn	Pn	01 05 55.9	+0.6
MTSN	Montesano sull	3.04	278	Pn	Pn	01 05 56.2	+0.4
MGR	Morigerati	3.18	275	Pn	Pn	01 05 58.2	+0.5
	63nm,0.6s						
ITM	Ithomi	3.26	147	*e*PN	Pn	01 05 59.9	+1.0
CDRU	Civita di Ruta	3.40	281	Pn	Pn	01 06 01.8	+1.0
	15nm,0.5s						
SGO	Sicignano	3.41	282	Pn	Pn	01 06 02.1	+1.2
	16nm,0.4s						
SGRT	San Giovanni R	3.50	303	Pn	Pn	01 06 01.6	-0.5
MCRV	Calabrutti - M	3.56	285	Pn	Pn	01 06 04.0	+1.1
	23nm,0.4s						
FG5	Orsara di Pugl	3.62	293	Pn	Pn	01 06 05.3	+1.5
	39nm,0.6s						
NRCA	Norcia	5.73	302	Pn	Pn	01 06 33.1	+0.3
	1.0nm,0.4s						
FSSB	Fossombrone	6.38	308	Pn	Pn	01 06 41.5	-0.2
	19nm,1.2s						
PIEI	Pieia	6.45	306	Pn	Pn	01 06 42.5	-0.1
	164nm,3.4s						
BOJS	Bojanci	6.45	331	*i* Pn	Pn	01 06 41.6	-1.1
SKDS	Skadanscina	6.99	325	*i* Pn	Pn	01 06 48.1	-2.0
PDKS	Podkum	7.02	332	*i* Pn	Pn	01 06 48.7	-1.8
GERES	GERESS Array B	9.88	336	Pn	Pn	01 07 28.4	-1.2
	0.1nm,0.3s,baz=155,slow=16,SNR=4.5						
FINES	FINESS Array B	21.89	8	P	P	01 09 57.1	-3.6
	1.6nm,0.8s,mb3.5,baz=189,slow=11,SNR=3.9						
MKAR	Makanchi Array	44.95	60	P	P	01 13 19.9	-3.2
	0.7nm,0.6s,mb3.7,baz=285,slow=7.3,SNR=10						
ZALV	Zalesovo Beam	45.02	49	P	P	01 13 20.2	-3.2
	0.6nm,0.6s,mb3.6,baz=282,slow=10,SNR=2.8						

*IDC **20** 01:22:26.1±2.8, 8150N×395W, h0km, mb3.6/6, mb1 3.9/7, mb1mx3.6/22, mbtmp3.7/7, ML3.3/1, MS3.4/4, Ms1 3.3/4, ms1mx2.9/29, Error ellipse: s-maj=54.0km s-min=29.6km az=120.0*
*CSEM **20** 01:22:27.8±0.2, 8152N×408W, h30km, ML2.6, Error ellipse: s-maj=9.0km s-min=5.4km az=39.0*
*ISCJB **20** 01:22:29.3±3.4, 813N±0.1×19W±0.6, h17km±26km, mb3.7/5, MS3.3/4, Error ellipse: s-maj=26.1km s-min=12.5km az=28.4*
*NEIC **20** 01:22:29.7±1.4, 8135N×201W, h10km, Error ellipse: s-maj=20.0km s-min=18.5km az=101.0*
*NAO **20** 01:22:30.6±6.8, 8173N×071E, ML2.6*
ISC 20 01:22:31.6±3.3, 813N±01×17W±07, h19km±23km, n20, σ0§67/26, mb3.7/5, MS3.3/4, North of Svalbard

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBS	Kingsbay	3.35	129	Pn	Pn	01 23 22.4	-0.3
KBS				Sn	Sn	01 24 01.8	-0.1
KBS	Kingsbay	3.35	129	*e*P	Pn	01 23 22.7	0.0
KBS				*e*S	Sn	01 24 02.5	+0.6
KBS	Kingsbay	3.35	129

1.7nm,0.8s,baz=64,slow=0.7,SNR=11
TORD Torodi Ar. Bea 164.22 184 PKPab PKPab 02 13 13.6 -1.9
0.3nm,0.8s,baz=178,slow=3.7,SNR=5.1

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*ISCJB **20** 02:18:37.4±2.1,3828N±006×204E±02,h9km±6km, Error ellipse: s-maj=22.8km s-min=8.7km az=162.5*
*ATH **20** 02:18:38.3,3822N×2048E,h16km±1km,MD3.0/5*
*NEIC **20** 02:18:38.3,3822N×2048E,h16km,MD3.0(ATH),After ATH.*
*CSEM **20** 02:18:39.5±0.5,3830N×2055E,h5km,MD3.0, Error ellipse: s-maj=8.4km s-min=4.5km az=125.0*
ISC 20 02:18:38.9±1.4,**3833N**±005×**205E**±01,**h2**km±8km,**n7**, σ0**91**/12,**Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.16**	**162**	*e*P	**Pg**	**02 18 41.9**	**0.0**
VLS				*e*S	**Sg**	**02 18 45.1**	**+1.1**
VLS	**Valsamata**	**0.16**	**162**	*e*Pb	**Pg**	**02 18 41.8**	**-0.1**
VLS				*e*Sb	**Sg**	**02 18 44.7**	**+0.7**
LKD	**Levkas**	**0.39**	**14**	*e*P	**Pg**	**02 18 45.7**	**-0.7**
RLS	**Riolos of Patr**	**0.79**	**110**	*e*PN	**Pn**	**02 18 53.7**	**-3.2**
RLS				*e*SN	**Sg**	**02 19 03.9**	**-0.3**
EVR	**Evrytania**	**1.16**	**59**	*e*PN	**Pn**	**02 19 01.5**	**-0.6**
EVR				*e*SN	**Sn**	**02 19 19.6**	**+1.1**
ITM	**Ithomi**	**1.59**	**135**	*e*PN	**Pn**	**02 19 08.1**	**+0.1**
ITM				*e*SN	**Sn**	**02 19 28.5**	**-0.7**
THL	**Klokotos Trika**	**1.69**	**43**	*e*PN	**Pn**	**02 19 10.6**	**+1.2**

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*ISCJB **20** 02:19:24.7±1.0,1079N±006×6238W±003,h70km±9km, Error ellipse: s-maj=9.9km s-min=5.5km az=5.0*
*FUNV **20** 02:19:25.2,1087N×6233W,h65km,MW2.5*
*TRN **20** 02:19:28.2,1101N×6218W,h50km,MD3.0*
*NEIC **20** 02:19:28.2,1101N×6218W,h50km,MD3.0(TRN),After TRN.*
ISC 20 02:19:25.4±1.0,**1081N**±006×**6238W**±003,**h65**km±10km, **n12**,σ0**83**/21,**1C-1D,Near coast of Venezuela**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.22**	**135⇑**	*e*P	**Pn**	**02 19 35.7**	**0.0**
GUIV				*e*S	**Sn**	**02 19 43.4**	**+0.4**
TCE	**Chacachacare**	**0.63**	**100**	*e*P	**Pn**	**02 19 39.6**	**+0.4**
TCE				*e*S	**Sn**	**02 19 48.1**	**-1.2**
TCE	**Chacachacare**	**0.63**	**100**	*e*P	**Pn**	**02 19 39.6**	**+0.4**
TCE				*e*S	**Sn**	**02 19 48.1**	**-1.2**
GUNV	**Guanoco**	**0.84**	**221**	*e*P	**Pn**	**02 19 42.1**	**+0.4**
GUNV				*e*S	**Sn**	**02 19 54.5**	**+0.7**
CRUV	**Carupano**	**0.85**	**261⇓**	*e*P	**Pn**	**02 19 41.6**	**-0.2**
CRUV				*e*S	**Sn**	**02 19 54.3**	**+0.4**
ITEV	**Isla Los Testi**	**0.92**	**307**	*e*P	**Pn**	**02 19 42.2**	**-0.4**
ITEV				*e*S	**Sn**	**02 19 54.2**	**-1.2**
TRN	**Trinidad (W)**	**0.98**	**99**	*e*P	**Pn**	**02 19 44.0**	**+0.6**
TRN				*e*S	**Sn**	**02 19 56.1**	**-0.6**
TPP	**Pointe-a-Pierr**	**1.04**	**118**	*e*P	**Pn**	**02 19 46.4**	**+2.3**
TBH	**Brigand Hill**	**1.33**	**104**	*e*P	**Pn**	**02 19 48.1**	**+0.1**
TBH				*e*S	**Sn**	**02 20 05.2**	**+0.2**
PCRV	**Puerto La Cruz**	**2.30**	**254**	*e*P	**Pn**	**02 20 01.7**	**+0.6**
RIOV	**Rio Grande**	**2.78**	**168**	*e*P	**Pn**	**02 20 07.4**	**-0.1**
RIOV				*e*S	**Sn**	**02 20 38.0**	**-2.0**
PRGV	**PARIAGUAN**	**3.02**	**228**	*e*S	**Sn**	**02 20 45.4**	**-0.4**

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*NEIC **20** 02:35:07.6,3103S×7131W,h48km,MD3.9(GUC),After GUC.*
GUC 20 02:35:07.6±0.7,**3103S**×**7131W,h48**km±4km,**MD3.9, ML3.0,5C,Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.30**	**119⇑**	*i*P	Pn	02 35 16.7	+0.2
CMCH				*i* S	Sn	02 35 23.9	+1.0
CMCH	**Combarbala**	**0.30**	**119⇑**	*i*P	Pn	02 35 16.7	+0.2
CMCH				*i* S	Sn	02 35 23.9	+1.0
CMCH				AML	AML	02 35 24.7	
	comp=N,6μm,0.4s						
OVCH	**Ovalle**	**0.43**	**13⇑**	*i*P	Pn	02 35 18.3	+0.4
OVCH				*i* S	Sn	02 35 26.4	+1.2
TLL	**Tololo Astrono**	**0.96**	**27⇑**	*i*P	Pn	02 35 25.9	+1.2
TLL				*i* S	Sn	02 35 39.5	+2.2
TLL	**Tololo Astrono**	**0.96**	**27⇑**	*i*P	Pn	02 35 25.9	+1.2
TLL				*i* S	Sn	02 35 39.5	+2.2
TLL				AML	AML	02 35 42.7	
	comp=N,134nm,0.7s						
LSCH	**La Serena**	**1.12**	**3**	*e*P	Pn	02 35 27.2	+0.3
LSCH				*i* S	Sn	02 35 42.2	+1.0
LCO	**Las Campanas**	**2.08**	**15**	*e*Pn	Pn	02 35 40.8	+0.8
LCO				*e*Sn	Sn	02 36 06.0	+1.3
PEL	**Peldehue**	**2.17**	**166**	*i* P	Pn	02 35 44.5	+3.2
PEL				*i* S	Sn	02 36 08.4	+1.4
PEL				AML	AML	02 36 14.7	
	comp=E,180nm,0.2s						
CLCH	**Cerro Calan**	**2.45**	**165**	*e*P	Pn	02 35 45.5	+0.4
CLCH				*e*S	Sn	02 36 15.2	+1.4
CLCH				AML	AML	02 36 28.1	
	comp=E,92nm,0.7s						
FCH	**Farellones**	**2.45**	**160**	*e*P	Pn	02 35 46.6	+1.5
FCH				*i* S	Sn	02 36 16.0	+2.3
FCH				AML	AML	02 36 22.8	
	comp=E,63nm,0.2s						
TACH	**Talagante**	**2.63**	**173**	*e*P	Pn	02 35 47.9	+0.3
LMEL	**Las Melosas**	**2.96**	**162**	*e*P	Pn	02 35 52.5	+0.4
LMEL				AML	AML	02 36 36.9	
	comp=N,66nm,0.1s						

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*CSEM **20** 02:40:56.8±0.1,3978N×3985E,h2km,MD3.0, Error ellipse: s-maj=3.1km s-min=2.1km az=98.0*
*DDA **20** 02:40:57.8,3980N×3981E,h7km±3km,Md3.0*
*ISK **20** 02:40:57.6,3977N×3985E,h6km,MD3.0*
*ISCJB **20** 02:40:58.1±0.7,3977N±003×3986E±004,h4km±6km, Error ellipse: s-maj=5.6km s-min=4.5km az=15.5*
ISC 20 02:40:58.6±0.6,**3977N**±003×**3987E**±004,**h7**km±5km,**n14**, σ0**72**/23,**Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	**Kop Dagi**	**0.54**	**63**	*i* P	**Pg**	**02 41 09.2**	**+0.1**
KOPT				*i* S	**Sg**	**02 41 17.9**	**+1.8**
GUMT	**Gumushane**	**0.75**	**336**	*e*PG	**Pg**	**02 41 12.2**	**-0.9**
GUMT				*e*SG	**Sg**	**02 41 23.6**	**+0.8**
PTK	**Pertek**	**0.95**	**203**	*e*PG	**Pg**	**02 41 16.5**	**-0.4**
PTK				*e*SG	**Sg**	**02 41 29.6**	**+0.3**
EZM	**Erzurum**	**1.15**	**83**	*e*PN	**Pn**	**02 41 20.5**	**-0.7**
EZM				*e*SN	**Sn**	**02 41 37.2**	**0.0**
ERZM	**Erzurum**	**1.16**	**83**	*i* P	**Pg**	**02 41 20.1**	**-0.7**
ERZM				*i* S	**Sg**	**02 41 40.8**	**+5.0**
ERZM	**Erzurum**	**1.16**	**83**	*i* P	**Pg**	**02 41 20.1**	**-0.7**
MACK	**Trabzon**	**1.17**	**356**	*i* P	**Pg**	**02 41 21.3**	**+0.2**
MACK				*i* S	**Sg**	**02 41 36.0**	**-0.4**
KTUT	**Trabzon**	**1.22**	**356**	*e*PN	**Pn**	**02 41 20.9**	**-1.2**
ESPY	**Espiye-Giresun**	**1.44**	**323**	*e*PN	**Pn**	**02 41 24.7**	**-0.5**
ESPY				*e*SN	**Sn**	**02 41 44.5**	**+0.2**
ELZG	**Elazig**	**1.45**	**209**	*i* P	**Pn**	**02 41 24.7**	**-0.6**
ELZG				*i* S	**Sn**	**02 41 46.0**	**+1.5**
SVRC	**Sivrice-ELAZID**	**1.46**	**198**	*e*PN	**Pn**	**02 41 25.2**	**-0.2**
GRSN	**GIRESUNGRSN**	**1.68**	**314**	*i* P	**Pn**	**02 41 28.9**	**+0.5**
GRSN				*i* S	**Sn**	**02 41 50.9**	**+0.7**
MALT	**Malatya**	**1.84**	**218**	*e*PN	**Pn**	**02 41 30.3**	**-0.3**
SVSK	**Karacayir**	**2.22**	**275**	*e*PN	**Pn**	**02 41 35.8**	**-0.1**

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*ISCJB **20** 02:50:23.7±0.2,2127S±005×6850W±006,h118km, mb4.4/42, Error ellipse: s-maj=9.7km s-min=5.4km az=140.6*
*NEIC **20** 02:50:25.0±0.2,2124S×6854W,mb4.5/38,Error ellipse: s-maj=6.6km s-min=4.3km az=53.0*
*BJI **20** 02:50:25.0,2120S×6850W,h117km,mB4.9*
*IDC **20** 02:50:25.6±0.5,2115S×6856W,h121km±3km,mb4.2/12, mb1 4.4/15,mb1mx4.2/20,mbtmp4.3/15,MS3.5/3, Ms1 3.5/3,ms1mx3.1/23,Error ellipse: s-maj=15.9km s-min=11.8km az=78.0*
ISC 20 02:50:25.6±0.2,**2125S**±005×**6844W**±006,**h120**km, **h120**km±.9km:**pP-P,n317**,σ0**60**/300,**mb4.4**/42,**88C-83D, Chile-Bolivia border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.95**	**3**	*e*Pn	**Pn**	**02 51 39.0**	**+1.1**
LPAZ	**La Paz**	**4.95**	**3**	P	**Pn**	**02 51 39.0**	**+1.1**
	5.4nm,0.3s,baz=197,slow=7.4,SNR=71						
ARE	**Arequipa**	**5.57**	**328**	*e*P	**Pn**	**02 51 40.0**	**-6.4**
ARE				*e*S	**Sn**	**02 52 39.0**	**-10**
LCO	**Las Campanas**	**7.99**	**194**	*e*Pn	**Pn**	**02 52 11.6**	**-7.5**
	53nm,0.6s						
LCO				*e*Sn	**Sn**	**02 53 39.5**	**-8.2**
SIV	**San Ignacio**	**8.72**	**54**	P	**Pn**	**02 52 28.2**	**-0.8**
	54nm,0.3s,baz=254,slow=11,SNR=1311						
SIV				S	**Sn**	**02 54 02.3**	**-3.3**
	baz=253,slow=12,SNR=5.6						
CFAA	**Coronel Fontan**	**10.31**	**179**	P	**Pn**	**02 52 44.4**	**-5.9**
CFAA				S	**Sn**	**02 54 31.5**	**-12**
CFAA	**Coronel Fontan**	**10.31**	**179**	P	**Pn**	**02 52 44.4**	**-5.9**
	0.1nm,0.3s,baz=351,slow=13,SNR=17						
CFAA				S	**Sn**	**02 54 31.5**	**-12**
	0.5nm,0.3s,baz=214,slow=20,SNR=7.1						
CPUP	**Villa Florida**	**11.35**	**119**	*e*Pn	**Pn**	**02 53 03.9**	**-0.3**
	36nm,0.4s						
CPUP	**Villa Florida**	**11.35**	**119**	P	**Pn**	**02 53 03.1**	**-1.2**
	3.3nm,0.3s,baz=275,slow=12,SNR=24						
CPUP				LR	LR	02 58 33.5	
	comp=Z,122nm,20.8s,baz=68,slow=42						
NNA	**Nana**	**12.23**	**318**	*e*Pn	**Pn**	**02 53 12.7**	**-3.2**
NNA				*e*Sn	**Sn**	**02 55 23.9**	**-6.8**
NNA	**Nana**	**12.23**	**318**	S	**Sn**	**02 55 15.9**	**-15**
	1.1nm,0.3s,baz=233,slow=20,SNR=2.1						
TRQA	**Tornquist**	**17.65**	**163**	*e*P	**Pn**	**02 54 22.2**	**-1.7**
	64nm,1.4s						
PLCA	**Paso Flores**	**19.50**	**185**	*e*P	**P**	**02 54 42.2**	**-1.1**
	39nm,0.8s						
PLCA	**Paso Flores**	**19.50**	**185**	P	**P**	**02 54 42.7**	**-0.6**
	1.1nm,0.3s,baz=13,slow=13,SNR=53						
BDFB	**Brasilia**	**20.15**	**77**	P	**P**	**02 54 51.4**	**+0.8**
	26nm,0.4s,baz=246,slow=16,SNR=120						
BDFB				LR	LR	03 04 03.4	
	comp=Z,92nm,19.9s,baz=66,slow=40						
RCBR	**Riachuelo**	**35.04**	**69**	*e*P	**P**	**02 57 08.7**	**+1.5**
	49nm,1.0s,mb5.3						
SJG	**San Juan**	**39.19**	**3**	P	**P**	**02 57 39.1**	**-2.9**
	8.7nm,0.6s,mb4.8,baz=190,slow=11,SNR=3.9						
SJG				pP	pP	02 58 09.6	+0.6
	15nm,0.8s,baz=309,slow=5.6,SNR=3.4						
SJG				sP	sP	02 58 20.8	-1.7
	38nm,0.9s,baz=262,slow=1.4,SNR=7.0						
VNA3	**Neumayer Olymp**	**60.17**	**161**	*e*P	**P**	**03 00 20.6**	**+0.3**
VNA3				*e*		03 00 24.3	
VNA3				*e*		03 00 27.1	
VNA3				*e*	pP	03 00 49.6	+0.4
VNA3				*e*		03 01 03.9	
VNA1	**Neumayer--Stat**	**60.37**	**161**	*e*P	**P**	**03 00 22.9**	**+1.2**
VNA1				*e*		03 00 26.7	
VNA1				*e*		03 00 28.4	
VNA1				*e*	pP	03 00 49.9	-0.7
VNA1				*e*		03 01 04.5	
TXAR	**Lajitas Array**	**60.68**	**325**	P	**P**	**03 00 23.0**	**-1.4**
TXAR				pP	pP	03 00 52.0	-1.4
TXAR				sP	sP	03 01 04.5	-1.9
TXAR	**Lajitas Array**	**60.68**	**325**	P	**P**	**03 00 23.0**	**-1.4**
	0.6nm,0.7s,mb3.7,baz=149,slow=8.5,SNR=7.5						
TXAR				pP	pP	03 00 52.0	-1.4
	0.4nm,0.6s,baz=145,slow=8.9,SNR=2.4						
TXAR				sP	sP	03 01 04.5	-1.9
	1.6nm,1.0s,baz=131,slow=6.8,SNR=4.8						
VNA2	**Neumayer--Watz**	**60.74**	**161**	*e*P	**P**	**03 00 24.4**	**+0.2**
VNA2				*e*		03 00 27.7	
VNA2				*e*		03 00 30.9	
VNA2				*e*	pP	03 00 52.7	-0.4
VNA2				*e*		03 01 06.4	
SNAA	**Sanae**	**62.37**	**161**	*e*P	**P**	**03 00 31.8**	**-3.3**
SNAA				*e*		03 00 35.5	
SNAA				*e*		03 00 37.9	
SNAA				*e*	pP	03 01 02.5	-1.7
SNAA				*e*		03 01 13.3	
SNAA	**Sanae**	**62.37**	**161**	P	**P**	**03 00 35.5**	**+0.4**
	5.9nm,0.9s,mb4.6,baz=282,slow=6.3,SNR=30						
SNAA				pP	pP	03 01 06.3	+2.0
	2.7nm,0.9s,baz=304,slow=4.8,SNR=4.8						
ACSO	**Alum Creek Sta**	**62.65**	**347**	*e*P	**P**	**03 00 36.0**	**-1.3**
	35nm,1.0s,mb5.2						
ACSO				*e*pP	pP	03 01 05.2	-1.3
ACSO				*e*sP	sP	03 01 18.1	-1.5
WMOK	**Wichita Mounta**	**62.70**	**332**	*e*P	**P**	**03 00 37.6**	**-0.2**
MNTX	**Cornudas Mount**	**63.45**	**325**	*e*P	**P**	**03 00 40.5**	**-2.2**
	2.3nm,1.1s,mb4.0						
MNTX				*e*pP	pP	03 01 09.6	-2.3
MNTX				*e*PcP	PcP	03 01 17.2	-1.3
MNTX				*e*pP	sP	03 01 22.5	-2.5
319A	**Douglas**	**65.36**	**322**	⇑P	**P**	**03 00 55.1**	**-0.1**
	baz=66,SNR=7.2						
219A	**White Tail Can**	**65.81**	**322**	⇑P	**P**	**03 00 57.9**	**-0.3**
	baz=66,SNR=7.0						
318A	**Bisbee**	**65.82**	**322**	P	**P**	**03 00 57.9**	**-0.3**
	baz=66,SNR=8.3						
119A	**Ashpeak Ranch,**	**66.41**	**323**	⇑P	**P**	**03 01 02.6**	**+0.7**
	baz=67						
217A	**Green Valley**	**66.54**	**321**	⇑P	**P**	**03 01 02.7**	**-0.1**
	baz=67,SNR=5.4						
118A	**Homack Ranch,**	**66.69**	**322**	⇑P	**P**	**03 01 03.6**	**-0.1**
	baz=67						
TUC	**Tucson**	**66.92**	**322**	*e*P	**P**	**03 01 03.7**	**-1.5**
	6.5nm,1.4s,mb4.3						
TUC				*e*pP	pP	03 01 33.6	-1.1
TUC				*e*sP	sP	03 01 46.5	-1.2
117A	**Oracle**	**67.08**	**322**	P	**P**	**03 01 06.0**	**-0.2**
	baz=67,SNR=8.4						
216A	**Three Points,**	**67.08**	**321**	⇓P	**P**	**03 01 06.3**	**+0.1**
	baz=67						
Y19A	**Nutrioso**	**67.27**	**324**	⇑P	**P**	**03 01 08.0**	**+0.6**
	baz=67,SNR=15						
Z17A	**San Carlos Hig**	**67.46**	**323**	⇑P	**P**	**03 01 08.6**	**0.0**
	baz=68						
Y18A	**Canyon Day Jun**	**67.57**	**323**	⇑P	**P**	**03 01 09.3**	**0.0**
	baz=68						
116A	**Eloy**	**67.63**	**321**	⇑P	**P**	**03 01 09.8**	**+0.1**
	baz=68						
X19A	**St. Johns**	**67.64**	**324**	⇓P	**P**	**03 01 09.8**	**+0.1**
	baz=68						
Y17A	**Roosevelt**	**67.96**	**323**	P	**P**	**03 01 11.8**	**+0.1**
	baz=68,SNR=10						
Z16A	**Peralta Trail,**	**68.03**	**322**	⇓P	**P**	**03 01 12.6**	**+0.5**
	baz=68						
115A	**Sonoran Desert**	**68.04**	**321**	⇑P	**P**	**03 01 12.8**	**+0.6**
	baz=68						
X18A	**Snowflake**	**68.08**	**324**	⇑P	**P**	**03 01 12.7**	**+0.2**
	baz=68						
DBIC	**Dimbokro**	**68.24**	**73**	*e*P	**P**	**03 01 14.1**	**+0.1**
	46nm,1.2s,mb5.2						
DBIC	**Dimbokro**	**68.24**	**73**	P	**P**	**03 01 14.2**	**+0.3**
	24nm,1.0s,mb5.0,baz=222,slow=6.1,SNR=4.1						
SDCO	**Great Sand Dun**	**68.26**	**329**	*e*P	**P**	**03 01 13.3**	**-0.2**
	9.4nm,1.2s,mb4.5						
SDCO				*e*pP	pP	03 01 42.0	-1.1
SDCO				*e*sP	sP	03 01 55.0	-1.0
X17A	**Forest Lakes**	**68.41**	**323**	⇑P	**P**	**03 01 15.2**	**+0.6**
	baz=69						
Y16A	**Circle Bar Ran**	**68.46**	**322**	⇓P	**P**	**03 01 15.2**	**+0.3**
	baz=69						
X16A	**Lo Mia Camp, P**	**68.83**	**323**	⇓P	**P**	**03 01 17.6**	**+0.5**
	baz=69						
QSPA	**South Pole Qui**	**68.94**	**180**	*e*P	**P**	**03 01 17.5**	**+0.3**
	36nm,0.9s,mb5.2						
QSPA	**South Pole Qui**	**68.94**	**180**	LR	LR	03 32 50.2	
	comp=Z,109nm,18.5s,baz=165,slow=37						
X15A	**Humboldt**	**69.33**	**322**	P	**P**	**03 01 20.2**	**0.0**
	baz=70,SNR=7.1						
MVCO	**Mesa Verde**	**69.33**	**327**	*e*P	**P**	**03 01 19.4**	**-0.8**
	13nm,1.4s,mb4.6						
MVCO				*e*pP	pP	03 01 47.7	-2.1
MVCO				*e*sP	sP	03 02 01.5	-1.2
MVCO	**Mesa Verde**	**69.33**	**327**	⇓P	**P**	**03 01 20.2**	**+0.1**
	baz=70						
W16A	**Flagstaff**	**69.37**	**323**	⇑P	**P**	**03 01 21.1**	**+0.7**
	baz=70,SNR=7.3						
Y14A	**Wickenburg**	**69.38**	**321**	⇓P	**P**	**03 01 20.5**	**0.0**
	baz=70						
WUAZ	**Wupatki**	**69.59**	**324**	*e*P	**P**	**03 01 21.3**	**-0.5**
	13nm,1.1s,mb4.7						
WUAZ				*e*pP	pP	03 01 50.4	-1.1
WUAZ				*e*sP	sP	03 02 03.4	-1.0
WUAZ	**Wupatki**	**69.59**	**324**	⇓P	**P**	**03 01 22.2**	**+0.4**
	baz=70						
X14A	**Yava**	**69.69**	**322**	⇓P	**P**	**03 01 22.9**	**+0.5**
	baz=70						
Y13A	**Salome**	**69.77**	**321**	⇑P	**P**	**03 01 23.1**	**+0.1**
	baz=70						
GLA	**Glamis**	**69.83**	**320**	⇑P	**P**	**03 01 23.4**	**0.0**
	baz=70						
W15A	**Williams**	**69.84**	**323**	⇑P	**P**	**03 01 24.3**	**+0.9**
	baz=70						
SMCO	**Snowmass**	**70.10**	**329**	*e*P	**P**	**03 01 24.8**	**0.0**
	4.4nm,0.9s,mb4.3						
SMCO				*e*pP	pP	03 01 54.3	-0.2
SMCO				*e*sP	sP	03 02 06.2	-1.3
Y12C	**Blythe**	**70.14**	**320**	⇑P	**P**	**03 01 25.4**	**+0.2**
	baz=70						
V15A	**Kaibab Nationa**	**70.26**	**323**	⇑P	**P**	**03 01 26.2**	**+0.3**
	baz=70,SNR=7.7						
PDMCI	**Parker Dam,Lak**	**70.30**	**321**	⇓P	**P**	**03 01 26.1**	**0.0**
	baz=70						
X13A	**Yucca**	**70.32**	**321**	P	**P**	**03 01 26.4**	**+0.1**
	baz=70,SNR=7.7						
W14A	**Seligman**	**70.33**	**322**	⇓P	**P**	**03 01 26.7**	**+0.3**
	baz=70						
DVTC	**Desert V Tower**	**70.34**	**319**	⇑P	**P**	**03 01 25.9**	**-0.6**
	baz=70						
BC3	**Big Chuckw Mtn**	**70.63**	**320**	P	**P**	**03 01 28.4**	**+0.2**
	baz=71,SNR=8.0						
V14A	**Boquillas Ranc**	**70.65**	**323**	⇓P	**P**	**03 01 29.2**	**+0.9**
	baz=71,SNR=8.9						
MONP	**Monument Peak**	**70.70**	**319**	⇑P	**P**	**03 01 28.9**	**+0.3**
	baz=71						
W13A	**Hualapai Mount**	**70.71**	**322**	⇓P	**P**	**03 01 29.3**	**+0.7**
	baz=71						
IRM	**Iron Mountain**	**70.80**	**320**	P	**P**	**03 01 29.3**	**+0.1**
	baz=71,SNR=7.0						
BELC	**Belle Mtn.**	**71.19**	**320**	⇓P	**P**	**03 01 31.9**	**+0.3**
	baz=71						
PFO	**Pinyon Flat Ob**	**71.21**	**319**	⇓P	**P**	**03 01 31.9**	**+0.3**
	baz=71						
T15A	**Red Dirt Ranch**	**71.25**	**324**	⇓P	**P**	**03 01 32.6**	**+0.7**
	baz=71,SNR=13						
U14A	**Mt Trumbull**	**71.25**	**323**	⇑P	**P**	**03 01 32.9**	**+1.0**
	baz=71,SNR=14						
V13A	**Grand Canyon W**	**71.30**	**322**	⇑P	**P**	**03 01 32.6**	**+0.4**
	baz=72						
W12A	**Cal Nev Ari**	**71.42**	**321**	⇑P	**P**	**03 01 33.1**	**+0.1**
	baz=72						
GMRC	**Granite Mounta**	**71.53**	**320**	P	**P**	**03 01 33.7**	**+0.2**
	baz=72,SNR=9.4						
U13A	**Pakoon Wash**	**71.69**	**323**	⇑P	**P**	**03 01 35.2**	**+0.7**
	baz=72						
V12A	**Nelson**	**71.71**	**322**	⇓P	**P**	**03 01 34.8**	**+0.2**
	baz=72,SNR=7.2						
SRU	**San Rafael**	**71.81**	**327**	*e*P	**P**	**03 01 34.7**	**-0.4**
	6.8nm,0.8s,mb4.5						
SRU				*e*pP	pP	03 02 03.9	-1.1
SRU				*e*sP	sP	03 02 16.9	-1.0
HEC	**Hector,Ludlow**	**71.96**	**320**	⇓P	**P**	**03 01 36.6**	**+0.4**
	baz=72						
T13A	**Saint George**	**72.09**	**323**	⇑P	**P**	**03 01 37.7**	**+0.8**
	baz=72,SNR=5.9						
V11A	**Goodsprings**	**72.13**	**321**	⇓P	**P**	**03 01 37.3**	**+0.2**
	baz=72						
TUQ	**Turquoise Mtn.**	**72.14**	**321**	⇓P	**P**	**03 01 37.6**	**+0.4**
	baz=72						
CCUT	**Cedar City**	**72.17**	**324**	*e*P	**P**	**03 01 38.0**	**+0.7**
CCUT				*e*pP	pP	03 02 06.5	-0.7
CCUT				*e*sP	sP	03 02 19.9	-0.2
S14A	**Cedar City**	**72.21**	**324**	⇑P	**P**	**03 01 37.7**	**+0.1**
	baz=72						
MSU	**Marysvale**	**72.23**	**325**	*e*P	**P**	**03 01 37.9**	**+0.2**
MSU				*e*PcP	PcP	03 01 55.4	+0.3
MSU				*e*pP	pP	03 02 06.7	-0.8
MSU				*e*sP	sP	03 02 19.8	-0.7
BFSC	**Mount Baldy St**	**72.37**	**319**	⇓P	**P**	**03 01 38.6**	**0.0**
	baz=72						
S13A	**Holt Ranch, En**	**72.47**	**324**	P	**P**	**03 01 40.0**	**+0.9**
	baz=73,SNR=12						
R14A	**James Farms, M**	**72.52**	**325**	⇑P	**P**	**03 01 39.9**	**+0.4**
	baz=73						
SHOC	**Shoshone**	**72.67**	**321**	⇓P	**P**	**03 01 40.4**	**0.0**
	baz=73						
RSSD	**Black Hills**	**72.77**	**334**	*e*P	**P**	**03 01 40.0**	**-0.7**
	4.0nm,1.0s,mb4.2						
T11A	**Corn Creek, Al**	**72.99**	**323**	P	**P**	**03 01 42.7**	**+0.5**
	baz=73,SNR=13						
EDW2	**Edwards Air Fo**	**73.00**	**319**	⇓P	**P**	**03 01 42.1**	**-0.2**
	baz=73						
U10A	**Ash Meadows, A**	**73.05**	**321**	⇓P	**P**	**03 01 43.3**	**+0.7**
	baz=73						
DAU	**Daniels Canyon**	**73.16**	**327**	*e*P	**P**	**03 01 43.0**	**-0.1**
TPNV	**Topopah Spring**	**73.37**	**322**	*e*P	**P**	**03 01 44.7**	**+0.2**
	11nm,1.2s,mb4.5						
TPNV				*e*pP	pP	03 02 14.4	0.0
TPNV	**Topopah Spring**	**73.37**	**322**	⇓P	**P**	**03 01 45.1**	**+0.7**
	baz=74						
FURC	**Furnace Creek,**	**73.40**	**321**	⇑P	**P**	**03 01 45.1**	**+0.5**
	baz=74						
JLU	**Jordanelle**	**73.40**	**327**	*e*P	**P**	**03 01 44.4**	**-0.1**
R12A	**Pony Springs,**	**73.41**	**324**	P	**P**	**03 01 45.4**	**+0.7**
	baz=74,SNR=9.0						
MPMC	**Manual Prospec**	**73.49**	**320**	⇓P	**P**	**03 01 45.2**	**0.0**
	baz=74						
Q13A	**Wheeler Ranch,**	**73.54**	**324**	⇑P	**P**	**03 01 45.4**	**0.0**
	baz=74						
S11A	**Rachel**	**73.57**	**323**	⇑P	**P**	**03 01 46.4**	**+0.8**
	baz=74						
DUG	**Dugway**	**73.80**	**326**	*e*P	**P**	**03

6.7nm,0.8s,mb4.4
TPAW *e*pP pP 03 02 26.3 +0.6
TPAW *es*P sP 03 02 38.1 -0.5
MOOW Moose Ponds 75.43 330 *e*P **P 03 01 55.6 -0.6**
3.1nm,0.8s,mb4.1
MOOW *e*pP pP 03 02 26.2 -0.1
MOOW *es*P sP 03 02 38.2 -0.9
KCC Kaiser Creek 75.43 320 ⇊P **P 03 01 56.2 -0.1**
baz=76
NVAR Mina Array Bea 75.57 322 P **P 03 01 57.2 0.0**
NVAR pP pP 03 02 28.4 +1.1
NVAR sP sP 03 02 39.1 -1.0
NVAR Mina Array Bea 75.57 322 P **P 03 01 57.2 0.0**
3.5nm,0.8s,mb4.1,baz=164,slow=7.0,SNR=20
NVAR pP pP 03 02 28.4 +1.1
1.4nm,0.8s,baz=160,slow=6.4,SNR=3.9
NVAR sP sP 03 02 39.1 -1.0
1.6nm,0.8s,baz=164,slow=8.8,SNR=3.5
IMW Indian Meadow 75.63 330 *e*P **P 03 01 56.5 -0.9**
3.9nm,0.6s,mb4.3
IMW *e*pP pP 03 02 26.8 -0.6
IMW *es*P sP 03 02 38.8 -1.6
Q08A Gabbs 75.65 322 ⇑P **P 03 01 57.6 0.0**
baz=76,SNR=8.4
FLWY Flagg Ranch 75.66 330 *e*P **P 03 01 57.8 +0.2**
14nm,0.8s,mb4.8
FLWY *e*pP pP 03 02 27.9 +0.2
FLWY *es*P sP 03 02 40.3 -0.2
L13A Double Diamond 75.76 327 ⇊P **P 03 01 58.5 +0.4**
baz=76,SNR=7.1
M12A Wells 75.78 326 ⇑P **P 03 01 57.9 -0.3**
baz=76,SNR=5.3
S05C Merced 76.05 320 ⇑P **P 03 01 59.8 -0.1**
baz=76,SNR=8.2
S06C San Francisco 76.11 320 ⇊P **P 03 02 00.4 +0.2**
baz=76
N10A Dunphy 76.14 324 ⇊P **P 03 02 00.5 +0.1**
baz=76
HAST Hastings Reser 76.18 318 ⇊P **P 03 02 00.7 +0.1**
baz=76
K13A Stover Farm, H 76.24 327 ⇑P **P 03 02 01.6 +0.8**
baz=76
M11A Holland Ranch, 76.25 325 ⇊P **P 03 02 01.5 +0.5**
baz=76
P08A Dixie Valley 76.30 323 ⇊P **P 03 02 01.8 +0.5**
baz=76
L12A House Creek Ra 76.36 326 ⇊P **P 03 02 02.1 +0.6**
baz=76,SNR=8.8
GCMT Greycliff 76.50 332 *e*P **P 03 02 01.8 -0.5**
GCMT *e*pP pP 03 02 29.9 -2.5
GCMT *es*P sP 03 02 43.9 -1.3
SYO Syowa Base 76.58 159⇑*e*P **P 03 02 01.6 -0.9**
K12A Draper Farm, C 76.65 327 ⇑P **P 03 02 03.8 +0.7**
baz=77,SNR=18
L11A Cat Creek Ranc 76.75 326 ⇊P **P 03 02 04.1 +0.4**
baz=77,SNR=6.1
R05C Kirkwood Meado 76.79 321 ⇑P **P 03 02 04.0 -0.1**
baz=77
J13A Cove Ranch, Pi 76.83 328 ⇑P **P 03 02 04.1 0.0**
baz=77,SNR=6.6
TOA0 Torodi Ar. Sit 76.86 70 *e*P **P 03 02 05.2 +0.3**
TOA0 *e*pP pP 03 02 34.7 -0.4
TORD Torodi Ar. Bea 76.86 70 P **P 03 02 04.8 -0.1**
TORD pP pP 03 02 35.5 +0.3
TORD Torodi Ar. Bea 76.86 70 P **P 03 02 04.8 -0.1**
3.8nm,0.4s,mb4.5,baz=254,slow=5.5,SNR=149
TORD pP pP 03 02 35.5 +0.3
5.4nm,0.8s,baz=253,slow=4.4,SNR=2.9
PAHR Pah Rah Range 77.05 322 *e*P **P 03 02 04.8 -0.7**
22nm,0.8s,mb4.9
PAHR *e*pP pP 03 02 35.0 -0.7
PAHR *es*P sP 03 02 48.2 -0.3
O07A Toulon 77.07 323 ⇑P **P 03 02 05.5 -0.1**
baz=77
HLID Hailey 77.07 328 P **P 03 02 06.0 +0.5**
baz=77,SNR=22
L10A Juniper Basin 77.07 325 ⇊P **P 03 02 05.8 +0.2**
baz=77,SNR=14
M09A Marrel Ranch, 77.14 324 ⇑P **P 03 02 06.1 +0.2**
baz=77
VNDA Vanda 77.17 190 *e*P **P 03 02 06.2 +0.5**
2.2nm,0.9s,mb3.9
VNDA Vanda 77.17 190 P **P 03 02 06.6 +0.9**
3.6nm,0.9s,mb4.1,baz=134,slow=4.5,SNR=18
I13A Wildhorse Cree 77.18 328 P **P 03 02 06.6 +0.5**
baz=77,SNR=9.0
J12A Stokes Ranch, 77.19 327 ⇑P **P 03 02 06.6 +0.4**
baz=77,SNR=12
LAVA Lava Cap Winer 77.21 321 ⇑P **P 03 02 06.2 -0.2**
baz=77
MCMT McKenzie Canyo 77.23 329 P **P 03 02 06.8 +0.5**
BOZ Bozeman (W) 77.28 331 *e*P **P 03 02 06.4 -0.2**
0.8nm,0.7s,mb3.6
BOZ *e*pP pP 03 02 35.5 -1.3
BOZ *es*P sP 03 02 48.1 -1.5
BOZ Bozeman (W) 77.28 331 ⇑P **P 03 02 06.3 -0.3**
baz=78,SNR=5.1
G15A Dillon 77.31 330 ⇑P **P 03 02 06.9 +0.1**
baz=78,SNR=5.7
K11A Parker Ranch, 77.33 326 ⇊P **P 03 02 07.2 +0.2**
baz=78,SNR=7.2
N07B Gerlach 77.54 323 ⇑P **P 03 02 08.3 +0.1**
baz=78,SNR=9.9
L09A Wilkinson Ranc 77.67 325 ⇑P **P 03 02 09.3 +0.4**
baz=78
MFID Camas Ranch 77.68 327 P **P 03 02 09.3 +0.4**
baz=78,SNR=5.9
BEKR Beckwourth 77.72 322 P **P 03 02 09.3 +0.1**
baz=78,SNR=5.9
H13A Challis 77.72 328 P **P 03 02 09.6 +0.5**
baz=78,SNR=12
K10A MacKenzie Ranc 77.77 326 ⇊P **P 03 02 09.4 0.0**
baz=78,SNR=11
H12A Diamond D Ranc 78.00 328 ⇑P **P 03 02 11.2 +0.6**
baz=78,SNR=6.5
N06A Buffalo Meadow 78.00 323 ⇑P **P 03 02 10.6 -0.2**
baz=78,SNR=9.0
M07A Soldier Meadow 78.06 323 ⇊P **P 03 02 11.1 0.0**
baz=78
G13A Cobalt 78.09 329 P **P 03 02 11.7 +0.6**
baz=78,SNR=29
I11A Placerville 78.10 327 ⇑P **P 03 02 11.6 +0.4**
baz=78
L08A Fields 78.15 324 ⇊P **P 03 02 11.4 -0.1**
baz=78,SNR=7.0
K09A Rome 78.17 325 ⇊P **P 03 02 11.7 +0.1**
baz=78,SNR=8.1
ORV Oroville 78.18 321 ⇊P **P 03 02 11.9 +0.2**
baz=78,SNR=8.9
F14A Wisdom 78.21 330 ⇊P **P 03 02 12.5 +0.7**
baz=78
E15A Deer Lodge 78.33 330 ⇑P **P 03 02 12.6 +0.2**
baz=78,SNR=5.0
WVOR Wild Horse Val 78.48 325 *e*P **P 03 02 13.4 +0.1**
1.6nm,0.5s,mb4.0
L07A Adell 78.58 324 ⇑P **P 03 02 14.3 +0.4**
baz=79,SNR=5.4
M06C Likely Place G 78.67 323 P **P 03 02 14.8 +0.4**
baz=79,SNR=5.0
H11A Donnelly 78.69 328 ⇑P **P 03 02 14.2 -0.2**
baz=79
E14A Clinton 78.72 330 ⇑P **P 03 02 15.1 +0.6**
baz=79
D15A Lincoln 78.73 331 ⇑P **P 03 02 15.0 +0.4**
baz=79
LBCM Butte Creek Ri 78.93 322 P **P 03 02 15.3 -0.6**
GASB Alder Springs 78.97 320 ⇑P **P 03 02 16.8 +0.8**
baz=79
HATC Hat Creek Radi 78.98 322 ⇑P **P 03 02 15.4 -0.7**
baz=79
H10A Noah's Angus R 78.98 327 ⇊P **P 03 02 16.1 +0.1**
baz=79
K07A Rock Creek Ran 78.98 324 ⇊P **P 03 02 16.1 0.0**
baz=79,SNR=5.4
J08A Circle Bar Ran 79.02 325 ⇑P **P 03 02 16.6 +0.3**
baz=79
MOD Modoc 79.03 323 *e*P **P 03 02 16.3 -0.1**
10.0nm,0.9s,mb4.7
MOD Modoc 79.03 323 ⇊P **P 03 02 16.5 +0.1**
baz=79
I09A Lost Marbles R 79.06 326 ⇊P **P 03 02 16.8 +0.3**
baz=79
E13A Victor 79.06 330 ⇊P **P 03 02 16.6 +0.2**
baz=79,SNR=9.1
F12A Elk City 79.07 329 ⇊P **P 03 02 16.5 0.0**
baz=79
M05C Lookout 79.15 322 ⇑P **P 03 02 16.7 -0.4**
baz=79,SNR=8.0
LTIM Timbered Crate 79.23 322 P **P 03 02 17.1 -0.4**
G11A Walters Elk Ra 79.31 328 ⇑P **P 03 02 17.9 +0.1**
baz=80,SNR=10
L05A Lakeview 79.43 323 ⇊P **P 03 02 19.1 +0.6**
baz=80,SNR=8.7
BMO Blue Mountains 79.45 327 *e*P **P 03 02 18.4 -0.2**
14nm,1.0s,mb4.7
I08A Drewsey 79.45 326 ⇑P **P 03 02 18.9 +0.3**
baz=80,SNR=10
WDC Whiskeytown Da 79.45 321 ⇑P **P 03 02 17.1 -1.6**
baz=80
J07A Hines 79.48 325 ⇑P **P 03 02 19.2 +0.5**
baz=80,SNR=5.6
LASM Arnica Sink 79.55 322 P **P 03 02 18.9 -0.3**
K06A Valley Falls 79.60 324 ⇑P **P 03 02 19.9 +0.5**
baz=80,SNR=5.9
F11A Grangeville 79.60 328 ⇊P **P 03 02 19.1 -0.3**
baz=80,SNR=8.2
M03C McCloud 79.66 322 ⇑P **P 03 02 19.1 -0.7**
baz=80,SNR=5.3
G10A Bishop Farm, J 79.66 327 P **P 03 02 20.2 +0.5**
baz=80,SNR=17
D13A Huson 79.66 330 P **P 03 02 19.8 +0.1**
baz=80,SNR=6.2
TSUM Tsumeb 79.69 107 *e*P **P 03 02 21.8 +1.2**
6.6nm,1.0s,mb4.4
TSUM *e*pP pP 03 02 52.4 +1.5
TSUM *es*P sP 03 03 05.4 +1.6
M04C Macdoel 79.82 322 P **P 03 02 20.5 -0.1**
baz=80,SNR=8.1
C14A Swan Lake 79.83 331 ⇑P **P 03 02 20.4 -0.2**
baz=80
J06A Christmas Vall 79.85 324 P **P 03 02 20.8 0.0**
baz=80,SNR=13
K05A Summer Lake 79.91 324 ⇑P **P 03 02 21.6 +0.5**
baz=80,SNR=11
LHEM Herd Peak 79.94 322 P **P 03 02 20.9 -0.4**
E11A Bogner Ranch, 79.96 329 ⇊P **P 03 02 20.8 -0.5**
baz=80
G09A Cove 79.98 327 ⇊P **P 03 02 21.6 +0.1**
baz=80
HOG Hogback Mounta 80.04 323 P **P 03 02 21.8 0.0**
D12A Red Ives Fores 80.05 330 ⇊P **P 03 02 21.8 0.0**
baz=80
N02C Big Bar 80.06 321 ⇑P **P 03 02 21.4 -0.5**
baz=80,SNR=8.5
I07A Izee 80.06 325 ⇊P **P 03 02 22.0 +0.1**
baz=80,SNR=11
L04A Klamath Falls 80.11 323 ⇑P **P 03 02 21.9 -0.3**
baz=80
C13A Hot Springs 80.14 330 P **P 03 02 22.3 0.0**
baz=80,SNR=5.7
M02C Callahan 80.15 322 ⇊P **P 03 02 21.3 -1.1**
baz=80
F10A Beach Ranch, E 80.19 328 ⇑P **P 03 02 22.0 -0.5**
baz=80
YBH Yreka Blue Hor 80.29 322 ⇊P **P 03 02 21.7 -1.5**
baz=80
K04A Chilquin 80.30 323 ⇑P **P 03 02 23.2 -0.1**
baz=80
I06A Prineville 80.34 325 ⇊P **P 03 02 23.7 +0.3**
baz=80,SNR=10
F09A S2 Ranch, Elgi 80.35 327 ⇊P **P 03 02 23.2 -0.2**
baz=80
J05A Fort Rock 80.46 324 ⇑P **P 03 02 24.1 0.0**
baz=81,SNR=8.1
E10A Myers Farm, Un 80.50 328 ⇊P **P 03 02 23.8 -0.3**
baz=81,SNR=5.3
D11A Klaveano Farm, 80.52 329 ⇊P **P 03 02 23.6 -0.7**
baz=81
G08A Pilot Rock 80.60 326 ⇊P **P 03 02 24.7 -0.1**
baz=81
B13A Whitefish 80.61 331 P **P 03 02 24.4 -0.3**
baz=81,SNR=6.5
KTRM Thompson Ridge 80.78 322 P **P 03 02 25.8 0.0**
F08A Pendleton 80.85 327 ⇑P **P 03 02 25.4 -0.7**
baz=81
J04A Umpqua Nationa 80.92 323 ⇑P **P 03 02 26.4 0.0**
baz=81
H06A Lindquist Farm 80.94 325 P **P 03 02 27.2 +0.6**
baz=81,SNR=5.8
VIPM Ingram Point 80.94 325 P **P 03 02 27.0 +0.4**
G07A Ruggs Ranch, H 80.95 326 P **P 03 02 27.1 +0.5**
baz=81,SNR=5.6
D10A Wagner Farm, O 80.98 329 ⇑P **P 03 02 26.0 -0.7**
baz=81
HUMO Hull Mountain 80.99 323 ⇑P **P 03 02 25.8 -1.1**
baz=81
A13A Flathead Natio 80.99 331 ⇊P **P 03 02 27.2 +0.4**
baz=81
BBOR Butler Butte 81.01 323 P **P 03 02 25.8 -1.2**
I05A Bend 81.06 325 P **P 03 02 27.6 +0.4**
baz=81,SNR=9.0
L02A Cave Junction 81.07 322 ⇑P **P 03 02 27.1 -0.2**
baz=81
B12A Libby 81.19 330 ⇊P **P 03 02 27.8 0.0**
baz=81
I04A Tendick Farm, 81.44 324 ⇊P **P 03 02 28.6 -0.7**
baz=82
D09A Jones Farm, Ri 81.49 328 ⇊P **P 03 02 29.3 -0.1**
baz=82
NEW Newport 81.76 330 *e*P **P 03 02 29.6 -1.2**
2.8nm,0.9s,mb4.1
J02A Umpqua 81.82 323 ⇊P **P 03 02 30.6 -0.6**
baz=82
A11A Hall Mountain, 81.89 330 ⇊P **P 03 02 31.4 -0.1**
baz=82,SNR=6.7
OD2 Odessa Site #2 81.91 328 P **P 03 02 31.4 -0.2**
C09A Chrisman Ranch 81.98 329 ⇑P **P 03 02 31.6 -0.4**
baz=82,SNR=8.2
B09A Rice 82.36 329 ⇑P **P 03 02 33.5 -0.5**
baz=82
FCC Fort Churchill 82.49 347 *e*P **P 03 02 33.2 -1.2**
6.5nm,1.3s,mb4.3
FCC *e*pP pP 03 03 04.2 -0.8
MPOR Mary's Peak 82.53 324 P **P 03 02 35.4 +0.5**
WTV Waterville 82.74 328 P **P 03 02 35.4 -0.5**
C07A Waterville 82.79 328 ⇊P **P 03 02 36.0 -0.1**
baz=83,SNR=8.4
A09A Danville 82.95 329 ⇊P **P 03 02 36.4 -0.6**
baz=83
BOSA Boshof 83.17 118 P **P 03 02 39.5 +0.7**
1.8nm,0.5s,mb4.1,baz=257,slow=4.2,SNR=3.7
A08A Turner Farm, O 83.26 329 ⇊P **P 03 02 37.9 -0.7**
baz=83,SNR=8.8
B07A Winthrop 83.34 328 ⇊P **P 03 02 38.2 -0.8**
baz=84,SNR=6.6
D05A Enumclaw 83.43 326 ⇑P **P 03 02 39.0 -0.5**
baz=84
C05A Tolt Reservoir 83.61 327 ⇊P **P 03 02 39.5 -0.9**
baz=84
EDM Edmonton 83.73 335 *e*P **P 03 02 39.1 -1.7**
EDM *e*pP pP 03 03 09.5 -2.0
A07A Ashnola River, 83.86 329 P **P 03 02 41.6 -0.1**
baz=84,SNR=9.6
B06A Marblemount 84.05 328 ⇑P **P 03 02 41.5 -1.1**
baz=84
B05A Bryant 84.19 327 ⇊P **P 03 02 42.3 -1.1**
baz=84
MAW Mawson 84.44 163 *e*P **P 03 02 44.7 +0.2**
19nm,1.2s,mb4.8
MAW Mawson 84.44 163 P **P 03 02 45.2 +0.7**
11nm,0.9s,mb4.7,baz=217,slow=6.0,SNR=10
A05A Maple Falls 84.67 328 ⇑P **P 03 02 44.8 -0.9**
baz=85
VDB Vedder Mountai 84.69 328 P **P 03 02 44.6 -1.2**
ESDC Sonseca Array 85.35 44 P **P 03 02 49.8 +0.4**
1.6nm,0.9s,mb3.9,baz=235,slow=5.2,SNR=5.7
YKA Yellowknife Ar 91.10 340 P **P 03 03 15.2 -1.0**
YKA pP pP 03 03 46.1 -1.1
YKA Yellowknife Ar 91.10 340 P **P 03 03 15.2 -1.0**
4.9nm,0.7s,mb4.7,baz=134,slow=4.5,SNR=131
YKA pP pP 03 03 46.1 -1.1
5.3nm,0.9s,baz=133,slow=4.8,SNR=10
CASY Casey 92.74 180 *e*P **P 03 03 24.2 +0.2**
13nm,0.9s,mb5.2
CTAO Charters Tower 126.72 222 *e*PKPdf PKPdf 03 09 14.6 -1.1
ASAR Alice Springs 130.33 207 PKP PKPdf 03 09 21.6 -1.0
2.5nm,0.8s,baz=129,slow=1.8,SNR=18
WRA Warramunga Arr 133.39 210 PKP PKPdf 03 09 27.8 -0.6
2.6nm,0.6s,baz=157,slow=1.7,SNR=38
FITZ Fitzroy Crossi 138.53 200 PKP PKPdf 03 09 37.8 -0.2
2.4nm,0.7s,baz=212,slow=3.5,SNR=8.1
KURK Kurchatov 140.88 33 *e*PKPdf PKPdf 03 09 41.6 +0.4
ZAA0 Zalesovo Array 141.54 25 *e*PKPdf PKPdf 03 09 41.6 -0.7
ZALV Zalesovo Beam 141.54 25 PKP PKPdf 03 09 42.8 +0.5
3.3nm,0.7s,baz=292,slow=3.2,SNR=8.1
MK31 Makanchi Array 145.18 36 *e*PKPbc PKPbc 03 09 49.0 +0.2
MK31 *ep*PKPdf pPKPdf 03 10 21.1 -0.2
MK31 *es*PKPdf 03 10 34.2
MKAR Makanchi Array 145.18 36 PKPbc PKPbc 03 09 49.4 +0.6
2.1nm,0.6s,baz=323,slow=2.7,SNR=21
MKAR pPKPbc 03 10 21.6
5.6nm,0.8s,baz=341,slow=2.6,SNR=8.3
GUMO Guam 147.37 262 PKPbc PKPbc 03 09 54.5 -1.7
64nm,1.0s,baz=187,slow=23,SNR=3.8
WMQ Urumqi 150.01 36 *e*PKP PKPdf 03 09 58.0 +1.0
MJAR Matsushiro Ar 152.26 309 PKPbc PKPbc 03 10 06.2 -1.4
3.9nm,0.9s,baz=100,slow=1.6,SNR=10
MAJO Matsushiro 152.26 309 *e*PKPbc PKPbc 03 10 06.5 -1.1
MAJO *e*PKPab PKPab 03 10 16.3 -1.5
MAT Matsushiro 152.26 309 *e*PKP PKPdf 03 10 05.3 +4.6
SONM Songino Array 153.16 8 PKP PKPdf 03 10 01.9 +0.3
1.3nm,0.7s,baz=16,slow=2.0,SNR=6.9
SONM PKPbc PKPbc 03 10 09.2 0.0
0.7nm,0.3s,baz=329,slow=2.2,SNR=5.2
SONM pPKPbc pPKPbc 03 10 40.2 -1.2
1.7nm,0.8s,baz=315,slow=1.8,SNR=3.0
CN2 Changchun 154.72 336 *e*PKP PKPdf 03 09 57.8 -6.2
KSRS Korea Array 158.51 322 PKP PKPdf 03 10 09.0 -0.1
1.9nm,0.9s,baz=27,slow=1.8,SNR=8.0
KSRS PKPab PKPab 03 10 43.9 -0.7
1.6nm,0.7s,baz=51,slow=4.7,SNR=6.7
HHC Hu-ho-hao-te 160.47 360 *e*PKP PKPdf 03 10 11.9 +0.7
HHC APKP 03 10 38.8
HHC XPKP 03 10 49.4
HHC PKS 03 13 44.5
HHC PP PP 03 14 39.8 +5.4
HHC SKS SKSdf 03 17 05.4 0.0
HHC SKKS SKKSac 03 21 15.8 +3.3
HHC PP PP
comp=Z,93nm,5.2s
HHC LR LR
comp=N,147nm,19.3s
HHC LR LR
comp=E,230nm,21.1s
HHC LR LR
comp=Z,186nm,18.8s
LZH Lanzhou 163.75 23 *e*PKP PKPdf 03 10 13.3 -1.4
LZH APKP 03 10 43.6
LZH XPKP 03 10 54.8
LZH PKP2 PKPab 03 11 08.5 +1.2
LZH LR LR
comp=N,121nm,18.3s
LZH LR LR
comp=Z,165nm,20.2s
CD2 Chengdu 168.10 34 *e*PKP PKPdf 03 10 14.3 -4.0
CD2 XPKP 03 11 01.3
CD2 PKP2 PKPab 03 11 25.1 -1.6
CD2 PP PP 03 15 13.8 -1.3
CD2 SKS SKSdf 03 17 06.8 -4.5
CD2 SKKS SKKSac 03 21 49.6 -2.1
CD2 PP PP
comp=Z,80nm,10.2s
CD2 LR LR
comp=N,120nm,22.8s
CD2 LR LR
comp=Z,110nm,24.2s
KMI Kunming 171.02 63 PKP PKPdf 03 10 20.8 +0.5
GYA Guiyang 173.15 40 *e*PKP PKPdf 03 10 18.9 -2.3
GYA APKP 03 10 52.3
GYA XPKP 03 11 04.6
GYA PKP2 PKPab 03 11 50.3 +1.1
GYA PKS 03 13 50.8
GYA PP PP
comp=Z,60nm,6.8s

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*ISCJB **20** 03:11:45.5±0.5, 1374N±008×5709E±009, h10km, mb4.1/29, MS3.4/6, Error ellipse: s-maj=13.4km s-min=9.9km az=31.6*
*IDC **20** 03:11:45.4±0.8, 1366N×5721E, h0km, mb4.0/14, mb1 4.1/14, mb1mx3.9/24, mbtmp4.0/14, MS3.4/7, Ms1 3.4/7, ms1mx3.2/37, Error ellipse: s-maj=19.5km s-min=17.8km az=129.0*
*NEIC **20** 03:11:47.3±0.5, 1368N×57.11E, h10km, mb4.4/11, Error ellipse: s-maj=14.1km s-min=9.6km az=120.0*
*CSEM **20** 03:11:47.3, 1368N×57.11E, h10km, mb4.4/11, After NEIC*
ISC 20 03:11:47.2±0.5, 1370N±008×5714E±009, h10km, n54, σ1§07/50, mb4.1/29, MS3.4/6, Owen Fracture Zone region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	**Arta Tunnel**	**14.11**	**263**	LR	LR	03 19 09.9	
comp=Z,98nm,18.8s,baz=113,slow=31							
KMBO	**Kilima Mbogo**	**24.61**	**235**	P	**P**	**03 17 08.6**	**+0.8**
1.9nm,0.5s,mb3.9,baz=47,slow=15,SNR=6.9							
KMBO				LR	LR	03 27 05.9	
comp=Z,130nm,18.0s,MS3.5,baz=239,slow=37							
KMBO	**Kilima Mbogo**	**24.61**	**235**	*e*P	**P**	**03 17 07.9**	**+0.1**
2.8nm,0.6s,mb4.0							
EIL	**Elat**	**25.95**	**311**	P	**P**	**03 17 23.1**	**+3.2**
5.1nm,0.7s,mb4.2,baz=84,slow=6.1,SNR=4.5							
EIL				LR	LR	03 27 44.4	
comp=Z,90nm,19.4s,MS3.3,baz=216,slow=37							
ASF	**Jabal al Asfar**	**26.10**	**318**	P	**P**	**03 17 21.5**	**+0.2**
3.6nm,0.7s,mb4.0,baz=156,slow=2.7,SNR=5.2							
MMAI	**Mount Meron Ar**	**27.61**	**318**	LR	LR	03 29 54.2	
comp=Z,30nm,18.3s,MS2.9,baz=330,slow=39							
GNI	**Garni**	**28.51**	**340**	*e*P	**P**	**03 17 43.0**	**+0.3**
7.3nm,0.7s,mb4.5							
GNI	**Garni**	**28.51**	**340**	LR	LR	03 30 52.5	
comp=Z,73nm,18.3s,MS3.3,baz=152,slow=40							
GNI	**Garni**	**28.51**	**340**	*e*P	**P**	**03 17 43.0**	**+0.2**
7.3nm,0.7s,mb4.5							
MALT	**Malatya**	**29.61**	**329**	*e*P	**P**	**03 17 53.9**	**+1.3**
1.6nm,0.8s,mb3.8							
MALT	**Malatya**	**29.61**	**329**	*e*P	**P**	**03 17 53.9**	**+1.3**
1.6nm,0.8s,mb3.8							
EKS2	**Erkin-Say**	**32.24**	**23**	*e*P	**P**	**03 18 16.3**	**+0.6**
8.4nm,1.2s,mb4.5							
EKS2	**Erkin-Say**	**32.24**	**23**	*e*P	**P**	**03 18 16.3**	**+0.5**
8.4nm,1.2s,mb4.5							
AKTK	**Aktyubinsk**	**36.64**	**1**	P	**P**	**03 18 53.8**	**0.0**
AKTK	**Aktyubinsk**	**36.64**	**1**	P	**P**	**03 18 53.8**	**+0.1**
AKTO	**Aktyubinsk**	**36.64**	**1**	P	**P**	**03 18 53.8**	**0.0**
2.8nm,0.7s,mb4.2,baz=173,slow=9.3,SNR=13							
MK31	**Makanchi Array**	**39.16**	**28**	*e*P	**P**	**03 19 16.2**	**+1.2**
MK31	**Makanchi Array**	**39.16**	**28**	*e*P	**P**	**03 19 16.2**	**+1.2**
MKAR	**Makanchi Array**	**39.16**	**28**	P	**P**	**03 19 16.3**	**+1.2**
MKAR				LR	LR	03 35 21.8	
MKAR	**Makanchi Array**	**39.16**	**28**	P	**P**	**03 19 16.3**	**+1.2**
1.5nm,0.7s,mb3.8,baz=218,slow=8.1,SNR=10.0							
MKAR				LR	LR	03 35 21.7	
comp=Z,40nm,20.6s,MS3.2,baz=58,slow=36							
LSZ	**Lusaka**	**40.61**	**226**	*e*P	**P**	**03 19 28.8**	**+1.4**
2.9nm,0.6s,mb4.1							
LSZ	**Lusaka**	**40.61**	**226**	P	**P**	**03 19 29.0**	**+1.6**
2.9nm,0.6s,mb4.1,baz=44,slow=5.6,SNR=4.5							
LSZ	**Lusaka**	**40.61**	**226**	*e*P	**P**	**03 19 28.8**	**+1.3**
2.8nm,0.6s,mb4.1							
BVAR	**Borovoye Array**	**40.62**	**12**	P	**P**	**03 19 27.6**	**+0.4**
0.5nm,0.7s,mb3.2,baz=181,slow=7.2,SNR=3.1							
ARU	**Arti**	**42.66**	**1**	*e*P	**P**	**03 19 44.5**	**+0.8**
4.1nm,0.8s,mb4.2							
ARU	**Arti**	**42.66**	**1**	*e*P	**P**	**03 19 44.5**	**+0.8**
4.1nm,0.8s,mb4.2							
AKASG	**Malin Array Be**	**43.30**	**334**	P	**P**	**03 19 51.1**	**+2.1**
0.2nm,0.3s,mb3.4,baz=133,slow=7.7,SNR=4.0							
AKBB	**Malin Array Si**	**43.30**	**334**	*e*P	**P**	**03 19 48.9**	**-0.2**
AKBB	**Malin Array Si**	**43.30**	**334**	*e*P	**P**	**03 19 48.9**	**-0.2**
MORC	**Moravsky Berou**	**48.34**	**326**	*e*P	**P**	**03 20 29.2**	**+0.3**
1.3nm,0.7s,mb4.1							
LBTB	**Lobatse**	**49.26**	**219**	*e*P	**P**	**03 20 36.0**	**-0.2**
3.6nm,0.4s,mb4.8							
LBTB	**Lobatse**	**49.26**	**219**	*e*P	**P**	**03 20 36.0**	**-0.3**
3.6nm,0.4s,mb4.8							
TSUM	**Tsumeb**	**50.86**	**231**	*e*P	**P**	**03 20 50.1**	**+1.6**
5.0nm,0.8s,mb4.5							
TSUM	**Tsumeb**	**50.86**	**231**	*e*P	**P**	**03 20 50.1**	**+1.6**
5.0nm,0.8s,mb4.5							
BOSA	**Boshof**	**52.16**	**216**	LR	LR	03 41 27.4	
comp=Z,160nm,18.5s,MS4.1,baz=230,slow=34							
JOF	**Joensuu**	**52.44**	**345**	*e*p	**P**	**03 20 58.5**	**-1.2**
6.4nm,0.7s,mb4.7							
FINES	**FINESS Array B**	**52.67**	**342**	P	**P**	**03 21 01.4**	**0.0**
2.3nm,0.8s,mb4.2,baz=145,slow=7.8,SNR=12							
LPG	**La Plagne**	**52.91**	**317**	*e*P	**P**	**03 21 01.8**	**-1.7**
3.6nm,0.7s,mb4.1							
LPL	**La Plagne**	**52.92**	**317**	*e*P	**P**	**03 21 01.8**	**-1.8**
4.0nm,0.7s,mb4.2							

SONM Songino Array 53.04 40 P **P 03 21 07.9 +3.5**
0.4nm,0.6s,mb3.5,baz=248,slow=3.9,SNR=2.5
CDF Champ du Feu 53.64 321 *eP* **P 03 21 07.4 -1.4**
TOA0 Torodi Ar. Sit 53.83 276 *eP* **P 03 21 10.4 -0.4**
TOA0 Torodi Ar. Sit 53.83 276 *eP* **P 03 21 10.4 -0.3**
TORD Torodi Ar. Bea 53.83 276 P **P 03 21 10.8 0.0**
0.6nm,0.5s,mb3.8,baz=76,slow=5.3,SNR=22
WLF Walferdange 54.80 322 *eP* **P 03 21 17.6 +0.3**
3.1nm,0.7s,mb4.5
WLF Walferdange 54.80 322 *eP* **P 03 21 17.6 +0.4**
3.1nm,0.7s,mb4.5
LOR Lormes 55.38 318 *eP* **P 03 21 19.7 -1.8**
18nm,1.3s,mb4.7
ESDC Sonseca Array 59.19 308 P **P 03 21 47.5 -1.1**
0.5nm,0.5s,mb3.8,baz=84,slow=6.3,SNR=8.6
ARCES ARCESS Array B 59.25 348 P **P 03 21 47.6 -0.8**
2.2nm,0.7s,mb4.3,baz=150,slow=7.9,SNR=8.7
KSRS Korea Array 66.61 55 P **P 03 22 37.2 -0.8**
1.7nm,0.7s,mb4.2,baz=271,slow=6.9,SNR=7.4
TIXI Tiksi 71.36 19 *eP* **P 03 23 06.2 -0.7**
8.4nm,1.1s,mb4.6
TIXI Tiksi 71.36 19 *eP* **P 03 23 06.2 -0.7**
8.4nm,1.1s,mb4.6
WRA Warramunga Arr 82.95 112 P **P 03 24 12.0 -0.9**
2.7nm,1.0s,mb4.2,baz=298,slow=4.0,SNR=9.3
ASAR Alice Springs 83.68 116 P **P 03 24 15.7 -1.0**
1.5nm,0.9s,mb4.1,baz=290,slow=4.6,SNR=10

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*ISCJB **20** 03:18:38.2±0.8,2387S±006×17983E±004,h528km±10km, mb4.5/52, Error ellipse: s-maj=9.5km s-min=5.0km az=165.7*
*NEIC **20** 03:18:39.6±0.7,2380S×17987E,h537km±7km,mb4.5/34, Error ellipse: s-maj=7.7km s-min=4.9km az=168.0*
*BJI **20** 03:18:39.5,2380S×17990E,h537km,mB4.9,mb4.6*
*IDC **20** 03:18:39.3±1.1,2381S×17982E,h528km±10km,mb4.0/14, mb1 4.2/14,mb1mx4.2/15,mbtmp4.0/14,Error ellipse: s-maj=11.7km s-min=10.7km az=4.0*
*MOS **20** 03:18:45.8±1.1,2199S×17832E,h502km,mb4.5/3,Error ellipse: s-maj=43.5km s-min=25.2km az=116.9*
ISC 20 03:18:39.4±0.9,2390S±007×17986E±004,h531km±10km, h538km±3.0km;pP-P,n321,σ0s58/254,mb4.5/52,85C-87D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**5.69**	**160**	*e*Pn	**P**	**03 20 14.7**	**+0.5**
	996nm,0.3s						
RAO				*e*S	**S**	**03 21 32.1**	**+0.4**
RAO	**Raoul Island**	**5.69**	**160**	P	**P**	**03 20 13.9**	**-0.2**
	243nm,0.3s,baz=65,slow=8.3,SNR=22						
RAO				S	**S**	**03 21 27.2**	**-4.5**
	69nm,0.3s,baz=52,slow=19,SNR=2.5						
URZ	**Urewera**	**14.50**	**189**	P	**P**	**03 21 41.0**	**-2.8**
	5.1nm,0.3s,baz=2.7,slow=3.5,SNR=31						
URZ				S	**S**	**03 24 12.5**	**-3.2**
	2.6nm,0.3s,baz=245,slow=23,SNR=23						
RAR	**Rarotonga**	**19.00**	**86**	S	**S**	**03 25 28.7**	**-4.1**
	1.3nm,0.3s,baz=136,slow=18,SNR=2.8						
RPZ	**Rata Peaks**	**21.05**	**198**	P	**P**	**03 22 45.5**	**-0.2**
	14nm,0.6s,mb4.8,baz=38,slow=1.0,SNR=8.0						
HNR	**Honiara**	**23.85**	**304**	*e*P	**P**	**03 23 09.9**	**-1.2**
	117nm,0.9s,mb5.5						
ARMA	**Armidale**	**25.90**	**249**	*e*P	**P**	**03 23 31.0**	**+1.9**
EIDS	**Eidsvold**	**26.18**	**261**	*e*P	**P**	**03 23 32.6**	**+0.9**
	13nm,0.6s,mb4.7						
CNB	**Canberra Magne**	**28.74**	**240**	*e*P	**P**	**03 23 55.7**	**+1.8**
	22nm,0.8s,mb4.8						
CTA	**Charters Tower**	**31.35**	**270**	*e*P	**P**	**03 24 17.2**	**+0.6**
	56nm,0.6s,mb5.3						
CTA	**Charters Tower**	**31.35**	**270**	P	**P**	**03 24 17.8**	**+1.1**
	76nm,0.6s,mb5.4,baz=98,slow=11,SNR=150						
CTA				ScP	ScP	03 29 49.3	+2.2
	7.6nm,0.9s,baz=78,slow=4.6,SNR=6.5						
CTAO	**Charters Tower**	**31.35**	**270**	*e*P	**P**	**03 24 17.3**	**+0.6**
	69nm,0.6s,mb5.4						
TOO	**Toolangi**	**32.34**	**237**	*e*P	**P**	**03 24 26.1**	**+1.2**
	187nm,0.5s						
STKA	**Stephens Creek**	**34.60**	**248**	*e*P	**P**	**03 24 44.6**	**+0.6**
	11nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**34.60**	**248**	P	**P**	**03 24 44.5**	**+0.4**
	14nm,0.9s,mb4.5,baz=96,slow=11,SNR=21						
COEN	**Coen**	**35.99**	**279**	*e*P	**P**	**03 24 56.2**	**+0.5**
	13nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**41.91**	**261**	P	**P**	**03 25 43.6**	**+0.1**
	33nm,0.8s,mb4.9,baz=101,slow=6.7,SNR=240						
ASAR				pP	pP	03 27 18.8	-0.1
	2.5nm,1.0s,baz=94,slow=7.5,SNR=4.5						
ASAR				ScP	ScP	03 30 29.6	+3.0
	12nm,0.7s,baz=109,slow=4.1,SNR=39						
ASAR				S	**S**	**03 31 22.9**	**-0.6**
	2.0nm,0.9s,baz=104,slow=15,SNR=5.6						
WB2	**Warramunga Arr**	**42.27**	**266**	*e*P	**P**	**03 25 45.8**	**-0.6**
WRAB	**Tennant Creek**	**42.27**	**266**	*d i*P	**P**	**03 25 45.6**	**-0.8**
WRAB	**Tennant Creek**	**42.27**	**266**	*e*P	**P**	**03 25 45.9**	**-0.5**
	40nm,0.7s,mb5.0						
WRA	**Warramunga Arr**	**42.28**	**266**	P	**P**	**03 25 46.2**	**-0.3**
	48nm,0.7s,mb5.2,baz=102,slow=8.2,SNR=302						
WRA				ScP	ScP	03 30 31.5	+3.4
	9.5nm,0.9s,baz=100,slow=4.1,SNR=23						
WRA				S	**S**	**03 31 26.5**	**-2.4**
	2.7nm,0.7s,baz=100,slow=14,SNR=12						
KAKA	**Kakadu**	**46.18**	**275**	*e*P	**P**	**03 26 15.8**	**-0.9**
	30nm,0.6s,mb5.0						
FORT	**Forrest**	**46.19**	**250**	*e*P	**P**	**03 26 15.7**	**-0.9**
	111nm,0.6s						
GUMO	**Guam**	**50.58**	**314**	*e*P	**P**	**03 26 48.5**	**-0.9**
	70nm,0.8s,mb5.0						
GUMO	**Guam**	**50.58**	**314**	P	**P**	**03 26 48.9**	**-0.4**
	50nm,0.7s,mb5.0,baz=202,slow=8.7,SNR=4.6						
FITZ	**Fitzroy Crossi**	**50.70**	**266**	*e*P	**P**	**03 26 49.6**	**-0.7**
	35nm,0.7s,mb4.8						
VNDA	**Vanda**	**54.37**	**185**	*e*P	**P**	**03 27 16.4**	**+0.8**
VNDA	**Vanda**	**54.37**	**185**	P	**P**	**03 27 17.2**	**+1.7**
	0.3nm,0.5s,baz=42,slow=5.1,SNR=4.0						
KLBR	**Kellerberrin**	**54.87**	**247**	*e*P	**P**	**03 27 19.6**	**-0.3**
	28nm,0.8s,mb4.5						
MBWA	**Marble Bar**	**55.25**	**260**	*e*P	**P**	**03 27 21.8**	**-0.9**
	20nm,0.9s,mb4.3						
MUN	**Mundaring**	**56.11**	**247**	*e*P	**P**	**03 27 27.5**	**-1.0**
QSPA	**South Pole Qui**	**66.18**	**180**	*e*P	**P**	**03 28 34.7**	**+1.0**
	9.8nm,0.6s,mb4.5						
QSPA				*e*pP	pP	03 30 26.6	+4.5
QSPA	**South Pole Qui**	**66.18**	**180**	P	**P**	**03 28 35.3**	**+1.6**
	7.2nm,0.6s,mb4.4,baz=358,slow=1.3,SNR=49						
QSPA				pP	pP	03 30 27.3	+5.2
	6.2nm,1.1s,baz=49,slow=1.7,SNR=4.7						
MYLDM	**Lahad Datu**	**66.37**	**287**	⇓P	**P**	**03 28 37.6**	**+1.5**
TSM	**Tawau**	**66.50**	**286**	⇓P	**P**	**03 28 36.8**	**-0.1**
SDKM	**Sandakan**	**67.73**	**287**	⇓P	**P**	**03 28 45.3**	**+0.8**
KKM	**Kota Kinabalu**	**68.78**	**287**	*e*P	**P**	**03 28 50.6**	**-0.1**
KKM	**Kota Kinabalu**	**68.78**	**287**	⇑P	**P**	**03 28 51.3**	**+0.5**
BTM	**Bintulu**	**70.25**	**283**	⇓P	**P**	**03 29 00.6**	**+1.0**
SBUM	**Sibu**	**70.69**	**282**	⇑P	**P**	**03 29 02.1**	**-0.1**
MJAR	**Matsushiro Arr**	**71.83**	**326**	P	**P**	**03 29 07.9**	**-0.4**
	6.6nm,0.9s,mb4.1,baz=161,slow=5.8,SNR=16						
MAJO	**Matsushiro**	**71.83**	**326**	*e*P	**P**	**03 29 07.2**	**-1.1**
	10nm,0.8s,mb4.3						
MAT	**Matsushiro**	**71.83**	**326**	P	**P**	**03 29 07.6**	**-0.7**
KSM	**Kuching**	**71.98**	**280**	*e*P	**P**	**03 29 09.6**	**-0.2**
KSM	**Kuching**	**71.98**	**280**	⇑P	**P**	**03 29 10.0**	**+0.2**
MAW	**Mawson**	**77.70**	**200**	P	**P**	**03 29 41.9**	**+1.0**
	1.2nm,0.5s,mb3.5,baz=138,slow=2.3,SNR=3.7						
MYKOM	**Kota Tinggi**	**77.96**	**277**	⇓P	**P**	**03 29 43.4**	**+0.2**
YSS	**Yuzh-Sakhalins**	**78.08**	**335**	⇑*e*P	**P**	**03 29 42.7**	**-0.4**
YSS				pmax	pmax		
	comp=Z,29nm,1.7s,mb4.3						
KSRS	**Korea Array**	**78.17**	**320**	P	**P**	**03 29 44.5**	**+0.7**
	comp=Z,3.8nm,0.8s,mb3.8,baz=133,slow=5.8,SNR=17						
KGM	**Kluang**	**78.53**	**277**	⇓P	**P**	**03 29 46.4**	**+0.1**
KTGM	**Kuala Trenggan**	**80.09**	**280**	⇓P	**P**	**03 29 55.8**	**+1.3**
FRIM	**Kepong**	**80.58**	**278**	⇓P	**P**	**03 29 57.3**	**+0.2**
IPM	**Ipoh**	**81.64**	**279**	⇑P	**P**	**03 30 02.1**	**-0.4**
KULM	**Kulim**	**82.31**	**279**	*e*P	**P**	**03 30 06.0**	**0.0**
KULM	**Kulim**	**82.31**	**279**	⇑P	**P**	**03 30 06.5**	**+0.5**
109C	**Camp Elliot, M**	**82.45**	**49**	⇑P	**P**	**03 30 06.1**	**-0.1**
	baz=83						
HABR	**Khabarovsk**	**82.45**	**332**	*e*P	**P**	**03 30 02.4**	**-3.4**
HABR				*e*S	S	03 39 30.3	-7.8
JCC	**Jacoby Creek**	**82.82**	**39**	⇓P	**P**	**03 30 07.9**	**0.0**
	baz=83						
VES	**Vestal, Richgr**	**82.82**	**46**	⇑P	**P**	**03 30 07.7**	**-0.3**
	baz=83						
BFSC	**Mount Baldy St**	**82.84**	**48**	⇑P	**P**	**03 30 08.0**	**-0.1**
	baz=83						
PSI	**Prapat**	**82.85**	**276**	P	**P**	**03 30 07.8**	**-0.9**
	comp=Z,6.2nm,0.7s,mb4.2,baz=119,slow=2.8,SNR=7.1						
WHN	**Wuhan**	**82.90**	**308**	*e*P	**P**	**03 30 09.3**	**+0.8**
MONP	**Monument Peak**	**82.92**	**49**	⇑P	**P**	**03 30 08.9**	**+0.3**
	baz=83,SNR=6.4						
EDW2	**Edwards Air Fo**	**82.98**	**47**	⇑P	**P**	**03 30 08.4**	**-0.5**
	baz=83						
DVTC	**Desert V Tower**	**83.02**	**50**	⇑P	**P**	**03 30 09.3**	**+0.2**
	baz=83						
T06C	**Millerton Lake**	**83.10**	**45**	⇓P	**P**	**03 30 09.2**	**-0.2**
	baz=83,SNR=6.9						
O02C	**Red Bluff**	**83.14**	**41**	⇑P	**P**	**03 30 09.8**	**+0.3**
	baz=83,SNR=5.7						
SUTB	**Sutter Butte**	**83.15**	**42**	⇑P	**P**	**03 30 09.0**	**-0.6**
	baz=83						
Q04C	**Lincoln**	**83.16**	**42**	⇓P	**P**	**03 30 09.1**	**-0.5**
	baz=83						
N02C	**Big Bar**	**83.25**	**40**	⇓P	**P**	**03 30 09.4**	**-0.6**
	baz=83						
CMB	**Columbia Colle**	**83.29**	**43**	*e*P	**P**	**03 30 09.7**	**-0.6**
	comp=Z,8.7nm,1.0s,mb4.2						
CMB	**Columbia Colle**	**83.29**	**43**	⇑P	**P**	**03 30 10.3**	**+0.1**
	baz=83,SNR=6.3						
PFO	**Pinyon Flat Ob**	**83.30**	**49**	⇑P	**P**	**03 30 09.9**	**-0.5**
	baz=83						
HELL	**Mitchell Peak**	**83.35**	**45**	⇑P	**P**	**03 30 10.3**	**-0.3**
	baz=84						
SWSC	**Sam W. Stewart**	**83.39**	**50**	⇓P	**P**	**03 30 11.2**	**+0.3**
	baz=84						
LAVA	**Lava Cap Winer**	**83.51**	**43**	⇓P	**P**	**03 30 11.2**	**-0.1**
	baz=84						
ORV	**Oroville**	**83.53**	**42**	⇑P	**P**	**03 30 11.3**	**-0.2**
	baz=84						
S06C	**San Francisco**	**83.54**	**44**	⇓P	**P**	**03 30 11.6**	**0.0**
	baz=84						
KCC	**Kaiser Creek**	**83.54**	**44**	⇑P	**P**	**03 30 11.7**	**+0.1**
	baz=84						
WDC	**Whiskeytown Da**	**83.54**	**40**	*e*P	**P**	**03 30 11.1**	**-0.4**
	comp=Z,10nm,1.2s,mb4.2						
WDC	**Whiskeytown Da**	**83.54**	**40**	⇓P	**P**	**03 30 11.6**	**+0.1**
	baz=84						
CN2	**Changchun**	**83.81**	**324**	*e*P	**P**	**03 30 12.8**	**+0.1**
CN2				*e*AP	pP	03 32 10.0	+1.9
CN2				*e*S	S	03 39 50.6	-1.1
CN2				AMB	AMB		
	comp=Z,20nm,1.3s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
BELC	**Belle Mtn.**	**83.84**	**49**	⇑P	**P**	**03 30 13.3**	**+0.2**
	baz=84,SNR=6.5						
M02C	**Callahan**	**83.87**	**40**	⇓P	**P**	**03 30 13.2**	**+0.1**
	baz=84						
R05C	**Kirkwood Meado**	**83.89**	**43**	⇑P	**P**	**03 30 13.6**	**+0.4**
	baz=84,SNR=6.2						
P05C	**Yuba Gap, Truc**	**83.92**	**42**	P	**P**	**03 30 13.6**	**+0.2**
	baz=84,SNR=6.8						
MPMC	**Maual Prospec**	**84.00**	**46**	⇓P	**P**	**03 30 13.6**	**-0.2**
	baz=84						
112A	**Yuma**	**84.02**	**51**	⇑P	**P**	**03 30 14.7**	**+0.6**
	baz=84						
GSC	**Goldstone**	**84.02**	**47**	*e*P	**P**	**03 30 13.5**	**-0.5**
	comp=Z,6.5nm,1.0s,mb4.1						
GSC	**Goldstone**	**84.02**	**47**	⇓P	**P**	**03 30 13.7**	**-0.3**
	baz=84						
BC3	**Big Chuckw Mtn**	**84.02**	**49**	⇑P	**P**	**03 30 14.0**	**0.0**
	baz=84						
HEC	**Hector,Ludlow**	**84.08**	**48**	⇓P	**P**	**03 30 14.1**	**-0.2**
	baz=84,SNR=9.3						
GLA	**Glamis**	**84.13**	**50**	*e*P	**P**	**03 30 14.8**	**+0.3**
	comp=Z,30nm,1.4s,mb4.6						
GLA	**Glamis**	**84.13**	**50**	⇑P	**P**	**03 30 15.1**	**+0.5**
	baz=84,SNR=11						
YBH	**Yreka Blue Hor**	**84.17**	**39**	⇑P	**P**	**03 30 14.8**	**+0.3**
	baz=84						
R07C	**Lee Vining**	**84.17**	**44**	⇓P	**P**	**03 30 14.4**	**-0.3**
	baz=84						
R06C	**Coleville**	**84.17**	**43**	⇑P	**P**	**03 30 14.5**	**-0.1**
	baz=84						
M03C	**McCloud**	**84.22**	**40**	⇓P	**P**	**03 30 14.8**	**-0.1**
	baz=84						
HATC	**Hat Creek Radi**	**84.33**	**41**	⇓P	**P**	**03 30 14.9**	**-0.5**
	baz=84						
K02A	**Glendale**	**84.38**	**38**	⇑P	**P**	**03 30 14.8**	**-0.7**
	baz=84						
S08C	**White Mtn Res**	**84.38**	**45**	⇑P	**P**	**03 30 15.8**	**+0.1**
	baz=84,SNR=5.8						
GMRC	**Granite Mounta**	**84.50**	**48**	⇑P	**P**	**03 30 16.3**	**0.0**
	baz=85						
IRM	**Iron Mountain**	**84.51**	**49**	⇑P	**P**	**03 30 16.8**	**+0.3**
	baz=85,SNR=6.3						
P06A	**Stead Airport,**	**84.58**	**42**	⇑P	**P**	**03 30 16.5**	**-0.1**
	baz=85						
GRAC	**Grapevine Rang**	**84.61**	**46**	⇑P	**P**	**03 30 17.2**	**+0.3**
	baz=85						
SNAA	**Sanae**	**84.67**	**179**	*e*P	**P**	**03 30 12.1**	**-4.5**
SNAA				*e*		03 30 14.8	
TUQ	**Turquoise Mtn.**	**84.69**	**48**	⇓P	**P**	**03 30 16.9**	**-0.3**
	baz=85,SNR=5.4						
SHOC	**Shoshone**	**84.71**	**47**	⇓P	**P**	**03 30 17.9**	**+0.5**
	baz=85						
Y12C	**Blythe**	**84.72**	**50**	⇑P	**P**	**03 30 17.5**	**+0.1**
	baz=85						
NVAR	**Mina Array Bea**	**84.84**	**44**	P	**P**	**03 30 17.5**	**-0.4**
	comp=Z,2.7nm,0.7s,mb3.9,baz=222,slow=8.0,SNR=18						
M05C	**Lookout**	**84.85**	**40**	⇓P	**P**	**03 30 18.2**	**+0.3**
	baz=85						
VNA3	**Neumayer Olymp**	**84.88**	**177**	*e*P	**P**	**03 30 16.6**	**-1.0**
VNA3				*e*		03 30 19.0	
O06A	**Flanigan**	**84.92**	**42**	⇓P	**P**	**03 30 18.3**	**0.0**
	baz=85						
M06C	**Likely Place G**	**85.16**	**41**	⇑P	**P**	**03 30 19.9**	**+0.5**
	baz=85						
Y13A	**Salome**	**85.24**	**50**	P	**P**	**03 30 20.5**	**+0.5**
	baz=85,SNR=10.0						
V11A	**Goodsprings**	**85.25**	**47**	⇑P	**P**	**03 30 20.2**	**+0.2**
	baz=85						
N06A	**Buffalo Meadow**	**85.27**	**41**	⇓P	**P**	**03 30 17.5**	**-2.5**
	baz=85,SNR=5.4						
PDMCI	**Parker Dam,Lak**	**85.29**	**49**	⇓P	**P**	**03 30 20.7**	**+0.5**
	baz=85						
VNA2	**Neumayer--Watz**	**85.30**	**178**	*e*P	**P**	**03 30 19.0**	**-0.7**
VNA2				*e*		03 30 21.9	
TPNV	**Topopah Spring**	**85.32**	**46**	⇓P	**P**	**03 30 20.3**	**-0.1**
	baz=86						
Q08A	**Gabbs**	**85.33**	**44**	P	**P**	**03 30 20.1**	**-0.2**
	baz=86,SNR=5.4						
J04A	**Umpqua Nationa**	**85.46**	**38**	⇑P	**P**	**03 30 21.5**	**+0.6**
	baz=86						
O07A	**Toulon**	**85.50**	**42**	⇑P	**P**	**03 30 21.1**	**0.0**
	baz=86						
R09A	**Tonopah**	**85.52**	**45**	⇑P	**P**	**03 30 20.9**	**-0.3**
	baz=86						
VNA1	**Neumayer--Stat**	**85.53**	**177**	*e*P	**P**	**03 30 19.3**	**-1.5**
VNA1				*e*		03 30 21.3	
V12A	**Nelson**	**85.58**	**48**	⇓P	**P**	**03 30 21.9**	**+0.3**
	baz=86						
U11A	**Corn Creek**	**85.60**	**47**	⇑P	**P**	**03 30 21.8**	**+0.1**
	baz=86						
Z14A	**Wintersburg**	**85.62**	**51**	⇓P	**P**	**03 30 22.3**	**+0.5**
	baz=86						
I04A	**Tendick Farm,**	**85.64**	**38**	⇑P	**P**	**03 30 21.5**	**-0.2**
	baz=86						
S10A	**Tonopah Range,**	**85.65**	**45**	P	**P**	**03 30 21.8**	**-0.1**
	baz=86,SNR=15						
X13A	**Yucca**	**85.66**	**49**	P	**P**	**03 30 22.2**	**+0.2**
	baz=86,SNR=5.7						
MOD	**Modoc**	**85.69**	**40**	⇓P	**P**	**03 30 22.0**	**+0.1**
	baz=86						
N07B	**Gerlach**	**85.81**	**42**	⇓P	**P**	**03 30 22.4**	**-0.2**
	baz=86						
K05A	**Summer Lake**	**85.84**	**39**	⇓P	**P**	**03 30 23.4**	**+0.8**
	baz=86						
Y14A	**Wickenburg**	**85.89**	**50**	⇓P	**P**	**03 30 23.3**	**+0.2**
	baz=86						
W13A	**Hualapai Mount**	**85.89**	**49**	P	**P**	**03 30 23.3**	**+0.2**
	baz=86,SNR=5.0						
216A	**Three Points,**	**85.97**	**53**	⇓P	**P**	**03 30 23.9**	**+0.3**
	baz=86						
J05A	**Fort Rock**	**85.99**	**39**	⇓P	**P**	**03 30 23.7**	**+0.4**
	baz=86						
R10A	**Warm Springs**	**86.05**	**45**	⇓P	**P**	**03 30 24.0**	**+0.3**
	baz=86						
116A	**Eloy**	**86.09**	**52**	⇓P	**P**	**03 30 24.9**	**+0.8**
	baz=86						
T11A	**Corn Creek, Al**	**86.17**	**46**	⇑P	**P**	**03 30 24.4**	**+0.1**
	baz=86,SNR=11						
U12A	**Valley of Fire**	**86.18**	**47**	⇑P	**P**	**03 30 24.8**	**+0.4**
	baz=86						
V13A	**Grand Canyon W**	**86.24**	**48**	⇑P	**P**	**03 30 24.6**	**-0.1**
	baz=86						
X14A	**Yava**	**86.25**	**50**	⇓P	**P**	**03 30 25.0**	**+0.2**
	baz=86,SNR=5.2						
K06A	**Valley Falls**	**86.26**	**40**	⇓P	**P**	**03 30 24.4**	**-0.2**
	baz=86						
Q10A	**Clear Creek Ra**	**86.29**	**45**	⇑P	**P**	**03 30 24.4**	**-0.4**
	baz=86						
217A	**Green Valley**	**86.32**	**53**	⇑P	**P**	**03 30 26.0**	**+0.7**
	baz=86,SNR=17						
L07A	**Adell**	**86.33**	**41**	⇑P	**P**	**03 30 25.4**	**+0.4**
	baz=86,SNR=5.7						
Y15A	**Casa Rosa Ranc**	**86.37**	**50**	⇓P	**P**	**03 30 25.6**	**+0.2**
	baz=86						
R11A	**Troy Canyon, C**	**86.55**	**45**	⇑P	**P**	**03 30 25.5**	**-0.6**
	baz=87						
MA2	**Magadan**	**86.55**	**346**	*d i*P	**P**	**03 30 24.5**	**-1.1**
MA2				pmax	pmax		
	comp=Z,17nm,1.7s,mb4.4						
U13A	**Pakoon Wash**	**86.56**	**48**	⇓P	**P**	**03 30 26.4**	**+0.2**
	baz=87,SNR=10.0						
O09A	**Fish Creek Ran**	**86.56**	**43**	⇑P	**P**	**03 30 25.4**	**-0.7**
	baz=87						
M08A	**Happy Creek Ra**	**86.57**	**42**	⇑P	**P**	**03 30 25.6**	**-0.5**
	baz=87						
J06A	**Christmas Vall**	**86.59**	**39**	⇑P	**P**	**03 30 25.7**	**-0.5**
	baz=87,SNR=5.4						
S12A	**Delamar Landin**	**86.62**	**46**	⇓P	**P**	**03 30 26.4**	**0.0**
	baz=87,SNR=6.3						
TUC	**Tucson**	**86.62**	**53**	*e*P	**P**	**03 30 27.3**	**+0.7**
	comp=Z,9.5nm,1.0s,mb4.4						
GYA	**Guiyang**	**86.64**	**301**	P	**P**	**03 30 27.3**	**+0.5**
GYA				AP	pP	03 32 24.9	+1.7
GYA				XP	sP	03 33 17.8	+0.8
GYA				PP	PP	03 34 01.3	+2.3
GYA				SKS		03 40 01.8	
GYA				S	S	03 40 18.9	-0.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.4						
P10A	**Eureka**	**86.70**	**44**	⇓P	**P**	**03 30 26.4**	**-0.4**
	baz=87						
X15A	**Humboldt**	**86.71**	**50**	⇑P	**P**	**03 30 26.9**	**0.0**
	baz=87						
V14A	**Boquillas Ranc**	**86.72**	**49**	⇓P	**P**	**03 30 27.3**	**+0.3**
	baz=87,SNR=5.6						
N09A	**Rock Creek Ran**	**86.74**	**42**	⇓P	**P**	**03 30 26.7**	**-0.2**
	baz=87						
318A	**Bisbee**	**86.76**	**54**	⇑P	**P**	**03 30 27.3**	**0.0**
	baz=87,SNR=16						
K07A	**Rock Creek Ran**	**86.79**	**40**	⇑P	**P**	**03 30 27.2**	**+0.1**
	baz=87,SNR=5.8						
117A	**Oracle**	**86.79**	**52**	P	**P**	**03 30 28.0**	**+0.6**
	baz=87,SNR=9.8						
T13A	**Saint George**	**86.92**	**47**	P	**P**	**03 30 28.1**	**+0.2**
	baz=87,SNR=5.4						
Y16A	**Circle Bar Ran**	**86.93**	**51**	⇓P	**P**	**03 30 28.4**	**+0.3**
	baz=87,SNR=7.2						
I06A	**Prineville**	**86.98**	**39**	⇑P	**P**	**03 30 28.5**	**+0.5**
	baz=87,SNR=9.5						
218A	**Dragoon**	**86.99**	**53**	⇑P	**P**	**03 30 29.1**	**+0.8**
	baz=87						
WVOR	**Wild Horse Val**	**87.00**	**41**	*e*P	**P**	**03 30 23.7**	**-4.4**
	comp=Z,4.8nm,0.6s,mb4.3						
L08A	**Fields**	**87.03**	**41**	⇑P	**P**	**03 30 28.4**	**+0.1**
	baz=87,SNR=5.7						
U14A	**Mt Trumbull**	**87.09**	**48**	⇑P	**P**	**03 30 29.0**	**+0.3**
	baz=87,SNR=10						
J07A	**Hines**	**87.16**	**40**	⇓P	**P**	**03 30 29.0**	**+0.2**
	baz=87						
R12A	**Pony Springs,**	**87.17**	**46**	⇓P	**P**	**03 30 28.9**	**-0.1**
	baz=87						
X16A	**Lo Mia Camp, P**	**87.24**	**50**	⇑P	**P**	**03 30 29.7**	**+0.2**
	baz=87,SNR=5.0						
319A	**Douglas**	**87.25**	**54**	⇑P	**P**	**03 30 30.0**	**+0.4**
	baz=87						
118A	**Homack Ranch,**	**87.38**	**53**	⇓P	**P**	**03 30 30.5**	**+0.3**
	baz=88,SNR=7.8						
H06A	**Lindquist Farm**	**87.39**	**38**	⇓P	**P**	**03 30 29.7**	**-0.2**
	baz=88,SNR=7.3						
Q12A	**Willow Creek R**	**87.42**	**45**	⇑P	**P**	**03 30 29.8**	**-0.4**
	baz=88						
V15A	**Kaibab Nationa**	**87.46**	**49**	⇑P	**P**	**03 30 30.9**	**+0.5**
	baz=88,SNR=5.1						
I07A	**Izee**	**87.47**	**39**	⇑P	**P**	**03 30 30.3**	**0.0**
	baz=88,SNR=10						
O11A	**Cowboy Ranch,**	**87.50**	**44**	⇓P	**P**	**03 30 30.5**	**-0.1**
	baz=88						
219A	**White Tail Can**	**87.58**	**53**	⇓P	**P**	**03 30 31.2**	**+0.1**
	baz=88,SNR=7.3						
**J08A

baz=90,SNR=5.3
TMUT Trail Mountain 89.93 46 *e*P **P 03 30 42.2 +0.3**
G11A Walters Elk Ra 90.11 39 ⇓P **P 03 30 41.9 -0.6**
baz=90,SNR=8.2
HLID Hailey 90.18 42 ⇓P **P 03 30 42.9 0.0**
baz=90,SNR=6.9
J13A Cove Ranch, Pi 90.24 42 ⇓P **P 03 30 43.3 +0.2**
baz=90,SNR=11
M15A Larsen Ranch, 90.27 44 ⇓P **P 03 30 43.1 -0.3**
baz=90,SNR=8.0
SRU San Rafael 90.29 47 *e*P **P 03 30 43.4 -0.1**
comp=Z,8.1nm,1.0s,mb4.5
MNTX Cornudas Mount 90.32 55 *e*P **P 03 30 43.5 -0.4**
comp=Z,2.1nm,0.8s,mb4.0
HHC Hu-ho-hao-te 90.33 315 *e*P **P 03 30 44.0 +0.3**
HHC AP pP 03 32 43.9 +2.9
HHC XP sP 03 33 36.8 +2.3
HHC PP PP 03 34 31.1 +3.3
HHC SKS 03 40 24.8
HHC S S 03 40 51.3 -1.6
HHC XS sS 03 44 23.3 +0.8
HHC SS SS 03 47 12.3 +2.7
HHC AMB AMB
comp=Z,30nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,225nm,7.2s
K14A Jones Ranch, D 90.39 43 ⇓P **P 03 30 43.9 0.0**
baz=90,SNR=6.5
H12A Diamond D Ranc 90.46 41 ⇑P **P 03 30 43.8 -0.4**
baz=91
TXAR Lajitas Array 90.54 58 P **P 03 30 45.0 +0.1**
comp=Z,4.4nm,0.7s,mb4.5,baz=214,slow=6.4,SNR=51
F12A Elk City 90.90 39 ⇓P **P 03 30 45.8 -0.4**
baz=91,SNR=5.8
HWUT Hardware Ranch 90.91 44 *e*P **P 03 30 45.7 -0.7**
comp=Z,3.7nm,0.6s,mb4.5
CD2 Chengdu 90.97 303 *e*P **P 03 30 46.3 -0.6**
CD2 XP sP 03 33 39.3 +1.5
CD2 PP PP 03 34 34.9 +1.9
CD2 SKS 03 40 26.3
CD2 S S 03 40 55.9 -3.1
CD2 SS SS 03 47 19.8 +0.6
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,20nm,8.8s
ANMO Albuquerque 91.06 52 ⇑*i*P **P 03 30 46.7 -0.5**
BILL Biiibino 92.22 355 ⇑*e*P **P 03 30 51.3 -0.4**
BILL pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
TPAW Teton Pass 92.27 43 *e*P **P 03 30 52.2 -0.3**
comp=Z,1.5nm,0.6s,mb4.2
SNOW Snow King Moun 92.38 43 *e*P **P 03 30 52.9 -0.2**
comp=Z,2.8nm,0.7s,mb4.4
LOHW Long Hollow 92.55 43 *e*P **P 03 30 53.4 -0.5**
comp=Z,2.0nm,0.7s,mb4.3
SMCO Snowmass 92.72 48 *e*P **P 03 30 54.3 -0.4**
comp=Z,2.8nm,0.8s,mb4.3
BW06 Boulder Array 92.78 44 *e*P **P 03 30 54.4 -0.5**
comp=Z,1.3nm,0.6s,mb4.1
BOZ Bozeman (W) 92.98 41 *e*P **P 03 30 55.4 -0.3**
comp=Z,1.1nm,0.8s,mb3.9
SDCO Great Sand Dun 93.06 50 *e*P **P 03 30 55.6 -0.7**
comp=Z,2.0nm,0.9s,mb4.2
LZH Lanzhou 93.28 308 P **P 03 30 57.8 +0.4**
LZH AP pP 03 32 57.5 +2.6
LZH XP sP 03 33 50.4 +2.1
LZH PP PP 03 34 54.3 +3.6
LZH AMB AMB
comp=Z,18nm,1.4s,mb4.9
LZH AMB AMB
comp=Z,74nm,4.3s
ULN Ulaanbaatar 96.64 320 ⇓*e*P **P 03 31 12.2 -0.1**
RSSD Black Hills 96.96 45 *e*P **P 03 31 12.9 -0.9**
comp=Z,1.0nm,0.6s,mb4.2
SONM Songino Array 97.02 319 PP PP 03 35 21.1 +2.0
comp=Z,1.4nm,1.0s,baz=101,slow=7.7,SNR=5.4
MK31 Makanchi Array 112.06 313 *e*PKP PKiKP 03 36 14.5 +0.3
MKAR Makanchi Array 112.06 313 SKP 03 38 59.6
comp=Z,0.2nm,0.3s,baz=64,slow=2.8,SNR=4.8
MKAR PKKPab PKKPab 03 47 17.2 +0.3
comp=Z,0.8nm,0.6s,baz=289,slow=3.7,SNR=6.4
KURK Kurchatov 115.11 316 *e*PKPdf PKPdf 03 36 18.6 -1.3
EKS2 Erkin-Say 117.33 307 *e*PKPdf PKPdf 03 36 23.7 -0.7
BVAR Borovoye Array 120.36 319 PKP PKPdf 03 36 28.7 -1.3
comp=Z,1.0nm,0.3s,baz=121,slow=2.0,SNR=12
BVAR SKP 03 39 14.7
comp=Z,1.6nm,1.0s,baz=79,slow=3.2,SNR=5.1
BOSA Boshof 122.34 207 PKP PKPdf 03 36 34.5 -0.1
comp=Z,3.8nm,0.9s,baz=135,slow=1.4,SNR=4.5
SCHQ Schefferville 122.56 39 PKP PKPdf 03 36 32.7 -1.4
SCHQ Schefferville 122.56 39 PKP PKPdf 03 36 32.7 -1.4
comp=Z,1.5nm,0.8s,baz=326,slow=3.6,SNR=3.0
ARCES ARCESS Array B 131.86 348 PKhKP 03 36 48.0
comp=Z,3.5nm,0.8s,baz=354,slow=1.8,SNR=7.5
ARCES PKP PKPdf 03 36 50.3 -1.1
comp=Z,3.4nm,0.8s,baz=22,slow=1.0,SNR=7.6
FINES FINESS Array B 138.41 341 PKhKP 03 36 54.6
comp=Z,0.5nm,0.4s,baz=51,slow=3.6,SNR=7.5
FINES PKP PKPdf 03 37 03.6 -0.2
comp=Z,1.0nm,0.4s,baz=82,slow=4.0,SNR=11
FINES SKPbc SKPbc 03 39 48.4 +0.1
comp=Z,4.5nm,0.7s,baz=64,slow=4.4,SNR=15
OBN Obninsk 138.71 329 *i* PKHKP 03 37 00.0
OBN pmax pmax
comp=Z,21nm,1.6s
KIV Kislovodsk 139.77 311 *c i*PKIKP PKPdf 03 37 06.9 +0.1
NOA NORSAR Array B 142.06 351 SKPbc SKPbc 03 39 58.5 +0.6
comp=Z,2.4nm,0.8s,baz=13,slow=4.1,SNR=5.0
NAO01 NORSAR Array S 142.30 351 *e*PKPdf PKPdf 03 37 10.1 -0.7
HFS Hagfors 142.52 349 PKhKP 03 37 06.9
comp=Z,4.2nm,0.3s,baz=60,slow=3.7,SNR=91
HFS SKPbc SKPbc 03 39 59.3 +0.3
comp=Z,3.7nm,0.8s,baz=168,slow=7.6,SNR=4.4
GRSN GIRESUNGRSN 143.74 307 *i* P PKPdf 03 37 11.8 -2.2
ELZG Elazig 143.79 303 *i* P PKPdf 03 37 14.2 +0.1
MALT Malatya 144.26 303 *e*PKPdf PKPdf 03 37 15.2 +0.2
MALT Malatya 144.26 303 ⇑*i*P PKPdf 03 37 15.4 +0.4
AKASG Malin Array Be 144.90 327 PKP PKPdf 03 37 14.9 -0.7
comp=Z,2.0nm,0.3s,baz=42,slow=4.5,SNR=16
AKASG SKPbc SKPbc 03 40 05.8 +0.9
comp=Z,5.2nm,0.6s,baz=47,slow=2.4,SNR=18
AKBB Malin Array Si 144.90 327 *e*PKPdf PKPdf 03 37 15.7 0.0
GZT Gaziantep 145.13 302 *i* P PKPdf 03 37 18.3 +1.8
SIM Simferopol' 145.17 316 *i* PKHKP 03 37 16.9
SIM pmax pmax
comp=Z,14nm,1.0s
SUW Suwalki 145.22 336 *e*PKP PKPdf 03 37 16.6 +0.5
SUW Suwalki 145.22 336 *e*PKP PKPdf 03 37 16.6 +0.5
BOYT Boyabat 146.01 309 *i* P PKPbc 03 37 20.1 +0.3
CTKT Corum 146.35 308 *i* P PKPdf 03 37 17.5 -1.0
ASF Jabal al Asfar 146.42 293 PKPbc PKPbc 03 37 20.2 -1.1
comp=Z,3.3nm,0.8s,baz=329,slow=1.9,SNR=5.6
MMAI Mount Meron Ar 147.59 294 PKPbc PKPbc 03 37 24.9 +0.7
comp=Z,8.6nm,0.8s,baz=104,slow=0.3,SNR=5.6
LVV L'vov 147.98 330 *e*PKHKP 03 37 24.2
EIL Elat 148.23 288 PKPbc PKPbc 03 37 26.1 +0.1
comp=Z,6.6nm,0.7s,baz=18,slow=4.6,SNR=7.8
EKA Eskdalemuir Ar 148.53 3 PKPbc PKPbc 03 37 24.9 -1.0
comp=Z,0.9nm,0.3s,baz=327,slow=2.6,SNR=13
KWP Kalwaria 148.71 331 *e*PKP PKPbc 03 37 26.5 0.0
KWP Kalwaria 148.71 331 *e*PKP PKPbc 03 37 26.5 -0.1
KWP Kalwaria 148.71 331 ⇓*i*P PKPbc 03 37 26.4 -0.2
BURAR Bucovina Array 148.90 326 ⇑*i*P PKPbc 03 37 28.0 +0.9
STHS Stebnicka Huta 149.51 332 *e*PKP PKPbc 03 37 28.7 +0.2
CRVS Cervenica-Dubn 149.80 331 *e*PKP PKPbc 03 37 29.9 +0.7
MLR Muntele Rosu 149.84 322 ⇑*i*P PKPbc 03 37 28.8 -0.6
NIE Niedzica 149.90 333 *e*PKP PKPbc 03 37 29.9 +0.5
KSP Ksiaz 150.24 339 *e*PKHKP 03 37 30.0
OKC Ostrava-Krasne 150.43 336 *e*PKPbc PKPbc 03 37 30.1 -0.5
OKC *e*PKPab PKPab 03 37 38.8 -0.7
UPC Upice 150.62 339 *e*PKPbc PKPbc 03 37 30.6 -0.5
DPC Dobruska-Polom 150.65 338 *e*PKPbc PKPbc 03 37 31.1 0.0
DPC *e*PKPab PKPab 03 37 41.0 +0.6
MORC Moravsky Berou 150.70 336 *e*PKPbc PKPbc 03 37 30.4 -0.9
MORC *e*PKPab PKPab 03 37 40.1 -0.6
DRGR 150.72 327 ⇑*i*P PKPbc 03 37 31.0 -0.4
CLL Collm 150.82 343 ⇓*i*PKIKP PKPbc 03 37 30.6 -0.9
CLL *i* 03 37 40.5
CLL pmax pmax
comp=Z,10.0nm,1.4s
CLL pmax pmax
comp=Z,4.0nm,0.8s
CLL Collm 150.82 343 ⇓*i*PKP PKPbc 03 37 30.6 -0.9
CLL *i* PKP PKPab 03 37 40.5 -0.6
CLL *i* pPKP pPKPdf 03 39 36.3 +5.6
CLL Collm 150.82 343 *e*PKPdf PKPdf 03 37 23.0 -2.3
CLL *i* PKPbc PKPbc 03 37 30.7 -0.8
CLL *i* PKPab PKPab 03 37 40.6 -0.5
CLL Collm 150.82 343 *e*PKPdf PKPdf 03 37 23.0 -2.3
CLL ⇓*i*PKPbc PKPbc 03 37 30.6 -0.9
comp=Z,10.0nm,1.4s
CLL *i* PKPab PKPab 03 37 40.5 -0.6
comp=Z,4.0nm,0.8s
CLL *i* pPKPbc pPKPbc 03 39 36.3 +0.7
BRG Berggiesshubel 150.95 341 *e*PKHKP 03 37 31.7
BRG pmax pmax
comp=Z,3.0nm,0.3s
BRG pmax pmax
comp=Z,2.0nm,1.1s
BRG Berggiesshubel 150.95 341 *e*PKP PKPbc 03 37 31.7 -0.1
comp=Z,4.5nm,0.3s
BRG *e*pPKP pPKPdf 03 39 37.7 +6.8
comp=Z,3.3nm,1.1s
PVCC Panska Ves 151.07 340 *e*PKPbc PKPbc 03 37 31.7 -0.4
PVCC *e*PKPab PKPab 03 37 42.5 +0.3
PSZ Piszkesteto 151.23 331 *e*PKPbc PKPbc 03 37 31.5 -1.0
PSZ *e*PKPab PKPab 03 37 42.5 -0.5
VRAC Vranov 151.44 337 ⇓P PKPab 03 37 44.3 +0.5
VRAC Vranov 151.44 337 PKPab PKPab 03 37 43.9 +0.1
comp=Z,4.6nm,0.9s,baz=38,slow=3.1,SNR=6.7
VRAC Vranov 151.44 337 ⇓*i*P PKPab 03 37 44.3 +0.5
TREC Trest 151.84 338 *e*PKPbc PKPbc 03 37 33.8 0.0
TREC *e*PKPab PKPab 03 37 45.3 -0.1
NKC Novy Kostel 151.94 343 *e*PKPbc PKPbc 03 37 35.5 +1.4
NKC *e*PKPab PKPab 03 37 45.8 -0.1
BZS Buzias 152.08 326 ⇑*i*P PKPbc 03 37 33.8 -0.7
KHC Kasperske Hory 152.60 340 *e*PKPbc PKPbc 03 37 34.4 -1.1
KHC *e*PKPab PKPab 03 37 48.6 -0.1
GRA1 Grafenberg Arr 152.76 344 *e*PKP PKPab 03 37 49.3 0.0
GRF Grafenberg Arr 152.76 344 *e*PKP PKPab 03 37 49.3 0.0
GERES GERESS Array B 152.81 340 PKPbc PKPbc 03 37 35.5 -0.5
comp=Z,0.2nm,0.3s,baz=25,slow=3.5,SNR=4.1
GERES PKPab PKPab 03 37 48.0 -1.6
comp=Z,0.3nm,0.6s,baz=83,slow=3.3,SNR=5.5
VTS Vitosha 153.15 320 ⇓*i*P PKPab 03 37 52.6 +1.3
DAVOX Davos/Dischmat 155.79 343 PKPab PKPab 03 38 02.7 +0.2
comp=Z,2.5nm,0.7s,baz=328,slow=7.1,SNR=4.6
BNI Bardonecchia 158.18 347 *e*PKPab PKPab 03 38 12.3 -0.5
DBIC Dimbokro 162.28 164 PKPab PKPab 03 38 31.4 0.0
comp=Z,2.2nm,1.0s,baz=192,slow=6.7,SNR=4.0
TOA0 Torodi Ar. Sit 169.16 190 *e*PKPab PKPab 03 39 01.8 0.0
TORD Torodi Ar. Bea 169.16 190 PKP PKPdf 03 37 44.8 -1.6
TORD PKPab PKPab 03 39 01.7 -0.1
TORD Torodi Ar. Bea 169.16 190 PKP PKPdf 03 37 44.8 -1.6
comp=Z,0.3nm,0.6s,baz=353,slow=1.4,SNR=5.5
TORD PKPab PKPab 03 39 01.7 -0.1
comp=Z,0.5nm,0.4s,baz=170,slow=4.4,SNR=12

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*NEIC **20** 03:38:06.7, 3092S×7166W, h34km, ML3.8(GUC), After GUC.*
GUC 20 03:38:06.7±0.6, 3092S×7166W, h34km±3km, MD4.1, ML3.8, 3C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.51**	**52**	⇑*i*P	Pb	03 38 17.3	-0.1
OVCH				*i* S	Sb	03 38 25.4	+0.7
CMCH	**Combarbala**	**0.62**	**114**	⇑*i*P	Pn	03 38 18.7	-0.4
CMCH				*i* S	Sb	03 38 28.1	+0.3
CMCH				AML	AML	03 38 28.5	
comp=N,14μm,0.3s							
TLL	**Tololo Astrono**	**1.05**	**45**	⇓*i*P	Pn	03 38 26.2	+1.1
TLL				*i* S	Sn	03 38 40.7	+2.1
TLL	**Tololo Astrono**	**1.05**	**45**	⇓*i*P	Pn	03 38 26.2	+1.1
TLL				*i* S	Sn	03 38 40.7	+2.1
TLL				AML	AML	03 38 45.4	
comp=N,1μm,0.8s							
LSCH	**La Serena**	**1.07**	**20**	⇓*i*P	Pn	03 38 25.7	+0.4
LSCH				*i* S	Sn	03 38 40.0	+1.0
LCO	**Las Campanas**	**2.08**	**24**	*e*Pn	Pn	03 38 40.3	+1.1
LCO				*e*Sn	Sn	03 39 05.1	+1.3
PEL	**Peldehue**	**2.36**	**160**	⇑*i*P	Pn	03 38 44.6	+1.5
PEL				*i* S	Sn	03 39 14.4	+3.5
PEL				AML	AML	03 39 23.9	
comp=E,921nm,0.4s							
VACH	**Vallenar**	**2.47**	**19**	*e*P	Pn	03 38 45.8	+1.3
VACH				*i* S	Sn	03 39 15.7	+2.2
VACH	**Vallenar**	**2.47**	**19**	*e*P	Pn	03 38 45.8	+1.3
VACH				*i* S	Sn	03 39 15.7	+2.2
VACH				AML	AML	03 39 30.8	
comp=E,1μm,0.4s							
CLCH	**Cerro Calan**	**2.64**	**159**	*e*P	Pn	03 38 48.4	+1.5
CLCH				*e*S	Sn	03 39 20.7	+2.9
CLCH				AML	AML	03 39 30.0	
comp=N,482nm,0.6s							
FCH	**Farellones**	**2.66**	**155**	*e*P	Pn	03 38 49.3	+2.1
FCH				*i* S	Sn	03 39 20.6	+2.2
FCH				AML	AML	03 39 35.4	
comp=E,251nm,0.8s							
TACH	**Talagante**	**2.79**	**168**	*e*P	Pn	03 38 50.1	+1.1
TACH				*i* S	Sn	03 39 23.4	+2.0
PCH	**Pirque**	**2.86**	**160**	*e*P	Pn	03 38 51.6	+1.7
CHCH	**Chadas Angostu**	**3.12**	**164**	*e*P	Pn	03 38 54.9	+1.4
LMEL	**Las Melosas**	**3.17**	**157**	*e*P	Pn	03 38 56.0	+1.9
LMEL				*i* S	Sn	03 39 33.5	+2.8
LMEL	**Las Melosas**	**3.17**	**157**	*e*P	Pn	03 38 56.0	+1.9
LMEL				*i* S	Sn	03 39 33.5	+2.8
LMEL				AML	AML	03 39 49.6	
comp=E,185nm,0.5s							
CACH	**El Canelo**	**3.31**	**165**	*e*P	Pn	03 38 58.7	+2.6
CICH	**Cipreses**	**3.54**	**163**	*e*P	Pn	03 39 00.8	+1.5
SFDO	**San Fernando**	**3.72**	**172**	*e*P	Pn	03 39 03.8	+2.0

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*ISCJB **20** 03:51:15.0±1.2, 856S±006×11836E±009, h128km±12km, mb3.8/10, Error ellipse: s-maj=15.4km s-min=8.0km az=153.3*
*NEIC **20** 03:51:15.7±1.1, 857S×11829E, h122km±12km, mb3.8/2, Error ellipse: s-maj=16.1km s-min=7.8km az=66.0*
*IDC **20** 03:51:18.1±1.7, 851S×11854E, h141km±15km, mb3.7/8, mb1 3.7/12, mb1mx3.6/21, mbtmp3.6/12, Error ellipse: s-maj=21.3km s-min=9.2km az=64.0*
ISC 20 03:51:16.5±1.1, 857S±006×11839E±009, h127km±11km, n22, σ0°97/27, mb3.8/10, Sumbawa region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.78**	**21**	P	**Pn**	**03 52 14.0**	**+0.6**
1.5nm,0.3s,baz=213,slow=9.0,SNR=9.0							
KAPI				S	**Sn**	**03 52 57.4**	**0.0**
1.8nm,0.3s,baz=53,slow=22,SNR=10							
BATI	**Kupang**	**5.45**	**108**	P	**Pn**	**03 52 36.9**	**+1.2**
12nm,0.3s,baz=334,slow=3.6,SNR=16							
BATI				S	**Sn**	**03 53 36.5**	**-0.8**
14nm,0.3s,baz=16,slow=23,SNR=4.0							
FITZ	**Fitzroy Crossi**	**11.81**	**144**	P	**Pn**	**03 54 00.2**	**-0.8**
0.3nm,0.3s,baz=15,slow=13,SNR=6.9							
FITZ				S	**Sn**	**03 56 01.8**	**-9.4**
1.6nm,0.3s,baz=165,slow=22,SNR=19							
MBWA	**Marble Bar**	**12.58**	**174**	*e*Pn	**Pn**	**03 54 10.3**	**-0.8**
MBWA				*e*Sn	**Sn**	**03 56 16.7**	**-13**
KKM	**Kota Kinabalu**	**14.68**	**351**	*e*P	**Pn**	**03 54 43.5**	**+5.4**
WRA	**Warramunga Arr**	**19.13**	**128**	P	**P**	**03 55 29.8**	**0.0**
0.7nm,0.3s,baz=302,slow=12,SNR=37							
WRA				S	**S**	**03 58 57.8**	**-2.2**
0.3nm,0.3s,baz=299,slow=23,SNR=5.5							
WB2	**Warramunga Arr**	**19.14**	**128**	*e*P	**P**	**03 55 29.4**	**-0.5**
ASAR	**Alice Springs**	**21.12**	**137**	P	**P**	**03 55 51.9**	**+0.7**
2.9nm,0.5s,mb3.9,baz=309,slow=9.1,SNR=95							
ASAR				S	**S**	**03 59 47.1**	**+8.0**
1.3nm,0.7s,baz=308,slow=23,SNR=6.5							
ASAR				ScP	ScP	04 03 15.9	-1.7
0.6nm,0.7s,baz=325,slow=2.0,SNR=6.9							
KULM	**Kulim**	**22.42**	**307**	*e*P	**P**	**03 56 03.2**	**-1.9**
FORT	**Forrest**	**23.87**	**159**	*e*P	**P**	**03 56 19.7**	**+1.4**
3.2nm,0.7s,mb3.8							
NWAO	**Narrogin (SRO)**	**24.26**	**182**	P	**P**	**03 56 21.6**	**-0.2**
25nm,1.2s,mb4.4,baz=21,slow=10,SNR=4.2							
COEN	**Coen**	**24.88**	**105**	*e*P	**P**	**03 56 27.8**	**+0.2**
1.5nm,0.5s,mb3.7							
STKA	**Stephens Creek**	**31.66**	**140**	*e*P	**P**	**03 57 28.6**	**+0.7**
STKA	**Stephens Creek**	**31.66**	**140**	P	**P**	**03 57 28.9**	**+1.0**
2.3nm,0.5s,mb4.1,baz=315,slow=9.8,SNR=5.7							
KSRS	**Korea Array**	**46.64**	**10**	P	**P**	**03 59 32.7**	**+0.6**
1.9nm,0.9s,mb3.8,baz=186,slow=7.2,SNR=6.1							
SONM	**Songino Array**	**57.15**	**350**	P	**P**	**04 00 49.4**	**-0.4**
0.8nm,0.7s,mb3.9,baz=174,slow=7.7,SNR=5.5							
MKAR	**Makanchi Array**	**63.80**	**333**	P	**P**	**04 01 34.0**	**-1.1**
0.3nm,0.5s,mb3.3,baz=153,slow=6.2,SNR=4.2							
VNDA	**Vanda**	**72.50**	**171**	*e*P	**P**	**04 02 29.8**	**+0.9**
VNDA	**Vanda**	**72.50**	**171**	P	**P**	**04 02 29.8**	**+0.9**
0.5nm,0.4s,mb3.7,baz=313,slow=7.4,SNR=14							
QSPA	**South Pole Qui**	**81.42**	**180**	P	**P**	**04 03 20.2**	**+1.4**
QSPA	**South Pole Qui**	**81.42**	**180**	P	**P**	**04 03 20.2**	**+1.4**
1.8nm,1.1s,mb3.8,baz=257,slow=0.9,SNR=4.6							
TORD	**Torodi Ar. Bea**	**117.79**	**280**	PKP	PKPdf	04 09 48.1	-0.7
0.3nm,0.6s,baz=29,slow=2.0,SNR=8.4							

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*ISCJB **20** 03:55:52.2±0.5, 3198S±009×57.1E±02, h10km, mb4.3/19, MS3.7/2, Error ellipse: s-maj=18.6km s-min=12.9km az=170.2*
*IDC **20** 03:55:52.3±0.7, 3188S×57.15E, h0km, mb4.0/9, mb1 4.1/10, mb1mx3.9/25, mbtmp4.0/10, ML4.7/1, MS3.7/2, Ms1 3.7/2, ms1mx3.2/29, Error ellipse: s-maj=27.1km s-min=20.6km az=62.0*
*NEIC **20** 03:55:53.8±0.3, 3196S×5709E, h10km, mb4.6/11, Error ellipse: s-maj=11.5km s-min=8.3km az=75.0*
ISC 20 03:55:54.1±0.5, 3195S±009×571E±01, h10km, n37, σ0°64/26, mb4.3/19, MS3.7/2, Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**16.05**	**324**	Pn	**Pn**	**03 59 40.1**	**+0.2**
2.9nm,0.3s,baz=165,slow=9.3,SNR=33							
BOSA	**Boshof**	**27.65**	**269**	LR	LR	04 09 48.6	
comp=Z,64nm,19.1s,MS3.2,baz=294,slow=30							
SNAA	**Sanae**	**50.63**	**201**	*e*	**P**	**04 04 49.0**	**-3.8**
SNAA				*e*	pP	04 04 53.4	-2.6
SNAA				*e*		04 05 00.2	
SNAA	**Sanae**	**50.63**	**201**	P	**P**	**04 04 52.7**	**-0.1**
1.6nm,0.8s,mb4.0,baz=125,slow=9.9,SNR=9.1							
VNA2	**Neumayer--Watz**	**51.85**	**202**	*e*	**P**	**04 05 02.0**	**0.0**
VNA2				*e*	pP	04 05 06.4	+1.2
VNA2				*e*		04 05 12.8	
QSPA	**South Pole Qui**	**58.22**	**180**	*e*P	**P**	**04 05 48.5**	**+0.6**
14nm,1.2s,mb4.9							
QSPA	**South Pole Qui**	**58.22**	**180**	P	**P**	**04 05 49.1**	**+1.2**
3.2nm,0.6s,mb4.5,baz=262,slow=2.0,SNR=23							
ASAR	**Alice Springs**	**67.16**	**104**	P	**P**	**04 06 48.2**	**-0.2**
0.7nm,0.5s,mb3.9,baz=239,slow=6.0,SNR=11							
WRA	**Warramunga Arr**	**69.19**	**101**	P	**P**	**04 07 01.4**	**+0.2**
1.2nm,0.7s,mb3.9,baz=243,slow=5.4,SNR=10							
TORD	**Torodi Ar. Bea**	**69.45**	**301**	P	**P**	**04 07 02.7**	**-0.1**
TORD	**Torodi Ar. Bea**	**69.45**	**301**	P	**P**	**04 07 02.7**	**-0.1**
0.6nm,0.9s,mb3.5,baz=129,slow=7.5,SNR=5.2							
CSS	**Prodhromos**	**70.21**	**339**	*e*P	**P**	**04 07 07.9**	**+0.9**
15nm,1.0s,mb4.9							
MALT	**Malatya**	**72.04**	**345**	*e*P	**P**	**04 07 18.0**	**0.0**
4.8nm,1.1s,mb4.3							
UCH	**Uchtor**	**75.53**	**13**	*e*P	**P**	**04 07 39.0**	**+0.6**
3.6nm,1.1s,mb4.2							
EKS2	**Erkin-Say**	**75.81**	**13**	*e*P	**P**	**04 07 40.4**	**+0.4**
5.2nm,1.0s,mb4.4							
TKM2	**Tokmak 2**	**76.41**	**14**	*e*P	**P**	**04 07 43.7**	**+0.3**
2.4nm,0.8s,mb4.2							
MK31	**Makanchi Array**	**81.61**	**17**	*e*P	**P**	**04 08 12.9**	**+1.1**
MKAR	**Makanchi Array**	**81.61**	**17**	P	**P**	**04 08 11.3**	**-0.5**
1.0nm,0.9s,mb3.8,baz=220,slow=4.7,SNR=5.8							
KURK	**Kurchatov**	**84.47**	**14**	*e*P	**P**	**04 08 26.5**	**0.0**
5.9nm,1.1s,mb4.6							
BRVK	**Borovoye**	**85.43**	**8**	*e*P	**P**	**04 08 31.5**	**+0.2**
3.5nm,0.7s,mb4.6							
AKASG	**Malin Array Be**	**85.90**	**343**	P	**P**	**04 08 33.1**	**-0.6**
0.6nm,0.5s,mb4.1,baz=170,slow=4.6,SNR=3.9							
AKBB	**Malin Array Si**	**85.90**	**343**	*e*P	**P**	**04 08 32.0**	**-1.7**
ARU	**Arti**	**88.04**	**1**	*e*P	**P**	**04 08 44.0**	**0.0**
2.3nm,0.5s,mb4.7							
TRQA	**Tornquist**	**90.17**	**224**	*e*P	**P**	**04 08 54.2**	**-0.5**
3.3nm,0.9s,mb4.7							
SONM	**Songino Array**	**90.89**	**31**	P	**P**	**04 08 56.6**	**-0.9**
0.6nm,0.9s,mb3.9,baz=22,slow=1.6,SNR=3.8							
ESDC	**Sonseca Array**	**91.00**	**318**	P	**P**	**04 08 58.6**	**+0.3**
0.7nm,0.7s,mb4.1,baz=140,slow=6.7,SNR=3.2							
ULN	**Ulaanbaatar**	**91.20**	**31**	*e*P	**P**	**04 08 58.2**	**-0.7**
1.3nm,0.5s,mb4.5							
CPUP	**Villa Florida**	**94.78**	**235**	LR	LR	04 46 23.4	
comp=Z,87nm,18.4s,MS4.3,baz=6.9,slow=32							
INK	**Inuvik**	**143.08**	**7**	*e*PKPdf	PKPdf	04 15 27.5	+0.3
EGAK	**Eagle**	**145.26**	**14**	*e*PKPbc	PKPbc	04 15 30.8	0.0
DAWY	**Dawson**	**146.24**	**13**	*e*PKPbc	PKPbc	04 15 34.0	+0.1
FCC	**Fort Churchill**	**146.89**	**333**	*e*PKPbc	PKPbc	04 15 35.4	-0.6
YKA	**Yellowknife Ar**	**148.98**	**353**	PKPbc	PKPbc	04 15 41.1	-0.3
2.8nm,0.8s,baz=9.0,slow=2.5,SNR=52							
FFC	**Flin Flon**	**152.82**	**333**	*e*PKPbc	PKPbc	04 15 50.3	-0.4
ULM	**Lac du Bonnet**	**152.87**	**320**	*e*PKPbc	PKPbc	04 15 50.4	-0.6
ULM	**Lac du Bonnet**	**152.87**	**320**	PKPbc	PKPbc	04 15 50.4	-0.6
6.4nm,0.8s,baz=31,slow=5.8,SNR=5.6							
CCM	**Cathedral Cave**	**153.45**	**292**	*e*PKPbc	PKPbc	04 15 52.4	-0.2
CCM				*e*PKPab	PKPab	04 16 04.1	-0.9

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*IDC **20** 04:13:30.9±6.7, 2107S×17678W, h198km±60km, mb3.8/10, mb1 4.0/11, mb1mx3.8/17, mbtmp3.8/11, Error ellipse: s-maj=22.6km s-min=16.7km az=51.0*
*NEIC **20** 04:13:35.3±4.2, 2115S×17680W, h244km±38km, mb4.0/11, Error ellipse: s-maj=19.1km s-min=12.8km az=218.0*
*ISCJB **20** 04:13:48.2±6.5, 2131S±009×177.1W±02, h380km±67km, mb3.8/16, Error ellipse: s-maj=23.8km s-min=14.0km az=175.5*
ISC 20 04:13:32.1±6.9, 211S±02×1768W±01, h209km±64km, n61, σ0°76/26, mb3.9/16, 2C-6D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**17.89**	**196**	P	**P**	**04 17 25.0**	**-1.1**
1.3nm,0.3s,baz=180,slow=12,SNR=7.7							
URZ				S	**S**	**04 20 29.8**	**-11**
0.7nm,0.3s,baz=262,slow=22,SNR=8.6							
RPZ	**Rata Peaks**	**24.72**	**201**	P	**P**	**04 18 34.5**	**+0.4**
5.8nm,0.5s,mb4.5,baz=337,slow=15,SNR=5.7							
CTA	**Charters Tower**	**34.54**	**265**	*e*P	**P**	**04 20 02.1**	**+1.2**
5.7nm,0.6s,mb4.3							
CTA	**Charters Tower**	**34.54**	**265**	P	**P**	**04 20 02.6**	**+1.7**
6.8nm,0.7s,mb4.3,baz=100,slow=11,SNR=14							
CTAO	**Charters

ARU	**Arti**	**126.32 325**	*e*PKPdf	PKPdf	04 32 09.0	-0.5
ARCES	**ARCESS Array B**	**129.70 350**	PKP	PKPdf	04 32 14.2	-1.4
	1.4nm,0.8s,baz=11,slow=2.5,SNR=4.3					
FINES	**FINESS Array B**	**136.65 344**	PKP	PKPdf	04 32 30.9	+2.0
	0.9nm,0.8s,baz=346,slow=3.9,SNR=3.8					
AKASG	**Malin Array Be**	**144.07 332**	PKP	PKPdf	04 32 39.7	-2.9
AKASG	**Malin Array Be**	**144.07 332**	PKP	PKPdf	04 32 39.7	-2.9
	1.4nm,0.5s,baz=43,slow=4.1,SNR=8.7					
MALT	**Malatya**	**145.17 307**	*e*PKPbc	PKPbc	04 32 45.2	+0.3
MALT	**Malatya**	**145.17 307** ⇓	*i*P	PKPdf	04 32 44.7	-0.2
BURAR	**Bucovina Array**	**148.12 331** ⇓	*i*P	PKPbc	04 32 54.6	+1.6
STHS	**Stebnicka Huta**	**148.30 337**	*e*PKP	PKPbc	04 32 56.4	+3.0
CLL	**Collm**	**148.88 348** ⇓	*i*PKP	PKPbc	04 32 54.8	0.0
CLL			*e*PKP	PKPab	04 33 00.0	+0.6
CLL	**Collm**	**148.88 348** ⇓	*i*PKPbc	PKPbc	04 32 54.8	0.0
	comp=Z,10.0nm,0.8s					
CLL			*e*PKPab	PKPab	04 33 00.0	+0.6
	comp=Z,2.0nm,0.5s					
UPC	**Upice**	**148.96 344**	*e*PKPbc	PKPbc	04 32 55.2	+0.2
DPC	**Dobruska-Polom**	**149.02 344**	*e*PKPbc	PKPbc	04 32 55.5	+0.3
BRG	**Berggiesshubel**	**149.10 347**	*i* P	PKPbc	04 32 55.3	0.0
	comp=Z,5.0nm,0.6s					
MORC	**Moravsky Berou**	**149.20 342**	*e*PKPdf	PKPdf	04 32 50.8	-0.4
MORC			*e*PKPbc	PKPbc	04 32 55.7	+0.1
MORC	**Moravsky Berou**	**149.20 342** ⇓	*i*P	PKPbc	04 32 56.4	+0.8
PVCC	**Panska Ves**	**149.29 346**	*e*PKPbc	PKPbc	04 32 55.9	+0.1
MLR	**Muntele Rosu**	**149.32 328** ⇓	*i*P	PKPdf	04 32 52.8	+1.3
VYHS	**Vyhne**	**149.92 339**	*e*PKP	PKPbc	04 32 57.1	-0.3
KOLL	**Kolacno**	**149.99 340**	*e*PKP	PKPbc	04 32 58.0	+0.4
PSZ	**Piszkesteto**	**150.04 337**	*e*PKPbc	PKPbc	04 32 58.2	+0.4
TREC	**Trest**	**150.20 344**	*e*PKPbc	PKPbc	04 32 58.2	+0.1
MODS	**Modra-Piesok**	**150.53 341**	*e*PKP	PKPbc	04 32 59.2	+0.3
GRA1	**Grafenberg Arr**	**150.76 349**	*e*PKP	PKPdf	04 32 55.7	+2.1
GRF	**Grafenberg Arr**	**150.76 349**	*e*PKP	PKPdf	04 32 55.7	+2.1
KHC	**Kasperske Hory**	**150.82 346**	*e*PKPbc	PKPbc	04 32 59.3	-0.3
GEC2	**GERESS Array S**	**151.06 346**	*e*PKP	PKPbc	04 32 59.7	-0.4
GERES	**GERESS Array B**	**151.06 346**	PKPbc	PKPbc	04 33 00.1	0.0
	comp=Z,1.3nm,0.7s,baz=5.7,slow=1.3,SNR=12					
BZS	**Buzias**	**151.24 333** ⇑	*i*P	PKPbc	04 33 00.4	-0.3
WLF	**Walferdange**	**151.40 356**	*e*PKPbc	PKPbc	04 33 01.1	+0.3
PKSM	**Moragy**	**151.94 337** ⇑	*i*P	PKPbc	04 33 01.8	-0.4
TIP	**Timpagrande**	**158.54 330**	*e*PKPdf	PKPdf	04 33 02.1	-2.6
TORD	**Torodi Ar. Bea**	**171.97 170**	PKP	PKPdf	04 33 16.7	+0.2
	comp=Z,0.3nm,0.8s,baz=173,slow=2.5,SNR=2.1					
TORD			PKPab	PKPab	04 34 39.8	-0.4
	comp=Z,1.3nm,0.9s,baz=185,slow=5.8,SNR=8.5					

MEX 20 04:24:20.3±0.9, 1937N×10044W, h67km±18km, MD3.5, Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOIG	**Morelia**	**0.77**	**294**	*i* P	Pn	04 24 34.3	-1.6
MOIG				*i* S	Sn	04 24 46.1	-1.2
PLIG	**Platanillo**	**1.32**	**138**	*i* P	Pn	04 24 40.7	-2.0
PLIG				*i* S	Sn	04 24 58.5	-1.0
DEIG	**Demacu**	**1.61**	**55**	*i* P	Pn	04 24 46.0	-0.7
DEIG				*i* S	Sn	04 25 05.3	-1.3
PPM	**Popocatepetl**	**1.74**	**100**	*i* P	Pn	04 24 48.7	+0.3
PPM				*i* S	Sn	04 25 09.1	-0.5
CAIG	**El Cayaco**	**2.31**	**176**	*i* P	Pn	04 24 56.5	+0.3
CAIG				*i* S	Sn	04 25 22.9	-0.8
ACX	**Acapulco**	**2.54**	**169**	*e*P	Pn	04 24 59.0	-0.2

*IDC **20** 04:47:58.4±8.7, 2173N×14296E, h219km±85km, mb3.0/6, mb1 3.2/6, mb1mx3.1/19, mbtmp3.0/6, Error ellipse: s-maj=46.1km s-min=16.5km az=86.0*
*ISCJB **20** 04:47:60.0±1.1, 217N±01×1429E±03, h250km, mb3.4/8, Error ellipse: s-maj=40.9km s-min=15.9km az=165.9*
*NEIC **20** 04:48:06.4±1.0, 2168N×14279E, h300km, mb3.4/3, Error ellipse: s-maj=38.8km s-min=15.8km az=77.0*

ISC 20 04:48:01.6±1.1, 217N±01×1429E±03, h250km, n10, σ0§59/10, mb3.4/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.33**	**324**	P	**P**	**04 52 18.7**	**-0.3**
	1.6nm,0.6s,baz=142,slow=8.5,SNR=7.0						
ULN	**Ulaanbaatar**	**38.77**	**321**	*e*P	**P**	**04 55 01.1**	**-0.9**
	0.8nm,0.6s,mb3.4						
SONM	**Songino Array**	**39.14**	**321**	P	**P**	**04 55 04.2**	**-0.8**
	0.7nm,0.5s,mb3.5,baz=108,slow=5.6,SNR=5.5						
WRA	**Warramunga Arr**	**42.24**	**192**	P	**P**	**04 55 30.2**	**-0.4**
	0.6nm,0.7s,mb3.1,baz=17,slow=9.0,SNR=6.4						
ASAR	**Alice Springs**	**45.95**	**191**	P	**P**	**04 55 60.0**	**+0.1**
	0.4nm,0.7s,mb2.9,baz=18,slow=11,SNR=4.6						
MK31	**Makanchi Array**	**54.47**	**313**	*e*P	**P**	**04 57 04.0**	**+0.5**
MKAR	**Makanchi Array**	**54.47**	**313**	P	**P**	**04 57 04.3**	**+0.9**
	0.4nm,0.6s,mb3.1,baz=89,slow=9.0,SNR=5.0						
KURK	**Kurchatov**	**57.27**	**317**	*e*P	**P**	**04 57 23.3**	**+0.2**
	0.8nm,0.8s,mb3.4						
BRVK	**Borovoye**	**62.53**	**320**	*e*P	**P**	**04 57 59.6**	**+0.8**
	3.3nm,0.7s,mb4.1						
YKA	**Yellowknife Ar**	**76.57**	**28**	P	**P**	**04 59 24.1**	**0.0**
	0.7nm,0.6s,mb3.5,baz=294,slow=5.9,SNR=11						

*NEIC **20** 05:16:18.1, 2881S×7148W, h34km, ML3.2(GUC), After GUC.*

GUC 20 05:16:18.1±0.7, 2881S×7148W, h34km±5km, MD3.5, ML3.2, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.67**	**70** ⇑	*i*P	Pn	05 16 31.3	0.0
VACH				*i* S	Sb	05 16 40.6	0.0
VACH	**Vallenar**	**0.67**	**70** ⇑	*i*P	Pn	05 16 31.3	0.0
VACH				*i* S	Sb	05 16 40.6	0.0
VACH				AML	AML	05 16 41.5	
	comp=N,2μm,0.1s						
LCO	**Las Campanas**	**0.71**	**107**	*e*Pn	Pn	05 16 31.9	+0.2
LCO				*e*Sn	Sn	05 16 41.7	+0.2
TLL	**Tololo Astrono**	**1.48**	**157**	*e*P	Pn	05 16 44.3	+1.9
TLL				*i* S	Sn	05 17 03.9	+3.4
TLL	**Tololo Astrono**	**1.48**	**157**	*e*P	Pn	05 16 44.3	+1.9
TLL				*i* S	Sn	05 17 03.9	+3.4
TLL				AML	AML	05 17 07.7	
	comp=N,142nm,0.5s						
CPCH	**Copiapo**	**1.75**	**35** ⇑	*i*P	Pn	05 16 47.3	+1.2
CPCH				*i* S	Sn	05 17 10.2	+2.9
CPCH	**Copiapo**	**1.75**	**35** ⇑	*i*P	Pn	05 16 47.3	+1.2
CPCH				*i* S	Sn	05 17 10.2	+2.9
CPCH				AML	AML	05 17 15.2	
	comp=E,1μm,0.1s						
CMCH	**Combarbala**	**2.39**	**170**	*e*P	Pn	05 16 56.1	+1.2
CMCH				*i* S	Sn	05 17 25.7	+2.6
CMCH	**Combarbala**	**2.39**	**170**	*e*P	Pn	05 16 56.1	+1.2
CMCH				*i* S	Sn	05 17 25.7	+2.6
CMCH				AML	AML	05 17 37.5	
	comp=E,143nm,0.5s						

*CSEM **20** 05:23:00.6±0.2, 3905N×4043E, h2km, MD3.0, Error ellipse: s-maj=8.9km s-min=2.9km az=144.0*
*DDA **20** 05:23:01.4, 3908N×4032E, h7km±2km, Md3.0*
*ISK **20** 05:23:01.9, 3906N×4043E, h9km, MD3.0*
*ISCJB **20** 05:23:02.4±1.1, 3913N±006×4035E±005, h1km±11km, Error ellipse: s-maj=11.6km s-min=5.4km az=158.6*

ISC 20 05:23:03.5±0.9, 3913N±007×4035E±005, h12km±9km, n9, σ1§44/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.65**	**106**	*i* P	**Pg**	**05 23 14.3**	**-1.7**
BNGL				*i* S	**Sg**	**05 23 26.3**	**+1.8**
PTK	**Pertek**	**0.79**	**253**	*e*PG	**Pg**	**05 23 17.3**	**-1.3**
PTK				*e*SG	**Sg**	**05 23 30.3**	**+1.4**
EZM	**Erzurum**	**1.10**	**45**	*e*PN	**Pn**	**05 23 23.4**	**-1.2**
ERZM	**Erzurum**	**1.10**	**45**	*i* P	**Pb**	**05 23 23.2**	**-1.2**
ERZM				*i* S	**Sb**	**05 23 40.5**	**+1.8**
SVRC	**Sivrice-ELAZID**	**1.11**	**228**	*e*PN	**Pn**	**05 23 24.1**	**-0.6**
ELZG	**Elazig**	**1.24**	**240**	*e*P	**Pn**	**05 23 24.2**	**-2.4**
ELZG				*i* S	**Sb**	**05 23 45.1**	**+2.4**
GUMT	**Gumushane**	**1.49**	**333**	*e*PN	**Pn**	**05 23 31.1**	**+1.1**
MALT	**Malatya**	**1.71**	**242**	*e*PN	**Pn**	**05 23 32.8**	**-0.2**
MARD	**Mardin**	**1.85**	**169**	*e*P	**Pn**	**05 23 35.5**	**+0.6**

*ISCJB **20** 05:39:05.4±1.0, 2986N±003×3625E±005, h0km, Error ellipse: s-maj=6.8km s-min=4.9km az=0.6*
*GII **20** 05:39:05.9±1.4, 2987N×3619E, h0km, ML2.5/6*
*SGS **20** 05:39:06.0, 3005N×3628E, h13km*

ISC 20 05:39:05.2±1.1, 2985N±003×3631E±006, h0km, n14, σ0§73/20, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.12**	**280**	Pg	**Pg**	**05 39 25.9**	**-0.8**
HRFI				Sg	**Sg**	**05 39 40.8**	**-0.3**
EIL	**Elat**	**1.19**	**262**	Pg	**Pg**	**05 39 27.9**	**-0.1**
EIL				Sg	**Sg**	**05 39 43.8**	**+0.3**
ZFRI	**Zfri**	**1.20**	**306**	Sg	**Sg**	**05 39 44.0**	**+0.1**
MBH	**Mount Berech**	**1.21**	**268**	Pg	**Pg**	**05 39 27.7**	**-0.7**
MBH				Sg	**Sg**	**05 39 44.9**	**+0.8**
HQLS		**1.21**	**243**	S	**Sg**	**05 39 44.5**	**+0.2**
HQLS		**1.21**	**243**	P	**Pg**	**05 39 27.9**	**-0.6**
PRNI	**Paran**	**1.23**	**294**	Pg	**Pg**	**05 39 27.8**	**-1.0**
PRNI				Sg	**Sg**	**05 39 44.1**	**-0.8**
JLOS		**1.32**	**213**	S	**Sg**	**05 39 48.9**	**+1.2**
JLOS		**1.32**	**213**	P	**Pg**	**05 39 30.7**	**+0.2**
KRMI	**Paran Flat**	**1.40**	**281**	Sg	**Sg**	**05 39 50.2**	**+0.1**
MZDA	**Masada**	**1.67**	**331**	Pn	**Pn**	**05 39 34.8**	**-0.9**
MZDA				Sn	**Sn**	**05 39 57.9**	**+0.1**
DSI	**Dead Sea**	**1.89**	**335**	Pn	**Pn**	**05 39 39.5**	**+0.7**
DSI				Sn	**Sn**	**05 40 05.0**	**+1.8**
KZIT	**Kziot**	**1.96**	**303**	Sn	**Sn**	**05 40 05.5**	**+0.6**
RSHS		**2.03**	**221**	P	**Pn**	**05 39 39.9**	**-0.8**

*SZGRF **20** 06:12:25.5, 2138S×17963W, h33km, Fiji Islands region*
*PRU **20** 06:12:37.1, 1670S×17575W, h30km*
*ISCJB **20** 06:13:22.3±2.6, 208S±02×178.1W±0.1, h537km±31km, mb4.2/11, Error ellipse: s-maj=27.5km s-min=15.8km az=161.9*
*IDC **20** 06:13:24.0±2.5, 2077S×17805W, h547km±28km, mb3.6/7, mb1 3.9/7, mb1mx3.6/13, mbtmp3.6/7, Error ellipse: s-maj=27.9km s-min=12.4km az=156.0*

ISC 20 06:13:23.5±2.6, 208S±02×1781W±01, h540km±30km, n47, σ0§59/19, mb4.2/11, 1C-1D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARMA	**Armidale**	**28.88**	**245**	*e*P	**P**	**06 18 40.2**	**+1.4**
CTA	**Charters Tower**	**33.41**	**265** ⇓	*i*P	**P**	**06 19 17.7**	**0.0**
	9.8nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**37.61**	**245**	*e*P	**P**	**06 19 52.8**	**+0.4**
	8.1nm,0.6s,mb4.4						
STKA	**Stephens Creek**	**37.61**	**245**	P	**P**	**06 19 52.7**	**+0.4**
	11nm,0.8s,mb4.5,baz=89,slow=9.8,SNR=21						
ASAR	**Alice Springs**	**44.40**	**257**	P	**P**	**06 20 46.5**	**0.0**
	26nm,0.9s,mb4.8,baz=86,slow=8.5,SNR=162						
ASAR				PcP	PcP	06 22 19.1	+0.6
	1.5nm,0.7s,baz=98,slow=4.9,SNR=4.7						
ASAR				S	**S**	**06 26 43.0**	**+1.1**
	1.9nm,0.9s,baz=94,slow=15,SNR=12						
WB2	**Warramunga Arr**	**44.50**	**262**	*e*P	**P**	**06 20 46.4**	**-0.8**
WRA	**Warramunga Arr**	**44.51**	**262**	P	**P**	**06 20 46.7**	**-0.6**
	5.9nm,0.3s,mb4.6,baz=96,slow=7.4,SNR=549						
WRA				S	**S**	**06 26 43.1**	**-0.5**
	1.9nm,1.1s,baz=97,slow=12,SNR=4.5						
KAKA	**Kakadu**	**47.93**	**271**	*e*P	**P**	**06 21 13.2**	**-0.2**
	17nm,0.9s,mb4.6						
FORT	**Forrest**	**49.12**	**247**	*e*P	**P**	**06 21 21.2**	**-0.8**
	30nm,0.7s						
FITZ	**Fitzroy Crossi**	**52.94**	**263**	*e*P	**P**	**06 21 49.8**	**0.0**
	14nm,1.5s,mb4.1						
KLBR	**Kellerberrin**	**57.88**	**245** ⇑	*i*P	**P**	**06 22 24.1**	**+0.1**
	37nm,0.9s,mb4.6						
MJAR	**Matsushiro Arr**	**70.44**	**324**	P	**P**	**06 23 43.0**	**-0.5**
	2.9nm,0.8s,mb3.9,baz=155,slow=5.7,SNR=8.6						
KSRS	**Korea Array**	**77.09**	**319**	P	**P**	**06 24 22.1**	**+0.8**
	1.8nm,0.7s,mb3.6,baz=128,slow=5.4,SNR=6.0						
NVAR	**Mina Array Bea**	**81.29**	**43**	P	**P**	**06 24 43.9**	**+0.4**
	1.6nm,0.8s,mb3.5,baz=220,slow=10,SNR=6.6						
TXAR	**Lajitas Array**	**87.27**	**57**	P	**P**	**06 25 13.0**	**0.0**
	0.8nm,0.8s,mb3.4,baz=219,slow=6.2,SNR=9.2						
VNA2	**Neumayer--Watz**	**88.27**	**177**	*e*	**P**	**06 25 17.2**	**+0.2**
VNA2				*e*		06 25 20.3	
VNA1	**Neumayer--Stat**	**88.50**	**177**	*e*	**P**	**06 25 17.4**	**-0.6**
VNA1				*e*		06 25 20.4	
MKAR	**Makanchi Array**	**111.38**	**313**	PKiKP	PKiKP	06 30 54.5	-1.6
	0.1nm,0.4s,baz=107,slow=1.5,SNR=3.7						
BVAR	**Borovoye Array**	**119.29**	**320**	PKP	PKPdf	06 31 10.5	-0.6
	1.2nm,0.6s,baz=108,slow=3.2,SNR=6.9						
AKASG	**Malin Array Be**	**143.27**	**331**	PKP	PKPdf	06 31 53.0	-3.1
	4.2nm,0.7s,baz=42,slow=4.2,SNR=30						
BSD	**Bornholm Skovb**	**144.39**	**347**	*i* P	PKPdf	06 31 56.7	-1.2
	9.5nm,0.9s						
BSEG	**Bad Segeberg**	**146.33**	**351**	*e*PKPbc	PKPbc	06 32 03.2	-0.3
STHS	**Stebnicka Huta**	**147.59**	**336**	*e*PKP	PKPbc	06 32 07.4	+0.4
STHS				*e*		06 32 10.8	
CRVS	**Cervenica-Dubn**	**147.92**	**335**	*e*PKP	PKPbc	06 32 07.8	-0.1
CRVS				*e*		06 32 12.2	
CLZ	**Clausthal**	**148.35**	**350**	*e*PKPbc	PKPbc	06 32 09.0	+0.2
UPC	**Upice**	**148.36**	**343**	*e*PKP	PKPbc	06 32 08.8	-0.1
CLL	**Collm**	**148.36**	**347**	*e*PKPbc	PKPbc	06 32 08.7	-0.2
DPC	**Dobruska-Polom**	**148.41**	**342**	*e*PKP	PKPbc	06 32 09.3	+0.2
BRG	**Berggiesshubel**	**148.56**	**345**	*e*PKPbc	PKPbc	06 32 09.3	-0.1
BRG	**Berggiesshubel**	**148.56**	**345**	*e*PKP	PKPbc	06 32 09.2	-0.2
	6.0nm,1.0s						
PVCC	**Panska Ves**	**148.72**	**344**	*e*PKP	PKPbc	06 32 09.9	+0.1
BUG	**Bochum--Univer**	**149.16**	**353**	*e*PKPbc	PKPbc	06 32 11.3	+0.5
VYHS	**Vyhne**	**149.24**	**338**	*e*PKP	PKPbc	06 32 11.5	+0.4
MOX	**Moxa**	**149.27**	**348**	*e*PKPbc	PKPbc	06 32 10.9	-0.2
TANN	**Tannenbergstha**	**149.32**	**347**	*e*PKPbc	PKPbc	06 32 11.0	-0.3
WERD	**Werda**	**149.32**	**347**	*e*PKPbc	PKPbc	06 32 11.1	-0.2
GUNZ	**Gunzen**	**149.40**	**347**	*e*PKPbc	PKPbc	06 32 11.6	+0.2
WERN	**Wernitzgruen**	**149.46**	**347**	*e*PKPbc	PKPbc	06 32 11.6	0.0
TREC	**Trest**	**149.60**	**342**	*e*PKP	PKPbc	06 32 11.7	-0.3
MANZ	**Manzenberg**	**149.80**	**347**	*e*PKPbc	PKPbc	06 32 12.5	+0.1
MODS	**Modra-Piesok**	**149.87**	**339**	*e*PKP	PKPbc	06 32 10.1	-2.5
MODS				*e*		06 32 13.8	
MODS				*e*		06 32 17.9	
ROTZ	**Rotzenmuhle**	**149.99**	**347**	*e*PKPbc	PKPbc	06 32 12.7	-0.2
GRF	**Grafenberg Arr**	**150.26**	**348**	*e*PKPbc	PKPbc	06 32 13.9	+0.4
KHC	**Kasperske Hory**	**150.26**	**345**	*e*PKP	PKPbc	06 32 13.5	0.0
GEC2	**GERESS Array S**	**150.49**	**344**	*e*PKPbc	PKPbc	06 32 14.1	0.0
GERES	**GERESS Array B**	**150.49**	**344**	PKPbc	PKPbc	06 32 14.2	+0.1
	1.6nm,0.8s,baz=45,slow=2.6,SNR=10						
TORD	**Torodi Ar. Bea**	**172.37**	**178**	PKP	PKPdf	06 32 30.0	-1.2
	1.9nm,1.2s,baz=164,slow=1.2,SNR=7.5						
TORD				PKPab	PKPab	06 33 59.3	+0.1
	0.8nm,0.9s,baz=168,slow=3.9,SNR=3.3						

IDC 20 06:34:59.8±9.8, 2185N×14309E, h170km±92km, mb3.1/8, mb1 3.3/8, mb1mx3.3/20, mbtmp3.1/8, Error ellipse: s-maj=36.2km s-min=17.2km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.34**	**323**	P	P	06 39 23.8	+1.0
	1.3nm,0.7s,baz=146,slow=7.9,SNR=5.6						
SONM	**Songino Array**	**39.16**	**320**	P	P	06 42 09.3	-1.5
	0.6nm,0.5s,baz=156,slow=7.3,SNR=4.1						
WRA	**Warramunga Arr**	**42.41**	**192**	P	P	06 42 38.4	+0.6
	0.3nm,0.5s,baz=16,slow=9.0,SNR=4.6						
ASAR	**Alice Springs**	**46.12**	**192**	P	P	06 43 06.5	-0.7
	0.4nm,0.6s,baz=14,slow=8.8,SNR=5.8						
MKAR	**Makanchi Array**	**54.53**	**313**	P	P	06 44 10.4	+0.3
	0.3nm,0.5s,baz=95,slow=7.5,SNR=3.0						
BVAR	**Borovoye Array**	**62.50**	**319**	P	P	06 45 05.4	+0.4
	1.1nm,0.5s,baz=93,slow=6.9,SNR=5.3						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	P	06 46 30.0	+0.2
	0.4nm,0.4s,baz=293,slow=5.9,SNR=9.7						
NVAR	**Mina Array Bea**	**83.12**	**51**	P	P	06 47 07.0	+0.3
	0.4nm,0.7s,baz=283,slow=5.1,SNR=3.1						

*ISCJB **20** 06:52:01.1±1.4, 672S±007×12980E±007, h129km±14km, mb4.0/11, Error ellipse: s-maj=13.4km s-min=7.9km az=44.4*
*IDC **20** 06:52:01.6±2.9, 666S×12988E, h118km±26km, mb3.9/10, mb1 4.2/15, mb1mx4.1/19, mbtmp4.1/15, Error ellipse: s-maj=27.0km s-min=12.4km az=77.0*
*NEIC **20** 06:52:02.9±1.4, 675S×12979E, h130km±13km, mb4.3/6, Error ellipse: s-maj=16.3km s-min=8.8km az=52.0*

ISC 20 06:52:03.3±1.2, 681S±007×12979E±007, h135km±12km, n31, σ1§19/36, mb4.0/11, 1D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.42**	**156** ⇓	*i*P	**Pn**	**06 53 37.5**	**+1.9**
	527nm,0.5s						
KAKA				*e*S	**Sn**	**06 54 46.9**	**-0.7**
BATI	**Kupang**	**6.93**	**240**	P	**Pn**	**06 53 44.0**	**+1.5**
	38nm,0.3s,baz=136,slow=3.1,SNR=30						
BATI				S	**Sn**	**06 54 59.1**	**-0.9**
	70nm,0.3s,baz=106,slow=8.5,SNR=17						
KAPI	**Kappang**	**10.14**	**280**	P	**Pn**	**06 54 26.3**	**+0.7**
	0.7nm,0.3s,baz=98,slow=14,SNR=3.5						
FITZ	**Fitzroy Crossi**	**11.93**	**199**	*e*P	**Pn**	**06 54 48.0**	**-1.2**
	47nm,0.8s						
FITZ				*e*S	**Sn**	**06 56 53.1**	**-7.7**
FITZ	**Fitzroy Crossi**	**11.93**	**199**	P	**Pn**	**06 54 48.2**	**-1.0**
	5.2nm,0.3s,baz=36,slow=12,SNR=69						
FITZ				S	**Sn**	**06 56 53.0**	**-7.8**
	4.5nm,0.3s,baz=112,slow=19,SNR=5.7						
WRAB	**Tennant Creek**	**13.78**	**162**	*e*Pn	**Pn**	**06 55 12.2**	**-0.8**
	34nm,0.6s						
WRA	**Warramunga Arr**	**13.78**	**162**	P	**Pn**	**06 55 12.1**	**-1.1**
	7.5nm,0.3s,baz=340,slow=13,SNR=104						
WRA				S	**Sn**	**06 57 39.0**	**-6.5**
	12nm,0.3s,baz=344,slow=22,SNR=12						
WB2	**Warramunga Arr**	**13.78**	**162**	*e*P	**Pn**	**06 55 11.9**	**-1.3**
WB2				*e*S	**Sn**	**06 57 36.3**	**-9.3**
COEN	**Coen**	**14.96**	**119**	*e*Pn	**Pn**	**06 55 29.9**	**+1.9**
	7.0nm,0.3s						
ASAR	**Alice Springs**	**17.22**	**167**	P	**Pn**	**06 55 56.8**	**+1.0**
	2.8nm,0.3s,baz=348,slow=11,SNR=150						
ASAR				S	**S**	**06 59 04.8**	**-2.6**
	1.8nm,0.3s,baz=353,slow=28,SNR=5.0						
CTA	**Charters Tower**	**20.72**	**131**	*e*P	**P**	**06 56 38.4**	**+5.1**
	5.2nm,1.4s						
KSM	**Kuching**	**21.11**	**292**	*e*P	**P**	**06 56 38.1**	**+0.6**
STKA	**Stephens Creek**	**27.27**	**158**	*e*P	**P**	**06 57 36.6**	**+1.5**
	6.5nm,1.8s,mb4.0						
STKA	**Stephens Creek**	**27.27**	**158**	P	**P**	**06 57 36.3**	**+1.2**
	1.4nm,0.4s,mb3.9,baz=309,slow=12,SNR=7.5						
NWAO	**Narrogin (SRO)**	**28.48**	**203**	P	**P**	**06 57 47.0**	**+1.1**
	18nm,1.0s,mb4.7,baz=32,slow=7.6,SNR=5.0						
PSI	**Prapat**	**32.25**	**286**	P	**P**	**06 58 18.5**	**-0.9**
PSI	**Prapat**	**32.25**	**286**	P	**P**	**06 58 18.5**	**-0.9**
	5.6nm,0.5s,mb4.5,baz=200,slow=1.2,SNR=5.8						
MJAR	**Matsushiro Arr**	**43.84**	**10**	P	**P**	**06 59 54.2**	**-1.9**
MJAR	**Matsushiro Arr**	**43.84**	**10**	P	**P**	**06 59 54.2**	**-1.9**
	4.9nm,0.9s,mb4.2,baz=188,slow=9.1,SNR=12						
KSRS	**Korea Array**	**44.07**	**358**	P	**P**	**06 59 56.8**	**-1.1**
	0.6nm,0.4s,mb3.6,baz=178,slow=7.1,SNR=3.0						
ULN	**Ulaanbaatar**	**58.02**	**342**	*e*P	**P**	**07 01 41.4**	**-0.6**
	2.2nm,0.7s,mb4.1						
SONM	**Songino Array**	**58.20**	**342**	P	**P**	**07 01 42.7**	**-0.5**
	0.6nm,0.3s,mb3.8,baz=152,slow=6.3,SNR=4.8						
MK31	**Makanchi Array**	**67.95**	**327**	*e*P	**P**	**07 02 47.5**	**-0.1**
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**07 02 47.5**	**-0.2**
MKAR	**Makanchi Array**	**67.95**	**327**	P	**P**	**07 02 47.5**	**-0.2**
	1.5nm,0.3s,mb4.1,baz=118,slow=7.9,SNR=45						
VNDA	**Vanda**	**72.66**	**173**	P	**P**	**07 03 17.0**	**+1.2**
VNDA	**Vanda**	**72.66**	**173**	P	**P**	**07 03 17.0**	**+1.2**
	0.8nm,0.6s,mb3.7,baz=311,slow=7.2,SNR=8.4						
MAW	**Mawson**	**75.05**	**201**	P	**P**	**07 03 31.3**	**+1.4**
	1.4nm,0.5s,mb3.8,baz=63,slow=6.3,SNR=4.4						
QSPA	**South Pole Qui**	**83.16**	**180**	P	**P**	**07 04 14.7**	**+0.9**
	1.9nm,0.6s,mb4.0,baz=280,slow=1.5,SNR=13						
TORD	**Torodi Ar. Bea**	**128.57**	**281**	PKP	PKPdf	07 10 55.2	-0.3
	0.4nm,0.7s,baz=118,slow=1.8,SNR=2.9						
CPUP	**Villa Florida**	**146.34**

CGA2	Cerro Gallo 2	5.13	124	*e*P	Pn	07 48 24.1	+1.5
PRS1	Puriscal	5.28	123	*e*P	Pn	07 48 27.5	+3.0
LCR2	La Lucha 2	5.66	123	*e*P	Pn	07 48 31.4	+1.5
URSC	Urasca	5.80	121	*e*P	Pn	07 48 33.2	+1.5
URSC				*e*S	Sn	07 49 38.8	+2.0
BUS	Buena Vista	5.97	123	*e*P	Pn	07 48 36.0	+2.0
BUS				*e*S	Sn	07 49 40.4	-0.6
BAR1		6.51	124	*e*P	Pn	07 48 42.4	+1.1
BAR1				*e*S	Sn	07 49 50.5	-3.7
TEIG	Tepich	7.29	4	P	Pn	07 48 52.0	0.0
	comp=Z,2.6nm,0.3s,baz=166,slow=3.6,SNR=19						
TEIG				LR	LR	07 52 07.6	
	comp=Z,169nm,20.2s,baz=237,slow=41						
ROSC	El Rosal	16.38	118	P	Pn	07 50 52.9	-0.1
	comp=Z,0.3nm,0.3s,baz=301,slow=19,SNR=2.4						
JCT	Junction City	20.23	332	*e*P	P	07 51 36.6	+0.2
	comp=Z,5.4nm,0.6s						
GOGA	Godfrey	20.98	13	*e*P	P	07 51 45.9	+1.4
	comp=Z,8.1nm,0.6s						
TXAR	Lajitas Array	21.39	322	P	P	07 51 49.8	+0.9
	comp=Z,1.4nm,0.5s,mb3.6,baz=144,slow=10,SNR=54						
MIAR	Mount Ida	21.97	349	*e*P	P	07 51 56.2	+1.2
	comp=Z,7.0nm,0.7s,mb4.1						
ATAH	Atahualpa	22.32	152	LR	LR	07 59 46.1	
	comp=Z,68nm,20.9s,baz=185,slow=34						
SJG	San Juan	22.42	74	LR	LR	08 00 33.0	
	comp=Z,51nm,21.3s,baz=90,slow=36						
WMOK	Wichita Mounta	23.54	339	*e*P	P	07 52 10.0	-0.7
	comp=Z,3.3nm,0.9s,mb3.7						
PCRV	Puerto La Cruz	23.83	94	LR	LR	08 02 43.5	
	comp=Z,44nm,19.6s,baz=281,slow=39						
MNTX	Cornudas Mount	24.12	323	*e*P	P	07 52 16.1	0.0
	comp=Z,2.3nm,1.0s,mb3.5						
CCM	Cathedral Cave	25.14	355	*e*P	P	07 52 25.4	+0.3
	comp=Z,8.7nm,0.6s,mb4.4						
RSSD	Black Hills	33.74	340	*e*P	P	07 53 42.7	+1.4
	comp=Z,3.0nm,0.6s,mb4.3						
NVAR	Mina Array Bea	36.49	319	P	P	07 54 04.8	-0.3
	comp=Z,0.7nm,0.7s,mb3.7,baz=139,slow=7.8,SNR=5.5						
ULM	Lac du Bonnet	37.68	353	P	P	07 54 14.2	-0.8
	comp=Z,1.9nm,0.5s,mb4.2,baz=198,slow=1.2,SNR=5.0						
EGMT	Eagleton	39.12	338	*e*P	P	07 54 27.4	+0.3
	comp=Z,3.6nm,0.5s,mb4.5						
EDM	Edmonton	44.71	339	*e*P	P	07 55 12.4	-0.2
SCHQ	Schefferville	45.23	18	P	P	07 55 15.9	-0.7
	comp=Z,2.2nm,0.6s,mb4.1,baz=233,slow=8.0,SNR=5.1						
YKA	Yellowknife Ar	52.83	345	P	P	07 56 14.2	-0.3
YKA	Yellowknife Ar	52.83	345	P	P	07 56 14.2	-0.3
	comp=Z,4.0nm,0.7s,mb4.5,baz=140,slow=7.7,SNR=85						
TORD	Torodi Ar. Bea	87.60	77	P	P	07 59 45.7	-1.9
	comp=Z,0.3nm,0.8s,mb3.4,baz=268,slow=4.0,SNR=3.5						
MKAR	Makanchi Array	120.04	7	PKP	PKPdf	08 05 49.2	+0.1
	comp=Z,0.2nm,0.2s,baz=355,slow=3.3,SNR=3.0						
WRA	Warramunga Arr	138.12	255	PKP	PKPdf	08 06 22.9	-1.1
	comp=Z,0.3nm,0.7s,baz=91,slow=3.5,SNR=3.5						

IDC 20 08:16:21.9±6.0, 2123S×17809W, h487km±60km, mb3.3/5, mb1 3.4/6, mb1mx3.2/15, mbtmp3.3/6, Error ellipse: s-maj=44.4km s-min=27.1km az=43.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	17.47	193	P	P	08 19 57.7	-0.1
	0.7nm,0.3s,baz=100,slow=6.1,SNR=6.7						
CTA	Charters Tower	33.34	265	P	P	08 22 19.2	+0.4
	2.6nm,0.4s,baz=100,slow=11,SNR=9.0						
STKA	Stephens Creek	37.40	245	P	P	08 22 53.2	+0.7
	1.8nm,0.9s,baz=90,slow=11,SNR=5.4						
ASAR	Alice Springs	44.27	257	P	P	08 23 47.4	-0.2
	3.4nm,0.6s,baz=96,slow=7.9,SNR=58						
ASAR				PcP	PcP	08 25 22.1	+0.4
	0.9nm,0.6s,baz=106,slow=3.4,SNR=7.1						
WRA	Warramunga Arr	44.42	263	P	P	08 23 47.9	-0.9
	1.1nm,0.3s,baz=96,slow=7.6,SNR=88						
WRA				PcP	PcP	08 25 22.2	-0.1
	0.4nm,0.6s,baz=89,slow=2.8,SNR=3.2						
MJAR	Matsushiro Arr	70.74	324	P	P	08 26 48.0	-0.3
	1.1nm,0.7s,baz=162,slow=6.9,SNR=3.8						
AKASG	Malin Array Be	143.61	331	PKP	PKPdf	08 34 58.6	-1.9
	3.2nm,0.5s,baz=42,slow=4.2,SNR=19						
GERES	GERESS Array B	150.88	344	PKPbc	PKPbc	08 35 19.6	+0.9
	1.0nm,0.8s,baz=64,slow=2.3,SNR=6.1						
TORD	Torodi Ar. Bea	171.96	179	PKP	PKPdf	08 35 34.7	-0.3
	0.4nm,0.8s,baz=202,slow=1.6,SNR=2.6						
TORD				PKPab	PKPab	08 36 59.7	-1.2
	0.4nm,0.7s,baz=162,slow=4.4,SNR=3.1						

*NEIC **20** 08:24:36.5, 34.04S×72.12W, h46km, MD3.3(GUC), After GUC.*

GUC 20 08:24:36.5±0.7, 3404S×7212W, h46km±3km, MD3.3, ML2.3, 2C-1D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.59	82	*e*P	Pn	08 24 48.6	-0.1
LNV				*i* S	Sn	08 24 58.6	+1.1
TACH	Talagante	1.06	69	↑*i*P	Pn	08 24 55.3	+0.4
TACH				*i* S	Sn	08 25 09.3	+0.9
SFDO	San Fernando	1.08	122	↓*i*P	Pn	08 24 55.7	+0.6
SFDO				*i* S	Sn	08 25 10.3	+1.3
CHCH	Chadas Angostu	1.22	85	*e*P	Pn	08 24 57.6	+0.5
CHCH				*i* S	Sn	08 25 14.1	+1.6
CACH	El Canelo	1.26	94	↑*i*P	Pn	08 24 59.6	+1.9
PCH	Pirque	1.40	73	*e*P	Pn	08 25 00.3	+0.8
PCH				*i* S	Sn	08 25 18.9	+2.1
LMEL	Las Melosas	1.60	84	*e*P	Pn	08 25 03.5	+1.2
LMEL				*i* S	Sn	08 25 23.7	+1.8
LMEL	Las Melosas	1.60	84	*e*P	Pn	08 25 03.5	+1.2
LMEL				*i* S	Sn	08 25 23.7	+1.8
LMEL				AML	AML	08 25 26.0	
	comp=N,65nm,0.1s						

IDC 20 08:28:36.0±4.8, 1969S×6873W, h127km±32km, mb3.6/2, mb1 3.6/5, mb1mx3.2/20, mbtmp3.4/5, Error ellipse: s-maj=57.6km s-min=23.3km az=56.0, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	3.43	10	P	Pn	08 29 30.3	+2.0
	1.0nm,0.3s,baz=202,slow=6.8,SNR=41						
LPAZ				S	Sn	08 30 09.4	+0.8
	0.4nm,0.3s,baz=220,slow=21,SNR=3.1						
SIV	San Ignacio	8.17	64	P	Pn	08 30 31.8	-0.1
	1.6nm,0.3s,baz=264,slow=9.8,SNR=80						
CPUP	Villa Florida	12.40	124	P	Pn	08 31 27.3	-1.0
	0.6nm,0.3s,baz=280,slow=8.8,SNR=6.3						
TORD	Torodi Ar. Bea	76.60	71	P	P	08 40 13.4	+0.2
	0.3nm,0.3s,baz=255,slow=5.2,SNR=12						
YKA	Yellowknife Ar	89.55	341	P	P	08 41 18.3	-0.2
	0.7nm,0.7s,baz=135,slow=4.7,SNR=16						
YKA				pP	pP	08 41 45.5	-5.6
	0.2nm,0.7s,baz=146,slow=4.2,SNR=4.6						

IDC 20 08:36:23.3±0.9, 2204N×14331E, h0km, mb3.6/7, mb1 3.9/7, mb1mx3.8/20, mbtmp3.6/7, Error ellipse: s-maj=34.4km s-min=21.8km az=86.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	39.15	320	P	P	08 43 53.4	+0.7
	0.4nm,0.6s,baz=114,slow=7.0,SNR=2.9						
WRA	Warramunga Arr	42.63	193	P	P	08 44 21.6	0.0
	0.4nm,0.7s,baz=21,slow=9.3,SNR=3.6						
ASAR	Alice Springs	46.34	192	P	P	08 44 51.2	0.0
	0.3nm,0.7s,baz=19,slow=8.7,SNR=5.3						
MKAR	Makanchi Array	54.55	312	P	P	08 45 53.3	+0.1
	0.2nm,0.2s,baz=88,slow=9.2,SNR=2.9						
BVAR	Borovoye Array	62.49	319	P	P	08 46 47.8	-0.7
	1.1nm,0.6s,baz=99,slow=8.3,SNR=7.7						
YKA	Yellowknife Ar	76.10	28	P	P	08 48 12.9	+0.3
	0.6nm,0.5s,baz=293,slow=6.0,SNR=13						
NVAR	Mina Array Bea	82.84	52	P	P	08 48 50.0	+0.1
	0.5nm,0.7s,baz=283,slow=5.4,SNR=4.5						

MAN 20 08:39:35, 1366N×12391E, h5km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	Virac	0.24	105	↑*i*P	Pg	08 39 41.4	+1.6
PVCP				*i* S	Sg	08 39 46.2	+3.2
CNP	Catarman	1.36	147	*e*P	Pn	08 40 00.1	-0.5
CNP				*e*S	Sb	08 40 20.2	+1.7
BOAC	Boac	2.02	265	*e*P	Pn	08 40 10.2	+0.5
POLP	Polilio Island	2.19	299	*e*P	Pn	08 40 12.7	+0.7
POLP				*e*S	Sn	08 40 41.6	+2.1
OTRP	Odiongan	2.25	235	*e*P	Pn	08 40 14.0	+1.2
BALP	Baler	3.06	313	*e*P	Pn	08 40 20.4	-3.7

*CSEM **20** 08:49:18.7±0.1, 3954N×2705E, h10km, MD2.9, Error ellipse: s-maj=2.8km s-min=2.1km az=95.0*
*ISK **20** 08:49:18.7, 3954N×2705E, h8km, MD3.0*
*ISCJB **20** 08:49:19.1±0.5, 3957N±002×2706E±003, h5km±5km, Error ellipse: s-maj=4.0km s-min=3.7km az=8.0*
*DDA **20** 08:49:19.2, 3955N×2707E, h8km±3km, Md2.9*

ISC 20 08:49:19.6±0.5, 3957N±002×2706E±003, h10km±4km, n23, σ0$89/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	Ayvalik	0.38	228	*i* P	Pg	08 49 27.0	-0.2
AYVA				*i* S	Sg	08 49 32.7	+0.5
BALB	Balikesir	0.64	83	*e*PG	Pg	08 49 31.3	-0.7
BALB				*e*SG	Sg	08 49 40.5	0.0
BTOK	Tokmak	0.78	75	*i* P	Pg	08 49 35.3	+0.6
BTOK				*i* S	Sg	08 49 45.1	+0.3
BOZC	Bozcaada	0.82	290	*i* P	Pg	08 49 35.4	0.0
BOZC				*i* S	Sg	08 49 47.5	+1.3
AKHS	Akhisar	0.91	139	*i* P	Pg	08 49 36.6	-0.5
AKHS				*i* S	Sg	08 49 48.8	0.0
AKS	Akhisar	0.91	139	*e*PG	Pg	08 49 36.6	-0.5
AKS				*e*SG	Sg	08 49 48.5	-0.4
EDC	Edincik	1.00	38	*e*PG	Pg	08 49 39.5	+0.7
BNT	Bandirma	1.03	40	*e*PG	Pg	08 49 38.5	-1.0
GADA	Gvkgeada	1.09	305	*e*PN	Pn	08 49 39.6	-1.3
MRMT	Marmara Adasi	1.11	22	*e*PN	Pn	08 49 41.8	+0.5
RKY	Sarkoy-Tekirda	1.12	5	*e*PN	Pn	08 49 40.9	-0.5
SART	Tekirdag	1.12	5	*i* P	Pb	08 49 40.6	-0.5
SART				*i* S	Sb	08 49 54.2	-1.6
KDAG	Bornova	1.18	172	*i* P	Pb	08 49 40.6	-1.4
KDAG				*i* S	Sb	08 49 57.7	+0.4
BLCB	Balcova	1.18	180	*e*PN	Pn	08 49 41.4	-0.8
BLCB				*e*SN	Sn	08 49 57.2	-1.1
KCT	Karacabey	1.22	55	*e*PN	Pn	08 49 43.2	+0.4
MFT	Murefte	1.23	8	*e*PN	Pn	08 49 42.7	-0.1
URLA	Izmir	1.26	197	*i* P	Pn	08 49 42.2	-1.0
URLA				*i* S	Sb	08 50 01.2	+1.5
ENEZ	Enez	1.36	330	*e*PN	Pn	08 49 44.7	+0.1
KULA	Kula-Manisa	1.63	130	*e*PN	Pn	08 49 48.6	+0.2
GDZ	Gediz	1.94	104	*i* P	Pn	08 49 55.1	+2.4
GDZ				*i* S	Sn	08 50 20.4	+3.3
IZI	Iznik	2.01	67	*e*PN	Pn	08 49 54.1	+0.5
YLV	Yalova	2.04	60	*e*PN	Pn	08 49 54.4	+0.4
EDRB	Edirne	2.29	354	*e*PN	Pn	08 49 58.6	+1.2

*FUNV **20** 09:06:14.9, 677N×73.19W, h170km, MW4.0*
*ISCJB **20** 09:06:15.2±0.5, 685N±005×7294W±004, h169km±4km, mb3.9/10, Error ellipse: s-maj=7.8km s-min=6.2km az=149.5*
*NEIC **20** 09:06:15.7±0.8, 674N×7293W, h165km±12km, mb4.0/3, Error ellipse: s-maj=20.8km s-min=9.9km az=178.0*
*IDC **20** 09:06:15.2±1.3, 672N×7292W, h161km±13km, mb3.7/8, mb1 3.9/11, mb1mx3.6/22, mbtmp3.7/11, Error ellipse: s-maj=17.6km s-min=17.0km az=127.0*

ISC 20 09:06:16.1±0.5, 680N±005×7292W±004, h164km±4km, n40, σ1$04/48, mb3.9/10, 11C-2D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	Capacho	1.21	30	↑*i*P	Pn	09 06 44.7	+0.8
CAPV				*e*S	Sn	09 07 05.8	+0.4
ROSC	El Rosal	2.39	216	P	Pn	09 06 56.5	-0.1
	97nm,0.3s,baz=101,slow=21,SNR=372						
ROSC				S	Sn	09 07 26.5	-1.4
	115nm,0.3s,baz=76,slow=19,SNR=8.4						
SOCV	Socops	2.52	54	↑*e*P	Pn	09 06 59.5	+1.4
SOCV				*e*S	Sn	09 07 32.0	+1.4
VIGV	El Vigia	2.54	37	↑*i*P	Pn	09 06 59.2	+0.8
VIGV				*e*S	Sn	09 07 31.1	-0.1
ELOV	Elorza	3.42	86	↑*e*P	Pn	09 07 11.0	+1.7
ELOV				*e*S	Sn	09 07 52.2	+1.7
VIRV	Villa del Rosa	3.71	8	↑*e*P	Pn	09 07 11.5	-1.5
VIRV				*e*S	Sn	09 07 54.0	-3.4
QARV	Quebrada Arrib	4.13	35	↑*i*P	Pn	09 07 19.1	+0.7
QARV				*e*S	Sn	09 08 05.7	-1.3
SANV	Sanarito	4.29	51	↑*e*P	Pn	09 07 21.0	+0.5
CURV	Curarigua	4.33	42	↑*e*P	Pn	09 07 21.4	+0.4
CURV				*e*S	Sn	09 08 09.8	-1.8
DABV	Dabajuro	4.67	29	*e*P	Pn	09 07 25.7	+0.2
DABV				*e*S	Sn	09 08 16.8	-2.9
TEPV	Terepaima	4.84	49	*e*P	Pn	09 07 28.2	+0.5
SIQV	Siquisique	4.91	39	↑*e*P	Pn	09 07 28.5	0.0
BAUV	El Baul	5.28	66	↑*i*P	Pn	09 07 32.8	-0.7
TURV	Turiamo	6.19	54	*e*P	Pn	09 07 45.6	+0.2
CAOV	Caicara del Or	6.57	85	↑*e*P	Pn	09 07 49.9	-0.6
CAOV				*e*S	Sn	09 09 02.1	-2.5
MERV	Las Mercedes	6.99	69	*e*P	Pn	09 07 55.6	-0.5
BIRV	Birongo	7.52	60	*e*P	Pn	09 08 02.5	-0.5
CUPV	Cepira	7.76	65	*e*P	Pn	09 08 05.8	-0.4
PCRV	Puerto La Cruz	8.85	67	P	Pn	09 08 20.8	+0.1
	1.7nm,0.3s,baz=192,slow=7.0,SNR=8.9						
CVJ	Coleyville	12.21	339	↓*e*P	Pn	09 09 06.2	+1.5
CVJ				*e*S	Sn	09 11 15.3	-4.8
BBJ	Bamboo Saint A	12.27	340	↓*e*P	Pn	09 09 07.3	+1.9
JTS	JuntasAbangare	12.39	287	P	Pn	09 09 05.9	-1.2
	1.0nm,0.3s,baz=123,slow=23,SNR=5.0						
TEIG	Tepich	20.00	313	P	P	09 10 36.0	-0.1
	9.3nm,0.5s,baz=118,slow=19,SNR=9.8						
LPAZ	La Paz	23.43	168	pP	pP	09 11 41.9	+0.1
	1.5nm,0.7s,baz=346,slow=14,SNR=9.2						
TXAR	Lajitas Array	36.62	312	P	P	09 13 06.4	-0.4
	0.8nm,0.5s,mb3.6,baz=126,slow=9.0,SNR=20						
TXAR				PcP	PcP	09 15 27.7	+1.3
	0.2nm,0.6s,baz=146,slow=4.3,SNR=3.8						
ECSD	EROS,Sioux Fal	42.25	334	*e*P	P	09 13 52.0	-1.1
	1.9nm,0.5s,mb4.0						
WUAZ	Wupatki	45.38	315	*e*P	P	09 14 19.0	+0.8
	4.0nm,1.0s,mb4.0						
ULM	Lac du Bonnet	47.37	340	P	P	09 14 32.7	-0.8
ULM	Lac du Bonnet	47.37	340	P	P	09 14 32.7	-0.8
	4.3nm,0.5s,mb4.4,baz=267,slow=22,SNR=12						
MSU	Marysvale	47.45	318	*e*P	P	09 14 34.9	+0.6
SCHQ	Schefferville	48.14	5	P	P	09 14 40.5	+1.2
	2.0nm,0.5s,mb4.0,baz=194,slow=9.1,SNR=6.4						
REDW	Red Top Meadow	49.33	324	*e*P	P	09 14 48.8	+0.1
	5.8nm,1.2s,mb4.1						
MCMT	McKenzie Canyo	51.35	324	*e*P	P	09 15 04.9	+1.1
NVAR	Mina Array Bea	51.64	315	P	P	09 15 06.5	+0.4
	0.4nm,0.6s,mb3.2,baz=140,slow=7.9,SNR=4.3						
YKA	Yellowknife Ar	63.35	340	P	P	09 16 27.0	-0.5
	2.3nm,0.5s,mb4.2,baz=133,slow=6.6,SNR=102						
TORD	Torodi Ar. Bea	73.54	78	P	P	09 17 30.5	-1.2
TORD	Torodi Ar. Bea	73.54	78	P	P	09 17 30.5	-1.2
	0.1nm,0.3s,mb3.0,baz=284,slow=6.3,SNR=6.6						
ARCES	ARCESS Array B	86.62	20	P	P	09 18 40.7	+0.1
	2.6nm,0.8s,mb4.1,baz=286,slow=3.7,SNR=4.5						
ASAR	Alice Springs	149.26	234	PKPbc	PKPbc	09 25 45.2	-1.0
	0.4nm,0.5s,baz=124,slow=3.6,SNR=9.8						
WRA	Warramunga Arr	150.50	241	PKPbc	PKPbc	09 25 48.2	-1.1
	0.7nm,0.5s,baz=107,slow=2.7,SNR=26						

*IDC **20** 09:22:48.2±1.2, 3537N×567E, h0km, mb3.5/4, mb1 3.6/7, mb1mx3.5/25, mbtmp3.5/7, ML3.6/3, Error ellipse: s-maj=29.7km s-min=21.9km az=149.0*
*CRAAG **20** 09:22:49.7, 3554N×566E, Ml3.9*
*NEIC **20** 09:22:50.4, 3546N×577E, h0km, MG4.3(MDD), After MDD.*
*CSEM **20** 09:22:51.5±0.1, 3557N×569E, h5km, ML3.4/6*
*ISCJB **20** 09:22:52.2±0.8, 3563N±005×554E±004, h22km±7km, mb3.5/4, Error ellipse: s-maj=8.8km s-min=5.7km az=7.4*
*MDD **20** 09:22:53.2±0.7, 3561N×568E, h0km, mb4.3/8, Error ellipse: s-maj=9.2km s-min=4.2km az=10.0, PRXIMO*

ISC 20 09:22:53.2±0.7, 3567N±005×565E±004, h13km±5km, n63, σ1$37/92, mb3.5/4, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMER	Merouana	0.21	104	P	Pg	09 22 56.0	-1.9
CKHR	Kef el Ahmar	0.36	342	P	Pg	09 23 00.0	-0.6
SET	Setif	0.57	339	P	Pg	09 23 04.0	-0.3
CTEI	Djebel Teioual	0.73	57	P	Pg	09 23 06.0	-1.4
DFRA	Djebel Bou Aff	0.89	12	P	Pb	09 23 12.0	+1.4
CASM	Ain Smara	0.90	49	P	Pb	09 23 10.0	-0.7
CKFL	Kef-Lekhel	1.13	50	P	Pb	09 23 15.0	+0.3
ABSA	Djebel Ababsia	1.60	67	P	Pn	09 23 23.0	+1.8
CABS	Djebel Ababsia	1.60	67	P	Pn	09 23 23.0	+1.8
EMHD	Djebel Mahouad	2.25	284	P	Pn	09 23 32.8	+2.7
KEST	Kesra	3.01	88	Pn	Pn	09 23 39.2	-1.4
	2.4nm,0.3s,baz=224,slow=2.1,SNR=53						
EBNR	Beni Rached	3.40	282	P	Pn	09 23 46.5	+0.6
ECHA	Ech Chlef	3.51	279	P	Pn	09 23 49.9	+2.5
ECHF	Ech Chlef	3.53	279	P	Pn	09 23 49.9	+2.2
ETRT	Tiaret	3.56	267	P	Pn	09 23 55.5	+7.4
EANR	'Ain N'Sour	3.71	276	P	Pn	09 23 51.5	+1.3
ETOS	Mallorca	4.67	332	Pn	Pn	09 24 04.1	+0.7
	3.2nm,0.2s,SNR=18						
ETOS				Sn	Sn	09 24 56.6	-0.7
	6.6nm,0.3s,SNR=5.0						
ETOS	Mallorca	4.67	332	Pn	Pn	09 24 04.1	+0.8
	3.2nm,0.2s,SNR=18						
ETOS				Sn	Sn	09 24 56.6	-0.7
	6.6nm,0.3s,SNR=5.0						
EIBI	Ibiza	4.79	316	Pn	Pn	09 24 06.2	+1.1
	1.9nm,0.2s,SNR=9.5						
EIBI				Sn	Sn	09 25 01.1	+0.6
	6.6nm,0.2s,SNR=6.7						
EIBI	Ibiza	4.79	316	Pn	Pn	09 24 06.2	+1.1
	1.9nm,0.2s,SNR=9.5						
EIBI				Sn	Sn	09 25 01.1	+0.6
	6.6nm,0.2s,SNR=6.7						
EBEN	Beniarda	5.58	305	Pn	Pn	09 24 16.9	+1.0
	0.4nm,0.2s,SNR=5.7						
EBEN				Sn	Sn	09 25 18.1	-1.7
	4.8nm,0.3s,SNR=5.0						
EBEN	Beniarda	5.58	305	Pn	Pn	09 24 16.9	+1.0
	0.4nm,0.2s,SNR=5.7						
EBEN				Sn	Sn	09 25 18.1	-1.8
	4.8nm,0.3s,SNR=5.0						
EMUR	La Murta	5.94	293	Pn	Pn	09 24 19.0	-1.8
	2.7nm,0.3s,SNR=9.1						
EMUR				Sn	Sn	09 25 27.3	-1.4
	1.7nm,0.2s,SNR=7.9						
EMUR	La Murta	5.94	293	Pn	Pn	09 24 19.0	-1.8
	2.7nm,0.3s,SNR=9.1						
EMUR				Sn	Sn	09 25 27.3	-1.4
	1.7nm,0.2s,SNR=7.9						
ETOB	Tobarra	6.47	299	Pn	Pn	09 24 29.6	+1.5
ETOB				Sn	Sn	09 25 42.9	+1.2
ETOB	Tobarra	6.47	299	Pn	Pn	09 24 29.6	+1.5
	1.0nm,0.2s,SNR=7.9						
ETOB				Sn	Sn	09 25 38.8	-3.0
	2.1nm,0.3s,SNR=4.0						
ETOB	Tobarra	6.47	299	Pn	Pn	09 24 29.6	+1.5
	1.0nm,0.2s,SNR=7.9						
ENIJ	Nijar	6.47	284	Pn	Pn	09 24 27.6	-0.6
ENIJ	Nijar	6.47	284	Pn	Pn	09 24 27.6	-0.6
ECHE	Chera	6.55	309	Pn	Pn	09 24 31.8	+2.7
	1.5nm,0.3s,SNR=4.0						
ECHE				Sn	Sn	09 25 43.9	+0.2
	SNR=7.9						
EPOB	Poblet	6.71	329	Pn	Pn	09 24 31.7	+0.3
	0.5nm,0.2s,SNR=5.7						
EPOB				Sn	Sn	09 25 46.8	-0.8
	SNR=7.9						
EPOB	Poblet	6.71	329	Pn	Pn	09 24 31.7	+0.3
	0.5nm,0.2s,SNR=5.7						
EPOB				Sn	Sn	09 25 46.8	-0.8
	SNR=7.9						
EMOS	Mosqueruela	6.73	316	Pn	Pn	09 24 31.7	+0.1
	0.6nm,0.2s,SNR=7.9						
EMOS				Sn	Sn	09 25 47.3	-0.8
	4.3nm,0.3s,SNR=7.9						
EMOS	Mosqueruela	6.73	316	Pn	Pn	09 24 31.8	+0.1
EMOS				Sn	Sn	09 25 47.3	-0.8
	4.3nm,0.3s,SNR=7.9						
ERTA	Horta de San J	6.73	323	Pn	Pn	09 24 33.3	+1.6
	0.5nm,0.1s,SNR=4.0						
ERTA				Sn	Sn	09 25 46.5	-1.6
	0.5nm,0.2s,SNR=4.0						
ERTA	Horta de San J	6.73	323	Pn	Pn	09 24 33.2	+1.5
ERTA				Sn	Sn	09 25 46.5	-1.7
	0.5nm,0.2s,SNR=4.0						
EHUE	Huescar	6.96	290	Pn	Pn	09 24 37.0	+2.3
EHUE				Sn	Sn	09 25 56.5	+2.8
EHUE	Huescar	6.96	290	Pn	Pn	09 24 34.8	+0.1
	2.1nm,0.4s,SNR=4.0						
EHUE				Sn	Sn	09 25 52.3	-1.4
	4.6nm,0.7s,SNR=5.0						
EHUE	Huescar	6.96	290	Pn	Pn	09 24 37.0	+2.2
	2.1nm,0.4s,SNR=4.0						
EBER	Berja	7.00	283	Pn	Pn	09 24 31.3	-4.1
EBER				Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SWSC	**Sam W. Stewart**	**0.07**	**111**	⇓P	**Pg**	**09 40 45.5**	**-0.5**
	baz=0.1						
SWSC				⇑S	**Sg**	**09 40 47.6**	**-0.3**
	baz=0.1						
CRR	**Carrizo Plain**	**0.12**	**228**	⇑eP	**Pg**	**09 40 46.3**	**-0.2**
COK	**Cook Ranch**	**0.17**	**134**	⇑eP	**Pg**	**09 40 47.9**	**+0.8**
YUH	**Yuha Desert**	**0.32**	**188**	⇓eP	**Pg**	**09 40 49.8**	**+0.2**
SGL	**Mount Signal**	**0.34**	**159**	⇓eP	**Pg**	**09 40 50.4**	**+0.5**
DVTC	**Desert V Tower**	**0.36**	**213**	⇑P	**Pg**	**09 40 50.4**	**0.0**
	baz=0.3,SNR=179						
DVTC				⇓S	**Sg**	**09 40 55.6**	**+0.2**
	baz=0.3						
SNR	**Schaffner Ranc**	**0.38**	**106**	⇓eP	**Pg**	**09 40 52.1**	**+1.4**
RMX	**La Rumorosa**	**0.40**	**206**	⇑eP	**Pg**	**09 40 51.4**	**+0.2**
RMX				eS	**Sg**	**09 40 57.1**	**+0.5**
MONP	**Monument Peak**	**0.47**	**261**	⇓P	**Pg**	**09 40 52.0**	**-0.4**
	baz=0.4,SNR=1000						
FRK	**Frink**	**0.48**	**24**	⇓eP	**Pg**	**09 40 52.4**	**-0.1**
COA	**Coachella**	**0.63**	**99**	⇓eP	**Pg**	**09 40 55.7**	**+0.3**
CPBX	**Cerro Prieto**	**0.72**	**139**	eP	**Pg**	**09 40 57.1**	**0.0**
CPBX				eS	**Sg**	**09 41 08.1**	**+1.4**
BAR	**Barrett**	**0.73**	**247**	⇓eP	**Pg**	**09 40 56.6**	**-0.7**
BC3	**Big Chuckw Mtn**	**0.77**	**27**	⇑P	**Pg**	**09 40 57.7**	**-0.3**
	baz=0.8,SNR=305						
BC3				⇓S	**Sg**	**09 41 07.9**	**-0.3**
	baz=0.8						
PFO	**Pinyon Flat Ob**	**0.81**	**323**	ePg	**Pg**	**09 40 57.7**	**-1.0**
PFO	**Pinyon Flat Ob**	**0.81**	**323**	⇓P	**Pb**	**09 40 57.1**	**-1.5**
	baz=0.8,SNR=729						
PFO				⇑S	**Sg**	**09 41 08.5**	**-0.9**
	baz=0.8						
GLA	**Glamis**	**0.88**	**84**	ePg	**Pg**	**09 40 59.3**	**-0.7**
GLA				eSg	**Sg**	**09 41 12.1**	**+0.5**
GLA	**Glamis**	**0.88**	**84**	⇑P	**Pb**	**09 40 59.2**	**-0.6**
	baz=0.9,SNR=286						
GLA				⇓S	**Sb**	**09 41 10.6**	**-0.7**
	baz=0.9						
CBX	**Cerro Bola**	**0.93**	**226**	⇑eP	**Pb**	**09 41 00.6**	**-0.2**
CBX				eS	**Sb**	**09 41 12.7**	**-0.2**
RDX	**Rancho Dowling**	**1.03**	**184**	⇓eP	**Pb**	**09 41 02.5**	**0.0**
RDX				eS	**Sb**	**09 41 16.2**	**+0.5**
RDX				⇑e		09 41 18.6	
	comp=N,1μm,0.4s						
BELC	**Belle Mtn.**	**1.04**	**354**	P	**Pb**	**09 41 01.3**	**-1.3**
	baz=1.0,SNR=177						
109C	**Camp Elliot, M**	**1.04**	**266**	⇓P	**Pb**	**09 41 01.7**	**-0.9**
	baz=1.0,SNR=110						
109C				⇓S	**Sb**	**09 41 15.2**	**-0.9**
	baz=1.0						
112A	**Yuma**	**1.17**	**111**	⇓P	**Pn**	**09 41 03.0**	**-1.6**
	baz=1.2,SNR=37						
112A				⇑S	**Sb**	**09 41 18.4**	**-1.2**
	baz=1.2						
ENX	**Ensenada**	**1.27**	**212**	eP	**Pn**	**09 41 06.2**	**+0.2**
ENX				eS	**Sb**	**09 41 23.2**	**+0.6**
MURC	**Murrieta**	**1.28**	**300**	⇑P	**Pn**	**09 41 04.5**	**-1.7**
	baz=1.2,SNR=52						
MURC				⇓S	**Sb**	**09 41 21.8**	**-1.2**
	baz=1.2						
IRM	**Iron Mountain**	**1.33**	**26**	⇑P	**Pn**	**09 41 06.3**	**-0.7**
	baz=1.4						
IRM				⇑S	**Sn**	**09 41 23.5**	**-0.8**
	baz=1.4						
Y12C	**Blythe**	**1.37**	**55**	⇓P	**Pn**	**09 41 06.4**	**-1.0**
	baz=1.4,SNR=15						
Y12C				⇑S	**Sn**	**09 41 24.6**	**-0.6**
	baz=1.4						
PBX	**Punta Banda**	**1.42**	**211**	eP	**Pn**	**09 41 08.3**	**+0.2**
PBX				eS	**Sn**	**09 41 27.8**	**+1.3**
ECNX	**Esteban Cantu**	**1.44**	**206**	⇑eP	**Pn**	**09 41 09.4**	**+1.0**
ECNX				eP		09 41 06.5	
ECNX				eS	**Sn**	**09 41 23.8**	**-3.2**
ECNX				eS	**Sn**	**09 41 28.7**	**+1.7**
BBRC	**Big Bear Sol-O**	**1.56**	**326**	⇓P	**Pn**	**09 41 09.6**	**-0.5**
	baz=1.5,SNR=31						
113A	**Mohawk Valley,**	**1.78**	**96**	⇓P	**Pn**	**09 41 12.0**	**-1.0**
	baz=1.8,SNR=18						
GMRC	**Granite Mounta**	**1.82**	**5**	⇑P	**Pn**	**09 41 13.1**	**-0.5**
	baz=1.8						
Y13A	**Salome**	**1.91**	**63**	⇓P	**Pn**	**09 41 14.3**	**-0.4**
	baz=1.9,SNR=10						
SPX	**San Pedro Mart**	**1.94**	**170**	ePN	**Pn**	**09 41 18.6**	**+3.3**
SPX				eS	**Sn**	**09 41 44.5**	**+5.1**
BFSC	**Mount Baldy St**	**1.96**	**311**	⇑Pn	**Pn**	**09 41 14.4**	**-1.2**
	baz=1.9						
BFSC				⇓Sb	**Sb**	**09 41 42.7**	**+0.2**
	baz=1.9						
NEE2	**Needles Airpor**	**2.08**	**30**	⇑Sb	**Sb**	**09 41 47.7**	**+1.9**
	baz=2.1						
FMP	**Fort Macarthur**	**2.16**	**291**	⇓Sb	**Sb**	**09 41 48.5**	**+0.2**
	baz=2.1						
X13A	**Yucca**	**2.35**	**46**	⇑Sb	**Sb**	**09 41 55.8**	**+2.2**
	baz=2.4						
DECC	**Green Verdugo**	**2.42**	**303**	⇑Sb	**Sb**	**09 41 57.4**	**+1.7**
	baz=2.4						
GSC	**Goldstone**	**2.46**	**342**	ePn	**Pn**	**09 41 25.0**	**+2.6**
GSC	**Goldstone**	**2.46**	**342**	⇓Sb	**Sb**	**09 41 59.4**	**+2.6**
	baz=2.4						
W12A	**Cal Nev Ari**	**2.47**	**19**	⇑Sb	**Sb**	**09 41 58.4**	**+1.1**
	baz=2.5						
Z14A	**Wintersburg**	**2.48**	**80**	⇑Pn	**Pn**	**09 41 22.5**	**-0.2**
	baz=2.5,SNR=20						
Z14A				⇓Sb	**Sb**	**09 41 59.6**	**+2.1**
	baz=2.5						
Y14A	**Wickenburg**	**2.58**	**67**	⇓Pn	**Pn**	**09 41 24.6**	**+0.5**
	baz=2.6						
EDW2	**Edwards Air Fo**	**2.60**	**318**	⇑Sb	**Sb**	**09 42 02.5**	**+1.6**
	baz=2.6						
W13A	**Hualapai Mount**	**2.69**	**37**	⇓Pn	**Pn**	**09 41 24.7**	**-0.9**
	baz=2.7,SNR=6.2						
W13A				⇑Sn	**Sn**	**09 41 57.4**	**-0.5**
	baz=2.7						
V11A	**Goodsprings**	**2.89**	**7**	⇓Sb	**Sb**	**09 42 10.9**	**+1.7**
	baz=2.9						
OSI	**Osito Adit**	**2.89**	**305**	⇑Sb	**Sb**	**09 42 10.8**	**+1.5**
	baz=2.9						
X14A	**Yava**	**2.90**	**58**	⇑Pn	**Pn**	**09 41 27.6**	**-0.9**
	baz=2.9,SNR=14						
115A	**Sonoran Desert**	**3.08**	**94**	⇓Pn	**Pn**	**09 41 30.9**	**0.0**
	baz=3.1,SNR=14						
Y15A	**Casa Rosa Ranc**	**3.12**	**71**	⇑Pn	**Pn**	**09 41 31.5**	**+0.1**
	baz=3.2						
W14A	**Seligman**	**3.22**	**45**	⇑Pn	**Pn**	**09 41 32.2**	**-0.7**
	baz=3.2						
V13A	**Grand Canyon W**	**3.27**	**28**	⇓Pn	**Pn**	**09 41 32.6**	**-1.0**
	baz=3.3						
MPMC	**Manual Prospec**	**3.37**	**337**	⇑Pn	**Pn**	**09 41 34.7**	**-0.2**
	baz=3.3						
X15A	**Humboldt**	**3.38**	**62**	⇑Pn	**Pn**	**09 41 35.3**	**+0.2**
	baz=3.4,SNR=11						
V14A	**Boquillas Ranc**	**3.51**	**40**	⇓Pn	**Pn**	**09 41 35.9**	**-1.0**
	baz=3.5,SNR=16						
116A	**Eloy**	**3.53**	**95**	⇑Pn	**Pn**	**09 41 36.4**	**-0.7**
	baz=3.6,SNR=7.3						
U13A	**Pakoon Wash**	**3.78**	**24**	⇓Pn	**Pn**	**09 41 38.9**	**-1.7**
	baz=3.8						
Y16A	**Circle Bar Ran**	**3.78**	**75**	⇓Pn	**Pn**	**09 41 40.1**	**-0.4**
	baz=3.8						
X16A	**Lo Mia Camp, P**	**3.96**	**67**	⇓Pn	**Pn**	**09 41 42.1**	**-1.0**
	baz=4.0,SNR=6.1						
TPNV	**Topopah Spring**	**3.99**	**356**	ePn	**Pn**	**09 41 48.4**	**+5.0**
U14A	**Mt Trumbull**	**4.09**	**32**	⇑Pn	**Pn**	**09 41 44.8**	**-0.1**
	baz=4.1						
Y17A	**Roosevelt**	**4.27**	**79**	⇑Pn	**Pn**	**09 41 47.0**	**-0.2**
	baz=4.3,SNR=10						
117A	**Oracle**	**4.34**	**94**	⇑Pn	**Pn**	**09 41 47.9**	**-0.3**
	baz=4.4,SNR=14						
TUC	**Tucson**	**4.34**	**97**	ePn	**Pn**	**09 41 48.0**	**-0.2**
WUAZ	**Wupatki**	**4.51**	**54**	ePn	**Pn**	**09 41 56.4**	**+5.8**
WUAZ				ePg	**Pg**	**09 42 09.3**	**0.0**
WUAZ				eSg	**Sg**	**09 43 08.2**	**+0.5**
CCUT	**Cedar City**	**5.01**	**23**	ePn	**Pn**	**09 42 00.7**	**+3.2**
CCUT				eSg	**Sg**	**09 43 24.5**	**+0.7**
318A	**Bisbee**	**5.21**	**105**	⇓Pn	**Pn**	**09 41 59.9**	**-0.3**
	baz=5.2,SNR=6.2						
S14A	**Cedar City**	**5.27**	**24**	⇑Pn	**Pn**	**09 42 00.2**	**-0.8**
	baz=5.3,SNR=6.7						
MVU	**Marysvale**	**6.28**	**27**	ePn	**Pn**	**09 42 16.6**	**+1.8**
	comp=N,6.2nm,0.9s						
MVU				eSn	**Sn**	**09 43 27.1**	**+0.9**
MSU	**Marysvale**	**6.30**	**27**	ePn	**Pn**	**09 42 17.3**	**+2.2**
PV10	**Paradox Valley**	**7.75**	**44**	ePn	**Pn**	**09 42 34.4**	**-0.6**
PV10				eSg	Sn	09 44 49.8	+47

*ISCJB **20** 09:44:49.6±0.7, 4097N±004×4835E±004, h2km±7km, Error ellipse: s-maj=7.7km s-min=5.1km az=22.4*
*TIF **20** 09:44:49.2, 4096N×4831E, h14km±1km*
*CSEM **20** 09:44:49.0±0.1, 4104N×4832E, h12km, mb4.2, Error ellipse: s-maj=4.1km s-min=2.8km az=165.0*
*THR **20** 09:44:52.4±0.3, 4066N×4823E, h15km, ML2.7*
*MOS **20** 09:44:58.0±1.2, 4156N×4810E, h25km, mb4.2/1, Error ellipse: s-maj=31.5km s-min=17.7km az=99.9*

ISC 20 09:44:50.6±0.6, 4098N±004×4835E±004, h6km±5km, n22, σ1§51/30, 1D, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PQL	**Pirkuli**	**0.27**	**137**	P	**Pg**	**09 44 54.9**	**-0.9**
	SNR=1000						
SIZA	**Siyzn**	**0.42**	**77**	P	**Pg**	**09 44 59.1**	**+0.3**
	SNR=196						
SIZA				S	**Sg**	**09 45 06.5**	**+2.2**
KSMR	**Kasumkent**	**0.64**	**345**	*i* PG	**Pg**	**09 45 02.5**	**-0.5**
KSMR				pmax	pmax		
	comp=Z,674nm,0.1s						
KSMR	**Kasumkent**	**0.64**	**345**	*i* Pg	**Pg**	**09 45 02.5**	**-0.5**
	comp=Z,674nm,0.1s						
SEKA	**Sheki**	**0.90**	**285**	P	**Pg**	**09 45 06.3**	**-1.6**
	SNR=104						
SEKA				S	**Sg**	**09 45 20.8**	**+1.2**
DRN	**Derbent**	**1.05**	**359**	⇓*i* PG	**Pg**	**09 45 09.8**	**-0.9**
DRN				pmax	pmax		
	comp=Z,131nm,0.2s						
DRN	**Derbent**	**1.05**	**359**	*i* Pg	**Pg**	**09 45 09.8**	**-0.9**
	comp=Z,131nm,0.2s						
BRDA	**Brd**	**1.15**	**232**	P	**Pg**	**09 45 12.1**	**-0.5**
	SNR=7.6						
BRDA				S	**Sg**	**09 45 29.2**	**+1.7**
URKR	**Urkarakh**	**1.30**	**336**	*i* PG	**Pn**	**09 45 11.0**	**-4.2**
URKR				pmax	pmax		
	comp=Z,100nm,0.2s						
URKR	**Urkarakh**	**1.30**	**336**	*i* Pg	**Pn**	**09 45 11.0**	**-4.2**
	comp=Z,100nm,0.2s						
KMKR	**Kumukh**	**1.48**	**321**	*e*PG	**Pn**	**09 45 15.0**	**-2.8**
KMKR				pmax	pmax		
	comp=Z,97nm,0.3s						
KMKR	**Kumukh**	**1.48**	**321**	*e*Pg	**Pn**	**09 45 15.0**	**-2.8**
	comp=Z,97nm,0.3s						
SGKR	**Sergokala**	**1.56**	**341**	*e*Pg	**Pn**	**09 45 17.0**	**-1.9**
GANJ	**Ganja**	**1.58**	**258**	P	**Pn**	**09 45 17.0**	**-2.1**
	SNR=81						
GANJ				S	**Sn**	**09 45 37.9**	**-1.9**
GRMI	**Germi**	**2.20**	**189**	*e*Pn	**Pn**	**09 45 25.8**	**-1.8**
GRMI				AML	AML	09 45 56.6	
	comp=E,95nm,0.3s						
DGRG	**David-gareji**	**2.30**	**283**	P	**Pn**	**09 45 30.0**	**+1.1**
DGRG				S	**Sn**	**09 45 59.0**	**+1.5**
MTA	**Mtatsminda**	**2.77**	**286**	P	**Pn**	**09 45 39.3**	**+3.8**
MTA				S	**Sn**	**09 46 13.2**	**+3.9**
TBLG	**Delisi**	**2.82**	**287**	P	**Pn**	**09 45 38.9**	**+2.7**
TBLG				S	**Sn**	**09 46 11.9**	**+1.5**
MAKU	**Maku**	**3.25**	**241**	*e*Pn	**Pn**	**09 45 41.8**	**-0.2**
MAKU				AML	AML	09 46 34.8	
	comp=E,18nm,0.4s						
ONI	**Oni**	**4.00**	**295**	P	**Pn**	**09 45 53.7**	**+1.3**
ONI				S	**Sb**	**09 46 49.6**	**-0.4**
CHTH	**Charan**	**5.51**	**156**	*e*Pn	**Pn**	**09 46 12.9**	**-0.3**
MRVT	**Maraveh tapeh**	**6.85**	**116**	*e*Pn	**Pn**	**09 46 34.0**	**+2.4**

*NEIC **20** 10:06:45.3, 3281S×7123W, h54km, MD3.7(GUC), After GUC.*

GUC 20 10:06:45.3±0.7, 3281S×7123W, h54km±5km, MD3.7, ML3.0, 10C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.41**	**237**	⇑*i*P	Pn	10 06 55.9	+0.2
IHA				*i* S	Sn	10 07 03.8	+0.5
PEL	**Peldehue**	**0.57**	**126**	⇓*i*P	Pn	10 06 58.3	+0.7
PEL				*i* S	Sn	10 07 07.9	+1.4
PEL				AML	AML	10 07 08.4	
	comp=E,4μm,0.3s						
SAN	**Santiago**	**0.80**	**144**	*i* S	Sn	10 07 12.5	+0.9
SAN				AML	AML	10 07 13.5	
	comp=E,445nm,0.2s						
CLCH	**Cerro Calan**	**0.83**	**135**	⇑*i*P	Pn	10 07 01.4	+0.5
CLCH				*i* S	Sn	10 07 13.4	+1.1
CLCH				AML	AML	10 07 15.8	
	comp=E,664nm,0.3s						
TACH	**Talagante**	**0.88**	**164**	⇑*i*P	Pn	10 07 02.2	+0.7
TACH				*i* S	Sn	10 07 14.3	+0.9
FSR	**Penalolen**	**0.89**	**139**	⇑*i*P	Pn	10 07 02.3	+0.6
FSR				*i* S	Sn	10 07 14.9	+1.2
FSR	**Penalolen**	**0.89**	**139**	⇑*i*P	Pn	10 07 02.3	+0.6
FSR				*i* S	Sn	10 07 14.9	+1.2
FSR				AML	AML	10 07 16.5	
	comp=E,556nm,0.5s						
FCH	**Farellones**	**0.95**	**124**	⇑*i*P	Pn	10 07 03.1	+0.7
FCH				*i* S	Sn	10 07 16.1	+1.1
FCH				AML	AML	10 07 17.0	
	comp=E,680nm,0.2s						
PCH	**Pirque**	**1.01**	**144**	⇑*i*P	Pn	10 07 03.8	+0.5
PCH				*i* S	Sn	10 07 17.5	+1.0
LNV	**Longovilo**	**1.16**	**187**	*e*P	Pn	10 07 05.4	+0.2
LNV				*i* S	Sn	10 07 20.8	+0.8
CHCH	**Chadas Angostu**	**1.22**	**157**	*e*P	Pn	10 07 06.8	+0.7
CHCH				*i* S	Sn	10 07 22.8	+1.1
LMEL	**Las Melosas**	**1.35**	**141**	⇑*i*P	Pn	10 07 08.7	+0.9
LMEL				*i* S	Sn	10 07 26.4	+1.7
LMEL	**Las Melosas**	**1.35**	**141**	⇑*i*P	Pn	10 07 08.7	+0.9
LMEL				*i* S	Sn	10 07 26.4	+1.7
LMEL				AML	AML	10 07 27.4	
	comp=N,569nm,0.1s						
CACH	**El Canelo**	**1.41**	**158**	⇓*i*P	Pn	10 07 10.1	+1.5
CACH				*i* S	Sn	10 07 28.9	+2.8
CMCH	**Combarbala**	**1.64**	**7**	*e*P	Pn	10 07 12.2	+0.4
CMCH				*i* S	Sn	10 07 33.2	+1.5
CMCH	**Combarbala**	**1.64**	**7**	*e*P	Pn	10 07 12.2	+0.4
CMCH				*i* S	Sn	10 07 33.2	+1.5
CMCH				AML	AML	10 07 40.1	
	comp=N,577nm,0.5s						
CICH	**Cipreses**	**1.65**	**156**	⇑*i*P	Pn	10 07 13.1	+1.2
CICH				*i* S	Sn	10 07 34.2	+2.1

*IDC **20** 10:08:21.7±0.8, 4627N×15558E, h0km, mb3.6/8, mb1 3.9/9, mb1mx3.8/21, mbtmp3.7/9, ML3.7/1, MS2.5/1, Ms1 2.5/1, ms1mx2.0/27, Error ellipse: s-maj=28.8km s-min=19.7km az=147.0*
*ISCJB **20** 10:08:24.6±0.7, 4630N±02×1553E±02, h33km, mb3.7/8, Error ellipse: s-maj=25.3km s-min=15.1km az=154.6*
*MOS **20** 10:08:24.5±1.7, 4653N×155.18E, h33km, mb4.1/4, Error ellipse: s-maj=36.6km s-min=21.1km az=75.8*

ISC 20 10:08:27.1±0.7, 4630N±02×1554E±02, h35km, n15, σ1§10/15, mb3.7/8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.39**	**6**	*e*PN	**Pn**	**10 09 25.5**	**-5.6**
ASAJ	**Asahikawa**	**9.31**	**261**	PN	**Pn**	**10 10 36.8**	**-1.8**
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,31nm,20.9s						
ASAJ	**Asahikawa**	**9.31**	**261**	Pn	**Pn**	**10 10 36.8**	**-1.9**
	comp=Z,0.8nm,0.3s,baz=126,slow=23,SNR=6.6						
ASAJ				LR	LR	10 13 55.7	
	comp=Z,31nm,20.9s,baz=42,slow=36						
KSRS	**Korea Array**	**22.21**	**256**	P	**P**	**10 13 22.5**	**+2.2**
	comp=Z,1.2nm,0.6s,mb3.5,baz=55,slow=11,SNR=4.0						
MKAR	**Makanchi Array**	**48.54**	**299**	P	**P**	**10 17 05.7**	**-0.7**
	comp=Z,0.2nm,0.2s,mb3.7,baz=69,slow=7.9,SNR=4.7						
YKA	**Yellowknife Ar**	**50.31**	**37**	P	**P**	**10 17 19.5**	**-0.2**
	comp=Z,0.1nm,0.5s,mb3.1,baz=296,slow=7.5,SNR=2.7						
NVAR	**Mina Array Bea**	**61.22**	**63**	P	**P**	**10 18 38.1**	**-0.1**
	comp=Z,0.9nm,0.9s,mb3.9,baz=284,slow=7.9,SNR=3.7						
FINES	**FINESS Array B**	**65.09**	**336**	P	**P**	**10 19 05.0**	**+1.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**65.09**	**336**	P	**P**	**10 19 05.0**	**+1.5**
	comp=Z,1.0nm,0.5s,mb4.1,baz=42,slow=7.0,SNR=10						
WRA	**Warramunga Arr**	**68.66**	**201**	P	**P**	**10 19 26.4**	**-0.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	**68.66**	**201**	P	**P**	**10 19 26.4**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.5,baz=22,slow=6.9,SNR=4.2						
ASAR	**Alice Springs**	**72.34**	**201**	P	**P**	**10 19 49.5**	**+0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**72.34**	**201**	P	**P**	**10 19 49.5**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=17,slow=5.0,SNR=8.6						
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**10 20 11.6**	**-0.7**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	**76.31**	**62**	P	**P**	**10 20 11.6**	**-0.7**
	comp=Z,0.8nm,0.5s,mb3.9,baz=304,slow=4.1,SNR=19						

BER 20 10:19:15.3±1.1, 7058N×773W, h10km, MD3.5, Jan Mayen Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNE	**Jan Mayen East**	**0.45**	**336**	*e*P	Pg	10 19 23.9	-0.2
JNE				*e*S	Sg	10 19 29.4	-0.6
JMI	**Jan Mayen**	**0.48**	**317**	*e*P	Pg	10 19 24.2	-0.4
JMI				*e*S	Sg	10 19 30.0	-1.0
JNW	**Jan Mayen West**	**0.51**	**333**	*e*P	Pg	10 19 23.3	-1.8

*GRAL **20** 10:22:08.2±0.4, 3349N×3652E, h29km±20km, MD2.8*
*ISCJB **20** 10:22:11.8±1.7, 3375N±005×354E±0.1, h0km, Error ellipse: s-maj=13.4km s-min=6.6km az=18.1*
*GII **20** 10:22:11.3±0.0, 3376N×3547E, h0km, ML1.9/1*

ISC 20 10:22:12.2±1.8, 3375N±005×353E±01, h0km, n5, σ1§04/9, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	**Bhannes**	**0.31**	**60**	*e*Pg	**Pg**	**10 22 22.9**	**+4.7**
BHL				*e*Sg	**Sg**	**10 22 34.2**	**+12**
RCY	**Rachaya**	**0.49**	**123**	*e*Pg	**Pg**	**10 22 19.4**	**-2.1**
RCY				*e*Sg	**Sg**	**10 22 27.3**	**-0.5**
KSDI	**Kefar Szold**	**0.62**	**153**	Pg	**Pg**	**10 22 23.8**	**-0.2**
KSDI				Sg	**Sg**	**10 22 33.7**	**+1.7**
HWQ	**Hawqa**	**0.74**	**44**	*e*Sg	**Sg**	**10 22 36.6**	**+0.7**
MMLI	**Mount Malkishu**	**1.31**	**177**	Pn	**Pn**	**10 22 37.3**	**-0.4**
MMLI				Sn	**Sn**	**10 22 56.1**	**+0.3**

IDC 20 10:31:04.1±6.8, 1859S×16684E, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.5/12, mbtmp3.6/2, Error ellipse: s-maj=291.0km s-min=98.4km az=155.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**30.68**	**262**	P	P	10 37 21.2	+0.5
	0.3nm,0.7s,baz=92,slow=7.3,SNR=3.3						
ASAR	**Alice Springs**	**31.09**	**255**	P	P	10 37 24.0	-0.3
	1.2nm,0.7s,baz=81,slow=8.1,SNR=16						
GERES	**GERESS Array B**	**142.82**	**330**	PKP	PKPdf	10 50 39.4	0.0
	0.7nm,0.7s,baz=58,slow=3.7,SNR=3.6						

*BJI **20** 10:43:49.4, 2131N×14434E, h60km, mB4.9, mb4.7, Ms4.5, Msz4.2*
*MOS **20** 10:43:55.3±0.7, 2184N×14303E, h31km, mb4.8/21, Error ellipse: s-maj=16.3km s-min=8.8km az=97.4*
*ISCJB **20** 10:43:56.3±1.6, 2180N±006×14307E±004, h34km±14km, mb4.6/55, MS3.8/15, Error ellipse: s-maj=9.6km s-min=6.6km az=14.9*
*NEIC **20** 10:44:03.4±1.7, 2179N×143.14E, h89km±15km, mb4.6/33, Error ellipse: s-maj=8.3km s-min=5.6km az=100.0*
*IDC **20** 10:44:06.3±6.5, 2177N×14307E, h115km±60km, mb3.8/11, mb1 3.9/12, mb1mx3.9/22, mbtmp3.7/12, MS3.6/15, Ms1 3.6/15, ms1mx3.4/43, Error ellipse: s-maj=29.9km s-min=12.8km az=87.0*

ISC 20 10:44:01.2±1.3, 2179N±005×14313E±004, h64km±11km, h65km±1.6km: pP-P, n210, σ0§69/205, mb4.6/55, 49C-50D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.36**	**351**	LR	LR	10 46 57.9	
	comp=Z,208nm,18.6s,baz=154,slow=32						
GUMO	**Guam**	**8.32**	**168**	LR	LR	10 48 47.2	
	comp=Z,173nm,19.2s,baz=167,slow=34						
JHJ	**Hachijo jima 2**	**11.67**	**346**	LR	LR	10 50 44.4	
	comp=Z,235nm,19.5s,baz=310,slow=34						
JOW	**Kunigami**	**14.44**	**293**	LR	LR	10 51 59.2	
	comp=Z,253nm,18.4s,baz=113,slow=33						
MJAR	**Matsushiro Arr**	**15.31**	**345**	P	**Pn**	**10 47 35.8**	**+2.3**
MJAR				LR	LR	10 52 59.1	
MJAR	**Matsushiro Arr**	**15.31**	**345**	P	**Pn**	**10 47 35.8**	**+2.3**
	0.1nm,0.3s,baz=157,slow=13,SNR=3.9						
MJAR				LR	LR	10 52 59.2	
	comp=Z,356nm,19.6s,baz=160,slow=35						
MAJO	**Matsushiro**	**15.32**	**345**	*e*P	**Pn**	**10 47 34.3**	**+0.8**
MAJO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
MAJO	**Matsushiro**	**15.32**	**345**	*e*P	**Pn**	**10 47 34.3**	**+0.8**
	comp=Z,4.8nm,0.8s						
JNU	**Nakatsue**	**15.66**	**319**	LR	LR	10 52 54.7	
	comp=Z,67nm,18.6s,baz=230,slow=34						
KSRS	**Korea Array**	**20.41**	**323**	P	**P**	**10 48 35.6**	**+2.6**
	comp=Z,4.1nm,1.0s,baz=136,slow=12,SNR=12						
KSRS				LR	LR	10 55 18.5	
	comp=Z,144nm,18.5s,baz=14,slow=33						
INCN	**Inchon**	**21.17**	**321**	*e*P	**P**	**10 48 38.1**	**-3.1**

comp=Z,112nm,6.2s
LZH LR LR
comp=N,615nm,13.7s
LZH LR LR
comp=Z,813nm,17.9s
KMI Kunming 37.11 283 P P 10 51 06.3 +0.6
KMI AMB AMB
comp=Z,11nm,0.5s,mb4.9
KMI LR LR
comp=Z,90nm,26.0s
MA2 Magadan 38.15 6⇑ eP P 10 51 13.1 -0.9
MA2 pmax pmax
comp=Z,14nm,2.1s,mb4.3
ULN Ulaanbaatar 38.87 321⇑ eP P 10 51 19.5 -0.7
ULN Ulaanbaatar 38.87 321 eP P 10 51 19.9 -0.3
comp=Z,2.0nm,0.7s,mb4.0
SONM Songino Array 39.24 320 P P 10 51 22.7 -0.6
comp=Z,1.7nm,0.8s,mb3.8,baz=126,slow=9.3,SNR=7.0
SONM LR LR 11 08 51.3
comp=Z,103nm,18.0s,baz=92,slow=38
GTA Gaotai 40.78 306 eP P 10 51 36.6 +0.4
GTA AP pP 10 51 52.6 +0.3
GTA XP sP 10 51 58.8 -0.9
GTA PP PP 10 53 13.3 +2.1
GTA S **S 10 57 42.1 -0.3**
GTA AMB AMB
comp=Z,4.0nm,1.0s,mb4.0
GTA AMB AMB
comp=Z,74nm,5.0s
GTA LR LR
comp=N,100nm,14.1s
GTA LR LR
comp=E,94nm,16.0s
GTA LR LR
comp=Z,106nm,14.9s
YAK Yakutsk 41.27 350 eP P 10 51 37.9 -2.0
YAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.3
CHTO Chiang Mai 41.45 274 eP P 10 51 43.5 +1.6
CHTO pmax pmax
comp=Z,13nm,1.5s,mb4.3
CHTO Chiang Mai 41.45 274 eP P 10 51 43.5 +1.5
comp=Z,13nm,1.5s,mb4.3
SEY Seymchan 41.60 6⇑ eP P 10 51 42.2 -0.4
CTA Charters Tower 41.73 176 P P 10 51 44.5 +0.4
comp=Z,9.2nm,1.0s,mb4.4,baz=11,slow=9.8,SNR=5.2
CTAO Charters Tower 41.73 176 eP P 10 51 44.0 -0.1
CTAO pmax pmax
comp=Z,7.0nm,0.9s,mb4.3
CTAO Charters Tower 41.73 176 eP P 10 51 44.0 -0.1
comp=Z,6.8nm,0.9s,mb4.3
ZAK Zakamensk 42.24 322⇑ iP P 10 51 46.6 -1.4
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.0
WRAB Tennant Creek 42.34 192⇓ eP P 10 51 49.2 +0.1
WRAB Tennant Creek 42.34 192 eP P 10 51 48.2 -0.9
comp=Z,18nm,1.1s,mb4.6
WB2 Warramunga Arr 42.35 192 eP P 10 51 48.7 -0.4
WRA Warramunga Arr 42.35 192 P P 10 51 48.5 -0.7
comp=Z,11nm,1.1s,mb4.4,baz=11,slow=8.9,SNR=15
ASAR Alice Springs 46.06 192 P P 10 52 18.1 -0.7
comp=Z,2.7nm,0.7s,mb4.3,baz=10,slow=6.5,SNR=28
BILL Bilibino 48.44 11⇑ eP P 10 52 36.1 -0.7
BILL pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
BILL Bilibino 48.44 11 eP P 10 52 35.7 -1.1
comp=Z,4.6nm,1.3s,mb4.3
WMQ Urumqi 50.49 309 P P 10 52 53.0 +0.3
WMQ AP pP 10 53 09.0 -0.3
WMQ PP PP 10 54 50.0 +1.1
WMQ S **S 11 00 01.0 -0.9**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,45nm,5.0s
WMQ LR LR
comp=N,98nm,14.0s
WMQ LR LR
comp=E,152nm,13.0s
WMQ LR LR
comp=Z,54nm,12.0s
TIXI Tiksi 50.56 354 eP P 10 52 49.5 -3.3
TIXI pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
STKA Stephens Creek 53.38 182 eP P 10 53 13.9 -0.3
comp=Z,5.1nm,1.0s,mb4.4
STKA Stephens Creek 53.38 182 P P 10 53 14.0 -0.2
comp=Z,4.2nm,0.8s,mb4.4,baz=349,slow=13,SNR=5.5
MK31 Makanchi Array 54.60 313 eP P 10 53 23.1 0.0
MKAR Makanchi Array 54.60 313 i P P 10 53 22.6 -0.5
MKAR Makanchi Array 54.60 313 P P 10 53 23.5 +0.4
comp=Z,0.3nm,0.3s,mb3.9,baz=91,slow=9.9,SNR=7.1
MKAR LR LR 11 17 07.7
comp=Z,48nm,18.2s,baz=180,slow=36
CHGN Chignik 54.73 36 eP P 10 53 20.8 -3.1
NVS Novosibirsk 55.20 322 eP P 10 53 26.1 -1.2
NVS pmax pmax
comp=Z,22nm,2.0s,mb4.8
NVS pmax pmax
comp=E,15nm,1.6s
SVW2 Sparrevohn 57.36 30 eP P 10 53 42.1 -0.4
KURK Kurchatov 57.38 317⇑ eP P 10 53 42.1 -0.8
KURK Kurchatov 57.38 317 eP P 10 53 41.7 -1.1
comp=E,10nm,1.3s,mb4.7
TKM2 Tokmak 2 59.25 308 eP P 10 53 56.3 +0.2
TKM2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TKM2 Tokmak 2 59.25 308 eP P 10 53 56.3 +0.2
comp=Z,7.5nm,1.1s,mb4.6
UCH Uchtor 60.08 307 eP P 10 54 03.0 +1.2
comp=Z,21nm,1.3s,mb5.0
AML Almayashu 60.70 307 eP P 10 54 06.3 +0.3
comp=Z,6.0nm,1.1s,mb4.6
BRVK Borovoye 62.64 320 eP P 10 54 17.5 -1.3
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
BRVK Borovoye 62.64 320 eP P 10 54 17.5 -1.3
comp=Z,5.9nm,1.0s,mb4.7
DAWY Dawson 65.17 28 eP P 10 54 34.5 -0.8
INK Inuvik 67.51 24 eP P 10 54 49.5 -0.7
INK pmax pmax
comp=Z,134nm,0.9s
INK Inuvik 67.51 24 eP P 10 54 49.5 -0.7
comp=Z,134nm,0.9s,mb6.0
INK Inuvik 67.51 24 P P 10 54 49.4 -0.8
comp=Z,4.0nm,1.0s,mb4.4,baz=260,slow=5.8,SNR=7.7
INK LR LR 11 25 46.7
comp=Z,46nm,18.3s,baz=190,slow=37
ARU Arti 69.17 324 d iP P 10 54 59.5 -1.2
ARU e pP 10 55 18.3 +0.3
ARU e 10 57 32.8
ARU eS S 11 04 05.9 +4.5
ARU eSS SS 11 08 31.2 +3.0
ARU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
DLBC Dease Lake 70.08 34 eP P 10 55 05.7 -0.7
YKW3 Yellowknife Ar 76.37 28 eP P 10 55 42.8 -0.5
YKA Yellowknife Ar 76.40 28 i P P 10 55 42.2 -1.3
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 76.40 28 P P 10 55 42.4 -1.1
YKA Yellowknife Ar 76.40 28 P P 10 55 42.3 -1.1
comp=Z,1.4nm,0.5s,mb4.2,baz=293,slow=5.9,SNR=29
YKA LR LR 11 26 41.6
comp=Z,45nm,19.9s,baz=210,slow=33
PPT Papeete 76.61 115 LR LR 11 27 26.9
comp=Z,141nm,19.6s,baz=301,slow=34
A08A Turner Farm, O 78.67 42 ⇓P P 10 55 56.0 -0.4
baz=78
YBH Yreka Blue Hor 78.80 50 ⇓P P 10 55 57.6 +0.3
baz=79
M02C Callahan 78.81 50 ⇓P P 10 55 57.7 +0.4
baz=79
B08A Colville Reser 78.84 42 ⇓P P 10 55 57.4 0.0
baz=79
I05A Bend 79.00 47 ⇓P P 10 55 58.7 +0.4
baz=79
K04A Chilquin 79.20 48 ⇑P P 10 55 59.5 +0.1
baz=79
J05A Fort Rock 79.31 48 ⇓P P 10 56 00.6 +0.6
baz=79
M03C McCloud 79.37 50 ⇑P P 10 56 00.7 +0.3
baz=79
M04C Macdoel 79.40 49 ⇑P P 10 56 00.5 0.0
baz=79
O04C Chester 80.44 50 P P 10 56 06.7 +0.5
baz=80,SNR=7.2
MOD Modoc 80.44 49 ⇓P P 10 56 06.7 +0.5
baz=80
M06C Likely Place G 80.56 49 ⇓P P 10 56 07.5 +0.7
baz=80
J07A Hines 80.60 47 ⇓P P 10 56 07.7 +0.7
baz=80
B11A Sandpoint 80.65 42 ⇑P P 10 56 06.5 -0.7
baz=80
K07A Rock Creek Ran 80.89 48 ⇑P P 10 56 08.5 0.0
baz=81,SNR=5.7
G09A Cove 80.93 45 ⇑P P 10 56 09.2 +0.5
baz=81
L07A Adell 81.07 48 ⇑P P 10 56 10.0 +0.4
baz=81,SNR=5.2
BEKR Beckwourth 81.12 51 P P 10 56 09.9 +0.1
baz=81,SNR=6.7
P05C Yuba Gap, Truc 81.14 51 ⇓P P 10 56 09.8 -0.2
baz=81
J08A Circle Bar Ran 81.17 47 ⇑P P 10 56 10.1 0.0
baz=81
N06A Buffalo Meadow 81.18 50 ⇑P P 10 56 10.1 0.0
baz=81
D11A Klaveano Farm, 81.20 43 ⇑P P 10 56 09.6 -0.5
baz=81
LAVA Lava Cap Winer 81.23 52 ⇑P P 10 56 10.2 -0.3
baz=81
G10A Bishop Farm, J 81.36 45 ⇑P P 10 56 10.8 -0.2
baz=81
OBN Obninsk 81.39 326 i P P 10 56 09.9 -1.0
OBN e 10 56 17.1
OBN pmax pmax
comp=Z,11nm,1.1s,mb4.7
O06A Flanigan 81.39 50 ⇓P P 10 56 11.1 -0.2
baz=81
K08A Mann Creek Ran 81.40 47 ⇓P P 10 56 11.0 -0.2
baz=81
E11A Bogner Ranch, 81.55 43 ⇑P P 10 56 11.5 -0.5
baz=81
J09A Fry Pan Ranch, 81.67 47 ⇓P P 10 56 12.6 -0.1
baz=82,SNR=5.1
L08A Fields 81.69 48 ⇑P P 10 56 13.0 +0.1
baz=82,SNR=6.5
CMB Columbia Colle 81.75 52 eP P 10 56 11.9 -1.3
CMB pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
CMB Columbia Colle 81.75 52 eP P 10 56 11.9 -1.3
comp=Z,6.3nm,1.4s,mb4.3
BSMT Bassoo Peak 81.86 42 eP P 10 56 13.8 +0.3
WALA Waterton Lakes 81.91 40 eP P 10 56 13.1 -0.7
comp=Z,2.1nm,0.6s,mb4.2
C13A Hot Springs 82.06 42 ⇓P P 10 56 14.7 +0.1
baz=82
L09A Wilkinson Ranc 82.23 48 ⇓P P 10 56 15.8 +0.2
baz=82
KIV Kislovodsk 82.33 314 i P P 10 56 16.5 +0.4
KIV pmax pmax
comp=Z,12nm,1.5s,mb4.6
T06C Millerton Lake 82.62 53 ⇑P P 10 56 17.5 -0.3
baz=82,SNR=5.5
NVAR Mina Array Bea 83.13 51 P P 10 56 20.4 +0.1
comp=Z,3.1nm,0.9s,mb4.3,baz=262,slow=6.0,SNR=19
G13A Cobalt 83.32 44 ⇓P P 10 56 20.8 -0.4
baz=83
L11A Cat Creek Ranc 83.48 47 ⇑P P 10 56 22.6 +0.5
baz=83
H13A Challis 83.52 45 ⇑P P 10 56 21.9 -0.3
baz=83,SNR=5.1
P09A Austin 83.54 50 ⇑P P 10 56 22.4 0.0
baz=83
L12A House Creek Ra 83.99 47 ⇑P P 10 56 25.2 +0.4
baz=84,SNR=5.7
R09A Tonopah 84.10 51 ⇓P P 10 56 25.3 0.0
baz=84,SNR=5.8
F15A Butte 84.12 43 ⇓P P 10 56 24.9 -0.4
baz=84,SNR=5.8
LRM Limekiln Ridge 84.15 43 eP P 10 56 25.3 -0.1
S09A Goldfield 84.19 52 ⇓P P 10 56 26.0 +0.2
baz=84
M12A Wells 84.36 48 ⇓P P 10 56 27.1 +0.5
baz=84,SNR=5.5
G15A Dillon 84.41 44 ⇓P P 10 56 27.2 +0.4
baz=84
K13A Stover Farm, H 84.42 46 P P 10 56 27.5 +0.6
baz=84,SNR=5.2
N12A Clover Valley, 84.50 48 ⇑P P 10 56 27.8 +0.4
baz=84
S10A Tonopah Range, 84.57 51 ⇓P P 10 56 27.9 +0.1
baz=84,SNR=6.0
MPMC Manual Prospec 84.64 53 P P 10 56 27.9 -0.2
baz=84,SNR=5.3
LRMC Laurel Mountai 84.71 54 ⇓P P 10 56 28.2 -0.3
baz=84
EDW2 Edwards Air Fo 84.72 55 ⇑P P 10 56 28.4 -0.1
baz=84
BOZ Bozeman (W) 84.75 43 eP P 10 56 28.5 0.0
BOZ pmax pmax
comp=Z,8.0nm,1.7s,mb4.6
BOZ Bozeman (W) 84.75 43 eP P 10 56 28.5 0.0
comp=Z,7.7nm,1.7s,mb4.6
BOZ Bozeman (W) 84.75 43 ⇑P P 10 56 28.5 0.0
baz=84
EGMT Eagleton 84.85 40 eP P 10 56 27.0 -2.0
comp=Z,13nm,1.4s,mb4.9
EGMT Eagleton 84.85 40 ⇓P P 10 56 28.2 -0.7
baz=85
Q11A Duckwater 84.88 50 ⇓P P 10 56 29.0 -0.3
baz=85
M13A Montello 84.89 47 ⇑P P 10 56 29.1 -0.2
baz=85
O12A Currie 84.94 49 P P 10 56 29.8 +0.2
baz=85,SNR=6.7
R11A Troy Canyon, C 85.13 51 ⇑P P 10 56 30.6 0.0
baz=85,SNR=5.2
P12A McGill 85.15 49 ⇑P P 10 56 30.6 0.0
baz=85
TPNV Topopah Spring 85.21 52 eP P 10 56 30.2 -0.8
TPNV pmax pmax
comp=Z,23nm,1.8s,mb5.0
TPNV Topopah Spring 85.21 52 eP P 10 56 30.2 -0.8
comp=Z,23nm,1.8s,mb5.0
TPNV Topopah Spring 85.21 52 ⇓P P 10 56 30.9 -0.1
baz=85
QLMT Earthquake Lak 85.23 43 eP P 10 56 31.7 +0.8
M14A Sheep Mountain 85.39 47 ⇓P P 10 56 32.1 +0.3
baz=85,SNR=6.0
GSC Goldstone 85.45 54 ⇑P P 10 56 32.7 +0.5
baz=85
SHOC Shoshone 85.60 53 ⇓P P 10 56 33.0 +0.1
baz=85
FFC Flin Flon 85.78 32 eP P 10 56 33.3 -0.1
FFC pmax pmax
comp=Z,19nm,1.1s,mb5.2
FFC Flin Flon 85.78 32 eP P 10 56 33.3 -0.1
comp=Z,19nm,1.1s,mb5.2
P13A Bates Ranch, G 85.79 49 ⇓P P 10 56 33.9 +0.1
baz=86,SNR=10
R12A Pony Springs, 85.84 50 ⇓P P 10 56 34.3 +0.2
baz=86,SNR=7.7
T11A Corn Creek, Al 85.84 52 ⇑P P 10 56 34.6 +0.5
baz=86
IMW Indian Meadow 85.96 44 eP P 10 56 34.5 -0.1
comp=Z,7.2nm,1.0s,mb4.9
HEC Hector,Ludlow 85.99 54 ⇓P P 10 56 34.9 -0.1
baz=86
Q13A Wheeler Ranch, 86.00 50 ⇑P P 10 56 35.1 +0.3
baz=86
FLWY Flagg Ranch 86.03 44 eP P 10 56 35.5 +0.6
comp=Z,20nm,1.5s,mb5.1
TUQ Turquoise Mtn. 86.05 53 ⇑P P 10 56 35.2 0.0
baz=86
TPAW Teton Pass 86.13 45 eP P 10 56 35.4 0.0
comp=Z,10nm,1.5s,mb4.8
MOOW Moose Ponds 86.15 44 eP P 10 56 35.2 -0.3
comp=Z,16nm,2.0s,mb4.9
SHPR Sheep Range 86.19 52 eP P 10 56 36.2 +0.4
N15A Stansbury Isla 86.22 47 ⇑P P 10 56 35.8 -0.1
baz=86
REDW Red Top Meadow 86.25 45 eP P 10 56 35.6 -0.4
comp=Z,12nm,1.6s,mb4.9
LOHW Long Hollow 86.30 44 eP P 10 56 36.5 +0.2
comp=Z,4.0nm,1.2s,mb4.5
DUG Dugway 86.32 48 eP P 10 56 36.5 +0.1
DUG pmax pmax
comp=Z,14nm,1.4s,mb5.0
DUG Dugway 86.32 48 eP P 10 56 36.5 +0.1
comp=Z,14nm,1.4s,mb5.0
DUG Dugway 86.32 48 ⇓P P 10 56 36.5 +0.1
baz=86,SNR=7.8
PFO Pinyon Flat Ob 86.39 55 ⇓P P 10 56 36.7 -0.1
baz=86
HWUT Hardware Ranch 86.56 46 eP P 10 56 37.7 +0.2
comp=Z,12nm,1.2s,mb5.0
BELC Belle Mtn. 86.58 55 ⇓P P 10 56 37.9 +0.1
baz=86
S13A Holt Ranch, En 86.69 51 ⇑P P 10 56 38.5 +0.2
baz=86,SNR=5.4
MONP Monument Peak 86.70 56 ⇑P P 10 56 38.2 -0.3
baz=86
V12A Nelson 86.73 53 ⇓P P 10 56 38.6 +0.1
baz=86,SNR=5.8
T13A Saint George 86.89 51 ⇑P P 10 56 39.7 +0.4
baz=87,SNR=7.4
FCC Fort Churchill 86.98 26 eP P 10 56 38.1 -1.2
FCC pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
FCC Fort Churchill 86.98 26 eP P 10 56 38.0 -1.2
comp=Z,10nm,1.1s,mb5.0
JLU Jordanelle 87.08 47 eP P 10 56 39.7 -0.4
U13A Pakoon Wash 87.10 52 ⇑P P 10 56 40.7 +0.4
baz=87
S14A Cedar City 87.11 50 ⇑P P 10 56 40.5 +0.2
baz=87
BC3 Big Chuckw Mtn 87.13 55 ⇓P P 10 56 40.9 +0.4
baz=87
IRM Iron Mountain 87.15 54 ⇓P P 10 56 41.0 +0.4
baz=87
V13A Grand Canyon W 87.32 52 ⇑P P 10 56 41.5 +0.2
baz=87
AKASG Malin Array Be 87.41 324 i P P 10 56 39.2 -2.3
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 87.41 324 P P 10 56 39.3 -2.2
comp=Z,0.7nm,0.6s,mb4.0,baz=44,slow=5.0,SNR=5.4
T14A Hurricane 87.47 51 ⇓P P 10 56 42.3 +0.2
baz=87,SNR=6.4
MSU Marysvale 87.49 49 eP P 10 56 42.4 +0.3
U14A Mt Trumbull 87.67 52 P P 10 56 43.5 +0.4
baz=88,SNR=6.0
W13A Hualapai Mount 87.71 53 ⇓P P 10 56 43.6 +0.3
baz=88
GLA Glamis 87.86 55 eP P 10 56 43.9 -0.1
GLA pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
GLA Glamis 87.86 55 eP P 10 56 43.9 -0.1
comp=Z,2.5nm,0.8s,mb4.5
GLA Glamis 87.86 55 ⇓P P 10 56 44.3 +0.2
baz=88
PDMCI Parker Dam,Lak 87.86 54 ⇓P P 10 56 44.4 +0.4
baz=88
X13A Yucca 87.97 54 ⇑P P 10 56 44.6 +0.2
baz=88,SNR=5.3
W14A Seligman 88.26 53 ⇑P P 10 56 46.4 +0.5
baz=88
Y13A Salome 88.30 54 ⇓P P 10 56 46.4 +0.3
baz=88
SRU San Rafael 88.38 48 eP P 10 56 45.7 -0.7
SRU pmax pmax
comp=Z,2.0nm,1.0s,mb4.3
SRU San Rafael 88.38 48 eP P 10 56 45.7 -0.6
comp=Z,1.5nm,1.0s,mb4.2
V15A Kaibab Nationa 88.66 52 ⇓P P 10 56 48.4 +0.7
baz=88,SNR=5.2
Y14A Wickenburg 88.86 54 ⇓P P 10 56 48.8 +0.1
baz=89,SNR=6.5
W15A Williams 88.88 52 ⇑P P 10 56 49.6 +0.8
baz=89
X15A Humboldt 89.20 53 ⇓P P 10 56 51.0 +0.7
baz=89,SNR=6.1
Y15A Casa Rosa Ranc 89.36 54 ⇓P P 10 56 51.4 +0.4
baz=89,SNR=7.8
WUAZ Wupatki 89.38 52 eP P 10 56 51.2 +0.1
comp=Z,11nm,1.7s,mb4.9
WUAZ Wupatki 89.38 52 ⇑P P 10 56 51.9 +0.8
baz=89
PV10 Paradox Valley 89.75 48 eP P 10 56 52.7 -0.1
X16A Lo Mia Camp, P 89.82 53 ⇑P P 10 56 54.0 +0.8
baz=90
Y16A Circle Bar Ran 90.03 53 ⇓P P 10 56 55.0 +0.8
baz=90
PV01 Paradox Valley 90.19 48 eP P 10 56 54.7 -0.2
SMCO Snowmass 90.79 47 eP P 10 56 57.3 -0.3
comp=Z,9.1nm,1.1s,mb5.0
216A Three Points, 90.88 55 ⇓P P 10 56 59.4 +1.2
baz=91
X19A St. Johns 91.40 52 ⇑P P 10 57 01.5 +0.9
baz=91
SDCO Great Sand Dun 92.50 48 eP P 10 57 05.2 -0.4
comp=Z,3.2nm,1.4s,mb4.5
ANMO Albuquerque 93.20 50⇑ eP P 10 57 09.1 +0.2
TXAR Lajitas Array 98.04 54 LR LR 11 39 51.6
comp=Z,37nm,19.1s,baz=5.0,slow=34
SCHQ Schefferville 99.49 17 LR LR 11 39 58.6
comp=Z,65nm,21.1s,baz=121,slow=34
LPAZ La Paz 149.98 85 ePKIHP PKPbc 11 03 45.4 +0.2
LPAZ La Paz 149.98 85 PKPbc PKPbc 11 03 45.5 +0.3
comp=Z,4.7nm,1.1s,baz=355,slow=3.6,SNR=9.1
LPAZ PKPab PKPab 11 03 51.7 +0.6
comp=Z,4.4nm,0.9s,baz=304,slow=2.6,SNR=12

ISCJB ***20*** *11:44:19.9±1.5,3032N±005×3594E±009,h11km±11km, Error ellipse: s-maj=13.9km s-min=6.5km az=21.9*
SGS ***20*** *11:44:19.8,3049N×3566E,h6km*
GII ***20*** *11:44:21.7±1.0,3034N×3578E,h0km,ML2.5/6*
ISC 20 10:44:19.5±1.1,3027N±003×3601E±006,h0km,n11,
σ0:96/17,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.77**	**292**	Pg	**Pg**	**10 44 33.9**	**-0.4**
ZFRI				Sg	**Sg**	**10 44 43.1**	**-1.2**
PRNI	**Paran**	**0.87**	**276**	Pg	**Pg**	**10 44 35.9**	**-0.3**
PRNI				Sg	**Sg**	**10 44 46.0**	**-1.5**
HRFI	**Mount Harif**	**0.87**	**255**	Pg	**Pg**	**10 44 35.8**	**-0.5**
HRFI				Sg	**Sg**	**10 44 47.8**	**+0.3**
MBH	**Mount Berech**	**1.06**	**244**	Pg	**Pg**	**10 44 40.6**	**+0.8**
MBH				Sg	**Sg**	**10 44 55.2**	**+1.7**
EIL	**Elat**	**1.10**	**237**	Pg	**Pg**	**10 44 41.1**	**+0.6**
EIL				Sg	**Sg**	**10 44 56.4**	**+1.7**
HQLS		**1.27**	**221**	S	**Sg**	**10 44 59.6**	**-0.7**
HQLS		**1.27**	**221**	P	**Pg**	**10 44 42.4**	**-1.4**
DSI	**Dead Sea**	**1.40**	**338**	Pg	**Pg**	**10 44 47.1**	**+0.7**
DSI				Sg	**Sg**	**10 45 05.6**	**+1.0**
JLOS		**1.60**	**197**	S	**Sn**	**10 45 10.6**	**+0.4**
JLOS		**1.60**	**197**	P	**Pn**	**10 44 48.9**	**0.0**
RSHS		**2.23**	**209**	P	**Pn**	**10 44 56.5**	**-1.2**

ISCJB ***20*** *11:06:18.4±1.6,3648N±004×14254E±007,h21km±13km, mb4.0/2,Error ellipse: s-maj=10.1km s-min=6.5km az=8.3*
JMA ***20*** *11:06:18.9±0.2,3646N×14255E,h87km,M3.2*
IDC ***20*** *11:06:21.8±1.5,3683N×14220E,h0km,mb3.9/4, mb1 3.8/7,mb1mx3.7/22,mbtmp3.8/7,ML3.5/2,Error ellipse: s-maj=37.6km s-min=20.1km az=72.0*
ISC 20 11:06:19.7±2.1,3648N±004×14254E±009,h23km±21km,
n18,σ0:81/28,mb4.0/2,Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONAJ	**Iwakimizuishiy**	**1.53**	**294**	P	**Pn**	**11 06 45.4**	**-0.2**
ONAJ				eS	**Sn**	**11 07 05.4**	**+0.5**
CHOJ	**Chosi**	**1.57**	**241**	P	**Pn**	**11 06 45.2**	**-0.9**
CHOJ				eS	**Sn**	**11 07 05.5**	**-0.2**
JHO	**Hitachi**	**1.60**	**275**	P	**Pn**	**11 06 46.0**	**-0.5**
JFK	**Kawauchi**	**1.60**	**304**	P	**Pn**	**11 06 46.7**	**+0.1**
JFK				eS	**Sn**	**11 07 06.9**	**+0.3**
JMM	**Marumori**	**1.97**	**315**	P	**Pn**	**11 06 51.3**	**-0.3**
JMM				eS	**Sn**	**11 07 15.7**	**+0.1**
BSO1	**Boso 1**	**2.22**	**216**	P	**Pn**	**11 06 54.6**	**-0.5**
BSO1				eS	**Sn**	**11 07 22.1**	**+0.2**
JAG	**Ashikaga**	**2.49**	**270**	P	**Pn**	**11 06 58.7**	**-0.1**
JAG				eS	**Sn**	**11 07 28.6**	**+0.1**
JMK	**Ichinoseki**	**2.68**	**337**	P	**Pn**	**11 07 00.9**	**-0.6**
JMK				eS	**Sn**	**11 07 33.1**	**-0.1**
JRY	**Ryogami san**	**2.98**	**262**	P	**Pn**	**11 07 05.4**	**-0.1**
JRY				eS	**Sn**	**11 07 40.1**	**-0.4**
MJAR	**Matsushiro Arr**	**3.49**	**272**	Pn	**Pn**	**11 07 13.4**	**+0.8**
	2.1nm,0.3s,baz=92,slow=8.6,SNR=43						
MJAR				Sn	**Sn**	**11 07 58.0**	**+4.8**
	2.2nm,0.3s,baz=91,slow=15,SNR=4.9						
MAT	**Matsushiro**	**3.50**	**272**	P	**Pn**	**11 07 13.8**	**+1.2**

MAT eS Sn 11 07 52.4 -0.8
JHJ Hachijo jima 2 4.05 215 Pn Pn 11 07 20.6 +0.4
72nm,0.3s,baz=249,slow=17,SNR=29
JHJ Sn Sn 11 08 03.5 -3.5
32nm,0.3s,baz=105,slow=23,SNR=5.7
ASAJ Asahikawa 7.63 0 Pn Pn 11 08 09.7 +0.3
1.1nm,0.3s,baz=103,slow=25,SNR=10
ASAJ Sn Sn 11 09 33.4 -1.7
0.4nm,0.3s,baz=214,slow=24,SNR=3.3
KSRS Korea Array 11.74 279 Pn Pn 11 09 06.2 +0.5
baz=94,slow=14,SNR=3.3
SONM Songino Array 28.85 305 P P 11 12 19.0 +2.8
3.3nm,0.8s,mb4.1,baz=102,slow=9.5,SNR=14
MKAR Makanchi Array 45.18 303 P P 11 14 36.0 +1.4
1.5nm,0.6s,mb4.0,baz=84,slow=11,SNR=11
WRA Warramunga Arr 56.65 189 P pP 11 16 08.9 +0.7
0.4nm,0.3s,baz=3.2,slow=7.8,SNR=19
ASAR Alice Springs 60.37 189 P pP 11 16 34.8 +0.6
0.3nm,0.5s,baz=1.7,slow=6.4,SNR=9.2

IDC 20 11:06:43.9±4.9, 819S×15776E, h0km, mb4.1/3, mb1 4.1/5, mb1mx3.8/15, mbtmp4.0/5, ML3.8/2, Error ellipse: s-maj=100.0km s-min=24.1km az=8.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**2.49**	**120**	Pn	Pn	11 07 25.2	-0.5
	38nm,0.3s,baz=240,slow=6.7,SNR=15						
HNR				Sn	Sn	11 07 59.0	+2.2
	78nm,0.3s,baz=270,slow=23,SNR=9.5						
CTA	**Charters Tower**	**16.25**	**222**	Pn	Pn	11 10 33.1	-0.5
	0.2nm,0.3s,baz=58,slow=9.5,SNR=2.3						
WB2	**Warramunga Arr**	**25.49**	**240**	*eP*	P	11 12 15.1	+1.0
WRA	**Warramunga Arr**	**25.50**	**240**	P	P	11 12 14.6	+0.4
	2.5nm,0.7s,baz=68,slow=9.2,SNR=28						
ASAR	**Alice Springs**	**27.55**	**233**	P	P	11 12 31.9	-0.8
	1.2nm,1.0s,baz=62,slow=9.9,SNR=6.5						
STKA	**Stephens Creek**	**27.96**	**210**	*eP*	P	11 12 37.6	+1.4
	4.6nm,0.8s						
STKA	**Stephens Creek**	**27.96**	**210**	P	P	11 12 36.9	+0.7
	5.1nm,0.8s,baz=44,slow=11,SNR=7.3						

*SOF **20** 11:09:05.5, 4364N×2147E, h13km, MD3.3*
*ISCJB **20** 11:09:06.5±0.4, 4409N±001×2174E±002, h6km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=159.6*
*BEO **20** 11:09:07.6±0.2, 4403N×2174E, h9km±2km, ML3.3/9*
*CSEM **20** 11:09:07.7±0.1, 4411N×2198E, h10km, ML3.9, Error ellipse: s-maj=2.2km s-min=1.4km az=76.0*
*NEIC **20** 11:09:07.5, 4403N×2151E, h10km, ML3.9(THE), ML3.4(BUC), ML3.2(PDG), After BUC.*
*PDG **20** 11:09:07.2±0.5, 4402N×2175E, h11km±1km, MD3.2/1, ML3.2/10, Error ellipse: s-maj=0.9km s-min=1.2km az=0.0*
*PRU **20** 11:09:08.2, 4410N×2160E, h0km*
*THE **20** 11:09:10.5, 4400N×2180E, h11km, ML3.9*

ISC 20 11:09:07.4±0.4, 4406N±001×2173E±002, h4km±3km, n105, σ1§18/163, 21C-17D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLS	**Boljevac**	**0.28**	**146**	*i* Pg	**Pg**	11 09 13.4	+0.5
BOLS				*e*Sg	**Sg**	11 09 17.2	+0.6
SVIS	**Svilajnac**	**0.42**	**299**	*i* Pg	**Pg**	11 09 15.9	+0.3
SVIS				*e*Sg	**Sg**	11 09 21.9	+0.8
GRUS	**Gruza**	**0.76**	**257**	*i* Pg	**Pg**	11 09 21.6	-0.3
GRUS				*e*Sg	**Sg**	11 09 31.3	-0.4
BEO	**Beograd**	**1.17**	**310**	*e*Pg	**Pg**	11 09 29.7	-0.2
BEO				*e*Sg	**Sg**	11 09 45.6	+0.5
DIVS	**Divibare**	**1.25**	**272**	*e*Pg	**Pg**	11 09 31.7	+0.2
DIVS				*e*Sg	**Sg**	11 09 48.1	+0.4
DIVS	**Divibare**	**1.25**	**272**	*i* Pg	**Pg**	11 09 32.0	+0.5
DIVS				*e*Sg	**Sg**	11 09 47.5	-0.2
SJES	**Sjenica**	**1.51**	**238**	*i* Pn	**Pn**	11 09 34.0	-1.2
SJES				*e*Sg	**Sg**	11 09 55.1	-0.8
GZR	**Gura Zlata**	**1.52**	**29**	P	**Pn**	11 09 36.0	+0.6
GZR	**Gura Zlata**	**1.52**	**29**	⇓*i*Pn	**Pn**	11 09 36.7	+1.3
GZR	**Gura Zlata**	**1.52**	**29**	P	**Pn**	11 09 36.0	+0.6
GZR				S	**Sn**	11 09 57.3	+1.6
BZS	**Buzias**	**1.56**	**357**	P	**Pn**	11 09 35.6	-0.3
BZS	**Buzias**	**1.56**	**357**	*i* Pn	**Pn**	11 09 35.2	-0.6
BZS				*e*Sn	**Sn**	11 09 55.2	-1.2
BZS				*e*Sg	**Sg**	11 09 58.6	+1.2
BZS	**Buzias**	**1.56**	**357**	⇑*i*P	**Pn**	11 09 35.5	-0.3
BZS	**Buzias**	**1.56**	**357**	P	**Pn**	11 09 35.6	-0.2
BZS				S	**Sn**	11 09 55.9	-0.5
FGSL	**Fruska Gora**	**1.75**	**309**	*i* Pn	**Pn**	11 09 39.2	+0.6
FGSL				*e*Sg	**Sg**	11 10 05.6	+1.8
IVA	**Berane**	**1.79**	**229**	⇑*i*Pn	**Pn**	11 09 39.4	+0.3
IVA				*e*Sn	**Sn**	11 10 03.8	+1.6
VTS	**Vitosha**	**1.82**	**143**	*e*Pb	**Pb**	11 09 39.1	-2.2
VTS				*e*Sb	**Sb**	11 09 59.7	-4.8
VTS	**Vitosha**	**1.82**	**143**	*i* Pn	**Pn**	11 09 39.8	+0.3
VTS				*e*Sg	**Sg**	11 10 03.6	-2.4
VTS	**Vitosha**	**1.82**	**143**	S	**Sn**	11 10 03.8	+0.8
VTS	**Vitosha**	**1.82**	**143**	*i* Pg	**Pg**	11 09 39.7	-2.7
VTS				S	**Sn**	11 09 59.7	-3.3
PLE	**Pljevlja**	**1.85**	**247**	⇓*i*Pn	**Pn**	11 09 40.2	+0.3
PLE				*e*Sn	**Sn**	11 10 05.2	+1.6
PVY	**Plav**	**1.95**	**222**	⇓*i*Pn	**Pn**	11 09 41.1	-0.2
PVY				*e*Sn	**Sn**	11 10 07.4	+1.2
SKO	**Skopje**	**2.10**	**186**	*i* Pn	**Pn**	11 09 46.7	+3.3
SKO	**Skopje**	**2.10**	**186**	*i* Pn	**Pn**	11 09 46.6	+3.3
UPM	**Unac-Piva**	**2.22**	**248**	⇓*i*Pn	**Pn**	11 09 44.8	-0.2
UPM				*e*Sn	**Sn**	11 10 14.1	+1.2
PGB	**Panagyurishte**	**2.33**	**130**	*i* P	**Pn**	11 09 47.1	+0.6
PGB				*i* Pg	**Pg**	11 09 50.6	-1.6
NKY	**Niksic**	**2.35**	**239**	⇑*i*Pn	**Pn**	11 09 46.3	-0.5
NKY				*e*Sn	**Sn**	11 10 17.5	+1.4
STIP	**Stip**	**2.39**	**172**	*i* Pn	**Pn**	11 09 48.1	+0.8
STIP				*i* Sn	**Sg**	11 10 23.2	-1.1
KKB	**Krupnik**	**2.41**	**155**	*i* Pg	**Pn**	11 09 47.7	+0.1
TTG	**Podgorica**	**2.44**	**229**	⇓*i*Pn	**Pn**	11 09 48.3	+0.4
TTG				*e*Sn	**Sn**	11 10 19.7	+1.6
BRY	**Bratogost**	**2.60**	**244**	⇑*i*Pn	**Pn**	11 09 50.5	+0.4
BRY				*e*Sn	**Sn**	11 10 23.3	+1.2
BUM	**Brajici-Budva**	**2.72**	**231**	⇓*i*Pn	**Pn**	11 09 52.0	+0.1
BUM				*e*Sn	**Sn**	11 10 26.1	+0.9
VOIR		**2.73**	**59**	P	**Pn**	11 09 53.5	+1.5
VOIR		**2.73**	**59**	⇓*i*P	**Pn**	11 09 53.5	+1.5
VOIR		**2.73**	**59**	P	**Pn**	11 09 53.5	+1.5
VOIR				S	**Sn**	11 10 29.8	+4.3
ULC	**Ulcinj**	**2.78**	**222**	⇓*i*Pn	**Pn**	11 09 52.4	-0.3
ULC				*e*Sn	**Sn**	11 10 27.6	+1.0
VAY	**Valandovo**	**2.81**	**167**	*e*Pn	**Pn**	11 09 52.0	-1.1
VAY				*e*Sn	**Sn**	11 10 24.2	-3.2
VAY	**Valandovo**	**2.81**	**167**	P	**Pn**	11 09 52.0	-1.1
VAY				S	**Sn**	11 10 24.2	-3.2
VAY				S	**Sg**	11 10 34.2	-3.4
VAY	**Valandovo**	**2.81**	**167**	*i* Pn	**Pn**	11 09 51.9	-1.2
VAY				*i* Sn	**Sg**	11 10 34.0	-3.6
DRGR		**2.81**	**14**	P	**Pn**	11 09 53.5	+0.4
DRGR		**2.81**	**14**	⇑*i*P	**Pn**	11 09 53.2	+0.1
DRGR		**2.81**	**14**	P	**Pn**	11 09 53.5	+0.4
DRGR				S	**Sn**	11 10 26.8	-0.7
HCY	**Herceg Novi**	**2.86**	**237**	⇓*i*Pn	**Pn**	11 09 54.5	+0.7
HCY				*e*Sn	**Sn**	11 10 29.8	+1.1
MMB	**Musomiste**	**2.88**	**149**	*i* Pg	**Pn**	11 09 54.5	+0.5
PLD	**Plovdiv**	**2.93**	**131**	*e*Pn	**Pn**	11 09 54.8	+0.1
PLD				*e*Sn	**Sn**	11 10 26.3	-4.0
PLD	**Plovdiv**	**2.93**	**131**	*i* Pg	**Pg**	11 10 00.4	-3.1
KNT	**Kendrikon**	**3.02**	**163**	*e*Pn	**Pn**	11 09 55.2	-0.8
KNT	**Kendrikon**	**3.02**	**163**	P	**Pn**	11 09 55.6	-0.4
OHR	**Ohrid**	**3.03**	**193**	*e*Pn	**Pn**	11 09 55.5	-0.6
OHR	**Ohrid**	**3.03**	**193**	*e*Pn	**Pn**	11 09 55.5	-0.6
BIA	**Bitola**	**3.06**	**186**	*e*Pn	**Pn**	11 09 55.8	-0.7
BIA	**Bitola**	**3.06**	**186**	*i* Pn	**Pn**	11 09 55.4	-1.1
PKSM	**Moragy**	**3.07**	**316**	P	**Pn**	11 09 55.9	-0.8
PKSM	**Moragy**	**3.07**	**316**	⇑*i*P	**Pn**	11 09 56.1	-0.5
PKSM	**Moragy**	**3.07**	**316**	S	**Sn**	11 10 30.8	-2.9
PKSM	**Moragy**	**3.07**	**316**	⇓*e*Pn	**Pn**	11 09 56.4	-0.2
PKSM				*e*Sn	**Sn**	11 10 31.1	-2.6
RHK3	**Tenkes**	**3.07**	**308**	⇓*e*Pn	**Pn**	11 09 56.4	-0.3
PKSN	**Nyarlorinc**	**3.12**	**336**	⇑*e*Pn	**Pn**	11 09 57.6	+0.2
GRG	**Griva**	**3.14**	**171**	*e*Pn	**Pn**	11 09 57.2	-0.5
SZH	**Strazhica**	**3.15**	**103**	*i* P	**Pn**	11 09 57.6	-0.2
RZN	**Rozhen**	**3.23**	**136**	*i* P	**Pn**	11 09 59.6	+0.7
SRS	**Serrai**	**3.25**	**154**	*e*Pn	**Pn**	11 09 58.4	-0.7
FNA	**Florina**	**3.29**	**185**	*e*Pn	**Pn**	11 09 59.2	-0.5
MLR	**Muntele Rosu**	**3.32**	**63**	⇑*i*P	**Pn**	11 10 02.8	+2.7
MLR	**Muntele Rosu**	**3.32**	**63**	S	**Sg**	11 10 56.0	+1.9
MLR	**Muntele Rosu**	**3.32**	**63**	⇑P	**Pn**	11 10 02.7	+2.6
PKS7	**Kunszentmiklos**	**3.49**	**330**	⇓*e*Pn	**Pn**	11 10 02.5	+0.1
PKS9	**Tamasi**	**3.51**	**317**	⇓*e*Pn	**Pn**	11 10 02.7	0.0
THE	**Thessaloniki**	**3.55**	**165**	*e*Pn	**Pn**	11 10 03.0	-0.2
HORT	**Hortiatis**	**3.61**	**163**	*e*Pn	**Pn**	11 10 03.3	-0.8
KDZ	**Kurdzhali**	**3.63**	**130**	*i* Pg	**Pg**	11 10 13.1	-3.8
JMB	**Yambol**	**3.89**	**113**	*e*Pn	**Pn**	11 10 07.6	-0.3
JMB				*e*Sn	**Sn**	11 10 50.9	-3.0
JMB	**Yambol**	**3.89**	**113**	P	**Pn**	11 10 07.6	-0.3
JMB				S	**Sn**	11 10 50.9	-3.0
JMB				S	**Sb**	11 11 06.5	+2.7
PLG	**Polygyros**	**3.90**	**160**	*e*Pn	**Pn**	11 10 07.0	-1.1
BUD	**Budapest**	**3.91**	**332**	⇑*e*Pn	**Pn**	11 10 08.0	-0.2
BUD				*e*Sn	**Sn**	11 10 54.8	+0.3
PLOR	**Plostina**	**3.92**	**61**	⇑*i*P	**Pn**	11 10 19.9	+2.5
PLOR	**Plostina**	**3.92**	**61**	S	**Sn**	11 10 59.7	+4.9
VRI	**Vrincioaia**	**3.98**	**61**	⇑P	**Pn**	11 10 11.3	+2.1
VRI				S	**Sn**	11 11 00.2	+4.0
VRI	**Vrincioaia**	**3.98**	**61**	⇑*i*P	**Pn**	11 10 10.9	+1.8
VRI	**Vrincioaia**	**3.98**	**61**	⇑P	**Pn**	11 10 11.3	+2.2
VRI				S	**Sn**	11 10 58.8	+2.6
PSZ	**Piszkesteto**	**4.06**	**342**	*e*Pn	**Pn**	11 10 09.2	-1.1
PSZ	**Piszkesteto**	**4.06**	**342**	⇓*e*Pn	**Pn**	11 10 09.8	-0.5
PSZ				*e*Sn	**Sn**	11 10 55.8	-2.5
PKSG		**4.07**	**326**	*e*Pn	**Pn**	11 10 10.2	-0.2
PKSG				*e*Sn	**Sn**	11 10 56.6	-1.8
PENC	**Penc**	**4.10**	**336**	⇓*e*Pn	**Pn**	11 10 10.6	-0.2
PENC				*e*Sn	**Sn**	11 10 58.1	-1.1
BURAR	**Bucovina Array**	**4.31**	**33**	⇑P	**Pn**	11 10 15.2	+1.5
BURAR	**Bucovina Array**	**4.31**	**33**	⇑*i*P	**Pn**	11 10 15.2	+1.6
KOGS	**Kog**	**4.55**	**304**	*i* Pn	**Pn**	11 10 16.6	-0.3
TIRR	**Tirgusor**	**4.81**	**83**	⇑*i*P	**Pn**	11 10 20.5	-0.1
TIRR				S	**Sn**	11 11 18.2	+1.4
XOR	**Xorichti**	**4.82**	**166**	*e*Pn	**Pn**	11 10 20.2	-0.5
CRVS	**Cervenica-Dubn**	**4.84**	**358**	*e*PN	**Pn**	11 10 21.0	0.0
CRVS				*e*SN	**Sn**	11 11 14.8	-2.7
VYHS	**Vyhne**	**4.86**	**337**	*e*PN	**Pn**	11 10 21.5	+0.2
VYHS				*e*SN	**Sn**	11 11 17.2	-0.8
KOLL	**Kolacno**	**5.07**	**334**	*e*PN	**Pn**	11 10 25.9	+1.8
KOLL				*e*SN	**Sn**	11 11 22.8	-0.3
PDKS	**Podkum**	**5.17**	**295**	*i* Pn	**Pn**	11 10 25.6	0.0
ZST	**Bratislava**	**5.24**	**324**	*e*PN	**Pn**	11 10 25.3	-1.1
ZST				*e*SN	**Sn**	11 11 24.0	-3.2
MODS	**Modra-Piesok**	**5.30**	**326**	*e*PN	**Pn**	11 10 27.2	-0.1
MODS				*e*SN	**Sn**	11 11 26.5	-2.3
VNDS	**Vrh nad Dolski**	**5.38**	**295**	*i* Pn	**Pn**	11 10 28.4	0.0
VNDS				*i* Sn	**Sn**	11 11 26.7	-4.0
ARSA	**Arzberg**	**5.39**	**308**	⇑*i*Pn	**Pn**	11 10 28.5	-0.1
ARSA				⇑*i*Sn	**Sn**	11 11 26.9	-4.2
KNDS	**Knezji Dol**	**5.43**	**288**	*i* Pn	**Pn**	11 10 30.0	+0.9
KNDS				*i* Sn	**Sn**	11 11 29.1	-3.0
NIE	**Niedzica**	**5.45**	**350**	*e*P	**Pn**	11 10 30.6	+1.3
CONA	**Conrad Observa**	**5.63**	**315**	⇓*i*Pn	**Pn**	11 10 31.8	+0.1
CONA				⇑*i*Sn	**Sn**	11 11 33.6	-3.2
OBKA	**Obir**	**5.63**	**298**	⇑*i*Pn	**Pn**	11 10 31.7	-0.1
OBKA				⇓*i*Sn	**Sn**	11 11 33.6	-3.2
GORS	**Gorjuse**	**5.91**	**295**	*i* Pn	**Pn**	11 10 35.8	+0.1
VRAC	**Vranov**	**6.32**	**328**	*e*Pn	**Pn**	11 10 41.3	-0.1
VRAC				*e*Sn	**Sn**	11 11 49.9	-4.1
KHC	**Kasperske Hory**	**7.56**	**315**	*e*Pn	**Pn**	11 10 59.3	+1.0
KHC				*e*Sn	**Sn**	11 12 21.1	-3.3
KHC	**Kasperske Hory**	**7.56**	**315**	*e*PN	**Pn**	11 10 59.3	+1.0
KHC				*e*SN	**Sn**	11 12 21.1	-3.3
KHC				*ex*	x	11 12 32.5	

*JMA **20** 11:09:20.5±0.2, 3147N×13868E, h407km, M3.4*
*ISCJB **20** 11:09:21.4±0.4, 3136N±005×13860E±008, h378km±5km, mb3.4/8, Error ellipse: s-maj=10.8km s-min=6.6km az=155.9*
*IDC **20** 11:09:23.1±0.7, 3143N×13844E, h374km±7km, mb3.1/8, mb1 3.2/13, mb1mx3.1/25, mbtmp3.1/13, Error ellipse: s-maj=19.1km s-min=12.8km az=98.0*

ISC 20 11:09:22.3±0.4, 3135N±005×13862E±008, h369km±5km, n26, σ1§15/30, mb3.4/8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**2.02**	**29**	P	**Pn**	11 10 16.9	+1.5
	20nm,0.3s,baz=68,slow=23,SNR=7.4						
JHJ				S	**S**	11 11 00.5	+2.3
	30nm,0.3s,baz=72,slow=22,SNR=6.1						
JHJ2	**Mitsune**	**2.02**	**30**	P	**Pn**	11 10 16.9	+1.4
JIE	**Ise**	**3.43**	**332**	P	**Pn**	11 10 27.7	+0.8
BSO1	**Boso 1**	**3.84**	**30**	S	**S**	11 11 24.5	-1.6
JOD2	**Odawara 2**	**3.92**	**6**	P	**Pn**	11 10 31.1	-0.4
JOD2				*e*S	**S**	11 11 27.4	-0.1
JAI	**Aioi**	**4.28**	**306**	P	**Pn**	11 10 35.2	0.0
MRT2	**Murotomisaki 2**	**4.30**	**299**	P	**Pn**	11 10 35.5	+0.1
JRY	**Ryogami san**	**4.66**	**3**	P	**Pn**	11 10 38.8	-0.2
JRY				S	**S**	11 11 38.3	-2.9
JWT	**Wachi**	**4.76**	**326**	P	**Pn**	11 10 40.2	+0.1
MJAR	**Matsushiro Arr**	**5.19**	**356**	P	**Pn**	11 10 44.7	0.0
	0.8nm,0.3s,baz=294,slow=12,SNR=4.4						
CBIJ	**Chichi jima**	**5.26**	**143**	P	**Pn**	11 10 45.9	+0.2
CBIJ				*e*S	**S**	11 11 50.4	-2.9
CBIJ	**Chichi jima**	**5.26**	**143**	S	**S**	11 11 50.5	-2.8
	45nm,0.3s,baz=238,slow=22,SNR=15						
JET	**Tanbara**	**5.29**	**299**	P	**Pn**	11 10 46.0	+0.1
JHHJ	**Haha-jima-NKT**	**5.64**	**146**	P	**Pn**	11 10 50.6	+0.7
JHHJ				*e*S	**S**	11 11 58.9	-2.0
JNU	**Nakatsue**	**6.79**	**287**	P	**Pn**	11 11 03.0	+0.3
	0.4nm,0.3s,baz=111,slow=12,SNR=5.1						
JOW	**Kunigami**	**10.11**	**246**	P	**Pn**	11 11 41.8	+0.1
	1.1nm,0.3s,baz=119,slow=5.8,SNR=5.1						
KSRS	**Korea Array**	**10.73**	**307**	P	**Pn**	11 11 47.1	-1.6
	0.2nm,0.3s,baz=118,slow=12,SNR=4.7						
WRA	**Warramunga Arr**	**51.17**	**185**	P	**P**	11 17 49.1	-0.1
	0.6nm,0.3s,mb3.3,baz=0.9,slow=7.9,SNR=25						
WRA				PcP	PcP	11 18 59.5	+0.7
	0.4nm,0.9s,baz=357,slow=4.1,SNR=5.4						
BVAR	**Borovoye Array**	**52.83**	**315**	P	**P**	11 17 59.7	-1.2
	0.7nm,0.5s,mb3.2,baz=104,slow=6.3,SNR=3.6						
ASAR	**Alice Springs**	**54.89**	**185**	P	**P**	11 18 17.4	+1.3
	0.5nm,0.4s,mb3.2,baz=22,slow=11,SNR=12						
INK	**Inuvik**	**60.49**	**25**	P	**P**	11 18 54.7	+0.6
	0.3nm,0.4s,mb3.1,baz=243,slow=2.3,SNR=3.1						
ARCES	**ARCESS Array B**	**68.50**	**340**	P	**P**	11 19 45.2	-0.1
	3.8nm,0.9s,mb4.1,baz=46,slow=5.2,SNR=2.5						
YKA	**Yellowknife Ar**	**69.88**	**28**	P	**P**	11 19 54.0	+0.2
	0.2nm,0.5s,mb3.1,baz=309,slow=5.8,SNR=3.7						
AKASG	**Malin Array Be**	**77.36**	**322**	P	**P**	11 20 35.5	-1.6
	0.7nm,0.5s,mb3.7,baz=51,slow=6.1,SNR=5.5						
TXAR	**Lajitas Array**	**95.45**	**51**	P	**P**	11 22 08.2	+2.1
	0.1nm,0.6s,mb3.0,baz=22,slow=5.1,SNR=3.5						
TORD	**Torodi Ar. Bea**	**119.46**	**310**	PKP	PKPdf	11 27 28.0	-1.1
	0.2nm,0.4s,baz=17,slow=1.5,SNR=4.9						

IDC 20 11:24:05.3±1.2, 2191N×14331E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.6/5, Error ellipse: s-maj=49.5km s-min=24.1km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.51**	**193**	P	P	11 32 03.8	+1.2
	0.5nm,0.9s,baz=19,slow=8.6,SNR=4.7						
ASAR	**Alice Springs**	**46.22**	**192**	P	P	11 32 31.1	-1.2
	0.4nm,0.9s,baz=20,slow=8.7,SNR=6.5						
MKAR	**Makanchi Array**	**54.65**	**313**	P	P	11 33 35.8	-0.1
	0.2nm,0.3s,baz=72,slow=11,SNR=3.5						
BVAR	**Borovoye Array**	**62.59**	**319**	P	P	11 34 30.9	-0.2
	1.3nm,0.7s,baz=87,slow=8.3,SNR=6.4						
YKA	**Yellowknife Ar**	**76.21**	**28**	P	P	11 35 55.6	+0.4
	0.3nm,0.4s,baz=293,slow=5.9,SNR=6.8						

IDC 20 11:32:32.8±16.0, 2176N×14299E, h152km±152km, mb3.2/5, mb1 3.4/5, mb1mx3.3/19, mbtmp3.2/5, Error ellipse: s-maj=80.1km s-min=17.7km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.36**	**324**	P	P	11 36 58.6	+1.2
	1.9nm,1.0s,baz=134,slow=8.9,SNR=6.6						
SONM	**Songino Array**	**39.18**	**321**	P	P	11 39 45.3	-0.5
	0.6nm,0.6s,baz=127,slow=7.1,SNR=4.7						
WRA	**Warramunga Arr**	**42.30**	**192**	P	P	11 40 11.3	-0.4
	0.7nm,0.7s,baz=16,slow=9.1,SNR=7.2						
ASAR	**Alice Springs**	**46.01**	**192**	P	P	11 40 41.0	-0.1
	0.4nm,0.7s,baz=15,slow=8.9,SNR=8.5						
YKA	**Yellowknife Ar**	**76.49**	**28**	P	P	11 44 05.4	-0.3
	0.8nm,0.7s,baz=292,slow=5.9,SNR=12						
PLCA	**Paso Flores**	**145.93**	**131**	PKPbc	PKPbc	11 51 55.5	+0.8
	1.1nm,0.8s,baz=181,slow=14,SNR=3.1						

*NNC **20** 11:32:33.6±2.9, 4069N×7144E, h4km±38km, mb3.9, mpv4.1, Error ellipse: s-maj=44.5km s-min=9.7km az=18.0*
*ISCJB **20** 11:32:35.7±0.4, 4108N±003×7156E±004, h10km, mb3.9/16, Error ellipse: s-maj=5.2km s-min=3.8km az=159.1*
*IDC **20** 11:32:35.3±0.9, 4107N×7162E, h0km, mb3.9/9, mb1 4.0/12, mb1mx3.8/23, mbtmp3.8/12, ML3.4/3, Error ellipse: s-maj=16.0km s-min=14.3km az=28.0*
*NEIC **20** 11:32:37.3±0.6, 4112N×7160E, h10km, mb3.9/1, Error ellipse: s-maj=12.3km s-min=8.2km az=165.0*

ISC 20 11:32:37.0±1.5, 4112N±004×7162E±004, h7km±9km, n49, σ1§08/62, mb3.9/16, 13C-4D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**1.86**	**56**	*e*Pn	**Pn**	11 33 08.3	-0.9
AML				*e*Sn	**Sn**	11 33 31.7	-1.2
AML	**Almayashu**	**1.86**	**56**	P	**Pn**	11 33 08.7	-0.5
	SNR=133						
KK31	**Karatay Array**	**2.15**	**338**	⇑Pn	**Pb**	11 33 16.4	+0.1
	75nm,0.6s,baz=141,slow=13,SNR=668						
KK31				⇑Sn	**Sg**	11 33 46.9	+0.9
	312nm,0.4s						
EKS2	**Erkin-Say**	**2.23**	**45**	*e*Pn	**Pn**	11 33 15.2	+0.9
EKS2				*e*Sn	**Sn**	11 33 43.8	+1.6
EKS2	**Erkin-Say**	**2.23**	**45**	P	**Pn**	11 33 15.4	+1.0
	SNR=28						
UCH	**Uchtor**	**2.44**	**62**	*e*Pn	**Pn**	11 33 16.3	-0.9
UCH				*e*Sn	**Sn**	11 33 47.4	+0.2
UCH	**Uchtor**	**2.44**	**62**	P	**Pn**	11 33 16.8	-0.4
	SNR=35						
AAK	**Ala-Archa**	**2.63**	**54**	P	**Pn**	11 33 19.8	0.0
	SNR=49						
KZA	**Kyzart**	**2.89**	**69**	P	**Pn**	11 33 23.1	-0.3
	SNR=32						
KBK	**Karagaybulak**	**2.92**	**57**	P	**Pn**	11 33 24.6	+0.7
	SNR=12						
CHMS	**Chumysh**	**3.00**	**50**	P	**Pb**	11 33 29.5	-1.1
	SNR=8.9						
USP	**Ospenovka**	**3.03**	**44**	P	**Pn**	11 33 25.6	+0.3
	SNR=13						
TKM2	**Tokmak 2**	**3.47**	**57**	⇓Pn	**Pn**	11 33 31.2	-0.2
	17nm,0.5s						
TKM2				⇑Sn	**Sb**	11 34 20.8	-0.2
	20nm,0.7s						
TKM2	**Tokmak 2**	**3.47**	**57**	*e*Pn	**Pn**	11 33 30.9	-0.4
TKM2	**Tokmak 2**	**3.47**	**57**	P	**Pn**	11 33 31.3	0.0
	SNR=14						
KBL	**Kabul**	**6.87**	**198**	Pn	**Pn**	11 34 17.1	-1.1
KBL				*e*Sn	**Sn**	11 35 37.8	+1.2
MK31	**Makanchi Array**	**9.56**	**50**	Pn	**Pn**	11 34 58.1	+3.2
	2.1nm,0.7s,baz=227,slow=13,SNR=13						
MK31	**Makanchi Array**	**9.56**	**50**	*e*Pn	**Pn**	11 34 56.5	+1.5
MKAR

Error ellipse: s-maj=14.4km s-min=8.0km az=84.0
*IDC **20** 11:35:03.8±1.3, 12.77N×14.322E, h116km±13km, mb3.8/15, mb1 3.9/16, mb1mx3.9/23, mbtmp3.9/16, MS3.2/5, Ms1 3.2/5, ms1mx2.9/32, Error ellipse: s-maj=16.5km s-min=12.1km az=90.0*
ISC 20 11:35:04.2±1.2, 12.76N±007×1433E±01, h123km±14km, n33, σ0?74/30, mb4.2/20, 1C, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**1.75**	**62**	*e*Pn	**Pn**	**11 35 33.6**	**-1.1**
GUMO				*e*Sn	**Sn**	**11 35 58.4**	**+0.4**
GUMO	**Guam**	**1.75**	**62**	P	**Pn**	**11 35 34.0**	**-0.7**
	49nm,0.3s,baz=270,slow=16,SNR=31						
GUMO				S	**Sn**	**11 35 58.5**	**+0.5**
	392nm,0.3s,baz=323,slow=23,SNR=16						
JOW	**Kunigami**	**19.86**	**317**	P	**P**	**11 39 26.9**	**+1.3**
	9.0nm,0.3s,baz=142,slow=12,SNR=44						
JNU	**Nakatsue**	**23.23**	**333**	P	**P**	**11 40 00.3**	**-0.1**
	5.8nm,0.6s,mb4.1,baz=93,slow=8.1,SNR=10						
JNU				LR	LR	11 48 08.7	
	comp=Z,30nm,18.4s,baz=236,slow=34						
YHNB	**Yeheng**	**23.86**	**303**	*e*P	**P**	**11 40 06.4**	**+0.1**
MJAR	**Matsushiro Arr**	**24.12**	**350**	P	**P**	**11 40 07.6**	**-0.9**
	1.8nm,1.0s,mb3.4,baz=155,slow=11,SNR=5.8						
MJAR				LR	LR	11 47 34.6	
	comp=Z,78nm,18.9s,baz=245,slow=31						
HNR	**Honiara**	**27.57**	**142**	LR	LR	11 50 53.9	
	comp=Z,72nm,20.5s,baz=360,slow=34						
KSRS	**Korea Array**	**28.17**	**333**	P	**P**	**11 40 45.1**	**+0.2**
	1.3nm,0.7s,mb3.6,baz=145,slow=9.5,SNR=4.9						
KSRS				LR	LR	11 50 09.4	
	comp=Z,26nm,18.7s,baz=165,slow=32						
WRAB	**Tennant Creek**	**33.66**	**195**	*e*P	**P**	**11 41 33.0**	**-0.3**
	2.4nm,0.6s,mb4.2						
WB2	**Warramunga Arr**	**33.67**	**195**	*e*P	**P**	**11 41 33.8**	**+0.4**
WRA	**Warramunga Arr**	**33.67**	**195**	P	**P**	**11 41 33.1**	**-0.4**
	1.7nm,0.6s,mb4.1,baz=16,slow=9.5,SNR=23						
WRA				ScP	ScP	11 47 45.3	+1.2
	0.3nm,0.8s,baz=16,slow=4.1,SNR=3.5						
FITZ	**Fitzroy Crossi**	**35.27**	**210**	P	**P**	**11 41 46.7**	**-0.5**
	0.8nm,0.7s,mb3.7,baz=25,slow=12,SNR=2.7						
ASAR	**Alice Springs**	**37.35**	**194**	P	**P**	**11 42 05.8**	**+1.0**
	1.0nm,0.5s,mb4.0,baz=20,slow=12,SNR=17						
LZH	**Lanzhou**	**42.36**	**310**	⇑P	**P**	**11 42 46.6**	**+0.4**
LZH				AMB	AMB		
	comp=Z,21nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,103nm,5.1s						
STKA	**Stephens Creek**	**44.41**	**182**	LR	LR	12 00 26.1	
	comp=Z,74nm,21.0s,baz=30,slow=34						
ULN	**Ulaanbaatar**	**46.20**	**327**	*e*P	**P**	**11 43 16.9**	**+0.3**
	comp=Z,2.4nm,0.6s,mb4.1						
SONM	**Songino Array**	**46.54**	**326**	P	**P**	**11 43 20.1**	**+0.8**
	comp=Z,2.4nm,0.5s,mb4.2,baz=142,slow=7.0,SNR=18						
SONM				ScP	ScP	11 48 34.7	+0.9
	comp=Z,0.2nm,0.3s,baz=145,slow=5.3,SNR=3.5						
MKAR	**Makanchi Array**	**61.02**	**317**	P	**P**	**11 45 05.1**	**+0.4**
	comp=Z,2.2nm,0.6s,mb4.4,baz=86,slow=8.8,SNR=7.0						
ZALV	**Zalesovo Beam**	**61.41**	**325**	P	**P**	**11 45 07.1**	**-0.1**
ZALV	**Zalesovo Beam**	**61.41**	**325**	P	**P**	**11 45 07.1**	**-0.1**
	comp=Z,6.1nm,0.3s,mb5.1,baz=107,slow=6.8,SNR=3.6						
KURK	**Kurchatov**	**64.23**	**320**	*e*P	**P**	**11 45 25.6**	**-0.3**
	comp=Z,14nm,0.6s,mb5.0						
BVAR	**Borovoye Array**	**69.62**	**322**	P	**P**	**11 46 00.2**	**+0.2**
	comp=Z,9.1nm,0.4s,mb4.9,baz=105,slow=7.5,SNR=74						
BRVK	**Borovoye**	**69.69**	**322**	*e*P	**P**	**11 46 00.4**	**-0.1**
	comp=Z,7.0nm,0.4s,mb4.8						
AKTK	**Aktyubinsk**	**77.28**	**319**	P	**P**	**11 46 43.9**	**-1.1**
AKTO	**Aktyubinsk**	**77.28**	**319**	P	**P**	**11 46 43.9**	**-1.1**
	comp=Z,1.5nm,0.7s,mb3.9,baz=100,slow=11,SNR=3.8						
YKA	**Yellowknife Ar**	**84.30**	**27**	P	**P**	**11 47 22.0**	**0.0**
	comp=Z,0.3nm,0.4s,mb3.4,baz=286,slow=5.0,SNR=11						
ARCES	**ARCESS Array B**	**87.39**	**342**	P	**P**	**11 47 36.8**	**-0.3**
	comp=Z,1.5nm,0.6s,mb4.1,baz=76,slow=5.1,SNR=3.6						
NVAR	**Mina Array Bea**	**88.64**	**51**	P	**P**	**11 47 45.9**	**+2.2**
	comp=Z,0.5nm,0.6s,mb3.7,baz=267,slow=5.8,SNR=5.2						
FINES	**FINESS Array B**	**91.26**	**335**	P	**P**	**11 47 54.2**	**-1.2**
FINES	**FINESS Array B**	**91.26**	**335**	P	**P**	**11 47 54.2**	**-1.2**
	comp=Z,1.0nm,0.7s,mb4.1,baz=73,slow=4.4,SNR=7.8						
TORD	**Torodi Ar. Bea**	**134.04**	**303**	PKP	PKPdf	11 54 07.9	-0.1
	comp=Z,0.3nm,0.6s,baz=39,slow=2.0,SNR=3.3						
LPAZ	**La Paz**	**149.40**	**100**	*e*PKPbc	PKPbc	11 54 42.2	+2.6
LPAZ	**La Paz**	**149.40**	**100**	PKPbc	PKPbc	11 54 41.3	+1.6
	comp=Z,2.7nm,0.7s,baz=315,slow=2.5,SNR=13						

*IDC **20** 11:36:39.8±0.6, 3406N×72.48E, h0km, mb4.2/19, mb1 4.4/22, mb1mx4.3/26, mbtmp4.2/22, ML4.2/3, MS3.3/5, Ms1 3.3/5, ms1mx3.0/37, Error ellipse: s-maj=17.4km s-min=12.7km az=31.0*
*NEIC **20** 11:36:41.5±0.4, 3405N×72.49E, h10km, mb4.3/8, Error ellipse: s-maj=8.6km s-min=8.1km az=30.0*
*BJI **20** 11:36:42.6, 34.13N×72.03E, h25km, mB4.9, mb4.5, ML5.2, Ms4.7, Msz4.4*
*MOS **20** 11:36:43.5±1.1, 34.14N×72.47E, h33km, mb4.5/11, Error ellipse: s-maj=11.6km s-min=7.7km az=105.5*
*NDI **20** 11:36:44.7±3.8, 3406N×72.23E, h10km, ML4.4, mb4.3(NEIC)*
*ISCJB **20** 11:36:46.4±0.5, 3407N±003×72.57E±004, h69km±5km, mb4.3/37, Error ellipse: s-maj=6.1km s-min=4.2km az=42.6*
ISC 20 11:36:47.7±0.4, 3410N±003×7254E±004, h60km±5km, n107, σ1?30/121, mb4.3/37, MS3.5/4, 10C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**0.59**	**242**	P	**Pn**	**11 37 01.6**	**+1.0**
CHCP	**Chirah Chowk**	**0.75**	**126**	⇑P	**Pn**	**11 37 04.8**	**+2.3**
SRNI	**Srinagar**	**1.92**	**89**	*ex*	x	11 37 28.0	
SRNI				*e*S	**Sn**	**11 37 48.5**	**+7.4**
SARP	**Sargodha**	**2.18**	**177**	P	**Pn**	**11 37 23.5**	**+1.9**
JMU	**Jammu**	**2.41**	**124**	*ex*	x	11 37 36.0	
JMU				*e*S	**Sn**	**11 37 57.5**	**+4.4**
KBL	**Kabul**	**2.92**	**280**	*e*Pn	**Pn**	**11 37 33.0**	**+1.2**
DRP	**Derazinda**	**3.06**	**220**	⇑P	**Pn**	**11 37 36.5**	**+2.8**
THN	**Thein Dam**	**3.14**	**121**	*e*P	**Pn**	**11 37 36.7**	**+2.0**
THN				*ex*	x	11 38 35.6	
DLH	**Dalhousie**	**3.27**	**118**	*e*P	**Pn**	**11 37 40.0**	**+3.6**
DLH				*ex*	x	11 38 34.0	
BHK	**Bhakra**	**4.23**	**128**	*ex*	x	11 38 03.4	
BHK				*ex*	x	11 39 02.4	
SDNR	**Sundarnagar**	**4.55**	**124**	*e*P	**Pn**	**11 37 55.6**	**+1.7**
SDNR				*ex*	x	11 39 07.2	
SMLA	**Simla**	**4.91**	**126**	*e*P	**Pn**	**11 38 01.3**	**+2.4**
SMLA				*e*S	**Sn**	**11 38 55.1**	**+0.8**
SMLA				AML	AML	11 39 32.7	
	comp=E,623nm,0.5s						
SMLA				AML	AML	11 39 34.2	
	comp=N,410nm,0.4s						
KLP	**Kalpa**	**5.45**	**116**	*e*P	**Pn**	**11 38 09.7**	**+3.4**
KLP				*e*S	**Sn**	**11 39 10.3**	**+2.7**
KLP				AML	AML	11 39 50.3	
	comp=E,781nm,0.9s						
KLP				AML	AML	11 39 52.3	
	comp=N,818nm,0.4s						
KKR	**Kurukshetra**	**5.50**	**137**	*e*P	**Pn**	**11 38 08.4**	**+1.3**
KSH	**Kashi**	**6.06**	**26**	P	**Pn**	**11 38 18.0**	**+3.3**
KSH				Smax			
	comp=N,2μm,0.5s						
KSH				Smax			
	comp=E,2μm,0.4s						
KHET	**Khetri**	**6.63**	**154**	*e*P	**Pn**	**11 38 23.1**	**+0.6**
KHET				*e*S	**Sn**	**11 39 33.0**	**-3.7**
KHET				AML	AML	11 39 37.1	
	comp=E,247nm,0.3s						
KHET				AML	AML	11 39 37.8	
	comp=N,199nm,0.4s						
NDI	**New Delhi**	**6.72**	**142**	*e*P	**Pn**	**11 38 24.4**	**+0.6**
NDI				*e*S	**Sn**	**11 39 38.1**	**-0.8**
KUDL	**Kundal**	**6.84**	**149**	*e*P	**Pn**	**11 38 26.3**	**+0.9**
KUDL				*e*S	**Sn**	**11 39 39.7**	**-2.1**
AYAN	**Aya Nagar**	**6.84**	**144**	*e*P	**Pn**	**11 38 26.0**	**+0.6**
AYAN				*e*S	**Sn**	**11 39 41.0**	**-0.9**
SONA	**Sohna**	**7.01**	**145**	*e*P	**Pn**	**11 38 28.6**	**+0.8**
SONA				*e*S	**Sn**	**11 39 42.5**	**-3.6**
JASL	**Jaisalmer**	**7.29**	**192**	*e*P	**Pn**	**11 38 31.0**	**-0.6**
AJM	**Ajmer**	**7.81**	**166**	*e*P	**Pn**	**11 38 37.3**	**-1.4**
AJM				⇓*ix*	x	11 38 43.0	
AJM				*e*S	**Sn**	**11 40 00.8**	**-5.0**
AJM				*i* S	**Sn**	**11 40 02.0**	**-3.7**
AJM				AML	AML	11 40 43.4	
	comp=N,1μm,0.2s						
AJM				AML	AML	11 40 44.2	
	comp=E,1μm,0.2s						
LGTI	**Lohaghat**	**8.04**	**123**	*ex*	x	11 38 53.5	
LGTI				*e*S	**Sn**	**11 40 09.5**	**-1.6**
UCH	**Uchtor**	**8.26**	**10**	*e*Pn	**Pn**	**11 38 45.0**	**+0.3**
UCH				*e*Sn	**Sn**	**11 40 11.3**	**-5.1**
TKM2	**Tokmak 2**	**9.12**	**14**	⇑Pn	**Pn**	**11 38 57.3**	**+0.8**
	comp=E,5.6nm,0.6s						
TKM2				⇑Sn	**Sn**	**11 40 30.0**	**-7.6**
	comp=E,70nm,1.1s						
KK31	**Karatay Array**	**9.12**	**351**	⇑Pn	**Pn**	**11 38 55.5**	**-1.0**
	comp=E,9.9nm,0.4s,baz=163,slow=12,SNR=60						
KK31				⇓Sn	**Sn**	**11 40 32.0**	**-5.7**
	comp=E,3.8nm,0.3s,baz=172,slow=21						
BHJ	**Bhuj**	**11.10**	**194**	*e*P	**Pn**	**11 39 22.3**	**-1.4**
BHJ				*e*S	**Sn**	**11 41 16.0**	**-10**
DANN	**Dangsing**	**11.19**	**118**	*e*P	**Pn**	**11 39 23.7**	**-1.1**
	comp=E,16nm,0.2s						
KOLN	**Koldanda**	**11.40**	**121**	*e*P	**Pn**	**11 39 26.2**	**-1.5**
	comp=E,14nm,0.3s						
BHPL	**Bhopal**	**11.64**	**157**	*e*P	**Pn**	**11 39 31.0**	**-0.1**
BHPL				*e*S	**Sn**	**11 41 32.2**	**-7.2**
GKN	**Gorkha**	**12.02**	**117**	*e*P	**Pn**	**11 39 34.7**	**-1.5**
	comp=E,19nm,0.3s						
DMN	**Daman**	**12.59**	**118**	*e*P	**Pn**	**11 39 41.9**	**-2.0**
	comp=E,10nm,0.3s						
KKN	**Kakani**	**12.61**	**117**	*e*P	**Pn**	**11 39 42.8**	**-1.5**
	comp=E,12nm,0.4s						
KKN				*e*S	**Sn**	**11 41 56.0**	**-7.1**
PKI	**Pulchoki**	**12.83**	**117**	*e*P	**Pn**	**11 39 45.3**	**-1.9**
	comp=E,14nm,0.4s						
GUN	**Gumba**	**13.00**	**115**	*e*P	**Pn**	**11 39 47.3**	**-2.2**
JIRN	**Jiri**	**13.36**	**115**	*e*P	**Pn**	**11 39 52.4**	**-2.1**
	comp=E,24nm,0.3s						
MKAR	**Makanchi Array**	**14.67**	**27**	Pn	**Pn**	**11 40 11.4**	**-0.3**
	comp=E,0.2nm,0.3s,baz=208,slow=18,SNR=2.7						
MKAR				LR	LR	11 46 15.5	
	comp=E,87nm,18.1s,baz=177,slow=39						
WMQ	**Urumqi**	**15.25**	**46**	*e*P	**Pn**	**11 40 22.0**	**+2.8**
BVAR	**Borovoye Array**	**18.98**	**356**	P	**Pn**	**11 41 03.6**	**-1.6**
	comp=E,1.2nm,0.3s,baz=164,slow=10.0,SNR=10.0						
BVAR				LR	LR	11 48 56.2	
	comp=E,96nm,21.9s,baz=110,slow=39						
AKTK	**Aktyubinsk**	**19.48**	**331**	P	**Pn**	**11 41 09.0**	**-2.2**
AKTO	**Aktyubinsk**	**19.48**	**331**	P	**Pn**	**11 41 09.0**	**-2.2**
	comp=E,1.4nm,0.3s,baz=141,slow=8.9,SNR=12						
UMR	**Umm Al-Rimmam**	**21.55**	**265**	*e*P	**P**	**11 41 30.8**	**-1.3**
UMR				AMb	AMB	11 41 37.0	
	comp=E,28nm,0.8s,mb4.7						
ZAL	**Zalesovo**	**21.64**	**20**	P	**P**	**11 41 32.3**	**-0.5**
ZAA0	**Zalesovo Array**	**21.66**	**20**	*e*P	**P**	**11 41 31.8**	**-1.2**
ZALV	**Zalesovo Beam**	**21.66**	**20**	P	**P**	**11 41 32.3**	**-0.6**
	comp=Z,5.7nm,0.4s,mb4.4,baz=214,slow=10,SNR=5.1						
ZALV				LR	LR	11 50 33.7	
	comp=Z,42nm,18.9s,MS2.9,baz=242,slow=38						
MIB	**Mutribah**	**21.79**	**266**	*e*P	**P**	**11 41 33.4**	**-1.2**
MIB				AMb	AMB	11 41 37.3	
	comp=Z,26nm,0.8s,mb4.7						
RDF	**Al-Radifah**	**21.90**	**263**	*e*P	**P**	**11 41 34.5**	**-1.2**
RDF				AMb	AMB	11 41 36.6	
	comp=Z,51nm,0.4s,mb5.3						
NAY	**Al-Naaiem**	**22.04**	**264**	*e*P	**P**	**11 41 36.5**	**-0.8**
NAY				AMb	AMB	11 41 38.1	
	comp=Z,13nm,0.4s,mb4.7						
SVE	**Sverdlovsk**	**24.14**	**344**	*e*P	**P**	**11 41 51.3**	**-6.5**
ARU	**Arti**	**24.30**	**341**	*c i*P	**P**	**11 41 57.3**	**-2.0**
ARU				*e*PPP		11 42 33.9	
ARU				*e*S	**S**	**11 46 13.7**	**-0.2**
ARU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.2						
KIV	**Kislovodsk**	**25.07**	**302**	⇑*e*P	**P**	**11 42 07.7**	**+1.3**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.1						
SOC	**Sochi**	**27.11**	**300**	*e*S	**S**	**11 47 00.7**	**+2.0**
SOC				*e*SS		11 48 11.3	
SOC				MLR	MLR		
	comp=Z,427nm,15.0s,MS4.1						
SONM	**Songino Array**	**28.76**	**51**	P	**P**	**11 42 40.0**	**+0.5**
	comp=Z,0.4nm,0.4s,mb3.5,baz=270,slow=8.7,SNR=5.4						
SONM				LR	LR	11 55 47.2	
	comp=Z,112nm,18.9s,MS3.5,baz=271,slow=40						
ULN	**Ulaanbaatar**	**29.19**	**51**	⇑*e*P	**P**	**11 42 45.8**	**+2.5**
EIL	**Elat**	**32.10**	**273**	LR	LR	11 57 06.1	
	comp=Z,88nm,18.5s,MS3.5,baz=327,slow=38						
AKASG	**Malin Array Be**	**35.45**	**311**	P	**P**	**11 43 37.4**	**-0.6**
	comp=Z,0.7nm,0.4s,mb4.0,baz=81,slow=7.0,SNR=7.2						
BOD	**Bodaibo**	**36.47**	**37**	*e*P	**P**	**11 43 46.7**	**+0.1**
MLR	**Muntele Rosu**	**37.08**	**302**	P	**P**	**11 43 53.4**	**+1.4**
	comp=Z,5.8nm,0.9s,mb4.4,baz=118,slow=15,SNR=2.3						
JOF	**Joensuu**	**38.57**	**331**	*e*p	**P**	**11 44 03.1**	**-1.2**
	comp=Z,2.1nm,0.4s,mb4.2						
PSI	**Prapat**	**39.69**	**136**	P	**P**	**11 44 15.1**	**+0.9**
	comp=Z,3.3nm,0.5s,mb4.4,baz=323,slow=6.4,SNR=5.5						
FINES	**FINESS Array B**	**40.17**	**327**	*e*P	**P**	**11 44 16.1**	**-1.5**
FINES	**FINESS Array B**	**40.17**	**327**	P	**P**	**11 44 16.8**	**-0.8**
	comp=Z,1.1nm,0.4s,mb4.0,baz=123,slow=11,SNR=20						
DPC	**Dobruska-Polom**	**43.60**	**309**	*e*P	**P**	**11 44 46.6**	**+0.8**
ARCES	**ARCESS Array B**	**43.83**	**338**	P	**P**	**11 44 47.0**	**-0.4**
	comp=Z,2.0nm,0.4s,mb4.2,baz=114,slow=7.9,SNR=31						
KSRS	**Korea Array**	**44.52**	**69**	P	**P**	**11 44 54.2**	**+1.0**
	comp=Z,1.0nm,0.4s,mb4.0,baz=280,slow=7.2,SNR=6.7						
KSRS				PcP	PcP	11 46 36.0	+0.3
	comp=Z,1.4nm,0.7s,baz=282,slow=2.0,SNR=5.0						
YAK	**Yakutsk**	**45.22**	**34**	*e*P	**P**	**11 45 00.0**	**+1.5**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
KHC	**Kasperske Hory**	**45.42**	**308**	*e*P	**P**	**11 45 02.0**	**+1.7**
NB2	**NORSAR Subarra**	**47.05**	**324**	P	**P**	**11 45 11.5**	**-1.4**
	comp=Z,3.1nm,0.5s,mb4.5,baz=97,slow=7.9						
NOA	**NORSAR Array B**	**47.05**	**324**	P	**P**	**11 45 12.0**	**-0.9**
	comp=Z,0.6nm,0.3s,mb4.0,baz=104,slow=7.3,SNR=14						
TIXI	**Tiksi**	**47.54**	**21**	*e*P	**P**	**11 45 15.4**	**-1.2**
TIXI				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
KMBO	**Kilima Mbogo**	**48.22**	**231**	⇑*e*P	**P**	**11 45 24.5**	**+2.0**
KMBO	**Kilima Mbogo**	**48.22**	**231**	P	**P**	**11 45 25.1**	**+2.5**
	comp=Z,0.7nm,0.3s,mb4.1,baz=63,slow=22,SNR=3.8						
HAU	**Haudompre**	**50.32**	**307**	*e*P	**P**	**11 45 37.9**	**-0.3**
LPG	**La Plagne**	**50.50**	**304**	*e*P	**P**	**11 45 40.9**	**+1.3**
	comp=Z,7.7nm,0.9s,mb4.4						
LPG	**La Plagne**	**50.50**	**304**	*e*P	**P**	**11 45 40.9**	**+1.3**
LPG				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.5						
LPG	**La Plagne**	**50.50**	**304**	*e*P	**P**	**11 45 40.9**	**+1.3**
	comp=Z,3.8nm,0.9s,mb4.4						
MBDF	**Montbardon**	**50.64**	**303**	*e*P	**P**	**11 45 41.2**	**+0.5**
	comp=Z,5.2nm,0.7s,mb4.2						
MBDF	**Montbardon**	**50.64**	**303**	*e*P	**P**	**11 45 41.2**	**+0.5**
MBDF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
MBDF	**Montbardon**	**50.64**	**303**	*e*P	**P**	**11 45 41.2**	**+0.5**
	comp=Z,2.6nm,0.7s,mb4.3						
KEST	**Kesra**	**51.03**	**291**	P	**P**	**11 45 45.1**	**+1.4**
	comp=Z,1.9nm,0.5s,mb4.3,baz=232,slow=1.1,SNR=12						
SMF	**Signal de Mont**	**52.25**	**306**	*e*P	**P**	**11 45 52.4**	**-0.3**
	comp=Z,4.4nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**52.25**	**306**	*e*P	**P**	**11 45 52.4**	**-0.3**
SMF				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
SMF	**Signal de Mont**	**52.25**	**306**	*e*P	**P**	**11 45 52.4**	**-0.3**
	comp=Z,2.2nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**52.39**	**306**	*e*P	**P**	**11 45 53.2**	**-0.5**
	comp=Z,16nm,1.2s,mb4.5						
SSF	**Saint Saulge**	**52.39**	**306**	*e*P	**P**	**11 45 53.2**	**-0.5**
SSF				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb4.5						
SSF	**Saint Saulge**	**52.39**	**306**	*e*P	**P**	**11 45 53.2**	**-0.5**
	comp=Z,7.9nm,1.2s,mb4.5						
AVF	**Avril sur Loir**	**52.55**	**306**	*e*P	**P**	**11 45 54.5**	**-0.4**
	comp=Z,3.1nm,0.6s,mb4.1						
AVF	**Avril sur Loir**	**52.55**	**306**	*e*P	**P**	**11 45 54.5**	**-0.4**
AVF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
AVF	**Avril sur Loir**	**52.55**	**306**	*e*P	**P**	**11 45 54.5**	**-0.4**
	comp=Z,1.5nm,0.6s,mb4.1						
MJAR	**Matsushiro Arr**	**52.69**	**67**	P	**P**	**11 45 56.8**	**+0.7**
	comp=Z,0.8nm,0.6s,mb3.9,baz=297,slow=13,SNR=4.5						
RJF	**Les Rejaudoux**	**54.14**	**305**	*e*P	**P**	**11 46 07.1**	**+0.6**
SEY	**Seymchan**	**55.72**	**33**	⇑*e*P	**P**	**11 46 19.2**	**+1.5**
ETSF	**Etsaut**	**56.23**	**302**	*e*P	**P**	**11 46 22.0**	**+0.3**
	comp=Z,2.9nm,0.5s,mb4.3						
ETSF	**Etsaut**	**56.23**	**302**	*e*P	**P**	**11 46 22.0**	**+0.3**
ETSF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
ETSF	**Etsaut**	**56.23**	**302**	*e*P	**P**	**11 46 22.0**	**+0.3**
	comp=Z,1.5nm,0.5s,mb4.3						
ESDC	**Sonseca Array**	**59.71**	**300**	P	**P**	**11 46 46.3**	**+0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=63,slow=6.6,SNR=8.2						
BILL	**Bilibino**	**60.21**	**26**	*e*P	**P**	**11 46 49.8**	**+0.8**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
BILL	**Bilibino**	**60.21**	**26**	*e*P	**P**	**11 46 49.8**	**+0.8**
	comp=Z,4.8nm,1.2s,mb4.4						
TORD	**Torodi Ar. Bea**	**66.96**	**271**	P	**P**	**11 47 33.8**	**-0.5**
	comp=Z,4.2nm,0.6s,mb4.6,baz=51,slow=5.5,SNR=31						
FITZ	**Fitzroy Crossi**	**72.45**	**127**	P	**P**	**11 48 07.8**	**-0.1**
	comp=Z,1.0nm,0.7s,mb3.9,baz=22,slow=5.4,SNR=3.5						
DBIC	**Dimbokro**	**75.86**	**269**	P	**P**	**11 48 27.9**	**-0.1**
	comp=Z,2.7nm,0.6s,mb4.4,baz=26,slow=3.1,SNR=7.2						
INK	**Inuvik**	**76.06**	**10**	*e*P	**P**	**11 48 27.5**	**-0.7**
	comp=Z,8.6nm,0.6s,mb4.9						
BOSA	**Boshof**	**76.76**	**222**	P	**P**	**11 48 32.6**	**-0.1**
	comp=Z,4.7nm,0.9s,mb4.4,baz=332,slow=6.0,SNR=5.3						
WRA	**Warramunga Arr**	**79.65**	**123**	P	**P**	**11 48 49.7**	**+0.8**
	comp=Z,1.7nm,0.4s,mb4.3,baz=322,slow=5.0,SNR=55						
WB2	**Warramunga Arr**	**79.66**	**123**	*e*P	**P**	**11 48 49.4**	**+0.4**
ASAR	**Alice Springs**	**81.85**	**126**	P	**P**	**11 49 01.2**	**+0.7**
	comp=Z,1.4nm,0.6s,mb4.0,baz=311,slow=5.3,SNR=36						
YKA	**Yellowknife Ar**	**83.57**	**3**	P	**P**	**11 49 08.1**	**-0.8**
	comp=Z,1.7nm,0.6s,mb4.3,baz=348,slow=5.3,SNR=34						

*NSSP **20** 11:48:54.5, 3928N×44.18E, h5km, ML3.6*
*TIF **20** 11:48:55.8, 39.15N×44.18E, h12km±3km*
*CSEM **20** 11:48:59.0±0.1, 3939N×44.18E, h2km, MD3.7, Error ellipse: s-maj=2.6km s-min=1.6km az=104.0*
*ISCJB **20** 11:48:59.3±0.3, 3928N±002×4423E±003, h5km, Error ellipse: s-maj=2.9km s-min=2.7km az=42.4*
*ISK **20** 11:48:59.6, 3937N×4405E, h5km, MD3.7, ML3.6*
*DDA **20** 11:49:00.9, 3941N×4403E, h21km±5km, Md3.6*
ISC 20 11:48:59.4±0.5, 3928N±002×4424E±003, h0km±4km, n41, σ1?35/63, 10D, Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLDR	**Caldiran**	**0.28**	**242**	PG	**Pg**	**11 49 04.9**	**+0.2**
CLDR				*e*SG	**Sg**	**11 49 09.4**	**+1.0**
DYDN	**Diyadin**	**0.50**	**302**	*i* P	**Pg**	**11 49 07.3**	**-1.7**
DYDN				*i* S	**Sg**	**11 49 20.8**	**+5.3**
VRNZ	**Vardanashen**	**0.77**	**357**	P	**Pg**	**11 49 13.0**	**-1.1**
VRNZ				S	**Sg**	**11 49 25.8**	**+1.6**
PAAR	**P'arak'ar**	**0.88**	**7**	P	**Pg**	**11 49 15.9**	**-0.3**
PAAR				S	**Sg**	**11 49 28.5**	**+0.9**
VNNZ	**Vanand**	**0.88**	**339**	⇓P	**Pg**	**11 49 15.7**	**-0.6**
VNNZ				S	**Sg**	**11 49 30.2**	**+2.4**
VANB	**Van**	**0.95**	**224**	PN	**Pn**	**11 49 19.5**	**-0.4**
AKSZ	**Araks**	**0.95**	**344**	⇓P	**Pg**	**11 49 16.5**	**-1.1**
AKSZ				S	**Sg**	**11 49 30.9**	**+1.0**
TVAN	**Van**	**0.99**	**221**	*i* P	**Pg**	**11 49 19.5**	**+1.2**
TVAN				*i* S	**Sg**	**11 49 37.8**	**+6.7**
AGRB	**Hanur-Agry**	**1.01**	**288**	PG	**Pg**	**11 49 16.3**	**-2.4**
AGRB				*e*SG	**Sg**	**11 49 30.5**	**-1.2**
ARUZ	**Aruch**	**1.01**	**354**	P	**Pg**	**11 49 17.6**	**-1.1**
ARUZ				S	**Sg**	**11 49 32.3**	**+0.5**
AMBZ	**Amberd**

DGRG	**David-gareji**	**2.36**	**27**	P	Pg	12 16 27.7	-1.4
DGRG				S	Sg	12 17 00.4	+0.7
MTA	**Mtatsminda**	**2.42**	**15**	P	Pn	12 16 19.8	-4.4
MTA				S	Sn	12 16 57.6	+3.4
TBLG	**Delisi**	**2.45**	**14**	P	Pn	12 16 19.9	-4.7
TBLG				S	Sg	12 17 00.5	-2.1
GOR	**Gori**	**2.63**	**3**	S	Sg	12 17 06.3	-2.1
ONI	**Oni**	**3.24**	**353**	P	Pg	12 16 42.8	-3.3
ONI				S	Sg	12 17 47.7	+20

LDG ***20*** *12:15:39.7±0.2,2909S×71.14W,h10km,Mb5.5/28, Ms4.6/10,Error ellipse: s-maj=19.4km s-min=10.5km az=116.0*
MOS ***20*** *12:15:42.3±1.0,2946S×71.10W,h32km,mb5.7/38, MS4.6/9,Error ellipse: s-maj=9.7km s-min=5.5km az=93.3*
BJI ***20*** *12:15:43.4,2935S×7182W,h42km,mB5.1,Ms5.4,Msz5.2*
ISCJB ***20*** *12:15:43.8±0.1,2957S±002×7107W±003,h46km, mb5.3/113,MS4.7/26,Error ellipse: s-maj=4.1km s-min=3.0km az=164.9*
GUC ***20*** *12:15:44.5±0.5,2961S×71.14W,h51km±3km,ML5.4*
IDC ***20*** *12:15:45.0±0.5,2957S×71.15W,h45km±4km,mb5.0/23, mb1 5.0/26,mb1mx5.0/27,mbtmp4.9/26,MS4.6/17, Ms1 4.6/17,ms1mx4.4/26,Error ellipse: s-maj=14.3km s-min=9.6km az=88.0*
GCMT ***20*** *12:15:45.0±0.2,2954S×7155W,h47km,MW5.3/75, Moment Tensor Solution. s69,c104; s75,c113; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.96±.02; Mθθ0.16±.02; Mφφ-1.12±.02; Mrθ0.26±.01; Mθφ-0.10±.02; Mφr-0.28±.02; Best double couple: M0 1.11900×10^17 NP1:φs21.00000°,δ41.00000°, λ116.00000°. NP2:φs168.00000°,δ54.00000°,λ69.00000°. Principal axes: T 1.0790, Plg72.0000°, Azm25.0000°; N 0.0810, Plg17.0000°, Azm181.0000°; P -1.1590, Plg7.0000°, Azm273.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *12:15:45.0±0.1,2959S×71.12W,mb5.4/107,MW5.4 Error ellipse: s-maj=4.3km s-min=3.0km az=73.0,Moment Tensor Solution. s24 Moment tensor: Scale 10^17Nm; Mrr1.18; Mθθ0.21; Mφφ-1.38; Mrθ0.44; Mθφ0.27; Mφr-0.41; Best double couple: M0 1.40000×10^17 NP1:φs9.00000°, δ38.00000°,λ119.00000°. NP2:φs154.00000°,δ58.00000°, λ70.00000°. Principal axes: T 1.3800, Plg70.0000°, Azm18.0000°; N 0.1400, Plg17.0000°, Azm165.0000°; P -1.5100, Plg10.0000°, Azm258.0000°;*
NEIC Felt [IV] at Coquimbo, La Serena, Paiguano and Vicuna; [III] at Copiapo, Hurtado and Tierra Amarilla; [II] at Illapel, La Ligua, Los Vilos, Papudo, Puchuncavi, Salamanca, Valparaiso and Vina del Mar.

ISC 20 12:15:45.6±0.1,2959S±002×7106W±003,h48km, h48km±.9km:pP-P,n760,σ0σ67/542,mb5.3/112,MS4.7/26, 144C-139D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.36**	**207**	⇑P		**Pn**	**12 15 54.1**	**-1.1**
LSCH				*i* S		**Sn**	**12 16 01.0**	**-0.9**
TLL	**Tololo Astrono**	**0.62**	**159**	*i* S		**Sn**	**12 16 08.9**	**+1.6**
TLL				AML		AML	12 16 11.5	
	comp=N,162μm,0.6s							
LCO	**Las Campanas**	**0.65**	**29**	*e*Pn		**Pn**	**12 15 58.7**	**0.0**
LCO				*e*Sn		**Sn**	**12 16 08.6**	**+0.6**
OVCH	**Ovalle**	**1.02**	**187**	⇑*e*P		**Pn**	**12 16 02.7**	**-0.9**
OVCH				*i* S		**Sn**	**12 16 16.0**	**-0.9**
OVCH	**Ovalle**	**1.02**	**187**	⇑*e*P		**Pn**	**12 16 02.7**	**-0.9**
OVCH				*i* S		**Sn**	**12 16 16.0**	**-0.9**
OVCH				AML		AML	12 16 25.3	
	comp=N,108μm,0.6s							
VACH	**Vallenar**	**1.04**	**15**	⇓*i*P		**Pn**	**12 16 03.9**	**0.0**
VACH				*i* S		**Sn**	**12 16 18.2**	**+0.9**
CMCH	**Combarbala**	**1.58**	**178**	*e*P		**Pn**	**12 16 10.7**	**-0.5**
CMCH				*i* S		**Sn**	**12 16 30.2**	**-0.3**
CPCH	**Copiapo**	**2.31**	**16**	*e*P		**Pn**	**12 16 21.2**	**+0.1**
CPCH				*e*S		**Sn**	**12 16 48.9**	**+0.6**
CPCH	**Copiapo**	**2.31**	**16**	*e*P		**Pn**	**12 16 21.2**	**+0.1**
CPCH				*e*S		**Sn**	**12 16 48.9**	**+0.6**
CPCH				AML		AML	12 16 59.5	
	comp=E,67μm,0.2s							
CFAA	**Coronel Fontan**	**3.16**	**130**	P		**Pn**	**12 16 36.5**	**+3.7**
CFAA				S		**Sn**	**12 17 16.0**	**+6.8**
CFAA	**Coronel Fontan**	**3.16**	**130**	P		**Pn**	**12 16 36.5**	**+3.7**
	comp=E,28nm,0.3s,baz=312,slow=12,SNR=1504							
CFAA				S		**Sn**	**12 17 16.0**	**+6.8**
	comp=E,68nm,0.3s,baz=69,slow=20,SNR=12							
PLCA	**Paso Flores**	**11.13**	**178**	P		**Pn**	**12 18 22.1**	**+0.1**
PLCA				pmax		pmax		
	comp=Z,1.0nm,0.3s							
PLCA				MLR		MLR		
	comp=Z,3μm,21.2s							
PLCA	**Paso Flores**	**11.13**	**178**	*e*Pn		**Pn**	**12 18 21.6**	**-0.4**
	comp=Z,98nm,1.3s							
PLCA	**Paso Flores**	**11.13**	**178**	P		**Pn**	**12 18 22.1**	**0.0**
	comp=Z,0.6nm,0.3s,baz=331,slow=13,SNR=13							
PLCA				LR		LR	12 23 02.3	
	comp=Z,3μm,21.2s,baz=344,slow=39							
TRQA	**Tornquist**	**11.32**	**141**	*e*Pn		**Pn**	**12 18 24.8**	**0.0**
LPA	**La Plata**	**12.31**	**119**	*c*e*P		**Pn**	**12 18 38.0**	**-0.2**
LPA				*e*pP			12 18 43.6	
LPA				*e*sP			12 18 52.7	
LPA				*e*S		**Sn**	**12 20 54.0**	**+0.1**
CPUP	**Villa Florida**	**12.56**	**78**	P		**Pn**	**12 18 40.8**	**-0.9**
CPUP				S		**Sn**	**12 21 03.6**	**+3.4**
CPUP				pmax		pmax		
	comp=Z,2.0nm,0.3s							
CPUP				MLR		MLR		
	comp=Z,4μm,18.0s							
CPUP	**Villa Florida**	**12.56**	**78**	*e*Pn		**Pn**	**12 18 40.1**	**-1.6**
	comp=Z,415nm,0.7s							
CPUP	**Villa Florida**	**12.56**	**78**	P		**Pn**	**12 18 40.8**	**-0.9**
	comp=Z,1.8nm,0.3s,baz=235,slow=12,SNR=21							
CPUP				S		**Sn**	**12 21 03.6**	**+3.4**
	baz=216,slow=8.7,SNR=1.6							
CPUP				LR		LR	12 24 18.6	
	comp=Z,4μm,18.0s,baz=259,slow=41							
ARE	**Arequipa**	**13.07**	**358**	*e*P		**Pn**	**12 18 48.0**	**-0.7**
LPAZ	**La Paz**	**13.51**	**12**	P		**Pn**	**12 18 51.4**	**-3.2**
LPAZ				pmax		pmax		
	comp=Z,1.0nm,0.3s							
LPAZ	**La Paz**	**13.51**	**12**	*e*Pn		**Pn**	**12 18 51.3**	**-3.4**
	comp=Z,33nm,0.7s							
LPAZ	**La Paz**	**13.51**	**12**	P		**Pn**	**12 18 51.4**	**-3.2**
	comp=Z,0.8nm,0.3s,baz=215,slow=9.6,SNR=14							
SIV	**San Ignacio**	**16.35**	**36**	P		**Pn**	**12 19 28.4**	**-3.6**
	comp=Z,2.1nm,0.3s,baz=255,slow=9.0,SNR=27							
NNA	**Nana**	**18.32**	**342**	*e*P		**Pn**	**12 19 57.1**	**+0.9**
	comp=Z,59nm,1.1s							
NNA	**Nana**	**18.32**	**342**	P		**Pn**	**12 19 55.5**	**-0.8**
	comp=Z,1.6nm,0.3s,baz=177,slow=11,SNR=7.0							
NNA				LR		LR	12 25 25.6	
	comp=Z,2μm,22.0s,baz=169,slow=32							
ATAH	**Atahualpa**	**23.50**	**341**	P		**P**	**12 20 51.2**	**-0.2**
	comp=Z,7.0nm,0.7s,mb4.2,baz=207,slow=6.0,SNR=10							
ATAH				LR		LR	12 28 14.4	
	comp=Z,1μm,21.8s,MS4.3,baz=23,slow=32							
EFI	**East Falkland**	**24.10**	**160**	P		**P**	**12 20 55.0**	**-1.5**
	comp=Z,431nm,0.6s,mb6.1,SNR=7.4							
EFI	**East Falkland**	**24.10**	**160**	*e*P		**P**	**12 20 55.7**	**-0.8**
EFI				pmax		pmax		
	comp=Z,255nm,0.9s,mb5.7							
EFI	**East Falkland**	**24.10**	**160**	*e*P		**P**	**12 20 55.7**	**-0.8**
	comp=Z,255nm,0.9s,mb5.7							
USHA	**Ushuaia**	**25.30**	**176**	P		**P**	**12 21 07.7**	**+0.2**
	comp=Z,39nm,0.7s,mb5.0,baz=327,slow=7.0,SNR=17							
USHA				pP		pP	12 21 21.1	+1.2
	comp=Z,62nm,0.8s,baz=341,slow=7.6,SNR=6.9							
USHA				LR		LR	12 31 43.9	
	comp=Z,2μm,18.4s,MS4.6,baz=344,slow=38							
BDFB	**Brasilia**	**25.34**	**62**	P		**P**	**12 21 08.2**	**+0.1**
	comp=Z,32nm,0.9s,mb4.9,baz=226,slow=15,SNR=86							
CAM4	**Nova Friburgo**	**26.56**	**81**	⇑*i*P		**P**	**12 21 18.4**	**-0.8**
CAM4				*i*			12 21 20.1	
CAM4				*i*			12 21 37.1	
CAM4				*i*			12 21 39.4	
CAM4				*i*			12 21 43.3	
CAM4				*i*			12 21 49.7	
CAM4				*i*			12 22 19.9	
ROSC	**El Rosal**	**34.39**	**354**	*e*P		**P**	**12 22 29.6**	**+1.3**
ROSC	**El Rosal**	**34.39**	**354**	P		**P**	**12 22 28.3**	**0.0**
	comp=Z,7.3nm,0.5s,mb4.9,baz=107,slow=20,SNR=7.1							
ROSC				LR		LR	12 37 57.5	
	comp=Z,410nm,19.5s,MS4.2,baz=13,slow=39							
PMSA	**Palmer Station**	**35.48**	**175**	P		**P**	**12 22 37.4**	**+0.3**
	comp=Z,45nm,1.1s,mb5.3,baz=220,slow=3.6,SNR=2.8							
PMSA				LR		LR	12 35 15.8	
	comp=Z,2μm,20.3s,MS4.8,baz=350,slow=33							
BCIP	**Isla Barro Col**	**39.45**	**346**	*e*P		**P**	**12 23 12.0**	**+0.8**
PCRV	**Puerto La Cruz**	**40.01**	**10**	P		**P**	**12 23 15.0**	**-0.9**
	comp=Z,62nm,1.1s,mb5.2,baz=208,slow=2.5,SNR=11							
RCBR	**Riachuelo**	**40.71**	**61**	*e*P		**P**	**12 23 22.3**	**+0.5**
	comp=Z,83nm,1.2s,mb5.2							
RCBR				*e*pP		pP	12 23 40.2	+5.6
JTS	**JuntasAbangare**	**41.85**	**339**	*e*P		**P**	**12 23 31.1**	**0.0**
TGUH	**Tegucigalpa,Un**	**46.12**	**338**	*e*P		**P**	**12 24 05.0**	**-0.4**
CPD	**Cerro la Pandu**	**47.60**	**7**	*e*P		**P**	**12 24 14.7**	**-2.1**
SJG	**San Juan**	**47.66**	**6**	*e*P		**P**	**12 24 15.1**	**-2.1**
SJG				pmax		pmax		
	comp=Z,98nm,1.2s							
SJG	**San Juan**	**47.66**	**6**	*e*P		**P**	**12 24 15.1**	**-2.1**
	comp=Z,98nm,1.2s,mb5.7							
MPR	**Mayaguez**	**47.67**	**5**	*e*P		**P**	**12 24 15.9**	**-1.4**
HUMP	**Col San Antoni**	**47.72**	**7**	*e*P		**P**	**12 24 15.7**	**-2.0**
	comp=Z,63nm,1.4s,mb5.5							
AOPR	**Arecibo Observ**	**47.83**	**6**	*e*P		**P**	**12 24 16.5**	**-2.1**
	comp=Z,88nm,1.3s,mb5.6							
CBYP	**Canovanas**	**47.84**	**7**	*e*P		**P**	**12 24 15.2**	**-3.4**
	comp=Z,99nm,1.1s,mb5.8							
SDDR	**Presa de Saban**	**48.28**	**360**	*e*P		**P**	**12 24 21.7**	**-0.4**
TEIG	**Tepich**	**52.23**	**339**	*e*P		**P**	**12 24 50.8**	**-1.1**
	comp=Z,77nm,0.7s,mb5.7							
TEIG				*e*pP		pP	12 25 08.8	+3.6
VNA3	**Neumayer Olymp**	**53.15**	**159**	*e*P		**P**	**12 24 58.6**	**+0.4**
VNA3				*e*		pP	12 25 10.9	-0.5
VNA3				*e*			12 25 16.7	
VNA1	**Neumayer--Stat**	**53.43**	**158**	*e*P		**P**	**12 25 01.2**	**+1.0**
VNA1				*e*		pP	12 25 13.3	-0.2
VNA1				*e*			12 25 21.0	
VNA2	**Neumayer--Watz**	**53.78**	**159**	*e*P		**P**	**12 25 03.3**	**+0.5**
	baz=287,slow=8.8							
VNA2				*e*		pP	12 25 16.0	0.0
VNA2				*e*			12 25 22.0	
SNAA	**Sanae**	**55.37**	**159**	*e*P		**P**	**12 25 11.0**	**-3.3**
SNAA				*e*		pP	12 25 23.3	-4.3
SNAA				*e*			12 25 29.0	
SNAA	**Sanae**	**55.37**	**159**	P		**P**	**12 25 14.7**	**+0.3**
	comp=Z,54nm,0.9s,mb5.6,baz=282,slow=6.7,SNR=270							
RKT	**Rikitea**	**57.02**	**260**	*e*S		**S**	**12 33 30.1**	**+12**
	comp=Z,514nm,33.0s							
RKT				*e*LR		LR	12 42 28.5	
	comp=Z,952nm,25.0s,baz=114							
RKT	**Rikitea**	**57.02**	**260**	*e*T			13 26 35.5	
	comp=Z,6.7nm,0.2s							
RKT	**Rikitea**	**57.02**	**260**	*e*S		**S**	**12 33 30.1**	**+12**
	comp=Z,514nm,33.0s							
RKT				*e*LR		LR	12 42 28.5	
	comp=Z,952nm,25.0s,baz=114							
MAIT	**Maitri**	**60.02**	**158**	*e*P		**P**	**12 25 45.4**	**-1.6**
QSPA	**South Pole Qui**	**60.64**	**180**	P		**P**	**12 25 51.5**	**+0.4**
	comp=Z,46nm,0.9s,mb5.6,baz=150,slow=2.4,SNR=161							
COW	**Cow Castle Cre**	**63.29**	**351**	*e*P		**P**	**12 26 08.5**	**-0.8**
HKT	**Hockley**	**63.74**	**336**	*e*P		**P**	**12 26 11.8**	**-0.6**
HKT				pmax		pmax		
	comp=Z,95nm,1.8s,mb5.5							
HKT	**Hockley**	**63.74**	**336**	*e*P		**P**	**12 26 11.8**	**-0.6**
	comp=Z,96nm,1.8s,mb5.5							
GOGA	**Godfrey**	**63.75**	**348**	*e*P		**P**	**12 26 10.9**	**-1.5**
JSC	**Jenkinsville**	**64.25**	**351**	*e*P		**P**	**12 26 14.5**	**-1.2**
JCT	**Junction City**	**65.71**	**333**	*e*P		**P**	**12 26 25.1**	**-0.1**
TKL	**Tuckaleechee C**	**65.99**	**349**	*e*P		**P**	**12 26 25.2**	**-1.7**
OXF	**Oxford**	**66.07**	**343**	*e*P		**P**	**12 26 26.1**	**-1.3**
OXF				pmax		pmax		
	comp=Z,189nm,1.0s,mb6.1							
OXF	**Oxford**	**66.07**	**343**	*e*P		**P**	**12 26 26.1**	**-1.4**
	comp=Z,189nm,1.0s,mb6.1							
PLAL	**Pickwick Lake**	**66.20**	**345**	*e*P		**P**	**12 26 26.8**	**-1.4**
	comp=Z,56nm,1.0s,mb5.5							
TXAR	**Lajitas Array**	**66.34**	**329**	P		**P**	**12 26 29.2**	**-0.1**
TXAR				LR		LR	12 50 39.8	
TXAR	**Lajitas Array**	**66.34**	**329**	P		**P**	**12 26 29.2**	**-0.1**
	comp=Z,8.3nm,0.6s,mb5.0,baz=151,slow=8.7,SNR=134							
TXAR				LR		LR	12 50 39.8	
	comp=Z,267nm,21.1s,MS4.4,baz=50,slow=32							
BLA	**Blacksburg**	**67.02**	**352**	*e*P		**P**	**12 26 32.5**	**-1.0**
BLA				pmax		pmax		
	comp=Z,19nm,1.0s,mb5.1							
BLA	**Blacksburg**	**67.02**	**352**	*e*P		**P**	**12 26 32.5**	**-1.0**
	comp=Z,19nm,1.0s,mb5.1							
URVA	**University of**	**67.08**	**354**	*e*P		**P**	**12 26 33.5**	**-0.4**
ELN	**Prospectdale**	**67.08**	**352**	*e*P		**P**	**12 26 33.2**	**-0.7**
MIAR	**Mount Ida**	**67.24**	**340**	*e*P		**P**	**12 26 34.1**	**-0.8**
HALT	**Halls**	**67.38**	**344**	*e*P		**P**	**12 26 34.9**	**-0.9**
SBA	**Scott Base**	**67.55**	**191**	*e*P		**P**	**12 26 37.2**	**+0.7**
SBA				pmax		pmax		
	comp=Z,170nm,2.7s,mb5.6							
BBTS	**Babate**	**68.55**	**58**	P		**P**	**12 26 44.8**	**+1.3**
	comp=Z,118nm,1.0s,mb5.8,baz=239,slow=2.1,SNR=15							
BBTS				LR		LR	12 57 16.7	
	comp=Z,269nm,18.3s,MS4.5,baz=343,slow=36							
VNDA	**Vanda**	**68.58**	**191**	P		**P**	**12 26 43.6**	**+0.7**
	comp=Z,5.8nm,0.9s,mb4.5,baz=134,slow=5.4,SNR=29							
WMOK	**Wichita Mounta**	**69.12**	**336**	*e*P		**P**	**12 26 45.4**	**-1.3**
FVM	**French Village**	**69.62**	**344**	*e*P		**P**	**12 26 49.0**	**-0.7**
SYO	**Syowa Base**	**69.66**	**159**	⇓*i*P		**P**	**12 26 48.0**	**-1.7**
SYO	**Syowa Base**	**69.66**	**159**	⇓*e*pP		pP	12 27 00.6	-2.8
CCM	**Cathedral Cave**	**69.89**	**343**	*e*P		**P**	**12 26 50.4**	**-1.0**
CCM				pmax		pmax		
	comp=Z,100nm,1.0s,mb5.7							
CCM	**Cathedral Cave**	**69.89**	**343**	*e*P		**P**	**12 26 50.4**	**-1.0**
	comp=Z,100nm,1.0s,mb5.7							
BLO	**Bloomington**	**69.91**	**347**	*e*P		**P**	**12 26 50.0**	**-1.4**
BLO				pmax		pmax		
	comp=Z,59nm,1.2s,mb5.4							
BRNJ	**Basking Ridge**	**69.99**	**357**	*e*P		**P**	**12 26 52.8**	**+0.9**
	comp=Z,58nm,1.1s,mb5.4							
SSPA	**Standing Stone**	**70.15**	**354**	*e*P		**P**	**12 26 52.3**	**-0.6**
	comp=Z,53nm,1.1s,mb5.4							
SLM	**Saint Louis**	**70.19**	**344**	*e*P		**P**	**12 26 52.3**	**-0.9**
PAL	**Palisades**	**70.28**	**358**	*e*P		**P**	**12 26 54.0**	**+0.3**
PAL	**Palisades**	**70.28**	**358**	*e*P		**P**	**12 26 53.2**	**-0.6**
	comp=Z,26nm,0.9s,mb5.2							
319A	**Douglas**	**70.68**	**326**	⇑P		**P**	**12 26 56.8**	**+0.4**
	baz=71,SNR=13							
318A	**Bisbee**	**71.08**	**325**	⇓P		**P**	**12 26 59.2**	**+0.4**
	baz=72,SNR=27							
219A	**White Tail Can**	**71.18**	**326**	⇓P		**P**	**12 26 59.9**	**+0.5**
	baz=72,SNR=46							
218A	**Dragoon**	**71.55**	**326**	⇑P		**P**	**12 27 02.1**	**+0.5**
	baz=72,SNR=27							
HRV	**Adam Dziewonsk**	**71.74**	**360**	*e*P		**P**	**12 27 02.7**	**+0.2**
HRV				pmax		pmax		
	comp=Z,47nm,1.1s,mb5.3							
HRV	**Adam Dziewonsk**	**71.74**	**360**	*e*P		**P**	**12 27 02.7**	**+0.2**
	comp=Z,47nm,1.1s,mb5.3							
BNM	**Barren Site**	**71.75**	**329**	*e*P		**P**	**12 27 03.2**	**+0.4**
217A	**Green Valley**	**71.77**	**325**	⇓P		**P**	**12 27 03.1**	**+0.2**
	baz=72,SNR=22							
PPT	**Papeete**	**71.77**	**260**	*e*S		S	12 36 30.9	+10
	comp=Z,433nm,33.8s							
PPT	**Papeete**	**71.77**	**260**	*e*S		S	12 36 30.9	+10
	comp=Z,433nm,33.8s							
PPT				*e*LR		LR	12 49 19.4	
	comp=Z,1μm,23.8s,baz=105							
PPT				*e*LR		LR	14 08 35.2	
	comp=Z,138nm,29.0s							
PPT	**Papeete**	**71.77**	**260**	LR		LR	12 49 56.7	
	comp=Z,658nm,20.3s,MS4.9,baz=119,slow=29							
HDIL	**Hopedale**	**71.81**	**345**	*e*P		**P**	**12 27 01.6**	**-1.4**
	comp=Z,42nm,0.8s,mb5.4							
119A	**Ashpeak Ranch,**	**71.83**	**327**	⇑P		**P**	**12 27 03.8**	**+0.6**
	baz=72,SNR=22							
LPM	**Los Pinos Moun**	**71.89**	**330**	*e*P		**P**	**12 27 04.0**	**+0.3**
118A	**Homack Ranch,**	**72.05**	**326**	⇓P		**P**	**12 27 04.8**	**+0.2**
	baz=72,SNR=21							
TUC	**Tucson**	**72.18**	**325**	*e*P		**P**	**12 27 05.0**	**-0.4**
TUC				*e*PP		pP	12 27 18.0	-1.2
TUC				pmax		pmax		
	comp=Z,19nm,1.3s,mb4.9							
TUC	**Tucson**	**72.18**	**325**	*e*P		**P**	**12 27 05.3**	**-0.1**
TUC				*e*PP		pP	12 27 18.8	-0.4
TUC	**Tucson**	**72.18**	**325**	*e*P		**P**	**12 27 05.0**	**-0.4**
	comp=Z,19nm,1.3s,mb4.9							
TUC				*e*pP		pP	12 27 18.0	-1.1
LAZ	**Ladron**	**72.19**	**329**	*e*P		**P**	**12 27 05.8**	**+0.3**
LAZ				*e*pP		pP	12 27 19.8	+0.6
Z19A	**T-Link Ranch,**	**72.25**	**327**	P		**P**	**12 27 06.5**	**+0.8**
	baz=73,SNR=11							
216A	**Three Points,**	**72.27**	**325**	⇑P		**P**	**12 27 06.3**	**+0.4**
	baz=73,SNR=11							
ANMO	**Albuquerque**	**72.36**	**330**	*c i*P		**P**	**12 27 06.9**	**+0.5**
117A	**Oracle**	**72.37**	**326**	⇓P		**P**	**12 27 06.6**	**+0.1**
	baz=73,SNR=17							
Z18A	**Geronimo**	**72.45**	**326**	⇑P		**P**	**12 27 07.2**	**+0.2**
	baz=73,SNR=7.2							
AAM	**Ann Arbor**	**72.47**	**350**	*e*P		**P**	**12 27 05.7**	**-1.1**
LIC	**Lamto**	**72.61**	**72**	⇑*i*P		**P**	**12 27 08.3**	**-0.1**
	comp=Z,73nm,0.7s,mb5.4							
LIC				*e*MLR		MLR		
	comp=Z,722nm,22.5s,MS4.6							
LIC	**Lamto**	**72.61**	**72**	⇑*i*P		**P**	**12 27 08.3**	**-0.1**
	comp=Z,36nm,0.7s,mb5.4							
LIC				LR		LR		
	comp=Z,360nm,22.5s,MS4.6							
FFD	**Franklin Falls**	**72.70**	**360**	*e*P		**P**	**12 27 09.0**	**+0.8**
	comp=Z,52nm,1.0s,mb5.4							
Y19A	**Nutrioso**	**72.79**	**327**	⇑P		**P**	**12 27 10.1**	**+1.1**
	baz=73,SNR=46							
Z17A	**San Carlos Hig**	**72.83**	**326**	⇑P		**P**	**12 27 09.4**	**+0.2**
	baz=73,SNR=5.9							
116A	**Eloy**	**72.84**	**325**	⇓P		**P**	**12 27 09.6**	**+0.2**
	baz=73,SNR=9.1							
HNH	**Hanover**	**72.94**	**359**	*e*P		**P**	**12 27 10.0**	**+0.4**
	comp=Z,60nm,0.9s,mb5.5							
DBIC	**Dimbokro**	**73.00**	**72**	*e*P		**P**	**12 27 10.8**	**+0.1**
DBIC				pmax		pmax		
	comp=Z,94nm,0.8s							
DBIC	**Dimbokro**	**73.00**	**72**	*e*P		**P**	**12 27 10.8**	**+0.1**
	comp=Z,94nm,0.8s,mb5.8							
DBIC	**Dimbokro**	**73.00**	**72**	P		**P**	**12 27 10.9**	**+0.2**
	comp=Z,85nm,0.8s,mb5.7,baz=212,slow=6.1,SNR=91							
DBIC				LR		LR	12 56 04.6	
	comp=Z,508nm,21.5s,MS4.8,baz=221,slow=33							
Y18A	**Canyon Day Jun**	**73.01**	**327**	⇓P		**P**	**12 27 10.5**	**+0.2**
	baz=74,SNR=19							
X19A	**St. Johns**	**73.19**	**328**	⇑P		**P**	**12 27 11.9**	**+0.5**
	baz=74,SNR=7.6							
115A	**Sonoran Desert**	**73.22**	**325**	⇓P		**P**	**12 27 12.3**	**+0.8**
	baz=74,SNR=20							
Z16A	**Peralta Trail,**	**73.33**	**326**	⇓P		**P**	**12 27 12.5**	**+0.3**
	baz=74,SNR=8.3							
Y17A	**Roosevelt**	**73.33**	**326**	⇓P		**P**	**12 27 12.8**	**+0.6**
	baz=74,SNR=63							
LBNH	**Lisbon**	**73.47**	**359**	*e*P		**P**	**12 27 13.5**	**+0.7**
X18A	**Snowflake**	**73.59**	**327**	⇓P		**P**	**12 27 14.3**	**+0.6**
	baz=74,SNR=19							
Y16A	**Circle Bar Ran**	**73.79**	**326**	⇓P		**P**	**12 27 15.4**	**+0.5**
	baz=74,SNR=34							
W18A	**Petrified Fore**	**73.97**	**328**	⇑P		**P**	**12 27 16.5**	**+0.6**
	baz=74,SNR=7.4							
SCIA	**State Center**	**74.02**	**343**	*e*P		**P**	**12 27 14.8**	**-1.2**
	comp=Z,13nm,0.4s,mb5.2							
SCIA				*e*pP		pP	12 27 28.7	-1.2
113A	**Mohawk Valley,**	**74.06**	**324**	⇓P		**P**	**12 27 16.5**	**0.0**
	baz=74,SNR=8.7							
X16A	**Lo Mia Camp, P**	**74.21**	**326**	⇑P		**P**	**12 27 17.9**	**+0.6**
	baz=75,SNR=61							
JFWS	**Jewell Farm**	**74.27**	**345**	*e*P		**P**	**12 27 16.6**	**-0.9**
JFWS				pmax		pmax		
	comp=Z,19nm,0.6s,mb5.2							
JFWS	**Jewell Farm**	**74.27**	**345**	*e*P		**P**	**12 27 16.6**	**-0.8**
	comp=Z,19nm,0.6s,mb5.2							
Y15A	**Casa Rosa Ranc**	**74.27**	**325**	⇑P		**P**	**12 27 18.1**	**+0.4**
	baz=75,SNR=26							
SDCO	**Great Sand Dun**	**74.33**	**332**	*e*P		**P**	**12 27 18.4**	**+0.5**
	comp=Z,31nm,1.1s,mb5.2							
Y14A	**Wickenburg**	**74.59**	**325**	⇑P		**P**	**12 27 19.8**	**+0.2**
	baz=75,SNR=25							
X15A	**Humboldt**	**74.65**	**326**	⇓P		**P**	**12 27 20.5**	**+0.7**
	baz=75,SNR=53							
W16A	**Flagstaff**	**74.80**	**327**	⇑P		**P**	**12 27 21.7**	**+1.0**
	baz=75,SNR=49							
GLA	**Gl

baz=78,SNR=17
V11A **Goodsprings** 77.32 324 ⇓P P 12 27 35.4 +0.4
baz=78,SNR=15
U12A **Valley of Fire** 77.33 325 ⇑P P 12 27 35.3 +0.2
baz=78
MWC **Mount Wilson** 77.45 322 eP P 12 27 27.7 -8.1
T13A **Saint George** 77.49 326 ⇑P P 12 27 36.6 +0.7
baz=78,SNR=34
GSC **Goldstone** 77.61 323 eP P 12 27 37.2 +0.5
GSC **Goldstone** 77.61 323 ⇑P P 12 27 37.3 +0.6
baz=78,SNR=13
SRU **San Rafael** 77.61 330 eP P 12 27 36.8 +0.2
CCUT **Cedar City** 77.65 327 eP P 12 27 37.7 +0.9
CCUT epP pP 12 27 50.9 +0.2
SHPR **Sheep Range** 77.70 325 eP P 12 27 37.8 +0.6
S14A **Cedar City** 77.72 327 P P 12 27 38.3 +1.0
baz=78,SNR=20
MSU **Marysvale** 77.87 328 eP P 12 27 38.8 +0.8
ARUT **Antelope Range** 77.88 327 eP P 12 27 38.7 +0.6
S13A **Holt Ranch, En** 77.91 326 ⇑P P 12 27 39.2 +0.9
baz=78,SNR=38
EDW2 **Edwards Air Fo** 77.91 322 ⇑P P 12 27 38.5 +0.1
baz=78,SNR=8.9
R14A **James Farms, M** 78.09 327 ⇓P P 12 27 40.2 +1.0
baz=78,SNR=8.3
EOSO **Osorio** 78.12 48 P P 12 27 41.5 +1.9
comp=Z,63nm,1.1s,mb5.5
BSC **Santa Cruz Isl** 78.14 320 ⇑P P 12 27 40.6 +0.9
baz=79
LRMC **Laurel Mountai** 78.21 323 P P 12 27 40.6 +0.6
baz=79,SNR=5.6
U10A **Ash Meadows, A** 78.22 324 ⇓P P 12 27 40.8 +0.7
baz=79,SNR=13
T11A **Corn Creek, Al** 78.31 325 ⇓P P 12 27 41.4 +0.9
baz=79,SNR=53
RWWY **Rawlins** 78.39 333 eP P 12 27 41.2 +0.4
comp=Z,88nm,1.0s,mb5.6
S12A **Delamar Landin** 78.41 326 ⇓P P 12 27 42.0 +0.9
baz=79,SNR=8.7
SBC **Santa Barbara** 78.52 321 ⇓P P 12 27 42.2 +0.4
baz=79
FURC **Furnace Creek,** 78.53 324 ⇑P P 12 27 42.3 +0.5
baz=79,SNR=9.6
MPMC **Manual Prospec** 78.55 323 ⇓P P 12 27 42.0 +0.2
baz=79,SNR=12
TPNV **Topopah Spring** 78.59 325 eP P 12 27 42.6 +0.5
TPNV pmax pmax
comp=Z,32nm,1.1s,mb5.2
TPNV **Topopah Spring** 78.59 325 eP P 12 27 42.6 +0.5
comp=Z,32nm,1.1s,mb5.2
TPNV **Topopah Spring** 78.59 325 ⇓P P 12 27 42.8 +0.8
baz=79,SNR=23
R12A **Pony Springs,** 78.86 326 ⇑P P 12 27 44.4 +0.9
baz=79,SNR=21
S11A **Rachel** 78.88 325 ⇑P P 12 27 44.7 +1.0
baz=79,SNR=7.5
PKM **Peak Mountain** 78.92 321 ⇑P P 12 27 44.8 +0.9
baz=79,SNR=9.6
DAU **Daniels Canyon** 79.00 330 eP P 12 27 45.0 +0.8
Q13A **Wheeler Ranch,** 79.08 327 ⇓P P 12 27 45.3 +0.6
baz=80,SNR=24
CWC **Cottonwood Cre** 79.14 323 ⇑P P 12 27 45.8 +0.7
baz=80,SNR=6.2
GRAC **Grapevine Rang** 79.20 324 ⇑P P 12 27 46.1 +0.7
baz=80,SNR=5.2
VES **Vestal, Richgr** 79.22 322 ⇓P P 12 27 45.8 +0.2
baz=80,SNR=11
CFTV **Fuerteventura** 79.30 49 P P 12 27 47.0 +0.8
comp=Z,33nm,1.0s,mb5.2
RSSD **Black Hills** 79.31 336 eP P 12 27 45.8 0.0
RSSD pmax pmax
comp=Z,22nm,1.0s,mb5.0
RSSD **Black Hills** 79.31 336 eP P 12 27 45.8 -0.1
comp=Z,22nm,1.0s,mb5.0
SMMC **Simmler** 79.32 321 ⇑P P 12 27 47.0 +0.9
baz=80,SNR=8.1
R11A **Troy Canyon, C** 79.35 326 ⇑P P 12 27 46.8 +0.6
baz=80,SNR=24
P13A **Bates Ranch, G** 79.48 328 ⇓P P 12 27 47.4 +0.6
baz=80,SNR=24
DUG **Dugway** 79.52 329 eP P 12 27 47.0 -0.1
DUG pmax pmax
comp=Z,44nm,1.2s,mb5.3
DUG **Dugway** 79.52 329 eP P 12 27 47.0 0.0
comp=Z,44nm,1.2s,mb5.3
DUG **Dugway** 79.52 329 ⇓P P 12 27 47.4 +0.3
baz=80,SNR=26
S10A **Tonopah Range,** 79.52 325 ⇑P P 12 27 47.3 +0.2
baz=80,SNR=18
Q12A **Willow Creek R** 79.53 327 ⇑P P 12 27 47.2 0.0
baz=80,SNR=5.2
TSUM **Tsumeb** 79.63 106 eP P 12 27 49.3 +1.0
comp=Z,90nm,1.0s,mb5.7
TSUM epP pP 12 28 01.7 -0.5
RCTC **Rector, Farmer** 79.66 322 P P 12 27 48.0 0.0
baz=80,SNR=6.8
R10A **Warm Springs** 79.66 325 ⇑P P 12 27 48.6 +0.7
baz=80,SNR=15
S09A **Goldfield** 79.69 324 ⇓P P 12 27 48.3 +0.3
baz=80,SNR=12
TIN **Tinemaha** 79.69 323 ⇑P P 12 27 48.8 +0.7
baz=80,SNR=8.1
Q11A **Duckwater** 79.78 326 ⇑P P 12 27 48.9 +0.4
baz=80,SNR=23
HELL **Mitchell Peak** 79.82 323 ⇑P P 12 27 48.8 0.0
baz=80,SNR=12
N15A **Stansbury Isla** 79.95 329 ⇑P P 12 27 49.3 0.0
baz=80,SNR=5.5
TPH **Tonopah** 79.95 325 eP P 12 27 49.5 0.0
TPH e*PP pP 12 28 03.1 -0.3
TPH pmax pmax
comp=Z,37nm,1.3s,mb5.2
TPH **Tonopah** 79.95 325 eP P 12 27 49.5 0.0
comp=Z,37nm,1.3s,mb5.2
TPH epP pP 12 28 03.1 -0.4
S08C **White Mtn Res** 80.00 324 ⇑P P 12 27 50.2 +0.5
baz=80,SNR=9.8
R09A **Tonopah** 80.00 325 ⇑P P 12 27 49.9 +0.1
baz=80,SNR=16
HWUT **Hardware Ranch** 80.11 330 eP P 12 27 50.4 +0.1
comp=Z,47nm,0.9s,mb5.4
Q10A **Clear Creek Ra** 80.12 326 ⇑P P 12 27 50.7 +0.3
baz=81,SNR=15
U05C **Westside ANR,** 80.15 322 ⇑P P 12 27 50.6 0.0
baz=81
BGU **Big Grassy Mou** 80.20 329 eP P 12 27 50.4 -0.4
N14A **Grayback Hills** 80.21 329 ⇑P P 12 27 50.7 -0.1
baz=81,SNR=9.1
P11A **Circle Ranch,** 80.38 327 ⇑P P 12 27 52.2 +0.5
baz=81,SNR=5.3
M15A **Larsen Ranch,** 80.38 330 ⇑P P 12 27 51.2 -0.5
baz=81,SNR=9.5
MLAC **Mammoth Lakes** 80.44 323 ⇓P P 12 27 52.9 +0.8
baz=81,SNR=7.3
KCC **Kaiser Creek** 80.46 323 ⇑P P 12 27 52.0 -0.3
baz=81
O12A **Currie** 80.46 328 ⇓P P 12 27 52.4 +0.2
baz=81,SNR=24
Q09A **Carvers** 80.52 325 ⇑P P 12 27 53.0 +0.5
baz=81
U04C **Hernandez Rese** 80.53 321 ⇓P P 12 27 52.9 +0.3
baz=81,SNR=5.8
AGMN **Agassiz Refuge** 80.66 344 eP P 12 27 52.0 -1.1
comp=Z,36nm,1.0s,mb5.3
N13A **Wendover, West** 80.68 328 ⇑P P 12 27 53.1 -0.3
baz=81,SNR=7.7
NVAR **Mina Array Bea** 80.77 324 P P 12 27 54.2 +0.4
NVAR pP pP 12 28 07.3 -0.6
NVAR PKKPbc PKKPbc 12 46 33.5 -0.7
NVAR **Mina Array Bea** 80.77 324 P P 12 27 54.2 +0.4
comp=Z,6.2nm,0.8s,mb4.6,baz=151,slow=6.2,SNR=38
NVAR pP pP 12 28 07.3 -0.6
comp=Z,3.6nm,0.9s,baz=157,slow=7.1,SNR=5.4
NVAR PKKPbc PKKPbc 12 46 33.5 -0.7
comp=Z,1.1nm,0.8s,baz=280,slow=1.9,SNR=8.7
P10A **Eureka** 80.77 326 ⇑P P 12 27 54.3 +0.5
baz=81,SNR=10.0
HVU **Hansel Valley** 80.78 330 eP P 12 27 53.7 -0.1
O11A **Cowboy Ranch,** 80.78 327 ⇓P P 12 27 53.9 0.0
baz=81,SNR=36
M14A **Sheep Mountain** 80.81 329 ⇓P P 12 27 53.8 -0.2
baz=81,SNR=34
AHID **Auburn Hatcher** 80.86 331 eP P 12 27 53.8 -0.5
comp=Z,24nm,1.1s,mb5.0
AHID epP pP 12 28 08.5 +0.2
R07C **Lee Vining** 80.89 324 ⇓P P 12 27 55.4 +0.9
baz=81,SNR=7.1

Q08A **Gabbs** 80.91 325 P P 12 27 54.3 -0.3
baz=81,SNR=14
HAST **Hastings Reser** 80.97 321 ⇓P P 12 27 55.4 +0.4
baz=81
S05C **Merced** 81.01 322 ⇑P P 12 27 55.5 +0.3
baz=82,SNR=5.8
N12A **Clover Valley,** 81.06 328 ⇓P P 12 27 55.2 -0.2
baz=82,SNR=6.3
M13A **Montello** 81.06 329 ⇑P P 12 27 54.9 -0.5
baz=82,SNR=15
S06C **San Francisco** 81.16 323 ⇑P P 12 27 56.1 +0.2
baz=82,SNR=6.4
SNOW **Snow King Moun** 81.30 332 eP P 12 27 56.2 -0.4
comp=Z,17nm,0.9s,mb5.0
O10A **Cortez Mining,** 81.31 327 ⇓P P 12 27 56.3 -0.4
baz=82,SNR=7.8
LOHW **Long Hollow** 81.36 332 eP P 12 27 56.4 -0.4
comp=Z,20nm,1.2s,mb4.9
BOSA **Boshof** 81.39 118 eP P 12 27 57.8 +0.2
BOSA e*PP pP 12 28 09.9 -1.7
BOSA pmax pmax
comp=Z,77nm,0.9s,mb5.6
BOSA **Boshof** 81.39 118 eP P 12 27 57.8 +0.2
comp=Z,77nm,0.9s,mb5.6
BOSA epP pP 12 28 09.9 -1.7
BOSA **Boshof** 81.39 118 P P 12 27 58.0 +0.4
comp=Z,76nm,0.8s,mb5.7,baz=246,slow=4.5,SNR=94
BOSA LR LR 12 58 39.1
comp=Z,442nm,19.8s,MS4.8,baz=243,slow=32
TPAW **Teton Pass** 81.40 332 eP P 12 27 56.6 -0.5
comp=Z,18nm,1.0s,mb5.0
WAKR **Walker** 81.41 324 eP P 12 27 58.0 +0.8
R06C **Coleville** 81.43 324 ⇓P P 12 27 57.4 0.0
baz=82,SNR=8.8
M12A **Wells** 81.45 328 ⇑P P 12 27 57.2 -0.2
baz=82,SNR=15
L13A **Double Diamond** 81.55 329 ⇓P P 12 27 57.9 0.0
baz=82,SNR=27
O09A **Fish Creek Ran** 81.55 326 ⇓P P 12 27 58.0 0.0
baz=82,SNR=5.4
CMB **Columbia Colle** 81.55 323 eP P 12 27 58.0 0.0
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
CMB **Columbia Colle** 81.55 323 eP P 12 27 58.0 0.0
comp=Z,10nm,1.1s,mb4.7
CMB **Columbia Colle** 81.55 323 ⇓P P 12 27 57.8 -0.3
baz=82,SNR=7.0
K14A **Jones Ranch, D** 81.57 330 ⇑P P 12 27 57.5 -0.6
baz=82,SNR=12
N10A **Dunphy** 81.65 327 ⇓P P 12 27 58.2 -0.3
baz=82
FLWY **Flagg Ranch** 81.79 332 eP P 12 27 59.1 0.0
comp=Z,21nm,0.9s,mb5.1
FLWY epP pP 12 28 13.1 0.0
M11A **Holland Ranch,** 81.87 328 ⇓P P 12 27 60.0 +0.4
baz=82,SNR=62
R05C **Kirkwood Meado** 81.89 323 ⇓P P 12 28 00.2 +0.4
baz=82,SNR=9.7
TOA0 **Torodi Ar. Sit** 81.92 70 eP P 12 28 00.2 -0.3
TORD **Torodi Ar. Bea** 81.92 70 P P 12 28 00.6 0.0
comp=Z,99nm,1.0s,mb5.7,baz=260,slow=5.0,SNR=277
TORD LR LR 13 02 12.2
comp=Z,436nm,19.6s,MS4.8,baz=225,slow=34
R04C **Big Horse Ranc** 82.01 323 ⇓P P 12 28 01.1 +0.7
baz=82,SNR=6.2
K13A **Stover Farm, H** 82.06 329 ⇑P P 12 28 00.7 +0.1
baz=82,SNR=7.5
L12A **House Creek Ra** 82.07 329 ⇓P P 12 28 01.0 +0.3
baz=82,SNR=20
YFT **Old Faithful** 82.15 332 eP P 12 28 02.4 +1.4
WCN **Washoe City** 82.17 324 ⇓P P 12 28 01.8 +0.6
baz=83
LAVA **Lava Cap Winer** 82.27 323 ⇑P P 12 28 01.6 -0.2
baz=83,SNR=10
M10A **I.L. Ranch, Tu** 82.29 327 ⇑P P 12 28 01.8 0.0
baz=83,SNR=11
LAO **LASA Array** 82.31 336 eP P 12 28 01.4 -0.4
comp=Z,37nm,1.0s,mb5.3
LAO epP pP 12 28 14.2 -1.5
O07A **Toulon** 82.38 325 ⇓P P 12 28 02.3 0.0
baz=83,SNR=9.1
YMR **Madison River** 82.38 332 eP P 12 28 02.4 +0.2
comp=Z,29nm,0.9s,mb5.2
K12A **Draper Farm, C** 82.41 329 ⇓P P 12 28 02.7 +0.3
baz=83,SNR=14
L11A **Cat Creek Ranc** 82.43 328 ⇑P P 12 28 02.5 0.0
baz=83,SNR=26
ULM **Lac du Bonnet** 82.48 344 eP P 12 28 01.4 -1.2
comp=Z,50nm,1.0s,mb5.4
ULM epP pP 12 28 14.6 -2.0
ULM **Lac du Bonnet** 82.48 344 P P 12 28 01.4 -1.2
comp=Z,42nm,0.9s,mb5.3,baz=150,slow=4.4,SNR=32
N08A **GE Springer Mi** 82.48 326 ⇑P P 12 28 02.2 -0.6
baz=83
P06A **Stead Airport,** 82.53 324 ⇓P P 12 28 03.6 +0.5
baz=83
P05C **Yuba Gap, Truc** 82.61 323 ⇑P P 12 28 04.1 +0.5
baz=83,SNR=11
M09A **Marrel Ranch,** 82.64 327 ⇓P P 12 28 03.5 -0.2
baz=83,SNR=6.7
Q04C **Lincoln** 82.67 323 ⇑P P 12 28 04.4 +0.5
baz=83,SNR=9.1
L10A **Juniper Basin** 82.69 328 ⇑P P 12 28 04.0 +0.1
baz=83,SNR=26
J13A **Cove Ranch, Pi** 82.69 330 ⇓P P 12 28 04.1 +0.2
baz=83,SNR=32
GCMT **Greycliff** 82.80 334 eP P 12 28 03.8 -0.6
GCMT epP pP 12 28 17.6 -0.8
Q03C **Winters** 82.86 322 ⇑P P 12 28 05.8 +1.0
baz=83,SNR=5.4
CVS **Carmenet Viney** 82.89 322 ⇓P P 12 28 05.0 0.0
baz=83
N07B **Gerlach** 82.89 325 ⇑P P 12 28 05.1 +0.1
baz=83,SNR=24
BEKR **Beckwourth** 82.90 324 ⇑P P 12 28 05.3 +0.3
baz=83,SNR=10
HLID **Hailey** 82.93 330 ⇓P P 12 28 05.5 +0.4
baz=83,SNR=49
MCCM **Marconi Confer** 82.97 321 ⇓P P 12 28 05.2 -0.2
baz=83
J12A **Stokes Ranch,** 82.98 329 P P 12 28 05.5 +0.1
baz=83,SNR=38
K11A **Parker Ranch,** 83.03 328 ⇓P P 12 28 05.5 -0.1
baz=84,SNR=12
I13A **Wildhorse Cree** 83.08 330 P P 12 28 06.2 +0.4
baz=84,SNR=51
OHCM **Honcut** 83.09 323 eP P 12 28 06.0 -0.1
OHCM epP pP 12 28 19.2 -0.9
NSHM **Saint Helena R** 83.09 322 eP P 12 28 06.6 +0.5
M08A **Happy Creek Ra** 83.11 326 ⇓P P 12 28 06.0 0.0
baz=84,SNR=9.3
SUTB **Sutter Butte** 83.17 323 ⇑P P 12 28 06.2 -0.3
baz=84,SNR=8.4
DGMT **Dagmar** 83.18 339 eP P 12 28 06.3 0.0
comp=Z,107nm,1.0s,mb5.8
DGMT epP pP 12 28 18.9 -1.3
L09A **Wilkinson Ranc** 83.20 327 ⇑P P 12 28 06.5 -0.1
baz=84
O05C **Quincy** 83.26 324 ⇑P P 12 28 07.0 +0.1
baz=84,SNR=10
ORV **Oroville** 83.26 323 P P 12 28 07.1 +0.2
baz=84,SNR=41
MCMT **McKenzie Canyo** 83.28 331 eP P 12 28 07.1 +0.2
N06A **Buffalo Meadow** 83.30 325 ⇓P P 12 28 07.2 +0.1
baz=84,SNR=31
G15A **Dillon** 83.41 332 ⇓P P 12 28 07.3 -0.2
baz=84,SNR=14
K10A **MacKenzie Ranc** 83.42 328 ⇓P P 12 28 07.1 -0.5
baz=84,SNR=9.1
MFID **Camas Ranch** 83.44 329 ⇑P P 12 28 07.6 -0.1
baz=84,SNR=12
M07A **Soldier Meadow** 83.45 326 ⇑P P 12 28 07.9 +0.1
baz=84
BOZ **Bozeman (W)** 83.45 333 eP P 12 28 06.9 -0.8
BOZ pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
BOZ **Bozeman (W)** 83.45 333 eP P 12 28 06.8 -0.9
comp=Z,4.5nm,1.1s,mb4.4
BOZ **Bozeman (W)** 83.45 333 ⇓P P 12 28 07.2 -0.5
baz=84
DLMT **Dillon** 83.61 332 eP P 12 28 08.2 -0.3
comp=Z,22nm,1.3s,mb5.1
O04C **Chester** 83.61 324 ⇓P P 12 28 08.5 -0.2
baz=84,SNR=9.0
ELFS **Eagle Lake Fie** 83.65 324 ⇑P P 12 28 09.0 +0.1
baz=84,SNR=15
L08A **Fields** 83.66 327 ⇑P P 12 28 08.6 -0.3

baz=84,SNR=13
H13A **Challis** 83.66 331 P P 12 28 09.0 +0.2
baz=84,SNR=47
K09A **Rome** 83.76 327 ⇓P P 12 28 09.2 -0.2
baz=84,SNR=12
H12A **Diamond D Ranc** 83.91 330 ⇓P P 12 28 09.8 -0.3
baz=84,SNR=7.4
F15A **Butte** 83.96 332 ⇑P P 12 28 10.4 0.0
baz=84,SNR=14
M06C **Likely Place G** 83.96 325 ⇓P P 12 28 10.5 +0.1
baz=84,SNR=8.2
GASB **Alder Springs** 83.98 322 ⇑P P 12 28 11.1 +0.6
baz=84,SNR=10
WVOR **Wild Horse Val** 83.99 327 eP P 12 28 09.9 -0.7
WVOR pmax pmax
comp=Z,9.0nm,1.1s,mb4.8
WVOR **Wild Horse Val** 83.99 327 eP P 12 28 09.9 -0.7
comp=Z,9.3nm,1.1s,mb4.8
L07A **Adell** 84.01 326 ⇓P P 12 28 11.1 +0.5
baz=84,SNR=17
G13A **Cobalt** 84.08 331 ⇓P P 12 28 11.0 +0.1
baz=84,SNR=31
LBCM **Butte Creek Ri** 84.13 324 P P 12 28 11.0 -0.3
K08A **Mann Creek Ran** 84.14 327 ⇓P P 12 28 11.1 -0.3
baz=85,SNR=5.8
SCHQ **Schefferville** 84.15 2 eP P 12 28 10.3 -0.7
comp=Z,56nm,1.1s,mb5.6
SCHQ **Schefferville** 84.15 2 P P 12 28 10.3 -0.7
comp=Z,38nm,1.1s,mb5.4,baz=161,slow=4.8,SNR=19
HATC **Hat Creek Radi** 84.17 324 ⇑P P 12 28 11.4 -0.2
baz=85,SNR=10
P01C **Double 8 Ranch** 84.17 322 ⇓P P 12 28 12.0 +0.4
baz=85
J09A **Fry Pan Ranch,** 84.27 328 ⇓P P 12 28 11.7 -0.3
baz=85,SNR=8.1
F14A **Wisdom** 84.29 332 ⇓P P 12 28 12.1 +0.1
baz=85,SNR=8.1
MOD **Modoc** 84.39 325 eP P 12 28 12.9 +0.3
comp=Z,15nm,0.8s,mb5.2
MOD epP pP 12 28 26.1 -0.6
MOD **Modoc** 84.39 325 ⇓P P 12 28 12.8 +0.2
baz=85,SNR=8.4
HRY **Holter Researc** 84.41 333 eP P 12 28 11.8 -0.8
HRY epP pP 12 28 25.1 -1.6
I10A **Payette** 84.41 329 ⇑P P 12 28 12.5 -0.1
baz=85,SNR=15
M05C **Lookout** 84.41 325 ⇓P P 12 28 12.6 -0.2
baz=85,SNR=9.4
CASY **Casey** 84.43 181 eP P 12 28 12.3 -0.3
LTIM **Timbered Crate** 84.45 324 P P 12 28 12.8 -0.1
K07A **Rock Creek Ran** 84.47 326 ⇓P P 12 28 13.4 +0.4
baz=85,SNR=25
E15A **Deer Lodge** 84.49 333 ⇑P P 12 28 12.9 -0.2
baz=85,SNR=7.7
H11A **Donnelly** 84.54 330 ⇓P P 12 28 13.0 -0.3
baz=85,SNR=16
WDC **Whiskeytown Da** 84.56 323 eP P 12 28 11.7 -1.8
WDC pmax pmax
comp=Z,11nm,1.0s,mb4.9
WDC **Whiskeytown Da** 84.56 323 eP P 12 28 11.7 -1.8
comp=Z,11nm,1.0s,mb4.9
WDC **Whiskeytown Da** 84.56 323 ⇓P P 12 28 12.1 -1.4
baz=85,SNR=6.6
J08A **Circle Bar Ran** 84.61 327 ⇑P P 12 28 13.9 +0.1
baz=85,SNR=29
F13A **Darby** 84.67 331 ⇑P P 12 28 13.8 -0.2
baz=85
EGMT **Eagleton** 84.70 335 eP P 12 28 12.9 -1.2
comp=Z,54nm,1.7s,mb5.4
EGMT **Eagleton** 84.70 335 P P 12 28 13.0 -1.0
baz=85,SNR=10.0
I09A **Lost Marbles R** 84.75 328 ⇓P P 12 28 14.2 -0.2
baz=85,SNR=12
L05A **Lakeview** 84.77 325 ⇓P P 12 28 14.8 +0.3
baz=85,SNR=19
H10A **Noah's Angus R** 84.77 329 ⇑P P 12 28 13.6 -0.8
baz=85,SNR=17
LASM **Arnica Sink** 84.81 324 P P 12 28 14.7 0.0
E14A **Clinton** 84.83 332 ⇑P P 12 28 14.7 0.0
baz=85,SNR=6.4
M03C **McCloud** 84.85 324 ⇓P P 12 28 14.7 -0.2
baz=85,SNR=7.6
D15A **Lincoln** 84.95 333 ⇑P P 12 28 15.3 0.0
baz=85,SNR=11
J07A **Hines** 85.02 327 ⇑P P 12 28 15.8 +0.1
baz=86,SNR=5.6
F12A **Elk City** 85.04 331 ⇓P P 12 28 15.3 -0.5
baz=86,SNR=23
K06A **Valley Falls** 85.04 326 ⇑P P 12 28 16.0 +0.2
baz=86,SNR=11
M04C **Macdoel** 85.08 324 ⇓P P 12 28 15.9 -0.2
baz=86,SNR=11
I08A **Drewsey** 85.08 328 ⇓P P 12 28 16.0 -0.1
baz=86,SNR=9.5
N02C **Big Bar** 85.13 323 ⇑P P 12 28 16.4 0.0
baz=86,SNR=8.1
CHMT **Chamberlain Mo** 85.14 332 eP P 12 28 15.8 -0.5
CHMT epP pP 12 28 29.9 -0.4
E13A **Victor** 85.14 332 ⇑P P 12 28 16.1 -0.1
baz=86,SNR=19
G11A **Walters Elk Ra** 85.19 330 ⇓P P 12 28 16.4 -0.1
baz=86,SNR=47
K05A **Summer Lake** 85.30 326 ⇓P P 12 28 17.6 +0.4
baz=86,SNR=15
M02C **Callahan** 85.31 324 ⇑P P 12 28 16.7 -0.5
baz=86,SNR=5.3
J06A **Christmas Vall** 85.33 326 ⇑P P 12 28 17.1 -0.3
baz=86,SNR=15
D14A **Greenough** 85.37 332 ⇑P P 12 28 17.1 -0.3
baz=86,SNR=11
L04A **Klamath Falls** 85.39 325 ⇑P P 12 28 17.3 -0.3
baz=86,SNR=11
YBH **Yreka Blue Hor** 85.48 324 eP P 12 28 16.7 -1.4
YBH pmax pmax
comp=Z,12nm,1.2s
YBH **Yreka Blue Hor** 85.48 324 eP P 12 28 16.7 -1.4
comp=Z,12nm,1.2s,mb4.9
YBH **Yreka Blue Hor** 85.48 324 ⇓P P 12 28 17.1 -1.1
baz=86,SNR=8.0
G10A **Bishop Farm, J** 85.49 329 ⇓P P 12 28 17.8 -0.3
baz=86,SNR=7.6
F11A **Grangeville** 85.53 330 ⇓P P 12 28 17.4 -0.8
baz=86,SNR=21
H08A **Prairie City** 85.59 328 ⇓P P 12 28 18.3 -0.2
baz=86
I07A **Izee** 85.65 327 ⇓P P 12 28 19.0 +0.1
baz=86,SNR=12
G09A **Cove** 85.77 329 ⇓P P 12 28 19.1 -0.3
baz=86
D13A **Huson** 85.77 332 ⇓P P 12 28 19.1 -0.3
baz=86,SNR=20
I06A **Prineville** 85.88 327 ⇑P P 12 28 20.4 +0.4
baz=86,SNR=15
J05A **Fort Rock** 85.88 326 P P 12 28 20.1 0.0
baz=86,SNR=14
E11A **Bogner Ranch,** 85.92 331 ⇑P P 12 28 19.0 -1.2
baz=86,SNR=10.0
KTRM **Thompson Ridge** 85.95 324 P P 12 28 20.9 +0.5
C14A **Swan Lake** 86.03 333 ⇓P P 12 28 20.3 -0.3
baz=86,SNR=10
H07A **Lands Inn, Kim** 86.06 328 ⇓P P 12 28 20.7 -0.2
baz=86
D12A **Red Ives Fores** 86.11 331 ⇑P P 12 28 20.6 -0.5
baz=86
L02A **Cave Junction** 86.25 324 ⇓P P 12 28 22.0 +0.1
baz=87
J04A **Umpqua Nationa** 86.28 325 ⇓P P 12 28 21.8 -0.2
baz=87,SNR=5.4
C13A **Hot Springs** 86.29 332 P P 12 28 21.8 -0.1
baz=87,SNR=15
G08A **Pilot Rock** 86.31 328 ⇑P P 12 28 21.8 -0.3
baz=87
E10A **Myers Farm, Un** 86.41 330 P P 12 28 22.1 -0.4
baz=87,SNR=16
H06A **Lindquist Farm** 86.53 327 ⇓P P 12 28 23.5 +0.3
baz=87,SNR=9.8
I05A **Bend** 86.55 326 ⇓P P 12 28 23.7 +0.4
baz=87,SNR=9.8
G07A **Ruggs Ranch, H** 86.62 328 ⇓P P 12 28 23.8 +0.2
baz=87,SNR=8.6
K02A **Glendale** 86.63 324 ⇓P P 12 28 23.8 +0.1
baz=87,SNR=6.7
B13A **Whitefish** 86.80 333 ⇑P P 12 28 24.0 -0.5
baz=87,SNR=11
I04A **Tendick Farm,** 86.84 325 ⇓P P 12 28 24.1 -0.7
baz=87
D10A **Wagner Farm, O** 86.92 330 P P 12 28 23.9 -1.1
baz=87,SNR=10

WALA Waterton Lakes 87.13 333 *e*P **P 12 28 25.4 -0.6**
comp=Z,45nm,1.1s,mb5.6
BROR Big Rock Looko 87.20 326 P **P 12 28 26.0 -0.5**
A13A Flathead Natio 87.23 333 ⇓P **P 12 28 26.4 -0.1**
baz=88
URZ Urewera 87.25 227 P **P 12 28 26.9 -0.3**
comp=Z,12nm,1.0s,mb5.1,baz=340,slow=13,SNR=4.5
B12A Libby 87.33 332 P **P 12 28 27.1 +0.2**
baz=88,SNR=6.5
H04A Detroit Lake 87.38 326 ⇑P **P 12 28 26.6 -0.8**
baz=88,SNR=8.1
I03A Eugene 87.40 325 ⇑P **P 12 28 27.4 0.0**
baz=88
HAWA Hanford 87.41 329 *e*P **P 12 28 27.5 0.0**
comp=Z,10nm,0.8s,mb5.1
RPZ Rata Peaks 87.54 220 P **P 12 28 27.7 -0.8**
comp=Z,27nm,0.9s,mb5.5,baz=34,slow=16,SNR=4.6
RPZ pP pP 12 28 42.4 -0.2
comp=Z,50nm,1.1s,baz=178,slow=21,SNR=5.0
D08A Wollman Farm, 87.64 330 P **P 12 28 27.9 -0.6**
baz=88,SNR=7.0
NEW Newport 87.80 331 *e*P **P 12 28 27.6 -1.7**
NEW pmax pmax
comp=Z,80nm,2.3s
NEW Newport 87.80 331 *e*P **P 12 28 27.6 -1.7**
comp=Z,80nm,2.3s,mb5.5
OD2 Odessa Site #2 87.81 330 P **P 12 28 28.7 -0.6**
G04A Mulino 87.90 326 ⇓P **P 12 28 29.7 -0.1**
baz=88,SNR=9.5
H03A Soap Creek Ran 87.91 326 ⇓P **P 12 28 30.0 +0.2**
baz=88
F05A White Salmon 87.92 327 ⇑P **P 12 28 29.8 -0.1**
baz=88
C09A Chrisman Ranch 87.93 330 ⇑P **P 12 28 29.3 -0.6**
baz=88
A11A Hall Mountain, 88.03 332 ⇑P **P 12 28 29.5 -0.8**
baz=88,SNR=13
FFC Flin Flon 88.09 343 *e*P **P 12 28 29.2 -1.3**
FFC *e**PP pP 12 28 43.2 -1.4
FFC pmax pmax
comp=Z,16nm,1.3s,mb5.1
FFC Flin Flon 88.09 343 *e*P **P 12 28 29.2 -1.3**
comp=Z,16nm,1.3s,mb5.1
FFC *e*pP pP 12 28 43.2 -1.4
E06A Yakima 88.19 328 ⇑P **P 12 28 30.7 -0.4**
baz=89
D07A Quincy 88.22 329 ⇓P **P 12 28 31.4 +0.2**
baz=89,SNR=5.6
EBG Ellensburg 88.27 329 P **P 12 28 31.6 +0.1**
B09A Rice 88.36 331 ⇑P **P 12 28 30.8 -1.1**
baz=89,SNR=6.4
G03A Yamhill 88.37 326 ⇓P **P 12 28 32.2 +0.2**
baz=89
MDT Midelt 88.39 51 LR LR 13 08 08.6
comp=Z,365nm,21.9s,MS4.8,baz=157,slow=36
F04A Amboy 88.41 327 ⇓P **P 12 28 31.6 -0.5**
baz=89,SNR=8.7
E05A Randle 88.56 328 ⇓P **P 12 28 32.1 -0.8**
baz=89
C07A Waterville 88.63 329 ⇑P **P 12 28 32.5 -0.7**
baz=89,SNR=16
A09A Danville 88.97 331 P **P 12 28 34.2 -0.5**
baz=89,SNR=11
D05A Enumclaw 89.13 328 ⇓P **P 12 28 34.7 -0.9**
baz=90,SNR=5.4
B07A Winthrop 89.24 330 ⇓P **P 12 28 35.0 -1.0**
baz=90,SNR=15
A08A Turner Farm, O 89.24 331 ⇑P **P 12 28 35.2 -0.8**
baz=90,SNR=9.1
EGRO El Granado 89.42 45 P **P 12 28 37.8 +0.6**
comp=Z,24nm,0.9s,mb5.5
EVO Evora 89.72 44⇑ *i*P **P 12 28 38.2 -0.4**
EVO *e*MLR MLR
comp=Z,591nm,21.2s,MS4.7
A07A Ashnola River, 89.79 330 ⇑P **P 12 28 38.1 -0.5**
baz=90,SNR=9.3
B05A Bryant 89.97 329 ⇓P **P 12 28 38.4 -1.1**
baz=90
EJIF Jimena Fronter 90.02 47 P **P 12 28 41.4 +1.4**
EJIF pmax pmax
comp=Z,11nm,1.2s,mb5.1
EJIF Jimena Fronter 90.02 47 P **P 12 28 41.4 +1.4**
comp=Z,11nm,1.2s,mb5.0
ESPR Espera 90.03 47 P **P 12 28 40.7 +0.7**
comp=Z,27nm,1.6s,mb5.3
EMIN Mina Concepcio 90.07 46 P **P 12 28 40.0 -0.2**
comp=Z,24nm,1.2s,mb5.4
FCC Fort Churchill 90.08 348 *e*P **P 12 28 39.3 -0.4**
FCC *e**PP pP 12 28 52.7 -1.2
FCC pmax pmax
comp=Z,50nm,1.0s,mb5.8
FCC Fort Churchill 90.08 348 *e*P **P 12 28 39.3 -0.4**
comp=Z,50nm,1.0s,mb5.8
FCC *e*pP pP 12 28 52.7 -1.2
EDM Edmonton 90.29 336 *e*P **P 12 28 38.5 -2.3**
EDM *e**PP pP 12 28 51.1 -3.9
LSZ Lusaka 90.37 108 *e*P **P 12 28 43.8 +1.6**
LSZ pmax pmax
comp=Z,53nm,1.4s,mb5.7
LSZ Lusaka 90.37 108 *e*P **P 12 28 43.8 +1.6**
comp=Z,53nm,1.4s,mb5.7
LSZ Lusaka 90.37 108 P **P 12 28 44.8 +2.5**
SNR=5.6
LSZ Lusaka 90.37 108 P **P 12 28 44.8 +2.5**
SNR=5.6
EBAD Badajoz 90.47 45 P **P 12 28 42.2 +0.1**
comp=Z,1.7nm,0.6s,mb4.5
A05A Maple Falls 90.51 329 ⇓P **P 12 28 41.0 -1.0**
baz=91,SNR=6.4
EMIJ Mijas 90.54 47 P **P 12 28 41.6 -0.8**
comp=Z,8.8nm,0.8s,mb5.1
ELOJ Sierra Loja 91.28 47 P **P 12 28 46.1 +0.2**
ELOJ pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
ELOJ Sierra Loja 91.28 47 P **P 12 28 46.1 +0.2**
comp=Z,4.0nm,0.6s,mb4.9
ELUQ Luque 91.46 47 P **P 12 28 47.4 +0.7**
ELUQ pmax pmax
comp=Z,13nm,0.8s,mb5.3
ELUQ Luque 91.46 47 P **P 12 28 47.4 +0.7**
comp=Z,12nm,0.8s,mb5.3
EADA Adamuz 91.62 46 P **P 12 28 47.5 0.0**
comp=Z,8.3nm,1.1s,mb5.0
ECOG Cogollos-Vega 91.74 47 P **P 12 28 48.2 +0.2**
ECOG pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
ECOG Cogollos-Vega 91.74 47 P **P 12 28 48.2 +0.2**
comp=Z,8.4nm,1.0s,mb5.0
EQES Quesada 92.36 47 P **P 12 28 50.3 -0.5**
comp=Z,15nm,1.0s,mb5.3
ESDC Sonseca Array 92.91 45 P **P 12 28 53.5 +0.2**
comp=Z,7.0nm,1.0s,mb5.0,baz=248,slow=3.8,SNR=14
ESDC LR LR 13 11 48.8
comp=Z,300nm,18.1s,MS4.8,baz=220,slow=36
EVIA Vianos 93.22 47 P **P 12 28 55.0 +0.2**
EVIA pmax pmax
comp=Z,13nm,0.8s,mb5.4
EVIA Vianos 93.22 47 P **P 12 28 55.0 +0.2**
comp=Z,13nm,0.8s,mb5.4
ETOB Tobarra 93.83 47 P **P 12 28 58.2 +0.6**
comp=Z,20nm,0.9s,mb5.5
ECHE Chera 94.74 47 P **P 12 29 02.4 +0.6**
ECHE pmax pmax
comp=Z,14nm,0.8s,mb5.4
ECHE Chera 94.74 47 P **P 12 29 02.4 +0.6**
comp=Z,14nm,0.8s,mb5.5
ERTA Horta de San J 96.33 46 P **P 12 29 09.0 +0.1**
comp=Z,20nm,1.1s,mb5.5
SJPF Ste Jean 96.58 44 *e*P **P 12 29 10.3 +0.2**
comp=Z,43nm,1.0s,mb5.5
SJPF Ste Jean 96.58 44 *e*P **P 12 29 10.3 +0.2**
SJPF pmax pmax
comp=Z,21nm,1.0s,mb5.5
SJPF Ste Jean 96.58 44 *e*P **P 12 29 10.3 +0.2**
comp=Z,21nm,1.0s,mb5.5
ETSF Etsaut 96.86 44 *e*P **P 12 29 11.6 +0.2**
comp=Z,36nm,1.0s,mb5.5
ETSF Etsaut 96.86 44 *e*P **P 12 29 11.6 +0.2**
ETSF pmax pmax
comp=Z,18nm,1.0s,mb5.5
ETSF Etsaut 96.86 44 *e*P **P 12 29 11.6 +0.2**
comp=Z,18nm,1.0s,mb5.5
EPOB Poblet 97.02 46 P **P 12 29 11.9 -0.2**
comp=Z,11nm,1.3s,mb5.1
EBIE Bielsa 97.17 45 P **P 12 29 13.7 +0.9**
comp=Z,7.5nm,1.3s,mb5.0

EPF Esparros 97.49 45 *e*P **P 12 29 14.1 -0.1**
comp=Z,13nm,0.9s,mb5.1
EPF Esparros 97.49 45 *e*P **P 12 29 14.1 -0.1**
EPF pmax pmax
comp=Z,6.0nm,0.9s,mb5.0
EPF Esparros 97.49 45 *e*P **P 12 29 14.1 -0.1**
comp=Z,6.4nm,0.9s,mb5.0
EMIR Miracle 97.61 46 P **P 12 29 15.0 +0.2**
comp=Z,8.2nm,1.0s,mb5.2
SALF Salau 97.86 45 *e*P **P 12 29 16.6 +0.8**
MLS Moulis 97.91 45 *e*P **P 12 29 16.6 +0.5**
YKA Yellowknife Ar 98.16 341 P **P 12 29 15.2 -1.5**
YKA *PP pP 12 29 30.1 -0.8
YKA Yellowknife Ar 98.16 341 P **P 12 29 15.2 -1.4**
comp=Z,3.2nm,0.9s,mb4.9,baz=140,slow=4.4,SNR=55
YKA pP pP 12 29 30.0 -0.9
comp=Z,1.1nm,0.7s,baz=141,slow=4.3,SNR=5.2
YKA PKiKP PKiKP 12 33 49.1 -0.1
comp=Z,0.3nm,0.7s,baz=138,slow=2.3,SNR=4.2
YKA PKKP PKKPbc 12 45 47.6 -3.5
comp=Z,0.5nm,1.0s,baz=324,slow=3.4,SNR=4.8
ROSF Rostrenen 98.40 39 *e*P **P 12 29 17.0 -1.1**
comp=Z,34nm,1.0s,mb5.5
ROSF Rostrenen 98.40 39 *e*P **P 12 29 17.0 -1.1**
ROSF pmax pmax
comp=Z,17nm,1.0s,mb5.5
ROSF Rostrenen 98.40 39 *e*P **P 12 29 17.0 -1.1**
comp=Z,17nm,1.0s,mb5.5
LFF La Frestale 98.78 43 *e*P **P 12 29 19.5 -0.4**
comp=Z,97nm,1.4s,mb5.8
LFF La Frestale 98.78 43 *e*P **P 12 29 19.5 -0.4**
LFF pmax pmax
comp=Z,49nm,1.4s,mb5.8
LFF La Frestale 98.78 43 *e*P **P 12 29 19.5 -0.4**
comp=Z,49nm,1.4s,mb5.8
MTLF Montolieu 98.81 45 *e*P **P 12 29 19.6 -0.5**
comp=Z,33nm,1.1s,mb5.5
MTLF Montolieu 98.81 45 *e*P **P 12 29 19.6 -0.5**
MTLF pmax pmax
comp=Z,16nm,1.1s,mb5.5
MTLF Montolieu 98.81 45 *e*P **P 12 29 19.6 -0.5**
comp=Z,16nm,1.1s,mb5.5
MFF Saint Martin d 99.17 41 *e*P **P 12 29 21.1 -0.5**
comp=Z,40nm,1.2s,mb5.5
MFF Saint Martin d 99.17 41 *e*P **P 12 29 21.1 -0.5**
MFF pmax pmax
comp=Z,20nm,1.2s,mb5.5
MFF Saint Martin d 99.17 41 *e*P **P 12 29 21.1 -0.5**
comp=Z,20nm,1.2s,mb5.5
RJF Les Rejaudoux 99.44 43 *e*P **P 12 29 22.3 -0.5**
comp=Z,18nm,1.0s,mb5.2
RJF *e*MLR MLR
comp=Z,484nm,21.8s,MS4.7
RJF Les Rejaudoux 99.44 43 *e*P **P 12 29 22.3 -0.5**
RJF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
RJF MLR MLR
comp=Z,480nm,21.8s,MS5.0
RJF Les Rejaudoux 99.44 43 *e*P **P 12 29 22.3 -0.5**
comp=Z,9.1nm,1.0s,mb5.3
RJF LR LR
comp=Z,480nm,21.8s,MS5.0
CAF Calviac 99.56 44 *e*P Pdif 12 29 23.1 -0.5
comp=Z,14nm,1.1s
CAF Calviac 99.56 44 *e*P Pdif 12 29 23.1 -0.5
CAF pmax pmax
comp=Z,7.0nm,1.1s,mb5.0
CAF Calviac 99.56 44 *e*P Pdif 12 29 23.1 -0.5
comp=Z,6.9nm,1.1s
KEST Kesra 99.64 54 P Pdif 12 29 24.2 +0.3
comp=Z,1.5nm,0.9s,baz=2.4,slow=3.8,SNR=4.1
KEST LR LR 13 17 13.9
comp=Z,250nm,19.0s,MS4.7,baz=360,slow=37
GRR Gorron 99.76 40 *e*P Pdif 12 29 23.0 -1.5
FLN La Foliniere 100.17 39 *e*P Pdif 12 29 25.1 -1.2
comp=Z,26nm,1.0s
FLN *e*MLR MLR
comp=Z,331nm,21.2s,MS4.5
FLN La Foliniere 100.17 39 *e*P Pdif 12 29 25.1 -1.2
FLN pmax pmax
comp=Z,13nm,1.0s
FLN MLR MLR
comp=Z,330nm,21.3s,MS4.8
FLN La Foliniere 100.17 39 *e*P Pdif 12 29 25.1 -1.2
comp=Z,13nm,1.0s
FLN LR LR
comp=Z,330nm,21.3s,MS4.8
LASF Ste Croix 100.20 45 *e*P Pdif 12 29 26.2 -0.3
comp=Z,13nm,1.0s
LDF La Druitiere 100.28 40 *e*P Pdif 12 29 25.5 -1.3
comp=Z,17nm,0.9s
LDF La Druitiere 100.28 40 *e*P Pdif 12 29 25.5 -1.3
LDF pmax pmax
comp=Z,9.0nm,0.9s
LDF La Druitiere 100.28 40 *e*P Pdif 12 29 25.5 -1.3
comp=Z,8.6nm,0.9s
TCF Toulx Ste Croi 100.37 42 *e*P Pdif 12 29 26.3 -0.9
LBL Lubilhac 100.43 44 *e*P Pdif 12 29 28.0 +0.5
DLBC Dease Lake 100.46 333 *e*P Pdif 12 29 26.2 -1.5
PYM Petit Puy Mans 100.56 43 *e*P Pdif 12 29 28.7 +0.6
BGF Bois d'Agland 100.89 42 *e*P Pdif 12 29 29.0 -0.5
VIVF Saint-Julien-l 101.11 45 *e*P Pdif 12 29 30.5 0.0
comp=Z,18nm,1.1s
VIVF Saint-Julien-l 101.11 45 *e*P Pdif 12 29 30.5 0.0
VIVF pmax pmax
comp=Z,9.0nm,1.1s
VIVF Saint-Julien-l 101.11 45 *e*P Pdif 12 29 30.5 0.0
comp=Z,9.2nm,1.1s
SMRF Simiane la Rot 101.22 46 *e*P Pdif 12 29 31.4 +0.4
comp=Z,40nm,1.2s
SMRF Simiane la Rot 101.22 46 *e*P Pdif 12 29 31.4 +0.4
comp=Z,40nm,1.2s
AVF Avril sur Loir 101.31 42 *e*P Pdif 12 29 30.6 -0.8
comp=Z,46nm,1.5s
AVF Avril sur Loir 101.31 42 *e*P Pdif 12 29 30.6 -0.8
AVF pmax pmax
comp=Z,23nm,1.5s
AVF Avril sur Loir 101.31 42 *e*P Pdif 12 29 30.6 -0.8
comp=Z,23nm,1.5s
SMF Signal de Mont 101.52 43 *e*P Pdif 12 29 31.8 -0.5
comp=Z,47nm,1.3s
SMF Signal de Mont 101.52 43 *e*P Pdif 12 29 31.8 -0.5
SMF pmax pmax
comp=Z,23nm,1.3s
SMF Signal de Mont 101.52 43 *e*P Pdif 12 29 31.8 -0.5
comp=Z,24nm,1.3s
SSF Saint Saulge 101.54 42 *e*P Pdif 12 29 31.4 -1.0
FRF La Foret Royal 101.68 46 *e*P Pdif 12 29 33.0 -0.1
comp=Z,25nm,1.2s
FRF La Foret Royal 101.68 46 *e*P Pdif 12 29 33.0 -0.1
FRF pmax pmax
comp=Z,13nm,1.2s
FRF La Foret Royal 101.68 46 *e*P Pdif 12 29 33.0 -0.1
comp=Z,13nm,1.2s
LOR Lormes 101.85 42 *e*P Pdif 12 29 32.6 -1.2
LOR *e*MLR MLR
comp=Z,433nm,23.0s,MS4.6
LOR Lormes 101.85 42 *e*P Pdif 12 29 32.6 -1.2
LOR LR LR
comp=Z,430nm,23.0s,MS4.9
ORIF Oris-en-Rattie 101.88 45 *e*P Pdif 12 29 34.4 +0.5
comp=Z,25nm,0.9s
ORIF *e*MLR MLR
comp=Z,566nm,22.0s,MS4.7
ORIF Oris-en-Rattie 101.88 45 *e*P Pdif 12 29 34.4 +0.5
ORIF pmax pmax
comp=Z,13nm,0.9s
ORIF Oris-en-Rattie 101.88 45 *e*P Pdif 12 29 34.4 +0.5
comp=Z,13nm,0.9s
CALN Calern 101.93 46 *e*P Pdif 12 29 34.8 +0.6
LUCF Luceram 102.29 46 *e*P Pdif 12 29 35.8 +0.1
MBDF Montbardon 102.33 46 *e*P Pdif 12 29 36.4 +0.4
comp=Z,24nm,1.1s
MBDF Montbardon 102.33 46 *e*P Pdif 12 29 36.4 +0.4
MBDF pmax pmax
comp=Z,12nm,1.1s
MBDF Montbardon 102.33 46 *e*P Pdif 12 29 36.4 +0.4
comp=Z,12nm,1.1s
AUTN L'Aution 102.39 46 *e*P Pdif 12 29 41.0 +4.8
SAOF Saorge 102.47 46 *e*P Pdif 12 29 36.7 +0.2
LPL La Plagne 102.70 45 *e*P Pdif 12 29 38.3 +0.7
comp=Z,19nm,0.9s
LPL La Plagne 102.70 45 *e*P Pdif 12 29 38.3 +0.7
LPL pmax pmax
comp=Z,10.0nm,0.9s
LPL La Plagne 102.70 45 *e*P Pdif 12 29 38.3 +0.7
comp=Z,9.6nm,0.9s

LPG La Plagne 102.70 45 *e*P Pdif 12 29 38.4 +0.8
comp=Z,29nm,1.1s
LPG La Plagne 102.70 45 *e*P Pdif 12 29 38.4 +0.8
LPG pmax pmax
comp=Z,15nm,1.1s
LPG La Plagne 102.70 45 *e*P Pdif 12 29 38.4 +0.8
comp=Z,15nm,1.1s
CABF La Chapelle 102.84 44 *e*P Pdif 12 29 38.0 -0.2
comp=Z,20nm,1.1s
CABF La Chapelle 102.84 44 *e*P Pdif 12 29 38.0 -0.2
CABF pmax pmax
comp=Z,10.0nm,1.1s
CABF La Chapelle 102.84 44 *e*P Pdif 12 29 38.0 -0.2
comp=Z,10nm,1.1s
BAIF Baives 103.46 40 *e*P Pdif 12 29 40.1 -0.9
comp=Z,17nm,1.3s
BAIF Baives 103.46 40 *e*P Pdif 12 29 40.1 -0.9
BAIF pmax pmax
comp=Z,9.0nm,1.3s
BAIF Baives 103.46 40 *e*P Pdif 12 29 40.1 -0.9
comp=Z,8.7nm,1.3s
HAU Haudompre 103.68 42 *e*P Pdif 12 29 41.0 -0.9
comp=Z,11nm,1.0s
HAU *e*MLR MLR
comp=Z,366nm,22.5s,MS4.6
HAU Haudompre 103.68 42 *e*P Pdif 12 29 41.0 -0.9
HAU pmax pmax
comp=Z,6.0nm,1.0s
HAU MLR MLR
comp=Z,370nm,22.5s,MS4.9
HAU Haudompre 103.68 42 *e*P Pdif 12 29 41.0 -0.9
comp=Z,5.6nm,1.0s
HAU LR LR
comp=Z,370nm,22.5s,MS4.9
GIVF Givet 103.83 40 *e*P Pdif 12 29 41.7 -0.9
HINF Hinteralfeld 103.88 43 *e*P Pdif 12 29 42.0 -0.8
CDF Champ du Feu 104.42 42 *e*P Pdif 12 29 44.5 -0.7
GRF Grafenberg Arr 107.31 42 *e*PP PP 12 34 22.2 -3.7
GRF *e*L 13 17 33.6
comp=Z,203nm,20.6s
GERES GERESS Array B 108.44 44 PKiKP PKiKP 12 34 08.3 -0.2
comp=Z,1.5nm,0.8s,baz=132,slow=2.0,SNR=7.3
KHC Kasperske Hory 108.48 44 *e*PKP PKiKP 12 34 07.4 -1.1
KHC *e*PP PP 12 34 27.9 -6.5
CLL Collm 109.02 41 *i* PKiKP PKiKP 12 34 09.5 +0.1
PKSM Moragy 110.51 48⇓ *i*P PKiKP 12 34 10.2 -2.2
DPC Dobruska-Polom 110.59 43 *e*PKP PKiKP 12 34 12.4 0.0
DPC *e*x x 12 34 34.1
MORC Moravsky Berou 111.11 44⇑ *i*P PKiKP 12 34 12.8 -0.6
VYHS Vyhne 111.45 46 *e*PKP PKiKP 12 34 13.9 -0.2
VYHS *e* 12 53 44.3
BZS Buzias 112.24 49⇑ *i*P PKiKP 12 34 15.7 0.0
STHS Stebnicka Huta 113.26 45 *e*PKP PKiKP 12 34 22.8 +5.3
DRGR 113.34 48⇓ *i*P PKiKP 12 34 17.9 +0.1
KWP Kalwaria 114.23 45 PKiKP PKiKP 12 34 19.9 +0.5
KWP Kalwaria 114.23 45 *e*PKPdf PKiKP 12 34 19.1 -0.3
KWP Kalwaria 114.23 45⇑ *i*P PKiKP 12 34 19.0 -0.4
MLR Muntele Rosu 115.08 50 PKP PKiKP 12 34 20.0 -1.2
comp=Z,2.4nm,0.8s,baz=284,slow=4.4,SNR=6.0
MLR Muntele Rosu 115.08 50⇑ *i*P PKiKP 12 34 21.5 +0.3
BURAR Bucovina Array 115.22 48⇑ *i*P PKiKP 12 34 22.1 +0.7
KIS Kishinev 117.41 49 *e*P PKPdf 12 34 24.0 -1.6
KIEV Kiev 118.54 45 *e*PKIKP PKPdf 12 34 26.2 -1.5
AKASG Malin Array Be 118.56 45 PKP PKPdf 12 34 26.4 -1.3
AKASG pPKP pPKPdf 12 34 40.2 -2.1
AKASG Malin Array Be 118.56 45 PKP PKPdf 12 34 26.4 -1.3
comp=Z,5.9nm,0.7s,baz=261,slow=2.9,SNR=7.4
AKASG pPKP pPKPdf 12 34 40.2 -2.1
comp=Z,3.0nm,0.7s,baz=260,slow=2.7,SNR=6.2
AKBB Malin Array Si 118.56 45 *e*PKIKP PKPdf 12 34 26.1 -1.6
FINES FINESS Array B 118.87 33 PKP PKPdf 12 34 27.5 -0.5
comp=Z,2.0nm,0.8s,baz=24,slow=11,SNR=5.0
ARCES ARCESS Array B 119.66 24 PKP PKPdf 12 34 28.9 -0.4
comp=Z,4.7nm,0.8s,baz=358,slow=7.3,SNR=4.9
SIM Simferopol' 120.52 53 *i* PKIKP PKPdf 12 34 31.4 -0.2
SIM pmax pmax
comp=Z,16nm,0.9s
ASAR Alice Springs 121.87 207 PKP PKPdf 12 34 33.4 -1.7
comp=Z,3.0nm,0.9s,baz=148,slow=1.9,SNR=20
ASAR pPKP pPKPdf 12 34 46.8 -2.9
comp=Z,2.9nm,0.9s,baz=138,slow=1.8,SNR=8.1
APA Apatity 122.49 26⇑ *e*PKIKP PKPdf 12 34 34.0 -0.7
APA *i* 12 34 44.0
ANN Anapa 122.80 53 *e*PKIKP PKPdf 12 34 35.2 -0.8
OBN Obninsk 123.62 41⇓ *i*PKIKP PKPdf 12 34 36.6 -0.7
OBN *i* 12 34 49.9
OBN pmax pmax
comp=Z,35nm,1.2s
OBN MLR MLR
comp=Z,200nm,19.0s,MS4.8
OBN Obninsk 123.62 41⇑ *e*PKP PKPdf 12 34 36.7 -0.6
OBN LR LR
comp=Z,200nm,19.0s,MS4.8
SOC Sochi 124.19 55 *i* PKIKP PKPdf 12 34 37.7 -1.1
SOC *e* 12 34 51.4
SOC Sochi 124.19 55 *i* PKP PKPdf 12 34 38.9 +0.1
MOS Moscow 124.26 40 *e*PKIKP PKPdf 12 34 37.5 -1.0
MOS pmax pmax
comp=Z,57nm,1.0s
TMCR Tamitsa 124.50 30 *e*PKIKP PKPdf 12 34 37.6 -1.1
TMCR pmax pmax
comp=Z,28nm,0.7s
VRSR Storozhevoye 124.86 46 *i* PKIKP PKPdf 12 34 38.0 -1.8
VRSR pmax pmax
comp=Z,4.0nm,0.8s
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,2.0nm,0.9s
WB2 Warramunga Arr 125.00 210 *e*P PKPdf 12 34 39.3 -1.8
WB2 *e* 12 34 53.5
WRA Warramunga Arr 125.01 210 PKP PKPdf 12 34 39.6 -1.5
comp=E,6.4nm,0.8s,baz=165,slow=1.6,SNR=43
WRA pPKP pPKPdf 12 34 53.8 -2.0
comp=E,11nm,1.0s,baz=154,slow=1.8,SNR=14
WRAB Tennant Creek 125.01 210 *e*PKIKP PKPdf 12 34 39.2 -1.9
WRAB *e* 12 34 53.4
KIV Kislovodsk 126.38 55⇓ *i*PKIKP PKPdf 12 34 43.1 +0.2
KIV MLR MLR
comp=Z,100nm,20.0s,MS4.5
KIV Kislovodsk 126.38 55 *e*PKPdf PKPdf 12 34 43.0 +0.1
KIV *e*pPKPdf pPKPdf 12 34 57.0 -0.5
KIV Kislovodsk 126.38 55 P PKPdf 12 34 43.6 +0.7
SNR=6.4
KIV Kislovodsk 126.38 55 PKPdf PKPdf 12 34 43.6 +0.7
SNR=6.4
GOF Gofitskoye 126.77 54 *e*PKIKP PKPdf 12 34 46.0 +2.4
NAY Al-Naaiem 126.85 74 *e*P PKPdf 12 34 41.7 -2.6
NAY AMb AMB 12 34 45.1
comp=Z,14nm,0.9s
RDF Al-Radifah 127.01 75 *e*P PKPdf 12 34 42.3 -2.4
RDF AMb AMB 12 34 46.4
comp=Z,28nm,1.3s
GNI Garni 127.31 60⇓ *i*PKIKP PKPdf 12 34 45.7 +0.9
GNI Garni 127.31 60⇓ *e*PKP PKPdf 12 34 45.8 +1.0
UMR Umm Al-Rimmam 127.33 74 *e*P PKPdf 12 34 43.2 -2.0
UMR AMb AMB 12 34 46.8
comp=Z,52nm,0.8s
BILL Bilibino 129.20 336 *e*PKIKP PKPdf 12 34 47.4 -0.2
BILL Bilibino 129.20 336 *e*PKPdf PKPdf 12 34 47.4 -0.2
FITZ Fitzroy Crossi 129.93 201 *e*P PKPdf 12 34 49.6 -1.0
comp=Z,9.0nm,1.0s
FITZ *e* 12 35 03.5
FITZ Fitzroy Crossi 129.93 201 PKP PKPdf 12 34 49.7 -0.9
comp=Z,4.2nm,0.9s,baz=203,slow=3.1,SNR=8.2
FITZ pPKP pPKPdf 12 35 03.5 -1.7
comp=Z,6.2nm,0.9s,baz=229,slow=3.3,SNR=7.9
ARU Arti 135.81 38 *i* PKIKP PKPdf 12 35 00.3 -0.1
ARU 12 37 38.7
ARU SS SS 12 55 30.7 -3.5
ARU Arti 135.81 38 *e*PKPdf PKPdf 12 35 00.2 -0.1
TIXI Tiksi 136.50 351 *i* PKIKP PKPdf 12 34 58.4 -2.8
TIXI pmax pmax
comp=Z,10.0nm,0.9s
TIXI Tiksi 136.50 351 *e*PKPdf PKPdf 12 34 59.9 -1.3
SEY Seymchan 136.56 333⇑ *i*PKIKP PKPdf 12 35 02.1 +0.5
AKTK Aktyubinsk 136.78 46 PKP PKPdf 12 35 02.5 +0.1
AKTK PP PP 12 37 45.1 -0.7
AKTO Aktyubinsk 136.78 46 PKP PKPdf 12 35 02.5 +0.1
comp=Z,10.0nm,1.0s,baz=315,slow=1.9,SNR=16
AKTO PP PP 12 37 45.1 -0.7
comp=Z,3.0nm,1.0s,baz=267,slow=8.5,SNR=3.7
SVE Sverdlovsk 136.79 37⇑ *i*PKIKP PKPdf 12 35 02.8 +0.6
SVE *e* 12 37 42.8

SVE					pmax	pmax		
	comp=Z,18nm,1.1s							
SVE					MLR	MLR		
	comp=Z,496nm,18.0s,MS5.3							
PET	**Petropavlovsk**	**137.03**	**317**	*i*	PKIKP	PKPdf	12 35 01.7	-1.0
MA2	**Magadan**	**138.87**	**329**	*c i*	PKIKP	PKPdf	12 35 05.7	-0.2
MA2	**Magadan**	**138.87**	**329**	*e*	PKPdf	PKPdf	12 35 05.5	-0.4
BRVK	**Borovoye**	**143.34**	**39**	*e*	PKIKP	PKPdf	12 35 11.8	-2.4
BRVK	**Borovoye**	**143.34**	**39**		P	PKPdf	12 35 12.4	-1.8
	SNR=9.3							
BRVK	**Borovoye**	**143.34**	**39**		PKPdf	PKPdf	12 35 12.4	-1.8
	SNR=9.3							
BVAR	**Borovoye Array**	**143.41**	**39**		PKP	PKPdf	12 35 11.2	-3.1
	comp=Z,7.8nm,0.8s,baz=264,slow=1.6,SNR=5.9							
KAPI	**Kappang**	**144.07**	**199**		PKP	PKPdf	12 35 13.7	-3.0
	comp=Z,87nm,0.8s,baz=234,slow=2.7,SNR=52							
KAPI					pPKP	pPKPdf	12 35 28.0	-3.3
	comp=Z,57nm,1.0s,baz=157,slow=6.5,SNR=6.6							
BHJ	**Bhuj**	**144.38**	**91**	*e*	P	PKPdf	12 35 15.3	-1.6
YAK	**Yakutsk**	**144.81**	**343**	*c i*	PKIKP	PKPdf	12 35 14.9	-1.6
YAK				*e*			12 38 30.5	
YAK					pmax	pmax		
	comp=Z,459nm,0.9s							
YAK					pmax	pmax		
	comp=N,100nm,1.6s							
YAK					pmax	pmax		
	comp=E,67nm,1.5s							
YAK					pmax	pmax		
	comp=Z,115nm,3.0s							
YAK					pmax	pmax		
	comp=N,46nm,1.7s							
YAK					pmax	pmax		
	comp=E,27nm,1.7s							
YAK					pmax	pmax		
	comp=N,58nm,1.6s							
YAK	**Yakutsk**	**144.81**	**343**	*e*	PKPdf	PKPdf	12 35 14.9	-1.5
YAK				*e*	pPKPdf	pPKPdf	12 35 28.9	-2.2
GOA	**Goa**	**144.82**	**106**	*e*	P	PKPdf	12 35 16.8	-1.1
KOD	**Kodaikanal**	**144.88**	**117**	*e*	P	PKPdf	12 35 17.7	-0.4
KAD	**Karad**	**145.98**	**103**	*e*	P	PKPdf	12 35 19.4	-0.5
KBL	**Kabul**	**145.99**	**71**	*e*	PKPdf	PKPdf	12 35 19.7	+0.3
POO	**Poona**	**146.24**	**101**	*e*	P	PKPdf	12 35 20.7	+0.4
YSS	**Yuzh-Sakhalins**	**148.61**	**313**	*i*	PKIKP	PKPdf	12 35 23.4	+0.1
YSS					MLR	MLR		
	comp=Z,100nm,18.0s,MS4.7							
YSS	**Yuzh-Sakhalins**	**148.61**	**313**	*i*	PKP	PKPdf	12 35 23.5	+0.2
NVS	**Novosibirsk**	**148.73**	**29**	*e*	PKIKP	PKPdf	12 35 23.3	+0.1
NVS					pmax	pmax		
	comp=Z,256nm,1.4s							
NVS					pmax	pmax		
	comp=E,52nm,1.3s							
EKS2	**Erkin-Say**	**148.97**	**56**	*e*	PKPdf	PKPdf	12 35 25.1	+1.0
EKS2				*e*	PKPbc	PKPbc	12 35 29.3	+1.1
EKS2	**Erkin-Say**	**148.97**	**56**		P	PKPdf	12 35 25.0	+1.0
	SNR=50							
KURK	**Kurchatov**	**149.00**	**39**	*e*	PKIKP	PKPdf	12 35 23.7	-0.1
KURK				*e*			12 35 28.2	
KURK				*e*			12 35 33.0	
KURK	**Kurchatov**	**149.00**	**39**		P	PKPdf	12 35 24.7	+0.9
	SNR=28							
KURK	**Kurchatov**	**149.00**	**39**		PKPdf	PKPdf	12 35 24.7	+0.9
	SNR=28							
AML	**Almayashu**	**149.03**	**57**	*e*	PKPdf	PKPdf	12 35 25.7	+1.5
AML				*e*	PKPbc	PKPbc	12 35 29.4	+1.1
AML	**Almayashu**	**149.03**	**57**		P	PKPdf	12 35 26.6	+2.5
	SNR=53							
USP	**Ospenovka**	**149.34**	**54**		P	PKPdf	12 35 25.3	+0.7
	SNR=15							
AAK	**Ala-Archa**	**149.50**	**55**		P	PKPdf	12 35 26.4	+1.5
	SNR=18							
FRU	**Bishkek**	**149.53**	**55**	*e*	PKHKP	PKPdf	12 35 26.0	+1.1
FRU				*i*		PKPbc	12 35 30.0	+0.5
FRU					pmax	pmax		
	comp=Z,420nm,1.8s							
CHMS	**Chumysh**	**149.59**	**55**		P	PKPbc	12 35 30.6	+0.9
	SNR=37							
UCH	**Uchtor**	**149.60**	**56**	*e*	PKPdf	PKPdf	12 35 26.4	+1.3
UCH				*e*	PKPbc	PKPbc	12 35 31.3	+1.6
UCH	**Uchtor**	**149.60**	**56**		P	PKPdf	12 35 26.6	+1.5
	SNR=20							
HYB	**Hyderabad**	**149.71**	**107**	*i*	PKP	PKPdf	12 35 26.5	+0.5
	comp=Z,100nm,1.0s							
HYB				*es*	PKP		12 35 56.0	
HYB				*e*			12 36 08.0	
KBK	**Karagaybulak**	**149.81**	**55**		P	PKPbc	12 35 31.1	+0.9
	SNR=48							
AKL	**Akola**	**149.85**	**100**	*e*	P	PKPdf	12 35 24.5	-1.6
ZAL	**Zalesovo**	**150.01**	**29**		PKHKP	PKPdf	12 35 25.0	-0.3
ZAA0	**Zalesovo Array**	**150.01**	**29**	*e*	PKPdf	PKPdf	12 35 25.4	+0.1
ZAA0				*e*	PKPbc	PKPbc	12 35 30.3	0.0
ZALV	**Zalesovo Beam**	**150.01**	**29**		PKP	PKPdf	12 35 25.0	-0.3
ZALV					PKPbc	PKPbc	12 35 30.0	-0.3
ZALV	**Zalesovo Beam**	**150.01**	**29**		PKP	PKPdf	12 35 25.0	-0.3
	comp=Z,231nm,0.8s,baz=289,slow=2.4,SNR=85							
ZALV					PKPbc	PKPbc	12 35 30.0	-0.3
	comp=Z,242nm,0.8s,baz=297,slow=3.1,SNR=186							
KZA	**Kyzart**	**150.17**	**56**		P	PKPbc	12 35 32.8	+1.7
	SNR=36							
TKM2	**Tokmak 2**	**150.21**	**54**	*e*	PKIKP	PKPdf	12 35 26.5	+0.5
TKM2				*e*			12 35 31.5	
TKM2	**Tokmak 2**	**150.21**	**54**		P	PKPdf	12 35 27.0	+1.0
	SNR=7.8							
CLNS	**Chul'man**	**150.54**	**342**	*e*	PKIKP	PKPbc	12 35 30.7	-0.8
CLNS					pmax	pmax		
	comp=Z,179nm,1.0s							
CLNS					pmax	pmax		
	comp=N,42nm,0.9s							
CLNS					pmax	pmax		
	comp=E,44nm,1.0s							
ULHL	**Ulahol**	**150.84**	**55**		P	PKPbc	12 35 34.3	+1.6
	SNR=7.0							
BHPL	**Bhopal**	**151.13**	**95**	*e*	P	PKPdf	12 35 25.8	-2.3
THN	**Thein Dam**	**151.45**	**76**	*e*	P	PKPdf	12 35 25.6	-2.7
BOD	**Bodaibo**	**151.56**	**354**	*e*	PKIKP	PKPdf	12 35 26.6	-1.0
BOD				*e*			12 35 32.5	
BOD					pmax	pmax		
	comp=Z,45nm,1.1s							
BOD					pmax	pmax		
	comp=Z,11nm,1.1s							
PSI	**Prapat**	**151.71**	**158**		PKP	PKPdf	12 35 27.1	-2.2
	comp=Z,8.3nm,1.1s,baz=189,slow=12,SNR=5.7							
PSI					PKPbc	PKPbc	12 35 34.3	-1.3
	comp=Z,42nm,0.9s,baz=201,slow=2.2,SNR=45							
PSI					PKPab	PKPab	12 35 44.0	-0.3
	comp=Z,47nm,0.8s,baz=213,slow=5.2,SNR=18							
NGP	**Nagpur**	**151.78**	**100**	*e*	P	PKPdf	12 35 26.3	-2.8
MYKOM	**Kota Tinggi**	**151.94**	**169**	⇓	P	PKPbc	12 35 35.1	-1.0
KSM	**Kuching**	**152.01**	**183**	*e*	PKPbc	PKPbc	12 35 34.9	-1.4
KSM				*e*	PKPab	PKPab	12 35 45.0	-0.5
KSM	**Kuching**	**152.01**	**183**	⇑	P	PKPbc	12 35 35.5	-0.8
KGM	**Kluang**	**152.06**	**168**	⇑	P	PKPbc	12 35 35.4	-1.0
NDI	**New Delhi**	**152.32**	**84**	*e*	P	PKPdf	12 35 28.7	-1.0
HABR	**Khabarovsk**	**152.52**	**321**	*e*	PKIKP	PKPdf	12 35 27.4	-1.9
HABR				*e*			12 39 17.7	
HABR				*e*			12 42 31.4	
HABR				*e*	SS	SS	12 58 41.5	-4.4
SMLA	**Simla**	**152.59**	**79**	*e*	P	PKPdf	12 35 30.1	+0.1
SBUM	**Sibu**	**152.83**	**187**	⇑	P	PKPbc	12 35 37.4	-0.7
FRIM	**Kepong**	**152.89**	**164**	⇑	P	PKPbc	12 35 37.2	-1.0
MK31	**Makanchi Array**	**153.10**	**43**	*e*	PKIKP	PKPdf	12 35 29.4	-0.8
MK31				*e*			12 35 37.0	
MKAR	**Makanchi Array**	**153.10**	**43**		PKIKP	PKPdf	12 35 29.7	-0.6
MKAR							12 35 37.4	
MKAR	**Makanchi Array**	**153.10**	**43**		PKP	PKPdf	12 35 29.6	-0.6
MKAR					PKPbc	PKPbc	12 35 37.4	-0.2
MKAR					PKPab	PKPab	12 35 50.0	+0.7
MKAR	**Makanchi Array**	**153.10**	**43**		PKP	PKPdf	12 35 29.6	-0.6
	comp=Z,5.6nm,0.9s,baz=318,slow=1.6,SNR=30							
MKAR					PKPbc	PKPbc	12 35 37.4	-0.2
	comp=Z,22nm,0.8s,baz=313,slow=2.5,SNR=50							
MKAR					PKPab	PKPab	12 35 50.0	+0.7
	comp=Z,25nm,0.9s,baz=289,slow=3.3,SNR=18							
TSM	**Tawau**	**153.46**	**200**	⇓	P		12 36 13.8	
BTM	**Bintulu**	**153.46**	**189**	⇑	P	PKPbc	12 35 38.9	-0.6
KLR	**Kul'dur**	**153.81**	**325**	*e*	PKIKP	PKPdf	12 35 27.0	-4.2
KLR					pmax	pmax		
	comp=Z,46nm,1.8s							
IPM	**Ipoh**	**153.93**	**162**	⇑	P	PKPbc	12 35 39.3	-1.2
MYLDM	**Lahad Datu**	**154.10**	**202**	⇓	P		12 36 17.9	
MJAR	**Matsushiro Arr**	**154.57**	**294**		PKP	PKPdf	12 35 31.8	-0.9
	comp=Z,3.3nm,1.1s,baz=51,slow=1.5,SNR=9.3							
MJAR					PKPbc	PKPbc	12 35 40.1	-1.1
	comp=Z,5.5nm,1.0s,baz=90,slow=1.1,SNR=9.5							
MJAR					PKPab	PKPab	12 35 55.0	-1.0
	comp=Z,18nm,0.8s,baz=112,slow=2.7,SNR=29							
KULM	**Kulim**	**154.59**	**160**	*e*	PKPbc	PKPbc	12 35 40.2	-1.7
KULM	**Kulim**	**154.59**	**160**	⇓	P	PKPbc	12 35 41.3	-0.6
BLSP	**Bilaspur**	**154.80**	**101**	*e*	P	PKPdf	12 35 33.0	-0.4
KTGM	**Kuala Trenggan**	**155.25**	**166**	⇓	P		12 35 19.9	
KDM	**Kudat**	**156.25**	**200**	⇑	P	PKPab	12 36 06.5	+2.9
IRK	**Irkutsk**	**157.10**	**7**	*e*	PKIKP	PKPdf	12 35 34.8	-0.7
IRK					pmax	pmax		
	comp=Z,47nm,2.0s							
MOY	**Mondy**	**157.16**	**13**	*e*	PKIKP	PKPdf	12 35 36.9	+1.3
TLY	**Talaya**	**157.58**	**9**	*e*	PKPdf	PKPdf	12 35 36.7	+0.5
TLY				*e*	PKPab	PKPab	12 36 08.7	+0.5
TLY	**Talaya**	**157.58**	**9**		P	PKPdf	12 35 37.1	+1.0
	SNR=7.3							
TLY	**Talaya**	**157.58**	**9**		PKPdf	PKPdf	12 35 37.1	+1.0
	SNR=7.3							
KOLN	**Koldanda**	**157.70**	**88**	*e*	P	PKPdf	12 35 36.0	-1.1
	comp=Z,22nm,1.1s							
MDJ	**Mudanjiang**	**157.81**	**318**		PKP	PKPdf	12 35 35.8	-0.9
WMQ	**Urumqi**	**157.91**	**44**	*e*	PKP	PKPdf	12 35 37.0	+0.2
WMQ					PP	PP	12 39 53.0	+3.3
WMQ					SKS	SKSdf	12 42 37.0	-1.6
WMQ					SKKS	SKKSac	12 46 37.0	+2.2
WMQ					SS	SS	12 59 45.0	+0.5
WMQ					PP	PP		
	comp=Z,78nm,9.0s							
WMQ					LR	LR		
	comp=N,189nm,22.0s,MS5.0							
WMQ					LR	LR		
	comp=E,195nm,22.0s,MS5.0							
WMQ					LR	LR		
	comp=Z,146nm,20.0s,MS4.8							
DANN	**Dangsing**	**157.94**	**87**	*e*	P	PKPdf	12 35 37.7	+0.3
	comp=Z,46nm,1.0s							
BOK	**Bokaro**	**158.62**	**100**	*e x*		PKPab	12 36 11.4	-2.4
GKN	**Gorkha**	**158.65**	**88**	*e*	P	PKPdf	12 35 40.2	+2.0
ZAK	**Zakamensk**	**158.79**	**10**	*e*	PKIKP	PKPdf	12 35 38.0	+0.3
ZAK				*e*			12 39 52.0	
ZAK					pmax	pmax		
	comp=Z,5.0nm,1.3s							
ZAK					pmax	pmax		
	comp=Z,11nm,1.4s							
ZAK					pmax	pmax		
	comp=Z,2.0nm,1.6s							
DMN	**Daman**	**158.99**	**90**	*e*	P	PKPdf	12 35 42.2	+3.6
PKI	**Pulchoki**	**159.24**	**90**	*e*	P	PKPdf	12 35 43.0	+4.1
GUN	**Gumba**	**159.72**	**89**	*e*	P	PKPdf	12 35 45.3	+5.8
JIRN	**Jiri**	**159.94**	**90**	*e*	P	PKPdf	12 35 46.3	+6.6
JNU	**Nakatsue**	**160.94**	**286**		PKPab	PKPab	12 36 23.4	-0.3
	comp=Z,11nm,0.9s,baz=360,slow=7.2,SNR=5.2							
SONM	**Songino Array**	**161.67**	**5**		PKIKP	PKPdf	12 35 40.3	-0.6
SONM							12 35 55.0	
SONM							12 40 10.4	
SONM	**Songino Array**	**161.67**	**5**		PKP	PKPdf	12 35 40.3	-0.7
	comp=Z,6.2nm,1.0s,baz=347,slow=1.0,SNR=24							
SONM					pPKP	pPKPdf	12 35 55.0	-0.7
	comp=Z,3.4nm,1.1s,baz=94,slow=0.1,SNR=5.5							
SONM					PKPab	PKPab	12 36 26.7	+0.6
	comp=Z,7.8nm,0.9s,baz=332,slow=5.1,SNR=15							
SONM					PP	PP	12 40 10.4	+1.3
	comp=Z,2.6nm,1.0s,baz=340,slow=4.2,SNR=9.8							
ULN	**Ulaanbaatar**	**161.69**	**4**	*i*	PKIKP	PKPdf	12 35 41.2	+0.2
ULN	**Ulaanbaatar**	**161.69**	**4**	*e*	PKPdf	PKPdf	12 35 40.8	-0.1
KSRS	**Korea Array**	**162.35**	**301**		PKP	PKPdf	12 35 41.3	-0.7
	comp=Z,3.4nm,1.0s,baz=163,slow=1.3,SNR=7.0							
KSRS					PKPab	PKPab	12 36 29.8	+0.2
	comp=Z,3.0nm,0.9s,baz=85,slow=4.8,SNR=5.6							
SHL	**Shillong**	**164.36**	**101**	*e*	P	PKPdf	12 35 44.5	+0.2
GTA	**Gaotai**	**167.65**	**35**		PKP	PKPdf	12 35 46.6	+0.1
GTA					APKP		12 35 58.0	
GTA					XPKP		12 36 00.9	
GTA					PKP2	PKPab	12 36 53.3	+0.5
GTA					PKS		12 39 18.8	
GTA					PP	PP	12 40 39.5	-1.5
GTA					SKS	SKSdf	12 42 46.5	+0.2
GTA					SKKS	SKKSac	12 47 20.6	-4.0
GTA					PP	PP		
	comp=Z,145nm,6.9s							
GTA					LR	LR		
	comp=N,214nm,23.7s							
GTA					LR	LR		
	comp=E,208nm,20.6s							
GTA					LR	LR		
	comp=Z,377nm,23.7s							
HHC	**Hu-ho-hao-te**	**168.56**	**350**	*e*	PKP	PKPdf	12 35 47.0	0.0
HHC					APKP		12 35 57.9	
HHC					XPKP		12 36 01.3	
HHC					PKS		12 39 18.1	
HHC					PP	PP	12 40 49.0	+3.9
HHC					SKKS	SKKSac	12 47 31.0	+2.2
HHC					PP	PP		
	comp=Z,193nm,9.4s							
HHC					LR	LR		
	comp=N,299nm,22.6s							
HHC					LR	LR		
	comp=E,208nm,22.1s							
HHC					LR	LR		
	comp=Z,562nm,23.5s							
LZH	**Lanzhou**	**172.23**	**32**	⇑	PKP	PKPdf	12 35 49.5	+0.3
LZH					APKP		12 36 04.0	
LZH					XPKP		12 36 08.8	
LZH					PKP2	PKPab	12 37 17.5	+4.4
LZH				*e*	PP	PP	12 41 07.6	+3.7
LZH					SKS	SKSdf	12 42 46.8	-1.7
LZH					SKKS	SKKSac	12 47 48.3	+1.3
LZH				*e*	SS	SS	13 02 10.8	+0.7
LZH					PP	PP		
	comp=Z,173nm,9.3s							
LZH					LR	LR		
	comp=E,356nm,18.4s							
LZH					LR	LR		
	comp=Z,518nm,20.3s							
KMI	**Kunming**	**172.92**	**127**		PKP	PKPdf	12 35 47.9	-1.9
KMI					APKP		12 36 03.8	
KMI					XPKP		12 36 09.1	
CD2	**Chengdu**	**175.33**	**72**	*e*	PKP	PKPdf	12 35 50.3	-0.2
CD2					APKP		12 36 02.3	
CD2					XPKP		12 36 07.8	
CD2					PKP2	PKPab	12 37 28.3	+1.0
CD2					PP	PP	12 41 21.1	+0.8
CD2					SKS	SKSdf	12 42 47.5	-2.2
CD2					SKKS	SKKSac	12 48 02.8	+0.4
CD2					SS	SS	13 02 38.8	-3.6
CD2					PP	PP		
	comp=Z,230nm,10.8s							
CD2					LR	LR		
	comp=N,300nm,16.8s							
CD2					LR	LR		
	comp=E,280nm,14.4s							
CD2					LR	LR		
	comp=Z,290nm,16.8s							
XAN	**Xi'an**	**175.56**	**0**		PKP	PKPdf	12 35 50.1	-0.3
XAN					APKP		12 35 59.0	
XAN					XPKP		12 36 03.5	
GYA	**Guiyang**	**176.29**	**147**		PKP	PKPdf	12 35 49.8	-1.0
GYA					APKP		12 36 04.3	
GYA					XPKP		12 36 09.3	
GYA					PKP2	PKPab	12 37 32.5	+1.1
GYA					PKS		12 39 20.6	
GYA					PP	PP	12 41 26.0	+2.4
GYA					SKS	SKSdf	12 42 46.3	-3.7
GYA					SKKS	SKKSac	12 48 06.3	-0.3
GYA					SS	SS	13 02 48.4	-0.9
GYA					PP	PP		
	comp=Z,140nm,7.9s							
GYA					LR	LR		
	comp=N,590nm,23.8s							
GYA					LR	LR		
	comp=E,470nm,22.4s							
GYA					LR	LR		
	comp=Z,540nm,24.6s							

SGS ***20*** *12:24:30.6,29.10N×3328E,h2km*
GII ***20*** *12:24:31.5±1.5,2903N×3365E,h0km,ML2.5/4*
ISC 20 12:24:29.9±1.7,2902N±005×3349E±010,h0km,n11,
σ0964/15,Egypt

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RSHS		**1.35**	**122**	S		**Sg**	**12 25 14.4**	**+1.1**
RSHS		**1.35**	**122**	P		**Pg**	**12 24 55.6**	**-0.2**
HQLS		**1.40**	**78**	S		**Sg**	**12 25 14.8**	**-0.1**
HQLS		**1.40**	**78**	P		**Pn**	**12 24 56.0**	**-0.7**
EIL	**Elat**	**1.43**	**63**	Pn		**Pn**	**12 24 57.1**	**0.0**
EIL				Sn		**Sn**	**12 25 15.6**	**-1.0**
MBH	**Mount Berech**	**1.46**	**58**	Pn		**Pn**	**12 24 57.6**	**+0.1**
MBH				Sn		**Sn**	**12 25 17.2**	**-0.2**
KRMI	**Paran Flat**	**1.53**	**44**	Pn		**Pn**	**12 24 58.1**	**-0.4**
KRMI				Sn		**Sn**	**12 25 19.2**	**+0.1**
HRFI	**Mount Harif**	**1.69**	**53**	Sn		**Sn**	**12 25 22.8**	**-0.1**
JLOS		**1.78**	**99**	S		**Sn**	**12 25 24.8**	**-0.4**
JLOS		**1.78**	**99**	P		**Pn**	**12 25 01.5**	**-0.4**
PRNI	**Paran**	**1.87**	**44**	Pn		**Pn**	**12 25 04.2**	**+1.0**
PRNI				Sn		**Sn**	**12 25 28.9**	**+1.5**

NEIC ***20*** *12:35:47.4±1.5,826S×12087E,h137km±15km,mb4.6/11,*
Error ellipse: s-maj=11.8km s-min=7.6km az=224.0
ISCJB ***20*** *12:35:50.2±0.8,837S±007×12095E±008,h182km±7km,*
mb4.2/16,Error ellipse: s-maj=15.7km s-min=6.6km
az=143.7
IDC ***20*** *12:35:50.2±1.6,8.18S×12098E,h161km±15km,mb4.0/13,*
mb1 4.1/16,mb1mx4.0/22,mbtmp4.1/16,MS3.3/1,
Ms1 3.3/1,ms1mx2.8/25,Error ellipse: s-maj=20.5km
s-min=10.6km az=59.0
ISC 20 12:35:50.8±0.8,837S±007×12092E±008,h172km±8km,
n50,σ1905/49,mb4.2/16,2C,Flores region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.26**	**124**	P		**Pn**	**12 36 42.8**	**+0.4**
	339nm,0.3s,baz=306,slow=2.0,SNR=347							
BATI				S		**Sn**	**12 37 23.0**	**+0.6**
	170nm,0.3s,baz=160,slow=22,SNR=5.5							
BATI				LR		LR	12 38 32.7	
	comp=Z,371nm,18.1s,baz=301,slow=49							
KAPI	**Kappang**	**3.53**	**341**	P		**Pn**	**12 36 48.0**	**+2.2**
	27nm,0.3s,baz=183,slow=8.4,SNR=71							
FITZ	**Fitzroy Crossi**	**10.71**	**155**	*e*	P	**Pn**	**12 38 17.5**	**-2.2**
	84nm,0.9s							
FITZ				*e*	S	**Sn**	**12 40 09.2**	**-9.4**
FITZ	**Fitzroy Crossi**	**10.71**	**155**		P	**Pn**	**12 38 18.4**	**-1.3**
	5.1nm,0.3s,baz=337,slow=9.3,SNR=120							
FITZ					S	**Sn**	**12 40 08.4**	**-10**
	4.4nm,0.3s,baz=218,slow=17,SNR=3.3							
KAKA	**Kakadu**	**12.12**	**112**	*e*	P	**Pn**	**12 38 36.9**	**-1.1**
	74nm,0.3s							
KAKA				*e*	S	**Sn**	**12 40 41.0**	**-11**
MBWA	**Marble Bar**	**12.77**	**185**	*e*	Pn	**Pn**	**12 38 44.3**	**-2.0**
	14nm,0.5s							
MBWA				*e*	Sn	**Sn**	**12 40 53.6**	**-14**
KKM	**Kota Kinabalu**	**15.07**	**342**	*e*	P	**Pn**	**12 39 15.0**	**-0.2**
WRA	**Warramunga Arr**	**17.35**	**133**	P		**Pn**	**12 39 42.0**	**-0.7**
	3.0nm,0.3s,baz=311,slow=13,SNR=145							
WRA				S		**S**	**12 42 43.3**	**-10**
	1.4nm,0.3s,baz=303,slow=23,SNR=5.0							
WRAB	**Tennant Creek**	**17.35**	**133**	*e*	P	**Pn**	**12 39 42.0**	**-0.8**
	27nm,0.5s							
WB2	**Warramunga Arr**	**17.36**	**133**	*e*	P	**Pn**	**12 39 42.0**	**-0.9**
WB2				*e*	S	**S**	**12 42 42.9**	**-11**
ASAR	**Alice Springs**	**19.65**	**142**	P		**P**	**12 40 07.5**	**+1.1**
	4.5nm,0.3s,baz=328,slow=12,SNR=138							
ASAR				S		**S**	**12 43 32.0**	**-6.9**
	baz=332,slow=26,SNR=2.6							
COEN	**Coen**	**22.52**	**106**	*e*	P	**P**	**12 40 37.0**	**+0.5**
	30nm,0.6s,mb4.9							
KULM	**Kulim**	**24.35**	**303**	*e*	P	**P**	**12 40 51.8**	**-1.4**
PSI	**Prapat**	**24.59**	**296**	P		**P**	**12 40 55.4**	**+0.1**
	8.2nm,0.8s,mb4.3,baz=152,slow=4.8,SNR=7.5							
CTA	**Charters Tower**	**27.13**	**118**	*e*	P	**P**	**12 41 19.7**	**+1.6**
	4.9nm,0.6s,mb4.3							
CTA	**Charters Tower**	**27.13**	**118**	P		**P**	**12 41 18.9**	**+0.8**
	6.3nm,0.7s,mb4.3,baz=285,slow=10,SNR=13							
CTA					PcP	PcP	12 44 34.7	+0.2
	8.1nm,1.0s,baz=153,slow=6.8,SNR=3.6							
CTAO	**Charters Tower**	**27.13**	**118**	*e*	P	**P**	**12 41 17.6**	**-0.5**
	4.9nm,0.5s,mb4.4							
CTAO				*e*		pP	12 41 54.3	+0.9
STKA	**Stephens Creek**	**30.27**	**143**	*e*	P	**P**	**12 41 46.8**	**+1.0**
	5.5nm,0.3s,mb4.8							
STKA	**Stephens Creek**	**30.27**	**143**	P		**P**	**12 41 46.9**	**+1.1**
	7.1nm,0.5s,mb4.7,baz=322,slow=9.0,SNR=41							
ARMA	**Armidale**	**36.12**	**132**	*e*	P	**P**	**12 42 39.0**	**+2.4**
	0.1nm,0.6s							
HNR	**Honiara**	**38.55**	**95**	*e*	P	**P**	**12 42 57.1**	**-0.1**
	65nm,1.1s,mb5.2							
HNR	**Honiara**	**38.55**	**95**	P		**P**	**12 42 57.1**	**-0.2**
	34nm,0.7s,mb5.1,baz=274,slow=1.9,SNR=8.3							
MJAR	**Matsushiro Arr**	**47.53**	**19**	P		**P**	**12 44 07.4**	**-1.5**
	0.5nm,0.4s,mb3.5,baz=196,slow=9.0,SNR=4.9							
SONM	**Songino Array**	**57.42**	**348**	P		**P**	**12 45 21.0**	**-0.3**
	0.8nm,0.4s,mb3.9,baz=169,slow=7.2,SNR=6.1							
MK31	**Makanchi Array**	**64.79**	**332**	*e*	P	**P**	**12 46 11.4**	**+0.4**
MKAR	**Makanchi Array**	**64.79**	**332**	P		**P**	**12 46 11.3**	**+0.3**
MKAR	**Makanchi Array**	**64.79**	**332**	P		**P**	**12 46 11.3**	**+0.3**
	2.3nm,0.5s,mb4.2,baz=141,slow=7.6,SNR=20							

*ISCJB **20** 12:49:16.1±0.5, 3785N±002×2102E±002, h13km±3km, mb3.7/10, Error ellipse: s-maj=3.7km s-min=2.6km az=19.8*
*CSEM **20** 12:49:17.9±0.1, 3778N×2118E, h10km, ML3.8, Error ellipse: s-maj=2.2km s-min=1.3km az=24.0*
*THE **20** 12:49:17.9, 3782N×2121E, h2km, ML4.4*
*ATH **20** 12:49:17.8, 3785N×2122E, h14km±2km, MD3.8/18, ML3.8*
*NEIC **20** 12:49:18.5, 3789N×2121E, h20km, ML4.0(PDG), ML3.8(ATH), After ATH.*
*PDG **20** 12:49:19.5±0.6, 3812N×2115E, h12km±3km, ML4.0/9, Error ellipse: s-maj=3.3km s-min=2.2km az=90.0*
*IDC **20** 12:49:19.1±2.2, 3791N×2128E, h38km±20km, mb3.6/10, mb1 3.7/17, mb1mx3.6/30, mbtmp3.6/17, ML3.6/6, MS3.6/2, Ms1 3.6/2, ms1mx2.7/44, Error ellipse: s-maj=17.3km s-min=15.5km az=141.0*
*SOF **20** 12:49:40.4, 3938N×2249E, h2km, MD3.0*

ISC 20 12:49:17.3±0.5, 3786N±002×2108E±002, h11km±3km, n115, σ1§43/168, mb3.7/10, 8C-4D, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RLS	**Riolos of Patr**	**0.37**	**57**	*e*PG	**Pg**	**12 49 24.1**	**-0.6**
RLS				*e*SG	**Sg**	**12 49 28.4**	**-1.2**
RLS	**Riolos of Patr**	**0.37**	**57**	*e*Pb	**Pg**	**12 49 24.4**	**-0.3**
RLS				*e*Sb	**Sg**	**12 49 29.9**	**+0.3**
VLS	**Valsamata**	**0.50**	**310**	*e*Pg	**Pg**	**12 49 28.7**	**+1.6**
VLS				*e*Sg	**Sg**	**12 49 38.7**	**+5.0**
VLS	**Valsamata**	**0.50**	**310**	*e*Pn	**Pg**	**12 49 29.2**	**+2.1**
VLS				*e*Sn	**Sg**	**12 49 39.2**	**+5.5**
VLS	**Valsamata**	**0.50**	**310**	*e*PG	**Pg**	**12 49 28.9**	**+1.8**
VLS				*e*SB	**Sg**	**12 49 38.7**	**+5.0**
LKD	**Levkas**	**0.91**	**339**	*e*Pg	**Pg**	**12 49 35.5**	**+0.6**
LKD				*e*Sg	**Sg**	**12 49 51.5**	**+4.7**
LKD	**Levkas**	**0.91**	**339**	*e*Pg	**Pg**	**12 49 35.5**	**+0.6**
LKD				*e*Sg	**Sg**	**12 49 51.5**	**+4.7**
ITM	**Ithomi**	**0.96**	**135**	*e*PB	**Pb**	**12 49 33.7**	**-2.2**
ITM				*e*SB	**Sb**	**12 49 47.1**	**-1.4**
ITM	**Ithomi**	**0.96**	**135**	*e*Pn	**Pn**	**12 49 34.4**	**-2.2**
ITM				*e*Sn	**Sn**	**12 49 49.7**	**-0.5**
EVR	**Evrytania**	**1.21**	**28**	*e*PG	**Pg**	**12 49 39.2**	**-1.3**
EVR				*e*SB	**Sb**	**12 49 56.5**	**+0.8**
EVR	**Evrytania**	**1.21**	**28**	*e*Pn	**Pn**	**12 49 39.7**	**-0.4**
EVR				*e*Sn	**Sn**	**12 49 56.1**	**-0.3**
AGG	**Agios Georgios**	**1.52**	**40**	*e*Pg	**Pg**	**12 49 45.4**	**-1.2**
AGG				*e*Sg	**Sg**	**12 50 05.1**	**-1.3**
AGG	**Agios Georgios**	**1.52**	**40**	*e*Pg	**Pg**	**12 49 45.3**	**-1.3**
AGG				*e*Sg	**Sg**	**12 50 05.1**	**-1.3**
LKR	**Lokris**	**1.71**	**62**	*e*Pb	**Pb**	**12 49 46.8**	**-1.9**
LKR				*e*Sb	**Sb**	**12 50 10.0**	**-0.2**
LKR	**Lokris**	**1.71**	**62**	*e*PG	**Pg**	**12 49 47.5**	**-2.6**
LKR				*e*SB	**Sb**	**12 50 09.4**	**-0.8**
LKR	**Lokris**	**1.71**	**62**	*e*Pn	**Pn**	**12 49 47.3**	**+0.3**
IGT	**Igoumenitsa**	**1.77**	**341**	*e*Pb	**Pb**	**12 49 49.1**	**-0.6**
IGT				*e*Sb	**Sb**	**12 50 14.6**	**+2.6**
JAN	**Janina**	**1.81**	**354**	*e*PG	**Pg**	**12 49 51.5**	**-0.5**
JAN	**Janina**	**1.81**	**354**	*e*Pn	**Pn**	**12 49 50.4**	**+2.1**
THL	**Klokotos Trika**	**1.86**	**23**	*e*Pb	**Pb**	**12 49 50.5**	**-0.8**
THL				*e*Sb	**Sb**	**12 50 15.4**	**+1.0**
THL	**Klokotos Trika**	**1.86**	**23**	*e*PN	**Pn**	**12 49 50.8**	**+1.8**
THL				*e*SN	**Sn**	**12 50 14.9**	**+2.5**
THL	**Klokotos Trika**	**1.86**	**23**	⇑*i*Pn	**Pn**	**12 49 50.8**	**+1.8**
THL				*e*Sb	**Sb**	**12 50 15.4**	**+1.0**
NAIG	**Nisos Aigina**	**1.91**	**92**	*e*PN	**Pn**	**12 49 50.5**	**+0.7**
NAIG				*e*SN	**Sn**	**12 50 14.5**	**+0.6**
NAIG	**Nisos Aigina**	**1.91**	**92**	*e*Pb	**Pb**	**12 49 50.0**	**-2.2**
MEV	**Metsovon**	**1.93**	**4**	*e*Pb	**Pb**	**12 49 52.5**	**0.0**
ATH	**Athens Observa**	**2.09**	**86**	*e*PN	**Pn**	**12 49 53.3**	**+1.0**
ATH	**Athens Observa**	**2.09**	**86**	*e*Pn	**Pn**	**12 49 52.9**	**+0.6**
KEK	**Kerkira**	**2.10**	**332**	*e*PB	**Pb**	**12 49 54.0**	**-1.5**
KVR	**Kavouri**	**2.13**	**90**	*e*PN	**Pn**	**12 49 53.3**	**+0.5**
PTL	**Penteli**	**2.21**	**84**	*e*PN	**Pn**	**12 49 54.7**	**+0.8**
NEO	**Neokhori**	**2.22**	**49**	*e*PN	**Pn**	**12 49 54.7**	**+0.7**
NEO	**Neokhori**	**2.22**	**49**	*e*Pb	**Pb**	**12 49 55.0**	**-2.4**
KYTH	**Kithira**	**2.22**	**134**	*e*Pn	**Pn**	**12 49 57.5**	**+3.5**
KYTH	**Kithira**	**2.22**	**134**	*e*PG	**Pg**	**12 49 56.5**	**-3.4**
XOR	**Xorichti**	**2.24**	**47**	*e*Pn	**Pn**	**12 49 55.1**	**+0.8**
LIT	**Litokhoron**	**2.50**	**26**	*e*Pn	**Pn**	**12 49 58.0**	**+0.2**
LIT				*e*Sn	**Sn**	**12 50 31.2**	**+3.0**
LIT	**Litokhoron**	**2.50**	**26**	*e*Pn	**Pn**	**12 49 58.0**	**+0.2**
LIT				*e*Sn	**Sn**	**12 50 31.2**	**+3.0**
KZN	**Kozani**	**2.50**	**12**	*e*PN	**Pn**	**12 50 00.5**	**+2.6**
KZN	**Kozani**	**2.50**	**12**	*e*Pb	**Pb**	**12 50 01.8**	**-0.5**
AOS	**Alonnisos**	**2.56**	**58**	*e*Pn	**Pn**	**12 49 58.9**	**+0.1**
AOS				*e*Sn	**Sn**	**12 50 31.2**	**+1.4**
AOS	**Alonnisos**	**2.56**	**58**	*e*Pn	**Pn**	**12 49 58.8**	**+0.1**
AOS				*e*Sn	**Sn**	**12 50 31.2**	**+1.4**
FNA	**Florina**	**2.93**	**4**	*e*Pn	**Pn**	**12 50 05.0**	**+1.2**
FNA				*e*Sn	**Sn**	**12 50 43.0**	**+4.0**
PLG	**Polygyros**	**3.12**	**36**	*e*Pn	**Pn**	**12 50 06.3**	**0.0**
PLG	**Polygyros**	**3.12**	**36**	*e*PN	**Pn**	**12 50 06.7**	**+0.4**
PLG	**Polygyros**	**3.12**	**36**	*e*Pn	**Pn**	**12 50 06.8**	**+0.5**
THE	**Thessaloniki**	**3.14**	**27**	*e*Pn	**Pn**	**12 50 07.5**	**+0.9**
THE				*e*Sn	**Sn**	**12 50 45.6**	**+1.6**
HORT	**Hortiatis**	**3.16**	**29**	*e*Pn	**Pn**	**12 50 08.5**	**+1.6**
BIA	**Bitola**	**3.16**	**3**	*e*Pn	**Pn**	**12 50 09.9**	**+2.9**
BIA				*e*Sn	**Sn**	**12 50 47.9**	**+3.2**
BIA	**Bitola**	**3.16**	**3**	*i*Pn	**Pn**	**12 50 08.5**	**+1.5**
BIA				*i*Sn	**Sn**	**12 50 47.8**	**+3.1**
OHR	**Ohrid**	**3.26**	**356**	*i*Pn	**Pg**	**12 50 18.6**	**-1.2**
GRG	**Griva**	**3.26**	**18**	*e*Pn	**Pn**	**12 50 09.5**	**+1.1**
LCI	**Lecce**	**3.38**	**318**	Pn	**Pn**	**12 50 11.8**	**+1.8**
LCI				Sn	**Sn**	**12 50 51.1**	**+1.0**
SOH	**Sokhos**	**3.45**	**30**	*e*Pn	**Pn**	**12 50 12.2**	**+1.4**
SOH				*e*Sn	**Sn**	**12 50 53.4**	**+1.7**
SOH	**Sokhos**	**3.45**	**30**	*e*Pn	**Pn**	**12 50 12.2**	**+1.3**
SOH				*e*Sn	**Sn**	**12 50 53.4**	**+1.7**
KNT	**Kendrikon**	**3.59**	**23**	*e*Pn	**Pn**	**12 50 13.6**	**+0.8**
APE	**Apeiranthos**	**3.63**	**101**	*e*PN	**Pn**	**12 50 15.5**	**+2.1**
TIP	**Timpagrande**	**3.63**	**293**	P	**Pn**	**12 50 16.2**	**+2.7**
VAY	**Valandovo**	**3.65**	**18**	*i*Pn	**Pn**	**12 50 17.5**	**+3.9**
VAY				*i*Sn	**Sn**	**12 50 57.0**	**+0.4**
SRS	**Serrai**	**3.79**	**30**	*e*Pn	**Pn**	**12 50 16.4**	**+0.7**
STIP	**Stip**	**3.93**	**12**	*i*Pn	**Pn**	**12 50 18.9**	**+1.4**
STIP	**Stip**	**3.93**	**12**	*i*Pn	**Pn**	**12 50 18.8**	**+1.3**
CHOS	**Chios island**	**3.96**	**81**	*e*Pn	**Pn**	**12 50 18.5**	**+0.6**
IDI	**Anoyia**	**4.00**	**129**	Pn	**Pn**	**12 50 16.3**	**-2.2**
	0.1nm,0.3s,baz=270,slow=14,SNR=2.5						
IDI				Sn	**Sn**	**12 51 05.0**	**-0.3**
	1.3nm,0.3s,baz=254,slow=19,SNR=3.8						
PE1	**Pezze di Greco**	**4.08**	**317**	*e*Pn	**Pn**	**12 50 20.7**	**+1.1**
PE1				*e*Sn	**Sn**	**12 51 06.9**	**-0.5**
MMB	**Musomiste**	**4.25**	**28**	*i*P	**Pn**	**12 50 22.7**	**+0.8**
KKB	**Krupnik**	**4.29**	**20**	*i*P	**Pn**	**12 50 23.9**	**+1.4**
ULC	**Ulcinj**	**4.33**	**342**	⇓*i*Pn	**Pn**	**12 50 23.1**	**0.0**
ULC				*e*Sn	**Sn**	**12 51 11.7**	**-1.9**
SG1	**Sgolgore (BA)**	**4.53**	**313**	*e*Pn	**Pn**	**12 50 27.2**	**+1.5**
SG1				*e*Sn	**Sn**	**12 51 17.5**	**-0.8**
SMG	**Samos**	**4.57**	**90**	*e*Pn	**Pn**	**12 50 27.8**	**+1.5**
SMG	**Samos**	**4.57**	**90**	*e*PN	**Pn**	**12 50 27.0**	**+0.7**
BUM	**Brajici-Budva**	**4.74**	**340**	⇓*i*Pn	**Pn**	**12 50 28.4**	**-0.3**
BUM				*e*Sn	**Sn**	**12 51 22.3**	**-1.3**
RZN	**Rozhen**	**4.74**	**35**	*i*P	**Pn**	**12 50 29.7**	**+1.0**
TTG	**Podgorica**	**4.77**	**344**	⇓*i*Pn	**Pn**	**12 50 29.1**	**0.0**
TTG				*e*Sn	**Sn**	**12 51 22.6**	**-1.8**
PVY	**Plav**	**4.81**	**350**	⇑*i*Pn	**Pn**	**12 50 29.6**	**0.0**
PVY				*e*Sn	**Sn**	**12 51 23.2**	**-2.0**
HAVL	**Avola**	**4.82**	**261**	Pn	**Pn**	**12 50 28.8**	**-1.0**
HAVL				Sn	**Sn**	**12 51 22.2**	**-3.4**
MGR	**Morigerati**	**4.87**	**300**	Pn	**Pn**	**12 50 33.1**	**+2.7**
MGR				Sn	**Sn**	**12 51 27.0**	**+0.3**
CDT	**Castel del Mon**	**4.92**	**312**	*e*Pn	**Pn**	**12 50 33.0**	**+1.9**
CDT				*e*Sn	**Sn**	**12 51 26.0**	**-1.9**
HCY	**Herceg Novi**	**4.99**	**338**	⇑*i*Pn	**Pn**	**12 50 31.9**	**-0.2**
HCY				*e*Sn	**Sn**	**12 51 27.4**	**-2.3**
VTS	**Vitosha**	**5.00**	**18**	*i*P	**Pn**	**12 50 39.6**	**+7.3**
KDZ	**Kurdzhali**	**5.05**	**40**	*i*P	**Pn**	**12 50 31.9**	**-1.1**
IVA	**Berane**	**5.09**	**350**	⇑*i*Pn	**Pn**	**12 50 34.0**	**+0.6**
IVA				*e*Sn	**Sn**	**12 51 30.5**	**-1.6**
NKY	**Niksic**	**5.20**	**343**	⇑*i*Pn	**Pn**	**12 50 35.4**	**+0.5**
NKY				*e*Sn	**Sn**	**12 51 32.5**	**-2.3**
MRLC	**Muro Lucano**	**5.21**	**305**	Pn	**Pn**	**12 50 38.6**	**+3.5**
	20nm,0.8s						
SGO	**Sicignano**	**5.23**	**303**	Pn	**Pn**	**12 50 38.7**	**+3.3**
	15nm,0.4s						
VAE	**Valguarnera**	**5.30**	**268**	Pn	**Pn**	**12 50 38.2**	**+1.8**
	0.6nm,0.3s,baz=308,slow=12,SNR=3.0						
VAE				Sn	**Sn**	**12 51 40.3**	**+2.9**
	2.1nm,0.3s,baz=164,slow=20,SNR=3.0						
BRY	**Bratogost**	**5.40**	**340**	⇓*i*Pn	**Pn**	**12 50 37.4**	**-0.2**
BRY				*e*Sn	**Sn**	**12 51 37.4**	**-2.3**
UPM	**Unac-Piva**	**5.59**	**344**	⇑*i*Pn	**Pn**	**12 50 40.1**	**-0.2**
UPM				*e*Sn	**Sn**	**12 51 42.4**	**-2.1**
PLE	**Pljevlja**	**5.61**	**347**	⇑*i*Pn	**Pn**	**12 50 40.8**	**+0.1**
PLE				*e*Sn	**Sn**	**12 51 43.0**	**-2.1**
STON	**Ston**	**5.63**	**334**	⇑*i*Pn	**Pn**	**12 50 40.0**	**-0.9**
STON				Sn	**Sn**	**12 51 41.9**	**-3.7**
FG5	**Orsara di Pugl**	**5.64**	**309**	Pn	**Pn**	**12 50 43.2**	**+2.2**
	36nm,0.7s						
RGNG	**Rignano Grg**	**5.69**	**314**	Pn	**Pn**	**12 50 42.5**	**+0.8**
RGNG				Sn	**Sn**	**12 51 45.2**	**-1.8**
NRCA	**Norcia**	**7.85**	**312**	Pn	**Pn**	**12 51 13.7**	**+2.3**
NVLJ	**Novalja**	**8.17**	**327**	Sn	**Sn**	**12 52 44.4**	**-3.5**
MLR	**Muntele Rosu**	**8.45**	**24**	Pn	**Pn**	**12 51 20.1**	**+0.5**
	0.2nm,0.3s,baz=317,slow=19,SNR=2.2						
MLR				LR	LR	12 54 26.1	
	comp=Z,104nm,19.1s,baz=33,slow=37						
BOJS	**Bojanci**	**8.79**	**332**	*i*Pn	**Pn**	**12 51 23.8**	**-0.4**
VNDS	**Vrh nad Dolski**	**9.50**	**332**	*i*Pn	**Pn**	**12 51 33.2**	**-0.8**
JAVS	**Javornik**	**9.58**	**329**	*i*Pn	**Pn**	**12 51 34.4**	**-0.6**
KEST	**Kesra**	**9.64**	**261**	Pn	**Pn**	**12 51 38.4**	**+2.4**
	0.1nm,0.3s,baz=205,slow=16,SNR=4.0						
VOY	**Vojsko**	**9.76**	**329**	*e*Pn	**Pn**	**12 51 37.4**	**-0.1**
VOY				*e*Sn	**Sn**	**12 53 21.0**	**-6.0**
DAVOX	**Davos/Dischmat**	**12.16**	**321**	Pn	**Pn**	**12 52 11.9**	**+1.6**
	0.2nm,0.3s,baz=348,slow=20,SNR=2.1						
DAVOX				Sn	**Sn**	**12 54 20.0**	**-5.9**
	0.2nm,0.3s,baz=357,slow=23,SNR=3.0						
GERES	**GERESS Array B**	**12.22**	**336**	Pn	**Pn**	**12 52 10.9**	**-0.2**
	0.3nm,0.3s,baz=165,slow=13,SNR=7.4						
GERES				Sn	**Sn**	**12 54 22.5**	**-4.6**
	0.3nm,0.3s,baz=159,slow=23,SNR=5.4						
AKASG	**Malin Array Be**	**14.09**	**22**	Pn	**Pn**	**12 52 41.6**	**+4.9**
	0.6nm,0.3s,baz=217,slow=9.9,SNR=6.8						
ESDC	**Sonseca Array**	**19.59**	**283**	P	**Pn**	**12 53 46.5**	**-0.2**
	0.1nm,0.3s,baz=81,slow=9.7,SNR=5.3						
HFS	**Hagfors**	**22.79**	**350**	P	**P**	**12 54 18.0**	**-1.6**
	2.1nm,0.5s,mb3.8,baz=156,slow=11,SNR=13						
FINES	**FINESS Array B**	**23.82**	**6**	P	**P**	**12 54 27.6**	**-2.3**
	2.5nm,0.8s,mb3.7,baz=169,slow=11,SNR=13						
EKA	**Eskdalemuir Ar**	**23.94**	**325**	P	**P**	**12 54 30.5**	**-0.7**
	1.2nm,0.7s,mb3.4,baz=125,slow=7.9,SNR=5.3						
NB2	**NORSAR Subarra**	**24.02**	**348**	P	**P**	**12 54 29.9**	**-1.9**
	comp=Z,0.8nm,0.6s,mb3.3,baz=156,slow=9.3						
NOA	**NORSAR Array B**	**24.02**	**348**	P	**P**	**12 54 29.9**	**-1.9**
	comp=Z,1.1nm,0.9s,mb3.3,baz=177,slow=16,SNR=3.0						
TORD	**Torodi Ar. Bea**	**30.06**	**220**	P	**P**	**12 55 25.8**	**-0.7**
	comp=Z,1.5nm,0.7s,mb3.8,baz=32,slow=9.5,SNR=8.9						
ARCES	**ARCESS Array B**	**31.83**	**3**	P	**P**	**12 55 39.7**	**-1.9**
	comp=Z,1.5nm,0.7s,mb3.9,baz=189,slow=7.0,SNR=4.5						
BORG	**Borgarnes**	**36.60**	**331**	LR	LR	13 11 12.7	
	comp=Z,356nm,18.4s,baz=190,slow=36						
MKAR	**Makanchi Array**	**45.10**	**58**	P	**P**	**12 57 30.5**	**-2.8**
	comp=Z,0.7nm,0.5s,mb3.8,baz=272,slow=8.4,SNR=12						
ZALV	**Zalesovo Beam**	**45.58**	**48**	P	**P**	**12 57 31.8**	**-5.2**
	comp=Z,1.7nm,0.5s,mb4.2,baz=282,slow=8.4,SNR=5.8						
SCHQ	**Schefferville**	**58.99**	**318**	P	**P**	**12 59 14.9**	**-1.7**
	comp=Z,2.6nm,1.0s,mb4.2,baz=45,slow=8.6,SNR=3.4						
YKA	**Yellowknife Ar**	**73.84**	**340**	P	**P**	**13 00 49.1**	**-2.4**
	comp=Z,0.2nm,0.6s,mb3.3,baz=33,slow=5.3,SNR=6.0						

*IDC **20** 12:55:43.5±1.1, 296N×7886W, h0km, mb3.8/6, mb1 4.0/7, mb1mx3.7/20, mbtmp3.8/7, ML2.2/1, Error ellipse: s-maj=38.6km s-min=22.0km az=72.0*
*ISCJB **20** 12:55:50.0±4.1, 30N±01×787W±02, h57km±37km, mb3.8/7, Error ellipse: s-maj=42.3km s-min=20.2km az=164.1*

ISC 20 12:55:52.8±3.6, 30N±01×786W±02, h66km±33km, n10, σ1§16/8, mb3.7/7, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**4.63**	**66**	Pn	**Pn**	**12 57 00.5**	**+0.2**
	2.2nm,0.3s,baz=100,slow=19,SNR=2.8						
LPAZ	**La Paz**	**21.74**	**152**	P	**P**	**13 00 38.4**	**-0.5**
	0.7nm,0.7s,mb3.1,baz=346,slow=12,SNR=3.0						
PLCA	**Paso Flores**	**44.10**	**171**	P	**P**	**13 03 54.7**	**+0.2**
	2.6nm,0.8s,mb4.0,baz=346,slow=9.9,SNR=7.4						
ULM	**Lac du Bonnet**	**49.34**	**345**	P	**P**	**13 04 33.9**	**-1.4**
	2.6nm,0.6s,mb4.3,baz=91,slow=22,SNR=4.7						
NVAR	**Mina Array Bea**	**50.57**	**319**	P	**P**	**13 04 46.4**	**+1.5**
	0.8nm,0.8s,mb3.8,baz=143,slow=6.7,SNR=4.3						
YKA	**Yellowknife Ar**	**65.13**	**342**	P	**P**	**13 06 25.7**	**-0.8**
	0.6nm,0.7s,mb3.5,baz=136,slow=5.7,SNR=19						
TORD	**Torodi Ar. Bea**	**79.86**	**77**	P	**P**	**13 07 55.3**	**+0.3**
	0.4nm,0.8s,mb3.3,baz=266,slow=7.1,SNR=2.6						
NOA	**NORSAR Array B**	**87.33**	**29**	P	**P**	**13 08 32.9**	**+0.6**
	1.9nm,0.9s,mb4.0,baz=286,slow=4.1,SNR=3.4						
ASAR	**Alice Springs**	**142.46**	**234**	PKhKP		13 15 13.4	
	0.3nm,0.6s,baz=125,slow=3.8,SNR=6.9						
WRA	**Warramunga Arr**	**143.72**	**240**	PKP	PKPdf	13 15 18.2	-3.1
	1.3nm,0.8s,baz=116,slow=3.1,SNR=13						

IDC 20 13:11:46.9±13.0, 2178N×14333E, h93km±128km, mb3.3/8, mb1 3.5/8, mb1mx3.4/19, mbtmp3.3/8, Error ellipse: s-maj=48.3km s-min=18.2km az=84.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.53**	**323**	P	P	13 16 18.9	+1.2
	1.7nm,0.8s,baz=143,slow=14,SNR=4.8						
SONM	**Songino Array**	**39.37**	**320**	P	P	13 19 05.8	-1.4
	0.5nm,0.5s,baz=113,slow=6.6,SNR=4.3						
WRA	**Warramunga Arr**	**42.38**	**193**	P	P	13 19 31.7	-0.5
	1.6nm,1.0s,baz=9.0,slow=8.9,SNR=6.2						
ASAR	**Alice Springs**	**46.09**	**192**	P	P	13 20 02.2	+0.5
	0.7nm,0.7s,baz=17,slow=11,SNR=12						
ZALV	**Zalesovo Beam**	**54.23**	**322**	P	P	13 21 02.9	0.0
	0.5nm,0.3s,baz=131,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**54.74**	**313**	P	P	13 21 07.1	+0.3
	0.4nm,0.7s,baz=90,slow=11,SNR=4.2						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P	13 23 26.9	+1.5
	0.3nm,0.7s,baz=292,slow=5.9,SNR=4.7						
NVAR	**Mina Array Bea**	**82.99**	**52**	P	P	13 24 01.2	-0.8
	0.2nm,0.4s,baz=263,slow=7.0,SNR=2.8						

*SKHL **20** 13:23:51.1±1.5, 5263N×13955E, h19km±5km, mb5.3/4, mbh5.3/1, Ms5.2/3, msh5.5/3*
SKHL Felt (V) at Tir, Susanino, Takhta; (IV-V) at Bogorodskoe; (IV) at Mago. Felt (III-IV) at Nikolaevsk-na-Amure, Oremif, Lazarev. Felt (II-III) at Aleksandrovsk-Sakhalinski, Komsomolsk-na-Amure.
*IDC **20** 13:23:51.6±0.4, 5262N×13953E, h0km, mb4.4/24, mb1 4.5/27, mb1mx4.5/29, mbtmp4.4/27, ML3.6/3, MS3.8/11, Ms1 3.8/11, ms1mx3.5/32, Error ellipse: s-maj=13.0km s-min=11.8km az=108.0*
*ISCJB **20** 13:23:52.4±0.1, 5261N±002×13944E±003, h12km, mb4.8/192, MS4.1/25, Error ellipse: s-maj=3.0km s-min=2.2km az=161.0*
*BJI **20** 13:23:52.0, 5284N×139.10E, h3km, mB4.8, mb4.6, ML5.3, Ms4.7, Msz4.4*
*NEIC **20** 13:23:53.7±0.1, 5262N×13949E, h10km, mb4.9/125, Error ellipse: s-maj=3.8km s-min=2.8km az=176.0*
NEIC Felt [V] at Bogorodskoye, Susanino and Tyr; [IV] at Lazarev, Mago, Mariinskoye, Nikolayevsk-na-Amure, Nizhneye Pronge, Oglongi and Oremif; [III] at Aleksandrovsk-Sakhalinskiy and Komsomol'sk-na-Amure; [II] at Kherpuchi.
*MOS **20** 13:23:53.0±0.8, 5252N×13945E, h20km, mb5.0/78, MS4.1/9, Error ellipse: s-maj=8.2km s-min=4.0km az=104.3*
MOS Felt (V) at Bogorodskoye, Susanino, Tyr, Tykhta; (IV) at Nizhniye Prongi, Mago, Oremif, Lazarev, Mariinskoye, Sophiysk; (III-IV) at Nikolaevsk-na-Amure, Oglongi; (III) at Komsomol'sk-na-Amure; (II-III) at Alexandrovsk-Sakhalinskiy; (II) at Kherpuchi.
*SZGRF **20** 13:24:00.6, 5332N×13909E, h33km, mb5.0, Primorye, Russia*

ISC 20 13:23:54.4±0.1, 5261N±002×13943E±003, h13km, h13km±1.9km; pP-P, n578, σ0§83/598, mb4.8/192, MS4.1/25, 79C-68D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.93**	**54**	⇓*i*Pg	**Pg**	**13 24 05.5**	**-6.9**
NKL				AMB	AMB	13 24 05.7	
	5μm,0.5s						
NKL				AMB	AMB	13 24 05.7	
	3μm,0.5s						
NKL				AMB	AMB	13 24 05.7	
	11μm,0.5s						
NKL				pPg		13 24 09.2	
NKL				*e*Sg	**Sg**	**13 24 17.5**	**-7.1**
NKL				A		13 24 20.5	
	90μm,0.5s						
NKL				A		13 24 20.5	
	65μm,0.5s						
OKH	**Okha**	**2.31**	**64**	⇑*i*P	**Pg**	**13 24 35.2**	**-3.5**
OKH				*e*S	**Sg**	**13 25 07.7**	**-1.0**
OKH				pmax	pmax		
	comp=Z,4.0nm,0.9s						
OKH	**Okha**	**2.31**	**64**	*e*Pg	**Pb**	**13 24 34.0**	**-1.9**
OKH				AMB	AMB	13 24 38.9	
	comp=Z,4μm,0.9s						
OKH				*e*Sg	**Sb**	**13 25 04.9**	**+0.5**
GRNR	**Gornyy**	**2.63**	**227**	*e*Pn	**Pn**	**13 24 34.8**	**-1.7**
GRNR				*e*rx	rx	13 24 36.8	
GRNR				*e*Pg	**Pg**	**13 24 40.6**	**-4.1**
GRNR				*e*Sn	**Sn**	**13 25 06.7**	**-1.5**
GRNR				*e*Sg	**Sg**	**13 25 16.7**	**-2.1**
TYV	**Tymovskoe**	**2.66**	**130**	*e*Pn	**Pn**	**13 24 33.0**	**-3.9**
TYV				*e*Pg	**Pb**	**13 24 38.1**	**-3.7**
TYV				sPg		13 24 42.0	
TYV				AMB	AMB	13 24 43.0	
	comp=Z,1μm,3.0s						
TYV				AMB	AMB	13 24 43.0	
	comp=Z,2μm,3.0s						
TYV				AMB	AMB	13 24 45.6	
	comp=Z,449nm,0.8s						
TYV				AMB	AMB	13 24 45.6	
	comp=Z,432nm,0.8s						
TYV				AMB	AMB	13 24 45.6	
	comp=Z,691nm,0.8s						
TYV				*e*rx	rx	13 24 52.0	
TYV				*e*Sg	**Sb**	**13 25 13.0**	**-1.3**
TYV				A		13 25 24.5	
	comp=Z,2μm,0.8s						
TYV				A		13 25 24.5	
	comp=Z,2μm,0.8s						
TYV				A		13 25 40.8	
	comp=Z,4μm,8.0s						
TYV				A		13 25 40.8	
	comp=Z,6μm,8.0s						
UGL	**Uglegorsk**	**3.91**	**154**	*e*P	**Pn**	**13 24 52.0**	**-2.1**
UGL				*e*S	**Sn**	**13 25 46.0**	**+6.3**
UGL				pmax	pmax		
	comp=Z,42nm,0.5s						
UGL				pmax	pmax		
	comp=Z,2μm,1.0s						
UGL				smax			
	comp=N,2μm,0.5s						
UGL				smax			
	comp=E,2μm,0.5s						
UGL				smax			
	comp=Z,963nm,0.5s						
UGL				smax			
	comp=N,6μm,2.0s						
UGL				smax			
	comp=E,7μm,2.0s						
UGL	**Uglegorsk**	**3.91**	**154**	*e*Pn	**Pn**	**13 24 50.5**	**-3.6**
UGL				*e*Pg	**Pb**	**13 24 59.0**	**-4.1**
UGL				pPg		13 25 03.0	
UGL				*e*Sg	**Sb**	**13 25 49.8**	**-0.4**
UGL				A		13 25 50.0	
	comp=E,3μm,0.5s						
UGL				A		13 25 50.0	
	comp=E,2μm,0.5s						
UGL				A		13 25 55.0	
	comp=E,6μm,2.0s						
UGL				A		13 25 55.0	
	comp=E,7μm,2.0s						
EKMR	**Ekimchan**	**3.96**	**279**	⇑*i*Pn	**Pn**	**13 24 51.5**	**-3.3**

comp=Z,551nm,20.8s
ASAJ Asahikawa 8.75 165 Pn **Pn 13 25 59.7 -0.9**
comp=Z,1.3nm,0.3s,baz=340,slow=18,SNR=8.5
ASAJ LR LR 13 29 43.9
comp=Z,551nm,20.8s,baz=358,slow=40
CLNS Chul'man 9.42 302 *e*P **Pn 13 26 11.0 +1.4**
CLNS *e*S **Sn 13 27 53.5 -1.7**
CLNS pmax pmax
comp=Z,18nm,0.6s
CLNS pmax pmax
comp=N,8.0nm,0.4s
CLNS pmax pmax
comp=E,6.0nm,0.4s
CLNS smax
comp=N,92nm,0.6s
CLNS smax
comp=Z,63nm,0.9s
CLNS smax
comp=E,96nm,0.8s
CLNS MLR MLR
comp=Z,1μm,11.0s
MA2 Magadan 9.42 38⇑ *e*P **Pn 13 26 10.5 +0.9**
MA2 pmax pmax
comp=Z,4.0nm,0.7s
MA2 Magadan 9.42 38 *e*Pn **Pn 13 26 10.4 +0.8**
YAK Yakutsk 10.80 335 *e*P **Pn 13 26 26.8 -1.8**
YAK *e* 13 28 29.0
YAK pmax pmax
comp=Z,34nm,0.8s
YAK pmax pmax
comp=N,9.0nm,0.6s
YAK pmax pmax
comp=E,4.0nm,0.6s
YAK smax
comp=E,955nm,1.6s
YAK smax
comp=N,724nm,1.3s
YAK MLR MLR
comp=Z,1μm,10.0s
YAK Yakutsk 10.80 335 *e*Pn **Pn 13 26 26.4 -2.2**
SEY Seymchan 12.41 28‖ *e*P **Pn 13 26 52.8 +2.2**
CN2 Changchun 12.81 232 *e*P **Pn 13 26 57.3 +1.2**
CN2 *e*XP 13 27 03.8
CN2 *e*S **Sn 13 29 20.6 +2.2**
CN2 AMB AMB
comp=Z,20nm,0.9s
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,1μm,9.0s
CN2 LR LR
comp=E,1μm,9.0s
CN2 LR LR
comp=Z,1μm,6.0s
BOD Bodaibo 15.37 300 *e*P **Pn 13 27 30.9 +0.2**
BOD pmax pmax
comp=Z,9.0nm,1.2s
MAJO Matsushiro 16.09 184 *e*P **Pn 13 27 42.4 +2.3**
MAJO pmax pmax
comp=Z,10.0nm,0.9s
MAJO Matsushiro 16.09 184 *e*P **Pn 13 27 42.4 +2.3**
comp=Z,9.7nm,0.9s
MJAR Matsushiro Arr 16.09 184 Pn **Pn 13 27 39.8 -0.4**
comp=Z,0.1nm,0.3s,baz=360,slow=12,SNR=11
MJAR LR LR 13 33 49.0
comp=Z,110nm,21.6s,baz=25,slow=37
KSRS Korea Array 17.16 213 P **Pn 13 27 55.4 +1.6**
comp=Z,0.1nm,0.3s,baz=27,slow=10,SNR=15
DL2 Dalian 18.42 229 P **Pn 13 28 13.4 +4.1**
DL2 AMB AMB
comp=Z,20nm,1.1s
DL2 AMB AMB
comp=Z,140nm,4.2s
DL2 LR LR
comp=N,610nm,10.2s
DL2 LR LR
comp=E,690nm,11.3s
DL2 LR LR
comp=Z,410nm,12.2s
TIXI Tiksi 19.68 350 *c i*P **Pn 13 28 22.7 -1.5**
TIXI pmax pmax
comp=Z,48nm,1.0s
TIXI MLR MLR
comp=Z,923nm,8.0s
TIXI Tiksi 19.68 350 *e*P **Pn 13 28 22.4 -1.9**
comp=Z,46nm,0.9s
BILL Bilibino 20.12 30 *c i*P **P 13 28 27.7 +0.1**
BILL *i* *SP sP 13 28 33.2 +0.2
BILL pmax pmax
comp=Z,20nm,1.3s
BILL MLR MLR
comp=Z,300nm,16.0s,MS3.7
BILL Bilibino 20.12 30 *e*P **P 13 28 27.4 -0.2**
comp=Z,26nm,0.8s
BJI Beijing 20.29 241 P **P 13 28 32.3 +2.7**
BJI XP sP 13 28 34.9 -0.1
BJI S **S 13 32 16.3 -0.3**
BJI XS sS 13 32 25.3 +2.7
BJI AMB AMB
comp=Z,10.0nm,0.8s
BJI LR LR
comp=N,2μm,12.1s,MS4.8
BJI LR LR
comp=E,2μm,12.1s,MS4.8
BJI LR LR
comp=Z,411nm,16.9s,MS3.9
JNU Nakatsue 20.43 201 P **P 13 28 30.6 -0.7**
comp=Z,12nm,1.1s,baz=42,slow=13,SNR=3.7
JNU LR LR 13 36 34.4
comp=Z,248nm,19.2s,MS3.6,baz=278,slow=37
ULN Ulaanbaatar 21.14 270 *e*P **P 13 28 39.2 +0.4**
ULN pmax pmax
comp=Z,8.0nm,1.0s,mb4.0
ULN Ulaanbaatar 21.14 270 *e*P **P 13 28 39.2 +0.4**
comp=Z,7.8nm,1.0s,mb4.0
IRK Irkutsk 21.32 283⇑ *i*P **P 13 28 41.5 +0.8**
IRK pmax pmax
comp=Z,58nm,1.6s,mb4.7
SONM Songino Array 21.55 270 P **P 13 28 43.8 +0.6**
comp=Z,1.9nm,0.8s,mb3.6,baz=55,slow=9.3,SNR=12
SONM PcP PcP 13 32 44.7 -0.3
comp=Z,1.1nm,0.6s,baz=14,slow=1.7,SNR=4.1
TLY Talaya 21.85 282 *c i*P **P 13 28 47.6 +1.2**
TLY Talaya 21.85 282 *e*P **P 13 28 47.7 +1.3**
comp=Z,24nm,1.2s,mb4.5
HHC Hu-ho-hao-te 22.28 249 *e*P **P 13 28 52.1 +1.0**
HHC XP sP 13 28 59.9 +3.4
HHC PP 13 29 20.1
HHC PCP PcP 13 32 46.6 0.0
HHC S **S 13 32 54.3 -1.5**
HHC XS sS 13 32 59.5 -2.4
HHC SS 13 33 34.1
HHC AMB AMB
comp=Z,29nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,238nm,5.3s
HHC LR LR
comp=N,2μm,11.0s,MS4.9
HHC LR LR
comp=E,2μm,12.6s,MS4.9
HHC LR LR
comp=Z,1μm,10.3s,MS4.7
ZAK Zakamensk 22.47 279 *e*P **P 13 28 54.0 +0.9**
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb3.8
MOY Mondy 23.43 283 *e*P **P 13 29 03.7 +0.5**
MOY pmax pmax
comp=Z,34nm,2.4s,mb4.3
NJ2 Nanjing 25.40 224 *e*P **P 13 29 22.4 +1.1**
NJ2 AP pP 13 29 29.5 +4.2
NJ2 XP sP 13 29 32.6 +5.7
NJ2 PP 13 30 01.6
NJ2 PPP 13 30 12.3
NJ2 S **S 13 33 43.0 -4.5**
NJ2 XS sS 13 33 55.0 +1.0
NJ2 AMB AMB
comp=Z,70nm,1.4s,mb5.0
NJ2 AMB AMB
comp=Z,160nm,7.8s
NJ2 LR LR
comp=N,600nm,11.5s,MS4.5
NJ2 LR LR
comp=E,560nm,12.4s,MS4.5
NJ2 LR LR
comp=Z,560nm,12.4s,MS4.3
CBIJ Chichi jima 25.56 174 P **P 13 29 22.1 -0.8**
comp=Z,49nm,0.7s,mb5.2,baz=285,slow=20,SNR=2.3
JOW Kunigami 27.07 202 LR LR 13 40 36.2
comp=Z,268nm,20.0s,MS3.8,baz=124,slow=37
TNA Tin City 29.00 43 *e*P **P 13 29 53.5 +0.1**
comp=Z,25nm,0.9s,mb4.9
GTA Gaotai 30.11 260 *e*P **P 13 30 04.3 +0.8**
GTA AP pP 13 30 08.1 +0.6
GTA XP sP 13 30 11.0 +1.9
GTA PP PP 13 31 05.5 -5.8
GTA S **S 13 35 05.1 +3.4**
GTA XS sS 13 35 12.0 +3.8
GTA AMB AMB
comp=Z,9.0nm,1.0s,mb4.5
GTA AMB AMB
comp=Z,64nm,4.6s
GTA LR LR
comp=N,1μm,11.1s,MS4.8
GTA LR LR
comp=E,756nm,15.3s,MS4.8
GTA LR LR
comp=Z,290nm,11.5s,MS4.2
ZALV Zalesovo Beam 32.01 295 P **P 13 30 18.9 -1.1**
ZALV PcP PcP 13 33 08.8 -0.7
ZALV Zalesovo Beam 32.01 295 P **P 13 30 18.9 -1.1**
comp=Z,1.4nm,0.7s,mb3.9,baz=69,slow=8.1,SNR=5.4
ZALV PcP PcP 13 33 08.8 -0.7
comp=Z,3.4nm,0.8s,baz=142,slow=1.6,SNR=8.1
ZAL Zalesovo 32.02 295 P **P 13 30 19.0 -1.2**
ZAL 13 33 08.8
NVS Novosibirsk 32.57 297 *e*P **P 13 30 24.6 -0.4**
NVS pmax pmax
comp=E,7.0nm,1.3s
NVS pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
CD2 Chengdu 33.81 244 *e*P **P 13 30 35.9 -0.1**
CD2 AP pP 13 30 40.5 +0.4
CD2 XP sP 13 30 43.5 +1.8
CD2 PP PP 13 31 49.3 -3.2
CD2 S **S 13 35 58.3 -1.2**
CD2 XS sS 13 36 05.5 -0.6
CD2 SS SS 13 38 04.0 -21
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,440nm,9.6s
CD2 LR LR
comp=E,590nm,15.6s
CD2 LR LR
comp=Z,310nm,15.6s,MS4.1
TTA Tatalina 34.45 47 *e*P **P 13 30 40.5 -0.8**
IMA2 Indian Mountai 34.79 41 *e*P **P 13 30 43.7 -0.5**
WMQ Urumqi 34.90 277 *e*P **P 13 30 46.0 +0.7**
WMQ XP sP 13 30 53.0 +2.0
WMQ PP PP 13 32 04.0 -0.3
WMQ S **S 13 36 17.0 +1.0**
WMQ SS SS 13 38 31.0 -16
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,62nm,4.0s
WMQ LR LR
comp=N,478nm,13.0s,MS4.5
WMQ LR LR
comp=E,298nm,12.0s,MS4.5
WMQ LR LR
comp=Z,245nm,12.0s,MS4.2
SVW2 Sparrevohn 35.12 50 *e*P **P 13 30 46.7 -0.3**
GYA Guiyang 35.82 236 P **P 13 30 55.4 +2.0**
GYA PP PP 13 32 17.6 +2.9
GYA PCP PcP 13 33 23.4 +2.6
GYA S **S 13 36 37.6 +7.2**
GYA SCP ScP 13 37 08.6 +2.3
GYA SS SS 13 38 53.3 -13
GYA SCS ScS 13 41 12.3 +0.8
GYA AMB AMB
comp=Z,30nm,0.9s,mb5.2
GYA AMB AMB
comp=Z,130nm,6.2s
GYA LR LR
comp=N,690nm,17.8s,MS4.5
GYA LR LR
comp=E,470nm,18.4s,MS4.5
GYA LR LR
comp=Z,640nm,17.6s,MS4.4
MK31 Makanchi Array 36.57 284 *e*P **P 13 30 59.8 +0.2**
MKAR Makanchi Array 36.57 284 P **P 13 30 59.7 +0.1**
comp=Z,3.8nm,0.6s,mb4.4,baz=64,slow=7.7,SNR=37
MKAR PcP PcP 13 33 22.0 -0.7
comp=Z,2.1nm,0.7s,baz=57,slow=4.5,SNR=5.0
KURK Kurchatov 36.79 292 *e*P **P 13 31 01.4 -0.1**
KURK pmax pmax
comp=Z,6.0nm,0.4s,mb4.8
KURK Kurchatov 36.79 292 *e*P **P 13 31 01.4 -0.1**
comp=Z,5.9nm,0.4s,mb4.8
COLA College 37.44 42 *c i*P **P 13 31 06.1 -0.7**
COLA College 37.44 42 *e*P **P 13 31 05.7 -1.1**
comp=Z,13nm,1.0s,mb4.7
KDAK Kodiak Island 37.66 54 P **P 13 31 06.8 -1.9**
KDAK PcP PcP 13 33 24.4 -1.4
KDAK Kodiak Island 37.66 54 P **P 13 31 06.8 -1.9**
comp=Z,6.1nm,0.8s,mb4.4,baz=159,slow=3.4,SNR=6.0
KDAK PcP PcP 13 33 24.4 -1.4
comp=Z,4.5nm,0.8s,baz=342,slow=3.2,SNR=3.0
SLKM Skilak Lake 37.80 49 *e*P **P 13 31 06.6 -3.3**
PMR Palmer 37.92 48 *e*P **P 13 31 10.4 -0.5**
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb4.6
PMR Palmer 37.92 48 *e*P **P 13 31 10.4 -0.5**
comp=Z,8.2nm,0.6s,mb4.6
SML Sawmill 38.20 47 *e*P **P 13 31 12.9 -0.4**
KMI Kunming 38.93 240 P **P 13 31 20.0 +0.2**
KMI AP pP 13 31 24.0 +0.1
KMI XP sP 13 31 26.3 +0.8
KMI PP PP 13 32 50.3 +1.3
KMI S **S 13 37 19.9 +2.1**
KMI XS sS 13 37 25.5 +1.0
KMI SS SS 13 40 05.1 -4.2
KMI SSS 13 40 35.1
KMI AMB AMB
comp=Z,8.0nm,1.5s,mb4.2
KMI AMB AMB
comp=Z,64nm,3.7s
KMI LR LR
comp=N,351nm,12.8s,MS4.5
KMI LR LR
comp=E,368nm,15.5s,MS4.5
KMI LR LR
comp=Z,290nm,22.5s
DIV Divide 39.60 47 *e*P **P 13 31 24.2 -0.8**
comp=Z,19nm,1.3s,mb4.7
EGAK Eagle 40.17 41 *e*P **P 13 31 28.6 -1.2**
comp=Z,58nm,0.9s,mb5.3
BVAR Borovoye Array 40.24 299 P **P 13 31 30.3 -0.2**
comp=Z,3.8nm,0.6s,mb4.3,baz=68,slow=8.5,SNR=23
BVAR PcP PcP 13 33 33.1 -0.9
comp=Z,1.4nm,0.4s,baz=79,slow=2.7,SNR=7.3
BRVK Borovoye 40.28 299 *e*P **P 13 31 30.4 -0.4**
BRVK pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
BRVK Borovoye 40.28 299 *e*P **P 13 31 30.4 -0.3**
comp=Z,7.1nm,0.9s,mb4.4
DAWY Dawson 41.16 41 *e*P **P 13 31 36.8 -1.0**
INK Inuvik 41.64 34 P **P 13 31 40.8 -0.9**
INK 13 33 36.7
INK pmax pmax
comp=Z,11nm,0.8s
INK MLR MLR
comp=Z,65nm,21.8s
INK Inuvik 41.64 34 *e*P **P 13 31 41.3 -0.5**
comp=Z,331nm,0.8s,mb6.0
INK Inuvik 41.64 34 P **P 13 31 40.8 -1.0**
comp=Z,11nm,0.8s,mb4.5,baz=310,slow=7.6,SNR=38
INK PcP PcP 13 33 36.7 -1.6
comp=Z,1.8nm,0.6s,baz=241,slow=4.7,SNR=4.3
INK LR LR 13 50 09.7
comp=Z,65nm,21.8s,MS3.5,baz=80,slow=38
LSA Lhasa 41.95 256 *e*P **P 13 31 46.3 +1.6**
LSA pmax pmax
comp=Z,11nm,0.6s,mb4.7
LSA Lhasa 41.95 256 *e*P **P 13 31 46.3 +1.5**
comp=Z,11nm,0.6s,mb4.7
TKM2 Tokmak 2 42.67 283 *e*P **P 13 31 50.9 +0.4**
TKM2 *e* 13 33 32.3
TKM2 *e* 13 33 41.3
TKM2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.3
TKM2 Tokmak 2 42.67 283 *e*P **P 13 31 50.9 +0.4**
comp=Z,6.8nm,1.0s,mb4.3
TKM2 *e*PP PP 13 33 32.3 +3.0
TKM2 *e*PcP PcP 13 33 41.3 -0.9
TKM2 Tokmak 2 42.67 283 P **P 13 31 51.6 +1.1**
SNR=5.7
USP Ospenovka 43.12 285 P **P 13 31 54.7 +0.6**
SNR=20
KBK Karagaybulak 43.21 284 P **P 13 31 55.7 +0.9**
SNR=8.5
SVE Sverdlovsk 43.35 308‖ *e*P **P 13 31 56.2 +0.4**
SVE pmax pmax
comp=Z,29nm,1.2s,mb4.9
KZA Kyzart 43.38 283 P **P 13 31 58.0 +1.7**
SNR=10
AAK Ala-Archa 43.49 284 P **P 13 31 56.0 -1.2**
comp=Z,70nm,0.7s,mb5.5,SNR=6.9
AAK Ala-Archa 43.49 284 P **P 13 31 57.8 +0.6**
SNR=8.7
EKS2 Erkin-Say 43.90 284 *e*P **P 13 32 00.8 +0.4**
comp=Z,10.0nm,0.9s,mb4.5
EKS2 Erkin-Say 43.90 284 P **P 13 32 01.3 +0.8**
SNR=7.9
AML Almayashu 44.27 284 *e*P **P 13 32 03.9 +0.5**
comp=Z,3.7nm,0.8s,mb4.2
ARU Arti 44.55 309 *c i*P **P 13 32 05.2 -0.2**
ARU *e*S **S 13 38 42.2 +2.0**
ARU *e*SS SS 13 41 58.5 -0.8
ARU pmax pmax
comp=Z,36nm,1.2s,mb5.1
ARU Arti 44.55 309 *e*P **P 13 32 05.4 0.0**
comp=Z,25nm,1.0s,mb5.0
SKAG Skagway 44.99 46 *e*P **P 13 32 08.7 -0.2**
comp=Z,28nm,1.3s,mb4.9
SKAG LR LR
comp=Z,100nm,18.0s,MS3.8
CHTO Chiang Mai 46.10 239 *e*P **P 13 32 17.8 -0.4**
CHTO pmax pmax
comp=Z,13nm,1.1s,mb4.8
CHTO Chiang Mai 46.10 239 *e*P **P 13 32 17.8 -0.3**
comp=Z,13nm,1.1s,mb4.8
JIRN Jiri 46.40 259 *e*P **P 13 32 20.4 0.0**
comp=Z,43nm,0.7s,mb5.5
GUN Gumba 46.40 259 *e*P **P 13 32 20.3 -0.1**
comp=Z,60nm,0.7s,mb5.7
KKN Kakani 46.85 260 *e*P **P 13 32 23.8 -0.1**
comp=Z,45nm,0.7s,mb5.5
PKI Pulchoki 46.93 260 *e*P **P 13 32 24.2 -0.4**
GKN Gorkha 47.08 261 *e*P **P 13 32 25.5 -0.2**
comp=Z,81nm,0.8s,mb5.7
DMN Daman 47.08 260 *e*P **P 13 32 25.8 0.0**
comp=Z,34nm,0.7s,mb5.4
DANN Dangsing 47.35 262 *e*P **P 13 32 28.4 +0.5**
comp=Z,95nm,0.7s,mb5.8
DLBC Dease Lake 47.86 45 *e*P **P 13 32 31.6 +0.2**
DLBC Dease Lake 47.86 45 P **P 13 32 31.5 +0.1**
baz=297,slow=11
KOLN Koldanda 47.87 261 *e*P **P 13 32 31.8 -0.1**
comp=Z,40nm,0.9s,mb5.4
RES Resolute Bay 47.97 17 *e*P **P 13 32 30.5 -1.6**
comp=Z,375nm,0.9s
AKTK Aktyubinsk 48.13 302 P **P 13 32 33.6 0.0**
AKTK PcP PcP 13 33 59.2 -1.7
AKTO Aktyubinsk 48.13 302 P **P 13 32 33.6 0.0**
comp=Z,3.1nm,0.8s,mb4.4,baz=55,slow=7.7,SNR=12
AKTO PcP PcP 13 33 59.2 -1.7
comp=Z,2.6nm,0.7s,baz=91,slow=2.5,SNR=3.8
APA Apatity 48.15 330⇑ *e*P **P 13 32 33.0 -0.6**
APA *i* 13 32 46.0
APA pmax pmax
comp=Z,74nm,1.7s,mb5.4
ARCES ARCESS Array B 49.09 335 P **P 13 32 40.3 -0.5**
comp=Z,2.8nm,0.5s,mb4.5,baz=39,slow=7.8,SNR=9.4
BOK Bokaro 49.47 256 *e*P **P 13 32 43.4 -0.8**
BOK AMb AMB 13 32 49.9
comp=Z,12nm,0.6s,mb5.1
DAG Danmarks Havn 50.14 354⇑ *i*P **P 13 32 46.9 -1.8**
DAG pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
DAG Danmarks Havn 50.14 354⇑ *i*P **P 13 32 46.9 -1.8**
comp=Z,4.7nm,0.6s,mb4.7
YKA Yellowknife Ar 51.39 35 P **P 13 32 57.1 -1.2**
YKA 13 34 10.9
YKA Yellowknife Ar 51.39 35 P **P 13 32 57.1 -1.2**
YKA PcP PcP 13 34 10.9 -1.7
YKA LR LR 13 55 58.6
YKA Yellowknife Ar 51.39 35 P **P 13 32 57.1 -1.2**
comp=Z,0.7nm,0.6s,mb3.7,baz=311,slow=7.1,SNR=14
YKA PcP PcP 13 34 10.9 -1.7
comp=Z,0.7nm,0.8s,baz=312,slow=3.5,SNR=4.2
YKA LR LR 13 55 58.6
comp=Z,42nm,18.0s,MS3.5,baz=235,slow=38
JOF Joensuu 51.84 326 *e*p **P 13 33 01.0 -0.7**
comp=Z,39nm,0.9s,mb5.3
BLSP Bilaspur 52.97 258 *e*P **P 13 33 09.2 -1.3**
BLSP AMb AMB 13 33 13.3
comp=Z,24nm,1.1s,mb5.1
MOS Moscow 54.34 317 *e*P **P 13 33 11.9 -8.2**
MOS *e* 13 33 19.2
MOS pmax pmax
comp=Z,40nm,1.3s,mb5.2
FIA1 FINESS Array S 54.63 327 *e*P **P 13 33 21.8 -0.3**
FINES FINESS Array B 54.63 327 P **P 13 33 22.0 -0.1**
comp=Z,13nm,0.7s,mb5.1,baz=49,slow=8.6,SNR=37
FINES PcP PcP 13 34 23.3 -1.6
comp=Z,3.0nm,0.8s,baz=70,slow=4.6,SNR=2.5
BHPL Bhopal 54.95 263 *e*P **P 13 33 24.2 -0.8**
BHPL AMb AMB 13 33 25.5
comp=Z,36nm,0.8s,mb5.5
OBN Obninsk 55.21 317 *e*P **P 13 33 26.0 -0.4**
OBN *i* 13 34 25.8
OBN *e* 13 35 29.6
OBN pmax pmax
comp=Z,41nm,1.6s,mb5.2
OBN MLR MLR
comp=Z,100nm,13.0s,MS4.1
VIS Vishakhapatnam 55.67 253 *e*P **P 13 33 31.0 +0.7**
VRHR Novokhopersk 55.75 311 *e*P **P 13 33 32.6 +2.2**
VRHR pmax pmax
comp=Z,20nm,0.7s,mb5.3
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,30nm,1.4s
ABKT Ailbek 56.09 290 P **P 13 33 33.4 +0.4**
comp=E,102nm,1.0s,mb5.8,SNR=7.7
VRSR Storozhevoye 56.78 312 *e*P **P 13 33 37.1 -0.6**
VRSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
VRSR pmax pmax
comp=N,5.0nm,1.2s
VRSR pmax pmax
comp=E,2.0nm,0.8s
VORD Divnogorie 56.90 312 *e*P **P 13 33 38.5 -0.1**
VORD *e**PP pP 13 33 40.5 -2.3
VORD pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
VORD pmax pmax
comp=N,10.0nm,0.9s
VORD pmax pmax
comp=E,10.0nm,0.6s
A09A Danville 59.16 49 ‖P **P 13 33 54.0 -0.5**
baz=59
NB2 NORSAR Subarra 59.42 334 P **P 13 33 55.5 -0.6**
comp=Z,11nm,1.1s,mb4.8,baz=32,slow=6.9
NOA NORSAR Array B 59.42 334 P **P 13 33 55.9 -0.2**
comp=Z,6.3nm,0.8s,mb4.7,baz=34,slow=6.6,SNR=14
A11A Hall Mountain, 60.17 47 ‖P **P 13 34 01.9 +0.5**
baz=60,SNR=5.5
KIV Kislovodsk 60.24 304‖ *e*P **P 13 34 03.1 +1.1**
KIV pmax pmax
comp=Z,35nm,0.9s,mb5.4
KIV Kislovodsk 60.24 304 *e*P **P 13 34 03.2 +1.3**
comp=Z,53nm,1.1s,mb5.5
KIV Kislovodsk 60.24 304⇑ *i*P **P 13 34 03.4 +1.4**
FCC Fort Churchill 60.83 29 *e*P **P 13 34 04.3 -1.5**
FCC pmax pmax
comp=Z,4.0nm,0.7s,mb4.7
FCC Fort Churchill 60.83 29 *e*P **P 13 34 04.3 -1.5**
comp=Z,3.7nm,0.7s,mb4.6
D10A Wagner Farm, O 61.16 49⇑P **P 13 34 07.0 -1.2**
baz=61
WALA Waterton Lakes 61.19 46 *e*P **P 13 34 06.8 -1.6**

comp=Z,37nm,1.6s,mb5.3
KAD Karad 61.43 261 *e*P **P 13 34 09.3 -1.1**
KAD AMb AMB 13 34 19.0
comp=Z,12nm,0.8s,mb5.1
AKASG Malin Array Be 61.47 317 *i* P **P 13 34 09.3 -0.9**
AKASG pmax pmax
comp=Z,6.0nm,0.6s
AKASG Malin Array Be 61.47 317 P **P 13 34 09.4 -0.8**
comp=Z,6.1nm,0.6s,mb4.9,baz=38,slow=7.8,SNR=35
AKBB Malin Array Si 61.47 317 *e*P **P 13 34 09.3 -0.9**
KIEV Kiev 61.48 317 *e*P **P 13 34 09.1 -1.2**
KIEV pmax pmax
comp=Z,13nm,1.0s,mb5.0
KIEV Kiev 61.48 317 *e*P **P 13 34 09.1 -1.2**
comp=Z,13nm,1.0s,mb5.0
D11A Klaveano Farm, 61.59 49 ⇓P **P 13 34 10.5 -0.6**
baz=61
C13A Hot Springs 61.92 47 ⇓P **P 13 34 12.6 -0.7**
baz=62
SOC Sochi 61.99 306 *e*P **P 13 34 13.0 -0.9**
SOC *e**SP sP 13 34 20.1 +0.4
SOC *e* 13 34 50.3
SOC *e*S **S 13 42 29.5 -8.1**
SOC pmax pmax
comp=Z,23nm,1.0s,mb5.3
SOC MLR MLR
comp=Z,325nm,18.0s,MS4.5
C14A Swan Lake 62.23 47 ⇑P **P 13 34 15.4 0.0**
baz=62
G09A Cove 62.23 51 ⇓P **P 13 34 15.4 -0.1**
baz=62
I07A Izee 62.28 53 ⇓P **P 13 34 15.6 -0.2**
baz=62
H08A Prairie City 62.37 52 ⇑P **P 13 34 16.0 -0.3**
baz=62
D13A Huson 62.41 48 ⇑P **P 13 34 16.3 -0.4**
baz=62
G10A Bishop Farm, J 62.53 51 ⇓P **P 13 34 17.3 -0.1**
baz=62
MSO Missoula 62.85 48 *e*P **P 13 34 19.1 -0.4**
comp=Z,5.8nm,1.2s,mb4.6
D14A Greenough 62.85 47 ⇓P **P 13 34 19.0 -0.5**
baz=62
G11A Walters Elk Ra 62.85 50 ⇑P **P 13 34 19.4 -0.2**
baz=62
E13A Victor 63.03 48 ⇑P **P 13 34 21.1 +0.4**
baz=63
F12A Elk City 63.06 49 P **P 13 34 20.9 0.0**
baz=63,SNR=12
H10A Noah's Angus R 63.23 51 ⇑P **P 13 34 22.0 -0.1**
baz=63,SNR=7.5
BSD Bornholm Skovb 63.25 328 *i* P **P 13 34 18.6 -3.5**
BSD pmax pmax
comp=Z,15nm,0.8s,mb5.2
BSD Bornholm Skovb 63.25 328 *i* P **P 13 34 18.6 -3.5**
comp=Z,15nm,0.8s,mb5.2
D15A Lincoln 63.32 47 ⇓P **P 13 34 23.1 +0.4**
baz=63
H11A Donnelly 63.49 50 ⇑P **P 13 34 23.5 -0.3**
baz=63
J09A Fry Pan Ranch, 63.68 53 ⇓P **P 13 34 25.5 +0.4**
baz=63
E15A Deer Lodge 63.74 47 ⇓P **P 13 34 25.2 -0.3**
baz=63,SNR=7.0
EGMT Eagleton 63.77 44 *e*P **P 13 34 25.4 -0.2**
comp=Z,23nm,1.4s,mb5.0
EGMT Eagleton 63.77 44 ⇓P **P 13 34 25.4 -0.3**
baz=63,SNR=6.8
L07A Adell 63.89 54 ⇑P **P 13 34 26.5 -0.1**
baz=64
G13A Cobalt 64.03 49 ⇓P **P 13 34 26.8 -0.6**
baz=64
I11A Placerville 64.12 51 ⇑P **P 13 34 27.7 -0.3**
baz=64
H12A Diamond D Ranc 64.15 50 ⇓P **P 13 34 27.7 -0.5**
baz=64,SNR=6.8
K09A Rome 64.18 53 ⇓P **P 13 34 28.5 +0.1**
baz=64
F15A Butte 64.25 48 ⇓P **P 13 34 29.1 +0.3**
baz=64
LVV L'vov 64.26 319 *i* **P 13 34 28.4 -0.4**
H13A Challis 64.42 50 ⇑P **P 13 34 29.8 -0.2**
baz=64
KIS Kishinev 64.48 315 *e*P **P 13 34 29.0 -1.3**
MFID Camas Ranch 64.55 51 ⇑P **P 13 34 30.7 -0.2**
baz=64
DLMT Dillon 64.57 48 *e*P **P 13 34 31.4 +0.4**
comp=Z,21nm,1.0s,mb5.1
N06A Buffalo Meadow 64.59 56 ⇓P **P 13 34 30.9 -0.3**
baz=64
G15A Dillon 64.77 48 P **P 13 34 32.5 +0.3**
baz=64,SNR=25
BOZ Bozeman (W) 64.79 47 *e*P **P 13 34 32.7 +0.4**
BOZ pmax pmax
comp=Z,19nm,1.6s,mb4.9
BOZ Bozeman (W) 64.79 47 *e*P **P 13 34 32.7 +0.3**
comp=Z,19nm,1.6s,mb4.9
BOZ Bozeman (W) 64.79 47 ⇓P **P 13 34 32.7 +0.4**
baz=64,SNR=11
MCMT McKenzie Canyo 64.87 48 *e*P **P 13 34 32.5 -0.4**
I13A Wildhorse Cree 64.98 50 ⇑P **P 13 34 33.8 +0.2**
baz=65,SNR=16
J12A Stokes Ranch, 65.03 51 ⇓P **P 13 34 34.1 +0.2**
baz=65
O06A Flanigan 65.03 56 ⇓P **P 13 34 34.4 +0.4**
baz=65
KAKA Kakadu 65.33 188 *e*P **P 13 34 35.5 -0.6**
comp=Z,18nm,0.6s,mb5.3
J13A Cove Ranch, Pi 65.35 50 ⇓P **P 13 34 36.9 +0.9**
baz=65,SNR=6.1
QLMT Earthquake Lak 65.51 48 *e*P **P 13 34 37.0 0.0**
BURAR Bucovina Array 65.53 317 ⇑*i*P **P 13 34 37.5 +0.4**
GCMT Greycliff 65.55 46 *e*P **P 13 34 37.5 +0.3**
OJC Ojcow 65.57 322 *e*P **P 13 34 37.1 -0.2**
STHS Stebnicka Huta 65.67 321 *e*P **P 13 34 38.5 +0.5**
STHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
STHS Stebnicka Huta 65.67 321 *e*P **P 13 34 38.5 +0.5**
comp=Z,5.3nm,1.1s,mb4.5
BSEG Bad Segeberg 65.69 330 *e*P **P 13 34 38.2 +0.1**
comp=Z,21nm,1.5s,mb5.0
CRVS Cervenica-Dubn 66.00 320 *e*P **P 13 34 39.7 -0.4**
NIE Niedzica 66.03 321 *e*P **P 13 34 41.1 +0.8**
LKWY Lake 66.18 47 *e*P **P 13 34 43.6 +2.3**
LKWY pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
LKWY Lake 66.18 47 *e*P **P 13 34 43.6 +2.3**
comp=Z,6.7nm,0.9s,mb4.7
TRPA Tarpa 66.20 319 ⇓*i*P **P 13 34 41.7 +0.3**
VRI Vrincioaia 66.27 315 ⇑*i*P **P 13 34 43.0 +1.1**
KSP Ksiaz 66.33 325 *e*P **P 13 34 42.0 -0.2**
FLWY Flagg Ranch 66.42 48 *e*P **P 13 34 44.5 +1.6**
comp=Z,16nm,1.0s,mb5.0
IMW Indian Meadow 66.45 48 *e*P **P 13 34 43.5 +0.4**
comp=Z,12nm,1.4s,mb4.7
OKC Ostrava-Krasne 66.49 323 *e*P **P 13 34 43.1 -0.2**
OKC *e*pP pP 13 34 46.7 -0.8
MALT Malatya 66.57 303 *e*P **P 13 34 44.8 +0.9**
MALT pmax pmax
comp=Z,13nm,1.0s,mb4.9
MALT Malatya 66.57 303 *e*P **P 13 34 44.8 +0.9**
comp=Z,13nm,1.0s,mb4.9
MALT Malatya 66.57 303 ⇑*i*P **P 13 34 44.8 +0.9**
TIRR Tirgusor 66.64 313 ⇓*i*P **P 13 34 44.5 +0.2**
MOOW Moose Ponds 66.66 48 *e*P **P 13 34 45.3 +0.9**
comp=Z,17nm,1.3s,mb4.9
UPC Upice 66.71 325 *e*P **P 13 34 44.9 +0.3**
TRD Trivandrum 66.72 253 *e*P **P 13 34 45.6 +0.5**
DPC Dobruska-Polom 66.73 324 *e*P **P 13 34 45.2 +0.4**
MORC Moravsky Berou 66.77 323 *e*P **P 13 34 45.2 +0.2**
comp=Z,11nm,0.9s,mb4.9
MORC Moravsky Berou 66.77 323 ⇑*i*P **P 13 34 45.2 +0.2**
TPAW Teton Pass 66.77 48 *e*P **P 13 34 46.3 +1.2**
comp=Z,37nm,1.5s,mb5.2
LOHW Long Hollow 66.83 48 *e*P **P 13 34 46.5 +0.9**
comp=Z,17nm,1.0s,mb5.0
SNOW Snow King Moun 66.88 48 *e*P **P 13 34 47.1 +1.3**
comp=Z,16nm,1.2s,mb4.9
MLR Muntele Rosu 66.90 315 ⇑P **P 13 34 47.1 +1.1**
MLR Muntele Rosu 66.90 315 P **P 13 34 47.4 +1.4**
MLR Muntele Rosu 66.90 315 ⇑*i*P **P 13 34 47.0 +1.0**
REDW Red Top Meadow 66.91 48 *e*P **P 13 34 47.2 +1.2**
comp=Z,23nm,1.4s,mb5.0
CLL Collm 67.07 327 ⇑*i*P **P 13 34 46.3 -0.6**
CLL *i* pP 13 34 49.5 -1.7
CLL *i* 13 35 14.1
CLL pmax pmax
CLL Collm 67.07 327 *e*P **P 13 34 46.3 -0.6**
comp=Z,15nm,1.0s,mb5.0
CLL Collm 67.07 327 ⇑*i*P **P 13 34 46.3 -0.6**
comp=Z,15nm,1.0s,mb5.0
CLL *i* pP pP 13 34 49.5 -1.7
CLL *i* PcP PcP 13 35 14.1 -1.0
NVAR Mina Array Bea 67.12 56 P **P 13 34 47.7 +0.2**
NVAR Mina Array Bea 67.12 56 P **P 13 34 47.7 +0.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=299,slow=6.2,SNR=8.8
BRG Berggiesshubel 67.12 326 *e*P **P 13 34 46.9 -0.4**
BRG pmax pmax
comp=Z,10.0nm,1.6s,mb4.6
BRG Berggiesshubel 67.12 326 *e*P **P 13 34 46.7 -0.6**
comp=Z,7.0nm,1.0s,mb4.7
BRG Berggiesshubel 67.12 326 *e*P **P 13 34 46.9 -0.4**
comp=Z,16nm,1.6s,mb4.8
PVCC Panska Ves 67.20 325 *e*P **P 13 34 48.0 +0.3**
DRGR 67.21 318 P **P 13 34 47.9 0.0**
DRGR 67.21 318 ⇓*i*P **P 13 34 48.1 +0.2**
VOIR 67.33 316 P **P 13 34 49.5 +0.8**
VOIR 67.33 316 ⇑*i*P **P 13 34 49.7 +1.1**
VYHS Vyhne 67.34 322 *e*P **P 13 34 49.0 +0.3**
VYHS pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
VYHS Vyhne 67.34 322 *e*P **P 13 34 49.0 +0.3**
comp=Z,4.5nm,1.1s,mb4.4
ULM Lac du Bonnet 67.37 35 *e*P **P 13 34 46.4 -2.5**
comp=Z,26nm,1.4s,mb5.1
ULM Lac du Bonnet 67.37 35 P **P 13 34 47.0 -1.8**
comp=Z,8.9nm,0.8s,mb4.8,baz=268,slow=23,SNR=8.6
PSZ Piszkesteto 67.41 321 *e*P **P 13 34 49.7 +0.5**
comp=Z,5.5nm,0.9s,mb4.6
PSZ Piszkesteto 67.41 321 ⇑*i*P **P 13 34 50.1 +1.0**
KOLL Kolacno 67.44 322 *e*P **P 13 34 49.4 +0.1**
CLZ Clausthal 67.47 329 *e*P **P 13 34 49.0 -0.5**
CLZ pmax pmax
comp=Z,12nm,1.0s,mb4.9
CLZ Clausthal 67.47 329 *e*P **P 13 34 49.0 -0.5**
comp=Z,12nm,1.0s,mb4.9
VRAC Vranov 67.50 323 P **P 13 34 50.2 +0.6**
VRAC Vranov 67.50 323 ⇑*i*P **P 13 34 50.1 +0.4**
IBBN Ibbenburen 67.88 330 *e*P **P 13 34 51.3 -0.7**
comp=Z,18nm,1.4s,mb4.9
TREC Trest 67.91 324 *e*P **P 13 34 52.7 +0.4**
TREC *e*pP pP 13 34 55.3 -1.2
HWUT Hardware Ranch 67.95 50 *e*P **P 13 34 53.6 +0.9**
comp=Z,12nm,1.1s,mb4.8
BW06 Boulder Array 67.97 48 *e*P **P 13 34 52.2 -0.5**
comp=Z,18nm,1.2s,mb5.0
TANN Tannenbergstha 68.01 327 *e*P **P 13 34 52.7 -0.2**
comp=Z,7.0nm,1.1s,mb4.6
MODS Modra-Piesok 68.03 323 *e*P **P 13 34 54.2 +1.2**
MODS pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
MODS Modra-Piesok 68.03 323 *e*P **P 13 34 54.2 +1.2**
comp=Z,5.5nm,1.2s,mb4.5
MOX Moxa 68.10 327 *e*P **P 13 34 53.1 -0.3**
comp=Z,9.0nm,1.3s,mb4.6
MOX Moxa 68.10 327 *e*P **P 13 34 53.1 -0.3**
MOX pmax pmax
comp=Z,9.0nm,1.3s,mb4.6
MOX Moxa 68.10 327 *e*P **P 13 34 53.0 -0.4**
comp=Z,12nm,1.3s,mb4.8
NKC Novy Kostel 68.17 326 *e*P **P 13 34 54.3 +0.4**
ZST Bratislava 68.24 323 *e*P **P 13 34 54.6 +0.3**
ZST pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
ZST Bratislava 68.24 323 *e*P **P 13 34 54.6 +0.3**
comp=Z,5.3nm,1.0s,mb4.5
ZST Bratislava 68.24 323 *e*P **P 13 34 54.5 +0.2**
GZR Gura Zlata 68.31 317 P **P 13 34 55.4 +0.5**
P13A Bates Ranch, G 68.46 53 ⇑P **P 13 34 55.5 -0.4**
baz=68,SNR=7.7
DUG Dugway 68.47 52 *e*P **P 13 34 55.3 -0.6**
DUG pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
DUG Dugway 68.47 52 *e*P **P 13 34 55.3 -0.6**
comp=Z,9.5nm,1.3s,mb4.7
UBBA Unterbreizbach 68.47 328 *e*P **P 13 34 55.2 -0.6**
comp=Z,8.0nm,1.4s,mb4.6
MANZ Manzenberg 68.50 327 *e*P **P 13 34 55.8 -0.1**
comp=Z,12nm,1.5s,mb4.7
BZS Buzias 68.61 318 P **P 13 34 56.2 -0.4**
BZS Buzias 68.61 318 ⇑*i*P **P 13 34 56.4 -0.3**
ROTZ Rotzenmuhle 68.65 326 *e*P **P 13 34 56.8 -0.1**
comp=Z,8.0nm,1.2s,mb4.5
KHC Kasperske Hory 68.72 325 *c i*P **P 13 34 57.6 +0.3**
KHC Kasperske Hory 68.72 325 *e*P **P 13 34 57.4 +0.1**
BUG Bochum--Univer 68.79 330 *e*P **P 13 34 56.9 -0.8**
comp=Z,19nm,1.5s,mb4.8
JLU Jordanelle 68.80 51 *e*P **P 13 34 58.5 +0.5**
Q13A Wheeler Ranch, 68.85 53 ⇑P **P 13 34 58.8 +0.5**
baz=68,SNR=5.2
CONA Conrad Observa 68.92 323 *i* P **P 13 34 59.3 +0.7**
comp=Z,10nm,0.9s,mb4.8,SNR=11
CONA Conrad Observa 68.92 323 *i* pP **P 13 34 59.3 +0.7**
comp=Z,10nm,0.9s,mb4.8,SNR=11
GEC2 GERESS Array S 68.92 325 *e*P **P 13 34 57.7 -0.9**
GEC2 pmax pmax
comp=Z,7.0nm,1.4s,mb4.4
GEC2 GERESS Array S 68.92 325 *e*P **P 13 34 57.7 -0.9**
comp=Z,7.0nm,1.4s,mb4.4
GERES GERESS Array B 68.92 325 P **P 13 34 58.5 -0.1**
comp=Z,1.8nm,0.7s,mb4.1,baz=36,slow=5.0,SNR=11
GERES LR LR 14 07 59.0
comp=Z,85nm,18.1s,MS4.0,baz=5.9,slow=38
CSNA Conrad Observa 68.92 323 ⇑*i*pP **P 13 34 59.2 +0.6**
comp=Z,10nm,0.9s,mb4.8
WET Wettzell 68.95 326 *e*P **P 13 34 59.0 +0.2**
WET pmax pmax
comp=Z,16nm,1.2s,mb4.8
WET Wettzell 68.95 326 *e*P **P 13 34 59.0 +0.2**
comp=Z,16nm,1.2s,mb4.8
AGMN Agassiz Refuge 69.02 36 *e*P **P 13 34 57.9 -1.4**
comp=Z,22nm,0.9s,mb5.1
GRA1 Grafenberg Arr 69.05 327 *e*P **P 13 34 59.5 +0.1**
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 69.05 327 *e*P **P 13 34 59.5 +0.1**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 69.05 327 *e*P **P 13 34 59.5 +0.1**
GRF pmax pmax
comp=Z,24nm,1.0s,mb5.1
GRF Grafenberg Arr 69.05 327 *e*P **P 13 34 59.5 +0.1**
comp=Z,24nm,1.0s,mb5.1
R12A Pony Springs, 69.05 54 ⇓P **P 13 34 59.3 -0.3**
baz=69,SNR=5.0
MPU Maple Canyon 69.17 51 *e*P **P 13 35 00.5 +0.2**
comp=Z,7.3nm,0.9s,mb4.6
RSSD Black Hills 69.29 44 *e*P **P 13 35 00.5 -0.5**
RSSD pmax pmax
comp=Z,14nm,0.7s,mb5.0
RSSD Black Hills 69.29 44 *e*P **P 13 35 00.5 -0.5**
comp=Z,14nm,0.7s,mb5.0
TPNV Topopah Spring 69.30 56 *e*P **P 13 35 00.3 -0.8**
TPNV pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
TPNV Topopah Spring 69.30 56 *e*P **P 13 35 00.3 -0.9**
comp=Z,3.9nm,1.0s,mb4.3
PKSM Moragy 69.30 320 ⇓*i*P **P 13 35 00.7 -0.3**
ARSA Arzberg 69.61 323 ⇑*i*P **P 13 35 03.5 +0.6**
comp=Z,6.6nm,0.9s,mb4.6
ARSA Arzberg 69.61 323 ⇑*i*pP **P 13 35 03.5 +0.6**
comp=Z,6.6nm,0.9s,mb4.6
RWWY Rawlins 69.88 47 *e*P **P 13 35 04.7 +0.1**
comp=Z,22nm,0.7s,mb5.2
MEM Membach 69.90 330 P **P 13 35 04.2 -0.4**
comp=Z,6.9nm,1.1s,mb4.5
TOD Tromm 69.91 328 *e*P **P 13 35 04.6 -0.1**
TMUT Trail Mountain 69.94 51 *e*P **P 13 35 05.8 +0.8**
ABH Alteburg 70.07 329 *e*P **P 13 35 05.5 -0.2**
SHPR Sheep Range 70.19 56 *e*P **P 13 35 07.4 +0.7**
S14A Cedar City 70.20 53 ⇓P **P 13 35 07.2 +0.5**
baz=70
UCC Uccle 70.22 332 P **P 13 35 06.2 -0.4**
CCUT Cedar City 70.27 54 *e*P **P 13 35 07.1 0.0**
BCLA Clavier 70.28 331 P **P 13 35 06.8 -0.1**
comp=Z,7.0nm,1.2s,mb4.5
SOKA Soboth 70.28 323 ⇑*i*pP **P 13 35 07.3 +0.3**
comp=Z,9.1nm,1.0s,mb4.7
PERS Pernice 70.28 323 *i* P **P 13 35 07.3 +0.3**
GROS Grobnik 70.29 322 *i* P **P 13 35 07.2 +0.2**
GSC Goldstone 70.29 58 ⇑P **P 13 35 07.9 +0.6**
baz=70
FUR Furstenfeldbru 70.34 326 *e*P **P 13 35 07.4 0.0**
FUR pmax pmax
comp=Z,13nm,0.8s,mb4.9
FUR Furstenfeldbru 70.34 326 *e*P **P 13 35 07.4 0.0**
comp=Z,13nm,0.8s,mb4.9
VTS Vitosha 70.41 315 ⇓*i*P **P 13 35 08.3 +0.4**
SRU San Rafael 70.41 51 *e*P **P 13 35 08.3 +0.4**
SRU pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
SRU San Rafael 70.41 51 *e*P **P 13 35 08.3 +0.4**
comp=Z,6.1nm,1.0s,mb4.5
T13A Saint George 70.42 54 ⇑P **P 13 35 08.8 +0.7**
baz=70,SNR=7.5
KBA Koelnbreinsper 70.55 324 ⇑*i*P **P 13 35 09.7 +1.0**
comp=Z,20nm,0.8s,mb5.1,SNR=12
KBA Koelnbreinsper 70.55 324 ⇑*i*pP **P 13 35 09.7 +1.0**
comp=Z,20nm,0.8s,mb5.1,SNR=12
KBA Koelnbreinsper 70.55 324 ⇑*i*P **P 13 35 09.7 +1.0**
KBA pmax pmax
comp=Z,20nm,0.8s,mb5.1
OBKA Obir 70.60 323 ⇑*i*P **P 13 35 09.3 +0.3**
comp=Z,16nm,1.1s,mb4.8
OBKA Obir 70.60 323 ⇑*i*pP **P 13 35 09.3 +0.3**
comp=Z,16nm,1.1s,mb4.8
TUQ Turquoise Mtn. 70.64 57 ⇑P **P 13 35 10.3 +0.9**
baz=70
WLF Walferdange 70.69 330 P **P 13 35 09.6 +0.1**
comp=Z,10.0nm,2.0s,mb4.4
WLF Walferdange 70.69 330 *e*P **P 13 35 09.8 +0.3**
comp=Z,11nm,1.2s,mb4.7
GIVF Givet 70.70 331 *e*P **P 13 35 09.2 -0.3**
SCHQ Schefferville 70.73 16 P **P 13 35 08.1 -1.5**
comp=Z,4.9nm,1.1s,mb4.3,baz=36,slow=14,SNR=4.3
SCHQ LR LR 14 08 36.0
comp=Z,56nm,18.1s,MS3.9,baz=274,slow=38
DOU Dourbes 70.77 331 P **P 13 35 09.4 -0.5**
comp=Z,10nm,2.9s,mb4.3
LEGS Legarje 70.79 322 *i* P **P 13 35 10.1 -0.1**
T14A Hurricane 70.79 54 ⇑P **P 13 35 11.2 +0.9**
baz=70
MYKA Terra Mystica 70.83 324 ⇑*i*P **P 13 35 10.4 0.0**
comp=Z,13nm,0.7s,mb5.0
MYKA Terra Mystica 70.83 324 ⇑*i*pP **P 13 35 10.4 0.0**
comp=Z,13nm,0.7s,mb5.0
U13A Pakoon Wash 70.86 55 P **P 13 35 11.4 +0.7**
baz=71,SNR=11
VNDS Vrh nad Dolski 70.89 323 *i* P **P 13 35 11.5 +0.8**
BAIF Baives 70.92 331 *e*P **P 13 35 10.7 -0.2**
comp=Z,16nm,1.0s,mb4.6
BAIF Baives 70.92 331 *e*P **P 13 35 10.7 -0.2**
BAIF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BAIF Baives 70.92 331 *e*P **P 13 35 10.7 -0.2**
comp=Z,8.3nm,1.0s,mb4.6
V12A Nelson 70.96 56 ⇓P **P 13 35 11.9 +0.6**
baz=71,SNR=5.0
WTTA Wattenberg 70.99 325 ⇓*i*P **P 13 35 12.0 +0.7**
comp=Z,22nm,1.2s,mb5.0,SNR=7.7
WTTA Wattenberg 70.99 325 ⇓*i*pP **P 13 35 12.0 +0.7**
comp=Z,22nm,1.2s,mb5.0,SNR=7.7
WTTA Wattenberg 70.99 325 ⇓*i*P **P 13 35 12.0 +0.7**
WTTA pmax pmax
comp=Z,23nm,1.2s,mb5.0
MOTA Moosalm 71.11 326 ⇓*i*P **P 13 35 12.7 +0.6**
comp=Z,13nm,1.0s,mb4.8,SNR=6.9
MOTA Moosalm 71.11 326 ⇓*i*pP **P 13 35 12.7 +0.6**
comp=Z,13nm,1.0s,mb4.8,SNR=6.9
MOTA Moosalm 71.11 326 ⇓*i*P **P 13 35 12.7 +0.7**
MOTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
PTCC Patocco-Chiusa 71.12 324 P **P 13 35 11.7 -0.4**
comp=Z,9.1nm,0.6s,mb4.9
T15A Red Dirt Ranch 71.17 53 P **P 13 35 13.2 +0.6**
baz=71,SNR=14
BFO Black Forest 71.18 328 *e*P **P 13 35 11.5 -0.9**
BFO pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
BFO Black Forest 71.18 328 *e*P **P 13 35 11.5 -0.9**
comp=Z,10.0nm,1.0s,mb4.7
SQTA Sankt Quirin 71.18 326 ⇓*i*P **P 13 35 13.4 +0.9**
comp=Z,13nm,1.0s,mb4.8,SNR=5.7
SQTA Sankt Quirin 71.18 326 ⇓*i*pP **P 13 35 13.4 +0.9**
comp=Z,13nm,1.0s,mb4.8,SNR=5.7
SQTA Sankt Quirin 71.18 326 ⇓*i*P **P 13 35 13.4 +0.9**
SQTA pmax pmax
comp=Z,13nm,1.0s,mb4.8
BOJS Bojanci 71.19 322 *i* P **P 13 35 12.3 -0.3**
SPAK Spaichingen-Ko 71.23 328 *e*P **P 13 35 12.8 0.0**
U14A Mt Trumbull 71.25 54 ⇓P **P 13 35 13.9 +0.8**
baz=71
GMRC Granite Mounta 71.28 57 ⇓P **P 13 35 14.0 +0.6**
baz=71
V13A Grand Canyon W 71.29 55 ⇓P **P 13 35 14.0 +0.6**
baz=71
JAVS Javornik 71.30 323 *i* P **P 13 35 11.7 -1.5**
FITZ Fitzroy Crossi 71.42 194 *e*P **P 13 35 13.6 -0.5**
comp=Z,12nm,0.7s,mb4.9
CDF Champ du Feu 71.44 329 *e*P **P 13 35 13.8 -0.3**
comp=Z,30nm,1.2s,mb4.8
CDF Champ du Feu 71.44 329 *e*P **P 13 35 13.8 -0.3**
CDF pmax pmax
comp=Z,15nm,1.2s,mb4.8
CDF Champ du Feu 71.44 329 *e*P **P 13 35 13.8 -0.3**
comp=Z,15nm,1.2s,mb4.8
FETA Feichten 71.52 326 ⇑*i*P **P 13 35 15.0 +0.4**
comp=Z,12nm,1.1s,mb4.8,SNR=11
FETA Feichten 71.52 326 ⇑*i*pP **P 13 35 15.0 +0.4**
comp=Z,12nm,1.1s,mb4.8,SNR=11
DAVA Damuels 71.57 326 *i* P **P 13 35 15.7 +0.9**
comp=Z,14nm,0.9s,mb4.9,SNR=6.4
DAVA Damuels 71.57 326 *i* pP **P 13 35 15.7 +0.9**
comp=Z,14nm,0.9s,mb4.9,SNR=6.4
DAVA Damuels 71.57 326 *i* P **P 13 35 15.7 +0.9**
comp=Z,14nm,0.9s,mb4.9
ECH Echery 71.65 329 *e*P **P 13 35 14.8 -0.5**
FELD Feldberg im Sc 71.68 328 *e*P **P 13 35 15.0 -0.5**
PV10 Paradox Valley 71.69 50 *e*P **P 13 35 16.1 +0.3**
V14A Boquillas Ranc 71.91 55 ⇓P **P 13 35 17.9 +0.9**
baz=72,SNR=16
W13A Hualapai Mount 71.94 56 ⇑P **P 13 35 17.8 +0.6**
baz=72
MOF Molkenrain 71.98 328 *e*P **P 13 35 16.7 -0.6**
SMCO Snowmass 72.01 48 *e*P **P 13 35 18.0 +0.4**
comp=Z,27nm,0.7s,mb5.3
THEF They Montfort 72.01 329 *e*P **P 13 35 16.9 -0.6**
IRM Iron Mountain 72.03 57 ⇓P **P 13 35 18.3 +0.5**
baz=72,SNR=5.7
HAU Haudompre 72.09 329 *e*P **P 13 35 17.2 -0.8**
HAU *e*MLR MLR
comp=Z,107nm,20.0s,MS3.8
HAU Haudompre 72.09 329 *e*P **P 13 35 17.2 -0.8**
HAU LR LR
comp=Z,110nm,20.0s,MS4.1
HINF Hinteralfeld 72.10 329 *e*P **P 13 35 17.3 -0.7**
comp=Z,8.8nm,0.7s,mb4.5
HINF Hinteralfeld 72.10 329 *e*P **P 13 35 17.3 -0.7**
HINF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HINF Hinteralfeld 72.10 329 *e*P **P 13 35 17.3 -0.7**
comp=Z,4.4nm,0.7s,mb4.5
PV01 Paradox Valley 72.11 50 *e*P **P 13 35 18.1 -0.1**
ISCO Idaho Springs 72.12 47 *e*P **P 13 35 18.9 +0.6**
ISCO pmax pmax
comp=Z,14nm,1.1s,mb4.8
ISCO Idaho Springs 72.12 47 *e*P **P 13 35 18.9 +0.6**
comp=Z,14nm,1.1s,mb4.8
BBS Basel-Blauen 72.20 328 *e*P **P 13 35 18.4 -0.2**
V15A Kaibab Nationa 72.22 54 ⇓P **P 13 35 20.1 +1.1**
baz=72,SNR=18
W14A Seligman 72.25 55 ⇑P **P 13 35 19.9 +0.8**
baz=72,SNR=9.2
X13A Yucca 72.36 56 ⇑P **P 13 35 20.2 +0.4**
baz=72,SNR=11
WRAB Tennant Creek 72.36 185 *e*P **P 13 35 17.9 -1.9**
WRAB pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
WRAB Tennant Creek 72.36 185 *e*P **P 13 35 17.9 -1.9**
comp=Z,6.6nm,0.8s,mb4.6
MONP Monument Peak 72.37 59 ⇑P **P 13 35 19.7 -0.2**
baz=72
WB2 Warramunga Arr 72.38 185 *e*P **P 13 35 20.8 +1.0**
WRA Warramunga Arr 72.38 185 P **P 13 35 18.7 -1.1**
comp=Z,5.6nm,0.6s,mb4.6,baz=1.5,slow=6.8,SNR=74
PDMCI Parker Dam,Lak 72.44 56 ⇓P **P 13 35 20.4 +0.2**
baz=72
ECSD EROS,Sioux Fal 72.60 39 *e*P **P 13 35 19.7 -1.4**
comp=Z,18nm,0.9s,mb5.0

Y12C Blythe 72.67 57 ⇑P P 13 35 22.1 +0.4
baz=72
WUAZ Wupatki 72.86 54 *eP* **P 13 35 23.4 +0.7**
comp=Z,15nm,1.0s,mb4.9
WUAZ Wupatki 72.86 54 ⇓P P 13 35 23.2 +0.4
baz=73
MVCO Mesa Verde 72.89 51 *eP* **P 13 35 23.0 +0.1**
comp=Z,24nm,0.9s,mb5.1
MVCO Mesa Verde 72.89 51 ⇓P P 13 35 23.0 +0.1
baz=73,SNR=15
X14A Yava 72.93 55 ⇓P P 13 35 23.8 +0.6
baz=73,SNR=5.7
Y13A Salome 72.98 56 ⇓P P 13 35 23.9 +0.4
baz=73
GLA Glamis 73.07 58 *eP* **P 13 35 24.6 +0.6**
GLA pmax pmax
comp=Z,20nm,1.3s,mb4.9
GLA Glamis 73.07 58 *eP* **P 13 35 24.6 +0.5**
comp=Z,20nm,1.3s,mb4.9
GLA Glamis 73.07 58 ⇑P P 13 35 24.5 +0.5
baz=73
W16A Flagstaff 73.11 54 ⇓P P 13 35 25.4 +1.1
baz=73
VAI Varese 73.19 326 P **P 13 35 23.1 -1.4**
VAI pmax pmax
comp=Z,12nm,0.6s,mb5.0
VAI Varese 73.19 326 P **P 13 35 23.1 -1.4**
comp=Z,12nm,0.6s,mb5.0
X15A Humboldt 73.25 55 P **P 13 35 25.9 +0.8**
baz=73,SNR=20
Y14A Wickenburg 73.30 56 ⇑P P 13 35 25.8 +0.4
baz=73,SNR=10
CABF La Chapelle 73.41 328 *eP* **P 13 35 25.2 -0.6**
comp=Z,19nm,1.0s,mb4.7
CABF La Chapelle 73.41 328 *eP* **P 13 35 25.2 -0.6**
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
CABF La Chapelle 73.41 328 *eP* **P 13 35 25.2 -0.6**
comp=Z,9.6nm,1.0s,mb4.7
FLN La Foliniere 73.42 334 *eP* **P 13 35 25.1 -0.7**
comp=Z,44nm,1.2s,mb5.0
FLN *e*MLR MLR
comp=Z,154nm,19.0s,MS4.0
FLN La Foliniere 73.42 334 *eP* **P 13 35 25.1 -0.7**
FLN pmax pmax
comp=Z,22nm,1.2s,mb5.0
FLN MLR MLR
comp=Z,150nm,19.0s,MS4.3
FLN La Foliniere 73.42 334 *eP* **P 13 35 25.1 -0.7**
comp=Z,22nm,1.2s,mb5.0
FLN LR LR
comp=Z,150nm,19.0s,MS4.3
LDF La Druitiere 73.47 333 *eP* **P 13 35 25.5 -0.6**
LOR Lormes 73.52 330 *eP* **P 13 35 25.8 -0.7**
comp=Z,32nm,1.0s,mb4.9
LOR *e*MLR MLR
comp=Z,89nm,18.2s,MS3.8
LOR Lormes 73.52 330 *eP* **P 13 35 25.8 -0.7**
LOR pmax pmax
comp=Z,16nm,1.0s,mb4.9
LOR MLR MLR
comp=Z,90nm,18.3s,MS4.1
LOR Lormes 73.52 330 *eP* **P 13 35 25.8 -0.7**
comp=Z,16nm,1.0s,mb4.9
LOR LR LR
comp=Z,90nm,18.3s,MS4.1
Y15A Casa Rosa Ranc 73.62 55 ⇓P P 13 35 27.6 +0.4
baz=73,SNR=12
FSSB Fossombrone 73.66 323 P **P 13 35 27.4 +0.1**
comp=Z,11nm,0.6s,mb5.0
X16A Lo Mia Camp, P 73.70 54 P **P 13 35 28.7 +1.0**
baz=73,SNR=23
Z14A Wintersburg 73.78 56 ⇑P P 13 35 28.9 +0.7
baz=74
SSF Saint Saulge 73.81 330 *eP* **P 13 35 27.5 -0.7**
comp=Z,8.4nm,0.7s,mb4.5
SSF Saint Saulge 73.81 330 *eP* **P 13 35 27.5 -0.7**
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
SSF Saint Saulge 73.81 330 *eP* **P 13 35 27.5 -0.7**
comp=Z,4.2nm,0.7s,mb4.5
113A Mohawk Valley, 73.84 57 ⇓P P 13 35 28.3 -0.2
baz=74
SDCO Great Sand Dun 73.84 48 *eP* **P 13 35 28.8 +0.3**
comp=Z,13nm,0.9s,mb4.8
GRR Gorron 73.86 334 *eP* **P 13 35 27.9 -0.5**
comp=Z,30nm,0.9s,mb4.9
GRR Gorron 73.86 334 *eP* **P 13 35 27.9 -0.5**
GRR pmax pmax
comp=Z,15nm,0.9s,mb4.9
GRR Gorron 73.86 334 *eP* **P 13 35 27.9 -0.5**
comp=Z,15nm,0.9s,mb4.9
SEI Scarperia 73.86 324 P **P 13 35 30.1 +1.6**
comp=Z,98nm,0.8s,mb5.8
VMG Vicchio 73.88 324 P **P 13 35 30.1 +1.5**
comp=Z,18nm,1.0s,mb5.0
BOB Bobbio (Coli) 73.92 325 P **P 13 35 28.9 +0.1**
X17A Forest Lakes 74.08 54 ⇑P P 13 35 31.1 +1.2
baz=74
SMF Signal de Mont 74.08 330 *eP* **P 13 35 29.3 -0.5**
comp=Z,16nm,0.7s,mb4.8
SMF Signal de Mont 74.08 330 *eP* **P 13 35 29.3 -0.5**
SMF pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
SMF Signal de Mont 74.08 330 *eP* **P 13 35 29.3 -0.5**
comp=Z,8.3nm,0.7s,mb4.8
AVF Avril sur Loir 74.10 330 *eP* **P 13 35 29.2 -0.7**
comp=Z,12nm,0.8s,mb4.6
AVF Avril sur Loir 74.10 330 *eP* **P 13 35 29.2 -0.7**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
AVF Avril sur Loir 74.10 330 *eP* **P 13 35 29.2 -0.7**
comp=Z,6.1nm,0.8s,mb4.6
Y16A Circle Bar Ran 74.11 55 ⇓P P 13 35 31.5 +1.4
baz=74,SNR=7.9
VLC Villacollemand 74.12 324 *eP* **P 13 35 30.1 0.0**
comp=Z,18nm,0.9s,mb5.0
W19A Sanders 74.15 53 ⇓P P 13 35 31.2 +0.9
baz=74,SNR=16
LPL La Plagne 74.17 328 *eP* **P 13 35 30.8 +0.5**
comp=Z,43nm,1.3s,mb4.9
LPL La Plagne 74.17 328 *eP* **P 13 35 30.8 +0.5**
LPL pmax pmax
comp=Z,21nm,1.3s,mb4.9
LPL La Plagne 74.17 328 *eP* **P 13 35 30.8 +0.5**
comp=Z,21nm,1.3s,mb4.9
LPG La Plagne 74.18 327 *eP* **P 13 35 31.0 +0.6**
comp=Z,18nm,0.8s,mb4.8
LPG La Plagne 74.18 327 *eP* **P 13 35 31.0 +0.6**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 74.18 327 *eP* **P 13 35 31.0 +0.6**
comp=Z,9.2nm,0.8s,mb4.8
NRCA Norcia 74.27 322 P **P 13 35 31.5 +0.6**
comp=Z,19nm,0.9s,mb5.0
RGNG Rignano Grg 74.31 320 P **P 13 35 30.8 -0.4**
X18A Snowflake 74.34 53 ⇑P P 13 35 32.2 +0.8
baz=74,SNR=7.8
BGF Bois d'Agland 74.46 331 *eP* **P 13 35 31.5 -0.5**
ROSF Rostrenen 74.54 335 *eP* **P 13 35 32.2 -0.2**
comp=Z,76nm,1.1s,mb5.2
ROSF Rostrenen 74.54 335 *eP* **P 13 35 32.2 -0.2**
ROSF pmax pmax
comp=Z,38nm,1.1s,mb5.2
ROSF Rostrenen 74.54 335 *eP* **P 13 35 32.2 -0.2**
comp=Z,38nm,1.1s,mb5.2
Z16A Peralta Trail, 74.56 55 ⇓P P 13 35 33.3 +0.5
baz=74
Y17A Roosevelt 74.57 55 ⇓P P 13 35 33.0 +0.1
baz=74,SNR=12
AQU L'Aquila 74.57 322 *eP* **P 13 35 32.7 0.0**
AQU pmax pmax
comp=Z,21nm,0.9s,mb5.1
AQU L'Aquila 74.57 322 *eP* **P 13 35 32.7 0.0**
comp=Z,21nm,0.9s,mb5.1
BNI Bardonecchia 74.60 327 *eP* **P 13 35 33.2 +0.4**
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BNI Bardonecchia 74.60 327 *eP* **P 13 35 33.2 +0.3**
comp=Z,7.2nm,0.8s,mb4.7
115A Sonoran Desert 74.67 56 ⇑P P 13 35 34.2 +0.8
baz=74,SNR=5.4
X19A St. Johns 74.75 53 P **P 13 35 34.8 +1.0**
baz=74,SNR=17
PLDF La Plantade 74.76 330 *eP* **P 13 35 33.4 -0.3**
AGO Saint Agoulin 74.83 330 *eP* **P 13 35 34.3 +0.2**
MBDF Montbardon 74.86 327 *eP* **P 13 35 33.9 -0.4**
comp=Z,11nm,0.7s,mb4.6
MBDF Montbardon 74.86 327 *eP* **P 13 35 33.9 -0.4**
MBDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
MBDF Montbardon 74.86 327 *eP* **P 13 35 33.9 -0.4**
comp=Z,5.4nm,0.7s,mb4.6
TCF Toulx Ste Croi 74.90 331 *eP* **P 13 35 34.0 -0.5**
comp=Z,9.4nm,0.7s,mb4.5
TCF Toulx Ste Croi 74.90 331 *eP* **P 13 35 34.0 -0.5**
TCF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
TCF Toulx Ste Croi 74.90 331 *eP* **P 13 35 34.0 -0.5**
comp=Z,4.7nm,0.7s,mb4.5
QUIF Quistinic 74.90 335 *eP* **P 13 35 34.2 -0.3**
comp=Z,19nm,0.6s,mb4.9
QUIF Quistinic 74.90 335 *eP* **P 13 35 34.2 -0.3**
QUIF pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
QUIF Quistinic 74.90 335 *eP* **P 13 35 34.2 -0.3**
comp=Z,9.4nm,0.6s,mb4.9
Y18A Canyon Day Jun 74.91 54 ⇑P P 13 35 35.7 +0.9
baz=75,SNR=13
ORIF Oris-en-Rattie 74.98 328 *eP* **P 13 35 35.3 +0.3**
comp=Z,20nm,0.9s,mb4.8
ORIF *e*MLR MLR
comp=Z,127nm,18.5s,MS4.0
ORIF Oris-en-Rattie 74.98 328 *eP* **P 13 35 35.3 +0.3**
ORIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
ORIF Oris-en-Rattie 74.98 328 *eP* **P 13 35 35.3 +0.3**
comp=Z,9.9nm,0.9s,mb4.7
116A Eloy 75.05 56 ⇑P P 13 35 35.9 +0.3
baz=75
Z17A San Carlos Hig 75.08 54 ⇑P P 13 35 36.5 +0.8
baz=75
PYM Petit Puy Mans 75.14 330 *eP* **P 13 35 35.9 0.0**
Y19A Nutrioso 75.14 53 P **P 13 35 37.2 +1.1**
baz=75,SNR=12
SAOF Saorge 75.25 326 *eP* **P 13 35 35.6 -1.0**
RFI Roccamonfina 75.25 321 P **P 13 35 37.6 +1.0**
comp=Z,9.7nm,1.2s,mb4.6
AUTN L'Aution 75.29 326 *eP* **P 13 35 36.2 -0.6**
MFF Saint Martin d 75.29 332 *eP* **P 13 35 36.4 -0.4**
comp=Z,14nm,0.7s,mb4.7
MFF Saint Martin d 75.29 332 *eP* **P 13 35 36.4 -0.4**
MFF pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
MFF Saint Martin d 75.29 332 *eP* **P 13 35 36.4 -0.4**
comp=Z,7.1nm,0.7s,mb4.7
VIVF Saint-Julien-l 75.43 329 *eP* **P 13 35 37.3 -0.3**
comp=Z,23nm,0.9s,mb4.8
VIVF Saint-Julien-l 75.43 329 *eP* **P 13 35 37.3 -0.3**
VIVF pmax pmax
comp=Z,12nm,0.9s,mb4.8
VIVF Saint-Julien-l 75.43 329 *eP* **P 13 35 37.3 -0.3**
comp=Z,12nm,0.9s,mb4.8
117A Oracle 75.53 55 P **P 13 35 38.9 +0.5**
baz=75,SNR=10
LBL Lubilhac 75.53 330 *eP* **P 13 35 38.4 +0.2**
216A Three Points, 75.62 56 ⇑P P 13 35 39.3 +0.4
baz=75
Z19A T-Link Ranch, 75.68 54 ⇓P P 13 35 40.2 +1.0
baz=75
ANMO Albuquerque 75.68 51⇑ *eP* **P 13 35 39.9 +0.7**
TUC Tucson 75.71 55 *eP* **P 13 35 39.8 +0.4**
TUC pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TUC Tucson 75.71 55 *eP* **P 13 35 39.8 +0.4**
comp=Z,3.6nm,0.9s,mb4.3
LAZ Laon 75.81 51 *eP* **P 13 35 40.3 +0.4**
118A Homack Ranch, 75.86 55 ⇑P P 13 35 40.7 +0.5
baz=76,SNR=21
SMRF Simiane la Rot 75.92 328 *eP* **P 13 35 40.5 +0.1**
FRF La Foret Royal 75.94 327 *eP* **P 13 35 40.1 -0.4**
TIP Timpagrande 75.95 318 *eP* **P 13 35 41.1 +0.4**
comp=Z,26nm,1.0s,mb5.1
RJF Les Rejaudoux 75.99 331 *eP* **P 13 35 40.4 -0.4**
119A Ashpeak Ranch, 76.08 54 ⇓P P 13 35 41.9 +0.3
baz=76,SNR=6.2
ASAR Alice Springs 76.10 185 P **P 13 35 40.9 -0.6**
comp=Z,8.4nm,0.6s,mb4.8,baz=360,slow=5.0,SNR=83
LPM Los Pinos Moun 76.12 51 *eP* **P 13 35 42.5 +0.8**
217A Green Valley 76.13 56 ⇑P P 13 35 42.5 +0.7
baz=76,SNR=7.9
CAF Calviac 76.17 330 *eP* **P 13 35 41.2 -0.6**
comp=Z,28nm,1.2s,mb4.8
CAF Calviac 76.17 330 *eP* **P 13 35 41.2 -0.6**
CAF pmax pmax
comp=Z,14nm,1.2s,mb4.8
CAF Calviac 76.17 330 *eP* **P 13 35 41.2 -0.6**
comp=Z,14nm,1.2s,mb4.8
Y22C IRIS PASSCAL I 76.18 52 ⇓P P 13 35 42.4 +0.3
baz=76
CORF Corte 76.18 324 *eP* **P 13 35 41.3 -0.6**
LMR La Mourre 76.18 327 *eP* **P 13 35 41.4 -0.5**
comp=Z,13nm,0.7s,mb4.7
LMR La Mourre 76.18 327 *eP* **P 13 35 41.4 -0.5**
LMR pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LMR La Mourre 76.18 327 *eP* **P 13 35 41.4 -0.5**
comp=Z,6.3nm,0.7s,mb4.7
BNM Barren Site 76.25 51 *eP* **P 13 35 43.3 +0.8**
218A Dragoon 76.35 55 ⇑P P 13 35 43.6 +0.6
baz=76,SNR=8.8
LASF Ste Croix 76.38 329 *eP* **P 13 35 42.6 -0.5**
comp=Z,14nm,0.9s,mb4.6
GRI Girifalco 76.39 318 P **P 13 35 43.4 +0.2**
LFF La Frestale 76.56 331 *eP* **P 13 35 44.3 +0.3**
219A White Tail Can 76.72 54 ⇓P P 13 35 46.0 +0.8
baz=76,SNR=16
318A Bisbee 76.81 55 ⇑P P 13 35 45.7 0.0
baz=76,SNR=11
319A Douglas 77.22 55 ⇓P P 13 35 48.6 +0.6
baz=77,SNR=14
MTLF Montolieu 77.56 330 *eP* **P 13 35 49.3 -0.4**
comp=Z,8.5nm,0.8s,mb4.4
MTLF Montolieu 77.56 330 *eP* **P 13 35 49.3 -0.4**
MTLF pmax pmax
comp=Z,4.0nm,0.8s,mb4.4
MTLF Montolieu 77.56 330 *eP* **P 13 35 49.3 -0.4**
comp=Z,4.3nm,0.8s,mb4.4
AMTX Amarillo 77.94 47 *eP* **P 13 35 51.9 0.0**
comp=Z,17nm,0.8s,mb5.0
EPF Esparros 78.41 331 *eP* **P 13 35 54.1 -0.3**
comp=Z,8.1nm,0.7s,mb4.5
EPF Esparros 78.41 331 *eP* **P 13 35 54.1 -0.3**
EPF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
EPF Esparros 78.41 331 *eP* **P 13 35 54.1 -0.3**
comp=Z,4.1nm,0.7s,mb4.5
VSL Villasalto 78.56 323 *eP* **P 13 35 54.4 -1.0**
comp=Z,13nm,1.0s,mb4.8
ETSF Etsaut 78.80 331 *eP* **P 13 35 57.0 +0.4**
comp=Z,11nm,0.7s,mb4.6
ETSF Etsaut 78.80 331 *eP* **P 13 35 57.0 +0.4**
ETSF pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
ETSF Etsaut 78.80 331 *eP* **P 13 35 57.0 +0.4**
comp=Z,5.4nm,0.7s,mb4.6
MNTX Cornudas Mount 78.86 52 *eP* **P 13 35 56.9 -0.2**
comp=Z,14nm,1.3s,mb4.8
WMOK Wichita Mounta 79.34 45 *eP* **P 13 35 59.5 -0.2**
WMOK pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
WMOK Wichita Mounta 79.34 45 *eP* **P 13 35 59.5 -0.2**
comp=Z,10nm,0.9s,mb4.8
CCM Cathedral Cave 79.55 38 *eP* **P 13 35 59.5 -1.2**
CCM pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CCM Cathedral Cave 79.55 38 *eP* **P 13 35 59.5 -1.3**
comp=Z,5.2nm,0.8s,mb4.5
TXAR Lajitas Array 81.64 52 P **P 13 36 12.5 +0.3**
comp=Z,3.9nm,0.9s,mb4.3,baz=291,slow=3.8,SNR=28
TXAR LR LR 14 17 03.5
comp=Z,69nm,20.1s,MS4.0,baz=5.0,slow=39
KEST Kesra 81.88 321 P **P 13 36 12.8 -0.5**
comp=Z,2.7nm,0.9s,mb4.2,baz=328,slow=5.8,SNR=8.6
JCT Junction City 82.49 48 *eP* **P 13 36 15.8 -0.8**
JCT pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
JCT Junction City 82.49 48 *eP* **P 13 36 15.8 -0.8**
comp=Z,9.9nm,1.1s,mb4.7
ESDC Sonseca Array 82.76 332 P **P 13 36 16.6 -1.2**
comp=Z,2.2nm,0.9s,mb4.2,baz=30,slow=4.8,SNR=6.6
PLAL Pickwick Lake 83.45 38 *eP* **P 13 36 19.9 -1.5**
comp=Z,7.2nm,0.9s,mb4.7
SWET Sewanee 84.02 36 *eP* **P 13 36 22.8 -1.6**
STKA Stephens Creek 84.14 178 *eP* **P 13 36 26.1 +1.4**
comp=Z,4.6nm,1.6s,mb4.4
STKA Stephens Creek 84.14 178 P **P 13 36 25.1 +0.4**
comp=Z,3.5nm,0.7s,mb4.6,baz=350,slow=7.7,SNR=5.5
CPCT Cooper Cave 84.31 35 *eP* **P 13 36 24.5 -1.3**
GOGA Godfrey 86.52 35 *eP* **P 13 36 35.5 -1.4**
GOGA pmax pmax
comp=Z,6.0nm,0.9s,mb4.8
GOGA Godfrey 86.52 35 *eP* **P 13 36 35.5 -1.5**
comp=Z,5.8nm,0.9s,mb4.8
RAR Rarotonga 90.42 125 LR LR 14 13 28.8
comp=Z,187nm,19.2s,MS4.5,baz=96,slow=33
PPT Papeete 92.77 115 LR LR 14 09 17.5
comp=Z,119nm,21.6s,MS4.3,baz=302,slow=29
TORD Torodi Ar. Bea 105.10 317 PP PP 13 42 20.5 -1.5
comp=Z,1.1nm,0.8s,baz=14,slow=7.7,SNR=6.9
LPAZ La Paz 137.74 41 PKP PKPdf 13 43 18.5 +0.2
comp=Z,1.2nm,0.9s,baz=161,slow=2.5,SNR=5.1
BDFB Brasilia 142.65 12 PKhKP 13 43 22.3
comp=Z,0.9nm,0.6s,baz=52,slow=27,SNR=3.0
CPUP Villa Florida 150.89 32 *e*PKIKP PKPbc 13 43 44.7 -1.7
CPUP Villa Florida 150.89 32 PKPbc PKPbc 13 43 44.9 -1.5
comp=Z,5.1nm,0.8s,baz=319,slow=2.0,SNR=12
CFAA Coronel Fontan 150.94 55 PKPbc PKPbc 13 43 44.7 -1.7
CFAA Coronel Fontan 150.94 55 PKPbc PKPbc 13 43 44.7 -1.7
comp=Z,0.9nm,0.7s,baz=306,slow=2.6,SNR=16
SNAA Sanae 154.74 207 *e*PKPdf PKPab 13 44 04.7 -4.0
SNAA *e* 13 44 06.8
SNAA Sanae 154.74 207 PKPab PKPab 13 44 08.4 -0.3
comp=Z,2.0nm,0.7s,baz=139,slow=0.6,SNR=18
VNA2 Neumayer--Watz 156.39 207 *e*PKPdf PKPab 13 44 15.4 -0.4
baz=83,slow=2.4
VNA2 *e* 13 44 18.1
PLCA Paso Flores 156.43 72 PKPab PKPab 13 44 16.2 -0.6
comp=Z,1.0nm,0.8s,baz=319,slow=4.1,SNR=5.1
VNA3 Neumayer Olymp 156.81 205 *e*PKPdf PKPab 13 44 19.0 +1.4
VNA3 *e* 13 44 22.4

ISCJB ***20*** *13:33:01.7±5.0,2184N±007×1430E±02,h19km±35km, mb4.1/18, Error ellipse: s-maj=23.7km s-min=12.4km az=173.2*
MOS ***20*** *13:33:08.8±1.1,2185N×14291E,h77km,mb4.4/12, Error ellipse: s-maj=29.2km s-min=12.6km az=102.2*
IDC ***20*** *13:33:17.5±6.7,2176N×14291E,h144km±62km,mb3.7/16, mb1 3.9/16,mb1mx3.8/22,mbtmp3.7/16, Error ellipse: s-maj=24.1km s-min=11.7km az=80.0*
ISC 20 13:33:06.8±4.1,2183N±008×1430E±02,h46km±38km,n40, σ0°84/38,mb4.1/18,2C,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.32**	**323**	P	**P**	**13 37 43.8**	**+4.8**
	2.6nm,0.7s,baz=147,slow=10.0,SNR=10						
HABR	**Khabarovsk**	**27.34**	**348**	*e*P	**P**	**13 38 46.2**	**-1.1**
HABR				*e*S	**S**	**13 43 24.5**	**+0.6**
HABR				*e*SS		13 44 35.7	
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**13 40 30.5**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**39.14**	**320**	P	**P**	**13 40 30.5**	**+0.6**
	comp=Z,1.6nm,0.7s,mb3.9,baz=112,slow=7.4,SNR=7.1						
YAK	**Yakutsk**	**41.21**	**350**	*e*P	**P**	**13 40 46.4**	**-0.4**
YAK				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
SEY	**Seymchan**	**41.57**	**6⇑**	*e*P	**P**	**13 40 50.6**	**+0.8**
CTA	**Charters Tower**	**41.78**	**175**	P	**P**	**13 40 52.3**	**+0.3**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
CTA	**Charters Tower**	**41.78**	**175**	P	**P**	**13 40 52.3**	**+0.4**
	comp=Z,2.7nm,0.8s,mb3.9,baz=17,slow=6.5,SNR=4.3						
WB2	**Warramunga Arr**	**42.37**	**192**	*e*P	**P**	**13 40 56.9**	**+0.1**
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**13 40 57.0**	**+0.2**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**13 40 57.0**	**+0.2**
	comp=Z,3.0nm,1.0s,mb3.9,baz=17,slow=9.3,SNR=16						
FITZ	**Fitzroy Crossi**	**43.18**	**205**	*e*P	**P**	**13 40 56.4**	**-7.0**
	comp=Z,3.6nm,0.9s,mb4.1						
ASAR	**Alice Springs**	**46.08**	**192**	P	**P**	**13 41 26.3**	**-0.1**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**46.08**	**192**	P	**P**	**13 41 26.3**	**-0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=15,slow=9.3,SNR=32						
STKA	**Stephens Creek**	**53.42**	**182**	*e*P	**P**	**13 42 22.9**	**+0.8**
	comp=Z,5.6nm,1.4s,mb4.3						
STKA	**Stephens Creek**	**53.42**	**182**	P	**P**	**13 42 20.4**	**-1.7**
	comp=Z,8.9nm,1.1s,mb4.6,baz=132,slow=20,SNR=4.3						
ZALV	**Zalesovo Beam**	**54.01**	**322**	P	**P**	**13 42 26.4**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.2,baz=103,slow=6.7,SNR=6.8						
ZAL	**Zalesovo**	**54.02**	**322**	P	**P**	**13 42 26.4**	**+0.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.7s						
MKAR	**Makanchi Array**	**54.49**	**313**	P	**P**	**13 42 31.1**	**+1.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**54.49**	**313**	P	**P**	**13 42 31.1**	**+1.2**
	comp=Z,0.9nm,0.6s,mb3.9,baz=94,slow=8.9,SNR=10						
KURK	**Kurchatov**	**57.27**	**317⇑**	*e*P	**P**	**13 42 50.2**	**+0.5**
INK	**Inuvik**	**67.51**	**24**	P	**P**	**13 43 57.6**	**-0.2**
INK				pmax	pmax		
	comp=Z,3.0nm,0.9s						
INK	**Inuvik**	**67.51**	**24**	P	**P**	**13 43 57.5**	**-0.3**
	comp=Z,2.5nm,0.9s,mb4.2,baz=286,slow=6.5,SNR=9.7						
DLBC	**Dease Lake**	**70.10**	**34**	P	**P**	**13 44 15.1**	**+0.9**
	baz=280,slow=6.1						
AKTO	**Aktyubinsk**	**70.36**	**317**	P	**P**	**13 44 15.6**	**-0.3**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
AKTO	**Aktyubinsk**	**70.36**	**317**	P	**P**	**13 44 15.6**	**-0.3**
	comp=Z,0.7nm,0.4s,mb4.0,baz=110,slow=7.1,SNR=4.3						
YKA	**Yellowknife Ar**	**76.41**	**28**	P	**P**	**13 44 50.7**	**-0.5**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
YKA	**Yellowknife Ar**	**76.41**	**28**	P	**P**	**13 44 50.7**	**-0.5**
	comp=Z,1.8nm,0.5s,mb4.2,baz=292,slow=5.6,SNR=28						
OBN	**Obninsk**	**81.29**	**326**	*e*P	**P**	**13 45 17.8**	**-0.3**
OBN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.7						
FINES	**FINESS Array B**	**82.99**	**334**	*i* P	**P**	**13 45 28.5**	**+1.6**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	**FINESS Array B**	**82.99**	**334**	P	**P**	**13 45 25.6**	**-1.4**
	comp=Z,1.7nm,0.9s,mb4.1,baz=46,slow=5.5,SNR=3.7						
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**13 45 28.4**	**0.0**
	comp=Z,2.2nm,0.8s,mb4.2,baz=266,slow=5.3,SNR=13						
AKASG	**Malin Array Be**	**87.31**	**324**	*i* P	**P**	**13 45 48.9**	**+0.1**
AKASG	**Malin Array Be**	**87.31**	**324**	P	**P**	**13 45 46.9**	**-1.9**
	comp=Z,0.1nm,0.3s,mb3.6,baz=53,slow=5.2,SNR=4.4						
NOA	**NORSAR Array B**	**88.77**	**339**	P	**P**	**13 45 53.0**	**-2.5**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
NOA	**NORSAR Array B**	**88.77**	**339**	P	**P**	**13 45 53.0**	**-2.5**
	comp=Z,1.6nm,0.9s,mb4.3,baz=251,slow=15,SNR=2.5						
TXAR	**Lajitas Array**	**98.10**	**54**	P	**P**	**13 46 39.7**	**+0.6**
	comp=Z,0.3nm,0.8s,mb3.9,baz=255,slow=2.7,SNR=3.1						
PLCA	**Paso Flores**	**145.96**	**131**	PKP2	PKPbc	13 52 40.7	-0.9
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
PLCA	**Paso Flores**	**145.96**	**131**	PKPbc	PKPbc	13 52 40.7	-0.9
	comp=Z,1.2nm,0.8s,baz=54,slow=2.9,SNR=4.9						
LPAZ	**La Paz**	**150.08**	**85**	PKPbc	PKPbc	13 52 53.6	+0.3
	comp=Z,1.1nm,0.8s,baz=20,slow=4.6,SNR=4.9						
LPAZ				PKPab	PKPab	13 53 00.3	+1.0
	comp=Z,2.3nm,0.7s,baz=273,slow=2.2,SNR=12						

CSEM ***20*** *13:40:26.4±0.1,3919N×4104E,h10km,MD3.1, Error ellipse: s-maj=1.5km s-min=1.0km az=160.0*
ISK ***20*** *13:40:26.7,3921N×4105E,h10km,MD3.1*
DDA ***20*** *13:40:29.9,3936N×4101E,h20km±4km,Md3.0*
ISCJB ***20*** *13:40:30.6±0.6,3934N±004×4114E±010,h31km±8km, Error ellipse: s-maj=12.5km s-min=6.2km az=9.0*
ISC 20 13:40:30.6±0.6,3933N±004×4109E±010,h27km±9km,n8, σ1°50/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.38**	**173**	*i* P	**Pb**	**13 40 37.2**	**-1.8**
BNGL				*i* S	**Sb**	**13 40 46.6**	**+1.9**
EZM	**Erzurum**	**0.61**	**20**	PG	**Pb**	**13 40 41.5**	**-1.2**
EZM				SG	**Sb**	**13 40 51.7**	**+0.8**
ERZM	**Erzurum**	**0.61**	**20**	*i* P	**Pb**	**13 40 41.4**	**-1.3**
ERZM				*i* S	**Sb**	**13 40 51.6**	**+0.7**

PTK	**Pertek**	**1.39 252**	*e*PN	**Pn**	**13 40 51.8**	**-2.5**
PTK			*e*SN	**Sn**	**13 41 10.0**	**-1.8**
AGRB	**Hanur-Agry**	**1.49 80**	*e*PN	**Pn**	**13 40 55.1**	**-0.5**
GUMT	**Gumushane**	**1.68 313**	*e*PN	**Pn**	**13 40 57.9**	**-0.2**
GUMT			*e*SN	**Sn**	**13 41 20.6**	**+1.9**
ELZG	**Elazig**	**1.84 244**	*i* P	**Pn**	**13 41 03.0**	**+2.5**
ELZG			*i* S	**Sn**	**13 41 28.2**	**+5.3**
MARD	**Mardin**	**2.03 187**	*i* P	**Pn**	**13 41 04.3**	**+1.3**
MARD			*i* S	**Sn**	**13 41 33.2**	**+5.7**

IDC 20 13:51:46.0±1.2, 2179N×14323E, h0km, mb3.4/6, mb1 3.7/6, mb1mx3.6/19, mbtmp3.5/6, Error ellipse: s-maj=46.4km s-min=21.8km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.46**	**323**	P	P	13 56 26.9	+1.8
	0.7nm,0.8s,baz=90,slow=18,SNR=2.9						
SONM	**Songino Array**	**39.29**	**320**	P	P	13 59 16.3	-0.1
	0.3nm,0.7s,baz=112,slow=5.0,SNR=3.7						
WRA	**Warramunga Arr**	**42.38**	**192**	P	P	13 59 42.6	+0.5
	0.4nm,0.9s,baz=182,slow=10,SNR=3.8						
ASAR	**Alice Springs**	**46.09**	**192**	P	P	14 00 11.4	-0.4
	0.3nm,0.8s,baz=16,slow=7.9,SNR=5.1						
MKAR	**Makanchi Array**	**54.66**	**313**	P	P	14 01 15.8	-0.8
	0.1nm,0.2s,baz=102,slow=4.7,SNR=2.4						
YKA	**Yellowknife Ar**	**76.35**	**28**	P	P	14 03 36.8	+0.1
	0.4nm,0.5s,baz=293,slow=6.0,SNR=6.7						

*ISCJB **20** 14:18:14.6±0.8, 2732N±002×8823E±002, h8km±5km, mb4.9/146, MS4.2/47, Error ellipse: s-maj=3.9km s-min=2.8km az=1.3*

*LDG **20** 14:18:14.1±0.2, 2732N×8819E, h10km, Mb5.1/34, Ms4.0/8, Error ellipse: s-maj=9.2km s-min=5.2km az=138.0*

*IDC **20** 14:18:15.0±0.5, 2736N×8825E, h0km, mb4.6/21, mb1 4.7/22, mb1mx4.7/24, mbtmp4.6/22, ML4.6/1, MS4.1/20, Ms1 4.1/20, ms1mx4.0/30, Error ellipse: s-maj=16.8km s-min=12.1km az=47.0*

*BJI **20** 14:18:15.5, 2744N×8840E, h5km, mB4.9, mb4.8, ML4.8, Ms4.6, Msz4.3*

*MOS **20** 14:18:17.9±0.9, 2731N×8813E, h30km, mb5.1/74, MS4.2/21, Error ellipse: s-maj=8.0km s-min=3.9km az=124.5*

*DMN **20** 14:18:18.8±0.3, 2714N×8836E, h10km, Ml5.6/5, Error ellipse: s-maj=23.5km s-min=5.7km az=16.0*

*NDI **20** 14:18:19.2±5.0, 2745N×8842E, h43km, mb5.1, mb5.0(NEIC)*

*GCMT **20** 14:18:21.3±0.4, 2723N×8856E, h14km±2km, MW4.9/64, Moment Tensor Solution. s13,c14; s64,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.51±.12; $M_{\theta\theta}$-1.96±.11; $M_{\phi\phi}$1.45±.09; $M_{r\theta}$1.66±.38; $M_{\theta\phi}$-1.12±.09; $M_{\phi r}$0.23±.23; Best double couple: $M_0$2.47100×10^{16} NP1:ϕ_s204.00000°, δ58.00000°, λ-4.00000°. NP2: ϕ_s296.00000°, δ86.00000°, λ-148.00000°. Principal axes: T 1.8760, Plg19.0000°, Azm65.0000°; N 1.1860, Plg57.0000°, Azm302.0000°; P -3.0660, Plg25.0000°, Azm165.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **20** 14:18:21.3±1.2, 2733N×8824E, h43km±11km, mb5.0/94, MS4.4/8 Error ellipse: s-maj=7.7km s-min=4.4km az=212.0*

NEIC Some buildings slightly damaged in West Sikkim. Power outages occurred at Gezing, Jorethang and Namchi. Felt [IV] at Namchi. Felt at Pakyong, Rangpo, Ranipool, Ranka, Rhenok, Rongli and Singtam. Also felt at Darjeeling, Kalimpong, Kurseong, Mirik, Shiliguri, Sukhiyapokhri and Tadong, West Bengal.

*SZGRF **20** 14:18:37.7, 2956N×8668E, h33km, mb4.9, MS4.5, Xizang*

ISC 20 14:18:15.9±0.8, 2733N±002×8827E±002, h3km±5km, n423, σ1§12/458, mb4.9/146, MS4.2/47, 37C-11D, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**0.65**	**168**	*i* P	**Pg**	**14 18 27.4**	**-0.8**
SLGI				*i* S	**Sg**	**14 18 35.4**	**-1.2**
JIRN	**Jiri**	**1.88**	**280**	*e*Pn	**Pn**	**14 18 50.9**	**+2.0**
JIRN				*e*Sn	**Sn**	**14 19 15.4**	**+2.3**
	22μm,0.4s						
SHBG	**Sahibganj**	**2.18**	**195**	*e*P	**Pn**	**14 18 53.5**	**+0.5**
SHBG				*e*S	**Sn**	**14 19 22.5**	**+2.0**
GUN	**Gumba**	**2.20**	**286**	*e*Pn	**Pn**	**14 18 55.7**	**+2.4**
GUN				*e*Sn	**Sn**	**14 19 23.0**	**+2.0**
	13μm,0.4s						
PKI	**Pulchoki**	**2.55**	**276**	*e*Pn	**Pn**	**14 19 00.6**	**+2.4**
PKI				*e*Sn	**Sn**	**14 19 30.4**	**+0.6**
	5μm,0.4s						
KKN	**Kakani**	**2.69**	**280**	*e*Pn	**Pn**	**14 19 02.4**	**+2.3**
KKN				*e*Sn	**Sn**	**14 19 34.1**	**+0.9**
DMN	**Daman**	**2.83**	**276**	*e*Pn	**Pn**	**14 19 04.0**	**+2.1**
GKN	**Gorkha**	**3.29**	**283**	*e*Pn	**Pn**	**14 19 10.5**	**+2.2**
GKN				*e*Sn	**Sn**	**14 19 48.4**	**+0.4**
	3μm,0.3s						
LSA	**Lhasa**	**3.46**	**46**	PG	**Pn**	**14 19 15.4**	**+4.7**
LSA				SG	**Sn**	**14 19 52.8**	**+0.6**
LSA				LR	LR		
	comp=E,7μm,9.6s						
LSA	**Lhasa**	**3.46**	**46**	*e*Pn	**Pn**	**14 19 14.8**	**+4.1**
SHL	**Shillong**	**3.69**	**118**	*i* P	**Pn**	**14 19 13.5**	**-0.3**
SHL				*ex*	**Sg**	**14 20 11.0**	**-3.3**
DANN	**Dangsing**	**4.12**	**285**	*e*Pn	**Pn**	**14 19 21.2**	**+1.5**
DANN				*e*Sn	**Sn**	**14 20 08.3**	**-0.2**
BOK	**Bokaro**	**4.13**	**212**	*e*P	**Pn**	**14 19 21.4**	**+1.5**
BOK				*e*S	**Sn**	**14 20 07.1**	**-1.6**
KOLN	**Koldanda**	**4.17**	**277**	*e*Pn	**Pn**	**14 19 21.8**	**+1.4**
KOLN				*e*Sn	**Sn**	**14 20 08.5**	**-1.2**
	comp=E,781nm,0.3s						
IMP	**Imphal**	**5.69**	**115**	*e*P	**Pn**	**14 19 42.0**	**+0.7**
IMP				*ex*	**Sn**	**14 20 53.0**	**+5.8**
ALBI	**Allahabad**	**6.14**	**252**	*e*P	**Pn**	**14 19 48.0**	**+0.5**
ALBI				*ex*	x	14 20 09.0	
LGTI	**Lohaghat**	**7.38**	**288**	*e*P	**Pn**	**14 20 07.5**	**+3.0**
LGTI				*ex*	**Sg**	**14 22 08.0**	**-4.7**
PTH	**Pithoragarh**	**7.43**	**289**	*e*P	**Pn**	**14 20 06.4**	**+1.2**
PTH				*e*S	**Sn**	**14 21 24.2**	**-5.7**
BLSP	**Bilaspur**	**7.61**	**228**	*e*P	**Pn**	**14 20 07.8**	**0.0**
BLSP				*e*S	**Sn**	**14 21 30.7**	**-3.9**
JHNI	**Jhansi**	**8.92**	**260**	*i* P	**Pn**	**14 20 29.0**	**+3.3**
JHNI				*i* S	**Sn**	**14 22 02.0**	**-4.8**
DDI	**Dehra Dun**	**9.44**	**291**	*e*P	**Pn**	**14 20 34.5**	**+1.7**
DDI				*ex*	**Sn**	**14 22 17.1**	**-2.4**
NDI	**New Delhi**	**9.86**	**280**	*e*P	**Pn**	**14 20 38.5**	**-0.1**
NDI				*e*S	**Sn**	**14 22 21.0**	**-8.8**
SMLA	**Simla**	**10.41**	**294**	*e*P	**Pn**	**14 20 45.2**	**-0.9**
SMLA				AMb	AMB	14 20 48.9	
	comp=Z,85nm,1.2s						
NGP	**Nagpur**	**10.42**	**236**	*e*P	**Pn**	**14 20 46.8**	**+0.5**
NGP				AMb	AMB	14 20 51.6	
	comp=Z,99nm,0.7s						
NGP				*e*S	**Sn**	**14 22 35.2**	**-8.4**
VIS	**Vishakhapatnam**	**10.60**	**207**	*e*P	**Pn**	**14 20 49.4**	**+0.7**
VIS				*i* S	**Sn**	**14 22 39.6**	**-8.4**
BHPL	**Bhopal**	**10.62**	**250**	*e*P	**Pn**	**14 20 48.9**	**-0.2**
BHPL				AMb	AMB	14 20 51.5	
	comp=Z,33nm,0.5s						
BHPL				*e*S	**Sn**	**14 22 39.4**	**-9.2**
SDNR	**Sundarnagar**	**10.69**	**296**	*e*P	**Pn**	**14 20 49.5**	**-0.4**
SDNR				*e*S	**Sn**	**14 22 41.6**	**-8.6**
BHK	**Bhakra**	**11.11**	**294**	*e*P	**Pn**	**14 20 54.6**	**-1.1**
BHK				*ex*	**Sn**	**14 22 54.8**	**-5.6**
DLH	**Dalhousie**	**11.86**	**299**	*e*P	**Pn**	**14 21 05.0**	**-1.0**
DLH				*ex*	**Sn**	**14 23 13.0**	**-5.9**
THN	**Thein Dam**	**12.02**	**298**	*ex*	**Pn**	**14 21 03.1**	**-5.0**
THN				*ex*	**Sn**	**14 23 17.2**	**-5.5**
AJM	**Ajmer**	**12.19**	**269**	*e*P	**Pn**	**14 21 09.3**	**-1.2**
AJM				*e*S	**Sn**	**14 23 16.0**	**-11**
AKL	**Akola**	**12.22**	**240**	*e*P	**Pn**	**14 21 10.0**	**-0.9**
AKL				AMb	AMB	14 21 10.8	
	comp=Z,86nm,1.0s						
CHRT	**Chiangrai**	**12.90**	**123**	⇑P	**Pn**	**14 21 20.0**	**-0.2**
	comp=Z,158nm,0.7s						
CHTO	**Chiang Mai**	**12.97**	**129**	*e*P	**Pn**	**14 21 17.9**	**-3.3**
CHTO				pmax	pmax		
	comp=Z,11nm,0.8s						
CHTO	**Chiang Mai**	**12.97**	**129**	*e*P	**Pn**	**14 21 17.9**	**-3.3**
	comp=Z,11nm,0.8s						
KMI	**Kunming**	**13.17**	**96**	P	**Pn**	**14 21 22.0**	**-1.9**
KMI				PP		14 21 37.1	
KMI				S	**Sn**	**14 23 52.5**	**+1.5**
KMI				SSS		14 24 22.4	
KMI				AMB	AMB		
	comp=Z,17nm,1.0s						
KMI				LR	LR		
	comp=N,593nm,10.7s						
KMI				LR	LR		
	comp=E,949nm,13.5s						
KMI				LR	LR		
	comp=Z,1μm,13.6s						
CM31	**Chiang Mai Arr**	**13.21**	**130**	*e*Pn	**Pn**	**14 21 20.6**	**-3.9**
HYB	**Hyderabad**	**13.34**	**224**	*e*P	**Pn**	**14 21 22.0**	**-4.2**
HYB				pmax	pmax		
	comp=Z,65nm,1.0s						
HYB	**Hyderabad**	**13.34**	**224**	*i* P	**Pn**	**14 21 22.0**	**-4.2**
	comp=Z,65nm,1.0s						
HYB				*e*		14 23 46.0	
HYB				*e*S	**Sn**	**14 23 55.0**	**-0.2**
LATR	**Latur**	**13.96**	**233**	*e*P	**Pn**	**14 21 36.2**	**+1.4**
CD2	**Chengdu**	**14.00**	**72** ⇓	*i* P	**Pn**	**14 21 33.9**	**-1.3**
CD2				AP		14 21 37.5	
CD2				XP		14 21 40.0	
CD2				PP		14 21 45.6	
CD2				S	**Sn**	**14 24 10.3**	**-0.8**
CD2				XS		14 24 15.6	
CD2				SS		14 24 26.8	
CD2				AMB	AMB		
	comp=Z,40nm,1.1s						
CD2				AMB	AMB		
	comp=Z,120nm,8.4s						
CD2				LR	LR		
	comp=N,2μm,12.0s						
CD2				LR	LR		
	comp=E,2μm,7.2s						
CD2				LR	LR		
	comp=Z,1μm,9.6s						
GTA	**Gaotai**	**15.41**	**36**	*e*P	**Pn**	**14 21 56.5**	**+2.3**
GTA				S	**Sn**	**14 24 48.3**	**+2.9**
GTA				XS	sS	14 24 55.1	-8.1
GTA				SS		14 25 06.3	
GTA				LG1		14 26 25.0	
GTA				LG2		14 26 47.5	
GTA				AMB	AMB		
	comp=Z,3.0nm,0.5s						
GTA				AMB	AMB		
	comp=Z,67nm,4.2s						
GTA				LR	LR		
	comp=N,2μm,13.4s						
GTA				LR	LR		
	comp=E,3μm,12.2s						
GTA				LR	LR		
	comp=Z,781nm,12.6s						
BHV	**Bhavnagar**	**15.69**	**253**	*ex*	x	14 21 42.5	
LZH	**Lanzhou**	**15.85**	**53**	*e*P	**Pn**	**14 21 57.0**	**-3.0**
LZH				AP	pP	14 22 05.0	+0.3
LZH				XP	sP	14 22 10.3	+5.2
LZH				PP		14 22 12.3	
LZH				*e*S	**Sn**	**14 24 54.0**	**-2.2**
LZH				XS	sS	14 25 05.0	-7.2
LZH				SS		14 25 12.3	
LZH				AMB	AMB		
	comp=Z,29nm,1.1s						
LZH				AMB	AMB		
	comp=Z,135nm,4.6s						
LZH				LR	LR		
	comp=N,1μm,12.7s						
LZH				LR	LR		
	comp=Z,2μm,13.6s						
KSH	**Kashi**	**15.89**	**323**	*e*P	**Pn**	**14 21 57.0**	**-3.4**
KSH				*e*AP	pP	14 22 04.1	-0.9
KSH				*e*XP	sP	14 22 09.1	+3.7
KSH				*e*S	**Sn**	**14 24 51.1**	**-5.9**
KSH				*e*XS	sS	14 25 03.0	-10
KSH				AMB	AMB		
	comp=Z,606nm,3.8s						
KSH				LR	LR		
	comp=N,4μm,8.1s						
KSH				LR	LR		
	comp=E,5μm,9.3s						
KSH				LR	LR		
	comp=Z,3μm,14.2s						
POO	**Poona**	**15.90**	**240**	*ex*	x	14 21 58.0	
POO				AMb	AMB	14 22 01.1	
	comp=Z,29nm,1.0s						
POO				*ex*	x	14 24 44.1	
NST	**Nakhon Sawan**	**16.00**	**134**	P	**Pn**	**14 22 07.0**	**+5.0**
KAD	**Karad**	**16.40**	**235**	*e*P	**Pn**	**14 22 06.2**	**-1.0**
KAD				AMb	AMB	14 22 08.5	
	comp=Z,53nm,0.7s						
KAD				*ex*	x	14 24 55.9	
GYA	**Guiyang**	**16.43**	**89** ⇑	*i* P	**Pn**	**14 22 09.1**	**+1.5**
GYA				AP	pP	14 22 14.6	+3.4
GYA				PP		14 22 23.5	
GYA				S	**Sn**	**14 25 12.4**	**+1.9**
GYA				SS		14 25 32.6	
GYA				PCP	PcP	14 27 02.4	+2.3
GYA				AMB	AMB		
	comp=Z,30nm,0.8s						
GYA				AMB	AMB		
	comp=Z,140nm,4.2s						
GYA				LR	LR		
	comp=N,890nm,11.8s						
GYA				LR	LR		
	comp=E,670nm,14.4s						
GYA				LR	LR		
	comp=Z,940nm,12.6s						
WMQ	**Urumqi**	**16.46**	**359**	P	**Pn**	**14 22 07.0**	**-0.7**
WMQ				XP	sP	14 22 14.0	+2.3
WMQ				PP		14 22 21.0	
WMQ				S	**Sn**	**14 25 09.0**	**-1.8**
WMQ				SS		14 25 30.0	
WMQ				AMB	AMB		
	comp=Z,29nm,0.8s						
WMQ				AMB	AMB		
	comp=Z,64nm,3.0s						
WMQ				LR	LR		
	comp=N,736nm,8.0s						
WMQ				LR	LR		
	comp=E,869nm,9.0s						
WMQ				LR	LR		
	comp=Z,758nm,8.0s						
BHJ	**Bhuj**	**17.32**	**261**	*e*P	**Pn**	**14 22 19.8**	**+1.1**
BHJ				*ex*	x	14 25 16.8	
ULHL	**Ulahol**	**17.83**	**330**	P	**Pn**	**14 22 28.6**	**+3.7**
	SNR=7.0						
KBL	**Kabul**	**17.98**	**298**	*e*P	**Pn**	**14 22 26.9**	**+0.1**
	comp=Z,114nm,1.0s						
KZA	**Kyzart**	**18.16**	**327**	P	**Pn**	**14 22 32.2**	**+3.1**
	SNR=23						
UCH	**Uchtor**	**18.63**	**326**	*e*P	**Pn**	**14 22 33.4**	**-1.4**
	comp=Z,15nm,0.8s						
UCH	**Uchtor**	**18.63**	**326**	P	**Pn**	**14 22 33.7**	**-1.1**
	SNR=13						
TKM2	**Tokmak 2**	**18.65**	**330**	*e*P	**Pn**	**14 22 33.2**	**-1.9**
TKM2				pmax	pmax		
	comp=Z,23nm,0.9s						
TKM2	**Tokmak 2**	**18.65**	**330**	*e*P	**Pn**	**14 22 33.2**	**-1.9**
	comp=Z,23nm,0.9s						
TKM2	**Tokmak 2**	**18.65**	**330**	P	**Pn**	**14 22 35.3**	**+0.3**
	SNR=15						
KBK	**Karagaybulak**	**18.75**	**328**	P	**Pn**	**14 22 37.8**	**+1.6**
	SNR=12						
AAK	**Ala-Archa**	**18.94**	**327**	P	**Pn**	**14 22 39.2**	**+0.6**
	comp=Z,178nm,1.0s,SNR=22						
AAK	**Ala-Archa**	**18.94**	**327**	P	**Pn**	**14 22 40.1**	**+1.5**
	SNR=29						
XAN	**Xi'an**	**18.96**	**64**	P	**Pn**	**14 22 36.5**	**-2.4**
XAN				AP	pP	14 22 45.5	+6.4
XAN				XP	sP	14 22 50.1	+11
XAN				S	**Sn**	**14 26 07.1**	**-4.5**
XAN				SS		14 26 30.4	
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s						
XAN				AMB	AMB		
	comp=Z,90nm,5.6s						
XAN				LR	LR		
	comp=N,502nm,10.8s						
XAN				LR	LR		
	comp=E,286nm,9.9s						
XAN				LR	LR		
	comp=Z,598nm,10.1s						
AML	**Almayashu**	**18.97**	**325**	*e*P	**Pn**	**14 22 38.8**	**-0.1**
	comp=Z,50nm,1.0s						
AML	**Almayashu**	**18.97**	**325**	P	**Pn**	**14 22 39.8**	**+0.9**
	SNR=32						
FRU	**Bishkek**	**19.04**	**328**	*e*P	**Pn**	**14 22 40.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,40nm,2.0s						
FRU				MLR	MLR		
	comp=Z,1μm,14.0s						
MNGI	**Mangalore**	**19.06**	**224**	*e*P	**Pn**	**14 22 40.6**	**+0.4**
MNGI				AMb	AMB	14 22 45.0	
	comp=Z,42nm,1.1s						
EKS2	**Erkin-Say**	**19.32**	**326**	*e*P	**Pn**	**14 22 43.8**	**+0.8**
	comp=Z,42nm,0.9s						
EKS2	**Erkin-Say**	**19.32**	**326**	P	**Pn**	**14 22 44.1**	**+1.1**
	SNR=29						
USP	**Ospenovka**	**19.43**	**328**	P	**Pn**	**14 22 43.7**	**-0.7**
	SNR=12						
KOD	**Kodaikanal**	**19.83**	**213**	*e*P	**Pn**	**14 22 50.0**	**+0.7**
KOD				AMb	AMB	14 22 56.2	
	comp=Z,35nm,0.7s						
MK31	**Makanchi Array**	**19.99**	**348**	*e*P	**Pn**	**14 22 49.4**	**-1.7**
MKAR	**Makanchi Array**	**19.99**	**348**	*i* P	**Pn**	**14 22 50.0**	**-1.1**
MKAR				pmax	pmax		
	comp=Z,12nm,0.6s						
MKAR	**Makanchi Array**	**19.99**	**348**	P	**Pn**	**14 22 49.2**	**-1.9**
	comp=Z,1.6nm,0.3s,baz=165,slow=10,SNR=37						
MKAR				LR	LR	14 31 53.9	
	comp=Z,857nm,19.6s,baz=172,slow=41						
QIZ	**Qiongzhong**	**21.46**	**108**	P	**P**	**14 23 04.8**	**-0.8**
QIZ				XP	sP	14 23 11.6	+4.8
QIZ				S	**S**	**14 27 03.8**	**-0.5**
QIZ				XS	sS	14 27 10.9	+5.3
QIZ				LR	LR		
	comp=N,308nm,16.7s						
QIZ				LR	LR		
	comp=Z,441nm,13.9s,MS4.0						
QIZ	**Qiongzhong**	**21.46**	**108**	*e*P	**P**	**14 23 05.2**	**-0.4**
	comp=Z,73nm,1.1s,mb4.9						
BTO	**Baotou**	**22.30**	**48**	*e*P	**P**	**14 23 14.8**	**+0.4**
TIY	**Taiyuan**	**22.79**	**57**	P	**P**	**14 23 19.5**	**-0.2**
TIY				S	**S**	**14 27 29.5**	**-0.3**
TIY				LR	LR		
	comp=N,799nm,9.4s						
TIY				LR	LR		
	comp=E,2μm,15.3s						
TIY				LR	LR		
	comp=Z,2μm,13.6s,MS4.7						
WHN	**Wuhan**	**23.03**	**76**	P	**P**	**14 23 22.0**	**-0.2**
WHN				AP		14 23 29.0	
WHN				S	**S**	**14 27 34.1**	**+0.3**
WHN				AMB	AMB		
	comp=Z,415nm,4.4s						
WHN				LR	LR		
	comp=N,1μm,10.2s,MS4.8						
WHN				LR	LR		
	comp=E,1μm,14.0s,MS4.8						
WHN				LR	LR		
	comp=Z,1μm,11.4s,MS4.6						
HHC	**Hu-ho-hao-te**	**23.45**	**49**	*e*P	**P**	**14 23 29.8**	**+3.3**
HHC				PCP	PcP	14 27 14.0	+1.4
HHC				AMB	AMB		
	comp=Z,59nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,277nm,5.3s						
HHC				LR	LR		
	comp=N,2μm,14.9s,MS4.7						
HHC				LR	LR		
	comp=E,1μm,14.7s,MS4.7						
HHC				LR	LR		
	comp=Z,1μm,17.1s,MS4.4						
KURK	**Kurchatov**	**24.48**	**345**	P	**P**	**14 23 36.9**	**+0.9**
	comp=Z,244nm,1.3s,mb5.5,SNR=17						
KURK	**Kurchatov**	**24.48**	**345**	*d* P	**P**	**14 23 35.5**	**-0.5**
KURK	**Kurchatov**	**24.48**	**345**	*e*P	**P**	**14 23 35.9**	**-0.1**
	comp=Z,50nm,1.1s,mb4.9						
SONM	**Songino Array**	**24.89**	**30**	P	**P**	**14 23 40.7**	**+0.9**
SONM						14 27 16.9	
SONM	**Songino Array**	**24.89**	**30**	P	**P**	**14 23 40.7**	**+0.9**
	comp=Z,12nm,0.6s,mb4.6,baz=220,slow=9.5,SNR=53						
SONM				PcP	PcP	14 27 16.9	+1.4
	comp=Z,1.1nm,0.7s,baz=265,slow=2.1,SNR=4.2						
SONM				ScP	ScP	14 30 54.3	-1.2
	comp=Z,0.9nm,0.9s,baz=225,slow=5.5,SNR=5.1						
SONM				LR	LR	14 34 45.0	
	comp=Z,200nm,21.8s,MS3.6,baz=216,slow=40						
KULM	**Kulim**	**24.89**	**150**	*e*P	**P**	**14 23 40.5**	**+0.4**
ZAK	**Zakamensk**	**25.71**	**22**	*e*P	**P**	**14 23 48.0**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,13nm,1.0s,mb4.4						
TIA	**Tai'an**	**26.00**	**63**	*e*P	**P**	**14 23 50.3**	**+0.2**
MOY	**Mondy**	**26.13**	**18**	*e*P	**P**	**14 23 54.4**	**+3.4**
MOY				pmax	pmax		
	comp=Z,39nm,1.6s,mb4.7						
BJI	**Beijing**	**26.33**	**54**	P	**P**	**14 23 54.4**	**+1.4**
BJI				XP	sP	14 23 59.3	+5.1
BJI				S	**S**	**14 28 28.6**	**+2.0**
BJI				XS	sS	14 28 34.3	+6.2
BJI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.2						
BJI				AMB	AMB		
	comp=Z,207nm,5.4s						
BJI				LR	LR		
	comp=N,2μm,13.4s,MS4.8						
BJI				LR	LR		
	comp=E,864nm,13.7s,MS4.8						
BJI				LR	LR		
	comp=Z,996nm,24.6s						
PSI	**Prapat**	**26.44**	**155**	P	**P**	**14 23 55.4**	**+1.2**
	comp=Z,6.7nm,0.8s,mb4.2,baz=339,slow=8.3,SNR=9.3						
PSI				LR	LR	14 37 32.4	
	comp=Z,393nm,18.2s,MS4.0,baz=185,slow=44						
ZAL	**Zalesovo**	**26.70**	**355**	P	**P**	**14 23 56.0**	**-0.1**
ZAA0	**Zalesovo Array**	**26.71**	**355**	*e*P	**P**	**14 23 54.5**	**-1.7**
ZALV	**Zalesovo Beam**	**26.71**	**355**	P	**P**	**14 23 56.0**	**-0.3**
	comp=Z,25nm,0.9s,mb4.7,baz=182,slow=7.4,SNR=38						
ZALV				LR	LR	14 35 51.3	
	comp=Z,495nm,18.3s,MS4.1,baz=177,slow=40						
NJ2	**Nanjing**	**26.93**	**73**	*e*P	**P**	**14 24 02.3**	**+3.8**
NJ2				AP	pP	14 24 07.3	+8.0
NJ2				XP	sP	14 24 10.1	+10
NJ2				PP		14 24 47.1	
NJ2				PPP		14 25 00.1	
NJ2				S	**S**	**14 28 37.0**	**+0.7**
NJ2				XS	sS	14 28 45.0	+7.3
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,150nm,6.4s						
NJ2				LR	LR		
	comp=N,980nm,21.5s,MS4.4						
NJ2				LR	LR		
	comp=E,480nm,20.3s,MS4.4						
NJ2				LR	LR		
	comp=Z,480nm,20.3s,MS4.0						
TLY	**Talaya**	**26.94**	**21**	*i* P	**P**	**14 23 59.8**	**+1.5**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.9s						
ABKT	**Ailbek**	**27.39**	**300**	P	**P**	**14 24 04.0**	**+1.4**
	comp=Z,175nm,1.1s,mb5.5,SNR=5.3						
IRK	**Irkutsk**	**27.62**	**21**	*e*P	**P**	**14 24 07.7**	**+3.2**
IRK				pmax	pmax		
	comp=Z,39nm,2.2s,mb4.7						
NVS	**Novosibirsk**	**27.73**	**354**	*e*P	**P**	**14 24 04.5**	**-0.8**
NVS				pmax	pmax		
	comp=Z,18nm,1.3s,mb4.5						
NVS				pmax	pmax		
	comp=N,15nm,1.4s						
BVAR	**Borovoye Array**	**28.91**	**337**	P	**P**	**14 24 15.4**	**-0.5**
BVAR						14 27 25.0	
BVAR	**Borovoye Array**	**28.91**	**337**	P	**P**	**14 24 15.4**	**-0.5**
	comp=N,1.7nm,0.6s,mb4.0,baz=153,slow=7.4,SNR=15						
BVAR				PcP	PcP	14 27 25.0	0.0
	comp=N,0.6nm,0.5s,baz=113,slow=3.3,SNR=2.9						
BVAR				LR	LR	14 37 14.6	
	comp=N,662nm,18.4s,MS4.3,baz=151,slow=40						
SSE	**Sheshan**	**28.91**	**75**	P	**P**	**14 24 18.5**	**+2.3

SNY Shenyang 32.22 54 ⇑P P 14 24 47.4 +2.1
SNY S **S** 14 30 01.1 +2.1
SNY AMB AMB
comp=Z,19nm,2.4s,mb4.5
SNY AMB AMB
comp=Z,192nm,5.6s
SNY LR LR
comp=E,637nm,17.7s
SNY LR LR
comp=Z,629nm,20.8s,MS4.3
HIA Hailar 32.63 39 *e*P **P 14 24 51.8 +3.0**
HIA pmax pmax
comp=Z,15nm,0.8s
HIA Hailar 32.63 39 *e*P **P 14 24 51.8 +3.0**
comp=Z,15nm,0.8s,mb5.0
KSM Kuching 33.28 137 *e*P **P 14 24 54.2 -0.6**
CN2 Changchun 34.08 51 *e*P **P 14 25 04.0 +2.5**
CN2 *e*XP sP 14 25 11.0 +8.2
CN2 *e*S **S 14 30 29.1 +1.2**
CN2 AMB AMB
comp=Z,30nm,1.3s,mb5.1
CN2 AMB AMB
comp=Z,200nm,6.0s
CN2 LR LR
comp=N,200nm,16.0s,MS4.4
CN2 LR LR
comp=E,500nm,16.0s,MS4.4
CN2 LR LR
comp=Z,600nm,19.0s,MS4.3
KSRS Korea Array 34.75 63 P **P 14 25 05.8 -1.6**
comp=Z,6.6nm,0.9s,mb4.6,baz=256,slow=7.2,SNR=17
KSRS PcP PcP 14 27 41.7 +0.6
comp=Z,0.5nm,0.6s,baz=346,slow=34,SNR=3.9
KSRS LR LR 14 41 37.4
comp=Z,231nm,18.1s,MS4.0,baz=94,slow=40
SVE Sverdlovsk 35.43 334⇓ *e*P **P 14 25 13.5 +0.5**
SVE pmax pmax
comp=Z,28nm,1.1s,mb5.1
SVE MLR MLR
comp=Z,420nm,13.0s,MS4.4
BOD Bodaibo 35.44 24 *e*P **P 14 25 13.8 +0.7**
BOD pmax pmax
comp=Z,13nm,0.8s,mb4.9
ARU Arti 36.00 332 *c i*P **P 14 25 18.1 +0.2**
ARU *e* 14 26 39.6
ARU *e*PPP 14 26 53.5
ARU *e* 14 27 39.0
ARU *e*S **S 14 30 58.4 +1.3**
ARU pmax pmax
comp=Z,16nm,1.0s,mb4.9
ARU MLR MLR
comp=Z,273nm,13.0s,MS4.2
ARU Arti 36.00 332 *e*P **P 14 25 16.2 -1.7**
comp=Z,15nm,0.9s,mb4.9
DGRG David-gareji 37.71 303 P **P 14 25 30.5 -2.2**
GNI Garni 38.03 301 *i* P **P 14 25 37.9 +2.5**
GNI pmax pmax
comp=Z,21nm,0.9s
GNI MLR MLR
comp=Z,200nm,20.0s
GNI Garni 38.03 301 *e*P **P 14 25 37.5 +2.2**
comp=Z,39nm,1.0s,mb5.1
BHD Baghdad 38.14 290 *ex* x 14 25 34.0
BHD *ex* x 14 31 31.0
MSL Mosul 39.12 295 *ex* x 14 25 46.0
MSL *ex* x 14 31 43.0
ONI Oni 39.29 305 P **P 14 25 47.9 +1.9**
KLR Kul'dur 39.82 45 *e*P **P 14 25 46.7 -3.6**
KLR pmax pmax
comp=E,82nm,2.2s
KLR pmax pmax
comp=Z,88nm,2.2s,mb5.1
KIV Kislovodsk 40.04 307⇑ *e*P **P 14 25 53.0 +0.8**
KIV pmax pmax
comp=Z,9.0nm,1.3s,mb4.3
KIV MLR MLR
comp=Z,200nm,16.0s,MS4.1
KIV Kislovodsk 40.04 307 *e*P **P 14 25 55.0 +2.7**
comp=Z,17nm,0.9s,mb4.8
HABR Khabarovsk 41.73 47 *e*P **P 14 26 05.8 -0.2**
HABR *e* 14 27 42.0
HABR *e*S **S 14 32 24.4 +0.7**
HABR *e*SS SS 14 35 28.4 -0.5
HABR pmax pmax
comp=Z,46nm,3.1s
HABR MLR MLR
comp=Z,355µm,14.0s
SOC Sochi 42.13 306 *e*P **P 14 26 07.9 -1.5**
SOC *e**SP sP 14 26 16.7 +6.1
SOC pmax pmax
comp=Z,11nm,1.1s,mb4.4
SOC MLR MLR
comp=Z,35nm,4.0s
MALT Malatya 42.84 298⇑ *i*P **P 14 26 17.3 +2.0**
MAJO Matsushiro 42.96 65 *e*P **P 14 26 15.9 -0.3**
MAJO pmax pmax
comp=Z,12nm,0.8s,mb4.7
MAJO Matsushiro 42.96 65 *e*P **P 14 26 15.9 -0.3**
comp=Z,12nm,0.8s,mb4.7
MAT Matsushiro 42.96 65 P **P 14 26 15.4 -0.8**
MJAR Matsushiro Arr 42.96 65 P **P 14 26 15.6 -0.6**
comp=Z,8.4nm,0.8s,mb4.5,baz=277,slow=10,SNR=29
MJAR LR LR 14 45 04.0
comp=Z,126nm,18.8s,MS3.8,baz=270,slow=37
YAK Yakutsk 44.16 27⇑ *e*P **P 14 26 26.7 +1.1**
YAK pmax pmax
comp=Z,11nm,1.4s,mb4.4
YAK MLR MLR
comp=Z,100nm,14.0s,MS3.9
SIM Simferopol' 46.25 307 *e*P **P 14 26 43.5 +1.1**
SIM pmax pmax
comp=Z,25nm,1.2s,mb5.0
SIM MLR MLR
comp=Z,200nm,17.8s,MS4.1
OBN Obninsk 46.32 321 *i* P **P 14 26 43.3 +0.5**
OBN *e* 14 28 14.6
OBN *e* 14 28 33.0
OBN *e*S **S 14 33 40.2 +10**
OBN pmax pmax
comp=Z,44nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.2
YSS Yuzh-Sakhalins 46.63 50⇑ *i*P **P 14 26 46.0 +0.6**
YSS pmax pmax
comp=Z,110nm,1.0s,mb5.7
YSS Yuzh-Sakhalins 46.63 50 *e*P **P 14 26 45.4 0.0**
comp=Z,103nm,1.0s,mb5.7
ANTO Ankara 47.18 300 *e*P **P 14 26 50.1 +0.3**
comp=Z,14nm,0.8s,mb5.0
ANTO Ankara 47.18 300⇑ *i*P **P 14 26 51.2 +1.4**
TMCR Tamitsa 48.71 333 *e*P **P 14 27 00.5 -0.8**
TMCR pmax pmax
comp=Z,41nm,1.2s,mb5.3
TIXI Tiksi 49.67 16 *e*P **P 14 27 08.0 -0.5**
TIXI pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TIXI MLR MLR
comp=Z,280nm,15.0s,MS4.4
TIXI Tiksi 49.67 16 *e*P **P 14 27 07.0 -1.5**
comp=Z,8.2nm,0.6s,mb4.9
AKASG Malin Array Be 49.95 315 P **P 14 27 09.4 -1.5**
comp=Z,5.3nm,0.6s,mb4.7,baz=79,slow=7.2,SNR=16
AKBB Malin Array Si 49.95 315 *e*P **P 14 27 09.5 -1.5**
KIEV Kiev 49.96 315 *e*P **P 14 27 09.3 -1.7**
KIEV pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
KIEV Kiev 49.96 315 *e*P **P 14 27 09.3 -1.7**
comp=Z,10nm,0.8s,mb4.9
KIS Kishinev 50.02 310 *e*P **P 14 27 09.0 -2.6**
JOF Joensuu 51.09 330 *e*p **P 14 27 18.8 -0.6**
comp=Z,20nm,0.8s,mb5.1
VRI Vrincioaia 51.47 308⇑ *i*P **P 14 27 23.6 +1.1**
PLOR Plostina 51.52 308⇑ *i*P **P 14 27 24.7 +1.8**
MLR Muntele Rosu 52.03 308 ⇑P **P 14 27 28.2 +1.5**
MLR Muntele Rosu 52.03 308⇑ *i*P **P 14 27 28.1 +1.4**
BURAR Bucovina Array 52.48 310⇓ *i*P **P 14 27 31.3 +1.3**
VOIR 52.66 308⇑ *i*P **P 14 27 32.6 +1.2**
MA2 Magadan 52.97 34 *d i*P **P 14 27 34.2 +0.8**
MA2 pmax pmax
comp=Z,16nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,100nm,17.0s,MS3.9
FINES FINESS Array B 53.13 328 P **P 14 27 33.9 -0.7**
FINES LR LR 14 50 43.0
FINES FINESS Array B 53.13 328 P **P 14 27 33.9 -0.7**
comp=Z,4.5nm,0.5s,mb4.6,baz=107,slow=9.1,SNR=20
FINES LR LR 14 50 43.0
comp=Z,281nm,19.8s,MS4.3,baz=124,slow=37
LVV L'vov 53.24 313 *e*P **P 14 27 35.8 +0.2**
KWP Kalwaria 54.10 313 *e*P **P 14 27 42.0 +0.1**
KWP pmax pmax
comp=Z,39nm,0.9s,mb5.3
KWP Kalwaria 54.10 313 *e*P **P 14 27 42.0 +0.1**
comp=Z,39nm,0.9s,mb5.3
VTS Vitosha 54.20 304⇑ *i*P **P 14 27 43.7 +0.9**
DRGR 54.22 310⇑ *i*P **P 14 27 43.4 +0.6**
TRPA Tarpa 54.26 311⇓ *i*P **P 14 27 43.7 +0.6**
SEY Seymchan 54.28 30 *i* P **P 14 27 44.6 +1.6**
GUMO Guam 54.35 93 LR LR 14 49 28.9
comp=Z,58nm,18.5s,MS3.7,baz=209,slow=34
UZH Uzhgorod 54.41 312⇓ *i*P **P 14 27 44.0 -0.2**
UZH *i* 14 27 49.4
CRVS Cervenica-Dubn 54.95 312 *e*P **P 14 27 51.1 +3.0**
BZS Buzias 55.06 308⇑ *i*P **P 14 27 49.3 +0.4**
STHS Stebnicka Huta 55.06 313 *e*P **P 14 27 49.5 +0.6**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
STHS Stebnicka Huta 55.06 313 *e*P **P 14 27 49.5 +0.6**
comp=Z,5.5nm,0.8s,mb4.6
ARCES ARCESS Array B 55.20 338 P **P 14 27 49.0 -0.5**
comp=Z,4.9nm,0.9s,mb4.5,baz=106,slow=7.7,SNR=8.0
ARCES LR LR 14 53 39.4
comp=Z,142nm,18.7s,MS4.1,baz=240,slow=38
NIE Niedzica 55.67 313 *e*P **P 14 27 54.1 +0.8**
OJC Ojcow 55.96 314 *e*P **P 14 27 56.2 +0.8**
PSZ Piszkesteto 56.05 311 *e*P **P 14 27 55.4 -0.7**
comp=Z,11nm,0.9s,mb4.9
PSZ Piszkesteto 56.05 311⇓ *e*P **P 14 27 56.0 0.0**
PSZ Piszkesteto 56.05 311⇑ *i*P **P 14 27 56.3 +0.3**
KMBO Kilima Mbogo 56.59 249 *i* P **P 14 28 03.0 +2.6**
KMBO pmax pmax
comp=Z,1.0nm,0.5s
KMBO Kilima Mbogo 56.59 249 P **P 14 28 01.6 +1.3**
comp=Z,1.0nm,0.5s,mb4.1,baz=54,slow=14,SNR=3.9
KMBO LR LR 14 51 01.2
comp=Z,162nm,20.0s,MS4.1,baz=92,slow=35
BUD Budapest 56.67 311⇓ *e*P **P 14 28 01.5 +1.0**
VYHS Vyhne 56.71 312 *e*P **P 14 28 00.6 -0.1**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.5
VYHS Vyhne 56.71 312 *e*P **P 14 28 00.6 -0.1**
comp=Z,5.5nm,1.1s,mb4.5
OKC Ostrava-Krasne 57.05 313 *e*P **P 14 28 03.3 +0.2**
PKSM Moragy 57.06 309⇓ *i*P **P 14 28 03.4 +0.1**
MORC Moravsky Berou 57.45 313 *e*P **P 14 28 05.7 -0.2**
comp=Z,8.6nm,0.8s,mb4.8
MORC Moravsky Berou 57.45 313⇑ *i*P **P 14 28 06.2 +0.3**
MODS Modra-Piesok 57.75 312 *e*P **P 14 28 07.9 -0.2**
MODS Modra-Piesok 57.75 312 *e*P **P 14 28 07.8 -0.3**
ZST Bratislava 57.89 312 *e*P **P 14 28 08.6 -0.5**
ZST pmax pmax
comp=Z,9.0nm,0.7s,mb4.9
ZST MLR MLR
comp=Z,100nm,15.9s,MS4.0
ZST Bratislava 57.89 312 *e*P **P 14 28 08.6 -0.5**
comp=Z,8.6nm,0.7s,mb4.9
ZST LR LR
comp=Z,100nm,15.9s,MS4.0
FITZ Fitzroy Crossi 57.90 137 *e*P **P 14 28 08.9 -0.5**
comp=Z,5.5nm,0.8s,mb4.6
VRAC Vranov 58.10 313⇑ *i*P **P 14 28 11.2 +0.6**
KSP Ksiaz 58.15 315 *e*P **P 14 28 10.7 -0.1**
DPC Dobruska-Polom 58.18 314 *e*P **P 14 28 11.3 +0.3**
SOP Sopron 58.31 311⇑ *e*P **P 14 28 12.0 0.0**
UPC Upice 58.36 314 *e*P **P 14 28 12.7 +0.4**
CONA Conrad Observa 58.75 311 *i* P **P 14 28 15.1 0.0**
comp=Z,29nm,1.0s,mb5.3,SNR=18
CSNA Conrad Observa 58.75 311⇑ *i*P **P 14 28 15.1 0.0**
comp=Z,26nm,1.0s,mb5.2
TREC Trest 58.83 313 *e*P **P 14 28 15.5 -0.1**
ARSA Arzberg 59.06 311 *i* P **P 14 28 17.1 -0.1**
comp=Z,14nm,1.1s,mb4.9,SNR=9.2
PVCC Panska Ves 59.27 315 *e*P **P 14 28 19.3 +0.6**
PERS Pernice 59.43 310 *i* P **P 14 28 19.5 -0.3**
SOKA Soboth 59.48 310⇑ *i*P **P 14 28 19.6 -0.6**
comp=Z,22nm,1.0s,mb5.1
BOJS Bojanci 59.51 309 *i* P **P 14 28 19.9 -0.4**
TIP Timpagrande 59.56 301 *e*P **P 14 28 20.0 -0.9**
comp=Z,30nm,1.2s,mb5.2
BRG Berggiesshubel 59.63 315 *e*P **P 14 28 21.2 +0.1**
BRG pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BRG Berggiesshubel 59.63 315 *e*P **P 14 28 20.7 -0.4**
comp=Z,10.0nm,0.9s,mb4.8
BRG Berggiesshubel 59.63 315 *e*P **P 14 28 21.2 +0.1**
comp=Z,9.5nm,0.9s,mb4.8
MOA Molln 59.82 311 *i* P **P 14 28 22.3 -0.2**
comp=Z,18nm,0.8s,mb5.1,SNR=9.5
LJU Ljubljana 59.92 309 *i* P **P 14 28 23.5 +0.3**
FBE Freiberg 59.99 315 *e*P **P 14 28 24.3 +0.7**
comp=Z,16nm,1.1s,mb5.0
GEC2 GERESS Array S 60.05 313 *e*P **P 14 28 23.8 -0.3**
GEC2 pmax pmax
comp=Z,22nm,1.1s,mb5.1
GEC2 GERESS Array S 60.05 313 *e*P **P 14 28 23.8 -0.3**
comp=Z,22nm,1.1s,mb5.1
GERES GERESS Array B 60.05 313 P **P 14 28 24.1 0.0**
comp=Z,9.8nm,0.8s,mb4.9,baz=86,slow=6.8,SNR=37
KHC Kasperske Hory 60.09 313 *e*P **P 14 28 24.3 0.0**
FG4 Candela 60.10 304 P **P 14 28 24.9 +0.4**
FG4 pmax pmax
comp=Z,60nm,0.8s,mb5.7
FG4 Candela 60.10 304 P **P 14 28 24.9 +0.4**
comp=Z,60nm,0.8s,mb5.7
CLL Collm 60.16 316 *e*P **P 14 28 23.0 -1.8**
CLL *i* *PP pP 14 28 27.3 +1.6
CLL pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
CLL MLR MLR
comp=Z,300nm,17.3s,MS4.5
CLL Collm 60.16 316 *e*P **P 14 28 23.0 -1.8**
comp=Z,5.0nm,1.0s,mb4.5
CLL *i* pP pP 14 28 27.3 +1.6
CLL LR LR
comp=Z,300nm,17.3s,MS4.5
CLL Collm 60.16 316 *e*P **P 14 28 23.0 -1.8**
CLL *i* Pmax 14 28 27.3
comp=Z,5.0nm,1.0s
CLL *ex* x 14 28 30.0
CLL *i* sP sP 14 28 42.2 +16
JAVS Javornik 60.27 309 *i* P **P 14 28 24.9 -0.6**
NB2 NORSAR Subarra 60.27 327 P **P 14 28 24.3 -1.0**
comp=Z,14nm,1.1s,mb4.9,baz=86,slow=6.5
NOA NORSAR Array B 60.27 327 P **P 14 28 23.6 -1.8**
comp=Z,4.8nm,0.8s,mb4.6,baz=86,slow=6.8,SNR=9.6
NOA LR LR 14 54 59.3
comp=Z,162nm,18.9s,MS4.2,baz=50,slow=37
VOY Vojsko 60.36 309 *e*P **P 14 28 25.8 -0.4**
BILL Bilibino 60.48 25⇑ *e*P **P 14 28 28.1 +1.4**
BILL pmax pmax
comp=Z,19nm,1.6s,mb4.9
BILL MLR MLR
comp=Z,200nm,24.0s,MS4.2
BILL Bilibino 60.48 25 *e*P **P 14 28 27.7 +1.1**
comp=Z,8.8nm,0.8s,mb4.8
WET Wettzell 60.54 313 *e*P **P 14 28 27.2 -0.2**
WET pmax pmax
comp=Z,14nm,1.0s,mb5.0
WET Wettzell 60.54 313 *e*P **P 14 28 27.2 -0.2**
comp=Z,14nm,1.0s,mb5.0
TANN Tannenbergstha 60.62 315 *e*P **P 14 28 28.0 +0.1**
comp=Z,7.0nm,1.0s,mb4.8
NKC Novy Kostel 60.66 314 *e*P **P 14 28 29.0 +0.8**
PTCC Patocco-Chiusa 60.66 310 P **P 14 28 28.9 +0.6**
comp=Z,5.2nm,0.7s,mb4.8
WERN Wernitzgruen 60.70 314 *e*P **P 14 28 28.5 +0.1**
comp=Z,19nm,1.7s,mb5.0
WERD Werda 60.72 315 *e*P **P 14 28 27.7 -0.9**
comp=Z,7.0nm,0.8s,mb4.8
ROTZ Rotzenmuhle 60.88 314 *e*P **P 14 28 29.9 +0.2**
comp=Z,14nm,1.0s,mb5.0
MANZ Manzenberg 60.91 314 *e*P **P 14 28 30.1 +0.2**
comp=Z,11nm,1.3s,mb4.8
FVI Forni Avoltri 61.02 310 P **P 14 28 29.8 -0.9**
FVI pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
FVI Forni Avoltri 61.02 310 P **P 14 28 29.8 -0.9**
comp=Z,5.0nm,0.7s,mb4.8
INTR Introdacqua 61.10 305 P **P 14 28 32.2 +0.8**
MOX Moxa 61.12 315 *e*P **P 14 28 31.9 +0.6**
comp=Z,8.0nm,1.1s,mb4.8
MOX Moxa 61.12 315 *e*P **P 14 28 31.9 +0.6**
MOX pmax pmax
comp=Z,8.0nm,1.1s,mb4.8
MOX Moxa 61.12 315 *e*P **P 14 28 30.8 -0.5**
comp=Z,7.0nm,1.0s,mb4.8
TERO Teramo 61.20 306 P **P 14 28 30.1 -1.9**
AQU L'Aquila 61.40 305 *e*P **P 14 28 33.4 0.0**
AQU pmax pmax
comp=Z,30nm,1.1s,mb5.3
AQU L'Aquila 61.40 305 *e*P **P 14 28 33.4 0.0**
comp=Z,30nm,1.1s,mb5.3
BSEG Bad Segeberg 61.44 319 *e*P **P 14 28 33.3 -0.1**
comp=Z,20nm,1.0s,mb5.2
GRA1 Grafenberg Arr 61.52 314 *e*P **P 14 28 34.5 +0.4**
comp=Z,14nm,1.1s,mb5.0
GRA1 LR LR
comp=Z,300nm,18.1s,MS4.5
GRF Grafenberg Arr 61.52 314 *e*P **P 14 28 34.5 +0.4**
GRF pmax pmax
comp=Z,14nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,300nm,18.1s,MS4.5
GRF Grafenberg Arr 61.52 314 *e*P **P 14 28 34.5 +0.4**
GRF pmax pmax
comp=Z,14nm,1.1s,mb5.0
GRF MLR MLR
comp=Z,300nm,18.1s,MS4.5
GRF Grafenberg Arr 61.52 314 *e*P **P 14 28 34.5 +0.4**
comp=Z,14nm,1.1s,mb5.0
GRF *e*L 14 57 39.3
comp=Z,315nm,18.1s
SNTG Esanatoglia 61.55 306 P **P 14 28 34.1 -0.2**
comp=Z,26nm,0.8s,mb5.4
WTTA Wattenberg 61.67 311⇑ *i*P **P 14 28 34.5 -0.6**
comp=Z,23nm,1.0s,mb5.3,SNR=8.4
WTTA Wattenberg 61.67 311⇑ *i*P **P 14 28 34.5 -0.6**
WTTA pmax pmax
comp=Z,23nm,1.0s,mb5.3
WATA Walderalm 61.70 311⇑ *i*P **P 14 28 34.5 -0.9**
comp=Z,11nm,1.0s,mb4.9,SNR=6.8
WATA Walderalm 61.70 311⇑ *i*P **P 14 28 34.5 -0.8**
WATA pmax pmax
comp=Z,11nm,1.0s,mb4.9
CLZ Clausthal 61.71 316 *e*P **P 14 28 35.0 -0.3**
CLZ pmax pmax
comp=Z,22nm,1.2s,mb5.2
CLZ Clausthal 61.71 316 *e*P **P 14 28 35.0 -0.3**
comp=Z,22nm,1.2s,mb5.2
FUR Furstenfeldbru 61.75 312 *e*P **P 14 28 35.4 -0.2**
FUR pmax pmax
comp=Z,24nm,1.1s,mb5.2
FUR Furstenfeldbru 61.75 312 *e*P **P 14 28 35.4 -0.2**
comp=Z,24nm,1.1s,mb5.2
MURB Monte Urbino 61.84 307 P **P 14 28 37.4 +1.1**
CTI Castel Tesino 61.89 310 P **P 14 28 36.3 -0.3**
CTI pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
CTI Castel Tesino 61.89 310 P **P 14 28 36.3 -0.3**
comp=Z,9.9nm,0.7s,mb5.0
SQTA Sankt Quirin 61.97 311⇑ *i*P **P 14 28 36.2 -0.9**
comp=Z,8.8nm,0.9s,mb4.9,SNR=10
SQTA Sankt Quirin 61.97 311⇑ *i*P **P 14 28 36.2 -0.9**
SQTA pmax pmax
comp=Z,9.0nm,0.9s,mb4.9
BADI Badiali 61.99 307 P **P 14 28 38.0 +0.7**
CDCA Citt' di Caste 62.01 307 P **P 14 28 38.1 +0.6**
comp=Z,21nm,1.1s,mb5.2
MOTA Moosalm 62.02 311⇑ *i*P **P 14 28 36.4 -1.0**
comp=Z,12nm,0.9s,mb5.0,SNR=14
MOTA Moosalm 62.02 311⇑ *i*P **P 14 28 36.4 -1.0**
MOTA pmax pmax
comp=Z,12nm,0.9s,mb5.0
UBBA Unterbreizbach 62.11 315 *e*P **P 14 28 37.7 -0.3**
comp=Z,3.0nm,1.0s,mb4.4
SFI Santa Sofia 62.19 307 P **P 14 28 39.5 +0.8**
SFI pmax pmax
comp=Z,71nm,1.3s,mb5.6
SFI Santa Sofia 62.19 307 P **P 14 28 39.5 +0.8**
comp=Z,71nm,1.3s,mb5.6
RETA Reutte 62.22 312⇑ *i*P **P 14 28 38.1 -0.7**
comp=Z,17nm,1.2s,mb5.1
FETA Feichten 62.33 311⇑ *i*P **P 14 28 38.7 -0.9**
comp=Z,17nm,1.0s,mb5.1,SNR=8.1
VMG Vicchio 62.39 308 P **P 14 28 41.1 +1.1**
comp=Z,123nm,0.5s
SEI Scarperia 62.50 308 P **P 14 28 42.3 +1.5**
comp=Z,94nm,0.7s,mb6.0
BRMO Bormio 62.68 310 P **P 14 28 41.3 -0.6**
comp=Z,7.4nm,1.0s,mb4.8
DAVA Damuels 62.84 311⇑ *i*P **P 14 28 42.3 -0.7**
comp=Z,34nm,1.2s,mb5.3,SNR=9.9
GSCL Gusciola 62.98 308 P **P 14 28 45.0 +1.1**
comp=Z,33nm,0.8s,mb5.5
STU Stuttgart 63.00 313 *e*P **P 14 28 44.2 +0.2**
comp=Z,18nm,1.1s,mb5.1
VLC Villacollemand 63.16 308 P **P 14 28 46.3 +1.2**
comp=Z,28nm,1.0s,mb5.3
IBBN Ibbenburen 63.22 317 *e*P **P 14 28 45.6 +0.2**
comp=Z,26nm,1.2s,mb5.2
BFO Black Forest 63.65 313 *e*P **P 14 28 48.8 +0.5**
BFO pmax pmax
comp=Z,12nm,1.5s,mb4.7
BFO Black Forest 63.65 313 *e*P **P 14 28 48.8 +0.5**
comp=Z,12nm,1.5s,mb4.7
BUG Bochum--Univer 63.69 316 *e*P **P 14 28 48.5 0.0**
comp=Z,18nm,1.1s,mb5.0
VAI Varese 63.90 310 P **P 14 28 49.3 -0.7**
VAI pmax pmax
comp=Z,39nm,1.0s,mb5.4
VAI Varese 63.90 310 P **P 14 28 49.3 -0.7**
comp=Z,39nm,1.0s,mb5.4
CDF Champ du Feu 64.32 313 *e*P **P 14 28 51.9 -0.8**
comp=Z,29nm,1.2s,mb4.9
CDF Champ du Feu 64.32 313 *e*P **P 14 28 51.9 -0.8**
CDF pmax pmax
comp=Z,14nm,1.2s,mb4.9
CDF Champ du Feu 64.32 313 *e*P **P 14 28 51.9 -0.8**
comp=Z,14nm,1.2s,mb4.9
PGF Pioggiola 64.53 306 *e*P **P 14 28 53.2 -1.0**
comp=Z,16nm,0.7s,mb4.9
PGF Pioggiola 64.53 306 *e*P **P 14 28 53.2 -1.0**
PGF pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
PGF Pioggiola 64.53 306 *e*P **P 14 28 53.2 -1.0**
comp=Z,8.0nm,0.7s,mb4.9
MEM Membach 64.64 316 P **P 14 28 56.0 +1.3**
comp=Z,6.3nm,1.4s,mb4.5
HINF Hinteralfeld 64.73 313 *e*P **P 14 28 54.5 -0.9**
comp=Z,42nm,1.3s,mb5.0
HINF Hinteralfeld 64.73 313 *e*P **P 14 28 54.5 -0.9**
HINF pmax pmax
comp=Z,21nm,1.3s,mb5.0
HINF Hinteralfeld 64.73 313 *e*P **P 14 28 54.5 -0.9**
comp=Z,21nm,1.3s,mb5.0
WLF Walferdange 64.76 315 *e*P **P 14 28 56.1 +0.5**
WLF pmax pmax
comp=Z,17nm,1.1s,mb5.0
WLF Walferdange 64.76 315 *e*P **P 14 28 56.1 +0.6**
comp=Z,17nm,1.1s,mb5.0
WLF Walferdange 64.76 315 P **P 14 28 56.5 +1.0**
comp=Z,14nm,1.4s,mb4.8
WLF Walferdange 64.76 315 *e*P **P 14 28 56.5 +0.9**
comp=Z,20nm,1.1s,mb5.1
WRA Warramunga Arr 64.80 132 P **P 14 28 56.1 0.0**
WRA ⇑*e* 14 57 46.9
WRA Warramunga Arr 64.80 132 P **P 14 28 56.1 0.0**
comp=Z,19nm,0.6s,mb5.3,baz=324,slow=6.7,SNR=312
WRA PKP2bc 14 57 46.9
comp=Z,0.6nm,0.8s,baz=142,slow=2.5,SNR=5.1
WRAB Tennant Creek 64.80 132 P **P 14 28 56.0 -0.2**
comp=Z,263nm,0.6s,mb6.4,SNR=36
WRAB Tennant Creek 64.80 132 *d i*P **P 14 28 56.3 +0.1**
WRAB Tennant Creek 64.80 132 *e*P **P 14 28 56.1 -0.1**
comp=Z,25nm,0.6s,mb5.4
WB2 Warramunga Arr 64.81 132 *e*P **P 14 28 55.2 -1.0**
HAU Haudompre 65.02 313 *e*P **P 14 28 56.4 -0.9**
comp=Z,26nm,1.0s,mb4.9
HAU *e*MLR MLR
comp=Z,327nm,20.8s,MS4.2
HAU Haudompre 65.02 313 *e*P **P 14 28 56.4 -0.9**
HAU pmax pmax
comp=Z,13nm,1.0s,mb4.9
HAU MLR MLR
comp=Z,330nm,20.8s,MS4.5
HAU Haudompre 65.02 313 *e*P **P 14 28 56.4 -0.9**
comp=Z,13nm,1.0s,mb4.9
HAU LR LR

comp=Z,330nm,20.8s,MS4.5
BCLA Clavier 65.12 316 P **P 14 28 57.7 -0.2**
DOI San Damiano 65.27 309 P **P 14 28 58.5 -0.5**
DOI pmax pmax
comp=Z,4.0nm,0.2s,mb5.1
DOI San Damiano 65.27 309 P **P 14 28 58.5 -0.5**
comp=Z,3.6nm,0.2s,mb5.1
SBF Sospel 65.30 308 *eP* **P 14 28 58.4 -0.8**
comp=Z,59nm,0.9s,mb5.3
SBF Sospel 65.30 308 *eP* **P 14 28 58.4 -0.8**
SBF pmax pmax
comp=Z,30nm,0.9s,mb5.3
SBF Sospel 65.30 308 *eP* **P 14 28 58.4 -0.8**
comp=Z,30nm,0.9s,mb5.3
LPG La Plagne 65.36 310 *eP* **P 14 28 58.9 -0.6**
comp=Z,30nm,0.8s,mb5.0
LPG La Plagne 65.36 310 *eP* **P 14 28 58.9 -0.6**
LPG pmax pmax
comp=Z,15nm,0.8s,mb5.1
LPG La Plagne 65.36 310 *eP* **P 14 28 58.9 -0.6**
comp=Z,15nm,0.8s,mb5.1
LPL La Plagne 65.37 310 *eP* **P 14 28 59.0 -0.6**
comp=Z,50nm,0.9s,mb5.2
LPL La Plagne 65.37 310 *eP* **P 14 28 59.0 -0.6**
LPL pmax pmax
comp=Z,25nm,0.9s,mb5.2
LPL La Plagne 65.37 310 *eP* **P 14 28 59.0 -0.6**
comp=Z,25nm,0.9s,mb5.2
GIVF Givet 65.49 315 *eP* **P 14 28 59.9 -0.4**
BNI Bardonecchia 65.52 310 *eP* **P 14 28 59.0 -1.6**
BNI pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BNI Bardonecchia 65.52 310 *eP* **P 14 28 59.0 -1.6**
comp=Z,7.2nm,0.8s,mb4.8
CABF La Chapelle 65.53 311 *eP* **P 14 28 59.5 -1.1**
MBDF Montbardon 65.54 309 *eP* **P 14 29 00.0 -0.7**
comp=Z,26nm,0.7s,mb5.1
MBDF Montbardon 65.54 309 *eP* **P 14 29 00.0 -0.7**
MBDF pmax pmax
comp=Z,13nm,0.7s,mb5.1
MBDF Montbardon 65.54 309 *eP* **P 14 29 00.0 -0.7**
comp=Z,13nm,0.7s,mb5.1
DOU Dourbes 65.64 315 P **P 14 29 01.4 +0.2**
MEZF Maizieres J'vi 65.74 314 *eP* **P 14 29 01.0 -0.9**
BAIF Baives 65.89 315 *eP* **P 14 29 01.5 -1.4**
comp=Z,15nm,1.1s,mb4.7
BAIF Baives 65.89 315 *eP* **P 14 29 01.5 -1.4**
BAIF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
BAIF Baives 65.89 315 *eP* **P 14 29 01.5 -1.4**
comp=Z,7.7nm,1.1s,mb4.7
FRF La Foret Royal 65.93 308 *eP* **P 14 29 02.2 -1.1**
comp=Z,35nm,0.9s,mb5.1
FRF La Foret Royal 65.93 308 *eP* **P 14 29 02.2 -1.1**
FRF pmax pmax
comp=Z,18nm,0.9s,mb5.1
FRF La Foret Royal 65.93 308 *eP* **P 14 29 02.2 -1.1**
comp=Z,18nm,0.9s,mb5.1
LMR La Mourre 66.09 308 *eP* **P 14 29 03.3 -1.0**
comp=Z,27nm,1.0s,mb4.9
LMR La Mourre 66.09 308 *eP* **P 14 29 03.3 -1.0**
LMR pmax pmax
comp=Z,13nm,1.0s,mb4.9
LMR La Mourre 66.09 308 *eP* **P 14 29 03.3 -1.0**
comp=Z,13nm,1.0s,mb4.9
ORIF Oris-en-Rattie 66.10 310 *eP* **P 14 29 03.3 -1.1**
comp=Z,5.2nm,0.6s,mb4.4
ORIF *e*MLR MLR
comp=Z,260nm,21.2s,MS4.1
ORIF Oris-en-Rattie 66.10 310 *eP* **P 14 29 03.3 -1.1**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
ORIF Oris-en-Rattie 66.10 310 *eP* **P 14 29 03.3 -1.1**
comp=Z,2.6nm,0.6s,mb4.4
KEST Kesra 66.14 299 P **P 14 29 04.3 -0.5**
comp=Z,3.2nm,0.8s,mb4.4,baz=240,slow=6.3,SNR=7.4
KEST LR LR 15 04 12.7
comp=Z,38nm,21.7s,MS3.6,baz=249,slow=42
SMRF Simiane la Rot 66.57 309 *eP* **P 14 29 06.4 -1.0**
comp=Z,32nm,1.0s,mb5.0
SMRF Simiane la Rot 66.57 309 *eP* **P 14 29 06.4 -1.0**
comp=Z,32nm,1.0s,mb5.3
LOR Lormes 66.83 313 *eP* **P 14 29 07.9 -1.1**
comp=Z,24nm,1.2s,mb4.8
LOR *e*MLR MLR
comp=Z,220nm,20.2s,MS4.1
LOR Lormes 66.83 313 *eP* **P 14 29 07.9 -1.1**
LOR pmax pmax
comp=Z,12nm,1.2s,mb4.8
LOR MLR MLR
comp=Z,220nm,20.3s,MS4.4
LOR Lormes 66.83 313 *eP* **P 14 29 07.9 -1.1**
comp=Z,12nm,1.2s,mb4.8
LOR LR LR
comp=Z,220nm,20.3s,MS4.4
VIVF Saint-Julien-l 66.94 310 *eP* **P 14 29 08.5 -1.3**
comp=Z,33nm,1.1s,mb5.0
VIVF Saint-Julien-l 66.94 310 *eP* **P 14 29 08.5 -1.3**
VIVF pmax pmax
comp=Z,16nm,1.1s,mb5.0
VIVF Saint-Julien-l 66.94 310 *eP* **P 14 29 08.5 -1.3**
comp=Z,16nm,1.1s,mb5.0
SMF Signal de Mont 67.01 312 *eP* **P 14 29 09.2 -0.9**
comp=Z,42nm,1.1s,mb5.1
SMF Signal de Mont 67.01 312 *eP* **P 14 29 09.2 -0.9**
SMF pmax pmax
comp=Z,21nm,1.1s,mb5.1
SMF Signal de Mont 67.01 312 *eP* **P 14 29 09.2 -0.9**
comp=Z,21nm,1.1s,mb5.1
SSF Saint Saulge 67.12 312 *eP* **P 14 29 09.9 -0.9**
comp=Z,38nm,1.1s,mb5.0
SSF Saint Saulge 67.12 312 *eP* **P 14 29 09.9 -0.9**
SSF pmax pmax
comp=Z,19nm,1.1s,mb5.0
SSF Saint Saulge 67.12 312 *eP* **P 14 29 09.9 -0.9**
comp=Z,19nm,1.1s,mb5.0
ASAR Alice Springs 67.17 135 P **P 14 29 11.4 +0.1**
ASAR ⇑*e* 14 57 40.4
ASAR Alice Springs 67.17 135 P **P 14 29 11.4 +0.1**
comp=Z,14nm,0.6s,mb5.2,baz=315,slow=5.8,SNR=231
ASAR PKP2bc 14 57 40.4
comp=Z,0.6nm,1.1s,baz=142,slow=4.7,SNR=3.8
AVF Avril sur Loir 67.30 312 *eP* **P 14 29 10.9 -1.0**
comp=Z,21nm,1.0s,mb4.8
AVF Avril sur Loir 67.30 312 *eP* **P 14 29 10.9 -1.0**
AVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
AVF Avril sur Loir 67.30 312 *eP* **P 14 29 10.9 -1.0**
comp=Z,10nm,1.0s,mb4.8
BGF Bois d'Agland 67.69 312 *eP* **P 14 29 13.7 -0.8**
comp=Z,16nm,0.9s,mb4.7
BGF Bois d'Agland 67.69 312 *eP* **P 14 29 13.7 -0.8**
BGF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BGF Bois d'Agland 67.69 312 *eP* **P 14 29 13.7 -0.8**
comp=Z,7.9nm,0.9s,mb4.7
LASF Ste Croix 67.73 309 *eP* **P 14 29 13.5 -1.2**
comp=Z,22nm,0.8s,mb4.9
TCF Toulx Ste Croi 68.19 312 *eP* **P 14 29 16.7 -0.9**
comp=Z,34nm,1.0s,mb5.0
TCF Toulx Ste Croi 68.19 312 *eP* **P 14 29 16.7 -0.9**
TCF pmax pmax
comp=Z,17nm,1.0s,mb5.0
TCF Toulx Ste Croi 68.19 312 *eP* **P 14 29 16.7 -0.9**
comp=Z,17nm,1.0s,mb5.0
CAF Calviac 68.70 310 *eP* **P 14 29 19.7 -1.1**
comp=Z,18nm,1.0s,mb4.7
CAF Calviac 68.70 310 *eP* **P 14 29 19.7 -1.1**
CAF pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
CAF Calviac 68.70 310 *eP* **P 14 29 19.7 -1.1**
comp=Z,9.0nm,1.0s,mb4.7
RJF Les Rejaudoux 68.95 311 *eP* **P 14 29 21.1 -1.3**
comp=Z,44nm,1.1s,mb5.0
RJF *e*MLR MLR
comp=Z,256nm,21.8s,MS4.1
RJF Les Rejaudoux 68.95 311 *eP* **P 14 29 21.1 -1.3**
RJF pmax pmax
comp=Z,22nm,1.1s,mb5.0
RJF MLR MLR
comp=Z,260nm,21.8s,MS4.4
RJF Les Rejaudoux 68.95 311 *eP* **P 14 29 21.1 -1.3**
comp=Z,22nm,1.1s,mb5.0
RJF LR LR
comp=Z,260nm,21.8s,MS4.4
LDF La Druitiere 69.02 315 *eP* **P 14 29 21.4 -1.3**
comp=Z,58nm,1.4s,mb5.0
LDF La Druitiere 69.02 315 *eP* **P 14 29 21.4 -1.3**
LDF pmax pmax
comp=Z,29nm,1.4s,mb5.0
LDF La Druitiere 69.02 315 *eP* **P 14 29 21.4 -1.3**
comp=Z,29nm,1.4s,mb5.0
MTLF Montolieu 69.08 309 *eP* **P 14 29 22.2 -1.0**
comp=Z,27nm,1.1s,mb4.8
MTLF Montolieu 69.08 309 *eP* **P 14 29 22.2 -1.0**
MTLF pmax pmax
comp=Z,14nm,1.1s,mb4.8
MTLF Montolieu 69.08 309 *eP* **P 14 29 22.2 -1.0**
comp=Z,14nm,1.1s,mb4.8
FLN La Foliniere 69.19 315 *eP* **P 14 29 22.6 -1.2**
FLN *e*MLR MLR
comp=Z,268nm,22.0s,MS4.1
FLN La Foliniere 69.19 315 *eP* **P 14 29 22.6 -1.2**
FLN LR LR
comp=Z,270nm,22.0s,MS4.4
GRR Gorron 69.54 315 *eP* **P 14 29 25.1 -0.9**
comp=Z,16nm,0.9s,mb4.6
GRR Gorron 69.54 315 *eP* **P 14 29 25.1 -0.9**
GRR pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRR Gorron 69.54 315 *eP* **P 14 29 25.1 -0.9**
comp=Z,7.9nm,0.9s,mb4.6
LFF La Frestale 69.59 311 *eP* **P 14 29 25.2 -1.1**
MFF Saint Martin d 69.65 313 *eP* **P 14 29 25.3 -1.4**
comp=Z,53nm,1.5s,mb4.9
MFF Saint Martin d 69.65 313 *eP* **P 14 29 25.3 -1.4**
MFF pmax pmax
comp=Z,26nm,1.5s,mb4.9
MFF Saint Martin d 69.65 313 *eP* **P 14 29 25.3 -1.4**
comp=Z,26nm,1.5s,mb4.9
EPF Esparros 70.48 309 *eP* **P 14 29 30.7 -1.2**
ROSF Rostrenen 71.08 315 *eP* **P 14 29 34.0 -1.4**
comp=Z,63nm,1.2s,mb5.1
ROSF Rostrenen 71.08 315 *eP* **P 14 29 34.0 -1.4**
ROSF pmax pmax
comp=Z,32nm,1.2s,mb5.1
ROSF Rostrenen 71.08 315 *eP* **P 14 29 34.0 -1.4**
comp=Z,32nm,1.2s,mb5.1
ETSF Etsaut 71.15 309 *eP* **P 14 29 34.6 -1.3**
comp=Z,17nm,0.8s,mb4.7
ETSF Etsaut 71.15 309 *eP* **P 14 29 34.6 -1.3**
ETSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
ETSF Etsaut 71.15 309 *eP* **P 14 29 34.6 -1.3**
comp=Z,8.4nm,0.8s,mb4.7
QUIF Quistinic 71.16 315 *eP* **P 14 29 34.4 -1.5**
SJPF Ste Jean 71.53 309 *eP* **P 14 29 36.6 -1.6**
CTA Charters Tower 73.30 124 *eP* **P 14 29 49.2 +0.2**
comp=Z,5.7nm,0.9s,mb4.5
CTA Charters Tower 73.30 124 *eP* **P 14 29 49.2 +0.2**
CTA pmax pmax
comp=Z,6.0nm,0.9s
ESDC Sonseca Array 74.71 307 P **P 14 29 56.6 -0.6**
comp=Z,1.4nm,0.6s,mb4.0,baz=58,slow=4.7,SNR=8.7
ESDC LR LR 15 07 02.2
comp=Z,102nm,19.2s,MS4.1,baz=70,slow=39
IMA2 Indian Mountai 75.73 22 *eP* **P 14 30 03.3 +0.8**
TTA Tatalina 76.73 25 *eP* **P 14 30 10.1 +1.9**
TTA pmax pmax
comp=Z,30nm,1.7s,mb5.0
TTA Tatalina 76.73 25 *eP* **P 14 30 10.1 +1.9**
comp=Z,30nm,1.7s,mb5.0
STKA Stephens Creek 77.76 136 *eP* **P 14 30 14.2 -0.2**
comp=Z,5.9nm,0.9s,mb4.5
STKA Stephens Creek 77.76 136 P **P 14 30 13.5 -0.9**
comp=Z,6.6nm,0.7s,mb4.7,baz=339,slow=6.5,SNR=7.8
STKA LR LR 15 04 48.1
comp=Z,186nm,21.1s,MS4.4,baz=302,slow=36
SVW2 Sparrevohn 77.95 26 *eP* **P 14 30 15.0 -0.1**
INK Inuvik 79.78 15 *eP* **P 14 30 24.8 -0.2**
comp=Z,325nm,0.9s
PMR Palmer 80.10 24 *eP* **P 14 30 27.2 +0.3**
PMR pmax pmax
comp=Z,17nm,1.0s,mb4.9
PMR MLR MLR
comp=Z,100nm,21.0s,MS4.1
PMR Palmer 80.10 24 *eP* **P 14 30 27.2 +0.3**
comp=Z,16nm,1.0s,mb4.9
PMR LR LR
comp=Z,100nm,21.0s,MS4.1
EGAK Eagle 80.52 19 *eP* **P 14 30 28.7 -0.3**
comp=Z,7.4nm,1.0s,mb4.6
TORD Torodi Ar. Bea 81.08 280 P **P 14 30 32.1 -0.9**
comp=Z,2.3nm,0.7s,mb4.2,baz=60,slow=4.1,SNR=24
TORD LR LR 15 10 33.9
comp=Z,107nm,18.1s,MS4.2,baz=85,slow=39
KDAK Kodiak Island 81.17 28 LR LR 15 10 52.4
comp=Z,125nm,19.2s,MS4.3,baz=318,slow=39
DAWY Dawson 81.56 19 *eP* **P 14 30 34.7 +0.1**
BOSA Boshof 82.11 232 P **P 14 30 38.1 +0.1**
comp=Z,4.4nm,0.7s,mb4.5,baz=51,slow=10,SNR=4.7
BOSA LR LR 15 04 43.4
comp=Z,180nm,19.6s,MS4.4,baz=278,slow=34
ARMA Armidale 83.43 129 *eP* **P 14 30 47.8 +3.0**
SKAG Skagway 86.35 21 *eP* **P 14 31 01.1 +2.0**
comp=Z,9.8nm,0.9s,mb5.0
YKA Yellowknife Ar 88.63 10 P **P 14 31 09.8 -0.3**
YKA PKKPbc PKKPbc 14 48 49.7 -2.3
YKA Yellowknife Ar 88.63 10 P **P 14 31 09.8 -0.3**
comp=Z,1.2nm,0.9s,mb4.2,baz=337,slow=4.8,SNR=14
YKA PKKPbc PKKPbc 14 48 49.7 -2.3
comp=Z,0.3nm,0.8s,baz=159,slow=2.5,SNR=7.4
DBIC Dimbokro 89.74 277 P **P 14 31 15.7 -0.6**
comp=Z,2.9nm,0.7s,mb4.7,baz=75,slow=7.9,SNR=6.6
DBIC LR LR 15 15 54.5
comp=Z,85nm,18.1s,MS4.2,baz=26,slow=39
LIC Lamto 90.10 277 *eP* **P 14 31 15.9 -2.0**
comp=Z,12nm,0.9s,mb4.9
LIC *e*MLR MLR
comp=Z,118nm,21.2s,MS4.0
LIC Lamto 90.10 277 *eP* **P 14 31 15.9 -2.0**
comp=Z,6.3nm,0.9s,mb5.0
LIC LR LR
comp=Z,60nm,21.3s,MS4.0
SCHQ Schefferville 95.41 346 LR LR 15 19 44.0
comp=Z,86nm,20.1s,MS4.2,baz=312,slow=39
NVAR Mina Array Bea 110.01 22 PKiKP PKiKP 14 36 52.0 +2.9
comp=Z,0.4nm,0.7s,baz=318,slow=1.2,SNR=3.6
TXAR Lajitas Array 122.50 12 PKP PKPdf 14 37 12.6 -0.6
comp=Z,0.5nm,0.7s,baz=136,slow=1.6,SNR=6.6
CPUP Villa Florida 149.34 264 *e*PKP2 PKPab 14 38 07.2 -4.1
CPUP Villa Florida 149.34 264 PKPbc PKPbc 14 38 05.5 -1.2
comp=Z,4.3nm,0.6s,baz=77,slow=3.2,SNR=14
SIV San Ignacio 149.44 285 PKPbc PKPbc 14 38 05.0 -2.1
comp=Z,3.6nm,0.8s,baz=87,slow=4.3,SNR=12

ISCJB ***20*** *14:49:01.7±0.8, 2183N±0.10×1430E±.02, h150km, mb3.4/7, Error ellipse: s-maj=29.1km s-min=13.5km az=171.2*
IDC ***20*** *14:49:01.4±11.0, 2178N×143.14E, h136km±109km, mb3.2/8, mb1 3.4/8, mb1mx3.4/19, mbtmp3.2/8, MS3.1/2, Ms1 3.1/2, ms1mx2.6/16, Error ellipse: s-maj=43.0km s-min=16.6km az=81.0*
NEIC ***20*** *14:49:03.2±0.7, 2186N×143.12E, h150km, Error ellipse: s-maj=29.8km s-min=14.1km az=87.0*
ISC 20 14:49:03.3±0.8, 2184N±010×1431E±.02, h150km, n13, σ0§82/11, mb3.4/7, Mariana Islands region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
JHJ Hachijo jima 2 11.61 346 LR LR 14 55 18.3
comp=Z,87nm,20.5s,baz=82,slow=32
JOW Kunigami 14.40 293 LR LR 14 57 22.4
comp=Z,93nm,20.6s,baz=230,slow=35
KSRS Korea Array 20.36 323 P **P 14 53 28.1 +0.2**
0.8nm,0.8s,baz=140,slow=9.4,SNR=5.7
SONM Songino Array 39.18 320 P **P 14 56 16.4 -0.1**
0.3nm,0.5s,mb3.2,baz=126,slow=6.5,SNR=3.8
WRAB Tennant Creek 42.39 192 *eP* **P 14 56 43.2 +0.2**
WB2 Warramunga Arr 42.40 192 P **P 14 56 45.3 +2.2**
WRA Warramunga Arr 42.40 192 P **P 14 56 42.1 -1.0**
1.7nm,1.1s,mb3.6,baz=17,slow=8.6,SNR=4.6
ASAR Alice Springs 46.11 192 P **P 14 57 11.5 -1.0**
0.5nm,0.7s,mb3.3,baz=17,slow=9.3,SNR=9.1
ZALV Zalesovo Beam 54.06 322 P **P 14 58 11.5 -0.6**
0.6nm,0.5s,mb3.5,baz=106,slow=11,SNR=3.1
MKAR Makanchi Array 54.55 313 P **P 14 58 16.2 +0.5**
0.5nm,0.7s,mb3.3,baz=112,slow=6.7,SNR=3.4
YKA Yellowknife Ar 76.36 28 P **P 15 00 35.5 -0.1**
YKA Yellowknife Ar 76.36 28 P **P 15 00 35.5 -0.1**
0.8nm,0.7s,mb3.5,baz=292,slow=5.8,SNR=6.2
NVAR Mina Array Bea 83.11 51 P **P 15 01 12.6 +0.2**
0.6nm,0.8s,mb3.4,baz=274,slow=4.3,SNR=4.0

ISCJB ***20*** *14:50:24.3±1.9, 2360N±0.05×10879W±0.04, h0km±12km, mb4.7/30, MS4.2/13, Error ellipse: s-maj=9.7km s-min=5.1km az=31.6*
BJI ***20*** *14:50:25.2, 2349N×10898W, h15km, mB5.4, mb5.1, Ms5.0, Msz4.5*
GCMT ***20*** *14:50:27.8±0.6, 24.10N×10895W, h25km±1km, MW4.9/70, Moment Tensor Solution. s17,c17; s70,c92; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-0.03±.14; Mθθ-2.62±.12; Mφφ2.64±.12; Mrθ-1.17±.25; Mθφ-0.79±.09; Mφr0.72±.24; Best double couple: M0 3.06900×10¹⁶ NP1:φ36.00000°, δ64.00000°, λ-2.00000°. NP2: φ127.00000°, δ88.00000°, λ-154.00000°. Principal axes: T 3.0270, Plg17.0000°, Azm258.0000°; N 0.0770, Plg63.0000°, Azm130.0000°; P -3.1110, Plg20.0000°, Azm355.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***20*** *14:50:27.8±0.7, 2363N×10883W, h10km, mb4.6/51 Error ellipse: s-maj=9.9km s-min=6.0km az=14.0*
IDC ***20*** *14:50:28.4±0.8, 2407N×10899W, h0km, mb4.1/8, mb1 4.3/11, mb1mx4.2/22, mbtmp4.1/11, ML3.2/2, MS4.0/14, Ms1 4.0/14, ms1mx3.7/31, Error ellipse: s-maj=17.7km s-min=16.8km az=87.0*
MEX ***20*** *14:50:29.3±0.5, 2387N×10882W, h15km, MD5.1*
ISC 20 14:50:27.6±2.1, 2358N±005×10882W±004, h11km±13km, n136, σ1§11/128, mb4.6/30, MS4.2/13, Gulf of California
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
LPIG La Paz 1.45 291 Pn **Pn 14 50 50.8 -2.9**
782nm,0.3s,baz=97,slow=4.6,SNR=310
LPIG Sn **Sn 14 51 06.0 -6.8**
723nm,0.3s,baz=353,slow=15,SNR=41
LPIG La Paz 1.45 291 *i* P **Pn 14 50 50.7 -3.1**
LPIG *i* S **Sn 14 51 06.4 -6.4**
HPIG 4.39 40 *i* P **Pn 14 51 30.2 -4.0**
HPIG *i* S **Sn 14 52 18.5 -6.9**
ANIG Ahuacatlan 4.71 121 *eP* **Pn 14 51 39.4 +0.8**
HSIG 5.74 341 *i* P **Pn 14 51 49.3 -3.4**
HSIG *i* S **Sn 14 52 49.8 -8.8**
SFJM Santa Fe 6.19 119 *eP* **Pn 14 51 55.0 -3.9**
CGIG 6.80 6 *i* P **Pn 14 52 01.1 -6.2**
MMIG Aquila 7.34 135 *i* P **Pn 14 52 13.7 -1.1**
MMIG *i* S **Sn 14 53 36.8 -1.3**
TXAR Lajitas Array 7.36 38 Pn **Pn 14 52 12.5 -2.4**
1.1nm,0.3s,baz=208,slow=14,SNR=34
TXAR Sn **Sn 14 53 30.4 -8.0**
0.8nm,0.3s,baz=246,slow=27,SNR=3.8
TXAR Lg 14 54 09.3
1.3nm,0.3s,baz=213,slow=40,SNR=3.8
MNTX Cornudas Mount 8.64 20 *e*Pn **Pn 14 52 29.0 -3.5**
37nm,1.0s
LNIG Linares 8.64 79 *i* P **Pn 14 52 32.2 -0.4**
LNIG *i* S **Sn 14 54 11.2 +1.2**
TUC Tucson 8.87 349 Pn **Pn 14 52 31.9 -3.7**
9.6nm,0.9s
CAIG El Cayaco 10.33 127 *i* P **Pn 14 52 56.3 +0.6**
PPM Popocatepetl 10.51 113 *i* P **Pn 14 53 00.8 +2.5**
JCT Junction City 10.57 48 *e*Pn **Pn 14 52 58.2 -0.8**
11nm,0.9s
BNM Barren Site 10.70 10 *e*Pn **Pn 14 53 01.1 +0.3**
GLA Glamis 10.81 332 *e*Pn **Pn 14 53 03.0 +0.7**
40nm,1.2s
LPM Los Pinos Moun 10.86 10 *e*Pn **Pn 14 53 02.9 -0.1**
PFO Pinyon Flat Ob 12.03 328 Pn **Pn 14 53 17.4 -1.5**
PFO LR **LR** 14 58 10.0
PFO Pinyon Flat Ob 12.03 328 Pn **Pn 14 53 17.4 -1.5**
0.0nm,0.3s,baz=168,slow=16,SNR=2.6
PFO LR LR 14 58 10.0
comp=Z,186nm,19.9s,baz=325,slow=40
WUAZ Wupatki 12.10 350 *e*Pn **Pn 14 53 20.2 +0.3**
19nm,0.9s
HKT Hockley 13.22 59 *e*Pn **Pn 14 53 33.9 -1.3**
26nm,1.5s
GSC Goldstone 13.58 331 *e*Pn **Pn 14 53 40.7 +0.5**
33nm,1.2s
WMOK Wichita Mounta 14.15 36 *e*Pn **Pn 14 53 45.9 -2.0**
5.9nm,0.8s
SDCO Great Sand Dun 14.40 11 *e*Pn **Pn 14 53 51.9 +0.6**
26nm,1.4s
CCUT Cedar City 14.46 345 *eP* **Pn 14 53 53.1 +1.0**
CCUT *e* 14 54 00.8
PV01 Paradox Valley 14.51 1 *e*Pn **Pn 14 53 54.6 +1.9**
PV01 *e* 14 54 00.4
ARUT Antelope Range 14.70 345 *e*Pn **Pn 14 53 55.9 +0.5**
PV10 Paradox Valley 14.75 359 *e*Pn **Pn 14 53 55.9 -0.1**
TPNV Topopah Spring 14.78 336 *e*Pn **Pn 14 53 58.3 +1.9**
92nm,1.4s
MSU Marysvale 15.15 350 *e*Pn **Pn 14 54 02.0 +0.5**
SRU San Rafael 15.55 355 *e*Pn **Pn 14 54 05.6 -1.1**
15nm,1.3s
SMCO Snowmass 15.63 5 *e*Pn **Pn 14 54 06.7 -1.0**
39nm,1.2s
SMCO *e* 14 54 13.1
TMUT Trail Mountain 15.80 353 Pn **Pn 14 54 09.7 -0.2**
MTUM Tungsten Hills 16.07 331 *e*Pn **Pn 14 54 14.8 +1.3**
TPH Tonopah 16.13 335 *e*Pn **Pn 14 54 15.2 +1.0**
99nm,1.3s
ISCO Idaho Springs 16.39 9 *e*Pn **Pn 14 54 18.1 +0.5**
75nm,1.7s
NLU North Lily Min 16.55 351 *e*Pn **Pn 14 54 19.4 -0.2**
MPU Maple Canyon 16.55 352 *eP* **Pn 14 54 20.6 +1.0**
43nm,1.1s
NVAR Mina Array Bea 16.87 334 Pn **Pn 14 54 24.0 +0.4**
NVAR Mina Array Bea 16.87 334 Pn **Pn 14 54 24.0 +0.4**
0.6nm,0.3s,baz=161,slow=13,SNR=36
DUG Dugway 16.90 349 *e*Pn **Pn 14 54 24.4 +0.4**
50nm,1.3s
DAU Daniels Canyon 16.91 354 *e*Pn **Pn 14 54 23.4 -0.6**
JLU Jordanelle 17.11 353 *e*Pn **Pn 14 54 25.9 -0.7**
MIAR Mount Ida 17.21 47 *eP* **Pn 14 54 30.1 +2.1**
11nm,1.0s
CTU Camp Tracy 17.24 352 *e*Pn **Pn 14 54 27.1 -1.1**
40nm,1.3s
CMB Columbia Colle 17.47 328 *eP* **Pn 14 54 30.6 -0.6**
32nm,1.4s
BGU Big Grassy Mou 17.65 349 *eP* **Pn 14 54 33.5 +0.2**
RWWY Rawlins 18.11 4 *eP* **Pn 14 54 39.5 +0.5**
60nm,1.5s
HWUT Hardware Ranch 18.12 353 *eP* **Pn 14 54 38.6 -0.5**
24nm,1.0s
BMN Battle Mountai 18.23 339 P **Pn 14 54 42.4 +1.9**
27nm,1.1s
PAHR Pah Rah Range 18.39 333 *eP* **Pn 14 54 43.1 +0.6**
54nm,1.6s
HVU Hansel Valley 18.44 351 *eP* **Pn 14 54 43.8 +0.7**
41nm,1.2s
OHCM Honcut 19.03 329 *eP* **Pn 14 54 49.4 -0.8**
AHID Auburn Hatcher 19.22 355 *eP* **Pn 14 54 52.1 -0.5**
3.5nm,0.6s
TEIG Tepich 19.35 96 LR LR 15 02 11.5
comp=Z,303nm,21.6s,baz=355,slow=36
REDW Red Top Meadow 19.80 356 *eP* **Pn 14 54 57.5 -2.0**
102nm,1.7s
SNOW Snow King Moun 19.89 356 *eP* **Pn 14 54 58.8 -1.7**
54nm,1.0s
TPAW Teton Pass 19.93 355 *eP* **Pn 14 55 00.1 -0.9**
52nm,1.3s
LOHW Long Hollow 20.03 356 *eP* **P 14 55 00.4 0.0**
19nm,0.9s
DCID1 Drake Creek 20.05 355 *eP* **P 14 55 02.2 +1.5**
LBCM Butte Creek Ri 20.17 331 P **P 14 55 03.5 +1.5**
MOOW Moose Ponds 20.18 356 *eP* **P 14 55 01.5 -0.5**
72nm,1.5s
IMW Indian Meadow 20.34 356 P **P 14 55 02.0 -1.7**
80nm,1.3s
WVOR Wild Horse Val 20.49 339 *eP* **P 14 55 05.2 -0.3**
67nm,1.2s
LTIM Timbered Crate 20.50 332 P **P 14 55 07.1 +1.5**
WDC Whiskeytown Da 20.50 329 *eP* **P 14 55 04.3 -1.3**
19nm,1.0s
FLWY Flagg Ranch 20.51 356 *eP* **P 14 55 06.8 +1.2**
113nm,1.4s
MOD Modoc 20.63 335 *eP* **P 14 55 07.1 +0.2**
16nm,0.9s
CCM Cathedral Cave 20.83 42 *eP* **P 14 55 11.4 +2.3**
3.9nm,0.8s
RSSD Black Hills 20.86 10 *eP* **P 14 55 09.0 -0.4**
27nm,1.5s
YFT Old Faithful 20.88 356 *eP* **P 14 55 12.2 +2.5**
LASM Arnica Sink 20.89 332 P **P 14 55 11.0 +1.3**
LKWY Lake 20.97 357 P **P 14 55 11.0 +0.4**

47nm,1.1s
YMR Madison River 21.11 356 *e*P **P 14 55 13.1 +1.1**
75nm,1.3s,mb4.9
YNR Norris Junctio 21.14 356 *e*P **P 14 55 12.7 +0.3**
QLMT Earthquake Lak 21.30 355 *e*P **P 14 55 14.6 +0.4**
PLAL Pickwick Lake 21.32 53 *e*P **P 14 55 14.2 -0.3**
11nm,0.8s,mb4.2
MCMT McKenzie Canyo 21.45 352 *e*P **P 14 55 17.2 +1.4**
YBH Yreka Blue Hor 21.49 331 P **P 14 55 14.5 -1.8**
3.8nm,1.0s,mb3.7,baz=78,slow=2.8,SNR=5.6
YBH LR LR 15 04 11.4
comp=Z,298nm,18.4s,MS3.7,baz=155,slow=39
KRMB Red Mountain 21.89 328 *e*P **P 14 55 20.4 -0.1**
DLMT Dillon 21.94 353 *e*P **P 14 55 20.6 -0.5**
26nm,1.1s,mb4.6
BOZ Bozeman (W) 22.13 355 *e*P **P 14 55 22.8 -0.3**
42nm,1.4s,mb4.7
GCMT Greycliff 22.17 358 *e*P **P 14 55 22.6 -0.8**
BMO Blue Mountains 22.32 344 *e*P **P 14 55 24.2 -0.9**
15nm,1.0s,mb4.4
SCIA State Center 22.43 32 P **P 14 55 27.3 +1.0**
35nm,0.7s,mb4.9
ECSD EROS,Sioux Fal 22.47 24 *e*P **P 14 55 25.8 -0.9**
37nm,1.3s,mb4.7
VIPM Ingram Point 23.00 338 P **P 14 55 33.9 +1.6**
USIN University of 23.08 47 *e*P **P 14 55 34.1 +0.9**
103nm,1.4s,mb5.1
LAO LASA Array 23.15 5 *e*P **P 14 55 31.3 -2.6**
65nm,1.1s,mb5.0
CHMT Chamberlain Mo 23.55 352 *e*P **P 14 55 38.4 +0.4**
MSO Missoula 23.56 351 *e*P **P 14 55 36.5 -1.6**
34nm,1.2s,mb4.7
CPCT Cooper Cave 24.16 55 *e*P **P 14 55 43.6 -0.2**
GOGA Godfrey 24.29 61 P **P 14 55 46.1 +1.2**
12nm,1.1s,mb4.2
EGMT Eagleton 24.40 358 *e*P **P 14 55 44.5 -1.3**
110nm,1.5s,mb5.1
TKL Tuckaleechee C 24.80 55 *e*P **P 14 55 49.6 0.0**
TZTN Tazewell 25.32 54 *e*P **P 14 55 55.2 +0.9**
32nm,1.3s,mb4.7
NEW Newport 25.50 347 *e*P **P 14 55 55.2 -0.6**
12nm,0.9s,mb4.4
NEW Newport 25.50 347 P **P 14 55 54.9 -0.9**
3.7nm,0.7s,mb4.0,baz=167,slow=13,SNR=6.8
NEW LR LR 15 06 40.1
comp=Z,342nm,19.3s,MS3.9,baz=164,slow=39
WALA Waterton Lakes 25.74 352 P **P 14 55 58.5 +0.6**
28nm,1.0s,mb4.8
JTS JuntasAbangare 26.33 116 LR LR 15 06 45.0
comp=Z,286nm,21.5s,MS3.8,baz=314,slow=37
AGMN Agassiz Refuge 26.73 19 *e*P **P 14 56 06.3 -0.6**
35nm,1.3s,mb4.7
COWI Conover 27.53 30 *e*P **P 14 56 14.1 0.0**
26nm,0.8s,mb4.9
ULM Lac du Bonnet 28.47 18 *e*P **P 14 56 20.6 -1.9**
43nm,1.5s,mb4.9
ULM Lac du Bonnet 28.47 18 LR LR 15 07 24.9
comp=Z,363nm,18.5s,MS4.0,baz=2.9,slow=36
EDM Edmonton 29.79 355 *e*P **P 14 56 33.8 -0.4**
BINY Binghamton 32.96 48 *e*P **P 14 57 02.5 +0.2**
21nm,0.9s,mb5.1
FCC Fort Churchill 36.69 13 *e*P **P 14 57 33.2 -0.9**
25nm,1.0s,mb5.0
DLBC Dease Lake 37.98 342 *e*P **P 14 57 46.1 +1.0**
ROSC El Rosal 38.10 114 LR LR 15 15 07.6
comp=Z,164nm,19.3s,MS3.9,baz=13,slow=38
YKA Yellowknife Ar 39.09 356 P **P 14 57 52.1 -2.3**
1.8nm,0.9s,mb3.8,baz=171,slow=7.9,SNR=30
SCHQ Schefferville 44.03 34 P **P 14 58 37.2 +2.2**
5.3nm,0.6s,mb4.5
SCHQ Schefferville 44.03 34 P **P 14 58 34.8 -0.2**
4.9nm,0.6s,mb4.4,baz=236,slow=13,SNR=4.7
DAWY Dawson 45.20 342 *e*P **P 14 58 44.6 +0.4**
EGAK Eagle 46.24 342 *e*P **P 14 58 52.5 +0.1**
4.3nm,0.9s,mb4.4
INK Inuvik 47.22 348 *e*P **P 14 58 59.8 -0.2**
311nm,1.0s
SVW2 Sparrevohn 49.23 332 *e*P **P 14 59 15.5 -0.2**
TTA Tatalina 50.28 334 *e*P **P 14 59 23.8 +0.1**
LPAZ La Paz 56.14 131 P **P 15 00 14.5 +7.1**
0.6nm,0.6s,mb3.8,baz=315,slow=9.0,SNR=3.0
PPT Papeete 57.07 228 LR LR 15 17 55.7
comp=Z,237nm,18.8s,MS4.3,baz=4.0,slow=29
PLCA Paso Flores 73.22 151 P **P 15 02 04.4 +6.0**
3.7nm,0.9s,mb4.3,baz=341,slow=4.4,SNR=5.4
TIXI Tiksi 77.17 344 *e*P **P 15 02 20.2 -0.8**
5.9nm,0.9s,mb4.5
TIXI *e* 15 02 26.5
ARCES ARCESS Array B 81.55 15 P **P 15 02 45.9 +1.1**
ARCES LR LR 15 39 04.8
ARCES ARCESS Array B 81.55 15 P **P 15 02 45.9 +1.1**
3.4nm,0.9s,mb4.3,baz=304,slow=8.6,SNR=3.5
ARCES LR LR 15 39 04.8
comp=Z,102nm,20.7s,MS4.2,baz=314,slow=36
ESDC Sonseca Array 85.91 48 LR LR 15 41 09.2
comp=Z,163nm,20.6s,MS4.4,baz=90,slow=36
FINES FINESS Array B 87.84 20 LR LR 15 41 50.1
comp=Z,100nm,21.2s,MS4.2,baz=331,slow=35
GERES GERESS Array B 91.56 34 LR LR 15 42 20.6
comp=Z,165nm,19.4s,MS4.5,baz=97,slow=34
MJAR Matsushiro Arr 93.01 312 P **P 15 03 42.2 +0.8**
0.8nm,0.7s,mb4.3,baz=63,slow=4.4,SNR=8.3
HNR Honiara 94.83 262 LR LR 15 38 26.0
comp=Z,189nm,19.0s,MS4.6,baz=186,slow=30
CN2 Changchun 96.52 324 *e*P **P 15 03 56.8 -0.5**
CN2 *e*XP sP 15 04 03.8 +1.4
CN2 *e*S S 15 15 12.4 -5.6
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.4
CN2 AMB AMB
comp=Z,200nm,3.0s
KEST Kesra 96.96 46 LR LR 15 43 43.7
comp=Z,60nm,20.9s,MS4.0,baz=258,slow=33
HHC Hu-ho-hao-te 105.72 329 *e*PDIF Pdif 15 04 39.4 +1.2
HHC PP PP 15 09 03.5 +3.5
HHC S Sdif 15 16 33.1 -1.9
HHC PS PS 15 18 15.9 -0.9
HHC SS SS 15 24 00.9 +3.0
HHC PP PP
comp=Z,104nm,9.0s
HHC LR LR
comp=N,149nm,19.1s,MS4.7
HHC LR LR
comp=E,144nm,20.2s,MS4.7
HHC LR LR
comp=Z,79nm,20.0s,MS4.3
CD2 Chengdu 117.46 329 *e*PKP PKPdf 15 09 12.1 -1.8
CD2 XPKP 15 09 19.3
CD2 PP PP 15 10 27.6 +3.2
CD2 SKS SKSdf 15 16 19.3 -6.9
CD2 PP PP
comp=Z,80nm,8.4s
WRA Warramunga Arr 121.64 260 PKP PKPdf 15 09 24.0 +1.9
comp=Z,0.6nm,0.7s,baz=72,slow=2.2,SNR=10.0
KMI Kunming 122.73 326 PKP PKPdf 15 09 22.8 -1.3
ASAR Alice Springs 122.97 256 PKP PKPdf 15 09 26.7 +2.2
comp=Z,0.3nm,0.6s,baz=89,slow=2.5,SNR=5.9

*ISK **20** 14:52:34.6,3679N×2761E,h22km,MD3.0*
*NEIC **20** 14:52:36.5,3684N×2769E,h26km,MD3.3(ATH),After ATH.*
*CSEM **20** 14:52:36.7±0.2,3684N×2770E,h10km,MD2.9,Error ellipse: s-maj=4.2km s-min=3.9km az=155.0*
*ISCJB **20** 14:52:36.1±0.5,3676N±003×2769E±004,h12km±3km, Error ellipse: s-maj=5.2km s-min=4.7km az=18.6*
*ATH **20** 14:52:36.5,3684N×2769E,h26km±2km,MD3.3/5*
*DDA **20** 14:52:44.8,37.11N×2742E,h10km±5km,Md2.9*
ISC 20 14:52:37.1±0.5,**3679N**±003×**2770E**±004,**h12**km±4km,**n14**, σ1§**40**/24,**Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.12**	**239**	*e*PG	**Pg**		**14 52 38.9**	**-1.2**
DAT				*e*SG	**Sg**		**14 52 41.7**	**-0.6**
BDRM	**Kayabasi**	**0.34**	**323**	*e*P	**Pg**		**14 52 43.4**	**-0.6**
BDRM				*i* S	**Sg**		**14 52 48.9**	**+0.2**
NISR	**Nisiros**	**0.49**	**249**	*e*PN	**Pg**		**14 52 46.8**	**+0.1**
NISR				*e*SN	**Sg**		**14 52 55.0**	**+1.7**
MLSB	**Milas**	**0.51**	**7**	*e*PG	**Pg**		**14 52 46.1**	**-1.0**
MLSB				*e*SG	**Sg**		**14 52 53.5**	**-0.4**
YER	**Yerkesik**	**0.58**	**53**	*e*PG	**Pg**		**14 52 48.2**	**-0.2**
YER				*e*SG	**Sg**		**14 52 56.6**	**+0.6**
ARG	**Arkhangelos**	**0.67**	**149**	*e*PN	**Pn**		**14 52 50.2**	**-2.1**
ARG				*e*SN	**Sg**		**14 53 01.7**	**+3.0**
DALT	**Dalyan (Mudla)**	**0.75**	**91**	*e*PG	**Pg**		**14 52 51.0**	**-0.6**
DALT				*e*SG	**Sg**		**14 53 03.9**	**+2.5**
FETY	**Fethiye**	**1.12**	**97**	*e*PN	**Pn**		**14 52 55.8**	**-2.7**
SMG	**Samos**	**1.15**	**323**	*e*PN	**Pn**		**14 52 57.9**	**-1.0**
SMG				*e*SN	**Sn**		**14 53 13.2**	**-1.4**
DENT	**Denizli**	**1.43**	**47**	*e*PN	**Pn**		**14 53 00.8**	**-2.0**
KDAG	**Bornova**	**1.65**	**348**	*e*P	**Pn**		**14 53 08.5**	**+2.7**
KDAG				*i* S	**Sn**		**14 53 27.9**	**+1.0**
APE	**Apeiranthos**	**1.76**	**280**	*e*PN	**Pn**		**14 53 07.1**	**-0.3**
URLA	**Izmir**	**1.80**	**331**	*e*P	**Pn**		**14 53 10.3**	**+2.5**
URLA				*i* S	**Sn**		**14 53 32.5**	**+1.9**
NPS	**Neapolis**	**2.28**	**229**	*e*PN	**Pn**		**14 53 14.6**	**+0.1**

*ISCJB **20** 14:52:53.5±2.7,218S±02×1764W±04,h150km,mb4.0/7, Error ellipse: s-maj=53.6km s-min=23.1km az=173.4*
*NEIC **20** 14:52:56.0±0.8,2182S×17645W,h150km,mb4.4/3,Error ellipse: s-maj=20.9km s-min=15.1km az=122.0*
*IDC **20** 14:52:57.1±12.0,2185S×17649W,h158km±106km, mb3.6/6,mb1 3.8/7,mb1mx3.5/16,mbtmp3.7/7,MS3.0/1, Ms1 3.0/1,ms1mx2.6/27, Error ellipse: s-maj=48.5km s-min=40.9km az=52.0*
ISC 20 14:52:55.3±2.7,**219S**±02×**1764W**±04,**h150**km,**n17**, σ0§**50**/13,**mb4.0/7,Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**7.49**	**191**	LR		LR	14 56 58.7	
comp=Z,107nm,19.4s,baz=75,slow=32								
URZ	**Urewera**	**17.29**	**198**	P		**Pn**	**14 56 47.5**	**0.0**
1.1nm,0.3s,baz=27,slow=14,SNR=6.3								
HNR	**Honiara**	**25.91**	**295**	P		**P**	**14 58 18.8**	**+5.2**
20nm,0.6s,mb4.9								
CTA	**Charters Tower**	**34.91**	**266**	P		**P**	**14 59 33.6**	**+0.9**
3.6nm,0.4s,mb4.3,baz=100,slow=30,SNR=16								
CTAO	**Charters Tower**	**34.91**	**266**	*e*P		**P**	**14 59 33.8**	**+1.0**
3.1nm,0.4s,mb4.3								
STKA	**Stephens Creek**	**38.62**	**246**	*e*P		**P**	**15 00 04.3**	**+0.4**
STKA	**Stephens Creek**	**38.62**	**246**	P		**P**	**15 00 04.0**	**0.0**
2.5nm,0.6s,mb4.0,baz=67,slow=9.0,SNR=3.6								
ASAR	**Alice Springs**	**45.72**	**258**	P		**P**	**15 01 01.8**	**+0.2**
2.1nm,0.6s,mb4.0,baz=88,slow=8.3,SNR=42								
ASAR				PcP		PcP	15 02 37.0	0.0
0.6nm,0.7s,baz=117,slow=3.6,SNR=7.5								
WB2	**Warramunga Arr**	**45.94**	**263**	*e*P		**P**	**15 01 02.8**	**-0.6**
WRAB	**Tennant Creek**	**45.95**	**263**	*e*P		**P**	**15 01 03.5**	**+0.2**
WRA	**Warramunga Arr**	**45.95**	**263**	P		**P**	**15 01 02.5**	**-1.0**
1.0nm,0.3s,mb3.9,baz=98,slow=7.4,SNR=60								
FITZ	**Fitzroy Crossi**	**54.38**	**263**	*e*P		**P**	**15 02 06.7**	**-0.3**
15nm,3.0s								
FITZ	**Fitzroy Crossi**	**54.38**	**263**	P		**P**	**15 02 07.0**	**0.0**
0.8nm,0.5s,mb3.7,baz=76,slow=12,SNR=7.9								
MJAR	**Matsushiro Arr**	**72.22**	**323**	P		**P**	**15 04 04.0**	**+0.1**
0.5nm,0.5s,mb3.5,baz=160,slow=7.6,SNR=3.3								
ARCES	**ARCESS Array B**	**130.53**	**350**	PKP		PKPdf	15 11 48.4	+1.0
5.1nm,1.0s,baz=15,slow=1.4,SNR=4.6								
AKASG	**Malin Array Be**	**144.94**	**331**	PKP		PKPdf	15 12 14.1	-0.2
0.7nm,0.4s,baz=42,slow=3.9,SNR=8.4								
GERES	**GERESS Array B**	**151.91**	**346**	PKPbc		PKPbc	15 12 33.4	+1.1
0.1nm,0.4s,baz=90,slow=1.0,SNR=2.7								

IDC 20 15:10:28.5±10.0,**1936N**×**14284E,h0**km,**mb3.3/3, mb1 3.5/3,mb1mx3.3/18,mbtmp3.3/3,MS4.0/1,Ms1 4.0/1, ms1mx2.7/18,Error ellipse: s-maj=286.6km s-min=54.1km az=20.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.24**	**327**	P		P	15 15 27.1	+0.2
0.9nm,0.7s,baz=145,slow=8.1,SNR=4.4								
SONM	**Songino Array**	**40.96**	**322**	P		P	15 18 13.0	+0.1
0.2nm,0.5s,baz=124,slow=6.5,SNR=2.6								
PSI	**Prapat**	**45.95**	**255**	LR		LR	15 37 12.4	
comp=Z,182nm,20.5s,baz=37,slow=35								
YKA	**Yellowknife Ar**	**78.67**	**28**	P		P	15 22 32.3	+0.1
0.2nm,0.5s,baz=294,slow=5.6,SNR=3.9								

MAN 20 15:19:41,1630N×**12226E,h22**km,**mb4.3,ML3.2,MS3.0, 1C-1D,Luzon**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CAUP	**Cauayan**	**0.77**	**327**	*e*P		Pb	15 19 55.4	-0.2
CAUP				*e*S		Sb	15 20 07.3	+1.6
PALP	**Palanan**	**0.78**	**12**	⇓*i*P		Pb	15 19 56.4	+0.5
PALP				*i* S		Sb	15 20 09.4	+3.4
BALP	**Baler**	**0.86**	**230**	*e*P		Pb	15 19 57.0	-0.2
BALP				*e*S		Sb	15 20 10.5	+2.2
CVP	**Callao Caves**	**1.46**	**343**	*e*P		Pn	15 20 06.4	+0.4
CVP				*e*S		Sn	15 20 27.3	+2.8
POLP	**Polillo Island**	**1.59**	**191**	*e*P		Pn	15 20 10.9	+3.0
BCPH	**Baguio City Da**	**1.61**	**273**	⇑*e*P		Pn	15 20 09.8	+1.6
BCPH				*i* S		Sn	15 20 32.5	+4.2
APYP	**Conner**	**1.83**	**328**	*e*P		Pn	15 20 10.9	-0.3
ABRA	**Dolores**	**2.00**	**312**	*e*P		Pn	15 20 14.1	+0.6
BOLP	**Bolinao**	**2.25**	**272**	*e*P		Pn	15 20 18.5	+1.6
PVCP	**Virac**	**3.25**	**145**	*e*P		Pn	15 20 31.8	+1.1

IDC 20 15:42:26.9±4.5,**169S**×**13740E,h0**km,**mb3.8/2,mb1 4.0/3, mb1mx3.6/13,mbtmp3.8/3,ML3.9/1,MS3.6/1,Ms1 3.6/1, ms1mx2.8/27,Error ellipse: s-maj=197.6km s-min=26.8km az=83.0,Near north coast of Irian Jaya**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WB2	**Warramunga Arr**	**18.39**	**189**	*e*P		Pn	15 46 43.8	+0.4
WRA	**Warramunga Arr**	**18.39**	**189**	P		Pn	15 46 43.9	+0.5
0.4nm,0.3s,baz=13,slow=12,SNR=27								
WRA				S		Sn	15 49 59.4	-10
0.1nm,0.3s,baz=1.7,slow=24,SNR=4.9								
ASAR	**Alice Springs**	**22.11**	**189**	P		P	15 47 24.4	+0.4
1.8nm,0.8s,baz=15,slow=11,SNR=21								
JNU	**Nakatsue**	**35.17**	**350**	LR		LR	16 01 35.3	
comp=Z,87nm,19.5s,baz=232,slow=33								
MKAR	**Makanchi Array**	**68.19**	**323**	P		P	15 53 29.0	-0.2
1.0nm,0.6s,baz=105,slow=7.6,SNR=8.3								

IDC 20 15:44:08.7±10.0,**2180N**×**14283E,h184**km±101km, **mb3.0/8,mb1 3.3/8,mb1mx3.2/19,mbtmp3.0/8,MS3.5/1, Ms1 3.5/1,ms1mx2.5/12,Error ellipse: s-maj=43.8km s-min=16.2km az=83.0,Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.24**	**324**	P		P	15 48 29.8	+0.2
1.5nm,0.8s,baz=146,slow=9.4,SNR=6.2								
SONM	**Songino Array**	**39.05**	**321**	P		P	15 51 17.5	0.0
1.0nm,0.9s,baz=134,slow=5.6,SNR=7.1								
SONM				LR		LR	16 08 47.2	
comp=Z,60nm,18.1s,baz=81,slow=38								
WRA	**Warramunga Arr**	**42.31**	**192**	P		P	15 51 45.1	+0.7
0.5nm,0.8s,baz=14,slow=9.0,SNR=4.4								
ASAR	**Alice Springs**	**46.02**	**191**	P		P	15 52 13.2	-0.6
0.5nm,0.6s,baz=19,slow=10,SNR=9.4								
ZALV	**Zalesovo Beam**	**53.92**	**322**	P		P	15 53 13.2	+0.2
0.9nm,0.6s,baz=101,slow=7.9,SNR=5.1								
MKAR	**Makanchi Array**	**54.38**	**313**	P		P	15 53 16.2	-0.2
0.3nm,0.7s,baz=104,slow=6.1,SNR=2.5								
YKA	**Yellowknife Ar**	**76.52**	**28**	P		P	15 55 38.1	0.0
0.3nm,0.5s,baz=294,slow=5.3,SNR=5.7								
NVAR	**Mina Array Bea**	**83.34**	**51**	P		P	15 56 15.6	+0.4
0.4nm,0.8s,baz=265,slow=7.5,SNR=3.8								

KRSC 20 15:57:34.9±1.1,**5499N**×**16377E,h49**km±48km,**ML3.7,Off east coast of Kamchatka Peninsula**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**1.26**	**251**	*e*P		Pn	15 57 57.0	+1.0
MKZ				*i* S		Sn	15 58 13.0	+1.2
KBTR	**Krutoberegovo**	**1.33**	**337**	*e*P		Pn	15 57 55.9	-1.2
KBTR				*i* S		Sn	15 58 11.5	-2.2
TUMR	**Tumrok**	**2.10**	**280**	*e*P		Pn	15 58 10.1	+2.6
TUMR				*i* S		Sn	15 58 36.1	+3.7
KMNR	**Kamenistaya**	**2.16**	**292**	*e*P		Pn	15 58 11.2	+2.9
KII	**Karymskiy**	**2.69**	**251**	*e*P		Pn	15 58 18.2	+2.5
KII				*i* S		Sn	15 58 50.0	+3.0
SPN	**Mys Shipunski**	**2.91**	**231**	*e*P		Pn	15 58 19.3	+0.7
SPN				*i* S		Sn	15 58 51.4	-0.9
AVH	**Avacha**	**3.43**	**242**	*e*P		Pn	15 58 29.1	+3.4
AVH				*i* S		Sn	15 59 08.5	+3.5
PET	**Petropavlovsk**	**3.60**	**239**	*e*P		Pn	15 58 31.0	+2.9
PET				*i* S		Sn	15 59 11.2	+1.8
GNL	**Ganaly**	**3.65**	**252**	*e*P		Pn	15 58 32.1	+3.3
RUS	**Russkaya**	**4.04**	**233**	*e*P		Pn	15 58 36.3	+2.2
RUS				*i* S		Sn	15 59 20.0	-0.1

*ISCJB **20** 16:00:10.6±1.6,8.15S±006×1187E±02,h10km,mb3.5/2, Error ellipse: s-maj=30.4km s-min=7.5km az=171.0*
*IDC **20** 16:00:12.3±2.2,806S×11885E,h0km,mb3.3/2,mb1 3.6/5, mb1mx3.4/18,mbtmp3.4/5,ML3.2/3,Error ellipse: s-maj=65.6km s-min=19.3km az=71.0*
*NEIC **20** 16:00:13.9±1.8,800S×11892E,h10km,Error ellipse: s-maj=50.7km s-min=11.3km az=73.0*
NEIC Felt [II] at Bima.
ISC 20 16:00:13.4±2.4,**814S**±006×**1183E**±03,**h35**km,**n8**, σ1§**15**/11,**mb3.5/2,Sumbawa region**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**3.40**	**24**	Pn		**Pn**	**16 01 02.1**	**-1.9**
KAPI				Sn		**Sn**	**16 01 43.8**	**+0.6**
KAPI	**Kappang**	**3.40**	**24**	Pn		**Pn**	**16 01 02.2**	**-1.9**
4.5nm,0.3s,baz=221,slow=4.7,SNR=17								
KAPI				Sn		**Sn**	**16 01 43.8**	**+0.6**
7.0nm,0.3s,baz=256,slow=23,SNR=19								
BATI	**Kupang**	**5.64**	**112**	Pn		**Pn**	**16 01 37.9**	**+3.0**
1.1nm,0.3s,baz=105,slow=21,SNR=2.2								
FITZ	**Fitzroy Crossi**	**12.18**	**145**	Pn		**Pn**	**16 03 03.9**	**-0.6**
0.1nm,0.3s,baz=9.5,slow=6.1,SNR=3.2								
FITZ				Sn		**Sn**	**16 05 20.0**	**+0.8**
0.1nm,0.3s,baz=148,slow=16,SNR=3.9								
WRA	**Warramunga Arr**	**19.43**	**129**	P		**Pn**	**16 04 37.4**	**-0.9**
0.1nm,0.3s,baz=299,slow=13,SNR=8.3								
WB2	**Warramunga Arr**	**19.44**	**129**	*e*P		**Pn**	**16 04 37.8**	**-0.6**
ASAR	**Alice Springs**	**21.47**	**138**	P		**P**	**16 04 59.4**	**+0.4**
0.8nm,0.6s,mb3.2,baz=313,slow=9.8,SNR=22								
SONM	**Songino Array**	**56.72**	**350**	P		**P**	**16 09 58.1**	**+4.6**
0.4nm,0.6s,mb3.6,baz=171,slow=10,SNR=3.4								

*ISCJB **20** 16:02:02.8±0.5,3707N±003×7201E±007,h158km±9km, mb2.9/2,Error ellipse: s-maj=10.0km s-min=4.3km az=168.4*
*NNC **20** 16:02:08.8±3.2,3754N×7157E,h135km±33km,mb3.1, mpv4.4,Error ellipse: s-maj=25.9km s-min=16.8km az=13.0*
*BJI **20** 16:02:13.0,3754N×7262E,h210km*
*NEIC **20** 16:02:16.0±4.3,3812N×7205E,h179km±19km,mb4.4/1, Error ellipse: s-maj=55.1km s-min=17.7km az=176.0*
*IDC **20** 16:02:19.6±6.9,3824N×7213E,h214km±54km,mb2.8/2, mb1 3.1/6,mb1mx2.8/24,mbtmp3.0/6,Error ellipse: s-maj=60.1km s-min=29.8km az=178.0*
ISC 20 16:02:03.8±0.5,**3707N**±003×**7200E**±008,**h153**km±8km, **n53**,σ1§**05**/66,**mb2.9**/2,**6C-4D,Tajikistan**

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**3.24**	**181**	P		**Pn**	**16 02 55.3**	**+1.0**
CHCP	**Chirah Chowk**	**3.56**	**163**	P		**Pn**	**16 03 00.2**	**+1.8**
KSH	**Kashi**	**3.96**	**51**	P		**Pn**	**16 03 06.1**	**+2.5**
KSH				S		**Sn**	**16 03 50.1**	**0.0**
KSH				Smax				
comp=N,399nm,0.5s								
KSH				Smax				
comp=E,565nm,0.4s								
THW	**Thamme Wali**	**4.27**	**183**	P		**Pn**	**16 03 07.8**	**+0.1**
SARP	**Sargodha**	**5.17**	**174**	P		**Pn**	**16 03 20.2**	**+0.7**
AML	**Almayashu**	**5.22**	**14**	*e*Pn		**Pn**	**16 03 19.7**	**-0.3**
AML				*e*S		**Sn**	**16 04 11.4**	**-8.3**
AML	**Almayashu**	**5.22**	**14**	P		**Pn**	**16 03 19.9**	**-0.1**
SNR=90								
UCH	**Uchtor**	**5.50**	**20**	*e*Pn		**Pn**	**16 03 23.8**	**0.0**
UCH				*e*S		**Sn**	**16 04 20.1**	**-6.3**
UCH	**Uchtor**	**5.50**	**20**	P		**Pn**	**16 03 24.0**	**+0.2**
SNR=43								
THN	**Thein Dam**	**5.54**	**145**	*e*x		x	16 03 25.0	
THN				*e*S		**Sn**	**16 04 25.0**	**-2.5**
DLH	**Dalhousie**	**5.57**	**143**	*e*S		**Sn**	**16 04 27.0**	**-1.1**
KZA	**Kyzart**	**5.59**	**26**	P		**Pn**	**16 03 25.1**	**+0.1**
SNR=12								
EKS2	**Erkin-Say**	**5.75**	**13**	*e*Pn		**Pn**	**16 03 26.7**	**-0.3**
EKS2				*e*S		**Sn**	**16 04 20.3**	**-12**
EKS2	**Erkin-Say**	**5.75**	**13**	P		**Pn**	**16 03 26.9**	**-0.1**
SNR=45								
AAK	**Ala-Archa**	**5.88**	**18**	P		**Pn**	**16 03 29.3**	**+0.5**
SNR=47								
KBK	**Karagaybulak**	**6.02**	**21**	P		**Pn**	**16 03 31.0**	**+0.4**
SNR=10								
KK31	**Karatay Array**	**6.13**	**350**	⇑P		**Pn**	**16 03 30.9**	**-1.3**
comp=E,29nm,0.4s,baz=177,slow=13,SNR=562								
KK31				⇓S		**Sn**	**16 04 34.7**	**-6.7**
comp=E,46nm,0.5s								
CHMS	**Chumysh**	**6.28**	**19**	P		**Pn**	**16 03 34.4**	**+0.2**
SNR=16								
TKM2	**Tokmak 2**	**6.46**	**24**	P		**Pn**	**16 03 36.9**	**+0.4**
comp=E,14nm,0.6s								
TKM2				⇓S		**Sn**	**16 04 48.4**	**-0.8**
comp=E,19nm,0.9s								
TKM2	**Tokmak 2**	**6.46**	**24**	*e*Pn		**Pn**	**16 03 36.2**	**-0.4**
comp=E,17nm,0.6s								
TKM2	**Tokmak 2**	**6.46**	**24**	P		**Pn**	**16 03 37.1**	**+0.5**
SNR=9.2								
USP	**Ospenovka**	**6.48**	**16**	P		**Pn**	**16 03 37.3**	**+0.6**
SNR=7.0								
SDNR	**Sundarnagar**	**6.91**	**142**	*e*x		x	16 03 43.5	
SDNR				*e*x		x	16 04 38.6	
KLP	**Kalpa**	**7.56**	**135**	*e*P		**Pn**	**16 03 45.2**	**-6.1**
KLP				*e*S		**Sn**	**16 05 10.6**	**-5.2**
JOSI	**Joshimath**	**9.04**	**134**	*e*x		x	16 03 57.4	
JOSI				AMb		AMB	16 04 19.2	
comp=Z,34nm,0.7s								
JOSI				*e*S		**Sn**	**16 05 45.0**	**-6.3**
KHET	**Khetri**	**9.53**	**159**	*e*P		**Pn**	**16 04 13.5**	**-4.0**
KHET				*e*S		**Sn**	**16 05 58.9**	**-4.2**
SONA	**Sohna**	**9.78**	**153**	*e*P		**Pn**	**16 04 15.7**	**-5.1**
SONA				*e*S		**Sn**	**16 06 02.9**	**-6.3**
MK31	**Makanchi Array**	**12.36**	**35**	*e*Pn		**Pn**	**16 04 55.7**	**+1.3**
MKAR	**Makanchi Array**	**12.36**	**35**	P		**Pn**	**16 04 54.5**	**+0.1**
comp=Z,0.1nm,0.3s,baz=216,slow=14,SNR=7.7								
DANN	**Dangsing**	**13.16**	**128**	*e*P		**Pn**	**16 05 05.4**	**+0.4**
comp=Z,13nm,0.4s								
KOLN	**Koldanda**	**13.48**	**130**	*e*P

ZAA0	**Zalesovo Array**	**19.07**	**24**	P	**P**	**16 06 14.7**	**+0.6**
ZALV	**Zalesovo Beam**	**19.07**	**24**	P	**P**	**16 06 15.4**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=213,slow=11,SNR=11						
AKASG	**Malin Array Be**	**33.22**	**308**	P	**P**	**16 08 31.3**	**+5.4**
	comp=Z,0.1nm,0.3s,mb3.0,baz=83,slow=7.3,SNR=3.3						
YKA	**Yellowknife Ar**	**80.64**	**3**	P	**P**	**16 14 01.0**	**+2.0**
YKA	**Yellowknife Ar**	**80.64**	**3**	P	**P**	**16 14 01.0**	**+2.0**
	comp=Z,0.2nm,0.7s,mb2.8,baz=348,slow=5.5,SNR=5.3						

*NEIC **20** 16:08:22.7, 3789S×17676E, h5km, ML3.8(WEL), After WEL.*

WEL 20 16:08:22.7±0.3, 3789S×17676E, h5km±2km, ML3.8/5, Error ellipse: s-maj=1.3km s-min=1.3km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.12**	**216**	P	Pg	16 08 25.8	+0.6
MARZ				S	Sg	16 08 28.0	+1.2
MARZ	**Manawahe**	**0.12**	**216**	PG	Pg	16 08 25.8	+0.6
MARZ				SG	Sg	16 08 28.0	+1.2
OPRZ	**Ohinepanea**	**0.17**	**285**	PG	Pg	16 08 26.6	+0.6
OPRZ				SG	Sg	16 08 29.3	+0.9
LIRZ	**Lichensteins R**	**0.32**	**249**	P	Pg	16 08 29.6	+0.7
LIRZ	**Lichensteins R**	**0.32**	**249**	PG	Pg	16 08 29.6	+0.7
OMRZ	**Omania**	**0.38**	**235**	PG	Pg	16 08 30.5	+0.5
OMRZ				SG	Sg	16 08 35.7	+0.7
TAZ	**Tarawera**	**0.40**	**210**	P	Pg	16 08 32.2	+1.8
TAZ	**Tarawera**	**0.40**	**210**	PG	Pg	16 08 32.2	+1.8
TGRZ	**Tauranga**	**0.43**	**292**	P	Pg	16 08 31.6	+0.6
TGRZ	**Tauranga**	**0.43**	**292**	PG	Pg	16 08 31.6	+0.7
KARZ	**Kaharoa**	**0.43**	**252**	P	Pg	16 08 31.6	+0.6
KARZ				S	Sg	16 08 39.8	+3.2
KARZ	**Kaharoa**	**0.43**	**252**	PG	Pg	16 08 31.6	+0.6
KARZ				SG	Sg	16 08 39.8	+3.1
URZ	**Urewera**	**0.46**	**143**	P	Pg	16 08 32.2	+0.6
URZ	**Urewera**	**0.46**	**143**	PG	Pg	16 08 32.2	+0.6
URZ				SG	Sg	16 08 38.7	+1.1

KRSC 20 16:15:17.7±0.9, 5275N×16068E, h25km±24km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.53**	**311**	*i* P	Pb	16 15 28.7	+0.3
SPN				*i* S	Sb	16 15 36.3	+0.7
PET	**Petropavlovsk**	**1.26**	**283**	*e*P	Pn	16 15 40.0	+0.4
PET				*i* S	Sn	16 15 56.4	+0.7
AVH	**Avacha**	**1.28**	**295**	*e*P	Pn	16 15 40.8	+0.8
RUS	**Russkaya**	**1.36**	**257**	*e*P	Pn	16 15 41.6	+0.6
RUS				*i* S	Sn	16 15 59.0	+0.8
KII	**Karymskiy**	**1.48**	**331**	*e*P	Pn	16 15 44.4	+1.6
KII				*i* S	Sn	16 16 03.6	+2.3
GRL	**Gorelyy**	**1.60**	**264**	*e*P	Pn	16 15 45.7	+1.4
GRL				*i* S	Sn	16 16 06.4	+2.2
GNL	**Ganaly**	**1.90**	**301**	*e*P	Pn	16 15 50.7	+2.3
GNL				*i* S	Sn	16 16 14.8	+3.3
MKZ	**Mys Kozlova**	**1.92**	**19**	*e*P	Pn	16 15 49.3	+0.6
MKZ				*i* S	Sn	16 16 12.5	+0.6
TUMR	**Tumrok**	**2.56**	**353**	*e*P	Pn	16 16 00.5	+3.0
KBTR	**Krutoberegovo**	**3.68**	**19**	*e*P	Pn	16 16 14.0	+1.1

SKHL 20 16:28:24.8±1.8, 5253N×13961E, h10km, mb4.0/2, 1D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.90**	**46**	⇓*i*Pg	Pg	16 28 41.0	-1.1
NKL				AMB	AMB	16 28 41.3	
	140nm,0.2s						
NKL				*i* Sg	Sg	16 28 52.8	-1.0
NKL				A		16 28 56.0	
	350nm,0.3s						
OKH	**Okha**	**2.25**	**62**	*e*Sg	Sg	16 29 37.8	+0.7
OKH				A		16 29 47.8	
	194nm,1.0s						
TYV	**Tymovskoe**	**2.53**	**130**	*e*rx	rx	16 29 16.3	
TYV				*e*Sg	Sg	16 29 45.0	-0.9
TYV				A		16 29 50.7	
	20nm,0.9s						
TYV				A		16 29 50.7	
	17nm,0.9s						
GRNR	**Gornyy**	**2.66**	**230**	*e*Pg	Pg	16 29 12.1	-3.6
EKMR	**Ekimchan**	**4.08**	**280**	*e*Pn	Pn	16 29 27.5	+0.4
EKMR				*e*Pg	Pg	16 29 39.5	-3.4
EKMR				AMB	AMB	16 29 41.9	
	4.0nm,0.3s						
EKMR				*e*Sg	Sg	16 30 32.0	-3.6
EKMR				A		16 30 41.0	
	23nm,0.5s						
EKMR				A		16 30 41.0	
	19nm,0.5s						
EKMR				A		16 30 41.0	
	11nm,0.5s						
KLR	**Kul'dur**	**5.97**	**240**	*e*Sg	Sg	16 31 32.8	-3.5
BMKR	**Bomnak**	**6.77**	**293**	*e*Pn	Pn	16 30 11.5	+7.4
BMKR				*e*Sg	Sg	16 31 56.0	-5.9
BMKR				A		16 31 58.0	
	3.0nm,0.5s						
ZEA	**Zeya**	**7.54**	**284**	*e*rx	rx	16 32 24.8	
KROS	**Kirovskiy**	**7.78**	**289**	*e*Sg	Sn	16 32 26.0	+40
KROS				A		16 32 34.6	
	2.0nm,0.7s						

IDC 20 17:25:08.3±1.2, 2552N×14249E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/17, mbtmp3.7/4, MS2.9/3, Ms1 2.9/3, ms1mx2.6/36, Error ellipse: s-maj=87.2km s-min=25.3km az=96.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ	**Hachijo jima 2**	**7.93**	**343**	LR	LR	17 30 11.4	
	comp=Z,81nm,18.9s,baz=47,slow=38						
KSRS	**Korea Array**	**17.17**	**317**	LR	LR	17 35 27.1	
	comp=Z,34nm,18.4s,baz=120,slow=36						
ASAJ	**Asahikawa**	**18.55**	**0**	LR	LR	17 37 47.1	
	comp=Z,42nm,18.5s,baz=182,slow=41						
WRA	**Warramunga Arr**	**45.88**	**191**	P	P	17 33 31.5	-1.0
	0.8nm,0.4s,baz=7.4,slow=8.6,SNR=36						
ASAR	**Alice Springs**	**49.60**	**190**	P	P	17 34 02.6	+1.2
	0.4nm,0.6s,baz=14,slow=10,SNR=6.7						
YKA	**Yellowknife Ar**	**73.39**	**28**	P	P	17 36 41.9	+0.1
	0.3nm,0.6s,baz=290,slow=6.0,SNR=3.7						
FINES	**FINESS Array B**	**79.47**	**334**	P	P	17 37 16.4	0.0
	0.8nm,0.4s,baz=64,slow=4.4,SNR=7.9						

*CSEM **20** 17:25:53.4, 3515N×020W, h0km, ML3.5, After ALG*

CRAAG 20 17:25:53.4, 3515N×020W, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ODJA	**Bouhanifia**	**0.19**	**13**	P	Pg	17 26 02.0	+5.0
OTSS	**Djebel Tessala**	**0.50**	**286**	P	Pg	17 26 05.0	+1.9
USTO	**Oran**	**0.65**	**334**	P	Pg	17 26 07.0	+1.1

*ISCJB **20** 17:33:20.5±0.7, 2950N±005×10565E±007, h10km, mb3.5/3, Error ellipse: s-maj=8.5km s-min=6.5km az=161.2*

*IDC **20** 17:33:20.6±2.1, 3227N×11159E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.3/19, mbtmp3.5/3, Error ellipse: s-maj=376.0km s-min=28.6km az=60.0*

*BJI **20** 17:33:24.0, 2961N×10560E, h13km, ML3.1*

ISC 20 17:33:23.0±1.9, 2949N±005×10559E±007, h9km±11km, n6, σ1§50/13, mb3.5/3, Sichuan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CD2	**Chengdu**	**2.12**	**312**	P	**Pn**	**17 33 57.6**	**-1.0**
CD2				PG	**Pg**	**17 34 01.3**	**-2.4**
CD2				S	**Sn**	**17 34 26.0**	**+0.9**
CD2				SG	**Sg**	**17 34 31.5**	**+0.3**
CD2				Smax			
	comp=N,1μm,0.7s						
CD2				Smax			
	comp=E,1μm,0.6s						
KMI	**Kunming**	**5.03**	**211**	P	**Pn**	**17 34 41.1**	**+2.4**
KMI				S	**Sn**	**17 35 37.3**	**+0.3**
KMI				Smax			
	comp=N,14nm,1.0s						
KMI				Smax			
	comp=E,18nm,1.0s						
XAN	**Xi'an**	**5.35**	**31**	P	**Pn**	**17 34 43.3**	**+0.3**
XAN				PG	**Pb**	**17 34 59.3**	**+2.7**
XAN				S	**Sn**	**17 35 42.4**	**-2.3**
XAN				SG	**Sb**	**17 36 03.4**	**+2.4**
XAN				Smax			
	comp=N,103nm,0.9s						
XAN				Smax			
	comp=E,81nm,0.9s						
ZALV	**Zalesovo Beam**	**28.73**	**334**	P	**P**	**17 39 20.7**	**+0.3**
	comp=E,1.0nm,0.8s,mb3.6,baz=133,slow=9.5,SNR=4.1						
WRA	**Warramunga Arr**	**56.43**	**147**	P	**P**	**17 43 03.6**	**-1.5**
	comp=E,0.2nm,0.5s,mb3.4,baz=338,slow=8.2,SNR=10						
ASAR	**Alice Springs**	**59.45**	**150**	P	**P**	**17 43 25.5**	**-0.8**
	comp=E,0.4nm,0.8s,mb3.5,baz=333,slow=6.9,SNR=6.7						

*TEH **20** 17:55:51.2, 2764N×5331E, h6km, ML3.6*

*IDC **20** 17:56:55.2±2.9, 2802N×5339E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.4/22, mbtmp3.6/4, Error ellipse: s-maj=77.8km s-min=30.2km az=150.0*

*CSEM **20** 17:56:58.1±0.1, 2783N×5310E, h2km, ML3.6, Error ellipse: s-maj=2.6km s-min=2.0km az=100.0*

*ISCJB **20** 17:56:59.1±0.6, 2786N±003×5308E±007, h10km, mb3.6/4, Error ellipse: s-maj=8.9km s-min=4.5km az=12.0*

ISC 20 17:57:00.3±0.6, 2782N±003×5313E±007, h10km, n27, σ1§17/34, mb3.6/4, 2D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMOK	**Mouk**	**1.27**	**344**	*e*Pn	**Pn**	**17 57 23.8**	**-0.4**
IMOK				*e*Sn	**Sn**	**17 57 44.4**	**+3.1**
IMOK				*e*		17 57 51.8	
	comp=Z,20μm,0.4s						
IMOK	**Mouk**	**1.27**	**344**	*e*Pn	**Pn**	**17 57 23.8**	**-0.4**
IMOK				*e*Sn	**Sn**	**17 57 44.4**	**+3.1**
ISRV	**Sarvestan**	**1.56**	**360**	⇓*e*Pn	**Pn**	**17 57 28.7**	**+0.6**
ISRV				*e*Sg	**Sg**	**17 57 51.0**	**+0.6**
ISRV				*e*		17 57 59.3	
	comp=Z,13μm,0.3s						
ISRV	**Sarvestan**	**1.56**	**360**	⇓*e*Pn	**Pn**	**17 57 28.7**	**+0.6**
ISRV				*e*Sg	**Sg**	**17 57 51.0**	**+0.6**
SHI	**Shiraz**	**1.89**	**344**	*e*Sn	**Sn**	**17 57 59.4**	**+2.8**
IPAR	**Pars**	**2.02**	**358**	*e*	**Sg**	**17 58 07.2**	**+2.1**
	comp=Z,5μm,0.4s						
IBND	**Bandar-abas**	**3.05**	**96**	*e*Pn	**Pn**	**17 57 49.5**	**+0.9**
SLWS		**3.74**	**217**	P	**Pn**	**17 57 59.3**	**+1.1**
IMEH	**Mehriz**	**3.79**	**20**	*e*Pn	**Pn**	**17 57 57.4**	**-1.3**
IMEH				*e*		17 57 59.5	
	comp=Z,472nm,0.1s						
BOQSS		**3.87**	**241**	P	**Pn**	**17 57 59.8**	**-0.1**
BTHS		**4.28**	**209**	P	**Pn**	**17 58 06.6**	**+1.0**
IBAF	**Bafgh**	**4.32**	**29**	*e*	**Pn**	**17 58 05.5**	**-0.5**
	comp=Z,572nm,0.1s						
RDF	**Al-Radifah**	**5.03**	**284**	*e*P	**Pn**	**17 58 16.2**	**+0.3**
RDF				AML	AML	17 59 17.2	
	comp=Z,12nm,0.2s						
UMR	**Umm Al-Rimmam**	**5.05**	**291**	*e*P	**Pn**	**17 58 16.7**	**+0.6**
UMR				AML	AML	17 59 18.0	
	comp=Z,14nm,0.3s						
IZEF	**Zefreh**	**5.11**	**352**	*e*Pn	**Pn**	**17 58 15.4**	**-1.5**
IZEF				*e*		17 58 42.6	
	comp=Z,158nm,0.4s						
IZEF				*e*Sn	**Sn**	**17 59 14.2**	**-1.7**
IPIR	**Pirpir**	**5.22**	**339**	*e*Sn	**Sn**	**17 59 18.0**	**-0.6**
IPIR				*e*		17 59 26.4	
	comp=Z,332nm,0.2s						
NAY	**Al-Naaiem**	**5.37**	**287**	*e*P	**Pn**	**17 58 20.8**	**+0.4**
NAY				AML	AML	17 59 25.6	
	comp=Z,5.1nm,0.4s						
MIB	**Mutribah**	**5.45**	**293**	*e*P	**Pn**	**17 58 22.0**	**+0.4**
MIB				AML	AML	17 59 26.8	
	comp=Z,9.7nm,0.4s						
IKLH	**Kolahrood**	**5.64**	**347**	*e*Pn	**Pn**	**17 58 23.3**	**-0.9**
IKLH				*e*Sn	**Sn**	**17 59 28.0**	**-1.1**
IKLH				*e*		17 59 34.4	
	comp=Z,142nm,0.2s						
IKLH	**Kolahrood**	**5.64**	**347**	*e*Pn	**Pn**	**17 58 23.3**	**-0.9**
IKLH				*e*Sn	**Sn**	**17 59 28.0**	**-1.1**
HRDDS		**5.89**	**215**	P	**Pn**	**17 58 28.6**	**+0.9**
ISFB	**Sefidab**	**6.55**	**354**	*e*	**Pg**	**17 58 55.9**	**-10**
	comp=N,70nm,0.1s						
LYLS		**7.85**	**224**	S	**Sn**	**18 00 21.9**	**-1.6**
MKAR	**Makanchi Array**	**29.69**	**43**	P	**P**	**18 03 00.4**	**-5.9**
	comp=N,0.3nm,0.6s,mb3.2,baz=234,slow=10,SNR=3.0						
ZALV	**Zalesovo Beam**	**34.92**	**33**	P	**P**	**18 03 45.6**	**-6.4**
	comp=N,0.5nm,0.4s,mb3.8,baz=242,slow=12,SNR=3.4						
FINES	**FINESS Array B**	**38.17**	**339**	P	**P**	**18 04 15.2**	**-4.4**
	comp=N,1.5nm,0.9s,mb3.7,baz=142,slow=12,SNR=2.7						
TORD	**Torodi Ar. Bea**	**49.99**	**264**	P	**P**	**18 05 53.5**	**-1.6**
	comp=N,0.2nm,0.3s,mb3.6,baz=61,slow=6.5,SNR=6.0						

*MOS **20** 18:13:06.7±1.8, 4190N×4857E, h39km, mb3.8/1, Error ellipse: s-maj=22.8km s-min=10.1km az=37.5*

*CSEM **20** 18:13:10.1±0.3, 4203N×4806E, h1km±2km, mb3.8, Error ellipse: s-maj=9.8km s-min=4.5km az=45.0*

*ISCJB **20** 18:13:12.6±0.5, 4205N±003×4812E±004, h10km, Error ellipse: s-maj=5.0km s-min=2.8km az=136.9*

ISC 20 18:13:12.4±0.5, 4205N±003×4815E±004, h9km±4km, n28, σ1§40/47, 2C, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.14**	**100**	⇑*i*P	**Pg**	**18 13 15.0**	**-0.4**
DRN				*i* S	**Sg**	**18 13 19.8**	**+2.3**
DRN				pmax	pmax		
	comp=Z,261nm,0.2s						
DRN	**Derbent**	**0.14**	**100**	*i* P	**Pg**	**18 13 15.0**	**-0.4**
	comp=Z,261nm,0.2s						
URKR	**Urkarakh**	**0.40**	**286**	*i* P	**Pg**	**18 13 17.5**	**-2.7**
URKR				*i* S	**Sg**	**18 13 25.0**	**-0.4**
URKR				pmax	pmax		
	comp=Z,150nm,0.1s						
URKR	**Urkarakh**	**0.40**	**286**	*i* P	**Pg**	**18 13 17.5**	**-2.7**
	comp=Z,150nm,0.1s						
KSMR	**Kasumkent**	**0.45**	**182**	*i* P	**Pg**	**18 13 19.0**	**-2.1**
KSMR				*i* S	**Sg**	**18 13 27.0**	**-0.1**
KSMR				pmax	pmax		
	comp=Z,270nm,0.1s						
KSMR	**Kasumkent**	**0.45**	**182**	*i* P	**Pg**	**18 13 19.0**	**-2.1**
	comp=Z,270nm,0.1s						
AKT	**Akhty**	**0.65**	**209**	⇑*i*P	**Pg**	**18 13 22.0**	**-3.0**
AKT				*e*S	**Sg**	**18 13 32.0**	**-1.5**
AKT				pmax	pmax		
	comp=Z,73nm,0.2s						
AKT	**Akhty**	**0.65**	**209**	*i* P	**Pg**	**18 13 22.0**	**-3.0**
	comp=Z,73nm,0.2s						
KMKR	**Kumukh**	**0.78**	**276**	*e*P	**Pg**	**18 13 25.0**	**-2.5**
KMKR				*e*S	**Sg**	**18 13 38.0**	**+0.3**
KMKR				pmax	pmax		
	comp=Z,98nm,0.2s						
KMKR	**Kumukh**	**0.78**	**276**	*e*P	**Pg**	**18 13 25.0**	**-2.5**
	comp=Z,98nm,0.2s						
KMKR				*e*S	**Sg**	**18 13 38.0**	**+0.3**
GNBR	**Gunib**	**0.94**	**291**	*e*P	**Pg**	**18 13 30.0**	**-0.5**
GNBR				*i* S	**Sg**	**18 13 44.0**	**+1.3**
GNBR				pmax	pmax		
	comp=Z,53nm,0.2s						
GNBR	**Gunib**	**0.94**	**291**	*e*P	**Pg**	**18 13 30.0**	**-0.5**
	comp=Z,53nm,0.2s						
GNBR				*i* S	**Sg**	**18 13 44.0**	**+1.3**
MAK	**Makhachkala**	**1.02**	**333**	*e*P	**Pg**	**18 13 40.0**	**+8.0**
MAK				*e*		18 13 45.7	
MAK				smax			
	comp=N,93nm,0.2s						
MAK				smax			
	comp=E,201nm,0.2s						
MAK	**Makhachkala**	**1.02**	**333**	*e*S	**Sg**	**18 13 45.7**	**+0.4**
BUJR	**Buynaksk**	**1.09**	**315**	*e*P	**Pg**	**18 13 34.2**	**+0.9**
BUJR				*e*S	**Sg**	**18 13 48.8**	**+1.4**
SEKA	**Sheki**	**1.10**	**220**	P	**Pg**	**18 13 34.4**	**+0.8**
	SNR=32						
SEKA				S	**Sg**	**18 13 49.2**	**+1.3**
SIZA	**Siyzn**	**1.13**	**150**	P	**Pg**	**18 13 32.7**	**-1.3**
	SNR=3.5						
SIZA				S	**Sg**	**18 13 49.2**	**+0.5**
XNZR	**Khunzakh**	**1.18**	**295**	*e*P	**Pb**	**18 13 33.7**	**-1.2**
XNZR				*e*S	**Sg**	**18 13 51.7**	**+1.5**
XNZR				pmax	pmax		
	comp=Z,73nm,0.1s						
XNZR	**Khunzakh**	**1.18**	**295**	*e*P	**Pb**	**18 13 33.7**	**-1.2**
	comp=Z,73nm,0.1s						
XNZR				*e*S	**Sg**	**18 13 51.7**	**+1.5**
KRNR	**Karanay**	**1.20**	**310**	*e*P	**Pb**	**18 13 29.0**	**-6.3**
KRNR				*i* S	**Sb**	**18 13 45.4**	**-5.5**
KRNR				pmax	pmax		
	comp=Z,29nm,0.2s						
PQL	**Pirkuli**	**1.31**	**165**	P	**Pn**	**18 13 37.7**	**+0.9**
	SNR=7.9						
PQL				S	**Sb**	**18 13 54.8**	**+0.8**
DBC	**Dubki**	**1.37**	**315**	*i* P	**Pn**	**18 13 32.0**	**-5.7**
DBC				*i* S	**Sb**	**18 13 50.0**	**-5.8**
DLMR	**Dylym**	**1.51**	**313**	*e*P	**Pn**	**18 13 40.0**	**+0.4**
DLMR				*i* S	**Sn**	**18 13 57.5**	**-2.0**
BTLR	**Botlikh**	**1.55**	**294**	*e*P	**Pn**	**18 13 38.0**	**-2.2**
BTLR				*e*S	**Sn**	**18 13 58.0**	**-2.4**
GANJ	**Ganja**	**1.97**	**225**	P	**Pn**	**18 13 46.5**	**+0.6**
	SNR=3.6						
DGRG	**David-gareji**	**2.16**	**255**	P	**Pn**	**18 13 49.9**	**+1.4**
DGRG				S	**Sn**	**18 14 20.1**	**+4.6**
MTA	**Mtatsminda**	**2.53**	**263**	S	**Sn**	**18 14 26.2**	**+1.6**
TBLG	**Delisi**	**2.57**	**264**	S	**Sn**	**18 14 27.0**	**+1.6**

*NIED **20** 18:17:00, 4100N×14140E, h98km, Mw3.9 Best double couple: M0:8.69000×10^14 NP1:φ0:158.00000°, δ87.00000°, λ4.00000°. NP2:φ0:68.00000°, δ86.00000°, λ177.00000°.*

*MOS **20** 18:17:18.6±1.7, 4073N×14122E, h33km, mb4.4/3, Error ellipse: s-maj=17.2km s-min=8.5km az=94.4*

*ISCJB **20** 18:17:25.6±0.3, 4103N±003×14142E±005, h94km±2km, mb4.1/11, Error ellipse: s-maj=6.2km s-min=3.9km az=19.6*

*IDC **20** 18:17:26.6±1.4, 4098N×14135E, h92km±14km, mb3.6/8, mb1 3.7/12, mb1mx3.5/22, mbtmp3.6/12, Error ellipse: s-maj=20.8km s-min=10.8km az=102.0*

*JMA **20** 18:17:26.7±0.1, 4104N×14140E, h86km±1km, M3.5*

JMA Felt I J1.

*NEIC **20** 18:17:26.8, 4104N×14140E, h86km, mb4.5/1, MW3.9(NIED), After JMA.*

NEIC Recorded [1 JMA] in southwestern Hokkaido. Also recorded [1 JMA] in Aomori and Iwate Prefectures, Honshu.

ISC 20 18:17:26.6±0.3, 4103N±003×14144E±005, h88km±2km, n59, σ0§96/75, mb4.1/11, 7C-5D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTM	**Tenmabayashi**	**0.38**	**229**	⇑P	**Pn**	**18 17 39.8**	**-0.4**
JTM				*e*S	**Sn**	**18 17 49.8**	**-0.5**
JOT	**Ohata**	**0.46**	**320**	⇓P	**Pn**	**18 17 40.4**	**-0.4**
JOT				S	**Sn**	**18 17 50.8**	**-0.5**
JANG	**Nango**	**0.66**	**175**	⇑P	**Pn**	**18 17 42.3**	**-0.2**
JANG				*e*S	**Sn**	**18 17 53.5**	**-0.9**
JKB	**Kayabe**	**0.91**	**340**	P	**Pn**	**18 17 45.1**	**0.0**
JKB				*e*S	**Sn**	**18 17 59.0**	**+0.1**
JSR	**Shiriuchi**	**0.92**	**303**	⇓P	**Pn**	**18 17 44.8**	**-0.4**
JSR				*e*S	**Sn**	**18 17 58.3**	**-0.8**
JAH	**Hinai**	**1.04**	**216**	⇑P	**Pn**	**18 17 46.8**	**+0.2**
JAH				*e*S	**Sn**	**18 18 01.9**	**+0.3**
JIW	**Iwasaki**	**1.17**	**248**	⇑P	**Pn**	**18 17 48.0**	**-0.2**
JIW				S	**Sn**	**18 18 03.7**	**-0.7**
JYM2	**Yakumo 2**	**1.35**	**324**	⇓P	**Pn**	**18 17 50.5**	**+0.2**
JYM2				S	**Sn**	**18 18 08.3**	**+0.1**
JNB	**Noboribetsu**	**1.47**	**348**	⇑P	**Pn**	**18 17 52.0**	**+0.2**
JOM	**Ohasama**	**1.56**	**184**	⇑P	**Pn**	**18 17 53.6**	**+0.6**
JOM				*e*S	**Sn**	**18 18 13.4**	**+0.4**
JNBK	**Urakawa-nobuka**	**1.59**	**38**	P	**Pn**	**18 17 54.0**	**+0.7**
ERM	**Erimo**	**1.62**	**52**	*e*Pn	**Pn**	**18 17 55.1**	**+1.4**
ERM				*e*Sn	**Sn**	**18 18 14.6**	**+0.3**
ASAJ	**Asahikawa**	**3.20**	**15**	P	**Pn**	**18 18 15.4**	**+0.7**
ASAJ				S	**Sn**	**18 18 54.0**	**+2.2**
ASAJ				pmax	pmax		
	comp=Z,9.0nm,0.3s						
ASAJ				smax			
	comp=N,7.0nm,0.3s						
ASAJ	**Asahikawa**	**3.20**	**15**	P	**Pn**	**18 18 15.3**	**+0.6**
	comp=N,8.9nm,0.3s,baz=222,slow=13,SNR=66						
ASAJ				S	**Sn**	**18 18 54.0**	**+2.1**
	comp=N,7.3nm,0.3s,baz=144,slow=17,SNR=3.3						
YUK	**Yuzh-Kuril'sk**	**4.43**	**46**	P	**Pn**	**18 18 32.5**	**+1.1**
YUK				*i* S	**Sn**	**18 19 19.5**	**-2.3**
YUK				pmax	pmax		
	comp=Z,190nm,0.5s						
YUK				smax			
	comp=N,730nm,0.5s						
YUK				smax			
	comp=E,880nm,0.5s						
YUK				smax			
	comp=N,5μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
MAJO	**Matsushiro**	**5.15**	**210**	*e*P	**Pn**	**18 18 42.8**	**+1.6**
MAJO				pmax	pmax		
	comp=Z,64nm,0.6s						
MAJO	**Matsushiro**	**5.15**	**210**	*e*Pn	**Pn**	**18 18 42.8**	**+1.6**
	comp=Z,64nm,0.6s						
MAT	**Matsushiro**	**5.15**	**210**	P	**Pn**	**18 18 42.3**	**+1.1**
MAT				*e*S	**Sn**	**18 19 40.9**	**+1.6**
MJAR	**Matsushiro Arr**	**5.15**	**210**	P	**Pn**	**18 18 41.7**	**+0.5**
	comp=Z,3.8nm,0.3s,baz=327,slow=15,SNR=70						
YSS	**Yuzh-Sakhalins**	**6.00**	**9**	*e*P	**Pn**	**18 18 53.0**	**+0.3**
YSS				pmax	pmax		
	comp=Z,20nm,0.8s						
YSS	**Yuzh-Sakhalins**	**6.00**	**9**	*e*Pn	**Pn**	**18 18 53.3**	**+0.6**
	comp=Z,11nm,0.4s						
KUR	**Kuril'sk**	**6.30**	**46**	*e*S	**Sn**	**18 20 06.5**	**-0.8**
KUR				smax			
	comp=E,140nm,0.5s						
KUR				smax			
	comp=Z,80nm,0.5s						
JHJ	**Hachijo jima 2**	**8.01**	**190**	P	**Pn**	**18 19 17.4**	**-2.8**
	comp=Z,7.6nm,0.3s,baz=74,slow=20,SNR=16						
JHJ				S	**Sn**	**18 20 42.5**	**-6.7**
	comp=Z,4.4nm,0.3s,baz=74,slow=20,SNR=2.5						
HABR	**Khabarovsk**	**8.71**	**331**	*e*P	**Pn**	**18 19 28.9**	**-0.8**
HABR				*e*S	**Sn**	**18 21 07.5**	**+1.3**
KSRS	**Korea Array**	**11.08**	**256**	P	**Pn**	**18 20 01.9**	**-0.1**
	comp=Z,0.2nm,0.3s,baz=59,slow=15,SNR=4.8						
MA2	**Magadan**	**19.46**	**14**	*i* P	**Pn**	**18 21 46.1**	**-2.0**
YAK	**Yakutsk**	**22.19**	**345**	*i* P	**P**	**18 22 15.3**	**0.0**
YAK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb3.8						
SEY	**Seymchan**	**22.88**	**13**	*i* P	**P**	**18 22 20.5**	**-2.0**
BOD	**Bodaibo**	**24.25**	**323**	*e*P	**P**	**18 22 33.0**

ASAR	Alice Springs	64.75	188	P	P	18 27 55.0	-0.5
	comp=Z,0.4nm,0.5s,mb3.5,baz=1.5,slow=6.7,SNR=14						
FINES	FINESS Array B	65.30	331	*i* P	P	18 27 59.5	+0.7
FINES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
FINES	FINESS Array B	65.30	331	P	P	18 27 58.0	-0.7
	comp=Z,2.3nm,0.9s,mb4.0,baz=62,slow=9.5,SNR=5.7						
NOA	NORSAR Array B	70.52	337	P	P	18 28 29.8	-1.7
	comp=Z,1.4nm,0.8s,mb3.8,baz=40,slow=5.9,SNR=3.6						

IDC 20 18:36:56.4±1.2, 2204N×14309E, h0km, mb3.3/6, mb1 3.5/6, mb1mx3.5/19, mbtmp3.4/6, MS3.0/2, Ms1 3.0/2, ms1mx2.5/16, Error ellipse: s-maj=46.8km s-min=21.0km az=83.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	14.31	292	LR	LR	18 44 27.4	
	comp=Z,71nm,20.4s,baz=353,slow=32						
MJAR	Matsushiro Arr	15.06	345	LR	LR	18 45 47.7	
	comp=Z,51nm,19.2s,baz=35,slow=35						
KSRS	Korea Array	20.19	323	P	P	18 41 31.6	-1.1
	0.3nm,0.6s,baz=144,slow=8.6,SNR=3.0						
SONM	Songino Array	39.02	320	P	P	18 44 25.9	+1.2
	0.4nm,0.8s,baz=125,slow=7.7,SNR=4.6						
WRA	Warramunga Arr	42.59	192	P	P	18 44 54.4	+0.1
	0.7nm,1.0s,baz=14,slow=8.8,SNR=2.9						
ASAR	Alice Springs	46.30	192	P	P	18 45 23.7	-0.3
	0.2nm,0.7s,baz=13,slow=6.9,SNR=4.0						
ZALV	Zalesovo Beam	53.89	322	P	P	18 46 21.1	-0.3
	0.6nm,0.7s,baz=80,slow=8.9,SNR=3.1						
YKA	Yellowknife Ar	76.19	28	P	P	18 48 46.3	0.0
	0.2nm,0.5s,baz=292,slow=6.1,SNR=3.4						

*ISCJB **20** 18:49:31.6±0.5, 1078N±003×6241W±003, h80km±6km, Error ellipse: s-maj=4.9km s-min=3.6km az=138.9*
*TRN **20** 18:49:32.8, 1080N×6240W, h69km, MD3.1*
*NEIC **20** 18:49:32.8, 1080N×6240W, h70km, MD3.1(TRN), After TRN.*
*FUNV **20** 18:49:32.7, 1085N×6231W, h71km, MW3.1*

ISC 20 18:49:32.5±0.5, 1079N±003×6240W±003, h74km±7km, n24, σ0°74/43, 4C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.23	129	⇑*i* P	Pn	18 49 43.5	-0.2
GUIV				*e*S	Sn	18 49 51.4	-0.5
TCE	Chacachacare	0.64	98	*e*P	Pn	18 49 47.3	+0.2
TCE				*e*S	Sn	18 49 57.4	-0.4
GUNV	Guanoco	0.82	221	⇓*e*P	Pn	18 49 50.1	+1.0
GUNV				*e*S	Sn	18 50 04.1	+2.7
CRUV	Carupano	0.83	262	⇑*i* P	Pn	18 49 49.5	+0.3
CRUV				*e*S	Sn	18 50 01.9	+0.4
ITEV	Isla Los Testi	0.91	308	⇓*e*P	Pn	18 49 49.9	-0.2
ITEV				*e*S	Sn	18 50 02.8	-0.5
TRN	Trinidad (W)	0.99	98	*e*P	Pn	18 49 51.5	+0.4
TRN				*e*S	Sn	18 50 05.2	+0.2
TBH	Brigand Hill	1.34	103	*e*P	Pn	18 49 55.5	-0.1
TBH				*e*S	Sn	18 50 13.1	+0.1
GRW	Mount Saint Ca	1.54	28	*e*P	Pn	18 49 58.1	-0.1
GRW				*e*S	Sn	18 50 17.2	-0.3
GRHS	Sauteurs	1.61	27	*e*P	Pn	18 49 59.5	+0.4
GRHS				*e*S	Sn	18 50 17.8	-1.3
TPR	Prospect	1.64	76	*e*P	Pn	18 49 59.4	-0.1
GRIC	Isle de Caille	1.69	28	*e*P	Pn	18 50 01.2	+1.1
GRIC				*e*S	Sn	18 50 21.0	0.0
GRSS	Sisters	1.69	27	*e*P	Pn	18 50 00.7	+0.6
GRSS				*e*S	Sn	18 50 20.7	-0.3
GRCU	Cariacou	1.91	29	*e*P	Pn	18 50 03.2	+0.1
GRCU				*e*S	Sn	18 50 26.2	-0.1
ORIV	Oritupano	1.98	210	⇑*i* P	Pn	18 50 04.9	+1.0
ORIV				*e*S	Sn	18 50 28.1	+0.2
PCRV	Puerto La Cruz	2.28	255	⇓*e*P	Pn	18 50 09.2	+1.1
PCRV				*e*S	Sn	18 50 34.4	-0.9
IBAV	Isla La Blanqu	2.37	296	⇓*e*P	Pn	18 50 09.4	+0.2
IBAV				*e*S	Sn	18 50 37.3	-0.1
RIOV	Rio Grande	2.77	168	*e*P	Pn	18 50 14.4	-0.2
RIOV				*e*S	Sn	18 50 46.0	-1.0
PRGV	PARIAGUAN	2.99	228	*e*P	Pn	18 50 18.4	+0.7
PRGV				*e*S	Sn	18 50 52.3	-0.2
GURV	El Guri	3.08	193	*e*P	Pn	18 50 18.6	-0.3
GURV				*e*S	Sn	18 50 53.3	-1.5
CUPV	Cœpira	3.41	258	⇑*e*P	Pn	18 50 24.7	+1.3
BIRV	Birongo	3.82	266	*e*P	Pn	18 50 29.7	+0.8
BIRV				*e*S	Sn	18 51 10.8	-1.9
MERV	Las Mercedes	4.13	249	*e*S	Sn	18 51 19.2	-1.1
CAOV	Caicara del Or	5.18	229	*e*P	Pn	18 50 47.6	0.0
BAUV	El Baul	5.85	252	*e*P	Pn	18 50 56.4	-0.3

*NEIC **20** 19:04:50.0±2.1, 4040N×12665W, h10km, ML4.0(NCEDC), Error ellipse: s-maj=25.9km s-min=7.1km az=78.0*
*IDC **20** 19:04:51.9±2.8, 4057N×12644W, h0km, mb3.1/2, mb1 3.7/4, mb1mx3.4/23, mbtmp3.3/4, ML3.4/1, MS2.9/2, Ms1 2.9/2, ms1mx2.3/12, Error ellipse: s-maj=30.6km s-min=24.6km az=80.0*

ISC 20 19:04:49.1±0.9, 4035N±003×12674W±010, h10km, n133, σ1°07/135, mb3.1/2, 45C-49D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek	2.12	76	⇓P	Pn	19 05 22.6	-2.0
	baz=1.1,SNR=30						
O01C	Eel River Cons	2.25	94	⇑P	Pn	19 05 25.2	-1.2
	baz=1.1						
KRMB	Red Mountain	2.45	60	*e*Pn	Pn	19 05 27.5	-1.6
KRMB				*e*Sn	Sn	19 05 53.5	-5.6
M01C	Crescent City	2.48	52	⇓P	Pn	19 05 27.9	-1.7
	baz=1.8,SNR=163						
KCPM	Cahto Peak	2.52	104	*e*Pn	Pn	19 05 29.4	-0.7
KCPM				*e*Sn	Sn	19 05 59.3	-1.4
KIPM	Iron Peak	2.56	101	*e*Pn	Pn	19 05 30.2	-0.5
KBO	Bosley Butte	2.66	45	*e*Pn	Pn	19 05 30.1	-1.9
N02C	Big Bar	2.66	79	⇓P	Pn	19 05 30.5	-1.5
	baz=1.6,SNR=85						
P01C	Double 8 Ranch	2.76	107	⇓P	Pn	19 05 32.5	-1.0
	baz=1.6,SNR=215						
L02A	Cave Junction	2.98	52	⇓P	Pn	19 05 35.3	-1.1
	baz=2.3,SNR=168						
KTRM	Thompson Ridge	2.98	57	P	Pn	19 05 35.3	-1.1
K01A	Sixes	2.99	34	⇑P	Pn	19 05 34.4	-2.2
	baz=2.7,SNR=5.5						
O02C	Red Bluff	3.03	92	⇑P	Pn	19 05 36.7	-0.4
	baz=1.8						
KEBM	Edson Butte	3.10	35	*e*Pn	Pn	19 05 35.8	-2.3
M02C	Callahan	3.13	69	⇓P	Pn	19 05 37.2	-1.3
	baz=2.1,SNR=61						
HOPS	Hopland	3.14	114	*e*Pn	Pn	19 05 37.5	-1.2
HOPS				*e*Sn	Sn	19 06 12.7	-3.4
HOPS	Hopland	3.14	114	P	Pn	19 05 37.6	-1.0
	baz=2.0,SNR=156						
GASB	Alder Springs	3.17	101	⇑P	Pn	19 05 38.8	-0.2
	baz=2.0,SNR=72						
WDC	Whiskeytown Da	3.21	85	*e*Pn	Pn	19 05 39.2	-0.4
WDC	Whiskeytown Da	3.21	85	⇓P	Pn	19 05 39.5	-0.2
	baz=2.1,SNR=40						
YBH	Yreka Blue Hor	3.35	64	Pn	Pn	19 05 41.1	-0.4
	22nm,0.3s,baz=262,slow=11,SNR=305						
YBH				Sn	Sn	19 06 20.1	-1.2
	10.0nm,0.3s,baz=22,slow=9.2,SNR=8.2						
YBH	Yreka Blue Hor	3.35	64	⇓P	Pn	19 05 40.8	-0.7
	baz=2.4,SNR=165						
K02A	Glendale	3.43	44	P	Pn	19 05 41.6	-1.0
	baz=2.9,SNR=951						
M03C	McCloud	3.63	74	⇓P	Pn	19 05 45.2	-0.1
	baz=2.6						
O03C	Acorn Hollow,	3.63	94	⇓P	Pn	19 05 45.1	-0.2
	baz=2.4,SNR=7.7						
HUMO	Hull Mountain	3.63	50	⇑P	Pn	19 05 44.6	-0.7
HUMO	Hull Mountain	3.63	50	P	Pn	19 05 44.6	-0.8
	baz=2.9,SNR=812						
LHEM	Herd Peak	3.66	68	⇓P	Pn	19 05 46.7	+1.0
NSHM	Saint Helena R	3.69	118	*e*Pn	Pn	19 05 46.8	+0.6
MCCM	Marconi Confer	3.72	125	*e*Pn	Pn	19 05 45.9	-0.7
MCCM	Marconi Confer	3.72	125	⇑P	Pn	19 05 45.6	-1.0
	baz=2.7,SNR=57						
DBO	Dodson Butte	3.81	42	⇑P	Pn	19 05 46.8	-1.0
J02A	Umpqua	3.83	37	⇓P	Pn	19 05 46.3	-1.8
	baz=3.4,SNR=19						
CVS	Carmenet Viney	3.88	120	P	Pn	19 05 48.3	-0.5
	baz=2.8,SNR=17						
BUOR	Burton Butte	3.90	59	⇓P	Pn	19 05 50.3	+1.2
FARB	Farallon Islan	3.94	131	⇓P	Pn	19 05 48.8	-0.8
	baz=3.0,SNR=15						
BBOR	Butler Butte	3.96	49	⇓P	Pn	19 05 49.7	-0.3
M04C	Macdoel	3.97	67	⇑P	Pn	19 05 50.7	+0.6
	baz=3.0						
SUTB	Sutter Butte	3.98	105	⇓P	Pn	19 05 49.7	-0.5
	baz=2.8						
HATC	Hat Creek Radi	4.05	82	⇓P	Pn	19 05 52.3	+1.2
	baz=2.9						
L04A	Klamath Falls	4.09	62	⇑P	Pn	19 05 52.1	+0.5
	baz=3.2,SNR=26						
VSP	Spence Mountai	4.12	60	⇑P	Pn	19 05 52.7	+0.6
J03A	Ideyld Park	4.13	42	⇓P	Pn	19 05 51.4	-0.9
	baz=3.6,SNR=209						
LBCM	Butte Creek Ri	4.13	81	P	Pn	19 05 53.4	+1.1
OHCM	Honcut	4.17	102	*e*P	Pn	19 05 53.0	+0.2
HOG	Hogback Mounta	4.24	62	⇓P	Pn	19 05 54.4	+0.7
I02A	Mapleton	4.25	30	⇑P	Pn	19 05 52.3	-1.5
	baz=3.9						
O04C	Chester	4.32	89	⇓P	Pn	19 05 55.5	+0.6
	baz=3.1,SNR=5.7						
M05C	Lookout	4.36	75	⇓P	Pn	19 05 55.9	+0.5
	baz=3.3						
K04A	Chilquin	4.39	57	⇑P	Pn	19 05 55.7	-0.1
	baz=3.5						
I03A	Eugene	4.44	34	⇑P	Pn	19 05 55.0	-1.5
	baz=4.0,SNR=9.4						
O05C	Quincy	4.48	93	⇓P	Pn	19 05 57.9	+0.8
	baz=3.3,SNR=53						
BDM	Black Diamond	4.48	121	⇓P	Pn	19 05 57.2	+0.1
	baz=3.4,SNR=5.9						
J04A	Umpqua Nationa	4.51	49	⇓P	Pn	19 05 57.9	+0.5
	baz=3.8						
JRSC	Jasper Ridge	4.58	128	⇑P	Pn	19 05 57.3	-1.2
	baz=3.6,SNR=23						
I04A	Tendick Farm,	4.72	42	⇑P	Pn	19 05 59.9	-0.4
	baz=4.1,SNR=14						
WENL	Wente Brothers	4.74	123	⇓P	Pn	19 06 00.4	-0.3
	baz=3.7,SNR=7.3						
L05A	Lakeview	4.77	67	P	Pn	19 06 01.2	+0.2
	baz=3.8,SNR=17						
HBO	Huckleberry Mo	4.80	42	P	Pn	19 06 01.7	+0.3
BNLO	Ben Lomond (Sa	4.80	131	P	Pn	19 06 00.5	-1.0
	baz=3.9,SNR=55						
P05C	Yuba Gap, Truc	4.84	100	⇑P	Pn	19 06 03.3	+1.3
	baz=3.6,SNR=5.8						
LAVA	Lava Cap Winer	4.91	107	⇑P	Pn	19 06 04.7	+1.8
	baz=3.7						
BEKR	Beckwourth	4.92	94	⇑P	Pn	19 06 04.5	+1.5
	baz=3.7						
IRO	Indian Ridge	4.95	41	P	Pn	19 06 03.4	-0.1
K05A	Summer Lake	4.99	60	⇑P	Pn	19 06 04.4	+0.3
	baz=4.1,SNR=47						
H03A	Soap Creek Ran	5.02	29	⇑P	Pn	19 06 04.1	-0.3
	baz=4.7						
J05A	Fort Rock	5.05	53	⇓P	Pn	19 06 05.3	+0.4
	baz=4.3,SNR=67						
S04C	Ingram Canyon,	5.09	122	⇓P	Pn	19 06 05.6	+0.2
	baz=4.0,SNR=46						
MOD	Modoc	5.11	70	*e*Pn	Pn	19 06 05.6	-0.1
	8.3nm,0.6s						
MOD	Modoc	5.11	70	⇓P	Pn	19 06 05.8	+0.2
	baz=4.1,SNR=17						
FRIS	Frissel Point	5.17	40	P	Pn	19 06 06.5	0.0
PACP	Pacheco Peak	5.42	126	⇓P	Pn	19 06 09.3	-0.6
	baz=4.4,SNR=5.6						
BKCOR	Black Crater	5.44	42	P	Pn	19 06 10.0	-0.2
K06A	Valley Falls	5.45	61	⇓P	Pn	19 06 10.4	+0.1
	baz=4.5,SNR=24						
CMB	Columbia Colle	5.45	113	*e*Pn	Pn	19 06 12.1	+1.7
	22nm,0.6s						
CMB	Columbia Colle	5.45	113	⇓P	Pn	19 06 12.4	+2.0
	baz=4.3						
SAO	San Andreas Ge	5.48	129	*e*Pn	Pn	19 06 09.4	-1.4
	35nm,0.4s						
WCN	Washoe City	5.48	99	⇓P	Pn	19 06 13.8	+3.0
	baz=4.3						
H04A	Detroit Lake	5.49	36	⇑P	Pn	19 06 10.1	-0.8
	baz=5.0						
HAST	Hastings Reser	5.68	132	⇑P	Pn	19 06 12.4	-1.1
	baz=4.8,SNR=84						
J06A	Christmas Vall	5.71	57	P	Pn	19 06 14.0	0.0
	baz=4.8,SNR=39						
G04A	Mutno	5.78	31	⇓P	Pn	19 06 15.3	+0.4
	baz=5.4						
S05C	Merced	5.83	119	⇓P	Pn	19 06 16.0	+0.4
	baz=4.8,SNR=13						
T05C	Eagle Field, D	5.87	124	⇑P	Pn	19 06 16.3	+0.1
	baz=4.8						
S06C	San Francisco	5.90	112	⇓P	Pn	19 06 18.9	+2.3
	baz=4.8						
H05A	Madras	5.92	42	⇓P	Pn	19 06 16.2	-0.6
	baz=5.3,SNR=14						
O07A	Toulon	6.02	89	⇑P	Pn	19 06 18.5	+0.2
	baz=4.8,SNR=7.3						
K07A	Rock Creek Ran	6.09	65	⇓P	Pn	19 06 19.2	0.0
	baz=5.1,SNR=29						
V03C	Hunter Liggett	6.12	133	⇑P	Pn	19 06 18.9	-0.7
	baz=5.2,SNR=135						
U04C	Hernandez Rese	6.14	128	⇑P	Pn	19 06 19.5	-0.5
	baz=5.2,SNR=7.7						
R07C	Lee Vining	6.39	108	⇓P	Pn	19 06 26.8	+3.6
	baz=5.2						
M08A	Happy Creek Ra	6.43	77	⇑P	Pn	19 06 23.7	-0.2
	baz=5.3						
T06C	Milleton Lake	6.43	119	⇑P	Pn	19 06 24.6	+0.7
	baz=5.3,SNR=8.1						
WVOR	Wild Horse Val	6.44	69	*e*Pn	Pn	19 06 22.3	-1.7
	6.1nm,0.8s						
H06A	Lindquist Farm	6.45	45	⇓P	Pn	19 06 24.0	-0.1
	baz=5.8						
KCC	Kaiser Creek	6.54	115	⇓P	Pn	19 06 27.4	+2.1
	baz=5.4						
I07A	Izee	6.54	53	⇑P	Pn	19 06 26.1	+0.7
	baz=5.7,SNR=28						
PKD	Parkfield	6.57	130	⇑P	Pn	19 06 24.4	-1.4
	baz=5.6,SNR=60						
V04C	Ramage Ranch,	6.61	134	⇑P	Pn	19 06 25.8	-0.5
	baz=5.7,SNR=12						
G06A	Carlson Farm,	6.63	41	⇓P	Pn	19 06 26.6	0.0
	baz=6.0						
H07A	Lands Inn, Kim	6.79	49	⇑P	Pn	19 06 29.7	+0.9
	baz=6.0						
NVAR	Mina Array Bea	6.81	104	Pn	Pn	19 06 31.6	+2.6
	0.8nm,0.3s,baz=281,slow=14,SNR=13						
TDL	Tradedollar La	6.84	27	P	Pn	19 06 30.1	+0.6
J08A	Circle Bar Ran	6.87	61	⇓P	Pn	19 06 29.8	0.0
	baz=5.9						
MTUM	Tungsten Hills	7.05	112	*e*Pn	Pn	19 06 35.4	+3.1
G07A	Ruggs Ranch, H	7.15	44	⇑P	Pn	19 06 34.6	+0.8
	baz=6.5						
S08C	White Mtn Res	7.26	110	⇓P	Pn	19 06 38.1	+2.9
	baz=6.1						
H08A	Prairie City	7.28	52	⇓P	Pn	19 06 36.1	+0.6
	baz=6.5						
G08A	Pilot Rock	7.56	47	⇑P	Pn	19 06 39.9	+0.7
	baz=6.8						
D05A	Enumclaw	7.65	25	⇓P	Pn	19 06 41.8	+1.2
	baz=7.4						
PKM	Peak Mountain	7.73	133	⇑P	Pn	19 06 41.5	-0.3
	baz=6.8						
ARVC	Arvin	8.15	127	⇓P	Pn	19 06 47.1	-0.4
	baz=7.2						
EDW2	Edwards Air Fo	8.83	125	⇑P	Pn	19 06 57.3	+0.5
	baz=7.8						
H11A	Donnelly	9.04	58	⇑P	Pn	19 07 01.3	+1.7
	baz=8.1						
G11A	Walters Elk Ra	9.20	53	⇑P	Pn	19 07 03.6	+1.9
	baz=8.3						
GSC	Goldstone	9.34	120	*e*Pn	Pn	19 07 04.5	+0.9
	6.1nm,0.4s						
GSC	Goldstone	9.34	120	⇑P	Pn	19 07 04.8	+1.1
	baz=8.2						
F11A	Grangeville	9.51	51	⇓P	Pn	19 07 07.8	+1.7
	baz=8.7						
B08A	Colville Reser	9.60	31	⇑P	Pn	19 07 07.8	+0.5
	baz=9.2						
HLID	Hailey	9.73	67	⇑P	Pn	19 07 11.3	+2.2
	baz=8.7						
H12A	Diamond D Ranc	9.74	61	⇑P	Pn	19 07 11.0	+1.8
	baz=8.8						
E11A	Bogner Ranch,	9.74	48	⇑P	Pn	19 07 10.0	+0.8
	baz=9.0						
GMRC	Granite Mounta	10.40	119	⇑P	Pn	19 07 18.9	+0.6
	baz=9.3						
NEW	Newport	10.49	38	LR	LR	19 11 37.8	
	comp=Z,33nm,18.2s,baz=235,slow=40						
BELC	Belle Mtn.	10.65	123	⇓P	Pn	19 07 22.0	+0.2
	baz=9.6						
MCMT	McKenzie Canyo	11.18	62	*e*Pn	Pn	19 07 28.6	-0.3
BC3	Big Chuckw Mtn	11.22	123	⇓P	Pn	19 07 29.2	-0.4
	baz=10						
CHMT	Chamberlain Mo	11.77	52	*e*P	Pn	19 07 37.8	+0.8
D15A	Lincoln	12.27	52	⇑P	Pn	19 07 44.4	+0.7
	baz=11,SNR=5.7						
TXAR	Lajitas Array	21.83	113	P	P	19 09 45.8	+4.1
	0.8nm,1.0s,mb3.1,baz=303,slow=7.0,SNR=7.6						
YKA	Yellowknife Ar	23.35	14	P	P	19 09 59.3	+1.8
YKA	Yellowknife Ar	23.35	14	P	P	19 09 59.3	+1.9
	0.8nm,0.9s,mb3.2,baz=202,slow=12,SNR=7.6						
SCHQ	Schefferville	41.61	49	LR	LR	19 29 11.0	
	comp=Z,27nm,19.0s,baz=109,slow=35						

*ISCJB **20** 19:08:08.7±0.8, 218N±01×1430E±02, h25km, mb3.4/7, Error ellipse: s-maj=29.2km s-min=16.3km az=166.5*
*NEIC **20** 19:08:10.4±0.6, 2183N×143.14E, Error ellipse: s-maj=23.8km s-min=14.0km az=84.0*
*IDC **20** 19:08:10.2±1.0, 2183N×14320E, h24km±5km, mb3.3/8, mb1 3.6/8, mb1mx3.5/19, mbtmp3.3/8, MS2.9/2, Ms1 2.9/2, ms1mx2.6/13, Error ellipse: s-maj=28.8km s-min=20.2km az=77.0*

ISC 20 19:08:10.8±0.8, 218N±01×1431E±02, h26km, h26km±1.3km: pP-P, n13, σ0°25/11, mb3.4/7, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	Kunigami	14.43	293	LR	LR	19 16 37.3	
	comp=Z,40nm,19.6s,baz=60,slow=35						
KSRS	Korea Array	20.39	323	P	P	19 12 45.7	+0.1
	1.0nm,0.7s,baz=139,slow=9.7,SNR=3.3						
ASAJ	Asahikawa	22.24	359	LR	LR	19 21 13.9	
	comp=Z,31nm,20.4s,baz=175,slow=35						
SONM	Songino Array	39.22	320	P	P	19 15 36.9	+0.2
	0.4nm,0.7s,mb3.3,baz=124,slow=4.7,SNR=5.4						
WRA	Warramunga Arr	42.38	192	P	P	19 16 03.3	+0.2
	0.5nm,0.7s,mb3.2,baz=15,slow=8.9,SNR=4.9						
ASAR	Alice Springs	46.09	192	P	P	19 16 32.4	-0.2
	0.2nm,0.7s,mb3.2,baz=14,slow=8.1,SNR=5.3						
ZALV	Zalesovo Beam	54.09	322	P	P	19 17 32.7	-0.3
ZALV				pP	pP	19 17 40.9	-0.3
ZALV	Zalesovo Beam	54.09	322	P	P	19 17 32.7	-0.3
	0.3nm,0.4s,mb3.6,baz=101,slow=7.7,SNR=4.6						
ZALV				pP	pP	19 17 40.9	-0.3
	0.4nm,0.3s,baz=80,slow=8.9,SNR=2.7						
MKAR	Makanchi Array	54.58	313	P	P	19 17 36.7	-0.1
	0.2nm,0.6s,mb3.3,baz=79,slow=7.5,SNR=2.3						
MKAR				pP	pP	19 17 44.4	-0.5
	0.6nm,1.0s,baz=57,slow=4.8,SNR=1.7						
YKA	Yellowknife Ar	76.37	28	P	P	19 19 57.0	-0.3
YKA				pP	pP	19 20 04.3	-1.5
YKA	Yellowknife Ar	76.37	28	P	P	19 19 57.0	-0.3
	0.6nm,0.6s,mb3.7,baz=292,slow=5.7,SNR=8.2						
YKA				pP	pP	19 20 04.3	-1.5
	0.5nm,0.8s,baz=293,slow=5.4,SNR=5.6						
NVAR	Mina Array Bea	83.11	51	P	P	19 20 34.7	+0.3
NVAR	Mina Array Bea	83.11	51	P	P	19 20 34.7	+0.3
	0.6nm,0.7s,mb3.8,baz=250,slow=7.3,SNR=4.5						

BJI 20 19:13:49.6, 3839N×10172E, h14km, ML3.5, Gansu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	Gaotai	1.80	305	PG	Pg	19 14 22.1	-2.1
GTA				SG	Sg	19 14 46.6	-1.0
GTA				Smax			
	comp=N,511nm,0.5s						
GTA				Smax			
	comp=E,628nm,0.5s						
LZH	Lanzhou	2.86	143	PG	Pg	19 14 40.4	-3.9
LZH				SG	Sg	19 15 15.1	-6.3
LZH				Smax			
	comp=N,184nm,0.6s						
LZH				Smax			
	comp=E,223nm,0.6s						

*ATH **20** 19:21:49.1, 3886N×2595E, h59km, MD3.2/3*
*CSEM **20** 19:21:50.8±0.4, 3877N×2609E, h25km, MD2.9, Error ellipse: s-maj=10.5km s-min=6.5km az=91.0*
*ISCJB **20** 19:21:51.1±1.2, 3876N±004×260E±0.1, h25km±8km, Error ellipse: s-maj=14.9km s-min=5.5km az=167.0*
*DDA **20** 19:21:51.7, 3878N×2607E, h7km±2km, Md2.9*
*ISK **20** 19:21:51.9, 3900N×2641E, h5km, MD2.9*

ISC 20 19:21:51.0±1.4, 3876N±004×260E±01, h20km±10km, n12, σ1°11/19, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.54	24	*e*P	Pb	19 22 01.1	-0.7
URLA	Izmir	0.62	129	*i* P	Pb	19 22 02.9	-0.3
URLA				*i* S	Sb	19 22 12.1	+0.7
URLA	Izmir	0.62	129	*i* P	Pb	19 22 02.8	-0.3
URLA				*i* S	Sb	19 22 12.1	+0.8
AYVA	Ayvalik	0.78	45	*i* P	Pb	19 22 05.5	-0.3
AYVA				*i* S	Sb	19 22 16.1	+0.1
BLCB	Balcova	0.91	114	*e*PG	Pb	19 22 08.1	+0.1
BLCB				*e*SG	Sb	19 22 20.5	+0.9
BOZC	Bozcaada	1.09	3	*i* P	Pn	19 22 10.5	-0.6
BOZC				*i* S	Sn	19 22 27.6	+2.0
EZN	Ezine	1.10	14	*e*PG	Pn	19 22 08.7	-2.6
SMG	Samos	1.24	147	*e*P	Pn	19 22 13.2	0.0
SMG				*e*S	Sn	19 22 29.9	+0.6
AKS	Akhisar

VHO *i* S Sn 19 38 57.6 -1.6
PPM Popocatepetl 4.85 303 *i* S Sn 19 39 57.7 -0.9

*ISCJB **20** 19:41:34.5±0.6, 2956S±003×712W±0.1, h58km±4km, mb4.1/6, MS3.4/4, Error ellipse: s-maj=16.9km s-min=4.3km az=8.6*
*GUC **20** 19:41:34.9±0.7, 2958S×7109W, h52km±5km, ML4.5*
*NEIC **20** 19:41:34.9, 2958S×7109W, h52km, MG4.5(GUC), After GUC.*
*IDC **20** 19:41:38.4±0.9, 2945S×71.17W, h74km±6km, mb3.8/6, mb1 3.8/10, mb1mx3.7/19, mbtmp3.7/10, MS3.4/4, Ms1 3.4/4, ms1mx3.0/22, Error ellipse: s-maj=25.0km s-min=12.0km az=56.0*
ISC 20 19:41:35.6±0.6, 2955S±003×712W±01, h49km±5km, h63km±5.4km: pP-P, n31, σ0§68/40, mb4.1/6, MS3.4/4, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
LSCH	**La Serena**	**0.36**	**188**	⇑*i*P		**Pn**	**19 41 45.1**	**-0.1**
LSCH				*i* S		**Sn**	**19 41 52.2**	**+0.1**
LCO	**Las Campanas**	**0.69**	**38**	*e*Pg		**Pn**	**19 41 48.9**	**-0.3**
LCO				*e*Sg		**Sn**	**19 41 58.2**	**-0.7**
TLL	**Tololo Astrono**	**0.70**	**152**	P		**Pn**	**19 41 49.9**	**+0.6**
TLL				*i* S		**Sn**	**19 41 59.5**	**+0.3**
TLL	**Tololo Astrono**	**0.70**	**152**	*e*P		**Pn**	**19 41 49.9**	**+0.6**
TLL				*i* S		**Sn**	**19 41 59.5**	**+0.3**
TLL				AML		AML	19 42 01.6	
	comp=E,25μm,0.4s							
VACH	**Vallenar**	**1.04**	**21**	⇑*i*P		**Pn**	**19 41 53.8**	**-0.1**
VACH				*i* S		**Sn**	**19 42 07.5**	**+0.1**
VACH	**Vallenar**	**1.04**	**21**	⇑*i*P		**Pn**	**19 41 53.8**	**-0.1**
VACH				*i* S		**Sn**	**19 42 07.5**	**+0.1**
VACH				AML		AML	19 42 10.6	
	comp=N,10μm,0.2s							
OVCH	**Ovalle**	**1.05**	**181**	*e*P		**Pn**	**19 41 53.5**	**-0.5**
OVCH				*i* S		**Sn**	**19 42 07.1**	**-0.5**
CMCH	**Combarbala**	**1.62**	**174**	*e*P		**Pn**	**19 42 01.4**	**-0.3**
CMCH				*i* S		**Sn**	**19 42 21.2**	**-0.3**
CMCH	**Combarbala**	**1.62**	**174**	*e*P		**Pn**	**19 42 01.4**	**-0.3**
CMCH				*i* S		**Sn**	**19 42 21.2**	**-0.3**
CMCH				AML		AML	19 42 24.2	
	comp=E,24μm,0.6s							
CPCH	**Copiapo**	**2.31**	**19**	⇑*i*P		**Pn**	**19 42 11.1**	**0.0**
CPCH				*i* S		**Sn**	**19 42 38.9**	**+0.5**
CFAA	**Coronel Fontan**	**3.26**	**130**	P		**Pn**	**19 42 26.7**	**+2.5**
	comp=E,1.1nm,0.3s,baz=312,slow=13,SNR=118							
CFAA				S		**Sn**	**19 43 08.4**	**+6.6**
	comp=E,2.8nm,0.3s,baz=51,slow=21,SNR=5.2							
IHA	**Instituto Hidr**	**3.48**	**186**	*e*P		**Pn**	**19 42 26.8**	**-0.4**
CLCH	**Cerro Calan**	**3.87**	**172**	*e*P		**Pn**	**19 42 34.5**	**+1.9**
CLCH				*i* S		**Sn**	**19 43 15.8**	**-1.0**
PLCA	**Paso Flores**	**11.16**	**178**	*e*P		**Pn**	**19 44 13.0**	**+0.5**
PLCA	**Paso Flores**	**11.16**	**178**	P		**Pn**	**19 44 17.0**	**+4.5**
	comp=E,0.1nm,0.3s,baz=344,slow=7.4,SNR=3.3							
TRQA	**Tornquist**	**11.42**	**140**	*e*Pn		**Pn**	**19 44 15.0**	**-1.0**
	comp=E,25nm,0.8s							
LPAZ	**La Paz**	**13.50**	**13**	P		**Pn**	**19 44 44.9**	**+0.4**
	comp=E,0.1nm,0.3s,baz=175,slow=8.3,SNR=4.9							
SIV	**San Ignacio**	**16.39**	**37**	P		**Pn**	**19 45 21.7**	**-0.6**
	comp=E,0.1nm,0.3s,baz=230,slow=12,SNR=9.3							
ATAH	**Atahualpa**	**23.44**	**342**	LR		LR	19 54 02.4	
	comp=E,46nm,20.2s,MS2.9,baz=31,slow=32							
BDFB	**Brasilia**	**25.42**	**62**	P		**P**	**19 46 58.5**	**-0.3**
	comp=E,1.3nm,0.7s,mb3.6,baz=197,slow=19,SNR=2.5							
BDFB				LR		LR	19 58 04.2	
	comp=E,43nm,18.3s,MS3.0,baz=93,slow=39							
VNA3	**Neumayer Olymp**	**53.22**	**159**	*e*		**P**	**19 50 49.2**	**+0.7**
VNA3				*e*			19 50 52.7	
VNA3				*e*		pP	19 51 02.6	+0.6
VNA3				*e*			20 10 33.5	
VNA3				*e*			20 10 37.7	
VNA2	**Neumayer--Watz**	**53.85**	**159**	*e*		**P**	**19 50 53.5**	**+0.4**
	baz=291,slow=9.1							
VNA2				*e*			19 50 57.5	
VNA2				*e*		pP	19 51 06.0	-0.6
VNA2				*e*			20 10 34.2	
VNA2				*e*			20 10 38.5	
SNAA	**Sanae**	**55.44**	**159**	P		**P**	**19 51 05.1**	**+0.4**
	comp=E,3.1nm,0.9s,mb4.3,baz=271,slow=6.4,SNR=18							
SNAA				pP		pP	19 51 22.7	+4.4
	comp=E,1.1nm,1.0s,baz=262,slow=8.4,SNR=2.8							
TXAR	**Lajitas Array**	**66.26**	**329**	P		**P**	**19 52 18.9**	**+0.2**
	comp=E,0.3nm,0.7s,mb3.4,baz=148,slow=7.4,SNR=3.8							
TXAR				pP		pP	19 52 38.2	+5.7
	comp=E,0.5nm,0.9s,baz=159,slow=8.0,SNR=3.4							
DBIC	**Dimbokro**	**73.09**	**72**	P		**P**	**19 53 00.7**	**-0.4**
	comp=E,4.2nm,0.8s,mb4.4,baz=256,slow=2.9,SNR=3.8							
DBIC				LR		LR	20 25 26.5	
	comp=E,52nm,20.8s,MS3.8,baz=128,slow=36							
BOSA	**Boshof**	**81.50**	**118**	P		**P**	**19 53 47.7**	**-0.3**
BOSA	**Boshof**	**81.50**	**118**	P		**P**	**19 53 47.7**	**-0.3**
	comp=E,5.5nm,1.1s,mb4.4,baz=280,slow=22,SNR=3.8							
TOA0	**Torodi Ar. Sit**	**82.01**	**70**	*e*P		**P**	**19 53 50.4**	**-0.4**
TORD	**Torodi Ar. Bea**	**82.01**	**70**	P		**P**	**19 53 50.6**	**-0.2**
	comp=E,2.6nm,0.8s,mb4.2,baz=259,slow=4.9,SNR=11							
TORD				pP		pP	19 54 09.1	+4.0
	comp=E,1.3nm,0.8s,baz=267,slow=4.3,SNR=4.4							
TORD				LR		LR	20 31 02.6	
	comp=E,39nm,18.1s,MS3.8,baz=320,slow=36							
ZAA0	**Zalesovo Array**	**150.04**	**29**	*e*PKPbc		PKPbc	20 01 20.2	0.0
ZALV	**Zalesovo Beam**	**150.04**	**29**	PKPbc		PKPbc	20 01 20.5	+0.3
	comp=E,10nm,0.9s,baz=298,slow=3.2,SNR=17							
ZALV				pPKPbc		pPKPbc	20 01 41.9	+6.8
	comp=E,4.0nm,0.7s,baz=322,slow=1.8,SNR=4.3							

*BJI **20** 19:51:09.9, 2573N×14467E, h15km, mB4.8, mb4.7, Ms4.4, Msz4.2*
*JMA **20** 19:51:16.9±0.4, 2668N×144.18E, h0km, M5.4*
*MOS **20** 19:51:18.2±0.9, 2609N×144.12E, h33km, mb4.9/23, Error ellipse: s-maj=14.3km s-min=6.7km az=104.6*
*NEIC **20** 19:51:18.4±0.2, 2611N×144.10E, mb4.8/22, Error ellipse: s-maj=6.4km s-min=5.4km az=83.0*
*ISCJB **20** 19:51:18.5±0.3, 2660N±003×144.12E±004, h18km, mb4.7/67, MS3.8/12, Error ellipse: s-maj=5.4km s-min=4.2km az=153.3*
*IDC **20** 19:51:18.1±0.8, 2612N×14403E, h20km±5km, mb4.3/15, mb1 4.4/19, mb1mx4.4/23, mbtmp4.3/19, ML4.2/4, MS3.4/6, Ms1 3.4/6, ms1mx3.2/32, Error ellipse: s-maj=18.1km s-min=12.6km az=77.0*
ISC 20 19:51:20.1±0.3, 2650N±003×14411E±004, h19km, h19km±1.6km: pP-P, n163, σ1§08/179, mb4.7/67, MS3.8/12, 8C-8D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.73**	**275**	P		**Pn**	**19 51 49.4**	**+0.1**
JHHJ				*e*S		**Sn**	**19 52 14.4**	**+3.5**
CBIJ	**Chichi jima**	**1.82**	**290**	P		**Pn**	**19 51 50.4**	**0.0**
CBIJ				*e*S		**Sn**	**19 52 13.2**	**+0.2**
CBIJ	**Chichi jima**	**1.82**	**290**	Pn		**Pn**	**19 51 50.2**	**-0.2**
	273nm,0.3s,baz=289,slow=4.3,SNR=41							
CBIJ				Sn		**Sn**	**19 52 13.6**	**+0.6**
	280nm,0.3s,baz=104,slow=23,SNR=18							
JHJ2	**Mitsune**	**7.57**	**332**	P		**Pn**	**19 53 09.9**	**+0.4**
JHJ2				S		**Sn**	**19 54 33.5**	**-1.3**
JHJ	**Hachijo jima 2**	**7.59**	**331**	Pn		**Pn**	**19 53 10.5**	**+0.7**
	8.4nm,0.3s,baz=72,slow=14,SNR=18							
JHJ				Sn		**Sn**	**19 54 34.0**	**-1.3**
	39nm,0.3s,baz=264,slow=22,SNR=8.4							
BSO1	**Boso 1**	**8.56**	**342**	S		**Sn**	**19 54 58.8**	**-0.4**
BSO3	**Boso 3**	**8.84**	**340**	P		**Pn**	**19 53 27.6**	**+0.8**
BSO3				S		**Sn**	**19 55 06.3**	**+0.4**
BSO4	**Boso 4**	**9.06**	**340**	P		**Pn**	**19 53 31.2**	**+1.3**
BSO4				S		**Sn**	**19 55 11.1**	**-0.4**
JOD2	**Odawara 2**	**9.74**	**335**	P		**Pn**	**19 53 40.8**	**+1.6**
JOD2				S		**Sn**	**19 55 26.4**	**-1.7**
JHU	**Hanno**	**10.20**	**337**	P		**Pn**	**19 53 45.8**	**+0.3**
JHU				S		**Sn**	**19 55 36.6**	**-2.7**
JYT	**Yasato**	**10.26**	**342**	P		**Pn**	**19 53 45.6**	**-0.7**
JYT				S		**Sn**	**19 55 39.6**	**-1.2**
JNY	**Yasuok**	**10.33**	**330**	P		**Pn**	**19 53 52.2**	**+4.9**
JRY	**Ryogami san**	**10.48**	**336**	P		**Pn**	**19 53 50.1**	**+0.8**
JRY				S		**Sn**	**19 55 44.7**	**-1.5**
JHO	**Hitachi**	**10.52**	**344**	P		**Pn**	**19 53 49.8**	**-0.1**
JHO				S		**Sn**	**19 55 42.9**	**-4.4**
MJAR	**Matsushiro Arr**	**11.20**	**335**	Pn		**Pn**	**19 54 00.6**	**+1.3**
	3.1nm,0.3s,baz=165,slow=11,SNR=36							
MJAR				Sn		**Sn**	**19 56 03.2**	**-0.7**
	2.3nm,0.3s,baz=8.2,slow=20,SNR=7.9							
MJAR				LR		LR	19 58 41.4	
	comp=Z,199nm,18.5s,baz=145,slow=39							
MAJO	**Matsushiro**	**11.20**	**335**	*e*P		**Pn**	**19 54 00.8**	**+1.5**
MAJO				pmax		pmax		
	comp=Z,20nm,0.5s							
MAJO	**Matsushiro**	**11.20**	**335**	*e*Pn		**Pn**	**19 54 00.8**	**+1.5**
	comp=Z,20nm,0.5s							
MAT	**Matsushiro**	**11.20**	**335**	P		**Pn**	**19 54 00.3**	**+1.0**
MAT				*e*S		**Sn**	**19 56 03.5**	**-0.5**
JMK	**Ichinoseki**	**12.65**	**350**	P		**Pn**	**19 54 18.4**	**-0.7**
GUMO	**Guam**	**12.86**	**177**	LR		LR	19 58 12.2	
	comp=Z,225nm,19.0s,baz=9.7,slow=33							
JNU	**Nakatsue**	**13.24**	**303**	LR		LR	19 58 56.2	
	comp=Z,148nm,19.8s,baz=234,slow=34							
JOW	**Kunigami**	**14.16**	**275**	LR		LR	19 59 11.8	
	comp=Z,119nm,20.0s,baz=124,slow=34							
ERM	**Erimo**	**15.50**	**357**	*e*P		**Pn**	**19 54 56.6**	**-1.0**
KSRS	**Korea Array**	**17.52**	**313**	P		**Pn**	**19 55 24.6**	**+1.3**
	comp=Z,0.5nm,0.3s,baz=122,slow=12,SNR=44							
ASAJ	**Asahikawa**	**17.62**	**356**	P		**Pn**	**19 55 26.3**	**+1.8**
	comp=Z,1.4nm,0.3s,baz=230,slow=11,SNR=12							
ASAJ				S		**Sn**	**19 58 34.3**	**-6.0**
	comp=Z,0.4nm,0.3s,baz=342,slow=19,SNR=4.0							
ASAJ				LR		LR	20 02 13.4	
	comp=Z,183nm,20.6s,baz=166,slow=36							
VLA	**Vladivostok**	**19.34**	**332**	*i* P		**Pn**	**19 55 48.1**	**+2.6**
VLA				pmax		pmax		
	comp=Z,110nm,1.6s							
YSS	**Yuzh-Sakhalins**	**20.44**	**357**	⇑*e*P		**P**	**19 55 59.2**	**+2.9**
YSS	**Yuzh-Sakhalins**	**20.44**	**357**	*e*P		**P**	**19 55 59.3**	**+3.0**
	comp=Z,52nm,1.1s							
MDJ	**Mudanjiang**	**21.53**	**331**	P		**P**	**19 56 09.4**	**+1.3**
MDJ				AP			19 56 12.3	
MDJ				S		**S**	**20 00 11.4**	**+5.4**
MDJ				SCP		ScP	20 03 45.3	-1.1
MDJ				AMB		AMB		
	comp=Z,6.0nm,1.3s,mb3.9							
MDJ				AMB		AMB		
	comp=Z,116nm,3.6s							
MDJ				LR		LR		
	comp=Z,96nm,20.0s,MS3.2							
NJ2	**Nanjing**	**22.69**	**290**	*e*P		**P**	**19 56 20.1**	**-0.5**
NJ2				AP			19 56 24.9	
NJ2				XP		sP	19 56 27.6	-0.8
NJ2				PP			19 56 49.3	
NJ2				PPP			19 56 59.3	
NJ2				S		**S**	**20 00 24.0**	**-4.5**
NJ2				AMB		AMB		
	comp=Z,30nm,1.1s,mb4.6							
NJ2				AMB		AMB		
	comp=Z,100nm,7.8s							
NJ2				LR		LR		
	comp=N,320nm,15.4s							
NJ2				LR		LR		
	comp=E,220nm,22.0s							
NJ2				LR		LR		
	comp=Z,220nm,22.0s							
SNY	**Shenyang**	**22.77**	**317**	⇓P		**P**	**19 56 24.5**	**+3.1**
SNY				S		**S**	**20 00 36.6**	**+7.0**
SNY				AMB		AMB		
	comp=Z,24nm,0.9s,mb4.6							
SNY				AMB		AMB		
	comp=Z,194nm,5.3s							
SNY				LR		LR		
	comp=N,338nm,15.3s,MS3.9							
SNY				LR		LR		
	comp=E,182nm,19.5s,MS3.9							
SNY				LR		LR		
	comp=Z,132nm,14.8s,MS3.5							
CN2	**Changchun**	**22.95**	**324**	*e*P		**P**	**19 56 25.0**	**+1.8**
CN2				*e*XP		sP	19 56 32.0	+0.9
CN2				*e*S		**S**	**20 00 33.8**	**+1.3**
CN2				AMB		AMB		
	comp=Z,10.0nm,1.1s,mb4.2							
CN2				AMB		AMB		
	comp=Z,200nm,4.0s							
HABR	**Khabarovsk**	**23.05**	**344**	*e*P		**P**	**19 56 26.2**	**+2.0**
HABR				*e*			19 56 51.7	
HABR				*e*S		**S**	**20 00 40.3**	**+6.3**
HABR				*e*SS			20 01 16.2	
HABR				pmax		pmax		
	comp=Z,72nm,1.9s,mb4.8							
KLR	**Kul'dur**	**24.64**	**340**	*e*P		**P**	**19 56 36.3**	**-3.0**
HHC	**Hu-ho-hao-te**	**30.43**	**306**	*e*P		**P**	**19 57 32.6**	**+1.2**
HHC				AP		pP	19 57 37.0	-0.2
HHC				XP		sP	19 57 39.6	+0.1
HHC				PP		PP	19 58 33.0	-7.2
HHC				S		**S**	**20 02 33.8**	**+2.4**
HHC				SCS		ScS	20 08 05.9	-2.4
HHC				AMB		AMB		
	comp=Z,9.0nm,1.1s,mb4.4							
HHC				AMB		AMB		
	comp=Z,95nm,5.8s							
HHC				LR		LR		
	comp=N,124nm,10.5s,MS4.0							
HHC				LR		LR		
	comp=E,120nm,11.5s,MS4.0							
HHC				LR		LR		
	comp=Z,126nm,14.0s,MS3.7							
XAN	**Xi'an**	**31.19**	**292**	P		**P**	**19 57 36.8**	**-1.4**
XAN				AP		pP	19 57 43.8	-0.1
XAN				XP		sP	19 57 47.0	+0.7
XAN				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.7							
MA2	**Magadan**	**33.38**	**6**	⇑*e*P		**P**	**19 57 59.1**	**+2.0**
MA2				pmax		pmax		
	comp=Z,7.0nm,1.1s,mb4.5							
MA2				MLR		MLR		
	comp=Z,100nm,17.0s,MS3.6							
GYA	**Guiyang**	**33.44**	**278**	P		**P**	**19 57 56.8**	**-1.2**
GYA				PP		PP	19 59 09.8	-3.9
GYA				PCP		PcP	20 00 38.6	-0.5
GYA				S		**S**	**20 03 18.5**	**-0.1**
GYA				SCS		ScS	20 08 21.6	-2.2
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.8							
GYA				AMB		AMB		
	comp=Z,90nm,5.2s							
GYA				LR		LR		
	comp=N,490nm,18.8s,MS4.4							
GYA				LR		LR		
	comp=E,470nm,17.4s,MS4.4							
GYA				LR		LR		
	comp=Z,540nm,18.6s,MS4.3							
LZH	**Lanzhou**	**35.50**	**296**	*e*P		**P**	**19 58 15.3**	**-0.4**
LZH				AP		pP	19 58 19.8	-1.7
LZH				XP		sP	19 58 22.3	-1.5
LZH				AMB		AMB		
	comp=Z,20nm,1.0s,mb5.0							
LZH				AMB		AMB		
	comp=Z,67nm,4.9s							
LZH				LR		LR		
	comp=E,507nm,14.2s							
LZH				LR		LR		
	comp=Z,735nm,18.0s,MS4.5							
CD2	**Chengdu**	**35.53**	**287**	*e*P		**P**	**19 58 15.3**	**-0.7**
CD2				AP		pP	19 58 19.8	-2.0
CD2				XP		sP	19 58 22.8	-1.3
CD2				PP		PP	19 59 36.4	-0.4
CD2				S		**S**	**20 03 51.5**	**+0.7**
CD2				SS		SS	20 06 12.3	-13
CD2				AMB		AMB		
	comp=Z,20nm,0.6s,mb5.2							
CD2				AMB		AMB		
	comp=Z,30nm,5.2s							
CD2				LR		LR		
	comp=N,180nm,10.8s,MS4.2							
CD2				LR		LR		
	comp=E,210nm,13.2s,MS4.2							
CD2				LR		LR		
	comp=Z,270nm,13.2s,MS4.2							
ULN	**Ulaanbaatar**	**35.94**	**316**	*e*P		**P**	**19 58 20.6**	**+1.3**
ULN				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.8							
ULN	**Ulaanbaatar**	**35.94**	**316**	*e*P		**P**	**19 58 20.6**	**+1.2**
	comp=Z,14nm,1.2s,mb4.8							
SONM	**Songino Array**	**36.33**	**316**	P		**P**	**19 58 23.7**	**+1.0**
SONM							20 00 46.3	
SONM	**Songino Array**	**36.33**	**316**	P		**P**	**19 58 23.7**	**+1.0**
	comp=Z,3.5nm,0.8s,mb4.4,baz=120,slow=7.4,SNR=24							
SONM				PcP		PcP	20 00 46.3	-0.8
	comp=Z,1.2nm,0.9s,baz=106,slow=1.4,SNR=3.8							
SONM				LR		LR	20 12 30.2	
	comp=Z,45nm,19.7s,MS3.2,baz=263,slow=35							
YAK	**Yakutsk**	**36.82**	**349**	*e*P		**P**	**19 58 27.3**	**+0.7**
YAK				pmax		pmax		
	comp=Z,14nm,1.2s,mb4.7							
YAK				pmax		pmax		
	comp=N,8.0nm,1.3s							
YAK				pmax		pmax		
	comp=E,9.0nm,1.7s							
SEY	**Seymchan**	**36.84**	**6**	⇑*e*P		**P**	**19 58 29.0**	**+2.2**
KMI	**Kunming**	**37.15**	**277**	P		**P**	**19 58 29.0**	**-1.0**
KMI				AP		pP	19 58 32.9	-2.9
KMI				XP		sP	19 58 34.4	-3.7
KMI				PP		PP	19 59 56.3	+1.5
KMI				PPP			20 00 15.8	
KMI				S		**S**	**20 04 13.3**	**-2.5**
KMI				AMB		AMB		
	comp=Z,3.0nm,0.8s,mb4.2							
KMI				AMB		AMB		
	comp=Z,73nm,4.6s							
KMI				LR		LR		
	comp=N,126nm,14.8s,MS4.0							
KMI				LR		LR		
	comp=E,126nm,14.8s,MS4.0							
KMI				LR		LR		
	comp=Z,107nm,12.8s,MS3.8							
BOD	**Bodaibo**	**37.84**	**334**	*e*P		**P**	**19 58 35.1**	**-0.2**
GTA	**Gaotai**	**38.96**	**301**	*e*P		**P**	**19 58 44.4**	**-0.7**
GTA				AP		pP	19 58 48.0	-2.9
GTA				XP		sP	19 58 51.1	-2.1
GTA				PP		PP	20 00 19.1	+4.7
GTA				S		**S**	**20 04 45.1**	**+2.2**
GTA				SS		SS	20 07 35.0	+0.2
GTA				AMB		AMB		
	comp=Z,4.0nm,0.8s,mb4.2							
GTA				AMB		AMB		
	comp=Z,80nm,4.2s							
GTA				LR		LR		
	comp=N,70nm,15.3s,MS3.9							
GTA				LR		LR		
	comp=E,105nm,16.0s,MS3.9							
GTA				LR		LR		
	comp=Z,105nm,16.0s,MS3.8							
ZAK	**Zakamensk**	**39.19**	**319**	⇓*i*P		**P**	**19 58 48.0**	**+1.2**
ZAK				pmax		pmax		
	comp=Z,7.0nm,1.2s,mb4.3							
TLY	**Talaya**	**39.49**	**321**	*c i*P		**P**	**19 58 51.6**	**+2.3**
TLY				pmax		pmax		
	comp=Z,2.0nm,1.4s,mb3.6							
TLY	**Talaya**	**39.49**	**321**	*e*P		**P**	**19 58 49.2**	**-0.1**
	comp=Z,8.5nm,1.0s,mb4.4							
BILL	**Bilibino**	**43.67**	**12**	⇓*e*P		**P**	**19 59 24.2**	**+0.9**
BILL				pmax		pmax		
	comp=Z,9.0nm,1.1s,mb4.4							
BILL				MLR		MLR		
	comp=Z,100nm,16.0s,MS3.8							
TIXI	**Tiksi**	**45.99**	**353**	*e*P		**P**	**19 59 39.6**	**-2.1**
TIXI				pmax		pmax		
	comp=Z,7.0nm,1.3s,mb4.4							
TIXI	**Tiksi**	**45.99**	**353**	*e*P		**P**	**19 59 42.3**	**+0.5**
	comp=Z,3.5nm,0.9s,mb4.3							
CTA	**Charters Tower**	**46.36**	**177**	*e*P		**P**	**19 59 46.5**	**+1.3**
	comp=Z,3.6nm,0.8s,mb4.3							
CTA	**Charters Tower**	**46.36**	**177**	pP		pP	19 59 46.2	-4.9
	comp=Z,4.5nm,0.9s,baz=51,slow=7.6,SNR=4.0							
WRAB	**Tennant Creek**	**47.12**	**193**	*e*P		**P**	**19 59 45.4**	**-5.7**
WRAB				pmax		pmax		
	comp=Z,11nm,0.6s,mb5.0							
WRAB	**Tennant Creek**	**47.12**	**193**	*e*P		**P**	**19 59 45.4**	**-5.7**
	comp=Z,11nm,0.6s,mb5.0							
WB2	**Warramunga Arr**	**47.12**	**193**	*e*P		**P**	**19 59 51.9**	**+0.7**
WB2	**Warramunga Arr**	**47.12**	**193**	*e*P		**P**	**19 59 45.5**	**-5.7**
WB2				*e*		pP	19 59 51.8	-5.3
WRA	**Warramunga Arr**	**47.13**	**193**	P		**P**	**19 59 45.5**	**-5.7**
	comp=Z,2.3nm,0.6s,mb4.3,baz=13,slow=8.6,SNR=50							
WRA				pP		pP	19 59 52.2	-4.9
	comp=Z,7.7nm,0.5s,baz=13,slow=8.5,SNR=25							
FITZ	**Fitzroy Crossi**	**47.83**	**204**	*e*P		**P**	**19 59 52.1**	**-4.6**
	comp=Z,12nm,0.7s,mb5.0							
FITZ	**Fitzroy Crossi**	**47.83**	**204**	P		**P**	**19 59 52.1**	**-4.6**
	comp=Z,2.6nm,0.7s,mb4.4,baz=40,slow=9.6,SNR=12							
WMQ	**Urumqi**	**48.31**	**306**	P		**P**	**20 00 01.0**	**+0.7**
WMQ				XP		sP	20 00 08.0	-0.5
WMQ				PP		PP	20 01 54.0	+1.2
WMQ				S		**S**	**20 07 01.0**	**+1.6**
WMQ				SS		SS	20 10 27.0	-1.8
WMQ				AMB		AMB		
	comp=Z,35nm,1.0s,mb5.3							
WMQ				AMB		AMB		
	comp=Z,74nm,5.0s							
WMQ				LR		LR		
	comp=N,54nm,14.0s,MS3.9							
WMQ				LR		LR		
	comp=E,61nm,14.0s,MS3.9							
WMQ				LR		LR		
	comp=Z,56nm,14.0s,MS3.7							
SDPT	**Sand Point**	**49.10**	**38**	*e*P		**P**	**20 00 05.6**	**-0.5**
	comp=Z,21nm,0.6s,mb5.3							
ASAR	**Alice Springs**	**50.84**	**192**	P		**P**	**20 00 13.9**	**-5.7**
	comp=Z,0.5nm,0.6s,mb3.6,baz=10,slow=8.5,SNR=10							
ASAR				pP		pP	20 00 20.6	-4.9
	comp=Z,0.9nm,0.5s,baz=13,slow=8.0,SNR=6.3							
ASAR				PcP		PcP	20 01 31.7	-4.6
	comp=Z,0.6nm,0.8s,baz=1.3,slow=4.1,SNR=2.7							
ZAA0	**Zalesovo Array**	**51.06**	**319**	*e*P		**P**	**20 00 20.7**	**-0.3**
ZALV	**Zalesovo Beam**	**51.06**	**319**	P		**P**	**20 00 20.3**	**-0.8**
	comp=Z,2.0nm,0.4s,mb4.4,baz=110,slow=7.6,SNR=12							
ZALV				PcP		PcP	20 01 34.0	-2.7
	comp=Z,3.3nm,0.6s,baz=107,slow=1.2,SNR=6.7							
ZAL	**Zalesovo**	**51.07**	**319**	P		**P**	**20 00 20.3**	**-0.8**
ZAL							20 01 34.1	
JIRN	**Jiri**	**51.16**	**285**	*e*P		**P**	**20 00 22.7**	**+0.5**
GUN	**Gumba**	**51.38**	**286**	*e*P		**P**	**20 00 24.4**	**+0.6**
KKN	**Kakani**	**51.92**	**286**	*e*P		**P**	**20 00 27.8**	**-0.1**
	comp=Z,14nm,0.8s,mb4.9							
**NVS

AML Almayashu 58.66 305 *eP* **P 20 01 17.4 +1.1**
comp=Z,16nm,0.9s,mb5.1
AML Almayashu 58.66 305 P **P 20 01 17.5 +1.2**
SNR=11
BRVK Borovoye 59.70 318 *eP* **P 20 01 23.4 +0.1**
BRVK pmax pmax
comp=Z,13nm,0.9s,mb5.0
BRVK Borovoye 59.70 318 *eP* **P 20 01 23.4 +0.1**
comp=Z,13nm,0.9s,mb5.0
EGAK Eagle 59.86 29 *eP* **P 20 01 24.4 +0.2**
comp=Z,3.0nm,0.7s,mb4.4
DAWY Dawson 60.62 29 *eP* **P 20 01 30.3 +0.9**
INK Inuvik 62.86 24 *eP* **P 20 01 44.9 +0.5**
comp=Z,265nm,1.1s
INK Inuvik 62.86 24 P **P 20 01 45.0 +0.6**
comp=Z,3.2nm,0.6s,mb4.7,baz=282,slow=7.2,SNR=19
KBL Kabul 63.82 297 *eP* **P 20 01 50.9 -0.5**
comp=Z,6.8nm,0.8s,mb4.7
SVE Sverdlovsk 64.74 323 *eP* **P 20 01 56.7 -0.3**
SVE pmax pmax
comp=Z,17nm,0.9s,mb5.1
ARU Arti 65.94 323 *d iP* **P 20 02 04.5 -0.3**
ARU *e* 20 04 26.3
ARU *e*PPP 20 06 02.9
ARU *e*S S 20 10 54.1 +3.0
ARU *e*SS SS 20 15 08.2 +2.5
ARU pmax pmax
comp=Z,24nm,1.0s,mb5.2
ARU Arti 65.94 323 *eP* **P 20 02 04.5 -0.3**
comp=Z,26nm,1.1s,mb5.2
YKA Yellowknife Ar 71.84 29 P **P 20 02 40.9 -0.5**
YKA Yellowknife Ar 71.84 29 P **P 20 02 40.9 -0.5**
comp=Z,2.3nm,0.7s,mb4.2,baz=293,slow=5.9,SNR=32
ARCES ARCESS Array B 74.66 341 P **P 20 02 58.4 +0.5**
comp=Z,3.2nm,0.9s,mb4.3,baz=33,slow=9.2,SNR=3.5
JOF Joensuu 76.37 334 *ep* **P 20 03 07.2 -0.6**
comp=Z,3.2nm,0.5s,mb4.5
OBN Obninsk 77.99 326 *eP* **P 20 03 17.1 0.0**
OBN pmax pmax
comp=Z,24nm,1.7s,mb4.8
VRSR Storozhevoye 78.47 322 *eP* **P 20 03 19.2 -0.6**
VRSR pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.7s
VORD Divnogorie 78.53 321 *eP* **P 20 03 19.5 -0.6**
VORD pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
VORD pmax pmax
comp=N,10.0nm,1.0s
VORD pmax pmax
comp=E,20nm,0.7s
FIA1 FINESS Array S 79.23 334 *eP* **P 20 03 23.2 -0.5**
FINES FINESS Array B 79.23 334 P **P 20 03 23.6 -0.2**
comp=E,3.4nm,0.6s,mb4.5,baz=62,slow=5.0,SNR=23
KIV Kislovodsk 79.70 314 *d iP* **P 20 03 27.0 +0.3**
KIV pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
KIV Kislovodsk 79.70 314 *eP* **P 20 03 27.1 +0.4**
comp=Z,5.3nm,0.8s,mb4.5
UMR Umm Al-Rimmam 82.48 299 *eP* **P 20 03 40.7 -1.1**
UMR AMb AMB 20 03 41.9
comp=Z,24nm,0.5s,mb5.4
DUG Dugway 82.53 49 *eP* **P 20 03 40.6 -1.3**
DUG pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
DUG Dugway 82.53 49 *eP* **P 20 03 40.6 -1.3**
comp=Z,3.3nm,1.0s,mb4.3
MIB Mutribah 82.67 300 *eP* **P 20 03 41.5 -1.2**
MIB AMb AMB 20 03 42.6
comp=Z,26nm,0.6s,mb5.5
RDF Al-Radifah 82.89 299 *eP* **P 20 03 42.7 -1.2**
RDF AMb AMB 20 03 44.4
comp=Z,27nm,0.8s,mb5.3
NAY Al-Naaiem 82.99 299 *eP* **P 20 03 43.2 -1.2**
NAY AMb AMB 20 03 44.4
comp=Z,25nm,0.8s,mb5.3
PFO Pinyon Flat Ob 83.00 56 *eP* **P 20 03 43.2 -1.2**
PFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
PFO Pinyon Flat Ob 83.00 56 *eP* **P 20 03 43.2 -1.2**
comp=Z,4.2nm,0.9s,mb4.5
AKASG Malin Array Be 84.11 325 *i* P **P 20 03 48.7 -1.0**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 84.11 325 P **P 20 03 48.3 -1.4**
comp=Z,3.1nm,0.6s,mb4.7,baz=49,slow=5.1,SNR=25
SRU San Rafael 84.61 49 *eP* **P 20 03 51.8 -0.7**
SRU pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
SRU San Rafael 84.61 49 *eP* **P 20 03 51.8 -0.7**
comp=Z,1.8nm,0.7s,mb4.3
NOA NORSAR Array B 84.79 339 P **P 20 03 51.8 -1.2**
comp=Z,6.3nm,0.8s,mb4.8,baz=43,slow=4.8,SNR=13
SUW Suwalki 85.04 329 *eP* **P 20 03 53.5 -0.9**
SUW Suwalki 85.04 329 *eP* **P 20 03 53.5 -0.9**
BURAR Bucovina Array 88.06 324 ⇓ *iP* **P 20 04 08.8 -0.5**
KWP Kalwaria 88.08 326 *eP* **P 20 04 08.8 -0.5**
KWP Kalwaria 88.08 326 *eP* **P 20 04 08.8 -0.6**
KWP Kalwaria 88.08 326 ⇑ *iP* **P 20 04 08.8 -0.6**
CRVS Cervenica-Dubn 89.17 326 *eP* **P 20 04 13.9 -0.6**
CRVS Cervenica-Dubn 89.17 326 *eP* **P 20 04 13.8 -0.7**
ANMO Albuquerque 89.53 51 ⇓ *eP* **P 20 04 16.9 +0.4**
DRGR 89.91 324 ⇓ *iP* **P 20 04 16.5 -1.5**
VYHS Vyhne 90.74 327 *i* P **P 20 04 21.3 -0.6**
VYHS pmax pmax
comp=Z,5.0nm,1.4s,mb4.7
VYHS Vyhne 90.74 327 *i* P **P 20 04 21.3 -0.6**
comp=Z,4.8nm,1.4s,mb4.6
VRAC Vranov 91.24 329 ⇑ *iP* **P 20 04 23.4 -0.8**
BZS Buzias 91.25 324 ⇑ *iP* **P 20 04 20.2 -4.1**
CLL Collm 91.40 332 *eP* **P 20 04 23.0 -1.8**
MNTX Cornudas Mount 92.04 53 *eP* **P 20 04 27.4 -0.8**
comp=Z,1.3nm,0.8s,mb4.3
PKSM Moragy 92.39 326 ⇑ *iP* **P 20 04 28.0 -1.6**
KHC Kasperske Hory 92.75 330 *i* P **P 20 04 29.7 -1.4**
GERES GERESS Array B 92.90 330 P **P 20 04 30.8 -1.1**
comp=Z,1.2nm,0.8s,mb4.4,baz=46,slow=4.4,SNR=11
TXAR Lajitas Array 94.57 54 P **P 20 04 39.0 -1.0**
comp=Z,1.5nm,0.9s,mb4.4,baz=291,slow=3.9,SNR=8.3
TORD Torodi Ar. Bea 126.26 313 PKP PKPdf 20 10 20.1 -2.3
comp=Z,1.2nm,0.7s,baz=27,slow=0.9,SNR=14
TORD pPKP pPKPdf 20 10 27.6 -1.1
comp=Z,0.7nm,0.7s,baz=23,slow=1.4,SNR=3.2
DBIC Dimbokro 135.36 313 PKP PKPdf 20 10 37.8 -1.8
comp=Z,5.5nm,1.2s,baz=78,slow=9.3,SNR=3.2
PLCA Paso Flores 148.06 125 PKPbc PKPbc 20 11 02.8 -1.7
comp=Z,4.1nm,0.6s,baz=189,slow=1.6,SNR=19
LPAZ La Paz 148.39 78 PKP2 PKPbc 20 11 05.5 -0.6
LPAZ pmax pmax
comp=Z,7.0nm,1.0s
LPAZ La Paz 148.39 78 *e*PKPbc PKPbc 20 11 05.4 -0.7
LPAZ La Paz 148.39 78 PKPbc PKPbc 20 11 05.5 -0.6
comp=Z,6.8nm,0.9s,baz=283,slow=2.8,SNR=17

IDC 20 19:55:56.0±66.0, 218N×9721E, h0km, mb3.7/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.7/3, MS4.1/1, Ms1 4.1/1, ms1mx3.1/33, Error ellipse: s-maj=1268.0km s-min=153.3km az=175.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**29.07**	**115**	LR	LR	20 17 52.2	
	comp=Z,330nm,18.7s,baz=114,slow=45						
SONM	**Songino Array**	**46.17**	**9**	P		20 04 22.5	+0.1
	0.3nm,0.5s,baz=195,slow=7.8,SNR=5.3						
MKAR	**Makanchi Array**	**46.30**	**346**	P	P	20 04 23.4	0.0
	0.3nm,0.4s,baz=160,slow=8.8,SNR=3.8						
ZALV	**Zalesovo Beam**	**52.60**	**351**	P	P	20 05 11.3	-0.1
	0.6nm,0.3s,baz=160,slow=6.4,SNR=4.5						

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*IDC **20** 19:59:10.0±1.0, 334S×145.73E, h0km, mb4.1/8, mb1 4.4/11, mb1mx4.3/15, mbtmp4.3/11, ML4.2/3, MS3.8/5, Ms1 3.8/5, ms1mx3.4/27, Error ellipse: s-maj=36.0km s-min=17.0km az=95.0*

*ISCJB **20** 19:59:15.3±3.8, 35S±0.1×145.9E±0.1, h65km±38km, mb4.0/10, Error ellipse: s-maj=20.9km s-min=15.6km az=140.4*

*NEIC **20** 19:59:15.9±2.9, 343S×145.87E, h50km±28km, mb4.3/8, Error ellipse: s-maj=18.3km s-min=13.8km az=154.0*

ISC 20 19:59:16.6±3.5, 35S±0.1×145.9E±0.1, h63km±37km, n27, σ1§08/22, mb4.0/10, Near north coast of New Guinea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**15.17**	**113**	*e*Pn	**Pn**	**20 02 46.7**	**-0.5**
HNR				LR	LR	20 07 51.9	
HNR	**Honiara**	**15.17**	**113**	Pn	**Pn**	**20 02 47.2**	**-0.1**
	5.2nm,0.3s,baz=206,slow=0.7,SNR=13						
HNR				LR	LR	20 07 51.9	
	comp=Z,160nm,19.0s,baz=305,slow=34						
KAKA	**Kakadu**	**16.10**	**235**	*eP*	**Pn**	**20 03 01.0**	**+1.8**
	10nm,0.6s						
CTA	**Charters Tower**	**16.46**	**179**	*eP*	**Pn**	**20 03 06.7**	**+3.1**
	6.4nm,1.1s						
CTA	**Charters Tower**	**16.46**	**179**	Pn	**Pn**	**20 03 05.7**	**+2.1**
	0.2nm,0.3s,baz=5.5,slow=15,SNR=3.3						
CTAO	**Charters Tower**	**16.46**	**179**	*eP*	**Pn**	**20 03 06.0**	**+2.4**
	9.8nm,1.0s						
WRAB	**Tennant Creek**	**19.79**	**214**	*eP*	**Pn**	**20 03 43.0**	**-1.1**
	58nm,1.1s						
WB2	**Warramunga Arr**	**19.80**	**214**	*eP*	**Pn**	**20 03 42.9**	**-1.2**
WRA	**Warramunga Arr**	**19.81**	**214**	P	**Pn**	**20 03 43.1**	**-1.2**
	0.7nm,0.3s,baz=38,slow=12,SNR=81						
EIDS	**Eidsvold**	**22.28**	**167**	*eP*	**P**	**20 04 08.3**	**-0.4**
ASAR	**Alice Springs**	**23.11**	**209**	P	**P**	**20 04 17.8**	**+0.3**
	8.5nm,0.9s,mb4.2,baz=40,slow=9.1,SNR=34						
FITZ	**Fitzroy Crossi**	**24.53**	**232**	*eP*	**P**	**20 04 30.7**	**+0.1**
	14nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**24.53**	**232**	P	**P**	**20 04 30.9**	**+0.3**
	7.5nm,0.6s,mb4.4,baz=48,slow=10,SNR=28						
FITZ				LR	LR	20 14 35.6	
	comp=Z,222nm,20.4s,baz=54,slow=38						
STKA	**Stephens Creek**	**28.48**	**188**	*eP*	**P**	**20 05 11.6**	**+5.7**
	4.3nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**28.48**	**188**	P	**P**	**20 05 09.9**	**+4.0**
	5.8nm,0.9s,mb4.2,baz=346,slow=8.3,SNR=4.2						
STKA				LR	LR	20 17 28.9	
	comp=Z,214nm,19.3s,baz=202,slow=38						
JOW	**Kunigami**	**34.64**	**332**	LR	LR	20 16 49.4	
	comp=Z,206nm,20.6s,baz=146,slow=31						
KSRS	**Korea Array**	**44.06**	**339**	P	**P**	**20 07 17.4**	**-1.0**
	1.4nm,1.0s,mb3.6,baz=4.6,slow=33,SNR=6.3						
ULN	**Ulaanbaatar**	**61.41**	**331**	*eP*	**P**	**20 09 26.0**	**-0.3**
	6.1nm,1.4s,mb4.5						
SONM	**Songino Array**	**61.71**	**331**	P	**P**	**20 09 28.4**	**+0.1**
	0.5nm,0.8s,mb3.7,baz=126,slow=4.7,SNR=4.4						
MKAR	**Makanchi Array**	**74.89**	**320**	P	**P**	**20 10 51.8**	**+1.0**
	1.7nm,0.9s,mb4.0,baz=102,slow=5.1,SNR=6.7						
ZALV	**Zalesovo Beam**	**76.33**	**328**	P	**P**	**20 11 00.2**	**+1.4**
	0.3nm,0.3s,mb3.7,baz=108,slow=9.4,SNR=2.7						
KURK	**Kurchatov**	**78.57**	**323**	*eP*	**P**	**20 11 09.9**	**-1.5**
	3.1nm,1.0s,mb4.2						
MAW	**Mawson**	**84.07**	**202**	LR	LR	20 45 42.5	
	comp=Z,91nm,18.3s,baz=240,slow=33						
YKA	**Yellowknife Ar**	**97.53**	**28**	P	**P**	**20 12 44.1**	**+0.5**
	0.3nm,0.8s,mb3.9,baz=272,slow=4.4,SNR=2.9						
LPAZ	**La Paz**	**141.05**	**121**	PKP	PKPdf	20 18 43.1	+2.3
	0.5nm,0.6s,baz=83,slow=1.6,SNR=3.6						
TORD	**Torodi Ar. Bea**	**143.33**	**287**	PKP	PKPdf	20 18 45.7	+0.7
	0.4nm,0.6s,baz=84,slow=2.6,SNR=3.4						
DBIC	**Dimbokro**	**150.67**	**277**	PKPbc	PKPbc	20 19 06.0	+3.2
	2.1nm,0.8s,baz=90,slow=1.0,SNR=3.5						

FUNV 20 20:03:51.8, 749N×7244W, h1km, MW3.6, 1C-1D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**0.40**	**18** ⇑ *iP*		Pg	20 03 59.6	+0.2
CAPV				*e*S	Sg	20 04 05.3	+0.7
VIGV	**El Vigia**	**1.71**	**38** ⇓ *eP*		Pn	20 04 22.4	-0.4
VIGV				*e*S	Sn	20 04 45.2	-0.1
SOCV	**Socops**	**1.75**	**63**	*eP*	Pn	20 04 22.3	-1.0
SOCV				*e*S	Sn	20 04 45.0	-1.4
ELOV	**Elorza**	**2.97**	**99**	*e*S	Sn	20 05 14.7	-1.7
VIRV	**Villa del Rosa**	**3.00**	**1**	*eP*	Pn	20 04 39.6	-0.8
VIRV				*e*S	Sn	20 05 14.5	-2.5
QARV	**Quebrada Arrib**	**3.30**	**35**	*eP*	Pn	20 04 43.6	-1.0
QARV				*e*S	Sn	20 05 22.2	-2.3
SANV	**Sanarito**	**3.50**	**55**	*eP*	Pn	20 04 46.7	-0.6
SANV				*e*S	Sn	20 05 26.3	-3.1
CURV	**Curarigua**	**3.51**	**44**	*eP*	Pn	20 04 46.7	-0.7
SIQV	**Siquisique**	**4.08**	**39**	*e*S	Sn	20 05 40.6	-3.1
PAYV	**Puerto Ayacuch**	**5.17**	**113**	*eP*	Pn	20 05 08.2	-2.2
PAYV				*e*S	Sn	20 06 06.0	-4.8

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*NIED **20** 20:29:00, 2930N×142.50E, h5km, Mw4.6 Best double couple: M0=8.45000×10^15 NP1:φ0=59.00000°, δ=79.00000°, λ=113.00000°. NP2:φ0=172.00000°, δ=26.00000°, λ=26.00000°.*

*ISCJB **20** 20:29:49.2±1.0, 2932N±002×142.17E±0.05, h25km±7km, mb4.6/61, MS4.0/22, Error ellipse: s-maj=7.9km s-min=3.6km az=169.6*

*MOS **20** 20:29:50.7±0.9, 2922N×142.09E, h38km, mb4.8/16, Error ellipse: s-maj=16.2km s-min=6.6km az=109.0*

*BJI **20** 20:29:50.2, 2925N×142.21E, h37km, mB4.8, mb4.6, Ms4.3, Msz4.2*

*NEIC **20** 20:29:51.1±2.8, 2923N×142.18E, h26km±19km, mb4.7/19, MW4.6(NIED), Error ellipse: s-maj=9.3km s-min=6.6km az=100.0*

*IDC **20** 20:29:52.4±2.4, 2922N×142.07E, h38km±20km, mb4.1/20, mb1 4.2/25, mb1mx4.2/28, mbtmp4.1/25, ML3.7/5, MS3.9/15, Ms1 4.0/15, ms1mx3.8/34, Error ellipse: s-maj=18.4km s-min=10.7km az=84.0*

ISC 20 20:29:51.6±1.0, 2928N±002×142.18E±0.05, h29km±7km, h43km±2.2km: pP-P, n130, σ1§11/154, mb4.6/61, MS4.0/22, 5C-5D, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.18**	**180**	P	**Pn**	**20 30 25.6**	**-0.3**
CBIJ				*e*S	**Sn**	**20 30 51.6**	**-0.2**
CBIJ	**Chichi jima**	**2.18**	**180**	Pn	**Pn**	**20 30 25.5**	**-0.4**
	37nm,0.3s,baz=286,slow=20,SNR=9.6						
CBIJ				Sn	**Sn**	**20 30 49.5**	**-2.4**
	98nm,0.3s,baz=300,slow=20,SNR=8.7						
CBIJ				LR	LR	20 31 19.4	
	comp=Z,477nm,21.4s,baz=134,slow=41						
JHHJ	**Haha-jima-NKT**	**2.64**	**180**	P	**Pn**	**20 30 32.4**	**+0.2**
JHHJ				*e*S	**Sn**	**20 31 04.1**	**+0.8**
JHJ2	**Mitsune**	**4.32**	**333**	P	**Pn**	**20 30 55.2**	**-0.1**
JHJ2				*e*S	**Sn**	**20 31 43.6**	**-1.1**
JHJ	**Hachijo jima 2**	**4.34**	**332**	Pn	**Pn**	**20 30 55.5**	**-0.2**
	28nm,0.3s,baz=230,slow=18,SNR=23						
JHJ				Sn	**Sn**	**20 31 43.8**	**-1.5**
	30nm,0.3s,baz=244,slow=23,SNR=7.0						
JHJ				LR	LR	20 32 47.1	
	comp=Z,2μm,18.0s,baz=154,slow=40						
BSO1	**Boso 1**	**5.45**	**350**	P	**Pn**	**20 31 10.2**	**-0.7**
BSO1				*e*S	**Sn**	**20 32 10.2**	**-2.4**
BSO3	**Boso 3**	**5.68**	**346**	P	**Pn**	**20 31 14.2**	**+0.2**
BSO4	**Boso 4**	**5.90**	**345**	P	**Pn**	**20 31 17.6**	**+0.5**
BSO4				S	**Sn**	**20 32 21.6**	**-2.1**
JOD2	**Odawara 2**	**6.51**	**337**	P	**Pn**	**20 31 26.1**	**+0.7**
JOD2				S	**Sn**	**20 32 39.6**	**+0.9**
JHU	**Hanno**	**6.99**	**340**	P	**Pn**	**20 31 32.6**	**+0.6**
JHU				S	**Sn**	**20 32 51.7**	**+1.1**
JNY	**Yasuok**	**7.07**	**330**	P	**Pn**	**20 31 36.7**	**+3.6**
JYT	**Yasato**	**7.12**	**347**	P	**Pn**	**20 31 34.5**	**+0.7**
JYT				*e*S	**Sn**	**20 32 53.8**	**0.0**
JRY	**Ryogami san**	**7.26**	**339**	P	**Pn**	**20 31 36.2**	**+0.5**
JRY				*e*S	**Sn**	**20 32 58.5**	**+1.3**
JHO	**Hitachi**	**7.43**	**350**	P	**Pn**	**20 31 36.1**	**-2.0**
JHO				*e*S	**Sn**	**20 32 55.3**	**-6.1**
JAG	**Ashikaga**	**7.48**	**343**	P	**Pn**	**20 31 38.3**	**-0.5**
JAG				S	**Sn**	**20 32 59.1**	**-3.5**
MJAR	**Matsushiro Arr**	**7.97**	**336**	P	**Pn**	**20 31 45.3**	**-0.1**
MJAR						20 33 13.4	
MJAR	**Matsushiro Arr**	**7.97**	**336**	Pn	**Pn**	**20 31 45.3**	**-0.1**
	4.3nm,0.3s,baz=158,slow=9.6,SNR=50						
MJAR				Sn	**Sn**	**20 33 13.4**	**-1.2**
	1.2nm,0.3s,baz=149,slow=17,SNR=2.9						
MJAR				LR	LR	20 34 52.4	
	comp=Z,540nm,19.4s,baz=170,slow=38						
MAJO	**Matsushiro**	**7.97**	**336**	*eP*	**Pn**	**20 31 46.0**	**+0.5**
MAT	**Matsushiro**	**7.97**	**336**	P	**Pn**	**20 31 45.6**	**+0.1**
MAT				S	**Sn**	**20 33 11.3**	**-3.4**
JNU	**Nakatsue**	**10.40**	**294**	Pn	**Pn**	**20 32 19.4**	**+0.6**
	0.2nm,0.3s,baz=54,slow=9.6,SNR=2.0						
JNU				LR	LR	20 36 21.8	
	comp=Z,969nm,18.2s,baz=138,slow=38						
JOW	**Kunigami**	**12.52**	**262**	LR	LR	20 37 00.7	
	comp=Z,806nm,20.6s,baz=106,slow=34						
ERM	**Erimo**	**12.73**	**3**	*i P*	**Pn**	**20 32 49.0**	**-1.6**
KSRS	**Korea Array**	**14.42**	**308**	Pn	**Pn**	**20 33 13.9**	**+0.2**
	0.1nm,0.3s,baz=118,slow=12,SNR=3.6						
KSRS				LR	LR	20 38 50.3	
	comp=Z,488nm,18.5s,baz=330,slow=37						
ASAJ	**Asahikawa**	**14.81**	**1**	Pn	**Pn**	**20 33 15.2**	**-3.8**
	0.8nm,0.3s,baz=218,slow=13,SNR=5.4						
ASAJ				Sn	**Sn**	**20 35 52.2**	**-10**
	0.6nm,0.3s,baz=210,slow=32,SNR=6.0						
INCN	**Inchon**	**15.33**	**306**	*eP*	**Pn**	**20 33 30.9**	**+5.1**
	8.6nm,0.6s						
GUMO	**Guam**	**15.81**	**170**	LR	LR	20 39 02.0	
	comp=Z,308nm,21.3s,baz=191,slow=35						
VLA	**Vladivostok**	**16.09**	**332**	*i P*	**Pn**	**20 33 38.0**	**+2.3**
YSS	**Yuzh-Sakhalins**	**17.65**	**1** ⇑ *eP*		**Pn**	**20 33 57.0**	**+1.8**
YSS				*e*S	**Sn**	**20 37 12.0**	**+1.1**
YSS				MLR	MLR		
	comp=Z,500nm,18.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
SSE	**Sheshan**	**18.24**	**281**	P	**Pn**	**20 34 04.9**	**+2.4**
SSE				AMB	AMB		
	comp=Z,45nm,0.7s						
SSE				AMB	AMB		
	comp=Z,60nm,6.3s						
SSE				LR	LR		
	comp=N,112nm,19.2s						
SSE				LR	LR		
	comp=E,139nm,19.5s						
SSE				LR	LR		
	comp=Z,155nm,19.7s						
MDJ	**Mudanjiang**	**18.28**	**330**	P	**Pn**	**20 34 04.5**	**+1.5**
MDJ				AP	pP	20 34 14.9	+4.3
MDJ				XP	sP	20 34 20.1	+5.8
MDJ				S	**Sn**	**20 37 29.8**	**+3.6**
MDJ				PCP	PcP	20 38 34.6	+0.5
MDJ				SCP	ScP	20 42 06.8	-0.7
MDJ				PCS	PcS	20 42 11.3	+0.7
MDJ				AMB	AMB		
	comp=Z,14nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,69nm,3.4s						
MDJ				LR	LR		
	comp=N,336nm,15.6s						
MDJ				LR	LR		
	comp=E,327nm,11.7s						
MDJ				LR	LR		
	comp=Z,541nm,15.0s						
TATO	**Taipei**	**18.90**	**262**	*e*Pn	**Pn**	**20 34 14.9**	**+4.2**
	comp=Z,116nm,1.0s						
YHNB	**Yeheng**	**19.09**	**261**	*eP*	**Pn**	**20 34 12.9**	**-0.1**
CN2	**Changchun**	**19.71**	**322**	*eP*	**Pn**	**20 34 18.3**	**-1.9**
CN2				*e*XP	sP	20 34 34.8	+4.8
CN2				*e*S	**Sn**	**20 37 53.5**	**-7.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.1s						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,16.0s						
CN2				LR	LR		
	comp=E,400nm,16.0s						
CN2				LR	LR		
	comp=Z,600nm,17.0s						
HABR	**Khabarovsk**	**19.93**	**346**	*eP*	**Pn**	**20 34 20.6**	**-2.2**
HABR				*e*S	**Sn**	**20 38 04.4**	**-1.6**
NJ2	**Nanjing**	**20.24**	**284**	*eP*	**P**	**20 34 24.3**	**-0.2**
NJ2				AP		20 34 34.8	
NJ2				XP	sP	20 34 39.3	+3.3
NJ2				PP		20 34 45.0	
NJ2				PPP		20 34 55.1	
NJ2				S	**S**	**20 38 05.0**	**-5.2**
NJ2				XS	sS	20 38 21.0	-1.5
NJ2				AMB	AMB		
	comp=Z,50nm,1.2s						
NJ2				AMB	AMB		
	comp=Z,240nm,10.1s						
NJ2				LR	LR		
	comp=N,610nm,21.9s,MS4.1						
NJ2				LR	LR		
	comp=E,550nm,20.2s,MS4.1						
NJ2				LR	LR		
	comp=Z,540nm,20.2s,MS3.9						
KLR	**Kul'dur**	**21.46**	**341**	*eP*	**P**	**20 34 34.0**	**-3.5**
KLR				pmax	pmax		
	comp=E,20nm,1.4s						
KLR				pmax	pmax		
	comp=Z,38nm,1.4s,mb4.5						
BJI	**Beijing**	**23.85**	**304**	P	**P**	**20 35 03.1**	**+0.7**
BJI				S	**S**	**20 39 17.8**	**+1.4**
BJI				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
BJI				LR	LR		
	comp=N,278nm,15.9s,MS4.1						
BJI				LR	LR		
	comp=E,545nm,18.4s,MS4.1						
BJI				LR	LR		
	comp=Z,385nm,17.3s,MS3.9						
WHN	**Wuhan**	**24.13**	**280**	P	**P**	**20 35 04.5**	**-0.5**
HHC	**Hu-ho-hao-te**	**27.45**	**303**	*eP*	**P**	**20 35 37.3**	**+2.3**
HHC				AP	pP	20 35 49.0	+5.6
HHC				XP	sP	20 35 54.4	+7.5
HHC				PP		20 36 26.6	
HHC				PCP	PcP	20 38 54.3	+1.2
HHC				S	**S**	**20 40 14.3**	**+0.6**
HHC				XS	sS	20 40 33.6	+6.0
HHC				SS		20 41 34.8	
HHC				SCP	ScP	20 42 29.5	-2.1
HHC				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.4						
HHC				AMB	AMB		
	comp=Z,113nm,5.4s						
HHC				LR	LR		
	comp=N,284nm,15.9s,MS4.2						
HHC				LR	LR		
	comp=E,428nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=Z,569nm,14.4s,MS4.3						
XAN	**Xi'an**	**28.62**	**288**	P	**P**	**20 35 44.0**	**-1.5**
XAN				AP	pP	20 35 51.8	-2.1
XAN				XP	sP	20 35 55.4	-2.1
XAN				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.1						
XAN				LR	LR		
	comp=E,263nm,19.3s						
XAN				LR	LR		
	comp=Z,337nm,19.3s,MS4.0						
MA2	**Magadan**	**30.85**	**9** ⇑ *eP*		**P**	**20 36 07.5**	**+2.6**
MA2				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
MA2				MLR	MLR		
	comp=Z,100nm,14.0s,MS3.6						
GYA	**Guiyang**	**31.45**	**274**	P	**P**	**20 36 13.4**	**+2.8**
GYA				AP	pP	20 36 26.4	+7.4
GYA				PP	PP	20 37 18.8	-3.0
GYA				PCP	PcP	20 39 05.6	+2.1
GYA				S	**S**	**20 41 17.3**	**+0.5**
GYA				SCP	ScP	20 42 43.4	-1.3
GYA				PCS	PcS	20 42 48.8	+0.8
GYA				SCS	ScS	20 46 39.8	-2.7
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.7						
GYA				AMB	AMB		
	comp=Z,90nm,5.6s						
GYA				LR	LR		
	comp=N,470nm,18.6s,MS4.3						
GYA				LR	LR		
	comp=E,460nm,17.0s,MS4.3						
GYA				LR	LR		
	comp=Z,490nm,18.4s,MS4.2						
ULN	**Ulaanbaatar**	**32.77**	**314**	*eP*	**P**	**20 36 22.5**	**+0.6**
ULN				pmax	pmax		
	comp=Z,12nm,1.1s,mb4

LZH LR LR
comp=Z,793nm,17.5s,MS4.5
SONM Songino Array 33.17 314 P **P** **20 36 25.4 0.0**
SONM LR LR 20 50 33.0
SONM Songino Array 33.17 314 P **P** **20 36 25.4 0.0**
comp=Z,5.9nm,0.9s,mb4.5,baz=135,slow=9.9,SNR=35
SONM LR LR 20 50 33.0
comp=Z,179nm,18.2s,MS3.8,baz=342,slow=37
CD2 Chengdu 33.17 283 *e*P **P** **20 36 27.0 +1.3**
CD2 AP pP 20 36 39.3 +5.2
CD2 XP sP 20 36 44.8 +7.2
CD2 PP PP 20 37 39.4 -1.5
CD2 S **S** **20 41 42.9 -0.7**
CD2 XS sS 20 42 03.1 +5.6
CD2 SS SS 20 43 46.1 -21
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,4.8s
CD2 LR LR
comp=N,130nm,12.1s
CD2 LR LR
comp=Z,100nm,11.8s,MS3.8
YAK Yakutsk 33.77 349⇓ *e*P **P** **20 36 30.3 -0.2**
YAK pmax pmax
comp=Z,5.0nm,0.4s,mb4.8
YAK MLR MLR
comp=Z,100nm,18.0s,MS3.6
SEY Seymchan 34.31 8⇓ *e*P **P** **20 36 35.8 +0.7**
BOD Bodaibo 34.59 334 *e*P **P** **20 36 37.4 -0.3**
BOD pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
KMI Kunming 35.20 273 P **P** **20 36 43.3 -0.1**
KMI AP pP 20 36 56.0 +4.1
KMI XP sP 20 37 02.5 +7.1
KMI PP PP 20 38 03.4 -0.1
KMI S **S** **20 42 10.1 -5.0**
KMI SSS 20 45 00.9
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,110nm,5.2s
KMI LR LR
comp=N,139nm,15.4s,MS4.1
KMI LR LR
comp=E,237nm,17.3s,MS4.1
KMI LR LR
comp=Z,276nm,17.9s,MS4.1
ZAK Zakamensk 35.99 317⇑ *i*P **P** **20 36 50.7 +0.9**
ZAK pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
GTA Gaotai 36.12 298 *e*P **P** **20 36 50.5 -0.6**
GTA AP pP 20 37 02.8 +3.2
GTA XP sP 20 37 08.3 +5.2
GTA PP PP 20 38 13.1 -0.3
GTA S **S** **20 42 24.1 -4.7**
GTA XS sS 20 42 43.9 +1.1
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
GTA AMB AMB
comp=Z,36nm,4.6s
GTA LR LR
comp=N,234nm,15.7s,MS4.2
GTA LR LR
comp=E,229nm,16.0s,MS4.2
GTA LR LR
comp=Z,369nm,15.7s,MS4.3
TLY Talaya 36.27 319*c i*P **P** **20 36 53.6 +1.5**
TLY pmax pmax
comp=Z,3.0nm,1.3s,mb4.1
TLY Talaya 36.27 319 *e*P **P** **20 36 53.6 +1.5**
comp=Z,11nm,0.9s,mb4.8
MOY Mondy 37.80 318 *e*P **P** **20 37 06.2 +1.1**
MOY pmax pmax
comp=Z,17nm,1.4s,mb4.6
CHTO Chiang Mai 40.63 265 *e*P **P** **20 37 28.8 -0.4**
CHTO pmax pmax
comp=Z,19nm,1.0s,mb4.7
CHTO Chiang Mai 40.63 265 *e*P **P** **20 37 28.8 -0.4**
comp=Z,20nm,1.0s,mb4.7
CM31 Chiang Mai Arr 40.77 265 *e*P **P** **20 37 30.3 -0.1**
comp=Z,12nm,1.3s,mb4.4
BILL Bilibino 41.34 13⇓ *e*P **P** **20 37 34.5 +0.1**
BILL pmax pmax
comp=Z,1.0nm,0.6s,mb3.6
BILL MLR MLR
comp=Z,100nm,25.0s,MS3.6
BILL Bilibino 41.34 13 P **P** **20 37 34.9 +0.4**
comp=Z,6.6nm,1.2s,mb4.1
TIXI Tiksi 43.05 354 *e*P **P** **20 37 45.5 -2.8**
TIXI pmax pmax
comp=Z,4.0nm,1.5s,mb3.9
BATI Kupang 43.13 207 P **P** **20 37 47.8 -1.8**
comp=Z,4.5nm,0.3s,mb4.7,baz=183,slow=0.5,SNR=4.0
WMQ Urumqi 45.32 304 P **P** **20 38 08.0 +1.1**
WMQ XP sP 20 38 26.0 +7.0
WMQ PP PP 20 39 55.0 +1.9
WMQ S **S** **20 44 45.0 -0.7**
WMQ SS SS 20 48 00.0 -9.3
WMQ AMB AMB
comp=Z,30nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,52nm,5.0s
WMQ LR LR
comp=N,127nm,14.0s,MS4.1
WMQ LR LR
comp=E,113nm,14.0s,MS4.1
WMQ LR LR
comp=Z,130nm,14.0s,MS4.0
ZAA0 Zalesovo Array 47.85 318 *e*P **P** **20 38 26.8 +0.2**
ZALV Zalesovo Beam 47.85 318 P **P** **20 38 25.8 -0.8**
comp=Z,16nm,1.0s,mb5.0,baz=102,slow=6.5,SNR=40
ZALV LR LR 20 59 33.4
comp=Z,197nm,18.0s,MS4.1,baz=257,slow=37
ZAL Zalesovo 47.86 318 P **P** **20 38 25.8 -0.9**
PSI Prapat 48.76 246 P **P** **20 38 33.5 -0.7**
comp=Z,2.8nm,0.4s,mb4.7,baz=331,slow=5.2,SNR=4.2
JIRN Jiri 48.84 282 *e*P **P** **20 38 34.8 +0.2**
comp=Z,7.3nm,0.5s,mb5.0
NVS Novosibirsk 48.88 319 *e*P **P** **20 38 34.3 -0.2**
NVS pmax pmax
comp=Z,45nm,1.7s,mb5.2
NVS pmax pmax
comp=E,33nm,1.4s
GUN Gumba 49.04 283 *e*P **P** **20 38 36.3 +0.2**
MK31 Makanchi Array 49.10 308 *e*P **P** **20 38 36.5 +0.2**
MKAR Makanchi Array 49.10 308 *i*P **P** **20 38 36.5 +0.2**
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR Makanchi Array 49.10 308 P **P** **20 38 35.7 -0.6**
MKAR LR LR 21 00 21.9
MKAR Makanchi Array 49.10 308 P **P** **20 38 35.7 -0.6**
comp=Z,6.6nm,0.8s,mb4.7,baz=93,slow=9.4,SNR=36
MKAR LR LR 21 00 21.9
comp=Z,174nm,18.9s,MS4.1,baz=257,slow=37
CTA Charters Tower 49.24 175 LR LR 20 56 31.3
comp=Z,91nm,19.1s,MS3.8,baz=341,slow=32
WRAB Tennant Creek 49.51 190⇓ *e*P **P** **20 38 39.1 -0.5**
WRAB Tennant Creek 49.51 190 *e*P **P** **20 38 38.8 -0.8**
comp=Z,14nm,0.9s,mb5.0
WB2 Warramunga Arr 49.51 190 *e*P **P** **20 38 39.1 -0.5**
WRA Warramunga Arr 49.52 190 P **P** **20 38 38.7 -0.9**
comp=Z,12nm,0.8s,mb5.0,baz=10,slow=8.0,SNR=53
PKI Pulchoki 49.53 283 *e*P **P** **20 38 39.1 -0.8**
KKN Kakani 49.58 283 *e*P **P** **20 38 39.4 -0.9**
FITZ Fitzroy Crossi 49.74 201 *e*P **P** **20 38 41.4 0.0**
comp=Z,4.1nm,0.9s,mb4.5
FITZ Fitzroy Crossi 49.74 201 P **P** **20 38 39.8 -1.5**
comp=Z,1.2nm,0.7s,mb4.1,baz=18,slow=6.4,SNR=4.2
GKN Gorkha 50.07 283 *e*P **P** **20 38 43.1 -0.9**
DANN Dangsing 50.72 284 *e*P **P** **20 38 48.5 -0.4**
comp=Z,7.2nm,0.4s,mb4.9
KOLN Koldanda 51.01 283 *e*P **P** **20 38 50.4 -0.7**
comp=Z,32nm,1.2s,mb5.2
KURK Kurchatov 51.47 313 *e*P **P** **20 38 54.4 +0.2**
KURK pmax pmax
comp=Z,39nm,0.9s,mb5.3
KURK Kurchatov 51.47 313 *e*P **P** **20 38 54.4 +0.2**
comp=Z,39nm,0.9s,mb5.3
KDAK Kodiak Island 52.64 38 P **P** **20 39 02.4 -0.3**
comp=Z,6.8nm,0.9s,mb4.5,baz=304,slow=7.3,SNR=3.7
ASAR Alice Springs 53.24 189 P **P** **20 39 06.8 -0.7**
comp=Z,1.1nm,0.5s,mb4.0,baz=2.1,slow=5.0,SNR=20
AML Almayashu 55.70 303 *e*P **P** **20 39 25.9 +0.6**
comp=Z,11nm,0.9s,mb4.9
BVAR Borovoye Array 56.45 316 P **P** **20 39 31.0 +0.5**
comp=Z,12nm,0.9s,mb4.9,baz=97,slow=8.4,SNR=38
BVAR LR LR 21 03 39.7
comp=Z,90nm,22.0s,MS3.8,baz=82,slow=36
BRVK Borovoye 56.51 317 *e*P **P** **20 39 31.4 +0.5**
BRVK pmax pmax
comp=Z,21nm,1.0s,mb5.1
BRVK Borovoye 56.51 317 *e*P **P** **20 39 31.4 +0.4**
comp=Z,21nm,1.0s,mb5.1
STKA Stephens Creek 60.82 181 *e*P **P** **20 40 00.3 -0.8**
comp=Z,3.9nm,0.8s,mb4.6
STKA Stephens Creek 60.82 181 P **P** **20 40 00.1 -0.9**
comp=Z,1.7nm,0.7s,mb4.3,baz=333,slow=14,SNR=3.8
INK Inuvik 61.06 25 P **P** **20 40 02.4 +0.1**
INK pmax pmax
comp=Z,1.0nm,0.8s
INK Inuvik 61.06 25 *e*P **P** **20 40 01.9 -0.4**
comp=Z,85nm,1.0s,mb5.8
INK Inuvik 61.06 25 P **P** **20 40 02.4 +0.1**
comp=Z,1.0nm,0.8s,mb4.0,baz=255,slow=6.4,SNR=5.7
KBL Kabul 61.06 295 *e*P **P** **20 40 01.7 -1.2**
comp=Z,2.0nm,0.4s,mb4.6
SVE Sverdlovsk 61.50 322⇑ *e*P **P** **20 40 06.5 +1.0**
SVE pmax pmax
comp=Z,12nm,0.7s,mb5.1
SVE MLR MLR
comp=Z,96nm,7.0s
ARU Arti 62.70 322*d i*P **P** **20 40 13.5 -0.1**
ARU *e* 20 40 50.2
ARU *e* 20 42 31.0
ARU *e*S **S** **20 48 42.9 +2.8**
ARU *e*SS SS 20 52 48.4 +4.0
ARU pmax pmax
comp=Z,26nm,1.2s,mb5.2
ARU Arti 62.70 322 *e*P **P** **20 40 13.6 +0.1**
comp=Z,18nm,0.9s,mb5.2
YKA Yellowknife Ar 70.23 29 P **P** **20 41 01.4 -0.2**
comp=Z,1.4nm,0.7s,mb4.0,baz=293,slow=6.3,SNR=16
ARCES ARCESS Array B 71.48 341 P **P** **20 41 08.9 -0.2**
comp=Z,4.1nm,0.9s,mb4.4,baz=18,slow=12,SNR=3.4
ARCES LR LR 21 17 36.6
comp=Z,190nm,18.2s,MS4.4,baz=258,slow=40
OBN Obninsk 74.74 325 *e*P **P** **20 41 29.0 +0.4**
OBN *e* 20 41 48.1
OBN pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
OBN MLR MLR
comp=Z,300nm,18.0s,MS4.6
FINES FINESS Array B 75.99 334 P **P** **20 41 35.2 -0.4**
comp=Z,1.8nm,0.7s,mb4.1,baz=89,slow=4.7,SNR=8.8
KIV Kislovodsk 76.55 313 *e*P **P** **20 41 41.4 +2.2**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
KIV Kislovodsk 76.55 313 *e*P **P** **20 41 41.4 +2.2**
comp=Z,7.3nm,0.8s,mb4.7
SOC Sochi 78.62 314 *i*P **P** **20 41 53.5 +2.8**
NVAR Mina Array Bea 79.18 52 P **P** **20 41 55.0 +1.1**
comp=Z,1.5nm,0.7s,mb4.0,baz=282,slow=4.6,SNR=9.3
LRM Limekiln Ridge 79.29 43 *e*P **P** **20 41 55.2 +0.9**
UMR Umm Al-Rimmam 79.66 298 *e*P **P** **20 41 56.4 -0.2**
UMR AMb AMB 20 42 00.6
comp=Z,14nm,0.5s,mb5.2
MIB Mutribah 79.83 298 *e*P **P** **20 41 57.4 -0.2**
MIB AMb AMB 20 41 58.7
comp=Z,33nm,0.9s,mb5.3
RDF Al-Radifah 80.07 297 *e*P **P** **20 41 58.7 -0.2**
RDF AMb AMB 20 42 04.9
comp=Z,21nm,0.9s,mb5.0
NAY Al-Naaiem 80.16 298 *e*P **P** **20 41 58.5 -0.9**
NAY AMb AMB 20 42 00.6
comp=Z,28nm,0.9s,mb5.2
AKASG Malin Array Be 80.86 324 *i*P **P** **20 42 02.7 0.0**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 80.86 324 P **P** **20 42 02.0 -0.7**
comp=Z,2.5nm,0.8s,mb4.2,baz=47,slow=5.8,SNR=15
NB2 NORSAR Subarra 81.59 338 P **P** **20 42 06.0 -0.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=41,slow=5.3
NOA NORSAR Array B 81.59 338 P **P** **20 42 06.1 -0.2**
comp=Z,2.0nm,0.8s,mb4.1,baz=40,slow=5.1,SNR=4.4
NOA LR LR 21 21 32.2
comp=Z,79nm,20.6s,MS4.1,baz=15,slow=38
HWUT Hardware Ranch 82.04 47 *e*P **P** **20 42 10.1 +0.9**
comp=Z,4.0nm,0.9s,mb4.3
MALT Malatya 82.12 310 *e*P **P** **20 42 12.3 +2.7**
MALT pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
MALT Malatya 82.12 310 *e*P **P** **20 42 12.3 +2.7**
comp=Z,3.6nm,0.9s,mb4.3
GERES GERESS Array B 89.64 329 P **P** **20 42 45.8 -0.9**
comp=Z,0.3nm,0.7s,mb3.8,baz=35,slow=4.9,SNR=4.6
GERES LR LR 21 27 21.0
comp=Z,168nm,18.3s,MS4.5,baz=273,slow=38
TXAR Lajitas Array 94.30 53 P **P** **20 43 09.4 +0.8**
comp=Z,1.1nm,0.9s,mb4.3,baz=304,slow=2.9,SNR=6.7
TIP Timpagrande 95.01 321 *e*P **P** **20 43 08.1 -3.5**
comp=Z,6.9nm,0.7s,mb5.2
TORD Torodi Ar. Bea 123.13 312 PKP PKPdf 20 48 43.0 -3.1
comp=Z,0.8nm,1.0s,baz=20,slow=4.6,SNR=3.0
LPAZ La Paz 149.31 72 PKP PKPdf 20 49 33.7 -0.2
comp=Z,1.7nm,0.8s,baz=206,slow=3.7,SNR=3.7
LPAZ PKPbc PKPbc 20 49 39.2 +1.0
comp=Z,2.2nm,0.9s,baz=320,slow=4.1,SNR=5.9

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*NEIC **20** 20:41:16.0±0.3, 47.33N×152.91E, h10km, mb4.6/37, Error ellipse: s-maj=8.4km s-min=5.3km az=152.0*
*BJI **20** 20:41:18.8, 47.24N×155.34E, h30km, mB4.8, mb4.5, Ms4.2, Msz4.2*
*JMA **20** 20:41:19.0±0.7, 47.11N×153.54E, h30km, M4.5*
*ISCJB **20** 20:41:20.0±0.3, 47.15N±004×153.12E±005, h58km, mb4.4/63, MS3.6/7, Error ellipse: s-maj=7.4km s-min=3.0km az=142.8*
*SKHL **20** 20:41:20.6±2.5, 47.45N×153.17E, h54km±18km, mb4.8/1, msh4.7/3*
*MOS **20** 20:41:21.2±0.8, 47.33N×153.08E, h62km, mb4.7/32, Error ellipse: s-maj=10.8km s-min=6.3km az=90.7*
*IDC **20** 20:41:22.4±0.6, 47.28N×152.94E, h61km±5km, mb3.8/17, mb1 4.0/18, mb1mx3.9/25, mbtmp3.8/18, MS3.2/3, Ms1 3.2/3, ms1mx2.9/35, Error ellipse: s-maj=16.8km s-min=11.7km az=136.0*
*SZGRF **20** 20:41:22.4, 47.50N×152.47E, h33km, mb4.6, Kuril Islands, Russia*

ISC 20 20:41:22.1±0.3, 47.19N±004×153.07E±006, h60km, h60km±1.1km; pP-P, n207, σ1§13/225, mb4.4/63, MS3.6/7, 7C-9D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.03**	**29**	*e*P	**Pn**	**20 42 17.4**	**-3.8**
SKR				AMB	AMB	20 42 20.0	
40nm,0.5s							
SKR				*e*S	**Sn**	**20 42 58.1**	**-9.0**
SKR				A		20 43 10.0	
230nm,0.7s							
SKR				A		20 43 10.0	
270nm,0.7s							
SKR				A		20 43 10.0	
90nm,0.7s							
KUR	**Kuril'sk**	**4.11**	**243**	*e*PN	**Pn**	**20 42 25.5**	**+3.3**
KUR				*e*S	**Sn**	**20 43 16.0**	**+7.1**
KUR				pmax	pmax		
comp=N,90nm,0.7s							
KUR				pmax	pmax		
comp=Z,230nm,0.7s							
KUR				smax			
comp=N,790nm,1.0s							
KUR				smax			
comp=E,1μm,1.0s							
KUR	**Kuril'sk**	**4.11**	**243**	*e*P	**Pn**	**20 42 25.5**	**+3.3**
KUR				AMB	AMB	20 42 26.0	
comp=E,86nm,0.7s							
KUR				AMB	AMB	20 42 26.0	
comp=E,232nm,0.7s							
KUR				*e*S	**Sn**	**20 43 16.0**	**+7.1**
KUR				A		20 43 30.2	
comp=E,792nm,1.0s							
KUR				A		20 43 30.2	
comp=E,1μm,1.0s							
YUK	**Yuzh-Kuril'sk**	**5.96**	**241**	*e*P	**Pn**	**20 42 50.0**	**+2.4**
YUK				*e*S	**Sn**	**20 44 05.1**	**+11**
YUK				A		20 44 23.0	
comp=E,1μm,1.0s							
YUK				A		20 44 23.0	
comp=E,3μm,1.0s							
YUK				A		20 44 23.0	
comp=E,900nm,0.8s							
NEM2 Nemuro 2		**6.43**	**236**	P	**Pn**	**20 42 54.0**	**0.0**
NEM2				*e*S	**Sn**	**20 44 03.7**	**-2.2**
JRA Rausu		**6.46**	**243**	P	**Pn**	**20 42 57.7**	**+3.3**
JNK Nakash		**6.89**	**242**	P	**Pn**	**20 43 02.4**	**+2.0**
JNK				*e*S	**Sn**	**20 44 20.1**	**+2.7**
YSS Yuzh-Sakhalins		**7.05**	**272**⇑	*e*PN	**Pn**	**20 43 06.5**	**+4.0**
YSS				*e*S	**Sn**	**20 44 26.0**	**+4.9**
YSS				pmax	pmax		
comp=Z,50nm,1.0s							
YSS				MLR	MLR		
comp=Z,500nm,14.0s							
YSS Yuzh-Sakhalins		**7.05**	**272**	*e*Pn	**Pn**	**20 43 05.8**	**+3.3**
YSS Yuzh-Sakhalins		**7.05**	**272**⇑	*e*P	**Pn**	**20 43 06.5**	**+4.0**
YSS				AMB	AMB	20 43 07.5	
comp=Z,50nm,1.0s							
YSS				AMB	AMB	20 43 14.0	
comp=Z,500nm,16.0s							
YSS				AMB	AMB	20 43 14.0	
comp=Z,500nm,18.0s							
YSS				*e*S	**Sn**	**20 44 26.0**	**+4.9**
YSS				AMS	AMS	20 48 08.0	
comp=Z,500nm,14.0s							
JTKR Abashiri--Toko		**7.19**	**247**	P	**Pn**	**20 43 07.7**	**+3.3**
JAK Akkeshi		**7.26**	**238**	P	**Pn**	**20 43 05.2**	**-0.1**
JAK				*e*S	**Sn**	**20 44 23.6**	**-2.6**
JMP Maruseppu		**7.51**	**249**	P	**Pn**	**20 43 12.4**	**+3.5**
JAR Ashorobuto		**7.63**	**243**	P	**Pn**	**20 43 12.7**	**+2.3**
JAR				*e*S	**Sn**	**20 44 36.9**	**+1.5**
JOB Onbets		**7.81**	**240**	P	**Pn**	**20 43 13.4**	**+0.4**
JOB				*e*S	**Sn**	**20 44 39.0**	**-1.0**
ASAJ Asahikawa		**7.95**	**251**	PN	**Pn**	**20 43 17.7**	**+2.8**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ Asahikawa		**7.95**	**251**	P	**Pn**	**20 43 19.4**	**+4.5**
ASAJ Asahikawa		**7.95**	**251**	P	**Pn**	**20 43 17.7**	**+2.8**
comp=Z,0.9nm,0.3s,baz=69,slow=12,SNR=8.0							
JWK2 Keihoku		**7.97**	**260**	P	**Pn**	**20 43 21.8**	**+6.7**
JKK2 Kamakawa 2		**7.97**	**249**	P	**Pn**	**20 43 18.8**	**+3.7**
JCH Churui		**8.27**	**240**	P	**Pn**	**20 43 19.8**	**+0.6**
JCH				*e*S	**Sn**	**20 44 48.3**	**-2.7**
ERM Erimo		**8.76**	**237**	*i*PN	**Pn**	**20 43 27.4**	**+1.5**
JEM Erimo		**8.76**	**237**	P	**Pn**	**20 43 26.1**	**+0.2**
JEM				*e*S	**Sn**	**20 45 00.2**	**-2.8**
JBT2 Biratori 2		**8.77**	**244**	P	**Pn**	**20 43 27.5**	**+1.4**
JNBK Urakawa-nobuka		**8.83**	**240**	P	**Pn**	**20 43 27.6**	**+0.8**
JNBK				*e*S	**Sn**	**20 45 03.2**	**-1.6**
JNB Noboribetsu		**9.76**	**245**	*e*S	**Sn**	**20 45 26.8**	**-0.8**
NKL Nikolayevsk		**9.93**	**311**	*e*P	**Pn**	**20 43 41.8**	**-0.1**
NKL				AMB	AMB	20 43 43.2	
comp=Z,30nm,1.0s							
JKB Kayabe		**10.09**	**243**	P	**Pn**	**20 43 43.4**	**-0.7**
JKB				*e*S	**Sn**	**20 45 29.7**	**-6.0**
JSR Shiriuchi		**10.67**	**243**	P	**Pn**	**20 43 52.2**	**+0.1**
JTM Tenmabayashi		**10.75**	**238**	P	**Pn**	**20 43 51.2**	**-1.9**
JTM				*e*S	**Sn**	**20 45 44.2**	**-7.6**
JANG Nango		**10.77**	**235**	P	**Pn**	**20 43 50.5**	**-2.9**
JANG				*e*S	**Sn**	**20 45 43.4**	**-8.9**
JTH Tanohata		**10.88**	**232**	*e*S	**Sn**	**20 45 46.0**	**-9.0**
JOSM Okushiri--Mats		**10.95**	**247**	P	**Pn**	**20 43 56.3**	**+0.6**
JRG Rokugo		**11.94**	**234**	P	**Pn**	**20 44 07.3**	**-2.0**
HABR Khabarovsk		**12.18**	**283**	*e*PN	**Pn**	**20 44 12.2**	**-0.4**
HABR				*e*S	**Sn**	**20 46 29.4**	**+2.8**
JIO Ouri		**12.24**	**229**	P	**Pn**	**20 44 10.6**	**-2.9**
JIO				*e*S	**Sn**	**20 46 16.6**	**-12**
MA2 Magadan		**12.49**	**355***c e*PN	**Pn**	**20 44 17.4**	**+0.8**
MA2 Magadan		**12.49**	**355**	*e*Pn	**Pn**	**20 44 17.7**	**+1.0**
JFY Yanaizu		**13.89**	**230**	P	**Pn**	**20 44 33.6**	**-2.2**
KLR Kul'dur		**14.36**	**286**	*e*P	**Pn**	**20 44 45.2**	**+3.3**
KLR				MLR	MLR		
comp=Z,500nm,13.0s							
MAJO Matsushiro		**15.32**	**231**	*e*P	**Pn**	**20 45 00.6**	**+6.1**
MAJO				pmax	pmax		
comp=Z,18nm,0.7s							
MAJO Matsushiro		**15.32**	**231**	*e*P	**Pn**	**20 45 00.6**	**+6.0**
comp=Z,18nm,0.7s							
MAT Matsushiro		**15.32**	**231**	P	**Pn**	**20 44 52.9**	**-1.6**
MJAR Matsushiro Arr		**15.32**	**231**	P	**Pn**	**20 44 53.1**	**-1.4**
comp=Z,0.2nm,0.3s,baz=30,slow=15,SNR=9.4							
SEY Seymchan		**15.79**	**359**	*i*P	**Pn**	**20 45 01.7**	**+1.5**
MDJ Mudanjiang		**16.53**	**270**	P	**Pn**	**20 45 13.3**	**+3.6**
MDJ				AP	pP	20 45 17.9	-6.3
MDJ				XP	sP	20 45 19.4	-12
MDJ				AMB	AMB		
comp=Z,12nm,1.0s							
MDJ				AMB	AMB		
comp=Z,151nm,4.2s							
ZEA Zeya		**17.64**	**301**	*e*P	**Pn**	**20 45 22.6**	**-0.7**
ZEA				AMB	AMB	20 45 28.1	
comp=Z,14nm,0.9s							
CN2 Changchun		**19.61**	**270**	*e*P	**Pn**	**20 45 53.0**	**+5.8**
YAK Yakutsk		**19.94**	**327**⇓	*e*P	**Pn**	**20 45 52.9**	**+2.1**
YAK				pmax	pmax		
comp=Z,8.0nm,0.6s							
KSRS Korea Array		**20.90**	**251**	P	**P**	**20 46 01.2**	**+1.9**
comp=Z,3.8nm,0.8s,baz=60,slow=10,SNR=11							
KSRS				LR	LR	20 52 58.3	
comp=Z,43nm,20.4s,MS2.8,baz=60,slow=33							
JNU Nakatsue		**21.92**	**238**	P	**P**	**20 46 11.1**	**+0.8**
comp=Z,12nm,1.1s,mb4.2,baz=95,slow=7.1,SNR=5.2							
JNU				LR	LR	20 54 58.2	
comp=Z,34nm,20.3s,MS2.7,baz=248,slow=37							
BJI Beijing		**27.45**	**269**	P	**P**	**20 47 05.4**	**+3.2**
BJI				S	**S**	**20 51 48.0**	**+10**
BJI				AMB	AMB		
comp=Z,5.0nm,0.8s,mb4.1							
BJI				LR	LR		
comp=N,119nm,15.1s,MS3.7							
BJI				LR	LR		
comp=E,124nm,15.9s,MS3.7							
BJI				LR	LR		
comp=Z,101nm,22.4s							
HHC Hu-ho-hao-te		**30.23**	**273**	*e*P	**P**	**20 47 32.8**	**+5.9**
HHC				XP	sP	20 47 39.9	-8.8
HHC				PP	PP	20 48 33.4	-2.5
HHC				PCP	PcP	20 50 30.9	+4.7
HHC				S	**S**	**20 52 33.8**	**+12**
HHC				XS	sS	20 52 40.4	-6.8
HHC				SCS	ScS	20 58 07.6	+8.7
HHC				AMB	AMB		
comp=Z,13nm,1.0s,mb4.6							
HHC				AMB	AMB		
comp=Z,555nm,9.8s							
HHC				LR	LR		
comp=N,117nm,12.5s,MS3.9							
HHC				LR	LR		
comp=E,131nm,10.4s,MS3.9							
HHC				LR	LR		
comp=Z,152nm,11.2s,MS3.9							
SONM Songino Array		**31.16**	**289**	PcP	PcP	20 50 28.8	+0.3
comp=Z,0.6nm,0.8s,baz=74,slow=2.7,SNR=5.3							
SONM				LR	LR	21 01 02.8	
comp=Z,144nm,18.1s,MS3.7,baz=70,slow=38							
TTA Tatalina		**32.11**	**42**	*e*P	**P**	**20 47 42.7**	**-0.4**
TTA				pmax	pmax		
comp=Z,1.0nm,0.4s,mb4.0							
TTA Tatalina		**32.11**	**42**	*e*P	**P**	**20 47 42.7**	**-0.4**
comp=Z,1.5nm,0.4s,mb4.2							
IMA2 Indian Mountai		**33.47**	**36**	*e*P	**P**	**20 47 55.6**	**+0.6**
IMA2				*e*	pP	20 48 09.1	-0.7
KDAK Kodiak Island		**33.85**	**51**	P	**P**	**20 47 57.5**	**-0.9**
KDAK				pP	pP	20 48 12.3	-0.9
KDAK Kodiak Island		**33.85**	**51**	P	**P**	**20 47 57.5**	**-0.9**
comp=Z,7.1nm,0.8s,mb4.7,baz=260,slow=2.5,SNR=7.1							
KDAK				pP	pP	20 48 12.3	-0.9
comp=Z,4.6nm,0.8s,baz=338,slow=8.1,SNR=3.1							
PMR Palmer		**35.31**	**44**	*e*P	**P**	**20 48 11.9**	**+1.0**
PMR				pmax	pmax		
comp=Z,3.0nm,0.8s,mb4.3							
PMR Palmer		**35.31**	**44**	*e*P	**P**	**20 48 11.9**	**+1.0**
comp=Z,2.5nm,0.8s,mb4.2							
SML Sawmill		**35.67**	**44**	*e*P	**P**	**20 48 13.9**	**-0.1**
SML				*e*	pP	20 48 29.0	0.0
COLA College		**35.81**	**39**⇓	*e*P	**P**	**20 48 15.5**	**+0.3**
COLA College		**35.81**	**39**	*e*P	**P**	**20 48 15.4**	**+0.2**
comp=Z,6.0nm,0.7s,mb4.6							
LZH Lanzhou		**37.85**	**271**	*e*P	**P**	**20 48 38.5**	**+5.7**
LZH				AP	pP	20 48 43.3	-4.5
LZH				XP	sP	20 48 45.6	-9.2
LZH				PP	PP	20 50 08.8	+8.8
LZH				AMB	AMB		
comp=Z,19nm,1.3s,mb4.7							
LZH				AMB	AMB		

comp=Z,83nm,4.7s
LZH LR LR
comp=E,437nm,13.7s
LZH LR LR
comp=Z,693nm,17.4s,MS4.5
EGAK Eagle 38.68 39 *e*P **P 20 48 39.1 -0.3**
comp=Z,6.1nm,0.9s,mb4.3
EGAK *e* pP 20 48 53.8 -0.7
CD2 Chengdu 40.89 265 *e*P **P 20 48 59.8 +1.6**
CD2 PP PP 20 50 38.6 +5.3
CD2 S **S 20 55 12.9 +7.6**
CD2 SS SS 20 58 11.1 +2.7
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,30nm,4.8s
INK Inuvik 41.30 33 P **P 20 49 01.8 +0.7**
INK *PP pP 20 49 17.2 +0.9
INK pmax pmax
comp=Z,5.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,0.5s
INK Inuvik 41.30 33 *e*P **P 20 49 02.1 +1.0**
comp=Z,216nm,0.9s,mb5.8
INK *e* pP 20 49 16.9 +0.6
INK Inuvik 41.30 33 P **P 20 49 01.8 +0.7**
comp=Z,4.6nm,0.8s,mb4.2,baz=300,slow=7.1,SNR=30
INK pP pP 20 49 17.2 +0.9
comp=Z,1.6nm,0.5s,baz=303,slow=7.7,SNR=4.7
GYA Guiyang 41.78 257 P **P 20 49 11.3 +5.8**
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
ZALV Zalesovo Beam 42.33 305 P **P 20 49 08.8 -0.9**
comp=Z,0.5nm,0.4s,mb3.5,baz=88,slow=3.3,SNR=2.5
ZALV PcP PcP 20 51 02.1 0.0
comp=Z,1.5nm,0.6s,baz=66,slow=2.6,SNR=7.3
ZAL Zalesovo 42.35 305 P **P 20 49 08.8 -1.0**
ZAL 20 51 02.1
WMQ Urumqi 44.74 291 *e*P **P 20 49 35.0 +5.8**
WMQ XP sP 20 49 42.0 -9.4
WMQ PP PP 20 51 21.0 +6.6
WMQ S **S 20 56 13.0 +11**
WMQ SS SS 20 59 26.0 +2.6
WMQ AMB AMB
comp=Z,29nm,1.0s,mb5.1
WMQ LR LR
comp=N,48nm,14.0s,MS3.8
WMQ LR LR
comp=E,74nm,14.0s,MS3.8
WMQ LR LR
comp=Z,56nm,14.0s,MS3.6
KMI Kunming 45.29 259 P **P 20 49 41.8 +8.0**
KMI AMB AMB
comp=Z,7.0nm,2.0s,mb4.1
DLBC Dease Lake 45.31 46 *e*P **P 20 49 35.5 +2.0**
DLBC Dease Lake 45.31 46 P **P 20 49 35.3 +1.8**
baz=322,slow=7.7
MKAR Makanchi Array 46.72 297 P **P 20 49 44.0 -0.7**
comp=Z,0.6nm,0.7s,mb3.6,baz=67,slow=11,SNR=3.6
MKAR PcP PcP 20 51 17.4 +0.1
comp=Z,1.7nm,0.7s,baz=64,slow=5.5,SNR=7.3
YKW3 Yellowknife Ar 50.56 37 *e*P **P 20 50 14.2 +0.3**
BVAR Borovoye Array 50.56 309 P **P 20 50 13.1 -1.0**
comp=Z,0.7nm,0.6s,mb3.8,baz=33,slow=9.2,SNR=6.5
BVAR PcP PcP 20 51 31.1 0.0
comp=Z,2.0nm,0.7s,baz=68,slow=3.3,SNR=9.5
YKA Yellowknife Ar 50.59 37 P **P 20 50 14.7 +0.5**
YKA *PP pP 20 50 30.6 +0.8
YKA 20 51 31.3
YKA Yellowknife Ar 50.59 37 P **P 20 50 14.7 +0.5**
comp=Z,3.6nm,0.8s,mb4.4,baz=297,slow=7.2,SNR=37
YKA pP pP 20 50 30.5 +0.7
comp=Z,2.1nm,0.7s,baz=297,slow=7.0,SNR=8.0
YKA PcP PcP 20 51 31.3 +0.3
comp=Z,0.4nm,0.6s,baz=310,slow=3.7,SNR=5.5
CHTO Chiang Mai 52.19 256 *e*P **P 20 50 28.6 +1.9**
CHTO pmax pmax
comp=Z,12nm,1.0s,mb4.8
CHTO Chiang Mai 52.19 256 *e*P **P 20 50 28.6 +1.9**
comp=Z,12nm,1.0s,mb4.8
EDM Edmonton 56.03 46 *e*P **P 20 50 54.3 0.0**
WALA Waterton Lakes 58.19 51 *e*P **P 20 51 10.2 +0.7**
comp=Z,3.7nm,0.7s,mb4.5
WALA *e* pP 20 51 24.2 -1.2
FCC Fort Churchill 60.91 33 *e*P **P 20 51 27.5 -0.6**
FCC *e* pP 20 51 44.2 +0.1
FCC pmax pmax
comp=Z,5.0nm,0.7s,mb4.8
FCC Fort Churchill 60.91 33 *e*P **P 20 51 27.5 -0.7**
comp=Z,5.4nm,0.7s,mb4.8
FCC *e* pP 20 51 44.1 0.0
JOF Joensuu 60.93 334 *e*p pP 20 51 43.4 -0.8
comp=Z,0.7nm,0.4s
LRM Limekiln Ridge 60.96 53 *e*P **P 20 51 29.9 +1.3**
LRM *e* pP 20 51 45.4 +0.8
BOZ Bozeman (W) 61.51 53 *e*P **P 20 51 34.1 +1.7**
BOZ *e* pP 20 51 49.4 +1.0
BOZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
BOZ Bozeman (W) 61.51 53 *e*P **P 20 51 34.0 +1.7**
comp=Z,5.3nm,0.8s,mb4.7
BOZ *e* pP 20 51 49.4 +0.9
NVAR Mina Array Bea 62.26 63 P **P 20 51 38.3 +0.8**
comp=Z,0.4nm,0.6s,mb3.7,baz=291,slow=6.4,SNR=3.1
NVAR pP pP 20 51 54.8 +1.2
comp=Z,2.2nm,0.8s,baz=285,slow=6.7,SNR=9.0
FINES FINESS Array B 63.63 335 P **P 20 51 45.3 -0.9**
comp=Z,1.5nm,0.5s,mb4.2,baz=35,slow=7.6,SNR=16
RSSD Black Hills 66.57 50 *e*P **P 20 52 06.4 +0.9**
RSSD *e* pP 20 52 22.5 +0.7
RSSD pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
RSSD Black Hills 66.57 50 *e*P **P 20 52 06.4 +0.8**
comp=Z,6.2nm,0.6s,mb4.8
RSSD *e* pP 20 52 22.5 +0.7
NB2 NORSAR Subarra 67.81 341 P **P 20 52 12.6 -0.5**
comp=Z,1.7nm,0.8s,mb4.1,baz=26,slow=6.5
NOA NORSAR Array B 67.81 341 P **P 20 52 12.9 -0.1**
comp=Z,3.7nm,0.9s,mb4.4,baz=26,slow=6.3,SNR=8.6
SMCO Snowmass 68.38 55 *e*P **P 20 52 17.5 +0.4**
comp=Z,4.8nm,0.7s,mb4.6
SMCO *e* pP 20 52 32.7 -0.7
WRA Warramunga Arr 68.92 199 P **P 20 52 20.7 +0.3**
comp=Z,1.4nm,0.7s,mb4.0,baz=16,slow=6.5,SNR=13
FITZ Fitzroy Crossi 69.52 208 P **P 20 52 25.2 +1.0**
comp=Z,1.6nm,0.8s,mb4.0,baz=56,slow=7.0,SNR=4.3
ECSD EROS,Sioux Fal 70.60 46 *e*P **P 20 52 30.8 0.0**
comp=Z,6.1nm,0.7s,mb4.6
ECSD *e* pP 20 52 46.8 -0.2
AKASG Malin Array Be 71.17 326 P **P 20 52 32.7 -1.3**
AKASG Malin Array Be 71.17 326 P **P 20 52 32.7 -1.3**
comp=Z,1.7nm,0.6s,mb4.2,baz=34,slow=6.3,SNR=14
ASAR Alice Springs 72.61 198 P **P 20 52 44.4 +1.5**
comp=Z,3.3nm,0.7s,mb4.4,baz=12,slow=5.2,SNR=40
KWP Kalwaria 74.43 329 ||*i*P **P 20 52 54.1 +0.7**
STHS Stebnicka Huta 75.12 330 *e*P **P 20 52 57.7 +0.4**
STHS pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
STHS Stebnicka Huta 75.12 330 *e*P **P 20 52 57.7 +0.4**
comp=Z,2.7nm,0.9s,mb4.2
BURAR Bucovina Array 75.21 326 ||*i*P **P 20 52 58.0 +0.1**
CRVS Cervenica-Dubn 75.49 329 *e*P **P 20 52 59.6 +0.2**
MORC Moravsky Berou 76.04 332 ||*i*P **P 20 53 02.8 +0.2**
CLL Collm 76.06 335 ⇑*i*P **P 20 53 01.5 -1.1**
CLL pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 76.06 335 *e*P **P 20 53 02.0 -0.6**
comp=Z,6.0nm,0.8s,mb4.6
CLL Collm 76.06 335 ⇑*i*P **P 20 53 01.5 -1.1**
comp=Z,6.0nm,0.8s,mb4.6
BRG Berggiesshubel 76.17 335 *i*P **P 20 53 02.7 -0.6**
BRG pmax pmax
comp=Z,2.0nm,1.1s,mb4.0
BRG Berggiesshubel 76.17 335 *i*P **P 20 53 02.7 -0.6**
comp=Z,3.8nm,1.1s,mb4.2
CLZ Clausthal 76.30 337 *e*P **P 20 53 03.8 -0.2**
CLZ pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
CLZ Clausthal 76.30 337 *e*P **P 20 53 03.8 -0.2**
comp=Z,6.0nm,0.9s,mb4.5
MLR Muntele Rosu 76.69 325 ⇑*i*P **P 20 53 08.1 +1.8**
VYHS Vyhne 76.73 331 *e*P **P 20 53 06.2 -0.3**
VYHS pmax pmax
comp=Z,2.0nm,1.0s,mb4.0
VYHS Vyhne 76.73 331 *e*P **P 20 53 06.2 -0.3**
comp=Z,2.3nm,1.0s,mb4.1
DRGR 76.83 327 ||*i*P **P 20 53 06.9 -0.2**
MOX Moxa 77.04 336 *e*P **P 20 53 07.9 -0.3**
comp=Z,6.0nm,1.0s,mb4.5
VOIR 77.08 325 ||*i*P **P 20 53 09.7 +1.1**
WERN Wernitzgruen 77.15 335 *e*P **P 20 53 08.8 0.0**
comp=Z,4.0nm,0.9s,mb4.3
NKC Novy Kostel 77.17 335 *e*P **P 20 53 09.4 +0.4**
TXAR Lajitas Array 77.30 61 P **P 20 53 10.3 +0.2**
TXAR *PP pP 20 53 27.5 +0.9
TXAR pmax pmax
comp=Z,2.0nm,0.5s
TXAR pmax pmax
comp=Z,2.0nm,0.6s
TXAR Lajitas Array 77.30 61 P **P 20 53 10.3 +0.2**
comp=Z,1.5nm,0.5s,mb4.2,baz=292,slow=5.1,SNR=29
TXAR pP pP 20 53 27.5 +0.9
comp=Z,2.2nm,0.6s,baz=303,slow=4.1,SNR=11
MODS Modra-Piesok 77.35 332 *e*P **P 20 53 09.9 -0.1**
BUG Bochum--Univer 77.45 339 *e*P **P 20 53 10.0 -0.5**
comp=Z,11nm,1.0s,mb4.7
MANZ Manzenberg 77.49 335 *e*P **P 20 53 10.5 -0.3**
comp=Z,10.0nm,1.9s,mb4.4
ROTZ Rotzenmuhle 77.66 335 *e*P **P 20 53 11.5 -0.2**
comp=Z,6.0nm,1.1s,mb4.4
KHC Kasperske Hory 77.83 334 *e*P **P 20 53 12.8 +0.1**
GRA1 Grafenberg Arr 78.01 336 *e*P **P 20 53 13.5 -0.1**
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 78.01 336 *e*P **P 20 53 13.5 -0.1**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 78.01 336 *e*P **P 20 53 13.5 -0.1**
GRF pmax pmax
comp=Z,12nm,0.9s,mb4.8
GRF Grafenberg Arr 78.01 336 *e*P **P 20 53 13.5 -0.1**
comp=Z,12nm,0.9s,mb4.8
WET Wettzell 78.03 335 *e*P **P 20 53 13.5 -0.2**
WET pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
WET Wettzell 78.03 335 *e*P **P 20 53 13.5 -0.2**
comp=Z,5.0nm,1.0s,mb4.4
GEC2 GERESS Array S 78.05 334 *e*P **P 20 53 13.6 -0.3**
GEC2 pmax pmax
comp=Z,6.0nm,1.6s,mb4.3
GEC2 GERESS Array S 78.05 334 *e*P **P 20 53 13.6 -0.3**
comp=Z,6.0nm,1.6s,mb4.3
GERES GERESS Array B 78.05 334 P **P 20 53 13.8 -0.1**
comp=Z,1.1nm,0.7s,mb3.9,baz=36,slow=4.8,SNR=14
BZS Buzias 78.23 327 ⇑*i*P **P 20 53 14.9 0.0**
PKSM Moragy 78.78 330 ||*i*P **P 20 53 17.1 -0.8**
WLF Walferdange 79.37 339 *e*P **P 20 53 15.8 -5.3**
comp=Z,7.0nm,1.0s,mb4.5
BAIF Baives 79.47 340 *e*P **P 20 53 21.0 -0.6**
BFO Black Forest 80.04 337 *e*P **P 20 53 23.8 -1.0**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 80.04 337 *e*P **P 20 53 23.8 -1.0**
comp=Z,5.0nm,0.9s,mb4.4
VTS Vitosha 80.20 325 ||*i*P **P 20 53 26.1 +0.4**
CDF Champ du Feu 80.24 338 *e*P **P 20 53 25.2 -0.6**
comp=Z,5.0nm,0.6s,mb4.3
CDF Champ du Feu 80.24 338 *e*P **P 20 53 25.2 -0.6**
CDF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CDF Champ du Feu 80.24 338 *e*P **P 20 53 25.2 -0.6**
comp=Z,2.5nm,0.6s,mb4.3
MEZF Maizieres J'vi 80.72 339 *e*P **P 20 53 27.8 -0.6**
comp=Z,16nm,0.9s,mb4.6
MEZF Maizieres J'vi 80.72 339 *e*P **P 20 53 27.8 -0.6**
comp=Z,16nm,0.9s,mb5.0
HAU Haudompre 80.86 338 *e*P **P 20 53 28.5 -0.6**
comp=Z,5.4nm,0.7s,mb4.3
HAU Haudompre 80.86 338 *e*P **P 20 53 28.5 -0.6**
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
HAU Haudompre 80.86 338 *e*P **P 20 53 28.5 -0.6**
comp=Z,2.7nm,0.6s,mb4.3
HINF Hinteralfeld 80.90 338 *e*P **P 20 53 28.5 -0.9**
FLN La Foliniere 81.71 343 *e*P **P 20 53 32.9 -0.7**
LDF La Druitiere 81.80 342 *e*P **P 20 53 33.2 -0.9**
LOR Lormes 82.16 339 *e*P **P 20 53 35.3 -0.7**
comp=Z,10.0nm,0.8s,mb4.5
LOR Lormes 82.16 339 *e*P **P 20 53 35.3 -0.7**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LOR Lormes 82.16 339 *e*P **P 20 53 35.3 -0.7**
comp=Z,5.0nm,0.8s,mb4.5
CABF La Chapelle 82.21 338 *e*P **P 20 53 35.6 -0.7**
SSF Saint Saulge 82.44 340 *e*P **P 20 53 37.0 -0.5**
comp=Z,7.2nm,0.9s,mb4.3
SSF Saint Saulge 82.44 340 *e*P **P 20 53 37.0 -0.5**
SSF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
SSF Saint Saulge 82.44 340 *e*P **P 20 53 37.0 -0.5**
comp=Z,3.6nm,0.9s,mb4.3
AVF Avril sur Loir 82.73 340 *e*P **P 20 53 38.5 -0.5**
comp=Z,4.9nm,0.8s,mb4.3
AVF Avril sur Loir 82.73 340 *e*P **P 20 53 38.5 -0.5**
AVF pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AVF Avril sur Loir 82.73 340 *e*P **P 20 53 38.5 -0.5**
comp=Z,2.5nm,0.8s,mb4.3
SMF Signal de Mont 82.75 339 *e*P **P 20 53 38.3 -0.8**
comp=Z,9.5nm,1.0s,mb4.5
SMF Signal de Mont 82.75 339 *e*P **P 20 53 38.3 -0.8**
SMF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
SMF Signal de Mont 82.75 339 *e*P **P 20 53 38.3 -0.8**
comp=Z,4.8nm,1.0s,mb4.5
LPL La Plagne 83.06 337 *e*P **P 20 53 40.4 -0.4**
BGF Bois d'Agland 83.06 340 *e*P **P 20 53 40.2 -0.6**
LPG La Plagne 83.07 337 *e*P **P 20 53 40.5 -0.3**
comp=Z,9.7nm,1.0s,mb4.5
LPG La Plagne 83.07 337 *e*P **P 20 53 40.5 -0.3**
LPG pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
LPG La Plagne 83.07 337 *e*P **P 20 53 40.5 -0.3**
comp=Z,4.8nm,1.0s,mb4.5
TCF Toulx Ste Croi 83.47 340 *e*P **P 20 53 42.3 -0.5**
comp=Z,8.6nm,0.9s,mb4.5
TCF Toulx Ste Croi 83.47 340 *e*P **P 20 53 42.3 -0.5**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 83.47 340 *e*P **P 20 53 42.3 -0.5**
comp=Z,4.3nm,0.9s,mb4.5
MFF Saint Martin d 83.69 342 *e*P **P 20 53 43.5 -0.5**
ORIF Oris-en-Rattie 83.84 337 *e*P **P 20 53 44.4 -0.4**
comp=Z,6.3nm,0.8s,mb4.5
ORIF Oris-en-Rattie 83.84 337 *e*P **P 20 53 44.4 -0.4**
ORIF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
ORIF Oris-en-Rattie 83.84 337 *e*P **P 20 53 44.4 -0.4**
comp=Z,3.2nm,0.8s,mb4.5
VIVF Saint-Julien-l 84.21 338 *e*P **P 20 53 46.2 -0.5**
comp=Z,8.7nm,0.9s,mb4.6
VIVF Saint-Julien-l 84.21 338 *e*P **P 20 53 46.2 -0.5**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 84.21 338 *e*P **P 20 53 46.2 -0.5**
comp=Z,4.3nm,0.9s,mb4.6
SBF Sospel 84.39 336 *e*P **P 20 53 46.4 -1.2**
comp=Z,9.4nm,0.8s,mb4.7
SBF Sospel 84.39 336 *e*P **P 20 53 46.4 -1.2**
SBF pmax pmax
comp=Z,5.0nm,0.8s,mb4.7
SBF Sospel 84.39 336 *e*P **P 20 53 46.4 -1.2**
comp=Z,4.7nm,0.8s,mb4.7
CAF Calviac 84.79 340 *e*P **P 20 53 49.0 -0.6**
SMRF Simiane la Rot 84.80 337 *e*P **P 20 53 49.0 -0.6**
FRF La Foret Royal 84.89 336 *e*P **P 20 53 49.2 -0.9**
comp=Z,6.3nm,0.9s,mb4.4
FRF La Foret Royal 84.89 336 *e*P **P 20 53 49.2 -0.9**
FRF pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
FRF La Foret Royal 84.89 336 *e*P **P 20 53 49.2 -0.9**
comp=Z,3.2nm,0.9s,mb4.5
LFF La Frestale 85.08 341 *e*P **P 20 53 50.3 -0.7**
LMR La Mourre 85.14 336 *e*P **P 20 53 50.5 -0.9**
comp=Z,14nm,1.1s,mb4.7
LMR La Mourre 85.14 336 *e*P **P 20 53 50.5 -0.9**
LMR pmax pmax
comp=Z,7.0nm,1.1s,mb4.7
LMR La Mourre 85.14 336 *e*P **P 20 53 50.5 -0.9**
comp=Z,7.3nm,1.1s,mb4.7
PGF Pioggiola 85.15 334 *e*P **P 20 53 50.5 -0.9**
comp=Z,10nm,1.0s,mb4.6
PGF Pioggiola 85.15 334 *e*P **P 20 53 50.5 -0.9**
PGF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
PGF Pioggiola 85.15 334 *e*P **P 20 53 50.5 -0.9**
comp=Z,5.2nm,1.0s,mb4.6
EPF Esparros 86.98 340 *e*P **P 20 54 00.0 -0.5**
TORD Torodi Ar. Bea 114.70 329 PKP PKiKP 20 59 54.9 -0.9
comp=Z,0.2nm,0.8s,baz=6.1,slow=4.6,SNR=2.8
CFAA Coronel Fontan 144.94 79 PKP PKPdf 21 00 51.0 -1.0
comp=Z,0.2nm,0.3s,baz=332,slow=1.4,SNR=6.2
CFAA pPKP pPKPdf 21 01 08.2 -1.4
comp=Z,0.5nm,0.7s,baz=297,slow=3.5,SNR=3.3
SNAA Sanae 152.96 197 PKPbc PKPbc 21 01 10.6 -0.4
comp=Z,0.5nm,0.6s,baz=341,slow=15,SNR=7.4

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*ISCJB **20** 20:49:18.3±1.1, 1539N±009×95.12W±004, h10km, mb3.5/3, Error ellipse: s-maj=12.9km s-min=5.5km az=9.4*
*IDC **20** 20:49:18.9±7.6, 1546N×9493W, h0km, mb3.5/3, mb1 3.9/5, mb1mx3.6/21, mbtmp3.6/5, ML4.3/2, Error ellipse: s-maj=141.1km s-min=35.4km az=171.0*
*MEX **20** 20:49:22.2±1.8, 1527N×9521W, h20km±98km, MD4.3*
*NEIC **20** 20:49:22.2, 1527N×9521W, h19km, MD4.2(MEX), After MEX.*
ISC 20 20:49:20.9±1.2, 1548N±009×9508W±004, h10km, n14, σ1§18/22, mb3.5/3, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.03**	**286**	*e*P		**Pg**		**20 49 37.3**	**-3.5**
HUIG				*i*S		**Sg**		**20 49 48.9**	**-5.4**
CMIG	**Matias Romero**	**1.61**	**7**	*e*P		**Pn**		**20 49 49.1**	**-0.3**
CMIG				*i*S		**Sn**		**20 50 10.5**	**+0.2**
VHO	**Vista Hermosa**	**2.24**	**315**	*e*P		**Pn**		**20 49 58.1**	**0.0**
VHO				*i*S		**Sn**		**20 50 24.6**	**-1.2**
SCX	**San Cristobal**	**2.66**	**62**	*i*P		**Pn**		**20 50 00.0**	**-3.8**
CCIG	**Comitan**	**2.94**	**74**	*e*P		**Pn**		**20 50 09.3**	**+1.6**
CCIG				*i*S		**Sn**		**20 50 43.2**	**+0.2**
TPIG	**Tehuac#an**	**3.65**	**323**	*i*P		**Pn**		**20 50 19.1**	**+1.6**
TPIG				*i*S		**Sn**		**20 51 00.2**	**-0.4**
PPM	**Popocatepetl**	**4.92**	**317**	*i*P		**Pn**		**20 50 34.2**	**-0.8**
PPM				*i*S		**Sn**		**20 51 33.5**	**+1.6**
PPM	**Popocatepetl**	**4.92**	**317**	*e*P		**Pn**		**20 50 34.0**	**-0.9**
PPM				*i*P				20 50 34.2	
PPM				*i*S		**Sn**		**20 51 33.5**	**+1.6**
TEIG	**Tepich**	**8.01**	**53**	Pn		**Pn**		**20 51 16.2**	**-1.2**
	2.2nm,0.3s,baz=270,slow=3.0,SNR=30								
TEIG				Sn		**Sn**		**20 52 47.5**	**-0.7**
	1.2nm,0.3s,baz=31,slow=12,SNR=3.0								
TXAR	**Lajitas Array**	**15.90**	**332**	Pn		**Pn**		**20 53 06.2**	**+1.4**
TXAR	**Lajitas Array**	**15.90**	**332**	Pn		**Pn**		**20 53 06.2**	**+1.4**
	0.3nm,0.3s,baz=154,slow=12,SNR=10								
NVAR	**Mina Array Bea**	**30.67**	**323**	P		**P**		**20 55 38.2**	**+2.5**
	0.5nm,0.8s,mb3.4,baz=142,slow=11,SNR=2.8								
YKA	**Yellowknife Ar**	**48.94**	**348**	P		**P**		**20 58 06.4**	**-0.6**
	0.4nm,0.7s,mb3.5,baz=154,slow=6.9,SNR=6.7								
INK	**Inuvik**	**58.20**	**344**	P		**P**		**20 59 13.9**	**-0.9**
	0.2nm,0.3s,mb3.6,baz=118,slow=6.1,SNR=3.3								

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*NEIC **20** 20:52:02.9±1.8, 891S×1246O E, h52km±22km, mb4.4/1, Error ellipse: s-maj=48.0km s-min=9.9km az=51.0*
*IDC **20** 20:52:03.7±3.1, 889S×1245O E, h60km±35km, mb3.4/3, mb1 3.9/7, mb1mx3.7/15, mbtmp3.8/7, ML4.2/3, MS3.4/1, Ms1 3.4/1, ms1mx2.8/20, Error ellipse: s-maj=29.3km s-min=18.3km az=64.0*
*ISCJB **20** 20:52:06.2±1.7, 93S±02×1243E±02, h123km±17km, mb4.3/9, Error ellipse: s-maj=40.3km s-min=8.4km az=136.2*
ISC 20 20:52:04.0±1.5, 90S±01×1245E±01, h75km±17km, n22, σ0§66/29, mb4.3/9, Timor region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.49**	**216**	P		**Pn**		**20 52 29.4**	**+0.4**
	39nm,0.3s,baz=47,slow=3.5,SNR=153								
BATI				S		**Sn**		**20 52 48.0**	**+0.2**
	147nm,0.3s,baz=317,slow=19,SNR=25								
KAPI	**Kappang**	**6.18**	**309**	P		**Pn**		**20 53 32.8**	**0.0**
	2.3nm,0.3s,baz=146,slow=5.6,SNR=8.9								
FITZ	**Fitzroy Crossi**	**9.12**	**173**	*e*Pn		**Pn**		**20 54 11.6**	**-1.3**
FITZ				S		**Sn**		**20 55 45.1**	**-8.8**
FITZ	**Fitzroy Crossi**	**9.12**	**173**	P		**Pn**		**20 54 12.0**	**-0.8**
	2.2nm,0.3s,baz=359,slow=10,SNR=40								
FITZ				S		**Sn**		**20 55 45.1**	**-8.8**
	13nm,0.3s,baz=242,slow=22,SNR=28								
WRA	**Warramunga Arr**	**14.43**	**140**	P		**Pn**		**20 55 24.7**	**+0.1**
	1.5nm,0.3s,baz=316,slow=15,SNR=51								
WRA				S		**Sn**		**20 57 54.3**	**-9.1**
	3.3nm,0.3s,baz=312,slow=25,SNR=9.8								
WRAB	**Tennant Creek**	**14.43**	**140**	*e*Pn		**Pn**		**20 55 24.2**	**-0.4**
	7.0nm,0.5s								
WRAB				*e*Sn		**Sn**		**20 57 53.5**	**-10**
WB2	**Warramunga Arr**	**14.44**	**140**	*e*Pn		**Pn**		**20 55 24.6**	**-0.1**
WB2				*e*Sn		**Sn**		**20 57 52.5**	**-11**
ASAR	**Alice Springs**	**17.12**	**150**	P		**Pn**		**20 55 59.4**	**+0.8**
	0.5nm,0.3s,baz=320,slow=12,SNR=27								
ASAR				S		**S**		**20 59 00.1**	**-14**
	1.1nm,0.3s,baz=309,slow=20,SNR=11								
CTA	**Charters Tower**	**23.70**	**120**	P		**P**		**20 57 14.8**	**+5.5**
CTA				LR		LR		21 06 52.1	
CTA	**Charters Tower**	**23.70**	**120**	P		**P**		**20 57 14.8**	**+5.6**
	0.8nm,0.3s,mb3.6,baz=294,slow=13,SNR=5.1								
CTA				LR		LR		21 06 52.1	
	comp=Z,94nm,20.2s,baz=116,slow=37								
STKA	**Stephens Creek**	**27.74**	**148**	P		**P**		**20 57 49.3**	**+3.7**
	1.6nm,0.7s,mb3.7,baz=323,slow=8.3,SNR=6.7								
LSA	**Lhasa**	**50.13**	**321**	*e*P		**P**		**21 00 53.4**	**+1.4**
	2.4nm,0.6s,mb4.3								
JIRN	**Jiri**	**52.01**	**316**	*e*P		**P**		**21 01 06.4**	**+0.3**
	6.0nm,0.5s,mb4.9								
GUN	**Gumba**	**52.38**	**316**	*e*P		**P**		**21 01 09.3**	**+0.5**
PKI	**Pulchoki**	**52.50**	**315**	*e*P		**P**		**21 01 09.8**	**+0.1**
KKN	**Kakani**	**52.73**	**315**	*e*P		**P**		**21 01 10.9**	**-0.5**
DMN	**Daman**	**52.74**	**315**	*e*P		**P**		**21 01 10.5**	**-0.9**
GKN	**Gorkha**	**53.30**	**315**	*e*P		**P**		**21 01 15.1**	**-0.5**
	10nm,0.5s,mb5.1								
KOLN	**Koldanda**	**53.90**	**314**	*e*P		**P**		**21 01 19.0**	**-0.9**
	12nm,0.7s,mb5.0								
DANN	**Dangsing**	**54.13**	**315**	*e*P		**P**		**21 01 21.5**	**-0.1**
	14nm,0.5s,mb5.2								
SONM	**Songino Array**	**58.82**	**346**	P		**P**		**21 01 54.9**	**+0.3**
	0.2nm,0.4s,mb3.5,baz=165,slow=8.4,SNR=3.0								
MKAR	**Makanchi Array**	**67.07**	**330**	P		**P**		**21 02 49.5**	**+0.2**
	0.6nm,0.6s,mb3.6,baz=135,slow=7.7,SNR=6.1								

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*IDC **20** 21:06:42.8±0.6, 624N×7876W, h0km, mb4.2/12, mb1 4.4/15, mb1mx4.2/22, mbtmp4.3/15, ML3.4/3, MS3.5/8, Ms1 3.5/8, ms1mx3.2/29, Error ellipse: s-maj=24.2km s-min=14.0km az=67.0*
*ISCJB **20** 21:06:43.5±1.8, 648N±005×7864W±005, h2km±11km, mb4.4/32, MS3.9/5, Error ellipse: s-maj=10.1km s-min=5.6km az=44.4*
*CASC **20** 21:06:46.8±2.0, 640N×7869W, h35km±182km, MD4.2, mb4.5(NEIC)*
*NEIC **20** 21:06:47.4±0.4, 627N×7870W, mb4.5/24, Error ellipse: s-maj=12.6km s-min=6.9km az=58.0*
*BJI **20** 21:06:47.4, 630N×7870W, h28km, mB4.9, Ms5.0, Msz4.4*
ISC 20 21:06:45.0±2.1, 647N±005×7862W±005, h1km±13km, n145, σ1§06/137, mb4.5/32, MS3.9/5, 35C-29D, South of Panama

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AZU	**Azuero**	**2.11**	**309**	⇑*i*P		**Pn**		**21 07 18.4**	**-3.0**
AZU				*e*S		**Sn**		**21 07 44.3**	**-4.0**
ZANG	**Zanguenga, Cho**	**2.77**	**333**	⇑*i*P		**Pn**		**21 07 29.2**	**-1.3**
ZANG				*e*S		**Sn**		**21 08 03.1**	**-1.5**
BCIP	**Isla Barro Col**	**2.94**	**336**	*e*Pn		**Pn**		**21 07 31.2**	**-1.8**
BCIP				*e*Sn		**Sn**		**21 08 07.7**	**-1.2**
BCIP	**Isla Barro Col**	**2.94**	**336**	⇑*i*P		**Pn**		**21 07 31.3**	**-1.6**
BCIP				*e*S		**Sn**		**21 08 07.8**	**-1.1**
ACLA	**Agua Clara, Si**	**3.08**	**340**	⇑*i*P		**Pn**		**21 07 32.9**	**-1.9**
ACLA				*e*S		**Sn**		**21 08 09.1**	**-3.1**
ROSC	**El Rosal**	**4.55**	**110**	*e*Pn		**Pn**		**21 07 56.6**	**+1.5**
ROSC	**El Rosal**	**4.55**	**110**	Pn		**Pn**		**21 07 56.6**	**+1.4**
	6.7nm,0.3s,baz=124,slow=1.9,SNR=19								
ROSC				Sn		**Sn**		**21 08 54.2**	**+5.5**
	7.7nm,0.3s,baz=267,slow=23,SNR=6.1								
ROSC				LR		LR		21 09 36.3	
	comp=Z,352nm,18.7s,baz=133,slow=38								

CNI	Changuinola	4.85	307	eP	Pn	21 07 57.5	-1.7
BAR1		5.41	301	eP	Pn	21 08 05.5	-1.3
BUS	Buena Vista	5.95	301	eP	Pn	21 08 13.8	-0.5
URSC	Urasca	6.11	304	eP	Pn	21 08 17.3	+0.8
LCR2	La Lucha 2	6.25	302	eP	Pn	21 08 17.9	-0.5
PRS1	Puriscal	6.63	302	eP	Pn	21 08 23.1	-0.6
CGA2	Cerro Gallo 2	6.78	302	eP	Pn	21 08 27.5	+1.8
JCR	Jicaral	7.26	298	eP	Pn	21 08 30.2	-2.1
JTS	JuntasAbangare	7.33	302	LR	LR	21 11 22.1	
	comp=Z,632nm,19.7s,baz=138,slow=38						
ATAH	Atahualpa	13.38	179	Pn	Pn	21 09 56.3	+0.1
	1.0nm,0.3s,baz=34,slow=4.4,SNR=8.2						
ATAH				LR	LR	21 14 49.3	
	comp=Z,207nm,21.6s,baz=176,slow=37						
PCRV	Puerto La Cruz	14.31	74	Pn	Pn	21 10 11.2	+2.2
	1.1nm,0.3s,baz=255,slow=8.8,SNR=4.4						
SDDR	Presa de Saban	14.34	29	ePn	Pn	21 10 11.5	+2.2
AOPR	Arecibo Observ	16.53	43	ePn	Pn	21 10 45.7	+7.4
TEIG	Tepich	16.58	326	LR	LR	21 17 19.0	
	comp=Z,165nm,18.0s,baz=302,slow=38						
CBYP	Canovanas	17.10	46	ePn	Pn	21 10 53.5	+8.0
NNA	Nana	18.42	174	P	Pn	21 10 57.3	-4.5
	0.3nm,0.3s,baz=323,slow=5.1,SNR=3.0						
NNA				LR	LR	21 18 49.7	
	comp=Z,52nm,18.4s,baz=317,slow=40						
ARE	Arequipa	23.85	163	P	P	21 11 58.0	-2.0
LPAZ	La Paz	24.88	155	eP	P	21 12 04.9	-4.5
	5.1nm,0.9s,mb4.2						
LPAZ	La Paz	24.88	155	P	P	21 12 05.4	-4.1
	3.6nm,0.8s,mb4.2,baz=355,slow=9.5,SNR=13						
LPAZ				LR	LR	21 22 28.5	
	comp=Z,98nm,20.3s,MS3.3,baz=298,slow=38						
GOGA	Godfrey	27.19	351	eP	P	21 12 30.3	0.0
	7.6nm,0.7s,mb4.5						
SIV	San Ignacio	28.28	142	P	P	21 12 37.4	-2.7
	11nm,1.0s,mb4.7,baz=320,slow=9.6,SNR=34						
CPCT	Cooper Cave	29.35	350	eP	P	21 12 51.3	+1.8
SWET	Sewanee	29.39	348	eP	P	21 12 50.7	+0.8
MIAR	Mount Ida	31.17	336	eP	P	21 13 05.2	-0.5
	21nm,1.8s,mb4.8						
USIN	University of	32.41	347	eP	P	21 13 15.2	-1.3
	19nm,0.6s,mb5.2						
TXAR	Lajitas Array	32.80	317	P	P	21 13 20.0	0.0
TXAR	Lajitas Array	32.80	317	P	P	21 13 20.0	0.0
	2.6nm,1.1s,mb4.1,baz=143,slow=9.3,SNR=12						
FVM	French Village	33.16	343	eP	P	21 13 22.3	-0.8
	13nm,0.8s,mb4.9						
BLO	Bloomington	33.33	349	eP	P	21 13 25.2	+0.6
	14nm,0.6s,mb5.1						
CCM	Cathedral Cave	33.47	342	eP	P	21 13 24.9	-0.9
	15nm,0.7s,mb5.0						
WMOK	Wichita Mounta	33.73	329	eP	P	21 13 26.6	-1.5
	4.1nm,1.1s,mb4.3						
LPIG	La Paz	35.10	303	LR	LR	21 27 21.6	
	comp=Z,111nm,19.0s,MS3.6,baz=80,slow=35						
MNTX	Cornudas Mount	35.43	319	eP	P	21 13 42.4	-0.5
	4.0nm,0.8s,mb4.4						
BDFB	Brasilia	37.43	126	LR	LR	21 30 06.0	
	comp=Z,64nm,18.7s,MS3.4,baz=112,slow=38						
319A	Douglas	37.90	315	⇓P	P	21 14 04.7	+0.8
	baz=38						
219A	White Tail Can	38.24	316	⇓P	P	21 14 07.7	+0.9
	baz=38						
318A	Bisbee	38.44	314	⇓P	P	21 14 09.1	+0.6
	baz=39						
218A	Dragoon	38.78	315	⇑P	P	21 14 12.1	+0.7
	baz=39						
118A	Homack Ranch,	39.10	316	⇑P	P	21 14 14.7	+0.6
	baz=39						
CFAA	Coronel Fontan	39.13	166	P	P	21 14 12.0	-2.2
	0.5nm,0.7s,baz=346,slow=2.3,SNR=5.4						
217A	Green Valley	39.21	314	⇑P	P	21 14 15.3	+0.3
	baz=39						
TUC	Tucson	39.48	315	eP	P	21 14 17.8	+0.6
	5.9nm,0.9s,mb4.2						
TUC				e		21 14 25.3	
SDCO	Great Sand Dun	39.57	326	eP	P	21 14 18.7	+0.8
	3.3nm,0.9s,mb4.0						
117A	Oracle	39.60	315	⇑P	P	21 14 18.4	+0.2
	baz=40,SNR=6.3						
216A	Three Points,	39.79	314	⇓P	P	21 14 20.5	+0.7
	baz=40						
Y18A	Canyon Day Jun	39.80	317	⇑P	P	21 14 20.6	+0.7
	baz=40						
X18A	Snowflake	40.19	318	⇑P	P	21 14 23.9	+0.8
	baz=40						
116A	Eloy	40.27	315	⇑P	P	21 14 24.6	+0.8
	baz=40						
ECSD	EROS,Sioux Fal	40.35	340	eP	P	21 14 21.5	-2.7
	4.0nm,1.0s,mb4.0						
ECSD				e		21 14 32.0	
Z16A	Peralta Trail,	40.51	316	⇑P	P	21 14 26.3	+0.6
	baz=41						
115A	Sonoran Desert	40.72	314	⇓P	P	21 14 27.4	-0.1
	baz=41						
Y16A	Circle Bar Ran	40.84	316	⇑P	P	21 14 29.4	+0.9
	baz=41,SNR=6.3						
ISCO	Idaho Springs	41.11	328	eP	P	21 14 31.3	+0.7
	5.8nm,0.7s,mb4.4						
Z14A	Wintersburg	41.58	315	⇓P	P	21 14 35.1	+0.5
	baz=42						
X15A	Humboldt	41.70	317	⇓P	P	21 14 36.3	+0.7
	baz=42						
WUAZ	Wupatki	41.72	318	eP	P	21 14 37.3	+1.6
	9.0nm,1.0s,mb4.5						
WUAZ	Wupatki	41.72	318	⇓P	P	21 14 36.5	+0.8
	baz=42						
Y14A	Wickenburg	41.93	315	⇓P	P	21 14 38.2	+0.8
	baz=42						
X14A	Yava	42.14	316	⇑P	P	21 14 40.2	+1.1
	baz=42						
V15A	Kaibab Nationa	42.42	318	⇑P	P	21 14 42.3	+0.9
	baz=43,SNR=8.6						
Y13A	Salome	42.45	315	⇓P	P	21 14 42.7	+1.1
	baz=43						
W14A	Seligman	42.69	317	⇓P	P	21 14 44.6	+1.0
	baz=43						
GLA	Glamis	42.77	313	eP	P	21 14 45.3	+1.0
	14nm,1.3s,mb4.5						
X13A	Yucca	42.86	316	⇑P	P	21 14 46.0	+1.0
	baz=43						
Y12C	Blythe	42.91	314	⇓P	P	21 14 46.3	+0.9
	baz=43						
V14A	Boquillas Ranc	42.94	317	⇓P	P	21 14 46.6	+1.0
	baz=43,SNR=5.0						
W13A	Hualapai Mount	43.17	316	⇓P	P	21 14 48.3	+0.7
	baz=43						
IRM	Iron Mountain	43.56	314	⇑P	P	21 14 51.6	+0.9
	baz=44,SNR=5.5						
RSSD	Black Hills	43.61	333	eP	P	21 14 51.4	+0.5
	12nm,1.2s,mb4.5						
U13A	Pakoon Wash	43.95	318	⇓P	P	21 14 54.1	+0.3
	baz=44						
W12A	Cal Nev Ari	43.96	316	⇑P	P	21 14 54.7	+0.8
	baz=44						
BELC	Belle Mtn.	44.09	314	P	P	21 14 56.0	+1.1
	baz=44,SNR=5.0						
V12A	Nelson	44.17	316	⇑P	P	21 14 56.3	+0.7
	baz=44,SNR=5.2						
AGMN	Agassiz Refuge	44.19	344	eP	P	21 14 53.7	-1.8
	12nm,1.3s,mb4.5						
PFO	Pinyon Flat Ob	44.23	313	⇑P	P	21 14 56.9	+0.8
	baz=44						
S13A	Holt Ranch, En	44.54	319	⇑P	P	21 14 58.9	+0.4
	baz=45						
V11A	Goodsprings	44.63	316	⇓P	P	21 15 00.2	+0.9
	baz=45						
SHPR	Sheep Range	44.80	317	eP	P	21 15 01.8	+1.1
BW06	Boulder Array	45.31	328	eP	P	21 15 04.2	-0.3
	5.7nm,1.3s,mb4.3						
GSC	Goldstone	45.31	315	⇑P	P	21 15 05.4	+0.7
	baz=46						
BFSC	Mount Baldy St	45.41	313	⇑P	P	21 15 05.9	+0.4
	baz=46						
Q13A	Wheeler Ranch,	45.45	321	⇓P	P	21 15 06.3	+0.6
	baz=46						
DUG	Dugway	45.45	323	eP	P	21 15 06.3	+0.5
	3.0nm,0.8s,mb4.3						
DUG	Dugway	45.45	323	⇓P	P	21 15 06.2	+0.5
	baz=46						
HWUT	Hardware Ranch	45.62	325	eP	P	21 15 07.9	+0.8
	7.0nm,1.4s,mb4.5						
P13A	Bates Ranch, G	45.74	321	⇑P	P	21 15 08.4	+0.4
	baz=46						
ULM	Lac du Bonnet	45.97	345	eP	P	21 15 07.4	-2.3
	19nm,1.3s,mb5.0						
ULM	Lac du Bonnet	45.97	345	P	P	21 15 07.9	-1.8
	8.7nm,0.7s,mb4.9,baz=157,slow=9.0,SNR=11						
Q12A	Willow Creek R	46.01	320	⇓P	P	21 15 10.2	+0.1
	baz=46						
N14A	Grayback Hills	46.08	323	⇓P	P	21 15 10.8	+0.1
	baz=46						
Q11A	Duckwater	46.42	320	⇑P	P	21 15 13.7	+0.3
	baz=47						
M14A	Sheep Mountain	46.58	324	⇓P	P	21 15 14.5	-0.1
	baz=47,SNR=7.5						
O12A	Currie	46.67	322	⇑P	P	21 15 15.3	-0.1
	baz=47						
IMW	Indian Meadow	46.81	328	eP	P	21 15 15.6	-0.8
	4.4nm,0.7s,mb4.7						
O11A	Cowboy Ranch,	47.16	321	⇑P	P	21 15 19.6	+0.5
	baz=47						
PLCA	Paso Flores	47.55	172	P	P	21 15 18.8	-3.3
	3.2nm,1.0s,mb4.4,baz=321,slow=6.5,SNR=3.9						
Q08A	Gabbs	47.92	318	⇓P	P	21 15 25.5	+0.4
	baz=48						
L12A	House Creek Ra	47.96	324	⇑P	P	21 15 25.4	+0.1
	baz=48						
O09A	Fish Creek Ran	48.15	320	⇓P	P	21 15 27.1	+0.2
	baz=48						
K12A	Draper Farm, C	48.20	324	⇑P	P	21 15 27.1	0.0
	baz=48						
J13A	Cove Ranch, Pi	48.25	325	⇓P	P	21 15 27.8	+0.2
	baz=48						
BOZ	Bozeman (W)	48.37	329	⇓P	P	21 15 28.5	0.0
	baz=49						
J12A	Stokes Ranch,	48.69	325	⇑P	P	21 15 30.7	-0.3
	baz=49						
L10A	Juniper Basin	48.79	323	⇓P	P	21 15 30.8	-0.9
	baz=49						
K11A	Parker Ranch,	48.94	324	⇑P	P	21 15 32.9	0.0
	baz=49,SNR=6.0						
SCHQ	Schefferville	49.15	9	eP	P	21 15 34.9	+0.7
	7.0nm,0.5s,mb5.0						
SCHQ	Schefferville	49.15	9	P	P	21 15 35.2	+1.0
	11nm,0.8s,mb4.9,baz=204,slow=8.1,SNR=14						
H12A	Diamond D Ranc	49.36	326	⇓P	P	21 15 36.2	+0.1
	baz=50						
K10A	MacKenzie Ranc	49.44	323	P	P	21 15 36.9	+0.2
	baz=50,SNR=7.3						
L09A	Wilkinson Ranc	49.48	322	⇑P	P	21 15 37.3	+0.2
	baz=50						
K09A	Rome	49.91	323	⇓P	P	21 15 39.7	-0.6
	baz=50,SNR=5.7						
L08A	Fields	50.00	322	⇑P	P	21 15 40.2	-0.8
	baz=50,SNR=6.2						
J09A	Fry Pan Ranch,	50.30	323	⇑P	P	21 15 42.9	-0.3
	baz=50						
F12A	Elk City	50.35	327	⇓P	P	21 15 43.2	-0.4
	baz=51						
ORV	Oroville	50.66	317	⇑P	P	21 15 46.7	+0.6
	baz=51						
FCC	Fort Churchill	53.52	350	eP	P	21 16 05.6	-1.4
	4.3nm,0.9s,mb4.5						
YKA	Yellowknife Ar	61.81	342	P	P	21 17 04.0	-1.3
YKA	Yellowknife Ar	61.81	342	P	P	21 17 04.0	-1.3
	2.8nm,0.8s,mb4.6,baz=130,slow=7.2,SNR=52						
YKW3	Yellowknife Ar	61.86	342	eP	P	21 17 03.7	-1.9
DLBC	Dease Lake	65.09	333	eP	P	21 17 26.0	-1.1
DLBC				e		21 17 34.7	
INK	Inuvik	71.56	341	eP	P	21 18 06.1	-1.4
	61nm,0.9s						
DBIC	Dimbokro	73.20	85	P	P	21 18 17.0	-1.4
	4.9nm,1.0s,mb4.6,baz=195,slow=9.8,SNR=4.1						
ESDC	Sonseca Array	74.09	51	P	P	21 18 23.1	0.0
	1.3nm,0.8s,mb4.0,baz=258,slow=4.9,SNR=6.4						
SVW2	Sparrevohn	78.07	331	eP	P	21 18 43.4	-1.9
SVW2				e		21 18 50.9	
TORD	Torodi Ar. Bea	79.15	78	P	P	21 18 50.4	-1.8
	1.5nm,0.8s,mb4.1,baz=280,slow=7.3,SNR=14						
GERES	GERESS Array B	86.71	41	P	P	21 19 30.5	-0.2
	0.6nm,0.6s,mb4.0,baz=269,slow=5.3,SNR=7.3						
UPC	Upice	88.00	40	eP	P	21 19 37.4	+0.4
VNA1	Neumayer--Stat	89.66	162	e	P	21 19 47.5	+3.2
MKAR	Makanchi Array	124.33	16	PKP	PKPdf	21 25 43.4	-2.6
	0.2nm,0.3s,baz=304,slow=2.9,SNR=2.2						
CN2	Changchun	125.44	339	ePKP	PKPdf	21 25 45.8	-2.4
SONM	Songino Array	125.75	356	PKP	PKPdf	21 25 47.0	-1.7
	1.1nm,0.8s,baz=330,slow=2.3,SNR=8.2						
WMQ	Urumqi	128.44	13	ePKP	PKPdf	21 25 51.0	-3.0
HHC	Hu-ho-hao-te	132.00	350	ePKP	PKPdf	21 25 57.3	-3.5
HHC				XPKP		21 26 11.8	
HHC				PP	PP	21 28 22.8	+2.4
HHC				PKS		21 29 32.8	
HHC				SKS	SKSdf	21 33 03.9	-10
HHC				SKKS	SKKSac	21 35 08.3	-11
HHC				SS	SS	21 45 54.1	-3.1
HHC				PP	PP		
	comp=Z,92nm,5.7s						
HHC				LR	LR		
	comp=N,91nm,23.7s,MS4.7						
HHC				LR	LR		
	comp=E,141nm,21.2s,MS4.7						
HHC				LR	LR		
	comp=Z,76nm,22.1s,MS4.4						
LZH	Lanzhou	137.61	357	ePKP	PKPdf	21 26 08.5	-3.0
LZH				XPKP		21 26 23.0	
LZH				LR	LR		
	comp=E,126nm,18.2s						
LZH				LR	LR		
	comp=Z,187nm,20.3s,MS4.8						
CD2	Chengdu	142.77	357	ePKP	PKPdf	21 26 18.3	-2.6
ASAR	Alice Springs	144.38	238	PKP	PKPdf	21 26 18.8	-5.2
	comp=Z,5.8nm,0.7s,baz=121,slow=3.9,SNR=76						
WRA	Warramunga Arr	145.32	244	PKPbc	PKPbc	21 26 22.3	-3.2
	comp=Z,5.6nm,0.8s,baz=102,slow=3.7,SNR=36						
KMI	Kunming	148.57	358	PKP	PKPdf	21 26 30.9	-0.1

MOS 20 21:35:09.2±2.4, 4252N×4726E, h10km, mb3.6/1, 1D, Error ellipse: s-maj=14.9km s-min=7.7km az=42.9, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GNBR	Gunib	0.25	240	⇓iPG	Pg	21 35 12.8	-1.5
GNBR				pmax	pmax		
	comp=Z,133nm,0.2s						
BUJR	Buynaksk	0.33	340	ePG	Pg	21 35 19.5	+3.8
BUJR				eS	Sg	21 35 25.2	+5.1
UNCR	Uncukul	0.40	300	i PG	Pg	21 35 14.0	-3.0
UNCR				pmax	pmax		
	comp=Z,67nm,0.2s						
KRNR	Karanay	0.41	320	i PG	Pg	21 35 16.2	-1.0
KRNR				i S	Sg	21 35 22.0	-0.5
KRNR				pmax	pmax		
	comp=Z,57nm,0.2s						
DBC	Dubki	0.59	328	ePG	Pg	21 35 18.0	-2.7
DBC				i S	Sg	21 35 27.0	-1.5
AKT	Akhty	1.09	161	ePG	Pg	21 35 30.0	-0.2
AKT				eS	Sg	21 35 49.0	+4.6
AKT				pmax	pmax		
	comp=Z,18nm,0.3s						
SNJR	Sundja	1.88	288	ePN	Pn	21 35 44.0	+2.6
SNJR				i S	Sn	21 36 08.9	+3.7
VLKR	Vladikavkaz	1.97	286	ePN	Pn	21 35 45.6	+3.0
VLKR				eS	Sn	21 36 11.5	+4.1
BTKR	Batakoyurt	2.17	294	ePN	Pn	21 35 48.1	+2.7
BTKR				eS	Sn	21 36 16.6	+4.3
LACR	Lac	2.21	279	ePN	Pn	21 35 47.5	+1.6
LACR				i S	Sn	21 36 14.7	+1.5
TRKR	Terskaya	2.21	304	ePN	Pn	21 35 50.2	+4.3
TRKR				eS	Sn	21 36 19.7	+6.5
ARNR	Ardon	2.29	288	ePN	Pn	21 35 49.8	+2.8
ARNR				eS	Sn	21 36 19.3	+4.0
KORR	Kora	2.42	285	ePN	Pn	21 35 51.4	+2.7
KORR				eS	Sn	21 36 21.9	+3.5
LSNR	Lesken	2.64	288	ePN	Pn	21 35 54.5	+2.7
LSNR				eS	Sn	21 36 27.7	+3.8
DIGR	Digorskoe uzhe	2.74	279	ePN	Pn	21 35 55.2	+2.0
DIGR				eS	Sn	21 36 28.6	+2.3

*NEIC **20** 21:38:27.7, 3729S×17672E, h192km, MG3.8(WEL), After WEL.*

WEL 20 21:38:27.7±0.2, 3730S×17672E, h192km±2km, ML3.7/7, 2D, Error ellipse: s-maj=2.9km s-min=2.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.01	162	P	Pn	21 38 56.8	+0.2
URZ	Urewera	1.01	162	PN	Pn	21 38 56.8	+0.2
URZ				SN	Sn	21 39 19.0	-0.2
MWZ	Matawai	1.22	148	P	Pn	21 38 58.4	+0.2
MWZ				S	Sn	21 39 22.0	0.0
MWZ	Matawai	1.22	148	PN	Pn	21 38 58.4	+0.2
MWZ				SN	Sn	21 39 22.0	+0.1
MXZ	Matakaoa Point	1.29	102	P	Pn	21 38 58.9	+0.1
MXZ	Matakaoa Point	1.29	102	PN	Pn	21 38 58.9	+0.1
PUZ	Puketiti	1.45	123	P	Pn	21 39 00.2	+0.1
PUZ				S	Sn	21 39 24.6	-0.7
PUZ	Puketiti	1.45	123	PN	Pn	21 39 00.2	+0.1
PUZ				SN	Sn	21 39 24.6	-0.7
BKZ	Black Stump Fm	1.88	185	P	Pn	21 39 04.2	0.0
BKZ				S	Sn	21 39 32.1	-0.7
BKZ	Black Stump Fm	1.88	185	PN	Pn	21 39 04.2	-0.1
BKZ				SN	Sn	21 39 32.1	-0.7
KNZ	Kokohu	1.88	157	⇓P	Pn	21 39 04.6	+0.3
KNZ	Kokohu	1.88	157	⇓PN	Pn	21 39 04.6	+0.4
OTVZ	Oturere	2.04	204	ePN	Pn	21 39 06.5	+0.6
WNVZ	Wahianoa	2.21	203	PN	Pn	21 39 08.2	+0.4
MOVZ	Moawhango	2.24	199	P	Pn	21 39 07.8	-0.3
MOVZ	Moawhango	2.24	199	PN	Pn	21 39 07.8	-0.3
PXZ	Pawanui	2.74	178	PN	Pn	21 39 13.1	-0.6
WPHZ	Waipukurau	2.77	184	PN	Pn	21 39 13.5	-0.6
WAZ	Wanganui	2.81	208	P	Pn	21 39 14.4	-0.1
WAZ	Wanganui	2.81	208	PN	Pn	21 39 14.4	-0.2
TSZ	Takapari Road	2.82	192	P	Pn	21 39 13.8	-0.9
TSZ	Takapari Road	2.82	192	PN	Pn	21 39 13.8	-0.9
KIW	Kapiti Island	3.83	201	P	Pn	21 39 24.7	-2.2
KIW	Kapiti Island	3.83	201	PN	Pn	21 39 24.7	-2.3
MTW	Mount Morrison	3.97	193	P	Pn	21 39 25.8	-2.9
MTW	Mount Morrison	3.97	193	PN	Pn	21 39 25.8	-2.9
CAW	Cannon Point	4.02	198	P	Pn	21 39 26.9	-2.4
CAW	Cannon Point	4.02	198	PN	Pn	21 39 26.9	-2.3
TRWZ	Traveller	4.18	191	ePN	Pn	21 39 29.0	-2.3
MSWZ	Moikau Station	4.27	195	P	Pn	21 39 29.5	-2.9
MSWZ	Moikau Station	4.27	195	PN	Pn	21 39 29.5	-2.9
TCW	Tory Channel	4.35	205	P	Pn	21 39 30.9	-2.5
TCW	Tory Channel	4.35	205	PN	Pn	21 39 30.9	-2.5
PLWZ	Palliser	4.42	194	PN	Pn	21 39 31.4	-3.0
TUWZ	Tuamarina	4.66	207	PN	Pn	21 39 34.6	-2.8
NNZ	Nelson	4.70	212	SN	Sn	21 40 28.7	-4.5
MQZ	McQueen's Vall	7.11	205	SN	Sn	21 41 20.7	-9.0

IDC 20 21:38:40.8±3.0, 400S×15212E, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.4/13, mbtmp3.8/2, Error ellipse: s-maj=133.4km s-min=42.8km az=122.0, New Ireland region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	23.49	226	P	P	21 43 53.5	+0.9
	1.8nm,0.3s,baz=54,slow=10,SNR=52						
ASAR	Alice Springs	26.30	220	P	P	21 44 18.6	+0.3
	0.4nm,0.3s,baz=56,slow=8.5,SNR=8.3						
TORD	Torodi Ar. Bea	149.41	289	PKPbc	PKPbc	21 58 31.4	-1.6
	0.3nm,0.7s,baz=96,slow=2.3,SNR=5.1						

IDC 20 21:50:10.0±0.7, 2183N×14318E, h22km±4km, mb3.5/8, mb1 3.7/8, mb1mx3.7/19, mbtmp3.5/8, MS3.2/1, Ms1 3.2/1, ms1mx2.6/17, Error ellipse: s-maj=26.8km s-min=15.7km az=87.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.29	345	LR	LR	21 58 56.8	
	comp=Z,87nm,19.3s,baz=210,slow=34						
KSRS	Korea Array	20.41	323	P	P	21 54 47.6	+2.1
	0.9nm,0.7s,baz=142,slow=9.7,SNR=2.9						
SONM	Songino Array	39.24	320	P	P	21 57 36.4	-0.3
	0.3nm,0.4s,baz=112,slow=5.5,SNR=4.3						
SONM				pP	pP	21 57 44.0	+0.5
	1.2nm,0.9s,baz=123,slow=7.7,SNR=5.6						
WRA	Warramunga Arr	42.40	192	P	P	21 58 02.9	0.0
	2.5nm,1.0s,baz=14,slow=8.7,SNR=7.0						
WRA				pP	pP	21 58 09.8	0.0
	2.0nm,1.0s,baz=14,slow=8.2,SNR=6.2						
ASAR	Alice Springs	46.11	192	P	P	21 58 32.5	-0.2
	0.7nm,0.7s,baz=15,slow=8.2,SNR=7.3						
ASAR				pP	pP	21 58 39.8	+0.2
	0.7nm,0.6s,baz=16,slow=11,SNR=4.5						
ZALV	Zalesovo Beam	54.11	322	P	P	21 59 32.6	-0.4
	0.4nm,0.3s,baz=83,slow=12,SNR=3.2						
MKAR	Makanchi Array	54.61	313	P	P	21 59 35.7	-1.1
	0.2nm,0.2s,baz=81,slow=9.2,SNR=2.6						
MKAR				pP	pP	21 59 44.0	+0.3
	0.4nm,0.3s,baz=98,slow=8.7,SNR=2.8						
YKA	Yellowknife Ar	76.34	28	P	P	22 01 57.2	+0.1
	0.9nm,0.8s,baz=292,slow=5.9,SNR=5.2						
YKA				pP	pP	22 02 03.5	-0.8
	0.9nm,0.7s,baz=293,slow=5.4,SNR=8.5						
NVAR	Mina Array Bea	83.07	51	P	P	22 02 35.1	+1.0
	0.1nm,0.3s,baz=253,slow=9.3,SNR=1.8						
NVAR				pP	pP	22 02 42.3	+0.9
	1.2nm,0.7s,baz=278,slow=4.3,SNR=4.8						

*SGS **20** 22:01:43.7, 27.10N×3329E, h21km*
*GII **20** 22:01:46.4±0.0, 2733N×3372E, h0km, mb4.2/13, ML4.1/13*

ISC 20 22:01:45.3±1.2, 2718N±005×3365E±009, h10km, n23, σ0°49/33, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSHS		1.51	42	P	Pn	22 02 11.9	-0.5
JLOS		2.25	46	P	Pn	22 02 22.0	-0.6
HQLS		2.46	30	P	Pn	22 02 24.1	-1.3
HQLS		2.46	30	P	Pn	22 02 24.1	-1.3
HQLS				S	Sn	22 02 54.6	-0.8
WJHS		2.49	100	S	Sn	22 02 57.0	+0.7
WJHS		2.49	100	P	Pn	22 02 25.7	-0.2
WJHS		2.49	100	P	Pn	22 02 25.7	-0.1
WJHS				S	Sn	22 02 57.0	+0.7
EIL	Elat	2.74	24	Pn	Pn

baz=0.5,SNR=78
F15A ⇑S Sg 22 05 40.7 +0.1
baz=0.5
F14A Wisdom 1.01 293 ⇑P Pg 22 05 42.3 -0.7
baz=1.0,SNR=244
F14A ⇑S Sg 22 05 55.5 -0.6
baz=1.0
YMR Madison River 1.07 134 P Pg 22 05 45.1 +0.8
YMR eS Sg 22 05 59.1 +0.9
E15A Deer Lodge 1.08 338 ⇓P Pg 22 05 44.3 -0.3
baz=1.1,SNR=144
E15A ⇑S Sg 22 05 58.3 -0.3
baz=1.1
YNR Norris Junctio 1.20 126 eP Pg 22 05 46.8 +0.1
YNR eS Sg 22 06 01.4 -0.9
YFT Old Faithful 1.30 138 Pn Pn 22 05 48.2 -0.1
YFT Sn Sn 22 06 04.7 -1.3
E14A Clinton 1.42 315 ⇑P Pn 22 05 49.5 -0.5
baz=1.4,SNR=43
E14A ⇓S Sb 22 06 08.6 -0.2
baz=1.4
G13A Cobalt 1.58 259 ⇑P Pn 22 05 51.6 -0.6
baz=1.5,SNR=228
G13A ⇑S Sn 22 06 12.2 -0.8
baz=1.5
FLWY Flagg Ranch 1.65 144 ePn Pn 22 05 53.3 +0.1
FLWY eS Sn 22 06 16.8 +2.2
D15A Lincoln 1.65 349 ⇓P Pn 22 05 53.1 -0.1
baz=1.7,SNR=151
D15A ⇓Sb Sb 22 06 16.8 +1.2
baz=1.7
IMW Indian Meadow 1.72 152 ePn Pn 22 05 53.0 -1.1
IMW ePg Pg 22 05 57.2 +0.6
IMW eSn Sn 22 06 15.9 -0.4
H13A Challis 1.79 242 ⇓P Pn 22 05 54.3 -0.8
baz=1.7,SNR=47
H13A ⇓S Sn 22 06 18.7 +0.7
baz=1.7
E13A Victor 1.81 305 ⇑Sb Sb 22 06 20.2 +0.1
baz=1.8
MOOW Moose Ponds 1.92 151 Pn Pn 22 05 56.0 -0.8
MOOW ePg Pg 22 06 03.4 +3.0
MOOW eSn Sn 22 06 20.5 -0.7
MOOW eSg Sg 22 06 24.6 -0.6
MSO Missoula 1.93 318 ePn Pn 22 05 56.4 -0.6
MSO ePg Pg 22 05 59.5 -1.2
MSO eSn Sn 22 06 20.2 -1.3
MSO eSg Sg 22 06 24.2 -1.4
D14A Greenough 1.94 329 ⇑Pn Pn 22 05 56.7 -0.6
baz=1.9,SNR=25
D14A ⇑Pb Pb 22 05 59.1 -0.4
baz=1.9
D14A ⇑Sb Sb 22 06 24.4 +0.4
baz=1.9
LOHW Long Hollow 2.08 150 ePn Pn 22 05 58.5 -0.6
LOHW ePg Pg 22 06 03.1 -0.5
LOHW eSn Sn 22 06 25.3 -0.1
LOHW eSg Sg 22 06 31.4 +0.8
TPAW Teton Pass 2.08 158 ePn Pn 22 05 58.0 -1.2
TPAW ePg Pg 22 06 05.0 +1.4
TPAW eSn Sn 22 06 24.4 -1.0
TPAW eSg Sg 22 06 30.5 -0.1
I13A Wildhorse Cree 2.11 225 ⇓Pn Pn 22 05 59.0 -0.5
baz=2.1,SNR=7.6
I13A ⇓Pb Pb 22 06 02.0 -0.4
baz=2.1
I13A ⇑Sb Sb 22 06 28.7 -0.1
baz=2.1
SNOW Snow King Moun 2.17 154 ePn Pn 22 05 58.9 -1.4
SNOW ePg Pg 22 06 04.9 -0.3
SNOW eSn Sn 22 06 26.2 -1.2
SNOW eSg Sg 22 06 32.3 -1.0
H12A Diamond D Ranc 2.18 247 ⇑Pn Pn 22 06 00.1 -0.3
baz=2.1,SNR=7.2
H12A ⇓Sn Sn 22 06 27.3 -0.3
baz=2.1
H12A ⇓Sb Sb 22 06 30.6 -0.1
baz=2.1
REDW Red Top Meadow 2.23 157 ePn Pn 22 06 00.3 -0.9
REDW ePg Pg 22 06 06.3 -0.2
REDW eSn Sn 22 06 30.7 +1.7
REDW eSg Sg 22 06 37.0 +1.6
F12A Elk City 2.28 280 ⇓Pn Pn 22 06 01.4 -0.5
baz=2.2,SNR=19
F12A ⇓Pb Pb 22 06 04.7 -0.5
baz=2.2
F12A ⇑Sn Sn 22 06 29.7 -0.5
baz=2.2
F12A ⇓Sb Sb 22 06 33.6 0.0
baz=2.2
D13A Huson 2.37 316 ⇑Sb Sb 22 06 37.4 +1.3
baz=2.3
HLID Hailey 2.52 223 ⇓Sb Sb 22 06 40.5 0.0
baz=2.5
J13A Cove Ranch, Pi 2.54 218 ⇑Pn Pn 22 06 05.2 -0.2
baz=2.5
J13A ⇓Sb Sb 22 06 41.0 0.0
baz=2.5
C14A Swan Lake 2.62 334 ⇑Sb Sb 22 06 45.1 +1.6
baz=2.6
C13A Hot Springs 2.85 323 ⇓Pn Pn 22 06 10.1 +0.4
baz=2.8,SNR=6.5
F11A Grangeville 2.92 281 ⇑Pn Pn 22 06 10.0 -0.7
baz=2.9,SNR=11
F11A ⇓Sb Sb 22 06 52.9 +0.8
baz=2.9
G11A Walters Elk Ra 2.97 271 ⇓Pn Pn 22 06 10.6 -0.7
baz=2.9,SNR=8.2
G11A ⇑Sb Sb 22 06 54.8 +1.2
baz=2.9
EGMT Eagleton 3.04 30 ePn Pn 22 06 12.8 +0.5
EGMT ePg Pg 22 06 22.8 +0.8
EGMT eSn Sn 22 06 49.8 +0.8
EGMT eSg Sg 22 07 01.0 -0.4
EGMT Eagleton 3.04 30 ⇓Pn Pn 22 06 12.9 +0.6
baz=3.1
EGMT ⇓Sb Sb 22 06 58.4 +2.9
baz=3.1
J12A Stokes Ranch, 3.08 226 ⇑Sb Sb 22 06 57.6 +0.8
baz=3.0
K13A Stover Farm, H 3.14 209 ⇓Sb Sb 22 06 58.4 +0.1
baz=3.1
I11A Placerville 3.17 243 ⇑Pn Pn 22 06 13.6 -0.5
baz=3.1
I11A ⇓Sb Sb 22 07 00.3 +0.9
baz=3.1
MFID Camas Ranch 3.37 235 ⇑Sb Sb 22 07 06.5 +1.4
baz=3.3
D11A Klaveano Farm, 3.39 300 ⇓Pn Pn 22 06 16.6 -0.6
baz=3.4
K12A Draper Farm, C 3.46 217 ⇑Sb Sb 22 07 08.7 +1.0
baz=3.4
G10A Bishop Farm, J 3.58 270 ⇓Pn Pn 22 06 19.0 -0.7
baz=3.5
F10A Beach Ranch, E 3.67 280 ⇑Pn Pn 22 06 20.8 -0.1
baz=3.6
F10A ⇑Sb Sb 22 07 15.8 +2.1
baz=3.6
E10A Myers Farm, Un 3.69 289 ⇓Sb Sb 22 07 16.7 +2.5
baz=3.6
BMO Blue Mountains 3.77 263 Pn Pn 22 06 21.5 -0.8
BMO ePg Pg 22 06 31.6 -4.2
BMO eSn Sn 22 07 03.7 -3.2
BMO eSg Sg 22 07 19.5 -5.1
A13A Flathead Natio 3.87 336 ⇓Sn Sn 22 07 10.1 +0.8
baz=3.9
L12A House Creek Ra 3.92 214 ⇓Sb Sb 22 07 22.7 +1.9
baz=3.9
L11A Cat Creek Ranc 4.22 221 ⇓Sb Sb 22 07 31.3 +1.9
baz=4.2
LAO LASA Array 4.25 71 ePn Pn 22 06 28.0 -0.9
LAO ePg Pg 22 06 42.6 -2.4
LAO eSn Sn 22 07 17.9 -0.8
K10A MacKenzie Ranc 4.37 234 ⇓Sb Sb 22 07 35.7 +2.0
baz=4.3
H08A Prairie City 4.79 261 ⇓Pn Pn 22 06 35.9 -0.4
baz=4.7
RSSD Black Hills 5.85 100 ePn Pn 22 06 51.7 +0.8
6.2nm,0.4s
RSSD ePg Pg 22 07 16.6 +0.9
RSSD eSn Sn 22 07 57.4 -0.8
RSSD eSg Sg 22 08 34.0 +2.6

NIED ***20*** *22:19:00, 37.90N×135.70E, h380km, Mw5.2 Best double*

couple: M0 8.05000×10^16 NP1:φs 164.00000°, δ89.00000°, λ64.00000°. NP2:φs 71.00000°, δ26.00000°, λ177.00000°.
BJI ***20*** *22:19:33.5, 37.72N×135.89E, h334km, mB5.2, mb5.5*
MOS ***20*** *22:19:38.7±0.8, 37.97N×135.39E, h350km, mb5.0/77, Error ellipse: s-maj=6.7km s-min=4.0km az=106.5*
JMA ***20*** *22:19:39.6±0.1, 37.89N×135.68E, h374km±1km, M5.3*
JMA Felt I J1.
NEIC ***20*** *22:19:40.3±0.3, 37.94N×135.39E, h354km±3km, mb5.0/119, MW5.2(NIED), Error ellipse: s-maj=3.6km s-min=2.5km az=164.0*
NEIC Recorded [1 JMA] in Ibaraki and Iwate Prefectures, Honshu.
ISCJB ***20*** *22:19:40.0±0.1, 37.92N±0.01×135.43E±0.01, h363km, mb5.0/209, Error ellipse: s-maj=1.9km s-min=1.5km az=156.4*
GCMT ***20*** *22:19:40.3±0.5, 37.92N×135.85E, h362km±2km, MW5.3/51, Moment Tensor Solution. s51,c76; Duration: 1s1 Moment tensor: Scale 10^17Nm; Mrr0.06±.04; Mθθ0.32±.04; Mφφ-0.37±.04; Mrθ0.29±.05; Mθφ-0.52±.04; Mφr-0.88±.04; Best double couple: M0 1.11700×10^17 NP1:φs 71.00000°, δ34.00000°, λ177.00000°. NP2:φs 164.00000°, δ88.00000°, λ56.00000°. Principal axes: T 1.1290, Plg37.0000°, Azm44.0000°; N -0.0240, Plg34.0000°, Azm165.0000°; P -1.1050, Plg34.0000°, Azm282.0000°; nsta1 refers to body waves, cutoff=40s.*
IDC ***20*** *22:19:40.8±0.4, 37.90N×135.43E, h361km±4km, mb4.5/18, mb1 4.6/23, mb1mx4.6/26, mbtmp4.6/23 Error ellipse: s-maj=9.2km s-min=7.9km az=63.0*
SZGRF ***20*** *22:19:47.0, 38.31N×135.95E, h397km, mb5.0, Sea of Japan*
ISC 20 22:19:41.2±0.1, 37.84N±0.01×135.45E±0.01, h365km, h365km±2.2km; pP-P, n1117, σ0.93/1172, mb5.0/209, 225C-240D, Sea of Japan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHG	**Hegura jima**	**1.17**	**89**	⇓P	**Pn**	**22 20 28.1**	**-1.0**
JHG				S	**S**	**22 21 05.3**	**-2.3**
JJH	**Hakui**	**1.41**	**130**	⇓P	**Pn**	**22 20 29.6**	**-0.7**
JSZ	**Suzu**	**1.57**	**104**	⇓P	**Pn**	**22 20 30.0**	**-1.1**
JSZ				S	**S**	**22 21 09.6**	**-1.7**
JKG	**Kaga**	**1.72**	**155**	⇓P	**Pn**	**22 20 31.6**	**-0.5**
JKG				S	**S**	**22 21 11.3**	**-1.7**
JTT	**Ttatey**	**1.95**	**129**	⇓P	**Pn**	**22 20 32.5**	**-1.0**
JGN	**Niukaw**	**2.20**	**137**	⇓P	**Pn**	**22 20 34.1**	**-1.2**
JKY	**Yasaka**	**2.23**	**187**	⇑P	**Pn**	**22 20 35.2**	**-0.3**
JSD	**Sado**	**2.23**	**84**	⇓P	**Pn**	**22 20 33.7**	**-1.7**
JSD				S	**S**	**22 21 15.5**	**-3.6**
JJN	**Nakama**	**2.29**	**108**	⇓P	**Pn**	**22 20 34.4**	**-1.4**
JKSM	**Kasumi**	**2.34**	**196**	⇑P	**Pn**	**22 20 36.2**	**-0.1**
JFM	**Mihama**	**2.35**	**169**	⇑P	**Pn**	**22 20 35.7**	**-0.7**
SAI	**Saigo**	**2.35**	**226**	⇑P	**Pn**	**22 20 36.6**	**+0.2**
JGM	**Miyama**	**2.37**	**154**	⇓P	**Pn**	**22 20 35.4**	**-1.1**
JGM				S	**S**	**22 21 19.4**	**-1.7**
JWT	**Wachi**	**2.56**	**181**	⇑P	**Pn**	**22 20 37.8**	**-0.2**
JWT				S	**S**	**22 21 22.9**	**-0.8**
MAJO	**Matsushiro**	**2.56**	**120**	*e*P	**Pn**	**22 20 36.7**	**-1.2**
MAJO				*e*S	**S**	**22 21 19.2**	**-4.4**
MAT	**Matsushiro**	**2.56**	**120**	P	**Pn**	**22 20 36.4**	**-1.5**
MAT				S	**S**	**22 21 21.6**	**-2.0**
MAT	**Matsushiro**	**2.56**	**120**	P	**Pn**	**22 20 36.4**	**-1.5**
MAT				S	**S**	**22 21 21.9**	**-1.7**
JNG	**Nsakai**	**2.56**	**123**	⇓P	**Pn**	**22 20 36.9**	**-1.1**
JNG				S	**S**	**22 21 23.1**	**-0.6**
MJAR	**Matsushiro Arr**	**2.56**	**120**	P	**Pn**	**22 20 36.9**	**-1.1**
	348nm,0.3s,baz=307,slow=8.7,SNR=2175						
MJAR				S	**S**	**22 21 21.8**	**-1.8**
	baz=318,slow=14,SNR=2.4						
JIZZ	**Izumozaki**	**2.61**	**96**	⇓P	**Pn**	**22 20 37.0**	**-1.3**
JGF	**Kuroka**	**2.71**	**145**	⇓P	**Pn**	**22 20 38.5**	**-0.8**
JKR	**Kurayoshi**	**2.79**	**208**	⇑P	**Pn**	**22 20 40.2**	**+0.3**
JGK	**Kuni**	**2.85**	**116**	⇓P	**Pn**	**22 20 39.2**	**-1.2**
JKS	**Kasai**	**2.90**	**190**	⇑P	**Pn**	**22 20 40.9**	**+0.1**
JHK	**Hiroka**	**2.90**	**101**	⇓P	**Pn**	**22 20 38.7**	**-2.0**
JNT	**Takato**	**2.92**	**131**	⇓P	**Pn**	**22 20 40.0**	**-1.0**
JAO	**Obara**	**2.96**	**150**	⇓P	**Pn**	**22 20 40.3**	**-1.0**
JNM	**Ikuma**	**3.04**	**220**	⇑P	**Pn**	**22 20 42.7**	**+0.7**
JMIK	**Miki**	**3.05**	**186**	⇑P	**Pn**	**22 20 42.1**	**0.0**
JAW	**Awa shima**	**3.06**	**77**	⇓P	**Pn**	**22 20 40.1**	**-2.0**
JNS	**Sasagawa**	**3.07**	**89**	⇓P	**Pn**	**22 20 40.1**	**-2.0**
JAD	**Aida**	**3.08**	**200**	⇑P	**Pn**	**22 20 42.5**	**+0.1**
JNY	**Yasuok**	**3.15**	**141**	⇓P	**Pn**	**22 20 41.1**	**-1.9**
JHE	**Heguri**	**3.19**	**176**	⇑P	**Pn**	**22 20 43.3**	**-0.1**
JKT	**Katashina**	**3.22**	**108**	⇓P	**Pn**	**22 20 41.8**	**-1.7**
TSUJ	**Tsu 2**	**3.23**	**166**	⇑P	**Pn**	**22 20 43.7**	**0.0**
TSUJ				S	**S**	**22 21 33.1**	**-1.0**
JRY	**Ryogami san**	**3.32**	**122**	⇓P	**Pn**	**22 20 42.3**	**-2.2**
JHS	**Saijyo**	**3.41**	**214**	⇑P	**Pn**	**22 20 46.0**	**+0.7**
JFY	**Yanaizu**	**3.41**	**96**	⇓P	**Pn**	**22 20 43.4**	**-1.9**
JYA	**Atsumi**	**3.44**	**76**	⇓P	**Pn**	**22 20 43.6**	**-2.0**
JAA	**Atsumi**	**3.49**	**156**	⇓P	**Pn**	**22 20 46.0**	**-0.1**
JTB	**Tobi-shima**	**3.50**	**66**	⇓P	**Pn**	**22 20 43.9**	**-2.1**
JAG	**Ashikaga**	**3.50**	**113**	⇓P	**Pn**	**22 20 43.5**	**-2.7**
SHZ3	**Shizuoka 3**	**3.56**	**140**	P	**Pn**	**22 20 44.8**	**-2.0**
JIE	**Ise**	**3.59**	**163**	⇑P	**Pn**	**22 20 47.3**	**+0.2**
JIE				S	**S**	**22 21 39.0**	**-1.3**
JKN2	**Miekihoku**	**3.66**	**169**	⇑P	**Pn**	**22 20 47.5**	**-0.3**
JKN2				S	**S**	**22 21 39.1**	**-2.4**
JYS	**Shiratake**	**3.67**	**83**	⇓P	**Pn**	**22 20 46.0**	**-1.7**
JSB	**Shiboa**	**3.67**	**102**	⇓P	**Pn**	**22 20 46.0**	**-1.7**
JJS	**Sakaide**	**3.67**	**200**	⇑P	**Pn**	**22 20 48.1**	**+0.2**
JJG	**Jouge**	**3.69**	**211**	⇑P	**Pn**	**22 20 49.0**	**+0.9**
JGT	**Gotsu**	**3.77**	**223**	⇑P	**Pn**	**22 20 49.7**	**+0.9**
JFT	**Otama**	**3.89**	**93**	⇓P	**Pn**	**22 20 47.8**	**-2.1**
JOD2	**Odawara 2**	**3.90**	**130**	⇓P	**Pn**	**22 20 48.2**	**-1.9**
JOG2	**Oga 2**	**3.97**	**57**	⇓P	**Pn**	**22 20 48.9**	**-1.7**
JOG2				S	**S**	**22 21 42.8**	**-4.0**
TK04	**Tokai 4**	**3.97**	**150**	P	**Pn**	**22 20 50.4**	**-0.4**
JWM	**Minabe**	**3.99**	**181**	⇑P	**Pn**	**22 20 50.3**	**-0.7**
JHT	**Toyohira**	**4.01**	**218**	⇑P	**Pn**	**22 20 51.5**	**+0.4**
JYK	**Kaneyama**	**4.01**	**73**	⇓P	**Pn**	**22 20 48.7**	**-2.3**
JYK				S	**S**	**22 21 43.5**	**-4.0**
AJI	**Ajiro2**	**4.05**	**132**	⇓P	**Pn**	**22 20 49.7**	**-1.9**
JYW	**Yuwa**	**4.09**	**64**	⇓P	**Pn**	**22 20 49.9**	**-2.0**
JAI	**Aioi**	**4.12**	**192**	⇑P	**Pn**	**22 20 52.8**	**+0.5**
JOU	**Okura**	**4.15**	**81**	⇓P	**Pn**	**22 20 50.4**	**-2.1**
JIZS	**Izushimoda**	**4.17**	**137**	P	**Pn**	**22 20 51.4**	**-1.4**
JMM	**Marumori**	**4.23**	**88**	⇓P	**Pn**	**22 20 50.8**	**-2.5**
JHO	**Hitachi**	**4.27**	**105**	⇓P	**Pn**	**22 20 50.3**	**-3.4**
JMN	**Monobe**	**4.30**	**198**	⇑P	**Pn**	**22 20 54.7**	**+0.6**
JWZ	**Kozaga**	**4.31**	**177**	⇑P	**Pn**	**22 20 53.8**	**-0.5**
JWZ				S	**S**	**22 21 52.3**	**-1.0**
ONAJ	**Iwakimizuishiy**	**4.32**	**98**	⇓P	**Pn**	**22 20 51.3**	**-3.0**
ONAJ				S	**S**	**22 21 47.8**	**-5.6**
JFK	**Kawauchi**	**4.34**	**95**	⇓P	**Pn**	**22 20 51.5**	**-2.9**
JRG	**Rokugo**	**4.35**	**68**	⇓P	**Pn**	**22 20 52.1**	**-2.4**
JHIK	**Hikimi**	**4.36**	**222**	⇑P	**Pn**	**22 20 55.4**	**+0.7**
JHM	**Kurahashi**	**4.39**	**213**	⇑P	**Pn**	**22 20 55.7**	**+0.7**
JIW	**Iwasaki**	**4.48**	**51**	⇓P	**Pn**	**22 20 54.0**	**-1.8**
JIW				S	**S**	**22 21 52.1**	**-4.1**
MRT2	**Murotomisaki 2**	**4.57**	**194**	P	**Pn**	**22 20 57.3**	**+0.3**
JMK	**Ichinoseki**	**4.67**	**75**	⇓P	**Pn**	**22 20 55.0**	**-2.8**
JMK				S	**S**	**22 21 53.2**	**-6.7**
JAH	**Hinai**	**4.67**	**58**	⇓P	**Pn**	**22 20 55.9**	**-1.9**
JIO	**Ouri**	**4.69**	**81**	⇓P	**Pn**	**22 20 55.1**	**-3.0**
JKD	**Kudamatsu**	**4.76**	**219**	⇑P	**Pn**	**22 20 59.7**	**+0.7**
JOM	**Ohasama**	**4.86**	**69**	⇓P	**Pn**	**22 20 57.3**	**-2.5**
JKU	**Kubokawa**	**4.92**	**204**	⇑P	**Pn**	**22 21 01.4**	**+0.7**
JSI2	**Shiura 2**	**5.01**	**49**	⇓P	**Pn**	**22 20 59.6**	**-1.8**
JSI2				S	**S**	**22 22 00.9**	**-5.5**
OFUJ	**Ofunato**	**5.04**	**74**	⇓P	**Pn**	**22 20 58.9**	**-2.9**
JKZ	**Kuzumaki**	**5.06**	**63**	⇓P	**Pn**	**22 20 59.5**	**-2.5**
JOSM	**Okushiri--Mats**	**5.24**	**35**	⇑P	**Pn**	**22 21 02.1**	**-1.8**
JOSM				S	**S**	**22 22 05.3**	**-5.8**
JTM	**Tenmabayashi**	**5.26**	**54**	⇓P	**Pn**	**22 21 01.9**	**-2.2**
MIYJ	**Miyakonagasawa**	**5.28**	**69**	⇓P	**Pn**	**22 21 01.5**	**-2.8**
JANG	**Nango**	**5.35**	**60**	P	**Pn**	**22 21 02.4**	**-2.8**
JTO	**Tosashimizu**	**5.42**	**204**	⇑P	**Pn**	**22 21 06.9**	**+0.8**
JTH	**Tanohata**	**5.43**	**65**	⇓P	**Pn**	**22 21 02.7**	**-3.3**
BSO1	**Boso 1**	**5.49**	**124**	P	**Pn**	**22 21 03.4**	**-3.4**
JOT	**Ohata**	**5.58**	**49**	P	**Pn**	**22 21 05.6**	**-2.1**
JOT				S	**S**	**22 22 12.1**	**-5.8**
JFA	**Akaike**	**5.59**	**224**	⇑P	**Pn**	**22 21 08.5**	**+0.5**
JUS	**Usuki**	**5.64**	**213**	⇑P	**Pn**	**22 21 09.6**	**+1.1**
JHJ	**Hachijo jima 2**	**5.89**	**142**	P	**Pn**	**22 21 09.8**	**-1.6**
	415nm,0.3s,baz=18,slow=7.0,SNR=245						
JHJ				S	**S**	**22 22 20.9**	**-3.6**
	535nm,0.3s,baz=62,slow=23,SNR=12						
JKB	**Kayabe**	**5.90**	**45**	P	**Pn**	**22 21 08.8**	**-2.4**
JTU	**Tsushima**	**5.91**	**238**	⇑P	**Pn**	**22 21 11.5**	**+0.1**
JHJ2	**Mitsune**	**5.92**	**142**	P	**Pn**	**22 21 09.5**	**-2.1**
JHJ2				*e*S	**S**	**22 22 21.2**	**-3.8**
VLA	**Vladivostok**	**5.92**	**334**	*c i*P	**Pn**	**22 21 10.5**	**-0.9**
VLA				pmax	pmax		
	comp=Z,317nm,0.8s						
KSRS	**Korea Array**	**5.98**	**269**	P	**Pn**	**22 21 13.6**	**+1.3**
	comp=Z,36nm,0.3s,baz=84,slow=12,SNR=475						
KSRS				S	**S**	**22 22 28.2**	**+2.1**
	baz=85,slow=20,SNR=9.0						
JNU	**Nakatsue**	**6.01**	**220**	P	**Pn**	**22 21 13.8**	**+1.3**
	comp=Z,264nm,0.3s,baz=32,slow=7.2,SNR=506						
JNU				S	**S**	**22 22 26.4**	**-0.4**
	baz=186,slow=39,SNR=1.3						
JFI	**Itaya**	**6.03**	**225**	⇑P	**Pn**	**22 21 14.0**	**+1.1**
JKIT	**Kitakata**	**6.15**	**213**	P	**Pn**	**22 21 14.9**	**+0.7**
JII	**Iki**	**6.15**	**231**	⇑P	**Pn**	**22 21 14.7**	**+0.5**
JIU2	**Izumi 2**	**6.50**	**217**	P	**Pn**	**22 21 19.3**	**+1.1**
JUR	**Ureshino**	**6.52**	**225**	P	**Pn**	**22 21 19.8**	**+1.3**
JTZ	**Takazaki**	**6.92**	**212**	P	**Pn**	**22 21 24.5**	**+1.4**
JZO	**Okuchi**	**6.94**	**216**	P	**Pn**	**22 21 24.4**	**+1.1**
NGSJ	**Nagasakinomoza**	**6.95**	**223**	P	**Pn**	**22 21 25.0**	**+1.6**
INCN	**Inchon**	**7.00**	**270**	*e*Pn	**Pn**	**22 21 24.2**	**+0.4**
	comp=Z,151nm,0.8s						
INCN				*e*S	**S**	**22 22 44.3**	**-3.1**
INCN	**Inchon**	**7.00**	**270**	P	**Pn**	**22 21 25.0**	**+1.2**
	SNR=16						
INCN	**Inchon**	**7.00**	**270**	Pn	**Pn**	**22 21 25.0**	**+1.2**
	SNR=16						
ERM	**Erimo**	**7.24**	**52**	Pn	**Pn**	**22 21 23.3**	**-3.2**
	comp=Z,3μm,0.7s						
ERM	**Erimo**	**7.24**	**52**	*e*P	**Pn**	**22 21 23.8**	**-2.7**
ERM				*e*S	**S**	**22 22 41.6**	**-11**
ERM				pmax	pmax		
	comp=Z,287nm,0.6s						
ERM	**Erimo**	**7.24**	**52**	*e*Pn	**Pn**	**22 21 23.8**	**-2.8**
	comp=Z,287nm,0.6s						
ERM				*e*S	**S**	**22 22 41.6**	**-11**
JFU	**Fukue jima 2**	**7.54**	**229**	P	**Pn**	**22 21 31.3**	**+1.2**
JTSR	**Tashiro 2**	**7.63**	**211**	P	**Pn**	**22 21 32.0**	**+0.7**
JTN	**Tanegashima 3**	**8.07**	**209**	P	**Pn**	**22 21 37.7**	**+1.3**
MDJ	**Mudanjiang**	**8.07**	**329**	P	**Pn**	**22 21 35.6**	**-0.6**
MDJ				S	**S**	**22 23 05.4**	**-4.8**
MDJ				PCP	PcP	22 27 31.9	+1.4
MDJ				SCP	ScP	22 30 28.0	+1.1
MDJ				PCS	PcS	22 31 05.1	+1.8
MDJ				AMB	AMB		
	comp=Z,315nm,0.9s						
ASAJ	**Asahikawa**	**8.28**	**39**	P	**Pn**	**22 21 34.9**	**-3.6**
ASAJ				S	**S**	**22 23 03.5**	**-11**
ASAJ				pmax	pmax		
	comp=Z,124nm,0.3s						
ASAJ				smax			
	comp=N,22nm,0.3s						
ASAJ	**Asahikawa**	**8.28**	**39**	P	**Pn**	**22 21 34.9**	**-3.6**
	comp=N,124nm,0.3s,baz=238,slow=10,SNR=247						
ASAJ				S	**S**	**22 23 03.5**	**-11**
	comp=N,22nm,0.3s,baz=352,slow=30,SNR=23						
CN2	**Changchun**	**9.63**	**311**	⇓P	**Pn**	**22 21 54.0**	**-0.6**
CN2				*e*XP		22 23 05.9	
CN2				*e*S	**S**	**22 23 38.0**	**-6.0**
CN2				AMB	AMB		
	comp=Z,70nm,0.9s						
CN2				AMB	AMB		
	comp=Z,400nm,8.0s						
CN2				LR	LR		
	comp=N,3μm,10.0s						
CN2				LR	LR		
	comp=E,3μm,10.0s						
CN2				LR	LR		
	comp=Z,900nm,10.0s						
SNY	**Shenyang**	**9.96**	**297**	⇓P	**Pn**	**22 21 58.8**	**+0.4**
SNY				S	**S**	**22 23 52.1**	**+1.0**
SNY				AMB	AMB		
	comp=Z,824nm,1.0s						
SNY				AMB	AMB		
	comp=Z,4μm,3.5s						
YUK	**Yuzh-Kuril'sk**	**10.01**	**49**	*e*P	**Pn**	**22 21 57.8**	**-1.3**
YSS	**Yuzh-Sakhalins**	**10.58**	**28**	*c i*P	**Pn**	**22 22 02.0**	**-3.7**
YSS				*i*S	**S**	**22 23 53.0**	**-12**
YSS				pmax	pmax		
	comp=Z,260nm,1.0s						
YSS				pmax	pmax		
	comp=Z,1μm,2.0s						
YSS				smax			
	comp=N,2.0nm,2.0s						
YSS				smax			
	comp=E,550nm,0.9s						
YSS				MLR	MLR		
	comp=Z,500nm,12.0s						
YSS				MLR	MLR		
	comp=N,500nm,10.0s						
YSS	**Yuzh-Sakhalins**	**10.58**	**28**	*e*Pn	**Pn**	**22 22 02.5**	**-3.3**
	comp=N,850nm,0.6s						
YSS				*e*S	**S**	**22 23 59.5**	**-5.2**
HABR	**Khabarovsk**	**10.63**	**359**	*i*P	**Pn**	**22 22 03.8**	**-2.5**
HABR				*e*S	**S**	**22 23 59.9**	**-5.8**
HABR				pmax	pmax		
	comp=Z,2μm,1.7s						
DL2	**Dalian**	**10.90**	**280**	*i*P	**Pn**	**22 22 10.3**	**+0.6**
DL2				S	**S**	**22 24 12.0**	**+0.1**
DL2				SCS	ScS	22 34 02.8	-2.9
DL2				AMB	AMB		
	comp=Z,890nm,0.8s						
DL2				AMB	AMB		
	comp=Z,980nm,4.3s						
KLR	**Kul'dur**	**11.69**	**348**	⇓*i*P	**Pn**	**22 22 11.6**	**-7.2**
KLR				*i*S	**S**	**22 24 19.0**	**-10**
KLR				pmax	pmax		
	comp=N,86nm,1.2s						
KLR				pmax	pmax		
	comp=E,250nm,1.2s						
KLR				pmax	pmax		
	comp=Z,450nm,1.2s						
KLR				smax			
	comp=E,3μm,2.0s						
KLR				smax			
	comp=N,2μm,4.0s						
KUR	**Kuril'sk**	**11.87**	**48**	⇓*i*P	**Pn**	**22 22 18.2**	**-2.8**
KUR				*e*S	**S**	**22 24 24.0**	**-8.4**
KUR				pmax	pmax		
	comp=N,380nm,1.0s						
KUR				pmax	pmax		
	comp=E,380nm,1.0s						
KUR				pmax	pmax		
	comp=Z,2μm,1.0s						
KUR				smax			
	comp=N,1μm,1.0s						
KUR				smax			
	comp=E,750nm,1.0s						
CBIJ	**Chichi jima**	**12.13**	**150**	P	**P**	**22 22 18.8**	**-4.9**
	comp=E,90nm,0.3s,baz=285,slow=8.5,SNR=14						
CBIJ				S	**S**	**22 24 26.5**	**-12**
	comp=E,184nm,0.3s,baz=327,slow=22,SNR=13						
JIH	**Iheya**	**12.48**	**212**	P	**P**	**22 22 28.3**	**+0.7**
JMZ	**Minamidaito 2**	**12.51**	**198**	P	**P**	**22 22 30.2**	**+2.3**
JOW	**Kunigami**	**12.54**	**211**	P	**P**	**22 22 27.4**	**-0.8**
JOW	**Kunigami**	**12.54**	**211**	P	**P**	**22 22 27.6**	**-0.6**
	comp=E,22nm,0.3s,baz=58,slow=8.8,SNR=39						
SSE	**Sheshan**	**13.55**	**244**	P	**P**	**22 22 39.9**	**+0.7**
SSE				S	**S**	**22 25 04.8**	**-1.9**
SSE				AMB	AMB		
	comp=Z,182nm,1.1s						
SSE				LR	LR		
	com

NJ2			PCP	PcP	22 27 41.0	+2.9
NJ2			SCP	ScP	22 30 41.0	+4.3
NJ2			PCS	PcS	22 31 16.0	+2.6
NJ2			AMB	AMB		
	comp=Z,730nm,1.1s					
NJ2			AMB	AMB		
	comp=Z,890nm,10.5s					
NJ2			LR	LR		
	comp=N,750nm,9.7s					
NJ2			LR	LR		
	comp=E,410nm,10.2s					
NJ2			LR	LR		
	comp=Z,420nm,10.2s					
BJI	**Beijing**	**15.16 284**	P	**P**	**22 22 55.4**	**-1.3**
BJI			S	**S**	**22 25 37.8**	**-1.0**
BJI			SCS	ScS	22 34 15.4	-0.1
BJI			AMB	AMB		
	comp=Z,374nm,0.8s					
BJT	**Baijiatuau**	**15.16 284**	*e*P	**P**	**22 22 56.4**	**-0.3**
BJT			*e*S	**S**	**22 25 43.6**	**+4.7**
BJT			pmax	pmax		
	comp=Z,375nm,0.6s					
BJT	**Baijiatuau**	**15.16 284**	*e*P	**P**	**22 22 56.4**	**-0.3**
	comp=Z,375nm,0.6s					
BJT			*e*S	**S**	**22 25 43.6**	**+4.7**
HIA	**Hailar**	**16.09 320**	*e*P	**P**	**22 23 05.3**	**-1.3**
HIA			*e*S	**S**	**22 25 53.2**	**-3.7**
HIA			pmax	pmax		
	comp=Z,215nm,0.6s					
HIA	**Hailar**	**16.09 320**	*e*P	**P**	**22 23 05.3**	**-1.3**
	comp=Z,215nm,0.6s					
HIA			*e*S	**S**	**22 25 53.1**	**-3.8**
OKH	**Okha**	**16.54 16**	*i*P	**P**	**22 23 12.0**	**+0.6**
OKH			*i*S	**S**	**22 26 09.8**	**+4.1**
OKH			pmax	pmax		
	comp=Z,2μm,2.0s					
OKH			smax			
	comp=N,2μm,7.0s					
JIJ	**Ishigaki jima**	**16.54 219**	P	**P**	**22 23 09.1**	**-2.7**
JIJ			S	**S**	**22 25 59.8**	**-6.7**
JKRS	**Kuro-shima**	**16.71 219**	S	**S**	**22 26 03.5**	**-6.3**
IRIF	**Iriomote-Funau**	**16.77 220**	P	**P**	**22 23 12.2**	**-2.1**
IRIF			S	**S**	**22 26 04.4**	**-6.6**
TATO	**Taipei**	**17.48 227**	*e*P	**P**	**22 23 22.4**	**+0.5**
	comp=N,111nm,0.7s					
TATO			*e*S	**S**	**22 26 25.1**	**+0.3**
YHNB	**Yeheng**	**17.78 226**	*e*P	**P**	**22 23 23.3**	**-1.7**
NACB	**Ninganchiao**	**18.04 225**	*e*P	**P**	**22 23 24.5**	**-3.4**
TIY	**Taiyuan**	**18.19 277**⇑	*i*P	**P**	**22 23 28.3**	**-1.0**
TIY			S	**S**	**22 26 28.6**	**-10**
TIY			AMB	AMB		
	comp=Z,461nm,0.7s					
TIY			LR	LR		
	comp=E,991nm,13.1s					
TIY			LR	LR		
	comp=Z,966nm,13.9s					
HHC	**Hu-ho-hao-te**	**18.70 287**⇓	*i*P	**P**	**22 23 32.0**	**-2.6**
HHC			XP	sP	22 25 05.3	-8.4
HHC			S	**S**	**22 26 41.1**	**-6.9**
HHC			PCP	PcP	22 27 44.4	+0.2
HHC			AMB	AMB		
	comp=Z,74nm,1.7s					
HHC			AMB	AMB		
	comp=Z,750nm,5.2s					
HHC			LR	LR		
	comp=N,459nm,12.1s					
HHC			LR	LR		
	comp=E,324nm,11.0s					
HHC			LR	LR		
	comp=Z,333nm,10.5s					
WHN	**Wuhan**	**18.89 254**	⇓P	**P**	**22 23 34.6**	**-2.1**
WHN			S	**S**	**22 26 50.8**	**-1.0**
WHN			AMB	AMB		
	comp=Z,1μm,4.0s					
WHN			LR	LR		
	comp=N,586nm,4.0s					
WHN			LR	LR		
	comp=E,808nm,5.1s					
WHN			LR	LR		
	comp=Z,864nm,11.5s					
QZH	**Quanzhou**	**19.26 233**	P	**P**	**22 23 37.6**	**-3.1**
QZH			S	**S**	**22 26 52.5**	**-5.5**
BTO	**Baotou**	**19.87 286**	*e*P	**P**	**22 23 43.9**	**-2.8**
CLNS	**Chul'man**	**20.26 343**	*e*P	**P**	**22 23 49.6**	**-0.4**
CLNS			*e*S	**S**	**22 27 09.9**	**-3.7**
CLNS			pmax	pmax		
	comp=N,47nm,0.6s					
CLNS			pmax	pmax		
	comp=Z,80nm,0.6s					
CLNS			pmax	pmax		
	comp=E,17nm,0.8s					
CLNS			pmax	pmax		
	comp=Z,51nm,0.9s					
CLNS			pmax	pmax		
	comp=N,40nm,0.8s					
CLNS			pmax	pmax		
	comp=E,35nm,1.0s					
CLNS			smax			
	comp=E,1μm,11.6s					
CLNS			smax			
	comp=Z,97nm,8.5s					
CLNS			smax			
	comp=N,126nm,9.3s					
CLNS			MLR	MLR		
	comp=Z,200nm,13.0s					
CLNS			MLR	MLR		
	comp=N,100nm,11.0s					
CLNS			MLR	MLR		
	comp=E,400nm,15.0s					
CIT	**Chita**	**20.89 320**	*e*P	**P**	**22 23 53.9**	**-2.0**
CIT			pmax	pmax		
	comp=Z,440nm,1.1s					
XAN	**Xi'an**	**21.78 268**	P	**P**	**22 24 02.9**	**-1.3**
XAN			AP		22 24 08.1	
XAN			AMB	AMB		
	comp=Z,156nm,0.7s,mb5.3					
XAN			AMB	AMB		
	comp=Z,402nm,4.0s					
XAN			LR	LR		
	comp=N,181nm,10.4s					
XAN			LR	LR		
	comp=E,200nm,10.0s					
XAN			LR	LR		
	comp=Z,230nm,12.8s					
PET	**Petropavlovsk**	**22.12 39***c*	*i*P	**P**	**22 24 05.6**	**-1.5**
PET			pmax	pmax		
	comp=Z,266nm,1.5s,mb5.2					
PET	**Petropavlovsk**	**22.12 39**	*e*Pn	**P**	**22 24 06.2**	**-0.9**
ULN	**Ulaanbaatar**	**22.98 305**	*e*P	**P**	**22 24 14.3**	**-0.6**
ULN			pmax	pmax		
	comp=Z,252nm,1.0s,mb5.4					
ULN	**Ulaanbaatar**	**22.98 305**	*e*P	**P**	**22 24 14.3**	**-0.7**
	comp=Z,252nm,1.0s,mb5.4					
ULN			*e*PP	PP	22 25 15.6	-0.5
ULN			*e*S	**S**	**22 28 07.7**	**+10**
ULN			*e*ScP	ScP	22 30 54.3	-0.6
SONM	**Songino Array**	**23.40 305**	P	**P**	**22 24 17.9**	**-0.9**
	comp=Z,132nm,0.7s,mb5.3,baz=104,slow=9.1,SNR=439					
SONM			ScP	ScP	22 30 56.5	+0.6
	comp=Z,3.0nm,0.6s,baz=92,slow=2.7,SNR=13					
MA2	**Magadan**	**23.87 19***c*	*i*P	**P**	**22 24 21.3**	**-1.5**
MA2			pmax	pmax		
	comp=Z,420nm,2.4s,mb5.2					
MA2	**Magadan**	**23.87 19**	*e*P	**P**	**22 24 21.1**	**-1.7**
	comp=Z,138nm,0.9s,mb5.2					
BOD	**Bodaibo**	**24.43 332**	*e*P	**P**	**22 24 25.6**	**-2.3**
BOD			*e*		22 34 43.1	
BOD			pmax	pmax		
	comp=Z,52nm,1.0s,mb4.7					
YAK	**Yakutsk**	**24.48 353***c*	*i*P	**P**	**22 24 26.4**	**-1.8**
YAK			pmax	pmax		
	comp=Z,113nm,0.7s,mb5.2					
YAK	**Yakutsk**	**24.48 353**	*e*P	**P**	**22 24 26.8**	**-1.4**
	comp=Z,123nm,0.9s,mb5.1					
LZH	**Lanzhou**	**25.25 276**⇓	*i*P	**P**	**22 24 34.8**	**-0.7**
LZH			PP	PP	22 25 35.6	-6.0
LZH			XP	sP	22 26 19.0	-5.6
LZH			PCP	PcP	22 27 59.8	+2.3
LZH			S	**S**	**22 28 31.5**	**-2.2**
LZH			SCP	ScP	22 31 03.8	+2.4
LZH			PCS	PcS	22 31 38.0	-0.3
LZH			SCS	ScS	22 34 51.8	+1.2
LZH			AMB	AMB		
	comp=Z,471nm,1.0s,mb5.7					
LZH			AMB	AMB		
	comp=Z,1μm,4.2s					
GUMO	**Guam**	**25.57 158**	*e*P	**P**	**22 24 39.1**	**+0.6**
GUMO			*e*		22 25 43.8	
GUMO			pmax	pmax		
	comp=Z,289nm,1.3s,mb5.3					
GUMO	**Guam**	**25.57 158**	*e*P	**P**	**22 24 39.1**	**+0.5**
	comp=Z,289nm,1.3s,mb5.3					
GUMO			*e*PP	PP	22 25 43.8	-1.7
ZAK	**Zakamensk**	**26.05 309**	*e*P	**P**	**22 24 40.9**	**-1.5**
ZAK			pmax	pmax		
	comp=Z,35nm,0.9s,mb4.6					
IRK	**Irkutsk**	**26.07 314**	*e*P	**P**	**22 24 40.7**	**-1.8**
IRK			pmax	pmax		
	comp=Z,89nm,1.1s,mb4.9					
TLY	**Talaya**	**26.23 312**	P	**P**	**22 24 43.9**	**-0.1**
	comp=Z,313nm,0.9s,mb5.5,SNR=33					
TLY	**Talaya**	**26.23 312**	*e*P	**P**	**22 24 42.9**	**-1.1**
TLY	**Talaya**	**26.23 312**	P	**P**	**22 24 43.2**	**-0.8**
	SNR=37					
TLY	**Talaya**	**26.23 312**	P	**P**	**22 24 43.2**	**-0.8**
	SNR=37					
GYA	**Guiyang**	**26.78 253**⇑	*i*P	**P**	**22 24 50.3**	**+1.1**
GYA			AP		22 25 53.9	
GYA			XP	sP	22 26 34.3	-4.2
GYA			PCP	PcP	22 28 04.6	+3.3
GYA			S	**S**	**22 29 00.3**	**+2.4**
GYA			XS	sS	22 30 52.8	-8.2
GYA			SCP	ScP	22 31 10.5	+4.5
GYA			PCS	PcS	22 31 44.8	+1.7
GYA			SCS	ScS	22 35 01.3	+3.8
GYA			AMB	AMB		
	comp=Z,30nm,0.7s,mb4.6					
GYA			AMB	AMB		
	comp=Z,180nm,4.2s					
GYA			LR	LR		
	comp=N,1μm,12.6s					
GYA			LR	LR		
	comp=E,1μm,14.0s					
GYA			LR	LR		
	comp=Z,2μm,12.4s					
CD2	**Chengdu**	**26.96 265**	P	**P**	**22 24 49.3**	**-1.5**
CD2			AP		22 25 52.9	
CD2			XP	sP	22 26 35.3	-4.9
CD2			PCP	PcP	22 28 02.1	+0.4
CD2			S	**S**	**22 28 58.6**	**-2.1**
CD2			XS	sS	22 30 54.3	-10
CD2			PCS	PcS	22 31 42.6	-1.0
CD2			SCS	ScS	22 34 57.6	-0.7
CD2			AMB	AMB		
	comp=Z,30nm,0.7s,mb4.6					
CD2			AMB	AMB		
	comp=Z,120nm,4.8s					
SEY	**Seymchan**	**27.16 17**⇑	*e*P	**P**	**22 24 51.2**	**-0.9**
GTA	**Gaotai**	**27.77 284**⇓	*i*P	**P**	**22 24 57.1**	**-0.7**
GTA			AP		22 26 00.1	
GTA			XP	sP	22 26 42.3	-5.2
GTA			PCP	PcP	22 28 05.0	+1.5
GTA			S	**S**	**22 29 11.8**	**-1.4**
GTA			XS	sS	22 31 07.8	-9.0
GTA			SCP	ScP	22 31 10.4	+1.6
GTA			SCS	ScS	22 35 01.1	-0.5
GTA			AMB	AMB		
	comp=Z,158nm,0.6s,mb5.4					
GTA			AMB	AMB		
	comp=Z,404nm,5.0s					
GTA			LR	LR		
	comp=N,236nm,15.3s					
GTA			LR	LR		
	comp=E,193nm,12.2s					
GTA			LR	LR		
	comp=Z,212nm,13.8s					
MOY	**Mondy**	**27.80 311**	*e*P	**P**	**22 24 56.4**	**-1.5**
MOY			pmax	pmax		
	comp=Z,38nm,1.4s,mb4.4					
QIZ	**Qiongzhong**	**29.14 237**	P	**P**	**22 25 12.3**	**+2.2**
QIZ			PP	PP	22 26 23.3	-1.7
QIZ			S	**S**	**22 29 38.6**	**+3.6**
QIZ			XS	sS	22 31 32.0	-7.0
QIZ			AMB	AMB		
	comp=Z,39nm,0.8s,mb4.7					
QIZ			AMB	AMB		
	comp=Z,198nm,4.3s					
QIZ	**Qiongzhong**	**29.14 237**	*e*P	**P**	**22 25 12.0**	**+1.9**
	comp=Z,56nm,1.3s,mb4.6					
QIZ			*e*		22 26 16.1	
QIZ			*e*PcP	PcP	22 28 09.6	+2.3
KMI	**Kunming**	**30.48 255**	P	**P**	**22 25 21.1**	**-0.6**
KMI			AP	pP	22 26 26.1	-3.4
KMI			PP	PP	22 26 42.5	+2.9
KMI			PPP		22 27 02.5	
KMI			XP	sP	22 27 05.1	-6.7
KMI			PCP	PcP	22 28 11.0	+0.3
KMI			S	**S**	**22 29 56.9**	**+1.2**
KMI			SCP	ScP	22 31 19.1	+1.3
KMI			XS	sS	22 31 52.6	-7.4
KMI			PCS	PcS	22 31 53.8	-1.2
KMI			SS	SS	22 32 13.3	-11
KMI			AMB	AMB		
	comp=Z,88nm,1.0s,mb4.9					
KMI			AMB	AMB		
	comp=Z,296nm,3.4s					
KMI			LR	LR		
	comp=N,280nm,9.7s					
KMI			LR	LR		
	comp=E,244nm,10.3s					
KMI			LR	LR		
	comp=Z,175nm,13.0s					
SMY	**Shemya**	**30.57 48**	*e*P	**P**	**22 25 22.4**	**+0.2**
TIXI	**Tiksi**	**34.05 356***c*	*i*P	**P**	**22 25 50.0**	**-1.8**
TIXI			*e*S	**S**	**22 30 46.2**	**-3.3**
TIXI			*e*		22 35 28.2	
TIXI			pmax	pmax		
	comp=Z,101nm,0.8s,mb5.1					
TIXI	**Tiksi**	**34.05 356**	*e*P	**P**	**22 25 50.0**	**-1.8**
	comp=Z,93nm,0.7s,mb5.1					
NANT	**Nan**	**35.71 248**	⇓P	**P**	**22 26 06.9**	**+0.3**
	comp=Z,2μm,1.0s,mb6.2					
KKTK	**Khon Kaen**	**35.81 242**	P	**P**	**22 26 08.0**	**+0.6**
MYLDM	**Lahad Datu**	**36.00 210**	⇑P	**P**	**22 26 12.2**	**+3.2**
SDKM	**Sandakan**	**36.11 212**	⇑P	**P**	**22 26 11.4**	**+1.5**
KKM	**Kota Kinabalu**	**36.17 214**	*e*P	**P**	**22 26 11.9**	**+1.4**
KKM			*e*	pP	22 27 19.5	-0.5
KKM	**Kota Kinabalu**	**36.17 214**	⇑P	**P**	**22 26 12.5**	**+2.0**
WMQ	**Urumqi**	**36.21 295**	P	**P**	**22 26 10.0**	**-0.5**
WMQ			AP	pP	22 27 18.0	-2.0
WMQ			PP	PP	22 27 44.0	+1.9
WMQ			S	**S**	**22 31 24.0**	**+0.9**
WMQ			SS	SS	22 34 13.0	-6.3
WMQ			AMB	AMB		
	comp=Z,213nm,1.0s,mb5.3					
WMQ			AMB	AMB		
	comp=Z,495nm,4.0s					
WMQ			LR	LR		
	comp=N,156nm,13.0s					
WMQ			LR	LR		
	comp=E,125nm,13.0s					
WMQ			LR	LR		
	comp=Z,76nm,13.0s					
CHG	**Chiang Mai**	**37.00 249**	⇓P	**P**	**22 26 17.8**	**+0.4**
	comp=Z,150nm,0.8s,mb5.3					
CHTO	**Chiang Mai**	**37.00 249**	*e*P	**P**	**22 26 17.9**	**+0.5**
CHTO	**Chiang Mai**	**37.00 249**	P	**P**	**22 26 18.2**	**+0.8**
	SNR=32					
CHTO	**Chiang Mai**	**37.00 249**	P	**P**	**22 26 18.2**	**+0.8**
	SNR=32					
TSM	**Tawau**	**37.05 210**	⇓P	**P**	**22 26 19.6**	**+1.7**
CM31	**Chiang Mai Arr**	**37.22 249**	*e*P	**P**	**22 26 19.8**	**+0.6**
	comp=Z,155nm,0.8s,mb5.3					
LSA	**Lhasa**	**37.42 271**	P	**P**	**22 26 22.1**	**+1.3**
LSA	**Lhasa**	**37.42 271**	*e*P	**P**	**22 26 21.6**	**+0.8**
LSA			*e*		22 27 54.4	
LSA			pmax	pmax		
	comp=Z,69nm,0.7s,mb5.0					
LSA	**Lhasa**	**37.42 271**	*e*P	**P**	**22 26 21.6**	**+0.8**
	comp=Z,69nm,0.7s,mb5.0					
LSA			*e*PP	PP	22 27 54.4	-1.0
IMP	**Imphal**	**37.48 262**	*e*P	**P**	**22 26 20.0**	**-1.4**
ZAA0	**Zalesovo Array**	**37.85 312**	*e*P	**P**	**22 26 18.0**	**-6.0**
ZALV	**Zalesovo Beam**	**37.85 312**	P	**P**	**22 26 22.5**	**-1.5**
ZALV			ScP	ScP	22 31 42.9	-0.7
ZALV	**Zalesovo Beam**	**37.85 312**	P	**P**	**22 26 22.5**	**-1.5**
	comp=Z,36nm,0.4s,mb5.0,baz=101,slow=7.5,SNR=89					
ZALV			ScP	ScP	22 31 42.9	-0.7
	comp=Z,18nm,0.6s,baz=105,slow=3.4,SNR=22					
ZAL	**Zalesovo**	**37.86 312**	P	**P**	**22 26 22.5**	**-1.6**
ZAL					22 31 42.9	
NST	**Nakhon Sawan**	**38.16 244**	P	**P**	**22 26 28.0**	**+1.0**
SHL	**Shillong**	**38.71 264**⇓	*i*P	**P**	**22 26 31.5**	**0.0**
SHL			*e*x	x	22 31 48.0	
NVS	**Novosibirsk**	**38.83 313**⇓	*i*P	**P**	**22 26 30.2**	**-1.9**
NVS			*e*S	**S**	**22 31 55.0**	**-6.9**
NVS			*i*		22 35 56.5	
NVS			pmax	pmax		
	comp=Z,74nm,1.1s,mb4.8					
NVS			pmax	pmax		
	comp=E,78nm,1.4s					
NVS			smax			
	comp=E,36nm,1.8s					
NVS			smax			
	comp=N,33nm,1.9s					
MK31	**Makanchi Array**	**39.64 300**	*e*P	**P**	**22 26 37.9**	**-0.9**
MKAR	**Makanchi Array**	**39.64 300**	P	**P**	**22 26 37.8**	**-1.0**
	comp=N,24nm,0.4s,mb4.8,baz=83,slow=11,SNR=364					
MKAR			ScP	ScP	22 31 50.8	+0.1
	comp=N,8.0nm,0.6s,baz=79,slow=5.5,SNR=13					
BTM	**Bintulu**	**40.10 216**	⇑P	**P**	**22 26 44.2**	**+1.2**
GAMB	**Gambell**	**40.56 33**	*e*P	**P**	**22 26 45.3**	**-0.8**
SBUM	**Sibu**	**41.17 217**	⇓P	**P**	**22 26 52.7**	**+1.1**
KURK	**Kurchatov**	**41.67 307**	P	**P**	**22 26 53.4**	**-1.8**
	comp=N,932nm,0.5s,mb6.2					
KURK	**Kurchatov**	**41.67 307**	*e*P	**P**	**22 26 53.8**	**-1.4**
KURK			pmax	pmax		
	comp=Z,164nm,1.0s,mb5.1					
KURK	**Kurchatov**	**41.67 307**	*e*P	**P**	**22 26 53.8**	**-1.4**
	comp=Z,164nm,1.0s,mb5.1					
KURK	**Kurchatov**	**41.67 307**	P	**P**	**22 26 53.9**	**-1.3**
	SNR=70					
KURK	**Kurchatov**	**41.67 307**	P	**P**	**22 26 53.9**	**-1.3**
	SNR=70					
JIRN	**Jiri**	**42.23 271**	*e*P	**P**	**22 27 00.6**	**+0.6**
	comp=Z,164nm,0.3s,mb5.6					
GUN	**Gumba**	**42.36 272**	*e*P	**P**	**22 27 01.4**	**+0.4**
	comp=Z,606nm,0.4s,mb6.1					
TNA	**Tin City**	**42.55 31**	*e*P	**P**	**22 27 01.8**	**-0.2**
	comp=Z,141nm,1.1s,mb5.0					
PKI	**Pulchoki**	**42.89 271**	*e*P	**P**	**22 27 05.2**	**0.0**
	comp=Z,244nm,0.5s,mb5.6					
KKN	**Kakani**	**42.89 272**	*e*P	**P**	**22 27 05.4**	**+0.2**
	comp=Z,880nm,0.7s,mb6.0					
KSM	**Kuching**	**42.94 219**	*e*P	**P**	**22 27 06.7**	**+0.9**
KSM	**Kuching**	**42.94 219**	⇓P	**P**	**22 27 07.0**	**+1.3**
DMN	**Daman**	**43.11 272**	*e*P	**P**	**22 27 07.0**	**0.0**
	comp=Z,151nm,0.4s,mb5.4					
GKN	**Gorkha**	**43.31 272**	*e*P	**P**	**22 27 08.4**	**-0.1**
	comp=Z,939nm,0.5s,mb6.1					
KTGM	**Kuala Trenggan**	**43.73 230**	⇓P	**P**	**22 27 14.1**	**+2.1**
DANN	**Dangsing**	**43.85 273**	*e*P	**P**	**22 27 13.1**	**+0.3**
	comp=Z,734nm,0.5s,mb6.0					
SNG	**Songkhla**	**43.89 235**	P	**P**	**22 27 14.0**	**+0.7**
	comp=Z,40nm,1.0s,mb4.5					
KOLN	**Koldanda**	**44.23 273**	*e*P	**P**	**22 27 15.9**	**+0.1**
	comp=Z,117nm,0.3s,mb5.5					
BOK	**Bokaro**	**44.32 266**⇓	*i*P	**P**	**22 27 16.1**	**-0.4**
BOK			AMb	AMB	22 27 17.8	
	comp=Z,95nm,0.4s,mb5.2					
ULHL	**Ulahol**	**44.75 295**	P	**P**	**22 27 20.4**	**+0.7**
	SNR=29					
TKM2	**Tokmak 2**	**45.04 296**	*e*P	**P**	**22 27 22.3**	**+0.4**
TKM2			*e*		22 29 11.0	
TKM2			pmax	pmax		
	comp=Z,355nm,1.1s,mb5.4					
TKM2	**Tokmak 2**	**45.04 296**	*e*P	**P**	**22 27 22.3**	**+0.4**
	comp=Z,356nm,1.1s,mb5.4					
TKM2			*e*		22 29 11.0	
TKM2	**Tokmak 2**	**45.04 296**	P	**P**	**22 27 22.4**	**+0.6**
	SNR=160					
KAPI	**Kappang**	**45.07 202**	⇓P	**P**	**22 27 22.1**	**-0.4**
	SNR=5.1					
KAPI	**Kappang**	**45.07 202**	⇓P	**P**	**22 27 22.1**	**-0.4**
	SNR=5.1					
KULM	**Kulim**	**45.30 233**	*e*P	**P**	**22 27 25.2**	**+1.0**
KULM			*e*	pP	22 28 39.1	+1.9
KULM	**Kulim**	**45.30 233**	⇓P	**P**	**22 27 25.7**	**+1.4**
KZA	**Kyzart**	**45.51 295**	P	**P**	**22 27 26.9**	**+1.3**
	SNR=97					
KBK	**Karagaybulak**	**45.57 296**	P	**P**	**22 27 26.3**	**+0.4**
	SNR=179					
CHMS	**Chumysh**	**45.62 296**	P	**P**	**22 27 26.4**	**0.0**
	SNR=8.3					
SDPT	**Sand Point**	**45.64 46**	*e*P	**P**	**22 27 24.1**	**-2.2**
IPM	**Ipoh**	**45.69 232**	⇑P	**P**	**22 27 28.1**	**+0.8**
KSH	**Kashi**	**45.71 291**⇑	*i*P	**P**	**22 27 28.0**	**+0.8**
KSH			*e*AP	pP	22 28 38.3	-1.8
KSH			*e*PCP	PcP	22 29 00.0	+1.9
KSH			*e*XP	sP	22 29 17.3	-3.8
KSH			*e*PP	PP	22 29 20.0	+0.2
KSH			*e*SCP	ScP	22 32 18.1	+2.7
KSH			*e*PCS	PcS	22 32 52.8	0.0
KSH			*e*S	**S**	**22 33 42.3**	**+0.2**
KSH			*e*XS	sS	22 35 49.4	-3.7
KSH			*e*SCS	ScS	22 36 43.3	+0.6
KSH			AMB	AMB		
	comp=Z,430nm,2.7s,mb5.1					
KSH			LR	LR		
	comp=N,604nm,5.3s					
KSH			LR	LR		
	comp=E,763nm,5.6s					
KSH			LR	LR		
	comp=Z,690nm,6.2s					
USP	**Ospenovka**	**45.73 297**	P	**P**	**22 27 26.9**	**-0.3**
	SNR=112					
FRU	**Bishkek**	**45.76 296**⇓	*i*P	**P**	**22 27 27.0**	**-0.4**
FRU			*e*		22 29 21.0	
FRU			pmax	pmax		
	comp=Z,440nm,1.6s,mb5.3					
AAK	**Ala-Archa**	**45.90 296**	P	**P**	**22 27 27.1**	**-1.4**
	comp=Z,552nm,1.1s,mb5.6,SNR=50					
AAK	**Ala-Archa**	**45.90 296**	P	**P**	**22 27 28.7**	**+0.2**
	SNR=14					
UCH	**Uchtor**	**45.99 296**	*e*P	**P**	**22 27 30.0**	**+0.7**
	comp=Z,49nm,0.9s,mb4.6					
UCH			*e*PcP	PcP	22 29 00.1	+1.1
UCH			*e*PP	PP	22 29 23.7	+1.4
UCH	**Uchtor**	**45.99 296**	P	**P**	**22 27 30.1**	**+0.8**
	SNR=53					
PTH	**Pithoragarh**	**46.12 277**	*e*P	**P**	**22 27 30.9**	**+0.5**
MYKOM	**Kota Tinggi**	**46.13 227**	⇓P	**P**	**22 27 31.8**	**+1.1**
LGTI	**Lohaghat**	**46.14 277**	*e*P	**P**	**22 27 31.0**	**+0.4**
PBA	**Port Blair**	**46.16 247**	*e*x	x	22 27 22.2	
KGM	**Kluang**	**46.26 227**	⇓P	**P**	**22 27 33.5**	**+1.8**
FRIM	**Kepong**	**46.30 230**	⇑P	**P**	**22 27 33.3**	**+1.4**
EKS2	**Erkin-Say**	**46.40 296**	*e*P	**P**	**22 27 32.0**	**-0.4**
	comp=Z,45nm,0.8s,mb4.7					
EKS2			*e*PP	PP	22 29 25.2	-0.7
EKS2	**Erkin-Say**	**46.40 296**	P	**P**	**22 27 32.3**	**-0.1**
	SNR=16					
BRVK	**Borovoye**	**46.54 311**	P	**P**	**22 27 32.8**	**-0.5**
	comp=Z,308nm,0.6s,mb5.7,SNR=51					
BRVK	**Borovoye**	**46.54 311**	*e*P	**P**	**22 27 32.3**	**-1.0**
BRVK	**Borovoye**	**46.54 311**	P	**P**	**22 27 32.6**	**-0.7**
	SNR=30					
BRVK	**Borovoye**	**46.54 311**	P	**P**	**22 27 32.6**	**-0.7**
	SNR=30					
AML	**Almayashu**	**46.60 296**	*e*P	**P**	**22 27 34.9**	**+1.0**
	comp=Z,314nm,0.8s,mb5.6					
AML			PcP	PcP	22 29 07.2	+6.0
AML			*e*PP	PP	22 29 29.3	+1.5
AML	**Almayashu**	**46.60 296**	P	**P**	**22 27 34.9**	**+0.9**
	SNR=257					
CHGN	**Chignik**	**46.71 44**	*e*P	**P**	**22 27 33.0**	**-1.5**
DDI	**Dehra Dun**	**47.48 279**	*e*P	**P**	**22 27 41.8**	**+0.9**
TTA	**Tatalina**	**47.49 35**	*e*P	**P**	**22 27 40.1**	**-0.3**
TTA			*e*	pP	22 28 49.3	-4.7
TTA			*e*		22 29 04.9	
TTA			pmax	pmax		
	comp=Z,116nm,1.4s,mb4.9					
TTA	**Tatalina**	**47.49 35**	*e*P	**P**	**22 27 40.1**	**-0.3**
	comp=Z,116nm,1.4s,mb4.9					
TTA			*e*	pP	22 28 49.3	-4.7
TTA			*e*PcP	PcP	22 29 04.9	+0.9
TTA			*e*ScP	ScP	22 32 23.8	+1.4
SVW2	**Sparrevohn**	**47.78 38**	*e*P	**P**	**22 27 42.9**	**+0.2**
SVW2			PcP	PcP	22 29 06.4	+1.4
SVW2			*e*		22 32 25.0	
SDNR	**Sundarnagar**	**47.84 281**	*e*P	**P**	**22 27 42.6**	**-1.0**
SDNR			*e*x	x	22 29 42.6	
SMLA	**Simla**	**47.84 280**	*e*P	**P**	**22 27 43.3**	**-0.2**
BLSP	**

DLH	Dalhousie	48.19	283	eP		P	22 27 45.0 -1.2
BHK	Bhakra	48.30	281	eP		P	22 27 46.6 -0.5
PSI	Prapat	48.31	233	⇓eP		P	22 27 44.8 -2.5
IMA2	Indian Mountai	48.42	31	eP		P	22 27 46.9 -0.5
THN	Thein Dam	48.43	283	eP		P	22 27 45.5 -2.5
NDI	New Delhi	48.85	277	eP		P	22 27 49.0 -2.3
NDI				eP			22 27 50.8
VIS	Vishakhapatnam	49.60	261	⇓iP		P	22 27 57.1 +0.2
VIS				AMb		AMB	22 27 59.0
	comp=Z,108nm,0.7s,mb5.2						
KDAK	Kodiak Island	49.67	42	P		P	22 27 55.0 -1.9
	comp=Z,625nm,0.7s,mb6.0,SNR=28						
KDAK	Kodiak Island	49.67	42	eP		P	22 27 55.8 -1.1
KDAK	Kodiak Island	49.67	42	P		P	22 27 56.0 -1.0
	comp=Z,72nm,0.7s,mb5.0,baz=286,slow=2.7,SNR=71						
KDAK				PcP		PcP	22 29 12.8 +0.8
	comp=Z,14nm,0.6s,baz=272,slow=1.7,SNR=5.2						
KDAK				ScP		ScP	22 32 33.2 +1.5
	comp=Z,15nm,0.9s,baz=334,slow=1.9,SNR=8.0						
KAKA	Kakadu	50.37	184	eP		P	22 28 02.9 +0.3
	comp=Z,9.5nm,0.6s,mb4.2						
SLKM	Skilak Lake	50.45	38	eP		P	22 28 01.3 -1.4
SLKM				e		pP	22 29 14.2 -3.1
PMR	Palmer	50.81	37	eP		P	22 28 04.2 -1.1
PMR				pmax		pmax	
	comp=Z,68nm,0.7s,mb5.0						
PMR	Palmer	50.81	37	eP		P	22 28 04.2 -1.1
	comp=Z,68nm,0.7s,mb5.0						
COLA	College	50.94	32	eP		P	22 28 05.9 -0.3
COLA				e		pP	22 29 19.1 -1.8
NGP	Nagpur	51.09	268	eP		P	22 28 08.3 +0.4
SML	Sawmill	51.16	36	eP		P	22 28 07.5 -0.3
BHPL	Bhopal	51.29	271	⇓iP		P	22 28 08.8 -0.6
BHPL				AMb		AMB	22 28 09.8
	comp=Z,95nm,0.7s,mb5.2						
SVE	Sverdlovsk	51.36	317	ceP		P	22 28 08.7 -0.7
SVE				e			22 37 19.8
SVE				eSS		SS	22 38 33.9 -6.6
SVE				pmax		pmax	
	comp=Z,228nm,0.9s,mb5.4						
AJM	Ajmer	51.90	276	⇓iP		P	22 28 13.6 -0.3
DIV	Divide	52.49	37	eP		P	22 28 17.6 0.0
	comp=Z,87nm,0.8s,mb5.1						
ARU	Arti	52.57	317	P		P	22 28 17.1 -1.1
	comp=Z,2μm,0.6s,SNR=80						
ARU	Arti	52.57	317	diP		P	22 28 17.3 -0.9
ARU				e			22 29 22.7
ARU				e*PP		pP	22 29 27.5 -6.1
ARU				e*SP		sP	22 30 11.2 -2.8
ARU				e			22 30 19.6
ARU				eSS		SS	22 39 00.2 +0.7
ARU				pmax		pmax	
	comp=Z,279nm,1.0s,mb5.5						
ARU	Arti	52.57	317	eP		P	22 28 17.4 -0.8
KBL	Kabul	52.67	288	eP		P	22 28 18.9 -0.4
	comp=Z,98nm,0.8s,mb5.2						
KBL				PcP		PcP	22 29 24.4 +0.7
AKL	Akola	52.93	268	eP		P	22 28 21.6 +0.2
MENT	Mentasta	53.06	34	eP		P	22 28 21.4 -0.3
HYB	Hyderabad	53.52	264	eP		P	22 28 25.5 -0.2
HYB				pmax		pmax	
	comp=Z,220nm,1.0s,mb5.4						
HYB	Hyderabad	53.52	264	eP		P	22 28 25.5 -0.2
	comp=Z,220nm,1.0s,mb5.4						
HYB	Hyderabad	53.52	264	iP		P	22 28 25.5 -0.2
	comp=Z,220nm,1.0s,mb5.4						
HYB				ePcP			22 28 29.0
EGAK	Eagle	53.77	32	eP		P	22 28 26.2 -0.6
DAWY	Dawson	54.69	32	eP		P	22 28 33.0 -0.3
INK	Inuvik	55.82	27	eP		P	22 28 40.8 -0.4
FITZ	Fitzroy Crossi	56.41	191	eP		P	22 28 46.7 +0.8
	comp=Z,11nm,0.9s,mb4.2						
FITZ				ePCP		pP	22 30 02.8 +0.2
POO	Poona	56.61	268	iP		P	22 28 46.9 -0.7
POO				AMb		AMB	22 28 48.4
	comp=Z,150nm,0.7s,mb5.4						
KAD	Karad	57.03	267	⇓iP		P	22 28 49.7 -0.7
KAD				AMb		AMB	22 28 51.5
	comp=Z,130nm,1.4s,mb5.1						
BHJ	Bhuj	57.42	275	eP		P	22 28 53.7 +0.5
WRAB	Tennant Creek	57.48	181	P		P	22 28 53.0 -0.3
	comp=Z,119nm,0.4s,mb5.6,SNR=15						
WRAB	Tennant Creek	57.48	181	⇑eP		P	22 28 53.5 +0.2
WRAB	Tennant Creek	57.48	181	eP		P	22 28 53.3 -0.1
WB2	Warramunga Arr	57.49	181	eP		P	22 28 53.5 +0.1
WB2				ePCP		pP	22 30 10.4 0.0
WRA	Warramunga Arr	57.49	181	P		P	22 28 53.5 +0.1
	comp=Z,11nm,0.4s,mb4.5,baz=358,slow=7.4,SNR=238						
WRA				pP		pP	22 30 10.8 +0.3
	comp=Z,6.4nm,0.7s,baz=360,slow=7.3,SNR=2.6						
WRA				S		S	22 36 20.8 -0.9
	comp=Z,0.7nm,0.6s,baz=358,slow=12,SNR=6.0						
SKAG	Skagway	57.95	37	eP		P	22 28 56.2 +0.1
	comp=Z,147nm,1.1s,mb5.2						
PALK	Pallekele	57.98	253	P		P	22 28 57.5 +0.4
	comp=Z,481nm,0.8s,mb5.9,SNR=20						
PALK	Pallekele	57.98	253	eP		P	22 28 57.8 +0.7
GOA	Goa	58.34	265	⇓iP		P	22 28 59.5 +0.1
GOA				AMb		AMB	22 29 01.4
	comp=Z,235nm,1.4s,mb5.3						
CTAO	Charters Tower	58.51	168	eP		P	22 29 01.6 +1.1
CTAO				pmax		pmax	
	comp=Z,3.0nm,0.6s,mb3.9						
CTAO	Charters Tower	58.51	168	eP		P	22 29 01.6 +1.2
	comp=Z,2.6nm,0.6s,mb3.8						
KOD	Kodaikanal	58.60	258	eP		P	22 29 01.3 0.0
KOD				AMb		AMB	22 29 03.7
	comp=Z,88nm,1.1s,mb5.1						
SPB4	Spitsbergen Ar	58.77	348	eP		P	22 29 01.4 -0.2
SIT	Sitka	58.84	40	eP		P	22 29 02.6 +0.3
SIT				pmax		pmax	
	comp=Z,143nm,0.9s,mb5.4						
SIT	Sitka	58.84	40	eP		P	22 29 02.6 +0.3
	comp=Z,143nm,0.9s,mb5.4						
KIP	Kipapa	58.97	86	eP		P	22 29 03.5 -0.2
KBS	Kingsbay	59.01	349	⇓eP		P	22 29 03.1 0.0
ABKT	Ailbek	59.25	296	P		P	22 29 05.3 -0.1
	comp=Z,907nm,0.9s,mb6.2,SNR=68						
ALE	Alert	59.56	3	P		P	22 29 06.0 -0.8
	comp=Z,464nm,0.6s,mb6.1,SNR=23						
TMCR	Tamitsa	59.71	330	eP		P	22 29 07.3 -0.7
TMCR				pmax		pmax	
	comp=Z,69nm,1.2s,mb5.0						
APA	Apatity	59.95	334	⇓iP		P	22 29 19.0 +9.4
APA				pmax		pmax	
	comp=Z,16nm,0.8s,mb4.5						
MBWA	Marble Bar	60.52	197	eP		P	22 29 14.3 +0.3
	comp=Z,14nm,0.5s,mb4.7						
WRAK	Wrangell Islan	60.60	40	eP		P	22 29 14.4 +0.3
	comp=Z,42nm,0.9s,mb4.9						
WRAK				ePcP		PcP	22 29 54.2 -0.2
WRAK				ePP		PP	22 31 32.8 +0.4
CRAG	Craig	60.60	41	eP		P	22 29 14.4 +0.2
	comp=Z,95nm,1.0s,mb5.2						
DLBC	Dease Lake	60.88	37	eP		P	22 29 16.8 +0.9
KEV	Kevo	60.95	338	ep		P	22 29 15.4 -0.9
	comp=Z,20nm,0.7s,mb4.7						
KEV	Kevo	60.95	338	eP		P	22 29 15.4 -0.9
KEV				pmax		pmax	
	comp=Z,20nm,0.7s,mb4.7						
ASAR	Alice Springs	61.20	182	P		P	22 29 18.9 +0.5
	comp=Z,4.4nm,0.7s,mb4.0,baz=1.9,slow=6.2,SNR=33						
ASAR				pP		pP	22 30 37.4 +0.7
	comp=Z,4.9nm,0.8s,baz=1.1,slow=6.2,SNR=4.3						
ARCES	ARCESS Array B	61.51	338	P		P	22 29 19.5 -0.6
	comp=Z,2.9nm,0.4s,mb4.2,baz=60,slow=8.2,SNR=29						
ARE0	ARCESS Array S	61.51	338	eP		P	22 29 19.2 -0.9
POHA	Pohakuloa	61.82	86	eP		P	22 29 23.0 +0.1
JOF	Joensuu	62.95	330	ep		P	22 29 28.0 -1.6
	comp=Z,12nm,0.4s,mb4.8						
RES	Resolute Bay	62.95	13	eP		P	22 29 28.6 -0.8
MOS	Moscow	63.71	321	eP		P	22 29 33.5 -1.1
MOS				e			22 31 57.6
MOS				iS		S	22 37 37.3 -1.8
MOS				pmax		pmax	
	comp=Z,95nm,1.1s,mb5.3						
VRHR	Novokhopersk	63.84	315	diP		P	22 29 34.4 -1.1
VRHR				pmax		pmax	
	comp=Z,40nm,0.6s,mb5.2						
VRHR				pmax		pmax	
	comp=N,30nm,0.9s						
VRHR				pmax		pmax	
	comp=E,40nm,1.2s						
DAG	Danmarks Havn	64.50	354	⇑iP		P	22 29 38.6 -0.8
DAG				pmax		pmax	
	comp=Z,31nm,1.3s,mb4.8						
DAG	Danmarks Havn	64.50	354	⇑iP		P	22 29 38.6 -0.8
	comp=Z,31nm,1.3s,mb4.8						
OBN	Obninsk	64.54	321	P		P	22 29 39.6 -0.4
	comp=Z,284nm,0.6s,mb6.1,SNR=6.2						
OBN	Obninsk	64.54	321	eP		P	22 29 38.8 -1.2
OBN				i			22 30 11.0
OBN				e			22 31 37.6
OBN				i			22 32 06.3
OBN				iS		S	22 37 50.0 +0.8
OBN				pmax		pmax	
	comp=Z,28nm,0.6s,mb5.1						
OBN	Obninsk	64.54	321	eP		P	22 29 39.0 -1.0
VRSR	Storozhevoye	65.12	316	diP		P	22 29 42.7 -1.0
VRSR				eS		S	22 37 53.1 -3.3
VRSR				pmax		pmax	
	comp=Z,20nm,1.0s,mb4.7						
VRSR				pmax		pmax	
	comp=N,10.0nm,1.1s						
VRSR				pmax		pmax	
	comp=E,10.0nm,1.1s						
VRSR				smax			
	comp=Z,20nm,3.5s						
VRSR				smax			
	comp=N,20nm,1.9s						
VRSR				smax			
	comp=E,8.0nm,1.0s						
YKW3	Yellowknife Ar	65.39	29	eP		P	22 29 44.5 -0.8
YKA	Yellowknife Ar	65.44	29	P		P	22 29 44.7 -0.8
YKA				*PP		pP	22 31 03.9 -0.9
YKA	Yellowknife Ar	65.44	29	P		P	22 29 44.7 -0.8
	comp=E,18nm,0.6s,mb4.9,baz=308,slow=6.5,SNR=246						
YKA				pP		pP	22 31 03.9 -0.9
	comp=E,2.1nm,0.7s,baz=303,slow=6.4,SNR=3.5						
FIA1	FINESS Array S	65.82	330	eP		P	22 29 47.5 -0.4
FIA1				ePcP		PcP	22 30 16.2 +0.4
FINES	FINESS Array B	65.82	330	P		P	22 29 47.3 -0.7
	comp=E,12nm,0.5s,mb4.9,baz=73,slow=6.1,SNR=140						
WBK	Wadi Bani Khal	66.13	281	P		P	22 29 51.8 +1.1
	SNR=7.3						
WBK	Wadi Bani Khal	66.13	281	P		P	22 29 51.8 +1.1
	SNR=7.3						
DGRG	David-gareji	66.29	305	P		P	22 29 50.9 -0.4
BIDO	Bidbid	66.30	282	P		P	22 29 52.9 +1.2
	SNR=8.1						
BIDO	Bidbid	66.30	282	P		P	22 29 52.9 +1.2
	SNR=8.1						
MTA	Mtatsminda	66.54	305	P		P	22 29 51.8 -1.1
MTA				S		S	22 38 12.6 -1.1
TBLG	Delisi	66.56	305	P		P	22 29 52.8 -0.2
TBLG				S		S	22 38 13.5 -0.5
SMDO	Samad	66.61	282	P		P	22 29 54.4 +0.7
	SNR=13						
SMDO	Samad	66.61	282	P		P	22 29 54.4 +0.7
	SNR=13						
KIV	Kislovodsk	66.73	308	P		P	22 29 54.8 +0.8
	comp=E,695nm,0.6s,SNR=28						
KIV	Kislovodsk	66.73	308	diP		P	22 29 54.1 +0.1
KIV				pmax		pmax	
	comp=Z,141nm,1.3s,mb5.5						
KIV	Kislovodsk	66.73	308	eP		P	22 29 53.6 -0.4
KIV	Kislovodsk	66.73	308	P		P	22 29 53.9 -0.1
	SNR=36						
KIV	Kislovodsk	66.73	308	P		P	22 29 53.9 -0.1
	SNR=36						
KIV	Kislovodsk	66.73	308	⇓iP		P	22 29 54.4 +0.4
HOQ	Hoqain	66.90	283	P		P	22 29 55.9 +0.4
	SNR=14						
HOQ	Hoqain	66.90	283	P		P	22 29 55.9 +0.4
	SNR=14						
ONI	Oni	66.95	307	P		P	22 29 55.3 -0.1
HATD	Hatta, Dubai	67.14	284	P		P	22 29 57.3 +0.4
	SNR=13						
HATD	Hatta, Dubai	67.14	284	P		P	22 29 57.3 +0.4
	SNR=13						
ASHO	Ashiyiah	67.27	284	P		P	22 29 58.4 +0.7
	SNR=15						
ASHO	Ashiyiah	67.27	284	P		P	22 29 58.4 +0.7
	SNR=15						
VSU	Vasula	67.28	327	diP		P	22 29 56.7 -0.5
GNI	Garni	67.36	304	diP		P	22 29 58.7 +0.7
GNI				pmax		pmax	
	comp=Z,41nm,1.0s						
GNI	Garni	67.36	304	eP		P	22 29 58.8 +0.8
	comp=Z,40nm,0.9s,mb5.2						
GNI	Garni	67.36	304	P		P	22 29 58.7 +0.7
	SNR=13						
GNI	Garni	67.36	304	P		P	22 29 58.7 +0.7
	SNR=13						
BSY	Bisya	67.44	282	P		P	22 29 59.4 +0.6
	SNR=16						
BSY	Bisya	67.44	282	P		P	22 29 59.4 +0.6
	SNR=16						
FORT	Forrest	68.61	187	eP		P	22 30 04.1 -1.6
	comp=Z,32nm,0.7s,mb5.2						
SOC	Sochi	68.76	309	diP		P	22 30 03.9 -2.7
SOC				e			22 30 28.5
SOC				e*PP		pP	22 31 26.1 -0.6
SOC				e			22 32 43.7
SOC				ePPP			22 34 24.3
SOC				eS		S	22 38 37.8 -2.0
SOC				e			22 39 31.0
SOC				eSS		SS	22 43 11.0 -1.2
SOC				eSSS			22 46 28.7
SOC				pmax		pmax	
	comp=Z,41nm,0.8s,mb5.2						
SOC				pmax		pmax	
	comp=Z,153nm,1.6s,mb5.5						
C03A	Quillayute Air	68.90	45	⇓P		P	22 30 08.6 +1.3
	baz=69						
TVAN	Van	69.09	303	eP		P	22 30 09.1 +0.4
MNK	Minsk	69.11	323	eP		P	22 30 07.0 -1.5
OBC	Olympics--Boni	69.13	45	P		P	22 30 09.8 +1.1
PGC	Sidney	69.14	44	eP		P	22 30 09.3 +0.5
HOMI	Horasan	69.27	305	⇓iP		P	22 30 10.3 +0.5
B04A	Port Angeles	69.44	45	⇓P		P	22 30 11.2 +0.6
	baz=69						
OSD	Olympics--Snow	69.46	45	P		P	22 30 12.0 +1.2
ANN	Anapa	69.48	311	eP		P	22 30 07.9 -3.1
STKA	Stephens Creek	69.60	174	eP		P	22 30 12.9 +1.3
	comp=Z,3.5nm,1.1s,mb4.0						
STKA	Stephens Creek	69.60	174	P		P	22 30 12.9 +1.3
	comp=Z,2.8nm,0.8s,mb4.1,baz=16,slow=20,SNR=7.4						
NLWA	Neilton Lookou	69.60	45	eP		P	22 30 12.6 +0.9
NLWA	Neilton Lookou	69.60	45	⇓P		P	22 30 12.5 +0.9
	baz=69,SNR=10						
A05A	Maple Falls	69.69	43	⇓P		P	22 30 12.0 -0.1
	baz=69,SNR=9.9						
ERZM	Erzurum	69.69	305	⇑iP		P	22 30 13.4 +1.1
D03A	Wishkah Elem.	69.81	46	⇓P		P	22 30 14.1 +1.2
	baz=70						
C04A	Brinnon	69.92	45	P		P	22 30 14.5 +1.0
	baz=70,SNR=5.7						
GNW	Green Mountain	70.09	45	eP		P	22 30 15.6 +1.0
B05A	Bryant	70.10	44	P		P	22 30 14.9 +0.3
	baz=70,SNR=16						
E03A	Lebam	70.25	46	⇓P		P	22 30 16.4 +0.8
	baz=70,SNR=7.5						
B06A	Marblemount	70.29	43	⇓P		P	22 30 15.7 0.0
	baz=70,SNR=11						
D04A	Dobbs Creek Ra	70.36	45	⇑P		P	22 30 17.4 +1.2
	baz=70,SNR=5.2						
MSL	Mosul	70.50	301	ex		x	22 30 18.0
MSL				ex		x	22 39 03.0
A07A	Ashnola River,	70.58	43	P		P	22 30 17.4 -0.1
	baz=70,SNR=21						
C05A	Tolt Reservoir	70.65	44	⇑P		P	22 30 18.4 +0.5
	baz=70,SNR=24						
AKASG	Malin Array Be	70.68	320	iP		P	22 30 17.2 -0.8
AKASG				pmax		pmax	
	comp=Z,11nm,0.5s						
AKASG	Malin Array Be	70.68	320	P		P	22 30 17.3 -0.8
AKASG	Malin Array Be	70.68	320	P		P	22 30 17.3 -0.8
	comp=Z,11nm,0.5s,mb4.9,baz=50,slow=6.5,SNR=65						
AKBB	Malin Array Si	70.68	320	eP		P	22 30 17.5 -0.5
KIEV	Kiev	70.69	320	eP		P	22 30 17.2 -0.9
KIEV				pmax		pmax	
	comp=Z,19nm,0.6s,mb5.0						
KIEV	Kiev	70.69	320	eP		P	22 30 17.2 -0.9
	comp=Z,19nm,0.6s,mb5.0						
E04A	Onalaska	70.70	46	⇓P		P	22 30 19.6 +1.3
	baz=70						
D05A	Enumclaw	70.77	45	⇓P		P	22 30 19.7 +1.1
	baz=70,SNR=17						
UMR	Umm Al-Rimmam	70.91	293	eP		P	22 30 18.9 -0.9
UMR				AMb		AMB	22 30 19.8
	comp=Z,111nm,0.4s,mb6.0						
KLBR	Kellerberrin	71.02	196	eP		P	22 30 20.3 +0.1
	comp=Z,23nm,0.9s,mb4.9						
MIB	Mutribah	71.04	293	eP		P	22 30 19.6 -1.0
MIB				AMb		AMB	22 30 21.0
	comp=Z,185nm,0.6s,mb6.0						
B07A	Winthrop	71.06	43	⇓P		P	22 30 20.2 -0.1
	baz=71,SNR=17						
G03A	Yamhill	71.11	47	⇓P		P	22 30 20.7 0.0
	baz=71						
GRSN	GIRESUNGRSN	71.11	307	⇓iP		P	22 30 20.0 -0.8
LON	Longmire	71.13	45	eP		P	22 30 20.8 0.0
A08A	Turner Farm, O	71.22	42	P		P	22 30 21.3 0.0
	baz=71,SNR=16						
F04A	Amboy	71.25	46	⇑P		P	22 30 21.7 +0.2
	baz=71,SNR=11						
BHD	Baghdad	71.26	298	ex		x	22 30 18.0
BHD				ex		x	22 39 03.0
E05A	Randle	71.26	45	⇑⇑P		P	22 30 21.6 0.0
	baz=71,SNR=7.6						
SIM	Simferopol'	71.36	313	deP		P	22 30 21.2 -1.0
SIM				eS		S	22 39 07.8 -1.8
SIM				pmax		pmax	
	comp=Z,43nm,1.0s,mb5.1						
RDF	Al-Radifah	71.37	292	eP		P	22 30 21.8 -0.7
RDF				AMb		AMB	22 30 23.2
	comp=Z,307nm,0.6s,mb6.2						
D06A	Cle Elum	71.41	44	⇑P		P	22 30 23.1 +0.7
	baz=71,SNR=5.9						
NAY	Al-Naaiem	71.42	293	eP		P	22 30 21.8 -1.0
NAY				AMb		AMB	22 30 23.2
	comp=Z,115nm,0.6s,mb5.8						
H03A	Soap Creek Ran	71.47	48	⇓P		P	22 30 23.9 +1.0
	baz=71,SNR=8.2						
MARD	Mardin	71.49	303	⇓iP		P	22 30 23.3 +0.1
COR	Corvallis	71.52	48	eP		P	22 30 24.8 +1.7
NB2	NORSAR Subarra	71.52	335	P		P	22 30 21.9 -0.9
	comp=Z,10nm,0.8s,mb4.6,baz=44,slow=6.2						
NOA	NORSAR Array B	71.52	335	P		P	22 30 22.2 -0.6
	comp=Z,8.8nm,0.7s,mb4.6,baz=42,slow=6.0,SNR=34						
B08A	Colville Reser	71.55	43	P		P	22 30 23.1 -0.1
	baz=71,SNR=26						
C07A	Waterville	71.55	44	P		P	22 30 23.0 -0.3
	baz=71,SNR=23						
SUW	Suwalki	71.57	325	eP		P	22 30 22.8 -0.5
SUW	Suwalki	71.57	325	eP		P	22 30 22.8 -0.5
A09A	Danville	71.58	42	P		P	22 30 23.6 +0.2
	baz=71,SNR=34						
EDM	Edmonton	71.58	36	eP		P	22 30 23.0 -0.3
G04A	Mulino	71.64	47	⇑P		P	22 30 24.5 +0.6
	baz=71,SNR=6.5						
E06A	Yakima	71.71	45	⇑P		P	22 30 24.5 +0.3
	baz=71,SNR=16						
EBG	Ellensburg	71.73	44	P		P	22 30 24.7 +0.4
F05A	White Salmon	71.83	46	⇑P		P	22 30 25.7 +0.8
	baz=72						
K01A	Sixes	71.84	50	⇓P		P	22 30 26.1 +1.0
	baz=72						
I03A	Eugene	71.89	48	P		P	22 30 26.4 +1.1
	baz=72,SNR=8.0						
D07A	Quincy	71.89	44	P		P	22 30 25.2 -0.1
	baz=72,SNR=14						
KEBM	Edson Butte	71.89	50	eP		P	22 30 26.8 +1.5
EPH	Ephrata	72.00	44	P		P	22 30 25.7 -0.2
C08A	Higginbotham F	72.04	43	P		P	22 30 26.1 -0.1
	baz=72,SNR=15						
HOOD	Mount Hood Mea	72.05	46	eP		P	22 30 27.3 +1.0
J02A	Umpqua	72.06	49	⇑P		P	22 30 27.3 +0.9
	baz=72,SNR=9.2						
H04A	Detroit Lake	72.11	47	P		P	22 30 26.9 +0.2
	baz=72,SNR=14						
A10A	Northport	72.11	41	⇑P		P	22 30 27.1 +0.5
	baz=72						
B09A	Rice	72.14	42	P		P	22 30 27.0 +0.3
	baz=72,SNR=30						
F06A	Goldendale	72.28	46	⇓P		P	22 30 28.3 +0.7
	baz=72,SNR=6.2						
G05A	Wamic	72.28	46	⇓P		P	22 30 28.5 +0.9
	baz=72,SNR=6.7						
E07A	Sunnyside	72.33	44	⇑P		P	22 30 28.5 +0.7
	baz=72						
J03A	Ideyld Park	72.42	49	⇓P		P	22 30 29.2 +0.8
	baz=72,SNR=6.5						
NWAO	Narrogin (SRO)	72.42	196	P		P	22 30 29.2 +0.8
C09A	Chrisman Ranch	72.45	43	P		P	22 30 28.7 +0.1
	baz=72,SNR=28						
K02A	Glendale	72.46	49	⇑P		P	22 30 29.4 +0.7
	baz=72,SNR=8.2						
OD2	Odessa Site #2	72.46	43	P		P	22 30 28.6 -0.1
MALT	Malatya	72.48	305	eP		P	22 30 29.6 +0.7
MALT	Malatya	72.48	305	⇑iP		P	22 30 30.1 +1.2
I04A	Tendick Farm,	72.50	48	⇓P		P	22 30 29.2 +0.3
	baz=72,SNR=22						
D08A	Wollman Farm,	72.55	44	P		P	22 30 29.1 0.0
	baz=72,SNR=21						
WRD	Warden	72.58	44	P		P	22 30 28.9 -0.4
HAWA	Hanford	72.61	44	eP		P	22 30 29.7 +0.2
	comp=Z,37nm,0.8s,mb5.2						
G06A	Carlson Farm,	72.68	46	⇓P		P	22 30 30.3 +0.4
	baz=72,SNR=13						
RBK	Rabkut	72.68	279	P		P	22 30 30.3 -0.1
	SNR=8.0						
RBK	Rabkut	72.68	279	P		P	22 30 30.3 -0.1
	SNR=8.0						
F07A	Phinny Hill Vi	72.68	45	⇓P		P	22 30 30.6 +0.6
	baz=72,SNR=9.5						
H05A	Madras	72.69	47	⇑P		P	22 30 30.6 +0.6
	baz=72,SNR=7.2						
L02A	Cave Junction	72.74	50	⇑P		P	22 30 31.3 +0.9
	baz=72						
A11A	Hall Mountain,	72.75	41	P		P	22 30 31.0 +0.7
	baz=72,SNR=38						
NEW	Newport	72.78	42	eP		P	22 30 30.4 -0.1
NEW				pmax		pmax	
	comp=Z,34nm,0.8s						
NEW	Newport	72.78	42	eP		P	22 30 30.4 -0.1
	comp=Z,34nm,0.8s,mb5.1						
WHFO	Wadi Hawf	72.78	280	P		P	22 30 30.4 -0.6
	SNR=11						
WHFO	Wadi Hawf	72.78	280	P		P	22 30 30.4 -0.6
	SNR=11						
E08A	Dider Farm, El	72.81	44	⇑P		P	22 30 31.1 +0.4
	baz=72,SNR=9.8						
HUMO	Hull Mountain	72.87	49

baz=73,SNR=15
H07A **Lands Inn, Kim** 73.67 46 ⇑P P 22 30 36.2 +0.5
baz=73
I06A **Prineville** 73.69 47 ⇓P P 22 30 36.7 +0.9
baz=73,SNR=13
N02C **Big Bar** 73.70 51 P P 22 30 36.7 +0.7
baz=73,SNR=9.8
L04A **Klamath Falls** 73.76 49 ⇓P P 22 30 36.8 +0.6
baz=74
A13A **Flathead Natio** 73.77 40 ⇓P P 22 30 36.6 +0.4
baz=74
BALT **Daday** 73.78 310⇑*i*P P 22 30 37.3 +1.0
O01C **Eel River Cons** 73.78 52 ⇑P P 22 30 37.7 +1.3
baz=74,SNR=5.4
E10A **Myers Farm, Un** 73.88 43 P P 22 30 37.0 +0.2
baz=74,SNR=40
F09A **S2 Ranch, Elgi** 73.92 44 ⇓P P 22 30 37.6 +0.5
baz=74,SNR=6.7
WALA **Waterton Lakes** 73.94 40 *e*P P 22 30 37.3 +0.2
comp=Z,35nm,0.8s,mb5.1
D11A **Klaveano Farm,** 73.95 43 P P 22 30 37.0 -0.2
baz=74,SNR=49
I07A **Izee** 74.02 46 ⇓P P 22 30 38.1 +0.4
baz=74,SNR=17
K05A **Summer Lake** 74.03 48 ⇓P P 22 30 38.5 +0.7
baz=74,SNR=15
M04C **Macdoel** 74.03 49 P P 22 30 38.6 +0.8
baz=74,SNR=15
B13A **Whitefish** 74.10 41 ⇓P P 22 30 38.4 +0.3
baz=74,SNR=30
F10A **Beach Ranch, E** 74.13 44 ⇑P P 22 30 38.4 +0.1
baz=74,SNR=24
J06A **Christmas Vall** 74.14 47 ⇑P P 22 30 38.9 +0.5
baz=74,SNR=14
M03C **McCloud** 74.16 50 ⇑P P 22 30 39.1 +0.5
baz=74,SNR=15
KCPM **Cahto Peak** 74.20 52 *e*P P 22 30 39.4 +0.6
H08A **Prairie City** 74.22 46 ⇓P P 22 30 39.2 +0.4
baz=74,SNR=17
G09A **Cove** 74.26 45 P P 22 30 39.2 +0.2
baz=74,SNR=22
CDAG **Cicekdag** 74.30 308⇓*i*P P 22 30 37.4 -2.0
WDC **Whiskeytown Da** 74.31 51 *e*P P 22 30 39.7 +0.2
WDC **Whiskeytown Da** 74.31 51 P P 22 30 39.8 +0.4
baz=74,SNR=18
K06A **Valley Falls** 74.36 48 ⇑P P 22 30 40.1 +0.4
baz=74,SNR=10
BSD **Bornholm Skovb** 74.40 329⇓*i*P P 22 30 38.8 -0.8
BSD pmax pmax
comp=Z,22nm,0.8s,mb4.9
BSD **Bornholm Skovb** 74.40 329⇓*i*P P 22 30 38.8 -0.8
comp=Z,22nm,0.8s,mb4.9
O02C **Red Bluff** 74.40 51 ⇓P P 22 30 40.7 +0.7
baz=74,SNR=29
E11A **Bogner Ranch,** 74.45 43 ⇓P P 22 30 39.9 -0.3
baz=74,SNR=26
L05A **Lakeview** 74.47 49 ⇑P P 22 30 41.1 +0.7
baz=74,SNR=5.4
D12A **Red Ives Fores** 74.47 42 ⇑P P 22 30 40.2 0.0
baz=74
P01C **Double 8 Ranch** 74.48 52 ⇑P P 22 30 40.9 +0.5
baz=74
C13A **Hot Springs** 74.48 41 P P 22 30 40.8 +0.5
baz=74,SNR=68
J07A **Hines** 74.56 47 ⇑P P 22 30 41.5 +0.8
baz=74
G10A **Bishop Farm, J** 74.61 44 ⇓P P 22 30 41.2 +0.1
baz=74,SNR=45
KWP **Kalwaria** 74.62 322 *e*P P 22 30 41.2 +0.2
KWP **Kalwaria** 74.62 322 *e*P P 22 30 41.2 +0.2
KWP **Kalwaria** 74.62 322⇑*i*P P 22 30 41.5 +0.5
BURAR **Bucovina Array** 74.65 319⇓*i*P P 22 30 41.6 +0.3
I08A **Drewsey** 74.65 46 ⇑P P 22 30 41.9 +0.5
baz=74,SNR=29
M05C **Lookout** 74.69 49 ⇓P P 22 30 42.0 +0.4
baz=74,SNR=9.3
H09A **Durkee** 74.70 45 ⇑P P 22 30 42.0 +0.4
baz=74,SNR=18
GKP **Gorka Klasztor** 74.71 327 *e*P P 22 30 41.3 -0.1
GKP **Gorka Klasztor** 74.71 327 *e*P P 22 30 41.3 -0.2
GASB **Alder Springs** 74.76 52 ⇓P P 22 30 43.2 +1.2
baz=74,SNR=25
F11A **Grangeville** 74.77 43 ⇑P P 22 30 41.7 -0.3
baz=74,SNR=51
BMO **Blue Mountains** 74.78 45 *e*P P 22 30 42.2 +0.2
HATC **Hat Creek Radi** 74.83 50 ⇓P P 22 30 42.9 +0.5
baz=75,SNR=12
C14A **Swan Lake** 74.86 41 ⇑P P 22 30 42.7 +0.3
baz=74
MOD **Modoc** 74.87 49 *e*P P 22 30 43.3 +0.7
MOD **Modoc** 74.87 49 ⇓P P 22 30 42.9 +0.3
baz=75,SNR=8.3
D13A **Huson** 74.92 42 ⇓P P 22 30 42.3 -0.5
baz=75,SNR=33
HOPS **Hopland** 74.93 52 ⇓P P 22 30 43.2 +0.3
baz=75
VRI **Vrincioaia** 74.96 317 P P 22 30 44.5 +1.4
VRI **Vrincioaia** 74.96 317⇑*i*P P 22 30 44.0 +1.0
O03C **Acorn Hollow,** 74.97 51 ⇑P P 22 30 43.7 +0.5
baz=75
COP **Copenhagen** 74.97 331 *e*P P 22 30 42.3 -0.6
COP pmax pmax
comp=Z,12nm,0.8s,mb4.7
COP **Copenhagen** 74.97 331 *i*P P 22 30 42.3 -0.6
comp=Z,12nm,0.8s,mb4.7
PLOR **Plostina** 75.01 317⇑*i*P P 22 30 44.2 +0.9
K07A **Rock Creek Ran** 75.01 47 ⇑P P 22 30 44.0 +0.6
baz=75,SNR=34
G11A **Walters Elk Ra** 75.02 44 ⇓P P 22 30 42.9 -0.5
baz=75,SNR=72
HARR **Harsova** 75.03 315⇑*i*P P 22 30 44.2 +0.7
J08A **Circle Bar Ran** 75.05 47 ⇑P P 22 30 44.1 +0.5
baz=75,SNR=31
I09A **Lost Marbles R** 75.09 46 ⇓P P 22 30 44.2 +0.4
baz=75,SNR=12
ANTO **Ankara** 75.13 309 P P 22 30 45.3 +1.1
SNR=11
ANTO **Ankara** 75.13 309 P P 22 30 45.3 +1.1
SNR=11
ANTO **Ankara** 75.13 309⇑*i*P P 22 30 45.1 +1.0
M06C **Likely Place G** 75.19 49 ⇓P P 22 30 45.0 +0.6
baz=75,SNR=6.0
H10A **Noah's Angus R** 75.26 45 ⇑P P 22 30 44.6 -0.2
baz=75,SNR=56
FCC **Fort Churchill** 75.31 24 *e*P P 22 30 44.1 -0.6
FCC pmax pmax
comp=Z,64nm,0.9s,mb5.3
FCC **Fort Churchill** 75.31 24 *e*P P 22 30 44.1 -0.6
comp=Z,64nm,0.9s,mb5.3
F12A **Elk City** 75.34 43 P P 22 30 45.4 +0.2
baz=75,SNR=137
MSO **Missoula** 75.36 42 *e*P P 22 30 45.0 -0.2
MSO *e* pP 22 32 08.7 +1.7
O04C **Chester** 75.36 50 ⇓P P 22 30 46.1 +0.7
baz=75,SNR=14
L07A **Adell** 75.37 48 P P 22 30 46.2 +0.8
baz=75,SNR=34
SFJD **Kangerlussuaq** 75.38 2⇑*i*P P 22 30 44.8 -0.2
SFJD pmax pmax
comp=Z,45nm,1.0s,mb5.2
SFJD **Kangerlussuaq** 75.38 2 *e*P P 22 30 44.6 -0.4
comp=Z,68nm,1.3s,mb5.2
SFJD **Kangerlussuaq** 75.38 2⇑*i*P P 22 30 44.8 -0.2
comp=Z,45nm,1.0s,mb5.2
MNRC **McLaughlin Nat** 75.39 52 ⇑P P 22 30 46.4 +0.8
baz=75,SNR=11
D14A **Greenough** 75.42 41 ⇓P P 22 30 45.3 -0.3
baz=75,SNR=55
K08A **Mann Creek Ran** 75.43 47 P P 22 30 46.4 +0.6
baz=75,SNR=41
J09A **Fry Pan Ranch,** 75.47 46 ⇑P P 22 30 46.5 +0.5
baz=75,SNR=53
E13A **Victor** 75.48 42 ⇓P P 22 30 45.2 -0.7
baz=75,SNR=10
STHS **Stebnicka Huta** 75.48 322 *e*P P 22 30 46.5 +0.6
STHS pmax pmax
comp=Z,7.0nm,0.7s,mb4.5
STHS **Stebnicka Huta** 75.48 322 *e*P P 22 30 46.5 +0.6
comp=Z,6.7nm,0.7s,mb4.5
UZH **Uzhgorod** 75.48 321⇑*i*P P 22 30 45.2 -0.7
FFC **Flin Flon** 75.50 30 P P 22 30 45.8 -0.1
comp=Z,483nm,0.7s,mb6.3,SNR=23
FFC **Flin Flon** 75.50 30 *e*P P 22 30 45.2 -0.7
FFC *e* pP 22 32 08.7 +1.0
FFC pmax pmax
comp=Z,72nm,0.9s,mb5.4
FFC **Flin Flon** 75.50 30 *e*P P 22 30 45.2 -0.7
comp=Z,72nm,0.9s,mb5.4
FFC *e* pP 22 32 08.7 +1.0
WVOR **Wild Horse Val** 75.53 47 P P 22 30 46.7 +0.4
I10A **Payette** 75.55 45 ⇑P P 22 30 46.8 +0.4
baz=75,SNR=12
ORV **Oroville** 75.57 51 ⇓P P 22 30 46.2 -0.4
baz=75,SNR=25
SUTB **Sutter Butte** 75.59 51 ⇑P P 22 30 46.0 -0.7
baz=75,SNR=8.8
H11A **Donnelly** 75.60 44 ⇑P P 22 30 46.2 -0.5
baz=75,SNR=28
MLR **Muntele Rosu** 75.62 317⇑*i*P P 22 30 47.0 +0.2
MUD **Monsted U'grnd** 75.64 332 *e*P P 22 30 46.1 -0.5
MUD pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
MUD **Monsted U'grnd** 75.64 332 *i*P P 22 30 46.1 -0.5
comp=Z,9.8nm,1.0s,mb4.5
OJC **Ojcow** 75.64 323 *e*P P 22 30 46.9 +0.2
CHMT **Chamberlain Mo** 75.66 41 *e*P P 22 30 46.6 -0.3
O05C **Quincy** 75.68 50 ⇓P P 22 30 47.4 +0.2
baz=75,SNR=15
TRPA **Tarpa** 75.69 320⇓*i*P P 22 30 47.6 +0.5
CVS **Carmenet Viney** 75.70 53 ⇑P P 22 30 47.4 0.0
baz=75,SNR=5.3
OHCM **Honcut** 75.71 51 *e*P P 22 30 47.1 -0.3
CRVS **Cervenica-Dubn** 75.72 322 *e*P P 22 30 47.1 -0.1
Q03C **Winters** 75.81 52 ⇑P P 22 30 49.0 +1.1
baz=76,SNR=8.1
L08A **Fields** 75.85 47 ⇑P P 22 30 48.6 +0.5
baz=76,SNR=21
N06A **Buffalo Meadow** 75.85 49 ⇓P P 22 30 48.6 +0.4
baz=76,SNR=23
M07A **Soldier Meadow** 75.86 48 ⇑P P 22 30 48.8 +0.6
baz=76,SNR=10
E14A **Clinton** 75.86 42 ⇑P P 22 30 47.8 -0.3
baz=76,SNR=25
K09A **Rome** 75.89 47 ⇑P P 22 30 48.6 +0.3
baz=76,SNR=37
NIE **Niedzica** 75.93 322 *e*P P 22 30 49.1 +0.7
D15A **Lincoln** 75.96 41 ⇓P P 22 30 48.5 -0.1
baz=76,SNR=16
J10A **Berg Farm, Mel** 75.98 46 ⇓P P 22 30 48.7 -0.1
baz=76
BEKR **Beckwourth** 76.08 50 ⇓P P 22 30 49.5 +0.1
baz=76,SNR=27
Q04C **Lincoln** 76.08 52 ⇓P P 22 30 49.3 -0.2
baz=76
I11A **Placerville** 76.13 45 ⇑P P 22 30 49.5 -0.1
baz=76,SNR=17
O06A **Flanigan** 76.22 50 ⇓P P 22 30 50.6 +0.4
baz=76,SNR=33
P05C **Yuba Gap, Truc** 76.27 51 ⇓P P 22 30 50.7 +0.2
baz=76,SNR=15
M08A **Happy Creek Ra** 76.29 48 ⇑P P 22 30 51.3 +0.7
baz=76,SNR=11
E15A **Deer Lodge** 76.30 41 ⇑P P 22 30 50.5 0.0
baz=76,SNR=31
BDM **Black Diamond** 76.31 53 ⇓P P 22 30 51.0 +0.3
baz=76
F14A **Wisdom** 76.32 42 ⇑P P 22 30 50.5 -0.1
baz=76,SNR=12
G13A **Cobalt** 76.32 43 ⇑P P 22 30 49.8 -0.8
baz=76,SNR=24
K10A **MacKenzie Ranc** 76.33 46 P P 22 30 51.4 +0.6
baz=76,SNR=42
H12A **Diamond D Ranc** 76.33 44 ⇑P P 22 30 50.8 +0.1
baz=76,SNR=94
L09A **Wilkinson Ranc** 76.35 47 ⇑P P 22 30 51.5 +0.6
baz=76,SNR=15
N07B **Gerlach** 76.35 49 ⇓P P 22 30 51.6 +0.6
baz=76,SNR=7.5
JRSC **Jasper Ridge** 76.41 53 ⇑P P 22 30 50.9 -0.4
baz=76
P06A **Stead Airport,** 76.47 50 ⇓P P 22 30 52.2 +0.6
baz=76,SNR=5.2
DRGR 76.49 319 P P 22 30 52.0 +0.4
DRGR 76.49 319⇑*i*P P 22 30 51.8 +0.2
MFID **Camas Ranch** 76.52 45 P P 22 30 52.3 +0.5
baz=76,SNR=48
LAVA **Lava Cap Winer** 76.52 51 ⇓P P 22 30 51.9 0.0
baz=76,SNR=27
ESKT **Eskisehir** 76.53 310⇑*i*P P 22 30 51.9 -0.1
HRY **Holter Researc** 76.53 41 *e*P P 22 30 52.1 +0.2
WENL **Wente Brothers** 76.58 53 ⇑P P 22 30 52.0 -0.2
baz=76
BNLO **Ben Lomond (Sa** 76.61 53 ⇓P P 22 30 52.4 0.0
baz=76
H13A **Challis** 76.65 44 P P 22 30 52.4 -0.2
baz=76,SNR=40
OKC **Ostrava-Krasne** 76.67 324 *e*P P 22 30 52.9 +0.3
R04C **Big Horse Ranc** 76.70 52 ⇓P P 22 30 52.7 -0.3
baz=76
EGMT **Eagleton** 76.71 39 *e*P P 22 30 52.8 0.0
EGMT **Eagleton** 76.71 39 ⇓P P 22 30 52.7 -0.1
baz=76
F15A **Butte** 76.76 42 P P 22 30 53.5 +0.4
baz=76,SNR=55
PAHR **Pah Rah Range** 76.77 50 *e*P P 22 30 53.7 +0.4
comp=Z,61nm,0.9s,mb5.3
O07A **Toulon** 76.79 49 ⇑P P 22 30 54.1 +0.7
baz=76,SNR=22
WCN **Washoe City** 76.79 50 ⇑P P 22 30 54.0 +0.5
baz=76
LRM **Limekiln Ridge** 76.80 42 *e*P P 22 30 53.7 +0.4
K11A **Parker Ranch,** 76.81 46 ⇑P P 22 30 53.7 +0.3
baz=76,SNR=20
KSP **Ksiaz** 76.82 325 *e*P P 22 30 53.7 +0.3
KSP **Ksiaz** 76.82 325 *e*P P 22 30 53.4 0.0
M09A **Marrel Ranch,** 76.85 48 ⇑P P 22 30 54.4 +0.8
baz=77,SNR=8.6
N08A **GE Springer Mi** 76.85 48 ⇑P P 22 30 54.3 +0.6
baz=77,SNR=24
S04C **Ingram Canyon,** 76.92 53 ⇓P P 22 30 54.2 0.0
baz=77
R05C **Kirkwood Meado** 76.96 51 ⇑P P 22 30 54.7 +0.3
baz=77,SNR=9.3
MORC **Moravsky Berou** 77.00 324 *e*P P 22 30 54.4 +0.1
MORC **Moravsky Berou** 77.00 324⇑*i*P P 22 30 54.8 +0.5
L10A **Juniper Basin** 77.00 47 ⇓P P 22 30 55.2 +0.6
baz=77,SNR=45
DLMT **Dillon** 77.02 42 *e*P P 22 30 55.0 +0.5
J12A **Stokes Ranch,** 77.03 45 ⇑P P 22 30 55.0 +0.3
baz=77,SNR=21
BSEG **Bad Segeberg** 77.09 330 *e*P P 22 30 54.8 0.0
comp=Z,19nm,1.4s,mb4.6
I13A **Wildhorse Cree** 77.15 44 ⇑P P 22 30 56.0 +0.8
baz=77,SNR=131
PSZ **Piszkesteto** 77.15 322 *e*P P 22 30 55.8 +0.6
PSZ **Piszkesteto** 77.15 322⇑*i*P P 22 30 55.7 +0.5
DPC **Dobruska-Polom** 77.16 325 *e*P P 22 30 55.7 +0.5
N09A **Rock Creek Ran** 77.16 48 ⇓P P 22 30 56.1 +0.7
baz=77,SNR=9.7
P07A **Fallon** 77.17 50 ⇓P P 22 30 56.3 +0.9
baz=77
CMB **Columbia Colle** 77.18 52 *e*P P 22 30 55.8 +0.2
CMB *e* pP 22 32 15.3 -2.5
CMB **Columbia Colle** 77.18 52 ⇓P P 22 30 55.8 +0.2
baz=77,SNR=51
UPC **Upice** 77.19 325 *e*P P 22 30 55.8 +0.4
G15A **Dillon** 77.21 42 ⇑P P 22 30 55.9 +0.3
baz=77,SNR=109
HLID **Hailey** 77.21 44 ⇓P P 22 30 56.3 +0.7
baz=77,SNR=49
MCMT **McKenzie Canyo** 77.24 43 *e*P P 22 30 56.0 +0.2
PACP **Pacheco Peak** 77.25 53 ⇓P P 22 30 56.4 +0.4
baz=77,SNR=8.5
VYHS **Vyhne** 77.27 322 *e*P P 22 30 56.0 +0.1
VYHS pmax pmax
comp=Z,9.0nm,1.2s,mb4.4
VYHS **Vyhne** 77.27 322 *e*P P 22 30 56.0 +0.1
comp=Z,9.4nm,1.2s,mb4.4
SAO **San Andreas Ge** 77.30 53 *e*P P 22 30 55.8 -0.5
SAO pmax pmax
comp=Z,169nm,1.2s,mb5.7
SAO **San Andreas Ge** 77.30 53 *e*P P 22 30 55.8 -0.4
comp=Z,169nm,1.2s,mb5.7
M10A **I.L. Ranch, Tu** 77.31 47 ⇑P P 22 30 57.2 +0.9
baz=77,SNR=40
BOZ **Bozeman (W)** 77.34 41 *e*P P 22 30 56.7 +0.4
BOZ *e* pP 22 32 21.1 +2.5
BOZ pmax pmax
comp=Z,43nm,0.8s,mb5.2
BOZ **Bozeman (W)** 77.34 41 *e*P P 22 30 56.7 +0.3
comp=Z,43nm,0.8s,mb5.2
BOZ *e* pP 22 32 21.1 +2.5
BOZ **Bozeman (W)** 77.34 41 ⇓P P 22 30 56.8 +0.4
baz=77
L11A **Cat Creek Ranc** 77.36 46 ⇑P P 22 30 57.3 +0.8
baz=77,SNR=66
GZR **Gura Zlata** 77.38 318⇑*i*P P 22 30 56.7 +0.2
KOLL **Kolacno** 77.42 323 *e*P P 22 30 57.3 +0.6
J13A **Cove Ranch, Pi** 77.45 44 ⇑P P 22 30 57.8 +0.9
baz=77,SNR=69
HAST **Hastings Reser** 77.46 54 ⇑P P 22 30 57.3 +0.1
baz=77,SNR=7.7
R06C **Coleville** 77.46 51 ⇑P P 22 30 57.8 +0.7
baz=77,SNR=19
WAKR **Walker** 77.48 51 *e*P P 22 30 57.9 +0.7
K12A **Draper Farm, C** 77.54 45 ⇑P P 22 30 57.8 +0.4
baz=77,SNR=29
P08A **Dixie Valley** 77.56 49 ⇑P P 22 30 58.6 +0.9
baz=77
BMN **Battle Mountai** 77.61 48 *e*P P 22 30 58.7 +0.8
BMN pmax pmax
comp=Z,37nm,0.9s,mb5.1
BMN **Battle Mountai** 77.61 48 *e*P P 22 30 58.7 +0.9
comp=Z,37nm,0.9s,mb5.1
S06C **San Francisco** 77.61 52 ⇑P P 22 30 58.0 +0.1
baz=77,SNR=11
S05C **Merced** 77.64 52 ⇓P P 22 30 58.0 -0.1
baz=77,SNR=14
T05C **Eagle Field, D** 77.71 53 ⇑P P 22 30 59.2 +0.7
baz=78
CSS **Prodhromos** 77.76 305 *e*P P 22 30 58.8 0.0
comp=Z,14nm,0.7s,mb4.8
VRAC **Vranov** 77.77 324 P P 22 30 59.3 +0.7
VRAC **Vranov** 77.77 324⇑*i*P P 22 30 59.0 +0.4
L12A **House Creek Ra** 77.79 46 ⇑P P 22 30 59.7 +0.8
baz=78,SNR=48
O09A **Fish Creek Ran** 77.79 48 P P 22 30 59.8 +0.9
baz=78,SNR=19
M11A **Holland Ranch,** 77.81 47 ⇓P P 22 31 00.1 +1.2
baz=78,SNR=27
PVCC **Panska Ves** 77.82 326 *e*P P 22 30 59.2 +0.4
BZS **Buzias** 77.84 319 P P 22 30 58.9 -0.1
BZS **Buzias** 77.84 319⇑*i*P P 22 30 58.8 -0.2
N10A **Dunphy** 77.84 48 ⇓P P 22 31 00.1 +0.9
baz=78
BRG **Berggiesshubel** 77.84 326 *i*P P 22 30 59.1 +0.1
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
BRG **Berggiesshubel** 77.84 326 *e*P P 22 30 59.0 0.0
comp=Z,9.0nm,1.0s,mb4.5
BRG **Berggiesshubel** 77.84 326 *i*P P 22 30 59.1 +0.2
comp=Z,9.5nm,1.1s,mb4.4
V03C **Hunter Liggett** 77.89 54 ⇑P P 22 31 00.5 +1.0
baz=78
CLL **Collm** 77.94 327⇓*i*P P 22 30 59.2 -0.3
CLL *e* 22 31 05.0
CLL pmax pmax
comp=Z,27nm,1.0s,mb4.9
CLL **Collm** 77.94 327 *e*P P 22 30 59.1 -0.4
comp=Z,27nm,1.0s,mb4.9
CLL **Collm** 77.94 327⇓*i*P P 22 30 59.2 -0.3
comp=Z,27nm,1.0s,mb4.9
CLL *ex* x 22 31 03.0
CLL *e*(PcP) PcP 22 31 05.0 -2.7
R07C **Lee Vining** 77.98 51 ⇓P P 22 31 00.9 +0.9
baz=78
K13A **Stover Farm, H** 77.99 45 ⇓P P 22 31 01.0 +1.1
baz=78,SNR=22
QLMT **Earthquake Lak** 77.99 42 *e*P P 22 31 00.9 +1.0
MODS **Modra-Piesok** 78.11 323 *e*P P 22 31 01.0 +0.6
O10A **Cortez Mining,** 78.12 48 ⇓P P 22 31 01.8 +1.1
baz=78,SNR=15
Q08A **Gabbs** 78.17 50 ⇑P P 22 31 01.5 +0.5
baz=78,SNR=20
P09A **Austin** 78.21 49 ⇑P P 22 31 01.9 +0.7
baz=78,SNR=9.9
NVAR **Mina Array Bea** 78.22 50 P P 22 31 02.0 +0.7
comp=Z,24nm,0.5s,mb5.2,baz=289,slow=4.9,SNR=102
NVAR pP pP 22 32 24.5 +0.8
comp=Z,1.7nm,0.7s,baz=310,slow=4.6,SNR=2.3
N11A **Elko Archery C** 78.23 47 ⇑P P 22 31 02.1 +0.9
baz=78,SNR=6.3
T06C **Millerton Lake** 78.24 52 ⇑P P 22 31 02.1 +0.7
baz=78,SNR=13
GCMT **Greycliff** 78.27 40 *e*P P 22 31 01.4 0.0
GCMT *e* pP 22 32 26.6 +2.8
KCC **Kaiser Creek** 78.29 52 ⇑P P 22 31 01.6 0.0
baz=78,SNR=12
TREC **Trest** 78.29 325 *e*P P 22 31 01.8 +0.4
ZST **Bratislava** 78.31 323 *e*P P 22 31 01.5 -0.1
ZST pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
ZST **Bratislava** 78.31 323 *e*P P 22 31 01.5 -0.1
comp=Z,5.3nm,0.7s,mb4.4
M12A **Wells** 78.32 46 ⇓P P 22 31 02.9 +1.1
baz=78,SNR=24
YMR **Madison River** 78.35 42 *e*P P 22 31 02.9 +1.0
comp=Z,87nm,1.3s,mb5.3
KDZ **Kurdzhali** 78.39 314 *i*P P 22 31 03.8 +1.7
MLAC **Mammoth Lakes** 78.40 51 ⇓P P 22 31 03.2 +1.0
baz=78
L13A **Double Diamond** 78.43 45 ⇓P P 22 31 03.3 +1.0
baz=78,SNR=16
YNR **Norris Junctio** 78.47 42 *e*P P 22 31 04.4 +1.9
K14A **Jones Ranch, D** 78.56 45 ⇑P P 22 31 03.9 +0.9
baz=78,SNR=33
YFT **Old Faithful** 78.56 42 *e*P P 22 31 05.8 +2.8
YFT *e* pP 22 32 29.3 +3.7
P10A **Eureka** 78.57 49 ⇑P P 22 31 03.8 +0.7
baz=78,SNR=8.3
N12A **Clover Valley,** 78.61 47 ⇓P P 22 31 04.2 +0.9
baz=78,SNR=25
CLZ **Clausthal** 78.64 329 *e*P P 22 31 03.0 -0.3
CLZ pmax pmax
comp=Z,17nm,1.2s,mb4.7
CLZ **Clausthal** 78.64 329 *e*P P 22 31 03.0 -0.3
comp=Z,17nm,1.2s,mb4.7
Q09A **Carvers** 78.64 49 ⇓P P 22 31 03.9 +0.4
baz=78,SNR=6.3
LKWY **Lake** 78.72 42 *e*P P 22 31 06.6 +2.8
O11A **Cowboy Ranch,** 78.72 48 ⇓P P 22 31 04.5 +0.5
baz=78,SNR=16
MTUM **Tungsten Hills** 78.74 51 *e*P P 22 31 05.0 +0.9
RZN **Rozhen** 78.76 314 *i*P P 22 31 04.6 +0.5
TANN **Tannenbergstha** 78.83 327 *e*P P 22 31 04.2 -0.1
comp=Z,7.0nm,1.2s,mb4.3
V05C **Boulder Hill,** 78.83 53 ⇑P P 22 31 05.2 +0.5
baz=79
HELL **Mitchell Peak** 78.88 52 ⇑P P 22 31 04.5 -0.4
baz=79,SNR=14
IMW **Indian Meadow** 78.88 42 *e*P P 22 31 05.0 +0.3
IMW *e* pP 22 32 29.9 +2.5
FLWY **Flagg Ranch** 78.88 42 *e*P P 22 31 06.2 +1.5
S08C **White Mtn Res** 78.89 51 ⇓P P 22 31 05.7 +0.8
baz=79,SNR=21
PKSM **Moragy** 78.95 321⇑*i*P P 22 31 04.7 -0.3
NKC **Novy Kostel** 78.97 327 *e*P P 22 31 05.4 +0.4
VTS **Vitosha** 79.01 316⇑*i*P P 22 31 06.0 +0.6
VTS **Vitosha** 79.01 316 *i*P P 22 31 05.6 +0.2
MOX **Moxa** 79.02 327 *e*P P 22 31 05.4 +0.1
comp=Z,19nm,1.7s,mb4.5
MOX **Moxa** 79.02 327 *e*P P 22 31 05.4 +0.1
MOX pmax pmax
comp=Z,19nm,1.7s,mb4.5
MOX **Moxa** 79.02 327 *e*P P 22 31 04.6 -0.7
comp=Z,16nm,1.5s,mb4.5
P11A **Circle Ranch,** 79.03 48 ⇑P P 22 31 06.3 +0.6
baz=79
DGMT **Dagmar** 79.06 36 *e*P P 22 31 05.4 -0.2
MOOW **Moose Ponds** 79.08 42 *e*P P 22 31 06.8 +1.0
comp=Z,78nm,1.2s,mb5.3
R09A **Tonopah** 79.09 50 P P 22 31 06.3 +0.4
baz=79,SNR=41
CONA **Conrad Observa** 79.09 323 *i*P P 22 31 06.8 +1.0
comp=Z,15nm,1.0s,mb4.7,SNR=9.8
N13A **Wendover, West** 79.09 46 ⇓P P 22 31 06.6 +0.7
baz=79,SNR=12
CSNA **Conrad Observa** 79.09 323⇑*i*P P 22 31 06.7 +1.0
comp=Z,14nm,1.0s,mb4.7
TPH **Tonopah** 79.10 50 *e*P P 22 31 06.6 +0.6
Q10A **Clear Creek Ra** 79.12 49 ⇓P P 22 31 06.6 +0.5
baz=79,SNR=25
TPAW **Teton Pass** 79.15 43 *e*P P 22 31 07.4 +1.3
comp=Z,55nm,0.9s,mb5.3
M14A **Sheep Mountain** 79.15 45 ⇑P P 22 31 06.8 +0.5
baz=79,SNR=14
O12A **Currie** 79.16 47 ⇑P P 22 31 07.0 +0.7
baz=79,SNR=30
LOHW **Long Hollow** 79.25 43 *e*P P 22 31 07.6 +0.9
comp=Z,36nm,1.1s,mb5.0

LOHW e pP 22 32 32.2 +2.8
SNOW Snow King Moun 79.27 43 eP P 22 31 08.3 +1.5
comp=Z,56nm,0.9s,mb5.3
SNOW e pP 22 32 32.7 +3.1
KHC Kasperske Hory 79.27 325 eP P 22 31 06.9 +0.2
KHC ePCP PcP 22 31 13.0 -0.6
KHC ePP PP 22 34 10.0 -1.6
REDW Red Top Meadow 79.29 43 eP P 22 31 07.7 +0.8
REDW e pP 22 32 32.9 +3.3
HVU Hansel Valley 79.29 45 eP P 22 31 08.0 +1.0
MANZ Manzenberg 79.30 327 eP P 22 31 06.9 +0.1
comp=Z,22nm,1.6s,mb4.6
S09A Goldfield 79.33 50 ⇑P P 22 31 07.6 +0.4
baz=79,SNR=27
IBBN Ibbenburen 79.34 330 eP P 22 31 06.7 -0.3
comp=Z,20nm,1.0s,mb4.8
VES Vestal, Richgr 79.37 53 ⇓P P 22 31 06.4 -1.1
baz=79,SNR=8.2
LAO LASA Array 79.37 38 eP P 22 31 07.4 +0.1
LAO e pP 22 32 32.7 +2.7
MMB Musomiste 79.38 315 i P P 22 31 08.0 +0.5
KDAG Bornova 79.41 311 ⇑i P P 22 31 07.5 -0.1
ROTZ Rotzenmuhle 79.41 327 eP P 22 31 07.7 +0.2
comp=Z,9.0nm,0.8s,mb4.5
GEC2 GERESS Array S 79.43 325 eP P 22 31 07.2 -0.3
GEC2 pmax pmax
comp=Z,11nm,1.2s,mb4.5
GEC2 GERESS Array S 79.43 325 eP P 22 31 07.2 -0.3
comp=Z,11nm,1.2s,mb4.5
GERES GERESS Array B 79.43 325 P P 22 31 07.4 -0.2
comp=Z,3.6nm,0.6s,mb4.2,baz=38,slow=5.2,SNR=42
PKM Peak Mountain 79.49 54 ⇑P P 22 31 09.0 +0.8
baz=79
R10A Warm Springs 79.52 49 ⇓P P 22 31 08.8 +0.5
baz=79,SNR=13
Q11A Duckwater 79.55 49 ⇑P P 22 31 08.9 +0.5
baz=79,SNR=15
AHID Auburn Hatcher 79.56 43 eP P 22 31 09.4 +1.1
comp=Z,28nm,0.8s,mb5.0
KKB Krupnik 79.56 315 i P P 22 31 09.2 +0.8
UBBA Unterbreizbach 79.57 328 eP P 22 31 07.8 -0.5
comp=Z,6.0nm,1.0s,mb4.3
WET Wettzell 79.58 326 eP P 22 31 08.2 -0.1
WET pmax pmax
comp=Z,13nm,1.4s,mb4.5
WET Wettzell 79.58 326 eP P 22 31 08.2 -0.1
comp=Z,13nm,1.4s,mb4.5
S10A Tonopah Range, 79.58 50 ⇓P P 22 31 09.2 +0.6
baz=79,SNR=41
P12A McGill 79.58 48 ⇑P P 22 31 09.2 +0.7
baz=79,SNR=44
N14A Grayback Hills 79.67 46 ⇑P P 22 31 09.7 +0.6
baz=79,SNR=47
M15A Larsen Ranch, 79.69 45 ⇓P P 22 31 09.5 +0.4
baz=79,SNR=52
O13A Hicks Ranch, I 79.69 47 ⇑P P 22 31 09.7 +0.6
baz=79,SNR=6.9
GRAC Grapevine Rang 79.70 51 ⇑P P 22 31 10.3 +1.1
baz=79,SNR=5.4
BGU Big Grassy Mou 79.71 46 eP P 22 31 09.4 +0.2
BGU e pP 22 32 29.6 -2.5
SPUT South Promonto 79.79 45 eP P 22 31 10.5 +0.9
MOA Molln 79.89 324 ⇑i P P 22 31 10.4 +0.3
comp=Z,16nm,1.4s,mb4.6,SNR=7.7
GRA1 Grafenberg Arr 79.90 327 eP P 22 31 10.4 +0.4
comp=Z,57nm,1.6s,mb5.0
GRA1 epP pP 22 32 39.8 +6.9
GRF Grafenberg Arr 79.90 327 eP P 22 31 10.4 +0.4
GRF pmax pmax
comp=Z,57nm,1.6s,mb5.0
GRF Grafenberg Arr 79.90 327 eP P 22 31 10.4 +0.4
GRF pmax pmax
comp=Z,57nm,1.6s,mb5.0
GRF Grafenberg Arr 79.90 327 eP P 22 31 10.4 +0.4
comp=Z,57nm,1.6s,mb5.0
GRF epP pP 22 32 39.8 +6.9
GRF Grafenberg Arr 79.90 327 eP P 22 31 10.4 +0.4
comp=Z,57nm,1.6s,mb5.0
GRF epP pP 22 32 39.8 +6.9
GRFO Grafenberg 79.90 327 eP P 22 31 10.6 +0.6
GRFO pmax pmax
comp=Z,35nm,1.4s,mb4.9
GRFO Grafenberg 79.90 327 eP P 22 31 10.6 +0.5
comp=Z,35nm,1.4s,mb4.9
Q12A Willow Creek R 79.91 48 ⇓P P 22 31 11.0 +0.7
baz=80,SNR=25
R11A Troy Canyon, C 79.91 49 ⇓P P 22 31 10.8 +0.4
baz=80,SNR=49
ARVC Arvin 79.98 53 ⇑P P 22 31 10.5 -0.3
baz=80,SNR=5.7
N15A Stansbury Isla 80.03 46 ⇓P P 22 31 11.4 +0.5
baz=80,SNR=14
HWUT Hardware Ranch 80.08 44 eP P 22 31 11.8 +0.6
HWUT e pP 22 32 37.0 +2.9
P13A Bates Ranch, G 80.12 47 ⇑P P 22 31 11.9 +0.5
baz=80,SNR=31
MPMC Manual Prospec 80.22 52 P P 22 31 12.4 +0.3
baz=80,SNR=26
S11A Rachel 80.27 50 ⇓P P 22 31 12.9 +0.6
baz=80,SNR=14
DUG Dugway 80.32 46 eP P 22 31 13.0 +0.5
DUG e pP 22 32 37.8 +2.4
DUG pmax pmax
comp=Z,45nm,1.0s,mb5.2
DUG Dugway 80.32 46 eP P 22 31 13.0 +0.5
comp=Z,44nm,1.0s,mb5.2
DUG e pP 22 32 37.8 +2.4
DUG Dugway 80.32 46 ⇓P P 22 31 13.1 +0.6
baz=80,SNR=41
FURC Furnace Creek, 80.35 51 ⇑P P 22 31 12.3 -0.4
baz=80,SNR=9.2
PERS Pernice 80.37 323 i P P 22 31 12.6 0.0
SOKA Soboth 80.38 323 ⇑i P P 22 31 13.0 +0.4
comp=Z,30nm,0.9s,mb5.0
BW06 Boulder Array 80.39 43 eP P 22 31 12.7 -0.1
comp=Z,60nm,1.0s,mb5.3
NOQ North Oquirrh 80.41 45 eP P 22 31 14.1 +1.2
TPNV Topopah Spring 80.42 50 eP P 22 31 13.4 +0.3
TPNV pmax pmax
comp=Z,59nm,1.0s,mb5.3
TPNV Topopah Spring 80.42 50 eP P 22 31 13.4 +0.4
comp=Z,59nm,1.0s,mb5.3
TPNV Topopah Spring 80.42 50 ⇓P P 22 31 13.4 +0.4
baz=80,SNR=23
Q13A Wheeler Ranch, 80.44 48 ⇑P P 22 31 13.8 +0.6
baz=80
R12A Pony Springs, 80.51 49 ⇑P P 22 31 14.0 +0.5
baz=80,SNR=10
CTU Camp Tracy 80.59 45 eP P 22 31 14.8 +0.9
EDW2 Edwards Air Fo 80.66 53 ⇑P P 22 31 14.5 +0.2
baz=80,SNR=22
U10A Ash Meadows, A 80.71 51 ⇑P P 22 31 15.5 +0.9
baz=80,SNR=12
JLU Jordanelle 80.82 45 eP P 22 31 16.0 +0.9
S12A Delamar Landin 80.84 49 ⇓P P 22 31 16.0 +0.7
baz=81,SNR=7.8
T11A Corn Creek, Al 80.85 50 ⇑P P 22 31 15.8 +0.4
baz=81,SNR=34
KBA Koelnbreinsper 80.88 324 ⇑i P P 22 31 16.3 +1.0
comp=Z,9.3nm,0.8s,mb4.6
KBA Koelnbreinsper 80.88 324 ⇑i P P 22 31 16.3 +1.0
KBA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
NLU North Lily Min 80.90 46 eP P 22 31 16.6 +1.0
FUR Furstenfeldbru 81.02 326 eP P 22 31 16.1 +0.1
FUR pmax pmax
comp=Z,20nm,0.9s,mb4.8
FUR Furstenfeldbru 81.02 326 eP P 22 31 16.1 +0.1
comp=Z,20nm,0.9s,mb4.8
MWC Mount Wilson 81.04 54 eP P 22 31 16.7 +0.3
DAU Daniels Canyon 81.06 45 eP P 22 31 17.7 +1.4
VISS Visnje 81.11 322 i P P 22 31 15.8 -0.7
MPU Maple Canyon 81.11 46 eP P 22 31 17.6 +1.0
BOJS Bojanci 81.12 322 i P P 22 31 16.2 -0.3
GSC Goldstone 81.14 52 eP P 22 31 17.0 +0.1
GSC pmax pmax
comp=Z,39nm,1.0s,mb5.1
GSC Goldstone 81.14 52 eP P 22 31 17.0 +0.1
comp=Z,39nm,1.0s,mb5.1
GSC Goldstone 81.14 52 ⇑P P 22 31 17.0 +0.1
baz=81,SNR=20
BFSC Mount Baldy St 81.28 53 ⇑P P 22 31 17.4 -0.3
baz=81,SNR=8.3
APE Apeiranthos 81.32 310 ⇑i P P 22 31 16.7 -1.1
ULM Lac du Bonnet 81.33 30 P P 22 31 16.6 -0.9
comp=Z,60nm,0.8s,mb5.4,baz=322,slow=6.3,SNR=71
ULM pP pP 22 32 41.5 +0.8
comp=Z,12nm,0.9s,baz=297,slow=4.7,SNR=5.7
MEM Membach 81.35 330 P P 22 31 16.8 -0.8
comp=Z,5.9nm,0.9s,mb4.3
SHPR Sheep Range 81.37 50 eP P 22 31 18.7 +0.6
JAVS Javornik 81.41 323 i P P 22 31 17.1 -0.9
S13A Holt Ranch, En 81.44 49 ⇑P P 22 31 19.1 +0.7
baz=81,SNR=20
R14A James Farms, M 81.46 48 ⇓P P 22 31 19.0 +0.5
baz=81
STU Stuttgart 81.46 327 eP P 22 31 18.3 0.0
comp=Z,16nm,0.8s,mb4.8
T12A Moapa 81.50 50 ⇑P P 22 31 19.3 +0.6
baz=81,SNR=8.3
FVI Forni Avoltri 81.50 324 P P 22 31 17.1 -1.4
FVI pmax pmax
comp=Z,4.0nm,0.4s,mb4.6
FVI Forni Avoltri 81.50 324 P P 22 31 17.1 -1.4
comp=Z,4.0nm,0.4s,mb4.6
V11A Goodsprings 81.64 51 ⇑P P 22 31 19.9 +0.4
baz=81,SNR=10
MOTA Moosalm 81.71 325 ⇑i P P 22 31 19.5 -0.1
comp=Z,16nm,1.4s,mb4.7,SNR=7.1
MOTA Moosalm 81.71 325 ⇑i P P 22 31 19.5 -0.1
MOTA pmax pmax
comp=Z,16nm,1.4s,mb4.7
S14A Cedar City 81.74 48 ⇓P P 22 31 20.5 +0.6
baz=82,SNR=7.8
HEC Hector,Ludlow 81.74 52 ⇓P P 22 31 20.2 +0.2
baz=82,SNR=30
RETA Reutte 81.75 326 i P P 22 31 19.8 0.0
comp=Z,24nm,1.3s,mb4.9,SNR=11
CCUT Cedar City 81.76 48 eP P 22 31 20.6 +0.5
BCLA Clavier 81.77 330 P P 22 31 19.3 -0.5
T13A Saint George 81.79 49 P P 22 31 21.2 +1.0
baz=82,SNR=55
U12A Valley of Fire 81.80 50 ⇓P P 22 31 20.8 +0.5
baz=82,SNR=9.3
MSU Marysvale 81.81 47 eP P 22 31 21.4 +1.1
TMUT Trail Mountain 81.84 46 eP P 22 31 21.5 +1.1
V12A Nelson 82.07 51 ⇓P P 22 31 22.1 +0.4
baz=82,SNR=12
FETA Feichten 82.12 325 i P P 22 31 21.6 -0.1
comp=Z,9.9nm,1.0s,mb4.6,SNR=6.1
U13A Pakoon Wash 82.15 50 ⇑P P 22 31 22.8 +0.7
baz=82,SNR=18
BFO Black Forest 82.17 328 eP P 22 31 21.5 -0.4
BFO pmax pmax
comp=Z,26nm,1.3s,mb4.9
BFO Black Forest 82.17 328 eP P 22 31 21.5 -0.4
comp=Z,26nm,1.3s,mb4.9
GMRC Granite Mounta 82.19 52 ⇓P P 22 31 22.7 +0.4
baz=82,SNR=25
T14A Hurricane 82.25 49 ⇓P P 22 31 23.2 +0.6
baz=82,SNR=9.4
RSSD Black Hills 82.28 39 eP P 22 31 22.4 -0.2
DAVA Damuels 82.30 326 i P P 22 31 22.7 +0.1
comp=Z,25nm,1.1s,mb5.0,SNR=11
DOU Dourbes 82.31 331 P P 22 31 22.1 -0.6
comp=Z,7.3nm,1.7s,mb4.2
W12A Cal Nev Ari 82.34 51 ⇑P P 22 31 23.3 +0.2
baz=82
SRU San Rafael 82.36 46 eP P 22 31 23.4 +0.3
RWWY Rawlins 82.39 42 eP P 22 31 23.3 +0.1
CTI Castel Tesino 82.43 324 P P 22 31 22.5 -0.8
CTI pmax pmax
comp=Z,11nm,0.8s,mb4.7
CTI Castel Tesino 82.43 324 P P 22 31 22.5 -0.8
comp=Z,11nm,0.8s,mb4.7
PFO Pinyon Flat Ob 82.45 53 P P 22 31 23.2 -0.5
comp=Z,286nm,1.0s,mb6.1,SNR=14
PFO Pinyon Flat Ob 82.45 53 eP P 22 31 23.6 -0.1
PFO pmax pmax
comp=Z,52nm,1.0s,mb5.3
PFO Pinyon Flat Ob 82.45 53 eP P 22 31 23.6 -0.1
comp=Z,52nm,1.0s,mb5.3
PFO Pinyon Flat Ob 82.45 53 P P 22 31 23.6 -0.1
baz=82,SNR=26
BELC Belle Mtn. 82.49 53 ⇑P P 22 31 23.6 -0.3
baz=82,SNR=20
BAIF Baives 82.49 331 eP P 22 31 22.3 -1.2
comp=Z,3.7nm,0.6s,mb4.1
BAIF Baives 82.49 331 eP P 22 31 22.3 -1.2
BAIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
BAIF Baives 82.49 331 eP P 22 31 22.3 -1.2
comp=Z,1.9nm,0.6s,mb4.1
V13A Grand Canyon W 82.52 50 ⇓P P 22 31 24.5 +0.5
baz=82,SNR=28
CDF Champ du Feu 82.55 328 eP P 22 31 23.0 -0.9
comp=Z,12nm,0.7s,mb4.5
CDF Champ du Feu 82.55 328 eP P 22 31 23.0 -0.9
CDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.5
CDF Champ du Feu 82.55 328 eP P 22 31 23.0 -0.9
comp=Z,6.3nm,0.7s,mb4.5
U14A Mt Trumbull 82.62 49 ⇑P P 22 31 25.2 +0.7
baz=82,SNR=40
BRMO Bormio 82.69 325 P P 22 31 25.1 +0.5
comp=Z,5.4nm,0.8s,mb4.4
T15A Red Dirt Ranch 82.70 48 ⇓P P 22 31 25.4 +0.6
baz=82,SNR=28
AGMN Agassiz Refuge 82.86 32 eP P 22 31 24.4 -1.1
IRM Iron Mountain 82.91 52 ⇑P P 22 31 26.3 +0.3
baz=83,SNR=14
BAR Barrett 82.92 54 eP P 22 31 25.9 -0.1
comp=Z,24nm,0.8s,mb5.1
MONP Monument Peak 82.94 54 ⇑P P 22 31 26.0 -0.1
baz=83,SNR=10
DMUB Kingscourt 83.02 339 ⇑i P P 22 31 25.4 -0.8
BC3 Big Chuckw Mtn 83.06 53 ⇓P P 22 31 26.6 -0.1
baz=83,SNR=24
W13A Hualapai Mount 83.08 51 ⇓P P 22 31 27.2 +0.4
baz=83,SNR=21
V14A Boquillas Ranc 83.19 50 ⇑P P 22 31 28.2 +0.8
baz=83,SNR=64
HINF Hinteralfeld 83.19 328 eP P 22 31 26.2 -1.0
comp=Z,2.9nm,0.5s,mb4.1
HINF Hinteralfeld 83.19 328 eP P 22 31 26.2 -1.0
HINF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
HINF Hinteralfeld 83.19 328 eP P 22 31 26.2 -1.0
comp=Z,1.5nm,0.5s,mb4.1
T16A Glen Canyon Da 83.24 48 ⇓P P 22 31 26.9 -0.7
baz=83
HAU Haudompre 83.26 328 eP P 22 31 26.5 -1.0
comp=Z,5.3nm,0.5s,mb4.3
HAU eMLR MLR
comp=Z,68nm,18.8s
HAU Haudompre 83.26 328 eP P 22 31 26.5 -1.0
HAU pmax pmax
comp=Z,3.0nm,0.5s,mb4.4
HAU MLR MLR
comp=Z,70nm,18.8s
HAU Haudompre 83.26 328 eP P 22 31 26.5 -1.0
comp=Z,2.7nm,0.5s,mb4.3
HAU LR LR
comp=Z,70nm,18.8s
DVTC Desert V Tower 83.30 54 ⇑P P 22 31 27.9 0.0
baz=83,SNR=8.4
SWSC Sam W. Stewart 83.31 53 ⇑P P 22 31 27.6 -0.4
baz=83,SNR=8.9
MEZF Maizieres J'vi 83.40 329 eP P 22 31 27.1 -1.1
DLF Lyons Farm 83.44 338 ⇑i P P 22 31 27.5 -0.8
X13A Yucca 83.44 51 P P 22 31 29.1 +0.3
baz=83,SNR=51
PDMCI Parker Dam,Lak 83.45 51 ⇑P P 22 31 28.8 +0.1
baz=83,SNR=14
W14A Seligman 83.49 50 ⇓P P 22 31 29.6 +0.7
baz=83,SNR=39
Y12C Blythe 83.58 52 ⇓P P 22 31 29.6 +0.2
baz=83,SNR=20
PHWY Pilot Hill 83.59 41 eP P 22 31 29.9 +0.6
DCN Croghan 83.61 339 ⇑i P P 22 31 30.0 +0.8
V15A Kaibab Nationa 83.63 49 ⇑P P 22 31 30.5 +0.9
baz=83,SNR=54
PV10 Paradox Valley 83.70 46 eP P 22 31 30.9 +0.9
RGNG Rignano Grg 83.72 319 P P 22 31 29.7 -0.2
GLA Glamis 83.85 53 eP P 22 31 30.6 -0.1
GLA pmax pmax
comp=Z,40nm,0.8s,mb5.3
GLA Glamis 83.85 53 eP P 22 31 30.6 -0.2
comp=Z,40nm,0.8s,mb5.3
GLA Glamis 83.85 53 ⇑P P 22 31 31.0 +0.2
baz=84,SNR=22
VAI Varese 83.88 326 P P 22 31 29.8 -0.8
VAI pmax pmax
comp=Z,49nm,1.3s,mb5.2
VAI Varese 83.88 326 P P 22 31 29.8 -0.8
comp=Z,49nm,1.3s,mb5.2
SNTG Esanatoglia 83.90 322 P P 22 31 30.9 +0.1
comp=Z,7.7nm,0.4s,mb4.9
SFI Santa Sofia 83.94 323 P P 22 31 31.9 +0.9
SFI pmax pmax
comp=Z,12nm,0.7s,mb4.8
SFI Santa Sofia 83.94 323 P P 22 31 31.9 +0.9
comp=Z,12nm,0.7s,mb4.8
Y13A Salome 83.97 52 ⇑P P 22 31 31.7 +0.3
baz=84,SNR=27
W15A Williams 84.01 50 ⇓P P 22 31 32.5 +1.0
baz=84,SNR=16
VMG Vicchio 84.05 323 P P 22 31 32.8 +1.3
comp=Z,91nm,1.5s,mb5.4
SEI Scarperia 84.06 323 P P 22 31 32.9 +1.3
comp=Z,60nm,0.7s,mb5.5
X14A Yava 84.10 51 ⇓P P 22 31 32.6 +0.6
baz=84,SNR=39
NRCA Norcia 84.12 321 P P 22 31 32.4 +0.5
comp=Z,18nm,1.0s,mb4.9
PV01 Paradox Valley 84.14 45 eP P 22 31 32.5 +0.4
FG4 Candela 84.15 319 P P 22 31 32.3 +0.2
FG4 pmax pmax
comp=Z,60nm,0.8s,mb5.5
FG4 Candela 84.15 319 P P 22 31 32.3 +0.2
comp=Z,60nm,0.8s,mb5.5
FG5 Orsara di Pugl 84.17 319 P P 22 31 32.9 +0.7
FG5 pmax pmax
comp=Z,24nm,0.8s,mb5.1
FG5 Orsara di Pugl 84.17 319 P P 22 31 32.9 +0.7
comp=Z,24nm,0.8s,mb5.1
ASS Assisi 84.18 322 P P 22 31 32.0 -0.2
ASS pmax pmax
comp=Z,2.0nm,0.2s,mb4.6
ASS Assisi 84.18 322 P P 22 31 32.0 -0.2
comp=Z,1.8nm,0.2s,mb4.5
ERBM Eremo 84.23 324 P P 22 31 33.4 +0.9
comp=Z,19nm,0.8s,mb5.0
SMCO Snowmass 84.29 44 eP P 22 31 33.6 +0.7
comp=Z,36nm,0.9s,mb5.2
WUAZ Wupatki 84.31 49 eP P 22 31 33.7 +0.7
comp=Z,53nm,1.0s,mb5.3
WUAZ Wupatki 84.31 49 ⇓P P 22 31 33.8 +0.8
baz=84
AQU L'Aquila 84.33 321 eP P 22 31 33.4 +0.4
AQU L'Aquila 84.33 321 ⇑i P P 22 31 33.5 +0.5
Y14A Wickenburg 84.39 51 P P 22 31 33.7 +0.2
baz=84,SNR=28
CABF La Chapelle 84.47 328 eP P 22 31 32.4 -1.2
X15A Humboldt 84.49 50 ⇓P P 22 31 34.7 +0.8
baz=84,SNR=64
W16A Flagstaff 84.50 49 ⇑P P 22 31 34.8 +0.8
baz=84,SNR=11
ISCO Idaho Springs 84.59 43 eP P 22 31 33.6 -0.7
SDI San Donato 84.60 320 P P 22 31 34.0 -0.3
SDI pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
SDI San Donato 84.60 320 P P 22 31 34.0 -0.3
comp=Z,7.0nm,1.0s,mb4.5
113A Mohawk Valley, 84.70 52 ⇑P P 22 31 34.7 -0.3
baz=84,SNR=9.5
Y15A Casa Rosa Ranc 84.79 51 ⇓P P 22 31 35.8 +0.4
baz=84,SNR=11
Z14A Wintersburg 84.81 51 ⇑P P 22 31 35.7 +0.1
baz=84
MVCO Mesa Verde 84.82 46 eP P 22 31 36.1 +0.5
MVCO Mesa Verde 84.82 46 ⇓P P 22 31 36.0 +0.5
baz=84
LOR Lormes 84.87 329 eP P 22 31 34.4 -1.1
comp=Z,12nm,0.9s,mb4.4
LOR eMLR MLR
comp=Z,79nm,17.0s
LOR Lormes 84.87 329 eP P 22 31 34.4 -1.1
LOR pmax pmax
comp=Z,6.0nm,0.9s,mb4.4
LOR MLR MLR
comp=Z,80nm,17.0s
LOR Lormes 84.87 329 eP P 22 31 34.4 -1.1
comp=Z,6.0nm,0.9s,mb4.4
LOR LR LR
comp=Z,80nm,17.0s
EYMN Ely 84.90 30 eP P 22 31 35.2 -0.5
comp=Z,45nm,0.8s,mb5.3
W17A Winslow 85.01 49 ⇑P P 22 31 37.0 +0.5
baz=85
X16A Lo Mia Camp, P 85.02 50 ⇓P P 22 31 37.3 +0.8
baz=85,SNR=29
LPL La Plagne 85.05 327 eP P 22 31 35.6 -0.9
comp=Z,9.8nm,0.6s,mb4.5
LPL La Plagne 85.05 327 eP P 22 31 35.6 -0.9
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
LPL La Plagne 85.05 327 eP P 22 31 35.6 -0.9
comp=Z,4.9nm,0.6s,mb4.5
LPG La Plagne 85.06 327 eP P 22 31 35.7 -0.8
comp=Z,1.5nm,0.7s,mb4.6
LPG La Plagne 85.06 327 eP P 22 31 35.7 -0.8
LPG pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
LPG La Plagne 85.06 327 eP P 22 31 35.7 -0.8
comp=Z,7.4nm,0.7s,mb4.6
SSF Saint Saulge 85.17 329 eP P 22 31 35.9 -1.1
comp=Z,6.5nm,0.8s,mb4.2
SSF Saint Saulge 85.17 329 eP P 22 31 35.9 -1.1
SSF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
SSF Saint Saulge 85.17 329 eP P 22 31 35.9 -1.1
comp=Z,3.3nm,0.8s,mb4.2
FLN La Foliniere 85.31 332 eP P 22 31 36.3 -1.4
comp=Z,11nm,0.6s,mb4.6
FLN eMLR MLR
comp=Z,69nm,17.5s
FLN La Foliniere 85.31 332 eP P 22 31 36.3 -1.4
FLN pmax pmax
comp=Z,5.0nm,0.6s,mb4.5
FLN MLR MLR
comp=Z,70nm,17.5s
FLN La Foliniere 85.31 332 eP P 22 31 36.3 -1.4
comp=Z,5.4nm,0.6s,mb4.5
FLN LR LR
comp=Z,70nm,17.5s
LDF La Druitiere 85.32 332 eP P 22 31 36.6 -1.1
comp=Z,28nm,1.0s,mb4.8
LDF La Druitiere 85.32 332 eP P 22 31 36.6 -1.1
LDF pmax pmax
comp=Z,14nm,1.0s,mb4.8
LDF La Druitiere 85.32 332 eP P 22 31 36.6 -1.1
comp=Z,14nm,1.0s,mb4.8
Y16A Circle Bar Ran 85.36 50 ⇑P P 22 31 38.8 +0.5
baz=85,SNR=22
SMF Signal de Mont 85.37 329 eP P 22 31 36.9 -1.1
comp=Z,3.5nm,0.6s,mb4.1
BNI Bardonecchia 85.44 326 eP P 22 31 37.7 -0.7
AVF Avril sur Loir 85.46 329 eP P 22 31 37.4 -1.0
comp=Z,10nm,0.8s,mb4.4
W18A Petrified Fore 85.56 48 ⇓P P 22 31 39.6 +0.4
baz=85
MBDF Montbardon 85.65 326 eP P 22 31 38.4 -1.0
comp=Z,15nm,0.8s,mb4.6
MBDF Montbardon 85.65 326 eP P 22 31 38.4 -1.0
MBDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
MBDF Montbardon 85.65 326 eP P 22 31 38.4 -1.0
comp=Z,7.3nm,0.8s,mb4.6
115A Sonoran Desert 85.70 51 ⇑P P 22 31 40.2 +0.3
baz=85,SNR=8.2
SCHQ Schefferville 85.73 13 P P 22 31 39.4 -0.2
comp=Z,29nm,0.7s,mb5.2,baz=357,slow=5.5,SNR=53
Z16A Peralta Trail, 85.76 51 ⇓P P 22 31 40.5 +0.3
baz=86,SNR=7.6
GRR Gorron 85.76 332 eP P 22 31 38.7 -1.2
W19A Sanders 85.77 48 ⇓P P 22 31 41.0 +0.8
baz=86,SNR=6.8
X18A Snowflake 85.84 49 ⇑P P 22 31 41.1 +0.5
baz=86,SNR=6.9
BGF Bois d'Agland 85.85 329 eP P 22 31 39.1 -1.2
comp=Z,3.3nm,0.5s,mb4.2
Y17A Roosevelt 85.88 50 ⇓P P 22 31 41.2 +0.4
baz=86,SNR=8.1
ORIF Oris-en-Rattie 85.89 327 eP P 22 31 39.5 -1.1
comp=Z,4.1nm,0.6s,mb4.1
ORIF eMLR MLR
comp=Z,102nm,17.5s
ORIF Oris-en-Rattie 85.89 327 eP P 22 31 39.5 -1.1
ORIF pmax pmax

comp=Z,2.0nm,0.6s,mb4.1
ORIF Oris-en-Rattie 85.89 327 *e*P **P 22 31 39.5 -1.1**
comp=Z,2.0nm,0.6s,mb4.1
SBF Sospel 86.03 325 *e*P **P 22 31 40.1 -1.2**
comp=Z,16nm,0.7s,mb4.7
SBF Sospel 86.03 325 *e*P **P 22 31 40.1 -1.2**
SBF pmax pmax
comp=Z,8.0nm,0.7s,mb4.7
SBF Sospel 86.03 325 *e*P **P 22 31 40.1 -1.2**
comp=Z,8.2nm,0.7s,mb4.7
ECSD EROS,Sioux Fal 86.10 35 *e*P **P 22 31 41.0 -0.6**
116A Eloy 86.12 51 ⇓P **P 22 31 42.2 +0.3**
baz=86,SNR=15
SDCO Great Sand Dun 86.12 44 *e*P **P 22 31 42.3 +0.4**
X19A St. Johns 86.30 49 ⇑P **P 22 31 43.5 +0.8**
baz=86,SNR=17
Y18A Canyon Day Jun 86.31 49 ⇓P **P 22 31 43.6 +0.7**
baz=86,SNR=10
TCF Toulx Ste Croi 86.32 330 *e*P **P 22 31 41.5 -1.2**
PGF Pioggiola 86.33 323 *e*P **P 22 31 41.5 -1.2**
comp=Z,6.0nm,0.8s,mb4.2
PGF Pioggiola 86.33 323 *e*P **P 22 31 41.5 -1.2**
PGF pmax pmax
comp=Z,3.0nm,0.8s,mb4.2
PGF Pioggiola 86.33 323 *e*P **P 22 31 41.5 -1.2**
comp=Z,3.0nm,0.8s,mb4.2
Z17A San Carlos Hig 86.37 50 ⇓P **P 22 31 43.7 +0.5**
baz=86,SNR=5.8
VIVF Saint-Julien-l 86.46 327 *e*P **P 22 31 42.0 -1.3**
comp=Z,2.4nm,0.5s,mb4.0
VIVF Saint-Julien-l 86.46 327 *e*P **P 22 31 42.0 -1.3**
VIVF pmax pmax
comp=Z,1.0nm,0.5s,mb3.9
VIVF Saint-Julien-l 86.46 327 *e*P **P 22 31 42.0 -1.3**
comp=Z,1.2nm,0.5s,mb4.0
FRF La Foret Royal 86.62 325 *e*P **P 22 31 42.2 -1.9**
comp=Z,3.5nm,0.5s,mb4.1
FRF La Foret Royal 86.62 325 *e*P **P 22 31 42.2 -1.9**
FRF pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
FRF La Foret Royal 86.62 325 *e*P **P 22 31 42.2 -1.9**
comp=Z,1.8nm,0.5s,mb4.2
Y19A Nutrioso 86.65 49 ⇑P **P 22 31 45.7 +1.3**
baz=86,SNR=7.7
216A Three Points, 86.66 52 ⇓P **P 22 31 44.7 +0.2**
baz=86
ROSF Rostrenen 86.67 334 *e*P **P 22 31 43.1 -1.2**
117A Oracle 86.71 51 ⇑P **P 22 31 45.0 +0.2**
baz=86,SNR=5.7
SMRF Simiane la Rot 86.77 326 *e*P **P 22 31 43.7 -1.1**
TUC Tucson 86.86 51 *e*P **P 22 31 46.1 +0.6**
LMR La Mourre 86.86 325 *e*P **P 22 31 43.8 -1.5**
comp=Z,7.6nm,0.6s,mb4.4
LMR La Mourre 86.86 325 *e*P **P 22 31 43.8 -1.5**
LMR pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
LMR La Mourre 86.86 325 *e*P **P 22 31 43.8 -1.5**
comp=Z,3.8nm,0.6s,mb4.4
MFF Saint Martin d 86.99 331 *e*P **P 22 31 44.5 -1.3**
QUIF Quistinic 86.99 334 *e*P **P 22 31 44.2 -1.6**
Z19A T-Link Ranch, 87.11 49 ⇓P **P 22 31 47.1 +0.5**
baz=87
118A Homack Ranch, 87.13 50 ⇓P **P 22 31 47.1 +0.4**
baz=87,SNR=11
217A Green Valley 87.21 51 ⇓P **P 22 31 47.8 +0.6**
baz=87,SNR=15
COWI Conover 87.34 29 *e*P **P 22 31 47.3 -0.2**
RJF Les Rejaudoux 87.41 329 *e*P **P 22 31 46.6 -1.2**
RJF *e*MLR MLR
comp=Z,73nm,18.5s
LASF Ste Croix 87.44 327 *e*P **P 22 31 46.7 -1.3**
comp=Z,8.1nm,0.9s,mb4.2
119A Ashpeak Ranch, 87.45 50 ⇑P **P 22 31 48.9 +0.7**
baz=87,SNR=8.6
CAF Calviac 87.50 329 *e*P **P 22 31 47.1 -1.1**
218A Dragoon 87.55 51 P **P 22 31 49.5 +0.8**
baz=87,SNR=16
ANMO Albuquerque 87.58 46*c i*P **P 22 31 49.7 +0.8**
LPM Los Pinos Moun 87.94 47 *e*P **P 22 31 51.8 +1.2**
318A Bisbee 87.95 51 ⇓P **P 22 31 50.9 +0.3**
baz=88,SNR=9.8
219A White Tail Can 88.01 50 ⇓P **P 22 31 51.3 +0.4**
baz=88,SNR=9.0
LFF La Frestale 88.02 330 *e*P **P 22 31 49.5 -1.2**
comp=Z,6.9nm,0.5s,mb4.5
CBKS Cedar Bluff 88.38 40 *e*P **P 22 31 52.8 +0.3**
319A Douglas 88.43 51 ⇓P **P 22 31 53.2 +0.3**
baz=88
MTLF Montolieu 88.73 328 *e*P **P 22 31 52.9 -1.1**
SCIA State Center 89.07 34 *e*P **P 22 31 56.4 +0.8**
JFWS Jewell Farm 89.53 32 *e*P **P 22 31 57.6 -0.2**
EPF Esparros 89.76 329 *e*P **P 22 31 57.6 -1.3**
GLMI Grayling 90.11 27 *e*P **P 22 32 01.0 +0.5**
comp=Z,93nm,1.0s,mb5.7
ETSF Etsaut 90.24 329 *e*P **P 22 31 59.8 -1.3**
comp=Z,5.6nm,0.6s,mb4.4
ETSF Etsaut 90.24 329 *e*P **P 22 31 59.8 -1.3**
ETSF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
ETSF Etsaut 90.24 329 *e*P **P 22 31 59.8 -1.3**
comp=Z,2.8nm,0.6s,mb4.4
AMTX Amarillo 90.31 44 *e*P **P 22 32 02.2 +0.6**
SJPF Ste Jean 90.33 330 *e*P **P 22 32 00.0 -1.5**
MNTX Cornudas Mount 90.54 48 *e*P **P 22 32 02.9 +0.2**
GDL2 Guadalupe Moun 90.78 47 *e*P **P 22 32 04.7 +0.9**
HDIL Hopedale 91.88 32 *e*P **P 22 32 08.9 +0.2**
WMOK Wichita Mounta 91.98 42 *e*P **P 22 32 09.6 +0.3**
WMOK pmax pmax
comp=Z,29nm,1.0s,mb5.2
WMOK Wichita Mounta 91.98 42 *e*P **P 22 32 09.6 +0.3**
comp=Z,29nm,1.0s,mb5.2
CCM Cathedral Cave 93.08 35 *e*P **P 22 32 14.1 -0.2**
TXAR Lajitas Array 93.27 49 P **P 22 32 15.5 +0.1**
comp=Z,13nm,0.7s,mb5.1,baz=287,slow=3.0,SNR=147
TXAR pP pP 22 33 40.0 -0.4
comp=Z,1.4nm,0.7s,baz=298,slow=2.7,SNR=4.1
TXAR PP PP 22 36 02.1 -1.9
comp=Z,2.7nm,1.1s,baz=312,slow=6.0,SNR=5.1
TXAR PKKPbc PKKPbc 22 49 21.9 +2.2
comp=Z,0.3nm,0.6s,baz=144,slow=6.4,SNR=4.9
FVM French Village 93.51 35 *e*P **P 22 32 16.4 +0.2**
SIUC Southern Illin 94.27 34 *e*P **P 22 32 19.9 +0.2**
JCT Junction City 94.66 45 *e*P **P 22 32 21.7 0.0**
JCT pmax pmax
comp=Z,65nm,1.9s,mb5.3
JCT Junction City 94.66 45 *e*P **P 22 32 21.7 +0.1**
comp=Z,65nm,1.9s,mb5.3
ACSO Alum Creek Sta 94.69 29 *e*P **P 22 32 22.3 +0.7**
comp=Z,21nm,0.8s,mb5.2
MIAR Mount Ida 94.80 39 *e*P **P 22 32 22.4 +0.2**
MIAR pmax pmax
comp=Z,17nm,0.8s,mb5.1
MIAR Mount Ida 94.80 39 *e*P **P 22 32 22.4 +0.2**
comp=Z,17nm,0.8s,mb5.1
PLAL Pickwick Lake 97.05 35 *e*P **P 22 32 31.5 -0.9**
KMBO Kilima Mbogo 97.17 274 P **P 22 32 32.6 -0.7**
comp=Z,1.1nm,0.4s,mb4.4,baz=24,slow=12,SNR=6.1
KMBO PP PP 22 36 34.1 -0.8
comp=Z,8.3nm,1.1s,baz=36,slow=12,SNR=11
SWET Sewanee 97.80 33 *e*P **P 22 32 35.8 +0.1**
CPCT Cooper Cave 98.20 32 *e*P **P 22 32 37.5 -0.1**
TORD Torodi Ar. Bea 113.28 310 PKiKP PKiKP 22 37 35.4 -1.0
comp=Z,0.3nm,0.3s,baz=69,slow=2.0,SNR=9.3
TORD PP PP 22 38 28.0 -4.2
comp=Z,4.3nm,1.1s,baz=39,slow=7.1,SNR=9.1
TORD PKKPbc PKKPbc 22 48 18.2 -2.9
comp=Z,0.3nm,0.4s,baz=223,slow=2.1,SNR=6.9
BOSA Boshof 122.09 257 PKP PKPdf 22 37 52.9 -0.1
comp=Z,1.8nm,0.5s,baz=32,slow=5.6,SNR=9.1
DBIC Dimbokro 122.31 311 PKP PKPdf 22 37 53.1 -0.7
comp=Z,1.4nm,0.4s,baz=87,slow=1.1,SNR=12
DBIC PP PP 22 39 32.9 -1.5
comp=Z,7.9nm,1.1s,baz=14,slow=8.0,SNR=3.4
LIC Lamto 122.77 311 *e*PKIKP PKPdf 22 37 53.3 -1.4
comp=Z,3.1nm,0.5s
ATAH Atahualpa 136.61 54 PKP PKPdf 22 38 22.1 +1.2
comp=Z,5.1nm,0.8s,baz=339,slow=8.6,SNR=3.9
LPAZ La Paz 150.13 50 PKP PKPdf 22 38 45.5 +1.2
comp=Z,1.4nm,0.4s,baz=20,slow=10,SNR=8.0
LPAZ PKPbc PKPbc 22 38 50.8 +1.2
comp=Z,8.3nm,0.7s,baz=333,slow=3.4,SNR=19
SIV San Ignacio 153.80 38 PKP PKPdf 22 38 50.1 +0.4
comp=Z,2.9nm,1.0s,baz=259,slow=1.4,SNR=9.1
SIV PKPbc PKPbc 22 38 57.5 -0.4
comp=Z,4.0nm,0.4s,baz=303,slow=4.0,SNR=23
SIV PKPab PKPab 22 39 12.5 +0.1
comp=Z,8.8nm,0.5s,baz=320,slow=3.6,SNR=20
SIV PP PP 22 42 45.7 -2.1
comp=Z,2.5nm,0.9s,baz=302,slow=1.8,SNR=4.3
BDFB Brasilia 157.67 9 PKP2 PKPab 22 39 29.1 +0.1
BDFB pmax pmax
comp=Z,2.0nm,0.8s
BDFB Brasilia 157.67 9 PKPab PKPab 22 39 29.1 +0.1
comp=Z,1.7nm,0.8s,baz=132,slow=23,SNR=4.8
CFAA Coronel Fontan 159.59 79 PKPab PKPab 22 39 37.6 +0.3
comp=Z,0.5nm,0.4s,baz=255,slow=2.1,SNR=7.6
PLCA Paso Flores 159.70 106 PKP2 PKPab 22 39 38.6 +1.1
PLCA pmax pmax
comp=Z,8.0nm,1.0s
PLCA Paso Flores 159.70 106 PKPab PKPab 22 39 38.6 +1.1
comp=Z,7.5nm,1.0s,baz=236,slow=3.0,SNR=8.1
CPUP Villa Florida 164.24 47 PKP2 PKPab 22 39 57.6 -0.1
CPUP 22 43 45.1
CPUP pmax pmax
comp=Z,4.0nm,0.9s
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP Villa Florida 164.24 47 *e*PKP PKPab 22 39 57.1 -0.6
CPUP Villa Florida 164.24 47 PKPab PKPab 22 39 57.6 -0.1
comp=Z,4.3nm,0.9s,baz=293,slow=4.6,SNR=5.1
CPUP PP PP 22 43 45.1 +0.8
comp=Z,1.3nm,0.6s,baz=301,slow=7.2,SNR=3.9

MAN 20 22:45:14,950N×12377E,h13km,mb4.6,ML3.5,MS3.5, 1D,Negros

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TBP	**Tagbilaran**	**0.21**	**26**	*e*P	Pg	22 45 19.6	+0.9
TBP				*e*S	Sg	22 45 23.4	+1.7
SNPH	**Sibulan**	**0.55**	**253**	*e*P	Pg	22 45 25.0	+0.2
DCPH	**Dipolog City**	**1.00**	**204**⇓	*e*P	Pb	22 45 33.0	-0.2
DCPH				*e*S	Sb	22 45 47.8	+1.5
GUIM	**Jordan**	**1.61**	**314**	*e*P	Pn	22 45 41.7	-0.5

*PRU **20** 22:54:44.5,5094N×1233E,h0km*
ISC 20 22:54:44.5±0.8,5091N±004×1235E±005,h10km,n11, σ0§92/17,Germany

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOX	**Moxa**	**0.54**	**241**	*e*PG	**Pg**	**22 54 54.8**	**-0.1**
MOX				*i* SG	**Sg**	**22 55 01.5**	**-0.5**
CLL	**Collm**	**0.57**	**46**	*i* Pg	**Pg**	**22 54 56.1**	**+0.4**
CLL				*i* Sg	**Sg**	**22 55 03.9**	**+0.7**
comp=Z,12nm,0.5s
CLL *i* x x 22 55 06.0
CLL *i* x x 22 55 07.7
NKC Novy Kostel 0.68 175 *e*PG **Pg 22 54 58.6 +1.0**
NKC *e*SG **Sg 22 55 07.7 +1.2**
comp=Z,52nm,0.3s
BRG Berggiesshubel 1.01 91 PG **Pg 22 55 04.3 +0.3**
BRG *i* 22 55 10.3
BRG Berggiesshubel 1.01 91 SG **Sg 22 55 17.8 +0.8**
comp=Z,28nm,0.4s
GRF Grafenberg Arr 1.42 211 *e*Sg **Sg 22 55 30.9 +0.8**
PVCC Panska Ves 1.46 104 *e*PG **Pg 22 55 11.4 -1.1**
PVCC *e*SG **Sg 22 55 32.1 +0.6**
comp=Z,30nm,0.2s
KHC Kasperske Hory 1.95 156 *e*PG **Pg 22 55 19.8 -2.1**
KHC *e*x x 22 55 38.0
KHC *e*SG **Sg 22 55 46.8 -0.3**
comp=Z,6.6nm,0.2s
UPC Upice 2.36 98 *e*SG **Sg 22 56 00.2 -0.2**
DPC Dobruska-Polom 2.59 101 *e*PG **Pg 22 55 31.9 -2.2**
DPC *e*SG **Sg 22 56 07.6 -0.1**
comp=Z,3.9nm,0.4s
OKC Ostrava-Krasne 3.86 104 *e*SG **Sg 22 56 48.5 0.0**

IDC 20 23:09:20.6±1.8,2859S×17786W,h0km,mb4.0/3, mb1 4.2/3,mb1mx3.9/12,mbtmp4.0/3,Error ellipse: s-maj=42.2km s-min=16.8km az=80.0,Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**0.67**	**184**	Pn	Pg	23 09 37.4	+4.1
257nm,0.3s,baz=162,slow=21,SNR=11
RAO Sn Sg 23 09 49.3 +7.3
928nm,0.3s,baz=30,slow=20,SNR=32
STKA Stephens Creek 35.05 254 P P 23 16 14.6 -0.6
1.9nm,0.8s,baz=72,slow=6.4,SNR=3.0
ASAR Alice Springs 43.36 265 P P 23 17 24.8 0.0
0.9nm,0.5s,baz=101,slow=7.3,SNR=12
WRA Warramunga Arr 44.18 270 P P 23 17 31.6 +0.1
1.1nm,0.4s,baz=110,slow=8.1,SNR=30
FINES FINESS Array B 143.48 341 PKP PKPdf 23 28 54.5 -1.9
2.3nm,0.7s,baz=59,slow=4.5,SNR=15
HFS Hagfors 147.49 349 PKPbc PKPbc 23 29 05.0 -0.9
1.7nm,0.8s,baz=28,slow=6.5,SNR=3.4
AKASG Malin Array Be 149.91 325 PKPab PKPab 23 29 18.2 +0.2
0.3nm,0.4s,baz=41,slow=2.6,SNR=4.2

*CSEM **20** 23:13:10.9±1.1,3707N×2431W,h10km,ML2.8,Error ellipse: s-maj=9.2km s-min=6.0km az=75.0,After PDA*
PDA 20 23:13:10.9±1.1,3707N×2431W,h10km,MD3.7,ML2.8, Error ellipse: s-maj=9.2km s-min=6.0km az=75.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.61**	**264**	*i* P	Pg	23 13 20.6	-2.1
PSMN				*e*S	Sg	23 13 28.3	-2.4
PSMN	**Pico do Norte,**	**0.61**	**264**	*e*S	Sg	23 13 28.3	-2.4
CMLA	**Cha da Macela**	**1.19**	**306**	*e*P	Pb	23 13 28.6	-5.0
CMLA				*e*S	Sb	23 13 42.2	-6.9
CMLA				A		23 13 46.8	
46nm,0.2s
CMLA Cha da Macela 1.19 306 *e*P Pb 23 13 28.6 -5.0
CMLA *e*S Sb 23 13 42.2 -6.9
PDA Ponta Delgada 1.28 303 *e*P Pn 23 13 30.1 -4.7
PDA *e*S Sb 23 13 44.7 -6.8
PSET Sete Cidades 1.36 304 *e*P Pn 23 13 31.3 -4.6
PSET *e*S Sb 23 13 46.9 -6.9
PSET A 23 13 51.7
53nm,0.2s
PSET Sete Cidades 1.36 304 *e*P Pn 23 13 31.3 -4.6
PSET *e*S Sb 23 13 46.9 -6.9
PMAN Manadas 3.38 299 *e*P Pn 23 13 59.8 -3.9
PMAN *e*S Sn 23 14 35.0 -8.8
PMAN A 23 14 37.1
11nm,0.2s
PMAN Manadas 3.38 299 *e*P Pn 23 13 59.8 -3.9
PMAN *e*S Sn 23 14 35.0 -8.8
ROSA Rosais 3.52 299 *e*P Pn 23 14 01.8 -3.9
PICO Pico 3.56 295 *e*P Pn 23 14 02.1 -4.1
HOR Horta 3.72 294 *e*P Pn 23 14 04.1 -4.3
CALA Caldeira 3.79 295 *e*P Pn 23 14 05.2 -4.2

JMA 20 23:16:27.9±0.2,3008N×12945E,h229km±2km,M3.6, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**1.44**	**66**	P	Pn	23 17 04.1	+0.4
JTN				*e*S	S	23 17 31.7	-0.1
JSJ	**Shimokoshiki**	**1.61**	**8**	P	Pn	23 17 05.2	+0.1
JSJ				*e*S	S	23 17 34.1	-0.2
JSU	**Suzuyama**	**1.66**	**31**	P	Pn	23 17 05.9	+0.4
JAM	**Amami Oshima**	**1.67**	**175**	P	Pn	23 17 05.9	+0.2
JTSR	**Tashiro 2**	**1.67**	**49**	P	Pn	23 17 05.9	+0.3
JTSR				*e*S	S	23 17 34.6	-0.6
JTZ	**Takazaki**	**2.30**	**37**	P	Pn	23 17 11.8	+0.3
JTZ				*e*S	S	23 17 44.9	-0.9
JTK	**Tokunoshima**	**2.33**	**191**	P	Pn	23 17 11.4	-0.5
JTK				*e*S	S	23 17 44.2	-2.3

*ISCJB **20** 23:43:22.3±1.6,272N×02×5458E±004,h10km,Error ellipse: s-maj=33.3km s-min=5.3km az=2.5*
*THR **20** 23:43:26.4±1.6,2745N×5470E,h16km±15km,ML2.9*
*KISR **20** 23:43:26.7±0.6,2798N×5456E,h33km,ML2.5*
ISC 20 23:43:24.8±1.8,273N×02×5461E±006,h12km±12km,n6, σ1§34/11,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.39**	**86**	*e*Pg	**Pg**	**23 43 50.1**	**-1.4**
BNDS				*e*Sg	**Sg**	**23 44 09.3**	**-0.2**
BNDS				AML	AML	23 44 10.5	
comp=N,558nm,0.4s
GHIR Ghir-Karzin 1.74 305 *e*Pg **Pg 23 43 58.3 0.0**
GHIR Sn **Sn 23 44 21.0 +4.1**
GHIR AML AML 23 44 31.6
comp=E,89nm,0.4s
GHIR AML AML 23 44 32.4
comp=N,86nm,0.4s
KRBR Kerman 3.27 35 *e*Pn **Pn 23 44 16.9 +1.0**
RDF Al-Radifah 6.44 286 *e*P **Pn 23 45 01.1 +1.6**
RDF *e*S **Sn 23 46 12.3 -0.7**
RDF AML AML 23 46 13.7
comp=Z,1.8nm,0.2s
NAY Al-Naaiem 6.78 288 *e*P **Pn 23 45 06.0 +1.9**
NAY *e*S **Sn 23 46 19.7 -1.6**
NAY AML AML 23 46 22.1
comp=Z,0.7nm,0.2s
MIB Mutribah 6.87 293 *e*P **Pn 23 45 05.9 +0.6**
MIB *e*S **Sn 23 46 20.8 -2.6**
MIB AML AML 23 46 23.1
comp=Z,1.2nm,0.3s

IDC 20 23:54:39.0±1.1,042N×12173E,h0km,mb3.7/5,mb1 3.8/5, mb1mx3.6/17,mbtmp3.7/5,Error ellipse: s-maj=145.8km s-min=19.3km az=64.0,Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.71**	**149**	P	P	23 59 52.8	-0.2
0.7nm,0.5s,baz=327,slow=10,SNR=23
ASAR Alice Springs 26.71 155 P P 00 00 20.4 +0.2
0.3nm,0.5s,baz=348,slow=16,SNR=5.2
SONM Songino Array 49.07 346 P P 00 03 29.7 +1.7
0.9nm,0.5s,baz=163,slow=8.6,SNR=9.8
MKAR Makanchi Array 57.59 329 P P 00 04 30.6 -0.1
0.9nm,0.5s,baz=121,slow=9.6,SNR=10
ZALV Zalesovo Beam 61.41 336 P P 00 04 55.6 -1.3
0.8nm,0.4s,baz=132,slow=8.7,SNR=6.9

*NEIC **21** 00:20:28.4,2962S×71.14W,h51km,MD4.1(GUC),After GUC.*
GUC 21 00:20:28.4±0.6,2962S×7114W,h51km±8km,MD4.1, ML4.0,2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.30**	**198**	*e*P	Pn	00 20 37.8	+0.2
LSCH				*i* S	Sn	00 20 44.8	+0.7
LCO	**Las Campanas**	**0.72**	**32**	*e*P	Pn	00 20 42.6	+0.2
LCO				*e*S	Sn	00 20 53.5	+1.0
OVCH	**Ovalle**	**0.98**	**183**	*e*P	Pn	00 20 46.3	+0.4
OVCH				*i* S	Sn	00 20 59.6	+0.8
OVCH	**Ovalle**	**0.98**	**183**	*e*P	Pn	00 20 46.3	+0.4
OVCH				*i* S	Sn	00 20 59.6	+0.8
OVCH				AML	AML	00 21 04.4	
comp=N,2μm,0.9s
VACH Vallenar 1.09 18⇓ *i*P Pn 00 20 47.9 +0.5
VACH *i* S Sn 00 21 02.4 +0.9
VACH Vallenar 1.09 18⇓ *i*P Pn 00 20 47.9 +0.5
VACH *i* S Sn 00 21 02.4 +0.9
VACH AML AML 00 21 06.4
comp=N,23μm,0.1s
CMCH Combarbala 1.55 176 *e*P Pn 00 20 54.3 +0.7
CMCH *i* S Sn 00 21 14.1 +1.5
CMCH Combarbala 1.55 176 *e*P Pn 00 20 54.3 +0.7
CMCH *i* S Sn 00 21 14.1 +1.5
CMCH AML AML 00 21 18.5
comp=N,3μm,0.8s
CPCH Copiapo 2.36 17 *e*P Pn 00 21 04.1 -0.6
CPCH *i* S Sn 00 21 33.6 +1.2
FCH Farellones 3.76 169 *e*P Pn 00 21 28.4 +4.5
CLCH Cerro Calan 3.80 172 *e*P Pn 00 21 27.8 +3.4
PCH Pirque 4.02 173 *e*P Pn 00 21 28.3 +0.9
TACH Talagante 4.02 178 *e*P Pn 00 21 28.9 +1.4
TACH *i* S Sn 00 22 13.7 +0.4
TRQA Tornquist 11.34 140 *e*Pn Pn 00 23 10.4 +2.7
comp=N,7.8nm,0.7s

*ISCJB **21** 00:20:57.7±0.5,3892N±002×21.18E±003,h11km±4km, Error ellipse: s-maj=4.2km s-min=3.8km az=140.5*
*ATH **21** 00:20:57.9,3890N×21.13E,h15km±3km,MD3.3/6*
*CSEM **21** 00:20:58.4±0.1,3894N×2115E,h5km,ML3.0,Error ellipse: s-maj=1.9km s-min=1.8km az=119.0*
*NEIC **21** 00:20:58.1,3891N×21.16E,h18km,MD3.3(ATH),After ATH.*
*THE **21** 00:20:58.6,3891N×21.17E,h1km,ML3.0*
ISC 21 00:20:58.4±0.4,3893N±002×2115E±003,h16km±4km,n28, σ1§17/43,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.45**	**241**	*e*Pg	**Pg**	**00 21 07.6**	**+0.3**
LKD				*e*Sg	**Sg**	**00 21 13.6**	**+0.3**
EVR	**Evrytania**	**0.51**	**91**	*e*PN	**Pg**	**00 21 08.4**	**-0.2**
EVR				*e*SN	**Sg**	**00 21 16.1**	**+0.6**
EVR	**Evrytania**	**0.51**	**91**	*e*Pn	**Pg**	**00 21 08.8**	**+0.2**
EVR				Sn	**Sg**	**00 21 15.8**	**+0.3**
JAN	**Janina**	**0.77**	**342**	*e*PN	**Pn**	**00 21 12.1**	**-2.5**
JAN				*e*SN	**Sn**	**00 21 24.0**	**-1.8**
MEV	**Metsovon**	**0.86**	**4**	*e*Pg	**Pg**	**00 21 14.4**	**-0.7**
MEV				*e*Sg	**Sg**	**00 21 27.6**	**+1.1**
VLS	**Valsamata**	**0.87**	**211**	*e*Pg	**Pg**	**00 21 14.1**	**-1.1**
VLS	**Valsamata**	**0.87**	**211**	*e*PN	**Pn**	**00 21 14.0**	**-1.9**
VLS	**Valsamata**	**0.87**	**211**	*e*Pn	**Pn**	**00 21 14.4**	**-1.5**
IGT	**Igoumenitsa**	**0.88**	**314**	*e*Pg	**Pg**	**00 21 14.7**	**-0.7**
IGT				*e*Sg	**Sg**	**00 21 28.7**	**+1.8**
RLS	**Riolos of Patr**	**0.90**	**164**	*e*PN	**Pn**	**00 21 15.9**	**-0.5**
RLS	**Riolos of Patr**	**0.90**	**164**	*e*Pn	**Pn**	**00 21 16.2**	**-0.2**
RLS				*e*Sb	**Sb**	**00 21 28.1**	**+0.7**
AGG	**Agios Georgios**	**0.93**	**84**	*e*Pg	**Pg**	**00 21 15.8**	**-0.5**
AGG				*e*Sg	**Sg**	**00 21 28.8**	**+0.4**
THL	**Klokotos Trika**	**0.93**	**46**	*e*Pg	**Pg**	**00 21 15.3**	**-1.0**
THL				*e*Sg	**Sg**	**00 21 29.4**	**+0.9**
THL	**Klokotos Trika**	**0.93**	**46**	*e*Pn	**Pn**	**00 21 15.6**	**-1.2**
THL				Sn	**Sn**	**00 21 28.6**	**-1.1**
THL				*e*Sg	**Sg**	**00 21 29.4**	**+0.9**
KEK	**Kerkira**	**1.31**	**307**	*e*PN	**Pn**	**00 21 23.2**	**+1.2**
KEK	**Kerkira**	**1.31**	**307**	*e*Pn	**Pn**	**00 21 23.5**	**+1.5**
LKR	**Lokris**	**1.47**	**100**	*e*Pg	**Pg**	**00 21 25.5**	**-1.2**
LKR				*e*Sg	**Sg**	**00 21 45.5**	**-0.3**
LKR	**Lokris**	**1.47**	**100**	*e*PN	**Pn**	**00 21 25.7**	**+1.5**
LKR	**Lokris**	**1.47**	**100**	*e*Pn	**Pn**	**00 21 26.1**	**+1.9**
LKR				*e*Sg	**Sg**	**00 21 45.5**	**-0.3**
LIT	**Litokhoron**	**1.57**	**41**	*e*Pg	**Pg**	**00 21 26.4**	**-2.1**
LIT				*e*Sg	**Sg**	**00 21 48.9**	**0.0**
XOR	**Xorichti**	**1.65**	**74**	*e*Pb	**Pb**	**00 21 27.6**	**-0.8**
XOR	**Xorichti**	**1.65**	**74**	*e*Pb	**Pb**	**00 21 27.5**	**-0.9**
NEO	**Neokhori**	**1.66**	**76**	*e*PN	**Pn**	**00 21 29.0**	**+2.2**
ITM	**Ithomi**	**1.85**	**160**	*e*Pn	**Pn**	**00 21 30.6**	**+1.2**
FNA	**Florina**	**1.86**	**5**	*e*Pb	**Pb**	**00 21 32.5**	**+0.5**
FNA				*e*Sb	**Sb**	**00 21 55.4**	**+0.2**
PLG	**Polygyros**	**2.29**	**50**	*e*PN	**Pn**	**00 21 37.2**	**+1.7**
PLG	**Polygyros**	**2.29**	**50**	*e*Pn	**Pn**	**00 21 37.0**	**+1.5**
KNT	**Kendrikon**	**2.61**	**30**	*e*Pn	**Pn**	**00 21 41.8**	**+1.9**

*NEIC **21** 00:34:04.6,3575N×2654E,h47km,MD3.4(ATH),After ATH.*
*CSEM **21** 00:34:04.8±0.1,3571N×2656E,h40km,ML3.2,Error ellipse: s-maj=3.0km s-min=1.5km az=128.0*
*ISCJB **21** 00:34:04.1±0.4,3567N±003×2653E±004,h67km±9km, Error ellipse: s-maj=5.7km s-min=3.9km az=34.9*
*ATH **21** 00:34:04.6,3575N×2654E,h47km,MD3.4/8*
*THE **21** 00:34:05.8,3569N×2651E,h43km,ML3.2*
*HLW **21** 00:34:07.6,3550N×2688E,h28km,Mb3.1*
ISC 21 00:34:05.5±0.4,3569N×2653E±004,h49km±17km, n35,σ0§87/49,5C,Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.63**	**204**	*e*Pg	**Pn**	**00 34 17.7**	**-0.5**
ZKR				*e*Sg	**Sn**	**00 34 27.0**	**-0.3**
NPS	**Neapolis**	**0.86**	**241**	*e*P	**Pn**	**00 34 21.4**	**+0.2**

LAST	Lasithi	1.01	239	*e*Pg	Pn	00 34 23.2	0.0
LAST				*e*Sg	Sn	00 34 35.5	-0.8
NISR	Nisiros	1.04	28	*e*P	Pn	00 34 23.5	-0.2
NISR				*e*S	Sn	00 34 36.0	-1.2
XRY	Khrisi	1.06	220	*e*P	Pn	00 34 25.0	+1.1
XRY				*e*S	Sn	00 34 39.5	+1.9
SANT	Santorini	1.10	308	*e*Pg	Pn	00 34 24.6	+0.1
SANT				*e*Sg	Sn	00 34 38.7	+0.1
SANT	Santorini	1.10	308	P	Pn	00 34 25.3	+0.8
SANT				*e*Sg	Sn	00 34 38.7	0.0
THR1	Thera Island	1.10	308	*e*Pg	Pn	00 34 24.8	+0.2
DAT	Datca	1.34	39	*e*PN	Pn	00 34 26.8	-1.0
IDI	Anoyia	1.40	254	P	Pn	00 34 28.5	0.0
ARG	Arkhangelos	1.40	67	*e*P	Pn	00 34 29.3	+0.8
ARG				*e*S	Sn	00 34 45.5	-0.3
SIVA	Sivas	1.56	245	*e*Pg	Pn	00 34 31.4	+0.7
SIVA				*e*Sg	Sn	00 34 49.9	+0.2
APE	Apeiranthos	1.60	330	*e*Pg	Pn	00 34 31.3	+0.1
APE				*e*Sg	Sn	00 34 50.2	-0.5
APE	Apeiranthos	1.60	330	*e*P	Pn	00 34 31.6	+0.3
APE				*e*S	Sn	00 34 50.2	-0.5
MLSB	Milas	1.89	32	*e*PN	Pn	00 34 35.3	0.0
VAM	Vamos	1.92	262	*e*P	Pn	00 34 35.0	-0.7
DALT	Dalyan (Mudla)	2.02	57	*e*PN	Pn	00 34 37.5	+0.5
YER	Yerkesik	2.02	44	*e*PN	Pn	00 34 37.4	+0.3
SMG	Samos	2.03	7	*e*P	Pn	00 34 37.2	0.0
KARN	Karanos	2.15	263	*e*Pn	Pn	00 34 38.7	-0.1
KARN				*e*Sn	Sn	00 35 03.0	-1.2
GVD	Gavdhos	2.17	248	*e*P	Pn	00 34 41.0	+1.9
FETY	Fethiye	2.27	65	*e*PN	Pn	00 34 42.0	+1.5
CHOS	Chios island	2.72	352	*e*Pn	Pn	00 34 46.1	-0.6
CHOS				*e*Sn	Sn	00 35 17.9	-0.4
BLCB	Balcova	2.72	8	*e*PN	Pn	00 34 46.5	-0.1
BLCB	Balcova	2.72	8	*e*Pn	Pn	00 34 46.8	+0.1
BLCB				*e*Sn	Sn	00 35 18.0	-0.4
ELL	Elmali	2.93	68	*e*PN	Pn	00 34 51.5	+2.0
KULA	Kula-Manisa	3.30	30	*e*PN	Pn	00 34 56.0	+1.4
ITM	Ithomi	4.00	293	*e*P	Pn	00 35 04.4	+0.2
HMAT	Matruh	4.61	174	⇑P	Pn	00 35 12.2	-0.3
SWA1		6.44	186	⇑P	Pn	00 35 37.7	-0.1
SWA2		6.49	188	⇑P	Pn	00 35 38.1	-0.3
SWA2				S	Sn	00 36 46.0	-5.1
AMAG	Maghara	7.53	130	P	Pn	00 35 49.5	-3.0
AWBH		7.62	164	⇑P	Pn	00 35 52.4	-1.5
AWBH		7.62	164	P	Pn	00 35 52.3	-1.5
HFRF	Wahat Farafira	8.65	169	⇑P	Pn	00 36 06.6	-1.3

*ISCJB **21** 00:39:05.9±1.1, 187S±02×176.1W±02, h33km, mb4.7/8, Error ellipse: s-maj=25.1km s-min=22.5km az=168.3*
*NEIC **21** 00:39:08.0±1.1, 1870S×17609W, h35km, mb4.7/7, Error ellipse: s-maj=25.5km s-min=23.0km az=175.0*
*IDC **21** 00:39:49.1±6.7, 2004S×17650W, h423km±108km, mb4.0/4, mb1 4.1/5, mb1mx3.5/16, mbtmp3.9/5, Error ellipse: s-maj=203.2km s-min=24.3km az=66.0*

ISC 21 00:39:08.1±1.1, 187S±02×1761W±02, h35km, n15, σ0°97/15, mb4.7/8, 3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.39**	**195**	P	**P**	**00 43 42.4**	**+0.6**
URZ	0.7nm,0.3s,baz=3.9,slow=10.0,SNR=3.2			S	S	00 46 54.5	-34
CTA	**Charters Tower**	**35.45**	**261**	⇓*i*P	**P**	**00 46 03.7**	**+2.4**
CTA	12nm,0.5s,mb5.1 **Charters Tower**	**35.45**	**261**	P	**P**	**00 46 03.8**	**+2.5**
CTAO	14nm,0.5s,mb5.2,baz=92,slow=10,SNR=25 **Charters Tower**	**35.45**	**261**	*e*P	**P**	**00 46 03.5**	**+2.1**
STKA	9.7nm,0.4s,mb5.1 **Stephens Creek**	**40.17**	**242**	*e*P	**P**	**00 46 39.3**	**-1.7**
STKA	5.9nm,1.6s,mb4.1 **Stephens Creek**	**40.17**	**242**	P	**P**	**00 46 39.5**	**-1.6**
WB2	1.3nm,0.3s,mb4.1,baz=95,slow=11,SNR=6.1 **Warramunga Arr**	**46.60**	**260**	⇓*i*P	**P**	**00 47 32.6**	**-0.5**
WB2	**Warramunga Arr**	**46.60**	**260**	*e*P	**P**	**00 47 32.8**	**-0.3**
WRAB	**Tennant Creek**	**46.61**	**260**	*e*P	**P**	**00 47 32.5**	**-0.7**
WRA	3.9nm,0.5s,mb4.6 **Warramunga Arr**	**46.62**	**260**	P	**P**	**00 47 33.0**	**-0.2**
ASAR	6.2nm,0.3s,mb5.0,baz=96,slow=7.6,SNR=287 **Alice Springs**	**46.66**	**255**	P	**P**	**00 47 33.0**	**-0.5**
KAKA	20nm,0.7s,mb5.2,baz=94,slow=8.2,SNR=176 **Kakadu**	**49.72**	**269**	⇓*i*P	**P**	**00 47 58.7**	**+1.4**
FITZ	9.2nm,0.7s,mb4.9 **Fitzroy Crossi**	**55.03**	**261**	*e*P	**P**	**00 48 36.3**	**-0.3**
QSPA	6.6nm,1.5s,mb4.4 **South Pole Qui**	**71.39**	**180**	*e*P	**P**	**00 50 24.1**	**0.0**
OHCM	9.8nm,1.4s,mb4.5 **Honcut**	**77.03**	**40**	*e*P	**P**	**00 50 57.4**	**-0.1**

*ISK **21** 00:41:49.5, 3735N×2662E, h2km, MD3.2*
*CSEM **21** 00:41:50.9±0.1, 3734N×2667E, h8km, MD2.9, Error ellipse: s-maj=3.2km s-min=2.9km az=21.0*
*ISCJB **21** 00:41:50.8±0.5, 3733N±002×2661E±003, h8km, Error ellipse: s-maj=4.0km s-min=3.2km az=140.2*
*DDA **21** 00:41:50.7, 3733N×2662E, h6km±1km, Md2.9*
*ATH **21** 00:41:51.4, 3733N×2667E, h3km, MD3.2/3*
*THE **21** 00:41:51.4, 3735N×2667E, h7km, ML3.0*

ISC 21 00:41:51.3±0.5, 3733N±002×2662E±003, h2km±5km, n24, σ1°08/41, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.41**	**25**	*e*PG	**Pg**	**00 41 59.2**	**0.0**
SMG				*e*SG	**Sg**	**00 42 04.9**	**+0.3**
BDRM	**Kayabasi**	**0.71**	**112**	*i* P	**Pg**	**00 42 04.6**	**-0.4**
BDRM				*i* S	**Sg**	**00 42 15.0**	**+0.8**
APE	**Apeiranthos**	**0.91**	**253**	*e*Pg	**Pg**	**00 42 09.1**	**+0.5**
APE				*e*Sg	**Sg**	**00 42 23.0**	**+2.6**
APE	**Apeiranthos**	**0.91**	**253**	*e*PG	**Pg**	**00 42 09.6**	**+1.0**
APE				*e*SG	**Sg**	**00 42 22.6**	**+2.2**
APE	**Apeiranthos**	**0.91**	**253**	*e*Pg	**Pg**	**00 42 09.1**	**+0.5**
APE				Sg	**Sg**	**00 42 22.6**	**+2.2**
MLSB	**Milas**	**0.93**	**92**	*e*PG	**Pg**	**00 42 08.4**	**-0.6**
MLSB				*e*SG	**Sg**	**00 42 21.7**	**+0.7**
DAT	**Datca**	**0.98**	**128**	*e*PG	**Pg**	**00 42 09.3**	**-0.7**
DAT				*e*SG	**Sg**	**00 42 23.1**	**+0.4**
URLA	**Izmir**	**1.02**	**359**	*i* P	**Pg**	**00 42 10.5**	**-0.4**
URLA				*i* S	**Sg**	**00 42 25.3**	**+1.1**
AYDN	**Tasoluk**	**1.06**	**72**	*e*P	**Pg**	**00 42 10.9**	**-0.6**
AYDN				*i* S	**Sg**	**00 42 25.3**	**+0.1**
BLCB	**Balcova**	**1.10**	**18**	*e*PN	**Pn**	**00 42 11.1**	**-2.6**
BLCB				*e*SN	**Sn**	**00 42 27.1**	**-2.3**
BLCB	**Balcova**	**1.10**	**18**	*e*Pg	**Pg**	**00 42 11.1**	**-1.3**
BLCB				*e*Sg	**Sg**	**00 42 26.2**	**-0.4**
BLCB	**Balcova**	**1.10**	**18**	*e*Pg	**Pg**	**00 42 11.1**	**-1.3**
BLCB				*e*Sg	**Sg**	**00 42 26.2**	**-0.5**
CHOS	**Chios island**	**1.14**	**337**	*e*Pg	**Pg**	**00 42 12.7**	**-0.4**
CHOS				*e*Sg	**Sg**	**00 42 28.6**	**+0.7**
KDAG	**Bornova**	**1.18**	**26**	*i* P	**Pg**	**00 42 13.3**	**-0.6**
KDAG				*i* S	**Sg**	**00 42 30.5**	**+1.2**
THR1	**Thera Island**	**1.34**	**224**	*e*Pg	**Pg**	**00 42 15.7**	**-1.2**
YER	**Yerkesik**	**1.34**	**98**	*e*PN	**Pn**	**00 42 16.2**	**-0.8**
YER				*e*SN	**Sn**	**00 42 36.0**	**+0.6**
DALT	**Dalyan (Mudla)**	**1.71**	**109**	*e*PN	**Pn**	**00 42 21.3**	**-0.7**
AKHS	**Akhisar**	**1.81**	**31**	*i* P	**Pn**	**00 42 24.8**	**+1.4**
AKHS				*i* S	**Sn**	**00 42 50.3**	**+3.4**
AKS	**Akhisar**	**1.81**	**31**	*e*PN	**Pn**	**00 42 22.0**	**-1.4**
MANT	**Manisa**	**1.92**	**52**	*i* P	**Pn**	**00 42 27.1**	**+2.2**
MANT				*i* S	**Sn**	**00 42 52.8**	**+3.2**
PRK	**Paraskevi**	**1.93**	**352**	*e*PG	**Pg**	**00 42 27.6**	**-0.6**
KULA	**Kula-Manisa**	**2.00**	**53**	*e*PN	**Pn**	**00 42 25.8**	**-0.2**
FETY	**Fethiye**	**2.10**	**109**	*e*PN	**Pn**	**00 42 27.5**	**+0.2**
ELL	**Elmali**	**2.70**	**102**	*e*PN	**Pn**	**00 42 35.8**	**+0.1**

IDC 21 00:45:24.2±10.0, 2175N×14301E, h176km±102km, mb3.1/7, mb1 3.3/7, mb1mx3.2/19, mbtmp3.1/7, MS2.9/3, Ms1 2.9/3, ms1mx2.8/8, Error ellipse: s-maj=47.4km s-min=16.0km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.36**	**294**	LR	LR	00 52 59.2	
JNU	comp=Z,75nm,19.1s,baz=123,slow=32 **Nakatsue**	**15.62**	**319**	LR	LR	00 53 28.5	
KSRS	comp=Z,41nm,19.7s,baz=248,slow=31 **Korea Array**	**20.38**	**323**	P	P	00 49 47.8	+0.5
KSRS	0.6nm,0.3s,baz=134,slow=9.9,SNR=4.4			LR	LR	00 56 42.9	
	comp=Z,29nm,19.0s,baz=130,slow=33						
SONM	**Songino Array**	**39.20**	**321**	P	P	00 52 34.6	-0.4
	0.5nm,0.5s,baz=137,slow=7.1,SNR=5.4						
WRA	**Warramunga Arr**	**42.29**	**192**	P	P	00 53 00.5	-0.1
	1.5nm,0.9s,baz=4.5,slow=8.7,SNR=6.4						
ASAR	**Alice Springs**	**46.00**	**192**	P	P	00 53 29.9	-0.1
	0.8nm,0.7s,baz=16,slow=9.6,SNR=8.7						
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	P	00 54 29.6	-0.8
	0.7nm,0.5s,baz=69,slow=9.7,SNR=3.8						
MKAR	**Makanchi Array**	**54.55**	**313**	P	P	00 54 34.6	+0.7
	0.4nm,0.7s,baz=92,slow=10,SNR=4.0						
YKA	**Yellowknife Ar**	**76.49**	**28**	P	P	00 56 54.5	+0.2
	0.2nm,0.5s,baz=293,slow=5.9,SNR=7.0						

*IDC **21** 01:09:35.3±16.0, 4497N×14594E, h0km, mb3.8/4, mb1 4.0/4, mb1mx3.5/20, mbtmp3.8/4, Error ellipse: s-maj=385.7km s-min=46.5km az=176.0*
*ISCJB **21** 01:10:43.4±0.6, 476N±0.1×1464E±03, h540km±17km, mb3.4/4, Error ellipse: s-maj=32.4km s-min=21.3km az=21.7*
*MOS **21** 01:10:43.2±0.6, 4795N×14624E, h523km, mb3.7/1, Error ellipse: s-maj=85.2km s-min=31.2km az=77.9*
*NEIC **21** 01:10:44.3±0.8, 4791N×14642E, h516km±18km, mb4.3/1, Error ellipse: s-maj=33.1km s-min=25.5km az=148.0*

ISC 21 01:10:44.2±0.6, 478N±02×1466E±03, h523km±19km, n21, σ0°83/24, mb3.4/4, 1C, Northwest of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YSS	**Yuzh-Sakhalins**	**2.71**	**254**	⇑*i*P	**P**	**01 11 54.1**	**-1.0**
YSS	comp=Z,50nm,0.8s			pmax	pmax		
YSS	**Yuzh-Sakhalins**	**2.71**	**254**	*e*P	**P**	**01 11 54.5**	**-0.6**
JWK2	**Keihoku**	**4.04**	**235**	P	**P**	**01 12 05.6**	**+1.1**
JTKR	**Abashiri--Toko**	**4.21**	**207**	P	**P**	**01 12 06.3**	**+0.4**
JMP	**Maruseppu**	**4.36**	**212**	P	**P**	**01 12 07.5**	**+0.4**
JNK	**Nakash**	**4.37**	**198**	P	**P**	**01 12 07.5**	**+0.3**
NEM2	**Nemuro 2**	**4.43**	**188**	P	**P**	**01 12 06.2**	**-1.5**
JAR	**Ashorobuto**	**4.87**	**205**	P	**P**	**01 12 11.9**	**+0.5**
JAK	**Akkeshi**	**4.94**	**196**	P	**P**	**01 12 11.3**	**-0.7**
JOB	**Onbets**	**5.22**	**203**	P	**P**	**01 12 14.6**	**+0.2**
JCH	**Churui**	**5.62**	**205**	P	**P**	**01 12 17.5**	**-0.5**
JCH				*e*S	**S**	**01 13 30.0**	**-4.6**
JNBK	**Urakawa-nobuka**	**6.10**	**208**	P	**P**	**01 12 22.6**	**0.0**
JNBK				*e*S	**S**	**01 13 38.9**	**-4.0**
JEM	**Erimo**	**6.23**	**204**	P	**P**	**01 12 24.8**	**+1.1**
JEM				*e*S	**S**	**01 13 41.3**	**-3.8**
ERM	**Erimo**	**6.23**	**204**	*e*P	**P**	**01 12 24.5**	**+0.8**
ERM	comp=Z,13nm,0.4s			pmax	pmax		
ERM	**Erimo**	**6.23**	**204**	*e*P	**P**	**01 12 24.5**	**+0.8**
	comp=Z,13nm,0.4s						
JANG	**Nango**	**8.22**	**208**	P	**P**	**01 12 46.8**	**+3.3**
IMA2	**Indian Mountai**	**35.66**	**37**	*e*P	**P**	**01 16 57.4**	**-0.1**
INK	**Inuvik**	**43.20**	**32**	P	**P**	**01 17 58.1**	**-0.1**
	comp=Z,0.7nm,0.3s,mb3.7,baz=275,slow=7.3,SNR=14						
YKA	**Yellowknife Ar**	**52.73**	**35**	P	**P**	**01 19 10.0**	**+0.5**
	comp=Z,0.4nm,0.5s,mb3.0,baz=304,slow=7.1,SNR=9.3						
FINES	**FINESS Array B**	**61.13**	**332**	P	**P**	**01 20 06.4**	**-0.7**
	comp=Z,1.3nm,0.7s,mb3.4,baz=45,slow=8.4,SNR=7.6						
NOA	**NORSAR Array B**	**65.73**	**338**	P	**P**	**01 20 36.2**	**-0.2**
	comp=Z,0.6nm,0.5s,mb3.4,baz=30,slow=6.5,SNR=2.8						

*NIED **21** 01:21:00, 2750N×14120E, h220km, Mw5.0 Best double couple: M0:3.17000×10^16 NP1:φ0=116.00000°, δ87.00000°, λ155.00000°. NP2:φ0=208.00000°, δ65.00000°, λ4.00000°.*
*ISCJB **21** 01:21:46.9±0.4, 2728N±004×14089E±008, h203km±4km, mb4.1/23, Error ellipse: s-maj=12.3km s-min=5.8km az=165.4*
*IDC **21** 01:21:47.5±0.6, 2731N×14059E, h191km±5km, mb3.7/15, mb1 3.8/17, mb1mx3.7/23, mbtmp3.7/17, Error ellipse: s-maj=15.0km s-min=9.3km az=83.0*
*MOS **21** 01:21:47.2±0.9, 2728N×14044E, h203km, mb4.2/4, Error ellipse: s-maj=22.4km s-min=7.8km az=94.4*
*BJI **21** 01:21:49.2, 2740N×14060E, h205km, mB4.8, mb4.6*
*JMA **21** 01:21:49.5±0.1, 2750N×141.16E, h196km±4km, M4.7*
JMA Felt I J1.
*NEIC **21** 01:21:49.2±1.1, 2735N×14060E, h206km±11km, mb4.9/5, MW4.9(NIED), Error ellipse: s-maj=13.6km s-min=7.2km az=86.0*
NEIC Recorded [1 JMA] in the Chichijima-retto.

ISC 21 01:21:47.8±0.4, 2729N±004×14077E±008, h192km±5km, h196km±6.2km: pP-P, n71, σ1°08/80, mb4.1/23, 2C-4D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.27**	**98**	P	**Pn**	**01 22 19.1**	**+0.3**
CBIJ				S	**Sn**	**01 22 41.3**	**-1.4**
CBIJ	**Chichi jima**	**1.27**	**98**	P	**Pn**	**01 22 19.2**	**+0.4**
	730nm,0.3s,baz=31,slow=0.8,SNR=110						
CBIJ				S	**Sn**	**01 22 40.6**	**-2.1**
	2μm,0.3s,baz=273,slow=22,SNR=31						
JHHJ	**Haha-jima-NKT**	**1.42**	**117**	P	**Pn**	**01 22 20.7**	**+0.7**
JHHJ				S	**Sn**	**01 22 44.6**	**-0.3**
JHJ2	**Mitsune**	**5.86**	**352**	P	**Pn**	**01 23 14.1**	**+1.0**
JHJ	**Hachijo jima 2**	**5.87**	**352**	P	**Pn**	**01 23 14.1**	**+0.9**
	48nm,0.3s,baz=265,slow=19,SNR=18						
JHJ				S	**Sn**	**01 24 16.1**	**-4.7**
	15nm,0.3s,baz=70,slow=17,SNR=2.5						
JKO	**Kozu shima**	**7.02**	**349**	P	**Pn**	**01 23 28.9**	**+0.8**
NJJJ	**Nii jima 2**	**7.21**	**350**	P	**Pn**	**01 23 31.2**	**+0.6**
BSO1	**Boso 1**	**7.34**	**1**	P	**Pn**	**01 23 31.8**	**-0.6**
BSO1				*e*S	**Sn**	**01 24 49.6**	**-5.8**
BSO3	**Boso 3**	**7.49**	**358**	P	**Pn**	**01 23 33.4**	**-0.9**
JWZ	**Kozaga**	**7.60**	**326**	P	**Pn**	**01 23 38.7**	**+3.0**
BSO4	**Boso 4**	**7.69**	**357**	P	**Pn**	**01 23 36.2**	**-0.6**
BSO4				*e*S	**Sn**	**01 24 58.4**	**-5.1**
JIE	**Ise**	**7.89**	**335**	P	**Pn**	**01 23 41.9**	**+2.3**
JOD2	**Odawara 2**	**8.08**	**350**	P	**Pn**	**01 23 42.2**	**+0.2**
JOD2				*e*S	**Sn**	**01 25 07.1**	**-5.7**
JRY	**Ryogami san**	**8.85**	**350**	P	**Pn**	**01 23 51.2**	**-0.8**
JRY				S	**Sn**	**01 25 24.6**	**-6.4**
JTO	**Tosashimizu**	**8.86**	**311**	P	**Pn**	**01 23 55.9**	**+3.7**
MJAR	**Matsushiro Arr**	**9.48**	**347**	P	**Pn**	**01 23 59.5**	**-0.7**
	3.6nm,0.3s,baz=124,slow=13,SNR=28						
MAJO	**Matsushiro**	**9.48**	**347**	*e*P	**Pn**	**01 23 59.1**	**-1.1**
MAJO	comp=Z,38nm,0.6s			pmax	pmax		
MAJO	**Matsushiro**	**9.48**	**347**	*e*Pn	**Pn**	**01 23 59.0**	**-1.2**
	comp=Z,38nm,0.6s						
MAT	**Matsushiro**	**9.48**	**347**	P	**Pn**	**01 23 59.7**	**-0.5**
MAT				S	**Sn**	**01 25 45.1**	**-1.0**
MAT	**Matsushiro**	**9.48**	**347**	P	**Pn**	**01 23 59.4**	**-0.8**
JNU	**Nakatsue**	**10.34**	**307**	P	**Pn**	**01 24 15.8**	**+4.2**
	comp=Z,1.1nm,0.3s,baz=100,slow=13,SNR=34						
GUMO	**Guam**	**14.16**	**163**	P	**Pn**	**01 25 03.8**	**+3.7**
	comp=Z,7.8nm,0.3s,baz=111,slow=1.4,SNR=6.5						
ERM	**Erimo**	**14.82**	**7**	*e*P	**Pn**	**01 25 08.5**	**+0.5**
ERM				*e*S	**Sn**	**01 27 43.1**	**-10**
ERM				pmax	pmax		
	comp=Z,67nm,0.9s						
ERM	**Erimo**	**14.82**	**7**	*e*Pn	**Pn**	**01 25 08.5**	**+0.5**
	comp=Z,67nm,0.9s						
ERM				*e*S	**Sn**	**01 27 43.1**	**-10**
KSRS	**Korea Array**	**14.84**	**316**	P	**Pn**	**01 25 11.8**	**+3.6**
	comp=Z,1.3nm,0.3s,baz=126,slow=12,SNR=41						
ASAJ	**Asahikawa**	**16.86**	**5**	P	**Pn**	**01 25 34.0**	**+1.4**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**16.86**	**5**	P	**Pn**	**01 25 34.0**	**+1.4**
	comp=Z,2.1nm,0.3s,baz=201,slow=12,SNR=14						
YHNB	**Yeheng**	**17.63**	**266**	*e*P	**Pn**	**01 25 41.5**	**-0.4**
NJ2	**Nanjing**	**19.62**	**289**	*e*P	**P**	**01 25 57.5**	**-4.1**
NJ2				XP	sP	01 26 57.0	-1.0
NJ2				S	**S**	**01 29 19.0**	**-14**
NJ2				PCP	PcP	01 30 12.0	-0.8
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s						
NJ2				AMB	AMB		
	comp=Z,150nm,5.2s						
NJ2				LR	LR		
	comp=N,300nm,10.8s						
NJ2				LR	LR		
	comp=E,300nm,15.0s						
NJ2				LR	LR		
	comp=Z,220nm,11.7s						
YSS	**Yuzh-Sakhalins**	**19.69**	**4**	⇑*e*P	**P**	**01 26 05.0**	**+2.8**
YSS				pmax	pmax		
	comp=Z,57nm,1.5s						
YSS	**Yuzh-Sakhalins**	**19.69**	**4**	*e*P	**P**	**01 26 06.5**	**+4.2**
	comp=Z,34nm,0.6s						
KLR	**Kul'dur**	**22.99**	**345**	*e*P	**P**	**01 26 29.8**	**-5.7**
MA2	**Magadan**	**33.01**	**9**	*d i*P	**P**	**01 28 05.6**	**+1.2**
MA2				pmax	pmax		
	comp=Z,40nm,1.5s,mb4.7						
MA2	**Magadan**	**33.01**	**9**	*e*P	**P**	**01 28 05.4**	**+1.0**
	comp=Z,22nm,0.9s,mb4.7						
SONM	**Songino Array**	**33.71**	**317**	P	**P**	**01 28 09.8**	**-0.8**
	comp=Z,0.5nm,0.5s,baz=124,slow=6.2,SNR=5.6						
SONM				ScP	ScP	01 34 08.5	-3.6
	comp=Z,0.5nm,0.7s,baz=104,slow=4.6,SNR=3.5						
BOD	**Bodaibo**	**35.86**	**336**	*e*P	**P**	**01 28 27.4**	**-1.5**
BOD				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
SEY	**Seymchan**	**36.46**	**9**	⇓*e*P	**P**	**01 28 35.1**	**+1.2**
BILL	**Bilibino**	**43.56**	**14**	⇑*e*P	**P**	**01 29 33.6**	**+1.4**
BILL				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.1						
TIXI	**Tiksi**	**44.90**	**355**	⇓*e*P	**P**	**01 29 41.9**	**-0.9**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.6						
PSI	**Prapat**	**46.82**	**246**	P	**P**	**01 29 59.2**	**+0.6**
	comp=Z,18nm,0.6s,mb4.6,baz=39,slow=3.9,SNR=18						
WRAB	**Tennant Creek**	**47.35**	**188**	*e*P	**P**	**01 30 02.1**	**-0.4**
WRAB				*e**PP	pP	01 30 49.2	+4.6
WRAB				pmax	pmax		
	comp=Z,30nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**47.35**	**188**	*e*Pn	**P**	**01 30 02.1**	**-0.4**
	comp=Z,30nm,0.8s,mb4.7						
WRAB				*e*pP	pP	01 30 49.2	+4.6
WRAB				sP	sP	01 31 15.3	+9.3
WB2	**Warramunga Arr**	**47.36**	**188**	*e*P	**P**	**01 30 02.3**	**-0.2**
WB2				*e*pP	pP	01 30 49.0	+4.3
WRA	**Warramunga Arr**	**47.36**	**188**	P	**P**	**01 30 02.4**	**-0.2**
WRA				*PP	pP	01 30 44.8	+0.1
WRA	**Warramunga Arr**	**47.36**	**188**	P	**P**	**01 30 02.4**	**-0.1**
	comp=Z,23nm,0.7s,mb4.6,baz=16,slow=9.2,SNR=217						
WRA				pP	pP	01 30 44.8	+0.1
	comp=Z,6.5nm,0.6s,baz=7.3,slow=8.6,SNR=1.4						
WRA				ScP	ScP	01 35 03.3	-2.6
	comp=Z,0.5nm,0.8s,baz=359,slow=4.9,SNR=3.8						
CTA	**Charters Tower**	**47.39**	**173**	P	**P**	**01 30 02.8**	**0.0**
	comp=Z,3.4nm,1.0s,mb3.6,baz=358,slow=8.8,SNR=2.8						
JIRN	**Jiri**	**48.08**	**284**	*e*P	**P**	**01 30 09.5**	**+1.3**
	comp=Z,16nm,0.6s,mb4.5						
GUN	**Gumba**	**48.29**	**284**	*e*P	**P**	**01 30 11.5**	**+1.7**
DMN	**Daman**	**49.03**	**284**	*e*P	**P**	**01 30 16.1**	**+0.7**
MKAR	**Makanchi Array**	**49.38**	**310**	P	**P**	**01 30 16.5**	**-1.3**
MKAR						01 31 35.9	
MKAR	**Makanchi Array**	**49.38**	**310**	P	**P**	**01 30 16.5**	**-1.3**
	comp=Z,0.4nm,0.7s,baz=88,slow=9.8,SNR=4.2						
MKAR				PcP	PcP	01 31 35.9	-1.3
	comp=Z,0.4nm,0.7s,baz=94,slow=5.8,SNR=2.7						
MKAR				ScP	ScP	01 35 10.8	-3.4
	comp=Z,0.8nm,0.7s,baz=101,slow=4.4,SNR=5.6						
DANN	**Dangsing**	**50.02**	**285**	*e*P	**P**	**01 30 23.9**	**+1.0**
	comp=Z,27nm,0.8s,mb4.6						
KOLN	**Koldanda**	**50.29**	**285**	*e*P	**P**	**01 30 25.7**	**+0.8**
	comp=Z,12nm,0.8s,mb4.3						
ASAR	**Alice Springs**	**51.09**	**188**	P	**P**	**01 30 30.3**	**-0.4**
	comp=Z,1.9nm,0.6s,mb3.7,baz=7.0,slow=6.3,SNR=17						
ASAR				PcP	PcP	01 31 42.4	-1.4
	comp=Z,0.7nm,0.8s,baz=13,slow=5.8,SNR=4.6						
BVAR	**Borovoye Array**	**57.05**	**317**	P	**P**	**01 31 12.7**	**-0.8**
	comp=Z,2.2nm,0.5s,mb4.1,baz=79,slow=7.7,SNR=12						
STKA	**Stephens Creek**	**58.84**	**179**	P	**P**	**01 31 25.7**	**-0.4**
	comp=Z,1.9nm,0.5s,mb4.0,baz=341,slow=4.9,SNR=6.2						
INK	**Inuvik**	**63.38**	**25**	P	**P**	**01 31 56.8**	**+0.5**
	comp=Z,2.5nm,0.7s,mb4.0,baz=289,slow=6.3,SNR=15						
ARU	**Arti**	**63.50**	**322**	*d i*P	**P**	**01 31 56.0**	**-1.2**
ARU				*e*		01 34 16.5	
ARU				*e*S	**S**	**01 40 13.4**	**-1.4**
ARU				*e*SS	SS	01 44 20.1	-4.8
ARU				pmax	pmax		
	comp=Z,21nm,2.5s,mb4.3						
AKTK	**Aktyubinsk**	**65.02**	**316**	P	**P**	**01 32 06.3**	**-0.8**
AKTO	**Aktyubinsk**	**65.02**	**316**	P	**P**	**01 32 06.3**	**-0.8**
	comp=Z,1.1nm,0.5s,mb3.7,baz=69,slow=14,SNR=5.9						
YKA	**Yellowknife Ar**	**72.57**	**28**

VLS	**Valsamata**	0.21	144	Pg	Pg	02 09 57.5	0.0
VLS				eSg	Sg	02 10 01.1	+0.5
LKD	**Levkas**	0.40	25	ePg	Pg	02 09 59.9	-0.9
LKD				eSg	Sg	02 10 05.9	-0.3
RLS	**Riolos of Patr**	0.86	109	ePB	Pb	02 10 09.1	-0.5
RLS				eSG	Sg	02 10 21.2	+0.4
IGT	**Igoumenitsa**	1.19	356	ePg	Pg	02 10 15.2	-0.6
IGT				eSg	Sg	02 10 32.6	+1.3
EVR	**Evrytania**	1.22	62	ePB	Pb	02 10 15.3	-0.4
AGG	**Agios Georgios**	1.63	65	ePb	Pb	02 10 22.4	-0.3
ITM	**Ithomi**	1.66	134	ePG	Pg	02 10 23.9	-0.8
THL	**Klokotos Trika**	1.73	45	ePB	Pb	02 10 24.9	+0.4
LKR	**Lokris**	2.03	81	ePN	Pn	02 10 29.8	+3.0

WEL 21 02:11:47.8±4.7, 3866S×17879E, h90km±81km, ML3.6/4, 1C, Error ellipse: s-maj=63.0km s-min=42.4km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PUZ	**Puketiti**	0.72	324	⇑PN	Pn	02 12 06.7	+2.2
PUZ				SN	Sn	02 12 13.4	-3.5
PUZ				SN	Sn	02 12 13.5	-3.4
MWZ	**Matawai**	1.04	288	PN	Pn	02 12 10.9	+2.9
MXZ	**Matakaoa Point**	1.16	340	PN	Pn	02 12 08.1	-1.2
MXZ				SN	Sn	02 12 16.1	-9.4
URZ	**Urewera**	1.38	286	PN	Pn	02 12 13.7	+1.7
URZ				SN	Sn	02 12 25.8	-4.5
WNVZ	**Wahianoa**	2.58	254	ePN	Pn	02 12 34.6	+6.9
WAZ	**Wanganui**	3.15	248	PN	Pn	02 12 44.0	+8.6
HOWZ	**Holdsworth Sta**	3.38	227	PN	Pn	02 12 34.7	-3.7
THZ	**Tophouse**	5.47	234	ePN	Pn	02 13 13.8	+7.1

*IDC **21** 02:21:16.0±7.0, 3628N×7101E, h164km±64km, mb3.2/9, mb1 3.3/12, mb1mx3.2/24, mbtmp3.1/12, Error ellipse: s-maj=33.9km s-min=18.2km az=20.0*
*MOS **21** 02:21:17.7±0.6, 3643N×7101E, h191km, mb4.7/1, Error ellipse: s-maj=24.2km s-min=11.7km az=86.8*
*ISCJB **21** 02:21:19.8±0.5, 3656N±004×71.14E±007, h206km±6km, mb3.3/9, Error ellipse: s-maj=9.1km s-min=6.5km az=14.0*
*NEIC **21** 02:21:20.7±0.7, 3653N×7119E, h205km±6km, mb4.7/4, Error ellipse: s-maj=12.2km s-min=7.9km az=124.0*
*NNC **21** 02:21:27.2±4.4, 37.14N×7098E, h224km±37km, mb2.5, mpv4.0, Error ellipse: s-maj=46.6km s-min=23.0km az=34.0*

ISC 21 02:21:20.6±0.5, 3655N±004×7115E±007, h200km±6km, n38, σ0§92/44, mb3.3/9, 4C-9D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	2.64	221	⇓iPn	Pn	02 22 07.5	+1.4
KBL				eSn	Sn	02 22 41.0	-0.6
THN	**Thein Dam**	5.58	136	eP	Sn	02 23 46.4	-0.6
AML	**Almayashu**	5.91	19	⇓iPn	Pn	02 22 46.8	+0.3
61nm,0.5s							
AML				eSn	Sn	02 23 52.2	-2.4
AML	**Almayashu**	5.91	19	P	Pn	02 22 47.0	+0.4
SNR=65							
UCH	**Uchtor**	6.24	24	⇓iPn	Pn	02 22 51.3	+0.5
29nm,0.6s							
UCH				eSn	Sn	02 23 59.5	-2.8
UCH	**Uchtor**	6.24	24	P	Pn	02 22 51.5	+0.7
SNR=40							
KZA	**Kyzart**	6.37	29	P	Pn	02 22 52.5	0.0
SNR=10							
EKS2	**Erkin-Say**	6.43	18	ePn	Pn	02 22 53.4	+0.1
8.1nm,0.4s							
EKS2	**Erkin-Say**	6.43	18	P	Pn	02 22 53.4	+0.1
SNR=11							
KK31	**Karatay Array**	6.56	356	⇓P	Pn	02 22 54.4	-0.6
1.4nm,0.3s,baz=179,slow=13,SNR=96							
KK31				⇑S	Sn	02 24 04.1	-5.8
14nm,0.6s,baz=178,slow=20,SNR=4.6							
AAK	**Ala-Archa**	6.60	22	P	Pn	02 22 56.1	+0.6
SNR=11							
KBK	**Karagaybulak**	6.76	25	P	Pn	02 22 59.3	+1.7
SNR=9.3							
ULHL	**Ulahol**	6.92	33	P	Pn	02 23 00.3	+0.7
SNR=6.6							
USP	**Ospenovka**	7.18	20	P	Pn	02 23 03.3	+0.2
SNR=6.7							
TKM2	**Tokmak 2**	7.22	27	⇑P	Pn	02 23 04.0	+0.4
23nm,0.6s							
TKM2	**Tokmak 2**	7.22	27	⇓iPN	Pn	02 23 03.8	+0.2
TKM2				pmax	pmax		
comp=Z,48nm,1.0s							
TKM2	**Tokmak 2**	7.22	27	⇓iPn	Pn	02 23 03.8	+0.2
comp=Z,48nm,1.0s							
TKM2	**Tokmak 2**	7.22	27	P	Pn	02 23 04.6	+1.0
SNR=5.7							
MK31	**Makanchi Array**	13.18	36	⇓P	Pn	02 24 21.4	+1.2
comp=Z,2.4nm,0.8s,baz=211,slow=13,SNR=8.1							
MK31	**Makanchi Array**	13.18	36	ePn	Pn	02 24 20.1	0.0
MKAR	**Makanchi Array**	13.18	36	P	Pn	02 24 19.9	-0.2
comp=Z,0.2nm,0.3s,baz=214,slow=8.9,SNR=6.7							
AB31	**Akbulak array**	15.10	331	⇑P	Pn	02 24 44.9	+1.1
comp=Z,0.3nm,0.4s,baz=144,slow=12,SNR=9.1							
AB31				⇓S	S	02 27 25.8	-5.4
comp=Z,0.7nm,0.7s							
BVAR	**Borovoye Array**	16.48	358	P	Pn	02 25 00.3	-0.2
comp=Z,0.2nm,0.3s,baz=129,slow=6.5,SNR=3.5							
AKTK	**Aktyubinsk**	16.79	330	P	Pn	02 25 03.8	-0.4
AKTO	**Aktyubinsk**	16.79	330	⇓P	Pn	02 25 01.3	-2.9
comp=Z,0.1nm,1.1s							
AKTO				⇑S	S	02 27 57.8	-10
comp=Z,0.4nm,1.9s							
AKTO	**Aktyubinsk**	16.79	330	P	Pn	02 25 03.8	-0.4
comp=Z,0.3nm,0.3s,baz=150,slow=10.0,SNR=5.0							
ZAL	**Zalesovo**	19.80	24	P	P	02 25 36.3	+0.7
ZALV	**Zalesovo Beam**	19.82	24	P	P	02 25 36.3	+0.5
comp=Z,1.3nm,0.3s,baz=220,slow=11,SNR=3.8							
OBN	**Obninsk**	29.98	319	eP	P	02 27 05.3	-4.8
OBN				pmax	pmax		
comp=Z,6.0nm,0.8s,mb4.3							
AKASG	**Malin Array Be**	33.01	309	P	P	02 27 36.6	0.0
comp=Z,0.7nm,0.6s,mb3.4,baz=83,slow=7.3,SNR=5.0							
FINES	**FINESS Array B**	37.51	326	P	P	02 28 15.1	+0.2
comp=Z,0.9nm,0.6s,mb3.5,baz=111,slow=10,SNR=4.7							
ARCES	**ARCESS Array B**	41.14	338	P	P	02 28 45.3	+0.6
comp=Z,3.3nm,0.9s,mb3.8,baz=108,slow=8.6,SNR=5.0							
NB2	**NORSAR Subarra**	44.41	323	P	P	02 29 10.9	-0.2
comp=Z,0.7nm,0.5s,mb3.2,baz=96,slow=7.9							
NOA	**NORSAR Array B**	44.41	323	P	P	02 29 10.9	-0.2
comp=Z,1.2nm,0.6s,mb3.4,baz=96,slow=7.7,SNR=5.9							
TORD	**Torodi Ar. Bea**	65.84	269	P	P	02 31 42.9	-2.1
comp=Z,0.2nm,0.4s,mb3.1,baz=50,slow=6.2,SNR=16							
YKA	**Yellowknife Ar**	81.19	3	P	P	02 33 14.0	+0.4
comp=Z,0.1nm,0.4s,mb2.8,baz=351,slow=5.4,SNR=4.9							
WRA	**Warramunga Arr**	81.92	122	P	P	02 33 17.5	-0.4
comp=Z,0.1nm,0.4s,mb2.8,baz=326,slow=4.7,SNR=4.7							
ASAR	**Alice Springs**	84.19	125	P	P	02 33 28.9	-0.6
comp=Z,0.2nm,0.5s,mb3.1,baz=300,slow=4.2,SNR=3.0							

*BJI **21** 02:27:15.6, 2123N×14396E, h35km, mb4.5*
*NEIC **21** 02:27:24.3±0.6, 2185N×14325E, h35km, mb4.7/3, Error ellipse: s-maj=25.5km s-min=12.7km az=74.0*
*ISCJB **21** 02:27:37.0±7.5, 217N±01×1430E±02, h164km±69km, mb3.9/14, Error ellipse: s-maj=34.9km s-min=15.5km az=162.8*
*IDC **21** 02:27:37.1±7.8, 2176N×14293E, h148km±71km, mb3.5/10, mb1 3.7/10, mb1mx3.6/20, mbtmp3.5/10, MS3.5/13, Ms1 3.5/13, ms1mx3.4/29, Error ellipse: s-maj=32.9km s-min=14.2km az=79.0*

ISC 21 02:27:38.4±6.4, 217N±01×1431E±02, h163km±59km, n27, σ0§87/16, mb3.9/14, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	5.40	352	LR	LR	02 30 25.8	
comp=Z,155nm,19.7s,baz=147,slow=32							
GUMO	**Guam**	8.28	168	LR	LR	02 32 05.6	
comp=Z,215nm,20.1s,baz=45,slow=32							
JHJ	**Hachijo jima 2**	11.71	346	LR	LR	02 34 33.0	
comp=Z,201nm,18.7s,baz=57,slow=36							
JOW	**Kunigami**	14.41	294	LR	LR	02 35 17.9	
comp=Z,304nm,21.9s,baz=55,slow=32							
JNU	**Nakatsue**	15.66	319	LR	LR	02 36 21.0	
comp=Z,69nm,21.8s,baz=280,slow=34							
KSRS	**Korea Array**	20.42	323	P	P	02 32 03.1	+0.3
2.9nm,0.8s,baz=141,slow=11,SNR=11							
KSRS				LR	LR	02 38 47.5	
comp=Z,130nm,19.5s,baz=18,slow=33							
ASAJ	**Asahikawa**	22.32	359	LR	LR	02 41 13.8	
comp=Z,54nm,19.9s,baz=142,slow=37							
HNR	**Honiara**	35.12	150	LR	LR	02 45 56.5	
comp=Z,102nm,20.3s,baz=179,slow=31							
SONM	**Songino Array**	39.24	320	P	P	02 34 49.6	-1.2
2.0nm,0.9s,mb3.7,baz=128,slow=7.8,SNR=8.7							
GTA	**Gaotai**	40.77	306	eP	P	02 35 01.8	-1.7
GTA				AP	pP	02 35 08.5	-30
GTA				AMB	AMB		
comp=Z,3.0nm,1.0s,mb3.9							
WB2	**Warramunga Arr**	42.29	192	eP	P	02 35 16.1	+0.1
WRA	**Warramunga Arr**	42.29	192	P	P	02 35 15.9	-0.1
comp=Z,1.0nm,0.7s,mb3.6,baz=17,slow=9.0,SNR=14							
WRA				LR	LR	02 50 40.7	
comp=Z,77nm,19.0s,baz=260,slow=33							
ASAR	**Alice Springs**	46.00	192	P	P	02 35 45.3	-0.2
comp=Z,1.4nm,0.6s,mb3.8,baz=17,slow=11,SNR=26							
WMQ	**Urumqi**	50.48	309	eP	P	02 36 20.0	+0.4
WMQ				AMB	AMB		
comp=Z,31nm,1.0s,mb4.9							
ZALV	**Zalesovo Beam**	54.12	322	LR	LR	02 59 47.4	
comp=Z,36nm,18.2s,baz=48,slow=36							
MKAR	**Makanchi Array**	54.60	313	P	P	02 36 50.1	+0.3
comp=Z,0.7nm,0.8s,mb3.4,baz=91,slow=9.7,SNR=4.1							
MKAR				LR	LR	03 00 05.4	
comp=Z,42nm,18.8s,baz=176,slow=36							
TKM2	**Tokmak 2**	59.24	308	eP	P	02 37 23.7	+1.1
comp=Z,7.0nm,1.1s,mb4.4							
UCH	**Uchtor**	60.07	307	eP	P	02 37 29.4	+1.1
comp=Z,10nm,1.3s,mb4.5							
AML	**Almayashu**	60.68	307	eP	P	02 37 33.6	+1.1
comp=Z,6.7nm,1.2s,mb4.3							
BVAR	**Borovoye Array**	62.58	319	P	P	02 37 45.2	+0.3
comp=Z,1.5nm,0.5s,mb4.1,baz=96,slow=9.1,SNR=13							
YKA	**Yellowknife Ar**	76.47	28	P	P	02 39 10.1	+0.2
comp=Z,1.0nm,0.6s,mb3.6,baz=292,slow=5.9,SNR=17							
YKA				LR	LR	03 10 30.4	
comp=Z,33nm,20.4s,baz=200,slow=34							
PPT	**Papeete**	76.64	115	LR	LR	03 11 09.6	
comp=Z,132nm,18.0s,baz=319,slow=34							
FINES	**FINESS Array B**	83.10	334	P	P	02 39 45.1	-0.5
comp=Z,1.1nm,0.7s,mb3.7,baz=72,slow=6.2,SNR=5.7							
NVAR	**Mina Array Bea**	83.20	51	P	P	02 39 46.9	+0.3
comp=Z,0.3nm,0.3s,mb3.5,baz=268,slow=5.4,SNR=3.3							
AKASG	**Malin Array Be**	87.42	324	P	P	02 40 05.3	-1.9
comp=Z,0.1nm,0.3s,mb3.2,baz=46,slow=4.8,SNR=4.5							
PLCA	**Paso Flores**	145.86	131	PKPbc	PKPbc	02 47 00.4	+1.7
comp=Z,0.9nm,0.7s,baz=311,slow=23,SNR=3.2							
LPAZ	**La Paz**	150.04	85	PKPbc	PKPbc	02 47 12.6	+2.1
comp=Z,1.3nm,0.8s,baz=339,slow=2.2,SNR=5.1							
LPAZ				PKPab	PKPab	02 47 19.2	+2.5
comp=Z,1.1nm,0.7s,baz=294,slow=4.4,SNR=6.6							

*NEIC **21** 02:54:57.4, 3198S×7128W, h33km, ML2.6(GUC), After GUC.*

GUC 21 02:54:57.4±0.4, 3198S×7128W, h33km±2km, MD3.6, ML2.6, 6C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	0.84	16	⇓iP	Pn	02 55 13.0	+0.1
CMCH				iS	Sn	02 55 24.8	+0.8
CMCH	**Combarbala**	0.84	16	⇓iP	Pn	02 55 13.0	+0.1
CMCH				iS	Sn	02 55 24.8	+0.8
CMCH				AML	AML	02 55 27.9	
comp=N,617nm,0.1s							
PEL	**Peldehue**	1.26	157	⇑iP	Pn	02 55 19.7	+1.0
PEL				iS	Sn	02 55 36.2	+1.7
PEL				AML	AML	02 55 37.3	
comp=E,303nm,0.5s							
OVCH	**Ovalle**	1.37	3	⇑iP	Pn	02 55 21.1	+0.9
OVCH				iS	Sn	02 55 39.1	+1.8
CLCH	**Cerro Calan**	1.54	156	⇑iP	Pn	02 55 24.0	+1.4
CLCH				iS	Sn	02 55 44.1	+2.6
CLCH				AML	AML	02 55 44.6	
comp=N,94nm,0.1s							
FCH	**Farellones**	1.58	149	iP	Pn	02 55 24.6	+1.5
FCH				iS	Sn	02 55 45.5	+3.1
FCH				AML	AML	02 55 51.5	
comp=E,78nm,0.4s							
TACH	**Talagante**	1.69	170	⇑iP	Pn	02 55 25.9	+1.3
TACH				iS	Sn	02 55 47.9	+2.8
TLL	**Tololo Astrono**	1.85	13	AML	AML	02 55 54.5	
comp=N,110nm,0.7s							
CHCH	**Chadas Angostu**	2.02	165	iS	Sn	02 55 55.9	+2.7
LMEL	**Las Melosas**	2.07	154	⇑iP	Pn	02 55 31.5	+1.7
LMEL				iS	Sn	02 55 57.6	+3.1
LMEL	**Las Melosas**	2.07	154	⇑iP	Pn	02 55 31.5	+1.7
LMEL				iS	Sn	02 55 57.6	+3.1
LMEL				AML	AML	02 56 01.5	
comp=N,91nm,0.2s							
CACH	**El Canelo**	2.20	165	iP	Pn	02 55 33.8	+2.1

*CSEM **21** 03:18:28.7±0.1, 4317N×2119E, h8km, ML3.1, Error ellipse: s-maj=1.7km s-min=1.3km az=179.0*
*BEO **21** 03:18:29.6±0.2, 4307N×2115E, h17km±3km, ML2.8/14*
*ISCJB **21** 03:18:30.3±0.3, 43.14N±002×2120E±003, h17km, Error ellipse: s-maj=3.1km s-min=2.5km az=39.3*
*SKO **21** 03:18:31.5, 4302N×2122E, h0km*
*SOF **21** 03:18:31.6, 4286N×2130E, h10km, MD2.8*
*THE **21** 03:18:31.7, 4309N×2112E, h17km, ML3.1*
*NEIC **21** 03:18:33.3, 4301N×2090E, h13km, ML2.6(PDG), After PDG.*
*PDG **21** 03:18:33.3±0.2, 4301N×2090E, h13km, MD2.7/1, ML2.6/10, Error ellipse: s-maj=0.7km s-min=1.1km az=0.0*

ISC 21 03:18:28.9±0.4, 4307N±001×2115E±002, h4km±4km, n59, σ0§95/94, 11C-12D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRUS	**Gruza**	0.87	339	iPg	Pg	03 18 45.1	-0.5
GRUS				iSg	Sg	03 18 58.5	+1.5
SJES	**Sjenica**	0.88	283	iPg	Pg	03 18 46.0	+0.3
SJES				eSg	Sg	03 18 57.0	-0.1
IVA	**Berane**	0.94	258	⇓iPg	Pg	03 18 47.7	+0.8
IVA				eSg	Sg	03 18 59.1	+0.1
PVY	**Plav**	0.99	241	⇓iPg	Pg	03 18 48.3	+0.5
PVY				eSg	Sg	03 19 01.0	+0.4
SKO	**Skopje**	1.12	169	ePg	Pg	03 18 51.7	+1.4
SKO				eSg	Sg	03 19 06.8	+1.9
SKO	**Skopje**	1.12	169	ePg	Pg	03 18 50.0	-0.4
SKO				eSg	Sg	03 19 06.8	+1.9
SKO	**Skopje**	1.12	169	ePg	Pg	03 18 53.5	+3.1
SKO				iSg	Sg	03 19 06.7	+1.8
SVIS	**Svilajnac**	1.19	2	iPg	Pg	03 18 51.7	-0.1
SVIS				iSg	Sg	03 19 09.4	+2.2
PLE	**Pljevlja**	1.31	282	⇑iPg	Pg	03 18 54.6	+0.7
PLE				eSg	Sg	03 19 12.6	+1.8
DIVS	**Divibare**	1.32	321	ePg	Pg	03 18 53.7	-0.5
DIVS				eSg	Sg	03 19 10.0	-1.4
DIVS	**Divibare**	1.32	321	iPg	Pg	03 18 53.6	-0.7
DIVS				iSg	Sg	03 19 11.6	+0.2
TTG	**Podgorica**	1.53	246	⇑iPg	Pg	03 18 57.7	-0.5
TTG				eSg	Sg	03 19 19.4	+1.4
STIP	**Stip**	1.58	150	ePg	Pn	03 18 56.6	-1.0
STIP				eSg	Sn	03 19 18.9	+0.5
STIP	**Stip**	1.58	150	ePg	Pn	03 18 57.0	-0.6
STIP	**Stip**	1.58	150	ePg	Pn	03 18 56.9	-0.7
VTS	**Vitosha**	1.59	107	ePg	Pn	03 18 58.2	+0.5
VTS				eSg	Sn	03 19 18.2	-0.5
VTS	**Vitosha**	1.59	107	iPg	Pn	03 18 58.0	+0.3
VTS				eSg	Sn	03 19 16.3	-2.4
VTS				eSg	Sg	03 19 19.6	-0.4
VTS	**Vitosha**	1.59	107	⇑iP	Pn	03 18 58.2	+0.5
VTS	**Vitosha**	1.59	107	iP	Pn	03 18 58.6	+0.9
VTS	**Vitosha**	1.59	107	iP	Pn	03 18 58.6	+0.9
NKY	**Niksic**	1.60	261	⇑iPg	Pg	03 18 59.5	0.0
NKY				eSg	Sg	03 19 20.6	+0.4
UPM	**Unac-Piva**	1.64	275	⇑iPg	Pg	03 19 00.1	-0.2
UPM				eSg	Sg	03 19 21.8	+0.2
KRUS	**Krusevo**	1.71	177	ePg	Pn	03 19 00.3	+1.0
KRUS				iSg	Sg	03 19 23.5	-0.1
KRUS	**Krusevo**	1.71	177	ePg	Pn	03 19 00.2	+0.9
KRUS				iSg	Sg	03 19 23.5	-0.1
ULC	**Ulcinj**	1.79	232	⇓iPn	Pg	03 19 02.4	-0.7
ULC				eSn	Sg	03 19 25.7	-0.6
BEO	**Beograd**	1.80	345	ePg	Pg	03 19 02.5	-0.9
BEO				eSg	Sg	03 19 27.0	+0.2
BUM	**Brajici-Budva**	1.83	246	⇓iPn	Pg	03 19 02.6	-1.3
BUM				eSn	Sg	03 19 26.1	-1.5
KKB	**Krupnik**	1.87	129	iP	Pg	03 19 04.1	-0.7
BRY	**Bratogost**	1.92	266	⇑iPn	Pg	03 19 04.4	-1.2
BRY				eSn	Sg	03 19 28.5	-2.0
OHR	**Ohrid**	1.98	188	ePg	Pb	03 19 05.2	-0.2
OHR				iSg	Sg	03 19 32.4	0.0
VAY	**Valandovo**	2.05	148	ePn	Pn	03 19 03.7	-0.2
VAY	**Valandovo**	2.05	148	ePn	Pn	03 19 04.6	+0.6
VAY				eSg	Sg	03 19 35.8	+1.2
VAY	**Valandovo**	2.05	148	ePn	Pg	03 19 07.0	-1.1
HCY	**Herceg Novi**	2.05	253	⇑iPn	Pb	03 19 05.8	-0.8
HCY				eSn	Sb	03 19 31.7	-0.6
BIA	**Bitola**	2.06	176	ePg	Pg	03 19 07.9	-0.4
BIA				eSg	Sg	03 19 34.0	-0.9
BIA	**Bitola**	2.06	176	ePg	Pg	03 19 07.9	-0.4
BIA				iSg	Sg	03 19 34.2	-0.7
FGSL	**Fruska Gora**	2.29	336	ePn	Pn	03 19 06.9	-0.5
FGSL				eSg	Sg	03 19 41.0	-1.6
FGSL				eSg	Sg	03 19 43.6	+1.0
KNT	**Kendrikon**	2.31	145	ePn	Pn	03 19 07.9	+0.2
GRG	**Griva**	2.31	156	ePn	Pn	03 19 08.3	+0.7
GRG				eSn	Sn	03 19 36.2	-0.3
MMB	**Musomiste**	2.42	127	iP	Pn	03 19 09.5	+0.4
STON	**Ston**	2.54	267	ePn	Pn	03 19 12.3	+1.5
STON				Sn	Sn	03 19 44.0	+2.0
BZS	**Buzias**	2.56	7	⇓iP	Pn	03 19 10.1	-1.1
BZS	**Buzias**	2.56	7	ePn	Pn	03 19 09.9	-1.2
BZS				eSn	Sn	03 19 39.9	-2.8
BZS				eSg	Sg	03 19 52.0	+0.7
BZS	**Buzias**	2.56	7	⇓iP	Pn	03 19 10.0	-1.1
BZS	**Buzias**	2.56	7	⇓iP	Pn	03 19 10.1	-1.0
GZR	**Gura Zlata**	2.60	26	⇑iP	Pn	03 19 11.9	+0.3
GZR	**Gura Zlata**	2.60	26	⇑iP	Pn	03 19 11.9	+0.3
SRS	**Serrai**	2.67	136	ePn	Pn	03 19 12.4	-0.1
RZN	**Rozhen**	2.98	116	iP	Pn	03 19 18.1	+1.2
KDZ	**Kurdzhali**	3.47	113	P	Pg	03 19 31.7	-3.6
KDZ	**Kurdzhali**	3.47	113	P	Pg	03 19 31.7	-3.6
PKSM	**Moragy**	3.61	331	iPn	Pn	03 19 25.0	-0.5
PKSM	**Moragy**	3.61	331	⇓iP	Pn	03 19 25.2	-0.3
DRGR		3.88	16	⇑P	Pn	03 19 28.9	-0.3
DRGR		3.88	16	⇑iP	Pn	03 19 28.9	-0.3
PSZ	**Piszkesteto**	4.92	350	⇓P	Pn	03 19 43.3	-0.2
PSZ	**Piszkesteto**	4.92	350	⇓iP	Pn	03 19 43.3	-0.2
BURAR	**Bucovina Array**	5.37	31	⇓P	Pn	03 19 49.8	+0.2
BURAR	**Bucovina Array**	5.37	31	⇓iP	Pn	03 19 49.8	+0.1

KRSC 21 04:06:56.5±0.4, 5499N×16350E, h38km±38km, ML3.6, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	1.11	248	eP	Pn	04 07 16.1	+0.6
MKZ				iS	Sn	04 07 31.9	+2.3
KBTR	**Krutoberegovo**	1.28	343	eP	Pn	04 07 17.7	-0.1
KBTR				iS	Sn	04 07 34.2	+0.4
TUMR	**Tumrok**	1.95	280	eP	Pn	04 07 29.7	+2.7
TUMR				iS	Sn	04 07 53.7	+3.5
KMNR	**Kamenistaya**	2.01	294	eP	Pn	04 07 31.7	+3.8
SPN	**Mys Shipunski**	2.79	229	eP	Pn	04 07 41.1	+2.5
SPN				iS	Sn	04 08 12.6	+1.6
NLC	**Nalytchevo**	3.05	235	eP	Pn	04 07 46.0	+3.8
NLC				iS	Sn	04 08 21.1	+3.7
AVH	**Avacha**	3.29	240	eP	Pn	04 07 48.4	+2.9
GNL	**Ganaly**	3.50	251	eP	Pn	04 07 51.2	+2.9
RUS	**Russkaya**	3.92	231	P	Pn	04 07 56.7	+2.7
RUS				iS	Sn	04 08 39.6	+0.9

*IDC **21** 04:08:07.9±1.0, 787N×12678E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, MS2.9/1, Ms1 2.9/1, ms1mx2.5/25, Error ellipse: s-maj=77.2km s-min=18.9km az=73.0*
*ISCJB **21** 04:08:13.7±1.0, 771N±005×126.70E±008, h52km±9km, mb3.8/7, Error ellipse: s-maj=14.7km s-min=7.0km az=160.5*
*NEIC **21** 04:08:13.1±0.7, 789N×12699E, h35km, Error ellipse: s-maj=18.3km s-min=12.7km az=75.0*
*MAN **21** 04:08:14, 770N×12643E, h1km, mb4.4, ML3.3, MS3.1*

ISC 21 04:08:14.8±1.1, 771N±005×12670E±009, h45km±12km, n18, σ1§15/24, mb3.8/7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	0.58	325	⇑iP	Pn	04 08 25.5	-1.2
BIPH				iS	Sn	04 08 31.9	-3.3
MATI	**Mati**	0.88	210	eP	Pn	04 08 29.8	-0.9
MATI				eS	Sn	04 08 41.6	-0.7
DAV	**Davao City (W)**

DMN	**Daman**	**9.44**	**299**	*e*P	**Pn**	**05 02 55.3 +0.2**
	4.0nm,0.3s					
GKN	**Gorkha**	**9.98**	**300**	*e*P	**Pn**	**05 03 02.1 -0.4**
	11nm,0.3s					
KOLN	**Koldanda**	**10.73**	**296**	*e*P	**Pn**	**05 03 12.7 0.0**
	2.4nm,0.2s					
DANN	**Dangsing**	**10.83**	**300**	*e*P	**Pn**	**05 03 13.4 -0.7**
	3.7nm,0.4s					

*MOS **21** 05:01:19.9±0.8, 35.14N×135.66E, h369km, mb3.8/2, Error ellipse: s-maj=20.7km s-min=12.3km az=79.0*
*ISCJB **21** 05:01:20.6±0.3, 35.16N±005×135.70E±005, h373km±2km, mb3.6/14, Error ellipse: s-maj=8.2km s-min=5.2km az=150.3*
*JMA **21** 05:01:21.8±0.1, 35.19N×135.66E, h364km±1km, M3.4*
*NEIC **21** 05:01:21.9, 35.19N×135.66E, h364km, mb4.0/8, After JMA.*
*IDC **21** 05:01:21.4±0.7, 35.14N×135.69E, h365km±7km, mb3.2/10, mb1 3.4/15, mb1mx3.3/27, mbtmp3.4/15, Error ellipse: s-maj=13.2km s-min=9.8km az=67.0*
ISC 21 05:01:21.6±0.3, 35.16N±004×135.67E±004, h365km±2km, n52, σ0.75/72, mb3.6/14, Western Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JWT	**Wachi**	**0.25**	**299**	P	**Pn**	**05 02 07.3**	**+0.1**
JWT				S	**S**	**05 02 42.9**	**-0.9**
JGM	**Miyama**	**1.01**	**57**	P	**Pn**	**05 02 09.3**	**+0.3**
JGM				S	**S**	**05 02 46.6**	**-0.5**
JIE	**Ise**	**1.15**	**132**	P	**Pn**	**05 02 10.1**	**+0.4**
JIE				S	**S**	**05 02 47.5**	**-0.7**
JKG	**Kaga**	**1.23**	**25**	P	**Pn**	**05 02 10.0**	**+0.1**
JKG				S	**S**	**05 02 47.7**	**-1.1**
JAI	**Aioi**	**1.70**	**217**	P	**Pn**	**05 02 12.6**	**+0.1**
JAI				S	**S**	**05 02 53.2**	**-0.2**
JMN	**Monobe**	**2.06**	**227**	P	**Pn**	**05 02 15.2**	**+0.4**
JMN				S	**S**	**05 02 57.9**	**+0.4**
JHS	**Saijyo**	**2.10**	**266**	P	**Pn**	**05 02 15.4**	**+0.4**
JHS				S	**S**	**05 02 57.7**	**-0.3**
JYN	**Shimob**	**2.37**	**81**	P	**Pn**	**05 02 17.1**	**+0.1**
MAJO	**Matsushiro**	**2.48**	**55**	*e*Pn	**Pn**	**05 02 17.7**	**0.0**
MAJO				*e*Sn	**S**	**05 03 04.1**	**+1.2**
MAT	**Matsushiro**	**2.48**	**55**	P	**Pn**	**05 02 17.8**	**+0.1**
MAT				S	**S**	**05 03 03.1**	**+0.2**
MAT	**Matsushiro**	**2.48**	**55**	P	**Pn**	**05 02 17.8**	**+0.1**
MAT				S	**S**	**05 03 03.5**	**+0.6**
MJAR	**Matsushiro Arr**	**2.48**	**55**	P	**Pn**	**05 02 18.2**	**+0.4**
	12nm,0.3s,baz=217,slow=4.9,SNR=67						
MJAR				S	**S**	**05 03 01.6**	**-1.4**
	baz=241,slow=11,SNR=3.0						
JSZ	**Suzu**	**2.66**	**30**	P	**Pn**	**05 02 19.6**	**+0.4**
JHT	**Toyohira**	**2.72**	**260**	P	**Pn**	**05 02 20.0**	**+0.2**
JHT				S	**S**	**05 03 06.1**	**-0.5**
JGT	**Gotsu**	**2.74**	**268**	P	**Pn**	**05 02 20.0**	**+0.1**
JGT				S	**S**	**05 03 06.5**	**-0.4**
JRY	**Ryogami san**	**2.77**	**71**	P	**Pn**	**05 02 20.2**	**+0.1**
JOD2	**Odawara 2**	**2.80**	**87**	P	**Pn**	**05 02 20.5**	**+0.1**
JHG	**Hegura jima**	**2.86**	**20**	P	**Pn**	**05 02 21.5**	**+0.7**
NJJJ	**Nii jima 2**	**3.06**	**103**	P	**Pn**	**05 02 23.3**	**+0.6**
JTO	**Tosashimizu**	**3.31**	**227**	P	**Pn**	**05 02 25.3**	**+0.3**
JTO				S	**S**	**05 03 16.1**	**+0.1**
JHJ	**Hachijo jima 2**	**3.97**	**120**	P	**Pn**	**05 02 30.9**	**-0.3**
	7.4nm,0.3s,baz=71,slow=18,SNR=2.0						
JHJ				S	**S**	**05 03 29.9**	**+2.4**
	18nm,0.3s,baz=88,slow=23,SNR=3.8						
JNU	**Nakatsue**	**4.47**	**244**	S	**S**	**05 03 35.9**	**-0.9**
	baz=143,slow=15,SNR=2.0						
KSRS	**Korea Array**	**6.66**	**292**	P	**Pn**	**05 03 01.4**	**+1.0**
	1.4nm,0.3s,baz=112,slow=12,SNR=32						
KSRS				S	**S**	**05 04 22.7**	**+1.9**
	0.7nm,0.3s,baz=103,slow=20,SNR=6.3						
ERM	**Erimo**	**9.01**	**38**	*e*P	**Pn**	**05 03 25.7**	**-1.9**
ERM				*e*S	**S**	**05 04 59.1**	**-12**
ERM				pmax	pmax		
	comp=Z,16nm,0.3s						
ERM	**Erimo**	**9.01**	**38**	*e*Pn	**Pn**	**05 03 25.7**	**-1.9**
	comp=Z,16nm,0.3s						
ERM				*e*S	**S**	**05 04 59.1**	**-12**
CBIJ	**Chichi jima**	**9.78**	**143**	S	**S**	**05 05 17.9**	**-10**
	comp=Z,40nm,0.3s,baz=303,slow=23,SNR=10						
ASAJ	**Asahikawa**	**10.41**	**29**	P	**Pn**	**05 03 42.8**	**-1.4**
ASAJ				S	**S**	**05 05 31.2**	**-10**
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ	**Asahikawa**	**10.41**	**29**	P	**Pn**	**05 03 42.8**	**-1.4**
	comp=N,9.5nm,0.3s,baz=217,slow=12,SNR=13						
ASAJ				S	**S**	**05 05 31.2**	**-10**
	comp=N,1.3nm,0.3s,baz=3.9,slow=33,SNR=8.2						
JOW	**Kunigami**	**10.45**	**219**	P	**Pn**	**05 03 44.9**	**0.0**
	comp=N,2.3nm,0.3s,baz=116,slow=21,SNR=6.3						
MDJ	**Mudanjiang**	**10.53**	**336**	*e*Pn	**Pn**	**05 03 44.8**	**-0.9**
	comp=N,34nm,0.8s						
YSS	**Yuzh-Sakhalins**	**12.93**	**22**	*e*P	**P**	**05 04 13.6**	**+1.0**
KLR	**Kul'dur**	**14.35**	**350**	*e*P	**P**	**05 04 24.2**	**-4.0**
HIA	**Hailar**	**18.33**	**325**	*e*P	**P**	**05 05 10.3**	**-0.7**
HIA				pmax	pmax		
	comp=Z,14nm,0.7s						
HIA	**Hailar**	**18.33**	**325**	*e*P	**P**	**05 05 10.3**	**-0.7**
	comp=Z,14nm,0.7s						
SONM	**Songino Array**	**25.16**	**309**	P	**P**	**05 06 15.1**	**+0.2**
	comp=Z,1.2nm,0.5s,mb3.4,baz=116,slow=9.0,SNR=10						
MKAR	**Makanchi Array**	**41.21**	**303**	P	**P**	**05 08 32.4**	**+0.4**
	comp=Z,1.4nm,0.7s,mb3.3,baz=90,slow=9.9,SNR=12						
MKAR				ScP	ScP	05 13 36.6	-0.7
	comp=Z,0.3nm,0.7s,baz=82,slow=5.1,SNR=3.5						
TKM2	**Tokmak 2**	**46.43**	**299**	*e*P	**P**	**05 09 13.4**	**+0.3**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.4s,mb3.8						
TKM2	**Tokmak 2**	**46.43**	**299**	*e*P	**P**	**05 09 13.4**	**+0.3**
	comp=Z,3.2nm,0.4s,mb3.8						
EKS2	**Erkin-Say**	**47.80**	**299**	*e*P	**P**	**05 09 23.5**	**0.0**
	comp=Z,1.2nm,0.4s,mb3.5						
AML	**Almayashu**	**47.97**	**298**	*e*P	**P**	**05 09 26.1**	**+1.2**
	comp=Z,8.8nm,0.8s,mb4.0						
FITZ	**Fitzroy Crossi**	**53.82**	**192**	*e*P	**P**	**05 10 07.8**	**-0.3**
	comp=Z,4.3nm,1.4s,mb3.6						
FITZ	**Fitzroy Crossi**	**53.82**	**192**	P	**P**	**05 10 07.5**	**-0.6**
	comp=Z,1.1nm,0.4s,mb3.5,baz=20,slow=9.8,SNR=7.2						
WB2	**Warramunga Arr**	**54.81**	**182**	*e*P	**P**	**05 10 14.3**	**-0.9**
WRA	**Warramunga Arr**	**54.81**	**182**	P	**P**	**05 10 14.4**	**-0.8**
	comp=Z,4.0nm,0.3s,mb4.2,baz=360,slow=7.7,SNR=102						
INK	**Inuvik**	**58.14**	**26**	P	**P**	**05 10 38.5**	**+0.7**
	comp=Z,0.5nm,0.4s,mb3.2,baz=295,slow=4.8,SNR=11						
ASAR	**Alice Springs**	**58.53**	**182**	P	**P**	**05 10 40.4**	**-0.6**
	comp=Z,2.2nm,0.6s,mb3.8,baz=12,slow=14,SNR=35						
STKA	**Stephens Creek**	**66.92**	**175**	P	**P**	**05 11 35.5**	**0.0**
	comp=Z,2.4nm,0.9s,mb3.9,baz=322,slow=18,SNR=3.0						
YKA	**Yellowknife Ar**	**67.71**	**28**	P	**P**	**05 11 40.7**	**+0.5**
	comp=Z,0.3nm,0.9s,mb3.0,baz=293,slow=7.4,SNR=3.8						
FINES	**FINESS Array B**	**68.24**	**331**	P	**P**	**05 11 42.4**	**-1.1**
	comp=Z,0.4nm,0.4s,mb3.5,baz=74,slow=6.8,SNR=4.3						
AKASG	**Malin Array Be**	**72.85**	**320**	P	**P**	**05 12 10.6**	**-0.7**
	comp=Z,0.1nm,0.3s,mb3.1,baz=53,slow=5.8,SNR=3.6						
BOZ	**Bozeman (W)**	**79.23**	**41**	*e*P	**P**	**05 12 47.4**	**+0.4**
BOZ				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7						
BOZ	**Bozeman (W)**	**79.23**	**41**	*e*P	**P**	**05 12 47.4**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.4						

*ISCJB **21** 05:15:20.1±8.4, 460N±03×1527E±03, h1km±50km, mb3.8/7, Error ellipse: s-maj=48.8km s-min=20.1km az=149.4*
*IDC **21** 05:15:21.9±2.2, 4601N×15277E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/20, mbtmp3.7/8, Error ellipse: s-maj=59.5km s-min=28.7km az=164.0*
*MOS **21** 05:15:25.6±0.6, 46.15N×152.63E, h33km, mb4.3/4, Error ellipse: s-maj=47.8km s-min=21.8km az=85.6*
ISC 21 05:15:23.6±8.6, 460N±03×1528E±03, h11km±51km, n13, σ0.40/13, mb3.7/7, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**5.21**	**24**	*e*PN	**Pn**	**05 16 41.5**	**+0.1**
KSRS	**Korea Array**	**20.33**	**254**	P	**P**	**05 19 59.5**	**-0.3**
	6.1nm,1.0s,baz=118,slow=38,SNR=5.8						
MKAR	**Makanchi Array**	**47.07**	**298**	P	**P**	**05 23 55.9**	**+0.8**
	0.2nm,0.4s,mb3.4,baz=56,slow=5.6,SNR=3.3						
YKA	**Yellowknife Ar**	**51.69**	**36**	P	**P**	**05 24 30.0**	**-0.2**
	0.1nm,0.5s,mb3.0,baz=299,slow=7.4,SNR=2.5						
ARCES	**ARCESS Array B**	**58.49**	**341**	P	**P**	**05 25 18.6**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.49**	**341**	P	**P**	**05 25 18.6**	**-0.5**
	comp=Z,2.6nm,0.8s,mb4.3,baz=26,slow=6.4,SNR=2.8						
FINES	**FINESS Array B**	**64.62**	**335**	P	**P**	**05 26 00.1**	**-0.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.62**	**335**	P	**P**	**05 26 00.1**	**-0.5**
	comp=Z,0.5nm,0.3s,mb4.0,baz=46,slow=11,SNR=4.4						
NOA	**NORSAR Array B**	**68.87**	**341**	P	**P**	**05 26 28.0**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**68.87**	**341**	P	**P**	**05 26 28.0**	**+0.2**
	comp=Z,0.6nm,0.6s,mb3.7,baz=46,slow=4.5,SNR=2.4						
AKASG	**Malin Array Be**	**72.04**	**326**	P	**P**	**05 26 47.4**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AKASG	**Malin Array Be**	**72.04**	**326**	P	**P**	**05 26 47.4**	**+0.1**
	comp=Z,1.5nm,0.5s,mb4.2,baz=33,slow=6.3,SNR=8.1						
TXAR	**Lajitas Array**	**78.09**	**60**	P	**P**	**05 27 22.8**	**+0.2**
	comp=Z,0.1nm,0.4s,mb3.1,baz=289,slow=2.8,SNR=3.0						

*MOS **21** 05:21:55.8±1.1, 1943S×6933W, h104km, mb5.0/26, Error ellipse: s-maj=13.9km s-min=6.6km az=109.3*
*ISCJB **21** 05:21:55.4±0.2, 1941S±005×6920W±004, h101km, mb4.8/60, Error ellipse: s-maj=7.3km s-min=5.0km az=38.1*
*LDG **21** 05:21:55.8±0.3, 1898S×6935W, h90km, Mb4.9/17, Ms3.7/7, Error ellipse: s-maj=16.7km s-min=9.4km az=34.0*
*IDC **21** 05:21:56.4±0.4, 1949S×6928W, h102km±3km, mb4.5/17, mb1 4.7/19, mb1mx4.6/21, mbtmp4.5/19, MS3.5/6, Ms1 3.6/6, ms1mx3.3/23, Error ellipse: s-maj=13.3km s-min=11.6km az=81.0*
*NEIC **21** 05:21:56.7±0.2, 1950S×6926W, mb4.9/45, Error ellipse: s-maj=6.5km s-min=4.7km az=46.0*
*BJI **21** 05:21:57.6, 1950S×6930W, h102km, mB4.9*
ISC 21 05:21:57.3±0.2, 1945S±005×6917W±005, h103km, h103km±1.3km: pP-P, n525, σ0.62/470, mb4.8/60, 123C-98D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.30**	**18**	P	**Pn**	**05 22 51.2**	**+4.1**
LPAZ				S	**Sn**	**05 23 22.0**	**-3.6**
LPAZ				pmax	pmax		
	comp=Z,13nm,0.3s						
LPAZ				smax			
	comp=N,20nm,0.3s						
LPAZ				MLR	MLR		
	comp=Z,363nm,19.3s						
LPAZ	**La Paz**	**3.30**	**18**	*e*P	**Pn**	**05 22 50.1**	**+3.0**
LPAZ	**La Paz**	**3.30**	**18**	P	**Pn**	**05 22 51.2**	**+4.1**
	comp=Z,13nm,0.3s,baz=196,slow=8.8,SNR=255						
LPAZ				S	**Sn**	**05 23 22.0**	**-3.6**
	comp=Z,20nm,0.3s,baz=189,slow=10.0,SNR=7.1						
LPAZ				LR	LR	05 23 41.1	
	comp=Z,363nm,19.3s,baz=231,slow=31						
ARE	**Arequipa**	**3.70**	**323**	↑*i*P	**Pn**	**05 22 49.4**	**-3.1**
ARE				*i* S	**Sn**	**05 23 30.4**	**-4.9**
SIV	**San Ignacio**	**8.45**	**67**	P	**Pn**	**05 23 57.3**	**+0.4**
	comp=Z,28nm,0.3s,baz=260,slow=11,SNR=1095						
LCO	**Las Campanas**	**9.62**	**188**	*e*Pn	**Pn**	**05 24 04.6**	**-8.1**
	comp=Z,162nm,0.7s						
LCO				*e*Sn	**Sn**	**05 25 47.3**	**-12**
NNA	**Nana**	**10.47**	**314**	*e*P	**Pn**	**05 24 19.3**	**-5.1**
	comp=Z,39nm,0.8s						
NNA	**Nana**	**10.47**	**314**	P	**Pn**	**05 24 18.9**	**-5.5**
	comp=Z,2.7nm,0.3s,baz=154,slow=9.3,SNR=11						
NNA				S	**Sn**	**05 26 03.9**	**-16**
	comp=Z,2.4nm,0.3s,baz=126,slow=12,SNR=2.5						
CFAA	**Coronel Fontan**	**12.13**	**176**	P	**Pn**	**05 24 39.8**	**-6.8**
	comp=Z,0.2nm,0.3s,baz=352,slow=13,SNR=44						
CFAA				S	**Sn**	**05 26 47.3**	**-13**
	comp=Z,0.2nm,0.3s,baz=189,slow=22,SNR=4.8						
CFAA				LR	LR	05 29 56.5	
	comp=Z,29nm,20.5s,baz=333,slow=40						
ATAH	**Atahualpa**	**15.28**	**323**	P	**Pn**	**05 25 25.8**	**-1.8**
	comp=Z,0.4nm,0.3s,baz=104,slow=16,SNR=2.2						
TRQA	**Tornquist**	**19.57**	**163**	*e*P	**P**	**05 26 16.1**	**-0.9**
	comp=Z,51nm,0.9s						
BDFB	**Brasilia**	**20.52**	**83**	P	**P**	**05 26 27.4**	**-0.1**
	comp=Z,38nm,0.5s,baz=255,slow=18,SNR=62						
PLCA	**Paso Flores**	**21.24**	**183**	P	**P**	**05 26 33.5**	**-1.5**
PLCA						05 30 33.4	
PLCA				pmax	pmax		
	comp=Z,48nm,0.8s						
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
PLCA	**Paso Flores**	**21.24**	**183**	*e*P	**P**	**05 26 33.4**	**-1.6**
	comp=Z,55nm,0.8s,mb4.9						
PLCA	**Paso Flores**	**21.24**	**183**	P	**P**	**05 26 33.5**	**-1.4**
	comp=Z,48nm,0.8s,mb4.9,baz=357,slow=12,SNR=50						
PLCA				PcP	PcP	05 30 33.4	-2.7
	comp=Z,2.4nm,0.7s,baz=36,slow=5.6,SNR=3.4						
ROSC	**El Rosal**	**24.68**	**348**	*e*P	**P**	**05 27 10.3**	**+1.5**
ROSC	**El Rosal**	**24.68**	**348**	P	**P**	**05 27 08.8**	**0.0**
	comp=Z,2.4nm,0.5s,mb3.9,baz=95,slow=20,SNR=6.1						
ROSC				LR	LR	05 37 43.9	
	comp=Z,117nm,19.2s,baz=5.5,slow=38						
CAM4	**Nova Friburgo**	**25.01**	**101**	↑*i*P	**P**	**05 27 12.0**	**+0.3**
CAM4				*i*		05 27 13.2	
CAM4				*i*		05 27 16.8	
CAM4				*i*		05 27 20.6	
CAM4				*i*		05 27 26.9	
CAM4				*i*		05 27 44.3	
CAM4				*i*		05 31 31.3	
PCRV	**Puerto La Cruz**	**29.78**	**9**	P	**P**	**05 27 54.7**	**+0.3**
	comp=Z,5.5nm,0.5s,mb4.4,baz=212,slow=3.2,SNR=7.1						
PCRV				LR	LR	05 40 59.5	
	comp=Z,258nm,19.5s,baz=8.9,slow=38						
RCBR	**Riachuelo**	**35.08**	**72**	*e*P	**P**	**05 28 42.7**	**+1.9**
	comp=Z,80nm,0.6s,mb5.7						
USHA	**Ushuaia**	**35.32**	**179**	P	**P**	**05 28 41.2**	**-1.1**
	comp=Z,14nm,0.8s,mb4.8,baz=14,slow=6.4,SNR=7.7						
MTP	**Monte Pirata**	**37.48**	**6**	*e*P	**P**	**05 28 58.0**	**-3.0**
MTP				*e*pP	pP	05 29 23.1	-1.5
MTP				*e*sP	sP	05 29 35.5	-0.9
TGUH	**Tegucigalpa,Un**	**37.77**	**331**	*e*P	**P**	**05 29 03.6**	**+0.1**
BRAL	**Brewton**	**53.03**	**341**	*e*P	**P**	**05 31 04.2**	**+0.5**
NHSC	**New Hope**	**53.31**	**348**	*e*P	**P**	**05 31 06.0**	**+0.3**
NHSC				*e*pP	pP	05 31 31.9	+1.4
COW	**Cow Castle Cre**	**53.68**	**348**	*e*P	**P**	**05 31 07.9**	**-0.5**
COW				*e*pP	pP	05 31 31.2	-2.1
GOGA	**Godfrey**	**54.31**	**345**	*e*pP	pP	05 31 37.4	-0.5
HKT	**Hockley**	**55.43**	**332**	*e*P	**P**	**05 31 20.1**	**-1.0**
HKT				pmax	pmax		
	comp=Z,46nm,1.7s,mb5.2						
HKT	**Hockley**	**55.43**	**332**	*e*P	**P**	**05 31 20.1**	**-1.0**
	comp=Z,46nm,1.7s,mb5.2						
NATX	**Nacogdoches**	**56.48**	**334**	*e*P	**P**	**05 31 28.9**	**+0.3**
CPCT	**Cooper Cave**	**56.51**	**345**	*e*P	**P**	**05 31 27.6**	**-1.1**
CPCT				*e*pP	pP	05 31 52.5	-1.3
TKL	**Tuckaleechee C**	**56.53**	**346**	*e*P	**P**	**05 31 27.0**	**-1.9**
TKL				*e*PP	pP	05 31 52.6	-1.3
SWET	**Sewanee**	**56.65**	**344**	*e*P	**P**	**05 31 28.6**	**-1.1**
SWET				*e*pP	pP	05 31 55.0	+0.2
PLAL	**Pickwick Lake**	**57.03**	**342**	*e*P	**P**	**05 31 30.3**	**-2.1**
	comp=Z,18nm,1.0s,mb5.1						
ELN	**Prospectdale**	**57.42**	**349**	*e*P	**P**	**05 31 34.8**	**-0.4**
ELN				*e*pP	pP	05 31 59.8	-0.5
ELN				sP	sP	05 32 10.8	-0.8
JCT	**Junction City**	**57.73**	**329**	*e*P	**P**	**05 31 36.5**	**-0.9**
JCT				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.8						
JCT	**Junction City**	**57.73**	**329**	*e*P	**P**	**05 31 36.5**	**-0.9**
	comp=Z,8.9nm,0.8s,mb4.8						
UALR	**University of**	**58.25**	**338**	*e*P	**P**	**05 31 39.6**	**-1.4**
	comp=Z,8.7nm,0.8s,mb4.8						
MIAR	**Mount Ida**	**58.50**	**336**	*e*P	**P**	**05 31 41.6**	**-1.1**
UTMT	**University of**	**58.53**	**341**	*e*P	**P**	**05 31 40.5**	**-2.4**
UTMT				*e*pP	pP	05 32 09.7	+1.6
TXAR	**Lajitas Array**	**58.82**	**325**	P	**P**	**05 31 43.9**	**-1.2**
	comp=Z,2.6nm,0.8s,mb4.3,baz=146,slow=8.0,SNR=27						
PARMO	**Parma**	**59.10**	**341**	*e*P	**P**	**05 31 45.0**	**-1.8**
PARMO				*e*pP	pP	05 32 10.5	-1.6
MCWV	**Mont Chateau**	**59.64**	**350**	*e*P	**P**	**05 31 50.4**	**0.0**
SIUC	**Southern Illin**	**59.91**	**342**	*e*P	**P**	**05 31 50.9**	**-1.4**
SIUC				*e*pP	pP	05 32 16.5	-1.2
FVM	**French Village**	**60.52**	**341**	*e*P	**P**	**05 31 54.9**	**-1.7**
BLO	**Bloomington**	**60.53**	**345**	*e*P	**P**	**05 31 54.9**	**-1.7**
ACSO	**Alum Creek Sta**	**60.75**	**348**	*e*P	**P**	**05 31 56.9**	**-1.2**
ACSO				*e*pP	pP	05 32 22.2	-1.2
CCM	**Cathedral Cave**	**60.85**	**340**	*e*P	**P**	**05 31 57.1**	**-1.7**
BRYW	**Bryant College**	**61.10**	**358**	*e*P	**P**	**05 32 00.9**	**+0.6**
BRYW				*e*pP	pP	05 32 25.9	+0.1
GDL2	**Guadalupe Moun**	**61.43**	**326**	*e*P	**P**	**05 32 02.6**	**-0.3**
MNTX	**Cornudas Mount**	**61.58**	**325**	*e*P	**P**	**05 32 01.7**	**-2.1**
	comp=Z,9.2nm,0.9s,mb4.8						
BBTS	**Babate**	**61.90**	**61**	P	**P**	**05 32 06.2**	**-0.1**
	comp=Z,40nm,0.7s,mb5.6,baz=278,slow=2.6,SNR=9.3						
ERPA	**Erie**	**62.07**	**351**	*e*P	**P**	**05 32 06.8**	**0.0**
VNA1	**Neumayer--Stat**	**62.29**	**161**	*e*P	**P**	**05 32 08.3**	**+0.3**
VNA1				*e*		05 32 12.8	
VNA1				*e*		05 32 16.0	
VNA1				*e*	pP	05 32 30.5	-3.0
VNA1				*e*		05 32 42.6	
VNA1				*e*		05 32 45.7	
VNA1				*e*		05 32 55.0	
VNA1				*e*		05 32 57.5	
HDIL	**Hopedale**	**62.57**	**343**	*e*P	**P**	**05 32 08.0**	**-2.2**
VNA2	**Neumayer--Watz**	**62.66**	**161**	*e*P	**P**	**05 32 10.7**	**+0.2**
VNA2				*e*		05 32 15.1	
VNA2				*e*		05 32 18.8	
VNA2				*e*	pP	05 32 32.5	-3.5
VNA2				*e*		05 32 46.0	
VNA2				*e*		05 32 48.2	
VNA2				*e*		05 32 57.4	
VNA2				*e*		05 33 00.2	
319A	**Douglas**	**63.53**	**322**	⇑P	**P**	**05 32 16.6**	**-0.2**
	baz=64,SNR=11						
LONY	**Lake Ozonia**	**63.95**	**356**	*e*P	**P**	**05 32 19.4**	**+0.1**
	comp=Z,13nm,0.9s,mb4.8						
219A	**White Tail Can**	**63.97**	**322**	⇑P	**P**	**05 32 19.3**	**-0.4**
	baz=64						
318A	**Bisbee**	**63.99**	**322**	⇓P	**P**	**05 32 19.6**	**-0.2**
	baz=64,SNR=20						
BNM	**Barren Site**	**64.14**	**326**	*e*P	**P**	**05 32 20.1**	**-0.6**
Y22C	**IRIS PASSCAL I**	**64.23**	**326**	⇑P	**P**	**05 32 21.3**	**0.0**
	baz=64						
LPM	**Los Pinos Moun**	**64.26**	**326**	*e*P	**P**	**05 32 21.5**	**0.0**
218A	**Dragoon**	**64.41**	**322**	⇓P	**P**	**05 32 22.4**	**-0.2**
	baz=65						
119A	**Ashpeak Ranch,**	**64.56**	**323**	⇓P	**P**	**05 32 23.3**	**-0.3**
	baz=65						
LAZ	**Ladron**	**64.60**	**326**	*e*P	**P**	**05 32 23.6**	**-0.2**
LAZ				*e*pP	pP	05 32 48.6	-0.8
LAZ				*e*PcP	PcP	05 32 57.3	+0.5
ANMO	**Albuquerque**	**64.66**	**327**	*d*iP	**P**	**05 32 23.6**	**-0.6**
217A	**Green Valley**	**64.72**	**321**	⇓P	**P**	**05 32 24.2**	**-0.4**
	baz=65,SNR=6.1						
118A	**Homack Ranch,**	**64.85**	**322**	⇑P	**P**	**05 32 25.1**	**-0.3**
	baz=65,SNR=5.1						
Z19A	**T-Link Ranch,**	**64.93**	**323**	⇓P	**P**	**05 32 26.2**	**+0.3**
	baz=65						
SCIA	**State Center**	**64.98**	**340**	*e*P	**P**	**05 32 25.0**	**-1.0**
JFWS	**Jewell Farm**	**65.02**	**343**	*e*P	**P**	**05 32 24.9**	**-1.4**
TUC	**Tucson**	**65.08**	**322**	*e*P	**P**	**05 32 25.8**	**-1.1**
Z18A	**Geronimo**	**65.21**	**323**	⇑P	**P**	**05 32 27.6**	**-0.2**
	baz=66						
117A	**Oracle**	**65.25**	**322**	⇑P	**P**	**05 32 27.7**	**-0.3**
	baz=66,SNR=5.6						
216A	**Three Points,**	**65.26**	**321**	⇓P	**P**	**05 32 28.0**	**-0.1**
	baz=66,SNR=11						
Y19A	**Nutrioso**	**65.41**	**324**	⇓P	**P**	**05 32 29.5**	**+0.4**
	baz=66,SNR=24						
Z17A	**San Carlos Hig**	**65.62**	**323**	⇓P	**P**	**05 32 30.1**	**-0.3**
	baz=66						
Y18A	**Canyon Day Jun**	**65.72**	**323**	⇓P	**P**	**05 32 30.8**	**-0.2**
	baz=66,SNR=8.7						
X19A	**St. Johns**	**65.78**	**324**	⇑P	**P**	**05 32 31.4**	**0.0**
	baz=66						
116A	**Eloy**	**65.80**	**321**	⇓P	**P**	**05 32 31.4**	**-0.2**
	baz=66,SNR=10.0						
Y17A	**Roosevelt**	**66.12**	**323**	P	**P**	**05 32 33.7**	**+0.1**
	baz=66,SNR=17						
Z16A	**Peralta Trail,**	**66.20**	**322**	P	**P**	**05 32 34.1**	**0.0**
	baz=66,SNR=13						
115A	**Sonoran Desert**	**66.21**	**321**	⇑P	**P**	**05 32 34.3**	**+0.1**
	baz=66,SNR=5.8						
X18A	**Snowflake**	**66.22**	**324**	⇓P	**P**	**05 32 34.3**	**+0.1**
	baz=66,SNR=6.0						

SWSC **Sam W. Stewart** 68.54 319 ⇊P P 05 32 48.9 0.0
baz=69
V14A **Boquillas Ranc** 68.80 323 P P 05 32 51.2 +0.8
baz=69,SNR=17
BC3 **Big Chuckw Mtn** 68.82 320 ⇊P P 05 32 50.6 0.0
baz=69,SNR=8.2
W13A **Hualapai Mount** 68.88 322 ⇑P P 05 32 51.5 +0.6
baz=69,SNR=9.0
T16A **Glen Canyon Da** 68.88 325 ⇑P P 05 32 51.3 +0.4
baz=69
MONP **Monument Peak** 68.90 319 ⇊P P 05 32 51.5 +0.3
baz=69
BAR **Barrett** 68.92 318 *e*P P 05 32 51.6 +0.4
comp=Z,16nm,0.8s,mb4.9
IRM **Iron Mountain** 68.98 320 ⇑P P 05 32 51.7 +0.1
baz=69,SNR=7.7
PHWY **Pilot Hill** 69.18 332 *e*P P 05 32 52.8 +0.1
109C **Camp Elliot, M** 69.33 318 ⇊P P 05 32 53.5 -0.2
baz=70
BELC **Belle Mtn.** 69.38 320 ⇑P P 05 32 54.2 +0.1
baz=70,SNR=5.1
T15A **Red Dirt Ranch** 69.39 324 P P 05 32 54.7 +0.7
baz=70,SNR=17
PFO **Pinyon Flat Ob** 69.40 319 *e*P P 05 32 54.5 +0.3
PFO pmax pmax
comp=Z,14nm,1.0s,mb4.8
PFO **Pinyon Flat Ob** 69.40 319 *e*P P 05 32 54.5 +0.3
comp=Z,14nm,1.0s,mb4.7
PFO **Pinyon Flat Ob** 69.40 319 ⇑P P 05 32 54.4 +0.2
baz=70,SNR=5.9
U14A **Mt Trumbull** 69.41 323 ⇊P P 05 32 54.8 +0.6
baz=70,SNR=21
V13A **Grand Canyon W** 69.46 322 P P 05 32 54.9 +0.4
baz=70,SNR=9.7
W12A **Cal Nev Ari** 69.60 321 ⇊P P 05 32 55.2 -0.1
baz=70
GMRC **Granite Mounta** 69.71 320 ⇑P P 05 32 56.4 +0.3
baz=70,SNR=12
U13A **Pakoon Wash** 69.85 323 P P 05 32 57.5 +0.6
baz=70,SNR=5.4
V12A **Nelson** 69.88 322 P P 05 32 57.4 +0.3
baz=70,SNR=7.5
SRU **San Rafael** 69.93 327 *e*P P 05 32 57.2 -0.1
BBRC **Big Bear Sol-O** 70.12 319 ⇑P P 05 32 59.2 +0.5
baz=70
HEC **Hector,Ludlow** 70.15 320 ⇊P P 05 32 59.1 +0.3
baz=70
U12A **Valley of Fire** 70.19 322 ⇑P P 05 32 59.3 +0.3
baz=70
T13A **Saint George** 70.24 323 ⇑P P 05 32 59.9 +0.6
baz=70,SNR=12
V11A **Goodsprings** 70.30 321 ⇑P P 05 32 59.8 +0.2
baz=70,SNR=7.7
SCI **San Clemente I** 70.30 317 ⇑P P 05 32 59.6 -0.2
baz=70
CCUT **Cedar City** 70.31 324 ⇊⇑P P 05 33 00.7 +1.0
S14A **Cedar City** 70.36 324 ⇊P P 05 33 00.5 +0.5
baz=71,SNR=8.6
MSU **Marysvale** 70.36 325 *e*P P 05 33 00.5 +0.5
MVU **Marysvale** 70.37 325 *e*P P 05 33 01.4 +1.4
TMUT **Trail Mountain** 70.43 327 *e*P P 05 33 01.0 +0.6
ARUT **Antelope Range** 70.53 324 *e*P P 05 33 01.1 +0.1
BFSC **Mount Baldy St** 70.56 319 ⇊P P 05 33 01.4 +0.1
baz=71
SHPR **Sheep Range** 70.60 322 *e*P P 05 33 01.9 +0.4
S13A **Holt Ranch, En** 70.61 324 ⇊P P 05 33 02.4 +0.9
baz=71,SNR=15
R14A **James Farms, M** 70.66 325 ⇑P P 05 33 02.4 +0.6
baz=71
U11A **Corn Creek** 70.67 322 ⇊P P 05 33 02.5 +0.6
baz=71
QSPA **South Pole Qui** 70.73 180 ⇊*e*P P 05 33 01.7 0.0
comp=Z,28nm,0.9s,mb5.1
QSPA *e* pP 05 33 24.2 -3.5
GSC **Goldstone** 70.75 320 *e*P P 05 33 02.9 +0.5
GSC pmax pmax
comp=Z,32nm,1.5s,mb4.9
GSC **Goldstone** 70.75 320 *e*P P 05 33 02.9 +0.5
comp=Z,32nm,1.5s,mb4.9
GSC **Goldstone** 70.75 320 P P 05 33 02.9 +0.5
baz=71,SNR=6.0
MWC **Mount Wilson** 70.80 319 *e*P P 05 33 03.0 +0.2
MWC pmax pmax
comp=Z,22nm,1.1s,mb4.9
MWC **Mount Wilson** 70.80 319 *e*P P 05 33 03.0 +0.2
comp=Z,22nm,1.1s,mb4.9
SHOC **Shoshone** 70.84 321 ⇊P P 05 33 03.5 +0.5
baz=71
RSSD **Black Hills** 70.85 334 *e*P P 05 33 02.6 -0.2
DECC **Green Verdugo** 70.99 318 ⇊P P 05 33 04.3 +0.4
baz=71
SNCC **San Nicolas Is** 71.10 317 ⇑P P 05 33 04.5 -0.1
baz=71
T11A **Corn Creek, Al** 71.14 323 ⇑P P 05 33 05.3 +0.6
baz=71,SNR=14
MPU **Maple Canyon** 71.18 327 *e*P P 05 33 05.0 +0.1
S12A **Delamar Landin** 71.19 323 ⇑P P 05 33 05.6 +0.6
baz=71
EDW2 **Edwards Air Fo** 71.19 319 ⇊P P 05 33 05.0 -0.1
baz=71,SNR=5.2
U10A **Ash Meadows, A** 71.22 321 ⇊P P 05 33 05.8 +0.6
baz=72
DAU **Daniels Canyon** 71.28 327 *e*P P 05 33 05.8 +0.3
BLG **Laguna Peak** 71.36 318 ⇑P P 05 33 06.0 -0.1
baz=72
NLU **North Lily Min** 71.36 326 *e*P P 05 33 06.3 +0.3
JLU **Jordanelle** 71.52 327 *e*P P 05 33 07.5 +0.6
TPNV **Topopah Spring** 71.54 322 *e*P P 05 33 08.0 +0.9
TPNV pmax pmax
comp=Z,12nm,0.8s,mb4.8
TPNV **Topopah Spring** 71.54 322 *e*P P 05 33 08.0 +0.9
comp=Z,12nm,0.8s,mb4.8
TPNV **Topopah Spring** 71.54 322 ⇊P P 05 33 07.8 +0.7
baz=72,SNR=16
AGMN **Agassiz Refuge** 71.55 342 *e*P P 05 33 05.7 -1.2
R12A **Pony Springs,** 71.56 324 P P 05 33 08.2 +1.0
baz=72,SNR=17
FURC **Furnace Creek,** 71.57 321 ⇑P P 05 33 07.8 +0.4
baz=72,SNR=11
MPMC **Manual Prospec** 71.67 320 ⇑P P 05 33 08.0 0.0
baz=72,SNR=7.0
Q13A **Wheeler Ranch,** 71.68 325 ⇊P P 05 33 08.4 +0.5
baz=72,SNR=12
S11A **Rachel** 71.73 323 ⇊P P 05 33 09.0 +0.8
baz=72
DUG **Dugway** 71.92 326 *e*P P 05 33 09.5 +0.1
DUG pmax pmax
comp=Z,17nm,1.1s,mb4.8
DUG **Dugway** 71.92 326 *e*P P 05 33 09.5 +0.2
comp=Z,18nm,1.1s,mb4.8
DUG **Dugway** 71.92 326 ⇑P P 05 33 09.7 +0.3
baz=72,SNR=11
P13A **Bates Ranch, G** 72.03 325 P P 05 33 10.8 +0.8
baz=72,SNR=12
R11A **Troy Canyon, C** 72.12 323 P P 05 33 11.3 +0.7
baz=72,SNR=15
Q12A **Willow Creek R** 72.18 324 ⇊P P 05 33 11.2 +0.3
baz=72,SNR=6.1
BW06 **Boulder Array** 72.22 330 *e*P P 05 33 10.6 -0.4
GRAC **Grapevine Rang** 72.23 321 ⇊P P 05 33 11.6 +0.4
baz=72
CWC **Cottonwood Cre** 72.28 320 ⇑P P 05 33 11.9 +0.3
baz=72,SNR=5.7
HWUT **Hardware Ranch** 72.32 328 *e*P P 05 33 11.3 -0.4
PKM **Peak Mountain** 72.34 318 ⇑P P 05 33 12.3 +0.3
baz=73
S10A **Tonopah Range,** 72.41 322 ⇑P P 05 33 12.7 +0.4
baz=73,SNR=19
R10A **Warm Springs** 72.49 323 ⇊P P 05 33 13.6 +0.8
baz=73,SNR=18
VES **Vestal, Richgr** 72.50 319 ⇑P P 05 33 12.9 +0.1
baz=73,SNR=6.9
O13A **Hicks Ranch, I** 72.50 325 ⇊P P 05 33 13.0 +0.2
baz=73
Q11A **Duckwater** 72.51 324 P P 05 33 13.4 +0.5
baz=73,SNR=19
P12A **McGill** 72.53 324 ⇑P P 05 33 13.6 +0.6
baz=73,SNR=9.2
BGU **Big Grassy Mou** 72.57 327 *e*P P 05 33 12.9 -0.3
N14A **Grayback Hills** 72.60 326 ⇑P P 05 33 13.3 -0.1
baz=73,SNR=6.6
S09A **Goldfield** 72.64 322 P P 05 33 13.9 +0.3
baz=73,SNR=9.2
M15A **Larsen Ranch,** 72.66 327 ⇑P P 05 33 15.0 +1.3
baz=73
SMMC **Simmler** 72.72 318 ⇑P P 05 33 14.7 +0.4
baz=73,SNR=5.8

TPH **Tonopah** 72.87 322 *e*P P 05 33 15.8 +0.8
TPH pmax pmax
comp=Z,14nm,0.9s,mb4.8
TPH **Tonopah** 72.87 322 *e*P P 05 33 15.8 +0.7
comp=Z,14nm,0.9s,mb4.8
R09A **Tonopah** 72.89 322 ⇊P P 05 33 15.2 +0.1
baz=73
RCTC **Rector, Farmer** 72.90 320 ⇑P P 05 33 15.0 -0.3
baz=73
Q10A **Clear Creek Ra** 72.91 323 ⇊P P 05 33 15.9 +0.6
baz=73,SNR=8.0
AHID **Auburn Hatcher** 72.96 329 *e*P P 05 33 15.5 +0.1
O12A **Currie** 73.00 325 ⇑P P 05 33 16.0 +0.2
baz=73,SNR=20
HELL **Mitchell Peak** 73.01 320 ⇑P P 05 33 15.7 -0.2
baz=73,SNR=16
S08C **White Mtn Res** 73.04 321 ⇑P P 05 33 16.5 +0.5
baz=73,SNR=7.0
M14A **Sheep Mountain** 73.15 327 P P 05 33 16.6 -0.1
baz=73,SNR=8.0
MTUM **Tungsten Hills** 73.18 321 *e*P P 05 33 17.6 +0.7
REDW **Red Top Meadow** 73.29 330 *e*P P 05 33 17.3 -0.1
comp=Z,25nm,1.5s,mb4.8
ULM **Lac du Bonnet** 73.30 342 P P 05 33 15.5 -1.7
ULM pP pP 05 33 41.2 -2.2
ULM **Lac du Bonnet** 73.30 342 P P 05 33 15.5 -1.7
comp=Z,11nm,0.6s,mb4.9,baz=153,slow=5.4,SNR=30
ULM pP pP 05 33 41.2 -2.2
comp=Z,6.9nm,0.8s,baz=146,slow=6.6,SNR=4.0
SNOW **Snow King Moun** 73.32 330 *e*P P 05 33 17.9 +0.4
LOHW **Long Hollow** 73.36 330 *e*P P 05 33 18.0 +0.2
Q09A **Carvers** 73.36 323 ⇑P P 05 33 18.5 +0.6
baz=74
O11A **Cowboy Ranch,** 73.40 325 ⇊P P 05 33 18.4 +0.3
baz=74,SNR=6.2
TPAW **Teton Pass** 73.43 330 *e*P P 05 33 18.6 +0.4
P10A **Eureka** 73.50 324 ⇑P P 05 33 19.3 +0.7
baz=74
MOOW **Moose Ponds** 73.53 330 *e*P P 05 33 18.9 +0.2
comp=Z,21nm,1.8s,mb4.6
R08A **Mina** 73.57 322 ⇑P P 05 33 19.4 +0.2
baz=74
N12A **Clover Valley,** 73.58 325 ⇑P P 05 33 19.3 +0.2
baz=74
KCC **Kaiser Creek** 73.61 320 ⇑P P 05 33 19.3 -0.1
baz=74
DCID1 **Drake Creek** 73.62 330 *e*P P 05 33 19.6 +0.3
NVAR **Mina Array Bea** 73.74 322 P P 05 33 20.4 +0.3
NVAR pP pP 05 33 45.0 -1.3
NVAR sP sP 05 33 56.1 -1.3
NVAR **Mina Array Bea** 73.74 322 P P 05 33 20.4 +0.3
comp=Z,8.1nm,0.9s,mb4.5,baz=155,slow=7.2,SNR=33
NVAR pP pP 05 33 45.0 -1.3
comp=Z,2.3nm,0.8s,baz=140,slow=6.7,SNR=2.8
NVAR sP sP 05 33 56.1 -1.3
comp=Z,2.9nm,0.9s,baz=140,slow=7.2,SNR=2.4
Q08A **Gabbs** 73.81 322 P P 05 33 20.6 +0.1
baz=74,SNR=12
K14A **Jones Ranch, D** 73.83 328 ⇑P P 05 33 20.0 -0.5
baz=74,SNR=6.4
P09A **Austin** 73.83 323 ⇑P P 05 33 20.8 +0.2
baz=74,SNR=5.8
LAO **LASA Array** 73.84 334 *e*P P 05 33 20.5 0.0
comp=Z,14nm,1.0s,mb4.6
U04C **Hernandez Rese** 73.88 319 P P 05 33 21.8 +0.8
baz=74,SNR=6.0
L13A **Double Diamond** 73.89 327 P P 05 33 21.1 +0.2
baz=74,SNR=16
M12A **Wells** 73.91 326 P P 05 33 20.9 -0.2
baz=74,SNR=7.3
R07C **Lee Vining** 73.95 321 ⇊P P 05 33 22.0 +0.6
baz=74
O10A **Cortez Mining,** 73.98 324 ⇊P P 05 33 21.7 +0.2
baz=74,SNR=5.4
SCHQ **Schefferville** 74.01 1 P P 05 33 20.8 -0.5
comp=Z,5.9nm,0.9s,mb4.3,baz=157,slow=7.7,SNR=3.1
T05C **Eagle Field, D** 74.16 319 ⇑P P 05 33 23.1 +0.5
baz=74
S05C **Merced** 74.23 320 ⇊P P 05 33 23.3 +0.2
baz=74,SNR=17
O09A **Fish Creek Ran** 74.28 324 ⇑P P 05 33 23.4 +0.1
baz=74
N10A **Dunphy** 74.28 325 ⇑P P 05 33 23.2 0.0
baz=74
S06C **San Francisco** 74.29 321 ⇑P P 05 33 23.5 +0.2
baz=74,SNR=5.7
K13A **Stover Farm, H** 74.36 327 ⇊P P 05 33 23.9 +0.3
baz=75,SNR=7.7
HAST **Hastings Reser** 74.38 318 ⇑P P 05 33 24.0 +0.1
baz=75
M11A **Holland Ranch,** 74.39 325 ⇑P P 05 33 24.2 +0.4
baz=75,SNR=10
WAKR **Walker** 74.45 321 *e*P P 05 33 25.5 +1.2
R06C **Coleville** 74.47 321 ⇑P P 05 33 25.0 +0.6
baz=75
L12A **House Creek Ra** 74.48 326 ⇑P P 05 33 24.7 +0.3
baz=75,SNR=16
DGMT **Dagmar** 74.50 337 *e*P P 05 33 24.5 +0.1
comp=Z,25nm,0.9s,mb5.0
GCMT **Greycliff** 74.60 332 *e*P P 05 33 25.0 0.0
GCMT *e*pP pP 05 33 51.1 -0.1
CMB **Columbia Colle** 74.71 320 *e*P P 05 33 25.5 -0.3
CMB **Columbia Colle** 74.71 320 ⇊P P 05 33 25.7 -0.2
baz=75
K12A **Draper Farm, C** 74.77 327 P P 05 33 26.6 +0.6
baz=75,SNR=23
M10A **I.L. Ranch, Tu** 74.85 325 ⇑P P 05 33 26.6 +0.1
baz=75,SNR=5.5
L11A **Cat Creek Ranc** 74.88 326 P P 05 33 26.9 +0.2
baz=75,SNR=11
S04C **Ingram Canyon,** 74.95 319 ⇊P P 05 33 26.9 -0.2
baz=75
J13A **Cove Ranch, Pi** 74.95 328 P P 05 33 27.4 +0.3
baz=75,SNR=9.8
R05C **Kirkwood Meado** 74.96 321 ⇑P P 05 33 27.6 +0.4
baz=75,SNR=5.6
HLID **Hailey** 75.19 328 P P 05 33 29.0 +0.6
baz=76,SNR=26
R04C **Big Horse Ranc** 75.19 320 ⇊P P 05 33 28.9 +0.4
baz=75
L10A **Juniper Basin** 75.20 326 ⇊P P 05 33 28.8 +0.3
baz=76,SNR=18
PAHR **Pah Rah Range** 75.22 322 *e*P P 05 33 29.3 +0.7
PAHR *e*pP pP 05 33 55.2 +0.3
N08A **GE Springer Mi** 75.22 324 ⇑P P 05 33 28.0 -0.7
baz=76
O07A **Toulon** 75.22 323 ⇊P P 05 33 28.5 -0.2
baz=76,SNR=10
M09A **Marrel Ranch,** 75.28 325 P P 05 33 29.2 +0.2
baz=76,SNR=13
I13A **Wildhorse Cree** 75.29 328 P P 05 33 29.7 +0.7
baz=76,SNR=14
J12A **Stokes Ranch,** 75.31 327 ⇊P P 05 33 29.4 +0.3
baz=76,SNR=12
BOZ **Bozeman (W)** 75.38 331 *e*P P 05 33 29.0 -0.4
BOZ **Bozeman (W)** 75.38 331 ⇊P P 05 33 29.1 -0.3
baz=76
LAVA **Lava Cap Winer** 75.39 321 P P 05 33 29.4 -0.2
baz=76,SNR=5.5
G15A **Dillon** 75.42 330 ⇊P P 05 33 29.9 +0.2
baz=76,SNR=7.5
K11A **Parker Ranch,** 75.46 326 P P 05 33 30.1 +0.2
baz=76,SNR=7.5
BDM **Black Diamond** 75.56 320 ⇊P P 05 33 31.3 +0.6
baz=76
DLMT **Dillon** 75.62 330 *e*P P 05 33 31.1 +0.3
comp=Z,24nm,1.4s,mb4.7
P05C **Yuba Gap, Truc** 75.67 321 P P 05 33 31.6 +0.4
baz=76,SNR=5.7
N07B **Gerlach** 75.69 323 ⇊P P 05 33 31.1 -0.2
baz=76,SNR=14
O06A **Flanigan** 75.77 322 ⇊P P 05 33 31.8 0.0
baz=76
MFID **Camas Ranch** 75.80 327 P P 05 33 32.3 +0.4
baz=76,SNR=13
L09A **Wilkinson Ranc** 75.81 325 ⇊P P 05 33 31.9 0.0
baz=76,SNR=7.0
M08A **Happy Creek Ra** 75.81 324 ⇊P P 05 33 32.1 +0.1
baz=76
Q04C **Lincoln** 75.83 320 ⇑P P 05 33 32.6 +0.5
baz=76,SNR=7.2
H13A **Challis** 75.83 329 P P 05 33 32.6 +0.5
baz=76,SNR=19
BEKR **Beckwourth** 75.89 322 P P 05 33 32.9 +0.4
baz=76,SNR=12
LRM **Limekiln Ridge** 75.89 330 *e*P P 05 33 32.9 +0.5
K10A **MacKenzie Ranc** 75.90 326 ⇑P P 05 33 32.7 +0.2
baz=76,SNR=12

F15A **Butte** 75.92 330 P P 05 33 32.7 +0.2
baz=76,SNR=5.8
Q03C **Winters** 76.08 320 ⇑P P 05 33 34.1 +0.5
baz=76
H12A **Diamond D Ranc** 76.12 328 P P 05 33 34.1 +0.4
baz=76,SNR=9.9
N06A **Buffalo Meadow** 76.16 323 ⇑P P 05 33 34.0 0.0
baz=76,SNR=14
CVS **Carmenet Viney** 76.17 320 ⇊P P 05 33 33.8 -0.3
baz=76
G13A **Cobalt** 76.20 329 P P 05 33 34.7 +0.6
baz=76,SNR=34
M07A **Soldier Meadow** 76.21 324 P P 05 33 34.4 +0.1
baz=76,SNR=6.4
I11A **Placerville** 76.22 327 P P 05 33 34.0 -0.3
baz=76,SNR=6.5
HRY **Holter Researc** 76.27 331 *e*P P 05 33 35.0 +0.5
O05C **Quincy** 76.28 322 ⇊P P 05 33 34.9 +0.2
baz=76,SNR=7.3
L08A **Fields** 76.29 325 ⇊P P 05 33 34.4 -0.3
baz=77
K09A **Rome** 76.30 325 P P 05 33 35.0 +0.2
baz=77,SNR=9.8
F14A **Wisdom** 76.31 330 ⇊P P 05 33 35.2 +0.5
baz=77,SNR=8.0
ORV **Oroville** 76.36 321 ⇊P P 05 33 35.2 +0.1
baz=77,SNR=14
EGMT **Eagleton** 76.36 333 *e*P P 05 33 34.4 -0.6
comp=Z,24nm,1.3s,mb4.8
EGMT **Eagleton** 76.36 333 P P 05 33 34.4 -0.6
baz=77,SNR=9.8
E15A **Deer Lodge** 76.43 331 P P 05 33 35.6 +0.2
baz=77,SNR=11
O04C **Chester** 76.60 322 ⇊P P 05 33 36.5 0.0
baz=77
L07A **Adell** 76.72 324 ⇑P P 05 33 37.3 +0.2
baz=77
K08A **Mann Creek Ran** 76.73 325 ⇊P P 05 33 37.1 -0.1
baz=77
J09A **Fry Pan Ranch,** 76.76 326 ⇑P P 05 33 37.2 -0.1
baz=77
I10A **Payette** 76.78 327 ⇑P P 05 33 37.3 -0.1
baz=77
H11A **Donnelly** 76.81 328 ⇊P P 05 33 37.3 -0.3
baz=77,SNR=7.8
E14A **Clinton** 76.82 330 ⇊P P 05 33 38.1 +0.5
baz=77,SNR=6.8
M06C **Likely Place G** 76.83 323 P P 05 33 38.0 +0.3
baz=77,SNR=7.2
D15A **Lincoln** 76.83 331 P P 05 33 38.0 +0.4
baz=77,SNR=8.0
TOA0 **Torodi Ar. Sit** 76.91 71 *e*P P 05 33 38.1 -0.7
TOA0 *e*pP pP 05 34 05.2 0.0
TORD **Torodi Ar. Bea** 76.91 71 P P 05 33 38.3 -0.5
comp=Z,17nm,0.5s,mb5.1,baz=250,slow=5.6,SNR=126
TORD pP pP 05 34 04.7 -0.5
comp=Z,31nm,1.0s,baz=256,slow=5.5,SNR=6.0
TORD LR LR 06 06 32.4
comp=Z,96nm,19.7s,baz=200,slow=35
CHMT **Chamberlain Mo** 77.07 331 *e*P P 05 33 39.5 +0.5
LBCM **Butte Creek Ri** 77.09 322 P P 05 33 38.7 -0.5
H10A **Noah's Angus R** 77.10 327 ⇊P P 05 33 38.8 -0.4
baz=77
K07A **Rock Creek Ran** 77.12 325 ⇑P P 05 33 39.6 +0.2
baz=77
HATC **Hat Creek Radi** 77.14 322 ⇑P P 05 33 39.2 -0.3
baz=77
GASB **Alder Springs** 77.15 320 ⇑P P 05 33 40.1 +0.5
baz=77,SNR=5.5
J08A **Circle Bar Ran** 77.15 325 ⇊P P 05 33 39.3 -0.2
baz=77
E13A **Victor** 77.16 330 ⇑P P 05 33 39.8 +0.3
baz=77,SNR=14
F12A **Elk City** 77.18 329 P P 05 33 39.7 0.0
baz=78,SNR=9.6
I09A **Lost Marbles R** 77.19 326 ⇊P P 05 33 39.2 -0.5
baz=78,SNR=5.2
MOD **Modoc** 77.19 323 ⇊P P 05 33 39.3 -0.4
baz=77
M05C **Lookout** 77.31 323 ⇑P P 05 33 40.3 -0.2
baz=78,SNR=6.0
D14A **Greenough** 77.31 331 ⇑P P 05 33 40.3 -0.1
baz=78
MSO **Missoula** 77.33 330 *e*P P 05 33 41.1 +0.6
G11A **Walters Elk Ra** 77.43 328 P P 05 33 40.9 -0.2
baz=78,SNR=20
O02C **Red Bluff** 77.52 321 ⇑P P 05 33 41.1 -0.6
baz=78
BMO **Blue Mountains** 77.57 327 *e*P P 05 33 41.6 -0.2
comp=Z,12nm,0.9s,mb4.6
L05A **Lakeview** 77.58 323 ⇑P P 05 33 42.1 +0.1
baz=78
I08A **Drewsey** 77.58 326 ⇑P P 05 33 42.1 +0.2
baz=78,SNR=13
J07A **Hines** 77.61 325 ⇊P P 05 33 42.2 +0.1
baz=78,SNR=6.8
F11A **Grangeville** 77.72 328 ⇑P P 05 33 42.1 -0.5
baz=78,SNR=14
K06A **Valley Falls** 77.75 324 ⇑P P 05 33 42.7 -0.1
baz=78
D13A **Huson** 77.77 330 P P 05 33 43.0 +0.1
baz=78,SNR=12
G10A **Bishop Farm, J** 77.78 328 ⇑P P 05 33 43.4 +0.4
baz=78,SNR=27
M03C **McCloud** 77.82 322 ⇊P P 05 33 42.3 -1.0
baz=78
C14A **Swan Lake** 77.93 331 ⇑P P 05 33 43.9 +0.1
baz=78
M04C **Macdoel** 77.98 323 ⇊P P 05 33 44.0 -0.2
baz=78
J06A **Christmas Vall** 77.99 325 ⇑P P 05 33 44.4 +0.2
baz=78
H08A **Prairie City** 78.05 326 ⇊P P 05 33 44.8 +0.3
baz=78,SNR=5.0
K05A **Summer Lake** 78.06 324 ⇊P P 05 33 45.0 +0.4
baz=78
E11A **Bogner Ranch,** 78.08 329 ⇑P P 05 33 43.9 -0.7
baz=78
D12A **Red Ives Fores** 78.16 330 ⇑P P 05 33 45.0 0.0
baz=78
I07A **Izee** 78.19 325 ⇊P P 05 33 45.5 +0.2
baz=78
N02C **Big Bar** 78.23 321 ⇊P P 05 33 45.6 0.0
baz=78,SNR=7.4
C13A **Hot Springs** 78.25 331 P P 05 33 45.8 +0.3
baz=78,SNR=8.3
L04A **Klamath Falls** 78.26 323 ⇑P P 05 33 45.5 -0.3
baz=78
F10A **Beach Ranch, E** 78.31 328 ⇊P P 05 33 45.8 -0.1
baz=79
M02C **Callahan** 78.32 322 ⇑P P 05 33 45.2 -0.9
baz=79
YBH **Yreka Blue Hor** 78.45 322 ⇊P P 05 33 46.6 -0.2
baz=79
I06A **Prineville** 78.48 325 P P 05 33 47.6 +0.8
baz=79,SNR=5.7
SYO **Syowa Base** 78.50 160 ⇑*e*P P 05 33 45.2 -1.5
SYO **Syowa Base** 78.50 160 ⇑*e*PcP PcP 05 33 52.6 -2.8
SYO **Syowa Base** 78.50 160 ⇑*e*pP pP 05 34 10.0 -3.2
H07A **Lands Inn, Kim** 78.57 326 ⇊P P 05 33 47.7 +0.3
baz=79
E10A **Myers Farm, Un** 78.61 328 ⇑P P 05 33 47.5 0.0
baz=79,SNR=5.4
J05A **Fort Rock** 78.61 324 ⇊P P 05 33 47.6 -0.1
baz=79
D11A **Klaveano Farm,** 78.63 329 ⇑P P 05 33 47.4 -0.2
baz=79
B13A **Whitefish** 78.70 331 ⇑P P 05 33 47.7 -0.3
baz=79,SNR=8.8
G08A **Pilot Rock** 78.72 327 ⇊P P 05 33 48.3 +0.1
baz=79
VNDA **Vanda** 78.81 190 P P 05 33 48.1 -0.2
comp=Z,4.2nm,0.7s,mb4.4,baz=128,slow=4.9,SNR=28
WALA **Waterton Lakes** 78.96 332 *e*P P 05 33 49.5 +0.2
FFC **Flin Flon** 79.02 341 *e*P P 05 33 48.4 -1.2
FFC pmax pmax
comp=Z,19nm,1.4s,mb4.7
FFC **Flin Flon** 79.02 341 *e*P P 05 33 48.4 -1.1
comp=Z,20nm,1.4s,mb4.7
H06A **Lindquist Farm** 79.07 326 ⇑P P 05 33 50.4 +0.3
baz=79,SNR=5.5
G07A **Ruggs Ranch, H** 79.08 326 ⇊P P 05 33 50.4 +0.3
baz=79
A13A **Flathead Natio** 79.09 332 ⇑P P 05 33 50.2 +0.1
baz=79
D10A **Wagner Farm, O** 79.09 329 P P 05 33 49.7 -0.4
baz=79,SNR=6.3

I05A **Bend** 79.20 325 ⇑P P 05 33 51.2 +0.4
baz=80
L02A **Cave Junction** 79.23 322 ⇑P P 05 33 50.9 -0.2
baz=80
B12A **Libby** 79.29 331 ⇑P P 05 33 51.4 +0.2
baz=80
K02A **Glendale** 79.55 323 ⇓P P 05 33 52.7 -0.1
baz=80
D09A **Jones Farm, Ri** 79.60 328 P P 05 33 52.7 -0.2
baz=80,SNR=5.8
B11A **Sandpoint** 79.63 330 ⇓P P 05 33 52.5 -0.5
baz=80
C10A **Spilker Farm,** 79.64 329 ⇑P P 05 33 52.8 -0.3
baz=80
A12A **Yaak River Ran** 79.65 331 ⇑P P 05 33 53.1 -0.1
baz=80
HAWA **Hanford** 79.76 327 eP P 05 33 54.4 +0.6
G05A **Wamic** 79.93 325 ⇑P P 05 33 55.2 +0.4
baz=80
A11A **Hall Mountain,** 80.00 331 ⇑P P 05 33 54.9 -0.1
baz=80,SNR=7.2
OD2 **Odessa Site #2** 80.03 328 P P 05 33 55.2 0.0
H04A **Detroit Lake** 80.04 325 ⇑P P 05 33 54.8 -0.5
baz=80
C09A **Chrisman Ranch** 80.09 329 ⇓P P 05 33 55.4 -0.1
baz=80,SNR=5.2
F05A **White Salmon** 80.43 326 ⇑P P 05 33 57.6 +0.2
baz=81
B09A **Rice** 80.46 329 ⇑P P 05 33 55.0 -2.6
baz=81
FCC **Fort Churchill** 80.59 347 eP P 05 33 57.1 -0.9
FCC e*PP pP 05 34 24.9 +0.3
FCC pmax pmax
comp=Z,9.0nm,1.1s,mb4.5
FCC **Fort Churchill** 80.59 347 eP P 05 33 57.1 -0.9
comp=Z,9.3nm,1.1s,mb4.5
FCC epP pP 05 34 24.9 +0.3
EBG **Ellensburg** 80.64 327 P P 05 33 59.0 +0.5
H03A **Soap Creek Ran** 80.64 324 ⇑P P 05 33 58.6 +0.1
baz=81
C07A **Waterville** 80.90 328 ⇑P P 05 33 59.5 -0.3
baz=81,SNR=8.7
D06A **Cle Elum** 80.97 327 ⇑P P 05 34 00.1 -0.1
baz=81
F04A **Amboy** 80.97 326 ⇓P P 05 33 60.0 -0.3
baz=81
B08A **Colville Reser** 80.99 329 ⇑P P 05 33 59.8 -0.6
baz=81,SNR=5.2
A09A **Danville** 81.05 330 ⇓P P 05 34 00.2 -0.4
baz=81,SNR=6.3
EVO **Evora** 81.28 44 eP P 05 34 01.9 -0.2
EVO comp=Z,22nm,0.8s,mb4.8 eMLR MLR
comp=Z,82nm,21.8s
A08A **Turner Farm, O** 81.37 329 P P 05 34 02.2 -0.1
baz=82,SNR=10
B07A **Winthrop** 81.45 328 P P 05 34 02.4 -0.3
baz=82,SNR=7.7
D05A **Enumclaw** 81.55 327 ⇑P P 05 34 03.1 -0.3
baz=82
C05A **Tolt Reservoir** 81.73 327 ⇓P P 05 34 03.9 -0.4
baz=82
EDM **Edmonton** 81.81 335 eP P 05 34 03.3 -1.2
A07A **Ashnola River,** 81.97 329 P P 05 34 05.6 +0.1
baz=82,SNR=9.5
B06A **Marblemount** 82.17 328 ⇑P P 05 34 05.4 -1.1
baz=82
JCW **Jim Creek** 82.18 327 P P 05 34 05.6 -1.0
B05A **Bryant** 82.31 327 ⇑P P 05 34 06.2 -1.0
baz=83
C04A **Brinnon** 82.41 327 ⇓P P 05 34 07.5 -0.3
baz=83
A05A **Maple Falls** 82.78 328 P P 05 34 09.2 -0.5
baz=83,SNR=5.3
VDB **Vedder Mountai** 82.81 328 P P 05 34 08.8 -1.0
ESDC **Sonseca Array** 84.55 45 P P 05 34 20.0 +1.0
comp=Z,6.3nm,0.8s,mb4.6,baz=246,slow=5.7,SNR=16
ESDC pP pP 05 34 46.7 +0.9
comp=Z,0.9nm,0.5s,baz=244,slow=5.6,SNR=2.3
MAW **Mawson** 86.35 163 P P 05 34 26.6 -0.9
comp=Z,5.5nm,1.0s,mb4.5,baz=243,slow=6.3,SNR=4.5
SJPF **Ste Jean** 88.05 43 eP P 05 34 37.0 +1.0
comp=Z,21nm,0.7s,mb5.0
SJPF **Ste Jean** 88.05 43 eP P 05 34 37.0 +1.0
SJPF pmax pmax
comp=Z,10.0nm,0.7s,mb5.0
SJPF **Ste Jean** 88.05 43 eP P 05 34 37.0 +1.0
comp=Z,10nm,0.7s,mb5.0
ETSF **Etsaut** 88.37 43 eP P 05 34 38.6 +1.0
comp=Z,11nm,0.6s,mb4.8
ETSF **Etsaut** 88.37 43 eP P 05 34 38.6 +1.0
ETSF pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ETSF **Etsaut** 88.37 43 eP P 05 34 38.6 +1.0
comp=Z,5.6nm,0.6s,mb4.8
YKA **Yellowknife Ar** 89.18 341 P P 05 34 40.1 -0.7
comp=Z,24nm,0.8s,mb5.3,baz=134,slow=4.7,SNR=364
YKA pP pP 05 35 07.2 -0.7
comp=Z,8.4nm,0.8s,baz=135,slow=4.9,SNR=4.3
YKA sP sP 05 35 17.5 -1.3
comp=Z,6.6nm,0.7s,baz=134,slow=4.7,SNR=3.7
YKW3 **Yellowknife Ar** 89.24 341 eP P 05 34 40.5 -0.6
YKW3 epP pP 05 35 07.4 -0.8
LFF **La Frestale** 90.16 42 eP P 05 34 47.3 +1.4
MFF **Saint Martin d** 90.39 40 eP P 05 34 47.7 +0.8
comp=Z,18nm,0.8s,mb5.0
MFF **Saint Martin d** 90.39 40 eP P 05 34 47.7 +0.8
MFF pmax pmax
comp=Z,9.0nm,0.8s,mb5.0
MFF **Saint Martin d** 90.39 40 eP P 05 34 47.7 +0.8
comp=Z,9.3nm,0.8s,mb5.0
CAF **Calviac** 90.99 42 eP P 05 34 50.1 +0.4
comp=Z,7.2nm,0.6s,mb4.7
CAF **Calviac** 90.99 42 eP P 05 34 50.1 +0.4
CAF pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
CAF **Calviac** 90.99 42 eP P 05 34 50.1 +0.4
comp=Z,3.6nm,0.6s,mb4.7
LDF **La Druitiere** 91.35 38 eP P 05 34 51.3 0.0
TCF **Toulx Ste Croi** 91.69 41 eP P 05 34 52.8 -0.2
comp=Z,7.7nm,0.7s,mb4.8
TCF **Toulx Ste Croi** 91.69 41 eP P 05 34 52.8 -0.2
TCF pmax pmax
comp=Z,4.0nm,0.7s,mb4.8
TCF **Toulx Ste Croi** 91.69 41 eP P 05 34 52.8 -0.2
comp=Z,3.8nm,0.7s,mb4.7
BGF **Bois d'Agland** 92.21 41 eP P 05 34 55.4 +0.1
comp=Z,15nm,0.7s,mb5.0
BGF **Bois d'Agland** 92.21 41 eP P 05 34 55.4 +0.1
BGF pmax pmax
comp=Z,7.0nm,0.7s,mb5.0
BGF **Bois d'Agland** 92.21 41 eP P 05 34 55.4 +0.1
comp=Z,7.4nm,0.7s,mb5.0
KEST **Kesra** 92.27 53 P P 05 34 57.6 +1.7
comp=Z,0.5nm,0.5s,mb4.0,baz=256,slow=2.6,SNR=2.9
AVF **Avril sur Loir** 92.62 41 eP P 05 34 57.0 -0.2
comp=Z,13nm,1.1s,mb4.9
AVF **Avril sur Loir** 92.62 41 eP P 05 34 57.0 -0.2
AVF pmax pmax
comp=Z,6.0nm,1.1s,mb4.8
AVF **Avril sur Loir** 92.62 41 eP P 05 34 57.0 -0.2
comp=Z,6.3nm,1.1s,mb4.9
SSF **Saint Saulge** 92.84 41 eP P 05 34 57.9 -0.3
comp=Z,7.2nm,0.8s,mb4.8
SSF **Saint Saulge** 92.84 41 eP P 05 34 57.9 -0.3
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.8
SSF **Saint Saulge** 92.84 41 eP P 05 34 57.9 -0.3
comp=Z,3.6nm,0.8s,mb4.8
SMF **Signal de Mont** 92.86 41 eP P 05 34 58.5 +0.1
comp=Z,14nm,0.6s,mb5.2
SMF **Signal de Mont** 92.86 41 eP P 05 34 58.5 +0.1
SMF pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
SMF **Signal de Mont** 92.86 41 eP P 05 34 58.5 +0.1
comp=Z,7.1nm,0.6s,mb5.2
LOR **Lormes** 93.14 41 eP P 05 34 59.4 -0.2
comp=Z,7.4nm,0.6s,mb4.9
LOR eMLR MLR
comp=Z,79nm,20.2s
LOR **Lormes** 93.14 41 eP P 05 34 59.4 -0.2
LOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.9
LOR MLR MLR
comp=Z,80nm,20.3s
LOR **Lormes** 93.14 41 eP P 05 34 59.4 -0.2
comp=Z,3.7nm,0.6s,mb4.9
LOR LR LR
comp=Z,80nm,20.3s
PGF **Pioggiola** 94.59 47 eP P 05 35 07.7 +1.3
comp=Z,11nm,0.8s,mb5.0
PGF **Pioggiola** 94.59 47 eP P 05 35 07.7 +1.3
PGF pmax pmax
comp=Z,5.0nm,0.8s,mb5.0
PGF **Pioggiola** 94.59 47 eP P 05 35 07.7 +1.3
comp=Z,5.4nm,0.8s,mb5.0
HAU **Haudompre** 94.98 41 eP P 05 35 07.9 -0.1
comp=Z,5.7nm,0.6s,mb4.9
HAU eMLR MLR
comp=Z,56nm,19.0s
HAU **Haudompre** 94.98 41 eP P 05 35 07.9 -0.1
HAU pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
HAU MLR MLR
comp=Z,60nm,19.0s
HAU **Haudompre** 94.98 41 eP P 05 35 07.9 -0.1
comp=Z,2.8nm,0.6s,mb4.9
HAU LR LR
comp=Z,60nm,19.0s
HINF **Hinteralfeld** 95.22 41 eP P 05 35 08.9 -0.2
comp=Z,13nm,1.0s,mb5.0
HINF **Hinteralfeld** 95.22 41 eP P 05 35 08.9 -0.2
HINF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
HINF **Hinteralfeld** 95.22 41 eP P 05 35 08.9 -0.2
comp=Z,6.5nm,1.0s,mb5.0
INK **Inuvik** 98.94 340 P P 05 35 24.4 -1.1
comp=Z,1.6nm,0.9s,mb4.5,baz=119,slow=4.9,SNR=5.5
INK pP pP 05 35 52.3 -0.4
comp=Z,1.7nm,1.0s,baz=213,slow=4.9,SNR=3.5
KIS **Kishinev** 109.33 46 eP PKiKP 05 40 24.0 +8.7
ARCES **ARCESS Array B** 109.69 22 PKKPbc PKKPbc 05 51 18.0 -4.2
comp=Z,1.9nm,0.9s,baz=79,slow=4.7,SNR=3.9
ARCES PKKPab PKKPab 05 51 28.5 -1.5
comp=Z,5.5nm,1.1s,baz=70,slow=5.8,SNR=4.6
OBN **Obninsk** 114.71 37 ePKIKP PKiKP 05 40 25.2 -0.1
OBN e 05 41 25.0
OBN pmax pmax
comp=Z,6.0nm,1.3s
KIV **Kislovodsk** 118.86 50 i PKIKP PKPdf 05 40 32.8 -0.8
KIV pmax pmax
comp=Z,8.0nm,0.8s
KIV MLR MLR
comp=Z,53nm,20.0s
ARU **Arti** 126.59 33 i PKIKP PKPdf 05 40 48.4 +0.4
ARU 05 47 45.2
TIXI **Tiksi** 126.74 353 ⇑i PKIKP PKPdf 05 40 46.9 -1.0
CTA **Charters Tower** 127.57 223 PKP PKPdf 05 40 50.1 -1.0
comp=Z,6.2nm,0.8s,baz=138,slow=2.6,SNR=6.4
ASAR **Alice Springs** 131.59 209 PKIKP PKPdf 05 40 57.3 -1.4
ASAR 05 41 25.5
ASAR **Alice Springs** 131.59 209 PKP PKPdf 05 40 57.2 -1.4
comp=Z,5.1nm,0.9s,baz=152,slow=2.5,SNR=25
ASAR pPKP pPKPdf 05 41 25.4 -1.5
comp=Z,1.3nm,0.8s,baz=140,slow=1.7,SNR=2.9
ASAR SKPbc SKPbc 05 44 13.8 -1.2
comp=Z,1.0nm,0.7s,baz=148,slow=3.7,SNR=5.2
BVAR **Borovoye Array** 134.24 33 PKP PKPdf 05 41 02.9 +0.2
comp=Z,1.2nm,0.7s,baz=336,slow=3.3,SNR=4.9
BVAR pPKP pPKPdf 05 41 30.1 -0.8
comp=Z,1.5nm,0.7s,baz=256,slow=0.6,SNR=3.8
WB2 **Warramunga Arr** 134.57 212 eP 05 40 52.2
WRA **Warramunga Arr** 134.57 212 PKIKP PKPdf 05 41 02.9 -1.5
WRA 05 41 31.2
WRA **Warramunga Arr** 134.57 212 PKP PKPdf 05 41 02.9 -1.5
comp=Z,5.7nm,0.7s,baz=164,slow=1.7,SNR=34
WRA pPKP pPKPdf 05 41 31.2 -1.4
comp=Z,2.1nm,0.7s,baz=154,slow=1.7,SNR=3.5
WRA SKPbc SKPbc 05 44 24.2 -1.0
comp=Z,1.2nm,0.9s,baz=148,slow=3.1,SNR=5.4
WRAB **Tennant Creek** 134.57 212 i PKIKP PKPdf 05 41 04.1 -0.3
YAK **Yakutsk** 135.47 347 i PKIKP PKPdf 05 41 05.2 +0.5
NVS **Novosibirsk** 138.92 24 ePKIKP PKPdf 05 41 11.4 +0.1
FITZ **Fitzroy Crossi** 139.95 202 PKhKP 05 41 05.9
comp=Z,1.9nm,0.6s,baz=219,slow=6.6,SNR=3.9
FITZ PKP PKPdf 05 41 13.3 -1.0
comp=Z,2.6nm,0.7s,baz=218,slow=5.2,SNR=8.1
ZALV **Zalesovo Beam** 140.20 24 PKP PKPdf 05 41 13.2 -0.4
comp=Z,2.1nm,0.3s,baz=165,slow=29,SNR=3.9
ZALV pPKP pPKPdf 05 41 41.7 -0.2
comp=Z,5.2nm,0.5s,baz=300,slow=3.0,SNR=2.4
ZAL **Zalesovo** 140.20 24 PKIKP PKPdf 05 41 13.2 -0.4
ZAL 05 41 41.7
ZAL pmax pmax
comp=Z,2.0nm,0.3s
ZAL pmax pmax
comp=Z,5.0nm,0.5s
BOD **Bodaibo** 141.62 357 ePKHKP 05 41 09.3
BOD pmax pmax
comp=Z,4.0nm,0.9s
ASAJ **Asahikawa** 143.85 320 PKIKP PKPdf 05 41 21.8 +1.3
ASAJ pmax pmax
comp=Z,7.0nm,0.5s
ASAJ **Asahikawa** 143.85 320 PKP PKPdf 05 41 21.8 +1.3
comp=Z,6.5nm,0.5s,baz=234,slow=18,SNR=3.6
MK31 **Makanchi Array** 144.10 34 ePKIKP PKPdf 05 41 18.9 -1.9
MKAR **Makanchi Array** 144.10 34 PKIKP PKPdf 05 41 18.8 -2.0
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR **Makanchi Array** 144.10 34 PKP PKPdf 05 41 18.8 -2.0
comp=Z,2.5nm,0.6s,baz=332,slow=3.1,SNR=12
KLR **Kul'dur** 145.87 335 ePKHKP PKPdf 05 41 20.1 -3.7
KLR pmax pmax
comp=Z,40nm,1.6s
THN **Thein Dam** 146.04 61 ex PKPdf 05 41 23.9 -0.7
GUMO **Guam** 146.89 265 ePKIKP PKPdf 05 41 25.9 -0.6
GUMO **Guam** 146.89 265 PKPbc PKPbc 05 41 25.8 -2.8
comp=Z,125nm,1.0s,baz=123,slow=4.9,SNR=7.1
MOY **Mondy** 146.93 11 ePKP2 PKPab 05 41 28.3 -0.9
MOY pmax pmax
comp=Z,21nm,1.2s
TLY **Talaya** 147.34 8 ePKP2 PKPab 05 41 29.7 -1.1
TLY pmax pmax
comp=Z,10.0nm,0.9s
NDI **New Delhi** 148.05 67 eP PKPdf 05 41 28.0 -0.1
ZAK **Zakamensk** 148.56 9 ⇓i PKP2 PKPab 05 41 32.3 -3.4
ZAK pmax pmax
comp=Z,7.0nm,1.0s
WMQ **Urumqi** 148.93 33 ePKP PKPdf 05 41 28.0 -1.1
MDJ **Mudanjiang** 150.44 332 PKP PKPdf 05 41 33.1 +1.7
MJAR **Matsushiro Arr** 150.58 311 PKIKP PKPbc 05 41 36.4 -1.0
MJAR 05 42 03.7
MJAR pmax pmax
comp=Z,12nm,0.7s
MJAR pmax pmax
comp=Z,8.0nm,0.8s
MJAR **Matsushiro Arr** 150.58 311 PKPbc PKPbc 05 41 36.4 -1.0
comp=Z,12nm,0.7s,baz=90,slow=1.6,SNR=34
MJAR pPKPbc pPKPbc 05 42 03.7 -1.8
comp=Z,7.8nm,0.8s,baz=83,slow=1.6,SNR=4.8
MAJO **Matsushiro** 150.58 311 ePKPdf PKPdf 05 41 30.4 -1.5
MAJO ePKPbc PKPbc 05 41 36.9 -0.5
MAJO ePKPab PKPab 05 41 43.3 -1.2
MAT **Matsushiro** 150.58 311 PKP PKPbc 05 41 36.6 -0.8
SONM **Songino Array** 151.46 6 PKIKP PKPdf 05 41 33.1 +0.2
SONM 05 41 59.2
SONM pmax pmax
comp=Z,2.0nm,0.8s
SONM pmax pmax
comp=Z,16nm,0.8s
SONM pmax pmax
comp=Z,6.0nm,0.7s
SONM pmax pmax
comp=Z,11nm,0.8s
SONM **Songino Array** 151.46 6 PKP PKPdf 05 41 33.1 +0.2
comp=Z,1.5nm,0.8s,baz=340,slow=1.4,SNR=6.5
SONM PKPbc PKPbc 05 41 38.1 -1.0
comp=Z,16nm,0.8s,baz=328,slow=1.9,SNR=52
SONM pPKP pPKPdf 05 41 59.2 -2.0
comp=Z,5.5nm,0.7s,baz=347,slow=2.0,SNR=5.8
SONM pPKPbc pPKPbc 05 42 07.2 0.0
comp=Z,11nm,0.8s,baz=344,slow=2.0,SNR=8.4
CN2 **Changchun** 152.80 336 ePKP PKPdf 05 41 35.1 +0.1
KOLN **Koldanda** 153.75 66 eP PKPab 05 41 57.5 -0.6
comp=Z,13nm,0.8s
DANN **Dangsing** 153.76 65 eP PKPab 05 41 58.7 +0.6
comp=Z,45nm,0.7s
KAPI **Kappang** 154.15 201 PKPbc PKPbc 05 41 44.6 -1.5
comp=Z,2.8nm,0.3s,baz=146,slow=7.3,SNR=3.4
KAPI PKPab PKPab 05 41 58.1 -1.8
comp=Z,47nm,0.9s,baz=192,slow=4.2,SNR=18
GKN **Gorkha** 154.60 65 eP PKPab 05 42 01.5 -0.2
DMN **Daman** 155.09 66 eP PKPab 05 42 02.1 -1.7
comp=Z,20nm,0.7s
KKN **Kakani** 155.20 66 eP PKPab 05 42 03.2 -1.1
comp=Z,29nm,0.6s
PKI **Pulchoki** 155.36 66 eP PKPab 05 42 03.8 -1.2
GUN **Gumba** 155.68 65 eP PKPab 05 42 05.2 -1.1
comp=Z,42nm,0.7s
KSRS **Korea Array** 156.67 324 PKIKP PKPdf 05 41 40.1 -0.5
KSRS 05 42 08.8
KSRS pmax pmax
comp=Z,1.0nm,0.7s
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS **Korea Array** 156.67 324 PKP PKPdf 05 41 40.1 -0.5
comp=Z,1.2nm,0.7s,baz=109,slow=1.2,SNR=6.5
KSRS PKPab PKPab 05 42 08.8 -1.4
comp=Z,3.0nm,0.7s,baz=60,slow=3.7,SNR=9.5
GTA **Gaotai** 157.95 23 PKP PKPdf 05 41 42.9 +0.8
GTA APKP 05 42 10.9
GTA XPKP 05 42 23.6
GTA SKS SKSdf 05 48 37.3 -1.3
GTA PP PP
comp=Z,126nm,5.7s
GTA LR LR
comp=N,348nm,24.1s
GTA LR LR
comp=E,442nm,21.8s
GTA LR LR
comp=Z,82nm,18.0s
HHC **Hu-ho-hao-te** 158.66 358 ePKP PKPdf 05 41 41.8 -1.1
HHC APKP 05 42 08.8
HHC XPKP 05 42 19.8
HHC PKS 05 45 14.8
HHC PP PP 05 46 01.3 +3.1
HHC SKS SKSdf 05 48 36.8 -2.4
HHC SKKS SKKSac 05 52 38.8 +0.3
HHC SS SS 06 05 54.1 +2.8
HHC PP PP
comp=Z,93nm,7.7s
HHC LR LR
comp=N,84nm,21.7s
HHC LR LR
comp=E,115nm,21.9s
HHC LR LR
comp=Z,154nm,21.7s
LZH **Lanzhou** 162.32 19 ePKP PKPdf 05 41 46.5 -0.6
LZH APKP 05 42 13.4
LZH XPKP 05 42 24.8
LZH PKP2 PKPab 05 42 36.5 +1.8
LZH LR LR
comp=E,236nm,18.5s
LZH LR LR
comp=Z,297nm,20.3s
CD2 **Chengdu** 166.92 28 ePKP PKPdf 05 41 48.8 -2.5
CD2 APKP 05 42 16.4
CD2 XPKP 05 42 27.0
CD2 PKP2 PKPab 05 42 55.8 +0.7
CD2 PP PP 05 46 44.6 +2.1
CD2 SKS SKSdf 05 48 41.8 -4.2
CD2 SKKS SKKSac 05 53 20.5 -0.6
CD2 SS SS 06 07 18.6 +0.9
CD2 PP PP
comp=Z,120nm,10.2s
CD2 LR LR
comp=N,130nm,24.2s
CD2 LR LR
comp=Z,120nm,26.2s
KMI **Kunming** 170.62 52 PKP PKPdf 05 41 53.8 0.0
KMI APKP 05 42 21.3
KMI XPKP 05 42 31.4
KMI LR LR
comp=Z,53nm,34.6s
GYA **Guiyang** 172.04 28 PKP PKPdf 05 41 52.9 -1.6
GYA XPKP 05 42 32.8
GYA PKP2 PKPab 05 43 18.8 +0.9
GYA PKS 05 45 24.3
GYA PP PP 05 47 10.6 +2.4
GYA SKS SKSdf 05 48 44.3 -4.4
GYA PP PP
comp=Z,110nm,7.8s

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*BJI **21** 05:21:50.3, 2167N×14393E, h10km, mb4.3*
*ISCJB **21** 05:21:57.8±0.7, 2177N±009×1432E±02, h33km, mb4.1/10, MS3.7/8, Error ellipse: s-maj=22.4km s-min=12.9km az=179.5*
*NEIC **21** 05:21:59.4±0.4, 2185N×14320E, h35km, Error ellipse: s-maj=18.7km s-min=11.2km az=99.0*
*IDC **21** 05:22:08.5±9.0, 2181N×14302E, h115km±82km, mb3.7/10, mb1 3.9/10, mb1mx3.8/21, mbtmp3.7/10, MS3.6/13, Ms1 3.6/13, ms1mx3.4/37, Error ellipse: s-maj=34.5km s-min=14.1km az=91.0*

ISC 21 05:21:59.8±0.7, 2179N±009×1433E±02, h35km, n28, σ0.96/15, mb4.1/10, MS3.7/8, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	5.37	350	LR	LR	05 25 11.8	
comp=Z,332nm,21.5s,baz=138,slow=34							
GUMO	**Guam**	8.30	169	LR	LR	05 26 40.4	
comp=Z,238nm,18.0s,baz=272,slow=32							
JHJ	**Hachijo jima 2**	11.70	345	LR	LR	05 28 58.1	
comp=Z,222nm,20.3s,baz=270,slow=35							
JOW	**Kunigami**	14.55	293	LR	LR	05 30 01.9	
comp=Z,287nm,18.2s,baz=242,slow=33							
JNU	**Nakatsue**	15.74	318	LR	LR	05 30 43.3	
comp=Z,72nm,18.7s,baz=315,slow=33							
KSRS	**Korea Array**	20.48	323	P	P	**05 26 37.4**	**+2.8**
2.2nm,0.6s,baz=145,slow=8.4,SNR=9.8							
KSRS				LR	LR	05 33 21.6	
comp=Z,109nm,20.0s,MS3.2,baz=273,slow=33							
ASAJ	**Asahikawa**	22.27	359	LR	LR	05 36 11.1	
comp=Z,63nm,19.5s,MS3.0,baz=132,slow=38							
KAPI	**Kappang**	35.21	224	P	P	**05 28 51.1**	**+0.2**
4.1nm,0.7s,mb4.5,baz=72,slow=6.4,SNR=5.3							
SONM	**Songino Array**	39.31	320	P	P	**05 29 24.4**	**-0.9**
0.9nm,0.5s,mb3.8,baz=130,slow=7.4,SNR=10							
SONM				LR	LR	05 45 25.5	
comp=Z,93nm,19.5s,MS3.6,baz=106,slow=36							
GTA	**Gaotai**	40.88	306	eP	P	**05 29 39.1**	**+0.6**
GTA				AP	pP	05 29 42.6	-6.1
GTA				XP	sP	05 29 46.0	-6.9
GTA				AMB	AMB		
comp=Z,5.0nm,1.4s,mb4.0							
CTA	**Charters Tower**	41.73	176	LR	LR	05 46 02.8	
comp=Z,134nm,18.8s,MS3.8,baz=42,slow=34							
WB2	**Warramunga Arr**	42.38	192	eP	P	**05 29 50.9**	**0.0**
WRA	**Warramunga Arr**	42.38	192	P	P	**05 29 50.5**	**-0.4**
comp=Z,4.9nm,1.1s,mb4.1,baz=18,slow=8.9,SNR=15							
ASAR	**Alice Springs**	46.09	192	P	P	**05 30 20.9**	**+0.4**
comp=Z,2.0nm,0.7s,mb4.2,baz=14,slow=7.7,SNR=19							
MKAR	**Makanchi Array**	54.69	313	P	P	**05 31 25.0**	**-0.4**
MKAR				LR	LR	05 54 32.4	
MKAR	**Makanchi Array**	54.69	313	P	P	**05 31 25.0**	**-0.3**
comp=Z,0.8nm,0.5s,mb4.0,baz=89,slow=9.1,SNR=7.5							
MKAR				LR	LR	05 54 32.4	
comp=Z,42nm,18.4s,MS3.5,baz=255,slow=36							
KDAK	**Kodiak Island**	58.08	35	LR	LR	05 52 48.7	
comp=Z,152nm,20.8s,MS4.1,baz=213,slow=32							
BVAR	**Borovoye Array**	62.65	319	LR	LR	06 03 12.3	
comp=Z,52nm,18.9s,MS3.7,baz=312,slow=39							
INK	**Inuvik**	67.45	24	P	P	**05 32 51.6**	**0.0**
comp=Z,1.3nm,0.7s,mb4.1,baz=308,slow=4.6,SNR=14							
YKA	**Yellowknife Ar**	76.34	28	P	P	**05 33 44.7**	**-0.3**
YKA	**Yellowknife Ar**	76.34	28	P	P	**05 33 44.7**	**-0.2**
comp=Z,1.7nm,0.5s,mb4.3,baz=293,slow=5.9,SNR=53							
PPT	**Papeete**	76.50	115	LR	LR	06 02 13.8	
comp=Z,259nm,19.5s,MS4.5,baz=316,slow=31							
NVAR	**Mina Array Bea**	83.03	52	P	P	**05 34 22.9**	**+1.1**
comp=Z,1.4nm,0.7s,mb4.1,baz=289,slow=4.5,SNR=4.4							
FINES	**FINESS Array B**	83.13	334	P	P	**05 34 19.8**	**-2.0**
FINES	**FINESS Array B**	83.13	334	P	P	**05 34 19.8**	**-2.0**
comp=Z,0.8nm,0.6s,mb3.9,baz=72,slow=6.2,SNR=3.8							
PLCA	**Paso Flores**	145.76	131	PKPbc	PKPbc	05 41 35.2	0.0
comp=Z,1.3nm,0.6s,baz=45,slow=17,SNR=6.7							
LPAZ	**La Paz**	149.86	85	PKPbc	PKPbc	05 41 46.4	-0.7
comp=Z,6.5nm,1.3s,baz=360,slow=2.2,SNR=6.3							
LPAZ				PKPab	PKPab	05 41 54.8	+2.2
comp=Z,2.4nm,0.6s,baz=275,slow=3.5,SNR=11							
CFAA	**Coronel Fontan**	150.30	116	PKPbc	PKPbc	05 41 47.3	-0.4
comp=Z,0.2nm,0.8s,baz=173,slow=3.7,SNR=4.0							

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*ISCJB **21** 05:25:12.6±0.2, 930S±004×15906E±003, h9km, mb4.9/64, MS4.3/45, Error ellipse: s-maj=6.5km s-min=4.1km*

az=169.2
BJI ***21*** *05:25:12.3, 9.03S×159.33E, h11km, mb5.0, mB5.1, Ms5.0, Msz4.6*
GCMT ***21*** *05:25:13.4±0.3, 9.50S×158.98E, h32km±1km, MW5.0/54, Moment Tensor Solution. s25,c28; s54,c68; Duration: 0 Moment tensor: Scale 10^16Nm; M_rr2.59±.22; M_θθ-1.18±.15; M_φφ-1.41±.16; M_rθ0.32±.19; M_rφ2.48±.11; M_θφ-1.96±.19; Best double couple: M_0 3.84500×10^16 NP1:φ_s290.00000°, δ37.00000°, λ48.00000°. NP2: φ_s159.00000°, δ63.00000°, λ117.00000°. Principal axes: T 3.5020, Plg62.0000°, Azm111.0000°; N 0.6860, Plg24.0000°, Azm326.0000°; P -4.1880, Plg14.0000°, Azm229.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***21*** *05:25:13.1±2.5, 9.33S×159.19E, h10km±15km, mb4.7/19, mb1 4.8/20, mb1mx4.8/21, mbtmp4.7/20, ML4.0/1, MS4.1/14, Ms1 4.1/14, ms1mx4.0/22 Error ellipse: s-maj=14.0km s-min=12.9km az=149.0*
NEIC ***21*** *05:25:13.4±1.6, 9.29S×159.11E, h9km±9km, mb5.1/27, MS4.3/20, Error ellipse: s-maj=9.0km s-min=5.0km az=146.0*
MOS ***21*** *05:25:16.2±0.8, 9.21S×158.96E, h33km, mb5.4/16, MS4.3/12, Error ellipse: s-maj=12.6km s-min=8.5km az=61.3*

ISC 21 05:25:12.7±1.4, **926S**±005×**15908E**±003, **h0**km±8km, **n428**, σ0**62**/377, **mb5.0**/63, **MS4.3**/45, **95C-103D, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
HNR	**Honiara**	**0.87**	**101**	*e*Pg		**Pg**	**Pg**	**05 25 28.0**	**-1.4**
HNR				*e*Sn		**Sg**	**Sg**	**05 25 42.6**	**+1.9**
HNR	**Honiara**	**0.87**	**101**	Pg		**Pg**	**Pg**	**05 25 27.9**	**-1.6**
	6μm,0.3s,baz=262,slow=2.4,SNR=536								
HNR				Lg				05 25 37.9	
	10μm,0.3s,baz=270,slow=20,SNR=60								
COEN	**Coen**	**16.26**	**252**	*e*Pn		**Pn**	**Pn**	**05 29 03.2**	**+0.6**
	12nm,0.9s								
CTA	**Charters Tower**	**16.41**	**228**	*e*P		**Pn**	**Pn**	**05 29 04.7**	**+0.2**
	15nm,1.0s								
CTA	**Charters Tower**	**16.41**	**228**	*e*P		**Pn**	**Pn**	**05 29 04.7**	**+0.2**
CTA				pmax		pmax	pmax		
	comp=Z,15nm,1.0s								
CTA	**Charters Tower**	**16.41**	**228**	Pn		**Pn**	**Pn**	**05 29 04.3**	**-0.2**
	comp=Z,0.4nm,0.3s,baz=49,slow=15,SNR=8.5								
CTAO	**Charters Tower**	**16.41**	**228**	*e*P		**Pn**	**Pn**	**05 29 04.9**	**+0.4**
EIDS	**Eidsvold**	**17.73**	**204**	*e*Pn		**Pn**	**Pn**	**05 29 21.1**	**0.0**
	comp=Z,6.9nm,0.9s								
ARMA	**Armidale**	**22.17**	**197**	*e*P		**P**	**P**	**05 30 11.0**	**+0.7**
WRAB	**Tennant Creek**	**26.14**	**243**	*e*P		**P**	**P**	**05 30 50.0**	**+1.3**
WRAB				pmax		pmax	pmax		
	comp=Z,40nm,0.7s,mb5.2								
WRAB	**Tennant Creek**	**26.14**	**243**	*e*P		**P**	**P**	**05 30 50.0**	**+1.3**
	comp=Z,40nm,0.7s,mb5.2								
WB2	**Warramunga Arr**	**26.14**	**243**	*e*P		**P**	**P**	**05 30 48.8**	**0.0**
WRA	**Warramunga Arr**	**26.15**	**243**	P		**P**	**P**	**05 30 49.0**	**+0.1**
WRA								05 34 15.9	
WRA	**Warramunga Arr**	**26.15**	**243**	P		**P**	**P**	**05 30 49.0**	**+0.2**
	comp=Z,21nm,1.1s,mb4.7,baz=69,slow=9.8,SNR=26								
WRA				PcP		PcP	PcP	05 34 15.9	-0.5
	comp=Z,7.3nm,0.9s,baz=73,slow=2.8,SNR=12								
WRA				LR		LR	LR	05 40 51.7	
	comp=Z,343nm,18.1s,MS3.9,baz=70,slow=36								
KAKA	**Kakadu**	**26.37**	**260**	*e*P		**P**	**P**	**05 30 51.9**	**+1.0**
	comp=Z,61nm,1.4s,mb5.0								
GUMO	**Guam**	**26.73**	**328**	LR		LR	LR	05 40 01.1	
	comp=Z,320nm,19.6s,MS3.9,baz=63,slow=33								
STKA	**Stephens Creek**	**27.74**	**213**	*e*P		**P**	**P**	**05 31 04.2**	**+1.2**
	comp=Z,5.7nm,0.6s,mb4.6								
STKA	**Stephens Creek**	**27.74**	**213**	P		**P**	**P**	**05 31 02.6**	**-0.4**
	comp=Z,7.4nm,0.7s,mb4.6,baz=20,slow=13,SNR=11								
STKA				LR		LR	LR	05 41 48.6	
	comp=Z,412nm,20.3s,MS4.0,baz=28,slow=36								
ASAR	**Alice Springs**	**28.00**	**236**	P		**P**	**P**	**05 31 04.5**	**-0.9**
	comp=Z,6.4nm,1.0s,mb4.4,baz=67,slow=9.6,SNR=23								
ASAR				PcP		PcP	PcP	05 34 20.1	-0.7
	comp=Z,4.4nm,0.8s,baz=70,slow=2.3,SNR=11								
URZ	**Urewera**	**33.12**	**154**	P		**P**	**P**	**05 31 49.0**	**-1.5**
	comp=Z,9.2nm,0.6s,mb4.9,baz=349,slow=10,SNR=4.0								
URZ				LR		LR	LR	05 42 38.9	
	comp=Z,603nm,19.7s,MS4.3,baz=342,slow=32								
FITZ	**Fitzroy Crossi**	**33.61**	**251**	*e*P		**P**	**P**	**05 31 52.9**	**-2.2**
	comp=Z,10.0nm,0.6s,mb4.9								
BATI	**Kupang**	**34.91**	**265**	LR		LR	LR	05 47 34.9	
	comp=Z,501nm,18.9s,MS4.3,baz=135,slow=38								
RPZ	**Rata Peaks**	**35.87**	**165**	P		**P**	**P**	**05 32 11.2**	**-3.1**
	comp=Z,16nm,0.8s,mb4.9,baz=202,slow=5.4,SNR=3.3								
RPZ				LR		LR	LR	05 43 25.7	
	comp=Z,184nm,19.0s,MS3.9,baz=139,slow=30								
DAV	**Davao City (W)**	**37.12**	**295**	PFAKE				05 32 40.0	+15
DAV				LR		LR	LR		
	comp=Z,431nm,22.0s,MS4.2								
KAPI	**Kappang**	**39.23**	**273**	P		**P**	**P**	**05 32 42.5**	**-0.7**
	comp=Z,19nm,1.0s,mb4.7,baz=69,slow=3.3,SNR=7.3								
MBWA	**Marble Bar**	**39.66**	**248**	*e*P		**P**	**P**	**05 32 46.2**	**-0.4**
	comp=Z,104nm,1.6s,mb5.2								
RAR	**Rarotonga**	**41.31**	**112**	LR		LR	LR	05 46 44.8	
	comp=Z,342nm,21.9s,MS4.2,baz=253,slow=31								
NWAO	**Narrogin (SRO)**	**45.17**	**232**	LR		LR	LR	05 53 16.0	
	comp=Z,363nm,18.3s,MS4.3,baz=173,slow=37								
MJAR	**Matsushiro Arr**	**49.61**	**338**	P		**P**	**P**	**05 34 04.7**	**-1.1**
	comp=Z,1.3nm,0.5s,mb4.1,baz=166,slow=8.8,SNR=7.8								
MAT	**Matsushiro**	**49.61**	**338**	P		**P**	**P**	**05 34 04.8**	**-1.0**
JNU	**Nakatsue**	**49.98**	**329**	P		**P**	**P**	**05 34 08.5**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.7,baz=96,slow=7.8,SNR=5.9								
JNU				LR		LR	LR	05 54 23.5	
	comp=Z,66nm,18.3s,MS3.7,baz=213,slow=35								
PPT	**Papeete**	**50.49**	**105**	*e*S		**S**	**S**	**05 41 23.4**	**-4.8**
	comp=Z,133nm,30.2s								
PPT				*e*LR		LR	LR	05 48 42.0	
	comp=Z,454nm,23.5s								
PPT	**Papeete**	**50.49**	**105**	LR		LR	LR	05 50 48.7	
	comp=Z,346nm,19.5s,MS4.4,baz=138,slow=30								
XMIS	**Christmas Isla**	**52.60**	**264**	*e*P		**P**	**P**	**05 34 31.8**	**+3.1**
HKL	**Haleakala**	**53.05**	**55**	*e*P		**P**	**P**	**05 34 29.8**	**-2.2**
KSRS	**Korea Array**	**54.87**	**330**	P		**P**	**P**	**05 34 45.4**	**+0.4**
	comp=Z,4.0nm,0.8s,mb4.5,baz=149,slow=7.9,SNR=16								
KSRS				LR		LR	LR	05 57 08.3	
	comp=Z,125nm,19.5s,MS4.0,baz=120,slow=35								
ASAJ	**Asahikawa**	**55.19**	**346**	LR		LR	LR	05 57 36.2	
	comp=Z,173nm,19.3s,MS4.2,baz=141,slow=35								
NJ2	**Nanjing**	**56.25**	**319**	*e*P		**P**	**P**	**05 34 55.8**	**+0.8**
NJ2				AP				05 35 00.1	
NJ2				XP		sP	sP	05 35 03.4	+8.3
NJ2				PCP		PcP	PcP	05 35 54.4	+1.7
NJ2				S		**S**	**S**	**05 42 45.5**	**-0.6**
NJ2				XS		sS	sS	05 42 52.5	+6.4
NJ2				AMB		AMB	AMB		
	comp=Z,30nm,0.5s,mb5.6								
NJ2				AMB		AMB	AMB		
	comp=Z,260nm,5.2s								
NJ2				LR		LR	LR		
	comp=N,870nm,21.7s,MS5.1								
NJ2				LR		LR	LR		
	comp=E,2μm,22.8s,MS5.1								
NJ2				LR		LR	LR		
	comp=Z,1μm,26.3s,MS4.9								
CN2	**Changchun**	**61.00**	**333**	*e*P		**P**	**P**	**05 35 28.3**	**+0.4**
CN2				*e*XP		sP	sP	05 35 35.3	+7.4
CN2				AMB		AMB	AMB		
	comp=Z,20nm,0.7s,mb5.4								
CN2				AMB		AMB	AMB		
	comp=Z,400nm,6.0s								
CN2				LR		LR	LR		
	comp=N,300nm,18.0s,MS4.7								
CN2				LR		LR	LR		
	comp=E,400nm,18.0s,MS4.7								
CN2				LR		LR	LR		
	comp=Z,600nm,19.0s,MS4.8								
HABR	**Khabarovsk**	**61.27**	**342**	*e*P		**P**	**P**	**05 35 29.5**	**-0.1**
HABR				*e*				05 35 37.6	
HABR				*e*				05 35 41.7	
HABR				*e*				05 36 09.2	
HABR				*e*S		**S**	**S**	**05 43 50.8**	**0.0**
HABR				*e*				05 45 19.8	
HABR				*e*				05 47 52.6	
GYA	**Guiyang**	**62.04**	**306**	P		**P**	**P**	**05 35 38.0**	**+2.7**
GYA				PCP		PcP	PcP	05 36 17.9	+2.1
GYA				PP		PP	PP	05 37 57.0	+5.1
GYA				SCP		ScP	ScP	05 40 18.4	-0.8
GYA				AMB		AMB	AMB		
	comp=Z,20nm,1.0s,mb5.3								
GYA				AMB		AMB	AMB		
	comp=Z,130nm,5.4s								
GYA				LR		LR	LR		
	comp=N,540nm,19.8s,MS4.8								
GYA				LR		LR	LR		
	comp=E,510nm,20.4s,MS4.8								
GYA				LR		LR	LR		
	comp=Z,680nm,21.3s,MS4.8								
PET	**Petropavlovsk**	**62.04**	**360**	*i* P		**P**	**P**	**05 35 34.4**	**-0.3**
PET				pmax		pmax	pmax		
	comp=Z,19nm,0.5s,mb5.6								
BJI	**Beijing**	**63.09**	**324**	P		**P**	**P**	**05 35 43.3**	**+1.3**
BJI				S		**S**	**S**	**05 44 15.6**	**+1.6**
BJI				AMB		AMB	AMB		
	comp=Z,13nm,1.1s,mb5.0								
BJI				LR		LR	LR		
	comp=Z,113nm,30.9s,MS3.9								
XAN	**Xi'an**	**64.15**	**315**	P		**P**	**P**	**05 35 48.8**	**-0.4**
XAN				AP				05 35 55.3	
XAN				PP		PP	PP	05 38 17.4	+7.1
XAN				AMB		AMB	AMB		
	comp=Z,13nm,0.7s,mb5.3								
XAN				LR		LR	LR		
	comp=N,71nm,19.6s,MS4.1								
XAN				LR		LR	LR		
	comp=E,116nm,20.8s,MS4.1								
XAN				LR		LR	LR		
	comp=Z,206nm,20.5s,MS4.3								
RKT	**Rikitea**	**64.35**	**111**	*e*LR		LR	LR	05 55 05.7	
	comp=Z,267nm,29.0s								
KMI	**Kunming**	**64.63**	**303**	P		**P**	**P**	**05 35 53.4**	**+0.9**
KMI				AP				05 36 01.1	
KMI				XP		sP	sP	05 36 04.3	+12
KMI				PP		PP	PP	05 38 19.3	+4.5
KMI				AMB		AMB	AMB		
	comp=Z,9.0nm,1.7s,mb4.7								
KMI				AMB		AMB	AMB		
	comp=Z,93nm,3.5s								
KMI				LR		LR	LR		
	comp=N,128nm,19.5s,MS4.4								
KMI				LR		LR	LR		
	comp=E,210nm,18.9s,MS4.4								
KMI				LR		LR	LR		
	comp=Z,202nm,18.2s,MS4.3								
CHTO	**Chiang Mai**	**65.52**	**296**	*e*P		**P**	**P**	**05 35 59.1**	**+0.7**
CHTO				MLR		MLR	MLR		
	comp=Z,98nm,19.0s,MS4.0								
HHC	**Hu-ho-hao-te**	**66.32**	**322**	*e*P		**P**	**P**	**05 36 05.9**	**+2.8**
HHC				AP				05 36 10.8	
HHC				XP		sP	sP	05 36 13.1	+10
HHC				PCP		PcP	PcP	05 36 35.1	+2.0
HHC				PP		PP	PP	05 38 34.6	+5.3
HHC				SCP				05 40 37.4	
HHC				AMB		AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.0								
HHC				AMB		AMB	AMB		
	comp=Z,123nm,5.4s								
HHC				LR		LR	LR		
	comp=N,135nm,19.8s,MS4.4								
HHC				LR		LR	LR		
	comp=E,192nm,18.8s,MS4.4								
HHC				LR		LR	LR		
	comp=Z,140nm,18.6s,MS4.2								
CD2	**Chengdu**	**66.36**	**310**	*e*P		**P**	**P**	**05 36 04.3**	**+0.7**
CD2				AP				05 36 09.0	
CD2				XP		sP	sP	05 36 11.5	+7.8
CD2				PP		PP	PP	05 38 32.9	+3.1
CD2				AMB		AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.3								
CD2				AMB		AMB	AMB		
	comp=Z,40nm,5.8s								
CD2				LR		LR	LR		
	comp=N,230nm,16.8s,MS4.6								
CD2				LR		LR	LR		
	comp=E,210nm,15.6s,MS4.6								
CD2				LR		LR	LR		
	comp=Z,140nm,13.2s,MS4.3								
VNDA	**Vanda**	**68.25**	**179**	*e*P		**P**	**P**	**05 36 14.0**	**-0.8**
VNDA				pmax		pmax	pmax		
	comp=Z,12nm,0.8s								
VNDA				MLR		MLR	MLR		
	comp=Z,286nm,19.0s								
VNDA	**Vanda**	**68.25**	**179**	*e*P		**P**	**P**	**05 36 14.0**	**-0.8**
	comp=Z,12nm,0.8s,mb5.2								
VNDA				LR		LR	LR		
	comp=Z,286nm,19.0s,MS4.5								
VNDA	**Vanda**	**68.25**	**179**	P		**P**	**P**	**05 36 14.1**	**-0.7**
	comp=Z,12nm,0.8s,mb5.2,baz=340,slow=6.6,SNR=30								
VNDA				LR		LR	LR	06 00 39.6	
	comp=Z,192nm,19.0s,MS4.3,baz=313,slow=31								
SBA	**Scott Base**	**68.68**	**178**	*e*P		**P**	**P**	**05 36 18.4**	**+0.9**
SBA				pmax		pmax	pmax		
	comp=Z,13nm,1.0s,mb5.1								
SBA	**Scott Base**	**68.68**	**178**	*e*P		**P**	**P**	**05 36 18.4**	**+0.8**
	comp=Z,13nm,1.0s,mb5.1								
LZH	**Lanzhou**	**68.77**	**314**	*e*P		**P**	**P**	**05 36 20.3**	**+1.6**
LZH				AP				05 36 25.1	
LZH				XP		sP	sP	05 36 27.5	+8.7
LZH				*e*PP		PP	PP	05 38 55.4	+4.7
LZH				AMB		AMB	AMB		
	comp=Z,16nm,1.3s,mb5.1								
LZH				AMB		AMB	AMB		
	comp=Z,128nm,5.2s								
LZH				LR		LR	LR		
	comp=N,528nm,16.5s								
LZH				LR		LR	LR		
	comp=Z,763nm,18.7s,MS5.0								
MA2	**Magadan**	**68.93**	**355**	⇓*e*P		**P**	**P**	**05 36 18.7**	**-0.5**
MA2				pmax		pmax	pmax		
	comp=Z,24nm,1.4s,mb5.2								
MA2	**Magadan**	**68.93**	**355**	*e*P		**P**	**P**	**05 36 18.9**	**-0.3**
	comp=Z,17nm,1.0s,mb5.2								
MA2				LR		LR	LR		
	comp=Z,81nm,20.0s,MS4.0								
GTA	**Gaotai**	**73.16**	**316**	⇑P		**P**	**P**	**05 36 46.4**	**+1.1**
GTA				AP				05 36 50.3	
GTA				XP		sP	sP	05 36 53.0	+7.6
GTA				PCP		PcP	PcP	05 37 03.4	+1.4
GTA				PP		PP	PP	05 39 30.8	+2.4
GTA				AMB		AMB	AMB		
	comp=Z,7.0nm,0.6s,mb5.0								
GTA				AMB		AMB	AMB		
	comp=Z,93nm,5.0s								
GTA				LR		LR	LR		
	comp=N,108nm,17.2s,MS4.5								
GTA				LR		LR	LR		
	comp=E,180nm,17.6s,MS4.5								
GTA				LR		LR	LR		
	comp=Z,165nm,20.6s,MS4.3								
SONM	**Songino Arrey**	**73.44**	**326**	P		**P**	**P**	**05 36 47.5**	**+0.7**
	comp=Z,4.1nm,0.7s,mb4.7,baz=134,slow=5.2,SNR=27								
SONM				LR		LR	LR	06 10 55.9	
	comp=Z,102nm,18.0s,MS4.2,baz=262,slow=37								
SHL	**Shillong**	**73.92**	**300**	*e*P		**P**	**P**	**05 36 51.0**	**+0.9**
CHGN	**Chignik**	**74.16**	**23**	*e*P		**P**	**P**	**05 36 49.3**	**-1.6**
YAK	**Yakutsk**	**74.67**	**346**	⇓*e*P		**P**	**P**	**05 36 53.7**	**0.0**
YAK				pmax		pmax	pmax		
	comp=Z,16nm,0.5s,mb5.3								
BOD	**Bodaibo**	**76.23**	**337**	*e*		**P**	**P**	**05 37 01.6**	**-1.1**
BOD				pmax		pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.6								
ZAK	**Zakamensk**	**76.56**	**327**	*e*P		**P**	**P**	**05 37 04.4**	**-0.4**
ZAK				*e*				05 37 20.5	
ZAK				pmax		pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.3								
ZAK				pmax		pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.5								
TLY	**Talaya**	**77.08**	**328**	*i* P		**P**	**P**	**05 37 08.2**	**+0.5**
TLY				pmax		pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.8								
BILL	**Bilibino**	**77.28**	**3**	*e*P		**P**	**P**	**05 37 08.4**	**0.0**
BILL				pmax		pmax	pmax		
	comp=Z,22nm,1.0s,mb5.2								
KDAK	**Kodiak Island**	**77.50**	**24**	P		**P**	**P**	**05 37 09.0**	**-0.9**
	comp=Z,12nm,0.8s,mb5.0,baz=213,slow=2.4,SNR=8.7								
TNA	**Tin City**	**78.52**	**13**	*e*P		**P**	**P**	**05 37 15.5**	**+0.1**
	comp=Z,17nm,1.2s,mb5.0								
TNA				LR		LR	LR		
	comp=Z,71nm,20.0s,MS4.0								
SVW2	**Sparrevohn**	**78.62**	**21**	*e*P		**P**	**P**	**05 37 16.3**	**+0.2**
GUN	**Gumba**	**79.75**	**301**	*e*P		**P**	**P**	**05 37 23.3**	**+0.3**
TTA	**Tatalina**	**79.77**	**19**	*e*P		**P**	**P**	**05 37 22.3**	**0.0**
PKI	**Pulchoki**	**80.05**	**300**	*e*P		**P**	**P**	**05 37 24.9**	**+0.2**
SLKM	**Skilak Lake**	**80.19**	**23**	*e*P		**P**	**P**	**05 37 24.1**	**-0.5**
KKN	**Kakani**	**80.22**	**300**	*e*P		**P**	**P**	**05 37 25.7**	**+0.1**
DMN	**Daman**	**80.32**	**300**	*e*P		**P**	**P**	**05 37 26.7**	**+0.6**
	comp=Z,66nm,1.1s,mb5.5								
QSPA	**South Pole Qui**	**80.73**	**180**	*e*P		**P**	**P**	**05 37 26.9**	**-0.4**
GKN	**Gorkha**	**80.83**	**300**	*e*P		**P**	**P**	**05 37 28.7**	**-0.1**
	comp=Z,45nm,0.9s,mb5.5								
PMR	**Palmer**	**81.28**	**22**	*e*P		**P**	**P**	**05 37 29.7**	**-0.8**
PMR				pmax		pmax	pmax		
	comp=Z,21nm,0.9s,mb5.2								
PMR				MLR		MLR	MLR		
	comp=Z,94nm,19.0s,MS4.2								
PMR	**Palmer**	**81.28**	**22**	*e*P		**P**	**P**	**05 37 29.6**	**-0.8**
	comp=Z,21nm,0.9s,mb5.2								
PMR				LR		LR	LR		
	comp=Z,94nm,19.0s,MS4.2								
KOLN	**Koldanda**	**81.65**	**300**	*e*P		**P**	**P**	**05 37 32.8**	**-0.4**
	comp=Z,42nm,0.8s,mb5.6								
DANN	**Dangsing**	**81.67**	**300**	*e*P		**P**	**P**	**05 37 32.7**	**-0.6**
	comp=Z,30nm,0.9s,mb5.4								
SML	**Sawmill**	**81.72**	**22**	*e*P		**P**	**P**	**05 37 32.3**	**-0.4**
IMA2	**Indian Mountai**	**82.68**	**18**	*e*P		**P**	**P**	**05 37 37.3**	**-0.4**
TIXI	**Tiksi**	**83.19**	**351**	⇓*e*P		**P**	**P**	**05 37 39.5**	**-0.8**
TIXI				pmax		pmax	pmax		
	comp=Z,16nm,2.2s,mb4.9								
TIXI	**Tiksi**	**83.19**	**351**	*e*P		**P**	**P**	**05 37 39.1**	**-1.2**
	comp=Z,17nm,1.6s,mb5.0								
TIXI				LR		LR	LR		
	comp=Z,125nm,20.0s,MS4.3								
WMQ	**Urumqi**	**83.24**	**316**	P		**P**	**P**	**05 37 41.0**	**-0.1**
WMQ				XP		sP	sP	05 37 48.0	+6.8
WMQ				AMB		AMB	AMB		
	comp=Z,34nm,1.0s,mb5.5								
WMQ				AMB		AMB	AMB		
	comp=Z,84nm,6.0s								
WMQ				LR		LR	LR		
	comp=N,68nm,16.0s,MS4.3								
WMQ				LR		LR	LR		
	comp=E,71nm,16.0s,MS4.3								
WMQ				LR		LR	LR		
	comp=Z,65nm,16.0s,MS4.1								
COLA	**College**	**83.76**	**20**	⇑*i*P		**P**	**P**	**05 37 41.8**	**-1.5**
COLA				pmax		pmax	pmax		
	comp=Z,20nm,0.8s,mb5.4								
COLA	**College**	**83.76**	**20**	⇑*i*P		**P**	**P**	**05 37 41.8**	**-1.6**
	comp=Z,20nm,0.8s,mb5.4								
MAW	**Mawson**	**83.87**	**203**	P		**P**	**P**	**05 37 41.9**	**-2.1**
	comp=Z,6.3nm,0.9s,mb4.8,baz=103,slow=5.1,SNR=6.6								
SKAG	**Skagway**	**85.94**	**28**	*e*P		**P**	**P**	**05 37 54.8**	**+0.4**
EGAK	**Eagle**	**86.07**	**22**	*e*P		**P**	**P**	**05 37 54.8**	**-0.1**
EGAK				LR		LR	LR		
	comp=Z,87nm,19.0s,MS4.2								
O01C	**Eel River Cons**	**86.20**	**48**	⇑P		**P**	**P**	**05 37 56.5**	**+0.3**
	baz=86								
DAWY	**Dawson**	**86.37**	**23**	*e*P		**P**	**P**	**05 37 57.0**	**+0.6**
P01C	**Double 8 Ranch**	**86.38**	**49**	⇓P		**P**	**P**	**05 37 57.2**	**+0.1**
	baz=86								
N02C	**Big Bar**	**86.76**	**48**	⇑P		**P**	**P**	**05 37 59.1**	**+0.2**
	baz=87								
L02A	**Cave Junction**	**86.89**	**47**	⇑P		**P**	**P**	**05 37 59.8**	**+0.2**
	baz=87								
GASB	**Alder Springs**	**86.90**	**49**	⇑P		**P**	**P**	**05 38 00.2**	**+0.6**
	baz=87,SNR=5.4								
MNRC	**McLaughlin Nat**	**86.91**	**50**	⇓P		**P**	**P**	**05 37 59.9**	**+0.2**
	baz=87								
O02C	**Red Bluff**	**86.97**	**49**	P		**P**	**P**	**05 38 00.7**	**+0.8**
	baz=87,SNR=11								
HAST	**Hastings Reser**	**86.99**	**53**	⇓P		**P**	**P**	**05 38 00.5**	**+0.4**
	baz=87								
V03C	**Hunter Liggett**	**87.15**	**53**	⇓P		**P**	**P**	**05 38 01.3**	**+0.3**
	baz=87								
Q03C	**Winters**	**87.17**	**50**	⇓P		**P**	**P**	**05 38 01.3**	**+0.3**
	baz=87								
I02A	**Mapleton**	**87.22**	**45**	⇓P		**P**	**P**	**05 38 01.9**	**+0.8**
	baz=87								
J02A	**Umpqua**	**87.23**	**45**	⇓P		**P**	**P**	**05 38 01.4**	**+0.3**
	baz=87								
M02C	**Callahan**	**87.23**	**47**	⇑P		**P**	**P**	**05 38 01.7**	**+0.4**
	baz=87,SNR=7.6								
WDC	**Whiskeytown Da**	**87.26**	**48**	*e*P		**P**	**P**	**05 38 01.7**	**+0.4**
WDC	**Whiskeytown Da**	**87.26**	**48**	⇓P		**P**	**P**	**05 38 01.1**	**-0.2**
	baz=87								
PACP	**Pacheco Peak**	**87.34**	**52**	⇑P		**P**	**P**	**05 38 02.2**	**+0.4**
	baz=87								
YBH	**Yreka Blue Hor**	**87.42**	**47**	*e*P		**P**	**P**	**05 38 02.8**	**+0.7**
YBH	**Yreka Blue Hor**	**87.42**	**47**	⇓P		**P**	**P**	**05 38 02.3**	**+0.2**
	baz=88								
S04C	**Ingram Canyon,**	**87.43**	**52**	⇑P		**P**	**P**	**05 38 02.3**	**0.0**
	baz=88								
HUMO	**Hull Mountain**	**87.47**	**46**	⇑P		**P**	**P**	**05 38 02.6**	**+0.2**
	baz=88								
U04C	**Hernandez Rese**	**87.59**	**53**	⇑P		**P**	**P**	**05 38 03.6**	**+0.6**
	baz=88								
J03A	**Ideyld Park**	**87.66**	**46**	⇑P		**P**	**P**	**05 38 03.6**	**+0.4**
	baz=88								
PKD	**Parkfield**	**87.68**	**53**	⇓P		**P**	**P**	**05 38 03.5**	**-0.1**
	baz=88								
Q04C	**Lincoln**	**87.70**	**50**

KCC Kaiser Creek 88.95 52 ⇑P P 05 38 09.4 0.0
baz=89,SNR=6.1
K05A Summer Lake 88.98 47 ⇑P P 05 38 09.8 +0.3
baz=89
P06A Stead Airport, 89.02 50 ⇓P P 05 38 09.9 +0.2
baz=89
WCN Washoe City 89.04 50 ⇓P P 05 38 09.8 -0.1
baz=89
HELL Mitchell Peak 89.04 53 P P 05 38 10.0 0.0
baz=89,SNR=11
R06C Coleville 89.10 51 ⇑P P 05 38 10.0 -0.1
baz=89
O06A Flanigan 89.17 49 P P 05 38 10.6 +0.1
baz=89,SNR=9.2
MOD Modoc 89.21 47 ⇓P P 05 38 10.9 +0.3
baz=89
N06A Buffalo Meadow 89.30 49 P P 05 38 11.3 +0.3
baz=89,SNR=8.2
MWC Mount Wilson 89.31 55 eP P 05 38 11.5 +0.3
PAHR Pah Rah Range 89.41 50 eP P 05 38 12.1 +0.5
K06A Valley Falls 89.45 47 ⇓P P 05 38 12.1 +0.4
baz=90
EDW2 Edwards Air Fo 89.49 55 P P 05 38 12.4 +0.3
baz=90,SNR=9.9
MTUM Tungsten Hills 89.54 52 eP P 05 38 12.9 +0.7
VIPM Ingram Point 89.58 45 P P 05 38 11.5 -0.8
BFSC Mount Baldy St 89.63 55 P P 05 38 12.7 0.0
baz=90,SNR=10
CWC Cottonwood Cre 89.73 53 P P 05 38 13.4 +0.2
baz=90,SNR=7.0
I06A Prineville 89.74 45 ⇓P P 05 38 12.6 -0.4
baz=90
TIN Tinemaha 89.74 53 ⇓P P 05 38 13.2 0.0
baz=90
E06A Yakima 89.81 43 ⇑P P 05 38 12.8 -0.4
baz=90
109C Camp Elliot, M 89.82 57 P P 05 38 14.0 +0.3
baz=90,SNR=5.5
H06A Lindquist Farm 89.83 45 ⇑P P 05 38 12.9 -0.5
baz=90
S08C White Mtn Res 89.88 52 ⇑P P 05 38 14.0 +0.2
baz=90,SNR=6.5
MURC Murrieta 89.88 56 ⇓P P 05 38 13.4 -0.6
baz=90
O07A Toulon 89.89 49 ⇓P P 05 38 14.0 +0.2
baz=90,SNR=12
M07A Soldier Meadow 89.93 48 ⇑P P 05 38 14.1 +0.1
baz=90,SNR=8.8
L07A Adell 89.94 47 ⇑P P 05 38 14.1 +0.1
baz=90,SNR=8.7
N07B Gerlach 89.95 49 ⇑P P 05 38 14.1 +0.1
baz=90,SNR=14
NVAR Mina Array Bea 89.96 51 P P 05 38 14.2 0.0
comp=Z,12nm,0.9s,mb5.1,baz=238,slow=6.6,SNR=42
MPMC Manual Prospec 90.13 54 P P 05 38 15.3 +0.3
baz=90,SNR=13
BAR Barrett 90.14 57 eP P 05 38 15.3 +0.1
comp=Z,15nm,0.9s,mb5.2
K07A Rock Creek Ran 90.15 47 ⇓P P 05 38 15.1 +0.1
baz=90,SNR=7.7
I07A Izee 90.27 45 ⇑P P 05 38 15.6 +0.1
baz=90
Q08A Gabbs 90.33 51 ⇓P P 05 38 15.8 -0.1
baz=90,SNR=14
H07A Lands Inn, Kim 90.34 45 ⇓P P 05 38 15.9 +0.1
baz=90
MONP Monument Peak 90.39 57 ⇑P P 05 38 15.8 -0.5
baz=90
GRAC Grapevine Rang 90.40 53 ⇓P P 05 38 16.5 +0.2
baz=90,SNR=5.2
G07A Ruggs Ranch, H 90.41 44 ⇓P P 05 38 16.0 -0.1
baz=90
INK Inuvik 90.42 20 P P 05 38 14.6 -1.0
comp=Z,1.6nm,0.8s,mb4.3,baz=268,slow=3.0,SNR=4.9
PFO Pinyon Flat Ob 90.50 56 eP P 05 38 17.1 +0.3
PFO pmax pmax
comp=Z,9.0nm,0.9s,mb5.0
PFO Pinyon Flat Ob 90.50 56 eP P 05 38 17.1 +0.3
comp=Z,8.9nm,0.9s,mb5.0
PFO Pinyon Flat Ob 90.50 56 ⇓P P 05 38 16.7 -0.1
baz=90
M08A Happy Creek Ra 90.52 48 ⇑P P 05 38 17.2 +0.5
baz=91,SNR=6.7
GSC Goldstone 90.53 54 eP P 05 38 17.2 +0.3
GSC pmax pmax
comp=Z,12nm,0.9s,mb5.2
GSC Goldstone 90.53 54 eP P 05 38 17.2 +0.3
comp=Z,12nm,0.9s,mb5.2
GSC Goldstone 90.53 54 P P 05 38 17.3 +0.3
baz=91,SNR=6.3
WVOR Wild Horse Val 90.54 47 eP P 05 38 16.6 -0.2
WVOR pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
WVOR MLR MLR
comp=Z,106nm,20.0s,MS4.3
WVOR Wild Horse Val 90.54 47 eP P 05 38 16.6 -0.2
comp=Z,8.6nm,1.0s,mb5.0
WVOR LR LR
comp=Z,106nm,20.0s,MS4.3
KSH Kashi 90.56 310 eP P 05 38 18.1 +1.2
KSH eAP 05 38 26.3
KSH eXP sP 05 38 29.1 +12
KSH ePP PP 05 41 57.0 +5.1
KSH eSKS 05 48 46.3
KSH eS S 05 49 10.3 -3.5
KSH eXS sS 05 49 25.4 +12
N08A GE Springer Mi 90.57 49 ⇓P P 05 38 17.1 +0.2
baz=91,SNR=15
S09A Goldfield 90.66 52 P P 05 38 17.6 +0.2
baz=91,SNR=21
L08A Fields 90.70 47 ⇑P P 05 38 17.8 +0.2
baz=91
FURC Furnace Creek, 90.70 53 ⇓P P 05 38 17.5 -0.3
baz=91,SNR=22
K08A Mann Creek Ran 90.71 47 ⇑P P 05 38 17.7 +0.1
baz=91
TPH Tonopah 90.73 52 eP P 05 38 18.3 +0.5
TPH MLR MLR
comp=Z,145nm,21.0s,MS4.4
WTV Waterville 90.76 42 P P 05 38 15.6 -2.0
A07A Ashnola River, 90.78 40 ⇓P P 05 38 17.2 -0.5
baz=91
B07A Winthrop 90.82 41 ⇓P P 05 38 17.0 -0.9
baz=91
HEC Hector,Ludlow 90.82 55 ⇑P P 05 38 18.1 -0.2
baz=91
J08A Circle Bar Ran 90.84 46 ⇑P P 05 38 18.1 -0.1
baz=91,SNR=7.4
R09A Tonopah 90.88 52 ⇑P P 05 38 18.3 -0.2
baz=91,SNR=5.4
I08A Drewsey 90.89 46 ⇓P P 05 38 17.9 -0.5
baz=91
Q09A Carvers 90.90 51 ⇑P P 05 38 18.8 +0.2
baz=91
G08A Pilot Rock 90.91 44 ⇓P P 05 38 18.0 -0.4
baz=91,SNR=8.4
SWSC Sam W. Stewart 90.92 57 ⇓P P 05 38 18.5 -0.3
baz=91
BELC Belle Mtn. 90.94 56 ⇑P P 05 38 18.7 -0.2
baz=91,SNR=17
H08A Prairie City 90.95 45 ⇑P P 05 38 18.2 -0.4
baz=91
N09A Rock Creek Ran 91.03 49 ⇓P P 05 38 19.4 +0.3
baz=91,SNR=11
SHOC Shoshone 91.06 54 P P 05 38 19.4 0.0
baz=91,SNR=6.8
P09A Austin 91.07 50 ⇓P P 05 38 19.5 +0.1
baz=91,SNR=10
E08A Dider Farm, El 91.09 43 ⇓P P 05 38 19.5 +0.3
baz=91
KURK Kurchatov 91.11 321 eP P 05 38 18.1 -1.2
KURK pmax pmax
comp=Z,8.0nm,1.1s,mb5.0
KURK MLR MLR
comp=Z,95nm,20.0s,MS4.2
KURK Kurchatov 91.11 321 eP P 05 38 18.1 -1.1
comp=Z,8.5nm,1.1s,mb5.0
KURK LR LR
comp=Z,95nm,20.0s,MS4.2
U10A Ash Meadows, A 91.11 53 P P 05 38 20.2 +0.6
baz=91,SNR=8.1
O09A Fish Creek Ran 91.15 50 ⇑P P 05 38 19.6 -0.1
baz=91,SNR=20
L09A Wilkinson Ranc 91.16 48 ⇓P P 05 38 19.8 +0.1
baz=91,SNR=13
BMN Battle Mountai 91.18 49 eP P 05 38 20.6 +0.8
BMN MLR MLR
comp=Z,114nm,22.0s,MS4.3
S10A Tonopah Range, 91.19 52 ⇓P P 05 38 19.7 -0.2
baz=91,SNR=28
M09A Marrel Ranch, 91.20 48 ⇓P P 05 38 20.2 +0.3
baz=91,SNR=13
K09A Rome 91.25 47 ⇓P P 05 38 20.1 0.0
baz=91,SNR=9.4
TUQ Turquoise Mtn. 91.26 54 ⇓P P 05 38 20.3 0.0
baz=91
TPNV Topopah Spring 91.28 53 eP P 05 38 20.6 +0.2
TPNV MLR MLR
comp=Z,171nm,21.0s,MS4.5
TPNV Topopah Spring 91.28 53 P P 05 38 20.5 +0.2
baz=91,SNR=15
D08A Wollman Farm, 91.30 43 ⇑P P 05 38 19.3 -1.0
baz=91
B08A Colville Reser 91.31 41 ⇓P P 05 38 19.0 -1.2
baz=91
BC3 Big Chuckw Mtn 91.33 56 ⇑P P 05 38 20.9 +0.3
baz=91
GMRC Granite Mounta 91.36 55 P P 05 38 20.9 +0.1
baz=91,SNR=18
J09A Fry Pan Ranch, 91.36 46 ⇑P P 05 38 20.5 -0.1
baz=91,SNR=12
A08A Turner Farm, O 91.47 41 ⇑P P 05 38 20.4 -0.5
baz=92
R10A Warm Springs 91.48 52 ⇑P P 05 38 21.4 +0.2
baz=92,SNR=6.9
I09A Lost Marbles R 91.49 46 ⇑P P 05 38 20.8 -0.3
baz=92
TKM2 Tokmak 2 91.50 313 eP P 05 38 20.6 -0.7
TKM2 pmax pmax
comp=Z,8.0nm,1.0s,mb5.0
TKM2 MLR MLR
comp=Z,89nm,20.0s,MS4.2
TKM2 Tokmak 2 91.50 313 eP P 05 38 20.6 -0.6
comp=Z,8.3nm,1.0s,mb5.0
TKM2 LR LR
comp=Z,89nm,20.0s,MS4.2
OD2 Odessa Site #2 91.51 42 P P 05 38 20.1 -1.1
P10A Eureka 91.60 50 ⇓P P 05 38 21.6 -0.1
baz=92,SNR=7.3
IRM Iron Mountain 91.66 56 ⇓P P 05 38 22.0 -0.2
baz=92,SNR=9.1
O10A Cortez Mining, 91.69 50 ⇓P P 05 38 22.3 +0.1
baz=92,SNR=9.3
D09A Jones Farm, Ri 91.71 43 ⇓P P 05 38 21.8 -0.4
baz=92
E09A Wood Farm, Sta 91.71 43 ⇓P P 05 38 21.9 -0.3
baz=92
F09A S2 Ranch, Elgi 91.71 44 ⇓P P 05 38 22.1 0.0
baz=92
V11A Goodsprings 91.73 54 ⇓P P 05 38 22.4 0.0
baz=92,SNR=10
GLA Glamis 91.74 57 eP P 05 38 23.2 +0.6
GLA pmax pmax
comp=Z,10.0nm,0.8s,mb5.2
GLA Glamis 91.74 57 eP P 05 38 23.2 +0.6
comp=Z,10nm,0.8s,mb5.2
GLA Glamis 91.74 57 ⇑P P 05 38 22.8 +0.2
baz=92,SNR=6.7
N10A Dunphy 91.77 49 ⇑P P 05 38 23.1 +0.5
baz=92,SNR=9.0
S11A Rachel 91.79 52 ⇑P P 05 38 22.5 -0.2
baz=92
LDFC Landfair 91.85 55 eP P 05 38 24.0 +0.9
K10A MacKenzie Ranc 91.88 47 P P 05 38 23.2 +0.2
baz=92,SNR=20
M10A I.L. Ranch, Tu 91.89 48 ⇓P P 05 38 23.1 0.0
baz=92,SNR=8.3
A09A Danville 91.92 41 ⇑P P 05 38 22.4 -0.7
baz=92
BMO Blue Mountains 91.97 45 eP P 05 38 23.3 -0.1
BMO pmax pmax
comp=Z,9.0nm,0.8s,mb5.2
BMO Blue Mountains 91.97 45 eP P 05 38 23.2 -0.1
comp=Z,9.0nm,0.8s,mb5.2
L10A Juniper Basin 92.04 48 P P 05 38 24.2 +0.4
baz=92,SNR=20
R11A Troy Canyon, C 92.04 52 ⇑P P 05 38 23.8 -0.1
baz=92,SNR=12
SHPR Sheep Range 92.06 54 eP P 05 38 24.7 +0.7
Q11A Duckwater 92.08 51 P P 05 38 24.5 +0.5
baz=92,SNR=25
J10A Berg Farm, Mel 92.08 46 ⇓P P 05 38 23.9 0.0
baz=92,SNR=6.7
B09A Rice 92.09 41 ⇑P P 05 38 22.8 -1.0
baz=92
Y12C Blythe 92.11 56 ⇑P P 05 38 24.3 0.0
baz=92
T11A Corn Creek, Al 92.14 53 ⇓P P 05 38 24.1 -0.3
baz=92,SNR=13
V12A Nelson 92.17 54 ⇓P P 05 38 24.2 -0.3
baz=92,SNR=5.5
I10A Payette 92.17 46 ⇓P P 05 38 24.4 0.0
baz=92
G10A Bishop Farm, J 92.18 45 P P 05 38 24.0 -0.3
baz=92,SNR=39
F10A Beach Ranch, E 92.23 44 P P 05 38 24.2 -0.4
baz=92,SNR=20
O11A Cowboy Ranch, 92.30 50 P P 05 38 25.7 +0.7
baz=92,SNR=36
H10A Noah's Angus R 92.31 45 P P 05 38 24.5 -0.5
baz=92,SNR=17
N11A Elko Archery C 92.36 49 ⇓P P 05 38 25.3 0.0
baz=92,SNR=7.0
D10A Wagner Farm, O 92.41 43 P P 05 38 24.9 -0.4
baz=92,SNR=8.7
E10A Myers Farm, Un 92.41 43 ⇓P P 05 38 24.8 -0.5
baz=92
M11A Holland Ranch, 92.43 49 ⇑P P 05 38 26.0 +0.4
baz=92,SNR=19
T12A Moapa 92.45 53 ⇓P P 05 38 26.0 +0.2
baz=92
K11A Parker Ranch, 92.49 47 P P 05 38 26.2 +0.4
baz=92,SNR=18
S12A Delamar Landin 92.49 52 ⇑P P 05 38 26.3 +0.4
baz=92,SNR=8.6
PDMCI Parker Dam,Lak 92.51 56 ⇓P P 05 38 26.0 -0.1
baz=92
U12A Valley of Fire 92.54 54 ⇑P P 05 38 26.4 +0.2
baz=93
113A Mohawk Valley, 92.57 57 ⇓P P 05 38 26.1 -0.3
baz=93
L11A Cat Creek Ranc 92.58 48 P P 05 38 26.9 +0.6
baz=93,SNR=29
Y13A Salome 92.69 56 ⇓P P 05 38 27.4 +0.5
baz=93,SNR=5.3
AML Almayashu 92.74 312 eP P 05 38 27.1 +0.1
comp=Z,10.0nm,1.2s,mb5.1
I11A Placerville 92.74 46 P P 05 38 27.2 +0.3
baz=93,SNR=20
Q12A Willow Creek R 92.75 51 ⇓P P 05 38 27.2 0.0
baz=93,SNR=8.4
MFID Camas Ranch 92.75 47 ⇓P P 05 38 27.0 0.0
baz=93
P12A McGill 92.76 51 ⇓P P 05 38 27.5 +0.3
baz=93,SNR=17
G11A Walters Elk Ra 92.79 45 P P 05 38 26.7 -0.5
baz=93,SNR=18
R12A Pony Springs, 92.80 52 ⇑P P 05 38 27.4 0.0
baz=93,SNR=6.0
X13A Yucca 92.81 56 ⇑P P 05 38 27.3 -0.2
baz=93
H11A Donnelly 92.84 45 P P 05 38 27.4 0.0
baz=93,SNR=12
W13A Hualapai Mount 92.85 55 P P 05 38 28.6 +1.0
baz=93,SNR=9.7
V13A Grand Canyon W 92.89 54 ⇑P P 05 38 28.4 +0.5
baz=93,SNR=6.9
N12A Clover Valley, 92.89 49 ⇑P P 05 38 27.8 +0.1
baz=93,SNR=22
F11A Grangeville 92.95 44 P P 05 38 26.6 -1.3
baz=93,SNR=8.6
U13A Pakoon Wash 92.99 54 ⇑P P 05 38 28.3 -0.1
baz=93
E11A Bogner Ranch, 93.00 44 ⇓P P 05 38 26.7 -1.4
baz=93,SNR=12
O12A Currie 93.01 50 P P 05 38 28.7 +0.4
baz=93,SNR=23
D11A Klaveano Farm, 93.04 43 ⇑P P 05 38 27.6 -0.7
baz=93
M12A Wells 93.08 49 P P 05 38 29.1 +0.5
baz=93,SNR=20
L12A House Creek Ra 93.12 48 P P 05 38 29.5 +0.7
baz=93,SNR=40
T13A Saint George 93.14 53 ⇓P P 05 38 29.2 +0.2
baz=93,SNR=11
J12A Stokes Ranch, 93.25 47 P P 05 38 29.6 +0.2
baz=93,SNR=28
S13A Holt Ranch, En 93.26 53 ⇓P P 05 38 29.7 +0.2
baz=93
K12A Draper Farm, C 93.29 48 P P 05 38 30.0 +0.5
baz=93,SNR=28
Q13A Wheeler Ranch, 93.35 51 ⇑P P 05 38 30.3 +0.4
baz=93,SNR=9.8
A11A Hall Mountain, 93.36 41 ⇑P P 05 38 29.4 -0.2
baz=93
P13A Bates Ranch, G 93.44 51 ⇑P P 05 38 30.6 +0.3
baz=94,SNR=14
W14A Seligman 93.51 55 ⇓P P 05 38 31.0 +0.3
baz=94,SNR=5.7
N13A Wendover, West 93.52 49 ⇑P P 05 38 30.7 +0.1
baz=94
F12A Elk City 93.55 44 P P 05 38 30.1 -0.6
baz=94,SNR=12
X14A Yava 93.56 56 ⇓P P 05 38 30.8 -0.1
baz=94
V14A Boquillas Ranc 93.56 55 ⇓P P 05 38 31.1 +0.1
baz=94
O13A Hicks Ranch, I 93.57 50 ⇓P P 05 38 31.1 +0.2
baz=94
U14A Mt Trumbull 93.62 54 ⇓P P 05 38 31.2 0.0
baz=94
M13A Montello 93.62 49 ⇑P P 05 38 31.4 +0.4
baz=94,SNR=5.4
H12A Diamond D Ranc 93.63 46 ⇑P P 05 38 30.5 -0.5
baz=94
CCUT Cedar City 93.65 53 eP P 05 38 32.1 +0.8
D12A Red Ives Fores 93.70 43 ⇓P P 05 38 30.6 -0.7
baz=94
HLID Hailey 93.79 47 ⇑P P 05 38 31.7 -0.1
baz=94,SNR=12
T14A Hurricane 93.79 53 ⇓P P 05 38 32.2 +0.2
baz=94
S14A Cedar City 93.83 53 ⇑P P 05 38 32.1 0.0
baz=94
K13A Stover Farm, H 93.89 48 ⇓P P 05 38 32.4 +0.1
baz=94,SNR=8.5
L13A Double Diamond 93.90 48 ⇓P P 05 38 32.5 +0.1
baz=94,SNR=6.4
J13A Cove Ranch, Pi 93.94 47 ⇑P P 05 38 32.8 +0.3
baz=94,SNR=9.6
I13A Wildhorse Cree 94.06 46 P P 05 38 33.5 +0.5
baz=94,SNR=16
H13A Challis 94.06 46 P P 05 38 33.1 +0.1
baz=94,SNR=16
X15A Humboldt 94.09 56 ⇑P P 05 38 33.4 0.0
baz=94
G13A Cobalt 94.16 45 P P 05 38 33.5 0.0
baz=94,SNR=6.8
M14A Sheep Mountain 94.25 49 ⇓P P 05 38 34.0 0.0
baz=94,SNR=9.5
N14A Grayback Hills 94.28 49 ⇓P P 05 38 34.1 -0.1
baz=94
V15A Kaibab Nationa 94.34 55 ⇑P P 05 38 34.8 +0.2
baz=94
T15A Red Dirt Ranch 94.34 53 ⇑P P 05 38 34.9 +0.4
baz=94,SNR=6.4
216A Three Points, 94.39 58 ⇓P P 05 38 34.9 +0.1
baz=94
E13A Victor 94.39 44 ⇓P P 05 38 34.5 0.0
baz=94
DUG Dugway 94.46 50 ⇑P P 05 38 35.1 +0.1
baz=94
B13A Whitefish 94.50 42 ⇑P P 05 38 34.4 -0.5
baz=95
K14A Jones Ranch, D 94.53 48 ⇑P P 05 38 35.5 +0.2
baz=95,SNR=18
Y16A Circle Bar Ran 94.63 57 ⇓P P 05 38 36.6 +0.7
baz=95,SNR=5.7
X16A Lo Mia Camp, P 94.73 56 ⇓P P 05 38 37.2 +0.8
baz=95
217A Green Valley 94.89 59 ⇑P P 05 38 37.4 +0.2
baz=95
WUAZ Wupatki 94.94 55 eP P 05 38 39.2 +1.9
WUAZ LR LR
comp=Z,207nm,21.0s,MS4.6
WUAZ Wupatki 94.94 55 ⇑P P 05 38 37.9 +0.6
baz=95
D14A Greenough 94.95 43 ⇓P P 05 38 36.8 -0.2
baz=95
Y17A Roosevelt 95.13 57 ⇑P P 05 38 37.6 -0.6
baz=95
DLMT Dillon 95.34 45 eP P 05 38 39.6 +0.7
comp=Z,5.6nm,1.0s,mb5.0
G15A Dillon 95.39 45 ⇓P P 05 38 39.0 -0.1
baz=95
E15A Deer Lodge 95.45 44 P P 05 38 39.0 -0.4
baz=96,SNR=6.6
F15A Butte 95.47 45 ⇑P P 05 38 38.7 -0.8
baz=96
LRM Limekiln Ridge 95.50 45 eP P 05 38 39.3 -0.3
JLU Jordanelle 95.55 50 eP P 05 38 41.1 +1.1
218A Dragoon 95.57 59 ⇓P P 05 38 40.1 -0.2
baz=96
HWUT Hardware Ranch 95.59 49 eP P 05 38 40.0 -0.1
comp=Z,5.6nm,0.8s,mb5.2
HWUT LR LR
comp=Z,119nm,20.0s,MS4.4
118A Homack Ranch, 95.72 58 P P 05 38 41.1 +0.2
baz=96,SNR=5.3
X18A Snowflake 95.97 56 ⇑P P 05 38 42.7 +0.6
baz=96
BOZ Bozeman (W) 96.05 45 eP P 05 38 42.0 -0.1
BOZ MLR MLR
comp=Z,68nm,19.0s,MS4.1
BOZ Bozeman (W) 96.05 45 ⇑P P 05 38 41.9 -0.2
baz=96
AHID Auburn Hatcher 96.08 48 eP P 05 38 43.0 +0.6
AHID LR LR
comp=Z,110nm,22.0s,MS4.3
319A Douglas 96.14 59 ⇓P P 05 38 42.9 0.0
baz=96,SNR=5.3
219A White Tail Can 96.24 59 P P 05 38 43.7 +0.4
baz=96,SNR=6.2
119A Ashpeak Ranch, 96.29 58 ⇑P P 05 38 44.0 +0.4
baz=96
IMW Indian Meadow 96.33 47 eP P 05 38 44.3 +0.9
YKA Yellowknife Ar 96.44 28 P P 05 38 41.9 -1.5
YKA PKKPbc PKKPbc 05 55 26.5 -4.4
YKA Yellowknife Ar 96.44 28 P P 05 38 41.9 -1.5
comp=Z,2.1nm,0.8s,mb4.7,baz=258,slow=4.7,SNR=19
YKA PKKPbc PKKPbc 05 55 26.5 -4.4
comp=Z,0.6nm,0.8s,baz=75,slow=2.8,SNR=10
MOOW Moose Ponds 96.45 47 eP P 05 38 44.3 +0.3
Y19A Nutrioso 96.47 57 ⇓P P 05 38 44.3 0.0
baz=96,SNR=5.5
BVAR Borovoye Array 96.54 323 P P 05 38 42.0 -2.1
comp=Z,3.9nm,0.8s,mb5.1,baz=96,slow=6.0,SNR=18
LOHW Long Hollow 96.54 47 eP P 05 38 44.6 +0.2
comp=Z,7.3nm,1.4s,mb5.1
BW06 Boulder Array 97.21 48 eP P 05 38 47.0 -0.4
comp=Z,3.2nm,0.8s,mb5.0
BW06 LR LR
comp=Z,96nm,19.0s,MS4.3
GCMT Greycliff 97.43 45 eP P 05 38 48.2 -0.2
EGMT Eagleton 97.58 43 ⇓P P 05 38 48.0 -1.0
baz=98
BNM Barren Site 98.66 57 eP P 05 38 53.5 -0.7
LAO LASA Array 99.88 44 ePdif Pdif 05 38 59.5 +0.3
comp=Z,6.3nm,0.8s
TXAR Lajitas Array 100.76 62 P Pdif 05 39 03.2 +0.1
TXAR PKKPbc PKKPbc 05 55 15.7 -2.0
TXAR Lajitas Array 100.76 62 P Pdif 05 39 03.2 +0.1
comp=Z,0.5nm,0.8s,baz=289,slow=3.8,SNR=5.4
TXAR PKKPbc PKKPbc 05 55 15.7 -2.0
comp=Z,0.3nm,0.8s,baz=104,slow=5.3,SNR=3.6
ARCES ARCESS Array B 112.89 344 PKiKP PKiKP 05 43 48.4 -2.7
comp=Z,3.3nm,1.0s,baz=38,slow=6.1,SNR=6.6
FINES FINESS Array B 117.63 337 PKP PKPdf 05 43 58.6 -1.8
comp=Z,1.4nm,0.7s,baz=331,slow=1.7,SNR=5.1
CFAA Coronel Fontan 119.18 134 PKP PKPdf 05 44 01.8 -2.6
comp=Z,0.2nm,0.6s,baz=255,slow=2.5,SNR=4.5
AKASG Malin Array Be 121.72 325 PKP PKPdf 05 44 06.8 -1.8
comp=Z,4.7nm,0.7s,baz=67,slow=2.0,SNR=27
AKBB Malin Array Si 121.72 325 ePKIKP PKPdf 05 44 07.0 -1.6
HFS Hagfors 123.03 340 PKP PKPdf 05 44 08.8 -2.0
comp=Z,2.4nm,0.6s,baz=162,slow=5.6,SNR=5.4
NB2 NORSAR Subarra 123.13 342 PKPdf PKPdf 05 44 09.2 -1.8
comp=Z,2.0nm,0.7s,baz=39,slow=1.9
NOA NORSAR Array B 123.13 342 PKP PKPdf 05 44 09.3 -1.7
comp=Z,2.8nm,0.7s,baz=45,slow=1.9,SNR=12
MMAI Mount Meron Ar 123.14 303 PKP PKPdf 05 44 11.4 -0.5
comp=Z,0.7nm,0.3s,baz=114,slow=7.5,SNR=4.1
KWP Kalwaria 125.88 326 ⇑iP PKPdf 05 44 16.0 -0.6

MLR	**Muntele Rosu**	**126.05 321**	PKP	PKPdf	05 44 15.9	-1.2
	comp=Z,1.6nm,0.7s,baz=157,slow=15,SNR=3.0					
LPAZ	**La Paz**	**126.83 118**	*e*PKIKP	PKPdf	05 44 18.6	-0.8
LPAZ			MLR	MLR		
	comp=Z,100nm,21.0s					
LPAZ	**La Paz**	**126.83 118**	PKP	PKPdf	05 44 18.5	-0.9
	comp=Z,4.9nm,0.8s,baz=284,slow=1.0,SNR=15					
ROSC	**El Rosal**	**126.85 91**	*e*PKPdf	PKPdf	05 44 18.4	-1.1
ROSC	**El Rosal**	**126.85 91**	PKP	PKPdf	05 44 18.5	-1.1
	comp=Z,6.3nm,0.5s,baz=150,slow=1.0,SNR=14					
BRG	**Berggiesshubel**	**129.56 332**	*e*(P)	PKPdf	05 44 22.7	-0.9
	comp=Z,3.3nm,0.7s					
CLL	**Collm**	**129.69 333**	*e*PKIKP	PKPdf	05 44 21.0	-2.8
PKSM	**Moragy**	**130.06 325** ⇑	*i*P	PKPdf	05 44 24.0	-0.7
KHC	**Kasperske Hory**	**130.92 331**	*e*PKPDF	PKPdf	05 44 26.0	-0.2
GERES	**GERESS Array B**	**131.05 330**	PKP	PKPdf	05 44 25.7	-0.8
	comp=Z,2.3nm,0.7s,baz=70,slow=1.6,SNR=14					
EKA	**Eskdalemuir Ar**	**131.94 346**	PKP	PKPdf	05 44 26.6	-1.4
	comp=Z,1.2nm,0.8s,baz=20,slow=2.7,SNR=4.1					
SIV	**San Ignacio**	**132.99 122**	PKP	PKPdf	05 44 29.2	-2.0
	comp=Z,1.9nm,0.8s,baz=266,slow=0.6,SNR=6.0					
DAVOX	**Davos/Dischmat**	**134.34 331**	PKP	PKPdf	05 44 32.2	-0.5
	comp=Z,3.1nm,0.6s,baz=341,slow=5.2,SNR=4.8					
CDF	**Champ du Feu**	**134.34 334**	*e*PKIKP	PKPdf	05 44 31.5	-1.2
HINF	**Hinteralfeld**	**134.98 334**	*e*PKIKP	PKPdf	05 44 32.7	-1.2
CABF	**La Chapelle**	**136.23 333**	*e*PKIKP	PKPdf	05 44 35.1	-1.2
LOR	**Lormes**	**136.68 335**	*e*PKIKP	PKPdf	05 44 35.8	-1.3
LOR			*e*MLR	MLR		
	comp=Z,9.9nm,0.9s					
	comp=Z,91nm,17.2s,MS4.3					
LOR	**Lormes**	**136.68 335**	*e*PKPdf	PKPdf	05 44 35.8	-1.3
LOR			LR	LR		
	comp=Z,90nm,17.3s,MS4.6					
LPG	**La Plagne**	**136.77 332**	*e*PKIKP	PKPdf	05 44 36.2	-1.1
	comp=Z,7.2nm,0.8s					
SSF	**Saint Saulge**	**136.99 336**	*e*PKIKP	PKPdf	05 44 36.4	-1.3
	comp=Z,8.9nm,0.9s					
LDF	**La Druitiere**	**137.07 340**	*e*PKIKP	PKPdf	05 44 36.4	-1.4
BNI	**Bardonecchia**	**137.13 331**	*e*PKIKP	PKPdf	05 44 37.5	-0.5
ORIF	**Oris-en-Rattie**	**137.61 332**	*e*PKIKP	PKPdf	05 44 37.5	-1.4
	comp=Z,10nm,0.8s					
ORIF			*e*MLR	MLR		
	comp=Z,89nm,18.5s,MS4.2					
PGF	**Pioggiola**	**137.73 327**	*e*PKIKP	PKPdf	05 44 38.0	-1.2
	comp=Z,15nm,0.8s					
TCF	**Toulx Ste Croi**	**138.14 336**	*e*PKIKP	PKPdf	05 44 38.3	-1.5
	comp=Z,8.6nm,0.8s					
SMRF	**Simiane la Rot**	**138.46 331**	*e*PKIKP	PKPdf	05 44 38.7	-1.8
	comp=Z,19nm,1.1s					
LMR	**La Mourre**	**138.47 330**	*e*PKIKP	PKPdf	05 44 39.0	-1.6
LASF	**Ste Croix**	**139.19 332**	*e*PKIKP	PKPdf	05 44 40.5	-1.3
	comp=Z,12nm,0.8s					
KEST	**Kesra**	**141.87 318**	PKhKP		05 44 42.8	
	comp=Z,1.4nm,0.7s,baz=260,slow=9.6,SNR=3.6					
BDFB	**Brasilia**	**143.50 132**	PKhKP		05 44 42.5	
	comp=Z,1.2nm,0.8s,baz=41,slow=19,SNR=3.2					
ESDC	**Sonseca Array**	**146.14 336**	PKPbc	PKPbc	05 44 54.6	-0.6
	comp=Z,0.5nm,0.3s,baz=33,slow=3.4,SNR=6.0					
MDT	**Midelt**	**152.13 330**	PKPbc	PKPbc	05 45 10.6	-0.1
	comp=Z,9.9nm,0.9s,baz=91,slow=3.4,SNR=15					
TORD	**Torodi Ar. Bea**	**157.49 282**	PKP	PKPdf	05 45 10.4	-1.6
	comp=Z,1.3nm,1.0s,baz=22,slow=1.7,SNR=5.3					
TORD			PKPab	PKPab	05 45 42.1	-1.5
	comp=Z,1.0nm,0.6s,baz=89,slow=4.1,SNR=8.9					
LIC	**Lamto**	**163.97 260**	*e*PKIKP	PKPdf	05 45 16.6	-2.5
	comp=Z,7.5nm,0.7s					

WEL 21 06:16:24.0±0.1, 4165S×17477E, h29km±1km, ML3.5/22, 7C-1D, Error ellipse: s-maj=1.3km s-min=1.0km az=0.0, Cook Strait

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BHW	**Baring Head**	**0.25**	**17**	⇓P*		Pb	06 16 30.5	-0.1
BHW				S*		Sb	06 16 35.1	-0.1
SNZO	**South Karori**	**0.34**	**352**	P*		Pb	06 16 31.7	-0.2
WEL	**Wellington**	**0.36**	**360**	P*		Pb	06 16 32.0	-0.2
PLWZ	**Palliser**	**0.37**	**78**	P*		Pb	06 16 32.5	+0.2
MRW	**Makara Radio**	**0.42**	**353**	⇑P*		Pb	06 16 33.0	-0.1
MSWZ	**Moikau Station**	**0.43**	**57**	⇑P*		Pb	06 16 33.4	+0.3
MSWZ				S*		Sb	06 16 40.5	+1.1
CMWZ	**Cape Campbell**	**0.43**	**256**	P*		Pb	06 16 33.6	+0.4
PAWZ	**Paruwai Farm**	**0.56**	**62**	P*		Pb	06 16 35.3	0.0
TCW	**Tory Channel**	**0.57**	**319**	⇑P*		Pb	06 16 35.3	-0.2
CAW	**Cannon Point**	**0.58**	**23**	P*		Pb	06 16 35.7	0.0
TUWZ	**Tuamarina**	**0.66**	**289**	⇑P*		Pb	06 16 36.4	-0.6
BSWZ	**Blackbirch Sta**	**0.67**	**264**	⇑P*		Pb	06 16 37.1	-0.1
TRWZ	**Traveller**	**0.73**	**71**	P*		Pb	06 16 37.4	-0.7
MTW	**Mount Morrison**	**0.73**	**49**	P*		Pb	06 16 37.8	-0.5
KIW	**Kapiti Island**	**0.79**	**8**	P*		Pb	06 16 39.0	-0.2
HOWZ	**Holdsworth Sta**	**0.93**	**37**	P*		Pb	06 16 40.8	-0.8
DUWZ	**D'Urville Isla**	**1.06**	**322**	⇑P*		Pb	06 16 43.3	-0.4
THZ	**Tophouse**	**1.40**	**265**	PN		Pn	06 16 47.0	-0.6
QRZ	**Quartz Range**	**1.88**	**295**	PN		Pn	06 16 54.9	+0.7
WAZ	**Wanganui**	**1.90**	**5**	PN		Pn	06 16 56.0	+1.6
LTZ	**Lake Taylor**	**2.18**	**238**	⇑PN		Pn	06 16 52.9	-5.4
DSZ	**Dennistón Nort**	**2.23**	**266**	PN		Pn	06 16 58.3	-0.6
TUVZ	**Tukino**	**2.47**	**16**	PN		Pn	06 17 02.9	+0.6
MQZ	**McQueen's Vall**	**2.58**	**216**	PN		Pn	06 17 01.2	-2.7

*ISCJB **21** 06:19:47.4±1.6, 3590N×008°×1405E±0.1, h33km±32km, Error ellipse: s-maj=15.4km s-min=12.3km az=149.7*
*JMA **21** 06:19:47.5±0.1, 3587N×14050E, h34km±1km, M2.9*
ISC 21 06:19:47.6±1.0, 3592N±007°×1406E±01, h33km±8km, n4, σ0°16/8, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CHOJ	**Chosi**	**0.33**	**132**	P	**Pb**	**06 19 55.6**	**-0.1**
CHOJ				S	**Sb**	**06 20 01.1**	**0.0**
JYT	**Yasato**	**0.43**	**316**	P	**Pb**	**06 19 57.1**	**0.0**
JYT				S	**Sb**	**06 20 03.5**	**0.0**
JHO	**Hitachi**	**0.69**	**0**	P	**Pn**	**06 20 01.0**	**-0.1**
JHO				S	**Sb**	**06 20 10.5**	**0.0**
MAT	**Matsushiro**	**2.00**	**289**	P	**Pn**	**06 20 19.4**	**+0.3**
MAT				S	**Sn**	**06 20 42.9**	**-0.2**

*ISCJB **21** 07:18:36.9±0.9, 647N±008°×1268E±02, h187km±8km, mb3.6/7, Error ellipse: s-maj=24.7km s-min=13.2km az=6.5*
*IDC **21** 07:18:36.8±9.2, 655N×12709E, h171km±88km, mb3.3/7, mb1 3.5/7, mb1mx3.3/18, mbtmp3.3/7, Error ellipse: s-maj=75.1km s-min=16.1km az=70.0*
ISC 21 07:18:37.9±0.9, 649N±008°×1268E±02, h181km±8km, n11, σ0°81/13, mb3.6/7, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MATI	**Mati**	**0.72**	**309**	*e*P	**Pn**	**07 19 04.8**	**+0.9**
BIPH	**Bislig**	**1.74**	**345**	⇑*i*P	**Pn**	**07 19 13.5**	**+1.1**
BIPH				*i*S	**Sn**	**07 19 37.6**	**-1.6**
GSPH	**General Santos**	**1.91**	**258**	⇑*e*P	**Pn**	**07 19 14.3**	**+0.2**
GSPH				*e*S	**Sn**	**07 19 41.2**	**-0.8**
BUKP	**Musuan**	**2.23**	**308**	*e*P	**Pn**	**07 19 18.3**	**+0.8**
FITZ	**Fitzroy Crossi**	**24.46**	**183**	P	**P**	**07 23 40.5**	**+0.2**
	1.5nm,0.6s,mb3.7,baz=355,slow=8.2,SNR=4.1						
WRA	**Warramunga Arr**	**27.29**	**164**	P	**P**	**07 24 05.0**	**-0.7**
	0.4nm,0.4s,mb3.4,baz=345,slow=11,SNR=18						
ASAR	**Alice Springs**	**30.76**	**167**	P	**P**	**07 24 36.6**	**+0.3**
	0.5nm,0.3s,mb3.6,baz=337,slow=7.4,SNR=18						
ASAR				PcP	PcP	07 27 29.9	+0.4
	0.3nm,0.5s,baz=351,slow=2.9,SNR=5.0						
SONM	**Songino Array**	**44.73**	**340**	P	**P**	**07 26 33.7**	**+0.6**
	0.2nm,0.4s,mb3.1,baz=163,slow=10,SNR=2.8						
MKAR	**Makanchi Array**	**55.37**	**324**	P	**P**	**07 27 53.8**	**+0.7**
	0.5nm,0.4s,mb3.6,baz=112,slow=7.2,SNR=10						
ARCES	**ARCESS Array B**	**87.91**	**340**	P	**P**	**07 31 06.0**	**-0.7**
	2.0nm,1.0s,mb3.9,baz=82,slow=6.1,SNR=5.8						
YKA	**Yellowknife Ar**	**96.96**	**24**	P	**P**	**07 31 47.6**	**-1.0**
	0.2nm,0.6s,mb3.6,baz=301,slow=4.3,SNR=5.1						

*IDC **21** 07:30:49.0±1.5, 3686N×2725E, h0km, mb4.0/4, mb1 4.0/4, mb1mx3.6/20, mbtmp4.0/4, MS2.8/2, Ms1 2.9/2, ms1mx2.5/23, Error ellipse: s-maj=495.3km s-min=20.8km az=143.0*
*CSEM **21** 07:30:49.7±0.1, 3659N×2747E, h2km, MD3.8, Error ellipse: s-maj=1.7km s-min=1.3km az=109.0*
*ISCJB **21** 07:30:49.0±0.5, 3675N±002°×2729E±003, h6km±4km, mb3.9/4, Error ellipse: s-maj=3.5km s-min=3.4km az=137.9*
*NEIC **21** 07:30:50.2, 3679N×2729E, h26km, MD3.8(ATH), ML3.8(ISK), After ATH.*
*ATH **21** 07:30:50.2, 3679N×2729E, h26km±2km, MD3.8/6*
*DDA **21** 07:30:50.5, 3688N×2736E, h15km±3km, Md3.5*
*ISK **21** 07:30:52.9, 3676N×2762E, h5km, ML3.8*
*THE **21** 07:30:55.2, 3708N×2700E, h3km, ML4.1*
*HLW **21** 07:30:57.9, 3652N×2755E, h33km, Mb3.7*
ISC 21 07:30:49.8±0.5, 3679N±002°×2730E±003, h2km±4km, n88, σ1°27/107, mb3.9/4, 3C-1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
NISR	**Nisiros**	**0.23**	**218**	*e*PB	**Pg**	**07 30 56.0**	**+1.8**
DAT	**Datca**	**0.23**	**105**	PG	**Pg**	**07 30 54.1**	**-0.2**
DAT				*e*SG	**Sg**	**07 30 56.4**	**-0.8**
BDRM	**Kayabasi**	**0.30**	**23**	*i*P	**Pg**	**07 30 55.9**	**+0.4**
BDRM				*i*S	**Sg**	**07 30 58.3**	**-1.2**
MLSB	**Milas**	**0.63**	**37**	*e*PG	**Pg**	**07 31 03.9**	**+2.0**
YER	**Yerkesik**	**0.86**	**66**	*e*PG	**Pg**	**07 31 06.1**	**-0.2**
ARG	**Arkhangelos**	**0.88**	**131**	⇑*i*PB	**Pb**	**07 31 06.7**	**-1.0**
ARG				*e*SN	**Sn**	**07 31 20.6**	**-1.8**
AYDN	**Tasoluk**	**0.98**	**28**	*i*P	**Pg**	**07 31 08.0**	**-0.7**
AYDN				*i*S	**Sg**	**07 31 20.1**	**-1.4**
SMG	**Samos**	**0.99**	**338**	*e*PN	**Pn**	**07 31 09.0**	**-1.7**
SMG				*e*SN	**Sn**	**07 31 23.7**	**-1.5**
DALT	**Dalyan (Mudla)**	**1.07**	**91**	*e*PG	**Pg**	**07 31 09.1**	**-1.3**
FETY	**Fethiye**	**1.44**	**96**	*e*PN	**Pn**	**07 31 16.0**	**-0.9**
APE	**Apeiranthos**	**1.45**	**282**	*e*Pg	**Pg**	**07 31 16.4**	**-1.1**
APE				*e*Sg	**Sg**	**07 31 34.8**	**-1.5**
APE	**Apeiranthos**	**1.45**	**282**	*e*Pg	**Pg**	**07 31 16.4**	**-1.1**
APE				*e*Sg	**Sg**	**07 31 33.1**	**-3.1**
APE	**Apeiranthos**	**1.45**	**282**	*e*PN	**Pn**	**07 31 16.6**	**-0.3**
SANT	**Santorini**	**1.54**	**255**	*e*Pg	**Pg**	**07 31 21.1**	**+1.8**
SANT				*e*Sg	**Sg**	**07 31 41.6**	**+2.3**
SANT	**Santorini**	**1.54**	**255**	*e*Pg	**Pg**	**07 31 21.1**	**+1.8**
SANT				*e*Sg	**Sg**	**07 31 39.4**	**+0.1**
SANT	**Santorini**	**1.54**	**255**	*e*Pn	**Pn**	**07 31 18.6**	**+0.4**
SANT				*e*Sg	**Sg**	**07 31 44.8**	**+5.5**
SANT	**Santorini**	**1.54**	**255**	*e*Pn	**Pn**	**07 31 18.6**	**+0.4**
SANT	**Santorini**	**1.54**	**255**	*e*Pg	**Pg**	**07 31 21.1**	**+1.8**
SANT				*e*Sg	**Sg**	**07 31 41.7**	**+2.4**
BLCB	**Balcova**	**1.60**	**353**	*e*Pg	**Pg**	**07 31 19.6**	**-1.0**
KDAG	**Bornova**	**1.61**	**359**	*i*P	**Pn**	**07 31 19.6**	**+0.3**
KDAG				*i*S	**Sn**	**07 31 35.4**	**-5.1**
KDAG	**Bornova**	**1.61**	**359**	*i*P	**Pn**	**07 31 19.5**	**+0.3**
URLA	**Izmir**	**1.66**	**341**	*i*P	**Pn**	**07 31 19.1**	**-0.9**
URLA				*i*S	**Sn**	**07 31 43.9**	**+2.0**
DENT	**Denizli**	**1.68**	**55**	*e*PN	**Pn**	**07 31 20.3**	**+0.1**
CHOS	**Chios island**	**1.88**	**329**	*e*Pg	**Pg**	**07 31 22.2**	**-3.6**
CHOS				*e*Sg	**Sg**	**07 31 42.7**	**-7.4**
KULA	**Kula-Manisa**	**2.03**	**32**	*e*PN	**Pn**	**07 31 27.1**	**+2.1**
NPS	**Neapolis**	**2.05**	**222**	*e*PB	**Pb**	**07 31 25.4**	**-2.3**
ELL	**Elmali**	**2.09**	**90**	*e*PN	**Pn**	**07 31 26.2**	**+0.4**
AKHS	**Akhisar**	**2.12**	**11**	*i*P	**Pn**	**07 31 24.7**	**-1.6**
AKHS				*i*S	**Sn**	**07 31 51.7**	**-1.5**
AKS	**Akhisar**	**2.12**	**11**	*e*PN	**Pn**	**07 31 29.8**	**+3.5**
XRY	**Khrisi**	**2.31**	**215**	*e*PN	**Pn**	**07 31 29.0**	**+0.1**
KHL	**Karahalli**	**2.34**	**48**	*e*PN	**Pn**	**07 31 30.2**	**+1.0**
IDI	**Anoyia**	**2.46**	**233**	P	**Pn**	**07 31 32.0**	**+1.1**
PRK	**Paraskevi**	**2.58**	**342**	*e*Pn	**Pn**	**07 31 32.7**	**+0.1**
PRK	**Paraskevi**	**2.58**	**342**	*e*Pn	**Pn**	**07 31 32.2**	**-0.3**
PRK				*e*Sn	**Sn**	**07 32 01.4**	**-3.2**
PRK	**Paraskevi**	**2.58**	**342**	*e*PN	**Pn**	**07 31 32.0**	**-0.6**
ANTB	**Antalya**	**2.69**	**87**	*e*PN	**Pn**	**07 31 34.5**	**+0.5**
TKTP	**Tekketepe**	**2.71**	**62**	*i*P	**Pn**	**07 31 35.0**	**+0.7**
TKTP				*e*S	**Sn**	**07 32 06.3**	**-1.3**
BCK	**Bucak**	**2.71**	**75**	*e*PN	**Pn**	**07 31 35.1**	**+0.7**
GDZ	**Gediz**	**2.87**	**36**	*i*P	**Pn**	**07 31 35.8**	**-0.7**
GDZ				*i*S	**Sn**	**07 32 19.2**	**+7.6**
BALB	**Balikesir**	**2.88**	**9**	*e*PN	**Pn**	**07 31 41.0**	**+4.3**
DST	**Dursunbey**	**3.00**	**20**	*e*PN	**Pn**	**07 31 41.7**	**+3.4**
SHUT	**Suhut-Afyon**	**3.12**	**55**	*e*PN	**Pn**	**07 31 42.0**	**+2.0**
EZN	**Ezine**	**3.13**	**346**	*e*PN	**Pn**	**07 31 45.1**	**+5.1**
ALT	**Altintas**	**3.17**	**44**	*e*PN	**Pn**	**07 31 43.2**	**+2.5**
BOZC	**Bozcaada**	**3.20**	**343**	*i*P	**Pn**	**07 31 40.2**	**-0.9**
BOZC				*i*S	**Sn**	**07 32 18.5**	**-1.3**
KCT	**Karacabey**	**3.57**	**13**	*e*PN	**Pn**	**07 31 50.2**	**+4.1**
EDC	**Edincik**	**3.58**	**7**	*e*PN	**Pn**	**07 31 51.0**	**+4.7**
LOS	**Limnos**	**3.59**	**332**	*e*Pn	**Pn**	**07 31 46.9**	**+0.5**
BNT	**Bandirma**	**3.59**	**8**	*e*PN	**Pn**	**07 31 51.2**	**+4.7**
MRMT	**Marmara Adasi**	**3.81**	**3**	*e*PN	**Pn**	**07 31 55.3**	**+5.8**
RKY	**Sarkoy-Tekirda**	**3.89**	**359**	*e*PN	**Pn**	**07 31 55.8**	**+5.2**
GEMT	**Gemlik**	**3.93**	**22**	*e*PN	**Pn**	**07 31 55.0**	**+3.9**
IZI	**Iznik**	**3.93**	**25**	*e*PN	**Pn**	**07 31 54.5**	**+3.4**
MFT	**Murefte**	**3.99**	**360**	*e*PN	**Pn**	**07 31 56.4**	**+4.5**
YLV	**Yalova**	**4.10**	**23**	*e*PN	**Pn**	**07 31 57.8**	**+4.3**
ADVT	**Abdulvahap**	**4.11**	**27**	*e*PN	**Pn**	**07 31 57.5**	**+4.0**
SAMB	**Hadim**	**4.16**	**86**	*e*PN	**Pn**	**07 31 55.8**	**+1.5**
KIZT	**Kizilcal**	**4.18**	**59**	*e*PN	**Pn**	**07 31 55.8**	**+1.2**
KONT	**Konya--Tatoy**	**4.19**	**73**	*e*PN	**Pn**	**07 31 55.9**	**+1.2**
ALN	**Alexandroupoli**	**4.22**	**347**	*e*Pn	**Pn**	**07 31 54.9**	**-0.1**
ALN				*e*Sn	**Sn**	**07 32 41.6**	**-3.2**
GULT	**Gulveren**	**4.42**	**34**	*e*PN	**Pn**	**07 32 01.8**	**+3.9**
HRT	**Hereke**	**4.43**	**24**	*e*PN	**Pn**	**07 32 02.1**	**+4.2**
ISK	**Istanbul-Kandi**	**4.48**	**17**	*e*PN	**Pn**	**07 32 03.1**	**+4.4**
RDO	**Rodhopi**	**4.56**	**343**	P	**Pn**	**07 32 00.8**	**+1.0**
KLYT	**Kilyos**	**4.66**	**16**	*e*PN	**Pn**	**07 32 06.0**	**+4.9**
LEF	**Lefka**	**4.83**	**109**	*e*PN	**Pn**	**07 32 04.2**	**+0.7**
EDRB	**Edirne**	**5.07**	**355**	*e*PN	**Pn**	**07 32 12.3**	**+5.6**
LFK	**Lefkose**	**5.27**	**105**	*e*PN	**Pn**	**07 32 10.6**	**+1.1**
HMAT	**Matruh**	**5.68**	**182**	⇓P	**Pn**	**07 32 15.2**	**0.0**
HMAT	**Matruh**	**5.68**	**182**	P	**Pn**	**07 32 15.2**	**0.0**
MERS	**Mersin**	**5.79**	**87**	*e*PN	**Pn**	**07 32 18.5**	**+1.8**
SWA1		**7.62**	**191**	⇑P	**Pn**	**07 32 42.1**	**+0.3**
HNAT	**Natroun**	**7.66**	**158**	P	**Pn**	**07 32 42.3**	**0.0**
SWA2		**7.68**	**192**	P	**Pn**	**07 32 42.6**	**-0.1**
KOT	**Kottamia**	**7.82**	**150**	P	**Pn**	**07 32 43.9**	**-0.7**
KOT				S	**Sn**	**07 34 02.0**	**-12**
KOT	**Kottamia**	**7.82**	**150**	P	**Pn**	**07 32 43.8**	**-0.8**
AMAG	**Maghara**	**7.86**	**140**	P	**Pn**	**07 32 43.5**	**-1.6**
GLL	**Jalalah**	**8.09**	**152**	⇑P	**Pn**	**07 32 47.1**	**-1.1**
SUZ		**8.33**	**145**	P	**Pn**	**07 32 50.3**	**-1.3**
TIP	**Timpagrande**	**8.66**	**289**	*e*Pn	**Pn**	**07 32 58.0**	**+2.0**
	9.8nm,0.8s						
HFRF	**Wahat Farafira**	**9.65**	**175**	P	**Pn**	**07 33 09.1**	**-0.6**
GERES	**GERESS Array B**	**15.61**	**325**	LR	LR	07 40 40.9	
	comp=Z,37nm,19.1s,baz=338,slow=38						
NOA	**NORSAR Array B**	**26.32**	**342**	LR	LR	07 48 27.9	
	comp=Z,20nm,19.1s,baz=90,slow=40						
TORD	**Torodi Ar. Bea**	**32.86**	**231**	P	**P**	**07 37 24.8**	**-0.4**
TORD	**Torodi Ar. Bea**	**32.86**	**231**	P	**P**	**07 37 24.8**	**-0.3**
	1.3nm,0.5s,mb4.1,baz=32,slow=8.8,SNR=26						
MKAR	**Makanchi Array**	**41.44**	**58**	P	**P**	**07 38 37.1**	**-0.5**
	1.3nm,0.5s,mb3.8,baz=269,slow=8.6,SNR=11						
DBIC	**Dimbokro**	**41.94**	**232**	P	**P**	**07 38 41.4**	**-0.7**
	1.7nm,0.4s,mb4.1,baz=37,slow=7.9,SNR=6.7						
SONM	**Songino Array**	**57.11**	**52**	P	**P**	**07 40 37.1**	**-0.4**
	0.3nm,0.4s,mb3.7,baz=293,slow=7.5,SNR=5.0						

IDC 21 07:47:15.6±3.5, 336S×14016E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.7/12, mbtmp4.0/3, Error ellipse: s-maj=117.7km s-min=30.1km az=95.0, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	**Kakadu**	**12.02**	**219**	*e*P	Pn	07 50 06.4	-2.0
	15nm,0.4s						
WB2	**Warramunga Arr**	**17.43**	**199**	*e*P	Pn	07 51 17.8	-2.5
WRA	**Warramunga Arr**	**17.43**	**199**	P	Pn	07 51 16.8	-3.6
	0.5nm,0.3s,baz=18,slow=12,SNR=21						
WRA				S	Sn	07 54 23.1	-12
	0.2nm,0.3s,baz=20,slow=22,SNR=3.8						
FITZ	**Fitzroy Crossi**	**20.42**	**223**	*e*P	P	07 51 53.8	-0.7
	7.0nm,0.6s						
FITZ	**Fitzroy Crossi**	**20.42**	**223**	P	P	07 51 53.9	-0.6
	2.7nm,0.5s,baz=27,slow=15,SNR=9.3						
ASAR	**Alice Springs**	**21.07**	**196**	P	P	07 52 02.0	+0.5
	5.3nm,0.7s,baz=27,slow=8.4,SNR=61						
MKAR	**Makanchi Array**	**71.19**	**322**	P	P	07 58 36.5	+0.2
	0.6nm,0.4s,baz=126,slow=7.3,SNR=10.0						
DBIC	**Dimbokro**	**145.00**	**277**	PKPbc	PKPbc	08 06 54.3	-1.0
	2.6nm,0.6s,baz=47,slow=4.8,SNR=5.7						

*IDC **21** 07:50:42.4±4.0, 549N×9476E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.6/21, mbtmp3.8/4, MS3.4/1, Ms1 3.4/1, ms1mx2.8/30, Error ellipse: s-maj=152.7km s-min=27.5km az=60.0*
*ISCJB **21** 07:50:48.5±4.1, 54N±003°×946E±0.4, h68km±25km, mb3.7/4, Error ellipse: s-maj=75.2km s-min=23.3km az=148.5*
ISC 21 07:50:48.6±5.5, 54N±003°×946E±04, h54km±39km, n7, σ0°28/7, mb3.8/4, 1D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BSI	**Banda Aceh**	**0.76**	**80**	⇓*e*P	**Pn**	**07 51 03.0**	**-0.2**
BSI				*e*S	**Sn**	**07 51 14.0**	**+0.1**
MKAR	**Makanchi Array**	**42.61**	**348**	P	**P**	**07 58 39.6**	**+0.2**
	1.1nm,0.6s,mb3.8,baz=169,slow=8.1,SNR=9.7						
SONM	**Songino Array**	**43.52**	**12**	P	**P**	**07 58 46.3**	**-0.4**
	0.6nm,0.7s,mb3.4,baz=184,slow=7.4,SNR=5.5						
WRA	**Warramunga Arr**	**46.51**	**124**	P	**P**	**07 59 11.0**	**+0.1**
	0.3nm,0.3s,mb3.6,baz=301,slow=9.8,SNR=9.4						
WB2	**Warramunga Arr**	**46.52**	**124**	*e*P	**P**	**07 59 10.9**	**-0.1**
ZALV	**Zalesovo Beam**	**49.08**	**352**	P	**P**	**07 59 30.4**	**+0.1**
	0.9nm,0.3s,mb4.3,baz=176,slow=5.9,SNR=3.6						
ATD	**Arta Tunnel**	**51.45**	**280**	LR	LR	08 17 55.5	
	comp=Z,38nm,20.1s,baz=86,slow=32						

*IDC **21** 08:15:50.0±2.0, 7.13S×12996E, h0km, mb3.8/1, mb1 4.2/5, mb1mx3.9/15, mbtmp4.1/5, ML4.2/4, Error ellipse: s-maj=55.2km s-min=27.4km az=81.0*
*NEIC **21** 08:15:52.3±1.0, 7.15S×12975E, h20km, Error ellipse: s-maj=38.4km s-min=12.8km az=75.0*
*ISCJB **21** 08:16:02.0±5.2, 77S±03°×1295E±02, h147km±60km, mb4.1/2, Error ellipse: s-maj=54.0km s-min=14.8km az=29.0*
ISC 21 08:16:02.1±4.7, 77S±03°×1296E±02, h122km±54km, n8, σ1°38/9, mb4.2/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BATI	**Kupang**	**6.34**	**246**	Pn	**Pn**	**08 17 34.6**	**+1.3**
	4.5nm,0.3s,baz=86,slow=15,SNR=3.1						
BATI				Sn	**Sn**	**08 18 43.6**	**-0.8**
	4.7nm,0.3s,baz=46,slow=18,SNR=4.6						
FITZ	**Fitzroy Crossi**	**11.07**	**200**	Pn	**Pn**	**08 18 36.6**	**-0.3**
	1.3nm,0.3s,baz=32,slow=12,SNR=41						
FITZ				Sn	Sx	08 20 33.2	
	1.8nm,0.3s,baz=152,slow=19,SNR=8.5						
WRAB	**Tennant Creek**	**13.07**	**160**	*e*Pn	**Pn**	**08 19 02.7**	**-0.6**
	11nm,1.0s						
WRA	**Warramunga Arr**	**13.08**	**160**	Pn	**Pn**	**08 19 02.2**	**-1.0**
	1.2nm,0.3s,baz=334,slow=14,SNR=44						
WRA				Sn	Sx	08 21 20.8	
	1.6nm,0.3s,baz=331,slow=22,SNR=9.4						
ASAR	**Alice Springs**	**16.47**	**166**	Pn	**Pn**	**08 19 48.4**	**+2.3**
	0.5nm,0.3s,baz=342,slow=9.6,S

comp=Z,10.0nm,1.0s,mb4.3
VLA Vladivostok 24.95 182 *e*P **P 08 26 43.2 -0.6**
VLA pmax pmax
comp=Z,25nm,0.6s,mb4.9
NVS Novosibirsk 26.31 265 *e*P **P 08 26 58.0 +2.0**
NVS pmax pmax
comp=Z,27nm,2.3s,mb4.4
NVS pmax pmax
comp=N,14nm,1.7s
ZALV Zalesovo Beam 26.40 262 P **P 08 26 56.0 -0.9**
comp=N,1.2nm,0.6s,mb3.6,baz=60,slow=8.8,SNR=3.7
ZALV LR LR 08 38 13.2
comp=N,116nm,20.4s,MS3.4,baz=244,slow=38
ZAL Zalesovo 26.42 262 P **P 08 26 56.0 -1.1**
ERM Erimo 26.62 163 *i* P **P 08 26 58.0 -1.0**
IMA2 Indian Mountai 27.15 59 *e*P **P 08 27 03.0 -0.5**
COLA College 29.79 58*c i*P **P 08 27 25.8 -1.2**
KSRS Korea Array 30.73 188 LR LR 08 39 03.2
comp=N,90nm,19.6s,MS3.4,baz=191,slow=35
KURK Kurchatov 31.29 264 *e*P **P 08 27 40.5 +0.1**
MJAR Matsushiro Arr 31.65 172 LR LR 08 40 11.7
comp=N,96nm,21.7s,MS3.4,baz=80,slow=36
EGAK Eagle 31.93 54 *e*P **P 08 27 46.0 +0.1**
EGAK *e*PP PP 08 28 58.5 +0.7
DAWY Dawson 32.98 54 *e*P **P 08 27 56.9 +1.7**
MKAR Makanchi Array 33.17 256 *i* P **P 08 27 57.7 +0.7**
MKAR pmax pmax
comp=Z,1.0nm,0.4s
MKAR Makanchi Array 33.17 256 P **P 08 27 55.1 -1.9**
comp=Z,0.9nm,0.4s,mb4.0,baz=35,slow=6.5,SNR=9.8
MKAR LR LR 08 41 36.7
comp=Z,68nm,18.2s,MS3.4,baz=8.2,slow=37
GTA Gaotai 33.90 229 *e*P **P 08 28 07.1 +3.8**
GTA AMB AMB
comp=Z,5.0nm,1.1s,mb4.4
GTA LR LR
comp=N,302nm,11.8s,MS4.5
GTA LR LR
comp=E,530nm,12.2s,MS4.5
GTA LR LR
comp=Z,350nm,18.0s
ARCES ARCESS Array B 34.17 323 LR LR 08 44 11.6
comp=Z,78nm,18.3s,MS3.5,baz=43,slow=40
ARU Arti 34.26 288*d i*P **P 08 28 06.1 -0.2**
ARU *e* 08 29 17.7
ARU *e*PPP 08 29 33.1
ARU *e*S **S 08 33 32.4 -0.4**
ARU *e*SS SS 08 35 43.1 -18
ARU pmax pmax
comp=Z,17nm,2.5s,mb4.5
NJ2 Nanjing 36.93 200 *e*P **P 08 28 26.4 -3.0**
NJ2 AP pP 08 28 35.6 +3.1
NJ2 S **S 08 34 07.0 -7.1**
NJ2 AMB AMB
comp=Z,30nm,1.0s,mb5.1
NJ2 AMB AMB
comp=Z,240nm,3.9s
NJ2 LR LR
comp=Z,2μm,24.8s,MS4.8
AML Almayashu 40.34 261 *e*P **P 08 28 55.9 -2.1**
comp=Z,2.1nm,0.6s,mb4.0
FINES FINESS Array B 40.56 315 *i* P **P 08 29 00.0 +0.4**
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES FINESS Array B 40.56 315 P **P 08 28 58.2 -1.3**
FINES FINESS Array B 40.56 315 P **P 08 28 58.2 -1.3**
comp=Z,1.2nm,0.6s,mb3.7,baz=34,slow=8.1,SNR=6.0
YKA Yellowknife Ar 41.08 41 *e*P **P 08 29 06.5 +2.6**
YKA Yellowknife Ar 41.08 41 P **P 08 29 03.4 -0.4**
YKA Yellowknife Ar 41.08 41 P **P 08 29 03.4 -0.4**
comp=Z,1.0nm,0.5s,mb3.7,baz=330,slow=8.0,SNR=17
OBN Obninsk 42.78 303 *e*P **P 08 29 17.0 -0.8**
OBN *e* 08 30 54.3
OBN pmax pmax
comp=Z,25nm,1.7s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.9
NB2 NORSAR Subarra 44.55 324 P **P 08 29 31.7 -0.2**
comp=Z,5.8nm,0.7s,mb4.5,baz=26,slow=7.9
NOA NORSAR Array B 44.55 324 P **P 08 29 32.0 +0.1**
comp=Z,4.2nm,0.7s,mb4.4,baz=27,slow=8.0,SNR=14
NOA LR LR 08 51 04.4
comp=Z,138nm,19.2s,MS3.9,baz=5.0,slow=40
AKASG Malin Array Be 48.86 305 *i* P **P 08 30 05.8 0.0**
AKASG pmax pmax
comp=Z,4.0nm,0.6s
AKASG Malin Array Be 48.86 305 P **P 08 30 05.2 -0.6**
comp=Z,3.9nm,0.6s,mb4.6,baz=29,slow=8.6,SNR=13
KIV Kislovodsk 50.26 290 *e*P **P 08 30 17.1 +0.5**
KIV pmax pmax
comp=Z,19nm,1.2s,mb5.0
KIV MLR MLR
comp=Z,56nm,17.0s,MS3.6
ANN Anapa 51.35 295 *e*P **P 08 30 15.4 -9.4**
ANN *e* 08 31 33.7
ANN pmax pmax
comp=Z,13nm,0.8s,mb4.9
ANN MLR MLR
comp=Z,112nm,10.0s,MS4.2
CLL Collm 52.92 317⇓*i*P **P 08 30 36.8 +0.4**
CLL *i* *PP pP 08 30 40.8 +1.3
CLL pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
CLL Collm 52.92 317⇓*i*P **P 08 30 36.8 +0.4**
comp=Z,8.0nm,1.0s,mb4.6
CLL *i* pP pP 08 30 40.8 +1.3
CLL Collm 52.92 317⇓*i*P **P 08 30 36.8 +0.4**
comp=Z,8.0nm,1.0s,mb4.6
CLL *i* pP pP 08 30 40.8 +1.3
KHC Kasperske Hory 54.76 316 *e*P **P 08 30 49.7 -0.2**
GERES GERESS Array B 54.99 315 P **P 08 30 51.7 +0.2**
comp=Z,2.7nm,0.9s,mb4.3,baz=40,slow=7.0,SNR=14
ULM Lac du Bonnet 56.55 35 P **P 08 31 02.5 -0.2**
comp=Z,0.7nm,0.4s,mb4.0,baz=350,slow=12,SNR=3.1
ULM LR LR 08 57 14.3
comp=Z,76nm,20.3s,MS3.8,baz=359,slow=38
SCHQ Schefferville 56.60 14 P **P 08 31 03.6 +0.6**
comp=Z,2.0nm,0.5s,mb4.4,baz=348,slow=7.6,SNR=6.9
SCHQ LR LR 08 55 27.9
comp=Z,75nm,19.3s,MS3.8,baz=106,slow=36
KAPI Kappang 73.45 194 LR LR 09 05 30.3
comp=Z,124nm,20.6s,MS4.2,baz=351,slow=36
TXAR Lajitas Array 74.30 49 P **P 08 32 59.8 +2.0**
comp=Z,0.2nm,0.5s,mb3.3,baz=357,slow=3.4,SNR=5.0
HNR Honiara 79.60 153 LR LR 09 07 32.1
comp=Z,74nm,20.1s,MS4.0,baz=358,slow=35
WRA Warramunga Arr 87.70 179 *i* P **P 08 34 09.8 +0.8**
WRA pmax pmax
comp=Z,1.0nm,1.0s
WRA Warramunga Arr 87.70 179 P **P 08 34 07.4 -1.6**
comp=Z,0.6nm,1.0s,mb3.8,baz=358,slow=6.0,SNR=4.6
TORD Torodi Ar. Bea 91.88 313 P **P 08 34 28.0 -0.9**
TORD Torodi Ar. Bea 91.88 313 P **P 08 34 28.0 -0.9**
comp=Z,1.4nm,1.0s,mb4.3,baz=11,slow=4.8,SNR=5.7

*NEIC **21** 08:27:14.2, 3148S×6901W, h150km, MD3.5(GUC), After GUC.*

GUC 21 08:27:14.2±0.6, 3148S×6901W, h150km, MD3.5, ML3.5, 7C-8D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.73**	**280**	⇓*i*P	Pn	08 27 46.7	+0.5
CMCH				*i* S	Sn	08 28 11.4	+0.6
CMCH	**Combarbala**	**1.73**	**280**	⇓*i*P	Pn	08 27 46.7	+0.5
CMCH				*i* S	Sn	08 28 11.4	+0.6
CMCH				AML	AML	08 28 13.4	
	comp=E,1μm,0.8s						
TLL	**Tololo Astrono**	**2.02**	**310**	⇓*i*P	Pn	08 27 50.7	+1.1
TLL				*i* S	Sn	08 28 18.6	+1.8
TLL	**Tololo Astrono**	**2.02**	**310**	⇓*i*P	Pn	08 27 50.7	+1.1
TLL				*i* S	Sn	08 28 18.6	+1.8
TLL				AML	AML	08 28 26.2	
	comp=N,151nm,0.5s						
OVCH	**Ovalle**	**2.07**	**294**	⇑*i*P	Pn	08 27 50.7	+0.6
OVCH				*i* S	Sn	08 28 18.0	+0.3
OVCH	**Ovalle**	**2.07**	**294**	⇑*i*P	Pn	08 27 50.7	+0.6
OVCH				*i* S	Sn	08 28 18.0	+0.3
OVCH				AML	AML	08 28 20.3	
	comp=N,453nm,0.3s						
FCH	**Farellones**	**2.13**	**210**	⇓*e*P	Pn	08 27 52.1	+1.3
FCH				AML	AML	08 28 27.9	
	comp=E,145nm,0.2s						
PEL	**Peldehue**	**2.18**	**220**	⇓*i*P	Pn	08 27 52.4	+1.0
PEL				*i* S	Sn	08 28 20.9	+0.8
PEL				AML	AML	08 28 22.3	
	comp=E,267nm,0.4s						
CLCH	**Cerro Calan**	**2.30**	**214**	⇓*e*P	Pn	08 27 53.9	+1.0
CLCH				*i* S	Sn	08 28 23.6	+0.9
CLCH				AML	AML	08 28 30.3	
	comp=N,161nm,0.5s						
PCH	**Pirque**	**2.48**	**210**	⇑*i*P	Pn	08 27 56.0	+0.9
PCH				*i* S	Sn	08 28 27.5	+0.9
LSCH	**La Serena**	**2.48**	**309**	⇑*i*P	Pn	08 27 55.6	+0.5
LSCH				*i* S	Sn	08 28 26.8	+0.3
LMEL	**Las Melosas**	**2.56**	**203**	AML	AML	08 28 38.9	
	comp=N,92nm,0.2s						
TACH	**Talagante**	**2.71**	**216**	⇓*i*P	Pn	08 27 58.0	+0.2
CHCH	**Chadas Angostu**	**2.81**	**209**	⇑*i*P	Pn	08 27 59.6	+0.6
CHCH				*i* S	Sn	08 28 34.4	+0.6
LCO	**Las Campanas**	**2.86**	**329**	*e*Pn	Pn	08 28 00.5	+0.6
LCO				*e*Sn	Sn	08 28 30.2	-4.8
CACH	**El Canelo**	**2.95**	**207**	⇑*i*P	Pn	08 28 01.8	+1.0
CICH	**Cipreses**	**3.07**	**202**	⇑*i*P	Pn	08 28 03.3	+0.9
TRQA	**Tornquist**	**8.74**	**141**	*e*Pn	Pn	08 29 14.6	-2.8
	comp=N,3.2nm,0.4s						
TRQA				*e*Sn	Sn	08 30 47.1	-7.3

*BJI **21** 09:05:16.7, 5920N×13680W, h10km, mB4.9, mb4.8, Ms4.5, Msz4.4*
*MOS **21** 09:05:17.9±1.3, 5934N×13680W, h10km, mb4.4/19, Error ellipse: s-maj=14.3km s-min=6.3km az=111.3*
*IDC **21** 09:05:17.3±0.7, 5919N×13708W, h0km, mb4.1/12, mb1 4.3/16, mb1mx4.2/22, mbtmp4.2/16, ML3.9/3, MS3.3/7, Ms1 3.3/7, ms1mx3.0/44, Error ellipse: s-maj=17.9km s-min=10.2km az=58.0*
*NEIC **21** 09:05:18.8, 5916N×13678W, h1km, mb4.3/27, ML4.6(PMR), ML4.3(AEIC), MW4.2(PGC), After PGC.*
NEIC Felt [III] at Juneau. Also felt at Haines.
*PGC **21** 09:05:18.8±0.7, 5916N×13678W, h1km, ML4.5/5, 88km west of Haines, Ak Southeastern Alaska*
*ISCJB **21** 09:05:19.1±0.6, 5940N±002×13687W±004, h11km±4km, mb4.4/38, MS3.7/6, Error ellipse: s-maj=4.4km s-min=2.1km az=40.3*

ISC 21 09:05:20.6±0.6, 5938N±002×13683W±004, h8km±4km, h16km±2.0km: pP-P, n311, σ1°02/334, mb4.4/38, MS3.7/6, 82C-75D, Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLBC	**Pleasant Camp**	**0.25**	**72**	⇓P	**Pg**	**09 05 25.3**	**-0.3**
PLBC				S	**Sg**	**09 05 30.1**	**+1.1**
SKAG	**Skagway**	**0.77**	**83**	P	**Pg**	**09 05 32.8**	**-2.6**
SKAG				S	**Sg**	**09 05 43.2**	**-2.3**
PNL	**Peninsula**	**1.34**	**284**	P	**Pn**	**09 05 44.0**	**-1.6**
PNL				S	**Sb**	**09 06 03.4**	**+0.1**
YKU2	**Yakutat**	**1.46**	**276**	*e*P	**Pn**	**09 05 46.8**	**-0.4**
HYT	**Haines Junctio**	**1.49**	**347**	⇑Pn	**Pn**	**09 05 49.4**	**+1.7**
HYT				Sg	**Sg**	**09 06 12.1**	**+3.7**
HYT	**Haines Junctio**	**1.49**	**347**	⇑Pn	**Pn**	**09 05 49.4**	**+1.7**
HYT				⇓Sg	**Sg**	**09 06 12.1**	**+3.7**
WHY	**Whitehorse**	**1.61**	**36**	⇑Pn	**Pn**	**09 05 49.8**	**+0.5**
WHY				Sg	**Sg**	**09 06 13.6**	**+1.1**
WHY	**Whitehorse**	**1.61**	**36**	⇑Pn	**Pn**	**09 05 49.8**	**+0.5**
WHY				⇓Sg	**Sg**	**09 06 13.6**	**+1.1**
SIT	**Sitka**	**2.46**	**161**	P	**Pn**	**09 05 55.0**	**-6.0**
DLBC	**Dease Lake**	**3.65**	**102**	Pn	**Pn**	**09 06 13.7**	**-3.7**
	baz=225,slow=7.3						
DLBC				Pg	**Pg**	**09 06 21.2**	**-9.3**
	baz=277,slow=13						
DLBC				Lg		09 07 08.8	
DLBC	**Dease Lake**	**3.65**	**102**	⇓Pn	**Pn**	**09 06 13.5**	**-3.9**
DLBC				⇓Pg	**Pg**	**09 06 22.5**	**-8.0**
DLBC				⇑Sg	**Sg**	**09 07 09.4**	**-8.4**
WRAK	**Wrangell Islan**	**3.81**	**139**	P	**Pn**	**09 06 13.8**	**-5.8**
RAGM	**Ragged Mountai**	**4.08**	**288**	P	**Pn**	**09 06 22.6**	**-0.6**
BMRM	**Bremner River**	**4.20**	**296**	P	**Pn**	**09 06 24.9**	**+0.1**
CRAG	**Craig**	**4.40**	**151**	P	**Pn**	**09 06 21.7**	**-6.0**
BCA3	**Beaver Creek A**	**4.41**	**329**	P	**Pn**	**09 06 29.0**	**+1.3**
DIV	**Divide**	**4.79**	**295**	*e*Pn	**Pn**	**09 06 33.0**	**+0.1**
DIV				*e*Pg	**Pg**	**09 06 52.6**	**+0.4**
DIV				*e*Sn	**Sn**	**09 07 30.4**	**+1.9**
DAWY	**Dawson**	**4.86**	**347**	P	**Pn**	**09 06 35.5**	**+1.6**
DAWY	**Dawson**	**4.86**	**347**	⇑Pn	**Pn**	**09 06 35.5**	**+1.6**
DAWY				⇑Sg	**Sg**	**09 07 57.8**	**+1.4**
MID	**Middleton Isla**	**4.86**	**275**	*e*P	**Pn**	**09 06 33.1**	**-0.8**
MENT	**Mentasta**	**4.88**	**320**	*e*P	**Pn**	**09 06 35.8**	**+1.5**
DOT	**Dot Lake**	**5.50**	**324**	P	**Pn**	**09 06 43.7**	**+0.9**
PAX	**Paxson**	**5.52**	**314**	P	**Pn**	**09 06 43.4**	**+0.5**
EGAK	**Eagle**	**5.78**	**341**	*e*Pn	**Pn**	**09 06 48.4**	**+1.8**
	169nm,0.6s						
EGAK				*e*Pg	**Pg**	**09 07 09.4**	**-1.9**
EGAK				*e*Sg	**Sg**	**09 08 32.6**	**+6.5**
NDB	**Naden**	**5.85**	**157**	⇑Pn	**Pn**	**09 06 42.5**	**-4.9**
NDB				Sg	**Sb**	**09 08 13.5**	**+0.7**
NDB	**Naden**	**5.85**	**157**	⇑Pn	**Pn**	**09 06 42.5**	**-4.9**
NDB				⇑Sg	**Sb**	**09 08 13.5**	**+0.7**
SML	**Sawmill**	**6.17**	**298**	*e*P	**Pn**	**09 06 53.3**	**+1.4**
SML				*e*		09 08 04.7	
SML	**Sawmill**	**6.17**	**298**	*e*Pn	**Pn**	**09 06 53.3**	**+1.4**
SML				*e*Sn	**Sn**	**09 08 04.7**	**+2.2**
SML				*e*Sg	**Sg**	**09 08 42.2**	**+3.9**
RUBB	**Prince Rupert**	**6.22**	**142**	⇑Pn	**Pn**	**09 06 46.8**	**-5.8**
RUBB	**Prince Rupert**	**6.22**	**142**	⇑Pn	**Pn**	**09 06 46.8**	**-5.8**
SEW	**Seward**	**6.42**	**282**	P	**Pn**	**09 06 53.9**	**-1.5**
PMR	**Palmer**	**6.47**	**295**	*e*P	**Pn**	**09 06 56.9**	**+0.9**
VIB	**Van Inlet**	**6.59**	**157**	Pn	**Pn**	**09 06 53.3**	**-4.4**
VIB				Sn	**Sn**	**09 08 04.3**	**-8.6**
VIB	**Van Inlet**	**6.59**	**157**	⇓Pn	**Pn**	**09 06 52.4**	**-5.3**
DIB	**Dawson Inlet,**	**6.65**	**157**	Pn	**Pn**	**09 06 53.1**	**-5.4**
DIB				Sn	**Sn**	**09 08 05.2**	**-9.2**
DIB	**Dawson Inlet,**	**6.65**	**157**	⇓Pn	**Pn**	**09 06 52.9**	**-5.6**
RC01	**Rabbit Creek A**	**6.65**	**290**	P	**Pn**	**09 06 57.0**	**-1.6**
MOBC	**Moresby Island**	**6.81**	**155**	⇓Pn	**Pn**	**09 06 55.4**	**-5.3**
SLKM	**Skilak Lake**	**6.82**	**285**	P	**Pn**	**09 06 59.6**	**-1.3**
BNAB	**Bonilla**	**6.83**	**147**	⇑Pn	**Pn**	**09 06 54.8**	**-6.1**
FNBB	**Fort Nelson**	**7.13**	**88**	⇑Pn	**Pn**	**09 07 02.6**	**-2.5**
IL1	**Eielson Array**	**7.17**	**323**	P	**Pn**	**09 07 05.6**	**-0.1**
COLA	**College**	**7.54**	**322**	*e*P	**Pn**	**09 07 10.8**	**0.0**
KDAK	**Kodiak Island**	**8.39**	**266**	P	**Pn**	**09 07 19.6**	**-2.7**
KDAK	**Kodiak Island**	**8.39**	**266**	Pn	**Pn**	**09 07 19.9**	**-2.4**
	9.3nm,0.3s,baz=69,slow=8.5,SNR=37						
KDAK				Sn	**Sn**	**09 08 50.9**	**-6.1**
	6.0nm,0.3s,baz=193,slow=22,SNR=10						
FSB	**Fort Saint Jam**	**8.41**	**120**	⇓Pn	**Pn**	**09 07 21.6**	**-1.1**
BMBC	**Bull Mountain**	**8.55**	**107**	⇓Pn	**Pn**	**09 07 21.9**	**-2.6**
BMBC				⇑Pg	Pn	09 07 51.4	+27
BBB	**Bella Bella**	**8.72**	**142**	Pn	**Pn**	**09 07 22.9**	**-4.0**
BBB				Sn	**Sn**	**09 08 57.3**	**-7.9**
BBB				Lg		09 09 48.8	
BBB				LR	LR	09 10 30.3	
BBB	**Bella Bella**	**8.72**	**142**	Pn	**Pn**	**09 07 22.9**	**-4.0**
	1.7nm,0.3s,baz=318,slow=12,SNR=14						
BBB				Sn	**Sn**	**09 08 57.3**	**-7.9**
	0.4nm,0.3s,baz=341,slow=16,SNR=3.1						
BBB				Lg		09 09 48.8	
	1.5nm,0.3s,baz=257,slow=19,SNR=5.6						
BBB				LR	LR	09 10 30.3	
	comp=Z,230nm,20.1s,baz=306,slow=36						
BBB	**Bella Bella**	**8.72**	**142**	⇑Pn	**Pn**	**09 07 22.8**	**-4.0**
INK	**Inuvik**	**9.08**	**8**	P	**Pn**	**09 07 32.6**	**+0.8**
INK						09 09 14.7	
INK	**Inuvik**	**9.08**	**8**	Pn	**Pn**	**09 07 32.6**	**+0.9**
	0.4nm,0.3s,baz=188,slow=14,SNR=18						
INK				Sn	**Sn**	**09 09 14.7**	**+0.7**
	0.9nm,0.3s,baz=156,slow=12,SNR=3.4						
INK				LR	LR	09 11 04.0	
	comp=Z,105nm,19.0s,baz=1.4,slow=37						
INK	**Inuvik**	**9.08**	**8**	⇑Pn	**Pn**	**09 07 32.6**	**+0.8**
SVW2	**Sparrevohn**	**9.48**	**288**	*e*P	**Pn**	**09 07 36.1**	**-1.1**
TTA	**Tatalina**	**9.91**	**299**	*e*P	**Pn**	**09 07 44.5**	**+1.3**
IMA2	**Indian Mountai**	**10.21**	**318**	*e*P	**Pn**	**09 07 49.4**	**+2.2**
YKA	**Yellowknife Ar**	**11.23**	**64**	Pn	**Pn**	**09 07 58.6**	**-2.6**
YKA				Lg		09 11 10.4	
YKA	**Yellowknife Ar**	**11.23**	**64**	Pn	**Pn**	**09 07 58.6**	**-2.6**
	2.0nm,0.3s,baz=263,slow=13,SNR=110						
YKA				Lg		09 11 10.4	
	0.3nm,0.3s,baz=263,slow=29,SNR=5.2						
YKW3	**Yellowknife Ar**	**11.23**	**64**	⇑Pn	**Pn**	**09 07 58.7**	**-2.5**
YKW3				⇓Sg	Sn	09 11 10.1	+63
CHGN	**Chignik**	**11.89**	**264**	*e*P	**Pn**	**09 08 09.2**	**-1.1**
SDPT	**Sand Point**	**13.35**	**263**	*e*Pn	**Pn**	**09 08 29.0**	**-1.3**
	29nm,0.7s						
SDPT				*e*Sn	**Sn**	**09 10 52.7**	**-6.0**
A05A	**Maple Falls**	**13.48**	**134**	⇓P	**Pn**	**09 08 33.4**	**+1.5**
	baz=13						
A07A	**Ashnola River,**	**14.09**	**130**	⇑P	**Pn**	**09 08 40.7**	**+0.4**
	baz=14						
B05A	**Bryant**	**14.09**	**136**	⇓P	**Pn**	**09 08 41.3**	**+1.0**
	baz=14						
EDM	**Edmonton**	**14.37**	**105**	*e*P	**Pn**	**09 08 41.5**	**-2.6**
A08A	**Turner Farm, O**	**14.60**	**128**	⇑P	**Pn**	**09 08 48.4**	**+1.1**
	baz=14						
B07A	**Winthrop**	**14.66**	**131**	P	**Pn**	**09 08 49.8**	**+1.7**
	baz=14,SNR=6.4						
C05A	**Tolt Reservoir**	**14.72**	**136**	⇑P	**Pn**	**09 08 49.5**	**+0.7**
	baz=14						
A09A	**Danville**	**14.87**	**126**	⇓P	**Pn**	**09 08 52.0**	**+1.2**
	baz=15						
D05A	**Enumclaw**	**15.05**	**138**	P	**Pn**	**09 08 55.4**	**+2.1**
	baz=15,SNR=5.6						
B08A	**Colville Reser**	**15.05**	**129**	⇑P	**Pn**	**09 08 54.7**	**+1.3**
	baz=15						
E03A	**Lebam**	**15.10**	**143**	⇑P	**Pn**	**09 08 54.1**	**+0.2**
	baz=15						
D06A	**Cle Elum**	**15.45**	**135**	⇑P	**Pn**	**09 08 59.4**	**+0.8**
	baz=15,SNR=6.6						
B09A	**Rice**	**15.48**	**127**	⇑P	**Pn**	**09 08 59.6**	**+0.6**
	baz=15						
C08A	**Higginbotham F**	**15.63**	**130**	⇓P	**Pn**	**09 09 00.8**	**-0.2**
	baz=15						
E05A	**Randle**	**15.67**	**138**	⇑P	**Pn**	**09 09 01.3**	**-0.2**
	baz=15						
D07A	**Quincy**	**15.77**	**133**	⇓P	**Pn**	**09 09 02.9**	**+0.2**
	baz=16						
A11A	**Hall Mountain,**	**15.82**	**122**	⇓P	**Pn**	**09 09 03.5**	**+0.1**
	baz=16						
C09A	**Chrisman Ranch**	**15.92**	**129**	⇓P	**Pn**	**09 09 05.2**	**+0.4**
	baz=16						
E06A	**Yakima**	**15.96**	**137**	⇑P	**Pn**	**09 09 04.9**	**-0.3**
	baz=16						
NEW	**Newport**	**16.03**	**125**	*e*P	**Pn**	**09 09 04.3**	**-1.8**
	31nm,1.7s						
NEW	**Newport**	**16.03**	**125**	Pn	**Pn**	**09 09 04.1**	**-2.0**
	0.1nm,0.3s,baz=329,slow=8.3,SNR=7.9						
NEW				Lg		09 13 36.7	
	0.2nm,0.3s,baz=94,slow=10,SNR=5.8						
NEW				LR	LR	09 15 57.8	
	comp=Z,88nm,18.4s,baz=319,slow=40						
B11A	**Sandpoint**	**16.21**	**124**	⇓P	**Pn**	**09 09 09.7**	**+1.2**
	baz=16						
D08A	**Wollman Farm,**	**16.28**	**131**	⇑P	**Pn**	**09 09 10.0**	**+0.6**
	baz=16						
D09A	**Jones Farm, Ri**	**16.51**	**130**	⇓P	**Pn**	**09 09 12.1**	**-0.2**
	baz=16						
WALA	**Waterton Lakes**	**16.83**	**118**	*e*P	**Pn**	**09 09 16.1**	**-0.3**
	23nm,1.3s						
B13A	**Whitefish**	**17.09**	**120**	⇓P	**Pn**	**09 09 21.1**	**+1.5**
	baz=17,SNR=5.2						
F08A	**Pendleton**	**17.39**	**133**	⇑P	**Pn**	**09 09 22.9**	**-0.5**
	baz=17						
G07A	**Ruggs Ranch, H**	**17.52**	**136**	⇓P	**Pn**	**09 09 24.3**	**-0.7**
	baz=17						
H05A	**Madras**	**17.53**	**140**	⇑P	**Pn**	**09 09 24.4**	**-0.8**
	baz=17						
D12A	**Red Ives Fores**	**17.72**	**125**	⇑P	**Pn**	**09 09 26.3**	**-1.2**
	baz=18						
G08A	**Pilot Rock**	**17.75**	**135**	⇓P	**Pn**	**09 09 27.5**	**-0.4**
	baz=18,SNR=6.9						
F10A	**Beach Ranch, E**	**17.83**	**130**	⇓P	**Pn**	**09 09 28.8**	**-0.1**
	baz=18,SNR=14						
C14A	**Swan Lake**	**17.86**	**120**	⇓P	**Pn**	**09 09 29.3**	**+0.1**
	baz=18						
E11A	**Bogner Ranch,**	**17.92**	**128**	P	**Pn**	**09 09 30.0**	**0.0**
	baz=18,SNR=7.3						
D13A	**Huson**	**18.07**	**123**	P	**Pn**	**09 09 31.9**	**+0.1**
	baz=18,SNR=13						
H07A	**Lands Inn, Kim**	**18.14**	**137**	⇑P	**Pn**	**09 09 32.3**	**-0.4**
	baz=18						
F11A	**Grangeville**	**18.33**	**128**	P	**Pn**	**09 09 35.1**	**+0.2**
	baz=18,SNR=7.9						
G10A	**Bishop Farm, J**	**18.44**	**131**	⇓P	**Pn**	**09 09 36.2**	**-0.1**
	baz=18						
D14A	**Greenough**	**18.49**	**121**	P	**Pn**	**09 09 35.4**	**-1.6**
	baz=18,SNR=18						
MSO	**Missoula**	**18.50**	**123**	*e*P	**Pn**	**09 09 35.1**	**-1.9**
	13nm,1.1s						
H08A	**Prairie City**	**18.52**	**135**	⇑P	**Pn**	**09 09 37.0**	**-0.4**
	baz=18,SNR=5.8						
J04A	**Umpqua Nationa**	**18.52**	**144**	⇓P	**Pn**	**09 09 36.7**	**-0.7**
	baz=18						
I07A	**Izee**	**18.61**	**138**	⇓P	**Pn**	**09 09 38.2**	**-0.2**
	baz=18						
G11A	**Walters Elk Ra**	**18.68**	**129**	⇓P	**Pn**	**09 09 39.5**	**+0.2**
	baz=18,SNR=16						
E13A	**Victor**	**18.70**	**124**	⇑P	**Pn**	**09 09 39.4**	**0.0**
	baz=18						
CHMT	**Chamberlain Mo**	**18.73**	**121**	*e*P	**Pn**	**09 09 38.4**	**-1.5**
BMO	**Blue Mountains**	**18.74**	**132**	*e*P	**Pn**	**09 09 36.4**	**-3.6**
	11nm,0.9s						
F12A	**Elk City**	**18.80**	**127**	⇑P	**Pn**	**09 09 40.9**	**+0.2**
	baz=19,SNR=9.6						
HUMO	**Hull Mountain**	**18.86**	**147**	⇓P	**Pn**	**09 09 40.9**	**-0.6**
	baz=19						
D15A	**Lincoln**	**18.95**	**120**	⇑P	**Pn**	**09 09 42.7**	**+0.1**
	baz=19,SNR=6.3						
E14A	**Clinton**	**19.01**	**123**	⇓P	**Pn**	**09 09 42.7**	**-0.6**
	baz=19						
I08A	**Drewsey**	**19.09**	**136**	⇑P	**Pn**	**09 09 44.2**	**0.0**
	baz=19						
H10A	**Noah's Angus R**	**19.18**	**132**	P	**Pn**	**09 09 45.5**	**+0.3**
	baz=19,SNR=14						
H11A	**Donnelly**	**19.36**	**130**	⇑P	**Pn**	**09 09 47.1**	**-0.4**
	baz=19,SNR=11						
K05A	**Summer Lake**	**19.36**	**142**	⇓P	**Pn**	**09 09 47.0**	**-0.5**
	baz=19						
FFC	**Flin Flon**	**19.37**	**89**	*e*P	**Pn**	**09 09 44.6**	**-2.9**
FFC				pmax	pmax		
	comp=Z,6.0nm,0.6s						
FFC	**Flin Flon**	**19.37**	**89**	*e*P	**Pn**	**09 09 44.6**	**-2.9**
	comp=Z,5.6nm,0.6s						
E15A	**Deer Lodge**	**19.38**	**121**	P	**Pn**	**09 09 46.8**	**-0.8**
	baz=19,SNR=8.2						
EGMT	**Eagleton**	**19.49**	**114**	*e*P	**Pn**	**09 09 47.0**	**-2.1**
	comp=Z,25nm,1.2s						
EGMT	**Eagleton**	**19.49**	**114**

BOZ	Bozeman (W)	20.42 121	P	P	09 09 59.3	+1.3
	baz=20,SNR=16					
G15A	Dillon	20.43 123	⇑P	P	09 09 58.1	0.0
	baz=20					
K09A	Rome	20.44 136	⇓P	P	09 09 59.3	+1.1
	baz=20					
L07A	Adell	20.50 140	⇑P	P	09 09 59.6	+0.8
	baz=20					
MFID	Camas Ranch	20.52 132	⇑P	P	09 09 59.5	+0.5
	baz=20					
MCMT	McKenzie Canyo	20.55 125	eP	P	09 09 57.5	-1.9
K10A	MacKenzie Ranc	20.68 135	⇓P	P	09 10 01.4	+0.6
	baz=20,SNR=8.3					
I13A	Wildhorse Cree	20.77 128	P	P	09 10 02.8	+1.1
	baz=21,SNR=18					
WDC	Whiskeytown Da	20.86 148	eP	P	09 09 59.3	-3.4
WDC			pmax	pmax		
	comp=Z,11nm,1.1s					
WDC	Whiskeytown Da	20.86 148	eP	P	09 09 59.3	-3.4
	comp=Z,11nm,1.1s					
WDC	Whiskeytown Da	20.86 148	⇓P	P	09 10 02.8	+0.1
	baz=21,SNR=5.8					
M06C	Likely Place G	20.88 143	⇓P	P	09 10 03.5	+0.6
	baz=21					
J12A	Stokes Ranch,	20.94 131	P	P	09 10 04.8	+1.1
	baz=21,SNR=8.2					
HLID	Hailey	20.95 129	P	P	09 10 04.7	+1.0
	baz=21,SNR=14					
K11A	Parker Ranch,	21.00 133	⇑P	P	09 10 04.4	+0.2
	baz=21					
L09A	Wilkinson Ranc	21.06 137	⇓P	P	09 10 05.0	+0.1
	baz=21					
M07A	Soldier Meadow	21.12 141	⇓P	P	09 10 06.0	+0.5
	baz=21,SNR=6.1					
QLMT	Earthquake Lak	21.15 122	eP	P	09 10 04.2	-1.6
O02C	Red Bluff	21.17 149	⇓P	P	09 10 05.9	-0.2
	baz=21					
J13A	Cove Ranch, Pi	21.18 129	⇓P	P	09 10 06.7	+0.5
	baz=21					
GCMT	Greycliff	21.19 118	eP	P	09 10 06.5	+0.3
M08A	Happy Creek Ra	21.33 139	⇑P	P	09 10 07.8	+0.1
	baz=21					
L10A	Juniper Basin	21.44 135	⇑P	P	09 10 08.9	0.0
	baz=21					
N06A	Buffalo Meadow	21.49 143	⇑P	P	09 10 09.4	-0.1
	baz=21,SNR=7.1					
O04C	Chester	21.51 146	⇓P	P	09 10 09.0	-0.7
	baz=21					
K12A	Draper Farm, C	21.54 131	⇑P	P	09 10 10.7	+0.6
	baz=21,SNR=7.3					
O03C	Acorn Hollow,	21.54 148	⇑P	P	09 10 09.9	-0.1
	baz=21					
L11A	Cat Creek Ranc	21.62 133	⇑P	P	09 10 11.5	+0.6
	baz=21					
RES	Resolute Bay	21.66 29	eP	P	09 10 12.2	+1.1
M09A	Marrel Ranch,	21.67 137	⇑P	P	09 10 11.7	+0.3
	baz=21					
GASB	Alder Springs	21.68 149	⇓P	P	09 10 11.7	+0.1
	baz=21					
FCC	Fort Churchill	21.71 73	eP	P	09 10 11.8	+0.1
FCC			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1					
FCC	Fort Churchill	21.71 73	eP	P	09 10 11.8	+0.1
	comp=Z,8.1nm,1.1s,mb4.1					
K13A	Stover Farm, H	21.85 130	⇑P	P	09 10 13.6	+0.2
	baz=22,SNR=8.1					
L12A	House Creek Ra	21.92 132	P	P	09 10 15.2	+1.2
	baz=22,SNR=8.2					
N08A	GE Springer Mi	22.01 139	⇑P	P	09 10 15.4	+0.4
	baz=22					
FLWY	Flagg Ranch	22.07 122	eP	P	09 10 17.5	+1.8
	comp=Z,36nm,1.4s,mb4.6					
ORV	Oroville	22.10 147	⇓P	P	09 10 16.1	0.0
	baz=22					
IMW	Indian Meadow	22.11 123	eP	P	09 10 16.9	+0.8
	comp=Z,53nm,1.1s,mb4.9					
LAO	LASA Array	22.12 111	eP	P	09 10 17.0	+0.8
	comp=Z,12nm,1.1s,mb4.2					
BEKR	Beckwourth	22.14 145	⇓P	P	09 10 16.5	0.0
	baz=22					
DCID1	Drake Creek	22.25 124	eP	P	09 10 17.6	-0.1
K14A	Jones Ranch, D	22.30 129	⇑P	P	09 10 18.8	+0.7
	baz=22,SNR=9.0					
MOOW	Moose Ponds	22.31 123	eP	P	09 10 18.6	+0.3
	comp=Z,13nm,1.4s,mb4.2					
O07A	Toulon	22.32 142	⇑P	P	09 10 18.4	-0.1
	baz=22					
L13A	Double Diamond	22.38 131	⇑P	P	09 10 19.1	+0.1
	baz=22					
TPAW	Teton Pass	22.43 124	eP	P	09 10 18.9	-0.7
	comp=Z,51nm,1.3s,mb4.8					
LOHW	Long Hollow	22.48 123	eP	P	09 10 19.9	-0.2
	comp=Z,17nm,1.4s,mb4.3					
SNOW	Snow King Moun	22.54 123	eP	P	09 10 20.8	+0.1
	comp=Z,23nm,1.2s,mb4.5					
REDW	Red Top Meadow	22.58 124	eP	P	09 10 22.7	+1.6
	comp=Z,36nm,1.3s,mb4.7					
M12A	Wells	22.59 133	⇓P	P	09 10 21.3	+0.1
	baz=22,SNR=5.6					
P05C	Yuba Gap, Truc	22.59 146	⇓P	P	09 10 21.6	+0.3
	baz=22					
Q03C	Winters	22.82 149	⇓P	P	09 10 23.8	0.0
	baz=23					
WCN	Washoe City	22.84 144	⇑P	P	09 10 23.8	-0.1
	baz=23					
O09A	Fish Creek Ran	22.87 138	⇓P	P	09 10 24.5	+0.3
	baz=23					
M13A	Montello	22.92 132	⇓P	P	09 10 24.8	+0.1
	baz=23					
CVS	Carmenet Viney	22.98 150	⇓P	P	09 10 25.4	0.0
	baz=23					
N12A	Clover Valley,	23.03 134	⇓P	P	09 10 26.0	+0.1
	baz=23,SNR=6.2					
LAVA	Lava Cap Winer	23.06 146	⇓P	P	09 10 26.1	-0.1
	baz=23					
M14A	Sheep Mountain	23.11 130	⇓P	P	09 10 26.1	-0.6
	baz=23					
O11A	Cowboy Ranch,	23.44 136	⇑P	P	09 10 30.0	-0.3
	baz=23					
HWUT	Hardware Ranch	23.73 127	eP	P	09 10 33.0	-0.1
	comp=Z,3.7nm,1.0s,mb3.8					
NVAR	Mina Array Bea	24.09 142	P	P	09 10 36.8	+0.5
	baz=337,slow=8.8					
Q10A	Clear Creek Ra	24.35 139	⇑P	P	09 10 39.2	+0.5
	baz=24					
CTU	Camp Tracy	24.43 129	eP	P	09 10 38.6	-0.8
	comp=Z,8.2nm,1.0s,mb4.1					
DUG	Dugway	24.44 131	eP	P	09 10 38.2	-1.3
DUG			pmax	pmax		
	comp=Z,11nm,1.1s,mb4.2					
DUG	Dugway	24.44 131	eP	P	09 10 38.2	-1.3
	comp=Z,12nm,1.1s,mb4.2					
DUG	Dugway	24.44 131	⇑P	P	09 10 39.3	-0.2
	baz=24,SNR=7.6					
Q11A	Duckwater	24.58 137	⇓P	P	09 10 39.7	-1.2
	baz=24,SNR=5.2					
JLU	Jordanelle	24.63 128	eP	P	09 10 39.9	-1.3
P13A	Bates Ranch, G	24.63 134	⇓P	P	09 10 39.4	-1.9
	baz=24					
KCC	Kaiser Creek	24.80 145	⇓P	P	09 10 41.8	-1.0
	baz=25					
R10A	Warm Springs	24.86 139	⇑P	P	09 10 42.5	-0.9
	baz=25					
DAU	Daniels Canyon	24.87 128	eP	P	09 10 43.8	+0.4
ULM	Lac du Bonnet	24.93 93	P	P	09 10 43.7	-0.2
	comp=Z,2.3nm,0.9s,mb3.7,baz=284,slow=14,SNR=3.3					
T06C	Millerton Lake	24.98 146	⇑P	P	09 10 44.2	-0.2
	baz=25					
S08C	White Mtn Res	24.98 143	⇑P	P	09 10 43.8	-0.6
	baz=25					
R11A	Troy Canyon, C	25.05 138	⇓P	P	09 10 44.2	-0.9
	baz=25,SNR=8.3					
Q13A	Wheeler Ranch,	25.07 134	⇑P	P	09 10 44.2	-1.0
	baz=25					
S09A	Goldfield	25.07 141	⇑P	P	09 10 44.5	-0.8
	baz=25					
S10A	Tonopah Range,	25.10 140	⇑P	P	09 10 45.5	0.0
	baz=25					
R12A	Pony Springs,	25.41 136	⇑P	P	09 10 48.2	-0.1
	baz=25					
HELL	Mitchell Peak	25.48 145	⇓P	P	09 10 48.9	-0.1
	baz=25					
BILL	Bilibino	25.69 313	iP	P	09 10 50.5	-0.2
BILL			e*PP	pP	09 10 56.0	+3.0
BILL			eSS		09 16 15.3	
BILL			pmax	pmax		
	comp=Z,11nm,1.9s,mb4.1					
BILL			MLR	MLR		
	comp=Z,100nm,15.0s,MS3.5					
TPNV	Topopah Spring	26.10 140	⇓P	P	09 10 54.7	+0.1
	baz=26					
MSU	Marysvale	26.14 132	eP	P	09 10 55.7	+0.7
S13A	Holt Ranch, En	26.35 136	⇑P	P	09 10 57.6	+0.7
	baz=26					
S14A	Cedar City	26.44 134	⇑P	P	09 10 58.1	+0.5
	baz=26					
MPMC	Manual Prospec	26.52 143	⇑P	P	09 10 58.9	+0.6
	baz=26					
U10A	Ash Meadows, A	26.55 141	⇑P	P	09 10 59.4	+0.7
	baz=26					
PHWY	Pilot Hill	26.60 119	eP	P	09 11 00.8	+1.6
T13A	Saint George	26.83 136	⇓P	P	09 11 01.5	+0.3
	baz=27,SNR=7.5					
U13A	Pakoon Wash	27.35 137	⇑P	P	09 11 06.5	+0.6
	baz=27					
T15A	Red Dirt Ranch	27.38 134	⇑P	P	09 11 06.6	+0.5
	baz=27					
EDW2	Edwards Air Fo	27.46 145	⇓P	P	09 11 07.3	+0.4
	baz=27					
U14A	Mt Trumbull	27.63 136	P	P	09 11 09.7	+1.4
	baz=27,SNR=5.2					
V12A	Nelson	27.67 139	⇑P	P	09 11 10.1	+1.3
	baz=27					
ISCO	Idaho Springs	27.75 121	eP	P	09 11 11.2	+1.7
ISCO			pmax	pmax		
	comp=Z,9.0nm,1.3s,mb4.2					
ISCO	Idaho Springs	27.75 121	eP	P	09 11 11.2	+1.7
	comp=Z,9.2nm,1.3s,mb4.2					
PV01	Paradox Valley	27.89 127	eP	P	09 11 11.3	+0.6
V15A	Kaibab Nationa	28.53 135	⇑P	P	09 11 17.1	+0.8
	baz=28,SNR=7.5					
W14A	Seligman	28.74 137	⇑P	P	09 11 18.7	+0.3
	baz=28					
W15A	Williams	29.07 135	⇑P	P	09 11 22.1	+0.9
	baz=29					
WUAZ	Wupatki	29.09 134	⇓P	P	09 11 21.7	+0.4
	baz=29					
X14A	Yava	29.48 137	⇑P	P	09 11 25.2	+0.3
	baz=29					
X15A	Humboldt	29.70 136	⇑P	P	09 11 28.0	+1.2
	baz=30					
X16A	Lo Mia Camp, P	30.05 135	⇑P	P	09 11 30.8	+1.0
	baz=30					
W18A	Petrified Fore	30.06 132	⇑P	P	09 11 30.5	+0.5
	baz=30					
GLA	Glamis	30.13 141	⇑P	P	09 11 31.3	+0.6
	baz=30					
Y15A	Casa Rosa Ranc	30.14 137	⇑P	P	09 11 30.9	+0.1
	baz=30					
X18A	Snowflake	30.50 133	⇑P	P	09 11 34.0	+0.1
	baz=30					
Y16A	Circle Bar Ran	30.52 135	⇓P	P	09 11 34.1	+0.1
	baz=30					
X19A	St. Johns	30.84 132	⇑P	P	09 11 37.2	+0.3
	baz=31					
Y17A	Roosevelt	30.91 135	⇑P	P	09 11 38.2	+0.7
	baz=31					
Y18A	Canyon Day Jun	31.13 133	⇓P	P	09 11 40.0	+0.5
	baz=31					
Y19A	Nutrioso	31.27 132	⇓P	P	09 11 40.5	-0.2
	baz=31,SNR=7.0					
ANMO	Albuquerque	31.50 127	eP	P	09 11 41.1	-1.6
LAZ	Ladron	31.70 129	eP	P	09 11 46.0	+1.5
117A	Oracle	31.96 135	⇑P	P	09 11 47.7	+1.0
	baz=32					
118A	Homack Ranch,	32.18 134	⇑P	P	09 11 49.6	+1.0
	baz=32					
119A	Ashpeak Ranch,	32.31 133	⇓P	P	09 11 50.8	+1.0
	baz=32					
217A	Green Valley	32.65 136	⇓P	P	09 11 53.8	+1.0
	baz=32					
218A	Dragoon	32.75 135	⇑P	P	09 11 54.5	+0.8
	baz=32					
219A	White Tail Can	33.01 134	⇑P	P	09 11 56.7	+0.7
	baz=33					
318A	Bisbee	33.25 135	⇓P	P	09 11 58.6	+0.5
	baz=33					
WMOK	Wichita Mounta	34.99 118	eP	P	09 12 14.0	+0.9
WMOK			pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.6					
WMOK	Wichita Mounta	34.99 118	eP	P	09 12 13.9	+0.8
	comp=Z,8.1nm,1.1s,mb4.6					
TIXI	Tiksi	36.62 328	eP	P	09 12 25.6	-1.1
TIXI			pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2					
TIXI	Tiksi	36.62 328	eP	P	09 12 26.6	-0.1
	comp=Z,2.3nm,0.8s,mb4.1					
TXAR	Lajitas Array	37.55 128	P	P	09 12 34.0	-1.1
TXAR			LR	LR	09 29 23.2	
TXAR	Lajitas Array	37.55 128	P	P	09 12 34.0	-1.1
	comp=Z,1.1nm,0.9s,mb3.6,baz=330,slow=7.2,SNR=8.9					
TXAR			LR	LR	09 29 23.2	
	comp=Z,71nm,18.9s,MS3.5,baz=115,slow=38					
MIAR	Mount Ida	37.57 112	eP	P	09 12 35.1	-0.1
MIAR			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1					
MIAR	Mount Ida	37.57 112	eP	P	09 12 35.1	-0.1
	comp=Z,3.3nm,0.8s,mb4.1					
YAK	Yakutsk	42.02 315	eP	P	09 13 12.2	+0.3
YAK			pmax	pmax		
	comp=Z,11nm,0.8s,mb4.5					
YAK			MLR	MLR		
	comp=Z,100nm,19.0s,MS3.7					
HABR	Khabarovsk	49.28 299	eP	P	09 14 04.5	-4.9
HABR			e		09 14 13.0	
HABR			e		09 15 30.0	
HABR			e		09 16 03.0	
HABR			e		09 23 57.5	
HABR			e		09 26 07.4	
KLR	Kul'dur	50.18 301	eP	P	09 14 17.0	+0.7
BOD	Bodaibo	50.52 319	eP	P	09 14 17.2	-1.6
BOD			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4					
ARCES	ARCESS Array B	50.76 8	P	P	09 14 19.6	-0.8
	comp=Z,4.9nm,0.8s,mb4.5,baz=10,slow=7.4,SNR=7.6					
NB2	NORSAR Subarra	57.38 18	P	P	09 15 08.1	-0.7
	comp=Z,1.3nm,0.7s,mb4.1,baz=341,slow=7.4					
NOA	NORSAR Array B	57.38 18	P	P	09 15 08.0	-0.8
NOA			pmax	pmax		
	comp=Z,3.0nm,0.8s					
NOA	NORSAR Array B	57.38 18	P	P	09 15 08.0	-0.8
	comp=Z,2.5nm,0.8s,mb4.3,baz=342,slow=7.2,SNR=7.0					
FINES	FINESS Array B	58.78 10	P	P	09 15 17.4	-1.2
FINES			pmax	pmax		
	comp=Z,2.0nm,0.7s					
FINES	FINESS Array B	58.78 10	P	P	09 15 17.4	-1.2
	comp=Z,1.6nm,0.7s,mb4.2,baz=353,slow=12,SNR=5.8					
TLY	Talaya	58.99 321	eP	P	09 15 19.3	-0.9
KSRS	Korea Array	61.12 295	P	P	09 15 34.1	-0.9
KSRS			pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.5					
KSRS			MLR	MLR		
	comp=Z,29nm,19.7s,MS3.4					
KSRS	Korea Array	61.12 295	P	P	09 15 34.0	-1.0
	comp=Z,1.6nm,0.5s,mb4.4,baz=31,slow=6.7,SNR=7.9					
KSRS			LR	LR	09 43 32.2	
	comp=Z,29nm,19.7s,MS3.4,baz=235,slow=38					
SONM	Songino Array	61.35 317	P	P	09 15 35.8	-0.6
SONM			pmax	pmax		
	comp=Z,1.0nm,0.7s					
SONM	Songino Array	61.35 317	P	P	09 15 35.8	-0.6
	comp=Z,1.2nm,0.7s,mb4.1,baz=28,slow=9.2,SNR=8.1					
ZALV	Zalesovo Beam	62.17 334	P	P	09 15 40.2	-1.6
	comp=Z,1.5nm,0.5s,mb4.4,baz=35,slow=5.7,SNR=6.5					
ZAL	Zalesovo	62.19 334	P	P	09 15 40.2	-1.7
ZAL			pmax	pmax		
	comp=Z,2.0nm,0.5s					
ARU	Arti	63.89 351	c iP	P	09 15 51.6	-1.6
ARU			e		09 18 08.6	
ARU			eS	S	09 24 25.7	-2.7
ARU			pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.6					
OBN	Obninsk	65.73 4	eP	P	09 16 04.6	-0.6
OBN			e		09 16 31.7	
OBN			e		09 18 27.7	
OBN			eS	S	09 24 47.4	-3.8
OBN			pmax	pmax		
	comp=Z,18nm,1.1s,mb5.0					
KURK	Kurchatov	66.55 336	eP	P	09 16 09.1	-1.4
KHC	Kasperske Hory	69.18 20	eP	P	09 16 26.3	-0.9
MK31	Makanchi Array	69.43 332	eP	P	09 16 26.7	-2.0
MKAR	Makanchi Array	69.43 332	iP	P	09 16 27.0	-1.7
MKAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MKAR	Makanchi Array	69.43 332	P	P	09 16 26.4	-2.4
	comp=Z,1.1nm,0.7s,mb3.9,baz=42,slow=6.3,SNR=9.7					
GERES	GERESS Array B	69.48 20	P	P	09 16 28.8	-0.2
	comp=Z,0.3nm,0.2s,mb3.8,baz=319,slow=5.3,SNR=5.0					
GERES			LR	LR	09 47 33.4	
	comp=Z,30nm,19.7s,MS3.5,baz=108,slow=36					
AKASG	Malin Array Be	69.69 9	P	P	09 16 28.9	-1.4
AKASG			pmax	pmax		
	comp=Z,3.0nm,0.6s					
AKASG	Malin Array Be	69.69 9	P	P	09 16 28.9	-1.4
	comp=Z,3.3nm,0.6s,mb4.5,baz=353,slow=6.0,SNR=13					
NJ2	Nanjing	69.75 299	eP	P	09 16 32.3	+1.4
NJ2			AMB	AMB		
	comp=Z,20nm,0.5s,mb5.3					
LZH	Lanzhou	72.50 312	eP	P	09 16 47.5	-0.1
LZH			AP	pP	09 16 52.3	+2.2
LZH			XP	sP	09 16 54.6	+3.6
LZH			AMB	AMB		
	comp=Z,15nm,1.3s,mb4.8					
LZH			AMB	AMB		
	comp=Z,49nm,4.7s					
LZH			LR	LR		
	comp=E,237nm,15.7s					
LZH			LR	LR		
	comp=Z,395nm,19.5s,MS4.7					
ESDC	Sonseca Array	73.89 36	P	P	09 16 55.3	-0.4
	comp=Z,0.7nm,0.5s,mb3.9,baz=323,slow=6.3,SNR=6.5					
EKS2	Erkin-Say	75.22 337	eP	P	09 17 03.4	0.0
	comp=Z,5.0nm,0.8s,mb4.5					
GYA	Guiyang	79.87 305	P	P	09 17 28.8	-0.8
GYA			AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8					
KMI	Kunming	82.66 308	P	P	09 17 44.4	-0.1
KMI			AP	pP	09 17 48.0	+1.0
KMI			AMB	AMB		
	comp=Z,11nm,0.6s,mb5.1					
BOSA	Boshof	146.88 30	PKP2	PKPbc	09 25 01.5	-1.4
BOSA			pmax	pmax		
	comp=Z,13nm,1.2s					
BOSA	Boshof	146.88 30	PKPbc	PKPbc	09 25 01.5	-1.4
	comp=Z,13nm,1.2s,baz=332,slow=4.6,SNR=3.5					
QSPA	South Pole Qui	149.20 180	ePKPbc	PKPbc	09 25 05.7	-1.9
QSPA			ePKPab	PKPab	09 25 08.3	-3.9

IDC 21 09:26:17.8±58.0, 1663S×17695W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/14, mbtmp3.9/3, Error ellipse: s-maj=1069.0km s-min=175.3km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.47	240	P	P	09 33 59.2	+0.8
	5.0nm,1.1s,baz=56,slow=3.6,SNR=4.0						
WRA	Warramunga Arr	46.24	258	P	P	09 34 44.5	-0.8
	0.3nm,0.7s,baz=97,slow=7.5,SNR=5.8						
ASAR	Alice Springs	46.48	253	P	P	09 34 47.0	-0.1
	1.4nm,0.6s,baz=89,slow=7.9,SNR=34						

IDC 21 09:32:06.6±14.0, 2174N×14314E, h119km±134km, mb3.1/6, mb1 3.3/6, mb1mx3.2/19, mbtmp3.1/6, Error ellipse: s-maj=60.3km s-min=19.3km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.46	323	P	P	09 36 35.1	+0.5
	0.4nm,0.3s,baz=142,slow=10,SNR=5.2						
SONM	Songino Array	39.28	320	P	P	09 39 23.0	-0.5
	0.3nm,0.5s,baz=125,slow=6.0,SNR=3.8						
WRA	Warramunga Arr	42.31	192	P	P	09 39 48.4	-0.3
	0.3nm,0.7s,baz=19,slow=9.2,SNR=4.9						
ASAR	Alice Springs	46.02	192	P	P	09 40 18.3	+0.1
	0.4nm,0.7s,baz=14,slow=10,SNR=6.4						
MKAR	Makanchi Array	54.64	313	P	P	09 41 23.3	+0.4
	0.4nm,0.7s,baz=80,slow=10,SNR=3.2						
YKA	Yellowknife Ar	76.44	28	P	P	09 43 42.9	+0.1
	0.5nm,0.6s,baz=293,slow=5.6,SNR=7.4						

*ISK **21** 09:37:27.9, 3726N×28.19E, h5km, MD2.8*
*ISCJB **21** 09:37:28.6±0.5, 3728N±003×2823E±004, h10km, Error ellipse: s-maj=4.6km s-min=3.8km az=146.3*
*CSEM **21** 09:37:28.1±0.1, 3725N×28.19E, h2km, MD2.8, Error ellipse: s-maj=3.0km s-min=1.9km az=33.0*
*DDA **21** 09:37:30.8, 3750N×2770E, h36km±3km, Md2.8*

ISC 21 09:37:29.3±0.5, 3727N±003×2822E±004, h10km, n9, σ0°77/16, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.14	160	PG	Pg	09 37 31.5	-0.9
YER				SG	Sg	09 37 33.8	-0.9
MLSB	Milas	0.36	275	ePG	Pg	09 37 35.4	-0.9
MLSB				eSG	Sg	09 37 41.4	+0.3
AYDN	Tasoluk	0.48	325	i P	Pg	09 37 38.4	-0.2
AYDN				i S	Sg	09 37 46.3	+1.3
DALT	Dalyan (Mudla)	0.60	146	ePG	Pg	09 37 41.1	+0.2
DALT				eSG	Sg	09 37 50.3	+1.6
BDRM	Kayabasi	0.66	252	i P	Pg	09 37 40.9	-1.1
BDRM				i S	Sg	09 37 50.8	+0.2
DAT	Datca	0.75	224	ePG	Pg	09 37 43.2	-0.4
DAT				eSG	Sg	09 37 54.5	+1.1
FETY	Fethiye	0.93	132	ePG	Pg	09 37 47.4	+0.2
MANT	Manisa	1.25	12	i P	Pg	09 37 53.1	-0.3
MANT				i S	Sg	09 38 09.6	0.0
ELL	Elmali	1.44	110	ePN	Pg	09 37 57.0	0.0

*NEIC **21** 09:52:26.0, 1557N×9893W, h10km, MD4.3(MEX), After MEX.*

MEX 21 09:52:27.7±0.7, 1586N×9914W, h18km±24km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	Pinotepa	1.11	61	i P	Pn	09 52 44.2	-4.1
PNIG				i S	Sb	09 52 57.9	-4.6
PNIG	Pinotepa	1.11	61	i P	Pn	09 52 44.0	-4.4
PNIG				i S	Sb	09 52 56.4	-6.1
ACX	Acapulco	1.25	323	i P	Pn	09 52 35.0	-15
ACX				i S	Sb	09 52 49.5	-17
CAIG	El Cayaco	1.60	318	eP	Pn	09 52 55.3	+0.2
CAIG				eS	Sn	09 53 19.9	+4.5
CAIG	El Cayaco	1.60	318	i P	Pn	09 52 51.6	-3.6
CAIG				i S	Sn	09 53 11.6	-3.8
MEIG	Mezcala	2.11	347	eP	Pn	09 52 57.7	-4.4
MEIG				i S	Sn	09 53 24.3	-3.5
PLIG	Platanillo	2.54	352	eP	Pn	09 53 09.5	+1.4
PLIG				eS	Sn	09 53 43.0	+4.4
PLIG	Platanillo	2.54	352	i P	Pn	09 53 05.9	-2.2
PLIG				i S	Sn	09 53 35.1	-3.5
VHO	Vista Hermosa	2.61	62	i P	Pn	09 53 05.5	-3.5
VHO				i S	Sn	09 53 35.9	-4.2
VHO	Vista Hermosa	2.61	62	i P	Pn	09 53 06.6	-2.3
VHO				i S	Sn	09 53 36.8	-3.3
TPIG	Tehuac#an	3.06	33	i P	Pn	09 53 14.4	-0.8
TPIG				i S	Sn	09 53 49.7	-1.8
PPM	Popocatepetl	3.23	9	i P	Pn	09 53 22.2	+4.7
PPM				i S	Sn	09 53 58.8	+3.3
PPM	Popocatepetl	3.23	9	eP	Pn	09 53 11.5	-6.0
PPM				i P		09 53 19.0	
PPM				i S	Sn	09 53 53.2	-2.3

IDC 21 09:55:01.5±10.0, 2191N×14299E, h151km±100km, mb3.2/7, mb1 3.3/7, mb1mx3.2/20, mbtmp3.2/7, Error ellipse: s-maj=44.8km s-min=17.2km az=83.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.24	323	P	P	09 59 25.2	+0.3
	1.5nm,0.8s,baz=136,slow=11,SNR=7.0						
SONM	Songino Array	39.06	320	P	P	10 02 13.4	-0.2

1.5nm,0.6s,baz=90,slow=7.4,SNR=5.7
YKA Yellowknife Ar 76.35 28 P P 10 06 33.7 +0.1
0.9nm,0.7s,baz=293,slow=5.8,SNR=14

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*ISCJB **21** 10:11:29.9±1.0,3030N±003×3591E±006,h0km,Error ellipse: s-maj=7.0km s-min=4.3km az=173.7*
*SGS **21** 10:11:31.1,3045N×3570E,h7km*
*GII **21** 10:11:32.1±0.9,3033N×3574E,h0km,ML2.7/7*
ISC 21 10:11:30.3±1.0,3028N±003×3594E±006,h0km,n12,
σ0§78/19,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.71**	**293**	Pg	**Pg**	**10 11 43.9**	**-0.1**
ZFRI				Sg	**Sg**	**10 11 52.6**	**-0.6**
PRNI	**Paran**	**0.81**	**275**	Pg	**Pg**	**10 11 45.5**	**-0.3**
PRNI				Sg	**Sg**	**10 11 55.7**	**-0.7**
HRFI	**Mount Harif**	**0.82**	**253**	Pg	**Pg**	**10 11 45.9**	**-0.1**
HRFI				Sg	**Sg**	**10 11 56.7**	**+0.1**
MBH	**Mount Berech**	**1.01**	**241**	Pg	**Pg**	**10 11 50.5**	**+0.8**
MBH				Sg	**Sg**	**10 12 04.6**	**+1.7**
EIL	**Elat**	**1.05**	**235**	Pg	**Pg**	**10 11 50.6**	**+0.2**
EIL				Sg	**Sg**	**10 12 05.2**	**+1.1**
HQLS		**1.24**	**218**	S	**Sg**	**10 12 10.1**	**-0.1**
HQLS		**1.24**	**218**	P	**Pg**	**10 11 53.2**	**-0.9**
DSI	**Dead Sea**	**1.37**	**340**	Pg	**Pg**	**10 11 57.8**	**+1.2**
DSI				Sg	**Sg**	**10 12 15.5**	**+1.1**
KZIT	**Kziot**	**1.47**	**295**	Pg	**Pg**	**10 11 57.2**	**-1.3**
KZIT				Sg	**Sg**	**10 12 16.9**	**-0.7**
JLOS		**1.59**	**194**	S	**Sn**	**10 12 20.8**	**-0.2**
JLOS		**1.59**	**194**	P	**Pn**	**10 11 59.6**	**-0.1**
RSHS		**2.21**	**207**	P	**Pn**	**10 12 07.4**	**-0.9**

IDC 21 10:21:35.2±11.0,2175N×14295E,h182km±112km,
mb3.2/7,mb1 3.4/7,mb1mx3.3/19,mbtmp3.2/7,MS3.2/1,
Ms1 3.2/1,ms1mx2.5/31,Error ellipse: s-maj=48.7km
s-min=15.7km az=87.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.31**	**294**	LR	LR	10 29 29.7	
	comp=Z,96nm,19.1s,baz=191,slow=33						
KSRS	**Korea Array**	**20.35**	**324**	P	P	10 25 57.8	+0.3
	0.8nm,0.6s,baz=148,slow=7.8,SNR=5.1						
SONM	**Songino Array**	**39.16**	**321**	P	P	10 28 44.9	-0.2
	0.8nm,0.6s,baz=122,slow=5.6,SNR=4.0						
WRA	**Warramunga Arr**	**42.28**	**192**	P	P	10 29 10.9	0.0
	1.8nm,0.9s,baz=17,slow=8.5,SNR=7.7						
ASAR	**Alice Springs**	**45.99**	**192**	P	P	10 29 40.3	0.0
	0.9nm,0.6s,baz=17,slow=10,SNR=16						
MKAR	**Makanchi Array**	**54.51**	**313**	P	P	10 30 44.3	+0.2
	0.5nm,0.7s,baz=92,slow=9.7,SNR=3.7						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	P	10 33 05.0	+0.2
	0.4nm,0.5s,baz=293,slow=5.9,SNR=11						
NVAR	**Mina Array Bea**	**83.28**	**51**	P	P	10 33 41.7	0.0
	0.3nm,0.3s,baz=309,slow=19,SNR=2.9						

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*ISCJB **21** 10:23:19.9±0.3,4157N±002×4613E±002,h10km,Error ellipse: s-maj=3.1km s-min=2.4km az=13.4*
*TIF **21** 10:23:19.8,4129N×4597E,h19km±1km*
*CSEM **21** 10:23:19.1±0.4,4158N×4619E,h5km,mb3.9,Error ellipse: s-maj=8.4km s-min=7.2km az=100.0*
*MOS **21** 10:23:20.7±2.1,4164N×4623E,h14km,mb3.9/1,Error ellipse: s-maj=12.0km s-min=8.9km az=94.7*
ISC 21 10:23:19.5±0.4,4155N±002×4613E±002,h0km±5km,n28,
σ1§20/52,Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGRG	**David-gareji**	**0.58**	**261**	P	**Pg**	**10 23 32.0**	**+1.5**
DGRG				S	**Sg**	**10 23 39.1**	**+1.1**
SEKA	**Sheki**	**0.87**	**113**	P	**Pg**	**10 23 36.3**	**+0.1**
	SNR=20						
SEKA				S	**Sg**	**10 23 48.9**	**+1.4**
GANJ	**Ganja**	**0.91**	**171**	P	**Pg**	**10 23 35.1**	**-1.9**
	SNR=5.5						
GANJ				S	**Sg**	**10 23 46.5**	**-2.3**
KMKR	**Kumukh**	**0.93**	**51**	*e*PG	**Pg**	**10 23 37.0**	**-0.3**
KMKR				*e*S	**Sg**	**10 23 52.0**	**+2.7**
KMKR				pmax	pmax		
	comp=Z,49nm,0.2s						
KMKR	**Kumukh**	**0.93**	**51**	*e*Pg	**Pg**	**10 23 37.0**	**-0.3**
	comp=Z,49nm,0.2s						
KMKR				*e*Sg	**Sg**	**10 23 52.0**	**+2.7**
MTA	**Mtatsminda**	**1.01**	**279**	P	**Pg**	**10 23 38.3**	**-0.6**
MTA				S	**Sg**	**10 23 52.1**	**+0.1**
GNBR	**Gunib**	**1.04**	**36**	*e*PG	**Pg**	**10 23 36.2**	**-3.3**
GNBR				*i* S	**Sg**	**10 23 52.0**	**-1.1**
GNBR				pmax	pmax		
	comp=Z,53nm,0.2s						
GNBR	**Gunib**	**1.04**	**36**	*e*Pg	**Pg**	**10 23 36.2**	**-3.3**
	comp=Z,53nm,0.2s						
GNBR				*i* Sg	**Sg**	**10 23 52.0**	**-1.1**
TBLG	**Delisi**	**1.06**	**280**	*e*PG	**Pg**	**10 23 39.2**	**-0.6**
TBLG				*e*S	**Sg**	**10 23 53.8**	**+0.3**
TBLG	**Delisi**	**1.06**	**280**	P	**Pg**	**10 23 39.2**	**-0.6**
TBLG				S	**Sg**	**10 23 53.8**	**+0.3**
BTLR	**Botlikh**	**1.12**	**4**	*e*PG	**Pg**	**10 23 38.5**	**-2.4**
BTLR				*e*S	**Sg**	**10 23 55.5**	**+0.1**
UNCR	**Uncukul**	**1.27**	**23**	*i* PG	**Pg**	**10 23 42.3**	**-1.4**
UNCR				*e*S	**Sg**	**10 24 01.3**	**+1.2**
UNCR				pmax	pmax		
	comp=Z,39nm,0.3s						
UNCR	**Uncukul**	**1.27**	**23**	*i* Pg	**Pg**	**10 23 42.3**	**-1.4**
	comp=Z,39nm,0.3s						
UNCR				*e*Sg	**Sg**	**10 24 01.3**	**+1.2**
URKR	**Urkarakh**	**1.28**	**61**	*e*Pg	**Pg**	**10 23 42.0**	**-2.0**
URKR				*i* Sg	**Sg**	**10 24 00.5**	**-0.1**
KSMR	**Kasumkent**	**1.50**	**87**	*e*PG	**Pg**	**10 23 48.5**	**+0.3**
KSMR				*e*S	**Sg**	**10 24 12.5**	**+4.8**
BRDA	**Brd**	**1.51**	**148**	P	**Pn**	**10 23 46.8**	**-0.9**
	SNR=3.6						
BRDA				S	**Sg**	**10 24 08.7**	**+0.7**
DBC	**Dubki**	**1.56**	**19**	*e*PG	**Pn**	**10 23 46.0**	**-2.4**
DBC				*i* S	**Sn**	**10 24 09.0**	**-0.3**
GOR	**Gori**	**1.57**	**287**	P	**Pn**	**10 23 48.1**	**-0.5**
GOR				S	**Sn**	**10 24 08.8**	**-0.7**
SNJR	**Sundja**	**1.81**	**328**	*e*PN	**Pg**	**10 23 55.1**	**+1.0**
SNJR				*e*S	**Sg**	**10 24 22.0**	**+4.5**
SNJR	**Sundja**	**1.81**	**328**	*e*Sg	**Sg**	**10 24 22.0**	**+4.5**
VLKR	**Vladikavkaz**	**1.84**	**325**	*e*PN	**Pg**	**10 23 55.2**	**+0.4**
VLKR				*e*S	**Sg**	**10 24 21.9**	**+3.2**
LACR	**Lac**	**1.87**	**314**	*i* Pn	**Pn**	**10 23 53.7**	**+1.1**
LACR				*i* Sg	**Sg**	**10 24 19.2**	**-0.3**
PQL	**Pirkuli**	**2.01**	**111**	P	**Pb**	**10 23 57.6**	**+0.8**
	SNR=3.6						
PQL				S	**Sb**	**10 24 24.0**	**+1.7**
ZEI	**Tsey**	**2.06**	**307**	*e*Pn	**Pn**	**10 23 54.4**	**-0.8**
ARNR	**Ardon**	**2.14**	**321**	*e*PN	**Pn**	**10 23 56.9**	**+0.6**
ARNR				*e*S	**Sb**	**10 24 25.3**	**-0.7**
SIZA	**Siyzn**	**2.14**	**102**	P	**Pb**	**10 23 59.8**	**+0.8**
	SNR=5.3						
ONI	**Oni**	**2.25**	**298**	P	**Pn**	**10 24 00.0**	**+2.2**
ONI				S	**Sb**	**10 24 29.3**	**+0.2**
NAX	**Nakhchivan**	**2.42**	**192**	S	**Sb**	**10 24 34.0**	**-0.2**

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*IDC **21** 10:29:07.5±3.1,1324N×8850W,h60km±28km,mb3.7/8, mb1 3.9/9,mb1mx3.7/21,mbtmp3.7/9,ML3.9/1,MS3.0/2, Ms1 3.0/2,ms1mx2.4/33,Error ellipse: s-maj=41.4km s-min=12.9km az=56.0*
*ISCJB **21** 10:29:08.5±1.0,1311N±008×8866W±01,h87km±10km, mb4.0/9,Error ellipse: s-maj=20.3km s-min=6.1km az=143.0*
*CASC **21** 10:29:08.0±1.9,1298N×8880W,h51km±21km,MD4.2, ML4.0,mb3.8(NEIC)*
*NEIC **21** 10:29:10.1±1.8,1307N×8863W,h90km±16km,mb3.8/1, Error ellipse: s-maj=31.2km s-min=9.2km az=58.0*
ISC 21 10:29:09.8±0.9,1316N±008×8866W±01,h80km±10km,n56,
σ1§16/52,mb4.0/9,4C-12D,El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VSM	**San Miguel**	**0.42**	**51**	*e*P	x	10 29 22.4	
VSM				⇓*i*P	x	10 29 22.4	
BLLM	**Bellamira**	**0.46**	**53**	⇓*e*P	x	10 29 22.6	
BLLM				*e*P	x	10 29 22.8	
BLLM				*e*S	x	10 29 33.5	
SNVI	**San Vicente**	**0.50**	**334**	*e*P	x	10 29 21.3	
SNVI				*e*S	x	10 29 30.6	
LCBS	**La Ceiba**	**0.60**	**324**	⇓*i*P	x	10 29 21.8	
LCBS				*e*P	x	10 29 21.9	
LFRS	**El Faro**	**0.63**	**317**	*e*P	x	10 29 21.7	
LBRS	**Las Brisas**	**0.71**	**324**	⇓*i*P	x	10 29 23.3	
LBRS				*e*P	x	10 29 23.3	
CAHU	**Cacacuatique**	**0.72**	**33**	⇓*i*P	x	10 29 26.2	
CAHU				*e*P	x	10 29 26.2	
CAHU				*e*S	x	10 29 39.1	
CNCH	**Conchagua**	**0.77**	**81**	*e*P	x	10 29 26.1	
CNCH				⇓*i*P	x	10 29 26.1	
CNCH				*e*S	x	10 29 40.0	
BOQS	**Boqueron**	**0.86**	**311**	⇑*i*P	x	10 29 24.4	
BOQS				*e*P	x	10 29 24.5	
BOQS				*e*S	x	10 29 37.1	
SBLS	**San Blas**	**1.19**	**305**	⇓*i*P	x	10 29 28.7	
SBLS				*e*P	x	10 29 28.7	
SBLS				*e*S	x	10 29 44.6	
SNJE	**San Jose**	**1.19**	**306**	*e*P	x	10 29 28.3	
SNJE				*e*S	x	10 29 44.2	
RBDL	**Robledal**	**1.41**	**312**	⇓*i*P	x	10 29 33.2	
MTO2	**Montecristo 2**	**1.43**	**330**	*e*P	x	10 29 33.1	
MTO2				⇓*i*P	x	10 29 33.2	
MTO2				*e*S	x	10 29 52.0	
TGUH	**Tegucigalpa,Un**	**1.58**	**56**	⇓*i*Pn	**Pn**	**10 29 37.9**	**+1.7**
TEL3	**Telica 3**	**1.82**	**109**	⇑*e*P	**Pn**	**10 29 38.8**	**-0.6**
TEL3				*e*S	**Sn**	**10 30 01.1**	**-0.7**
TELN	**Telica**	**1.82**	**107**	*e*P	**Pn**	**10 29 38.7**	**-0.6**
CNGN	**Cerro Negro**	**1.98**	**109**	*e*P	**Pn**	**10 29 40.7**	**-0.7**
CNGN				*e*S	**Sn**	**10 30 06.8**	**+1.3**
CNGN				*i*		10 30 10.7	
	comp=N,4μm,0.2s						
MOMJ	**Momotombo**	**2.16**	**110**	*e*P	**Pn**	**10 29 42.9**	**-0.9**
COPN	**Copaltepe**	**2.20**	**116**	*e*P	**Pn**	**10 29 42.9**	**-1.4**
CSAN		**2.35**	**114**	*e*P	**Pn**	**10 29 45.8**	**-0.5**
TISN	**Laguna Tiscapa**	**2.50**	**114**	*e*P	**Pn**	**10 29 47.7**	**-0.7**
HUEN		**2.52**	**109**	*e*P	**Pn**	**10 29 48.2**	**-0.5**
MGAN	**Managua**	**2.52**	**113**	*e*P	**Pn**	**10 29 48.4**	**-0.3**
MGAN				*e*S	**Sn**	**10 30 16.6**	**-1.9**
	comp=E,1μm,0.5s						
MGAN				*e*S	**Sn**	**10 30 17.0**	**-1.5**
	comp=N,756nm,0.3s						
CRUN	**El Crucero**	**2.54**	**117**	*e*P	**Pn**	**10 29 49.4**	**+0.4**
CRUN				*e*S	**Sn**	**10 30 17.3**	**-1.8**
APON	**Apoyo**	**2.78**	**116**	⇑*e*P	**Pn**	**10 29 52.1**	**0.0**
BOAB	**BOACO BROADBAN**	**2.96**	**103**	⇓*e*P	**Pn**	**10 29 54.1**	**-0.5**
SSNN	**San Juan del S**	**3.28**	**124**	*e*P	**Pn**	**10 29 58.3**	**-0.7**
SSNN				*e*S	**Sn**	**10 30 37.3**	**+0.3**
CONN	**Concepcion**	**3.32**	**118**	*e*P	**Pn**	**10 29 59.6**	**+0.1**
MADN	**Villa Maderas**	**3.48**	**120**	*e*P	**Pn**	**10 29 60.0**	**-1.7**
MADN				*e*S	**Sn**	**10 30 42.5**	**+0.7**
VCR	**Vista de Mar**	**4.20**	**136**	*e*P	**Pn**	**10 30 09.7**	**-1.7**
JTS	**JuntasAbangare**	**4.58**	**128**	P	**Pn**	**10 30 15.0**	**-1.6**
	comp=N,5.7nm,0.3s,baz=303,slow=22,SNR=36						
JTS				S	**Sn**	**10 31 04.7**	**-4.0**
	baz=315,slow=22,SNR=3.2						
JCR	**Jicaral**	**4.75**	**133**	⇓*e*P	**Pn**	**10 30 19.2**	**+0.1**
CGA2	**Cerro Gallo 2**	**5.13**	**127**	*e*P	**Pn**	**10 30 24.7**	**+0.6**
CGA2				*e*S	**Sn**	**10 31 20.6**	**-1.4**
PRS1	**Puriscal**	**5.27**	**126**	*e*P	**Pn**	**10 30 27.8**	**+1.7**
PRS1				*e*S	**Sn**	**10 31 27.5**	**+2.0**
LCR2	**La Lucha 2**	**5.66**	**126**	*e*P	**Pn**	**10 30 32.4**	**+1.1**
LCR2				*e*S	**Sn**	**10 31 34.1**	**-0.8**
URSC	**Urasca**	**5.78**	**124**	*e*P	**Pn**	**10 30 35.1**	**+2.1**
URSC				*e*S	**Sn**	**10 31 39.4**	**+1.4**
BUS	**Buena Vista**	**5.96**	**126**	*e*P	**Pn**	**10 30 37.0**	**+1.6**
BUS				*e*S	**Sn**	**10 31 44.5**	**+2.1**
BAR1		**6.50**	**126**	*e*P	**Pn**	**10 30 44.1**	**+1.2**
BAR1				*e*S	**Sn**	**10 31 56.8**	**+1.2**
TEIG	**Tepich**	**7.03**	**3**	P	**Pn**	**10 30 52.7**	**+2.6**
	comp=N,4.8nm,0.3s,baz=164,slow=3.1,SNR=36						
TEIG				LR	LR	10 34 03.5	
	comp=N,86nm,21.4s,baz=360,slow=43						
CHI2		**16.95**	**119**	⇑*e*P	Px	10 29 35.7	
JCT	**Junction City**	**20.10**	**331**	*e*P	**P**	**10 33 37.5**	**+0.4**
	comp=N,2.6nm,0.5s						
TXAR	**Lajitas Array**	**21.31**	**321**	P	**P**	**10 33 51.3**	**+1.2**
	comp=N,1.1nm,0.5s,mb3.4,baz=143,slow=11,SNR=26						
TXAR				PcP	PcP	10 37 52.3	+0.4
	comp=N,0.2nm,0.7s,baz=159,slow=5.2,SNR=3.0						
ATAH	**Atahualpa**	**22.46**	**153**	LR	LR	10 41 36.8	
	comp=N,58nm,21.9s,baz=339,slow=33						
LPAZ	**La Paz**	**35.58**	**145**	P	**P**	**10 36 00.7**	**+0.9**
	comp=N,0.5nm,0.6s,mb3.7,baz=349,slow=10,SNR=3.4						
NVAR	**Mina Array Bea**	**36.42**	**319**	P	**P**	**10 36 04.9**	**-1.8**
	comp=N,0.5nm,0.6s,mb3.7,baz=127,slow=10,SNR=2.3						
NVAR				PcP	PcP	10 38 29.0	-0.5
	comp=N,0.9nm,0.6s,baz=127,slow=3.9,SNR=4.1						
ULM	**Lac du Bonnet**	**37.46**	**352**	P	**P**	**10 36 14.4**	**-1.0**
	comp=N,2.1nm,0.6s,mb4.3,baz=186,slow=6.6,SNR=5.2						
EGMT	**Eagleton**	**38.96**	**337**	*e*P	**P**	**10 36 28.9**	**+0.9**
	comp=N,6.4nm,0.5s,mb4.7						
SIV	**San Ignacio**	**39.76**	**136**	P	**P**	**10 36 34.6**	**-0.4**
	comp=N,1.7nm,0.6s,mb4.0,baz=310,slow=8.0,SNR=14						
SIV				PcP	PcP	10 38 40.0	-0.1
	comp=N,0.9nm,0.5s,baz=263,slow=3.3,SNR=5.9						
EDM	**Edmonton**	**44.54**	**339**	*e*P	**P**	**10 37 13.5**	**+0.1**
SCHQ	**Schefferville**	**44.94**	**18**	P	**P**	**10 37 15.7**	**-0.9**
	comp=N,3.7nm,0.8s,mb4.2,baz=235,slow=11,SNR=6.2						
BDFB	**Brasilia**	**49.31**	**124**	P	**P**	**10 37 50.4**	**-0.8**
	comp=N,1.1nm,0.5s,mb4.1,baz=269,slow=21,SNR=3.3						
YKA	**Yellowknife Ar**	**52.63**	**345**	P	**P**	**10 38 15.0**	**-0.4**
YKA				PcP	PcP	10 39 22.9	-1.5
YKA	**Yellowknife Ar**	**52.63**	**345**	P	**P**	**10 38 15.0**	**-0.4**
	comp=N,1.5nm,0.4s,mb4.4,baz=141,slow=7.6,SNR=79						
YKA				PcP	PcP	10 39 22.9	-1.5
	comp=N,0.3nm,0.6s,baz=150,slow=3.8,SNR=4.1						
WRA	**Warramunga Arr**	**138.37**	**255**	PKP	PKPdf	10 48 25.7	-1.1
	comp=N,0.6nm,0.5s,baz=89,slow=1.9,SNR=5.7						
ASAR	**Alice Springs**	**138.47**	**249**	PKnKP		10 48 23.9	
	comp=N,0.2nm,0.5s,baz=115,slow=2.9,SNR=3.0						
FITZ	**Fitzroy Crossi**	**146.68**	**257**	PKPbc	PKPbc	10 48 43.7	+0.3
	comp=N,0.7nm,0.5s,baz=116,slow=3.9,SNR=3.9						

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*IDC **21** 10:40:04.2±0.8,0.96N×126.16E,h0km,mb3.9/5,mb1 4.1/6, mb1mx3.9/16,mbtmp3.9/6,ML3.5/1,Error ellipse: s-maj=57.3km s-min=17.4km az=76.0*
*NEIC **21** 10:40:05.5±0.4,0.95N×126.14E,h10km,mb4.1/2,Error ellipse: s-maj=28.3km s-min=7.4km az=74.0*
*ISCJB **21** 10:40:06.7±0.6,0.9N±0.1×126.0E±0.3,h33km,mb4.0/7, Error ellipse: s-maj=41.8km s-min=10.6km az=164.0*
ISC 21 10:40:09.0±0.6,0.9N±01×1261E±03,h35km,n14,σ0§62/11,
mb4.0/7,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**18.89**	**181**	P	**Pn**	**10 44 26.6**	**-0.8**
	0.1nm,0.3s,baz=46,slow=10,SNR=3.6						
WRAB	**Tennant Creek**	**22.22**	**159**	*e*P	**P**	**10 45 03.1**	**+0.5**
	6.1nm,0.7s,mb4.1						
WRA	**Warramunga Arr**	**22.23**	**159**	P	**P**	**10 45 02.2**	**-0.5**
	4.0nm,0.8s,mb3.9,baz=338,slow=11,SNR=54						
WB2	**Warramunga Arr**	**22.23**	**159**	*e*P	**P**	**10 45 02.3**	**-0.4**
ASAR	**Alice Springs**	**25.57**	**163**	P	**P**	**10 45 36.1**	**+1.4**
	1.3nm,0.3s,mb3.9,baz=344,slow=12,SNR=35						
ASAR				PcP	PcP	10 49 06.5	+1.0
	0.5nm,0.6s,baz=340,slow=2.2,SNR=5.6						
MJAR	**Matsushiro Arr**	**37.18**	**16**	P	**P**	**10 47 16.2**	**-0.6**
MJAR	**Matsushiro Arr**	**37.18**	**16**	P	**P**	**10 47 16.2**	**-0.6**
	1.6nm,0.5s,mb4.1,baz=186,slow=9.5,SNR=5.8						
SONM	**Songino Array**	**49.78**	**343**	P	**P**	**10 48 58.7**	**+0.6**
	0.5nm,0.6s,mb3.7,baz=155,slow=7.2,SNR=3.4						
SONM				PcP	PcP	10 50 20.1	+1.5
	0.2nm,0.5s,baz=132,slow=2.2,SNR=4.1						
MK31	**Makanchi Array**	**59.54**	**326**	*e*P	**P**	**10 50 09.1**	**+0.2**
MKAR	**Makanchi Array**	**59.54**	**326**	P	**P**	**10 50 08.8**	**-0.1**
	1.4nm,0.4s,mb4.3,baz=120,slow=8.1,SNR=15						
MKAR				PcP	PcP	10 50 57.0	+0.9
	1.0nm,0.9s,baz=137,slow=4.9,SNR=2.9						
KURK	**Kurchatov**	**63.80**	**329**	*e*P	**P**	**10 50 37.2**	**-0.3**
	0.6nm,0.4s,mb4.0						
TORD	**Torodi Ar. Bea**	**123.18**	**286**	PKP	PKPdf	10 59 03.7	+0.6
TORD	**Torodi Ar. Bea**	**123.18**	**286**	PKP	PKPdf	10 59 03.7	+0.6
	0.7nm,0.8s,baz=32,slow=2.3,SNR=4.1						
TXAR	**Lajitas Array**	**123.77**	**53**	PKP	PKPdf	10 59 04.9	+1.0
	0.1nm,0.4s,baz=17,slow=1.3,SNR=4.1						

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*GRAL **21** 11:37:44.7±1.8,3447N×3684E,h0km±499km,MD2.9*
*CSEM **21** 11:37:45.3±0.6,3441N×3676E,h8km,Mc1.4,Error ellipse: s-maj=13.8km s-min=4.3km az=112.0*
*NSSC **21** 11:37:49.6,3449N×3641E,h19km±23km*
ISC 21 11:37:45.8±1.8,3440N±004×368E±01,h14km±9km,n11,
σ0§77/19,2D,Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.32**	**293**	⇑P	**Pg**	**11 37 52.7**	**+0.4**
HAWK				⇑S	**Sg**	**11 37 56.2**	**-0.5**
HAWK	**Haweek**	**0.32**	**293**	⇑*i*P	**Pg**	**11 37 52.7**	**+0.4**
FKH	**Fakeheh**	**0.34**	**242**	*e*Pg	**Pg**	**11 37 51.5**	**-1.1**
FKH				*e*Sg	**Sg**	**11 37 57.0**	**-0.3**
HWQ	**Hawqa**	**0.68**	**260**	*e*Pg	**Pg**	**11 37 58.9**	**-0.1**
HWQ				*e*Sg	**Sg**	**11 38 08.8**	**+0.7**
BIDA	**Albida**	**0.71**	**330**	⇑P	**Pg**	**11 38 00.3**	**+0.6**
BIDA				⇑S	**Sg**	**11 38 09.4**	**+0.3**
BIDA	**Albida**	**0.71**	**330**	⇑*i*P	**Pg**	**11 38 00.3**	**+0.6**
BHL	**Bhannes**	**1.04**	**242**	*e*Pg	**Pg**	**11 38 05.1**	**-0.7**
RCY	**Rachaya**	**1.20**	**221**	*e*Pg	**Pg**	**11 38 07.8**	**-1.0**
RCY				*e*Sg	**Sg**	**11 38 26.0**	**+1.6**
SLNF	**Slenfeh**	**1.27**	**340**	⇑P	**Pn**	**11 38 09.9**	**+0.8**
SLNF				⇓S	**Sb**	**11 38 25.4**	**-0.4**
SLNF	**Slenfeh**	**1.27**	**340**	⇑*i*P	**Pn**	**11 38 09.9**	**+0.7**
SLNF				⇓*i*S	**Sb**	**11 38 25.5**	**-0.3**
ARNB	**Al Arnab**	**1.60**	**336**	⇑P	**Pn**	**11 38 14.3**	**+0.8**
ARNB				⇑S	**Sn**	**11 38 33.0**	**-1.0**

IDC 21 11:40:44.7±57.0,1687S×17974W,h0km,mb4.1/3,
mb1 4.3/3,mb1mx3.7/14,mbtmp4.1/3,Error ellipse:
s-maj=1032.0km s-min=143.2km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**38.03**	**240**	*e*P	P	11 48 05.7	+0.8
	3.8nm,1.0s						
STKA	**Stephens Creek**	**38.03**	**240**	P	P	11 48 05.3	+0.4
	1.3nm,0.5s,baz=87,slow=10.0,SNR=8.7						
WB2	**Warramunga Arr**	**43.57**	**259**	*e*P	P	11 48 50.4	-0.3
WRA	**Warramunga Arr**	**43.58**	**259**	P	P	11 48 50.5	-0.3
	0.2nm,0.3s,baz=94,slow=7.7,SNR=14						
ASAR	**Alice Springs**	**43.86**	**253**	P	P	11 48 52.8	-0.2
	3.9nm,0.4s,baz=89,slow=7.9,SNR=123						
FITZ	**Fitzroy Crossi**	**51.95**	**260**	*e*P	P	11 49 54.2	-1.7
	3.5nm,1.6s						

IDC 21 11:41:07.9±6.1,2110S×6817W,h139km±33km,mb3.3/1,
mb1 3.3/4,mb1mx3.1/16,mbtmp3.2/4,Error ellipse:
s-maj=85.8km s-min=24.5km az=62.0,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**4.78**	**0**	P	Pn	11 42 18.8	+0.5
	0.8nm,0.3s,baz=198,slow=7.5,SNR=16						
LPAZ				S	Sn	11 43 14.9	+1.8
	0.3nm,0.3s,baz=88,slow=23,SNR=3.5						
SIV	**San Ignacio**	**8.43**	**54**	P	Pn	11 43 06.6	-0.6
	2.7nm,0.3s,baz=256,slow=10,SNR=27						
SIV				S	Sn	11 44 39.8	-1.1
	0.1nm,0.3s,baz=313,slow=23,SNR=3.9						
CFAA	**Coronel Fontan**	**10.47**	**180**	S	Sn	11 45 18.2	-12
	0.1nm,0.3s,baz=221,slow=18,SNR=4.3						
CPUP	**Villa Florida**	**11.21**	**120**	P	Pn	11 43 44.4	+0.3
	0.5nm,0.3s,baz=287,slow=13,SNR=2.7						
TORD	**Torodi Ar. Bea**	**76.57**	**70**	P	P	11 52 43.6	+0.1
	0.3nm,0.5s,baz=234,slow=5.0,SNR=4.4						
YKA	**Yellowknife Ar**	**91.04**	**340**	pP	pP	11 54 27.8	-3.6
	0.3nm,0.8s,baz=127,slow=4.9,SNR=4.0						

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*MOS **21** 11:49:29.6±0.2,55.16N×15971E,h362km,mb4.2/1,Error ellipse: s-maj=99.9km s-min=31.3km az=84.4*
KRSC 21 11:49:30.5±1.3,5509N×15982E,h346km±55km,ML4.0,
Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KII	**Karymskiy**	**1.08**	**192**	*e*P	Pn	11 50 17.6	+1.5
MKZ	**Mys Kozlova**	**1.23**	**115**	*e*P	Pn	11 50 18.4	+1.6
MKZ				*e*S	S	11 50 53.1	-0.8
GNL	**Ganaly**	**1.78**	**219**	*e*P	Pn	11 50 20.1	+0.2
AVH	**Avacha**	**1.94**	**200**	*e*P	Pn	11 50 22.9	+1.9
AVH				*e*S	S	11 51 01.7	+0.2
NLC	**Nalytchevo**	**1.94**	**188**	*e*P	Pn	11 50 22.5	+1.5
NLC				*

PAX	Paxson	7.42	185	P		Pn	12 26 21.0 +0.1
MENT	Mentasta	7.43	179	P		Pn	12 26 21.2 +0.2
SML	Sawmill	8.74	194	*e*Pn		Pn	12 26 38.0 -0.9
SML				*e*Sn		Sn	12 28 18.1 +0.7
TTA	Tatalina	8.81	219	*e*P		Pn	12 26 39.4 -0.6
TT01	Tatalina	8.84	218	P		Pn	12 26 39.2 -1.1
PMR	Palmer	9.02	196	*e*P		Pn	12 26 42.5 -0.3
	0.6nm,0.3s						
HYT	Haines Junctio	9.90	161	⇑Pn		Pn	12 26 56.0 +1.1
WHY	Whitehorse	10.40	154	⇑Pn		Pn	12 27 02.5 +0.8
SVW2	Sparrevohn	10.40	213	*e*Pn		Pn	12 27 00.9 -0.9
SKAG	Skagway	11.49	157	*e*Pn		Pn	12 27 19.4 +2.7
	5.9nm,0.6s						
DLBC	Dease Lake	13.32	147	Pn		Pn	12 27 41.5 0.0
	baz=349,slow=12						
DLBC	Dease Lake	13.32	147	⇓Pn		Pn	12 27 42.5 +0.9
YKW3	Yellowknife Ar	13.93	109	⇑Pn		Pn	12 27 47.4 -2.5
YKW3				⇑Sn		Sn	12 30 10.1 -14
YKA	Yellowknife Ar	13.98	110	Pn		Pn	12 27 47.4 -3.2
	1.4nm,0.3s,baz=312,slow=13,SNR=114						
YKA				Sn		Sn	12 30 14.4 -11
	1.8nm,0.3s,baz=318,slow=23,SNR=11						
FNBB	Fort Nelson	14.46	132	⇑Pn		Pn	12 27 55.1 -2.0
FNBB				⇓Sn		Sn	12 30 26.2 -11
RES	Resolute Bay	14.97	51	⇑Pn		Pn	12 28 02.8 -1.3
RES				⇓Sn		Sn	12 30 39.0 -11
EDM	Edmonton	22.02	125	*e*P		P	12 29 28.0 +1.1
FCC	Fort Churchill	23.55	94	*e*P		P	12 29 42.8 -0.1
	3.0nm,0.5s,mb4.0						
NVAR	Mina Array Bea	34.70	143	P		P	12 31 24.7 +2.4
	0.6nm,0.8s,mb3.6,baz=326,slow=7.4,SNR=4.3						
SCHQ	Schefferville	35.80	75	P		P	12 31 34.1 +2.5
	4.4nm,1.0s,mb4.3,baz=287,slow=13,SNR=5.0						
TPNV	Topopah Spring	36.55	141	*e*P		P	12 31 38.4 +0.1
	3.8nm,0.8s,mb4.3						
PLAL	Pickwick Lake	46.14	109	*e*P		P	12 32 57.7 +0.8
	6.3nm,0.7s,mb4.7						
TXAR	Lajitas Array	46.84	129	P		P	12 33 05.9 +3.4
	0.1nm,0.4s,mb3.1,baz=341,slow=7.6,SNR=3.0						
FINES	FINESS Array B	48.33	6	P		P	12 33 15.1 +1.4
FINES	FINESS Array B	48.33	6	P		P	12 33 15.1 +1.5
	0.6nm,0.5s,mb3.9,baz=352,slow=8.1,SNR=4.2						
CN2	Changchun	49.72	288	*e*P		P	12 33 23.3 -1.3
ZALV	Zalesovo Beam	51.17	325	P		P	12 33 36.6 +1.3
	1.0nm,0.4s,mb4.1,baz=352,slow=9.0,SNR=5.5						
SONM	Songino Array	51.78	306	P		P	12 33 42.7 +2.7
	0.3nm,0.5s,mb3.5,baz=20,slow=8.7,SNR=2.9						
BVAR	Borovoye Array	54.48	335	P		P	12 34 02.4 +2.6
	0.4nm,0.5s,mb3.6,baz=40,slow=7.5,SNR=3.2						
MKAR	Makanchi Array	58.48	324	LR		LR	13 00 49.9
	comp=Z,31nm,18.1s,MS3.5,baz=358,slow=37						
AKASG	Malin Array Be	59.18	5	P		P	12 34 34.1 +0.9
	0.4nm,0.4s,mb3.8,baz=354,slow=6.6,SNR=5.0						
NJ2	Nanjing	62.55	288	*e*P		P	12 34 57.6 +1.3
LZH	Lanzhou	63.37	303	*e*P		P	12 35 01.9 +0.1
LZH				AP		pP	12 35 06.8 +1.8
LZH				XP		sP	12 35 09.3 +3.1
LZH				AMB		AMB	
	comp=Z,16nm,1.0s,mb5.1						
LZH				AMB		AMB	
	comp=Z,42nm,6.7s						
LZH				LR		LR	
	comp=N,237nm,16.8s						
LZH				LR		LR	
	comp=Z,405nm,18.9s,MS4.6						
GYA	Guiyang	71.56	297	P		P	12 35 52.4 -1.3
GYA				AMB		AMB	
	comp=Z,10.0nm,1.0s,mb4.7						
KMI	Kunming	73.98	300	P		P	12 36 06.6 -1.5
KMI				AP		pP	12 36 11.0 -0.4
KMI				AMB		AMB	
	comp=Z,9.0nm,1.4s,mb4.5						
KMI				LR		LR	
	comp=Z,40nm,17.3s,MS3.8						
CSS	Prodhromos	74.99	2	*e*P		P	12 36 11.2 -2.6
	comp=Z,83nm,0.6s						

IDC 21 12:43:33.8±24.0, 2227N×14305E, h194km±183km, mb3.1/5, mb1 3.4/5, mb1mx3.2/18, mbtmp3.1/5, Error ellipse: s-maj=192.5km s-min=41.1km az=179.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	19.99	323	P		P	12 47 51.7 +0.3
	1.4nm,0.7s,baz=147,slow=9.2,SNR=9.1						
SONM	Songino Array	38.82	320	P		P	12 50 39.5 -0.3
	0.5nm,0.6s,baz=116,slow=6.7,SNR=3.5						
MKAR	Makanchi Array	54.22	312	P		P	12 52 39.6 +0.2
	0.4nm,0.6s,baz=76,slow=7.7,SNR=3.0						
YKA	Yellowknife Ar	76.01	28	P		P	12 54 59.3 0.0
	0.8nm,0.6s,baz=291,slow=5.6,SNR=11						
NVAR	Mina Array Bea	82.89	51	P		P	12 55 37.4 +0.5
	0.5nm,0.7s,baz=256,slow=4.8,SNR=5.7						

*ISCJB **21** 12:53:47.8±1.6, 592S×006×13073E±007, h121km±16km, mb4.4/18, Error ellipse: s-maj=11.8km s-min=8.8km az=142.2*
*NEIC **21** 12:53:47.5±1.5, 583S×13070E, h99km±14km, mb4.4/10, Error ellipse: s-maj=12.2km s-min=9.1km az=83.0*
*IDC **21** 12:53:48.1±3.8, 583S×13066E, h102km±36km, mb4.0/10, mb1 4.2/13, mb1mx4.2/16, mbtmp4.1/13, MS2.9/2, Ms1 2.9/2, ms1mx2.7/27, Error ellipse: s-maj=30.5km s-min=12.6km az=78.0*

ISC 21 12:53:47.5±1.6, 586S±007×13075E±007, h97km±17km, n43, σ0°79/47, mb4.4/18, 1C, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.01	166	⇑*i*P		Pn	12 55 29.4 +1.8
	126nm,0.3s						
KAKA				*e*S		Sn	12 56 43.9 -1.9
BATI	Kupang	8.23	238	P		Pn	12 55 48.5 +4.2
	136nm,0.3s,baz=125,slow=1.3,SNR=136						
BATI				S		Sn	12 57 16.1 +0.4
	29nm,0.3s,baz=224,slow=23,SNR=4.3						
FITZ	Fitzroy Crossi	13.15	202	*e*P		Pn	12 56 49.0 -1.5
	32nm,0.2s						
FITZ				*e*S		Sn	12 59 04.1 -11
FITZ	Fitzroy Crossi	13.15	202	P		Pn	12 56 49.9 -0.6
	8.7nm,0.3s,baz=34,slow=13,SNR=143						
FITZ				S		Sn	12 59 04.6 -11
	9.2nm,0.3s,baz=61,slow=18,SNR=4.9						
FITZ				LR		LR	13 01 59.9
	comp=Z,32nm,21.0s,baz=212,slow=37						
WRAB	Tennant Creek	14.42	166	*e*Pn		Pn	12 57 06.3 -0.7
	26nm,0.8s						
WRA	Warramunga Arr	14.43	166	P		Pn	12 57 06.6 -0.6
	1.1nm,0.3s,baz=351,slow=13,SNR=86						
WRA				S		Sn	12 59 36.1 -10
	8.1nm,0.3s,baz=341,slow=20,SNR=9.5						
WB2	Warramunga Arr	14.43	166	*e*P		Pn	12 57 04.0 -3.2
WB2				*e*S		Sn	12 59 38.6 -7.6
WB2	Warramunga Arr	14.43	166	*e*Pn		Pn	12 57 06.6 -0.6
WB2				*e*S		Sn	12 59 38.6 -7.6
COEN	Coen	14.64	124	*e*Pn		Pn	12 57 10.8 +0.9
	22nm,0.6s						
ASAR	Alice Springs	17.96	171	P		Pn	12 57 51.6 +0.7
	6.4nm,0.3s,baz=350,slow=9.2,SNR=316						
ASAR				S		S	13 01 01.5 -10
	1.4nm,0.3s,baz=351,slow=28,SNR=5.6						
MBWA	Marble Bar	18.58	214	*e*P		Pn	12 57 58.4 0.0
	27nm,0.6s						
CTA	Charters Tower	20.67	135	*e*P		P	12 58 21.2 +1.5
	9.1nm,0.6s						
CTA	Charters Tower	20.67	135	P		P	12 58 21.6 +1.9
	10nm,0.6s,baz=313,slow=11,SNR=20						
CTAO	Charters Tower	20.67	135	*e*P		P	12 58 20.9 +1.2
	11nm,0.7s						
FORT	Forrest	24.92	185	*e*P		P	12 59 01.7 +0.1
	22nm,0.7s,mb4.7						
STKA	Stephens Creek	27.80	160	*e*P		P	12 59 27.7 +0.2
	1.5nm,0.2s,mb4.2						
STKA	Stephens Creek	27.80	160	P		P	12 59 27.8 +0.3
	2.1nm,0.3s,mb4.2,baz=329,slow=13,SNR=51						
KLBR	Kellerberrin	28.34	204	*e*P		P	12 59 32.9 +0.6
	28nm,0.6s,mb5.0						
HNR	Honiara	29.15	99	LR		LR	13 10 03.5
	comp=Z,52nm,21.8s,baz=180,slow=33						
MUN	Mundaring	29.33	206	*e*P		P	12 59 41.3 +0.2
NWAO	Narrogin (SRO)	29.73	203	P		P	12 59 45.0 +0.4
	3.8nm,0.4s,mb4.4,baz=35,slow=14,SNR=16						
MJAR	Matsushiro Arr	42.76	9	P		P	13 01 34.0 -1.3
	2.6nm,0.8s,mb4.0,baz=185,slow=9.7,SNR=9.6						
KSRS	Korea Array	43.17	357	P		P	13 01 38.9 +0.3
	1.8nm,0.5s,mb4.1,baz=174,slow=8.8,SNR=11						
JIRN	Jiri	54.41	310	*e*P		P	13 03 05.2 +0.3
	6.8nm,0.4s,mb5.0						
GUN	Gumba	54.78	310	*e*P		P	13 03 07.6 +0.1
	22nm,0.6s,mb5.3						
PKI	Pulchoki	54.96	310	*e*P		P	13 03 08.9 0.0
KKN	Kakani	55.17	310	*e*P		P	13 03 10.4 0.0
DMN	Daman	55.22	309	*e*P		P	13 03 10.8 +0.1
GKN	Gorkha	55.77	310	*e*P		P	13 03 14.3 -0.4
KOLN	Koldanda	56.46	309	*e*P		P	13 03 19.6 +0.1
	14nm,0.6s,mb5.1						
DANN	Dangsing	56.62	309	*e*P		P	13 03 20.4 -0.3
ULN	Ulaanbaatar	57.42	341	*e*P		P	13 03 26.6 +0.7
	3.3nm,0.8s,mb4.4						
SONM	Songino Array	57.61	341	P		P	13 03 27.8 +0.5
	1.4nm,0.6s,mb4.2,baz=158,slow=6.5,SNR=9.7						
MKAR	Makanchi Array	67.69	326	P		P	13 04 34.6 +0.3
	5.1nm,0.5s,mb4.6,baz=113,slow=8.0,SNR=38						
TKM2	Tokmak 2	69.59	320	*e*P		P	13 04 46.3 +0.1
	2.9nm,0.6s,mb4.3						
AML	Almayashu	70.45	319	*e*P		P	13 04 51.8 +0.3
	5.5nm,0.8s,mb4.4						
ZALV	Zalesovo Beam	70.90	333	P		P	13 04 53.1 -0.8
	2.3nm,0.6s,mb4.2,baz=120,slow=4.3,SNR=8.1						
VNDA	Vanda	73.48	173	P		P	13 05 09.2 +0.1
	1.2nm,0.6s,mb3.9,baz=308,slow=8.2,SNR=7.6						
TIXI	Tiksi	77.36	359	*e*P		P	13 05 30.0 -1.2
	3.4nm,0.6s,mb4.2						
BVAR	Borovoye Array	77.50	327	P		P	13 05 31.2 -1.1
	1.3nm,0.6s,mb3.8,baz=116,slow=6.8,SNR=7.3						
TORD	Torodi Ar. Bea	129.31	282	PKP		PKPdf	13 12 44.6 -1.0
	0.4nm,0.4s,baz=83,slow=2.1,SNR=6.6						
CPUP	Villa Florida	147.06	167	PKPbc		PKPbc	13 13 18.9 -1.0
	2.1nm,0.7s,baz=235,slow=1.8,SNR=4.8						
LPAZ	La Paz	151.13	140	PKPbc		PKPbc	13 13 31.3 +0.9
	2.0nm,0.6s,baz=69,slow=2.2,SNR=9.1						

*ISCJB **21** 12:54:46.6±0.5, 1872N±004×12262E±007, h10km, mb3.7/4, Error ellipse: s-maj=9.9km s-min=4.7km az=30.0*
*MAN **21** 12:54:50, 1855N×12257E, h20km, mb4.7, ML3.5, MS3.5*
*IDC **21** 12:55:01.0±9.6, 1945N×12271E, h78km±65km, mb3.4/4, mb1 3.6/7, mb1mx3.4/22, mbtmp3.5/7, ML3.8/3, Error ellipse: s-maj=83.8km s-min=39.5km az=174.0*

ISC 21 12:54:47.6±1.2, 1871N±005×12257E±007, h5km±7km, n23, σ1°08/32, mb3.7/4, 4C-1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	Mt. Cagua	0.69	227	*e*P		Pg	12 55 01.7 +0.9
SGCP				*e*S		Sg	12 55 10.1 +0.4
CVP	Callao Caves	1.23	215	⇓*i*P		Pb	12 55 09.8 -1.6
CVP				*i*S		Sg	12 55 24.9 -2.3
APYP	Conner	1.52	236	*e*P		Pn	12 55 14.7 -0.8
PALP	Palanan	1.65	185	⇑*e*P		Pn	12 55 15.8 -1.4
PALP				*e*S		Sn	12 55 47.3 +8.5
CAUP	Cauayan	1.90	202	*e*P		Pn	12 55 21.1 +0.4
ABRA	Dolores	2.06	239	*e*P		Pn	12 55 23.1 +0.2
ABRA				*e*S		Sn	12 55 47.3 -1.7
BCPH	Baguio City Da	3.00	220	⇑*e*P		Pn	12 55 36.7 +0.9
BCPH				*i*S		Sn	12 56 13.6 +1.5
BALP	Baler	3.11	198	*e*P		Pn	12 55 36.6 -0.7
BALP				*e*S		Sn	12 56 12.5 -2.3
BOLP	Bolinao	3.44	228	*e*P		Pn	12 55 42.3 +0.5
PCPH	Palayan	3.44	204	⇑*e*P		Pn	12 55 43.2 +1.4
PCPH				*e*S		Sn	12 56 23.9 +0.9
SCZP	Santa Cruz	3.87	221	*e*P		Pn	12 55 48.5 +0.7
POLP	Polillo Island	4.01	189	*e*P		Pn	12 55 48.9 -0.8
PVCP	Virac	5.31	163	⇑*e*P		Pn	12 56 07.8 +0.2
PVCP				*e*S		Sn	12 57 01.5 -7.7
LUBP	Lubang	5.43	205	*e*P		Pn	12 56 09.8 +0.5
OTRP	Odiongan	6.34	185	*e*P		Pn	12 56 22.0 +0.2
SJMP	San Jose	6.37	193	*e*P		Pn	12 56 23.7 +1.5
JOW	Kunigami	9.64	32	P		Pn	12 57 07.8 +0.7
	6.6nm,0.3s,baz=208,slow=11,SNR=26						
JOW				S		Sn	12 58 48.1 -7.6
	2.9nm,0.3s,baz=104,slow=26,SNR=5.5						
JNU	Nakatsue	16.16	26	P		Pn	12 58 34.5 -1.1
	0.1nm,0.3s,baz=210,slow=14,SNR=2.1						
KSRS	Korea Array	19.25	13	P		Pn	12 59 09.9 -3.9
	0.2nm,0.3s,baz=200,slow=11,SNR=7.4						
SONM	Songino Array	31.90	339	P		P	13 01 13.0 -0.8
	0.1nm,0.3s,mb3.1,baz=157,slow=7.8,SNR=3.0						
MKAR	Makanchi Array	43.24	320	P		P	13 02 51.0 +1.2
	0.9nm,0.6s,mb3.7,baz=112,slow=9.7,SNR=9.0						
ZALV	Zalesovo Beam	45.56	330	P		P	13 03 08.3 +0.1
	1.2nm,0.6s,mb4.0,baz=134,slow=8.3,SNR=4.5						
YKA	Yellowknife Ar	87.48	23	P		P	13 07 36.3 +0.2
	0.4nm,0.6s,mb3.8,baz=307,slow=4.4,SNR=8.6						

*GRAL **21** 13:37:39.5±0.5, 3374N×3540E, h17km±6km, MD2.7*
*CSEM **21** 13:37:39.5, 3374N×3540E, h16km, ML2.7, After GRAL*
*ISCJB **21** 13:37:41.1±0.9, 3381N±003×3590E±008, h0km, Error ellipse: s-maj=9.8km s-min=4.5km az=172.6*
*GII **21** 13:37:41.3±1.2, 3378N×3580E, h0km, ML2.6/7*

ISC 21 13:37:41.5±0.9, 3382N±003×3590E±008, h0km, n11, σ0°80/20, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHL	Bhannes	0.22	293	*i*Pg		Pg	13 37 45.1 -0.7
BHL				*i*Sg		Sg	13 37 49.0 +0.3
RCY	Rachaya	0.34	192	*i*Pg		Pg	13 37 47.8 -0.2
RCY				*i*Sg		Sg	13 37 53.6 +1.3
HWQ	Hawqa	0.46	5	*i*Pg		Pg	13 37 51.8 +1.4
HWQ				*i*Sg		Sg	13 38 01.4 +5.0
HRI	Mount Hermon	0.57	194	Pg		Pg	13 37 52.2 -0.1
HRI				Sg		Sg	13 38 00.8 +1.2
KSHT	Keshet	0.84	185	Pg		Pg	13 37 57.7 +0.2
MMC7	Mount Meron ar	0.90	208	Pg		Pg	13 37 58.0 -0.7
MMC4	Mount Meron ar	0.90	207	Pg		Pg	13 37 58.0 -0.8
MMC4				Sg		Sg	13 38 11.8 +1.3
MMA3	Mount Meron ar	0.91	208	Pg		Pg	13 37 58.0 -0.9
MMA3				Sg		Sg	13 38 11.3 +0.8
MMLI	Mount Malkishu	1.43	196	Pn		Pn	13 38 08.3 -0.3
MMLI				Sn		Sn	13 38 27.9 -0.4
HMDT	Nahal Hemdat	1.59	192	Pn		Pn	13 38 09.8 -1.0
HMDT				Sn		Sn	13 38 31.2 -0.9
SLTI	Sal'it	1.73	205	Pn		Pn	13 38 12.3 -0.5
SLTI				Sn		Sn	13 38 35.4 -0.2

WEL 21 13:40:42.5±0.4, 3742S×17638E, h314km±4km, ML3.5/7, Error ellipse: s-maj=8.4km s-min=5.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.02	146	PN	Pn	13 41 24.5	+0.1
URZ				SN	S	13 41 57.0	-0.9
MWZ	Matawai	1.29	136	PN	Pn	13 41 26.2	+0.4
PUZ	Puketiti	1.62	114	PN	Pn	13 41 28.0	+0.2
PUZ				SN	S	13 42 02.9	-1.1
WAZ	Wanganui	2.58	205	PN	Pn	13 41 35.7	+0.5
TSZ	Takapari Road	2.66	187	PN	Pn	13 41 36.0	0.0
TSZ				SN	S	13 42 18.2	-0.6
MRZ	Mangatainoka R	3.30	191	PN	Pn	13 41 41.6	-0.5
KIW	Kapiti Island	3.62	198	PN	Pn	13 41 44.9	-0.6
MTW	Mount Morrison	3.80	190	PN	Pn	13 41 46.4	-0.8
CAW	Cannon Point	3.82	195	PN	Pn	13 41 46.8	-0.7
TCW	Tory Channel	4.13	203	PN	Pn	13 41 50.2	-0.6
QRZ	Quartz Range	4.54	220	*e*PN	Pn	13 41 53.4	-1.9
THZ	Tophouse	5.10	211	PN	Pn	13 41 59.8	-1.9
THZ				SN	S	13 43 03.7	-1.7
LTZ	Lake Taylor	6.22	209	PN	Pn	13 42 12.9	-1.8

*IDC **21** 13:42:20.3±3.1, 1137S×16653E, h94km±23km, mb4.5/11, mb1 4.6/11, mb1mx4.2/19, mbtmp4.5/11, MS3.3/3, Ms1 3.3/3, ms1mx2.9/25, Error ellipse: s-maj=27.1km s-min=20.8km az=64.0*
*ISCJB **21** 13:42:25.1±2.7, 1158S±009×1664E±01.0, h144km±21km, mb4.5/22, Error ellipse: s-maj=21.3km s-min=13.5km az=161.8*
*BJI **21** 13:42:25.1, 1156S×16688E, h171km, mB4.8, mb4.6*
*NEIC **21** 13:42:26.8±1.6, 1150S×16640E, h151km±13km, mb4.7/12, Error ellipse: s-maj=12.0km s-min=9.0km az=83.0*

ISC 21 13:42:26.2±2.4, 1153S±009×1664E±01, h139km±18km, n35, σ0°75/30, mb4.5/22, 1C-1D, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	6.65	288	P		Pn	13 44 02.5 +1.0
	16nm,0.3s,baz=308,slow=1.2,SNR=12						
HNR				S		Sn	13 45 15.2 -0.9
	baz=263,slow=15,SNR=2.8						
HNR				LR	LR		13 45 56.1
	comp=Z,146nm,19.9s,baz=354,slow=32						
EIDS	Eidsvold	19.96	224	*e*P		P	13 46 47.5 -0.1
	31nm,0.8s						
CTA	Charters Tower	21.12	244	*e*P		P	13 47 00.6 +0.5
	22nm,0.7s,mb4.6						
CTA	Charters Tower	21.12	244	P		P	13 47 01.1 +0.9
	29nm,0.8s,mb4.7,baz=74,slow=12,SNR=35						
CTAO	Charters Tower	21.12	244	*e*P		P	13 47 00.4 +0.3
	29nm,0.8s,mb4.7						
COEN	Coen	22.74	261	*e*P		P	13 47 16.9 0.0
	8.4nm,0.8s,mb4.2						
ARMA	Armidale	23.24	214	*e*P		P	13 47 22.3 +1.1
URZ	Urewera	28.30	162	P		P	13 48 06.2 -0.4
	12nm,1.0s,mb4.6,baz=315,slow=5.7,SNR=3.5						
STKA	Stephens Creek	30.51	225	⇓*i*P		P	13 48 27.2 +0.8
	9.1nm,0.7s,mb4.6						
STKA	Stephens Creek	30.51	225	P		P	13 48 27.4 +1.0
	11nm,0.7s,mb4.7,baz=31,slow=8.1,SNR=21						
WB2	Warramunga Arr	31.88	251	⇑*i*P		P	13 48 38.0 -0.5
WRAB	Tennant Creek	31.88	251	*e*P		P	13 48 38.0 -0.5
	38nm,1.2s,mb5.0						
WRA	Warramunga Arr	31.89	251	P		P	13 48 38.3 -0.3
	22nm,0.8s,mb4.9,baz=84,slow=9.2,SNR=145						
WRA				ScP	ScP		13 55 01.7 +4.9
	1.3nm,0.9s,baz=86,slow=3.4,SNR=4.6						
RPZ	Rata Peaks	32.32	174	P		P	13 48 41.6 -0.5
	18nm,0.6s,mb5.0,baz=310,slow=3.9,SNR=14						
GUMO	Guam	32.83	319	LR	LR		13 58 27.7
	comp=Z,43nm,21.7s,baz=116,slow=30						
ASAR	Alice Springs	33.12	244	P		P	13 48 48.6 -0.7
	18nm,0.7s,mb4.9,baz=71,slow=9.5,SNR=270						
ASAR				PcP	PcP		13 51 29.1 -0.3
	0.9nm,0.8s,baz=78,slow=2.2,SNR=4.4						
ASAR				ScP	ScP		13 55 05.3 +4.3
	1.5nm,1.0s,baz=72,slow=3.0,SNR=7.1						
KAKA	Kakadu	33.18	264	*e*P		P	13 48 49.4 -0.5
	12nm,0.6s,mb4.8						
FITZ	Fitzroy Crossi	39.84	256	*e*P		P	13 49 46.4 0.0
	17nm,1.1s,mb4.6						
BATI	Kupang	41.93	268	P		P	13 50 04.5 +0.9
	17nm,0.7s,mb4.8,baz=126,slow=14,SNR=4.8						
MBWA	Marble Bar	45.62	252	*e*P		P	13 50 33.6 +0.6
	39nm,0.9s,mb5.0						
KLBR	Kellerberrin	48.96	238	*e*P		P	13 50 58.3 -0.4
	41nm,1.6s,mb4.8						
JHJ	Hachijo jima 2	51.13	331	LR	LR		14 09 19.9
	comp=Z,65nm,18.6s,baz=78,slow=32						
PSI	Prapat	68.54	278	P		P	13 53 13.2 -1.2
	6.1nm,0.9s,mb4.3,baz=112,slow=12,SNR=4.7						
XAN	Xi'an	70.89	312	P		P	13 53 28.6 +0.2
XAN				AMB		AMB	
	comp=Z,9.0nm,0.9s,mb4.5						
CHTO	Chiang Mai	72.97	294	*e*P		P	13 53 41.2 0.0
	comp=Z,10nm,1.4s,mb4.4						
LZH	Lanzhou	75.53	312	*e*P		P	13 53 57.3 +1.7
LZH				AMB		AMB	
	comp=Z,19nm,1.5s,mb4.5						
LZH				AMB		AMB	
	comp=Z,83nm,4.1s						
SONM	Songino Array	79.42	324	P		P	13 54 17.1 +0.2
	comp=Z,0.8nm,0.6s,mb3.5,baz=129,slow=5.3,SNR=6.8						
GTA	Gaotai	79.83	314	*e*P		P	13 54 20.8 +1.4
GTA				AMB		AMB	
	comp=Z,4.0nm,1.1s,mb4.0						
EGAK	Eagle	85.62	20	*e*P		P	13 54 47.9 -0.8
	comp=Z,1.4nm,0.6s,mb3.9						
MKAR	Makanchi Array	94.29	317	P		P	13 55 29.6 -0.3
	comp=Z,0.4nm,0.3s,mb4.0,baz=93,slow=6.6,SNR=8.9						
ZALV	Zalesovo Beam	94.30	324	P		P	13 55 28.7 -1.0
	comp=Z,0.4nm,0.3s,mb4.0,baz=90,slow=4.8,SNR=4.1						
SWET	Sewanee	110.98	57	*e*PKP	PKiKP		14 00 36.9 -6.6
ARCES	ARCESS Array B	116.95	346	PKP	PKPdf		14 00 52.1 -1.9
	comp=Z,2.0nm,0.7s,baz=40,slow=2.1,SNR=3.7						
BINY	Binghamton	118.09	48	*e*P	Pdif		13 57 13.7 -2.3
FFD	Franklin Falls	120.94	46	*e*P	Pdif		13 57 29.8 +1.2

*IDC **21** 13:52:36.0±1.1, 1319N×12572E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=83.6km s-min=19.2km az=75.0*
*ISCJB **21** 13:52:38.0±5.9, 132N±01×1258E±01, h27km±45km, mb3.4/5, Error ellipse: s-maj=22.6km s-min=14.6km az=40.1*

ISC 21 13:52:36.6±2.9, 132N±01×12572E±010, h4km±18km, n7, σ0°80/8, mb3.4/5, 1C, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataraman	1.22	237	*e*P		Pg	13 52 59.9 -0.2
PVCP	Virac	1.57	285	⇑*i*P		Pn	13 53 05.8 +0.5
PVCP				*i*S		Sn	13 53 25.7 -0.3
KSRS	Korea Array	24.25	4	P		P	13 57 53.8 -0.8
	0.7nm,0

JOSI	**Joshimath**	**8.85**	**127**	*e*S		**Sn**	**14 05 19.2**	**-8.1**
KHET	**Khetri**	**8.94**	**154**	*e*P		**Pn**	**14 03 51.0**	**+0.2**
KHET				AMb		AMB	14 03 51.3	
	comp=Z,6.0nm,0.3s							
KHET				*e*S		**Sn**	**14 05 21.8**	**-7.9**
NDI	**New Delhi**	**8.98**	**145**	*e*S		**Sn**	**14 05 25.0**	**-5.6**
KUDL	**Kundal**	**9.13**	**151**	*e*P		**Pn**	**14 03 52.5**	**-0.9**
KUDL				*e*S		**Sn**	**14 05 28.4**	**-5.9**
SONA	**Sohna**	**9.29**	**147**	*e*P		**Pn**	**14 03 57.1**	**+1.6**
SONA				AMb		AMB	14 04 10.3	
	comp=Z,9.5nm,0.2s							
SONA				*e*S		**Sn**	**14 05 30.9**	**-7.2**
AGRA	**Agra**	**10.55**	**146**	*e*P		**Pn**	**14 04 13.1**	**+0.5**
AGRA				AMb		AMB	14 04 16.1	
	comp=Z,108nm,0.4s							
AGRA				*e*S		**Sn**	**14 05 59.8**	**-9.0**
AB31	**Akbulak array**	**15.48**	**331**	⇓P		**Pn**	**14 05 12.9**	**-3.9**
	comp=Z,1.9nm,0.4s,baz=158,slow=12,SNR=88							
AB31				S		**S**	**14 07 56.1**	**-20**
	comp=Z,7.1nm,0.8s,baz=156,slow=25,SNR=9.4							
VOSK	**Vostochnaya**	**16.49**	**359**	⇓P		**Pn**	**14 05 28.9**	**-0.4**
	comp=Z,3.0nm,0.9s							
ZRNK	**Zerenda**	**16.80**	**355**	⇑P		**Pn**	**14 05 33.7**	**+0.5**
	comp=Z,1.0nm,0.6s							
BVA0	**Borovoye Array**	**16.80**	**358**	⇑P		**Pn**	**14 05 33.1**	**-0.1**
	comp=Z,0.5nm,0.9s,baz=180,slow=13,SNR=14							
BVAR	**Borovoye Array**	**16.80**	**358**	P		**Pn**	**14 05 31.7**	**-1.4**
	comp=Z,0.5nm,0.3s,baz=166,slow=12,SNR=13							
BRVK	**Borovoye**	**16.84**	**358**	*e*P		**Pn**	**14 05 33.9**	**+0.2**
AKTK	**Aktyubinsk**	**17.18**	**330**	P		**Pn**	**14 05 36.1**	**-1.7**
AKTO	**Aktyubinsk**	**17.18**	**330**	⇑P		**Pn**	**14 05 32.9**	**-4.9**
	comp=Z,0.1nm,0.7s							
AKTO				⇓S		**S**	**14 08 38.7**	**-11**
AKTO	**Aktyubinsk**	**17.18**	**330**	P		**Pn**	**14 05 36.1**	**-1.7**
	comp=Z,0.7nm,0.3s,baz=146,slow=14,SNR=14							
ZALV	**Zalesovo Beam**	**20.02**	**24**	P		**P**	**14 06 08.3**	**-0.4**
ZALV	**Zalesovo Beam**	**20.02**	**24**	P		**P**	**14 06 08.3**	**-0.4**
	comp=Z,2.2nm,0.3s,baz=205,slow=10,SNR=7.4							
FINES	**FINESS Array B**	**37.89**	**326**	P		**P**	**14 08 52.0**	**+1.0**
	comp=Z,0.6nm,0.6s,mb3.6,baz=115,slow=9.0,SNR=5.1							
ARCES	**ARCESS Array B**	**41.52**	**338**	P		**P**	**14 09 22.3**	**+1.3**
	comp=Z,2.6nm,0.8s,mb4.0,baz=114,slow=9.0,SNR=4.1							
NB2	**NORSAR Subarra**	**44.80**	**323**	P		**P**	**14 09 48.0**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.6,baz=98,slow=7.9							
NOA	**NORSAR Array B**	**44.80**	**323**	P		**P**	**14 09 47.5**	**+0.1**
	comp=Z,0.6nm,0.5s,mb3.6,baz=96,slow=7.7,SNR=4.5							
TORD	**Torodi Ar. Bea**	**66.06**	**269**	P		**P**	**14 12 18.6**	**-1.8**
	comp=Z,0.2nm,0.3s,mb3.4,baz=46,slow=6.2,SNR=8.3							
YKA	**Yellowknife Ar**	**81.50**	**3**	P		**P**	**14 13 50.4**	**+0.7**
	comp=Z,0.1nm,0.5s,mb2.9,baz=347,slow=5.1,SNR=3.2							
WRA	**Warramunga Arr**	**81.56**	**122**	P		**P**	**14 13 51.0**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=324,slow=5.0,SNR=10							
ASAR	**Alice Springs**	**83.82**	**125**	P		**P**	**14 14 02.6**	**+0.3**
	comp=Z,0.3nm,1.0s,mb3.1,baz=313,slow=4.8,SNR=5.4							

*NEIC **21** 14:06:45.4, 31.63S×71.55W, h36km, MD3.8(GUC), After GUC.*

GUC 21 14:06:45.4±0.7, 31.63S×71.55W, h36km±6km, MD3.8, ML2.9, 4C, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.65**	**46**	⇑*i*P		Pn	14 06 58.0	-0.2
CMCH				*i*S		Sn	14 07 08.5	+1.2
CMCH	**Combarbala**	**0.65**	**46**	⇑*i*P		Pn	14 06 58.0	-0.2
CMCH				*i*S		Sn	14 07 08.5	+1.2
CMCH				AML		AML	14 07 11.3	
	comp=N,1μm,0.7s							
OVCH	**Ovalle**	**1.06**	**16**	*i*P		Pn	14 07 04.3	+0.6
OVCH				*i*S		Sn	14 07 19.1	+1.7
OVCH	**Ovalle**	**1.06**	**16**	*i*P		Pn	14 07 04.3	+0.6
OVCH				*i*S		Sn	14 07 19.1	+1.7
OVCH				AML		AML	14 07 22.6	
	comp=N,406nm,0.3s							
TLL	**Tololo Astrono**	**1.59**	**24**	*i*P		Pn	14 07 12.2	+1.1
TLL				*i*S		Sn	14 07 33.2	+2.8
TLL	**Tololo Astrono**	**1.59**	**24**	*i*P		Pn	14 07 12.2	+1.1
TLL				*i*S		Sn	14 07 33.2	+2.8
TLL				AML		AML	14 07 39.5	
	comp=E,182nm,0.4s							
PEL	**Peldehue**	**1.67**	**154**	⇑*i*P		Pn	14 07 13.9	+1.7
PEL				*i*S		Sn	14 07 35.2	+2.7
PEL				AML		AML	14 07 43.2	
	comp=E,258nm,0.3s							
CLCH	**Cerro Calan**	**1.96**	**154**	⇑*i*P		Pn	14 07 18.2	+2.1
CLCH				*i*S		Sn	14 07 42.4	+3.1
CLCH				AML		AML	14 07 53.1	
	comp=E,194nm,0.6s							
FCH	**Farellones**	**2.00**	**148**	*i*P		Pn	14 07 19.1	+2.5
FCH				*i*S		Sn	14 07 44.0	+3.6
FCH				AML		AML	14 07 52.4	
	comp=E,88nm,0.3s							
PCH	**Pirque**	**2.17**	**157**	*i*P		Pn	14 07 20.6	+1.6
PCH				*i*S		Sn	14 07 47.3	+2.7
LMEL	**Las Melosas**	**2.48**	**153**	*e*P		Pn	14 07 25.1	+1.8
LMEL				*i*S		Sn	14 07 55.0	+2.6
LMEL	**Las Melosas**	**2.48**	**153**	*e*P		Pn	14 07 25.1	+1.8
LMEL				*i*S		Sn	14 07 55.0	+2.6
LMEL				AML		AML	14 08 08.6	
	comp=N,100nm,0.2s							

*CSEM **21** 14:07:39.4±0.1, 38.13N×27.23E, h12km, MD2.9, Error ellipse: s-maj=2.8km s-min=1.9km az=72.0*
*ISK **21** 14:07:39.2, 38.11N×27.23E, h9km, MD3.0*
*ISCJB **21** 14:07:40.0±0.5, 38.12N±002×27.24E±005, h7km±6km, Error ellipse: s-maj=6.1km s-min=4.0km az=167.6*
*DDA **21** 14:07:40.1, 38.13N×27.25E, h7km±5km, Md2.9*

ISC 21 14:07:40.4±0.5, 38.13N±003×27.23E±004, h13km±6km, n13, σ0:50/22, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KDAG	**Bornova**	**0.28**	**6**	*i*P		**Pg**	**14 07 46.1**	**-0.1**
KDAG				*i*S		**Sg**	**14 07 50.5**	**+0.5**
BLCB	**Balcova**	**0.30**	**330**	PG		**Pg**	**14 07 46.2**	**-0.3**
BLCB				SG		**Sg**	**14 07 50.5**	**-0.2**
URLA	**Izmir**	**0.55**	**295**	*i*P		**Pg**	**14 07 51.0**	**-0.2**
URLA				*i*S		**Sg**	**14 07 59.1**	**+0.6**
AYDN	**Tasoluk**	**0.69**	**132**	*i*P		**Pg**	**14 07 54.4**	**+0.5**
AYDN				*i*S		**Sg**	**14 08 03.3**	**+0.4**
AKHS	**Akhisar**	**0.88**	**31**	*i*P		**Pg**	**14 07 57.2**	**-0.2**
AKHS				*i*S		**Sg**	**14 08 09.0**	**+0.1**
AKS	**Akhisar**	**0.88**	**31**	*e*PG		**Pg**	**14 07 57.0**	**-0.4**
AKS				*e*SG		**Sg**	**14 08 09.3**	**+0.4**
MLSB	**Milas**	**0.94**	**152**	*e*PG		**Pg**	**14 07 57.1**	**-1.4**
MLSB				*e*SG		**Sg**	**14 08 10.6**	**0.0**
BDRM	**Kayabasi**	**1.07**	**171**	*i*P		**Pb**	**14 08 00.6**	**-0.1**
BDRM				*i*S		**Sb**	**14 08 15.6**	**+0.9**
MANT	**Manisa**	**1.10**	**70**	*i*P		**Pb**	**14 08 02.0**	**+0.7**
MANT				*i*S		**Sb**	**14 08 15.0**	**-0.6**
KULA	**Kula-Manisa**	**1.19**	**71**	*e*PN		**Pn**	**14 08 02.8**	**+0.2**
YER	**Yerkesik**	**1.29**	**140**	*e*PN		**Pn**	**14 08 04.2**	**+0.1**
DAT	**Datca**	**1.42**	**169**	*e*PN		**Pn**	**14 08 05.2**	**-0.7**
KHL	**Karahalli**	**1.82**	**83**	*e*PN		**Pn**	**14 08 11.3**	**0.0**

*BJI **21** 14:08:50.3, 49.4N×94.32E, h34km, mB5.1, mb4.9, Ms4.3, Msz4.1*
*ISCJB **21** 14:08:53.9±0.3, 52.7N±004×94.36E±003, h38km, mb4.7/75, MS3.9/23, Error ellipse: s-maj=6.5km s-min=3.8km az=21.8*
*SZGRF **21** 14:08:53.6, 5.13N×94.76E, h33km, mb5.0, Northern Sumatera, Indonesia*
*MOS **21** 14:08:53.5±0.8, 5.35N×94.39E, h33km, mb4.9/32, Error ellipse: s-maj=11.8km s-min=5.9km az=114.4*
*NEIC **21** 14:08:54.4±0.2, 5.23N×94.29E, h30km, mb4.8/28, Error ellipse: s-maj=8.1km s-min=4.5km az=218.0*
NEIC Felt [II] at Banda Aceh.
*IDC **21** 14:08:56.7±0.9, 5.29N×94.38E, h47km±6km, mb4.2/18, mb1 4.3/19, mb1mx4.1/26, mbtmp4.2/19, MS3.7/10, Ms1 3.7/10, ms1mx3.6/27, Error ellipse: s-maj=22.6km s-min=11.5km az=50.0*

ISC 21 14:08:55.9±0.3, 5.29N±004×94.33E±003, h40km, h40km±2.3km: pP-P, n183, σ0:91/193, mb4.7/75, MS3.9/23, 16C-15D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**0.98**	**78**	⇓*e*P		**Pn**	**14 09 13.0**	**-0.2**
PSI	**Prapat**	**5.20**	**118**	P		**Pn**	**14 10 13.3**	**+2.0**
	7.2nm,0.3s,baz=310,slow=14,SNR=42							
PSI				LR		LR	14 12 39.5	
	comp=Z,791nm,18.8s,baz=293,slow=43							
KULM	**Kulim**	**6.29**	**90**	*e*Pn		**Pn**	**14 10 26.4**	**+0.2**
KULM				*e*Sn		**Sn**	**14 11 35.3**	**-1.6**
KULM	**Kulim**	**6.29**	**90**	⇓P		**Pn**	**14 10 26.7**	**+0.5**
SNG	**Songkhla**	**6.52**	**73**	P		**Pn**	**14 10 31.0**	**+1.6**
	402nm,0.9s							
IPM	**Ipoh**	**6.72**	**97**	⇓P		**Pn**	**14 10 32.9**	**+0.8**
FRIM	**Kepong**	**7.55**	**105**	⇑P		**Pn**	**14 10 44.2**	**+0.6**
KTGM	**Kuala Trenggan**	**8.76**	**89**	⇑P		**Pn**	**14 11 00.1**	**-0.1**
KGM	**Kluang**	**9.54**	**110**	⇓P		**Pn**	**14 11 12.4**	**+1.6**
MYKOM	**Kota Tinggi**	**10.11**	**110**	⇓P		**Pn**	**14 11 19.4**	**+0.7**
PALK	**Pallekele**	**13.69**	**279**	*e*Pn		**Pn**	**14 12 10.3**	**+2.6**
CM31	**Chiang Mai Arr**	**13.84**	**19**	*e*P		**Pn**	**14 12 18.9**	**+9.2**
CHG	**Chiang Mai**	**14.18**	**18**	PG		**Pn**	**14 12 16.2**	**+1.9**
CHG				SG			14 12 21.4	
CHTO	**Chiang Mai**	**14.18**	**18**	P		**Pn**	**14 12 14.3**	**0.0**
CHTO				pmax		pmax		
	comp=Z,33nm,0.6s							
CHTO	**Chiang Mai**	**14.18**	**18**	P		**Pn**	**14 12 14.3**	**0.0**
	comp=Z,32nm,0.6s							
CHTO				*e*			14 12 18.9	
NANT	**Nan**	**14.80**	**24**	⇓P		**Pn**	**14 12 28.0**	**+5.4**
	comp=Z,115nm,0.9s							
KSM	**Kuching**	**16.39**	**103**	⇓P		**Pn**	**14 12 44.3**	**+1.0**
SBUM	**Sibu**	**18.07**	**98**	⇑P		**Pn**	**14 13 02.6**	**-1.5**
BTM	**Bintulu**	**18.81**	**96**	⇓P		**Pn**	**14 13 11.6**	**-1.6**
HYB	**Hyderabad**	**19.59**	**309**	*e*P		**Pn**	**14 13 15.0**	**-7.4**
HYB				*e*S		**S**	**14 17 01.0**	**+1.0**
HYB	**Hyderabad**	**19.59**	**309**	*i*P		**Pn**	**14 13 23.0**	**+0.6**
HYB				*e*S		**S**	**14 17 01.0**	**+1.0**
SHL	**Shillong**	**20.30**	**354**	*e*P		**P**	**14 13 27.0**	**-1.5**
QIZ	**Qiongzhong**	**20.38**	**47**	P		**P**	**14 13 29.8**	**+0.4**
QIZ				*e*S		**S**	**14 17 11.9**	**-3.8**
QIZ				AMB		AMB		
	comp=Z,22nm,1.1s							
QIZ				LR		LR		
	comp=N,462nm,17.5s							
QIZ				LR		LR		
	comp=Z,420nm,16.3s,MS3.9							
KMI	**Kunming**	**21.31**	**21**	P		**P**	**14 13 41.1**	**+1.7**
KMI				AP			14 13 48.8	
KMI				XP		sP	14 13 53.1	-1.4
KMI				PP			14 14 08.0	
KMI				S		**S**	**14 17 33.3**	**-0.7**
KMI				XS		sS	14 17 46.8	-3.3
KMI				SS			14 18 08.3	
KMI				AMB		AMB		
	comp=Z,14nm,1.3s,mb4.1							
KMI				AMB		AMB		
	comp=Z,57nm,3.1s							
KMI				LR		LR		
	comp=N,195nm,18.3s,MS3.8							
KMI				LR		LR		
	comp=E,242nm,16.7s,MS3.8							
KMI				LR		LR		
	comp=Z,244nm,19.2s,MS3.6							
KKM	**Kota Kinabalu**	**21.79**	**87**	⇑P		**P**	**14 13 46.9**	**+2.2**
SDKM	**Sandakan**	**22.76**	**88**	⇓P		**P**	**14 13 57.5**	**+2.5**
JIRN	**Jiri**	**23.56**	**342**	*e*P		**P**	**14 14 01.7**	**-1.3**
	comp=Z,67nm,0.7s,mb5.2							
PKI	**Pulchoki**	**23.73**	**340**	*e*P		**P**	**14 14 03.5**	**-1.1**
	comp=Z,23nm,0.5s,mb4.9							
GUN	**Gumba**	**23.89**	**341**	*e*P		**P**	**14 14 05.1**	**-0.9**
	comp=Z,61nm,0.6s,mb5.2							
KKN	**Kakani**	**23.98**	**340**	*e*P		**P**	**14 14 06.0**	**-0.8**
	comp=Z,46nm,0.8s,mb5.0							
MYLDM	**Lahad Datu**	**24.07**	**89**	⇓P		**P**	**14 14 08.7**	**+0.9**
GYA	**Guiyang**	**24.13**	**28**	P		**P**	**14 14 08.8**	**+0.6**
GYA				AP			14 14 18.6	
GYA				XP		sP	14 14 21.8	-2.1
GYA				PP			14 14 44.6	
GYA				PCP		PcP	14 17 51.6	+2.9
GYA				S		**S**	**14 18 23.0**	**-0.5**
GYA				XS		sS	14 18 37.3	-4.3
GYA				SS			14 19 16.3	
GYA				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.3							
GYA				AMB		AMB		
	comp=Z,80nm,4.2s							
GYA				LR		LR		
	comp=N,430nm,15.9s,MS4.2							
GYA				LR		LR		
	comp=E,420nm,16.4s,MS4.2							
GYA				LR		LR		
	comp=Z,460nm,16.0s,MS4.0							
GKN	**Gorkha**	**24.40**	**339**	*e*P		**P**	**14 14 10.8**	**+0.1**
	comp=Z,37nm,0.5s,mb5.1							
LSA	**Lhasa**	**24.47**	**353**	P		**P**	**14 14 13.0**	**+1.7**
LSA	**Lhasa**	**24.47**	**353**	*e*P		**P**	**14 14 12.7**	**+1.4**
LSA				pmax		pmax		
	comp=Z,32nm,0.6s,mb4.9							
LSA	**Lhasa**	**24.47**	**353**	*e*P		**P**	**14 14 12.7**	**+1.4**
	comp=Z,32nm,0.6s,mb4.9							
KOLN	**Koldanda**	**24.58**	**337**	*e*P		**P**	**14 14 14.0**	**+1.7**
	comp=Z,50nm,0.7s,mb5.2							
DANN	**Dangsing**	**25.04**	**338**	*e*P		**P**	**14 14 16.9**	**+0.4**
	comp=Z,96nm,0.6s,mb5.5							
CD2	**Chengdu**	**26.99**	**18**	*e*P		**P**	**14 14 33.4**	**-0.7**
CD2				AP		pP	14 14 42.8	-2.2
CD2				XP		sP	14 14 47.0	-2.8
CD2				PP			14 15 19.5	
CD2				S		**S**	**14 19 06.9**	**-2.0**
CD2				XS		sS	14 19 22.5	-4.6
CD2				SS			14 20 21.6	
CD2				AMB		AMB		
	comp=Z,20nm,0.8s,mb4.7							
CD2				AMB		AMB		
	comp=Z,30nm,4.8s							
CD2				LR		LR		
	comp=N,170nm,15.6s							
CD2				LR		LR		
	comp=Z,240nm,10.8s,MS4.0							
XAN	**Xi'an**	**31.65**	**23**	P		**P**	**14 15 14.3**	**-1.2**
XAN				AP		pP	14 15 23.3	-3.2
XAN				XP		sP	14 15 26.3	-5.0
XAN				PP		PP	14 16 18.9	-8.6
XAN				PCP		PcP	14 18 06.8	-0.1
XAN				S		**S**	**14 20 18.5**	**-3.6**
XAN				SCP		ScP	14 21 45.0	-2.3
XAN				PCS		PcS	14 21 50.8	-0.6
XAN				SCS		ScS	14 25 42.1	-3.2
XAN				AMB		AMB		
	comp=Z,34nm,0.7s,mb5.3							
XAN				AMB		AMB		
	comp=Z,121nm,7.5s							
XAN				LR		LR		
	comp=N,87nm,15.4s,MS3.7							
XAN				LR		LR		
	comp=E,121nm,19.8s,MS3.7							
XAN				LR		LR		
	comp=Z,258nm,17.7s,MS4.0							
LZH	**Lanzhou**	**31.88**	**15**	*e*P		**P**	**14 15 16.5**	**-0.9**
LZH				AP		pP	14 15 26.3	-2.1
LZH				XP		sP	14 15 30.3	-2.9
LZH				*e*PP		PP	14 16 22.8	-7.2
LZH				AMB		AMB		
	comp=Z,22nm,1.4s,mb4.8							
LZH				AMB		AMB		
	comp=Z,97nm,4.8s							
LZH				LR		LR		
	comp=N,237nm,12.8s							
LZH				LR		LR		
	comp=Z,405nm,16.7s,MS4.2							
GTA	**Gaotai**	**34.33**	**8**	⇑P		**P**	**14 15 38.4**	**-0.4**
GTA				AP		pP	14 15 47.4	-2.5
GTA				XP		sP	14 15 51.0	-3.6
GTA				PP		PP	14 16 55.1	-2.0
GTA				S		**S**	**14 21 03.8**	**+0.2**
GTA				XS		sS	14 21 17.8	-4.2
GTA				SS		SS	14 23 15.6	-18
GTA				AMB		AMB		
	comp=Z,12nm,0.8s,mb4.9							
GTA				AMB		AMB		
	comp=Z,73nm,3.8s							
GTA				LR		LR		
	comp=N,107nm,15.3s,MS3.8							
GTA				LR		LR		
	comp=E,102nm,16.8s,MS3.8							
GTA				LR		LR		
	comp=Z,108nm,17.2s,MS3.6							
NJ2	**Nanjing**	**35.15**	**38**	*e*P		**P**	**14 15 47.1**	**+1.1**
NJ2				AP		pP	14 15 56.6	-0.5
NJ2				XP		sP	14 16 00.3	-1.5
NJ2				PP		PP	14 17 05.4	-0.8
NJ2				S		**S**	**14 21 18.0**	**+1.6**
NJ2				XS		sS	14 21 31.0	-3.8
NJ2				AMB		AMB		
	comp=Z,30nm,0.6s,mb5.4							
NJ2				AMB		AMB		
	comp=Z,190nm,5.9s							
NJ2				LR		LR		
	comp=N,320nm,13.5s,MS4.4							
NJ2				LR		LR		
	comp=E,340nm,15.3s,MS4.4							
NJ2				LR		LR		
	comp=Z,340nm,15.3s,MS4.2							
HHC	**Hu-ho-hao-te**	**38.63**	**21**	*e*P		**P**	**14 16 16.3**	**+0.8**
HHC				AP		pP	14 16 26.4	-0.3
HHC				XP		sP	14 16 30.3	-1.1
HHC				PP		PP	14 17 49.5	+5.0
HHC				PCP		PcP	14 18 27.5	+0.3
HHC				S		**S**	**14 22 11.3**	**+2.1**
HHC				XS		sS	14 22 27.3	-0.5
HHC				SS		SS	14 24 55.3	-5.3
HHC				SCS		ScS	14 26 21.5	-1.2
HHC				AMB		AMB		
	comp=Z,14nm,1.1s,mb4.6							
HHC				AMB		AMB		
	comp=Z,110nm,5.7s							
HHC				LR		LR		
	comp=N,215nm,15.7s,MS4.2							
HHC				LR		LR		
	comp=E,257nm,17.4s,MS4.2							
HHC				LR		LR		
	comp=Z,418nm,17.1s,MS4.3							
FITZ	**Fitzroy Crossi**	**38.65**	**128**	⇑*i*P		**P**	**14 16 14.5**	**-1.4**
	comp=Z,8.3nm,0.9s,mb4.5							
FITZ	**Fitzroy Crossi**	**38.65**	**128**	P		**P**	**14 16 14.6**	**-1.3**
	comp=Z,2.7nm,0.7s,mb4.1,baz=326,slow=6.1,SNR=12							
FITZ				PcP		PcP	14 18 27.8	+0.1
	comp=Z,0.7nm,0.5s,baz=270,slow=2.0,SNR=3.5							
WMQ	**Urumqi**	**38.82**	**352**	*e*P		**P**	**14 16 17.0**	**0.0**
WMQ				AP		pP	14 16 27.0	-1.2
WMQ				XP		sP	14 16 31.0	-1.9
WMQ				PP		PP	14 17 50.0	+3.5
WMQ				S		**S**	**14 22 12.0**	**0.0**
WMQ				SS		SS	14 24 55.0	-9.2
WMQ				AMB		AMB		
	comp=Z,30nm,1.0s,mb5.0							
WMQ				AMB		AMB		
	comp=Z,61nm,5.0s							
WMQ				LR		LR		
	comp=N,86nm,14.0s,MS3.9							
WMQ				LR		LR		
	comp=E,108nm,14.0s,MS3.9							
WMQ				LR		LR		
	comp=Z,97nm,14.0s,MS3.8							
BJI	**Beijing**	**39.80**	**27**	P		**P**	**14 16 25.9**	**+0.7**
BJI				XP		sP	14 16 38.8	-2.4
BJI				PP		PP	14 17 56.5	-0.7
BJI				S		**S**	**14 22 29.1**	**+2.3**
BJI				XS		sS	14 22 44.4	-1.0
BJI				AMB		AMB		
	comp=Z,18nm,0.9s,mb4.8							
BJI				LR		LR		
	comp=N,154nm,15.6s,MS4.0							
BJI				LR		LR		
	comp=E,71nm,16.0s,MS4.0							
BJI				LR		LR		
	comp=Z,144nm,22.1s							
UCH	**Uchtor**	**40.79**	**337**	*e*P		**P**	**14 16 34.4**	**+1.0**
	comp=Z,592nm,0.7s							
UCH	**Uchtor**	**40.79**	**337**	P		**P**	**14 16 34.7**	**+1.3**
	SNR=7.8							
TKM2	**Tokmak 2**	**40.99**	**339**	*e*P		**P**	**14 16 35.7**	**+0.7**
TKM2				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.4							
TKM2	**Tokmak 2**	**40.99**	**339**	*e*P		**P**	**14 16 35.6**	**+0.6**
	comp=Z,5.4nm,0.5s,mb4.4							
TKM2	**Tokmak 2**	**40.99**	**339**	P		**P**	**14 16 35.9**	**+0.9**
	SNR=5.9							
KBK	**Karagaybulak**	**41.00**	**338**	P		**P**	**14 16 36.5**	**+1.4**
	SNR=7.5							
AML	**Almayashu**	**41.03**	**336**	P		**P**	**14 16 36.8**	**+1.4**
	SNR=13							
EKS2	**Erkin-Say**	**41.45**	**337**	*e*P		**P**	**14 16 39.8**	**+1.0**
	comp=Z,8.5nm,0.8s,mb4.4							
EKS2	**Erkin-Say**	**41.45**	**337**	P		**P**	**14 16 40.4**	**+1.6**
	SNR=5.3							
MK31	**Makanchi Array**	**42.64**	**348**	*e*P		**P**	**14 16 48.7**	**+0.3**
MKAR	**Makanchi Array**	**42.64**	**348**	P		**P**	**14 16 48.8**	**+0.4**
	comp=Z,32nm,0.6s,mb5.2,baz=169,slow=7.8,SNR=200							
SONM	**Songino Array**	**43.63**	**12**	P		**P**	**14 16 55.9**	**-0.6**
SONM				*PP		pP	14 17 08.6	+0.8
SONM							14 18 43.7	
SONM	**Songino Array**	**43.63**	**12**	P		**P**	**14 16 55.9**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.4,baz=192,slow=7.7,SNR=34							
SONM				pP		pP	14 17 08.6	+0.8
	comp=Z,8.9nm,0.9s,baz=193,slow=7.5,SNR=14							
SONM				PcP		PcP	14 18 43.7	+0.4
	comp=Z,3.0nm,0.6s,baz=202,slow=3.0,SNR=7.1							
SONM				ScP		ScP	14 22 31.1	-0.8
	comp=Z,0.4nm,0.5s,baz=211,slow=5.0,SNR=4.0							
SONM				LR		LR	14 36 48.8	
	comp=Z,89nm,20.6s,MS3.7,baz=331,slow=38							
ULN	**Ulaanbaatar**	**43.80**	**12**	*e*P		**P**	**14 16 57.0**	**-0.8**
ULN				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.3							
ULN	**Ulaanbaatar**	**43.80**	**12**	*e*P		**P**	**14 16 57.0**	**-0.9**
	comp=Z,3.9nm,0.6s,mb4.3							
JNU	**Nakatsue**	**43.85**	**46**	P		**P**	**14 16 58.1**	**-0.4**
	comp=Z,6.5nm,0.8s,mb4.4,baz=150,slow=6.3,SNR=6.8							
JNU				LR		LR	14 35 02.0	
	comp=Z,130nm,21.4s,MS3.8,baz=42,slow=36							
KSRS	**Korea Array**	**44.31**	**39**	P		**P**	**14 17 01.8**	**-0.3**
KSRS				pmax		pmax		
	comp=Z,2.

NVS eS S 14 25 04.1 +7.1
NVS pmax pmax
comp=N,8.0nm,0.6s
NVS pmax pmax
comp=E,7.0nm,0.6s
NVS pmax pmax
comp=Z,11nm,0.6s,mb5.1
NVS smax
comp=N,13nm,1.8s
NVS smax
comp=E,11nm,1.8s
JHJ Hachijo jima 2 50.50 51 LR LR 14 39 24.1
comp=E,61nm,18.3s,MS3.6,baz=273,slow=36
MJAR Matsushiro Arr 50.78 46 P **P 14 17 52.7 +0.4**
comp=E,1.1nm,0.7s,mb3.9,baz=247,slow=8.1,SNR=4.3
BVAR Borovoye Array 51.49 342 P **P 14 17 57.3 -0.1**
comp=E,6.9nm,0.6s,mb4.8,baz=144,slow=8.8,SNR=49
BVAR pP pP 14 18 10.5 +1.6
comp=E,7.2nm,0.8s,baz=171,slow=10,SNR=7.3
BRVK Borovoye 51.55 342 eP **P 14 17 57.7 -0.1**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
BRVK Borovoye 51.55 342 eP **P 14 17 57.7 -0.1**
comp=Z,5.2nm,0.6s,mb4.6
KLR Kul'dur 54.01 29 eP **P 14 18 16.4 +0.3**
AKTK Aktyubinsk 54.30 332 P **P 14 18 18.2 0.0**
AKTO Aktyubinsk 54.30 332 P **P 14 18 18.2 0.0**
comp=Z,2.5nm,0.5s,mb4.4,baz=114,slow=9.5,SNR=8.6
BOD Bodaibo 54.61 13 eP **P 14 18 19.3 -1.0**
BOD e pP 14 18 32.1 +0.2
BOD pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BOD pmax pmax
comp=Z,12nm,1.0s,mb4.9
ASAJ Asahikawa 57.25 40 LR LR 14 44 55.3
comp=Z,72nm,20.1s,MS3.8,baz=357,slow=38
KMBO Kilima Mbogo 57.37 265 LR LR 14 39 07.4
comp=Z,124nm,18.7s,MS4.0,baz=87,slow=32
SVE Sverdlovsk 57.86 339i eP **P 14 18 43.9 +0.4**
SVE eS **S 14 26 31.3 -8.9**
SVE pmax pmax
comp=Z,47nm,1.3s,mb5.4
STKA Stephens Creek 58.21 133 P **P 14 18 45.8 -0.6**
comp=Z,4.0nm,0.9s,mb4.5,baz=320,slow=23,SNR=4.7
ARU Arti 58.34 338d iP **P 14 18 46.3 -0.5**
ARU e 14 20 53.6
ARU ePPP 14 22 15.2
ARU eS **S 14 26 47.1 +0.7**
ARU eSS SS 14 30 34.6 -4.3
ARU pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KIV Kislovodsk 59.37 319 eP **P 14 18 54.3 +0.1**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
KIV MLR MLR
comp=Z,24nm,17.0s,MS3.4
YAK Yakutsk 62.38 18 eP **P 14 19 12.8 -1.5**
YAK pmax pmax
comp=Z,17nm,1.6s,mb4.9
OBN Obninsk 67.66 328 eP **P 14 19 48.0 -0.8**
OBN e*PP pP 14 19 58.8 -1.9
OBN pmax pmax
comp=Z,40nm,1.6s,mb5.2
MA2 Magadan 68.96 27c iP **P 14 19 55.7 -1.1**
MA2 pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
TIXI Tiksi 69.72 11c iP **P 14 19 59.8 -1.5**
TIXI pmax pmax
comp=Z,13nm,1.1s,mb4.8
TIXI Tiksi 69.72 11 eP **P 14 19 59.6 -1.7**
comp=Z,6.8nm,0.6s,mb4.8
AKASG Malin Array Be 70.30 322 P **P 14 20 04.2 -1.0**
comp=Z,4.5nm,0.6s,mb4.6,baz=95,slow=5.0,SNR=16
BOSA Boshof 74.39 239 LR LR 14 48 42.1
comp=Z,108nm,19.5s,MS4.2,baz=260,slow=32
CRVS Cervenica-Dubn 74.79 319 eP **P 14 20 32.6 +0.5**
STHS Stebnicka Huta 75.02 320 eP **P 14 20 34.0 +0.6**
STHS pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
STHS Stebnicka Huta 75.02 320 eP **P 14 20 34.0 +0.6**
comp=Z,4.3nm,0.7s,mb4.5
FINES FINESS Array B 75.08 332 P **P 14 20 33.0 -0.5**
comp=Z,1.9nm,0.7s,mb4.2,baz=97,slow=4.3,SNR=8.5
OJC Ojcow 76.07 320 eP **P 14 20 38.4 -1.0**
VYHS Vyhne 76.45 319 eP **P 14 20 40.3 -1.3**
VYHS pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
VYHS Vyhne 76.45 319 eP **P 14 20 40.3 -1.3**
comp=Z,5.4nm,1.5s,mb4.3
MODS Modra-Piesok 77.47 318 eP **P 14 20 46.9 -0.4**
ZST Bratislava 77.57 318 eP **P 14 20 48.8 +0.9**
ZST pmax pmax
comp=Z,13nm,1.0s,mb4.8
ZST Bratislava 77.57 318 eP **P 14 20 48.8 +0.9**
comp=Z,13nm,1.0s,mb4.8
ARCES ARCESS Array B 77.75 340 P **P 14 20 49.0 +0.5**
comp=Z,1.4nm,0.5s,mb4.2,baz=93,slow=5.9,SNR=12
DPC Dobruska-Polom 78.30 320 eP **P 14 20 52.8 +0.9**
BILL Bilibino 78.41 21 eP **P 14 20 51.1 -1.0**
BILL e 14 20 58.5
BILL pmax pmax
comp=Z,5.0nm,1.1s,mb4.4
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.5
BOJS Bojanci 78.60 315 iP **P 14 20 54.1 +0.4**
PERS Pernice 78.77 316 iP **P 14 20 55.4 +0.8**
PDKS Podkum 78.81 316 eP **P 14 20 55.6 +0.8**
SOKA Soboth 78.83 316⇑iP **P 14 20 55.6 +0.8**
comp=Z,6.8nm,0.9s,mb4.6
PRU Pruhonice 79.41 320 eP **P 14 20 58.9 +0.9**
GEC2 GERESS Array S 79.88 319 eP **P 14 21 01.7 +1.2**
GERES GERESS Array B 79.88 319 P **P 14 21 01.3 +0.8**
comp=Z,6.8nm,0.7s,mb4.7,baz=86,slow=5.5,SNR=50
GERES pP pP 14 21 15.3 +2.6
comp=Z,3.2nm,0.6s,baz=96,slow=5.4,SNR=5.3
KHC Kasperske Hory 79.97 319 eP **P 14 21 01.6 +0.5**
KHC eSP sP 14 21 15.5 -2.2
WET Wettzell 80.43 319 eP **P 14 21 04.6 +1.1**
CLL Collm 80.48 321↓iP **P 14 21 04.1 +0.4**
CLL pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
CLL Collm 80.48 321↓iP **P 14 21 04.1 +0.4**
comp=Z,7.0nm,1.2s,mb4.5
WTTA Wattenberg 81.19 317↓iP **P 14 21 07.7 +0.1**
comp=Z,6.5nm,0.6s,mb4.8
WTTA Wattenberg 81.19 317↓iP **P 14 21 07.7 +0.1**
WTTA pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
SQTA Sankt Quirin 81.48 317⇑iP **P 14 21 09.2 +0.1**
comp=Z,2.7nm,0.7s,mb4.3
SQTA Sankt Quirin 81.48 317⇑iP **P 14 21 09.2 +0.1**
SQTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
GRA1 Grafenberg Arr 81.54 319 eP **P 14 21 10.2 +0.8**
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 81.54 319 eP **P 14 21 10.2 +0.8**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 81.54 319 eP **P 14 21 10.2 +0.8**
GRF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRF Grafenberg Arr 81.54 319 eP **P 14 21 10.2 +0.8**
comp=Z,9.0nm,0.8s,mb4.8
MOTA Moosalm 81.55 317⇑iP **P 14 21 09.4 -0.1**
comp=Z,3.5nm,1.0s,mb4.3
MOTA Moosalm 81.55 317⇑iP **P 14 21 09.5 0.0**
MOTA pmax pmax
comp=Z,4.0nm,1.0s,mb4.3
RETA Reutte 81.78 317⇑iP **P 14 21 10.9 +0.1**
comp=Z,9.6nm,0.5s,mb5.0
NOA NORSAR Array B 82.07 331 P **P 14 21 11.3 -0.6**
comp=Z,1.1nm,0.8s,mb3.8,baz=90,slow=5.7,SNR=3.4
NOA LR LR 15 00 29.4
comp=Z,29nm,19.1s,MS3.6,baz=275,slow=38
KEST Kesra 82.88 305 P **P 14 21 17.5 +0.8**
comp=Z,0.9nm,0.5s,mb4.0,baz=85,slow=2.1,SNR=3.1
PGF Pioggiola 83.02 312 eP **P 14 21 17.2 -0.1**
LPG La Plagne 84.57 315 eP **P 14 21 25.2 0.0**
comp=Z,8.3nm,0.6s,mb4.7
LPG La Plagne 84.57 315 eP **P 14 21 25.2 0.0**
LPG pmax pmax
comp=Z,4.0nm,0.6s,mb4.7
LPG La Plagne 84.57 315 eP **P 14 21 25.2 0.0**
comp=Z,4.2nm,0.6s,mb4.8
LPL La Plagne 84.58 315 eP **P 14 21 25.2 -0.1**
comp=Z,19nm,1.0s,mb4.9
LPL La Plagne 84.58 315 eP **P 14 21 25.2 -0.1**
LPL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
LPL La Plagne 84.58 315 eP **P 14 21 25.2 -0.1**
comp=Z,9.3nm,1.0s,mb4.9
MBDF Montbardon 84.58 314 eP **P 14 21 24.9 -0.4**
comp=Z,4.9nm,0.6s,mb4.5
MBDF Montbardon 84.58 314 eP **P 14 21 24.9 -0.4**
MBDF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
MBDF Montbardon 84.58 314 eP **P 14 21 24.9 -0.4**
comp=Z,2.5nm,0.6s,mb4.5
FRF La Foret Royal 84.72 313 eP **P 14 21 25.5 -0.5**
HAU Haudompre 84.76 318 eP **P 14 21 25.7 -0.4**
comp=Z,10nm,0.6s,mb4.8
HAU Haudompre 84.76 318 eP **P 14 21 25.7 -0.4**
HAU pmax pmax
comp=Z,5.0nm,0.6s,mb4.8
HAU Haudompre 84.76 318 eP **P 14 21 25.7 -0.4**
comp=Z,5.1nm,0.6s,mb4.8
LMR La Mourre 84.83 313 eP **P 14 21 25.9 -0.6**
CABF La Chapelle 84.99 316 eP **P 14 21 26.9 -0.4**
comp=Z,12nm,0.7s,mb4.8
CABF La Chapelle 84.99 316 eP **P 14 21 26.9 -0.4**
CABF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
CABF La Chapelle 84.99 316 eP **P 14 21 26.9 -0.4**
comp=Z,5.8nm,0.7s,mb4.8
ORIF Oris-en-Rattie 85.21 315 eP **P 14 21 27.8 -0.6**
SMRF Simiane la Rot 85.47 314 eP **P 14 21 29.2 -0.6**
MEZF Maizieres J'vi 85.60 318 eP **P 14 21 29.6 -0.7**
comp=Z,14nm,0.6s,mb5.1
MEZF Maizieres J'vi 85.60 318 eP **P 14 21 29.6 -0.7**
comp=Z,14nm,0.6s,mb5.4
BAIF Baives 86.07 320 eP **P 14 21 32.0 -0.6**
comp=Z,7.2nm,0.5s,mb4.9
BAIF Baives 86.07 320 eP **P 14 21 32.0 -0.6**
BAIF pmax pmax
comp=Z,4.0nm,0.4s,mb5.0
BAIF Baives 86.07 320 eP **P 14 21 32.0 -0.6**
comp=Z,3.6nm,0.4s,mb5.0
VIVF Saint-Julien-l 86.07 315 eP **P 14 21 32.1 -0.6**
LOR Lormes 86.48 317 eP **P 14 21 34.2 -0.5**
comp=Z,8.3nm,0.6s,mb4.8
LOR Lormes 86.48 317 eP **P 14 21 34.2 -0.5**
LOR pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
LOR Lormes 86.48 317 eP **P 14 21 34.2 -0.5**
comp=Z,4.2nm,0.6s,mb4.8
SMF Signal de Mont 86.53 316 eP **P 14 21 34.4 -0.5**
comp=Z,8.1nm,0.6s,mb4.8
SMF Signal de Mont 86.53 316 eP **P 14 21 34.4 -0.5**
SMF pmax pmax
comp=Z,4.0nm,0.6s,mb4.8
SMF Signal de Mont 86.53 316 eP **P 14 21 34.4 -0.5**
comp=Z,4.1nm,0.6s,mb4.8
LASF Ste Croix 86.70 314 eP **P 14 21 35.5 -0.3**
comp=Z,9.7nm,0.9s,mb4.7
SSF Saint Saulge 86.73 317 eP **P 14 21 35.0 -0.9**
AVF Avril sur Loir 86.86 317 eP **P 14 21 35.9 -0.6**
CAF Calviac 87.91 315 eP **P 14 21 41.1 -0.5**
MTLF Montolieu 87.95 313 eP **P 14 21 41.2 -0.7**
comp=Z,3.8nm,0.6s,mb4.5
MTLF Montolieu 87.95 313 eP **P 14 21 41.2 -0.7**
MTLF pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
MTLF Montolieu 87.95 313 eP **P 14 21 41.2 -0.7**
comp=Z,1.9nm,0.6s,mb4.5
EPF Esparros 89.35 313 eP **P 14 21 47.8 -0.7**
ETSF Etsaut 90.02 313 eP **P 14 21 50.8 -0.8**
NVAR Mina Array Bea 127.01 32 PKP PKPdf 14 27 56.5 +0.3
comp=Z,0.7nm,0.7s,baz=310,slow=2.2,SNR=5.6
TXAR Lajitas Array 141.48 26 PKhKP 14 28 17.0
comp=Z,0.4nm,0.5s,baz=248,slow=2.2,SNR=5.3
TXAR PKP PKPdf 14 28 24.9 +1.4
comp=Z,0.9nm,0.8s,baz=190,slow=0.8,SNR=6.0
CPUP Villa Florida 145.79 229 PKPbc PKPbc 14 28 31.1 -0.4
comp=Z,1.9nm,0.7s,baz=73,slow=3.9,SNR=6.8

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*NEIC **21** 14:14:51.5,2969S×7125W,h50km,MD3.7(GUC),After GUC.*

GUC 21 14:14:51.5±0.5,2969S×7125W,h50km±3km,MD3.7, ML2.8,2C-2D,Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.21**	**178**	*i* P	Pn	14 14 60.0	0.0
LSCH				*i* S	Sn	14 15 06.5	+0.5
TLL	**Tololo Astrono**	**0.61**	**141**	↓*i* P	Pn	14 15 05.1	+0.9
TLL				*i* S	Sn	14 15 15.3	+2.1
TLL	**Tololo Astrono**	**0.61**	**141**	↓*i* P	Pn	14 15 05.1	+0.9
TLL				*i* S	Sn	14 15 15.3	+2.1
TLL				AML	AML	14 15 17.9	
	comp=E,304nm,0.5s						
LCO	**Las Campanas**	**0.83**	**36**	*e*Pg	Pn	14 15 05.0	-2.0
LCO				*e*Sg	Sn	14 15 15.5	-2.7
OVCH	**Ovalle**	**0.91**	**177**	*i* P	Pn	14 15 08.6	+0.5
OVCH				*i* S	Sn	14 15 21.3	+1.1
OVCH	**Ovalle**	**0.91**	**177**	*i* P	Pn	14 15 08.6	+0.5
OVCH				*i* S	Sn	14 15 21.3	+1.1
OVCH				AML	AML	14 15 31.6	
	comp=N,255nm,0.6s						
VACH	**Vallenar**	**1.19**	**21**	*i* P	Pn	14 15 08.5	-3.3
VACH				*i* S	Sn	14 15 24.5	-2.5
VACH	**Vallenar**	**1.19**	**21**	*i* P	Pn	14 15 08.5	-3.3
VACH				*i* S	Sn	14 15 24.5	-2.5
VACH				AML	AML	14 15 27.5	
	comp=N,711nm,0.1s						
CMCH	**Combarbala**	**1.49**	**172**⇑	*i*P	Pn	14 15 16.3	+0.4
CMCH				*i* S	Sn	14 15 35.5	+1.3
CMCH	**Combarbala**	**1.49**	**172**⇑	*i*P	Pn	14 15 16.3	+0.4
CMCH				*i* S	Sn	14 15 35.5	+1.3
CMCH				AML	AML	14 15 38.8	
	comp=E,389nm,0.4s						

MAN 21 14:27:42,1351N×12072E,h1km,mb3.5,ML2.2,MS1.7, Mindoro

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*DDA **21** 14:47:32.8,40.19N×3352E,h5km±3km,Md3.0*
*ISCJB **21** 14:47:37.2±0.5,3997N±003×3352E±004,h14km±6km, Error ellipse: s-maj=5.7km s-min=4.7km az=155.7*
*CSEM **21** 14:47:37.0±0.1,3997N×3349E,h10km,MD3.0,Error ellipse: s-maj=4.5km s-min=2.3km az=164.0*
*ISK **21** 14:47:37.0,3999N×3349E,h19km,MD3.0*

ISC 21 14:47:38.0±0.5,4000N±003×3351E±004,h15km±6km,n16, σ0§98/22,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	**Ankara**	**0.57**	**257**	PG	**Pg**	**14 47 48.0**	**-1.2**
ANTO				*e*SG	**Sg**	**14 47 57.3**	**+0.6**
LOD	**Lodumlu**	**0.58**	**259**	*e*PG	**Pg**	**14 47 48.4**	**-1.1**
CANT	**Cankiri**	**0.61**	**8**	*e*PG	**Pg**	**14 47 50.3**	**+0.3**
CANT				*e*SG	**Sg**	**14 47 59.1**	**+0.9**
CDAG	**Cicekdag**	**0.76**	**119**	*i* P	**Pg**	**14 47 49.1**	**-3.7**
CDAG				*i* S	**Sg**	**14 47 58.8**	**-4.1**
CORM	**Corum**	**0.88**	**78**	*e*PG	**Pg**	**14 47 54.5**	**-0.5**
CORM				*e*SG	**Sg**	**14 48 08.0**	**+1.5**
TOS	**Tosya**	**1.11**	**21**	*e*PN	**Pn**	**14 47 57.9**	**-1.1**
CTKT	**Corum**	**1.16**	**57**	*i* P	**Pn**	**14 47 59.9**	**+0.1**
YOZ	**Yozgat**	**1.44**	**104**	*e*PN	**Pn**	**14 48 03.2**	**-0.4**
BALT	**Daday**	**1.54**	**357**	*i* P	**Pg**	**14 48 07.2**	**-0.3**
AVNT	**Avonos**	**1.60**	**139**	*i* P	**Pn**	**14 48 07.0**	**+1.2**
AVNT				*i* S	**Sg**	**14 48 30.1**	**+0.5**
KDHN	**Kadinhani**	**1.83**	**217**	*i* P	**Pn**	**14 48 09.6**	**+0.7**
KDHN				*i* S	**Sg**	**14 48 37.7**	**+0.8**
SVSK	**Karacayir**	**2.68**	**91**	*e*PN	**Pn**	**14 48 20.9**	**+0.2**
MYA	**Malataya**	**4.17**	**112**	*e*SG	**Sg**	**14 49 55.4**	**+3.5**
MYA	**Malataya**	**4.17**	**112**	*e*Sg	**Sg**	**14 49 55.4**	**+3.5**
MYA	**Malataya**	**4.17**	**112**	PG	**Sg**	**14 49 50.0**	**-1.9**
MALT	**Malatya**	**4.18**	**112**	*e*PG	**Sg**	**14 49 50.5**	**-1.6**

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*ISK **21** 15:02:22.1,40.12N×3553E,h9km,MD2.8*
*ISCJB **21** 15:02:23.2±1.1,4007N±004×3558E±006,h8km±8km, Error ellipse: s-maj=7.7km s-min=6.6km az=156.2*
*DDA **21** 15:02:24.4,3998N×3540E,h7km±4km,Md3.0*
*CSEM **21** 15:02:24.4,3998N×3540E,h7km,MD3.0,After ERD*

ISC 21 15:02:24.2±0.9,4007N±004×3554E±007,h18km±8km,n9, σ1§07/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	**Yozgat**	**0.46**	**202**	PG	**Pg**	**15 02 32.7**	**-0.9**
YOZ				SG	**Sg**	**15 02 39.7**	**-0.2**
CORM	**Corum**	**0.71**	**279**	*e*PG	**Pg**	**15 02 35.6**	**-2.5**
CTKT	**Corum**	**0.80**	**314**	*i* P	**Pg**	**15 02 39.8**	**0.0**
CTKT				*i* S	**Sg**	**15 02 51.3**	**+0.9**
CDAG	**Cicekdag**	**1.01**	**244**	*i* P	**Pb**	**15 02 40.3**	**-2.8**
CDAG				*i* S	**Sb**	**15 02 56.4**	**+0.4**
SVSK	**Karacayir**	**1.13**	**97**	*e*PN	**Pn**	**15 02 45.0**	**-0.1**
SVSK				*e*SN	**Sn**	**15 03 00.2**	**0.0**
BNN	**Bunyan**	**1.24**	**169**	*e*PN	**Pn**	**15 02 46.9**	**+0.2**
AVNT	**Avonos**	**1.40**	**203**	*i* P	**Pn**	**15 02 49.0**	**+0.2**
AVNT				*i* S	**Sg**	**15 03 11.1**	**+1.7**
AVNT	**Avonos**	**1.40**	**203**	*i* P	**Pn**	**15 02 49.0**	**+0.2**
AVNT				*i* S	**Sg**	**15 03 11.1**	**+1.8**
BOYT	**Boyabat**	**1.43**	**340**	*e*P	**Pg**	**15 02 52.6**	**+0.7**

MAN 21 15:03:16,977N×12572E,h98km,mb4.0,ML2.7,MS2.4, Mindanao

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IDC 21 15:20:02.4±11.0,2184N×14298E,h176km±108km, mb2.9/7,mb1 3.2/7,mb1mx3.1/19,mbtmp2.9/7,Error ellipse: s-maj=43.6km s-min=17.0km az=85.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.29**	**323**	P	P	15 24 25.4	+0.9
	0.4nm,0.5s,baz=141,slow=7.4,SNR=4.2						
SONM	**Songino Array**	**39.11**	**320**	P	P	15 27 11.7	-0.9
	0.2nm,0.4s,baz=135,slow=5.4,SNR=3.6						
WRA	**Warramunga Arr**	**42.37**	**192**	P	P	15 27 40.5	+1.0
	0.7nm,1.0s,baz=17,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**46.08**	**192**	P	P	15 28 07.5	-1.4
	0.2nm,0.6s,baz=18,slow=11,SNR=5.7						
MKAR	**Makanchi Array**	**54.47**	**313**	P	P	15 29 12.0	+0.3
	0.2nm,0.2s,baz=88,slow=11,SNR=2.5						
YKA	**Yellowknife Ar**	**76.42**	**28**	P	P	15 31 31.6	-0.5
	0.3nm,0.5s,baz=290,slow=5.6,SNR=5.4						
NVAR	**Mina Array Bea**	**83.21**	**51**	P	P	15 32 10.1	+0.9
	0.4nm,0.6s,baz=346,slow=8.7,SNR=2.3						

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*ISCJB **21** 15:48:28.1±0.3,5146N±002×16.15E±002,h0km,mb3.5/2, Error ellipse: s-maj=2.9km s-min=1.8km az=16.0*
*MOS **21** 15:48:28.2±0.9,5160N×1623E,h10km,mb3.7/1,Error ellipse: s-maj=12.0km s-min=5.6km az=79.2*
*NEIC **21** 15:48:29.4±0.3,5156N×1617E,h5km,ML3.3(SZGRF), Error ellipse: s-maj=4.1km s-min=3.3km az=197.0*
*CSEM **21** 15:48:30.6±0.1,5151N×1614E,h1km,ML3.7/10,Error ellipse: s-maj=1.9km s-min=1.0km az=16.0*
*WAR **21** 15:48:30.8,5152N×1612E,ML2.9,Mining Induced*
*IDC **21** 15:48:30.3±0.8,5154N×1606E,h0km,mb3.5/2,mb1 3.6/8, mb1mx3.4/24,mbtmp3.4/8,ML3.3/6,MS2.8/1,Ms1 2.8/1, ms1mx1.8/38,Error ellipse: s-maj=12.1km s-min=7.5km az=128.0*
*PRU **21** 15:48:30.8,5149N×1612E,h0km*
*IPEC **21** 15:48:30.0±0.2,5152N×1622E,h8km±1km,ML2.7/3,Error ellipse: s-maj=1.6km s-min=0.6km az=45.0*
*BGR **21** 15:48:31.3±0.4,5145N×1612E,h1km,ML3.3,Error ellipse: s-maj=4.4km s-min=2.2km az=14.0*
*VIE **21** 15:48:33.2±0.7,5123N×1619E,h0km,mb2.8/6,ML3.1/6, Error ellipse: s-maj=5.1km s-min=4.0km az=112.0 59 km WNW of Wroclaw Suspected Mining induced.*

ISC 21 15:48:29.4±0.3,5151N±002×1615E±002,h0km,n92, σ1§02/169,mb3.5/2,7C-5D,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.68**	**172**	*e*Pg	**Pg**	**15 48 43.3**	**+1.0**
KSP				*e*Sg	**Sg**	**15 48 52.3**	**+1.3**
KSP	**Ksiaz**	**0.68**	**172**	*e*Pg	**Pg**	**15 48 43.3**	**+1.0**
KSP				*e*Sg	**Sg**	**15 48 52.7**	**+1.7**
KSP	**Ksiaz**	**0.68**	**172**	↓*i*Pg	**Pg**	**15 48 43.3**	**+1.0**
KSP				*e*Sg	**Sg**	**15 48 52.2**	**+1.2**
KSP				*e*		15 48 57.0	
KSP	**Ksiaz**	**0.68**	**172**	Pg	**Pg**	**15 48 43.3**	**+1.0**
KSP				*e*Sg	**Sg**	**15 48 52.1**	**+1.1**
UPC	**Upice**	**1.01**	**185**	*e*Pg	**Pg**	**15 48 49.3**	**+0.6**
UPC	**Upice**	**1.01**	**185**	*e*PG	**Pg**	**15 48 49.4**	**+0.7**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*Pg	**Pg**	**15 48 52.1**	**+0.4**
DPC				*e*Sg	**Sg**	**15 49 07.4**	**+0.6**
DPC	**Dobruska-Polom**	**1.17**	**175**	Pg	**Pg**	**15 48 52.1**	**+0.4**
DPC				*e*Sg	**Sg**	**15 49 07.1**	**+0.3**
DPC	**Dobruska-Polom**	**1.17**	**175**	*e*PG	**Pg**	**15 48 52.1**	**+0.4**
DPC				*e*SG	**Sg**	**15 49 07.4**	**+0.6**
	comp=Z,142nm,0.8s						
PVCC	**Panska Ves**	**1.40**	**226**	*e*Pg	**Pg**	**15 48 55.9**	**-0.4**
PVCC	**Panska Ves**	**1.40**	**226**	*e*Pn	**Pn**	**15 48 56.1**	**-0.1**
PVCC				*e*Sg	**Sg**	**15 49 15.3**	**+0.9**
BRG	**Berggiesshubel**	**1.53**	**246**	*e*Pn	**Pn**	**15 48 57.0**	**-0.9**
BRG				*e*Pg	**Pg**	**15 48 58.9**	**+0.2**
BRG				*e*Sg	**Sg**	**15 49 18.8**	**+0.3**
BRG	**Berggiesshubel**	**1.53**	**246**	PN	**Pn**	**15 48 57.0**	**-0.9**
BRG				PG	**Pg**	**15 48 58.8**	**+0.1**
BRG				SG	**Sg**	**15 49 18.8**	**+0.3**
	comp=Z,167nm,0.5s						
RUE	**Ruedersdorf**	**1.76**	**304**	*e*Pn	**Pn**	**15 48 59.5**	**-1.6**
RUE	**Ruedersdorf**	**1.76**	**304**	*e*Pn	**Pn**	**15 49 00.1**	**-1.0**
RUE				*e*Sg	**Sg**	**15 49 26.4**	**+0.6**
PRU	**Pruhonice**	**1.84**	**214**	*e*Pg	**Pg**	**15 49 03.8**	**-0.8**
PRU				*e*Sg	**Sg**	**15 49 28.0**	**-0.3**
	comp=Z,92nm,0.4s						
PRU	**Pruhonice**	**1.84**	**214**	*e*PN	**Pn**	**15 49 01.8**	**-0.3**
PRU				*e*PG	**Pg**	**15 49 03.8**	**-0.8**
PRU				*e*SG	**Sg**	**15 49 28.0**	**-0.3**
	comp=Z,92nm,0.4s						
FBE	**Freiberg**	**1.86**	**253**	*e*Pn	**Pn**	**15 49 03.4**	**+1.0**
FBE				*e*Pg	**Pg**	**15 49 05.9**	**+1.0**
FBE				*e*Sg	**Sg**	**15 49 31.2**	**+2.2**
GKP	**Gorka Klasztor**	**1.88**	**20**	*e*Pn	**Pn**	**15 49 09.8**	**+7.1**
GKP				*e*Pb	**Pg**	**15 49 11.1**	**+5.6**
GKP				*e*Sn	**Sn**	**15 49 36.1**	**+8.9**
GKP				*e*Sb	**Sg**	**15 49 38.6**	**+8.8**
GKP	**Gorka Klasztor**	**1.88**	**20**	*e*Pn	**Pn**	**15 49 09.8**	**+7.0**
GKP				*e*Pb	**Pg**	**15 49 11.1**	**+5.7**
GKP				*e*Sn	**Sn**	**15 49 36.1**	**+8.9**
GKP				*e*Sb	**Sg**	**15 49 38.6**	**+8.8**
RAC	**Raciborz**	**1.93**	**137**	*e*Pg	**Pg**	**15 49 06.8**	**+0.5**
RAC				*e*Sg	**Sg**	**15 49 31.1**	**-0.2**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**15 49 03.7**	**0.0**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**15 49 03.5**	**-0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	↓*i*P	**Pn**	**15 49 03.6**	**-0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	S	**Sn**	**15 49 30.8**	**+2.0**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**15 49 03.5**	**-0.2**
MORC				*e*Sg	**Sg**	**15 49 30.0**	**-2.0**
	comp=Z,41nm,0.4s						
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**15 49 03.3**	**-0.8**
CLL				*i* Pg	**Pg**	**15 49 06.8**	**-0.6**
CLL				*e*Sg	**Sg**	**15 49 34.0**	**+0.9**
CLL	**Collm**	**1.98**	**265**	*i* Pn	**Pn**	**15 49 03.4**	**-0.7**
CLL				*i* Pg	**Pg**	**15 49 06.8**	**-0.6**
CLL				*i* Sg	**Sg**	**15 49 33.0**	**-0.1**
CLL	**Collm**	**1.98**	**265**	*i* Pn	**Pn**	**15 49 03.4**	**-0.7**
CLL				*i* Pg	**Pg**	**15 49 06.8**	**-0.6**
CLL				*i* x	x	15 49 09.5	
CLL				*i* Sg	**Sg**	**15 49 33.0**	**-0.1**
	comp=Z,124nm,0.7s						
CLL	**Collm**	**1.98**	**265**	Pg	**Pg**	**15 49 06.8**	**-0.6**
CLL				Sg	**Sg**	**15 49 34.0**	**+0.9**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*Pn	**Pn**	**15 49 05.8**	**0.0**
OKC				*e*Pg	**Pg**	**15 49 09.8**	**+0.1**
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pg	**Pg**	**15 49 09.8**	**+0.2**
OKC				*e*Sg	**Sg**	**15 49 39.2**	**+2.3**
	comp=Z,134nm,0.7s						
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*PN	**Pn**	**15 49 05.9**	**+0.1**
OKC				*e*PG	**Pg**	**15 49 09.8**	**+0.2**
OKC				*e*SG	**Sg**	**15 49 39.2**	**+2.3**
	comp=Z,134nm,0.7s						
VRAC	**Vranov**	**2.22**	**173**	Pn	**Pn**	**15 49 08.1**	**+0.7**
	comp=Z,7.5nm,0.3s,baz=347,slow=14,SNR=19						
VRAC				Sn	**Sn**	**15 49 39.3**	**+3.7**
	comp=Z,14nm,0.3s,baz=51,sl

VRAC	**Vranov**	**2.22 173**	*e*Pn	**Pn**	**15 49 08.0**	**+0.6**
VRAC			*e*Sg	**Sg**	**15 49 40.2**	**-0.6**
	comp=Z,68nm,0.5s					
TREC	**Trest**	**2.26 191**	*e*Pn	**Pn**	**15 49 09.2**	**+1.3**
TREC			*e*Sg	**Sg**	**15 49 41.0**	**-0.9**
KRUC	**Moravsky**	**2.46 176**	*e*Pn	**Pn**	**15 49 11.2**	**+0.5**
KRUC	**Moravsky**	**2.46 176**	*e*Pg	**Pg**	**15 49 15.2**	**-1.2**
KRUC			*e*Sg	**Sg**	**15 49 46.5**	**-1.8**
	comp=Z,30nm,0.4s					
TANN	**Tannenbergstha**	**2.58 246**	*e*Pn	**Pn**	**15 49 12.4**	**+0.1**
TANN			*e*Sg	**Sg**	**15 49 52.1**	**-0.1**
OJC	**Ojcow**	**2.65 118**	*e*Pg	**Pg**	**15 49 20.3**	**+0.2**
OJC			*e*Sg	**Sg**	**15 49 55.6**	**+1.2**
OJC	**Ojcow**	**2.65 118**	*e*Pg	**Pg**	**15 49 20.3**	**+0.2**
OJC			*e*Sg	**Sg**	**15 49 55.3**	**+0.9**
WERD	**Werda**	**2.65 248**	*e*Pn	**Pn**	**15 49 13.2**	**-0.1**
WERD			*e*Pg	**Pg**	**15 49 20.7**	**+0.4**
WERD			*e*Sg	**Sg**	**15 49 55.0**	**+0.4**
NKC	**Novy Kostel**	**2.67 243**	*e*Pg	**Pg**	**15 49 20.5**	**-0.1**
NKC			*e*Sg	**Sg**	**15 49 56.4**	**+1.2**
	comp=Z,206nm,1.0s					
NKC	**Novy Kostel**	**2.67 243**	*e*PN	**Pn**	**15 49 13.9**	**+0.3**
NKC			*e*PG	**Pg**	**15 49 20.5**	**-0.1**
NKC			*e*SG	**Sg**	**15 49 56.4**	**+1.2**
	comp=Z,206nm,1.0s					
KHC	**Kasperske Hory**	**2.90 216**	*e*P	**Pn**	**15 49 16.8**	**+0.1**
KHC			*e*		15 49 51.9	
KHC	**Kasperske Hory**	**2.90 216**	*e*Pn	**Pn**	**15 49 16.6**	**-0.1**
KHC	**Kasperske Hory**	**2.90 216**	*e*PN	**Pn**	**15 49 16.8**	**+0.1**
KHC			*e*PG	**Pg**	**15 49 23.0**	**-1.9**
KHC			*e*SN	**Sn**	**15 49 51.9**	**-0.3**
KHC			*e*SG	**Sg**	**15 50 02.8**	**+0.4**
	comp=Z,31nm,0.4s					
MANZ	**Manzenberg**	**2.99 241**	*e*Pn	**Pn**	**15 49 18.3**	**+0.3**
MANZ			*e*Pg	**Pg**	**15 49 26.9**	**+0.3**
MANZ			*e*Sg	**Sg**	**15 50 06.5**	**+1.2**
MOX	**Moxa**	**2.99 255**	*e*Pg	**Pg**	**15 49 26.3**	**-0.4**
MOX			*e*Sg	**Sg**	**15 50 06.2**	**+0.8**
MOX	**Moxa**	**2.99 255**	*e*Pg	**Pg**	**15 49 26.3**	**-0.4**
MOX			*e*Sg	**Sg**	**15 50 06.3**	**+0.9**
MOX	**Moxa**	**2.99 255**	Pg	**Pg**	**15 49 26.3**	**-0.4**
MOX			*e*Sg	**Sg**	**15 50 06.5**	**+0.2**
MOX			*e*SG	**Sg**	**15 50 06.3**	**+0.9**
MOX	**Moxa**	**2.99 255**	*e*PG	**Pg**	**15 49 26.3**	**-0.4**
ROTZ	**Rotzenmuhle**	**3.06 237**	*e*Pn	**Pn**	**15 49 18.9**	**0.0**
ROTZ			*e*Sg	**Sg**	**15 50 06.2**	**-1.4**
GEC2	**GERESS Array S**	**3.10 211**	*e*Pn	**Pn**	**15 49 20.7**	**+1.2**
GEC2			*e*Sg	**Sg**	**15 50 07.5**	**-1.4**
GEC2	**GERESS Array S**	**3.10 211**	*e*Pn	**Pn**	**15 49 20.7**	**+1.2**
GEC2			*e*Sg	**Sg**	**15 50 07.5**	**-1.4**
GERES	**GERESS Array B**	**3.10 211**	Pn	**Pn**	**15 49 19.9**	**+0.5**
	comp=Z,2.7nm,0.3s,baz=32,slow=12,SNR=52					
GERES			Pg	**Pg**	**15 49 27.1**	**-1.7**
	comp=Z,4.7nm,0.3s,baz=27,slow=13,SNR=45					
GERES			Lg		15 50 07.3	
	comp=Z,7.8nm,0.3s,baz=28,slow=28,SNR=14					
GERES	**GERESS Array B**	**3.10 211**	Pg	**Pg**	**15 49 27.1**	**-1.6**
WET	**Wettzell**	**3.17 223**	*e*Pn	**Pn**	**15 49 20.2**	**-0.1**
MODS	**Modra-Piesok**	**3.22 167**	*e*PG	**Pg**	**15 49 31.1**	**0.0**
MODS			*e*SG	**Sg**	**15 50 11.7**	**-1.2**
KOLL	**Kolacno**	**3.27 153**	*e*SG	**Sg**	**15 50 14.2**	**-0.3**
ZST	**Bratislava**	**3.38 169**	*e*SG	**Sg**	**15 50 17.0**	**-0.8**
ZST	**Bratislava**	**3.38 169**	*e*Sg	**Sg**	**15 50 17.1**	**-0.7**
NIE	**Niedzica**	**3.38 127**	*e*P	**Pg**	**15 49 34.1**	**-0.1**
NIE			*e*S	**Sg**	**15 50 19.8**	**+1.8**
VYHS	**Vyhne**	**3.48 149**	*e*PG	**Pg**	**15 49 36.0**	**-0.1**
VYHS			*e*SG	**Sg**	**15 50 21.2**	**0.0**
CONA	**Conrad Observa**	**3.59 183**	⇑*i*Pn	**Pn**	**15 49 26.1**	**-0.1**
CONA			⇑*i*Sg	**Sg**	**15 50 22.8**	**-1.9**
	comp=Z,38nm,0.5s					
CLZ	**Clausthal**	**3.61 278**	*e*Pn	**Pn**	**15 49 27.1**	**+0.6**
CLZ			*e*Sg	**Sg**	**15 50 25.3**	**-0.1**
CLZ	**Clausthal**	**3.61 278**	*e*Pn	**Pn**	**15 49 27.1**	**+0.6**
CLZ			*e*Sg	**Sg**	**15 50 25.3**	**-0.1**
CLZ	**Clausthal**	**3.61 278**	*e*Pn	**Pn**	**15 49 26.7**	**+0.2**
CLZ			*e*Sg	**Sg**	**15 50 25.3**	**-0.1**
GRA1	**Grafenberg Arr**	**3.63 242**	Sg	**Sg**	**15 50 25.9**	**-0.1**
GRF	**Grafenberg Arr**	**3.63 242**	*e*Sg	**Sg**	**15 50 25.9**	**0.0**
GRFO	**Grafenberg**	**3.63 242**	*e*Pn	**Pn**	**15 49 26.3**	**-0.5**
BSD	**Bornholm Skovb**	**3.69 349**	*i* P	**Pn**	**15 49 26.4**	**-1.1**
BSD			*i* S	**Sn**	**15 50 08.4**	**-3.2**
MOA	**Molln**	**3.87 199**	⇑*i*Pn	**Pn**	**15 49 30.6**	**+0.6**
MOA			⇑*i*Sg	**Sg**	**15 50 33.8**	**+0.4**
	comp=Z,36nm,0.6s					
STHS	**Stebnicka Huta**	**3.87 121**	*e*PG	**Pg**	**15 49 44.7**	**+1.2**
STHS			*e*SG	**Sg**	**15 50 36.9**	**+3.3**
ARSA	**Arzberg**	**4.29 186**	⇓*i*Pn	**Pn**	**15 49 35.5**	**-0.3**
ARSA			⇓*i*Sg	**Sg**	**15 50 44.7**	**-2.3**
	comp=Z,34nm,0.7s					
CRVS	**Cervenica-Dubn**	**4.29 125**	*e*PG	**Pg**	**15 49 51.9**	**+0.3**
CRVS			*e*SG	**Sg**	**15 50 49.1**	**+1.8**
KWP	**Kalwaria**	**4.58 112**	*e*Pn	**Pg**	**15 49 54.5**	**-2.6**
KBA	**Koelnbreinsper**	**4.80 204**	⇑*i*Pn	**Pn**	**15 49 44.0**	**+1.1**
KBA			⇓*i*Sg	**Sg**	**15 51 03.2**	**-0.4**
	comp=Z,18nm,0.5s					
UZH	**Uzhgorod**	**4.89 124**	*e*P	**Pn**	**15 49 43.0**	**-1.1**
UZH			*e*S	**Sn**	**15 50 38.8**	**-2.6**
DAVOX	**Davos/Dischmat**	**6.27 223**	Pn	**Pn**	**15 50 04.7**	**+1.6**
	comp=Z,0.6nm,0.3s,baz=76,slow=8.3,SNR=3.4					
DAVOX			Lg		15 51 49.8	
	comp=Z,0.9nm,0.3s,baz=195,slow=20,SNR=3.8					
BURAR	**Bucovina Array**	**7.07 120**	⇑*i*P	**Pn**	**15 50 15.0**	**+1.0**
AKASG	**Malin Array Be**	**8.27 91**	Pn	**Pn**	**15 50 29.2**	**-1.3**
AKASG			Sn	**Sn**	**15 51 57.8**	**-6.7**
AKASG	**Malin Array Be**	**8.27 91**	Pn	**Pn**	**15 50 29.2**	**-1.3**
	comp=Z,1.2nm,0.3s,baz=279,slow=12,SNR=10.0					
AKASG			Sn	**Sn**	**15 51 57.8**	**-6.7**
	comp=Z,1.0nm,0.3s,baz=278,slow=23,SNR=4.2					
FINES	**FINESS Array B**	**11.35 25**	Pn	**Pn**	**15 51 09.8**	**-2.7**
	comp=Z,0.2nm,0.3s,baz=212,slow=10,SNR=6.9					
ARCES	**ARCESS Array B**	**18.62 10**	P	**Pn**	**15 52 46.8**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=192,slow=9.6,SNR=7.4					
ASF	**Jabal al Asfar**	**24.59 134**	LR	LR	16 04 41.8	
	comp=Z,22nm,19.4s,baz=248,slow=39					
AKTK	**Aktyubinsk**	**26.13 76**	P	**P**	**15 54 05.1**	**+0.3**
AKTO	**Aktyubinsk**	**26.13 76**	P	**P**	**15 54 05.1**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.5,baz=280,slow=12,SNR=3.6					
YKA	**Yellowknife Ar**	**59.87 336**	P	**P**	**15 58 36.4**	**+0.2**
YKA	**Yellowknife Ar**	**59.87 336**	P	**P**	**15 58 36.4**	**+0.2**
	comp=Z,0.3nm,0.6s,mb3.5,baz=28,slow=6.3,SNR=5.4					

WEL 21 15:49:24.1±1.0, 3787S×17676E, h4km±10km, ML3.6/4, Error ellipse: s-maj=3.7km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.14**	**210**	PG	Pg	15 49 27.0	+0.2
MARZ				SG	Sg	15 49 29.1	+0.3
OPRZ	**Ohinepanea**	**0.17**	**276**	PG	Pg	15 49 28.0	+0.7
OPRZ				SG	Sg	15 49 30.6	+1.1
LIRZ	**Lichensteins R**	**0.33**	**245**	PG	Pg	15 49 30.9	+0.5
LIRZ				SG	Sg	15 49 36.1	+1.3
TAZ	**Tarawera**	**0.42**	**209**	PG	Pg	15 49 34.4	+2.2
TGRZ	**Tauranga**	**0.42**	**288**	PG	Pg	15 49 33.0	+0.9
KARZ	**Kaharoa**	**0.44**	**249**	PG	Pg	15 49 32.9	+0.4
URZ	**Urewera**	**0.48**	**145**	PG	Pg	15 49 33.6	+0.3
MWZ	**Matawai**	**0.76**	**128**	P*	Pb	15 49 39.1	-0.8

CSEM ***21*** *15:54:42.3±0.1, 3479N×2900E, h68km±1km, mb4.2/10, Error ellipse: s-maj=1.8km s-min=1.0km az=58.0*
ISCJB ***21*** *15:54:42.8±0.2, 3476N±002×2899E±002, h70km±4km, mb3.9/16, Error ellipse: s-maj=3.5km s-min=2.7km az=145.3*
IDC ***21*** *15:54:43.9±1.2, 3479N×2895E, h47km±17km, mb3.7/6, mb1 3.8/11, mb1mx3.5/24, mbtmp3.7/11, ML3.9/5, Error ellipse: s-maj=25.9km s-min=9.3km az=14.0*
ATH ***21*** *15:54:44.3, 3491N×2897E, h41km±10km, MD3.7/7*
NEIC ***21*** *15:54:44.8±0.4, 3482N×2901E, h70km±4km, mb4.0/17, MD3.7(ATH), Error ellipse: s-maj=7.7km s-min=4.7km az=192.0*
DDA ***21*** *15:54:45.5, 3531N×2903E, h7km±7km, Md3.8*
THE ***21*** *15:54:49.4, 3506N×2875E, h28km, ML4.2*
HLW ***21*** *15:54:50.0, 3440N×2903E, h48km, Mb4.3*
ISC 21 15:54:44.4±0.2, 3479N±002×2896E±002, h64km±4km, n143, σ0⁘97/168, mb4.0/16, 2C, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**1.45**	**20**	*e*P	**Pn**	**15 55 08.0**	**-0.6**
ARG	**Arkhangelos**	**1.58**	**335**	*e*P	**Pn**	**15 55 10.1**	**-0.2**
ARG				*e*S	**Sn**	**15 55 28.7**	**-1.1**
KARP	**Karpathos**	**1.66**	**298**	*e*P	**Pn**	**15 55 11.9**	**+0.6**
KARP				*e*S	**Sn**	**15 55 32.1**	**+0.5**
FETY	**Fethiye**	**1.85**	**3**	*e*PN	**Pn**	**15 55 13.3**	**-0.6**
DALT	**Dalyan (Mudla)**	**2.00**	**353**	*e*PN	**Pn**	**15 55 14.9**	**-1.0**
ELL	**Elmali**	**2.10**	**21**	*e*PN	**Pn**	**15 55 17.1**	**-0.2**
DAT	**Datca**	**2.24**	**330**	*e*PN	**Pn**	**15 55 18.2**	**-1.0**
ZKR	**Zakros**	**2.28**	**279**	*e*Pn	**Pn**	**15 55 20.3**	**+0.7**
ZKR				*e*Sn	**Sn**	**15 55 46.3**	**-0.3**
ZKR	**Zakros**	**2.28**	**279**	P	**Pn**	**15 55 21.0**	**+1.4**
ZKR				*e*Sn	**Sn**	**15 55 46.3**	**-0.3**
YER	**Yerkesik**	**2.41**	**347**	*e*PN	**Pn**	**15 55 20.9**	**-0.5**
ANTB	**Antalya**	**2.52**	**33**	*e*PN	**Pn**	**15 55 23.5**	**+0.5**
BDRM	**Kayabasi**	**2.59**	**332**	*i* P	**Pn**	**15 55 24.0**	**+0.2**
BDRM				*i* S	**Sn**	**15 55 52.2**	**-1.9**
MLSB	**Milas**	**2.68**	**339**	*e*PN	**Pn**	**15 55 24.6**	**-0.6**
NPS	**Neapolis**	**2.79**	**281**	*e*P	**Pn**	**15 55 28.2**	**+1.6**
NPS				*e*S	**Sn**	**15 55 59.2**	**+0.1**
DENT	**Denizli**	**2.96**	**1**	*e*PN	**Pn**	**15 55 28.4**	**-0.6**
BCK	**Bucak**	**2.98**	**26**	*e*PN	**Pn**	**15 55 29.4**	**+0.2**
AYDN	**Tasoluk**	**3.00**	**343**	*i* P	**Pn**	**15 55 30.6**	**+1.1**
AYDN				*i* S	**Sn**	**15 56 03.8**	**-0.5**
LEF	**Lefka**	**3.25**	**83**	*e*PN	**Pn**	**15 55 32.4**	**-0.5**
THR1	**Thera Island**	**3.26**	**300**	*e*Pn	**Pn**	**15 55 33.5**	**+0.5**
SANT	**Santorini**	**3.26**	**300**	*e*Pn	**Pn**	**15 55 33.2**	**+0.1**
SANT				*e*Sn	**Sn**	**15 56 07.6**	**-3.0**
SANT	**Santorini**	**3.26**	**300**	*e*Pn	**Pn**	**15 55 32.8**	**-0.3**
SANT				*e*Sn	**Sn**	**15 56 07.6**	**-3.1**
IDI	**Anoyia**	**3.38**	**280**	P	**Pn**	**15 55 35.7**	**+1.1**
	6.1nm,0.3s,baz=93,slow=12,SNR=39						
IDI				S	**Sn**	**15 56 12.9**	**-0.6**
	73nm,0.3s,baz=16,slow=20,SNR=27						
SMG	**Samos**	**3.38**	**330**	*e*P	**Pn**	**15 55 34.6**	**-0.1**
TKTP	**Tekketepe**	**3.43**	**18**	*i* P	**Pn**	**15 55 36.2**	**+0.8**
TKTP				*i* S	**Sn**	**15 56 14.8**	**0.0**
KHL	**Karahalli**	**3.56**	**7**	*e*PN	**Pn**	**15 55 37.3**	**+0.2**
APE	**Apeiranthos**	**3.60**	**310**	*e*Pn	**Pn**	**15 55 37.6**	**0.0**
APE				*e*Sn	**Sn**	**15 56 15.4**	**-3.4**
APE	**Apeiranthos**	**3.60**	**310**	P	**Pn**	**15 55 37.9**	**+0.3**
APE				*e*Sn	**Sn**	**15 56 15.4**	**-3.5**
HDMB	**Hadim**	**3.60**	**52**	*e*PN	**Pn**	**15 55 39.3**	**+1.7**
CSS	**Prodhromos**	**3.60**	**86**	*e*Pn	**Pn**	**15 55 37.9**	**+0.2**
CSS	**Prodhromos**	**3.60**	**86**	*e*Pn	**Pn**	**15 55 37.9**	**+0.2**
ERMK	**Ermenek**	**3.71**	**59**	*i* P	**Pn**	**15 55 41.0**	**+1.8**
ERMK				*i* S	**Sn**	**15 56 21.9**	**+0.2**
KULA	**Kula-Manisa**	**3.73**	**356**	*e*PN	**Pn**	**15 55 39.5**	**0.0**
LFK	**Lefkose**	**3.79**	**81**	*e*PN	**Pn**	**15 55 43.0**	**+2.8**
KDAG	**Bornova**	**3.86**	**340**	*i* P	**Pn**	**15 55 41.6**	**+0.4**
BLCB	**Balcova**	**3.91**	**337**	*e*PN	**Pn**	**15 55 41.7**	**-0.3**
BLCB	**Balcova**	**3.91**	**337**	*e*Pn	**Pn**	**15 55 41.8**	**-0.2**
BLCB				*e*Sn	**Sn**	**15 56 23.2**	**-3.3**
BLCB	**Balcova**	**3.91**	**337**	*e*Pn	**Pn**	**15 55 41.8**	**-0.1**
BLCB				*e*Sn	**Sn**	**15 56 23.2**	**-3.3**
VAM	**Vamos**	**3.95**	**280**	*e*P	**Pn**	**15 55 44.7**	**+2.2**
SHUT	**Suhut-Afyon**	**3.97**	**18**	*e*PN	**Pn**	**15 55 43.2**	**+0.4**
HMAT	**Matruh**	**4.00**	**204**	P	**Pn**	**15 55 43.9**	**+0.7**
GVD	**Gavdhos**	**4.01**	**272**	*e*P	**Pn**	**15 55 45.0**	**+1.7**
KONT	**Konya--Tatoy**	**4.18**	**40**	*e*PN	**Pn**	**15 55 47.0**	**+1.4**
AKHS	**Akhisar**	**4.19**	**348**	*i* P	**Pn**	**15 55 45.1**	**-0.6**
AKHS				*i* S	**Sn**	**15 56 29.7**	**-3.6**
AKS	**Akhisar**	**4.19**	**348**	*e*PN	**Pn**	**15 55 45.8**	**+0.1**
GDZ	**Gediz**	**4.32**	**5**	*i* P	**Pn**	**15 55 48.1**	**+0.7**
ALT	**Altintas**	**4.36**	**12**	*e*PN	**Pn**	**15 55 48.4**	**+0.3**
KDHN	**Kadinhani**	**4.51**	**33**	*i* P	**Pn**	**15 55 51.1**	**+1.0**
KDHN				*i* S	**Sn**	**15 56 40.5**	**-0.8**
KIZT	**Kizilcal**	**4.71**	**29**	*e*PN	**Pn**	**15 55 54.2**	**+1.3**
AANS		**4.93**	**155**	P	**Pn**	**15 55 55.5**	**-0.4**
ESKT	**Eskisehir**	**4.96**	**17**	*i* P	**Pn**	**15 55 55.9**	**-0.4**
ESKT				*i* S	**Sn**	**15 56 49.7**	**-2.6**
ESKT	**Eskisehir**	**4.96**	**17**	*e*Pn	**Pn**	**15 55 57.0**	**+0.7**
SEYT	**Eskypehyr**	**4.96**	**17**	*i* P	**Pn**	**15 55 55.9**	**-0.4**
SEYT				*i* S	**Sn**	**15 56 49.7**	**-2.6**
HMYD	**Mayadein**	**5.21**	**162**	P	**Pn**	**15 55 59.4**	**-0.5**
SQR		**5.24**	**158**	P	**Pn**	**15 55 60.0**	**-0.2**
VLI	**Veliai**	**5.26**	**293**	P	**Pn**	**15 56 00.5**	**+0.1**
HNAT	**Natroun**	**5.33**	**164**	P	**Pn**	**15 56 00.9**	**-0.5**
DID	**Didima**	**5.37**	**302**	*e*Pn	**Pn**	**15 56 02.5**	**+0.6**
FYM	**Al Fayyum**	**5.38**	**160**	P	**Pn**	**15 56 01.8**	**-0.2**
FYM				S	**Sn**	**15 56 54.8**	**-7.8**
AYT	**Al 'Ayyat**	**5.40**	**159**	P	**Pn**	**15 56 01.8**	**-0.5**
KOT	**Kottamia**	**5.42**	**153**	P	**Pn**	**15 56 02.2**	**-0.4**
EZN	**Ezine**	**5.45**	**338**	*e*PN	**Pn**	**15 56 03.9**	**+0.9**
HHAG	**Hagoal**	**5.50**	**150**	P	**Pn**	**15 56 03.9**	**+0.1**
HHAG	**Hagoal**	**5.50**	**150**	P	**Pn**	**15 56 03.8**	**0.0**
IZI	**Iznik**	**5.56**	**4**	*e*PN	**Pn**	**15 56 05.4**	**+1.0**
HSAF	**As Saff**	**5.60**	**156**	⇑P	**Pn**	**15 56 04.7**	**-0.4**
MMAI	**Mount Meron Ar**	**5.64**	**106**	P	**Pn**	**15 56 05.0**	**-0.6**
	3.1nm,0.3s,baz=287,slow=11,SNR=20						
MMAI				S	**Sn**	**15 57 09.5**	**+0.4**
	16nm,0.3s,baz=302,slow=25,SNR=10.0						
GLL	**Jalalah**	**5.69**	**155**	P	**Pn**	**15 56 05.8**	**-0.5**
LTK	**Loutraki**	**5.81**	**306**	*e*Pn	**Pn**	**15 56 09.4**	**+1.5**
SUZ		**5.92**	**145**	P	**Pn**	**15 56 09.9**	**+0.4**
ANTO	**Ankara**	**5.92**	**30**	*e*Pn	**Pn**	**15 56 09.2**	**-0.3**
	18nm,0.8s						
ANTO	**Ankara**	**5.92**	**30**	*e*Pn	**Pn**	**15 56 09.2**	**-0.3**
	18nm,0.8s						
HBNS	**Bani Suwayf**	**6.12**	**161**	P	**Pn**	**15 56 11.7**	**-0.6**
LKR	**Lokris**	**6.15**	**311**	P	**Pn**	**15 56 15.0**	**+2.5**
SWA1		**6.16**	**207**	P	**Pn**	**15 56 12.7**	**0.0**
ITM	**Ithomi**	**6.18**	**295**	P	**Pn**	**15 56 14.0**	**+1.0**
SWA2		**6.28**	**209**	P	**Pn**	**15 56 14.9**	**+0.6**
NEO	**Neokhori**	**6.43**	**316**	P	**Pn**	**15 56 15.4**	**-1.0**
HNKL	**Nakhl**	**6.44**	**137**	P	**Pn**	**15 56 16.6**	**0.0**
HNKL				S	**Sn**	**15 57 21.5**	**-7.2**
AWBH		**6.45**	**180**	P	**Pn**	**15 56 16.1**	**-0.5**
CDAG	**Cicekdag**	**6.48**	**40**	*i* P	**Pn**	**15 56 15.2**	**-1.8**
CDAG				*i* S	**Sn**	**15 57 28.7**	**-0.9**
CDAG	**Cicekdag**	**6.48**	**40**	*i* P	**Pn**	**15 56 15.2**	**-1.9**
AGG	**Agios Georgios**	**6.79**	**310**	*e*Pn	**Pn**	**15 56 23.2**	**+1.9**
ASF	**Jabal al Asfar**	**7.13**	**109**	P	**Pn**	**15 56 25.5**	**-0.4**
	0.6nm,0.3s,baz=119,slow=0.4,SNR=5.3						
EIL	**Elat**	**7.20**	**133**	P	**Pn**	**15 56 26.5**	**-0.4**
	4.0nm,0.3s,baz=330,slow=8.1,SNR=31						
EIL				S	**Sn**	**15 57 41.9**	**-5.3**
	9.3nm,0.3s,baz=323,slow=20,SNR=14						
GRB	**Gharib**	**7.27**	**152**	P	**Pn**	**15 56 27.5**	**-0.4**
HBST	**Basata**	**7.41**	**137**	P	**Pn**	**15 56 29.5**	**-0.3**
HKAT	**Jabal Katrina**	**7.57**	**144**	P	**Pn**	**15 56 32.0**	**-0.1**
HFRF	**Wahat Farafira**	**7.63**	**184**	P	**Pn**	**15 56 32.1**	**-0.8**
HDHB	**Dhahab**	**7.73**	**140**	P	**Pn**	**15 56 34.4**	**+0.2**
HDK1	**Dakhla**	**9.22**	**177**	P	**Pn**	**15 56 53.8**	**-0.8**
HSFG		**9.24**	**151**	P	**Pn**	**15 56 54.7**	**-0.2**
GTR	**Jabal at Tayr**	**9.35**	**171**	⇑P	**Pn**	**15 56 55.3**	**-1.1**
TIP	**Timpagrande**	**10.70**	**298**	*e*P	**Pn**	**15 57 11.3**	**-3.4**
	18nm,0.3s						
MGR	**Morigerati**	**11.91**	**301**	Pn	**Pn**	**15 57 27.4**	**-3.9**
	20nm,0.4s						
PGF	**Pioggiola**	**17.38**	**302**	*e*P	**Pn**	**15 58 40.8**	**-1.7**
GERES	**GERESS Array B**	**18.02**	**326**	P	**Pn**	**15 58 51.0**	**+0.8**
	0.3nm,0.3s,baz=139,slow=11,SNR=10						
FRF	**La Foret Royal**	**19.35**	**304**	*e*P	**Pn**	**15 59 04.5**	**-1.7**
LMR	**La Mourre**	**19.37**	**303**	*e*P	**Pn**	**15 59 04.8**	**-1.6**
BRG	**Berggiesshubel**	**19.43**	**330**	*e*P	**Pn**	**15 59 09.4**	**+2.4**
	4.8nm,0.9s						
MBDF	**Montbardon**	**19.68**	**307**	*e*P	**Pn**	**15 59 08.5**	**-1.6**
	11nm,0.6s						
MBDF	**Montbardon**	**19.68**	**307**	*e*P	**Pn**	**15 59 08.5**	**-1.6**
	5.3nm,0.6s						
LPG	**La Plagne**	**20.00**	**309**	*e*P	**P**	**15 59 12.2**	**+0.6**
	5.0nm,0.5s						
LPG	**La Plagne**	**20.00**	**309**	*e*P	**P**	**15 59 12.2**	**+0.6**
	2.5nm,0.5s						
LPL	**La Plagne**	**20.02**	**309**	*e*P	**P**	**15 59 12.3**	**+0.5**
	4.7nm,0.4s						
LPL	**La Plagne**	**20.02**	**309**	*e*P	**P**	**15 59 12.3**	**+0.5**
	2.3nm,0.4s						
CLL	**Collm**	**20.14**	**330**	*i* (P)	**P**	**15 59 16.3**	**+3.2**
	comp=Z,7.0nm,0.7s						
SMRF	**Simiane la Rot**	**20.22**	**304**	*e*P	**P**	**15 59 14.2**	**+0.2**
	comp=Z,2.7nm,0.5s						
SMRF	**Simiane la Rot**	**20.22**	**304**	*e*P	**P**	**15 59 14.2**	**+0.2**
	comp=Z,1.4nm,0.5s						
ORIF	**Oris-en-Rattie**	**20.34**	**307**	*e*P	**P**	**15 59 15.7**	**+0.4**
	comp=Z,3.5nm,0.5s						
ORIF	**Oris-en-Rattie**	**20.34**	**307**	*e*P	**P**	**15 59 15.7**	**+0.4**
	comp=Z,1.8nm,0.5s						
CABF	**La Chapelle**	**20.90**	**311**	*e*P	**P**	**15 59 20.9**	**-0.4**
	comp=Z,8.2nm,0.6s						
CABF	**La Chapelle**	**20.90**	**311**	*e*P	**P**	**15 59 20.9**	**-0.4**
	comp=Z,4.1nm,0.6s						
CDF	**Champ du Feu**	**21.08**	**317**	*e*P	**P**	**15 59 22.9**	**-0.3**
	comp=Z,8.2nm,0.8s,mb3.8						
CDF	**Champ du Feu**	**21.08**	**317**	*e*P	**P**	**15 59 22.9**	**-0.3**
	comp=Z,4.1nm,0.8s,mb3.8						
VIVF	**Saint-Julien-l**	**21.12**	**306**	*e*P	**P**	**15 59 23.8**	**+0.1**
HAU	**Haudompre**	**21.40**	**315**	*e*P	**P**	**15 59 26.5**	**-0.1**
	comp=Z,5.1nm,0.5s,mb3.8						
HAU	**Haudompre**	**21.40**	**315**	*e*P	**P**	**15 59 26.5**	**-0.1**
	comp=Z,2.5nm,0.5s,mb3.8						
LASF	**Ste Croix**	**21.43**	**303**	*e*P	**P**	**15 59 26.8**	**-0.2**
	comp=Z,6.9nm,0.6s,mb3.9						
LASF	**Ste Croix**	**21.43**	**303**	*e*P	**P**	**15 59 26.8**	**-0.2**
	comp=Z,3.5nm,0.6s,mb3.9						
SMF	**Signal de Mont**	**22.32**	**310**	*e*P	**P**	**15 59 35.7**	**-0.8**
	comp=Z,15nm,1.0s,mb4.1						
SMF	**Signal de Mont**	**22.32**	**310**	*e*P	**P**	**15 59 35.7**	**-0.8**
	comp=Z,7.6nm,1.0s,mb4.1						
MEZF	**Maizieres J'vi**	**22.40**	**315**	*e*P	**P**	**15 59 36.3**	**-1.0**
	comp=Z,16nm,0.5s,mb4.4						
MEZF	**Maizieres J'vi**	**22.40**	**315**	*e*P	**P**	**15 59 36.3**	**-1.0**
	comp=Z,7.9nm,0.5s,mb4.4						
LOR	**Lormes**	**22.56**	**311**	*e*P	**P**	**15 59 37.8**	**-1.2**
SSF	**Saint Saulge**	**22.70**	**310**	*e*P	**P**	**15 59 39.4**	**-1.0**
	comp=Z,12nm,0.6s,mb4.2						
SSF	**Saint Saulge**	**22.70**	**310**	*e*P	**P**	**15 59 39.4**	**-1.0**
	comp=Z,6.1nm,0.6s,mb4.2						
RJF	**Les Rejaudoux**	**23.38**	**305**	*e*P	**P**	**15 59 46.1**	**-1.2**
SJPF	**Ste Jean**	**24.80**	**299**	*e*P	**P**	**15 59 59.8**	**-0.5**
	comp=Z,8.1nm,0.7s,mb4.0						
SJPF	**Ste Jean**	**24.80**	**299**	*e*P	**P**	**15 59 59.8**	**-0.5**
	comp=Z,4.1nm,0.7s,mb4.1						
MFF	**Saint Martin d**	**24.88**	**307**	*e*P	**P**	**16 00 00.5**	**-0.4**
LDF	**La Druitiere**	**25.54**	**312**	*e*P	**P**	**16 00 06.7**	**-0.2**
	comp=Z,26nm,0.8s,mb4.5						
LDF	**La Druitiere**	**25.

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
CMCH	**Combarbala**	**1.62**	**174**	⇑*i*P	Pn	16 31 12.9	+0.3
CMCH				*i*S	Sn	16 31 32.6	+0.3
CPCH	**Copiapo**	**2.32**	**19**	*e*P	Pn	16 31 24.5	+2.4
CPCH				*i*S	Sn	16 31 52.4	+3.0
PEL	**Peldehue**	**3.60**	**173**	*e*P	Pn	16 31 41.6	+1.9
PEL				*i*S	Sn	16 32 23.1	+2.2
FCH	**Farellones**	**3.84**	**168**	*e*P	Pn	16 31 46.6	+3.7
CLCH	**Cerro Calan**	**3.87**	**172**	*e*P	Pn	16 31 45.8	+2.5
LVC	**Limon Verde**	**7.22**	**17**	*e*Pn	Pn	16 32 30.6	+1.3
	comp=E,6.1nm,0.4s						

IDC ***21*** *16:34:10.0±1.5, 4.01N×12662E, h0km, mb3.6/4, mb1 3.8/4, mb1mx3.6/18, mbtmp3.6/4, MS4.3/1, Ms1 4.3/1, ms1mx3.0/24, Error ellipse: s-maj=113.6km s-min=23.1km az=76.0*

ISCJB ***21*** *16:34:12.9±0.7, 396N±007×1264E±02, h33km, mb3.5/4, Error ellipse: s-maj=25.1km s-min=7.0km az=163.5*

ISC 21 16:34:14.8±0.7, 397N±007×1264E±02, h35km, n9, σ0§54/10, mb3.5/4, 1C, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
GSPH	**General Santos**	**2.54**	**326**	⇑*e*P	**Pn**	**16 34 53.5**	**0.0**
GSPH				*e*S	**Sn**	**16 35 23.0**	**-0.3**
MATI	**Mati**	**2.96**	**357**	*e*P	**Pn**	**16 34 59.8**	**+0.5**
MATI				*e*S	**Sn**	**16 35 33.1**	**-0.5**
FITZ	**Fitzroy Crossi**	**21.95**	**182**	*e*P	**P**	**16 39 06.0**	**+0.5**
	2.0nm,0.4s,mb3.9						
FITZ	**Fitzroy Crossi**	**21.95**	**182**	P	**P**	**16 39 05.5**	**0.0**
	1.2nm,0.4s,mb3.7,baz=1.5,slow=10.0,SNR=9.5						
WRA	**Warramunga Arr**	**25.02**	**162**	P	**P**	**16 39 35.6**	**0.0**
	0.7nm,0.5s,mb3.5,baz=343,slow=10.0,SNR=16						
WB2	**Warramunga Arr**	**25.02**	**162**	*e*P	**P**	**16 39 34.7**	**-1.0**
ASAR	**Alice Springs**	**28.43**	**165**	P	**P**	**16 40 06.5**	**+0.1**
	0.5nm,0.5s,mb3.4,baz=339,slow=6.6,SNR=16						
SONM	**Songino Array**	**46.96**	**342**	P	**P**	**16 42 43.2**	**+1.0**
	0.2nm,0.4s,mb3.4,baz=152,slow=6.5,SNR=3.0						
MKAR	**Makanchi Array**	**57.16**	**325**	LR	LR	17 10 11.8	
	comp=Z,266nm,18.6s,baz=88,slow=38						

MAN 21 16:34:44, 986N×12506E, h22km, mb4.2, ML3.0, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
MSLP	**Maasin**	**0.33**	**323**	*e*P	Pb	16 34 52.7	+1.3
MSLP				*e*S	Sb	16 34 55.6	-0.8
LLP	**Lapu-Lapu**	**1.17**	**293**	*e*P	Pn	16 35 06.2	+1.2
LLP				*e*S	Sb	16 35 19.1	-1.2
TBP	**Tagbilaran**	**1.19**	**262**	*e*P	Pn	16 35 10.3	+5.0
TBP				*e*S	Sn	16 35 25.9	+4.9
OCLP	**Ormoc**	**1.26**	**339**	*e*P	Pn	16 35 05.7	-0.6
OCLP				*e*S	Sn	16 35 20.2	-2.4
PLP	**Palo**	**1.29**	**356**	*e*P	Pn	16 35 07.3	+0.5
PLP				*e*S	Sn	16 35 21.2	-2.2
BUKP	**Musuan**	**1.97**	**180**	*e*P	Pn	16 35 17.0	+0.9
GUIM	**Jordan**	**2.55**	**288**	*e*P	Pn	16 35 28.1	+4.1

CSEM ***21*** *16:34:49.9±0.2, 3523N×2799E, h5km, MD3.8, Error ellipse: s-maj=6.6km s-min=4.7km az=174.0*

ISCJB ***21*** *16:34:54.7±2.0, 355N±0.1×2758E±009, h10km±9km, Error ellipse: s-maj=21.3km s-min=7.2km az=148.5*

ATH ***21*** *16:34:54.6, 3545N×2754E, h23km±2km, MD3.8/10*

NEIC ***21*** *16:34:54.6, 3545N×2754E, h23km, MD3.8(ATH), After ATH.*

ISC 21 16:34:55.3±2.1, 354N±01×2757E±009, h9km±10km, n16, σ0§85/18, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
KARP	**Karpathos**	**0.35**	**288**	⇑*i*PB	**Pg**	**16 35 02.3**	**+0.2**
KARP				*e*SB	**Sg**	**16 35 06.6**	**-0.2**
ARG	**Arkhangelos**	**0.90**	**30**	*e*PN	**Pg**	**16 35 12.2**	**-0.3**
ARG				*e*SN	**Sg**	**16 35 24.5**	**+0.4**
NISR	**Nisiros**	**1.22**	**343**	*e*PN	**Pn**	**16 35 18.5**	**-0.1**
NPS	**Neapolis**	**1.61**	**264**	*e*PN	**Pn**	**16 35 23.4**	**-0.5**
XRY	**Khrisi**	**1.64**	**250**	*e*PN	**Pn**	**16 35 23.5**	**-0.8**
SANT	**Santorini**	**1.95**	**299**	*e*Pn	**Pn**	**16 35 27.3**	**-1.3**
SANT	**Santorini**	**1.95**	**299**	*e*Pn	**Pn**	**16 35 27.3**	**-1.3**
IDI	**Anoyia**	**2.20**	**267**	P	**Pn**	**16 35 33.5**	**+1.5**
APE	**Apeiranthos**	**2.31**	**315**	*e*PN	**Pn**	**16 35 32.9**	**-0.7**
SMG	**Samos**	**2.34**	**346**	*e*PN	**Pn**	**16 35 33.6**	**-0.3**
VAM	**Vamos**	**2.75**	**270**	*e*PN	**Pn**	**16 35 39.0**	**-0.6**
GVD	**Gavdhos**	**2.92**	**259**	*e*PN	**Pn**	**16 35 42.0**	**+0.1**
VLI	**Veliai**	**3.96**	**290**	*e*PN	**Pn**	**16 35 57.1**	**+0.8**
CSS	**Prodhromos**	**4.74**	**94**	*e*P	**Pn**	**16 35 58.8**	**-8.1**
CSS	**Prodhromos**	**4.74**	**94**	*e*P	**Pn**	**16 35 58.8**	**-8.1**
ITM	**Ithomi**	**4.88**	**292**	P	**Pn**	**16 36 11.1**	**+2.3**

IDC ***21*** *16:36:50.0±1.7, 3297N×14145E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/19, mbtmp3.5/5, ML3.3/1, Error ellipse: s-maj=40.8km s-min=18.4km az=54.0*

JMA ***21*** *16:36:51.8±0.3, 3302N×14153E, h87km, M3.2*

ISCJB ***21*** *16:36:52.0±1.9, 3301N±005×14155E±009, h32km±16km, mb3.5/4, Error ellipse: s-maj=12.8km s-min=7.7km az=161.1*

NEIC ***21*** *16:36:53.6±0.9, 3313N×14183E, h35km, MG3.2(JMA), Error ellipse: s-maj=23.5km s-min=10.4km az=77.0*

ISC 21 16:36:51.8±1.9, 3302N±005×14152E±009, h16km±15km, n19, σ0§92/28, mb3.5/4, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
JHJ2	**Mitsune**	**1.43**	**274**	P	**Pn**	**16 37 17.0**	**-0.1**
JHJ	**Hachijo jima 2**	**1.46**	**274**	Pn	**Pn**	**16 37 17.1**	**-0.5**
	56nm,0.3s,baz=255,slow=23,SNR=59						
JHJ				Sn	**Sn**	**16 37 35.8**	**-0.6**
	70nm,0.3s,baz=74,slow=21,SNR=6.5						
BSO1	**Boso 1**	**1.69**	**345**	P	**Pn**	**16 37 20.4**	**-0.3**
BSO1				*e*S	**Sn**	**16 37 41.8**	**-0.2**
BSO3	**Boso 3**	**1.96**	**335**	P	**Pn**	**16 37 24.1**	**-0.3**
BSO3				*e*S	**Sn**	**16 37 47.6**	**-1.1**
JKO	**Kozu shima**	**2.30**	**301**	P	**Pn**	**16 37 28.5**	**-0.6**
NJJJ	**Nii jima 2**	**2.32**	**307**	P	**Pn**	**16 37 29.1**	**-0.2**
NJJJ				*e*S	**Sn**	**16 37 57.6**	**+0.1**
JIM2	**Oshima 3**	**2.42**	**315**	P	**Pn**	**16 37 29.3**	**-1.5**
JIM2				*e*S	**Sn**	**16 37 59.1**	**-1.0**
JIZS	**Izushimoda**	**2.77**	**308**	P	**Pn**	**16 37 35.2**	**-0.4**
JOD2	**Odawara 2**	**3.01**	**319**	P	**Pn**	**16 37 38.1**	**-0.7**
JOD2				*e*S	**Sn**	**16 38 13.2**	**-1.4**
JYN	**Shimob**	**3.49**	**316**	P	**Pn**	**16 37 46.6**	**+1.2**
JRY	**Ryogami san**	**3.69**	**325**	P	**Pn**	**16 37 49.0**	**+0.9**
JRY				*e*S	**Sn**	**16 38 32.0**	**+0.7**
MJAR	**Matsushiro Arr**	**4.44**	**323**	Pn	**Pn**	**16 37 59.9**	**+1.4**
	1.6nm,0.3s,baz=154,slow=12,SNR=12						
MJAR				Sn	**Sn**	**16 38 51.5**	**+1.5**
	1.0nm,0.3s,baz=161,slow=18,SNR=4.9						
MAJO	**Matsushiro**	**4.45**	**323**	*e*Pn	**Pn**	**16 37 59.8**	**+1.2**
MAT	**Matsushiro**	**4.45**	**323**	P	**Pn**	**16 37 59.8**	**+1.2**
MAT				S	**Sn**	**16 38 51.3**	**+1.3**
ERM	**Erimo**	**9.07**	**8**	*e*Pn	**Pn**	**16 39 00.1**	**-1.9**
SONM	**Songino Array**	**30.26**	**310**	P	**P**	**16 43 02.3**	**+0.4**
	0.4nm,0.6s,mb3.4,baz=110,slow=7.8,SNR=3.3						
MKAR	**Makanchi Array**	**46.42**	**305**	P	**P**	**16 45 17.6**	**0.0**
	0.3nm,0.4s,mb3.6,baz=86,slow=9.6,SNR=3.1						
WRA	**Warramunga Arr**	**53.11**	**188**	P	**P**	**16 46 09.1**	**+0.5**
	0.6nm,0.5s,mb3.8,baz=5.5,slow=7.4,SNR=32						
ASAR	**Alice Springs**	**56.84**	**188**	P	**P**	**16 46 35.5**	**0.0**
	0.2nm,0.5s,mb3.4,baz=1.2,slow=6.0,SNR=5.3						

SFS ***21*** *16:39:05.0, 3528N×2835E, h0km, ML5.0*

IDC ***21*** *16:39:07.2±0.5, 3530N×2773E, h0km, mb4.5/26, mb1 4.5/37, mb1mx4.5/38, mbtmp4.4/37, ML4.0/11, MS4.3/21, Ms1 4.3/21, ms1mx4.1/37, Error ellipse: s-maj=11.5km s-min=10.7km az=64.0*

ISCJB ***21*** *16:39:07.6±0.3, 3501N±001×2776E±001, h16km±2km, mb4.7/140, MS4.4/38, Error ellipse: s-maj=2.2km s-min=1.4km az=29.4*

MOS ***21*** *16:39:08.3±1.3, 3513N×2775E, h20km, mb4.9/64, MS4.2/19, Error ellipse: s-maj=4.8km s-min=2.3km az=120.8*

GCMT ***21*** *16:39:08.7±0.3, 3514N×2762E, h18km±1km, MW5.0/66, Moment Tensor Solution. s26,c30; s66,c96; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=2.53±.23; Mθθ0.07±.14; Mφφ2.46±.14; Mrθ3.25±.50; Mrφ1.94±.09; Mθφ0.06±.29; Best double couple: M0=4.47900×10^16 NP1:φs1.00000°, δ39.00000°, λ-146.00000°. NP2: φs244.00000°, δ69.00000°, λ-56.00000°. Principal axes: T 4.0740, Plg18.0000°, Azm309.0000°; N 0.8150, Plg31.0000°, Azm50.0000°; P -4.8850, Plg53.0000°, Azm194.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

CSEM ***21*** *16:39:08.8±0.0, 3501N×2771E, h37km, mb4.6/19, Ms4.2, Mw4.4 Error ellipse: s-maj=1.2km s-min=0.7km az=37.0*

ATH ***21*** *16:39:08.5, 35.12N×2776E, h13km±1km, MD4.5/26, ML4.8*

NEIC ***21*** *16:39:08.7±0.3, 35.12N×2781E, h10km, mb4.7/118, MS4.4/2, ML4.8(ATH), Error ellipse: s-maj=5.0km s-min=3.7km az=193.0*

SZGRF ***21*** *16:39:09.2, 3462N×2698E, h10km, mb4.5, MS4.1, Crete, Greece*

THE ***21*** *16:39:09.0, 3508N×2797E, h3km, ML5.0*

PDG ***21*** *16:39:09.4±0.5, 3517N×2784E, h8km±3km, ML4.6/10, Error ellipse: s-maj=1.7km s-min=1.0km az=90.0*

DDA ***21*** *16:39:10.6, 3541N×2791E, h8km±1km, Md4.7*

BJI ***21*** *16:39:11.5, 3548N×2792E, h26km, mB5.1, mb4.8, Ms4.8, Msz4.6*

NIC ***21*** *16:39:11.8±0.2, 3506N×2778E, h25km, mb4.8, ML4.5, MW3.9*

CRAAG ***21*** *16:39:11.1, 35.17N×2779E, Mb4.7*

GII ***21*** *16:39:15.7±0.8, 3499N×2814E, h32km±1km, mb4.7/11, ML4.7/11*

HLW ***21*** *16:39:21.5, 3451N×2815E, h35km, Mb4.8*

NSSC ***21*** *16:39:28.7, 3524N×2945E, h40km*

ORF ***21*** *16:39:46.6, 36.16N×2403E, h30km, mb4.5*

ISC 21 16:39:10.1±0.4, 3506N±001×2774E±001, h20km±3km, h34km±1.7km: pP-P, n798, σ1§31/916, mb4.7/139, MS4.4/38, 33C-22D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
KARP	**Karpathos**	**0.68**	**316**	*e*PB	**Pg**	**16 39 21.0**	**-2.5**
KARP	**Karpathos**	**0.68**	**316**	*e*Pb	**Pg**	**16 39 21.1**	**-2.4**
ARG	**Arkhangelos**	**1.19**	**15**	*e*PG	**Pg**	**16 39 29.5**	**-3.7**
ARG				*e*SB	**Sb**	**16 39 45.9**	**-1.2**
NISR	**Nisiros**	**1.62**	**342**	*e*PB	**Pb**	**16 39 38.0**	**-1.4**
NISR				*e*SB	**Sg**	**16 40 00.0**	**-2.6**
DAT	**Datca**	**1.67**	**355**	*e*PN	**Pn**	**16 39 37.2**	**-1.0**
XRY	**Khrisi**	**1.69**	**264**	*e*PG	**Pg**	**16 39 40.5**	**-2.2**
XRY				*e*SN	**Sg**	**16 40 03.0**	**-1.8**
NPS	**Neapolis**	**1.76**	**277**	*e*PN	**Pb**	**16 39 40.7**	**-1.0**
NPS				*e*SN	**Sb**	**16 40 03.5**	**+0.2**
DALT	**Dalyan (Mudla)**	**1.85**	**23**	*e*PN	**Pn**	**16 39 40.4**	**-0.4**
KSL	**Kastellorizon**	**1.85**	**54**	*e*Pn	**Pn**	**16 39 40.0**	**-0.8**
KSL	**Kastellorizon**	**1.85**	**54**	*e*PN	**Pn**	**16 39 41.0**	**+0.2**
KSL				*e*SN	**Sg**	**16 40 06.0**	**-3.8**
FETY	**Fethiye**	**1.91**	**34**	*e*PN	**Pn**	**16 39 41.2**	**-0.4**
BDRM	**Kayabasi**	**2.01**	**353**	*i*P	**Pn**	**16 39 42.6**	**-0.4**
BDRM				*i*S	**Sg**	**16 40 10.8**	**-4.2**
YER	**Yerkesik**	**2.11**	**12**	*e*PN	**Pn**	**16 39 44.2**	**-0.2**
MLSB	**Milas**	**2.23**	**1**	*e*PN	**Pb**	**16 39 46.0**	**-3.8**
THR1	**Thera Island**	**2.27**	**306**	*e*Pn	**Pb**	**16 39 47.4**	**-3.1**
THR1	**Thera Island**	**2.27**	**306**	*e*Pn	**Pb**	**16 39 47.3**	**-3.1**
SANT	**Santorini**	**2.27**	**306**	*e*Pn	**Pb**	**16 39 47.2**	**-3.2**
SANT	**Santorini**	**2.27**	**306**	P	**Pn**	**16 39 46.9**	**+0.4**
SANT	**Santorini**	**2.27**	**306**	P	**Pn**	**16 39 46.9**	**+0.4**
SANT	**Santorini**	**2.27**	**306**	*e*PN	**Pn**	**16 39 47.2**	**+0.7**
IDI	**Anoyia**	**2.35**	**276**	Pn	**Pb**	**16 39 50.2**	**-1.6**
	68nm,0.3s,baz=105,slow=14,SNR=94						
IDI				LR	LR	16 40 27.4	
	comp=Z,3μm,18.3s,baz=95,slow=34						
SIVA	**Sivas**	**2.41**	**270**	*e*Pn	**Pb**	**16 39 51.4**	**-1.4**
SIVA				*e*Sn	**Sb**	**16 40 24.3**	**+2.3**
ELL	**Elmali**	**2.43**	**46**	*e*PN	**Pn**	**16 39 48.8**	**0.0**
AYDN	**Tasoluk**	**2.59**	**2**	*i*P	**Pb**	**16 39 51.4**	**-4.5**
AYDN				*e*S	**Sb**	**16 40 26.7**	**-0.8**
APE	**Apeiranthos**	**2.69**	**319**	*e*Pn	**Pb**	**16 39 53.0**	**-4.5**
APE				*e*Sn	**Sb**	**16 40 28.7**	**-1.3**
APE	**Apeiranthos**	**2.69**	**319**	P	**Pb**	**16 39 53.1**	**-4.4**
APE				S	**Sb**	**16 40 28.7**	**-1.3**
APE	**Apeiranthos**	**2.69**	**319**	*e*PB	**Pn**	**16 39 53.0**	**+0.8**
SMG	**Samos**	**2.74**	**345**	*e*PN	**Pn**	**16 39 53.3**	**+0.3**
SMG				*e*SG	**Sb**	**16 40 26.5**	**-5.1**
DENT	**Denizli**	**2.88**	**21**	*e*PN	**Pn**	**16 39 55.1**	**+0.2**
VAM	**Vamos**	**2.92**	**278**	*e*PB	**Pb**	**16 39 57.6**	**-3.9**
ANTB	**Antalya**	**2.99**	**51**	*e*PN	**Pb**	**16 39 57.0**	**-5.7**
GVD	**Gavdhos**	**3.01**	**267**	*e*PN	**Pb**	**16 39 59.0**	**-4.0**
BCK	**Bucak**	**3.32**	**43**	*e*PN	**Pb**	**16 40 02.0**	**-6.3**
KDAG	**Bornova**	**3.35**	**354**	*i*P	**Pn**	**16 40 01.2**	**-0.2**
KDAG	**Bornova**	**3.35**	**354**	*i*P	**Pn**	**16 40 01.2**	**-0.2**
BLCB	**Balcova**	**3.36**	**351**	*e*PN	**Pn**	**16 40 01.2**	**-0.3**
BLCB	**Balcova**	**3.36**	**351**	*e*Pn	**Pn**	**16 40 01.3**	**-0.3**
BLCB				*e*Sn	**Sn**	**16 40 42.9**	**+2.0**
URLA	**Izmir**	**3.42**	**345**	*i*P	**Pn**	**16 40 02.9**	**+0.6**
MANT	**Manisa**	**3.48**	**11**	*i*P	**Pn**	**16 40 02.7**	**-0.5**
KULA	**Kula-Manisa**	**3.52**	**12**	*e*PN	**Pn**	**16 40 03.8**	**0.0**
KHL	**Karahalli**	**3.55**	**23**	*e*PN	**Pn**	**16 40 04.9**	**+0.7**
CHOS	**Chios island**	**3.58**	**338**	*e*Pn	**Pn**	**16 40 04.9**	**+0.4**
CHOS				*e*Sn	**Sb**	**16 40 48.7**	**-7.2**
TKTP	**Tekketepe**	**3.62**	**34**	*i*P	**Pn**	**16 40 05.5**	**+0.3**
AKMC	**Akamas**	**3.77**	**89**	⇑P	**Pn**	**16 40 06.6**	**-0.5**
PPCY	**Paphos**	**3.78**	**91**	⇑P	**Pn**	**16 40 07.1**	**-0.2**
AKHS	**Akhisar**	**3.81**	**1**	*i*P	**Pn**	**16 40 07.7**	**0.0**
AKHS				*i*S	**Sb**	**16 41 01.8**	**-0.5**
AKS	**Akhisar**	**3.81**	**1**	*e*PN	**Pn**	**16 40 07.5**	**-0.2**
ALFC	**Alevga**	**3.98**	**87**	P	**Pn**	**16 40 09.6**	**-0.5**
	39nm,0.7s						
ALFC				S	**Sn**	**16 40 55.1**	**-1.1**
HMAT	**Matruh**	**4.00**	**188**	P	**Pn**	**16 40 13.2**	**+3.0**
KYTH	**Kithira**	**4.02**	**289**	*e*PN	**Pn**	**16 40 12.5**	**+1.9**
SHUT	**Suhut-Afyon**	**4.15**	**32**	*e*PN	**Pn**	**16 40 12.9**	**+0.6**
LEF	**Lefka**	**4.22**	**88**	*e*PN	**Pn**	**16 40 12.3**	**-1.0**
KVR	**Kavouri**	**4.23**	**312**	*e*PN	**Pn**	**16 40 15.5**	**+2.1**
SZAC	**Souni-Zanaja**	**4.24**	**93**	P	**Pn**	**16 40 13.4**	**-0.2**
	26nm,0.6s						
SZAC				S	**Sn**	**16 41 01.4**	**-1.0**
VLI	**Veliai**	**4.24**	**294**	*e*Pn	**Pn**	**16 40 15.3**	**+1.8**
VLI				*e*Sn	**Sn**	**16 41 03.0**	**+0.6**
GDZ	**Gediz**	**4.25**	**19**	*i*P	**Pn**	**16 40 13.3**	**-0.4**
HDMB	**Hadim**	**4.29**	**62**	*e*PN	**Pn**	**16 40 14.7**	**+0.4**
PTL	**Penteli**	**4.32**	**315**	*e*PN	**Pn**	**16 40 16.5**	**+1.9**
AYVA	**Ayvalik**	**4.32**	**349**	*i*P	**Pn**	**16 40 16.4**	**+1.7**
PRK	**Paraskevi**	**4.34**	**345**	*e*Pn	**Pn**	**16 40 15.7**	**+0.7**
PRK				*e*Sn	**Sn**	**16 41 07.6**	**+2.7**
PRK	**Paraskevi**	**4.34**	**345**	*e*PN	**Pn**	**16 40 16.1**	**+1.2**
ATH	**Athens Observa**	**4.35**	**313**	*e*PN	**Pn**	**16 40 17.5**	**+2.4**
NAIG	**Nisos Aigina**	**4.36**	**309**	*e*PN	**Pn**	**16 40 18.0**	**+2.8**
DID	**Didima**	**4.38**	**305**	*e*Pn	**Pn**	**16 40 16.8**	**+1.3**
ALT	**Altintas**	**4.41**	**25**	*e*PN	**Pn**	**16 40 16.6**	**+0.6**
ERMK	**Ermenek**	**4.49**	**68**	*i*P	**Pn**	**16 40 18.5**	**+1.5**
ERMK				*i*S	**Sn**	**16 41 10.0**	**+1.4**
MAMC	**Mammari**	**4.49**	**87**	P	**Pn**	**16 40 17.1**	**+0.1**
BALB	**Balikesir**	**4.57**	**1**	*e*PN	**Pn**	**16 40 18.7**	**+0.6**
CSS	**Prodhromos**	**4.59**	**90**	P	**Pn**	**16 40 17.9**	**-0.5**
	19nm,0.6s						
CSS				S	**Sn**	**16 41 10.6**	**-0.5**
DST	**Dursunbey**	**4.59**	**9**	*e*PN	**Pn**	**16 40 19.1**	**+0.7**
BTOK	**Tokmak**	**4.70**	**3**	*i*P	**Pn**	**16 40 19.7**	**-0.2**
KONT	**Konya--Tatoy**	**4.70**	**51**	*e*PN	**Pn**	**16 40 21.0**	**+1.1**
LFK	**Lefkose**	**4.75**	**86**	*e*PN	**Pn**	**16 40 20.9**	**+0.3**
LTK	**Loutraki**	**4.85**	**309**	*e*Pn	**Pn**	**16 40 24.1**	**+2.2**
EZN	**Ezine**	**4.89**	**347**	*e*PN	**Pn**	**16 40 22.7**	**+0.3**
VLX	**Vlachokerasia**	**4.91**	**300**	*e*Pn	**Pn**	**16 40 25.1**	**+2.3**
KDHN	**Kadinhani**	**4.92**	**44**	*i*P	**Pn**	**16 40 23.1**	**+0.1**
KDHN				*i*S	**Sn**	**16 41 20.2**	**+0.8**
BOZC	**Bozcaada**	**4.96**	**345**	*i*P	**Pn**	**16 40 22.9**	**-0.5**
KIZT	**Kizilcal**	**5.05**	**40**	*e*PN	**Pn**	**16 40 24.9**	**+0.2**
ESKT	**Eskisehir**	**5.09**	**28**	*e*PN	**Pn**	**16 40 25.4**	**+0.1**
ESKT	**Eskisehir**	**5.09**	**28**	*i*P	**Pn**	**16 40 25.1**	**-0.2**
SEYT	**Eskypehyr**	**5.09**	**28**	*i*P	**Pn**	**16 40 25.1**	**-0.2**
ITM	**Ithomi**	**5.16**	**296**	*e*PN	**Pn**	**16 40 29.1**	**+2.9**
PHNC	**Paralimni**	**5.16**	**89**	P	**Pn**	**16 40 27.4**	**+1.1**
PYL	**PYLOS**	**5.20**	**292**	*e*Pn	**Pn**	**16 40 28.2**	**+1.5**
LKR	**Lokris**	**5.22**	**315**	*e*Pn	**Pn**	**16 40 28.7**	**+1.6**
LKR	**Lokris**	**5.22**	**315**	P	**Pn**	**16 40 28.8**	**+1.7**
LKR	**Lokris**	**5.22**	**315**	*e*PN	**Pn**	**16 40 30.1**	**+3.0**
LKR	**Lokris**	**5.22**	**315**	P	**Pn**	**16 40 28.8**	**+1.7**
BORA	**Eskisehir**	**5.27**	**23**	*i*P	**Pn**	**16 40 28.3**	**+0.6**
BORA				*i*S		16 41 52.3	
EDC	**Edincik**	**5.28**	**1**	*e*PN	**Pn**	**16 40 28.8**	**+1.0**
EREN	**Erenkoy**	**5.28**	**83**	*e*PN	**Pn**	**16 40 28.4**	**+0.5**
BNT	**Bandirma**	**5.29**	**1**	*e*PN	**Pn**	**16 40 28.7**	**+0.7**
LPK	**Lapseki**	**5.36**	**352**	*e*PN	**Pn**	**16 40 29.7**	**+0.7**
IZI	**Iznik**	**5.44**	**14**	*e*PN	**Pn**	**16 40 30.5**	**+0.4**
GEMT	**Gemlik**	**5.48**	**12**	*e*PN	**Pn**	**16 40 32.1**	**+1.4**
MRMT	**Marmara Adasi**	**5.53**	**359**	*e*PN	**Pn**	**16 40 32.2**	**+0.8**
NEO	**Neokhori**	**5.56**	**321**	*e*PN	**Pn**	**16 40 33.9**	**+2.1**
ADVT	**Abdulvahap**	**5.59**	**16**	*e*PN	**Pn**	**16 40 33.4**	**+1.3**
XOR	**Xorichti**	**5.62**	**321**	*e*Pn	**Pn**	**16 40 34.4**	**+1.8**
RKY	**Sarkoy-Tekirda**	**5.63**	**356**	*e*PN	**Pn**	**16 40 33.3**	**+0.6**
SART	**Tekirdag**	**5.63**	**356**	*i*P	**Pn**	**16 40 32.6**	**-0.1**
YLV	**Yalova**	**5.64**	**13**	*e*PN	**Pn**	**16 40 34.5**	**+1.7**
AANS		**5.67**	**146**	P	**Pn**	**16 40 33.6**	**+0.3**
SELA	**Sela**	**5.69**	**306**	*e*Pn	**Pn**	**16 40 35.6**	**+2.1**
MFT	**Murefte**	**5.72**	**356**	*e*PN	**Pn**	**16 40 35.6**	**+1.6**
MERS	**Mersin**	**5.79**	**70**	*e*PN	**Pn**	**16 40 35.4**	**+0.6**
GULT	**Gulveren**	**5.79**	**21**	*e*PN	**Pn**	**16 40 36.3**	**+1.4**
ENEZ	**Enez**	**5.80**	**348**	*e*PN	**Pn**	**16 40 35.8**	**+0.7**
HMYD	**Mayadein**	**5.85**	**153**	P	**Pn**	**16 40 36.1**	**+0.3**
AGG	**Agios Georgios**	**5.86**	**314**	*e*Pn	**Pn**	**16 40 38.4**	**+2.5**
RLS	**Riolos of Patr**	**5.87**	**302**	*e*PN	**Pn**	**16 40 39.6**	**+3.6**
HNAT	**Natroun**	**5.94**	**155**	P	**Pn**	**16 40 37.6**	**+0.7**
ALN	**Alexandroupoli**	**5.98**	**348**	*e*Pn	**Pn**	**16 40 38.7**	**+1.2**
ALN	**Alexandroupoli**	**5.98**	**348**	P	**Pn**	**16 40 38.5**	**+1.1**
FYM	**Al Fayyum**	**6.04**	**152**	P	**Pn**	**16 40 38.4**	**0.0**
FYM				S	**Sn**	**16 41 35.8**	**-11**
AYT	**Al 'Ayyat**	**6.07**	**151**	P	**Pn**	**16 40 39.6**	**+0.8**
EVR	**Evrytania**	**6.11**	**311**	*e*PN	**Pn**	**16 40 42.3**	**+3.0**
KOT	**Kottamia**	**6.18**	**145**	P	**Pn**	**16 40 40.0**	**-0.2**
ANTO	**Ankara**	**6.26**	**38**	*e*P	**Pn**	**16 40 42.6**	**+1.3**
ANTO				pmax	pmax		
	comp=Z,86nm,0.8s						
ANTO	**Ankara**	**6.26**	**38**	*e*Pn	**Pn**	**16 40 42.6**	**+1.4**
	comp=Z,86nm,0.8s						
ANTO	**Ankara**	**6.26**	**38**	⇑*i*P	**Pn**	**16 40 43.8**	**+2.5**
ANTO	**Ankara**	**6.26**	**38**	*e*Pn	**Pn**	**16 40 42.6**	**+1.3**
	comp=Z,86nm,0.8s						
HHAG	**Hagoal**	**6.29**	**143**	P	**Pn**	**16 40 41.6**	**-0.1**
PLG	**Polygyros**	**6.30**	**329**	*e*PN	**Pn**	**16 40 43.9**	**+2.0**
NIG	**Nigde**	**6.31**	**59**	*e*PN	**Pn**	**16 40 43.8**	**+1.8**
KARA	**Karaisali**	**6.31**	**68**	*e*PN	**Pn**	**16 40 43.1**	**+1.0**
HSAF	**As Saff**	**6.31**	**148**	P	**Pn**	**16 40 42.0**	**-0.1**
RDO	**Rodhopi**	**6.32**	**345**	*e*PN	**Pn**	**16 40 44.0**	**+1.9**
THL	**Klokotos Trika**	**6.40**	**316**	*e*Pn	**Pn**	**16 40 45.3**	**+2.0**
THL	**Klokotos Trika**	**6.40**	**316**	*e*PN	**Pn**	**16 40 45.3**	**+2.0**
GLL	**Jalalah**	**6.42**	**147**	P	**Pn**	**16 40 43.3**	**-0.3**
OFRI	**'Ofer**	**6.50**	**110**	Pn	**Pn**	**16 40 44.4**	**-0.3**
LIT	**Litokhoron**	**6.53**	**322**	*e*PN	**Pn**	**16 40 47.2**	**+2.1**
LIT	**Litokhoron**	**6.53**	**322**	P	**Pn**	**16 40 47.2**	**+2.2**
VLS	**Valsamata**	**6.54**	**300**	*e*PN	**Pn**	**16 40 48.3**	**+3.2**
HORT	**Hortiatis**	**6.63**	**328**	*e*P

LUJL Ujela 8.06 224 *i* P **Pn 16 41 08.2 +2.1**
comp=Z,264nm,0.6s,SNR=22
KRUS Krusevo 8.11 323 *i* P **Pn 16 41 10.1 +3.4**
EIL Elat 8.13 129 Pn **Pn 16 41 07.0 -0.1**
EIL Sn **Sn 16 42 35.8 -2.6**
EIL LR LR 16 45 42.0
EIL Elat 8.13 129 Pn **Pn 16 41 07.0 -0.1**
comp=Z,9.1nm,0.3s,baz=331,slow=8.2,SNR=65
EIL Sn **Sn 16 42 35.8 -2.6**
comp=Z,21nm,0.3s,baz=301,slow=23,SNR=6.3
EIL LR LR 16 45 42.0
comp=Z,802nm,18.8s,baz=320,slow=48
EIL Elat 8.13 129 Pn **Pn 16 41 07.0 0.0**
EIL Sn **Sn 16 42 35.0 -3.4**
OHR Ohrid 8.15 320 *i* P **Pn 16 41 12.9 +5.7**
ASF Jabal al Asfar 8.16 108 P **Pn 16 41 07.6 +0.1**
ASF 16 42 39.3
ASF Jabal al Asfar 8.16 108 Pn **Pn 16 41 07.6 +0.2**
comp=Z,1.9nm,0.3s,baz=146,slow=6.3,SNR=21
ASF Sn **Sn 16 42 39.3 +0.2**
comp=Z,3.1nm,0.3s,baz=50,slow=14,SNR=2.8
ASF LR LR 16 45 53.0
comp=Z,914nm,20.3s,baz=317,slow=49
GZT Gaziantep 8.26 71 *i* P **Pn 16 41 08.2 -0.6**
VTS Vitosha 8.31 336 *e*Pn **Pn 16 41 11.8 +2.4**
VTS Vitosha 8.31 336⇑*i*P **Pn 16 41 12.8 +3.4**
VTS Vitosha 8.31 336 *i* P **Pn 16 41 12.6 +3.2**
SZH Strazhica 8.31 351 P **Pn 16 41 13.2 +3.7**
HBST Basata 8.31 133⇓P **Pn 16 41 09.4 -0.2**
PVL Pavlikeni 8.35 348 *i* P **Pn 16 41 12.6 +2.5**
HKAT Jabal Katrina 8.41 139 P **Pn 16 41 10.7 -0.3**
SKO Skopje 8.48 326 *i* P **Pn 16 41 16.0 +4.2**
HDHB Dhahab 8.61 135 P **Pn 16 41 13.4 -0.3**
PHP Peshkopia 8.75 321 *i* PN **Pn 16 41 14.7 -0.8**
TIR Tirane 8.82 318 *e*PN **Pn 16 41 23.6 +7.2**
MALT Malatya 9.17 66 *e*Pn **Pn 16 41 20.2 -1.1**
comp=Z,16nm,0.6s
MALT Malatya 9.17 66⇑*i*P **Pn 16 41 20.7 -0.6**
MALT Malatya 9.17 66 Pn **Pn 16 41 21.4 0.0**
PUK Puka 9.29 321 *e*PN **Pn 16 41 28.3 +5.4**
TIRR Tirgusor 9.40 3⇑*i*P **Pn 16 41 28.4 +4.0**
ULC Ulcinj 9.57 319⇑*i*Pn **Pn 16 41 29.4 +2.6**
ULC *e*Sn **Sn 16 43 14.0 +0.2**
HDK1 Dakhla 9.60 171 P **Pn 16 41 27.9 +0.7**
PVY Plav 9.65 323⇓*i*Pn **Pn 16 41 30.8 +2.9**
PVY *e*Sn **Sn 16 43 15.9 +0.2**
TIP Timpagrande 9.68 298 *e*Pn **Pn 16 41 26.2 -2.1**
comp=Z,50nm,0.6s
TIP Timpagrande 9.68 298 *e*Pn **Pn 16 41 26.2 -2.1**
comp=Z,50nm,0.6s
GTR Jabal at Tayr 9.83 165 P **Pn 16 41 30.0 -0.4**
SOI Samo 9.87 291 P **Pn 16 41 30.1 -0.7**
SOI pmax pmax
comp=Z,17nm,0.5s
SOI Samo 9.87 291 Pn **Pn 16 41 30.1 -0.7**
comp=Z,17nm,0.5s
TTG Podgorica 9.89 321⇓*i*Pn **Pn 16 41 33.4 +2.2**
TTG *e*Sn **Sn 16 43 21.4 -0.2**
IVA Berane 9.90 324⇓*i*Pn **Pn 16 41 34.3 +3.1**
IVA *e*Sn **Sn 16 43 21.9 +0.2**
PE1 Pezze di Greco 9.96 308 *e*Pn **Pn 16 41 31.5 -0.6**
BUM Brajici-Budva 9.99 319⇑*i*Pn **Pn 16 41 35.1 +2.5**
BUM *e*Sn **Sn 16 43 23.7 -0.4**
HSFG 10.00 146 P **Pn 16 41 32.3 -0.4**
NKY Niksic 10.30 321 *e*Pn **Pn 16 41 39.0 +2.2**
NKY *e*Sn **Sn 16 43 32.3 +0.7**
HCY Herceg Novi 10.31 318⇓*i*Pn **Pn 16 41 39.2 +2.3**
HCY *e*Sn **Sn 16 43 31.8 -0.1**
HAVL Avola 10.39 284 Pn **Pn 16 41 37.0 -1.1**
comp=Z,189nm,0.3s
SSY Sortino 10.46 285 Pn **Pn 16 41 37.7 -1.3**
comp=Z,174nm,0.4s
SG1 Sgolgore (BA) 10.46 307 *e*Pn **Pn 16 41 37.4 -1.6**
PLE Pljevlja 10.49 324⇑*i*Pn **Pn 16 41 42.7 +3.4**
PLE *e*Sn **Sn 16 43 35.5 -0.7**
MLR Muntele Rosu 10.51 353 Pn **Pn 16 41 35.8 -3.7**
comp=Z,0.3nm,0.3s,baz=90,slow=13,SNR=2.9
MLR LR LR 16 45 56.5
comp=Z,1μm,19.8s,baz=176,slow=40
MLR Muntele Rosu 10.51 353⇑*i*P **Pn 16 41 42.7 +3.2**
VOIR 10.56 350⇓*i*P **Pn 16 41 45.5 +5.2**
BRY Bratogost 10.60 320⇑*i*Pn **Pn 16 41 43.1 +2.3**
BRY *e*Sn **Sn 16 43 38.7 -0.2**
UPM Unac-Piva 10.63 323⇑*i*Pn **Pn 16 41 43.4 +2.2**
UPM *e*Sn **Sn 16 43 39.1 -0.5**
HMDC Modica 10.67 284 Pn **Pn 16 41 41.0 -0.8**
comp=Z,301nm,0.7s
PTRP Pietrapertosa 10.72 304 Pn **Pn 16 41 42.5 -0.1**
comp=Z,267nm,1.4s
HVZN Vizzini 10.75 285 Pn **Pn 16 41 42.3 -0.6**
comp=Z,385nm,0.7s
WDD Wield Dalam 10.81 278 P **Pn 16 41 46.3 +2.5**
VRI Vrincioaia 10.82 356⇑*i*P **Pn 16 41 50.0 +6.2**
MGR Morigerati 10.91 301 Pn **Pn 16 41 44.2 -0.9**
comp=Z,102nm,0.8s
GZR Gura Zlata 10.99 341⇓*i*P **Pn 16 41 55.5 +9.3**
SIM Simferopol' 11.01 24 *e*P **Pn 16 41 47.8 +1.3**
SIM S **Sn 16 43 57.0 +8.0**
SIM pmax pmax
comp=Z,18nm,0.8s
SIM MLR MLR
comp=Z,2μm,15.0s
SIM Simferopol' 11.01 24 *e*P **Pn 16 41 47.8 +1.3**
comp=Z,2μm,15.0s
VAE Valguarnera 11.03 286 Pn **Pn 16 41 47.3 +0.6**
comp=Z,5.5nm,0.3s,baz=106,slow=2.0,SNR=8.7
VAE Sn **Sn 16 43 48.1 -1.4**
comp=Z,4.2nm,0.3s,baz=221,slow=4.2,SNR=4.2
RAFF Raffo Rosso 11.03 285 Pn **Pn 16 41 46.7 -0.1**
comp=Z,142nm,0.6s
STON Ston 11.03 318 *e*Pn **Pn 16 41 46.3 -0.5**
STON Sn **Sn 16 43 43.8 -5.8**
BZS Buzias 11.53 338⇓*i*P **Pn 16 41 56.5 +3.0**
EMRS Mersa Alam 11.75 147 P **Pn 16 41 56.1 -0.5**
KIS Kishinev 11.95 4 *e*P **Pn 16 42 01.0 +1.7**
KIS MLR MLR
comp=N,3μm,12.0s
KIS MLR MLR
comp=Z,4μm,12.0s
KIS MLR MLR
comp=Z,4μm,12.0s
KIS Kishinev 11.95 4 *e*PP 16 42 10.0
KIS *e*S **Sn 16 44 30.0 +18**
KIS *e*Li 16 44 56.0
KIS *e*LQ 16 45 44.0
KIS LRM 16 47 06.0
comp=Z,3μm,12.0s
CLTB Caltabellotta 11.98 286 P **Pn 16 42 02.1 +2.3**
SGG Gregorio Mates 12.25 305 Pn **Pn 16 42 07.8 +4.4**
DRGR 12.31 344⇓*i*P **Pn 16 42 08.5 +4.2**
MSL Mosul 12.54 80 *ex* x 16 42 14.0
MSL *ex* x 16 44 32.0
SOC Sochi 12.57 44 *e*P **Pn 16 42 09.7 +1.9**
SOC *e* 16 44 23.5
SOC pmax pmax
comp=Z,13nm,0.9s
SOC MLR MLR
comp=Z,2μm,14.0s
SOC Sochi 12.57 44 *e*P **Pn 16 42 09.7 +1.9**
comp=Z,13nm,0.9s
BURAR Bucovina Array 12.68 352⇑*i*P **Pn 16 42 14.2 +4.9**
PKSM Moragy 13.09 331⇑*e*P **Pn 16 42 19.1 +4.2**
PKSM Moragy 13.09 331⇓*i*P **Pn 16 42 16.8 +1.9**
TERO Teramo 13.35 309 Pn **Pn 16 42 21.1 +2.7**
comp=Z,22nm,0.9s
KMPD K-Podol'skiy 13.52 356 P **Pn 16 42 24.0 +3.2**
NVLJ Novalja 13.69 318 *e*Pn **Pn 16 42 21.8 -1.2**
NVLJ Sn **Sn 16 44 47.7 -6.8**
BHD Baghdad 13.89 93 *ex* x 16 42 25.0
BHD *ex* x 16 49 28.0
PSZ Piszkesteto 14.11 338⇓*e*P **Pn 16 42 29.7 +0.9**
PSZ Piszkesteto 14.11 338⇑*i*P **Pn 16 42 31.9 +3.1**
UZH Uzhgorod 14.15 345 *e*P **Pn 16 42 36.0 +6.7**
ONI Oni 14.35 54 P **Pn 16 42 36.7 +4.6**
GNI Garni 14.40 64 *i* P **Pn 16 42 35.4 +2.7**
GNI pmax pmax
comp=Z,56nm,1.8s
GNI MLR MLR
comp=Z,700nm,15.0s
GNI Garni 14.40 64 Pn **Pn 16 42 34.9 +2.2**
comp=Z,1.4nm,0.3s,baz=276,slow=8.4,SNR=4.5
GNI LR LR 16 49 02.3
comp=Z,314nm,20.6s,baz=258,slow=42
GNI Garni 14.40 64 *i* P **Pn 16 42 35.4 +2.7**
comp=Z,700nm,15.0s
PIEI Pieia 14.48 310 Pn **Pn 16 42 36.6 +2.7**
comp=Z,42nm,1.1s
KIV Kislovodsk 14.54 48 *e*P **Pn 16 42 38.4 +3.7**
KIV *e*S **Sn 16 45 23.3 +8.1**
KIV pmax pmax
comp=Z,87nm,1.1s
KIV MLR MLR
comp=Z,480nm,11.0s
KIV Kislovodsk 14.54 48 Pn **Pn 16 42 35.9 +1.2**
comp=Z,60nm,0.8s
KIV Kislovodsk 14.54 48⇓*i*P **Pn 16 42 36.5 +1.8**
GOR Gori 14.55 57 P **Pn 16 42 35.7 +1.0**
CRVS Cervenica-Dubn 14.59 343 *e*PN **Pn 16 42 39.5 +4.2**
CEY Cerknica 14.70 321 P **Pn 16 42 37.1 +0.3**
NAX Nakhchivan 14.74 69 P **Pn 16 42 36.2 -1.3**
SNR=9.6
LJU Ljubljana 14.85 322 *e*P **Pn 16 42 39.0 +0.1**
LJU Ljubljana 14.85 322 P **Pn 16 42 39.1 +0.2**
TBLG Delisi 14.89 58 *e*P **Pn 16 42 39.7 +0.3**
TBLG Delisi 14.89 58 P **Pn 16 42 39.7 +0.3**
MTA Mtatsminda 14.91 59 P **Pn 16 42 39.4 -0.3**
VYHS Vyhne 14.96 336 *e*PN **Pn 16 42 39.7 -0.6**
LVV L'vov 14.99 351 *e*P **Pn 16 42 40.6 -0.2**
LVV *e*S **Sn 16 45 25.8 -0.4**
LVV MLR MLR
comp=N,800nm,11.0s
LVV MLR MLR
comp=Z,800nm,11.0s
LVV MLR MLR
comp=E,800nm,10.0s
LVV L'vov 14.99 351 *e*P **Pn 16 42 40.8 0.0**
KEST Kesra 15.02 278 Pn **Pn 16 42 42.2 +1.0**
comp=E,0.1nm,0.3s,baz=47,slow=12,SNR=6.1
STHS Stebnicka Huta 15.12 344 *e*P **Pn 16 42 47.4 +5.0**
OBKA Obir 15.16 323⇓*i*P **Pn 16 42 42.2 -0.8**
comp=E,11nm,0.7s,SNR=6.7
VOY Vojsko 15.17 320 *e*P **Pn 16 42 42.4 -0.7**
VOY *e* 16 42 44.8
VOY *e* 16 43 00.6
KOLL Kolacno 15.18 336 *e*P **Pn 16 42 49.5 +6.3**
DGRG David-gareji 15.24 60 P **Pn 16 42 46.7 +2.6**
VSL Villasalto 15.27 292 *e*P **Pn 16 42 43.0 -1.5**
comp=E,27nm,0.8s
VSL Villasalto 15.27 292 *e*P **Pn 16 42 43.0 -1.5**
comp=E,27nm,0.8s
GRFL Gerfalco 15.30 307 P **Pn 16 42 45.0 +0.2**
ZST Bratislava 15.32 332 *e*P **Pn 16 42 50.4 +5.3**
NIE Niedzica 15.35 341 *e*P **Pn 16 42 49.7 +4.2**
MODS Modra-Piesok 15.40 333 *e*PN **Pn 16 42 45.7 -0.5**
KIEV Kiev 15.66 3 *e*P **Pn 16 42 48.6 -0.9**
KIEV pmax pmax
comp=Z,19nm,0.8s
KIEV Kiev 15.66 3 *e*P **Pn 16 42 48.6 -0.9**
comp=Z,19nm,0.8s
KIEV Kiev 15.66 3 *e*P **Pn 16 42 48.6 -0.9**
comp=Z,18nm,0.8s
AKASG Malin Array Be 15.67 3 Pn **Pn 16 42 47.5 -2.1**
comp=Z,0.1nm,0.3s,baz=187,slow=11,SNR=5.5
AKBB Malin Array Si 15.67 3 *e*P **Pn 16 42 48.6 -1.0**
GMNA Gemona 15.67 320 P **Pn 16 42 49.4 -0.3**
FNVD Fontana Vidola 15.68 310 P **Pn 16 42 51.6 +1.8**
PTCC Patocco-Chiusa 15.70 321 P **Pn 16 42 49.2 -0.8**
FVI Forni Avoltri 16.12 320 P **Pn 16 42 54.5 -1.0**
KBA Koelnbreinsper 16.15 322⇓*i*P **Pn 16 42 55.5 -0.4**
comp=Z,62nm,1.1s,SNR=12
KBA Koelnbreinsper 16.15 322⇓*i*P **Pn 16 42 55.5 -0.4**
KBA pmax pmax
comp=Z,62nm,1.1s
CORF Corte 16.20 302 *e*P **Pn 16 42 58.5 +2.0**
OJC Ojcow 16.22 341 *e*P **Pn 16 42 59.1 +2.4**
OJC *e*pP pP 16 43 06.5 +1.3
OJC *e*S **Sn 16 46 09.7 +14**
OJC L 16 50 17.6
comp=Z,2.0nm,18.0s
OJC Ojcow 16.22 341 *e*P **Pn 16 42 59.1 +2.4**
OJC *e*pP pP 16 43 06.5 +1.3
OJC *e*S **Sn 16 46 09.7 +14**
OJC Ojcow 16.22 341 *e*pP pP 16 43 06.5 +1.3
LGHD Ghdames 16.23 257 *i* P **Pn 16 42 56.6 -0.4**
SNR=42
BRDA Brd 16.23 66 P **Pn 16 42 58.5 +1.5**
SNR=11
MOA Molln 16.25 326 P **Pn 16 42 58.3 +1.1**
OKC Ostrava-Krasne 16.35 337 *e*P **Pn 16 42 58.8 +0.4**
OKC *e*S **Sn 16 46 06.4 +7.2**
OKC Ostrava-Krasne 16.35 337 *e*P **Pn 16 42 58.8 +0.4**
OKC *e*S **Sn 16 46 06.4 +7.2**
OKC AMS AMS 16 50 30.0
comp=Z,4μm,11.7s
PGF Pioggiola 16.39 303 *e*P **Pn 16 42 57.4 -1.6**
comp=Z,87nm,1.2s
PGF Pioggiola 16.39 303 *e*P **Pn 16 42 57.4 -1.6**
PGF pmax pmax
comp=Z,44nm,1.2s
PGF Pioggiola 16.39 303 *e*P **Pn 16 42 57.4 -1.6**
comp=Z,44nm,1.2s
CTI Castel Tesino 16.40 317 P **Pn 16 42 57.6 -1.4**
VRAC Vranov 16.43 333⇑P **Pn 16 43 00.5 +1.1**
VRAC Vranov 16.43 333 Pn **Pn 16 42 58.2 -1.3**
comp=Z,0.2nm,0.3s,baz=159,slow=12,SNR=6.8
VRAC Vranov 16.43 333⇑*i*P **Pn 16 43 00.5 +1.1**
MORC Moravsky Berou 16.50 336 *e*P **Pn 16 43 00.1 -0.1**
MORC pmax pmax
comp=Z,12nm,0.8s
MORC Moravsky Berou 16.50 336 *e*P **Pn 16 43 00.1 -0.1**
comp=Z,12nm,0.8s
MORC Moravsky Berou 16.50 336⇑*i*P **Pn 16 43 01.0 +0.8**
MORC Moravsky Berou 16.50 336 *e*P **Pn 16 43 00.1 -0.1**
comp=Z,12nm,0.8s
ABSA Djebel Ababsia 16.51 280 P **Pn 16 43 07.0 +6.4**
SEST Monte Rota 16.52 320 P **Pn 16 43 00.1 -0.4**
CMAH Djebel Manchou 16.55 281 P **Pn 16 43 07.0 +5.9**
TREC Trest 16.84 331 *e*S **Sn 16 46 15.4 +4.3**
TREC AMS AMS 16 50 20.0
comp=Z,2μm,13.8s
CAEH 'Ain El Ouahch 17.01 282 P **Pn 16 43 10.0 +3.2**
MABI Malga Bissina 17.05 315 P **Pn 16 43 06.3 -0.9**
CKFL Kef-Lekhel 17.12 281 P **Pn 16 43 12.0 +3.8**
WTTA Wattenberg 17.15 320⇑*i*P **Pn 16 43 09.9 +1.3**
comp=Z,27nm,0.9s,SNR=10
WTTA Wattenberg 17.15 320⇑*i*P **Pn 16 43 09.9 +1.4**
WTTA pmax pmax
comp=Z,27nm,0.9s
MAK Makhachkala 17.24 57 *e*P **Pn 16 43 07.0 -2.7**
MAK *e*S **Sn 16 46 26.4 +5.6**
MAK pmax pmax
comp=Z,374nm,1.9s
MAK MLR MLR
comp=Z,1μm,22.0s
GEC2 GERESS Array S 17.24 327 *e*P **Pn 16 43 08.9 -0.7**
GEC2 *e*S **Sn 16 46 25.4 +4.6**
GEC2 pmax pmax
comp=Z,40nm,1.0s
GEC2 GERESS Array S 17.24 327 *e*P **Pn 16 43 08.9 -0.7**
comp=Z,40nm,1.0s
GEC2 *e*S **Sn 16 46 25.4 +4.6**
GERES GERESS Array B 17.24 327 P **Pn 16 43 08.7 -0.9**
comp=Z,0.4nm,0.3s,baz=138,slow=12,SNR=57
CASM Ain Smara 17.31 280 P **Pn 16 43 17.0 +6.4**
MIB Mutribah 17.35 102 *e*P **Pn 16 43 09.8 -1.4**
MIB AMb AMB 16 43 11.8
comp=Z,55nm,0.8s
MIB Mutribah 17.35 102 *e*P **Pn 16 43 09.8 -1.3**
comp=Z,55nm,0.8s
BRMO Bormio 17.37 316 P **Pn 16 43 13.5 +2.3**
DPC Dobruska-Polom 17.40 335 *e*P **Pn 16 43 11.4 -0.2**
DPC *e*S **Sn 16 46 29.5 +5.0**
DPC Dobruska-Polom 17.40 335 *e*P **Pn 16 43 11.4 -0.2**
DPC *e*S **Sn 16 46 29.5 +5.0**
DPC AMS AMS 16 51 10.0
comp=Z,1μm,11.7s
MOTA Moosalm 17.48 320⇑*i*Pn **Pn 16 43 12.0 -0.6**
comp=Z,31nm,0.9s,SNR=15
MOTA ⇓*i*S Sn 16 46 54.2 +28
MOTA Moosalm 17.48 320⇑*i*P **Pn 16 43 12.0 -0.7**
MOTA pmax pmax
comp=Z,31nm,0.9s
FETA Feichten 17.49 318⇑*i*P **Pn 16 43 14.2 +1.5**
comp=Z,78nm,0.9s,SNR=30
FETA Feichten 17.49 318 Pn **Pn 16 43 14.2 +1.5**
comp=Z,78nm,0.9s,SNR=30
NAY Al-Naaiem 17.49 104 *e*P **Pn 16 43 12.3 -0.5**
NAY AMb AMB 16 43 18.7
comp=Z,26nm,0.7s
NAY Al-Naaiem 17.49 104 *e*P **Pn 16 43 12.3 -0.6**
comp=Z,26nm,0.7s
KHC Kasperske Hory 17.51 328 *e*P **Pn 16 43 10.2 -2.7**
KHC *e* 16 43 26.0
KHC *e*S **Sn 16 46 31.1 +3.9**
KHC Kasperske Hory 17.51 328 *e*P **Pn 16 43 10.2 -2.7**
KHC *ex* x 16 43 26.0
KHC *e*S **Sn 16 46 31.1 +3.9**
KHC AMS AMS 16 50 50.0
comp=Z,3μm,10.9s
UPC Upice 17.64 335 *e*P **Pn 16 43 14.7 +0.2**
SIZA Sîyzn 17.69 64 P **Pn 16 43 15.3 0.0**
SNR=5.2
UMR Umm Al-Rimmam 17.75 102 *e*P **Pn 16 43 14.7 -1.3**
UMR AMb AMB 16 43 22.2
comp=Z,104nm,0.8s
UMR Umm Al-Rimmam 17.75 102 *e*P **Pn 16 43 14.7 -1.4**
comp=Z,104nm,0.8s
PRU Pruhonice 17.77 331 *e*P **Pn 16 43 15.5 -0.6**
PRU *e*S **Sn 16 46 33.7 +0.3**
PRU Pruhonice 17.77 331 *e*P **Pn 16 43 15.5 -0.6**
PRU *e*S **Sn 16 46 33.7 +0.3**
PRU AMS AMS 16 50 40.0
comp=Z,2μm,15.5s
DFRA Djebel Bou Aff 17.80 281 P **Pn 16 43 22.0 +5.4**
DAVOX Davos/Dischmat 17.82 316 P **Pn 16 43 16.4 -0.4**
comp=Z,0.6nm,0.3s,baz=129,slow=12,SNR=6.5
KSP Ksiaz 17.82 336 *e*P **Pn 16 43 16.5 -0.3**
KSP *e*pP pP 16 43 24.6 +1.7
KSP *e*S **Sn 16 46 36.9 +2.1**
KSP LMZ 16 53 15.9
comp=Z,2μm,15.0s
KSP Ksiaz 17.82 336⇑*e*P **Pn 16 43 16.5 -0.3**
KSP *e*pP pP 16 43 25.6 +2.6
KSP *e*S **Sn 16 46 36.7 +1.9**
KSP Ksiaz 17.82 336⇑*e*P **Pn 16 43 16.5 -0.3**
KSP *e*pP pP 16 43 25.6 +2.6
WET Wettzell 17.83 327 *e*P **Pn 16 43 15.6 -1.3**
WET *e*S **Sn 16 46 37.2 +2.2**
WET pmax pmax
comp=Z,46nm,0.8s
WET Wettzell 17.83 327 *e*P **Pn 16 43 15.6 -1.3**
comp=Z,46nm,0.8s
WET *e*S **Sn 16 46 37.2 +2.2**
RDF Al-Radifah 17.87 105 *e*P **Pn 16 43 17.0 -0.6**
RDF AMb AMB 16 43 23.9
comp=Z,64nm,1.1s
RDF Al-Radifah 17.87 105 *e*P **Pn 16 43 17.0 -0.6**
comp=Z,64nm,1.1s
SAOF Saorge 17.91 306 *e*P **Pn 16 43 15.9 -2.0**
FUR Furstenfeldbru 17.92 322 *e*P **Pn 16 43 16.6 -1.4**
FUR *e*S **Sn 16 46 36.4 -0.8**
FUR pmax pmax
comp=Z,66nm,0.7s
FUR Furstenfeldbru 17.92 322 *e*P **Pn 16 43 16.6 -1.4**
comp=Z,66nm,0.7s
FUR *e*S **Sn 16 46 36.4 -0.8**
REVF Revere 17.94 305 *e*P **Pn 16 43 18.6 +0.3**
SBF Sospel 17.94 305 *e*P **Pn 16 43 16.6 -1.7**
comp=Z,96nm,0.9s
SBF Sospel 17.94 305 *e*P **Pn 16 43 16.6 -1.7**
SBF pmax pmax
comp=Z,48nm,0.9s
SBF Sospel 17.94 305 *e*P **Pn 16 43 16.6 -1.7**
comp=Z,48nm,0.9s
TUE Stuetta 17.95 315 P **Pn 16 43 22.7 +4.2**
VAI Varese 17.98 313 P **Pn 16 43 18.3 -0.5**
AUTN L'Aution 18.00 306 *e*P **Pn 16 43 16.7 -2.3**
LUCF Luceram 18.01 305 *e*P **Pn 16 43 17.7 -1.5**
DAVA Damuels 18.11 318 *i* P **Pn 16 43 20.0 -0.4**
comp=Z,32nm,0.7s,SNR=18
TOUF Mont Tournerai 18.12 306 *e*P **Pn 16 43 18.8 -1.8**
VRSR Storozhevoye 18.14 24 *e*P **Pn 16 43 20.5 -0.2**
VRSR *e*S **Sn 16 46 43.1 +0.6**
VRSR pmax pmax
comp=Z,4.0nm,0.7s
VRSR pmax pmax
comp=N,2.0nm,0.6s
VRSR pmax pmax
comp=E,3.0nm,1.7s
VRSR smax
comp=N,110nm,16.9s
VRSR smax
comp=Z,110nm,17.3s
VRSR smax
comp=E,90nm,15.7s
VRSR MLR MLR
comp=Z,120nm,12.0s
VRSR MLR MLR
comp=N,140nm,14.0s
VRSR MLR MLR
comp=E,170nm,15.0s
VRSR Storozhevoye 18.14 24 *e*P **Pn 16 43 20.5 -0.2**
comp=E,110nm,16.9s
MVIF Mont Vial 18.14 305 *e*P **Pn 16 43 17.5 -3.3**
MVIF Mont Vial 18.14 305 P **Pn 16 43 21.4 +0.6**
STV Sta Anna Valdi 18.16 306 P **Pn 16 43 25.6 +4.6**
PVCC Panska Ves 18.18 332 *e*P **Pn 16 43 20.8 -0.5**
PVCC *e*S **Sn 16 46 51.1 +7.5**
PVCC Panska Ves 18.18 332 *e*P **Pn 16 43 20.8 -0.5**
PVCC *e*S **Sn 16 46 51.1 +7.5**
PVCC AMS AMS 16 51 40.0
comp=E,2μm,12.8s
SET Setif 18.20 280 P **Pn 16 43 25.0 +3.5**
CALN Calern 18.27 305 *e*P **Pn 16 43 21.6 -0.7**
FRF La Foret Royal 18.36 304 *e*P **Pn 16 43 22.0 -1.5**
comp=E,45nm,1.0s
FRF La Foret Royal 18.36 304 *e*P **Pn 16 43 22.0 -1.5**
FRF pmax pmax
comp=Z,22nm,1.0s
FRF La Foret Royal 18.36 304 *e*P **Pn 16 43 22.0 -1.5**
comp=Z,22nm,1.0s
LMR La Mourre 18.38 303 *e*P **Pn 16 43 22.3 -1.4**
comp=Z,29nm,1.0s
LMR La Mourre 18.38 303 *e*P **Pn 16 43 22.3 -1.4**
LMR pmax pmax
comp=Z,15nm,1.0s
LMR La Mourre 18.38 303 *e*P **Pn 16 43 22.3 -1.4**
comp=Z,15nm,1.0s
ROTZ Rotzenmuhle 18.58 327 *e*P **Pn 16 43 24.7 -1.4**
comp=Z,27nm,1.1s
ROTZ *e*S **Sn 16 46 53.0 -0.2**
VOR Voronezh 18.59 23 P **Pn 16 43 27.0 +0.9**
VOR pmax pmax
comp=Z,100nm,1.0s
VOR Voronezh 18.59 23 P **Pn 16 43 27.0 +0.9**
comp=Z,100nm,1.0s
BRG Berggiesshubel 18.70 332 *e*P **Pn 16 43 26.9 -0.7**
comp=Z,6.2nm,1.3s
BRG *e* 16 43 32.4
BRG S **Sn 16 46 50.0 -6.0**
BRG SS 16 47 07.0
BRG Berggiesshubel 18.70 332 *e*P **Pn 16 43 26.8 -0.7**
comp=Z,67nm,2.0s
BRG *e*S **Sn 16 46 56.1 +0.1**
BRG Berggiesshubel 18.70 332 *e*P **Pn 16 43 26.9 -0.7**
comp=Z,10nm,1.3s
BRG *e* 16 43 32.4
comp=Z,14nm,0.8s
BRG S **Sn 16 46 50.0 -6.0**
BRG SS 16 47 07.0
BRG
comp=N,1μm,12.3s
BRG
comp=E,1μm,10.4s
BRG
comp=Z,2μm,11.1s
MBDF Montbardon 18.72 307 *e*P **Pn 16 43 26.5 -1.3**
comp=Z,56nm,0.8s
MBDF Montbardon 18.72 307 *e*P **Pn 16 43 26.5 -1.3**
MBDF pmax pmax
comp=Z,28nm,0.8s
MBDF Montbardon 18.72 307 *e*P **Pn 16 43 26.5 -1.3**
comp=Z,28nm,0.8s
HDH Heidenheim-Cha 18.73 321 P **Pn 16 43 26.5 -1.5**
TAVF Tavernes 18.78 304 P **Pn 16 43 29.1 +0.5**
MANZ Manzenberg 18.79 327 *e*P **Pn 16 43 27.5 -1.1**
comp=Z,62nm,1.4s
MANZ *e*S **Sn 16 46 56.1 -2.0**
NKC Novy Kostel 18.82 328 *e*P **Pn 16 43 27.8 -1.2**
NKC *e*S **Sn 16 46 58.8 -0.1**
NKC Novy Kostel 18.82 328 *e*P **Pn 16 43 27.8 -1.2**
NKC *e*S **Sn 16 46 58.8 -0.1**

NKC AMS AMS 16 51 40.0
comp=Z,2µm,12.6s
WERN Wernitzgruen 18.89 328 *e*P **Pn 16 43 28.6 -1.3**
comp=Z,20nm,0.8s
BNI Bardonecchia 18.91 308 *e*P **Pn 16 43 28.8 -1.3**
BNI pmax pmax
comp=Z,21nm,1.0s
BNI Bardonecchia 18.91 308 *e*P **Pn 16 43 28.8 -1.4**
comp=Z,21nm,1.0s
BNI Bardonecchia 18.91 308 *e*P **Pn 16 43 28.8 -1.3**
comp=Z,21nm,1.0s
TANN Tannenbergstha 18.95 329 *e*P **Pn 16 43 29.4 -1.2**
comp=Z,30nm,1.0s
TANN *e*S **Sn 16 47 01.7 -0.4**
GUNZ Gunzen 18.97 328 *e*P **Pn 16 43 29.7 -1.1**
comp=Z,15nm,0.8s
FBE Freiberg 18.97 331 *e*P **Pn 16 43 31.5 +0.7**
comp=Z,47nm,1.2s
GRA1 Grafenberg Arr 18.98 325 *e*P **Pn 16 43 29.7 -1.2**
comp=Z,52nm,1.0s
GRA1 *e*S **Sn 16 47 01.7 -1.1**
GRF Grafenberg Arr 18.98 325 *e*P **Pn 16 43 29.7 -1.2**
comp=Z,52nm,1.0s
GRF *e*S **Sn 16 47 01.7 -1.1**
GRF Grafenberg Arr 18.98 325 *e*P **Pn 16 43 29.7 -1.2**
comp=Z,52nm,1.0s
GRF *e*S **Sn 16 47 01.7 -1.1**
GRF *e*L 16 51 29.8
comp=Z,997nm,19.4s
GRFO Grafenberg 18.98 325 *e*P **Pn 16 43 29.6 -1.3**
GRFO *e*S **Sn 16 47 01.7 -1.1**
GRFO pmax pmax
comp=Z,460nm,1.0s
GRFO Grafenberg 18.98 325 *e*P **Pn 16 43 29.6 -1.3**
comp=Z,46nm,1.0s
GRFO *e*S **Sn 16 47 01.7 -1.1**
GUT Gutenstein 18.99 319 P **Pn 16 43 30.7 -0.4**
WERD Werda 19.04 329 *e*P **Pn 16 43 30.9 -0.8**
comp=Z,20nm,1.0s
LPG La Plagne 19.05 309 *e*P **Pn 16 43 30.5 -1.4**
comp=Z,75nm,0.8s
LPG La Plagne 19.05 309 *e*P **Pn 16 43 30.5 -1.4**
LPG pmax pmax
comp=Z,38nm,0.8s
LPG La Plagne 19.05 309 *e*P **Pn 16 43 30.5 -1.4**
comp=Z,38nm,0.8s
LPL La Plagne 19.07 310 *e*P **Pn 16 43 30.8 -1.3**
comp=Z,61nm,0.8s
LPL La Plagne 19.07 310 *e*P **Pn 16 43 30.8 -1.3**
LPL pmax pmax
comp=Z,31nm,0.8s
LPL La Plagne 19.07 310 *e*P **Pn 16 43 30.8 -1.3**
comp=Z,31nm,0.8s
BUCH Bad Urach 19.09 320 P **Pn 16 43 32.2 -0.1**
SPAK Spaichingen-Ko 19.19 319 *e*P **Pn 16 43 31.1 -2.4**
SUW Suwalki 19.21 352 *e*P **Pn 16 43 32.1 -1.6**
SUW *e*pP pP 16 43 40.1 +1.8
SUW *e*S **Sn 16 47 11.8 +3.4**
SUW LMZ 16 52 16.0
comp=Z,2µm,16.5s
SUW Suwalki 19.21 352 *e*P **Pn 16 43 32.1 -1.6**
SUW *e*pP pP 16 43 40.1 +1.8
SUW *e*S **Sn 16 47 11.8 +3.4**
SUW Suwalki 19.21 352 *e*P **Pn 16 43 32.1 -1.6**
SUW *e*pP pP 16 43 40.1 +1.8
RSL Roselend 19.22 310 *e*P **Pn 16 43 31.9 -1.9**
SMRF Simiane la Rot 19.23 304 *e*P **Pn 16 43 32.4 -1.6**
comp=Z,32nm,0.9s
SMRF Simiane la Rot 19.23 304 *e*P **Pn 16 43 32.4 -1.6**
comp=Z,16nm,0.9s
STU Stuttgart 19.37 321 *e*S **Sn 16 47 08.8 -3.5**
ORIF Oris-en-Rattie 19.38 307 *e*P **Pn 16 43 33.8 -1.9**
comp=Z,18nm,0.7s
ORIF *e*MLR MLR
comp=Z,2µm,22.2s
ORIF Oris-en-Rattie 19.38 307 *e*P **Pn 16 43 33.8 -1.9**
ORIF pmax pmax
comp=Z,9.0nm,0.7s
ORIF Oris-en-Rattie 19.38 307 *e*P **Pn 16 43 33.8 -1.9**
comp=Z,9.2nm,0.7s
CLL Collm 19.41 331⇑ *i*P **Pn 16 43 34.9 -1.2**
CLL *e*S **Sn 16 47 08.0 -5.1**
CLL pmax pmax
comp=Z,22nm,1.1s
CLL Collm 19.41 331⇑ *i*P **Pn 16 43 34.9 -1.2**
comp=Z,22nm,1.1s
CLL *i* 16 43 42.8
CLL *e*S **Sn 16 47 08.0 -5.1**
CLL Collm 19.41 331 *e*P **Pn 16 43 34.9 -1.2**
comp=Z,22nm,1.1s
CLL *e*S **Sn 16 47 13.5 +0.4**
CLL Collm 19.41 331⇑ *i*P **Pn 16 43 34.9 -1.2**
comp=Z,22nm,1.1s
CLL *i* sP sP 16 43 38.7 -4.3
CLL *i* x x 16 43 42.8
CLL *i* PP 16 43 48.1
comp=Z,58nm,1.4s
CLL *e*x x 16 44 14.0
CLL *e*x x 16 45 00.0
CLL *e*S **Sn 16 47 08.0 -5.1**
comp=N,400nm,23.7s
CLL *e*S **Sn 16 47 08.0 -5.1**
comp=E,200nm,19.0s
CLL *e*(SS) 16 47 40.0
MOX Moxa 19.48 328 *e*P **Pn 16 43 36.4 -0.6**
comp=E,86nm,1.6s
MOX
comp=Z,2µm,19.0s
MOX Moxa 19.48 328 *e*P **Pn 16 43 36.0 -1.0**
comp=Z,37nm,1.3s
MOX *e*S **Sn 16 47 13.5 -1.4**
FELD Feldberg im Sc 19.49 317 *e*P **Pn 16 43 35.5 -1.6**
SIND Sindeldorf 19.53 322 P **Pn 16 43 36.4 -1.1**
BBS Basel-Blauen 19.55 315 *e*P **Pn 16 43 35.0 -2.8**
BFO Black Forest 19.57 319 *e*P **Pn 16 43 35.4 -2.6**
BFO *e*S **Sn 16 47 13.5 -3.6**
BFO pmax pmax
comp=Z,26nm,0.9s
BFO Black Forest 19.57 319 *e*P **Pn 16 43 35.4 -2.6**
comp=Z,26nm,0.9s
BFO *e*S **Sn 16 47 13.5 -3.6**
KIZ Kirchzarten 19.58 317 P **Pn 16 43 42.2 +4.0**
GKP Gorka Klasztor 19.66 341 *e*P **Pn 16 43 36.2 -2.9**
GKP *e*S **Sn 16 47 22.3 +3.2**
GKP LMZ 16 52 22.8
comp=Z,2µm,17.9s
GKP Gorka Klasztor 19.66 341 *e*P **Pn 16 43 36.2 -2.9**
GKP *e*S **Sn 16 47 22.3 +3.1**
MRKH Merkhyat 19.72 167 *i*P **Pn 16 43 38.8 -1.3**
MRKH *e* 16 43 42.7
baz=348,slow=3.8
LOMF Lomont 19.88 314 *e*P **Pn 16 43 41.5 -0.3**
CABF La Chapelle 19.97 312 *e*P **Pn 16 43 39.6 -3.2**
comp=Z,33nm,0.5s
CABF La Chapelle 19.97 312 *e*P **Pn 16 43 39.6 -3.2**
CABF pmax pmax
comp=Z,16nm,0.5s
CABF La Chapelle 19.97 312 *e*P **Pn 16 43 39.6 -3.2**
comp=Z,16nm,0.5s
MOF Molkenrain 19.97 316 *e*P **Pn 16 43 41.8 -1.0**
RUE Ruedersdorf 20.06 335 *e*P **P 16 43 43.5 +1.6**
comp=Z,126nm,1.8s
RUE *e*S **S 16 47 28.5 +2.2**
SWS Schriesheim-Wi 20.07 322 P **P 16 43 43.5 +1.4**
TOD Tromm 20.10 322 *e*P **P 16 43 40.6 -1.8**
OG05 Jujurieux 20.10 310 *e*P **P 16 43 40.2 -2.3**
HINF Hinteralfeld 20.11 316 *e*P **P 16 43 41.3 -1.2**
comp=Z,23nm,0.7s
HINF Hinteralfeld 20.11 316 *e*P **P 16 43 41.3 -1.2**
HINF pmax pmax
comp=Z,12nm,0.7s
HINF Hinteralfeld 20.11 316 *e*P **P 16 43 41.3 -1.2**
comp=Z,12nm,0.7s
VIVF Saint-Julien-I 20.15 306 *e*P **P 16 43 42.0 -1.0**
comp=Z,38nm,0.7s
VIVF Saint-Julien-I 20.15 306 *e*P **P 16 43 42.0 -1.0**
VIVF pmax pmax
comp=Z,19nm,0.7s
VIVF Saint-Julien-I 20.15 306 *e*P **P 16 43 42.0 -1.0**
comp=Z,19nm,0.7s
ECH Echery 20.15 317 *e*P **P 16 43 43.0 0.0**
CDF Champ du Feu 20.19 318 *e*P **P 16 43 42.9 -0.6**
comp=Z,36nm,0.8s
CDF Champ du Feu 20.19 318 *e*P **P 16 43 42.9 -0.6**
CDF pmax pmax
comp=Z,18nm,0.8s
CDF Champ du Feu 20.19 318 *e*P **P 16 43 42.9 -0.6**
comp=Z,18nm,0.8s
JAWL J.Aulia 20.20 167 *i*P **P 16 43 44.0 +0.2**
LANF Langenberg 20.23 319 *e*P **P 16 43 43.7 -0.2**
KTD Kalmit 20.29 321 *e*P **P 16 43 45.9 +1.4**
UBBA Unterbreizbach 20.33 326 *e*S **S 16 47 30.8 -1.0**
LASF Ste Croix 20.44 303 *e*P **P 16 43 45.6 -0.5**
comp=Z,35nm,0.7s
LASF Ste Croix 20.44 303 *e*P **P 16 43 45.6 -0.5**
comp=Z,18nm,0.7s
HAU Haudompre 20.50 316 *e*P **P 16 43 45.4 -1.4**
comp=Z,27nm,0.7s
HAU *e*MLR MLR
comp=Z,2µm,17.5s,MS4.1
HAU Haudompre 20.50 316 *e*P **P 16 43 45.4 -1.4**
HAU pmax pmax
comp=Z,13nm,0.7s
HAU MLR MLR
comp=Z,2µm,17.5s,MS4.4
HAU Haudompre 20.50 316 *e*P **P 16 43 45.4 -1.4**
comp=Z,13nm,0.7s
HAU LR LR
comp=Z,2µm,17.5s,MS4.4
EJON La Jonquera 20.69 298 P **P 16 43 49.8 +0.9**
comp=Z,40nm,1.7s
EJON La Jonquera 20.69 298 P **P 16 43 49.8 +0.9**
comp=Z,40nm,1.7s
ABH Alteburg 20.91 321 P **P 16 43 50.8 -0.4**
OBN Obninsk 20.96 14 *e*P **P 16 43 52.4 +0.7**
OBN *e* 16 44 14.2
OBN *e*S **S 16 47 46.0 +1.7**
OBN pmax pmax
comp=Z,55nm,0.9s
OBN MLR MLR
comp=Z,700nm,15.0s,MS4.2
OBN Obninsk 20.96 14 *e*P **P 16 43 52.5 +0.8**
comp=Z,56nm,0.8s
OBN Obninsk 20.96 14 *e*P **P 16 43 52.4 +0.7**
comp=Z,55nm,0.9s
COLF Collangettes 21.03 307 *e*P **P 16 43 50.4 -2.2**
RUP Ruppelstein 21.05 320 *e*P **P 16 43 51.0 -1.7**
LBL Lubilhac 21.23 306 *e*P **P 16 43 55.9 +1.2**
PLDF La Plantade 21.25 308 *e*P **P 16 43 53.5 -1.4**
SMF Signal de Mont 21.38 310 *e*P **P 16 43 54.1 -2.1**
comp=Z,39nm,0.5s,mb4.7
SMF Signal de Mont 21.38 310 *e*P **P 16 43 54.1 -2.1**
SMF pmax pmax
comp=Z,19nm,0.5s,mb4.7
SMF Signal de Mont 21.38 310 *e*P **P 16 43 54.1 -2.1**
comp=Z,20nm,0.5s,mb4.7
MTLF Montolieu 21.38 300 *e*P **P 16 43 55.3 -1.0**
comp=Z,30nm,0.9s,mb4.3
MTLF Montolieu 21.38 300 *e*P **P 16 43 55.3 -1.0**
MTLF pmax pmax
comp=Z,15nm,0.9s,mb4.3
MTLF Montolieu 21.38 300 *e*P **P 16 43 55.3 -1.0**
comp=Z,15nm,0.9s,mb4.3
WLF Walferdange 21.51 319 P **P 16 43 53.2 -4.5**
WLF pmax pmax
comp=Z,23nm,0.8s,mb4.7
WLF Walferdange 21.51 319 P **P 16 43 53.2 -4.5**
comp=Z,22nm,0.8s,mb4.7
PYM Petit Puy Mans 21.57 307 *e*P **P 16 43 56.6 -1.7**
EMIR Miracle 21.58 296 P **P 16 44 01.6 +3.1**
comp=Z,73nm,1.6s,mb4.9
AGO Saint Agoulin 21.59 308 *e*P **P 16 43 57.1 -1.5**
LOR Lormes 21.63 312 *e*P **P 16 43 58.0 -0.9**
comp=Z,52nm,0.8s,mb4.7
LOR *e*MLR MLR
comp=Z,1µm,18.5s,MS4.0
LOR Lormes 21.63 312 *e*P **P 16 43 58.0 -0.9**
LOR pmax pmax
comp=Z,26nm,0.8s,mb4.7
LOR MLR MLR
comp=Z,1µm,18.5s,MS4.4
LOR Lormes 21.63 312 *e*P **P 16 43 58.0 -0.9**
comp=Z,26nm,0.8s,mb4.7
LOR LR LR
comp=Z,1µm,18.5s,MS4.4
FRNF Fournols 21.73 306 *e*P **P 16 43 59.7 -0.4**
AVF Avril sur Loir 21.74 310 *e*P **P 16 43 58.1 -2.1**
comp=Z,44nm,0.8s,mb4.6
AVF Avril sur Loir 21.74 310 *e*P **P 16 43 58.1 -2.1**
AVF pmax pmax
comp=Z,22nm,0.8s,mb4.6
AVF Avril sur Loir 21.74 310 *e*P **P 16 43 58.1 -2.1**
comp=Z,22nm,0.8s,mb4.6
SSF Saint Saulge 21.76 311 *e*P **P 16 43 58.6 -1.7**
comp=Z,85nm,0.7s,mb5.0
SSF Saint Saulge 21.76 311 *e*P **P 16 43 58.6 -1.7**
SSF pmax pmax
comp=Z,43nm,0.7s,mb5.0
SSF Saint Saulge 21.76 311 *e*P **P 16 43 58.6 -1.7**
comp=Z,42nm,0.7s,mb5.0
MOS Moscow 21.77 15 *e*P **P 16 43 58.6 -1.7**
MOS *e* 16 44 09.6
MOS *e* 16 44 20.1
MOS *e* 16 47 55.3
MOS *e*S **S 16 48 00.2 +0.2**
MOS *e*SS 16 48 25.9
MOS pmax pmax
comp=Z,200nm,2.2s,mb5.2
MOS MLR MLR
comp=Z,900nm,17.0s,MS4.2
MOS Moscow 21.77 15 *e*P **P 16 43 58.6 -1.7**
comp=Z,200nm,2.2s,mb5.2
EPOB Poblet 21.82 295 P **P 16 43 59.9 -1.2**
comp=Z,25nm,0.7s,mb4.8
CAF Calviac 21.92 304 *e*P **P 16 44 01.0 -1.1**
comp=Z,37nm,0.9s,mb4.5
CAF Calviac 21.92 304 *e*P **P 16 44 01.0 -1.1**
CAF pmax pmax
comp=Z,19nm,0.9s,mb4.5
CAF Calviac 21.92 304 *e*P **P 16 44 01.0 -1.1**
comp=Z,19nm,0.9s,mb4.5
BGF Bois d'Agland 21.97 309 *e*P **P 16 44 01.3 -1.3**
comp=Z,79nm,0.7s,mb4.9
BGF Bois d'Agland 21.97 309 *e*P **P 16 44 01.3 -1.3**
BGF pmax pmax
comp=Z,40nm,0.7s,mb5.0
BGF Bois d'Agland 21.97 309 *e*P **P 16 44 01.3 -1.3**
comp=Z,40nm,0.7s,mb4.9
MEM Membach 22.14 321 P **P 16 44 03.6 -0.7**
comp=Z,28nm,1.1s,mb4.6
HGN Heimansgroeve 22.27 321 *e*P **P 16 44 07.3 +1.6**
comp=Z,40nm,1.6s,mb4.6
HGN Heimansgroeve 22.27 321 *e*S **S 16 48 08.5 -1.4**
TCF Toulx Ste Croi 22.28 308 *e*P **P 16 44 05.2 -0.7**
comp=Z,26nm,0.9s,mb4.4
TCF Toulx Ste Croi 22.28 308 *e*P **P 16 44 05.2 -0.7**
TCF pmax pmax
comp=Z,13nm,0.9s,mb4.4
TCF Toulx Ste Croi 22.28 308 *e*P **P 16 44 05.2 -0.7**
comp=Z,13nm,0.9s,mb4.4
ERTA Horta de San J 22.33 293 P **P 16 44 07.4 +0.8**
comp=Z,70nm,1.8s,mb4.8
BCLA Clavier 22.39 320 P **P 16 44 07.5 +0.5**
comp=Z,24nm,1.5s,mb4.4
BCLA Clavier 22.39 320 P **P 16 44 07.5 +0.4**
comp=Z,24nm,1.5s,mb4.4
RJF Les Rejaudoux 22.41 305 *e*P **P 16 44 05.8 -1.5**
comp=Z,42nm,0.8s,mb4.6
RJF *e*MLR MLR
comp=Z,1µm,17.8s,MS4.1
RJF Les Rejaudoux 22.41 305 *e*P **P 16 44 05.8 -1.5**
RJF pmax pmax
comp=Z,21nm,0.8s,mb4.6
RJF MLR MLR
comp=Z,1µm,17.8s,MS4.4
RJF Les Rejaudoux 22.41 305 *e*P **P 16 44 05.8 -1.5**
comp=Z,21nm,0.8s,mb4.6
RJF LR LR
comp=Z,1µm,17.8s,MS4.4
GIVF Givet 22.47 319 *e*P **P 16 44 05.7 -2.2**
comp=Z,24nm,0.6s,mb4.5
GIVF Givet 22.47 319 *e*P **P 16 44 05.7 -2.2**
GIVF pmax pmax
comp=Z,12nm,0.6s,mb4.5
GIVF Givet 22.47 319 *e*P **P 16 44 05.7 -2.2**
comp=Z,12nm,0.6s,mb4.5
WTSB Winterswijk 22.59 325 *e*P **P 16 44 10.7 +1.6**
DOU Dourbes 22.59 319 P **P 16 44 08.6 -0.5**
comp=Z,15nm,1.7s,mb4.2
RESF Ens 22.61 298 *e*P **P 16 44 10.8 +1.4**
EBEN Beniarda 22.63 287 P **P 16 44 12.5 +2.8**
comp=Z,152nm,1.8s,mb5.1
EPF Esparros 22.65 299 *e*P **P 16 44 08.2 -1.7**
comp=Z,16nm,0.7s,mb4.2
EPF Esparros 22.65 299 *e*P **P 16 44 08.2 -1.7**
EPF pmax pmax
comp=Z,8.0nm,0.7s,mb4.3
EPF Esparros 22.65 299 *e*P **P 16 44 08.2 -1.7**
comp=Z,7.8nm,0.7s,mb4.2
EBIE Bielsa 22.73 298 P **P 16 44 10.1 -0.6**
comp=Z,21nm,1.2s,mb4.4
BAIF Baives 22.78 318 *e*P **P 16 44 09.3 -1.9**
comp=Z,131nm,1.3s,mb4.9
BAIF Baives 22.78 318 *e*P **P 16 44 09.3 -1.9**
BAIF pmax pmax
comp=Z,65nm,1.3s,mb4.9
BAIF Baives 22.78 318 *e*P **P 16 44 09.3 -1.9**
comp=Z,65nm,1.3s,mb4.9
LFF La Frestale 22.82 304 *e*P **P 16 44 10.0 -1.7**
comp=Z,30nm,0.6s,mb4.6
LFF La Frestale 22.82 304 *e*P **P 16 44 10.0 -1.7**
LFF pmax pmax
comp=Z,15nm,0.6s,mb4.6
LFF La Frestale 22.82 304 *e*P **P 16 44 10.0 -1.7**
comp=Z,15nm,0.6s,mb4.6
EMOS Mosqueruela 22.89 292 P **P 16 44 12.8 +0.3**
comp=Z,56nm,1.1s,mb4.9
ECHE Chera 23.23 290 P **P 16 44 17.3 +1.3**
ECHE pmax pmax
comp=Z,24nm,0.9s,mb4.6
ECHE Chera 23.23 290 P **P 16 44 17.3 +1.3**
comp=Z,24nm,0.9s,mb4.6
ETSF Etsaut 23.27 298 *e*P **P 16 44 14.8 -1.7**
comp=Z,22nm,0.7s,mb4.4
ETSF Etsaut 23.27 298 *e*P **P 16 44 14.8 -1.7**
ETSF pmax pmax
comp=Z,11nm,0.7s,mb4.4
ETSF Etsaut 23.27 298 *e*P **P 16 44 14.8 -1.7**
comp=Z,11nm,0.7s,mb4.4
VSU Vasula 23.42 359 *e*P **P 16 44 17.3 -0.5**
LARF Larrau 23.61 298 *e*P **P 16 44 20.2 +0.4**
ETOB Tobarra 23.66 287 P **P 16 44 22.8 +2.5**
comp=Z,23nm,1.0s,mb4.6
SJPF Ste Jean 23.79 298 *e*P **P 16 44 19.6 -1.9**
comp=Z,102nm,0.8s,mb5.0
SJPF Ste Jean 23.79 298 *e*P **P 16 44 19.6 -1.9**
SJPF pmax pmax
comp=Z,51nm,0.8s,mb5.0
SJPF Ste Jean 23.79 298 *e*P **P 16 44 19.6 -1.9**
comp=Z,51nm,0.8s,mb5.0
OSSF Osses 23.84 299 *e*P **P 16 44 21.4 -0.6**
MFF Saint Martin d 23.92 307 *e*P **P 16 44 20.4 -2.2**
comp=Z,65nm,1.0s,mb4.7
MFF Saint Martin d 23.92 307 *e*P **P 16 44 20.4 -2.2**
MFF pmax pmax
comp=Z,33nm,1.0s,mb4.7
MFF Saint Martin d 23.92 307 *e*P **P 16 44 20.4 -2.2**
comp=Z,32nm,1.0s,mb4.7
EALK Alkurruntz 24.01 299 P **P 16 44 25.7 +2.2**
comp=Z,64nm,1.4s,mb4.9
ELIZ Elizondo 24.02 298 P **P 16 44 23.4 -0.2**
ELIZ pmax pmax
comp=Z,25nm,0.7s,mb4.8
ELIZ Elizondo 24.02 298 P **P 16 44 23.4 -0.1**
comp=Z,25nm,0.7s,mb4.8
ENIJ Nijar 24.25 283 P **P 16 44 28.0 +2.2**
ENIJ pmax pmax
comp=Z,16nm,0.7s,mb4.6
ENIJ Nijar 24.25 283 P **P 16 44 28.0 +2.1**
comp=Z,16nm,0.7s,mb4.5
EVIA Vianos 24.41 287 P **P 16 44 27.9 +0.7**
EVIA pmax pmax
comp=Z,31nm,0.7s,mb4.8
EVIA Vianos 24.41 287 P **P 16 44 27.9 +0.7**
comp=Z,31nm,0.7s,mb4.8
EHUE Huescar 24.51 285 P **P 16 44 27.5 -0.6**
EHUE pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
EHUE Huescar 24.51 285 P **P 16 44 27.5 -0.6**
comp=Z,9.3nm,0.9s,mb4.3
LDF La Druitiere 24.61 312 *e*P **P 16 44 27.1 -1.8**
comp=Z,51nm,0.9s,mb4.8
LDF La Druitiere 24.61 312 *e*P **P 16 44 27.1 -1.8**
LDF pmax pmax
comp=Z,25nm,0.9s,mb4.7
LDF La Druitiere 24.61 312 *e*P **P 16 44 27.1 -1.8**
comp=Z,25nm,0.9s,mb4.8
ECRI Cripan 24.65 297 P **P 16 44 29.1 -0.2**
ECRI pmax pmax
comp=Z,11nm,1.0s,mb4.3
ECRI Cripan 24.65 297 P **P 16 44 29.1 -0.2**
comp=Z,11nm,1.0s,mb4.3
EBER Berja 24.81 283 P **P 16 44 36.3 +5.4**
comp=Z,113nm,1.7s,mb5.1
EQES Quesada 24.89 285 P **P 16 44 31.8 +0.2**
comp=Z,39nm,1.4s,mb4.8
FLN La Foliniere 24.90 312 *e*P **P 16 44 29.7 -1.8**
comp=Z,75nm,0.8s,mb5.0
FLN *e*MLR MLR
comp=Z,1µm,18.0s,MS4.2
FLN La Foliniere 24.90 312 *e*P **P 16 44 29.7 -1.8**
FLN pmax pmax
comp=Z,37nm,0.8s,mb5.0
FLN MLR MLR
comp=Z,1µm,18.0s,MS4.5
FLN La Foliniere 24.90 312 *e*P **P 16 44 29.7 -1.8**
comp=Z,38nm,0.8s,mb5.0
FLN LR LR
comp=Z,1µm,18.0s,MS4.5
GRR Gorron 24.99 311 *e*P **P 16 44 30.5 -1.9**
comp=Z,51nm,0.5s,mb5.0
GRR Gorron 24.99 311 *e*P **P 16 44 30.5 -1.9**
GRR pmax pmax
comp=Z,26nm,0.5s,mb5.0
GRR Gorron 24.99 311 *e*P **P 16 44 30.5 -1.9**
comp=Z,26nm,0.5s,mb5.0
ECOG Cogollos-Vega 25.32 284 P **P 16 44 38.2 +2.7**
ECOG pmax pmax
comp=Z,12nm,0.8s,mb4.5
ECOG Cogollos-Vega 25.32 284 P **P 16 44 38.2 +2.7**
comp=Z,12nm,0.8s,mb4.5
EGUA Guajares 25.35 283 P **P 16 44 37.1 +1.3**
EGUA pmax pmax
comp=Z,11nm,1.3s,mb4.2
EGUA Guajares 25.35 283 P **P 16 44 37.1 +1.3**
comp=Z,11nm,1.3s,mb4.2
ELAN Lanestosa 25.41 298 P **P 16 44 36.2 0.0**
comp=Z,52nm,0.9s,mb5.1
EBAN Banos Encina 25.43 286 P **P 16 44 37.2 +0.7**
EBAN pmax pmax
comp=Z,32nm,1.1s,mb4.8
EBAN Banos Encina 25.43 286 P **P 16 44 37.2 +0.7**
comp=Z,32nm,1.1s,mb4.8
ERON Agron 25.53 284 P **P 16 44 39.2 +1.9**
comp=Z,7.3nm,0.6s,mb4.4
ESDC Sonseca Array 25.54 290 P **P 16 44 36.4 -1.1**
comp=Z,16nm,0.5s,mb4.8
ESDC Sonseca Array 25.54 290 P **P 16 44 37.4 -0.1**
comp=Z,9.5nm,0.5s,mb4.5,baz=80,slow=9.6,SNR=15
ESLA Sonseca Array 25.54 290 P **P 16 44 37.3 -0.1**
comp=Z,1.8nm,0.6s,mb3.8
GUD Guadarrama 25.71 292 P **P 16 44 38.6 -0.4**
GUD pmax pmax
comp=Z,13nm,0.7s,mb4.6
GUD Guadarrama 25.71 292 P **P 16 44 38.6 -0.3**
comp=Z,13nm,0.7s,mb4.6
ELOJ Sierra Loja 25.79 284 P **P 16 44 42.2 +2.4**
ELOJ pmax pmax
comp=Z,13nm,0.9s,mb4.5
ELOJ Sierra Loja 25.79 284 P **P 16 44 42.2 +2.4**
comp=Z,13nm,0.9s,mb4.5
PAB San Pablo 25.84 290 *e*P **P 16 44 40.1 -0.1**
PAB pmax pmax
comp=Z,25nm,0.9s,mb4.7
PAB San Pablo 25.84 290 *e*P **P 16 44 40.1 -0.1**
comp=Z,25nm,0.9s,mb4.7
ELUQ Luque 25.85 285 P **P 16 44 41.7 +1.4**
ELUQ pmax pmax
comp=Z,11nm,0.9s,mb4.4
ELUQ Luque 25.85 285 P **P 16 44 41.7 +1.4**
comp=Z,11nm,0.9s,mb4.4
SGMF Saint Gilles 26.00 310 *e*P **P 16 44 40.0 -1.6**
comp=Z,36nm,0.7s,mb4.7
SGMF Saint Gilles 26.00 310 *e*P **P 16 44 40.0 -1.6**
SGMF pmax pmax
comp=Z,18nm,0.7s,mb4.7
SGMF Saint Gilles 26.00 310 *e*P **P 16 44 40.0 -1.6**
comp=Z,18nm,0.7s,mb4.7

EADA	**Adamuz**	**26.05**	**286**	P		**P**	**16 44 42.4 +0.2**
	comp=Z,56nm,1.9s,mb4.8						
QUIF	**Quistinic**	**26.28**	**309**	*e*P		**P**	**16 44 42.4 -1.7**
	comp=Z,74nm,0.6s,mb5.1						
QUIF	**Quistinic**	**26.28**	**309**	*e*P		**P**	**16 44 42.4 -1.7**
QUIF				pmax		pmax	
	comp=Z,37nm,0.6s,mb5.1						
QUIF	**Quistinic**	**26.28**	**309**	*e*P		**P**	**16 44 42.4 -1.7**
	comp=Z,37nm,0.6s,mb5.1						
EMIJ	**Mijas**	**26.34**	**283**	P		**P**	**16 44 45.6 +0.8**
	comp=Z,27nm,0.8s,mb4.8						
FIA1	**FINESS Array S**	**26.42**	**358**	*e*P		**P**	**16 44 42.4 -2.8**
FINES	**FINESS Array B**	**26.42**	**358**	P		**P**	**16 44 42.5 -2.7**
	comp=Z,2.7nm,0.5s,mb4.0,baz=151,slow=12,SNR=14						
FINES				PcP		PcP	16 48 10.2 +0.2
	comp=Z,1.3nm,0.5s,baz=111,slow=1.6,SNR=6.2						
ROSF	**Rostrenen**	**26.48**	**310**	*e*P		**P**	**16 44 44.1 -1.8**
	comp=Z,52nm,0.5s,mb5.0						
ROSF	**Rostrenen**	**26.48**	**310**	*e*P		**P**	**16 44 44.1 -1.8**
ROSF				pmax		pmax	
	comp=Z,26nm,0.5s,mb5.0						
ROSF	**Rostrenen**	**26.48**	**310**	*e*P		**P**	**16 44 44.1 -1.8**
	comp=Z,26nm,0.5s,mb5.0						
HFS	**Hagfors**	**26.70**	**344**	P		**P**	**16 44 45.2 -2.5**
	comp=Z,10nm,0.6s,mb4.5,baz=155,slow=11,SNR=27						
HFS				LR		LR	16 55 56.2
	comp=Z,1μm,19.1s,MS4.5,baz=152,slow=38						
EARI	**Arriondas**	**26.70**	**298**	P		**P**	**16 44 49.8 +1.9**
	comp=Z,180nm,2.2s,mb5.2						
ECAB	**El Cabril**	**26.72**	**286**	P		**P**	**16 44 48.1 -0.1**
	comp=Z,43nm,0.9s,mb5.0						
AKTK	**Aktyubinsk**	**26.78**	**46**	P		**P**	**16 44 47.9 -0.7**
AKTO	**Aktyubinsk**	**26.78**	**46**	*i* P		**P**	**16 44 47.8 -0.8**
AKTO				pmax		pmax	
	comp=Z,2.0nm,1.0s,mb3.6						
AKTO	**Aktyubinsk**	**26.78**	**46**	P		**P**	**16 44 47.9 -0.7**
	comp=Z,13nm,0.7s,mb4.6,baz=252,slow=9.1,SNR=26						
MDT	**Midelt**	**26.88**	**275**	P		**P**	**16 44 45.7 -3.9**
	comp=Z,2.5nm,0.8s,mb3.8,baz=253,slow=11,SNR=4.1						
ATD	**Arta Tunnel**	**27.15**	**146**	P		**P**	**16 44 54.5 +2.3**
ATD				LR		LR	16 56 29.9
ATD	**Arta Tunnel**	**27.15**	**146**	P		**P**	**16 44 54.5 +2.3**
	comp=Z,1.9nm,0.4s,mb4.0,baz=90,slow=20,SNR=3.3						
ATD				LR		LR	16 56 29.9
	comp=Z,408nm,19.2s,MS4.0,baz=130,slow=38						
ESPR	**Espera**	**27.18**	**284**	P		**P**	**16 44 54.5 +2.2**
	comp=Z,25nm,1.0s,mb4.7						
KONO	**Kongsberg**	**27.31**	**340**	*e*P		**P**	**16 44 53.4 +0.2**
ECAL	**Calabor**	**27.71**	**295**	P		**P**	**16 44 59.2 +2.2**
	comp=Z,80nm,1.4s,mb5.2						
EMIN	**Mina Concepcio**	**27.73**	**286**	P		**P**	**16 44 56.9 -0.4**
	comp=Z,56nm,1.4s,mb5.0						
MVO	**Moncorvo**	**27.90**	**293**	*e*P		**P**	**16 44 59.0 +0.3**
EBAD	**Badajoz**	**27.93**	**288**	P		**P**	**16 44 58.0 -1.0**
	comp=Z,49nm,1.5s,mb4.9						
JOF	**Joensuu**	**27.97**	**3**	*e*p		**P**	**16 44 55.2 -3.9**
	comp=Z,3.8nm,0.5s,mb4.3						
NAO01	**NORSAR Array S**	**27.98**	**342**	*e*P		**P**	**16 44 56.2 -3.0**
	comp=Z,29nm,0.9s,mb4.9						
NB2	**NORSAR Subarra**	**28.07**	**343**	P		**P**	**16 44 57.1 -2.9**
	comp=Z,0.7nm,0.7s,mb3.4,baz=145,slow=10						
NOA	**NORSAR Array B**	**28.07**	**343**	P		**P**	**16 44 57.2 -2.9**
NOA				LR		LR	16 57 07.8
NOA	**NORSAR Array B**	**28.07**	**343**	P		**P**	**16 44 57.2 -2.9**
	comp=Z,4.2nm,0.7s,mb4.2,baz=150,slow=8.7,SNR=18						
NOA				LR		LR	16 57 07.8
	comp=Z,688nm,18.2s,MS4.3,baz=150,slow=39						
EPON	**Pontenova**	**28.11**	**298**	P		**P**	**16 45 00.8 +0.2**
	comp=Z,58nm,1.0s,mb5.2						
EGRO	**El Granado**	**28.40**	**285**	P		**P**	**16 45 04.6 +1.4**
	comp=Z,43nm,1.4s,mb4.9						
PVIS	**Viseu**	**28.55**	**292**	*e*P		**P**	**16 45 04.8 +0.3**
PCAB	**Cabril**	**28.66**	**294**	*e*P		**P**	**16 45 08.0 +2.5**
EVO	**Evora**	**28.73**	**288**	*e*P		**P**	**16 45 06.0 -0.1**
	comp=Z,12nm,0.7s,mb4.4						
EVO				*e*MLR		MLR	
	comp=Z,386nm,17.8s,MS3.8						
EKA	**Eskdalemuir Ar**	**29.36**	**323**	P		**P**	**16 45 09.6 -2.0**
	comp=Z,1.8nm,0.6s,mb4.0,baz=130,slow=10,SNR=7.3						
EKA				PcP		PcP	16 48 17.9 +0.5
	comp=Z,3.0nm,1.1s,baz=97,slow=1.9,SNR=3.6						
ARU	**Arti**	**29.90**	**35**	*d i* P		**P**	**16 45 16.8 +0.5**
ARU				*e*			16 46 14.5
ARU				*e*S		**S**	**16 50 16.2 +3.8**
ARU				*e*SS		SS	16 51 50.5 -29
ARU				pmax		pmax	
	comp=Z,5.0nm,1.2s,mb4.1						
ARU				MLR		MLR	
	comp=Z,663nm,20.0s,MS4.3						
ARU	**Arti**	**29.90**	**35**	*e*P		**P**	**16 45 14.1 -2.2**
	comp=Z,9.8nm,0.8s,mb4.6						
SVE	**Sverdlovsk**	**31.09**	**35⇑**	*e*P		**P**	**16 45 31.6 +4.8**
SVE				*e*S		**S**	**16 50 33.3 +2.4**
SVE				pmax		pmax	
	comp=Z,17nm,0.9s,mb4.9						
SVE				MLR		MLR	
	comp=Z,548nm,18.0s,MS4.3						
TOA0	**Torodi Ar. Sit**	**32.09**	**234**	*e*P		**P**	**16 45 36.2 +0.2**
TORD	**Torodi Ar. Bea**	**32.09**	**234**	P		**P**	**16 45 36.9 +0.9**
	comp=Z,28nm,0.7s,mb5.2,baz=42,slow=7.6,SNR=70						
TORD				LR		LR	17 01 51.2
	comp=Z,478nm,18.9s,MS4.2,baz=35,slow=42						
APA	**Apatity**	**32.71**	**4⇓**	*i* P		**P**	**16 45 36.5 -4.4**
APA				*i*			16 45 44.5
APA				pmax		pmax	
	comp=Z,10.0nm,0.8s,mb4.8						
KK31	**Karatay Array**	**33.86**	**63**	*i* P		**P**	**16 45 51.1 -0.1**
KK31				pmax		pmax	
	comp=Z,9.0nm,1.0s,mb4.7						
ARCES	**ARCESS Array B**	**34.55**	**359**	P		**P**	**16 45 54.5 -2.4**
	comp=Z,2.1nm,0.5s,mb4.3,baz=175,slow=8.6,SNR=12						
BVAR	**Borovoye Array**	**34.89**	**46**	P		**P**	**16 45 57.6 -2.4**
	comp=Z,1.5nm,0.7s,mb4.0,baz=248,slow=6.2,SNR=11						
EKS2	**Erkin-Say**	**36.27**	**64**	*e*P		**P**	**16 46 10.5 -1.6**
	comp=Z,12nm,1.2s,mb4.7						
UCH	**Uchtor**	**36.85**	**64**	*e*P		**P**	**16 46 19.4 +2.4**
	comp=Z,4.1nm,0.8s,mb4.3						
KMBO	**Kilima Mbogo**	**37.09**	**164**	P		**P**	**16 46 20.5 +1.3**
	comp=Z,0.4nm,0.3s,mb3.7,baz=49,slow=19,SNR=2.1						
KMBO				LR		LR	17 03 32.2
	comp=Z,618nm,18.7s,MS4.4,baz=66,slow=39						
TKM2	**Tokmak 2**	**37.59**	**63**	*e*P		**P**	**16 46 24.9 +1.6**
TKM2				pmax		pmax	
	comp=Z,5.0nm,0.7s,mb4.3						
TKM2	**Tokmak 2**	**37.59**	**63**	*e*P		**P**	**16 46 24.9 +1.6**
	comp=Z,4.8nm,0.7s,mb4.3						
KURK	**Kurchatov**	**39.60**	**51**	P		**P**	**16 46 39.2 -0.8**
KURK				pmax		pmax	
	comp=Z,10.0nm,0.9s,mb4.5						
KURK	**Kurchatov**	**39.60**	**51**	P		**P**	**16 46 39.2 -0.9**
	comp=Z,10nm,0.9s,mb4.6						
DBIC	**Dimbokro**	**41.20**	**234**	*e*P		**P**	**16 46 54.1 +0.5**
DBIC				pmax		pmax	
	comp=Z,10.0nm,0.7s						
DBIC	**Dimbokro**	**41.20**	**234**	*e*P		**P**	**16 46 54.1 +0.5**
	comp=Z,10nm,0.7s,mb4.6						
DBIC	**Dimbokro**	**41.20**	**234**	P		**P**	**16 46 54.8 +1.2**
	comp=Z,9.5nm,0.5s,mb4.7,baz=18,slow=9.2,SNR=22						
DBIC				LR		LR	17 06 27.2
	comp=Z,364nm,20.7s,MS4.2,baz=24,slow=40						
LIC	**Lamto**	**41.64**	**234**	*e*P		**P**	**16 46 57.9 +0.7**
	comp=Z,24nm,0.6s,mb4.7						
LIC	**Lamto**	**41.64**	**234**	*e*P		**P**	**16 46 57.9 +0.7**
	comp=Z,12nm,0.6s,mb4.7						
BORG	**Borgarnes**	**41.66**	**331**	LR		LR	17 05 56.0
	comp=Z,400nm,18.4s,MS4.3,baz=150,slow=39						
MK31	**Makanchi Array**	**42.06**	**57**	*i* P		**P**	**16 47 00.4 0.0**
MK31				pmax		pmax	
	comp=Z,7.0nm,0.6s,mb4.5						
MK31	**Makanchi Array**	**42.06**	**57**	*e*P		**P**	**16 46 60.0 -0.4**
MKAR	**Makanchi Array**	**42.06**	**57**	P		**P**	**16 47 00.6 +0.2**
	comp=Z,2.8nm,0.7s,mb4.0,baz=279,slow=6.4,SNR=15						
NDI	**New Delhi**	**42.15**	**84**	*e*P		**P**	**16 47 02.0 +0.7**
NVS	**Novosibirsk**	**42.67**	**45**	*e*P		**P**	**16 47 04.6 -0.6**
NVS				*e*			16 48 41.9
NVS				pmax		pmax	
	comp=N,13nm,1.8s						
NVS				pmax		pmax	
	comp=Z,34nm,1.8s,mb4.8						
NVS				pmax		pmax	
	comp=E,9.0nm,1.2s						
SPB4	**Spitsbergen Ar**	**43.50**	**357**	*e*P		**P**	**16 47 09.9 -1.7**
ZAL	**Zalesovo**	**43.53**	**46**	P		**P**	**16 47 11.7 -0.5**
ZALV	**Zalesovo Beam**	**43.55**	**46**	P		**P**	**16 47 11.7 -0.7**
	comp=E,4.2nm,0.7s,mb4.3,baz=269,slow=8.9,SNR=14						
KBS	**Kingsbay**	**44.46**	**356**	*e*P		**P**	**16 47 17.9 -1.5**
KBS				pmax		pmax	
	comp=Z,24nm,1.1s,mb4.8						
KBS	**Kingsbay**	**44.46**	**356**	*e*P		**P**	**16 47 17.9 -1.5**
	comp=Z,24nm,1.1s,mb4.8						
WMQ	**Urumqi**	**46.22**	**60**	P		**P**	**16 47 35.0 +1.3**
WMQ				AP		pP	16 47 45.0 +5.1
WMQ				XP		sP	16 47 49.0 +6.7
WMQ				PP		PP	16 49 23.0 +0.9
WMQ				S		**S**	**16 54 19.0 -0.1**
WMQ				SS		SS	16 57 35.0 -9.3
WMQ				AMB		AMB	
	comp=Z,35nm,1.0s,mb5.2						
WMQ				AMB		AMB	
	comp=Z,74nm,5.0s						
WMQ				LR		LR	
	comp=N,512nm,15.0s,MS4.7						
WMQ				LR		LR	
	comp=E,405nm,14.0s,MS4.7						
WMQ				LR		LR	
	comp=Z,204nm,14.0s,MS4.2						
DANN	**Dangsing**	**47.60**	**82**	*e*P		**P**	**16 47 46.2 +1.4**
	comp=Z,236nm,0.7s						
KOLN	**Koldanda**	**47.70**	**83**	*e*P		**P**	**16 47 46.4 +0.9**
HYB	**Hyderabad**	**48.32**	**98**	*e*P		**P**	**16 47 52.0 +1.6**
HYB	**Hyderabad**	**48.32**	**98**	*i* P		**P**	**16 47 52.0 +1.6**
GKN	**Gorkha**	**48.45**	**82**	*e*P		**P**	**16 47 52.1 +0.8**
DMN	**Daman**	**48.99**	**82**	*e*P		**P**	**16 47 55.6 +0.1**
	comp=Z,107nm,1.0s,mb5.8						
KKN	**Kakani**	**49.06**	**82**	*e*P		**P**	**16 47 56.2 +0.2**
	comp=Z,72nm,1.0s,mb5.7						
PKI	**Pulchoki**	**49.25**	**82**	*e*P		**P**	**16 47 58.1 +0.6**
GUN	**Gumba**	**49.49**	**81**	*e*P		**P**	**16 47 59.7 +0.3**
	comp=Z,64nm,0.9s,mb5.7						
JIRN	**Jiri**	**49.85**	**81**	*e*P		**P**	**16 48 02.4 +0.4**
	comp=Z,79nm,1.2s,mb5.6						
LSZ	**Lusaka**	**50.06**	**179**	P		**P**	**16 48 06.2 +2.6**
LSZ				pmax		pmax	
	comp=Z,2.0nm,0.6s,mb4.3						
LSZ	**Lusaka**	**50.06**	**179**	P		**P**	**16 48 06.2 +2.6**
	comp=Z,2.3nm,0.6s,mb4.4,baz=346,slow=7.7,SNR=4.5						
LSA	**Lhasa**	**53.03**	**77**	P		**P**	**16 48 28.3 +2.4**
MOY	**Mondy**	**53.51**	**48**	*e*P		**P**	**16 48 31.4 +2.3**
SFJD	**Kangerlussuaq**	**53.78**	**331**	LR		LR	17 12 44.1
	comp=Z,295nm,20.5s,MS4.3,baz=66,slow=38						
TLY	**Talaya**	**55.12**	**47**	*e*P		**P**	**16 48 42.0 +1.3**
TLY				*e*			16 50 41.4
TLY				*e*PPP			16 52 04.8
TLY				*e*S		**S**	**16 56 22.1 -0.3**
TLY				*e*			16 58 33.3
TLY				*e*SS		SS	16 59 58.0 -7.9
TLY				pmax		pmax	
	comp=Z,15nm,1.2s,mb4.9						
TLY				MLR		MLR	
	comp=Z,185nm,21.0s,MS4.1						
TLY	**Talaya**	**55.12**	**47**	P		**P**	**16 48 39.9 -0.8**
	comp=Z,19nm,1.3s,mb5.0						
ZAK	**Zakamensk**	**55.22**	**49**	*e*P		**P**	**16 48 42.6 +1.1**
ZAK				pmax		pmax	
	comp=Z,7.0nm,1.1s,mb4.6						
SHL	**Shillong**	**55.35**	**81**	*e*P		**P**	**16 48 47.0 +4.2**
GTA	**Gaotai**	**56.13**	**63**	*e*P		**P**	**16 48 49.4 +1.1**
GTA				AP		pP	16 48 58.1 +3.6
GTA				XP		sP	16 49 02.8 +5.9
GTA				PP		PP	16 50 56.9 +3.7
GTA				S		**S**	**16 56 37.8 +1.5**
GTA				XS		sS	16 56 54.1 +7.5
GTA				AMB		AMB	
	comp=Z,10.0nm,1.2s,mb4.7						
GTA				AMB		AMB	
	comp=Z,186nm,5.7s						
GTA				LR		LR	
	comp=N,296nm,20.6s,MS4.5						
GTA				LR		LR	
	comp=E,225nm,21.8s,MS4.5						
GTA				LR		LR	
	comp=Z,450nm,18.7s,MS4.6						
SONM	**Songino Array**	**57.90**	**51**	P		**P**	**16 49 01.8 +1.1**
	comp=Z,4.2nm,0.7s,mb4.6,baz=291,slow=7.6,SNR=16						
SONM				LR		LR	17 19 11.3
	comp=Z,448nm,21.5s,MS4.5,baz=297,slow=42						
BOD	**Bodaibo**	**59.22**	**38**	*e*P		**P**	**16 49 08.4 -1.3**
BOD				pmax		pmax	
	comp=Z,8.0nm,0.8s,mb4.8						
LZH	**Lanzhou**	**60.33**	**65**	*e*P		**P**	**16 49 19.5 +1.8**
LZH				AP		pP	16 49 29.8 +5.8
LZH				XP		sP	16 49 32.5 +6.1
LZH				*e*PP		PP	16 51 32.6 +2.1
LZH				AMB		AMB	
	comp=Z,25nm,1.5s,mb5.0						
LZH				AMB		AMB	
	comp=Z,72nm,8.0s						
LZH				LR		LR	
	comp=N,421nm,17.5s						
LZH				LR		LR	
	comp=Z,597nm,20.0s,MS4.7						
TIXI	**Tiksi**	**60.51**	**21⇑**	*i* P		**P**	**16 49 17.4 -0.9**
TIXI				pmax		pmax	
	comp=Z,16nm,2.9s,mb4.6						
TIXI				MLR		MLR	
	comp=Z,300nm,15.0s,MS4.6						
TIXI	**Tiksi**	**60.51**	**21**	*e*P		**P**	**16 49 17.3 -1.0**
	comp=Z,3.5nm,0.7s,mb4.6						
CD2	**Chengdu**	**62.44**	**70**	*e*P		**P**	**16 49 33.8 +1.8**
CD2				XP		sP	16 49 46.9 +6.2
CD2				PP		PP	16 51 51.9 +2.7
CD2				S		**S**	**16 57 55.4 -2.7**
CD2				XS		sS	16 58 11.8 +3.2
CD2				SS		SS	17 01 59.9 -1.8
CD2				AMB		AMB	
	comp=Z,20nm,0.5s,mb5.5						
CD2				AMB		AMB	
	comp=Z,30nm,4.8s						
CD2				LR		LR	
	comp=N,850nm,21.6s						
CD2				LR		LR	
	comp=Z,440nm,15.5s						
BOSA	**Boshof**	**63.38**	**182**	P		**P**	**16 49 40.2 +2.2**
	comp=Z,7.4nm,0.9s,mb4.8,baz=320,slow=4.6,SNR=6.1						
BOSA				LR		LR	17 21 08.9
	comp=Z,435nm,18.9s,MS4.7,baz=101,slow=40						
HHC	**Hu-ho-hao-te**	**63.92**	**57**	*e*P		**P**	**16 49 42.4 +0.7**
HHC				AP		pP	16 49 52.8 +4.8
HHC				XP		sP	16 49 56.8 +6.4
HHC				PP		PP	16 52 05.8 +3.8
HHC				SCP			16 54 16.6
HHC				S		**S**	**16 58 14.1 -2.3**
HHC				XS		sS	16 58 28.6 +1.8
HHC				AMB		AMB	
	comp=Z,21nm,1.2s,mb5.0						
HHC				AMB		AMB	
	comp=Z,164nm,7.2s						
HHC				LR		LR	
	comp=N,255nm,16.9s,MS4.6						
HHC				LR		LR	
	comp=E,248nm,16.9s,MS4.6						
HHC				LR		LR	
	comp=Z,245nm,15.9s,MS4.5						
KMI	**Kunming**	**64.28**	**76**	P		**P**	**16 49 45.4 +1.1**
KMI				AP		pP	16 49 52.5 +1.9
KMI				XP		sP	16 49 55.8 +2.8
KMI				PP		PP	16 52 08.9 +3.3
KMI				S		**S**	**16 58 17.3 -4.0**
KMI				XS		sS	16 58 32.3 +0.6
KMI				AMB		AMB	
	comp=Z,8.0nm,1.2s,mb4.6						
KMI				AMB		AMB	
	comp=Z,110nm,4.0s						
KMI				LR		LR	
	comp=N,291nm,19.0s,MS4.6						
KMI				LR		LR	
	comp=E,256nm,17.3s,MS4.6						
KMI				LR		LR	
	comp=Z,271nm,18.4s,MS4.5						
SCHQ	**Schefferville**	**64.62**	**320**	*e*P		**P**	**16 49 44.8 -1.3**
	comp=Z,16nm,0.6s,mb5.2						
SCHQ	**Schefferville**	**64.62**	**320**	P		**P**	**16 49 44.9 -1.1**
	comp=Z,5.8nm,0.4s,mb5.0,baz=64,slow=5.6,SNR=18						
SCHQ				LR		LR	17 19 01.2
	comp=Z,190nm,18.2s,MS4.3,baz=86,slow=37						
YAK	**Yakutsk**	**64.89**	**31**	*e*P		**P**	**16 49 46.2 -1.4**
YAK				pmax		pmax	
	comp=Z,5.0nm,0.6s,mb4.7						
YAK				MLR		MLR	
	comp=Z,300nm,16.0s,MS4.6						
XAN	**Xi'an**	**64.97**	**65**	P		**P**	**16 49 49.5 +0.8**
XAN				AP		pP	16 49 59.3 +4.3
XAN				XP		sP	16 50 04.3 +6.9
XAN				PCP		PcP	16 50 19.1 -2.5
XAN				SCS		ScS	16 59 41.3 -1.4
XAN				AMB		AMB	
	comp=Z,11nm,1.5s,mb4.7						
XAN				AMB		AMB	
	comp=Z,72nm,6.3s						
XAN				LR		LR	
	comp=N,166nm,19.7s,MS4.5						
XAN				LR		LR	
	comp=E,308nm,24.6s,MS4.5						
XAN				LR		LR	
	comp=Z,205nm,21.8s,MS4.3						
GYA	**Guiyang**	**66.75**	**73**	P		**P**	**16 50 01.6 +1.4**
GYA				AP		pP	16 50 11.8 +5.2
GYA				XP		sP	16 50 15.9 +6.9
GYA				PCP		PcP	16 50 30.3 +1.2
GYA				PP		PP	16 52 30.3 +3.1
GYA				SCP			16 54 29.5
GYA				PCS			16 54 33.4
GYA				S		S	16 58 48.8 -2.7
GYA				XS		sS	16 59 06.3 +4.3
GYA				SKS			16 59 51.3
GYA				AMB		AMB	
	comp=Z,10.0nm,1.0s,mb4.8						
GYA				AMB		AMB	
	comp=Z,70nm,5.2s						
GYA				LR		LR	
	comp=N,460nm,18.9s,MS4.8						
GYA				LR		LR	
	comp=E,440nm,19.4s,MS4.8						
GYA				LR		LR	
	comp=Z,480nm,18.0s,MS4.8						
BJI	**Beijing**	**67.44**	**56**	P		**P**	**16 50 04.5 +0.1**
BJI				XP		sP	16 50 16.5 +3.4
BJI				PP		PP	16 52 29.9 -2.9
BJI				S		S	16 58 56.9 -2.5
BJI				XS		sS	16 59 12.5 +2.6
BJI				AMB		AMB	
	comp=Z,5.0nm,1.0s,mb4.5						
BJI				LR		LR	
	comp=N,162nm,18.9s,MS4.5						
BJI				LR		LR	
	comp=E,244nm,18.4s,MS4.5						
BJI				LR		LR	
	comp=Z,120nm,23.7s						
KKTK	**Khon Kaen**	**68.74**	**85**	P		**P**	**16 50 15.0 +2.1**
	comp=Z,309nm,0.8s						
CN2	**Changchun**	**71.65**	**49**	*e*P		**P**	**16 50 30.8 +0.5**
CN2				*e*XP		sP	16 50 45.0 +5.9
CN2				*e*S		S	16 59 45.3 -3.5
CN2				AMB		AMB	
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB		AMB	
	comp=Z,200nm,3.0s						
CN2				LR		LR	
	comp=N,300nm,19.0s,MS4.7						
CN2				LR		LR	
	comp=E,200nm,19.0s,MS4.7						
CN2				LR		LR	
	comp=Z,200nm,16.0s,MS4.5						
KLR	**Kul'dur**	**72.44**	**42**	*e*P		**P**	**16 50 30.2 -4.8**
BILL	**Bilibino**	**72.62**	**15⇑**	*i* P		**P**	**16 50 35.1 -0.6**
BILL				*e*PP		pP	16 50 47.3 +5.2
BILL				*e*S		S	16 59 56.6 -2.6
BILL				pmax		pmax	
	comp=Z,9.0nm,1.3s,mb4.5						
BILL				MLR		MLR	
	comp=Z,200nm,23.0s,MS4.3						
BILL	**Bilibino**	**72.62**	**15**	*e*P		**P**	**16 50 34.9 -0.8**
	comp=Z,12nm,1.1s,mb4.8						
KULM	**Kulim**	**73.00**	**96**	*e*P		**P**	**16 50 39.3 +0.5**
PSI	**Prapat**	**73.02**	**99**	P		**P**	**16 50 39.6 +0.6**
	comp=Z,7.8nm,0.7s,mb4.8,baz=351,slow=18,SNR=5.5						
PSI				LR		LR	17 25 27.1
	comp=Z,289nm,19.5s,MS4.6,baz=101,slow=38						
NJ2	**Nanjing**	**73.23**	**62**	*e*P		**P**	**16 50 41.3 +1.3**
NJ2				AMB		AMB	
	comp=Z,20nm,0.5s,mb5.3						
MA2	**Magadan**	**74.65**	**26**	*c i* P		**P**	**16 50 47.2 -0.5**
MA2				pmax		pmax	
	comp=Z,12nm,1.4s,mb4.6						
MA2	**Magadan**	**74.65**	**26**	*e*P		**P**	**16 50 47.9 +0.1**
	comp=Z,5.4nm,0.8s,mb4.5						
FCC	**Fort Churchill**	**74.78**	**333**	*e*P		**P**	**16 50 46.9 -1.6**
FCC				pmax		pmax	
	comp=Z,7.0nm,0.8s,mb4.6						
FCC	**Fort Churchill**	**74.78**	**333**	*e*P		**P**	**16 50 46.9 -1.6**
	comp=Z,6.7nm,0.8s,mb4.6						
INK	**Inuvik**	**75.99**	**353**	P		**P**	**16 50 53.3 -2.0**
INK				pmax		pmax	
	comp=Z,2.0nm,0.8s						
INK	**Inuvik**	**75.99**	**353**	*e*P		**P**	**16 50 53.2 -2.2**
	comp=Z,299nm,1.2s,mb6.1						
INK	**Inuvik**	**75.99**	**353**	P		**P**	**16 50 53.3 -2.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=13,slow=13,SNR=7.8						
KSRS	**Korea Array**	**76.65**	**54**	P		**P**	**16 51 00.1 +0.4**
	comp=Z,3.7nm,0.8s,mb4.4,baz=293,slow=4.8,SNR=14						
KSRS				LR		LR	17 30 09.3
	comp=Z,208nm,19.1s,MS4.5,baz=300,slow=40						
YKA	**Yellowknife Ar**	**78.17**	**343**	*i* P		**P**	**16 51 06.1 -1.6**
YKA				pmax		pmax	
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**78.17**	**343**	P		**P**	**16 51 06.2 -1.4**
YKA				LR		LR	17 27 11.6
YKA	**Yellowknife Ar**	**78.17**	**343**	P		**P**	**16 51 06.2 -1.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=29,slow=5.5,SNR=22						
YKA				LR		LR	17 27 11.6
	comp=Z,176nm,20.0s,MS4.4,baz=165,slow=37						
IMA2	**Indian Mountai**	**79.19**	**1**	*e*P		**P**	**16 51 12.9 -0.3**
YSS	**Yuzh-Sakhalins**	**79.69**	**39**	*e*P		**P**	**16 51 14.8 -1.5**
YSS				pmax		pmax	
	comp=Z,73nm,2.2s,mb5.2						
EGAK	**Eagle**	**80.11**	**355**	*e*P		**P**	**16 51 17.5 -0.7**
	comp=Z,6.0nm,1.0s,mb4.5						
COLA	**College**	**80.33**	**358**	*e*P		**P**	**16 51 18.7 -0.7**
FFC	**Flin Flon**	**80.69**	**333**	*e*P		**P**	**16 51 20.8 -0.7**
FFC				pmax		p

comp=Z,7.0nm,1.1s,mb4.9
RSSD Black Hills 89.82 328 *e*P **P 16 52 07.5 +0.1**
comp=Z,7.4nm,1.1s,mb4.9
CHMT Chamberlain Mo 91.18 334 *e*P **P 16 52 13.5 -0.2**
BOZ Bozeman (W) 91.67 333 *e*P **P 16 52 15.9 -0.1**
BOZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
BOZ Bozeman (W) 91.67 333 *e*P **P 16 52 15.9 0.0**
comp=Z,5.0nm,1.0s,mb4.8
MCMT McKenzie Canyo 92.82 333 *e*P **P 16 52 21.5 +0.2**
ASAR Alice Springs 115.95 102 PKP PKPdf 16 57 51.8 0.0
comp=Z,0.2nm,0.3s,baz=314,slow=2.0,SNR=8.1

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*ISCJB **21** 16:46:02.0±0.4, 43.93N±004×14125E±008, h226km±4km, mb3.5/7, Error ellipse: s-maj=9.6km s-min=6.6km az=16.3*
*JMA **21** 16:46:02.6±0.1, 43.93N×141.22E, h225km±2km, M3.3*
*MOS **21** 16:46:02.1±0.5, 44.02N×141.17E, h223km, mb3.7/5, Error ellipse: s-maj=35.1km s-min=21.6km az=91.6*
*IDC **21** 16:46:02.5±1.6, 44.03N×141.21E, h208km±16km, mb3.4/7, mb1 3.4/8, mb1mx3.2/23, mbtmp3.3/8, Error ellipse: s-maj=76.2km s-min=18.7km az=162.0*
ISC 21 16:46:03.0±0.4, 4392N±004×14125E±008, h221km±4km, n35, σ0§85/49, mb3.5/7, 1C, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHR	**Hokuryu**	**0.39**	**116**	P	**Pn**	**16 46 32.8**	**+0.6**
JHR				*e*S	**S**	**16 46 55.8**	**+1.0**
JSS	**Shosan**	**0.65**	**42**	P	**Pn**	**16 46 33.4**	**+0.4**
JSS				*e*S	**S**	**16 46 57.1**	**+0.5**
JSK	**Shakotan**	**0.79**	**225**	P	**Pn**	**16 46 33.6**	**-0.2**
JAB	**Ashibetsu**	**0.82**	**120**	P	**Pn**	**16 46 34.3**	**+0.4**
JAB				*e*S	**S**	**16 46 59.1**	**+1.2**
ASAJ	**Asahikawa**	**0.99**	**78**	PN	**Pn**	**16 46 34.8**	**0.0**
ASAJ				S	**S**	**16 46 57.0**	**-2.7**
ASAJ				pmax	pmax		
comp=Z,4.0nm,0.3s
ASAJ smax
comp=N,4.0nm,0.3s
ASAJ Asahikawa 0.99 78 P **Pn 16 46 34.8 -0.1**
comp=N,4.0nm,0.3s,baz=250,slow=10,SNR=58
ASAJ S **S 16 46 57.0 -2.7**
comp=N,3.9nm,0.3s,baz=106,slow=32,SNR=11
JEW Eniwo 1.08 172 P **Pn 16 46 36.0 +0.5**
JKK2 Kamakawa 2 1.09 92 P **Pn 16 46 35.7 +0.3**
JKK2 *e*S **S 16 47 00.6 -0.1**
JFR Furan 1.23 127 P **Pn 16 46 36.4 -0.1**
JSE Soyaes 1.42 42 P **Pn 16 46 37.5 -0.3**
JWK2 Keihoku 1.48 18 P **Pn 16 46 38.3 0.0**
JWK2 *e*S **S 16 47 05.9 -0.1**
JTKR Abashiri--Toko 1.92 87 P **Pn 16 46 42.9 +0.6**
JTKR *e*S **S 16 47 13.8 +0.7**
JAR Ashorobuto 1.93 108 P **Pn 16 46 43.2 +0.8**
JAR *e*S **S 16 47 14.5 +1.2**
JNBK Urakawa-nobuka 1.97 145 P **Pn 16 46 43.0 +0.2**
JNBK *e*S **S 16 47 15.0 +1.0**
JCH Churui 2.02 129 P **Pn 16 46 42.4 -0.9**
JCH *e*S **S 16 47 12.6 -2.2**
JKB Kayabe 2.03 185 P **Pn 16 46 43.3 -0.1**
JKB *e*S **S 16 47 14.3 -0.8**
JOSM Okushiri--Mats 2.25 216 P **Pn 16 46 45.4 -0.2**
JOT Ohata 2.54 183 P **Pn 16 46 48.4 -0.2**
JOT *e*S **S 16 47 23.7 -0.7**
JAK Akkeshi 2.67 109 *e*S **S 16 47 25.0 -2.0**
JRA Rausu 2.80 88 P **Pn 16 46 52.5 +1.1**
YSS Yuzh-Sakhalins 3.22 19 ⇑*i*PN **Pn 16 46 55.0 -1.2**
YSS *i*S **S 16 47 35.0 -3.1**
YSS pmax pmax
comp=N,100nm,0.5s
YSS pmax pmax
comp=Z,130nm,0.5s
YSS smax
comp=N,50nm,0.7s
YSS smax
comp=E,70nm,0.7s
KSRS Korea Array 11.99 242 P **Pn 16 48 46.9 -0.2**
comp=E,0.1nm,0.3s,baz=59,slow=12,SNR=7.1
MKAR Makanchi Array 40.69 295 P **P 16 53 22.1 +0.4**
comp=E,0.2nm,0.3s,mb3.0,baz=84,slow=12,SNR=2.4
BVAR Borovoye Array 46.05 308 P **P 16 54 05.0 +0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 46.05 308 P **P 16 54 05.0 +0.6**
comp=Z,1.2nm,0.3s,mb3.7,baz=81,slow=9.7,SNR=12
INK Inuvik 48.40 30 P **P 16 54 22.3 +0.1**
INK pmax pmax
comp=Z,1.0nm,0.4s
INK Inuvik 48.40 30 P **P 16 54 22.3 +0.1**
comp=Z,1.1nm,0.4s,mb3.5,baz=305,slow=7.2,SNR=13
YKA Yellowknife Ar 57.99 32 P **P 16 55 32.5 +0.5**
YKA Yellowknife Ar 57.99 32 P **P 16 55 32.5 +0.5**
comp=Z,0.4nm,0.6s,mb3.2,baz=306,slow=6.7,SNR=5.6
FINES FINESS Array B 62.71 331 P **P 16 56 03.5 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 62.71 331 P **P 16 56 03.5 -0.5**
comp=Z,0.8nm,0.5s,mb3.6,baz=51,slow=10.0,SNR=3.7
HFS Hagfors 67.80 335 P **P 16 56 36.4 -0.2**
HFS pmax pmax
comp=Z,1.0nm,0.4s
HFS Hagfors 67.80 335 P **P 16 56 36.4 -0.2**
comp=Z,0.9nm,0.4s,mb3.8,baz=72,slow=9.3,SNR=9.4
AKASG Malin Array Be 68.83 321 P **P 16 56 43.0 -0.2**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 68.83 321 P **P 16 56 43.0 -0.2**
comp=Z,0.6nm,0.4s,mb3.6,baz=44,slow=6.5,SNR=7.0

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*MOS **21** 16:47:43.6±0.6, 34.82N×27.55E, h25km, mb4.1/7, Error ellipse: s-maj=12.4km s-min=5.3km az=123.4*
*ISCJB **21** 16:47:43.3±0.2, 34.98N±002×27.73E±002, h10km, mb3.8/18, Error ellipse: s-maj=3.8km s-min=2.0km az=26.8*
*IDC **21** 16:47:44.6±0.8, 35.11N×27.74E, h0km, mb3.9/12, mb1 3.9/19, mb1mx3.8/27, mbtmp3.8/19, ML3.5/6, MS3.9/1, Ms1 3.9/1, ms1mx3.0/34, Error ellipse: s-maj=16.9km s-min=16.1km az=11.0*
*ATH **21** 16:47:48.2, 35.26N×27.71E, h17km±2km, MD3.9/13*
*NEIC **21** 16:47:48.2, 35.26N×27.71E, h17km, mb3.9/13, ML4.2(THE), ML3.5(ATH), After ATH,*
*THE **21** 16:47:49.7, 35.17N×27.99E, h20km, ML4.2*
*CSEM **21** 16:47:49.5±0.2, 35.22N×27.90E, h30km, MD3.9, Error ellipse: s-maj=5.8km s-min=1.6km az=154.0*
*GII **21** 16:47:49.1±0.0, 34.88N×28.00E, h0km±1km, mb4.4/8, ML4.3/8*
*NAO **21** 16:47:55.4, 35.30N×27.87E, h33km, mb4.0*
ISC 21 16:47:46.7±0.6, 3507N±002×2768E±002, h20km±4km, n153, σ1§23/170, mb3.8/18, 2C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.64**	**319**	⇑*i*PN	**Pg**	**16 47 58.3**	**-1.0**
ZKR	**Zakros**	**1.20**	**273**	P	**Pn**	**16 48 10.2**	**+1.9**
ZKR				S	**Sg**	**16 48 30.8**	**+5.1**
ZKR	**Zakros**	**1.20**	**273**	P	**Pn**	**16 48 10.2**	**+1.9**
ZKR				S	**Sg**	**16 48 30.8**	**+5.2**
ARG	**Arkhangelos**	**1.20**	**18**	*e*PN	**Pn**	**16 48 08.0**	**-0.4**
ARG				*e*SN	**Sn**	**16 48 21.1**	**-3.0**
NISR	**Nisiros**	**1.60**	**344**	*e*PN	**Pg**	**16 48 15.5**	**-2.1**
XRY	**Khrisi**	**1.64**	**264**	*e*PN	**Pg**	**16 48 18.5**	**+0.2**
DAT	**Datca**	**1.66**	**357**	*e*PN	**Pn**	**16 48 14.0**	**-0.7**
NPS	**Neapolis**	**1.70**	**277**	⇑*i*PN	**Pg**	**16 48 19.4**	**-0.1**
NPS				*e*SN	**Sg**	**16 48 41.3**	**-0.4**
LAST	**Lasithi**	**1.81**	**274**	*e*Pn	**Pg**	**16 48 21.1**	**-0.3**
LAST	**Lasithi**	**1.81**	**274**	P	**Pg**	**16 48 21.1**	**-0.3**
LAST				S	**Sg**	**16 48 46.5**	**+1.6**
LAST	**Lasithi**	**1.81**	**274**	*e*Pn	**Pg**	**16 48 21.1**	**-0.3**
LAST				S	**Sg**	**16 48 46.5**	**+1.6**
DALT	**Dalyan (Mudla)**	**1.87**	**24**	*e*PN	**Pn**	**16 48 17.1**	**-0.4**
KSL	**Kastellorizon**	**1.89**	**55**	*e*PN	**Pg**	**16 48 20.0**	**-3.0**
FETY	**Fethiye**	**1.94**	**36**	*e*PN	**Pn**	**16 48 18.3**	**-0.2**
BDRM	**Kayabasi**	**2.00**	**355**	*i*P	**Pg**	**16 48 20.9**	**-4.2**
YER	**Yerkesik**	**2.12**	**13**	*e*PN	**Pn**	**16 48 20.5**	**-0.5**
MLSB	**Milas**	**2.22**	**2**	*e*PN	**Pn**	**16 48 22.2**	**-0.3**
THR1	**Thera Island**	**2.23**	**306**	*e*Pn	**Pn**	**16 48 25.1**	**+2.7**
SANT	**Santorini**	**2.23**	**306**	*e*Pn	**Pb**	**16 48 25.4**	**-0.8**
SANT	**Santorini**	**2.23**	**306**	P	**Pn**	**16 48 24.6**	**+2.2**
IDI	**Anoyia**	**2.29**	**276**	Pn	**Pb**	**16 48 27.9**	**+0.5**
18nm,0.3s,baz=102,slow=14,SNR=45
SIVA Sivas 2.35 270 *e*Pn **Pb 16 48 29.1 +0.7**
SIVA Sivas 2.35 270 P **Pn 16 48 28.4 +4.2**
ELL Elmali 2.47 47 *e*PN **Pn 16 48 26.1 +0.3**
AYDN Tasoluk 2.59 4 *i*P **Pb 16 48 31.9 -0.6**
APE Apeiranthos 2.65 320 *e*Pn **Pn 16 48 30.1 +1.8**
APE Apeiranthos 2.65 320 *e*Pb **Pb 16 48 31.1 -2.3**
SMG Samos 2.72 346 *e*PN **Pn 16 48 31.1 +1.8**
VAM Vamos 2.87 278 *e*PN **Pn 16 48 36.1 +4.8**
DENT Denizli 2.90 22 *e*PN **Pn 16 48 32.0 +0.3**
GVD Gavdhos 2.96 267 *e*Pn **Pn 16 48 36.8 +4.3**
GVD Gavdhos 2.96 267 *e*Pn **Pn 16 48 36.6 +4.1**
ANTB Antalya 3.03 52 *e*PN **Pn 16 48 33.5 +0.1**
KARN Karanos 3.10 277 *e*Pn **Pn 16 48 39.6 +5.2**
KDAG Bornova 3.34 354 *i*P **Pn 16 48 42.6 +4.8**
BLCB Balcova 3.35 351 *e*PN **Pn 16 48 38.2 +0.3**
BCK Bucak 3.35 44 *e*PN **Pn 16 48 38.9 +1.0**
URLA Izmir 3.40 345 *i*P **Pn 16 48 39.9 +1.4**
MANT Manisa 3.49 11 *i*P **Pn 16 48 41.1 +1.3**
KULA Kula-Manisa 3.53 13 *e*PN **Pn 16 48 41.0 +0.7**
CHOS Chios island 3.56 339 *e*Pn **Pn 16 48 42.6 +1.8**
KHL Karahalli 3.57 24 *e*PN **Pn 16 48 41.7 +0.8**
TKTP Tekketepe 3.65 35 *i*P **Pn 16 48 43.6 +1.6**
AKHS Akhisar 3.81 2 *i*P **Pn 16 48 44.2 +0.1**
AKS Akhisar 3.81 2 *e*PN **Pn 16 48 44.2 +0.1**
KYTH Kithira 3.97 289 *e*PN **Pn 16 48 51.0 +4.6**
VLI Veliai 4.19 295 *e*PN **Pn 16 48 53.6 +4.2**
GDZ Gediz 4.26 19 *i*P **Pn 16 48 50.8 +0.3**
PRK Paraskevi 4.32 345 *e*PN **Pn 16 48 53.6 +2.4**
DID Didima 4.33 305 *e*Pn **Pn 16 48 54.9 +3.4**
ALT Altintas 4.43 25 *e*PN **Pn 16 48 53.7 +1.0**
ERMK Ermenek 4.53 68 *i*P **Pn 16 48 56.9 +2.7**
DST Dursunbey 4.59 9 *e*PN **Pn 16 48 56.0 +1.1**
CSS Prodhromos 4.64 90 *e*Pn **Pn 16 48 53.5 -2.1**
CSS Prodhromos 4.64 90 P **Pn 16 48 50.6 -5.0**
VLX Vlachokerasia 4.86 300 *e*Pn **Pn 16 49 02.9 +4.2**
KDHN Kadinhani 4.96 45 *i*P **Pn 16 49 00.7 +0.7**
ITM Ithomi 5.11 296 *e*PN **Pn 16 49 06.6 +4.5**
SART Tekirdag 5.62 356 *i*P **Pn 16 49 09.8 +0.7**
RLS Riolos of Patr 5.82 303 *e*PN **Pn 16 49 16.5 +4.6**
MMA3 Mount Meron ar 6.73 106 Pn **Pn 16 49 24.9 +0.6**
MMA3 Sn **Sn 16 50 40.6 +0.2**
MMAI Mount Meron Ar 6.73 106 Pn **Pn 16 49 23.8 -0.6**
1.7nm,0.3s,baz=305,slow=12,SNR=6.7
MMAI Sn **Sn 16 50 38.8 -1.6**
1.3nm,0.3s,baz=299,slow=18,SNR=2.8
SLTI Sal'it 6.75 113 Sn **Sn 16 50 39.8 -1.2**
KSDI Kefar Szold 6.88 104 Pn **Pn 16 49 26.6 +0.3**
KSDI Sn **Sn 16 50 44.5 +0.5**
MMLI Mount Malkishu 6.96 110 Pn **Pn 16 49 28.1 +0.6**
MMLI Sn **Sn 16 50 45.5 -0.6**
KZIT Kziot 7.00 124 Pn **Pn 16 49 29.1 +1.0**
KZIT Sn **Sn 16 50 46.9 -0.3**
HMDT Nahal Hemdat 7.12 111 Pn **Pn 16 49 29.6 -0.1**
HMDT Sn **Sn 16 50 50.4 +0.4**
DSI Dead Sea 7.33 116 Pn **Pn 16 49 33.7 +1.1**
DSI Sn **Sn 16 50 54.1 -1.1**
MZDA Masada 7.45 118 Pn **Pn 16 49 34.0 -0.2**
PRNI Paran 7.76 125 Pn **Pn 16 49 38.9 +0.4**
PRNI Sn **Sn 16 51 05.0 -0.8**
HRFI Mount Harif 7.98 127 Pn **Pn 16 49 42.4 +0.9**
HRFI Sn **Sn 16 51 09.9 -1.4**
MBH Mount Berech 8.06 129 Sn **Sn 16 51 12.3 -1.0**
EIL Elat 8.17 129 Pn **Pn 16 49 42.6 -1.5**
EIL Sn **Sn 16 51 17.7 +1.7**
EIL Elat 8.17 129 Pn **Pn 16 49 42.6 -1.5**
0.9nm,0.3s,baz=285,slow=2.2,SNR=8.4
EIL Sn **Sn 16 51 17.7 +1.7**
1.7nm,0.3s,baz=342,slow=18,SNR=4.9
EIL Elat 8.17 129 Pn **Pn 16 49 44.7 +0.6**
EIL Sn **Sn 16 51 15.6 -0.3**
ASF Jabal al Asfar 8.21 108 Pn **Pn 16 49 43.7 -1.0**
0.3nm,0.3s,baz=51,slow=13,SNR=2.5
TIP Timpagrande 9.64 298 *e*Pn **Pn 16 50 03.6 -0.5**
TIP Timpagrande 9.64 298 *e*Pn **Pn 16 50 03.7 -0.5**
MLR Muntele Rosu 10.49 353 Pn **Pn 16 50 18.8 +2.8**
baz=242,slow=15,SNR=3.0
KEST Kesra 14.97 278 Pn **Pn 16 51 17.6 +0.5**
0.1nm,0.3s,baz=252,slow=18,SNR=2.9
AKASG Malin Array Be 15.67 4 Pn **Pn 16 51 26.9 +0.8**
0.4nm,0.3s,baz=192,slow=11,SNR=4.1
PGF Pioggiola 16.34 303 *e*P **Pn 16 51 33.8 -1.1**
15nm,1.1s
PGF Pioggiola 16.34 303 *e*P **Pn 16 51 33.8 -1.1**
PGF pmax pmax
comp=Z,8.0nm,1.1s
PGF Pioggiola 16.34 303 *e*P **Pn 16 51 33.8 -1.1**
comp=Z,7.6nm,1.1s
GERES GERESS Array B 17.21 327 P **Pn 16 51 46.7 +0.9**
comp=Z,0.1nm,0.3s,baz=142,slow=14,SNR=5.4
KHC Kasperske Hory 17.48 328 *e*P **Pn 16 51 49.5 +0.4**
DAVOX Davos/Dischmat 17.78 317 LR LR 16 58 42.0
comp=Z,360nm,19.2s,baz=268,slow=37
SBF Sospel 17.89 305 *e*P **Pn 16 51 53.2 -1.1**
comp=Z,21nm,0.8s
SBF Sospel 17.89 305 *e*P **Pn 16 51 53.2 -1.1**
SBF pmax pmax
comp=Z,11nm,0.8s
SBF Sospel 17.89 305 *e*P **Pn 16 51 53.2 -1.1**
comp=Z,11nm,0.8s
FRF La Foret Royal 18.32 304 *e*P **Pn 16 51 58.1 -1.4**
comp=Z,21nm,1.2s
FRF La Foret Royal 18.32 304 *e*P **Pn 16 51 58.1 -1.4**
FRF pmax pmax
comp=Z,10.0nm,1.2s
FRF La Foret Royal 18.32 304 *e*P **Pn 16 51 58.1 -1.4**
comp=Z,10nm,1.2s
LMR La Mourre 18.33 303 *e*P **Pn 16 51 58.3 -1.4**
comp=Z,13nm,1.0s
LMR La Mourre 18.33 303 *e*P **Pn 16 51 58.3 -1.4**
LMR pmax pmax
comp=Z,7.0nm,1.0s
LMR La Mourre 18.33 303 *e*P **Pn 16 51 58.3 -1.4**
comp=Z,6.6nm,1.0s
MBDF Montbardon 18.67 307 *e*P **Pn 16 52 02.6 -1.2**
GRA1 Grafenberg Arr 18.95 325 *e*P **Pn 16 52 12.5 +5.4**
GRF Grafenberg Arr 18.95 325 *e*P **Pn 16 52 12.5 +5.4**
LPG La Plagne 19.01 310 *e*P **Pn 16 52 07.3 -0.6**
comp=Z,12nm,0.8s
LPG La Plagne 19.01 310 *e*P **Pn 16 52 07.3 -0.6**
LPG pmax pmax
comp=Z,6.0nm,0.8s
LPG La Plagne 19.01 310 *e*P **Pn 16 52 07.3 -0.6**
comp=Z,6.2nm,0.8s
LPL La Plagne 19.03 310 *e*P **Pn 16 52 07.4 -0.7**
SMRF Simiane la Rot 19.19 304 *e*P **Pn 16 52 08.3 -1.7**
ORIF Oris-en-Rattie 19.33 307 *e*P **Pn 16 52 10.5 -1.2**
CABF La Chapelle 19.93 312 *e*P **Pn 16 52 17.1 -1.7**
comp=Z,11nm,0.7s
CABF La Chapelle 19.93 312 *e*P **Pn 16 52 17.1 -1.7**
CABF pmax pmax
comp=Z,5.0nm,0.7s
CABF La Chapelle 19.93 312 *e*P **Pn 16 52 17.1 -1.7**
comp=Z,5.4nm,0.7s
HINF Hinteralfeld 20.07 316 *e*P **P 16 52 18.8 +0.1**
VIVF Saint-Julien-l 20.10 306 *e*P **P 16 52 18.8 -0.2**
comp=Z,16nm,1.0s
VIVF Saint-Julien-l 20.10 306 *e*P **P 16 52 18.8 -0.2**
VIVF pmax pmax
comp=Z,8.0nm,1.0s
VIVF Saint-Julien-l 20.10 306 *e*P **P 16 52 18.8 -0.2**
comp=Z,7.8nm,1.0s
SMF Signal de Mont 21.33 310 *e*P **P 16 52 31.6 -0.7**
comp=Z,6.9nm,0.5s,mb4.0
SMF Signal de Mont 21.33 310 *e*P **P 16 52 31.6 -0.7**
SMF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
SMF Signal de Mont 21.33 310 *e*P **P 16 52 31.6 -0.7**
comp=Z,3.5nm,0.5s,mb4.0
LOR Lormes 21.59 312 *e*P **P 16 52 34.4 -0.6**
comp=Z,9.8nm,0.8s,mb4.0
LOR Lormes 21.59 312 *e*P **P 16 52 34.4 -0.6**
LOR pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
LOR Lormes 21.59 312 *e*P **P 16 52 34.4 -0.6**
comp=Z,4.9nm,0.8s,mb4.0
AVF Avril sur Loir 21.70 310 *e*P **P 16 52 34.9 -1.3**
SSF Saint Saulge 21.71 311 *e*P **P 16 52 35.6 -0.8**
comp=Z,14nm,0.8s,mb4.1
SSF Saint Saulge 21.71 311 *e*P **P 16 52 35.6 -0.8**
SSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
SSF Saint Saulge 21.71 311 *e*P **P 16 52 35.6 -0.8**
comp=Z,6.8nm,0.8s,mb4.1
TCF Toulx Ste Croi 22.23 308 *e*P **P 16 52 40.7 -1.3**
EPF Esparros 22.60 299 *e*P **P 16 52 43.8 -2.1**
SJPF Ste Jean 23.74 298 *e*P **P 16 52 55.0 -2.6**
MFF Saint Martin d 23.87 307 *e*P **P 16 52 56.5 -2.2**
comp=Z,3.1nm,0.5s,mb3.7
MFF Saint Martin d 23.87 307 *e*P **P 16 52 56.5 -2.2**
MFF pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
MFF Saint Martin d 23.87 307 *e*P **P 16 52 56.5 -2.2**
comp=Z,1.5nm,0.5s,mb3.7
LDF La Druitiere 24.57 312 *e*P **P 16 53 03.6 -1.5**
FLN La Foliniere 24.86 312 *e*P **P 16 53 06.2 -1.5**
comp=Z,4.8nm,0.6s,mb3.9
FLN La Foliniere 24.86 312 *e*P **P 16 53 06.2 -1.5**
FLN pmax pmax
comp=Z,2.0nm,0.6s,mb3.8
FLN La Foliniere 24.86 312 *e*P **P 16 53 06.2 -1.5**
comp=Z,2.4nm,0.6s,mb3.9
GRR Gorron 24.95 311 *e*P **P 16 53 06.9 -1.6**
ESDC Sonseca Array 25.49 290 P **P 16 53 15.5 +1.9**
comp=Z,0.3nm,0.3s,mb3.3,baz=79,slow=8.7,SNR=2.6
SGMF Saint Gilles 25.96 310 *e*P **P 16 53 16.4 -1.3**
FINES FINESS Array B 26.41 358 P **P 16 53 20.9 -0.7**
comp=Z,0.4nm,0.5s,mb3.2,baz=146,slow=10,SNR=2.8
ROSF Rostrenen 26.44 310 *e*P **P 16 53 20.8 -1.2**
comp=Z,30nm,0.9s,mb4.5
ROSF Rostrenen 26.44 310 *e*P **P 16 53 20.8 -1.2**
ROSF pmax pmax
comp=Z,15nm,0.9s,mb4.5
ROSF Rostrenen 26.44 310 *e*P **P 16 53 20.8 -1.2**
comp=Z,15nm,0.9s,mb4.5
HFS Hagfors 26.68 344 P **P 16 53 24.1 +0.1**
comp=Z,3.3nm,0.8s,mb3.9,baz=134,slow=11,SNR=5.5
AKTK Aktyubinsk 26.82 46 P **P 16 53 27.7 +2.2**
AKTO Aktyubinsk 26.82 46 P **P 16 53 27.7 +2.3**
comp=Z,3.1nm,0.7s,mb4.0,baz=275,slow=7.4,SNR=8.5
NB2 NORSAR Subarra 28.05 343 P **P 16 53 33.2 -3.2**
comp=Z,2.0nm,0.9s,mb3.8,baz=150,slow=9.3
NOA NORSAR Array B 28.05 343 P **P 16 53 36.2 -0.2**
comp=Z,1.0nm,0.8s,mb3.5,baz=156,slow=10.0,SNR=3.5
TOA0 Torodi Ar. Sit 32.05 234 *e*P **P 16 54 14.5 +2.3**
TOA0 Torodi Ar. Sit 32.05 234 *e*P **P 16 54 14.5 +2.3**
TORD Torodi Ar. Bea 32.05 234 P **P 16 54 14.4 +2.2**
comp=Z,2.7nm,0.6s,mb4.3,baz=32,slow=8.8,SNR=21
ARCES ARCESS Array B 34.54 359 P **P 16 54 32.8 -0.6**
comp=Z,1.2nm,0.9s,mb3.8,baz=174,slow=8.8,SNR=3.3
DBIC Dimbokro 41.16 234 P **P 16 55 31.9 +2.1**
comp=Z,1.8nm,0.4s,mb4.1,baz=17,slow=8.8,SNR=5.7
MKAR Makanchi Array 42.10 57 P **P 16 55 38.4 +1.2**
comp=Z,0.7nm,0.7s,mb3.4,baz=289,slow=4.3,SNR=3.3
SONM Songino Array 57.94 51 P **P 16 57 38.5 +1.1**
comp=Z,0.4nm,0.6s,mb3.6,baz=278,slow=10.0,SNR=3.3
SCHQ Schefferville 64.59 320 P **P 16 58 22.7 +0.4**
comp=Z,1.3nm,0.4s,mb4.3,baz=71,slow=7.8,SNR=7.3
YKA Yellowknife Ar 78.15 343 P **P 16 59 44.6 +0.5**
comp=Z,0.3nm,0.6s,mb3.4,baz=292,slow=11,SNR=3.9

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*ISCJB **21** 16:56:28.0±0.7, 9.15N±002×125.72E±003, h24km±5km, mb4.4/50, MS4.0/21, Error ellipse: s-maj=5.2km s-min=3.8km az=171.6*
*MOS **21** 16:56:28.9±1.1, 9.15N×125.53E, h33km, mb4.8/11, Error ellipse: s-maj=16.6km s-min=8.0km az=111.7*
*MAN **21** 16:56:28, 9.23N×125.58E, h8km, mb5.0, ML4.0, MS4.1*
MAN INTENSITY V - BUTUAN CITY; INTENSITY VI SURIGAO CITY.
*IDC **21** 16:56:33.3±3.9, 9.15N×125.55E, h58km±36km, mb3.9/18, mb1 4.1/21, mb1mx4.0/25, mbtmp4.0/21, ML4.0/3, MS3.8/12, Ms1 3.9/12, ms1mx3.7/25, Error ellipse: s-maj=23.7km s-min=10.7km az=80.0*
*BJI **21** 16:56:33.7, 9.23N×125.68E, h58km, mB4.9, mb4.6, Ms4.4, Msz4.1*
*NEIC **21** 16:56:33.3±1.2, 9.16N×125.62E, h59km±12km, mb4.6/16, Error ellipse: s-maj=10.4km s-min=6.0km az=70.0*
NEIC Felt [V PIVS] at Butuan and [IV PIVS] at Surigao.
ISC 21 16:56:27.8±0.6, 920N±002×12567E±003, h9km±3km, h43km±2.2km: pP-P, n127, σ1§32/150, mb4.4/50, MS4.0/21, 7C-3D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.61**	**343**	*e*P	**Pg**	**16 56 40.2**	**+0.6**
SCPH				*e*S	**Sg**	**16 56 48.3**	**+0.8**
CGP	**Cagayan de Oro**	**1.21**	**233**	⇑*i*P	**Pb**	**16 56 49.8**	**-1.2**
CGP				*i*S	**Sg**	**16 57 05.7**	**-1.2**
BIPH	**Bislig**	**1.22**	**146**	⇓*e*P	**Pb**	**16 56 50.7**	**-0.4**
BIPH				*e*S	**Sg**	**16 57 08.1**	**+1.1**
MSLP	**Maasin**	**1.23**	**319**	*e*P	**Pb**	**16 56 50.1**	**-1.2**
MSLP				*e*S	**Sg**	**16 57 00.5**	**-6.8**
BUKP	**Musuan**	**1.44**	**205**	*e*P	**Pn**	**16 56 55.1**	**+0.9**
TBP	**Tagbilaran**	**1.85**	**286**	*e*P	**Pn**	**16 56 58.8**	**-0.9**
TBP				*e*S	**Sn**	**16 57 22.8**	**-0.5**
LLP	**Lapu-Lapu**	**2.01**	**304**	⇑*i*P	**Pn**	**16 57 01.1**	**-0.9**
LLP				*e*S	**Sn**	**16 57 26.9**	**-0.5**
PLP	**Palo**	**2.07**	**341**	*i*P	**Pg**	**16 57 04.5**	**-3.0**
PLP				*i*S	**Sg**	**16 57 32.0**	**-2.5**
DMPH	**Davao City--Mi**	**2.11**	**184**	⇑*i*P	**Pn**	**16 57 06.8**	**+3.5**
DMPH				*i*S	**Sn**	**16 57 24.2**	**-5.5**
DAV	**Davao City (W)**	**2.12**	**182**	*e*Pn	**Pn**	**16 57 04.4**	**+1.0**
OCLP	**Ormoc**	**2.12**	**331**	*e*P	**Pn**	**16 57 04.1**	**+0.6**
OCLP				*e*S	**Sn**	**16 57 21.8**	**-8.1**
KCP	**Kidapawan**	**2.25**	**195**	⇓*i*P	**Pg**	**16 57 10.0**	**-1.0**
KCP				*i*S	**Sg**	**16 57 40.9**	**+0.8**
MATI	**Mati**	**2.31**	**165**	*e*P	**Pn**	**16 57 08.5**	**+2.4**
MATI				*e*S	**Sn**	**16 57 39.8**	**+5.1**
DCPH	**Dipolog City**	**2.37**	**255**	⇑*i*P	**Pn**	**16 57 07.0**	**+0.1**
DCPH				*i*S	**Sn**	**16 57 37.0**	**+0.9**
SNPH	**Sibulan**	**2.41**	**274**	*e*P	**Pn**	**16 57 07.0**	**-0.4**
CTBH	**Cotabato--PC H**	**2.42**	**216**	⇑*e*P	**Pn**	**16 57 08.2**	**+0.6**
CTBH				*i*S	**Sn**	**16 57 42.8**	**+5.5**
PAGZ	**Pagadian**	**2.63**	**240**	*e*P	**Pn**	**16 57 10.9**	**+0.4**
PAGZ				*e*S	**Sn**	**16 57 43.3**	**+0.8**
GSPH	**General Santos**	**3.17**	**193**	⇑*e*P	**Pn**	**16 57 14.9**	**-3.1**
CNP	**Catarman**	**3.44**	**343**	*e*P	**Pn**	**16 57 22.9**	**+1.3**
PVCP	**Virac**	**4.62**	**341**	⇑*e*P	**Pb**	**16 57 41.3**	**-7.8**
PVCP				*e*S	**Sg**	**16 58 47.0**	**-9.3**
OTRP	**Odiongan**	**4.77**	**312**	*e*P	**Pn**	**16 57 40.8**	**+0.9**
CUYO	**Cuyo Island**	**4.87**	**290**	*e*P	**Pn**	**16 57 41.0**	**-0.3**
BUSP	**Coron**	**6.06**	**298**	*e*P	**Pn**	**16 57 57.7**	**0.0**
ENPP	**El Nido**	**6.46**	**289**	*e*P	**Pn**	**16 58 05.5**	**+2.3**
LUBP	**Lubang**	**6.97**	**311**	*e*P	**Pn**	**16 58 16.0**	**+5.8**
KKM	**Kota Kinabalu**	**9.88**	**252**	*e*Pn	**Pn**	**16 58 52.7**	**+2.5**
KAPI	**Kappang**	**15.30**	**203**	P	**Pn**	**17 00 04.8**	**+0.6**
0.6nm,0.3s,baz=26,slow=4.4,SNR=5.3
KSM Kuching 17.10 244 *e*P **Pn 17 00 30.0 +2.7**
JOW Kunigami 17.71 8 P **Pn 17 00 35.7 +0.8**
0.3nm,0.3s,baz=162,slow=13,SNR=1.8
JOW LR LR 17 06 26.4
comp=Z,389nm,19.7s,baz=118,slow=33
QIZ Qiongzhong 18.18 304 P **Pn 17 00 44.0 +3.3**
QIZ S **Sn 17 04 03.5 -0.4**
QIZ XS sS 17 04 18.3 +5.0
QIZ SS 17 04 27.8
QIZ LR LR
comp=E,429nm,16.1s
QIZ LR LR
comp=Z,502nm,15.5s
BATI Kupang 19.38 186 P **Pn 17 00 53.9 -1.4**
comp=Z,5.6nm,0.3s,baz=303,slow=0.6,SNR=11
BATI LR LR 17 07 52.8
comp=Z,468nm,21.2s,baz=347,slow=35
SSE Sheshan 22.18 350 *e*P **P 17 01 25.3 +0.9**
SSE AP 17 01 35.8
SSE XP sP 17 01 43.8 +16
SSE S

NJ2				PP		17 02 13.6	
NJ2				S	**S**	**17 05 47.0**	**-6.7**
NJ2				XS	sS	17 06 08.0	+10
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,240nm,4.1s						
NJ2				LR	LR		
	comp=N,560nm,15.0s						
NJ2				LR	LR		
	comp=E,360nm,23.0s						
NJ2				LR	LR		
	comp=Z,380nm,24.0s						
JNU	**Nakatsue**	**24.29**	**11**	P	**P**	**17 01 47.0**	**+1.4**
	comp=Z,5.6nm,0.8s,mb4.0,baz=158,slow=16,SNR=6.3						
JNU				LR	LR	17 09 50.5	
	comp=Z,188nm,20.9s,MS3.5,baz=192,slow=33						
GYA	**Guiyang**	**24.88**	**316**	P	**P**	**17 01 53.3**	**+2.2**
GYA				AP		17 02 05.6	
GYA				XP	sP	17 02 11.8	+17
GYA				PP		17 02 31.8	
GYA				PCP	PcP	17 05 28.8	+1.7
GYA				S	**S**	**17 06 10.4**	**-4.0**
GYA				XS	sS	17 06 32.0	+13
GYA				SS		17 07 10.9	
GYA				SCP	ScP	17 09 02.0	-4.5
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
GYA				AMB	AMB		
	comp=Z,80nm,4.2s						
GYA				LR	LR		
	comp=N,440nm,15.5s,MS4.2						
GYA				LR	LR		
	comp=E,460nm,16.0s,MS4.2						
GYA				LR	LR		
	comp=Z,480nm,16.6s,MS4.1						
KMI	**Kunming**	**26.96**	**309**	P	**P**	**17 02 11.9**	**+1.9**
KMI				AP	pP	17 02 24.6	+12
KMI				XP	sP	17 02 29.8	+16
KMI				PP		17 02 57.3	
KMI				S	**S**	**17 06 43.1**	**-4.3**
KMI				XS	sS	17 07 05.8	+14
KMI				SS		17 08 01.8	
KMI				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.1						
KMI				AMB	AMB		
	comp=Z,102nm,4.0s						
KMI				LR	LR		
	comp=N,291nm,19.0s,MS4.0						
KMI				LR	LR		
	comp=E,256nm,17.3s,MS4.0						
KMI				LR	LR		
	comp=Z,271nm,18.4s,MS3.8						
FITZ	**Fitzroy Crossi**	**27.12**	**180**	*e*P	**P**	**17 02 09.8**	**-1.6**
	comp=Z,6.7nm,0.6s,mb4.3						
FITZ	**Fitzroy Crossi**	**27.12**	**180**	P	**P**	**17 02 09.9**	**-1.5**
	comp=Z,4.8nm,0.7s,mb4.1,baz=11,slow=6.8,SNR=13						
FITZ				LR	LR	17 13 31.2	
	comp=Z,105nm,21.2s,MS3.4,baz=269,slow=38						
JHJ	**Hachijo jima 2**	**27.14**	**27**	LR	LR	17 10 45.0	
	comp=Z,146nm,21.1s,MS3.5,baz=254,slow=31						
PSI	**Prapat**	**27.33**	**258**	P	**P**	**17 02 13.8**	**+0.4**
	comp=Z,1.9nm,0.3s,mb4.0,baz=163,slow=11,SNR=3.1						
CM31	**Chiang Mai Arr**	**27.50**	**292**	*e*P	**P**	**17 02 15.3**	**+0.5**
CHTO	**Chiang Mai**	**27.60**	**293**	*e*P	**P**	**17 02 15.1**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.7						
CHTO	**Chiang Mai**	**27.60**	**293**	*e*P	**P**	**17 02 15.1**	**-0.6**
	comp=Z,2.3nm,1.0s,mb3.8						
KSRS	**Korea Array**	**28.20**	**4**	P	**P**	**17 02 20.7**	**-0.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.5						
KSRS				MLR	MLR		
	comp=Z,189nm,21.0s,MS3.7						
KSRS	**Korea Array**	**28.20**	**4**	P	**P**	**17 02 20.7**	**-0.2**
	comp=Z,0.7nm,0.8s,baz=186,slow=9.5,SNR=4.2						
KSRS				LR	LR	17 13 38.0	
	comp=Z,189nm,21.0s,MS3.7,baz=175,slow=36						
MJAR	**Matsushiro Arr**	**29.51**	**21**	P	**P**	**17 02 32.5**	**-0.1**
MJAR				LR	LR	17 12 33.7	
MJAR	**Matsushiro Arr**	**29.51**	**21**	P	**P**	**17 02 32.5**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.7,baz=191,slow=8.6,SNR=4.4						
MJAR				LR	LR	17 12 33.7	
	comp=Z,262nm,21.3s,MS3.8,baz=210,slow=32						
CD2	**Chengdu**	**29.72**	**320**	*e*P	**P**	**17 02 36.5**	**+2.0**
CD2				AP	pP	17 02 48.4	+11
CD2				XP	sP	17 02 54.0	+16
CD2				PP	PP	17 03 34.6	-7.0
CD2				S	**S**	**17 07 28.8**	**-2.0**
CD2				XS	sS	17 07 48.8	+14
CD2				SS	SS	17 09 06.0	-31
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
CD2				AMB	AMB		
	comp=Z,30nm,3.8s						
CD2				LR	LR		
	comp=N,600nm,16.8s						
CD2				LR	LR		
	comp=Z,310nm,12.0s,MS4.2						
WRAB	**Tennant Creek**	**30.18**	**164**	*e*P	**P**	**17 02 37.1**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
WRAB	**Tennant Creek**	**30.18**	**164**	*e*P	**P**	**17 02 37.1**	**-1.5**
	comp=Z,5.2nm,0.6s,mb4.4						
WRA	**Warramunga Arr**	**30.19**	**164**	P	**P**	**17 02 37.3**	**-1.4**
	comp=Z,1.8nm,0.6s,mb4.0,baz=344,slow=9.3,SNR=17						
WB2	**Warramunga Arr**	**30.19**	**164**	*e*P	**P**	**17 02 38.1**	**-0.6**
MBWA	**Marble Bar**	**30.72**	**191**	*e*P	**P**	**17 02 43.0**	**-0.4**
BJI	**Beijing**	**31.86**	**346**	P	**P**	**17 02 55.6**	**+2.3**
BJI				S	**S**	**17 08 04.5**	**+0.5**
BJI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.3						
BJI				LR	LR		
	comp=N,192nm,23.0s,MS3.9						
BJI				LR	LR		
	comp=E,207nm,25.5s,MS3.9						
BJI				LR	LR		
	comp=Z,117nm,24.1s,MS3.5						
LZH	**Lanzhou**	**33.33**	**327**	*e*P	**P**	**17 03 08.5**	**+2.3**
LZH				AP	pP	17 03 21.4	+13
LZH				*e*PP	PP	17 04 21.6	0.0
LZH				AMB	AMB		
	comp=Z,21nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,59nm,4.6s						
LZH				LR	LR		
	comp=N,573nm,12.8s						
LZH				LR	LR		
	comp=Z,712nm,16.5s,MS4.5						
ASAR	**Alice Springs**	**33.64**	**166**	P	**P**	**17 03 08.6**	**-0.4**
	comp=Z,3.8nm,0.6s,mb4.5,baz=342,slow=7.1,SNR=79						
HHC	**Hu-ho-hao-te**	**33.92**	**341**	*e*P	**P**	**17 03 13.6**	**+2.4**
HHC				AP	pP	17 03 26.0	+12
HHC				XP	sP	17 03 31.0	+16
HHC				PP	PP	17 04 29.1	+1.0
HHC				PCP	PcP	17 05 52.0	+2.3
HHC				S	**S**	**17 08 35.5**	**-0.5**
HHC				XS	sS	17 08 55.9	+15
HHC				SCP	ScP	17 09 30.8	-4.2
HHC				SS	SS	17 10 44.0	-19
HHC				SCS	ScS	17 13 31.4	-5.2
HHC				AMB	AMB		
	comp=Z,22nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,118nm,6.1s						
HHC				LR	LR		
	comp=N,255nm,16.2s,MS4.2						
HHC				LR	LR		
	comp=E,250nm,14.5s,MS4.2						
HHC				LR	LR		
	comp=Z,260nm,17.1s,MS4.0						
CN2	**Changchun**	**34.47**	**360**	*e*P	**P**	**17 03 19.8**	**+3.8**
CN2				*e*XP	sP	17 03 37.3	+18
CN2				*e*S	**S**	**17 08 44.9**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,19.0s,MS4.0						
CN2				LR	LR		
	comp=E,200nm,19.0s,MS4.0						
CN2				LR	LR		
	comp=Z,200nm,16.0s,MS4.0						
MDJ	**Mudanjiang**	**35.45**	**5**	P	**P**	**17 03 26.3**	**+1.8**
MDJ				AP	pP	17 03 36.5	+9.4
MDJ				XP	sP	17 03 41.8	+14
MDJ				PP	PP	17 04 48.8	+3.8
MDJ				PCP	PcP	17 05 54.0	-0.1
MDJ				S	**S**	**17 09 01.5**	**+1.9**
MDJ				SCP	ScP	17 09 38.4	-2.0
MDJ				PCS	PcS	17 09 43.0	+2.0
MDJ				SCS	ScS	17 13 42.6	-2.1
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.7s,mb4.5						
MDJ				AMB	AMB		
	comp=Z,54nm,5.3s						
MDJ				LR	LR		
	comp=N,168nm,36.0s						
MDJ				LR	LR		
	comp=E,97nm,27.1s						
MDJ				LR	LR		
	comp=Z,49nm,24.2s						
CTA	**Charters Tower**	**35.46**	**145**	*e*P	**P**	**17 03 25.2**	**+0.4**
	comp=Z,2.9nm,0.9s,mb4.2						
CTA	**Charters Tower**	**35.46**	**145**	*e*P	**P**	**17 03 25.2**	**+0.4**
CTA				pmax	pmax		
	comp=Z,3.0nm,0.9s						
CTAO	**Charters Tower**	**35.46**	**145**	*e*P	**P**	**17 03 25.7**	**+0.9**
SHL	**Shillong**	**35.97**	**301**	*e*P	**P**	**17 03 31.5**	**+2.3**
GTA	**Gaotai**	**37.93**	**327**	*e*P	**P**	**17 03 45.4**	**-0.3**
GTA				PP	PP	17 05 17.8	+5.4
GTA				S	**S**	**17 09 35.8**	**-1.9**
GTA				XS	sS	17 09 55.9	+14
GTA				AMB	AMB		
	comp=Z,1.0nm,0.6s,mb3.7						
GTA				LR	LR		
	comp=N,289nm,18.7s,MS4.2						
GTA				LR	LR		
	comp=E,190nm,17.2s,MS4.2						
GTA				LR	LR		
	comp=Z,450nm,18.7s,MS4.3						
LSA	**Lhasa**	**38.18**	**307**	P	**P**	**17 03 48.6**	**+0.6**
LSA				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.4						
LSA	**Lhasa**	**38.18**	**307**	P	**P**	**17 03 48.6**	**+0.6**
	comp=Z,7.6nm,1.0s,mb4.4						
FORT	**Forrest**	**39.81**	**177**	*e*P	**P**	**17 03 58.8**	**-2.7**
	comp=Z,31nm,0.6s,mb5.2						
HABR	**Khabarovsk**	**39.94**	**10**	*e*P	**P**	**17 04 03.4**	**+1.1**
HABR				*e*		17 04 11.2	
HABR				*e*		17 05 36.1	
HABR				*e*		17 06 07.8	
HABR				*e*S	**S**	**17 10 08.2**	**+0.6**
HABR				*e*		17 10 25.6	
HABR				*e*		17 13 33.5	
HABR				*e*		17 14 09.2	
KLR	**Kul'dur**	**40.23**	**6**	*e*P	**P**	**17 04 03.8**	**-1.0**
JIRN	**Jiri**	**41.47**	**302**	*e*P	**P**	**17 04 16.9**	**+1.5**
GUN	**Gumba**	**41.81**	**302**	*e*P	**P**	**17 04 20.3**	**+2.1**
	comp=Z,20nm,0.7s,mb4.9						
SONM	**Songino Array**	**41.82**	**341**	P	**P**	**17 04 19.0**	**+1.1**
	comp=Z,0.2nm,0.4s,baz=149,slow=5.9,SNR=3.1						
MUN	**Mundaring**	**41.93**	**192**	*e*P	**P**	**17 04 18.0**	**-1.0**
KKN	**Kakani**	**42.28**	**301**	*e*P	**P**	**17 04 23.8**	**+1.8**
	comp=Z,18nm,0.9s,mb4.7						
GKN	**Gorkha**	**42.89**	**301**	*e*P	**P**	**17 04 27.1**	**+0.2**
STKA	**Stephens Creek**	**43.59**	**160**	*e*P	**P**	**17 04 33.6**	**+1.1**
	comp=Z,6.4nm,0.9s,mb4.3						
STKA	**Stephens Creek**	**43.59**	**160**	P	**P**	**17 04 31.9**	**-0.5**
	comp=Z,6.7nm,0.9s,mb4.4,baz=325,slow=8.1,SNR=8.9						
KOLN	**Koldanda**	**43.69**	**301**	*e*P	**P**	**17 04 34.1**	**+0.6**
	comp=Z,33nm,0.9s,mb5.1						
DANN	**Dangsing**	**43.73**	**302**	*e*P	**P**	**17 04 33.1**	**-0.6**
WMQ	**Urumqi**	**47.71**	**323**	*e*P	**P**	**17 05 06.0**	**+1.0**
WMQ				XP	sP	17 05 24.0	+15
WMQ				PP	PP	17 06 57.0	+0.4
WMQ				S	**S**	**17 11 58.0**	**-3.2**
WMQ				SS	SS	17 15 21.0	-8.6
WMQ				AMB	AMB		
	comp=Z,25nm,1.0s,mb5.2						
WMQ				LR	LR		
	comp=N,327nm,14.0s,MS4.7						
WMQ				LR	LR		
	comp=E,422nm,14.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,215nm,14.0s,MS4.3						
BOD	**Bodaibo**	**49.34**	**352**	*e*P	**P**	**17 05 18.5**	**+1.2**
MK31	**Makanchi Array**	**52.52**	**324**	*e*P	**P**	**17 05 40.8**	**-0.7**
MKAR	**Makanchi Array**	**52.52**	**324**	P	**P**	**17 05 40.7**	**-0.7**
	comp=Z,2.9nm,0.7s,mb4.3,baz=124,slow=8.3,SNR=15						
YAK	**Yakutsk**	**52.82**	**2**	*e*P	**P**	**17 05 45.9**	**+2.6**
YAK				pmax	pmax		
	comp=N,4.0nm,1.1s						
YAK				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.8						
YAK				pmax	pmax		
	comp=E,4.0nm,1.3s						
YAK	**Yakutsk**	**52.82**	**2**	P	**P**	**17 05 43.8**	**+0.4**
	comp=E,12nm,0.8s,mb4.9						
MA2	**Magadan**	**53.72**	**16**	*e*P	**P**	**17 05 54.5**	**+4.5**
MA2				pmax	pmax		
	comp=Z,7.0nm,1.4s,mb4.4						
TKM2	**Tokmak 2**	**55.02**	**317**	P	**P**	**17 05 59.4**	**-0.5**
ZALV	**Zalesovo Beam**	**55.28**	**332**	P	**P**	**17 06 00.8**	**-0.8**
	comp=Z,0.7nm,0.4s,mb4.1,baz=101,slow=4.8,SNR=4.2						
ZALV				LR	LR	17 31 43.8	
	comp=Z,59nm,19.9s,MS3.7,baz=262,slow=38						
ZAL	**Zalesovo**	**55.28**	**332**	P	**P**	**17 06 00.8**	**-0.7**
UCH	**Uchtor**	**55.51**	**315**	*e*P	**P**	**17 06 03.4**	**+0.1**
	comp=Z,7.6nm,0.9s,mb4.7						
AML	**Almayashu**	**56.05**	**315**	*e*P	**P**	**17 06 07.2**	**-0.1**
	comp=Z,6.6nm,0.9s,mb4.7						
EKS2	**Erkin-Say**	**56.17**	**316**	*e*P	**P**	**17 06 06.7**	**-1.4**
	comp=Z,5.0nm,1.0s,mb4.5						
KURK	**Kurchatov**	**56.62**	**326**	*e*P	**P**	**17 06 09.7**	**-1.4**
KURK				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
KURK	**Kurchatov**	**56.62**	**326**	*e*P	**P**	**17 06 09.7**	**-1.4**
	comp=Z,7.2nm,0.9s,mb4.7						
KBL	**Kabul**	**57.45**	**305**	*e*P	**P**	**17 06 17.1**	**-0.3**
BVAR	**Borovoye Array**	**62.21**	**326**	P	**P**	**17 06 48.5**	**-1.3**
	comp=Z,1.5nm,0.8s,mb4.2,baz=134,slow=11,SNR=9.0						
BRVK	**Borovoye**	**62.28**	**326**	*e*P	**P**	**17 06 46.7**	**-3.5**
BRVK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.8						
BRVK	**Borovoye**	**62.28**	**326**	*e*P	**P**	**17 06 46.7**	**-3.5**
	comp=Z,7.0nm,1.0s,mb4.8						
TIXI	**Tiksi**	**62.43**	**1**	*e*P	**P**	**17 06 47.6**	**-3.3**
TIXI				pmax	pmax		
	comp=Z,11nm,1.3s,mb4.8						
TIXI	**Tiksi**	**62.43**	**1**	*e*P	**P**	**17 06 48.9**	**-2.0**
	comp=Z,5.5nm,0.8s,mb4.7						
BILL	**Bilibino**	**64.59**	**16**	*e*P	**P**	**17 07 09.1**	**+3.9**
BILL				*e*		17 07 17.2	
BILL				*e*		17 09 32.0	
BILL				*e*S	**S**	**17 15 51.4**	**+6.6**
BILL				pmax	pmax		
	comp=Z,12nm,1.6s,mb4.7						
BILL	**Bilibino**	**64.59**	**16**	*e*P	**P**	**17 07 05.6**	**+0.3**
	comp=Z,20nm,1.5s,mb4.9						
AKTK	**Aktyubinsk**	**68.77**	**321**	P	**P**	**17 07 29.8**	**-2.4**
AKTO	**Aktyubinsk**	**68.77**	**321**	P	**P**	**17 07 29.8**	**-2.4**
	comp=Z,0.9nm,0.3s,mb4.2,baz=86,slow=15,SNR=3.8						
SVE	**Sverdlovsk**	**68.79**	**328**	*e*P	**P**	**17 07 31.3**	**-1.0**
ARU	**Arti**	**69.79**	**327**	*d*P	**P**	**17 07 36.1**	**-2.4**
ARU				*e*		17 07 56.3	
ARU				*e*PPP		17 11 49.5	
ARU				*e*S	S	17 16 41.6	-6.2
ARU				pmax	pmax		
	comp=Z,6.0nm,1.7s,mb4.2						
IMA2	**Indian Mountai**	**77.85**	**24**	*e*P	**P**	**17 08 23.7**	**-1.9**
KIV	**Kislovodsk**	**78.64**	**313**	*e*P	**P**	**17 08 28.4**	**-2.0**
KIV				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
KIV				MLR	MLR		
	comp=Z,109nm,20.0s,MS4.2						
SML	**Sawmill**	**80.07**	**29**	P	**P**	**17 08 37.1**	**-0.7**
DAWY	**Dawson**	**83.96**	**26**	*e*P	**P**	**17 08 57.9**	**-0.4**
ARCES	**ARCESS Array B**	**84.99**	**340**	P	**P**	**17 09 02.1**	**-1.2**
ARCES				LR	LR	17 50 47.9	
ARCES	**ARCESS Array B**	**84.99**	**340**	P	**P**	**17 09 02.1**	**-1.2**
	comp=Z,4.1nm,0.9s,mb4.6,baz=58,slow=5.0,SNR=5.0						
ARCES				LR	LR	17 50 47.9	
	comp=Z,74nm,18.8s,MS4.1,baz=81,slow=38						
INK	**Inuvik**	**85.50**	**21**	*e*P	**P**	**17 09 06.3**	**+0.4**
INK				pmax	pmax		
	comp=Z,459nm,1.3s						
INK	**Inuvik**	**85.50**	**21**	*e*P	**P**	**17 09 06.3**	**+0.4**
	comp=Z,459nm,1.3s						
FINES	**FINESS Array B**	**86.55**	**332**	P	**P**	**17 09 07.9**	**-3.3**
	comp=Z,1.0nm,0.9s,mb4.0,baz=181,slow=36,SNR=4.7						
FINES				LR	LR	17 52 18.8	
	comp=Z,58nm,18.6s,MS4.0,baz=74,slow=39						
AKASG	**Malin Array Be**	**87.02**	**321**	P	**P**	**17 09 10.4**	**-3.3**
	comp=Z,0.1nm,0.3s,mb3.6,baz=64,slow=4.3,SNR=3.2						
VNDA	**Vanda**	**88.95**	**173**	P	**P**	**17 09 21.8**	**-0.6**
	comp=Z,1.1nm,0.7s,mb4.3,baz=299,slow=4.9,SNR=6.7						
NOA	**NORSAR Array B**	**93.45**	**334**	LR	LR	17 53 27.2	
	comp=Z,95nm,20.9s,MS4.2,baz=50,slow=36						
YKA	**Yellowknife Ar**	**94.97**	**24**	*i*P	**P**	**17 09 54.0**	**+3.4**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
YKA	**Yellowknife Ar**	**94.97**	**24**	P	**P**	**17 09 51.2**	**+0.6**
YKA	**Yellowknife Ar**	**94.97**	**24**	P	**P**	**17 09 51.2**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.5,baz=298,slow=4.7,SNR=15						
GERES	**GERESS Array B**	**97.17**	**322**	P	**P**	**17 09 58.5**	**-2.4**
	comp=Z,0.2nm,0.4s,mb3.9,baz=329,slow=13,SNR=1.9						
GERES				LR	LR	17 54 33.8	
	comp=Z,65nm,20.2s,MS4.1,baz=71,slow=36						
TUC	**Tucson**	**112.18**	**50**	*e*P	Pdif	17 11 09.0	+1.4
TXAR	**Lajitas Array**	**118.97**	**49**	PKP	PKPdf	17 15 16.2	-1.4
	comp=Z,0.1nm,0.5s,baz=248,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**120.10**	**291**	PKP	PKPdf	17 15 18.2	-2.0
	comp=Z,0.6nm,0.8s,baz=28,slow=3.4,SNR=3.9						
PLCA	**Paso Flores**	**145.45**	**158**	PKPbc	PKPbc	17 16 04.7	-2.0
	comp=Z,1.8nm,0.9s,baz=270,slow=2.0,SNR=2.5						

FUNV 21 17:47:11.1, 704N×7316W, h158km, MW3.5, 1C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.17**	**46⇑**	*i*P	Pn	17 47 37.7	-0.5
CAPV				*e*S	Sn	17 47 57.5	-1.4
VIGV	**El Vigia**	**2.52**	**45**	*e*P	Pn	17 47 52.0	-0.9
VIGV				*e*S	Sn	17 48 21.8	-3.4
SOCV	**Socops**	**2.59**	**61**	*e*P	Pn	17 47 52.6	-1.2
SOCV				*e*S	Sn	17 48 23.9	-2.8
VIRV	**Villa del Rosa**	**3.52**	**12**	*e*P	Pn	17 48 04.6	-0.8
VIRV				*e*S	Sn	17 48 42.8	-4.8
CURV	**Curarigua**	**4.32**	**47**	*e*P	Pn	17 48 14.5	-1.3
CURV				*e*S	Sn	17 49 01.5	-4.8
SANV	**Sanarito**	**4.34**	**55**	*e*P	Pn	17 48 14.1	-1.9
DABV	**Dabajuro**	**4.59**	**33**	*e*P	Pn	17 48 18.3	-1.0
DABV				*e*S	Sn	17 49 07.2	-5.3
SIQV	**Siquisique**	**4.88**	**43**	*e*P	Pn	17 48 21.3	-1.7
TEPV	**Terepaima**	**4.88**	**53**	*e*P	Pn	17 48 21.2	-1.9

*ISCJB **21** 18:11:47.6±1.0, 2443S±006×686W±02, h80km±11km, mb3.7/5, Error ellipse: s-maj=23.1km s-min=10.1km az=5.3*

*NEIC **21** 18:11:49.6±0.7, 2447S×6857W, h87km±7km, Error ellipse: s-maj=15.9km s-min=8.1km az=102.0*

*IDC **21** 18:11:49.5±2.5, 2439S×6863W, h83km±21km, mb3.6/5, mb1 3.8/8, mb1mx3.7/18, mbtmp3.7/8, Error ellipse: s-maj=29.8km s-min=21.3km az=98.0*

ISC 21 18:11:49.4±0.8, 2442S±006×686W±01, h81km±10km, n20, σ1§13/15, mb3.7/5, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.82**	**351**	*e*Pn	**Pn**	**18 12 21.4**	**+2.5**
LVC				*e*Sn	**Sn**	**18 12 39.6**	**-1.8**
LCO	**Las Campanas**	**4.94**	**202**	*e*Pn	**Pn**	**18 13 00.0**	**-1.0**
CFAA	**Coronel Fontan**	**7.17**	**177**	P	**Pn**	**18 13 31.8**	**+0.3**
CFAA	**Coronel Fontan**	**7.17**	**177**	P	**Pn**	**18 13 31.8**	**+0.3**
	0.2nm,0.3s,baz=354,slow=14,SNR=18						
LPAZ	**La Paz**	**8.11**	**3**	*e*Pn	**Pn**	**18 13 46.3**	**+1.9**
LPAZ	**La Paz**	**8.11**	**3**	P	**Pn**	**18 13 46.2**	**+1.8**
	1.1nm,0.3s,baz=188,slow=3.7,SNR=20						
SIV	**San Ignacio**	**10.97**	**42**	P	**Pn**	**18 14 22.2**	**-1.3**
	3.6nm,0.3s,baz=232,slow=13,SNR=41						
BDFB	**Brasilia**	**21.22**	**70**	P	**P**	**18 16 28.6**	**-0.1**
	2.5nm,0.5s,mb3.8,baz=217,slow=20,SNR=5.9						
TXAR	**Lajitas Array**	**63.17**	**326**	P	**P**	**18 22 08.6**	**-0.3**
	0.1nm,0.5s,mb3.0,baz=150,slow=9.2,SNR=2.2						
TOA0	**Torodi Ar. Sit**	**78.10**	**70**	*e*P	**P**	**18 23 39.9**	**0.0**
TORD	**Torodi Ar. Bea**	**78.10**	**70**	P	**P**	**18 23 39.9**	**0.0**
TORD	**Torodi Ar. Bea**	**78.10**	**70**	P	**P**	**18 23 39.9**	**0.0**
	1.1nm,0.4s,mb3.9,baz=258,slow=5.5,SNR=34						
MAW	**Mawson**	**81.47**	**163**	P	**P**	**18 23 58.3**	**+1.0**
	1.4nm,0.8s,mb3.9,baz=229,slow=3.9,SNR=3.6						
YKA	**Yellowknife Ar**	**94.02**	**340**	P	**P**	**18 24 57.1**	**-0.8**
	0.4nm,0.7s,mb3.9,baz=135,slow=4.8,SNR=8.7						
SLKM	**Skilak Lake**	**106.94**	**329**	P	Pdif	18 25 52.5	-3.8
ASAR	**Alice Springs**	**127.44**	**206**	PKP	PKPdf	18 30 44.6	-0.9
	0.4nm,0.7s,baz=147,slow=1.8,SNR=9.7						
WRA	**Warramunga Arr**	**130.56**	**209**	PKP	PKPdf	18 30 51.3	-0.3
	0.4nm,0.5s,baz=155,slow=1.7,SNR=9.0						
ZALV	**Zalesovo Beam**	**144.45**	**27**	PKP	PKPdf	18 31 14.9	-1.0
	1.4nm,0.6s,baz=306,slow=3.9,SNR=7.2						
MK31	**Makanchi Array**	**147.78**	**39**	*e*PKPbc	PKPbc	18 31 24.4	-0.3
MKAR	**Makanchi Array**	**147.78**	**39**	PKPbc	PKPbc	18 31 24.6	-0.1
	1.1nm,0.7s,baz=336,slow=2.9,SNR=7.2						

*NEIC **21** 18:17:24.4, 2958S×7121W, h51km, MG4.2(GUC), After GUC.*

GUC 21 18:17:24.4±1.1, 2958S×7121W, h51km±8km, ML4.2, 2C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.33**	**185⇓**	*i*P	Pn	18 17 34.3	+0.3
LSCH				*i* S	Sn	18 17 41.2	+0.4
TLL	**Tololo Astrono**	**0.69**	**149⇓**	*i*P	Pn	18 17 39.7	+1.6
TLL				*i* S	Sn	18 17 50.0	+2.1
TLL	**Tololo Astrono**	**0.69**	**149⇓**	*i*P	Pn	18 17 39.7	+1.6
TLL				*i* S	Sn	18 17 50.0	+2.1
TLL				AML	AML	18 17 52.4	
	comp=E,6μm,0.8s						
LCO	**Las Campanas**	**0.72**	**39**	*e*Pn	Pn	18 17 39.3	+0.8
LCO				*e*Sn	Sn	18 17 49.5	+0.8
OVCH	**Ovalle**	**1.03

*NEIC **21** 18:35:00.9, 31.71S×72.03W, h14km, ML3.1(GUC), After GUC.*

GUC 21 18:35:00.9±0.8, 31.71S×72.03W, h14km±11km, MD3.9, ML3.1, 2C, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**1.03**	**59⇑**	*e*P	Pb	18 35 19.2	-1.3
CMCH				*i* S	Sb	18 35 33.5	-0.4
CMCH	**Combarbala**	**1.03**	**59⇑**	*e*P	Pb	18 35 19.2	-1.3
CMCH				*i* S	Sb	18 35 33.5	-0.4
CMCH				AML	AML	18 35 39.7	
	comp=E,2μm,0.6s						
PEL	**Peldehue**	**1.83**	**142**	*e*P	Pn	18 35 31.9	0.0
PEL				*i* S	Sn	18 35 55.6	+0.7
PEL				AML	AML	18 36 01.0	
	comp=E,321nm,0.4s						
TLL	**Tololo Astrono**	**1.86**	**35**	*e*P	Pn	18 35 33.3	+0.9
TLL				*i* S	Sn	18 35 57.1	+1.4
TLL	**Tololo Astrono**	**1.86**	**35**	*e*P	Pn	18 35 33.3	+0.9
TLL				*i* S	Sn	18 35 57.1	+1.4
TLL				AML	AML	18 36 13.8	
	comp=N,195nm,0.4s						
CLCH	**Cerro Calan**	**2.10**	**144**	*e*P	Pn	18 35 36.6	+0.9
CLCH				*i* S	Sn	18 36 03.8	+2.2
CLCH				AML	AML	18 36 11.5	
	comp=N,202nm,0.7s						
TACH	**Talagante**	**2.15**	**155**	*e*P	Pn	18 35 36.7	+0.4
FCH	**Farellones**	**2.19**	**138**	*e*P	Pn	18 35 38.3	+1.5
FCH				*i* S	Sn	18 36 06.3	+2.6
FCH				AML	AML	18 36 12.9	
	comp=E,92nm,0.8s						
PCH	**Pirque**	**2.30**	**147**	*e*P	Pn	18 35 39.7	+1.3
PCH				*i* S	Sn	18 36 11.4	+5.0
LCO	**Las Campanas**	**2.92**	**24**	*e*Pn	Pn	18 35 46.3	-0.7
LCO				*e*Sg	Sg	18 36 32.0	-2.9

SKHL 21 18:42:33.0±1.7, 53.82N×140.26E, h10km, mb4.1/4, 1C-1D, Primorye

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NKL	**Nikolayevsk**	**0.72**	**159**	*i* Pg	Pg	18 42 46.9	+0.1
NKL				AMB	AMB	18 42 48.4	
	12μm,0.2s						
NKL				AMB	AMB	18 42 48.4	
	150nm,0.2s						
NKL				*e*Sg	Sg	18 42 58.2	+2.1
NKL				A		18 42 59.3	
	820nm,0.3s						
NKL				A		18 42 59.3	
	240nm,0.3s						
OKH	**Okha**	**1.61**	**99⇓**	*i* Pg	Pg	18 43 04.5	+0.6
OKH				AMB	AMB	18 43 05.0	
	135nm,0.5s						
OKH				⇑*i* Sg	Sg	18 43 25.0	+0.2
OKH				A		18 43 26.0	
	430nm,0.7s						
OKH				A		18 43 26.0	
	860nm,0.7s						
TYV	**Tymovskoe**	**3.31**	**153**	*e*Pg	Pg	18 43 39.0	+2.7
TYV				AMB	AMB	18 43 40.0	
	8.0nm,0.5s						
TYV				*e*Sg	Sg	18 44 24.5	+5.4
TYV				A		18 44 27.0	
	18nm,0.3s						
GRNR	**Gornyy**	**3.86**	**219**	*e*Pg	Pg	18 43 49.2	+2.3
GRNR				AMB	AMB	18 43 50.0	
	20nm,0.3s						
GRNR				*e*Sg	Sg	18 44 42.3	+5.5
GRNR				A		18 44 46.0	
	38nm,0.4s						
GRNR				A		18 44 46.0	
	31nm,0.4s						
EKMR	**Ekimchan**	**4.43**	**263**	*e*Pg	Pg	18 44 00.5	+2.6
EKMR				AMB	AMB	18 44 03.9	
	3.0nm,0.4s						
EKMR				*e*Sg	Sg	18 45 02.5	+7.2
EKMR				A		18 45 03.5	
	30nm,0.4s						
EKMR				A		18 45 03.5	
	14nm,0.4s						
EKMR				A		18 45 03.5	
	15nm,0.4s						

*ISCJB **21** 19:06:19.0±0.9, 25.72S×100.8W±0.1, h448km±11km, mb3.8/13, Error ellipse: s-maj=15.5km s-min=12.5km az=19.4*
*NEIC **21** 19:06:19.4±1.2, 25.67S×179.69W, h444km±13km, mb3.9/7, Error ellipse: s-maj=14.4km s-min=12.7km az=181.0*
*IDC **21** 19:06:19.1±1.2, 25.57S×179.71W, h438km±13km, mb3.5/10, mb1 3.8/12, mb1mx3.7/16, mbtmp3.6/12, Error ellipse: s-maj=16.5km s-min=13.5km az=161.0*

ISC 21 19:06:17.2±1.0, 25.49S×100.7W×1.01, h412km±13km, n67, σ1°§05/57, mb3.8/13, 2D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**4.09**	**157**	Pn	**P**	**19 07 34.6**	**+3.9**
RAO				Sn	**S**	**19 08 31.4**	**+0.9**
RAO	**Raoul Island**	**4.09**	**157**	P	**P**	**19 07 34.8**	**+4.1**
	82nm,0.3s,baz=284,slow=23,SNR=4.6						
RAO				S	**S**	**19 08 33.3**	**+2.7**
	148nm,0.3s,baz=109,slow=22,SNR=4.2						
KUZ	**Kuaotunu**	**11.86**	**198**	P	**P**	**19 08 58.5**	**+3.7**
KUZ	**Kuaotunu**	**11.86**	**198**	PN	**P**	**19 08 58.5**	**+3.7**
MXZ	**Matakaoa Point**	**12.15**	**187**	P	**P**	**19 08 58.3**	**+0.4**
MXZ	**Matakaoa Point**	**12.15**	**187**	PN	**P**	**19 08 58.2**	**+0.3**
PUZ	**Puketiti**	**12.65**	**187**	*e*P	**P**	**19 09 02.1**	**-1.4**
PUZ	**Puketiti**	**12.65**	**187**	*e*PN	**P**	**19 09 02.1**	**-1.4**
MARZ	**Manawahe**	**12.82**	**193**	PN	**P**	**19 09 09.0**	**+3.7**
URZ	**Urewera**	**13.00**	**191**	P	**P**	**19 09 06.1**	**-1.2**
URZ	**Urewera**	**13.00**	**191**	P	**P**	**19 09 07.3**	**0.0**
	32nm,0.3s,baz=12,slow=2.3,SNR=66						
URZ				S	**S**	**19 11 29.8**	**+1.8**
	2.2nm,0.3s,baz=259,slow=22,SNR=11						
URZ	**Urewera**	**13.00**	**191**	PN	**P**	**19 09 06.1**	**-1.2**
MWZ	**Matawai**	**13.01**	**189**	P	**P**	**19 09 07.0**	**-0.4**
MWZ	**Matawai**	**13.01**	**189**	PN	**P**	**19 09 07.0**	**-0.3**
AFI	**Afiamalu**	**13.75**	**35**	*e*P	**P**	**19 09 11.9**	**-3.9**
AFI	**Afiamalu**	**13.75**	**35**	P	**P**	**19 09 12.2**	**-3.6**
	29nm,0.3s,baz=324,slow=3.2,SNR=36						
BKZ	**Black Stump Fm**	**13.99**	**192**	P	**P**	**19 09 16.8**	**-1.3**
BKZ	**Black Stump Fm**	**13.99**	**192**	PN	**P**	**19 09 16.8**	**-1.3**
WNVZ	**Wahianoa**	**14.34**	**195**	*e*P	**P**	**19 09 21.4**	**-0.4**
WNVZ	**Wahianoa**	**14.34**	**195**	*e*PN	**P**	**19 09 21.4**	**-0.4**
PXZ	**Pawanui**	**14.77**	**190**	*e*PN	**P**	**19 09 24.6**	**-2.0**
TSZ	**Takapari Road**	**14.96**	**193**	*e*P	**P**	**19 09 28.1**	**-0.5**
TSZ	**Takapari Road**	**14.96**	**193**	*e*PN	**P**	**19 09 28.1**	**-0.5**
MRZ	**Mangatainoka R**	**15.62**	**193**	*e*P	**P**	**19 09 33.6**	**-2.0**
MRZ	**Mangatainoka R**	**15.62**	**193**	*e*PN	**P**	**19 09 33.6**	**-2.1**
SNZO	**South Karori**	**16.43**	**195**	*e*P	**P**	**19 09 43.5**	**-0.8**
SNZO				*e*S	**S**	**19 12 36.0**	**+0.3**
QRZ	**Quartz Range**	**16.59**	**201**	P	**P**	**19 09 46.8**	**+0.8**
QRZ	**Quartz Range**	**16.59**	**201**	PN	**P**	**19 09 46.7**	**+0.7**
THZ	**Tophouse**	**17.33**	**199**	*e*P	**P**	**19 09 53.7**	**-0.1**
THZ	**Tophouse**	**17.33**	**199**	*e*PN	**P**	**19 09 53.6**	**-0.2**
RPZ	**Rata Peaks**	**19.66**	**200**	P	**P**	**19 10 16.5**	**-1.0**
RPZ	**Rata Peaks**	**19.66**	**200**	P	**P**	**19 10 16.5**	**-1.0**
	4.8nm,0.3s,baz=35,slow=2.4,SNR=26						
CTA	**Charters Tower**	**31.73**	**273**	*e*P	**P**	**19 12 07.0**	**+1.8**
	4.2nm,0.6s,mb4.0						
CTA	**Charters Tower**	**31.73**	**273**	P	**P**	**19 12 06.8**	**+1.6**
	5.7nm,0.6s,mb4.1,baz=100,slow=12,SNR=15						
CTAO	**Charters Tower**	**31.73**	**273**	*e*P	**P**	**19 12 07.0**	**+1.8**
	5.1nm,0.6s,mb4.0						
STKA	**Stephens Creek**	**34.36**	**250**	*e*P	**P**	**19 12 28.9**	**+1.4**
	1.7nm,0.4s,mb3.7						
STKA	**Stephens Creek**	**34.36**	**250**	P	**P**	**19 12 28.3**	**+0.8**
	1.7nm,0.4s,mb3.7,baz=103,slow=12,SNR=14						
STKA				PcP	PcP	19 14 50.5	-2.0
	3.5nm,1.1s,baz=83,slow=15,SNR=4.3						
ASAR	**Alice Springs**	**42.01**	**262**	P	**P**	**19 13 31.2**	**+0.7**
	1.2nm,0.4s,mb3.6,baz=95,slow=7.4,SNR=41						
ASAR				ScP	ScP	19 18 26.0	-1.2
	0.5nm,0.7s,baz=106,slow=4.1,SNR=4.6						
ASAR				S	**S**	**19 19 16.6**	**-1.8**
	0.7nm,0.8s,baz=99,slow=16,SNR=5.4						
WB2	**Warramunga Arr**	**42.52**	**268**	*e*P	**P**	**19 13 34.2**	**-0.4**
WRAB	**Tennant Creek**	**42.53**	**268**	*e*P	**P**	**19 13 34.9**	**+0.2**
WRA	**Warramunga Arr**	**42.53**	**268**	P	**P**	**19 13 35.0**	**+0.3**
	2.1nm,0.5s,mb3.7,baz=99,slow=6.8,SNR=107						
WRA				PcP	PcP	19 15 16.8	-1.7
	1.4nm,0.9s,baz=108,slow=2.8,SNR=4.7						
FITZ	**Fitzroy Crossi**	**50.94**	**267**	*e*P	**P**	**19 14 39.7**	**+0.8**
	5.3nm,1.0s,mb3.7						
VNDA	**Vanda**	**52.82**	**185**	*e*P	**P**	**19 14 52.6**	**+0.9**
	0.9nm,0.7s,mb3.1						
VNDA	**Vanda**	**52.82**	**185**	P	**P**	**19 14 52.4**	**+0.7**
	1.0nm,0.8s,mb3.1,baz=3.3,slow=6.8,SNR=5.8						
QSPA	**South Pole Qui**	**64.60**	**180**	*e*P	**P**	**19 16 12.9**	**+1.3**
	2.3nm,0.6s,mb4.0						
MJAR	**Matsushiro Arr**	**73.33**	**326**	P	**P**	**19 17 04.8**	**-0.5**
	4.4nm,0.7s,mb4.1,baz=162,slow=5.8,SNR=22						
MAT	**Matsushiro**	**73.33**	**326**	P	**P**	**19 17 04.3**	**-0.9**
KSRS	**Korea Array**	**79.60**	**320**	P	**P**	**19 17 40.5**	**+0.5**
	2.4nm,0.6s,mb4.0,baz=131,slow=6.0,SNR=18						
PSI	**Prapat**	**83.36**	**276**	P	**P**	**19 17 59.8**	**-0.2**
	1.7nm,0.4s,mb4.2,baz=167,slow=18,SNR=3.1						
NVAR	**Mina Array Bea**	**85.75**	**44**	P	**P**	**19 18 11.3**	**+0.2**
	0.8nm,0.3s,mb3.9,baz=217,slow=8.5,SNR=4.5						
TPNV	**Topopah Spring**	**86.18**	**46**	*e*P	**P**	**19 18 13.3**	**0.0**
	3.3nm,1.1s,mb4.0						
TXAR	**Lajitas Array**	**91.09**	**58**	P	**P**	**19 18 36.9**	**+0.4**
	0.9nm,0.7s,mb3.7,baz=211,slow=6.5,SNR=11						
MKAR	**Makanchi Array**	**113.38**	**312**	PKiKP	PKiKP	19 24 05.1	-1.6
	0.4nm,0.4s,baz=90,slow=2.9,SNR=2.9						
ARCES	**ARCESS Array B**	**133.48**	**348**	PKP	PKPdf	19 24 43.1	-1.3
	1.2nm,0.5s,baz=90,slow=1.7,SNR=9.3						
FINES	**FINESS Array B**	**140.01**	**341**	PKP		19 24 48.0	
FINES				PKP	PKPdf	19 24 57.4	+0.7
FINES	**FINESS Array B**	**140.01**	**341**	PKhKP		19 24 48.0	
	0.9nm,0.8s,baz=66,slow=6.5,SNR=5.4						
FINES				PKP	PKPdf	19 24 57.4	+0.7
	0.9nm,0.6s,baz=46,slow=5.5,SNR=3.4						
NB2	**NORSAR Subarra**	**143.68**	**351**	PKP	PKPdf	19 25 00.2	-3.1
	comp=Z,8.6nm,0.8s,baz=14,slow=3.3						
NOA	**NORSAR Array B**	**143.68**	**351**	PKP	PKPdf	19 25 00.4	-2.9
	comp=Z,6.3nm,0.8s,baz=16,slow=5.0,SNR=27						
AKASG	**Malin Array Be**	**146.41**	**326**	PKPbc	PKPbc	19 25 08.9	-1.5
	comp=Z,2.2nm,0.4s,baz=43,slow=4.2,SNR=16						
OJC	**Ojcow**	**151.06**	**334**	*e*P	PKPbc	19 25 21.3	-0.7
STHS	**Stebnicka Huta**	**151.06**	**331**	*e*PKP	PKPbc	19 25 22.1	+0.1
CLL	**Collm**	**152.43**	**343**	⇓*i*PKP	PKPbc	19 25 24.0	-1.0
CLL				*e*PKP	PKPab	19 25 36.0	-1.1
CLL	**Collm**	**152.43**	**343**	⇓*i*PKPbc	PKPbc	19 25 24.0	-1.0
	comp=Z,7.0nm,0.7s						
CLL				*e*PKPab	PKPab	19 25 36.0	-1.1
	comp=Z,3.0nm,0.9s						
BRG	**Berggiesshubel**	**152.56**	**341**	*i* PKP	PKPbc	19 25 24.6	-0.7
	comp=Z,4.3nm,0.6s						
VYHS	**Vyhne**	**152.79**	**332**	*e*PKP	PKPbc	19 25 25.3	-0.6
GERES	**GERESS Array B**	**154.42**	**339**	PKP	PKPdf	19 25 19.2	-1.5
	comp=Z,0.4nm,0.8s,baz=221,slow=3.9,SNR=3.4						
TORD	**Torodi Ar. Bea**	**167.64**	**187**	PKP	PKPdf	19 25 33.9	-1.6
	comp=Z,1.1nm,1.0s,baz=34,slow=0.5,SNR=3.1						

*MOS **21** 19:17:28.7±0.8, 0.93N×126.44E, h46km, mb4.9/13, Error ellipse: s-maj=20.1km s-min=8.7km az=108.3*
*BJI **21** 19:17:29.3, 0.03N×126.70E, h113km, mB4.9, mb4.6*
*IDC **21** 19:17:31.9±2.9, 0.89N×126.45E, h59km±28km, mb4.1/14, mb1 4.2/17, mb1mx4.1/21, mbtmp4.1/17, ML4.0/3, MS3.5/4, Ms1 3.5/4, ms1mx3.1/34, Error ellipse: s-maj=24.7km s-min=11.5km az=75.0*
*ISCJB **21** 19:17:32.5±1.1, 0.81N±0.05×126.50E±0.06, h83km±11km, mb4.5/47, Error ellipse: s-maj=11.3km s-min=7.5km az=151.8*
*NEIC **21** 19:17:33.2±1.6, 0.87N×126.50E, h74km±15km, mb4.6/12, Error ellipse: s-maj=13.0km s-min=6.5km az=58.0*

ISC 21 19:17:34.7±1.0, 0.77N±0.05×126.49E±0.06, h88km±10km, h110km±1.2km; pP-P, n82, σ1°§15/84, mb4.5/47, 1C-1D, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**4.75**	**159**	P	**Pn**	**19 18 44.2**	**+0.3**
	184nm,0.8s						
KDI	**Kendari**	**6.08**	**219**	P	**Pn**	**19 19 00.2**	**-1.9**
	63nm,0.8s						
PCI	**Palu**	**6.86**	**256**	P	**Pn**	**19 19 14.5**	**+1.9**
	56nm,1.2s						
KAPI	**Kappang**	**8.85**	**229**	P	**Pn**	**19 19 38.5**	**-1.4**
	3.2nm,0.3s,baz=14,slow=14,SNR=10						
BAKI	**Biak**	**9.81**	**101**	P	**Pn**	**19 19 57.7**	**+4.7**
	236nm,1.2s						
BATI	**Kupang**	**11.26**	**194**	P	**Pn**	**19 20 12.1**	**-0.6**
	0.5nm,0.3s,baz=300,slow=8.1,SNR=2.8						
KAKA	**Kakadu**	**14.64**	**156**	*e*P	**Pn**	**19 20 56.5**	**-1.0**
	37nm,0.7s						
KSM	**Kuching**	**16.19**	**273**	*e*P	**Pn**	**19 21 19.0**	**+1.9**
BJII	**Banjamegara**	**18.57**	**244**	P	**Pn**	**19 21 47.1**	**+0.9**
	39nm,1.7s						
FITZ	**Fitzroy Crossi**	**18.77**	**183**	*e*P	**Pn**	**19 21 47.1**	**-1.4**
	7.7nm,0.8s						
FITZ	**Fitzroy Crossi**	**18.77**	**183**	P	**Pn**	**19 21 46.4**	**-2.0**
	0.3nm,0.3s,baz=16,slow=9.1,SNR=12						
WRAB	**Tennant Creek**	**21.97**	**160**	*e*P	**P**	**19 22 22.0**	**+0.4**
WRAB				pmax	pmax		
	comp=Z,35nm,0.8s,mb4.7						
WRAB	**Tennant Creek**	**21.97**	**160**	*e*P	**P**	**19 22 22.0**	**+0.4**
	comp=Z,35nm,0.8s,mb4.7						
WRA	**Warramunga Arr**	**21.98**	**160**	*i* P	**P**	**19 22 21.8**	**+0.2**
WRA				pmax	pmax		
	comp=Z,24nm,0.7s						
WRA	**Warramunga Arr**	**21.98**	**160**	P	**P**	**19 22 21.9**	**+0.3**
	comp=Z,24nm,0.7s,mb4.6,baz=338,slow=11,SNR=227						
WB2	**Warramunga Arr**	**21.98**	**160**	*e*P	**P**	**19 22 22.0**	**+0.3**
ASAR	**Alice Springs**	**25.34**	**164**	P	**P**	**19 22 54.5**	**+1.0**
	comp=Z,6.0nm,0.3s,mb4.4,baz=348,slow=12,SNR=77						
ASAR				PcP	PcP	19 26 25.8	+1.5
	comp=Z,1.1nm,0.5s,baz=356,slow=2.0,SNR=6.0						
JOW	**Kunigami**	**25.97**	**4**	P	**P**	**19 22 58.9**	**-0.3**
	comp=Z,23nm,0.6s,mb4.8,baz=191,slow=9.7,SNR=19						
PSI	**Prapat**	**27.62**	**275**	P	**P**	**19 23 14.4**	**+0.2**
	comp=Z,2.3nm,0.4s,mb4.1,baz=222,slow=14,SNR=2.6						
CTA	**Charters Tower**	**28.37**	**138**	P	**P**	**19 23 22.3**	**+1.5**
	comp=Z,2.6nm,0.8s,mb3.8,baz=4.8,slow=12,SNR=4.0						
FORT	**Forrest**	**31.41**	**177**	*e*P	**P**	**19 23 48.9**	**+1.4**
	comp=Z,27nm,0.7s,mb5.1						
GYA	**Guiyang**	**31.88**	**325**	P	**P**	**19 23 54.0**	**+2.3**
GYA				AP	pP	19 24 18.6	+6.7
GYA				XP	sP	19 24 31.8	+10
GYA				PP	PP	19 25 04.0	-1.3
GYA				S	**S**	**19 28 56.8**	**+0.5**
GYA				PCS	PcS	19 30 25.3	-0.1
GYA				SCS	ScS	19 34 11.3	-3.7
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb4.5						
NJ2	**Nanjing**	**31.93**	**348**	*e*P	**P**	**19 23 53.8**	**+1.7**
NJ2				AP	pP	19 24 18.3	+6.0
NJ2				XP	sP	19 24 30.3	+7.8
NJ2				PP	PP	19 25 03.0	-2.9
NJ2				S	**S**	**19 28 55.0**	**-2.0**
NJ2				XS	sS	19 29 40.0	+8.1
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,130nm,4.9s						
NJ2				LR	LR		
	comp=N,230nm,26.3s						
NJ2				LR	LR		
	comp=E,220nm,23.7s						
NJ2				LR	LR		
	comp=Z,180nm,21.1s						
KMI	**Kunming**	**33.35**	**318**	P	**P**	**19 24 05.4**	**+0.8**
KMI				AP	pP	19 24 29.9	+5.0
KMI				XP	sP	19 24 43.6	+8.6
KMI				PP	PP	19 25 21.9	+0.2
KMI				S	**S**	**19 29 21.0**	**+1.8**
KMI				XS	sS	19 30 02.5	+8.3
KMI				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb4.3						
KMI				AMB	AMB		
	comp=Z,118nm,6.4s						
KMI				LR	LR		
	comp=N,102nm,17.4s						
KMI				LR	LR		
	comp=E,117nm,13.2s						
KMI				LR	LR		
	comp=Z,112nm,15.3s						
STKA	**Stephens Creek**	**35.49**	**158**	*e*P	**P**	**19 24 23.5**	**+0.6**
	comp=Z,8.6nm,0.7s,mb4.7						
STKA	**Stephens Creek**	**35.49**	**158**	P	**P**	**19 24 23.8**	**+0.9**
	comp=Z,9.5nm,0.7s,mb4.7,baz=329,slow=8.2,SNR=20						
STKA				LR	LR	19 39 24.0	
	comp=Z,139nm,20.4s,baz=24,slow=37						
KSRS	**Korea Array**	**36.52**	**2**	P	**P**	**19 24 30.9**	**-0.8**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,43nm,21.0s						
KSRS	**Korea Array**	**36.52**	**2**	P	**P**	**19 24 30.9**	**-0.9**
	comp=Z,0.9nm,0.5s,mb4.0,baz=181,slow=9.9,SNR=7.2						
KSRS				LR	LR	19 38 59.8	
	comp=Z,43nm,21.0s,baz=168,slow=35						
CD2	**Chengdu**	**36.91**	**326**	*e*P	**P**	**19 24 37.3**	**+2.1**
CD2				XP	sP	19 25 15.4	+10
CD2				PP	PP	19 26 07.0	+6.0
CD2				S	**S**	**19 30 13.9**	**+0.1**
CD2				XS	sS	19 30 57.5	+8.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
CD2				AMB	AMB		
	comp=Z,30nm,4.2s						
CD2				LR	LR		
	comp=N,160nm,9.6s						
CD2				LR	LR		
	comp=Z,130nm,12.0s						
XAN	**Xi'an**	**36.96**	**335**	P	**P**	**19 24 34.8**	**-0.7**
XAN				AP	pP	19 24 58.6	+2.6
XAN				AMB	AMB		
	comp=Z,6.0nm,1.4s,mb4.3						
MJAR	**Matsushiro Arr**	**37.21**	**16**	P	**P**	**19 24 35.2**	**-2.3**
	comp=Z,1.2nm,0.7s,mb4.0,baz=184,slow=9.6,SNR=6.0						
LZH	**Lanzhou**	**40.94**	**332**	*e*P	**P**	**19 25 09.6**	**+0.9**
LZH				AP	pP	19 25 34.5	+5.0
LZH				XP	sP	19 25 47.3	+7.8
LZH				PP	PP	19 26 49.8	+5.0
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,63nm,5.2s						
LZH				LR	LR		
	comp=E,305nm,15.3s						
LZH				LR	LR		
	comp=Z,432nm,18.2s						
HHC	**Hu-ho-hao-te**	**42.12**	**343**	*e*P	**P**	**19 25 20.3**	**+2.0**
HHC				AP	pP	19 25 45.1	+6.0
HHC				XP	sP	19 25 59.1	+10
HHC				PP	PP	19 27 01.8	+4.3
HHC				PCP	PcP	19 27 11.8	+0.4
HHC				S	**S**	**19 31 33.1**	**+1.6**
HHC				XS	sS	19 32 18.3	+11
HHC				SS	SS	19 34 38.5	-4.0
HHC				SCS	ScS	19 35 08.0	-3.9
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.5						
HHC				AMB	AMB		
	comp=Z,106nm,6.3s						
HHC				LR	LR		
	comp=N,117nm,12.7s						
HHC				LR	LR		
	comp=E,111nm,10.0s						
HHC				LR	LR		
	comp=Z,128nm,12.7s						
CN2	**Changchun**	**42.85**	**359**	*e*P	**P**	**19 25 25.9**	**+1.8**
MDJ	**Mudanjiang**	**43.74**	**3**	P	**P**	**19 25 31.3**	**0.0**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,18nm,3.1s						
LSA	**Lhasa**	**44.25**	**314**	*e*P	**P**	**19 25 35.6**	**0.0**
LSA				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.3						
LSA	**Lhasa**	**44.25**	**314**	*e*P	**P**	**19 25 35.6**	**0.0**
	comp=Z,3.7nm,0.7s,mb4.2						
ASAJ	**Asahikawa**	**45.48**	**16**	LR	LR	19 43 51.1	
	comp=Z,45nm,21.5s,baz=334,slow=35						
GTA	**Gaotai**	**45.52**	**331**	*e*P	**P**	**19 25 46.0**	**+0.5**
GTA				AP	pP	19 26 11.4	+4.8
GTA				XP	sP	19 26 24.1	+7.5
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s,mb4.1						
HABR	**Khabarovsk**	**48.09**	**8**	*e*P	**P**	**19 26 04.4**	**-1.0**
HABR				*e*		19 26 12.4	
HABR				*e*		19 27 29.8	
HABR				*e*		19 27 52.9	
HABR				*e*		19 28 42.6	
HABR				*e*S	**S**	**19 33 01.0**	**+3.7**
HABR				*e*		19 33 17.6	
HABR				*e*		19 35 52.0	
HABR				*e*		19 37 39.1	
KLR	**Kul'dur**	**48.48**	**5**	*e*P	**P**	**19 26 04.0**	**-4.4**
SONM	**Songino Array**	**50.01**	**342**	P	**P**	**19 26 20.5**	**+0.4**
	comp=Z,1.7nm,0.9s,mb4.0,baz=151,slow=6.1,SNR=9.0						
SONM				PcP	PcP	19 27 39.9	+1.1
	comp=Z,1.1nm,0.7s,baz=172,slow=4.2,SNR=3.9						
WMQ	**Urumqi**	**55.02**	**326**	*e*P	**P**	**19 26 58.0**	**+0.9**
WMQ				AP	pP	19 27 25.0	+6.1
WMQ				XP	sP	19 27 38.0	+9.3
WMQ				PP	PP	19 29 04.0	+2.8
WMQ				S	**S**	**19 34 30.0**	**-2.7**
WMQ				SS	SS	19 38 15.0	-2.7
WMQ				AMB	AMB		
	comp=Z,29nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,65nm,5.0s						
WMQ				LR	LR		
	comp=N,51nm,15.0s						
WMQ				LR	LR		
	comp=E,45nm,15.0s						
WMQ				LR	LR		
	comp=Z,46nm,14.0s						
MOY	**Mondy**	**55.07**	**341**	*e*P	**P**	**19 26 58.4**	**+1.0**
BOD	**Bodaibo**	**57.74**	**352**	*e*P	**P**	**19 27 14.9**	**-1.3**
BOD				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.1						
MK31	**Makanchi Array**	**59.85**	**326**	*e*P	**P**	**19 27 30.2**	**-0.9**
MKAR	**Makanchi Array**	**59.85**	**326**	P	**P**	**19 27 30.4**	**-0.7**
	comp=Z,3.5nm,0.4s,mb4.7,baz=117,slow=7.5,SNR=31						
MKAR				LR	LR	19 52 29.5	
	comp=Z,42nm,19.4s,baz

SVE				e		19 39 53.3	
SVE				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
ARU	**Arti**	**77.30**	**328**	d iP	**P**	**19 29 18.1**	**-1.3**
ARU				e		19 29 27.2	
ARU				e		19 32 08.4	
ARU				eS	S	19 39 05.0	+2.7
ARU				eSSS		19 47 21.0	
ARU				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.3						
ARU	**Arti**	**77.30**	**328**	eP	**P**	**19 29 17.7**	**-1.7**
	comp=Z,6.6nm,1.0s,mb4.3						
QRN	**Al-Qurain**	**79.61**	**299**	eP	**P**	**19 29 30.9**	**-1.8**
QRN				AMb	AMB	19 29 33.3	
	comp=Z,14nm,0.6s,mb5.0						
UMR	**Umm Al-Rimmam**	**79.85**	**300**	eP	**P**	**19 29 33.3**	**-0.8**
UMR				AMb	AMB	19 29 34.6	
	comp=Z,16nm,0.7s,mb4.9						
RDF	**Al-Radifah**	**79.94**	**299**	eP	**P**	**19 29 33.9**	**-0.7**
RDF				AMb	AMB	19 29 38.5	
	comp=Z,8.4nm,1.4s,mb4.4						
MIB	**Mutribah**	**80.20**	**300**	eP	**P**	**19 29 35.7**	**-0.3**
MIB				AMb	AMB	19 29 37.7	
	comp=Z,9.3nm,0.8s,mb4.7						
NAY	**Al-Naaiem**	**80.24**	**299**	eP	**P**	**19 29 35.5**	**-0.7**
NAY				AMb	AMB	19 29 36.2	
	comp=Z,5.3nm,0.8s,mb4.4						
VNDA	**Vanda**	**80.54**	**173**	P	**P**	**19 29 38.5**	**+1.7**
	comp=Z,2.6nm,0.8s,mb4.1,baz=307,slow=5.6,SNR=14						
KIV	**Kislovodsk**	**85.00**	**314**	eP	**P**	**19 30 01.2**	**+0.7**
KIV				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
IMA2	**Indian Mountai**	**85.17**	**24**	eP	**P**	**19 30 01.6**	**+0.6**
ANN	**Anapa**	**88.79**	**315**	eP	**P**	**19 30 12.6**	**-6.3**
ANN				e*PP	pP	19 30 23.1	-19
ANN				eS	S	19 40 37.3	-22
ANN				pmax	pmax		
	comp=Z,15nm,1.2s,mb4.9						
KMBO	**Kilima Mbogo**	**89.25**	**269**	P	**P**	**19 30 21.3**	**-0.5**
	comp=Z,1.3nm,0.7s,mb4.1,baz=76,slow=11,SNR=3.1						
OBN	**Obninsk**	**89.33**	**325**	eP	**P**	**19 30 20.3**	**-0.9**
OBN				e		19 30 33.6	
OBN				e		19 40 45.8	
OBN				eSS	SS	19 47 02.0	+2.0
OBN				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
OBN				MLR	MLR		
	comp=Z,300nm,21.0s						
ARCES	**ARCESS Array B**	**93.12**	**340**	P	**P**	**19 30 37.0**	**-1.5**
	comp=Z,1.8nm,0.8s,mb4.5,baz=55,slow=26,SNR=4.3						
YKA	**Yellowknife Ar**	**102.27**	**25**	P	Pdif	19 31 20.7	+0.7
	comp=Z,0.2nm,0.8s,baz=312,slow=5.6,SNR=3.9						
TORD	**Torodi Ar. Bea**	**123.56**	**286**	PKP	PKPdf	19 36 23.2	+0.2
TORD	**Torodi Ar. Bea**	**123.56**	**286**	PKP	PKPdf	19 36 23.2	+0.2
	comp=Z,1.4nm,0.8s,baz=47,slow=1.6,SNR=7.2						
TXAR	**Lajitas Array**	**123.56**	**54**	PKP	PKPdf	19 36 23.5	+0.8
	comp=Z,0.6nm,0.8s,baz=276,slow=2.3,SNR=6.4						

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*NEIC **21** 19:19:11.8, 2961S×7083W, h28km, ML4.1(GUC), After GUC.*

GUC 21 19:19:11.8±1.2**, 2961S×7083W, h28**km±8km**, ML4.1, 6D, Central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSCH	**La Serena**	**0.46**	**231**	⇓iP	Pb	19 19 21.4	-0.1
LSCH				i S	Sb	19 19 28.4	+0.2
TLL	**Tololo Astrono**	**0.55**	**178**	⇓iP	Pb	19 19 26.6	+3.6
TLL				i S	Sb	19 19 36.1	+5.5
LCO	**Las Campanas**	**0.61**	**11**	ePn	Pn	19 19 26.2	+1.6
LCO				eSn	Sn	19 19 36.2	+2.7
VACH	**Vallenar**	**1.04**	**4**	⇓iP	Pn	19 19 30.5	0.0
VACH				i S	Sn	19 19 44.0	0.0
VACH	**Vallenar**	**1.04**	**4**	⇓iP	Pn	19 19 30.5	0.0
VACH				i S	Sn	19 19 44.0	0.0
VACH				AML	AML	19 19 48.1	
	comp=N,7μm,0.1s						
OVCH	**Ovalle**	**1.04**	**198**	⇓iP	Pn	19 19 30.0	-0.5
OVCH				S	Sn	19 19 43.3	-0.8
OVCH	**Ovalle**	**1.04**	**198**	⇓iP	Pn	19 19 30.0	-0.5
OVCH				i S	Sn	19 19 43.3	-0.8
OVCH				AML	AML	19 19 50.9	
	comp=E,8μm,0.6s						
CMCH	**Combarbala**	**1.56**	**185**	eP	Pn	19 19 37.8	+0.1
CMCH				i S	Sn	19 19 57.6	+0.7
CMCH	**Combarbala**	**1.56**	**185**	eP	Pn	19 19 37.8	+0.1
CMCH				i S	Sn	19 19 57.6	+0.7
CMCH				AML	AML	19 20 01.1	
	comp=N,2μm,0.4s						
CPCH	**Copiapo**	**2.29**	**11**	eP	Pn	19 19 49.2	+1.6
CPCH				i S	Sn	19 20 17.4	+2.5
CPCH	**Copiapo**	**2.29**	**11**	eP	Pn	19 19 49.2	+1.6
CPCH				i S	Sn	19 20 17.4	+2.5
CPCH				AML	AML	19 20 21.2	
	comp=E,3μm,0.1s						
PEL	**Peldehue**	**3.52**	**178**	eP	Pn	19 20 05.9	+1.3
PEL				i S	Sn	19 20 47.3	+2.0
PEL				AML	AML	19 21 03.2	
	comp=N,288nm,0.6s						
CLCH	**Cerro Calan**	**3.78**	**176**	eP	Pn	19 20 08.0	-0.1
LMEL	**Las Melosas**	**4.25**	**173**	eP	Pn	19 20 17.7	+3.1
LVC	**Limon Verde**	**7.18**	**14**	ePn	Pn	19 20 58.0	+3.0
	comp=N,12nm,0.4s						

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*MOS **21** 19:27:44.8±0.9, 2185N×14307E, h33km, mb4.2/15, Error ellipse: s-maj=27.4km s-min=10.5km az=107.1*
*ISCJB **21** 19:27:45.1±4.0, 2185N±007×1431E±01, h35km±36km, mb4.2/24, MS4.1/3, Error ellipse: s-maj=22.2km s-min=11.1km az=170.2*
*BJI **21** 19:27:54.9, 2184N×14300E, h136km, mB4.9, mb4.4*
*IDC **21** 19:27:58.0±6.7, 2179N×14305E, h139km±61km, mb3.6/13, mb1 3.7/13, mb1mx3.7/21, mbtmp3.6/13, MS3.4/2, Ms1 3.4/2, ms1mx2.6/32, Error ellipse: s-maj=28.6km s-min=12.3km az=78.0*
*NEIC **21** 19:27:58.0±5.9, 2180N×14301E, h140km±54km, mb4.1/1, Error ellipse: s-maj=22.0km s-min=8.9km az=75.0*

ISC 21 19:27:50.5±3.8**, 2183N**±007×**1431E**±01**, h69**km±35km**, n50,** σ0.s**83**/47**, mb4.1**/24**, 1D, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JOW	**Kunigami**	**14.37**	**293**	LR	LR	19 35 45.9	
	comp=Z,46nm,18.9s,baz=163,slow=33						
KSRS	**Korea Array**	**20.34**	**323**	P	**P**	**19 32 25.0**	**+3.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.6s						
KSRS	**Korea Array**	**20.34**	**323**	P	**P**	**19 32 25.0**	**+3.8**
	comp=Z,3.3nm,0.6s,baz=145,slow=9.0,SNR=21						
NJ2	**Nanjing**	**23.81**	**300**	eP	**P**	**19 32 56.6**	**-0.6**
NJ2				PP		19 33 31.1	
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,210nm,4.2s						
NJ2				LR	LR		
	comp=N,740nm,28.8s						
NJ2				LR	LR		
	comp=E,710nm,31.0s						
NJ2				LR	LR		
	comp=Z,660nm,30.2s						
HABR	**Khabarovsk**	**27.35**	**348**	eP	**P**	**19 33 26.4**	**-2.5**
HABR				e		19 33 37.1	
HABR				e	pP	19 33 41.2	-4.1
HABR				e		19 36 45.1	
HABR				eS	**S**	**19 38 05.3**	**+1.5**
HABR				e		19 38 23.4	
HABR				e		19 39 19.8	
HABR				e		19 44 13.8	
HABR				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**38.79**	**321**	eP	**P**	**19 35 09.1**	**+0.7**
ULN	**Ulaanbaatar**	**38.79**	**321**	eP	**P**	**19 35 09.0**	**+0.6**
	comp=Z,2.6nm,0.7s,mb4.2						
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**19 35 12.1**	**+0.6**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**19 35 12.1**	**+0.6**
	comp=Z,1.9nm,0.5s,mb4.2,baz=129,slow=7.0,SNR=20						
YAK	**Yakutsk**	**41.22**	**350**	eP	**P**	**19 35 27.7**	**-0.6**
YAK				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.5						
CTA	**Charters Tower**	**41.77**	**175**	P	**P**	**19 35 32.8**	**-0.5**
CTA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CTA	**Charters Tower**	**41.77**	**175**	P	**P**	**19 35 32.8**	**-0.5**
	comp=Z,1.2nm,0.5s,mb3.9,baz=279,slow=19,SNR=2.9						
ZAK	**Zakamensk**	**42.17**	**322**	eP	**P**	**19 35 35.0**	**-1.3**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
WRAB	**Tennant Creek**	**42.37**	**192**	P	**P**	**19 35 39.9**	**+1.8**
WB2	**Warramunga Arr**	**42.38**	**192**	eP	**P**	**19 35 37.5**	**-0.7**
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**19 35 38.6**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**42.38**	**192**	P	**P**	**19 35 38.6**	**+0.4**
	comp=Z,0.7nm,0.4s,mb3.7,baz=17,slow=9.3,SNR=16						
TLY	**Talaya**	**42.59**	**324**	eP	**P**	**19 35 40.1**	**+0.5**
ASAR	**Alice Springs**	**46.09**	**192**	P	**P**	**19 36 07.8**	**0.0**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**46.09**	**192**	P	**P**	**19 36 07.8**	**0.0**
	comp=Z,1.1nm,0.6s,mb3.8,baz=16,slow=9.8,SNR=30						
BILL	**Bilibino**	**48.42**	**11**	eP	**P**	**19 36 26.6**	**+1.2**
BILL				e		19 37 49.6	
BILL				e		19 38 20.4	
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.8						
TIXI	**Tiksi**	**50.51**	**354**	eP	**P**	**19 36 42.0**	**+0.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.2s,mb3.7						
ZALV	**Zalesovo Beam**	**54.04**	**322**	P	**P**	**19 37 07.5**	**-0.2**
	comp=Z,2.9nm,0.7s,mb4.4,baz=109,slow=7.5,SNR=14						
ZAL	**Zalesovo**	**54.05**	**322**	P	**P**	**19 37 07.5**	**-0.3**
ZAL				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MK31	**Makanchi Array**	**54.53**	**313**	eP	**P**	**19 37 11.9**	**+0.6**
MKAR	**Makanchi Array**	**54.53**	**313**	P	**P**	**19 37 12.2**	**+0.8**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**54.53**	**313**	P	**P**	**19 37 12.2**	**+0.9**
	comp=Z,1.1nm,0.6s,mb4.1,baz=92,slow=9.5,SNR=12						
KURK	**Kurchatov**	**57.30**	**317**	eP	**P**	**19 37 30.8**	**-0.3**
INK	**Inuvik**	**67.50**	**24**	P	**P**	**19 38 38.3**	**-0.6**
INK				pmax	pmax		
	comp=Z,1.0nm,0.6s						
INK	**Inuvik**	**67.50**	**24**	eP	**P**	**19 38 38.9**	**+0.1**
INK	**Inuvik**	**67.50**	**24**	P	**P**	**19 38 38.2**	**-0.6**
	comp=Z,0.6nm,0.6s,mb3.6,baz=278,slow=4.7,SNR=5.4						
ARU	**Arti**	**69.09**	**324**	d iP	**P**	**19 38 49.0**	**0.0**
ARU				e	pP	19 39 10.3	+3.0
ARU				e		19 41 21.3	
ARU				eS	S	19 47 54.1	+5.1
ARU				eSS	SS	19 52 23.6	+8.0
ARU				pmax	pmax		
	comp=Z,7.0nm,1.7s,mb4.2						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**19 39 32.2**	**0.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**19 39 32.2**	**0.0**
YKA	**Yellowknife Ar**	**76.39**	**28**	P	**P**	**19 39 32.2**	**0.0**
	comp=Z,1.2nm,0.4s,mb3.9,baz=293,slow=5.8,SNR=20						
ARCES	**ARCESS Array B**	**78.77**	**341**	P	**P**	**19 39 44.7**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**78.77**	**341**	P	**P**	**19 39 44.7**	**-0.5**
	comp=Z,1.9nm,0.9s,mb3.9,baz=64,slow=6.1,SNR=3.2						
OBN	**Obninsk**	**81.32**	**326**	eP	**P**	**19 39 59.9**	**+0.6**
OBN				eSS	SS	19 55 25.8	+5.1
OBN				pmax	pmax		
	comp=Z,6.0nm,1.4s,mb4.2						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s						
FINES	**FINESS Array B**	**83.02**	**334**	i P	**P**	**19 40 07.8**	**-0.3**
FINES	**FINESS Array B**	**83.02**	**334**	P	**P**	**19 40 06.8**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=78,slow=6.0,SNR=5.9						
FINES				LR	LR	20 18 18.4	
	comp=Z,60nm,20.4s,baz=0.9,slow=36						
NVAR	**Mina Array Bea**	**83.15**	**51**	P	**P**	**19 40 09.4**	**+0.2**
	comp=Z,0.9nm,0.6s,mb3.8,baz=256,slow=5.3,SNR=4.3						
MIB	**Mutribah**	**84.13**	**300**	eP	**P**	**19 40 14.2**	**-0.2**
MIB				AMb	AMB	19 40 16.6	
	comp=Z,12nm,0.8s,mb4.8						
RDF	**Al-Radifah**	**84.28**	**299**	eP	**P**	**19 40 14.8**	**-0.4**
RDF				AMb	AMB	19 40 20.5	
	comp=Z,16nm,1.3s,mb4.7						
NAY	**Al-Naaiem**	**84.41**	**299**	eP	**P**	**19 40 15.4**	**-0.4**
NAY				AMb	AMB	19 40 17.9	
	comp=Z,4.4nm,0.8s,mb4.3						
AKASG	**Malin Array Be**	**87.34**	**324**	i P	**P**	**19 40 30.2**	**+0.3**
AKASG	**Malin Array Be**	**87.34**	**324**	P	**P**	**19 40 28.2**	**-1.7**
AKASG	**Malin Array Be**	**87.34**	**324**	P	**P**	**19 40 28.2**	**-1.7**
	comp=Z,0.1nm,0.3s,mb3.2,baz=54,slow=4.9,SNR=4.7						
TORD	**Torodi Ar. Bea**	**128.57**	**309**	PKP	PKPdf	19 46 50.1	-0.5
	comp=Z,0.3nm,0.7s,baz=0.6,slow=3.7,SNR=4.2						
LPAZ	**La Paz**	**150.04**	**85**	ePKPbc	PKPbc	19 47 34.1	+0.1
LPAZ	**La Paz**	**150.04**	**85**	PKPbc	PKPbc	19 47 34.7	+0.6
	comp=Z,2.1nm,1.0s,baz=188,slow=1.5,SNR=5.0						

IDC 21 19:42:33.4±10.0**, 2179N×14288E, h199**km±106km**, mb2.9**/6**, mb1 3.1**/6**, mb1mx3.0**/19**, mbtmp2.9**/6**, Error ellipse: s-maj=56.5km s-min=18.2km az=83.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.28**	**324**	P	P	19 46 54.0	+0.3
	0.7nm,0.5s,baz=140,slow=8.9,SNR=5.1						
SONM	**Songino Array**	**39.09**	**321**	P	P	19 49 41.1	-0.1
	0.5nm,0.6s,baz=118,slow=7.5,SNR=5.0						
WRA	**Warramunga Arr**	**42.30**	**192**	P	P	19 50 07.1	-0.5
	0.9nm,1.0s,baz=21,slow=9.3,SNR=3.3						
ASAR	**Alice Springs**	**46.01**	**191**	P	P	19 50 37.4	+0.3
	0.3nm,0.6s,baz=15,slow=12,SNR=6.2						
MKAR	**Makanchi Array**	**54.43**	**313**	P	P	19 51 40.1	+0.1
	0.4nm,0.7s,baz=76,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**76.51**	**28**	P	P	19 54 01.2	+0.1
	0.3nm,0.6s,baz=294,slow=5.5,SNR=3.8						

IDC 21 19:44:04.0±11.0**, 2177N×14303E, h143**km±107km**, mb3.1**/7**, mb1 3.3**/7**, mb1mx3.2**/19**, mbtmp3.1**/7**, Error ellipse: s-maj=52.9km s-min=16.9km az=81.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.37**	**323**	P	P	19 48 29.9	+0.6
	1.2nm,0.8s,baz=147,slow=7.1,SNR=6.5						
SONM	**Songino Array**	**39.19**	**320**	P	P	19 51 17.6	-0.3
	0.7nm,0.5s,baz=122,slow=7.1,SNR=6.0						
WRA	**Warramunga Arr**	**42.32**	**192**	P	P	19 51 43.1	-0.7
	0.5nm,0.9s,baz=16,slow=9.3,SNR=3.6						
ASAR	**Alice Springs**	**46.03**	**192**	P	P	19 52 13.8	+0.6
	0.3nm,0.7s,baz=17,slow=12,SNR=6.8						
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	P	19 53 12.6	-0.9
	0.8nm,0.6s,baz=102,slow=7.8,SNR=3.6						
MKAR	**Makanchi Array**	**54.54**	**313**	P	P	19 53 17.7	+0.6
	0.4nm,0.6s,baz=86,slow=10,SNR=3.6						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	P	19 55 37.8	+0.2
	0.3nm,0.4s,baz=291,slow=5.4,SNR=4.5						

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*GII **21** 19:58:14.7±0.9, 3432N×2736E, h31km±2km, mb4.7/7, ML4.6/7*
*BGS **21** 19:59:00.4±1.6, 3378N×2783E, h62km, mb5.1*
*SZGRF **21** 19:59:03.1, 3448N×27.17E, h10km, mb4.6, MS3.8, Eastern Mediterranean Sea*
*IDC **21** 19:59:04.1±0.4, 3466N×2675E, h0km, mb5.1/27, mb1 5.0/37, mb1mx5.0/40, mbtmp5.0/37, ML4.8/9, MS3.9/14, Ms1 3.9/14, ms1mx3.6/36, Error ellipse: s-maj=10.7km s-min=9.7km az=81.0*
*BJI **21** 19:59:04.2, 3450N×2630E, h32km, mB5.2, mb5.1, Ms5.1, Msz4.7*
*ISCJB **21** 19:59:04.4±0.4, 3442N±001×2670E±001, h22km±3km, mb4.9/190, MS4.1/24, Error ellipse: s-maj=2.4km s-min=1.4km az=34.1*
*TIR **21** 19:59:04.9±3.5, 3665N×2830E, h0km±999km*
*MOS **21** 19:59:06.8±1.1, 3456N×2663E, h33km, mb5.0/60, Error ellipse: s-maj=4.4km s-min=2.0km az=113.6*
*PDG **21** 19:59:07.4±0.3, 3406N×2460E, h6km±11km, ML5.2/9, Error ellipse: s-maj=838.3km s-min=490.9km az=90.0*
*CSEM **21** 19:59:07.3±0.0, 3450N×2691E, h67km, mb4.7/48, Ms3.0, Mw3.9, Error ellipse: s-maj=1.3km s-min=0.6km az=46.0*
*ATH **21** 19:59:09.9, 3466N×2673E, h79km±2km, ML4.7*
*CRAAG **21** 19:59:10.4, 3479N×2675E, Mb4.9*
*THE **21** 19:59:10.4, 3460N×2696E, h57km, ML5.5*
*NIC **21** 19:59:11.2±0.2, 3474N×2703E, h25km, mb4.9, ML4.6, MW3.9*
*NEIC **21** 19:59:12.3±0.4, 3473N×2663E, h62km±3km, mb4.7/147, Error ellipse: s-maj=4.5km s-min=2.9km az=172.0*
*HLW **21** 19:59:15.8, 34.13N×27.16E, h33km, Mb5.4*
*DDA **21** 19:59:17.6, 3522N×2773E, h3km, Md4.2*
*NSSC **21** 19:59:31.7, 3456N×2899E, h40km*
*ORF **21** 19:59:41.3, 36.16N×2403E, h30km, mb4.6*

ISC 21 19:59:08.1±0.4**, 3446N**±001×**2671E**±001**, h33**km±3km**, h37**km±1.5km**: pP-P, n1030,** σ1.s**27**/1129**, mb4.9**/189**, MS4.1**/24**, 88C-54D, Crete**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZKR	**Zakros**	**0.77**	**328**	ePg	**Pn**	**19 59 24.9**	**+2.4**
ZKR				eSg	**Sn**	**19 59 37.3**	**+4.4**
XRY	**Khrisi**	**0.93**	**296**	eP	**Pn**	**19 59 27.6**	**+2.8**
KARP	**Karpathos**	**1.14**	**19**	⇑iP	**Pn**	**19 59 29.6**	**+1.8**
KARP				eS	**Sn**	**19 59 42.6**	**+0.3**
NPS	**Neapolis**	**1.20**	**312**	⇑iP	**Pn**	**19 59 31.1**	**+2.5**
NPS				eS	**Sn**	**19 59 45.4**	**+1.7**
LAST	**Lasithi**	**1.23**	**305**	ePg	**Pn**	**19 59 32.2**	**+3.3**
LAST				eSg	**Sn**	**19 59 49.5**	**+5.2**
SIVA	**Sivas**	**1.66**	**290**	ePb	**Pb**	**19 59 38.8**	**+0.8**
SIVA				eSb	**Sb**	**20 00 01.2**	**+2.8**
SIVA	**Sivas**	**1.66**	**290**	ePb	**Pb**	**19 59 38.8**	**+0.9**
SIVA				eSb	**Sb**	**20 00 01.2**	**+2.7**
IDI	**Anoyia**	**1.71**	**299**	Pn	**Pn**	**19 59 38.8**	**+3.3**
	239nm,0.3s,baz=122,slow=14,SNR=740						
IDI				Sn	**Sn**	**19 59 59.6**	**+3.4**
	583nm,0.3s,baz=34,slow=22,SNR=21						
ARG	**Arkhangelos**	**2.10**	**33**	⇓iP	**Pn**	**19 59 42.8**	**+1.9**
ARG				eS	**Sn**	**20 00 06.0**	**+0.1**
SANT	**Santorini**	**2.16**	**332**	ePn	**Pn**	**19 59 42.7**	**+1.0**
THR1	**Thera Island**	**2.16**	**332**	ePn	**Pn**	**19 59 42.7**	**+1.0**
NISR	**Nisiros**	**2.17**	**9**	eP	**Pn**	**19 59 42.5**	**+0.6**
GVD	**Gavdhos**	**2.19**	**281**	ePn	**Pn**	**19 59 45.7**	**+3.6**
GVD				eSn	**Sn**	**20 00 13.9**	**+5.8**
GVD	**Gavdhos**	**2.19**	**281**	eP	**Pn**	**19 59 45.5**	**+3.3**
VAM	**Vamos**	**2.27**	**295**	⇑iP	**Pn**	**19 59 47.0**	**+3.8**
DAT	**Datca**	**2.37**	**17**	ePN	**Pn**	**19 59 44.2**	**-0.4**
KARN	**Karanos**	**2.48**	**293**	ePn	**Pn**	**19 59 50.0**	**+3.9**
KARN				eSn	**Sn**	**20 00 20.8**	**+5.6**
BDRM	**Kayabasi**	**2.67**	**13**	i P	**Pn**	**19 59 49.5**	**+0.8**
BDRM				i S	**Sn**	**20 00 20.3**	**+0.5**
APE	**Apeiranthos**	**2.77**	**340**	ePn	**Pn**	**19 59 50.8**	**+0.7**
APE				eSn	**Sn**	**20 00 21.2**	**-1.2**
APE	**Apeiranthos**	**2.77**	**340**	⇑iP	**Pn**	**19 59 50.8**	**+0.7**
APE				eS	**Sn**	**20 00 22.2**	**-0.2**
DALT	**Dalyan (Mudla)**	**2.79**	**34**	ePN	**Pn**	**19 59 51.1**	**+0.8**
KSL	**Kastellorizon**	**2.89**	**54**	eP	**Pn**	**19 59 53.0**	**+1.2**
FETY	**Fethiye**	**2.91**	**41**	ePN	**Pn**	**19 59 52.1**	**+0.1**
MLSB	**Milas**	**2.96**	**17**	ePN	**Pn**	**19 59 52.8**	**+0.1**
YER	**Yerkesik**	**2.96**	**25**	ePN	**Pn**	**19 59 53.1**	**+0.4**
SMG	**Samos**	**3.24**	**2**	⇑iP	**Pn**	**19 59 56.9**	**+0.3**
HMAT	**Matruh**	**3.38**	**174**	P	**Pn**	**20 00 00.9**	**+2.4**
ELL	**Elmali**	**3.46**	**48**	ePN	**Pn**	**20 00 00.1**	**+0.5**
KYTH	**Kithira**	**3.50**	**302**	eP	**Pn**	**20 00 03.0**	**+2.8**
DENT	**Denizli**	**3.79**	**29**	ePN	**Pn**	**20 00 04.8**	**+0.7**
VLI	**Veliai**	**3.81**	**307**	⇑iP	**Pn**	**20 00 05.6**	**+1.2**
VLI				eS	**Sn**	**20 00 48.6**	**+0.6**
BLCB	**Balcova**	**3.92**	**4**	ePN	**Pn**	**20 00 06.8**	**+0.8**
BLCB	**Balcova**	**3.92**	**4**	ePn	**Pn**	**20 00 06.5**	**+0.5**
CHOS	**Chios island**	**3.95**	**353**	ePn	**Pn**	**20 00 06.5**	**+0.1**
CHOS	**Chios island**	**3.95**	**353**	ePn	**Pn**	**20 00 06.4**	**+0.1**
ANTB	**Antalya**	**4.03**	**52**	ePN	**Pn**	**20 00 08.1**	**+0.7**
KVR	**Kavouri**	**4.11**	**326**	eP	**Pn**	**20 00 10.0**	**+1.4**
DID	**Didima**	**4.14**	**318**	ePn	**Pn**	**20 00 10.4**	**+1.5**
DID				eSn	**Sn**	**20 00 58.1**	**+1.9**
NAIG	**Nisos Aigina**	**4.20**	**323**	eP	**Pn**	**20 00 11.0**	**+1.3**
PTL	**Penteli**	**4.25**	**328**	eP	**Pn**	**20 00 12.0**	**+1.5**
ATH	**Athens Observa**	**4.25**	**326**	⇑iP	**Pn**	**20 00 12.5**	**+2.0**
KULA	**Kula-Manisa**	**4.34**	**21**	ePN	**Pn**	**20 00 12.4**	**+0.7**
BCK	**Bucak**	**4.34**	**45**	ePN	**Pn**	**20 00 12.9**	**+1.2**
KHL	**Karahalli**	**4.47**	**30**	ePN	**Pn**	**20 00 14.7**	**+1.2**
AKHS	**Akhisar**	**4.50**	**11**	i P	**Pn**	**20 00 16.0**	**+2.2**
AKHS				i S	**Sn**	**20 01 09.9**	**+4.9**
AKS	**Akhisar**	**4.50**	**11**	ePN	**Pn**	**20 00 14.6**	**+0.7**
VLX	**Vlachokerasia**	**4.55**	**311**	ePn	**Pn**	**20 00 16.3**	**+1.6**
VLX				eSn	**Sn**	**20 01 09.5**	**+3.0**
AKMC	**Akamas**	**4.66**	**81**	P	**Pn**	**20 00 15.1**	**-1.1**
LTK	**Loutraki**	**4.66**	**321**	ePn	**Pn**	**20 00 17.9**	**+1.8**
PPCY	**Paphos**	**4.67**	**83**	P	**Pn**	**20 00 14.9**	**-1.3**
PYL	**PYLOS**	**4.71**	**302**	ePn	**Pn**	**20 00 17.5**	**+0.7**
ITM	**Ithomi**	**4.74**	**306**	⇑iP	**Pn**	**20 00 19.8**	**+2.7**
PRK	**Paraskevi**	**4.79**	**356**	ePn	**Pn**	**20 00 19.6**	**+1.8**
PRK	**Paraskevi**	**4.79**	**356**	eP	**Pn**	**20 00 18.5**	**+0.7**
PRK	**Paraskevi**	**4.79**	**356**	ePn	**Pn**	**20 00 19.6**	**+1.8**
ALFC	**Alevga**	**4.90**	**80**	P	**Pn**	**20 00 18.0**	**-1.4**
	54nm,0.2s						
ALFC				S	**Sn**	**20 01 10.5**	**-4.4**
SZAC	**Souni-Zanaja**	**5.10**	**85**	P	**Pn**	**20 00 21.3**	**-0.9**
	25nm,0.3s						
SZAC				S	**Sn**	**20 01 16.4**	**-3.5**
SHUT	**Suhut-Afyon**	**5.12**	**36**	ePN	**Pn**	**20 00 23.1**	**+0.6**
LEF	**Lefka**	**5.13**	**81**	ePN	**Pn**	**20 00 22.4**	**-0.2**
LKR	**Lokris**	**5.13**	**326**	ePn	**Pn**	**20 00 24.4**	**+1.8**
LKR	**Lokris**	**5.13**	**326**	⇑iP	**Pn**	**20 00 24.3**	**+1.7**
AOS	**Alonnisos**	**5.22**	**335**	ePn	**Pn**	**20 00 25.4**	**+1.6**
BALB	**Balikesir**	**5.25**	**10**	ePN	**Pn**	**20 00 25.4**	**+1.2**
HDMB	**Hadim**	**5.32**	**60**	ePN	**Pn**	**20 00 26.9**	**+1.7**
ALT	**Altintas**	**5.33**	**30**	ePN	**Pn**	**20 00 25.7**	**+0.4**
EZN	**Ezine**	**5.36**	**357**	ePN	**Pn**	**20 00 26.5**	**+0.8**
MAMC	**Mammari**	**5.40**	**81**	P	**Pn**	**20 00 25.5**	**-0.8**
SELA	**Sela**	**5.44**	**316**	ePn	**Pn**	**20 00 27.7**	**+1.0**
SELA				eSn	**Sn**	**20 01 29.8**	**+1.7**
CSS	**Prodhromos**	**5.48**	**83**	P	**Pn**	**20 00 26.3**	**-1.0**
	38nm,0.7s						
CSS				S	**Sn**	**20 01 25.6**	**-3.6**
CSS	**Prodhromos**	**5.48**	**83**	ePn	**Pn**	**20 00 25.6**	**-1.7**
CSS				eSn	**Sn**	**20 01 23.4**	**-5.8**
CSS	**Prodhromos**	**5.48**	**83**	P	**Pn**	**20 00 25.6**	**-1.7**
ERMK	**Ermenek**	**5.51**	**65**	i P	**Pn**	**20 00 29.2**	**+1.5**
ERMK				i S	**Sn**	**20 01 36.4**	**+6.5**
RLS	**Riolos of Patr**	**5.55**	**312**	⇑iP	**Pn**	**20 00 31.1**	**+2.8**
NEO	**Neokhori**	**5.58**	**331**	⇑eP	**Pn**	**20 00 30.7**	**+1.9**
LOS	**Limnos**	**5.61**	**347**	ePn	**Pn**	**20 00 30.9**	**+1.7**
XOR	**Xorichti**	**5.65**	**331**	ePn	**Pn**	**20 00 31.5**	**+1.9**
KONT	**Konya--Tatoy**	**5.74**	**51**	ePN	**Pn**	**20 00 32.0**	**+1.1**
AANS		**5.75**	**135**	P	**Pn**	**20 00 31.2**	**+0.1**
AGG	**Agios Georgios**	**5.75**	**324**	ePn	**Pn**	**20 00 32.6**	**+1.6**
AGG				eSn	**Sn**	**20 01 36.7**	**+0.9**
GADA	**Gvkgeada**	**5.75**	**354**	ePN	**Pn**	**20 00 31.7**	**+0.6**
HMYD	**Mayadein**	**5.81**	**142**	P	**Pn**	**20 00 32.2**	**+0.3**
HNAT	**Natroun**	**5.85**	**144**	P	**Pn**	**20 00 32.5**	**0.0**
LPK	**Lapseki**	**5.90**	**0**	ePN	**Pn**	**20 00 34.5**	**+1.4**
EVR	**Evrytania**	**5.94**	**320**	⇑iP	**Pn**	**20 00 36.1**	**+2.5**
EDC	**Edincik**	**5.95**	**9**	ePN	**Pn**	**20 00 34.8**	**+1.0**
SQR		**5.95**	**139**	⇓P	**Pn**	**20 00 33.6**	**-0.2**
BNT	**Bandirma**	**5.96**	**9**	ePN	**Pn**	**20 00 35.1**	**+1.2**
FYM	**Al Fayyum**	**6.01**	**141**	P	**Pn**	**20 00 35.3**	**+0.6**
ESKT	**Eskisehir**	**6.04**	**32**	ePN	**Pn**	**20 00 36.2**	**+1.2**
PHNC	**Paralimni**	**6.06**	**83**	P	**Pn**	**20 00 35.4**	**+0.1**
KIZT	**Kizilcal**	**6.06**	**42**	ePN	**Pn**	**20 00 35.6**	**+0.3**
AYT	**Al ‘Ayyat**	**6.06**	**140**	P	**Pn**	**20 00 35.7**	**+0.3**
MRMT	**Marmara Adasi**	**6.17**	**6**	ePN	**Pn**	**20 00 37.5**	**+0.7**
VLS	**Valsamata**	**6.17**	**309**	ePn	**Pn**	**20 00 37.2**	**+0.3**
VLS	**Valsamata**	**6.17**	**309**	eP	**Pn**	**20 00 40.8**	**+3.9**
RKY	**Sarkoy-Tekirda**	**6.22**	**3**	ePN	**Pn**	**20 00 38.6**	**+1.1**
OUR	**Ouranopolis**	**6.25**	**340**	ePn	**Pn**	**20 00 39.9**	**+2.0**
IZI	**Iznik**	**6.26**	**20**	ePN	**Pn**	**20 00 39.1**	**+1.0**
KOT	**Kottamia**	**6.27**	**135**	P	**Pn**	**20 00 38.0**	**-0.2**
ENEZ	**Enez**	**6.28**	**356**	ePN	**Pn**	**20 00 38.8**	**+0.5**
THL	**Klokotos Trika**	**6.33**	**325**	ePn	**Pn**	**20 00 39.6**	**+0.7**
THL	**Klokotos Trika**	**6.33**	**325**	⇑iP	**Pn**	**20 00 41.7**	**+2.7**
MFT	**Murefte**	**6.33**	**4**	ePN	**Pn**	**20 00 40.1**	**+1.1**
HSAF	**As Saff**	**6.34**	**138**	⇑P	**Pn**	**20 00 39.5**	**+0.2**
AWBH		**6.40**	**162**	⇑P	**Pn**	**20 00 40.9**	**+0.8**
HHAG	**Hagoal**	**6.41**	**133**	P	**Pn**	**20 00 40.0**	**-0.2**
ADVT	**Abdulvahap**	**6.43**	**21**	ePN	**Pn**	**20 00 41.4**	**+1.0**
ALN	**Alexandroupoli**	**6.44**	**356**	ePn	**Pn**	**20 00 41.5**	**+0.9**
PLG	**Polygyros**	**6.45**	**337**	ePn	**Pn**	**20 00 42.1**	**+1.5**
PLG	**Polygyros**	**6.45**	**337**	⇑iP	**Pn**	**20 00 42.0**	**+1.4**
YLV	**Yalova**	**6.45**	**18**	ePN	**Pn**	**20 00 42.0**	**+1.4**
LKD	**Levkas**	**6.46**	**313**	ePn	**Pn**	**20 00 41.0**	**+0.3**

GLL	Jalalah	6.46	138	P	Pn	20 00 41.0	+0.1
GPA	Golpazari	6.48	25	ePN	Pn	20 00 42.3	+1.2
LIT	Litokhoron	6.55	330	ePn	Pn	20 00 43.9	+1.8
GULT	Gulveren	6.68	26	ePN	Pn	20 00 44.9	+1.0
HBNS	Bani Suwayf	6.70	144	P	Pn	20 00 44.6	+0.4
RDO	Rodhopi	6.74	352	⇑iP	Pn	20 00 47.3	+2.7
HORT	Hortiatis	6.76	336	ePn	Pn	20 00 47.0	+2.1
HORT	Hortiatis	6.76	336	ePn	Pn	20 00 47.0	+2.1
THE	Thessaloniki	6.84	335	ePn	Pn	20 00 48.0	+2.0
ISK	Istanbul-Kandi	6.85	15	ePN	Pn	20 00 47.1	+0.9
MEV	Metsovon	6.88	322	ePn	Pn	20 00 48.9	+2.3
SOH	Sokhos	6.88	338	ePn	Pn	20 00 48.9	+2.3
SUZ		6.94	130	⇑P	Pn	20 00 47.1	-0.4
JAN	Janina	6.98	320	eP	Pn	20 00 50.8	+2.8
KZN	Kozani	7.03	327	eP	Pn	20 00 51.3	+2.6
LUJL	Ujela	7.04	222	iP	Pn	20 00 50.3	+1.5
	159nm,0.3s,SNR=46						
SRS	Serrai	7.08	341	ePn	Pn	20 00 51.5	+2.1
OFRI	'Ofer	7.15	103	Pn	Pn	20 00 48.0	-2.3
ZAF		7.17	135	⇑P	Pn	20 00 50.3	-0.2
IGT	Igoumenitsa	7.18	317	ePn	Pn	20 00 49.9	-0.9
HNTI	Hanita	7.18	99	Sn	Sn	20 02 03.7	-7.5
MATL	Matirih	7.23	95	ePn	Pn	20 00 53.1	+1.7
NVR	Nevrokopi	7.23	343	⇑iP	Pn	20 00 53.5	+2.1
KDZ	Kurdzhali	7.25	352	P	Pn	20 00 52.8	+1.2
ANTO	Ankara	7.26	40	ePn	Pn	20 00 52.0	+0.3
	42nm,0.8s						
ANTO	Ankara	7.26	40	⇑iP	Pn	20 00 52.5	+0.7
ANTO	Ankara	7.26	40	ePn	Pn	20 00 52.0	+0.2
	42nm,0.8s						
ZNM		7.29	132	P	Pn	20 00 52.1	-0.2
SLTI	Sal'it	7.32	105	Pn	Pn	20 00 50.6	-2.0
SLTI				Sn	Sn	20 02 06.7	-7.8
GRG	Griva	7.32	334	ePn	Pn	20 00 54.5	+1.9
KNT	Kendrikon	7.33	337	ePn	Pn	20 00 53.9	+1.1
MMC7	Mount Meron ar	7.38	99	Pn	Pn	20 00 51.9	-1.5
RZN	Rozhen	7.38	348	P	Pn	20 00 55.5	+2.0
MMA0B	Mount Meron ar	7.39	99	Pn	Pn	20 00 52.4	-1.1
MMA0B				Sn	Sn	20 02 09.1	-7.1
MMAI	Mount Meron Ar	7.39	99	Pn	Pn	20 00 52.0	-1.6
	32nm,0.3s,baz=280,slow=11,SNR=80						
MMAI				Sn	Sn	20 02 09.7	-6.6
	50nm,0.3s,baz=268,slow=13,SNR=5.0						
KZIT	Kziot	7.39	117	Pn	Pn	20 00 51.8	-1.8
KZIT				Sn	Sn	20 02 08.5	-7.7
HFRF	Wahat Farafira	7.42	169	P	Pn	20 00 55.3	+1.2
BHL	Bhannes	7.43	92	ePn	Pn	20 00 52.8	-1.4
MMB	Musomiste	7.49	343	iP	Pn	20 00 56.3	+1.3
RTMI	Retamim	7.53	115	Pn	Pn	20 00 53.2	-2.4
KSDI	Kefar Szold	7.56	97	Pn	Pn	20 00 54.5	-1.3
KSDI				Sn	Sn	20 02 12.3	-8.1
MMLI	Mount Malkishu	7.56	103	Pn	Pn	20 00 53.7	-2.3
MMLI				Sn	Sn	20 02 13.2	-7.2
MMLI	Mount Malkishu	7.56	103	Pn	Pn	20 00 54.4	-1.5
MMLI				Sn	Sn	20 02 12.9	-7.5
VAY	Valandovo	7.59	336	ePn	Pn	20 00 58.2	+2.0
VAY	Valandovo	7.59	336	iPn	Pn	20 00 58.7	+2.5
VAY	Valandovo	7.59	336	ePn	Pn	20 00 58.2	+1.9
DIM	Dimitrovgrad	7.63	353	P	Pn	20 00 56.0	-0.9
RCY	Rachaya	7.63	95	ePn	Pn	20 00 55.5	-1.4
HNKL	Nakhl	7.64	124	P	Pn	20 00 56.5	-0.6
HWQ	Hawqa	7.64	89	ePn	Pn	20 00 56.2	-0.9
HMDT	Nahal Hemdat	7.70	104	Pn	Pn	20 00 56.3	-1.6
ARNB	Al Arnab	7.71	77	⇑P	Pn	20 00 57.1	-1.0
ARNB				⇑S	Sn	20 01 58.9	-25
ARNB	Al Arnab	7.71	77	⇑iP	Pn	20 00 57.1	-1.0
ARNB				⇑iS	Sn	20 01 58.9	-25
YTIR	Yattir	7.72	111	Pn	Pn	20 00 57.3	-0.8
KBN	Korca	7.74	324	iPN	Pn	20 01 01.4	+3.0
KBN				iSN	Sn	20 02 23.5	-1.3
BRBR	Barbar	7.75	95	⇓P	Pn	20 00 57.4	-1.2
BRBR				⇓S	Sn	20 01 59.6	-26
BRBR	Barbar	7.75	95	⇓iP	Pn	20 00 57.4	-1.2
BRBR				⇓iS	Sn	20 01 59.7	-26
PLD	Plovdiv	7.79	349	P	Pn	20 01 01.7	+2.6
BIA	Bitola	7.81	329	iPn	Pn	20 00 59.4	0.0
BIA				iSn	Sn	20 02 23.6	-3.0
BIA	Bitola	7.81	329	ePn	Pn	20 00 58.9	-0.4
RMNI	Mount Ramon	7.82	117	Pn	Pn	20 00 58.2	-1.2
DSI	Dead Sea	7.83	109	Pn	Pn	20 00 57.9	-1.8
SLNF	Slenfeh	7.89	79	⇑P	Pn	20 00 59.0	-1.4
SLNF				⇑S	Sn	20 02 03.5	-25
SLNF	Slenfeh	7.89	79	⇑iP	Pn	20 00 59.0	-1.4
SLNF				⇑iS	Sn	20 02 03.5	-25
KKB	Krupnik	7.92	340	iP	Pn	20 01 02.6	+1.7
MZDA	Masada	7.93	111	Pn	Pn	20 00 59.5	-1.5
MZDA				Sn	Sn	20 02 22.2	-7.4
BIDA	Albida	7.93	83	⇓P	Pn	20 00 59.2	-1.8
BIDA				⇓S	Sn	20 02 03.7	-26
BIDA	Albida	7.93	83	⇓iP	Pn	20 00 59.2	-1.9
BIDA				⇓iS	Sn	20 02 03.7	-26
QASN	Qassioun	8.00	94	⇓P	Pn	20 01 01.2	-0.8
QASN				⇓S	Sn	20 02 06.2	-25
QASN	Qassioun	8.00	94	⇓iP	Pn	20 01 01.2	-0.8
QASN				⇓iS	Sn	20 02 06.2	-25
FKH	Fakeheh	8.02	89	ePn	Pn	20 01 01.3	-0.9
HRDS	Abu Rudays	8.03	134	P	Pn	20 01 01.8	-0.6
WRDH	Warideh	8.03	80	⇑iP	Pn	20 01 01.0	-1.4
WRDH				⇑iS	Sn	20 02 06.3	-26
STIP	Stip	8.05	335	iPn	Pn	20 01 05.1	+2.5
KRMI	Paran Flat	8.05	120	Pn	Pn	20 01 02.1	-0.6
KRMI	Paran Flat	8.05	120	Sn	Sn	20 02 24.8	-7.8
GRB	Gharib	8.07	138	P	Pn	20 01 02.7	-0.3
OHR	Ohrid	8.12	327	iPn	Pn	20 01 03.9	+0.3
OHR				iSn	Sn	20 02 27.8	-6.3
PRNI	Paran	8.12	118	Pn	Pn	20 01 02.1	-1.6
PRNI				Sn	Sn	20 02 26.8	-7.6
KRUS	Krusevo	8.13	330	iPn	Pn	20 01 04.3	+0.6
KRUS				iSn	Sn	20 02 33.4	-1.0
BTCH	Batrach	8.13	76	⇑P	Pn	20 01 02.8	-0.9
BTCH				⇑S	Sn	20 02 09.4	-25
BTCH	Batrach	8.13	76	⇑iP	Pn	20 01 02.8	-1.0
BTCH				⇑iS	Sn	20 02 09.4	-25
ZFRI	Zfri	8.15	116	Pn	Pn	20 01 02.1	-1.9
ZFRI				Sn	Sn	20 02 26.6	-8.4
TOTH	TOTAH	8.16	95	⇑P	Pn	20 01 03.3	-0.8
TOTH				⇑S	Sn	20 02 09.1	-26
TOTH	TOTAH	8.16	95	⇑iP	Pn	20 01 03.3	-0.8
TOTH				⇑iS	Sn	20 02 09.1	-26
HRFI	Mount Harif	8.32	120	Pn	Pn	20 01 05.1	-1.2
HRFI				Sn	Sn	20 02 31.5	-7.7
MBH	Mount Berech	8.37	122	Pn	Pn	20 01 06.8	-0.3
MBH				Sn	Sn	20 02 32.7	-7.8
DRWC	Darouich	8.40	72	⇑P	Pn	20 01 06.3	-1.1
DRWC	Darouich	8.40	72	⇑iP	Pn	20 01 06.3	-1.1
EIL	Elat	8.47	122	Pn	Pn	20 01 07.4	-1.0
	20nm,0.3s,baz=324,slow=8.3,SNR=115						
EIL				Sn	Sn	20 02 35.0	-8.0
	26nm,0.3s,baz=316,slow=13,SNR=6.4						
EIL	Elat	8.47	122	Pn	Pn	20 01 07.4	-1.0
EIL				Sn	Sn	20 02 35.3	-7.6
SALA	Sala	8.55	99	⇑P	Pn	20 01 08.8	-0.6
SALA				⇑S	Sn	20 02 19.0	-26
SALA	Sala	8.55	99	⇑iP	Pn	20 01 08.8	-0.7
SALA				⇑iS	Sn	20 02 19.0	-26
SKO	Skopje	8.56	333	iPn	Pn	20 01 13.6	+3.9
VTS	Vitosha	8.56	342	ePn	Pn	20 01 10.9	+1.2
VTS	Vitosha	8.56	342	⇑iP	Pn	20 01 10.7	+1.0
VTS	Vitosha	8.56	342	iP	Pn	20 01 11.7	+2.0
HKAT	Jabal Katrina	8.59	132	P	Pn	20 01 09.3	-0.8
HBST	Basata	8.60	125	P	Pn	20 01 09.4	-0.8
PHP	Peshkopia	8.74	327	iPN	Pn	20 01 10.8	-1.2
PRD	Provadia	8.74	3	P	Pn	20 01 12.8	+0.7
TIR	Tirane	8.74	324	P	Pn	20 01 13.8	+1.7
ASF	Jabal al Asfar	8.83	102	Pn	Pn	20 01 12.2	-1.2
	3.1nm,0.3s,baz=165,slow=9.3,SNR=30						
ASF				Sn	Sn	20 02 43.6	-8.1
	8.2nm,0.3s,baz=33,slow=4.4,SNR=3.1						
HDHB	Dhahab	8.85	128	P	Pn	20 01 13.5	-0.1
LCI	Lecce	9.00	313	P	Pn	20 01 13.8	-1.9
LCI				pmax	pmax		
	comp=Z,154nm,0.3s						
LCI	Lecce	9.00	313	Pn	Pn	20 01 13.8	-1.9
	comp=Z,154nm,0.3s						
BARS	Barje	9.17	337	P	Pn	20 01 21.3	+3.3
HDK1	Dakhla	9.19	165	P	Pn	20 01 19.0	+0.7
TIP	Timpagrande	9.26	303	ePn	Pn	20 01 17.9	-1.4
	comp=Z,86nm,0.3s						
TIP				eSn	Sn	20 02 48.0	-14
TIP	Timpagrande	9.26	303	ePn	Pn	20 01 17.9	-1.3
	comp=Z,86nm,0.3s						
PUK	Puka	9.27	327	iPN	Pn	20 01 18.3	-1.0
SOI	Samo	9.32	296	P	Pn	20 01 19.8	-0.3
SOI				pmax	pmax		
	comp=Z,143nm,0.3s						
SOI	Samo	9.32	296	Pn	Pn	20 01 19.8	-0.3
	comp=Z,143nm,0.3s						
BCI	Bajram Curri	9.45	329	iPN	Pn	20 01 23.6	+1.8
BCI				iSN	Sn	20 03 01.9	-5.0
ULC	Ulcinj	9.51	324	ePn	Pn	20 01 19.8	-2.8
ULC				eSn	Sn	20 02 58.5	-10
AKRG	Al Kharijah	9.51	159	⇓P	Pn	20 01 22.9	+0.2
GTR	Jabal at Tayr	9.53	158	P	Pn	20 01 23.1	+0.2
MTTG	Motta San Giov	9.57	295	Pn	Pn	20 01 23.5	0.0
	comp=Z,1μm,0.7s						
PVY	Plav	9.68	329	⇑iPn	Pn	20 01 24.1	-0.8
PVY				eSn	Sn	20 03 05.2	-7.3
HAVL	Avola	9.74	288	Pn	Pn	20 01 24.7	-1.1
LZLA	Zalla	9.78	235	iP	Pn	20 01 27.6	+1.2
	comp=Z,29nm,0.6s,SNR=46						
TTG	Podgorica	9.86	326	⇑iPn	Pn	20 01 24.4	-3.1
TTG				eSn	Sn	20 03 07.7	-9.3
ORI	Oriolo Calabro	9.90	307	P	Pn	20 01 26.8	-1.2
ORI				pmax	pmax		
	comp=Z,691nm,0.4s						
ORI	Oriolo Calabro	9.90	307	Pn	Pn	20 01 26.8	-1.2
	comp=Z,691nm,0.4s						
BUM	Brajici-Budva	9.94	324	⇑iPn	Pn	20 01 25.0	-3.5
BUM				eSn	Sn	20 03 08.3	-10
IVA	Berane	9.94	330	⇑iPn	Pn	20 01 27.6	-0.9
IVA				eSn	Sn	20 03 11.2	-7.6
HMDC	Modica	10.01	288	Pn	Pn	20 01 29.6	+0.1
HSFG		10.03	140	⇑P	Pn	20 01 29.3	-0.6
TIRR	Tirgusor	10.07	7	⇑iP	Pn	20 01 31.9	+1.6
MALT	Malatya	10.20	64	eP	Pn	20 01 30.7	-1.4
	comp=Z,12nm,0.6s						
MALT	Malatya	10.20	64	⇓iP	Pn	20 01 31.9	-0.2
MALT	Malatya	10.20	64	Pn	Pn	20 01 32.0	-0.1
HCY	Herceg Novi	10.24	324	⇑iPn	Pn	20 01 28.6	-4.0
HCY				eSn	Sn	20 03 15.0	-11
HARR	Harsova	10.26	5	⇑iP	Pn	20 01 34.9	+2.0
HARR	Harsova	10.26	5	P	Pn	20 01 35.0	+2.1
NKY	Niksic	10.28	326	⇑iPn	Pn	20 01 31.7	-1.5
NKY				eSn	Sn	20 03 17.7	-10
RAFF	Raffo Rosso	10.39	289	Pn	Pn	20 01 35.2	+0.5
VAE	Valguarnera	10.41	290	Pn	Pn	20 01 36.9	+2.0
	comp=Z,8.7nm,0.3s,baz=306,slow=1.4,SNR=38						
VAE				Sn	Sn	20 03 22.2	-8.2
	comp=Z,31nm,0.3s,baz=298,slow=5.1,SNR=6.7						
VAE	Valguarnera	10.41	290	Sn	Sn	20 03 22.2	-8.2
PLE	Pljevlja	10.52	329	⇑iPn	Pn	20 01 35.4	-1.1
PLE				eSn	Sn	20 03 25.3	-7.9
MGR	Morigerati	10.53	306	Pn	Pn	20 01 35.0	-1.6
	comp=Z,191nm,0.6s						
BRY	Bratogost	10.56	325	⇑iPn	Pn	20 01 35.1	-1.9
BRY				eSn	Sn	20 03 23.8	-10
UPM	Unac-Piva	10.63	327	ePn	Pn	20 01 35.5	-2.5
UPM				eSn	Sn	20 03 27.0	-8.8
LJFR	Jufra	10.70	243	iP	Pn	20 01 39.7	+0.7
	comp=Z,60nm,0.4s,SNR=46						
GIB	Gibilmanna	10.83	293	P	Pn	20 01 41.5	+0.8
GIB				pmax	pmax		
	comp=Z,116nm,0.7s						
GIB	Gibilmanna	10.83	293	P	Pn	20 01 41.5	+0.8
	comp=Z,116nm,0.7s						
HEDF	Idfu	10.89	147	⇓P	Pn	20 01 41.2	-0.5
SGO	Sicignano	10.90	307	P	Pn	20 01 40.7	-1.0
SGO				pmax	pmax		
	comp=Z,36nm,0.4s						
SGO	Sicignano	10.90	307	Pn	Pn	20 01 40.7	-1.0
	comp=Z,36nm,0.4s						
STON	Ston	10.95	323	ePn	Pn	20 01 39.6	-2.8
STON				Sn	Sn	20 03 30.6	-13
MLR	Muntele Rosu	11.03	357	⇓P	Pn	20 01 45.1	+1.7
MLR	Muntele Rosu	11.03	357	Pn	Pn	20 01 42.3	-1.2
	baz=204,slow=12						
MLR	Muntele Rosu	11.03	357	⇓iP	Pn	20 01 45.0	+1.6
VOIR		11.03	354	⇓iP	Pn	20 02 02.7	+19
FG4	Candela	11.07	310	P	Pn	20 01 41.9	-2.1
FG4				pmax	pmax		
	comp=Z,103nm,0.6s						
FG4	Candela	11.07	310	Pn	Pn	20 01 41.9	-2.1
	comp=Z,103nm,0.6s						
FGMS	Monte Sant'Ang	11.13	314	Pn	Pn	20 01 41.7	-3.2
	comp=Z,54nm,0.8s						
FG5	Orsara di Pugl	11.31	310	P	Pn	20 01 45.5	-1.8
FG5				pmax	pmax		
	comp=Z,64nm,0.6s						
FG5	Orsara di Pugl	11.31	310	Pn	Pn	20 01 45.5	-1.8
	comp=Z,64nm,0.6s						
GZR	Gura Zlata	11.32	346	P	Pn	20 01 49.6	+2.2
RGNG	Rignano Grg	11.34	313	Pn	Pn	20 01 44.5	-3.1
CLTB	Caltabellotta	11.36	290	P	Pn	20 01 49.5	+1.5
PLOR	Plostina	11.38	360	⇓iP	Pn	20 01 57.4	+9.3
HADB		11.38	141	P	Pn	20 01 47.9	-0.5
VRI	Vrincioaia	11.39	0	⇓iP	Pn	20 02 01.9	+14
EMRS	Mersa Alam	11.77	141	P	Pn	20 01 53.7	+0.1
BZS	Buzias	11.80	342	⇑iP	Pn	20 01 54.3	+0.4
BZS	Buzias	11.80	342	P	Pn	20 01 55.7	+1.8
SIM	Simferopol'	11.92	26	P	Pn	20 01 57.1	+1.5
SIM				pmax	pmax		
	comp=Z,19nm,0.8s						
SIM	Simferopol'	11.92	26	P	Pn	20 01 57.1	+1.5
	comp=Z,19nm,0.8s						
ASHG	Umm Shaghir	11.97	157	P	Pn	20 01 56.5	+0.1
HAGS	Hagol	12.36	142	P	Pn	20 02 01.6	-0.1
HMSM	Jabal Masmas	12.40	157	P	Pn	20 02 02.0	-0.3
HKFR	Khafra	12.50	160	P	Pn	20 02 03.5	-0.2
KIS	Kishinev	12.62	7	eP	Pn	20 02 08.0	+2.8
KIS				eS	Sn	20 04 30.0	+5.5
KIS				MLR	MLR		
	comp=Z,400nm,10.0s						
KIS				MLR	MLR		
	comp=Z,400nm,10.0s						
KIS	Kishinev	12.62	7	eP	Pn	20 02 08.0	+2.8
KIS				eS	Sn	20 04 30.0	+5.5
KIS	Kishinev	12.62	7	ePcP	PcP	20 07 40.0	-1.7
KIS				LRM		20 08 12.0	
	comp=Z,400nm,10.0s						
DRGR		12.68	347	⇓iP	Pn	20 02 06.9	+0.9
AQU	L'Aquila	13.06	311	eP	Pn	20 02 10.4	-0.9
	comp=Z,57nm,0.9s						
AQU	L'Aquila	13.06	311	⇓iP	Pn	20 02 11.3	+0.1
AQU	L'Aquila	13.06	311	eP	Pn	20 02 10.4	-0.8
	comp=Z,57nm,0.9s						
BURAR	Bucovina Array	13.19	356	⇑iP	Pn	20 02 15.4	+2.5
FIAM	Fiamignano	13.20	310	Pn	Pn	20 02 13.5	+0.5
	comp=Z,48nm,0.7s						
ANN	Anapa	13.21	35	eP	Pn	20 02 21.7	+8.5
ANN				pmax	pmax		
	comp=Z,18nm,1.1s						
ANN				MLR	MLR		
	comp=Z,132nm,13.0s						
PKSM	Moragy	13.24	335	eP	Pn	20 02 12.8	-0.8
PKSM	Moragy	13.24	335	⇓iP	Pn	20 02 10.9	-2.7
PKSM	Moragy	13.24	335	P	Pn	20 02 13.6	0.0
NRCA	Norcia	13.50	312	Pn	Pn	20 02 15.3	-1.9
	comp=Z,18nm,0.4s						
NVLJ	Novalja	13.59	321	ePn	Pn	20 02 14.6	-3.9
NVLJ				Sn	Sn	20 04 34.4	-14
SOC	Sochi	13.60	44	eP	Pn	20 02 18.3	-0.2
SOC				e		20 04 50.5	
SOC				pmax	pmax		
	comp=Z,28nm,1.0s						
SOC				MLR	MLR		
	comp=Z,359nm,17.0s						
SOC	Sochi	13.60	44	eP	Pn	20 02 18.3	-0.2
	comp=Z,28nm,1.0s						
TRPA	Tarpa	14.01	348	⇓iP	Pn	20 02 26.0	+1.9
BOJS	Bojanci	14.08	325	iPn	Pn	20 02 23.1	-1.9
BOJS				eSn	Sn	20 04 45.9	-14
CRES	Cresnjev	14.22	326	P	Pn	20 02 25.7	-1.3
KEST	Kesra	14.27	280	Pn	Pn	20 02 29.2	+1.4
	comp=Z,0.2nm,0.3s,baz=22,slow=1.9,SNR=12						
KEST				Sn	Sn	20 04 55.1	-10
KOGS	Kog	14.36	330	P	Pn	20 02 29.8	+0.9
PSZ	Piszkesteto	14.38	341	P	Pn	20 02 32.0	+2.9
PSZ	Piszkesteto	14.38	341	eP	Pn	20 02 26.8	-2.3
	comp=Z,36nm,1.0s						
PSZ	Piszkesteto	14.38	341	⇑eP	Pn	20 02 31.3	+2.2
PSZ	Piszkesteto	14.38	341	⇑iP	Pn	20 02 27.9	-1.2
PSZ	Piszkesteto	14.38	341	eP	Pn	20 02 26.8	-2.3
	comp=Z,36nm,1.0s						
VISS	Visnje	14.50	325	iPn	Pn	20 02 27.8	-3.0
UZH	Uzhgorod	14.53	348	eP	Pn	20 02 33.5	+2.3
UZH				eS	Sn	20 05 11.6	+0.5
UZH				MLR	MLR		
	comp=Z,300nm,11.0s						
CEY	Cerknica	14.65	324	ePn	Pn	20 02 29.8	-3.1
VSL	Villasalto	14.73	295	eP	Pn	20 02 33.2	-0.7
	comp=Z,52nm,1.0s						
VSL	Villasalto	14.73	295	eP	Pn	20 02 33.2	-0.8
	comp=Z,52nm,1.0s						
CRVS	Cervenica-Dubn	14.94	346	ePn	Pn	20 02 36.9	+0.1
CRVS				eS	Sn	20 05 33.4	+12
CRVS	Cervenica-Dubn	14.94	346	eP	Pn	20 02 36.9	+0.1
CRVS				eS	Sn	20 05 33.4	+12
SOKA	Soboth	15.06	328	⇑iPn	Pn	20 02 34.5	-3.8
	comp=Z,15nm,0.9s						
OBKA	Obir	15.15	326	⇑iS	Sn	20 05 19.3	-7.0
	comp=Z,21nm,0.5s						
OBKA	Obir	15.15	326	⇓iPn	Pn	20 02 38.2	-1.3
	comp=Z,7.7nm,0.4s,SNR=13						
OBKA				⇑iSn	Sn	20 05 19.3	-7.0
	comp=Z,21nm,0.5s						
VYHS	Vyhne	15.20	340	ePn	Pn	20 02 39.8	-0.3
VYHS				eS	Sn	20 05 32.1	+4.9
VYHS	Vyhne	15.20	340	eP	Pn	20 02 39.8	-0.3
VYHS				eS	Sn	20 05 32.1	+4.9
SOP	Sopron	15.24	333	⇓eP	Pn	20 02 40.3	-0.4
LGHD	Ghdames	15.27	258	iP	Pn	20 02 42.2	+1.1
	comp=Z,38nm,1.1s,SNR=50						
ARSA	Arzberg	15.30	330	⇑iP	Pn	20 02 38.7	-2.8
	comp=Z,37nm,0.8s,SNR=32						
ONI	Oni	15.39	53	P	Pn	20 02 43.9	+1.2
KOLL	Kolacno	15.40	339	eP	Pn	20 02 42.0	-0.7
GNI	Garni	15.43	63	eP	Pn	20 02 45.5	+2.4
GNI				pmax	pmax		
	comp=Z,19nm,0.6s						
GNI	Garni	15.43	63	ePn	Pn	20 02 45.5	+2.3
	comp=Z,19nm,0.6s						
GNI	Garni	15.43	63	Pn	Pn	20 02 41.0	-2.1
	comp=Z,1.2nm,0.3s,baz=170,slow=17,SNR=3.0						
GNI	Garni	15.43	63	eP	Pn	20 02 45.5	+2.4
	comp=Z,19nm,0.6s						
KWP	Kalwaria	15.44	350	eP	Pn	20 02 47.7	+4.4
KWP				eS	Sn	20 05 48.6	+15
KWP				LMZ		20 09 03.7	
	comp=Z,600nm,22.5s						
KWP	Kalwaria	15.44	350	eP	Pn	20 02 47.7	+4.4
KWP				eS	Sn	20 05 48.6	+15
KWP	Kalwaria	15.44	350	⇑iP	Pn	20 02 44.1	+0.8
LVV	L'vov	15.47	353	eP	Pn	20 02 40.0	-3.7
LVV				eS	Sn	20 05 25.4	-8.5
LVV				MLR	MLR		
	comp=N,400nm,11.0s						
LVV				MLR	MLR		
	comp=E,200nm,11.0s						
LVV				MLR	MLR		
	comp=Z,400nm,11.0s						
STHS	Stebnicka Huta	15.48	347	eP	Pn	20 02 45.4	+1.6
ZST	Bratislava	15.48	335	eP	Pn	20 02 41.5	-2.3
KIV	Kislovodsk	15.57	48	Pn	Pn	20 02 46.3	+1.3
	comp=Z,488nm,0.9s,SNR=5.8						
KIV	Kislovodsk	15.57	48	eP	Pn	20 02 46.0	+1.0
KIV				eS	Sn	20 05 38.5	+2.0
KIV				pmax	pmax		
	comp=Z,78nm,1.0s						
KIV				MLR	MLR		
	comp=Z,110nm,12.0s						
KIV	Kislovodsk	15.57	48	eP	Pn	20 02 45.2	+0.2
	comp=Z,73nm,0.9s						
KIV	Kislovodsk	15.57	48	P	Pn	20 02 47.1	+2.1
	SNR=13						
KIV	Kislovodsk	15.57	48	⇓iP	Pn	20 02 45.7	+0.7
KIV	Kislovodsk	15.57	48	eP	Pn	20 02 45.2	+0.2
	comp=Z,73nm,0.9s						
MODS	Modra-Piesok	15.57	336	eP	Pn	20 02 44.3	-0.7
MODS				eS	Sn	20 05 42.0	+5.6
MODS	Modra-Piesok	15.57	336	eP	Pn	20 02 44.2	-0.8
MODS				eS	Sn	20 05 42.0	+5.6
GOR	Gori	15.59	56	P	Pn	20 02 47.3	+2.0
NIE	Niedzica	15.67	344	eP	Pn	20 02 47.2	+0.9
CONA	Conrad Observa	15.71	332	⇓iP	Pn	20 02 45.6	-1.2
	comp=Z,15nm,1.0s,SNR=20						
CSNA	Conrad Observa	15.71	332	⇑iPn

GEC2 **GERESS Array S** 17.31 330 *e*P Pn 20 03 05.4 -1.6
comp=Z,31nm,0.9s
GERES **GERESS Array B** 17.31 300 P Pn 20 03 05.8 -1.3
comp=Z,1.7nm,0.3s,baz=146,slow=12,SNR=116
GERES PcP PcP 20 07 49.1 +0.9
comp=Z,0.1nm,0.3s,baz=150,slow=2.9,SNR=3.8
CKHR **Kef el Ahmar** 17.39 281 P Pn 20 03 11.0 +2.9
FETA **Feichten** 17.39 321 ⇓*i*Pn Pn 20 03 07.2 -0.9
comp=Z,33nm,0.9s,SNR=17
FETA ⇓*e*Sn Sn 20 06 18.2 -2.3
MOTA **Moosalm** 17.41 322 ⇑*i*P Pn 20 03 05.2 -3.1
comp=Z,23nm,0.8s,SNR=13
MOTA **Moosalm** 17.41 322 ⇑*i*P Pn 20 03 05.2 -3.1
MOTA pmax pmax
comp=Z,23nm,0.8s
SET **Setif** 17.47 282 P Pn 20 03 15.0 +5.9
KHC **Kasperske Hory** 17.58 330 *e*P Pn 20 03 09.0 -1.4
KHC *e* 20 03 19.5
KHC **Kasperske Hory** 17.58 330 *e*P Pn 20 03 09.0 -1.4
KHC *e*pP pP 20 03 19.5 -0.3
KHC *e*S Sn 20 06 27.1 +2.0
KHC *e*x x 20 06 45.5
KHC AMS AMS 20 11 00.0
comp=Z,500nm,17.3s
SAOF **Saorge** 17.59 308 *e*P Pn 20 03 09.5 -1.0
DPC **Dobruska-Polom** 17.60 338 *e*P Pn 20 03 09.7 -0.9
DPC AMS AMS 20 09 20.0
comp=Z,500nm,26.0s
REVF **Revere** 17.61 307 *e*P Pn 20 03 10.9 +0.2
SBF **Sospel** 17.61 308 *e*P Pn 20 03 09.5 -1.3
comp=Z,127nm,0.8s
SBF **Sospel** 17.61 308 *e*P Pn 20 03 09.5 -1.3
SBF pmax pmax
comp=Z,63nm,0.8s
SBF **Sospel** 17.61 308 *e*P Pn 20 03 09.5 -1.3
comp=Z,63nm,0.8s
AUTN **L'Aution** 17.68 308 *e*P Pn 20 03 11.0 -0.6
RETA **Reutte** 17.68 322 *i* Pn Pn 20 03 11.0 -0.6
comp=Z,8.7nm,0.4s,SNR=15
RETA ⇑*i*Sn Sn 20 06 18.6 -8.9
LUCF **Luceram** 17.68 308 *e*P Pn 20 03 11.2 -0.5
DAVOX **Davos/Dischmat** 17.69 319 P Pn 20 03 11.4 -0.4
comp=Z,1.5nm,0.3s,baz=142,slow=14,SNR=14
TUE **Stuetta** 17.80 318 P Pn 20 03 11.6 -1.5
TOUF **Mont Tournerai** 17.80 308 *e*P Pn 20 03 12.8 -0.3
MVIF **Mont Vial** 17.81 308 *e*P Pn 20 03 12.5 -0.8
UPC **Upice** 17.84 337 *e*P Pn 20 03 12.4 -1.1
WET **Wettzell** 17.89 329 *e*P Pn 20 03 11.7 -2.4
WET *e*S Sn 20 06 35.3 +2.9
WET pmax pmax
comp=Z,39nm,1.2s
WET **Wettzell** 17.89 329 *e*P Pn 20 03 11.7 -2.4
comp=Z,39nm,1.2s
WET *e*S Sn 20 06 35.3 +2.9
FUR **Furstenfeldbru** 17.89 325 *e*P Pn 20 03 12.4 -1.8
FUR pmax pmax
comp=Z,100nm,1.1s
FUR **Furstenfeldbru** 17.89 325 *e*P Pn 20 03 12.4 -1.8
comp=Z,100nm,1.1s
PRU **Pruhonice** 17.90 334 *e*P Pn 20 03 12.4 -1.9
PRU *e*S Sn 20 06 34.2 +1.4
PRU AMS AMS 20 09 30.0
comp=Z,300nm,17.8s
CALN **Calern** 17.93 307 *e*P Pn 20 03 14.1 -0.6
DAVA **Damuels** 18.01 320 *i* P Pn 20 03 15.1 -0.6
comp=Z,40nm,0.8s,SNR=29
DAVA ⇓*i*Sn Sn 20 06 24.0 -11
FRF **La Foret Royal** 18.01 306 *e*P Pn 20 03 14.1 -1.6
comp=Z,61nm,1.0s
FRF **La Foret Royal** 18.01 306 *e*P Pn 20 03 14.1 -1.6
FRF pmax pmax
comp=Z,31nm,1.0s
FRF **La Foret Royal** 18.01 306 *e*P Pn 20 03 14.1 -1.6
comp=Z,31nm,1.0s
LMR **La Mourre** 18.01 305 *e*P Pn 20 03 14.0 -1.7
KSP **Ksiaz** 18.04 338 *e*P Pn 20 03 15.3 -0.8
KSP LMZ 20 09 55.3
comp=Z,800nm,27.0s
KSP **Ksiaz** 18.04 338⇑*e*P Pn 20 03 15.0 -1.0
KSP *e*pP pP 20 03 24.5 -0.3
NAY **Al-Naaiem** 18.19 101 *e*P Pn 20 03 17.5 -0.6
NAY AMb AMB 20 03 20.8
comp=Z,66nm,0.6s
LLS **Linth-Limmern** 18.21 318 ⇓P Pn 20 03 18.2 +0.1
MAK **Makhachkala** 18.28 56 *e*P Pn 20 03 23.1 +4.1
MAK *e*S Sn 20 06 46.4 +4.3
MAK pmax pmax
comp=Z,216nm,0.9s
MAK MLR MLR
comp=Z,408nm,26.0s
SURF **Saint Ours** 18.29 309 *e*P Pn 20 03 19.4 +0.3
PVCC **Panska Ves** 18.34 335 *e*P Pn 20 03 17.8 -1.9
PVCC AMS AMS 20 09 50.0
comp=Z,400nm,25.3s
MMK **Mattmark** 18.35 315 ⇓P Pn 20 03 18.1 -1.7
TAVF **Tavernes** 18.42 306 *e*P Pn 20 03 21.8 +1.0
MBDF **Montbardon** 18.42 310 *e*P Pn 20 03 18.9 -1.8
comp=Z,94nm,0.8s
MBDF **Montbardon** 18.42 310 *e*P Pn 20 03 18.9 -1.8
MBDF pmax pmax
comp=Z,47nm,0.8s
MBDF **Montbardon** 18.42 310 *e*P Pn 20 03 18.9 -1.8
comp=Z,47nm,0.8s
UMR **Umm Al-Rimmam** 18.47 100 *e*P Pn 20 03 20.1 -1.4
UMR AMb AMB 20 03 25.2
comp=Z,139nm,0.6s
MUO **Muotathal** 18.48 318 ⇑P Pn 20 03 21.7 +0.3
BERF **Bertagne** 18.56 305 *e*P Pn 20 03 21.9 -0.5
RDF **Al-Radifah** 18.57 102 *e*P Pn 20 03 21.9 -0.6
RDF AMb AMB 20 03 26.6
comp=Z,57nm,0.7s
WILA **Wila** 18.60 319 ⇓P Pn 20 03 21.8 -1.1
BNI **Bardonecchia** 18.63 311 *e*P Pn 20 03 23.8 +0.5
BNI pmax pmax
comp=Z,25nm,0.8s
BNI **Bardonecchia** 18.63 311 *e*P Pn 20 03 23.8 +0.5
comp=Z,25nm,0.8s
BNI **Bardonecchia** 18.63 311 *e*P Pn 20 03 23.8 +0.5
comp=Z,25nm,0.8s
ROTZ **Rotzenmuhle** 18.64 329 *e*P Pn 20 03 21.0 -2.4
comp=Z,19nm,0.9s
ROTZ *e*S Sn 20 06 50.5 -0.3
STOF **St-Etienne Org** 18.67 307 *e*P Pn 20 03 24.2 +0.4
DIX **Grande Dixence** 18.69 314 ⇑P Pn 20 03 23.1 -0.9
OG25 **Le Caire** 18.72 308 *e*P Pn 20 03 23.5 -0.8
LKBD **Leukerbad** 18.73 315 ⇓P Pn 20 03 24.1 -0.3
SISB **Singen-Schiene** 18.74 320 P Pn 20 03 23.8 -0.8
ZUR **Degenried** 18.75 319 ⇑P Pn 20 03 24.0 -0.7
GELF **Grande-Etoile** 18.76 305 *e*P Pn 20 03 25.3 +0.5
LPG **La Plagne** 18.80 312 *e*P Pn 20 03 24.0 -1.3
comp=Z,30nm,0.4s
LPG **La Plagne** 18.80 312 *e*P Pn 20 03 24.0 -1.3
LPG pmax pmax
comp=Z,15nm,0.4s
LPG **La Plagne** 18.80 312 *e*P Pn 20 03 24.0 -1.3
comp=Z,15nm,0.4s
LPL **La Plagne** 18.82 312 *e*P Pn 20 03 24.2 -1.3
comp=Z,46nm,0.8s
LPL **La Plagne** 18.82 312 *e*P Pn 20 03 24.2 -1.3
LPL pmax pmax
comp=Z,23nm,0.8s
LPL **La Plagne** 18.82 312 *e*P Pn 20 03 24.2 -1.3
comp=Z,23nm,0.8s
BRG **Berggiesshubel** 18.85 334 ⇓*i*P Pn 20 03 24.3 -1.5
comp=Z,22nm,0.9s
BRG *i* 20 03 30.9
BRG *i* 20 03 45.3
BRG S Sn 20 06 50.0 -5.7
BRG *e* 20 07 05.2
BRG **Berggiesshubel** 18.85 334 *e*P Pn 20 03 23.5 -2.3
comp=Z,37nm,1.0s
BRG *e*S Sn 20 06 55.0 -0.7
BRG **Berggiesshubel** 18.85 334 ⇓*i*P Pn 20 03 24.3 -1.5
comp=Z,37nm,0.9s
BRG *i* 20 03 30.9
comp=Z,38nm,1.0s
BRG *i* 20 03 45.3
comp=Z,21nm,0.9s
BRG S Sn 20 06 50.0 -5.7
BRG *e* 20 07 05.2
comp=Z,6.0nm,1.4s
BRG
comp=N,261nm,25.6s
BRG
comp=E,200nm,21.4s
BRG
comp=Z,381nm,19.2s
TREF **Trevaresse** 18.88 305 *e*P Pn 20 03 26.4 +0.1
SMRF **Simiane la Rot** 18.89 306 *e*P Pn 20 03 24.9 -1.4
comp=Z,22nm,0.7s
SMRF **Simiane la Rot** 18.89 306 *e*P Pn 20 03 24.9 -1.4
comp=Z,11nm,0.7s
GUT **Gutenstein** 18.90 321 P Pn 20 03 25.1 -1.4
NKC **Novy Kostel** 18.91 331 *e*P Pn 20 03 24.9 -1.6
NKC *e*x x 20 06 55.5
NKC AMS AMS 20 12 00.0
comp=Z,400nm,14.0s
RSL **Roselend** 18.97 312 *e*P Pn 20 03 26.5 -0.8
EMV **Vieux Emosson** 18.99 314 ⇑P Pn 20 03 26.2 -1.4
GRA1 **Grafenberg Arr** 19.01 328 *e*P Pn 20 03 25.6 -2.2
comp=Z,41nm,1.0s
GRA1 *e*S Sn 20 07 00.4 +0.8
GRF **Grafenberg Arr** 19.01 328 *e*P Pn 20 03 25.6 -2.2
comp=Z,41nm,1.0s
GRF *e*S Sn 20 07 00.4 +0.8
GRF **Grafenberg Arr** 19.01 328 *e*P Pn 20 03 25.6 -2.2
comp=Z,41nm,1.0s
GRF *e*S Sn 20 07 00.4 +0.8
GRF *e*L 20 12 39.6
comp=Z,412nm,18.5s
GRFO **Grafenberg** 19.01 328 *e*P Pn 20 03 26.0 -1.8
GRFO pmax pmax
comp=Z,27nm,0.7s
GRFO **Grafenberg** 19.01 328 *e*P Pn 20 03 26.0 -1.8
comp=Z,27nm,0.7s
BUCH **Bad Urach** 19.03 322 P Pn 20 03 26.5 -1.5
VRSR **Storozhevoye** 19.04 25 *e*P Pn 20 03 26.6 -1.5
VRSR *e*S Sn 20 06 54.0 -6.2
VRSR pmax pmax
comp=N,3.0nm,0.5s
VRSR pmax pmax
comp=E,2.0nm,0.5s
VRSR pmax pmax
comp=Z,4.0nm,0.5s
VRSR smax
comp=E,10.0nm,1.0s
VRSR smax
comp=Z,3.0nm,1.3s
VRSR smax
comp=N,5.0nm,1.0s
VRSR MLR MLR
comp=Z,80nm,20.0s
VRSR MLR MLR
comp=N,30nm,14.0s
VRSR MLR MLR
comp=E,40nm,20.0s
SLE **Schleitheim** 19.04 320 ⇑P Pn 20 03 26.3 -1.9
TANN **Tannenbergstha** 19.04 331 *e*P Pn 20 03 26.3 -1.9
comp=Z,26nm,0.8s
TANN *e*S Sn 20 07 00.4 +0.1
ORIF **Oris-en-Rattie** 19.08 309 *e*P Pn 20 03 26.9 -1.7
comp=Z,43nm,0.8s
ORIF *e*MLR MLR
comp=Z,339nm,20.5s
ORIF **Oris-en-Rattie** 19.08 309 *e*P Pn 20 03 26.9 -1.7
ORIF pmax pmax
comp=Z,21nm,0.8s
ORIF **Oris-en-Rattie** 19.08 309 *e*P Pn 20 03 26.9 -1.7
comp=Z,21nm,0.8s
PRAF **Pradon** 19.09 306 *e*P Pn 20 03 28.2 -0.6
SPAK **Spaichingen-Ko** 19.09 321 *e*P Pn 20 03 26.9 -1.9
SULZ **Cheisacher** 19.10 319 ⇑P Pn 20 03 27.3 -1.6
OCF **Saint Nazaire** 19.31 308 *e*P Pn 20 03 30.6 -0.8
OG26 **St.-Nazaire-De** 19.31 308 *e*P Pn 20 03 30.6 -0.8
STU **Stuttgart** 19.32 323 *e*P Pn 20 03 29.9 -1.6
comp=Z,36nm,0.8s
STU **Stuttgart** 19.32 323 P Pn 20 03 30.0 -1.5
FELD **Feldberg im Sc** 19.37 319 *e*P Pn 20 03 29.6 -2.5
BBS **Basel-Blauen** 19.40 318 *e*P Pn 20 03 30.7 -1.8
LBG **Lerchenberg** 19.45 322 P Pn 20 03 32.0 -1.1
EMHD **Djebel Mahouad** 19.45 282 P Pn 20 03 37.5 +4.3
KIZ **Kirchzarten** 19.46 319 P Pn 20 03 31.8 -1.4
VOR **Voronezh** 19.47 24 P Pn 20 03 32.0 -1.3
VOR pmax pmax
comp=Z,100nm,1.6s
VOR **Voronezh** 19.47 24 P Pn 20 03 32.0 -1.3
comp=Z,100nm,1.6s
BFO **Black Forest** 19.48 321 P Pn 20 03 32.0 -1.4
comp=Z,154nm,0.7s,SNR=10.0
BFO **Black Forest** 19.48 321 *e*P Pn 20 03 31.5 -1.9
BFO *e*S Sn 20 07 10.2 -0.6
BFO pmax pmax
comp=Z,24nm,0.8s
BFO **Black Forest** 19.48 321 *e*P Pn 20 03 31.5 -1.9
comp=Z,24nm,0.8s
BFO *e*S Sn 20 07 10.2 -0.6
SIND **Sindeldorf** 19.51 325 P Pn 20 03 32.3 -1.4
CLL **Collm** 19.55 334 ⇑*i*P Pn 20 03 32.6 -1.6
CLL S Sn 20 07 11.0 -1.5
CLL pmax pmax
comp=Z,57nm,0.8s
CLL **Collm** 19.55 334 *e*P Pn 20 03 32.5 -1.7
comp=Z,57nm,0.8s
CLL **Collm** 19.55 334 ⇑*i*P Pn 20 03 32.6 -1.6
comp=Z,57nm,0.8s
CLL *e*(pP) pP 20 03 43.0 +1.6
CLL *e*(sP) sP 20 03 51.0 +5.5
CLL *e*S Sn 20 07 11.0 -1.5
MOX **Moxa** 19.56 330 *e*P Pn 20 03 32.9 -1.5
comp=Z,25nm,0.8s
MOX *e*S Sn 20 07 13.8 +0.9
MOX **Moxa** 19.56 330 *e*P Pn 20 03 33.6 -0.8
SUW **Suwalki** 19.70 354 *e*P Pn 20 03 33.7 -2.3
SUW *e*S Sn 20 07 14.2 -2.0
SUW LMZ 20 11 40.1
comp=Z,800nm,24.2s
SUW **Suwalki** 19.70 354 *e*P Pn 20 03 33.7 -2.3
SUW *e*S Sn 20 07 14.2 -2.0
LOMF **Lomont** 19.72 317 *e*P Pn 20 03 33.8 -2.4
CABF **La Chapelle** 19.75 314 *e*P Pn 20 03 34.6 -2.1
comp=Z,71nm,0.6s
CABF **La Chapelle** 19.75 314 *e*P Pn 20 03 34.6 -2.1
CABF pmax pmax
comp=Z,36nm,0.6s
CABF **La Chapelle** 19.75 314 *e*P Pn 20 03 34.6 -2.1
comp=Z,36nm,0.6s
ETOS **Mallorca** 19.75 293 P Pn 20 03 39.2 +2.5
comp=Z,6.4nm,0.8s
MOF **Molkenrain** 19.83 318 *e*P Pn 20 03 34.9 -2.7
VIVF **Saint-Julien-l** 19.83 308 *e*P Pn 20 03 35.6 -2.0
comp=Z,45nm,0.9s
VIVF **Saint-Julien-l** 19.83 308 *e*P Pn 20 03 35.6 -2.0
VIVF pmax pmax
comp=Z,22nm,0.9s
VIVF **Saint-Julien-l** 19.83 308 *e*P Pn 20 03 35.6 -2.0
comp=Z,22nm,0.9s
OG05 **Jujurieux** 19.85 312 *e*P Pn 20 03 34.9 -3.0
HINF **Hinteralfeld** 19.96 318 *e*P Pn 20 03 36.4 -2.8
comp=Z,40nm,0.6s
HINF **Hinteralfeld** 19.96 318 *e*P Pn 20 03 36.4 -2.8
HINF pmax pmax
comp=Z,20nm,0.6s
HINF **Hinteralfeld** 19.96 318 *e*P Pn 20 03 36.4 -2.8
comp=Z,20nm,0.6s
GKP **Gorka Klasztor** 19.97 343 *e*P Pn 20 03 36.0 -3.2
GKP *e*S Sn 20 07 20.5 -2.1
GKP LMZ 20 12 27.3
comp=Z,500nm,22.2s
GKP **Gorka Klasztor** 19.97 343 *e*P Pn 20 03 36.0 -3.2
GKP *e*S Sn 20 07 20.5 -2.1
ECH **Echery** 20.03 319 *e*P P 20 03 38.3 +0.3
MNK **Minsk** 20.05 2 *e*P P 20 03 31.0 -7.2
TOD **Tromm** 20.07 324 *e*P P 20 03 37.6 -0.8
LASF **Ste Croix** 20.07 305 *e*P P 20 03 38.1 -0.4
comp=Z,83nm,1.3s
LASF **Ste Croix** 20.07 305 *e*P P 20 03 38.1 -0.4
comp=Z,42nm,1.3s
CDF **Champ du Feu** 20.08 320 *e*P P 20 03 38.4 -0.2
comp=Z,81nm,0.8s
CDF **Champ du Feu** 20.08 320 *e*P P 20 03 38.4 -0.2
CDF pmax pmax
comp=Z,41nm,0.8s
CDF **Champ du Feu** 20.08 320 *e*P P 20 03 38.4 -0.2
comp=Z,40nm,0.8s
SSB **Saint Sauveur** 20.09 309 *e*P P 20 03 38.1 -0.6
LANF **Langenberg** 20.16 322 *e*P P 20 03 39.0 -0.4
EJON **La Jonquera** 20.24 300 P P 20 03 41.0 +0.6
comp=Z,1.2nm,0.3s
RUE **Ruedersdorf** 20.25 337 *e*P P 20 03 41.0 +0.7
comp=Z,104nm,1.0s
RUE **Ruedersdorf** 20.25 337 *e*P P 20 03 41.0 +0.6
comp=Z,104nm,1.0s
HAU **Haudompre** 20.35 318 *e*P P 20 03 41.2 -0.3
comp=Z,38nm,0.4s
HAU *e*MLR MLR
comp=Z,542nm,21.5s,MS3.6
HAU **Haudompre** 20.35 318 *e*P P 20 03 41.2 -0.3
HAU pmax pmax
comp=Z,19nm,0.4s
HAU MLR MLR
comp=Z,540nm,21.5s,MS3.9
HAU **Haudompre** 20.35 318 *e*P P 20 03 41.2 -0.3
comp=Z,19nm,0.4s
HAU LR LR
comp=Z,540nm,21.5s,MS3.9
UBBA **Unterbreizbach** 20.37 328 *e*S S 20 07 29.0 +0.9
EBNR **Beni Rached** 20.60 282 P P 20 03 45.0 +0.7
THEF **They Montfort** 20.68 318 *e*P P 20 03 45.0 0.0
COLF **Collangettes** 20.73 309 *e*P P 20 03 45.3 -0.4
ECHA **Ech Chlef** 20.74 282 P P 20 03 46.7 +0.9
EIBI **Ibiza** 20.80 290 P P 20 03 48.1 +1.6
comp=Z,9.1nm,0.5s
EIBI **Ibiza** 20.80 290 P P 20 03 48.1 +1.6
comp=Z,9.1nm,0.5s
ETRT **Tiaret** 20.84 280 P P 20 03 50.0 +3.0
ABH **Alteburg** 20.86 323 *e*P P 20 03 46.3 -0.7
LBL **Lubilhac** 20.91 308 *e*P P 20 03 47.6 0.0
MTLF **Montolieu** 20.96 302 *e*P P 20 03 47.9 -0.3
comp=Z,39nm,1.0s
MTLF **Montolieu** 20.96 302 *e*P P 20 03 47.9 -0.3
MTLF pmax pmax
comp=Z,19nm,1.0s
MTLF **Montolieu** 20.96 302 *e*P P 20 03 47.9 -0.3
comp=Z,20nm,1.0s
EANR **'Ain N'Sour** 20.96 281 P P 20 03 49.0 +0.7
PLDF **La Plantade** 20.96 310 *e*P P 20 03 47.2 -1.0
CLZ **Clausthal** 20.98 331 *e*P P 20 03 46.8 -1.5
CLZ *e*S S 20 07 39.7 -0.4
CLZ pmax pmax
comp=Z,25nm,1.0s
CLZ **Clausthal** 20.98 331 *e*P P 20 03 46.8 -1.5
comp=Z,25nm,1.0s
CLZ *e*S S 20 07 39.7 -0.4
RUP **Ruppelstein** 20.99 322 *e*P P 20 03 48.1 -0.3
EMIR **Miracle** 21.10 298 P P 20 03 49.8 +0.1
comp=Z,44nm,0.7s,mb4.9
EMIR **Miracle** 21.10 298 P P 20 03 49.8 +0.1
comp=Z,44nm,0.7s,mb4.9
SMF **Signal de Mont** 21.12 312 *e*P P 20 03 49.3 -0.6
comp=Z,75nm,0.7s,mb4.8
SMF **Signal de Mont** 21.12 312 *e*P P 20 03 49.3 -0.6
SMF pmax pmax
comp=Z,38nm,0.7s,mb4.8
SMF **Signal de Mont** 21.12 312 *e*P P 20 03 49.3 -0.6
comp=Z,38nm,0.7s,mb4.8
PYM **Petit Puy Mans** 21.27 309 *e*P P 20 03 50.5 -0.9
AGO **Saint Agoulin** 21.31 310 *e*P P 20 03 51.6 -0.3
EPOB **Poblet** 21.31 296 P P 20 03 52.4 +0.4
comp=Z,41nm,0.5s,mb5.0
EPOB **Poblet** 21.31 296 P P 20 03 52.4 +0.4
comp=Z,41nm,0.5s,mb5.0
MEZF **Maizieres J'vi** 21.35 318 *e*P P 20 03 51.9 -0.4
comp=Z,191nm,0.9s,mb5.1
MEZF **Maizieres J'vi** 21.35 318 *e*P P 20 03 51.9 -0.4
comp=Z,96nm,0.9s,mb5.1
LOR **Lormes** 21.41 314 *e*P P 20 03 52.1 -0.8
comp=Z,101nm,0.9s,mb4.9
LOR *e*MLR MLR
comp=Z,486nm,21.0s,MS3.6
LOR **Lormes** 21.41 314 *e*P P 20 03 52.1 -0.8
LOR pmax pmax
comp=Z,50nm,0.9s,mb4.8
LOR MLR MLR
comp=Z,490nm,21.0s,MS3.9
LOR **Lormes** 21.41 314 *e*P P 20 03 52.1 -0.8
comp=Z,50nm,0.9s,mb4.8
LOR LR LR
comp=Z,490nm,21.0s,MS3.9
WLF **Walferdange** 21.43 321 *e*P P 20 03 52.3 -0.8
WLF pmax pmax
comp=Z,47nm,0.8s,mb4.9
WLF **Walferdange** 21.43 321 *e*P P 20 03 52.3 -0.8
comp=Z,47nm,0.8s,mb4.9
WLF **Walferdange** 21.43 321 P P 20 03 53.3 +0.2
comp=Z,26nm,1.3s,mb4.4
WLF **Walferdange** 21.43 321 *e*P P 20 03 52.4 -0.7
comp=Z,74nm,1.5s,mb4.8
WLF *e*S S 20 07 51.4 +2.5
WLF **Walferdange** 21.43 321 *e*P P 20 03 52.3 -0.8
comp=Z,47nm,0.8s,mb4.9
AVF **Avril sur Loir** 21.49 312 *e*P P 20 03 53.0 -0.8
comp=Z,102nm,0.9s,mb4.9
AVF **Avril sur Loir** 21.49 312 *e*P P 20 03 53.0 -0.8
AVF pmax pmax
comp=Z,51nm,0.9s,mb4.8
AVF **Avril sur Loir** 21.49 312 *e*P P 20 03 53.0 -0.8
comp=Z,51nm,0.9s,mb4.9
SSF **Saint Saulge** 21.52 313 *e*P P 20 03 53.5 -0.7
comp=Z,262nm,0.9s,mb5.3
SSF **Saint Saulge** 21.52 313 *e*P P 20 03 53.5 -0.7
SSF pmax pmax
comp=Z,131nm,0.9s,mb5.4
SSF **Saint Saulge** 21.52 313 *e*P P 20 03 53.5 -0.7
comp=Z,131nm,0.9s,mb5.3
CAF **Calviac** 21.57 306 *e*P P 20 03 54.6 -0.1
comp=Z,24nm,0.8s,mb4.4
CAF **Calviac** 21.57 306 *e*P P 20 03 54.6 -0.1
CAF pmax pmax
comp=Z,12nm,0.8s,mb4.4
CAF **Calviac** 21.57 306 *e*P P 20 03 54.6 -0.1
comp=Z,12nm,0.8s,mb4.4
BGF **Bois d'Agland** 21.70 311 *e*P P 20 03 55.6 -0.5
comp=Z,60nm,0.8s,mb4.8
BGF **Bois d'Agland** 21.70 311 *e*P P 20 03 55.6 -0.5
BGF pmax pmax
comp=Z,30nm,0.8s,mb4.8
BGF **Bois d'Agland** 21.70 311 *e*P P 20 03 55.6 -0.5
comp=Z,30nm,0.8s,mb4.8
OBN **Obninsk** 21.76 15 P P 20 03 55.2 -1.4
comp=Z,630nm,1.3s,mb5.9,SNR=8.1
OBN **Obninsk** 21.76 15 *i* P P 20 03 54.6 -2.0
OBN *e*PP 20 04 06.8
OBN *e* 20 07 52.6
OBN *e*S S 20 07 56.9 +1.6
OBN *e*SS 20 08 23.8
OBN pmax pmax
comp=Z,101nm,1.0s,mb5.2
OBN MLR MLR
comp=Z,300nm,20.0s,MS3.7
OBN **Obninsk** 21.76 15 *e*P P 20 03 54.3 -2.4
comp=Z,143nm,1.1s,mb5.3
OBN **Obninsk** 21.76 15 *i* P P 20 03 54.6 -2.0
comp=Z,101nm,1.0s,mb5.2
ERTA **Horta de San J** 21.80 295 P P 20 03 57.7 +0.5
comp=Z,19nm,0.6s,mb4.7
ERTA **Horta de San J** 21.80 295 P P 20 03 57.7 +0.5
comp=Z,19nm,0.6s,mb4.7
TCF **Toulx Ste Croi** 21.99 310 *e*P P 20 03 58.3 -0.9
comp=Z,31nm,0.9s,mb4.4
TCF **Toulx Ste Croi** 21.99 310 *e*P P 20 03 58.3 -0.9
TCF pmax pmax
comp=Z,15nm,0.9s,mb4.4
TCF **Toulx Ste Croi** 21.99 310 *e*P P 20 03 58.3 -0.9
comp=Z,15nm,0.9s,mb4.4
EBEN **Beniarda** 22.00 289 P P 20 03 55.6 -3.8
comp=Z,67nm,1.2s,mb5.0
BUG **Bochum--Univer** 22.03 326 *e*S S 20 08 02.1 +1.4
RJF **Les Rejaudoux** 22.07 307 *e*P P 20 03 59.6 -0.4
comp=Z,33nm,0.7s,mb4.6
RJF *e*MLR MLR
comp=Z,122nm,22.8s
RJF **Les Rejaudoux** 22.07 307 *e*P P 20 03 59.6 -0.4
RJF pmax pmax
comp=Z,17nm,0.7s,mb4.6
RJF MLR MLR
comp=Z,120nm,22.8s
RJF **Les Rejaudoux** 22.07 307 *e*P P 20 03 59.6 -0.4
comp=Z,17nm,0.7s,mb4.6
RJF LR LR
comp=Z,120nm,22.8s
MEM **Membach** 22.09 323 P P 20 04 00.3 +0.1
comp=Z,45nm,1.1s,mb4.8
EPF **Esparros** 22.20 300 *e*P P 20 04 00.5 -1.0
comp=Z,7.2nm,0.5s,mb4.1
EPF **Esparros** 22.20 300 *e*P P 20 04 00.5 -1.0
EPF pmax pmax

comp=Z,4.0nm,0.5s,mb4.1
EPF Esparros 22.20 300 *e*P P **20 04 00.5 -1.0**
comp=Z,3.6nm,0.5s,mb4.1
BSD Bornholm Skovb 22.22 342 *i* P P **20 03 58.8 -2.7**
BSD pmax pmax
comp=Z,5.0nm,0.3s,mb4.4
BSD Bornholm Skovb 22.22 342 *i* P P **20 03 58.8 -2.7**
comp=Z,5.3nm,0.3s,mb4.5
HGN Heimansgroeve 22.22 323 *e*P P **20 04 01.6 0.0**
comp=Z,60nm,1.3s,mb4.9
HGN Heimansgroeve 22.22 323 *e*S S **20 07 57.1 -7.3**
EBIE Bielsa 22.27 300 P P **20 04 03.1 +1.0**
comp=Z,5.8nm,0.5s,mb4.3
EBIE Bielsa 22.27 300 P P **20 04 03.1 +0.9**
comp=Z,5.8nm,0.5s,mb4.3
BCLA Clavier 22.32 322 P P **20 04 02.3 -0.4**
comp=Z,33nm,1.3s,mb4.6
EMOS Mosqueruela 22.33 293 P P **20 04 07.3 +4.5**
comp=Z,5.7nm,0.7s,mb4.1
BEBN Eben Emael 22.37 323 P P **20 04 03.1 0.0**
comp=Z,16nm,1.4s,mb4.3
GIVF Givet 22.38 321 *e*P P **20 04 02.0 -1.3**
comp=Z,54nm,0.6s,mb4.9
GIVF Givet 22.38 321 *e*P P **20 04 02.0 -1.3**
GIVF pmax pmax
comp=Z,27nm,0.6s,mb4.8
GIVF Givet 22.38 321 *e*P P **20 04 02.0 -1.3**
comp=Z,27nm,0.6s,mb4.9
LFF La Frestale 22.46 306 *e*P P **20 04 03.2 -1.0**
comp=Z,41nm,0.5s,mb4.8
LFF La Frestale 22.46 306 *e*P P **20 04 03.2 -1.0**
LFF pmax pmax
comp=Z,21nm,0.5s,mb4.8
LFF La Frestale 22.46 306 *e*P P **20 04 03.2 -1.0**
comp=Z,20nm,0.5s,mb4.8
DOU Dourbes 22.50 321 P P **20 04 03.8 -0.7**
comp=Z,20nm,1.1s,mb4.5
ESAC San Caprasio 22.52 297 P P **20 04 04.3 -0.6**
comp=Z,6.5nm,0.5s,mb4.3
ESAC San Caprasio 22.52 297 P P **20 04 04.3 -0.6**
comp=Z,6.5nm,0.5s,mb4.3
MOS Moscow 22.57 16 *e*P P **20 04 03.5 -1.8**
MOS *e* 20 04 11.4
MOS *e*S S **20 08 02.8 -8.1**
MOS pmax pmax
comp=Z,60nm,0.5s,mb5.3
MOS pmax pmax
comp=Z,63nm,0.6s,mb5.2
MOS Moscow 22.57 16 *e*P P **20 04 03.5 -1.8**
comp=Z,63nm,0.6s,mb5.2
WTSB Winterswijk 22.60 327 *e*P P **20 04 03.6 -2.0**
ECHE Chera 22.64 291 P P **20 04 08.2 +2.1**
ECHE pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
ECHE Chera 22.64 291 P P **20 04 08.2 +2.0**
comp=Z,1.7nm,0.4s,mb3.8
BAIF Baives 22.68 320 *e*P P **20 04 04.9 -1.5**
comp=Z,117nm,0.7s,mb5.1
BAIF Baives 22.68 320 *e*P P **20 04 04.9 -1.5**
BAIF pmax pmax
comp=Z,59nm,0.7s,mb5.1
BAIF Baives 22.68 320 *e*P P **20 04 04.9 -1.5**
comp=Z,59nm,0.7s,mb5.1
ETSF Etsaut 22.82 300 *e*P P **20 04 07.3 -0.7**
comp=Z,39nm,0.8s,mb4.6
ETSF Etsaut 22.82 300 *e*P P **20 04 07.3 -0.7**
ETSF pmax pmax
comp=Z,19nm,0.8s,mb4.6
ETSF Etsaut 22.82 300 *e*P P **20 04 07.3 -0.7**
comp=Z,19nm,0.8s,mb4.6
ETOB Tobarra 23.04 289 P P **20 04 13.1 +2.7**
comp=Z,4.2nm,0.7s,mb4.0
SJPF Ste Jean 23.34 300 *e*P P **20 04 12.9 -0.6**
comp=Z,90nm,1.0s,mb4.8
SJPF Ste Jean 23.34 300 *e*P P **20 04 12.9 -0.6**
SJPF pmax pmax
comp=Z,45nm,1.0s,mb4.8
SJPF Ste Jean 23.34 300 *e*P P **20 04 12.9 -0.6**
comp=Z,45nm,1.0s,mb4.8
COP Copenhagen 23.40 339 *e*P P **20 04 13.1 -0.9**
COP pmax pmax
comp=Z,18nm,0.8s,mb4.5
COP Copenhagen 23.40 339 *i* P P **20 04 13.1 -0.9**
comp=Z,18nm,0.8s,mb4.5
COP Copenhagen 23.40 339 *e*P P **20 04 13.1 -0.9**
comp=Z,18nm,0.8s,mb4.5
EALK Alkurruntz 23.56 300 P P **20 04 17.3 +1.6**
comp=Z,4.5nm,0.4s,mb4.2
ENIJ Nijar 23.57 284 P P **20 04 16.0 +0.2**
ENIJ pmax pmax
comp=Z,31nm,0.9s,mb4.7
ENIJ Nijar 23.57 284 P P **20 04 16.0 +0.2**
comp=Z,31nm,0.9s,mb4.7
ENIJ Nijar 23.57 284 P P **20 04 16.0 +0.2**
comp=Z,31nm,0.9s,mb4.7
MFF Saint Martin d 23.61 309 *e*P P **20 04 15.6 -0.5**
comp=Z,20nm,0.5s,mb4.5
MFF Saint Martin d 23.61 309 *e*P P **20 04 15.6 -0.5**
MFF pmax pmax
comp=Z,10.0nm,0.5s,mb4.5
MFF Saint Martin d 23.61 309 *e*P P **20 04 15.6 -0.5**
comp=Z,10.0nm,0.5s,mb4.5
EVIA Vianos 23.78 289 P P **20 04 18.3 +0.6**
EVIA pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
EVIA Vianos 23.78 289 P P **20 04 18.3 +0.6**
comp=Z,10nm,0.6s,mb4.4
EVIA Vianos 23.78 289 P P **20 04 18.3 +0.6**
comp=Z,10nm,0.6s,mb4.4
EHUE Huescar 23.85 287 P P **20 04 20.6 +2.2**
EHUE pmax pmax
comp=Z,3.0nm,0.6s,mb3.9
EHUE Huescar 23.85 287 P P **20 04 20.6 +2.2**
comp=Z,2.8nm,0.6s,mb3.9
VSU Vasula 24.01 0 *e*P P **20 04 18.8 -0.7**
EBER Berja 24.12 284 P P **20 04 23.6 +2.8**
comp=Z,6.0nm,0.5s,mb4.3
ECRI Cripan 24.17 298 P P **20 04 21.5 +0.3**
ECRI pmax pmax
comp=Z,3.0nm,0.5s,mb4.0
ECRI Cripan 24.17 298 P P **20 04 21.5 +0.3**
comp=Z,2.7nm,0.5s,mb3.9
ECRI Cripan 24.17 298 P P **20 04 21.5 +0.3**
comp=Z,2.7nm,0.5s,mb3.9
EQES Quesada 24.23 287 P P **20 04 22.6 +0.7**
comp=Z,5.4nm,0.7s,mb4.1
EQES Quesada 24.23 287 P P **20 04 22.5 +0.7**
comp=Z,5.4nm,0.7s,mb4.1
LDF La Druitiere 24.39 313 *e*P P **20 04 22.4 -0.7**
comp=Z,72nm,0.7s,mb4.9
LDF La Druitiere 24.39 313 *e*P P **20 04 22.4 -0.7**
LDF pmax pmax
comp=Z,36nm,0.7s,mb4.9
LDF La Druitiere 24.39 313 *e*P P **20 04 22.4 -0.7**
comp=Z,36nm,0.7s,mb4.9
ECOG Cogollos-Vega 24.64 285 P P **20 04 29.1 +3.5**
ECOG pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
ECOG Cogollos-Vega 24.64 285 P P **20 04 29.1 +3.5**
comp=Z,3.5nm,0.4s,mb4.2
FLN La Foliniere 24.68 314 *e*P P **20 04 24.4 -1.4**
comp=Z,39nm,0.4s,mb5.0
FLN *e*MLR MLR
comp=Z,380nm,21.2s,MS3.6
FLN La Foliniere 24.68 314 *e*P P **20 04 24.4 -1.4**
FLN pmax pmax
comp=Z,19nm,0.4s,mb5.0
FLN MLR MLR
comp=Z,380nm,21.3s,MS3.9
FLN La Foliniere 24.68 314 *e*P P **20 04 24.4 -1.4**
comp=Z,19nm,0.4s,mb5.0
FLN LR LR
comp=Z,380nm,21.3s,MS3.9
GRR Gorron 24.75 313 *e*P P **20 04 25.6 -0.8**
comp=Z,19nm,0.3s,mb4.7
GRR Gorron 24.75 313 *e*P P **20 04 25.6 -0.8**
GRR pmax pmax
comp=Z,9.0nm,0.3s,mb4.8
GRR Gorron 24.75 313 *e*P P **20 04 25.6 -0.8**
comp=Z,9.4nm,0.3s,mb4.8
EBAN Banos Encina 24.79 287 P P **20 04 29.2 +2.3**
EBAN pmax pmax
comp=Z,3.0nm,0.3s,mb4.3
EBAN Banos Encina 24.79 287 P P **20 04 29.2 +2.3**
comp=Z,2.6nm,0.3s,mb4.2
ELAN Lanestosa 24.95 300 P P **20 04 29.2 +1.0**
comp=Z,4.7nm,0.5s,mb4.3
ELAN Lanestosa 24.95 300 P P **20 04 29.2 +0.9**
comp=Z,4.7nm,0.5s,mb4.3
ESDC Sonseca Array 24.95 291 P P **20 04 29.3 +1.0**
comp=Z,5.4nm,0.6s,mb4.2
ESDC Sonseca Array 24.95 291 P P **20 04 29.4 +1.1**
comp=Z,6.9nm,0.5s,mb4.4,baz=80,slow=9.5,SNR=52
ESDC LR LR 20 14 43.4
comp=Z,98nm,21.4s,baz=95,slow=38
ESDC Sonseca Array 24.95 291 P P **20 04 29.3 +1.0**
comp=Z,5.4nm,0.6s,mb4.2
ESLA Sonseca Array 24.95 291 *e*P P **20 04 29.3 +1.0**
comp=Z,3.8nm,0.8s,mb4.0
MUD Monsted U'grnd 25.05 337 *i* P P **20 04 28.3 -0.8**
MUD pmax pmax
comp=Z,13nm,1.1s,mb4.4
MUD Monsted U'grnd 25.05 337 *i* P P **20 04 28.3 -0.8**
comp=Z,13nm,1.1s,mb4.4
GUD Guadarrama 25.15 293 P P **20 04 31.6 +1.4**
GUD pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
GUD Guadarrama 25.15 293 P P **20 04 31.6 +1.4**
comp=Z,7.1nm,0.5s,mb4.5
ELUQ Luque 25.19 286 P P **20 04 30.6 +0.1**
ELUQ pmax pmax
comp=Z,4.0nm,0.3s,mb4.4
ELUQ Luque 25.19 286 P P **20 04 30.6 +0.1**
comp=Z,3.8nm,0.3s,mb4.4
ELUQ Luque 25.19 286 P P **20 04 30.6 +0.1**
comp=Z,3.8nm,0.3s,mb4.4
PAB San Pablo 25.24 291 *e*P P **20 04 31.9 +0.9**
PAB pmax pmax
comp=Z,12nm,0.8s,mb4.5
PAB San Pablo 25.24 291 *e*P P **20 04 31.9 +0.9**
comp=Z,12nm,0.8s,mb4.5
PAB San Pablo 25.24 291 *e*P P **20 04 31.9 +0.9**
comp=Z,12nm,0.8s,mb4.5
EADA Adamuz 25.41 287 P P **20 04 34.2 +1.6**
comp=Z,1.4nm,0.4s,mb3.8
PUL Pulkovo 25.43 4 *e*P P **20 04 31.3 -1.1**
EMIJ Mijas 25.65 284 P P **20 04 35.5 +0.7**
comp=Z,13nm,0.5s,mb4.7
EMIJ Mijas 25.65 284 P P **20 04 35.5 +0.7**
comp=Z,13nm,0.5s,mb4.7
AEU East Anglia Un 25.67 323 *e*P P **20 04 34.6 -0.2**
SGMF Saint Gilles 25.74 311 *e*P P **20 04 34.5 -0.9**
comp=Z,26nm,0.7s,mb4.6
SGMF Saint Gilles 25.74 311 *e*P P **20 04 34.5 -0.9**
SGMF pmax pmax
comp=Z,13nm,0.6s,mb4.6
SGMF Saint Gilles 25.74 311 *e*P P **20 04 34.5 -0.9**
comp=Z,13nm,0.6s,mb4.6
QUIF Quistinic 26.00 310 *e*P P **20 04 36.9 -0.9**
comp=Z,23nm,0.6s,mb4.6
QUIF Quistinic 26.00 310 *e*P P **20 04 36.9 -0.9**
QUIF pmax pmax
comp=Z,12nm,0.6s,mb4.6
QUIF Quistinic 26.00 310 *e*P P **20 04 36.9 -0.9**
comp=Z,12nm,0.6s,mb4.6
MDT Midelt 26.08 275 P P **20 04 40.3 +1.6**
comp=Z,5.0nm,0.6s,mb4.2,baz=83,slow=14,SNR=11
MDT LR LR 20 17 40.1
comp=Z,335nm,19.7s,MS3.9,baz=146,slow=43
ECAB El Cabril 26.08 287 P P **20 04 39.0 +0.4**
comp=Z,12nm,0.5s,mb4.7
ROSF Rostrenen 26.22 311 *e*P P **20 04 39.0 -0.7**
comp=Z,38nm,0.6s,mb4.8
ROSF Rostrenen 26.22 311 *e*P P **20 04 39.0 -0.7**
ROSF pmax pmax
comp=Z,19nm,0.6s,mb4.8
ROSF Rostrenen 26.22 311 *e*P P **20 04 39.0 -0.7**
comp=Z,19nm,0.6s,mb4.8
EJIF Jimena Fronter 26.22 284 P P **20 04 40.9 +1.0**
EJIF pmax pmax
comp=Z,4.0nm,0.4s,mb4.3
EJIF Jimena Fronter 26.22 284 P P **20 04 40.9 +1.0**
comp=Z,4.4nm,0.4s,mb4.3
EARI Arriondas 26.24 299 P P **20 04 41.2 +1.2**
comp=Z,0.8nm,0.3s,mb3.7
EARI Arriondas 26.24 299 P P **20 04 41.2 +1.2**
comp=Z,0.8nm,0.3s,mb3.7
SKP1 Kophill 26.25 319 ⇑*i*P P **20 04 39.3 -0.6**
ESPR Espera 26.50 285 P P **20 04 41.8 -0.6**
comp=Z,4.1nm,0.5s,mb4.2
ESPR Espera 26.50 285 P P **20 04 41.8 -0.6**
comp=Z,4.1nm,0.5s,mb4.2
SWN1 Swindon 26.68 318 ⇑*e*P P **20 04 43.5 -0.4**
SWN1 ⇑*e*P 20 04 43.5
SWN1 AMb AMB 20 04 52.9
comp=Z,214nm,1.8s,mb5.4
SSW Stow on the Wo 26.93 319 ⇑*i*P P **20 04 45.8 -0.3**
FINES FINESS Array B 27.00 359 P P **20 04 45.0 -1.6**
comp=Z,5.5nm,0.4s,mb4.4,baz=157,slow=11,SNR=80
FINES PcP PcP 20 08 08.0 +0.6
comp=Z,4.1nm,0.4s,baz=147,slow=2.5,SNR=8.8
FIA1 FINESS Array S 27.00 359 *e*P P **20 04 44.8 -1.8**
FIA1 FINESS Array S 27.00 359 *e*P P **20 04 44.8 -1.8**
CWF Charnwood Fore 27.04 321 *e*P P **20 04 46.1 -0.9**
CWF AMb AMB 20 04 51.0
comp=Z,41nm,1.2s,mb4.8
HFS Hagfors 27.05 346 P P **20 04 45.4 -1.7**
comp=Z,9.3nm,0.4s,mb4.7,baz=128,slow=11,SNR=59
HFS LR LR 20 16 55.4
comp=Z,401nm,21.5s,MS4.0,baz=146,slow=40
HFA0 Hagfors New Ar 27.06 346 P P **20 04 44.0 -3.2**
EMIN Mina Concepcio 27.09 287 P P **20 04 47.5 -0.2**
comp=Z,1.9nm,0.3s,mb4.1
EMIN Mina Concepcio 27.09 287 P P **20 04 47.5 -0.2**
comp=Z,1.9nm,0.3s,mb4.1
ECAL Calabor 27.20 296 P P **20 04 49.3 +0.6**
comp=Z,7.7nm,0.4s,mb4.6
ECAL Calabor 27.20 296 P P **20 04 49.3 +0.7**
comp=Z,7.7nm,0.4s,mb4.6
HATD Hatta, Dubai 27.24 103 P P **20 04 50.9 +1.8**
SNR=8.3
ASHO Ashiyiah 27.24 103 P P **20 04 50.5 +1.3**
SNR=9.3
HGH Gray Hill 27.30 318 ⇑*e*P P **20 04 48.7 -0.7**
EBAD Badajoz 27.31 289 P P **20 04 49.8 +0.1**
comp=Z,4.9nm,0.5s,mb4.3
EBAD Badajoz 27.31 289 P P **20 04 49.8 +0.1**
comp=Z,4.9nm,0.5s,mb4.3
HAE Alders End 27.34 319 ⇑*i*P P **20 04 49.0 -0.9**
KBI1 Birley Grange 27.42 322 *e*P P **20 04 49.4 -1.1**
KWE Weaver Farm 27.46 321 ⇑*e*P P **20 04 50.2 -0.6**
MCH1 Michaelchurch 27.57 319 ⇑*e*P P **20 04 51.6 -0.3**
MCH1 ⇑*e*P 20 04 51.6
MCH1 AMb AMB 20 04 54.3
comp=Z,72nm,2.1s,mb4.9
KONO Kongsberg 27.59 341 *e*P P **20 04 49.4 -2.5**
KONO pmax pmax
comp=Z,22nm,1.0s,mb4.7
KONO Kongsberg 27.59 341 *e*P P **20 04 49.4 -2.5**
comp=Z,22nm,1.0s,mb4.7
KONO Kongsberg 27.59 341 *e*P P **20 04 49.4 -2.5**
comp=Z,22nm,1.0s,mb4.7
HEX Exmoor 27.61 316 ⇑*e*P P **20 04 51.9 -0.3**
EPON Pontenova 27.64 299 P P **20 04 52.9 +0.2**
comp=Z,5.6nm,0.4s,mb4.5
EPON Pontenova 27.64 299 P P **20 04 52.8 +0.2**
comp=Z,5.6nm,0.4s,mb4.5
LHO Holmfirth 27.74 322 ⇑*i*P P **20 04 52.5 -0.8**
EGRO El Granado 27.74 286 P P **20 04 53.9 +0.3**
comp=Z,6.5nm,0.3s,mb4.7
EGRO El Granado 27.74 286 P P **20 04 53.9 +0.3**
comp=Z,6.5nm,0.3s,mb4.7
HTR Trewern Hill 27.76 319 ⇑*e*P P **20 04 53.1 -0.4**
AKTK Aktyubinsk 27.81 45 P P **20 04 54.0 0.0**
AKTK LR LR 20 18 50.5
AKTO Aktyubinsk 27.81 45 *i* P P **20 04 53.8 -0.2**
AKTO pmax pmax
comp=Z,1.0nm,1.1s,mb3.4
AKTO Aktyubinsk 27.81 45 P P **20 04 54.0 0.0**
comp=Z,13nm,0.4s,mb4.9,baz=249,slow=8.1,SNR=61
AKTO LR LR 20 18 50.5
comp=Z,81nm,21.2s,baz=244,slow=43
HTL Hartland 27.97 316 *e*P P **20 04 55.1 -0.2**
HTL AMb AMB 20 05 07.6
comp=Z,66nm,1.5s,mb5.0
EVO Evora 28.10 289 *e*P P **20 04 57.3 +0.5**
comp=Z,34nm,1.0s,mb4.7
EVO *e*MLR MLR
comp=Z,110nm,20.4s
NAO01 NORSAR Array S 28.31 344 *e*P P **20 04 56.5 -1.8**
comp=Z,26nm,0.8s,mb4.9
NAO01 NORSAR Array S 28.31 344 *e*P P **20 04 56.5 -1.8**
comp=Z,26nm,0.8s,mb4.9
NB2 NORSAR Subarra 28.41 344 P P **20 04 57.0 -2.2**
comp=Z,5.5nm,0.5s,mb4.4,baz=149,slow=9.3
NOA NORSAR Array B 28.41 344 P P **20 04 57.2 -2.0**
NOA LR LR 20 17 02.1
NOA NORSAR Array B 28.41 344 P P **20 04 57.2 -2.0**
comp=Z,6.9nm,0.7s,mb4.4,baz=150,slow=8.7,SNR=33
NOA LR LR 20 17 02.1
comp=Z,197nm,21.9s,MS3.7,baz=155,slow=38
JOF Joensuu 28.62 4 *e*p P **20 04 59.1 -2.0**
comp=Z,20nm,0.4s,mb5.2
EMAZ Mazaricos 28.93 298 P P **20 05 08.7 +4.6**
XSO Sourhope Farm 29.00 325 ⇑*e*P P **20 05 03.7 -0.9**
BSY Bisya 29.09 106 P P **20 05 07.2 +1.5**
SNR=5.5
ECK Cauldkaine Hil 29.25 324 ⇑*i*P P **20 05 06.3 -0.4**
EKA Eskdalemuir Ar 29.34 325 P P **20 05 07.2 -0.3**
comp=Z,12nm,0.6s,mb4.8,baz=134,slow=11,SNR=73
EKA PcP PcP 20 08 14.5 +1.2
comp=Z,2.3nm,0.5s,baz=127,slow=2.5,SNR=5.0
EKA Eskdalemuir Ar 29.34 325 P P **20 05 07.2 -0.4**
ESK Eskdalemuir 29.36 324 P P **20 05 08.6 +0.9**
comp=Z,159nm,0.5s,mb6.0,SNR=12
ESK Eskdalemuir 29.36 324 *e*P P **20 05 06.9 -0.8**
ESK AMb AMB 20 05 18.4
comp=Z,55nm,1.4s,mb5.1
ESK Eskdalemuir 29.36 324 *e*P P **20 05 07.0 -0.7**
ESK pmax pmax
comp=Z,14nm,0.6s,mb4.9
ESK Eskdalemuir 29.36 324 *e*P P **20 05 07.0 -0.7**
comp=Z,14nm,0.6s,mb4.9
ESK Eskdalemuir 29.36 324 *e*P P **20 05 07.0 -0.7**
comp=Z,14nm,0.6s,mb4.9
ESY Stoneypath 29.41 326 *e*P P **20 05 07.6 -0.5**
EBL Broad Law 29.53 325 ⇑*i*P P **20 05 08.7 -0.5**
EDI Edinburgh 29.68 325 *e*P P **20 05 10.1 -0.4**
EDI AMb AMB 20 05 11.9
comp=Z,88nm,1.3s,mb5.3
RBK Rabkut 29.80 118 P P **20 05 13.9 +1.9**
SNR=5.3
GAL1 Galloway 29.86 323 ⇑*e*P P **20 05 11.8 -0.4**
GAL1 ⇑*e*P 20 05 11.8
GAL1 AMb AMB 20 05 11.9
comp=Z,41nm,1.5s,mb4.9
EBH Black Hill 30.01 326 ⇑*i*P P **20 05 13.1 -0.4**
DLF Lyons Farm 30.08 319 ⇑*i*P P **20 05 14.1 0.0**
EAB Aberfoyle 30.37 325 ⇑*e*P P **20 05 16.3 -0.4**
DCN Croghan 30.50 319 ⇑*i*P P **20 05 18.2 +0.3**
TMCR Tamitsa 30.53 10 ⇓*i*P P **20 05 16.8 -1.2**
DMUB Kingscourt 30.54 320 ⇑*i*P P **20 05 18.3 +0.1**
MCD Coleburn Disti 30.66 328 ⇑*e*P P **20 05 17.9 -1.4**
GCL Cushendall 30.68 322 ⇑*i*P P **20 05 19.2 -0.1**
ARU Arti 30.88 35 *d i*P P **20 05 20.6 -0.6**
ARU *e* 20 06 19.2
ARU *e* 20 08 15.9
ARU *e*S S **20 10 24.7 +1.9**
ARU *e*SS SS 20 12 03.5 -32
ARU *e*SSS 20 12 23.5
ARU 20 15 53.2
ARU pmax pmax
comp=Z,29nm,1.7s,mb4.8
ARU Arti 30.88 35 *e*P P **20 05 20.0 -1.2**
comp=Z,12nm,0.3s,mb5.2
TOA0 Torodi Ar. Sit 31.05 233 *e*P P **20 05 25.1 +2.0**
TORD Torodi Ar. Bea 31.05 233 P P **20 05 25.1 +2.0**
comp=Z,96nm,0.5s,mb5.9,baz=39,slow=7.8,SNR=1759
TORD PcP PcP 20 08 19.2 +0.8
comp=Z,2.4nm,0.6s,baz=47,slow=2.1,SNR=5.5
LRW Lerwick 31.44 333 *e*P P **20 05 23.9 -2.1**
LRW *e*P 20 05 23.9
LRW AMb AMB 20 05 26.3
comp=Z,114nm,1.7s,mb5.4
KAR1 Arisaig 31.46 326 *e*P P **20 05 24.5 -1.7**
SVE Sverdlovsk 32.07 35 ⇓*e*P P **20 05 31.8 +0.2**
SVE pmax pmax
comp=Z,27nm,0.6s,mb5.2
MOR8 Moi Rana 32.57 351 *e*P P **20 05 34.7 -1.2**
STOK Stokkvaagen 32.92 350 *e*P P **20 05 37.8 -1.1**
STOK AMb AMB 20 05 45.6
comp=Z,94nm,1.7s,mb5.5
STOK Stokkvaagen 32.92 350 *e*P P **20 05 37.8 -1.1**
comp=Z,94nm,1.7s,mb5.4
STOK Stokkvaagen 32.92 350 *e*P P **20 05 37.8 -1.2**
comp=Z,94nm,1.7s,mb5.5,SNR=39
APA Apatity 33.38 5 ⇑*i*P P **20 05 41.2 -1.7**
APA *i* 20 05 56.0
APA pmax pmax
comp=Z,45nm,0.6s,mb5.6
KTK1 Kautokeino 34.65 358 *e*P P **20 05 53.4 -0.6**
KTK1 AMb AMB 20 06 03.3
comp=Z,46nm,1.1s,mb5.3
KTK1 Kautokeino 34.65 358 *e*P P **20 05 53.4 -0.6**
comp=Z,46nm,1.1s,mb5.3
KTK1 Kautokeino 34.65 358 *e*P P **20 05 53.4 -0.6**
comp=Z,46nm,1.1s,mb5.3,SNR=39
KBL Kabul 34.70 78 *e*P P **20 05 56.0 +1.1**
comp=Z,7.1nm,0.6s,mb4.8
KBL Kabul 34.70 78 *e*P P **20 05 56.0 +1.2**
comp=Z,7.1nm,0.6s,mb4.8
KK31 Karatay Array 34.89 62 *i*P P **20 05 57.2 +0.9**
KK31 pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
ARCES ARCESS Array B 35.13 359 P P **20 05 56.3 -1.8**
ARCES 20 08 29.2
ARCES ARCESS Array B 35.13 359 P P **20 05 56.3 -1.8**
comp=Z,12nm,0.4s,mb5.2,baz=175,slow=8.9,SNR=140
ARCES PcP PcP 20 08 29.2 +0.4
comp=Z,2.8nm,0.4s,baz=169,slow=2.3,SNR=6.4
ARCES LR LR 20 21 27.4
comp=Z,120nm,18.7s,MS3.7,baz=63,slow=38
ARE0 ARCESS Array S 35.13 359 *e*P P **20 05 56.2 -1.9**
ARE0 ARCESS Array S 35.13 359 *e*P P **20 05 56.2 -1.9**
KEV Kevo 35.35 0 *e*p P **20 05 58.1 -1.9**
comp=Z,6.9nm,0.3s,mb5.1
KEV Kevo 35.35 0 *e*P P **20 05 58.1 -1.9**
KEV pmax pmax
comp=Z,7.0nm,0.3s,mb5.1
TRO Tromso 35.49 355 *e*P P **20 05 59.3 -1.8**
BRVK Borovoye 35.86 45 P P **20 06 04.9 +0.3**
comp=Z,135nm,0.6s,mb6.0,SNR=12
BRVK Borovoye 35.86 45 *e*P P **20 06 04.6 0.0**
BRVK pmax pmax
comp=Z,45nm,1.3s,mb5.2
BRVK Borovoye 35.86 45 *e*P P **20 06 04.6 0.0**
comp=Z,45nm,1.3s,mb5.2
BRVK Borovoye 35.86 45 P P **20 06 05.1 +0.5**
SNR=11
BRVK Borovoye 35.86 45 *e*P P **20 06 04.6 0.0**
comp=Z,45nm,1.3s,mb5.2
BVAR Borovoye Array 35.92 45 P P **20 06 05.5 +0.5**
comp=Z,15nm,0.7s,mb5.1,baz=254,slow=6.7,SNR=88
EOSO Osorio 36.48 272 P P **20 06 12.2 +2.1**
comp=Z,29nm,0.6s,mb5.4
KMBO Kilima Mbogo 36.76 162 LR LR 20 22 48.2
comp=Z,161nm,18.7s,MS3.8,baz=293,slow=39
AML Almayashu 37.27 64 *e*P P **20 06 16.5 -0.3**
comp=Z,8.0nm,0.6s,mb4.7
AML Almayashu 37.27 64 P P **20 06 18.0 +1.2**
SNR=6.1
AML Almayashu 37.27 64 *e*P P **20 06 16.5 -0.3**
comp=Z,8.0nm,0.6s,mb4.7
EKS2 Erkin-Say 37.30 63 *e*P P **20 06 18.1 +1.1**
comp=Z,15nm,0.8s,mb4.9
EKS2 Erkin-Say 37.30 63 P P **20 06 18.4 +1.4**
SNR=24
EKS2 Erkin-Say 37.30 63 *e*P P **20 06 18.1 +1.1**
comp=Z,15nm,0.8s,mb4.9
USP Ospenovka 37.80 62 P P **20 06 21.8 +0.6**
SNR=6.6
AAK Ala-Archa 37.83 63 P P **20 06 22.8 +1.4**
SNR=24
UCH Uchtor 37.88 64 *e*P P **20 06 23.2 +1.3**
comp=Z,9.1nm,0.8s,mb4.6
UCH *e*PcP PcP 20 08 39.6 +2.0
UCH Uchtor 37.88 64 P P **20 06 23.5 +1.6**
SNR=10
UCH Uchtor 37.88 64 *e*P P **20 06 23.2 +1.4**
comp=Z,9.1nm,0.8s,mb4.6
FRU Bishkek 37.91 63 *e*P P **20 06 23.5 +1.4**
FRU pmax pmax
comp=Z,34nm,1.8s,mb4.8
CHMS Chumysh 38.00 62 P P **20 06 24.0 +1.1**
SNR=11
KBK Karagaybulak 38.16 63 P P **20 06 25.8 +1.5**
SNR=17
KZA Kyzart 38.43 64 P P **20 06 28.4 +1.8**
SNR=12
TKM2 Tokmak 2 38.62 62 *e*P P **20 06 29.0 +0.9**

TKM2 pmax pmax
comp=Z,17nm,0.8s,mb4.8
TKM2 Tokmak 2 38.62 62 *eP* **P 20 06 29.0 +0.9**
comp=Z,17nm,0.8s,mb4.8
TKM2 Tokmak 2 38.62 62 P **P 20 06 29.2 +1.1**
SNR=16
TKM2 Tokmak 2 38.62 62 *eP* **P 20 06 29.0 +0.9**
comp=Z,17nm,0.8s,mb4.8
ULHL Ulahol 39.15 63 P **P 20 06 34.4 +1.8**
SNR=6.9
DBIC Dimbokro 40.15 234 P **P 20 06 42.6 +1.4**
DBIC 20 08 46.5
DBIC pmax pmax
comp=Z,54nm,0.6s
DBIC pmax pmax
comp=Z,8.0nm,0.6s
DBIC Dimbokro 40.15 234 *eP* **P 20 06 42.4 +1.2**
comp=Z,36nm,0.7s,mb5.2
DBIC Dimbokro 40.15 234 P **P 20 06 42.6 +1.4**
comp=Z,54nm,0.6s,mb5.4,baz=22,slow=9.3,SNR=111
DBIC PcP PcP 20 08 46.5 +1.3
comp=Z,7.8nm,0.6s,baz=29,slow=13,SNR=3.2
THN Thein Dam 40.63 79 *eP* **P 20 06 44.6 -0.4**
KURK Kurchatov 40.64 50 P **P 20 06 45.3 +0.5**
comp=Z,370nm,0.5s,mb6.3,SNR=40
KURK Kurchatov 40.64 50 *eP* **P 20 06 45.2 +0.4**
KURK pmax pmax
comp=Z,40nm,0.7s,mb5.2
KURK Kurchatov 40.64 50 *eP* **P 20 06 45.2 +0.4**
comp=Z,40nm,0.7s,mb5.2
KURK Kurchatov 40.64 50 P **P 20 06 45.6 +0.8**
SNR=16
KURK Kurchatov 40.64 50 *eP* **P 20 06 45.2 +0.4**
comp=Z,40nm,0.7s,mb5.2
AJM Ajmer 41.76 88 *eP* **P 20 06 55.8 +1.5**
AJM AMb AMB 20 06 56.3
comp=Z,15nm,0.6s,mb4.8
BORG Borgarnes 41.77 331 P **P 20 06 54.6 +0.7**
comp=Z,13nm,0.4s,mb4.9,baz=122,slow=9.5,SNR=4.9
BORG PcP PcP 20 08 47.9 -1.7
comp=Z,34nm,1.0s,baz=326,slow=3.6,SNR=3.4
BORG LR LR 20 24 34.9
comp=Z,222nm,19.6s,MS4.0,baz=121,slow=37
BORG Borgarnes 41.77 331 PcP PcP 20 08 47.9 -1.7
SMLA Simla 42.20 80 *eP* **P 20 06 58.5 +0.7**
SMLA AMb AMB 20 07 02.2
comp=Z,60nm,1.3s,mb5.1
NDI New Delhi 43.06 83 *eP* **P 20 07 06.3 +1.4**
NDI AMb AMB 20 07 06.6
comp=Z,27nm,0.6s,mb5.1
MK31 Makanchi Array 43.10 56 *i* P **P 20 07 05.6 +0.6**
MK31 pmax pmax
comp=Z,13nm,0.4s,mb5.0
MK31 Makanchi Array 43.10 56 *eP* **P 20 07 05.7 +0.7**
MK31 Makanchi Array 43.10 56 *eP* **P 20 07 05.7 +0.7**
MKAR Makanchi Array 43.10 56 P **P 20 07 05.7 +0.7**
comp=Z,27nm,0.7s,mb5.1,baz=267,slow=7.5,SNR=206
MKAR PcP PcP 20 08 54.1 -0.2
comp=Z,4.1nm,0.7s,baz=282,slow=4.8,SNR=2.7
DDI Dehra Dun 43.18 81 *ex* x 20 07 07.7
NVS Novosibirsk 43.69 44 *eP* **P 20 07 09.9 +0.3**
NVS *e* 20 08 51.4
NVS *eS* **S 20 13 35.1 -2.1**
NVS pmax pmax
comp=N,12nm,0.6s
NVS pmax pmax
comp=Z,69nm,0.6s,mb5.6
NVS pmax pmax
comp=E,34nm,0.8s
NVS smax
comp=N,7.0nm,1.4s
NVS smax
comp=E,17nm,1.8s
SPB4 Spitsbergen Ar 44.05 357 *eP* **P 20 07 11.3 -0.9**
SPB4 Spitsbergen Ar 44.05 357 *eP* **P 20 07 11.3 -0.9**
ZAL Zalesovo 44.56 46 P **P 20 07 16.8 +0.2**
ZALV Zalesovo Beam 44.57 46 P **P 20 07 16.8 +0.1**
ZALV Zalesovo Beam 44.57 46 P **P 20 07 16.8 +0.1**
comp=E,35nm,0.4s,mb5.6,baz=267,slow=8.3,SNR=211
KBS Kingsbay 45.00 356 *eP* **P 20 07 19.0 -0.8**
KBS Kingsbay 45.00 356 *eP* **P 20 07 19.1 -0.7**
KBS pmax pmax
comp=Z,16nm,0.6s,mb5.0
KBS Kingsbay 45.00 356 *eP* **P 20 07 19.1 -0.7**
comp=Z,16nm,0.6s,mb5.0
BHPL Bhopal 45.40 90 *eP* **P 20 07 24.7 +1.1**
KAD Karad 45.57 100 *eP* **P 20 07 26.8 +1.8**
KAD AMb AMB 20 07 27.3
comp=Z,24nm,1.0s,mb5.1
AKL Akola 46.21 94 *eP* **P 20 07 31.5 +1.4**
AKL AMb AMB 20 07 33.1
comp=Z,20nm,0.9s,mb5.0
WMQ Urumqi 47.26 60 P **P 20 07 39.0 +1.0**
WMQ AP pP 20 07 49.0 +1.2
WMQ XP sP 20 07 53.0 +1.3
WMQ PP PP 20 09 29.0 0.0
WMQ S **S 20 14 28.0 -1.0**
WMQ SS SS 20 17 47.0 -9.3
WMQ AMB AMB
comp=Z,30nm,1.0s,mb5.2
WMQ AMB AMB
comp=Z,58nm,5.0s
WMQ LR LR
comp=N,85nm,13.0s,MS4.3
WMQ LR LR
comp=E,205nm,15.0s,MS4.3
WMQ LR LR
comp=Z,174nm,14.0s,MS4.2
NGP Nagpur 47.68 92 *eP* **P 20 07 43.1 +1.6**
NGP AMb AMB 20 07 46.9
comp=Z,33nm,1.5s,mb5.1
DANN Dangsing 48.53 81 *eP* **P 20 07 49.8 +1.7**
comp=Z,291nm,0.8s
KOLN Koldanda 48.63 82 *eP* **P 20 07 49.5 +0.7**
comp=Z,93nm,0.9s,mb5.8
HYB Hyderabad 49.09 97 *eP* **P 20 07 53.5 +1.0**
HYB pmax pmax
comp=Z,45nm,1.0s,mb5.5
HYB Hyderabad 49.09 97 *i* P **P 20 07 53.5 +1.0**
comp=Z,45nm,1.0s,mb5.5
HYB Hyderabad 49.09 97 *eP* **P 20 07 53.5 +1.0**
comp=Z,45nm,1.0s,mb5.5
GKN Gorkha 49.38 81 *eP* **P 20 07 55.3 +0.7**
comp=Z,115nm,0.7s,mb6.0
LSZ Lusaka 49.48 178 *eP* **P 20 07 58.0 +2.7**
LSZ *e* 20 09 19.6
LSZ pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
LSZ Lusaka 49.48 178 *eP* **P 20 07 58.0 +2.7**
comp=Z,3.5nm,0.6s,mb4.6
LSZ *e*PcP PcP 20 09 19.6 +2.6
LSZ Lusaka 49.48 178 P **P 20 07 57.7 +2.4**
comp=Z,5.3nm,0.6s,mb4.7,baz=4.9,slow=9.7,SNR=9.5
LSZ PcP PcP 20 09 19.8 +2.7
comp=Z,7.7nm,0.6s,baz=31,slow=4.4,SNR=9.4
BLSP Bilaspur 49.78 89 *eP* **P 20 07 57.6 -0.1**
BLSP AMb AMB 20 07 58.1
comp=Z,20nm,0.7s,mb5.3
DMN Daman 49.92 81 *eP* **P 20 07 59.8 +1.1**
comp=Z,62nm,0.5s,mb5.9
KKN Kakani 49.99 81 *eP* **P 20 07 59.9 +0.7**
comp=Z,80nm,0.6s,mb5.9
PKI Pulchoki 50.18 81 *eP* **P 20 08 01.1 +0.4**
comp=Z,149nm,1.0s,mb6.0
GUN Gumba 50.43 80 *eP* **P 20 08 03.5 +0.9**
comp=Z,103nm,0.8s,mb5.9
JIRN Jiri 50.78 81 *eP* **P 20 08 06.2 +1.0**
comp=Z,120nm,0.8s,mb5.9
KOD Kodaikanal 52.13 105 *eP* **P 20 08 17.1 +1.7**
KOD AMb AMB 20 08 23.7
comp=Z,25nm,2.5s,mb4.7
BOK Bokaro 52.14 85 *eP* **P 20 08 15.3 -0.2**
BOK AMb AMB 20 08 15.6
comp=Z,38nm,0.8s,mb5.4
MDRS Chennai 52.77 100 *ex* x 19 58 35.9
MDRS *ex* x 20 01 53.9
MDRS *ex* x 20 16 59.1
SFJD Kangerlussuaq 53.90 332 *i* P **P 20 08 27.0 -0.8**
SFJD pmax pmax
comp=Z,14nm,1.3s,mb4.7
SFJD Kangerlussuaq 53.90 332 P **P 20 08 27.4 -0.4**
comp=Z,4.9nm,0.4s,mb4.8,baz=74,slow=7.9,SNR=8.9
SFJD LR LR 20 30 56.9
comp=Z,104nm,20.0s,MS3.9,baz=37,slow=36
SFJD Kangerlussuaq 53.90 332 *i* P **P 20 08 27.0 -0.8**
comp=Z,14nm,1.3s,mb4.7
LSA Lhasa 54.00 76 P **P 20 08 31.0 +1.9**
LSA Lhasa 54.00 76 *eP* **P 20 08 30.1 +1.0**
LSA *e* 20 09 35.7
LSA pmax pmax
comp=Z,15nm,0.8s,mb5.0
LSA Lhasa 54.00 76 *eP* **P 20 08 30.1 +1.0**
comp=Z,15nm,0.8s,mb5.0
LSA *e*PcP PcP 20 09 35.7 +1.7
LSA Lhasa 54.00 76 *eP* **P 20 08 30.1 +1.0**
comp=Z,15nm,0.8s,mb5.0
TSUM Tsumeb 54.07 191 *eP* **P 20 08 32.0 +2.6**
comp=Z,21nm,0.8s,mb5.1
TSUM Tsumeb 54.07 191 P **P 20 08 32.2 +2.7**
comp=Z,21nm,0.7s,mb5.2,baz=349,slow=9.4,SNR=34
MOY Mondy 54.55 47 *eP* **P 20 08 34.6 +1.9**
MOY pmax pmax
comp=Z,31nm,1.8s,mb5.0
TLY Talaya 56.15 47 P **P 20 08 43.0 -1.2**
comp=Z,119nm,1.0s,mb5.9,SNR=6.4
TLY Talaya 56.15 47 *eP* **P 20 08 45.1 +0.9**
TLY pmax pmax
comp=Z,24nm,1.0s,mb5.2
TLY MLR MLR
comp=Z,161nm,25.0s,MS4.0
TLY Talaya 56.15 47 *eP* **P 20 08 45.8 +1.5**
comp=Z,21nm,1.1s,mb5.1
TLY Talaya 56.15 47 *eP* **P 20 08 45.8 +1.6**
comp=Z,21nm,1.1s,mb5.1
OPO Ambohidratompo 56.23 156 P **P 20 08 48.6 +3.5**
comp=Z,2.7nm,0.7s,mb4.4,baz=340,slow=7.4,SNR=5.8
ZAK Zakamensk 56.25 48 *eP* **P 20 08 46.0 +1.0**
ZAK pmax pmax
comp=Z,16nm,0.9s,mb5.0
SHL Shillong 56.28 80 *eP* **P 20 08 46.5 +0.9**
IRK Irkutsk 56.38 46 *eP* **P 20 08 46.4 +0.5**
IRK *e* 20 10 50.0
IRK pmax pmax
comp=Z,48nm,1.4s,mb5.3
GTA Gaotai 57.17 62 ⇓P **P 20 08 52.6 +0.9**
GTA AP pP 20 09 02.8 +1.2
GTA XP sP 20 09 07.3 +1.8
GTA AMB AMB
comp=Z,17nm,0.9s,mb5.1
SONM Songino Array 58.94 51 P **P 20 09 05.3 +1.3**
comp=Z,21nm,0.7s,mb5.3,baz=291,slow=8.2,SNR=199
ULN Ulaanbaatar 59.35 50 *eP* **P 20 09 07.8 +1.0**
ULN pmax pmax
comp=Z,23nm,0.8s,mb5.3
ULN Ulaanbaatar 59.35 50 *eP* **P 20 09 07.8 +1.0**
comp=Z,23nm,0.8s,mb5.3
ULN Ulaanbaatar 59.35 50 *eP* **P 20 09 07.8 +1.0**
comp=Z,23nm,0.8s,mb5.3
BOD Bodaibo 60.22 38 *eP* **P 20 09 12.1 -0.5**
BOD pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LZH Lanzhou 61.36 64 ⇑P **P 20 09 21.8 +1.1**
LZH AP pP 20 09 31.5 +0.7
LZH XP sP 20 09 36.0 +1.4
LZH PP PP 20 11 36.6 +0.8
LZH *e*S **S 20 17 36.0 -3.2**
LZH XS sS 20 17 53.0 -2.7
LZH *e*SS SS 20 21 40.8 +1.1
LZH AMB AMB
comp=Z,27nm,1.5s,mb5.2
LZH AMB AMB
comp=Z,159nm,4.6s
LZH LR LR
comp=E,603nm,15.6s
LZH LR LR
comp=Z,561nm,17.4s,MS4.8
TIXI Tiksi 61.37 21 *eP* **P 20 09 18.5 -1.7**
TIXI pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
TIXI Tiksi 61.37 21 *eP* **P 20 09 19.5 -0.7**
comp=Z,7.7nm,0.8s,mb4.9
TIXI Tiksi 61.37 21 *eP* **P 20 09 19.5 -0.7**
comp=Z,7.7nm,0.8s,mb4.9
BOSA Boshof 62.75 181 P **P 20 09 32.6 +2.7**
comp=Z,8.9nm,0.4s,mb5.3,baz=27,slow=8.1,SNR=44
CD2 Chengdu 63.45 69 P **P 20 09 35.4 +0.6**
CD2 AP pP 20 09 45.9 +1.1
CD2 XP sP 20 09 50.8 +2.1
CD2 PP PP 20 11 56.5 +2.2
CD2 S **S 20 18 03.4 -2.2**
CD2 XS sS 20 18 20.3 -1.9
CD2 SS SS 20 22 11.8 -0.7
CD2 AMB AMB
comp=Z,60nm,0.8s,mb5.8
CD2 AMB AMB
comp=Z,210nm,5.2s
CD2 LR LR
comp=N,100nm,15.6s
CD2 LR LR
comp=Z,160nm,14.4s,MS4.3
SCHQ Schefferville 64.54 320 *eP* **P 20 09 41.7 +0.2**
comp=Z,14nm,0.5s,mb5.3
SCHQ Schefferville 64.54 320 P **P 20 09 41.8 +0.2**
comp=Z,12nm,0.4s,mb5.3,baz=69,slow=4.3,SNR=101
SCHQ LR LR 20 35 54.4
comp=Z,117nm,21.0s,MS4.0,baz=97,slow=34
SCHQ Schefferville 64.54 320 *eP* **P 20 09 41.7 +0.2**
comp=Z,14nm,0.5s,mb5.3
RES Resolute Bay 64.66 345 *eP* **P 20 09 42.0 -0.1**
HHC Hu-ho-hao-te 64.96 57 ⇑*i*P **P 20 09 46.0 +1.4**
HHC AP pP 20 09 56.5 +1.9
HHC XP sP 20 10 00.3 +1.8
HHC PCP PcP 20 10 18.8 +1.3
HHC PP PP 20 12 10.0 +2.6
HHC SCP 20 14 17.1
HHC S **S 20 18 24.4 +0.3**
HHC XS sS 20 18 41.0 +0.3
HHC SCS ScS 20 19 35.0 -2.0
HHC SS SS 20 22 38.1 +2.4
HHC AMB AMB
comp=Z,64nm,1.1s,mb5.6
HHC AMB AMB
comp=Z,138nm,7.0s
HHC LR LR
comp=N,136nm,13.7s,MS4.5
HHC LR LR
comp=E,131nm,13.3s,MS4.5
HHC LR LR
comp=Z,118nm,13.4s,MS4.2
CHG Chiang Mai 65.21 84 ⇓P **P 20 09 48.6 +2.1**
comp=Z,14nm,0.7s,mb5.1
CHTO Chiang Mai 65.21 84 *eP* **P 20 09 45.9 -0.6**
CHTO pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
CHTO Chiang Mai 65.21 84 *eP* **P 20 09 45.9 -0.6**
comp=Z,7.8nm,0.7s,mb4.8
CHTO Chiang Mai 65.21 84 *eP* **P 20 09 45.9 -0.6**
comp=Z,7.8nm,0.7s,mb4.8
KMI Kunming 65.25 76 P **P 20 09 45.3 -1.4**
KMI AP pP 20 09 58.9 +2.1
KMI XP sP 20 10 02.8 +2.2
KMI AMB AMB
comp=Z,15nm,0.9s,mb5.0
KMI AMB AMB
comp=Z,96nm,5.3s
KMI LR LR
comp=Z,69nm,21.1s,MS3.8
YAK Yakutsk 65.84 30 *eP* **P 20 09 49.4 -0.4**
XAN Xi'an 66.00 64 P **P 20 09 51.9 +0.5**
XAN AMB AMB
comp=Z,26nm,0.7s,mb5.4
HIA Hailar 66.61 45 *eP* **P 20 09 56.0 +1.0**
HIA pmax pmax
comp=Z,65nm,1.1s
HIA Hailar 66.61 45 *eP* **P 20 09 56.0 +0.9**
comp=Z,66nm,1.1s,mb5.6
HIA Hailar 66.61 45 *eP* **P 20 09 56.0 +1.0**
comp=Z,66nm,1.1s,mb5.6
NANT Nan 66.66 83 ⇓P **P 20 09 53.5 -2.3**
comp=Z,188nm,0.9s,mb6.1
SUR Sutherland 66.72 185 P **P 20 09 59.4 +3.7**
comp=Z,204nm,1.8s,mb5.9,SNR=6.2
GYA Guiyang 67.74 73 ⇓*i*P **P 20 10 02.8 +0.2**
GYA AP pP 20 10 14.9 +2.2
GYA XP sP 20 10 19.1 +2.6
GYA PCP PcP 20 10 30.6 +1.3
GYA PP PP 20 12 34.8 +2.8
GYA SCP 20 14 29.9
GYA PCS 20 14 34.1
GYA S S 20 18 56.0 -2.2
GYA XS sS 20 19 14.6 -0.3
GYA SKS 20 19 54.4
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,120nm,5.8s
GYA LR LR
comp=N,760nm,20.4s,MS5.0
GYA LR LR
comp=E,540nm,19.2s,MS5.0
GYA LR LR
comp=Z,780nm,19.0s,MS5.0
BJI Beijing 68.48 56 P **P 20 10 07.8 +0.8**
BJI S S 20 19 03.8 -2.9
BJI AMB AMB
comp=Z,27nm,0.8s,mb5.3
BJT Baijiatuau 68.48 56 *eP* **P 20 10 07.2 +0.2**
BJT pmax pmax
comp=Z,26nm,1.0s
BJT Baijiatuau 68.48 56 *eP* **P 20 10 07.2 +0.2**
comp=Z,26nm,1.0s,mb5.2
BJT Baijiatuau 68.48 56 *eP* **P 20 10 07.2 +0.2**
comp=Z,26nm,1.0s,mb5.2
CN2 Changchun 72.69 49 *eP* **P 20 10 32.8 +0.2**
CN2 *e*XP sP 20 10 47.6 +1.0
CN2 *e*S S 20 19 51.8 -3.7
CN2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
CN2 AMB AMB
comp=Z,200nm,4.0s
CN2 LR LR
comp=N,300nm,21.0s,MS4.8
CN2 LR LR
comp=E,400nm,21.0s,MS4.8
CN2 LR LR
comp=Z,500nm,22.0s,MS4.8
BILL Bilibino 73.42 15 *eP* **P 20 10 35.9 -0.6**
BILL *e* 20 10 52.1
BILL *e*SS SS 20 24 46.7 +2.1
BILL pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
KLR Kul'dur 73.45 41 ⇑*i*P **P 20 10 33.7 -3.3**
KLR pmax pmax
comp=E,20nm,1.0s
KLR pmax pmax
comp=Z,40nm,1.0s,mb5.3
PSI Prapat 73.78 98 P **P 20 10 41.4 +1.9**
comp=Z,19nm,0.6s,mb5.2,baz=299,slow=4.6,SNR=20
KULM Kulim 73.79 95 *eP* **P 20 10 39.7 +0.2**
KULM Kulim 73.79 95 *eP* **P 20 10 39.7 +0.2**
ACCN Adirondack Com 73.92 312 *eP* **P 20 10 41.7 +1.9**
QIZ Qiongzhong 73.98 78 *eP* **P 20 10 40.9 +0.3**
comp=Z,9.6nm,0.6s,mb4.9
QIZ Qiongzhong 73.98 78 *eP* **P 20 10 40.8 +0.2**
comp=Z,9.6nm,0.6s,mb4.9
MDJ Mudanjiang 74.77 46 P **P 20 10 44.5 -0.3**
MDJ AP pP 20 10 54.5 -0.5
MDJ XP sP 20 10 57.8 -1.0
MDJ PCP PcP 20 10 59.5 +0.7
MDJ S S 20 20 15.6 -3.4
MDJ SCS ScS 20 20 53.8 -0.3
MDJ SS SS 20 25 08.8 +2.5
MDJ AMB AMB
comp=Z,17nm,0.7s,mb5.1
MDJ AMB AMB
comp=Z,51nm,5.3s
MDJ Mudanjiang 74.77 46 *eP* **P 20 10 46.0 +1.2**
comp=Z,12nm,0.8s,mb4.9
MDJ Mudanjiang 74.77 46 *eP* **P 20 10 46.0 +1.2**
comp=Z,12nm,0.8s,mb4.9
FCC Fort Churchill 74.91 332 *eP* **P 20 10 45.6 +0.3**
MA2 Magadan 75.56 26 *eP* **P 20 10 49.5 +0.5**
MA2 *e*S S 20 20 26.9 -0.4
MA2 *e*SSS 20 28 33.7
MA2 pmax pmax
comp=Z,10.0nm,0.9s,mb4.8
MA2 Magadan 75.56 26 *eP* **P 20 10 49.5 +0.5**
comp=Z,11nm,0.9s,mb4.8
MA2 Magadan 75.56 26 *eP* **P 20 10 49.5 +0.5**
comp=Z,11nm,0.9s,mb4.8
HABR Khabarovsk 75.68 41 *eP* **P 20 10 48.9 -1.0**
HABR *e*S S 20 20 30.0 +1.1
HABR *e* 20 20 48.8
HABR *e* 20 21 00.4
HABR *e* 20 25 23.3
INK Inuvik 76.48 353 *eP* **P 20 10 53.4 -0.7**
comp=Z,208nm,0.8s,mb6.1
INK Inuvik 76.48 353 *eP* **P 20 10 53.4 -0.7**
comp=Z,208nm,0.8s,mb6.1
VLA Vladivostok 76.99 46 *eP* **P 20 10 56.9 -0.6**
VLA pmax pmax
comp=Z,68nm,1.0s,mb5.5
MVL Millersville 77.45 310 *eP* **P 20 11 01.3 +1.2**
KSRS Korea Array 77.69 53 P **P 20 11 02.0 +0.5**
comp=Z,18nm,0.7s,mb5.1,baz=302,slow=4.9,SNR=80
KSRS LR LR 20 52 07.5
comp=Z,40nm,20.2s,MS3.7,baz=315,slow=41
YKA Yellowknife Ar 78.50 343 P **P 20 11 05.3 -0.2**
comp=Z,5.3nm,0.7s,mb4.6,baz=30,slow=5.6,SNR=80
YKA LR LR 20 42 30.4
comp=Z,54nm,21.4s,MS3.9,baz=170,slow=33
IMA2 Indian Mountai 79.79 0 *eP* **P 20 11 12.8 +0.3**
IMA2 Indian Mountai 79.79 0 *eP* **P 20 11 12.9 +0.4**
EGAK Eagle 80.63 355 *eP* **P 20 11 17.0 0.0**
comp=Z,7.1nm,0.8s,mb4.7
EGAK Eagle 80.63 355 *eP* **P 20 11 17.0 0.0**
comp=Z,7.1nm,0.8s,mb4.7
YSS Yuzh-Sakhalins 80.69 39 *eP* **P 20 11 17.6 -0.1**
YSS pmax pmax
comp=Z,142nm,2.7s,mb5.4
FFC Flin Flon 80.84 333 P **P 20 11 18.0 -0.3**
comp=Z,146nm,0.5s,mb6.2,SNR=9.0
FFC Flin Flon 80.84 333 *eP* **P 20 11 18.3 0.0**
FFC pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
FFC Flin Flon 80.84 333 *eP* **P 20 11 18.3 0.0**
comp=Z,9.5nm,0.6s,mb4.9
FFC Flin Flon 80.84 333 *eP* **P 20 11 18.3 0.0**
comp=Z,9.4nm,0.6s,mb4.9
COLA College 80.90 358 *eP* **P 20 11 17.7 -0.8**
COWI Conover 81.14 321 *eP* **P 20 11 20.8 +0.6**
comp=Z,15nm,0.9s,mb4.9
COWI Conover 81.14 321 *eP* **P 20 11 20.8 +0.6**
comp=Z,15nm,0.9s,mb4.9
DAWY Dawson 81.19 354 *eP* **P 20 11 20.3 +0.3**
DAWY Dawson 81.19 354 *eP* **P 20 11 20.3 +0.3**
ULM Lac du Bonnet 81.59 327 *eP* **P 20 11 21.7 -0.7**
comp=Z,5.8nm,0.4s,mb4.9
ULM Lac du Bonnet 81.59 327 P **P 20 11 22.3 -0.2**
comp=Z,8.9nm,0.5s,mb4.9,baz=38,slow=5.8,SNR=18
ULM LR LR 20 46 37.9
comp=Z,104nm,19.3s,MS4.2,baz=22,slow=35
ULM Lac du Bonnet 81.59 327 *eP* **P 20 11 21.7 -0.7**
comp=Z,5.8nm,0.4s,mb4.9
MTP Monte Pirata 81.78 286 *eP* **P 20 11 24.5 +0.5**
TTA Tatalina 82.92 1 *eP* **P 20 11 29.5 +0.4**
TTA pmax pmax
comp=Z,3.0nm,0.5s,mb4.6
TTA Tatalina 82.92 1 *eP* **P 20 11 29.5 +0.4**
comp=Z,3.2nm,0.5s,mb4.6
KSM Kuching 83.89 92 *eP* **P 20 11 36.6 +1.6**
PMR Palmer 84.23 358 *eP* **P 20 11 35.6 -0.3**
PMR pmax pmax
comp=Z,8.0nm,0.6s,mb5.0
PMR Palmer 84.23 358 *eP* **P 20 11 35.5 -0.3**
comp=Z,7.9nm,0.6s,mb5.0
PMR Palmer 84.23 358 *eP* **P 20 11 35.5 -0.4**
comp=Z,7.9nm,0.6s,mb5.0
TKL Tuckaleechee C 84.75 310 P **P 20 11 37.6 -1.4**
SVW2 Sparrevohn 84.77 1 *eP* **P 20 11 39.1 +0.5**
MAJO Matsushiro 84.83 49 *eP* **P 20 11 38.6 -0.8**
MAJO pmax pmax
comp=Z,42nm,1.0s,mb5.5
MAJO Matsushiro 84.83 49 *eP* **P 20 11 38.6 -0.8**
comp=Z,42nm,1.0s,mb5.5
MAJO Matsushiro 84.83 49 *eP* **P 20 11 38.6 -0.8**
comp=Z,42nm,1.0s,mb5.5
MAT Matsushiro 84.83 49 P **P 20 11 39.6 +0.2**
MJAR Matsushiro Arr 84.83 49 P **P 20 11 40.0 +0.5**
comp=Z,31nm,0.8s,mb5.5,baz=308,slow=4.7,SNR=113
SLKM Skilak Lake 85.34 358 *eP* **P 20 11 41.6 +0.1**
CPCT Cooper Cave 85.36 310 *eP* **P 20 11 43.3 +1.2**
SDDR Presa de Saban 85.79 290 *eP* **P 20 11 46.8 +2.3**
comp=Z,12nm,0.6s,mb5.3
EDM Edmonton 86.03 337 *eP* **P 20 11 45.6 +0.5**
EDM Edmonton 86.03 337 *eP* **P 20 11 45.5 +0.4**

Code	Station Name	Δ°	AZ°	Op	ISC	Time h m s	Res ISC
SWET	Sewanee	86.39	311	eP	P	20 11 47.5	+0.3
SWET	Sewanee	86.39	311	eP	P	20 11 47.5	+0.3
ECSD	EROS,Sioux Fal	86.62	323	eP	P	20 11 47.9	-0.3
	comp=Z,6.9nm,0.4s,mb5.2						
ECSD	EROS,Sioux Fal	86.62	323	eP	P	20 11 47.9	-0.2
	comp=Z,6.9nm,0.4s,mb5.2						
BDFB	Brasilia	86.63	249	P	P	20 11 51.5	+3.0
	comp=Z,10nm,0.7s,mb5.2,baz=56,slow=10.0,SNR=23						
FVM	French Village	87.28	315	eP	P	20 11 52.3	+0.8
FVM				pmax	pmax		
	comp=Z,24nm,0.8s,mb5.5						
FVM	French Village	87.28	315	eP	P	20 11 52.3	+0.8
	comp=Z,24nm,0.8s,mb5.5						
CCM	Cathedral Cave	87.71	316	eP	P	20 11 54.0	+0.5
CCM				pmax	pmax		
	comp=Z,16nm,0.6s,mb5.4						
CCM	Cathedral Cave	87.71	316	eP	P	20 11 54.0	+0.4
	comp=Z,16nm,0.6s,mb5.4						
CCM	Cathedral Cave	87.71	316	eP	P	20 11 54.0	+0.5
	comp=Z,16nm,0.6s,mb5.4						
PLAL	Pickwick Lake	87.88	312	eP	P	20 11 54.0	-0.4
	comp=Z,4.3nm,0.7s,mb4.8						
PLAL	Pickwick Lake	87.88	312	eP	P	20 11 54.0	-0.4
	comp=Z,4.3nm,0.7s,mb4.8						
KDAK	Kodiak Island	88.11	360	P	P	20 11 55.3	+0.3
	comp=Z,82nm,0.7s,mb6.1,SNR=5.2						
KDAK	Kodiak Island	88.11	360	eP	P	20 11 55.2	+0.2
	comp=Z,18nm,1.1s,mb5.2						
CHMT	Chamberlain Mo	91.35	334	eP	P	20 12 10.8	+0.4
CHMT	Chamberlain Mo	91.35	334	eP	P	20 12 10.8	+0.4
MSO	Missoula	91.67	334	eP	P	20 12 12.3	+0.4
	comp=Z,2.1nm,0.5s,mb4.7						
MSO	Missoula	91.67	334	eP	P	20 12 12.3	+0.4
	comp=Z,2.1nm,0.5s,mb4.7						
DLMT	Dillon	92.42	333	eP	P	20 12 15.7	+0.3
HAWA	Hanford	93.95	337	eP	P	20 12 23.4	+0.9
	comp=Z,3.2nm,0.5s,mb5.0						
BMO	Blue Mountains	94.57	335	eP	P	20 12 19.9	-5.4
	comp=Z,3.0nm,0.5s,mb5.0						
HWUT	Hardware Ranch	95.15	330	P	P	20 12 26.3	-1.8
	comp=Z,6.7nm,0.6s,mb5.2						
HWUT	Hardware Ranch	95.15	330	P	P	20 12 26.3	-1.8
	comp=Z,6.7nm,0.6s,mb5.2						
CPUP	Villa Florida	99.87	245	LR	LR	21 00 50.8	
	comp=Z,108nm,21.4s,MS4.3,baz=249,slow=37						
NVAR	Mina Array Bea	100.55	333	P	Pdif	20 12 52.4	+0.1
NVAR	Mina Array Bea	100.55	333	P	Pdif	20 12 52.4	+0.1
	comp=Z,0.8nm,0.5s,baz=67,slow=3.9,SNR=3.6						
TXAR	Lajitas Array	101.12	317	P	Pdif	20 12 55.4	+0.5
	comp=Z,0.4nm,0.8s,baz=58,slow=12,SNR=4.0						
TXAR	Lajitas Array	101.12	317	P	Pdif	20 12 55.3	+0.5
WRA	Warramunga Arr	115.24	98	PKP	PKiKP	20 17 46.4	-0.1
	comp=Z,2.3nm,0.5s,baz=314,slow=1.7,SNR=28						
WRA				PKKPab	PKKPab	20 28 27.9	+1.9
	comp=Z,0.6nm,0.6s,baz=116,slow=3.8,SNR=9.3						
WB2	Warramunga Arr	115.25	98	ePKP	PKiKP	20 17 46.3	-0.2
ASAR	Alice Springs	116.67	101	PKP	PKPdf	20 17 48.6	-0.6
	comp=Z,3.1nm,0.6s,baz=307,slow=1.6,SNR=44						
ASAR				PKKPab	PKKPab	20 28 17.4	-2.1
	comp=Z,1.1nm,0.7s,baz=120,slow=3.9,SNR=7.2						
CTA	Charters Tower	125.12	91	ePKP	PKPdf	20 18 05.1	-0.4
	comp=Z,4.6nm,0.7s						
STKA	Stephens Creek	126.29	107	ePKP	PKPdf	20 18 07.5	+0.1
	comp=Z,5.2nm,0.7s						
STKA	Stephens Creek	126.29	107	PKP	PKPdf	20 18 08.1	+0.7
	comp=Z,5.3nm,0.6s,baz=327,slow=2.3,SNR=14						
VNDA	Vanda	132.63	168	PKP	PKPdf	20 18 20.1	+2.0
	comp=Z,0.7nm,0.8s,baz=288,slow=3.2,SNR=3.9						

*ISCJB **21** 20:04:56.2±1.7, 163S±03×1762W±03, h337km±30km, mb4.2/10, Error ellipse: s-maj=44.9km s-min=35.8km az=147.0*

*NEIC **21** 20:04:58.2±0.8, 16.19S×175.99W, h365km±9km, mb4.4/5, Error ellipse: s-maj=31.0km s-min=10.4km az=150.0*

*IDC **21** 20:05:09.2±20.0, 1636S×17637W, h458km±199km, mb3.8/5, mb1 4.0/5, mb1mx3.5/14, mbtmp3.8/5, Error ellipse: s-maj=112.7km s-min=36.2km az=83.0*

ISC 21 20:04:57.3±1.7, **164S**±03×**1761W**±03, **h337**km±31km, **n27**, σ0^{s}33/15, **mb4.2**/10, **1D, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.88	60	eP	Pn	20 06 15.0	0.0
STKA	Stephens Creek	41.26	240	eP	P	20 12 11.4	+0.7
	7.3nm,1.3s,mb3.8						
STKA	Stephens Creek	41.26	240	eP	P	20 12 11.2	+0.5
STKA	Stephens Creek	41.26	240	P	P	20 12 11.8	+1.0
	2.9nm,0.3s,mb4.0,baz=75,slow=11,SNR=37						
WB2	Warramunga Arr	47.05	258	eP	P	20 12 56.3	-0.1
WRAB	Tennant Creek	47.05	258	eP	P	20 12 56.3	-0.1
	9.2nm,0.5s,mb4.3						
WRA	Warramunga Arr	47.06	258	P	P	20 12 56.2	-0.3
	12nm,0.5s,mb4.4,baz=92,slow=6.8,SNR=313						
ASAR	Alice Springs	47.30	253	P	P	20 12 58.6	+0.4
	26nm,0.5s,mb4.7,baz=88,slow=7.6,SNR=882						
KAKA	Kakadu	49.81	267	eP	P	20 13 17.5	+0.2
	6.5nm,0.3s,mb4.3						
FORT	Forrest	52.62	244	eP	P	20 13 37.5	-0.3
	22nm,0.7s,mb4.6						
FITZ	Fitzroy Crossi	55.44	259	eP	P	20 13 58.3	+0.1
	3.7nm,0.7s,mb3.8						
MBWA	Marble Bar	60.56	255	eP	P	20 14 33.2	-0.2
KLBR	Kellerberrin	61.45	243	eP	P	20 14 38.6	-0.6
	12nm,0.6s,mb4.5						
KSRS	Korea Array	75.05	317	P	P	20 16 02.9	+0.2
	0.3nm,0.3s,mb3.5,baz=149,slow=6.5,SNR=4.2						
MAW	Mawson	86.00	199	P	P	20 17 00.0	+0.1
	2.5nm,1.0s,mb4.0,baz=113,slow=7.7,SNR=3.7						
BVAR	Borovoye Array	117.04	322	PKP	PKPdf	20 23 00.2	-1.9
	0.5nm,0.5s,baz=62,slow=3.4,SNR=3.9						
ARCES	ARCESS Array B	125.20	351	PKP	PKPdf	20 23 14.9	-2.5
	1.3nm,0.7s,baz=22,slow=1.0,SNR=6.4						
KMBO	Kilima Mbogo	142.73	245	PKP	PKPdf	20 23 49.0	-2.8
KMBO	Kilima Mbogo	142.73	245	PKP	PKPdf	20 23 49.0	-2.8
	1.4nm,0.6s,baz=256,slow=23,SNR=5.3						
STHS	Stebnicka Huta	144.16	341	ePKP	PKPdf	20 23 51.5	-1.6
CLL	Collm	144.41	350⇓	iPKPdf	PKPdf	20 23 50.4	-3.1
	comp=Z,5.0nm,0.8s						
CRVS	Cervenica-Dubn	144.54	340	ePKP	PKPdf	20 23 51.7	-2.1
MLR	Muntele Rosu	145.59	332	PKPbc	PKPbc	20 23 54.4	-2.2
	comp=Z,2.2nm,0.7s,baz=21,slow=3.4,SNR=12						
VYHS	Vyhne	145.72	342	ePKP	PKPdf	20 23 55.6	-0.2
GERES	GERESS Array B	146.65	348	PKPbc	PKPbc	20 23 57.5	-2.1
	comp=Z,0.5nm,0.6s,baz=23,slow=4.4,SNR=6.0						
MMAI	Mount Meron Ar	147.08	306	PKPbc	PKPbc	20 24 00.2	-1.1
	comp=Z,1.6nm,0.5s,baz=74,slow=6.2,SNR=7.0						
DAVOX	Davos/Dischmat	149.29	352	PKPbc	PKPbc	20 24 05.3	-1.2
	comp=Z,2.2nm,0.5s,baz=279,slow=13,SNR=6.4						

*NEIC **21** 20:19:50.1, 3485S×7191W, h24km, ML3.4(GUC), After GUC.*

GUC 21 20:19:50.1±0.8, **3485S**×**7191W**, **h24**km±14km, **MD3.9, ML3.4, 3C-3D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	Los Niches	0.58	106	eP	Pb	20 20 01.3	-0.3
NICH				i S	Sb	20 20 09.7	+0.4
SFDO	San Fernando	0.77	73⇑	iP	Pb	20 20 05.0	+0.2
SFDO				i S	Sb	20 20 14.9	+0.1
CACH	El Canelo	1.30	56⇑	iP	Pn	20 20 13.2	+0.4
CACH				i S	Sn	20 20 30.3	+0.9
CICH	Cipreses	1.33	67⇓	iP	Pn	20 20 13.2	0.0
CICH				i S	Sn	20 20 30.4	+0.2
CHCH	Chadas Angostu	1.38	49	eP	Pn	20 20 14.2	+0.4
CHCH				i S	Sn	20 20 32.0	+0.7
TACH	Talagante	1.44	34	eP	Pn	20 20 15.0	+0.4
TACH				i S	Sn	20 20 33.8	+1.1
COCH	Cobquecura	1.47	209⇓	iP	Pn	20 20 15.1	0.0
COCH				i S	Sn	20 20 34.3	+0.7
PCH	Pirque	1.68	44⇓	iP	Pn	20 20 18.6	+0.6
PCH				i S	Sn	20 20 40.6	+1.8
LMEL	Las Melosas	1.73	55	eP	Pn	20 20 19.3	+0.7
LMEL				i S	Sn	20 20 41.8	+2.0
LMEL	Las Melosas	1.73	55	eP	Pn	20 20 19.3	+0.7
LMEL				i S	Sn	20 20 41.8	+2.0
LMEL				AML	AML	20 20 47.3	
	comp=N,526nm,0.1s						
SJCH	San Jose de Ma	1.76	47	eP	Pn	20 20 20.3	+1.2
SJCH				i S	Sn	20 20 43.9	+3.2
CLCH	Cerro Calan	1.84	38⇑	eP	Pn	20 20 21.1	+0.9
CLCH				i S	Sn	20 20 44.9	+2.2
CLCH				AML	AML	20 20 55.0	
	comp=E,721nm,0.5s						
PEL	Peldehue	1.98	31	eP	Pn	20 20 23.1	+1.0
PEL				i S	Sn	20 20 49.0	+2.9
FCH	Farellones	2.02	42	eP	Pn	20 20 23.4	+0.8
FCH				i S	Sn	20 20 50.3	+3.1
FCH				AML	AML	20 20 54.2	
	comp=N,440nm,0.4s						

IDC 21 21:00:13.1±11.0, **2177N**×**14307E, h135**km±107km, **mb3.4**/9, **mb1 3.6**/9, **mb1mx3.5**/19, **mbtmp3.4**/9, **MS3.1**/1, **Ms1 3.1**/1, **ms1mx2.5**/17, **Error ellipse: s-maj=42.4km s-min=15.9km az=83.0, Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.39	323	P	P	21 04 39.5	+0.3
	2.4nm,0.6s,baz=142,slow=8.2,SNR=13						
SONM	Songino Array	39.22	320	P	P	21 07 27.8	-0.1
	0.9nm,0.5s,baz=122,slow=6.4,SNR=9.0						
WRA	Warramunga Arr	42.32	192	P	P	21 07 53.6	0.0
	0.6nm,0.7s,baz=13,slow=8.8,SNR=5.3						
ASAR	Alice Springs	46.03	192	P	P	21 08 23.6	+0.5
	0.4nm,0.6s,baz=17,slow=7.6,SNR=4.2						
STKA	Stephens Creek	53.36	182	P	P	21 09 17.8	-0.6
	4.8nm,1.1s,baz=280,slow=7.2,SNR=3.7						
ZALV	Zalesovo Beam	54.09	322	P	P	21 09 22.9	-0.7
	0.8nm,0.6s,baz=100,slow=7.5,SNR=5.7						
ZALV				LR	LR	21 31 08.9	
	comp=Z,17nm,18.2s,baz=59,slow=34						
MKAR	Makanchi Array	54.57	313	P	P	21 09 27.9	+0.7
	0.2nm,0.3s,baz=94,slow=8.9,SNR=4.4						
YKA	Yellowknife Ar	76.45	28	P	P	21 11 48.0	+0.5
	0.6nm,0.5s,baz=291,slow=5.8,SNR=9.0						
NVAR	Mina Array Bea	83.19	51	P	P	21 12 24.4	0.0
	0.7nm,0.6s,baz=270,slow=5.4,SNR=2.7						

IDC 21 21:29:34.6±10.0, **736S**×**13100E, h169**km±79km, **mb3.7**/1, **mb1 3.6**/3, **mb1mx3.1**/12, **mbtmp3.4**/3, **Error ellipse: s-maj=306.0km s-min=70.9km az=83.0, Tanimbar Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	12.92	166	P	Pn	21 32 31.3	-0.8
	0.5nm,0.3s,baz=344,slow=13,SNR=14						
WRA				S	Sn	21 34 56.7	+1.2
	0.6nm,0.3s,baz=340,slow=25,SNR=6.9						
ASAR	Alice Springs	16.45	171	P	Pn	21 33 16.8	+1.0
	0.6nm,0.3s,baz=344,slow=9.7,SNR=27						
ASAR				S	S	21 36 18.1	-0.5
	0.1nm,0.3s,baz=336,slow=17,SNR=3.4						
STKA	Stephens Creek	26.32	159	P	P	21 34 54.6	0.0
	2.6nm,0.8s,baz=336,slow=9.0,SNR=5.2						

*ISCJB **21** 21:53:56.7±0.7, 219N±0.1×1429E±02, h33km, mb3.9/9, MS2.6/2, Error ellipse: s-maj=27.4km s-min=17.0km az=171.8*

*NEIC **21** 21:53:56.1±0.6, 2200N×14270E, h20km, mb4.5/3, Error ellipse: s-maj=23.0km s-min=14.2km az=81.0*

*IDC **21** 21:54:05.0±9.5, 2185N×14301E, h95km±87km, mb3.4/8, mb1 3.7/8, mb1mx3.6/19, mbtmp3.4/8, MS2.9/3, Ms1 2.9/3, ms1mx2.7/17, Error ellipse: s-maj=39.0km s-min=18.2km az=85.0*

ISC 21 21:53:58.5±0.7, **219N**±01×**1431E**±02, **h35**km, **n14**, σ0^{s}90/12, **mb3.9**/9, **MS2.6**/2, **Mariana Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	15.23	345	LR	LR	22 02 49.2	
	comp=Z,87nm,20.5s,baz=265,slow=34						
KSRS	Korea Array	20.32	323	P	P	21 58 32.9	+1.4
	2.1nm,0.6s,baz=143,slow=8.4,SNR=14						
KSRS				LR	LR	22 05 40.6	
	comp=Z,21nm,20.1s,MS2.5,baz=205,slow=34						
ASAJ	Asahikawa	22.20	359	LR	LR	22 06 49.0	
	comp=Z,32nm,20.0s,MS2.8,baz=182,slow=34						
ULN	Ulaanbaatar	38.77	321	eP	P	22 01 14.9	-4.6
	12nm,1.5s,mb4.4						
WRA	Warramunga Arr	42.41	192	P	P	22 01 49.9	+0.1
	1.3nm,0.7s,mb3.7,baz=17,slow=9.4,SNR=10						
ASAR	Alice Springs	46.12	192	P	P	22 02 19.8	+0.3
	0.5nm,0.5s,mb3.7,baz=14,slow=12,SNR=9.8						
MKAR	Makanchi Array	54.50	313	P	P	22 03 23.7	+1.0
	0.6nm,0.6s,mb3.8,baz=93,slow=8.4,SNR=6.6						
BRVK	Borovoye	62.54	319	eP	P	22 04 17.4	-1.2
YKA	Yellowknife Ar	76.37	28	P	P	22 05 43.5	-0.3
YKA	Yellowknife Ar	76.37	28	P	P	22 05 43.5	-0.3
	1.2nm,0.6s,mb4.0,baz=292,slow=5.4,SNR=12						
FINES	FINESS Array B	82.98	334	P	P	22 06 19.2	-0.6
	0.3nm,0.5s,mb3.6,baz=64,slow=4.4,SNR=4.3						
NVAR	Mina Array Bea	83.13	51	P	P	22 06 21.7	+0.6
	1.3nm,0.8s,mb4.0,baz=270,slow=10,SNR=3.4						
FFC	Flin Flon	85.75	32	eP	P	22 06 34.4	+0.4
	2.9nm,1.1s,mb4.4						
AKASG	Malin Array Be	87.31	324	P	P	22 06 40.0	-1.6
	0.3nm,0.4s,mb3.9,baz=48,slow=4.3,SNR=3.3						

*NIED **21** 21:56:00, 4420N×137.10E, h340km, Mw4.3 Best double couple: M0 2.81000×10^15 NP1:φs64.00000°, δ88.00000°, λ140.00000°. NP2:φs156.00000°, δ50.00000°, λ2.00000°.*

*MOS **21** 21:56:53.7±1.0, 4441N×13703E, h301km, mb4.1/18, Error ellipse: s-maj=11.6km s-min=6.3km az=110.1*

*NEIC **21** 21:56:54.5±0.5, 4435N×13703E, h296km±6km, mb4.2/17, Error ellipse: s-maj=6.7km s-min=5.9km az=154.0*

*IDC **21** 21:56:54.5±0.9, 4436N×13702E, h295km±9km, mb3.8/18, mb1 3.8/24, mb1mx3.8/27, mbtmp3.8/24, Error ellipse: s-maj=10.2km s-min=8.1km az=89.0*

*JMA **21** 21:56:54.6±0.3, 4423N×137.10E, h323km±4km, M3.8*

*BJI **21** 21:56:54.2, 4454N×137.13E, h311km, mB4.3, mb4.3*

*ISCJB **21** 21:56:54.2±0.2, 4432N±003×13707E±004, h308km±2km, mb4.2/56, Error ellipse: s-maj=4.7km s-min=4.3km az=158.7*

*SKHL **21** 21:56:55.4±1.5, 4441N×13708E, h312km±8km, mb4.4/4, msh4.7/1*

ISC 21 21:56:54.9±0.2, **4430N**±003×**13709E**±004, **h302**km±2km, **n168**, σ0^{s}94/187, **mb4.2**/56, **17C-4D, Eastern Sea of Japan**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TEY	Ternei	0.81	335⇓	iP	Pn	21 57 35.3	+0.7
TEY				AMB	AMB	21 57 35.6	
	280nm,0.2s						
TEY				i S	S	21 58 05.6	-0.6
TEY				A		21 58 06.3	
	370nm,0.7s						
JSK	Shakotan	2.63	110	P	Pn	21 57 48.1	+0.9
JOSM	Okushiri--Mats	2.82	141	P	Pn	21 57 49.9	+0.8
JOSM				eS	S	21 58 32.5	+0.1
JWK2	Keihoku	3.57	72	P	Pn	21 57 58.3	+1.8
JKB	Kayabe	3.76	128	eS	S	21 58 49.6	-0.1
VLA	Vladivostok	3.94	254c	iP	Pn	21 58 01.3	+0.7
ASAJ	Asahikawa	3.97	91	P	Pn	21 58 01.6	+0.8
ASAJ				S	S	21 58 53.7	+0.1
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ				smax			
	comp=N,2.0nm,0.3s						
ASAJ	Asahikawa	3.97	91	P	Pn	21 58 01.6	+0.8
	comp=N,12nm,0.3s,baz=232,slow=11,SNR=65						
ASAJ				S	S	21 58 53.6	0.0
	comp=N,2.2nm,0.3s,baz=8.2,slow=31,SNR=2.8						
JSE	Soyaes	3.98	79	P	Pn	21 58 02.5	+1.6
JSE				S	S	21 58 55.0	+1.2
JKK2	Kamakawa 2	4.10	94	P	Pn	21 58 03.1	+0.8
JKK2				S	S	21 58 57.3	+1.0
JOT	Ohata	4.12	134	eS	S	21 58 55.7	-1.1
JFR	Furan	4.15	104	P	Pn	21 58 04.1	+1.3
JFR				eS	S	21 58 58.1	+0.8
HABR	Khabarovsk	4.41	342⇑	iP	Pn	21 58 05.9	+0.3
HABR				eS	S	21 59 02.7	+0.4
HABR				pmax	pmax		
	comp=Z,116nm,0.3s						
JNBK	Urakawa-nobuka	4.60	114	P	Pn	21 58 08.8	+0.9
YSS	Yuzh-Sakhalins	4.78	54	eP	Pn	21 58 08.7	-1.2
JCH	Churui	4.87	108	P	Pn	21 58 09.5	-1.5
JCH				eS	S	21 59 07.1	-5.0
JTKR	Abashiri--Toko	4.92	91	P	Pn	21 58 11.9	+0.4
JTKR				eS	S	21 59 10.9	-2.2
ERM	Erimo	4.99	115	eP	Pn	21 58 12.9	+0.5
ERM				pmax	pmax		
	comp=Z,77nm,0.4s						
ERM	Erimo	4.99	115	eP	Pn	21 58 12.9	+0.5
	comp=Z,77nm,0.4s						
ERM				eS	S	21 59 01.7	-13
MDJ	Mudanjiang	5.37	276	P	Pn	21 58 17.3	+0.5
MDJ				AMB	AMB		
	comp=Z,34nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,44nm,3.7s						
MDJ	Mudanjiang	5.37	276	eP	Pn	21 58 17.4	+0.6
	comp=Z,35nm,0.9s						
KLR	Kul'dur	6.14	325⇑	iP	Pn	21 58 21.2	-4.6
KLR				AMB	AMB	21 58 22.3	
	comp=Z,46nm,1.0s						
JMK	Ichinoseki	6.17	148	P	Pn	21 58 25.4	-1.0
JMK				eS	S	21 59 37.9	-2.2
NEM2	Nemuro 2	6.33	95	P	Pn	21 58 26.2	-2.0
NEM2				eS	S	21 59 37.0	-6.4
TYV	Tymovskoe	7.57	28	eP	Pn	21 58 44.0	+1.0
TYV				AMB	AMB	21 58 45.0	
	comp=Z,11nm,0.8s						
TYV				AMB	AMB	21 58 45.0	
	comp=Z,44nm,0.8s						
MAJO	Matsushiro	7.79	173	eP	Pn	21 58 46.1	+0.1
MAJO				pmax	pmax		
	comp=Z,18nm,0.6s						
MAJO	Matsushiro	7.79	173	eP	Pn	21 58 46.1	+0.1
	comp=Z,18nm,0.6s						
MAT	Matsushiro	7.79	173	P	Pn	21 58 46.2	+0.2
MAT				S	S	22 00 15.6	-0.5
MAT	Matsushiro	7.79	173	P	Pn	21 58 46.1	+0.1
MJAR	Matsushiro Arr	7.79	173	P	Pn	21 58 46.6	+0.6
	comp=Z,4.4nm,0.3s,baz=358,slow=11,SNR=50						
JRY	Ryogami san	8.39	170	P	Pn	21 58 52.0	-1.3
JRY				eS	S	22 00 26.3	-3.1
CN2	Changchun	8.40	271	eP	Pn	21 58 53.3	0.0
CN2				AMB	AMB		
	comp=Z,20nm,0.6s						
JOD2	Odawara 2	9.15	170	P	Pn	21 58 59.8	-2.9
JOD2				eS	S	22 00 39.1	-7.6
EKMR	Ekimchan	9.19	344	eP	Pn	21 59 00.5	-2.4
EKMR				AMB	AMB	21 59 02.6	
	comp=Z,4.0nm,0.5s						
KSRS	Korea Array	9.74	229	P	Pn	21 59 11.4	+1.7
	comp=Z,0.6nm,0.3s,baz=44,slow=12,SNR=15						
JIE	Ise	9.90	182	P	Pn	21 59 12.8	+1.0
JHJ	Hachijo jima 2	11.36	168	P	Pn	21 59 26.9	-2.7
	comp=Z,50nm,0.3s,baz=77,slow=4.8,SNR=18						
JHJ				S	S	22 01 24.5	-12
	comp=Z,6.5nm,0.3s,baz=77,slow=23,SNR=4.0						
ZEA	Zeya	11.43	329	eP	Pn	21 59 26.7	-3.5
ZEA				AMB	AMB	21 59 29.4	
	comp=Z,20nm,0.7s						
BMKR	Bomnak	11.71	336	eP	Pn	21 59 30.3	-3.3
BMKR				AMB	AMB	21 59 31.7	
	comp=Z,9.0nm,0.5s						
KROS	Kirovskiy	12.08	331	eP	Pn	21 59 34.2	-3.9
KROS				AMB	AMB	21 59 35.5	
	comp=Z,3.0nm,0.6s						
JNU	Nakatsue	12.16	206	P	Pn	21 59 38.0	-1.3
	comp=Z,0.6nm,0.3s,baz=16,slow=18,SNR=13						
HIA	Hailar	12.88	299	eP	Pn	21 59 47.4	-0.4
BJT	Baijiatuau	16.08	262	eP	P	22 00 22.7	-0.8
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	Baijiatuau	16.08	262	eP	P	22 00 22.7	-0.8
	comp=Z,7.8nm,0.7s						
MA2	Magadan	17.41	24	eP	P	22 00 37.1	-0.6
MA2				pmax	pmax		
	comp=Z,20nm,0.8s						
MA2	Magadan	17.41	24	eP	P	22 00 37.3	-0.4
	comp=Z,14nm,0.8s						
CBIJ	Chichi jima	17.65	165	P	P	22 00 41.0	+0.3
	comp=Z,7.6nm,0.3s,baz=255,slow=22,SNR=3.1						
CBIJ				S	S	22 03 48.4	+0.3
	comp=Z,4.4nm,0.3s,baz=196,slow=19,SNR=2.4						
YAK	Yakutsk	18.29	349	eP	P	22 00 43.0	-4.1
YAK				eS	S	22 03 52.8	-7.0
YAK				pmax	pmax		
	comp=N,16nm,1.0s						
YAK				pmax	pmax		
	comp=Z,31nm,1.0s						
YAK				pmax	pmax		
	comp=E,6.0nm,1.3s						
YAK				smax			
	comp=N,60nm,1.8s						
YAK				smax			
	comp=E,95nm,2.4s						
JOW	Kunigami	18.82	205	P	P	22 00 52.5	-0.7
	comp=E,1.0nm,0.3s,baz=138,slow=18,SNR=5.2						
BOD	Bodaibo	19.70	322	eP	P	22 00 59.1	-3.1
BOD				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SONM	Songino Array	21.51	290	P	P	22 01 19.9	-0.1
	comp=Z,1.6nm,0.4s,mb3.7,baz=77,slow=8.9,SNR=30						
SONM				ScP	ScP	22 08 18.3	+0.6
	comp=Z,0.4nm,0.7s,baz=116,slow=3.4,SNR=3.5						
ZAK	Zakamensk	23.56	297	eP	P	22 01 37.6	-1.0
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.5						
TIXI	Tiksi	27.72	354	eP	P	22 02 12.6	-2.9
TIXI				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb3.8						
TIXI	Tiksi	27.72	354	eP	P	22 02 12.7	-2.8
BILL	Bilibino	28.28	23	eP	P	22 02 18.6	-1.9
BILL				e*PP		22 03 12.4	
BILL				e*SP	sP	22 03 50.0	-3.4
BILL				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.1						
ZALV	Zalesovo Beam	34.80	305	P	P	22 03 16.4	-0.8
	comp=Z,4.2nm,0.4s,mb4.3,baz=92,slow=8.9,SNR=24						
ZALV				PcP	PcP	22 05 43.4	+0.5
	comp=Z,2.1nm,0.5s,baz=89,slow=1.8,SNR=9.3						
ZALV				ScP	ScP	22 08 59.1	+0.3
	comp=Z,1.6nm,0.6s,baz=101,slow=3.4,SNR=7.5						
MKAR	Makanchi Array	37.80	294	P	P	22 03 42.2	-0.4
	comp=Z,1.5nm,0.6s,mb3.6,baz=82,slow=12,SNR=14						
MKAR				PcP	PcP	22 05 52.6	+0.5
	comp=Z,0.2nm,0.6s,baz=72,slow=5.5,SNR=2.9						
KURK	Kurchatov	39.11	301	eP	P	22 03 53.3	0.0
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.1						
KURK	Kurchatov	39.11	301	eP	P	22 03 53.3	0.0
	comp=Z,5.3nm,0.6s,mb4.2						
SVW2	Sparrevohn	42.03	42	eP	P	22 04 17.0	0.0
IMA2	Indian Mountai	42.33	35	eP	P	22 04 18.3	-0.9
JIRN	Jiri	43.69	265	eP	P	22 04 31.5	+0.9
GUN	Gumba	43.76	266	eP	P	22 04 31.8	+0.6
KDAK	Kodiak Island	44.18	46	P	P	22 04 34.0	0.0
	comp=Z,5.3nm,0.5s,mb4.0,baz=289,slow=3.9,SNR=10.0						
KKN	Kakani	44.26	266	eP	P	22 04 36.1	+1.0
	comp=Z,14nm,0.6s,mb4.4						
PKI	Pulchoki	44.30	266	eP	P	22 04 36.9	+1.5
DMN	Daman	44.49	266	eP	P	22 04 38.4	+1.5
GKN	Gorkha	44.60	267	eP	P	22 04 38.1	+0.3
COLA	College	44.90	36	eP	P	22 04 38.7	-0.9
DANN	Dangsing	45.03	268	eP	P	22 04 42.1	+1.0
	comp=Z,58nm,0.6s,mb5.0						
SML	Sawmill	45.32	40	eP	P	22 04 43.7	+0.8
KOLN	Koldanda	45.48	267	eP	P	22 04 45.2	+0.6
SVE	Sverdlovsk	47.63	314	eP	P	22 05 00.9	+0.1
SVE				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.0						
EGAK	Eagle	47.70	35	eP	P	22 05 00.8	-0.5
ARU	Arti	48.85	314c	iP	P	22 05 09.6	-0.4
ARU				e		22 06 27.5	
ARU				e		22 07 05.1	
ARU				eS	S	22 11 49.3	-0.1
ARU				eSS	SS	22 15 19.4	-4.3
ARU				pmax	pmax		
	comp=Z,9.0nm,1.2s,mb4.0						
INK	Inuvik	49.54	29	eP	P	22 05 15.0	-0.1
INK	Inuvik	49.54	29	P	P	22 05 15.0	0.0
	comp=Z,7.6nm,0.4s,mb4.4,baz=293,slow=6.1,SNR=46						
DLBC	Dease Lake	55.05	40	eP	P	22 05 57.7	+2.3
KEV	Kevo	55.48	337	ep	P	22 05 56.6	-1.7
	comp=Z,4.7nm,0.4s,mb4.3						
KEV	Kevo	55.48	337	eP	P	22 05 56.6	-1.7
KEV				pmax	pmax		
	comp=Z,5.0nm,0.4s,mb4.3						
ARCES	ARCESS Array B	56.04	337	P	P	22 06 01.9	-0.4
	comp=Z,4.2nm,0.5s,mb4.1,baz=61,slow=8.4,SNR=36						

RES	**Resolute Bay**	**56.40**	**15**	*e*P	**P**	**22 06 03.9**	**-0.8**
HNR	**Honiara**	**57.35**	**153**	*e*P	**P**	**22 06 07.1**	**-5.0**
HNR				pmax	pmax		
	comp=Z,127nm,0.8s						
HNR	**Honiara**	**57.35**	**153**	*e*P	**P**	**22 06 07.1**	**-5.0**
	comp=Z,127nm,0.8s						
JOF	**Joensuu**	**58.03**	**329**	*e*p	**P**	**22 06 14.8**	**-1.4**
	comp=Z,8.7nm,0.5s,mb4.4						
YKW3	**Yellowknife Ar**	**59.18**	**31**	*e*P	**P**	**22 06 24.0**	**-0.1**
YKA	**Yellowknife Ar**	**59.23**	**31**	P	**P**	**22 06 24.5**	**+0.1**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.3s						
YKA	**Yellowknife Ar**	**59.23**	**31**	P	**P**	**22 06 24.5**	**+0.2**
	comp=Z,1.9nm,0.3s,mb4.0,baz=308,slow=6.4,SNR=38						
OBN	**Obninsk**	**60.38**	**319**	*e*P	**P**	**22 06 30.8**	**-1.5**
OBN				*e*		22 07 11.6	
OBN				*e**PP	pP	22 07 35.5	-2.8
OBN				*e*		22 08 45.9	
OBN				*e*SS	SS	22 18 24.8	0.0
OBN				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.1						
FINES	**FINESS Array B**	**60.88**	**329**	P	**P**	**22 06 35.0**	**-0.6**
	comp=Z,5.8nm,0.4s,mb4.4,baz=46,slow=8.3,SNR=65						
VSU	**Vasula**	**62.56**	**326**	*e*P	**P**	**22 06 46.3**	**-0.4**
KIV	**Kislovodsk**	**63.79**	**307**	*e*P	**P**	**22 06 53.7**	**-1.3**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.5						
KIV	**Kislovodsk**	**63.79**	**307**	*e*P	**P**	**22 06 53.6**	**-1.5**
	comp=Z,5.5nm,0.7s,mb4.3						
KIV	**Kislovodsk**	**63.79**	**307**	⇓*i*P	**P**	**22 06 56.4**	**+1.4**
WRA	**Warramunga Arr**	**63.97**	**183**	*i*P	**P**	**22 06 56.7**	**+0.4**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**63.97**	**183**	P	**P**	**22 06 56.8**	**+0.5**
	comp=Z,1.1nm,0.5s,mb3.7,baz=1.9,slow=7.0,SNR=31						
NOA	**NORSAR Array B**	**66.22**	**334**	P	**P**	**22 07 09.8**	**-0.5**
	comp=Z,5.2nm,0.7s,mb4.3,baz=39,slow=6.3,SNR=27						
ANN	**Anapa**	**66.23**	**310**	*e*P	**P**	**22 07 04.6**	**-6.0**
ANN				*e*		22 07 33.3	
ANN				*e**PP	pP	22 08 12.0	-6.0
ANN				*e*S	S	22 15 24.5	-10
ANN				pmax	pmax		
	comp=Z,19nm,1.5s,mb4.6						
AKASG	**Malin Array Be**	**66.61**	**319**	P	**P**	**22 07 12.5**	**-0.3**
AKASG	**Malin Array Be**	**66.61**	**319**	P	**P**	**22 07 12.5**	**-0.3**
	comp=Z,3.0nm,0.4s,mb4.4,baz=44,slow=6.4,SNR=31						
KIEV	**Kiev**	**66.62**	**319**	*e*P	**P**	**22 07 12.5**	**-0.4**
KIEV				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
KIEV	**Kiev**	**66.62**	**319**	*e*P	**P**	**22 07 12.5**	**-0.4**
	comp=Z,4.9nm,0.6s,mb4.4						
SUW	**Suwalki**	**67.04**	**324**	*e*P	**P**	**22 07 15.1**	**-0.5**
SUW	**Suwalki**	**67.04**	**324**	*e*P	**P**	**22 07 15.1**	**-0.4**
ASAR	**Alice Springs**	**67.69**	**183**	P	**P**	**22 07 21.2**	**+1.3**
	comp=Z,2.5nm,0.7s,mb4.1,baz=356,slow=5.9,SNR=30						
FCC	**Fort Churchill**	**68.94**	**26**	*e*P	**P**	**22 07 26.3**	**-0.9**
FFC	**Flin Flon**	**69.34**	**32**	*e*P	**P**	**22 07 30.1**	**+0.4**
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
FFC	**Flin Flon**	**69.34**	**32**	*e*P	**P**	**22 07 30.1**	**+0.3**
	comp=Z,5.3nm,0.8s,mb4.3						
BSD	**Bornholm Skovb**	**69.52**	**329**	⇑*i*P	**P**	**22 07 30.3**	**-0.5**
BSD				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.8						
BSD	**Bornholm Skovb**	**69.52**	**329**	⇑*i*P	**P**	**22 07 30.3**	**-0.5**
	comp=Z,19nm,1.0s,mb4.8						
GKP	**Gorka Klasztor**	**70.02**	**326**	*e*P	**P**	**22 07 33.4**	**-0.4**
GKP	**Gorka Klasztor**	**70.02**	**326**	*e*P	**P**	**22 07 33.4**	**-0.4**
KWP	**Kalwaria**	**70.36**	**321**	*e*P	**P**	**22 07 36.9**	**+0.9**
KWP	**Kalwaria**	**70.36**	**321**	*e*P	**P**	**22 07 36.9**	**+0.9**
KWP	**Kalwaria**	**70.36**	**321**	⇑*i*P	**P**	**22 07 36.7**	**+0.7**
MUD	**Monsted U'grnd**	**70.50**	**332**	*i*P	**P**	**22 07 37.0**	**+0.3**
MUD				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
MUD	**Monsted U'grnd**	**70.50**	**332**	*i*P	**P**	**22 07 37.0**	**+0.3**
	comp=Z,5.4nm,0.7s,mb4.4						
BURAR	**Bucovina Array**	**70.64**	**318**	⇓*i*P	**P**	**22 07 37.9**	**+0.2**
STHS	**Stebnicka Huta**	**71.18**	**322**	*e*P	**P**	**22 07 41.0**	**+0.1**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.0						
STHS	**Stebnicka Huta**	**71.18**	**322**	*e*P	**P**	**22 07 41.0**	**+0.1**
	comp=Z,2.8nm,0.7s,mb4.0						
OJC	**Ojcow**	**71.22**	**323**	*e*P	**P**	**22 07 41.2**	**+0.1**
CRVS	**Cervenica-Dubn**	**71.46**	**321**	*e*P	**P**	**22 07 42.9**	**+0.4**
DLMT	**Dillon**	**71.47**	**44**	*e*P	**P**	**22 07 43.4**	**+0.7**
	comp=Z,2.7nm,0.6s,mb4.0						
TRPA	**Tarpa**	**71.53**	**320**	⇑*i*P	**P**	**22 07 43.7**	**+0.7**
NIE	**Niedzica**	**71.59**	**322**	*e*P	**P**	**22 07 44.3**	**+1.0**
MORC	**Moravsky Berou**	**72.52**	**324**	⇓*i*P	**P**	**22 07 49.5**	**+0.7**
DPC	**Dobruska-Polom**	**72.60**	**325**	*e*P	**P**	**22 07 50.3**	**+1.1**
BRG	**Berggiesshubel**	**73.16**	**326**	*e*P	**P**	**22 07 52.8**	**+0.3**
BRG				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
BRG	**Berggiesshubel**	**73.16**	**326**	*e*P	**P**	**22 07 52.8**	**+0.2**
	comp=Z,3.3nm,0.8s,mb4.0						
PVCC	**Panska Ves**	**73.18**	**326**	*e*P	**P**	**22 07 53.1**	**+0.5**
CLL	**Collm**	**73.19**	**327**	⇑*i*P	**P**	**22 07 52.6**	**-0.1**
CLL				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.5						
CLL	**Collm**	**73.19**	**327**	⇑*i*P	**P**	**22 07 52.6**	**-0.1**
	comp=Z,10.0nm,0.9s,mb4.5						
PRU	**Pruhonice**	**73.61**	**325**	*e*P	**P**	**22 07 55.3**	**+0.2**
KHC	**Kasperske Hory**	**74.67**	**325**	*c*P	**P**	**22 08 02.0**	**+0.8**
KHC	**Kasperske Hory**	**74.67**	**325**	*e*P	**P**	**22 08 01.7**	**+0.5**
GERES	**GERESS Array B**	**74.84**	**325**	P	**P**	**22 08 02.8**	**+0.5**
	comp=Z,0.9nm,0.5s,mb3.6,baz=42,slow=5.7,SNR=11						
BW06	**Boulder Array**	**74.86**	**44**	*e*P	**P**	**22 08 03.7**	**+1.2**
	comp=Z,3.8nm,0.8s,mb4.1						
ULM	**Lac du Bonnet**	**75.17**	**32**	P	**P**	**22 08 04.1**	**0.0**
	comp=Z,5.0nm,0.6s,mb4.3,baz=317,slow=5.8,SNR=10						
STKA	**Stephens Creek**	**75.92**	**176**	P	**P**	**22 08 10.1**	**+1.8**
	comp=Z,2.4nm,0.4s,mb4.1,baz=346,slow=8.3,SNR=7.7						
SOKA	**Soboth**	**75.98**	**323**	⇑*i*P	**P**	**22 08 09.4**	**+0.7**
	comp=Z,5.0nm,1.1s,mb4.1						
KBA	**Koelnbreinsper**	**76.38**	**324**	⇑*i*P	**P**	**22 08 11.7**	**+0.7**
	comp=Z,2.6nm,0.5s,mb4.1						
KBA	**Koelnbreinsper**	**76.38**	**324**	⇑*i*P	**P**	**22 08 11.7**	**+0.8**
KBA				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
MOTA	**Moosalm**	**77.09**	**326**	⇑*i*P	**P**	**22 08 15.6**	**+0.7**
	comp=Z,1.3nm,0.8s,mb3.7						
MOTA	**Moosalm**	**77.09**	**326**	⇑*i*P	**P**	**22 08 15.6**	**+0.7**
MOTA				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.6						
DAVA	**Damuels**	**77.63**	**326**	⇑*i*P	**P**	**22 08 18.3**	**+0.4**
	comp=Z,3.5nm,0.6s,mb4.3						
CDF	**Champ du Feu**	**77.72**	**328**	*e*P	**P**	**22 08 18.4**	**+0.1**
	comp=Z,2.4nm,0.4s,mb3.9						
SCHQ	**Schefferville**	**79.17**	**14**	P	**P**	**22 08 26.0**	**-0.1**
	comp=Z,3.4nm,0.8s,mb4.1,baz=261,slow=14,SNR=6.4						
LOR	**Lormes**	**79.94**	**330**	*e*P	**P**	**22 08 30.1**	**-0.3**
	comp=Z,1.6nm,0.9s,mb4.4						
FLN	**La Foliniere**	**80.15**	**333**	*e*P	**P**	**22 08 30.9**	**-0.5**
LDF	**La Druitiere**	**80.18**	**333**	*e*P	**P**	**22 08 31.1**	**-0.5**
SSF	**Saint Saulge**	**80.24**	**330**	*e*P	**P**	**22 08 31.7**	**-0.3**
	comp=Z,4.6nm,0.6s,mb4.1						
LPL	**La Plagne**	**80.33**	**327**	*e*P	**P**	**22 08 33.1**	**+0.6**
	comp=Z,6.8nm,0.6s,mb4.2						
LPG	**La Plagne**	**80.34**	**327**	*e*P	**P**	**22 08 33.2**	**+0.7**
	comp=Z,8.5nm,0.5s,mb4.5						
SMF	**Signal de Mont**	**80.47**	**329**	*e*P	**P**	**22 08 33.1**	**-0.1**
	comp=Z,5.6nm,0.5s,mb4.3						
AVF	**Avril sur Loir**	**80.53**	**330**	*e*P	**P**	**22 08 33.4**	**-0.1**
	comp=Z,7.0nm,0.5s,mb4.3						
GRR	**Gorron**	**80.60**	**333**	*e*P	**P**	**22 08 33.6**	**-0.2**
MBDF	**Montbardon**	**80.97**	**327**	*e*P	**P**	**22 08 35.7**	**-0.2**
	comp=Z,5.4nm,0.6s,mb4.2						
ORIF	**Oris-en-Rattie**	**81.16**	**327**	*e*P	**P**	**22 08 37.1**	**+0.3**
	comp=Z,6.8nm,0.9s,mb4.1						
TCF	**Toulx Ste Croi**	**81.37**	**330**	*e*P	**P**	**22 08 37.5**	**-0.4**
SBF	**Sospel**	**81.42**	**326**	*e*P	**P**	**22 08 37.6**	**-0.6**
	comp=Z,6.5nm,0.7s,mb4.2						
VIVF	**Saint-Julien-l**	**81.68**	**328**	*e*P	**P**	**22 08 39.7**	**+0.2**
	comp=Z,5.2nm,0.7s,mb4.1						
QUIF	**Quistinic**	**81.75**	**334**	*e*P	**P**	**22 08 39.7**	**-0.1**
MFF	**Saint Martin d**	**81.92**	**332**	*e*P	**P**	**22 08 40.6**	**-0.1**
EPF	**Esparros**	**84.85**	**330**	*e*P	**P**	**22 08 55.7**	**0.0**
ETSF	**Etsaut**	**85.29**	**330**	*e*P	**P**	**22 08 58.9**	**+1.0**
	comp=Z,7.6nm,0.6s,mb4.4						
KEST	**Kesra**	**87.30**	**320**	P	**P**	**22 09 06.4**	**-1.3**
	comp=Z,0.5nm,0.8s,mb3.4,baz=140,slow=21,SNR=2.9						
ESDC	**Sonseca Array**	**89.34**	**331**	P	**P**	**22 09 17.2**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.5,baz=19,slow=4.6,SNR=4.9						
LPAZ	**La Paz**	**144.87**	**45**	PKP	PKPdf	22 15 57.3	+1.1
	comp=Z,0.6nm,0.5s,baz=49,slow=7.4,SNR=3.5						

*ISCJB **21** 22:39:26.4±3.1, 5596S×0.10×278W×0.02, h99km±31km, mb4.4/14, Error ellipse: s-maj=19.2km s-min=11.5km az=43.4*
*NEIC **21** 22:39:29.7±2.8, 5599S×2768W, h118km±25km, mb4.6/7, Error ellipse: s-maj=13.2km s-min=7.8km az=50.0*
*IDC **21** 22:39:31.0±4.9, 5598S×2764W, h127km±44km, mb4.1/10, mb1 4.2/11, mb1mx4.0/20, mbtmp4.1/11, Error ellipse: s-maj=23.7km s-min=12.6km az=64.0*

ISC 21 22:39:26.3±2.9, 560S±01×278W±02, h81km±29km, n28, σ1º02/21, mb4.4/14, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VNA1	**Neumayer--Stat**	**16.99**	**158**	*e*	**Pn**	**22 43 19.8**	**+1.4**
VNA1				*e*		22 43 23.2	
VNA1				*e*		22 43 28.0	
VNA2	**Neumayer--Watz**	**17.39**	**157**	*e*	**Pn**	**22 43 24.4**	**+1.2**
VNA2				*e*		22 43 27.6	
VNA2				*e*		22 43 31.6	
EFI	**East Falkland**	**18.31**	**271**	P	**Pn**	**22 43 33.6**	**-0.9**
	181nm,1.6s						
SNAA	**Sanae**	**18.95**	**156**	P	**Pn**	**22 43 41.0**	**-1.0**
	2.1nm,0.3s,baz=308,slow=11,SNR=220						
SNAA				PcP	PcP	22 48 01.6	-0.9
	0.1nm,0.3s,baz=11,slow=12,SNR=5.6						
PMSA	**Palmer Station**	**19.71**	**229**	P	**Pn**	**22 43 48.9**	**-2.1**
TRQA	**Tornquist**	**28.99**	**294**	*e*P	**P**	**22 45 18.7**	**+0.6**
	1.1nm,0.6s,mb3.7						
QSPA	**South Pole Qui**	**34.28**	**180**	P	**P**	**22 46 04.8**	**+0.8**
	6.9nm,0.6s,mb4.7,baz=205,slow=3.2,SNR=88						
QSPA				PcP	PcP	22 48 37.0	-1.2
	2.2nm,0.7s,baz=240,slow=1.2,SNR=5.9						
CPUP	**Villa Florida**	**36.52**	**312**	*e*P	**P**	**22 46 24.0**	**+0.3**
	6.7nm,0.4s,mb4.9						
CPUP				PcP	PcP	22 48 44.6	-1.1
CPUP	**Villa Florida**	**36.52**	**312**	P	**P**	**22 46 22.6**	**-1.1**
	0.4nm,0.5s,mb3.6,baz=100,slow=7.3,SNR=4.6						
CPUP				PcP	PcP	22 48 44.6	-1.1
	1.2nm,0.5s,baz=106,slow=4.4,SNR=3.9						
MAW	**Mawson**	**40.41**	**144**	P	**P**	**22 46 55.6**	**-0.3**
	5.0nm,0.6s,mb4.5,baz=227,slow=7.8,SNR=10						
SUR	**Sutherland**	**40.93**	**76**	*e*P	**P**	**22 46 59.6**	**-1.0**
	192nm,1.6s,mb5.7						
LVC	**Limon Verde**	**44.98**	**301**	*e*P	**P**	**22 47 34.2**	**+0.9**
	3.9nm,0.5s,mb4.4						
SBA	**Scott Base**	**46.14**	**184**	*e*P	**P**	**22 47 42.3**	**+0.5**
	2.6nm,0.6s,mb4.1						
VNDA	**Vanda**	**46.64**	**183**	*e*P	**P**	**22 47 45.8**	**0.0**
	4.8nm,0.6s,mb4.4						
VNDA	**Vanda**	**46.64**	**183**	P	**P**	**22 47 46.2**	**+0.4**
	5.2nm,0.6s,mb4.4,baz=189,slow=5.4,SNR=39						
SIV	**San Ignacio**	**47.29**	**314**	P	**P**	**22 47 51.5**	**0.0**
	1.0nm,0.6s,mb3.7,baz=150,slow=9.0,SNR=6.9						
SIV				PcP	PcP	22 49 20.8	-0.5
	0.3nm,0.4s,baz=220,slow=17,SNR=4.3						
LPAZ	**La Paz**	**50.07**	**306**	P	**P**	**22 48 14.5**	**+1.7**
	2.6nm,0.4s,mb4.5,baz=149,slow=5.5,SNR=17						
LPAZ				PcP	PcP	22 49 31.8	+0.5
	1.2nm,0.5s,baz=71,slow=1.8,SNR=3.6						
DBIC	**Dimbokro**	**65.23**	**25**	P	**P**	**22 49 58.6**	**-0.4**
	2.7nm,0.8s,mb4.2,baz=174,slow=10,SNR=2.8						
PCRV	**Puerto La Cruz**	**72.69**	**322**	P	**P**	**22 50 45.6**	**+0.4**
	31nm,1.2s,mb5.0,baz=217,slow=2.4,SNR=2.9						
TORD	**Torodi Ar. Bea**	**73.14**	**30**	P	**P**	**22 50 47.8**	**-0.1**
	5.7nm,0.7s,mb4.5,baz=200,slow=6.4,SNR=34						
ASAR	**Alice Springs**	**99.16**	**163**	P	**P**	**22 52 56.5**	**-2.0**
	1.2nm,0.8s,mb4.5,baz=186,slow=5.6,SNR=8.7						
WRA	**Warramunga Arr**	**102.88**	**163**	P	Pdif	22 53 13.4	-1.8
	0.5nm,0.7s,baz=194,slow=4.4,SNR=2.6						
FINES	**FINESS Array B**	**124.46**	**28**	PKP	PKPdf	22 58 12.6	-1.8
	1.0nm,0.6s,baz=122,slow=2.5,SNR=7.4						
ARCES	**ARCESS Array B**	**130.99**	**22**	PKP	PKPdf	22 58 24.4	-2.2
	2.5nm,0.9s,baz=193,slow=2.8,SNR=6.1						
YKA	**Yellowknife Ar**	**135.89**	**318**	PKP	PKPdf	22 58 34.6	-1.4
	1.1nm,0.6s,baz=125,slow=2.4,SNR=15						
MKAR	**Makanchi Array**	**137.17**	**72**	PKP	PKPdf	22 58 38.2	-0.7
	0.5nm,0.7s,baz=242,slow=3.7,SNR=2.8						
ZALV	**Zalesovo Beam**	**142.62**	**64**	PKhKP		22 58 43.0	
	0.5nm,0.3s,baz=241,slow=4.4,SNR=3.4						
SONM	**Songino Array**	**151.04**	**87**	PKPbc	PKPbc	22 59 07.2	-1.6
	8.2nm,0.6s,baz=232,slow=3.2,SNR=70						

MEX 21 22:44:43.0±0.6, 1643N×9588W, h20km±40km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**0.69**	**199**	*i*P	Pb	22 44 54.0	-2.3
HUIG				*i*S	Sb	22 45 03.0	-2.4
OXX	**Oaxaca**	**1.04**	**309**	*e*P	Pb	22 44 48.5	-14
OXX				*i*S	Sb	22 45 02.5	-13
VHO	**Vista Hermosa**	**1.04**	**308**	*i*P	Pb	22 44 59.2	-3.2
VHO				*i*S	Sb	22 45 12.4	-3.1
CMIG	**Matias Romero**	**1.16**	**55**	*i*P	Pn	22 45 01.3	-2.9
CMIG				*i*S	Sb	22 45 14.3	-4.7
PPM	**Popocatepetl**	**3.71**	**316**	*i*P	Pn	22 45 37.9	-1.3
PPM				*i*S	Sn	22 46 19.7	-2.6

*CSEM **21** 22:45:56.4±0.4, 3492N×2300E, h10km, MD3.4, Error ellipse: s-maj=9.4km s-min=3.1km az=22.0*
*ISCJB **21** 22:45:58.3±1.7, 349N±0.1×2311E±008, h29km±8km, mb3.7/2, Error ellipse: s-maj=20.0km s-min=7.2km az=26.7*
*THE **21** 22:45:59.5, 3498N×2311E, h16km, ML3.6*
*ATH **21** 22:46:00.9, 3515N×2333E, h7km±7km, MD3.4/7*
*IDC **21** 22:46:06.1±34.0, 3634N×2472E, h0km, mb3.6/2, mb1 3.6/3, mb1mx3.3/22, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=684.3km s-min=41.8km az=28.0*

ISC 21 22:45:56.6±1.6, 3492N±009×2305E±007, h19km±6km, n19, σ0º92/24, mb3.7/2, 1D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GVD	**Gavdhos**	**0.85**	**95**	*e*Pg	**Pg**	**22 46 14.2**	**+0.9**
GVD				*e*Sg	**Sg**	**22 46 25.3**	**+0.7**
GVD	**Gavdhos**	**0.85**	**95**	*e*Pg	**Pg**	**22 46 14.0**	**+0.7**
GVD				*e*Sg	**Sg**	**22 46 25.3**	**+0.7**
KARN	**Karanos**	**0.85**	**56**	*e*Pg	**Pg**	**22 46 13.8**	**+0.6**
KARN				*e*Sg	**Sg**	**22 46 24.6**	**0.0**
VAM	**Vamos**	**1.06**	**62**	*e*PB	**Pb**	**22 46 16.2**	**0.0**
KYTH	**Kithira**	**1.35**	**359**	*e*PN	**Pg**	**22 46 22.5**	**-0.3**
SIVA	**Sivas**	**1.45**	**86**	*e*Pg	**Pn**	**22 46 22.6**	**+0.9**
SIVA				*e*Sg	**Sn**	**22 46 39.9**	**-0.2**
VLI	**Veliai**	**1.79**	**357**	*e*PG	**Pg**	**22 46 30.3**	**-0.8**
LAST	**Lasithi**	**2.00**	**82**	*e*Pb	**Pn**	**22 46 29.5**	**+0.1**
LAST				*e*Sb	**Sn**	**22 46 53.8**	**-0.2**
NPS	**Neapolis**	**2.13**	**80**	*e*PB	**Pb**	**22 46 33.8**	**-0.7**
XRY	**Khrisi**	**2.17**	**91**	*e*PG	**Pg**	**22 46 37.0**	**-1.3**
PYL	**PYLOS**	**2.24**	**332**	*e*Pn	**Pn**	**22 46 33.3**	**+0.7**
ITM	**Ithomi**	**2.43**	**338**	*e*PN	**Pg**	**22 46 42.4**	**-0.8**
VLX	**Vlachokerasia**	**2.50**	**348**	*e*Pn	**Pn**	**22 46 37.2**	**+1.0**
DID	**Didima**	**2.58**	**3**	*e*Pn	**Pn**	**22 46 37.9**	**+0.6**
APE	**Apeiranthos**	**2.94**	**42**	⇓*i*P	**Pn**	**22 46 52.1**	**+10**
LTK	**Loutraki**	**3.10**	**359**	*e*Pn	**Pn**	**22 46 45.4**	**+1.0**
GERES	**GERESS Array B**	**15.54**	**336**	Pn	**Pn**	**22 49 38.7**	**+4.2**
	0.1nm,0.3s,baz=150,slow=10,SNR=4.0						
MKAR	**Makanchi Array**	**45.34**	**56**	P	**P**	**22 54 10.8**	**-2.5**
	0.4nm,0.4s,mb3.6,baz=274,slow=6.4,SNR=3.6						
ZALV	**Zalesovo Beam**	**46.41**	**46**	P	**P**	**22 54 18.4**	**-3.3**
	0.4nm,0.3s,mb3.8,baz=280,slow=8.5,SNR=3.5						

*ISCJB **21** 22:46:05.5±0.7, 4043N±003×2605E±006, h6km±6km, Error ellipse: s-maj=8.8km s-min=4.1km az=24.4*
*ISK **21** 22:46:05.2, 4044N×2604E, h9km, MD3.1*
*CSEM **21** 22:46:05.8, 4044N×2600E, h3km, MD2.9, After ERD*
*DDA **21** 22:46:05.8, 4044N×2600E, h3km±1km, Md2.9*

ISC 21 22:46:05.8±0.7, 4043N±003×2602E±007, h9km±5km, n18, σ0º79/25, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.26**	**201**	PG	**Pg**	**22 46 11.2**	**+0.2**
GADA				SG	**Sg**	**22 46 15.3**	**+0.8**
ENEZ	**Enez**	**0.32**	**18**	*e*PG	**Pg**	**22 46 11.8**	**-0.3**
ENEZ				*e*SG	**Sg**	**22 46 16.8**	**+0.5**
LPK	**Lapseki**	**0.57**	**96**	*e*PG	**Pg**	**22 46 16.5**	**-0.2**
BOZC	**Bozcaada**	**0.59**	**178**	*i*P	**Pg**	**22 46 17.0**	**-0.2**
BOZC				*i*S	**Sg**	**22 46 25.1**	**+0.2**
EZN	**Ezine**	**0.65**	**159**	*e*PG	**Pg**	**22 46 17.9**	**-0.4**
RKY	**Sarkoy-Tekirda**	**0.92**	**74**	*e*PG	**Pg**	**22 46 22.1**	**-1.3**
RKY				*e*SG	**Sg**	**22 46 35.7**	**+0.4**
SART	**Tekirdag**	**0.92**	**74**	*i*P	**Pg**	**22 46 22.4**	**-1.0**
SART				*i*S	**Sg**	**22 46 36.7**	**+1.3**
MFT	**Murefte**	**1.02**	**69**	*e*PG	**Pg**	**22 46 25.0**	**-0.4**
MRMT	**Marmara Adasi**	**1.21**	**81**	*e*PN	**Pn**	**22 46 27.8**	**-1.1**
AYVA	**Ayvalik**	**1.24**	**155**	*i*P	**Pb**	**22 46 28.7**	**-0.6**
AYVA				*i*S	**Sb**	**22 46 45.1**	**-0.2**
TKR	**Tekirdag**	**1.28**	**64**	*e*PN	**Pn**	**22 46 29.6**	**-0.2**
BNT	**Bandirma**	**1.45**	**92**	*e*PN	**Pn**	**22 46 31.4**	**-0.8**
CRLT	**Corlu**	**1.48**	**61**	*e*PN	**Pn**	**22 46 32.5**	**-0.1**
EDRB	**Edirne**	**1.51**	**21**	*e*PN	**Pn**	**22 46 32.6**	**-0.5**
CTT	**Catalca**	**1.96**	**68**	*e*PN	**Pn**	**22 46 39.5**	**+0.3**
ELBA	**Catalca**	**1.96**	**68**	*i*P	**Pn**	**22 46 41.9**	**+2.7**
ELBA				*i*S	**Sn**	**22 47 09.3**	**+5.3**
DST	**Dursunbey**	**2.17**	**112**	*e*PN	**Pn**	**22 46 43.0**	**+1.0**
IZI	**Iznik**	**2.64**	**91**	*e*PN	**Pn**	**22 46 49.4**	**+0.9**

*ISCJB **22** 00:15:44.3±6.0, 3133N±0.10×9783E±0.10, h7km±39km, mb3.9/14, Error ellipse: s-maj=16.3km s-min=13.9km az=168.9*
*IDC **22** 00:15:45.2±0.8, 3141N×9789E, h0km, mb3.8/7, mb1 3.8/9, mb1mx3.7/22, mbtmp3.7/9, ML3.3/2, MS3.0/1, Ms1 3.0/1, ms1mx2.5/29, Error ellipse: s-maj=33.2km s-min=17.6km az=52.0*
*MOS **22** 00:15:47.9±1.3, 3137N×9773E, h33km, mb4.2/4, Error ellipse: s-maj=18.9km s-min=11.8km az=112.4*
*NEIC **22** 00:15:50.5±0.7, 3140N×9779E, h35km, mb3.8/8, Error ellipse: s-maj=13.5km s-min=12.0km az=50.0*

ISC 22 00:15:45.7±6.3, 3139N±010×9782E±010, h3km±40km, n26, σ0º93/25, mb3.9/14, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**6.00**	**255**	P	**Pn**	**00 17 15.7**	**+0.3**
SONM	**Songino Array**	**17.68**	**19**	P	**Pn**	**00 19 53.5**	**+0.6**
	0.1nm,0.3s,baz=201,slow=9.8,SNR=7.1						
ULN	**Ulaanbaatar**	**17.90**	**21**	P	**Pn**	**00 19 57.1**	**+1.5**
ULN				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ULN	**Ulaanbaatar**	**17.90**	**21**	Pn	**Pn**	**00 19 57.0**	**+1.4**
	comp=Z,1.8nm,0.9s						
MKAR	**Makanchi Array**	**19.48**	**327**	P	**Pn**	**00 20 13.7**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=137,slow=15,SNR=3.7						
TKM2	**Tokmak 2**	**21.06**	**309**	*e*P	**P**	**00 20 28.7**	**-2.2**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.6						
TKM2	**Tokmak 2**	**21.06**	**309**	*e*P	**P**	**00 20 28.7**	**-2.1**
	comp=Z,3.0nm,0.9s,mb3.6						
UCH	**Uchtor**	**21.50**	**307**	*e*P	**P**	**00 20 34.3**	**-1.4**
	comp=Z,1.5nm,0.5s,mb3.7						
EKS2	**Erkin-Say**	**22.17**	**307**	*e*P	**P**	**00 20 43.2**	**+0.3**
	comp=Z,1.9nm,0.6s,mb3.7						
KURK	**Kurchatov**	**24.00**	**329**	*e*P	**P**	**00 21 01.6**	**+0.1**
KURK				pmax	pmax

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**23.62**	**52**	P	P	00 59 18.3	-0.2
	1.9nm,1.0s,baz=216,slow=8.7,SNR=3.6						
STKA				LR	LR	01 06 32.7	
	comp=Z,149nm,21.0s,baz=24,slow=32						
ASAR	**Alice Springs**	**27.55**	**29**	P	P	00 59 54.6	+0.4
	0.9nm,0.7s,baz=202,slow=9.7,SNR=6.4						
FITZ	**Fitzroy Crossi**	**31.11**	**11**	LR	LR	01 10 18.7	
	comp=Z,57nm,21.3s,baz=101,slow=31						
WRA	**Warramunga Arr**	**31.18**	**27**	P	P	01 00 26.2	-0.2
	0.4nm,0.3s,baz=199,slow=8.5,SNR=3.1						
YKA	**Yellowknife Ar**	**147.54**	**45**	PKPbc	PKPbc	01 13 49.8	-0.7
	0.2nm,0.7s,baz=267,slow=2.8,SNR=3.8						

WEL 22 01:06:12.1±0.3, 4102S×17288E, h207km±2km, ML3.5/13, 2C, Error ellipse: s-maj=2.7km s-min=2.2km az=0.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.32**	**305**	PN	Pn	01 06 39.1	-0.3
QRZ				SN	Sn	01 06 59.5	-1.0
NNZ	**Nelson**	**0.43**	**118**	PN	Pn	01 06 39.8	+0.1
NNZ				SN	Sn	01 07 00.1	-1.0
THZ	**Tophouse**	**0.75**	**178**	PN	Pn	01 06 41.3	+0.3
DUWZ	**D'Urville Isla**	**0.82**	**75**	PN	Pn	01 06 41.5	+0.1
TUWZ	**Tuamarina**	**0.91**	**118**	PN	Pn	01 06 42.1	+0.3
BSWZ	**Blackbirch Sta**	**1.03**	**133**	PN	Pn	01 06 43.0	+0.4
BSWZ				SN	Sn	01 07 06.3	-0.1
TCW	**Tory Channel**	**1.07**	**101**	PN	Pn	01 06 43.2	+0.2
DSZ	**Denniston Nort**	**1.09**	**228**	⇑PN	Pn	01 06 42.6	-0.4
MRW	**Makara Radio**	**1.39**	**99**	PN	Pn	01 06 45.3	-0.1
MRW				SN	Sn	01 07 09.7	-1.6
SNZO	**South Karori**	**1.41**	**103**	PN	Pn	01 06 45.4	-0.1
WEL	**Wellington**	**1.45**	**101**	PN	Pn	01 06 45.9	0.0
KHZ	**Kahutara**	**1.49**	**161**	PN	Pn	01 06 46.0	-0.2
KIW	**Kapiti Island**	**1.55**	**85**	PN	Pn	01 06 46.6	-0.1
BHW	**Baring Head**	**1.56**	**105**	PN	Pn	01 06 46.6	-0.2
CAW	**Cannon Point**	**1.66**	**94**	PN	Pn	01 06 47.6	-0.1
LTZ	**Lake Taylor**	**1.82**	**194**	PN	Pn	01 06 48.9	-0.3
MSWZ	**Moikau Station**	**1.83**	**103**	PN	Pn	01 06 49.2	-0.2
PLWZ	**Palliser**	**1.88**	**108**	PN	Pn	01 06 49.6	-0.2
PAWZ	**Paruwai Farm**	**1.96**	**102**	PN	Pn	01 06 50.5	-0.1
MTW	**Mount Morrison**	**1.99**	**95**	PN	Pn	01 06 50.8	-0.2
HOWZ	**Holdsworth Sta**	**2.00**	**88**	PN	Pn	01 06 50.9	-0.1
WAZ	**Wanganui**	**2.04**	**53**	PN	Pn	01 06 51.7	+0.1
MRZ	**Mangatainoka R**	**2.08**	**81**	⇑PN	Pn	01 06 51.4	-0.4
TRWZ	**Traveller**	**2.15**	**101**	PN	Pn	01 06 52.6	0.0
TMWZ	**Te Maipa**	**2.28**	**93**	PN	Pn	01 06 54.1	+0.1
TIWZ	**Tintock**	**2.29**	**85**	PN	Pn	01 06 53.9	-0.1
TSZ	**Takapari Road**	**2.54**	**69**	PN	Pn	01 06 56.3	-0.5
WNVZ	**Wahianoa**	**2.68**	**52**	PN	Pn	01 06 58.0	-0.4
MQZ	**McQueen's Vall**	**2.69**	**183**	PN	Pn	01 06 57.0	-1.5
FWVZ	**Far West T-bar**	**2.70**	**50**	PN	Pn	01 06 58.0	-0.6
TUVZ	**Tukino**	**2.75**	**52**	PN	Pn	01 06 58.8	-0.4
WTVZ	**West Tongariro**	**2.82**	**49**	PN	Pn	01 06 58.9	-1.0
RPZ	**Rata Peaks**	**3.02**	**206**	PN	Pn	01 07 01.2	-1.0
BKZ	**Black Stump Fm**	**3.33**	**58**	PN	Pn	01 07 04.7	-1.3
FOZ	**Fox Glacier**	**3.48**	**222**	PN	Pn	01 07 04.8	-2.8
LBZ	**Lake Benmore**	**3.91**	**210**	PN	Pn	01 07 11.2	-1.6
KNZ	**Kokohu**	**4.19**	**63**	PN	Pn	01 07 15.4	-1.0
JCZ	**Jackson Bay**	**4.31**	**224**	PN	Pn	01 07 16.1	-1.8
ODZ	**Otahua Downs**	**4.35**	**201**	PN	Pn	01 07 17.3	-1.0
PUZ	**Puketiti**	**5.09**	**56**	PN	Pn	01 07 25.8	-2.0
MLZ	**Mavora Lakes**	**5.53**	**217**	PN	Pn	01 07 31.9	-1.4

IDC 22 01:15:21.5±2.1, 669S×12966E, h0km, mb3.5/1, mb1 3.7/4, mb1mx3.5/14, mbtmp3.5/4, ML3.7/3, Error ellipse: s-maj=81.0km s-min=28.2km az=77.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**12.00**	**199**	Pn	Pn	01 18 15.3	+1.4
	0.4nm,0.3s,baz=24,slow=14,SNR=20						
FITZ				Sn	Sn	01 20 17.2	-11
	0.4nm,0.3s,baz=134,slow=23,SNR=5.5						
WRA	**Warramunga Arr**	**13.93**	**161**	Pn	Pn	01 18 38.8	-1.5
	0.4nm,0.3s,baz=339,slow=13,SNR=4.9						
WRA				Sn	Sn	01 21 02.6	-13
	0.5nm,0.3s,baz=338,slow=23,SNR=4.4						
ASAR	**Alice Springs**	**17.36**	**167**	Pn	Pn	01 19 25.2	-0.1
	0.2nm,0.3s,baz=339,slow=8.9,SNR=8.3						
MKAR	**Makanchi Array**	**67.78**	**327**	P	P	01 26 21.2	+0.1
	0.2nm,0.5s,baz=124,slow=7.7,SNR=2.9						

*DDA **22** 01:32:50.1, 37.12N×3423E, h5km±3km, Md3.5*
*ISK **22** 01:32:52.5, 3667N×3422E, h29km, MD3.3*
*ISCJB **22** 01:32:53.3±0.4, 3662N±003×3432E±003, h36km±13km, Error ellipse: s-maj=5.6km s-min=4.7km az=176.5*
*CSEM **22** 01:32:53.0±0.2, 3667N×3432E, h40km, MD3.3, Error ellipse: s-maj=3.8km s-min=3.5km az=127.0*
*NSSC **22** 01:32:56.2, 3658N×3463E, h18km±3km*

ISC 22 01:32:53.7±0.7, 3663N±003×3431E±004, h32km±6km, n34, σ0=71/51, 8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MERS	**Mersin**	**0.30**	**36**	*e*PG	**Pb**	**01 33 01.1**	**-0.2**
MERS				*e*SG	**Sb**	**01 33 06.1**	**-0.3**
KARA	**Karaisali**	**0.87**	**43**	*e*PG	**Pn**	**01 33 08.9**	**-0.8**
KARA				*e*SG	**Sn**	**01 33 21.5**	**+0.2**
EREN	**Erenkoy**	**1.10**	**186**	*e*PN	**Pn**	**01 33 13.0**	**+0.2**
ERMK	**Ermenek**	**1.12**	**271**	*i* P	**Pn**	**01 33 12.8**	**-0.3**
ERMK				*i* S	**Sn**	**01 33 28.6**	**+1.2**
ERMK	**Ermenek**	**1.12**	**271**	*i* P	**Pn**	**01 33 12.8**	**-0.3**
ERMK				*i* S	**Sn**	**01 33 28.6**	**+1.1**
CEYT	**Ceyhan**	**1.22**	**71**	*e*PN	**Pn**	**01 33 15.1**	**+0.6**
LFK	**Lefkose**	**1.48**	**205**	*e*PN	**Pn**	**01 33 17.2**	**-0.9**
KOZT	**Kozan**	**1.48**	**54**	*e*PN	**Pn**	**01 33 18.7**	**+0.6**
HDMB	**Hadim**	**1.50**	**284**	*e*PN	**Pn**	**01 33 16.9**	**-1.4**
NIG	**Nigde**	**1.50**	**9**	*e*PN	**Pn**	**01 33 17.8**	**-0.5**
ARNB	**Al Arnab**	**1.55**	**119**	⇑P	**Pn**	**01 33 19.0**	**0.0**
ARNB				⇑S	**Sn**	**01 33 37.1**	**-0.9**
HTY	**Hatay**	**1.56**	**108**	*e*PN	**Pn**	**01 33 20.2**	**+1.1**
BTCH	**Batrach**	**1.83**	**108**	⇑P	**Pn**	**01 33 23.2**	**+0.3**
BTCH				⇑S	**Sn**	**01 33 44.3**	**-0.8**
BTCH	**Batrach**	**1.83**	**108**	⇑*i*P	**Pn**	**01 33 23.2**	**+0.3**
BTCH				⇑*i*S	**Sn**	**01 33 44.3**	**-0.7**
SLNF	**Slenfeh**	**1.86**	**123**	⇓P	**Pn**	**01 33 23.9**	**+0.5**
SLNF				⇑S	**Sn**	**01 33 45.6**	**-0.1**
SLNF	**Slenfeh**	**1.86**	**123**	⇓*i*P	**Pn**	**01 33 23.9**	**+0.6**
SLNF				⇑*i*S	**Sn**	**01 33 45.6**	**-0.1**
ANDN	**Andirin**	**1.89**	**59**	*e*P	**Pn**	**01 33 23.5**	**-0.2**
ANDN				*i* S	**Sn**	**01 33 47.2**	**+0.8**
LEF	**Lefka**	**1.89**	**218**	*e*PN	**Pn**	**01 33 24.2**	**+0.4**
DRWC	**Darouich**	**1.90**	**89**	⇑P	**Pn**	**01 33 23.9**	**+0.1**
DRWC				⇓S	**Sn**	**01 33 45.2**	**-1.4**
DRWC	**Darouich**	**1.90**	**89**	⇑*i*P	**Pn**	**01 33 23.9**	**+0.1**
DRWC				⇓*i*S	**Sn**	**01 33 45.2**	**-1.4**
KONT	**Konya--Tatoy**	**2.04**	**311**	*e*PN	**Pn**	**01 33 24.6**	**-1.1**
WRDH	**Warideh**	**2.04**	**123**	⇑P	**Pn**	**01 33 26.2**	**+0.5**
WRDH				⇑S	**Sn**	**01 33 49.2**	**-0.9**
WRDH	**Warideh**	**2.04**	**123**	⇑*i*P	**Pn**	**01 33 26.2**	**+0.5**
WRDH				⇑*i*S	**Sn**	**01 33 49.2**	**-0.9**
KMRS	**Kahramanmaras**	**2.25**	**66**	*e*PN	**Pn**	**01 33 29.8**	**+1.1**
BIDA	**Albida**	**2.29**	**134**	⇓P	**Pn**	**01 33 29.8**	**+0.5**
BIDA				⇓S	**Sn**	**01 33 56.0**	**-0.5**
BIDA	**Albida**	**2.29**	**134**	⇓*i*P	**Pn**	**01 33 29.8**	**+0.5**
BIDA				⇓*i*S	**Sn**	**01 33 56.0**	**-0.4**
GAZ	**Gaziantep**	**2.39**	**76**	*e*PN	**Pn**	**01 33 31.8**	**+1.2**
BNN	**Bunyan**	**2.54**	**28**	*e*PN	**Pn**	**01 33 33.1**	**+0.5**
HWQ	**Hawqa**	**2.70**	**150**	*e*Pn	**Pn**	**01 33 35.4**	**+0.5**
GZT	**Gaziantep**	**2.71**	**73**	*e*P	**Pn**	**01 33 28.3**	**-6.7**
GZT				*e*S	**Sn**	**01 34 06.4**	**-0.2**
BHL	**Bhannes**	**2.93**	**158**	*e*Pn	**Pn**	**01 33 37.9**	**-0.2**
BHL	**Bhannes**	**2.93**	**158**	*e*Pn	**Pn**	**01 33 37.8**	**-0.2**
FKH	**Fakeheh**	**2.94**	**144**	*e*Pn	**Pn**	**01 33 38.9**	**+0.8**
YOZ	**Yozgat**	**3.11**	**15**	*e*PN	**Pn**	**01 33 39.8**	**-0.7**

IDC 22 01:37:06.5±7.7, 2056N×14301E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/18, mbtmp3.8/4, MS2.8/1, Ms1 2.8/1, ms1mx2.4/22, Error ellipse: s-maj=208.0km s-min=48.6km az=16.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**21.34**	**325**	P	P	01 41 55.2	0.0
	2.2nm,0.8s,baz=142,slow=12,SNR=10						
KSRS				LR	LR	01 48 51.2	
	comp=Z,24nm,18.8s,baz=200,slow=33						
SONM	**Songino Array**	**40.12**	**321**	P	P	01 44 44.1	+0.2
	1.2nm,0.9s,baz=126,slow=7.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**55.00**	**322**	P	P	01 46 39.5	0.0
	2.2nm,0.9s,baz=100,slow=6.6,SNR=5.7						
YKA	**Yellowknife Ar**	**77.53**	**28**	P	P	01 49 03.9	0.0
	0.7nm,1.0s,baz=297,slow=5.2,SNR=4.6						

*ISK **22** 01:39:09.9, 4012N×3273E, h5km, MD3.6*
*CSEM **22** 01:39:10.8±0.0, 4013N×3271E, h5km, MD3.6, Error ellipse: s-maj=1.3km s-min=0.9km az=167.0*
*DDA **22** 01:39:10.3, 4009N×3276E, h7km±1km, Md3.5*
*ISCJB **22** 01:39:11.2±0.2, 4013N±002×3269E±002, h5km, Error ellipse: s-maj=3.2km s-min=2.4km az=163.9*

ISC 22 01:39:11.7±0.5, 4014N±002×3272E±002, h2km±4km, n53, σ0=91/68, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOD	**Lodumlu**	**0.25**	**171**	PG	**Pg**	**01 39 15.5**	**-1.0**
ANTO	**Ankara**	**0.28**	**167**	PG	**Pg**	**01 39 15.8**	**-1.2**
ANTO				*e*SG	**Sg**	**01 39 19.8**	**-0.7**
CANT	**Cankiri**	**0.83**	**56**	*e*PG	**Pg**	**01 39 26.9**	**-0.8**
CANT				*e*SG	**Sg**	**01 39 39.6**	**+1.1**
SAFT	**Safranbolu**	**1.10**	**359**	*e*PN	**Pn**	**01 39 32.6**	**-1.5**
TOS	**Tosya**	**1.34**	**48**	*e*PN	**Pn**	**01 39 36.0**	**-1.5**
CDAG	**Cicekdag**	**1.37**	**111**	*i* P	**Pn**	**01 39 34.3**	**-3.7**
CDAG				*i* S	**Sg**	**01 39 54.3**	**-1.6**
KIZT	**Kizilcal**	**1.41**	**207**	*e*PN	**Pn**	**01 39 37.6**	**-0.9**
CORM	**Corum**	**1.47**	**88**	*e*PN	**Pn**	**01 39 38.8**	**-0.4**
BALT	**Daday**	**1.48**	**20**	*i* P	**Pn**	**01 39 39.0**	**-0.5**
BALT				*i* S	**Sg**	**01 40 01.7**	**+2.2**
KDZE	**Karadeniz Ereo**	**1.52**	**321**	*e*PN	**Pn**	**01 39 39.4**	**-0.5**
HENT	**Hendek**	**1.54**	**297**	*i* P	**Pn**	**01 39 40.3**	**0.0**
HENT				*i* S	**Sg**	**01 40 07.4**	**+6.0**
ESKT	**Eskisehir**	**1.56**	**247**	*i* P	**Pn**	**01 39 40.0**	**-0.5**
ESKT				*i* S	**Sg**	**01 40 06.5**	**+4.6**
ESKT	**Eskisehir**	**1.56**	**247**	*e*Pn	**Pn**	**01 39 40.0**	**-0.5**
SEYT	**Eskypehyr**	**1.56**	**247**	*i* P	**Pn**	**01 39 40.0**	**-0.5**
CTKT	**Corum**	**1.66**	**72**	*i* P	**Pn**	**01 39 41.2**	**-0.6**
CTKT				*i* S	**Sn**	**01 40 04.7**	**+1.0**
KDHN	**Kadinhani**	**1.68**	**196**	*i* P	**Pn**	**01 39 41.2**	**-0.9**
KDHN				*i* S	**Sn**	**01 40 05.4**	**+1.1**
GULT	**Gulveren**	**1.71**	**281**	*e*PN	**Pn**	**01 39 42.0**	**-0.6**
GPA	**Golpazari**	**1.85**	**275**	*e*PN	**Pn**	**01 39 44.0**	**-0.4**
BYBT	**Boyabat**	**2.05**	**49**	*e*PN	**Pn**	**01 39 46.6**	**-0.6**
BZK	**Bozkurt**	**2.06**	**28**	*e*PN	**Pn**	**01 39 47.5**	**+0.1**
YOZ	**Yozgat**	**2.06**	**103**	*e*PN	**Pn**	**01 39 47.0**	**-0.4**
BOYT	**Boyabat**	**2.10**	**52**	*i* P	**Pn**	**01 39 47.2**	**-0.7**
AVNT	**Avonos**	**2.14**	**129**	*i* P	**Pn**	**01 39 49.3**	**+0.9**
AVNT				*i* S	**Sb**	**01 40 19.9**	**+1.6**
KONT	**Konya--Tatoy**	**2.21**	**187**	*e*PN	**Pn**	**01 39 49.2**	**-0.2**
ALT	**Altintas**	**2.29**	**243**	*e*PN	**Pn**	**01 39 50.4**	**0.0**
ADVT	**Abdulvahap**	**2.30**	**278**	*e*PN	**Pn**	**01 39 50.1**	**-0.5**
SHUT	**Suhut-Afyon**	**2.31**	**227**	*e*PN	**Pn**	**01 39 50.6**	**-0.1**
HRT	**Hereke**	**2.42**	**287**	*e*PN	**Pn**	**01 39 52.2**	**-0.2**
HRT	**Hereke**	**2.42**	**287**	*e*PN	**Pn**	**01 39 53.0**	**+0.6**
DIKM	**Dikmen**	**2.45**	**51**	*e*PN	**Pn**	**01 39 52.7**	**0.0**
IZI	**Iznik**	**2.49**	**276**	*e*PN	**Pn**	**01 39 53.7**	**+0.4**
NIG	**Nigde**	**2.50**	**143**	*e*PN	**Pn**	**01 39 53.7**	**+0.3**
YLV	**Yalova**	**2.59**	**281**	*e*PN	**Pn**	**01 39 54.8**	**+0.2**
KVT	**Kavak**	**2.71**	**69**	*e*PN	**Pn**	**01 39 56.0**	**-0.2**
GDZ	**Gediz**	**2.71**	**248**	*i* P	**Pb**	**01 40 01.6**	**+0.7**
GDZ				*i* S	**Sg**	**01 40 39.8**	**+1.1**
BNN	**Bunyan**	**2.74**	**117**	*e*PN	**Pn**	**01 39 57.1**	**+0.4**
TKTP	**Tekketepe**	**2.80**	**222**	*i* P	**Pn**	**01 39 57.3**	**-0.3**
TKTP				*i* S	**Sg**	**01 40 40.6**	**-1.2**
ISK	**Istanbul-Kandi**	**2.93**	**290**	*e*PN	**Pn**	**01 39 59.3**	**-0.1**
TOKT	**Tokat**	**2.94**	**85**	*e*PN	**Pn**	**01 39 59.8**	**+0.4**
KLYT	**Kilyos**	**3.01**	**293**	*e*PN	**Pn**	**01 40 00.1**	**-0.3**
KHL	**Karahalli**	**3.07**	**235**	*e*PN	**Pn**	**01 40 00.8**	**-0.4**
BCK	**Bucak**	**3.15**	**213**	*e*PN	**Pn**	**01 40 01.6**	**-0.7**
HDMB	**Hadim**	**3.17**	**183**	*e*PN	**Pn**	**01 40 03.2**	**+0.6**
DST	**Dursunbey**	**3.19**	**262**	*e*PN	**Pn**	**01 40 03.4**	**+0.5**
SVSK	**Karacayir**	**3.30**	**92**	*e*PN	**Pn**	**01 40 04.8**	**+0.7**
KARA	**Karaisali**	**3.41**	**147**	*e*PN	**Pn**	**01 40 04.9**	**-1.0**
KULA	**Kula-Manisa**	**3.54**	**244**	*e*PN	**Pn**	**01 40 08.2**	**+0.6**
MERS	**Mersin**	**3.56**	**156**	*e*PN	**Pn**	**01 40 08.8**	**+0.9**
KOZT	**Kozan**	**3.60**	**137**	*e*PN	**Pn**	**01 40 09.4**	**+0.9**
BTOK	**Tokmak**	**3.62**	**266**	*i* P	**Pg**	**01 40 19.2**	**-1.9**
BTOK				*i* S	**Sg**	**01 41 10.0**	**+2.0**
ANDN	**Andirin**	**3.81**	**131**	*i* P	**Pb**	**01 40 20.8**	**+1.0**
ANDN				*i* S	**Sg**	**01 41 14.0**	**-0.2**
AKHS	**Akhisar**	**3.99**	**253**	*i* P	**Pg**	**01 40 28.2**	**0.0**
AKHS				*i* S	**Sg**	**01 41 22.2**	**+2.2**
GZT	**Gaziantep**	**4.70**	**125**	*e*P	**Pn**	**01 40 24.5**	**+0.9**
GZT				*e*S	**Sg**	**01 41 44.4**	**+1.7**

IDC 22 02:22:05.2±8.6, 1852S×17804W, h650km±110km, mb3.2/5, mb1 3.4/5, mb1mx3.1/15, mbtmp3.2/5, Error ellipse: s-maj=102.1km s-min=45.5km az=163.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.70**	**261**	*e*P	P	02 27 56.2	+0.5
	3.6nm,0.8s						
CTA	**Charters Tower**	**33.70**	**261**	P	P	02 27 55.9	+0.2
	3.4nm,0.5s,baz=95,slow=10,SNR=7.0						
STKA	**Stephens Creek**	**38.65**	**242**	*e*P	P	02 28 36.5	+0.6
	2.4nm,0.9s						
STKA	**Stephens Creek**	**38.65**	**242**	P	P	02 28 35.9	0.0
	1.7nm,0.5s,baz=66,slow=9.4,SNR=5.8						
WB2	**Warramunga Arr**	**44.86**	**260**	*e*P	P	02 29 24.0	-0.5
WRA	**Warramunga Arr**	**44.87**	**260**	P	P	02 29 24.7	+0.1
	1.6nm,0.4s,baz=96,slow=7.8,SNR=16						
ASAR	**Alice Springs**	**44.97**	**255**	P	P	02 29 25.6	+0.3
	3.5nm,0.8s,baz=87,slow=8.1,SNR=33						
TXAR	**Lajitas Array**	**86.02**	**57**	P	P	02 33 39.5	+0.3
	1.1nm,0.8s,baz=228,slow=5.6,SNR=11						
ARCES	**ARCESS Array B**	**126.97**	**350**	PKP	PKPdf	02 39 56.0	-0.4
	3.1nm,1.0s,baz=5.7,slow=0.9,SNR=5.8						

MAN 22 02:28:33, 997N×12633E, h19km, mb4.2, ML3.0, MS2.8, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.85**	**257**	*e*P	Pb	02 28 49.6	+0.4
SCPH				*e*S	Sb	02 29 00.2	0.0
MSLP	**Maasin**	**1.46**	**277**	*e*P	Pn	02 28 55.9	-2.5
MSLP				*e*S	Sn	02 29 19.6	+2.6
PLP	**Palo**	**1.78**	**312**	*e*P	Pn	02 29 06.2	+3.4
PLP				*e*S	Sn	02 29 32.4	+7.4
BUKP	**Musuan**	**2.43**	**211**	*e*P	Pn	02 29 12.8	+1.1
TBP	**Tagbilaran**	**2.45**	**264**	*e*P	Pn	02 29 14.1	+2.1
TBP				*e*S	Sn	02 29 43.3	+1.8
PAGZ	**Pagadian**	**3.60**	**234**	*e*P	Pn	02 29 29.2	+1.5
GUIM	**Jordan**	**3.74**	**280**	*e*P	Pn	02 29 33.7	+3.9

*IDC **22** 02:41:49.5±0.8, 973N×126.11E, h0km, mb4.1/10, mb1 4.2/10, mb1mx4.0/19, mbtmp4.0/10, Error ellipse: s-maj=71.8km s-min=16.7km az=73.0*
*ISCJB **22** 02:41:56.0±1.2, 973N±005×12636E±009, h65km±11km, mb4.0/10, Error ellipse: s-maj=14.2km s-min=8.1km az=174.0*
*MAN **22** 02:41:57, 973N×126.17E, h13km, mb4.7, ML3.6, MS3.5*
*NEIC **22** 02:42:06.7±1.9, 947N×12583E, h146km±17km, mb4.3/1, Error ellipse: s-maj=51.8km s-min=11.9km az=70.0*

ISC 22 02:41:57.8±1.2, 973N±005×12631E±009, h66km±11km, n27, σ0=94/32, mb4.0/10, 2D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.81**	**274**	*e*P	**Pn**	**02 42 10.2**	**-3.4**
SCPH				*e*S	**Sn**	**02 42 21.0**	**-4.4**
MSLP	**Maasin**	**1.48**	**286**	*e*P	**Pn**	**02 42 21.2**	**-1.2**
MSLP				*e*S	**Sn**	**02 42 40.5**	**-0.4**
PLP	**Palo**	**1.93**	**318**	*e*P	**Pn**	**02 42 26.9**	**-1.5**
PLP				*e*S	**Sn**	**02 42 52.6**	**+0.8**
CGP	**Cagayan de Oro**	**2.04**	**232**	⇓*e*P	**Pn**	**02 42 29.3**	**-0.6**
CGP				*i* S	**Sn**	**02 42 54.6**	**+0.3**
BUKP	**Musuan**	**2.21**	**214**	*e*P	**Pn**	**02 42 33.6**	**+1.3**
LLP	**Lapu-Lapu**	**2.38**	**284**	*e*P	**Pn**	**02 42 34.1**	**-0.3**
LLP				*e*S	**Sn**	**02 43 02.9**	**+0.3**
TBP	**Tagbilaran**	**2.41**	**269**	*e*P	**Pn**	**02 42 34.8**	**-0.2**
TBP				*e*S	**Sn**	**02 43 03.1**	**-0.3**
DAV	**Davao City (W)**	**2.74**	**195**	*e*Pn	**Pn**	**02 42 46.7**	**+7.3**
SNPH	**Sibulan**	**3.05**	**263**	*e*P	**Pn**	**02 42 45.0**	**+1.3**
CNP	**Catarman**	**3.20**	**330**	*e*P	**Pn**	**02 42 44.8**	**-0.9**
GUIM	**Jordan**	**3.77**	**284**	*e*P	**Pn**	**02 42 54.1**	**+0.7**
RCP	**Roxas**	**3.94**	**298**	⇓*e*P	**Pn**	**02 42 56.6**	**+0.7**
PVCP	**Virac**	**4.38**	**331**	*e*P	**Pn**	**02 43 03.8**	**+2.0**
FITZ	**Fitzroy Crossi**	**27.66**	**181**	*e*P	**P**	**02 47 38.5**	**-1.2**
	6.9nm,0.9s,mb4.2						
FITZ	**Fitzroy Crossi**	**27.66**	**181**	P	**P**	**02 47 40.0**	**+0.4**
	1.5nm,0.6s,mb3.7,baz=14,slow=10,SNR=4.6						
WRA	**Warramunga Arr**	**30.53**	**165**	P	**P**	**02 48 04.4**	**-0.7**
	0.6nm,0.5s,mb3.5,baz=344,slow=9.5,SNR=3.6						
ASAR	**Alice Springs**	**34.01**	**167**	P	**P**	**02 48 36.0**	**+0.4**
	0.7nm,0.4s,mb3.9,baz=352,slow=7.0,SNR=12						
STKA	**Stephens Creek**	**43.88**	**161**	P	**P**	**02 49 57.7**	**-0.2**
	1.9nm,0.7s,mb3.9,baz=335,slow=11,SNR=4.1						
MKAR	**Makanchi Array**	**52.48**	**323**	P	**P**	**02 51 04.0**	**0.0**
MKAR	**Makanchi Array**	**52.48**	**323**	P	**P**	**02 51 04.0**	**0.0**
	1.0nm,0.6s,mb4.0,baz=119,slow=7.4,SNR=7.4						
ZALV	**Zalesovo Beam**	**55.11**	**331**	P	**P**	**02 51 22.6**	**-0.6**
	0.8nm,0.6s,mb4.0,baz=112,slow=6.7,SNR=3.0						
JOF	**Joensuu**	**83.68**	**333**	*e*p	**P**	**02 54 18.4**	**-0.8**
ARCES	**ARCESS Array B**	**84.71**	**340**	P	**P**	**02 54 25.1**	**+0.9**
	2.3nm,0.7s,mb4.2,baz=80,slow=6.1,SNR=13						
FINES	**FINESS Array B**	**86.38**	**332**	P	**P**	**02 54 32.6**	**0.0**
	0.9nm,0.4s,mb4.0,baz=74,slow=5.7,SNR=17						
NOA	**NORSAR Array B**	**93.25**	**334**	P	**P**	**02 55 03.8**	**-1.2**
	0.4nm,0.7s,mb3.9,baz=67,slow=4.6,SNR=2.4						
YKA	**Yellowknife Ar**	**94.23**	**24**	P	**P**	**02 55 11.3**	**+1.9**
	0.8nm,0.7s,mb4.2,baz=300,slow=4.6,SNR=12						
TORD	**Torodi Ar. Bea**	**120.50**	**291**	PKP	PKPdf	03 00 43.2	+0.3
	0.3nm,0.8s,baz=45,slow=1.8,SNR=5.0						

*NEIC **22** 02:43:49.6, 3246S×7033W, h110km, MD3.7(GUC), After GUC.*

GUC 22 02:43:49.6±0.7, 3246S×7033W, h110km±5km, MD3.3, ML2.6, 1C-4D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.74**	**204**	*e*P	Pn	02 44 08.8	+0.6
PEL				*i* S	Sn	02 44 22.7	+0.4
PEL				AML	AML	02 44 24.1	
	comp=E,137nm,0.2s						
FCH	**Farellones**	**0.86**	**178**	⇓*i*P	Pn	02 44 10.3	+0.9
FCH				*i* S	Sn	02 44 26.2	+1.9
FCH				AML	AML	02 44 28.3	
	comp=E,89nm,0.2s						
PCH	**Pirque**	**1.17**	**188**	*e*P	Pn	02 44 12.9	+0.4
PCH				*i* S	Sn	02 44 30.9	+1.0
TACH	**Talagante**	**1.29**	**203**	⇑*i*P	Pn	02 44 14.0	+0.1
TACH				*i* S	Sn	02 44 33.3	+0.9
LMEL	**Las Melosas**	**1.39**	**176**	*e*P	Pn	02 44 15.6	+0.6
LMEL				*e*S	Sn	02 44 35.8	+

FOZ	Fox Glacier	1.46	279	PN	Pn	03 23 03.9	-1.1
KHZ	Kahutara	1.96	45	P	Pn	03 23 10.6	-1.4
KHZ	Kahutara	1.96	45	PN	Pn	03 23 10.6	-1.4
DSZ	Denniston Nort	2.07	3	P	Pn	03 23 13.3	-0.2
DSZ	Denniston Nort	2.07	3	PN	Pn	03 23 13.3	-0.3
JCZ	Jackson Bay	2.11	262	ePN	Pn	03 23 13.3	-0.8
WKZ	Wanaka	2.15	241	P	Pn	03 23 13.6	-1.0
WKZ	Wanaka	2.15	241	PN	Pn	03 23 13.6	-1.0
EAZ	Earnscleugh	2.20	229	PN	Pn	03 23 14.0	-1.3
HHSZ	Highcliff Hill	2.20	200	ePN	Pn	03 23 14.3	-1.0
THZ	Tophouse	2.25	24	P	Pn	03 23 15.1	-0.8
THZ	Tophouse	2.25	24	PN	Pn	03 23 15.1	-0.8
TUZ	Tuapeka	2.58	213	PN	Pn	03 23 19.3	-1.2
BSWZ	Blackbirch Sta	2.66	39	ePN	Pn	03 23 20.4	-1.2
NNZ	Nelson	2.89	27	ePN	Pn	03 23 25.0	+0.2
MLZ	Mavora Lakes	2.93	237	P	Pn	03 23 24.4	-0.9
MLZ	Mavora Lakes	2.93	237	PN	Pn	03 23 24.4	-0.8
QRZ	Quartz Range	3.06	12	P	Pn	03 23 26.3	-0.8
QRZ	Quartz Range	3.06	12	PN	Pn	03 23 26.3	-0.8
SYZ	Scrubby Hill	3.25	212	PN	Pn	03 23 28.8	-0.9
WHZ	Wether Hill Ro	3.36	231	PN	Pn	03 23 29.1	-2.2
DUWZ	D'Urville Isla	3.45	30	ePN	Pn	03 23 33.4	+0.9
PLWZ	Palliser	3.47	51	ePN	Pn	03 23 30.8	-1.9
DCZ	Deep Cove	3.62	241	ePN	Pn	03 23 33.0	-1.8
KIW	Kapiti Island	3.81	40	ePN	Pn	03 23 35.7	-1.7
APZ	The Paps	3.98	219	ePN	Pn	03 23 37.9	-1.8
TIWZ	Tintock	4.36	47	SN	Sn	03 24 33.4	-2.0

MEX 22 03:37:36.2±0.5, 1657N×9923W, h12km±17km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.72**	**294**	*i* P	Pg	03 37 48.4	-1.8
ACX				*i* S	Sg	03 37 57.7	-1.9
MEIG	**Mezcala**	**1.40**	**345**	*i* P	Pn	03 37 58.0	-3.5
MEIG				*i* S	Sn	03 38 14.7	-5.2
PLIG	**Platanillo**	**1.83**	**352**	*i* P	Pn	03 38 04.6	-2.8
PLIG				*i* S	Sn	03 38 27.0	-3.5
TPIG	**Tehuac#an**	**2.56**	**44**	*i* P	Pn	03 38 13.8	-3.8
TPIG				*i* S	Sn	03 38 44.8	-3.9
CMIG	**Matias Romero**	**4.19**	**82**	*i* P	Pn	03 38 38.8	-1.2
CMIG				*i* S	Sn	03 39 25.7	-3.3

BJI ***22*** *03:41:09.8, 192N×9673E, h34km, mB5.2, mb5.0, Ms4.9, Msz4.7*
ISCJB ***22*** *03:41:10.3±0.3, 198N±004×9671E±003, h30km, mb4.9/94, MS4.7/47, Error ellipse: s-maj=5.5km s-min=3.8km az=21.0*
IDC ***22*** *03:41:11.5±0.5, 206N×9681E, h25km±3km, mb4.4/18, mb1 4.5/18, mb1mx4.4/23, mbtmp4.4/18, MS4.5/21, Ms1 4.5/21, ms1mx4.4/30, Error ellipse: s-maj=17.8km s-min=12.1km az=55.0*
MOS ***22*** *03:41:12.2±1.0, 208N×9686E, h43km, mb5.1/38, MS4.6/9, Error ellipse: s-maj=11.3km s-min=5.9km az=109.7*
GCMT ***22*** *03:41:12.2±0.6, 173N×9654E, h37km±1km, MW5.0/48, Moment Tensor Solution. s48,c66; s45,c66; Duration: 0 Moment tensor: Scale 10^16 Nm; Mrr2.25±.24; Mθθ-2.75±.19; Mφφ0.50±.26; Mrθ1.89±.20; Mrφ3.27±.15; Mθφ~1.36±.29; Best double couple: M0=4.23700×10^16 NP1:φs278.00000°, δ32.00000°, λ56.00000°. NP2: φs136.00000°, δ64.00000°, λ109.00000°. Principal axes: T 2.9990, Plg66.0000°, Azm81.0000°; N 2.4770, Plg17.0000°, Azm307.0000°; P -5.4750, Plg17.0000°, Azm212.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
NEIC ***22*** *03:41:12.2±0.2, 201N×9675E, h30km, mb4.8/21 Error ellipse: s-maj=7.9km s-min=5.2km az=214.0*

ISC 22 03:41:12.6±0.3, 198N±004×9671E±003, h32km, h32km±1.3km: pP-P, n236, σ0:99/232, mb4.9/94, MS4.7/47, 26C-13D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**2.35**	**70**	Pn	**Pn**	**03 41 50.0**	**+0.9**
	8.0nm,0.3s,baz=268,slow=5.6,SNR=100						
PSI				LR	LR	03 42 31.1	
	comp=Z,5μm,18.7s,baz=283,slow=36						
TSI	**Tuntungan**	**2.38**	**51**	P	**Pn**	**03 41 49.8**	**+0.4**
	3μm,0.7s						
PPI	**Padang Panjang**	**4.41**	**123**	P	**Pn**	**03 42 17.8**	**+0.5**
	290nm,1.1s						
IPM	**Ipoh**	**4.97**	**60**	⇑P	**Pn**	**03 42 26.1**	**+1.1**
FRIM	**Kepong**	**5.06**	**76**	⇑P	**Pn**	**03 42 26.9**	**+0.6**
KULM	**Kulim**	**5.12**	**50**	⇑/Pn	**Pn**	**03 42 26.8**	**-0.3**
KULM	**Kulim**	**5.12**	**50**	⇑P	**Pn**	**03 42 27.6**	**+0.5**
PKT	**Phuket**	**6.23**	**14**	P	**Pn**	**03 42 42.0**	**-0.4**
SNG	**Songkhla**	**6.46**	**37**	P	**Pn**	**03 42 45.0**	**-0.5**
	650nm,0.9s						
KGM	**Kluang**	**6.60**	**90**	⇑P	**Pn**	**03 42 48.1**	**+0.7**
MYKOM	**Kota Tinggi**	**7.13**	**91**	⇑P	**Pn**	**03 42 55.8**	**+1.0**
KTGM	**Kuala Trenggan**	**7.22**	**62**	⇑P	**Pn**	**03 42 56.6**	**+0.7**
KSI	**Kapahiang**	**8.12**	**134**	P	**Pn**	**03 43 14.4**	**+6.1**
	201nm,0.9s						
PBA	**Port Blair**	**10.38**	**338**	*ex*	x	03 44 26.7	
PBA				*ex*	x	03 47 17.0	
KSM	**Kuching**	**13.60**	**92**	*e*Pn	**Pn**	**03 44 24.9**	**+1.5**
KSM	**Kuching**	**13.60**	**92**	⇓P	**Pn**	**03 44 24.6**	**+1.3**
NST	**Nakhon Sawan**	**14.01**	**14**	P	**Pn**	**03 44 25.0**	**-4.0**
KKTK	**Khon Kaen**	**15.48**	**23**	P	**Pn**	**03 44 52.0**	**+3.4**
BTM	**Bintulu**	**16.40**	**85**	⇑P	**Pn**	**03 45 02.4**	**+1.9**
CHG	**Chiang Mai**	**16.87**	**7**	⇑P	**Pn**	**03 45 04.6**	**-1.8**
	28nm,0.9s						
CHTO	**Chiang Mai**	**16.87**	**7**	*e*P	**Pn**	**03 45 05.0**	**-1.4**
NANT	**Nan**	**17.16**	**13**	⇑P	**Pn**	**03 45 07.0**	**-3.1**
	188nm,0.9s						
KKM	**Kota Kinabalu**	**19.86**	**78**	*e*P	**Pn**	**03 45 40.4**	**-2.6**
KKM	**Kota Kinabalu**	**19.86**	**78**	⇓P	**Pn**	**03 45 42.1**	**-0.9**
VIS	**Vishakhapatnam**	**20.43**	**321**	*e*P	**P**	**03 45 46.7**	**-0.6**
VIS				AMb	AMB	03 45 53.2	
	comp=Z,47nm,0.4s						
VIS				*i* x	x	03 49 40.8	
KDM	**Kudat**	**20.64**	**76**	⇑P	**P**	**03 45 50.5**	**+0.8**
SDKM	**Sandakan**	**20.75**	**79**	⇓P	**P**	**03 45 51.2**	**+0.3**
TSM	**Tawau**	**21.25**	**83**	⇑P	**P**	**03 45 55.9**	**-0.4**
QIZ	**Qiongzhong**	**21.27**	**36**	P	**P**	**03 45 57.0**	**+0.6**
QIZ				S	**S**	**03 49 47.8**	**-3.3**
QIZ				XS	sS	03 50 04.0	-0.8
QIZ				SS		03 50 22.8	
QIZ				AMB	AMB		
	comp=Z,14nm,0.7s,mb4.4						
QIZ				LR	LR		
	comp=N,2μm,19.9s,MS4.7						
QIZ				LR	LR		
	comp=E,2μm,19.6s,MS4.7						
QIZ				LR	LR		
	comp=Z,2μm,14.6s						
KHKI	**Kahang-Kahang**	**21.46**	**119**	P	**P**	**03 46 03.7**	**+5.2**
	comp=Z,60nm,0.9s,mb4.9						
MYLDM	**Lahad Datu**	**21.97**	**81**	⇑P	**P**	**03 46 04.8**	**+0.7**
HYB	**Hyderabad**	**23.53**	**312**	*e*P	**P**	**03 46 22.0**	**+1.7**
HYB				*e*S	**S**	**03 50 44.0**	**+12**
HYB	**Hyderabad**	**23.53**	**312**	*i* P	**P**	**03 46 22.0**	**+1.7**
HYB				*e*S	**S**	**03 50 44.0**	**+12**
KMI	**Kunming**	**23.73**	**14**	P	**P**	**03 46 21.8**	**-0.2**
KMI				AP		03 46 30.8	
KMI				XP	sP	03 46 35.1	0.0
KMI				PP		03 46 58.0	
KMI				S	**S**	**03 50 36.9**	**+1.8**
KMI				AMB	AMB		
	comp=Z,27nm,0.7s,mb4.8						
KMI				AMB	AMB		
	comp=Z,388nm,4.1s						
KMI				LR	LR		
	comp=N,560nm,21.7s,MS4.6						
KMI				LR	LR		
	comp=E,2μm,19.5s,MS4.6						
KMI				LR	LR		
	comp=Z,2μm,15.0s,MS4.7						
SHL	**Shillong**	**23.90**	**349**	*e*P	**P**	**03 46 21.0**	**-2.6**
SHL				*i* S	**S**	**03 50 37.0**	**-1.0**
KAPI	**Kappang**	**24.04**	**107**	P	**P**	**03 46 23.7**	**-1.3**
	comp=Z,21nm,0.6s,mb4.7,baz=299,slow=10.0,SNR=15						
BOK	**Bokaro**	**24.08**	**335**	*e*P	**P**	**03 46 25.4**	**+0.2**
BOK				AMb	AMB	03 46 36.9	
	comp=Z,57nm,1.8s,mb4.7						
BLSP	**Bilaspur**	**24.54**	**326**	*e*P	**P**	**03 46 30.4**	**+0.9**
BLSP				AMb	AMB	03 46 42.6	
	comp=Z,55nm,1.4s,mb4.9						
NGP	**Nagpur**	**25.68**	**319**	*e*P	**P**	**03 46 40.9**	**+1.1**
NGP				AMb	AMB	03 46 55.5	
	comp=Z,34nm,1.9s,mb4.5						
GYA	**Guiyang**	**26.14**	**21**	⇓*i*P	**P**	**03 46 44.0**	**0.0**
GYA				AP	pP	03 46 54.3	+1.1
GYA				XP	sP	03 47 01.3	+4.2
GYA				PP		03 47 29.8	
GYA				PCP	PcP	03 50 13.4	+2.5
GYA				S	**S**	**03 51 14.5**	**+0.7**
GYA				XS	sS	03 51 31.3	+2.3
GYA				SS		03 52 23.4	
GYA				SCP	ScP	03 53 48.9	+0.4
GYA				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
GYA				AMB	AMB		
	comp=Z,180nm,5.1s						
GYA				LR	LR		
	comp=N,1μm,17.9s,MS4.6						
GYA				LR	LR		
	comp=E,1μm,16.2s,MS4.6						
GYA				LR	LR		
	comp=Z,1μm,14.7s,MS4.7						
AKL	**Akola**	**26.75**	**315**	*e*P	**P**	**03 46 49.8**	**+0.3**
AKL				AMb	AMB	03 47 06.8	
	comp=Z,30nm,1.5s,mb4.6						
KAD	**Karad**	**26.87**	**306**	*e*P	**P**	**03 46 49.9**	**-0.8**
KAD				AMb	AMB	03 47 03.2	
	comp=Z,13nm,0.9s,mb4.5						
JIRN	**Jiri**	**27.45**	**339**	*e*P	**P**	**03 46 56.6**	**+0.9**
	comp=Z,92nm,0.6s,mb5.5						
PKI	**Pulchoki**	**27.65**	**338**	*e*P	**P**	**03 46 58.0**	**+0.5**
	comp=Z,36nm,0.6s,mb5.2						
GUN	**Gumba**	**27.79**	**339**	*e*P	**P**	**03 46 59.4**	**+0.7**
	comp=Z,156nm,0.6s,mb5.8						
DMN	**Daman**	**27.80**	**337**	*e*P	**P**	**03 46 59.8**	**+0.9**
KKN	**Kakani**	**27.89**	**338**	*e*P	**P**	**03 47 00.1**	**+0.4**
	comp=Z,54nm,0.7s,mb5.3						
LSA	**Lhasa**	**28.07**	**350**	P	**P**	**03 47 02.0**	**+0.8**
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**03 47 01.7**	**+0.5**
LSA				pmax	pmax		
	comp=Z,36nm,0.6s,mb5.2						
LSA	**Lhasa**	**28.07**	**350**	*e*P	**P**	**03 47 01.7**	**+0.5**
	comp=Z,36nm,0.6s,mb5.2						
BHPL	**Bhopal**	**28.22**	**320**	*ex*	x	03 47 09.1	
BHPL				AMb	AMB	03 47 18.8	
	comp=Z,27nm,1.5s,mb4.7						
GKN	**Gorkha**	**28.33**	**337**	*e*P	**P**	**03 47 04.0**	**+0.4**
KOLN	**Koldanda**	**28.55**	**335**	*e*P	**P**	**03 47 06.2**	**+0.7**
	comp=Z,59nm,0.6s,mb5.5						
DANN	**Dangsing**	**28.99**	**336**	*e*P	**P**	**03 47 09.9**	**+0.4**
	comp=Z,79nm,0.6s,mb5.6						
CD2	**Chengdu**	**29.53**	**12**	*e*P	**P**	**03 47 14.4**	**+0.2**
CD2				AP	pP	03 47 24.0	+0.5
CD2				PP	PP	03 48 11.9	-9.4
CD2				XS	sS	03 52 23.4	+1.1
CD2				SS	SS	03 53 43.8	-30
CD2				AMB	AMB		
	comp=Z,30nm,0.5s,mb5.3						
CD2				AMB	AMB		
	comp=Z,50nm,4.2s						
CD2				LR	LR		
	comp=N,2μm,15.6s,MS5.0						
CD2				LR	LR		
	comp=E,3μm,19.2s,MS5.0						
CD2				LR	LR		
	comp=Z,1μm,13.2s						
AGRA	**Agra**	**30.88**	**326**	*e*P	**P**	**03 47 25.8**	**-0.4**
AGRA				AMb	AMB	03 47 28.1	
	comp=Z,40nm,0.7s,mb5.4						
SONA	**Sohna**	**32.15**	**326**	*e*P	**P**	**03 47 37.6**	**+0.2**
SONA				AMb	AMB	03 47 40.9	
	comp=Z,41nm,0.6s,mb5.4						
NDI	**New Delhi**	**32.41**	**327**	*e*P	**P**	**03 47 39.6**	**-0.1**
NDI				AMb	AMB	03 47 42.8	
	comp=Z,24nm,0.6s,mb5.2						
KHET	**Khetri**	**32.75**	**324**	*e*P	**P**	**03 47 42.2**	**-0.4**
KHET				AMb	AMB	03 47 45.6	
	comp=Z,11nm,1.0s,mb4.8						
DDI	**Dehra Dun**	**33.28**	**330**	*e*P	**P**	**03 47 48.0**	**+0.8**
XAN	**Xi'an**	**33.87**	**18**	P	**P**	**03 47 50.6**	**-1.8**
XAN				XP	sP	03 48 04.1	-1.4
XAN				PP	PP	03 49 01.9	-7.5
XAN				PCP	PcP	03 50 31.5	+0.8
XAN				S	**S**	**03 53 07.8**	**-6.9**
XAN				SCP	ScP	03 54 12.1	-1.3
XAN				PCS	PcS	03 54 15.5	-1.2
XAN				SCS	ScS	03 58 11.6	-3.5
XAN				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
XAN				AMB	AMB		
	comp=Z,85nm,11.8s						
XAN				LR	LR		
	comp=N,432nm,22.3s,MS4.7						
XAN				LR	LR		
	comp=E,1μm,23.0s,MS4.7						
XAN				LR	LR		
	comp=Z,1μm,13.7s						
KLP	**Kalpa**	**34.17**	**331**	*e*P	**P**	**03 47 55.5**	**+0.5**
KLP				AMb	AMB	03 47 56.8	
	comp=Z,34nm,0.6s,mb5.5						
KLP				*e*S	**S**	**03 53 20.6**	**+1.2**
SMLA	**Simla**	**34.38**	**329**	*e*P	**P**	**03 47 57.0**	**+0.2**
SMLA				AMb	AMB	03 48 00.4	
	comp=Z,31nm,0.7s,mb5.4						
LZH	**Lanzhou**	**34.57**	**10**	*e*P	**P**	**03 47 57.3**	**-1.1**
LZH				AP	pP	03 48 06.0	-1.7
LZH				XP	sP	03 48 10.1	-1.5
LZH				PP	PP	03 49 19.3	+2.2
LZH				PCP	PcP	03 50 30.0	-2.7
LZH				*e*S	**S**	**03 53 29.1**	**+3.6**
LZH				XS	sS	03 53 46.1	+5.3
LZH				SS	SS	03 55 34.0	-22
LZH				AMB	AMB		
	comp=Z,26nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,155nm,5.6s						
LZH				LR	LR		
	comp=E,2μm,14.7s						
LZH				LR	LR		
	comp=Z,3μm,15.7s,MS5.1						
FITZ	**Fitzroy Crossi**	**34.78**	**126**	*e*P	**P**	**03 47 59.4**	**-1.0**
	comp=Z,10nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**34.78**	**126**	LR	LR	04 04 19.4	
	comp=Z,288nm,19.0s,MS4.0,baz=263,slow=40						
DLH	**Dalhousie**	**36.12**	**329**	*e*P	**P**	**03 48 12.0**	**+0.2**
THN	**Thein Dam**	**36.16**	**329**	*e*P	**P**	**03 48 10.6**	**-1.5**
NJ2	**Nanjing**	**36.46**	**33**	*e*P	**P**	**03 48 16.3**	**+1.6**
NJ2				AP	pP	03 48 25.6	+1.5
NJ2				XP	sP	03 48 30.4	+2.5
NJ2				PP	PP	03 49 40.3	+2.2
NJ2				S	**S**	**03 53 55.0**	**+0.3**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,210nm,9.5s						
NJ2				LR	LR		
	comp=N,3μm,20.6s,MS5.1						
NJ2				LR	LR		
	comp=E,2μm,24.6s,MS5.1						
NJ2				LR	LR		
	comp=Z,2μm,37.6s						
SSE	**Sheshan**	**37.06**	**36**	*e*P	**P**	**03 48 20.1**	**+0.3**
SSE				AP	pP	03 48 31.8	+2.6
SSE				XP	sP	03 48 36.8	+3.7
SSE				S	**S**	**03 54 03.8**	**0.0**
SSE				XS	sS	03 54 22.5	+3.2
SSE				AMB	AMB		
	comp=Z,38nm,0.7s,mb5.3						
SSE				AMB	AMB		
	comp=Z,131nm,7.7s						
SSE				LR	LR		
	comp=N,2μm,16.0s,MS5.0						
SSE				LR	LR		
	comp=E,961nm,16.0s,MS5.0						
SSE				LR	LR		
	comp=Z,3μm,16.3s,MS5.1						
GTA	**Gaotai**	**37.36**	**4**	⇑P	**P**	**03 48 21.8**	**-0.4**
GTA				AP	pP	03 48 30.8	-0.8
GTA				XP	sP	03 48 35.0	-0.4
GTA				PP	PP	03 49 50.3	+2.5
GTA				PCP	PcP	03 50 43.3	+2.4
GTA				S	**S**	**03 54 05.8**	**-2.3**
GTA				XS	sS	03 54 22.9	-0.6
GTA				SCP	ScP	03 54 26.0	0.0
GTA				PCS	PcS	03 54 30.3	+1.1
GTA				SS	SS	03 56 37.5	-15
GTA				SCS	ScS	03 58 32.8	-1.1
GTA				AMB	AMB		
	comp=Z,28nm,0.9s,mb5.1						
GTA				AMB	AMB		
	comp=Z,187nm,7.6s						
GTA				LR	LR		
	comp=N,328nm,24.0s						
GTA				LR	LR		
	comp=E,598nm,15.2s						
GTA				LR	LR		
	comp=Z,495nm,19.8s,MS4.3						
KAKA	**Kakadu**	**38.35**	**113**	*e*P	**P**	**03 48 29.5**	**-1.5**
	comp=Z,13nm,0.6s,mb4.8						
TIY	**Taiyuan**	**38.38**	**20**	P	**P**	**03 48 32.3**	**+1.4**
TIY				S	**S**	**03 54 21.8**	**-1.8**
TIY				LR	LR		
	comp=N,2μm,13.2s,MS5.2						
TIY				LR	LR		
	comp=E,893nm,11.7s,MS5.2						
TIY				LR	LR		
	comp=Z,3μm,16.0s,MS5.2						
HHC	**Hu-ho-hao-te**	**40.95**	**17**	⇑P	**P**	**03 48 52.6**	**+0.3**
HHC				AP	pP	03 49 02.4	+0.7
HHC				XP	sP	03 49 07.3	+1.8
HHC				PP	PP	03 50 31.6	+4.5
HHC				PCP	PcP	03 50 50.8	-1.4
HHC				SCP	ScP	03 54 38.0	-1.8
HHC				S	**S**	**03 55 04.4**	**+2.3**
HHC				XS	sS	03 55 19.8	+2.1
HHC				SS	SS	03 58 03.3	-1.5
HHC				SCS	ScS	03 58 52.1	-2.8
HHC				AMB	AMB		
	comp=Z,16nm,1.1s,mb4.6						
HHC				AMB	AMB		
	comp=Z,264nm,5.4s						
HHC				LR	LR		
	comp=N,1μm,14.5s,MS5.0						
HHC				LR	LR		
	comp=E,1μm,17.1s,MS5.0						
HHC				LR	LR		
	comp=Z,1μm,14.6s,MS4.8						
KBL	**Kabul**	**41.40**	**325**	*e*P	**P**	**03 49 00.3**	**+4.2**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.6s,mb4.4						
KBL	**Kabul**	**41.40**	**325**	*e*P	**P**	**03 49 00.3**	**+4.3**
	comp=Z,6.0nm,0.6s,mb4.4						
BJT	**Baijiatuau**	**41.78**	**23**	*e*P	**P**	**03 48 58.7**	**-0.4**
BJT				pmax	pmax		
	comp=Z,21nm,0.6s						
BJT	**Baijiatuau**	**41.78**	**23**	*e*P	**P**	**03 48 58.7**	**-0.4**
	comp=Z,21nm,0.6s,mb4.9						
BJI	**Beijing**	**41.80**	**23**	P	**P**	**03 48 59.1**	**-0.1**
BJI				PP	PP	03 50 38.3	+2.0
BJI				S	**S**	**03 55 16.5**	**+1.8**
BJI				AMB	AMB		
	comp=Z,23nm,1.0s,mb4.8						
BJI				AMB	AMB		
	comp=Z,375nm,3.8s						
BJI				LR	LR		
	comp=N,2μm,17.8s,MS5.0						
BJI				LR	LR		
	comp=E,587nm,17.4s,MS5.0						
BJI				LR	LR		
	comp=Z,877nm,16.9s,MS4.7						
WMQ	**Urumqi**	**42.42**	**350**	P	**P**	**03 49 05.0**	**+0.8**
WMQ				AP	pP	03 49 15.0	+1.3
WMQ				XP	sP	03 49 19.0	+1.5
WMQ				PP	PP	03 50 47.0	+4.0
WMQ				S	**S**	**03 55 24.0**	**+0.2**
WMQ				SS	SS	03 58 28.0	-5.8
WMQ				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.9						
WMQ				AMB	AMB		
	comp=Z,52nm,4.0s						
WMQ				LR	LR		
	comp=N,354nm,13.0s,MS4.8						
WMQ				LR	LR		
	comp=E,735nm,15.0s,MS4.8						
WMQ				LR	LR		
	comp=Z,524nm,14.0s,MS4.6						
WRA	**Warramunga Arr**	**42.86**	**122**	*i* P	**P**	**03 49 07.5**	**-0.7**
WRA				pmax	pmax		
	comp=Z,12nm,0.7s						
WRA	**Warramunga Arr**	**42.86**	**122**	P	**P**	**03 49 07.1**	**-1.1**
	comp=Z,12nm,0.7s,mb4.7,baz=300,slow=9.1,SNR=46						
WRA				LR	LR	04 06 49.6	
	comp=Z,502nm,21.6s,MS4.4,baz=290,slow=36						
WRAB	**Tennant Creek**	**42.87**	**122**	*e*P	**P**	**03 49 07.7**	**-0.5**
WB2	**Warramunga Arr**	**42.87**	**122**	*e*P	**P**	**03 49 07.1**	**-1.2**
DL2	**Dalian**	**43.22**	**29**	⇑P	**P**	**03 49 10.6**	**-0.2**
DL2				*e*S	**S**	**03 55 35.3**	**-0.4**
DL2				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.4						
DL2				AMB	AMB		
	comp=Z,130nm,5.2s						
DL2				LR	LR		
	comp=N,380nm,14.6s,MS4.7						
DL2				LR	LR		
	comp=E,660nm,14.4s,MS4.7						
DL2				LR	LR		
	comp=Z,490nm,19.4s,MS4.4						
FORT	**Forrest**	**44.18**	**140**	*e*P	**P**	**03 49 20.5**	**+1.8**
	comp=Z,35nm,0.7s,mb5.2						
ASAR	**Alice Springs**	**44.25**	**127**	P	**P**	**03 49 18.5**	**-0.8**
	comp=Z,6.0nm,0.8s,mb4.4,baz=299,slow=7.4,SNR=49						
ASAR				PcP	PcP	03 51 03.4	-0.2
	comp=Z,1.5nm,0.7s,baz=275,slow=3.1,SNR=4.5						
UCH	**Uchtor**	**44.74**	**337**	*e*P	**P**	**03 49 23.9**	**+0.9**
	comp=Z,16nm,0.8s,mb4.9						
UCH	**Uchtor**	**44.74**	**337**	P	**P**	**03 49 24.3**	**+1.3**
	SNR=10						
TKM2	**Tokmak 2**	**44.91**	**338**	*e*P	**P**	**03 49 24.7**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb4.9						
TKM2	**Tokmak 2**	**44.91**	**338**	*e*P	**P**	**03 49 24.7**	**+0.4**
	comp=Z,9.9nm,0.5s,mb4.9						
TKM2	**Tokmak 2**	**44.91**	**338**	P	**P**	**03 49 25.2**	**+0.9**
	SNR=17						
KBK	**Karagaybulak**	**44.93**	**337**	P	**P**	**03 49 25.9**	**+1.4**
	SNR=19						
AML	**Almayashu**	**44.99**	**336**	*e*P	**P**	**03 49 25.9**	**+1.0**
	comp=Z,10nm,0.6s,mb4.8						
AML	**Almayashu**	**44.99**	**336**	P	**P**	**03 49 26.2**	**+1.3**
	SNR=15						
FRU	**Bishkek**	**45.21**	**337**	*e*P	**P**	**03 49 27.0**	**+0.3**
FRU				pmax	pmax		
	comp=Z,80nm,2.2s,mb5.2						
EKS2	**Erkin-Say**	**45.40**	**336**	*e*P	**P**	**03 49 28.8**	**+0.6**
	comp=Z,8.3nm,0.6s,mb4.7						
EKS2	**Erkin-Say**	**45.40**	**336**	P	**P**	**03 49 29.2**	**+1.0**
	SNR=9.2						
KS15	**Wonju Array Si**	**45.46**	**35**	*e*P	**P**	**03 49 28.3**	**-0.4**
KSRS	**Korea Array**	**45.49**	**35**	P	**P**	**03 49 27.9**	**-1.1**
KSRS				pmax	pmax		
	comp=Z,9.0nm,0.7s,mb4.7						
KSRS				MLR	MLR		
	comp=Z,749nm,18.1s,MS4.7						
KSRS	**Korea Array**	**45.49**	**35**	P	**P**	**03 49 27.9**	**-1.1**
	comp=Z,8.6nm,0.7s,mb4.7,baz=230,slow=8.7

comp=Z,9.9nm,0.7s,mb4.9,baz=192,slow=8.3,SNR=73
SONM PcP PcP 03 51 10.8 +0.2
comp=Z,3.6nm,0.6s,baz=209,slow=2.7,SNR=16
ULN Ulaanbaatar 46.57 10 *c iP* **P 03 49 37.2 -0.1**
KK31 Karatay Array 47.14 334 *i P* **P 03 49 42.9 +1.0**
KK31 pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
ZAK Zakamensk 48.54 6 *eP* **P 03 49 52.6 0.0**
ZAK pmax pmax
comp=Z,9.0nm,1.5s,mb4.6
CN2 Changchun 48.83 28 ⇑P **P 03 49 54.3 -0.6**
CN2 *e*XP sP 03 50 08.8 +0.5
CN2 *e*S **S 03 56 54.5 -1.7**
CN2 AMB AMB
comp=Z,30nm,0.7s,mb5.4
CN2 AMB AMB
comp=Z,200nm,7.0s
CN2 LR LR
comp=N,2μm,16.0s,MS5.2
CN2 LR LR
comp=E,800nm,16.0s,MS5.2
CN2 LR LR
comp=Z,1μm,16.0s,MS5.0
GUMO Guam 48.98 74 LR LR 04 10 31.8
comp=Z,373nm,18.8s,MS4.4,baz=272,slow=36
MOY Mondy 49.64 3 *eP* **P 03 50 01.8 +0.9**
MOY pmax pmax
comp=Z,46nm,2.5s,mb5.1
TLY Talaya 49.86 6 *eP* **P 03 50 04.8 +2.1**
TLY *e* 03 51 52.2
TLY *e*PPP 03 52 57.9
TLY *e*S **S 03 57 08.7 -1.7**
TLY pmax pmax
comp=Z,11nm,0.8s,mb4.9
TLY MLR MLR
comp=Z,613nm,16.0s,MS4.7
TLY Talaya 49.86 6 *eP* **P 03 50 02.5 -0.1**
comp=Z,8.9nm,0.8s,mb4.8
IRK Irkutsk 50.48 6 *eP* **P 03 49 59.4 -7.9**
IRK pmax pmax
comp=Z,111nm,0.6s,mb6.1
KURK Kurchatov 50.91 345 *eP* **P 03 50 10.7 +0.1**
HIA Hailar 51.06 19 *eP* **P 03 50 11.6 -0.2**
HIA pmax pmax
comp=Z,8.0nm,0.6s
HIA Hailar 51.06 19 *eP* **P 03 50 11.6 -0.1**
comp=Z,8.3nm,0.6s,mb4.8
MDJ Mudanjiang 51.43 30 P **P 03 50 15.8 +1.2**
MDJ AP pP 03 50 24.9 +0.7
MDJ XP sP 03 50 28.8 +0.8
MDJ PCP PcP 03 51 28.8 0.0
MDJ PP PP 03 52 12.5 +0.5
MDJ SCP ScP 03 55 24.8 +1.5
MDJ S **S 03 57 33.1 +0.8**
MDJ SCS ScS 04 00 01.8 -0.9
MDJ AMB AMB
comp=Z,13nm,0.9s,mb4.9
MDJ AMB AMB
comp=Z,189nm,6.1s
MDJ LR LR
comp=N,1μm,15.5s,MS5.0
MDJ LR LR
comp=E,556nm,16.4s,MS5.0
MDJ LR LR
comp=Z,1μm,14.6s,MS5.1
MAJO Matsushiro 51.45 43 *eP* **P 03 50 14.4 -0.5**
MAJO pmax pmax
comp=Z,12nm,0.7s,mb4.9
MAJO Matsushiro 51.45 43 *eP* **P 03 50 14.4 -0.5**
comp=Z,12nm,0.7s,mb4.9
MAT Matsushiro 51.45 43 P **P 03 50 14.6 -0.3**
MAT S **S 03 57 36.6 +3.7**
MJAR Matsushiro Arr 51.45 43 P **P 03 50 13.6 -1.3**
comp=Z,6.7nm,0.7s,mb4.7,baz=201,slow=7.0,SNR=23
MJAR LR LR 04 12 58.3
comp=Z,436nm,20.2s,MS4.5,baz=215,slow=37
ZAL Zalesovo 52.70 351 P **P 03 50 23.9 0.0**
ZALV Zalesovo Beam 52.71 351 P **P 03 50 23.9 -0.1**
comp=Z,36nm,0.6s,mb5.5,baz=179,slow=7.0,SNR=130
ZALV LR LR 04 16 59.3
comp=Z,185nm,20.8s,MS4.1,baz=178,slow=41
OPO Ambohidratompo 52.81 245 P **P 03 50 26.6 +1.2**
comp=Z,2.4nm,0.8s,mb4.2,baz=30,slow=12,SNR=2.1
CTA Charters Tower 53.29 117 *eP* **P 03 50 28.8 0.0**
comp=Z,12nm,0.8s,mb4.9
CTA Charters Tower 53.29 117 *eP* **P 03 50 28.8 0.0**
CTA pmax pmax
comp=Z,12nm,0.8s
CTA Charters Tower 53.29 117 LR LR 04 17 23.5
comp=Z,537nm,18.3s,MS4.6,baz=12,slow=41
CTAO Charters Tower 53.29 117 *eP* **P 03 50 28.9 +0.1**
CTAO pmax pmax
comp=Z,16nm,0.9s,mb5.0
CTAO Charters Tower 53.29 117 *eP* **P 03 50 28.9 0.0**
comp=Z,16nm,0.9s,mb5.0
NVS Novosibirsk 53.83 350⇑*iP* **P 03 50 31.1 -1.1**
NVS *e*S **S 03 57 56.5 -8.3**
NVS pmax pmax
comp=N,14nm,0.8s
NVS pmax pmax
comp=E,13nm,0.8s
NVS pmax pmax
comp=Z,19nm,0.8s,mb5.1
NVS smax
comp=N,18nm,1.9s
NVS smax
comp=E,19nm,1.9s
STKA Stephens Creek 54.24 132 *eP* **P 03 50 35.7 +0.1**
comp=E,8.2nm,0.7s,mb4.8
STKA Stephens Creek 54.24 132 *eP* **P 03 50 35.6 0.0**
STKA Stephens Creek 54.24 132 P **P 03 50 35.6 0.0**
comp=E,4.7nm,0.9s,mb4.4,baz=305,slow=8.9,SNR=5.2
STKA sP sP 03 50 46.5 -2.6
comp=E,11nm,0.8s,baz=281,slow=11,SNR=7.4
STKA LR LR 04 16 47.1
comp=E,502nm,19.3s,MS4.6,baz=118,slow=39
BRVK Borovoye 55.42 341 *eP* **P 03 50 43.4 -0.3**
KLR Kul'dur 55.78 27 *eP* **P 03 50 42.8 -3.6**
KLR *e*S **S 03 58 40.5 +9.3**
KLR *e* 04 02 13.5
KLR pmax pmax
comp=Z,90nm,2.0s,mb5.5
KLR MLR MLR
comp=N,1μm,13.5s,MS5.2
KLR MLR MLR
comp=E,1μm,13.5s,MS5.2
KLR MLR MLR
comp=Z,2μm,13.5s,MS5.3
BOD Bodaibo 57.33 11 *eP* **P 03 50 56.6 -0.7**
BOD pmax pmax
comp=Z,12nm,0.6s,mb5.1
AKTO Aktyubinsk 58.31 332 *i P* **P 03 51 03.1 -1.2**
ASAJ Asahikawa 58.34 37 P **P 03 51 05.1 +0.5**
ASAJ pmax pmax
comp=Z,10.0nm,0.6s
ASAJ Asahikawa 58.34 37 P **P 03 51 05.0 +0.4**
comp=Z,10nm,0.6s,mb5.0,baz=272,slow=13,SNR=6.9
KMBO Kilima Mbogo 59.53 268 *i P* **P 03 51 10.6 -2.9**
KMBO Kilima Mbogo 59.53 268 LR LR 04 12 40.5
comp=Z,474nm,19.7s,MS4.6,baz=77,slow=32
MAK Makhachkala 59.82 320 *eP* **P 03 51 13.9 -1.1**
MAK MLR MLR
comp=Z,407nm,22.0s,MS4.5
YSS Yuzh-Sakhalins 59.98 35 *eP* **P 03 51 15.2 -0.8**
YSS pmax pmax
comp=Z,32nm,1.3s,mb5.2
GNI Garni 60.40 316 *eP* **P 03 51 18.9 0.0**
GNI pmax pmax
comp=Z,17nm,1.6s
SVE Sverdlovsk 61.78 338⇑*eP* **P 03 51 27.9 -0.1**
SVE *e* 04 01 18.9
SVE pmax pmax
comp=Z,18nm,0.7s,mb5.3
ARU Arti 62.28 337 *d iP* **P 03 51 30.5 -0.8**
ARU *e* 03 52 11.1
ARU *e*S **S 03 59 56.0 +0.8**
ARU *e*SS SS 04 03 53.9 -5.0
ARU pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
ARU MLR MLR
comp=Z,417nm,20.0s,MS4.6
KIV Kislovodsk 63.40 319 *eP* **P 03 51 38.9 -0.2**
KIV *e* 03 52 15.8
KIV *e*S **S 04 00 12.7 +3.0**
KIV pmax pmax
comp=Z,13nm,1.0s,mb5.0
KIV MLR MLR
comp=Z,97nm,18.0s,MS4.0
MALT Malatya 64.25 312 *eP* **P 03 51 45.0 +0.2**
MALT Malatya 64.25 312⇓*iP* pP 03 51 53.8 -0.8
YAK Yakutsk 64.81 16 *eP* **P 03 51 46.9 -1.0**
YAK *e**PP pP 03 51 54.9 -2.9
YAK *e* 03 52 19.5
YAK *e*S **S 04 00 25.8 -0.7**
YAK *e* 04 01 41.9
YAK *e*SS SS 04 04 39.1 +0.9
YAK *e*SSS 04 07 34.3
YAK pmax pmax
comp=Z,39nm,1.0s,mb5.4
YAK pmax pmax
comp=N,12nm,1.4s
YAK pmax pmax
comp=E,10.0nm,1.4s
YAK smax
comp=N,83nm,3.3s
YAK smax
comp=E,28nm,1.9s
YAK MLR MLR
comp=Z,1μm,18.0s,MS5.1
YAK MLR MLR
comp=N,455nm,15.0s,MS5.0
YAK MLR MLR
comp=E,572nm,15.0s,MS5.0
SOC Sochi 65.22 318 *eP* **P 03 51 48.8 -2.2**
SOC *e* 03 52 19.7
SOC *e* 03 54 12.9
SOC *e*S S 04 00 27.6 -4.6
SOC *e* 04 01 41.6
SOC *e*SS SS 04 04 42.3 -3.0
SOC *e*SSS 04 07 41.3
SOC pmax pmax
comp=E,54nm,1.0s
MA2 Magadan 70.84 26 *eP* **P 03 52 25.6 -0.4**
MA2 *e* 03 55 04.8
MA2 *e*S S 04 01 39.9 +1.1
MA2 pmax pmax
comp=Z,10.0nm,0.7s,mb4.8
MA2 MLR MLR
comp=Z,300nm,20.0s,MS4.5
MOS Moscow 71.41 329 *eP* pP 03 52 37.9 -1.6
MOS MLR MLR
comp=Z,700nm,21.0s,MS4.9
OBN Obninsk 71.70 328⇑*eP* **P 03 52 30.7 -0.6**
OBN *e*S S 04 01 51.1 +2.2
OBN *e*SS SS 04 06 28.0 +3.0
OBN pmax pmax
comp=Z,11nm,1.2s,mb4.7
OBN MLR MLR
comp=Z,200nm,22.0s,MS4.3
PET Petropavlovsk 71.86 34 *eP* **P 03 52 31.9 -0.4**
PET *e*PPP 03 56 59.1
PET *e*S S 04 01 52.4 +1.6
PET *e*SP 04 02 14.0
PET pmax pmax
comp=Z,43nm,0.7s,mb5.5
PET pmax pmax
comp=Z,200nm,5.0s
PET MLR MLR
comp=Z,300nm,18.0s,MS4.6
TIXI Tiksi 72.50 10 *eP* **P 03 52 34.3 -1.5**
TIXI *e*S S 04 01 54.0 -3.6
TIXI pmax pmax
comp=Z,9.0nm,0.5s,mb5.0
TIXI Tiksi 72.50 10 *eP* **P 03 52 34.5 -1.3**
TIRR Tirgusor 73.22 316⇑*iP* **P 03 52 41.7 +1.1**
MAW Mawson 73.36 193 P **P 03 52 41.1 +0.2**
MAW *SP sP 03 52 53.6 -1.0
MAW Mawson 73.36 193 P **P 03 52 41.1 +0.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=49,slow=11,SNR=2.6
MAW sP sP 03 52 53.6 -1.0
comp=Z,2.9nm,0.6s,baz=66,slow=8.6,SNR=3.8
MAW LR LR 04 18 11.1
comp=Z,282nm,20.4s,MS4.5,baz=183,slow=30
AKASG Malin Array Be 74.34 322 P **P 03 52 45.3 -1.7**
comp=Z,3.4nm,0.6s,mb4.5,baz=92,slow=5.1,SNR=18
AKBB Malin Array Si 74.34 322 *eP* **P 03 52 45.9 -1.1**
KIEV Kiev 74.35 322 *eP* **P 03 52 45.1 -2.0**
KIEV pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
KIEV Kiev 74.35 322 *eP* **P 03 52 45.1 -1.9**
comp=Z,5.5nm,0.6s,mb4.7
VRI Vrincioaia 74.72 317⇓*iP* **P 03 52 49.8 +0.5**
BOSA Boshof 74.75 240 LR LR 04 24 17.9
comp=Z,466nm,18.2s,MS4.8,baz=65,slow=34
TMCR Tamitsa 75.02 337 *eP* **P 03 52 47.1 -3.5**
MLR Muntele Rosu 75.17 317⇑*iP* **P 03 52 52.5 +0.6**
BURAR Bucovina Array 76.12 319⇓*iP* **P 03 52 58.4 +1.1**
JOF Joensuu 77.23 335 *ep* **P 03 53 02.3 -1.0**
comp=Z,3.7nm,0.6s,mb4.5
LVV L'vov 77.36 321 *eP* **P 03 53 04.7 +0.5**
LVV *e* 03 53 18.3
LVZ Lovozero 77.94 340 *eP* **P 03 53 06.3 -0.8**
LVZ pmax pmax
comp=Z,89nm,2.7s,mb5.2
APA Apatity 78.23 339⇓*iP* **P 03 53 09.0 +0.3**
APA *i* pP 03 53 19.0 +0.2
APA pmax pmax
comp=Z,12nm,0.8s,mb4.9
UZH Uzhgorod 78.24 319 *eP* **P 03 53 05.0 -4.2**
UZH *e* 03 53 17.0
FIA1 FINESS Array S 79.08 333 *eP* **P 03 53 12.6 -1.0**
FINES FINESS Array B 79.08 333 P **P 03 53 12.7 -0.9**
FINES *PP pP 03 53 21.5 -2.1
FINES FINESS Array B 79.08 333 P **P 03 53 12.7 -0.9**
FINES pP pP 03 53 21.5 -2.1
FINES LR LR 04 33 06.4
FINES FINESS Array B 79.08 333 P **P 03 53 12.7 -0.9**
comp=Z,5.4nm,0.6s,mb4.7,baz=104,slow=6.5,SNR=35
FINES pP pP 03 53 21.5 -2.1
comp=Z,4.0nm,0.5s,baz=98,slow=6.1,SNR=9.5
FINES LR LR 04 33 06.4
comp=Z,279nm,21.0s,MS4.6,baz=306,slow=39
PKSM Moragy 80.32 316⇓*iP* **P 03 53 20.0 -0.6**
SYO Syowa Base 80.59 198⇑*e*PcP PcP 03 53 30.0 +1.7
SYO Syowa Base 80.59 198⇑*e*pP pP 03 53 33.0 +1.3
OKC Ostrava-Krasne 81.11 320 AMS AMS 04 37 50.0
comp=Z,300nm,21.1s
KEV Kevo 81.21 341 *ep* **P 03 53 20.8 -4.1**
comp=Z,5.0nm,0.6s,mb4.6
KEV Kevo 81.21 341 *eP* **P 03 53 20.8 -4.1**
KEV pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
ARCES ARCESS Array B 81.64 340 P **P 03 53 27.4 +0.3**
ARCES *PP pP 03 53 35.3 -2.0
ARCES ARCESS Array B 81.64 340 P **P 03 53 27.4 +0.2**
comp=Z,3.3nm,0.5s,mb4.5,baz=88,slow=4.3,SNR=28
ARCES pP pP 03 53 35.3 -1.9
comp=Z,2.6nm,0.6s,baz=91,slow=4.2,SNR=3.2
ARCES LR LR 04 35 59.9
comp=Z,357nm,18.9s,MS4.8,baz=204,slow=40
DPC Dobruska-Polom 82.34 320 *eP* **P 03 53 31.8 +0.6**
DPC AMS AMS 04 36 30.0
comp=Z,200nm,9.6s
UPC Upice 82.56 321 *eP* **P 03 53 30.6 -1.7**
TREC Trest 82.77 319 *eP* **P 03 53 34.1 +0.6**
TREC AMS AMS 04 36 50.0
PRU Pruhonice 83.45 320 AMS AMS 04 36 30.0
comp=Z,200nm,18.6s
PVCC Panska Ves 83.47 320 AMS AMS 04 35 30.0
BRG Berggiesshubel 83.90 321 P **P 03 53 41.2 +1.9**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
BRG Berggiesshubel 83.90 321 *e*(P) **P 03 53 41.2 +1.9**
comp=Z,4.0nm,0.8s,mb4.6
GEC2 GERESS Array S 83.91 319 *eP* **P 03 53 39.1 -0.3**
GERES GERESS Array B 83.91 319 P **P 03 53 39.7 +0.3**
GERES *PP pP 03 53 47.7 -1.8
GERES GERESS Array B 83.91 319 P **P 03 53 39.7 +0.3**
comp=Z,1.8nm,0.8s,mb4.2,baz=94,slow=5.4,SNR=12
GERES pP pP 03 53 47.7 -1.8
comp=Z,3.0nm,0.8s,baz=117,slow=4.7,SNR=11
GERES LR LR 04 32 34.5
comp=Z,124nm,18.3s,MS4.3,baz=277,slow=37
KHC Kasperske Hory 84.01 319 *eP* **P 03 53 39.3 -0.6**
KHC Kasperske Hory 84.01 319 *eP* **P 03 53 38.8 -1.1**
KHC AMS AMS 04 34 40.0
KBA Koelnbreinsper 84.03 317⇓*iP* pP 03 53 47.9 -2.3
comp=Z,5.7nm,1.2s
KBA Koelnbreinsper 84.03 317⇓*iP*pP pP 03 53 47.9 -2.3
comp=Z,5.7nm,1.2s
KBA Koelnbreinsper 84.03 317⇓*iP* pP 03 53 47.9 -2.3
KBA pmax pmax
comp=Z,6.0nm,1.2s,mb4.6
CLL Collm 84.52 321 *e*S S 04 04 09.0 +2.0
CLL *e*PS 04 05 00.0
CLL *e*SSS 04 13 06.0
CLL *e*SSSS 04 16 18.0
CLL LmV 04 35 00.0
comp=Z,200nm,19.9s
ABTA Abfaltersbach 84.58 317⇑*iP* pP 03 53 49.6 -3.4
comp=Z,2.8nm,0.8s
ABTA Abfaltersbach 84.58 317⇑*i*pP pP 03 53 49.6 -3.4
comp=Z,2.8nm,0.8s
NKC Novy Kostel 84.81 320 AMS AMS 04 34 40.0
GRA1 Grafenberg Arr 85.58 320 *eP* **P 03 53 47.7 0.0**
GRF Grafenberg Arr 85.58 320 *eP* **P 03 53 47.7 0.0**
NB2 NORSAR Subarra 86.09 331 P **P 03 53 49.2 -0.8**
comp=Z,4.1nm,0.9s,mb4.7,baz=91,slow=5.6
NOA NORSAR Array B 86.09 331 P **P 03 53 49.1 -0.9**
NOA *PP pP 03 53 57.4 -2.8
NOA NORSAR Array B 86.09 331 P **P 03 53 49.1 -0.9**
comp=Z,1.4nm,0.8s,mb4.3,baz=94,slow=5.1,SNR=5.6
NOA pP pP 03 53 57.4 -2.8
comp=Z,1.9nm,0.8s,baz=93,slow=4.8,SNR=5.3
NOA LR LR 04 36 44.6
comp=Z,260nm,21.1s,MS4.6,baz=55,slow=39
VNDA Vanda 86.68 169 LR LR 04 29 49.6
comp=Z,334nm,18.2s,MS4.8,baz=307,slow=34
PGF Pioggiola 86.98 312 *eP* **P 03 53 56.2 +1.3**
comp=Z,6.3nm,0.8s,mb4.6
PGF Pioggiola 86.98 312 *eP* **P 03 53 56.2 +1.3**
PGF pmax pmax
comp=Z,3.0nm,0.8s,mb4.6
PGF Pioggiola 86.98 312 *eP* **P 03 53 56.2 +1.3**
comp=Z,3.2nm,0.8s,mb4.6
LPG La Plagne 88.57 315 *eP* **P 03 54 03.3 +0.9**
comp=Z,6.1nm,0.8s,mb4.7
LPG La Plagne 88.57 315 *eP* **P 03 54 03.3 +0.9**
LPG pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
LPG La Plagne 88.57 315 *eP* **P 03 54 03.3 +0.9**
comp=Z,3.0nm,0.8s,mb4.7
MBDF Montbardon 88.58 315 *eP* **P 03 54 02.9 +0.5**
LPL La Plagne 88.59 315 *eP* **P 03 54 03.1 +0.7**
LOR Lormes 90.50 317 *eP* **P 03 54 12.0 +0.6**
comp=Z,3.1nm,0.6s,mb4.5
LOR Lormes 90.50 317 *eP* **P 03 54 12.0 +0.6**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.6
LOR Lormes 90.50 317 *eP* **P 03 54 12.0 +0.6**
comp=Z,1.5nm,0.6s,mb4.5
TORD Torodi Ar. Bea 94.44 283 P **P 03 54 31.9 +1.6**
comp=Z,0.9nm,1.2s,mb4.1,baz=106,slow=5.2,SNR=4.9
TORD LR LR 04 37 03.6
comp=Z,302nm,18.5s,MS4.8,baz=90,slow=36
IMA2 Indian Mountai 96.05 23 *eP* **P 03 54 36.2 -0.3**
ESDC Sonseca Array 96.95 310 LR LR 04 41 02.4
comp=Z,104nm,18.3s,MS4.3,baz=290,slow=37
KDAK Kodiak Island 99.22 31 LR LR 04 42 59.1
comp=Z,232nm,21.7s,MS4.6,baz=211,slow=37
YKA Yellowknife Ar 111.47 15 PP PP 04 00 18.8 -4.8
comp=Z,0.3nm,0.6s,baz=333,slow=7.3,SNR=6.6
ULM Lac du Bonnet 126.86 10 PKP PKPdf 04 00 11.9 -1.3
comp=Z,1.5nm,0.6s,baz=150,slow=2.6,SNR=3.3
NVAR Mina Array Bea 128.43 35 PKP PKPdf 04 00 16.1 -0.5
comp=Z,0.2nm,0.3s,baz=336,slow=2.0,SNR=3.2
TXAR Lajitas Array 143.25 31 PKP PKPdf 04 00 41.6 -2.7
comp=Z,0.8nm,0.6s,baz=288,slow=2.4,SNR=8.5
CPUP Villa Florida 145.25 224 PKPbc PKPbc 04 00 48.3 +0.7
comp=Z,1.0nm,0.4s,baz=335,slow=3.3,SNR=4.1
VBMS Vicksburg 145.30 11 *e*PKPbc PKPbc 04 00 47.2 -0.3

CSEM ***22*** *03:46:15.2±0.4, 3832N×2034E, h10km, ML2.8, Error ellipse: s-maj=8.2km s-min=2.3km az=80.0*
THE ***22*** *03:46:15.6, 3832N×2036E, h2km, ML2.8*
ATH ***22*** *03:46:16.1, 3833N×2044E, h4km, MD3.2/4*
NEIC ***22*** *03:46:16.1, 3833N×2044E, h4km, MD3.2(ATH), After ATH.*
ISC 22 03:46:15.3±3.1, 3832N±006×203E±02, h9km±15km, n7, σ0°47/11, 1C, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**126**	*e*Pg	**Pg**	**03 46 20.0**	**-0.1**
VLS				*e*Sg	**Sg**	**03 46 23.3**	**-0.1**
VLS	**Valsamata**	**0.24**	**126**	⇑*i*PG	**Pg**	**03 46 20.2**	**+0.1**
VLS				*e*SG	**Sg**	**03 46 23.3**	**-0.1**
KFL	**Anninata**	**0.41**	**120**	*e*Pg	**Pg**	**03 46 23.0**	**-0.3**
KFL				*e*Sg	**Sg**	**03 46 28.9**	**+0.3**
LKD	**Levkas**	**0.46**	**32**	*e*Pg	**Pg**	**03 46 24.1**	**-0.1**
LKD				*e*Sg	**Sg**	**03 46 30.8**	**+0.5**
RLS	**Riolos of Patr**	**0.92**	**106**	*e*PG	**Pg**	**03 46 32.6**	**-0.5**
EVR	**Evrytania**	**1.30**	**62**	*e*PB	**Pb**	**03 46 39.1**	**-0.7**
ITM	**Ithomi**	**1.69**	**132**	*e*PB	**Pb**	**03 46 47.5**	**+0.9**

DDA ***22*** *04:01:14.5, 3955N×2706E, h7km±2km, Md3.0*
THE ***22*** *04:01:14.9, 3952N×2703E, h1km, ML3.5*
ISK ***22*** *04:01:14.4, 3957N×2707E, h5km, MD3.0*
CSEM ***22*** *04:01:14.4±0.1, 3953N×2707E, h8km, MD3.2/1, Error ellipse: s-maj=1.4km s-min=1.2km az=79.0*
ISCJB ***22*** *04:01:14.3±0.2, 3956N±002×2704E±002, h5km, Error ellipse: s-maj=2.6km s-min=2.4km az=152.8*
ATH ***22*** *04:01:15.2, 3955N×2701E, h10km, MD3.2/3*
ISC 22 04:01:14.5±0.4, 3957N±002×2705E±002, h1km±4km, n47, σ0°98/62, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AYVA	**Ayvalik**	**0.38**	**227**	*i* P	**Pg**	**04 01 22.5**	**+0.7**
AYVA				*i* S	**Sg**	**04 01 28.0**	**+1.2**
EZN	**Ezine**	**0.61**	**295**	*e*PG	**Pg**	**04 01 27.4**	**+1.1**
EZN				*e*SG	**Sg**	**04 01 35.6**	**+1.4**
BALB	**Balikesir**	**0.65**	**84**	*e*PG	**Pg**	**04 01 27.1**	**+0.1**
BALB				*e*SG	**Sg**	**04 01 36.1**	**+0.8**
PRK	**Paraskevi**	**0.68**	**242**	*e*Pg	**Pg**	**04 01 27.9**	**+0.3**
PRK				*e*Sg	**Sg**	**04 01 37.3**	**+0.9**
PRK	**Paraskevi**	**0.68**	**242**	*e*Pb		04 01 27.6	
PRK	**Paraskevi**	**0.68**	**242**	*e*Pg	**Pg**	**04 01 27.9**	**+0.3**
PRK				*e*Sg	**Sg**	**04 01 37.3**	**+0.8**
BTOK	**Tokmak**	**0.78**	**76**	*i* P	**Pg**	**04 01 29.4**	**-0.1**
BOZC	**Bozcaada**	**0.81**	**290**	*i* P	**Pg**	**04 01 30.9**	**+0.8**
BOZC				*i* S	**Sg**	**04 01 42.1**	**+1.4**
LPK	**Lapseki**	**0.83**	**345**	*e*PG	**Pg**	**04 01 31.3**	**+0.9**
AKS	**Akhisar**	**0.91**	**139**	*e*PG	**Pg**	**04 01 31.9**	**-0.1**
AKS				*e*SG	**Sg**	**04 01 45.2**	**+1.4**
AKHS	**Akhisar**	**0.91**	**139**	*i* P	**Pg**	**04 01 31.9**	**-0.1**
AKHS				*i* S	**Sg**	**04 01 44.4**	**+0.5**
EDC	**Edincik**	**1.00**	**39**	*e*PG	**Pg**	**04 01 33.5**	**-0.2**
BNT	**Bandirma**	**1.03**	**40**	*e*PG	**Pg**	**04 01 33.8**	**-0.5**
GADA	**Gvkgeada**	**1.08**	**305**	*e*PN	**Pn**	**04 01 35.9**	**-0.9**
MRMT	**Marmara Adasi**	**1.11**	**22**	*e*PN	**Pn**	**04 01 36.0**	**-1.2**
RKY	**Sarkoy-Tekirda**	**1.12**	**5**	*e*PN	**Pn**	**04 01 36.2**	**-1.1**
SART	**Tekirdag**	**1.12**	**5**	*i* P	**Pg**	**04 01 36.1**	**0.0**
SART				*i* S	**Sg**	**04 01 48.5**	**-2.1**
KDAG	**Bornova**	**1.18**	**172**	*i* P	**Pg**	**04 01 36.4**	**-0.7**
KDAG				*i* S	**Sg**	**04 01 51.2**	**-1.2**
BLCB	**Balcova**	**1.19**	**180**	*e*PN	**Pn**	**04 01 37.2**	**-1.0**
BLCB	**Balcova**	**1.19**	**180**	*e*Pg	**Pg**	**04 01 36.6**	**-0.7**
BLCB				*e*Sg	**Sg**	**04 01 52.6**	**0.0**
BLCB	**Balcova**	**1.19**	**180**	*e*Pn	**Pn**	**04 01 37.2**	**-1.0**
BLCB				*e*Sg	**Sg**	**04 01 52.6**	**0.0**
DST	**Dursunbey**	**1.22**	**88**	*e*PN	**Pn**	**04 01 38.0**	**-0.8**
KCT	**Karacabey**	**1.22**	**55**	*e*PN	**Pn**	**04 01 37.4**	**-1.4**
MFT	**Murefte**	**1.23**	**8**	*e*PN	**Pn**	**04 01 38.2**	**-0.6**
ENEZ	**Enez**	**1.35**	**330**	*e*PN	**Pn**	**04 01 40.5**	**0.0**
CHOS	**Chios island**	**1.41**	**213**	*e*Pg	**Pg**	**04 01 39.3**	**-2.3**
CHOS				*e*Sg	**Sg**	**04 01 59.1**	**-0.8**
TKR	**Tekirdag**	**1.47**	**15**	*e*PN	**Pn**	**04 01 42.2**	**+0.1**
ALN	**Alexandroupoli**	**1.53**	**330**	*e*Pg	**Pg**	**04 01 42.4**	**-1.5**
ALN				*e*Sg	**Sg**	**04 02 04.6**	**+0.9**
LOS	**Limnos**	**1.56**	**284**	*e*Pg	**Pg**	**04 01 42.7**	**-1.7**
KULA	**Kula-Manisa**	**1.64**	**130**	*e*PN	**Pn**	**04 01 44.5**	**0.0**
CRLT	**Corlu**	**1.64**	**18**	*e*PN	**Pn**	**04 01 44.9**	**+0.3**
SMG	**Samos**	**1.87**	**185**	*e*PN	**Pn**	**04 01 49.1**	**+1.5**
CTT	**Catalca**	**1.90**	**33**	*e*PN	**Pn**	**04 01 48.3**	**+0.3**
ELBA	**Catalca**	**1.90**	**33**	*i* P	**Pn**	**04 01 47.1**	**-0.9**
GDZ	**Gediz**	**1.95**	**104**	*i* P	**Pn**	**04 01 50.4**	**+1.7**
GDZ				*i* S	**Sn**	**04 02 16.0**	**+2.2**
RDO	**Rodhopi**	**1.95**	**324**	*e*PN	**Pn**	**04 01 50.5**	**+1.7**
IZI	**Iznik**	**2.02**	**67**	*e*PN	**Pn**	**04 01 49.6**	**-0.1**

AYDN	Tasoluk	2.02	161	*i* P	Pn	04 01 47.6	-2.1
AYDN				*i* S	Sn	04 02 15.8	+0.3
YLV	Yalova	2.04	60	*e*PN	Pn	04 01 50.6	+0.5
ISK	Istanbul-Kandi	2.14	45	*e*PN	Pn	04 01 51.8	+0.4
KLYT	Kilyos	2.27	42	*e*PN	Pn	04 01 53.6	+0.5
EDRB	Edirne	2.29	354	*e*PN	Pn	04 01 54.0	+0.6
KHL	Karahalli	2.30	122	*e*PN	Pn	04 01 54.2	+0.6
ALT	Altintas	2.43	101	*e*PN	Pn	04 01 55.4	+0.1
OUR	Ouranopolis	2.48	289	*e*Pn	Pn	04 01 55.5	-0.5
GPA	Golpazari	2.61	73	*e*PN	Pn	04 01 58.5	+0.7
SRS	Serrai	3.06	301	*e*Pn	Pn	04 02 03.6	-0.4

IDC 22 04:03:18.3±2.3, 2854S×17760W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=49.9km s-min=22.7km az=92.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	0.76	201	Pn	Pn	04 03 36.8	+0.4
	560nm,0.3s,baz=91,slow=6.2,SNR=32						
RAO				Sn	Sg	04 03 49.0	+6.0
	745nm,0.3s,baz=80,slow=18,SNR=12						
ASAR	Alice Springs	43.59	265	P	P	04 11 23.8	-0.6
	0.3nm,0.4s,baz=105,slow=7.5,SNR=5.0						
WRA	Warramunga Arr	44.41	270	P	P	04 11 31.4	+0.4
	1.2nm,0.3s,baz=110,slow=8.2,SNR=5.5						
FINES	FINESS Array B	143.51	341	PKP	PKPdf	04 22 53.5	-0.7
	0.9nm,0.6s,baz=53,slow=4.2,SNR=7.8						
TORD	Torodi Ar. Bea	164.67	177	PKPab	PKPab	04 24 19.4	-0.6
	0.4nm,1.0s,baz=164,slow=4.2,SNR=4.7						

ISCJB 22 04:14:55.4±0.5, 1553N±003×121.11E±005, h7km, Error ellipse: s-maj=6.6km s-min=4.6km az=164.7
MAN 22 04:14:55, 1548N×121.15E, h7km, mb4.4, ML3.3, MS3.1
ISC 22 04:14:56.0±0.6, 1551N±003×12109E±005, h15km±4km, n14, σ0°19/19, 2C-2D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	0.05	3	⇓*i* P	Pg	04 14 59.2	+0.4
PCPH				*i* S	Sg	04 15 01.7	+1.1
BALP	Baler	0.52	64	*e*P	Pg	04 15 04.7	-1.6
QVPH	Quezon City--P	0.85	182	*e*P	Pb	04 15 11.2	-1.3
QVPH				*e*S	Sb	04 15 26.0	+2.2
BCPH	Baguio City Da	1.00	330	⇑*e*P	Pb	04 15 13.9	-1.1
BCPH				*i* S	Sb	04 15 27.5	-0.4
POLP	Polilio Island	1.13	133	*e*P	Pb	04 15 16.0	-1.2
POLP				*e*S	Sb	04 15 31.9	+0.2
SCZP	Santa Cruz	1.17	283	*e*P	Pn	04 15 17.9	+0.1
TGY	Tagaytay City	1.41	186	*e*P	Pn	04 15 17.9	-3.2
BOLP	Bolinao	1.43	308	*e*P	Pn	04 15 21.2	-0.2
CAUP	Cauayan	1.59	26	*e*P	Pn	04 15 22.7	-0.9
LUBP	Lubang	1.95	205	*e*P	Pn	04 15 29.5	+0.9
PALP	Palanan	2.00	39	⇓*e*P	Pn	04 15 29.4	+0.1
PALP	Palanan	2.00	39	⇓*e*P	Pn	04 15 29.5	+0.2
PALP				*e*S	Sn	04 15 56.3	+2.1
CVP	Callao Caves	2.29	18	⇑*e*P	Pn	04 15 32.9	-0.4
APYP	Conner	2.34	4	*e*P	Pn	04 15 35.9	+1.9

IDC 22 04:27:53.7±0.9, 2176N×14341E, h0km, mb3.9/9, mb1 4.1/10, mb1mx4.0/20, mbtmp4.0/10, ML3.7/1, Error ellipse: s-maj=33.4km s-min=19.6km az=81.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	Chichi jima	5.43	348	Pn	Pn	04 29 16.5	+0.6
	5.5nm,0.3s,baz=265,slow=18,SNR=2.3						
KSRS	Korea Array	20.59	323	P	P	04 32 36.5	+2.1
	2.8nm,0.6s,baz=143,slow=8.6,SNR=14						
SONM	Songino Array	39.42	320	P	P	04 35 24.9	-0.5
	1.1nm,0.5s,baz=123,slow=7.5,SNR=7.8						
WRA	Warramunga Arr	42.38	193	P	P	04 35 50.9	+0.9
	1.4nm,1.0s,baz=6.8,slow=8.5,SNR=3.2						
ASAR	Alice Springs	46.09	192	P	P	04 36 18.8	-0.8
	0.3nm,0.6s,baz=19,slow=13,SNR=4.5						
ZALV	Zalesovo Beam	54.29	322	P	P	04 37 21.6	+0.1
	2.7nm,0.3s,baz=81,slow=9.2,SNR=5.9						
MKAR	Makanchi Array	54.81	313	P	P	04 37 24.9	-0.5
	0.4nm,0.3s,baz=87,slow=9.1,SNR=6.0						
YKA	Yellowknife Ar	76.31	28	P	P	04 39 44.6	+0.5
	1.4nm,0.6s,baz=292,slow=5.8,SNR=25						
NVAR	Mina Array Bea	82.94	52	P	P	04 40 20.9	+0.1
	0.5nm,0.5s,baz=264,slow=5.8,SNR=3.6						
FINES	FINESS Array B	83.22	335	P	P	04 40 20.5	-1.2
	0.8nm,0.8s,baz=17,slow=2.6,SNR=3.6						

ISCJB 22 04:33:16.1±4.3, 104S±02×1614E±03, h85km±29km, mb3.7/6, Error ellipse: s-maj=49.9km s-min=21.8km az=23.6
NEIC 22 04:33:16.9±4.2, 1036S×16142E, h78km±26km, Error ellipse: s-maj=54.9km s-min=16.2km az=119.0
IDC 22 04:33:16.7±5.4, 1041S×16143E, h76km±39km, mb3.7/6, mb1 3.8/7, mb1mx3.7/15, mbtmp3.7/7, ML4.2/1, MS3.6/2, Ms1 3.5/2, ms1mx3.0/22, Error ellipse: s-maj=44.8km s-min=23.2km az=111.0
ISC 22 04:33:16.5±4.1, 104S±02×1615E±03, h75km±29km, n9, σ0°55/9, mb3.8/6, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	1.77	302	P	Pn	04 33 44.9	-0.3
	48nm,0.3s,baz=170,slow=1.7,SNR=9.6						
HNR				S	Sn	04 34 07.0	+0.1
	341nm,0.3s,baz=269,slow=8.0,SNR=12						
CTA	Charters Tower	17.54	235	P	Pn	04 37 17.1	+0.9
	0.5nm,0.3s,baz=45,slow=5.7,SNR=4.6						
WRA	Warramunga Arr	27.80	247	P	P	04 38 58.7	-0.1
	1.2nm,0.7s,mb3.5,baz=74,slow=9.1,SNR=6.1						
WRA				LR	LR	04 48 37.5	
	comp=Z,88nm,21.1s,baz=160,slow=33						
STKA	Stephens Creek	28.19	218	LR	LR	04 49 46.0	
	comp=Z,146nm,19.5s,baz=21,slow=35						
ASAR	Alice Springs	29.40	240	P	P	04 39 12.1	-0.8
	0.6nm,0.7s,mb3.4,baz=62,slow=8.3,SNR=5.8						
FITZ	Fitzroy Crossi	35.50	253	P	P	04 40 06.0	-0.3
	2.8nm,0.8s,mb4.2,baz=102,slow=9.3,SNR=7.6						
SONM	Songino Array	75.69	325	P	P	04 44 54.7	+1.0
	1.5nm,0.6s,mb3.9,baz=138,slow=5.4,SNR=9.2						
MKAR	Makanchi Array	90.18	318	P	P	04 46 08.2	-0.3
	0.2nm,0.2s,mb3.8,baz=91,slow=6.2,SNR=2.6						
YKA	Yellowknife Ar	96.34	28	P	P	04 46 36.4	-0.1
	0.2nm,0.6s,mb3.7,baz=261,slow=4.9,SNR=6.9						

ISCJB 22 04:49:35.2±2.2, 213S±02×178.1W±01, h565km±29km, mb3.9/14, Error ellipse: s-maj=28.5km s-min=18.8km az=170.2
NEIC 22 04:49:35.8±1.6, 2129S×17804W, h562km±20km, mb4.1/5, Error ellipse: s-maj=20.5km s-min=13.0km az=170.0
IDC 22 04:49:35.4±2.9, 2130S×17798W, h556km±34km, mb3.3/9, mb1 3.5/10, mb1mx3.4/14, mbtmp3.3/10, Error ellipse: s-maj=22.0km s-min=19.7km az=16.0
ISC 22 04:49:35.9±2.1, 213S±02×1781W±01, h559km±26km, n28, σ0°82/22, mb3.9/14, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	7.91	179	P	P	04 51 33.3	+0.4
RAO	Raoul Island	7.91	179	P	P	04 51 33.3	+0.4
	55nm,0.3s,baz=104,slow=23,SNR=2.5						
URZ	Urewera	17.40	193	P	P	04 53 06.4	-1.3
	1.5nm,0.3s,baz=356,slow=5.2,SNR=9.2						
STKA	Stephens Creek	37.39	245	*e*P	P	04 56 03.1	+1.2
	3.5nm,1.0s,mb3.8						
STKA	Stephens Creek	37.39	245	P	P	04 56 02.9	+1.0
	3.6nm,0.6s,mb4.0,baz=84,slow=7.7,SNR=6.1						
ASAR	Alice Springs	44.28	258	P	P	04 56 57.2	+0.5
	7.2nm,0.6s,mb4.4,baz=97,slow=7.9,SNR=83						
ASAR				PcP	PcP	04 58 30.1	+1.4
	0.8nm,0.6s,baz=106,slow=3.8,SNR=5.4						
WB2	Warramunga Arr	44.43	263	*e*P	P	04 56 57.4	-0.5
WRAB	Tennant Creek	44.43	263	*e*P	P	04 56 57.1	-0.8
	1.2nm,0.4s,mb3.8						
WRA	Warramunga Arr	44.44	263	P	P	04 56 57.7	-0.2
	1.8nm,0.3s,mb4.1,baz=97,slow=7.3,SNR=23						
KAKA	Kakadu	47.94	272	*e*P	P	04 57 23.7	-0.8
	9.8nm,1.0s,mb4.3						
KAKA	Kakadu	47.94	272	*e*P	P	04 57 23.7	-0.9
FORT	Forrest	48.93	247	*e*P	P	04 57 32.2	+0.6
	16nm,0.5s,mb4.8						
FITZ	Fitzroy Crossi	52.87	263	*e*P	P	04 58 01.3	+0.9
	2.3nm,0.3s,mb4.0						
FITZ	Fitzroy Crossi	52.87	263	*e*P	P	04 57 59.4	-1.0
	3.2nm,0.3s,mb4.1						
VNDA	Vanda	57.10	185	P	P	04 58 28.3	-0.7
	1.0nm,0.6s,mb3.3,baz=72,slow=6.4,SNR=9.2						
MBWA	Marble Bar	57.62	258	*e*P	P	04 58 33.7	+0.3
	10nm,0.5s,mb4.3						
KLBR	Kellerberrin	57.67	245	*e*P	P	04 58 35.1	+1.5
MJAR	Matsushiro Arr	70.82	324	P	P	04 59 55.6	-1.0
	1.9nm,0.5s,mb3.9,baz=161,slow=5.8,SNR=6.5						
KSRS	Korea Array	77.45	319	P	P	05 00 33.8	-0.3
	1.1nm,0.5s,mb3.5,baz=127,slow=5.4,SNR=5.1						
NVAR	Mina Array Bea	81.65	43	P	P	05 00 55.6	-0.5
	0.6nm,0.5s,mb3.2,baz=222,slow=12,SNR=4.4						
TXAR	Lajitas Array	87.54	57	P	P	05 01 26.1	+1.1
	0.1nm,0.4s,mb2.9,baz=215,slow=7.7,SNR=3.5						
SONM	Songino Array	96.32	319	P	P	05 02 05.6	+0.8
	0.1nm,0.4s,mb3.4,baz=50,slow=4.5,SNR=2.0						
ARCES	ARCESS Array B	129.70	349	PKP	PKPdf	05 07 40.3	-0.8
	1.5nm,0.7s,baz=49,slow=5.5,SNR=5.1						
AKASG	Malin Array Be	143.69	331	PKP	PKPdf	05 08 05.9	-1.5
	3.1nm,0.4s,baz=43,slow=4.3,SNR=21						
AKBB	Malin Array Si	143.69	331	*e*PKPbc	PKPdf	05 08 05.7	-1.7
KIEV	Kiev	143.70	331	*e*PKPbc	PKPdf	05 08 05.6	-1.7
CLL	Collm	148.83	347	*e*PKPbc	PKPbc	05 08 22.0	+1.4
GERES	GERESS Array B	150.96	344	PKPbc	PKPbc	05 08 25.8	+0.1
	0.4nm,0.2s,baz=29,slow=3.0,SNR=5.1						

NEIC 22 05:01:56.5, 1767N×6845W, h20km, MD3.5(RSPR), After RSPR.
RSPR 22 05:01:56.5, 1767N×6845W, h20km±21km, MD3.5/15, MD3.5/15, 9C-5D, Moma Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMO	Isla Mona	0.68	49	⇓*i* P	Pb	05 02 06.2	-3.4
IMO				*e*S	Sb	05 02 14.7	-4.0
CRPR	Cabo Rojo, PR	1.32	75	⇑*e*P	Pn	05 02 17.7	-2.1
LSP	Las Mesas	1.39	68	⇑*e*P	Pn	05 02 19.1	-1.7
DR12	Loma Pena Alta	1.43	322	⇑*e*P	Pn	05 02 17.9	-3.3
DR12				*e*S	Sn	05 02 35.4	-4.0
AGPR	Aguadilla, PR	1.50	58	⇑*e*P	Pn	05 02 18.7	-3.6
AGPR				*e*S	Sn	05 02 37.0	-4.3
LRS	Lares	1.65	68	⇑*e*P	Pn	05 02 22.8	-1.5
AOPR	Arecibo Observ	1.75	67	⇑*e*P	Pn	05 02 22.4	-3.3
AOPR				*e*S	Sn	05 02 44.0	-3.5
CELP	Cerrillos	1.83	77	⇓*e*P	Pn	05 02 23.8	-3.0
ICM	Isla Caja Muer	1.85	83	⇓*e*P	Pn	05 02 25.4	-1.7
SJG	San Juan	2.23	78	⇑*e*P	Pn	05 02 30.9	-1.5
HUMP	Col San Antoni	2.52	79	⇓*e*P	Pn	05 02 34.3	-2.0
CBYP	Canovanas	2.54	76	⇑*e*P	Pn	05 02 33.5	-3.1
MTP	Monte Pirata	2.79	81	⇓*e*P	Pn	05 02 37.9	-2.2
SDDR	Presa de Saban	3.00	296	*e*Pn	Pn	05 02 47.0	+4.1
SDDR				*e*Sn	Sn	05 03 26.6	+8.3
STVI	Saint Thomas	3.40	78	⇑*e*P	Pn	05 02 48.3	-0.1
STVI				*e*S	Sn	05 03 24.8	-3.3

MAN 22 05:02:28, 1768N×12035E, h32km, mb3.7, ML2.4, MS2.0, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	Dolores	0.35	94	*e*P	Pb	05 02 35.8	-0.5
APYP	Conner	0.87	78	*e*P	Pn	05 02 44.6	+0.5
APYP				*e*S	Sn	05 02 58.4	+2.7
BOLP	Bolinao	1.35	198	*e*P	Pn	05 02 51.0	+0.4
CAUP	Cauayan	1.59	117	*e*P	Pn	05 02 55.7	+1.8

IDC 22 05:06:44.3±1.9, 151N×9903E, h0km, mb3.8/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.8/5, Error ellipse: s-maj=68.4km s-min=13.1km az=73.0
ISCJB 22 05:06:46.9±0.9, 148N±008×990E±01, h33km, mb3.9/7, Error ellipse: s-maj=20.9km s-min=11.4km az=3.2
NEIC 22 05:06:48.6±0.8, 153N×99.05E, h30km, mb4.2/2, Error ellipse: s-maj=25.0km s-min=10.3km az=66.0
NEIC Felt [III] at Sibolga.
ISC 22 05:06:49.0±0.9, 148N±008×989E±01, h35km, n10, σ0°90/11, mb3.9/7, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	1.31	359	Pg	Pn	05 07 08.7	-2.2
PSI				Lg		05 07 22.0	
PSI	Prapat	1.31	359	Pg	Pn	05 07 08.7	-2.2
	44nm,0.3s,baz=160,slow=7.7,SNR=130						
PSI				Lg		05 07 22.0	
	54nm,0.3s,baz=148,slow=10,SNR=27						
KULM	Kulim	4.15	24	*e*Pn	Pn	05 07 48.9	-1.0
KULM				*e*Sn	Sn	05 08 38.3	+1.0
WRA	Warramunga Arr	40.72	123	P	P	05 14 26.1	-0.5
	1.3nm,0.8s,mb3.6,baz=300,slow=9.2,SNR=4.6						
ASAR	Alice Springs	42.19	129	P	P	05 14 39.0	+0.4
	0.8nm,0.9s,mb3.3,baz=309,slow=6.8,SNR=4.2						
UCH	Uchtor	46.12	335	*e*P	P	05 15 10.8	+1.0
	2.4nm,0.8s,mb4.2						
SONM	Songino Array	46.62	7	P	P	05 15 14.2	+0.5
	0.6nm,0.7s,mb3.6,baz=195,slow=8.6,SNR=4.1						
MKAR	Makanchi Array	47.42	344	P	P	05 15 20.3	+0.4
	1.0nm,0.6s,mb3.9,baz=151,slow=7.7,SNR=7.5						
ZALV	Zalesovo Beam	53.58	350	P	P	05 16 06.3	0.0
	1.7nm,0.6s,mb4.2,baz=164,slow=5.9,SNR=5.3						
TIXI	Tiksi	72.62	10	*e*P	P	05 18 12.3	-0.1
	2.2nm,0.6s,mb4.3						

IDC 22 05:09:39.6±10.0, 2876S×6801W, h94km±78km, mb3.7/1, mb1 3.6/2, mb1mx3.3/16, mbtmp3.5/2, ML4.3/1, Error ellipse: s-maj=161.7km s-min=66.8km az=145.0
ISCJB 22 05:09:40.5±0.9, 2862S±006×679W±0.1, h109km±21km, Error ellipse: s-maj=16.8km s-min=9.2km az=13.2
GUC 22 05:09:41.5±0.9, 2860S×6798W, h120km, ML4.3
NEIC 22 05:09:41.6±0.6, 2861S×6788W, h111km±7km, mb4.1/1, Error ellipse: s-maj=11.0km s-min=7.7km az=117.0
ISC 22 05:09:41.7±0.8, 2862S±006×6788W±009, h104km±19km, n18, σ0°93/21, 2C-4D, La Rioja Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	Las Campanas	2.51	260	⇑*i* Pn	Pn	05 10 22.3	+1.3
LCO				*e*Sn	Sn	05 10 52.2	+1.0
CPCH	Copiapo	2.53	299	⇓*e*P	Pn	05 10 20.9	-0.4
CPCH				*i* S	Sn	05 10 50.9	-0.8
CPCH	Copiapo	2.53	299	⇓*e*P	Pn	05 10 20.9	-0.4
CPCH				*i* S	Sn	05 10 50.9	-0.8
CPCH				AML	AML	05 10 54.6	
	comp=E,2μm,0.1s						
VACH	Vallenar	2.54	270	AML	AML	05 10 53.7	
	comp=E,2μm,0.1s						
TLL	Tololo Astrono	2.98	238	*e*P	Pn	05 10 28.4	+1.2
TLL				AML	AML	05 11 07.9	
	comp=E,200nm,0.5s						
LSCH	La Serena	3.21	246	*e*P	Pn	05 10 30.2	-0.1
LSCH				*i* S	Sn	05 11 06.8	-1.1
CMCH	Combarbala	3.72	226	⇓*e*P	Pn	05 10 37.0	-0.1
CMCH				*i* S	Sn	05 11 20.4	+0.4
CMCH	Combarbala	3.72	226	⇓*e*P	Pn	05 10 37.0	-0.1
CMCH				*i* S	Sn	05 11 20.4	+0.4
CMCH				AML	AML	05 11 25.2	
	comp=N,578nm,1.2s						
JACH	Jahuel	4.67	209	⇑*e*P	Pn	05 10 50.9	+0.9
PCH	Pirque	5.47	204	*i* P	Pn	05 11 01.4	+0.7
TACH	Talagante	5.66	207	*i* P	Pn	05 11 02.0	-1.3
TACH				*i* S	Sn	05 12 04.3	-2.6
LVC	Limon Verde	6.06	351	*e*Pn	Pn	05 11 08.5	-0.3
	comp=N,4.0nm,0.3s						
LVC				*e*Sn	Sn	05 12 11.2	-5.6
CPUP	Villa Florida	9.64	79	P	Pn	05 11 57.4	-0.1
	comp=N,0.7nm,0.3s,baz=242,slow=9.9,SNR=3.9						
TORD	Torodi Ar. Bea	78.98	68	P	P	05 21 34.5	+0.2
	comp=N,0.2nm,0.5s,baz=220,slow=3.8,SNR=17						
WRA	Warramunga Arr	127.16	207	PKP	PKPdf	05 28 33.2	-1.2
	comp=N,0.3nm,0.3s,baz=166,slow=1.8,SNR=4.9						
ZALV	Zalesovo Beam	147.80	31	PKPbc	PKPbc	05 29 12.8	-1.1
ZALV	Zalesovo Beam	147.80	31	PKPbc	PKPbc	05 29 12.8	-1.1
	comp=N,1.5nm,0.5s,baz=319,slow=2.7,SNR=4.9						
MKAR	Makanchi Array	150.49	44	PKPbc	PKPbc	05 29 20.1	-0.7
	comp=N,1.1nm,0.7s,baz=322,slow=2.8,SNR=6.3						

NEIC 22 05:13:44.1, 1779N×6395W, h147km, MD3.6(RSPR), After RSPR.
RSPR 22 05:13:44.1, 1779N×6395W, h147km±1km, MD3.6/6, MD3.6/6, 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CDVI	St. Croix	0.78	267	*e*P	Pn	05 14 06.5	-0.3
CDVI				*e*S	Sn	05 14 24.2	+0.2
TBVI	Tortola	0.89	315	*e*S	Sn	05 14 25.3	-0.3
TBVI	Tortola	0.89	315	⇑*e*P	Pn	05 14 07.5	-0.2
TBVI				*e*S	Sn	05 14 25.3	-0.3
TBVI	Tortola	0.89	315	*e*P	Pn	05 14 17.5	+10
TBVI				*e*S	Sn	05 14 25.3	-0.3
ABV	Anegada	1.00	339	*e*S	Sn	05 14 27.7	+0.3
STVI	Saint Thomas	1.10	300	*e*P	Pn	05 14 09.6	+0.1
STVI				*e*S	Sn	05 14 28.8	-0.1
MTP	Monte Pirata	1.55	282	*e*P	Pn	05 14 14.1	+0.1
MTP				*e*S	Sn	05 14 37.6	+0.7
HUMP	Col San Antoni	1.84	281	*e*P	Pn	05 14 17.2	+0.1
HUMP				*e*S	Sn	05 14 43.3	+0.8
CBYP	Canovanas	1.87	285	*e*P	Pn	05 14 17.7	+0.2
CBYP				*e*S	Sn	05 14 43.2	0.0
CPD	Cerro la Pandu	1.89	278	*e*P	Pn	05 14 17.2	-0.5
CPD				*e*S	Sn	05 14 43.7	+0.2
AOPR	Arecibo Observ	2.72	282	⇑*e*P	Pn	05 14 27.8	-0.1

MAN 22 05:26:39, 1081N×12238E, h55km, mb3.5, ML2.2, MS1.6, 1C, Panay

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIM	Jordan	0.27	132	*e*P	Pn	05 26 51.2	+2.8
GUIM				*e*S	Sn	05 26 58.9	+3.8
RCP	Roxas	0.83	26	⇑*e*P	Pn	05 26 56.9	+2.3
RCP				*e*S	Sn	05 27 09.1	+3.0
KALP	Kalibo	0.86	357	*e*P	Sn	05 27 08.3	+1.3
CUYO	Cuyo Island	1.34	272	*e*P	Pn	05 27 03.1	+1.7
OTRP	Odiongan	1.58	347	*e*P	Pn	05 27 06.1	+1.4
OTRP				*e*S	Sn	05 27 23.9	-0.2

ISCJB 22 05:31:37.3±0.4, 6129N±003×15027W±008, h59km±4km, mb3.4/3, Error ellipse: s-maj=6.5km s-min=5.1km az=28.9
IDC 22 05:31:39.0±2.3, 6120N×15038W, h52km±22km, mb3.2/3, mb1 3.4/6, mb1mx3.3/21, mbtmp3.2/6, ML3.1/3, Error ellipse: s-maj=27.0km s-min=14.4km az=120.0
NEIC 22 05:31:39.1, 6131N×15021W, h46km, ML3.7(PMR), ML3.4(AEIC), After AEIC.
NEIC Felt [III] at Anchorage and [II] at Eagle River. Also felt at Chugiak, Palmer and Wasilla.
ISC 22 05:31:38.7±0.4, 6129N±003×15023W±008, h50km±5km, n36, σ0°81/43, mb3.4/3, Southern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FIB	Fire Island	0.12	168	P	Pn	05 31 47.4	+0.8
FIB				S	Sn	05 31 54.7	+2.5
RC01	Rabbit Creek A	0.31	130	P	Pn	05 31 47.2	-0.7
RC01				S	Sn	05 31 55.4	+1.0
PMR	Palmer	0.61	59	P	Pn	05 31 50.4	-0.9
PMR				S	Sn	05 31 59.8	-0.5
SLKM	Skilak Lake	0.78	180	P	Pn	05 31 53.4	0.0
SLKM				S	Sn	05 32 05.0	+0.8
GHO	Glory Hole Cre	0.79	51	P	Pn	05 31 53.0	-0.6
GHO				S	Sn	05 32 04.5	0.0
SML	Sawmill	1.05	59	P	Pn	05 31 56.5	-0.5
SEW	Seward	1.25	162	P	Pn	05 31 59.5	-0.2
DIV	Divide	2.16	92	P	Pn	05 32 11.8	-0.4
TRF	Thorofare Moun	2.17	359	P	Pn	05 32 11.8	-0.5
KTH	Kantishna Hill	2.30	352	P	Pn	05 32 14.7	+0.7
MCK	McKinley	2.53	13	P	Pn	05 32 17.7	+0.5
SVW2	Sparrevohn	2.60	268	P	Pn	05 32 17.7	-0.4
BMRM	Bremner River	2.75	94	P	Pn	05 32 19.4	-0.8
PAX	Paxson	2.80	51	P	Pn	05 32 20.9	0.0
RAGM	Ragged Mountai	2.87	106	P	Pn	05 32 20.9	-0.8
TT01	Tatalina	3.17	303	P	Pn	05 32 25.1	-0.9
TTA	Tatalina	3.18	304	P	Pn	05 32 25.5	-0.6
MENT	Mentasta	3.48	59	P	Pn	05 32 30.1	-0.1
KDAK	Kodiak Island	3.71	200	P	Pn	05 32 32.2	-1.3
KDAK				S	Sn	05 33 14.3	-1.6
KDAK	Kodiak Island	3.71	200	P	Pn	05 32 32.2	-1.3
	0.9nm,0.3s,baz=61,slow=10,SNR=4.3						
KDAK				S	Sn	05 33 14.3	-1.6
	2.8nm,0.3s,baz=320,slow=21,SNR=3.9						
COLA	College	3.76	16	P	Pn	05 32 34.5	+0.5
IL1	Eielson Array	3.81	22	P	Pn	05 32 34.6	-0.2
BCA3	Beaver Creek A	4.34	62	P	Pn	05 32 42.3	+0.3
IM3	Indian Mountai	4.97	343	P	Pn	05 32 50.1	-0.5
IMA2	Indian Mountai	5.04	344	*e*P	Pn	05 32 51.7	+0.1
EGAK	Eagle	5.41	46	*e*Pn	Pn	05 32 56.5	-0.2
DAWY	Dawson	5.72	56	*e*Pn	Pn	05 33 00.8	0.0
TNA	Tin City	9.00	306	*e*Pn	Pn	05 33 46.6	+0.9
INK	Inuvik	9.98	38	P	Pn	05 33 59.3	+0.1
INK				S	Sn	05 35 54.2	+4.6
INK	Inuvik	9.98	38	P	Pn	05 33 59.3	+0.1
	0.2nm,0.3s,baz=234,slow=18,SNR=8.0						
INK				S	Sn	05 35 54.2	+4.6
	0.1nm,0.3s,baz=297,slow=11,SNR=4.1						
YKA	Yellowknife Ar	16.70	70	P	Pn	05 35 29.3	+0.5
	0

0.4nm,0.6s,baz=18,slow=13,SNR=3.6
YKA Yellowknife Ar 76.38 28 P P 05 49 40.7 0.0
0.5nm,0.7s,baz=290,slow=5.9,SNR=4.3
TXAR Lajitas Array 97.97 54 P P 05 51 29.0 +0.6
0.2nm,0.9s,baz=211,slow=3.2,SNR=4.0

IDC 22 06:07:17.4±1.1,2181N×14320E,h0km,mb3.7/7, mb1 3.9/7,mb1mx3.8/19,mbtmp3.7/7,Error ellipse: s-maj=39.6km s-min=22.5km az=90.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.43**	**323**	P	P	06 12 00.6	+4.3
	1.8nm,0.8s,baz=142,slow=10,SNR=8.2						
SONM	**Songino Array**	**39.26**	**320**	P	P	06 14 47.7	0.0
	0.6nm,0.5s,baz=137,slow=7.6,SNR=6.1						
WRA	**Warramunga Arr**	**42.39**	**192**	P	P	06 15 14.0	+0.3
	1.1nm,0.9s,baz=15,slow=9.3,SNR=3.4						
ASAR	**Alice Springs**	**46.10**	**192**	P	P	06 15 43.1	-0.4
	0.1nm,0.4s,baz=17,slow=9.7,SNR=6.4						
ZALV	**Zalesovo Beam**	**54.13**	**322**	P	P	06 16 43.4	-0.8
	3.7nm,0.3s,baz=124,slow=7.7,SNR=4.7						
MKAR	**Makanchi Array**	**54.63**	**313**	P	P	06 16 48.8	+0.9
	0.4nm,0.5s,baz=91,slow=9.1,SNR=2.4						
INK	**Inuvik**	**67.46**	**24**	P	P	06 18 14.8	+0.2
	0.4nm,0.7s,baz=307,slow=5.1,SNR=3.7						
YKA	**Yellowknife Ar**	**76.35**	**28**	P	P	06 19 08.2	0.0
	0.4nm,0.5s,baz=291,slow=5.9,SNR=9.2						

*IDC **22** 06:10:09.7±0.5,2185N×143.16E,h0km,mb4.6/18, mb1 4.7/20,mb1mx4.7/23,mbtmp4.6/20,ML3.9/2,MS3.9/17, Ms1 3.9/17,ms1mx3.8/20,Error ellipse: s-maj=23.4km s-min=12.9km az=81.0*

*ISCJB **22** 06:10:13.3±1.1,2186N±004×14304E±003,h25km±7km, mb4.8/107,MS4.0/30,Error ellipse: s-maj=6.0km s-min=3.8km az=12.8*

*MOS **22** 06:10:13.6±0.9,2183N×14306E,h33km,mb5.1/51,Error ellipse: s-maj=11.6km s-min=5.8km az=107.2*

*BJI **22** 06:10:13.7,2181N×14347E,h48km,mB4.9,mb4.9,Ms4.5, Msz4.1*

*GCMT **22** 06:10:16.8±0.3,2185N×14309E,h12km,MW4.8/73, Moment Tensor Solution. s17,c18; s73,c94; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-2.12±.06; $M_{\theta\theta}$0.54±.06; $M_{\phi\phi}$1.58±.06; $M_{r\theta}$0.49±.26; $M_{\theta\phi}$-0.73±.05; $M_{\phi r}$0.44±.23; Best double couple: $M_0$2.12800×10^{16} NP1:ϕ_s319.00000°,δ44.00000°,λ-111.00000°. NP2: ϕ_s167.00000°,δ49.00000°,λ-71.00000°. Principal axes: T 1.9630, Plg2.0000°, Azm244.0000°; N 0.3290, Plg15.0000°, Azm334.0000°; P -2.2940, Plg75.0000°, Azm144.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **22** 06:10:16.8±1.4,2185N×143.12E,h45km±13km,mb4.8/52 Error ellipse: s-maj=7.2km s-min=5.5km az=103.0*

ISC 22 06:10:17.1±0.8,2184N±004×14309E±003,h42km±6km, h50km±2.1km:pP-P,n433,σ0:75/438,mb4.8/107,MS4.0/30, 72C-94D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.30**	**351**	Pn	**Pn**	**06 11 31.6**	**-2.1**
	8.5nm,0.3s,baz=259,slow=19,SNR=3.4						
CBIJ				Sn	**Sn**	**06 12 32.5**	**-0.9**
	9.3nm,0.3s,baz=188,slow=22,SNR=3.3						
GUMO	**Guam**	**8.38**	**168**	LR	LR	06 14 55.3	
	comp=Z,610nm,19.6s,baz=95,slow=34						
JHJ	**Hachijo jima 2**	**11.61**	**346**	LR	LR	06 17 12.4	
	comp=Z,571nm,18.6s,baz=166,slow=36						
JOD2	**Odawara 2**	**13.83**	**346**	P	**Pn**	**06 13 27.0**	**-3.4**
JOW	**Kunigami**	**14.39**	**293**	LR	LR	06 18 16.2	
	comp=Z,915nm,19.1s,baz=134,slow=34						
JRY	**Ryogami san**	**14.59**	**346**	P	**Pn**	**06 13 35.6**	**-5.2**
JGF	**Kuroka**	**14.60**	**341**	P	**Pn**	**06 13 36.5**	**-4.4**
JAD	**Aida**	**15.22**	**331**	P	**Pn**	**06 13 52.8**	**+3.8**
MJAR	**Matsushiro Arr**	**15.25**	**345**	P	**Pn**	**06 13 45.8**	**-3.7**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**15.25**	**345**	Pn	**Pn**	**06 13 45.8**	**-3.7**
	comp=Z,0.5nm,0.3s,baz=151,slow=10,SNR=7.5						
MAJO	**Matsushiro**	**15.25**	**345**	*e*P	**Pn**	**06 13 49.8**	**+0.3**
MAJO				pmax	pmax		
	comp=Z,13nm,0.9s						
MAJO	**Matsushiro**	**15.25**	**345**	*e*Pn	**Pn**	**06 13 49.8**	**+0.3**
	comp=Z,13nm,0.9s						
MAT	**Matsushiro**	**15.25**	**345**	P	**Pn**	**06 13 49.8**	**+0.3**
MAT	**Matsushiro**	**15.25**	**345**	P	**Pn**	**06 13 50.4**	**+0.9**
JNU	**Nakatsue**	**15.60**	**319**	P	**Pn**	**06 13 56.6**	**+2.7**
JNU	**Nakatsue**	**15.60**	**319**	Pn	**Pn**	**06 13 54.6**	**+0.7**
	comp=Z,0.5nm,0.3s,baz=106,slow=18,SNR=6.3						
JNU				LR	LR	06 19 18.9	
	comp=Z,110nm,21.1s,baz=135,slow=35						
JHS	**Saijyo**	**15.76**	**328**	P	**Pn**	**06 13 58.7**	**+2.7**
JMM	**Marumori**	**16.09**	**353**	P	**Pn**	**06 13 55.9**	**-4.4**
JFU	**Fukue jima 2**	**16.67**	**313**	P	**Pn**	**06 14 09.5**	**+1.8**
JYA	**Atsumi**	**16.95**	**351**	P	**Pn**	**06 14 12.9**	**+1.9**
NACB	**Ninganchiao**	**19.92**	**281**	*e*P	**Pn**	**06 14 44.9**	**-2.4**
YHNB	**Yeheng**	**20.15**	**282**	*e*P	**P**	**06 14 48.9**	**+1.1**
KSRS	**Korea Array**	**20.35**	**323**	P	**P**	**06 14 49.6**	**-0.3**
KSRS				pmax	pmax		
	comp=Z,27nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,364nm,19.4s,MS3.8						
KSRS	**Korea Array**	**20.35**	**323**	P	**P**	**06 14 49.5**	**-0.3**
	comp=Z,27nm,0.9s,baz=137,slow=11,SNR=41						
KSRS				LR	LR	06 21 36.7	
	comp=Z,364nm,19.4s,MS3.8,baz=134,slow=34						
KS15	**Wonju Array Si**	**20.36**	**323**	*e*Pn	**P**	**06 14 50.8**	**+0.8**
SSE	**Sheshan**	**21.64**	**300**	*e*P	**P**	**06 15 03.9**	**+0.1**
SSE				AP		06 15 15.8	
SSE				XP	sP	06 15 22.1	+2.6
SSE				S	**S**	**06 19 01.8**	**+0.7**
SSE				XS	sS	06 19 21.6	+3.7
SSE				AMB	AMB		
	comp=Z,39nm,0.7s,mb5.0						
SSE				AMB	AMB		
	comp=Z,152nm,5.5s						
SSE				LR	LR		
	comp=N,112nm,22.5s,MS3.6						
SSE				LR	LR		
	comp=E,269nm,22.5s,MS3.6						
SSE				LR	LR		
	comp=Z,335nm,15.3s						
ASAJ	**Asahikawa**	**22.22**	**359**	LR	LR	06 23 55.6	
	comp=Z,139nm,19.3s,MS3.4,baz=117,slow=37						
QZH	**Quanzhou**	**22.69**	**283**	⇑*i*P	**P**	**06 15 16.5**	**+1.4**
QZH				S	**S**	**06 19 28.0**	**+7.1**
QZH				AMB	AMB		
	comp=Z,70nm,0.9s,mb5.1						
QZH				AMB	AMB		
	comp=Z,790nm,3.2s						
VLA	**Vladivostok**	**23.18**	**339**	*d i*P	**P**	**06 15 19.8**	**-0.3**
VLA				pmax	pmax		
	comp=Z,94nm,1.3s,mb5.1						
NJ2	**Nanjing**	**23.83**	**300**	*e*P	**P**	**06 15 27.3**	**+1.0**
NJ2				AP		06 15 38.1	
NJ2				XP	sP	06 15 45.1	+2.4
NJ2				PP		06 16 02.0	
NJ2				S	**S**	**06 19 35.0**	**-4.3**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,200nm,6.4s						
NJ2				LR	LR		
	comp=N,540nm,10.6s						
NJ2				LR	LR		
	comp=E,400nm,20.5s						
NJ2				LR	LR		
	comp=Z,420nm,15.8s						
DL2	**Dalian**	**25.04**	**318**	P	**P**	**06 15 36.6**	**-0.7**
DL2				AP	pP	06 15 48.4	-0.2
DL2				S	**S**	**06 20 00.1**	**+1.4**
DL2				AMB	AMB		
	comp=Z,30nm,0.9s,mb4.8						
DL2				AMB	AMB		
	comp=Z,100nm,4.6s						
DL2				LR	LR		
	comp=N,120nm,14.4s,MS3.7						
DL2				LR	LR		
	comp=E,140nm,13.8s,MS3.7						
DL2				LR	LR		
	comp=Z,130nm,16.2s,MS3.5						
YSS	**Yuzh-Sakhalins**	**25.05**	**359**	⇑*e*P	**P**	**06 15 37.1**	**-0.2**
YSS				*e*		06 16 11.0	
YSS				*e*S	**S**	**06 19 55.0**	**-3.7**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
YSS	**Yuzh-Sakhalins**	**25.05**	**359**	*e*P	**P**	**06 15 37.2**	**-0.1**
	comp=Z,106nm,1.6s,mb5.1						
MDJ	**Mudanjiang**	**25.30**	**337**	P	**P**	**06 15 39.9**	**+0.4**
MDJ				AP	pP	06 15 50.8	-0.1
MDJ				XP	sP	06 15 55.5	-0.4
MDJ				PCP	PcP	06 19 10.9	-0.8
MDJ				S	**S**	**06 20 02.9**	**+0.3**
MDJ				XS	sS	06 20 21.0	-0.5
MDJ				SCP	ScP	06 22 47.9	+0.2
MDJ				SCS	ScS	06 26 36.1	-0.1
MDJ				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
MDJ				AMB	AMB		
	comp=Z,102nm,5.2s						
MDJ				LR	LR		
	comp=N,143nm,13.7s,MS3.8						
MDJ				LR	LR		
	comp=E,127nm,14.2s,MS3.8						
MDJ				LR	LR		
	comp=Z,227nm,19.7s						
MDJ	**Mudanjiang**	**25.30**	**337**	*e*P	**P**	**06 15 39.6**	**+0.1**
	comp=Z,40nm,1.2s,mb4.8						
SNY	**Shenyang**	**25.81**	**325**	P	**P**	**06 15 43.4**	**-0.8**
SNY				S	**S**	**06 20 07.0**	**-3.8**
SNY				AMB	AMB		
	comp=Z,31nm,0.9s,mb4.8						
SNY				AMB	AMB		
	comp=Z,213nm,4.5s						
SNY				LR	LR		
	comp=N,287nm,14.7s						
SNY				LR	LR		
	comp=E,247nm,21.6s						
SNY				LR	LR		
	comp=Z,311nm,19.2s,MS3.9						
CN2	**Changchun**	**26.34**	**330**	*e*P	**P**	**06 15 48.8**	**-0.2**
CN2				*e*XP	sP	06 16 06.8	+1.4
CN2				*e*S	**S**	**06 20 16.9**	**-2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.6						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,500nm,21.0s,MS4.1						
CN2				LR	LR		
	comp=E,400nm,21.0s,MS4.1						
CN2				LR	LR		
	comp=Z,600nm,22.0s,MS4.1						
TIA	**Tai'an**	**26.74**	**308**	*e*P	**P**	**06 15 54.0**	**+1.3**
HABR	**Khabarovsk**	**27.34**	**348**	*e*P	**P**	**06 15 57.8**	**-0.1**
HABR				*e*		06 16 43.3	
HABR				*e*		06 19 13.7	
HABR				*e*S	**S**	**06 20 36.6**	**+1.8**
HABR				*e*		06 20 53.6	
HABR				*e*		06 21 48.9	
HABR				*e*		06 26 39.8	
KLR	**Kul'dur**	**28.78**	**344**	*e*P	**P**	**06 16 04.6**	**-6.2**
KLR				pmax	pmax		
	comp=E,30nm,1.4s						
KLR				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.2						
BJI	**Beijing**	**29.19**	**315**	P	**P**	**06 16 12.3**	**-2.2**
BJI				S	**S**	**06 21 04.8**	**+0.7**
BJI				AMB	AMB		
	comp=Z,14nm,0.9s,mb4.7						
BJI				AMB	AMB		
	comp=Z,165nm,3.4s						
BJI				LR	LR		
	comp=N,171nm,21.6s,MS3.8						
BJI				LR	LR		
	comp=E,141nm,17.0s,MS3.8						
BJI				LR	LR		
	comp=Z,188nm,32.8s						
QIZ	**Qiongzhong**	**31.25**	**271**	P	**P**	**06 16 34.3**	**+1.3**
QIZ				S	**S**	**06 21 36.3**	**-0.5**
QIZ				LR	LR		
	comp=E,406nm,22.2s						
QIZ				LR	LR		
	comp=Z,361nm,23.2s,MS4.0						
HHC	**Hu-ho-hao-te**	**32.67**	**313**	*e*P	**P**	**06 16 45.8**	**+0.6**
HHC				AP	pP	06 16 57.9	+1.2
HHC				XP	sP	06 17 03.3	+1.6
HHC				PP	PP	06 17 55.5	-4.1
HHC				PCP	PcP	06 19 30.9	+0.5
HHC				S	**S**	**06 21 58.6**	**0.0**
HHC				XS	sS	06 22 19.4	+1.7
HHC				SCP	ScP	06 23 10.5	-0.6
HHC				SS	SS	06 23 59.3	-21
HHC				SCS	ScS	06 27 07.3	-3.4
HHC				AMB	AMB		
	comp=Z,12nm,1.0s,mb4.8						
HHC				AMB	AMB		
	comp=Z,79nm,6.5s						
HHC				LR	LR		
	comp=N,173nm,13.1s,MS4.0						
HHC				LR	LR		
	comp=E,158nm,14.1s,MS4.0						
HHC				LR	LR		
	comp=Z,201nm,15.7s,MS3.9						
GYA	**Guiyang**	**33.48**	**285**	P	**P**	**06 16 53.8**	**+1.3**
GYA				AP	pP	06 17 06.9	+2.9
GYA				XP	sP	06 17 11.6	+2.6
GYA				PP	PP	06 18 07.5	-1.2
GYA				PCP	PcP	06 19 34.8	+1.9
GYA				S	**S**	**06 22 12.0**	**+0.5**
GYA				XS	sS	06 22 32.6	+2.0
GYA				SCP	ScP	06 23 14.4	+0.2
GYA				SCS	ScS	06 27 13.3	-2.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,80nm,4.8s						
GYA				LR	LR		
	comp=N,430nm,18.9s,MS4.3						
GYA				LR	LR		
	comp=E,410nm,17.2s,MS4.3						
GYA				LR	LR		
	comp=Z,460nm,19.7s,MS4.2						
CD2	**Chengdu**	**36.22**	**293**	*e*P	**P**	**06 17 16.8**	**+0.7**
CD2				AP	pP	06 17 30.0	+2.4
CD2				XP	sP	06 17 34.8	+2.1
CD2				PP	PP	06 18 41.3	+2.3
CD2				S	**S**	**06 22 54.5**	**+0.9**
CD2				XS	sS	06 23 14.8	+1.9
CD2				SS	SS	06 25 21.3	-11
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.1						
CD2				AMB	AMB		
	comp=Z,40nm,4.8s						
CD2				LR	LR		
	comp=N,300nm,15.6s,MS4.5						
CD2				LR	LR		
	comp=E,620nm,16.8s,MS4.5						
CD2				LR	LR		
	comp=Z,550nm,20.4s,MS4.3						
LZH	**Lanzhou**	**36.90**	**301**	*e*P	**P**	**06 17 22.3**	**+0.5**
LZH				AP	pP	06 17 34.5	+1.2
LZH				XP	sP	06 17 39.8	+1.5
LZH				PP	PP	06 18 48.9	+2.6
LZH				*e*S	**S**	**06 23 03.5**	**-0.3**
LZH				XS	sS	06 23 23.8	+0.8
LZH				*e*SS	SS	06 25 33.8	-12
LZH				AMB	AMB		
	comp=Z,32nm,1.6s,mb4.9						
LZH				AMB	AMB		
	comp=Z,96nm,4.4s						
LZH				LR	LR		
	comp=E,419nm,14.6s						
LZH				LR	LR		
	comp=Z,495nm,16.8s,MS4.4						
KMI	**Kunming**	**37.06**	**283**	P	**P**	**06 17 25.1**	**+1.8**
KMI				AP	pP	06 17 39.8	+5.0
KMI				XP	sP	06 17 45.3	+5.4
KMI				PP	PP	06 18 50.6	+2.3
KMI				S	**S**	**06 23 08.0**	**+1.5**
KMI				XS	sS	06 23 28.6	+2.8
KMI				SS	SS	06 25 40.8	-9.1
KMI				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.6						
KMI				AMB	AMB		
	comp=Z,50nm,4.7s						
KMI				LR	LR		
	comp=N,129nm,17.2s,MS4.0						
KMI				LR	LR		
	comp=E,182nm,18.6s,MS4.0						
KMI				LR	LR		
	comp=Z,202nm,23.7s						
MA2	**Magadan**	**38.09**	**6**	*e*P	**P**	**06 17 31.6**	**+0.1**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.4						
MA2	**Magadan**	**38.09**	**6**	*e*P	**P**	**06 17 31.6**	**+0.1**
	comp=Z,7.0nm,0.8s,mb4.4						
ULN	**Ulaanbaatar**	**38.80**	**321**	*e*P	**P**	**06 17 37.7**	**0.0**
ULN				pmax	pmax		
	comp=Z,26nm,1.3s,mb4.8						
ULN	**Ulaanbaatar**	**38.80**	**321**	*e*P	**P**	**06 17 37.7**	**+0.1**
	comp=Z,26nm,1.3s,mb4.8						
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**06 17 40.6**	**-0.2**
SONM						06 19 48.9	
SONM				pmax	pmax		
	comp=Z,10.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,205nm,19.3s						
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**06 17 40.6**	**-0.2**
SONM				PcP	PcP	06 19 48.9	-0.6
SONM				LR	LR	06 34 00.5	
SONM	**Songino Array**	**39.17**	**320**	P	**P**	**06 17 40.6**	**-0.2**
	comp=Z,9.8nm,0.8s,mb4.6,baz=124,slow=8.1,SNR=53						
SONM				PcP	PcP	06 19 48.9	-0.6
	comp=Z,0.9nm,0.7s,baz=142,slow=5.1,SNR=3.8						
SONM				LR	LR	06 34 00.5	
	comp=Z,205nm,19.3s,MS4.0,baz=73,slow=36						
GTA	**Gaotai**	**40.72**	**306**	P	**P**	**06 17 54.3**	**+0.6**
GTA				AP	pP	06 18 06.5	+1.1
GTA				XP	sP	06 18 11.9	+1.5
GTA				PP	PP	06 19 31.1	+3.0
GTA				PCP	PcP	06 19 54.8	+0.1
GTA				PCS	PcS	06 23 48.0	+2.6
GTA				S	**S**	**06 24 01.8**	**+0.5**
GTA				XS	sS	06 24 22.8	+2.1
GTA				SS	SS	06 26 59.0	-3.9
GTA				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,121nm,4.9s						
GTA				LR	LR		
	comp=N,156nm,16.0s						
GTA				LR	LR		
	comp=E,270nm,22.4s						
GTA				LR	LR		
	comp=Z,215nm,21.7s						
YAK	**Yakutsk**	**41.21**	**350**	*e*P	**P**	**06 17 56.8**	**-0.6**
YAK				pmax	pmax		
	comp=N,14nm,1.1s						
YAK				pmax	pmax		
	comp=Z,34nm,1.1s,mb4.9						
YAK				pmax	pmax		
	comp=E,3.0nm,0.9s						
YAK				MLR	MLR		
	comp=Z,136nm,20.0s,MS3.8						
YAK				MLR	MLR		
	comp=N,95nm,16.0s,MS3.9						
YAK				MLR	MLR		
	comp=E,88nm,17.0s,MS3.9						
CHTO	**Chiang Mai**	**41.41**	**274**	*e*P	**P**	**06 18 00.6**	**+1.0**
CHTO				pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5						
CHTO	**Chiang Mai**	**41.41**	**274**	*e*P	**P**	**06 18 00.6**	**+1.0**
	comp=Z,9.0nm,0.8s,mb4.5						
CM31	**Chiang Mai Arr**	**41.48**	**274**	*e*P	**P**	**06 18 00.5**	**+0.2**
	comp=Z,4.2nm,0.6s,mb4.2						
BOD	**Bodaibo**	**41.67**	**337**	*e*P	**P**	**06 17 59.9**	**-1.4**
BOD				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.4						
CTA	**Charters Tower**	**41.79**	**176**	*e*P	**P**	**06 18 01.8**	**-0.8**
	comp=Z,15nm,1.2s,mb4.5						
CTA	**Charters Tower**	**41.79**	**176**	P	**P**	**06 18 01.6**	**-1.0**
CTA				pmax	pmax		
	comp=Z,24nm,1.1s						
CTA	**Charters Tower**	**41.79**	**176**	P	**P**	**06 18 01.6**	**-1.0**
	comp=Z,24nm,1.1s,mb4.7,baz=355,slow=8.2,SNR=9.6						
CTAO	**Charters Tower**	**41.79**	**176**	*e*P	**P**	**06 18 01.7**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,55nm,1.4s,mb5.0						
CTAO	**Charters Tower**	**41.79**	**176**	*e*P	**P**	**06 18 01.7**	**-0.9**
	comp=Z,54nm,1.4s,mb5.0						
ZAK	**Zakamensk**	**42.18**	**322**	⇑*i*P	**P**	**06 18 06.6**	**+1.1**
ZAK				*e*		06 20 22.1	
ZAK				pmax	pmax		
	comp=Z,22nm,1.2s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s						
WRAB	**Tennant Creek**	**42.39**	**192**	*e*P	**P**	**06 18 06.5**	**-1.0**
WB2	**Warramunga Arr**	**42.40**	**192**	*e*P	**P**	**06 18 06.3**	**-1.3**
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**	**06 18 06.3**	**-1.3**
WRA				pmax	pmax		
	comp=Z,10.0nm,1.1s						
WRA				MLR	MLR		
	comp=Z,110nm,18.3s						
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**	**06 18 06.3**	**-1.3**
	comp=Z,9.8nm,1.1s,mb4.4,baz=13,slow=8.6,SNR=19						
WRA				LR	LR	06 35 15.8	
	comp=Z,110nm,18.3s,MS3.8,baz=330,slow=36						
IRK	**Irkutsk**	**42.54**	**325**	*e*P	**P**	**06 18 07.9**	**-0.6**
IRK				pmax	pmax		
	comp=Z,64nm,1.9s,mb5.0						
TLY	**Talaya**	**42.60**	**324**	*e*P	**P**	**06 18 09.4**	**+0.5**
TLY				pmax	pmax		
	comp=Z,28nm,1.3s,mb4.8						
TLY				MLR	MLR		
	comp=Z,155nm,18.0s,MS3.9						
TLY	**Talaya**	**42.60**	**324**	*e*P	**P**	**06 18 09.5**	**+0.6**
	comp=Z,8.3nm,0.8s,mb4.5						
FITZ	**Fitzroy Crossi**	**43.22**	**205**	*e*P	**P**	**06 18 16.3**	**+2.1**
	comp=Z,12nm,1.0s,mb4.6						
MOY	**Mondy**	**44.05**	**323**	*e*P	**P**	**06 18 20.2**	**-0.4**
MOY				pmax	pmax		
	comp=Z,34nm,3.0s						
ASAR	**Alice Springs**	**46.11**	**192**	P	**P**	**06 18 36.0**	**-1.2**
ASAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ASAR	**Alice Springs**	**46.11**	**192**	P	**P**	**06 18 36.0**	**-1.3**
	comp=Z,3.3nm,0.8s,mb4.3,baz=9.5,slow=8.6,SNR=22						
SHL	**Shillong**	**46.80**	**285**	*e*P	**P**	**06 18 43.0**	**+0.1**
LSA	**Lhasa**	**47.10**	**291**	P	**P**	**06 18 47.0**	**+1.9**
MBWA	**Marble Bar**	**48.44**	**210**	*e*P	**P**	**06 18 55.0**	**-0.4**
	comp=Z,8.2nm,0.7s,mb4.9						
WMQ	**Urumqi**	**50.42**	**309**	P	**P**	**06 19 11.0**	**+0.6**
WMQ				AP	pP	06 19 23.0	+0.7
WMQ				PP	PP	06 21 08.0	+1.8
WMQ				S	**S**	**06 26 20.0**	**-0.9**
WMQ				SS	SS	06 29 51.0	-4.0
WMQ				AMB	AMB		
	comp=Z,58nm,1.0s,mb5.6						
WMQ				AMB	AMB		
	comp=Z,87nm,5.0s						
WMQ				LR	LR		
	comp=N,78nm,13.0s,MS4.2						
WMQ				LR	LR		
	comp=E,124nm,15.0s,MS4.2						
WMQ				LR	LR		
	comp=Z,135nm,14.0s,MS4.1						
TIXI	**Tiksi**	**50.50**	**354**	⇑*e*P	**P**	**06 19 09.7**	**-0.8**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.8s,mb4.5						
JIRN	**Jiri**	**51.62**	**289**	*e*P	**P**	**06 19 20.0**	**+0.3**
	comp=Z,20nm,0.7s,mb5.2						
GUN	**Gumba**	**51.87**	**289**	*e*P	**P**	**06 19 21.9**	**+0.4**
	comp=Z,71nm,1.4s,mb5.4						
PKI	**Pulchoki**	**52.32**	**289**	*e*P	**P**	**06 19 25.5**	**+0.6**
KKN	**Kakani**	**52.41**	**289**	*e*P	**P**	**06 19 25.8**	**+0.3**
DMN	**Daman**	**52.58**	**289**	*e*P	**P**	**06 19 27.3**	**+0.5**
ARMA	**Armidale**	**52.60**	**171**	*e*P	**P**	**06 19 27.2**	**+0.5**
GKN	**Gorkha**	**52.95**	**289**	*e*P	**P**	**06 19 29.9**	**+0.4**
STKA	**Stephens Creek**	**53.43**	**182**	*e*P	**P**	**06 19 31.6**	**-1.2**
	comp=Z,6.8nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**53.43**	**182**	P	**P**	**06 19 31.1**	**-1.7**
	comp=Z,9.9nm,1.0s,mb4.7,baz=334,slow=9.4,SNR=4.6						
STKA				LR	LR	06 43 03.5	
	comp=Z,105nm,18.5s,MS3.9,baz=24,slow=37						
DANN	**Dangsing**	**53.67**	**290**	*e*P	**P**	**06 19 35.1**	**+0.3**
	comp=Z,67nm,0.8s,mb5.7						
KOLN	**

comp=Z,20nm,1.0s,mb5.0
ZALV Zalesovo Beam 54.05 322 P **P 06 19 36.1 -1.0**
comp=Z,17nm,0.8s,mb5.0,baz=102,slow=6.7,SNR=27
ZALV LR LR 06 43 07.0
comp=Z,81nm,19.5s,MS3.8,baz=81,slow=37
ZAL Zalesovo 54.05 322 P **P 06 19 36.1 -1.1**
ZAL pmax pmax
comp=Z,17nm,0.8s
ZAL MLR MLR
comp=Z,81nm,19.5s
MK31 Makanchi Array 54.54 313 *i* P **P 06 19 40.7 -0.1**
MK31 pmax pmax
comp=Z,4.0nm,0.5s,mb4.7
MK31 Makanchi Array 54.54 313 *e*P **P 06 19 41.0 +0.2**
MKAR Makanchi Array 54.54 313 P **P 06 19 40.9 +0.1**
MKAR pmax pmax
comp=Z,5.0nm,0.7s
MKAR MLR MLR
comp=Z,77nm,19.7s
MKAR Makanchi Array 54.54 313 P **P 06 19 40.9 +0.1**
MKAR LR LR 06 43 24.8
MKAR Makanchi Array 54.54 313 P **P 06 19 40.9 +0.1**
comp=Z,4.7nm,0.7s,mb4.6,baz=94,slow=9.2,SNR=30
MKAR LR LR 06 43 24.8
comp=Z,77nm,19.7s,MS3.8,baz=175,slow=37
NVS Novosibirsk 55.14 322 *i* P **P 06 19 43.9 -1.1**
NVS pmax pmax
comp=Z,47nm,1.6s,mb5.3
NVS pmax pmax
comp=N,9.0nm,1.4s
NVS pmax pmax
comp=E,30nm,1.4s
KURK Kurchatov 57.31 317 *e*P **P 06 20 00.5 -0.1**
KURK pmax pmax
comp=Z,26nm,1.1s,mb5.2
KURK Kurchatov 57.31 317 *e*P **P 06 20 00.5 -0.1**
comp=Z,26nm,1.1s,mb5.2
SVW2 Sparrevohn 57.33 30 *e*P **P 06 20 00.3 -0.2**
TKM2 Tokmak 2 59.19 308 *e*P **P 06 20 13.8 -0.1**
TKM2 pmax pmax
comp=Z,10.0nm,0.6s,mb5.0
TKM2 Tokmak 2 59.19 308 *e*P **P 06 20 13.8 0.0**
comp=Z,9.6nm,0.6s,mb5.0
TKM2 Tokmak 2 59.19 308 P **P 06 20 14.8 +0.9**
SNR=19
IMA2 Indian Mountai 59.44 25 *e*P **P 06 20 14.4 -0.8**
KZA Kyzart 59.48 307 P **P 06 20 17.6 +1.7**
SNR=17
KBK Karagaybulak 59.68 308 P **P 06 20 18.3 +1.1**
SNR=13
CHMS Chumysh 59.81 308 P **P 06 20 18.4 +0.3**
SNR=6.5
FRU Bishkek 59.91 308 *e*P **P 06 20 18.5 -0.3**
FRU pmax pmax
comp=Z,50nm,1.9s,mb5.2
USP Ospenovka 59.98 308 P **P 06 20 19.4 +0.1**
SNR=12
AAK Ala-Archa 60.01 308 P **P 06 20 20.3 +0.7**
SNR=6.4
UCH Uchtor 60.02 307 *e*P **P 06 20 19.9 +0.3**
comp=Z,32nm,1.1s,mb5.3
UCH Uchtor 60.02 307 P **P 06 20 21.1 +1.5**
SNR=23
PMR Palmer 60.47 31 *e*P **P 06 20 21.5 -0.8**
PMR pmax pmax
comp=Z,11nm,1.0s,mb4.8
PMR Palmer 60.47 31 *e*P **P 06 20 21.5 -0.8**
comp=Z,10nm,1.0s,mb4.8
EKS2 Erkin-Say 60.54 308 *e*P **P 06 20 23.7 +0.6**
comp=Z,8.5nm,0.8s,mb4.9
EKS2 Erkin-Say 60.54 308 P **P 06 20 24.0 +0.9**
SNR=6.3
AML Almayashu 60.63 307 *e*P **P 06 20 24.3 +0.5**
comp=Z,19nm,0.8s,mb5.3
AML Almayashu 60.63 307 P **P 06 20 25.0 +1.2**
SNR=14
SML Sawmill 60.88 30 *e*P **P 06 20 24.7 -0.4**
COLA College 61.56 27 *e*P **P 06 20 29.0 -0.7**
COLA pmax pmax
comp=Z,3.0nm,0.7s,mb4.5
COLA College 61.56 27 *e*P **P 06 20 28.9 -0.7**
comp=Z,3.1nm,0.7s,mb4.5
BRVK Borovoye 62.57 319 *e*P **P 06 20 36.3 -0.3**
BRVK pmax pmax
comp=Z,20nm,0.6s,mb5.4
BRVK Borovoye 62.57 319 *e*P **P 06 20 36.3 -0.4**
comp=Z,20nm,0.6s,mb5.4
KK31 Karatay Array 62.90 308 *i* P **P 06 20 39.0 0.0**
KK31 pmax pmax
comp=Z,20nm,0.7s,mb5.4
EGAK Eagle 64.39 27 *e*P **P 06 20 47.9 -0.6**
comp=Z,2.7nm,0.8s,mb4.3
INK Inuvik 67.47 24 *e*P **P 06 21 07.7 -0.5**
INK pmax pmax
comp=Z,258nm,0.9s
INK Inuvik 67.47 24 *e*P **P 06 21 07.7 -0.5**
comp=Z,258nm,0.9s
INK Inuvik 67.47 24 P **P 06 21 07.2 -1.0**
comp=Z,7.0nm,0.9s,mb4.7,baz=283,slow=7.3,SNR=22
SVE Sverdlovsk 67.91 324⇓ *e*P **P 06 21 10.8 -0.4**
SVE pmax pmax
comp=Z,32nm,1.1s,mb5.3
ARU Arti 69.10 324 *d i*P **P 06 21 17.2 -1.4**
ARU *e* 06 21 38.3
ARU *e* 06 23 48.9
ARU *e*S S 06 30 19.9 -0.9
ARU *e*SS SS 06 34 45.7 -1.2
ARU pmax pmax
comp=Z,47nm,1.7s,mb5.1
ARU Arti 69.10 324 *e*P **P 06 21 18.0 -0.6**
comp=Z,38nm,1.1s,mb5.2
VIB Van Inlet 69.49 40 T 07 37 33.6
DIB Dawson Inlet, 69.53 40 T 07 37 33.0
SNR=3.7
DLBC Dease Lake 70.05 34 *e*P **P 06 21 24.2 -0.3**
YKA Yellowknife Ar 76.37 28 P **P 06 22 00.7 -0.9**
comp=Z,4.5nm,0.6s,mb4.5,baz=292,slow=5.7,SNR=56
YKA LR LR 06 53 10.7
comp=Z,106nm,21.0s,MS4.1,baz=235,slow=34
PPT Papeete 76.67 115 LR LR 06 48 35.8
comp=Z,158nm,20.3s,MS4.3,baz=298,slow=30
E03A Lebam 76.69 45 ⇑P **P 06 22 04.2 +0.5**
baz=76
TMCR Tamitsa 76.90 334 *e*P **P 06 22 00.7 -3.9**
TMCR pmax pmax
comp=Z,35nm,0.8s,mb5.3
RES Resolute Bay 76.96 13 *e*P **P 06 22 04.2 -0.6**
RES pmax pmax
comp=Z,333nm,0.7s
RES Resolute Bay 76.96 13 *e*P **P 06 22 04.2 -0.5**
comp=Z,333nm,0.7s
APA Apatity 77.21 338⇓ *e*P **P 06 22 05.6 -0.7**
APA pmax pmax
comp=Z,32nm,1.2s,mb5.1
F04A Amboy 77.64 45 ⇓P **P 06 22 09.6 +0.6**
baz=78
J02A Umpqua 77.66 48 ⇑P **P 06 22 10.2 +0.9**
baz=78
G04A Mulino 77.83 46 ⇓P **P 06 22 10.2 +0.1**
baz=78
A07A Ashnola River, 77.93 42 ⇑P **P 06 22 11.2 +0.5**
baz=78
H04A Detroit Lake 78.19 47 ⇑P **P 06 22 12.7 +0.5**
baz=78
D06A Cle Elum 78.25 44 ⇑P **P 06 22 12.9 +0.5**
baz=78
B07A Winthrop 78.29 42 ⇑P **P 06 22 13.3 +0.6**
baz=78
I04A Tendick Farm, 78.33 47 ⇓P **P 06 22 13.6 +0.6**
baz=78
HUMO Hull Mountain 78.33 49 ⇑P **P 06 22 13.7 +0.6**
baz=78
C07A Waterville 78.59 43 ⇓P **P 06 22 14.0 -0.3**
baz=78
A08A Turner Farm, O 78.65 42 ⇓P **P 06 22 14.8 +0.1**
baz=78
J04A Umpqua Nationa 78.72 48 ⇑P **P 06 22 15.9 +0.8**
baz=78
ARCES ARCESS Array B 78.76 341 P **P 06 22 14.1 -0.8**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,98nm,18.2s
ARCES ARCESS Array B 78.76 341 P **P 06 22 14.1 -0.7**
comp=Z,5.3nm,0.8s,mb4.5,baz=45,slow=19,SNR=7.1
ARCES LR LR 07 01 52.1
comp=Z,98nm,18.2s,MS4.2,baz=56,slow=39

YBH Yreka Blue Hor 78.79 50 ⇓P **P 06 22 15.8 +0.2**
baz=79
B08A Colville Reser 78.82 42 P **P 06 22 15.9 +0.3**
baz=79,SNR=6.2
H05A Madras 78.85 46 ⇑P **P 06 22 16.0 +0.2**
baz=79
A09A Danville 79.07 42 ⇓P **P 06 22 17.3 +0.3**
baz=79
C08A Higginbotham F 79.20 43 ⇓P **P 06 22 17.9 +0.2**
baz=79
O02C Red Bluff 79.25 51 ⇓P **P 06 22 18.6 +0.5**
baz=79
WDC Whiskeytown Da 79.29 51 ⇓P **P 06 22 18.4 +0.1**
baz=79
J05A Fort Rock 79.30 48 ⇓P **P 06 22 18.7 +0.4**
baz=79
M03C McCloud 79.36 50 ⇓P **P 06 22 19.2 +0.5**
baz=79
M04C Macdoel 79.39 49 ⇓P **P 06 22 19.3 +0.5**
baz=79
H06A Lindquist Farm 79.42 46 ⇓P **P 06 22 19.3 +0.4**
baz=79
B09A Rice 79.54 42 ⇓P **P 06 22 19.7 +0.2**
baz=79
C09A Chrisman Ranch 79.68 43 ⇑P **P 06 22 20.4 +0.1**
baz=80
A10A Northport 79.70 41 ⇓P **P 06 22 20.1 -0.3**
baz=80
K05A Summer Lake 79.73 48 ⇓P **P 06 22 20.7 0.0**
baz=80
I06A Prineville 79.78 47 ⇓P **P 06 22 21.2 +0.3**
baz=80
D09A Jones Farm, Ri 79.92 43 ⇓P **P 06 22 21.9 +0.3**
baz=80
HATC Hat Creek Radi 79.99 50 ⇓P **P 06 22 22.3 +0.2**
baz=80
L05A Lakeview 80.01 49 ⇓P **P 06 22 22.7 +0.5**
baz=80
M05C Lookout 80.02 50 ⇓P **P 06 22 22.8 +0.5**
baz=80
F08A Pendleton 80.08 45 ⇓P **P 06 22 23.1 +0.7**
baz=80
K06A Valley Falls 80.15 48 ⇓P **P 06 22 23.3 +0.4**
baz=80
JOF Joensuu 80.15 334 *e*p **P 06 22 20.5 -2.0**
comp=Z,1.9nm,0.5s,mb4.3
VRHR Novokhopersk 80.18 321 *e*P **P 06 22 22.3 -0.6**
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.6
VRHR pmax pmax
comp=N,30nm,0.5s
VRHR pmax pmax
comp=E,30nm,0.4s
I07A Izee 80.20 46 ⇑P **P 06 22 24.0 +0.8**
baz=80
NEW Newport 80.23 42 *e*P **P 06 22 22.8 -0.5**
NEW pmax pmax
comp=Z,3.0nm,0.6s
NEW Newport 80.23 42 *e*P **P 06 22 22.8 -0.5**
comp=Z,3.2nm,0.6s,mb4.4
ORV Oroville 80.39 51 P **P 06 22 24.1 -0.2**
baz=80,SNR=6.3
O04C Chester 80.43 50 ⇓P **P 06 22 24.8 +0.3**
baz=80
A11A Hall Mountain, 80.44 41 ⇑P **P 06 22 25.1 +0.7**
baz=80
MOS Moscow 80.51 326 *e*P **P 06 22 21.8 -2.8**
M06C Likely Place G 80.55 49 ⇑P **P 06 22 25.5 +0.3**
baz=80
J07A Hines 80.59 47 P **P 06 22 26.0 +0.7**
baz=80,SNR=6.1
H08A Prairie City 80.61 46 ⇑P **P 06 22 25.7 +0.4**
baz=80
B11A Sandpoint 80.64 42 ⇓P **P 06 22 26.0 +0.6**
baz=80
BNLO Ben Lomond (Sa 80.73 54 ⇓P **P 06 22 26.7 +0.5**
baz=81
K07A Rock Creek Ran 80.88 48 P **P 06 22 27.0 +0.2**
baz=81,SNR=8.1
I08A Drewsey 80.90 46 ⇓P **P 06 22 27.2 +0.2**
baz=81
E10A Myers Farm, Un 80.90 44 ⇓P **P 06 22 26.8 -0.1**
baz=81
F10A Beach Ranch, E 81.02 44 ⇓P **P 06 22 27.6 0.0**
baz=81
L07A Adell 81.06 48 P **P 06 22 28.6 +0.8**
baz=81,SNR=6.2
BEKR Beckwourth 81.11 51 P **P 06 22 29.0 +0.8**
baz=81,SNR=9.3
P05C Yuba Gap, Truc 81.13 51 ⇓P **P 06 22 28.6 +0.3**
baz=81
J08A Circle Bar Ran 81.16 47 P **P 06 22 28.9 +0.6**
baz=81,SNR=7.6
N06A Buffalo Meadow 81.17 50 P **P 06 22 28.8 +0.3**
baz=81,SNR=5.1
D11A Klaveano Farm, 81.18 43 P **P 06 22 28.2 -0.2**
baz=81,SNR=5.3
H09A Durkee 81.22 45 ⇑P **P 06 22 28.8 +0.1**
baz=81
LAVA Lava Cap Winer 81.23 52 ⇑P **P 06 22 28.9 +0.1**
S04C Ingram Canyon, 81.24 53 ⇓P **P 06 22 29.0 +0.2**
baz=81
OBN Obninsk 81.32 326⇑ *e*P **P 06 22 28.3 -0.6**
OBN *e*S S 06 32 36.6 +0.1
OBN pmax pmax
comp=Z,34nm,1.1s,mb5.2
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.2
G10A Bishop Farm, J 81.34 45 ⇓P **P 06 22 29.3 0.0**
baz=81
O06A Flanigan 81.38 50 P **P 06 22 29.9 +0.3**
baz=81,SNR=6.2
K08A Mann Creek Ran 81.39 47 ⇓P **P 06 22 28.7 -0.9**
baz=81
BMO Blue Mountains 81.39 45 *e*P **P 06 22 29.6 +0.1**
BMO pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BMO Blue Mountains 81.39 45 *e*P **P 06 22 29.6 +0.1**
comp=Z,2.0nm,0.6s,mb4.2
M07A Soldier Meadow 81.40 49 ⇓P **P 06 22 29.6 0.0**
baz=81
I09A Lost Marbles R 81.43 46 ⇑P **P 06 22 29.9 +0.1**
baz=81
E11A Bogner Ranch, 81.53 43 P **P 06 22 30.1 -0.1**
baz=81,SNR=5.8
VRSR Storozhevoye 81.54 322 *e*P **P 06 22 28.9 -1.3**
VRSR pmax pmax
comp=N,4.0nm,1.0s
VRSR pmax pmax
comp=E,7.0nm,1.0s
VRSR pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
VORD Divnogorie 81.58 322 *e*P **P 06 22 29.5 -0.9**
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=Z,30nm,0.9s,mb5.2
VORD pmax pmax
comp=E,10.0nm,0.6s
A13A Flathead Natio 81.64 41 ⇓P **P 06 22 31.0 +0.3**
baz=81
J09A Fry Pan Ranch, 81.66 47 P **P 06 22 31.6 +0.6**
baz=82,SNR=5.6
L08A Fields 81.68 48 P **P 06 22 31.7 +0.5**
baz=82,SNR=7.7
CMB Columbia Colle 81.74 52 *e*P **P 06 22 31.2 -0.3**
CMB pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
CMB Columbia Colle 81.74 52 *e*P **P 06 22 31.1 -0.4**
comp=Z,3.2nm,0.6s,mb4.4
CMB Columbia Colle 81.74 52 ⇑P **P 06 22 31.6 0.0**
baz=82
F11A Grangeville 81.74 44 ⇑P **P 06 22 31.3 -0.1**
baz=82
N07B Gerlach 81.77 49 ⇑P **P 06 22 31.4 -0.2**
baz=82
D12A Red Ives Fores 81.80 43 ⇑P **P 06 22 31.4 -0.2**
baz=82
B13A Whitefish 81.83 41 P **P 06 22 32.4 +0.7**
baz=82,SNR=7.2
H10A Noah's Angus R 81.86 45 P **P 06 22 32.1 +0.1**
baz=82,SNR=5.2
G11A Walters Elk Ra 81.86 44 P **P 06 22 31.8 -0.2**
baz=82,SNR=6.2
WALA Waterton Lakes 81.89 40 *e*P **P 06 22 31.9 -0.1**
comp=Z,5.3nm,1.0s,mb4.4
K09A Rome 81.92 47 ⇓P **P 06 22 32.2 -0.2**

baz=82
M08A Happy Creek Ra 81.94 49 ⇓P **P 06 22 32.3 -0.2**
baz=82
S05C Merced 82.03 53 ⇓P **P 06 22 33.4 +0.3**
baz=82
C13A Hot Springs 82.04 42 P **P 06 22 33.2 +0.4**
baz=82,SNR=7.1
U04C Hernandez Rese 82.05 54 ⇓P **P 06 22 33.7 +0.5**
baz=82
O07A Toulon 82.06 50 ⇑P **P 06 22 33.6 +0.4**
baz=82
L09A Wilkinson Ranc 82.22 48 ⇓P **P 06 22 34.1 +0.2**
baz=82
R06C Coleville 82.25 52 ⇑P **P 06 22 33.9 -0.3**
baz=82
KIV Kislovodsk 82.26 314 *e*P **P 06 22 33.7 -0.4**
KIV pmax pmax
comp=Z,31nm,1.1s,mb5.2
KIV MLR MLR
comp=Z,53nm,17.0s,MS4.0
KIV Kislovodsk 82.26 314 *e*P **P 06 22 34.0 -0.1**
comp=Z,14nm,0.6s,mb5.1
GNI Garni 82.29 310 *e*P **P 06 22 35.0 +0.6**
GNI pmax pmax
comp=Z,8.0nm,1.3s
H11A Donnelly 82.30 45 P **P 06 22 34.0 -0.3**
baz=82,SNR=6.1
D13A Huson 82.34 42 ⇓P **P 06 22 33.9 -0.6**
baz=82
N08A GE Springer Mi 82.36 49 ⇑P **P 06 22 34.8 +0.1**
baz=82
K10A MacKenzie Ranc 82.47 47 ⇓P **P 06 22 35.1 -0.2**
baz=82,SNR=5.8
C14A Swan Lake 82.51 41 ⇑P **P 06 22 35.3 -0.1**
baz=82
T06C Millerton Lake 82.62 53 P **P 06 22 36.2 +0.1**
baz=82,SNR=6.8
I11A Placerville 82.64 46 ⇑P **P 06 22 36.0 -0.2**
baz=82
R07C Lee Vining 82.71 52 ⇓P **P 06 22 36.6 0.0**
baz=82
N09A Rock Creek Ran 82.76 49 ⇓P **P 06 22 37.1 +0.3**
baz=83
E13A Victor 82.78 43 ⇓P **P 06 22 36.7 -0.1**
baz=83
KCC Kaiser Creek 82.79 53 ⇑P **P 06 22 36.8 -0.2**
baz=83
MFID Camas Ranch 82.92 46 P **P 06 22 37.9 +0.3**
baz=83,SNR=8.4
D14A Greenough 82.94 42 ⇓P **P 06 22 37.4 -0.2**
baz=83
L10A Juniper Basin 83.01 48 ⇑P **P 06 22 38.3 +0.2**
baz=83
FINES FINESS Array B 83.02 334 P **P 06 22 35.5 -2.2**
FINES pmax pmax
comp=Z,1.0nm,0.7s
FINES MLR MLR
comp=Z,70nm,18.6s
FINES FINESS Array B 83.02 334 P **P 06 22 35.5 -2.2**
comp=Z,1.2nm,0.7s,mb4.0,baz=77,slow=12,SNR=6.1
FINES LR LR 07 01 16.3
comp=Z,70nm,18.6s,MS4.1,baz=170,slow=37
K11A Parker Ranch, 83.04 47 P **P 06 22 38.8 +0.5**
baz=83,SNR=5.0
H12A Diamond D Ranc 83.12 45 ⇑P **P 06 22 38.7 +0.1**
baz=83
NVAR Mina Array Bea 83.12 51 P **P 06 22 37.7 -1.1**
NVAR Mina Array Bea 83.12 51 P **P 06 22 37.7 -1.1**
comp=Z,4.0nm,0.8s,mb4.5,baz=266,slow=5.9,SNR=20
Q08A Gabbs 83.23 51 ⇑P **P 06 22 39.3 0.0**
baz=83
HELL Mitchell Peak 83.25 53 ⇑P **P 06 22 38.7 -0.7**
baz=83
O09A Fish Creek Ran 83.25 50 ⇑P **P 06 22 39.3 -0.1**
baz=83
G13A Cobalt 83.30 44 P **P 06 22 39.1 -0.4**
baz=83,SNR=6.9
L11A Cat Creek Ranc 83.47 47 ⇓P **P 06 22 40.1 -0.3**
baz=83
J12A Stokes Ranch, 83.48 46 ⇓P **P 06 22 40.2 -0.3**
baz=83
H13A Challis 83.50 45 P **P 06 22 41.0 +0.5**
baz=83,SNR=6.5
VES Vestal, Richgr 83.53 54 ⇓P **P 06 22 40.6 -0.3**
baz=83
SBC Santa Barbara 83.57 56 ⇑P **P 06 22 41.0 -0.1**
baz=83
S08C White Mtn Res 83.57 52 ⇓P **P 06 22 41.3 +0.3**
baz=83
M11A Holland Ranch, 83.74 48 ⇑P **P 06 22 42.0 +0.2**
baz=84
E15A Deer Lodge 83.76 42 ⇓P **P 06 22 41.8 0.0**
baz=84
HLID Hailey 83.81 46 ⇑P **P 06 22 42.3 +0.2**
baz=84
K12A Draper Farm, C 83.86 47 ⇑P **P 06 22 42.1 -0.3**
baz=84
I13A Wildhorse Cree 83.86 45 ⇓P **P 06 22 42.4 0.0**
baz=84,SNR=5.1
UMR Umm Al-Rimmam 83.94 299 *e*P **P 06 22 41.6 -1.4**
UMR AMb AMB 06 22 45.1
comp=Z,44nm,1.2s,mb5.5
L12A House Creek Ra 83.98 47 ⇑P **P 06 22 43.1 +0.1**
baz=84,SNR=5.7
J13A Cove Ranch, Pi 84.03 46 ⇓P **P 06 22 43.1 -0.2**
baz=84
TPH Tonopah 84.04 51 *e*P **P 06 22 43.0 -0.5**
TPH pmax pmax
comp=Z,8.0nm,0.8s,mb4.9
TPH Tonopah 84.04 51 *e*P **P 06 22 43.0 -0.5**
comp=Z,8.1nm,0.8s,mb4.9
CWC Cottonwood Cre 84.05 53 ⇓P **P 06 22 43.4 -0.1**
baz=84
R09A Tonopah 84.09 51 P **P 06 22 44.0 +0.3**
baz=84,SNR=9.1
F15A Butte 84.10 43 P **P 06 22 43.5 -0.1**
baz=84,SNR=6.1
MIB Mutribah 84.15 300 *e*P **P 06 22 42.6 -1.6**
MIB AMb AMB 06 22 45.9
comp=Z,66nm,0.9s,mb5.8
S09A Goldfield 84.18 52 ⇓P **P 06 22 44.2 0.0**
baz=84,SNR=5.9
DLMT Dillon 84.24 43 *e*P **P 06 22 44.4 +0.1**
comp=Z,6.8nm,1.0s,mb4.7
RDF Al-Radifah 84.30 299 *e*P **P 06 22 43.3 -1.6**
RDF AMb AMB 06 22 46.9
comp=Z,50nm,1.4s,mb5.5
M12A Wells 84.35 48 ⇑P **P 06 22 45.0 0.0**
baz=84
O11A Cowboy Ranch, 84.35 49 ⇑P **P 06 22 45.1 +0.1**
baz=84
GRAC Grapevine Rang 84.36 52 ⇓P **P 06 22 45.0 -0.1**
baz=84
VSU Vasula 84.39 332 *e*P **P 06 22 43.5 -1.3**
G15A Dillon 84.39 44 P **P 06 22 45.3 +0.2**
baz=84,SNR=5.9
K13A Stover Farm, H 84.40 46 ⇑P **P 06 22 45.0 -0.2**
baz=84
NAY Al-Naaiem 84.43 299 *e*P **P 06 22 43.6 -2.0**
NAY AMb AMB 06 22 47.5
comp=Z,36nm,1.2s,mb5.4
N12A Clover Valley, 84.49 48 ⇓P **P 06 22 46.1 +0.4**
baz=84
P11A Circle Ranch, 84.51 50 ⇓P **P 06 22 46.0 +0.1**
baz=84
S10A Tonopah Range, 84.56 51 P **P 06 22 46.2 +0.1**
baz=84,SNR=5.5
R10A Warm Springs 84.63 51 ⇓P **P 06 22 46.2 -0.2**
baz=84
MPMC Manual Prospec 84.63 53 P **P 06 22 46.8 +0.4**
baz=84,SNR=5.5
BOZ Bozeman (W) 84.73 43 *e*P **P 06 22 45.5 -1.3**
BOZ pmax pmax
comp=Z,9.0nm,1.4s,mb4.7
BOZ Bozeman (W) 84.73 43 *e*P **P 06 22 45.5 -1.2**
comp=Z,9.5nm,1.4s,mb4.7
BOZ Bozeman (W) 84.73 43 P **P 06 22 47.2 +0.4**
baz=84,SNR=6.6
L13A Double Diamond 84.73 47 ⇓P **P 06 22 47.4 +0.5**
baz=84
EGMT Eagleton 84.83 40 ⇓P **P 06 22 47.3 +0.1**
baz=85
Q11A Duckwater 84.87 50 ⇓P **P 06 22 47.8 +0.1**
baz=85
M13A Montello 84.88 47 P **P 06 22 48.0 +0.4**
baz=85,SNR=6.5
O12A Currie 84.93 49 ⇓P **P 06 22 47.3 -0.6**
baz=85

FURC	**Furnace Creek,**	84.94	53	⇓P	P	06 22 47.8	-0.3
	baz=85						
K14A	**Jones Ranch, D**	85.06	46	P	P	06 22 48.9	+0.4
	baz=85,SNR=6.5						
R11A	**Troy Canyon, C**	85.12	51	P	P	06 22 49.3	+0.4
	baz=85,SNR=11						
P12A	**McGill**	85.14	49	⇑P	P	06 22 48.8	-0.2
	baz=85						
TPNV	**Topopah Spring**	85.20	52	*e*P	P	06 22 46.7	-2.6
TPNV				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.7						
TPNV	**Topopah Spring**	85.20	52	*e*P	P	06 22 46.7	-2.6
	comp=Z,3.6nm,0.6s,mb4.7						
TPNV	**Topopah Spring**	85.20	52	⇑P	P	06 22 49.2	-0.1
	baz=85,SNR=6.7						
QLMT	**Earthquake Lak**	85.21	43	*e*P	P	06 22 50.2	+1.0
S11A	**Rachel**	85.29	51	⇑P	P	06 22 49.9	+0.1
	baz=85						
ANN	**Anapa**	85.34	317	*e*P	P	06 22 46.0	-3.9
ANN				*e**PP	pP	06 23 03.3	+0.7
ANN				*e*S	S	06 33 05.7	-12
ANN				pmax	pmax		
	comp=Z,29nm,1.0s,mb5.4						
U10A	**Ash Meadows, A**	85.35	53	⇑P	P	06 22 49.9	-0.1
	baz=85						
Q12A	**Willow Creek R**	85.38	50	⇑P	P	06 22 50.2	0.0
	baz=85,SNR=6.0						
M14A	**Sheep Mountain**	85.38	47	P	P	06 22 50.3	+0.2
	baz=85,SNR=11						
GSC	**Goldstone**	85.44	54	*e*P	P	06 22 50.7	+0.1
GSC				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.8						
GSC	**Goldstone**	85.44	54	*e*P	P	06 22 50.7	+0.1
	comp=Z,8.8nm,1.1s,mb4.8						
GSC	**Goldstone**	85.44	54	⇑P	P	06 22 50.2	-0.4
	baz=85						
YMR	**Madison River**	85.58	43	*e*P	P	06 22 51.4	+0.3
	comp=Z,12nm,0.7s,mb5.2						
FFC	**Flin Flon**	85.75	32	*e*P	P	06 22 50.9	-0.8
FFC				pmax	pmax		
	comp=Z,35nm,1.0s,mb5.5						
FFC	**Flin Flon**	85.75	32	*e*P	P	06 22 50.9	-0.8
	comp=Z,35nm,1.0s,mb5.5						
N14A	**Grayback Hills**	85.77	48	⇓P	P	06 22 51.5	-0.6
	baz=86						
P13A	**Bates Ranch, G**	85.78	49	P	P	06 22 52.6	+0.4
	baz=86,SNR=11						
R12A	**Pony Springs,**	85.83	50	P	P	06 22 52.9	+0.4
	baz=86,SNR=9.1						
T11A	**Corn Creek, Al**	85.83	52	⇑P	P	06 22 52.7	+0.2
	baz=86						
IMW	**Indian Meadow**	85.94	44	*e*P	P	06 22 52.5	-0.3
	comp=Z,20nm,1.3s,mb5.2						
S12A	**Delamar Landin**	85.95	51	⇑P	P	06 22 53.3	+0.2
	baz=86						
Q13A	**Wheeler Ranch,**	85.99	50	⇑P	P	06 22 53.3	+0.1
	baz=86						
TUQ	**Turquoise Mtn.**	86.05	53	⇓P	P	06 22 53.5	0.0
	baz=86						
TPAW	**Teton Pass**	86.12	45	*e*P	P	06 22 54.3	+0.6
	comp=Z,9.4nm,1.1s,mb4.9						
V11A	**Goodsprings**	86.25	53	⇑P	P	06 22 54.5	0.0
	baz=86						
DUG	**Dugway**	86.31	48	*e*P	P	06 22 54.8	+0.1
DUG				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.7						
DUG	**Dugway**	86.31	48	*e*P	P	06 22 54.8	0.0
	comp=Z,3.5nm,0.6s,mb4.8						
DUG	**Dugway**	86.31	48	P	P	06 22 55.0	+0.3
	baz=86,SNR=9.1						
PFO	**Pinyon Flat Ob**	86.38	55	⇑P	P	06 22 54.6	-0.7
	baz=86						
GMRC	**Granite Mounta**	86.51	54	⇑P	P	06 22 55.8	-0.1
	baz=86						
HWUT	**Hardware Ranch**	86.54	46	*e*P	P	06 22 55.5	-0.3
	comp=Z,5.9nm,0.8s,mb4.9						
BELC	**Belle Mtn.**	86.57	55	⇑P	P	06 22 55.9	-0.3
	baz=86						
S13A	**Holt Ranch, En**	86.68	51	P	P	06 22 57.3	+0.7
	baz=86,SNR=6.9						
MONP	**Monument Peak**	86.70	56	⇓P	P	06 22 56.7	-0.1
	baz=86						
V12A	**Nelson**	86.73	53	⇓P	P	06 22 57.1	+0.2
	baz=86						
CTU	**Camp Tracy**	86.82	47	*e*P	P	06 22 57.0	-0.2
	comp=Z,6.9nm,1.0s,mb4.8						
T13A	**Saint George**	86.88	51	P	P	06 22 58.4	+0.7
	baz=87,SNR=7.3						
FCC	**Fort Churchill**	86.95	26	*e*P	P	06 22 56.5	-1.0
FCC				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.9						
FCC	**Fort Churchill**	86.95	26	*e*P	P	06 22 56.5	-1.0
	comp=Z,4.5nm,0.6s,mb4.9						
JLU	**Jordanelle**	87.06	47	*e*P	P	06 22 57.1	-1.4
S14A	**Cedar City**	87.10	50	⇓P	P	06 22 58.6	0.0
	baz=87						
BC3	**Big Chuckw Mtn**	87.13	55	⇓P	P	06 22 58.6	-0.3
	baz=87						
IRM	**Iron Mountain**	87.15	54	⇑P	P	06 22 58.7	-0.3
	baz=87						
MPU	**Maple Canyon**	87.20	48	*e*P	P	06 22 58.7	-0.4
	comp=Z,15nm,1.5s,mb5.0						
V13A	**Grand Canyon W**	87.31	52	⇑P	P	06 22 59.7	-0.1
	baz=87						
AKASG	**Malin Array Be**	87.34	324	P	P	06 22 56.9	-2.7
AKASG				pmax	pmax		
	comp=Z,6.0nm,0.9s						
AKASG	**Malin Array Be**	87.34	324	P	P	06 22 56.9	-2.6
AKASG	**Malin Array Be**	87.34	324	P	P	06 22 56.9	-2.6
	comp=Z,6.0nm,0.9s,mb4.8,baz=48,slow=5.1,SNR=26						
AKBB	**Malin Array Si**	87.34	324	*e*P	P	06 22 57.3	-2.3
BW06	**Boulder Array**	87.35	45	*e*P	P	06 22 59.1	-0.7
	comp=Z,1.2nm,0.8s,mb4.2						
KIEV	**Kiev**	87.35	324	*e*P	P	06 22 57.4	-2.2
KIEV				pmax	pmax		
	comp=Z,11nm,1.1s,mb5.0						
KIEV	**Kiev**	87.35	324	*e*P	P	06 22 57.4	-2.2
	comp=Z,11nm,1.1s,mb5.0						
T14A	**Hurricane**	87.46	51	P	P	06 23 01.0	+0.6
	baz=87,SNR=7.7						
MSU	**Marysvale**	87.48	49	*e*P	P	06 22 59.5	-1.0
MALT	**Malatya**	87.52	310	*e*P	P	06 23 00.4	-0.3
MALT				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.5						
MALT	**Malatya**	87.52	310	*e*P	P	06 23 00.3	-0.3
	comp=Z,4.4nm,1.2s,mb4.6						
U14A	**Mt Trumbull**	87.66	52	⇓P	P	06 23 01.5	+0.1
	baz=88						
W13A	**Hualapai Mount**	87.71	53	⇓P	P	06 23 01.5	-0.2
	baz=88						
PDMCI	**Parker Dam,Lak**	87.85	54	⇓P	P	06 23 02.4	0.0
	baz=88						
GLA	**Glamis**	87.85	55	⇑P	P	06 23 02.4	0.0
	baz=88						
X13A	**Yucca**	87.96	54	⇓P	P	06 23 02.7	-0.2
	baz=88						
T15A	**Red Dirt Ranch**	87.98	51	⇑P	P	06 23 02.8	-0.2
	baz=88						
V14A	**Boquillas Ranc**	88.06	52	P	P	06 23 03.6	+0.3
	baz=88,SNR=10						
W14A	**Seligman**	88.25	53	P	P	06 23 04.6	+0.4
	baz=88,SNR=8.5						
Y13A	**Salome**	88.29	54	⇑P	P	06 23 04.8	+0.3
	baz=88						
SRU	**San Rafael**	88.37	48	*e*P	P	06 23 04.4	-0.3
SRU				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.7						
SRU	**San Rafael**	88.37	48	*e*P	P	06 23 04.4	-0.3
	comp=Z,4.6nm,1.0s,mb4.7						
T16A	**Glen Canyon Da**	88.63	51	⇓P	P	06 23 06.2	+0.2
	baz=88						
V15A	**Kaibab Nationa**	88.66	52	P	P	06 23 07.0	+0.9
	baz=88,SNR=5.5						
X14A	**Yava**	88.72	53	P	P	06 23 07.3	+0.8
	baz=88,SNR=6.5						
113A	**Mohawk Valley,**	88.78	55	⇓P	P	06 23 06.8	0.0
	baz=89						
NB2	**NORSAR Subarra**	88.78	339	P	P	06 23 03.8	-2.4
	comp=Z,0.7nm,0.7s,mb4.1,baz=50,slow=4.6						
NOA	**NORSAR Array B**	88.78	339	P	P	06 23 03.8	-2.4
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,34nm,18.3s						
NOA	**NORSAR Array B**	88.78	339	P	P	06 23 03.8	-2.4
	comp=Z,1.7nm,0.8s,mb4.4,baz=45,slow=4.5,SNR=4.0						
NOA				LR	LR	07 02 17.1	
	comp=Z,34nm,18.3s,MS3.8,baz=335,slow=35						
Y14A	**Wickenburg**	88.86	54	P	P	06 23 07.6	+0.5
	baz=89,SNR=7.1						
W15A	**Williams**	88.87	52	⇓P	P	06 23 07.4	+0.3
	baz=89						
Z14A	**Wintersburg**	89.15	54	⇓P	P	06 23 08.8	+0.3
	baz=89						
X15A	**Humboldt**	89.19	53	P	P	06 23 09.6	+0.9
	baz=89,SNR=7.5						
Y15A	**Casa Rosa Ranc**	89.36	54	P	P	06 23 10.2	+0.7
	baz=89,SNR=5.2						
WUAZ	**Wupatki**	89.38	52	⇓P	P	06 23 10.2	+0.7
	baz=89						
W16A	**Flagstaff**	89.45	52	⇑P	P	06 23 10.0	+0.2
	baz=89						
X16A	**Lo Mia Camp, P**	89.81	53	⇓P	P	06 23 11.9	+0.3
	baz=90						
PV01	**Paradox Valley**	90.18	48	*e*P	P	06 23 13.2	0.0
RSSD	**Black Hills**	90.20	42	*e*P	P	06 23 13.1	-0.1
RSSD				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.8						
RSSD	**Black Hills**	90.20	42	*e*P	P	06 23 13.1	-0.1
	comp=Z,7.1nm,1.3s,mb4.8						
Y17A	**Roosevelt**	90.58	53	⇑P	P	06 23 15.1	-0.1
	baz=90						
SMCO	**Snowmass**	90.77	47	*e*P	P	06 23 16.4	+0.5
	comp=Z,15nm,1.3s,mb5.2						
W19A	**Sanders**	91.00	51	⇑P	P	06 23 17.4	+0.3
	baz=91						
Z17A	**San Carlos Hig**	91.04	53	⇑P	P	06 23 17.8	+0.5
	baz=91						
Y18A	**Canyon Day Jun**	91.14	53	⇑P	P	06 23 18.2	+0.4
	baz=91						
117A	**Oracle**	91.16	54	⇓P	P	06 23 18.5	+0.6
	baz=91						
ULM	**Lac du Bonnet**	91.37	33	P	P	06 23 17.2	-1.3
ULM				LR	LR	07 01 01.8	
ULM	**Lac du Bonnet**	91.37	33	P	P	06 23 17.2	-1.3
	comp=Z,2.5nm,0.8s,mb4.6,baz=313,slow=7.5,SNR=4.4						
ULM				LR	LR	07 01 01.8	
	comp=Z,87nm,20.1s,MS4.2,baz=359,slow=33						
ISCO	**Idaho Springs**	91.38	46	*e*P	P	06 23 18.4	-0.4
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.9						
ISCO	**Idaho Springs**	91.38	46	*e*P	P	06 23 18.4	-0.3
	comp=Z,6.4nm,1.0s,mb4.9						
X19A	**St. Johns**	91.39	52	⇑P	P	06 23 19.6	+0.6
	baz=91						
217A	**Green Valley**	91.46	55	⇓P	P	06 23 19.9	+0.6
	baz=91						
Y19A	**Nutrioso**	91.64	52	⇓P	P	06 23 20.6	+0.5
	baz=91						
118A	**Homack Ranch,**	91.71	54	⇓P	P	06 23 21.2	+0.7
	baz=92						
218A	**Dragoon**	91.96	54	⇓P	P	06 23 22.0	+0.3
	baz=92						
119A	**Ashpeak Ranch,**	92.15	53	⇓P	P	06 23 23.0	+0.5
	baz=92						
318A	**Bisbee**	92.24	55	⇓P	P	06 23 22.8	-0.2
	baz=92						
SDCO	**Great Sand Dun**	92.49	48	*e*P	P	06 23 23.6	-0.4
	comp=Z,1.0nm,0.8s,mb4.2						
219A	**White Tail Can**	92.54	54	⇓P	P	06 23 24.1	-0.2
	baz=92						
ANMO	**Albuquerque**	93.19	50	⇑*e*P	P	06 23 27.6	+0.3
MORC	**Moravsky Berou**	93.93	328	*e*P	P	06 23 28.8	-1.5
MORC				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.6						
MORC	**Moravsky Berou**	93.93	328	*e*P	P	06 23 28.8	-1.5
	comp=Z,2.0nm,0.8s,mb4.6						
CONA	**Conrad Observa**	95.99	327	⇑*i*P	P	06 23 43.7	+4.0
	comp=Z,4.0nm,0.7s,mb5.0						
CONA	**Conrad Observa**	95.99	327	⇑*e*PcP	PcP	06 23 37.9	-2.0
	comp=Z,4.0nm,0.7s						
CSNA	**Conrad Observa**	95.99	327	⇓*e*PcP	PcP	06 23 38.0	-1.9
	comp=Z,3.9nm,0.7s						
GERES	**GERESS Array B**	96.42	329	P	P	06 23 39.4	-2.3
	comp=Z,0.3nm,0.2s,mb4.3,baz=66,slow=3.2,SNR=4.3						
TXAR	**Lajitas Array**	98.04	54	P	P	06 23 48.2	-1.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
TXAR	**Lajitas Array**	98.04	54	P	P	06 23 48.2	-1.3
TXAR	**Lajitas Array**	98.04	54	P	P	06 23 48.2	-1.3
	comp=Z,0.7nm,1.0s,mb4.1,baz=306,slow=3.0,SNR=4.5						
TORD	**Torodi Ar. Bea**	126.59	309	PKP	PKPdf	06 29 18.9	-1.5
	comp=Z,1.5nm,1.0s,baz=27,slow=1.1,SNR=5.8						
PLCA	**Paso Flores**	145.91	131	PKP2	PKPbc	06 29 50.5	-1.6
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.8s						
PLCA	**Paso Flores**	145.91	131	PKPbc	PKPbc	06 29 50.5	-1.6
	comp=Z,3.3nm,0.8s,baz=261,slow=1.2,SNR=6.5						
LPAZ	**La Paz**	150.01	85	PKIKP	PKPdf	06 29 58.5	-0.4
LPAZ						06 30 04.3	
LPAZ				pmax	pmax		
	comp=Z,4.0nm,1.2s						
LPAZ				pmax	pmax		
	comp=Z,5.0nm,0.9s						
LPAZ	**La Paz**	150.01	85	PKP	PKPdf	06 29 58.5	-0.4
	comp=Z,4.1nm,1.2s,baz=333,slow=0.4,SNR=4.7						
LPAZ				PKPbc	PKPbc	06 30 04.3	+0.5
	comp=Z,5.4nm,0.9s,baz=322,slow=2.7,SNR=15						

ISCJB ***22*** *06:36:12.8±0.2, 6440N±001×2039E±004, h10km, Error ellipse: s-maj=2.4km s-min=2.0km az=30.3*
CSEM ***22*** *06:36:13.7±0.1, 6440N×2010E, h10km, ML2.1, Error ellipse: s-maj=3.0km s-min=1.5km az=111.0*
NAO ***22*** *06:36:13.5±1.6, 6439N×2027E, h4km±11km, ML2.7*
IDC ***22*** *06:36:14.1±1.0, 6441N×2072E, h0km, mb1 2.9/3, mb1mx2.8/21, mbtmp2.8/3, ML2.6/3, Error ellipse: s-maj=11.7km s-min=8.2km az=84.0*
BER ***22*** *06:36:14.5±4.5, 6436N×2040E, h0km±14km, MD3.0, ML2.6, ML2.7(NAO)*
HEL ***22*** *06:36:14.9±0.1, 6440N×2037E, h14km, ML2.8, ML2.6(BER), ML2.1(UPP)*
NEIC ***22*** *06:36:15.0, 6440N×2035E, h10km, ML2.7(NAO), ML2.1(UPP), ML2.6(BER), After UPP.*
UPP ***22*** *06:36:15.0, 6440N×2035E, h10km, ML2.1*
ISC 22 06:36:14.5±0.5, 6441N±001×2038E±004, h12km±3km, n91, σ0 95/148, 2C-1D, Sweden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVAU	**Svanoeiden**	0.36	284	⇓*i*P	Pg	06 36 21.7	-0.1
SVAU				*i*S	Sg	06 36 26.6	0.0
BURU	**Burvik**	0.47	67	*i*P	Pg	06 36 24.0	+0.4
BURU				*i*S	Sg	06 36 30.7	+0.9
LILU	**Lilltraesk**	0.91	346	⇑*e*P	Pg	06 36 31.5	-0.6
LILU				*e*S	Sg	06 36 43.3	-0.6
BREU	**Bredtraesk**	0.95	238	*e*P	Pg	06 36 31.6	-1.2
BREU				*e*S	Sg	06 36 43.8	-1.3
SJUU	**Sjulsmark**	1.22	25	⇑*e*P	Pn	06 36 37.0	-0.4
SJUU				*e*S	Sb	06 36 53.2	0.0
VAF	**Ylistaro**	1.71	142	*e*P	Pn	06 36 44.7	+0.7
VAF				*e*S	Sn	06 37 06.4	+0.7
SOLU	**Sollefteaa**	1.81	231	*e*P	Pn	06 36 45.9	+0.4
SOLU				*e*S	Sn	06 37 09.0	+0.7
KALU	**Kalix**	1.93	39	*e*P	Pn	06 36 48.0	+1.0
KALU				*e*S	Sn	06 37 13.5	+2.4
HEMU	**Hemsoen**	2.03	212	*e*P	Pn	06 36 48.8	+0.3
HEMU				*e*S	Sn	06 37 15.3	+1.6
ERTU	**Ertsjaerv**	2.28	18	*e*P	Pn	06 36 52.7	+0.7
OUL	**Oulu**	2.46	71	*e*P	Pn	06 36 54.2	-0.2
OUL				*e*S	Sn	06 37 24.2	0.0
OUL				*e*SB	Sb	06 37 28.8	0.0
OUL				MSG		06 37 30.6	
	comp=Z,64nm,0.1s						
NOD	**Norderasen**	2.63	251	*e*P	Pn	06 36 56.8	+0.1
DUNU	**Dundret**	2.73	2	*e*P	Pn	06 36 59.2	+1.1
HASU	**Hassela**	2.83	219	*e*P	Pn	06 36 59.3	-0.2
PAJU	**Pajala**	2.86	22	*e*P	Pn	06 37 00.2	+0.3
KEF	**Keuruu**	3.03	136	*e*P	Pn	06 37 03.0	+0.9
KEF				*e*S	Sn	06 37 38.9	+0.7
KEF				*e*SG	Sg	06 37 47.4	-4.3
KEF				MSG		06 37 52.0	
	comp=Z,29nm,0.1s						
ARNU	**Arnoeviken**	3.05	208	*e*P	Pn	06 37 02.6	+0.1
MOR8	**Moi Rana**	3.06	308	*e*P	Pn	06 37 03.4	+0.7
MOR8				*e*S	Sn	06 37 38.0	-1.0
MOR8				AML	AML	06 37 52.7	
	comp=Z,51nm,0.3s						
MOR8	**Moi Rana**	3.06	308	*e*P	Pn	06 37 03.4	+0.7
MOR8				*e*S	Sn	06 37 39.1	+0.1
MOR8	**Moi Rana**	3.06	308	*e*P	Pn	06 37 03.3	+0.7
	SNR=50						
MOR8				*e*S	Sn	06 37 39.1	0.0
HUDU	**Hudiksvall**	3.06	210	*e*P	Pn	06 37 02.8	+0.1
SUF	**Sumiainen**	3.09	121	*e*P	Pn	06 37 03.1	+0.2
SUF				*e*S	Sn	06 37 39.5	-0.2
SUF				*e*SG	Sg	06 37 49.4	-4.1
SUF				MSG		06 37 52.4	
	comp=Z,18nm,0.1s						
MASU	**Masugnsbyn**	3.13	11	*e*P	Pn	06 37 05.0	+1.4
KJN	**Kajaani**	3.22	92	*e*P	Pn	06 37 04.2	-0.5
KJN				*e*S	Sn	06 37 42.5	-0.4
KJN				*e*SG	Sg	06 37 52.8	-4.8
KJN				MSG		06 37 54.3	
	comp=Z,79nm,0.2s						
RAF	**Rauma**	3.46	169	*e*P	Pn	06 37 09.2	+1.1
RAF				*e*S	Sn	06 37 49.1	+0.3
RAF				*e*SG	Sg	06 38 00.5	-4.8
RAF				MSG		06 38 01.4	
	comp=Z,24nm,0.2s						
NIKU	**Nikkaluokta**	3.52	352	*e*P	Pn	06 37 10.6	+1.7
STOK	**Stokkvaagen**	3.64	305	*e*S	Sn	06 37 52.1	-1.3
STOK	**Stokkvaagen**	3.64	305	AML	AML	06 38 14.1	
	comp=Z,37nm,0.3s						
STOK	**Stokkvaagen**	3.64	305	AML	AML	06 38 14.1	
	comp=Z,37nm,0.3s						
STOK	**Stokkvaagen**	3.64	305	*e*S	Sn	06 37 52.1	-1.2
	comp=Z,37nm,0.3s,SNR=50						
NSS	**Namsos**	3.65	276	*e*P	Pn	06 37 09.9	-0.8
NSS				*e*S	Sn	06 37 52.1	-1.4
NSS				AML	AML	06 38 12.8	
	comp=Z,36nm,0.3s						
NSS	**Namsos**	3.65	276	*e*P	Pn	06 37 09.9	-0.8
NSS				*e*S	Sn	06 37 52.1	-1.4
NSS	**Namsos**	3.65	276	*e*P	Pn	06 37 09.9	-0.8
	SNR=50						
NSS				*e*S	Sn	06 37 52.1	-1.4
	comp=Z,36nm,0.3s,SNR=50						
STOK1	**Konsvik**	3.69	308	*e*P	Pn	06 37 11.2	0.0
STOK1	**Konsvik**	3.69	308	*e*S	Sn	06 37 53.0	-1.5
LANU	**Lannavaara**	3.71	9	*e*P	Pn	06 37 12.8	+1.2
IGGU	**Iggoen**	3.82	203	*e*P	Pn	06 37 13.9	+0.8
SGF	**Sodankyl**	3.95	37	*e*P	Pn	06 37 14.7	-0.1
SGF				*e*S	Sn	06 37 59.6	-1.4
SGF				*e*SB	Sb	06 38 13.7	+2.1
SGF				MSG		06 38 18.2	
	comp=Z,32nm,0.3s						
FIA0	**FINESS Array S**	3.95	136	*e*P	Pn	06 37 15.7	+0.9
FIA0				*e*S	Sn	06 38 00.7	-0.4
FIA0				*e*SG	Sg	06 38 15.4	-5.9
FIA0				MSG		06 38 19.7	
	comp=Z,21nm,0.2s						
FIA0	**FINESS Array S**	3.95	136	Pn	Pn	06 37 15.6	+0.7
	baz=327,slow=16						
FIA0				Pg	Pg	06 37 24.7	-5.5
	baz=324,slow=16						
FIA0				Sn	Sn	06 37 59.9	-1.2
	baz=333,slow=28						
FIA0				Lg		06 38 16.2	
	baz=324,slow=28						
FIA0	**FINESS Array S**	3.95	136	Pg	Pg	06 37 24.7	-5.4
	SNR=9.4						
FINES	**FINESS Array B**	3.95	136	Pn	Pn	06 37 15.8	+1.0
FINES				Sn	Sn	06 37 59.7	-1.4
FINES				Lg		06 38 14.5	
FINES	**FINESS Array B**	3.95	136	Pn	Pn	06 37 15.8	+1.0
	comp=Z,0.2nm,0.3s,baz=334,slow=12,SNR=8.7						
FINES				Sn	Sn	06 37 59.7	-1.4
	comp=Z,0.9nm,0.3s,baz=326,slow=17,SNR=4.0						
FINES				Lg		06 38 14.5	
	comp=Z,9.8nm,0.3s,baz=327,slow=22,SNR=8.6						
FINES	**FINESS Array B**	3.95	136	Pn	Pn	06 37 15.9	+1.1
FINES				Sn	Sn	06 37 59.7	-1.3
MSF	**Maaselka**	3.95	64	*e*P	Pn	06 37 14.4	-0.4
MSF				*e*S	Sn	06 37 59.3	-1.7
MSF				*e*SB	Sb	06 38 13.9	+2.2
MSF				MSG		06 38 18.8	
	comp=Z,11nm,0.2s						
FORU	**Forsmark**	4.16	195	*e*P	Pn	06 37 18.3	+0.6
GRAU	**Graesoe**	4.18	193	*e*P	Pn	06 37 18.7	+0.7
HEF	**Hetta**	4.23	17	*e*P	Pn	06 37 18.8	+0.2
HEF				*e*S	Sn	06 38 05.5	-2.3
HEF				*e*SG	Sg	06 38 23.5	-6.6
AAL	**Aland**	4.25	183	*e*P	Pn	06 37 20.1	+1.1
KU6	**Riekki**	4.32	64	*e*P	Pn	06 37 19.3	-0.5
KU6				*e*S	Sn	06 38 08.1	-1.9
KU6				*e*SG	Sg	06 38 24.9	-8.1
KU6				MSG		06 38 28.4	
	comp=Z,13nm,0.2s						
FLYU	**Flymyra**	4.45	196	*e*P	Pn	06 37 21.9	+0.2
OSTU	**Oestervaala**	4.46	201	*e*P	Pn	06 37 22.5	+0.7
FALU	**Falun**	4.46	210	*e*P	Pn	06 37 21.9	+0.1
MEF	**Metsahovi**	4.60	154	*e*S	Sn	06 38 15.9	-1.2
MEF				*e*SG	Sg	06 38 34.6	-7.5
KIF	**Kilpisjarvi**	4.62	2	*e*P	Pn	06 37 25.4	+1.4
KIF				*e*S	Sn	06 38 17.4	-0.1
KIF				*e*SG	Sg	06 38 36.8	-5.9
KIF				MSG		06 38 44.5	
	comp=Z,14nm,0.3s						
PVF	**Pernaja**	4.63	144	*e*P	Pn	06 37 25.5	+1.3
PVF				*e*S	Sn	06 38 17.0	-0.8
LOF	**Lofoten**	4.65	327	*e*S	Sn	06 38 17.8	-0.4
LOF				*e*Sg	Sg	06 38 43.2	-0.3
LOF	**Lofoten**	4.65	327	*e*S	Sn	06 38 17.8	-0.4
	SNR=49						
LOF				*e*Sg	Sg	06 38 43.2	-0.3
	SNR=90						
NRTU	**Norrtaelje**	4.82	191	*e*P	Pn	06 37 27.5	+0.8
BACU	**Backbrunna**	4.82

KEV				*e*SG	Sg	06 39 16.3	-9.2
APA0	**Apatity Array**	**6.06**	**52**	Pn	Pn	06 37 42.8	-0.9
	baz=237,slow=16						
APA0	**Apatity Array**	**6.06**	**52**	*e*P	Pn	06 37 42.8	-0.9
ASKU	**Askersund**	**6.13**	**208**	*e*P	Pn	06 37 44.2	-0.5
VIKU	**Vikbolandet**	**6.18**	**198**	*e*P	Pn	06 37 45.5	+0.1
VIKU	**Vikbolandet**	**6.18**	**198**	P	Pn	06 37 45.5	0.0
NASU	**Vaermlandsnaes**	**6.47**	**215**	*e*P	Pn	06 37 48.5	-0.9
NASU	**Vaermlandsnaes**	**6.47**	**215**	P	Pn	06 37 48.5	-1.0
LNKU	**Linkoeping**	**6.63**	**203**	*e*P	Pn	06 37 51.4	-0.2
GOTU	**Gotland**	**6.80**	**188**	*e*P	Pn	06 37 54.0	0.0
STRU	**Stroemstad**	**6.94**	**223**	*e*P	Pn	06 37 54.7	-1.1
VSTU	**Vaestervik**	**7.02**	**197**	*e*P	Pn	06 37 56.8	-0.2
BYXU	**Byxelkrok**	**7.33**	**195**	*e*P	Pn	06 38 00.9	-0.3
OSKU	**Oskarshamn**	**7.53**	**198**	*e*P	Pn	06 38 03.4	-0.6
VXJU	**Vaexsjoe**	**7.97**	**202**	*e*P	Pn	06 38 09.1	-0.9
SPA0	**Spitsbergen Ar**	**13.90**	**357**	P	Pn	06 39 33.0	+2.1
	baz=157,slow=14						

GII ***22*** *07:00:21.8±1.2,3003N×36.17E,h0km,ML2.8/2*
SGS ***22*** *07:00:23.4,2994N×36.16E,h5km*
ISC 22 07:00:19.6±1.6,2989N±006×3639E±008,h0km,n10,
σ0§62/14,Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.18**	**278**	Pg	**Pg**	**07 00 42.0**	**-0.2**
HRFI				Sg	**Sg**	**07 00 57.3**	**-0.2**
EIL	**Elat**	**1.27**	**260**	Pg	**Pg**	**07 00 44.4**	**+0.5**
EIL				Sg	**Sg**	**07 01 01.2**	**+0.9**
MBH	**Mount Berech**	**1.28**	**266**	Pg	**Pg**	**07 00 44.8**	**+0.6**
MBH				Sg	**Sg**	**07 01 01.6**	**+0.8**
HQLS		**1.29**	**243**	S	**Sg**	**07 00 59.7**	**-1.5**
HQLS		**1.29**	**243**	P	**Pg**	**07 00 44.1**	**-0.3**
JLOS		**1.39**	**214**	S	**Sg**	**07 01 04.2**	**-0.1**
JLOS		**1.39**	**214**	P	**Pg**	**07 00 46.8**	**+0.5**
KRMI	**Paran Flat**	**1.46**	**279**	Pg	**Pg**	**07 00 47.7**	**+0.1**
KRMI				Sg	**Sg**	**07 01 06.0**	**-0.5**
KZIT	**Kziot**	**2.00**	**301**	Pn	**Pn**	**07 00 54.0**	**-0.6**
RSHS		**2.11**	**222**	P	**Pn**	**07 00 56.2**	**+0.1**

NEIC ***22*** *07:26:22.3,29.18S×7151W,h62km,MG4.2(GUC),After GUC.*
GUC 22 07:26:22.3±0.7,2918S×7151W,h62km±10km,ML4.2,1D,
Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**0.72**	**76**	*e*Pn	Pn	07 26 37.9	+0.9
LSCH	**La Serena**	**0.76**	**163**	*e*P	Pn	07 26 37.7	+0.4
LSCH				*i* S	Sn	07 26 49.0	+0.6
VACH	**Vallenar**	**0.89**	**47**	*e*P	Pn	07 26 39.3	+0.2
VACH				*i* S	Sn	07 26 52.1	+0.7
VACH				AML	AML	07 26 52.6	
	comp=N,8μm,0.0s						
TLL	**Tololo Astrono**	**1.15**	**148**	*e*P	Pn	07 26 43.8	+1.3
TLL				*i* S	Sn	07 26 59.5	+2.0
OVCH	**Ovalle**	**1.44**	**170**	*e*P	Pn	07 26 46.4	+0.1
OVCH				S	Sn	07 27 04.0	-0.3
OVCH	**Ovalle**	**1.44**	**170**	*e*P	Pn	07 26 46.4	+0.1
OVCH				*i* S	Sn	07 27 04.0	-0.3
OVCH				AML	AML	07 27 09.0	
	comp=E,8μm,0.5s						
CMCH	**Combarbala**	**2.03**	**168**	⇓*i*P	Pn	07 26 54.5	+0.3
CMCH				*i* S	Sn	07 27 18.5	0.0
CPCH	**Copiapo**	**2.08**	**29**	*e*Pn	Pn	07 26 55.6	+0.6
CPCH				*i* S	Sn	07 27 20.6	+0.8
CPCH	**Copiapo**	**2.08**	**29**	*e*Pn	Pn	07 26 55.6	+0.6
CPCH				*i* S	Sn	07 27 20.6	+0.8
CPCH				AML	AML	07 27 24.0	
	comp=N,2μm,0.1s						

JMA 22 07:44:20.6±0.1,3032N×12943E,h248km±2km,M3.5,
Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNN	**Nakanoshima**	**0.61**	**141**	P	Pn	07 44 53.7	0.0
JNN				*e*S	S	07 45 19.6	0.0
JKC	**Kuchinoerabu**	**0.68**	**78**	P	Pn	07 44 54.5	+0.7
JSJ	**Shimokoshiki**	**1.38**	**10**	P	Pn	07 44 57.8	+0.1
JSJ				*e*S	S	07 45 26.5	-0.6
JTN	**Tanegashima 3**	**1.38**	**76**	P	Pn	07 44 58.1	+0.3
JTN				*e*S	S	07 45 27.0	0.0
JSU	**Suzuyama**	**1.47**	**36**	P	Pn	07 44 58.9	+0.5
JAM	**Amami Oshima**	**1.91**	**175**	P	Pn	07 45 02.1	0.0
JAM				*e*S	S	07 45 33.5	-1.3
JTZ	**Takazaki**	**2.12**	**42**	P	Pn	07 45 04.3	+0.3
JTZ				*e*S	S	07 45 36.5	-1.7
JIU2	**Izumi 2**	**2.51**	**28**	P	Pn	07 45 08.0	+0.2
JTK	**Tokunoshima**	**2.56**	**190**	P	Pn	07 45 08.0	-0.4

IDC 22 07:55:09.8±1.0,2177N×14322E,h0km,mb3.7/8,
mb1 3.9/8,mb1mx3.8/19,mbtmp3.7/8,Error ellipse:
s-maj=35.3km s-min=21.7km az=81.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.48**	**323**	P	P	07 59 50.8	+1.6
	1.4nm,0.5s,baz=141,slow=9.5,SNR=9.2						
SONM	**Songino Array**	**39.30**	**320**	P	P	08 02 40.5	+0.1
	0.8nm,0.5s,baz=116,slow=3.4,SNR=3.6						
WRA	**Warramunga Arr**	**42.36**	**192**	P	P	08 03 06.0	+0.1
	0.9nm,0.9s,baz=17,slow=8.9,SNR=3.8						
ASAR	**Alice Springs**	**46.07**	**192**	P	P	08 03 35.5	0.0
	0.4nm,0.7s,baz=17,slow=8.0,SNR=6.8						
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	P	08 04 36.2	-0.5
	1.1nm,0.6s,baz=104,slow=6.3,SNR=4.8						
MKAR	**Makanchi Array**	**54.67**	**313**	P	P	08 04 40.0	-0.6
	0.3nm,0.2s,baz=91,slow=9.7,SNR=3.6						
YKA	**Yellowknife Ar**	**76.37**	**28**	P	P	08 07 00.4	-0.2
	0.7nm,0.7s,baz=294,slow=5.7,SNR=9.4						
NVAR	**Mina Array Bea**	**83.07**	**51**	P	P	08 07 38.3	+0.8
	0.4nm,0.6s,baz=266,slow=4.2,SNR=3.8						

IDC ***22*** *08:14:06.7±1.1,1120N×12443E,h0km,mb4.0/7,*
mb1 4.1/7,mb1mx3.9/18,mbtmp4.0/7,MS3.6/9,Ms1 3.6/9,
ms1mx3.4/27,Error ellipse: s-maj=127.0km s-min=19.5km
az=66.0
ISCJB ***22*** *08:14:08.0±0.6,1126N±004×12463E±004,h16km±5km,*
mb4.1/7,MS3.6/8,Error ellipse: s-maj=6.4km s-min=5.6km
az=39.9
MAN ***22*** *08:14:07,1126N×12462E,h7km,mb4.8,ML3.7,MS3.7*
ISC 22 08:14:08.8±0.6,1122N±003×12463E±004,h13km±4km,
n41,σ1§16/36,mb4.1/7,MS3.6/8,2D,Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.17**	**186**	*e*P	**Pg**	**08 14 12.2**	**-0.5**
OCLP				*e*S	**Sg**	**08 14 16.3**	**+1.0**
PLP	**Palo**	**0.35**	**99**	*i* P	**Pg**	**08 14 15.2**	**-0.6**
PLP				*i* S	**Sg**	**08 14 21.5**	**+0.9**
BESP	**Borongan**	**0.88**	**64**	*e*P	**Pg**	**08 14 23.9**	**-1.9**
MSLP	**Maasin**	**1.10**	**168**	*e*P	**Pb**	**08 14 28.8**	**-0.9**
LLP	**Lapu-Lapu**	**1.11**	**216**	*e*P	**Pb**	**08 14 27.3**	**-2.5**
LLP				*e*S	**Sb**	**08 14 43.4**	**-0.8**
CNP	**Catarman**	**1.28**	**2**	*e*P	**Pn**	**08 14 29.7**	**-2.8**
TBP	**Tagbilaran**	**1.69**	**206**	*e*P	**Pn**	**08 14 37.3**	**-0.8**
TBP				*e*S	**Sn**	**08 15 00.7**	**+1.0**
RCP	**Roxas**	**1.88**	**281**	⇓*e*P	**Pn**	**08 14 38.8**	**-1.8**
RCP				*e*S	**Sn**	**08 15 04.4**	**+0.3**
GUIM	**Jordan**	**2.08**	**254**	*e*P	**Pn**	**08 14 42.6**	**-0.9**
SNPH	**Sibulan**	**2.31**	**216**	*e*P	**Pn**	**08 14 46.0**	**-0.6**
PVCP	**Virac**	**2.41**	**349**	⇓*i*P	**Pg**	**08 14 56.3**	**+1.4**
PVCP	**Virac**	**2.41**	**349**	*e*P	**Pb**	**08 14 52.9**	**+0.9**
OTRP	**Odiongan**	**2.79**	**294**	*e*P	**Pn**	**08 14 52.9**	**-0.3**
BUKP	**Musuan**	**3.35**	**173**	*e*P	**Pn**	**08 15 02.7**	**+1.8**
CUYO	**Cuyo Island**	**3.56**	**264**	*e*P	**Pn**	**08 15 02.9**	**-1.0**
PAGZ	**Pagadian**	**3.57**	**200**	*e*P	**Pn**	**08 15 06.6**	**+2.7**
SJMP	**San Jose**	**3.65**	**290**	*e*P	**Pn**	**08 15 07.0**	**+2.0**
BUSP	**Coron**	**4.41**	**281**	*e*P	**Pn**	**08 15 16.2**	**+0.7**
JOW	**Kunigami**	**15.91**	**12**	LR	LR	08 23 25.6	
	comp=Z,143nm,19.1s,baz=156,slow=35						
JNU	**Nakatsue**	**22.54**	**14**	LR	LR	08 27 04.7	
	comp=Z,98nm,20.3s,MS3.2,baz=207,slow=34						
JHJ	**Hachijo jima 2**	**25.86**	**30**	LR	LR	08 29 42.6	
	comp=Z,47nm,19.3s,MS3.0,baz=284,slow=36						
KSRS	**Korea Array**	**26.29**	**6**	LR	LR	08 29 33.9	
	comp=Z,106nm,19.6s,MS3.4,baz=39,slow=35						
MJAR	**Matsushiro Arr**	**28.04**	**24**	LR	LR	08 30 57.7	
	comp=Z,145nm,18.7s,MS3.6,baz=195,slow=36						
WRA	**Warramunga Arr**	**32.41**	**163**	P	**P**	**08 20 38.4**	**-0.2**
	0.7nm,1.0s,mb3.4,baz=347,slow=9.2,SNR=3.0						
ASAR	**Alice Springs**	**35.84**	**165**	P	**P**	**08 21 08.4**	**+0.1**
	0.8nm,0.5s,mb3.9,baz=343,slow=7.0,SNR=13						
JIRN	**Jiri**	**39.56**	**300**	*e*P	**P**	**08 21 39.8**	**-0.1**
GUN	**Gumba**	**39.90**	**300**	*e*P	**P**	**08 21 42.3**	**-0.4**
PKI	**Pulchoki**	**40.20**	**300**	*e*P	**P**	**08 21 46.8**	**+1.6**
KKN	**Kakani**	**40.37**	**300**	*e*P	**P**	**08 21 47.3**	**+0.7**
DMN	**Daman**	**40.47**	**300**	*e*P	**P**	**08 21 49.0**	**+1.5**
HNR	**Honiara**	**40.68**	**119**	LR	LR	08 36 11.1	
	comp=Z,122nm,20.1s,MS3.8,baz=358,slow=32						
DANN	**Dangsing**	**41.82**	**300**	*e*P	**P**	**08 21 57.9**	**-0.6**
STKA	**Stephens Creek**	**45.83**	**160**	P	**P**	**08 22 31.6**	**+1.0**
	2.4nm,0.8s,mb4.2,baz=335,slow=14,SNR=3.0						
MKAR	**Makanchi Array**	**50.30**	**323**	P	**P**	**08 23 05.3**	**+0.2**
	1.3nm,0.8s,mb4.0,baz=112,slow=8.7,SNR=7.5						
ZALV	**Zalesovo Beam**	**53.03**	**332**	LR	LR	08 48 03.0	
	comp=Z,34nm,19.8s,MS3.4,baz=336,slow=38						
ARCES	**ARCESS Array B**	**82.75**	**340**	P	**P**	**08 26 32.7**	**+0.5**
	2.8nm,0.8s,mb4.3,baz=72,slow=7.8,SNR=3.8						
FINES	**FINESS Array B**	**84.29**	**331**	P	**P**	**08 26 38.6**	**-1.7**
	8.3nm,1.3s,mb4.7,baz=90,slow=6.5,SNR=5.0						
AKASG	**Malin Array Be**	**84.81**	**321**	P	**P**	**08 26 42.3**	**-0.8**
	0.4nm,0.3s,mb4.0,baz=67,slow=4.7,SNR=9.7						
NOA	**NORSAR Array B**	**91.20**	**333**	LR	LR	09 09 50.1	
	comp=Z,44nm,19.5s,MS3.9,baz=290,slow=37						
GERES	**GERESS Array B**	**94.95**	**322**	LR	LR	09 12 07.0	
	comp=Z,99nm,19.7s,MS4.3,baz=265,slow=37						
TXAR	**Lajitas Array**	**118.41**	**48**	PKP	PKPdf	08 32 57.5	+0.6
	0.1nm,0.7s,baz=267,slow=1.6,SNR=2.4						

IDC 22 08:34:56.9±5.0,660S×15234E,h0km,mb3.4/2,mb1 3.7/2,
mb1mx3.5/13,mbtmp3.4/2,Error ellipse:
s-maj=269.6km s-min=49.6km az=124.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.93**	**231**	P	P	08 39 52.1	-0.1
	0.5nm,0.7s,baz=53,slow=12,SNR=8.5						
ASAR	**Alice Springs**	**24.53**	**224**	P	P	08 40 18.4	+0.2
	1.6nm,0.7s,baz=54,slow=10.0,SNR=15						
TORD	**Torodi Ar. Bea**	**150.38**	**285**	PKPbc	PKPbc	08 54 51.0	-0.3
	0.8nm,0.9s,baz=58,slow=2.2,SNR=6.5						

ISCJB ***22*** *08:42:21.3±0.5,4391N±002×739E±004,h14km±2km,*
Error ellipse: s-maj=4.7km s-min=3.6km az=27.0
STR ***22*** *08:42:22.0±0.1,4389N×742E,h5km,Ml2.4,Error ellipse:*
s-maj=0.0km s-min=0.0km az=0.0
LDG ***22*** *08:42:22.2±0.1,4388N×741E,h2km,Md2.6/1,Ml2.4/8,*
Error ellipse: s-maj=1.3km s-min=1.0km az=124.0
ISC 22 08:42:21.6±0.6,4389N±002×742E±004,h13km±2km,n23,
σ0§58/43,Near south coast of France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SBF	**Sospel**	**0.02**	**155**	*e*Pg	**Pg**	**08 42 23.6**	**-0.2**
SBF				*e*Sg	**Sg**	**08 42 24.5**	**-0.8**
	749nm,0.2s						
LUCF	**Luceram**	**0.06**	**278**	Pg	**Pg**	**08 42 23.9**	**-0.1**
LUCF				Sg	**Sg**	**08 42 25.0**	**-0.7**
AUTN	**L'Aution**	**0.11**	**2**	Pg	**Pg**	**08 42 24.8**	**+0.2**
AUTN				Sg	**Sg**	**08 42 26.9**	**+0.1**
SAOF	**Saorge**	**0.14**	**43**	Pg	**Pg**	**08 42 25.2**	**+0.2**
SAOF				Sg	**Sg**	**08 42 27.5**	**0.0**
TOUF	**Mont Tournerai**	**0.18**	**316**	Pg	**Pg**	**08 42 25.8**	**+0.2**
TOUF				Sg	**Sg**	**08 42 28.7**	**+0.2**
MVIF	**Mont Vial**	**0.20**	**274**	Pg	**Pg**	**08 42 26.3**	**+0.4**
MVIF				Sg	**Sg**	**08 42 29.0**	**+0.2**
CALN	**Calern**	**0.41**	**251**	Pg	**Pg**	**08 42 30.1**	**+0.4**
CALN				Sg	**Sg**	**08 42 35.6**	**+0.5**
FRF	**La Foret Royal**	**0.65**	**240**	*e*Pg	**Pg**	**08 42 34.2**	**0.0**
FRF				*e*Sg	**Sg**	**08 42 42.5**	**-0.2**
	14nm,0.2s						
SURF	**Saint Ours**	**0.74**	**324**	Pg	**Pg**	**08 42 36.1**	**+0.2**
LMR	**La Mourre**	**0.86**	**231**	*e*Pg	**Pg**	**08 42 38.0**	**-0.2**
LMR				*e*Sg	**Sg**	**08 42 48.9**	**-0.6**
LMR				*e*Sn	**Sn**	**08 42 52.0**	**+0.1**
	23nm,0.2s						
MBDF	**Montbardon**	**0.96**	**331**	*e*Pg	**Pg**	**08 42 40.2**	**0.0**
MBDF				*e*Sg	**Sg**	**08 42 53.1**	**+0.4**
	6.0nm,0.3s						
TAVF	**Tavernes**	**1.02**	**255**	Pg	**Pg**	**08 42 41.0**	**-0.3**
TAVF				Sg	**Sg**	**08 42 55.6**	**+1.0**
OG25	**Le Caire**	**1.08**	**297**	Pg	**Pg**	**08 42 42.9**	**+0.4**
STOF	**St-Etienne Org**	**1.10**	**276**	Pg	**Pg**	**08 42 44.9**	**+2.2**
STOF				Sg	**Sg**	**08 43 00.6**	**+3.6**
SMRF	**Simiane la Rot**	**1.34**	**275**	*e*Pn	**Pn**	**08 42 46.0**	**0.0**
SMRF	**Simiane la Rot**	**1.34**	**275**	*e*Pg	**Pg**	**08 42 46.9**	**-0.4**
SMRF				*e*Sg	**Sg**	**08 43 04.3**	**-0.3**
	16nm,0.2s						
ORIF	**Oris-en-Rattie**	**1.51**	**314**	*e*Pn	**Pn**	**08 42 49.0**	**+0.6**
ORIF	**Oris-en-Rattie**	**1.51**	**314**	*e*Pg	**Pg**	**08 42 50.5**	**-0.1**
ORIF				*e*Sg	**Sg**	**08 43 10.0**	**-0.3**
	6.9nm,0.3s						
LPG	**La Plagne**	**1.68**	**344**	*e*Pg	**Pg**	**08 42 53.4**	**-0.5**
LPG				*e*Sg	**Sg**	**08 43 15.9**	**+0.2**
	2.7nm,0.3s						
LPL	**La Plagne**	**1.70**	**343**	*e*Pg	**Pg**	**08 42 53.7**	**-0.6**
LPL				*e*Sg	**Sg**	**08 43 16.3**	**-0.1**
	2.9nm,0.3s						
PGF	**Pioggiola**	**1.77**	**139**	*e*Pn	**Pn**	**08 42 52.2**	**+0.4**
VIVF	**Saint-Julien-l**	**2.20**	**297**	*e*Pn	**Pn**	**08 42 58.2**	**+0.4**
VIVF				*e*Sn	**Sn**	**08 43 24.2**	**-0.7**
VIVF				*e*Sg	**Sg**	**08 43 31.3**	**-0.9**
	6.3nm,0.5s						
LASF	**Ste Croix**	**2.58**	**275**	*e*Pn	**Pn**	**08 43 03.0**	**-0.1**
LASF				*e*Sn	**Sn**	**08 43 32.8**	**-1.5**
	1.5nm,0.2s						

KRSC 22 08:53:19.0±1.2,5304N×15970E,h80km±29km,ML3.6,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.20**	**73**	*i* P	Pn	08 53 31.0	+0.3
SPN				*i* S	Sn	08 53 39.7	+0.3
NLC	**Nalytchevo**	**0.25**	**302**	*i* P	Pn	08 53 31.1	+0.1
NLC				*i* S	Sn	08 53 39.7	-0.1
AVH	**Avacha**	**0.62**	**292**	*i* P	Pn	08 53 34.5	+0.7
AVH				*i* S	Sn	08 53 45.8	+1.0
PET	**Petropavlovsk**	**0.63**	**269**	*i* P	Pn	08 53 34.1	+0.2
PET				*i* S	Sn	08 53 45.0	0.0
RUS	**Russkaya**	**0.94**	**230**	*i* P	Pn	08 53 37.5	+0.2
RUS				*i* S	Sn	08 53 50.9	-0.1
KII	**Karymskiy**	**1.01**	**352**	*e*P	Pn	08 53 38.7	+0.6
KII				*i* S	Sn	08 53 53.0	+0.6
GRL	**Gorelyy**	**1.10**	**244**	*e*P	Pn	08 53 40.3	+1.1
GRL				*i* S	Sn	08 53 55.8	+1.4
GNL	**Ganaly**	**1.24**	**303**	*e*P	Pn	08 53 41.3	+0.4
GNL				*i* S	Sn	08 53 57.4	0.0
MKZ	**Mys Kozlova**	**1.94**	**38**	*e*P	Pn	08 53 50.2	+0.2
MKZ				*i* S	Sn	08 54 12.9	-0.7
MIPR	**Malaya Ipel'ka**	**1.95**	**248**	*e*P	Pn	08 53 51.5	+1.4
TUMR	**Tumrok**	**2.26**	**6**	P	Pn	08 53 56.1	+1.8
TUMR				*i* S	Sn	08 54 23.3	+2.0
KBTR	**Krutoberegovo**	**3.66**	**28**	*e*P	Pn	08 54 14.6	+1.5

CSEM ***22*** *09:51:17.0±1.4,3750N×2486W,h15km±26km,ML3.3,*
Error ellipse: s-maj=31.7km s-min=5.2km az=78.0,After PDA
PDA 22 09:51:17.0±1.4,3750N×2486W,h15km±26km,MD3.6,
ML3.3,Error ellipse: s-maj=31.7km s-min=5.2km
az=78.0,Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.52**	**199**	*e*P	Pg	09 51 25.7	-1.6
PSMN				*e*S	Sg	09 51 31.6	-2.6
CMLA	**Cha da Macela**	**0.59**	**297**	*e*P	Pg	09 51 27.3	-1.3
CMLA				*e*S	Sg	09 51 33.8	-2.7
CMLA				A		09 51 37.0	
	573nm,0.4s						
CMLA	**Cha da Macela**	**0.59**	**297**	*e*P	Pg	09 51 27.3	-1.3
CMLA				*e*S	Sg	09 51 33.8	-2.7
PDA	**Ponta Delgada**	**0.69**	**291**	*e*S	Sg	09 51 35.3	-4.2
PSET	**Sete Cidades**	**0.76**	**296**	*e*P	Pg	09 51 28.8	-3.0
PSET				*e*S	Sg	09 51 37.5	-4.2
PSET				A		09 51 40.8	
	562nm,0.3s						
PSET	**Sete Cidades**	**0.76**	**296**	*e*P	Pg	09 51 28.8	-3.0
PSET				*e*S	Sg	09 51 37.5	-4.2
PSCM	**Serra do Cume**	**2.15**	**305**	*e*P	Pn	09 51 47.9	-4.4
PSCM				*e*S	Sn	09 52 11.2	-7.5
PSCM				A		09 52 16.4	
	89nm,0.2s						
PSCM	**Serra do Cume**	**2.15**	**305**	*e*P	Pn	09 51 47.9	-4.4
PSCM				*e*S	Sn	09 52 11.2	-7.5
ADH	**Angra Heroismo**	**2.20**	**302**	*e*S	Sn	09 52 12.9	-7.1
PMAN	**Manadas**	**2.79**	**295**	*e*P	Pn	09 51 57.2	-3.9
PMAN				*e*S	Sn	09 52 27.6	-6.9
PMAN				A		09 52 32.0	
	45nm,0.3s						
PMAN	**Manadas**	**2.79**	**295**	*e*P	Pn	09 51 57.2	-3.9
PMAN				*e*S	Sn	09 52 27.6	-6.9
PPNO	**Prainha do Nor**	**2.86**	**291**	*e*P	Pn	09 51 58.2	-3.9
ROSA	**Rosais**	**2.93**	**296**	*e*P	Pn	09 51 58.7	-4.4
ROSA				*e*S	Sn	09 52 30.7	-7.4
PICO	**Pico**	**2.99**	**291**	*e*P	Pn	09 52 00.4	-3.5
PICO				*e*S	Sn	09 52 32.3	-7.2
CALA	**Caldeira**	**3.22**	**291**	*e*P	Pn	09 52 03.4	-3.6
CALA				*e*S	Sn	09 52 38.0	-7.2
PCED	**Cedros**	**3.24**	**292**	*e*P	Pn	09 52 02.9	-4.3
PCED				*e*S	Sn	09 52 37.4	-8.1
PCED				A		09 52 43.1	
	55nm,0.3s						
PCED	**Cedros**	**3.24**	**292**	*e*P	Pn	09 52 02.9	-4.3
PCED				*e*S	Sn	09 52 37.4	-8.1

MOS ***22*** *09:55:52.1±0.7,3488N×2757E,h15km,mb4.2/18,Error ellipse: s-maj=11.0km s-min=5.2km az=124.9*
ISCJB ***22*** *09:55:53.1±0.2,3506N±002×2779E±002,h10km,*
mb3.9/26,MS3.3/10,Error ellipse: s-maj=3.5km
s-min=2.0km az=31.4
IDC ***22*** *09:55:54.4±0.8,3515N×2771E,h0km,mb4.0/13,*
mb1 4.0/21,mb1mx3.9/28,mbtmp3.9/21,ML3.5/7,MS3.2/11,
Ms1 3.2/11,ms1mx3.0/43,Error ellipse: s-maj=17.2km
s-min=15.7km az=1.0
HLW ***22*** *09:55:56.4,3533N×2788E,h25km,Mb4.1*
ATH ***22*** *09:55:56.8,3522N×2782E,h20km±3km,MD4.1/16*
NEIC ***22*** *09:55:56.5,3520N×2779E,h18km,mb3.9/22,*
MD4.1(ATH),After ATH.
THE ***22*** *09:55:56.1,3489N×2808E,h20km,ML4.8*
CSEM ***22*** *09:55:56.9±0.1,3508N×2790E,h30km,Ms3.2,Error ellipse: s-maj=2.4km s-min=1.4km az=49.0*
DDA ***22*** *09:55:59.7,3528N×2783E,h22km±5km,Md3.9*
GII ***22*** *09:56:00.4±0.0,3488N×2821E,h0km,mb4.5/14,ML4.4/14*
ISC 22 09:55:55.4±0.2,3511N±002×2779E±002,h10km,n209,
σ1§57/229,mb3.9/26,MS3.3/10,7C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.68**	**311**	⇑*i*PB	**Pb**	**09 56 08.5**	**-0.8**
KARP				*e*SN	**Sg**	**09 56 17.9**	**+0.5**
KARP	**Karpathos**	**0.68**	**311**	*e*Pb	**Pb**	**09 56 08.3**	**-1.0**
KARP				*e*Sn	**Sg**	**09 56 16.7**	**-0.7**
ARG	**Arkhangelos**	**1.14**	**14**	*e*PN	**Pn**	**09 56 17.2**	**-0.2**
ARG				*e*SN	**Sn**	**09 56 30.8**	**-2.3**
ZKR	**Zakros**	**1.29**	**271**	*e*Pg	**Pg**	**09 56 19.9**	**-0.3**
ZKR	**Zakros**	**1.29**	**271**	P	**Pg**	**09 56 19.9**	**-0.3**
ZKR				S	**Sg**	**09 56 41.7**	**+4.7**
ZKR	**Zakros**	**1.29**	**271**	*e*Pg	**Pg**	**09 56 19.9**	**-0.3**
ZKR				S	**Sg**	**09 56 41.7**	**+4.8**
NISR	**Nisiros**	**1.60**	**340**	*e*PN	**Pn**	**09 56 25.0**	**+1.3**
XRY	**Khrisi**	**1.74**	**263**	*e*PN	**Pg**	**09 56 29.5**	**+0.8**
XRY				*e*SN	**Sg**	**09 56 52.0**	**+0.8**
XRY	**Khrisi**	**1.74**	**263**	*e*Pn	**Pn**	**09 56 28.5**	**+2.9**
NPS	**Neapolis**	**1.79**	**276**	*e*PN	**Pn**	**09 56 29.0**	**+2.7**
KSL	**Kastellorizon**	**1.79**	**54**	*e*PB	**Pb**	**09 56 27.0**	**-1.3**
BDRM	**Kayabasi**	**1.98**	**352**	*i* P	**Pn**	**09 56 29.4**	**+0.5**
BDRM				*i* S	**Sg**	**09 57 00.9**	**+2.0**
SANT	**Santorini**	**2.28**	**304**	*e*Pn	**Pn**	**09 56 34.2**	**+1.1**
IDI	**Anoyia**	**2.38**	**275**	Pn	**Pn**	**09 56 38.6**	**+4.1**
	15nm,0.3s,baz=125,slow=15,SNR=24						
AYDN	**Tasoluk**	**2.55**	**2**	*i* P	**Pn**	**09 56 37.6**	**+0.8**
AYDN				*i* S	**Sg**	**09 57 13.7**	**-3.7**
APE	**Apeiranthos**	**2.68**	**318**	*e*Pn	**Pn**	**09 56 40.2**	**+1.6**
APE

MBH Sn **Sn** **09 59 20.8 -1.9**
EIL Elat 8.12 130 Pn **Pn** **09 57 54.2 +0.8**
EIL Sn **Sn** **09 59 23.2 -2.1**
EIL LR LR 10 02 36.7
EIL Elat 8.12 130 Pn **Pn** **09 57 54.2 +0.8**
2.2nm,0.3s,baz=335,slow=8.2,SNR=13
EIL Sn **Sn** **09 59 23.2 -2.1**
2.3nm,0.3s,baz=336,slow=21,SNR=4.0
EIL LR LR 10 02 36.7
comp=Z,100nm,18.6s,baz=110,slow=49
EIL Elat 8.12 130 Pn **Pn** **09 57 54.0 +0.6**
EIL Sn **Sn** **09 59 23.3 -2.0**
EIL Elat 8.12 130 Pn **Pn** **09 57 54.2 +0.8**
EIL Sn **Sn** **09 59 23.2 -2.1**
ASF Jabal al Asfar 8.14 109 Pn **Pn** **09 57 54.5 +1.0**
0.5nm,0.3s,baz=153,slow=7.9,SNR=6.3
ASF LR LR 10 02 15.6
comp=Z,69nm,20.9s,baz=147,slow=46
MALT Malatya 9.12 66 *e*P **Pn** **09 58 08.1 +1.1**
MALT pmax pmax
comp=Z,6.0nm,0.6s
MALT Malatya 9.12 66 *e*Pn **Pn** **09 58 08.1 +1.1**
comp=Z,5.8nm,0.6s
MALT Malatya 9.12 66 *e*P **Pn** **09 58 08.1 +1.1**
comp=Z,6.0nm,0.6s
TIP Timpagrande 9.70 298 *e*Pn **Pn** **09 58 13.9 -1.1**
TIP comp=Z,16nm,0.8s *e*Sn **Sn** **09 59 59.0 -4.9**
TIP Timpagrande 9.70 298 *e*Pn **Pn** **09 58 13.9 -1.0**
TIP comp=Z,16nm,0.8s *e*Sn **Sn** **09 59 59.0 -4.9**
HAVL Avola 10.42 284 Pn **Pn** **09 58 24.4 -0.5**
comp=Z,47nm,0.3s
MLR Muntele Rosu 10.47 353 Pn **Pn** **09 58 27.0 +1.6**
comp=Z,0.0nm,0.3s,baz=200,slow=15,SNR=2.9
MLR LR LR 10 01 38.8
comp=Z,70nm,20.6s,baz=171,slow=33
HMDC Modica 10.70 284 Pn **Pn** **09 58 28.7 +0.1**
comp=Z,78nm,0.6s
RAFF Raffo Rosso 11.06 285 Pn **Pn** **09 58 33.4 -0.2**
comp=Z,119nm,1.5s
ANN Anapa 12.18 34 *e*P **Pn** **09 58 58.6 +10**
ANN pmax pmax
comp=Z,41nm,1.5s
GNI Garni 14.34 64 LR LR 10 04 19.5
comp=Z,32nm,21.4s,baz=280,slow=35
KIV Kislovodsk 14.48 48 *e*P Px 09 59 30.9
KIV pmax pmax
comp=Z,30nm,1.1s
KIV MLR MLR
comp=Z,74nm,12.0s
KIV Kislovodsk 14.48 48 *e*Pn Px 09 59 31.0
CRVS Cervenica-Dubn 14.56 343 *e*P Px 09 59 34.0
VYHS Vyhne 14.94 336 *e*P **Pn** **09 59 33.8 +7.4**
KEST Kesra 15.06 278 Pn **Pn** **09 59 26.3 -1.8**
comp=Z,0.1nm,0.3s,baz=330,slow=11,SNR=2.2
STHS Stebnicka Huta 15.09 343 *e*P **Pn** **09 59 35.0 +6.5**
STHS *e* 10 12 27.5
MODS Modra-Piesok 15.38 333 *e*P **Pn** **09 59 40.0 +7.6**
AKASG Malin Array Be 15.62 3 Pn **Pn** **09 59 36.0 +0.5**
comp=Z,0.2nm,0.3s,baz=190,slow=12,SNR=5.8
KBA Koelnbreinsper 16.14 322⇑ *i*P **Pn** **09 59 45.7 +3.4**
comp=Z,6.0nm,0.8s
KBA Koelnbreinsper 16.14 322⇑ *i*P **Pn** **09 59 45.7 +3.5**
KBA pmax pmax
comp=Z,6.0nm,0.8s
MOA Molln 16.24 326⇑ *i*P pP 09 59 50.9 +1.5
comp=Z,2.9nm,0.4s
MOA Molln 16.24 326⇑ *i*pP pP 09 59 50.9 +1.5
comp=Z,2.9nm,0.4s
PGF Pioggiola 16.40 303 *e*P **Pn** **09 59 42.6 -3.0**
GERES GERESS Array B 17.23 327 P **Pn** **09 59 54.8 -1.2**
baz=138,slow=13,SNR=2.9
FETA Feichten 17.48 318⇑ *i*P **Pn** **10 00 01.9 +2.8**
comp=Z,8.1nm,0.7s
KHC Kasperske Hory 17.50 328 *e*P **Pn** **10 00 05.0 +5.7**
KHC *e*pP pP 10 00 15.0 +12
DAVOX Davos/Dischmat 17.82 316 P **Pn** **10 00 04.3 +1.0**
comp=Z,0.2nm,0.3s,baz=332,slow=21,SNR=3.4
SBF Sospel 17.95 305 *e*P **Pn** **10 00 02.2 -2.7**
comp=Z,12nm,0.7s
SBF Sospel 17.95 305 *e*P **Pn** **10 00 02.2 -2.7**
SBF pmax pmax
comp=Z,6.0nm,0.7s
SBF Sospel 17.95 305 *e*P **Pn** **10 00 02.2 -2.7**
comp=Z,6.1nm,0.7s
FRF La Foret Royal 18.37 304 *e*P **Pn** **10 00 07.5 -2.6**
comp=Z,8.7nm,0.7s
FRF La Foret Royal 18.37 304 *e*P **Pn** **10 00 07.5 -2.6**
FRF pmax pmax
comp=Z,4.0nm,0.7s
FRF La Foret Royal 18.37 304 *e*P **Pn** **10 00 07.5 -2.6**
comp=Z,4.3nm,0.7s
LMR La Mourre 18.39 303 *e*P **Pn** **10 00 07.2 -3.2**
comp=Z,8.2nm,0.7s
LMR La Mourre 18.39 303 *e*P **Pn** **10 00 07.2 -3.2**
LMR pmax pmax
comp=Z,4.0nm,0.7s
LMR La Mourre 18.39 303 *e*P **Pn** **10 00 07.2 -3.2**
comp=Z,4.1nm,0.7s
MBDF Montbardon 18.73 307 *e*P **Pn** **10 00 12.2 -2.2**
comp=Z,9.0nm,0.7s
MBDF Montbardon 18.73 307 *e*P **Pn** **10 00 12.2 -2.2**
MBDF pmax pmax
comp=Z,5.0nm,0.7s
MBDF Montbardon 18.73 307 *e*P **Pn** **10 00 12.2 -2.2**
comp=Z,4.5nm,0.7s
LPG La Plagne 19.06 309 *e*P **Pn** **10 00 16.7 -1.8**
comp=Z,16nm,0.8s
LPG La Plagne 19.06 309 *e*P **Pn** **10 00 16.7 -1.8**
LPG pmax pmax
comp=Z,8.0nm,0.8s
LPG La Plagne 19.06 309 *e*P **Pn** **10 00 16.7 -1.8**
comp=Z,7.8nm,0.8s
LPL La Plagne 19.08 309 *e*P **Pn** **10 00 16.4 -2.3**
comp=Z,10nm,0.7s
LPL La Plagne 19.08 309 *e*P **Pn** **10 00 16.4 -2.3**
LPL pmax pmax
comp=Z,5.0nm,0.7s
LPL La Plagne 19.08 309 *e*P **Pn** **10 00 16.4 -2.3**
comp=Z,5.2nm,0.7s
SMRF Simiane la Rot 19.24 304 *e*P **Pn** **10 00 18.2 -2.5**
ORIF Oris-en-Rattie 19.38 307 *e*P **Pn** **10 00 20.1 -2.3**
comp=Z,5.9nm,0.9s
ORIF *e*MLR MLR
comp=Z,203nm,20.8s
ORIF Oris-en-Rattie 19.38 307 *e*P **Pn** **10 00 20.1 -2.3**
ORIF pmax pmax
comp=Z,3.0nm,0.9s
ORIF Oris-en-Rattie 19.38 307 *e*P **Pn** **10 00 20.1 -2.3**
comp=Z,3.0nm,0.9s
CABF La Chapelle 19.97 312 *e*P **Pn** **10 00 26.5 -2.8**
comp=Z,25nm,1.1s
CABF La Chapelle 19.97 312 *e*P **Pn** **10 00 26.5 -2.8**
CABF pmax pmax
comp=Z,12nm,1.1s
CABF La Chapelle 19.97 312 *e*P **Pn** **10 00 26.5 -2.8**
comp=Z,12nm,1.1s
HINF Hinteralfeld 20.11 316 *e*P **P** **10 00 28.3 -0.8**
comp=Z,5.9nm,0.8s
HINF Hinteralfeld 20.11 316 *e*P **P** **10 00 28.3 -0.8**
HINF pmax pmax
comp=Z,3.0nm,0.8s
HINF Hinteralfeld 20.11 316 *e*P **P** **10 00 28.3 -0.8**
comp=Z,3.0nm,0.8s
VIVF Saint-Julien-l 20.16 306 *e*P **P** **10 00 28.6 -1.1**
comp=Z,25nm,1.1s
VIVF Saint-Julien-l 20.16 306 *e*P **P** **10 00 28.6 -1.1**
VIVF pmax pmax
comp=Z,12nm,1.1s
VIVF Saint-Julien-l 20.16 306 *e*P **P** **10 00 28.6 -1.1**
comp=Z,12nm,1.1s
CDF Champ du Feu 20.19 317 *e*P **P** **10 00 28.6 -1.4**
comp=Z,5.4nm,0.7s
CDF Champ du Feu 20.19 317 *e*P **P** **10 00 28.6 -1.4**
CDF pmax pmax
comp=Z,3.0nm,0.7s
CDF Champ du Feu 20.19 317 *e*P **P** **10 00 28.6 -1.4**
comp=Z,2.7nm,0.7s
LASF Ste Croix 20.45 303 *e*P **P** **10 00 31.3 -1.6**
OBN Obninsk 20.91 14 *ce*P Px 10 00 47.8
OBN *e* 10 01 13.6
OBN pmax pmax
comp=Z,12nm,1.2s
OBN MLR MLR
comp=Z,100nm,17.0s,MS3.3
SMF Signal de Mont 21.38 310 *e*P **P** **10 00 41.2 -1.7**
comp=Z,7.1nm,0.5s,mb3.9
SMF Signal de Mont 21.38 310 *e*P **P** **10 00 41.2 -1.7**
SMF pmax pmax
comp=Z,4.0nm,0.5s,mb4.0
SMF Signal de Mont 21.38 310 *e*P **P** **10 00 41.2 -1.7**
comp=Z,3.5nm,0.5s,mb3.9
MTLF Montolieu 21.39 300 *e*P **P** **10 00 41.1 -2.0**
comp=Z,7.5nm,0.7s,mb3.8
MTLF Montolieu 21.39 300 *e*P **P** **10 00 41.1 -2.0**
MTLF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
MTLF Montolieu 21.39 300 *e*P **P** **10 00 41.1 -2.0**
comp=Z,3.8nm,0.7s,mb3.8
LOR Lormes 21.63 311 *e*P **P** **10 00 43.6 -2.0**
comp=Z,1.9nm,0.4s,mb3.5
LOR *e*MLR MLR
comp=Z,126nm,22.8s,MS3.0
LOR Lormes 21.63 311 *e*P **P** **10 00 43.6 -2.0**
comp=Z,0.9nm,0.4s,mb3.5
SSF Saint Saulge 21.76 311 *e*P **P** **10 00 45.2 -1.8**
comp=Z,19nm,0.7s,mb4.3
SSF Saint Saulge 21.76 311 *e*P **P** **10 00 45.2 -1.8**
SSF pmax pmax
comp=Z,10.0nm,0.7s,mb4.3
SSF Saint Saulge 21.76 311 *e*P **P** **10 00 45.2 -1.8**
comp=Z,9.7nm,0.7s,mb4.3
CAF Calviac 21.93 304 *e*P **P** **10 00 46.8 -2.0**
comp=Z,13nm,0.9s,mb4.0
CAF Calviac 21.93 304 *e*P **P** **10 00 46.8 -2.0**
CAF pmax pmax
comp=Z,7.0nm,0.9s,mb4.1
CAF Calviac 21.93 304 *e*P **P** **10 00 46.8 -2.0**
comp=Z,6.5nm,0.9s,mb4.0
TCF Toulx Ste Croi 22.28 308 *e*P **P** **10 00 50.6 -2.0**
comp=Z,2.7nm,0.6s,mb3.5
TCF Toulx Ste Croi 22.28 308 *e*P **P** **10 00 50.6 -2.0**
TCF pmax pmax
comp=Z,1.0nm,0.6s,mb3.4
TCF Toulx Ste Croi 22.28 308 *e*P **P** **10 00 50.6 -2.0**
comp=Z,1.4nm,0.6s,mb3.6
RJF Les Rejaudoux 22.41 305 *e*P **P** **10 00 51.1 -2.9**
RJF *e*MLR MLR
comp=Z,155nm,17.2s,MS3.2
RJF Les Rejaudoux 22.41 305 *e*P **P** **10 00 51.1 -2.9**
RJF LR LR
comp=Z,160nm,17.3s,MS3.5
BAIF Baives 22.77 318 *e*P **P** **10 00 55.3 -2.5**
comp=Z,15nm,0.9s,mb4.1
BAIF Baives 22.77 318 *e*P **P** **10 00 55.3 -2.5**
BAIF pmax pmax
comp=Z,8.0nm,0.9s,mb4.2
BAIF Baives 22.77 318 *e*P **P** **10 00 55.3 -2.5**
comp=Z,7.6nm,0.9s,mb4.1
ETSF Etsaut 23.29 298 *e*P **P** **10 00 59.8 -3.5**
comp=Z,3.6nm,0.6s,mb3.7
ETSF Etsaut 23.29 298 *e*P **P** **10 00 59.8 -3.5**
ETSF pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
ETSF Etsaut 23.29 298 *e*P **P** **10 00 59.8 -3.5**
comp=Z,1.8nm,0.6s,mb3.7
SJPF Ste Jean 23.81 298 *e*P **P** **10 01 04.4 -4.0**
comp=Z,14nm,0.8s,mb4.1
SJPF Ste Jean 23.81 298 *e*P **P** **10 01 04.4 -4.0**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
SJPF Ste Jean 23.81 298 *e*P **P** **10 01 04.4 -4.0**
comp=Z,6.8nm,0.8s,mb4.1
MFF Saint Martin d 23.92 307 *e*P **P** **10 01 06.1 -3.3**
comp=Z,4.9nm,0.4s,mb4.0
MFF Saint Martin d 23.92 307 *e*P **P** **10 01 06.1 -3.3**
comp=Z,2.5nm,0.4s,mb4.0
LDF La Druitiere 24.61 312 *e*P **P** **10 01 12.9 -2.8**
FLN La Foliniere 24.90 312 *e*P **P** **10 01 15.5 -2.8**
FLN *e*MLR MLR
comp=Z,139nm,17.2s,MS3.2
FLN La Foliniere 24.90 312 *e*P **P** **10 01 15.5 -2.8**
FLN LR LR
comp=Z,140nm,17.2s,MS3.5
GRR Gorron 24.99 311 *e*P **P** **10 01 16.2 -2.9**
comp=Z,24nm,0.9s,mb4.4
GRR Gorron 24.99 311 *e*P **P** **10 01 16.2 -2.9**
GRR pmax pmax
comp=Z,12nm,0.9s,mb4.4
GRR Gorron 24.99 311 *e*P **P** **10 01 16.2 -2.9**
comp=Z,12nm,0.9s,mb4.4
ESDC Sonseca Array 25.56 290 P **P** **10 01 24.3 -0.1**
comp=Z,0.4nm,0.4s,mb3.3,baz=85,slow=10.0,SNR=4.3
SGMF Saint Gilles 26.01 310 *e*P **P** **10 01 25.3 -3.0**
QUIF Quistinic 26.29 309 *e*P **P** **10 01 28.3 -2.6**
FINES FINESS Array B 26.38 358 P **P** **10 01 32.0 +0.4**
comp=Z,0.5nm,0.6s,mb3.2,baz=195,slow=33,SNR=2.3
ROSF Rostrenen 26.49 309 *e*P **P** **10 01 30.6 -2.1**
comp=Z,16nm,0.8s,mb4.3
ROSF Rostrenen 26.49 309 *e*P **P** **10 01 30.6 -2.1**
ROSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
ROSF Rostrenen 26.49 309 *e*P **P** **10 01 30.6 -2.1**
comp=Z,7.9nm,0.8s,mb4.3
HFS Hagfors 26.67 344 P **P** **10 01 32.7 -1.4**
comp=Z,2.1nm,0.5s,mb4.0,baz=137,slow=11,SNR=5.5
HFS LR LR 10 12 41.0
comp=Z,113nm,18.7s,MS3.5,baz=158,slow=38
AKTK Aktyubinsk 26.72 46 P **P** **10 01 35.4 +0.6**
AKTO Aktyubinsk 26.72 46 P **P** **10 01 35.4 +0.6**
comp=Z,1.6nm,0.6s,mb3.7,baz=259,slow=10,SNR=5.5
ATD Arta Tunnel 27.16 146 LR LR 10 14 26.5
comp=Z,31nm,19.0s,MS2.9,baz=21,slow=41
NB2 NORSAR Subarra 28.05 343 P **P** **10 01 46.3 -0.2**
comp=Z,1.7nm,0.8s,mb3.7,baz=156,slow=10
NOA NORSAR Array B 28.05 343 P **P** **10 01 46.5 0.0**
comp=Z,1.9nm,0.9s,mb3.7,baz=147,slow=8.7,SNR=3.8
NOA LR LR 10 14 11.1
comp=Z,63nm,19.2s,MS3.2,baz=95,slow=39
ARU Arti 29.84 35 *e*SS SS 10 08 53.3 -13
ARU *e* 10 03 11.0
ARU *e* 10 05 10.0
ARU Arti 29.84 35 *e*P Px 10 02 14.5
TOA0 Torodi Ar. Sit 32.15 234 *e*P **P** **10 02 24.0 +0.7**
TORD Torodi Ar. Bea 32.15 234 *e*P **P** **10 02 24.1 +0.9**
comp=Z,5.0nm,0.8s,mb4.4,baz=32,slow=9.7,SNR=30
ARCES ARCESS Array B 34.51 359 P **P** **10 02 42.7 -0.6**
comp=Z,1.5nm,0.8s,mb4.0,baz=181,slow=8.7,SNR=3.9
KURK Kurchatov 39.54 51 *e*P Px 10 03 35.0
DBIC Dimbokro 41.25 234 P **P** **10 03 40.9 +0.1**
comp=Z,10nm,1.1s,mb4.4,baz=29,slow=10,SNR=4.9
MKAR Makanchi Array 42.00 57 *i* P **P** **10 03 49.5 +2.9**
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR Makanchi Array 42.00 57 P **P** **10 03 47.4 +0.7**
comp=Z,0.9nm,0.5s,mb3.7,baz=280,slow=6.8,SNR=5.4
MKAR LR LR 10 24 46.5
comp=Z,32nm,19.1s,MS3.2,baz=350,slow=41
DANN Dangsing 47.56 82 *e*P **P** **10 04 32.9 +1.7**
GKN Gorkha 48.40 82 *e*P **P** **10 04 41.9 +4.2**
DMN Daman 48.94 82 *e*P **P** **10 04 46.8 +4.9**
KKN Kakani 49.01 82 *e*P **P** **10 04 47.0 +4.6**
PKI Pulchoki 49.20 82 *e*P **P** **10 04 50.0 +6.1**
GUN Gumba 49.45 81 *e*P **P** **10 04 51.4 +5.6**
JIRN Jiri 49.80 82 *e*P **P** **10 04 53.8 +5.4**
ZAK Zakamensk 55.16 49 *e*P **P** **10 05 31.4 +3.6**
ZAK pmax pmax
comp=Z,2.0nm,1.1s,mb4.1
SONM Songino Array 57.85 51 P **P** **10 05 48.1 +1.1**
SONM pmax pmax
comp=Z,1.0nm,0.7s
SONM Songino Array 57.85 51 P **P** **10 05 48.1 +1.1**
comp=Z,0.8nm,0.7s,mb3.9,baz=270,slow=4.3,SNR=2.5
SCHQ Schefferville 64.62 320 P **P** **10 06 33.0 +0.2**
comp=Z,1.8nm,0.5s,mb4.4,baz=46,slow=7.7,SNR=6.9
KSRS Korea Array 76.59 54 P **P** **10 07 48.0 +1.8**
comp=Z,0.5nm,0.4s,mb3.8,baz=302,slow=5.2,SNR=3.1
KSRS LR LR 10 47 55.9
comp=Z,43nm,20.5s,MS3.8,baz=232,slow=41
YKA Yellowknife Ar 78.14 343 P **P** **10 07 54.5 +0.1**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA MLR MLR
comp=Z,25nm,18.1s
YKA Yellowknife Ar 78.14 343 P **P** **10 07 54.5 +0.1**
comp=Z,0.5nm,0.7s,mb3.5,baz=32,slow=5.8,SNR=6.0
YKA LR LR 10 42 00.8
comp=Z,25nm,18.1s,MS3.6,baz=190,slow=35

IDC 22 09:57:45.6±4.1, 2386S×17943E, h498km±34km, mb3.4/4, mb1 3.6/5, mb1mx3.2/14, mbtmp3.4/5, Error ellipse: s-maj=46.1km s-min=35.0km az=36.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.49**	**187**	P	P	10 00 50.2	-0.1
	1.2nm,0.3s,baz=338,slow=1.9,SNR=10.0						
URZ				S	S	10 03 21.5	-1.1
	0.3nm,0.3s,baz=76,slow=22,SNR=6.4						
CTA	**Charters Tower**	**30.95**	**270**	*e*P	P	10 03 22.1	+0.7
	2.8nm,0.3s						
CTA	**Charters Tower**	**30.95**	**270**	P	P	10 03 22.2	+0.8
	3.1nm,0.3s,baz=96,slow=10,SNR=16						
STKA	**Stephens Creek**	**34.25**	**248**	*e*P	P	10 03 49.4	0.0
	1.6nm,0.4s						
STKA	**Stephens Creek**	**34.25**	**248**	P	P	10 03 49.3	0.0
	1.9nm,0.4s,baz=113,slow=10,SNR=2.9						
ASAR	**Alice Springs**	**41.52**	**261**	P	P	10 04 48.8	-0.2
	2.0nm,0.5s,baz=91,slow=7.2,SNR=39						
ASAR				ScP	ScP	10 09 37.0	-0.4
	0.6nm,0.8s,baz=108,slow=4.7,SNR=6.4						
WB2	**Warramunga Arr**	**41.87**	**266**	*e*P	P	10 04 50.8	-1.0
WRA	**Warramunga Arr**	**41.88**	**266**	P	P	10 04 51.3	-0.6
	1.7nm,0.4s,baz=95,slow=8.2,SNR=151						
HFS	**Hagfors**	**142.41**	**348**	PKP	PKPdf	10 16 20.7	0.0
	1.7nm,0.4s,baz=99,slow=3.6,SNR=12						
AKASG	**Malin Array Be**	**144.65**	**327**	PKP	PKPdf	10 16 23.9	-1.0
	0.3nm,0.3s,baz=45,slow=3.9,SNR=4.1						

IDC 22 10:11:31.0±1.5, 458S×12394E, h0km, mb4.1/3, mb1 4.2/4, mb1mx3.8/16, mbtmp4.1/4, ML3.1/1, MS2.6/1, Ms1 2.6/1, ms1mx2.5/28, Error ellipse: s-maj=43.5km s-min=23.8km az=44.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.19**	**264**	Pn	Pn	10 12 37.2	+0.9
	1.2nm,0.3s,baz=95,slow=12,SNR=4.8						
KAPI				Sn	Sn	10 13 25.2	-0.8
	5.6nm,0.3s,baz=179,slow=22,SNR=13						
WRA	**Warramunga Arr**	**18.33**	**147**	P	Pn	10 15 43.5	-3.4
	0.3nm,0.3s,baz=318,slow=13,SNR=12						
WRA				LR	LR	10 23 22.7	
	comp=Z,22nm,21.2s,baz=285,slow=39						
ASAR	**Alice Springs**	**21.27**	**154**	P	P	10 16 19.7	+0.5
	6.6nm,0.9s,baz=328,slow=10,SNR=29						
STKA	**Stephens Creek**	**31.81**	**151**	P	P	10 17 57.0	-0.5
	7.4nm,1.3s,baz=324,slow=12,SNR=4.2						
MKAR	**Makanchi Array**	**62.99**	**329**	P	P	10 21 59.7	+0.1
	1.0nm,0.7s,baz=121,slow=7.5,SNR=6.5						

*GII **22** 10:11:42.8±1.0, 3389N×3684E, h0km, ML2.7/7*
ISC 22 10:11:42.2±1.6, 3378N±006×3707E±009, h0km, n11, σ0§97/18, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HWQ	**Hawqa**	**1.06**	**299**	*e*Pg	**Pg**	**10 12 03.3**	**+0.8**
HWQ				*e*Sg	**Sg**	**10 12 17.5**	**+1.3**
RCY	**Rachaya**	**1.08**	**255**	*e*Pg	**Pg**	**10 12 01.4**	**-1.5**
RCY				*e*Sg	**Sg**	**10 12 16.3**	**-0.7**
HRI	**Mount Hermon**	**1.23**	**246**	Pg	**Pg**	**10 12 04.5**	**-1.2**
KSDI	**Kefar Szold**	**1.31**	**244**	Pg	**Pg**	**10 12 05.8**	**-1.6**
KSDI				Sg	**Sg**	**10 12 24.1**	**-0.3**
KSHT	**Keshet**	**1.32**	**233**	Pg	**Pg**	**10 12 06.8**	**-0.6**
KSHT				Sg	**Sg**	**10 12 26.0**	**+1.5**
MMC3	**Mount Meron ar**	**1.58**	**242**	Pn	**Pn**	**10 12 11.0**	**-0.4**
MMA0B	**Mount Meron ar**	**1.59**	**242**	Pn	**Pn**	**10 12 11.3**	**-0.2**
MMA0B				Sn	**Sn**	**10 12 31.8**	**-1.0**
HNTI	**Hanita**	**1.73**	**247**	Sn	**Sn**	**10 12 36.0**	**-0.3**
MMLI	**Mount Malkishu**	**1.92**	**226**	Pn	**Pn**	**10 12 16.1**	**0.0**
MMLI				Sn	**Sn**	**10 12 42.2**	**+1.2**
HMDT	**Nahal Hemdat**	**2.00**	**221**	Pn	**Pn**	**10 12 18.3**	**+1.2**
HMDT				Sn	**Sn**	**10 12 44.0**	**+1.1**
SLTI	**Sal'it**	**2.29**	**229**	Sn	**Sn**	**10 12 50.8**	**+0.7**

IDC 22 10:18:49.1±45.0, 1514S×17273W, h0km, mb4.0/3, mb1 4.2/3, mb1mx3.8/16, mbtmp4.0/3, Error ellipse: s-maj=865.6km s-min=173.5km az=78.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**44.73**	**240**	P	P	10 27 04.0	-0.3
	1.7nm,0.8s,baz=60,slow=8.1,SNR=6.7						
WRA	**Warramunga Arr**	**50.53**	**256**	P	P	10 27 49.9	+0.3
	0.4nm,0.5s,baz=91,slow=6.9,SNR=12						
ASAR	**Alice Springs**	**50.81**	**252**	P	P	10 27 51.5	-0.1
	3.7nm,0.5s,baz=89,slow=8.3,SNR=91						

*CASC **22** 10:48:42.8±2.2, 1299N×8891W, h42km±27km, MD4.4, ML4.5, mb4.5(NEIC)*
*IDC **22** 10:48:42.7±0.8, 1329N×8846W, h60km±6km, mb4.0/9, mb1 4.2/9, mb1mx3.9/20, mbtmp4.0/9, MS3.3/5, Ms1 3.3/5, ms1mx2.9/28, Error ellipse: s-maj=32.0km s-min=15.0km az=57.0*
*ISCJB **22** 10:48:43.1±0.6, 1307N±006×8879W±006, h80km±6km, mb4.3/20, Error ellipse: s-maj=13.2km s-min=4.3km az=44.1*
*NEIC **22** 10:48:45.4±1.2, 1307N×8875W, h88km±11km, mb4.5/11, MD4.5(SNET), Error ellipse: s-maj=17.3km s-min=6.9km az=54.0*
NEIC Felt [II] at San Salvador.
ISC 22 10:48:44.4±0.5, 1311N±006×8877W±006, h72km±6km, h62km±2.7km: pP-P, n93, σ1§03/84, mb4.3/20, 2C-18D, El Salvador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AIES		**0.43**	**322**	*e*P	x	10 48 53.6	
AIES				*e*S	x	10 49 01.8	
AIES				*i*		10 49 08.4	
	comp=Z,19μm,0.4s						
SNVI	**San Vicente**	**0.50**	**353**	⇓*i*P	x	10 48 55.7	
SNVI				*e*S	x	10 49 05.1	
LCBS	**La Ceiba**	**0.57**	**340**	⇓*i*P	x	10 48 56.0	
LFRS	**El Faro**	**0.58**	**331**	⇓*i*P	x	10 48 55.6	
VSM	**San Miguel**	**0.58**	**57**	⇓*i*P	x	10 48 57.9	
BLLM	**Bellamira**	**0.62**	**58**	⇓*i*P	x	10 48 58.1	
LBRS	**Las Brisas**	**0.67**	**337**	⇓*i*P	x	10 48 57.5	
LFU	**La Fuente**	**0.71**	**332**	⇓*e*P	x	10 48 57.7	
LFU				*e*S	x	10 49 09.8	
SNET	**Serv Nac Est T**	**0.72**	**322**	⇓*e*P	x	10 48 57.0	
SNET				⇓*i*P	x	10 48 57.0	
SNET				*e*S	x	10 49 07.1	
SNET				*e*S	x	10 49 07.6	
SNET				*i*		10 49 09.9	
	comp=Z,19μm,0.2s						
BOQS	**Boqueron**	**0.79**	**322**	⇑*e*P	x	10 48 58.2	
CNCH	**Conchagua**	**0.93**	**80**	⇓*i*P	x	10 49 01.9	
CNCH				*e*S	x	10 49 17.3	
SBLS	**San Blas**	**1.10**	**311**	⇓*e*P	x	10 49 01.8	
SBLS				⇓*i*P	x	10 49 01.8	
SNJE	**San Jose**	**1.10**	**313**	⇓*i*P	x	10 49 01.9	
SNJE				*e*S	x	10 49 16.2	
SONS		**1.11**	**304**	*e*P	x	10 49 01.1	
SONS				*e*S	x	10 49 14.2	
SONS				*i*		10 49 16.5	
	comp=Z,11μm,0.4s						
RBDL	**Robledal**	**1.33**	**318**	*e*P	x	10 49 05.7	
RBDL				⇓*i*P	x	10 49 07.1	
MTO2	**Montecristo 2**	**1.40**	**336**	⇓*i*P	x	10 49 07.0	
TGUH	**Tegucigalpa,Un**	**1.73**	**57**	*e*P	**Pn**	**10 49 13.4**	**+0.9**
TEL3	**Telica 3**	**1.96**	**106**	*e*P	**Pn**	**10 49 14.9**	**-0.6**
TELN	**Telica**	**1.96**	**105**	⇑*e*P	**Pn**	**10 49 14.8**	**-0.8**
CNGN	**Cerro Negro**	**2.11**	**107**	⇓*e*P	**Pn**	**10 49 16.8**	**-0.8**
CNGN				*e*S	**Sn**	**10 49 43.1**	**+0.1**
MRL	**Marmol**	**2.13**	**335**	*e*P	**Pn**	**10 49 18.6**	**+0.6**
MOMJ	**Momotombo**	**2.29**	**108**	*e*P	**Pn**	**10 49 19.4**	**-0.6**
COPN	**Copaltepe**	**2.32**	**113**	*e*P	**Pn**	**10 49 19.2**	**-1.3**
FUG	**Fuego 3**	**2.41**	**304**	*e*P	**Pn**	**10 49 20.8**	**-0.8**
CSAN		**2.47**	**112**	*e*P	**Pn**	**10 49 21.8**	**-0.7**
TISN	**Laguna Tiscapa**	**2.63**	**111**	*e*P	**Pn**	**10 49 23.8**	**-0.8**
MGAN	**Managua**	**2.65**	**111**	*e*P	**Pn**	**10 49 24.0**	**-0.9**
MGAN				*e*S	**Sn**	**10 49 55.0**	**-0.9**
MGAN				*i*		10 49 59.5	
	comp=N,3μm,0.4s						
HUEN		**2.65**	**107**	*e*P	**Pn**	**10 49 24.4**	**-0.5**

APON	Apoyo	2.90	114	eP	Pn	10 49 28.6	+0.3
JAT	Jato	3.03	294	eP	Pn	10 49 28.7	-1.4
BOAB	BOACO BROADBAN	3.10	102‖	eP	Pn	10 49 30.1	-1.0
SSNN	San Juan del S	3.39	122	eP	Pn	10 49 34.3	-0.7
CONN	Concepcion	3.44	116	eP	Pn	10 49 35.0	-0.7
MADN	Villa Maderas	3.59	118	eP	Pn	10 49 37.2	-0.5
VCR	Vista de Mar	4.28	134	eP	Pn	10 49 46.8	-0.3
VCR				eS	Sn	10 50 35.7	0.0
JTS	JuntasAbangare	4.68	126	eP	Pn	10 49 53.1	+0.6
JTS				eS	Sn	10 51 02.8	+17
JTS	JuntasAbangare	4.68	126	P	Pn	10 49 51.7	-0.9
	comp=N,10nm,0.3s,baz=312,slow=22,SNR=61						
JTS				S	Sn	10 50 42.4	-3.2
	comp=N,7.5nm,0.3s,baz=338,slow=19,SNR=1.7						
JCR	Jicaral	4.84	132‖	eP	Pn	10 49 54.9	+0.2
JCR				eS	Sn	10 50 49.5	+0.1
CGA2	Cerro Gallo 2	5.22	126	eP	Pn	10 50 02.2	+2.1
CGA2				eS	Sn	10 50 57.8	-1.2
PRS1	Puriscal	5.37	125	eP	Pn	10 50 03.8	+1.8
LCR2	La Lucha 2	5.75	125	eP	Pn	10 50 08.9	+1.6
LCR2				eS	Sn	10 51 11.4	-0.5
URSC	Urasca	5.88	123	eP	Pn	10 50 10.8	+1.8
URSC				eS	Sn	10 51 17.0	+1.9
BUS	Buena Vista	6.06	125	eP	Pn	10 50 12.9	+1.5
BUS				eS	Sn	10 51 19.9	+0.5
BAR1		6.60	125	eP	Pn	10 50 20.2	+1.4
BAR1				eS	Sn	10 51 34.1	+1.5
TEIG	Tepich	7.09	4	eP	Pn	10 50 27.2	+1.7
TEIG	Tepich	7.09	4	P	Pn	10 50 26.0	+0.5
	comp=N,28nm,0.3s,baz=188,slow=2.2,SNR=138						
TEIG				LR	LR	10 53 36.9	
	comp=N,224nm,19.3s,baz=214,slow=43						
SDV	Santo Domingo	18.29	101	eP	Pn	10 52 52.3	-1.1
SDV	Santo Domingo	18.29	101	P	Pn	10 52 52.4	-1.1
	comp=N,1.5nm,0.3s,baz=205,slow=0.0,SNR=13						
VBMS	Vicksburg	19.08	355	eP	Pn	10 53 07.4	+4.7
JCT	Junction City	20.06	331	eP	P	10 53 10.0	-1.9
GOGA	Godfrey	20.78	13	eP	P	10 53 21.7	+2.1
TXAR	Lajitas Array	21.25	322	P	P	10 53 25.2	+0.5
TXAR				PcP	PcP	10 57 27.6	+0.4
TXAR				LR	LR	11 03 22.7	
TXAR	Lajitas Array	21.25	322	P	P	10 53 25.2	+0.5
	comp=N,4.2nm,0.6s,mb3.9,baz=144,slow=11,SNR=57						
TXAR				PcP	PcP	10 57 27.6	+0.4
	comp=N,0.3nm,0.5s,baz=142,slow=4.5,SNR=4.3						
TXAR				LR	LR	11 03 22.7	
	comp=N,59nm,19.3s,baz=185,slow=41						
OXF	Oxford	21.31	359	eP	P	10 53 26.4	+1.2
	comp=N,9.4nm,0.4s,mb4.5						
MIAR	Mount Ida	21.78	349	eP	P	10 53 31.7	+1.4
SWET	Sewanee	22.16	6	eP	P	10 53 35.6	+1.4
GDL2	Guadalupe Moun	23.77	326	eP	P	10 53 55.0	+4.7
PCRV	Puerto La Cruz	23.82	94	LR	LR	11 03 52.2	
	comp=N,63nm,18.4s,baz=85,slow=39						
MNTX	Cornudas Mount	23.98	323	eP	P	10 53 51.5	-0.7
AMTX	Amarillo	24.62	334	eP	P	10 53 58.6	+0.6
CCM	Cathedral Cave	24.94	355	eP	P	10 54 00.2	-0.6
SDCO	Great Sand Dun	28.71	332	eP	P	10 54 35.6	+0.8
	comp=N,21nm,2.5s,mb4.3						
ISCO	Idaho Springs	30.45	334	eP	P	10 54 50.3	+0.2
	comp=N,1.9nm,0.8s,mb3.8						
SMCO	Snowmass	30.55	331	eP	P	10 54 51.9	+0.9
	comp=N,3.1nm,0.7s,mb4.2						
RSSD	Black Hills	33.56	340	eP	P	10 55 18.1	+0.8
LPAZ	La Paz	35.63	144	P	P	10 55 36.5	+1.0
	comp=N,0.6nm,0.5s,mb3.8,baz=311,slow=9.8,SNR=4.8						
REDW	Red Top Meadow	35.64	332	eP	P	10 55 35.8	+0.5
SNOW	Snow King Moun	35.67	332	eP	P	10 55 36.2	+0.6
LOHW	Long Hollow	35.72	332	eP	P	10 55 36.2	+0.2
	comp=N,3.0nm,0.5s,mb4.5						
TPAW	Teton Pass	35.78	332	eP	P	10 55 36.6	+0.1
	comp=N,3.8nm,0.7s,mb4.4						
IMW	Indian Meadow	36.10	332	eP	P	10 55 40.2	+0.9
	comp=N,3.1nm,0.6s,mb4.4						
NVAR	Mina Array Bea	36.36	319	P	P	10 55 42.6	+1.0
	comp=N,0.9nm,0.6s,mb3.9,baz=139,slow=7.8,SNR=8.6						
NVAR				pP	pP	10 55 58.6	-0.4
	comp=N,0.5nm,0.6s,baz=150,slow=7.8,SNR=3.1						
NVAR				PcP	PcP	10 58 05.5	+0.8
	comp=N,1.4nm,0.6s,baz=141,slow=4.1,SNR=10						
RLMT	Red Lodge	36.36	335	eP	P	10 55 41.1	-0.3
ULM	Lac du Bonnet	37.48	353	P	P	10 55 49.1	-1.8
	comp=N,2.8nm,0.4s,mb4.6,baz=169,slow=7.5,SNR=12						
ULM				LR	LR	11 13 34.3	
	comp=N,65nm,20.1s,baz=352,slow=40						
DGMT	Dagmar	37.51	343	eP	P	10 55 51.3	+0.2
	comp=N,12nm,0.8s,mb4.8						
BOZ	Bozeman (W)	37.77	334	eP	P	10 55 53.6	+0.2
	comp=N,12nm,1.8s,mb4.4						
LRM	Limekiln Ridge	38.27	333	eP	P	10 55 58.0	+0.4
EGMT	Eagleton	38.95	338	eP	P	10 56 03.4	+0.1
FFC	Flin Flon	42.79	349	eP	P	10 56 34.2	-0.5
	comp=N,5.0nm,0.5s,mb4.5						
EDM	Edmonton	44.53	339	eP	P	10 56 47.7	-1.0
SCHQ	Schefferville	45.03	18	P	P	10 56 51.0	-1.6
	comp=N,4.0nm,0.5s,mb4.4,baz=222,slow=7.4,SNR=16						
SCHQ				PcP	PcP	10 58 29.9	-2.6
	comp=N,1.3nm,0.6s,baz=204,slow=10.0,SNR=4.1						
BDFB	Brasilia	49.41	124	P	P	10 57 26.2	-1.1
	comp=N,1.7nm,0.5s,mb4.3,baz=81,slow=27,SNR=5.4						
BDFB				pP	pP	10 57 40.7	-4.8
	comp=N,0.7nm,0.6s,baz=232,slow=27,SNR=2.7						
YKA	Yellowknife Ar	52.64	345	P	P	10 57 49.4	-1.5
YKA				pP	pP	10 58 05.8	-3.4
YKA				PcP	PcP	10 58 58.0	-1.9
YKA				LR	LR	11 22 21.0	
YKA	Yellowknife Ar	52.64	345	P	P	10 57 49.3	-1.5
	comp=N,3.6nm,0.4s,mb4.7,baz=142,slow=7.4,SNR=127						
YKA				pP	pP	10 58 05.8	-3.4
	comp=N,2.8nm,0.8s,baz=142,slow=7.6,SNR=5.2						
YKA				PcP	PcP	10 58 58.0	-1.9
	comp=N,0.7nm,0.6s,baz=146,slow=4.2,SNR=5.0						
YKA				LR	LR	11 22 21.0	
	comp=N,29nm,21.0s,baz=220,slow=38						
YKW3	Yellowknife Ar	52.70	345	eP	P	10 57 49.9	-1.4
DLBC	Dease Lake	54.76	335	eP	P	10 58 06.7	+0.3
INK	Inuvik	62.19	343	eP	P	10 58 56.6	-1.3
INK	Inuvik	62.19	343	P	P	10 58 56.6	-1.3
	comp=N,5.8nm,0.6s,mb4.8,baz=143,slow=6.3,SNR=14						
ARCES	ARCESS Array B	85.98	19	P	P	11 01 14.7	-1.7
	comp=N,1.5nm,0.8s,mb4.0,baz=282,slow=5.7,SNR=5.7						
MORC	Moravsky Berou	90.33	38	eP	P	11 01 41.9	+4.3
	comp=N,3.6nm,0.8s,mb4.5						
WRA	Warramunga Arr	138.20	255	PKhKP		11 07 53.9	
	comp=N,0.3nm,0.5s,baz=90,slow=3.3,SNR=11						
WRA				PKP	PKPdf	11 08 01.4	-0.7
	comp=N,1.6nm,0.6s,baz=89,slow=2.1,SNR=22						
WRA				pPKP	pPKPdf	11 08 19.5	-3.3
	comp=N,1.6nm,0.7s,baz=89,slow=2.2,SNR=5.4						
ASAR	Alice Springs	138.31	249	PKhKP		11 07 53.2	
	comp=N,0.2nm,0.4s,baz=99,slow=4.0,SNR=4.4						
ASAR				PKP	PKPdf	11 08 03.1	+0.9
	comp=N,0.5nm,0.5s,baz=105,slow=2.5,SNR=7.9						
FITZ	Fitzroy Crossi	146.52	257	PKPbc	PKPbc	11 08 18.1	-0.3
	comp=N,1.1nm,0.6s,baz=90,slow=4.0,SNR=5.2						
FITZ				pPKPbc	pPKPbc	11 08 34.6	-4.2
	comp=N,1.7nm,0.8s,baz=270,slow=5.5,SNR=3.0						

*ISCJB **22** 10:49:23.2±2.1, 703S×009×15592E±008, h81km±21km, mb4.3/17, Error ellipse: s-maj=15.7km s-min=12.6km az=151.5*
*IDC **22** 10:49:23.8±2.8, 702S×15589E, h70km±27km, mb4.1/12, mb1 4.2/14, mb1mx4.1/16, mbtmp4.1/14, MS3.3/4, Ms1 3.3/4, ms1mx3.1/25, Error ellipse: s-maj=19.0km s-min=15.6km az=85.0*
*NEIC **22** 10:49:26.0±1.5, 699S×15589E, h91km±14km, mb4.5/4, Error ellipse: s-maj=12.3km s-min=9.7km az=144.0*

ISC 22 10:49:24.8±1.9, 703S±009×15591E±009, h80km±20km, n42, σ0°50/37, mb4.3/17, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.65	121	ePn	Pn	10 50 34.1	+1.4
HNR				S	Sn	10 51 24.6	-0.9
HNR				LR	LR	10 51 28.6	
HNR	Honiara	4.65	121	P	Pn	10 50 33.4	+0.8
	6.0nm,0.3s,baz=271,slow=9.9,SNR=4.3						
HNR				S	Sn	10 51 24.6	-0.9
	19nm,0.3s,baz=272,slow=23,SNR=5.1						
HNR				LR	LR	10 51 28.6	
	comp=Z,77nm,19.2s,baz=356,slow=27						
CTA	Charters Tower	16.01	215	P	Pn	10 53 04.8	-0.4
	0.5nm,0.3s,baz=309,slow=14,SNR=2.6						
CTAO	Charters Tower	16.01	215	eP	Pn	10 53 09.1	+3.9
	9.0nm,0.8s						
KAKA	Kakadu	23.79	254	eP	P	10 54 30.5	+0.2
	19nm,0.6s,mb4.6						
WRAB	Tennant Creek	24.54	236	eP	P	10 54 37.1	+0.1
	11nm,0.6s,mb4.5						
WB2	Warramunga Arr	24.54	236	eP	P	10 54 37.0	-0.1
WB2	Warramunga Arr	24.54	236	eP	P	10 54 37.1	0.0
WRA	Warramunga Arr	24.55	236	P	P	10 54 37.2	0.0
	12nm,0.6s,mb4.5,baz=60,slow=9.7,SNR=78						
WRA				PcP	PcP	10 58 13.6	-0.1
	2.6nm,1.1s,baz=69,slow=2.0,SNR=7.0						
WRA				LR	LR	11 03 57.8	
	comp=Z,99nm,18.5s,baz=20,slow=36						
ASAR	Alice Springs	26.84	230	P	P	10 54 57.1	-0.7
	2.5nm,0.8s,mb3.8,baz=60,slow=9.5,SNR=23						
ASAR				PcP	PcP	10 58 18.8	0.0
	0.8nm,0.8s,baz=356,slow=1.2,SNR=4.8						
STKA	Stephens Creek	28.10	207	P	P	10 55 09.6	+0.5
	2.8nm,0.7s,mb3.9,baz=39,slow=14,SNR=4.6						
STKA				LR	LR	11 06 06.1	
	comp=Z,136nm,19.7s,baz=26,slow=36						
FITZ	Fitzroy Crossi	31.47	247	eP	P	10 55 38.5	-0.6
	11nm,0.9s,mb4.6						
FITZ	Fitzroy Crossi	31.47	247	LR	LR	11 08 32.0	
	comp=Z,52nm,18.1s,baz=277,slow=36						
RPZ	Rata Peaks	38.88	162	P	P	10 56 42.6	+0.2
	6.8nm,0.7s,mb4.6,baz=321,slow=6.2,SNR=3.7						
KKM	Kota Kinabalu	41.68	287	eP	P	10 57 06.0	+0.1
KSM	Kuching	46.28	279	eP	P	10 57 42.7	-0.1
MJAR	Matsushiro Arr	46.41	340	P	P	10 57 42.5	-0.8
	1.2nm,0.7s,mb3.7,baz=161,slow=8.2,SNR=4.9						
KSRS	Korea Array	51.40	331	P	P	10 58 21.8	+0.2
	2.0nm,0.7s,mb4.2,baz=148,slow=7.8,SNR=14						
SONM	Songino Array	69.86	327	P	P	11 00 27.9	+1.1
	9.8nm,0.8s,mb4.7,baz=127,slow=5.7,SNR=20						
VNDA	Vanda	70.52	179	P	P	11 00 30.9	+0.4
	1.1nm,0.9s,mb3.7,baz=16,slow=5.9,SNR=4.5						
JIRN	Jiri	75.58	301	eP	P	11 01 01.3	+0.1
GUN	Gumba	75.91	301	eP	P	11 01 03.6	+0.5
	20nm,0.7s,mb4.9						
PKI	Pulchoki	76.22	301	eP	P	11 01 04.8	-0.1
KKN	Kakani	76.39	301	eP	P	11 01 06.1	+0.2
DMN	Daman	76.49	300	eP	P	11 01 06.1	-0.3
	12nm,0.7s,mb4.7						
GKN	Gorkha	77.00	301	eP	P	11 01 09.1	-0.2
DANN	Dangsing	77.83	301	eP	P	11 01 13.5	-0.4
MK31	Makanchi Array	84.03	318	eP	P	11 01 47.1	+0.6
MKAR	Makanchi Array	84.03	318	P	P	11 01 46.7	+0.2
MKAR	Makanchi Array	84.03	318	P	P	11 01 46.7	+0.2
	5.9nm,0.8s,mb4.5,baz=101,slow=6.3,SNR=31						
MAW	Mawson	84.72	203	P	P	11 01 49.7	+0.1
	3.1nm,0.7s,mb4.3,baz=90,slow=9.4,SNR=6.8						
ZALV	Zalesovo Beam	84.72	326	P	P	11 01 49.2	-0.6
	2.6nm,0.3s,mb4.6,baz=109,slow=7.8,SNR=5.2						
KURK	Kurchatov	87.42	322	eP	P	11 02 02.5	-0.7
TKM2	Tokmak 2	87.70	314	P	P	11 02 04.9	+0.3
YKA	Yellowknife Ar	95.94	28	P	P	11 02 42.2	-0.3
	0.2nm,0.6s,mb3.8,baz=266,slow=3.8,SNR=3.5						
ARCES	Malin Array Be	118.09	325	PKP	PKPdf	11 08 01.3	-1.2
ARCES	Malin Array Be	118.09	325	PKP	PKPdf	11 08 01.3	-1.2
	0.4nm,0.3s,baz=58,slow=3.3,SNR=5.1						
BDFB	Brasilia	147.31	134	PKPbc	PKPbc	11 09 01.8	+1.6
	3.7nm,1.1s,baz=161,slow=24,SNR=4.5						
MDT	Midelt	148.60	327	PKPbc	PKPbc	11 09 03.6	+0.4
	2.0nm,0.9s,baz=288,slow=3.2,SNR=4.0						
TORD	Torodi Ar. Bea	153.91	286	PKPbc	PKPbc	11 09 15.1	-0.9
	2.0nm,0.8s,baz=83,slow=2.4,SNR=9.6						
DBIC	Dimbokro	160.90	270	PKPab	PKPab	11 09 58.8	-0.9
	4.0nm,0.8s,baz=123,slow=6.2,SNR=4.1						

IDC 22 11:03:48.1±3.1, 010S×12298E, h124km±22km, mb3.1/3, mb1 3.3/5, mb1mx3.1/18, mbtmp3.1/5, Error ellipse: s-maj=33.3km s-min=22.7km az=69.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	5.85	213	P	Pn	11 05 13.9	+1.3
	2.6nm,0.3s,baz=24,slow=4.6,SNR=6.1						
KAPI				S	Sn	11 06 18.1	-0.5
	0.4nm,0.3s,baz=53,slow=22,SNR=5.0						
FITZ	Fitzroy Crossi	18.08	172	P	P	11 07 51.0	+0.8
	0.3nm,0.3s,baz=357,slow=12,SNR=9.7						
WRA	Warramunga Arr	22.64	151	P	P	11 08 38.3	-0.7
	1.0nm,0.6s,baz=330,slow=10,SNR=13						
WRA				ScP	ScP	11 15 53.2	-0.7
	0.3nm,0.8s,baz=326,slow=2.7,SNR=5.2						
ASAR	Alice Springs	25.71	156	P	P	11 09 07.2	+0.2
	0.6nm,0.8s,baz=345,slow=16,SNR=7.1						
ASAR				PcP	PcP	11 12 33.9	-0.2
	0.2nm,0.3s,baz=334,slow=2.0,SNR=7.1						
ASAR				ScP	ScP	11 16 02.3	0.0
	0.3nm,0.7s,baz=354,slow=3.7,SNR=3.6						
MKAR	Makanchi Array	58.69	328	P	P	11 13 32.3	-0.2
	0.2nm,0.3s,baz=110,slow=9.2,SNR=3.6						

*SZGRF **22** 11:13:09.2, 2227S×17908E, h33km, South of Fiji Islands*
*NEIC **22** 11:14:12.7±4.4, 2030S×17850W, h553km±51km, mb4.2/6, Error ellipse: s-maj=28.7km s-min=24.8km az=182.0*
*ISCJB **22** 11:14:14.1±1.0, 2050S±009×1786W±0.1, h589km±14km, mb3.9/14, Error ellipse: s-maj=17.9km s-min=9.2km az=38.4*
*IDC **22** 11:14:15.9±1.5, 2049S×17855W, h597km±18km, mb3.4/10, mb1 3.7/12, mb1mx3.6/16, mbtmp3.5/12, Error ellipse: s-maj=15.3km s-min=10.3km az=136.0*

ISC 22 11:14:14.7±1.0, 204S±01×1786W±01, h576km±13km, n48, σ0°99/26, mb3.9/14, 1C, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	9.11	46	P	P	11 16 25.6	+1.4
	17nm,0.3s,baz=109,slow=15,SNR=22						
AFI				S	S	11 18 09.2	-1.2
	9.0nm,0.3s,baz=84,slow=23,SNR=7.1						
URZ	Urewera	18.23	191	P	P	11 17 51.2	-2.0
	3.5nm,0.3s,baz=174,slow=13,SNR=28						
URZ				S	S	11 20 45.6	-5.2
	0.3nm,0.3s,baz=164,slow=23,SNR=3.7						
ARMA	Armidale	28.67	244	eP	P	11 19 28.0	+1.8
CTA	Charters Tower	32.99	264	eP	P	11 20 03.9	+0.6
	6.9nm,1.4s,mb4.1						
CTA	Charters Tower	32.99	264	P	P	11 20 03.6	+0.3
	1.7nm,0.3s,mb4.2,baz=85,slow=11,SNR=6.5						
STKA	Stephens Creek	37.39	244	eP	P	11 20 40.4	+0.8
	3.0nm,0.6s,mb4.0						
STKA	Stephens Creek	37.39	244	eP	P	11 20 40.4	+0.9
	2.8nm,0.5s,mb4.0						
STKA	Stephens Creek	37.39	244	P	P	11 20 40.5	+1.0
	3.3nm,0.5s,mb4.2,baz=100,slow=12,SNR=15						
ASAR	Alice Springs	44.05	257	P	P	11 21 32.5	0.0
	6.3nm,0.7s,mb4.3,baz=88,slow=8.4,SNR=62						
ASAR				PcP	PcP	11 23 04.1	-1.0
	1.5nm,0.8s,baz=89,slow=3.9,SNR=7.4						
ASAR				S	S	11 27 20.7	-3.2
	1.7nm,0.8s,baz=97,slow=15,SNR=11						
WB2	Warramunga Arr	44.10	262	eP	P	11 21 32.2	-0.7
WRA	Warramunga Arr	44.11	262	P	P	11 21 32.5	-0.6
	3.6nm,0.3s,mb4.4,baz=98,slow=7.0,SNR=185						
FITZ	Fitzroy Crossi	52.54	262	eP	P	11 22 29.4	-6.2
	6.1nm,0.6s,mb4.1						
VNDA	Vanda	58.01	185	P	P	11 23 12.7	+0.2
	1.2nm,0.6s,mb3.2,baz=2.7,slow=7.8,SNR=5.2						
MJAR	Matsushiro Arr	69.79	324	P	P	11 24 27.3	-0.6
	2.0nm,0.6s,mb3.8,baz=153,slow=5.5,SNR=7.7						
KSRS	Korea Array	76.44	319	P	P	11 25 06.0	+0.2
	1.2nm,0.6s,mb3.5,baz=136,slow=7.0,SNR=7.8						
NVAR	Mina Array Bea	81.28	44	P	P	11 25 32.3	+0.8
	1.7nm,0.7s,mb3.6,baz=224,slow=9.8,SNR=10						
CCUT	Cedar City	84.08	46	eP	P	11 25 39.1	-6.5
TXAR	Lajitas Array	87.41	58	P	P	11 26 02.9	+1.2
	1.6nm,0.8s,mb3.8,baz=223,slow=5.6,SNR=17						
COLA	College	88.18	13	eP	P	11 26 03.2	-1.2
	7.0nm,0.9s,mb4.4						
SNOW	Snow King Moun	88.79	42	eP	P	11 26 08.7	+1.0
	1.8nm,0.5s,mb4.2						
DAWY	Dawson	89.47	16	eP	P	11 26 10.3	-0.1
EGAK	Eagle	89.60	15	eP	P	11 26 10.6	-0.4
	1.7nm,0.9s,mb3.9						
YKA	Yellowknife Ar	96.60	25	P	P	11 26 42.4	-0.6
	0.2nm,0.9s,mb3.4,baz=241,slow=4.3,SNR=5.3						
MKAR	Makanchi Array	110.73	314	PKiKP	PKiKP	11 31 39.5	-3.0
	0.3nm,0.4s,baz=69,slow=4.0,SNR=4.5						
ARCES	ARCESS Array B	128.69	349	PKP	PKPdf	11 32 14.9	-1.3
	2.1nm,0.7s,baz=17,slow=1.3,SNR=9.8						
AKASG	Malin Array Be	142.64	331	PKhKP		11 32 37.8	
	4.2nm,0.5s,baz=43,slow=4.3,SNR=39						
BSEG	Bad Segeberg	145.80	351	ePKPbc	PKPbc	11 32 48.9	-0.8
CRVS	Cervenica-Dubn	147.31	335	ePKP	PKPbc	11 32 53.2	-0.8
CLL	Collm	147.81	346	ePKPbc	PKPbc	11 32 53.9	-1.3
CLL	Collm	147.81	346	ll/PKPbc	PKPbc	11 32 54.2	-1.0
	comp=Z,15nm,0.8s						
CLL				i PKPab	PKPab	11 32 59.2	-0.5
CLZ	Clausthal	147.81	350	ePKPbc	PKPbc	11 32 54.2	-1.0
BRG	Berggiesshubel	147.99	345	ePKPbc	PKPbc	11 32 54.5	-1.1
BRG	Berggiesshubel	147.99	345	i PKP	PKPbc	11 32 54.2	-1.4
	comp=Z,9.5nm,1.0s						
VYHS	Vyhne	148.64	338	i PKP	PKPbc	11 32 56.9	-0.4
VYHS				e		11 33 02.9	
VYHS	Vyhne	148.64	338	i PKP	PKPbc	11 32 56.9	-0.4
VYHS				e		11 33 02.9	
KOLL	Kolacno	148.72	338	ePKP	PKPbc	11 32 57.0	-0.5
MOX	Moxa	148.73	348	ePKP	PKPbc	11 32 56.7	-0.8
TANN	Tannenbergstha	148.76	346	ePKPbc	PKPbc	11 32 56.6	-1.0
WERN	Wernitzgruen	148.90	346	ePKPbc	PKPbc	11 32 56.3	-1.6
MANZ	Manzenberg	149.25	347	ePKPbc	PKPbc	11 32 57.8	-0.9
MODS	Modra-Piesok	149.28	339	ePKP	PKPbc	11 32 58.3	-0.6
ROTZ	Rotzenmuhle	149.43	346	ePKPbc	PKPbc	11 32 57.9	-1.3
GRA1	Grafenberg Arr	149.71	347	ePKPbc	PKPbc	11 32 58.8	-1.1
GRF	Grafenberg Arr	149.71	347	ePKPbc	PKPbc	11 32 58.8	-1.1
GEC2	GERESS Array S	149.93	344	ePKPbc	PKPbc	11 32 58.9	-1.5
GERES	GERESS Array B	149.93	344	PKPbc	PKPbc	11 32 59.3	-1.1
	comp=Z,1.5nm,0.6s,baz=27,slow=1.5,SNR=15						
WLF	Walferdange	150.52	354	ePKPbc	PKPbc	11 33 01.6	-0.1
TORD	Torodi Ar. Bea	172.82	182	PKP	PKPdf	11 33 16.4	-2.6
	comp=Z,0.4nm,0.9s,baz=223,slow=1.9,SNR=3.9						
TORD				PKPab	PKPab	11 34 48.7	-0.5
	comp=Z,0.7nm,1.0s,baz=185,slow=3.6,SNR=2.1						

IDC 22 11:26:37.9±14.0, 707S×14719E, h73km±127km, mb3.2/2, mb1 3.4/3, mb1mx3.2/12, mbtmp3.2/3, ML3.6/1, Error ellipse: s-maj=67.6km s-min=64.0km az=63.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.87	223	P	Pn	11 30 40.8	-0.9
	0.2nm,0.3s,baz=49,slow=11,SNR=13						
ASAR	Alice Springs	20.86	216	P	P	11 31 13.8	-0.3
	0.5nm,0.5s,baz=55,slow=9.4,SNR=14						
STKA	Stephens Creek	25.23	191	P	P	11 31 57.6	+0.6
	0.6nm,0.3s,baz=25,slow=9.2,SNR=7.3						
TORD	Torodi Ar. Bea	145.53	283	PKPbc	PKPbc	11 46 08.0	-1.0
	0.5nm,0.7s,baz=65,slow=4.0,SNR=5.4						

*BJI **22** 11:34:09.3, 36.17N×120.54W, h5km, mB5.2, mb5.3, Ms4.7, Msz4.5*
*ISCJB **22** 11:34:10.7±0.2, 3585N±001×12040W±002, h10km, mb4.8/5, MS3.5/2, Error ellipse: s-maj=2.5km s-min=1.6km az=40.4*
*IDC **22** 11:34:11.8±1.7, 3583N×120.16W, h0km, mb3.7/1, mb1 3.9/5, mb1mx3.6/25, mbtmp3.6/5, ML3.6/3, MS3.2/6, Ms1 3.1/6, ms1mx3.0/38, Error ellipse: s-maj=21.5km s-min=9.0km az=70.0*
*NEIC **22** 11:34:12.2, 3586N×120.41W, h9km, MW4.0(BRK), After NCEDC.*
NEIC Felt [IV] at Morro Bay; [III] Atascadero, Paso Robles, San Miguel, Shandon and Templeton; [II] at Cayucos, Los Osos, San Luis Obispo and Santa Margarita. Also felt at Bradley, Cambria, Fresno, King City, Lemoore, Lockwood, Marina, Oceano and Santa Maria.

ISC 22 11:34:11.7±0.2, 3584N±001×12043W±002, h10km, (h13km±2.1km:pP-P), n145, σ0°96/190, mb4.8/5, MS3.5/2, 57C-51D, Central California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PKD	Parkfield	0.14	320	‖P	Pg	11 34 15.4	+0.5
	baz=0.1,SNR=1000						
PKD				⇑S	Sg	11 34 17.7	+0.6
	baz=0.1						
V04C	Ramage Ranch,	0.41	241	‖P	Pg	11 34 20.8	+1.1

baz=2.1,SNR=56
TIN ⇓Sb **Sb** **11 35 16.3 -1.1**
baz=2.1
CMB Columbia Colle 2.19 1 ⇓P **Pn** **11 34 47.7 -0.5**
baz=2.2,SNR=32
MLAC Mammoth Lakes 2.20 35 ⇓P **Pn** **11 34 49.5 +1.2**
baz=2.2,SNR=113
EDW2 Edwards Air Fo 2.21 115 ⇑P **Pn** **11 34 47.8 -0.6**
baz=2.2,SNR=113
EDW2 ⇓Sb **Sb** **11 35 19.6 +0.5**
baz=2.2
LRMC Laurel Mountai 2.26 98 ⇑Sb **Sb** **11 35 21.0 +0.4**
baz=2.3
DECC Green Verdugo 2.34 132 ⇑P **Pn** **11 34 50.4 +0.3**
baz=2.3
MPMC Manual Prospec 2.40 84 ⇑P **Pn** **11 34 50.3 -0.6**
baz=2.4,SNR=180
BDM Black Diamond 2.41 332 ⇓P **Pn** **11 34 52.2 +1.2**
baz=2.4
R04C Big Horse Ranc 2.45 351 ⇑P **Pn** **11 34 51.8 +0.1**
baz=2.4,SNR=28
S08C White Mtn Res 2.46 47 ⇑P **Pn** **11 34 52.8 +1.0**
baz=2.4,SNR=557
R07C Lee Vining 2.50 26 ⇓P **Pn** **11 34 53.8 +1.4**
baz=2.5
SNCC San Nicolas Is 2.69 164 *e*Pn **Pn** **11 34 55.4 +0.4**
SNCC San Nicolas Is 2.69 164 P **Pn** **11 34 54.8 -0.2**
baz=2.7,SNR=6.5
GRAC Grapevine Rang 2.73 64 ⇓P **Pn** **11 34 56.3 +0.9**
baz=2.7,SNR=28
FMP Fort Macarthur 2.75 140 ⇑P **Pn** **11 34 55.4 -0.5**
baz=2.8
BFSC Mount Baldy St 2.78 124 ⇓P **Pn** **11 34 55.9 -0.2**
baz=2.8,SNR=52
FARB Farallon Islan 2.78 313 ⇓P **Pn** **11 34 54.8 -1.4**
baz=2.8
FARB ⇑S **Sn** **11 35 27.9 -1.8**
baz=2.8
R06C Coleville 2.79 16 ⇓P **Pn** **11 34 57.1 +0.7**
baz=2.8
R05C Kirkwood Meado 2.87 6 ⇑P **Pn** **11 34 57.8 +0.3**
baz=2.9,SNR=34
LAVA Lava Cap Winer 2.92 355 ⇓P **Pn** **11 34 58.9 +0.7**
baz=2.9
CIS Catalina Islan 2.94 145 ⇑P **Pn** **11 34 57.7 -0.8**
baz=3.0,SNR=54
CIS ⇓S **Sn** **11 35 33.0 -0.9**
baz=3.0
FURC Furnace Creek, 2.96 77 ⇓P **Pn** **11 34 58.6 -0.1**
baz=2.9
RRX Edison Barstow 2.96 108 ⇓P **Pn** **11 34 57.2 -1.5**
baz=3.0
CVS Carmenet Viney 2.98 328 ⇑P **Pn** **11 34 58.0 -1.0**
baz=3.0,SNR=18
GSC Goldstone 3.00 99 *e*Pn **Pn** **11 34 57.6 -1.6**
GSC *e*Sg **Sg** **11 35 49.1 +1.0**
GSC Goldstone 3.00 99 ⇑P **Pn** **11 34 57.9 -1.4**
baz=3.0,SNR=8.7
MCCM Marconi Confer 3.02 320 P **Pn** **11 34 58.3 -1.2**
baz=3.0,SNR=47
Q03C Winters 3.06 336 ⇓P **Pn** **11 34 59.8 -0.3**
baz=3.1
Q04C Lincoln 3.09 346 ⇑P **Pn** **11 35 00.8 +0.4**
baz=3.1
NVAR Mina Array Bea 3.10 33 Pn **Pn** **11 35 01.5 +1.0**
NVAR Pg **Pg** **11 35 05.7 -5.3**
NVAR Lg 11 35 47.4
NVAR Mina Array Bea 3.10 33 Pn **Pn** **11 35 01.5 +1.0**
2.4nm,0.3s,baz=214,slow=16,SNR=40
NVAR Pg **Pg** **11 35 05.7 -5.3**
9.7nm,0.3s,baz=223,slow=21,SNR=70
NVAR Lg 11 35 47.4
25nm,0.3s,baz=223,slow=20,SNR=5.0
R08A Mina 3.12 36 ⇓P **Pn** **11 35 00.7 -0.2**
baz=3.1
S09A Goldfield 3.19 53 ⇓P **Pn** **11 35 02.0 +0.2**
baz=3.2,SNR=17
NSHM Saint Helena R 3.19 328 *e*Pn **Pn** **11 35 01.8 0.0**
NSHM *e*Pg **Pg** **11 35 13.8 +1.0**
NSHM *e*Sg **Sg** **11 35 55.0 +0.7**
BBRC Big Bear Sol-O 3.28 118 ⇑P **Pn** **11 35 03.0 0.0**
baz=3.3,SNR=22
U10A Ash Meadows, A 3.37 79 ⇑P **Pn** **11 35 04.4 +0.1**
baz=3.4
SHOC Shoshone 3.37 88 ⇑P **Pn** **11 35 03.4 -0.9**
baz=3.4
TPH Tonopah 3.40 48 Pn **Pn** **11 35 06.1 +1.4**
TPH *e*Pg **Pg** **11 35 17.3 +0.5**
TPH *e*Sg **Sg** **11 36 03.7 +2.7**
P05C Yuba Gap, Truc 3.46 358 ⇑P **Pn** **11 35 06.3 +0.7**
baz=3.5
MURC Murrieta 3.47 129 ⇓P **Pn** **11 35 05.7 0.0**
baz=3.5,SNR=9.7
HEC Hector,Ludlow 3.50 106 ⇑P **Pn** **11 35 05.9 -0.2**
baz=3.5
WCN Washoe City 3.50 9 ⇓P **Pn** **11 35 06.2 +0.2**
baz=3.5
TPNV Topopah Spring 3.55 71 *e*Pn **Pn** **11 35 07.8 +1.0**
TPNV *e*Sg **Sg** **11 36 06.2 +0.5**
TPNV Topopah Spring 3.55 71 ⇓P **Pn** **11 35 07.6 +0.8**
baz=3.5,SNR=59
SUTB Sutter Butte 3.55 343 ⇑P **Pn** **11 35 07.4 +0.5**
baz=3.5
OHCM Honcut 3.59 347 *e*Pn **Pn** **11 35 04.1 -3.3**
OHCM *e*Pg **Pg** **11 35 19.4 -1.1**
OHCM *e*Sg **Sg** **11 36 06.5 -0.4**
R09A Tonopah 3.60 47 ⇓P **Pn** **11 35 07.6 +0.1**
baz=3.6
TUQ Turquoise Mtn. 3.69 95 ⇓P **Pn** **11 35 08.1 -0.6**
baz=3.7,SNR=29
S10A Tonopah Range, 3.71 55 ⇑P **Pn** **11 35 09.8 +0.8**
baz=3.7
HOPS Hopland 3.79 327 P **Pn** **11 35 09.8 -0.2**
baz=3.8,SNR=21
ORV Oroville 3.81 347 ⇓P **Pn** **11 35 11.1 +0.8**
baz=3.8
PAHR Pah Rah Range 3.95 12 Pn **Pn** **11 35 11.5 -0.8**
PAHR *e*Pg **Pg** **11 35 27.9 +0.6**
PAHR *e*Sg **Sg** **11 36 16.9 -1.6**
PFO Pinyon Flat Ob 3.96 123 Pn **Pn** **11 35 12.7 +0.3**
PFO Sn **Sn** **11 35 58.7 -0.1**
PFO Lg 11 36 14.4
PFO Pinyon Flat Ob 3.96 123 Pn **Pn** **11 35 12.7 +0.3**
10nm,0.3s,baz=302,slow=11,SNR=86
PFO Sn **Sn** **11 35 58.7 -0.1**
6.9nm,0.3s,baz=118,slow=18,SNR=5.7
PFO Lg 11 36 14.4
5.0nm,0.3s,baz=353,slow=18,SNR=5.0
PFO Pinyon Flat Ob 3.96 123 ⇑P **Pn** **11 35 12.7 +0.3**
baz=4.0,SNR=38
BEKR Beckwourth 4.02 1 ⇓P **Pn** **11 35 14.2 +0.9**
baz=4.0
109C Camp Elliot, M 4.03 136 ⇓P **Pn** **11 35 12.9 -0.5**
baz=4.0
GMRC Granite Mounta 4.04 104 ⇑P **Pn** **11 35 12.6 -0.9**
baz=4.0,SNR=18
V11A Goodsprings 4.06 89 ⇑P **Pn** **11 35 13.5 -0.3**
baz=4.0,SNR=13
BELC Belle Mtn. 4.08 115 ⇓P **Pn** **11 35 14.2 +0.2**
baz=4.1
O05C Quincy 4.13 355 ⇓P **Pn** **11 35 15.8 +0.9**
baz=4.1
P08A Dixie Valley 4.28 25 ⇓Pb **Pb** **11 35 26.9 0.0**
baz=4.3
Q10A Clear Creek Ra 4.38 46 ⇓P **Pn** **11 35 19.0 +0.8**
baz=4.4
T11A Corn Creek, Al 4.42 70 ⇑P **Pn** **11 35 19.5 +0.8**
baz=4.4
MONP Monument Peak 4.43 130 ⇓P **Pn** **11 35 19.2 +0.3**
baz=4.4,SNR=33
O07A Toulon 4.49 15 ⇓P **Pn** **11 35 20.7 +1.0**
baz=4.5
O04C Chester 4.50 354 ⇓P **Pn** **11 35 20.8 +0.9**
baz=4.5
V12A Nelson 4.54 90 ⇓P **Pn** **11 35 20.0 -0.3**
baz=4.5,SNR=12
W12A Cal Nev Ari 4.56 95 ⇓P **Pn** **11 35 20.9 +0.2**
baz=4.5
BC3 Big Chuckw Mtn 4.64 117 ⇑P **Pn** **11 35 21.6 -0.1**
baz=4.6,SNR=9.4
IRM Iron Mountain 4.64 110 ⇑P **Pn** **11 35 21.3 -0.6**
baz=4.6,SNR=8.8
SWSC Sam W. Stewart 4.80 126 P **Pn** **11 35 23.5 -0.5**
baz=4.8,SNR=7.0
WDC Whiskeytown Da 5.02 341 *e*Pn **Pn** **11 35 27.8 +0.9**
6.7nm,0.7s
WDC *e*Pg **Pg** **11 35 47.1 -0.6**

BMN Battle Mountai 5.24 28 *e*Pn **Pn** **11 35 31.6 +1.6**
51nm,1.2s
BMN *e*Pg **Pg** **11 35 52.1 +0.1**
BMN *e*Sg **Sg** **11 36 59.8 +0.1**
V13A Grand Canyon W 5.24 88 ⇑P **Pn** **11 35 30.0 0.0**
baz=5.2
Y12C Blythe 5.29 111 ⇓P **Pn** **11 35 30.2 -0.5**
baz=5.3
W13A Hualapai Mount 5.39 96 ⇑P **Pn** **11 35 31.8 -0.3**
baz=5.4,SNR=17
GLA Glamis 5.40 119 *e*Pn **Pn** **11 35 32.0 -0.2**
26nm,0.7s
GLA *e*Pg **Pg** **11 35 58.7 +3.7**
GLA *e*Sg **Sg** **11 37 05.2 +0.3**
GLA Glamis 5.40 119 ⇓P **Pn** **11 35 32.1 -0.1**
baz=5.4
X13A Yucca 5.54 101 ⇓P **Pn** **11 35 33.4 -0.8**
baz=5.5,SNR=16
Y13A Salome 5.79 108 ⇓P **Pn** **11 35 37.0 -0.6**
baz=5.8,SNR=18
CCUT Cedar City 5.93 71 *e*Pn **Pn** **11 35 42.3 +2.8**
CCUT *e*Pg **Pg** **11 36 05.5 +0.3**
ARUT Antelope Range 5.94 69 *e*Pn **Pn** **11 35 41.2 +1.6**
ARUT *e*Pg **Pg** **11 36 04.5 -0.8**
ARUT *e*Sg **Sg** **11 37 22.7 +0.5**
V14A Boquillas Ranc 5.96 90 ⇑P **Pn** **11 35 40.7 +0.7**
baz=5.9
W14A Seligman 6.02 94 ⇑P **Pn** **11 35 41.0 +0.2**
baz=6.0,SNR=7.0
T14A Hurricane 6.04 76 ⇑P **Pn** **11 35 41.5 +0.4**
baz=6.0
MOD Modoc 6.06 1 *e*Pn **Pn** **11 35 42.3 +1.1**
16nm,0.7s
MOD *e*Pg **Pg** **11 36 12.2 +4.6**
MOD *e*Sg **Sg** **11 37 29.9 +3.9**
YBH Yreka Blue Hor 6.15 344 Pn **Pn** **11 35 47.6 +5.1**
0.2nm,0.3s,baz=143,slow=8.9,SNR=5.4
YBH LR LR 11 38 07.7
comp=Z,153nm,20.0s,baz=174,slow=38
X14A Yava 6.33 100 ⇑P **Pn** **11 35 45.0 +0.1**
baz=6.3
Y14A Wickenburg 6.39 105 ⇓P **Pn** **11 35 45.6 -0.2**
baz=6.4,SNR=8.8
Z14A Wintersburg 6.65 110 ⇑P **Pn** **11 35 48.9 -0.5**
baz=6.6
WVOR Wild Horse Val 6.73 11 *e*Pn **Pn** **11 35 52.7 +2.2**
14nm,1.0s
WVOR *e*Pg **Pg** **11 36 19.9 -0.6**
WVOR *e*Sg **Sg** **11 37 49.6 +1.9**
X15A Humboldt 6.84 99 ⇑P **Pn** **11 35 51.5 -0.5**
baz=6.8
Y15A Casa Rosa Ranc 6.91 103 ⇑P **Pn** **11 35 53.2 +0.2**
baz=6.9,SNR=21
MSU Marysvale 7.11 66 *e*Pn **Pn** **11 35 58.9 +3.3**
MSU *e*Sg **Sg** **11 37 59.7 0.0**
MSU *e*Sg **Sg** **11 37 59.7 0.0**
DUG Dugway 7.42 52 *e*Pn **Pn** **11 36 01.5 +1.6**
15nm,0.8s
DUG *e*Pg **Pg** **11 36 30.6 -3.0**
DUG *e*Sg **Sg** **11 38 06.8 -2.9**
115A Sonoran Desert 7.47 112 ⇑P **Pn** **11 36 00.8 +0.1**
baz=7.5
X16A Lo Mia Camp, P 7.50 98 ⇓P **Pn** **11 36 01.3 +0.3**
baz=7.5
BGU Big Grassy Mou 7.72 47 *e*Pn **Pn** **11 36 11.2 +7.2**
BGU *e*Pg **Pg** **11 36 39.9 +0.5**
DAU Daniels Canyon 8.55 55 *e*Pn **Pn** **11 36 24.3 +8.9**
PV01 Paradox Valley 9.76 73 *e*Pn **Pn** **11 36 35.6 +3.5**
MCMT McKenzie Canyo 10.68 30 *e*Pn **Pn** **11 36 40.4 -4.2**
NEW Newport 12.66 10 LR LR 11 42 47.3
comp=Z,121nm,20.3s,baz=243,slow=41
LPIG La Paz 14.61 140 LR LR 11 43 25.5
comp=Z,147nm,19.6s,baz=10,slow=38
TXAR Lajitas Array 15.54 110 Pn **Pn** **11 37 54.7 +3.9**
0.0nm,0.3s,baz=278,slow=8.7,SNR=9.6
TXAR LR LR 11 44 35.7
comp=Z,117nm,19.9s,baz=5.0,slow=41
BBB Bella Bella 17.23 344 LR LR 11 45 12.2
comp=Z,51nm,20.1s,baz=144,slow=38
MIAR Mount Ida 21.97 85 *e*P **P** **11 39 06.8 +1.2**
25nm,1.6s,mb4.4
ULM Lac du Bonnet 22.87 43 P **P** **11 39 15.2 +0.1**
1.9nm,0.6s,mb3.7,baz=228,slow=11,SNR=2.9
YKA Yellowknife Ar 26.93 6 LR LR 11 49 56.9
comp=Z,26nm,20.7s,MS2.8,baz=265,slow=35
CN2 Changchun 80.70 318 *e*P **P** **11 46 24.5 -0.4**
HHC Hu-ho-hao-te 89.99 323 *e*P **P** **11 47 10.9 -0.5**
HHC AP pP 11 47 15.8 +1.1
HHC XP sP 11 47 18.0 +2.1
HHC PP PP 11 50 45.8 +2.3
HHC SKS 11 57 39.3
HHC S S 11 58 00.4 -3.8
HHC XS sS 11 58 08.8 -1.0
HHC SS SS 12 04 01.3 +0.5
HHC AMB AMB
comp=Z,19nm,1.0s,mb5.4
HHC AMB AMB
comp=Z,86nm,5.1s
HHC LR LR
comp=N,77nm,23.0s,MS4.3
HHC LR LR
comp=E,87nm,18.9s,MS4.3
HHC LR LR
comp=Z,82nm,20.4s,MS4.2
GTA Gaotai 96.43 330 *e*P **P** **11 47 40.8 -0.2**
GTA AP pP 11 47 45.3 +0.9
GTA XP sP 11 47 48.8 +3.2
GTA AMB AMB
comp=Z,3.0nm,0.5s,mb5.0
WMQ Urumqi 96.69 340 *e*P **P** **11 47 42.0 -0.1**
LZH Lanzhou 97.44 325 *e*P **P** **11 47 43.5 -2.2**
LZH AP pP 11 47 46.0 -3.0
LZH XP sP 11 47 48.0 -2.2
LZH AMB AMB
comp=Z,13nm,1.0s,mb5.3
LZH AMB AMB
comp=Z,83nm,4.3s
CD2 Chengdu 101.70 322 *e*P Pdif 11 48 04.8 +0.2
CD2 AMB AMB
comp=Z,10.0nm,0.8s

CSEM ***22*** *11:36:50.2, 3522N×2774E, h18km, MD3.5/3, After ATH*

ATH 22 11:36:50.2, 3522N×2774E, h18km, MD3.5/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.57**	**305**	*e*PN	Pg	11 37 01.0	-0.6
KARP				*e*SN	Sg	11 37 10.0	+0.6
ARG	**Arkhangelos**	**1.04**	**17**	*e*PN	Pn	11 37 10.0	+0.1
NPS	**Neapolis**	**1.74**	**272**	*e*PN	Pn	11 37 21.5	+2.0

IDC ***22*** *11:47:21.5±5.6, 2337S×1797.9W, h514km±62km, mb3.5/8, mb1 3.6/9, mb1mx3.4/18, mbtmp3.5/9, Error ellipse: s-maj=38.2km s-min=21.5km az=30.0*
ISCJB ***22*** *11:47:22.3±5.1, 2355±03×1799W±02, h534km±59km, mb4.0/8, Error ellipse: s-maj=47.3km s-min=24.1km az=22.4*

ISC 22 11:47:20.8±4.6, 234S±03×1798W±02, h503km±52km, n13, σ0:57/13, mb4.0/8, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**15.07**	**189**	P	**P**	**11 50 31.3**	**-0.2**
1.2nm,0.3s,baz=264,slow=2.1,SNR=9.6							
CTA	**Charters Tower**	**31.65**	**269**	*e*P	**P**	**11 53 03.3**	**+1.0**
8.5nm,0.3s,mb4.7							
CTA	**Charters Tower**	**31.65**	**269**	P	**P**	**11 53 03.4**	**+1.0**
11nm,0.4s,mb4.7,baz=92,slow=12,SNR=23							
STKA	**Stephens Creek**	**35.08**	**247**	*e*P	**P**	**11 53 31.8**	**+0.6**
7.2nm,2.0s,mb3.8							
STKA	**Stephens Creek**	**35.08**	**247**	P	**P**	**11 53 32.0**	**+0.9**
2.3nm,0.5s,mb3.8,baz=83,slow=11,SNR=10							
ASAR	**Alice Springs**	**42.29**	**260**	P	**P**	**11 54 29.8**	**-0.1**
3.3nm,0.6s,mb4.0,baz=96,slow=7.1,SNR=85							
WB2	**Warramunga Arr**	**42.60**	**266**	*e*P	**P**	**11 54 31.7**	**-0.7**
WRA	**Warramunga Arr**	**42.62**	**266**	P	**P**	**11 54 31.8**	**-0.7**
2.6nm,0.4s,mb4.1,baz=94,slow=8.5,SNR=152							
FITZ	**Fitzroy Crossi**	**51.04**	**265**	*e*P	**P**	**11 55 36.5**	**+0.2**
3.6nm,0.4s,mb4.0							
FITZ	**Fitzroy Crossi**	**51.04**	**265**	P	**P**	**11 55 36.6**	**+0.3**
2.6nm,0.5s,mb3.9,baz=120,slow=5.6,SNR=15							
NWAO	**Narrogin (SRO)**	**55.61**	**245**	P	**P**	**11 56 07.9**	**-0.7**
10nm,1.0s,mb4.1,baz=122,slow=9.5,SNR=3.8							
QSPA	**South Pole Qui**	**66.70**	**180**	P	**P**	**11 57 21.2**	**+0.4**
1.4nm,0.6s,mb3.8,baz=56,slow=1.6,SNR=8.0							
TXAR	**Lajitas Array**	**90.01**	**58**	P	**P**	**11 59 26.5**	**0.0**
0.3nm,0.6s,mb3.3,baz=215,slow=6.1,SNR=4.9							

GII 22 11:52:40.2±0.6, 3088N×3605E, h0km, ML2.7/6, Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZFRI	**Zfri**	**0.82**	**247**	Sg	Sg	11 53 09.8	+3.3
DSI	**Dead Sea**	**0.89**	**320**	Sg	Sg	11 53 12.3	+3.3
PRNI	**Paran**	**1.04**	**240**	Pg	Pg	11 53 01.0	+0.8
PRNI				Sg	Sg	11 53 16.6	+2.8
RTMI	**Retamim**	**1.18**	**279**	Pg	Pg	11 53 03.7	+0.9
RTMI				Sg	Sg	11 53 21.1	+2.9
HRFI	**Mount Harif**	**1.22**	**226**	Pg	Pg	11 53 03.6	+0.1
HRFI				Sg	Sg	11 53 21.8	+2.6
KRMI	**Paran Flat**	**1.37**	**237**	Pn	Pn	11 53 06.7	+0.1
KRMI				Sn	Sn	11 53 26.3	+0.8
KZIT	**Kziot**	**1.42**	**271**	Pn	Pn	11 53 07.3	0.0
KZIT				Sn	Sn	11 53 27.5	+0.8
HMDT	**Nahal Hemdat**	**1.44**	**342**	Pn	Pn	11 53 07.5	0.0
MBH	**Mount Berech**	**1.46**	**222**	Pn	Pn	11 53 08.0	+0.1
MBH				Sn	Sn	11 53 29.7	+2.0
EIL	**Elat**	**1.54**	**218**	Pn	Pn	11 53 09.2	+0.3
EIL				Sn	Sn	11 53 31.3	+1.8
MMLI	**Mount Malkishu**	**1.64**	**341**	Pn	Pn	11 53 10.6	+0.3
MMLI				Sn	Sn	11 53 33.4	+1.3

TEH ***22*** *11:52:16.2, 3567N×4932E, h3km, ML4.1*
ISCJB ***22*** *11:53:08.9±0.8, 3567N±003×4934E±003, h0km±7km, Error ellipse: s-maj=5.8km s-min=3.7km az=170.6*
CSEM ***22*** *11:53:10.0±0.1, 3565N×4934E, h18km, ML4.1, Error ellipse: s-maj=2.2km s-min=1.4km az=178.0*
NEIC ***22*** *11:53:10.5, 3567N×4932E, h3km, MN4.1(TEH), After TEH.*
THR ***22*** *11:53:11.0±0.7, 3569N×4946E, h22km±18km, ML3.6*

ISC 22 11:53:10.2±0.8, 3570N±004×4934E±003, h2km±7km, n55, σ0:99/66, Western Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IRAZ	**Razeghan**	**0.57**	**121**	Pg	**Pg**	**11 53 20.0**	**-1.0**
IRAZ				Sg	**Sg**	**11 53 28.0**	**-0.4**
IRAZ	**Razeghan**	**0.57**	**121**	*e*Pg	**Pg**	**11 53 20.1**	**-0.9**
IRAZ				*e*Sg	**Sg**	**11 53 28.1**	**-0.3**
IRAZ				*e*		11 53 30.3	
comp=Z,92μm,0.0s							
IRAZ	**Razeghan**	**0.57**	**121**	*e*Pg	**Pg**	**11 53 20.1**	**-0.9**
IRAZ				*e*Sg	**Sg**	**11 53 28.1**	**-0.3**
IMHD	**Mahdasht**	**1.08**	**91**	Pg	**Pg**	**11 53 29.9**	**-1.0**
IMHD				Sg	**Sg**	**11 53 45.3**	**+0.3**
IMHD	**Mahdasht**	**1.08**	**91**	*e*Pg	**Pg**	**11 53 30.0**	**-0.9**
IMHD				*e*Sg	**Sg**	**11 53 45.4**	**+0.4**
IMHD				*e*		11 53 46.6	
comp=Z,41μm,0.0s							
IMHD	**Mahdasht**	**1.08**	**91**	*e*Pg	**Pg**	**11 53 30.0**	**-0.9**
IMHD				*e*Sg	**Sg**	**11 53 45.4**	**+0.4**
ASAO	**Ashtian**	**1.28**	**154**	*e*Pg	**Pn**	**11 53 33.5**	**-1.5**
CHTH	**Charan**	**1.47**	**81**	*e*Pg	**Pn**	**11 53 36.1**	**-1.5**
IAFJ	**Afjeh**	**1.94**	**85**	*e*Pn	**Pn**	**11 53 44.3**	**+0.2**
IAFJ				*e*Sg	**Sg**	**11 54 11.1**	**-1.3**
IAFJ				*e*		11 54 17.4	
comp=Z,23μm,0.3s							
IAFJ	**Afjeh**	**1.94**	**85**	*e*Pn	**Pn**	**11 53 44.3**	**+0.2**
IAFJ				*e*Sg	**Sg**	**11 54 11.1**	**-1.3**
GHVR	**GHOM**	**2.02**	**127**	*e*Pg	**Pn**	**11 53 45.4**	**+0.2**
ILIN	**Lien**	**2.09**	**249**	Pn	**Pn**	**11 53 46.4**	**+0.2**
ILIN				Sg	**Sg**	**11 54 15.3**	**-2.1**
ILIN	**Lien**	**2.09**	**249**	*e*Pn	**Pn**	**11 53 46.5**	**+0.3**
ILIN				*e*Sg	**Sg**	**11 54 15.3**	**-2.1**
IKOM	**Komasi**	**2.14**	**225**	*e*Pn	**Pb**	**11 53 49.2**	**-0.4**
IKOM				*e*	**Sg**	**11 54 20.6**	**+1.7**
comp=Z,19μm,0.4s							
DAMV	**Damavand**	**2.15**	**91**	*e*Pg	**Pb**	**11 53 47.4**	**-2.4**
IDMV	**Damavand**	**2.20**	**92**	*e*Pn	**Pn**	**11 53 47.8**	**+0.1**
IDMV				*e*Sg	**Sg**	**11 54 20.1**	**-0.7**
IDMV				*e*		11 54 28.2	
comp=Z,9μm,0.2s							
IDMV	**Damavand**	**2.20**	**92**	*e*Pn	**Pn**	**11 53 47.8**	**+0.1**
IDMV				*e*Sg	**Sg**	**11 54 20.1**	**-0.7**
IVIS	**Veis**	**2.35**	**241**	*e*Pn	**Pn**	**11 53 49.6**	**-0.2**
IVIS				*e*		11 54 35.4	
comp=Z,4μm,0.4s							
IPRN	**Peran**	**2.49**	**77**	*e*	**Sg**	**11 54 35.8**	**+5.5**
comp=Z,11μm,0.3s							
IGHG	**Ghaleghazi**	**2.65**	**240**	*e*Pn	**Pn**	**11 53 53.6**	**-0.3**
IGHG				*e*		11 54 44.1	
comp=Z,8μm,0.4s							
ISFB	**Sefidab**	**2.74**	**119**	*e*	**Sg**	**11 54 39.5**	**+1.4**
comp=Z,5μm,0.3s							
IFIR	**Firoozkooh**	**2.78**	**90**	Pn	**Pn**	**11 53 55.9**	**+0.2**
IFIR	**Firoozkooh**	**2.78**	**90**	*e*Pn	**Pn**	**11 53 56.0**	**+0.3**
IFIR				*e*		11 54 06.4	
comp=Z,5μm,0.2s							
IBST	**Bostanabad**	**2.80**	**316**	Pn	**Pn**	**11 53 55.9**	**0.0**
IBST	**Bostanabad**	**2.80**	**316**	*e*Pn	**Pn**	**11 53 56.0**	**+0.1**
IBST				*e*		11 54 40.0	
comp=Z,2μm,0.2s							
IALA	**Alasht**	**2.84**	**81**	*e*Pn	**Pn**	**11 53 57.0**	**+0.4**
IALA				*e*		11 54 43.4	
comp=Z,5μm,0.3s							
ILAS	**Lasjerd**	**2.97**	**95**	*e*Pn	**Pn**	**11 53 58.9**	**+0.6**
ILAS				*e*		11 54 55.9	
comp=Z,5μm,0.3s							
IKLH	**Kolahrood**	**3.01**	**141**	*e*	**Sg**	**11 54 48.1**	**+1.1**
comp=Z,3μm,0.3s							
IHRS	**Heris**	**3.19**	**326**	*e*Pn	**Pn**	**11 54 01.5**	**+0.2**
IHRS				*e*		11 55 01.4	
comp=Z,3μm,0.4s							
ISHM	**Shahmirzad**	**3.22**	**87**	*e*	**Pg**	**11 54 15.3**	**+3.4**
comp=Z,4μm,0.2s							
GRMI	**Germi**	**3.31**	**340**	*e*Pn	**Pn**	**11 54 04.4**	**+1.5**
GRMI				AML	AML	11 54 60.0	
comp=N,120nm,0.7s							
GRMI				AML	AML	11 55 00.7	
comp=E,163nm,0.6s							
IAZR	**Azarshahr**	**3.34**	**307**	Pn	**Pn**	**11 54 03.2**	**-0.2**
IAZR	**Azarshahr**	**3.34**	**307**	*e*Pn	**Pn**	**11 54 03.3**	**-0.1**
IAZR				*e*		11 54 19.4	
comp=Z,3μm,0.2s							
IKIA	**Kiasar**	**3.56**	**81**	*e*	**Pg**	**11 54 20.9**	**+2.5**
comp=Z,1μm,0.3s							
ITBZ	**Tabriz**	**3.59**	**316**	Pn	**Pn**	**11 54 05.9**	**-0.9**
ITBZ	**Tabriz**	**3.59**	**316**	*e*Pn	**Pn**	**11 54 06.0**	**-0.8**
SHGR	**Shooshtar-Gavs**	**3.61**	**187**	*e*PN5		11 54 07.8	
SHGR				AML	AML	11 55 14.0	
comp=E,130nm,0.7s							
SHGR				AML	AML	11 55 27.5	
comp=N,108nm,0.6s							
IGLO	**Ghalogh**	**3.73**	**76**	*e*Pn	**Pn**	**11 54 09.2**	**+0.5**
IGLO				*e*		11 55 18.9	
comp=Z,3μm,0.3s							
IANJ	**Anjilo**	**3.74**	**92**	Pn	**Pn**	**11 54 09.0**	**+0.2**
IANJ	**Anjilo**	**3.74**	**92**	*e*Pn	**Pn**	**11 54 09.1**	**+0.3**
IANJ				*e*		11 54 22.5	
comp=Z,2μm,0.3s							
IZEF	**Zefreh**	**3.74**	**138**	*e*	**Pb**	**11 54 20.7**	**+3.8**
comp=Z,707nm,0.2s							
ISHB	**Shabestar**	**3.94**	**312**	Pn	**Pn**	**11 54 12.5**	**+0.9**
ISHB	**Shabestar**	**3.94**	**312**	*e*Pn	**Pn**	**11 54 12.6**	**+1.0**
ISHB				*e*		11 54 29.1	
comp=Z,1μm,0.3s							
IMRD	**Marand**	**4.18**	**317**	Pn	**Pn**	**11 54 15.2**	**+0.3**
IMRD	**Marand**	**4.18**	**317**	*e*Pn	**Pn**	**11 54 15.3**	**+0.4**
IMRD				*e*		11 55 26.9	
comp=Z,2μm,0.5s							
BHD	**Baghdad**	**4.76**	**241**	*ex*	x	11 54 37.0	
BHD				*ex*	x	11 55 45.0	
MIB	**Mutribah**	**6.12**	**197**	*e*P	**Pn**	**11 54 41.9**	**+0.3**
MIB				AML	AML	11 55 51.9	
comp=Z,9.9nm,0.6s							
MIB	**Mutribah**	**6.12**	**197**	*e*P	**Pn**	**11 54 41.7**	**+0.1**
UMR	**Umm Al-Rimmam**	**6.28**	**193**	*e*P	**Pn**	**11 54 43.9**	**0.0**
IBAF	**Bafgh**	**6.62**	**127**	Pn	**Pn**	**11 54 47.6**	**-0.8**
IBAF	**Bafgh**	**6.62**	**127**	*e*Pn	**Pn**	**11 54 47.7**	**-0.7**
IBAF				*e*		11 56 55.8	
comp=Z,176nm,0.3s							
NAY	**Al-Naaiem**	**6.67**	**196**	*e*P	**Pn**	**11 54 49.6**	**+0.4**

NAY AML AML 11 56 04.6
comp=Z,4.7nm,0.5s
NAY Al-Naaiem 6.67 196 *eP* **Pn 11 54 49.2 0.0**
RDF Al-Radifah 6.92 193 *eP* **Pn 11 54 52.8 +0.2**
RDF AML AML 11 56 12.5
comp=Z,12nm,0.6s
RDF Al-Radifah 6.92 193 *eP* **Pn 11 54 52.4 -0.2**

PGC 22 12:17:40.4±0.0, 6193N×12409W, h1km, ML2.9/4, 13D, 150km northwest of Ft. Simpson, Nt Northwest Territories, Canada, Northwest Territories

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FNBB	**Fort Nelson**	**3.09**	**170**	⇓Pn	Pn	12 18 29.6	-0.6
FNBB				⇓Sn	Sn	12 19 06.1	-1.7
FNBB				⇑Sg	Sg	12 19 16.7	-2.9
FNBB	**Fort Nelson**	**3.09**	**170**	⇓Pn	Pn	12 18 29.6	-0.6
YKW3	**Yellowknife Ar**	**4.48**	**78**	⇓Pn	Pn	12 18 48.1	-1.1
YKW3				⇓Sg	Sg	12 19 59.5	-4.6
YKW3	**Yellowknife Ar**	**4.48**	**78**	⇓Pn	Pn	12 18 48.1	-1.1
YKW3				⇑Pg	Pg	12 19 02.5	-3.7
YKW3				⇓Sg	Sg	12 19 59.5	-4.6
DLBC	**Dease Lake**	**4.58**	**223**	⇓Pn	Pn	12 18 49.3	-1.5
DLBC				⇑Sg	Sg	12 20 02.0	-5.4
DLBC	**Dease Lake**	**4.58**	**223**	⇑Sg	Sg	12 20 01.7	-5.7
WHY	**Whitehorse**	**5.35**	**261**	⇓Pn	Pn	12 19 00.1	-1.2
WHY				⇓Sn	Sn	12 19 59.4	-4.1
WHY				⇓Sg	Sg	12 20 26.3	-5.9
WHY	**Whitehorse**	**5.35**	**261**	⇓Pg	Pn	12 19 00.1	-1.2
HYT	**Haines Junctio**	**6.54**	**266**	⇑Pn	Pn	12 19 16.9	-0.7
HYT				⇑Sg	Sg	12 21 03.0	-7.1
HYT	**Haines Junctio**	**6.54**	**266**	⇑Pg	Pn	12 19 16.9	-0.7
INK	**Inuvik**	**7.53**	**332**	⇓Pn	Pn	12 19 29.7	-1.5
INK	**Inuvik**	**7.53**	**332**	⇑Pg	Pn	12 19 29.1	-2.0
INK				⇑Sg	Sn	12 20 48.3	-8.7

*ISCJB **22** 12:18:57.9±0.4, 3132S±002×6861W±005, h104km±3km, mb4.2/18, Error ellipse: s-maj=7.1km s-min=4.0km az=175.8*
*NEIC **22** 12:18:58.7±0.3, 3135S×6856W, h98km±3km, mb4.4/8, Error ellipse: s-maj=7.2km s-min=4.3km az=91.0*
NEIC Felt [III] at Albardon and San Juan.
*GUC **22** 12:18:59.2±1.0, 3135S×6886W, h133km±34km, ML4.8*
*IDC **22** 12:18:59.2±0.5, 3134S×6852W, h102km±3km, mb4.0/10, mb1 4.1/13, mb1mx4.0/19, mbtmp4.0/13, MS3.9/2, Ms1 3.8/2, ms1mx2.9/23, Error ellipse: s-maj=19.9km s-min=11.1km az=74.0*
ISC 22 12:18:59.0±0.4, 3132S±002×6861W±005, h98km±3km, h110km±3.3km; pP-P, n77, σ0§97/76, mb4.2/18, 10C-7D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CFAA	**Coronel Fontan**	**0.43**	**131**	P	Pn	**12 19 15.1**	**+1.0**
	237nm,0.3s,baz=301,slow=6.7,SNR=7058						
CFAA				S	Sn	**12 19 27.5**	**+2.2**
	618nm,0.3s,baz=124,slow=19,SNR=228						
JACH	**Jahuel**	**2.16**	**231**	*eP*	Pn	**12 19 33.9**	**+0.4**
TLL	**Tololo Astrono**	**2.21**	**301**	⇑*iP*	Pn	**12 19 35.2**	**+1.0**
TLL				*i* S	Sn	**12 20 02.1**	**+0.9**
TLL	**Tololo Astrono**	**2.21**	**301**	⇑*iP*	Pn	**12 19 35.2**	**+1.0**
TLL				*i* S	Sn	**12 20 02.1**	**+0.9**
TLL				AML	AML	12 20 05.6	
	comp=E,2μm,0.4s						
FCH	**Farellones**	**2.45**	**215**	⇑*iP*	Pn	**12 19 38.5**	**+1.1**
FCH				*i* S	Sn	**12 20 07.9**	**+1.1**
FCH				AML	AML	12 20 17.0	
	comp=E,2μm,0.2s						
PEL	**Peldehue**	**2.53**	**223**	⇓*eP*	Pn	**12 19 38.1**	**-0.3**
PEL				*i* S	Sn	**12 20 08.1**	**-0.5**
PEL				AML	AML	12 20 11.4	
	comp=E,3μm,0.3s						
CLCH	**Cerro Calan**	**2.63**	**218**	⇑*iP*	Pn	**12 19 40.1**	**+0.3**
CLCH				*i* S	Sn	**12 20 10.8**	**-0.3**
CLCH				AML	AML	12 20 19.1	
	comp=N,3μm,0.6s						
LSCH	**La Serena**	**2.67**	**301**	⇓*iP*	Pn	**12 19 39.8**	**-0.5**
LSCH				*i* S	Sn	**12 20 10.2**	**-1.8**
FSR	**Penalolen**	**2.69**	**216**	⇑*iP*	Pn	**12 19 40.8**	**+0.2**
FSR				AML	AML	12 20 18.1	
	comp=N,2μm,0.7s						
PCH	**Pirque**	**2.80**	**215**	⇓*iP*	Pn	**12 19 42.3**	**+0.3**
LMEL	**Las Melosas**	**2.85**	**208**	⇑*iP*	Pn	**12 19 43.2**	**+0.5**
LMEL				*i* S	Sn	**12 20 16.5**	**+0.1**
LCO	**Las Campanas**	**2.93**	**321**	*e*Pn	Pn	**12 19 44.6**	**+0.8**
LCO				*e*Sn	Sn	**12 20 18.9**	**+0.7**
TACH	**Talagante**	**3.04**	**220**	⇓*iP*	Pn	**12 19 44.5**	**-0.8**
TACH				*i* S	Sn	**12 20 19.6**	**-1.3**
CHCH	**Chadas Angostu**	**3.12**	**213**	⇓*iP*	Pn	**12 19 46.3**	**0.0**
CACH	**El Canelo**	**3.25**	**210**	⇑*iP*	Pn	**12 19 48.5**	**+0.4**
VACH	**Vallenar**	**3.31**	**325**	⇑*eP*	Pn	**12 19 49.2**	**+0.4**
VACH				S	Sn	**12 20 26.8**	**-0.6**
VACH	**Vallenar**	**3.31**	**325**	⇑*eP*	Pn	**12 19 49.2**	**+0.4**
VACH				*i* S	Sn	**12 20 26.8**	**-0.6**
VACH				AML	AML	12 20 28.4	
	comp=N,4μm,0.2s						
CICH	**Cipreses**	**3.35**	**206**	⇓*iP*	Pn	**12 19 49.8**	**+0.4**
LNV	**Longovilo**	**3.53**	**221**	*eP*	Pn	**12 19 49.6**	**-2.2**
SFDO	**San Fernando**	**3.85**	**211**	⇓*iP*	Pn	**12 19 54.9**	**-1.3**
CPCH	**Copiapo**	**4.23**	**339**	*eP*	Pn	**12 20 00.7**	**-0.6**
CPCH				*i* S	Sn	**12 20 47.7**	**-2.0**
CPCH	**Copiapo**	**4.23**	**339**	*eP*	Pn	**12 20 00.7**	**-0.6**
CPCH				*i* S	Sn	**12 20 47.7**	**-2.0**
CPCH				AML	AML	12 20 53.0	
	comp=E,2μm,0.1s						
TRQA	**Tornquist**	**8.66**	**143**	*e*Pn	Pn	**12 21 00.8**	**-0.5**
	comp=E,61nm,0.8s						
LVC	**Limon Verde**	**8.68**	**358**	*e*Pn	Pn	**12 21 00.5**	**-1.3**
	comp=E,38nm,0.4s						
PLCA	**Paso Flores**	**9.52**	**189**	*e*Pn	Pn	**12 21 11.6**	**-1.5**
PLCA	**Paso Flores**	**9.52**	**189**	P	Pn	**12 21 11.1**	**-2.0**
	comp=E,1.5nm,0.3s,baz=357,slow=12,SNR=31						
CPUP	**Villa Florida**	**11.07**	**66**	*e*Pn	Pn	**12 21 32.6**	**-1.7**
CPUP	**Villa Florida**	**11.07**	**66**	P	Pn	**12 21 32.8**	**-1.5**
	comp=E,0.8nm,0.3s,baz=221,slow=12,SNR=3.6						
LPAZ	**La Paz**	**14.97**	**2**	*eP*	Pn	**12 22 28.3**	**+2.7**
	comp=E,12nm,0.7s						
LPAZ	**La Paz**	**14.97**	**2**	P	Pn	**12 22 25.8**	**+0.2**
	comp=E,0.7nm,0.3s,baz=176,slow=8.4,SNR=51						
ARE	**Arequipa**	**15.02**	**349**	*eP*	Pn	**12 22 28.0**	**+1.8**
SIV	**San Ignacio**	**16.74**	**26**	P	Pn	**12 22 45.9**	**-1.7**
	comp=E,1.2nm,0.3s,baz=214,slow=11,SNR=23						
USHA	**Ushuaia**	**23.50**	**180**	P	P	**12 23 59.6**	**-0.2**
	comp=E,19nm,0.9s,mb4.4,baz=8.5,slow=6.0,SNR=7.5						
BDFB	**Brasilia**	**24.44**	**55**	LR	LR	12 34 25.8	
	comp=E,39nm,18.1s,baz=159,slow=38						
VNA3	**Neumayer Olymp**	**50.78**	**159**	*e*	P	**12 27 49.0**	**+0.3**
VNA3				*e*		12 27 51.1	
VNA3				*e*		12 27 55.2	
VNA3				*e*	pP	12 28 16.6	+4.3
VNA2	**Neumayer--Watz**	**51.39**	**158**	*e*	P	**12 27 53.9**	**+0.6**
	baz=287,slow=8.6						
VNA2				*e*		12 27 56.1	
VNA2				*e*		12 28 00.1	
VNA2				*e*	pP	12 28 21.7	+4.8
SNAA	**Sanae**	**53.00**	**159**	P	P	**12 28 05.0**	**-0.2**
	comp=E,0.8nm,0.6s,mb3.9,baz=279,slow=6.4,SNR=16						
TEIG	**Tepich**	**54.62**	**337**	*eP*	P	**12 28 17.6**	**+0.1**
VNDA	**Vanda**	**67.27**	**190**	P	P	**12 29 43.8**	**+1.3**
	comp=E,0.4nm,0.7s,mb3.3,baz=134,slow=4.0,SNR=5.3						
SYO	**Syowa Base**	**67.28**	**158**	⇑*eP*	P	**12 29 40.6**	**-2.1**
SWET	**Sewanee**	**68.16**	**345**	*eP*	P	**12 29 48.3**	**-0.3**
TXAR	**Lajitas Array**	**68.92**	**327**	P	P	**12 29 53.9**	**+0.5**
TXAR				pP	pP	12 30 20.5	+2.3
TXAR	**Lajitas Array**	**68.92**	**327**	P	P	**12 29 53.9**	**+0.5**
	comp=E,1.7nm,0.6s,mb4.0,baz=152,slow=8.6,SNR=32						
TXAR				pP	pP	12 30 20.5	+2.3
	comp=E,0.4nm,0.6s,baz=139,slow=9.7,SNR=2.7						
MIAR	**Mount Ida**	**69.61**	**338**	*eP*	P	**12 29 57.5**	**0.0**
DBIC	**Dimbokro**	**71.57**	**70**	P	P	**12 30 09.3**	**-0.7**
DBIC				pP	pP	12 30 36.0	+1.1
DBIC	**Dimbokro**	**71.57**	**70**	P	P	**12 30 09.3**	**-0.7**
	comp=E,3.2nm,0.8s,mb4.2,baz=217,slow=5.1,SNR=3.2						
DBIC				pP	pP	12 30 36.0	+1.1
	comp=E,3.4nm,0.6s,baz=156,slow=10,SNR=2.3						
MNTX	**Cornudas Mount**	**71.71**	**327**	*eP*	P	**12 30 09.8**	**-0.6**
	comp=E,2.9nm,0.8s,mb4.2						
CCM	**Cathedral Cave**	**72.18**	**341**	*eP*	P	**12 30 13.0**	**-0.1**
	comp=E,6.6nm,1.0s,mb4.4						
LAZ	**Ladron**	**74.77**	**328**	*eP*	P	**12 30 29.9**	**+1.6**
MAW	**Mawson**	**74.90**	**163**	*eP*	P	**12 30 28.5**	**-0.2**
MAW	**Mawson**	**74.90**	**163**	P	P	**12 30 28.5**	**-0.2**
	comp=E,4.3nm,0.6s,mb4.4,baz=216,slow=8.1,SNR=13						
SDCO	**Great Sand Dun**	**76.86**	**331**	*eP*	P	**12 30 41.1**	**+1.0**
	comp=E,1.2nm,0.6s,mb3.8						
SMCO	**Snowmass**	**78.69**	**331**	*eP*	P	**12 30 52.0**	**+1.7**
	comp=E,7.0nm,1.0s,mb4.5						
ECSD	**EROS,Sioux Fal**	**78.97**	**340**	*eP*	P	**12 30 51.4**	**-0.3**
	comp=E,6.8nm,1.0s,mb4.4						
TORD	**Torodi Ar. Bea**	**80.56**	**68**	P	P	**12 31 00.9**	**-0.1**
	comp=E,6.8nm,0.7s,mb4.6,baz=279,slow=6.0,SNR=34						
TORD				pP	pP	12 31 27.2	+0.9
	comp=E,3.6nm,1.0s,baz=252,slow=5.0,SNR=4.7						
RSSD	**Black Hills**	**81.75**	**335**	*eP*	P	**12 31 07.2**	**+0.6**
	comp=E,1.5nm,0.7s,mb3.9						
HWUT	**Hardware Ranch**	**82.67**	**329**	*eP*	P	**12 31 11.8**	**+0.4**
	comp=E,2.7nm,0.6s,mb4.2						
NVAR	**Mina Array Bea**	**83.42**	**323**	P	P	**12 31 16.3**	**+0.9**
NVAR	**Mina Array Bea**	**83.42**	**323**	P	P	**12 31 16.3**	**+0.9**
	comp=E,2.0nm,0.8s,mb4.0,baz=163,slow=6.6,SNR=11						
ULM	**Lac du Bonnet**	**84.73**	**343**	P	P	**12 31 21.2**	**-0.5**
	comp=E,2.0nm,0.6s,mb4.2,baz=203,slow=7.7,SNR=3.1						
SCHQ	**Schefferville**	**85.81**	**1**	P	P	**12 31 26.2**	**-0.8**
	comp=E,2.0nm,0.5s,mb4.3,baz=121,slow=9.3,SNR=7.1						
MCMT	**McKenzie Canyo**	**85.82**	**330**	*eP*	P	**12 31 28.2**	**+0.9**
FCC	**Fort Churchill**	**92.22**	**347**	*eP*	P	**12 31 57.0**	**-0.2**
	comp=E,6.2nm,0.9s,mb4.8						
AFI	**Afiamalu**	**93.77**	**251**	LR	LR	13 06 25.5	
	comp=E,338nm,18.0s,baz=36,slow=30						
YKA	**Yellowknife Ar**	**100.49**	**340**	P	Pdif	12 32 33.9	-1.4
	comp=E,0.1nm,0.5s,baz=143,slow=5.1,SNR=5.0						
ASAR	**Alice Springs**	**121.22**	**204**	PKP	PKPdf	12 37 39.0	-2.1
	comp=E,0.2nm,0.4s,baz=119,slow=1.5,SNR=6.5						
ASAR				pPKP	pPKPdf	12 38 07.2	-0.7
	comp=E,0.3nm,0.5s,baz=140,slow=1.6,SNR=2.9						
WRA	**Warramunga Arr**	**124.47**	**206**	PKP	PKPdf	12 37 45.6	-1.7
	comp=E,1.9nm,0.8s,baz=155,slow=1.9,SNR=26						
WRA				pPKP	pPKPdf	12 38 13.5	-0.8
	comp=E,0.8nm,0.6s,baz=162,slow=1.8,SNR=4.1						
AKTK	**Aktyubinsk**	**136.41**	**48**	PKP	PKPdf	12 38 07.5	-1.3
AKTO	**Aktyubinsk**	**136.41**	**48**	PKP	PKPdf	12 38 07.5	-1.3
	comp=E,0.5nm,0.4s,baz=319,slow=6.0,SNR=3.9						
EKS2	**Erkin-Say**	**148.14**	**59**	*e*PKPbc	PKPbc	12 38 34.0	+0.7
UCH	**Uchtor**	**148.74**	**59**	*e*PKPdf	PKPdf	12 38 30.7	-0.2
UCH				*e*PKPbc	PKPbc	12 38 36.0	+1.1
TKM2	**Tokmak 2**	**149.42**	**58**	*e*PKPdf	PKPdf	12 38 32.7	+0.7
TKM2				*e*PKPbc	PKPbc	12 38 37.0	+0.5
TKM2				*e*PKPab	PKPab	12 38 41.7	+0.1
ZALV	**Zalesovo Beam**	**150.42**	**32**	PKPbc	PKPbc	12 38 37.7	-0.9
ZALV				pPKPbc	pPKPbc	12 39 05.4	+0.1
ZALV	**Zalesovo Beam**	**150.42**	**32**	PKPbc	PKPbc	12 38 37.7	-0.9
	comp=E,9.3nm,0.6s,baz=308,slow=3.2,SNR=33						
ZALV				pPKPbc	pPKPbc	12 39 05.4	+0.1
	comp=E,4.2nm,0.6s,baz=302,slow=3.5,SNR=5.3						
MKAR	**Makanchi Array**	**152.83**	**47**	PKPbc	PKPbc	12 38 43.8	-0.5
MKAR				PKPab	PKPab	12 38 55.7	0.0
MKAR				pPKPbc	pPKPbc	12 39 12.2	+1.0
MKAR	**Makanchi Array**	**152.83**	**47**	PKPbc	PKPbc	12 38 43.8	-0.5
	comp=E,2.5nm,0.8s,baz=279,slow=2.8,SNR=13						
MKAR				PKPab	PKPab	12 38 55.7	0.0
	comp=E,2.6nm,0.7s,baz=300,slow=4.3,SNR=14						
MKAR				pPKPbc	pPKPbc	12 39 12.2	+1.0
	comp=E,1.1nm,0.7s,baz=298,slow=2.6,SNR=4.4						
MJAR	**Matsushiro Arr**	**157.18**	**290**	PKPab	PKPab	12 39 14.6	-0.1
	comp=E,0.3nm,0.4s,baz=128,slow=1.8,SNR=4.5						

*ISCJB **22** 12:19:29.1±0.7, 72S±0.1×1225E±02, h507km±9km, mb3.8/4, Error ellipse: s-maj=35.8km s-min=11.4km az=154.7*
*IDC **22** 12:19:29.7±0.7, 7.13S×12255E, h489km±10km, mb3.5/4, mb1 3.3/9, mb1mx3.2/19, mbtmp3.2/9, Error ellipse: s-maj=43.3km s-min=10.3km az=63.0*
ISC 22 12:19:30.0±0.7, 73S±01×1225E±02, h504km±10km, n11, σ0§62/14, mb3.8/4, 1D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.11**	**158**	P	P	**12 20 42.5**	**+0.5**
	28nm,0.3s,baz=29,slow=1.2,SNR=39						
BATI				S	S	**12 21 40.2**	**-0.4**
	18nm,0.3s,baz=24,slow=23,SNR=17						
KAPI	**Kappang**	**3.54**	**310**	P	P	**12 20 45.2**	**0.0**
	1.1nm,0.3s,baz=279,slow=19,SNR=5.2						
FITZ	**Fitzroy Crossi**	**11.16**	**164**	⇓*iP*	P	**12 22 00.3**	**+0.7**
	16nm,0.5s						
FITZ	**Fitzroy Crossi**	**11.16**	**164**	P	P	**12 22 00.5**	**+0.8**
	1.5nm,0.3s,baz=341,slow=12,SNR=60						
FITZ				S	S	**12 24 01.7**	**-1.1**
	0.1nm,0.3s,baz=345,slow=20,SNR=4.1						
KAKA	**Kakadu**	**11.19**	**119**	*eP*	P	**12 22 00.2**	**+0.2**
	11nm,0.5s						
WRA	**Warramunga Arr**	**17.03**	**139**	P	P	**12 23 01.0**	**-0.3**
	0.2nm,0.3s,baz=315,slow=11,SNR=14						
ASAR	**Alice Springs**	**19.62**	**147**	P	P	**12 23 26.1**	**+1.1**
	0.1nm,0.3s,baz=320,slow=7.8,SNR=19						
ASAR				S	S	**12 26 42.7**	**+6.6**
	0.1nm,0.3s,baz=330,slow=22,SNR=5.9						
MJAR	**Matsushiro Arr**	**46.06**	**18**	P	P	**12 27 07.4**	**-0.6**
	2.5nm,0.6s,mb3.8,baz=190,slow=8.6,SNR=7.4						
SONM	**Songino Array**	**56.72**	**347**	P	P	**12 28 24.9**	**-0.2**
	1.8nm,0.6s,mb3.6,baz=150,slow=7.6,SNR=5.3						
MKAR	**Makanchi Array**	**64.61**	**331**	P	P	**12 29 17.8**	**+0.5**
	1.7nm,0.6s,mb3.9,baz=133,slow=7.5,SNR=17						
ZALV	**Zalesovo Beam**	**68.76**	**337**	P	P	**12 29 42.2**	**-0.6**
	2.2nm,0.4s,mb4.1,baz=130,slow=6.1,SNR=7.8						

*ISCJB **22** 12:41:48.5±0.4, 2181N±005×14305E±009, h33km, mb4.4/26, MS3.2/2, Error ellipse: s-maj=12.3km s-min=7.1km az=173.5*
*BJI **22** 12:41:48.2, 2180N×14320E, h35km, mb4.6*
*NEIC **22** 12:41:50.2±0.3, 2182N×143.17E, h35km, mb4.6/10, Error ellipse: s-maj=11.6km s-min=7.8km az=87.0*
*IDC **22** 12:41:51.2±2.7, 2184N×143.11E, h45km±25km, mb3.9/14, mb1 4.0/16, mb1mx4.0/23, mbtmp3.9/16, ML3.9/2, MS3.3/5, Ms1 3.3/5, ms1mx3.0/32, Error ellipse: s-maj=25.8km s-min=12.7km az=87.0*
ISC 22 12:41:50.7±1.8, 2181N±006×14313E±010, h39km±15km, n48, σ0§93/45, mb4.4/26, MS3.2/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.33**	**351**	P	Pn	**12 43 07.8**	**-0.1**
	13nm,0.3s,baz=267,slow=20,SNR=6.2						
CBIJ				S	Sn	**12 44 07.8**	**-0.1**
	13nm,0.3s,baz=237,slow=17,SNR=3.3						
JHJ	**Hachijo jima 2**	**11.65**	**346**	LR	LR	12 48 34.8	
	comp=Z,147nm,18.8s,baz=276,slow=35						
MJAR	**Matsushiro Arr**	**15.29**	**345**	P	Pn	**12 45 22.9**	**-0.8**
	0.3nm,0.3s,baz=161,slow=7.7,SNR=3.3						
MJAR				LR	LR	12 50 55.0	
	comp=Z,150nm,20.3s,baz=190,slow=36						
JNU	**Nakatsue**	**15.64**	**319**	LR	LR	12 50 32.7	
	comp=Z,54nm,18.9s,baz=232,slow=33						
KSRS	**Korea Array**	**20.39**	**323**	P	P	**12 46 24.8**	**+0.5**
	0.5nm,0.8s,baz=144,slow=9.1,SNR=4.2						
KSRS				LR	LR	12 53 12.5	
	comp=Z,72nm,19.0s,MS3.0,baz=269,slow=33						
ULN	**Ulaanbaatar**	**38.84**	**321**	*eP*	P	**12 49 12.1**	**+0.1**
	3.1nm,0.6s,mb4.2						
SONM	**Songino Array**	**39.22**	**320**	P	P	**12 49 15.1**	**0.0**
	2.5nm,0.6s,mb4.1,baz=126,slow=6.8,SNR=8.4						
GTA	**Gaotai**	**40.77**	**306**	*eP*	P	**12 49 29.0**	**+0.9**
GTA				AP	pP	12 49 33.8	-5.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.7s,mb3.9						
CHTO	**Chiang Mai**	**41.44**	**274**	*eP*	P	**12 49 35.2**	**+1.3**
CM31	**Chiang Mai Arr**	**41.52**	**274**	P	P	**12 49 36.4**	**+1.8**
CTA	**Charters Tower**	**41.75**	**176**	P	P	**12 49 36.6**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.0,baz=356,slow=12,SNR=4.0						
CTAO	**Charters Tower**	**41.75**	**176**	*eP*	P	**12 49 43.4**	**+7.2**
	comp=Z,11nm,1.1s,mb4.4						
WRAB	**Tennant Creek**	**42.37**	**192**	*eP*	P	**12 49 41.2**	**0.0**
WB2	**Warramunga Arr**	**42.37**	**192**	*eP*	P	**12 49 41.2**	**-0.2**
WRA	**Warramunga Arr**	**42.38**	**192**	P	P	**12 49 41.3**	**-0.1**
	comp=Z,7.3nm,0.9s,mb4.3,baz=13,slow=8.9,SNR=24						
ASAR	**Alice Springs**	**46.08**	**192**	P	P	**12 50 10.4**	**-0.6**
	comp=Z,2.8nm,0.6s,mb4.3,baz=17,slow=10,SNR=63						
WMQ	**Urumqi**	**50.47**	**309**	P	P	**12 50 45.5**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.3						
TIXI	**Tiksi**	**50.53**	**354**	*eP*	P	**12 50 46.2**	**+1.4**
	comp=Z,2.1nm,0.9s,mb4.1						
STKA	**Stephens Creek**	**53.40**	**182**	*eP*	P	**12 51 06.4**	**-0.2**
	comp=Z,4.9nm,1.1s,mb4.3						
STKA	**Stephens Creek**	**53.40**	**182**	P	P	**12 51 06.4**	**-0.1**
	comp=Z,3.2nm,0.8s,mb4.3,baz=340,slow=5.4,SNR=5.4						
ZALV	**Zalesovo Beam**	**54.09**	**322**	P	P	**12 51 10.9**	**-0.5**
	comp=Z,2.4nm,0.7s,mb4.2,baz=101,slow=7.7,SNR=10						
MK31	**Makanchi Array**	**54.58**	**313**	*eP*	P	**12 51 15.7**	**+0.5**
MKAR	**Makanchi Array**	**54.58**	**313**	P	P	**12 51 15.2**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.2,baz=90,slow=8.9,SNR=16						
MKAR				LR	LR	13 15 46.9	
	comp=Z,31nm,18.0s,MS3.4,baz=344,slow=37						
KURK	**Kurchatov**	**57.36**	**317**	*eP*	P	**12 51 34.3**	**-0.6**
	comp=Z,6.9nm,1.1s,mb4.6						
BRVK	**Borovoye**	**62.62**	**319**	*eP*	P	**12 52 11.0**	**0.0**
	comp=Z,7.7nm,0.8s,mb4.9						
INK	**Inuvik**	**67.49**	**24**	*eP*	P	**12 52 41.5**	**-0.8**
INK	**Inuvik**	**67.49**	**24**	P	P	**12 52 42.0**	**-0.3**
	comp=Z,3.0nm,1.0s,mb4.3,baz=254,slow=5.7,SNR=12						
YKA	**Yellowknife Ar**	**76.38**	**28**	P	P	**12 53 35.2**	**-0.5**
YKA	**Yellowknife Ar**	**76.38**	**28**	P	P	**12 53 35.2**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.1,baz=294,slow=5.9,SNR=25						
HOOD	**Mount Hood Mea**	**78.34**	**46**	*eP*	P	**12 53 43.4**	**-3.6**
ARCES	**ARCESS Array B**	**78.80**	**341**	P	P	**12 53 49.3**	**+0.2**
	comp=Z,1.2nm,0.6s,mb4.0,baz=66,slow=9.4,SNR=4.8						
FINES	**FINESS Array B**	**83.06**	**334**	P	P	**12 54 10.7**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.1,baz=95,slow=4.7,SNR=7.5						
NVAR	**Mina Array Bea**	**83.11**	**51**	P	P	**12 54 13.0**	**+0.3**
	comp=Z,2.8nm,0.8s,mb4.3,baz=266,slow=7.1,SNR=6.5						
MIB	**Mutribah**	**84.19**	**300**	*eP*	P	**12 54 17.8**	**-0.6**
MIB				AMb	AMB	12 54 19.1	
	comp=Z,8.8nm,0.6s,mb5.0						
RDF	**Al-Radifah**	**84.34**	**299**	*eP*	P	**12 54 16.9**	**-2.3**
RDF				AMb	AMB	12 54 24.1	
	comp=Z,9.0nm,0.9s,mb4.9						
NAY	**Al-Naaiem**	**84.47**	**299**	*eP*	P	**12 54 18.5**	**-1.4**
NAY				AMb	AMB	12 54 27.9	
	comp=Z,7.3nm,0.8s,mb4.9						
BOZ	**Bozeman (W)**	**84.73**	**43**	*eP*	P	**12 54 21.8**	**+1.0**
	comp=Z,2.4nm,1.0s,mb4.3						
QLMT	**Earthquake Lak**	**85.21**	**43**	*eP*	P	**12 54 24.9**	**+1.6**
FFC	**Flin Flon**	**85.76**	**32**	*eP*	P	**12 54 26.6**	**+0.8**
FFC				*e*		12 54 32.4	
DUG	**Dugway**	**86.30**	**48**	*eP*	P	**12 54 29.9**	**+1.1**
	comp=Z,12nm,1.3s,mb5.0						
DUG				*e*		12 54 35.9	
RLMT	**Red Lodge**	**86.45**	**43**	*eP*	P	**12 54 30.0**	**+0.6**
HWUT	**Hardware Ranch**	**86.54**	**46**	*eP*	P	**12 54 30.0**	**+0.2**
	comp=Z,6.5nm,1.0s,mb4.8						
FCC	**Fort Churchill**	**86.96**	**26**	*eP*	P	**12 54 31.4**	**-0.2**
FCC				*e*PKKPbc	PKKPbc	13 12 18.4	-7.3
JLU	**Jordanelle**	**87.06**	**47**	*eP*	P	**12 54 39.8**	**+7.4**
AKASG	**Malin Array Be**	**87.39**	**324**	P	P	**12 54 31.6**	**-2.2**
	comp=Z,0.2nm,0.3s,mb3.9,baz=49,slow=4.8,SNR=4.6						
SMCO	**Snowmass**	**90.77**	**47**	P	P	**12 54 48.4**	**-1.6**
	comp=Z,4.3nm,1.0s,mb4.7						
SMCO				*e*	pP	12 54 57.3	-4.8
PLCA	**Paso Flores**	**145.87**	**131**	PKPbc	PKPbc	13 01 26.1	+0.1
	comp=Z,0.7nm,0.5s,baz=304,slow=7.3,SNR=3.0						
LPAZ	**La Paz**	**149.98**	**85**	PKPbc	PKPbc	13 01 37.3	-0.5
	comp=Z,1.4nm,0.9s,baz=345,slow=1.4,SNR=4.7						

*IDC **22** 12:55:59.5±2.4, 603S×12954E, h0km, mb3.7/1, mb1 3.5/3, mb1mx3.4/13, mbtmp3.

IDC 22 13:41:03.8±6.0, 2564N×14090E, h77km±48km, mb3.3/3, mb1 3.6/3, mb1mx3.2/17, mbtmp3.3/3, MS2.7/1, Ms1 2.7/1, ms1mx2.3/12, Error ellipse: s-maj=154.5km s-min=22.7km az=111.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**1.85**	**38**	P	Pn	13 41 34.5	+0.9
	40nm,0.3s,baz=273,slow=19,SNR=22						
CBIJ				S	Sn	13 41 56.5	+0.2
	41nm,0.3s,baz=306,slow=23,SNR=9.4						
MJAR	**Matsushiro Arr**	**11.11**	**349**	LR	LR	13 46 25.9	
	comp=Z,41nm,20.7s,baz=235,slow=29						
WRA	**Warramunga Arr**	**45.76**	**189**	P	P	13 49 17.6	0.0
	1.7nm,0.4s,baz=8.4,slow=8.6,SNR=50						
ASAR	**Alice Springs**	**49.48**	**188**	P	P	13 49 46.1	-0.3
	0.1nm,0.4s,baz=2.5,slow=6.5,SNR=7.1						
YKA	**Yellowknife Ar**	**73.96**	**28**	P	P	13 52 30.7	+0.2
	0.1nm,0.3s,baz=305,slow=6.0,SNR=4.8						

NEIC 22 14:03:05.4, 1691N×10130W, h5km, MD3.9(MEX), After MEX.

MEX 22 14:03:05.6±0.5, 1689N×10137W, h19km±44km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**1.07**	**82**	*e*P	Pb	14 03 22.0	-3.5
CAIG				*i* S	Sb	14 03 35.2	-3.9
ACX	**Acapulco**	**1.40**	**91**	*e*P	Pn	14 03 26.7	-3.4
ACX				*i* S	Sn	14 03 43.7	-4.2
MEIG	**Mezcala**	**1.96**	**58**	*i* P	Pn	14 03 36.0	-1.9
MEIG				*i* S	Sn	14 03 57.5	-4.5
PLIG	**Platanillo**	**2.33**	**50**	*i* P	Pn	14 03 40.5	-2.3
PLIG				*i* S	Sn	14 04 07.4	-3.5
MZVM		**3.06**	**41**	*i* P	Pn	14 03 51.1	-1.9
MZVM				*i* S	Sn	14 04 26.4	-2.8
SZVM	**Salazar**	**3.07**	**38**	*i* P	Pn	14 03 52.2	-0.9
SZVM				*i* S	Sn	14 04 25.1	-4.3
PPM	**Popocatepetl**	**3.39**	**50**	*i* P	Pn	14 04 00.1	+2.5
PPM				*i* S	Sn	14 04 43.3	+6.0
PPM	**Popocatepetl**	**3.39**	**50**	*i* P	Pn	14 03 58.6	+1.1
PPM				*i* S	Sn	14 04 38.8	+1.5

JMA 22 15:01:23.5±0.2, 3197N×14118E, h2km, M3.6, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.62**	**315**	P	Pn	15 01 53.5	+0.4
JHJ2				S	Sn	15 02 14.6	+0.1
BSO1	**Boso 1**	**2.68**	**356**	P	Pn	15 02 08.5	+0.8
BSO1				*e*S	Sn	15 02 42.6	+1.9
JOD2	**Odawara 2**	**3.72**	**333**	P	Pn	15 02 23.6	+1.7
JYN	**Shimob**	**4.15**	**329**	P	Pn	15 02 30.9	+3.1
JHU	**Hanno**	**4.18**	**338**	P	Pn	15 02 30.2	+1.9
JRY	**Ryogami san**	**4.46**	**336**	P	Pn	15 02 34.9	+2.8
JHO	**Hitachi**	**4.66**	**354**	P	Pn	15 02 35.9	+1.1
JAG	**Ashikaga**	**4.67**	**343**	P	Pn	15 02 37.2	+2.2
JFK	**Kawauchi**	**5.39**	**357**	P	Pn	15 02 44.8	-0.1
JFK				*e*S	Sn	15 03 44.0	-3.5

IDC 22 15:08:23.7±2.8, 2650N×9654E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.3/22, mbtmp3.5/4, Error ellipse: s-maj=257.4km s-min=22.6km az=61.0
ISCJB 22 15:08:26.5±1.0, 264N±0.1×9648E±0.10, h33km, mb3.4/4, Error ellipse: s-maj=20.7km s-min=12.8km az=175.8

ISC 22 15:08:28.8±1.0, 265N±01×965E±01, h35km, n5, σ0°47/6, mb3.4/4, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHL	**Shillong**	**4.24**	**258**	*e*PN	**Pn**	**15 09 35.0**	**+4.1**
SHL				*e*SN	**Sn**	**15 10 19.0**	**-0.1**
MKAR	**Makanchi Array**	**23.16**	**335**	P	**P**	**15 13 32.1**	**0.0**
	0.1nm,0.4s,mb2.6,baz=145,slow=8.5,SNR=4.3						
ZALV	**Zalesovo Beam**	**28.74**	**346**	P	**P**	**15 14 22.7**	**-0.1**
	0.4nm,0.4s,mb3.5,baz=152,slow=6.5,SNR=2.6						
WRA	**Warramunga Arr**	**59.00**	**138**	P	**P**	**15 18 25.1**	**-0.1**
	0.5nm,0.5s,mb3.8,baz=326,slow=7.3,SNR=11						
ASAR	**Alice Springs**	**61.62**	**141**	P	**P**	**15 18 43.2**	**+0.1**
	0.2nm,0.4s,mb3.6,baz=324,slow=6.4,SNR=13						

CSEM 22 15:20:12.7±0.2, 3814N×2671E, h20km, MD2.7, Error ellipse: s-maj=4.9km s-min=4.4km az=131.0
ISCJB 22 15:20:13.5±0.5, 3816N±003×2666E±004, h20km±9km, Error ellipse: s-maj=6.8km s-min=4.8km az=44.4
ATH 22 15:20:13.1, 3802N×2680E, h51km, MD3.0/3
THE 22 15:20:13.2, 3816N×2670E, h19km, ML2.9
DDA 22 15:20:14.1, 3814N×2664E, h7km±4km, Md2.7

ISC 22 15:20:13.2±0.5, 3816N±003×2664E±004, h17km±5km, n13, σ1°27/25, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	**Izmir**	**0.21**	**351**	*i* P	**Pg**	**15 20 18.1**	**0.0**
URLA				*i* S	**Sg**	**15 20 21.6**	**+0.2**
BLCB	**Balcova**	**0.39**	**54**	*e*Pg	**Pg**	**15 20 20.9**	**-0.2**
BLCB				*e*Sg	**Sg**	**15 20 26.3**	**-0.3**
SMG	**Samos**	**0.47**	**161**	*e*P	**Pg**	**15 20 23.0**	**+0.3**
SMG				*e*S	**Sg**	**15 20 30.0**	**+1.0**
CHOS	**Chios island**	**0.51**	**297**	*e*Pg	**Pg**	**15 20 23.8**	**+0.4**
CHOS				*e*Sg	**Sg**	**15 20 32.8**	**+2.5**
KDAG	**Bornova**	**0.55**	**63**	*i* P	**Pg**	**15 20 24.1**	**-0.1**
KDAG				*i* S	**Sg**	**15 20 32.6**	**+1.1**
KDAG	**Bornova**	**0.55**	**63**	*i* P	**Pg**	**15 20 24.0**	**-0.1**
KDAG				*i* S	**Sg**	**15 20 32.6**	**+1.1**
AYDN	**Tasoluk**	**1.10**	**116**	*i* P	**Pb**	**15 20 33.4**	**-0.3**
AYDN				*i* S	**Sb**	**15 20 45.7**	**-2.1**
PRK	**Paraskevi**	**1.12**	**345**	*e*Pg	**Pg**	**15 20 33.2**	**-1.7**
PRK				*e*Sg	**Sg**	**15 20 48.1**	**-1.5**
PRK	**Paraskevi**	**1.12**	**345**	*e*P	**Pn**	**15 20 35.9**	**+1.7**
PRK				*e*Sg	**Sg**	**15 20 48.1**	**-1.6**
BDRM	**Kayabasi**	**1.26**	**149**	*i* P	**Pn**	**15 20 38.3**	**+2.3**
BDRM				*i* S	**Sb**	**15 20 53.0**	**+0.5**
BDRM	**Kayabasi**	**1.26**	**149**	*i* S	**Sb**	**15 20 53.0**	**+0.5**
APE	**Apeiranthos**	**1.40**	**219**	*e*Pg	**Pg**	**15 20 36.4**	**-3.6**
APE				*e*Sg	**Sg**	**15 20 55.9**	**-2.4**
APE	**Apeiranthos**	**1.40**	**219**	*e*P	**Pn**	**15 20 37.3**	**-0.6**
APE				*e*Sg	**Sg**	**15 20 55.9**	**-2.4**

WEL 22 15:45:03.2±0.4, 3625S×17785E, h179km±6km, ML3.6/8, Error ellipse: s-maj=9.4km s-min=4.6km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.36**	**164**	PN	Pn	15 45 33.6	0.0
PUZ	**Puketiti**	**1.85**	**170**	PN	Pn	15 45 38.7	+0.3
PUZ				SN	Sn	15 46 04.6	-1.3
URZ	**Urewera**	**2.09**	**196**	PN	Pn	15 45 41.7	+0.6
MWZ	**Matawai**	**2.10**	**187**	PN	Pn	15 45 41.4	+0.3
MWZ				SN	Sn	15 46 11.0	+0.3
KNZ	**Kokohu**	**2.77**	**183**	PN	Pn	15 45 48.9	0.0
BKZ	**Black Stump Fm**	**3.10**	**200**	PN	Pn	15 45 53.3	+0.4
PXZ	**Pawanui**	**3.85**	**191**	PN	Pn	15 46 01.4	-0.9
PXZ				SN	Sn	15 46 47.0	-1.5
WPHZ	**Waipukurau**	**3.97**	**196**	PN	Pn	15 46 03.0	-0.7
TIWZ	**Tintock**	**4.77**	**198**	PN	Pn	15 46 12.6	-1.5
CAW	**Cannon Point**	**5.32**	**203**	PN	Pn	15 46 18.8	-2.2
THZ	**Tophouse**	**6.71**	**213**	*e*PN	Pn	15 46 37.8	-1.6
MQZ	**McQueen's Vall**	**8.45**	**207**	SN	Sn	15 48 28.8	-7.8

IDC 22 15:54:02.2±1.1, 6796N×997E, h0km, mb3.7/1, mb1 3.5/6, mb1mx3.3/23, mbtmp3.5/6, ML3.1/5, Error ellipse: s-maj=14.1km s-min=9.7km az=100.0
NEIC 22 15:54:03.3±0.5, 6795N×1012E, h10km, ML3.0(BER), Error ellipse: s-maj=8.8km s-min=4.8km az=111.0
ISCJB 22 15:54:04.6±0.7, 6768N±003×1100E±0.10, h10km, Error ellipse: s-maj=6.2km s-min=3.9km az=40.3
BER 22 15:54:04.7±3.7, 6785N×1006E, h1km±18km, MD3.0, ML2.9, ML2.7(NAO)
CSEM 22 15:54:04.7±0.1, 6790N×1018E, h10km, ML3.0, Error ellipse: s-maj=3.1km s-min=1.5km az=100.0

NAO 22 15:54:04.5±3.5, 6789N×1045E, h7km±24km, ML2.7
HEL 22 15:54:05.7±0.4, 6793N×1012E, h28km±3km, ML3.3, MD3.0(BER), ML2.9(BER)

ISC 22 15:54:06.3±0.7, 6776N±003×1083E±010, h10km, n54, σ1°16/94, 3C, Norwegian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOF	**Lofoten**	**1.09**	**69**	*e*P	**Pb**	**15 54 28.8**	**+1.6**
LOF				*e*PB	**Pb**	**15 54 31.6**	**+4.4**
LOF				*e*S	**Sg**	**15 54 49.3**	**+7.9**
LOF				AML	AML	15 54 52.5	
	comp=Z,1μm,0.2s						
LOF	**Lofoten**	**1.09**	**69**	*e*P	**Pb**	**15 54 28.9**	**+1.7**
LOF				*e*		15 54 31.6	
LOF				*e*S	**Sg**	**15 54 49.6**	**+8.2**
LOF	**Lofoten**	**1.09**	**69**	*e*P	**Pb**	**15 54 28.8**	**+1.6**
	SNR=50						
LOF				*e*S	**Sg**	**15 54 49.3**	**+7.9**
	comp=Z,1μm,0.2s,SNR=50						
STOK1	**Konsvik**	**1.55**	**144**	*e*P	**Pn**	**15 54 34.7**	**+0.8**
STOK	**Stokkvaagen**	**1.67**	**148**	*e*S	**Sn**	**15 54 59.8**	**+2.7**
STOK				AML	AML	15 55 16.2	
	comp=Z,100nm,0.6s						
STOK	**Stokkvaagen**	**1.67**	**148**	*e*P	**Pn**	**15 54 36.6**	**+1.0**
STOK				*e*S	**Sn**	**15 55 03.9**	**+6.9**
STOK	**Stokkvaagen**	**1.67**	**148**	*e*P	**Pn**	**15 54 36.6**	**+1.0**
	SNR=50						
STOK				*e*S	**Sn**	**15 54 59.8**	**+2.8**
	comp=Z,100nm,0.6s,SNR=50						
STOK2	**Flostrand**	**1.74**	**144**	*e*P	**Pn**	**15 54 38.1**	**+1.6**
MOR8	**Moi Rana**	**2.14**	**137⇑**	*i*P	**Pn**	**15 54 44.0**	**+2.1**
MOR8				*e*S	**Sn**	**15 55 13.3**	**+4.8**
MOR8				AML	AML	15 55 20.5	
	comp=Z,148nm,0.2s						
MOR8	**Moi Rana**	**2.14**	**137⇑**	*i*P	**Pn**	**15 54 44.0**	**+2.1**
MOR8				*e*S	**Sn**	**15 55 16.1**	**+7.6**
MOR8	**Moi Rana**	**2.14**	**137⇑**	*i*P	**Pn**	**15 54 44.0**	**+2.0**
	SNR=50						
MOR8				*e*S	**Sn**	**15 55 13.3**	**+4.8**
	comp=Z,148nm,0.2s,SNR=50						
NSS	**Namsos**	**3.28**	**171**	*e*P	**Pn**	**15 54 57.3**	**-0.4**
KIF	**Kilpisjarvi**	**3.90**	**67**	*e*P	**Pn**	**15 55 06.7**	**+0.6**
KIF				*e*S	**Sn**	**15 55 51.8**	**0.0**
KIF				MSN		15 56 00.6	
	comp=Z,24nm,0.2s						
KTK1	**Kautokeino**	**4.76**	**69**	*e*P	**Pn**	**15 55 18.0**	**+0.1**
KTK1				*e*S	**Sn**	**15 56 12.7**	**-0.3**
HEF	**Hetta**	**4.85**	**76**	*e*P	**Pn**	**15 55 19.6**	**+0.4**
HEF				*e*S	**Sn**	**15 56 15.0**	**-0.3**
HEF				MSN		15 56 26.4	
	comp=Z,13nm,0.2s						
MOL	**Molde**	**5.39**	**196**	*e*P	**Pn**	**15 55 24.0**	**-2.7**
MOL				*e*S	**Sn**	**15 56 20.0**	**-8.7**
MOL				AML	AML	15 56 30.0	
	comp=Z,17nm,0.3s						
MOL	**Molde**	**5.39**	**196**	*e*P	**Pn**	**15 55 24.0**	**-2.7**
MOL				*e*S	**Sn**	**15 56 20.0**	**-8.7**
ARA0	**ARCESS Array S**	**5.65**	**65**	Pn	**Pn**	**15 55 29.3**	**-0.9**
	baz=249,slow=12						
ARA0				Lg		15 57 04.8	
	baz=258,slow=28						
ARA0	**ARCESS Array S**	**5.65**	**65**	*e*P	**Pn**	**15 55 29.3**	**-0.9**
ARCES	**ARCESS Array B**	**5.65**	**65**	Pn	**Pn**	**15 55 28.7**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=247,slow=13,SNR=19						
ARCES				Sn	**Sn**	**15 56 38.9**	**+4.0**
	comp=Z,2.6nm,0.3s,baz=241,slow=25,SNR=4.5						
ARCES				Lg		15 57 07.3	
	comp=Z,5.8nm,0.3s,baz=257,slow=26,SNR=16						
DOMB	**Dombas**	**5.79**	**188**	*e*P	**Pn**	**15 55 31.6**	**-0.5**
DOMB				*e*S	**Sn**	**15 56 35.8**	**-2.8**
SGF	**Sodankyl**	**6.01**	**86**	*e*P	**Pn**	**15 55 35.2**	**+0.2**
SGF				*e*S	**Sn**	**15 56 42.6**	**-1.2**
SGF				MSN		15 56 55.8	
	comp=Z,20nm,0.2s						
KEV	**Kevo**	**6.21**	**64**	*e*P	**Pn**	**15 55 38.2**	**+0.4**
KEV				*e*S	**Sn**	**15 56 46.5**	**-2.1**
KEV				MSN		15 56 55.4	
	comp=Z,4.7nm,0.2s						
OUL	**Oulu**	**6.61**	**107**	*e*P	**Pn**	**15 55 44.7**	**+1.4**
OUL				*e*S	**Sn**	**15 56 59.5**	**+0.9**
OUL				MSN		15 57 06.8	
	comp=Z,5.9nm,0.2s						
FOO	**Floro**	**6.66**	**205**	*e*S	**Sn**	**15 56 50.4**	**-10**
NB2	**NORSAR Subarra**	**6.75**	**178**	Pn	**Pn**	**15 55 45.5**	**+0.2**
	baz=353,slow=14						
NB2				Sn	**Sn**	**15 57 04.3**	**+2.2**
NB2	**NORSAR Subarra**	**6.75**	**178**	*e*P	**Pn**	**15 55 45.5**	**+0.2**
NOA	**NORSAR Array B**	**6.75**	**178**	Pn	**Pn**	**15 55 45.3**	**0.0**
	comp=Z,0.5nm,0.3s,baz=356,slow=13,SNR=2.8						
NOA				Sn	**Sn**	**15 56 57.9**	**-4.2**
	comp=Z,0.7nm,0.3s,baz=218,slow=24,SNR=2.8						
VAF	**Ylistaro**	**6.84**	**128**	*e*P	**Pn**	**15 55 48.6**	**+2.1**
VAF				*e*S	**Sn**	**15 57 05.4**	**+1.2**
VAF				MSN		15 57 12.2	
	comp=Z,5.9nm,0.2s						
HYA	**Hoyanger**	**6.92**	**199**	*e*P	**Pn**	**15 55 46.8**	**-0.8**
HYA				*e*S	**Sn**	**15 56 59.4**	**-6.8**
HYA	**Hoyanger**	**6.92**	**199**	*e*P	**Pn**	**15 55 47.1**	**-0.5**
HYA				*e*S	**Sn**	**15 56 59.4**	**-6.8**
MSF	**Maaselka**	**7.41**	**96**	*e*P	**Pn**	**15 55 54.4**	**+0.1**
MSF				*e*S	**Sn**	**15 57 18.1**	**-0.1**
MSF				MSN		15 57 28.3	
	comp=Z,5.1nm,0.3s						
KU6	**Riekki**	**7.69**	**94**	*e*P	**Pn**	**15 55 58.0**	**-0.1**
KU6				*e*S	**Sn**	**15 57 23.5**	**-1.7**
KU6				MSN		15 57 39.7	
	comp=Z,4.3nm,0.3s						
HFS	**Hagfors**	**7.76**	**169**	Pn	**Pn**	**15 55 58.8**	**-0.3**
	baz=349,slow=14						
HFS				Sn	**Sn**	**15 57 24.1**	**-2.8**
	baz=359,slow=28						
HFS	**Hagfors**	**7.76**	**169**	*e*P	**Pn**	**15 55 58.8**	**-0.3**
HFS				*e*S	**Sn**	**15 57 24.1**	**-2.8**
HFS	**Hagfors**	**7.76**	**169**	Pn	**Pn**	**15 55 58.6**	**-0.5**
	comp=Z,0.4nm,0.3s,baz=2.5,slow=12,SNR=18						
HFS				Sn	**Sn**	**15 57 24.2**	**-2.7**
	comp=Z,0.6nm,0.3s,baz=349,slow=22,SNR=3.7						
KJN	**Kajaani**	**7.81**	**110**	*e*P	**Pn**	**15 56 01.2**	**+1.4**
KJN				*e*S	**Sn**	**15 57 27.2**	**-1.0**
KJN				MSN		15 57 29.6	
	comp=Z,8.3nm,0.3s						
SUF	**Sumiainen**	**8.17**	**121**	*e*P	**Pn**	**15 56 06.3**	**+1.6**
SUF				*e*S	**Sn**	**15 57 36.6**	**-0.2**
SUF				MSN		15 57 49.2	
	comp=Z,3.7nm,0.3s						
KEF	**Keuruu**	**8.17**	**127**	*e*P	**Pn**	**15 56 06.1**	**+1.4**
KEF				*e*S	**Sn**	**15 57 36.4**	**-0.5**
RAF	**Rauma**	**8.24**	**140**	*e*P	**Pn**	**15 56 06.0**	**+0.2**
RAF				*e*S	**Sn**	**15 57 38.8**	**0.0**
APA0	**Apatity Array**	**8.42**	**81**	Pn	**Pn**	**15 56 08.5**	**+0.4**
	baz=288,slow=12						
APA0	**Apatity Array**	**8.42**	**81**	*e*P	**Pn**	**15 56 08.5**	**+0.4**
FIA0	**FINESS Array S**	**9.09**	**127**	Pn	**Pn**	**15 56 18.3**	**+1.0**
	baz=322,slow=16						
FIA0				Sn	**Sn**	**15 57 57.5**	**-2.1**
	baz=325,slow=22						
FIA0				Lg		15 58 52.8	
	baz=324,slow=28						
FIA0	**FINESS Array S**	**9.09**	**127**	*e*P	**Pn**	**15 56 18.0**	**+0.6**
FIA0				*e*S	**Sn**	**15 57 59.0**	**-0.6**
FIA0	**FINESS Array S**	**9.09**	**127**	Pn	**Pn**	**15 56 18.3**	**+1.0**
	baz=322,slow=16						
FIA0				Sn	**Sn**	**15 57 57.5**	**-2.1**
	baz=325,slow=22						
FINES	**FINESS Array B**	**9.09**	**127**	Pn	**Pn**	**15 56 18.1**	**+0.8**
	comp=Z,0.5nm,0.3s,baz=328,slow=12,SNR=17						
FINES				Sn	**Sn**	**15 58 01.6**	**+2.0**
	comp=Z,0.3nm,0.3s,baz=333,slow=24,SNR=3.0						
FINES				Lg		15 58 59.9	
	comp=Z,0.9nm,0.3s,baz=328,slow=28,SNR=7.0						
MEF	**Metsahovi**	**9.61**	**135**	*e*P	**Pn**	**15 56 25.0**	**+0.5**
MEF				*e*S	**Sn**	**15 58 11.8**	**-0.5**
PVF	**Pernaja**	**9.74**	**131**	*e*P	**Pn**	**15 56 27.0**	**+0.7**
PVF				*e*S	**Sn**	**15 58 14.7**	**-0.9**
JOF	**Joensuu**	**9.81**	**110**	*e*P	**Pn**	**15 56 25.5**	**-1.7**
JOF				*e*S	**Sn**	**15 58 16.1**	**-1.1**
SPA0	**Spitsbergen Ar**	**10.59**	**6**	Pn	**Pn**	**15 56 32.5**	**-5.3**
	baz=189,slow=16						
SPA0	**Spitsbergen Ar**	**10.59**	**6**	*e*P	**Pn**	**15 56 32.5**	**-5.3**
SPITS	**Spitsbergen Ar**	**10.59**	**6**	Pn	**Pn**	**15 56 32.2**	**-5.6**
	baz=275,slow=14,SNR=12						
SPITS				Sn	**Sn**	**15 58 21.8**	**-14**
	baz=233,slow=29,SNR=2.4						
TORD	**Torodi Ar. Bea**	**54.89**	**191**	P	**P**	**16 03 35.8**	**-1.0**
	comp=Z,0.8nm,0.8s,baz=346,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**124.03**	**68**	PKP	PKPdf	16 13 01.6	-2.5
	comp=Z,0.3nm,1.1s,baz=343,slow=1.7,SNR=2.9						

ISCJB 22 15:56:32.4±0.4, 3906N±002×2318E±003, h6km±4km, Error ellipse: s-maj=4.1km s-min=2.9km az=6.9
ATH 22 15:56:32.9, 3906N×2320E, h23km±1km, MD3.3/11, ML3.3
NEIC 22 15:56:32.9, 3906N×2320E, h23km, ML3.3(ATH), After ATH.
CSEM 22 15:56:33.6±0.1, 3903N×2318E, h10km, ML3.3, Error ellipse: s-maj=1.8km s-min=1.3km az=106.0
THE 22 15:56:33.4, 3904N×2317E, h2km, ML3.5

ISC 22 15:56:33.2±0.4, 3905N±002×2318E±003, h11km±3km, n36, σ0°93/49, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEO	**Neokhori**	**0.26**	**8**	*i* PB	**Pg**	**15 56 39.2**	**+0.6**
NEO				*e*SB	**Sg**	**15 56 43.4**	**+1.2**
XOR	**Xorichti**	**0.32**	**2**	*e*Pg	**Pg**	**15 56 40.3**	**+0.6**
LKR	**Lokris**	**0.42**	**200**	*e*Pg	**Pg**	**15 56 41.5**	**0.0**
LKR				*e*Sg	**Sg**	**15 56 47.6**	**+0.6**
LKR	**Lokris**	**0.42**	**200**	*i* PB	**Pg**	**15 56 41.4**	**-0.1**
AOS	**Alonnisos**	**0.56**	**77**	*e*Pg	**Pg**	**15 56 44.3**	**+0.2**
AOS				*e*Sg	**Sg**	**15 56 52.3**	**+0.8**
AGG	**Agios Georgios**	**0.66**	**268**	*e*Pg	**Pg**	**15 56 45.4**	**-0.7**
AGG				*e*Sg	**Sg**	**15 56 55.4**	**+0.7**
LTK	**Loutraki**	**1.03**	**189**	*e*Pg	**Pg**	**15 56 52.2**	**-0.9**
LTK				*e*Sg	**Sg**	**15 57 07.8**	**+1.2**
THL	**Klokotos Trika**	**1.04**	**300**	*e*Pg	**Pg**	**15 56 52.1**	**-1.2**
THL				*e*Sg	**Sg**	**15 57 07.9**	**+1.0**
THL	**Klokotos Trika**	**1.04**	**300**	*e*PN	**Pn**	**15 56 52.5**	**-1.3**
THL				*e*SN	**Sn**	**15 57 07.8**	**-0.6**
EVR	**Evrytania**	**1.08**	**264**	*e*PN	**Pn**	**15 56 54.5**	**+0.2**
PTL	**Penteli**	**1.13**	**151**	*e*PN	**Pn**	**15 56 55.0**	**0.0**
ATH	**Athens Observa**	**1.15**	**158**	*e*PN	**Pn**	**15 56 55.5**	**+0.2**
ATH				*e*SN	**Sn**	**15 57 10.8**	**-0.3**
LIT	**Litokhoron**	**1.18**	**333**	*e*Pg	**Pg**	**15 56 55.3**	**-0.7**
LIT				*e*Sg	**Sg**	**15 57 12.5**	**+1.2**
SELA	**Sela**	**1.27**	**233**	*e*Pg	**Pg**	**15 56 56.9**	**-0.7**
SELA				*e*Sg	**Sg**	**15 57 14.5**	**+0.5**
SELA	**Sela**	**1.27**	**233**	*e*Pg	**Pg**	**15 56 56.8**	**-0.8**
SELA				*e*Sg	**Sg**	**15 57 14.5**	**+0.5**
KVR	**Kavouri**	**1.30**	**159**	*e*PN	**Pn**	**15 56 58.0**	**+0.6**
NAIG	**Nisos Aigina**	**1.31**	**169**	*e*PN	**Pn**	**15 56 58.0**	**+0.5**
PLG	**Polygyros**	**1.34**	**9**	*e*Pg	**Pg**	**15 56 57.8**	**-1.2**
PLG	**Polygyros**	**1.34**	**9**	*e*PN	**Pn**	**15 56 57.8**	**-0.2**
PLG				*e*SN	**Sn**	**15 57 15.1**	**-0.7**
OUR	**Ouranopolis**	**1.43**	**25**	*e*Pg	**Pg**	**15 56 59.4**	**-1.3**
DID	**Didima**	**1.54**	**178**	*e*Pg	**Pg**	**15 57 00.7**	**-2.0**
HORT	**Hortiatis**	**1.55**	**358**	*e*Pg	**Pg**	**15 57 01.0**	**-2.0**
LOS	**Limnos**	**1.72**	**58**	*e*Pb	**Pb**	**15 57 03.0**	**-1.9**
SOH	**Sokhos**	**1.78**	**4**	*e*Pb	**Pb**	**15 57 04.6**	**-1.3**
VLX	**Vlachokerasia**	**1.79**	**201**	*e*Pb	**Pb**	**15 57 04.8**	**-1.3**
VLX				*e*Sb	**Sb**	**15 57 28.3**	**-0.2**
SRS	**Serrai**	**2.09**	**9**	*e*Pn	**Pn**	**15 57 08.7**	**+0.4**
KNT	**Kendrikon**	**2.12**	**354**	*e*Pn	**Pn**	**15 57 09.6**	**+0.8**
FNA	**Florina**	**2.22**	**322**	*e*Pn	**Pn**	**15 57 11.3**	**+1.2**
VLI	**Veliai**	**2.33**	**185**	*e*PN	**Pn**	**15 57 12.0**	**+0.5**
CHOS	**Chios island**	**2.34**	**105**	*e*Pn	**Pn**	**15 57 12.7**	**+1.0**
NVR	**Nevrokopi**	**2.36**	**13**	*i* PN	**Pn**	**15 57 12.4**	**+0.5**
MMB	**Musomiste**	**2.58**	**9**	*i* P	**Pn**	**15 57 15.0**	**+0.1**
APE	**Apeiranthos**	**2.71**	**136**	*e*Pn	**Pn**	**15 57 17.3**	**+0.6**
ALN	**Alexandroupoli**	**2.88**	**49**	*e*Pn	**Pn**	**15 57 18.9**	**-0.1**
RZN	**Rozhen**	**2.89**	**23**	*i* P	**Pn**	**15 57 20.0**	**+0.8**
VTS	**Vitosha**	**3.54**	**0**	*i* P	**Pn**	**15 57 30.0**	**+1.8**

ISCJB 22 16:05:42.2±0.8, 2404S±005×668W±0.1, h193km±9km, mb3.8/8, Error ellipse: s-maj=15.0km s-min=8.0km az=0.6
NEIC 22 16:05:43.0±0.7, 2401S×6677W, h187km±7km, mb4.2/1, Error ellipse: s-maj=10.8km s-min=6.8km az=104.0
IDC 22 16:05:43.5±1.4, 2396S×6673W, h189km±12km, mb3.7/8, mb1 3.8/14, mb1mx3.7/22, mbtmp3.7/14, MS3.3/1, Ms1 3.3/1, ms1mx2.3/29, Error ellipse: s-maj=17.7km s-min=11.4km az=87.0

ISC 22 16:05:43.0±0.7, 2402S±005×6677W±010, h184km±9km, n29, σ0°82/27, mb3.9/8, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LCO	**Las Campanas**	**6.09**	**214**	*e*Pn	**Pn**	**16 07 10.3**	**-0.8**
CFAA	**Coronel Fontan**	**7.67**	**189**	P	**Pn**	**16 07 31.4**	**-0.4**
	0.3nm,0.3s,baz=3.4,slow=13,SNR=44						
CFAA				S	**Sn**	**16 08 51.4**	**-6.5**
	0.8nm,0.3s,baz=264,slow=21,SNR=12						
LPAZ	**La Paz**	**7.80**	**350**	*e*Pn	**Pn**	**16 07 35.3**	**+1.7**
LPAZ	

ULN Ulaanbaatar 8.80 333 P **Pn 16 19 41.7 0.0**
1.7nm,0.7s
SONM Songino Array 9.02 330 Pn **Pn 16 19 45.4 +0.7**
0.3nm,0.3s,baz=151,slow=12,SNR=8.7
SONM Lg 16 22 17.4
0.3nm,0.3s,baz=144,slow=28,SNR=3.7
MKAR Makanchi Array 23.17 297 P **P 16 22 41.7 +0.6**
0.4nm,0.7s,mb2.9,baz=96,slow=12,SNR=4.1
ZALV Zalesovo Beam 23.45 315 P **P 16 22 43.2 -0.7**
0.5nm,0.6s,mb3.1,baz=111,slow=7.9,SNR=3.1
INK Inuvik 61.09 23 *eP* **P 16 27 47.9 -0.3**
ASAR Alice Springs 66.43 159 P **P 16 28 24.1 +0.3**
0.4nm,0.7s,mb3.5,baz=346,slow=6.3,SNR=6.4
YKA Yellowknife Ar 70.75 21 P **P 16 28 50.0 -0.4**
YKA Yellowknife Ar 70.75 21 P **P 16 28 50.0 -0.4**
0.4nm,0.5s,mb3.6,baz=320,slow=5.6,SNR=8.8

*ISCJB **22** 16:21:08.9±1.0, 3084S±008×179.1W±02, h79km±15km, mb4.0/4, Error ellipse: s-maj=27.0km s-min=9.8km az=21.8*
*NEIC **22** 16:21:08.4±1.5, 3107S×17803W, h131km±13km, mb4.1/1, Error ellipse: s-maj=40.8km s-min=15.3km az=107.0*
*IDC **22** 16:21:08.6±2.0, 3099S×17822W, h120km±14km, mb3.7/4, mb1 3.7/5, mb1mx3.5/15, mbtmp3.6/5, Error ellipse: s-maj=47.1km s-min=14.6km az=109.0*
ISC 22 16:21:10.4±0.9, 3081S±008×1790W±02, h81km±13km**, n12,** σ0§78/14**, mb4.0/4, Kermadec Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.82**	**32**	Pn	**Pn**	**16 21 40.2**	**+0.3**
RAO				S	**Sn**	**16 22 02.3**	**+0.1**
RAO	**Raoul Island**	**1.82**	**32**	P	**Pn**	**16 21 39.7**	**-0.2**
	74nm,0.3s,baz=143,slow=20,SNR=3.2						
RAO				S	**Sn**	**16 22 02.3**	**+0.1**
	263nm,0.3s,baz=74,slow=21,SNR=5.4						
URZ	**Urewera**	**8.09**	**202**	P	**Pn**	**16 23 04.6**	**-0.6**
	baz=24,slow=20,SNR=3.9						
URZ				S	**Sn**	**16 24 35.3**	**+0.3**
	2.6nm,0.3s,baz=20,slow=18,SNR=13						
CTA	**Charters Tower**	**33.01**	**281**	P	**P**	**16 27 39.1**	**+1.1**
	2.3nm,0.6s,mb4.2,baz=101,slow=14,SNR=4.4						
CTAO	**Charters Tower**	**33.01**	**281**	*eP*	**P**	**16 27 39.1**	**+1.1**
	1.8nm,0.5s,mb4.2						
STKA	**Stephens Creek**	**33.54**	**258**	*eP*	**P**	**16 27 43.8**	**+1.3**
STKA	**Stephens Creek**	**33.54**	**258**	P	**P**	**16 27 43.7**	**+1.2**
	4.0nm,0.5s,mb4.5,baz=95,slow=11,SNR=20						
ASAR	**Alice Springs**	**42.22**	**268**	P	**P**	**16 28 54.5**	**-1.1**
	0.4nm,0.5s,mb3.4,baz=105,slow=7.1,SNR=14						
WRA	**Warramunga Arr**	**43.25**	**273**	P	**P**	**16 29 02.7**	**-1.3**
	0.8nm,0.4s,mb3.8,baz=110,slow=8.1,SNR=25						
VNA3	**Neumayer Olymp**	**77.96**	**176**	*e*	**P**	**16 32 59.3**	**+0.1**
VNA2	**Neumayer--Watz**	**78.38**	**177**	*e*	**P**	**16 33 01.6**	**0.0**
	baz=182,slow=5.7						
FINES	**FINESS Array B**	**145.22**	**339**	PKPbc	PKPbc	16 40 31.5	-6.2
	0.9nm,0.4s,baz=40,slow=3.9,SNR=18						

*ISCJB **22** 16:21:32.6±2.8, 772N±008×78.14W±006, h15km±24km, mb3.6/5, Error ellipse: s-maj=13.7km s-min=9.2km az=10.9*
*IDC **22** 16:21:32.4±0.9, 754N×7834W, h0km, mb3.7/5, mb1 3.9/8, mb1mx3.7/23, mbtmp3.8/8, ML3.0/3, MS3.1/6, Ms1 3.1/6, ms1mx2.9/37, Error ellipse: s-maj=31.7km s-min=18.9km az=44.0*
*NEIC **22** 16:21:36.0±3.5, 769N×7822W, h26km±27km, Error ellipse: s-maj=18.4km s-min=10.6km az=204.0*
NEIC Felt at La Palma.
ISC 22 16:21:35.2±3.6, 772N±008×7818W±006, h16km±25km**, n19,** σ1§12/19**, mb3.6/5, Panama**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCIP	**Isla Barro Col**	**2.18**	**311**	*e*Pn	**Pn**	**16 22 10.1**	**-0.8**
ROSC	**El Rosal**	**4.77**	**126**	*e*Pn	**Pn**	**16 22 48.8**	**+2.2**
ROSC	**El Rosal**	**4.77**	**126**	Pn	**Pn**	**16 22 48.5**	**+2.0**
	3.7nm,0.3s,baz=101,slow=10,SNR=6.7						
JTS	**JuntasAbangare**	**7.16**	**291**	Pn	**Pn**	**16 23 18.6**	**-0.9**
	0.3nm,0.3s,baz=43,slow=19,SNR=2.4						
JTS				LR	LR	16 26 29.3	
	comp=Z,149nm,18.6s,baz=270,slow=42						
SDV	**Santo Domingo**	**7.56**	**81**	*e*Pn	**Pn**	**16 23 24.9**	**0.0**
SDV				*e*Sn	**Sn**	**16 24 48.4**	**-1.9**
SDV				LR	LR	16 26 55.3	
SDV	**Santo Domingo**	**7.56**	**81**	Pn	**Pn**	**16 23 25.4**	**+0.5**
	7.9nm,0.3s,baz=176,slow=0.0,SNR=109						
SDV				Sn	**Sn**	**16 24 49.6**	**-0.7**
	10nm,0.3s,baz=348,slow=0.0,SNR=5.2						
SDV				LR	LR	16 26 55.3	
	comp=Z,123nm,18.6s,baz=136,slow=42						
SDDR	**Presa de Saban**	**13.04**	**30**	*e*Pn	**Pn**	**16 24 41.9**	**+1.8**
	42nm,0.7s						
SDDR				Sn	**Sn**	**16 26 57.1**	**-7.8**
PCRV	**Puerto La Cruz**	**13.60**	**79**	Pn	**Pn**	**16 24 47.2**	**-0.4**
	1.6nm,0.3s,baz=21,slow=1.6,SNR=6.8						
PCRV				Sn	**Sn**	**16 27 09.0**	**-10**
	0.6nm,0.3s,baz=331,slow=10,SNR=1.8						
PCRV				LR	LR	16 30 02.8	
	comp=Z,52nm,20.9s,baz=79,slow=37						
ATAH	**Atahualpa**	**14.62**	**181**	Pn	**Pn**	**16 25 00.9**	**-0.7**
	0.5nm,0.3s,baz=22,slow=8.1,SNR=4.3						
ATAH				LR	LR	16 30 58.3	
	comp=Z,62nm,20.1s,baz=177,slow=39						
TEIG	**Tepich**	**15.82**	**323**	LR	LR	16 31 29.0	
	comp=Z,112nm,19.2s,baz=22,slow=38						
MTP	**Monte Pirata**	**16.05**	**49**	*e*Pn	**Pn**	**16 25 18.3**	**-2.1**
LPAZ	**La Paz**	**25.84**	**157**	LR	LR	16 38 21.3	
	comp=Z,39nm,19.0s,baz=32,slow=39						
SIV	**San Ignacio**	**29.02**	**144**	P	**P**	**16 27 34.1**	**-0.6**
	0.9nm,0.6s,mb3.7,baz=351,slow=9.6,SNR=4.1						
TXAR	**Lajitas Array**	**32.20**	**315**	P	**P**	**16 28 03.0**	**+0.2**
	0.2nm,0.5s,mb3.2,baz=105,slow=12,SNR=3.0						
ULM	**Lac du Bonnet**	**44.89**	**344**	P	**P**	**16 29 50.0**	**+1.0**
	0.7nm,0.4s,mb3.8,baz=151,slow=6.3,SNR=3.7						
YKA	**Yellowknife Ar**	**60.76**	**342**	P	**P**	**16 31 46.4**	**+0.4**
	0.8nm,0.7s,mb4.0,baz=130,slow=7.3,SNR=15						
TORD	**Torodi Ar. Bea**	**78.47**	**78**	P	**P**	**16 33 37.3**	**+1.1**
	0.4nm,0.6s,mb3.5,baz=291,slow=9.1,SNR=4.1						
ASAR	**Alice Springs**	**145.40**	**239**	PKPbc	PKPbc	16 41 11.4	-1.9
	0.5nm,0.6s,baz=122,slow=3.8,SNR=12						
WRA	**Warramunga Arr**	**146.25**	**246**	PKPbc	PKPbc	16 41 13.1	-2.9
	0.4nm,0.7s,baz=88,slow=2.7,SNR=3.7						

*ISCJB **22** 16:54:31.0±0.4, 5152N±003×16.14E±003, h0km, Error ellipse: s-maj=3.7km s-min=2.5km az=14.8*
*MOS **22** 16:54:31.3±0.4, 5165N×1623E, h10km, mb4.0/1, Error ellipse: s-maj=18.4km s-min=6.1km az=82.2*
*NEIC **22** 16:54:32.6±0.4, 5159N×1615E, h5km, ML2.9(SZGRF), ML2.6(BRA), Error ellipse: s-maj=4.8km s-min=4.5km az=78.0*
*IDC **22** 16:54:34.5±0.8, 5147N×1619E, h0km, mb1 3.3/5, mb1mx3.1/22, mbtmp3.2/5, ML2.5/5, Error ellipse: s-maj=17.3km s-min=7.4km az=99.0*
*IPEC **22** 16:54:34.4±0.3, 5145N×1635E, h0km, ML2.4/4, Error ellipse: s-maj=3.7km s-min=2.1km az=85.0*
*WAR **22** 16:54:34.5, 5150N×1609E, ML2.7, Mining Induced*
*CSEM **22** 16:54:35.8±0.2, 5141N×1609E, h1km, ML3.4/9, Error ellipse: s-maj=3.4km s-min=1.7km az=10.0*
*PRU **22** 16:54:35.6, 5141N×1607E, h0km*
*VIE **22** 16:54:36.9±0.3, 5121N×1628E, h0km, mb2.1/4, ML3.0/4, Error ellipse: s-maj=2.5km s-min=2.2km az=99.0 52 km WNW of Wroclaw Suspected Mining induced.*
ISC 22 16:54:33.0±0.4, 5150N±002×1610E±003, h0km**, n55,** σ1§15/105**, 6C-2D, Poland**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**170**	*e*Pg	**Pg**	**16 54 46.8**	**+0.9**
KSP				*e*Sg	**Sg**	**16 54 55.6**	**+1.1**
KSP	**Ksiaz**	**0.67**	**170**	⇓*i*Pg	**Pg**	**16 54 46.7**	**+0.9**
KSP				*e*Sg	**Sg**	**16 54 55.6**	**+1.1**
KSP	**Ksiaz**	**0.67**	**170**	*e*Pg	**Pg**	**16 54 46.7**	**+0.9**
KSP				*e*Sg	**Sg**	**16 54 55.6**	**+1.1**
UPC	**Upice**	**1.00**	**183**	*e*Pg	**Pg**	**16 54 52.7**	**+0.6**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*Pg	**Pg**	**16 54 55.6**	**+0.3**
DPC				*e*Sg	**Sg**	**16 55 09.5**	**-0.8**
DPC	**Dobruska-Polom**	**1.16**	**173**	*e*PG	**Pg**	**16 54 55.6**	**+0.3**
DPC				*e*SG	**Sg**	**16 55 10.5**	**+0.2**
	comp=Z,96nm,0.4s						

PVCC	**Panska Ves**	**1.38**	**225**	*e*Pg	**Pg**	**16 55 00.1**	**+0.8**
PRU	**Pruhonice**	**1.81**	**214**	*e*Pg	**Pg**	**16 55 08.7**	**+1.0**
PRU				*e*Sg	**Sg**	**16 55 31.0**	**-0.2**
	comp=Z,56nm,0.4s						
PRU	**Pruhonice**	**1.81**	**214**	*e*PN	**Pn**	**16 55 05.4**	**0.0**
PRU				*e*PG	**Pg**	**16 55 08.7**	**+1.0**
PRU				*e*SG	**Sg**	**16 55 31.0**	**-0.2**
	comp=Z,56nm,0.4s						
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**16 55 07.0**	**-0.3**
CLL				*i* Pg	**Pg**	**16 55 10.1**	**-0.3**
CLL				*i* Sg	**Sg**	**16 55 36.5**	**+0.8**
CLL	**Collm**	**1.95**	**265**	*e*Pn	**Pn**	**16 55 07.0**	**-0.3**
CLL				*i* Pg	**Pg**	**16 55 10.1**	**-0.3**
CLL				*ex*	x	16 55 13.0	
CLL				*i* Sg	**Sg**	**16 55 36.5**	**+0.8**
	comp=Z,25nm,0.5s						
CLL	**Collm**	**1.95**	**265**	*i* Pg	**Pg**	**16 55 10.1**	**-0.3**
CLL				*i* S	**Sg**	**16 55 36.5**	**+0.8**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**16 55 07.0**	**-0.3**
MORC				*e*Sn	**Sn**	**16 55 31.7**	**-0.9**
MORC	**Moravsky Berou**	**1.96**	**152**	*e*Pn	**Pn**	**16 55 07.1**	**-0.3**
MORC				*e*Sn	**Sn**	**16 55 31.7**	**-0.9**
MORC				*e*Sg	**Sg**	**16 55 32.4**	**-3.4**
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*Pg	**Pg**	**16 55 13.2**	**-0.3**
OKC				*e*Sg	**Sg**	**16 55 41.0**	**+0.1**
	comp=Z,26nm,0.4s						
OKC	**Ostrava-Krasne**	**2.11**	**141**	*e*PN	**Pn**	**16 55 09.4**	**-0.2**
OKC				*e*PG	**Pg**	**16 55 13.2**	**-0.3**
OKC				*e*SG	**Sg**	**16 55 41.0**	**+0.1**
	comp=Z,26nm,0.4s						
VRAC	**Vranov**	**2.22**	**172**	Pn	**Pn**	**16 55 11.8**	**+0.7**
	comp=Z,1.9nm,0.3s,baz=353,slow=17,SNR=9.7						
VRAC				Pg	**Pg**	**16 55 16.1**	**+0.6**
	comp=Z,2.2nm,0.3s,baz=344,slow=17,SNR=9.5						
VRAC				Lg		16 55 42.6	
	comp=Z,6.0nm,0.3s,baz=75,slow=18,SNR=14						
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**16 55 11.1**	**+0.1**
VRAC	**Vranov**	**2.22**	**172**	P	**Pn**	**16 55 11.8**	**+0.8**
VRAC	**Vranov**	**2.22**	**172**	Pg	**Pg**	**16 55 16.1**	**+0.6**
VRAC				*e*Sg	**Sg**	**16 55 41.2**	**-3.1**
	comp=Z,18nm,0.3s						
VRAC				S	**Sn**	**16 55 42.6**	**+3.5**
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**16 55 15.1**	**+0.9**
KRUC				*e*Sg	**Sg**	**16 55 49.2**	**-2.5**
	comp=Z,14nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*Pg	**Pg**	**16 55 24.4**	**+0.8**
NKC				*e*Sg	**Sg**	**16 56 00.4**	**+2.6**
	comp=Z,69nm,0.3s						
NKC	**Novy Kostel**	**2.64**	**243**	*e*PN	**Pn**	**16 55 17.7**	**+0.9**
NKC				*e*PG	**Pg**	**16 55 24.4**	**+0.8**
NKC				*e*SG	**Sg**	**16 56 00.4**	**+2.6**
	comp=Z,69nm,0.3s						
OJC	**Ojcow**	**2.67**	**117**	*e*Pg	**Pg**	**16 55 23.7**	**-0.5**
OJC				*e*Sg	**Sg**	**16 55 59.6**	**+0.9**
JAVC	**Velka Javorina**	**2.83**	**159**	*e*Sg	**Sg**	**16 56 02.3**	**-1.6**
	comp=Z,17nm,0.6s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*P	**Pn**	**16 55 20.9**	**+0.9**
KHC				*e*		16 55 53.8	
KHC	**Kasperske Hory**	**2.87**	**215**	*e*Pg	**Pg**	**16 55 27.3**	**-0.7**
KHC				*e*Sn	**Sn**	**16 55 53.8**	**-1.4**
KHC				*e*Sg	**Sg**	**16 56 04.4**	**-0.9**
	comp=Z,22nm,0.5s						
KHC	**Kasperske Hory**	**2.87**	**215**	*e*PN	**Pn**	**16 55 20.9**	**+0.9**
KHC				*e*PG	**Pg**	**16 55 27.3**	**-0.7**
KHC				*e*SN	**Sn**	**16 55 53.8**	**-1.4**
KHC				*e*SG	**Sg**	**16 56 04.4**	**-0.9**
	comp=Z,22nm,0.5s						
MOX	**Moxa**	**2.96**	**255**	*e*PG	**Pg**	**16 55 29.6**	**-0.1**
MOX				*e*SG	**Sg**	**16 56 08.8**	**+0.8**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**16 55 23.8**	**+1.0**
GEC2				*e*Sg	**Sg**	**16 56 08.6**	**-3.2**
GEC2	**GERESS Array S**	**3.08**	**211**	*e*Pn	**Pn**	**16 55 23.8**	**+1.0**
GEC2				*e*Sg	**Sg**	**16 56 08.6**	**-3.2**
GERES	**GERESS Array B**	**3.08**	**211**	Pn	**Pn**	**16 55 24.0**	**+1.3**
	comp=Z,0.3nm,0.3s,baz=34,slow=13,SNR=13						
GERES				Pg	**Pg**	**16 55 31.5**	**-0.4**
	comp=Z,1.5nm,0.3s,baz=32,slow=15,SNR=13						
GERES				Lg		16 56 10.0	
	comp=Z,5.6nm,0.3s,baz=33,slow=32,SNR=10						
GERES	**GERESS Array B**	**3.08**	**211**	Pg	**Pg**	**16 55 31.5**	**-0.4**
WET	**Wettzell**	**3.14**	**222**	*e*Pn	**Pn**	**16 55 24.3**	**+0.7**
WET				*e*Sg	**Sg**	**16 56 10.8**	**-3.0**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*Pg	**Pg**	**16 55 35.6**	**+0.9**
MODS				*e*Sg	**Sg**	**16 56 17.7**	**+1.2**
MODS				*e*SG	**Sg**	**16 56 17.7**	**+1.2**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*PG	**Pg**	**16 55 35.6**	**+0.9**
ZST	**Bratislava**	**3.37**	**169**	*e*SG	**Sg**	**16 56 21.0**	**-0.3**
NIE	**Niedzica**	**3.40**	**126**	*e*P	**Pg**	**16 55 38.1**	**-0.1**
NIE				*e*S	**Sg**	**16 56 22.7**	**+0.4**
VYHS	**Vyhne**	**3.49**	**149**	*e*Sg	**Sg**	**16 56 25.2**	**+0.1**
CONA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn	**Pn**	**16 55 29.7**	**0.0**
CONA				⇓*i*Sg	**Sg**	**16 56 26.1**	**-1.9**
	comp=Z,20nm,0.4s						
CONA	**Conrad Observa**	**3.58**	**183**	⇑*i*Pn	**Pn**	**16 55 29.7**	**0.0**
CONA				*i* Sg	**Sg**	**16 56 26.1**	**-1.9**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**16 55 28.6**	**-2.6**
BSD				*e*S	**Sn**	**16 56 11.0**	**-4.3**
BSD	**Bornholm Skovb**	**3.69**	**349**	*i* P	**Pn**	**16 55 28.6**	**-2.6**
BSD				*e*S	**Sn**	**16 56 11.0**	**-4.3**
BSD				*i* S	**Sn**	**16 56 13.0**	**-2.3**
MOA	**Molln**	**3.85**	**199**	⇑*i*Sg	**Sg**	**16 56 36.2**	**-0.3**
	comp=Z,12nm,0.4s						
MOA	**Molln**	**3.85**	**199**	⇑*i*Pn	**Pn**	**16 55 34.2**	**+0.8**
MOA				⇑*i*Sg	**Sg**	**16 56 36.2**	**-0.3**
	comp=Z,12nm,0.4s						
MOA	**Molln**	**3.85**	**199**	Pn	**Pn**	**16 55 34.2**	**+0.8**
MOA				Sg	**Sg**	**16 56 36.2**	**-0.3**
	comp=Z,12nm,0.4s						
STHS	**Stebnicka Huta**	**3.89**	**120**	*e*PN	**Pn**	**16 55 36.8**	**+2.8**
STHS				*e*PG	**Pg**	**16 55 47.5**	**0.0**
STHS				*e*SG	**Sg**	**16 56 42.0**	**+4.0**
CRVS	**Cervenica-Dubn**	**4.32**	**125**	*e*PG	**Pg**	**16 55 57.3**	**+1.6**
UZH	**Uzhgorod**	**4.91**	**123**	*e*P	**Pn**	**16 55 39.7**	**-8.3**
UZH				*e*		16 56 38.3	
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**16 56 39.1**	**-1.6**
	comp=Z,0.1nm,0.3s,baz=126,slow=7.3,SNR=2.3						
FINES	**FINESS Array B**	**11.37**	**25**	Pn	**Pn**	**16 57 14.5**	**-1.9**
	comp=Z,0.0nm,0.3s,baz=211,slow=12,SNR=2.8						
OBN	**Obninsk**	**12.75**	**66**	⇑*e*P	**Pn**	**16 57 41.4**	**+6.0**
OBN				*e*S	**Sn**	**16 59 58.3**	**+0.4**
OBN				pmax	pmax		
	comp=Z,6.0nm,0.5s						
OBN	**Obninsk**	**12.75**	**66**	*e*P	**Pn**	**16 57 41.4**	**+6.0**
	comp=Z,6.0nm,0.5s						
APE	**Apeiranthos**	**15.91**	**151**	*e*P	**Pn**	**16 58 11.0**	**-7.1**
ARCES	**ARCESS Array B**	**18.63**	**10**	Pn	**Pn**	**16 58 48.3**	**-3.6**
	comp=Z,0.1nm,0.3s,baz=186,slow=15,SNR=2.7						

*IDC **22** 17:02:48.5±0.9, 3878N×9791E, h0km, mb3.8/10, mb1 4.0/12, mb1mx3.9/23, mbtmp3.9/12, ML4.1/2, MS3.6/9, Ms1 3.6/9, ms1mx3.3/33, Error ellipse: s-maj=32.7km s-min=16.6km az=45.0*
*ISCJB **22** 17:02:49.9±1.3, 3911N±004×9793E±004, h7km±9km, mb4.1/19, MS3.5/6, Error ellipse: s-maj=6.3km s-min=5.7km az=25.6*
*MOS **22** 17:02:51.3±0.9, 3887N×9796E, h33km, mb4.5/3, Error ellipse: s-maj=16.1km s-min=8.1km az=111.6*
*BJI **22** 17:02:51.2, 3901N×9790E, h16km, mB4.7, mb4.4, ML4.1, Ms4.1, Msz3.9*
*NEIC **22** 17:02:52.2±2.5, 3888N×9788E, h22km±19km, mb4.2/8, Error ellipse: s-maj=9.8km s-min=8.0km az=193.0*
ISC 22 17:02:55.9±0.5, 3910N±004×9787E±004, h41km±8km**, n61,** σ1§08/61**, mb4.1**/19**, MS3.5**/6**, Gansu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTA	**Gaotai**	**1.54**	**78**	PG	**Pn**	**17 03 17.8**	**-3.1**
GTA				SG	**Sn**	**17 03 38.3**	**-1.3**
GTA				Smax			
	comp=N,1μm,0.7s						
GTA				Smax			
	comp=E,1μm,0.9s						
LZH	**Lanzhou**	**5.61**	**121**	*e*P	**Pn**	**17 04 17.8**	**+1.0**
LZH				Smax			
	comp=N,167nm,0.9s						
LZH				Smax			
	comp=E,111nm,0.8s						
LZH				LR	LR		
	comp=E,353nm,7.9s						
LZH				LR	LR		
	comp=Z,887nm,8.6s						

WMQ	**Urumqi**	**8.98**	**305**	*e*P	**Pn**	**17 05 03.5**	**+0.6**
WMQ				S	**Sn**	**17 06 37.3**	**-5.3**
WMQ				Smax			
	comp=N,215nm,1.0s						
WMQ				Smax			
	comp=E,204nm,1.0s						
BTO	**Baotou**	**9.46**	**77**	*e*P	**Pn**	**17 05 09.0**	**-0.6**
CD2	**Chengdu**	**9.49**	**148**	*e*P	**Pn**	**17 05 09.8**	**-0.1**
CD2				XP		17 05 17.3	
CD2				S	**Sn**	**17 06 56.5**	**+1.3**
CD2				XS		17 06 59.8	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,3.8s						
CD2				LR	LR		
	comp=N,1μm,9.0s						
CD2				LR	LR		
	comp=E,840nm,7.8s						
CD2				LR	LR		
	comp=Z,1μm,7.8s						
SONM	**Songino Array**	**10.70**	**33**	Pn	**Pn**	**17 05 27.4**	**+0.9**
	comp=Z,3.3nm,0.3s,baz=217,slow=14,SNR=60						
SONM				Lg		17 08 28.3	
	comp=Z,0.9nm,0.3s,baz=229,slow=27,SNR=6.4						
SONM				LR	LR	17 09 57.4	
	comp=Z,670nm,20.0s,baz=242,slow=39						
ULN	**Ulaanbaatar**	**11.00**	**34**	*e*P	**Pn**	**17 05 31.0**	**+0.4**
ULN				pmax	pmax		
	comp=Z,29nm,0.8s						
ULN	**Ulaanbaatar**	**11.00**	**34**	*e*P	**Pn**	**17 05 31.0**	**+0.4**
	comp=Z,29nm,0.8s						
MOY	**Mondy**	**12.76**	**9**	*e*P	**Pn**	**17 05 56.1**	**+1.6**
MOY				pmax	pmax		
	comp=Z,28nm,3.4s						
MK31	**Makanchi Array**	**13.75**	**309**	*e*P	**Pn**	**17 06 07.7**	**-0.4**
MKAR	**Makanchi Array**	**13.75**	**309**	P	**Pn**	**17 06 06.6**	**-1.5**
MKAR						17 08 38.7	
MKAR	**Makanchi Array**	**13.75**	**309**	Pn	**Pn**	**17 06 06.6**	**-1.4**
	comp=Z,0.2nm,0.3s,baz=123,slow=13,SNR=9.4						
MKAR				Sn	**Sn**	**17 08 38.7**	**-0.5**
	comp=Z,0.1nm,0.3s,baz=110,slow=20,SNR=3.0						
MKAR				Lg		17 10 12.0	
	comp=Z,0.1nm,0.3s,baz=86,slow=22,SNR=2.1						
MKAR				LR	LR	17 12 18.4	
	comp=Z,157nm,18.8s,baz=252,slow=41						
SHL	**Shillong**	**14.40**	**202**	*e*P	**Pn**	**17 06 17.0**	**-0.2**
GUN	**Gumba**	**14.97**	**225**	*e*P	**Pn**	**17 06 26.0**	**+1.4**
	comp=Z,67nm,0.9s						
JIRN	**Jiri**	**14.99**	**224**	*e*P	**Pn**	**17 06 25.5**	**+0.5**
	comp=Z,13nm,0.5s						
KKN	**Kakani**	**15.40**	**227**	*e*P	**Pn**	**17 06 31.0**	**+0.8**
	comp=Z,79nm,1.2s						
PKI	**Pulchoki**	**15.49**	**226**	*e*P	**Pn**	**17 06 31.5**	**0.0**
DMN	**Daman**	**15.63**	**227**	*e*P	**Pn**	**17 06 32.7**	**-0.6**
DANN	**Dangsing**	**15.88**	**232**	*e*P	**Pn**	**17 06 36.8**	**+0.4**
	comp=Z,50nm,0.9s						
KOLN	**Koldanda**	**16.39**	**231**	*e*P	**Pn**	**17 06 42.1**	**-0.9**
	comp=Z,28nm,1.0s						
TKM2	**Tokmak 2**	**17.23**	**290**	*e*P	**Pn**	**17 06 52.4**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,16nm,0.9s						
TKM2	**Tokmak 2**	**17.23**	**290**	*e*P	**Pn**	**17 06 52.4**	**-1.0**
	comp=Z,16nm,0.9s						
ZAL	**Zalesovo**	**17.31**	**333**	P	**Pn**	**17 06 54.0**	**-0.2**
ZALV	**Zalesovo Beam**	**17.31**	**333**	P	**Pn**	**17 06 54.0**	**-0.2**
	comp=Z,0.2nm,0.3s,baz=146,slow=12,SNR=12						
ZALV				Lg		17 12 04.7	
	baz=146,slow=24,SNR=4.6						
ZALV				LR	LR	17 14 08.4	
	comp=Z,94nm,21.4s,baz=165,slow=39						
KURK	**Kurchatov**	**17.85**	**317**	*e*P	**Pn**	**17 07 01.5**	**+0.6**
KURK				pmax	pmax		
	comp=Z,40nm,1.4s						
KURK	**Kurchatov**	**17.85**	**317**	*e*Pn	**Pn**	**17 07 01.5**	**+0.5**
	comp=Z,40nm,1.4s						
FRU	**Bishkek**	**17.94**	**289**	*e*P	**Pn**	**17 07 01.0**	**-1.1**
FRU				pmax	pmax		
	comp=Z,50nm,2.1s						
UCH	**Uchtor**	**17.98**	**287**	*e*P	**Pn**	**17 07 02.2**	**-0.5**
	comp=Z,8.3nm,1.0s						
EKS2	**Erkin-Say**	**18.55**	**289**	P	**Pn**	**17 07 07.1**	**-2.4**
	comp=Z,2.9nm,0.8s						
NVS	**Novosibirsk**	**18.59**	**333**	*e*P	**Pn**	**17 07 11.4**	**+1.6**
NVS				*e*		17 10 39.4	
AML	**Almayashu**	**18.59**	**287**	*e*P	**Pn**	**17 07 10.6**	**+0.6**
	comp=Z,77μm,0.8s						
CHTO	**Chiang Mai**	**20.23**	**177**	*e*P	**P**	**17 07 24.2**	**-3.3**
CHTO				pmax	pmax		
	comp=Z,8.0nm,1.0s						
CHTO	**Chiang Mai**	**20.23**	**177**	*e*P	**P**	**17 07 24.2**	**-3.4**
	comp=Z,8.4nm,1.0s						
CN2	**Changchun**	**21.15**	**68**	*e*P	**P**	**17 07 39.5**	**+2.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
BOD	**Bodaibo**	**21.47**	**24**	*e*P

*ISCJB **22** 17:06:43.9±0.6,78S±0.1×1559E±0.1,h33km,mb3.9/9, MS3.5/3,Error ellipse: s-maj=15.4km s-min=13.7km az=140.0*

ISC 22 17:06:46.6±3.8,79S±02×1559E±02,h46km±45km,n19, σ0§91/16,mb3.9/9,MS3.5/3,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**4.31**	**111**	Pn	**Pn**	**17 07 48.6**	**-1.1**
HNR	**Honiara**	**4.31**	**111**	Pn	**Pn**	**17 07 51.2**	**+1.5**
4.5nm,0.3s,baz=264,slow=9.1,SNR=4.4							
CTA	**Charters Tower**	**15.30**	**217**	LR	LR	17 15 11.2	
comp=Z,115nm,21.8s,baz=295,slow=33							
GUMO	**Guam**	**23.96**	**333**	LR	LR	17 19 26.8	
comp=Z,73nm,19.5s,MS3.2,baz=206,slow=32							
WRAB	**Tennant Creek**	**24.05**	**238**	*e*P	**P**	**17 11 57.3**	**-0.3**
7.2nm,1.1s,mb4.0							
WB2	**Warrarmunga Arr**	**24.05**	**238**	*e*P	**P**	**17 11 58.2**	**+0.6**
WRA	**Warrarmunga Arr**	**24.06**	**238**	P	**P**	**17 11 57.5**	**-0.3**
5.1nm,1.1s,mb3.9,baz=63,slow=9.8,SNR=9.7							
ASAR	**Alice Springs**	**26.27**	**231**	P	**P**	**17 12 17.4**	**-0.4**
0.8nm,1.0s,mb3.2,baz=64,slow=11,SNR=4.8							
STKA	**Stephens Creek**	**27.33**	**207**	LR	LR	17 23 10.9	
comp=Z,155nm,21.6s,MS3.5,baz=26,slow=36							
MJAR	**Matsushiro Arr**	**47.20**	**341**	P	**P**	**17 15 13.7**	**-1.2**
2.5nm,0.7s,mb4.3,baz=165,slow=8.8,SNR=8.9							
MAT	**Matsushiro**	**47.20**	**341**	PKP	**P**	**17 15 14.0**	**-0.9**
KSRS	**Korea Array**	**52.12**	**332**	P	**P**	**17 15 53.4**	**+1.0**
2.2nm,1.1s,mb4.0,baz=142,slow=10,SNR=5.1							
SONM	**Songino Array**	**70.55**	**327**	P	**P**	**17 17 58.5**	**+1.7**
SONM				LR	LR	17 45 16.8	
SONM	**Songino Array**	**70.55**	**327**	P	**P**	**17 17 58.5**	**+1.7**
0.4nm,0.6s,mb3.5,baz=126,slow=4.7,SNR=3.5							
SONM				LR	LR	17 45 16.8	
comp=Z,47nm,21.8s,MS3.7,baz=250,slow=33							
MK31	**Makanchi Array**	**84.64**	**319**	*e*P	**P**	**17 19 16.2**	**+0.8**
MKAR	**Makanchi Array**	**84.64**	**319**	P	**P**	**17 19 15.9**	**+0.5**
1.8nm,0.7s,mb4.3,baz=109,slow=6.4,SNR=14							
ZALV	**Zalesovo Beam**	**85.40**	**326**	P	**P**	**17 19 17.8**	**-1.3**
ZALV	**Zalesovo Beam**	**85.40**	**326**	P	**P**	**17 19 17.8**	**-1.2**
0.6nm,0.5s,mb4.0,baz=123,slow=5.5,SNR=4.5							
YKA	**Yellowknife Ar**	**96.71**	**28**	P	**P**	**17 20 11.5**	**-0.3**
0.4nm,0.6s,mb4.0,baz=264,slow=4.6,SNR=8.3							

IDC 22 17:08:28.1±74.0,2460S×17825E,h688km±388km, mb2.9/5,mb1 3.1/5,mb1mx2.8/14,mbtmp2.9/5,Error ellipse: s-maj=903.0km s-min=91.3km az=81.0,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**29.90**	**272**	*e*P	P	17 13 45.2	+0.2
3.0nm,0.4s							
CTA	**Charters Tower**	**29.90**	**272**	P	P	17 13 45.3	+0.3
3.9nm,0.4s,baz=91,slow=10,SNR=18							
STKA	**Stephens Creek**	**32.98**	**249**	P	P	17 14 10.6	-0.2
1.6nm,0.5s,baz=89,slow=8.8,SNR=6.2							
ASAR	**Alice Springs**	**40.35**	**262**	P	P	17 15 10.6	+0.1
0.6nm,0.5s,baz=93,slow=7.0,SNR=22							
WB2	**Warramunga Arr**	**40.77**	**268**	*e*P	P	17 15 13.3	-0.5
WRA	**Warramunga Arr**	**40.78**	**268**	P	P	17 15 13.6	-0.3
1.8nm,0.3s,baz=105,slow=8.1,SNR=53							
FITZ	**Fitzroy Crossi**	**49.19**	**267**	P	P	17 16 17.6	+0.2
1.0nm,0.6s,baz=109,slow=11,SNR=5.9							

*ISCJB **22** 17:19:08.3±0.7,3756N±003×2674E±005,h10km±8km, Error ellipse: s-maj=6.4km s-min=4.8km az=149.4*
*CSEM **22** 17:19:08.4±0.2,3758N×2687E,h15km,MD3.1,Error ellipse: s-maj=4.4km s-min=3.2km az=83.0*
*THE **22** 17:19:08.7,3758N×2678E,h4km,ML2.9*
*DDA **22** 17:19:10.2,3758N×2682E,h9km±2km,Md3.1*

ISC 22 17:19:08.9±0.6,3757N±003×2676E±004,h16km±7km,n9, σ0§92/18,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
BDRM	**Kayabasi**	**0.74**	**132**	*i* P	**Pg**	**17 19 23.3**	**-0.1**
BDRM				*i* S	**Sg**	**17 19 33.8**	**+0.7**
URLA	**Izmir**	**0.80**	**351**	*i* P	**Pg**	**17 19 24.9**	**+0.4**
URLA				*i* S	**Sg**	**17 19 36.5**	**+1.3**
BLCB	**Balcova**	**0.85**	**15**	*e*Pg	**Pg**	**17 19 24.9**	**-0.5**
BLCB				*e*Sg	**Sg**	**17 19 36.5**	**-0.1**
AYDN	**Tasoluk**	**0.90**	**84**	*i* P	**Pb**	**17 19 26.2**	**+0.2**
AYDN				*i* S	**Sg**	**17 19 37.4**	**-0.7**
KDAG	**Bornova**	**0.93**	**26**	*i* P	**Pb**	**17 19 25.8**	**-0.7**
KDAG				*i* S	**Sb**	**17 19 38.4**	**-0.2**
CHOS	**Chios island**	**0.99**	**326**	*e*Pg	**Pg**	**17 19 27.9**	**-0.1**
CHOS				*e*Sg	**Sg**	**17 19 41.4**	**+0.4**
APE	**Apeiranthos**	**1.10**	**243**	*e*Pg	**Pg**	**17 19 28.7**	**-1.4**
APE				*e*Sg	**Sg**	**17 19 45.4**	**+1.0**
AKHS	**Akhisar**	**1.55**	**32**	*i* P	**Pn**	**17 19 36.5**	**+0.7**
AKHS				*i* S	**Sn**	**17 19 58.8**	**+3.2**
PRK	**Paraskevi**	**1.72**	**347**	*e*Pb	**Pb**	**17 19 38.0**	**-2.1**
PRK				*e*Sb	**Sb**	**17 20 00.6**	**-0.8**

*LDG **22** 17:44:04.0±0.3,1394S×16687E,h130km,Mb4.9/3,Error ellipse: s-maj=44.2km s-min=8.9km az=86.0*
*ISCJB **22** 17:44:07.7±1.4,1421S±005×16705E±004,h184km±12km, mb4.7/54,Error ellipse: s-maj=8.5km s-min=5.9km az=156.1*
*IDC **22** 17:44:08.5±2.1,1418S×16704E,h178km±18km,mb4.3/17, mb1 4.4/18,mb1mx4.4/19,mbtmp4.4/18,MS3.6/1, Ms1 3.5/1,ms1mx2.7/25,Error ellipse: s-maj=14.5km s-min=11.2km az=144.0*
*NEIC **22** 17:44:08.7±1.4,1414S×16705E,h179km±12km,mb4.7/20, Error ellipse: s-maj=9.4km s-min=7.3km az=124.0*
*BJI **22** 17:44:08.1,1370S×167.10E,h171km,mB4.7,mb4.7*
*MOS **22** 17:44:09.5±1.1,1415S×16693E,h196km,mb4.7/22,Error ellipse: s-maj=10.3km s-min=9.8km az=40.0*

ISC 22 17:44:08.5±1.3,1419S±005×16709E±004,h178km±11km, h175km±1.3km:pP-P,n305,σ0§68/215,mb4.7/54,56C-56D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
HNR	**Honiara**	**8.44**	**303**	P	**Pn**	**17 46 06.9**	**-0.8**
HNR				S	**Sn**	**17 47 41.8**	**-0.4**
HNR				pmax	pmax		
comp=Z,58nm,0.3s							
HNR				smax			
comp=N,6.0nm,0.3s							
HNR	**Honiara**	**8.44**	**303**	*e*P	**Pn**	**17 46 06.9**	**-0.7**
comp=N,373nm,0.9s							
HNR	**Honiara**	**8.44**	**303**	P	**Pn**	**17 46 06.9**	**-0.8**
comp=N,58nm,0.3s,baz=116,slow=3.3,SNR=48							
HNR				S	**Sn**	**17 47 41.8**	**-0.4**
comp=N,5.9nm,0.3s,baz=98,slow=19,SNR=4.1							
EIDS	**Eidsvold**	**18.70**	**231**	*e*P	**P**	**17 48 15.2**	**+1.7**
comp=N,16nm,0.6s							
AFI	**Afiamalu**	**20.50**	**92**	P	**P**	**17 48 34.0**	**+1.0**
AFI				pmax	pmax		
comp=Z,56nm,0.9s							
AFI	**Afiamalu**	**20.50**	**92**	P	**P**	**17 48 34.0**	**+1.0**
comp=Z,56nm,0.9s,baz=208,slow=3.0,SNR=5.2							
CTA	**Charters Tower**	**20.75**	**251**	*e*P	**P**	**17 48 36.1**	**+0.6**
comp=Z,6.2nm,0.6s							
CTA	**Charters Tower**	**20.75**	**251**	*e*P	**P**	**17 48 36.1**	**+0.6**
CTA				pmax	pmax		
comp=Z,6.0nm,0.6s							
CTA	**Charters Tower**	**20.75**	**251**	P	**P**	**17 48 35.9**	**+0.4**
comp=Z,11nm,0.7s,baz=78,slow=12,SNR=13							
CTAO	**Charters Tower**	**20.75**	**251**	*e*P	**P**	**17 48 35.9**	**+0.4**
CTAO				pmax	pmax		
comp=Z,10.0nm,0.7s							
CTAO	**Charters Tower**	**20.75**	**251**	*e*P	**P**	**17 48 35.9**	**+0.4**
comp=Z,9.6nm,0.7s							
RIV	**Riverview**	**24.31**	**214**	*e*P	**P**	**17 49 10.7**	**+1.0**
CNB	**Canberra Magne**	**26.40**	**214**	*e*P	**P**	**17 49 29.3**	**+0.8**
comp=Z,17nm,1.1s,mb4.6							
STKA	**Stephens Creek**	**29.21**	**229**	⇑*i*P	**P**	**17 49 54.5**	**+0.9**
comp=Z,45nm,0.4s,mb5.5							
STKA	**Stephens Creek**	**29.21**	**229**	P	**P**	**17 49 54.6**	**+1.1**
comp=Z,60nm,0.5s,mb5.5,baz=49,slow=8.2,SNR=4.2							
STKA				PcP	PcP	17 52 56.5	+0.2
comp=Z,2.3nm,0.5s,baz=135,slow=6.5,SNR=3.0							
STKA				LR	LR	18 01 27.0	
comp=Z,107nm,18.4s,baz=27,slow=36							
TOO	**Toolangi**	**30.18**	**216**	*e*P	**P**	**17 50 02.8**	**+0.8**
comp=Z,252nm,1.7s,mb5.7							
TOO	**Toolangi**	**30.18**	**216**	*e*P	**P**	**17 50 02.8**	**+0.8**
TOO				pmax	pmax		
comp=Z,252nm,1.7s,mb5.7							
WB2	**Warramunga Arr**	**31.78**	**255**	*e*P	**P**	**17 50 14.7**	**-1.6**
WRAB	**Tennant Creek**	**31.78**	**255**	*e*P	**P**	**17 50 14.9**	**-1.4**
WRAB				pmax	pmax		
comp=Z,4.0nm,0.6s,mb4.3							
WRAB	**Tennant Creek**	**31.78**	**255**	*e*P	**P**	**17 50 14.9**	**-1.4**
comp=Z,4.4nm,0.6s,mb4.4							
WRA	**Warramunga Arr**	**31.79**	**255**	P	**P**	**17 50 15.3**	**-1.1**
WRA						17 53 03.4	
WRA				pmax	pmax		
comp=Z,6.0nm,0.5s							
WRA				pmax	pmax		
comp=Z,2.0nm,0.9s							
WRA	**Warramunga Arr**	**31.79**	**255**	P	**P**	**17 50 15.3**	**-1.1**
comp=Z,5.5nm,0.5s,mb4.5,baz=85,slow=9.4,SNR=82							
WRA				PcP	PcP	17 53 03.4	0.0
comp=Z,1.9nm,0.9s,baz=84,slow=3.7,SNR=6.1							
ASAR	**Alice Springs**	**32.70**	**248**	P	**P**	**17 50 23.4**	**-0.9**
ASAR						17 53 04.9	
ASAR				S	**S**	**17 55 27.3**	**-0.4**
ASAR				pmax	pmax		
comp=Z,6.0nm,0.4s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.5s							
ASAR				smax			
comp=N,1.0nm,0.9s							
ASAR	**Alice Springs**	**32.70**	**248**	P	**P**	**17 50 23.4**	**-1.0**
comp=N,6.2nm,0.4s,mb4.7,baz=77,slow=9.4,SNR=124							
ASAR				PcP	PcP	17 53 04.8	-1.0
comp=N,0.8nm,0.5s,baz=85,slow=1.5,SNR=5.0							
ASAR				S	**S**	**17 55 27.2**	**-0.4**
comp=N,0.8nm,0.9s,baz=82,slow=14,SNR=4.4							
KAKA	**Kakadu**	**33.72**	**268**	*e*P	**P**	**17 50 32.8**	**-0.4**
comp=N,6.8nm,0.4s,mb4.7							
FORT	**Forrest**	**39.42**	**239**	⇑*i*P	**P**	**17 51 21.2**	**-0.1**
comp=N,58nm,0.5s,mb5.5							
FITZ	**Fitzroy Crossi**	**39.95**	**259**	*e*P	**P**	**17 51 25.2**	**-0.6**
comp=N,17nm,0.6s,mb4.8							
MBWA	**Marble Bar**	**45.52**	**254**	*e*P	**P**	**17 52 11.1**	**+0.5**
comp=N,35nm,0.7s,mb5.1							
KAPI	**Kappang**	**47.48**	**276**	P	**P**	**17 52 25.7**	**-0.2**
comp=N,17nm,0.8s,mb4.7,baz=95,slow=8.9,SNR=5.3							
KLBR	**Kellerberrin**	**48.22**	**240**	*e*P	**P**	**17 52 30.5**	**-0.9**
comp=N,9.9nm,0.5s,mb4.7							
NWAO	**Narrogin (SRO)**	**48.88**	**239**	P	**P**	**17 52 35.9**	**-0.5**
baz=81,slow=6.4							
MUN	**Mundaring**	**49.58**	**240**	*e*P	**P**	**17 52 41.5**	**-0.2**
KKM	**Kota Kinabalu**	**54.33**	**288**	*e*P	**P**	**17 53 17.6**	**+0.5**
MJAR	**Matsushiro Arr**	**57.35**	**332**	P	**P**	**17 53 37.4**	**-0.7**
MJAR				pmax	pmax		
comp=Z,5.0nm,0.5s							
MJAR	**Matsushiro Arr**	**57.35**	**332**	P	**P**	**17 53 37.4**	**-0.7**
comp=Z,5.2nm,0.5s,mb4.6,baz=169,slow=8.8,SNR=25							
MAJO	**Matsushiro**	**57.35**	**332**	*e*P	**P**	**17 53 37.3**	**-0.8**
MAJO				pmax	pmax		
comp=Z,9.0nm,0.4s,mb5.0							
MAJO	**Matsushiro**	**57.35**	**332**	*e*P	**P**	**17 53 37.2**	**-0.8**
comp=Z,8.9nm,0.4s,mb5.0							
KSM	**Kuching**	**58.34**	**281**	*e*P	**P**	**17 53 45.6**	**+0.2**
YHNB	**Yeheng**	**59.00**	**311**	*e*P	**P**	**17 53 49.6**	**-0.2**
KSRS	**Korea Array**	**63.20**	**326**	P	**P**	**17 54 18.1**	**+0.3**
KSRS						17 54 54.2	
KSRS				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.5							
KSRS				pmax	pmax		
comp=Z,2.0nm,0.8s,mb4.0							
KSRS	**Korea Array**	**63.20**	**326**	P	**P**	**17 54 18.1**	**+0.3**
comp=Z,6.8nm,0.8s,mb4.5,baz=140,slow=7.1,SNR=34							
KSRS				PcP	PcP	17 54 54.2	+0.6
comp=Z,1.5nm,0.8s,baz=145,slow=4.1,SNR=3.1							
VNDA	**Vanda**	**63.39**	**181**	P	**P**	**17 54 18.3**	**-0.2**
VNDA				pmax	pmax		
comp=Z,3.0nm,1.0s							
VNDA	**Vanda**	**63.39**	**181**	P	**P**	**17 54 18.3**	**-0.2**
VNDA	**Vanda**	**63.39**	**181**	P	**P**	**17 54 18.3**	**-0.2**
comp=Z,3.3nm,1.0s,mb4.1,baz=334,slow=5.1,SNR=4.3							
SBA	**Scott Base**	**63.67**	**180**	*e*P	**P**	**17 54 20.5**	**+0.2**
SBA				pmax	pmax		
comp=Z,13nm,1.3s,mb4.6							
SBA	**Scott Base**	**63.67**	**180**	*e*P	**P**	**17 54 20.5**	**+0.2**
comp=Z,13nm,1.3s,mb4.6							
YSS	**Yuzh-Sakhalins**	**64.67**	**342**	⇑*e*P	**P**	**17 54 28.7**	**+1.6**
YSS				pmax	pmax		
comp=Z,46nm,1.1s,mb5.2							
YSS	**Yuzh-Sakhalins**	**64.67**	**342**	*e*P	**P**	**17 54 28.6**	**+1.4**
comp=Z,43nm,1.0s,mb5.2							
NJ2	**Nanjing**	**65.17**	**316**	*e*P	**P**	**17 54 31.6**	**+0.9**
NJ2				AMB	AMB		
comp=Z,50nm,1.2s,mb5.2							
VLA	**Vladivostok**	**65.52**	**332**	*e*P	**P**	**17 54 32.6**	**-0.1**
VLA				pmax	pmax		
comp=Z,11nm,1.0s,mb4.6							
PET	**Petropavlovsk**	**67.33**	**354**	⇑*e*P	**P**	**17 54 45.3**	**+1.3**
PET				pmax	pmax		
comp=Z,24nm,1.2s,mb4.9							
WHN	**Wuhan**	**67.46**	**312**	⇑P	**P**	**17 54 45.5**	**+0.2**
MDJ	**Mudanjiang**	**67.73**	**332**	P	**P**	**17 54 47.8**	**+1.1**
MDJ				AP	pP	17 55 29.6	+0.8
MDJ				XP	sP	17 55 48.3	+0.4
MDJ				PP	PP	17 57 20.9	+2.3
MDJ				S	S	18 03 34.5	+4.7
MDJ				AMB	AMB		
comp=Z,19nm,1.2s,mb4.7							
MDJ				AMB	AMB		
comp=Z,72nm,4.6s							
HABR	**Khabarovsk**	**68.58**	**338**	*e*P	**P**	**17 54 51.7**	**-0.2**
HABR				*e*		17 55 14.9	
HABR				*e*		17 57 24.4	
HABR				*e*		17 59 08.7	
HABR				*e*S	S	18 03 34.3	-5.4
HABR				*e*		18 04 26.8	
HABR				*e*		18 08 05.2	
CN2	**Changchun**	**69.10**	**329**	⇑P	**P**	**17 54 55.6**	**+0.4**
CN2				*e*XP	sP	17 55 55.8	-0.8
CN2				*e*S	S	18 03 46.3	+0.2
CN2				AMB	AMB		
comp=Z,30nm,0.8s,mb5.1							
CN2				AMB	AMB		
comp=Z,200nm,5.0s							
PSI	**Prapat**	**69.61**	**278**	P	**P**	**17 54 58.3**	**-0.7**
PSI				pmax	pmax		
comp=Z,17nm,0.9s,mb4.8							
PSI	**Prapat**	**69.61**	**278**	P	**P**	**17 54 58.2**	**-0.8**
comp=Z,17nm,0.9s,mb4.8,baz=115,slow=6.1,SNR=15							
KLR	**Kul'dur**	**70.45**	**336**	*e*P	**P**	**17 55 00.0**	**-3.3**
GYA	**Guiyang**	**71.27**	**305**	P	**P**	**17 55 11.8**	**+3.0**
GYA				AP	pP	17 55 54.3	+3.0
GYA				XP	sP	17 56 13.4	+3.0
GYA				PP	PP	17 57 53.8	+4.3
GYA				S	S	18 04 13.0	+1.0
GYA				SCS	ScS	18 04 55.5	-1.4
GYA				AMB	AMB		
comp=Z,10.0nm,1.0s,mb4.5							
GYA				AMB	AMB		
comp=Z,80nm,5.4s							
BJI	**Beijing**	**71.74**	**321**	P	**P**	**17 55 11.3**	**0.0**
BJI				AMB	AMB		
comp=Z,15nm,0.8s,mb4.8							
XAN	**Xi'an**	**73.20**	**313**	P	**P**	**17 55 20.3**	**+0.2**
XAN				AMB	AMB		
comp=Z,18nm,0.8s,mb4.8							
KMI	**Kunming**	**73.88**	**302**	P	**P**	**17 55 24.3**	**+0.1**
KMI				AMB	AMB		
comp=Z,13nm,1.1s,mb4.6							
MA2	**Magadan**	**74.69**	**351**	*e*P	**P**	**17 55 27.6**	**-0.5**
MA2				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.4							
CHTO	**Chiang Mai**	**74.70**	**294**	*e*P	**P**	**17 55 30.0**	**+0.9**
CHTO				pmax	pmax		
comp=Z,7.0nm,0.8s,mb4.3							
CHTO	**Chiang Mai**	**74.70**	**294**	*e*P	**P**	**17 55 30.0**	**+0.9**
comp=Z,7.3nm,0.8s,mb4.4							
HHC	**Hu-ho-hao-te**	**75.06**	**320**	*e*P	**P**	**17 55 31.8**	**+1.1**
HHC				PCP	PcP	17 55 45.4	+1.9
HHC				AP	pP	17 56 14.3	+0.6
HHC				XP	sP	17 56 33.3	+0.7
HHC				PP	PP	17 58 24.3	+2.8
HHC				S	S	18 04 54.3	+0.1
HHC				SKS		18 05 19.3	
HHC				SCS	ScS	18 05 24.6	-2.0
HHC				XS	sS	18 06 09.3	+0.4
HHC				AMB	AMB		
comp=Z,11nm,1.1s,mb4.4							
HHC				AMB	AMB		
comp=Z,99nm,7.5s							
HHC				LR	LR		
comp=N,112nm,15.5s							
HHC				LR	LR		
comp=E,140nm,14.7s							
HHC				LR	LR		
comp=Z,119nm,15.2s							
CD2	**Chengdu**	**75.55**	**308**	*e*P	**P**	**17 55 35.4**	**+1.7**
CD2				AP	pP	17 56 18.5	+1.8
CD2				XP	sP	17 56 37.3	+1.7
CD2				PP	PP	17 58 30.1	+4.3
CD2				S	S	18 05 01.9	+2.0
CD2				XS	sS	18 06 16.1	+1.5
CD2				AMB	AMB		
comp=Z,10.0nm,0.8s,mb4.5							
CD2				AMB	AMB		
comp=Z,20nm,5.2s							
LZH	**Lanzhou**	**77.83**	**312**	*e*P	**P**	**17 55 48.5**	**+2.1**
LZH				AP	pP	17 56 29.5	-0.2
LZH				XP	sP	17 56 47.0	-1.5
LZH				AMB	AMB		
comp=Z,28nm,1.0s,mb4.8							
LZH				AMB	AMB		
comp=Z,75nm,4.4s							
YAK	**Yakutsk**	**81.47**	**343**	⇑*e*P	**P**	**17 56 05.5**	**+0.1**
YAK				pmax	pmax		
comp=Z,9.0nm,0.6s,mb4.6							
YAK	**Yakutsk**	**81.47**	**343**	*e*P	**P**	**17 56 05.3**	**-0.1**
comp=Z,24nm,0.6s,mb5.0							
ULN	**Ulaanbaatar**	**81.60**	**324**	*e*P	**P**	**17 56 06.9**	**+0.5**
ULN				pmax	pmax		
comp=Z,5.0nm,0.7s,mb4.2							
ULN	**Ulaanbaatar**	**81.60**	**324**	*e*P	**P**	**17 56 06.9**	**+0.5**
comp=Z,5.2nm,0.7s,mb4.3							
SONM	**Songino Array**	**81.96**	**324**	P	**P**	**17 56 08.5**	**+0.2**
SONM				pmax	pmax		
comp=Z,3.0nm,0.6s							
SONM	**Songino Array**	**81.96**	**324**	P	**P**	**17 56 08.5**	**+0.2**
comp=Z,2.6nm,0.6s,mb4.1,baz=133,slow=4.8,SNR=17							
BILL	**Bilibino**	**82.01**	**360**	⇓*i*P	**P**	**17 56 08.1**	**0.0**
BILL				*e*		17 59 14.9	
BILL				*e*SS	SS	18 11 34.4	+3.9
BILL				pmax	pmax		
comp=Z,26nm,0.8s,mb4.9							
GTA	**Gaotai**	**82.17**	**314**	*e*P	**P**	**17 56 10.8**	**+1.2**
GTA				AP	pP	17 56 53.8	+0.5
GTA				XP	sP	17 57 11.8	-0.3
GTA				S	S	18 06 09.9	+0.1
GTA				XS	sS	18 07 24.8	-0.9
GTA				AMB	AMB		
comp=Z,9.0nm,1.4s,mb4.2							
GTA				AMB	AMB		
comp=Z,63nm,7.2s							
GTA				LR	LR		
comp=N,65nm,6.8s							
GTA				LR	LR		
comp=E,97nm,9.1s							
GTA				LR	LR		
comp=Z,92nm,8.7s							
MAW	**Mawson**	**82.31**	**202**	P	**P**	**17 56 10.2**	**+0.3**
MAW				pmax	pmax		
comp=Z,5.0nm,0.6s							
MAW	**Mawson**	**82.31**	**202**	P	**P**	**17 56 10.2**	**+0.3**
comp=Z,5.0nm,0.6s,mb4.3,baz=106,slow=5.9,SNR=15							
BOD	**Bodaibo**	**83.92**	**335**	*e*P	**P**	**17 56 16.9**	**-1.2**
GASB	**Alder Springs**	**84.33**	**47**	⇓P	**P**	**17 56 21.1**	**+0.5**
baz=84							
O02C	**Red Bluff**	**84.48**	**46**	⇓P	**P**	**17 56 21.5**	**+0.1**
baz=85							
SCI	**San Clemente I**	**84.97**	**54**	⇑P	**P**	**17 56 23.9**	**-0.1**
baz=85							
ZAK	**Zakamensk**	**85.02**	**325**	⇑*i*P	**P**	**17 56 23.8**	**0.0**
ZAK				*e*		17 59 46.0	
ZAK				pmax	pmax		
comp=Z,6.0nm,0.9s,mb4.3							
ZAK				pmax	pmax		
comp=Z,2.0nm,1.1s,mb3.8							
ZAK				pmax	pmax		
comp=Z,2.0nm,2.0s,mb3.5							
YBH	**Yreka Blue Hor**	**85.16**	**45**	⇓P	**P**	**17 56 25.5**	**+0.8**
baz=85							
IMA2	**Indian Mountai**	**85.18**	**15**	*e*P	**P**	**17 56 23.9**	**-0.4**
HUMO	**Hull Mountain**	**85.35**	**44**	⇑P	**P**	**17 56 24.3**	**-1.4**
baz=86							
LAVA	**Lava Cap Winer**	**85.39**	**48**	⇓P	**P**	**17 56 26.2**	**+0.2**
baz=86							
TLY	**Talaya**	**85.45**	**326**	*e*P	**P**	**17 56 26.1**	**+0.2**
TLY				pmax	pmax		
comp=Z,11nm,0.9s,mb4.6							
T06C	**Milleton Lake**	**85.50**	**50**	⇓P	**P**	**17 56 25.5**	**-1.1**
baz=86							
HATC	**Hat Creek Radi**	**85.67**	**46**	⇑P	**P**	**17 56 27.4**	**+0.1**
baz=86							
S06C	**San Francisco**	**85.72**	**49**	⇑P	**P**	**17 56 27.2**	**-0.4**
baz=86							
HELL	**Mitchell Peak**	**85.90**	**51**	⇓P	**P**	**17 56 27.8**	**-0.7**
baz=86							
KCC	**Kaiser Creek**	**85.91**	**50**	⇑P	**P**	**17 56 28.2**	**-0.4**
baz=86							
EDW2	**Edwards Air Fo**	**86.06**	**53**	⇑P	**P**	**17 56 29.1**	**-0.2**
baz=86							
LRMC	**Laurel Mountai**	**86.49**	**52**	⇑P	**P**	**17 56 31.6**	**+0.1**
baz=87							
O06A	**Flanigan**	**86.57**	**47**	⇓P	**P**	**17 56 31.9**	**+0.2**
baz=87							
L05A	**Lakeview**	**86.58**	**45**	⇑P	**P**	**17 56 31.4**	**-0.2**
baz=87							
MONP	**Monument Peak**	**86.62**	**55**	⇑P	**P**	**17 56 32.1**	**0.0**
baz=87							
H04A	**Detroit Lake**	**86.69**	**42**	⇓P	**P**	**17 56 31.5**	**-0.7**
baz=87							
J05A	**Fort Rock**	**86.78**	**44**	⇑P	**P**	**17 56 32.7**	**+0.1**
baz=87							
N06A	**Buffalo Meadow**	**86.78**	**47**	⇓P	**P**	**17 56 31.9**	**-0.9**
baz=87							
K05A	**Summer Lake**	**86.79**	**45**	⇑P	**P**	**17 56 32.1**	**-0.6**

JIRN	Jiri	88.65	299	*e*P		P	17 56 42.5	+0.6
	comp=Z,11nm,0.6s,mb5.0							
J08A	Circle Bar Ran	88.67	45	⇓P		P	17 56 41.6	0.0
	baz=89,SNR=5.3							
PDMCI	Parker Dam,Lak	88.87	54	⇓P		P	17 56 43.2	+0.4
	baz=89							
T11A	Corn Creek, Al	88.96	51	⇓P		P	17 56 42.5	-0.6
	baz=89							
K09A	Rome	88.96	45	⇑P		P	17 56 42.5	-0.5
	baz=89							
Y13A	Salome	88.97	55	⇑P		P	17 56 43.8	+0.5
	baz=89							
GUN	Gumba	88.99	299	*e*P		P	17 56 44.0	+0.5
	comp=Z,17nm,0.8s,mb5.0							
R11A	Troy Canyon, C	89.04	50	⇑P		P	17 56 43.2	-0.3
	baz=89							
G08A	Pilot Rock	89.04	43	P		P	17 56 43.5	+0.2
	baz=89,SNR=8.2							
Q11A	Duckwater	89.15	50	P		P	17 56 44.3	+0.4
	baz=89,SNR=6.0							
J09A	Fry Pan Ranch,	89.16	45	P		P	17 56 44.3	+0.4
	baz=89,SNR=9.0							
SYO	Syowa Base	89.17	197	⇓*e*P		P	17 56 41.8	-1.7
X13A	Yucca	89.20	54	⇓P		P	17 56 44.2	-0.2
	baz=89							
PKI	Pulchoki	89.29	299	*e*P		P	17 56 45.2	+0.3
	comp=Z,18nm,0.7s,mb5.1							
W13A	Hualapai Mount	89.31	54	⇓P		P	17 56 44.7	-0.1
	baz=89							
M10A	I.L. Ranch, Tu	89.39	47	⇓P		P	17 56 45.0	0.0
	baz=90							
TIXI	Tiksi	89.41	349	*e*P		P	17 56 42.4	-2.1
TIXI				pmax	pmax			
	comp=Z,7.0nm,1.1s,mb4.5							
TIXI	Tiksi	89.41	349	*e*P		P	17 56 44.0	-0.5
	comp=Z,5.5nm,0.8s,mb4.5							
KKN	Kakani	89.46	299	*e*P		P	17 56 45.7	0.0
	comp=Z,17nm,0.8s,mb5.0							
DMN	Daman	89.56	299	*e*P		P	17 56 46.5	+0.3
	comp=Z,21nm,0.8s,mb5.1							
O11A	Cowboy Ranch,	89.56	48	⇓P		P	17 56 45.8	0.0
	baz=90							
K10A	MacKenzie Ranc	89.58	46	⇓P		P	17 56 46.3	+0.4
	baz=90							
L10A	Juniper Basin	89.62	46	⇓P		P	17 56 45.5	-0.5
	baz=90							
H09A	Durkee	89.68	44	⇓P		P	17 56 46.5	+0.2
	baz=90							
R12A	Pony Springs,	89.76	50	⇓P		P	17 56 46.4	-0.4
	baz=90							
Q12A	Willow Creek R	89.82	50	⇑P		P	17 56 47.5	+0.4
	baz=90							
T13A	Saint George	89.88	52	⇑P		P	17 56 47.8	+0.4
	baz=90							
M11A	Holland Ranch,	89.89	47	⇓P		P	17 56 47.4	0.0
	baz=90							
X14A	Yava	89.91	54	⇑P		P	17 56 48.2	+0.6
	baz=90							
115A	Sonoran Desert	89.92	56	⇓P		P	17 56 47.5	-0.2
	baz=90							
B08A	Colville Reser	89.92	40	⇓P		P	17 56 47.1	-0.2
	baz=90							
W14A	Seligman	89.98	54	⇓P		P	17 56 48.2	+0.3
	baz=90							
BMO	Blue Mountains	89.98	44	*e*P		P	17 56 47.5	-0.3
	comp=Z,8.3nm,1.4s,mb4.5							
GKN	Gorkha	90.07	299	*e*P		P	17 56 48.8	+0.3
V14A	Boquillas Ranc	90.08	53	P		P	17 56 49.1	+0.7
	baz=90,SNR=5.5							
S13A	Holt Ranch, En	90.09	51	⇓P		P	17 56 48.1	-0.3
	baz=90							
L11A	Cat Creek Ranc	90.15	46	P		P	17 56 49.1	+0.6
	baz=90,SNR=7.3							
K11A	Parker Ranch,	90.16	46	⇑P		P	17 56 48.5	-0.1
	baz=90							
A08A	Turner Farm, O	90.18	39	⇑P		P	17 56 48.6	+0.1
	baz=90							
Y15A	Casa Rosa Ranc	90.20	55	⇓P		P	17 56 49.4	+0.4
	baz=90							
N12A	Clover Valley,	90.24	48	P		P	17 56 49.9	+0.9
	baz=90,SNR=5.4							
G10A	Bishop Farm, J	90.26	43	⇓P		P	17 56 49.2	+0.2
	baz=90							
U14A	Mt Trumbull	90.26	53	P		P	17 56 50.1	+0.9
	baz=90,SNR=7.8							
O12A	Currie	90.27	48	⇑P		P	17 56 48.9	-0.3
	baz=90							
H10A	Noah's Angus R	90.27	44	⇓P		P	17 56 48.5	-0.5
	baz=90							
Q13A	Wheeler Ranch,	90.39	50	P		P	17 56 50.6	+0.8
	baz=90,SNR=6.0							
F10A	Beach Ranch, E	90.42	43	⇑P		P	17 56 49.2	-0.5
	baz=90							
X15A	Humboldt	90.43	55	⇑P		P	17 56 50.7	+0.6
	baz=90							
M12A	Wells	90.51	47	⇓P		P	17 56 50.3	+0.1
	baz=91							
MFID	Camas Ranch	90.51	45	⇓P		P	17 56 50.3	+0.1
	baz=91							
P13A	Bates Ranch, G	90.55	49	P		P	17 56 51.0	+0.5
	baz=91,SNR=6.6							
L12A	House Creek Ra	90.67	47	⇓P		P	17 56 51.6	+0.6
	baz=91							
D10A	Wagner Farm, O	90.76	41	⇑P		P	17 56 51.4	+0.1
	baz=91							
217A	Green Valley	90.81	58	⇓P		P	17 56 52.3	+0.4
	baz=91							
Y16A	Circle Bar Ran	90.86	55	⇓P		P	17 56 52.8	+0.8
	baz=91							
G11A	Walters Elk Ra	90.86	43	⇑P		P	17 56 51.5	-0.3
	baz=91							
V15A	Kaibab Nationa	90.86	53	⇓P		P	17 56 52.5	+0.4
	baz=91							
K12A	Draper Farm, C	90.90	46	⇑P		P	17 56 50.9	-1.1
	baz=91							
DANN	Dangsing	90.91	299	*e*P		P	17 56 51.8	-0.6
	comp=Z,9.8nm,0.7s,mb5.0							
J12A	Stokes Ranch,	90.96	46	⇑P		P	17 56 51.8	-0.5
	baz=91,SNR=6.2							
M13A	Montello	91.02	48	⇓P		P	17 56 52.1	-0.6
	baz=91							
117A	Oracle	91.09	57	⇑P		P	17 56 53.7	+0.5
	baz=91							
F11A	Grangeville	91.10	43	⇑P		P	17 56 51.6	-1.2
	baz=91							
E11A	Bogner Ranch,	91.22	42	⇓P		P	17 56 53.2	-0.2
	baz=91							
218A	Dragoon	91.49	58	⇑P		P	17 56 55.3	+0.2
	baz=92							
H12A	Diamond D Ranc	91.54	44	⇓P		P	17 56 54.9	0.0
	baz=92							
F12A	Elk City	91.65	43	⇓P		P	17 56 54.9	-0.5
	baz=92							
118A	Homack Ranch,	91.73	57	⇓P		P	17 56 56.0	-0.2
	baz=92							
I13A	Wildhorse Cree	91.84	45	⇓P		P	17 56 56.9	+0.6
	baz=92							
H13A	Challis	91.95	45	⇑P		P	17 56 57.0	+0.2
	baz=92							
A11A	Hall Mountain,	91.98	40	⇑P		P	17 56 57.0	+0.1
	baz=92							
G13A	Cobalt	92.13	44	⇑P		P	17 56 57.5	-0.2
	baz=92							
219A	White Tail Can	92.14	58	⇓P		P	17 56 58.3	+0.2
	baz=92							
WMQ	Urumqi	92.23	315	*e*P		P	17 56 59.0	+0.8
G15A	Dillon	93.33	44	⇓P		P	17 57 02.3	-0.9
	baz=93							
VNA3	Neumayer Olymp	94.75	181	*e*P		P	17 57 08.0	-1.3
VNA3				*e*			17 57 12.2	
VNA3				*e*		pP	17 57 50.6	-3.1
VNA2	Neumayer--Watz	95.01	182	*e*P		P	17 57 09.6	-0.9
	baz=189,slow=4.0							
VNA2				*e*			17 57 13.6	
VNA2				*e*		pP	17 57 52.9	-2.1
TXAR	Lajitas Array	96.17	61	P		P	17 57 16.3	-0.3
TXAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
TXAR	Lajitas Array	96.17	61	P		P	17 57 16.3	-0.3
	comp=Z,0.5nm,0.8s,mb3.9,baz=229,slow=5.8,SNR=6.1							
MK31	Makanchi Array	96.70	316	*e*P		P	17 57 18.8	+0.3
MKAR	Makanchi Array	96.70	316	P		P	17 57 18.6	+0.1
	comp=Z,6.9nm,0.8s,mb5.1,baz=95,slow=6.2,SNR=59							
MKAR				PKiKP	PKiKP		18 01 54.4	-0.1
	comp=Z,0.4nm,0.5s,baz=127,slow=2.2,SNR=8.1							
MKAR				PKKPbc	PKKPbc		18 14 00.2	-2.4
	comp=Z,0.3nm,0.6s,baz=276,slow=3.5,SNR=4.9							
ZALV	Zalesovo Beam	96.86	324	P		P	17 57 18.0	-1.1
	comp=Z,4.6nm,0.7s,mb4.9,baz=109,slow=4.6,SNR=24							
ZAL	Zalesovo	96.87	324	P		P	17 57 18.0	-1.1
ZAL				pmax	pmax			
	comp=Z,5.0nm,0.7s							
YKA	Yellowknife Ar	97.15	27	P		P	17 57 18.6	-1.5
	comp=Z,1.4nm,0.7s,mb4.4,baz=256,slow=4.8,SNR=19							
KEV	Kevo	119.17	345	*e*p		PKPdf	18 02 34.2	-1.5
	comp=Z,3.3nm,0.6s							
ARCES	ARCESS Array B	119.69	345	PKIKP		PKPdf	18 02 36.7	0.0
ARCES				pmax	pmax			
	comp=Z,6.0nm,0.4s							
ARCES	ARCESS Array B	119.69	345	PKP		PKPdf	18 02 36.6	0.0
	comp=Z,5.7nm,0.4s,baz=74,slow=1.5,SNR=97							
UMR	Umm Al-Rimmam	122.28	296	*e*P		PKPdf	18 02 43.0	+0.2
UMR				AMb	AMB		18 02 44.4	
	comp=Z,21nm,0.6s							
JOF	Joensuu	122.33	338	*e*p		PKPdf	18 02 40.5	-1.4
	comp=Z,8.7nm,0.6s							
RDF	Al-Radifah	122.44	295	*e*P		PKPdf	18 02 43.3	+0.1
RDF				AMb	AMB		18 02 44.3	
	comp=Z,18nm,0.7s							
MIB	Mutribah	122.60	296	*e*P		PKPdf	18 02 43.5	0.0
MIB				AMb	AMB		18 02 44.9	
	comp=Z,15nm,0.8s							
NAY	Al-Naaiem	122.70	296	*e*P		PKPdf	18 02 43.1	-0.6
NAY				AMb	AMB		18 02 44.1	
	comp=Z,5.4nm,0.8s							
VRHR	Novokhopersk	122.95	322	*e*PKIKP		PKPdf	18 02 41.7	-1.8
VRHR				pmax	pmax			
	comp=Z,10.0nm,0.6s							
VRHR				pmax	pmax			
	comp=N,10.0nm,0.7s							
VRHR				pmax	pmax			
	comp=E,10.0nm,0.7s							
GNI	Garni	123.66	309	⇑*i*PKIKP		PKPdf	18 02 43.6	-1.6
BOSA	Boshof	123.67	221	PKIKP		PKPdf	18 02 45.3	-0.3
BOSA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
BOSA	Boshof	123.67	221	PKP		PKPdf	18 02 45.2	-0.4
	comp=Z,1.9nm,0.7s,baz=129,slow=4.6,SNR=3.5							
OBN	Obninsk	124.16	328	⇑*i*PKIKP		PKPdf	18 02 44.1	-1.5
OBN				*e*			18 04 33.0	
OBN				*e*PS	PS		18 14 12.3	-21
OBN				pmax	pmax			
	comp=Z,9.0nm,1.0s							
VRSR	Storozhevoye	124.34	323	*e*PKIKP		PKPdf	18 02 46.7	+0.6
VRSR				pmax	pmax			
	comp=N,2.0nm,0.6s							
VRSR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
VRSR				pmax	pmax			
	comp=E,2.0nm,1.0s							
NB2	NORSAR Subarra	130.06	345	PKPdf		PKPdf	18 02 57.5	+0.8
	comp=Z,1.9nm,0.6s,baz=31,slow=1.9							
NOA	NORSAR Array B	130.06	345	PKIKP		PKPdf	18 02 57.4	+0.7
NOA				pmax	pmax			
	comp=Z,1.0nm,0.5s							
NOA	NORSAR Array B	130.06	345	PKP		PKPdf	18 02 57.4	+0.6
	comp=Z,1.0nm,0.5s,baz=42,slow=2.6,SNR=5.3							
AKASG	Malin Array Be	130.20	326	PKIKP		PKPdf	18 02 57.2	-0.1
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.6s							
AKASG	Malin Array Be	130.20	326	PKP		PKPdf	18 02 57.2	-0.1
	comp=Z,1.2nm,0.6s,baz=60,slow=1.3,SNR=12							
DPC	Dobruska-Polom	136.83	333	*e*PKPdf		PKPdf	18 03 10.8	+1.0
UPC	Upice	136.85	333	*e*PKPdf		PKPdf	18 03 10.8	+1.0
PVCC	Panska Ves	137.46	334	*e*PKPdf		PKPdf	18 03 11.6	+0.7
CLL	Collm	137.50	336	*e*PKPbc		PKPdf	18 03 13.0	+2.0
CLL	Collm	137.50	336	*i* PKiKP		PKiKP	18 03 13.1	+0.2
	comp=Z,5.0nm,0.7s							
FBE	Freiberg	137.66	335	*e*PKPbc		PKPdf	18 03 12.8	+1.5
PRU	Pruhonice	137.87	334	*e*PKPdf		PKPdf	18 03 14.4	+2.7
CLZ	Clausthal	138.06	338	*e*PKPbc		PKPdf	18 03 12.6	+0.6
TANN	Tannenbergstha	138.41	336	*e*PKPbc		PKPdf	18 03 15.4	+2.7
NKC	Novy Kostel	138.56	335	*e*PKPdf		PKPdf	18 03 16.1	+3.1
CONA	Conrad Observa	138.77	331	⇑*i*P		PKPdf	18 03 16.7	+3.3
	comp=Z,4.5nm,0.8s							
CONA	Conrad Observa	138.77	331	⇓*e*PKiKP		PKiKP	18 03 15.3	-0.3
	comp=Z,4.5nm,0.8s							
CSNA	Conrad Observa	138.77	331	⇓*i*PKiKP		PKiKP	18 03 15.3	-0.4
	comp=Z,3.4nm,0.7s							
KHC	Kasperske Hory	138.93	334	⇑*i*PKIKP		PKPdf	18 03 13.2	-0.5
KHC	Kasperske Hory	138.93	334	*e*PKPdf		PKPdf	18 03 14.1	+0.4
GEC2	GERESS Array S	139.09	333	*e*PKPbc		PKPdf	18 03 17.1	+3.1
GERES	GERESS Array B	139.09	333	PKHKP			18 03 06.8	
GERES							18 03 14.8	
GERES				pmax	pmax			
	comp=Z,1.0nm,0.6s							
GERES	GERESS Array B	139.09	333	PKhKP			18 03 06.8	
	comp=Z,0.4nm,0.5s,baz=42,slow=2.2,SNR=5.1							
GERES				PKP		PKPdf	18 03 14.8	+0.9
	comp=Z,1.4nm,0.6s,baz=132,slow=2.0,SNR=10.0							
GRA1	Grafenberg Arr	139.47	336	*e*PKPbc		PKPdf	18 03 18.1	+3.5
GRF	Grafenberg Arr	139.47	336	*e*PKPbc		PKPdf	18 03 18.1	+3.5
FLN	La Foliniere	144.04	346	*e*PKP1		PKPdf	18 03 21.2	-1.6
	comp=Z,11nm,0.5s							
LDF	La Druitiere	144.11	345	*e*PKP1		PKPdf	18 03 21.3	-1.7
	comp=Z,22nm,0.8s							
LOR	Lormes	144.18	340	*e*PKP1		PKPdf	18 03 21.8	-1.3
	comp=Z,34nm,1.2s							
SSF	Saint Saulge	144.47	341	*e*PKP1		PKPdf	18 03 23.2	-0.4
	comp=Z,39nm,0.9s							
GRR	Gorron	144.47	346	*e*PKP1		PKPdf	18 03 22.6	-1.0
LPL	La Plagne	144.63	336	*e*PKP1		PKPdf	18 03 24.2	+0.2
	comp=Z,31nm,0.8s							
LPG	La Plagne	144.64	336	*e*PKP1		PKPdf	18 03 24.5	+0.5
	comp=Z,28nm,0.6s							
SMF	Signal de Mont	144.73	340	*e*PKP1		PKPdf	18 03 23.7	-0.4
	comp=Z,104nm,1.2s							
AVF	Avril sur Loir	144.76	341	*e*PKP1		PKPdf	18 03 23.9	-0.3
	comp=Z,34nm,0.8s							
SGMF	Saint Gilles	144.97	348	*e*PKP1		PKPdf	18 03 24.3	-0.2
	comp=Z,98nm,0.8s							
ROSF	Rostrenen	145.03	349	*e*PKP1		PKPbc	18 03 24.5	+0.2
	comp=Z,81nm,1.0s							
BGF	Bois d'Agland	145.13	341	*e*PKP1		PKPbc	18 03 25.3	+0.6
	comp=Z,53nm,0.7s							
GDM	Grand'Maison	145.14	336	PKP		PKPdf	18 03 26.0	+1.1
GRN	Grenoble	145.25	337	PKP		PKPdf	18 03 26.4	+1.4
MBDF	Montbardon	145.27	335	*e*PKP2		PKPab	18 03 26.0	+0.5
	comp=Z,40nm,0.7s							
PLDF	La Plantade	145.39	340	PKP		PKPdf	18 03 26.5	+1.2
QUIF	Quistinic	145.41	348	*e*PKP1		PKPbc	18 03 25.4	-0.1
	comp=Z,73nm,1.1s							
SURF	Saint Ours	145.45	335	PKP		PKPdf	18 03 26.4	+1.0
ORIF	Oris-en-Rattie	145.47	336	*e*PKP1		PKPbc	18 03 26.7	+0.9
	comp=Z,55nm,0.8s							
AGO	Saint Agoulin	145.49	340	PKP		PKPdf	18 03 25.9	+0.5
SAOF	Saorge	145.54	334	PKP		PKPdf	18 03 26.5	+0.9
TCF	Toulx Ste Croi	145.57	341	*e*PKP1		PKPbc	18 03 26.6	+0.5
	comp=Z,26nm,0.7s							
AUTN	L'Aution	145.59	334	PKP		PKPdf	18 03 26.8	+1.1
TOUF	Mont Tournerai	145.65	334	PKP		PKPdf	18 03 27.0	+1.2
SSB	Saint Sauveur	145.67	338	PKP		PKPdf	18 03 27.3	+1.5
SBF	Sospel	145.69	334	*e*PKP1		PKPbc	18 03 26.6	+0.1
LUCF	Luceram	145.71	334	PKP		PKPdf	18 03 26.9	+1.0
COLF	Collangettes	145.76	339	PKP		PKPdf	18 03 27.7	+1.8
MVIF	Mont Vial	145.78	334	PKP		PKPdf	18 03 27.1	+1.1
PYM	Petit Puy Mans	145.79	340	PKP		PKPdf	18 03 27.7	+1.7
MFF	Saint Martin d	145.96	344	*e*PKP1		PKPbc	18 03 27.0	-0.2
	comp=Z,35nm,0.6s							
OG26	St.-Nazaire-De	145.98	336	PKP		PKPdf	18 03 28.5	+2.2
VIVF	Saint-Julien-l	145.98	337	*e*PKP1		PKPbc	18 03 27.6	+0.2
	comp=Z,34nm,0.8s							
PGF	Pioggiola	146.00	330	*e*PKP1		PKPbc	18 03 27.9	+0.4
	comp=Z,53nm,0.7s							
CALN	Calern	146.01	334	PKP		PKPdf	18 03 27.7	+1.3
LBL	Lubilhac	146.17	339	PKP		PKPdf	18 03 29.1	+2.5
STOF	St-Etienne Org	146.22	335	PKP		PKPdf	18 03 25.9	-0.8
FRF	La Foret Royal	146.27	334	*e*PKP1		PKPbc	18 03 28.6	+0.3
	comp=Z,45nm,0.7s							
SMRF	Simiane la Rot	146.37	336	*e*PKP1		PKPbc	18 03 29.5	+1.0
	comp=Z,26nm,0.7s							
TAVF	Tavernes	146.47	335	PKP		PKPdf	18 03 28.0	+0.8
LMR	La Mourre	146.51	334	*e*PKP1		PKPbc	18 03 29.3	+0.3
RJF	Les Rejaudoux	146.67	341	*e*PKP1		PKPbc	18 03 29.8	+0.5
	comp=Z,49nm,1.0s							
PRAF	Pradon	146.68	336	PKP		PKPdf	18 03 28.4	+0.9
CAF	Calviac	146.83	340	*e*PKP1		PKPbc	18 03 30.8	+1.0
	comp=Z,14nm,0.6s							
GELF	Grande-Etoile	146.93	335	PKP		PKPdf	18 03 28.5	+0.6
LASF	Ste Croix	146.95	338	*e*PKP1		PKPbc	18 03 31.1	+0.9
	comp=Z,36nm,0.8s							
LFF	La Frestale	147.23	342	*e*PKP1		PKPbc	18 03 31.7	+0.8
	comp=Z,29nm,0.6s							
MTLF	Montolieu	148.18	339	*e*PKP1		PKPbc	18 03 34.0	+0.5
	comp=Z,26nm,0.6s							
EPF	Esparros	149.08	341	*e*PKP1		PKPbc	18 03 36.1	+0.3
SJPF	Ste Jean	149.48	343	*e*PKP1		PKPbc	18 03 36.7	-0.1
	comp=Z,11nm,0.6s							
ETSF	Etsaut	149.48	342	*e*PKP1		PKPbc	18 03 37.2	+0.4
	comp=Z,23nm,0.5s							
KEST	Kesra	150.69	321	PKPbc		PKPbc	18 03 41.0	+1.1
	comp=Z,5.1nm,0.6s,baz=118,slow=3.6,SNR=25							
ESDC	Sonseca Array	153.43	344	PKP		PKPbc	18 03 45.9	-0.1
ESDC	Sonseca Array	153.43	344	PKPbc		PKPbc	18 03 46.2	+0.2
	comp=Z,0.4nm,0.4s,baz=352,slow=1.7,SNR=5.7							
ESDC				PKPab		PKPab	18 03 58.6	-0.1
	comp=Z,1.5nm,0.5s,baz=14,slow=4.5,SNR=6.7							
TORD	Torodi Ar. Bea	165.77	268	PKP		PKPdf	18 03 52.3	-0.6
	comp=Z,1.0nm,0.7s,baz=306,slow=1.1,SNR=6.6							
TORD				PKPab		PKPab	18 04 52.6	-0.7
	comp=Z,3.1nm,0.8s,baz=96,slow=4.6,SNR=12							

ISCJB ***22*** *17:53:57.9±0.8, 3755N±003×2679E±005, h6km±6km, Error ellipse: s-maj=6.6km s-min=5.6km az=176.4*
CSEM ***22*** *17:53:57.4±0.2, 3758N×2684E, h15km, MD3.2, Error ellipse: s-maj=6.1km s-min=5.7km az=84.0*
ATH ***22*** *17:53:57.2, 3750N×2685E, h5km, MD3.3/3*
DDA ***22*** *17:53:58.7, 3755N×2678E, h9km±3km, Md3.2*
ISC 22 17:53:58.2±0.8, 3755N±003×2677E±005, h5km±8km, n9, σ0°81/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.17**	**19**		*e*PG	**Pg**	**17 54 01.6**	**0.0**
SMG					*e*SG	**Sg**	**17 54 04.4**	**+0.5**
BDRM	**Kayabasi**	**0.72**	**132**		*i* P	**Pg**	**17 54 12.0**	**-0.1**
BDRM					*i* S	**Sg**	**17 54 22.6**	**+1.2**
BDRM	**Kayabasi**	**0.72**	**132**		*i* P	**Pg**	**17 54 12.0**	**0.0**
BDRM					*i* S	**Sg**	**17 54 22.6**	**+1.2**
URLA	**Izmir**	**0.82**	**351**		*i* P	**Pg**	**17 54 13.0**	**-1.0**
URLA					*i* S	**Sg**	**17 54 25.9**	**+1.2**
AYDN	**Tasoluk**	**0.89**	**82**		*i* P	**Pg**	**17 54 14.8**	**-0.5**
AYDN					*i* S	**Sg**	**17 54 26.4**	**-0.3**
KDAG	**Bornova**	**0.94**	**25**		*i* P	**Pg**	**17 54 15.0**	**-1.3**
KDAG					*i* S	**Sg**	**17 54 28.5**	**0.0**
APE	**Apeiranthos**	**1.10**	**245**		*e*PN	**Pn**	**17 54 18.7**	**-1.5**
APE					*e*SB	**Sb**	**17 54 35.2**	**+1.0**
AKHS	**Akhisar**	**1.56**	**31**		*i* P	**Pn**	**17 54 26.4**	**-0.3**
AKHS					*i* S	**Sn**	**17 54 48.1**	**+0.7**
PRK	**Paraskevi**	**1.74**	**347**		*e*PN	**Pg**	**17 54 31.8**	**+0.2**

BJI 22 18:07:54.0, 3442N×12124E, h7km, ML3.8, Yellow Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
NJ2	**Nanjing**	**3.10**	**221**		*e*P	Pn	18 08 44.8	+1.6
NJ2					PG	Pg	18 08 53.8	+0.5
NJ2					SG	Sg	18 09 35.5	+2.1
NJ2					Smax			
	comp=E,400nm,0.5s							
NJ2					Smax			
	comp=N,550nm,0.2s							
SSE	**Sheshan**	**3.31**	**181**		P	Pg	18 08 48.3	-9.2
SSE					SG	Sg	18 09 30.4	-10
SSE					Smax			
	comp=N,79nm,0.6s							
SSE					Smax			
	comp=E,141nm,0.7s							
TIA	**Tai'an**	**3.81**	**299**		P	Pn	18 08 53.4	+0.3
TIA					PG	Pg	18 09 03.5	-3.5
TIA					SG	Sg	18 09 50.6	-5.8
TIA					Smax			
	comp=N,182nm,0.8s							
DL2	**Dalian**	**4.49**	**4**		PG	Pg	18 09 15.5	-4.5
DL2					SG	Sg	18 10 11.5	-6.6
DL2					Smax			
	comp=N,100nm,0.5s							
DL2					Smax			
	comp=E,90nm,0.5s							
BJI	**Beijing**	**6.91**	**326**		P	Pn	18 09 34.4	-1.3

IDC 22 18:16:09.7±2.3, 351N×12685E, h0km, mb3.2/3, mb1 3.4/3, mb1mx3.3/17, mbtmp3.2/3, Error ellipse: s-maj=183.9km s-min=27.3km az=66.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.44**	**163**		P	P	18 21 30.7	+0.4
	0.2nm,0.4s,baz=342,slow=10,SNR=7.0							
ASAR	**Alice Springs**	**27.88**	**166**		P	P	18 22 01.3	0.0
	0.2nm,0.5s,baz=352,slow=7.6,SNR=11							

THL Klokotos Trika 2.79 13 *e*P Pn **Pn 18 28 25.6 +0.4**
JAN Janina 2.82 355 *e*P Pn **Pn 18 28 26.3 +0.7**
JAN Janina 2.82 355 *e*P Pn **Pn 18 28 26.5 +0.9**
VAM Vamos 2.83 120 *e*P Pn **Pn 18 28 27.9 +2.1**
VAM Vamos 2.83 120 *e*P Pn **Pn 18 28 27.5 +1.7**
MEV Metsovon 2.93 1 *e*Pn **Pn 18 28 28.8 +1.6**
NEO Neokhori 2.93 33 *e*P Pn **Pn 18 28 27.5 +0.3**
NEO Neokhori 2.93 33 *e*P Pn **Pn 18 28 27.6 +0.4**
KEK Kerkira 3.06 339 *e*P Pn **Pn 18 28 30.0 +1.1**
KEK *e*S **Sn 18 29 05.0 +0.7**
GVD Gavdhos 3.09 130 *e*P Pn **Pn 18 28 34.0 +4.6**
GVD Gavdhos 3.09 130 *e*P Pn **Pn 18 28 33.5 +4.1**
IDI Anoyia 3.38 116 Pn **Pn 18 28 35.0 +1.7**
0.9nm,0.3s,baz=200,slow=20,SNR=20
IDI Sn **Sn 18 29 13.8 +1.7**
27nm,0.3s,baz=337,slow=20,SNR=15
LIT Litokhoron 3.40 17 *e*Pn **Pn 18 28 34.4 +0.8**
SANT Santorini 3.47 97 *e*Pn **Pn 18 28 34.6 +0.1**
SANT Santorini 3.47 97 *e*Pn **Pn 18 28 34.4 -0.1**
KZN Kozani 3.48 7 *e*P **Pn 18 28 37.0 +2.3**
APE Apeiranthos 3.48 85 *e*Pn **Pn 18 28 34.2 -0.5**
APE Apeiranthos 3.48 85 *e*P **Pn 18 28 35.0 +0.3**
LAST Lasithi 3.86 115 *e*Pn **Pn 18 28 41.9 +1.9**
NPS Neapolis 3.92 113 *e*P **Pn 18 28 43.0 +2.3**
NPS Neapolis 3.92 113 *e*P **Pn 18 28 43.1 +2.4**
PLG Polygyros 3.94 26 *e*P **Pn 18 28 41.8 +0.9**
OUR Ouranopolis 4.11 31 *e*Pn **Pn 18 28 43.1 -0.2**
XRY Khrisi 4.16 117 *e*P **Pn 18 28 46.0 +2.1**
CHOS Chios Island 4.16 67 *e*Pn **Pn 18 28 43.5 -0.5**
TIP Timpagrande 4.20 305 *e*Pn **Pn 18 28 43.8 -0.7**
TIP *e*Sn **Sn 18 29 23.5 -8.8**
LCI Lecce 4.23 326 Pn **Pn 18 28 44.5 -0.5**
SOI Samo 4.26 288 Pn **Pn 18 28 46.1 +0.7**
ZKR Zakros 4.43 112 *e*Pn **Pn 18 28 49.1 +1.4**
KNT Kendrikon 4.51 17 *e*Pn **Pn 18 28 49.0 +0.3**
SMG Samos 4.59 78 *e*P **Pn 18 28 49.5 -0.3**
SMG Samos 4.59 78 *e*P **Pn 18 28 50.0 +0.2**
SRS Serrai 4.66 23 *e*Pn **Pn 18 28 50.4 -0.4**
HAVL Avola 4.86 273 Pn **Pn 18 28 53.0 -0.6**
SSY Sortino 4.91 275 Pn **Pn 18 28 53.7 -0.5**
269nm,0.4s
PE1 Pezze di Greco 4.92 324 *e*Pn **Pn 18 28 54.3 -0.1**
NVR Nevrokopi 4.95 24 *e*P **Pn 18 28 54.8 0.0**
KARP Karpathos 5.00 103 *e*P **Pn 18 28 57.5 +2.0**
KARP Karpathos 5.00 103 *e*P **Pn 18 28 56.3 +0.8**
MMB Musomiste 5.13 22 *i* P **Pn 18 28 51.5 -5.7**
KKB Krupnik 5.22 16 *i* P **Pn 18 29 02.0 +3.5**
VAE Valguarnera 5.45 279 Pn **Pn 18 28 59.7 -1.9**
0.9nm,0.3s,baz=312,slow=22,SNR=2.0
VAE Sn **Sn 18 30 01.6 -1.4**
6.0nm,0.3s,baz=135,slow=6.7,SNR=3.5
RAFF Raffo Rosso 5.47 276 Pn **Pn 18 29 02.2 +0.2**
154nm,0.6s
MGR Morigerati 5.51 308 Pn **Pn 18 29 02.8 +0.4**
102nm,0.5s
VTS Vitosha 5.94 15 *i* P **Pn 18 29 11.0 +2.6**
RGNG Rignano Grg 6.49 320 Pn **Pn 18 29 15.3 -0.6**
STON Ston 6.59 337 *e*Pn **Pn 18 29 15.2 -2.0**
STON Sn **Sn 18 30 23.6 -7.2**
LMSR Misrath 6.81 230 *i* P **Pn 18 29 20.8 +0.4**
SNR=22
SGG Gregorio Mates 6.97 313 Pn **Pn 18 29 24.4 +2.0**
14nm,0.5s
HMAT Matruh 7.55 138 ⇑P **Pn 18 29 29.8 -0.7**
SWA2 8.39 154 ⇑P **Pn 18 29 41.9 0.0**
SWA1 8.46 152 ⇓P **Pn 18 29 42.8 -0.2**
LJFR Jufra 8.95 212 *i* P **Pn 18 29 49.1 -0.5**
SNR=22
NVLJ Novalja 9.07 330 Sn **Sn 18 31 26.0 -5.8**
MLR Muntele Rosu 9.35 21 Pn **Pn 18 29 55.1 +0.2**
0.1nm,0.3s,baz=195,slow=12,SNR=2.3
KEST Kesra 9.63 267 Sn **Sn 18 31 37.6 -7.9**
0.1nm,0.3s,baz=286,slow=18,SNR=2.1
VSL Villasalto 9.67 289 P **Pn 18 29 59.4 0.0**
VSL Villasalto 9.67 289 P **Pn 18 29 59.4 0.0**
CSS Prodhromos 10.03 97 Pn **Pn 18 30 05.9 +1.6**
CSS Sn **Sn 18 31 44.9 -10**
AWBH 10.70 140 ⇑P **Pn 18 30 12.6 -1.0**
HFRF Wahat Farafira 11.40 146 ⇑P **Pn 18 30 22.3 -0.8**
GLL Jalalah 11.40 126 ⇑P **Pn 18 30 21.9 -1.3**
AMAG Maghara 11.76 118 ⇑P **Pn 18 30 26.7 -1.3**
SUZ 11.98 122 ⇑P **Pn 18 30 29.6 -1.4**
MMB2 Mount Meron ar 12.27 104 Pn **Pn 18 30 35.1 +0.1**
MMB2 Sn **Sn 18 32 37.1 -13**
MMAI Mount Meron Ar 12.28 104 Pn **Pn 18 30 29.3 -5.8**
0.5nm,0.3s,baz=320,slow=13,SNR=3.3
MMAI Sn **Sn 18 32 42.1 -8.2**
1.9nm,0.3s,baz=268,slow=39,SNR=6.6
KSDI Kefar Szold 12.41 103 Pn **Pn 18 30 36.2 -0.6**
KSDI Sn **Sn 18 32 41.8 -12**
KZIT Kziot 12.47 115 Pn **Pn 18 30 36.3 -1.4**
KZIT Sn **Sn 18 32 41.4 -14**
MMLI Mount Malkishu 12.52 106 Pn **Pn 18 30 38.6 +0.3**
MMLI Sn **Sn 18 32 43.3 -13**
KRMI Paran Flat 13.13 117 Pn **Pn 18 30 45.3 -1.5**
GERES GERESS Array B 13.18 338 Pn **Pn 18 30 45.4 -1.8**
0.1nm,0.3s,baz=159,slow=14,SNR=2.7
GERES Sn **Sn 18 33 02.6 -9.5**
0.4nm,0.3s,baz=152,slow=24,SNR=6.3
HDK1 Dakhla 13.27 146 ⇑P **Pn 18 30 47.8 -0.9**
HRFI Mount Harif 13.40 116 Pn **Pn 18 30 49.1 -1.4**
HRFI Sn **Sn 18 33 03.7 -14**
MBH Mount Berech 13.46 118 Pn **Pn 18 30 50.7 -0.4**
MBH Sn **Sn 18 33 05.0 -14**
EIL Elat 13.55 118 Pn **Pn 18 30 50.1 -2.3**
0.1nm,0.3s,baz=0.0,slow=7.1,SNR=5.4
EIL Sn **Sn 18 33 06.8 -15**
1.1nm,0.3s,baz=21,slow=9.8,SNR=7.0
EIL Elat 13.55 118 Pn **Pn 18 30 52.5 0.0**
EIL Sn **Sn 18 33 07.7 -14**
HKAT Jabal Katrina 13.60 124 ⇓P **Pn 18 30 51.6 -1.5**
MALT Malatya 13.75 79 P **Pn 18 30 53.8 -1.4**
1.5nm,0.6s
MALT Malatya 13.75 79 P **Pn 18 30 53.8 -1.3**
1.5nm,0.6s
AKASG Malin Array Be 15.00 20 Pn **Pn 18 31 13.1 +1.6**
AKASG Malin Array Be 15.00 20 Pn **Pn 18 31 13.1 +1.6**
0.7nm,0.3s,baz=205,slow=9.1,SNR=5.8
GNI Garni 18.72 73 LR LR 18 40 23.5
comp=Z,24nm,19.7s,baz=159,slow=41
MIB Mutribah 22.91 100 *e*P **P 18 32 41.7 -0.5**
MIB AMb AMB 18 32 45.6
comp=Z,6.3nm,0.6s,mb4.2
MIB Mutribah 22.91 100 *e*P **P 18 32 41.7 -0.5**
comp=Z,11nm,0.7s,mb4.4
NAY Al-Naaiem 23.07 102 *e*P **P 18 32 42.6 -1.2**
NAY AMb AMB 18 32 44.5
comp=Z,7.2nm,0.5s,mb4.3
NAY Al-Naaiem 23.07 102 *e*P **P 18 32 42.7 -1.1**
comp=Z,8.9nm,0.6s,mb4.4
UMR Umm Al-Rimmam 23.31 100 *e*P **P 18 32 45.9 -0.3**
UMR AMb AMB 18 32 52.0
comp=Z,12nm,0.6s,mb4.5
UMR Umm Al-Rimmam 23.31 100 *e*P **P 18 32 45.7 -0.5**
comp=Z,6.9nm,0.5s,mb4.4
RDF Al-Radifah 23.45 102 *e*P **P 18 32 46.5 -1.0**
comp=Z,7.3nm,1.0s,mb4.1
HFS Hagfors 23.80 351 P **P 18 32 49.2 -1.2**
comp=Z,0.6nm,0.4s,mb3.4,baz=166,slow=13,SNR=7.2
FINES FINESS Array B 24.81 6 P **P 18 32 56.9 -2.6**
comp=Z,0.6nm,0.6s,mb3.3,baz=171,slow=9.7,SNR=2.9
EKA Eskdalemuir Ar 24.82 326 P **P 18 32 58.0 -1.7**
comp=Z,2.0nm,1.1s,mb3.6,baz=126,slow=9.0,SNR=2.9
JOF Joensuu 26.83 10 *e*p **P 18 33 17.5 -0.3**
comp=Z,1.0nm,0.4s,mb3.7
TOA0 Torodi Ar. Sit 29.36 222 *e*P **P 18 33 43.7 +2.9**
TORD Torodi Ar. Bea 29.36 222 P **P 18 33 43.9 +3.1**
comp=Z,1.6nm,0.6s,mb3.9,baz=31,slow=8.8,SNR=19
ARCES ARCESS Array B 32.83 3 P **P 18 34 11.3 +0.5**
comp=Z,2.3nm,1.0s,mb4.1,baz=189,slow=7.0,SNR=6.7
SPITS Spitsbergen Ar 41.49 359 P **P 18 35 24.5 +0.5**
comp=Z,0.9nm,0.6s,mb3.6,baz=297,slow=10,SNR=9.1
KURK Kurchatov 42.66 52 P **P 18 35 32.4 -1.5**
comp=Z,2.7nm,1.0s,mb3.9
KURK Kurchatov 42.66 52 P **P 18 35 32.4 -1.5**
comp=Z,2.7nm,1.0s,mb3.9
MK31 Makanchi Array 45.56 57 *e*P **P 18 35 57.1 -0.1**
MK31 Makanchi Array 45.56 57 *e*P **P 18 35 57.1 -0.1**
MKAR Makanchi Array 45.56 57 P **P 18 35 56.6 -0.5**
comp=Z,0.5nm,0.4s,mb3.8,baz=268,slow=8.0,SNR=14
ZALV Zalesovo Beam 46.19 47 P **P 18 36 01.4 -0.7**
comp=Z,0.9nm,0.4s,mb4.0,baz=277,slow=9.8,SNR=5.9
SONM Songino Array 60.90 50 P **P 18 37 50.8 +1.0**
comp=Z,0.2nm,0.5s,mb3.5,baz=284,slow=8.3,SNR=3.8
BOSA Boshof 65.23 176 P **P 18 38 22.2 +3.7**
comp=Z,6.2nm,1.2s,mb4.5,baz=355,slow=8.0,SNR=2.7
KSRS Korea Array 79.76 51 P **P 18 39 46.6 +1.4**
comp=Z,0.7nm,0.7s,mb3.7,baz=312,slow=5.1,SNR=3.7

MOS ***22*** *18:36:26.9±1.0, 624S×13004E, h66km, mb4.8/21, Error ellipse: s-maj=21.6km s-min=7.1km az=107.5*
BJI ***22*** *18:36:26.4, 689S×13039E, h105km, mB5.0, mb4.9*
NEIC ***22*** *18:36:28.4±1.6, 626S×13012E, h65km±15km, mb4.7/22, Error ellipse: s-maj=14.2km s-min=8.0km az=66.0*
ISCJB ***22*** *18:36:32.5±0.8, 647S±004×13017E±006, h127km±8km, mb4.7/52, Error ellipse: s-maj=10.2km s-min=5.2km az=162.3*
IDC ***22*** *18:36:34.5±3.1, 633S×12999E, h117km±30km, mb4.3/10, mb1 4.4/12, mb1mx4.3/16, mbtmp4.4/12, MS3.2/3, Ms1 3.2/3, ms1mx2.9/18, Error ellipse: s-maj=22.1km s-min=13.0km az=66.0*
ISC 22 18:36:30.9±0.9, 638S±004×13015E±006, h88km±9km, h99km±1.7km:pP-P, n128,σ1§05/143, mb4.7/52, 4C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.31**	**324**	P	**Pn**	**18 37 25.9**	**+5.2**
	525nm,0.8s						
KAKA	**Kakadu**	**6.68**	**160**	⇓*i*P	**Pn**	**18 38 10.2**	**+3.7**
	293nm,0.2s						
KAKA				*e*S	**Sn**	**18 39 21.0**	**-0.2**
BATI	**Kupang**	**7.46**	**239**	P	**Pn**	**18 38 21.2**	**+4.0**
	18nm,0.3s,baz=137,slow=2.6,SNR=66						
BATI				S	**Sn**	**18 39 39.8**	**-0.5**
	38nm,0.3s,baz=39,slow=8.8,SNR=7.9						
KDI	**Kendari**	**7.88**	**287**	P	**Pn**	**18 38 30.2**	**+7.3**
	200nm,1.3s						
KAPI	**Kappang**	**10.44**	**277**	P	**Pn**	**18 39 06.0**	**+8.2**
	3.6nm,0.3s,baz=132,slow=9.5,SNR=17						
FITZ	**Fitzroy Crossi**	**12.46**	**200**	*e*P	**Pn**	**18 39 24.2**	**-0.9**
	44nm,0.2s						
FITZ				*e*S	**Sn**	**18 41 33.2**	**-8.8**
FITZ	**Fitzroy Crossi**	**12.46**	**200**	P	**Pn**	**18 39 24.5**	**-0.6**
	13nm,0.3s,baz=32,slow=13,SNR=222						
FITZ				S	**Sn**	**18 41 35.1**	**-6.9**
	18nm,0.3s,baz=67,slow=22,SNR=12						
FITZ				LR	LR	18 43 45.2	
	comp=Z,53nm,20.3s,baz=239,slow=35						
WRAB	**Tennant Creek**	**14.08**	**164**	*e*P	**Pn**	**18 39 45.5**	**-0.9**
WRAB				pmax	pmax		
	comp=Z,42nm,0.4s						
WRAB	**Tennant Creek**	**14.08**	**164**	*e*Pn	**Pn**	**18 39 45.5**	**-0.9**
	comp=Z,42nm,0.4s						
WRAB				*e*Sn	**Sn**	**18 42 06.8**	**-15**
WRA	**Warramunga Arr**	**14.08**	**164**	P	**Pn**	**18 39 45.4**	**-1.0**
	comp=Z,8.4nm,0.3s,baz=345,slow=13,SNR=117						
WRA				S	**Sn**	**18 42 12.7**	**-8.7**
	comp=Z,22nm,0.3s,baz=337,slow=22,SNR=10.0						
WB2	**Warramunga Arr**	**14.09**	**164**	*e*P	**Pn**	**18 39 45.3**	**-1.2**
WB2				*e*S	**Sn**	**18 42 12.6**	**-8.9**
BUKP	**Musuan**	**15.05**	**340**	*e*P	**Pn**	**18 40 02.0**	**+3.1**
ASAR	**Alice Springs**	**17.56**	**169**	P	**Pn**	**18 40 31.4**	**+1.3**
ASAR				S	**S**	**18 43 36.0**	**-10**
ASAR				pmax	pmax		
	comp=Z,8.0nm,0.3s						
ASAR				smax			
	comp=N,4.0nm,0.3s						
ASAR	**Alice Springs**	**17.56**	**169**	P	**Pn**	**18 40 31.4**	**+1.3**
	comp=N,8.3nm,0.3s,baz=344,slow=9.6,SNR=537						
ASAR				S	**S**	**18 43 36.0**	**-10**
	comp=N,4.3nm,0.3s,baz=339,slow=26,SNR=5.4						
MBWA	**Marble Bar**	**17.83**	**213**	*e*Pn	**Pn**	**18 40 34.8**	**+1.5**
	comp=N,13nm,0.6s						
MBWA				*e*Sn	**Sn**	**18 43 40.4**	**-12**
KKM	**Kota Kinabalu**	**18.60**	**311**	*e*Pn	**Pn**	**18 40 43.1**	**+0.5**
CUYO	**Cuyo Island**	**19.38**	**332**	*e*P	**Pn**	**18 40 52.1**	**+0.2**
CNP	**Catarman**	**19.54**	**344**	*e*P	**Pn**	**18 40 52.5**	**-1.2**
OTRP	**Odiongan**	**20.30**	**337**	*e*P	**P**	**18 41 01.0**	**+1.2**
PVCP	**Virac**	**20.72**	**343**	*e*P	**P**	**18 41 05.4**	**+1.0**
CTA	**Charters Tower**	**20.74**	**133**	⇑*i*P	**P**	**18 41 08.2**	**+3.6**
	comp=N,17nm,0.8s						
CTA				*e*S	**S**	**18 44 56.7**	**+5.3**
CTA	**Charters Tower**	**20.74**	**133**	⇑*i*P	**P**	**18 41 08.2**	**+3.6**
CTA				*e*S	**S**	**18 44 56.7**	**+5.3**
CTA				pmax	pmax		
	comp=Z,17nm,0.8s						
CTA	**Charters Tower**	**20.74**	**133**	P	**P**	**18 41 07.9**	**+3.3**
	comp=Z,24nm,0.8s,baz=316,slow=11,SNR=18						
CTA				LR	LR	18 49 20.2	
	comp=Z,54nm,21.8s,baz=80,slow=37						
CTAO	**Charters Tower**	**20.74**	**133**	*e*P	**P**	**18 41 07.8**	**+3.2**
CTAO				*e*S	**S**	**18 44 41.2**	**-10**
CTAO				pmax	pmax		
	comp=Z,21nm,0.8s						
CTAO	**Charters Tower**	**20.74**	**133**	*e*P	**P**	**18 41 07.8**	**+3.2**
	comp=Z,20nm,0.8s						
CTAO				*e*S	**S**	**18 44 41.2**	**-10**
SJMP	**San Jose**	**20.76**	**334**	*e*P	**P**	**18 41 06.9**	**+2.1**
KSM	**Kuching**	**21.29**	**291**	*e*P	**P**	**18 41 07.0**	**-3.6**
LUBP	**Lubang**	**22.27**	**334**	*e*P	**P**	**18 41 22.1**	**+1.2**
BALP	**Baler**	**23.56**	**339**	*e*P	**P**	**18 41 32.9**	**-0.6**
FORT	**Forrest**	**24.35**	**184**	*e*P	**P**	**18 41 41.6**	**+0.9**
	comp=Z,18nm,0.5s,mb4.7						
FORT				*e*S	S	18 46 15.3	+21
CAUP	**Cauayan**	**24.59**	**341**	*e*P	**P**	**18 41 42.9**	**-0.1**
STKA	**Stephens Creek**	**27.53**	**159**	*e*P	**P**	**18 42 10.9**	**+1.5**
	comp=Z,7.0nm,0.7s,mb4.3						
STKA				*e*S	S	18 47 28.6	+45
STKA	**Stephens Creek**	**27.53**	**159**	P	**P**	**18 42 10.9**	**+1.6**
	comp=Z,4.5nm,0.3s,mb4.5,baz=330,slow=9.6,SNR=31						
STKA				LR	LR	18 53 31.3	
	comp=Z,102nm,19.4s,baz=207,slow=37						
KULM	**Kulim**	**31.65**	**291**	*e*P	**P**	**18 42 45.4**	**-0.7**
QZH	**Quanzhou**	**33.10**	**341**	P	**P**	**18 42 58.1**	**-0.5**
QZH				AMB	AMB		
	comp=Z,50nm,0.6s,mb5.5						
CNB	**Canberra Magne**	**33.79**	**151**	*e*P	**P**	**18 43 07.1**	**+2.6**
	comp=Z,3.9nm,0.3s,mb4.7						
CHTO	**Chiang Mai**	**39.66**	**310**	*e*P	**P**	**18 43 54.0**	**-0.6**
CHTO				pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4						
CHTO	**Chiang Mai**	**39.66**	**310**	*e*P	**P**	**18 43 54.0**	**-0.5**
	comp=Z,3.6nm,0.7s,mb4.3						
NJ2	**Nanjing**	**39.70**	**345**	*e*P	**P**	**18 43 55.8**	**+1.1**
NJ2				AP	pP	18 44 17.3	+1.8
NJ2				XP	sP	18 44 29.8	+4.2
NJ2				PP	PP	18 45 31.3	+3.6
NJ2				S	**S**	**18 49 53.0**	**+1.1**
NJ2				AMB	AMB		
	comp=Z,40nm,1.1s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,100nm,4.7s						
NJ2				LR	LR		
	comp=N,460nm,17.2s						
NJ2				LR	LR		
	comp=E,290nm,25.0s						
NJ2				LR	LR		
	comp=Z,300nm,26.0s						
WHN	**Wuhan**	**39.71**	**338**	P	**P**	**18 43 55.5**	**+0.7**
KMI	**Kunming**	**41.13**	**321**	P	**P**	**18 44 07.8**	**+1.2**
KMI				AMB	AMB		
	comp=Z,5.0nm,1.0s,mb4.3						
MJAR	**Matsushiro Arr**	**43.36**	**9**	P	**P**	**18 44 23.7**	**-0.8**
MJAR				pmax	pmax		
	comp=Z,11nm,0.8s						
MJAR	**Matsushiro Arr**	**43.36**	**9**	P	**P**	**18 44 23.7**	**-0.8**
	comp=Z,11nm,0.8s,mb4.6,baz=187,slow=9.5,SNR=49						
MAJO	**Matsushiro**	**43.36**	**9**	*e*P	**P**	**18 44 23.4**	**-1.1**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**43.36**	**9**	*e*P	**P**	**18 44 23.4**	**-1.1**
	comp=Z,14nm,0.8s,mb4.7						
MAT	**Matsushiro**	**43.36**	**9**	P	**P**	**18 44 23.6**	**-0.9**
KSRS	**Korea Array**	**43.65**	**357**	P	**P**	**18 44 27.6**	**+0.8**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.1						
KSRS	**Korea Array**	**43.65**	**357**	P	**P**	**18 44 27.6**	**+0.8**
	comp=Z,3.4nm,0.7s,mb4.2,baz=177,slow=9.0,SNR=20						
CD2	**Chengdu**	**44.87**	**327**	*e*P	**P**	**18 44 37.8**	**+1.2**
CD2				XP	sP	18 45 12.3	+4.4
CD2				PP	PP	18 46 25.4	+2.2
CD2				S	**S**	**18 51 08.5**	**+0.6**
CD2				XS	sS	18 51 48.8	+4.6
CD2				SS	SS	18 54 23.8	-8.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,30nm,5.8s						
CD2				LR	LR		
	comp=N,130nm,14.4s						
CD2				LR	LR		
	comp=Z,120nm,12.8s						
XAN	**Xi'an**	**44.94**	**335**	P	**P**	**18 44 36.6**	**-0.6**
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
BJT	**Baijiatuau**	**47.94**	**346**	*e*P	**P**	**18 44 58.9**	**-1.6**
BJT				pmax	pmax		
	comp=Z,15nm,0.7s						
BJT	**Baijiatuau**	**47.94**	**346**	*e*P	**P**	**18 44 58.9**	**-1.6**
	comp=Z,15nm,0.7s,mb4.9						
BJI	**Beijing**	**47.95**	**346**	P	**P**	**18 45 00.6**	**0.0**
BJI				AP	pP	18 45 24.3	+2.2
BJI				XP	sP	18 45 33.3	+1.3
BJI				S	**S**	**18 51 52.9**	**+1.1**
BJI				AMB	AMB		
	comp=Z,22nm,0.7s,mb5.1						
LZH	**Lanzhou**	**48.93**	**332**	*e*P	**P**	**18 45 09.4**	**+1.2**
LZH				AP	pP	18 45 34.0	+4.3
LZH				XP	sP	18 45 46.0	+6.3
LZH				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
LZH				AMB	AMB		
	comp=Z,83nm,4.3s						
VLA	**Vladivostok**	**49.29**	**2**	*e*P	**P**	**18 45 09.9**	**-0.9**
VLA				pmax	pmax		
	comp=Z,19nm,1.3s,mb4.9						
HHC	**Hu-ho-hao-te**	**50.00**	**342**	*e*P	**P**	**18 45 19.8**	**+3.5**
HHC				AP	pP	18 45 43.0	+5.2
HHC				XP	sP	18 45 54.4	+6.6
HHC				PCP	PcP	18 46 37.8	+2.7
HHC				PP	PP	18 47 17.3	+5.1
HHC				PCS	PcS	18 50 33.6	+1.6
HHC				S	**S**	**18 52 23.5**	**+3.0**
HHC				XS	sS	18 53 03.1	+5.7
HHC				SS	SS	18 55 54.1	-0.7
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.7						
HHC				AMB	AMB		
	comp=Z,115nm,5.1s						
HHC				LR	LR		
	comp=N,129nm,15.0s						
HHC				LR	LR		
	comp=E,120nm,14.5s						
HHC				LR	LR		
	comp=Z,106nm,14.4s						
MDJ	**Mudanjiang**	**50.76**	**359**	*e*P	**P**	**18 45 21.4**	**-0.5**
	comp=Z,11nm,0.7s,mb5.0						
RPZ	**Rata Peaks**	**51.63**	**143**	P	**P**	**18 45 30.6**	**+2.1**
	comp=Z,12nm,0.9s,mb4.9,baz=12,slow=9.3,SNR=4.0						
GTA	**Gaotai**	**53.51**	**331**	*e*P	**P**	**18 45 43.1**	**+0.7**
GTA				AP	pP	18 46 06.9	+2.7
GTA				XP	sP	18 46 17.6	+3.5
GTA				PCP	PcP	18 46 49.4	+1.2
GTA				PP	PP	18 47 48.3	+4.4
GTA				PCS	PcS	18 50 46.9	-0.4
GTA				S	**S**	**18 53 09.3**	**+0.7**
GTA				XS	sS	18 53 51.4	+5.6
GTA				SCS	ScS	18 55 18.9	-4.6
GTA				SS	SS	18 56 48.9	-1.4
GTA				AMB	AMB		
	comp=Z,9.0nm,0.8s,mb4.8						
GTA				AMB	AMB		
	comp=Z,121nm,7.2s						
GTA				LR	LR		
	comp=N,78nm,8.4s						
GTA				LR	LR		
	comp=E,67nm,8.8s						
GTA				LR	LR		
	comp=Z,57nm,8.4s						
YSS	**Yuzh-Sakhalins**	**54.26**	**11**	*e*P	**P**	**18 45 46.9**	**-0.9**
YSS				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
YSS	**Yuzh-Sakhalins**	**54.26**	**11**	*e*P	**P**	**18 45 47.4**	**-0.3**
	comp=Z,53nm,1.3s,mb5.4						
JIRN	**Jiri**	**54.30**	**311**	*e*P	**P**	**18 45 48.2**	**-0.2**
	comp=Z,3.5nm,0.3s,mb4.9						
GUN	**Gumba**	**54.66**	**311**	*e*P	**P**	**18 45 50.7**	**-0.3**
	comp=Z,16nm,0.4s,mb5.4						
HABR	**Khabarovsk**	**54.79**	**4**	*e*P	**P**	**18 45 49.6**	**-1.9**
HABR				*e*		18 46 49.1	
HABR				*e*		18 47 54.7	
HABR				*e*		18 49 07.3	
HABR				*e*S	**S**	**18 53 20.7**	**-4.8**
HABR				*e*		18 57 03.8	
KKN	**Kakani**	**55.05**	**310**	*e*P	**P**	**18 45 53.1**	**-0.8**
	comp=Z,6.9nm,0.5s,mb5.0						
DMN	**Daman**	**55.09**	**310**	*e*P	**P**	**18 45 53.2**	**-0.9**
GKN	**Gorkha**	**55.65**	**310**	*e*P	**P**	**18 45 57.2**	**-0.9**
	comp=Z,1.7nm,0.2s,mb4.7						
KOLN	**Koldanda**	**56.33**	**309**	*e*P	**P**	**18 46 02.6**	**-0.4**
	comp=Z,4.6nm,0.3s,mb4.9						
DANN	**Dangsing**	**56.49**	**310**	*e*P	**P**	**18 46 03.6**	**-0.5**
ULN	**Ulaanbaatar**	**57.73**	**342**	*e*P	**P**	**18 46 13.2**	**+0.8**
SONM	**Songino Array**	**57.90**	**341**	P	**P**	**18 46 14.5**	**+0.8**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM	**Songino Array**	**57.90**	**341**	P	**P**	**18 46 14.5**	**+0.8**
	comp=Z,2.0nm,0.4s,mb4.5,baz=154,slow=6.3,SNR=15						
ZAK	**Zakamensk**	**61.13**	**341**	*e*P	**P**	**18 46 35.9**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
TLY	**Talaya**	**62.13**	**342**	*e*P	**P**	**18 46 42.9**	**+0.3**
TLY				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TLY	**Talaya**	**62.13**	**342**	*e*P	**P**	**18 46 42.9**	**+0.3**
	comp=Z,3.6nm,0.8s,mb4.5						
WMQ	**Urumqi**	**62.96**	**327**	*e*P	**P**	**18 46 49.0**	**+0.8**
BOD	**Bodaibo**	**65.31**	**351**	*e*P	**P**	**18 47 02.9**	**-0.4**
BOD				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MA2	**Magadan**	**67.76**	**11**	*e*P	**P**	**18 47 19.5**	**+0.6**
MA2				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.5						
MK31	**Makanchi Array**	**67.79**	**327**	*e*P	**P**	**18 47 19.3**	**0.0**
MK31				*e*		18 47 58.9	
MKAR	**Makanchi Array**	**67.79**	**327**	P	**P**	**18 47 19.5**	**+0.1**
MKAR				pmax	pmax		
	comp=Z,15nm,0.5s						
MKAR	**Makanchi Array**	**67.79**	**327**	P	**P**	**18 47 19.5**	**+0.1**
	comp=Z,14nm,0.5s,mb5.0,baz=116,slow=8.3,SNR=163						
YAK	**Yakutsk**	**68.21**	**360**	*e*P	**P**	**18 47 21.5**	**-0.1**
YAK				pmax	pmax		
	comp=Z,72nm,0.8s,mb5.5						
YAK	**

KURK	**Kurchatov**	**72.07**	**328**	*e*P	**P**	**18 47 45.1**	**-0.4**
KURK				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.5							
KURK	**Kurchatov**	**72.07**	**328**	*e*P	**P**	**18 47 45.1**	**-0.4**
comp=Z,4.7nm,0.6s,mb4.5							
NVS	**Novosibirsk**	**72.38**	**334**	*e*P	**P**	**18 47 46.2**	**-1.0**
KK31	**Karatay Array**	**72.98**	**319**	*i* P	**P**	**18 47 50.7**	**-0.3**
KK31				pmax	pmax		
comp=Z,2.0nm,0.4s,mb4.3							
VNDA	**Vanda**	**73.04**	**173**	*e*P	**P**	**18 47 51.5**	**+0.6**
MAW	**Mawson**	**75.58**	**201**	P	**P**	**18 48 06.4**	**+0.7**
MAW				pmax	pmax		
comp=Z,2.0nm,0.5s							
MAW	**Mawson**	**75.58**	**201**	P	**P**	**18 48 06.4**	**+0.7**
comp=Z,1.6nm,0.5s,mb4.0,baz=82,slow=10,SNR=5.1							
BRVK	**Borovoye**	**77.69**	**328**	*e*P	**P**	**18 48 17.3**	**-0.6**
BRVK				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.3							
BRVK	**Borovoye**	**77.69**	**328**	*e*P	**P**	**18 48 17.3**	**-0.6**
comp=Z,7.3nm,1.0s,mb4.4							
TIXI	**Tiksi**	**77.87**	**360**	*e*P	**P**	**18 48 17.3**	**-1.2**
TIXI				pmax	pmax		
comp=Z,8.0nm,0.7s,mb4.6							
TIXI	**Tiksi**	**77.87**	**360**	*e*P	**P**	**18 48 17.4**	**-1.1**
comp=Z,9.9nm,0.6s,mb4.7							
BILL	**Bilibino**	**78.48**	**13**⇑	*e*P	**P**	**18 48 19.3**	**-2.6**
BILL				*e**PP	pP	18 48 37.2	-7.8
BILL				*e*		18 51 28.3	
BILL				pmax	pmax		
comp=Z,1.0nm,0.4s,mb3.9							
BILL	**Bilibino**	**78.48**	**13**	P	**P**	**18 48 19.1**	**-2.8**
comp=Z,1.6nm,0.8s,mb3.8							
AKTK	**Aktyubinsk**	**83.68**	**322**	P	**P**	**18 48 49.5**	**-0.4**
AKTO	**Aktyubinsk**	**83.68**	**322**	P	**P**	**18 48 49.5**	**-0.4**
AKTO				pmax	pmax		
comp=Z,3.0nm,0.4s,mb4.5							
AKTO	**Aktyubinsk**	**83.68**	**322**	P	**P**	**18 48 49.5**	**-0.4**
comp=Z,2.5nm,0.4s,mb4.4,baz=101,slow=7.2,SNR=11							
ARU	**Arti**	**85.26**	**328***d*	*i* P	**P**	**18 48 56.8**	**-0.9**
ARU				*e*		18 52 17.9	
ARU				*e*PPP		18 54 08.8	
ARU				*e*S	S	18 59 07.2	-14
ARU				*e*SS	SS	19 05 04.0	+6.9
ARU				pmax	pmax		
comp=Z,10.0nm,1.7s,mb4.5							
ARU	**Arti**	**85.26**	**328**	*e*P	**P**	**18 48 57.0**	**-0.7**
comp=Z,6.7nm,0.8s,mb4.6							
UMR	**Umm Al-Rimmam**	**86.57**	**300**	*e*P	**P**	**18 49 02.9**	**-1.9**
UMR				AMb	AMB	18 49 04.9	
comp=Z,12nm,0.5s,mb5.0							
RDF	**Al-Radifah**	**86.61**	**299**	*e*P	**P**	**18 49 03.9**	**-1.1**
RDF				AMb	AMB	18 49 07.5	
comp=Z,6.8nm,0.5s,mb4.8							
NAY	**Al-Naaiem**	**86.93**	**300**	*e*P	**P**	**18 49 05.1**	**-1.5**
NAY				AMb	AMB	18 49 06.5	
comp=Z,6.8nm,0.4s,mb4.9							
MIB	**Mutribah**	**86.94**	**300**	*e*P	**P**	**18 49 05.0**	**-1.6**
MIB				AMb	AMB	18 49 08.3	
comp=Z,12nm,0.6s,mb5.0							
OBN	**Obninsk**	**97.24**	**325**⇑	*e*P	**P**	**18 49 49.3**	**-4.4**
OBN				*e**PP	pP	18 50 15.5	-2.0
OBN				pmax	pmax		
comp=Z,6.0nm,0.5s,mb5.3							
ARCES	**ARCESS Array B**	**101.05**	**340**	P	Pdif	18 50 08.2	-2.6
ARCES				pmax	pmax		
comp=Z,3.0nm,1.0s							
ARCES	**ARCESS Array B**	**101.05**	**340**	P	Pdif	18 50 08.2	-2.6
comp=Z,3.1nm,1.0s,baz=80,slow=6.5,SNR=3.0							
TOA0	**Torodi Ar. Sit**	**128.84**	**282**	PKPdf	PKPdf	18 55 28.3	-0.9
TORD	**Torodi Ar. Bea**	**128.84**	**282**	PKP	PKPdf	18 55 28.9	-0.4
comp=Z,0.2nm,0.3s,baz=73,slow=2.0,SNR=7.0							
LCO	**Las Campanas**	**139.49**	**151**	*e*PKPdf	PKPdf	18 55 47.9	-1.0

*ISCJB **22** 18:52:58.8±0.6,3876N±004×3256E±005,h10km, Error ellipse: s-maj=5.8km s-min=4.8km az=135.2*
*CSEM **22** 18:52:58.5±0.3,3876N×3254E,h10km,MD2.9, Error ellipse: s-maj=6.5km s-min=5.0km az=108.0*
*ISK **22** 18:52:58.9,3875N×3250E,h6km,MD2.9*
*DDA **22** 18:52:59.1,3875N×3259E,h7km±2km,Md2.9*
ISC 22 18:52:58.4±1.3,3880N±005×3259E±006,h1km±11km,n11, σ0§54/17,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KDHN	**Kadinhani**	**0.47**	**233**	*i* P	**Pg**	**18 53 07.2**	**0.0**
KDHN				*i* S	**Sg**	**18 53 13.2**	**-0.1**
KIZT	**Kizilcal**	**0.56**	**278**	*e*PG	**Pg**	**18 53 09.1**	**0.0**
KIZT				*e*SG	**Sg**	**18 53 16.4**	**+0.1**
KONT	**Konya--Tatoy**	**0.87**	**192**	*e*PG	**Pg**	**18 53 15.7**	**+0.5**
KONT				*e*SG	**Sg**	**18 53 25.6**	**-0.8**
ANTO	**Ankara**	**1.08**	**8**	*e*PN	**Pn**	**18 53 21.1**	**+0.6**
LOD	**Lodumlu**	**1.09**	**7**	*e*PN	**Pn**	**18 53 20.9**	**+0.1**
ESKT	**Eskisehir**	**1.53**	**298**	*i* P	**Pn**	**18 53 27.2**	**+0.4**
ESKT				*i* S	**Sn**	**18 53 46.7**	**-0.6**
ESKT	**Eskisehir**	**1.53**	**298**	*e*Pn	**Pn**	**18 53 27.1**	**+0.3**
SEYT	**Eskypehyr**	**1.53**	**298**	*i* P	**Pn**	**18 53 27.2**	**+0.4**
SEYT				*i* S	**Sn**	**18 53 46.7**	**-0.6**
CDAG	**Cicekdag**	**1.61**	**59**	*i* P	**Pn**	**18 53 26.7**	**-1.2**
CDAG				*i* S	**Sn**	**18 53 49.3**	**+0.1**
SHUT	**Suhut-Afyon**	**1.61**	**262**	*e*PN	**Pn**	**18 53 27.9**	**0.0**
HDMB	**Hadim**	**1.84**	**183**	*e*PN	**Pn**	**18 53 31.9**	**+0.9**

*ISCJB **22** 18:59:49.5±2.8,37N±01×1246E±02,h322km±30km, mb3.5/14, Error ellipse: s-maj=32.9km s-min=11.3km az=152.4*
*NEIC **22** 18:59:49.8±2.9,376N×12473E,h311km±31km,mb3.8/6, Error ellipse: s-maj=21.9km s-min=7.5km az=61.0*
*IDC **22** 18:59:53.7±10.0,362N×12455E,h350km±109km,mb3.1/8, mb1 3.2/9,mb1mx3.0/20,mbtmp3.1/9, Error ellipse: s-maj=92.3km s-min=22.6km az=60.0*
ISC 22 18:59:51.0±3.1,38N±01×1247E±02,h323km±33km,n21, σ0§64/21,mb3.5/14,Celebes Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**13.90**	**184**	P	**Pn**	**19 02 56.6**	**+0.6**
2.1nm,0.3s,baz=241,slow=7.3,SNR=5.7							
KSM	**Kuching**	**14.57**	**261**	*e*P	**P**	**19 03 01.9**	**-0.5**
YHNB	**Yeheng**	**21.05**	**352**	P	**P**	**19 04 09.9**	**-0.7**
FITZ	**Fitzroy Crossi**	**21.73**	**178**	P	**P**	**19 04 16.0**	**-0.9**
2.8nm,0.4s,mb3.9,baz=359,slow=8.9,SNR=39							
WRAB	**Tennant Creek**	**25.37**	**158**	*e*P	**P**	**19 04 49.8**	**+0.1**
1.1nm,0.3s,mb3.6							
WRA	**Warramunga Arr**	**25.37**	**158**	P	**P**	**19 04 49.4**	**-0.4**
0.4nm,0.3s,mb3.1,baz=334,slow=11,SNR=20							
ASAR	**Alice Springs**	**28.68**	**162**	P	**P**	**19 05 18.9**	**-0.3**
0.2nm,0.4s,mb2.7,baz=341,slow=7.1,SNR=11							
CHTO	**Chiang Mai**	**29.30**	**303**	*e*P	**P**	**19 05 24.8**	**+0.1**
1.5nm,0.6s,mb3.4							
STKA	**Stephens Creek**	**38.90**	**157**	P	**P**	**19 06 47.4**	**+1.0**
STKA	**Stephens Creek**	**38.90**	**157**	P	**P**	**19 06 47.4**	**+1.1**
1.7nm,0.9s,mb3.3,baz=333,slow=14,SNR=3.9							
MK31	**Makanchi Array**	**56.41**	**326**	P	**P**	**19 08 58.9**	**-0.7**
MKAR	**Makanchi Array**	**56.41**	**326**	P	**P**	**19 08 59.7**	**+0.1**
MKAR				PcP	PcP	19 09 52.7	+0.3
MKAR	**Makanchi Array**	**56.41**	**326**	P	**P**	**19 08 59.7**	**+0.1**
0.4nm,0.3s,mb3.2,baz=123,slow=7.9,SNR=5.6							
MKAR				PcP	PcP	19 09 52.7	+0.3
0.2nm,0.4s,baz=123,slow=4.3,SNR=2.3							
TKM2	**Tokmak 2**	**58.41**	**319**	P	**P**	**19 09 19.8**	**+6.2**
3.9nm,0.7s,mb3.9							
UCH	**Uchtor**	**58.81**	**318**	P	**P**	**19 09 18.0**	**+1.7**
1.9nm,0.9s,mb3.5							
ZALV	**Zalesovo Beam**	**59.67**	**334**	P	**P**	**19 09 22.1**	**+0.2**
0.4nm,0.4s,mb3.2,baz=131,slow=6.5,SNR=2.4							
KURK	**Kurchatov**	**60.66**	**328**	*e*P	**P**	**19 09 28.5**	**-0.1**
3.7nm,0.8s,mb3.9							
AKTK	**Aktyubinsk**	**72.40**	**322**	P	**P**	**19 10 42.9**	**+0.4**
AKTO	**Aktyubinsk**	**72.40**	**322**	P	**P**	**19 10 42.9**	**+0.4**
0.6nm,0.3s,mb3.8,baz=69,slow=9.3,SNR=4.2							
MAW	**Mawson**	**83.08**	**200**	*e*P	**P**	**19 11 40.3**	**-0.3**
5.4nm,1.0s,mb4.3							
FINES	**FINESS Array B**	**90.86**	**332**	P	**P**	**19 12 17.4**	**-0.7**
0.6nm,0.8s,mb3.6,baz=64,slow=6.3,SNR=3.1							

THE 22 19:29:22.7,3835N×2038E,h8km,ML2.5,Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**135**	*e*Pg	Pg	19 29 27.8	+0.3
VLS				*e*Sg	Sg	19 29 31.3	+0.6
KFL	**Anninata**	**0.40**	**126**	*e*Pg	Pg	19 29 30.5	0.0
KFL				*e*Sg	Sg	19 29 36.1	+0.3
LKD	**Levkas**	**0.42**	**31**	*e*Pg	Pg	19 29 30.7	-0.1
LKD				*e*Sg	Sg	19 29 36.9	+0.6
SELA	**Sela**	**1.20**	**93**	*e*Pg	Pg	19 29 44.2	-1.4
SELA				*e*Sg	Sg	19 30 02.3	+1.2

*NIED **22** 19:30:00,4460N×14920E,h23km,Mw3.9 Best double couple: M0:7.77000×10^14 NP1:φs:35.00000°,δ64.00000°, λ76.00000°. NP2:φs:245.00000°,δ29.00000°,λ117.00000°.*
*IDC **22** 19:30:11.4±1.6,4458N×149.15E,h0km,mb3.8/7, mb1 3.9/9,mb1mx3.8/20,mbtmp3.7/9,ML3.5/2,MS3.1/4, Ms1 3.1/4,ms1mx2.8/35, Error ellipse: s-maj=47.0km s-min=22.9km az=162.0*
*ISCJB **22** 19:30:15.9±1.0,4437N±006×149.13E±009,h50km±8km, mb4.1/20,MS3.6/2, Error ellipse: s-maj=12.9km s-min=7.1km az=135.6*
*NEIC **22** 19:30:16.2±1.5,4424N×14920E,h46km±16km,mb4.3/7, Error ellipse: s-maj=20.1km s-min=13.0km az=164.0*
*MOS **22** 19:30:17.4±1.0,4447N×14901E,h58km,mb3.9/4, Error ellipse: s-maj=13.2km s-min=11.6km az=127.4*
ISC 22 19:30:17.0±0.9,4431N±008×14923E±009,h46km±8km, n67,σ1§10/81,mb4.1/20,MS3.6/2,1C-1D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**1.34**	**314**⇓	*i* PN	**Pn**	**19 30 36.1**	**-3.2**
KUR				*e*S	**Sn**	**19 30 50.5**	**-5.4**
KUR				pmax	pmax		
comp=N,530nm,0.5s							
KUR				pmax	pmax		
comp=E,260nm,0.5s							
KUR				pmax	pmax		
comp=Z,920nm,0.5s							
KUR				smax			
comp=N,2μm,0.5s							
KUR				smax			
comp=E,860nm,0.5s							
YUK	**Yuzh-Kuril'sk**	**2.44**	**265**	*e*PN	**Pn**	**19 30 55.8**	**+1.5**
YUK				*e*S	**Sn**	**19 31 23.5**	**+0.7**
YUK				smax			
comp=N,900nm,0.5s							
YUK				smax			
comp=E,400nm,0.5s							
YUK				smax			
comp=N,1μm,0.7s							
YUK				smax			
comp=E,2μm,1.1s							
NEM2	**Nemuro 2**	**2.69**	**251**	P	**Pn**	**19 30 57.0**	**-0.8**
NEM2				*e*S	**Sn**	**19 31 27.4**	**-1.7**
JRA	**Rausu**	**2.98**	**264**	P	**Pn**	**19 31 02.0**	**+0.3**
JNK	**Nakash**	**3.34**	**259**	P	**Pn**	**19 31 06.8**	**+0.2**
JAK	**Akkeshi**	**3.54**	**250**	P	**Pn**	**19 31 09.0**	**-0.4**
JAK				*e*S	**Sn**	**19 31 48.5**	**-1.5**
JTKR	**Abashiri--Toko**	**3.84**	**267**	P	**Pn**	**19 31 15.0**	**+1.4**
JAR	**Ashorobuto**	**4.08**	**258**	P	**Pn**	**19 31 17.6**	**+0.8**
JAR				*e*S	**Sn**	**19 32 03.0**	**-0.2**
JOB	**Onbets**	**4.16**	**252**	P	**Pn**	**19 31 18.2**	**+0.3**
JOB				*e*S	**Sn**	**19 32 04.0**	**-1.3**
JCH	**Churui**	**4.59**	**250**	P	**Pn**	**19 31 24.5**	**+0.6**
JCH				*e*S	**Sn**	**19 32 16.2**	**+0.3**
ASAJ	**Asahikawa**	**4.77**	**270**	PN	**Pn**	**19 31 29.0**	**+2.7**
ASAJ				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASAJ				MLR	MLR		
comp=Z,182nm,18.8s							
ASAJ	**Asahikawa**	**4.77**	**270**	Pn	**Pn**	**19 31 28.9**	**+2.6**
comp=Z,1.0nm,0.3s,baz=65,slow=17,SNR=8.0							
ASAJ				LR	LR	19 33 26.3	
comp=Z,182nm,18.8s,baz=272,slow=41							
JFR	**Furan**	**4.94**	**259**	P	**Pn**	**19 31 30.8**	**+2.2**
ERM	**Erimo**	**5.00**	**245**	*e*PN	**Pn**	**19 31 30.4**	**+1.0**
ERM				*e*		19 32 25.6	
ERM	**Erimo**	**5.00**	**245**	*e*Pn	**Pn**	**19 31 30.4**	**+1.0**
ERM				*e*Sn	**Sn**	**19 32 25.6**	**-0.3**
ERM				*e*Sg	Sn	19 32 50.4	+25
JEM	**Erimo**	**5.00**	**245**	P	**Pn**	**19 31 30.6**	**+1.2**
JEM				*e*S	**Sn**	**19 32 26.5**	**+0.7**
JNBK	**Urakawa-nobuka**	**5.14**	**249**	P	**Pn**	**19 31 31.4**	**0.0**
JBT2	**Biratori 2**	**5.22**	**255**	P	**Pn**	**19 31 33.0**	**+0.6**
YSS	**Yuzh-Sakhalins**	**5.25**	**303**	*e*Pn	**Pn**	**19 31 31.7**	**-1.2**
YSS				*e*Sn	**Sn**	**19 32 25.7**	**-6.5**
JNB	**Noboribetsu**	**6.24**	**256**	P	**Pn**	**19 31 47.1**	**+0.6**
JKB	**Kayabe**	**6.47**	**251**	P	**Pn**	**19 31 49.4**	**-0.2**
JKB				*e*S	**Sn**	**19 32 57.6**	**-4.4**
JANG	**Nango**	**6.93**	**238**	P	**Pn**	**19 31 53.9**	**-2.1**
JANG				*e*S	**Sn**	**19 33 06.6**	**-6.9**
JTH	**Tanohata**	**7.00**	**234**	P	**Pn**	**19 31 54.5**	**-2.4**
JTH				*e*S	**Sn**	**19 33 07.0**	**-8.1**
JOSM	**Okushiri--Mats**	**7.47**	**256**	P	**Pn**	**19 32 03.9**	**+0.6**
OFUJ	**Ofunato**	**7.70**	**230**	P	**Pn**	**19 32 05.0**	**-1.4**
OFUJ				*e*S	**Sn**	**19 33 24.3**	**-7.9**
JRG	**Rokugo**	**8.07**	**236**	P	**Pn**	**19 32 10.4**	**-1.2**
JRG				*e*S	**Sn**	**19 33 33.3**	**-8.2**
JIO	**Ouri**	**8.32**	**228**	*e*S	**Sn**	**19 33 39.2**	**-8.3**
JFK	**Kawauchi**	**9.38**	**225**	*e*S	**Sn**	**19 34 03.9**	**-10**
MJAR	**Matsushiro Arr**	**11.42**	**231**	PN	**Pn**	**19 32 57.7**	**+0.3**
MJAR	**Matsushiro Arr**	**11.42**	**231**	Pn	**Pn**	**19 32 56.7**	**-0.7**
comp=Z,0.3nm,0.3s,baz=30,slow=13,SNR=4.3							
MAJO	**Matsushiro**	**11.42**	**231**	*e*PN	**Pn**	**19 32 52.9**	**-4.5**
KSRS	**Korea Array**	**17.48**	**254**	P	**Pn**	**19 34 18.9**	**+1.6**
comp=Z,0.2nm,0.3s,baz=65,slow=11,SNR=4.3							
KSRS				LR	LR	19 41 07.4	
comp=Z,36nm,18.6s,baz=55,slow=37							
JNU	**Nakatsue**	**18.12**	**238**	LR	LR	19 42 35.0	
comp=Z,44nm,18.1s,baz=71,slow=41							
BILL	**Bilibino**	**25.42**	**15**⇑	*e*P	**P**	**19 35 40.8**	**+0.9**
BILL				*e*		19 36 18.6	
BILL				*e*S	**S**	**19 39 59.6**	**-3.5**
BILL				pmax	pmax		
comp=Z,1.0nm,1.2s,mb3.2							
BILL				MLR	MLR		
comp=Z,300nm,21.0s,MS3.8							
TIXI	**Tiksi**	**29.14**	**347**	*e*P	**P**	**19 36 12.1**	**-1.0**
TIXI				pmax	pmax		
comp=Z,1.0nm,1.3s,mb3.4							
ULN	**Ulaanbaatar**	**29.20**	**292**	*e*P	**P**	**19 36 13.7**	**-0.2**
ULN				pmax	pmax		
comp=Z,1.0nm,0.7s,mb3.6							
ULN	**Ulaanbaatar**	**29.20**	**292**	*e*P	**P**	**19 36 13.7**	**-0.2**
comp=Z,0.7nm,0.7s,mb3.5							
SONM	**Songino Array**	**29.64**	**292**	P	**P**	**19 36 18.3**	**+0.5**
comp=Z,0.7nm,0.7s,mb3.5,baz=81,slow=8.9,SNR=3.1							
SONM				LR	LR	19 48 43.0	
comp=Z,81nm,18.3s,MS3.4,baz=52,slow=38							
UNV	**Unalaska Valle**	**30.08**	**56**	P	**P**	**19 36 19.5**	**-2.1**
comp=Z,44nm,0.9s,mb5.2							
IMA2	**Indian Mountai**	**37.38**	**34**	*e*P	**P**	**19 37 25.4**	**+0.6**
ZALV	**Zalesovo Beam**	**41.86**	**307**	PcP	PcP	19 39 57.2	+0.1
comp=Z,0.8nm,0.6s,baz=90,slow=3.0,SNR=4.5							
INK	**Inuvik**	**45.16**	**31**	*e*P	**P**	**19 38 28.7**	**+0.1**
comp=Z,127nm,1.1s							
MK31	**Makanchi Array**	**45.65**	**298**	*e*P	**P**	**19 38 31.8**	**-1.0**
MKAR	**Makanchi Array**	**45.65**	**298**	P	**P**	**19 38 32.0**	**-0.7**
comp=Z,0.3nm,0.3s,mb3.7,baz=74,slow=9.6,SNR=5.6							
MKAR				PcP	PcP	19 40 10.8	+0.5
comp=Z,0.2nm,0.2s,baz=66,slow=3.3,SNR=3.7							
KURK	**Kurchatov**	**46.46**	**304**	*e*P	**P**	**19 38 37.6**	**-1.4**
BRVK	**Borovoye**	**50.35**	**310**	*e*P	**P**	**19 39 07.8**	**-1.2**
BRVK				pmax	pmax		
comp=Z,1.0nm,0.7s,mb4.0							
BRVK	**Borovoye**	**50.35**	**310**	*e*P	**P**	**19 39 07.8**	**-1.1**
comp=Z,1.5nm,0.7s,mb4.1							
JIRN	**Jiri**	**52.40**	**274**	*e*P	**P**	**19 39 25.3**	**+0.7**
comp=Z,8.5nm,0.5s,mb4.9							
GUN	**Gumba**	**52.47**	**274**	*e*P	**P**	**19 39 25.8**	**+0.6**
comp=Z,7.6nm,0.4s,mb5.0							
EKS2	**Erkin-Say**	**52.91**	**296**	*e*P	**P**	**19 39 27.4**	**-0.8**
comp=Z,1.5nm,0.6s,mb4.1							
KKN	**Kakani**	**52.97**	**274**	*e*P	**P**	**19 39 29.3**	**+0.4**
PKI	**Pulchoki**	**53.01**	**274**	*e*P	**P**	**19 39 29.9**	**+0.7**
DMN	**Daman**	**53.20**	**274**	*e*P	**P**	**19 39 31.3**	**+0.7**
comp=Z,8.1nm,0.6s,mb4.8							
AML	**Almayashu**	**53.23**	**296**	*e*P	**P**	**19 39 31.3**	**+0.8**
comp=Z,3.2nm,0.8s,mb4.3							
DANN	**Dangsing**	**53.73**	**276**	*e*P	**P**	**19 39 36.5**	**+2.1**
comp=Z,8.5nm,0.5s,mb4.9							
KOLN	**Koldanda**	**54.19**	**276**	*e*P	**P**	**19 39 39.3**	**+1.5**
YKA	**Yellowknife Ar**	**54.50**	**35**	P	**P**	**19 39 40.4**	**+0.9**
YKA	**Yellowknife Ar**	**54.50**	**35**	P	**P**	**19 39 40.4**	**+0.9**
comp=Z,0.7nm,0.7s,mb3.8,baz=299,slow=6.8,SNR=9.0							
KBL	**Kabul**	**60.40**	**291**	P	**P**	**19 40 20.3**	**-1.2**
comp=Z,2.2nm,0.8s,mb4.2							
FINES	**FINESS Array B**	**65.05**	**334**	*i* P	**P**	**19 40 52.9**	**+0.9**
FINES				pmax	pmax		
comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**65.05**	**334**	P	**P**	**19 40 50.6**	**-1.5**
comp=Z,0.8nm,0.7s,mb3.9,baz=52,slow=5.4,SNR=3.6							
AKASG	**Malin Array Be**	**72.01**	**325**	P	**P**	**19 41 34.6**	**-1.0**
comp=Z,1.5nm,0.6s,mb4.1,baz=36,slow=6.1,SNR=7.8							
CLL	**Collm**	**77.50**	**334**	*i* P	**P**	**19 42 06.7**	**-0.6**
CLL				pmax	pmax		
comp=Z,5.0nm,1.0s,mb4.4							
CLL	**Collm**	**77.50**	**334**	*i* P	**P**	**19 42 06.7**	**-0.6**
comp=Z,5.0nm,1.0s,mb4.4							
GERES	**GERESS Array B**	**79.39**	**332**	P	**P**	**19 42 17.5**	**-0.3**
comp=Z,0.3nm,0.4s,mb3.6,baz=34,slow=5.5,SNR=5.5							
TXAR	**Lajitas Array**	**81.09**	**58**	P	**P**	**19 42 28.7**	**+1.4**
TXAR				pmax	pmax		
comp=Z,1.0nm,0.6s							
TXAR	**Lajitas Array**	**81.09**	**58**	P	**P**	**19 42 27.7**	**+0.4**
comp=Z,0.6nm,0.6s,mb3.7,baz=304,slow=3.7,SNR=9.4							

*ISCJB **22** 19:30:46.8±0.5,2959S±003×14207E±005,h10km, Error ellipse: s-maj=5.9km s-min=4.6km az=153.7*
*AUST **22** 19:30:49.6,2978S×14205E,h10km,ML3.4*
*NEIC **22** 19:30:49.0,2978S×14205E,h10km,mb3.9/2, ML3.4(AUST), After AUST.*
*IDC **22** 19:30:50.1±2.1,2980S×14173E,h0km,mb1 3.6/5, mb1mx3.5/14,mbtmp3.5/5,ML3.4/4, Error ellipse: s-maj=38.1km s-min=13.9km az=81.0*
ISC 22 19:30:49.3±0.5,2966S±003×14205E±004,h10km,n23, σ1§34/42,New South Wales

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**2.24**	**190**	*e*P	**Pn**	**19 31 26.7**	**+0.2**
STKA				*e*S	**Sn**	**19 31 52.6**	**-1.7**
115nm,0.3s							
STKA	**Stephens Creek**	**2.24**	**190**	*e*Pn	**Pn**	**19 31 26.4**	**-0.1**
STKA				*e*Sn	**Sn**	**19 31 53.5**	**-0.8**
STKA	**Stephens Creek**	**2.24**	**190**	Pn	**Pn**	**19 31 26.9**	**+0.3**
11nm,0.3s,baz=2.4,slow=14,SNR=105							
STKA				Sn	**Sn**	**19 31 52.6**	**-1.7**
39nm,0.3s,baz=282,slow=19,SNR=13							
STKA				Lg		19 31 55.6	
46nm,0.3s,baz=283,slow=19,SNR=16							
QLP	**Quilpie**	**3.62**	**33**	*e*P	**Pn**	**19 31 50.6**	**+5.1**
CMSA	**Cobar Meteorol**	**3.66**	**122**	*e*P	**Pn**	**19 31 45.8**	**-0.1**
CMSA				*e*		19 31 58.2	
CMSA				*e*S	**Sn**	**19 32 26.7**	**-2.4**
34nm,0.2s							
CMSA				*e*		19 32 42.6	
BBOO	**Buckleboo**	**6.01**	**237**	*e*P	**Pn**	**19 32 19.3**	**+1.0**
BBOO				*e*S	**Sn**	**19 33 23.6**	**-3.6**
5.6nm,0.3s							
BBOO	**Buckleboo**	**6.01**	**237**	*e*P	**Pn**	**19 32 19.3**	**+1.0**
5.6nm,0.3s							
BBOO				*e*S	**Sn**	**19 33 23.6**	**-3.6**
ARPS	**Mount Arapiles**	**7.09**	**181**	*e*P	**Pn**	**19 32 32.8**	**-0.3**
ARPS				*e*S	**Sn**	**19 33 48.4**	**-5.4**
12nm,0.3s							
ARPS	**Mount Arapiles**	**7.09**	**181**	*e*P	**Pn**	**19 32 32.8**	**-0.3**
12nm,0.3s							
ARPS				*e*S	**Sn**	**19 33 48.4**	**-5.4**
YNG	**Young**	**7.10**	**132**	*e*P	**Pn**	**19 32 34.8**	**+1.5**
YNG				*e*S	**Sn**	**19 33 49.2**	**-4.8**
8.2nm,1.0s							
YNG	**Young**	**7.10**	**132**	*e*P	**Pn**	**19 32 34.8**	**+1.5**
8.2nm,1.0s							
YNG				*e*S	**Sn**	**19 33 49.2**	**-4.8**
EIDS	**Eidsvold**	**9.09**	**64**	*e*Pn	**Pn**	**19 33 02.3**	**+1.7**
EIDS				*e*Sn	**Sn**	**19 34 42.2**	**-0.7**
QIS	**Mount Isa**	**9.33**	**346**	*e*P	**Pn**	**19 33 04.7**	**+0.8**
QIS				*e*S	**Sn**	**19 34 46.7**	**-2.2**
1.2nm,0.3s							
QIS	**Mount Isa**	**9.33**	**346**	*e*P	**Pn**	**19 33 04.7**	**+0.8**
1.2nm,0.3s							
QIS				*e*S	**Sn**	**19 34 46.7**	**-2.2**
ASAR	**Alice Springs**	**9.42**	**307**	Pn	**Pn**	**19 33 06.2**	**+1.2**
0.2nm,0.3s,baz=136,slow=13,SNR=7.9							
ASAR				Sn	**Sn**	**19 34 50.4**	**-0.6**
0.6nm,0.3s,baz=136,slow=23,SNR=6.4							
CTA	**Charters Tower**	**10.26**	**23**	Pn	**Pn**	**19 33 20.4**	**+3.7**
0.5nm,0.3s,baz=215,slow=16,SNR=3.8							
CTA				Sn	**Sn**	**19 35 11.2**	**-0.7**
0

PSET eS Sg 19 57 30.1 -1.1
PSBA Serra de Santa 2.56 306 eP Pn 19 57 40.8 -1.2
PSBA eS Sn 19 58 08.7 -5.1
PSBA A 19 58 14.0
2µm,0.4s
PMAN Manadas 3.02 297 eP Pn 19 57 47.0 -1.3
PMAN eS Sn 19 58 19.8 -5.3
PMAN A 19 58 22.4
351nm,0.2s
ROSA Rosais 3.16 298 eP Pn 19 57 49.3 -1.0
ROSA eS Sn 19 58 23.4 -5.3
SRBC Serra Branca 3.18 304 eP Pn 19 57 49.8 -0.7
SRBC eS Sn 19 58 23.5 -5.5
PICO Pico 3.21 293 eP Pn 19 57 50.4 -0.5
PICO eS Sn 19 58 24.7 -5.1
HOR Horta 3.37 292 eP Pn 19 57 52.0 -1.1
HOR eS Sn 19 58 28.4 -5.3
CALA Caldeira 3.44 293 eP Pn 19 57 53.0 -1.1
CALA eS Sn 19 58 29.9 -5.6
PCED Cedros 3.46 294 eP Pn 19 57 53.3 -1.0
PCED eS Sn 19 58 30.3 -5.6
PCED A 19 58 34.0
373nm,0.2s
EHIG Higuera 10.45 145 P Pn 19 59 29.7 -0.6
56nm,0.2s
EHIG Higuera 10.45 145 P Pn 19 59 29.7 -0.6
56nm,0.2s
EGOM La Gomera 11.06 143 P Pn 19 59 37.0 -1.7
33nm,0.3s
EGOM S Sn 20 01 31.6 -11
EGOM La Gomera 11.06 143 P Pn 19 59 37.0 -1.7
33nm,0.3s
CHIE El Hierro 11.09 147 P Pn 19 59 37.2 -1.9
6.2nm,0.5s
CHIE S Sn 20 01 33.4 -10
CHIE El Hierro 11.09 147 P Pn 19 59 37.2 -1.9
6.2nm,0.5s
EBAJ Bajamar 11.18 139 P Pn 19 59 37.2 -3.1
4.2nm,0.2s
CCAN Las Canadas 11.31 141 P Pn 19 59 40.6 -1.4
1.3nm,0.1s
CCAN S Sn 20 01 35.1 -14
CCAN Las Canadas 11.31 141 P Pn 19 59 40.6 -1.5
1.3nm,0.1s
EOSO Osorio 11.97 138 P Pn 19 59 50.1 -1.1
5.0nm,0.3s
EOSO Osorio 11.97 138 P Pn 19 59 50.1 -1.1
5.0nm,0.3s
CFTV Fuerteventura 12.54 132 P Pn 19 59 56.8 -2.2
0.7nm,0.1s
CFTV Fuerteventura 12.54 132 P Pn 19 59 56.8 -2.2
0.7nm,0.1s
EVOP Sao Brissos 13.12 80 ePn Pn 20 00 01.8 -5.0
EVOP eSn Sn 20 02 17.7 -16
11nm,0.4s
EVO Evora 13.20 80 ePn Pn 20 00 01.8 -6.1
EVO eSn Sn 20 02 17.7 -18
22nm,0.4s
EVO eMLR MLR
comp=Z,285nm,17.2s
EMAZ Mazaricos 13.25 60 P Pn 20 00 01.1 -7.5
comp=Z,4.5nm,0.2s
EMAZ S Sn 20 02 16.4 -20
STS Santiago 13.53 61 P Pn 20 00 06.2 -6.1
STS pmax pmax
comp=Z,6.0nm,0.2s
STS Santiago 13.53 61 P Pn 20 00 06.2 -6.1
comp=Z,6.4nm,0.2s
ELOB Lobios 13.59 65 P Pn 20 00 06.8 -6.3
comp=Z,23nm,0.4s
ELOB S Sn 20 02 26.2 -18
EGRO El Granado 13.66 84 P Pn 20 00 10.6 -3.5
EGRO S Sn 20 02 28.1 -18
EBAD Badajoz 13.99 79 P Pn 20 00 15.0 -3.6
comp=Z,0.2nm,0.1s
EBAD S Sn 20 02 35.6 -19
EMIN Mina Concepcio 14.28 83 P Pn 20 00 14.3 -8.4
EMIN S Sn 20 02 42.3 -19
ERUA La Rua 14.38 64 P Pn 20 00 19.4 -4.6
ERUA pmax pmax
comp=Z,2.0nm,0.3s
ERUA La Rua 14.38 64 P Pn 20 00 19.4 -4.5
comp=Z,2.1nm,0.3s
ERUA S Sn 20 02 45.1 -19
ECAL Calabor 14.56 66 P Pn 20 00 18.6 -7.9
comp=Z,6.9nm,0.3s
ECAL S Sn 20 02 48.5 -20
EPON Pontenova 14.64 60 P Pn 20 00 21.3 -6.2
EPON S Sn 20 02 49.2 -21
ECAB El Cabril 15.26 81 P Pn 20 00 32.3 -3.6
ECAB S Sn 20 03 07.0 -18
EADA Adamuz 15.91 81 P Pn 20 00 40.9 -3.6
EADA S Sn 20 03 20.4 -21
EARI Arriondas 15.99 62 P Pn 20 00 40.4 -5.0
comp=Z,20nm,1.1s
EARI S Sn 20 03 27.4 -16
GUD Guadarrama 16.29 72 P Pn 20 00 45.3 -4.0
GUD pmax pmax
comp=Z,3.0nm,0.5s
GUD Guadarrama 16.29 72 P Pn 20 00 45.3 -4.0
comp=Z,2.9nm,0.5s
ESDC Sonseca Array 16.38 75 Pn Pn 20 00 44.7 -5.8
comp=Z,0.9nm,0.3s,baz=270,slow=12,SNR=13
ESDC Sn Sn 20 03 36.8 -16
comp=Z,1.1nm,0.3s,baz=264,slow=24,SNR=7.8
ESDC LR LR 20 06 10.5
comp=Z,220nm,18.1s,baz=275,slow=34
ESLA Sonseca Array 16.38 75 eP Pn 20 00 45.0 -5.4
comp=Z,4.6nm,1.1s
ESLA eSn Sn 20 03 32.7 -20
MDT Midelt 17.00 99 Pn Pn 20 00 59.4 +0.9
MDT Sn Sn 20 03 50.1 -18
MDT Midelt 17.00 99 Pn Pn 20 00 59.4 +0.9
comp=Z,0.4nm,0.3s,baz=292,slow=12,SNR=12
MDT Sn Sn 20 03 50.1 -18
comp=Z,0.5nm,0.3s,baz=20,slow=20,SNR=7.9
MDT LR LR 20 06 13.5
comp=Z,175nm,18.4s,baz=118,slow=33
EQES Quesada 17.13 82 P Pn 20 00 58.9 -1.0
EQES S Sn 20 03 54.7 -16
EQES Quesada 17.13 82 P Pn 20 00 58.9 -1.0
ELAN Lanestosa 17.23 63 P Pn 20 00 56.8 -4.4
comp=Z,9.8nm,0.6s
ELAN S Sn 20 03 56.1 -17
EVIA Vianos 17.52 79 P Pn 20 01 05.1 +0.3
EVIA pmax pmax
comp=Z,2.0nm,0.3s
EVIA Vianos 17.52 79 P Pn 20 01 05.1 +0.3
comp=Z,1.5nm,0.3s
EVIA Vianos 17.52 79 P Pn 20 01 05.1 +0.3
comp=Z,1.5nm,0.3s
SJPF Ste Jean 18.79 65 eP Pn 20 01 20.7 +0.3
QUIF Quistinic 18.98 49 eP Pn 20 01 23.3 +0.6
comp=Z,26nm,0.9s
QUIF Quistinic 18.98 49 eP Pn 20 01 23.3 +0.6
QUIF pmax pmax
comp=Z,13nm,0.9s
QUIF Quistinic 18.98 49 eP Pn 20 01 23.3 +0.6
comp=Z,13nm,0.9s
ROSF Rostrenen 19.11 48 eP Pn 20 01 24.7 +0.5
comp=Z,24nm,0.9s
ROSF Rostrenen 19.11 48 eP Pn 20 01 24.7 +0.5
ROSF pmax pmax
comp=Z,12nm,0.9s
ROSF Rostrenen 19.11 48 eP Pn 20 01 24.7 +0.5
comp=Z,12nm,0.9s
ETSF Etsaut 19.23 66 eP Pn 20 01 26.1 +0.3
comp=Z,21nm,1.1s
ETSF Etsaut 19.23 66 eP Pn 20 01 26.1 +0.3
ETSF pmax pmax
comp=Z,10.0nm,1.0s
ETSF Etsaut 19.23 66 eP Pn 20 01 26.1 +0.3
comp=Z,10nm,1.1s
SGMF Saint Gilles 19.50 49 eP Pn 20 01 29.2 +0.3
comp=Z,26nm,1.0s
SGMF Saint Gilles 19.50 49 eP Pn 20 01 29.2 +0.3
SGMF pmax pmax
comp=Z,13nm,1.0s
SGMF Saint Gilles 19.50 49 eP Pn 20 01 29.2 +0.3
comp=Z,13nm,1.0s
EBIE Bielsa 19.72 66 P Pn 20 01 30.6 -0.9
comp=Z,8.7nm,0.7s
EBIE Bielsa 19.72 66 P Pn 20 01 30.6 -1.0
comp=Z,8.7nm,0.7s
EPF Esparros 19.91 66 eP Pn 20 01 33.3 -0.5
comp=Z,9.3nm,0.7s
EPF Esparros 19.91 66 eP Pn 20 01 33.3 -0.5
EPF pmax pmax
comp=Z,5.0nm,0.7s
EPF Esparros 19.91 66 eP Pn 20 01 33.3 -0.5
comp=Z,4.7nm,0.7s
EPOB Poblet 20.29 71 P P 20 01 35.6 -0.8
EPOB Poblet 20.29 71 P P 20 01 35.6 -0.8
MFF Saint Martin d 20.39 55 eP P 20 01 38.9 +1.4
comp=Z,25nm,0.8s
MFF Saint Martin d 20.39 55 eP P 20 01 38.9 +1.4
MFF pmax pmax
comp=Z,13nm,0.8s
MFF Saint Martin d 20.39 55 eP P 20 01 38.9 +1.4
comp=Z,13nm,0.8s
LFF La Frestale 20.54 60 eP P 20 01 40.2 +1.0
comp=Z,26nm,0.8s
LFF La Frestale 20.54 60 eP P 20 01 40.2 +1.0
LFF pmax pmax
comp=Z,13nm,0.8s
LFF La Frestale 20.54 60 eP P 20 01 40.2 +1.0
comp=Z,13nm,0.8s
GRR Gorron 20.58 50 eP P 20 01 40.9 +1.3
comp=Z,33nm,0.7s
GRR Gorron 20.58 50 eP P 20 01 40.9 +1.3
GRR pmax pmax
comp=Z,16nm,0.7s
GRR Gorron 20.58 50 eP P 20 01 40.9 +1.3
comp=Z,16nm,0.7s
FLN La Foliniere 20.96 49 eP P 20 01 44.7 +1.0
comp=Z,44nm,0.8s
FLN eMLR MLR
comp=Z,309nm,20.2s,MS3.4
FLN La Foliniere 20.96 49 eP P 20 01 44.7 +1.0
FLN pmax pmax
comp=Z,22nm,0.8s
FLN La Foliniere 20.96 49 eP P 20 01 44.7 +1.0
comp=Z,22nm,0.8s
LDF La Druitiere 21.11 50 eP P 20 01 46.2 +0.9
comp=Z,27nm,0.8s,mb4.3
LDF La Druitiere 21.11 50 eP P 20 01 46.2 +0.9
LDF pmax pmax
comp=Z,14nm,0.8s,mb4.3
LDF La Druitiere 21.11 50 eP P 20 01 46.2 +0.9
comp=Z,14nm,0.8s,mb4.3
RJF Les Rejaudoux 21.16 60 eP P 20 01 46.9 +1.1
RJF eMLR MLR
comp=Z,376nm,18.2s,MS3.5
MTLF Montolieu 21.31 65 eP P 20 01 48.4 +0.9
CAF Calviac 21.46 61 eP P 20 01 49.6 +0.5
comp=Z,33nm,1.0s,mb4.3
CAF Calviac 21.46 61 eP P 20 01 49.6 +0.5
CAF pmax pmax
comp=Z,16nm,1.0s,mb4.3
CAF Calviac 21.46 61 eP P 20 01 49.6 +0.5
comp=Z,16nm,1.0s,mb4.3
TCF Toulx Ste Croi 21.87 57 eP P 20 01 54.0 +0.6
comp=Z,36nm,0.9s,mb4.5
TCF Toulx Ste Croi 21.87 57 eP P 20 01 54.0 +0.6
TCF pmax pmax
comp=Z,18nm,0.9s,mb4.5
TCF Toulx Ste Croi 21.87 57 eP P 20 01 54.0 +0.6
comp=Z,18nm,0.9s,mb4.5
PYM Petit Puy Mans 22.28 59 eP P 20 01 58.2 +0.3
LBL Lubilhac 22.34 60 eP P 20 02 03.7 +5.2
BGF Bois d'Agland 22.36 57 eP P 20 01 59.0 +0.3
comp=Z,35nm,0.9s,mb4.5
BGF Bois d'Agland 22.36 57 eP P 20 01 59.0 +0.3
BGF pmax pmax
comp=Z,17nm,0.9s,mb4.5
BGF Bois d'Agland 22.36 57 eP P 20 01 59.0 +0.3
comp=Z,18nm,0.9s,mb4.5
AGO Saint Agoulin 22.43 58 eP P 20 02 01.7 +2.2
LASF Ste Croix 22.58 64 eP P 20 02 01.0 -0.1
comp=Z,62nm,1.1s,mb4.7
LASF Ste Croix 22.58 64 eP P 20 02 01.0 -0.1
comp=Z,31nm,1.1s,mb4.7
PLDF La Plantade 22.75 59 eP P 20 02 04.5 +1.7
AVF Avril sur Loir 22.76 57 eP P 20 02 02.9 0.0
comp=Z,17nm,0.9s,mb4.3
AVF Avril sur Loir 22.76 57 eP P 20 02 02.9 0.0
AVF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
AVF Avril sur Loir 22.76 57 eP P 20 02 02.9 0.0
comp=Z,8.6nm,0.9s,mb4.3
SSF Saint Saulge 22.93 56 eP P 20 02 05.0 +0.3
comp=Z,13nm,0.6s,mb4.4
SSF Saint Saulge 22.93 56 eP P 20 02 05.0 +0.3
SSF pmax pmax
comp=Z,7.0nm,0.6s,mb4.4
SSF Saint Saulge 22.93 56 eP P 20 02 05.0 +0.3
comp=Z,6.6nm,0.6s,mb4.4
SMF Signal de Mont 23.05 57 eP P 20 02 06.6 +0.6
comp=Z,55nm,1.0s,mb4.7
SMF Signal de Mont 23.05 57 eP P 20 02 06.6 +0.6
SMF pmax pmax
comp=Z,28nm,1.0s,mb4.8
SMF Signal de Mont 23.05 57 eP P 20 02 06.6 +0.6
comp=Z,28nm,1.0s,mb4.7
ESK Eskdalemuir 23.16 32 eP P 20 02 06.8 -0.3
ESK pmax pmax
comp=Z,11nm,0.7s,mb4.5
ESK Eskdalemuir 23.16 32 eP P 20 02 06.8 -0.3
comp=Z,11nm,0.7s,mb4.5
ESK Eskdalemuir 23.16 32 eP P 20 02 06.8 -0.3
comp=Z,11nm,0.7s,mb4.5
EKA Eskdalemuir Ar 23.20 32 P P 20 02 06.7 -0.7
EKA pmax pmax
comp=Z,5.0nm,0.7s
EKA Eskdalemuir Ar 23.20 32 P P 20 02 06.7 -0.8
comp=Z,5.3nm,0.7s,mb4.2,baz=228,slow=8.4,SNR=22
LOR Lormes 23.21 56 eP P 20 02 07.2 -0.5
comp=Z,32nm,1.1s,mb4.5
LOR eMLR MLR
comp=Z,301nm,22.2s,MS3.4
LOR Lormes 23.21 56 eP P 20 02 07.2 -0.5
LOR pmax pmax
comp=Z,16nm,1.1s,mb4.5
LOR Lormes 23.21 56 eP P 20 02 07.2 -0.5
comp=Z,16nm,1.1s,mb4.5
VIVF Saint-Julien-l 23.27 62 eP P 20 02 08.3 -0.1
comp=Z,19nm,0.8s,mb4.4
VIVF Saint-Julien-l 23.27 62 eP P 20 02 08.3 -0.1
VIVF pmax pmax
comp=Z,9.0nm,0.8s,mb4.3
VIVF Saint-Julien-l 23.27 62 eP P 20 02 08.3 -0.1
comp=Z,9.4nm,0.8s,mb4.4
BBTS Babate 23.68 160 P P 20 02 15.0 +2.3
BBTS Babate 23.68 160 P P 20 02 15.0 +2.3
comp=Z,34nm,1.0s,mb4.8,baz=269,slow=6.5,SNR=3.3
BBTS LR LR 20 10 20.6
comp=Z,108nm,21.3s,MS3.3,baz=51,slow=34
SMRF Simiane la Rot 23.80 64 eP P 20 02 14.0 +0.3
comp=Z,36nm,1.2s,mb4.5
SMRF Simiane la Rot 23.80 64 eP P 20 02 14.0 +0.3
comp=Z,18nm,1.2s,mb4.5
ORIF Oris-en-Rattie 24.13 62 eP P 20 02 17.3 +0.7
comp=Z,21nm,0.9s,mb4.4
ORIF eMLR MLR
comp=Z,404nm,22.5s,MS3.5
ORIF Oris-en-Rattie 24.13 62 eP P 20 02 17.3 +0.7
ORIF pmax pmax
comp=Z,11nm,0.9s,mb4.4
ORIF Oris-en-Rattie 24.13 62 eP P 20 02 17.3 +0.7
comp=Z,11nm,0.9s,mb4.4
BAIF Baives 24.29 49 eP P 20 02 17.8 -0.2
comp=Z,22nm,0.9s,mb4.4
BAIF Baives 24.29 49 eP P 20 02 17.8 -0.2
BAIF pmax pmax
comp=Z,11nm,0.9s,mb4.4
BAIF Baives 24.29 49 eP P 20 02 17.8 -0.2
comp=Z,11nm,0.9s,mb4.4
MEZF Maizieres J'vi 24.32 53 eP P 20 02 18.1 -0.2
comp=Z,31nm,0.8s,mb4.6
MEZF Maizieres J'vi 24.32 53 eP P 20 02 18.1 -0.2
comp=Z,16nm,0.8s,mb4.6
LMR La Mourre 24.43 66 eP P 20 02 19.0 -0.4
DOU Dourbes 24.54 49 P P 20 02 20.4 +0.1
comp=Z,7.1nm,1.1s,mb4.3
FRF La Foret Royal 24.54 65 eP P 20 02 20.1 -0.3
comp=Z,18nm,0.9s,mb4.5
FRF La Foret Royal 24.54 65 eP P 20 02 20.1 -0.3
FRF pmax pmax
comp=Z,9.0nm,0.9s,mb4.5
FRF La Foret Royal 24.54 65 eP P 20 02 20.1 -0.3
comp=Z,9.2nm,0.9s,mb4.5
CABF La Chapelle 24.55 58 eP P 20 02 20.2 -0.3
comp=Z,19nm,1.1s,mb4.5
CABF La Chapelle 24.55 58 eP P 20 02 20.2 -0.3
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CABF La Chapelle 24.55 58 eP P 20 02 20.2 -0.3
comp=Z,9.5nm,1.1s,mb4.5
UCC Uccle 24.65 48 P P 20 02 20.8 -0.5
GIVF Givet 24.68 49 eP P 20 02 21.5 -0.1
comp=Z,52nm,0.9s,mb5.0
GIVF Givet 24.68 49 eP P 20 02 21.5 -0.1
GIVF pmax pmax
comp=Z,26nm,0.9s,mb5.0
GIVF Givet 24.68 49 eP P 20 02 21.5 -0.1
comp=Z,26nm,0.9s,mb5.0
BNI Bardonecchia 24.71 62 eP P 20 02 22.4 +0.5
BNI pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
BNI Bardonecchia 24.71 62 eP P 20 02 22.4 +0.4
comp=Z,8.3nm,1.0s,mb4.4
BNI Bardonecchia 24.71 62 eP P 20 02 22.4 +0.5
comp=Z,8.3nm,1.0s,mb4.4
MBDF Montbardon 24.74 63 eP P 20 02 22.6 +0.4
LPL La Plagne 24.81 61 eP P 20 02 23.1 +0.3
LPG La Plagne 24.82 61 eP P 20 02 23.1 +0.2
comp=Z,16nm,1.1s,mb4.4
LPG La Plagne 24.82 61 eP P 20 02 23.1 +0.2
LPG pmax pmax
comp=Z,8.0nm,1.1s,mb4.4
LPG La Plagne 24.82 61 eP P 20 02 23.1 +0.2
comp=Z,7.8nm,1.1s,mb4.4
MVIF Mont Vial 24.93 65 eP P 20 02 25.4 +1.4
TOUF Mont Tournerai 25.01 64 eP P 20 02 25.4 +0.7
HAU Haudompre 25.03 55 eP P 20 02 24.7 -0.1
HAU eMLR MLR
comp=Z,253nm,22.2s,MS3.4
LUCF Luceram 25.07 65 eP P 20 02 25.7 +0.5
BCLA Clavier 25.07 49 P P 20 02 25.9 +0.8
comp=Z,8.0nm,1.5s,mb4.2
SBF Sospel 25.13 65 eP P 20 02 25.6 -0.2
HINF Hinteralfeld 25.31 55 eP P 20 02 27.2 -0.2
comp=Z,9.1nm,0.7s,mb4.3
HINF Hinteralfeld 25.31 55 eP P 20 02 27.2 -0.2
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
HINF Hinteralfeld 25.31 55 eP P 20 02 27.2 -0.2
comp=Z,4.6nm,0.7s,mb4.3
WLF Walferdange 25.35 51 eP P 20 02 27.0 -0.7
WLF pmax pmax
comp=Z,36nm,0.8s,mb5.2
WLF Walferdange 25.35 51 P P 20 02 28.1 +0.4
comp=Z,20nm,0.9s,mb4.8
WLF Walferdange 25.35 51 eP P 20 02 27.8 +0.1
comp=Z,38nm,0.8s,mb5.2
WLF Walferdange 25.35 51 eP P 20 02 27.0 -0.7
comp=Z,36nm,0.8s,mb5.2
BEBN Eben Emael 25.43 48 P P 20 02 28.0 -0.4
MEM Membach 25.56 49 P P 20 02 28.7 -0.9
comp=Z,5.4nm,1.2s,mb4.0
CDF Champ du Feu 25.73 54 eP P 20 02 31.2 +0.1
comp=Z,13nm,0.8s,mb4.3
CDF Champ du Feu 25.73 54 eP P 20 02 31.2 +0.1
CDF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
CDF Champ du Feu 25.73 54 eP P 20 02 31.2 +0.1
comp=Z,6.6nm,0.8s,mb4.3
RUP Ruppelstein 25.93 51 eP P 20 02 32.9 0.0
PGF Pioggiola 26.23 68 eP P 20 02 35.1 -0.6
comp=Z,21nm,1.1s,mb4.4
PGF Pioggiola 26.23 68 eP P 20 02 35.1 -0.6
PGF pmax pmax
comp=Z,11nm,1.1s,mb4.4
PGF Pioggiola 26.23 68 eP P 20 02 35.1 -0.6
comp=Z,10nm,1.1s,mb4.4
BFO Black Forest 26.39 55 eP P 20 02 36.6 -0.6
BFO pmax pmax
comp=Z,15nm,1.0s,mb4.6
BFO Black Forest 26.39 55 eP P 20 02 36.6 -0.6
comp=Z,15nm,1.0s,mb4.6
DAVOS Davos 27.10 58 P P 20 02 44.2 +0.6
DAVOX Davos/Dischmat 27.15 59 P P 20 02 44.1 +0.1
comp=Z,2.6nm,0.8s,mb4.0,baz=290,slow=12,SNR=3.0
DAVOX LR LR 20 13 24.0
comp=Z,199nm,18.2s,MS3.7,baz=264,slow=36
DAVA Damuels 27.23 58⇑iP P 20 02 46.0 +1.3
comp=Z,9.2nm,0.9s,mb4.5
DAVA Damuels 27.23 58⇑iPP P 20 02 46.0 +1.3
comp=Z,9.2nm,0.9s,mb4.5
KEST Kesra 27.29 83 LR LR 20 11 38.3
comp=Z,52nm,21.5s,MS3.1,baz=327,slow=32
BORG Borgarnes 27.55 3 LR LR 20 10 26.4
comp=Z,249nm,21.1s,MS3.8,baz=208,slow=29
FETA Feichten 27.76 58⇓iP P 20 02 51.3 +1.8
comp=Z,8.7nm,1.2s,mb4.5
FETA Feichten 27.76 58⇓iPP P 20 02 51.3 +1.8
comp=Z,8.7nm,1.2s,mb4.5
RETA Reutte 27.85 57⇑iP P 20 02 51.2 +0.9
comp=Z,11nm,1.4s,mb4.5
GRFO Grafenberg 28.54 53 eP P 20 02 55.9 -0.5
GRFO pmax pmax
comp=Z,4.0nm,0.6s,mb4.4
GRFO Grafenberg 28.54 53 eP P 20 02 55.9 -0.5
comp=Z,4.2nm,0.6s,mb4.5
GRFO Grafenberg 28.54 53 eP P 20 02 55.9 -0.5
comp=Z,4.2nm,0.6s,mb4.5
GRA1 Grafenberg Arr 28.54 53 eP P 20 02 56.7 +0.3
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 28.54 53 eP P 20 02 56.7 +0.3
comp=Z,18nm,0.8s,mb5.0
GRF eL 20 11 03.2
comp=Z,185nm,20.0s
MOX Moxa 29.00 51 eP P 20 03 02.6 +2.1
MANZ Manzenberg 29.16 52 eP P 20 03 02.2 +0.3
comp=Z,12nm,1.7s,mb4.5
ROTZ Rotzenmuhle 29.18 53 eP P 20 03 01.7 -0.4
comp=Z,4.0nm,0.8s,mb4.3
TANN Tannenbergstha 29.48 52 eP P 20 03 05.3 +0.6
comp=Z,4.0nm,0.8s,mb4.3
AQU L'Aquila 29.49 68 eP P 20 03 02.9 -2.0
AQU pmax pmax
comp=Z,8.0nm,0.4s,mb4.9
AQU L'Aquila 29.49 68 eP P 20 03 02.9 -2.1
comp=Z,8.0nm,0.4s,mb4.9
AQU L'Aquila 29.49 68 eP P 20 03 02.9 -2.0
comp=Z,8.0nm,0.4s,mb4.9
WET Wettzell 29.50 54 eP P 20 03 05.0 0.0
WET pmax pmax
comp=Z,2.0nm,0.8s,mb4.0
WET Wettzell 29.50 54 eP P 20 03 05.0 0.0
comp=Z,2.0nm,0.8s,mb4.0
KBA Koelnbreinsper 25.55 59⇓iP P 20 03 05.3 0.0
comp=Z,6.3nm,1.1s,mb4.3
KBA Koelnbreinsper 29.55 59⇓iP P 20 03 05.3 -0.1
KBA pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
KHC Kasperske Hory 29.95 55 eP P 20 03 17.7 +8.7
KHC Kasperske Hory 29.95 55 eP P 20 03 07.7 -1.3
GEC2 GERESS Array S 29.99 55 eP P 20 03 09.2 -0.1
GEC2 pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
GEC2 GERESS Array S 29.99 55 eP P 20 03 09.2 -0.1
comp=Z,4.0nm,1.1s,mb4.2
GERES GERESS Array B 29.99 55 P P 20 03 09.0 -0.3
GERES pmax pmax
comp=Z,2.0nm,0.6s
GERES MLR MLR
comp=Z,87nm,18.4s
GERES GERESS Array B 29.99 55 P P 20 03 09.0 -0.3
comp=Z,1.6nm,0.6s,mb4.0,baz=264,slow=6.8,SNR=23
GERES LR LR 20 13 33.0
comp=Z,87nm,18.4s,MS3.4,baz=263,slow=33
MOA Molln 30.25 57⇑iP P 20 03 11.9 +0.3
comp=Z,5.6nm,1.2s,mb4.2
OBKA Obir 30.33 60⇑iP P 20 03 12.6 +0.3
comp=Z,14nm,1.5s,mb4.6
PVCC Panska Ves 30.82 52 eP P 20 03 17.3 +0.7
UPC Upice 31.72 52 eP P 20 03 25.3 +0.8
DPC Dobruska-Polom 31.90 53 eP P 20 03 26.7 +0.6
VRAC Vranov 31.94 55 P P 20 03 26.2 -0.2
VRAC pmax pmax
comp=Z,3.0nm,0.7s
VRAC MLR MLR
comp=Z,133nm,21.0s
VRAC Vranov 31.94 55 P P 20 03 26.2 -0.2
comp=Z,2.7nm,0.7s,mb4.3,baz=274,slow=12,SNR=5.3
VRAC LR LR 20 14 08.4
comp=Z,133nm,21.0s,MS3.6,baz=258,slow=32
TIP Timpagrande 32.38 74 eP P 20 03 28.9 -1.6

comp=Z,7.3nm,0.7s,mb4.7
TIP Timpagrande 32.38 74 *e*P **P 20 03 28.9 -1.6**
comp=Z,7.3nm,0.7s,mb4.7
NAO01 NORSAR Array S 32.45 32 P **P 20 03 32.3 +1.5**
comp=Z,7.5nm,0.9s,mb4.6
NAO01 NORSAR Array S 32.45 32 P **P 20 03 32.3 +1.5**
comp=Z,7.5nm,0.9s,mb4.6
MORC Moravsky Berou 32.60 54 *e*P **P 20 03 31.9 -0.4**
MORC pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
MORC Moravsky Berou 32.60 54 *e*P **P 20 03 31.9 -0.4**
comp=Z,4.5nm,1.2s,mb4.3
MORC Moravsky Berou 32.60 54 *e*P **P 20 03 31.9 -0.4**
comp=Z,4.5nm,1.2s,mb4.3
NB2 NORSAR Subarra 32.69 32 P **P 20 03 32.8 -0.1**
comp=Z,3.9nm,0.8s,mb4.4,baz=242,slow=9.3
NOA NORSAR Array B 32.69 32 P **P 20 03 33.3 +0.4**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,250nm,20.9s
NOA NORSAR Array B 32.69 32 P **P 20 03 33.3 +0.5**
comp=Z,1.0nm,0.8s,mb3.8,baz=229,slow=8.1,SNR=3.0
NOA LR LR 20 14 32.9
comp=Z,250nm,20.9s,MS3.9,baz=255,slow=32
BBSR BB Station 33.05 274 P **P 20 03 36.2 -0.2**
comp=Z,35nm,1.2s,mb5.2
BBSR BB Station 33.05 274 P **P 20 03 36.2 -0.2**
comp=Z,35nm,1.2s,mb5.2
SFJD Kangerlussuaq 33.21 342 P **P 20 03 37.6 +0.2**
SFJD pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SFJD Kangerlussuaq 33.21 342 *e*P **P 20 03 37.6 +0.2**
comp=Z,16nm,1.1s,mb4.9
SFJD Kangerlussuaq 33.21 342 P **P 20 03 37.6 +0.2**
comp=Z,8.2nm,0.9s,mb4.7,baz=315,slow=1.0,SNR=3.7
SFJD Kangerlussuaq 33.21 342 *e*P **P 20 03 37.6 +0.2**
comp=Z,16nm,1.1s,mb4.9
HFS Hagfors 33.34 34 P **P 20 03 40.1 +1.5**
HFS pmax pmax
comp=Z,2.0nm,0.7s
HFS MLR MLR
comp=Z,190nm,20.9s
HFS Hagfors 33.34 34 P **P 20 03 40.1 +1.5**
comp=Z,2.0nm,0.7s,mb4.2,baz=221,slow=5.9,SNR=7.0
HFS LR LR 20 14 16.9
comp=Z,190nm,20.9s,MS3.8,baz=276,slow=31
VYHS Vyhne 33.34 56 *e*P **P 20 03 37.8 -1.0**
SCHQ Schefferville 33.48 315 *e*P **P 20 03 39.8 0.0**
comp=Z,6.7nm,0.8s,mb4.6
SCHQ Schefferville 33.48 315 P **P 20 03 40.2 +0.4**
comp=Z,5.1nm,0.8s,mb4.5,baz=103,slow=6.5,SNR=10.0
SCHQ LR LR 20 13 51.2
comp=Z,58nm,20.2s,MS3.3,baz=174,slow=30
SCHQ Schefferville 33.48 315 *e*P **P 20 03 39.8 -0.1**
comp=Z,6.7nm,0.8s,mb4.6
TOA0 Torodi Ar. Sit 33.65 129 *e*P **P 20 03 42.4 +0.6**
TOA0 Torodi Ar. Sit 33.65 129 *e*P **P 20 03 42.4 +0.7**
TORD Torodi Ar. Bea 33.65 129 P **P 20 03 43.0 +1.2**
comp=Z,6.1nm,0.8s,mb4.6,baz=315,slow=9.9,SNR=27
PSZ Piszkesteto 34.03 57 *e*P **P 20 03 44.5 -0.2**
PSZ pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
PSZ Piszkesteto 34.03 57 *e*P **P 20 03 44.5 -0.3**
comp=Z,2.8nm,0.8s,mb4.2
PSZ Piszkesteto 34.03 57 *e*P **P 20 03 44.5 -0.2**
comp=Z,2.8nm,0.8s,mb4.2
OJC Ojcow 34.10 53 *e*P **P 20 03 45.7 +0.4**
STHS Stebnicka Huta 34.98 55 *e*P **P 20 03 52.5 -0.4**
CRVS Cervenica-Dubn 35.10 56 *e*P **P 20 03 54.0 0.0**
DBIC Dimbokro 35.43 145 *e*P **P 20 03 58.0 +0.9**
DBIC pmax pmax
comp=Z,6.0nm,0.8s
DBIC Dimbokro 35.43 145 *e*P **P 20 03 58.0 +0.9**
comp=Z,6.0nm,0.8s,mb4.6
DBIC Dimbokro 35.43 145 P **P 20 03 57.9 +0.8**
comp=Z,4.7nm,0.9s,mb4.4,baz=335,slow=12,SNR=5.5
KOLS Kolonicke sedl 35.64 56 *e*P **P 20 03 59.3 +0.7**
KWP Kalwaria 35.94 55 *e*P **P 20 04 02.9 +1.7**
MLR Muntele Rosu 38.29 61 LR LR 20 20 01.7
comp=Z,118nm,18.8s,MS3.7,baz=114,slow=36
VSU Vasula 39.20 41 *e*P **P 20 04 29.5 +0.8**
FINES FINESS Array B 39.49 36 P **P 20 04 29.9 -1.2**
FINES pmax pmax
comp=Z,3.0nm,1.0s
FINES MLR MLR
comp=Z,66nm,19.5s
FINES FINESS Array B 39.49 36 P **P 20 04 29.9 -1.2**
comp=Z,2.7nm,0.9s,mb3.9,baz=308,slow=4.6,SNR=5.4
FINES LR LR 20 18 37.4
comp=Z,66nm,19.5s,MS3.5,baz=180,slow=33
FIA1 FINESS Array S 39.49 36 *e*P **P 20 04 29.4 -1.7**
FIA1 FINESS Array S 39.49 36 *e*P **P 20 04 29.4 -1.7**
IDI Anoyia 39.62 77 P **P 20 04 33.5 +1.0**
comp=Z,5.8nm,0.7s,mb4.3,baz=320,slow=11,SNR=5.5
KIEV Kiev 40.12 53 *e*P **P 20 04 36.0 -0.4**
KIEV pmax pmax
comp=Z,4.0nm,0.8s,mb4.1
KIEV Kiev 40.12 53 *e*P **P 20 04 36.0 -0.4**
comp=Z,4.3nm,0.8s,mb4.1
KIEV Kiev 40.12 53 *e*P **P 20 04 36.0 -0.4**
comp=Z,4.3nm,0.8s,mb4.1
AKASG Malin Array Be 40.13 53 P **P 20 04 35.4 -1.1**
AKASG pmax pmax
comp=Z,3.0nm,0.6s
AKASG Malin Array Be 40.13 53 P **P 20 04 35.4 -1.1**
comp=Z,2.5nm,0.6s,mb4.0,baz=273,slow=8.1,SNR=11
AKBB Malin Array Si 40.13 53 *e*P **P 20 04 35.9 -0.6**
SSPA Standing Stone 41.00 292 *e*P **P 20 04 42.3 -1.5**
comp=Z,13nm,1.3s,mb4.5
SSPA Standing Stone 41.00 292 *e*P **P 20 04 42.3 -1.6**
comp=Z,13nm,1.3s,mb4.5
ARCES ARCESS Array B 41.88 24 P **P 20 04 49.8 -0.9**
ARCES pmax pmax
comp=Z,4.0nm,0.7s
ARCES MLR MLR
comp=Z,92nm,18.2s
ARCES ARCESS Array B 41.88 24 P **P 20 04 49.8 -1.0**
comp=Z,4.1nm,0.7s,mb4.3,baz=243,slow=8.5,SNR=14
ARCES LR LR 20 22 00.8
comp=Z,92nm,18.2s,MS3.7,baz=72,slow=36
JOF Joensuu 42.20 34 *e*p **P 20 04 50.7 -2.7**
comp=Z,1.7nm,0.6s,mb4.0
KEV Kevo 42.45 24 P **P 20 04 52.2 -3.2**
KEV pmax pmax
comp=Z,34nm,1.4s,mb4.9
KEV Kevo 42.45 24 P **P 20 04 52.2 -3.2**
comp=Z,34nm,1.4s,mb4.9
SPITS Spitsbergen Ar 44.40 11 P **P 20 05 11.9 +0.9**
SPITS pmax pmax
comp=Z,6.0nm,1.1s
SPITS MLR MLR
comp=Z,197nm,18.2s
SPITS Spitsbergen Ar 44.40 11 P **P 20 05 11.9 +0.9**
comp=Z,5.6nm,1.1s,mb4.2,baz=275,slow=4.9,SNR=6.4
SPITS LR LR 20 19 30.4
comp=Z,197nm,18.2s,MS4.1,baz=235,slow=30
OBN Obninsk 44.40 46 *e*P **P 20 05 08.6 -2.7**
OBN *e* 20 06 49.9
OBN *e*S **S 20 11 38.7 -7.9**
OBN *e*SS SS 20 14 50.8 -14
OBN pmax pmax
comp=Z,5.0nm,1.0s,mb4.2
OBN MLR MLR
comp=Z,100nm,18.0s,MS3.8
ANN Anapa 46.41 60 *e*P **P 20 05 24.6 -2.8**
ANN *e*S **S 20 12 13.5 -2.4**
ANN pmax pmax
comp=Z,150nm,6.3s
ANN Anapa 46.41 60 *e*P **P 20 05 24.6 -2.8**
comp=Z,150nm,6.3s
ANN *e*S **S 20 12 13.5 -2.4**
FCC Fort Churchill 48.62 319 *e*P **P 20 05 44.5 +0.1**
FCC pmax pmax
comp=Z,61nm,1.6s,mb5.4
FCC Fort Churchill 48.62 319 *e*P **P 20 05 44.5 +0.1**
comp=Z,61nm,1.6s,mb5.4
FCC Fort Churchill 48.62 319 *e*P **P 20 05 44.5 +0.1**
comp=Z,61nm,1.6s,mb5.4
EYMN Ely 48.88 305 *e*P **P 20 05 46.5 0.0**
comp=Z,10nm,0.9s,mb4.8
EYMN Ely 48.88 305 *e*P **P 20 05 46.5 0.0**
comp=Z,10nm,0.9s,mb4.8
MALT Malatya 48.97 68 *e*P **P 20 05 47.3 0.0**
MALT pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
MALT Malatya 48.97 68 *e*P **P 20 05 47.3 0.0**
comp=Z,3.3nm,0.8s,mb4.4
RES Resolute Bay 49.20 341 *e*P **P 20 05 49.4 +0.8**
RES *e* 20 05 55.8
RES pmax pmax
comp=Z,789nm,0.9s
RES Resolute Bay 49.20 341 *e*P **P 20 05 49.4 +0.8**
comp=Z,789nm,0.9s
RES *e* 20 05 55.8
RES Resolute Bay 49.20 341 *e*P **P 20 05 49.4 +0.8**
SDV Santo Domingo 50.19 248 P **P 20 05 59.3 +2.3**
SDV Santo Domingo 50.19 248 P **P 20 05 59.3 +2.3**
comp=Z,7.8nm,0.8s,mb4.7,baz=176,slow=0.1,SNR=14
AGMN Agassiz Refuge 51.63 306 *e*P **P 20 06 07.8 +0.4**
comp=Z,5.9nm,0.8s,mb4.6
GNI Garni 52.94 64 LR LR 20 29 47.4
comp=Z,32nm,19.1s,MS3.4,baz=331,slow=37
FFC Flin Flon 53.62 315 *e*P **P 20 06 22.5 +0.5**
FFC pmax pmax
comp=Z,12nm,1.1s,mb4.8
FFC Flin Flon 53.62 315 *e*P **P 20 06 22.5 +0.5**
comp=Z,12nm,1.1s,mb4.8
ROSC El Rosal 55.60 247 LR LR 20 28 03.0
comp=Z,88nm,18.4s,MS3.9,baz=40,slow=33
ARU Arti 56.35 42 *c i*P **P 20 06 42.2 +0.5**
ARU *e* 20 08 43.9
ARU *e*S **S 20 14 33.6 +0.8**
ARU *e*SS SS 20 18 15.3 -3.7
ARU pmax pmax
comp=Z,21nm,1.7s,mb4.9
ARU Arti 56.35 42 *e*P **P 20 06 41.0 -0.8**
comp=Z,10nm,1.0s,mb4.8
BDFB Brasilia 57.07 207 LR LR 20 28 23.5
comp=Z,58nm,18.5s,MS3.7,baz=167,slow=33
YKA Yellowknife Ar 57.67 327 P **P 20 06 50.8 -0.1**
comp=Z,4.0nm,0.9s,mb4.5,baz=70,slow=7.2,SNR=40
YKA LR LR 20 27 49.5
comp=Z,25nm,18.2s,MS3.4,baz=110,slow=32
AKTK Aktyubinsk 58.07 48 P **P 20 06 54.3 +0.3**
AKTO Aktyubinsk 58.07 48 P **P 20 06 54.3 +0.4**
AKTO pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
AKTO Aktyubinsk 58.07 48 P **P 20 06 54.3 +0.3**
comp=Z,4.6nm,0.7s,mb4.7,baz=288,slow=7.0,SNR=17
WMOK Wichita Mounta 58.54 292 *e*P **P 20 06 57.1 -0.4**
WMOK pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
WMOK Wichita Mounta 58.54 292 *e*P **P 20 06 57.1 -0.4**
comp=Z,7.0nm,1.1s,mb4.6
RST Umm Al-Ruwaisa 59.04 75 *e*P **P 20 06 59.3 -1.8**
RST AMb AMB 20 07 06.6
comp=Z,7.2nm,0.8s,mb4.8
MIB Mutribah 59.16 74 *e*P **P 20 07 01.8 -0.1**
MIB AMb AMB 20 07 10.0
comp=Z,11nm,1.2s,mb4.8
NAY Al-Naaiem 59.35 75 *e*P **P 20 07 00.8 -2.4**
NAY AMb AMB 20 07 04.3
comp=Z,2.9nm,0.9s,mb4.3
JCT Junction City 61.25 288 *e*P **P 20 07 16.4 +0.2**
JCT pmax pmax
comp=Z,11nm,0.8s,mb5.0
JCT Junction City 61.25 288 *e*P **P 20 07 16.4 +0.2**
comp=Z,11nm,0.8s,mb5.0
INK Inuvik 62.33 337 *e*P **P 20 07 21.8 -1.1**
WALA Waterton Lakes 62.53 312 *e*P **P 20 07 24.6 +0.1**
comp=Z,9.4nm,1.3s,mb4.8
CHMT Chamberlain Mo 63.08 310 *e*P **P 20 07 28.2 0.0**
BRVK Borovoye 63.92 42 *e*P **P 20 07 34.2 +0.5**
BRVK pmax pmax
comp=Z,8.0nm,1.1s,mb4.9
BRVK Borovoye 63.92 42 *e*P **P 20 07 34.2 +0.6**
comp=Z,7.7nm,1.1s,mb4.8
BVAR Borovoye Array 63.99 42 P **P 20 07 34.7 +0.6**
BVAR pmax pmax
comp=Z,1.0nm,0.5s
BVAR Borovoye Array 63.99 42 P **P 20 07 34.7 +0.6**
comp=Z,1.1nm,0.5s,mb4.3,baz=299,slow=6.1,SNR=5.2
ANMO Albuquerque 64.05 295 *e*P **P 20 07 35.8 +0.9**
HWUT Hardware Ranch 64.44 304 *e*P **P 20 07 37.4 +0.1**
comp=Z,9.0nm,1.0s,mb5.0
TXAR Lajitas Array 64.73 289 P **P 20 07 40.4 +1.0**
TXAR pmax pmax
comp=Z,6.0nm,0.7s
TXAR MLR MLR
comp=Z,74nm,19.3s
TXAR Lajitas Array 64.73 289 P **P 20 07 40.4 +1.0**
comp=Z,5.5nm,0.7s,mb4.9,baz=74,slow=7.4,SNR=60
TXAR LR LR 20 33 41.0
comp=Z,74nm,19.3s,MS3.9,baz=0.0,slow=34
LAZ Ladron 64.81 295 *e*P **P 20 07 41.8 +2.0**
JLU Jordanelle 64.84 303 P **P 20 07 39.5 -0.4**
TMUT Trail Mountain 65.30 302 P **P 20 07 41.4 -1.5**
DUG Dugway 65.95 303 *e*P **P 20 07 47.9 +0.8**
DUG *e* 20 07 52.8
DUG pmax pmax
comp=Z,6.0nm,1.0s,mb4.8
DUG Dugway 65.95 303 *e*P **P 20 07 47.9 +0.8**
comp=Z,5.8nm,1.0s,mb4.8
DUG *e* 20 07 52.8
MSU Marysvale 66.34 301 *e*P **P 20 07 51.5 +1.8**
DAWY Dawson 66.72 334 *e*P **P 20 07 51.6 0.0**
LPAZ La Paz 67.20 226 LR LR 20 33 20.0
comp=Z,79nm,20.4s,MS3.9,baz=47,slow=32
CCUT Cedar City 67.63 301 *e*P **P 20 07 58.4 +0.5**
WVOR Wild Horse Val 68.61 308 *e*P **P 20 08 03.8 -0.2**
WVOR pmax pmax
comp=Z,3.0nm,0.3s,mb5.0
WVOR Wild Horse Val 68.61 308 *e*P **P 20 08 03.8 -0.2**
comp=Z,2.6nm,0.3s,mb4.9
KMBO Kilima Mbogo 68.68 109 P **P 20 08 10.5 +5.7**
KMBO pmax pmax
comp=Z,1.0nm,0.6s
KMBO Kilima Mbogo 68.68 109 P **P 20 08 10.5 +5.7**
comp=Z,0.6nm,0.6s,mb4.0,baz=327,slow=8.8,SNR=3.2
NVS Novosibirsk 69.48 36 *i*P **P 20 08 09.5 +0.4**
KURK Kurchatov 69.55 41 *e*P **P 20 08 08.5 -1.1**
KURK pmax pmax
comp=Z,6.0nm,1.0s,mb4.7
KURK Kurchatov 69.55 41 *e*P **P 20 08 08.5 -1.1**
comp=Z,5.9nm,1.0s,mb4.7
TIXI Tiksi 69.74 9 *e*P **P 20 08 11.3 +0.8**
TIXI pmax pmax
comp=Z,14nm,1.8s,mb4.8
TIXI Tiksi 69.74 9 *e*P **P 20 08 11.2 +0.7**
comp=Z,5.8nm,1.0s,mb4.7
IMA2 Indian Mountai 69.75 340 *e*P **P 20 08 11.1 +0.5**
IMA2 Indian Mountai 69.75 340 *e*P **P 20 08 11.1 +0.5**
CPUP Villa Florida 70.36 211 P **P 20 08 15.6 +0.8**
CPUP pmax pmax
comp=Z,1.0nm,0.5s
CPUP MLR MLR
comp=Z,113nm,20.4s
CPUP Villa Florida 70.36 211 *e*P **P 20 08 11.7 -3.1**
comp=Z,18nm,1.0s,mb5.2
CPUP Villa Florida 70.36 211 P **P 20 08 15.6 +0.8**
comp=Z,1.0nm,0.5s,mb4.2,baz=3.7,slow=10,SNR=4.1
CPUP LR LR 20 36 02.0
comp=Z,112nm,20.4s,MS4.1,baz=192,slow=33
CPUP Villa Florida 70.36 211 *e*P **P 20 08 11.7 -3.1**
comp=Z,18nm,1.0s,mb5.2
NVAR Mina Array Bea 70.51 304 P **P 20 08 17.3 +1.6**
comp=Z,0.9nm,0.3s,mb4.3,baz=34,slow=13,SNR=7.2
ZAL Zalesovo 70.75 36 P **P 20 08 17.4 +0.4**
ZAL pmax pmax
comp=Z,6.0nm,0.7s
ZAA0 Zalesovo Array 70.76 36 *e*P **P 20 08 16.0 -1.0**
ZALV Zalesovo Beam 70.76 36 P **P 20 08 17.4 +0.4**
comp=Z,6.2nm,0.7s,mb4.8,baz=306,slow=6.5,SNR=30
MK31 Makanchi Array 73.81 43 *e*P **P 20 08 35.9 +0.5**
MKAR Makanchi Array 73.81 43 P **P 20 08 35.6 +0.2**
MKAR pmax pmax
comp=Z,4.0nm,0.8s
MKAR MLR MLR
comp=Z,127nm,19.1s
MKAR Makanchi Array 73.81 43 P **P 20 08 35.6 +0.2**
comp=Z,3.6nm,0.8s,mb4.5,baz=311,slow=5.6,SNR=27
MKAR LR LR 20 41 12.3
comp=Z,127nm,19.1s,MS4.2,baz=355,slow=36
BILL Bilibino 74.66 356 *i*P **P 20 08 40.7 +0.8**
BILL *e* 20 11 34.5
BILL pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
BILL Bilibino 74.66 356 *e*P **P 20 08 41.0 +1.0**
WMQ Urumqi 78.65 43 *e*P **P 20 09 04.0 +1.1**
WMQ XP sP 20 09 11.0 +7.7
WMQ PP PP 20 12 04.0 +3.8
WMQ S S 20 18 59.0 -1.9
WMQ SS SS 20 24 06.0 +2.4
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.3
WMQ AMB AMB
comp=Z,65nm,6.0s
WMQ LR LR
comp=N,129nm,16.0s,MS4.5
WMQ LR LR
comp=E,121nm,16.0s,MS4.5
WMQ LR LR
comp=Z,138nm,16.0s,MS4.4
YAK Yakutsk 78.85 12 *e*P **P 20 09 04.1 +0.4**
YAK pmax pmax
comp=Z,19nm,1.5s,mb4.9
BOD Bodaibo 79.08 21 *e*P **P 20 09 03.7 -1.4**
BOD pmax pmax
comp=Z,15nm,0.9s,mb5.0
MOY Mondy 79.47 31 *e*P **P 20 09 08.8 +1.5**
MOY pmax pmax
comp=Z,23nm,2.0s,mb4.9
TLY Talaya 80.53 30 P **P 20 09 11.9 -1.1**
BOSA Boshof 80.56 137 LR LR 20 44 12.3
comp=Z,70nm,18.3s,MS4.0,baz=147,slow=35
ZAK Zakamensk 81.39 31 *e*P **P 20 09 16.9 -0.7**
ZAK pmax pmax
comp=Z,4.0nm,1.7s,mb4.2
SONM Songino Array 84.66 31 P **P 20 09 35.0 +0.4**
SONM pmax pmax
comp=Z,4.0nm,0.9s
SONM MLR MLR
comp=Z,147nm,19.2s
SONM Songino Array 84.66 31 P **P 20 09 35.0 +0.4**
comp=Z,3.5nm,0.9s,mb4.6,baz=325,slow=6.8,SNR=11
SONM LR LR 20 48 58.5
comp=Z,146nm,19.2s,MS4.4,baz=22,slow=37
ULN Ulaanbaatar 84.90 30 *e*P **P 20 09 36.1 +0.3**
ULN pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
ULN Ulaanbaatar 84.90 30 *e*P **P 20 09 36.1 +0.3**
comp=Z,8.2nm,0.9s,mb5.0
DANN Dangsing 86.39 57 *e*P **P 20 09 44.0 +0.4**
comp=Z,26nm,1.0s,mb5.3
KOLN Koldanda 86.66 57 *e*P **P 20 09 42.3 -2.7**
GKN Gorkha 87.20 57 *e*P **P 20 09 47.6 0.0**
KKN Kakani 87.77 56 *e*P **P 20 09 50.9 +0.6**
DMN Daman 87.77 57 *e*P **P 20 09 49.8 -0.6**
comp=Z,21nm,1.1s,mb5.4
GUN Gumba 88.08 56 *e*P **P 20 09 52.9 +1.1**
comp=Z,30nm,0.9s,mb5.6
GTA Gaotai 88.17 40 *e*P **P 20 09 52.6 +0.6**
GTA AP 20 09 56.9
GTA XP sP 20 10 00.4 +8.0
GTA PP PP 20 13 19.5 +1.3
GTA SKS 20 20 20.1
GTA S S 20 20 37.8 +0.4
GTA XS sS 20 20 46.5 +8.6
GTA AMB AMB
comp=Z,4.0nm,1.4s,mb4.6
GTA AMB AMB
comp=Z,47nm,4.6s
GTA LR LR
comp=N,92nm,13.0s,MS4.4
GTA LR LR
comp=E,65nm,16.4s,MS4.4
GTA LR LR
comp=Z,160nm,15.7s,MS4.5
PLCA Paso Flores 88.31 213 LR LR 20 47 26.7
comp=Z,94nm,19.5s,MS4.2,baz=286,slow=34
JIRN Jiri 88.46 56 *e*P **P 20 09 54.3 +0.7**
HHC Hu-ho-hao-te 92.50 32 *e*P **P 20 10 10.9 -1.3**
HHC AP 20 10 15.8
HHC XP sP 20 10 18.0 +5.4
HHC PP PP 20 13 53.3 +0.9
HHC SKS 20 20 41.3
HHC S S 20 21 11.0 -6.3
HHC SS SS 20 27 24.0 -2.9
HHC AMB AMB
comp=Z,8.0nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,86nm,5.6s
HHC LR LR
comp=N,205nm,17.7s,MS4.8
HHC LR LR
comp=E,139nm,14.9s,MS4.8
HHC LR LR
comp=Z,158nm,18.1s,MS4.5
CN2 Changchun 94.84 21 *e*P **P 20 10 21.0 -1.9**
MDJ Mudanjiang 95.20 18 P **P 20 10 21.9 -2.6**
MDJ AP 20 10 25.4
MDJ PP PP 20 14 10.3 -2.9
MDJ S S 20 21 35.8 -5.0
MDJ SS SS 20 28 01.3 -3.6
MDJ AMB AMB
comp=Z,5.0nm,1.6s,mb4.7
MDJ AMB AMB
comp=Z,44nm,3.9s
MDJ LR LR
comp=N,89nm,12.4s,MS4.6
MDJ LR LR
comp=E,115nm,17.1s,MS4.6
MDJ LR LR
comp=Z,190nm,17.1s,MS4.6
CD2 Chengdu 96.74 43 *e*P **P 20 10 30.5 -1.3**
CD2 XP sP 20 10 37.8 +5.6
CD2 PP PP 20 14 27.8 +2.0
CD2 SKS 20 21 05.5
CD2 S S 20 21 47.9 -6.8
CD2 SS SS 20 28 24.0 -3.9
CD2 AMB AMB
comp=Z,20nm,5.2s
CD2 LR LR
comp=N,80nm,12.8s
CD2 LR LR
comp=Z,120nm,14.6s,MS4.5
KMI Kunming 100.62 47 P Pdif 20 10 47.0 -2.0
KMI AP 20 10 52.3
KMI XP 20 10 54.8
KMI AMB AMB
comp=Z,4.0nm,1.2s
KMI LR LR
comp=N,76nm,17.0s,MS4.7
KMI LR LR
comp=E,159nm,14.2s,MS4.7
KMI LR LR
comp=Z,118nm,19.8s
GYA Guiyang 101.81 43 P Pdif 20 10 53.4 -0.9
GYA PP PP 20 15 06.8 +2.4
GYA SKS 20 21 31.8
GYA S Sdif 20 22 30.5 -6.5
GYA SS SS 20 29 35.9 -3.0
GYA AMB AMB
comp=Z,90nm,5.9s
GYA LR LR
comp=N,470nm,22.9s,MS5.1
GYA LR LR
comp=E,460nm,24.2s,MS5.1
GYA LR LR
comp=Z,450nm,25.7s,MS4.9
VNDA Vanda 139.58 182 PKP PKPdf 20 16 29.8 +2.3
comp=Z,0.4nm,0.5s,baz=273,slow=2.7,SNR=4.4
WRA Warramunga Arr 154.81 52 PKIKP PKPdf 20 17 02.0 +7.8
WRA 20 17 16.1
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.9s
WRA Warramunga Arr 154.81 52 PKPbc PKPbc 20 17 02.0 -0.8
comp=Z,1.0nm,0.8s,baz=320,slow=2.0,SNR=8.2
WRA PKPab PKPab 20 17 16.1 -1.7
comp=Z,2.2nm,0.9s,baz=324,slow=3.9,SNR=8.9
ASAR Alice Springs 157.13 60 PKIKP PKPdf 20 16 57.9 +0.7
ASAR pmax pmax
comp=Z,1.0nm,1.2s
ASAR pmax pmax
comp=Z,1.0nm,1.0s
ASAR Alice Springs 157.13 60 PKP PKPdf 20 16 57.9 +0.7
comp=Z,1.0nm,1.1s,baz=7.8,slow=2.1,SNR=4.3
ASAR PKPab PKPab 20 17 26.9 -0.9
comp=Z,0.9nm,1.0s,baz=314,slow=5.0,SNR=4.4

FUNV ***22*** *20:06:18.8, 1057N×6199W, h11km, MW2.4*
ISCJB ***22*** *20:06:19.5±0.8, 1058N±008×6203W±003, h12km±6km,*
Error ellipse: s-maj=13.9km s-min=4.5km az=178.8
TRN ***22*** *20:06:19.8, 1099N×6189W, h3km, MD2.8*

ISC 22 20:06:19.3±0.7, 1056N±008×6204W±003, h13km±6km, n7, σ0§67/14, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.20**	**296**	*e*P	**Pg**	**20 06 23.5**	**-0.3**
GUIV				*e*S	**Sg**	**20 06 27.1**	**+0.3**
TCE	**Chacachacare**	**0.32**	**64**	*e*P	**Pg**	**20 06 25.8**	**0.0**
TCE				*e*S	**Sg**	**20 06 30.8**	**+0.6**
TRN	**Trinidad (W)**	**0.63**	**82**	*e*P	**Pg**	**20 06 31.0**	**-0.7**
TRN				*e*S	**Sg**	**20 06 39.5**	**-0.6**
TBH	**Brigand Hill**	**0.96**	**94**	*e*P	**Pb**	**20 06 38.9**	**+1.1**
TBH				*e*S	**Sb**	**20 06 58.0**	**+7.6**
GUNV	**Guanoco**	**0.97**	**246**	*e*P	**Pb**	**20 06 37.6**	**-0.4**
GUNV				*e*S	**Sb**	**20 06 51.8**	**+1.1**
CRUV	**Carupano**	**1.18**	**276**	*e*P	**Pn**	**20 06 40.3**	**-1.1**
CRUV				*e*S	**Sb**	**20 06 56.1**	**-0.6**
ITEV	**Isla Los Testi**	**1.33**	**307**	*e*P	**Pn**	**20 06 43.5**	**0.0**
ITEV				*e*S	**Sb**	**20 07 01.6**	**+0.5**

*ISCJB **22** 20:07:45.1±0.4, 4372N±004×105.18W±005, h0km, mb4.3/6, Error ellipse: s-maj=5.3km s-min=4.9km az=150.0*
*NEIC **22** 20:07:46.9±0.3, 4373N×10521W, h0km, ML3.6, Error ellipse: s-maj=4.1km s-min=3.5km az=149.0, Suspected Mining explosion.*
NEIC 65 km [40 miles] SSE of Gillette.
*IDC **22** 20:07:48.3±1.0, 4405N×10561W, h0km, mb4.2/6, mb1 4.1/9, mb1mx3.9/24, mbtmp4.0/9, ML3.5/1, Error ellipse: s-maj=26.7km s-min=15.1km az=111.0*

ISC 22 20:07:47.0±0.3, 4374N±004×10520W±005, h0km, n55, σ0§91/55, mb4.3/6, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.92**	**65**	*e*P	**Pg**	**20 08 06.2**	**+1.5**
PHWY	**Pilot Hill**	**2.45**	**185**	*e*Pn	**Pn**	**20 08 27.8**	**-0.3**
RWWY	**Rawlins**	**2.53**	**217**	*e*Pn	**Pn**	**20 08 29.6**	**+0.4**
BW06	**Boulder Array**	**3.33**	**254**	*e*Pn	**Pn**	**20 08 39.7**	**-0.5**
GCMT	**Greycliff**	**3.78**	**304**	*e*Pn	**Pn**	**20 08 46.5**	**0.0**
LKWY	**Lake**	**3.83**	**284**	*e*Pn	**Pn**	**20 08 48.0**	**+0.9**
LOHW	**Long Hollow**	**3.92**	**270**	*e*Pn	**Pn**	**20 08 48.9**	**+0.5**
ISCO	**Idaho Springs**	**3.95**	**185**	*e*Pn	**Pn**	**20 08 49.2**	**+0.4**
FLWY	**Flagg Ranch**	**3.99**	**277**	*e*Pn	**Pn**	**20 08 49.5**	**+0.2**
SNOW	**Snow King Moun**	**4.04**	**268**	*e*Pn	**Pn**	**20 08 51.0**	**+0.9**
YFT	**Old Faithful**	**4.12**	**282**	*e*Pn	**Pn**	**20 08 50.6**	**-0.5**
REDW	**Red Top Meadow**	**4.13**	**267**	*e*Pn	**Pn**	**20 08 49.7**	**-1.5**
IMW	**Indian Meadow**	**4.16**	**274**	*e*Pn	**Pn**	**20 08 51.4**	**-0.2**
TPAW	**Teton Pass**	**4.18**	**269**	*e*Pn	**Pn**	**20 08 52.3**	**+0.3**
YMR	**Madison River**	**4.25**	**285**	*e*Pn	**Pn**	**20 08 52.5**	**-0.4**
DCID1	**Drake Creek**	**4.34**	**270**	*e*Pn	**Pn**	**20 08 55.0**	**+0.8**
AHID	**Auburn Hatcher**	**4.42**	**259**	*e*Pn	**Pn**	**20 08 55.9**	**+0.7**
QLMT	**Earthquake Lak**	**4.60**	**286**	*e*Pn	**Pn**	**20 08 57.4**	**-0.3**
SMCO	**Snowmass**	**4.75**	**197**	Pn	**Pn**	**20 09 04.3**	**+4.5**
DGMT	**Dagmar**	**4.78**	**8**	*e*Pn	**Pn**	**20 09 02.2**	**+2.0**
BOZ	**Bozeman (W)**	**4.96**	**295**	*e*Pn	**Pn**	**20 09 02.2**	**-0.5**
HWUT	**Hardware Ranch** 27nm,0.5s	**5.15**	**248**	*e*Pn	**Pn**	**20 09 04.5**	**-0.9**
EGMT	**Eagleton** 62nm,0.5s	**5.33**	**325**	*e*Pn	**Pn**	**20 09 07.6**	**-0.2**
DLMT	**Dillon** 11nm,0.6s	**5.53**	**290**	*e*Pn	**Pn**	**20 09 12.0**	**+1.5**
MCMT	**McKenzie Canyo**	**5.60**	**284**	*e*Pn	**Pn**	**20 09 14.0**	**+2.6**
DAU	**Daniels Canyon**	**5.60**	**236**	*e*Pn	**Pn**	**20 09 11.9**	**+0.5**
JLU	**Jordanelle**	**5.60**	**238**	*e*Pn	**Pn**	**20 09 11.2**	**-0.3**
CTU	**Camp Tracy** 13nm,0.4s	**5.74**	**240**	*e*Pn	**Pn**	**20 09 12.2**	**-1.2**
SPUT	**South Promonto**	**5.88**	**248**	*e*Pn	**Pn**	**20 09 16.2**	**+0.9**
HVU	**Hansel Valley** 15nm,0.5s	**5.91**	**253**	*e*Pn	**Pn**	**20 09 15.3**	**-0.4**
SDCO	**Great Sand Dun** 4.1nm,0.6s	**5.99**	**182**	*e*Pn	**Pn**	**20 09 16.7**	**-0.2**
SRU	**San Rafael** 20nm,0.4s	**6.12**	**223**	*e*Pn	**Pn**	**20 09 17.4**	**-1.2**
PV01	**Paradox Valley**	**6.15**	**206**	*e*Pn	**Pn**	**20 09 19.4**	**+0.4**
ECSD	**EROS,Sioux Fal** 13nm,0.4s	**6.22**	**87**	*e*Pn	**Pn**	**20 09 21.0**	**+1.0**
TMUT	**Trail Mountain**	**6.33**	**227**	*e*Pn	**Pn**	**20 09 21.7**	**+0.2**
CBKS	**Cedar Bluff** 23nm,0.4s	**6.42**	**138**	*e*Pn	**Pn**	**20 09 22.2**	**-0.5**
CHMT	**Chamberlain Mo**	**6.50**	**302**	*e*Pn	**Pn**	**20 09 23.6**	**-0.2**
DUG	**Dugway** 9.6nm,0.5s	**6.69**	**241**	*e*Pn	**Pn**	**20 09 26.1**	**-0.4**
MSU	**Marysvale**	**7.42**	**228**	*e*Pn	**Pn**	**20 09 36.2**	**-0.2**
AGMN	**Agassiz Refuge** 36nm,0.5s	**7.94**	**52**	*e*Pn	**Pn**	**20 09 41.4**	**-2.1**
CCUT	**Cedar City**	**8.76**	**228**	*e*Pn	**Pn**	**20 09 54.8**	**0.0**
ULM	**Lac du Bonnet**	**9.11**	**41**	Pn	**Pn**	**20 09 58.4**	**-1.1**
ULM				Lg		20 12 29.4	
ULM	**Lac du Bonnet** 7.6nm,0.3s,baz=234,slow=11,SNR=28	**9.11**	**41**	Pn	**Pn**	**20 09 58.4**	**-1.1**
ULM				Lg		20 12 29.4	
AMTX	**Amarillo** 0.5nm,0.3s,baz=319,slow=20,SNR=1.4 13nm,0.5s	**9.26**	**162**	*e*Pn	**Pn**	**20 10 01.6**	**-0.1**
WUAZ	**Wupatki** 14nm,0.5s	**9.49**	**212**	*e*Pn	**Pn**	**20 10 05.2**	**+0.3**
WMOK	**Wichita Mounta** 6.5nm,0.6s	**10.27**	**149**	*e*Pn	**Pn**	**20 10 07.8**	**-7.8**
TXAR	**Lajitas Array** 0.1nm,0.3s,baz=354,slow=9.7,SNR=4.6	**14.43**	**175**	Pn	**Pn**	**20 11 19.8**	**+7.4**
TXAR				Pg		20 12 15.9	+63
TXAR	0.1nm,0.3s,baz=12,slow=14,SNR=5.5			Lg		20 15 29.3	
YKA	**Yellowknife Ar** 0.3nm,0.3s,baz=162,slow=12,SNR=8.9	**19.57**	**347**	P	**Pn**	**20 12 15.1**	**-2.3**
ARCES	**ARCESS Array B** 1.5nm,0.4s,mb4.4,baz=329,slow=6.7,SNR=23	**61.40**	**18**	P	**P**	**20 18 03.4**	**-0.9**
FINES	**FINESS Array B** 1.1nm,0.8s,mb4.1,baz=357,slow=3.8,SNR=5.1	**68.01**	**23**	P	**P**	**20 18 47.0**	**-0.5**
ZALV	**Zalesovo Beam** 1.3nm,0.5s,mb4.3,baz=352,slow=4.5,SNR=6.7	**82.31**	**354**	P	**P**	**20 20 09.2**	**-0.8**
SONM	**Songino Array** 0.4nm,0.4s,mb4.0,baz=353,slow=4.9,SNR=2.5	**84.65**	**339**	P	**P**	**20 20 22.6**	**+0.4**
MKAR	**Makanchi Array**	**89.61**	**355**	P	**P**	**20 20 46.2**	**-0.1**
MKAR	**Makanchi Array** 0.3nm,0.3s,mb4.0,baz=28,slow=5.5,SNR=5.2	**89.61**	**355**	P	**P**	**20 20 46.2**	**-0.1**
DBIC	**Dimbokro** 5.6nm,0.9s,mb5.0,baz=268,slow=5.6,SNR=3.2	**92.85**	**78**	P	**P**	**20 21 04.2**	**+2.3**

*NIED **22** 20:28:00, 4640N×15350E, h23km, Mw4.4 Best double couple: M0=4.36000×10^15 NP1:φs=255.00000°, δ88.00000°, λ99.00000°. NP2:φs=360.00000°, δ9.00000°, λ15.00000°.*
*ISCJB **22** 20:28:48.5±1.3, 4622N±005×15330E±006, h5km±8km, mb4.6/85, MS3.9/12, Error ellipse: s-maj=10.3km s-min=4.2km az=147.2*
*SKHL **22** 20:28:53.7±0.6, 4646N×15331E, h57km±26km, mb5.9/1, Ms4.0/3, msh5.2/2*
*MOS **22** 20:28:53.0±1.1, 4629N×153.12E, h33km, mb4.8/46, Error ellipse: s-maj=9.2km s-min=5.5km az=103.1*
*NEIC **22** 20:28:55.7±0.4, 4627N×153.19E, h45km, mb4.6/49, Error ellipse: s-maj=11.3km s-min=6.4km az=142.0*
*IDC **22** 20:28:56.2±3.3, 4628N×153.16E, h48km±32km, mb4.0/16, mb1 4.2/18, mb1mx4.1/24, mbtmp4.1/18, ML4.0/2, MS3.8/6, Ms1 3.8/6, ms1mx3.2/46, Error ellipse: s-maj=19.8km s-min=16.1km az=134.0*
*SZGRF **22** 20:28:56.6, 4633N×15326E, h33km, mb4.7, Kuril Islands, Russia*
*BJI **22** 20:28:57.2, 4634N×15294E, h63km, mB4.8, mb4.6, Ms4.1, Msz4.0*

ISC 22 20:28:53.5±1.2, 4622N±005×15329E±006, h27km±8km, h63km±4.3km: pP-P, n274, σ1§24/294, mb4.6/85, MS3.9/12, 17C-18D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.92**	**257**	*e*PN	**Pn**	**20 29 53.3**	**+1.4**
KUR				*e*S	**Sn**	**20 30 38.5**	**+1.5**
KUR	comp=N,230nm,0.5s			pmax	pmax		
KUR	comp=E,110nm,0.5s			pmax	pmax		
KUR	comp=Z,840nm,0.5s			pmax	pmax		
KUR	comp=N,380nm,0.5s			smax			
KUR	comp=E,470nm,0.5s			smax			
KUR	**Kuril'sk**	**3.92**	**257**	*e*P	**Pn**	**20 29 53.3**	**+1.4**
KUR	comp=E,228nm,0.5s			AMB	AMB	20 29 54.1	
KUR	comp=E,114nm,0.5s			AMB	AMB	20 29 54.1	
KUR	comp=E,836nm,0.5s			AMB	AMB	20 29 54.1	
KUR				*e*S	**Sn**	**20 30 38.5**	**+1.5**
KUR				A		20 30 41.1	
KUR	comp=E,380nm,0.5s			A		20 30 41.1	
KUR	comp=E,471nm,0.5s			A		20 30 41.1	
SKR	**Severo-Kuril's**	**4.85**	**22**	*e*P	**Pn**	**20 30 03.0**	**-1.6**
SKR	comp=E,800nm,2.0s			AMB	AMB	20 30 06.0	
SKR	comp=E,800nm,4.0s			AMB	AMB	20 30 06.0	
SKR	comp=E,90nm,0.6s			AMB	AMB	20 30 06.1	
SKR	comp=E,50nm,0.4s			AMB	AMB	20 30 06.1	
SKR				*e*S	**Sn**	**20 30 54.5**	**-5.3**
SKR	comp=E,1μm,8.0s			A		20 31 03.0	
SKR	comp=E,1μm,8.0s			A		20 31 03.0	
SKR	comp=E,130nm,0.8s			A		20 31 30.5	
SKR	comp=E,220nm,0.8s			A		20 31 30.5	
SKR	comp=E,60nm,0.8s			A		20 31 30.5	
SKR	comp=E,1μm,14.0s			AMS	AMS	20 31 58.0	
SKR	comp=E,1μm,14.0s			AMS	AMS	20 31 58.0	
YUK	**Yuzh-Kuril'sk**	**5.69**	**250**	*e*PN	**Pn**	**20 30 19.5**	**+3.3**
YUK				*e*S	**Sn**	**20 31 29.0**	**+8.4**
YUK	comp=Z,190nm,0.5s			pmax	pmax		
YUK	comp=N,2μm,2.0s			smax			
YUK	comp=E,4μm,2.0s			smax			
YUK	comp=N,390nm,0.3s			smax			
YUK	comp=E,210nm,0.5s			smax			
YUK	**Yuzh-Kuril'sk**	**5.69**	**250**	*e*P	**Pn**	**20 30 19.5**	**+3.3**
YUK				AMB	AMB	20 30 20.0	
YUK	comp=E,190nm,0.5s			*e*S	**Sn**	**20 31 29.0**	**+8.4**
YUK				A		20 31 33.4	
YUK	comp=E,2μm,2.0s			A		20 31 33.4	
YUK	comp=E,4μm,2.0s			A		20 31 34.5	
YUK	comp=E,390nm,0.3s			A		20 31 34.5	
YUK	comp=E,210nm,0.3s			A		20 31 34.5	
NEM2	**Nemuro 2**	**6.08**	**245**	P	**Pn**	**20 30 20.5**	**-1.0**
NEM2				*e*S	**Sn**	**20 31 26.4**	**-3.7**
JRA	**Rausu**	**6.21**	**251**	P	**Pn**	**20 30 24.9**	**+1.5**
JNK	**Nakash**	**6.63**	**250**	P	**Pn**	**20 30 29.9**	**+0.8**
JAK	**Akkeshi**	**6.92**	**245**	P	**Pn**	**20 30 32.3**	**-0.9**
JAK				*e*S	**Sn**	**20 31 47.8**	**-3.2**
JTKR	**Abashiri--Toko**	**7.01**	**255**	P	**Pn**	**20 30 35.8**	**+1.5**
YSS	**Yuzh-Sakhalins**	**7.29**	**280**	‖*e*PN	**Pn**	**20 30 42.0**	**+3.8**
YSS				*e*S	**Sn**	**20 32 04.0**	**+3.9**
YSS	comp=Z,30nm,0.9s			pmax	pmax		
YSS	comp=N,500nm,15.0s			MLR	MLR		
YSS	comp=Z,600nm,15.0s			MLR	MLR		
YSS	**Yuzh-Sakhalins**	**7.29**	**280**	*e*Pn	**Pn**	**20 30 41.4**	**+3.1**
YSS	**Yuzh-Sakhalins**	**7.29**	**280**	‖*e*P	**Pn**	**20 30 42.0**	**+3.8**
YSS				*e*S	**Sn**	**20 32 04.0**	**+3.9**
YSS				*e*LQ		20 32 31.0	
YSS	comp=Z,600nm,15.0s			AMS	AMS	20 33 20.0	
YSS	comp=Z,500nm,15.0s			AMS	AMS	20 33 20.0	
JMP	**Maruseppu**	**7.36**	**256**	P	**Pn**	**20 30 40.9**	**+1.7**
JAR	**Ashorobuto**	**7.38**	**250**	P	**Pn**	**20 30 40.0**	**+0.6**
JAR				*e*S	**Sn**	**20 32 01.3**	**-0.8**
JOB	**Onbets**	**7.52**	**247**	P	**Pn**	**20 30 41.4**	**+0.1**
JOB				*e*S	**Sn**	**20 32 03.6**	**-2.0**
PET	**Petropavlovsk** comp=Z,22nm,0.7s	**7.65**	**25**	Pn	**Pn**	**20 30 50.4**	**+7.4**
JKK2	**Kamakawa 2**	**7.82**	**256**	P	**Pn**	**20 30 47.3**	**+1.8**
ASAJ	**Asahikawa**	**7.84**	**258**	PN	**Pn**	**20 30 47.6**	**+1.9**
ASAJ	comp=Z,3.0nm,0.3s			pmax	pmax		
ASAJ	comp=Z,186nm,19.3s			MLR	MLR		
ASAJ	**Asahikawa**	**7.84**	**258**	P	**Pn**	**20 30 48.0**	**+2.3**
ASAJ	**Asahikawa** comp=Z,3.3nm,0.3s,baz=97,slow=15,SNR=20	**7.84**	**258**	P	**Pn**	**20 30 47.6**	**+1.9**
ASAJ	comp=Z,186nm,19.3s,baz=229,slow=38			LR	LR	20 33 48.8	
JCH	**Churui**	**7.96**	**247**	P	**Pn**	**20 30 47.1**	**-0.3**
JCH				*e*S	**Sn**	**20 32 12.9**	**-3.7**
JAB	**Ashibetsu**	**8.31**	**255**	P	**Pn**	**20 30 54.9**	**+2.7**
JEM	**Erimo**	**8.41**	**244**	P	**Pn**	**20 30 54.4**	**+0.9**
ERM	**Erimo**	**8.41**	**244**	*e*PN	**Pn**	**20 30 53.1**	**-0.4**
ERM	comp=Z,34nm,0.5s			pmax	pmax		
ERM	**Erimo** comp=Z,34nm,0.5s	**8.41**	**244**	*e*Pn	**Pn**	**20 30 53.1**	**-0.4**
ERM				*e*Sn	**Sn**	**20 32 16.6**	**-11**
JNBK	**Urakawa-nobuka**	**8.52**	**246**	P	**Pn**	**20 30 56.4**	**+1.3**
JNBK				*e*S	**Sn**	**20 32 28.7**	**-1.6**
JNB	**Noboribetsu**	**9.54**	**251**	P	**Pn**	**20 31 09.3**	**+0.3**
JKB	**Kayabe**	**9.82**	**248**	P	**Pn**	**20 31 11.9**	**-1.0**
JOT	**Ohata**	**10.08**	**246**	P	**Pn**	**20 31 14.6**	**-1.8**
JYM2	**Yakumo 2**	**10.14**	**251**	P	**Pn**	**20 31 17.3**	**0.0**
JANG	**Nango**	**10.38**	**240**	P	**Pn**	**20 31 16.9**	**-3.6**
JANG				*e*S	**Sn**	**20 33 05.9**	**-10**
JTM	**Tenmabayashi**	**10.40**	**243**	P	**Pn**	**20 31 18.7**	**-2.1**
JTM				*e*S	**Sn**	**20 33 08.5**	**-7.9**
JTH	**Tanohata**	**10.44**	**237**	P	**Pn**	**20 31 17.9**	**-3.5**
NKL	**Nikolayevsk**	**10.71**	**315**	*e*P	**Pn**	**20 31 25.0**	**+0.1**
NKL	comp=Z,10.0nm,1.0s			AMB	AMB	20 31 28.0	
NKL	comp=Z,30nm,1.0s			AMB	AMB	20 31 28.0	
NKL				*e*L		20 34 58.0	
NKL				AMS	AMS	20 35 58.0	
NKL	comp=Z,900nm,18.0s			AMS	AMS	20 35 58.0	
JOSM	**Okushiri--Mats** comp=Z,1μm,18.0s	**10.75**	**252**	P	**Pn**	**20 31 25.2**	**-0.4**
OFUJ	**Ofunato**	**11.13**	**234**	P	**Pn**	**20 31 27.6**	**-3.2**
JIO	**Ouri**	**11.75**	**233**	*e*S	**Sn**	**20 33 38.7**	**-11**
JMM	**Marumori**	**12.47**	**232**	P	**Pn**	**20 31 45.6**	**-3.6**
HABR	**Khabarovsk**	**12.57**	**287**	PN	**Pn**	**20 31 49.7**	**-0.8**
JYA	**Atsumi**	**12.59**	**238**	P	**Pn**	**20 31 52.2**	**+1.5**
MA2	**Magadan**	**13.47**	**354**	*e*PN	**Pn**	**20 32 03.4**	**+0.8**
MA2				*e*		20 34 36.3	
MA2	comp=Z,6.0nm,0.8s			pmax	pmax		
MA2	**Magadan** comp=Z,5.9nm,0.5s	**13.47**	**354**	*e*Pn	**Pn**	**20 32 03.2**	**+0.6**
JSD	**Sado**	**13.81**	**239**	P	**Pn**	**20 32 04.6**	**-2.8**
MJAR	**Matsushiro Arr** comp=Z,0.2nm,0.3s,baz=32,slow=12,SNR=11	**14.86**	**235**	P	**Pn**	**20 32 21.4**	**-0.3**
MAJO	**Matsushiro**	**14.86**	**235**	*e*P	**Pn**	**20 32 19.2**	**-2.5**
MAJO	comp=Z,12nm,0.7s			pmax	pmax		
MAJO	**Matsushiro** comp=Z,12nm,0.7s	**14.86**	**235**	*e*Pn	**Pn**	**20 32 19.2**	**-2.6**
MAT	**Matsushiro**	**14.86**	**235**	P	**Pn**	**20 32 19.2**	**-2.5**
MAT	**Matsushiro**	**14.86**	**235**	P	**Pn**	**20 32 22.1**	**+0.4**
VLA	**Vladivostok**	**15.53**	**266**	*e*P	**Pn**	**20 32 28.6**	**-1.8**
VLA	comp=Z,19nm,1.3s			pmax	pmax		
MDJ	**Mudanjiang**	**16.70**	**273**	P	**Pn**	**20 32 45.5**	**0.0**
MDJ				AP	pP	20 33 01.1	+6.2
MDJ				XP	sP	20 33 10.4	+12
MDJ				S	**Sn**	**20 35 51.4**	**+1.4**
MDJ				PCP	PcP	20 37 30.5	-3.0
MDJ				SCP	ScP	20 40 58.8	-7.3
MDJ				SCS	ScS	20 44 38.4	-6.9
MDJ	comp=Z,17nm,1.0s			AMB	AMB		
MDJ	comp=Z,60nm,5.2s			AMB	AMB		
MDJ	comp=N,89nm,12.0s			LR	LR		
MDJ	comp=E,115nm,16.9s			LR	LR		
MDJ	comp=Z,190nm,16.5s			LR	LR		
MDJ	**Mudanjiang** comp=Z,12nm,0.8s	**16.70**	**273**	*e*Pn	**Pn**	**20 32 46.0**	**+0.5**
ZEA	**Zeya**	**18.28**	**304**	*e*P	**Pn**	**20 32 59.4**	**-5.6**
KSRS	**Korea Array** comp=Z,6.4nm,0.7s,baz=58,slow=11,SNR=25	**20.76**	**254**	P	**P**	**20 33 32.6**	**+0.5**
YAK	**Yakutsk**	**20.84**	**328**	‖*e*P	**P**	**20 33 31.8**	**-0.9**
YAK	comp=Z,27nm,0.9s			pmax	pmax		
YAK	**Yakutsk**	**20.84**	**328**	*e*Pn	**P**	**20 33 30.9**	**-1.8**
JNU	**Nakatsue** comp=Z,5.2nm,0.8s,mb4.0,baz=45,slow=20,SNR=5.0	**21.56**	**241**	P	**P**	**20 33 41.8**	**+1.1**
BILL	**Bilibino**	**22.89**	**13**	‖*e*P	**P**	**20 33 52.9**	**-1.7**
BILL				*e*S	**S**	**20 37 56.7**	**-5.7**
BILL	comp=Z,5.0nm,0.8s,mb4.0			pmax	pmax		
BILL	**Bilibino** comp=Z,9.2nm,0.9s,mb4.2	**22.89**	**13**	P	**P**	**20 33 51.0**	**-3.6**
BOD	**Bodaibo**	**26.42**	**310**	*e*P	**P**	**20 34 25.1**	**-2.5**
BJI	**Beijing**	**27.60**	**271**	P	**P**	**20 34 40.8**	**+2.5**
BJI	comp=Z,8.0nm,1.0s,mb4.3			AMB	AMB		
BJI	comp=N,151nm,16.3s,MS3.8			LR	LR		
BJI	comp=E,173nm,18.5s,MS3.8			LR	LR		
BJI	comp=Z,106nm,20.9s,MS3.4			LR	LR		
BJT	**Baijiatuau**	**27.61**	**270**	P	**P**	**20 34 38.9**	**+0.4**
BJT	comp=Z,10.0nm,0.7s			pmax	pmax		
BJT	**Baijiatuau** comp=Z,9.7nm,0.7s,mb4.5	**27.61**	**270**	P	**P**	**20 34 38.9**	**+0.4**
TIXI	**Tiksi**	**28.01**	**344**	‖*e*P	**P**	**20 34 38.4**	**-3.3**
TIXI	comp=Z,2.0nm,1.6s,mb3.5			pmax	pmax		
TIXI	**Tiksi** comp=Z,1.2nm,0.4s,mb3.9	**28.01**	**344**	*e*P	**P**	**20 34 39.0**	**-2.7**
NJ2	**Nanjing**	**29.96**	**254**	*e*P	**P**	**20 34 57.5**	**-1.9**
NJ2				AP	pP	20 35 14.6	+7.2
NJ2				XP	sP	20 35 22.6	+12
NJ2				PP	PP	20 35 56.5	-11
NJ2				S	**S**	**20 39 46.0**	**-9.4**
NJ2				XS	sS	20 40 15.5	+7.0
NJ2	comp=Z,10.0nm,0.6s,mb4.7			AMB	AMB		
NJ2	comp=Z,230nm,4.8s			AMB	AMB		
NJ2	comp=N,240nm,15.6s,MS4.1			LR	LR		
NJ2	comp=E,270nm,17.6s,MS4.1			LR	LR		
NJ2	comp=Z,270nm,17.2s,MS4.0			LR	LR		
HHC	**Hu-ho-hao-te**	**30.45**	**275**	*e*P	**P**	**20 35 04.0**	**+0.3**
HHC				AP	pP	20 35 21.5	+10
HHC				XP	sP	20 35 30.9	+16
HHC				PP	PP	20 36 07.3	-5.2
HHC				PCP	PcP	20 38 01.0	-1.5
HHC				S	**S**	**20 39 59.9**	**-3.1**
HHC				SCP	ScP	20 41 35.4	-7.6
HHC				SCS	ScS	20 45 30.3	-8.7
HHC	comp=Z,23nm,1.4s,mb4.7			AMB	AMB		
HHC	comp=Z,167nm,5.1s			AMB	AMB		
HHC	comp=N,197nm,15.0s,MS4.0			LR	LR		
HHC	comp=E,146nm,11.6s,MS4.0			LR	LR		
HHC	comp=Z,158nm,16.3s,MS3.8			LR	LR		
ULN	**Ulaanbaatar**	**31.19**	**290**	*e*P	**P**	**20 35 08.9**	**-1.2**
ULN	comp=Z,4.0nm,1.1s,mb4.2			pmax	pmax		
ULN	**Ulaanbaatar** comp=Z,3.8nm,1.1s,mb4.1	**31.19**	**290**	*e*P	**P**	**20 35 08.9**	**-1.2**
TLY	**Talaya**	**32.53**	**298**	*e*P	**P**	**20 35 21.0**	**-0.9**
TLY	comp=Z,4.0nm,1.3s,mb4.2			pmax	pmax		
TLY	**Talaya** comp=Z,3.7nm,0.8s,mb4.4	**32.53**	**298**	P	**P**	**20 35 20.6**	**-1.3**
ZAK	**Zakamensk**	**33.02**	**296**	*e*P	**P**	**20 35 24.5**	**-1.6**
ZAK	comp=Z,3.0nm,1.0s,mb4.2			pmax	pmax		
WHN	**Wuhan**	**33.92**	**256**	P	**P**	**20 35 34.5**	**+0.3**
IMA2	**Indian Mountai**	**34.17**	**35**	*e*P	**P**	**20 35 35.9**	**-0.1**
SML	**Sawmill**	**36.27**	**43**	*e*P	**P**	**20 35 54.1**	**0.0**
LZH	**Lanzhou**	**38.03**	**273**	*e*P	**P**	**20 36 11.3**	**+2.0**
LZH				AP	pP	20 36 28.9	+12
LZH				XP	sP	20 36 32.6	+12
LZH	comp=Z,36nm,1.0s,mb5.1			AMB	AMB		
LZH	comp=Z,121nm,4.3s			AMB	AMB		
GTA	**Gaotai**	**39.17**	**280**	P	**P**	**20 36 20.8**	**+1.9**
GTA	comp=Z,11nm,0.9s,mb4.6			AMB	AMB		
EGAK	**Eagle** comp=Z,6.9nm,1.0s,mb4.3	**39.34**	**38**	*e*P	**P**	**20 36 19.4**	**-0.6**
CD2	**Chengdu**	**40.96**	**266**	*e*P	**P**	**20 36 32.9**	**-0.9**
CD2				XP	sP	20 37 00.5	+15
CD2				PP	PP	20 38 11.4	+3.0
CD2				S	**S**	**20 42 38.0**	**-6.0**
CD2				XS	sS	20 43 09.8	+12
CD2				SS	SS	20 45 37.0	-9.1
CD2	comp=Z,20nm,0.7s,mb4.9			AMB	AMB		
CD2	comp=Z,40nm,5.8s			AMB	AMB		
CD2	comp=N,120nm,18.0s			LR	LR		
CD2	comp=Z,170nm,14.4s,MS4.0			LR	LR		
INK	**Inuvik**	**42.04**	**32**	P	**P**	**20 36 43.2**	**+1.0**
INK	comp=Z,5.0nm,0.8s			pmax	pmax		
INK	**Inuvik** comp=Z,140nm,0.9s,mb5.6	**42.04**	**32**	*e*P	**P**	**20 36 42.9**	**+0.7**
INK	**Inuvik** comp=Z,5.4nm,0.8s,mb4.2,baz=292,slow=6.8,SNR=16	**42.04**	**32**	P	**P**	**20 36 43.2**	**+1.0**
ZAA0	**Zalesovo Array**	**43.02**	**306**	*e*P	**P**	**20 36 48.0**	**-2.3**
ZALV	**Zalesovo Beam** comp=Z,2.3nm,0.6s,mb4.1,baz=61,slow=7.1,SNR=11	**43.02**	**306**	P	**P**	**20 36 48.1**	**-2.2**
ZALV	comp=Z,0.6nm,0.4s,baz=103,slow=4.6,SNR=5.1			PcP	PcP	20 38 39.9	-0.3
ZALV	comp=Z,124nm,18.7s,MS3.8,baz=45,slow=38			LR	LR	20 55 50.7	
ZAL	**Zalesovo**	**43.04**	**306**	P	**P**	**20 36 48.1**	**-2.4**
ZAL						20 38 39.9	
WMQ	**Urumqi**	**45.23**	**292**	*e*P	**P**	**20 37 08.0**	**-0.2**
WMQ				XP	sP	20 37 36.0	+16
WMQ				PP	PP	20 38 56.0	+2.0
WMQ				S	**S**	**20 43 43.0**	**-3.4**
WMQ				SS	SS	20 46 59.0	-10
WMQ	comp=Z,28nm,1.0s,mb5.0			AMB	AMB		
WMQ	comp=N,75nm,15.0s,MS3.9			LR	LR		
WMQ	comp=E,62nm,15.0s,MS3.9			LR	LR		
WMQ	comp=Z,76nm,15.0s,MS3.8			LR	LR		
KMI	**Kunming**	**45.27**	**260**	P	**P**	**20 37 05.4**	**-3.3**
KMI				AP	pP	20 37 23.8	+6.9
KMI				XP	sP	20 37 32.5	+12
KMI				PP	PP	20 38 54.8	+0.1
KMI				S

KMI LR LR
comp=Z,109nm,20.7s,MS3.8
MK31 Makanchi Array 47.30 298 *i* P **P 20 37 23.4 -0.9**
MK31 pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
MK31 Makanchi Array 47.30 298 *e*P **P 20 37 23.3 -1.1**
MKAR Makanchi Array 47.30 298 P **P 20 37 23.8 -0.6**
MKAR 20 38 55.2
MKAR Makanchi Array 47.30 298 P **P 20 37 23.8 -0.6**
comp=Z,3.8nm,0.6s,mb4.5,baz=67,slow=7.6,SNR=48
MKAR PcP PcP 20 38 55.2 +0.2
comp=Z,0.5nm,0.4s,baz=63,slow=1.9,SNR=2.9
MKAR LR LR 20 58 23.5
comp=Z,176nm,18.4s,MS4.1,baz=251,slow=38
KURK Kurchatov 47.76 304 *e*P **P 20 37 26.2 -1.7**
KURK pmax pmax
comp=Z,11nm,0.8s,mb4.9
KURK Kurchatov 47.76 304 *e*P **P 20 37 26.1 -1.8**
comp=Z,11nm,0.8s,mb5.0
LSA Lhasa 50.42 274 P **P 20 37 51.4 +2.8**
YKA Yellowknife Ar 51.28 36 P **P 20 37 55.3 +0.7**
comp=Z,2.2nm,0.8s,mb4.1,baz=298,slow=7.5,SNR=20
BVAR Borovoye Array 51.29 310 LR LR 21 01 36.9
comp=Z,108nm,18.3s,MS3.9,baz=248,slow=38
RES Resolute Bay 51.30 18 P **P 20 37 54.6 0.0**
comp=Z,104nm,0.7s
BRVK Borovoye 51.33 310 *e*P **P 20 37 53.7 -1.4**
BRVK pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BRVK Borovoye 51.33 310 *e*P **P 20 37 53.7 -1.4**
comp=Z,3.7nm,0.7s,mb4.4
SHL Shillong 52.48 269 *e*P **P 20 38 06.5 +2.5**
ULHL Ulahol 53.30 296 P **P 20 38 10.1 +0.2**
SNR=12
TKM2 Tokmak 2 53.34 297 *e*P **P 20 38 10.5 +0.3**
TKM2 pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
TKM2 Tokmak 2 53.34 297 *e*P **P 20 38 10.4 +0.3**
comp=Z,5.7nm,0.8s,mb4.5
USP Ospenovka 53.84 297 P **P 20 38 14.3 +0.6**
SNR=8.6
KBK Karagaybulak 53.89 297 P **P 20 38 14.5 +0.4**
SNR=5.4
KZA Kyzart 54.01 296 P **P 20 38 16.4 +1.3**
SNR=8.8
AAK Ala-Archa 54.18 297 P **P 20 38 16.6 +0.3**
SNR=8.8
EKS2 Erkin-Say 54.61 297 *e*P **P 20 38 19.5 0.0**
comp=Z,6.7nm,0.8s,mb4.7
EKS2 Erkin-Say 54.61 297 P **P 20 38 19.6 +0.2**
SNR=12
AML Almayashu 54.95 297 *e*P **P 20 38 22.5 +0.6**
comp=Z,4.6nm,0.9s,mb4.5
JIRN Jiri 55.11 275 *e*P **P 20 38 25.2 +2.0**
comp=Z,15nm,0.5s,mb5.3
GUN Gumba 55.17 275 *e*P **P 20 38 26.3 +2.6**
comp=Z,14nm,0.5s,mb5.2
ARU Arti 55.49 318 *e*P **P 20 38 23.8 -1.7**
ARU pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
ARU Arti 55.49 318 *e*P **P 20 38 23.8 -1.8**
comp=Z,4.4nm,0.6s,mb4.7
KKN Kakani 55.66 276 *e*P **P 20 38 29.3 +2.1**
comp=Z,19nm,0.7s,mb5.3
PKI Pulchoki 55.71 275 *e*P **P 20 38 29.3 +1.8**
DMN Daman 55.89 276 *e*P **P 20 38 30.7 +1.8**
comp=Z,28nm,0.8s,mb5.3
GKN Gorkha 55.97 276 *e*P **P 20 38 31.2 +1.8**
DANN Dangsing 56.36 277 *e*P **P 20 38 34.3 +2.1**
comp=Z,44nm,0.6s,mb5.7
KOLN Koldanda 56.83 277 *e*P **P 20 38 37.3 +1.7**
KEV Kevo 57.88 341 *e*p **P 20 38 40.1 -2.3**
comp=Z,1.0nm,0.3s,mb4.3
KEV Kevo 57.88 341 *e*P **P 20 38 40.1 -2.3**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
ARCES ARCESS Array B 58.40 341 P **P 20 38 44.5 -1.5**
comp=Z,2.3nm,0.7s,mb4.3,baz=22,slow=7.4,SNR=15
FFC Flin Flon 61.07 40 *e*P **P 20 39 03.2 -1.4**
FFC pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
FFC Flin Flon 61.07 40 *e*P **P 20 39 03.2 -1.4**
comp=Z,4.3nm,0.8s,mb4.6
FCC Fort Churchill 61.64 33 P **P 20 39 05.3 -3.1**
FCC pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
FCC Fort Churchill 61.64 33 P **P 20 39 05.3 -3.0**
comp=Z,2.6nm,0.8s,mb4.4
JOF Joensuu 61.87 334 *e*p **P 20 39 07.8 -2.0**
comp=Z,1.4nm,0.4s,mb4.4
KBL Kabul 62.38 292 *e*P **P 20 39 13.3 -0.4**
comp=Z,15nm,0.9s,mb5.1
NVAR Mina Array Bea 62.58 62 P **P 20 39 14.6 -0.3**
comp=Z,0.7nm,0.6s,mb4.0,baz=286,slow=6.0,SNR=3.7
FINES FINESS Array B 64.57 335 *i* P **P 20 39 27.2 -0.6**
FINES pmax pmax
comp=Z,4.0nm,0.4s
FINES FINESS Array B 64.57 335 P **P 20 39 26.7 -1.1**
FINES LR LR 21 09 57.8
FINES FINESS Array B 64.57 335 P **P 20 39 26.7 -1.1**
comp=Z,4.4nm,0.4s,mb4.8,baz=39,slow=7.3,SNR=59
FINES LR LR 21 09 57.8
comp=Z,84nm,20.0s,MS3.9,baz=338,slow=38
OBN Obninsk 65.82 326⇑*e*P **P 20 39 34.3 -1.6**
OBN *e*S S 20 48 12.0 -8.5
OBN pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
OBN MLR MLR
comp=Z,100nm,18.0s,MS4.1
RSSD Black Hills 67.08 50 P **P 20 39 42.7 -1.5**
RSSD pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
RSSD Black Hills 67.08 50 P **P 20 39 42.6 -1.5**
comp=Z,2.5nm,0.8s,mb4.3
WRA Warramunga Arr 68.05 199 *i* P **P 20 39 50.7 +0.3**
WRA pmax pmax
comp=Z,1.0nm,0.8s
WRA Warramunga Arr 68.05 199 P **P 20 39 50.0 -0.4**
comp=Z,0.8nm,0.8s,mb3.8,baz=17,slow=7.4,SNR=4.8
NB2 NORSAR Subarra 68.77 341 P **P 20 39 54.1 -0.4**
comp=Z,4.0nm,0.6s,mb4.5,baz=28,slow=6.5
NOA NORSAR Array B 68.77 341 P **P 20 39 54.4 -0.2**
comp=Z,3.6nm,0.5s,mb4.5,baz=28,slow=6.4,SNR=17
KIV Kislovodsk 71.26 314⇑*e*P **P 20 40 09.5 -0.6**
KIV pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
KIV Kislovodsk 71.26 314 *e*P **P 20 40 10.8 +0.7**
comp=Z,9.9nm,1.0s,mb4.7
KIV Kislovodsk 71.26 314⇓*i*P **P 20 40 12.1 +2.0**
ASAR Alice Springs 71.74 199 P **P 20 40 13.4 +0.4**
comp=Z,0.5nm,0.6s,mb3.6,baz=11,slow=5.1,SNR=6.8
AKASG Malin Array Be 72.06 326 *i* P **P 20 40 14.1 -0.7**
AKASG pmax pmax
comp=Z,9.0nm,0.5s
AKASG Malin Array Be 72.06 326 P **P 20 40 14.2 -0.6**
comp=Z,9.1nm,0.5s,mb5.0,baz=34,slow=6.1,SNR=72
AKBB Malin Array Si 72.06 326 *e*P **P 20 40 13.9 -0.9**
KIEV Kiev 72.07 326 *e*P **P 20 40 13.9 -0.9**
KIEV pmax pmax
comp=Z,12nm,0.6s,mb5.0
KIEV Kiev 72.07 326 *e*P **P 20 40 13.8 -1.0**
comp=Z,12nm,0.6s,mb5.0
GNI Garni 72.97 311 *e*P **P 20 40 18.1 -2.3**
GNI pmax pmax
comp=Z,4.0nm,1.0s
SOC Sochi 72.99 316 *i* P **P 20 40 21.5 +1.1**
ANN Anapa 73.16 318 *e*P **P 20 40 26.6 +5.2**
ANN pmax pmax
comp=Z,33nm,1.4s,mb5.1
KWP Kalwaria 75.34 329 *e*P **P 20 40 34.9 +0.8**
KWP Kalwaria 75.34 329 *e*P **P 20 40 34.9 +0.8**
KWP Kalwaria 75.34 329⇓*i*P **P 20 40 34.3 +0.2**
BSEG Bad Segeberg 75.37 338 *e*P **P 20 40 34.5 +0.4**
comp=Z,4.0nm,0.9s,mb4.3
STHS Stebnicka Huta 76.04 330 *e*P **P 20 40 39.3 +1.3**
STHS pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
STHS Stebnicka Huta 76.04 330 *e*P **P 20 40 39.3 +1.3**
comp=Z,3.0nm,0.7s,mb4.3
KOLS Kolonicke sedl 76.08 329 *e*P **P 20 40 38.6 +0.3**
KOLS Kolonicke sedl 76.08 329 *e*P **P 20 40 38.5 +0.2**
BURAR Bucovina Array 76.10 327⇓*i*P **P 20 40 38.7 +0.3**
CRVS Cervenica-Dubn 76.40 330 *e*P **P 20 40 40.4 +0.3**
TRPA Tarpa 76.67 329⇓*i*P **P 20 40 42.2 +0.6**
OKC Ostrava-Krasne 76.72 332 *e*P **P 20 40 45.3 +3.4**
DPC Dobruska-Polom 76.85 333 *e*P **P 20 40 43.2 +0.5**
MORC Moravsky Berou 76.97 332 *e*P **P 20 40 43.6 +0.3**
MORC pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
MORC Moravsky Berou 76.97 332 *e*P **P 20 40 43.6 +0.3**
comp=Z,5.2nm,0.9s,mb4.5
MORC Moravsky Berou 76.97 332⇓*i*P **P 20 40 44.0 +0.7**
CLL Collm 77.00 336⇑*i*P **P 20 40 43.0 -0.5**
CLL *i* 20 40 48.1
CLL pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
CLL Collm 77.00 336 *e*P **P 20 40 43.0 -0.5**
comp=Z,9.0nm,0.6s,mb4.9
CLL Collm 77.00 336⇑*i*P **P 20 40 43.0 -0.5**
comp=Z,9.0nm,0.6s,mb4.9
CLL *i* x x 20 40 48.1
PVCC Panska Ves 77.23 334 *e*pP pP 20 40 48.3 -5.1
CLZ Clausthal 77.25 337 *e*P **P 20 40 45.3 +0.5**
CLZ pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
CLZ Clausthal 77.25 337 *e*P **P 20 40 45.3 +0.5**
comp=Z,7.0nm,0.7s,mb4.7
MLR Muntele Rosu 77.57 325 P **P 20 40 47.8 +1.0**
MLR pmax pmax
comp=Z,6.0nm,0.5s
MLR Muntele Rosu 77.57 325⇑P **P 20 40 47.7 +0.9**
MLR Muntele Rosu 77.57 325 P **P 20 40 47.8 +1.0**
comp=Z,6.4nm,0.5s,mb4.8,baz=1.9,slow=4.6
MLR Muntele Rosu 77.57 325⇑*i*P **P 20 40 47.7 +0.9**
MALT Malatya 77.60 313 *e*P **P 20 40 47.7 +0.6**
MALT pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
MALT Malatya 77.60 313 *e*P **P 20 40 47.7 +0.6**
comp=Z,3.3nm,0.7s,mb4.4
MALT Malatya 77.60 313⇓*i*P **P 20 40 48.3 +1.2**
TXAR Lajitas Array 77.65 61 P **P 20 40 47.6 +0.1**
comp=Z,2.6nm,0.7s,mb4.3,baz=298,slow=4.2,SNR=31
VYHS Vyhne 77.65 331 *e*P **P 20 40 47.7 +0.5**
VRAC Vranov 77.68 333⇑*i*P **P 20 40 47.8 +0.5**
PRU Pruhonice 77.72 334 *e*P **P 20 40 47.3 -0.2**
PSZ Piszkesteto 77.78 330 P **P 20 40 48.5 +0.6**
PSZ pmax pmax
comp=Z,5.0nm,1.0s,mb4.4
PSZ Piszkesteto 77.78 330 P **P 20 40 48.5 +0.6**
comp=Z,4.8nm,1.0s,mb4.4
PSZ Piszkesteto 77.78 330⇓*i*P **P 20 40 49.0 +1.1**
VOIR 77.97 326⇓*i*P **P 20 40 49.9 +0.9**
MOX Moxa 77.99 336 *e*P **P 20 40 49.2 +0.2**
MOX Moxa 77.99 336 *e*P **P 20 40 48.6 -0.4**
comp=Z,7.0nm,1.2s,mb4.5
NKC Novy Kostel 78.12 336 *e*P **P 20 40 50.9 +1.2**
MODS Modra-Piesok 78.27 332 *e*P **P 20 40 50.1 -0.5**
ZST Bratislava 78.49 332 *e*P **P 20 40 54.4 +2.6**
ZST pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
ZST Bratislava 78.49 332 *e*P **P 20 40 54.4 +2.6**
comp=Z,6.1nm,0.5s,mb4.8
ROTZ Rotzenmuhle 78.61 335 *e*P **P 20 40 53.5 +1.1**
comp=Z,4.0nm,1.1s,mb4.3
KHC Kasperske Hory 78.77 334⇑*e*P **P 20 40 53.2 -0.1**
KHC Kasperske Hory 78.77 334 *e*P **P 20 40 53.8 +0.5**
GZR Gura Zlata 78.88 327⇑*i*P **P 20 40 55.2 +1.2**
GRA1 Grafenberg Arr 78.95 336 *e*P **P 20 40 54.9 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.95 336 *e*P **P 20 40 54.9 +0.6**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.95 336 *e*P **P 20 40 54.9 +0.6**
GRF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
GRF Grafenberg Arr 78.95 336 *e*P **P 20 40 54.9 +0.6**
comp=Z,8.0nm,0.9s,mb4.7
WET Wettzell 78.97 335 *e*P **P 20 40 54.6 +0.2**
WET pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
WET Wettzell 78.97 335 *e*P **P 20 40 54.6 +0.2**
comp=Z,5.0nm,0.9s,mb4.4
GEC2 GERESS Array S 78.99 334 *e*P **P 20 40 54.6 +0.1**
GEC2 pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
GEC2 GERESS Array S 78.99 334 *e*P **P 20 40 54.6 +0.1**
comp=Z,2.0nm,0.8s,mb4.1
GERES GERESS Array B 78.99 334 P **P 20 40 54.3 -0.3**
comp=Z,1.6nm,0.6s,mb4.1,baz=37,slow=5.3,SNR=14
CONA Conrad Observa 79.12 332⇑*i*P **P 20 40 56.1 +0.8**
comp=Z,6.3nm,0.8s,mb4.6
CSNA Conrad Observa 79.12 332⇑*i*P **P 20 40 56.1 +0.8**
comp=Z,5.3nm,0.7s,mb4.6
BZS Buzias 79.13 328⇑*i*P **P 20 40 55.1 -0.3**
PKSM Moragy 79.69 330⇑*i*P **P 20 40 58.3 -0.1**
ARSA Arzberg 79.83 332⇓*i*P **P 20 41 01.2 +2.0**
comp=Z,2.3nm,0.5s,mb4.4
ARSA Arzberg 79.83 332⇓*i*PcP **P 20 41 01.2 +2.0**
comp=Z,2.3nm,0.5s,mb4.4
SOKA Soboth 80.49 332⇑*i*P **P 20 41 03.1 +0.4**
comp=Z,4.7nm,0.7s,mb4.5
KBA Koelnbreinsper 80.67 334⇓*i*P **P 20 41 04.9 +1.2**
comp=Z,15nm,0.8s,mb5.0
KBA Koelnbreinsper 80.67 334⇓*i*P **P 20 41 04.9 +1.2**
KBA pmax pmax
comp=Z,15nm,0.8s,mb5.0
BFO Black Forest 80.99 337 *e*P **P 20 41 05.2 -0.2**
BFO pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
BFO Black Forest 80.99 337 *e*P **P 20 41 05.2 -0.2**
comp=Z,5.0nm,0.9s,mb4.4
WTTA Wattenberg 81.02 335⇓*i*P **P 20 41 08.0 +2.4**
comp=Z,11nm,0.5s,mb5.0
WTTA Wattenberg 81.02 335⇓*i*PcP **P 20 41 08.0 +2.4**
comp=Z,11nm,0.5s,mb5.0
WTTA Wattenberg 81.02 335⇓*i*P **P 20 41 08.0 +2.4**
WTTA pmax pmax
comp=Z,11nm,0.5s,mb5.0
VTS Vitosha 81.08 325⇓*i*P **P 20 41 06.2 +0.3**
CDF Champ du Feu 81.19 338 *e*P **P 20 41 06.8 +0.3**
comp=Z,9.3nm,0.8s,mb4.5
CDF Champ du Feu 81.19 338 *e*P **P 20 41 06.8 +0.3**
CDF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CDF Champ du Feu 81.19 338 *e*P **P 20 41 06.8 +0.3**
comp=Z,4.7nm,0.8s,mb4.5
MEZF Maizieres J'vi 81.68 339 *e*P **P 20 41 08.7 -0.3**
HAU Haudompre 81.81 338 *e*P **P 20 41 09.6 -0.1**
comp=Z,7.7nm,0.7s,mb4.4
HAU Haudompre 81.81 338 *e*P **P 20 41 09.6 -0.1**
HAU pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
HAU Haudompre 81.81 338 *e*P **P 20 41 09.6 -0.1**
comp=Z,3.8nm,0.7s,mb4.4
DAVOX Davos/Dischmat 81.97 336 LR LR 21 22 31.1
comp=Z,67nm,18.2s,MS4.0,baz=171,slow=39
FLN La Foliniere 82.68 343 *e*P **P 20 41 14.0 -0.3**
comp=Z,22nm,1.0s,mb4.8
FLN La Foliniere 82.68 343 *e*P **P 20 41 14.0 -0.3**
FLN pmax pmax
comp=Z,11nm,1.0s,mb4.8
FLN La Foliniere 82.68 343 *e*P **P 20 41 14.0 -0.3**
comp=Z,11nm,1.0s,mb4.8
LDF La Drutiere 82.77 343 *e*P **P 20 41 14.4 -0.3**
GRR Gorron 83.11 343 *e*P **P 20 41 16.3 -0.2**
LOR Lormes 83.12 340 *e*P **P 20 41 16.1 -0.5**
comp=Z,9.2nm,0.7s,mb4.6
LOR Lormes 83.12 340 *e*P **P 20 41 16.1 -0.5**
LOR pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LOR Lormes 83.12 340 *e*P **P 20 41 16.1 -0.5**
comp=Z,4.6nm,0.7s,mb4.6
SSF Saint Saulge 83.40 340 *e*P **P 20 41 17.7 -0.3**
comp=Z,9.4nm,1.0s,mb4.5
SSF Saint Saulge 83.40 340 *e*P **P 20 41 17.7 -0.3**
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
SSF Saint Saulge 83.40 340 *e*P **P 20 41 17.7 -0.3**
comp=Z,4.7nm,1.0s,mb4.5
SGMF Saint Gilles 83.58 344 *e*P **P 20 41 18.7 -0.2**
comp=Z,15nm,0.9s,mb4.8
SGMF Saint Gilles 83.58 344 *e*P **P 20 41 18.7 -0.2**
SGMF pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
SGMF Saint Gilles 83.58 344 *e*P **P 20 41 18.7 -0.2**
comp=Z,7.6nm,0.9s,mb4.8
AVF Avril sur Loir 83.69 340 *e*P **P 20 41 19.5 0.0**
comp=Z,9.2nm,0.9s,mb4.6
AVF Avril sur Loir 83.69 340 *e*P **P 20 41 19.5 0.0**
AVF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
AVF Avril sur Loir 83.69 340 *e*P **P 20 41 19.5 0.0**
comp=Z,4.6nm,0.9s,mb4.6
SMF Signal de Mont 83.70 339 *e*P **P 20 41 19.5 -0.1**
comp=Z,13nm,0.9s,mb4.8
SMF Signal de Mont 83.70 339 *e*P **P 20 41 19.5 -0.1**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.8
SMF Signal de Mont 83.70 339 *e*P **P 20 41 19.5 -0.1**
comp=Z,6.7nm,0.9s,mb4.8
LPL La Plagne 84.01 337 *e*P **P 20 41 21.1 -0.1**
LPG La Plagne 84.02 337 *e*P **P 20 41 21.2 0.0**
TCF Toulx Ste Croi 84.43 340 *e*P **P 20 41 22.9 -0.4**
comp=Z,9.6nm,1.0s,mb4.6
TCF Toulx Ste Croi 84.43 340 *e*P **P 20 41 22.9 -0.4**
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
TCF Toulx Ste Croi 84.43 340 *e*P **P 20 41 22.9 -0.4**
comp=Z,4.8nm,1.0s,mb4.6
MFF Saint Martin d 84.66 342 *e*P **P 20 41 24.1 -0.4**
comp=Z,3.6nm,0.6s,mb4.4
MFF Saint Martin d 84.66 342 *e*P **P 20 41 24.1 -0.4**
MFF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
MFF Saint Martin d 84.66 342 *e*P **P 20 41 24.1 -0.4**
comp=Z,1.8nm,0.6s,mb4.4
ORIF Oris-en-Rattie 84.79 337 *e*P **P 20 41 24.8 -0.3**
VIVF Saint-Julien-l 85.17 338 *e*P **P 20 41 26.7 -0.3**
comp=Z,7.1nm,0.9s,mb4.5
VIVF Saint-Julien-l 85.17 338 *e*P **P 20 41 26.7 -0.3**
VIVF pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
VIVF Saint-Julien-l 85.17 338 *e*P **P 20 41 26.7 -0.3**
comp=Z,3.5nm,0.9s,mb4.5
RJF Les Rejaudoux 85.52 340 *e*P **P 20 41 28.3 -0.5**
SMRF Simiane la Rot 85.75 337 *e*P **P 20 41 29.5 -0.4**
FRF La Foret Royal 85.84 336 *e*P **P 20 41 29.8 -0.6**
LMR La Mourre 86.09 336 *e*P **P 20 41 31.1 -0.5**
comp=Z,23nm,1.3s,mb4.9
LMR La Mourre 86.09 336 *e*P **P 20 41 31.1 -0.5**
LMR pmax pmax
comp=Z,12nm,1.3s,mb5.0
LMR La Mourre 86.09 336 *e*P **P 20 41 31.1 -0.5**
comp=Z,12nm,1.3s,mb5.0
PGF Pioggiola 86.09 334 *e*P **P 20 41 31.2 -0.5**
MTLF Montolieu 87.20 339 *e*P **P 20 41 36.9 -0.2**
comp=Z,2.7nm,0.6s,mb4.4
MTLF Montolieu 87.20 339 *e*P **P 20 41 36.9 -0.2**
MTLF pmax pmax
comp=Z,1.0nm,0.6s,mb4.2
MTLF Montolieu 87.20 339 *e*P **P 20 41 36.9 -0.2**
comp=Z,1.4nm,0.6s,mb4.4
KEST Kesra 92.19 331 P **P 20 42 03.9 +3.2**
comp=Z,1.2nm,0.9s,mb4.2,baz=71,slow=6.7,SNR=4.4

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*CSEM **22** 20:29:03.6, 35.75N×2729E, h5km, MD3.6/5, After ATH*
*NEIC **22** 20:29:03.6, 35.75N×2729E, h5km, MD3.5(ATH), After ATH.*
ATH 22 20:29:03.6, 3575N×2729E, h5km±1km, MD3.5/5, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.23**	**207**	*e*PG			Pg	20 29 08.5	+0.5
ARG	**Arkhangelos**	**0.82**	**55**	*e*PB			Pb	20 29 19.3	-1.1
NPS	**Neapolis**	**1.45**	**251**	*e*PG			Pg	20 29 30.2	-1.2
SANT	**Santorini**	**1.61**	**293**	*e*Pn			Pn	20 29 34.9	+2.2
APE	**Apeiranthos**	**1.94**	**313**	*e*PN			Pn	20 29 40.1	+3.0
SMG	**Samos**	**1.99**	**350**	*e*PG			Pg	20 29 40.9	-0.8

IDC 22 20:40:30.0±39.0, 1869S×17897W, h700km±342km, mb2.9/4, mb1 3.1/4, mb1mx2.8/15, mbtmp2.9/4, Error ellipse: s-maj=418.9km s-min=71.6km az=108.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**32.80**	**262**	P			P	20 46 11.3	+0.4
	2.9nm,0.4s,baz=83,slow=11,SNR=7.3								
WRA	**Warramunga Arr**	**43.97**	**260**	P			P	20 47 39.8	-0.1
	0.9nm,0.7s,baz=92,slow=6.4,SNR=36								
ASAR	**Alice Springs**	**44.07**	**255**	P			P	20 47 40.3	-0.3
	1.1nm,0.4s,baz=91,slow=8.4,SNR=34								
MJAR	**Matsushiro Arr**	**68.22**	**324**	P			P	20 50 24.5	+0.1
	1.2nm,0.8s,baz=161,slow=5.6,SNR=5.0								

IDC 22 20:46:03.5±5.3, 317S×13057E, h75km±44km, mb3.8/2, mb1 3.9/4, mb1mx3.5/16, mbtmp3.7/4, ML3.6/2, MS3.9/3, Ms1 3.9/3, ms1mx3.1/26, Error ellipse: s-maj=89.5km s-min=15.1km az=76.0, Seram

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.61**	**198**	P			Pn	20 49 39.1	-0.1
	0.1nm,0.3s,baz=106,slow=23,SNR=3.2								
FITZ				S			S	20 52 31.7	-11
	0.0nm,0.3s,baz=97,slow=22,SNR=2.4								
WRA	**Warramunga Arr**	**17.07**	**168**	P			Pn	20 49 56.9	-0.5
	0.4nm,0.3s,baz=348,slow=11,SNR=20								
WRA				S			S	20 52 55.6	-17
	0.1nm,0.3s,baz=353,slow=24,SNR=4.8								
ASAR	**Alice Springs**	**20.63**	**171**	P			P	20 50 37.0	+0.1
	12nm,0.8s,baz=350,slow=9.9,SNR=108								
ASAR				S			S	20 54 24.3	+0.8
	0.6nm,0.9s,baz=353,slow=15,SNR=4.6								
KSRS	**Korea Array**	**40.49**	**357**	LR			LR	21 12 18.2	
	comp=Z,18nm,18.2s,baz=170,slow=39								
RPZ	**Rata Peaks**	**53.95**	**144**	LR			LR	21 18 47.2	
	comp=Z,502nm,18.5s,baz=158,slow=36								
AFI	**Afiamalu**	**57.86**	**104**	LR			LR	21 19 15.9	
	comp=Z,136nm,18.3s,baz=257,slow=34								
MKAR	**Makanchi Array**	**65.38**	**326**	P			P	20 56 38.2	+0.2
	0.9nm,0.8s,baz=124,slow=7.6,SNR=10								

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*ISCJB **22** 20:55:20.0±0.5, 3142N±003×114.18W±002, h10km, Error ellipse: s-maj=5.1km s-min=2.6km az=173.5*
*NEIC **22** 20:55:19.8, 3136N×114.17W, h12km, ML3.7(ECX), After ECX.*
*ECX **22** 20:55:19.8±1.0, 3136N×114.17W, h12km, MD3.7, ML3.7*
ISC 22 20:55:21.2±0.5, 3145N±004×11423W±002, h10km, n51, σ1⅚26/66, 14C-18D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
112A	**Yuma**	**1.12**	**345**	P			**Pb**	**20 55 42.5**	**-0.2**
	baz=1.2,SNR=16								
112A				⇓S			**Sb**	**20 55 56.5**	**-0.9**
	baz=1.2								
SPX	**San Pedro Mart**	**1.13**	**249**	*e*PN			**Pn**	**20 55 42.0**	**-1.1**
SPX				*e*S			**Sb**	**20 55 55.9**	**-1.7**
SPX				⇓*e*				20 55 58.4	
	comp=N,1μm,0.5s								
YMD	**Yuma Desert**	**1.13**	**346**	⇓*i*P			**Pb**	**20 55 42.8**	**-0.1**
YMD				*e*S			**Sb**	**20 55 57.3**	**-0.4**
CPBX	**Cerro Prieto**	**1.33**	**317**	*e*PN			**Pn**	**20 55 45.7**	**-0.1**
CPBX				*e*S			**Sb**	**20 56 02.8**	**-0.5**
CPBX				*e*				20 56 10.9	
	comp=N,3μm,0.3s								
113A	**Mohawk Valley,**	**1.37**	**16**	P			**Pn**	**20 55 46.9**	**+0.5**
	baz=1.4,SNR=128								
113A				⇓S			**Sb**	**20 56 03.3**	**-1.3**
	baz=1.4								
RDX	**Rancho Dowling**	**1.54**	**289**	*e*PN			**Pn**	**20 55 47.0**	**-1.7**
RDX				*e*S			**Sn**	**20 56 09.3**	**+0.5**
RDX				⇓*e*				20 56 18.4	
	comp=E,580nm,0.4s								
COA	**Coachella**	**1.60**	**332**	*e*P			**Pn**	**20 55 48.8**	**-0.8**
RUN	**Ruthven**	**1.65**	**338**	*e*P			**Pn**	**20 55 49.5**	**-0.7**
GLA	**Glamis**	**1.68**	**343**	*e*Pn			**Pn**	**20 55 49.9**	**-0.7**
GLA	**Glamis**	**1.68**	**343**	P			**Pn**	**20 55 50.1**	**-0.5**
	baz=1.8,SNR=115								
GLA				⇓S			**Sn**	**20 56 09.7**	**-2.5**
	baz=1.8								
ECNX	**Esteban Cantu**	**2.03**	**276**	*e*PN			**Pn**	**20 55 54.6**	**-0.9**
ECNX				*e*S			**Sn**	**20 56 22.2**	**+1.3**
115A	**Sonoran Desert**	**2.11**	**53**	⇑P			**Pn**	**20 55 58.8**	**+2.3**
	baz=2.1,SNR=14								
ENX	**Ensenada**	**2.12**	**282**	*e*PN			**Pn**	**20 55 55.7**	**-1.1**
ENX				*e*S			**Sn**	**20 56 24.5**	**+1.4**
PBX	**Punta Banda**	**2.15**	**278**	*e*S			**Sn**	**20 56 24.8**	**+1.0**
Z14A	**Wintersburg**	**2.19**	**29**	⇓P			**Pb**	**20 55 59.2**	**-1.8**
	baz=2.2,SNR=8.0								
CBX	**Cerro Bola**	**2.24**	**293**	*e*PN			**Pn**	**20 55 57.4**	**-1.0**

CBX *e*S **Sn** **20 56 28.1 +2.0**
Y12C Blythe 2.31 354 ⇑P Pn 20 55 59.5 +0.2
baz=2.4,SNR=6.4
MONP Monument Peak 2.35 308 ⇑P Pn 20 55 59.4 -0.4
baz=2.4,SNR=11
Y13A Salome 2.38 8 ⇓P Pn 20 56 01.2 +0.9
baz=2.5,SNR=19
116A Eloy 2.41 62 ⇑P Pb 20 56 04.9 +0.1
baz=2.4,SNR=7.2
216A Three Points, 2.42 76 ⇓P Pb 20 56 03.4 -1.6
baz=2.4
BC3 Big Chuckw Mtn 2.43 335 ⇓P Pn 20 56 00.7 -0.3
baz=2.5,SNR=58
Y14A Wickenburg 2.69 22 ⇑P Pn 20 56 05.7 +1.2
baz=2.8
IRM Iron Mountain 2.81 344 ⇑P Pn 20 56 06.0 -0.2
baz=2.9,SNR=8.1
109C Camp Elliot, M 2.83 301 ⇓Sb Sb 20 56 46.6 +0.1
baz=2.9
PFO Pinyon Flat Ob 2.86 319 *e*Pn **Pn 20 56 08.8 +1.9**
217A Green Valley 2.93 83 ⇓P Pb 20 56 10.6 -3.0
baz=2.9,SNR=11
BELC Belle Mtn. 2.95 330 ⇑P Pn 20 56 08.2 +0.1
baz=3.1,SNR=13
Y15A Casa Rosa Ranc 2.96 32 ⇓P Pn 20 56 09.8 +1.5
baz=3.0
Z16A Peralta Trail, 3.03 51 ⇑Sb Sg 20 56 59.7 +1.2
baz=3.0
TUC Tucson 3.05 73 *e*Pn **Pn 20 56 02.5 -7.1**
X13A Yucca 3.15 6 P **Pn 20 56 14.4 +3.5**
baz=3.2,SNR=6.8
117A Oracle 3.17 68 ⇑P Pb 20 56 13.8 -3.7
baz=3.1,SNR=5.6
X15A Humboldt 3.46 28 ⇑Sb Sg 20 57 11.1 -1.2
baz=3.5
GMRC Granite Mounta 3.53 341 ⇓P Pn 20 56 16.2 +0.1
baz=3.6
218A Dragoon 3.60 81 ⇑P Pb 20 56 20.0 -5.0
baz=3.6,SNR=5.8
318A Bisbee 3.62 89 ⇑P Pb 20 56 20.6 -4.7
baz=3.6,SNR=35
Y17A Roosevelt 3.63 51 ⇑Sb Sg 20 57 17.5 -0.3
baz=3.6
W13A Hualapai Mount 3.65 4 P **Pn 20 56 20.1 +2.3**
baz=3.7,SNR=6.3
Z17A San Carlos Hig 3.67 59 ⇑Sb Sg 20 57 20.4 +1.2
baz=3.7
HEC Hector,Ludlow 3.80 333 ⇓P Pn 20 56 19.6 -0.3
baz=3.9,SNR=17
319A Douglas 4.23 90 ⇓P Pn 20 56 29.2 +3.4
baz=4.2,SNR=6.0
V14A Boquillas Ranc 4.28 12 ⇓P Pn 20 56 29.7 +3.3
baz=4.4,SNR=16
V13A Grand Canyon W 4.39 3 P **Pn 20 56 30.5 +2.5**
baz=4.5,SNR=7.5
GSC Goldstone 4.41 331 *e*Pn **Pn 20 56 28.4 +0.3**
GSC *e*Pg **Pg 20 56 47.0 +1.4**
WUAZ Wupatki 4.71 30 *e*Pn **Pn 20 56 30.5 -1.7**
WUAZ *e*Sg **Sb 20 57 45.9 +5.4**
MPMC Manual Prospec 5.34 330 ⇓P Pn 20 56 41.0 +0.1
baz=5.4
TPNV Topopah Spring 5.73 344 *e*Pn **Pn 20 56 47.2 +0.8**
comp=E,2.7nm,0.5s
TPNV *e*Pg **Pg 20 57 06.1 -4.9**
TPNV *e*Sg **Sg 20 58 24.7 -0.6**
ARUT Antelope Range 6.36 6 *e*Pn **Pn 20 56 55.5 +0.6**
PTRM Twissleman Ran 6.52 312 *e*Pn **Pn 20 56 52.0 -5.2**
MNTX Cornudas Mount 7.55 86 *e*Pn **Pn 20 57 14.1 +2.7**
MNTX *e*Sn **Sn 20 58 40.2 +3.2**

ISCJB ***22*** *21:04:29.4±3.0,21.14S±007×16868E±007,h8km±18km, mb4.8/36,MS4.3/17,Error ellipse: s-maj=14.3km s-min=8.8km az=142.9*
IDC ***22*** *21:04:29.9±0.8,21.10S×16874E,h0km,mb4.4/9, mb1 4.6/9,mb1mx4.6/12,mbtmp4.4/9,MS3.9/10, Ms1 3.9/10,ms1mx3.6/23,Error ellipse: s-maj=29.7km s-min=20.6km az=139.0*
NEIC ***22*** *21:04:31.0±0.3,21.12S×16875E,h10km,mb5.0/17,Error ellipse: s-maj=14.1km s-min=8.5km az=152.0*
BJI ***22*** *21:04:31.4,2075S×16826E,h5km,mB5.2,mb4.9,Ms5.1, Msz4.8*
LDG ***22*** *21:04:32.0±0.2,2082S×16858E,h10km,Mb5.1/2,Error ellipse: s-maj=16.0km s-min=3.3km az=137.0*
SZGRF ***22*** *21:04:36.1,20.14S×17058E,h37km, Vanuatu Islands*
MOS ***22*** *21:04:40.2±2.7,1981S×16779E,h33km,mb5.1/11,Error ellipse: s-maj=15.3km s-min=11.3km az=38.0*
ISC 22 21:04:32.8±3.5,2115S±008×16868E±007,h19km±21km, h18km±2.0km:pP-P,n233,σ0:90/69,mb4.8/36,MS4.3/17, 13C-28D,Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.27**	**246**	*e*P	**Pn**	**21 05 08.4**	**-0.9**
DZM				*e*S	**Sn**	**21 05 36.3**	**-0.6**
HNR	**Honiara**	**14.37**	**323**	LR	LR	21 12 06.4	
	comp=Z,119nm,18.6s,baz=179,slow=32						
CTA	**Charters Tower**	**21.02**	**269**	*e*P	**P**	**21 09 17.8**	**+2.3**
	5.0nm,0.9s,mb3.8						
CTA				*i*		21 09 27.2	
CTA	**Charters Tower**	**21.02**	**269**	P	**P**	**21 09 17.1**	**+1.7**
	7.1nm,0.9s,mb4.0,baz=95,slow=15,SNR=4.9						
CTAO	**Charters Tower**	**21.02**	**269**	*e*P	**P**	**21 09 17.2**	**+1.7**
CTAO				pmax	pmax		
	comp=Z,16nm,0.9s,mb4.3						
CTAO	**Charters Tower**	**21.02**	**269**	*e*P	**P**	**21 09 17.2**	**+1.7**
	comp=Z,16nm,0.9s,mb4.4						
STKA	**Stephens Creek**	**26.42**	**241**	*e*P	**P**	**21 10 09.9**	**+1.5**
	comp=Z,4.8nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**26.42**	**241**	*e*P	**P**	**21 10 09.8**	**+1.4**
	comp=Z,7.1nm,0.8s,mb4.2						
STKA	**Stephens Creek**	**26.42**	**241**	P	**P**	**21 10 10.0**	**+1.6**
	comp=Z,5.0nm,0.7s,mb4.1,baz=85,slow=9.0,SNR=15						
STKA				LR	LR	21 19 55.2	
	comp=Z,314nm,18.3s,MS3.9,baz=27,slow=35						
RAR	**Rarotonga**	**29.39**	**96**	LR	LR	21 19 30.4	
	comp=Z,442nm,18.1s,MS4.1,baz=317,slow=31						
WB2	**Warramunga Arr**	**32.13**	**266**	*e*P	**P**	**21 10 58.4**	**-0.9**
WB2				*i*		21 11 08.4	
WB2	**Warramunga Arr**	**32.13**	**266**	*e*P	**P**	**21 10 58.0**	**-1.4**
WRAB	**Tennant Creek**	**32.14**	**266**	*e*P	**P**	**21 10 58.0**	**-1.4**
WRAB				pmax	pmax		
	comp=Z,15nm,1.1s,mb4.7						
WRAB	**Tennant Creek**	**32.14**	**266**	*e*P	**P**	**21 10 58.0**	**-1.4**
	comp=Z,15nm,1.1s,mb4.7						
WRA	**Warramunga Arr**	**32.15**	**266**	P	**P**	**21 10 58.7**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.2,baz=101,slow=7.5,SNR=25						
WRA				LR	LR	21 24 12.7	
	comp=Z,294nm,18.1s,MS4.0,baz=100,slow=37						
ASAR	**Alice Springs**	**32.20**	**259**	P	**P**	**21 10 59.9**	**-0.1**
	comp=Z,17nm,0.7s,mb5.0,baz=85,slow=9.0,SNR=212						
FORT	**Forrest**	**37.59**	**247**	*e*P	**P**	**21 11 46.4**	**+0.1**
	comp=Z,13nm,0.7s,mb4.8						
PPT	**Papeete**	**39.47**	**92**	LR	LR	21 22 53.3	
	comp=Z,135nm,21.1s,MS3.8,baz=318,slow=28						
FITZ	**Fitzroy Crossi**	**40.57**	**267**	*e*P	**P**	**21 12 11.9**	**+0.5**
	comp=Z,19nm,0.8s,mb4.8						
FITZ				*i*		21 12 22.1	
FITZ	**Fitzroy Crossi**	**40.57**	**267**	*e*P	**P**	**21 12 11.8**	**+0.4**
	comp=Z,99nm,0.8s,mb5.5						
FITZ	**Fitzroy Crossi**	**40.57**	**267**	LR	LR	21 28 57.0	
	comp=Z,162nm,22.0s,MS3.8,baz=312,slow=36						
BATI	**Kupang**	**44.55**	**277**	LR	LR	21 28 17.7	
	comp=Z,326nm,19.6s,MS4.3,baz=129,slow=32						
MBWA	**Marble Bar**	**45.50**	**261**	*e*P	**P**	**21 12 51.1**	**-0.2**
	comp=Z,48nm,0.7s,mb5.4						
MBWA				*e*		21 13 01.8	
KLBR	**Kellerberrin**	**46.44**	**246**	*e*P	**P**	**21 12 58.3**	**-0.3**
	comp=Z,26nm,0.9s,mb5.2						
KLBR				*e*		21 13 08.3	
NWAO	**Narrogin (SRO)**	**46.89**	**244**	*e*P	**P**	**21 13 02.2**	**0.0**
NWAO				*e*		21 13 12.0	
NWAO				pmax	pmax		
	comp=Z,18nm,0.8s						
NWAO	**Narrogin (SRO)**	**46.89**	**244**	*e*P	**P**	**21 13 02.2**	**+0.1**
	comp=Z,18nm,0.8s,mb5.0						
NWAO				*e*		21 13 12.0	
VNDA	**Vanda**	**56.51**	**182**	*e*P	**P**	**21 14 13.7**	**+0.4**
	comp=Z,2.8nm,0.9s,mb4.3						
VNDA	**Vanda**	**56.51**	**182**	P	**P**	**21 14 13.8**	**+0.5**
	comp=Z,0.9nm,0.6s,mb4.0,baz=360,slow=7.3,SNR=3.7						
SBA	**Scott Base**	**56.76**	**180**	*e*P	**P**	**21 14 16.4**	**+1.3**
	comp=Z,21nm,1.2s,mb5.0						
SBA				*e*		21 14 26.8	
KKM	**Kota Kinabalu**	**58.13**	**292**	*e*P	**P**	**21 14 25.9**	**+0.2**
CASY	**Casey**	**58.17**	**204**	*e*P	**P**	**21 14 25.3**	**+0.1**
CASY				*e*		21 14 36.1	
CASY	**Casey**	**58.17**	**204**	*e*P	**P**	**21 14 24.9**	**-0.3**
	comp=Z,21nm,1.5s,mb4.9						
CASY				*e*		21 14 35.2	
KSM	**Kuching**	**61.30**	**284**	*e*P	**P**	**21 14 47.8**	**+0.2**
KSM				*e*		21 14 57.8	
MJAR	**Matsushiro Arr**	**64.20**	**333**	P	**P**	**21 15 06.0**	**-0.3**
	comp=Z,6.7nm,0.9s,mb4.7,baz=168,slow=6.8,SNR=22						
MAJO	**Matsushiro**	**64.20**	**333**	*e*P	**P**	**21 15 05.7**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
MAJO	**Matsushiro**	**64.20**	**333**	*e*P	**P**	**21 15 05.7**	**-0.6**
	comp=Z,12nm,1.0s,mb4.9						
MAT	**Matsushiro**	**64.20**	**333**	P	**P**	**21 15 06.1**	**-0.3**
MAT				*e*S	**S**	**21 23 42.8**	**0.0**
YHNB	**Yeheng**	**64.72**	**312**	*e*P	**P**	**21 15 08.6**	**-1.4**
YHNB				*e*		21 15 20.9	
JNU	**Nakatsue**	**64.92**	**325**	LR	LR	21 37 54.5	
	comp=Z,46nm,22.0s,MS3.6,baz=330,slow=31						
KSRS	**Korea Array**	**69.79**	**326**	P	**P**	**21 15 41.9**	**-0.1**
	comp=Z,1.1nm,0.7s,mb3.9,baz=144,slow=7.4,SNR=5.2						
NJ2	**Nanjing**	**71.22**	**317**	*e*P	**P**	**21 15 51.3**	**+0.5**
NJ2				AP	pP	21 15 56.3	-0.7
NJ2				XP	sP	21 15 59.3	0.0
NJ2				PCP	PcP	21 16 11.9	+1.2
NJ2				S	S	21 25 05.5	-1.7
NJ2				XS	sS	21 25 15.0	-2.4
NJ2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
NJ2				AMB	AMB		
	comp=Z,130nm,4.3s						
NJ2				LR	LR		
	comp=N,560nm,31.8s						
NJ2				LR	LR		
	comp=E,550nm,26.6s						
NJ2				LR	LR		
	comp=Z,560nm,27.5s,MS4.7						
KULM	**Kulim**	**71.65**	**283**	*e*P	**P**	**21 16 00.9**	**+7.1**
PSI	**Prapat**	**72.23**	**280**	LR	LR	21 51 01.0	
	comp=Z,173nm,18.4s,MS4.4,baz=252,slow=39						
WHN	**Wuhan**	**73.25**	**313**	P	**P**	**21 15 58.5**	**-4.5**
CN2	**Changchun**	**75.82**	**329**	⇓P	**P**	**21 16 18.6**	**+1.0**
CN2				*e*XP	sP	21 16 25.0	-1.0
CN2				*e*S	S	21 26 01.5	+2.8
CN2				AMB	AMB		
	comp=Z,20nm,0.9s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,16.0s,MS4.7						
CN2				LR	LR		
	comp=Z,500nm,17.0s,MS4.9						
GYA	**Guiyang**	**76.49**	**305**	P	**P**	**21 16 23.0**	**+1.2**
GYA				PCP	PcP	21 16 35.8	+2.4
GYA				PP	PP	21 19 17.4	+3.3
GYA				S	S	21 26 08.6	+1.8
GYA				SKS		21 26 30.3	
GYA				SCS	ScS	21 26 36.4	-0.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
GYA				AMB	AMB		
	comp=Z,120nm,6.2s						
GYA				LR	LR		
	comp=N,570nm,19.9s,MS5.0						
GYA				LR	LR		
	comp=E,490nm,18.2s,MS5.0						
GYA				LR	LR		
	comp=Z,650nm,20.7s,MS4.9						
KLR	**Kul'dur**	**77.39**	**336**	*e*P	**P**	**21 16 23.0**	**-3.3**
BJI	**Beijing**	**78.09**	**322**	P	**P**	**21 16 31.0**	**+0.5**
BJI				S	S	21 26 19.4	-4.3
BJI				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
KMI	**Kunming**	**78.84**	**302**	P	**P**	**21 16 35.3**	**+0.3**
KMI				AP	pP	21 16 44.0	+2.8
KMI				XP	sP	21 16 47.8	+4.3
KMI				PP	PP	21 19 37.0	+3.1
KMI				S	S	21 26 33.0	+0.6
KMI				AMB	AMB		
	comp=Z,11nm,1.0s,mb4.7						
KMI				AMB	AMB		
	comp=Z,91nm,4.3s						
KMI				LR	LR		
	comp=N,78nm,13.0s,MS4.5						
KMI				LR	LR		
	comp=E,95nm,10.1s,MS4.5						
KMI				LR	LR		
	comp=Z,77nm,16.3s						
CD2	**Chengdu**	**80.98**	**308**	⇑*i*P	**P**	**21 16 47.6**	**+1.2**
CD2				AP	pP	21 16 52.4	-0.3
CD2				XP	sP	21 16 55.3	+0.3
CD2				PP	PP	21 19 54.6	+3.0
CD2				S	S	21 26 54.9	+0.1
CD2				XS	sS	21 27 02.8	-2.3
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CD2				AMB	AMB		
	comp=Z,20nm,8.4s						
CD2				LR	LR		
	comp=N,170nm,15.6s						
CD2				LR	LR		
	comp=Z,90nm,12.0s,MS4.3						
HHC	**Hu-ho-hao-te**	**81.33**	**320**	*e*P	**P**	**21 16 49.8**	**+1.8**
HHC				AP	pP	21 16 54.6	+0.3
HHC				XP	sP	21 16 56.8	+0.2
HHC				PP	PP	21 19 58.4	+4.2
HHC				S	S	21 27 00.5	+2.6
HHC				XS	sS	21 27 08.5	+0.2
HHC				AMB	AMB		
	comp=Z,7.0nm,1.0s,mb4.5						
HHC				AMB	AMB		
	comp=Z,78nm,7.1s						
HHC				LR	LR		
	comp=N,151nm,14.1s,MS4.6						
HHC				LR	LR		
	comp=E,124nm,14.1s,MS4.6						
HHC				LR	LR		
	comp=Z,97nm,15.2s,MS4.3						
HIA	**Hailar**	**82.50**	**330**	*e*P	**P**	**21 16 53.7**	**-0.2**
SYO	**Syowa Base**	**82.96**	**196**	⇓*e*X		21 16 49.6	
LZH	**Lanzhou**	**83.62**	**312**	*e*P	**P**	**21 17 02.0**	**+1.9**
LZH				AP	pP	21 17 07.5	+1.1
LZH				XP	sP	21 17 09.5	+0.9
LZH				AMB	AMB		
	comp=Z,15nm,1.1s,mb5.0						
LZH				AMB	AMB		
	comp=Z,76nm,5.1s						
VNA3	**Neumayer Olymp**	**87.85**	**181**	*e*P	**P**	**21 17 19.7**	**-0.9**
VNA3				*e*		21 17 22.4	
VNA3				*e*		21 17 30.7	
VNA3				*e*		21 17 36.1	
GTA	**Gaotai**	**88.06**	**314**	*e*P	**P**	**21 17 23.1**	**+1.1**
GTA				AP	pP	21 17 27.4	-0.9
GTA				XP	sP	21 17 30.6	0.0
GTA				PP	PP	21 20 52.1	+3.0
GTA				SKS		21 27 50.0	
GTA				S	S	21 28 06.4	+1.4
GTA				XS	sS	21 28 14.8	-0.6
GTA				AMB	AMB		
	comp=Z,4.0nm,1.6s,mb4.4						
GTA				AMB	AMB		
	comp=Z,91nm,4.6s						
GTA				LR	LR		
	comp=N,125nm,14.5s,MS4.7						
GTA				LR	LR		
	comp=E,158nm,15.3s,MS4.7						
GTA				LR	LR		
	comp=Z,55nm,8.0s						
ULN	**Ulaanbaatar**	**88.08**	**324**	*e*P	**P**	**21 17 20.3**	**-1.6**
VNA2	**Neumayer--Watz**	**88.13**	**181**	*e*P	**P**	**21 17 21.4**	**-0.5**
	baz=186,slow=4.5						
VNA2				*e*		21 17 23.6	
VNA2				*e*		21 17 32.2	
VNA2				*e*		21 17 37.8	
SONM	**Songino Array**	**88.43**	**323**	P	**P**	**21 17 23.9**	**+0.4**
	comp=Z,6.9nm,0.8s,mb4.9,baz=138,slow=4.3,SNR=16						
CMB	**Columbia Colle**	**88.81**	**48**	*e*P	**P**	**21 17 25.4**	**-0.2**
CMB				*e*		21 17 36.7	
CMB				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
CMB	**Columbia Colle**	**88.81**	**48**	*e*P	**P**	**21 17 25.4**	**-0.3**
	comp=Z,3.4nm,0.8s,mb4.7						
CMB				*e*		21 17 36.7	
BILL	**Bilibino**	**88.94**	**359**	⇓*e*P	**P**	**21 17 24.2**	**-1.3**
BILL				*e*		21 20 52.5	
BILL				*e*S	SKSac	21 27 42.2	-11
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.6						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.3						
YBH	**Yreka Blue Hor**	**89.03**	**44**	*e*P	**P**	**21 17 26.6**	**+0.1**
YBH				pmax	pmax		
	comp=Z,18nm,1.3s						
YBH	**Yreka Blue Hor**	**89.03**	**44**	*e*P	**P**	**21 17 26.6**	**0.0**
	comp=Z,18nm,1.3s,mb5.2						
NVAR	**Mina Array Bea**	**90.45**	**49**	P	**P**	**21 17 32.8**	**-0.5**
	comp=Z,2.3nm,0.6s,mb4.7,baz=226,slow=7.7,SNR=11						
BOD	**Bodaibo**	**90.81**	**334**	*e*P	**P**	**21 17 33.7**	**-0.8**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.9						
TPNV	**Topopah Spring**	**91.26**	**51**	*e*P	**P**	**21 17 37.3**	**+0.2**
TPNV				*e*		21 17 48.2	
TPNV				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb5.0						
TPNV	**Topopah Spring**	**91.26**	**51**	*e*P	**P**	**21 17 37.3**	**+0.2**
	comp=Z,9.4nm,1.0s,mb5.1						
TPNV				*e*		21 17 48.2	
ZAK	**Zakamensk**	**91.54**	**324**	*e*P	**P**	**21 17 38.2**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.8						
TLY	**Talaya**	**92.03**	**326**	*e*P	**P**	**21 17 39.7**	**-0.6**
TLY				*e*		21 17 51.8	
TLY				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb5.0						
TLY	**Talaya**	**92.03**	**326**	*e*P	**P**	**21 17 40.5**	**+0.2**
	comp=Z,11nm,1.2s,mb5.0						
TLY				*e*		21 17 51.2	
MOY	**Mondy**	**93.44**	**325**	*e*P	**P**	**21 17 47.9**	**+1.1**
EGAK	**Eagle**	**93.89**	**19**	*e*P	**P**	**21 17 47.2**	**-1.3**
	comp=Z,4.8nm,0.8s,mb5.0						
EGAK				*e*		21 17 59.4	
TXAR	**Lajitas Array**	**98.13**	**62**	P	**P**	**21 18 14.3**	**+5.6**
	comp=Z,0.3nm,0.8s,mb3.9,baz=221,slow=6.8,SNR=3.5						
TXAR				LR	LR	21 52 39.7	
	comp=Z,56nm,21.8s,MS4.0,baz=105,slow=30						
WMQ	**Urumqi**	**98.14**	**314**	*e*P	**P**	**21 18 08.0**	**-0.4**
YKA	**Yellowknife Ar**	**102.60**	**28**	P	Pdif	21 18 28.5	+0.3
	comp=Z,0.2nm,0.5s,baz=251,slow=4.9,SNR=5.4						
MKAR	**Makanchi Array**	**102.72**	**315**	P	Pdif	21 18 29.4	+0.6
	comp=Z,0.3nm,0.7s,baz=112,slow=6.4,SNR=3.5						
ARCES	**ARCESS Array B**	**126.77**	**345**	PKP	PKPdf	21 23 34.4	-0.1
	comp=Z,2.1nm,0.6s,baz=116,slow=2.8,SNR=11						
OBN	**Obninsk**	**130.79**	**326**	⇑*i*PKIKP	PKPdf	21 23 41.7	-0.8
OBN				*e*		21 26 00.4	
OBN				pmax	pmax		
	comp=Z,12nm,0.9s						
FINES	**FINESS Array B**	**132.14**	**337**	PKP	PKPdf	21 23 45.5	+0.6
	comp=Z,0.4nm,0.6s,baz=101,slow=3.9,SNR=3.7						
ANN	**Anapa**	**133.63**	**312**	*i* PKIKP	PKPdf	21 23 48.6	+0.4
ANN				pmax	pmax		
	comp=Z,261nm,8.0s						
MALT	**Malatya**	**134.10**	**303**	⇓*i*P	PKPdf	21 23 51.7	+2.4
AKASG	**Malin Array Be**	**136.71**	**323**	PKP	PKPdf	21 23 53.6	-0.1
	comp=Z,1.8nm,0.6s,baz=65,slow=2.3,SNR=7.4						
LVV	**L'vov**	**140.04**	**324**	*e*PKIKP	PKPdf	21 23 58.3	-1.6
HARR	**Harsova**	**140.09**	**315**	⇑*i*P	PKPdf	21 24 03.7	+3.6
BURAR	**Bucovina Array**	**140.50**	**321**	⇑*i*P	PKPdf	21 24 04.9	+4.1
KWP	**Kalwaria**	**140.86**	**325**	⇑*i*P	PKPdf	21 24 01.1	-0.3
MLR	**Muntele Rosu**	**141.03**	**317**	⇑*i*P	PKPdf	21 24 02.2	+0.4
KOLS	**Kolonicke sedl**	**141.48**	**324**	*e*PKP	PKPdf	21 24 03.4	+0.9
STHS	**Stebnicka Huta**	**141.76**	**325**	*e*PKP	PKPdf	21 24 02.7	-0.3
CRVS	**Cervenica-Dubn**	**141.94**	**325**	*e*PKP	PKPdf	21 24 03.1	-0.2
BSEG	**Bad Segeberg**	**143.35**	**339**	*e*PKPbc	PKPdf	21 24 02.5	-3.2
PSZ	**Piszkesteto**	**143.36**	**324**	⇑*e*PKP	PKPdf	21 24 02.4	-3.5
MORC	**Moravsky Berou**	**143.43**	**328**	⇓*i*P	PKPdf	21 24 04.4	-1.5
VYHS	**Vyhne**	**143.59**	**326**	*e*PKP	PKPdf	21 24 04.5	-1.8
DPC	**Dobruska-Polom**	**143.63**	**330**	*e*PKP	PKPdf	21 24 04.1	-2.2
DPC				*ep*PKP	pPKPdf	21 24 15.5	+2.7
BZS	**Buzias**	**143.65**	**320**	⇑*i*P	PKPdf	21 24 04.3	-2.2
UPC	**Upice**	**143.66**	**330**	*e*PKP	PKPdf	21 24 04.4	-1.9
UPC				*ep*PKP	pPKPdf	21 24 14.4	+1.6
KOLL	**Kolacno**	**143.76**	**326**	*e*PKP	PKPdf	21 24 05.6	-1.0
BUD	**Budapest**	**144.10**	**324**	⇓*e*PKP	PKPdf	21 24 05.8	-1.4
VRAC	**Vranov**	**144.20**	**328**	PKP	PKPdf	21 24 06.6	-0.8
	comp=Z,3.6nm,0.7s,baz=56,slow=3.8,SNR=5.3						
VRAC	**Vranov**	**144.20**	**328**	⇓*i*P	PKPdf	21 24 06.6	-0.7
PVCC	**Panska Ves**	**144.31**	**331**	*e*PKP	PKPdf	21 24 06.5	-1.0
PVCC				*ep*PKP	pPKPdf	21 24 17.4	+3.5
PKS6	**Bocsa**	**144.31**	**323**	*e*P	PKPdf	21 24 07.1	-0.5
CLL	**Collm**	**144.41**	**334**	⇓*i*PKP	PKPdf	21 24 06.3	-1.3
CLL				⇓*e*PKP	pPKPdf	21 24 18.0	+3.9
CLL	**Collm**	**144.41**	**334**	*e*PKPbc	PKPdf	21 24 06.1	-1.5
CLL				*ep*PKPbc		21 24 17.0	
CLL	**Collm**	**144.41**	**334**	⇓*i*PKPdf	PKPdf	21 24 06.3	-1.3
	comp=Z,27nm,0.8s						
CLL				⇑*ip*PKPdf	pPKPdf	21 24 17.4	+3.3
	comp=Z,15nm,0.7s						
MODS	**Modra-Piesok**	**144.47**	**327**	*e*PKP	PKPdf	21 24 07.9	+0.1
PKSG		**144.50**	**325**	*e*P	PKPdf	21 24 07.3	-0.6
PRU	**Pruhonice**	**144.70**	**331**	*e*PKP	PKPdf	21 24 07.3	-0.9
PRU				*ep*PKP	pPKPdf	21 24 18.7	+4.0
TREC	**Trest**	**144.75**	**329**	*e*PKP	PKPdf	21 24 07.5	-0.8
TREC				*ep*PKP	pPKPdf	21 24 19.0	+4.2
CLZ	**Clausthal**	**145.03**	**336**	*e*PKPbc	PKPbc	21 24 08.7	+0.7
CLZ				*ep*PKPbc	pPKPbc	21 24 19.7	+5.3
PKSM	**Moragy**	**145.06**	**323**	⇓*i*P	PKPbc	21 24 09.0	+0.7
SOP	**Sopron**	**145.28**	**326**	⇓*e*PKIKP	PKPdf	21 24 09.9	+0.7
SOP	**Sopron**	**145.28**	**326**	⇓*e*PKP	PKPdf	21 24 09.9	+0.7
TANN	**Tannenbergstha**	**145.31**	**333**	*e*PKPbc	PKPbc	21 24 09.6	+0.6
TANN				*ep*PKPbc	pPKPbc	21 24 20.8	+5.4
EKA	**Eskdalemuir Ar**	**145.32**	**352**	PKPbc	PKPbc	21 24 08.2	-0.7
	comp=Z,4.4nm,0.8s,baz=333,slow=1.9,SNR=12						
IDI	**Anoyia**	**145.33**	**302**	PKPbc	PKPbc	21 24 10.1	+0.5
	comp=Z,3.7nm,0.6s,baz=6.2,slow=6.1,SNR=5.1						
NKC	**Novy Kostel**	**145.45**	**333**	*e*PKP	PKPdf	21 24 10.0	+0.6
NKC				*ep*PKP	pPKPdf	21 24 21.4	+5.5
RHK3	**Tenkes**	**145.47**	**323**	⇓*e*P	PKPdf	21 24 10.2

HGN	Heimansgroeve	147.48 339	*e*PKP	PKPbc	21 24 16.1	+0.7
FUR	Furstenfeldbru	147.50 331	*e*PKPbc	PKPbc	21 24 16.4	+0.8
MEM	Membach	147.59 339	PKP	PKPbc	21 24 16.2	+0.5
ABH	Alteburg	147.67 337	*e*P	PKPbc	21 24 16.5	+0.6
GMNA	Gemona	147.92 327	PKP	PKPbc	21 24 16.6	-0.1
FVI	Forni Avoltri	147.93 328	PKIKP	PKPbc	21 24 16.2	-0.6
KTD	Kalmit	147.93 336	*e*PKP2	PKPab	21 24 19.3	+0.1
STU	Stuttgart	147.93 334	*e*PKPbc	PKPbc	21 24 17.0	+0.3
ABTA	Abfaltersbach	147.95 328 ⇓	*i*P	PKPbc	21 24 16.4	-0.4
	comp=Z,20nm,1.1s,SNR=10					
ABTA	Abfaltersbach	147.95 328 ⇓	*i*PKPdf	PKPbc	21 24 16.4	-0.4
	comp=Z,20nm,1.1s,SNR=10					
WATA	Walderalm	147.98 330 ⇓	*i*P	PKPbc	21 24 16.8	-0.1
	comp=Z,12nm,1.1s,SNR=6.5					
WATA	Walderalm	147.98 330 ⇓	*i*PKPdf	PKPbc	21 24 16.8	-0.1
	comp=Z,12nm,1.1s,SNR=6.5					
BCLA	Clavier	147.98 340	PKP	PKPbc	21 24 17.0	+0.2
RUP	Ruppelstein	147.99 337	*e*PKP2	PKPbc	21 24 17.7	+0.9
WTTA	Wattenberg	148.00 330	*i* P	PKPbc	21 24 17.4	+0.4
	comp=Z,56nm,1.5s,SNR=8.0					
WTTA	Wattenberg	148.00 330	*i* P	PKPbc	21 24 17.4	+0.4
MOTA	Moosalm	148.19 331 ⇓	*i*P	PKPbc	21 24 17.7	+0.3
	comp=Z,18nm,0.9s,SNR=18					
SQTA	Sankt Quirin	148.23 330 ⇑	*i*P	PKPbc	21 24 18.1	+0.5
	comp=Z,14nm,0.9s					
RETA	Reutte	148.24 331 ⇓	*i*P	PKPbc	21 24 17.7	+0.2
	comp=Z,15nm,1.3s					
LANF	Langenberg	148.31 336	*e*P	PKPbc	21 24 18.0	+0.3
WLF	Walferdange	148.35 338	*e*PKHKP		21 24 14.7	
WLF			*e*		21 24 18.5	
WLF	Walferdange	148.35 338	PKP	PKPbc	21 24 19.3	+1.5
WLF	Walferdange	148.35 338	*e*PKPbc	PKPbc	21 24 19.0	+1.2
GIVF	Givet	148.41 340	*e*PKP1	PKPbc	21 24 17.9	0.0
DOU	Dourbes	148.49 340	PKP	PKPbc	21 24 18.7	+0.6
FETA	Feichten	148.60 330 ⇓	*i*P	PKPbc	21 24 19.0	+0.5
	comp=Z,29nm,1.1s,SNR=11					
SPAK	Spaichingen-Ko	148.62 334	*e*P	PKPbc	21 24 18.6	+0.1
BFO	Black Forest	148.63 334	*e*PKIKP	PKPbc	21 24 18.4	-0.1
BFO	Black Forest	148.63 334	*e*PKPbc	PKPbc	21 24 18.3	-0.2
BAIF	Baives	148.65 341	*e*PKP1	PKPbc	21 24 18.6	+0.1
	comp=Z,21nm,1.1s					
DAVA	Damuels	148.79 332	*i* P	PKPbc	21 24 19.4	+0.4
	comp=Z,78nm,2.7s,SNR=6.6					
CTI	Castel Tesino	148.87 328	PKIKP	PKPbc	21 24 19.6	+0.4
CDF	Champ du Feu	148.98 336	*e*PKP1	PKPbc	21 24 19.3	-0.1
	comp=Z,35nm,1.2s					
FELD	Feldberg im Sc	149.12 334	*e*P	PKPbc	21 24 19.4	-0.4
DAVOX	Davos/Dischmat	149.17 331	PKPbc	PKPbc	21 24 20.3	+0.3
	comp=Z,21nm,0.7s,baz=341,slow=12,SNR=3.2					
RGNG	Rignano Grg	149.45 318	PKP	PKPbc	21 24 21.0	+0.2
THEF	They Montfort	149.62 337	*e*P	PKPbc	21 24 21.0	0.0
HINF	Hinteralfeld	149.63 335	*e*PKP1	PKPbc	21 24 20.7	-0.4
BBS	Basel-Blauen	149.65 334	*e*PKIKP	PKPbc	21 24 21.0	-0.1
HAU	Haudompre	149.66 336	*e*PKP1	PKPbc	21 24 21.0	-0.1
	comp=Z,31nm,1.1s					
MEZF	Maizieres J'vi	149.72 338	*e*PKP1	PKPbc	21 24 21.5	+0.2
	comp=Z,58nm,1.2s					
CING	Cingoli	149.86 323	PKP	PKPbc	21 24 22.6	+0.8
FSSB	Fossombrone	149.89 324	PKP	PKPbc	21 24 22.6	+0.8
RSM	Repubblica di	149.91 324	PKP2	PKPbc	21 24 23.2	+1.3
TIP	Timpagrande	149.98 313	*e*PKPdf	PKPdf	21 24 15.4	-1.9
TIP			*e*PKPbc	PKPbc	21 24 22.2	-0.1
MRLC	Muro Lucano	150.02 317	PKP	PKPbc	21 24 20.7	-1.6
LOMF	Lomont	150.02 335	*e*P	PKPbc	21 24 20.8	-1.2
SNTG	Esanatoglia	150.08 323	PKP	PKPbc	21 24 22.9	+0.6
PIEI	Pieia	150.12 324	PKP	PKPdf	21 24 19.2	+1.8
NRCA	Norcia	150.25 322	PKP	PKPbc	21 24 23.2	+0.5
SFI	Santa Sofia	150.25 325	PKP2	PKPbc	21 24 23.8	+1.1
CSSN	Cassano Irpino	150.26 317	PKP	PKPbc	21 24 22.9	+0.1
MURB	Monte Urbino	150.30 323	PKP	PKPbc	21 24 23.2	+0.3
VAI	Varese	150.36 331	PKIKP	PKPbc	21 24 22.6	-0.3
SGG	Gregorio Mates	150.36 319	PKP	PKPbc	21 24 22.9	-0.2
AQU	L'Aquila	150.38 321	*e*PKIKP	PKPbc	21 24 23.5	+0.4
AQU	L'Aquila	150.38 321 ⇓	*i*P	PKPbc	21 24 23.5	+0.4
SDI	San Donato	150.52 320	PKIKP	PKPbc	21 24 23.2	-0.2
VVLD	Villa Vallelon	150.54 320	PKP	PKPbc	21 24 23.3	-0.2
CABF	La Chapelle	150.91 335	*e*PKP1	PKPbc	21 24 24.5	+0.3
	comp=Z,43nm,1.1s					
FLN	La Foliniere	151.12 345	*e*PKP1	PKPbc	21 24 23.9	-0.7
	comp=Z,23nm,0.9s					
LDF	La Druitiere	151.19 344	*e*PKP1	PKPbc	21 24 24.1	-0.7
LOR	Lormes	151.19 338	*e*PKP1	PKPbc	21 24 24.6	-0.2
	comp=Z,17nm,1.0s					
SSF	Saint Saulge	151.49 339	*e*PKP1	PKPbc	21 24 25.3	-0.2
	comp=Z,19nm,1.1s					
LPL	La Plagne	151.53 333	*e*PKP1	PKPbc	21 24 26.0	+0.3
	comp=Z,15nm,0.7s					
LPG	La Plagne	151.54 333	*e*PKP1	PKPbc	21 24 26.1	+0.4
	comp=Z,26nm,0.9s					
GRR	Gorron	151.56 345	*e*PKP1	PKPbc	21 24 25.1	-0.5
	comp=Z,15nm,0.9s					
SMF	Signal de Mont	151.73 338	*e*PKP1	PKPbc	21 24 25.7	-0.4
AVF	Avril sur Loir	151.78 338	*e*PKP1	PKPbc	21 24 26.6	+0.4
BNI	Bardonecchia	151.92 332	*e*PKIKP	PKPbc	21 24 26.9	+0.3
MBDF	Montbardon	152.14 332	*e*PKP1	PKPbc	21 24 26.8	-0.3
	comp=Z,10.0nm,0.8s					
SAOF	Saorge	152.35 330	*e*P	PKPbc	21 24 27.4	-0.2
ORIF	Oris-en-Rattie	152.37 333	*e*PKP1	PKPbc	21 24 27.5	-0.1
	comp=Z,15nm,0.8s					
TOUF	Mont Tournerai	152.48 330	*e*P	PKPbc	21 24 27.9	0.0
SBF	Sospel	152.50 330	*e*PKP1	PKPbc	21 24 27.3	-0.6
	comp=Z,38nm,1.1s					
LUCF	Luceram	152.52 330	*e*P	PKPbc	21 24 28.6	+0.6
TCF	Toulx Ste Croi	152.60 339	*e*PKP1	PKPbc	21 24 27.6	-0.5
PGF	Pioggiola	152.69 326	*e*PKP1	PKPbc	21 24 28.1	-0.3
	comp=Z,53nm,0.9s					
VIVF	Saint-Julien-l	152.92 335	*e*PKP1	PKPbc	21 24 28.6	-0.2
	comp=Z,15nm,1.0s					
MFF	Saint Martin d	153.03 343	*e*PKP1	PKPbc	21 24 28.4	-0.6
FRF	La Foret Royal	153.10 330	*e*PKP1	PKPbc	21 24 28.7	-0.6
	comp=Z,18nm,1.1s					
SMRF	Simiane la Rot	153.26 332	*e*PKP1	PKPbc	21 24 29.7	+0.1
	comp=Z,33nm,1.3s					
LMR	La Mourre	153.34 330	*e*PKP1	PKPbc	21 24 29.3	-0.5
	comp=Z,14nm,0.9s					
TOA0	Torodi Ar. Sit	165.24 239	*e*PKPdf	PKPdf	21 24 35.5	-1.3
TORD	Torodi Ar. Bea	165.24 239	PKP	PKPdf	21 24 36.0	-0.8
	comp=Z,1.4nm,0.8s,baz=21,slow=0.3,SNR=7.2					
TORD			PKPab	PKPab	21 25 33.5	-0.6
	comp=Z,0.9nm,0.9s,baz=97,slow=3.4,SNR=5.1					

*IDC **22** 21:10:29.2±1.3, 3724N×2478W, h0km, mb3.7/6, mb1 3.9/6, mb1mx3.6/23, mbtmp3.7/6, MS3.4/1, Ms1 3.4/1, ms1mx2.6/46, Error ellipse: s-maj=38.4km s-min=27.4km az=18.0*
*ISCJB **22** 21:10:31.0±0.7, 3744N±004×24.92W±006, h10km, mb3.6/6, Error ellipse: s-maj=7.9km s-min=5.1km az=144.4*
*NEIC **22** 21:10:30.6±0.9, 3722N×2484W, h10km, Error ellipse: s-maj=27.9km s-min=11.8km az=215.0*
*PDA **22** 21:10:33.8±1.0, 3729N×2474W, h5km, MD4.0, ML4.2, Error ellipse: s-maj=7.2km s-min=2.9km az=79.0*
*CSEM **22** 21:10:34.3±0.2, 3733N×2516W, h20km, ML4.2, Error ellipse: s-maj=4.8km s-min=3.1km az=32.0*

ISC 22 21:10:31.8±0.6, 3741N±004×2490W±006, h10km, n31, σ1°09/50, mb3.6/6, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	Pico do Norte,	0.42	198	*i* P	Pg	21 10 40.1	0.0
PSMN				*e*S	Sg	21 10 46.2	+0.5
CMLA	Cha da Macela	0.61	306	*e*P	Pg	21 10 45.6	+2.0
CMLA				*e*S	Sg	21 10 56.0	+4.4
CMLA				A		21 10 58.7	
	2μm,0.5s						
CMLA	Cha da Macela	0.61	306	*e*Pg	Pg	21 10 45.1	+1.5
CMLA				*e*Sg	Sg	21 10 56.5	+4.8
CMLA	Cha da Macela	0.61	306	*e*P	Pg	21 10 45.6	+2.0
CMLA				*e*S	Sg	21 10 56.0	+4.4
PDA	Ponta Delgada	0.69	300	*e*P	Pg	21 10 47.1	+1.9
PDA				*e*S	Sg	21 10 57.9	+3.6
PSET	Sete Cidades	0.77	303	*e*P	Pg	21 10 48.1	+1.4
PSET				*e*S	Sg	21 11 00.0	+3.2
PSET				A		21 11 01.8	
	2μm,0.3s						
PSET	Sete Cidades	0.77	303	*e*P	Pg	21 10 48.1	+1.4
PSET				*e*S	Sg	21 11 00.0	+3.2
PSCM	Serra do Cume	2.17	307	*e*P	Pn	21 11 07.9	-0.1
PSCM				*e*S	Sn	21 11 34.2	-0.8
PSCM				A		21 11 38.1	
	581nm,0.2s						
PSCM	Serra do Cume	2.17	307	*e*P	Pn	21 11 07.9	-0.1
PSCM				*e*S	Sn	21 11 34.2	-0.8
PSBA	Serra de Santa	2.35	306	*e*P	Pn	21 11 10.9	+0.5
PSBA				*e*S	Sn	21 11 38.5	-0.7
PSBA				A		21 11 43.7	
	698nm,0.4s						
PSBA	Serra de Santa	2.35	306	*e*P	Pn	21 11 10.9	+0.5
PSBA				*e*S	Sn	21 11 38.5	-0.7
PMAN	Manadas	2.80	297	*e*P	Pn	21 11 17.3	+0.7
PMAN				*e*S	Sn	21 11 49.9	-0.5
PMAN				A		21 11 52.2	
	161nm,0.2s						
PMAN	Manadas	2.80	297	*e*P	Pn	21 11 17.3	+0.7
PMAN				*e*S	Sn	21 11 49.9	-0.5
ROSA	Rosais	2.94	297	*e*P	Pn	21 11 19.2	+0.6
ROSA				*e*S	Sn	21 11 52.9	-1.1
SRBC	Serra Branca	2.96	304	*e*P	Pn	21 11 19.7	+0.9
SRBC				*e*S	Sn	21 11 53.6	-0.8
PICO	Pico	2.99	292	*e*P	Pn	21 11 19.8	+0.5
PICO				*e*S	Sn	21 11 54.1	-1.1
HOR	Horta	3.15	292	*e*P	Pn	21 11 21.8	+0.3
HOR				*e*S	Sn	21 11 57.5	-1.6
CALA	Caldeira	3.22	292	*e*P	Pn	21 11 23.2	+0.7
CALA				*e*S	Sn	21 11 59.5	-1.4
PCED	Cedros	3.24	293	*e*P	Pn	21 11 23.1	+0.4
PCED				*e*S	Sn	21 11 59.9	-1.4
PCED				A		21 12 03.4	
	124nm,0.3s						
PCED	Cedros	3.24	293	*e*P	Pn	21 11 23.1	+0.4
PCED				*e*S	Sn	21 11 59.9	-1.4
TORD	Torodi Ar. Bea	33.87	129	P	P	21 17 12.1	-2.6
	1.2nm,0.9s,mb3.8,baz=326,slow=8.9,SNR=4.4						
SJG	San Juan	40.86	253	LR	LR	21 30 41.2	
	comp=Z,47nm,18.0s,baz=251,slow=30						
ARCES	ARCESS Array B	41.86	24	P	P	21 18 22.4	+0.8
	1.1nm,0.9s,mb3.5,baz=251,slow=7.3,SNR=4.1						
YKA	Yellowknife Ar	57.48	327	P	P	21 20 20.4	-0.2
YKA	Yellowknife Ar	57.48	327	P	P	21 20 20.4	-0.2
	0.4nm,0.8s,mb3.5,baz=70,slow=7.1,SNR=5.3						
YKA	Yellowknife Ar	57.48	327	P	P	21 20 20.4	-0.2
TXAR	Lajitas Array	64.52	288	P	P	21 21 09.2	+0.3
	0.9nm,0.8s,mb3.9,baz=76,slow=6.8,SNR=9.5						
TXAR	Lajitas Array	64.52	288	P	P	21 21 09.2	+0.2
ZALV	Zalesovo Beam	70.79	36	P	P	21 21 46.7	-1.4
	0.5nm,0.5s,mb3.7,baz=291,slow=6.0,SNR=3.1						
MKAR	Makanchi Array	73.87	43	P	P	21 22 06.6	-0.1
MKAR	Makanchi Array	73.87	43	P	P	21 22 06.6	-0.1
	0.5nm,0.8s,mb3.5,baz=291,slow=6.0,SNR=5.0						

*TEH **22** 21:16:41.1, 3109N×5684E, h9km, ML3.5*
*ISCJB **22** 21:17:48.9±1.4, 3105N±005×5683E±004, h5km±10km, Error ellipse: s-maj=9.3km s-min=6.2km az=170.4*
*CSEM **22** 21:17:49.5±0.1, 3107N×5683E, h16km, ML3.5, Error ellipse: s-maj=3.0km s-min=1.3km az=164.0*
*THR **22** 21:17:50.5±0.4, 3089N×5667E, h16km±4km, ML3.1*

ISC 22 21:17:50.2±1.5, 3109N±006×5682E±005, h5km±11km, n16, σ0°84/20, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	Kerman	1.11	183	*e*Pg	Pn	21 18 08.0	-4.4
KRBR				AML	AML	21 18 32.1	
	comp=N,406nm,0.4s						
IBAF	Bafgh	1.18	295	*e*Pg	Pg	21 18 12.0	-0.9
IBAF				*e*		21 18 14.1	
	comp=Z,6μm,0.2s						
IBAF				*e*Sg	Sg	21 18 28.6	+0.4
IMEH	Mehriz	1.92	279	*e*Pn	Pn	21 18 23.9	+0.4
IMEH				*e*		21 18 58.8	
	comp=Z,4μm,0.2s						
IKOO	Kooshah	2.28	54	*e*Pn	Pn	21 18 28.2	-0.4
IKOO				*e*Sn	Sn	21 18 56.3	-0.8
ICHK	Chekchek	2.36	300	*e*Pn	Pn	21 18 30.0	+0.4
ICHK				*e*		21 19 13.0	
	comp=Z,2μm,0.2s						
ITEG	Tejag	2.43	42	*e*Pn	Pn	21 18 30.4	-0.2
ISAD	Sadrabad	2.80	288	*e*Sn	Sn	21 19 09.3	-0.6
IDAH	Dahanechah	3.06	57	*e*Pn	Pn	21 18 39.4	+0.1
IMON	Monand	3.19	48	*e*Pn	Pn	21 18 41.2	+0.1
IPAR	Pars	3.49	250	*e*Pn	Pn	21 18 45.5	+0.3
IPAR				*e*		21 19 48.5	
	comp=Z,663nm,0.4s						
ISRV	Sarvestan	3.64	243	*e*Pn	Pn	21 18 47.1	-0.1
ZHSF	Zahedan	3.72	112	*e*Pn	Pn	21 18 50.2	+1.9
ZHSF				AML	AML	21 19 54.0	
	comp=E,29nm,0.7s						
BNDS	Bandar-Abbas	3.73	189	*e*PN5	Pn	21 18 46.5	-1.9
NASN	Na'in	3.81	298	*e*Pn	Pn	21 18 50.9	+1.3
NASN				*e*Sg	Sg	21 19 48.7	-4.0
NASN				AML	AML	21 19 59.6	
	comp=E,28nm,0.6s						
NASN				AML	AML	21 20 02.6	
	comp=N,32nm,0.6s						
NASN	Na'in	3.81	298	*e*Pn	Pn	21 18 50.9	+1.3
	SNR=52						
NASN				*e*Sg	Sg	21 19 48.7	-4.0
	SNR=90						
IMOK	Mouk	4.11	241	*e*Pn	Pn	21 18 53.8	+0.2
IMOK				*e*		21 20 09.5	
	comp=Z,392nm,0.5s						

*ISCJB **22** 21:21:05.7±3.6, 9.0N±0.1×12.179E±0.10, h16km±29km, mb3.5/2, Error ellipse: s-maj=23.9km s-min=10.3km az=35.9*
*IDC **22** 21:21:09.5±2.5, 8.99N×12.323E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/18, mbtmp3.5/3, Error ellipse: s-maj=239.9km s-min=28.6km az=63.0*

ISC 22 21:21:05.8±5.0, 91N±01×12187E±007, h6km±36km, n7, σ0°42/10, mb3.5/2, 1D, Sulu Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNPH	Sibulan	1.38	78	*e*P	Pn	21 21 31.9	+0.3
SNPH				*e*S	Sb	21 21 50.0	+0.1
DCPH	Dipolog City	1.54	108 ⇓	*e*P	Pn	21 21 33.0	-0.9
DCPH				*e*S	Sn	21 21 54.4	+0.2
GUIM	Jordan	1.71	25	*e*P	Pn	21 21 35.9	-0.2
PAGZ	Pagadian	1.93	129	*e*P	Pn	21 21 39.7	+0.6
PAGZ				*e*S	Sn	21 22 03.3	-0.3
CUYO	Cuyo Island	1.96	335	*e*P	Pn	21 21 39.6	0.0
WRA	Warramunga Arr	31.33	157	P	P	21 27 26.8	-0.4
	0.5nm,0.5s,mb3.6,baz=339,slow=9.8,SNR=4.9						
ASAR	Alice Springs	34.59	160	P	P	21 27 56.1	+0.5
	0.3nm,0.5s,mb3.5,baz=344,slow=7.3,SNR=5.5						

*CSEM **22** 21:28:35.8, 3584N×2720E, h2km, MD3.5/4, After ATH*
*NEIC **22** 21:28:35.8, 3584N×2720E, h2km, MD3.4(ATH), After ATH.*

ATH 22 21:28:35.8, 3584N×2720E, h2km, MD3.4/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.29	186	*e*PG	Pg	21 28 41.5	+0.1
ARG	Arkhangelos	0.84	63	*e*PG	Pg	21 28 52.0	+0.1
NPS	Neapolis	1.42	246	*e*PG	Pg	21 29 02.0	-1.0
XRY	Khrísi	1.56	232	*e*PB	Pb	21 29 06.0	+0.6

MEX 22 21:32:05.0±0.7, 1613N×9689W, h60km±21km, MD3.7, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	Huatulco	0.83	115	*i* P	Pn	21 32 19.7	-1.1
HUIG				*i* S	Sn	21 32 30.5	-2.1
VHO	Vista Hermosa	0.95	9	*i* P	Pn	21 32 20.9	-1.5
VHO				*i* S	Sn	21 32 34.3	-1.0
OXX	Oaxaca	0.96	10	*i* P	Pn	21 32 20.5	-2.1
OXX				*i* S	Sn	21 32 33.0	-2.6
CMIG	Matias Romero	2.15	63	*i* P	Pn	21 32 38.7	+0.1
CMIG				*i* S	Sn	21 33 01.6	-2.5
TPIG	Tehuac#an	2.33	349	*i* S	Sn	21 33 06.3	-2.1
PPM	Popocatepetl	3.36	331	*i* P	Pn	21 32 54.8	-0.2
PPM				*i* S	Sn	21 33 35.2	+1.5

*ISCJB **22** 21:41:38.8±0.2, 44.16N±001×1224E±002, h10km, Error ellipse: s-maj=2.0km s-min=1.7km az=23.1*
*PRU **22** 21:41:38.9, 44.17N×1301E, h0km*

*CSEM **22** 21:41:39.1±0.0, 44.10N×1222E, h12km, ML3.2/17, Error ellipse: s-maj=0.9km s-min=0.8km az=82.0*
*ROM **22** 21:41:39.6±0.2, 44.08N×1222E, h5km±2km, Md3.1/16, Ml2.8/20, Error ellipse: s-maj=2.0km s-min=1.2km az=143.0*
*NEIC **22** 21:41:40.0, 44.08N×1222E, h10km, ML3.1(LDG), ML2.9(ROM), ML2.7(ZAG), After ROM.*
*LDG **22** 21:41:40.7±0.1, 44.06N×1222E, h10km, Ml3.1/15, Error ellipse: s-maj=3.7km s-min=2.2km az=50.0*
*GEN **22** 21:41:41.3, 44.03N×1221E, h2km, ML2.0*

ISC 22 21:41:39.7±0.2, 4415N±001×1222E±002, h10km, n129, σ1°18/228, 27C-16D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BRSN	Barisano	0.17	322	Pg	Pg	21 41 45.4	+2.0
BRSN				Sg	Sg	21 41 48.2	+2.3
RSM	Repubblica di	0.27	143	Pg	Pg	21 41 45.5	+0.3
	1μm,0.6s						
SFI	Santa Sofia	0.37	228	Pg	Pg	21 41 46.8	-0.1
SFI				Sg	Sg	21 41 53.0	+1.2
PESA	Pesaro	0.49	115	Pg	Pg	21 41 49.5	+0.3
PESA				Sg	Sg	21 41 58.1	+2.4
	882nm,0.4s						
CMPO	Campotto Po	0.53	325	Pg	Pg	21 41 52.3	+2.4
	3μm,1.1s						
VMG	Vicchio	0.53	249	Pg	Pg	21 41 49.8	-0.1
VMG				Sg	Sg	21 41 58.4	+1.6
	1μm,0.5s						
CRE	Caprese Michel	0.57	201	Pg	Pg	21 41 50.1	-0.5
CRE				Sg	Sg	21 41 58.7	+0.6
	439nm,0.5s						
FSSB	Fossombrone	0.61	139	Pg	Pg	21 41 50.6	-0.8
FSSB				Sg	Sg	21 42 00.2	+0.8
	532nm,0.2s						
SEI	Scarperia	0.63	262	Pg	Pg	21 41 51.6	-0.3
SEI				Sg	Sg	21 42 02.6	+2.4
	1μm,0.4s						
BADI	Badiali	0.64	179	Pg	Pg	21 41 51.0	-1.1
BADI				Sg	Sg	21 42 00.8	+0.4
	37μm,12.0s						
PIEI	Pieia	0.65	160	Pg	Pg	21 41 51.1	-1.2
PIEI				Sg	Sg	21 42 01.1	+0.2
	422nm,0.2s						
FNVD	Fontana Vidola	0.79	272	Pg	Pg	21 41 55.2	+0.2
	738nm,0.6s						
ARVD	Arcevia	0.83	141	Pg	Pg	21 41 54.9	-0.8
	260nm,1.0s						
MURB	Monte Urbino	0.91	166	Pg	Pg	21 41 55.9	-1.3
	581nm,0.6s						
CSNT	Castellina Chi	0.96	225	Pg	Pg	21 41 57.4	-0.7
	346nm,0.9s						
CRMI	Carmignano	0.97	249	Pg	Pg	21 41 57.9	-0.5
	376nm,0.8s						
PZZT	Monte Pizzetto	0.98	269	Pg	Pg	21 41 58.4	-0.1
	539nm,0.5s						
SNTG	Esanatoglia	1.03	150	Pg	Pg	21 41 58.1	-1.5
	220nm,0.8s						
CING	Cingoli	1.05	137	Pg	Pg	21 41 58.9	-0.9
	318nm,1.3s						
AOI	Ancona	1.16	121	Pg	Pg	21 42 01.7	-0.3
	162nm,0.7s						
BDI	Bagni Di Lucca	1.18	266	Pg	Pg	21 42 02.7	+0.5
	403nm,0.8s						
CESI	CESI - Serrava	1.25	156	Pg	Pn	21 42 01.6	-1.5
	100nm,0.7s						
MAIM		1.27	260	Pg	Pn	21 42 03.0	-0.5
	145nm,0.6s						
PII	Pisa	1.30	251	Pg	Pn	21 42 03.1	-0.8
	44nm,0.2s						
SARO	Sassorosso	1.31	272	P	Pn	21 42 05.1	+1.1
SARO				S	Sb	21 42 21.5	+0.3
SACS	San Casciano d	1.32	190	Pg	Pn	21 42 03.3	-0.8
	262nm,1.1s						
VLC	Villacollemand	1.32	271	*e*Pn	Pg	21 42 05.5	+0.5
VLC				*e*Sn	Sg	21 42 24.7	+2.5
VLC	Villacollemand	1.32	271	*e*Pn	Pn	21 42 05.5	+1.3
GRFL	Gerfalco	1.35	223	Pg	Pn	21 42 04.0	-0.6
	93nm,1.3s						
IESO	Jesolo	1.39	9 ⇓	*e*Pg	Pg	21 42 07.3	+1.0
VALM		1.44	279	P	Pn	21 42 07.1	+1.4
VALM				S	Sn	21 42 24.8	+0.2
NRCA	Norcia	1.47	153	Pg	Pn	21 42 05.6	-0.6
	33nm,0.5s						
VINC	Vinca	1.49	270	P	Pn	21 42 07.9	+1.4
VINC				S	Sn	21 42 25.7	-0.3
BACM		1.55	275	P	Pn	21 42 08.5	+1.2
BACM				S	Sn	21 42 27.4	-0.1
GRAM		1.59	283	P	Pn	21 42 09.7	+1.9
GRAM				S	Sn	21 42 28.6	+0.3
CODM		1.72	279	P	Pn	21 42 11.1	+1.4
CODM				S	Sn	21 42 31.3	-0.4
CGRP	Cima Grappa	1.76	350 ⇓	*i*Pg	Pn	21 42 10.0	-0.2
CGRP				*i* Sg	Sn	21 42 32.1	-0.4
TERO	Teramo	1.83	146	Pg	Pn	21 42 12.0	+0.9
	177nm,0.8s						
CAMP	Campotosto	1.83	151	Pg	Pn	21 42 11.7	+0.5
	26nm,0.7s						
SKDS	Skadanscina	1.89	42	*i* Pn	Pn	21 42 10.8	-1.1
NVLJ	Novalja	1.94	77	*e*Pn	Pn	21 42 13.8	+1.1
NVLJ				Sn	Sn	21 42 37.2	+0.1
NVLJ	Novalja	1.94	77	*e*Pn	Pn	21 42 13.8	+1.1
NVLJ				Sn	Sn	21 42 37.2	+0.1
AQU	L'Aquila	1.99	154	*e*Pn	Pn	21 42 13.8	+0.5
AQU	L'Aquila	1.99

SZGRF ***22*** *21:47:45.0, 895S×3200E, h33km, mb4.5, Tanzania*
MOS ***22*** *21:47:58.7±0.7, 638S×3066E, h10km, mb4.8/30, Error ellipse: s-maj=14.1km s-min=5.2km az=97.6*
ISCJB ***22*** *21:47:58.3±0.3, 645S±004×3069E±007, h10km, mb4.6/53, MS3.9/18, Error ellipse: s-maj=10.0km s-min=5.6km az=6.8*
BJI ***22*** *21:47:58.2, 640S×3080E, h10km, mB4.9, mb4.9, Ms4.6, Msz4.4*
NEIC ***22*** *21:48:00.3±0.3, 645S×3082E, h10km, mb4.7/34, MS4.0/1, Error ellipse: s-maj=9.1km s-min=5.4km az=106.0*
IDC ***22*** *21:48:02.0±1.0, 592S×3074E, h0km, mb4.2/12, mb1 4.3/13, mb1mx4.2/22, mbtmp4.2/13, ML4.3/1, MS3.9/16, Ms1 3.9/16, ms1mx3.7/31, Error ellipse: s-maj=23.9km s-min=20.1km az=157.0*

ISC 22 21:48:00.6±0.3, 645S±004×3072E±007, h10km, n167, σ0 67/174, mb4.6/53, MS3.9/18, 7C-5D, Lake Tanganyika region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	**Kilima Mbogo**	**8.39**	**51**	P	**Pn**	**21 50 01.8**	**-0.6**
KMBO						21 51 34.2	
KMBO	comp=Z,4.0nm,0.3s			pmax	pmax		
KMBO	comp=N,32nm,0.3s			smax			
KMBO	**Kilima Mbogo**	**8.39**	**51**	*e*Pn	**Pn**	**21 49 57.4**	**-5.0**
KMBO	comp=N,48nm,0.5s						
KMBO				Pn	**Pn**	**21 50 01.8**	**-0.6**
KMBO				*e*Sn	**Sn**	**21 51 23.6**	**-14**
KMBO				Sn	**Sn**	**21 51 34.2**	**-3.0**
KMBO				*e*Lg		21 52 15.5	
KMBO				Lg		21 52 16.9	
KMBO	**Kilima Mbogo**	**8.39**	**51**	Pn	**Pn**	**21 50 01.8**	**-0.6**
KMBO	comp=N,4.4nm,0.3s,baz=222,slow=17,SNR=38			Sn	**Sn**	**21 51 34.2**	**-3.0**
KMBO	comp=N,32nm,0.3s,baz=222,slow=19,SNR=7.4			Lg		21 52 16.9	
KMBO	comp=N,58nm,0.3s,baz=250,slow=20,SNR=3.5						
LSZ	**Lusaka**	**9.12**	**196**	P	**Pn**	**21 50 13.3**	**+0.9**
LSZ						21 51 54.4	
LSZ	comp=Z,1.0nm,0.3s			pmax	pmax		
LSZ	comp=N,8.0nm,0.3s			smax			
LSZ	comp=Z,589nm,18.9s			MLR	MLR		
LSZ	**Lusaka**	**9.12**	**196**	*e*Pn	**Pn**	**21 50 12.6**	**+0.2**
LSZ	comp=Z,20nm,0.6s						
LSZ				*e*Sn	**Sn**	**21 51 50.5**	**-4.7**
LSZ				*e*Lg		21 52 43.4	
LSZ	**Lusaka**	**9.12**	**196**	Pn	**Pn**	**21 50 13.3**	**+0.9**
LSZ	comp=Z,0.9nm,0.3s,baz=20,slow=12,SNR=20			Sn	**Sn**	**21 51 54.4**	**-0.8**
LSZ	comp=Z,8.4nm,0.3s,baz=114,slow=18,SNR=6.1			Lg		21 52 43.9	
LSZ	comp=Z,28nm,0.3s,baz=287,slow=9.5,SNR=11			LR	LR	21 54 05.4	
LSZ	comp=Z,588nm,18.9s,baz=198,slow=38						
FURI	**Furi**	**17.18**	**28**	*e*PN	**Pn**	**21 52 05.0**	**+4.0**
FURI				*e*S	**Sn**	**21 55 20.6**	**+8.3**
TSUM	**Tsumeb**	**18.00**	**224**	*e*Pn	**Pn**	**21 52 10.2**	**-1.0**
TSUM	comp=Z,21nm,0.8s						
TSUM				*e*Sn	**Sn**	**21 55 17.1**	**-15**
TSUM				*e*Lg		21 57 19.8	
TSUM	**Tsumeb**	**18.00**	**224**	Pn	**Pn**	**21 52 08.5**	**-2.6**
TSUM	comp=Z,0.9nm,0.3s,baz=35,slow=14,SNR=8.7			Sn	**Sn**	**21 55 20.5**	**-12**
TSUM	comp=Z,1.0nm,0.3s,baz=248,slow=6.6,SNR=4.5			Lg		21 57 32.7	
TSUM	comp=Z,0.5nm,0.3s,baz=68,slow=23,SNR=3.3			LR	LR	21 59 15.9	
TSUM	comp=Z,512nm,18.3s,baz=180,slow=37						
LBTB	**Lobatse**	**19.11**	**194**	P	**Pn**	**21 52 25.1**	**+0.6**
LBTB				S	**Sn**	**21 55 51.9**	**-6.8**
LBTB	comp=Z,1.0nm,0.3s			pmax	pmax		
LBTB	comp=N,1.0nm,0.3s			smax			
LBTB	comp=Z,184nm,21.2s			MLR	MLR		
LBTB	**Lobatse**	**19.11**	**194**	*e*P	**Pn**	**21 52 24.3**	**-0.2**
LBTB	comp=Z,24nm,1.2s						
LBTB				*e*Sn	**Sn**	**21 55 48.6**	**-10**
LBTB				*e*Lg		21 57 55.0	
LBTB	**Lobatse**	**19.11**	**194**	P	**Pn**	**21 52 25.1**	**+0.5**
LBTB	comp=Z,0.6nm,0.3s,baz=32,slow=13,SNR=9.5			S	**Sn**	**21 55 51.9**	**-6.8**
LBTB	comp=Z,1.3nm,0.3s,baz=112,slow=14,SNR=3.8			Lg		21 57 55.8	
LBTB	comp=Z,0.8nm,0.3s,baz=294,slow=9.6,SNR=5.6			LR	LR	21 59 36.3	
LBTB	comp=Z,184nm,21.2s,baz=27,slow=35						
OPO	**Ambohidratompo**	**20.07**	**128**	P	**P**	**21 52 36.3**	**+2.0**
	comp=Z,2.5nm,0.8s,baz=296,slow=11,SNR=4.7						
ATD	**Arta Tunnel**	**21.55**	**34**	LR	LR	22 01 30.5	
	comp=Z,279nm,18.1s,MS3.7,baz=196,slow=38						
BOSA	**Boshof**	**22.65**	**193**	*e*Pn	**P**	**21 53 02.5**	**+0.6**
	comp=Z,55nm,0.9s,mb5.0						
BOSA	**Boshof**	**22.65**	**193**	P	**P**	**21 53 02.6**	**+0.6**
	comp=Z,47nm,0.8s,mb5.0,baz=15,slow=11,SNR=16						
BOSA				S	**S**	**21 57 30.1**	**+20**
	comp=Z,17nm,1.1s,baz=116,slow=19,SNR=3.5						
BOSA				Lg		21 59 50.9	
	comp=Z,17nm,0.8s,baz=106,slow=18,SNR=4.2						
BOSA				LR	LR	22 02 15.5	
	comp=Z,141nm,18.1s,MS3.4,baz=199,slow=37						
SUR	**Sutherland**	**27.41**	**198**	Lg		22 02 13.1	
	comp=Z,12nm,0.9s,baz=112,slow=20,SNR=3.1						
TOA0	**Torodi Ar. Sit**	**34.79**	**304**	*e*Pn	**P**	**21 54 52.0**	**+0.3**
TOA0				*e*		21 54 58.8	
TORD	**Torodi Ar. Bea**	**34.79**	**304**	P	**P**	**21 54 52.2**	**+0.5**
TORD				PP	PP	21 56 07.4	-3.3
TORD				Lg		22 06 31.8	
TORD				LR	LR	22 09 52.9	
TORD	**Torodi Ar. Bea**	**34.79**	**304**	P	**P**	**21 54 52.2**	**+0.5**
	comp=Z,8.3nm,0.8s,mb4.7,baz=117,slow=8.4,SNR=39						
TORD				PP	PP	21 56 07.4	-3.3
	comp=Z,1.6nm,0.8s,baz=116,slow=9.0,SNR=4.2						
TORD				Lg		22 06 31.8	
	comp=Z,5.4nm,1.3s,baz=115,slow=25,SNR=5.5						
TORD				LR	LR	22 09 52.9	
	comp=Z,246nm,19.5s,MS4.0,baz=90,slow=38						
DBIC	**Dimbokro**	**37.81**	**290**	P	**P**	**21 55 18.0**	**+0.3**
	comp=Z,2.9nm,0.8s,mb4.1						
DBIC	**Dimbokro**	**37.81**	**290**	P	**P**	**21 55 18.0**	**+0.3**
	comp=Z,1.7nm,0.6s,mb4.0,baz=110,slow=14,SNR=2.6						
DBIC				LR	LR	22 10 11.6	
	comp=Z,236nm,20.5s,MS4.0,baz=85,slow=35						
DGAR	**Diego Garcia**	**41.43**	**94**	*e*P	**P**	**21 55 54.1**	**+6.3**
	comp=Z,716nm,1.2s						
APE	**Apeiranthos**	**43.56**	**354**	⇓*i*P	**P**	**21 56 05.3**	**+0.6**
MALT	**Malatya**	**45.10**	**9**	*e*P	**P**	**21 56 17.8**	**+0.7**
MALT				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
MALT	**Malatya**	**45.10**	**9**	*e*P	**P**	**21 56 17.8**	**+0.7**
	comp=Z,2.5nm,0.8s,mb4.1						
MALT	**Malatya**	**45.10**	**9**	⇑*i*P	**P**	**21 56 18.1**	**+1.0**
KEST	**Kesra**	**46.52**	**336**	LR	LR	22 16 10.1	
	comp=Z,40nm,18.9s,MS3.4,baz=200,slow=37						
GNI	**Garni**	**48.13**	**14**	P	**P**	**21 56 41.8**	**+1.0**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.0s						
GNI	**Garni**	**48.13**	**14**	P	**P**	**21 56 41.8**	**+1.0**
	comp=Z,9.8nm,1.0s,mb4.8						
MLR	**Muntele Rosu**	**51.88**	**356**	⇑*i*P	**P**	**21 57 10.0**	**+0.8**
PLOR	**Plostina**	**52.19**	**356**	⇑P	**P**	**21 57 12.2**	**+0.7**
PLOR	**Plostina**	**52.19**	**356**	⇑*i*P	**P**	**21 57 12.1**	**+0.6**
BZS	**Buzias**	**52.46**	**352**	⇑*i*P	**P**	**21 57 14.0**	**+0.5**
DRGR		**53.48**	**353**	⇓*i*P	**P**	**21 57 22.3**	**+1.3**
PKSM	**Moragy**	**53.52**	**350**	⇓P	**P**	**21 57 21.7**	**+0.4**
PKSM	**Moragy**	**53.52**	**350**	⇓*i*P	**P**	**21 57 21.6**	**+0.3**
BURAR	**Bucovina Array**	**54.04**	**355**	⇑*i*P	**P**	**21 57 25.8**	**+0.7**
LMR	**La Mourre**	**54.19**	**338**	*e*P	**P**	**21 57 25.5**	**-0.8**
SBF	**Sospel**	**54.32**	**339**	*e*P	**P**	**21 57 26.7**	**-0.5**
FRF	**La Foret Royal**	**54.34**	**339**	*e*P	**P**	**21 57 26.9**	**-0.5**
	comp=Z,11nm,1.0s,mb4.5						
FRF	**La Foret Royal**	**54.34**	**339**	*e*P	**P**	**21 57 26.9**	**-0.5**
FRF				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.4						
FRF	**La Foret Royal**	**54.34**	**339**	*e*P	**P**	**21 57 26.9**	**-0.5**
	comp=Z,5.4nm,1.0s,mb4.4						
SMRF	**Simiane la Rot**	**55.09**	**338**	*e*P	**P**	**21 57 32.4**	**-0.4**
MBDF	**Montbardon**	**55.30**	**339**	*e*P	**P**	**21 57 34.0**	**-0.4**
	comp=Z,26nm,0.9s,mb4.9						
MBDF	**Montbardon**	**55.30**	**339**	*e*P	**P**	**21 57 34.0**	**-0.4**
MBDF				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.0						
MBDF	**Montbardon**	**55.30**	**339**	*e*P	**P**	**21 57 34.0**	**-0.4**
	comp=Z,13nm,0.9s,mb5.0						
BNI	**Bardonecchia**	**55.62**	**340**	*e*P	**P**	**21 57 37.2**	**+0.6**
BNI				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
BNI	**Bardonecchia**	**55.62**	**340**	*e*P	**P**	**21 57 37.2**	**+0.6**
	comp=Z,12nm,1.3s,mb4.8						
KOLS	**Kolonicke sedl**	**55.64**	**353**	*e*P	**P**	**21 57 37.1**	**+0.4**
VYHS	**Vyhne**	**55.69**	**350**	*e*P	**P**	**21 57 37.2**	**+0.1**
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.3s,mb4.2						
VYHS	**Vyhne**	**55.69**	**350**	*e*P	**P**	**21 57 37.2**	**+0.1**
	comp=Z,3.3nm,1.3s,mb4.2						
CRVS	**Cervenica-Dubn**	**55.71**	**353**	*e*P	**P**	**21 57 37.4**	**+0.2**
ORIF	**Oris-en-Rattie**	**55.79**	**339**	*e*P	**P**	**21 57 37.6**	**-0.2**
	comp=Z,8.7nm,1.1s,mb4.4						
ORIF				*e*MLR	MLR		
	comp=Z,110nm,22.6s,MS3.6						
ORIF	**Oris-en-Rattie**	**55.79**	**339**	*e*P	**P**	**21 57 37.6**	**-0.2**
ORIF				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
ORIF	**Oris-en-Rattie**	**55.79**	**339**	*e*P	**P**	**21 57 37.6**	**-0.2**
	comp=Z,4.3nm,1.1s,mb4.4						
LASF	**Ste Croix**	**55.83**	**337**	*e*P	**P**	**21 57 37.7**	**-0.4**
	comp=Z,33nm,1.2s,mb5.0						
KOLL	**Kolacno**	**55.85**	**350**	*e*P	**P**	**21 57 38.1**	**-0.1**
MODS	**Modra-Piesok**	**55.85**	**349**	*e*P	**P**	**21 57 39.1**	**+0.9**
MTLF	**Montolieu**	**55.88**	**335**	*e*P	**P**	**21 57 38.2**	**-0.3**
ESDC	**Sonseca Array**	**55.96**	**328**	P	**P**	**21 57 40.2**	**+1.1**
	comp=Z,0.5nm,0.6s,mb3.8,baz=139,slow=6.5,SNR=4.1						
ESDC				LR	LR	22 21 29.6	
	comp=Z,43nm,21.0s,MS3.5,baz=120,slow=36						
LPG	**La Plagne**	**55.98**	**340**	*e*P	**P**	**21 57 39.1**	**-0.1**
	comp=Z,20nm,1.0s,mb4.8						
LPG	**La Plagne**	**55.98**	**340**	*e*P	**P**	**21 57 39.1**	**-0.1**
LPG				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
LPG	**La Plagne**	**55.98**	**340**	*e*P	**P**	**21 57 39.1**	**-0.1**
	comp=Z,10nm,1.0s,mb4.8						
LPL	**La Plagne**	**56.01**	**340**	*e*P	**P**	**21 57 39.1**	**-0.3**
VIVF	**Saint-Julien-l**	**56.17**	**338**	*e*P	**P**	**21 57 40.1**	**-0.5**
	comp=Z,14nm,0.8s,mb4.7						
VIVF	**Saint-Julien-l**	**56.17**	**338**	*e*P	**P**	**21 57 40.1**	**-0.5**
VIVF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
VIVF	**Saint-Julien-l**	**56.17**	**338**	*e*P	**P**	**21 57 40.1**	**-0.5**
	comp=Z,7.2nm,0.8s,mb4.8						
STHS	**Stebnicka Huta**	**56.24**	**353**	*e*P	**P**	**21 57 41.5**	**+0.5**
STHS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1						
STHS	**Stebnicka Huta**	**56.24**	**353**	*e*P	**P**	**21 57 41.5**	**+0.5**
	comp=Z,1.7nm,1.0s,mb4.0						
KWP	**Kalwaria**	**56.28**	**354**	⇑*i*P	**P**	**21 57 42.0**	**+0.8**
EPF	**Esparros**	**56.44**	**334**	*e*P	**P**	**21 57 42.0**	**-0.5**
AKASG	**Malin Array Be**	**56.93**	**359**	P	**P**	**21 57 45.5**	**-0.3**
	comp=Z,4.5nm,0.8s,mb4.6,baz=182,slow=6.5,SNR=20						
AKBB	**Malin Array Si**	**56.93**	**359**	P	**P**	**21 57 45.3**	**-0.5**
GEC2	**GERESS Array S**	**57.04**	**347**	*e*P	**P**	**21 57 46.8**	**+0.1**
GEC2				pmax	pmax		
	comp=Z,11nm,1.4s,mb4.7						
GEC2	**GERESS Array S**	**57.04**	**347**	*e*P	**P**	**21 57 46.8**	**+0.1**
	comp=Z,11nm,1.4s,mb4.7						
GERES	**GERESS Array B**	**57.04**	**347**	P	**P**	**21 57 46.7**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.2,baz=169,slow=7.7,SNR=17						
OKC	**Ostrava-Krasne**	**57.11**	**350**	*e*P	**P**	**21 57 47.7**	**+0.6**
MORC	**Moravsky Berou**	**57.15**	**350**	⇓*i*P	**P**	**21 57 47.2**	**-0.3**
CABF	**La Chapelle**	**57.18**	**340**	*e*P	**P**	**21 57 47.7**	**0.0**
SJPF	**Ste Jean**	**57.21**	**333**	*e*P	**P**	**21 57 47.6**	**-0.4**
CAF	**Calviac**	**57.25**	**336**	*e*P	**P**	**21 57 48.1**	**-0.1**
	comp=Z,29nm,1.3s,mb4.8						
CAF	**Calviac**	**57.25**	**336**	*e*P	**P**	**21 57 48.1**	**-0.1**
CAF				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.9						
CAF	**Calviac**	**57.25**	**336**	*e*P	**P**	**21 57 48.1**	**-0.1**
	comp=Z,15nm,1.3s,mb4.8						
KHC	**Kasperske Hory**	**57.34**	**347**	*e*P	**P**	**21 57 48.7**	**-0.1**
WET	**Wettzell**	**57.51**	**346**	*e*P	**P**	**21 57 50.1**	**+0.1**
WET				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.4						
WET	**Wettzell**	**57.51**	**346**	*e*P	**P**	**21 57 50.1**	**+0.1**
	comp=Z,4.0nm,1.1s,mb4.4						
RJF	**Les Rejaudoux**	**57.78**	**336**	*e*P	**P**	**21 57 51.6**	**-0.4**
RJF				*e*MLR	MLR		
	comp=Z,108nm,18.7s,MS3.7						
RJF	**Les Rejaudoux**	**57.78**	**336**	*e*P	**P**	**21 57 51.6**	**-0.4**
RJF				LR	LR		
	comp=Z,110nm,18.7s,MS4.0						
LFF	**La Frestale**	**57.80**	**335**	*e*P	**P**	**21 57 51.6**	**-0.5**
	comp=Z,27nm,1.0s,mb4.9						
LFF	**La Frestale**	**57.80**	**335**	*e*P	**P**	**21 57 51.6**	**-0.5**
LFF				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
LFF	**La Frestale**	**57.80**	**335**	*e*P	**P**	**21 57 51.6**	**-0.5**
	comp=Z,14nm,1.0s,mb4.9						
BFO	**Black Forest**	**57.98**	**343**	*e*P	**P**	**21 57 53.9**	**+0.5**
BFO				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.7						
BFO	**Black Forest**	**57.98**	**343**	*e*P	**P**	**21 57 53.9**	**+0.5**
	comp=Z,10.0nm,1.3s,mb4.7						
HINF	**Hinteralfeld**	**57.98**	**341**	*e*P	**P**	**21 57 53.2**	**-0.2**
	comp=Z,16nm,1.0s,mb4.7						
HINF	**Hinteralfeld**	**57.98**	**341**	*e*P	**P**	**21 57 53.2**	**-0.2**
HINF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
HINF	**Hinteralfeld**	**57.98**	**341**	*e*P	**P**	**21 57 53.2**	**-0.2**
	comp=Z,7.8nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**58.00**	**338**	*e*P	**P**	**21 57 53.6**	**+0.1**
	comp=Z,16nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**58.00**	**338**	*e*P	**P**	**21 57 53.6**	**+0.1**
SMF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
SMF	**Signal de Mont**	**58.00**	**338**	*e*P	**P**	**21 57 53.6**	**+0.1**
	comp=Z,7.9nm,1.0s,mb4.7						
ROTZ	**Rotzenmuhle**	**58.25**	**346**	*e*P	**P**	**21 57 56.2**	**+1.0**
	comp=Z,9.0nm,1.5s,mb4.6						
AVF	**Avril sur Loir**	**58.30**	**338**	*e*P	**P**	**21 57 55.5**	**-0.1**
	comp=Z,14nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**58.30**	**338**	*e*P	**P**	**21 57 55.5**	**-0.1**
AVF				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.7						
AVF	**Avril sur Loir**	**58.30**	**338**	*e*P	**P**	**21 57 55.5**	**-0.1**
	comp=Z,7.2nm,0.9s,mb4.7						
HAU	**Haudompre**	**58.31**	**341**	*e*P	**P**	**21 57 55.7**	**0.0**
HAU				*e*MLR	MLR		
	comp=Z,98nm,17.8s,MS3.7						
HAU	**Haudompre**	**58.31**	**341**	*e*P	**P**	**21 57 55.7**	**0.0**
HAU				LR	LR		
	comp=Z,100nm,17.8s,MS4.0						
TCF	**Toulx Ste Croi**	**58.32**	**337**	*e*P	**P**	**21 57 55.3**	**-0.4**
	comp=Z,22nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**58.32**	**337**	*e*P	**P**	**21 57 55.3**	**-0.4**
TCF				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.8						
TCF	**Toulx Ste Croi**	**58.32**	**337**	*e*P	**P**	**21 57 55.3**	**-0.4**
	comp=Z,11nm,1.2s,mb4.8						
CDF	**Champ du Feu**	**58.38**	**342**	*e*P	**P**	**21 57 56.2**	**+0.1**
	comp=Z,17nm,1.0s,mb4.7						
CDF	**Champ du Feu**	**58.38**	**342**	*e*P	**P**	**21 57 56.2**	**+0.1**
CDF				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.7						
CDF	**Champ du Feu**	**58.38**	**342**	*e*P	**P**	**21 57 56.2**	**+0.1**
	comp=Z,8.4nm,1.0s,mb4.7						
GRA1	**Grafenberg Arr**	**58.43**	**345**	*e*P	**P**	**21 57 56.3**	**-0.1**
	comp=Z,11nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**58.43**	**345**	*e*P	**P**	**21 57 56.3**	**-0.1**
GRF				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**58.43**	**345**	*e*P	**P**	**21 57 56.3**	**-0.1**
	comp=Z,11nm,1.1s,mb4.8						
GRF	**Grafenberg Arr**	**58.43**	**345**	*e*P	**P**	**21 57 56.3**	**-0.1**
	comp=Z,11nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**58.48**	**338**	*e*P	**P**	**21 57 56.4**	**-0.4**
	comp=Z,5.9nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**58.48**	**338**	*e*P	**P**	**21 57 56.4**	**-0.4**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
SSF	**Saint Saulge**	**58.48**	**338**	*e*P	**P**	**21 57 56.4**	**-0.4**
	comp=Z,3.0nm,0.9s,mb4.3						
MANZ	**Manzenberg**	**58.48**	**346**	*e*P	**P**	**21 57 56.9**	**+0.1**
	comp=Z,5.0nm,1.1s,mb4.5						

LOR Lormes 58.52 339 *eP* **P 21 57 56.9 -0.3**
comp=Z,11nm,1.0s,mb4.5
LOR Lormes 58.52 339 *eP* **P 21 57 56.9 -0.3**
LOR pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
LOR Lormes 58.52 339 *eP* **P 21 57 56.9 -0.3**
comp=Z,5.7nm,1.0s,mb4.6
TANN Tannenbergstha 58.80 346 *eP* **P 21 57 59.0 0.0**
comp=Z,5.0nm,1.4s,mb4.3
MEZF Maizieres J'vi 59.17 340 *eP* **P 21 58 01.6 0.0**
MFF Saint Martin d 59.51 336 *eP* **P 21 58 03.8 -0.2**
comp=Z,10nm,1.0s,mb4.5
MFF Saint Martin d 59.51 336 *eP* **P 21 58 03.8 -0.2**
MFF pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
MFF Saint Martin d 59.51 336 *eP* **P 21 58 03.8 -0.2**
comp=Z,5.1nm,1.0s,mb4.5
UBBA Unterbreizbach 59.77 345 *eP* **P 21 58 05.5 -0.2**
comp=Z,18nm,1.7s,mb4.8
BAIF Baives 60.80 341 *eP* **P 21 58 12.7 -0.1**
GRR Gorron 61.23 337 *eP* **P 21 58 15.7 -0.1**
comp=Z,41nm,1.3s,mb5.1
GRR Gorron 61.23 337 *eP* **P 21 58 15.7 -0.1**
GRR pmax pmax
comp=Z,21nm,1.3s,mb5.1
GRR Gorron 61.23 337 *eP* **P 21 58 15.7 -0.1**
comp=Z,20nm,1.3s,mb5.1
KOLN Koldanda 61.33 54 *eP* **P 21 58 22.2 +5.3**
DANN Dangsing 61.71 53 *eP* **P 21 58 24.8 +5.4**
GKN Gorkha 62.26 54 *eP* **P 21 58 28.6 +5.5**
comp=Z,5.1nm,0.8s,mb4.7
DMN Daman 62.48 54 *eP* **P 21 58 29.9 +5.3**
comp=Z,8.1nm,0.8s,mb4.9
KKN Kakani 62.69 54 *eP* **P 21 58 31.5 +5.5**
PKI Pulchoki 62.70 55 *eP* **P 21 58 31.8 +5.7**
UCH Uchtor 62.73 35 *eP* **P 21 58 31.3 +5.3**
comp=Z,4.0nm,1.0s,mb4.5
GUN Gumba 63.22 54 *eP* **P 21 58 35.5 +5.9**
comp=Z,25nm,1.0s,mb5.3
MAW Mawson 64.82 167 P **P 21 58 46.0 +6.6**
MAW pmax pmax
comp=Z,7.0nm,0.8s
MAW Mawson 64.82 167 *eP* **P 21 58 45.5 +6.2**
comp=Z,8.1nm,0.9s,mb4.8
MAW Mawson 64.82 167 P **P 21 58 46.0 +6.6**
comp=Z,6.6nm,0.8s,mb4.7,baz=309,slow=9.2,SNR=7.7
FINES FINESS Array B 67.78 358 P **P 21 58 58.2 -0.1**
comp=Z,3.7nm,1.0s,mb4.4,baz=279,slow=3.7,SNR=6.6
PSI Prapat 68.71 84 LR LR 22 23 58.6
comp=Z,225nm,18.3s,MS4.4,baz=326,slow=31
NB2 NORSAR Subarra 68.99 350 P **P 21 59 06.0 +0.1**
comp=Z,10nm,1.1s,mb4.7,baz=161,slow=5.9
NOA NORSAR Array B 68.99 350 P **P 21 59 06.4 +0.5**
comp=Z,5.0nm,1.0s,mb4.4,baz=162,slow=5.7,SNR=6.6
MK31 Makanchi Array 69.92 35 *eP* **P 21 59 11.5 -0.5**
MKAR Makanchi Array 69.92 35 P **P 21 59 11.9 0.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=238,slow=5.5,SNR=10
MKAR LR LR 22 30 50.1
comp=Z,84nm,18.9s,MS4.0,baz=245,slow=37
KURK Kurchatov 70.28 30 *eP* **P 21 59 13.1 -1.0**
KURK pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KURK Kurchatov 70.28 30 *eP* **P 21 59 13.1 -0.9**
comp=Z,4.2nm,0.9s,mb4.4
WMQ Urumqi 71.63 40 *eP* **P 21 59 21.0 -1.5**
WMQ XP sP 21 59 28.0 +1.0
WMQ PP PP 22 02 01.0 -0.6
WMQ S S 22 08 38.0 -4.1
WMQ SS SS 22 13 14.0 -3.8
WMQ AMB AMB
comp=Z,35nm,1.0s,mb5.2
WMQ LR LR
comp=N,112nm,17.0s,MS4.3
WMQ LR LR
comp=E,88nm,16.0s,MS4.3
WMQ LR LR
comp=Z,79nm,16.0s,MS4.1
NVS Novosibirsk 75.00 28 *eP* **P 21 59 41.6 -0.5**
ZAL Zalesovo 75.24 30 P **P 21 59 43.4 -0.1**
ZAL 22 02 34.4
ZALV Zalesovo Beam 75.25 30 P **P 21 59 43.4 -0.2**
comp=Z,0.7nm,0.5s,mb3.8,baz=275,slow=5.4,SNR=3.1
ZALV PP PP 22 02 34.4 +2.1
comp=Z,3.3nm,1.0s,baz=241,slow=8.3,SNR=4.0
ZALV LR LR 22 36 18.9
comp=Z,70nm,18.2s,MS4.0,baz=61,slow=39
ARCES ARCESS Array B 75.89 358 P **P 21 59 45.8 -1.1**
comp=Z,2.1nm,0.9s,mb4.1,baz=159,slow=7.3,SNR=7.7
ARCES LR LR 22 37 58.5
comp=Z,87nm,18.1s,MS4.1,baz=93,slow=40
KMI Kunming 76.64 62 P **P 21 59 51.5 -0.7**
KMI AP pP 21 59 55.5 0.0
KMI XP sP 21 59 57.6 +0.9
KMI AMB AMB
comp=Z,4.0nm,0.7s,mb4.5
CD2 Chengdu 78.92 57 *eP* **P 22 00 03.3 -1.4**
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.8
CD2 AMB AMB
comp=Z,20nm,4.8s
LZH Lanzhou 80.31 52 *eP* **P 22 00 08.5 -3.7**
LZH AMB AMB
comp=Z,14nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,74nm,5.1s
SONM Songino Array 85.22 41 P **P 22 00 38.9 +1.4**
comp=Z,0.5nm,0.8s,mb3.7,baz=204,slow=3.2,SNR=2.5
SONM LR LR 22 41 22.8
comp=Z,58nm,18.3s,MS4.0,baz=49,slow=38
ULN Ulaanbaatar 85.66 41 *eP* **P 22 00 45.6 +6.0**
ULN pmax pmax
comp=Z,2.0nm,0.8s,mb4.4
ULN Ulaanbaatar 85.66 41 *eP* **P 22 00 45.6 +6.0**
comp=Z,1.8nm,0.8s,mb4.3
PMSA Palmer Station 86.25 205 *eP* **P 22 00 50.6 +8.3**
comp=Z,73nm,1.0s
HHC Hu-ho-hao-te 87.29 49 *eP* **P 22 00 46.9 -0.9**
HHC AP pP 22 00 51.8 +0.6
HHC XP sP 22 00 54.0 +1.6
HHC PP PP 22 04 13.3 +1.2
HHC SKS 22 11 11.0
HHC S S 22 11 24.6 -3.6
HHC XS sS 22 11 32.0 -1.7
HHC SS SS 22 17 12.5 -0.2
HHC AMB AMB
comp=Z,11nm,1.1s,mb5.0
HHC AMB AMB
comp=Z,111nm,5.7s
HHC LR LR
comp=N,95nm,18.2s,MS4.4
HHC LR LR
comp=E,101nm,17.4s,MS4.4
HHC LR LR
comp=Z,124nm,17.2s,MS4.4
PLCA Paso Flores 94.31 228 LR LR 22 40 34.8
comp=Z,165nm,18.6s,MS4.5,baz=160,slow=33
LPAZ La Paz 96.65 253 LR LR 22 43 19.6
comp=Z,41nm,19.3s,MS3.9,baz=210,slow=34

IDC ***22*** *22:06:27.2±1.6, 1476S×16767E, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/14, mbtmp4.2/5, Error ellipse: s-maj=41.2km s-min=37.4km az=128.0*
ISCJB ***22*** *22:06:30.6±1.4, 150S±03×1677E±02, h33km, mb4.1/5, Error ellipse: s-maj=38.4km s-min=27.2km az=24.6*
ISC 22 22:06:31.9±1.5, 149S±03×1678E±02, h35km, n10, σ1§07/9, mb4.1/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.26**	**230**	*eP*		**P**	**22 12 32.2**	**+1.4**
	5.6nm,0.6s,mb4.5							
STKA	**Stephens Creek**	**29.26**	**230**	P		**P**	**22 12 32.3**	**+1.5**
	8.0nm,0.6s,mb4.6,baz=45,slow=9.2,SNR=26							
WRA	**Warramunga Arr**	**32.26**	**256**	P		**P**	**22 12 56.5**	**-0.9**
	1.1nm,0.9s,mb3.7,baz=84,slow=8.5,SNR=8.1							
ASAR	**Alice Springs**	**33.07**	**249**	P		**P**	**22 13 03.9**	**-0.6**
	2.9nm,0.6s,mb4.4,baz=79,slow=9.0,SNR=35							
VNDA	**Vanda**	**62.71**	**181**	P		**P**	**22 16 54.2**	**+1.4**
	0.9nm,0.6s,mb4.1,baz=360,slow=6.2,SNR=3.7							
VNA3	**Neumayer Olymp**	**94.06**	**181**	*e*		**P**	**22 19 46.1**	**-0.1**
VNA3				*e*			22 19 49.0	
VNA2	**Neumayer--Watz**	**94.33**	**182**	*e*		**P**	**22 19 47.0**	**-0.4**
	baz=183,slow=3.9							
VNA2				*e*			22 19 50.3	
VNA1	**Neumayer--Stat**	**94.63**	**181**	*e*		**P**	**22 19 47.0**	**-1.8**
VNA1				*e*			22 19 50.5	
MKAR	**Makanchi Array**	**97.66**	**316**	P		**P**	**22 20 03.9**	**+0.9**
	0.3nm,0.7s,mb4.0,baz=102,slow=3.4,SNR=3.5							
ARCES	**ARCESS Array B**	**120.53**	**346**	PKP		PKPdf	22 25 19.2	+0.1
	2.6nm,1.0s,baz=19,slow=2.5,SNR=5.5							

IDC 22 22:09:00.6±2.3, 2247S×17537W, h0km, mb3.9/4, mb1 4.1/4, mb1mx3.8/15, mbtmp3.9/4, Error ellipse: s-maj=55.9km s-min=44.2km az=34.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.77**	**266**	P		P	22 16 02.0	+0.4
	3.2nm,0.6s,baz=111,slow=8.6,SNR=7.0							
ASAR	**Alice Springs**	**46.48**	**258**	P		P	22 17 30.4	+0.6
	0.4nm,0.6s,baz=88,slow=7.7,SNR=5.4							
WRA	**Warramunga Arr**	**46.78**	**263**	P		P	22 17 31.2	-1.0
	0.8nm,0.8s,baz=95,slow=8.2,SNR=9.5							
VNDA	**Vanda**	**56.19**	**186**	P		P	22 18 41.3	-0.5
	0.9nm,0.5s,baz=10,slow=6.9,SNR=3.3							
AKASG	**Malin Array Be**	**145.91**	**332**	PKPbc		PKPbc	22 28 41.4	-0.4
	0.7nm,0.5s,baz=44,slow=4.3,SNR=7.5							

IDC 22 22:28:00.4±2.5, 2137S×16878E, h0km, mb4.0/4, mb1 4.1/4, mb1mx3.9/13, mbtmp4.0/4, MS3.5/1, Ms1 3.5/1, ms1mx2.8/21, Error ellipse: s-maj=114.1km s-min=30.2km az=150.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**26.39**	**241**	P		P	22 33 39.2	+0.7
	1.8nm,0.7s,baz=101,slow=10,SNR=3.5							
STKA				LR		LR	22 43 34.6	
	comp=Z,104nm,18.0s,baz=115,slow=35							
WRA	**Warramunga Arr**	**32.22**	**266**	P		P	22 34 29.8	-0.7
	0.7nm,0.9s,baz=103,slow=7.7,SNR=4.6							
ASAR	**Alice Springs**	**32.25**	**259**	P		P	22 34 30.7	-0.1
	2.3nm,0.6s,baz=83,slow=9.0,SNR=28							
FITZ	**Fitzroy Crossi**	**40.65**	**267**	*eP*		P	22 35 52.4	+10
	13nm,0.7s							
FITZ	**Fitzroy Crossi**	**40.65**	**267**	P		P	22 35 42.6	+0.1
	2.1nm,0.8s,baz=101,slow=17,SNR=3.1							
ARCES	**ARCESS Array B**	**127.00**	**345**	PKP		PKPdf	22 47 05.5	-0.1
	2.7nm,0.9s,baz=46,slow=2.6,SNR=3.8							
EKA	**Eskdalemuir Ar**	**145.55**	**352**	PKPbc		PKPbc	22 47 39.1	-1.2
	1.3nm,0.9s,baz=9.0,slow=3.0,SNR=4.8							
GERES	**GERESS Array B**	**146.13**	**330**	PKPbc		PKPbc	22 47 41.9	-0.4
	3.5nm,0.7s,baz=33,slow=3.2,SNR=22							
DAVOX	**Davos/Dischmat**	**149.40**	**331**	PKPbc		PKPbc	22 47 51.2	-0.1
	2.6nm,0.6s,baz=116,slow=10,SNR=3.6							

MAN 22 22:30:47, 1135N×12457E, h2km, mb4.7, ML3.6, MS3.6, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.30**	**172**	*eP*		Pg	22 30 54.1	+1.4
PLP	**Palo**	**0.44**	**114**	*eP*		Pg	22 30 57.3	+1.7
PLP				*i* S		Sg	22 31 04.8	+3.5
CNP	**Catarman**	**1.16**	**5**	*eP*		Pg	22 31 10.3	+1.0
CNP				*e*S		Sg	22 31 27.6	+3.2
LLP	**Lapu-Lapu**	**1.18**	**210⇑**	*eP*		Pg	22 31 08.7	-0.9
LLP				*i* S		Sg	22 31 25.8	+0.9
MSLP	**Maasin**	**1.24**	**166**	*eP*		Pg	22 31 11.8	+1.0
TBP	**Tagbilaran**	**1.78**	**203**	*eP*		Pn	22 31 18.6	-0.3
TBP				*e*S		Sn	22 31 44.1	+2.0
RCP	**Roxas**	**1.80**	**277⇑**	*eP*		Pn	22 31 20.0	+1.0
RCP				*e*S		Sn	22 31 44.3	+1.9
GUIM	**Jordan**	**2.07**	**250**	*eP*		Pn	22 31 23.9	+1.1
GUIM				*e*S		Sn	22 31 50.7	+1.6
SNPH	**Sibulan**	**2.38**	**213**	*eP*		Pn	22 31 28.0	+0.9
OTRP	**Odiongan**	**2.69**	**292**	*eP*		Pn	22 31 32.3	+1.0
BUKP	**Musuan**	**3.48**	**172**	*eP*		Pn	22 31 44.6	+2.4

TEH ***22*** *22:31:34.0, 2715N×5671E, h6km, ML4.1*
MOS ***22*** *22:32:57.5±0.9, 2686N×5613E, h33km, mb4.4/16, Error ellipse: s-maj=12.9km s-min=7.9km az=110.9*
IDC ***22*** *22:32:59.4±2.4, 2737N×5646E, h0km, mb4.0/10, mb1 4.1/11, mb1mx3.9/25, mbtmp4.0/11, ML4.1/1, MS4.0/3, Ms1 4.0/3, ms1mx3.0/41, Error ellipse: s-maj=50.7km s-min=23.0km az=158.0*
NEIC ***22*** *22:32:59.8, 2714N×5672E, h6km, mb4.2/11, ML3.9(THR), MN4.1(TEH), After TEH.*
ISCJB ***22*** *22:33:01.0±0.3, 2760N±003×5641E±003, h10km, mb4.1/22, MS3.9/3, Error ellipse: s-maj=4.2km s-min=3.7km az=26.2*
CSEM ***22*** *22:33:02.7±0.1, 2758N×5669E, h25km, mb4.4/4, Error ellipse: s-maj=3.0km s-min=2.1km az=114.0*
THR ***22*** *22:33:04.1±0.3, 2762N×5644E, h6km±7km, ML3.6*
OMAN ***22*** *22:33:27.2, 2583N×5615E, h12km*
ISC 22 22:33:03.3±0.6, 2754N±003×5650E±003, h15km±4km, n144, σ1§30/161, mb4.1/22, MS3.9/3, 1C-1D, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IBND	**Bandar-abas**	**0.10**	**160**	*eP*g		**Pg**	**22 33 06.2**	**-0.3**
BNDS	**Bandar-Abbas**	**0.33**	**244**	*eP*g		**Pg**	**22 33 10.8**	**+0.8**
BNDS	**Bandar-Abbas**	**0.33**	**244**	*eP*g		**Pg**	**22 33 10.8**	**+0.7**
BNDS				AML		AML	22 33 29.0	
	comp=N,13μm,0.4s							
BANOM	**Banah**	**1.62**	**186**	P		**Pn**	**22 33 31.0**	**-0.3**
	SNR=172							
BANOM	**Banah**	**1.62**	**186**	P		**Pn**	**22 33 30.4**	**-1.0**
	SNR=112							
BANOM				S		**Sn**	**22 33 53.6**	**+1.6**
KRBR	**Kerman**	**2.44**	**5**	*eP*n		**Pb**	**22 33 45.6**	**-1.2**
KRBR				*e*Sg		**Sg**	**22 34 20.3**	**-1.4**
KRBR	**Kerman**	**2.44**	**5**	*eP*n		**Pb**	**22 33 45.7**	**-1.2**
KRBR				AML		AML	22 34 25.8	
	comp=N,882nm,0.6s							
KRBR	**Kerman**	**2.44**	**5**	*eP*n		**Pb**	**22 33 45.6**	**-1.2**
NAZ	**Nazwa, Dubai**	**2.66**	**197**	P		**Pn**	**22 33 46.2**	**+0.7**
	SNR=21							
HATD	**Hatta, Dubai**	**2.73**	**187**	P		**Pg**	**22 33 52.8**	**-2.8**
	SNR=38							
HATD	**Hatta, Dubai**	**2.73**	**187**	P		**Pg**	**22 33 52.8**	**-2.8**
	SNR=38							
HATD	**Hatta, Dubai**	**2.73**	**187**	P		**Pn**	**22 33 47.2**	**+0.7**
ASHO	**Ashiyiah**	**2.88**	**188**	P		**Pn**	**22 33 48.9**	**+0.4**
	SNR=42							
ASHO	**Ashiyiah**	**2.88**	**188**	P		**Pn**	**22 33 49.0**	**+0.4**
	SNR=79							
ASHO	**Ashiyiah**	**2.88**	**188**	P		**Pn**	**22 33 49.0**	**+0.4**
	SNR=79							
ASHO	**Ashiyiah**	**2.88**	**188**	P		**Pn**	**22 33 48.6**	**0.0**
	SNR=42							
ASUD	**Al Ashush, Dub**	**3.09**	**200**	P		**Pn**	**22 33 52.6**	**+1.1**
	SNR=52							
GHIR	**Ghir-Karzin**	**3.20**	**284**	*eP*n		**Pn**	**22 33 55.5**	**+2.5**
GHIR	**Ghir-Karzin**	**3.20**	**284**	*eP*n		**Pn**	**22 33 56.0**	**+3.0**
GHIR				AML		AML	22 35 09.6	
	comp=N,180nm,0.4s							
GHIR				AML		AML	22 35 15.9	
	comp=E,236nm,0.6s							
ISRV	**Sarvestan**	**3.50**	**302**	*eP*n		**Pn**	**22 33 59.8**	**+2.7**
ISRV				*e*			22 35 33.0	
	comp=Z,8μm,0.6s							
IMOK	**Mouk**	**3.66**	**295**	Pn		**Pn**	**22 34 01.6**	**+2.3**
IMOK				Sn		**Sn**	**22 34 47.4**	**+5.2**
IMOK	**Mouk**	**3.66**	**295**	*eP*n		**Pn**	**22 34 01.7**	**+2.4**
IMOK				*e*Sn		**Sn**	**22 34 47.4**	**+5.2**
IMOK				*e*			22 35 43.6	
	comp=Z,2μm,0.5s							
IMOK	**Mouk**	**3.66**	**295**	*eP*n		**Pn**	**22 34 01.7**	**+2.4**
IMOK				*e*Sn		**Sn**	**22 34 47.4**	**+5.2**
IPAR	**Pars**	**3.80**	**308**	Pn		**Pn**	**22 34 04.0**	**+2.7**
IPAR	**Pars**	**3.80**	**308**	*eP*n		**Pn**	**22 34 04.1**	**+2.8**
IPAR				*e*			22 35 30.8	
	comp=Z,3μm,0.4s							
IBAF	**Bafgh**	**4.11**	**349**	Pn		**Pn**	**22 34 08.2**	**+2.6**
IBAF				Sn		**Sn**	**22 34 59.7**	**+6.3**
IBAF	**Bafgh**	**4.11**	**349**	*eP*n		**Pn**	**22 34 08.2**	**+2.6**
IBAF				*e*Sn		**Sn**	**22 34 59.8**	**+6.4**
IBAF				*e*			22 35 30.7	
	comp=Z,2μm,0.6s							
IBAF	**Bafgh**	**4.11**	**349**	*eP*n		**Pn**	**22 34 08.2**	**+2.6**
IBAF				*e*Sn		**Sn**	**22 34 59.8**	**+6.4**
IMEH	**Mehriz**	**4.17**	**337**	*eP*n		**Pn**	**22 34 09.4**	**+3.0**
IMEH				*e*			22 34 16.1	
	comp=Z,844nm,0.2s							
BIDO	**Bidbid**	**4.27**	**160**	P		**Pn**	**22 34 05.7**	**-2.0**
	SNR=10							
ZHSF	**Zahedan**	**4.29**	**60**	*eP*n		**Pn**	**22 34 11.9**	**+4.0**
ZHSF	**Zahedan**	**4.29**	**60**	*eP*n		**Pn**	**22 34 12.1**	**+4.2**
ZHSF				AML		AML	22 35 28.9	
	comp=E,25nm,0.7s							
ZHSF				AML		AML	22 35 32.6	
	comp=N,19nm,0.7s							
ITEG	**Tejag**	**5.68**	**19**	*eP*n		**Pn**	**22 34 28.7**	**+1.6**
SLWS		**5.93**	**244**	P		**Pn**	**22 34 29.7**	**-0.9**
SLWS		**5.93**	**244**	P		**Pn**	**22 34 29.7**	**-0.9**
SLWS				S		**Sn**	**22 35 33.1**	**-5.2**
IDAH	**Dahanechah**	**5.94**	**29**	*eP*n		**Pn**	**22 34 31.8**	**+1.1**
NASN	**Na'in**	**6.13**	**329**	*eP*n		**Pn**	**22 34 36.2**	**+2.8**
NASN	**Na'in**	**6.13**	**329**	*eP*n		**Pn**	**22 34 36.4**	**+3.1**
NASN	**Na'in**	**6.13**	**329**	*eP*n		**Pn**	**22 34 36.2**	**+2.8**
BTHS		**6.17**	**237**	P		**Pn**	**22 34 33.2**	**-0.7**
BOQSS		**6.59**	**257**	P		**Pn**	**22 34 39.5**	**-0.1**
BOQSS		**6.59**	**257**	P		**Pn**	**22 34 39.5**	**-0.1**
UMR	**Umm Al-Rimmam**	**7.98**	**287**	*eP*		**Pn**	**22 34 58.0**	**-0.8**
RDF	**Al-Radifah**	**8.02**	**282**	*eP*		**Pn**	**22 34 58.4**	**-0.8**
RDF				*e*S		**Sn**	**22 36 29.3**	**-0.3**
RDF				AML		AML	22 36 30.6	
	comp=Z,9.8nm,0.3s							
NAY	**Al-Naaiem**	**8.33**	**284**	*eP*		**Pn**	**22 35 03.6**	**0.0**
NAY				*e*S		**Sn**	**22 36 36.0**	**-1.3**
NAY				AML		AML	22 36 38.9	
	comp=Z,4.7nm,0.5s							
MIB	**Mutribah**	**8.36**	**288**	*eP*		**Pn**	**22 35 03.4**	**-0.5**
MIB				*e*S		**Sn**	**22 36 36.6**	**-1.4**
MIB				AML		AML	22 36 37.7	
	comp=Z,9.7nm,0.6s							
RST	**Umm Al-Ruwaisa**	**8.59**	**285**	*eP*		**Pn**	**22 35 06.5**	**-0.5**
RST				*e*S		**Sn**	**22 36 43.0**	**-0.6**
RST				AML		AML	22 36 45.0	
	comp=Z,0.3nm,0.4s							
ASAO	**Ashtian**	**8.92**	**323**	*eP*n		**Pn**	**22 35 14.5**	**+2.9**
ASAO	**Ashtian**	**8.92**	**323**	*eP*n		**Pn**	**22 35 14.9**	**+3.3**
GNI	**Garni**	**15.90**	**325**	*eP*		**Pn**	**22 36 44.3**	**-2.2**
GNI				pmax		pmax		
	comp=Z,2.0nm,1.0s							
GNI	**Garni**	**15.90**	**325**	Pn		**Pn**	**22 36 51.1**	**+4.7**
	comp=Z,0.7nm,0.3s,baz=165,slow=13,SNR=2.9							
ASF	**Jabal al Asfar**	**17.61**	**290**	Pn		**Pn**	**22 37 11.9**	**+3.7**
	comp=Z,0.3nm,0.3s,baz=332,slow=2.9,SNR=3.1							
MALT	**Malatya**	**18.55**	**310**	*eP*		**Pn**	**22 37 21.1**	**+1.4**
MALT				pmax		pmax		
	comp=Z,5.0nm,0.7s							
MALT	**Malatya**	**18.55**	**310**	*eP*		**Pn**	**22 37 21.1**	**+1.4**
	comp=Z,5.2nm,0.7s							
MALT				*e*S		**Sn**	**22 40 54.6**	**+7.8**
MALT	**Malatya**	**18.55**	**310**	*eP*		**Pn**	**22 37 21.0**	**+1.3**
	comp=Z,5.2nm,0.7s							
MMAI	**Mount Meron Ar**	**19.01**	**292**	Pn		**Pn**	**22 37 23.8**	**-1.4**
	comp=Z,0.6nm,0.3s,baz=98,slow=17,SNR=7.7							
EIL	**Elat**	**19.04**	**281**	P		**Pn**	**22 37 26.8**	**+1.1**
EIL	**Elat**	**19.04**	**281**	P		**Pn**	**22 37 26.8**	**+1.1**
	comp=Z,0.2nm,0.3s,baz=328,slow=12,SNR=2.4							
KIV	**Kislovodsk**	**19.80**	**329**	*eP*		**Pn**	**22 37 33.6**	**-1.0**
KIV				pmax		pmax		
	comp=Z,10.0nm,0.9s							
KIV	**Kislovodsk**	**19.80**	**329**	*eP*		**Pn**	**22 37 34.2**	**-0.4**
	comp=Z,11nm,0.8s							
KIV	**Kislovodsk**	**19.80**	**329**	*eP*		**Pn**	**22 37 33.6**	**-1.0**
	comp=Z,10.0nm,0.9s							
AML	**Almayashu**	**20.21**	**40**	*eP*		**P**	**22 37 37.4**	**-0.2**
	comp=Z,4.7nm,0.7s							
EKS2	**Erkin-Say**	**20.61**	**38**	*eP*		**P**	**22 37 41.6**	**-0.3**
	comp=Z,7.1nm,0.9s							
UCH	**Uchtor**	**20.74**	**40**	*eP*		**P**	**22 37 45.4**	**+2.1**
UCH				*e*S		**S**	**22 41 37.2**	**+2.7**
UCH	**Uchtor**	**20.74**	**40**	*eP*		**P**	**22 37 45.4**	**+2.1**
SOC	**Sochi**	**20.97**	**324**	*eP*		**P**	**22 37 43.7**	**-2.1**
SOC				*e**SP		sP	22 37 56.8	+4.8
SOC				*e*			22 38 02.5	
SOC				*e*S		**S**	**22 41 36.8**	**-2.1**
SOC				*e*SSS			22 42 13.3	
SOC				pmax		pmax		
	comp=Z,7.0nm,0.7s							
CSS	**Prodhromos**	**21.12**	**296**	P		**P**	**22 37 50.9**	**+3.5**
TKM2	**Tokmak 2**	**21.80**	**40**	*eP*		**P**	**22 38 00.4**	**+5.7**
TKM2				pmax		pmax		
	comp=Z,6.0nm,0.9s,mb4.0							
TKM2	**Tokmak 2**	**21.80**	**40**	*eP*		**P**	**22 38 00.4**	**+5.7**
	comp=Z,5.6nm,0.9s,mb4.0							
AKTK	**Aktyubinsk**	**22.89**	**2**	P		**P**	**22 38 06.3**	**+0.1**
AKTK				LR		LR	22 48 37.3	
AKTK	**Aktyubinsk**	**22.89**	**2**	P		**P**	**22 38 06.3**	**+0.1**
AKTO	**Aktyubinsk**	**22.89**	**2**	P		**P**	**22 38 06.3**	**+0.2**
	comp=Z,12nm,0.8s,mb4.4,baz=184,slow=9.5,SNR=29							
AKTO				LR		LR	22 48 37.3	
	comp=Z,117nm,18.1s,MS3.4,baz=238,slow=41							
ANN	**Anapa**	**23.00**	**323**	*eP*		**P**	**22 37 58.9**	**-8.6**
ANN				pmax		pmax		
	comp=Z,36nm,1.5s,mb4.6							
BRVK	**Borovoye**	**27.47**	**18**	*eP*		**P**	**22 38 48.9**	**+0.3**
BVAR	**Borovoye Array**	**27.47**	**18**	P		**P**	**22 38 48.5**	**-0.1**
	comp=Z,2.9nm,0.8s,mb3.9,baz=206,slow=9.2,SNR=19							
BVAR				LR		LR	22 51 07.5	
	comp=Z,78nm,19.0s,MS3.3,baz=10,slow=39							
SANT	**Santorini**	**27.68**	**296**	*eP*		**P**	**22 38 51.0**	**+0.3**
SANT	**Santorini**	**27.68**	**296**	*eP*		**P**	**22 38 51.0**	**+0.3**
MK31	**Makanchi Array**	**27.93**	**40**	*eP*		**P**	**22 38 53.3**	**+0.5**
MK31	**Makanchi Array**	**27.93**	**40**	*eP*		**P**	**22 38 53.2**	**+0.4**
MKAR	**Makanchi Array**	**27.93**	**40**	P		**P**	**22 38 53.1**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.3,baz=214,slow=6.7,SNR=6.0							
KURK	**Kurchatov**	**28.60**	**30**	*eP*		**P**	**22 38 59.0**	**+0.3**
KURK				pmax		pmax		
	comp=Z,1.0nm,0.6s,mb3.7							
KURK	**Kurchatov**	**28.60**	**30**	*eP*		**P**	**22 38 59.0**	**+0.3**
	comp=Z,1.3nm,0.6s,mb3.8							
AKASG	**Malin Array Be**	**31.03**	**326**	*i* P		**P**	**22 39 19.3**	**-1.0**
AKASG				pmax		pmax		
	comp=Z,2.0nm,0.6s							
AKASG	**Malin Array Be**	**31.03**	**326**	P		**P**	**22 39 19.4**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.1,baz=128,slow=8.4,SNR=7.2							
AKASG	**Malin Array Be**	**31.03**	**326**	*i* P		**P**	**22 39 19.3**	**-1.0**
	comp=Z,2.0nm,0.6s,mb4.1							
AKBB	**Malin Array Si**	**31.03**	**326**	*eP*		**P**	**22 39 20.3**	**0.0**
KIEV	**Kiev**	**31.04

LASF	**Ste Croix**	**44.99**	**306**	*e*P	**P**	**22 41 12.5**	**-5.5**
NB2	**NORSAR Subarra**	**45.10**	**331**	P	**P**	**22 41 16.6**	**-2.0**
	comp=Z,1.8nm,0.8s,mb4.0,baz=117,slow=8.6						
NOA	**NORSAR Array B**	**45.10**	**331**	P	**P**	**22 41 18.1**	**-0.4**
	comp=Z,1.5nm,0.8s,mb3.9,baz=116,slow=8.0,SNR=6.2						
SMF	**Signal de Mont**	**45.22**	**309**	*e*P	**P**	**22 41 13.7**	**-6.0**
	comp=Z,8.6nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**45.22**	**309**	*e*P	**P**	**22 41 13.7**	**-6.0**
SMF				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
SMF	**Signal de Mont**	**45.22**	**309**	*e*P	**P**	**22 41 13.7**	**-6.0**
	comp=Z,4.3nm,0.8s,mb4.3						
SSF	**Saint Saulge**	**45.49**	**310**	*e*P	**P**	**22 41 16.3**	**-5.6**
	comp=Z,5.2nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**45.49**	**310**	*e*P	**P**	**22 41 16.3**	**-5.6**
SSF				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.2						
SSF	**Saint Saulge**	**45.49**	**310**	*e*P	**P**	**22 41 16.3**	**-5.6**
	comp=Z,2.6nm,0.7s,mb4.2						
MTLF	**Montolieu**	**46.15**	**305**	*e*P	**P**	**22 41 21.4**	**-5.8**
TCF	**Toulx Ste Croi**	**46.31**	**309**	*e*P	**P**	**22 41 22.8**	**-5.5**
	comp=Z,9.7nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**46.31**	**309**	*e*P	**P**	**22 41 22.8**	**-5.5**
TCF				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
TCF	**Toulx Ste Croi**	**46.31**	**309**	*e*P	**P**	**22 41 22.8**	**-5.5**
	comp=Z,4.8nm,0.9s,mb4.4						
CAF	**Calviac**	**46.32**	**307**	*e*P	**P**	**22 41 22.7**	**-5.8**
LDF	**La Druitiere**	**48.06**	**312**	*e*P	**P**	**22 41 36.6**	**-5.4**
	comp=Z,4.6nm,0.6s,mb4.4						
LDF	**La Druitiere**	**48.06**	**312**	*e*P	**P**	**22 41 36.6**	**-5.4**
LDF				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
LDF	**La Druitiere**	**48.06**	**312**	*e*P	**P**	**22 41 36.6**	**-5.4**
	comp=Z,2.4nm,0.6s,mb4.4						
SJPF	**Ste Jean**	**48.67**	**304**	*e*P	**P**	**22 41 41.1**	**-5.7**
CART	**Cartagena**	**48.83**	**297**	*e*P	**P**	**22 41 49.3**	**+1.3**
BOD	**Bodaibo**	**49.92**	**36**	*e*P	**P**	**22 41 54.2**	**-1.9**
HIA	**Hailar**	**52.45**	**48**	*e*P	**P**	**22 42 14.2**	**-1.0**
TORD	**Torodi Ar. Bea**	**52.95**	**266**	P	**P**	**22 42 17.1**	**-2.3**
	comp=Z,0.4nm,0.4s,mb3.7,baz=58,slow=7.9,SNR=5.2						
TIXI	**Tiksi**	**58.57**	**21**	*e*P	**P**	**22 42 56.4**	**-2.5**
TIXI				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
TIXI	**Tiksi**	**58.57**	**21**	*e*P	**P**	**22 42 56.4**	**-2.5**
	comp=Z,2.0nm,1.1s,mb4.1						
BILL	**Biiibino**	**71.75**	**22⇑**	*e*P	**P**	**22 44 23.2**	**-1.3**
BILL				*e*		22 47 09.2	
BILL				*e*S	S	22 53 38.3	-5.4
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
BILL	**Biiibino**	**71.75**	**22**	*e*P	**P**	**22 44 23.2**	**-1.3**
	comp=Z,2.0nm,1.0s,mb4.0						
BILL				*e*S	S	22 53 38.3	-5.4
CBIJ	**Chichi jima**	**74.46**	**67**	LR	LR	23 17 57.1	
	comp=Z,886nm,21.6s,MS5.0,baz=74,slow=36						
WRA	**Warramunga Arr**	**88.85**	**113**	*i* P	**P**	**22 45 51.7**	**-5.5**
YKA	**Yellowknife Ar**	**90.00**	**356**	*i* P	**P**	**22 46 01.7**	**-0.2**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**90.00**	**356**	P	**P**	**22 46 01.8**	**-0.1**
YKA	**Yellowknife Ar**	**90.00**	**356**	P	**P**	**22 46 01.8**	**-0.1**
	comp=Z,0.5nm,0.9s,mb3.9,baz=7.3,slow=4.5,SNR=6.6						
YKA	**Yellowknife Ar**	**90.00**	**356**	*i* P	**P**	**22 46 01.7**	**-0.2**
	comp=Z,1.0nm,0.9s,mb4.2						

MAN 22 22:33:09, 1135N×12457E, h2km, mb4.5, ML3.4, MS3.3, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.30**	**172**	*e*P	Pg	22 33 14.9	+0.2
PLP	**Palo**	**0.44**	**114**	*e*P	Pg	22 33 17.9	+0.4
PLP				*i* S	Sg	22 33 23.7	+0.4
CNP	**Cataman**	**1.16**	**5**	*e*P	Pg	22 33 30.9	-0.4
CNP				*e*S	Sg	22 33 48.0	+1.6
MSLP	**Maasin**	**1.24**	**166**	*e*P	Pg	22 33 31.4	-1.4
TBP	**Tagbilaran**	**1.78**	**203**	*e*P	Pn	22 33 39.4	-1.4
TBP				*e*S	Sn	22 33 59.5	-4.6
RCP	**Roxas**	**1.80**	**277**	*e*P	Pn	22 33 40.6	-0.4
RCP				*e*S	Sn	22 34 04.8	+0.4
SCPH	**Surigao**	**1.80**	**150**	*e*P	Pn	22 33 39.5	-1.6
GUIM	**Jordan**	**2.07**	**250**	*e*P	Pn	22 33 45.2	+0.5
GUIM				*e*S	Sn	22 34 08.3	-2.8
PVCP	**Virac**	**2.27**	**350**	*e*P	Pn	22 33 47.9	+0.3
SNPH	**Sibulan**	**2.38**	**213**	*e*P	Pn	22 33 48.0	-1.1
OTRP	**Odiongan**	**2.69**	**292**	*e*P	Pn	22 33 53.2	-0.1
DCPH	**Dipolog City**	**2.99**	**204**	*e*P	Pn	22 33 55.5	-2.0
DCPH				*e*S	Sn	22 34 28.3	-5.7
BUKP	**Musuan**	**3.48**	**172**	*e*P	Pn	22 34 04.9	+0.7

*MAN **22** 22:46:00, 1133N×12464E, h1km, MS3.7*
MAN INTENSITY III - CARIGARA CAPOOCAN (S.LEYTE.
*ISCJB **22** 22:46:34.1±0.5, 1130N±002×12459E±003, h23km±4km, mb4.6/59, MS4.2/28, Error ellipse: s-maj=4.9km s-min=3.6km az=2.8*
*MOS **22** 22:46:35.4±1.1, 1134N×12462E, h33km, mb5.0/16, MS4.1/4, Error ellipse: s-maj=14.0km s-min=6.8km az=106.8*
*BJI **22** 22:46:36.0, 1123N×12459E, h46km, mB5.0, mb4.8, Ms4.5, Msz4.2*
*NEIC **22** 22:46:37.6±0.2, 1128N×12451E, h35km, mb4.9/13, Error ellipse: s-maj=8.6km s-min=4.9km az=83.0*
NEIC Felt [III PIVS] at Capoocan and Carigara.
*IDC **22** 22:46:38.7±3.4, 1131N×12478E, h50km±34km, mb4.1/23, mb1 4.2/25, mb1mx4.2/28, mbtmp4.1/25, ML3.7/2, MS4.1/15, Ms1 4.1/15, ms1mx3.9/24, Error ellipse: s-maj=23.8km s-min=10.7km az=82.0*

ISC 22 22:46:34.8±0.8, 1129N±002×12459E±003, h16km±5km, h32km±2.3km: pP-P, n137, σ1§13/154, mb4.6/59, MS4.2/28, 8C-7D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.41**	**108**	*e*P	**Pg**	**22 46 41.9**	**-1.2**
PLP				*i* S	**Sg**	**22 46 49.4**	**+0.8**
BESP	**Borongan**	**0.89**	**70**	*e*P	**Pb**	**22 46 49.9**	**-1.9**
LLP	**Lapu-Lapu**	**1.15**	**212⇑**	*e*P	**Pn**	**22 46 53.7**	**-2.5**
LLP				*i* S	**Sb**	**22 47 10.3**	**-0.6**
CNP	**Cataman**	**1.21**	**4**	*e*S	**Sb**	**22 47 12.0**	**-0.8**
TBP	**Tagbilaran**	**1.74**	**204⇓**	*e*P	**Pn**	**22 47 03.3**	**-1.1**
TBP				*e*S	**Sn**	**22 47 28.8**	**+2.4**
SCPH	**Surigao**	**1.75**	**149**	*e*P	**Pn**	**22 47 04.7**	**+0.2**
SCPH				*e*S	**Sn**	**22 47 33.3**	**+6.9**
RCP	**Roxas**	**1.82**	**279⇓**	*e*P	**Pn**	**22 47 03.7**	**-1.8**
GUIM	**Jordan**	**2.07**	**251**	*e*S	**Sn**	**22 47 35.3**	**+0.9**
KALP	**Kalibo**	**2.24**	**280⇑**	*e*P	**Pn**	**22 47 13.9**	**+2.7**
PVCP	**Virac**	**2.33**	**350⇓**	*e*P	**Pn**	**22 47 11.3**	**-1.2**
SNPH	**Sibulan**	**2.35**	**215**	*e*P	**Pn**	**22 47 11.5**	**-1.3**
CGP	**Cagayan de Oro**	**2.82**	**178⇓**	*e*P	**Pn**	**22 47 20.3**	**+1.0**
DCPH	**Dipolog City**	**2.96**	**204⇑**	*e*P	**Pn**	**22 47 19.9**	**-1.2**
DCPH				*e*S	**Sn**	**22 47 53.0**	**-3.2**
BUKP	**Musuan**	**3.42**	**172**	*e*P	**Pn**	**22 47 28.0**	**+0.4**
CUYO	**Cuyo Island**	**3.53**	**263**	*e*P	**Pn**	**22 47 28.3**	**-0.7**
SJMP	**San Jose**	**3.59**	**289**	*e*P	**Pn**	**22 47 29.1**	**-0.7**
PAGZ	**Pagadian**	**3.62**	**199**	*e*P	**Pn**	**22 47 30.4**	**+0.1**
DAV	**Davao City (W)**	**4.31**	**167**	*e*Pn	**Pn**	**22 47 41.5**	**+1.7**
DAV				Sn	**Sn**	**22 48 29.8**	**+0.1**
BUSP	**Coron**	**4.36**	**280**	*e*P	**Pn**	**22 47 39.9**	**-0.5**
LUBP	**Lubang**	**4.88**	**300**	*e*P	**Pn**	**22 47 47.4**	**-0.3**
ENPP	**El Nido**	**5.06**	**270**	*e*P	**Pn**	**22 47 48.8**	**-1.3**
BALP	**Baler**	**5.30**	**327**	*e*P	**Pn**	**22 47 54.5**	**+1.1**
PCPH	**Palayan**	**5.43**	**322⇑**	*e*P	**Pn**	**22 47 58.0**	**+2.8**
CAUP	**Cauayan**	**6.22**	**335**	*e*P	**Pn**	**22 48 06.3**	**+0.3**
YHNB	**Yeheng**	**13.65**	**348**	Pn	**Pn**	**22 49 48.8**	**+1.0**
QZH	**Quanzhou**	**14.72**	**338**	P	**Pn**	**22 50 01.4**	**-1.0**
QZH				S	**Sn**	**22 52 39.3**	**-6.0**
QZH				LR	LR		
	comp=N,630nm,11.3s						
QZH				LR	LR		
	comp=E,470nm,8.5s						
QZH				LR	LR		
	comp=Z,750nm,17.9s						
JOW	**Kunigami**	**15.84**	**12**	P	**Pn**	**22 50 18.1**	**+0.8**
	comp=Z,0.6nm,0.3s,baz=111,slow=29,SNR=3.2						
JOW				LR	LR	22 55 18.9	
	comp=Z,735nm,21.8s,baz=236,slow=33						
QIZ	**Qiongzhong**	**16.17**	**300**	P	**Pn**	**22 50 26.3**	**+4.8**
QIZ				S	**Sn**	**22 53 23.6**	**+3.0**
QIZ				XS	sS	22 53 35.3	-5.5
QIZ				AMB	AMB		
	comp=Z,20nm,1.5s						
QIZ				LR	LR		
	comp=N,643nm,14.3s						
QIZ				LR	LR		
	comp=Z,924nm,20.0s						
KAPI	**Kappang**	**16.90**	**197**	P	**Pn**	**22 50 33.1**	**+2.3**
	comp=Z,0.2nm,0.3s,baz=30,slow=4.0,SNR=6.7						
KAPI				LR	LR	22 57 37.2	
	comp=Z,323nm,19.9s,baz=224,slow=39						
KSM	**Kuching**	**17.20**	**236**	Pn	**Pn**	**22 50 34.4**	**-0.3**
KSM				*e*Sn	Sn	22 53 20.9	-25
GUMO	**Guam**	**19.94**	**81**	*e*P	**Pn**	**22 51 08.2**	**+0.3**
SSE	**Sheshan**	**19.95**	**351**	⇑P	**Pn**	**22 51 08.8**	**+0.8**
SSE				AP	pP	22 51 18.4	+7.6
SSE				XP	sP	22 51 24.8	+12
SSE				S	**Sn**	**22 54 50.6**	**-1.6**
SSE				AMB	AMB		
	comp=Z,51nm,0.9s						
SSE				AMB	AMB		
	comp=Z,85nm,6.1s						
SSE				LR	LR		
	comp=N,345nm,19.2s						
SSE				LR	LR		
	comp=E,465nm,19.1s						
SSE				LR	LR		
	comp=Z,579nm,19.3s						
NJ2	**Nanjing**	**21.32**	**347**	*e*P	**P**	**22 51 22.9**	**+1.8**
NJ2				AP		22 51 31.8	
NJ2				XP	sP	22 51 36.0	+8.3
NJ2				PP		22 51 45.8	
NJ2				S	**S**	**22 55 09.0**	**-8.5**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,230nm,4.6s						
NJ2				LR	LR		
	comp=N,700nm,22.4s,MS4.2						
NJ2				LR	LR		
	comp=E,610nm,18.6s,MS4.2						
NJ2				LR	LR		
	comp=Z,600nm,18.6s,MS4.0						
BATI	**Kupang**	**21.38**	**182**	P	**P**	**22 51 22.4**	**+0.6**
	comp=Z,122nm,1.1s,mb5.1,baz=202,slow=2.1,SNR=8.6						
BATI				LR	LR	23 02 17.4	
	comp=Z,382nm,19.4s,MS3.8,baz=180,slow=44						
WHN	**Wuhan**	**21.38**	**335**	⇓P	**P**	**22 51 25.5**	**+3.7**
WHN				AMB	AMB		
	comp=Z,46nm,0.9s,mb4.8						
WHN				LR	LR		
	comp=N,777nm,26.9s,MS4.5						
WHN				LR	LR		
	comp=E,2μm,23.1s,MS4.5						
WHN				LR	LR		
	comp=Z,2μm,18.1s,MS4.5						
JNU	**Nakatsue**	**22.48**	**14**	P	**P**	**22 51 33.7**	**+0.2**
	comp=Z,9.2nm,1.0s,mb4.2,baz=186,slow=11,SNR=4.4						
JNU				LR	LR	23 01 15.7	
	comp=Z,223nm,18.1s,MS3.6,baz=184,slow=39						
GYA	**Guiyang**	**22.65**	**314**	P	**P**	**22 51 36.4**	**+1.0**
GYA				AP		22 51 46.5	
GYA				XP	sP	22 51 50.8	+8.8
GYA				PP		22 52 06.3	
GYA				PCP	PcP	22 55 30.5	+2.4
GYA				S	**S**	**22 55 37.6**	**-5.8**
GYA				XS	sS	22 55 53.9	+3.1
GYA				SS		22 56 20.8	
GYA				SCP	ScP	22 59 04.0	-1.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
GYA				AMB	AMB		
	comp=Z,120nm,4.2s						
GYA				LR	LR		
	comp=N,1μm,17.8s,MS4.5						
GYA				LR	LR		
	comp=E,1μm,16.6s,MS4.5						
GYA				LR	LR		
	comp=Z,1μm,14.9s,MS4.5						
KULM	**Kulim**	**24.41**	**258**	*e*P	**P**	**22 51 52.8**	**-0.1**
KMI	**Kunming**	**24.84**	**307**	P	**P**	**22 51 57.3**	**+0.7**
KMI				AP		22 52 06.8	
KMI				XP	sP	22 52 09.9	+6.5
KMI				PP		22 52 34.4	
KMI				S	**S**	**22 56 16.3**	**-2.7**
KMI				XS	sS	22 56 31.9	+4.9
KMI				SS		22 57 13.4	
KMI				AMB	AMB		
	comp=Z,11nm,1.2s,mb4.3						
KMI				AMB	AMB		
	comp=Z,198nm,4.9s						
KMI				LR	LR		
	comp=N,350nm,14.0s,MS4.2						
KMI				LR	LR		
	comp=E,568nm,16.8s,MS4.2						
KMI				LR	LR		
	comp=Z,588nm,21.7s,MS4.0						
KAKA	**Kakadu**	**25.09**	**162**	*e*P	**P**	**22 51 56.3**	**-2.6**
	comp=Z,20nm,0.6s,mb4.8						
KAKA	**Kakadu**	**25.09**	**162**	*e*P	**P**	**22 52 00.3**	**+1.4**
JHJ	**Hachijo jima 2**	**25.82**	**30**	LR	LR	23 00 11.3	
	comp=Z,352nm,20.8s,MS3.9,baz=286,slow=32						
INCN	**Inchon**	**26.14**	**4**	P	**P**	**22 52 08.7**	**+0.5**
KSRS	**Korea Array**	**26.22**	**6**	P	**P**	**22 52 08.5**	**-0.5**
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.9						
KSRS				MLR	MLR		
	comp=Z,392nm,19.9s,MS4.0						
KSRS	**Korea Array**	**26.22**	**6**	P	**P**	**22 52 08.5**	**-0.5**
	comp=Z,2.8nm,0.8s,mb3.8,baz=182,slow=9.7,SNR=11						
KSRS				LR	LR	23 02 09.1	
	comp=Z,392nm,19.9s,MS4.0,baz=195,slow=36						
XAN	**Xi'an**	**26.79**	**330**	P	**P**	**22 52 12.8**	**-1.4**
XAN				AP	pP	22 52 21.3	+2.3
XAN				XP	sP	22 52 26.8	+5.8
XAN				PP		22 52 59.5	
XAN				PCP	PcP	22 55 31.0	-6.0
XAN				S	**S**	**22 56 49.3**	**-0.4**
XAN				SCP	ScP	22 59 07.8	-9.0
XAN				PCS	PcS	22 59 11.9	-6.5
XAN				AMB	AMB		
	comp=Z,36nm,1.2s,mb4.8						
XAN				AMB	AMB		
	comp=Z,65nm,13.8s						
XAN				LR	LR		
	comp=N,280nm,22.1s,MS4.1						
XAN				LR	LR		
	comp=E,475nm,22.1s,MS4.1						
XAN				LR	LR		
	comp=Z,588nm,18.1s,MS4.2						
PSI	**Prapat**	**26.80**	**254**	P	**P**	**22 52 17.8**	**+3.3**
	comp=Z,9.2nm,0.9s,mb4.3,baz=50,slow=3.6,SNR=13						
PSI				LR	LR	23 04 38.2	
	comp=Z,551nm,18.5s,MS4.2,baz=234,slow=40						
CD2	**Chengdu**	**27.45**	**318**	*e*P	**P**	**22 52 21.1**	**+1.0**
CD2				AP	pP	22 52 30.5	+5.5
CD2				XP	sP	22 52 35.5	+8.5
CD2				PP		22 53 08.9	
CD2				S	**S**	**22 56 57.8**	**-2.4**
CD2				XS	sS	22 57 13.0	+4.8
CD2				SS		22 58 15.3	
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb4.8						
CD2				AMB	AMB		
	comp=Z,40nm,5.8s						
CD2				LR	LR		
	comp=N,2μm,15.6s,MS4.9						
CD2				LR	LR		
	comp=E,810nm,15.6s,MS4.9						
CD2				LR	LR		
	comp=Z,550nm,15.6s,MS4.2						
MAJO	**Matsushiro**	**27.99**	**24**	*e*P	**P**	**22 52 24.9**	**0.0**
MJAR	**Matsushiro Arr**	**27.99**	**24**	P	**P**	**22 52 24.3**	**-0.6**
MJAR				LR	LR	23 02 16.2	
MJAR	**Matsushiro Arr**	**27.99**	**24**	P	**P**	**22 52 24.3**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.6,baz=201,slow=9.4,SNR=4.7						
MJAR				LR	LR	23 02 16.2	
	comp=Z,438nm,19.4s,MS4.1,baz=225,slow=34						
FITZ	**Fitzroy Crossi**	**29.23**	**178**	*e*P	**P**	**22 52 34.9**	**-1.1**
	comp=Z,9.7nm,1.2s,mb4.4						
FITZ	**Fitzroy Crossi**	**29.23**	**178**	P	**P**	**22 52 34.8**	**-1.2**
	comp=Z,4.2nm,0.9s,mb4.2,baz=38,slow=8.9,SNR=4.8						
BJT	**Baijiatuau**	**29.57**	**347**	*e*P	**P**	**22 52 38.5**	**-0.4**
BJT				pmax	pmax		
	comp=Z,22nm,1.2s						
BJT	**Baijiatuau**	**29.57**	**347**	*e*P	**P**	**22 52 38.5**	**-0.4**
	comp=Z,22nm,1.2s,mb4.8						
BJI	**Beijing**	**29.59**	**347**	P	**P**	**22 52 38.1**	**-0.9**
BJI				S	**S**	**22 57 35.3**	**+1.7**
BJI				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.5						
BJI				AMB	AMB		
	comp=Z,107nm,2.8s,mb5.1						
BJI				LR	LR		
	comp=N,248nm,22.6s,MS4.0						
BJI				LR	LR		
	comp=E,223nm,18.2s,MS4.0						
BJI				LR	LR		
	comp=Z,163nm,24.0s						
LZH	**Lanzhou**	**31.00**	**326**	*e*P	**P**	**22 52 52.6**	**+0.9**
LZH				AP	pP	22 53 00.5	+4.0
LZH				XP	sP	22 53 04.1	+5.6
LZH				PCP	PcP	22 55 45.3	-2.3
LZH				*e*S	**S**	**22 58 00.0**	**+4.1**
LZH				XS	sS	22 58 16.0	+12
LZH				SS	SS	22 59 40.1	-29
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.9						
LZH				AMB	AMB		
	comp=Z,143nm,4.7s						
LZH				LR	LR		
	comp=N,1μm,14.7s						
LZH				LR	LR		
	comp=Z,2μm,15.8s,MS4.8						
HHC	**Hu-ho-hao-te**	**31.60**	**341**	⇑P	**P**	**22 52 58.1**	**+1.3**
HHC				AP	pP	22 53 07.6	+5.9
HHC				XP	sP	22 53 11.6	+7.9
HHC				PP	PP	22 54 00.0	-8.3
HHC				PCP	PcP	22 55 49.9	+0.8
HHC				S	**S**	**22 58 05.0**	**-0.1**
HHC				XS	sS	22 58 19.3	+6.2
HHC				SCP	ScP	22 59 29.4	-2.5
HHC				SS	SS	22 59 54.1	-27
HHC				AMB	AMB		
	comp=Z,24nm,1.2s,mb4.9						
HHC				AMB	AMB		
	comp=Z,102nm,5.5s						
HHC				LR	LR		
	comp=N,356nm,13.5s,MS4.3						
HHC				LR	LR		
	comp=E,237nm,12.9s,MS4.3						
HHC				LR	LR		
	comp=Z,350nm,14.6s,MS4.2						
WRAB	**Tennant Creek**	**32.48**	**163**	*e*P	**P**	**22 53 05.8**	**+1.0**
WRAB				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.4						
WRAB	**Tennant Creek**	**32.48**	**163**	*e*P	**P**	**22 53 05.8**	**+1.0**
	comp=Z,4.6nm,0.8s,mb4.4						
WRA	**Warramunga Arr**	**32.49**	**163**	P	**P**	**22 53 03.5**	**-1.3**
	comp=Z,3.0nm,0.9s,mb4.1,baz=342,slow=9.8,SNR=5.6						
WB2	**Warramunga Arr**	**32.49**	**163**	*e*P	**P**	**22 53 00.7**	**-4.2**
WB2	**Warramunga Arr**	**32.49**	**163**	*e*P	**P**	**22 53 05.1**	**+0.3**
MDJ	**Mudanjiang**	**33.48**	**6**	P	**P**	**22 53 14.6**	**+1.3**
MDJ				AP	pP	22 53 23.4	+5.2
MDJ				XP	sP	22 53 27.3	+7.2
MDJ				PP	PP	22 54 30.8	+1.6
MDJ				PCP	PcP	22 55 51.8	-2.4
MDJ				S	**S**	**22 58 30.8**	**-3.5**
MDJ				XS	sS	22 58 50.3	+7.9
MDJ				PCS	PcS	22 59 40.8	+1.1
MDJ				SCS	ScS	23 03 36.9	-2.2
MDJ				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.6						
MDJ				AMB	AMB		
	comp=Z,50nm,4.0s						
MDJ				LR	LR		
	comp=N,306nm,16.9s,MS4.2						
MDJ				LR	LR		
	comp=E,281nm,18.3s,MS4.2						
MDJ				LR	LR		
	comp=Z,222nm,19.1s,MS3.9						
SHL	**Shillong**	**34.00**	**299**	*e*P	**P**	**22 53 20.0**	**+1.9**
GTA	**Gaotai**	**35.61**	**326**	*e*P	**P**	**22 53 31.8**	**0.0**
GTA				AP	pP	22 53 44.0	+7.3
GTA				XP	sP	22 53 48.8	+10
GTA				PP	PP	22 54 53.1	+0.4
GTA				PCP	PcP	22 55 55.3	-5.1
GTA				S	**S**	**22 59 03.8**	**-3.5**
GTA				XS	sS	22 59 24.4	+9.0
GTA				SS	SS	23 01 25.3	-17
GTA				AMB	AMB		
	comp=Z,14nm,1.4s,mb4.7						
GTA				AMB	AMB		
	comp=Z,255nm,5.3s						
GTA				LR	LR		
	comp=N,499nm,21.4s,MS4.4						
GTA				LR	LR		
	comp=E,482nm,22.9s,MS4.4						
GTA				LR	LR		
	comp=Z,571nm,16.8s						
ASAR	**Alice Springs**	**35.92**	**165**	P	**P**	**22 53 33.7**	**-0.9**
	comp=Z,4.3nm,0.7s,mb4.5,baz=344,slow=7.6,SNR=24						
LSA	**Lhasa**	**36.09**	**306**	P	**P**	**22 53 36.4**	**+0.4**
HIA	**Hailar**	**38.07**	**355**	*e*P	**P**	**22 53 50.3**	**-2.3**
YSS	**Yuzh-Sakhalins**	**38.72**	**20**	*e*P	**P**	**22 53 58.5**	**+0.4**
ULN	**Ulaanbaatar**	**39.32**	**341**	*e*P	**P**	**22 54 02.9**	**-0.2**
ULN				pmax	pmax		
	comp=Z,18nm,1.1s,mb4.7						
ULN	**Ulaanbaatar**	**39.32**	**341**	*e*P	**P**	**22 54 02.9**	**-0.2**
	comp=Z,18nm,1.1s,mb4.7						
SONM	**Songino Array**	**39.50**	**341**	P	**P**	**22 54 04.6**	**0.0**
	comp=Z,6.5nm,1.0s,mb4.3,baz=158,slow=8.6,SNR=18						
SONM				LR	LR	23 10 50.4	
	comp=Z,237nm,21.9s,MS4.0,baz=287,slow=37						
ZAK	**Zakamensk**	**42.73**	**340**	*e*P	**P**	**22 54 30.8**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.2s,mb3.9						
TLY	**Talaya**	**43.73**	**341**	*e*P	**P**	**22 54 39.8**	**+0.6**
TLY				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.6						
TLY	**Talaya**	**43.73**	**341**	*e*P	**P**	**22 54 40.1**	**+0.9**
MOY	**Mondy**	**44.60**	**339**	*e*P	**P**	**22 54 46.4**	**+0.3**
MOY				pmax	pmax		
	comp=Z,33nm,1.7s,mb4.9						
WMQ	**Urumqi**	**45.41**	**322**	P	**P**	**22 54 54.0**	**+1.3**
WMQ				AP	pP	22 55 04.0	+6.3
WMQ				XP	sP	22 55 08.0	+8.3
WMQ				PP	PP	22 56 40.0	+0.9
WMQ				S	**S**	**23 01 32.0**	**-1.3**
WMQ				SS	SS	23 04 47.0	-10
WMQ				AMB	AMB		
	comp=Z,35nm,1.0s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,74nm,5.0s						
WMQ				LR	LR		
	comp=N,785nm,15.0s,MS4.8						
WMQ				LR	LR		
	comp=E,317nm,

NVS pmax pmax
comp=Z,30nm,2.1s,mb4.8
NVS pmax pmax
comp=N,21nm,2.3s
NVS pmax pmax
comp=E,16nm,1.9s
NVS smax
comp=E,17nm,2.1s
KURK Kurchatov 54.29 326 *eP* **P 22 56 00.5 +0.3**
KURK pmax pmax
comp=Z,22nm,1.1s,mb5.0
KURK Kurchatov 54.29 326 *eP* **P 22 56 00.5 +0.3**
comp=Z,22nm,1.1s,mb5.0
KBL Kabul 55.39 304 *eP* **P 22 56 08.5 0.0**
KBL pmax pmax
comp=Z,15nm,1.2s,mb4.9
KBL Kabul 55.39 304 *eP* **P 22 56 08.5 0.0**
comp=Z,15nm,1.2s,mb4.9
AMKA Amchitka 59.55 36 P **P 22 56 40.7 +3.2**
BVAR Borovoye Array 59.89 326 P **P 22 56 39.6 -0.2**
comp=Z,3.6nm,1.0s,mb4.4,baz=116,slow=6.8,SNR=9.8
BRVK Borovoye 59.96 326 *eP* **P 22 56 41.0 +0.7**
TIXI Tiksi 60.37 2 *eP* **P 22 56 41.5 -1.3**
TIXI pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
TIXI MLR MLR
comp=Z,166nm,15.0s,MS4.3
TIXI Tiksi 60.37 2 *eP* **P 22 56 43.9 +1.1**
BILL Bilibino 62.88 16 *eP* **P 22 57 00.0 +0.2**
BILL *eS* **S 23 05 23.5 -5.1**
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.4
BILL MLR MLR
comp=Z,100nm,20.0s,MS4.0
BILL Bilibino 62.88 16 *eP* **P 22 57 01.7 +1.9**
comp=Z,2.6nm,0.6s,mb4.5
SVE Sverdlovsk 66.46 327⇓ *eP* **P 22 57 22.3 -1.0**
SVE *e* 22 59 53.4
SVE *eS* S 23 06 10.4 -2.7
SVE pmax pmax
comp=Z,19nm,1.3s,mb5.0
AKTK Aktyubinsk 66.48 320 P **P 22 57 25.6 +2.0**
AKTO Aktyubinsk 66.48 320 P **P 22 57 25.6 +2.0**
comp=Z,1.6nm,0.9s,mb4.0,baz=80,slow=6.6,SNR=5.7
ARU Arti 67.47 327*d iP* **P 22 57 27.2 -2.5**
ARU *eS* S 23 06 21.8 -3.4
ARU *eSS* SS 23 10 43.3 -2.1
ARU pmax pmax
comp=Z,15nm,2.5s,mb4.6
IMA2 Indian Mountai 76.40 25 *eP* **P 22 58 23.6 +0.4**
KIV Kislovodsk 76.44 313⇑ *eP* **P 22 58 23.6 -0.3**
KIV pmax pmax
comp=Z,10.0nm,1.7s,mb4.5
KIV Kislovodsk 76.44 313 *eP* **P 22 58 24.2 +0.4**
comp=Z,41nm,2.0s,mb5.0
COLA College 78.83 26 *eP* **P 22 58 36.0 -0.8**
OBN Obninsk 79.70 324⇑ *eP* **P 22 58 42.6 +0.9**
OBN *i* 23 01 40.6
OBN *eS* S 23 08 51.0 +7.4
OBN pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
OBN MLR MLR
comp=Z,100nm,16.0s,MS4.2
ANN Anapa 80.14 314 *eP* **P 22 58 45.6 +1.3**
ANN pmax pmax
comp=Z,37nm,1.4s,mb5.1
ARCES ARCESS Array B 82.66 340 P **P 22 58 56.5 -0.7**
comp=Z,2.2nm,0.7s,mb4.3,baz=80,slow=6.7,SNR=7.4
ARCES LR LR 23 36 06.9
comp=Z,97nm,18.7s,MS4.2,baz=241,slow=36
SPITS Spitsbergen Ar 82.69 349 P **P 22 58 56.9 -0.4**
comp=Z,1.6nm,0.6s,mb4.2,baz=15,slow=8.1,SNR=4.1
INK Inuvik 83.95 21 *eP* **P 22 59 04.9 +1.1**
FINES FINESS Array B 84.21 331 P **P 22 59 04.6 -0.7**
comp=Z,1.4nm,0.5s,mb4.4,baz=52,slow=4.5,SNR=12
FINES LR LR 23 41 27.3
comp=Z,155nm,18.4s,MS4.4,baz=105,slow=39
CSS Prodhromos 84.64 304 *eP* **P 22 59 08.0 -0.1**
comp=Z,13nm,0.8s,mb5.1
AKASG Malin Array Be 84.73 321 P **P 22 59 06.2 -1.9**
comp=Z,0.7nm,0.4s,mb4.1,baz=68,slow=4.8,SNR=12
AKASG LR LR 23 41 30.6
comp=Z,108nm,19.5s,MS4.2,baz=325,slow=39
AKBB Malin Array Si 84.73 321 *eP* **P 22 59 07.6 -0.6**
KIEV Kiev 84.74 321 *eP* **P 22 59 07.2 -1.0**
KIEV pmax pmax
comp=Z,11nm,1.1s,mb4.9
KIEV Kiev 84.74 321 *eP* **P 22 59 07.2 -1.0**
comp=Z,12nm,1.1s,mb4.9
KMBO Kilima Mbogo 87.60 268 LR LR 23 36 31.7
comp=Z,138nm,19.1s,MS4.4,baz=95,slow=34
UZH Uzhgorod 89.60 320 *eP* **P 22 59 31.0 -0.8**
UZH *i* pP 22 59 36.8 -0.3
HFS Hagfors 90.38 332 P **P 22 59 35.3 +0.1**
comp=Z,1.8nm,0.8s,mb4.5,baz=100,slow=6.6,SNR=4.4
RES Resolute Bay 90.78 10 *eP* **P 22 59 37.3 +0.5**
NOA NORSAR Array B 91.11 333 P **P 22 59 38.1 -0.5**
comp=Z,1.2nm,0.9s,mb4.2,baz=63,slow=4.7,SNR=3.5
VNDA Vanda 91.15 172 P **P 22 59 37.8 -0.5**
comp=Z,3.0nm,0.9s,mb4.6,baz=320,slow=5.0,SNR=9.4
VNDA LR LR 23 42 07.2
comp=Z,70nm,20.9s,MS4.1,baz=247,slow=36
SBA Scott Base 92.07 172 P **P 22 59 42.9 +0.3**
YKA Yellowknife Ar 93.49 24 *iP* **P 22 59 52.9 +3.3**
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 93.49 24 P **P 22 59 50.1 +0.6**
comp=Z,0.6nm,0.7s,mb4.1,baz=301,slow=4.6,SNR=9.0
CLL Collm 94.30 324 *eP* **P 22 59 48.0 -5.5**
GERES GERESS Array B 94.87 322 P **P 22 59 55.5 -0.7**
comp=Z,0.3nm,0.5s,mb4.0,baz=60,slow=5.9,SNR=3.1
PLCA Paso Flores 147.78 158 PKPbc PKPbc 23 06 17.4 -1.8
comp=Z,2.8nm,0.9s,baz=5.4,slow=3.4,SNR=3.4
LPAZ La Paz 166.69 113 *e*PKIKP PKPdf 23 06 38.7 -1.9

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*IDC **22** 22:48:54.5±1.0, 1123N×12448E, h0km, mb4.0/10, mb1 4.1/10, mb1mx4.0/19, mbtmp4.0/10, MS4.1/2, Ms1 4.1/2, ms1mx3.4/25, Error ellipse: s-maj=69.0km s-min=19.2km az=72.0*
*ISCJB **22** 22:48:55.3±1.1, 1134N±004×12460E±005, h14km±8km, mb4.2/14, MS4.2/2, Error ellipse: s-maj=8.4km s-min=5.8km az=14.0*
ISC 22 22:48:55.0±0.8, 1132N±004×**12456E**±005**, h2**km±6km**, n31,** σ0**72/33, mb4.2/14, MS4.2/2, 2C, Leyte**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.28**	**170**	*eP*	**Pg**	**22 49 01.5**	**+1.1**
BESP	**Borongan**	**0.90**	**72**	*eP*	**Pg**	**22 49 12.7**	**+0.4**
LLP	**Lapu-Lapu**	**1.16**	**210**⇑	*eP*	**Pg**	**22 49 16.2**	**-1.1**
LLP				*i* S	**Sg**	**22 49 32.4**	**+0.1**
CNP	**Catarman**	**1.18**	**5**	*eP*	**Pg**	**22 49 17.2**	**-0.5**
MSLP	**Maasin**	**1.22**	**166**	*eP*	**Pg**	**22 49 19.0**	**+0.6**
TBP	**Tagbilaran**	**1.76**	**203**	*eP*	**Pn**	**22 49 25.9**	**-0.6**
TBP				*eS*	**Sn**	**22 49 50.7**	**+1.2**
SCPH	**Surigao**	**1.78**	**149**	*eP*	**Pn**	**22 49 25.3**	**-1.5**
RCP	**Roxas**	**1.80**	**278**⇑	*eP*	**Pn**	**22 49 26.7**	**-0.3**
RCP				*eS*	**Sn**	**22 49 50.1**	**-0.3**
GUIM	**Jordan**	**2.06**	**250**	*eP*	**Pn**	**22 49 30.8**	**+0.2**
PVCP	**Virac**	**2.29**	**350**	*eP*	**Pn**	**22 49 33.9**	**0.0**
SNPH	**Sibulan**	**2.36**	**214**	*eP*	**Pn**	**22 49 34.3**	**-0.5**
OTRP	**Odiongan**	**2.69**	**293**	*eP*	**Pn**	**22 49 38.9**	**-0.5**
CUYO	**Cuyo Island**	**3.51**	**263**	*eP*	**Pn**	**22 49 51.5**	**+0.9**
KSRS	**Korea Array**	**26.19**	**6**	P	**P**	**22 54 31.5**	**+0.5**
	0.9nm,0.4s,mb3.6,baz=179,slow=9.5,SNR=3.2						
WRA	**Warramunga Arr**	**32.53**	**163**	P	**P**	**22 55 26.8**	**-0.6**
	0.4nm,0.4s,mb3.8,baz=341,slow=9.6,SNR=4.8						
ASAR	**Alice Springs**	**35.95**	**165**	P	**P**	**22 55 56.6**	**-0.6**
	0.9nm,0.6s,mb3.9,baz=347,slow=8.3,SNR=4.6						
JIRN	**Jiri**	**39.45**	**300**	*e*Pn	**P**	**22 56 28.0**	**+1.1**
	15nm,0.5s,mb4.9						
SONM	**Songino Array**	**39.46**	**341**	P	**P**	**22 56 26.7**	**+0.1**
	2.2nm,0.8s,mb3.9,baz=146,slow=6.7,SNR=4.9						
GUN	**Gumba**	**39.79**	**300**	*e*Pn	**P**	**22 56 30.1**	**+0.4**
	26nm,0.9s,mb5.0						
KKN	**Kakani**	**40.27**	**300**	*e*Pn	**P**	**22 56 34.2**	**+0.6**
DMN	**Daman**	**40.36**	**299**	*e*Pn	**P**	**22 56 34.6**	**+0.2**
GKN	**Gorkha**	**40.87**	**300**	*e*Pn	**P**	**22 56 38.0**	**-0.6**
KOLN	**Koldanda**	**41.69**	**299**	*e*Pn	**P**	**22 56 44.7**	**-0.7**
	6.3nm,0.6s,mb4.4						
DANN	**Dangsing**	**41.71**	**300**	*e*Pn	**P**	**22 56 45.2**	**-0.3**
	6.7nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**45.95**	**160**	LR	LR	23 16 25.3	

comp=Z,181nm,18.1s,MS4.1,baz=195,slow=36
MKAR Makanchi Array 50.18 323 P **P 22 57 52.4 +0.3**
1.4nm,0.6s,mb4.2,baz=117,slow=7.9,SNR=8.4
ZALV Zalesovo Beam 52.91 332 P **P 22 58 13.3 +1.0**
0.8nm,0.6s,mb3.9,baz=114,slow=6.5,SNR=2.8
BVAR Borovoye Array 59.85 326 P **P 22 59 02.7 +0.7**
0.7nm,0.7s,mb3.8,baz=104,slow=4.6,SNR=3.4
ARCES ARCESS Array B 82.63 339 P **P 23 01 20.0 +0.5**
3.7nm,1.1s,mb4.3,baz=68,slow=6.7,SNR=3.6
ARCES LR LR 23 45 43.0
comp=Z,125nm,18.5s,MS4.3,baz=242,slow=41
FINES FINESS Array B 84.17 331 P **P 23 01 27.4 -0.2**
0.8nm,0.5s,mb4.1,baz=92,slow=5.7,SNR=4.9
AKASG Malin Array Be 84.69 321 P **P 23 01 28.7 -1.7**
0.8nm,0.5s,mb4.1,baz=67,slow=4.9,SNR=4.9

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*ISCJB **22** 23:15:22.3±0.5, 032N±005×12384E±009, h33km, mb3.9/8, Error ellipse: s-maj=12.6km s-min=7.7km az=179.3*
*NEIC **22** 23:15:30.2±1.4, 027N×12385E, h97km±17km, mb4.0/4, Error ellipse: s-maj=19.2km s-min=6.3km az=63.0*
*IDC **22** 23:15:30.9±4.8, 022N×12371E, h104km±48km, mb3.6/6, mb1 3.7/8, mb1mx3.5/18, mbtmp3.6/8, MS2.7/1, Ms1 2.7/1, ms1mx2.6/25, Error ellipse: s-maj=36.8km s-min=15.7km az=63.0*
ISC 22 23:15:24.4±0.5, 034N±005×**12390E**±009**, h35**km**, n21,** σ0**85/23, mb3.9/8, Minahassa Peninsula, Sulawesi**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**6.74**	**218**	P	**Pn**	**23 17 05.9**	**+5.0**
KAPI				S	**Sn**	**23 18 16.8**	**+0.4**
KAPI				LR	LR	23 20 19.5	
KAPI	**Kappang**	**6.74**	**218**	P	**Pn**	**23 17 05.9**	**+5.0**
	1.2nm,0.3s,baz=176,slow=7.4,SNR=6.0						
KAPI				S	**Sn**	**23 18 16.8**	**+0.4**
	4.3nm,0.3s,baz=170,slow=19,SNR=8.9						
KAPI				LR	LR	23 20 19.5	
	comp=Z,65nm,18.6s,baz=110,slow=44						
KKM	**Kota Kinabalu**	**9.54**	**307**	Pn	**Pn**	**23 17 44.1**	**+4.8**
KAKA	**Kakadu**	**15.49**	**147**	*e*P	**Pn**	**23 19 03.6**	**+3.3**
	10nm,0.5s						
FITZ	**Fitzroy Crossi**	**18.40**	**175**	P	**Pn**	**23 19 36.9**	**0.0**
	0.3nm,0.3s,baz=325,slow=9.0,SNR=5.7						
WRAB	**Tennant Creek**	**22.60**	**154**	*e*P	**P**	**23 20 22.3**	**+0.2**
	1.0nm,0.3s,mb3.7						
WRA	**Warramunga Arr**	**22.60**	**154**	P	**P**	**23 20 22.1**	**0.0**
	2.2nm,0.4s,mb4.0,baz=334,slow=10,SNR=19						
WB2	**Warramunga Arr**	**22.61**	**154**	*e*P	**P**	**23 20 20.4**	**-1.8**
NACB	**Ninganchiao**	**23.80**	**355**	*e*P	**P**	**23 20 34.7**	**+0.6**
YHNB	**Yeheng**	**24.31**	**354**	*e*P	**P**	**23 20 39.8**	**+1.0**
ASAR	**Alice Springs**	**25.76**	**158**	P	**P**	**23 20 52.4**	**+0.4**
	1.0nm,0.4s,mb3.7,baz=346,slow=12,SNR=21						
CTAO	**Charters Tower**	**29.86**	**134**	*e*P	**P**	**23 21 29.4**	**+0.7**
STKA	**Stephens Creek**	**36.15**	**154**	*e*P	**P**	**23 22 23.2**	**-0.3**
	1.4nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**36.15**	**154**	P	**P**	**23 22 23.4**	**-0.1**
	1.9nm,0.4s,mb4.4,baz=342,slow=9.0,SNR=8.5						
HNR	**Honiara**	**37.18**	**106**	P	**P**	**23 22 32.1**	**-0.4**
MJAR	**Matsushiro Arr**	**38.39**	**19**	P	**P**	**23 22 42.5**	**0.0**
	0.4nm,0.3s,mb3.6,baz=189,slow=9.2,SNR=4.4						
SONM	**Songino Array**	**49.70**	**345**	P	**P**	**23 24 13.8**	**+0.9**
	0.3nm,0.5s,mb3.6,baz=157,slow=7.8,SNR=3.0						
MKAR	**Makanchi Array**	**58.80**	**328**	P	**P**	**23 25 18.6**	**-0.6**
MKAR				PcP	PcP	23 26 05.8	-2.8
MKAR	**Makanchi Array**	**58.80**	**328**	P	**P**	**23 25 18.6**	**-0.6**
	1.0nm,0.5s,mb4.1,baz=124,slow=8.7,SNR=17						
MKAR				PcP	PcP	23 26 05.8	-2.7
	0.4nm,0.4s,baz=135,slow=3.9,SNR=9.0						
KURK	**Kurchatov**	**63.14**	**330**	*e*P	**P**	**23 25 47.9**	**-0.7**
BRVK	**Borovoye**	**68.73**	**329**	*e*P	**P**	**23 26 23.1**	**-1.4**
	0.6nm,0.4s,mb3.9						

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*VIE **22** 23:22:00.9±0.6, 4506N×1499E, h8km±3km, mb2.2/1, ML2.6/1, Error ellipse: s-maj=3.6km s-min=2.1km az=165.0*
*ISCJB **22** 23:22:01.2±0.8, 4506N±003×1507E±006, h0km±8km, Error ellipse: s-maj=7.5km s-min=4.4km az=165.3*
*CSEM **22** 23:22:02.0±0.1, 4508N×1495E, h2km, ML2.6/1, Error ellipse: s-maj=2.4km s-min=1.5km az=74.0*
*NEIC **22** 23:22:02.7±0.8, 4510N×1489E, h10km, ML2.8(ZAG), Error ellipse: s-maj=12.8km s-min=7.5km az=73.0*
ISC 22 23:22:01.8±0.7, 4505N±003×**1511E**±006**, h6**km±7km**, n14,** σ0**97/25, 3C-7D, Northwestern Balkan Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.47**	**13**⇓	*i*Pg	**Pg**	**23 22 11.2**	**+0.4**
BOJS				*i* Sg	**Sg**	**23 22 18.0**	**+1.1**
BOJS	**Bojanci**	**0.47**	**13**⇓	*i*Pg	**Pg**	**23 22 11.2**	**+0.4**
BOJS				*i* Sg	**Sg**	**23 22 18.0**	**+1.1**
BOJS							
	comp=Z,42nm,0.1s						
BOJS	**Bojanci**	**0.47**	**13**⇓	*i*Pg	**Pg**	**23 22 11.2**	**+0.4**
BOJS				*i* Sg	**Sg**	**23 22 18.0**	**+1.1**
NVLJ	**Novalja**	**0.51**	**199**	*e*Pg	**Pg**	**23 22 11.9**	**+0.2**
NVLJ				Sg	**Sg**	**23 22 20.2**	**+1.8**
KNDS	**Knezji Dol**	**0.70**	**313**	*i* Pg	**Pg**	**23 22 13.9**	**-1.4**
KNDS							
	comp=Z,37nm,0.2s						
VISS	**Visnje**	**0.78**	**346**	*i* Pg	**Pg**	**23 22 15.9**	**-0.8**
VISS							
	comp=Z,17nm,0.1s						
SKDS	**Skadanscina**	**0.92**	**303**	*i* Pg	**Pg**	**23 22 17.4**	**-2.0**
VOY	**Vojsko**	**1.30**	**319**	*e*Pg	**Pn**	**23 22 25.0**	**-1.5**
VOY				*e*		23 22 27.8	
VOY				*e*Sg	**Sg**	**23 22 44.3**	**+0.7**
VOY				*e*		23 22 46.5	
OBKA	**Obir**	**1.51**	**345**⇓	*i*Pg	**Pn**	**23 22 30.0**	**+0.6**
OBKA				⇑ *i*Sg	**Sg**	**23 22 50.9**	**+0.5**
	comp=Z,15nm,0.2s						
DRE	**Drenchia**	**1.52**	**318**⇓	*e*Pg	**Pn**	**23 22 29.8**	**+0.2**
DRE				*e*Sg	**Sg**	**23 22 51.2**	**+0.4**
COLI	**Coloredo**	**1.63**	**312**⇑	*i*Pg	**Pn**	**23 22 31.7**	**+0.7**
COLI				*i* Sg	**Sg**	**23 22 54.3**	**+0.2**
SOKA	**Soboth**	**1.63**	**358**⇑	*i*Pg	**Pn**	**23 22 32.1**	**+1.0**
SOKA				⇓ *i*Sg	**Sg**	**23 22 53.8**	**-0.4**
	comp=Z,3.3nm,0.3s						
BAD	**Bernadia**	**1.77**	**313**⇓	*i*Pg	**Pn**	**23 22 33.7**	**+0.8**
BAD				*i* Sg	**Sg**	**23 22 57.7**	**-0.9**
STON	**Ston**	**2.87**	**138**	*e*Pn	**Pb**	**23 22 51.7**	**-1.7**
STON				Sn	**Sb**	**23 23 28.6**	**-0.2**

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*IDC **22** 23:41:05.3±1.0, 820S×15691E, h0km, mb4.0/7, mb1 4.1/8, mb1mx4.0/14, mbtmp4.0/8, ML4.3/1, MS3.3/2, Ms1 3.3/2, ms1mx2.9/18, Error ellipse: s-maj=26.1km s-min=24.0km az=147.0*
*NEIC **22** 23:41:06.9±0.5, 822S×15692E, h10km, mb4.3/4, Error ellipse: s-maj=12.9km s-min=11.6km az=154.0*
*ISCJB **22** 23:41:09.2±0.5, 822S±009×15684E±006, h33km, mb4.0/11, Error ellipse: s-maj=13.5km s-min=8.3km az=13.6*
ISC 22 23:41:11.1±0.5, 821S±009×**15683E**±006**, h35**km**, n22,** σ1**07/22, mb4.0/11, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.31**	**112**	Pn	**Pn**	**23 41 57.3**	**-3.1**
HNR				Sn	**Sn**	**23 42 39.3**	**+0.8**
HNR	**Honiara**	**3.31**	**112**	Pn	**Pn**	**23 41 57.3**	**-3.1**
	35nm,0.3s,baz=102,slow=0.9,SNR=6.8						
HNR				Sn	**Sn**	**23 42 39.3**	**+0.8**
	53nm,0.3s,baz=274,slow=18,SNR=13						
CTA	**Charters Tower**	**15.63**	**220**	LR	LR	23 48 32.8	
	comp=Z,56nm,20.6s,baz=51,slow=28						
WRAB	**Tennant Creek**	**24.69**	**239**	*e*P	**P**	**23 46 29.8**	**+0.8**
	2.4nm,0.6s,mb3.9						
WB2	**Warramunga Arr**	**24.69**	**239**	*e*P	**P**	**23 46 29.8**	**+0.8**
WRA	**Warramunga Arr**	**24.70**	**239**	P	**P**	**23 46 29.4**	**+0.3**
	3.8nm,0.9s,mb3.9,baz=66,slow=9.5,SNR=7.3						
WRA				PcP	PcP	23 50 05.3	-0.5
	1.4nm,0.8s,baz=65,slow=2.0,SNR=5.8						
ASAR	**Alice Springs**	**26.80**	**232**	P	**P**	**23 46 47.4**	**-0.8**
	1.3nm,0.9s,mb3.5,baz=61,slow=8.2,SNR=8.9						
STKA	**Stephens Creek**	**27.48**	**209**	P	**P**	**23 46 54.4**	**+0.3**
STKA				LR	LR	23 57 06.2	
STKA	**Stephens Creek**	**27.48**	**209**	P	**P**	**23 46 54.4**	**+0.3**
	2.5nm,0.6s,mb3.9,baz=47,slow=14,SNR=6.2						
STKA				LR	LR	23 57 06.2	

comp=Z,103nm,18.3s,baz=206,slow=35
NWAO Narrogin (SRO) 44.09 230 *eP* **P 23 49 16.1 0.0**
KSM Kuching 47.37 280 *eP* **P 23 49 40.2 -2.0**
YHNB Yeheng 47.57 314 P **P 23 49 44.0 +0.4**
ENH Enshi 59.40 312 P **P 23 51 09.6 -0.7**
SONM Songino Array 71.34 327 P **P 23 52 28.7 +1.4**
0.9nm,1.1s,mb3.6,baz=101,slow=7.5,SNR=2.3
MAW Mawson 83.98 203 P **P 23 53 36.4 -1.1**
MKAR Makanchi Array 85.52 318 P **P 23 53 45.6 +0.1**
1.5nm,0.3s,mb4.6,baz=91,slow=6.7,SNR=49
ZALV Zalesovo Beam 86.20 326 P **P 23 53 48.1 -0.6**
0.2nm,0.3s,mb3.8,baz=142,slow=7.4,SNR=3.8
UCH Uchtor 89.81 313 *eP* **P 23 54 08.8 +2.5**
0.7nm,0.5s,mb4.2
BRVK Borovoye 94.43 323 *eP* **P 23 54 27.1 -0.3**
1.4nm,0.7s,mb4.5
WALA Waterton Lakes 95.65 41 *eP* **P 23 54 33.8 +0.7**
1.7nm,0.5s,mb4.7
YKA Yellowknife Ar 96.56 28 P **P 23 54 35.6 -1.3**
0.4nm,1.0s,mb3.8,baz=268,slow=4.8,SNR=4.2
BOSA Boshof 120.66 230 *e*PKPdf PKPdf 00 00 00.4 +0.4

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*ISCJB **22** 23:42:22.9±0.6, 2427S±004×6705W±007, h185km±8km, mb4.0/7, Error ellipse: s-maj=9.8km s-min=7.0km az=169.1*
*IDC **22** 23:42:23.1±1.5, 2425S×6698W, h166km±14km, mb3.8/5, mb1 3.8/9, mb1mx3.6/18, mbtmp3.6/9, Error ellipse: s-maj=19.3km s-min=13.4km az=88.0*
*GUC **22** 23:42:26.4±0.4, 2440S×6767W, h230km, ML4.5*
*NEIC **22** 23:42:26.4, 2440S×6767W, h230km, mb4.2/4, After GUC.*
ISC 22 23:42:23.7±0.6, 2427S±004×**6703W**±006**, h176**km±7km**, n28,** σ1**9/14/32, mb4.0/7, 3C-1D, Chile-Argentina border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEN1	**Los Morros**	**3.03**	**286**⇓	*i*P	**Pn**	**23 43 14.7**	**+2.1**
CEN1				*i* S	**Sn**	**23 43 51.7**	**+1.2**
CEN1				AML	AML	23 43 53.5	
	comp=N,694nm,0.6s						
CPN1	**Cerro Paranal**	**3.10**	**263**⇑	*i*P	**Pn**	**23 43 14.5**	**+1.2**
CPN1				*i* S	**Sn**	**23 43 51.2**	**-0.7**
CPN1				AML	AML	23 43 53.2	
	comp=E,1μm,0.4s						
ANCH	**Antofagasta**	**3.15**	**280**⇑	*i*P	**Pn**	**23 43 15.2**	**+1.3**
ANCH				*i* S	**Sn**	**23 43 51.9**	**-1.1**
ANCH	**Antofagasta**	**3.15**	**280**⇑	*i*P	**Pn**	**23 43 15.2**	**+1.3**
ANCH				*i* S	**Sn**	**23 43 51.9**	**-1.1**
ANCH				AML	AML	23 43 54.7	
	comp=E,1μm,0.5s						
CPCH	**Copiapo**	**4.30**	**224**	*i* S	**Sn**	**23 44 17.7**	**-1.4**
CFAA	**Coronel Fontan**	**7.39**	**188**	P	**Pn**	**23 44 09.8**	**+1.0**
CFAA				S	**Sn**	**23 45 29.8**	**-2.1**
CFAA	**Coronel Fontan**	**7.39**	**188**	P	**Pn**	**23 44 09.8**	**+1.0**
	comp=E,0.2nm,0.3s,baz=358,slow=11,SNR=18						
CFAA				S	**Sn**	**23 45 29.8**	**-2.1**
	comp=E,0.6nm,0.3s,baz=133,slow=18,SNR=14						
LPAZ	**La Paz**	**8.00**	**352**	P	**Pn**	**23 44 18.0**	**+1.0**
LPAZ				S	**Sn**	**23 45 45.0**	**-1.9**
LPAZ	**La Paz**	**8.00**	**352**	P	**Pn**	**23 44 18.0**	**+1.0**
	comp=E,1.4nm,0.3s,baz=156,slow=10,SNR=41						
LPAZ				S	**Sn**	**23 45 45.0**	**-1.9**
	comp=E,0.8nm,0.3s,baz=309,slow=20,SNR=7.5						
CPUP	**Villa Florida**	**9.01**	**105**	P	**Pn**	**23 44 29.9**	**-0.4**
CPUP	**Villa Florida**	**9.01**	**105**	P	**Pn**	**23 44 29.9**	**-0.3**
	comp=E,0.4nm,0.3s,baz=257,slow=10,SNR=5.3						
SIV	**San Ignacio**	**9.95**	**35**	P	**Pn**	**23 44 41.7**	**-0.9**
	comp=E,0.8nm,0.3s,baz=241,slow=9.7,SNR=13						
TRQA	**Tornquist**	**14.41**	**164**	Pn	**Pn**	**23 45 40.8**	**+1.3**
	comp=E,10nm,0.6s						
NNA	**Nana**	**15.36**	**321**	*e*P	**Pn**	**23 45 50.9**	**-0.5**
	comp=E,3.3nm,0.4s						
BDFB	**Brasilia**	**19.81**	**68**	P	**P**	**23 46 41.5**	**+0.8**
	comp=E,0.6nm,0.3s,baz=231,slow=18,SNR=16						
JTS	**JuntasAbangare**	**38.55**	**331**	P	**P**	**23 49 27.9**	**-1.5**
TEIG	**Tepich**	**48.83**	**333**	*e*P	**P**	**23 50 50.0**	**-1.3**
	comp=E,3.9nm,0.4s,mb4.4						
JCT	**Junction City**	**62.86**	**328**	*e*P	**P**	**23 52 30.5**	**-0.4**
	comp=E,4.9nm,0.8s,mb4.4						
TXAR	**Lajitas Array**	**63.88**	**325**	P	**P**	**23 52 38.8**	**+1.2**
	comp=E,0.9nm,0.8s,mb3.7,baz=152,slow=8.5,SNR=9.3						
TORD	**Torodi Ar. Bea**	**76.69**	**69**	P	**P**	**23 53 55.4**	**-0.3**
	comp=E,1.1nm,0.7s,mb3.6,baz=257,slow=5.7,SNR=16						
ULM	**Lac du Bonnet**	**78.47**	**342**	P	**P**	**23 54 05.3**	**+0.5**
	comp=E,3.7nm,0.5s,mb4.2,baz=146,slow=4.6,SNR=12						
SCHQ	**Schefferville**	**78.77**	**0**	P	**P**	**23 54 06.2**	**-0.1**
SCHQ	**Schefferville**	**78.77**	**0**	P	**P**	**23 54 06.2**	**-0.1**
	comp=E,2.2nm,0.9s,mb3.8,baz=187,slow=8.1,SNR=3.6						
YKA	**Yellowknife Ar**	**94.36**	**340**	P	**P**	**23 55 23.5**	**+0.8**
	comp=E,1.0nm,0.6s,mb4.2,baz=130,slow=4.5,SNR=30						
ASAR	**Alice Springs**	**128.21**	**205**	PKP	PKPdf	00 01 10.2	+0.5
	comp=E,0.2nm,0.4s,baz=195,slow=3.9,SNR=4.8						
WRA	**Warramunga Arr**	**131.38**	**207**	PKP	PKPdf	00 01 17.2	+1.4
	comp=E,0.7nm,0.8s,baz=155,slow=1.7,SNR=2.5						
ZALV	**Zalesovo Beam**	**143.64**	**28**	PKP	PKPdf	00 01 36.4	-0.8
	comp=E,1.6nm,0.5s,baz=302,slow=4.2,SNR=9.8						
MKAR	**Makanchi Array**	**146.74**	**40**	PKPbc	PKPbc	00 01 44.2	-0.5
	comp=E,4.0nm,0.8s,baz=341,slow=2.2,SNR=26						

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*ISCJB **22** 23:44:57.3±0.9, 2971N±004×13125E±008, h44km±10km, mb3.4/4, Error ellipse: s-maj=12.5km s-min=4.8km az=22.5*
*JMA **22** 23:44:57.2±0.1, 2971N×13126E, h49km±4km, M3.1*
*IDC **22** 23:45:00.5±2.5, 2980N×13094E, h42km±20km, mb3.3/4, mb1 3.4/6, mb1mx3.3/21, mbtmp3.4/6, ML3.3/2, Error ellipse: s-maj=40.1km s-min=10.5km az=105.0*
ISC 22 23:44:57.8±1.4, 2972N±003×**13121E**±008**, h28**km±10km**, n18,** σ0**54/30, mb3.4/4, Southeast of Ryukyu Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.95**	**348**	P	**Pn**	**23 45 14.8**	**-0.5**
JTN				*e*S	**Sb**	**23 45 28.1**	**+0.3**
JKC	**Kuchinoerabu**	**1.15**	**310**	P	**Pn**	**23 45 17.8**	**-0.2**
JKC				*e*S	**Sn**	**23 45 33.2**	**+0.4**
**JN

*NEIC **22** 23:49:26.9±0.8, 2977N×13106E, h36km±7km, mb4.4/5, Error ellipse: s-maj=9.1km s-min=6.5km az=108.0*
*IDC **22** 23:49:27.1±4.1, 2982N×13101E, h33km±31km, mb3.7/9, mb1 3.8/13, mb1mx3.7/23, mbtmp3.7/13, ML3.6/4, MS3.3/2, Ms1 3.3/2, ms1mx2.7/33, Error ellipse: s-maj=27.7km s-min=15.0km az=89.0*

ISC 22 23:49:25.4±1.2, 2973N±003×13117E±005, h26km±9km, n45, σ0§69/55, mb4.2/17, Southeast of Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTN	**Tanegashima 3**	**0.94**	**350**	P	**Pn**	**23 49 42.3**	**-0.6**
JTN				S	**Sb**	**23 49 54.6**	**-0.4**
JKC	**Kuchinoerabu**	**1.12**	**311**	P	**Pn**	**23 49 45.4**	**+0.1**
JKC				S	**Sn**	**23 50 01.4**	**+1.5**
JNN	**Nakanoshima**	**1.13**	**276**	P	**Pn**	**23 49 45.9**	**+0.3**
JNN				S	**Sn**	**23 50 00.6**	**+0.3**
JTSR	**Tashiro 2**	**1.45**	**352**	P	**Pn**	**23 49 49.9**	**0.0**
JTSR				S	**Sn**	**23 50 08.3**	**+0.3**
JNAR	**Kushima--Naru**	**1.79**	**3**	P	**Pn**	**23 49 54.8**	**+0.2**
JSU	**Suzuyama**	**1.87**	**341**	P	**Pn**	**23 49 55.6**	**-0.2**
JSU				S	**Sn**	**23 50 19.1**	**+0.5**
JAM	**Amami Oshima**	**1.90**	**227**	P	**Pn**	**23 49 56.7**	**+0.6**
JTZ	**Takazaki**	**2.16**	**358**	P	**Pn**	**23 49 59.7**	**-0.1**
JTZ				S	**Sn**	**23 50 26.1**	**+0.4**
JSJ	**Shimokoshiki**	**2.31**	**328**	P	**Pn**	**23 50 01.3**	**-0.5**
JSJ				S	**Sn**	**23 50 29.5**	**+0.2**
JZO	**Okuchi**	**2.45**	**349**	P	**Pn**	**23 50 03.8**	**+0.1**
JTSN	**Tsuno**	**2.52**	**6**	P	**Pn**	**23 50 04.3**	**-0.4**
JTSN				S	**Sn**	**23 50 35.1**	**+0.5**
JTK	**Tokunoshima**	**2.75**	**226**	P	**Pn**	**23 50 08.5**	**+0.7**
JIU2	**Izumi 2**	**2.82**	**354**	P	**Pn**	**23 50 09.2**	**+0.4**
JNU	**Nakatsue**	**3.39**	**356**	Pn	**Pn**	**23 50 17.1**	**+0.5**
	10nm,0.3s,baz=152,slow=5.7,SNR=29						
JNU				Sn	**Sn**	**23 50 55.7**	**-0.3**
	4.9nm,0.3s,baz=282,slow=8.8,SNR=4.0						
JOW	**Kunigami**	**3.85**	**222**	Pn	**Pn**	**23 50 23.4**	**+0.4**
	9.4nm,0.3s,baz=92,slow=15,SNR=11						
JOW				Sn	**Sn**	**23 51 06.8**	**-0.7**
	2.0nm,0.3s,baz=317,slow=30,SNR=3.5						
KSRS	**Korea Array**	**8.16**	**341**	Pn	**Pn**	**23 51 21.2**	**-1.0**
	0.3nm,0.3s,baz=158,slow=15,SNR=7.7						
INCN	**Inchon**	**8.61**	**335**	Pn	**Pn**	**23 51 27.6**	**-0.6**
MAJO	**Matsushiro**	**8.99**	**39**	*e*Pn	**Pn**	**23 51 34.5**	**+1.0**
MAJO				Sn	**Sn**	**23 53 13.2**	**-0.8**
MJAR	**Matsushiro Arr**	**8.99**	**39**	Pn	**Pn**	**23 51 34.5**	**+0.9**
	0.9nm,0.3s,baz=241,slow=14,SNR=6.2						
BJT	**Baijiatuau**	**16.01**	**314**	P	**Pn**	**23 53 07.8**	**-0.9**
QIZ	**Qiongzhong**	**22.12**	**246**	*e*P	**P**	**23 54 18.4**	**-0.6**
	3.6nm,0.6s,mb4.0						
SONM	**Songino Array**	**26.27**	**320**	P	**P**	**23 54 58.0**	**-0.5**
	2.4nm,0.7s,mb3.9,baz=134,slow=9.7,SNR=13						
PET	**Petropavlovsk**	**30.76**	**33**	P	**P**	**23 55 38.6**	**+0.2**
YAK	**Yakutsk**	**32.32**	**359**	*e*P	**P**	**23 55 51.0**	**-1.0**
	16nm,0.4s,mb5.2						
ZALV	**Zalesovo Beam**	**41.16**	**319**	LR	LR	00 15 37.5	
	comp=Z,36nm,18.5s,baz=46,slow=38						
MKAR	**Makanchi Array**	**41.28**	**308**	P	**P**	**23 57 08.7**	**+0.3**
	0.6nm,0.6s,mb3.4,baz=89,slow=12,SNR=2.3						
MKAR				PcP	PcP	23 59 07.3	+0.6
	0.6nm,0.8s,baz=81,slow=2.4,SNR=3.4						
KURK	**Kurchatov**	**44.18**	**314**	P	**P**	**23 57 31.2**	**-0.7**
UCH	**Uchtor**	**46.73**	**302**	*e*P	**P**	**23 57 52.0**	**-0.2**
	2.8nm,0.8s,mb4.2						
WRAB	**Tennant Creek**	**49.47**	**176**	P	**P**	**23 58 13.6**	**+0.1**
WRAB				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.4						
WRAB	**Tennant Creek**	**49.47**	**176**	P	**P**	**23 58 13.6**	**+0.1**
	comp=Z,3.5nm,1.0s,mb4.3						
WRA	**Warramunga Arr**	**49.48**	**176**	P	**P**	**23 58 13.9**	**+0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=355,slow=8.3,SNR=4.6						
BRVK	**Borovoye**	**49.55**	**316**	*e*P	**P**	**23 58 13.4**	**-0.4**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
BRVK	**Borovoye**	**49.55**	**316**	*e*P	**P**	**23 58 13.3**	**-0.5**
	comp=Z,4.5nm,0.6s,mb4.7						
ASAR	**Alice Springs**	**53.16**	**177**	P	**P**	**23 58 43.5**	**+2.4**
	comp=Z,0.6nm,0.5s,mb3.8,baz=9.3,slow=14,SNR=12						
NWAO	**Narrogin (SRO)**	**63.70**	**193**	P	**P**	**23 59 52.7**	**-1.8**
INK	**Inuvik**	**64.65**	**24**	*e*P	**P**	**00 00 01.1**	**+0.7**
	comp=Z,99nm,1.3s						
ARCES	**ARCESS Array B**	**67.71**	**339**	P	**P**	**00 00 19.3**	**-0.7**
	comp=Z,1.5nm,0.6s,mb4.2,baz=58,slow=9.1,SNR=12						
MIB	**Mutribah**	**71.02**	**294**	*e*P	**P**	**00 00 41.4**	**+0.2**
MIB				AMb	AMB	00 00 42.3	
	comp=Z,10nm,0.6s,mb4.9						
FINES	**FINESS Array B**	**71.10**	**331**	P	**P**	**00 00 40.3**	**-0.8**
	comp=Z,0.8nm,0.4s,mb4.0,baz=77,slow=6.5,SNR=11						
RDF	**Al-Radifah**	**71.21**	**293**	*e*P	**P**	**00 00 42.6**	**+0.3**
RDF				AMb	AMB	00 00 43.3	
	comp=Z,15nm,0.5s,mb5.2						
NAY	**Al-Naaiem**	**71.32**	**293**	*e*P	**P**	**00 00 43.1**	**+0.1**
NAY				AMb	AMB	00 00 44.0	
	comp=Z,5.9nm,0.6s,mb4.7						
YKA	**Yellowknife Ar**	**74.26**	**26**	P	**P**	**00 01 00.8**	**+1.0**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**74.26**	**26**	P	**P**	**00 01 00.8**	**+1.0**
	comp=Z,0.5nm,0.7s,mb3.5,baz=302,slow=5.7,SNR=9.2						
AKASG	**Malin Array Be**	**74.56**	**320**	P	**P**	**00 01 02.0**	**+0.2**
	comp=Z,1.9nm,0.6s,mb4.2,baz=56,slow=5.5,SNR=5.9						
NOA	**NORSAR Array B**	**77.31**	**334**	P	**P**	**00 01 16.1**	**-1.2**
	comp=Z,0.7nm,0.7s,mb3.7,baz=49,slow=5.8,SNR=2.7						

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*CSEM **23** 00:00:06.5±1.7, 3543N×2757E, h8km, MD3.1, Error ellipse: s-maj=46.5km s-min=15.8km az=143.0*
*ISCJB **23** 00:00:07.3±2.3, 357N±0.1×274E±0.2, h2km±19km, Error ellipse: s-maj=30.0km s-min=9.0km az=35.1*
*ATH **23** 00:00:07.9, 3569N×2738E, h10km, MD3.1/3*

ISC 23 00:00:05.2±4.3, 355N±02×276E±02, h2km±25km, n6, σ1§49/8, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.37**	**282**	*e*PG	**Pg**	**00 00 12.5**	**+0.1**
ARG	**Arkhangelos**	**0.85**	**29**	*e*PB	**Pb**	**00 00 23.3**	**+0.6**
BDRM	**Kayabasi**	**1.60**	**355**	*i* P	**Pn**	**00 00 34.7**	**+0.3**
BDRM				*i* S	**Sg**	**00 00 59.3**	**+2.8**
NPS	**Neapolis**	**1.65**	**263**	*e*PB	**Pb**	**00 00 35.8**	**-0.4**
AYDN	**Tasoluk**	**2.20**	**6**	*i* P	**Pn**	**00 00 42.2**	**-0.4**
AYDN	**Tasoluk**	**2.20**	**6**	*i* P	**Pn**	**00 00 42.2**	**-0.4**
AYDN				*i* S	**Sg**	**00 01 14.2**	**-1.6**

IDC 23 00:07:26.1±3.1, 2868S×17776W, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.7/12, mbtmp3.7/3, Error ellipse: s-maj=111.0km s-min=45.8km az=17.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**35.10**	**255**	P	P	00 14 21.9	+0.7
	1.3nm,0.6s,baz=120,slow=18,SNR=3.6						
ASAR	**Alice Springs**	**43.44**	**265**	P	P	00 15 30.6	-0.3
	0.8nm,0.5s,baz=103,slow=6.9,SNR=13						
WRA	**Warramunga Arr**	**44.27**	**270**	P	P	00 15 37.3	-0.4
	0.5nm,0.5s,baz=110,slow=8.2,SNR=6.6						
FINES	**FINESS Array B**	**143.60**	**341**	PKP	PKPdf	00 27 02.2	0.0
	1.0nm,0.3s,baz=44,slow=3.1,SNR=23						
TORD	**Torodi Ar. Bea**	**164.54**	**178**	PKPab	PKPab	00 28 26.6	-0.5
	0.3nm,0.6s,baz=179,slow=1.7,SNR=5.3						

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*MAN **23** 00:09:32, 778N×127.32E, h27km, mb4.6, ML3.5, MS3.4*
*IDC **23** 00:09:32.1±2.5, 773N×12622E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/19, mbtmp3.7/5, Error ellipse: s-maj=186.6km s-min=22.1km az=74.0*
*ISCJB **23** 00:09:34.0±1.0, 776N±007×1272E±0.1, h33km, mb3.8/5, Error ellipse: s-maj=14.6km s-min=10.2km az=1.9*

ISC 23 00:09:31.3±4.5, 78N±01×1272E±02, h2km±26km, n9, σ1§64/12, mb3.8/5, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.20**	**227**	*e*P	**Pg**	**00 09 55.0**	**+0.6**
MATI				*e*S	**Sg**	**00 10 07.9**	**-2.2**
BUKP	**Musuan**	**2.07**	**273**	*e*P	**Pn**	**00 10 09.0**	**+1.9**
SCPH	**Surigao**	**2.59**	**321**	*e*P	**Pn**	**00 10 14.7**	**+0.5**
SCPH				*e*S	**Sn**	**00 10 40.6**	**-5.6**
TBP	**Tagbilaran**	**3.77**	**301**	*e*P	**Pn**	**00 10 32.0**	**+1.5**
TBP				*e*S	**Sn**	**00 11 17.9**	**+2.5**
FITZ	**Fitzroy Crossi**	**25.75**	**183**	P	**P**	**00 15 03.6**	**+0.2**
	1.2nm,0.5s,mb3.7,baz=352,slow=7.3,SNR=7.1						
ASAR	**Alice Springs**	**31.93**	**168**	P	**P**	**00 16 01.7**	**+3.2**
	0.3nm,0.4s,mb3.5,baz=346,slow=7.2,SNR=3.3						
MKAR	**Makanchi Array**	**54.54**	**323**	P	**P**	**00 18 58.7**	**-2.0**
	0.6nm,0.6s,mb3.8,baz=123,slow=8.5,SNR=7.9						
ZALV	**Zalesovo Beam**	**57.23**	**332**	P	**P**	**00 19 17.9**	**-1.9**
	0.4nm,0.4s,mb3.8,baz=116,slow=6.6,SNR=3.1						
FINES	**FINESS Array B**	**88.50**	**332**	P	**P**	**00 22 24.0**	**-1.1**
	0.9nm,0.8s,mb4.0,baz=91,slow=7.6,SNR=3.8						

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*CSEM **23** 00:28:59.8±0.7, 3518N×2782E, h10km, MD3.7, Error ellipse: s-maj=16.7km s-min=8.3km az=138.0*
*ATH **23** 00:29:00.1, 3519N×2776E, h20km±2km, MD3.6/8*
*NEIC **23** 00:29:00.1, 3519N×2776E, h20km, MD3.7(ATH), After ATH.*
*ISCJB **23** 00:29:02.2±2.1, 353N±0.1×2775E±0.10, h22km±13km, Error ellipse: s-maj=19.2km s-min=11.2km az=150.1*

ISC 23 00:29:02.2±2.2, 3531N±008×2777E±010, h14km±10km, n15, σ0§89/20, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.55**	**296**	*e*PB	**Pg**	**00 29 11.5**	**-1.5**
KARP				*e*SN	**Sg**	**00 29 21.1**	**+0.8**
ARG	**Arkhangelos**	**0.95**	**18**	*e*PN	**Pn**	**00 29 20.5**	**-0.5**
XRY	**Khrisi**	**1.75**	**256**	*e*PN	**Pn**	**00 29 31.0**	**-1.1**
NPS	**Neapolis**	**1.76**	**269**	*e*PN	**Pn**	**00 29 32.0**	**-0.2**
BDRM	**Kayabasi**	**1.77**	**352**	*i* P	**Pn**	**00 29 31.9**	**-0.4**
BDRM	**Kayabasi**	**1.77**	**352**	*i* P	**Pn**	**00 29 32.0**	**-0.3**
BDRM				*i* S	**Sg**	**00 29 59.2**	**+0.1**
SANT	**Santorini**	**2.15**	**300**	*e*Pn	**Pn**	**00 29 37.8**	**+0.2**
SANT				*e*Sn	**Sn**	**00 30 02.7**	**-1.4**
SANT	**Santorini**	**2.15**	**300**	*e*Pn	**Pn**	**00 29 37.8**	**+0.2**
SANT				*e*Sn	**Sn**	**00 30 02.7**	**-1.3**
AYDN	**Tasoluk**	**2.35**	**2**	*i* P	**Pn**	**00 29 40.1**	**-0.2**
AYDN	**Tasoluk**	**2.35**	**2**	*i* P	**Pn**	**00 29 40.1**	**-0.1**
AYDN				*i* S	**Sg**	**00 30 13.3**	**-4.3**
SMG	**Samos**	**2.51**	**343**	*e*PN	**Pn**	**00 29 43.7**	**+1.2**
APE	**Apeiranthos**	**2.52**	**315**	*e*PN	**Pn**	**00 29 43.1**	**+0.5**
VAM	**Vamos**	**2.92**	**273**	*e*PB	**Pn**	**00 29 49.4**	**+1.3**
VLI	**Veliai**	**4.16**	**291**	*e*PN	**Pn**	**00 30 05.1**	**-0.1**
ITM	**Ithomi**	**5.08**	**293**	*e*PN	**Pn**	**00 30 19.1**	**+1.3**

IDC 23 00:36:40.2±5.9, 2089S×16837E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.9/12, mbtmp3.9/3, MS3.5/2, Ms1 3.5/2, ms1mx2.9/19, 1C-1D, Error ellipse: s-maj=207.2km s-min=43.0km az=145.0, Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**20.74**	**268**	LR	LR	00 47 27.8	
	comp=Z,100nm,19.7s,baz=225,slow=31						
STKA	**Stephens Creek**	**26.30**	**240**	LR	LR	00 51 43.5	
	comp=Z,164nm,20.1s,baz=192,slow=34						
WRA	**Warramunga Arr**	**31.88**	**266**	P	P	00 43 07.8	+0.5
	0.5nm,0.6s,baz=102,slow=7.3,SNR=2.6						
ASAR	**Alice Springs**	**31.97**	**259**	P	P	00 43 07.8	-0.3
	2.8nm,0.6s,baz=82,slow=9.2,SNR=32						
SONM	**Songino Array**	**88.05**	**323**	P	P	00 49 31.7	-0.5
	1.0nm,0.8s,baz=108,slow=2.1,SNR=6.5						
DPC	**Dobruska-Polom**	**143.26**	**330**	*e*P	PKPdf	00 56 13.0	-3.2
DPC				*ex*	x	00 56 24.4	
PVCC	**Panska Ves**	**143.94**	**331**	*e*P	PKPdf	00 56 19.8	+2.4
PVCC				*ex*	x	00 56 26.1	
CLL	**Collm**	**144.04**	**334**	⇑*i*PKPbc	PKPdf	00 56 15.2	-2.4
	comp=Z,4.0nm,0.7s						
CLL				⇓*i*PKPab	PKPdf	00 56 26.0	+8.4
	comp=Z,3.0nm,0.7s						
PRU	**Pruhonice**	**144.33**	**331**	*e*P	PKPdf	00 56 16.6	-1.5
PRU				*ex*	x	00 56 27.7	
NKC	**Novy Kostel**	**145.08**	**333**	*e*P	PKPbc	00 56 19.1	+0.3
NKC				*ex*	x	00 56 30.1	
MOX	**Moxa**	**145.12**	**334**	*e*P	PKPbc	00 56 19.5	+0.6
KHC	**Kasperske Hory**	**145.38**	**331**	*e*P	PKPbc	00 56 20.0	+0.2
KHC				*ex*	x	00 56 31.5	
GERES	**GERESS Array B**	**145.53**	**330**	PKPbc	PKPbc	00 56 20.3	0.0
	comp=Z,3.9nm,0.8s,baz=40,slow=2.7,SNR=36						

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*ISCJB **23** 00:48:39.7±0.5, 3947N±003×2061E±005, h13km±7km, Error ellipse: s-maj=6.4km s-min=4.8km az=5.7*
*ATH **23** 00:48:39.1, 3966N×2076E, h38km±3km, MD3.2/4*
*NEIC **23** 00:48:39.1, 3966N×2076E, h38km, MD3.2(ATH), After ATH.*
*CSEM **23** 00:48:40.5±0.1, 3945N×2064E, h2km, ML2.6, Error ellipse: s-maj=3.4km s-min=3.0km az=118.0*
*THE **23** 00:48:40.6, 3945N×2059E, h3km, ML2.6*

ISC 23 00:48:39.9±0.6, 3949N±003×2058E±005, h18km±6km, n11, σ0§88/19, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IGT	**Igoumenitsa**	**0.20**	**282**	*e*Pg	**Pg**	**00 48 44.8**	**-0.1**
IGT				*e*Sg	**Sg**	**00 48 48.4**	**+0.3**
JAN	**Janina**	**0.27**	**52**	*e*PB	**Pg**	**00 48 45.3**	**-0.6**
JAN				*e*SB	**Sg**	**00 48 50.2**	**+0.2**
MEV	**Metsovon**	**0.58**	**60**	*e*Pg	**Pg**	**00 48 51.1**	**-0.4**
KEK	**Kerkira**	**0.64**	**290**	*e*PN	**Pn**	**00 48 54.1**	**0.0**
LKD	**Levkas**	**0.79**	**176**	*e*Pg	**Pg**	**00 48 54.4**	**-1.0**
LKD				*e*Sg	**Sg**	**00 49 06.7**	**+1.0**
LKD	**Levkas**	**0.79**	**176**	*e*Pg	**Pg**	**00 48 54.3**	**-1.0**
LKD				*e*Sg	**Sg**	**00 49 06.7**	**+1.0**
EVR	**Evrytania**	**1.11**	**121**	*e*PN	**Pn**	**00 49 00.3**	**-0.3**
VLS	**Valsamata**	**1.31**	**180**	*e*Pg	**Pg**	**00 49 04.4**	**-0.9**
VLS				*e*Sg	**Sg**	**00 49 22.7**	**+0.2**
VLS	**Valsamata**	**1.31**	**180**	*e*Pb	**Pb**	**00 49 05.1**	**+1.1**
VLS				*e*Sg	**Sg**	**00 49 22.7**	**+0.3**
FNA	**Florina**	**1.43**	**25**	*e*Pg	**Pg**	**00 49 07.5**	**+0.1**
FNA				*e*Sg	**Sg**	**00 49 29.4**	**+3.3**
AGG	**Agios Georgios**	**1.44**	**109**	*e*Pg	**Pg**	**00 49 05.8**	**-1.9**
AGG				*e*Sg	**Sg**	**00 49 27.6**	**+1.2**

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*ISCJB **23** 01:01:01.0±0.5, 1690S±006×7073W±006, h131km±5km, mb3.8/13, Error ellipse: s-maj=10.7km s-min=7.8km az=44.7*
*NEIC **23** 01:01:02.1±0.7, 1691S×7066W, h125km±7km, mb4.0/7, Error ellipse: s-maj=14.2km s-min=9.8km az=222.0*
*IDC **23** 01:01:02.9±1.0, 1689S×7065W, h128km±6km, mb3.6/8, mb1 3.9/10, mb1mx3.7/19, mbtmp3.7/10, Error ellipse: s-maj=23.8km s-min=12.0km az=2.0*

ISC 23 01:01:02.2±0.5, 1691S±006×7073W±006, h124km±4km, n27, σ1§07/29, mb3.9/13, 1C-1D, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.85**	**301**	⇑*i*P	**Pn**	**01 01 22.6**	**-0.7**
ARE				*i* S	**Sn**	**01 01 39.1**	**-0.1**
LPAZ	**La Paz**	**2.57**	**76**	⇓*i*Pn	**Pn**	**01 01 44.8**	**+1.8**
LPAZ				*e*Sn	**Sn**	**01 02 14.5**	**0.0**
LPAZ	**La Paz**	**2.57**	**76**	P	**Pn**	**01 01 44.8**	**+1.7**
	20nm,0.3s,baz=262,slow=12,SNR=465						
LPAZ				S	**Sn**	**01 02 15.5**	**+1.1**
	5.3nm,0.3s,baz=175,slow=25,SNR=7.4						
LVC	**Limon Verde**	**5.93**	**163**	*e*Pn	**Pn**	**01 02 27.4**	**-0.2**
	20nm,0.4s						
LVC				*e*Sn	**Sn**	**01 03 34.5**	**+0.2**
NNA	**Nana**	**7.68**	**309**	*e*Pn	**Pn**	**01 02 53.1**	**+1.7**
NNA	**Nana**	**7.68**	**309**	P	**Pn**	**01 02 49.6**	**-1.9**
	1.1nm,0.3s,baz=157,slow=13,SNR=2.7						
SIV	**San Ignacio**	**9.31**	**86**	P	**Pn**	**01 03 11.2**	**-2.3**
	3.8nm,0.3s,baz=269,slow=12,SNR=42						
BDFB	**Brasilia**	**21.84**	**90**	P	**P**	**01 05 48.6**	**+3.7**
	1.7nm,0.8s,mb3.4						
PLCA	**Paso Flores**	**23.74**	**180**	*e*P	**P**	**01 06 04.7**	**+1.8**
	10nm,1.2s,mb4.0						
PLCA	**Paso Flores**	**23.74**	**180**	P	**P**	**01 06 03.9**	**+1.0**
	7.6nm,1.2s,mb3.9,baz=342,slow=8.6,SNR=5.3						
SDV	**Santo Domingo**	**25.63**	**0**	*e*P	**P**	**01 06 20.2**	**-0.1**
	1.4nm,0.4s,mb3.7						
TXAR	**Lajitas Array**	**55.90**	**325**	P	**P**	**01 10 27.1**	**-0.1**
	0.1nm,0.6s,mb3.0,baz=190,slow=6.4,SNR=2.8						
SIUC	**Southern Illin**	**57.05**	**343**	*e*P	**P**	**01 10 34.9**	**-0.3**
	11nm,0.7s,mb5.0						
WMOK	**Wichita Mounta**	**57.87**	**333**	P	**P**	**01 10 40.2**	**-0.8**
ACSO	**Alum Creek Sta**	**57.98**	**349**	P	**P**	**01 10 40.8**	**-0.9**
SDCO	**Great Sand Dun**	**63.44**	**330**	*e*P	**P**	**01 11 20.2**	**+1.4**
	0.8nm,0.5s,mb3.9						
DBIC	**Dimbokro**	**69.19**	**76**	P	**P**	**01 11 54.6**	**-1.3**
	2.8nm,0.8s,mb4.2,baz=167,slow=3.5,SNR=4.5						
ULM	**Lac du Bonnet**	**70.45**	**343**	P	**P**	**01 12 02.4**	**-0.4**
	3.5nm,0.5s,mb4.4,baz=142,slow=6.0,SNR=8.4						
NVAR	**Mina Array Bea**	**70.83**	**322**	P	**P**	**01 12 07.4**	**+2.0**
	0.5nm,0.5s,mb3.6,baz=113,slow=6.9,SNR=2.9						
WALA	**Waterton Lakes**	**76.03**	**332**	P	**P**	**01 12 36.2**	**+0.6**
TORD	**Torodi Ar. Bea**	**77.51**	**72**	P	**P**	**01 12 44.1**	**-0.6**
	4.9nm,0.7s,mb4.3,baz=261,slow=4.9,SNR=31						
TORD				pP	pP	01 13 16.9	+0.9
	1.5nm,0.7s,baz=253,slow=5.0,SNR=3.7						
VNDA	**Vanda**	**81.05**	**190**	*e*P	**P**	**01 13 02.3**	**-0.6**
	0.7nm,0.6s,mb3.7						
SUR	**Sutherland**	**82.40**	**121**	P	**P**	**01 13 09.5**	**-1.3**
ESDC	**Sonseca Array**	**83.82**	**46**	P	**P**	**01 13 18.7**	**+0.9**
	1.0nm,0.7s,mb3.8,baz=252,slow=5.3,SNR=6.8						
YKA	**Yellowknife Ar**	**86.31**	**341**	P	**P**	**01 13 30.3**	**+0.6**
	0.3nm,0.4s,mb3.5,baz=135,slow=5.1,SNR=10.0						
YKA				pP	pP	01 14 02.0	+0.5
	0.1nm,0.4s,baz=138,slow=5.2,SNR=2.4						
MKAR	**Makanchi Array**	**142.77**	**31**	PKP	PKPdf	01 20 18.5	-2.4
	0.3nm,0.6s,baz=270,slow=2.9,SNR=2.9						
SONM	**Songino Array**	**149.07**	**4**	PKPbc	PKPbc	01 20 37.2	+1.4
	0.5nm,0.5s,baz=12,slow=2.8,SNR=5.0						
SONM				pPKPbc	pPKPbc	01 21 09.7	+0.7
	0.8nm,0.7s,baz=338,slow=3.2,SNR=4.0						

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*NEIC **23** 01:04:19.7, 1702N×10104W, h5km, MD4.0(MEX), After MEX.*

MEX 23 01:04:19.7±0.7, 1701N×10104W, h5km±12km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.74**	**87**	*i* P	Pg	01 04 32.4	-1.5
CAIG				*i* S	Sg	01 04 43.0	-0.5
CAIG	**El Cayaco**	**0.74**	**87**	*i* P	Pg	01 04 32.6	-1.3
CAIG				*i* S	Sg	01 04 43.0	-0.5
ACX	**Acapulco**	**1.08**	**98**	*i* P	Pg	01 04 37.9	-2.6
ACX				*i* S	Sg	01 04 51.4	-3.2
MEIG	**Mezcala**	**1.63**	**56**	*i* P	Pn	01 04 45.0	-4.0
MEIG				*i* S	Sn	01 05 05.5	-4.8
PLIG	**Platanillo**	**2.00**	**47**	*i* P	Pn	01 04 52.0	-2.2
PLIG				*i* S	Sn	01 05 15.6	-4.0
MMIG	**Aquila**	**2.54**	**300**	*i* P	Pn	01 04 58.4	-3.1
MMIG				*i* S	Sn	01 05 28.6	-4.3
MOIG	**Morelia**	**2.65**	**357**	*i* P	Pn	01 05 00.5	-2.6
MOIG				*i* S	Sn	01 05 31.5	-4.2
MZVM		**2.76**	**38**	*i* P	Pn	01 05 00.3	-4.4
PPM	**Popocatepetl**	**3.07**	**48**	*i* P	Pn	01 05 09.9	+1.0
PPM				*i* S	Sn	01 05 42.3	-3.7
PPM	**Popocatepetl**	**3.07**	**48**	*i* P	Pn	01 05 05.5	-3.3
PPM				*e*P		01 05 08.5	
PPM				*i* S	Sn	01 05 42.3	-3.7
UTMO	**Huajuapan**	**3.19**	**75**	*e*P	Pn	01 05 07.9	-2.6
UTMO				*i* S	Sn	01 05 45.2	-3.8

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*BJI **23** 01:19:14.4, 720S×15520E, h30km, mb4.3*
*ISCJB **23** 01:19:15.2±2.9, 722S±008×15521E±008, h33km±26km, mb4.7/29, MS3.7/10, Error ellipse: s-maj=14.7km s-min=11.5km az=36.5*
*NEIC **23** 01:19:17.5±1.3, 721S×155.18E, h39km±12km, mb4.6/14, Error ellipse: s-maj=8.2km s-min=6.2km az=138.0*
*IDC **23** 01:19:22.5±3.2, 724S×15509E, h84km±28km, mb4.2/11, mb1 4.3/13, mb1mx4.3/15, mbtmp4.2/13, MS3.7/11, Ms1 3.7/11, ms1mx3.4/27, Error ellipse: s-maj=22.0km s-min=16.9km az=108.0*

ISC 23 01:19:17.3±2.5, 723S±008×15521E±008, h35km±23km, n62, σ0§76/52, mb4.7/29, MS3.7/10, 2D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.18**	**115**	Pn	**Pn**	**01 20 32.9**	**+0.6**
HNR				LR	LR	01 22 33.0	
HNR	**Honiara**	**5.18**	**115**	P	**Pn**	**01 20 39.8**	**+7.5**
	11nm,0.3s,baz=267,slow=11,SNR=3.0						
HNR				LR	LR	01 22 33.0	
	comp=Z,2μm,20.0s,baz=357,slow=36						
CTA	**Charters Tower**	**15.45**	**213**	⇓*i*P	**Pn**	**01 22 58.8**	**+6.1**
	8.9nm,0.7s						
CTA

COLA	**College**	**83.22**	**21**	*e*P	**P**	**01 31 38.2**	**-1.4**
MK31	**Makanchi Array**	**83.72**	**319**	*e*P	**P**	**01 31 43.5**	**+0.9**
MKAR	**Makanchi Array**	**83.72**	**319**	P	**P**	**01 31 42.6**	**0.0**
	comp=Z,2.3nm,0.9s,mb4.3,baz=97,slow=6.2,SNR=12						
MKAR				LR	LR	02 05 12.1	
	comp=Z,41nm,20.0s,MS3.8,baz=160,slow=33						
MAW	**Mawson**	**84.26**	**203**	*e*P	**P**	**01 31 44.1**	**-1.0**
	comp=Z,5.0nm,0.7s,mb4.8						
MAW	**Mawson**	**84.26**	**203**	P	**P**	**01 31 44.5**	**-0.6**
	comp=Z,7.4nm,0.8s,mb4.8,baz=111,slow=4.4,SNR=8.1						
ZALV	**Zalesovo Beam**	**84.49**	**326**	P	**P**	**01 31 46.5**	**+0.2**
	comp=Z,1.5nm,0.6s,mb4.3,baz=117,slow=5.2,SNR=6.3						
ZALV				LR	LR	02 09 57.0	
	comp=Z,21nm,19.7s,MS3.5,baz=30,slow=36						
EGAK	**Eagle**	**85.65**	**23**	*e*P	**P**	**01 31 51.6**	**-0.3**
	comp=Z,3.2nm,0.8s,mb4.6						
UCH	**Uchtor**	**87.97**	**313**	P	**P**	**01 32 04.4**	**+0.6**
INK	**Inuvik**	**89.86**	**21**	*e*P	**P**	**01 32 11.6**	**-0.5**
	comp=Z,129nm,1.0s						
NVAR	**Mina Array Bea**	**91.70**	**52**	P	**P**	**01 32 20.9**	**-0.5**
	comp=Z,0.5nm,0.6s,mb4.1,baz=65,slow=37,SNR=2.8						
SYO	**Syowa Base**	**92.17**	**199**	‖*e*P	**P**	**01 32 26.6**	**+3.7**
BRVK	**Borovoye**	**92.67**	**323**	P	**P**	**01 32 25.6**	**+0.1**
NEW	**Newport**	**93.79**	**42**	LR	LR	02 15 25.5	
	comp=Z,49nm,18.1s,MS4.0,baz=217,slow=36						
YKA	**Yellowknife Ar**	**96.44**	**28**	P	**P**	**01 32 41.6**	**-1.0**
	comp=Z,1.7nm,1.0s,mb4.4,baz=264,slow=4.6,SNR=14						
YKA				LR	LR	02 14 17.7	
	comp=Z,22nm,18.1s,MS3.7,baz=130,slow=34						
LPAZ	**La Paz**	**131.16**	**119**	PKP	PKPdf	01 38 26.8	+0.2
	comp=Z,1.1nm,0.7s,baz=16,slow=2.4,SNR=5.7						
CPUP	**Villa Florida**	**134.07**	**138**	PKP	PKPdf	01 38 31.1	-0.7
	comp=Z,0.6nm,0.5s,baz=300,slow=4.2,SNR=3.5						
BDFB	**Brasilia**	**147.67**	**135**	PKPbc	PKPbc	01 38 57.2	-1.9
	comp=Z,6.7nm,0.9s,baz=39,slow=4.5,SNR=13						
MDT	**Midelt**	**148.38**	**326**	PKPbc	PKPbc	01 39 00.6	0.0
	comp=Z,3.9nm,1.0s,baz=232,slow=3.1,SNR=3.0						
TORD	**Torodi Ar. Bea**	**153.29**	**285**	PKPbc	PKPbc	01 39 11.1	-1.6
	comp=Z,1.9nm,0.9s,baz=29,slow=2.6,SNR=7.2						

*IDC **23** 01:23:31.3±3.8, 1809S×17840W, h567km±46km, mb3.8/10, mb1 4.0/10, mb1mx3.7/17, mbtmp3.8/10, Error ellipse: s-maj=28.6km s-min=17.8km az=164.0*
*ISCJB **23** 01:23:33.0±0.4, 180S±0.1×17865W±009, h600km, mb4.3/19, Error ellipse: s-maj=16.4km s-min=8.9km az=148.6*
*NEIC **23** 01:23:35.4±2.6, 1784S×17868W, h611km±31km, mb4.3/12, Error ellipse: s-maj=14.5km s-min=11.0km az=133.0*
ISC 23 01:23:34.3±0.4, 179S±01×17861W±009, h600km, n41, σ0s82/36, mb4.3/19, 5D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**20.60**	**190**	P	**P**	**01 27 29.6**	**-3.7**
	5.1nm,0.3s,baz=216,slow=5.1,SNR=6.6						
URZ				S	**S**	**01 30 33.7**	**-12**
	11nm,0.3s,baz=345,slow=6.2,SNR=26						
CTA	**Charters Tower**	**33.25**	**261**	‖*i*P	**P**	**01 29 24.3**	**+0.5**
	8.3nm,0.6s,mb4.5						
CTA	**Charters Tower**	**33.25**	**261**	P	**P**	**01 29 23.8**	**0.0**
	13nm,0.6s,mb4.7,baz=93,slow=12,SNR=15						
CTAO	**Charters Tower**	**33.25**	**261**	*e*P	**P**	**01 29 24.2**	**+0.4**
	11nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**38.45**	**241**	‖*i*P	**P**	**01 30 07.5**	**+1.1**
	18nm,1.0s,mb4.6						
STKA	**Stephens Creek**	**38.45**	**241**	P	**P**	**01 30 07.5**	**+1.1**
	12nm,0.5s,mb4.7,baz=81,slow=8.2,SNR=26						
WB2	**Warramunga Arr**	**44.43**	**260**	‖*i*P	**P**	**01 30 53.2**	**-0.4**
WRAB	**Tennant Creek**	**44.43**	**260**	*e*P	**P**	**01 30 53.4**	**-0.2**
	5.7nm,0.4s,mb4.5						
WRA	**Warramunga Arr**	**44.44**	**260**	P	**P**	**01 30 53.4**	**-0.3**
	12nm,0.7s,mb4.6,baz=95,slow=6.7,SNR=77						
ASAR	**Alice Springs**	**44.60**	**254**	P	**P**	**01 30 55.3**	**+0.5**
	62nm,0.7s,mb5.3,baz=87,slow=8.6,SNR=397						
ASAR				PcP	PcP	01 32 24.4	0.0
	1.8nm,0.5s,baz=84,slow=4.2,SNR=4.1						
KAKA	**Kakadu**	**47.39**	**269**	‖*i*P	**P**	**01 31 16.1**	**0.0**
	10nm,0.3s,mb4.8						
FORT	**Forrest**	**49.82**	**245**	‖*i*P	**P**	**01 31 33.4**	**-0.4**
	34nm,0.7s,mb4.9						
FITZ	**Fitzroy Crossi**	**52.84**	**261**	*e*P	**P**	**01 31 56.2**	**+0.6**
	7.0nm,1.1s,mb3.9						
MBWA	**Marble Bar**	**57.88**	**256**	*e*P	**P**	**01 32 30.4**	**-0.1**
KLBR	**Kellerberrin**	**58.65**	**244**	*e*P	**P**	**01 32 35.2**	**-0.3**
	30nm,0.9s,mb4.4						
SBA	**Scott Base**	**60.38**	**184**	*e*P	**P**	**01 32 47.5**	**+1.3**
	2.9nm,0.7s,mb3.6						
VNDA	**Vanda**	**60.41**	**185**	*e*P	**P**	**01 32 46.9**	**+0.5**
	3.2nm,1.1s,mb3.5						
CASY	**Casey**	**66.04**	**205**	P	**P**	**01 33 22.4**	**0.0**
CMB	**Columbia Colle**	**77.99**	**43**	*e*P	**P**	**01 34 31.6**	**-0.3**
	2.2nm,0.8s,mb3.6						
YBH	**Yreka Blue Hor**	**78.66**	**39**	P	**P**	**01 34 35.9**	**+0.5**
	3.4nm,0.8s,mb3.7,baz=157,slow=13,SNR=6.5						
NVAR	**Mina Array Bea**	**79.57**	**44**	P	**P**	**01 34 40.1**	**-0.2**
	2.6nm,0.8s,mb3.6,baz=224,slow=8.1,SNR=7.7						
WVOR	**Wild Horse Val**	**81.55**	**40**	*e*P	**P**	**01 34 50.7**	**+0.3**
	3.2nm,0.8s,mb3.9						
CCUT	**Cedar City**	**82.47**	**47**	*e*P	**P**	**01 34 55.3**	**+0.2**
MAW	**Mawson**	**83.77**	**200**	P	**P**	**01 35 00.7**	**-0.4**
MAW	**Mawson**	**83.77**	**200**	P	**P**	**01 35 01.1**	**0.0**
	2.2nm,0.4s,mb4.1,baz=126,slow=6.2,SNR=5.1						
NEW	**Newport**	**85.64**	**36**	*e*P	**P**	**01 35 10.8**	**+0.4**
TXAR	**Lajitas Array**	**86.17**	**58**	P	**P**	**01 35 14.0**	**+0.6**
	3.8nm,0.8s,mb4.0,baz=222,slow=6.0,SNR=38						
WALA	**Waterton Lakes**	**87.87**	**37**	P	**P**	**01 35 22.0**	**+1.2**
VNA2	**Neumayer--Watz**	**91.17**	**177**	*e*	**P**	**01 35 34.9**	**-1.0**
	baz=198,slow=5.0						
VNA2				*e*		01 35 37.9	
VNA1	**Neumayer--Stat**	**91.39**	**177**	*e*	**P**	**01 35 34.7**	**-2.2**
VNA1				*e*		01 35 37.7	
PLCA	**Paso Flores**	**91.45**	**134**	P	**P**	**01 35 39.5**	**+1.7**
INK	**Inuvik**	**91.96**	**15**	*e*P	**P**	**01 35 38.5**	**-0.8**
	50nm,0.8s,mb5.6						
YKA	**Yellowknife Ar**	**94.43**	**25**	P	**P**	**01 35 49.3**	**-1.5**
YKA	**Yellowknife Ar**	**94.43**	**25**	P	**P**	**01 35 49.3**	**-1.5**
	0.3nm,0.6s,mb3.6,baz=238,slow=4.6,SNR=5.4						
JTS	**JuntasAbangare**	**96.55**	**81**	*e*P	**P**	**01 36 00.6**	**-0.9**
MKAR	**Makanchi Array**	**109.01**	**314**	PKiKP	PKiKP	01 40 54.9	-1.7
	0.2nm,0.3s,baz=66,slow=3.5,SNR=2.4						
KURK	**Kurchatov**	**111.71**	**318**	PKiKP	PKiKP	01 41 02.9	+1.3
SJG	**San Juan**	**116.13**	**78**	PKPdf	PKPdf	01 41 12.2	+1.2
ASF	**Jabal al Asfar**	**145.02**	**301**	PKPbc	PKPbc	01 42 06.0	+0.4
	1.6nm,0.6s,baz=92,slow=1.8,SNR=3.9						
MMAI	**Mount Meron Ar**	**145.99**	**303**	PKPbc	PKPbc	01 42 08.7	+0.4
	1.6nm,0.5s,baz=77,slow=7.2,SNR=10						
GERES	**GERESS Array B**	**147.58**	**345**	PKPbc	PKPbc	01 42 12.2	+0.1
	0.4nm,0.5s,baz=28,slow=2.3,SNR=4.6						

*CSEM **23** 01:49:14.1±0.5, 3866N×2912W, h8km±3km, ML3.1, Error ellipse: s-maj=4.3km s-min=3.2km az=32.0, After PDA*
PDA 23 01:49:14.1±0.5, 3866N×2912W, h8km±3km, MD3.5, ML3.1, Error ellipse: s-maj=4.3km s-min=3.2km az=32.0, Azores Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCED	**Cedros**	**0.33**	**96**	*i* P	Pg	01 49 19.9	-0.6
PCED				*e*S	Sg	01 49 24.4	-0.5
PCED				A		01 49 25.8	
	948nm,0.3s						
PCED	**Cedros**	**0.33**	**96**	*e*S	Sg	01 49 24.4	-0.5
CALA	**Caldeira**	**0.34**	**104**	*e*P	Pg	01 49 20.0	-0.7
CALA				*e*S	Sg	01 49 24.5	-0.7
HOR	**Horta**	**0.41**	**110**	*e*P	Pg	01 49 20.9	-1.1
HOR				*e*S	Sg	01 49 26.2	-1.2
PICO	**Pico**	**0.57**	**106**	*e*P	Pg	01 49 23.8	-1.2
PICO				*e*S	Sg	01 49 30.7	-1.8
ROSA	**Rosais**	**0.69**	**85**	*e*P	Pg	01 49 25.4	-2.0
ROSA				*e*S	Sg	01 49 33.5	-2.8
PMAN	**Manadas**	**0.81**	**92**	*e*P	Pg	01 49 26.8	-2.8
PMAN				*e*S	Sg	01 49 36.6	-3.5
PMAN				A		01 49 37.4	
	356nm,0.3s						
PMAN	**Manadas**	**0.81**	**92**	*e*P	Pg	01 49 26.8	-2.8
PMAN				*e*S	Sg	01 49 36.6	-3.5
SRBC	**Serra Branca**	**0.92**	**66**	*e*P	Pg	01 49 28.4	-3.4
SRBC				*e*S	Sg	01 49 39.1	-4.6
PSBA	**Serra de Santa**	**1.41**	**85**	*e*P	Pn	01 49 35.2	-4.8
PSBA				*e*S	Sb	01 49 51.0	-7.6
PSBA				A		01 49 55.3	
	92nm,0.4s						
PSBA	**Serra de Santa**	**1.41**	**85**	*e*P	Pn	01 49 35.2	-4.8
PSBA				*e*S	Sb	01 49 51.0	-7.6

*ISCJB **23** 01:59:36.3±0.7, 3839N±004×3907E±004, h0km±8km, Error ellipse: s-maj=6.5km s-min=5.2km az=172.6*
*CSEM **23** 01:59:36.1±0.1, 3837N×3903E, h6km±1km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.7km az=173.0*
*ISK **23** 01:59:36.0, 3838N×3902E, h4km, MD2.9*
*DDA **23** 01:59:37.8, 3843N×3907E, h7km±6km, Md2.9*
ISC 23 01:59:37.0±0.5, 3840N±004×3905E±004, h6km±5km, n13, σ0s97/18, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ELZG	**Elazig**	**0.11**	**331**	*i* P	**Pg**	**01 59 40.0**	**+0.7**
ELZG				*i* S	**Sg**	**01 59 41.8**	**+0.9**
SVRC	**Sivrice-ELAZID**	**0.20**	**97**	PG	**Pg**	**01 59 41.2**	**+0.3**
MALT	**Malatya**	**0.50**	**260**	PG	**Pg**	**01 59 45.4**	**-1.1**
MALT				*e*SG	**Sg**	**01 59 52.8**	**-0.3**
MYA	**Malataya**	**0.50**	**261**	PG	**Pg**	**01 59 46.1**	**-0.5**
PTK	**Pertek**	**0.56**	**29**	*e*PG	**Pg**	**01 59 48.0**	**+0.3**
URFA	**Urfa**	**0.98**	**191**	*e*PG	**Pg**	**01 59 54.5**	**-1.2**
DIY	**Diyarbakir**	**1.06**	**118**	*e*PG	**Pg**	**01 59 57.0**	**-0.2**
ATAB	**Bozova**	**1.11**	**213**	*i* P	**Pg**	**01 59 58.6**	**+0.4**
ATAB				*i* S	**Sg**	**02 00 13.3**	**+0.7**
EZC	**Erzincan**	**1.47**	**24**	*e*PN	**Pn**	**02 00 02.9**	**-1.1**
GZT	**Gaziantep**	**1.57**	**229**	*i* P	**Pn**	**02 00 03.8**	**-1.7**
GZT				*i* S	**Sn**	**02 00 28.1**	**+2.0**
MARD	**Mardin**	**1.75**	**128**	*i* P	**Pn**	**02 00 08.2**	**+0.4**
MARD				*i* S	**Sn**	**02 00 31.8**	**+1.4**
BTMT	**Batman**	**1.93**	**96**	*e*PN	**Pn**	**02 00 08.9**	**-1.4**
SVSK	**Karacayir**	**2.20**	**314**	*e*PN	**Pn**	**02 00 14.6**	**+0.6**

*ISCJB **23** 02:08:19.9±0.4, 2637N±007×12496E±005, h205km±6km, mb3.5/9, Error ellipse: s-maj=12.6km s-min=4.2km az=148.2*
*JMA **23** 02:08:21.7±0.4, 2652N×12479E, h178km, M4.0*
*IDC **23** 02:08:21.3±2.2, 2651N×12508E, h204km±24km, mb3.4/7, mb1 3.5/8, mb1mx3.4/20, mbtmp3.4/8, Error ellipse: s-maj=33.7km s-min=14.0km az=63.0*
*NEIC **23** 02:08:22.2±0.7, 2649N×12504E, h214km±7km, mb3.7/2, Error ellipse: s-maj=11.8km s-min=10.1km az=46.0*
ISC 23 02:08:20.9±0.4, 2639N±007×12494E±005, h197km±6km, n30, σ1s11/49, mb3.5/9, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMJ	**Miyako jima 2**	**1.60**	**168**	P	**Pn**	**02 08 56.8**	**+1.5**
JMJ				S	**Sn**	**02 09 22.2**	**+0.2**
JKE	**Kume jima 2**	**1.66**	**92**	P	**Pn**	**02 08 56.9**	**+1.1**
JKE				*e*S	**Sn**	**02 09 23.3**	**+0.5**
JOGS	**Gusukube**	**1.68**	**165**	P	**Pn**	**02 08 57.7**	**+1.7**
JOGS				S	**Sn**	**02 09 23.8**	**+0.5**
JTJ	**Tarama**	**1.75**	**187**	P	**Pn**	**02 08 57.6**	**+0.8**
JTJ				S	**Sn**	**02 09 23.7**	**-0.9**
JAGN	**Aguni-jima**	**2.08**	**84**	P	**Pn**	**02 09 01.1**	**+1.1**
JAGN				S	**Sn**	**02 09 30.1**	**-0.2**
JIJ	**Ishigaki jima**	**2.14**	**200**	P	**Pn**	**02 09 00.7**	**0.0**
JIJ				*e*S	**Sn**	**02 09 29.2**	**-2.5**
JKRS	**Kuro-shima**	**2.30**	**202**	P	**Pn**	**02 09 02.6**	**+0.2**
JKRS				*e*S	**Sn**	**02 09 32.7**	**-2.1**
IRIF	**Iriomote-Funau**	**2.32**	**208**	P	**Pn**	**02 09 02.5**	**-0.1**
IRIF				*e*S	**Sn**	**02 09 33.8**	**-1.3**
NAH1	**Naha**	**2.48**	**94**	P	**Pn**	**02 09 05.8**	**+1.5**
NAH1				*e*S	**Sn**	**02 09 38.1**	**-0.1**
JJT2	**Tamagusuku 2**	**2.54**	**95**	P	**Pn**	**02 09 06.8**	**+1.8**
JJT2				*e*S	**Sn**	**02 09 39.5**	**+0.2**
HATJ	**Hateruma jima**	**2.54**	**204**	P	**Pn**	**02 09 04.4**	**-0.7**
HATJ				*e*S	**Sn**	**02 09 37.0**	**-2.5**
YOJ	**Yonaguni jima**	**2.59**	**223**	P	**Pn**	**02 09 06.4**	**+0.7**
YOJ				*e*S	**Sn**	**02 09 40.7**	**+0.2**
JIH	**Iheya**	**2.79**	**76**	P	**Pn**	**02 09 08.9**	**+1.1**
JIH				*e*S	**Sn**	**02 09 42.9**	**-1.6**
JOW	**Kunigami**	**3.02**	**81**	P	**Pn**	**02 09 11.5**	**+0.9**
JOW				*e*S	**Sn**	**02 09 47.4**	**-2.0**
JOW	**Kunigami**	**3.02**	**81**	P	**Pn**	**02 09 11.4**	**+0.9**
	60nm,0.3s,baz=190,slow=12,SNR=119						
JOW				S	**Sn**	**02 09 47.5**	**-1.9**
	167nm,0.3s,baz=125,slow=19,SNR=23						
YHNB	**Yeheng**	**3.65**	**243**	*e*Pn	**Pn**	**02 09 21.9**	**+3.8**
YHNB				*e*Sn	**Sn**	**02 10 05.0**	**+1.9**
JTK	**Tokunoshima**	**3.84**	**68**	P	**Pn**	**02 09 20.6**	**+0.1**
JTK				*e*S	**Sn**	**02 10 05.5**	**-1.8**
JAM	**Amami Oshima**	**4.61**	**63**	P	**Pn**	**02 09 30.2**	**0.0**
JAM				S	**Sn**	**02 10 21.3**	**-3.5**
JMZ	**Minamidaito 2**	**5.68**	**94**	P	**Pn**	**02 09 44.5**	**+0.6**
JMZ				*e*S	**Sn**	**02 10 45.0**	**-4.5**
KSRS	**Korea Array**	**11.32**	**12**	P	**Pn**	**02 11 00.8**	**+3.8**
	0.4nm,0.3s,baz=204,slow=17,SNR=3.3						
ULN	**Ulaanbaatar**	**25.63**	**331**	*e*P	**P**	**02 13 31.5**	**-0.5**
	1.1nm,0.5s,mb3.7						
SONM	**Songino Array**	**25.89**	**331**	P	**P**	**02 13 34.7**	**+0.3**
	0.6nm,0.3s,mb3.7,baz=133,slow=9.8,SNR=4.5						
MK31	**Makanchi Array**	**39.24**	**313**	*e*P	**P**	**02 15 30.2**	**+0.2**
MKAR	**Makanchi Array**	**39.24**	**313**	P	**P**	**02 15 29.6**	**-0.4**
	1.1nm,0.5s,mb3.7,baz=99,slow=11,SNR=17						
ZALV	**Zalesovo Beam**	**40.36**	**324**	P	**P**	**02 15 38.4**	**-0.7**
	2.4nm,0.5s,mb3.9,baz=115,slow=8.4,SNR=9.8						
KURK	**Kurchatov**	**42.69**	**317**	*e*P	**P**	**02 15 57.3**	**-0.8**
	1.4nm,0.5s,mb3.6						
WRA	**Warramunga Arr**	**46.95**	**168**	P	**P**	**02 16 31.8**	**-0.2**
	1.1nm,0.4s,mb3.6,baz=348,slow=8.7,SNR=6.0						
ASAR	**Alice Springs**	**50.51**	**169**	P	**P**	**02 17 00.0**	**+1.0**
	0.5nm,0.5s,mb3.2,baz=356,slow=13,SNR=7.0						
FINES	**FINESS Array B**	**71.26**	**330**	P	**P**	**02 19 17.5**	**-0.8**
	0.9nm,0.7s,mb3.5,baz=72,slow=6.2,SNR=4.0						
YKA	**Yellowknife Ar**	**79.61**	**24**	P	**P**	**02 20 04.9**	**-0.8**
	0.3nm,0.7s,mb3.0,baz=309,slow=5.1,SNR=6.8						

MAN 23 02:28:08, 1147N×12470E, h37km, mb4.1, ML2.9, MS2.6, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.41**	**138**	*e*P	Pn	02 28 20.0	+2.5
PLP				*e*S	Sn	02 28 27.4	+3.4
LLP	**Lapu-Lapu**	**1.35**	**212**	↑*e*P	Pn	02 28 31.8	+1.3
LLP				*e*S	Sn	02 28 48.4	+1.2
TBP	**Tagbilaran**	**1.95**	**205**	*e*P	Pn	02 28 40.0	+1.3
TBP				*e*S	Sn	02 29 04.4	+2.5

*BJI **23** 03:06:50.1, 2402N×10861W, h7km, mB5.5, mb5.0, Ms4.7, Msz4.3*
*IDC **23** 03:06:51.7±0.6, 2396N×10902W, h0km, mb4.1/13, mb1 4.2/14, mb1mx4.1/22, mbtmp4.0/14, ML3.0/1, MS3.9/19, Ms1 3.9/19, ms1mx3.8/34, Error ellipse: s-maj=18.8km s-min=10.5km az=17.0*
*ISCJB **23** 03:06:53.0±0.3, 2398N±003×10865W±003, h10km, mb4.5/36, MS4.0/18, Error ellipse: s-maj=5.6km s-min=3.1km az=35.2*
*NEIC **23** 03:06:53.9±0.4, 2385N×10876W, h10km, mb4.4/53, Error ellipse: s-maj=7.1km s-min=4.3km az=55.0*
*MEX **23** 03:06:55.5±1.6, 2430N×10905W, h20km±619km, MD5.0*
ISC 23 03:06:54.4±0.4, 2391N±004×10869W±003, h10km, n312, σ0s87/301, mb4.5/37, MS4.0/18, 78C-84D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.49**	**278**	Pg	**Pg**	**03 07 14.1**	**-9.0**
	359nm,0.3s,baz=106,slow=3.8,SNR=129						
LPIG				LR	LR	03 07 28.0	
	comp=Z,3μm,20.8s,baz=0.3,slow=31						
LPIG				Lg		03 07 29.6	
	1μm,0.3s,baz=84,slow=22,SNR=30						
LPIG	**La Paz**	**1.49**	**278**	*i* P	**Pn**	**03 07 14.1**	**-7.3**
LPIG				*i* S	**Sn**	**03 07 26.8**	**-14**
HPIG		**4.07**	**42**	*i* P	**Pn**	**03 07 53.1**	**-3.6**
HPIG				*i* S	**Sn**	**03 08 41.4**	**-3.0**
ANIG	**Ahuacatlan**	**4.79**	**126**	*i* P	**Pn**	**03 08 06.6**	**-0.1**
ANIG				*i* S	**Sn**	**03 09 01.9**	**-0.4**
HSIG		**5.47**	**339**	*i* P	**Pn**	**03 08 07.9**	**-8.2**
HSIG				*e*S	**Sn**	**03 09 13.0**	**-6.2**
SFJM	**Santa Fe**	**6.25**	**122**	*e*P	**Pn**	**03 08 34.0**	**+7.3**
CGIG		**6.46**	**5**	*i* P	**Pn**	**03 08 25.2**	**-4.4**
CGIG				*i* S	**Sn**	**03 09 33.0**	**-10**
TXAR	**Lajitas Array**	**7.02**	**39**	Pn	**Pn**	**03 08 34.9**	**-2.5**
TXAR				Sn	**Sn**	**03 09 56.4**	**-0.9**
TXAR				Lg		03 10 36.8	
TXAR				LR	LR	03 11 03.6	
TXAR	**Lajitas Array**	**7.02**	**39**	Pn	**Pn**	**03 08 34.9**	**-2.5**
	0.8nm,0.3s,baz=205,slow=14,SNR=39						
TXAR				Sn	**Sn**	**03 09 56.4**	**-0.9**
	baz=231,slow=24,SNR=2.8						
TXAR				Lg		03 10 36.8	
	1.6nm,0.3s,baz=230,slow=33,SNR=5.2						
TXAR				LR	LR	03 11 03.6	
	comp=Z,486nm,19.8s,baz=0.0,slow=35						
319A	**Douglas**	**7.45**	**356**	⇑P	**Pn**	**03 08 40.5**	**-2.7**
	baz=7.5,SNR=7.6						
318A	**Bisbee**	**7.59**	**352**	⇓P	**Pn**	**03 08 42.7**	**-2.4**
	baz=7.7,SNR=17						
217A	**Green Valley**	**8.05**	**347**	⇓P	**Pn**	**03 08 49.5**	**-2.0**
	baz=8.1,SNR=6.6						
219A	**White Tail Can**	**8.07**	**357**	⇑P	**Pn**	**03 08 49.5**	**-2.3**
	baz=8.2						
218A	**Dragoon**	**8.12**	**352**	⇑P	**Pn**	**03 08 50.7**	**-1.7**
	baz=8.2						
MNTX	**Cornudas Mount**	**8.29**	**20**	*e*Pn	**Pn**	**03 08 51.9**	**-2.8**
	11nm,0.6s						
216A	**Three Points,**	**8.42**	**344**	⇓P	**Pn**	**03 08 55.0**	**-1.5**
	baz=8.5						
LNIG	**Linares**	**8.46**	**81**	*i* P	**Pn**	**03 08 59.1**	**+1.9**
LNIG				*i* S	**Sn**	**03 10 34.4**	**+1.6**
TUC	**Tucson**	**8.57**	**348**	*e*Pn	**Pn**	**03 08 55.6**	**-3.0**
	10nm,1.0s						
118A	**Homack Ranch,**	**8.77**	**353**	⇓P	**Pn**	**03 08 59.7**	**-1.6**
	baz=8.8,SNR=13						
117A	**Oracle**	**8.81**	**349**	⇓P	**Pn**	**03 09 00.6**	**-1.3**
	baz=8.9,SNR=15						
119A	**Ashpeak Ranch,**	**8.84**	**357**	⇑P	**Pn**	**03 09 01.7**	**-0.6**
	baz=8.9						
116A	**Eloy**	**9.02**	**344**	⇑P	**Pn**	**03 09 04.0**	**-0.7**
	baz=9.1						
Z18A	**Geronimo**	**9.21**	**353**	⇑P	**Pn**	**03 09 06.8**	**-0.7**
	baz=9.3						
Z17A	**San Carlos Hig**	**9.48**	**351**	⇑P	**Pn**	**03 09 10.2**	**-0.9**
	baz=9.6						
Z16A	**Peralta Trail,**	**9.70**	**346**	⇓P	**Pn**	**03 09 13.1**	**-0.9**
	baz=9.8						
113A	**Mohawk Valley,**	**9.89**	**334**	⇑P	**Pn**	**03 09 15.9**	**-0.8**
	baz=9.9						
Y18A	**Canyon Day Jun**	**9.90**	**353**	⇓P	**Pn**	**03 09 16.4**	**-0.4**
	baz=10.0,SNR=7.4						
Y17A	**Roosevelt**	**9.93**	**350**	⇓P	**Pn**	**03 09 16.8**	**-0.4**
	baz=10.0						
Y19A	**Nutrioso**	**10.02**	**357**	⇑P	**Pn**	**03 09 18.1**	**-0.3**
	baz=10						
Y16A	**Circle Bar Ran**	**10.23**	**347**	⇓P	**Pn**	**03 09 20.8**	**-0.5**
	baz=10,SNR=5.5						
JCT	**Junction City**	**10.26**	**48**	*e*Pn	**Pn**	**03 09 22.5**	**+0.7**
	8.1nm,0.7s						
LENM	**Lemitar**	**10.33**	**8**	*e*Pn	**Pn**	**03 09 18.7**	**-3.9**
BNM	**Barren Site**	**10.36**	**10**	*e*Pn	**Pn**	**03 09 24.0**	**+0.9**
X19A	**St. Johns**	**10.49**	**357**	⇓P	**Pn**	**03 09 24.8**	**-0.1**
	baz=11						
Y15A	**Casa Rosa Ranc**	**10.50**	**343**	⇓P	**Pn**	**03 09 24.8**	**-0.2**
	baz=11						
PPM	**Popocatepetl**	**10.53**	**115**	*i* P	**Pn**	**03 09 29.3**	**+3.7**
LAZ	**Ladron**	**10.54**	**7**	*e*Pn	**Pn**	**03 09 26.6**	**+1.0**
GLA	**Glamis**	**10.58**	**331**	⇑P	**Pn**	**03 09 25.7**	**-0.5**
	baz=11						
X18A	**Snowflake**	**10.64**	**354**	⇓P	**Pn**	**03 09 27.2**	**+0.3**
	baz=11,SNR=6.9						
Y14A	**Wickenburg**	**10.68**	**340**	⇓P	**Pn**	**03 09 27.3**	**-0.1**
	baz=11,SNR=8.8						
X16A	**Lo Mia Camp, P**	**10.74**	**348**	⇑P	**Pn**	**03 09 28.3**	**0.0**
	baz=11,SNR=7.8						
X15A	**Humboldt**	**10.98**	**344**	⇓P	**Pn**	**03 09 31.8**	**+0.1**
	baz=11						
Y12C	**Blythe**	**11.05**	**334**	⇓P	**Pn**	**03 09 32.6**	**0.0**
	baz=11,SNR=6.4						
X14A	**Yava**	**11.14**	**342**	⇑P	**Pn**

T11A Corn Creek, Al 14.42 339 ⇑P Pn 03 10 19.2 +0.6
baz=14,SNR=18
PV10 Paradox Valley 14.42 359 ePn Pn 03 10 19.1 +0.5
TPNV Topopah Spring 14.53 335 ⇓P Pn 03 10 21.0 +0.9
baz=15
S12A Delamar Landin 14.64 340 ⇑P Pn 03 10 22.4 +0.8
baz=15,SNR=18
MSU Marysvale 14.86 349 ePn Pn 03 10 25.1 +0.6
VES Vestal, Richgr 14.90 325 ⇑P Pn 03 10 25.3 +0.1
baz=15,SNR=8.2
S11A Rachel 14.96 338 ⇓P Pn 03 10 26.9 +0.9
baz=15
GRAC Grapevine Rang 15.03 332 ⇓P Pn 03 10 27.3 +0.4
baz=15
R12A Pony Springs, 15.23 342 ⇑P Pn 03 10 30.4 +0.8
baz=15,SNR=9.1
SRU San Rafael 15.23 355 ePn Pn 03 10 30.3 +0.7
6.3nm,1.0s
SMCO Snowmass 15.29 5 ePn Pn 03 10 31.4 +1.1
19nm,1.0s
TMUT Trail Mountain 15.49 353 ePn Pn 03 10 32.9 0.0
S10A Tonopah Range, 15.52 336 ⇑P Pn 03 10 33.5 +0.2
baz=16,SNR=6.9
HELL Mitchell Peak 15.53 327 ⇓P Pn 03 10 33.7 +0.2
baz=16,SNR=12
R11A Troy Canyon, C 15.55 339 ⇑P Pn 03 10 34.0 +0.3
baz=16
S09A Goldfield 15.59 334 ⇓P Pn 03 10 34.8 +0.6
baz=16,SNR=20
Q13A Wheeler Ranch, 15.67 344 P Pn 03 10 36.1 +0.9
baz=16,SNR=19
R10A Warm Springs 15.73 337 ⇑P Pn 03 10 37.0 +0.9
baz=16
S08C White Mtn Res 15.79 331 ⇓P Pn 03 10 37.7 +0.8
baz=16,SNR=14
MTUM Tungsten Hills 15.85 330 ePn Pn 03 10 38.4 +0.7
TPH Tonopah 15.89 335 ePn Pn 03 10 38.8 +0.7
23nm,1.1s
Q12A Willow Creek R 15.96 342 P Pn 03 10 39.9 +0.9
baz=16,SNR=17
R09A Tonopah 15.97 335 ⇑P Pn 03 10 39.4 +0.2
baz=16,SNR=8.4
Q11A Duckwater 16.02 340 ⇑P Pn 03 10 40.2 +0.4
baz=16,SNR=11
ISCO Idaho Springs 16.05 9 ePn Pn 03 10 42.4 +2.1
25nm,1.1s
T06C Millerton Lake 16.12 327 ⇑P Pn 03 10 41.4 +0.2
baz=16,SNR=11
P13A Bates Ranch, G 16.14 345 P Pn 03 10 41.8 +0.4
baz=16,SNR=11
KCC Kaiser Creek 16.18 328 ⇓P Pn 03 10 42.4 +0.5
baz=16
MPU Maple Canyon 16.25 352 ePn Pn 03 10 43.8 +1.1
32nm,1.4s
Q10A Clear Creek Ra 16.25 338 ⇓P Pn 03 10 43.2 +0.5
baz=16,SNR=7.1
NLU North Lily Min 16.25 351 ePn Pn 03 10 41.6 -1.2
P12A McGill 16.38 343 ⇓P Pn 03 10 45.2 +0.7
baz=16
Q09A Carvers 16.54 336 ⇑P Pn 03 10 46.7 +0.3
baz=17
DAU Daniels Canyon 16.59 353 ePn Pn 03 10 47.1 0.0
DUG Dugway 16.60 349 ePn Pn 03 10 47.4 +0.1
39nm,1.6s
DUG Dugway 16.60 349 ⇑P Pn 03 10 47.9 +0.6
baz=17,SNR=6.3
JLU Jordanelle 16.80 353 ePn Pn 03 10 49.6 -0.2
Q08A Gabbs 16.85 334 ⇑P Pn 03 10 50.7 +0.3
baz=17
S06C San Francisco 16.88 328 ⇓P Pn 03 10 50.8 0.0
baz=17
MIAR Mount Ida 16.90 48 ePn Pn 03 10 51.9 +0.8
9.3nm,1.0s
CTU Camp Tracy 16.93 352 ePn Pn 03 10 51.3 -0.1
7.8nm,1.0s
CTU e 03 10 58.1
O12A Currie 17.09 344 ⇓P Pn 03 10 53.5 +0.1
baz=17,SNR=7.2
O11A Cowboy Ranch, 17.20 342 ⇑P Pn 03 10 54.9 +0.1
baz=17
CMB Columbia Colle 17.26 327 ⇑P Pn 03 10 55.7 +0.1
baz=17
N14A Grayback Hills 17.31 348 ⇓P Pn 03 10 56.5 +0.3
baz=17
BGU Big Grassy Mou 17.35 349 ePn Pn 03 10 56.8 +0.1
N13A Wendover, West 17.52 346 ⇑P Pn 03 10 59.1 +0.3
baz=18
O10A Cortez Mining, 17.61 340 ⇓P Pn 03 11 00.2 +0.4
baz=18,SNR=9.4
N12A Clover Valley, 17.71 344 ⇑P Pn 03 11 01.7 +0.5
baz=18
O09A Fish Creek Ran 17.72 338 ⇑P Pn 03 11 02.2 +0.9
baz=18
RWWY Rawlins 17.77 4 eP Pn 03 11 03.2 +1.3
18nm,1.1s
HWUT Hardware Ranch 17.81 353 eP Pn 03 11 02.5 +0.1
15nm,1.1s
M14A Sheep Mountain 17.97 349 P Pn 03 11 04.5 +0.2
baz=18,SNR=13
WCN Washoe City 17.98 331 ⇓P Pn 03 11 04.7 +0.2
baz=18
M13A Montello 17.99 347 P Pn 03 11 04.7 +0.1
baz=18,SNR=9.8
HVU Hansel Valley 18.14 350 eP Pn 03 11 06.8 +0.3
17nm,1.1s
PAHR Pah Rah Range 18.16 333 eP Pn 03 11 07.0 +0.4
18nm,1.4s
M12A Wells 18.21 345 P Pn 03 11 07.5 +0.1
baz=18,SNR=10
O07A Toulon 18.34 334 ⇑P Pn 03 11 09.1 +0.3
baz=18
N09A Rock Creek Ran 18.45 338 ⇓P Pn 03 11 10.0 -0.2
baz=18
M11A Holland Ranch, 18.45 343 ⇑P Pn 03 11 10.7 +0.5
baz=18,SNR=12
N08A GE Springer Mi 18.59 337 ⇓P Pn 03 11 12.0 0.0
baz=19
L13A Double Diamond 18.65 348 P Pn 03 11 12.7 +0.1
baz=19,SNR=6.6
BEKR Beckwourth 18.71 331 ⇑P Pn 03 11 13.3 -0.1
baz=19
M10A I.L. Ranch, Tu 18.75 341 ⇑P Pn 03 11 13.9 +0.1
baz=19,SNR=8.6
BW06 Boulder Array 18.82 358 eP Pn 03 11 13.3 -1.4
15nm,1.0s
L12A House Creek Ra 18.93 345 ⇑P Pn 03 11 15.2 -0.9
baz=19,SNR=7.0
K14A Jones Ranch, D 18.95 350 ⇑P Pn 03 11 16.0 -0.3
baz=19,SNR=7.9
O05C Quincy 19.04 330 ⇑P Pn 03 11 16.7 -0.7
baz=19
L11A Cat Creek Ranc 19.13 344 ⇑P Pn 03 11 17.6 -0.8
baz=19,SNR=10
K13A Stover Farm, H 19.21 348 ⇓P Pn 03 11 19.4 -0.1
baz=19
N06A Buffalo Meadow 19.22 334 ⇓P Pn 03 11 19.1 -0.4
baz=19
L10A Juniper Basin 19.24 342 P Pn 03 11 19.1 -0.7
baz=19,SNR=12
TEIG Tepich 19.27 97 LR LR 03 22 04.9
comp=Z,223nm,18.5s,baz=70,slow=47
M08A Happy Creek Ra 19.27 337 ⇓P Pn 03 11 19.8 -0.4
baz=19
K12A Draper Farm, C 19.37 346 ⇓P Pn 03 11 20.3 -1.1
baz=20
O04C Chester 19.41 330 ⇓P Pn 03 11 20.5 -1.3
baz=20
REDW Red Top Meadow 19.48 355 eP Pn 03 11 22.1 -0.6
51nm,1.4s
M07A Soldier Meadow 19.51 336 ⇓P Pn 03 11 21.8 -1.2
baz=20
L09A Wilkinson Ranc 19.54 340 ⇓P Pn 03 11 22.1 -1.3
baz=20
SNOW Snow King Moun 19.57 356 eP Pn 03 11 22.2 -1.5
19nm,0.9s
TPAW Teton Pass 19.62 355 eP Pn 03 11 22.9 -1.3
13nm,0.9s
LOHW Long Hollow 19.71 356 eP Pn 03 11 23.5 -2.0
9.1nm,0.8s
DCID1 Drake Creek 19.74 355 eP Pn 03 11 24.6 -1.2
K11A Parker Ranch, 19.77 344 ⇑P Pn 03 11 24.7 -1.4
baz=20,SNR=7.8
L08A Fields 19.92 339 ⇓P Pn 03 11 26.1 -1.8
baz=20,SNR=13
J13A Cove Ranch, Pi 19.95 348 ⇑P Pn 03 11 26.4 -1.9
baz=20,SNR=11
K10A MacKenzie Ranc 20.00 342 ⇓P P 03 11 27.3 +0.2
baz=20

J12A Stokes Ranch, 20.00 346 ⇓P P 03 11 27.2 +0.1
baz=20,SNR=9.7
IMW Indian Meadow 20.02 355 eP P 03 11 26.5 -0.8
58nm,1.5s
L07A Adell 20.12 336 ⇑P P 03 11 28.4 0.0
baz=20
HLID Hailey 20.16 348 P P 03 11 28.9 +0.1
baz=20,SNR=13
K09A Rome 20.18 340 P P 03 11 29.0 0.0
baz=20,SNR=23
WVOR Wild Horse Val 20.23 338 eP P 03 11 30.5 +0.9
14nm,1.0s
M05C Lookout 20.28 332 ⇓P P 03 11 30.2 0.0
baz=20,SNR=6.2
MFID Camas Ranch 20.32 345 ⇓P P 03 11 31.0 +0.4
baz=20
I13A Wildhorse Cree 20.44 349 P P 03 11 32.2 +0.3
baz=20,SNR=10
K08A Mann Creek Ran 20.45 339 ⇑P P 03 11 32.1 +0.1
baz=20,SNR=5.6
RSSD Black Hills 20.52 10 eP P 03 11 33.0 +0.2
10nm,1.1s
YFT Old Faithful 20.56 356 eP P 03 11 35.0 +1.8
LKWY Lake 20.65 357 eP P 03 11 34.7 +0.5
18nm,0.9s
K07A Rock Creek Ran 20.67 337 ⇑P P 03 11 34.5 +0.1
baz=21,SNR=9.2
L05A Lakeview 20.72 334 ⇓P P 03 11 35.0 +0.1
baz=21,SNR=5.5
J09A Fry Pan Ranch, 20.78 341 ⇓P P 03 11 35.6 0.0
baz=21
YMR Madison River 20.79 355 eP P 03 11 36.0 +0.4
34nm,1.2s
I11A Placerville 20.82 345 ⇑P P 03 11 35.8 -0.3
baz=21,SNR=6.3
FVM French Village 20.97 44 eP P 03 11 37.7 0.0
7.5nm,0.8s
QLMT Earthquake Lak 20.99 355 eP P 03 11 38.0 +0.2
J08A Circle Bar Ran 21.01 340 ⇓P P 03 11 38.1 +0.1
baz=21
PLAL Pickwick Lake 21.03 54 eP P 03 11 38.3 0.0
8.7nm,0.8s,mb4.1
H13A Challis 21.10 349 ⇑P P 03 11 38.9 -0.1
baz=21
K06A Valley Falls 21.13 336 ⇑P P 03 11 39.3 -0.1
baz=21,SNR=9.4
MCMT McKenzie Canyo 21.14 352 eP P 03 11 40.2 +0.7
RLMT Red Lodge 21.16 359 eP P 03 11 39.0 -0.7
46nm,1.5s,mb4.6
H12A Diamond D Ranc 21.20 348 P P 03 11 40.0 0.0
baz=21,SNR=13
I10A Payette 21.20 344 ⇑P P 03 11 40.0 0.0
baz=21
YBH Yreka Blue Hor 21.27 330 LR LR 03 20 34.8
comp=Z,173nm,18.9s,MS3.5,baz=153,slow=39
YBH Yreka Blue Hor 21.27 330 ⇑P P 03 11 41.0 +0.1
baz=21
J07A Hines 21.30 338 ⇑P P 03 11 41.2 +0.1
baz=21
G15A Dillon 21.43 353 ⇓P P 03 11 43.1 +0.6
baz=22,SNR=13
I08A Drewsey 21.54 340 ⇓P P 03 11 44.1 +0.3
baz=22
H11A Donnelly 21.59 346 ⇑P P 03 11 44.9 +0.6
baz=22
SIUC Southern Illin 21.60 46 eP P 03 11 44.5 0.0
15nm,0.8s,mb4.5
G13A Cobalt 21.61 349 ⇓P P 03 11 44.8 +0.3
baz=22,SNR=9.6
DLMT Dillon 21.63 353 eP P 03 11 44.8 +0.1
9.3nm,0.9s,mb4.2
H10A Noah's Angus R 21.65 344 ⇓P P 03 11 45.1 +0.1
baz=22,SNR=14
BOZ Bozeman (W) 21.82 354 eP P 03 11 46.3 -0.4
24nm,1.4s,mb4.4
BOZ Bozeman (W) 21.82 354 ⇑P P 03 11 46.5 -0.2
baz=22,SNR=7.9
GCMT Greycliff 21.84 358 eP P 03 11 46.4 -0.6
J05A Fort Rock 21.92 335 ⇑P P 03 11 48.0 +0.2
baz=22
H09A Durkee 21.96 343 ⇓P P 03 11 48.7 +0.4
baz=22
I07A Izee 21.99 339 ⇓P P 03 11 48.8 +0.2
baz=22
BMO Blue Mountains 22.04 344 eP P 03 11 48.0 -1.2
7.2nm,1.0s,mb4.1
SCIA State Center 22.09 32 eP P 03 11 49.0 -0.7
32nm,0.8s,mb4.8
F15A Butte 22.09 353 ⇑P P 03 11 50.0 +0.3
baz=22
I06A Prineville 22.11 337 ⇓P P 03 11 50.0 +0.2
baz=22,SNR=5.3
ECSD ERCS,Sioux Fal 22.12 24 eP P 03 11 51.8 +1.8
18nm,0.8s,mb4.5
J04A Umpqua Nationa 22.23 333 ⇓P P 03 11 51.1 -0.1
baz=22
G11A Walters Elk Ra 22.30 346 ⇓P P 03 11 52.4 +0.5
baz=22
G10A Bishop Farm, J 22.40 344 ⇑P P 03 11 53.0 0.0
baz=22
F12A Elk City 22.43 348 ⇑P P 03 11 53.2 -0.1
baz=22
SWET Sewanee 22.72 55 eP P 03 11 57.0 +0.5
F11A Grangeville 22.74 346 ⇓P P 03 11 56.2 -0.4
baz=23,SNR=5.5
LAO LASA Array 22.81 4 eP P 03 11 57.0 -0.4
34nm,1.0s,mb4.7
HRY Holter Researc 22.89 354 eP P 03 11 58.5 +0.4
G08A Pilot Rock 22.90 341 ⇓P P 03 11 58.1 -0.2
baz=23
F10A Beach Ranch, E 23.07 345 ⇑P P 03 11 59.5 -0.5
baz=23
E11A Bogner Ranch, 23.20 347 ⇓P P 03 12 00.9 -0.6
baz=23
CHMT Chamberlain Mo 23.24 352 eP P 03 12 01.8 0.0
MSO Missoula 23.25 351 eP P 03 12 01.6 -0.3
36nm,1.6s,mb4.6
D15A Lincoln 23.28 353 ⇑P P 03 12 01.6 -0.7
baz=23,SNR=7.8
D14A Greenough 23.44 352 ⇑P P 03 12 03.2 -0.7
baz=24,SNR=8.2
D13A Huson 23.59 350 ⇓P P 03 12 04.8 -0.6
baz=24
D12A Red Ives Fores 23.70 349 ⇓P P 03 12 06.0 -0.5
baz=24
CPCT Cooper Cave 23.87 56 eP P 03 12 07.7 -0.4
D11A Klaveano Farm, 23.89 347 ⇓P P 03 12 06.8 -1.3
baz=24
EGMT Eagleton 24.08 358 eP P 03 12 09.3 -0.6
60nm,1.4s,mb4.8
EGMT Eagleton 24.08 358 ⇓P P 03 12 09.7 -0.2
baz=24,SNR=5.9
C14A Swan Lake 24.15 352 ⇑P P 03 12 10.3 -0.3
baz=24
B13A Whitefish 24.84 351 ⇑P P 03 12 16.4 -0.4
baz=25
E05A Randle 24.93 338 ⇑P P 03 12 16.9 -0.7
baz=25
NEW Newport 25.21 347 eP P 03 12 19.5 -0.7
6.4nm,0.9s,mb4.2
NEW Newport 25.21 347 P P 03 12 18.4 -1.8
2.0nm,0.6s,mb3.9,baz=152,slow=9.2,SNR=5.4
NEW LR LR 03 21 39.7
comp=Z,199nm,19.1s,MS3.6,baz=169,slow=35
B11A Sandpoint 25.22 348 ⇓P P 03 12 20.1 -0.2
baz=25
C07A Waterville 25.40 342 ⇓P P 03 12 21.7 -0.2
baz=26,SNR=5.3
WALA Waterton Lakes 25.43 352 eP P 03 12 21.4 -0.8
9.5nm,0.9s,mb4.3
A11A Hall Mountain, 25.72 348 ⇓P P 03 12 24.9 +0.1
baz=26
AGMN Agassiz Refuge 26.38 19 eP P 03 12 30.2 -0.6
20nm,1.1s,mb4.6
ACSO Alum Creek Sta 27.05 47 eP P 03 12 37.8 +0.8
12nm,1.0s,mb4.4
COWI Conover 27.18 31 eP P 03 12 38.7 +0.6
19nm,0.8s,mb4.7
ELN Prospectdale 27.36 54 eP P 03 12 39.9 +0.1
EYMN Ely 27.61 25 eP P 03 12 42.9 +1.1
20nm,0.9s,mb4.8
ULM Lac du Bonnet 28.12 18 eP P 03 12 45.2 -1.3
10nm,1.1s,mb4.4
ULM Lac du Bonnet 28.12 18 P P 03 12 44.8 -1.6
1.6nm,0.5s,mb3.9,baz=199,slow=9.7,SNR=3.2
SSPA Standing Stone 30.72 50 eP P 03 13 10.0 +0.4
11nm,0.9s,mb4.7
BINY Binghamton 32.65 48 eP P 03 13 26.1 -0.5
34nm,0.9s,mb5.3
NCB Newcomb 34.55 46 eP P 03 13 44.1 +1.1
12nm,1.0s,mb4.8
LBNH Lisbon 36.18 47 eP P 03 13 59.0 +1.9
9.7nm,1.0s,mb4.7
FCC Fort Churchill 36.34 13 eP P 03 13 56.3 -2.0
11nm,0.8s,mb4.8
DLBC Dease Lake 37.70 342 eP P 03 14 10.2 +0.4
ROSC El Rosal 38.12 114 LR LR 03 31 39.1
comp=Z,106nm,18.4s,MS3.7,baz=192,slow=39
YKA Yellowknife Ar 38.77 356 P P 03 14 16.3 -2.5
1.0nm,0.8s,mb3.6,baz=172,slow=8.0,SNR=18
YKA PcP PcP 03 16 30.5 +0.3
0.1nm,0.5s,baz=164,slow=2.7,SNR=2.1
YKA LR LR 03 30 10.8
comp=Z,153nm,19.1s,MS3.8,baz=40,slow=36
SDV Santo Domingo 39.29 106 eP P 03 14 25.5 +1.7
8.7nm,1.0s,mb4.4
SDV Santo Domingo 39.29 106 P P 03 14 25.0 +1.2
3.2nm,0.7s,mb4.2,baz=209,slow=0.1,SNR=7.4
SCHQ Schefferville 43.69 34 eP P 03 14 58.6 -0.7
9.5nm,1.0s,mb4.5
SCHQ Schefferville 43.69 34 P P 03 14 59.0 -0.3
3.5nm,0.9s,mb4.1,baz=281,slow=5.2,SNR=3.6
SCHQ LR LR 03 33 30.6
comp=Z,105nm,19.4s,MS3.8,baz=25,slow=36
SLKM Skilak Lake 46.43 333 eP P 03 15 19.6 -1.4
INK Inuvik 46.92 348 eP P 03 15 26.4 +1.5
96nm,0.8s,mb5.8
TTA Tatalina 50.04 334 eP P 03 15 49.1 +0.2
6.0nm,1.0s,mb4.6
IMA2 Indian Mountai 50.80 338 eP P 03 15 55.2 +0.6
LPAZ La Paz 56.26 131 eP P 03 16 36.2 +0.9
3.7nm,1.2s,mb4.3
LPAZ La Paz 56.26 131 P P 03 16 35.9 +0.5
1.5nm,1.1s,mb3.9,baz=306,slow=12,SNR=2.6
PPT Papeete 57.38 228 LR LR 03 34 04.4
comp=Z,369nm,18.1s,MS4.5,baz=304,slow=28
SIV San Ignacio 61.12 126 P P 03 17 08.8 -0.4
3.5nm,1.0s,mb4.4,baz=294,slow=5.6,SNR=7.6
RAR Rarotonga 66.96 232 LR LR 03 38 33.8
comp=Z,137nm,19.5s,MS4.2,baz=130,slow=28
CPUP Villa Florida 70.42 132 eP P 03 18 08.6 -0.5
8.6nm,0.6s,mb4.9
CPUP Villa Florida 70.42 132 P P 03 18 08.8 -0.2
0.6nm,0.5s,mb3.8,baz=307,slow=7.8,SNR=3.0
BDFB Brasilia 71.11 117 P P 03 18 14.4 +1.0
0.6nm,0.5s,mb3.8,baz=317,slow=25,SNR=2.9
BDFB LR LR 03 51 00.9
comp=Z,30nm,21.7s,MS3.5,baz=311,slow=37
AFI Afiamalu 72.18 245 LR LR 03 42 13.4
comp=Z,99nm,19.3s,MS4.1,baz=283,slow=30
PLCA Paso Flores 73.44 151 eP P 03 18 26.5 -0.3
2.7nm,0.7s,mb4.3
PLCA Paso Flores 73.44 151 P P 03 18 28.4 +1.5
3.1nm,1.0s,mb4.2,baz=312,slow=6.8,SNR=3.7
ARCES ARCESS Array B 81.20 15 P P 03 19 09.2 -0.9
1.8nm,0.7s,mb4.1,baz=38,slow=16,SNR=4.1
ARCES LR LR 04 01 31.7
comp=Z,76nm,18.6s,MS4.1,baz=77,slow=40
NOA NORSAR Array B 82.53 25 P P 03 19 17.9 +0.7
0.8nm,0.8s,mb3.8,baz=284,slow=8.9,SNR=2.9
ESDC Sonseca Array 85.60 48 LR LR 03 56 05.4
comp=Z,114nm,20.2s,MS4.3,baz=320,slow=34
DAVOX Davos/Dischmat 90.46 37 LR LR 03 57 18.0
comp=Z,88nm,18.2s,MS4.2,baz=102,slow=33
GERES GERESS Array B 91.22 34 LR LR 03 58 10.3
comp=Z,119nm,18.5s,MS4.4,baz=290,slow=34
MJAR Matsushiro Arr 92.88 312 P P 03 20 05.7 -2.1
0.3nm,0.3s,mb4.2,baz=62,slow=8.9,SNR=2.8
MAJO Matsushiro 92.88 312 eP P 03 20 12.4 +4.6
3.2nm,0.6s,mb4.9
MAT Matsushiro 92.88 312 P P 03 20 06.0 -1.9
URZ Urewera 93.00 229 LR LR 03 54 09.0
comp=Z,135nm,19.3s,MS4.4,baz=43,slow=31
PMSA Palmer Station 94.88 162 eP P 03 20 14.7 -1.4
244nm,1.7s
CN2 Changchun 96.33 324 eP P 03 20 20.3 -3.2
KEST Kesra 96.64 46 LR LR 04 00 34.2
comp=Z,41nm,18.7s,MS3.9,baz=276,slow=33
KSRS Korea Array 99.02 318 LR LR 04 01 17.5
comp=Z,26nm,19.6s,MS3.7,baz=87,slow=33
MLR Muntele Rosu 99.54 31 LR LR 04 04 41.0
comp=Z,82nm,20.2s,MS4.2,baz=109,slow=35
HHC Hu-ho-hao-te 105.50 329 ePDIF Pdif 03 21 04.9 +0.6
HHC PP PP 03 25 28.3 +2.8
HHC S Sdif 03 32 58.1 -2.3
HHC PP PP
comp=Z,98nm,6.2s
HHC LR LR
comp=N,82nm,21.6s,MS4.5
HHC LR LR
comp=E,98nm,19.4s,MS4.5
HHC LR LR
comp=Z,107nm,22.4s,MS4.3
LZH Lanzhou 112.87 332 ePKP PKiKP 03 25 26.0 -6.0
LZH XPKP 03 25 35.0
TKM2 Tokmak 2 113.39 357 ePKP PKiKP 03 25 32.7 -0.1
CD2 Chengdu 117.24 329 ePKP PKPdf 03 25 37.8 -2.7
WRA Warramunga Arr 121.81 261 PKP PKPdf 03 25 48.4 -1.1
comp=Z,0.9nm,1.0s,baz=65,slow=2.0,SNR=3.1
ASAR Alice Springs 123.17 257 PKP PKPdf 03 25 52.1 +0.1
comp=Z,0.2nm,0.4s,baz=88,slow=1.8,SNR=3.2

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*ISCJB **23** 03:08:26.5±0.6, 3982N±003×4167E±003, h2km±5km,*
Error ellipse: s-maj=5.0km s-min=4.3km az=174.7
*CSEM **23** 03:08:26.1±0.1, 3988N×4164E, h5km, MD3.5, Error*
ellipse: s-maj=2.5km s-min=2.2km az=16.0
*ISK **23** 03:08:26.4, 3987N×4164E, h6km, MD3.3*
*DDA **23** 03:08:27.5, 3981N×4168E, h4km±5km, Md3.5*
ISC 23 03:08:27.2±0.5, 3985N±003×4167E±003, h4km±5km, n20,
σ1§13/28, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
ERZM	Erzurum	0.24	285	i P	Pg	03 08 31.1	-0.7
ERZM				i S	Sg	03 08 36.5	+1.5
EZM	Erzurum	0.24	284	ePG	Pg	03 08 31.2	-0.7
HOMI	Horasan	0.27	43	i P	Pg	03 08 30.3	-2.2
HOMI				i S	Sg	03 08 37.6	+1.5
KOPT	Kop Dagi	0.92	281	i P	Pg	03 08 43.3	-1.4
KOPT				i S	Sg	03 08 58.6	+2.0
BNGL	BINGOL	0.98	204	i P	Pg	03 08 45.1	-0.8
BNGL				i S	Sg	03 08 58.8	+0.2
AGRB	Hanur-Agry	1.06	104	ePN	Pg	03 08 46.6	-0.9
AGRB				eSN	Sg	03 09 03.2	+2.0
BINT	Bingol	1.33	224	ePN	Pn	03 08 51.5	-1.0
KARS	Kars	1.33	55	ePN	Pn	03 08 52.3	-0.4
KARS				eSN	Sn	03 09 11.1	+0.3
EZC	Erzincan	1.43	267	ePN	Pg	03 08 58.4	+3.8
PZAR	Pazar-Rize	1.45	337	ePN	Pn	03 08 53.5	-0.8
BCA	Borcka	1.60	359	ePN	Pn	03 08 54.8	-1.4
BTMT	Batman	1.66	185	ePN	Pn	03 08 58.7	+1.7
GUMT	Gumushane	1.78	291	ePN	Pn	03 08 58.2	-0.6
MACK	Trabzon	1.82	308	i P	Pn	03 08 59.4	+0.1
MACK				i S	Sn	03 09 24.8	+2.0
KTUT	Trabzon	1.84	309	ePN	Pn	03 08 58.9	-0.7
CLDR	Caldiran	1.88	111	ePN	Pn	03 09 00.3	+0.2
PTK	Pertek	2.00	242	ePN	Pn	03 09 02.0	+0.2
SIRT	Sirnak	2.42	165	ePN	Pn	03 09 08.0	+0.5
ESPY	Espiye-Giresun	2.49	296	ePN	Pn	03 09 08.1	-0.4
MARD	Mardin	2.62	196	i P	Pg	03 09 18.4	+1.0
MARD				i S	Sg	03 09 50.4	-1.0

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*ISK **23** 03:14:18.4, 3922N×26.10E, h5km, MD3.3*
*ATH **23** 03:14:18.3, 3921N×26.18E, h19km±2km, MD3.5/7*
*NEIC **23** 03:14:18.0, 3923N×26.10E, h5km, MD3.6(ATH),*
MD3.3(ISK), After ISK.
*ISCJB **23** 03:14:18.6±0.4, 3922N±002×26.11E±003, h5km±3km,*
Error ellipse: s-maj=3.6km s-min=2.7km az=153.2
*THE **23** 03:14:19.2, 3920N×26.13E, h3km, ML3.3*
*CSEM **23** 03:14:19.1±0.1, 3918N×26.18E, h8km, MD3.6, Error*
ellipse: s-maj=1.6km s-min=1.3km az=15.0
*DDA **23** 03:14:19.6, 3925N×26.13E, h5km±2km, Md3.4*
ISC 23 03:14:19.3±0.4, 3922N±002×2611E±003, h7km±3km, n56,
σ0§88/77, Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PRK	Paraskevi	0.13	79	ePg	Pg	03 14 21.3	-0.7
PRK				eSg	Sg	03 14 23.5	-0.3
PRK	Paraskevi	0.13	79	ePB	Pg	03 14 21.7	-0.3

PRK					*e*SB		**Sg**	03 14 25.0	+1.1
PRK	**Paraskevi**	0.13	79	*e*Pb			**Pg**	03 14 21.7	-0.3
PRK					*e*Sg		**Sg**	03 14 23.5	-0.4
AYVA	**Ayvalik**	0.46	79	*i* P			**Pg**	03 14 27.4	-0.8
AYVA					*i* S		**Sg**	03 14 33.8	-0.3
BOZC	**Bozcaada**	0.62	356	*i* P			**Pg**	03 14 31.1	-0.1
BOZC					*i* S		**Sg**	03 14 38.5	-0.8
EZN	**Ezine**	0.62	15	PG			**Pg**	03 14 31.0	-0.3
EZN					*e*SG		**Sg**	03 14 39.7	+0.2
CHOS	**Chios island**	0.84	183	*e*Pg			**Pg**	03 14 35.1	-0.2
CHOS					*e*Sg		**Sg**	03 14 47.8	+1.7
URLA	**Izmir**	0.94	156	*i* P			**Pg**	03 14 37.0	-0.3
URLA					*i* S		**Sg**	03 14 50.2	+0.7
GADA	**Gvkgeada**	0.98	350	PG			**Pg**	03 14 37.5	-0.7
GADA					*e*SG		**Sg**	03 14 50.9	0.0
LOS	**Limnos**	1.07	312	*e*Pg			**Pg**	03 14 40.4	+0.6
LOS					*e*Sg		**Sg**	03 14 57.0	+3.3
BLCB	**Balcova**	1.11	139	*e*PN			**Pn**	03 14 40.1	-1.0
BLCB					*e*SN		**Sn**	03 14 55.5	-1.2
BLCB	**Balcova**	1.11	139	*e*Pg			**Pg**	03 14 38.7	-1.9
BLCB					*e*Sg		**Sg**	03 14 56.5	+1.6
BLCB	**Balcova**	1.11	139	*e*Pn			**Pn**	03 14 40.1	-1.1
BLCB					*e*Sn		**Sn**	03 14 55.5	-1.1
BLCB					*e*Sg		**Sg**	03 14 56.5	+1.6
KDAG	**Bornova**	1.22	132	*i* P			**Pb**	03 14 42.1	-0.5
KDAG					*i* S		**Sg**	03 14 59.2	+0.7
LPK	**Lapseki**	1.25	23	*e*PN			**Pn**	03 14 42.4	-0.8
AKS	**Akhisar**	1.37	104	*e*PN			**Pn**	03 14 44.9	+0.2
AKHS	**Akhisar**	1.37	104	*i* P			**Pn**	03 14 44.4	-0.4
AKHS					*i* S		**Sb**	03 15 02.8	-0.1
AKHS	**Akhisar**	1.37	104	*i* P			**Pn**	03 14 44.3	-0.5
AKHS					*i* S		**Sb**	03 15 02.8	-0.1
BALB	**Balikesir**	1.43	72	*e*PN			**Pn**	03 14 45.8	+0.2
ENEZ	**Enez**	1.51	1	*e*PN			**Pn**	03 14 46.6	-0.2
BTOK	**Tokmak**	1.58	69	*i* P			**Pn**	03 14 47.2	-0.4
BTOK					*i* S		**Sn**	03 15 07.7	-0.6
SMG	**Samos**	1.61	159	*e*PN			**Pn**	03 14 47.3	-0.8
SMG					*e*SN		**Sn**	03 15 09.5	+0.3
SMG	**Samos**	1.61	159	*e*Pn			**Pn**	03 14 45.8	-2.3
ALN	**Alexandroupoli**	1.67	358	*e*Pb			**Pb**	03 14 48.5	-1.9
ALN					*e*Sb		**Sb**	03 15 12.6	+0.9
RKY	**Sarkoy-Tekirda**	1.68	29	*e*PN			**Pn**	03 14 49.3	+0.3
SART	**Tekirdag**	1.68	29	*i* P			**Pn**	03 14 48.6	-0.4
SART					*i* S		**Sn**	03 15 09.1	-1.7
AOS	**Alonnisos**	1.73	269	*e*Pb			**Pb**	03 14 49.5	-1.9
EDC	**Edincik**	1.75	50	*e*PN			**Pn**	03 14 50.5	+0.4
MRMT	**Marmara Adasi**	1.79	39	*e*PN			**Pn**	03 14 51.1	+0.6
BNT	**Bandirma**	1.79	50	*e*PN			**Pn**	03 14 50.9	+0.3
MFT	**Murefte**	1.80	30	*e*PN			**Pn**	03 14 51.5	+0.8
RDO	**Rodhopi**	1.97	347	*e*PN			**Pn**	03 14 53.0	-0.1
OUR	**Ouranopolis**	1.98	305	*e*Pn			**Pn**	03 14 53.4	+0.2
DST	**Dursunbey**	1.99	78	*e*PN			**Pn**	03 14 52.8	-0.5
TKR	**Tekirdag**	2.08	31	*e*PN			**Pn**	03 14 55.1	+0.6
KULA	**Kula-Manisa**	2.11	109	*e*PN			**Pn**	03 14 55.0	+0.1
APE	**Apeiranthos**	2.20	192	*e*PN			**Pn**	03 14 55.2	-1.0
APE	**Apeiranthos**	2.20	192	*e*Pn			**Pn**	03 14 55.5	-0.7
APE	**Apeiranthos**	2.20	192	*e*PB			**Pb**	03 14 55.4	-3.9
CRLT	**Corlu**	2.27	33	*e*PN			**Pn**	03 14 57.8	+0.5
PLG	**Polygyros**	2.35	300	*e*Pn			**Pn**	03 14 59.1	+0.8
PLG	**Polygyros**	2.35	300	*e*PB			**Pb**	03 14 59.8	-2.2
PLG	**Polygyros**	2.35	300	*e*Pb			**Pb**	03 15 00.0	-2.0
CTT	**Catalca**	2.62	42	*e*PN			**Pn**	03 15 02.9	+1.0
SOH	**Sokhos**	2.65	308	*e*Pn			**Pn**	03 15 03.0	+0.6
GEMT	**Gemlik**	2.66	62	*e*PN			**Pn**	03 15 03.4	+0.8
EDRB	**Edirne**	2.67	10	*e*PN			**Pn**	03 15 03.4	+0.8
SRS	**Serrai**	2.70	315	*e*Pn			**Pn**	03 15 03.6	+0.5
NVR	**Nevrokopi**	2.73	322	*e*PN			**Pn**	03 15 04.2	+0.7
NVR	**Nevrokopi**	2.73	322	*e*Pn			**Pn**	03 15 04.0	+0.5
IZI	**Iznik**	2.82	66	*e*PN			**Pn**	03 15 05.8	+1.1
DID	**Didima**	2.84	234	*e*Pn			**Pn**	03 15 04.4	-0.5
YLV	**Yalova**	2.84	61	*e*PN			**Pn**	03 15 05.4	+0.3
ISK	**Istanbul-Kandi**	2.91	50	*e*PN			**Pn**	03 15 07.1	+1.1
KLYT	**Kilyos**	3.02	47	*e*PN			**Pn**	03 15 08.6	+1.1
THL	**Klokotos Trika**	3.19	277	*e*PN			**Pn**	03 15 10.9	+1.1

*ISCJB **23** 03:29:06.9±0.7, 1099N×003×6226W×003, h105km±6km, Error ellipse: s-maj=5.5km s-min=4.6km az=162.2*
*FUNV **23** 03:29:07.5, 1109N×6215W, h101km, MW3.2*
*TRN **23** 03:29:08.8, 1099N×6222W, h90km, MD3.2*

ISC 23 03:29:07.7±0.7, 1099N±003×6225W±003, h101km±7km, n22, σ0°97/44, 4C, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.34**	**175⇑**	*e*P		**Pn**	**03 29 23.1**	**+0.5**
GUIV				*e*S		**Sn**	**03 29 34.0**	**+0.2**
TCE	**Chacachacare**	**0.57**	**121**	*e*P		**Pn**	**03 29 24.8**	**+0.7**
TCE				*e*S		**Sn**	**03 29 34.6**	**-1.8**
TRN	**Trinidad (W)**	**0.90**	**112⇑**	*i*P		**Pn**	**03 29 27.3**	**+0.1**
TRN				*e*S		**Sn**	**03 29 40.4**	**-1.4**
ITEV	**Isla Los Testi**	**0.94**	**293⇑**	*i*P		**Pn**	**03 29 27.4**	**-0.1**
ITEV				*e*S		**Sn**	**03 29 42.1**	**-0.3**
CRUV	**Carupano**	**1.02**	**252⇑**	*i*P		**Pn**	**03 29 28.9**	**+0.5**
CRUV				*e*S		**Sn**	**03 29 44.0**	**0.0**
TPP	**Pointe-a-Pierr**	**1.03**	**130**	*e*P		**Pn**	**03 29 29.7**	**+1.1**
TPP				*e*S		**Sn**	**03 29 41.7**	**-2.7**
TPP				*e*S		**Sn**	**03 29 45.8**	**+1.4**
GUNV	**Guanoco**	**1.07**	**220**	*e*P		**Pn**	**03 29 30.5**	**+1.5**
GUNV				*e*S		**Sn**	**03 29 47.1**	**+2.1**
TBH	**Brigand Hill**	**1.27**	**113**	*e*P		**Pn**	**03 29 31.4**	**+0.2**
TBH				*e*S		**Sn**	**03 29 50.1**	**+1.1**
GRW	**Mount Saint Ca**	**1.29**	**26**	*e*P		**Pn**	**03 29 31.4**	**-0.2**
GRW				*e*S		**Sn**	**03 29 44.5**	**-5.1**
GRW				*e*S		**Sn**	**03 29 49.0**	**-0.6**
GRHS	**Sauteurs**	**1.36**	**26**	*e*P		**Pn**	**03 29 31.5**	**-0.8**
GRHS				*e*S		**Sn**	**03 29 50.0**	**-1.0**
GRIC	**Isle de Caille**	**1.44**	**27**	*e*P		**Pn**	**03 29 34.0**	**+0.7**
GRIC				*e*S		**Sn**	**03 29 53.1**	**+0.4**
GRIC				*e*S		**Sn**	**03 29 53.9**	**+1.2**
GRSS	**Sisters**	**1.44**	**26**	*e*P		**Pn**	**03 29 34.2**	**+0.9**
GRSS				*e*S		**Sn**	**03 29 52.9**	**+0.2**
GRSS				*e*S		**Sn**	**03 29 54.3**	**+1.6**
TPR	**Prospect**	**1.46**	**82**	*e*P		**Pn**	**03 29 32.7**	**-0.8**
TPR	**Prospect**	**1.46**	**82**	*e*P		**Pn**	**03 29 33.3**	**-0.2**
TPR				*e*S		**Sn**	**03 29 52.4**	**-0.7**
IBAV	**Isla La Blanqu**	**2.42**	**290**	*e*P		**Pn**	**03 29 45.7**	**-0.2**
IBAV				*e*S		**Sn**	**03 30 13.4**	**-1.8**
PCRV	**Puerto La Cruz**	**2.48**	**251**	*e*P		**Pn**	**03 29 47.6**	**+0.9**
PCRV				*e*S		**Sn**	**03 30 16.3**	**-0.2**
RIOV	**Rio Grande**	**2.94**	**172**	*e*P		**Pn**	**03 29 52.8**	**+0.1**
RIOV				*e*S		**Sn**	**03 30 25.4**	**-1.9**
GURV	**El Guri**	**3.32**	**194**	*e*P		**Pn**	**03 29 57.8**	**0.0**
CUPV	**Cœpira**	**3.60**	**255**	*e*P		**Pn**	**03 30 02.1**	**+0.5**
CUPV				*e*S		**Sn**	**03 30 42.1**	**-1.1**
BIRV	**Birongo**	**3.98**	**263**	*e*P		**Pn**	**03 30 07.6**	**+0.9**
CAOV	**Caicara del Or**	**5.42**	**228**	*e*P		**Pn**	**03 30 25.7**	**-0.6**
BAUV	**El Baul**	**6.06**	**251**	*e*P		**Pn**	**03 30 33.8**	**-1.1**
BAUV				*e*S		**Sn**	**03 31 38.4**	**-4.5**

*IDC **23** 03:32:21.6±1.4, 701S×15078E, h0km, mb4.3/10, mb1 4.5/10, mb1mx4.3/15, mbtmp4.3/10, MS3.4/2, Ms1 3.4/2, ms1mx3.0/19, Error ellipse: s-maj=49.4km s-min=18.8km az=108.0*
*ISCJB **23** 03:32:25.8±0.6, 7.13S±009×1507E±0.1, h33km, mb4.5/18, Error ellipse: s-maj=22.0km s-min=9.9km az=24.8*
*NEIC **23** 03:32:27.1±7.2, 702S×15066E, h30km±49km, mb4.7/12, Error ellipse: s-maj=19.2km s-min=13.4km az=91.0*

ISC 23 03:32:27.7±0.6, 709S±009×1507E±01, h35km, n46, σ0°97/37, mb4.5/18, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**13.63**	**198**	LR	LR	03 39 60.0	
	comp=Z,136nm,21.5s,baz=51,slow=33						
WRAB	**Tennant Creek**	**20.39**	**230**	*e*P		**P**	**03 37 01.2**	**-0.5**
	11nm,0.6s						
WB2	**Warramunga Arr**	**20.39**	**230**	*e*P		**P**	**03 37 01.6**	**-0.1**
WB2	**Warramunga Arr**	**20.39**	**230**	*e*P		**P**	**03 37 01.4**	**-0.3**
WRA	**Warramunga Arr**	**20.40**	**230**	P		**P**	**03 37 01.8**	**0.0**
	10nm,0.6s,baz=57,slow=11,SNR=52						
ASAR	**Alice Springs**	**23.08**	**223**	P		**P**	**03 37 30.4**	**-0.1**
	3.9nm,0.4s,mb4.2,baz=58,slow=9.3,SNR=57						
STKA	**Stephens Creek**	**26.09**	**198**	*e*P		**P**	**03 37 57.9**	**-0.3**
	3.1nm,0.5s,mb4.1						
STKA	**Stephens Creek**	**26.09**	**198**	P		**P**	**03 37 57.4**	**-0.9**
	4.5nm,0.6s,mb4.2,baz=16,slow=9.9,SNR=5.8						
FITZ	**Fitzroy Crossi**	**26.79**	**244**	*e*P		**P**	**03 38 04.9**	**+0.2**
	11nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**26.79**	**244**	P		**P**	**03 38 04.8**	**+0.1**
	11nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**26.79**	**244**	P		**P**	**03 38 04.3**	**-0.4**
	5.1nm,0.6s,mb4.2,baz=72,slow=5.0,SNR=20						
KSRS	**Korea Array**	**49.17**	**336**	P		**P**	**03 41 11.4**	**-0.9**
	1.9nm,0.7s,mb4.3,baz=157,slow=8.1,SNR=9.0						
SONM	**Songino Array**	**67.19**	**329**	P		**P**	**03 43 17.8**	**-0.4**
	1.2nm,0.6s,mb4.1,baz=136,slow=2.9,SNR=8.2						
VNDA	**Vanda**	**70.64**	**177**	*e*P		**P**	**03 43 39.1**	**-0.1**
	0.9nm,0.6s,mb3.9						
BILL	**Bilibino**	**75.76**	**6**	*e*P		**P**	**03 44 09.6**	**+0.2**
	1.8nm,0.4s,mb4.3						
MK31	**Makanchi Array**	**80.71**	**320**	*e*P		**P**	**03 44 37.6**	**+0.3**
MKAR	**Makanchi Array**	**80.71**	**320**	P		**P**	**03 44 36.4**	**-0.9**
	0.7nm,0.4s,mb3.9,baz=103,slow=5.5,SNR=8.7						
ZAA0	**Zalesovo Array**	**81.93**	**327**	*e*P		**P**	**03 44 41.8**	**-1.8**
ZALV	**Zalesovo Beam**	**81.93**	**327**	P		**P**	**03 44 41.4**	**-2.2**
ZALV	**Zalesovo Beam**	**81.93**	**327**	P		**P**	**03 44 41.4**	**-2.2**
	1.6nm,0.6s,mb4.1,baz=105,slow=4.9,SNR=6.3						
QSPA	**South Pole Qui**	**82.88**	**180**	*e*P		**P**	**03 44 51.3**	**+3.1**
	3.5nm,0.6s,mb4.6						
QSPA				*e*		pP	03 44 59.0	-0.2
IMA2	**Indian Mountai**	**83.29**	**20**	*e*P		**P**	**03 44 50.6**	**+0.2**
TKM2	**Tokmak 2**	**84.05**	**314**	*e*P		**P**	**03 44 55.2**	**+0.3**
KZA	**Kyzart**	**84.07**	**314**	P		**P**	**03 44 56.7**	**+1.7**
	SNR=18						
KURK	**Kurchatov**	**84.31**	**323**	*e*P		**P**	**03 44 55.2**	**-0.8**
	6.4nm,1.0s,mb4.7						
UCH	**Uchtor**	**84.64**	**314**	*e*P		**P**	**03 44 59.3**	**+1.4**
	9.8nm,0.8s,mb5.0						
UCH	**Uchtor**	**84.64**	**314**	P		**P**	**03 44 59.5**	**+1.6**
	SNR=10						
COLA	**College**	**84.73**	**22**	*e*P		**P**	**03 44 57.2**	**-0.6**
	4.7nm,0.8s,mb4.7						
AAK	**Ala-Archa**	**84.75**	**314**	P		**P**	**03 44 59.8**	**+1.3**
	SNR=8.2						
USP	**Ospenovka**	**84.91**	**315**	P		**P**	**03 44 59.9**	**+0.7**
	SNR=11						
AML	**Almayashu**	**85.21**	**313**	*e*P		**P**	**03 45 02.2**	**+1.5**
	19nm,0.8s,mb5.3						
AML	**Almayashu**	**85.21**	**313**	P		**P**	**03 45 02.2**	**+1.4**
	SNR=15						
EKS2	**Erkin-Say**	**85.28**	**314**	*e*P		**P**	**03 45 02.0**	**+1.0**
	12nm,0.9s,mb5.0						
EKS2	**Erkin-Say**	**85.28**	**314**	P		**P**	**03 45 02.5**	**+1.4**
	SNR=7.4						
EGAK	**Eagle**	**87.26**	**23**	*e*P		**P**	**03 45 11.0**	**+0.7**
	3.8nm,0.8s,mb4.7						
BVAR	**Borovoye Array**	**89.84**	**323**	P		**P**	**03 45 21.9**	**-0.9**
	0.9nm,0.5s,mb4.3,baz=114,slow=6.8,SNR=5.8						
INK	**Inuvik**	**91.32**	**21**	*e*P		**P**	**03 45 29.1**	**-0.2**
YKA	**Yellowknife Ar**	**98.40**	**28**	P		**P**	**03 46 01.2**	**-0.6**
	0.8nm,0.7s,mb4.3,baz=268,slow=4.8,SNR=15						
MORC	**Moravsky Berou**	**122.26**	**326**	*e*PKPdf		PKPdf	03 51 18.7	-0.3
GERES	**GERESS Array B**	**124.88**	**327**	PKP		PKPdf	03 51 23.6	-0.5
	0.2nm,0.4s,baz=119,slow=1.7,SNR=4.6						
TIP	**Timpagrande**	**127.79**	**315**	*e*PKPdf		PKPdf	03 51 29.2	-0.8
TOA0	**Torodi Ar. Sit**	**148.96**	**284**	*e*PKPbc		PKPbc	03 52 12.6	-0.5
TORD	**Torodi Ar. Bea**	**148.96**	**284**	PKPbc		PKPbc	03 52 12.8	-0.2
TORD	**Torodi Ar. Bea**	**148.96**	**284**	PKPbc		PKPbc	03 52 12.8	-0.2
	4.3nm,0.6s,baz=50,slow=2.7,SNR=94							
DBIC	**Dimbokro**	**155.76**	**270**	PKPab		PKPab	03 52 45.2	-0.6
DBIC	**Dimbokro**	**155.76**	**270**	PKPab		PKPab	03 52 45.2	-0.6
	2.8nm,0.7s,baz=76,slow=7.8,SNR=3.9							

*IDC **23** 03:45:00.6±2.3, 629S×13139E, h0km, mb4.1/1, mb1 4.1/4, mb1mx3.8/13, mbtmp4.0/4, ML3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.7/16, Error ellipse: s-maj=105.2km s-min=18.9km az=78.0*
*ISCJB **23** 03:45:03.6±0.9, 650S±007×1312E±0.1, h33km, mb4.2/2, Error ellipse: s-maj=15.4km s-min=9.8km az=173.2*
*NEIC **23** 03:45:06.8±2.7, 640S×13142E, h49km±36km, mb4.2/2, Error ellipse: s-maj=26.3km s-min=22.1km az=93.0*

ISC 23 03:45:05.7±1.5, 650S±007×1313E±01, h36km±17km, n11, σ0°92/13, mb4.1/2, Tanimbar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.27**	**170**	*e*Pn		**Pn**	**03 46 39.8**	**+4.0**
BATI	**Kupang**	**8.40**	**244**	LR		LR	03 50 56.5	
	comp=Z,197nm,19.0s,baz=139,slow=42							
FITZ	**Fitzroy Crossi**	**12.78**	**205**	Pn		**Pn**	**03 48 05.4**	**+0.3**
	0.5nm,0.3s,baz=32,slow=16,SNR=18							
FITZ				Sn		**Sn**	**03 50 25.8**	**-0.3**
	0.2nm,0.3s,baz=156,slow=20,SNR=3.7							
WRA	**Warramunga Arr**	**13.68**	**168**	Pn		**Pn**	**03 48 18.0**	**+0.7**
	0.5nm,0.3s,baz=351,slow=13,SNR=28							
WRA				Sn		**Sn**	**03 50 46.7**	**-1.4**
	0.3nm,0.3s,baz=343,slow=22,SNR=4.3							
COEN	**Coen**	**13.83**	**123**	*e*P		**Pn**	**03 48 19.0**	**-0.4**
	3.6nm,0.8s							
ASAR	**Alice Springs**	**17.25**	**172**	P		**Pn**	**03 49 05.3**	**+1.5**
	0.5nm,0.3s,baz=348,slow=11,SNR=20							
ASAR				S		**S**	**03 52 22.5**	**-0.3**
	0.1nm,0.3s,baz=356,slow=25,SNR=3.6							
MBWA	**Marble Bar**	**18.38**	**216**	*e*P		**Pn**	**03 49 18.6**	**+0.8**
	29nm,1.6s							
KKM	**Kota Kinabalu**	**19.54**	**309**	*e*P		**Pn**	**03 49 30.4**	**-1.5**
MK31	**Makanchi Array**	**68.52**	**326**	*e*P		**P**	**03 56 04.9**	**+0.5**
MKAR	**Makanchi Array**	**68.52**	**326**	P		**P**	**03 56 04.4**	**-0.1**
	1.2nm,0.5s,mb4.0,baz=122,slow=7.7,SNR=15							
QSPA	**South Pole Qui**	**83.47**	**180**	*e*P		**P**	**03 57 33.3**	**+4.2**
	0.9nm,0.4s,mb4.2							

*IDC **23** 03:49:41.8±2.5, 590S×10275E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/19, mbtmp3.9/7, Error ellipse: s-maj=99.2km s-min=19.5km az=51.0*
*ISCJB **23** 03:49:44.7±1.6, 58S±03×1029E±04, h33km, mb4.0/9, Error ellipse: s-maj=68.0km s-min=13.5km az=138.9*
*NEIC **23** 03:49:46.4±1.7, 589S×10280E, h30km, mb4.1/2, Error ellipse: s-maj=83.8km s-min=12.1km az=52.0*

ISC 23 03:49:47.1±1.6, 59S±03×1028E±03, h35km, n11, σ0°43/9, mb4.0/9, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**21.07**	**103**	P		**P**	**03 54 28.5**	**0.0**
	9.1nm,0.4s,mb4.4,baz=304,slow=16,SNR=1.8							
WRA	**Warramunga Arr**	**33.66**	**117**	P		**P**	**03 56 25.3**	**+0.5**
	0.8nm,0.6s,mb3.8,baz=286,slow=13,SNR=8.4							
ASAR	**Alice Springs**	**34.73**	**124**	P		**P**	**03 56 34.4**	**+0.3**
	0.5nm,0.6s,mb3.6,baz=308,slow=7.7,SNR=4.0							
STKA	**Stephens Creek**	**44.49**	**131**	P		**P**	**03 57 54.5**	**-0.8**
	3.0nm,1.0s,mb4.0,baz=25,slow=16,SNR=2.9							
SONM	**Songino Array**	**53.58**	**3**	P		**P**	**03 59 04.2**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=182,slow=8.6,SNR=5.3							
EKS2	**Erkin-Say**	**55.06**	**334**	*e*P		**P**	**03 59 15.9**	**+0.6**
	1.1nm,0.7s,mb4.0							
MKAR	**Makanchi Array**	**55.52**	**343**	P		**P**	**03 59 18.1**	**-0.5**
	0.4nm,0.5s,mb3.8,baz=151,slow=7.8,SNR=4.0							
KURK	**Kurchatov**	**60.12**	**343**	*e*P		**P**	**03 59 50.9**	**+0.1**
	1.3nm,0.7s,mb4.1							
KURK				*e*pP		pP	03 59 56.5	-4.9
ZALV	**Zalesovo Beam**	**61.50**	**348**	P		**P**	**04 00 00.3**	**+0.1**
	0.6nm,0.4s,mb4.1,baz=235,slow=5.2,SNR=3.5							
TXAR	**Lajitas Array**	**145.80**	**44**	PKPbc		PKPbc	04 09 24.9	+1.7
TXAR	**Lajitas Array**	**145.80**	**44**	PKPbc		PKPbc	04 09 24.9	+1.7
	0.3nm,0.6s,baz=278,slow=1.9,SNR=5.5							

CASC 23 03:52:17.6±2.1, 518N×8417W, h35km±199km, MD4.3, ML3.2, 1C-1D, Off coast of central America

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**3.65**	**28**	*e*P		Pn	03 53 11.0	-0.7
BRU2	**Volcan**	**3.88**	**22**	*e*P		Pn	03 53 15.5	+0.8
BAR1		**4.12**	**12⇓**	*e*P		Pn	03 53 18.5	+0.4
BAR1				*e*S		Sn	03 54 05.8	+0.7
CNI	**Changuinola**	**4.51**	**21**	*i* P		Pn	03 53 25.1	+1.6
LCR2	**La Lucha 2**	**4.53**	**2⇑**	*i*P		Pn	03 53 23.4	-0.4
LCR2				*e*S		Sn	03 54 15.7	+0.4
URSC	**Urasca**	**4.64**	**5**	*e*P		Pn	03 53 25.4	+0.1
URSC				*e*S		Sn	03 54 21.0	+3.1
JCR	**Jicaral**	**4.73**	**349**	*e*P		Pn	03 53 25.5	-1.0
JCR				*e*S		Sn	03 54 21.3	+1.1
PRS1	**Puriscal**	**4.77**	**358**	*e*P		Pn	03 53 24.8	-2.3
CGA2	**Cerro Gallo 2**	**4.81**	**356**	*e*P		Pn	03 53 27.6	0.0
CGA2				*e*S		Sn	03 54 22.2	0.0
VCR	**Vista de Mar**	**5.12**	**344**	*e*P		Pn	03 53 30.9	-1.0
VCR				*e*S		Sn	03 54 31.4	+1.6
FORC	**Fortuna**	**5.28**	**355**	*i* P		Pn	03 53 36.1	+2.0
LIM1	**Limonal**	**5.59**	**349**	*i* P		Pn	03 53 39.0	+0.7
MADN	**Villa Maderas**	**6.33**	**348**	*e*P		Pn	03 53 50.0	+1.5
CONN	**Concepcion**	**6.50**	**347**	*e*P		Pn	03 53 52.8	+1.9
TICN	**Ticuantepe**	**7.11**	**343**	*e*P		Pn	03 54 00.5	+1.3
BOAB	**BOACO BROADBAN**	**7.37**	**348**	*e*P		Pn	03 54 04.5	+1.7
TGUH	**Tegucigalpa,Un**	**9.34**	**341**	*e*P		Pn	03 54 31.8	+2.1
CHI2		**10.40**	**92**	*e*P		Px	03 54 11.4	
PTP	**Ponta Puerca**	**22.29**	**53**	*e*P		Px	03 53 05.9	

WEL 23 04:23:00.7±1.2, 3704S×17734E, h171km±6km, ML3.5/4, Error ellipse: s-maj=13.4km s-min=11.0km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**1.23**	**188**	PN		Pn	04 23 29.5	+0.2
URZ				SN		Sn	04 23 51.3	-0.1
PUZ	**Puketiti**	**1.26**	**145**	PN		Pn	04 23 29.3	-0.3
MWZ	**Matawai**	**1.30**	**173**	PN		Pn	04 23 30.1	+0.2
KNZ	**Kokohu**	**1.99**	**172**	PN		Pn	04 23 37.4	+0.4
PXZ	**Pawanui**	**3.01**	**187**	PN		Pn	04 23 48.8	-0.1

*JSN **23** 04:37:46.5±0.7, 1869N×79.18W, h4km±11km, MD4.2*
*SSNC **23** 04:37:48.8, 1796N×7848W, h0km, MD3.2, ML2.9*

ISC 23 04:37:46.0±2.7, 1856N±010×791W±01, h4km±10km, n6, σ0°50/10, 1C-2D, North of Honduras

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MBJ	**Montego Bay**	**1.23**	**97**	*e*P		**Pg**	**04 38 09.2**	**-0.4**
MBJ				*e*S		**Sg**	**04 38 25.8**	**+0.3**
MCJ	**Malvern**	**1.52**	**114⇓**	*e*P		**Pn**	**04 38 14.4**	**+0.4**
MCJ				*e*S		**Sn**	**04 38 34.6**	**+0.3**
CVJ	**Coleyville**	**1.56**	**102**	*e*P		**Pn**	**04 38 13.9**	**-0.7**
BBJ	**Bamboo Saint A**	**1.79**	**95⇓**	*e*P		**Pn**	**04 38 17.7**	**0.0**
STH	**Stony Hill**	**2.27**	**102⇓**	*e*P		**Pn**	**04 38 23.9**	**-0.4**
STH				*e*S		**Sn**	**04 38 52.7**	**-0.1**
LMGC	**Las Mercedes**	**2.51**	**53**	*e*P		**Pn**	**04 38 28.7**	**+1.1**
	baz=214							
LMGC				*e*S		**Sn**	**04 38 58.3**	**-0.4**
	comp=N,40nm,0.1s							
LMGC				*e*				
	comp=E,46nm,0.1s							

*BGS **23** 04:41:14.1±3.2, 5128N×3586W, h10km, mb5.2, MS5.5*
*BJI **23** 04:41:43.7, 5234N×3223W, h15km, mB5.8, mb5.3, Ms5.7, Msz5.4*
*IGIL **23** 04:41:44.2, 5240N×3190W, h10km, M

comp=Z,14µm,18.9s
EDI Edinburgh 17.05 67 AMS AMS 04 51 22.3
comp=Z,14µm,18.9s
EKA Eskdalemuir Ar 17.08 69 P **Pn 04 45 44.2 -1.0**
comp=Z,6.2nm,0.3s,baz=267,slow=10,SNR=90
EKA S **Sn 04 48 45.1 -10**
comp=Z,0.3nm,0.3s,baz=272,slow=25,SNR=4.2
EKA Eskdalemuir Ar 17.08 69 P **Pn 04 45 44.2 -1.0**
MCD Coleburn Disti 17.10 61 *e*P **Pn 04 45 44.3 -1.1**
ECK Cauldkaine Hil 17.10 69 *e*P **Pn 04 45 45.1 -0.4**
MLA1 Latheron 17.12 59 *e*P **Pn 04 45 44.4 -1.3**
EBL Broad Law 17.13 67 *e*P **Pn 04 45 45.6 -0.3**
CKE Keswick 17.15 71 *e*P **Pn 04 45 47.2 +1.1**
MME1 Meikle Cairn 17.23 62 *e*P **Pn 04 45 44.8 -2.3**
SBD1 Bryn Du 17.26 77 *e*P **Pn 04 45 45.6 -2.0**
HEX Exmoor 17.33 83 *e*P **Pn 04 45 46.6 -1.8**
SFJD Kangerlussuaq 17.36 335⇑*i*P **Pn 04 45 47.5 -1.1**
SFJD *e*S **Sn 04 48 59.8 -1.7**
SFJD pmax pmax
comp=Z,120nm,0.8s
SFJD MLR MLR
comp=Z,13µm,18.0s
SFJD Kangerlussuaq 17.36 335 *e*Pn **Pn 04 45 48.4 -0.3**
comp=Z,368nm,1.4s
SFJD Kangerlussuaq 17.36 335 P **Pn 04 45 47.8 -0.9**
comp=Z,3.1nm,0.3s,baz=117,slow=11,SNR=39
SFJD LR LR 04 51 09.7
comp=Z,17µm,19.6s,baz=121,slow=33
SFJD Kangerlussuaq 17.36 335⇑*i*P **Pn 04 45 47.5 -1.1**
comp=Z,118nm,0.8s
SFJD *e*S **Sn 04 48 59.8 -1.7**
SFJD
comp=Z,13µm,18.0s
ESY Stoneypath 17.37 67 *e*P **Pn 04 45 47.0 -2.0**
HTR Trewern Hill 17.41 80 *e*P **Pn 04 45 47.1 -2.3**
DYA Yadsworthy 17.43 85⇑*e*P **Pn 04 45 47.3 -2.4**
DYA AMb AMB 04 45 54.0
comp=Z,84nm,1.1s
DYA AMS AMS 04 51 45.8
comp=Z,19µm,18.8s
XSO Sourhope Farm 17.59 68 *e*P **Pn 04 45 49.0 -2.6**
MCH1 Michaelchurch 17.60 80⇑*e*P **Pn 04 45 49.0 -2.7**
MCH1 AMb AMB 04 46 04.5
comp=Z,336nm,1.7s
MCH1 AMS AMS 04 51 51.2
comp=Z,22µm,18.7s
XAL Allendale 17.64 70 *e*P **Pn 04 45 49.8 -2.4**
HGH Gray Hill 17.79 81 *e*P **Pn 04 45 53.2 -1.0**
STNC Stoke 17.86 76⇑*e*P **Pn 04 45 52.9 -2.0**
STNC AMS AMS 04 51 58.2
comp=Z,24µm,18.7s
EMAZ Mazaricos 17.94 113⇓P **Pn 04 45 53.2 -2.9**
comp=Z,2µm,3.4s
LHO Holmfirth 18.00 74 *e*P **Pn 04 45 53.7 -3.0**
HPK Haverah Park 18.08 73⇑*e*P **Pn 04 45 55.7 -1.9**
HPK AMb AMB 04 46 01.7
comp=Z,295nm,1.3s
HPK AMS AMS 04 52 13.2
comp=Z,22µm,17.8s
KWE Weaver Farm 18.09 76 *e*P **Pn 04 45 56.1 -1.7**
STS Santiago 18.23 112⇓P **Pn 04 46 00.2 +0.7**
STS pmax pmax
comp=Z,152nm,1.0s
STS Santiago 18.23 112⇓P **Pn 04 46 00.2 +0.7**
comp=Z,152nm,1.0s
STS Santiago 18.23 112⇓P **Pn 04 46 00.2 +0.7**
comp=Z,152nm,1.0s
KBI1 Birley Grange 18.23 75 *e*P **Pn 04 45 57.9 -1.7**
SWK Warminster 18.26 82 *e*P **Pn 04 45 57.9 -2.0**
SSW Stow on the Wo 18.30 79 *e*P **Pn 04 45 57.5 -2.8**
SWN1 Swindon 18.43 81⇑*e*P **Pn 04 45 59.1 -2.9**
SWN1 AMb AMB 04 46 12.2
comp=Z,212nm,1.3s
SWN1 AMS AMS 04 52 18.2
comp=Z,16µm,19.1s
CWF Charnwood Fore 18.46 77⇑*e*P **Pn 04 46 00.4 -1.9**
CWF AMb AMB 04 46 05.7
comp=Z,104nm,1.3s
CWF AMS AMS 04 52 17.4
comp=Z,24µm,19.2s
LRW Lerwick 18.54 53 *e*P **Pn 04 46 00.4 -2.8**
LRW AMb AMB 04 46 15.2
comp=Z,258nm,1.7s
LRW AMS AMS 04 52 35.0
comp=Z,10µm,17.5s
ROSF Rostrenen 18.56 91 *e*P **Pn 04 46 02.7 -0.9**
comp=Z,504nm,1.6s
ROSF Rostrenen 18.56 91 *e*P **Pn 04 46 02.7 -0.9**
comp=Z,252nm,1.6s
EPON Pontenova 18.75 109⇑P **Pn 04 46 05.1 -0.9**
comp=Z,4µm,4.6s
EPON Pontenova 18.75 109⇑P **Pn 04 46 05.1 -0.9**
comp=Z,4µm,4.6s
QUIF Quistinic 18.80 92 *e*P **Pn 04 46 05.0 -1.5**
comp=Z,383nm,1.4s
QUIF Quistinic 18.80 92 *e*P **Pn 04 46 05.0 -1.5**
comp=Z,192nm,1.4s
WOL Wolverton 18.83 81⇑*e*P **Pn 04 46 02.7 -4.2**
WOL AMb AMB 04 46 14.0
comp=Z,260nm,1.2s
WOL AMS AMS 04 52 31.9
comp=Z,16µm,19.5s
SKP1 Kophill 18.98 80 *e*P **Pn 04 46 05.3 -3.4**
SGMF Saint Gilles 19.03 91 *e*P **Pn 04 46 08.0 -1.3**
comp=Z,454nm,1.4s
SGMF Saint Gilles 19.03 91 *e*P **Pn 04 46 08.0 -1.3**
comp=Z,227nm,1.4s
ELOB Lobios 19.16 114⇑P **Pn 04 46 10.2 -0.7**
comp=Z,5µm,4.4s
ELOB Lobios 19.16 114⇑P **Pn 04 46 10.2 -0.7**
comp=Z,5µm,4.4s
PCAB Cabril 19.28 114 *e*P **Pn 04 46 12.7 +0.3**
ERUA La Rua 19.34 111 P **Pn 04 46 12.4 -0.6**
ERUA pmax pmax
comp=Z,77nm,1.1s
ERUA La Rua 19.34 111 P **Pn 04 46 12.4 -0.6**
comp=Z,77nm,1.1s
ERUA La Rua 19.34 111 P **Pn 04 46 12.4 -0.6**
comp=Z,77nm,1.1s
ECAL Calabor 19.86 112⇑P **Pn 04 46 17.9 -1.4**
comp=Z,2µm,2.9s
EARI Arriondas 19.90 107⇑P **Pn 04 46 17.4 -2.3**
comp=Z,2µm,2.1s
EARI Arriondas 19.90 107⇑P **Pn 04 46 17.4 -2.3**
comp=Z,2µm,2.1s
GRR Gorron 20.02 89 *e*P **P 04 46 18.9 -0.5**
comp=Z,328nm,1.3s
GRR Gorron 20.02 89 *e*P **P 04 46 18.9 -0.5**
comp=Z,164nm,1.3s
PVIS Viseu 20.03 116 *e*P **P 04 46 19.5 0.0**
FLN La Foliniere 20.11 88 *e*P **P 04 46 20.1 -0.2**
comp=Z,454nm,1.5s
FLN *e*MLR MLR
comp=Z,11µm,20.2s,MS4.9
FLN La Foliniere 20.11 88 *e*P **P 04 46 20.1 -0.2**
comp=Z,227nm,1.5s
MVO Moncorvo 20.21 114 *e*P **P 04 46 21.7 +0.3**
LDF La Druitiere 20.39 88 *e*P **P 04 46 23.0 -0.4**
comp=Z,30nm,0.5s
LDF La Druitiere 20.39 88 *e*P **P 04 46 23.0 -0.4**
comp=Z,15nm,0.5s
MTE Manteigas 20.44 116 *e*P **P 04 46 23.1 -0.9**
comp=Z,191nm,1.0s
MTE Manteigas 20.44 116 *e*P **P 04 46 23.1 -0.9**
comp=Z,191nm,1.0s
ALMR Almeirim 20.77 120 *e*P **P 04 46 26.5 -1.1**
LIS Lisbon 20.80 122 *e*P **P 04 46 26.2 -1.6**
LIS *e*S **S 04 50 19.8 +0.1**
LIS *e*S **S 04 50 20.3 +0.6**
LIS AMS AMS 04 52 56.1
comp=Z,13µm,19.3s,MS5.3
SCHQ Schefferville 20.83 291 *e*P **P 04 46 26.4 -1.6**
comp=Z,95nm,0.9s
SCHQ LR LR
comp=Z,17µm,21.0s,MS5.4
SCHQ Schefferville 20.83 291 P **P 04 46 26.8 -1.3**
comp=Z,27nm,0.8s,baz=87,slow=8.1,SNR=50
SCHQ LR LR 04 53 17.2
comp=Z,13µm,21.0s,MS5.3,baz=87,slow=33
SCHQ Schefferville 20.83 291 *e*P **P 04 46 26.4 -1.6**
comp=Z,95nm,0.9s
PCBR Castelo Branco 20.87 117 *e*P **P 04 46 28.0 -0.6**
ELAN Lanestosa 20.99 105⇑P **P 04 46 29.2 -0.7**
comp=Z,829nm,1.6s
MENF Mencas 21.10 81 *e*P **P 04 46 32.4 +1.4**
MFF Saint Martin d 21.22 93 *e*P **P 04 46 31.9 -0.5**
comp=Z,574nm,1.3s,mb5.4
MFF Saint Martin d 21.22 93 *e*P **P 04 46 31.9 -0.5**
comp=Z,287nm,1.3s,mb5.4
MOE Montemor 21.36 121 *e*P **P 04 46 33.7 -0.2**
JMIC Jan Mayen 21.41 21 *e*S **S 04 50 36.8 +5.5**
JMIC Jan Mayen 21.41 21 LR LR 04 51 53.3
comp=Z,459nm,19.8s,baz=92,slow=28
EVOP Sao Brissos 21.47 121 *e*P **P 04 46 33.6 -1.5**
comp=Z,76nm,1.1s,mb4.9
EVO Evora 21.53 121 *e*P **P 04 46 33.6 -2.1**
comp=Z,152nm,1.1s,mb5.0
EVO *e*MLR MLR
comp=Z,22µm,21.8s,MS5.2
EVO Evora 21.53 121 *e*P **P 04 46 33.9 -1.8**
KMY Karmoy 21.67 57 *e*P **P 04 46 35.5 -1.6**
KMY AMb AMB 04 46 51.7
comp=Z,346nm,1.4s,mb5.6
KMY Karmoy 21.67 57 *e*P **P 04 46 35.5 -1.6**
comp=Z,346nm,1.4s,mb5.6,SNR=34
EGD Espegrend 21.72 54 *e*P **P 04 46 36.5 -1.1**
EGD AMb AMB 04 46 47.5
comp=Z,370nm,1.8s,mb5.5
EGD Espegrend 21.72 54 *e*P **P 04 46 36.5 -1.1**
comp=Z,370nm,1.8s,mb5.5
EGD Espegrend 21.72 54 *e*P **P 04 46 36.5 -1.2**
comp=Z,370nm,1.8s,mb5.5,SNR=34
ASK Askoy 21.73 54 *e*P **P 04 46 36.5 -1.1**
ASK AMb AMB 04 46 49.5
comp=Z,964nm,1.6s,mb6.0
ASK Askoy 21.73 54 *e*P **P 04 46 36.5 -1.1**
comp=Z,964nm,1.6s,mb6.0
ASK Askoy 21.73 54 *e*P **P 04 46 36.5 -1.2**
comp=Z,964nm,1.6s,mb6.0,SNR=34
BER Bergen 21.79 54 *e*P **P 04 46 37.3 -1.1**
BER *e*P 04 46 38.8
BER AMb AMB 04 46 50.3
comp=Z,478nm,1.7s,mb5.6
BER AMb AMB 04 46 50.7
comp=Z,508nm,1.6s,mb5.7
BER *e*S **S 04 50 40.1 +1.2**
BER AMS AMS 04 54 35.2
comp=Z,7µm,16.4s,MS5.1
BER Bergen 21.79 54 *e*P **P 04 46 38.8 +0.5**
BER pmax pmax
comp=Z,508nm,1.6s,mb5.7
BER MLR MLR
comp=Z,7µm,16.4s,MS5.1
BER Bergen 21.79 54 *e*P **P 04 46 38.8 +0.4**
comp=Z,508nm,1.6s,mb5.7
BER LR LR
comp=Z,7µm,16.4s,MS5.1
BER Bergen 21.79 54 *e*P **P 04 46 37.3 -1.0**
SNR=34
BER *e*S **S 04 50 40.1 +1.2**
SNR=36
RUND Rundenannen 21.81 54 *e*P **P 04 46 39.3 +0.8**
RUND AMb AMB 04 46 52.1
comp=Z,578nm,1.3s,mb5.8
RUND Rundenannen 21.81 54 *e*P **P 04 46 39.3 +0.8**
comp=Z,578nm,1.3s,mb5.8
RUND Rundenannen 21.81 54 *e*P **P 04 46 39.3 +0.8**
comp=Z,578nm,1.3s,mb5.8,SNR=34
EBAD Badajoz 21.90 119⇑P **P 04 46 38.5 -1.2**
comp=Z,679nm,2.7s,mb5.6
EBAD Badajoz 21.90 119⇑P **P 04 46 38.5 -1.2**
comp=Z,679nm,2.7s,mb5.6
STAV Stavanger 21.90 58 *e*P **P 04 46 37.9 -1.6**
STAV AMb AMB 04 46 50.5
comp=Z,493nm,2.0s,mb5.6
STAV Stavanger 21.90 58 *e*P **P 04 46 37.9 -1.6**
comp=Z,493nm,2.0s,mb5.6,SNR=34
PTEO Sao Teotonio 21.90 123 *e*P **P 04 46 39.5 -0.2**
PBEJ Beja 21.98 121 *e*P **P 04 46 40.4 -0.2**
MORF Marmelete 22.12 124 *e*P **P 04 46 41.6 -0.5**
EALK Alkurruntz 22.15 102⇑P **P 04 46 44.2 +1.9**
comp=Z,641nm,1.5s,mb5.8
EALK Alkurruntz 22.15 102⇑P **P 04 46 44.2 +1.9**
comp=Z,641nm,1.5s,mb5.8
PFVI Vila Bisbo 22.16 124 *e*P **P 04 46 42.1 -0.5**
ELIZ Elizondo 22.17 102 P **P 04 46 40.8 -1.7**
ELIZ pmax pmax
comp=Z,66nm,1.3s,mb4.9
ELIZ Elizondo 22.17 102 P **P 04 46 40.8 -1.7**
comp=Z,66nm,1.3s,mb4.9
ELIZ Elizondo 22.17 102 P **P 04 46 40.8 -1.7**
comp=Z,66nm,1.3s,mb4.9
GUD Guadarrama 22.18 111 P **P 04 46 42.3 -0.4**
GUD pmax pmax
comp=Z,90nm,1.1s,mb5.1
GUD Guadarrama 22.18 111 P **P 04 46 42.3 -0.5**
comp=Z,90nm,1.1s,mb5.1
GUD Guadarrama 22.18 111 P **P 04 46 42.3 -0.4**
comp=Z,90nm,1.1s,mb5.1
OSSF Osses 22.27 102 *e*P **P 04 46 42.9 -0.8**
HYA Hoyanger 22.28 52 *e*P **P 04 46 46.1 +2.5**
HYA AMb AMB 04 46 54.2
comp=Z,345nm,1.5s,mb5.6
HYA Hoyanger 22.28 52 *e*P **P 04 46 46.1 +2.5**
comp=Z,345nm,1.5s,mb5.6
HYA Hoyanger 22.28 52 *e*P **P 04 46 46.1 +2.5**
comp=Z,345nm,1.5s,mb5.6,SNR=34
BLS5 Blasjo 22.30 56 *e*P **P 04 46 43.5 -0.3**
BLS5 AMb AMB 04 46 52.6
comp=Z,211nm,1.2s,mb5.5
BLS5 Blasjo 22.30 56 *e*P **P 04 46 43.5 -0.3**
comp=Z,211nm,1.2s,mb5.5,SNR=34
SJPF Ste Jean 22.38 102 *e*P **P 04 46 42.9 -1.9**
comp=Z,223nm,1.2s,mb5.2
SJPF Ste Jean 22.38 102 *e*P **P 04 46 42.9 -1.9**
comp=Z,112nm,1.2s,mb5.2
ODD1 Odda 22.40 55 *e*P **P 04 46 43.5 -1.4**
ODD1 AMb AMB 04 46 53.6
comp=Z,357nm,1.7s,mb5.5
ODD1 Odda 22.40 55 *e*P **P 04 46 43.5 -1.4**
comp=Z,357nm,1.7s,mb5.5
ODD1 Odda 22.40 55 *e*P **P 04 46 43.5 -1.4**
comp=Z,357nm,1.7s,mb5.5,SNR=34
BAIF Baives 22.51 81 *e*P **P 04 46 44.7 -1.4**
comp=Z,491nm,1.3s,mb5.5
BAIF Baives 22.51 81 *e*P **P 04 46 44.7 -1.4**
comp=Z,245nm,1.3s,mb5.5
EGRO El Granado 22.55 122⇑P **P 04 46 45.0 -1.6**
comp=Z,738nm,3.3s
EGRO El Granado 22.55 122⇑P **P 04 46 45.0 -1.6**
comp=Z,738nm,3.3s
LARF Larrau 22.57 102 *e*P **P 04 46 46.2 -0.6**
LFF La Frestale 22.57 96 *e*P **P 04 46 45.2 -1.7**
comp=Z,459nm,1.4s,mb5.4
LFF La Frestale 22.57 96 *e*P **P 04 46 45.2 -1.7**
comp=Z,229nm,1.4s,mb5.4
SNART Snartemo 22.69 59 *e*P **P 04 46 47.0 -1.0**
SNART AMb AMB 04 47 02.2
comp=Z,163nm,1.5s,mb5.2
DOU Dourbes 22.73 81 P **P 04 46 47.5 -0.9**
comp=Z,95nm,1.5s,mb5.0
EMIN Mina Concepcio 22.80 120⇑P **P 04 46 48.5 -0.9**
comp=Z,730nm,3.3s
EMIN Mina Concepcio 22.80 120⇑P **P 04 46 48.5 -0.8**
comp=Z,730nm,3.3s
PAB San Pablo 22.81 113 *e*P **P 04 46 48.1 -1.3**
PAB pmax pmax
comp=Z,53nm,1.2s,mb4.8
PAB MLR MLR
comp=Z,20µm,19.0s,MS5.6
PAB San Pablo 22.81 113 *e*P **P 04 46 48.1 -1.3**
comp=Z,53nm,1.2s,mb4.8
PAB LR LR
comp=Z,20µm,19.0s,MS5.6
PAB San Pablo 22.81 113 *e*P **P 04 46 48.1 -1.3**
comp=Z,53nm,1.2s,mb4.8
TCF Toulx Ste Croi 22.81 92 *e*P **P 04 46 47.2 -2.1**
comp=Z,322nm,1.2s,mb5.3
TCF Toulx Ste Croi 22.81 92 *e*P **P 04 46 47.2 -2.1**
comp=Z,161nm,1.2s,mb5.3
RJF Les Rejaudoux 22.86 95 *e*P **P 04 46 47.9 -2.0**
comp=Z,369nm,1.5s,mb5.3
RJF *e*MLR MLR
comp=Z,25µm,22.5s,MS5.3
RJF Les Rejaudoux 22.86 95 *e*P **P 04 46 47.9 -2.0**
comp=Z,184nm,1.5s,mb5.3
GIVF Givet 22.86 81 *e*P **P 04 46 48.4 -1.5**
comp=Z,298nm,1.3s,mb5.3
GIVF Givet 22.86 81 *e*P **P 04 46 48.4 -1.5**
comp=Z,149nm,1.3s,mb5.3
ETSF Etsaut 22.90 102 *e*P **P 04 46 48.4 -1.9**
comp=Z,399nm,1.6s,mb5.3
ETSF Etsaut 22.90 102 *e*P **P 04 46 48.4 -1.9**
comp=Z,200nm,1.6s,mb5.3
REYF Montagne du Re 22.90 101 *e*P **P 04 46 52.8 +2.4**
ESDC Sonseca Array 22.94 113 P **P 04 46 49.4 -1.3**
comp=Z,53nm,0.9s,mb5.0,baz=313,slow=8.7,SNR=67
ESDC LR LR 04 54 11.0
comp=Z,16µm,18.6s,MS5.5,baz=310,slow=32
ESLA Sonseca Array 22.94 113 *e*P **P 04 46 49.6 -1.1**
comp=Z,12nm,0.9s,mb4.3
ESLA LR LR
comp=Z,105µm,19.0s,MS6.3
ESLA Sonseca Array 22.94 113 *e*P **P 04 46 49.6 -1.2**
comp=Z,12nm,0.9s,mb4.3
BCLA Clavier 23.05 80 P **P 04 46 52.3 +0.5**
comp=Z,116nm,1.3s,mb5.2
BGF Bois d'Agland 23.08 91 *e*P **P 04 46 50.4 -1.7**
comp=Z,714nm,1.5s,mb5.6
BGF Bois d'Agland 23.08 91 *e*P **P 04 46 50.4 -1.7**
comp=Z,357nm,1.5s,mb5.6
MOL Molde 23.09 48 *e*P **P 04 46 53.2 +1.1**
MOL *e*S **S 04 51 06.2 +3.3**
MOL AMS AMS 04 54 58.3
comp=Z,8µm,20.7s,MS5.1
MOL Molde 23.09 48 *e*P **P 04 46 53.2 +1.0**
SNR=33
MOL *e*S **S 04 51 06.2 +3.3**
SNR=30
BEBN Eben Emael 23.15 79 P **P 04 46 51.1 -1.8**
comp=Z,50nm,1.9s,mb4.6
LABF Labassere 23.20 101 *e*P **P 04 46 54.4 +1.0**
SSF Saint Saulge 23.25 89 *e*P **P 04 46 52.2 -1.8**
comp=Z,668nm,1.6s,mb5.5
SSF Saint Saulge 23.25 89 *e*P **P 04 46 52.2 -1.8**
comp=Z,334nm,1.6s,mb5.5
VIEF Viey 23.26 101 *e*P **P 04 46 54.0 -0.1**
AVF Avril sur Loir 23.28 90 *e*P **P 04 46 52.5 -1.8**
comp=Z,867nm,1.6s,mb5.6
AVF Avril sur Loir 23.28 90 *e*P **P 04 46 52.5 -1.8**
comp=Z,434nm,1.6s,mb5.6
HGN Heimansgroeve 23.31 79 *e*P **P 04 46 52.4 -2.2**
comp=Z,136nm,1.8s,mb5.1
HGN Heimansgroeve 23.31 79 *e*S **S 04 51 07.3 +0.6**
EPF Esparros 23.37 101 *e*P **P 04 46 53.0 -2.2**
comp=Z,176nm,1.5s,mb5.0
EPF Esparros 23.37 101 *e*P **P 04 46 53.0 -2.2**
comp=Z,88nm,1.5s,mb5.0
LOR Lormes 23.38 88 *e*P **P 04 46 53.1 -2.2**
comp=Z,389nm,1.3s,mb5.4
LOR *e*MLR MLR
comp=Z,9µm,23.0s,MS4.9
LOR Lormes 23.38 88 *e*P **P 04 46 53.1 -2.2**
comp=Z,194nm,1.3s,mb5.4
CAF Calviac 23.39 95 *e*P **P 04 46 53.4 -2.1**
comp=Z,175nm,1.2s,mb5.0
CAF Calviac 23.39 95 *e*P **P 04 46 53.4 -2.1**
comp=Z,88nm,1.2s,mb5.0
MEM Membach 23.41 79 P **P 04 46 54.3 -1.3**
comp=Z,94nm,1.9s,mb4.9
EBIE Bielsa 23.45 102⇑P **P 04 46 55.6 -0.5**
comp=Z,1µm,2.4s,mb5.9
EBIE Bielsa 23.45 102⇑P **P 04 46 55.6 -0.5**
comp=Z,1µm,2.4s,mb5.9
WTSB Winterswijk 23.47 76 *e*P **P 04 46 54.7 -1.5**
comp=Z,306nm,1.8s,mb5.4
AGO Saint Agoulin 23.49 92 *e*P **P 04 46 56.4 -0.1**
RESF Ens 23.49 101 *e*P **P 04 46 56.3 -0.3**
PYM Petit Puy Mans 23.56 92 *e*P **P 04 46 57.1 -0.1**
MEZF Maizieres J'vi 23.59 85 *e*P **P 04 46 55.9 -1.6**
comp=Z,906nm,1.5s,mb5.7
MEZF Maizieres J'vi 23.59 85 *e*P **P 04 46 55.9 -1.6**
comp=Z,453nm,1.5s,mb5.7
SMF Signal de Mont 23.64 90 *e*P **P 04 46 56.2 -1.8**
comp=Z,163nm,1.1s,mb5.1
SMF Signal de Mont 23.64 90 *e*P **P 04 46 56.2 -1.8**
comp=Z,82nm,1.1s,mb5.1
EADA Adamuz 23.65 116⇑P **P 04 46 56.5 -1.5**
comp=Z,1µm,4.6s
EADA Adamuz 23.65 116⇑P **P 04 46 56.5 -1.6**
comp=Z,1µm,4.6s
DOMB Dombas 23.73 50 *e*P **P 04 46 58.6 0.0**
DOMB AMb AMB 04 47 13.0
comp=Z,134nm,2.2s,mb5.0
DOMB Dombas 23.73 50 *e*P **P 04 46 58.6 0.0**
comp=Z,134nm,2.2s,mb5.0
DOMB Dombas 23.73 50 *e*P **P 04 46 58.6 -0.1**
comp=Z,134nm,2.2s,mb5.0,SNR=29
WLF Walferdange 23.82 81 *e*P **P 04 46 58.6 -1.0**
WLF pmax pmax
comp=Z,332nm,1.7s,mb5.5
WLF Walferdange 23.82 81 P **P 04 46 59.5 -0.1**
comp=Z,80nm,2.1s,mb4.8
WLF Walferdange 23.82 81 *e*P **P 04 46 58.2 -1.4**
comp=Z,120nm,1.2s,mb5.2
WLF Walferdange 23.82 81 *e*P **P 04 46 58.6 -1.0**
comp=Z,332nm,1.7s,mb5.5
PLDF La Plantade 23.83 91 *e*P **P 04 46 58.8 -0.8**
MLS Moulis 23.86 100 *e*P **P 04 46 58.7 -1.3**
KONO Kongsberg 23.90 56 *e*P **P 04 47 01.6 +1.4**
KONO AMb AMB 04 47 15.0
comp=Z,194nm,1.1s,mb5.5
KONO *e*S **S 04 51 19.2 +3.2**
KONO AMS AMS 04 56 18.6
comp=Z,7µm,20.5s,MS5.1
KONO Kongsberg 23.90 56 *e*P **P 04 46 59.9 -0.3**
KONO pmax pmax
comp=Z,95nm,1.2s,mb5.1
KONO MLR MLR
comp=Z,8µm,22.0s,MS5.2
KONO Kongsberg 23.90 56 *e*P **P 04 46 59.9 -0.3**
comp=Z,96nm,1.2s,mb5.1
KONO LR LR
comp=Z,8µm,22.0s,MS5.2
KONO Kongsberg 23.90 56 *e*P **P 04 47 01.6 +1.4**
comp=Z,194nm,1.1s,mb5.5,SNR=28
KONO *e*S **S 04 51 19.2 +3.2**
SNR=29
BUG Bochum--Univer 23.90 77 *e*P **P 04 46 59.3 -1.0**
comp=Z,638nm,2.0s,mb5.7
MUD Monsted U'grnd 23.91 64⇑*i*P **P 04 46 59.5 -0.8**
MUD pmax pmax
comp=Z,110nm,1.1s,mb5.2
MUD MLR MLR
comp=Z,19µm,17.0s,MS5.6
MUD Monsted U'grnd 23.91 64⇑*i*P **P 04 46 59.5 -0.8**
comp=Z,112nm,1.1s,mb5.2
MUD *e*S **S 04 51 16.5 +0.3**
MUD
comp=Z,19µm,17.0s
ESPR Espera 23.91 120⇑P **P 04 47 00.3 -0.1**
comp=Z,2µm,3.1s
ESPR Espera 23.91 120⇑P **P 04 47 00.3 -0.1**
comp=Z,2µm,3.1s
IBBN Ibbenburen 23.94 74 *e*P **P 04 46 59.9 -0.7**
comp=Z,497nm,1.4s,mb5.8
LBL Lubilhac 23.96 93 *e*P **P 04 46 59.9 -1.0**
SFS San Fernando 24.02 121 *i*P **P 04 47 01.9 +0.4**
SFS *e*S **S 04 50 59.3 -19**
SALF Salau 24.03 100 *e*P **P 04 47 00.7 -0.9**
EBAN Banos Encina 24.09 115 P **P 04 47 04.1 +2.0**
EBAN pmax pmax
comp=Z,83nm,1.3s,mb5.0
EBAN Banos Encina 24.09 115 P **P 04 47 04.1 +2.0**
comp=Z,82nm,1.3s,mb5.0
LIJA Lijar 24.12 119 *e*P **P 04 47 03.0 +0.6**
ELUQ Luque 24.25 117 P **P 04 47 03.7 +0.1**
ELUQ pmax pmax
comp=Z,148nm,1.2s,mb5.3
ELUQ Luque 24.25 117 P **P 04 47 03.7 +0.1**
comp=Z,148nm,1.2s,mb5.3
ELUQ Luque 24.25 117 P **P 04 47 03.7 +0.1**
comp=Z,148nm,1.2s,mb5.3
THEF They Montfort 24.27 85 *e*P **P 04 47 02.9 -0.8**
MTLF Montolieu 24.33 98 *e*P **P 04 47 02.2 -2.0**
comp=Z,214nm,1.4s,mb5.1
MTLF Montolieu 24.33 98 *e*P **P 04 47 02.2 -2.0**
comp=Z,107nm,1.4s,mb5.1
RUP Ruppelstein 24.36 81 *e*P **P 04 47 04.2 -0.3**
EJIF Jimena Fronter 24.42 120 P **P 04 47 06.4 +1.2**
EJIF pmax pmax
comp=Z,149nm,1.4s,mb5.2
EJIF Jimena Fronter 24.42 120 P **P 04 47 06.4 +1.2**
comp=Z,149nm,1.4s,mb5.2
EVIA Vianos 24.48 112 P **P 04 47 06.2 +0.6**
EVIA pmax pmax
comp=Z,102nm,1.2s,mb5.1
EVIA Vianos 24.48 112 P **P 04 47 06.2 +0.6**
comp=Z,102nm,1.2s,mb5.1
EVIA Vianos 24.48 112 P **P 04 47 06.2 +0.6**

comp=Z,102nm,1.2s,mb5.1
EMOS Mosqueruela 24.50 107 ⇑P P 04 47 06.2 +0.4
comp=Z,2µm,2.8s,mb6.0
NAO01 NORSAR Array S 24.55 53 eP P 04 47 06.8 +0.7
comp=Z,78nm,1.4s,mb5.0
NAO01 LR LR
comp=Z,7µm,19.0s,MS5.2
NAO01 NORSAR Array S 24.55 53 eP P 04 47 06.8 +0.7
comp=Z,78nm,1.4s,mb5.0
HAU Haudompre 24.59 85 eP P 04 47 05.0 -1.6
comp=Z,183nm,1.1s,mb5.2
HAU eMLR MLR
comp=Z,10µm,18.0s,MS5.0
HAU Haudompre 24.59 85 eP P 04 47 05.0 -1.6
comp=Z,92nm,1.1s,mb5.2
ABH Alteburg 24.59 80 eP P 04 47 06.6 0.0
ERTA Horta de San J 24.60 105 ⇑P P 04 47 06.7 0.0
comp=Z,2µm,2.4s,mb6.2
ERTA Horta de San J 24.60 105 ⇑P P 04 47 06.7 -0.1
comp=Z,2µm,2.4s,mb6.2
CARF Carcanieres 24.61 100 eP P 04 47 06.6 -0.2
NB2 NORSAR Subarra 24.71 53 P P 04 47 07.2 -0.3
comp=Z,192nm,2.0s,mb5.3,baz=270,slow=10
NOA NORSAR Array B 24.71 53 P P 04 47 06.9 -0.6
NOA 04 50 45.1
NOA NORSAR Array B 24.71 53 P P 04 47 06.9 -0.6
comp=Z,14nm,0.9s,mb4.5,baz=270,slow=9.4,SNR=20
NOA PcP PcP 04 50 45.1 +1.0
comp=Z,2.1nm,0.8s,baz=281,slow=2.2,SNR=3.5
NOA LR LR 04 55 59.8
comp=Z,7µm,18.8s,MS5.2,baz=270,slow=35
EMIJ Mijas 24.71 119 ⇑P P 04 47 08.3 +0.5
comp=Z,235nm,1.9s,mb5.4
EMIJ Mijas 24.71 119 ⇑P P 04 47 08.3 +0.5
comp=Z,235nm,1.9s,mb5.4
ECHE Chera 24.71 109 P P 04 47 07.9 +0.1
ECHE pmax pmax
comp=Z,33nm,0.7s,mb5.0
ECHE Chera 24.71 109 P P 04 47 07.9 +0.1
comp=Z,33nm,0.7s,mb5.0
ECHE Chera 24.71 109 P P 04 47 07.9 +0.1
comp=Z,33nm,0.7s,mb5.0
EMIR Miracle 24.73 102 P P 04 47 08.9 +1.0
comp=Z,40nm,1.0s,mb4.9
VALF Valcebollere 24.74 100 eP P 04 47 06.6 -1.4
EQES Quesada 24.74 115 ⇑P P 04 47 09.0 +1.0
comp=Z,1µm,5.1s
LRDF Laroque-de-Fa 24.75 99 eP P 04 47 08.3 +0.2
EMAL Malaga-Limoner 24.75 118 i P P 04 47 08.1 0.0
EMAL eS S 04 51 24.0 -6.1
EPOB Poblet 24.80 103 P P 04 47 08.6 +0.1
comp=Z,1µm,3.1s
EPOB Poblet 24.80 103 P P 04 47 08.6 0.0
comp=Z,1µm,3.1s
LASF Ste Croix 24.93 95 eP P 04 47 08.2 -1.5
comp=Z,186nm,1.2s,mb5.2
LASF Ste Croix 24.93 95 eP P 04 47 08.2 -1.5
comp=Z,93nm,1.2s,mb5.2
HINF Hinteralfeld 24.98 85 eP P 04 47 09.0 -1.1
comp=Z,228nm,1.2s,mb5.3
HINF Hinteralfeld 24.98 85 eP P 04 47 09.0 -1.1
comp=Z,114nm,1.2s,mb5.3
FILF Fillols 24.98 99 eP P 04 47 09.0 -1.2
CDF Champ du Feu 24.99 83 eP P 04 47 09.2 -1.0
comp=Z,96nm,1.1s,mb4.9
CDF Champ du Feu 24.99 83 eP P 04 47 09.2 -1.0
comp=Z,48nm,1.1s,mb4.9
ECH Echery 25.00 84 eP P 04 47 10.1 -0.2
EHUE Huescar 25.00 114 P P 04 47 11.9 +1.5
EHUE pmax pmax
comp=Z,42nm,0.9s,mb5.0
EHUE Huescar 25.00 114 P P 04 47 11.9 +1.5
comp=Z,42nm,0.9s,mb5.0
EHUE Huescar 25.00 114 P P 04 47 11.9 +1.5
comp=Z,42nm,0.9s,mb5.0
ETOB Tobarra 25.01 111 P P 04 47 12.3 +1.8
comp=Z,1µm,3.2s
ETOB Tobarra 25.01 111 P P 04 47 12.3 +1.8
comp=Z,1µm,3.2s
BSEG Bad Segeberg 25.02 70 eP P 04 47 09.5 -0.9
comp=Z,134nm,1.1s,mb5.4
VIVF Saint-Julien-l 25.02 93 eP P 04 47 09.5 -1.0
comp=Z,295nm,1.2s,mb5.4
VIVF Saint-Julien-l 25.02 93 eP P 04 47 09.5 -1.0
comp=Z,148nm,1.2s,mb5.4
CABF La Chapelle 25.04 88 eP P 04 47 09.3 -1.4
comp=Z,698nm,1.6s,mb5.6
CABF La Chapelle 25.04 88 eP P 04 47 09.3 -1.4
comp=Z,349nm,1.6s,mb5.6
LANF Langenberg 25.08 82 eP P 04 47 11.1 0.0
KTD Kalmit 25.12 81 eP P 04 47 11.3 -0.1
MOF Molkenrain 25.13 85 eP P 04 47 11.3 -0.2
LOMF Lomont 25.16 86 eP P 04 47 11.2 -0.6
EGUA Guajares 25.16 117 P P 04 47 13.1 +1.2
STR Strasbourg 25.21 83 eP P 04 47 11.3 -1.0
EJON La Jonquera 25.24 99 P P 04 47 15.2 +2.7
comp=Z,21nm,1.1s,mb4.6
EJON La Jonquera 25.24 99 P P 04 47 15.2 +2.7
comp=Z,21nm,1.1s,mb4.6
SWS Schriesheim-Wi 25.43 80 P P 04 47 15.7 +1.5
TOD Tromm 25.45 80 eP P 04 47 13.7 -0.7
PKME Peaks-Kenny Pk 25.49 269 eP P 04 47 13.8 -0.9
comp=Z,404nm,1.7s,mb5.7
PKME LR LR
comp=Z,16µm,19.0s,MS5.6
PKME Peaks-Kenny Pk 25.49 269 eP P 04 47 13.9 -0.9
comp=Z,404nm,1.7s,mb5.7
BBS Basel-Blauen 25.53 85 eP P 04 47 14.2 -0.9
BBS 04 47 19.7
KIZ Kirchzarten 25.57 84 P P 04 47 16.6 +1.1
CLZ Clausthal 25.62 74 eP P 04 47 15.7 -0.2
CLZ pmax pmax
comp=Z,219nm,1.4s,mb5.5
CLZ Clausthal 25.62 74 eP P 04 47 15.7 -0.2
comp=Z,219nm,1.4s,mb5.5
FELD Feldberg im Sc 25.65 84 eP P 04 47 15.5 -0.7
BFO Black Forest 25.66 83 P P 04 47 15.9 -0.4
BFO pmax pmax
comp=Z,41nm,1.1s,mb4.9
BFO Black Forest 25.66 83 eP P 04 47 15.3 -1.0
comp=Z,54nm,1.3s,mb4.9
ORIF Oris-en-Rattie 25.73 92 eP P 04 47 16.5 -0.5
comp=Z,255nm,1.2s,mb5.3
ORIF eMLR MLR
comp=Z,22µm,23.0s,MS5.3
ORIF Oris-en-Rattie 25.73 92 eP P 04 47 16.5 -0.5
comp=Z,127nm,1.2s,mb5.3
UBBA Unterbreizbach 25.73 77 eP P 04 47 16.4 -0.6
comp=Z,119nm,1.6s,mb5.2
EMV Vieux Emosson 25.79 89 ⇓P P 04 47 20.0 +2.5
LBG Lerchenberg 25.81 82 P P 04 47 18.0 +0.3
COP Copenhagen 25.83 65 ⇑iP P 04 47 18.9 +1.1
COP pmax pmax
comp=Z,60nm,1.2s,mb5.0
COP MLR MLR
comp=Z,7µm,17.0s,MS5.2
COP Copenhagen 25.83 65 ⇑iP P 04 47 18.9 +1.1
comp=Z,60nm,1.2s,mb5.0
COP eS S 04 52 02.1 +15
COP
comp=Z,7µm,17.0s
SULZ Cheisacher 25.87 85 ⇑P P 04 47 17.3 -0.9
HFA0 Hagfors New Ar 25.94 55 P P 04 47 19.0 +0.2
HFS Hagfors 25.95 55 P P 04 47 18.1 -0.7
HFS 04 50 45.7
HFS Hagfors 25.95 55 P P 04 47 18.1 -0.7
comp=Z,11nm,0.8s,mb4.5,baz=260,slow=7.4,SNR=14
HFS PcP PcP 04 50 45.7 -1.2
comp=Z,5.3nm,0.7s,baz=224,slow=4.1,SNR=4.3
HFS LR LR 04 57 05.8
comp=Z,8µm,18.1s,MS5.3,baz=271,slow=36
HFS Hagfors 25.95 55 PcP PcP 04 50 45.7 -1.2
LPL La Plagne 25.95 90 eP P 04 47 18.4 -0.6
comp=Z,260nm,1.5s,mb5.2
LPL La Plagne 25.95 90 eP P 04 47 18.4 -0.6
comp=Z,130nm,1.5s,mb5.2
LPG La Plagne 25.97 90 eP P 04 47 18.7 -0.5
comp=Z,252nm,1.5s,mb5.2
LPG La Plagne 25.97 90 eP P 04 47 18.7 -0.5
comp=Z,126nm,1.5s,mb5.2
SLE Schleitheim 26.00 84 ⇑P P 04 47 18.5 -0.9
STU Stuttgart 26.01 81 eP P 04 47 19.1 -0.4
comp=Z,88nm,1.0s,mb5.2
SIND Sindeldorf 26.03 80 P P 04 47 20.0 +0.3
SMRF Simiane la Rot 26.03 94 eP P 04 47 19.0 -0.7
comp=Z,234nm,1.3s,mb5.3
SMRF Simiane la Rot 26.03 94 eP P 04 47 19.0 -0.7
comp=Z,117nm,1.3s,mb5.3
SPAK Spaichingen-Ko 26.03 83 eP P 04 47 18.3 -1.4
SPAK P 04 47 25.1
CART Cartagena 26.06 112 eP P 04 47 19.3 -0.7
comp=Z,60nm,1.0s,mb5.1
CART Cartagena 26.06 112 eP P 04 47 19.3 -0.7
comp=Z,60nm,1.0s,mb5.1
CART eS S 04 51 47.0 -3.9
LKBD Leukerbad 26.09 87 ⇑P P 04 47 22.0 +1.8
DIX Grande Dixence 26.09 88 ⇓P P 04 47 22.0 +1.7
BNI Bardonecchia 26.15 91 eP P 04 47 22.5 +1.7
BNI pmax pmax
comp=Z,107nm,1.4s,mb5.2
BNI Bardonecchia 26.15 91 eP P 04 47 22.5 +1.7
comp=Z,107nm,1.4s,mb5.2
BNI Bardonecchia 26.15 91 eP P 04 47 22.5 +1.7
comp=Z,107nm,1.4s,mb5.2
ZUR Degenried 26.22 85 ⇑P P 04 47 23.4 +2.0
BUCH Bad Urach 26.23 82 P P 04 47 21.9 +0.4
GUT Gutenstein 26.25 83 P P 04 47 22.9 +1.3
SISB Singen-Schiene 26.32 84 P P 04 47 24.2 +1.9
MBDF Montbardon 26.37 91 eP P 04 47 22.2 -0.6
comp=Z,144nm,1.5s,mb5.0
MBDF Montbardon 26.37 91 eP P 04 47 22.2 -0.6
comp=Z,72nm,1.5s,mb5.0
WILA Wila 26.40 84 ⇑P P 04 47 22.9 -0.1
MUO Muotathal 26.44 86 ⇓P P 04 47 26.4 +3.0
MMK Mattmark 26.45 88 ⇑P P 04 47 24.2 +0.7
RSP Reno Superiore 26.45 90 P P 04 47 26.3 +2.8
RGN Rugen 26.58 67 eP P 04 47 25.0 +0.4
comp=Z,163nm,1.1s,mb5.5
RGN Rugen 26.58 67 eP P 04 47 25.0 +0.4
comp=Z,163nm,1.1s,mb5.5
MOR8 Moi Rana 26.59 41 eP P 04 47 25.7 +1.2
MOR8 AMb AMB 04 47 38.7
comp=Z,161nm,1.9s,mb5.2
MOR8 Moi Rana 26.59 41 eP P 04 47 25.7 +1.2
comp=Z,161nm,1.9s,mb5.2
MOR8 Moi Rana 26.59 41 eP P 04 47 25.7 +1.2
comp=Z,161nm,1.9s,mb5.2,SNR=28
LOF Lofoten 26.61 36 eP P 04 47 31.1 +6.4
LLS Linth-Limmern 26.72 86 ⇑P P 04 47 26.0 +0.1
MOX Moxa 26.76 76 eP P 04 47 25.5 -0.7
comp=Z,83nm,1.5s,mb5.0
MOX e 04 48 00.6
MOX
comp=Z,16µm,19.0s
MOX Moxa 26.76 76 eP P 04 47 25.5 -0.7
MOX pmax pmax
comp=Z,83nm,1.5s,mb5.0
MOX MLR MLR
comp=Z,16µm,19.0s,MS5.6
MOX Moxa 26.76 76 eP P 04 47 25.3 -0.9
comp=Z,46nm,1.1s,mb4.9
MOX ePcP PcP 04 50 49.8 +0.9
GRA1 Grafenberg Arr 26.87 78 eP P 04 47 27.0 -0.2
comp=Z,117nm,1.4s,mb5.2
GRA1 ePcP PcP 04 50 51.3 +2.1
GRA1 eS S 04 52 02.1 -1.4
GRA1 LR LR
comp=Z,9µm,22.0s,MS5.3
GRF Grafenberg Arr 26.87 78 eP P 04 47 27.0 -0.2
GRF e 04 50 51.3
GRF eS S 04 52 02.1 -1.4
GRF pmax pmax
comp=Z,117nm,1.4s,mb5.2
GRF MLR MLR
comp=Z,9µm,22.0s,MS5.3
GRF Grafenberg Arr 26.87 78 eP P 04 47 27.0 -0.2
GRF e 04 50 51.3
GRF eS S 04 52 02.1 -1.4
GRF pmax pmax
comp=Z,117nm,1.4s,mb5.2
GRF MLR MLR
comp=Z,9µm,22.0s,MS5.3
GRF Grafenberg Arr 26.87 78 eP P 04 47 27.0 -0.2
comp=Z,117nm,1.4s,mb5.2
GRF ePcP PcP 04 50 51.3 +2.1
GRF eS S 04 52 02.1 -1.4
GRF eL 04 56 33.9
comp=Z,9µm,22.0s
GRFO Grafenberg 26.87 78 eP P 04 47 28.6 +1.4
GRFO pmax pmax
comp=Z,97nm,1.4s,mb5.1
GRFO MLR MLR
comp=Z,9µm,22.0s,MS5.3
GRFO Grafenberg 26.87 78 eP P 04 47 28.6 +1.3
comp=Z,97nm,1.4s,mb5.1
GRFO LR LR
comp=Z,9µm,22.0s,MS5.3
GRFO Grafenberg 26.87 78 eP P 04 47 28.6 +1.4
comp=Z,97nm,1.4s,mb5.1
FRF La Foret Royal 26.91 94 eP P 04 47 27.2 -0.4
comp=Z,77nm,1.1s,mb4.9
FRF La Foret Royal 26.91 94 eP P 04 47 27.2 -0.4
comp=Z,77nm,1.1s,mb4.9
LMR La Mourre 26.95 94 eP P 04 47 27.1 -0.9
comp=Z,112nm,1.4s,mb4.9
LMR La Mourre 26.95 94 eP P 04 47 27.1 -0.9
comp=Z,56nm,1.4s,mb4.9
CALN Calern 26.95 93 eP P 04 47 31.0 +3.0
TOUF Mont Tournerai 27.03 92 eP P 04 47 29.5 +0.7
MVIF Mont Vial 27.04 93 eP P 04 47 32.2 +3.4
DAVA Damuels 27.05 84 ⇓iP P 04 47 29.2 +0.3
comp=Z,27nm,1.1s,mb4.7
AUTN L'Aution 27.15 92 eP P 04 47 29.1 -0.7
LUCF Luceram 27.16 92 eP P 04 47 32.1 +2.2
SBF Sospel 27.23 92 eP P 04 47 29.6 -0.9
comp=Z,120nm,1.2s,mb5.0
SBF Sospel 27.23 92 eP P 04 47 29.6 -0.9
comp=Z,60nm,1.2s,mb5.0
SAOF Saorge 27.24 92 eP P 04 47 30.9 +0.3
DAVOX Davos/Dischmat 27.28 85 P P 04 47 31.1 +0.1
comp=Z,19nm,1.0s,mb4.6,baz=301,slow=12,SNR=13
DAVOX LR LR 04 57 41.2
comp=Z,6µm,18.9s,MS5.2,baz=298,slow=35
MANZ Manzenberg 27.29 77 eP P 04 47 30.4 -0.6
comp=Z,36nm,1.1s,mb4.8
BSD Bornholm Skovb 27.34 66 ⇑iP P 04 47 30.5 -0.9
BSD pmax pmax
comp=Z,23nm,0.8s,mb4.8
BSD MLR MLR
comp=Z,13µm,17.0s,MS5.6
BSD Bornholm Skovb 27.34 66 ⇑iP P 04 47 30.5 -0.9
comp=Z,23nm,0.8s,mb4.8
BSD
comp=Z,13µm,17.0s
TANN Tannenbergstha 27.34 76 eP P 04 47 30.3 -1.2
comp=Z,59nm,1.1s,mb5.0
CLL Collm 27.35 74 ⇑iP P 04 47 31.0 -0.5
CLL i pP 04 47 34.4 -0.1
CLL i 04 47 37.1
CLL pmax pmax
comp=Z,37nm,0.8s,mb5.0
CLL MLR MLR
comp=Z,15µm,18.7s,MS5.6
CLL Collm 27.35 74 ⇑iP P 04 47 31.0 -0.5
comp=Z,37nm,0.8s,mb5.0
CLL i pP 04 47 34.4 -0.1
CLL i 04 47 37.1
CLL LR LR
comp=Z,15µm,18.7s,MS5.6
CLL Collm 27.35 74 eP P 04 47 30.6 -0.9
comp=Z,81nm,1.2s,mb5.1
CLL ePcP PcP 04 50 51.3 +1.0
CLL Collm 27.35 74 ⇑iP P 04 47 31.0 -0.5
comp=Z,37nm,0.8s,mb5.0
CLL i pP pP 04 47 34.4 -0.1
CLL i sP sP 04 47 37.1 +1.3
CLL ePP 04 48 10.0
CLL ePcP PcP 04 50 52.0 +1.7
CLL eS S 04 52 06.0 -5.0
CLL eSS 04 53 26.0
CLL eSSS 04 53 30.0
CLL Lm 04 57 00.0
comp=N,5µm,18.3s
CLL Lm 04 57 00.0
comp=E,8µm,20.6s
CLL Lm 04 57 00.0
comp=Z,15µm,18.7s
NKC Novy Kostel 27.40 77 eP P 04 47 33.1 +1.1
NKC e*PP pP 04 47 39.1 +4.1
NKC e 04 48 17.3
NKC eS S 04 52 14.8 +2.9
NKC Novy Kostel 27.40 77 eP P 04 47 33.1 +1.1
NKC epP pP 04 47 39.1 +4.1
NKC ex x 04 48 17.3
NKC eS S 04 52 14.8 +2.9
NKC AMS AMS 04 57 40.0
comp=Z,14µm,17.5s
ROTZ Rotzenmuhle 27.43 78 eP P 04 47 31.3 -1.0
comp=Z,42nm,1.2s,mb4.8
BERN Bernov 27.44 77 ⇑P P 04 47 34.3 +1.9
RETA Reutte 27.50 83 i P P 04 47 33.1 +0.2
comp=Z,82nm,1.3s,mb5.2,SNR=23
FUR Furstenfeldbru 27.52 81 eP P 04 47 32.8 -0.3
FUR pmax pmax
comp=Z,420nm,1.9s,mb5.7
FUR Furstenfeldbru 27.52 81 eP P 04 47 32.8 -0.3
comp=Z,420nm,1.9s,mb5.7
QLNO Quiliano 27.54 91 P P 04 47 34.4 +1.1
LBNH Lisbon 27.62 269 eP P 04 47 33.4 -0.7
LBNH pmax pmax
comp=Z,152nm,1.6s,mb5.4
LBNH MLR MLR
comp=Z,19µm,19.0s,MS5.7
LBNH Lisbon 27.62 269 eP P 04 47 33.4 -0.6
comp=Z,152nm,1.6s,mb5.4
LBNH LR LR
comp=Z,19µm,19.0s,MS5.7
LBNH Lisbon 27.62 269 eP P 04 47 33.4 -0.7
comp=Z,152nm,1.6s,mb5.4
MDT Midelt 27.69 124 P P 04 47 35.3 +0.6
comp=Z,8.1nm,0.9s,mb4.4,baz=328,slow=11,SNR=18
FETA Feichten 27.69 84 ⇑iP P 04 47 35.0 +0.4
comp=Z,56nm,1.7s,mb4.9,SNR=9.8
MOTA Moosalm 27.77 83 ⇑iP P 04 47 35.4 0.0
comp=Z,85nm,1.1s,mb5.3
MOTA Moosalm 27.77 83 ⇑iP P 04 47 35.4 0.0
MOTA pmax pmax
comp=Z,85nm,1.1s,mb5.3
FFD Franklin Falls 27.87 267 eP P 04 47 35.7 -0.5
comp=Z,44nm,0.8s,mb5.1
FFD Franklin Falls 27.87 267 eP P 04 47 35.7 -0.5
comp=Z,44nm,0.8s,mb5.1
BOB Bobbio (Coli) 27.99 89 P P 04 47 38.1 +0.8
WET Wettzell 28.08 79 eP P 04 47 37.5 -0.6
WET e 04 50 52.5
WET pmax pmax
comp=Z,53nm,1.4s,mb5.0
WET Wettzell 28.08 79 eP P 04 47 37.5 -0.6
comp=Z,53nm,1.4s,mb5.0
WET ePcP PcP 04 50 52.5 +0.3
HNH Hanover 28.13 268 eP P 04 47 38.3 -0.2
comp=Z,100nm,1.2s,mb5.3
HNH Hanover 28.13 268 eP P 04 47 38.3 -0.3
comp=Z,100nm,1.2s,mb5.3
WTTA Wattenberg 28.13 83 ⇑iP P 04 47 38.9 +0.3
comp=Z,110nm,1.7s,mb5.2,SNR=15
WTTA Wattenberg 28.13 83 ⇑iP P 04 47 38.9 +0.3
WTTA pmax pmax
comp=Z,110nm,1.7s,mb5.2
WES Weston 28.26 265 eP P 04 47 39.2 -0.6
WES pmax pmax
comp=Z,21nm,0.7s,mb4.9
WES MLR MLR
comp=Z,12µm,19.0s,MS5.5
WES Weston 28.26 265 eP P 04 47 39.2 -0.6
comp=Z,21nm,0.7s,mb4.9
WES LR LR
comp=Z,12µm,19.0s,MS5.5
WES Weston 28.26 265 eP P 04 47 39.2 -0.6
comp=Z,21nm,0.7s,mb4.9
FRNY Flat Rock 28.34 271 eP P 04 47 39.5 -0.9
comp=Z,55nm,1.3s,mb5.0
FRNY Flat Rock 28.34 271 eP P 04 47 39.5 -0.9
comp=Z,55nm,1.3s,mb5.0
HRV Adam Dziewonsk 28.34 266 eP P 04 47 39.1 -1.4
HRV pmax pmax
comp=Z,66nm,1.4s,mb5.1
HRV MLR MLR
comp=Z,17µm,19.0s,MS5.7
HRV Adam Dziewonsk 28.34 266 eP P 04 47 39.1 -1.3
comp=Z,66nm,1.4s,mb5.1
HRV LR LR
comp=Z,17µm,19.0s,MS5.7
HRV Adam Dziewonsk 28.34 266 eP P 04 47 39.1 -1.4
comp=Z,66nm,1.4s,mb5.1
EANR 'Ain N'Sour 28.40 112 P P 04 47 45.0 +3.9
KHC Kasperske Hory 28.51 78 eP P 04 47 41.6 -0.3
KHC e*PP pP 04 47 49.3 +4.4
KHC e 04 48 36.7
KHC eS S 04 52 32.7 +3.4
KHC MLR MLR
comp=Z,8µm,22.6s,MS5.3
KHC Kasperske Hory 28.51 78 eP P 04 47 41.6 -0.3
KHC epP pP 04 47 49.3 +4.4
KHC ex x 04 48 36.7
KHC ex x 04 49 17.5
KHC eS S 04 52 32.7 +3.4
KHC AMS AMS 04 56 50.0
comp=Z,8µm,22.6s
PVCC Panska Ves 28.55 75 eP P 04 47 41.7 -0.6
PVCC e*PP pP 04 47 48.2 +2.9
PVCC eS S 04 52 28.0 -2.0
PVCC MLR MLR
comp=Z,18µm,16.6s,MS5.8
PVCC Panska Ves 28.55 75 eP P 04 47 41.7 -0.6
PVCC epP pP 04 47 48.2 +2.9
PVCC eS S 04 52 28.0 -2.0
PVCC Panska Ves 28.55 75 eP P 04 47 41.7 -0.6
PVCC epP pP 04 47 48.2 +2.9
PVCC ex x 04 48 24.5
PVCC eS S 04 52 28.0 -2.0
PVCC AMS AMS 04 58 50.0
comp=Z,18µm,16.6s
BRYW Bryant College 28.66 265 eP P 04 47 42.7 -0.6
comp=Z,1µm,1.9s,mb6.3
BRYW Bryant College 28.66 265 eP P 04 47 42.7 -0.6
comp=Z,1µm,1.9s,mb6.3
GEC2 GERESS Array S 28.70 79 eP P 04 47 42.8 -0.8
GEC2 pmax pmax
comp=Z,83nm,1.4s,mb5.3
GEC2 GERESS Array S 28.70 79 eP P 04 47 42.8 -0.8
comp=Z,83nm,1.4s,mb5.3
GERES GERESS Array B 28.70 79 P P 04 47 43.3 -0.3
GERES 04 50 53.2
GERES GERESS Array B 28.70 79 P P 04 47 43.3 -0.3
comp=Z,20nm,0.8s,mb4.9,baz=298,slow=8.6,SNR=74
GERES PcP PcP 04 50 53.2 -0.5
comp=Z,2.5nm,0.8s,baz=341,slow=2.8,SNR=4.5
GERES LR LR 04 58 12.4
comp=Z,9µm,21.0s,MS5.3,baz=295,slow=34
GERES GERESS Array B 28.70 79 PcP PcP 04 50 53.2 -0.5
CTI Castel Tesino 28.71 85 P P 04 47 44.9 +1.2
PRU Pruhonice 28.74 76 eP P 04 47 45.1 +1.1
PRU e*PP pP 04 47 50.8 +3.8
PRU e 04 48 37.0
PRU eS S 04 52 34.8 +1.8
PRU MLR MLR
comp=Z,16µm,16.6s,MS5.7
PRU Pruhonice 28.74 76 eP P 04 47 45.1 +1.1
PRU eS S 04 52 34.8 +1.8
PRU Pruhonice 28.74 76 eP P 04 47 45.1 +1.1
PRU epP pP 04 47 50.8 +3.8
PRU ex x 04 48 37.0
PRU ex x 04 49 13.7
PRU eS S 04 52 34.8 +1.8
PRU AMS AMS 04 59 00.0
comp=Z,16µm,16.6s
TRO Tromso 28.84 34 eP P 04 47 51.0 +6.4
TRO eS S 04 52 34.0 -0.1
VLC Villacollemand 28.88 90 eP P 04 47 46.7 +1.4
comp=Z,55nm,1.1s,mb5.2
VLC Villacollemand 28.88 90 eP P 04 47 46.7 +1.4
comp=Z,55nm,1.1s,mb5.2
PGF Pioggiola 28.90 93 eP P 04 47 44.7 -0.8
comp=Z,110nm,1.8s,mb5.0
PGF Pioggiola 28.90 93 eP P 04 47 44.7 -0.8
comp=Z,55nm,1.8s,mb5.0
GSCL Gusciola 28.91 89 P P 04 47 48.4 +2.9
ETRT Tiaret 28.92 113 P P 04 47 46.8 +1.1
QUA2 Belchertown 28.95 266 eP P 04 47 45.6 -0.3
comp=Z,105nm,1.3s,mb5.4
QUA2 Belchertown 28.95 266 eP P 04 47 45.6 -0.3
comp=Z,105nm,1.3s,mb5.4
RAVA Ravarino 29.02 88 P P 04 47 49.4 +2.9
LONY Lake Ozonia 29.06 272 eP P 04 47 46.0 -0.8
comp=Z,34nm,0.9s,mb5.1

LONY LR LR
comp=Z,12µm,21.0s,MS5.5
LONY Lake Ozonia 29.06 272 *e*P **P 04 47 46.0 -0.8**
comp=Z,34nm,0.9s,mb5.1
BDI Bagni Di Lucca 29.06 90 P **P 04 47 48.0 +1.1**
FVI Forni Avoltri 29.14 83 P **P 04 47 48.8 +1.3**
CORF Corte 29.14 94 *e*P **P 04 47 48.0 +0.4**
ACCN Adirondack Com 29.15 269 *e*P **P 04 47 47.4 -0.2**
comp=Z,304nm,2.1s,mb5.7
ACCN Adirondack Com 29.15 269 *e*P **P 04 47 47.4 -0.2**
comp=Z,304nm,2.1s,mb5.7
GKP Gorka Klasztor 29.16 68 *e*P **P 04 47 48.8 +1.1**
GKP *e*pP pP 04 47 50.5 -0.2
GKP LMZ 05 01 03.7
comp=Z,24µm,15.3s
GKP Gorka Klasztor 29.16 68 *e*P **P 04 47 48.7 +1.0**
GKP *e*pP pP 04 47 50.5 -0.2
GKP LR LR
comp=Z,24µm,15.3s,MS5.9
GKP Gorka Klasztor 29.16 68 *e*P **P 04 47 48.7 +1.0**
GKP *e*pP pP 04 47 50.5 -0.2
NCB Newcomb 29.17 270 *e*P **P 04 47 47.0 -0.8**
comp=Z,127nm,1.4s,mb5.5
NCB LR LR
comp=Z,9µm,19.0s,MS5.4
NCB Newcomb 29.17 270 *e*P **P 04 47 47.0 -0.9**
comp=Z,127nm,1.4s,mb5.5
PII Pisa 29.20 90 P **P 04 47 49.1 +1.0**
KBA Koelnbreinsper 29.25 82 *i*P **P 04 47 48.7 +0.1**
comp=Z,40nm,1.7s,mb4.9,SNR=6.8
KBA Koelnbreinsper 29.25 82 *i*P **P 04 47 48.7 +0.1**
KBA pmax pmax
comp=Z,40nm,1.7s,mb4.9
EMHD Djebel Mahouad 29.29 110 P **P 04 47 51.5 +2.6**
FNVD Fontana Vidola 29.33 89 P **P 04 47 50.9 +1.7**
UPC Upice 29.41 74 *e*P **P 04 47 49.3 -0.6**
UPC *e*pP pP 04 47 55.3 +2.3
KSP Ksiaz 29.45 74 *e*P **P 04 47 52.4 +2.2**
KSP *e*S **S 04 52 45.3 +1.1**
KSP LMZ 04 59 10.1
comp=Z,24µm,19.2s
KSP Ksiaz 29.45 74 *e*P **P 04 47 52.3 +2.0**
KSP *e* 04 48 41.0
KSP *e*S **S 04 52 40.0 -4.1**
KSP LR LR
comp=Z,28µm,19.2s,MS5.9
MOA Molln 29.47 80⇑*i*P **P 04 47 50.0 -0.4**
comp=Z,58nm,1.4s,mb5.1,SNR=12
MOA Molln 29.47 80⇑*i*P **P 04 47 50.0 -0.4**
comp=Z,58nm,1.4s,mb5.1
TREC Trest 29.58 77 *e*P **P 04 47 51.4 0.0**
TREC *e**PP pP 04 47 57.8 +3.3
TREC *e* 04 48 41.3
TREC *e*S **S 04 52 43.3 -2.9**
TREC MLR MLR
comp=Z,11µm,16.6s,MS5.6
TREC Trest 29.58 77 *e*P **P 04 47 51.4 0.0**
TREC *e*pP pP 04 47 57.8 +3.3
TREC *e*x x 04 48 41.3
TREC *e*x x 04 49 16.2
TREC *e*S **S 04 52 43.3 -2.9**
TREC AMS AMS 04 59 00.0
comp=Z,11µm,16.6s
MYKA Terra Mystica 29.64 83⇓*i*P **P 04 47 52.4 +0.4**
comp=Z,222nm,1.6s,mb5.6
DPC Dobruska-Polom 29.66 74 *e*P **P 04 47 51.4 -0.7**
DPC *e*pP pP 04 47 58.0 +2.9
DPC *e*S **S 04 52 48.8 +1.4**
DPC Dobruska-Polom 29.66 74 *e*P **P 04 47 51.4 -0.7**
DPC *e*pP pP 04 47 58.0 +2.9
DPC *e*x x 04 48 43.2
DPC *e*S **S 04 52 48.8 +1.4**
DPC AMS AMS 04 59 50.0
comp=Z,17µm,15.6s
GRFL Gerfalco 29.78 91 P **P 04 47 55.0 +1.7**
CSNT Castellina Chi 29.80 90 P **P 04 47 55.5 +2.1**
SFI Santa Sofia 29.91 89 P **P 04 47 56.6 +2.2**
VOY Vojsko 30.08 84 *e*P **P 04 47 55.2 -0.7**
VOY *e* pP 04 47 59.5 +0.6
VOY *e* 04 48 07.3
VOY *e* 04 48 34.8
BJO Bjornoya 30.14 25 AMS AMS 04 57 19.7
comp=Z,2µm,15.5s,MS4.9
OBKA Obir 30.25 82⇓*i*P **P 04 47 56.7 -0.7**
comp=Z,32nm,1.0s,mb5.0,SNR=12
RSM Repubblica di 30.27 88 P **P 04 47 59.2 +1.7**
KTK1 Kautokeino 30.27 36 *e*P **P 04 47 58.4 +1.1**
CSNA Conrad Observa 30.39 79⇑*i*P **P 04 47 58.4 -0.2**
comp=Z,19nm,1.0s,mb4.8
CONA Conrad Observa 30.39 79⇑*i*P **P 04 47 58.4 -0.2**
comp=Z,20nm,1.0s,mb4.8,SNR=12
LJU Ljubljana 30.46 83 *e*P **P 04 47 58.8 -0.5**
SOKA Soboth 30.47 82⇑*i*P **P 04 47 57.8 -1.4**
ARSA Arzberg 30.50 81⇑*i*P **P 04 47 59.3 -0.3**
comp=Z,37nm,1.2s,mb5.0,SNR=8.5
CEY Cerknica 30.55 84 *e*P **P 04 47 59.7 -0.3**
CEY *e*S **S 04 53 01.8 +0.3**
LATE Laterza 30.59 91 P **P 04 48 02.6 +2.2**
KBS Kingsbay 30.59 15 *e*P **P 04 48 07.6 +7.5**
KBS *e*S **S 04 53 08.2 +6.6**
KBS *e* 04 55 10.9
KBS AMS AMS 04 57 41.2
comp=Z,1µm,15.8s,MS4.6
KBS Kingsbay 30.59 15 *e*P **P 04 48 02.0 +1.9**
KBS pmax pmax
comp=Z,38nm,0.9s,mb5.2
KBS Kingsbay 30.59 15 *e*P **P 04 48 02.0 +1.9**
comp=Z,38nm,0.9s,mb5.2
KBS *e*S **S 04 53 08.2 +6.6**
SNR=28
MORC Moravsky Berou 30.61 75 *e*P **P 04 47 59.3 -1.2**
MORC *e* 04 50 58.7
MORC pmax pmax
comp=Z,58nm,1.4s,mb5.2
MORC Moravsky Berou 30.61 75 *e*P **P 04 47 59.3 -1.2**
comp=Z,58nm,1.4s,mb5.2
MORC *e*PcP PcP 04 50 58.6 +0.1
MORC Moravsky Berou 30.61 75⇑*i*P **P 04 48 00.3 -0.2**
MORC Moravsky Berou 30.61 75 *e*P **P 04 47 59.3 -1.2**
comp=Z,58nm,1.4s,mb5.2
MORC Moravsky Berou 30.61 75 *e*PcP PcP 04 50 58.7 +0.1
VISS Visnje 30.77 83 *e*P **P 04 48 01.4 -0.6**
VISS *e* 04 50 59.4
RAC Raciborz 30.87 74 *e*P **P 04 48 03.4 +0.6**
RAC MLR MLR
comp=Z,15µm,18.3s,MS5.7
SOP Sopron 30.92 79⇓*e*P **P 04 48 06.5 +3.2**
SNTG Esanatoglia 30.93 89 P **P 04 48 05.6 +2.2**
VSL Villasalto 30.94 98 *e*P **P 04 48 04.3 +0.8**
comp=Z,21nm,1.0s,mb4.9
VSL Villasalto 30.94 98 *e*P **P 04 48 04.3 +0.8**
comp=Z,21nm,1.0s,mb4.9
OKC Ostrava-Krasne 30.94 74 *e*P **P 04 48 04.0 +0.6**
OKC *e*pP pP 04 48 09.3 +2.8
OKC *e* 04 48 54.2
OKC *e*S **S 04 53 09.6 +2.1**
OKC Ostrava-Krasne 30.94 74 *e*P **P 04 48 04.0 +0.6**
OKC *e*pP pP 04 48 09.3 +2.8
OKC *e*S **S 04 53 09.6 +2.1**
OKC Ostrava-Krasne 30.94 74 *e*P **P 04 48 04.0 +0.6**
OKC *e*pP pP 04 48 09.3 +2.8
OKC *e*x x 04 48 54.2
OKC *e*S **S 04 53 09.6 +2.1**
OKC AMS AMS 05 00 30.0
comp=Z,11µm,15.3s
SPB4 Spitsbergen Ar 30.97 17 *e*P **P 04 48 04.5 +1.0**
SPB4 Spitsbergen Ar 30.97 17 *e*P **P 04 48 04.5 +1.1**
SPITS Spitsbergen Ar 30.97 17 P **P 04 48 04.0 +0.6**
comp=Z,69nm,0.9s,mb5.5,baz=264,slow=8.3,SNR=27
SPITS LR LR 04 56 45.3
comp=Z,3µm,19.6s,MS4.9,baz=215,slow=29
TOLF Tolfa 31.02 92 P **P 04 48 05.1 +0.9**
ZST Bratislava 31.02 78 *e*P **P 04 48 05.8 +1.7**
ZST *e*S **S 04 53 10.6 +1.9**
ZST pmax pmax
comp=Z,126nm,1.8s,mb5.5
ZST MLR MLR
comp=Z,4µm,15.4s,MS5.2
ZST Bratislava 31.02 78 *e*P **P 04 48 05.8 +1.7**
comp=Z,126nm,1.8s,mb5.4
ZST *e*S **S 04 53 10.6 +1.9**
comp=Z,126nm,1.8s,mb5.4
ZST LR LR
comp=Z,4µm,15.4s,MS5.2
ZST Bratislava 31.02 78 *e*P **P 04 48 05.8 +1.7**
comp=Z,126nm,1.8s,mb5.4
ZST *e*S **S 04 53 10.6 +1.9**
MODS Modra-Piesok 31.05 78 *e*P **P 04 48 04.0 -0.4**
MODS *e*PCP PcP 04 50 59.2 -0.6
BBSR BB Station 31.09 243 PFAKE 04 48 20.0 +15
BBSR LR LR
comp=Z,3µm,20.0s,MS5.0
ARCES ARCESS Array B 31.11 35 P **P 04 48 04.7 -0.1**
comp=Z,16nm,0.8s,mb4.9,baz=262,slow=8.5,SNR=29
ARCES LR LR 04 57 42.5
comp=Z,4µm,19.9s,MS5.1,baz=262,slow=31
ARE0 ARCESS Array S 31.11 35 *e*P **P 04 48 04.8 +0.1**
ARE0 ARCESS Array S 31.11 35 *e*P **P 04 48 04.8 0.0**
BOJS Bojanci 31.17 84 *i*P **P 04 48 05.0 -0.5**
BOJS *e*S **S 04 53 11.3 +0.1**
BINY Binghamton 31.22 269 *e*P **P 04 48 05.3 -0.7**
comp=Z,177nm,1.8s,mb5.6
BINY *e*PcP PcP 04 50 59.6 -0.8
BINY LR LR
comp=Z,13µm,20.0s,MS5.6
BINY Binghamton 31.22 269 *e*P **P 04 48 05.3 -0.7**
comp=Z,177nm,1.8s,mb5.6
BINY Binghamton 31.22 269 *e*PcP PcP 04 50 59.6 -0.7
KOGS Kog 31.32 81 P **P 04 48 06.9 +0.1**
NVLJ Novalja 31.42 85 P **P 04 48 08.4 +0.7**
NVLJ Novalja 31.42 85 *i*P **P 04 48 08.4 +0.7**
NVLJ Novalja 31.42 85 *i*P **P 04 48 08.4 +0.7**
MTCE Montecelio 31.49 91 P **P 04 48 09.6 +1.2**
ALE Alert 31.52 353 P **P 04 48 07.3 -0.9**
comp=Z,210nm,1.0s,mb5.9,SNR=11
FIAM Fiamignano 31.58 91 P **P 04 48 11.8 +2.6**
KOLL Kolacno 31.63 77 *e*P **P 04 48 09.0 -0.5**
KEV Kevo 31.65 35 *e*p **P 04 48 08.5 -1.0**
comp=Z,22nm,0.9s,mb5.0
KEV Kevo 31.65 35 *e*P **P 04 48 08.5 -1.0**
KEV pmax pmax
comp=Z,22nm,0.9s,mb5.0
WAR Warsaw 31.68 69 *e*P **P 04 48 11.6 +1.7**
WAR *e*S **S 04 53 19.2 +0.2**
WAR LMZ 05 01 59.7
comp=Z,12µm,17.7s
WAR Warsaw 31.68 69 *e*P **P 04 48 11.6 +1.7**
WAR *e*S **S 04 53 19.2 +0.3**
WAR LR LR
comp=Z,12µm,17.7s,MS5.6
WAR Warsaw 31.68 69 *e*P **P 04 48 11.6 +1.7**
WAR *e*S **S 04 53 19.2 +0.3**
AQU L'Aquila 31.71 90⇓*i*P **P 04 48 15.1 +4.8**
AQU L'Aquila 31.71 90 *e*P **P 04 48 12.0 +1.7**
OJC Ojcow 31.75 73 *e*P **P 04 48 10.2 -0.4**
OJC *e*pP pP 04 48 13.2 -0.4
OJC *e*PP PP 04 49 24.0 +1.9
OJC *e*S **S 04 53 20.7 +0.5**
OJC L 05 00 15.9
comp=Z,13nm,20.3s
OJC Ojcow 31.75 73 *e*P **P 04 48 10.2 -0.4**
OJC *e*pP pP 04 48 13.2 -0.4
OJC *e*S **S 04 53 20.7 +0.5**
LUPA Lehigh Univers 31.78 266 *e*P **P 04 48 10.7 -0.2**
LUPA Lehigh Univers 31.78 266 *e*P **P 04 48 10.7 -0.2**
FINES FINESS Array B 31.83 50 P **P 04 48 10.4 -0.7**
FINES 04 51 00.3
FINES FINESS Array B 31.83 50 P **P 04 48 10.4 -0.7**
comp=Z,28nm,0.9s,mb5.1,baz=288,slow=7.9,SNR=58
FINES *e*PcP PcP 04 51 00.3 -1.3
comp=Z,2.6nm,0.7s,baz=261,slow=2.7,SNR=3.6
FINES LR LR 05 00 21.9
comp=Z,6µm,18.1s,MS5.3,baz=277,slow=35
FINES FINESS Array B 31.83 50 PcP PcP 04 51 00.3 -1.3
FIA1 FINESS Array S 31.83 50 *e*P **P 04 48 10.3 -0.8**
FIA1 FINESS Array S 31.83 50 *e*P **P 04 48 10.3 -0.8**
VYHS Vyhne 31.92 76 *e*P **P 04 48 11.4 -0.7**
VYHS *e* 04 51 03.1
VYHS pmax pmax
comp=Z,29nm,1.3s,mb5.0
VYHS Vyhne 31.92 76 *e*P **P 04 48 11.4 -0.7**
comp=Z,29nm,1.3s,mb5.0
VYHS *e*PcP PcP 04 51 03.1 +1.0
VVLD Villa Vallelon 32.12 91 P **P 04 48 16.0 +2.1**
PKSG 32.16 79 *e*P **P 04 48 15.0 +0.8**
SUW Suwalki 32.26 65 *e*P **P 04 48 14.3 -0.7**
SUW *e*pP pP 04 48 17.7 -0.4
SUW *e*PcP PcP 04 51 03.2 +0.3
SUW *e*S **S 04 53 28.1 0.0**
SUW LMZ 05 00 25.2
comp=Z,11µm,20.4s
SUW Suwalki 32.26 65 *e*P **P 04 48 14.3 -0.7**
SUW *e*pP pP 04 48 17.7 -0.4
SUW *e*PcP PcP 04 51 03.2 +0.3
SUW *e*S **S 04 53 28.1 0.0**
SUW Suwalki 32.26 65 *e*P **P 04 48 14.3 -0.7**
SUW *e*pP pP 04 48 17.7 -0.4
BUD Budapest 32.50 78⇑*e*P **P 04 48 16.7 -0.4**
MIDA Miranda 32.64 91 P **P 04 48 19.7 +1.3**
MVL Millersville 32.73 266 *e*P **P 04 48 19.2 -0.1**
comp=Z,286nm,2.0s,mb5.9
MVL *e*PcP PcP 04 51 03.7 -0.8
MVL Millersville 32.73 266 *e*P **P 04 48 19.2 -0.1**
comp=Z,286nm,2.0s,mb5.9
MVL Millersville 32.73 266 *e*PcP PcP 04 51 03.7 -0.8
RHK3 Tenkes 32.80 81⇑*e*P **P 04 48 20.3 +0.5**
VSU Vasula 32.81 56 *e*P **P 04 48 19.3 -0.4**
VSU Vasula 32.81 56 *e*P **P 04 48 19.4 -0.3**
PSZ Piszkesteto 32.82 77 *e*P **P 04 48 19.1 -0.8**
PSZ pmax pmax
comp=Z,151nm,1.6s,mb5.7
PSZ Piszkesteto 32.82 77 *e*P **P 04 48 19.1 -0.8**
comp=Z,150nm,1.6s,mb5.7
PSZ Piszkesteto 32.82 77⇑*e*P **P 04 48 20.2 +0.3**
PSZ Piszkesteto 32.82 77⇑*i*P **P 04 48 20.2 +0.3**
PSZ Piszkesteto 32.82 77 *e*P **P 04 48 19.1 -0.8**
comp=Z,150nm,1.6s,mb5.7
SGG Gregorio Mates 32.86 91 P **P 04 48 23.2 +2.8**
PKSM Moragy 32.88 80⇓*i*P **P 04 48 19.6 -0.9**
STHS Stebnicka Huta 32.94 74 *e*P **P 04 48 22.0 +1.0**
STHS pmax pmax
comp=Z,29nm,1.4s,mb5.0
STHS Stebnicka Huta 32.94 74 *e*P **P 04 48 21.9 +0.9**
STHS Stebnicka Huta 32.94 74 *e*P **P 04 48 22.0 +1.0**
comp=Z,29nm,1.4s,mb5.0
PSB1 Pescosannita 33.22 91 P **P 04 48 24.4 +0.9**
SSPA Standing Stone 33.30 268 PFAKE 04 48 40.0 +16
SSPA LR LR
comp=Z,13µm,19.0s,MS5.7
CRVS Cervenica-Dubn 33.30 74 *e*P **P 04 48 24.6 +0.5**
CRVS *e* 04 51 09.4
CRVS *e*S **S 04 53 46.6 +2.4**
CRVS Cervenica-Dubn 33.30 74 *e*P **P 04 48 24.6 +0.5**
CRVS *e*PCP PcP 04 51 09.4 +3.5
CRVS *e*S **S 04 53 46.6 +2.4**
CRVS *e*SS SS 04 56 31.2 +24
CRVS Cervenica-Dubn 33.30 74 *e*P **P 04 48 24.6 +0.5**
CRVS *e*S **S 04 53 46.6 +2.4**
RES Resolute Bay 33.36 334 P **P 04 48 24.8 +0.4**
RES pmax pmax
comp=Z,2µm,0.8s
RES Resolute Bay 33.36 334 *e*P **P 04 48 24.9 +0.4**
comp=Z,1µm,0.8s
RES *e*PcP PcP 04 51 05.9 +0.2
RES Resolute Bay 33.36 334 *e*P **P 04 48 24.9 +0.5**
comp=Z,1µm,0.8s
RES Resolute Bay 33.36 334 *e*PcP PcP 04 51 05.9 +0.2
KEST Kesra 33.37 103 P **P 04 48 24.3 -0.6**
comp=Z,31nm,0.9s,mb5.2,baz=284,slow=3.0,SNR=50
KEST LR LR 05 00 33.9
comp=Z,3µm,19.1s,MS5.0,baz=339,slow=34
SDMD Soldier's Deli 33.39 265 *e*P **P 04 48 24.4 -0.7**
comp=Z,233nm,1.6s,mb5.9
SDMD Soldier's Deli 33.39 265 *e*P **P 04 48 24.4 -0.6**
comp=Z,233nm,1.6s,mb5.9
CSSN Cassano Irpino 33.56 91 P **P 04 48 28.1 +1.6**
KWP Kalwaria 33.71 72 *e*P **P 04 48 28.3 +0.6**
KWP *e*pP pP 04 48 31.1 +0.4
KWP *e*S **S 04 53 52.8 +2.2**
KWP LMZ 05 01 54.2
comp=Z,10µm,19.5s
KWP Kalwaria 33.71 72⇑*i*P **P 04 48 27.6 -0.1**
KWP Kalwaria 33.71 72 *e*P **P 04 48 28.3 +0.6**
KWP *e*pP pP 04 48 31.1 +0.4
KWP *e*S **S 04 53 52.8 +2.2**
ERPA Erie 33.72 272 *e*P **P 04 48 27.5 -0.4**
comp=Z,64nm,1.2s,mb5.4
ERPA *e*PcP PcP 04 51 06.6 -0.6
ERPA LR LR
comp=Z,11µm,20.0s,MS5.6
ERPA Erie 33.72 272 *e*P **P 04 48 27.5 -0.4**
comp=Z,64nm,1.2s,mb5.4
ERPA Erie 33.72 272 *e*PcP PcP 04 51 06.6 -0.6
USI Ustica 33.74 96 P **P 04 48 29.2 +1.1**
KOLS Kolonicke sedl 33.76 74 *e*P **P 04 48 29.7 +1.5**
KOLS *e*PCP PcP 04 51 09.4 +2.2
UZH Uzhgorod 33.91 74 *d i*P **P 04 48 29.0 -0.5**
UZH *i* 04 48 36.3
UZH *e* 04 49 46.0
UZH *e*PPP 04 50 04.4
UZH *e* 04 51 10.0
UZH *e*S **S 04 53 52.3 -1.5**
UZH *e*SS SS 04 55 55.0 -25
UZH *e*SSS 04 56 29.0
UZH MLR MLR
comp=Z,6µm,15.0s,MS5.5
UZH Uzhgorod 33.91 74 *e*P **P 04 48 28.0 -1.5**
SGO Sicignano 33.91 91 P **P 04 48 31.0 +1.4**
JOF Joensuu 33.95 47 *e*p **P 04 48 28.6 -1.1**
comp=Z,30nm,0.7s,mb5.3
APA Apatity 34.07 38⇓*i*P **P 04 48 30.2 -0.4**
APA *i* pP 04 48 34.4 +0.7
APA *i*S **S 04 53 52.0 -3.8**
APA *e*SS SS 04 56 36.0 +13
APA pmax pmax
comp=Z,60nm,0.8s,mb5.6
ALLY Alegheny Colle 34.09 271 *e*P **P 04 48 30.7 -0.4**
comp=Z,112nm,1.3s,mb5.6
ALLY Alegheny Colle 34.09 271 *e*P **P 04 48 30.7 -0.4**
comp=Z,112nm,1.3s,mb5.6
TRPA Tarpa 34.29 75⇑*i*P **P 04 48 32.8 +0.1**
LVV L'vov 34.40 71 *e*P **P 04 48 34.7 +1.0**
LVV *e* 04 49 50.9
LVV *e*S **S 04 54 03.9 +2.7**
LVV *e*SS SS 04 56 15.7 -14
LVV MLR MLR
comp=Z,4µm,15.0s,MS5.3
LVV MLR MLR
comp=N,800nm,12.0s,MS5.3
LVV MLR MLR
comp=E,3µm,14.0s,MS5.3
LVV L'vov 34.40 71 *e*P **P 04 48 34.8 +1.1**
CBN Corbin 34.47 264 *e*P **P 04 48 34.1 -0.3**
comp=E,49nm,0.8s,mb5.5
CBN LR LR
comp=Z,19µm,20.0s,MS5.8
CBN Corbin 34.47 264 *e*P **P 04 48 34.1 -0.3**
comp=Z,49nm,0.8s,mb5.5
SCHR S. Chirico Rap 34.60 91 P **P 04 48 37.6 +2.1**
MNK Minsk 34.65 62⇓*e*P **P 04 48 35.0 -0.7**
MNK *e*S **S 04 54 00.0 -4.9**
MNK pmax pmax
comp=Z,230nm,0.8s,mb6.2
MNK MLR MLR
comp=Z,12µm,14.0s,MS5.8
MNK MLR MLR
comp=N,12µm,14.0s,MS5.9
MNK MLR MLR
comp=E,10µm,14.0s,MS5.9
FCC Fort Churchill 34.65 306 *e*P **P 04 48 35.8 +0.1**
FCC *e* 04 51 08.8
FCC pmax pmax
comp=Z,250nm,1.7s,mb5.9
FCC Fort Churchill 34.65 306 *e*P **P 04 48 35.8 0.0**
comp=Z,250nm,1.7s,mb5.9
FCC *e*PcP PcP 04 51 08.8 -0.8
FCC Fort Churchill 34.65 306 *e*P **P 04 48 35.8 +0.1**
comp=Z,250nm,1.7s,mb5.9
FCC Fort Churchill 34.65 306 *e*PcP PcP 04 51 08.8 -0.8
GIB Gibilmanna 34.71 96 P **P 04 48 38.7 +2.2**
CSLB Castelbuono 34.76 96 P **P 04 48 39.3 +2.3**
BZS Buzias 34.97 79⇑*i*P **P 04 48 38.2 -0.5**
BZS Buzias 34.97 79 P **P 04 48 38.4 -0.3**
URVA University of 34.97 263 *e*P **P 04 48 38.7 -0.1**
URVA *e*PcP PcP 04 51 10.1 -0.8
URVA University of 34.97 263 *e*P **P 04 48 38.7 -0.1**
URVA University of 34.97 263 *e*PcP PcP 04 51 10.1 -0.8
DRGR 35.04 77 P **P 04 48 40.1 +0.9**
DRGR 35.04 77⇓*i*P **P 04 48 39.9 +0.7**
DRGR 35.04 77 P **P 04 48 40.1 +0.9**
GLMI Grayling 35.07 279 *e*P **P 04 48 39.8 +0.2**
comp=Z,101nm,1.0s,mb5.7
GLMI LR LR
comp=Z,5µm,20.0s,MS5.3
GLMI Grayling 35.07 279 *e*P **P 04 48 39.8 +0.3**
comp=Z,101nm,1.0s,mb5.7
MCWV Mont Chateau 35.08 268 *e*P **P 04 48 39.7 0.0**
comp=Z,72nm,1.2s,mb5.5
MCWV LR LR
comp=Z,14µm,19.0s,MS5.7
MCWV Mont Chateau 35.08 268 *e*P **P 04 48 39.7 0.0**
comp=Z,72nm,1.2s,mb5.5
TDS Terranova Siba 35.09 92 P **P 04 48 40.6 +0.9**
RAFF Raffo Rosso 35.41 97 P **P 04 48 43.1 +0.6**
TIP Timpagrande 35.64 92 *e*P **P 04 48 44.7 +0.3**
comp=Z,66nm,1.6s,mb5.3
TIP Timpagrande 35.64 92 *e*P **P 04 48 44.7 +0.2**
comp=Z,66nm,1.6s,mb5.3
GRI Girifalco 35.65 93 P **P 04 48 45.6 +1.0**
BCI Bajram Curri 35.78 85 *i*PN **P 04 48 46.9 +1.2**
GZR Gura Zlata 35.79 79 P **P 04 48 45.8 +0.1**
GZR Gura Zlata 35.79 79⇓*i*P **P 04 48 45.9 +0.2**
GZR Gura Zlata 35.79 79 P **P 04 48 45.8 +0.1**
PUK Puka 35.86 86 *i*PN **P 04 48 49.2 +2.8**
AAM Ann Arbor 35.86 275 PFAKE 04 49 00.0 +14
AAM LR LR
comp=Z,12µm,21.0s,MS5.7
SSY Sortino 35.88 96 P **P 04 48 48.8 +2.2**
BURAR Bucovina Array 36.12 74⇑*i*P **P 04 48 49.3 +0.8**
TIR Tirane 36.25 87 *i*PN **P 04 48 52.0 +2.3**
WDD Wield Dalam 36.39 98 P **P 04 48 52.2 +1.2**
PHP Peshkopia 36.40 86 *i*PN **P 04 48 52.3 +1.3**
TMCR Tamitsa 36.59 44 *i*P **P 04 48 53.0 +0.7**
BARS Barje 36.60 83 P **P 04 48 54.2 +1.6**
ACSO Alum Creek Sta 36.66 271 *e*P **P 04 48 53.3 +0.1**
comp=Z,114nm,1.0s,mb5.7
ACSO LR LR
comp=Z,9µm,21.0s,MS5.5
ACSO Alum Creek Sta 36.66 271 *e*P **P 04 48 53.3 +0.1**
comp=Z,114nm,1.0s,mb5.7
CNNC Cliffs of the 36.72 261 *e*P **P 04 48 54.2 +0.5**
comp=Z,144nm,1.5s,mb5.6
CNNC LR LR
comp=Z,6µm,21.0s,MS5.3
CNNC Cliffs of the 36.72 261 *e*P **P 04 48 54.2 +0.4**
comp=Z,144nm,1.5s,mb5.6
ALAS Alassa 36.72 105 *i*P **P 04 48 56.9 +3.1**
comp=Z,189nm,1.9s,mb5.6,SNR=39
ALAS *e*S **S 04 54 38.1 +0.9**
SNR=38
SKO Skopje 36.85 85 *e*P **P 04 48 52.1 -2.7**
OHR Ohrid 36.96 86 *e*P **P 04 48 53.5 -2.2**
BLA Blacksburg 36.96 265 *e*P **P 04 48 56.3 +0.5**
BLA pmax pmax
comp=Z,80nm,1.1s,mb5.5
BLA MLR MLR
comp=Z,19µm,19.0s,MS5.9
BLA Blacksburg 36.96 265 *e*P **P 04 48 56.2 +0.4**
comp=Z,80nm,1.1s,mb5.5
BLA LR LR
comp=Z,19µm,19.0s,MS5.9
BLA Blacksburg 36.96 265 *e*P **P 04 48 56.2 +0.4**
comp=Z,80nm,1.1s,mb5.5
KIEV Kiev 36.98 68 *e*P **P 04 48 54.8 -1.0**
KIEV pmax pmax
comp=Z,47nm,0.7s,mb5.4
KIEV MLR MLR
comp=Z,7µm,19.0s,MS5.5
KIEV Kiev 36.98 68 *e*P **P 04 48 54.8 -1.0**
comp=Z,47nm,0.7s,mb5.4
KIEV LR LR
comp=Z,7µm,19.0s,MS5.5
KIEV Kiev 36.98 68 *e*P **P 04 48 54.8 -1.0**
comp=Z,47nm,0.7s,mb5.4
AKASG Malin Array Be 36.98 68 P **P 04 48 54.7 -1.1**
comp=Z,29nm,0.7s,mb5.2,baz=301,slow=8.5,SNR=70
AKASG LR LR 05 04 46.7
comp=Z,11µm,18.0s,MS5.7,baz=295,slow=37
AKBB Malin Array Si 36.98 68 *e*P **P 04 48 54.8 -1.0**
KRUS Krusevo 37.08 86 *e*P **P 04 48 54.5 -2.2**
COWI Conover 37.12 284 *e*P **P 04 48 56.4 -0.6**
comp=Z,42nm,1.0s,mb5.2
COWI *e*PcP PcP 04 51 16.5 -0.6

COWI LR LR
comp=Z,18µm,19.0s,MS5.9
COWI Conover 37.12 284 *e*P **P 04 48 56.4 -0.6**
comp=Z,42nm,1.0s,mb5.2
COWI Conover 37.12 284 *e*PcP PcP 04 51 16.5 -0.6
VOIR 37.13 77 P **P 04 48 58.7 +1.6**
VOIR 37.13 77 ||*i*P **P 04 48 56.5 -0.6**
VOIR 37.13 77 P **P 04 48 58.7 +1.6**
ELN Prospectdale 37.15 266 *e*P **P 04 48 57.5 0.0**
ELN Prospectdale 37.15 266 *e*P **P 04 48 57.5 +0.1**
KBN Korca 37.24 87 *i* PN **P 04 49 01.9 +3.8**
FNA Florina 37.50 86 *e*P **P 04 48 59.6 -0.8**
LGHD Ghdames 37.51 110 *i* P **P 04 49 00.4 -0.1**
comp=Z,347nm,1.6s,mb5.8,SNR=39
LGHD *e*S **S 04 54 45.4 -3.8**
SNR=38
VTS Vitosha 37.57 83 *e*P **P 04 49 00.4 -0.5**
VTS Vitosha 37.57 83 ||*i*P **P 04 49 00.5 -0.4**
EYMN Ely 37.57 288 *e*P **P 04 49 00.2 -0.7**
comp=Z,59nm,0.8s,mb5.4
EYMN *e*PcP PcP 04 51 17.4 -1.1
EYMN LR LR
comp=Z,8µm,20.0s,MS5.5
EYMN Ely 37.57 288 *e*P **P 04 49 00.2 -0.7**
comp=Z,59nm,0.8s,mb5.4
EYMN Ely 37.57 288 *e*PcP PcP 04 51 17.4 -1.1
MLR Muntele Rosu 37.63 77 P **P 04 49 05.5 +4.1**
MLR Muntele Rosu 37.63 77 ⇑*i*P **P 04 49 02.7 +1.3**
LTRP Tripoli 37.64 103 *i* P **P 04 49 04.1 +2.5**
comp=Z,323nm,1.4s,mb5.9,SNR=39
LTRP *e*S **S 04 54 52.7 +1.5**
SNR=38
PLOR Plostina 37.86 76 ||*i*P **P 04 49 04.2 +0.8**
VRI Vrincioaia 37.90 76 P **P 04 49 06.7 +3.0**
VRI Vrincioaia 37.90 76 ||*i*P **P 04 49 04.8 +1.1**
VAY Valandovo 37.91 85 *e*P **P 04 49 01.8 -2.0**
VAY Valandovo 37.91 85 *e*P **P 04 49 01.7 -2.1**
GHAR Gharyan 38.11 104 *i* P **P 04 49 08.7 +3.2**
comp=Z,201nm,1.7s,mb5.6,SNR=39
GHAR *e*S **S 04 54 59.5 +1.2**
SNR=38
ZIMR 38.28 80 P **P 04 49 07.4 +0.5**
LKD Levkas 38.32 90 *e*P **P 04 49 07.1 -0.2**
KIS Kishinev 38.55 73 *e*P **P 04 49 08.0 -1.1**
KIS *e*S **S 04 55 03.0 -1.6**
KIS *e*SSS 04 58 17.0
KIS pmax pmax
comp=Z,220nm,1.6s,mb5.6
KIS pmax pmax
comp=Z,1µm,8.0s
KIS smax
comp=E,1µm,12.0s
KIS smax
comp=N,1µm,14.0s
KIS MLR MLR
comp=N,5µm,17.0s,MS5.7
KIS MLR MLR
comp=Z,12µm,17.0s,MS5.8
KIS MLR MLR
comp=E,10µm,18.0s,MS5.7
KIS MLR MLR
comp=Z,11µm,18.0s
KIS Kishinev 38.55 73 *e*P **P 04 49 08.0 -1.1**
comp=Z,200nm,1.6s,mb5.6
KIS Kishinev 38.55 73 *e*PP PP 04 50 32.0 -5.1
comp=Z,900nm,9.0s
KIS Kishinev 38.55 73 *e*PPP PP 04 50 56.0 +19
KIS *e*S **S 04 55 03.0 -1.6**
comp=Z,1µm,12.0s
KIS *e*SS SS 04 57 36.0 -18
KIS *e*SSS 04 58 17.0
KIS LRM 05 05 44.0
comp=Z,11µm,18.0s
LIT Litokhoron 38.59 86 *e*P **P 04 49 09.2 -0.3**
VLS Valsamata 38.61 90 *e*P **P 04 49 11.5 +1.8**
THL Klokotos Trika 38.62 87 *e*P **P 04 49 09.3 -0.5**
SRS Serrai 38.66 84 *e*P **P 04 49 10.2 +0.1**
HORT Hortiatis 38.67 85 *e*P **P 04 49 10.4 +0.2**
SOH Sokhos 38.69 85 *e*P **P 04 49 10.2 -0.1**
PLD Plovdiv 38.76 82 *e*P **P 04 49 10.5 -0.5**
EVR Evrytania 38.90 88 *e*P **P 04 49 13.0 +0.9**
ULM Lac du Bonnet 38.96 293 *e*P **P 04 49 11.2 -1.4**
comp=Z,53nm,0.9s,mb5.3
ULM *e*PcP PcP 04 51 21.3 -1.5
ULM LR LR
comp=Z,11µm,19.0s,MS5.7
ULM Lac du Bonnet 38.96 293 P **P 04 49 10.4 -2.1**
comp=Z,38nm,0.7s,mb5.2,baz=65,slow=8.1,SNR=48
ULM PcP PcP 04 51 21.7 -1.1
comp=Z,11nm,0.7s,baz=54,slow=5.1,SNR=4.2
ULM LR LR 05 03 40.3
comp=Z,9µm,18.7s,MS5.6,baz=68,slow=34
ULM Lac du Bonnet 38.96 293 *e*P **P 04 49 11.2 -1.3**
comp=Z,53nm,0.9s,mb5.3
ULM Lac du Bonnet 38.96 293 *e*PcP PcP 04 51 21.3 -1.5
LHS Liberty Hill 39.00 262 *e*P **P 04 49 03.9 -9.1**
PLG Polygyros 39.01 85 *e*P **P 04 49 12.5 -0.5**
PLG Polygyros 39.01 85 *e*P **P 04 49 13.5 +0.4**
OBN Obninsk 39.04 58 P **P 04 49 13.9 +0.8**
comp=Z,789nm,0.6s,mb6.6,SNR=5.8
OBN Obninsk 39.04 58*c i*P **P 04 49 13.2 +0.1**
OBN *i* 04 50 42.1
OBN *e* 04 51 22.3
OBN *i* S **S 04 55 16.7 +4.8**
OBN pmax pmax
comp=Z,120nm,0.9s,mb5.6
OBN MLR MLR
comp=Z,6µm,16.0s,MS5.5
OBN Obninsk 39.04 58 *e*P **P 04 49 12.9 -0.2**
comp=Z,78nm,0.6s,mb5.6
OBN LR LR
comp=Z,5µm,21.0s,MS5.3
OBN Obninsk 39.04 58 *e*P **P 04 49 12.9 -0.2**
comp=Z,78nm,0.6s,mb5.6
LMSR Misrath 39.12 102 *i* P **P 04 49 16.8 +2.8**
comp=Z,150nm,2.3s,mb5.3,SNR=38
LMSR *e*S **S 04 55 15.0 +1.5**
SNR=38
AGG Agios Georgios 39.15 88 *e*P **P 04 49 14.3 +0.1**
HARR Harsova 39.25 77 ||*i*P **P 04 49 13.4 -1.6**
TZTN Tazewell 39.31 267 *e*P **P 04 49 15.8 +0.2**
comp=Z,186nm,1.2s,mb5.7
TZTN LR LR
comp=Z,16µm,20.0s,MS5.9
TZTN Tazewell 39.31 267 *e*P **P 04 49 15.8 +0.2**
comp=Z,186nm,1.2s,mb5.7
MOS Moscow 39.32 57 *e*P **P 04 49 14.9 -0.6**
MOS *e* 04 49 21.7
MOS *e* 04 50 48.9
MOS *e*PPP 04 51 11.5
MOS *e*S **S 04 55 25.1 +9.0**
MOS pmax pmax
comp=Z,60nm,0.7s,mb5.4
MOS pmax pmax
comp=Z,67nm,0.8s,mb5.4
MOS MLR MLR
comp=Z,4µm,15.1s,MS5.3
MOS MLR MLR
comp=E,2µm,16.0s
SELA Sela 39.35 89 *e*P **P 04 49 17.0 +1.1**
JSC Jenkinsville 39.41 263 *e*P **P 04 49 16.5 +0.1**
BLO Bloomington 39.47 273 *e*P **P 04 49 16.5 -0.4**
BLO *e* 04 51 23.0
BLO pmax pmax
comp=Z,49nm,0.9s,mb5.2
BLO Bloomington 39.47 273 *e*P **P 04 49 16.5 -0.4**
comp=Z,49nm,0.9s,mb5.2
BLO *e*PcP PcP 04 51 23.0 -1.5
BLO Bloomington 39.47 273 *e*P **P 04 49 16.5 -0.4**
comp=Z,49nm,0.9s,mb5.2
BLO Bloomington 39.47 273 *e*PcP PcP 04 51 23.0 -1.6
JFWS Jewell Farm 39.52 280 *e*P **P 04 49 16.9 -0.4**
JFWS *e* 04 51 23.7
JFWS pmax pmax
comp=Z,31nm,0.8s,mb5.1
JFWS MLR MLR
comp=Z,9µm,21.0s,MS5.6
JFWS Jewell Farm 39.52 280 *e*P **P 04 49 16.9 -0.4**
comp=Z,31nm,0.8s,mb5.1
JFWS *e*PcP PcP 04 51 23.7 -0.9
JFWS LR LR
comp=Z,9µm,21.0s,MS5.6
JFWS Jewell Farm 39.52 280 *e*P **P 04 49 16.9 -0.4**
comp=Z,31nm,0.8s,mb5.1
JFWS Jewell Farm 39.52 280 *e*PcP PcP 04 51 23.7 -0.9

NEO Neokhori 39.52 87 *e*P **P 04 49 18.5 +1.2**
NHSC New Hope 39.56 260 *e*P **P 04 49 18.0 +0.3**
comp=Z,333nm,1.0s,mb6.0
NHSC LR LR
comp=Z,9µm,20.0s,MS5.6
NHSC New Hope 39.56 260 *e*P **P 04 49 18.0 +0.3**
comp=Z,333nm,1.0s,mb6.0
TIRR Tirgusor 39.66 77 ||*i*P **P 04 49 18.3 -0.2**
TIRR Tirgusor 39.66 77 ||P **P 04 49 18.2 -0.3**
COW Cow Castle Cre 39.68 261 *e*P **P 04 49 18.9 +0.1**
COW Cow Castle Cre 39.68 261 *e*P **P 04 49 18.9 +0.2**
LKR Lokris 39.79 88 *e*P **P 04 49 18.6 -0.9**
RDO Rodhopi 39.83 83 *e*P **P 04 49 20.0 +0.1**
AGMN Agassiz Refuge 39.92 291 *e*P **P 04 49 20.0 -0.6**
comp=Z,25nm,0.8s,mb5.0
AGMN *e*PcP PcP 04 51 25.3 -0.5
AGMN LR LR
comp=Z,10µm,20.0s,MS5.7
AGMN Agassiz Refuge 39.92 291 *e*P **P 04 49 20.0 -0.6**
comp=Z,25nm,0.8s,mb5.0
AGMN Agassiz Refuge 39.92 291 *e*PcP PcP 04 51 25.3 -0.5
TKL Tuckaleechee C 40.02 266 *e*P **P 04 49 21.2 -0.4**
ITM Ithomi 40.06 90 *e*P **P 04 49 14.5 -7.3**
LTK Loutraki 40.16 89 *e*P **P 04 49 23.0 +0.3**
FFC Flin Flon 40.19 302 P **P 04 49 22.3 -0.4**
comp=Z,154nm,0.9s,mb5.7,SNR=15
FFC Flin Flon 40.19 302 *e*P **P 04 49 22.4 -0.3**
FFC *e* 04 51 26.6
FFC pmax pmax
comp=Z,91nm,1.5s,mb5.3
FFC MLR MLR
comp=Z,11µm,20.0s,MS5.7
FFC Flin Flon 40.19 302 *e*P **P 04 49 22.4 -0.3**
comp=Z,91nm,1.5s,mb5.3
FFC *e*PcP PcP 04 51 26.6 0.0
FFC LR LR
comp=Z,11µm,20.0s,MS5.7
FFC Flin Flon 40.19 302 *e*P **P 04 49 22.4 -0.3**
comp=Z,91nm,1.5s,mb5.3
FFC Flin Flon 40.19 302 *e*PcP PcP 04 51 26.6 0.0
ALN Alexandroupoli 40.28 83 *e*P **P 04 49 23.5 -0.2**
HDIL Hopedale 40.32 277 *e*P **P 04 49 23.4 -0.6**
comp=Z,34nm,0.9s,mb5.1
HDIL *e*PcP PcP 04 51 26.7 -0.5
HDIL LR LR
comp=Z,9µm,19.0s,MS5.6
HDIL Hopedale 40.32 277 *e*P **P 04 49 23.4 -0.6**
comp=Z,34nm,0.9s,mb5.1
HDIL Hopedale 40.32 277 *e*PcP PcP 04 51 26.7 -0.6
LSHF Shwairf 40.33 105 *i* P **P 04 49 25.3 +1.1**
comp=Z,208nm,1.6s,mb5.6,SNR=38
LSHF *e*S **S 04 55 31.9 +0.1**
SNR=37
CPCT Cooper Cave 40.62 267 *e*P **P 04 49 26.7 +0.2**
CPCT *e*PcP PcP 04 51 27.7 -0.6
CPCT Cooper Cave 40.62 267 *e*P **P 04 49 26.7 +0.2**
CPCT Cooper Cave 40.62 267 *e*PcP PcP 04 51 27.7 -0.6
NAIG Nisos Aigina 40.65 89 *e*P **P 04 49 27.0 +0.3**
DID Didima 40.66 89 *e*P **P 04 49 26.2 -0.5**
USIN University of 40.92 272 *e*P **P 04 49 28.8 -0.2**
comp=Z,153nm,1.2s,mb5.5
USIN University of 40.92 272 *e*P **P 04 49 28.8 -0.2**
comp=Z,153nm,1.2s,mb5.5
BOZC Bozcaada 40.92 84 *i* P **P 04 49 28.4 -0.5**
VLI Veliai 40.98 90 *e*P **P 04 49 30.5 +1.1**
SART Tekirdag 41.10 82 *i* P **P 04 49 30.2 -0.2**
KYTH Kithira 41.32 91 *e*P **P 04 49 35.0 +2.7**
GOGA Godfrey 41.34 264 *e*P **P 04 49 32.1 -0.4**
GOGA *e* 04 51 30.4
GOGA pmax pmax
comp=Z,69nm,1.1s,mb5.2
GOGA MLR MLR
comp=Z,12µm,21.0s,MS5.7
GOGA Godfrey 41.34 264 *e*P **P 04 49 32.1 -0.3**
comp=Z,69nm,1.1s,mb5.2
GOGA *e*PcP PcP 04 51 30.4 -0.3
GOGA LR LR
comp=Z,12µm,21.0s,MS5.7
GOGA Godfrey 41.34 264 *e*P **P 04 49 32.1 -0.4**
comp=Z,69nm,1.1s,mb5.2
GOGA Godfrey 41.34 264 *e*PcP PcP 04 51 30.4 -0.3
PRK Paraskevi 41.42 85 *e*P **P 04 49 35.0 +1.9**
ELBA Catalca 41.58 81 *i* P **P 04 49 36.9 +2.5**
SWET Sewanee 41.64 268 *e*P **P 04 49 34.7 -0.1**
SWET Sewanee 41.64 268 *e*P **P 04 49 34.7 -0.2**
CHOS Chios island 41.83 86 *e*P **P 04 49 37.0 +0.6**
SCIA State Center 41.89 281 *e*P **P 04 49 36.6 -0.3**
comp=Z,36nm,0.7s,mb5.1
SCIA LR LR
comp=Z,13µm,20.0s,MS5.8
SCIA State Center 41.89 281 *e*P **P 04 49 36.6 -0.3**
comp=Z,36nm,0.7s,mb5.1
LJFR Jufra 41.91 105 *i* P **P 04 49 36.4 -0.7**
comp=Z,112nm,1.2s,mb5.3,SNR=37
LJFR *e*S **S 04 55 54.7 -0.5**
SNR=37
VOR Voronezh 42.01 61 *e*P **P 04 49 40.0 +2.3**
VOR pmax pmax
comp=Z,200nm,2.2s,mb5.4
SIUC Southern Illin 42.03 273 *e*P **P 04 49 37.7 -0.3**
comp=Z,164nm,0.9s,mb5.7
SIUC Southern Illin 42.03 273 *e*P **P 04 49 37.7 -0.4**
comp=Z,164nm,0.9s,mb5.7
SLM Saint Louis 42.07 275 P **P 04 49 37.4 -1.0**
SLM pmax pmax
comp=Z,83nm,0.9s,mb5.4
SLM Saint Louis 42.07 275 *e*P **P 04 49 37.5 -0.9**
comp=Z,83nm,0.9s,mb5.4
SLM Saint Louis 42.07 275 *e*P **P 04 49 37.5 -0.9**
comp=Z,83nm,0.9s,mb5.4
URLA Izmir 42.17 85 *i* P **P 04 49 38.6 -0.6**
BTOK Tokmak 42.18 83 *i* P **P 04 49 40.0 +0.8**
VRSR Storozhevoye 42.27 62 *e*P **P 04 49 39.6 -0.2**
VRSR *e**SP sP 04 49 42.5 -1.6
VRSR *e* 04 51 15.8
VRSR *e*S **S 04 55 54.5 -5.5**
VRSR *e*SS SS 04 59 06.4 -1.4
VRSR pmax pmax
comp=N,8.0nm,0.7s
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
VRSR pmax pmax
comp=E,10.0nm,0.9s
VRSR pmax pmax
comp=Z,90nm,10.2s
VRSR pmax pmax
comp=N,90nm,16.5s
VRSR pmax pmax
comp=E,130nm,17.2s
VRSR smax
comp=E,280nm,7.0s
VRSR smax
comp=Z,210nm,7.0s
VRSR smax
comp=N,90nm,9.1s
VRSR MLR MLR
comp=Z,1µm,15.0s,MS4.9
VRSR MLR MLR
comp=N,670nm,14.0s,MS4.8
VRSR MLR MLR
comp=E,760nm,16.0s,MS4.8
APE Apeiranthos 42.34 88 *e*P **P 04 49 40.0 -0.6**
APE Apeiranthos 42.34 88 *e*P **P 04 49 40.5 -0.1**
APE Apeiranthos 42.34 88 ||*i*P **P 04 49 40.9 +0.3**
BLCB Balcova 42.43 85 *e*P **P 04 49 41.3 0.0**
VORD Divnogorie 42.45 62 *e*P **P 04 49 41.2 -0.1**
VORD *e**SP sP 04 49 45.9 +0.3
VORD *e*S **S 04 56 01.3 -1.4**
VORD pmax pmax
comp=Z,70nm,1.0s,mb5.2
VORD pmax pmax
comp=N,60nm,0.6s
VORD pmax pmax
comp=E,60nm,0.8s
VORD smax
comp=E,2µm,14.4s
VORD smax
comp=Z,730nm,11.0s
VORD smax
comp=N,960nm,19.4s
KDAG Bornova 42.56 85 *i* P **P 04 49 43.1 +0.8**
AKHS Akhisar 42.59 84 *i* P **P 04 49 42.8 +0.2**
FVM French Village 42.60 274 *e*P **P 04 49 42.4 -0.3**
FVM pmax pmax
comp=Z,63nm,0.9s,mb5.3

FVM French Village 42.60 274 *e*P **P 04 49 42.4 -0.3**
comp=Z,63nm,0.9s,mb5.3
FVM French Village 42.60 274 *e*P **P 04 49 42.4 -0.3**
comp=Z,63nm,0.9s,mb5.3
YKA Yellowknife Ar 42.68 317 P **P 04 49 42.7 -0.3**
YKA 04 51 34.0
YKA Yellowknife Ar 42.68 317 P **P 04 49 42.6 -0.4**
YKA PcP PcP 04 51 34.0 -0.6
YKA LR LR 05 05 47.4
YKA Yellowknife Ar 42.68 317 P **P 04 49 42.6 -0.4**
comp=Z,40nm,1.0s,mb5.1,baz=62,slow=8.9,SNR=196
YKA PcP PcP 04 51 34.0 -0.5
comp=Z,9.5nm,0.7s,baz=60,slow=3.7,SNR=14
YKA LR LR 05 05 47.4
comp=Z,5µm,18.9s,MS5.4,baz=125,slow=34
YKA Yellowknife Ar 42.68 317 PcP PcP 04 51 34.0 -0.6
UTMT University of 42.70 271 *e*P **P 04 49 43.4 -0.1**
comp=Z,310nm,1.1s,mb6.0
UTMT University of 42.70 271 *e*P **P 04 49 43.4 -0.1**
comp=Z,310nm,1.1s,mb6.0
SMG Samos 42.73 86 *e*P **P 04 49 45.0 +1.2**
SANT Santorini 42.75 89 *e*P **P 04 49 42.2 -1.7**
SIM Simferopol' 42.76 73*de*P **P 04 49 47.9 +4.0**
SIM *e*S **S 04 56 11.3 +3.8**
SIM *e*SS SS 04 59 13.0 -4.8
SIM pmax pmax
comp=Z,27nm,1.0s,mb4.9
SIM MLR MLR
comp=Z,4µm,14.5s,MS5.4
ECSD EROS,Sioux Fal 42.86 285 *e*P **P 04 49 44.4 -0.3**
comp=Z,71nm,0.9s,mb5.4
ECSD *e*PcP PcP 04 51 35.0 -0.5
ECSD LR LR
comp=Z,13µm,20.0s,MS5.8
ECSD EROS,Sioux Fal 42.86 285 *e*P **P 04 49 44.4 -0.3**
comp=Z,71nm,0.9s,mb5.4
ECSD EROS,Sioux Fal 42.86 285 *e*PcP PcP 04 51 35.0 -0.5
GVD Gavdhos 42.91 91 *e*P **P 04 49 45.2 -0.1**
comp=Z,121nm,1.0s,mb5.6
GVD Gavdhos 42.91 91 *e*P **P 04 49 45.2 -0.1**
comp=Z,121nm,1.0s,mb5.6
GLAT Glass 43.00 272 *e*P **P 04 49 45.4 -0.5**
GLAT Glass 43.00 272 *e*P **P 04 49 45.4 -0.6**
PARMO Parma 43.03 272 *e*P **P 04 49 45.6 -0.6**
PARMO Parma 43.03 272 *e*P **P 04 49 45.6 -0.6**
CCM Cathedral Cave 43.05 275 *e*P **P 04 49 45.7 -0.7**
CCM pmax pmax
comp=Z,76nm,0.8s,mb5.5
CCM MLR MLR
comp=Z,14µm,20.0s,MS5.9
CCM Cathedral Cave 43.05 275 *e*P **P 04 49 45.7 -0.7**
comp=Z,76nm,0.8s,mb5.5
CCM LR LR
comp=Z,14µm,20.0s,MS5.9
CCM Cathedral Cave 43.05 275 *e*P **P 04 49 45.7 -0.7**
comp=Z,76nm,0.8s,mb5.5
PLAL Pickwick Lake 43.10 269 *e*P **P 04 49 45.6 -1.2**
comp=Z,318nm,1.9s,mb5.7
PLAL *e*PcP PcP 04 51 35.1 -1.4
PLAL LR LR
comp=Z,18µm,20.0s,MS6.0
LJBD Adjabya 43.23 99 *i* P **P 04 49 50.7 +2.8**
comp=Z,206nm,1.7s,mb5.6,SNR=37
LJBD *e*S **S 04 56 14.5 -0.2**
SNR=36
MTP Monte Pirata 43.24 231 *e*P **P 04 49 48.6 +0.6**
SIVA Sivas 43.24 91 *e*P **P 04 49 48.2 +0.3**
HALT Halls 43.27 271 *e*P **P 04 49 47.2 -0.9**
HALT Halls 43.27 271 *e*P **P 04 49 47.2 -0.9**
LZLA Zalla 43.35 104 *i* P **P 04 49 49.3 +0.5**
comp=Z,142nm,1.4s,mb5.5,SNR=37
LZLA *e*S **S 04 56 14.2 -2.2**
SNR=36
AYDN Tasoluk 43.40 85 *i* P **P 04 49 48.6 -0.6**
CPD Cerro la Pandu 43.46 231 P **P 04 49 50.6 +0.8**
CPD pmax pmax
comp=Z,39nm,0.9s,mb5.1
CPD Cerro la Pandu 43.46 231 *e*P **P 04 49 50.3 +0.5**
comp=Z,39nm,0.8s,mb5.2
GDZ Gediz 43.48 83 *i* P **P 04 49 49.2 -0.6**
LUMB Murzuk 43.50 109 *i* P **P 04 49 50.1 0.0**
comp=Z,121nm,1.6s,mb5.4,SNR=37
LUMB *e*S **S 04 56 15.6 -3.0**
SNR=36
SJG San Juan 43.51 231 *e*P **P 04 49 50.4 +0.2**
SJG pmax pmax
comp=Z,59nm,1.3s
SJG MLR MLR
comp=Z,3µm,21.0s
SJG San Juan 43.51 231 *e*P **P 04 49 50.4 +0.2**
comp=Z,59nm,1.3s,mb5.2
SJG LR LR
comp=Z,3µm,21.0s,MS5.2
SJG San Juan 43.51 231 *e*P **P 04 49 50.4 +0.2**
comp=Z,59nm,1.3s,mb5.2
NPS Neapolis 43.57 90 *e*P **P 04 49 47.5 -3.1**
VRHR Novokhopersk 43.64 61 *e*P **P 04 49 51.8 +0.9**
VRHR *i **SP sP 04 49 54.6 -0.7
VRHR *e*S **S 04 56 18.5 -1.7**
VRHR pmax pmax
comp=Z,30nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRHR smax
comp=E,4µm,13.5s
VRHR smax
comp=Z,960nm,5.8s
VRHR smax
comp=N,2µm,13.6s
VRHR MLR MLR
comp=Z,6µm,15.0s,MS5.6
VRHR MLR MLR
comp=N,3µm,12.0s,MS5.6
VRHR MLR MLR
comp=E,3µm,15.0s,MS5.6
GNAR Gosnell 43.65 272 *e*P **P 04 49 50.4 -0.8**
comp=E,3µm,1.2s,mb6.8
GNAR Gosnell 43.65 272 *e*P **P 04 49 50.4 -0.8**
comp=E,3µm,1.2s,mb6.8
XRY Khrisi 43.88 90 *e*P **P 04 49 54.0 +1.0**
DWPF Disney 43.88 256 PFAKE 04 50 00.0 +6.8
DWPF LR LR
comp=Z,6µm,22.0s,MS5.5
ESKT Eskisehir 44.04 81 *i* P **P 04 49 54.4 +0.1**
OXF Oxford 44.24 270 *e*P **P 04 49 54.6 -1.3**
OXF pmax pmax
comp=Z,209nm,1.0s,mb5.8
OXF MLR MLR
comp=Z,13µm,21.0s,MS5.8
OXF Oxford 44.24 270 *e*P **P 04 49 54.6 -1.3**
comp=Z,209nm,1.0s,mb5.8
OXF LR LR
comp=Z,13µm,21.0s,MS5.8
OXF Oxford 44.24 270 *e*P **P 04 49 54.6 -1.3**
comp=Z,209nm,1.0s,mb5.8
HBAR Harrisburg 44.31 272 *e*P **P 04 49 56.8 +0.3**
HBAR Harrisburg 44.31 272 *e*P **P 04 49 56.8 +0.3**
KARP Karpathos 44.33 88 *e*P **P 04 49 56.5 -0.2**
BALT Daday 44.33 77 *i* P **P 04 49 57.1 +0.5**
ARG Arkhangelos 44.48 87 *e*P **P 04 49 58.5 +0.6**
DGMT Dagmar 44.54 295 *e*P **P 04 49 58.6 +0.4**
comp=Z,77nm,0.9s,mb5.5
DGMT LR LR
comp=Z,10µm,20.0s,MS5.8
DGMT Dagmar 44.54 295 *e*P **P 04 49 58.6 +0.4**
comp=Z,77nm,0.9s,mb5.5
TKTP Tekketepe 44.65 83 *i* P **P 04 49 57.3 -1.8**
LTBQ Tobruq 44.70 94 *i* P **P 04 50 02.4 +2.7**
comp=Z,111nm,2.2s,mb5.3,SNR=36
LTBQ *e*S **S 04 56 37.1 +1.0**
SNR=36
ANN Anapa 44.78 71 *e*P **P 04 49 59.7 -0.4**
ANN *e**PP pP 04 50 02.6 -0.7
ANN *e* 04 51 43.4
ANN *e*PPP 04 52 24.7
ANN *e*S **S 04 56 37.8 +0.9**
ANN pmax pmax
comp=Z,47nm,0.9s,mb5.3
ANN MLR MLR
comp=N,6µm,21.0s,MS5.5
ANN MLR MLR
comp=E,4µm,21.0s,MS5.5
ANN MLR MLR
comp=Z,9µm,21.0s,MS5.7

ANN Anapa 44.78 71 *e*P **P 04 49 59.9 -0.2**
ISP Isparta 44.89 83 *e*P **P 04 50 00.6 -0.5**
ANTO Ankara 45.00 79 *e*P **P 04 50 03.3 +1.4**
ANTO pmax pmax
comp=Z,122nm,1.4s,mb5.5
ANTO MLR MLR
comp=Z,7μm,19.0s,MS5.6
ANTO Ankara 45.00 79 *e*P **P 04 50 03.3 +1.4**
comp=Z,122nm,1.4s,mb5.5
ANTO LR LR
comp=Z,7μm,19.0s,MS5.6
ANTO Ankara 45.00 79⇓*i*P **P 04 50 02.0 +0.1**
ANTO Ankara 45.00 79 *e*P **P 04 50 03.3 +1.4**
comp=Z,122nm,1.4s,mb5.5
BBGH Gun Hill 45.02 220 PFAKE 04 50 10.0 +7.6
BBGH LR LR
comp=Z,5μm,20.0s,MS5.4
BRAL Brewton 45.20 264 *e*P **P 04 50 02.6 -1.0**
comp=Z,284nm,1.3s,mb5.9
BRAL LR LR
comp=Z,10μm,19.0s,MS5.8
BRAL Brewton 45.20 264 *e*P **P 04 50 02.6 -1.0**
comp=Z,284nm,1.3s,mb5.9
BOYT Boyabat 45.31 76 *i*P **P 04 50 05.8 +1.5**
SDDR Presa de Saban 45.34 238 *e*P **P 04 50 05.5 +0.7**
comp=Z,178nm,1.3s,mb5.7
SDDR LR LR
comp=Z,3μm,22.0s,MS5.2
SDDR Presa de Saban 45.34 238 *e*P **P 04 50 05.5 +0.7**
comp=Z,178nm,1.3s,mb5.7
KDHN Kadinhani 45.43 81 *i*P **P 04 50 04.0 -1.4**
KSU1 Kansas State U 45.66 280 *e*P **P 04 50 06.6 -0.6**
comp=Z,94nm,0.7s,mb5.8
KSU1 LR LR
comp=Z,9μm,20.0s,MS5.7
CTKT Corum 45.73 77 *i*P **P 04 50 08.8 +1.1**
UALR University of 45.86 272 *e*P **P 04 50 07.5 -1.3**
comp=Z,117nm,1.1s,mb5.7
UALR University of 45.86 272 *e*P **P 04 50 07.5 -1.3**
comp=Z,117nm,1.1s,mb5.7
MASC Masc 45.92 242 *e* **P 04 50 11.5 +2.1**
MOAC Moa 45.92 243 *e* **P 04 50 09.8 +0.3**
CDAG Cicekdag 46.10 79 *i*P **P 04 50 06.2 -4.5**
VBMS Vicksburg 46.47 268 *e*P **P 04 50 12.3 -1.4**
comp=Z,276nm,1.1s,mb6.1
VBMS LR LR
comp=Z,27μm,20.0s,MS6.2
INK Inuvik 46.61 330 *e*P **P 04 50 13.6 -0.7**
comp=Z,1μm,1.0s,mb6.8
INK *e*PcP PcP 04 51 47.7 -0.3
INK Inuvik 46.61 330 LR LR 05 08 57.9
comp=Z,14μm,18.4s,MS6.0,baz=54,slow=35
INK Inuvik 46.61 330 *e*P **P 04 50 13.6 -0.7**
comp=Z,1μm,1.0s,mb6.8
INK Inuvik 46.61 330 *e*PcP PcP 04 51 47.7 -0.3
LAO LASA Array 46.68 294 *e*P **P 04 50 15.8 +0.7**
comp=Z,200nm,0.9s,mb6.0
LAO LR LR
comp=Z,11μm,20.0s,MS5.8
LAO LASA Array 46.68 294 *e*P **P 04 50 15.8 +0.7**
comp=Z,200nm,0.9s,mb6.0
EDM Edmonton 46.75 305 *e*P **P 04 50 15.4 -0.2**
MIAR Mount Ida 46.77 273 *e*P **P 04 50 15.0 -1.0**
MIAR *e* 04 51 49.3
MIAR pmax pmax
comp=Z,148nm,1.1s,mb5.8
MIAR MLR MLR
comp=Z,13μm,20.0s,MS5.9
MIAR Mount Ida 46.77 273 *e*P **P 04 50 15.0 -0.9**
comp=Z,148nm,1.1s,mb5.8
MIAR *e*PcP PcP 04 51 49.3 +0.1
MIAR LR LR
comp=Z,13μm,20.0s,MS5.9
MIAR Mount Ida 46.77 273 *e*P **P 04 50 15.0 -1.0**
comp=Z,148nm,1.1s,mb5.8
MIAR Mount Ida 46.77 273 *e*PcP PcP 04 51 49.3 +0.2
GRGR Grenville 46.78 222 PFAKE 04 50 30.0 +14
GRGR LR LR
comp=Z,3μm,22.0s,MS5.1
SOC Sochi 46.82 71 *e*P **P 04 50 17.3 +1.0**
SOC *e**SP sP 04 50 19.4 -1.3
SOC *e*S **S 04 57 07.9 +1.5**
SOC *e* 05 00 06.3
SOC pmax pmax
comp=Z,18nm,0.6s,mb5.2
SOC pmax pmax
comp=Z,376nm,3.2s
SOC MLR MLR
comp=Z,7μm,20.0s,MS5.6
SOC Sochi 46.82 71 *i*P **P 04 50 17.1 +0.8**
RSSD Black Hills 46.96 290 *e*P **P 04 50 17.0 -0.4**
RSSD *e* 04 51 49.5
RSSD MLR MLR
comp=Z,7μm,21.0s,MS5.6
RSSD Black Hills 46.96 290 *e*PcP PcP 04 51 49.5 -0.2
CCCC Cccc 47.05 247 *e* **P 04 50 17.4 -0.9**
ERMK Ermenek 47.13 83 *i*P **P 04 50 24.1 +5.3**
TOA0 Torodi Ar. Sit 47.40 133 *e*P **P 04 50 19.9 -1.2**
TOA0 Torodi Ar. Sit 47.40 133 *e*P **P 04 50 19.9 -1.2**
TORD Torodi Ar. Bea 47.40 133 P **P 04 50 19.9 -1.2**
comp=Z,26nm,1.0s,mb5.1,baz=337,slow=7.5,SNR=90
TORD LR LR 05 09 22.6
comp=Z,4μm,18.3s,MS5.4,baz=330,slow=35
LMGC Las Mercedes 47.53 245 *e* **P 04 50 24.0 +1.9**
GOF Gofitskoye 47.83 67 *e*P **P 04 50 26.7 +2.5**
GOF *e*S **S 04 57 25.6 +4.9**
GOF pmax pmax
comp=Z,200nm,0.8s,mb6.2
EGMT Eagleton 47.84 298 *e*P **P 04 50 24.4 +0.2**
comp=Z,115nm,0.9s,mb5.9
EGMT LR LR
comp=Z,12μm,19.0s,MS5.9
EGMT Eagleton 47.84 298⇓P **P 04 50 24.5 +0.3**
baz=48
EGMT Eagleton 47.84 298 *e*P **P 04 50 24.4 +0.2**
comp=Z,115nm,0.9s,mb5.9
KIV Kislovodsk 48.31 69 P **P 04 50 29.7 +1.9**
comp=Z,362nm,0.7s,mb6.5,SNR=6.8
KIV Kislovodsk 48.31 69 *e*P **P 04 50 28.8 +1.0**
KIV *e* 04 51 55.4
KIV *e* 04 52 21.9
KIV *e*S **S 04 57 28.0 +0.5**
KIV *e*SS SS 05 00 58.6 +2.2
KIV pmax pmax
comp=Z,53nm,0.9s,mb5.6
KIV pmax pmax
comp=Z,162nm,4.2s
KIV MLR MLR
comp=Z,4μm,17.0s,MS5.4
KIV Kislovodsk 48.31 69 *e*P **P 04 50 29.2 +1.4**
comp=Z,42nm,0.8s,mb5.5
KIV LR LR
comp=Z,5μm,20.0s,MS5.5
KIV Kislovodsk 48.31 69⇑*i*P **P 04 50 30.2 +2.4**
KIV Kislovodsk 48.31 69 *e*P **P 04 50 29.2 +1.4**
comp=Z,42nm,0.8s,mb5.5
CSS Prodhromos 48.49 84 *e*P **P 04 50 33.0 +3.7**
comp=Z,26nm,0.9s,mb5.3
ANDN Andirin 48.59 79 *i*P **P 04 50 31.4 +1.3**
SOR Soroa 48.82 253 *e* **P 04 50 32.9 +0.9**
ARU Arti 49.08 47 P **P 04 50 34.3 +0.7**
comp=Z,528nm,0.9s,mb6.6,SNR=8.8
ARU Arti 49.08 47*c i*P **P 04 50 34.2 +0.6**
ARU *e* 04 51 53.6
ARU *e* 04 52 30.2
ARU *e*PPP 04 53 15.7
ARU *e*S **S 04 57 41.8 +3.7**
ARU *e* 05 00 22.2
ARU *e*SS SS 05 01 07.6 -0.8
ARU *e*SSS 05 02 33.1
ARU pmax pmax
comp=Z,88nm,1.0s,mb5.7
ARU MLR MLR
comp=Z,5μm,17.0s,MS5.6
ARU Arti 49.08 47 *e*P **P 04 50 34.1 +0.5**
comp=Z,97nm,1.0s,mb5.8
ARU LR LR
comp=Z,5μm,19.0s,MS5.6
ARU Arti 49.08 47 *e*P **P 04 50 34.1 +0.5**
comp=Z,97nm,1.0s,mb5.8
GCMT Greycliff 49.13 295 *e*P **P 04 50 34.4 +0.2**
GCMT Greycliff 49.13 295 *e*P **P 04 50 34.4 +0.2**
RLMT Red Lodge 49.32 294 *e*P **P 04 50 36.0 +0.4**
comp=Z,41nm,0.9s,mb5.5
RLMT LR LR
comp=Z,9μm,20.0s,MS5.8
RLMT Red Lodge 49.32 294 *e*P **P 04 50 36.0 +0.4**
comp=Z,41nm,0.9s,mb5.5
NATX Nacogdoches 49.33 271 *e*P **P 04 50 35.1 -0.7**
comp=Z,156nm,1.1s,mb6.0
NATX LR LR
comp=Z,6μm,21.0s,MS5.6
MALT Malatya 49.37 77 P **P 04 50 36.7 +0.7**
MALT pmax pmax
comp=Z,97nm,1.4s,mb5.6
MALT Malatya 49.37 77 *e*P **P 04 50 36.9 +0.9**
comp=Z,96nm,1.4s,mb5.6
MALT Malatya 49.37 77⇑*i*P **P 04 50 37.9 +1.9**
MALT Malatya 49.37 77 *e*P **P 04 50 36.9 +0.9**
comp=Z,96nm,1.4s,mb5.6
WALA Waterton Lakes 49.45 301 *e*P **P 04 50 36.5 0.0**
comp=Z,309nm,1.6s,mb6.1
WALA Waterton Lakes 49.45 301 *e*P **P 04 50 36.5 0.0**
comp=Z,309nm,1.6s,mb6.1
GZT Gaziantep 49.47 79 *i*P **P 04 50 37.4 +0.5**
KOPT Kop Dagi 49.50 74 *i*P **P 04 50 37.2 +0.2**
PHWY Pilot Hill 49.53 288 *e*P **P 04 50 37.0 -0.2**
PHWY *e*PcP PcP 04 51 58.7 -0.3
PHWY Pilot Hill 49.53 288 *e*P **P 04 50 37.0 -0.2**
PHWY Pilot Hill 49.53 288 *e*PcP PcP 04 51 58.7 -0.2
ELZG Elazig 49.58 77 *i*P **P 04 50 38.1 +0.4**
ONI Oni 49.60 70 P **P 04 50 39.3 +1.6**
HRY Holter Researc 49.76 297 *e*P **P 04 50 38.8 -0.1**
HRY Holter Researc 49.76 297 *e*P **P 04 50 38.8 -0.1**
SVE Sverdlovsk 49.77 46⇓*e*P **P 04 50 39.8 +0.9**
SVE *e* 04 52 37.3
SVE *e*S **S 04 57 47.0 -0.7**
SVE *e*SS SS 05 01 23.3 +3.8
SVE pmax pmax
comp=Z,74nm,1.4s,mb5.5
SVE MLR MLR
comp=Z,3μm,17.0s,MS5.4
A13A Flathead Natio 49.79 301⇑P **P 04 50 38.9 -0.2**
baz=50
WMOK Wichita Mounta 49.82 277 *e*P **P 04 50 38.6 -0.9**
WMOK *e* 04 52 00.0
WMOK pmax pmax
comp=Z,39nm,1.0s,mb5.4
WMOK MLR MLR
comp=Z,5μm,19.0s,MS5.6
WMOK Wichita Mounta 49.82 277 *e*P **P 04 50 38.6 -0.9**
comp=Z,38nm,1.0s,mb5.4
WMOK *e*PcP PcP 04 51 60.0 -0.1
WMOK LR LR
comp=Z,5μm,19.0s,MS5.6
WMOK Wichita Mounta 49.82 277 *e*P **P 04 50 38.6 -0.9**
comp=Z,38nm,1.0s,mb5.4
WMOK Wichita Mounta 49.82 277 *e*PcP PcP 04 52 00.0 -0.1
D15A Lincoln 49.93 298 P **P 04 50 40.5 +0.3**
baz=50,SNR=118
ERZM Erzurum 50.08 74 *i*P **P 04 50 43.7 +2.2**
C14A Swan Lake 50.15 300 P **P 04 50 41.3 -0.6**
baz=50,SNR=36
B13A Whitefish 50.16 301 P **P 04 50 41.6 -0.3**
baz=50,SNR=25
RWWY Rawlins 50.30 290 *e*P **P 04 50 43.4 +0.3**
comp=Z,100nm,0.8s,mb5.9
RWWY Rawlins 50.30 290 *e*P **P 04 50 43.4 +0.3**
comp=Z,100nm,0.8s,mb5.9
LKWY Lake 50.30 294 *e*P **P 04 50 43.6 +0.6**
LKWY pmax pmax
comp=Z,30nm,0.8s,mb5.4
LKWY Lake 50.30 294 *e*P **P 04 50 43.6 +0.5**
comp=Z,30nm,0.8s,mb5.4
LKWY Lake 50.30 294 *e*P **P 04 50 43.6 +0.6**
comp=Z,30nm,0.8s,mb5.4
BOZ Bozeman (W) 50.31 296 *e*P **P 04 50 43.2 +0.1**
BOZ pmax pmax
comp=Z,35nm,0.8s,mb5.4
BOZ MLR MLR
comp=Z,9μm,19.0s,MS5.8
BOZ Bozeman (W) 50.31 296 *e*P **P 04 50 43.2 +0.1**
comp=Z,35nm,0.8s,mb5.4
BOZ LR LR
comp=Z,9μm,19.0s,MS5.8
BOZ Bozeman (W) 50.31 296⇓P **P 04 50 43.7 +0.6**
baz=50
BOZ Bozeman (W) 50.31 296 *e*P **P 04 50 43.2 +0.1**
comp=Z,35nm,0.8s,mb5.4
HOMI Horasan 50.31 73 *i*P **P 04 50 45.0 +1.9**
E15A Deer Lodge 50.38 298 P **P 04 50 43.7 +0.1**
baz=50,SNR=29
CHMT Chamberlain Mo 50.41 298 *e*P **P 04 50 43.6 -0.2**
A12A Yaak River Ran 50.44 302⇑P **P 04 50 43.0 -1.0**
baz=50
D14A Greenough 50.44 299 P **P 04 50 43.5 -0.6**
baz=50,SNR=18
YMR Madison River 50.55 295 *e*P **P 04 50 45.2 +0.2**
comp=Z,48nm,1.1s,mb5.3
YMR LR LR
comp=Z,13μm,20.0s,MS6.0
YMR Madison River 50.55 295 *e*P **P 04 50 45.2 +0.3**
comp=Z,48nm,1.1s,mb5.3
BNGL BINGOL 50.57 75 *i*P **P 04 50 47.1 +1.9**
ISCO Idaho Springs 50.58 287 *e*P **P 04 50 45.6 +0.4**
ISCO *e* 04 52 03.2
ISCO pmax pmax
comp=Z,32nm,1.1s,mb5.2
ISCO MLR MLR
comp=Z,4μm,21.0s,MS5.4
ISCO Idaho Springs 50.58 287 *e*P **P 04 50 45.6 +0.4**
comp=Z,32nm,1.1s,mb5.2
ISCO *e*PcP PcP 04 52 03.2 +0.4
ISCO LR LR
comp=Z,4μm,21.0s,MS5.4
ISCO Idaho Springs 50.58 287 *e*P **P 04 50 45.6 +0.4**
comp=Z,32nm,1.1s,mb5.2
ISCO Idaho Springs 50.58 287 *e*PcP PcP 04 52 03.2 +0.4
YFT Old Faithful 50.61 295 *e*P **P 04 50 46.9 +1.5**
YFT *e*PcP PcP 04 52 05.1 +2.2
YFT Old Faithful 50.61 295 *e*P **P 04 50 46.9 +1.5**
DBIC Dimbokro 50.64 144 *e*P **P 04 50 45.6 -0.3**
DBIC pmax pmax
comp=Z,53nm,1.3s
DBIC MLR MLR
comp=Z,8μm,19.0s
DBIC Dimbokro 50.64 144 *e*P **P 04 50 45.6 -0.3**
comp=Z,53nm,1.3s,mb5.3
DBIC LR LR
comp=Z,8μm,19.0s,MS5.8
DBIC Dimbokro 50.64 144 P **P 04 50 45.7 -0.2**
comp=Z,8.2nm,0.8s,mb4.7,baz=341,slow=9.3,SNR=8.7
DBIC LR LR 05 10 10.0
comp=Z,8μm,18.9s,MS5.8,baz=325,slow=34
DBIC Dimbokro 50.64 144 *e*P **P 04 50 45.6 -0.3**
comp=Z,53nm,1.3s,mb5.3
C13A Hot Springs 50.64 300 P **P 04 50 45.4 -0.2**
baz=50,SNR=45
F15A Butte 50.66 297⇑P **P 04 50 45.8 +0.1**
baz=50,SNR=28
B12A Libby 50.69 301⇓P **P 04 50 45.6 -0.3**
baz=50,SNR=11
QLMT Earthquake Lak 50.70 295 *e*P **P 04 50 46.4 +0.3**
QLMT Earthquake Lak 50.70 295 *e*P **P 04 50 46.4 +0.3**
FLWY Flagg Ranch 50.77 294 *e*P **P 04 50 47.1 +0.6**
comp=Z,51nm,1.0s,mb5.4
FLWY Flagg Ranch 50.77 294 *e*P **P 04 50 47.1 +0.5**
comp=Z,51nm,1.0s,mb5.4
A11A Hall Mountain, 50.79 302 P **P 04 50 46.8 0.0**
baz=51,SNR=65
MSO Missoula 50.83 299 *e*P **P 04 50 46.5 -0.5**
comp=Z,42nm,1.0s,mb5.3
MSO LR LR
comp=Z,11μm,19.0s,MS5.9
MSO Missoula 50.83 299 *e*P **P 04 50 46.5 -0.5**
comp=Z,42nm,1.0s,mb5.3
E14A Clinton 50.84 298⇓P **P 04 50 47.4 +0.3**
baz=51,SNR=90
TBLG Delisi 50.87 70 *e*P **P 04 50 49.3 +1.9**
TBLG Delisi 50.87 70 P **P 04 50 49.3 +1.8**
MTA Mtatsminda 50.93 70 P **P 04 50 49.5 +1.6**
D13A Huson 50.94 299 P **P 04 50 47.5 -0.4**
baz=51,SNR=29
BW06 Boulder Array 50.96 292 *e*P **P 04 50 47.0 -1.0**
comp=Z,41nm,0.8s,mb5.4
BW06 LR LR
comp=Z,8μm,21.0s,MS5.7
BW06 Boulder Array 50.96 292 *e*P **P 04 50 47.0 -1.0**
comp=Z,41nm,0.8s,mb5.4
LIC Lamto 50.99 145⇓*i*P **P 04 50 45.4 -3.1**
comp=Z,194nm,1.6s,mb5.5
LIC *e*MLR MLR
comp=Z,13μm,20.0s,MS5.7
LIC Lamto 50.99 145⇓*i*P **P 04 50 45.4 -3.1**
comp=Z,97nm,1.6s,mb5.5
LOHW Long Hollow 51.01 294 *e*P **P 04 50 48.2 -0.2**
comp=Z,38nm,1.0s,mb5.3
LOHW Long Hollow 51.01 294 *e*P **P 04 50 48.2 -0.2**
comp=Z,38nm,1.0s,mb5.3
DLMT Dillon 51.02 296 *e*P **P 04 50 48.7 +0.3**
comp=Z,54nm,1.0s,mb5.4
DLMT Dillon 51.02 296 *e*P **P 04 50 48.7 +0.3**
comp=Z,54nm,1.0s,mb5.4
IMW Indian Meadow 51.02 294 *e*P **P 04 50 47.8 -0.7**
comp=Z,26nm,0.9s,mb5.2
IMW Indian Meadow 51.02 294 *e*P **P 04 50 47.8 -0.7**
comp=Z,26nm,0.9s,mb5.2
G15A Dillon 51.08 296⇑P **P 04 50 49.1 +0.2**
baz=51,SNR=46
DAWY Dawson 51.11 327 *e*P **P 04 50 49.4 +0.5**
DAWY Dawson 51.11 327 *e*P **P 04 50 49.4 +0.6**
B11A Sandpoint 51.12 302 P **P 04 50 48.8 -0.4**
baz=51,SNR=14
F14A Wisdom 51.16 297 P **P 04 50 49.6 +0.2**
baz=51,SNR=10.0
SNOW Snow King Moun 51.19 293 *e*P **P 04 50 49.8 +0.1**
comp=Z,44nm,0.8s,mb5.4
SNOW Snow King Moun 51.19 293 *e*P **P 04 50 49.8 0.0**
comp=Z,44nm,0.8s,mb5.4
EGAK Eagle 51.20 329 *e*P **P 04 50 49.4 -0.1**
comp=Z,129nm,1.7s,mb5.6
EGAK LR LR
comp=Z,7μm,20.0s,MS5.7
EGAK Eagle 51.20 329 *e*P **P 04 50 49.4 -0.2**
comp=Z,129nm,1.7s,mb5.6
E13A Victor 51.20 298 P **P 04 50 49.6 -0.2**
baz=51,SNR=41
DLBC Dease Lake 51.28 318 *e*P **P 04 50 51.3 +1.1**
DLBC Dease Lake 51.28 318 *e*P **P 04 50 51.3 +1.1**
TPAW Teton Pass 51.28 294 *e*P **P 04 50 50.5 0.0**
comp=Z,85nm,1.0s,mb5.6
TPAW Teton Pass 51.28 294 *e*P **P 04 50 50.5 0.0**
comp=Z,85nm,1.0s,mb5.6
REDW Red Top Meadow 51.31 293 *e*P **P 04 50 50.6 -0.1**
comp=Z,57nm,1.0s,mb5.5
REDW Red Top Meadow 51.31 293 *e*P **P 04 50 50.6 -0.1**
comp=Z,57nm,1.0s,mb5.5
HKT Hockley 51.31 270 *e*P **P 04 50 50.3 -0.6**
HKT pmax pmax
comp=Z,340nm,2.1s,mb5.9
HKT MLR MLR
comp=Z,11μm,19.0s,MS5.9
HKT Hockley 51.31 270 *e*P **P 04 50 50.3 -0.5**
comp=Z,340nm,2.1s,mb5.9
HKT LR LR
comp=Z,11μm,19.0s,MS5.9
HKT Hockley 51.31 270 *e*P **P 04 50 50.3 -0.6**
comp=Z,340nm,2.1s,mb5.9
DCID1 Drake Creek 51.35 294 *e*P **P 04 50 51.4 +0.5**
DCID1 Drake Creek 51.35 294 *e*P **P 04 50 51.4 +0.4**
A10A Northport 51.40 303⇓P **P 04 50 50.7 -0.6**
baz=51
DGRG David-gareji 51.42 70 P **P 04 50 53.3 +1.8**
MARD Mardin 51.43 77 *i*P **P 04 50 52.7 +1.1**
D12A Red Ives Fores 51.45 300 P **P 04 50 51.3 -0.3**
baz=51,SNR=28
AMTX Amarillo 51.48 279 *e*P **P 04 50 52.1 0.0**
comp=Z,124nm,0.9s,mb5.8
AMTX LR LR
comp=Z,9μm,20.0s,MS5.8
AMTX Amarillo 51.48 279 *e*P **P 04 50 52.1 +0.1**
comp=Z,124nm,0.9s,mb5.8
MCMT McKenzie Canyo 51.49 296 *e*P **P 04 50 52.3 +0.3**
NEW Newport 51.62 302 *e*P **P 04 50 52.6 -0.3**
NEW pmax pmax
comp=Z,46nm,1.1s
NEW MLR MLR
comp=Z,7μm,19.0s
NEW Newport 51.62 302 *e*P **P 04 50 52.6 -0.4**
comp=Z,46nm,1.1s,mb5.3
NEW LR LR
comp=Z,7μm,19.0s,MS5.7
NEW Newport 51.62 302 *e*P **P 04 50 52.6 -0.3**
comp=Z,46nm,1.1s,mb5.3
B10A Chitwood Farm, 51.65 302⇓P **P 04 50 52.8 -0.4**
baz=51
MAK Makhachkala 51.66 67 *e*P **P 04 50 53.7 +0.4**
MAK *e* 04 52 02.5
MAK *i* 04 52 54.5
MAK *i*S **S 04 58 18.0 +3.7**
MAK pmax pmax
comp=Z,371nm,1.5s,mb6.1
MAK MLR MLR
comp=Z,8μm,15.0s,MS5.8
DYDN Diyadin 51.68 73 *i*P **P 04 50 55.7 +2.2**
SMCO Snowmass 51.78 287 *e*P **P 04 50 54.2 0.0**
comp=Z,33nm,1.1s,mb5.2
SMCO Snowmass 51.78 287 *e*P **P 04 50 54.2 -0.1**
comp=Z,33nm,1.1s,mb5.2
AHID Auburn Hatcher 51.83 293 *e*P **P 04 50 53.6 -1.0**
comp=Z,46nm,0.9s,mb5.4
AHID LR LR
comp=Z,11μm,19.0s,MS5.9
AHID Auburn Hatcher 51.83 293 *e*P **P 04 50 53.6 -1.0**
comp=Z,46nm,0.9s,mb5.4
SDCO Great Sand Dun 51.85 285 *e*P **P 04 50 54.6 -0.2**
comp=Z,11nm,0.8s,mb4.8
SDCO *e*PcP PcP 04 52 07.5 -0.1
SDCO LR LR
comp=Z,15μm,19.0s,MS6.0
SDCO Great Sand Dun 51.85 285 *e*P **P 04 50 54.6 -0.2**
comp=Z,11nm,0.8s,mb4.8
SDCO Great Sand Dun 51.85 285 *e*PcP PcP 04 52 07.5 -0.1
GNI Garni 51.90 71⇑*e*P **P 04 50 56.6 +1.5**
GNI pmax pmax
comp=Z,19nm,0.8s
GNI MLR MLR
comp=Z,5μm,21.0s
GNI Garni 51.90 71 *e*P **P 04 50 56.3 +1.2**
comp=Z,258nm,1.7s,mb5.9
GNI LR LR
comp=Z,5μm,20.0s,MS5.6
GNI Garni 51.90 71 *e*P **P 04 50 56.3 +1.2**
comp=Z,258nm,1.7s,mb5.9
A09A Danville 51.93 303⇓P **P 04 50 54.8 -0.4**
baz=52,SNR=13
D11A Klaveano Farm, 51.97 300 P **P 04 50 54.7 -0.9**
baz=52,SNR=36
C10A Spilker Farm, 52.00 301⇓P **P 04 50 55.3 -0.4**
baz=52,SNR=6.1
B09A Rice 52.05 303⇑P **P 04 50 56.0 -0.1**
baz=52,SNR=84
G13A Cobalt 52.08 297 P **P 04 50 56.5 +0.1**
baz=52,SNR=43
F12A Elk City 52.21 298⇑P **P 04 50 57.0 -0.4**
baz=52,SNR=56
A08A Turner Farm, O 52.29 304⇓P **P 04 50 57.5 -0.4**
baz=52,SNR=37
E11A Bogner Ranch, 52.34 299 P **P 04 50 57.5 -0.9**
baz=52,SNR=51
H13A Challis 52.43 297⇓P **P 04 50 59.2 +0.2**
baz=52,SNR=52
D10A Wagner Farm, O 52.46 301 P **P 04 50 58.3 -0.9**
baz=52,SNR=31
AKTK Aktyubinsk 52.49 54 *i*P **P 04 50 59.9 +0.5**
AKTO Aktyubinsk 52.49 54 *i*P **P 04 50 59.9 +0.5**
C09A Chrisman Ranch 52.51 302⇑P **P 04 50 58.6 -0.9**
baz=52,SNR=6.9
F11A Grangeville 52.61 299 P **P 04 50 59.9 -0.5**
baz=52,SNR=49
B08A Colville Reser 52.70 303 P **P 04 51 00.5 -0.4**
baz=52,SNR=53
SKAG Skagway 52.72 321 *e*P **P 04 51 01.9 +1.0**
comp=Z,296nm,2.0s,mb5.9
SKAG LR LR
comp=Z,7μm,17.0s,MS5.8
E10A Myers Farm, Un 52.74 300 P **P 04 51 00.7 -0.6**
baz=52,SNR=15
H12A Diamond D Ranc 52.77 297 P **P 04 51 01.9 +0.3**
baz=53,SNR=32
I13A Wildhorse Cree 52.77 296 P **P 04 51 02.3 +0.7**
baz=53,SNR=31
A07A Ashnola River, 52.80 304 P **P 04 51 01.9 +0.2**
baz=53,SNR=40
HWUT Hardware Ranch 52.84 292 *e*P **P 04 51 01.5 -0.6**
comp=Z,113nm,0.8s,mb5.8
HWUT *e*PcP PcP 04 52 11.7 +0.5
HWUT LR LR

comp=Z,7µm,19.0s,MS5.7
HWUT Hardware Ranch 52.84 292 *e*P **P 04 51 01.5 -0.6**
comp=Z,113nm,0.8s,mb5.8
HWUT Hardware Ranch 52.84 292 *e*PcP PcP 04 52 11.7 +0.5
C08A Higginbotham F 52.92 302 ⇓P **P 04 51 01.1 -1.5**
baz=53,SNR=7.6
G11A Walters Elk Ra 52.99 299 ⇓P **P 04 51 02.4 -0.8**
baz=53,SNR=78
HAKT HAKKARI 53.00 74 *i* P **P 04 51 05.2 +1.8**
D09A Jones Farm, Ri 53.00 301 ⇑P **P 04 51 01.6 -1.6**
baz=53
B07A Winthrop 53.04 304 P **P 04 51 03.0 -0.5**
baz=53,SNR=33
F10A Beach Ranch, E 53.13 300 ⇓P **P 04 51 03.6 -0.6**
baz=53,SNR=11
K14A Jones Ranch, D 53.14 294 ⇓P **P 04 51 04.0 -0.3**
baz=53,SNR=68
J13A Cove Ranch, Pi 53.14 295 P **P 04 51 05.0 +0.7**
baz=53,SNR=62
HLID Hailey 53.17 296 P **P 04 51 05.2 +0.7**
baz=53,SNR=68
COLA College 53.18 331 *e*P **P 04 51 04.9 +0.6**
COLA MLR MLR
comp=Z,7µm,19.0s,MS5.7
E09A Wood Farm, Sta 53.27 301 ⇑P **P 04 51 04.0 -1.2**
baz=53,SNR=8.8
H11A Donnelly 53.30 298 P **P 04 51 05.1 -0.4**
baz=53,SNR=23
A06A Chilliwack 53.32 305 ⇑P **P 04 51 04.6 -0.9**
baz=53
D08A Wollman Farm, 53.33 302 ⇑P **P 04 51 04.0 -1.6**
baz=53
JCT Junction City 53.37 274 *e*P **P 04 51 04.7 -1.4**
JCT pmax pmax
comp=Z,139nm,1.1s,mb5.8
JCT MLR MLR
comp=Z,13µm,20.0s,MS6.0
JCT Junction City 53.37 274 *e*P **P 04 51 04.7 -1.5**
comp=Z,139nm,1.1s,mb5.8
JCT LR LR
comp=Z,13µm,20.0s,MS6.0
JCT Junction City 53.37 274 *e*P **P 04 51 04.7 -1.4**
comp=Z,139nm,1.1s,mb5.8
PV01 Paradox Valley 53.41 287 *e*P **P 04 51 06.4 +0.1**
PV01 Paradox Valley 53.41 287 *e*P **P 04 51 06.4 +0.1**
HVU Hansel Valley 53.42 293 *e*P **P 04 51 05.7 -0.6**
HVU pmax pmax
comp=Z,34nm,1.0s,mb5.2
HVU Hansel Valley 53.42 293 *e*P **P 04 51 05.7 -0.6**
comp=Z,34nm,1.0s,mb5.2
HVU Hansel Valley 53.42 293 *e*P **P 04 51 05.7 -0.6**
comp=Z,34nm,1.0s,mb5.2
JLU Jordanelle 53.44 291 *e*P **P 04 51 06.3 -0.2**
JLU Jordanelle 53.44 291 *e*P **P 04 51 06.3 -0.2**
M15A Larsen Ranch, 53.44 293 ⇓P **P 04 51 06.0 -0.5**
baz=53,SNR=18
DAU Daniels Canyon 53.45 291 P **P 04 51 06.1 -0.5**
DAU Daniels Canyon 53.45 291 *e*P **P 04 51 06.4 -0.2**
DAU Daniels Canyon 53.45 291 *e*P **P 04 51 06.4 -0.2**
MSL Mosul 53.49 76 *ex* x 04 51 12.0
MSL *ex* x 04 58 37.0
C07A Waterville 53.51 303 P **P 04 51 06.0 -0.9**
baz=53,SNR=43
G10A Bishop Farm, J 53.52 299 P **P 04 51 06.2 -0.8**
baz=53,SNR=46
PV10 Paradox Valley 53.52 288 *e*P **P 04 51 08.1 +0.9**
PV10 Paradox Valley 53.52 288 *e*P **P 04 51 08.1 +1.0**
WRAK Wrangell Islan 53.54 317 *e*P **P 04 51 08.0 +0.9**
comp=Z,119nm,1.5s,mb5.6
WRAK LR LR
comp=Z,7µm,20.0s,MS5.7
CTU Camp Tracy 53.55 291 *e*P **P 04 51 07.1 -0.2**
comp=Z,36nm,1.1s,mb5.2
CTU *e*PcP PcP 04 52 13.9 -0.1
CTU Camp Tracy 53.55 291 *e*P **P 04 51 07.1 -0.2**
comp=Z,36nm,1.1s,mb5.2
CTU Camp Tracy 53.55 291 *e*PcP PcP 04 52 13.9 0.0
K13A Stover Farm, H 53.58 295 ⇑P **P 04 51 08.1 +0.6**
baz=53,SNR=19
SDV Santo Domingo 53.64 230 *e*P **P 04 51 08.2 0.0**
comp=Z,62nm,1.0s,mb5.5
SDV *e*PcP PcP 04 52 14.1 -0.5
SDV LR LR
comp=Z,480nm,20.0s,MS4.5
SDV Santo Domingo 53.64 230 *e*P **P 04 51 08.2 0.0**
comp=Z,62nm,1.0s,mb5.5
SDV Santo Domingo 53.64 230 *e*PcP PcP 04 52 14.1 -0.5
F09A S2 Ranch, Elgi 53.67 300 ⇑P **P 04 51 07.8 -0.3**
baz=54,SNR=35
A05A Maple Falls 53.69 305 ⇑P **P 04 51 06.0 -2.2**
baz=54
B06A Marblemount 53.70 304 ⇓P **P 04 51 06.4 -1.9**
baz=54
J12A Stokes Ranch, 53.75 296 P **P 04 51 09.5 +0.8**
baz=54,SNR=57
E08A Dider Farm, El 53.77 301 P **P 04 51 07.8 -1.0**
baz=54,SNR=7.2
H10A Noah's Angus R 53.77 298 ⇑P **P 04 51 07.1 -1.8**
baz=54,SNR=6.9
C06A Tall Timber Ra 53.78 304 ⇓P **P 04 51 07.4 -1.5**
baz=54
D07A Quincy 53.78 302 ⇓P **P 04 51 07.9 -1.0**
baz=54,SNR=12
I11A Placerville 53.79 297 ⇓P **P 04 51 08.6 -0.4**
baz=54,SNR=8.3
NOQ North Oquirrh 53.79 292 *e*P **P 04 51 08.9 -0.2**
comp=Z,56nm,1.0s,mb5.5
NOQ North Oquirrh 53.79 292 *e*P **P 04 51 08.9 -0.2**
comp=Z,56nm,1.0s,mb5.5
N15A Stansbury Isla 53.86 292 P **P 04 51 09.4 -0.2**
baz=54,SNR=6.5
L13A Double Diamond 53.87 294 ⇓P **P 04 51 09.7 +0.1**
baz=54,SNR=13
SRU San Rafael 53.89 289 *e*P **P 04 51 09.5 -0.4**
SRU *e* 04 52 15.4
SRU pmax pmax
comp=Z,22nm,0.7s,mb5.2
SRU San Rafael 53.89 289 *e*P **P 04 51 09.5 -0.3**
comp=Z,22nm,0.7s,mb5.2
SRU *e*PcP PcP 04 52 15.3 +0.1
SRU San Rafael 53.89 289 *e*P **P 04 51 09.5 -0.4**
comp=Z,22nm,0.7s,mb5.2
SRU San Rafael 53.89 289 *e*PcP PcP 04 52 15.4 +0.1
BMO Blue Mountains 53.90 299 *e*P **P 04 51 08.1 -1.7**
comp=Z,20nm,0.9s,mb5.0
BMO Blue Mountains 53.90 299 *e*P **P 04 51 08.1 -1.7**
comp=Z,20nm,0.9s,mb5.0
TEIG Tepich 53.90 256 *e*P **P 04 51 10.1 0.0**
comp=Z,79nm,1.2s,mb5.5
TEIG LR LR
comp=Z,5µm,21.0s,MS5.5
TEIG Tepich 53.90 256 *e*P **P 04 51 10.1 0.0**
comp=Z,79nm,1.2s,mb5.5
IMA2 Indian Mountai 53.91 335 *e*P **P 04 51 10.2 +0.6**
M14A Sheep Mountain 53.92 293 ⇑P **P 04 51 09.5 -0.5**
baz=54,SNR=17
MPU Maple Canyon 53.93 291 *e*P **P 04 51 10.1 0.0**
comp=Z,44nm,1.0s,mb5.3
MPU LR LR
comp=Z,9µm,21.0s,MS5.8
MPU Maple Canyon 53.93 291 *e*P **P 04 51 10.1 0.0**
comp=Z,44nm,1.0s,mb5.3
MVCO Mesa Verde 53.98 286 *e*P **P 04 51 11.5 +1.0**
comp=Z,80nm,1.2s,mb5.5
MVCO LR LR
comp=Z,8µm,19.0s,MS5.8
MVCO Mesa Verde 53.98 286 ⇓P **P 04 51 11.5 +0.9**
baz=54
MVCO Mesa Verde 53.98 286 *e*P **P 04 51 11.5 +0.9**
comp=Z,80nm,1.2s,mb5.5
MFID Camas Ranch 54.04 296 P **P 04 51 11.0 +0.1**
baz=54,SNR=24
K12A Draper Farm, C 54.04 295 P **P 04 51 12.0 +1.1**
baz=54,SNR=40
F08A Pendleton 54.07 300 ⇓P **P 04 51 10.1 -0.9**
baz=54,SNR=12
HAWA Hanford 54.08 301 *e*P **P 04 51 10.1 -1.0**
comp=Z,25nm,1.0s,mb5.1
HAWA LR LR
comp=Z,7µm,19.0s,MS5.8
TBM Table Mountain 54.12 303 P **P 04 51 11.0 -0.4**
TBM Table Mountain 54.12 303 P **P 04 51 11.0 -0.4**
BGU Big Grassy Mou 54.12 292 *e*P **P 04 51 10.9 -0.6**
BGU Big Grassy Mou 54.12 292 *e*P **P 04 51 10.9 -0.6**
I10A Payette 54.13 298 ⇓P **P 04 51 11.0 -0.6**
baz=54
E07A Sunnyside 54.14 302 ⇓P **P 04 51 10.6 -1.0**
baz=54
TMUT Trail Mountain 54.17 290 *e*P **P 04 51 11.9 +0.1**
TMUT Trail Mountain 54.17 290 *e*P **P 04 51 11.9 +0.1**
AB31 Akbulak array 54.21 54 *i* P **P 04 51 12.5 +0.5**
H09A Durkee 54.22 299 ⇑P **P 04 51 11.6 -0.6**
baz=54,SNR=14
NLU North Lily Min 54.23 291 *e*P **P 04 51 12.5 +0.3**
NLU *e*PcP PcP 04 52 16.4 -0.1
NLU North Lily Min 54.23 291 *e*P **P 04 51 12.5 +0.2**
NLU North Lily Min 54.23 291 *e*PcP PcP 04 52 16.4 -0.1
D06A Cle Elum 54.23 303 ⇓P **P 04 51 11.2 -1.0**
baz=54,SNR=18
N14A Grayback Hills 54.26 292 P **P 04 51 12.2 -0.3**
baz=54,SNR=17
KVTX Kingsville 54.29 270 *e*P **P 04 51 12.5 -0.4**
comp=Z,180nm,1.1s,mb5.9
KVTX LR LR
comp=Z,7µm,21.0s,MS5.7
KVTX Kingsville 54.29 270 *e*P **P 04 51 12.5 -0.4**
comp=Z,180nm,1.1s,mb5.9
ANMO Albuquerque 54.31 283 ⇑*e*P **P 04 51 13.6 +0.6**
SIT Sitka 54.33 319 PFAKE 04 51 20.0 +7.2
SIT LR LR
comp=Z,13µm,19.0s,MS6.0
C05A Tolt Reservoir 54.34 304 P **P 04 51 10.4 -2.6**
baz=54,SNR=5.2
MXC Moxie City 54.35 302 P **P 04 51 12.4 -0.7**
MXC Moxie City 54.35 302 P **P 04 51 12.4 -0.7**
L12A House Creek Ra 54.43 295 ⇑P **P 04 51 14.5 +0.7**
baz=54,SNR=74
M13A Montello 54.48 294 ⇑P **P 04 51 14.0 -0.1**
baz=54,SNR=5.8
DUG Dugway 54.49 292 *e*P **P 04 51 14.2 0.0**
DUG pmax pmax
comp=Z,60nm,1.0s,mb5.5
DUG MLR MLR
comp=Z,5µm,19.0s,MS5.6
DUG Dugway 54.49 292 *e*P **P 04 51 14.2 0.0**
comp=Z,60nm,1.0s,mb5.5
DUG LR LR
comp=Z,5µm,19.0s,MS5.6
DUG Dugway 54.49 292 ⇓P **P 04 51 14.3 +0.1**
baz=54
DUG Dugway 54.49 292 *e*P **P 04 51 14.2 0.0**
comp=Z,60nm,1.0s,mb5.5
BBB Bella Bella 54.50 311 LR LR 05 13 13.8
comp=Z,7µm,18.1s,MS5.8,baz=45,slow=35
G08A Pilot Rock 54.50 300 P **P 04 51 13.0 -1.2**
baz=54,SNR=19
J10A Berg Farm, Mel 54.55 297 ⇓P **P 04 51 14.2 -0.4**
baz=54
K11A Parker Ranch, 54.58 296 P **P 04 51 15.1 +0.3**
baz=54,SNR=16
PGC Sidney 54.60 306 *e*P **P 04 51 12.2 -2.7**
comp=Z,21nm,0.6s,mb5.3
F07A Phinny Hill Vi 54.61 301 ⇓P **P 04 51 14.2 -0.8**
baz=54
I09A Lost Marbles R 54.72 298 P **P 04 51 15.2 -0.6**
baz=54,SNR=12
E06A Yakima 54.73 302 P **P 04 51 15.4 -0.5**
baz=54,SNR=35
D05A Enumclaw 54.83 303 ⇓P **P 04 51 14.3 -2.3**
baz=55
L11A Cat Creek Ranc 54.83 295 P **P 04 51 17.4 +0.8**
baz=55,SNR=39
N13A Wendover, West 54.83 293 ⇓P **P 04 51 16.8 +0.1**
baz=55,SNR=8.8
LPM Los Pinos Moun 54.85 282 *e*P **P 04 51 17.1 +0.2**
LPM Los Pinos Moun 54.85 282 *e*P **P 04 51 17.1 +0.2**
H08A Prairie City 54.85 299 P **P 04 51 15.7 -1.1**
baz=55,SNR=16
M12A Wells 54.86 294 ⇑P **P 04 51 17.2 +0.4**
baz=55,SNR=24
G07A Ruggs Ranch, H 54.89 300 P **P 04 51 16.3 -0.7**
baz=55,SNR=17
BNM Barren Site 54.96 282 *e*P **P 04 51 18.2 +0.5**
BNM Barren Site 54.96 282 *e*P **P 04 51 18.2 +0.5**
C04A Brinnon 54.98 304 ⇓P **P 04 51 16.8 -0.8**
baz=55,SNR=9.4
B04A Port Angeles 55.02 305 ⇓P **P 04 51 17.4 -0.5**
baz=55
K10A MacKenzie Ranc 55.03 296 P **P 04 51 18.7 +0.6**
baz=55,SNR=20
LAZ Ladron 55.09 283 *e*P **P 04 51 19.3 +0.7**
LAZ Ladron 55.09 283 *e*P **P 04 51 19.3 +0.7**
E05A Randle 55.12 303 ⇑P **P 04 51 17.2 -1.5**
baz=55,SNR=14
J09A Fry Pan Ranch, 55.14 298 P **P 04 51 19.1 +0.2**
baz=55,SNR=25
F06A Goldendale 55.14 301 ⇑P **P 04 51 18.5 -0.3**
baz=55
LENM Lemitar 55.16 282 *e*P **P 04 51 19.9 +0.8**
LENM Lemitar 55.16 282 *e*P **P 04 51 19.9 +0.8**
Y22C IRIS PASSCAL I 55.19 282 ⇑P **P 04 51 20.4 +1.1**
baz=55
O13A Hicks Ranch, I 55.19 292 ⇓P **P 04 51 19.9 +0.6**
baz=55,SNR=9.4
I08A Drewsey 55.20 299 ⇑P **P 04 51 18.7 -0.7**
baz=55,SNR=20
MSU Marysvale 55.25 290 P **P 04 51 20.3 +0.6**
MSU Marysvale 55.25 290 *e*P **P 04 51 20.1 +0.4**
MSU Marysvale 55.25 290 *e*P **P 04 51 20.1 +0.4**
DIV Divide 55.27 327 *e*P **P 04 51 19.8 +0.2**
comp=Z,41nm,1.0s,mb5.4
DIV LR LR
comp=Z,30µm,19.0s,MS6.4
DIV Divide 55.27 327 *e*P **P 04 51 19.8 +0.3**
comp=Z,41nm,1.0s,mb5.4
OSD Olympics--Snow 55.27 305 P **P 04 51 20.6 +0.8**
OSD Olympics--Snow 55.27 305 P **P 04 51 20.6 +0.8**
MVU Marysvale 55.28 290 PFAKE 04 51 30.0 +10
MVU LR LR
comp=Z,7µm,19.0s,MS5.8
L10A Juniper Basin 55.28 296 P **P 04 51 20.6 +0.7**
baz=55,SNR=13
H07A Lands Inn, Kim 55.28 300 P **P 04 51 19.1 -0.8**
baz=55,SNR=26
D04A Dobbs Creek Ra 55.29 304 ⇑P **P 04 51 19.3 -0.6**
baz=55
N12A Clover Valley, 55.31 294 P **P 04 51 20.9 +0.8**
baz=55,SNR=24
M11A Holland Ranch, 55.34 295 P **P 04 51 21.6 +1.3**
baz=55,SNR=38
F05A White Salmon 55.42 302 ⇓P **P 04 51 19.6 -1.2**
baz=55
G06A Carlson Farm, 55.42 301 ⇓P **P 04 51 20.1 -0.8**
baz=55,SNR=5.3
J08A Circle Bar Ran 55.52 298 ⇑P **P 04 51 21.5 -0.1**
baz=55,SNR=42
O12A Currie 55.53 293 P **P 04 51 22.3 +0.5**
baz=55,SNR=28
K09A Rome 55.56 297 P **P 04 51 22.8 +0.9**
baz=55,SNR=74
I07A Izee 55.59 299 P **P 04 51 21.1 -1.0**
baz=55,SNR=8.7
E04A Onalaska 55.60 303 ⇓P **P 04 51 20.9 -1.1**
baz=55
H06A Lindquist Farm 55.60 300 P **P 04 51 21.8 -0.3**
baz=55,SNR=43
SML Sawmill 55.60 329 *e*P **P 04 51 22.9 +1.0**
C03A Quillayute Air 55.62 306 ⇑P **P 04 51 22.8 +0.5**
baz=55,SNR=5.6
NLWA Neilton Lookou 55.65 305 *e*P **P 04 51 23.1 +0.7**
comp=Z,91nm,0.9s,mb5.8
NLWA LR LR
comp=Z,14µm,20.0s,MS6.0
NLWA Neilton Lookou 55.65 305 ⇑P **P 04 51 22.8 +0.4**
baz=55,SNR=32
NLWA Neilton Lookou 55.65 305 *e*P **P 04 51 23.1 +0.7**
comp=Z,91nm,0.9s,mb5.8
P13A Bates Ranch, G 55.67 292 ⇓P **P 04 51 22.8 +0.1**
baz=56,SNR=29
M10A I.L. Ranch, Tu 55.69 295 ⇑P **P 04 51 23.6 +0.8**
baz=56,SNR=8.7
N11A Elko Archery C 55.72 294 ⇓P **P 04 51 23.9 +0.8**
baz=56
G05A Wamic 55.77 301 ⇓P **P 04 51 23.1 -0.3**
baz=56
D03A Wishkah Elem. 55.78 304 P **P 04 51 24.4 +1.0**
baz=56,SNR=9.4
F04A Amboy 55.88 303 ⇑P **P 04 51 22.8 -1.4**
baz=56
R14A James Farms, M 55.88 290 ⇓P **P 04 51 25.0 +0.7**
baz=56,SNR=10
T16A Glen Canyon Da 55.90 288 ⇑P **P 04 51 23.8 -0.6**
baz=56
MNTX Cornudas Mount 55.91 279 *e*P **P 04 51 23.3 -1.2**
comp=Z,66nm,1.6s,mb5.4
MNTX LR LR
comp=Z,7µm,20.0s,MS5.8
MNTX Cornudas Mount 55.91 279 *e*P **P 04 51 23.3 -1.3**
comp=Z,66nm,1.6s,mb5.4
W19A Sanders 55.94 285 ⇓P **P 04 51 24.7 -0.1**
baz=56
K08A Mann Creek Ran 55.95 297 P **P 04 51 25.3 +0.6**
baz=56,SNR=44
J07A Hines 55.96 298 ⇓P **P 04 51 23.9 -0.8**
baz=56
ZRNK Zerenda 55.97 46 *i* P **P 04 51 24.1 -0.5**
ZRNK pmax pmax
comp=Z,30nm,0.9s,mb5.3
L09A Wilkinson Ranc 55.98 296 P **P 04 51 26.0 +1.1**
baz=56,SNR=61
Q13A Wheeler Ranch, 56.01 291 P **P 04 51 25.4 +0.2**
baz=56,SNR=27
PMR Palmer 56.01 329 *e*P **P 04 51 25.1 +0.3**
PMR pmax pmax
comp=Z,208nm,1.8s,mb5.9
PMR MLR MLR
comp=Z,4µm,19.0s,MS5.6
PMR Palmer 56.01 329 *e*P **P 04 51 25.1 +0.3**
comp=Z,208nm,1.8s,mb5.9
PMR LR LR
comp=Z,4µm,19.0s,MS5.6
PMR Palmer 56.01 329 *e*P **P 04 51 25.1 +0.3**
comp=Z,208nm,1.8s,mb5.9
E03A Lebam 56.06 304 ⇓P **P 04 51 25.2 -0.2**
baz=56,SNR=16
I06A Prineville 56.06 299 ⇑P **P 04 51 25.3 -0.2**
baz=56,SNR=12
H05A Madras 56.13 301 ⇑P **P 04 51 25.4 -0.5**
baz=56,SNR=12
O11A Cowboy Ranch, 56.14 293 P **P 04 51 26.9 +0.8**
baz=56,SNR=36
W18A Petrified Fore 56.14 285 ⇑P **P 04 51 26.6 +0.4**
baz=56,SNR=5.8
P12A McGill 56.16 292 P **P 04 51 27.1 +0.8**
baz=56,SNR=15
N10A Dunphy 56.22 294 ⇓P **P 04 51 27.4 +0.8**
baz=56,SNR=11
WVOR Wild Horse Val 56.23 297 *e*P **P 04 51 27.2 +0.5**
WVOR pmax pmax
comp=Z,61nm,1.0s,mb5.6
WVOR MLR MLR
comp=Z,9µm,19.0s,MS5.9
WVOR Wild Horse Val 56.23 297 *e*P **P 04 51 27.1 +0.4**
comp=Z,61nm,1.0s,mb5.6
WVOR LR LR
comp=Z,9µm,19.0s,MS5.9
WVOR Wild Horse Val 56.23 297 *e*P **P 04 51 27.1 +0.4**
comp=Z,61nm,1.0s,mb5.6
L08A Fields 56.24 297 P **P 04 51 27.8 +1.0**
baz=56,SNR=43
M09A Marrel Ranch, 56.27 296 P **P 04 51 28.1 +1.2**
baz=56,SNR=35
BHD Baghdad 56.33 78 *ex* x 04 51 25.0
BHD *ex* x 04 53 37.0
BHD *ex* x 04 56 07.0
BHD *ex* x 04 59 17.0
S14A Cedar City 56.34 290 P **P 04 51 28.1 +0.6**
baz=56,SNR=29
X19A St. Johns 56.36 284 P **P 04 51 28.4 +0.7**
baz=56,SNR=25
T15A Red Dirt Ranch 56.39 289 P **P 04 51 27.4 -0.5**
baz=56,SNR=17
K07A Rock Creek Ran 56.39 298 P **P 04 51 27.9 0.0**
baz=56,SNR=15
G04A Mulino 56.41 302 ⇓P **P 04 51 26.6 -1.3**
baz=56
Q12A Willow Creek R 56.41 292 ⇓P **P 04 51 28.4 +0.3**
baz=56,SNR=11
BRVK Borovoye 56.45 45 P **P 04 51 29.6 +1.5**
comp=Z,445nm,0.9s,mb6.5,SNR=17
BRVK Borovoye 56.45 45 *e*P **P 04 51 28.6 +0.5**
BRVK pmax pmax
comp=Z,62nm,0.8s,mb5.7
BRVK MLR MLR
comp=Z,6µm,20.0s,MS5.7
BRVK Borovoye 56.45 45 *e*P **P 04 51 28.6 +0.5**
comp=Z,62nm,0.8s,mb5.7
BRVK LR LR
comp=Z,6µm,20.0s,MS5.7
BRVK Borovoye 56.45 45 *e*P **P 04 51 28.6 +0.5**
comp=Z,62nm,0.8s,mb5.7
F03A Seaside 56.47 303 ⇑P **P 04 51 28.2 -0.2**
baz=56,SNR=11
ARUT Antelope Range 56.47 290 *e*P **P 04 51 28.9 +0.4**
I05A Bend 56.48 300 ⇓P **P 04 51 28.4 0.0**
baz=56,SNR=10.0
O10A Cortez Mining, 56.50 294 P **P 04 51 29.5 +0.8**
baz=56,SNR=14
TXAR Lajitas Array 56.54 276 P **P 04 51 28.4 -0.7**
TXAR 04 52 25.4
TXAR Lajitas Array 56.54 276 P **P 04 51 28.4 -0.7**
TXAR PcP PcP 04 52 25.4 -0.2
TXAR LR LR 05 17 26.9
TXAR Lajitas Array 56.54 276 P **P 04 51 28.4 -0.7**
comp=Z,13nm,0.7s,mb5.1,baz=51,slow=7.0,SNR=114
TXAR PcP PcP 04 52 25.4 -0.2
comp=Z,9.0nm,0.7s,baz=70,slow=4.2,SNR=9.0
TXAR LR LR 05 17 26.9
comp=Z,5µm,18.2s,MS5.6,baz=5.0,slow=38
TXAR Lajitas Array 56.54 276 PcP PcP 04 52 25.4 -0.2
P11A Circle Ranch, 56.59 293 ⇑P **P 04 51 29.9 +0.6**
baz=56
CCUT Cedar City 56.59 290 *e*P **P 04 51 29.8 +0.4**
CCUT Cedar City 56.59 290 *e*P **P 04 51 29.8 +0.5**
H04A Detroit Lake 56.61 301 P **P 04 51 28.5 -0.8**
baz=56,SNR=9.5
Y19A Nutrioso 56.66 284 P **P 04 51 31.3 +1.4**
baz=56,SNR=51
X18A Snowflake 56.68 285 ⇓P **P 04 51 29.8 -0.2**
baz=56,SNR=13
N09A Rock Creek Ran 56.69 295 ⇓P **P 04 51 30.5 +0.5**
baz=56,SNR=24
G03A Yamhill 56.75 302 ⇑P **P 04 51 29.8 -0.6**
baz=56
W17A Winslow 56.75 286 ⇑P **P 04 51 31.2 +0.8**
baz=57
M08A Happy Creek Ra 56.76 296 P **P 04 51 31.6 +1.1**
baz=57,SNR=30
T14A Hurricane 56.77 289 ⇓P **P 04 51 30.1 -0.5**
baz=57
R12A Pony Springs, 56.77 291 P **P 04 51 30.8 +0.2**
baz=57,SNR=9.7
BMN Battle Mountai 56.81 295 *e*P **P 04 51 31.4 +0.5**
BMN pmax pmax
comp=Z,42nm,1.2s,mb5.3
BMN MLR MLR
comp=Z,8µm,20.0s,MS5.8
BMN Battle Mountai 56.81 295 *e*P **P 04 51 31.4 +0.5**
comp=Z,42nm,1.2s,mb5.3
BMN LR LR
comp=Z,8µm,20.0s,MS5.8
BMN Battle Mountai 56.81 295 *e*P **P 04 51 31.4 +0.5**
comp=Z,42nm,1.2s,mb5.3
WUAZ Wupatki 56.83 287 *e*P **P 04 51 31.4 +0.3**
comp=Z,31nm,0.9s,mb5.3
WUAZ LR LR
comp=Z,6µm,20.0s,MS5.7
WUAZ Wupatki 56.83 287 ⇑P **P 04 51 31.6 +0.6**
baz=57
WUAZ Wupatki 56.83 287 *e*P **P 04 51 31.4 +0.3**
comp=Z,31nm,0.9s,mb5.3
S13A Holt Ranch, En 56.86 290 ⇑P **P 04 51 31.5 +0.2**
baz=57,SNR=41
K06A Valley Falls 56.86 299 ⇑P **P 04 51 30.7 -0.5**
baz=57,SNR=7.5
L07A Adell 56.90 297 P **P 04 51 32.3 +0.8**
baz=57,SNR=26
P10A Eureka 56.94 293 P **P 04 51 32.8 +1.0**
baz=57,SNR=13
O09A Fish Creek Ran 56.97 294 ⇑P **P 04 51 32.7 +0.7**
baz=57
TTA Tatalina 57.00 333 *e*P **P 04 51 32.3 +0.4**
Q11A Duckwater 57.02 292 P **P 04 51 32.6 +0.2**
baz=57,SNR=33
J05A Fort Rock 57.06 300 P **P 04 51 33.6 +1.0**
baz=57,SNR=48
N08A GE Springer Mi 57.08 295 P **P 04 51 33.3 +0.6**
baz=57,SNR=24
V15A Kaibab Nationa 57.09 287 P **P 04 51 33.4 +0.4**
baz=57,SNR=41
Z19A T-Link Ranch, 57.13 283 ⇓P **P 04 51 33.7 +0.4**

baz=57
SLKM Skilak Lake 57.18 329 *e*P **P 04 51 33.7 +0.5**
H03A Soap Creek Ran 57.19 302 ⇓P **P 04 51 33.4 -0.1**
baz=57,SNR=7.6
W16A Flagstaff 57.22 286 ⇑P **P 04 51 34.4 +0.6**
baz=57,SNR=8.9
M07A Soldier Meadow 57.24 297 P **P 04 51 34.8 +0.9**
baz=57,SNR=26
Y18A Canyon Day Jun 57.25 284 P **P 04 51 35.1 +1.0**
baz=57,SNR=26
K05A Summer Lake 57.26 299 ⇑P **P 04 51 34.4 +0.5**
baz=57
COR Corvallis 57.26 302 *e*P **P 04 51 33.9 -0.1**
COR pmax pmax
comp=Z,53nm,0.8s,mb5.6
COR MLR MLR
comp=Z,5μm,21.0s,MS5.6
COR Corvallis 57.26 302 *e*P **P 04 51 33.9 -0.1**
comp=Z,52nm,0.8s,mb5.6
COR LR LR
comp=Z,5μm,21.0s,MS5.6
COR Corvallis 57.26 302 *e*P **P 04 51 33.9 -0.1**
comp=Z,52nm,0.8s,mb5.6
U14A Mt Trumbull 57.27 289 P **P 04 51 34.0 -0.2**
baz=57,SNR=36
T13A Saint George 57.27 290 P **P 04 51 34.7 +0.6**
baz=57,SNR=15
R11A Troy Canyon, C 57.32 292 P **P 04 51 34.4 -0.1**
baz=57,SNR=40
I04A Tendick Farm, 57.33 301 P **P 04 51 33.6 -0.9**
baz=57,SNR=11
P09A Austin 57.37 294 ⇑P **P 04 51 35.5 +0.7**
baz=57,SNR=11
S12A Delamar Landin 57.41 291 P **P 04 51 35.9 +0.8**
baz=57,SNR=8.1
O08A Rochester Mine 57.43 295 ⇑P **P 04 51 35.8 +0.6**
baz=57
Q10A Clear Creek Ra 57.45 293 P **P 04 51 36.1 +0.7**
baz=57,SNR=35
MOD Modoc 57.50 298 *e*P **P 04 51 35.5 -0.2**
comp=Z,55nm,1.0s,mb5.5
MOD LR LR
comp=Z,7μm,19.0s,MS5.8
MOD Modoc 57.50 298 ⇓P **P 04 51 35.7 0.0**
baz=57,SNR=18
MOD Modoc 57.50 298 *e*P **P 04 51 35.5 -0.2**
comp=Z,55nm,1.0s,mb5.5
119A Ashpeak Ranch, 57.52 283 ⇑P **P 04 51 36.5 +0.5**
baz=57,SNR=7.6
N07B Gerlach 57.54 296 P **P 04 51 36.8 +0.8**
baz=57,SNR=21
J04A Umpqua Nationa 57.55 300 ⇑P **P 04 51 36.2 +0.2**
baz=57,SNR=15
W15A Williams 57.59 287 P **P 04 51 37.5 +1.1**
baz=57,SNR=14
X16A Lo Mia Camp, P 57.64 286 P **P 04 51 38.1 +1.3**
baz=58,SNR=49
I03A Eugene 57.66 301 ⇓P **P 04 51 35.1 -1.7**
baz=57
L05A Lakeview 57.69 298 P **P 04 51 37.8 +0.8**
baz=58,SNR=18
TNA Tin City 57.70 340 *e*P **P 04 51 37.5 +0.8**
comp=Z,42nm,0.9s,mb5.5
TNA LR LR
comp=Z,2μm,19.0s,MS5.2
TNA Tin City 57.70 340 *e*P **P 04 51 37.5 +0.8**
comp=Z,42nm,0.9s,mb5.5
Z18A Geronimo 57.74 284 ⇑P **P 04 51 37.7 +0.2**
baz=58,SNR=6.4
V14A Boquillas Ranc 57.77 288 P **P 04 51 38.3 +0.6**
baz=58,SNR=23
R10A Warm Springs 57.77 292 ⇑P **P 04 51 38.1 +0.4**
baz=58,SNR=25
K04A Chilquin 57.78 299 ⇑P **P 04 51 37.7 0.0**
baz=58
Y17A Roosevelt 57.79 285 P **P 04 51 38.7 +0.9**
baz=58,SNR=19
P08A Dixie Valley 57.80 294 ⇓P **P 04 51 38.1 +0.3**
baz=58
Z17A San Carlos Hig 57.85 284 ⇑P **P 04 51 38.9 +0.6**
baz=58
T11A Corn Creek, Al 57.88 291 P **P 04 51 39.1 +0.7**
baz=58,SNR=29
Q09A Carvers 57.89 293 ⇓P **P 04 51 38.7 +0.2**
baz=58,SNR=7.2
S11A Rachel 57.90 291 ⇓P **P 04 51 39.3 +0.7**
baz=58,SNR=28
J03A Ideyld Park 57.91 301 ⇑P **P 04 51 37.4 -1.2**
baz=58
O07A Toulon 57.92 295 P **P 04 51 39.0 +0.3**
baz=58,SNR=22
I02A Mapleton 57.93 302 ⇓P **P 04 51 38.4 -0.3**
baz=58
T12A Moapa 57.94 290 ⇓P **P 04 51 39.0 +0.1**
baz=58
118A Homack Ranch, 58.01 283 P **P 04 51 39.7 +0.3**
baz=58,SNR=16
BCIP Isla Barro Col 58.03 240 *e*P **P 04 51 39.0 -0.7**
comp=Z,38nm,1.1s,mb5.3
BCIP LR LR
comp=Z,2μm,20.0s,MS5.2
BCIP Isla Barro Col 58.03 240 *e*P **P 04 51 39.0 -0.7**
comp=Z,38nm,1.1s,mb5.3
Y16A Circle Bar Ran 58.04 285 ⇓P **P 04 51 40.6 +1.0**
baz=58,SNR=18
219A White Tail Can 58.04 282 ⇑P **P 04 51 39.6 0.0**
baz=58,SNR=10
N06A Buffalo Meadow 58.04 296 P **P 04 51 40.2 +0.7**
baz=58,SNR=37
U12A Valley of Fire 58.04 289 ⇑P **P 04 51 39.8 +0.2**
baz=58
W14A Seligman 58.05 287 P **P 04 51 40.5 +0.8**
baz=58,SNR=20
X15A Humboldt 58.06 286 P **P 04 51 40.7 +1.0**
baz=58,SNR=40
M06C Likely Place G 58.08 297 ⇑P **P 04 51 40.1 +0.3**
baz=58,SNR=12
RCBR Riachuelo 58.08 185 PFAKE 04 51 50.0 +10
RCBR LR LR
comp=Z,626nm,20.0s,MS4.7
V13A Grand Canyon W 58.13 289 P **P 04 51 40.5 +0.3**
baz=58,SNR=29
TGUH Tegucigalpa,Un 58.16 250 *e*P **P 04 51 41.0 +0.4**
comp=Z,55nm,1.0s,mb5.5
TGUH LR LR
comp=Z,2μm,22.0s,MS5.1
TGUH Tegucigalpa,Un 58.16 250 *e*P **P 04 51 41.0 +0.4**
comp=Z,55nm,1.0s,mb5.5
L04A Klamath Falls 58.17 299 P **P 04 51 40.0 -0.4**
baz=58,SNR=8.7
S10A Tonopah Range, 58.19 292 P **P 04 51 41.0 +0.4**
baz=58,SNR=45
R09A Tonopah 58.24 293 ⇑P **P 04 51 41.2 +0.2**
baz=58,SNR=13
Q08A Gabbs 58.29 294 P **P 04 51 41.2 -0.1**
baz=58,SNR=32
M05C Lookout 58.33 298 P **P 04 51 42.0 +0.5**
baz=58,SNR=22
SVW2 Sparrevohn 58.35 332 *e*P **P 04 51 41.4 0.0**
P07A Fallon 58.35 295 ⇓P **P 04 51 42.1 +0.4**
baz=58
Z16A Peralta Trail, 58.38 285 P **P 04 51 42.8 +0.7**
baz=58,SNR=14
M04C Macdoel 58.41 299 P **P 04 51 41.9 -0.2**
baz=58,SNR=24
TPH Tonopah 58.44 293 *e*P **P 04 51 42.4 +0.1**
TPH pmax pmax
comp=Z,74nm,1.0s,mb5.7
TPH MLR MLR
comp=Z,4μm,21.0s,MS5.6
TPH Tonopah 58.44 293 *e*P **P 04 51 42.4 +0.1**
comp=Z,74nm,1.0s,mb5.7
TPH LR LR
comp=Z,4μm,21.0s,MS5.6
TPH Tonopah 58.44 293 *e*P **P 04 51 42.4 +0.1**
comp=Z,74nm,1.0s,mb5.7
HUMO Hull Mountain 58.44 300 *e*P **P 04 51 40.1 -2.2**
comp=Z,14nm,0.9s,mb5.0
HUMO LR LR
comp=Z,6μm,19.0s,MS5.7
HUMO Hull Mountain 58.44 300 ⇓P **P 04 51 40.2 -2.0**
baz=58
HUMO Hull Mountain 58.44 300 *e*P **P 04 51 40.1 -2.2**
comp=Z,14nm,0.9s,mb5.0
O06A Flanigan 58.44 296 ⇓P **P 04 51 42.8 +0.5**
baz=58,SNR=16
X14A Yava 58.45 287 ⇑P **P 04 51 43.1 +0.6**
baz=58,SNR=8.8

Y15A Casa Rosa Ranc 58.49 286 P **P 04 51 43.7 +0.9**
baz=58,SNR=36
319A Douglas 58.49 282 ⇓P **P 04 51 43.1 +0.3**
baz=58,SNR=11
PAHR Pah Rah Range 58.51 295 *e*P **P 04 51 43.3 +0.5**
comp=Z,73nm,1.1s,mb5.6
PAHR Pah Rah Range 58.51 295 *e*P **P 04 51 43.3 +0.4**
comp=Z,73nm,1.1s,mb5.6
117A Oracle 58.52 284 ⇓P **P 04 51 43.2 +0.2**
baz=58,SNR=15
218A Dragoon 58.53 283 P **P 04 51 43.4 +0.3**
baz=58,SNR=8.6
U11A Corn Creek 58.54 290 ⇑P **P 04 51 43.1 +0.1**
baz=58
W13A Hualapai Mount 58.59 288 P **P 04 51 43.8 +0.3**
baz=58,SNR=19
K02A Glendale 58.61 300 ⇓P **P 04 51 42.4 -1.1**
baz=58,SNR=11
ELFS Eagle Lake Fie 58.62 297 ⇓P **P 04 51 44.0 +0.4**
baz=58
TPNV Topopah Spring 58.67 291 *e*P **P 04 51 44.0 0.0**
TPNV pmax pmax
comp=Z,65nm,1.4s,mb5.5
TPNV MLR MLR
comp=Z,5μm,19.0s,MS5.6
TPNV Topopah Spring 58.67 291 *e*P **P 04 51 44.0 +0.1**
comp=Z,65nm,1.4s,mb5.5
TPNV LR LR
comp=Z,5μm,19.0s,MS5.6
TPNV Topopah Spring 58.67 291 ⇓P **P 04 51 44.0 +0.1**
baz=58
TPNV Topopah Spring 58.67 291 *e*P **P 04 51 44.0 0.0**
comp=Z,65nm,1.4s,mb5.5
S09A Goldfield 58.68 292 P **P 04 51 44.1 +0.1**
baz=58,SNR=54
V12A Nelson 58.72 289 P **P 04 51 44.4 0.0**
baz=58,SNR=12
TUC Tucson 58.73 283 *e*P **P 04 51 43.5 -1.0**
TUC pmax pmax
comp=Z,33nm,1.4s,mb5.2
TUC MLR MLR
comp=Z,15μm,20.0s,MS6.1
TUC Tucson 58.73 283 *e*P **P 04 51 43.5 -1.0**
comp=Z,33nm,1.4s,mb5.2
TUC LR LR
comp=Z,15μm,20.0s,MS6.1
TUC Tucson 58.73 283 *e*P **P 04 51 43.5 -1.0**
comp=Z,33nm,1.4s,mb5.2
R08A Mina 58.74 293 ⇓P **P 04 51 44.3 -0.1**
baz=58
NVAR Mina Array Bea 58.80 294 P **P 04 51 44.6 -0.3**
comp=Z,6.4nm,0.7s,mb4.7,baz=64,slow=6.3,SNR=33
P06A Stead Airport, 58.82 296 ⇑P **P 04 51 45.6 +0.7**
baz=59
Z15A Gila River Ind 58.85 285 ⇓P **P 04 51 45.8 +0.5**
baz=59
318A Bisbee 58.87 282 P **P 04 51 45.5 +0.1**
baz=59,SNR=10
HATC Hat Creek Radi 58.88 298 P **P 04 51 45.4 0.0**
baz=59,SNR=19
Y14A Wickenburg 58.90 286 ⇓P **P 04 51 46.2 +0.6**
baz=59
ROSC El Rosal 58.91 232 *e*P **P 04 51 46.9 +1.0**
ROSC El Rosal 58.91 232 P **P 04 51 46.4 +0.5**
comp=Z,171nm,0.9s,mb6.1,baz=72,slow=3.2,SNR=98
ROSC LR LR 05 14 25.8
comp=Z,2μm,21.4s,MS5.3,baz=9.9,slow=33
ROSC El Rosal 58.91 232 *e*P **P 04 51 46.9 +1.0**
YBH Yreka Blue Hor 58.92 299 *e*P **P 04 51 43.9 -1.7**
YBH pmax pmax
comp=Z,22nm,1.1s
YBH MLR MLR
comp=Z,8μm,20.0s
YBH Yreka Blue Hor 58.92 299 *e*P **P 04 51 43.9 -1.7**
comp=Z,22nm,1.1s,mb5.1
YBH LR LR
comp=Z,8μm,20.0s,MS5.8
YBH Yreka Blue Hor 58.92 299 ⇓P **P 04 51 43.8 -1.9**
baz=59,SNR=9.6
YBH Yreka Blue Hor 58.92 299 *e*P **P 04 51 43.9 -1.7**
comp=Z,22nm,1.1s,mb5.1
X13A Yucca 58.92 287 P **P 04 51 46.3 +0.6**
baz=59,SNR=17
M03C McCloud 58.92 298 P **P 04 51 45.3 -0.4**
baz=59,SNR=21
BEKR Beckwourth 58.94 296 ⇑P **P 04 51 46.0 +0.2**
baz=59,SNR=18
V11A Goodsprings 58.97 290 ⇓P **P 04 51 46.5 +0.4**
baz=59
WCN Washoe City 59.00 295 P **P 04 51 47.0 +0.7**
baz=59,SNR=10
O04C Chester 59.02 297 ⇓P **P 04 51 46.7 +0.3**
baz=59
W12A Cal Nev Ari 59.03 289 ⇑P **P 04 51 46.3 -0.2**
baz=59
U10A Ash Meadows, A 59.08 291 ⇑P **P 04 51 47.2 +0.4**
baz=59,SNR=18
L02A Cave Junction 59.10 300 ⇑P **P 04 51 46.1 -0.7**
baz=59,SNR=11
K01A Sixes 59.10 301 ⇓P **P 04 51 46.9 0.0**
baz=59
116A Eloy 59.10 284 ⇓P **P 04 51 47.2 +0.2**
baz=59
217A Green Valley 59.13 283 P **P 04 51 47.3 +0.1**
baz=59,SNR=12
BILL Bilibino 59.16 352 *i* P **P 04 51 47.0 +0.1**
BILL pmax pmax
comp=Z,65nm,2.5s,mb5.2
O05C Quincy 59.18 297 ⇑P **P 04 51 47.4 -0.1**
baz=59
M02C Callahan 59.23 299 P **P 04 51 48.0 +0.1**
baz=59,SNR=8.5
NEE2 Needles Airpor 59.26 288 ⇓P **P 04 51 47.9 -0.2**
baz=59
Z14A Wintersburg 59.27 286 ⇓P **P 04 51 48.8 +0.6**
baz=59,SNR=9.8
GRAC Grapevine Rang 59.27 292 P **P 04 51 48.1 -0.1**
baz=59,SNR=25
PDMCI Parker Dam,Lak 59.31 287 P **P 04 51 49.1 +0.7**
baz=59,SNR=19
115A Sonoran Desert 59.31 285 P **P 04 51 49.5 +1.0**
baz=59,SNR=8.0
216A Three Points, 59.35 284 P **P 04 51 49.2 +0.5**
baz=59,SNR=9.3
FURC Furnace Creek, 59.35 291 ⇑P **P 04 51 48.8 +0.1**
baz=59,SNR=8.0
S08C White Mtn Res 59.38 293 ⇓P **P 04 51 48.8 0.0**
baz=59,SNR=17
R06C Coleville 59.38 294 ⇓P **P 04 51 48.7 -0.1**
baz=59
SHOC Shoshone 59.42 290 ⇑P **P 04 51 49.2 0.0**
baz=59
R07C Lee Vining 59.45 294 ⇑P **P 04 51 49.5 0.0**
baz=59
Y13A Salome 59.47 287 ⇑P **P 04 51 50.0 +0.5**
baz=59,SNR=9.1
P05C Yuba Gap, Truc 59.47 296 ⇑P **P 04 51 49.5 0.0**
baz=59,SNR=11
TUQ Turquoise Mtn. 59.54 290 ⇓P **P 04 51 50.2 +0.2**
baz=59
R05C Kirkwood Meado 59.60 295 ⇓P **P 04 51 50.1 -0.3**
baz=59
WDC Whiskeytown Da 59.63 298 *e*P **P 04 51 49.7 -0.9**
WDC pmax pmax
comp=Z,26nm,1.2s,mb5.1
WDC MLR MLR
comp=Z,5μm,19.0s,MS5.7
WDC Whiskeytown Da 59.63 298 *e*P **P 04 51 49.7 -0.9**
comp=Z,26nm,1.2s,mb5.1
WDC LR LR
comp=Z,5μm,19.0s,MS5.7
WDC Whiskeytown Da 59.63 298 ⇑P **P 04 51 48.9 -1.7**
baz=59
WDC Whiskeytown Da 59.63 298 *e*P **P 04 51 49.7 -0.9**
comp=Z,26nm,1.2s,mb5.1
MLAC Mammoth Lakes 59.66 293 ⇓P **P 04 51 50.9 +0.1**
baz=60
MTUM Tungsten Hills 59.70 293 *e*P **P 04 51 51.4 +0.3**
MTUM Tungsten Hills 59.70 293 *e*P **P 04 51 51.4 +0.3**
KRMB Red Mountain 59.70 300 *e*P **P 04 51 51.1 0.0**
TIN Tinemaha 59.72 292 ⇓P **P 04 51 51.4 +0.2**
baz=60
O03C Acorn Hollow, 59.77 297 ⇑P **P 04 51 50.9 -0.6**
baz=60,SNR=9.1
ORV Oroville 59.79 297 ⇓P **P 04 51 50.9 -0.8**
baz=60,SNR=10
GMRC Granite Mounta 59.85 289 P **P 04 51 52.5 +0.3**
baz=60,SNR=12

N02C Big Bar 59.87 299 P **P 04 51 51.6 -0.7**
baz=60,SNR=7.2
JTS JuntasAbangare 59.89 246 *e*P **P 04 51 50.4 -2.2**
JTS pmax pmax
comp=Z,90nm,1.6s
JTS MLR MLR
comp=Z,1μm,21.0s
JTS JuntasAbangare 59.89 246 *e*P **P 04 51 50.4 -2.3**
comp=Z,90nm,1.6s,mb5.5
JTS LR LR
comp=Z,1μm,21.0s,MS5.0
JTS JuntasAbangare 59.89 246 *e*P **P 04 51 50.4 -2.2**
comp=Z,90nm,1.6s,mb5.5
DAC Darwin (Calif) 59.91 291 PFAKE 04 52 00.0 +7.4
DAC LR LR
comp=Z,3μm,19.0s,MS5.5
Y12C Blythe 59.92 287 P **P 04 51 53.4 +0.7**
baz=60,SNR=28
LAVA Lava Cap Winer 59.93 295 P **P 04 51 52.3 -0.3**
baz=60,SNR=8.9
OHCM Honcut 59.93 296 *e*P **P 04 51 52.0 -0.7**
IRM Iron Mountain 59.99 288 P **P 04 51 53.6 +0.4**
baz=60,SNR=8.4
MPMC Manual Prospec 60.00 291 ⇑P **P 04 51 53.7 +0.5**
baz=60,SNR=36
GAMB Gambell 60.05 341 *e*P **P 04 51 53.3 +0.2**
comp=Z,20nm,0.9s,mb5.1
GAMB Gambell 60.05 341 *e*P **P 04 51 53.3 +0.2**
comp=Z,20nm,0.9s,mb5.1
O02C Red Bluff 60.05 298 ⇑P **P 04 51 52.0 -1.5**
baz=60
S06C San Francisco 60.05 294 P **P 04 51 54.2 +0.7**
baz=60,SNR=23
CWC Cottonwood Cre 60.07 292 ⇑P **P 04 51 54.4 +0.7**
baz=60
KDAK Kodiak Island 60.08 328 PFAKE 04 52 10.0 +17
KDAK LR LR
comp=Z,1μm,20.0s,MS5.1
KDAK Kodiak Island 60.08 328 LR LR 05 16 54.6
comp=Z,5μm,21.9s,MS5.6,baz=62,slow=35
GSC Goldstone 60.15 290 *e*P **P 04 51 54.8 +0.6**
GSC pmax pmax
comp=Z,27nm,1.0s,mb5.2
GSC MLR MLR
comp=Z,10μm,20.0s,MS6.0
GSC Goldstone 60.15 290 *e*P **P 04 51 54.8 +0.6**
comp=Z,27nm,1.0s,mb5.2
GSC LR LR
comp=Z,10μm,20.0s,MS6.0
GSC Goldstone 60.15 290 P **P 04 51 54.6 +0.4**
baz=60,SNR=18
GSC Goldstone 60.15 290 *e*P **P 04 51 54.8 +0.6**
comp=Z,27nm,1.0s,mb5.2
KCC Kaiser Creek 60.15 293 ⇓P **P 04 51 55.3 +1.1**
baz=60,SNR=9.6
113A Mohawk Valley, 60.17 286 P **P 04 51 54.7 +0.3**
baz=60,SNR=8.1
SUTB Sutter Butte 60.17 296 ⇑P **P 04 51 53.1 -1.3**
baz=60,SNR=7.4
HEC Hector,Ludlow 60.20 289 ⇓P **P 04 51 55.0 +0.4**
baz=60,SNR=9.1
Q04C Lincoln 60.22 296 ⇓P **P 04 51 54.4 -0.2**
baz=60,SNR=8.9
CMB Columbia Colle 60.24 295 *e*P **P 04 51 54.3 -0.5**
CMB pmax pmax
comp=Z,18nm,1.1s,mb5.0
CMB MLR MLR
comp=Z,6μm,20.0s,MS5.8
CMB Columbia Colle 60.24 295 *e*P **P 04 51 54.3 -0.5**
comp=Z,18nm,1.1s,mb5.0
CMB LR LR
comp=Z,6μm,20.0s,MS5.8
CMB Columbia Colle 60.24 295 P **P 04 51 54.7 -0.2**
baz=60,SNR=8.8
CMB Columbia Colle 60.24 295 *e*P **P 04 51 54.3 -0.5**
comp=Z,18nm,1.1s,mb5.0
JCC Jacoby Creek 60.27 299 ⇓P **P 04 51 54.6 -0.4**
baz=60
NVS Novosibirsk 60.36 37 *e*P **P 04 51 55.0 -0.3**
NVS *e*S **S 05 00 05.4 -4.2**
NVS *i* 05 01 47.6
NVS pmax pmax
comp=Z,149nm,1.6s,mb5.8
NVS pmax pmax
comp=N,63nm,1.7s
NVS smax
comp=N,55nm,2.9s
R04C Big Horse Ranc 60.39 295 ⇑P **P 04 51 55.8 0.0**
baz=60
HELL Mitchell Peak 60.44 293 P **P 04 51 56.7 +0.5**
baz=60,SNR=40
LRMC Laurel Mountai 60.53 291 ⇓P **P 04 51 57.1 +0.2**
baz=60,SNR=11
BC3 Big Chuckw Mtn 60.53 288 P **P 04 51 57.6 +0.7**
baz=60,SNR=26
RRX Edison Barstow 60.56 290 ⇓P **P 04 51 57.2 +0.2**
baz=60
MIB Mutribah 60.56 79 *e*P **P 04 51 56.1 -1.0**
MIB AMb AMB 04 52 00.2
comp=Z,85nm,0.8s,mb6.0
RST Umm Al-Ruwaisa 60.58 79 *e*P **P 04 51 56.6 -0.6**
RST AMb AMB 04 51 59.0
comp=Z,3.0nm,0.8s,mb4.5
T06C Millerton Lake 60.59 293 P **P 04 51 57.4 +0.1**
baz=60,SNR=24
GLA Glamis 60.59 287 *e*P **P 04 51 57.7 +0.4**
GLA pmax pmax
comp=Z,27nm,0.9s,mb5.4
GLA MLR MLR
comp=Z,8μm,19.0s,MS5.9
GLA Glamis 60.59 287 *e*P **P 04 51 57.7 +0.4**
comp=Z,27nm,0.9s,mb5.4
GLA LR LR
comp=Z,8μm,19.0s,MS5.9
GLA Glamis 60.59 287 ⇑P **P 04 51 57.7 +0.4**
baz=60,SNR=10
GLA Glamis 60.59 287 *e*P **P 04 51 57.7 +0.4**
comp=Z,27nm,0.9s,mb5.4
BELC Belle Mtn. 60.60 288 P **P 04 51 58.4 +1.0**
baz=60,SNR=50
S05C Merced 60.70 294 ⇓P **P 04 51 58.4 +0.4**
baz=60
112A Yuma 60.82 286 ⇑P **P 04 51 59.1 +0.2**
baz=61,SNR=5.7
RCTC Rector, Farmer 60.82 292 P **P 04 51 58.7 -0.1**
baz=61,SNR=8.7
KCPM Cahto Peak 60.83 298 *e*P **P 04 51 60.0 +1.2**
KCPM Cahto Peak 60.83 298 *e*P **P 04 52 00.0 +1.2**
P01C Double 8 Ranch 60.85 298 ⇑P **P 04 51 58.8 -0.2**
baz=61,SNR=11
NAY Al-Naaiem 60.91 79 *e*P **P 04 51 57.8 -1.7**
NAY AMb AMB 04 52 08.2
comp=Z,37nm,0.9s,mb5.5
BBRC Big Bear Sol-O 60.95 289 ⇓P **P 04 52 00.9 +1.2**
baz=61
VAN Vannovskaya 60.99 65 P **P 04 52 01.1 +1.1**
VAN S **S 05 00 22.1 +3.9**
ABKT Ailbek 61.01 65 P **P 04 52 01.3 +1.2**
comp=Z,286nm,1.2s,mb6.3,SNR=8.4
HOPS Hopland 61.04 297 *e*P **P 04 52 01.5 +1.2**
comp=Z,124nm,1.1s,mb6.0
HOPS LR LR
comp=Z,9μm,19.0s,MS6.0
HOPS Hopland 61.04 297 ⇓P **P 04 52 00.4 +0.1**
baz=61
HOPS Hopland 61.04 297 *e*P **P 04 52 01.5 +1.2**
comp=Z,124nm,1.1s,mb6.0
VES Vestal, Richgr 61.06 292 P **P 04 52 00.3 -0.1**
baz=61,SNR=16
BDM Black Diamond 61.12 295 ⇓P **P 04 52 01.5 +0.7**
baz=61
EDW2 Edwards Air Fo 61.13 290 P **P 04 52 01.7 +0.8**
baz=61,SNR=14
NSHM Saint Helena R 61.13 296 *e*P **P 04 52 02.4 +1.5**
NSHM Saint Helena R 61.13 296 *e*P **P 04 52 02.4 +1.6**
PFO Pinyon Flat Ob 61.15 288 *e*P **P 04 52 01.5 +0.4**
PFO pmax pmax
comp=Z,65nm,1.3s,mb5.6
PFO MLR MLR
comp=Z,3μm,22.0s,MS5.3
PFO Pinyon Flat Ob 61.15 288 *e*P **P 04 52 01.5 +0.4**
comp=Z,65nm,1.3s,mb5.6
PFO LR LR
comp=Z,3μm,22.0s,MS5.3
PFO Pinyon Flat Ob 61.15 288 P **P 04 52 01.9 +0.9**
baz=61,SNR=12
PFO Pinyon Flat Ob 61.15 288 *e*P **P 04 52 01.5 +0.4**

comp=Z,65nm,1.3s,mb5.6
CVS Carmenet Viney 61.17 296 ⇓P **P 04 52 01.4 +0.2**
baz=61
T05C Eagle Field, D 61.21 294 ⇑P **P 04 52 02.5 +1.1**
baz=61
SWSC Sam W. Stewart 61.24 287 P **P 04 52 02.2 +0.5**
baz=61,SNR=11
WENL Wente Brothers 61.30 295 ⇑P **P 04 52 02.5 +0.5**
baz=61
U05C Westside ANR, 61.30 293 ⇑P **P 04 52 02.4 +0.4**
baz=61
RDF Al-Radifah 61.33 79 *e*P **P 04 52 00.7 -1.6**
RDF AMb AMB 04 52 12.2
comp=Z,150nm,1.2s,mb6.0
BFSC Mount Baldy St 61.39 290 P **P 04 52 03.2 +0.5**
baz=61,SNR=11
ARVC Arvin 61.43 291 ⇓P **P 04 52 03.0 0.0**
baz=61
PACP Pacheco Peak 61.48 294 ⇓P **P 04 52 03.9 +0.6**
baz=61
V05C Boulder Hill, 61.51 293 ⇓P **P 04 52 02.9 -0.6**
baz=61
MCCM Marconi Confer 61.55 296 PFAKE 04 52 20.0 +16
MCCM LR LR
comp=Z,7μm,19.0s,MS5.8
MURC Murrieta 61.59 289 ⇓P **P 04 52 04.2 +0.2**
baz=61,SNR=9.6
DVTC Desert V Tower 61.62 287 ⇓P **P 04 52 04.9 +0.6**
baz=61
ZAA0 Zalesovo Array 61.64 37 *e*P **P 04 52 04.2 +0.2**
ZAA0 Zalesovo Array 61.64 37 *e*P **P 04 52 04.2 +0.2**
ZALV Zalesovo Beam 61.64 37 P **P 04 52 03.6 -0.5**
comp=Z,11nm,0.7s,mb5.1,baz=322,slow=7.7,SNR=34
ZALV PcP PcP 04 52 43.3 -2.1
comp=Z,10nm,0.8s,baz=319,slow=4.3,SNR=5.4
ZALV LR LR 05 19 19.7
comp=Z,764nm,19.4s,MS4.9,baz=306,slow=37
ZAL Zalesovo 61.64 37 P **P 04 52 03.6 -0.4**
ZAL 04 52 43.3
MONP Monument Peak 61.64 288 ⇓P **P 04 52 05.1 +0.7**
baz=62,SNR=17
U04C Hernandez Rese 61.65 294 ⇑P **P 04 52 05.4 +0.9**
baz=62
KURK Kurchatov 61.70 43 *e*P **P 04 52 04.1 -0.4**
KURK pmax pmax
comp=Z,17nm,0.9s,mb5.2
KURK MLR MLR
comp=Z,3μm,21.0s,MS5.5
KURK Kurchatov 61.70 43 *e*P **P 04 52 04.1 -0.5**
comp=Z,18nm,0.9s,mb5.2
KURK LR LR
comp=Z,3μm,21.0s,MS5.5
KURK Kurchatov 61.70 43 *e*P **P 04 52 04.1 -0.4**
comp=Z,18nm,0.9s,mb5.2
OSI Osito Adit 61.74 291 ⇑P **P 04 52 06.1 +1.0**
baz=62
SAO San Andreas Ge 61.74 294 PFAKE 04 52 20.0 +15
SAO LR LR
comp=Z,6μm,20.0s,MS5.7
DECC Green Verdugo 61.77 290 ⇑P **P 04 52 05.3 0.0**
baz=62
PKD Parkfield 61.82 293 ⇓P **P 04 52 05.8 +0.3**
baz=62
ASCN Ascension 61.89 160 PFAKE 04 52 20.0 +14
ASCN LR LR
comp=Z,1μm,19.0s,MS5.1
SMMC Simmler 61.97 292 ⇓P **P 04 52 06.2 -0.4**
baz=62
109C Camp Elliot, M 62.04 288 ⇑P **P 04 52 07.4 +0.3**
baz=62
HAST Hastings Reser 62.07 294 ⇑P **P 04 52 07.3 +0.1**
baz=62
PKM Peak Mountain 62.16 292 ⇑P **P 04 52 08.5 +0.6**
baz=62
V04C Ramage Ranch, 62.23 293 ⇓P **P 04 52 08.8 +0.5**
baz=62
BLG Laguna Peak 62.30 291 ⇓P **P 04 52 09.3 +0.5**
baz=62
JAWL J.Aulia 62.39 101 *i* P **P 04 52 09.8 +0.2**
JAWL AMb AMB 04 52 13.1
comp=Z,9μm,1.8s
CIS Catalina Islan 62.42 290 ⇑P **P 04 52 10.2 +0.6**
baz=62
SCI San Clemente I 62.81 289 ⇓P **P 04 52 12.7 +0.4**
baz=63
SNCC San Nicolas Is 63.18 290 PFAKE 04 52 30.0 +15
SNCC LR LR
comp=Z,6μm,20.0s,MS5.8
SNCC San Nicolas Is 63.18 290 ⇑P **P 04 52 15.5 +0.8**
baz=63
KK31 Karatay Array 63.74 53 *i* P **P 04 52 18.8 +0.6**
KK31 Karatay Array 63.74 53 *i* P **P 04 52 18.9 +0.7**
YAK Yakutsk 65.00 10 *e*P **P 04 52 25.5 -0.7**
YAK pmax pmax
comp=Z,48nm,0.9s,mb5.5
YAK pmax pmax
comp=N,36nm,1.2s
YAK pmax pmax
comp=E,18nm,1.2s
YAK MLR MLR
comp=N,711nm,19.0s,MS5.0
YAK MLR MLR
comp=Z,1μm,19.0s,MS5.1
YAK MLR MLR
comp=E,533nm,15.0s,MS5.0
YAK Yakutsk 65.00 10 *e*P **P 04 52 25.9 -0.3**
comp=E,65nm,0.9s,mb5.7
YAK LR LR
comp=Z,959nm,19.0s,MS5.0
YAK Yakutsk 65.00 10 *e*P **P 04 52 25.9 -0.3**
comp=Z,65nm,0.9s,mb5.7
EKS2 Erkin-Say 65.65 51 *e*P **P 04 52 31.9 +1.2**
comp=Z,49nm,1.1s,mb5.5
EKS2 LR LR
comp=Z,3μm,20.0s,MS5.5
EKS2 Erkin-Say 65.65 51 P **P 04 52 32.4 +1.6**
SNR=10
EKS2 Erkin-Say 65.65 51 *e*P **P 04 52 31.9 +1.2**
comp=Z,49nm,1.1s,mb5.5
FRU Bishkek 65.92 51 *e*P **P 04 52 33.0 +0.5**
FRU pmax pmax
comp=Z,250nm,2.8s,mb5.8
FRU MLR MLR
comp=Z,4μm,18.0s,MS5.6
AAK Ala-Archa 66.02 51 P **P 04 52 33.5 +0.4**
comp=Z,110nm,1.2s,mb5.8,SNR=8.4
AML Almayashu 66.02 52 *e*P **P 04 52 34.3 +1.3**
comp=Z,16nm,0.9s,mb5.1
AML LR LR
comp=Z,4μm,20.0s,MS5.6
AML Almayashu 66.02 52 P **P 04 52 34.6 +1.5**
SNR=6.8
AML Almayashu 66.02 52 *e*P **P 04 52 34.3 +1.2**
comp=Z,16nm,0.9s,mb5.1
MK31 Makanchi Array 66.28 43 *i* P **P 04 52 34.8 +0.1**
MK31 pmax pmax
comp=Z,48nm,1.2s,mb5.4
MK31 Makanchi Array 66.28 43 *e*P **P 04 52 34.6 0.0**
MK31 Makanchi Array 66.28 43 *e*P **P 04 52 34.6 -0.1**
MKAR Makanchi Array 66.28 43 *i* P **P 04 52 35.0 +0.3**
MKAR pmax pmax
comp=Z,9.0nm,0.6s
MKAR Makanchi Array 66.28 43 P **P 04 52 34.3 -0.3**
comp=Z,8.8nm,0.6s,mb5.0,baz=331,slow=4.5,SNR=71
MKAR LR LR 05 20 37.5
comp=Z,4μm,20.6s,MS5.6,baz=307,slow=35
TKM2 Tokmak 2 66.32 50 *e*P **P 04 52 36.2 +1.2**
TKM2 pmax pmax
comp=Z,54nm,1.4s,mb5.4
TKM2 MLR MLR
comp=Z,4μm,19.0s,MS5.6
TKM2 Tokmak 2 66.32 50 *e*P **P 04 52 36.2 +1.2**
comp=Z,54nm,1.4s,mb5.4
TKM2 LR LR
comp=Z,4μm,19.0s,MS5.6
TKM2 Tokmak 2 66.32 50 P **P 04 52 36.6 +1.7**
SNR=10
TKM2 Tokmak 2 66.32 50 *e*P **P 04 52 36.2 +1.2**
comp=Z,54nm,1.4s,mb5.4
UCH Uchtor 66.33 51 *e*P **P 04 52 36.2 +1.1**
comp=Z,115nm,1.8s,mb5.6
UCH LR LR
comp=Z,4μm,20.0s,MS5.6
UCH Uchtor 66.33 51 P **P 04 52 37.6 +2.5**
SNR=8.8
UCH Uchtor 66.33 51 *e*P **P 04 52 36.2 +1.1**
comp=Z,115nm,1.8s,mb5.6

BOD Bodaibo 66.67 19 *e*P **P 04 52 35.3 -1.7**
BOD pmax pmax
comp=Z,25nm,2.2s,mb4.9
KZA Kyzart 66.80 51 P **P 04 52 40.1 +2.0**
SNR=9.5
UNV Unalaska Valle 67.62 333 PFAKE 04 53 00.0 +17
UNV LR LR
comp=Z,13μm,21.0s,MS6.1
MA2 Magadan 68.39 359 *d i*P **P 04 52 48.2 +0.4**
MA2 *e* 04 53 18.8
MA2 *e*S S 05 01 49.5 +0.8
MA2 *e*PS 05 02 20.9
MA2 *e* 05 02 46.1
MA2 pmax pmax
comp=Z,80nm,1.3s,mb5.6
MA2 MLR MLR
comp=Z,600nm,18.0s,MS4.9
MA2 Magadan 68.39 359 *e*P **P 04 52 48.3 +0.5**
comp=Z,74nm,1.3s,mb5.6
MA2 Magadan 68.39 359 *e*P **P 04 52 48.3 +0.5**
comp=Z,74nm,1.3s,mb5.6
MOY Mondy 68.97 29 *e*P **P 04 52 52.3 +0.7**
MOY pmax pmax
comp=Z,116nm,3.0s
KSH Kashi 69.13 52 P **P 04 52 55.0 +2.2**
KSH *e*AP pP 04 52 59.1 +3.0
KSH *e*XP sP 04 53 02.0 +4.7
KSH *e*PCP PcP 04 53 14.1 -2.6
KSH *e*PP PP 04 55 31.1 +6.1
KSH *e*SCP 04 57 19.0
KSH *e*PCS 04 57 21.1
KSH *e*S S 05 01 58.8 +0.7
KSH *e*XS sS 05 02 10.3 +6.8
KSH *e*SCS ScS 05 02 52.0 -1.5
KSH *e*SS SS 05 06 30.0 +6.7
KSH AMB AMB
comp=Z,1μm,3.7s
KSH LR LR
comp=N,6μm,13.4s,MS6.2
KSH LR LR
comp=E,6μm,12.8s,MS6.2
KSH LR LR
comp=Z,13μm,18.7s
BDFB Brasilia 69.18 197 P **P 04 52 52.4 -0.8**
comp=Z,1.3nm,0.5s,mb4.1,baz=8.3,slow=13,SNR=6.7
BDFB LR LR 05 19 15.0
comp=Z,320nm,18.1s,MS4.6,baz=169,slow=32
IRK Irkutsk 69.41 27 *e*P **P 04 52 51.1 -3.2**
IRK pmax pmax
comp=Z,102nm,3.1s
KBL Kabul 69.45 60 *e*P **P 04 52 55.5 +0.7**
comp=Z,35nm,1.3s,mb5.1
KBL Kabul 69.45 60 *e*P **P 04 52 55.5 +0.6**
comp=Z,35nm,1.3s,mb5.1
CLNS Chul'man 69.47 13 *e*P **P 04 52 55.0 +0.4**
CLNS *e**PP pP 04 52 58.8 +0.9
CLNS *e* 04 55 34.2
CLNS *e* 04 57 08.7
CLNS *e*S S 05 01 57.5 -4.1
CLNS *e*PS 05 02 32.4
CLNS *e* 05 02 51.9
CLNS pmax pmax
comp=Z,19nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,11nm,1.0s
CLNS pmax pmax
comp=E,4.0nm,1.0s
CLNS pmax pmax
comp=N,16nm,0.9s
CLNS pmax pmax
comp=Z,11nm,0.9s,mb4.8
CLNS pmax pmax
comp=E,7.0nm,0.7s
CLNS smax
comp=N,172nm,11.2s
CLNS smax
comp=E,80nm,15.3s
CLNS MLR MLR
comp=N,500nm,17.0s,MS4.9
CLNS MLR MLR
comp=Z,900nm,17.0s,MS5.1
CLNS MLR MLR
comp=E,200nm,14.0s,MS4.9
NRGR Nerungri 69.62 14 *e*P **P 04 52 57.7 +2.1**
NRGR S S 05 01 51.6 -12
NRGR smax
comp=N,27nm,0.5s
TLY Talaya 69.73 28 P **P 04 52 58.0 +1.7**
comp=N,66nm,1.3s,mb5.4,SNR=6.4
TLY Talaya 69.73 28 *d i*P **P 04 52 55.7 -0.6**
TLY *e* 04 55 36.0
TLY *e*PPP 04 57 07.3
TLY *e*S S 05 02 07.5 +2.7
TLY *e*PS 05 02 32.8
TLY *e* 05 03 00.0
TLY *e*SS SS 05 06 27.2 -4.7
TLY *e*SSS 05 09 38.9
TLY pmax pmax
comp=Z,46nm,3.1s
TLY MLR MLR
comp=Z,1μm,18.0s,MS5.2
TLY Talaya 69.73 28 *e*P **P 04 52 56.1 -0.2**
comp=Z,16nm,1.1s,mb4.8
TLY LR LR
comp=Z,2μm,20.0s,MS5.2
TLY Talaya 69.73 28 *e*P **P 04 52 56.2 -0.1**
comp=Z,16nm,1.1s,mb4.8
ZAK Zakamensk 70.78 29 *e*P **P 04 53 02.9 +0.1**
ZAK pmax pmax
comp=Z,8.0nm,2.0s,mb4.3
WMQ Urumqi 70.92 42 P **P 04 53 05.0 +1.3**
WMQ XP sP 04 53 12.0 +3.8
WMQ PP PP 04 55 45.0 +4.7
WMQ S S 05 02 19.0 0.0
WMQ SS SS 05 06 54.0 +3.4
WMQ AMB AMB
comp=Z,35nm,1.2s,mb5.2
WMQ AMB AMB
comp=Z,78nm,6.0s
WMQ LR LR
comp=N,2μm,17.0s,MS5.6
WMQ LR LR
comp=E,2μm,18.0s,MS5.6
WMQ LR LR
comp=Z,3μm,18.0s,MS5.5
ADK Adak 72.00 338 PFAKE 04 53 20.0 +10
ADK LR LR
comp=Z,3μm,19.0s,MS5.6
SMY Shemya 73.05 344 PFAKE 04 53 30.0 +14
SMY LR LR
comp=Z,2μm,22.0s,MS5.3
SONM Songino Array 73.97 28 P **P 04 53 22.0 +0.1**
comp=Z,12nm,0.8s,mb4.9,baz=331,slow=5.1,SNR=30
SONM LR LR 05 27 14.0
comp=Z,2μm,20.5s,MS5.3,baz=306,slow=37
ULN Ulaanbaatar 74.13 27 *e*P **P 04 53 23.3 +0.5**
ULN pmax pmax
comp=Z,45nm,1.3s,mb5.2
ULN MLR MLR
comp=Z,998nm,20.0s,MS5.1
ULN Ulaanbaatar 74.13 27 *e*P **P 04 53 23.3 +0.5**
comp=Z,45nm,1.3s,mb5.2
ULN LR LR
comp=Z,998nm,20.0s,MS5.1
ULN Ulaanbaatar 74.13 27 *e*P **P 04 53 23.3 +0.5**
comp=Z,45nm,1.3s,mb5.2
PET Petropavlovsk 74.61 353 ⇓ *i*P **P 04 53 25.6 +0.1**
PET *e* 04 56 20.9
PET *e*S S 05 02 58.2 -2.5
PET *e*PS 05 03 35.4
PET *e*SS SS 05 07 55.9 +10
PET pmax pmax
comp=Z,38nm,0.8s,mb5.4
PET pmax pmax
comp=Z,200nm,11.0s
PET Petropavlovsk 74.61 353 *e*P **P 04 53 22.2 -3.2**
comp=Z,54nm,1.0s,mb5.4
PET LR LR
comp=Z,1μm,20.0s,MS5.2
NNA Nana 74.90 226 *e*P **P 04 53 27.9 +0.4**
comp=Z,67nm,1.4s,mb5.4
NNA LR LR
comp=Z,2μm,20.0s,MS5.3
NNA Nana 74.90 226 *e*P **P 04 53 28.0 +0.5**
comp=Z,67nm,1.4s,mb5.4

PONG Pong 75.08 57 *ex* x 04 53 25.5
LPAZ La Paz 75.29 216 *e*P **P 04 53 29.6 -0.1**
LPAZ pmax pmax
comp=Z,55nm,1.3s
LPAZ MLR MLR
comp=Z,927nm,20.0s
LPAZ La Paz 75.29 216 *e*P **P 04 53 29.6 -0.2**
comp=Z,55nm,1.3s,mb5.3
LPAZ LR LR
comp=Z,927nm,20.0s,MS5.1
LPAZ La Paz 75.29 216 P **P 04 53 29.6 -0.1**
comp=Z,13nm,0.8s,mb4.9,baz=26,slow=5.0,SNR=44
LPAZ LR LR 05 24 17.5
comp=Z,930nm,19.3s,MS5.1,baz=200,slow=34
LPAZ La Paz 75.29 216 *e*P **P 04 53 29.6 -0.1**
comp=Z,55nm,1.3s,mb5.3
HIA Hailar 75.88 19 *e*P **P 04 53 33.5 +0.7**
HIA pmax pmax
comp=Z,48nm,1.1s
HIA MLR MLR
comp=Z,1μm,20.0s
HIA Hailar 75.88 19 *e*P **P 04 53 33.5 +0.7**
comp=Z,48nm,1.1s,mb5.3
HIA LR LR
comp=Z,1μm,20.0s,MS5.2
HIA Hailar 75.88 19 *e*P **P 04 53 33.5 +0.7**
comp=Z,48nm,1.1s,mb5.3
SMLA Simla 76.36 57 *e*P **P 04 53 36.2 +0.3**
SMLA AMb AMB 04 53 45.4
comp=Z,41nm,3.3s
ARE Arequipa 76.71 219 *e*P **P 04 53 38.0 +0.2**
SKR Severo-Kuril's 77.10 355 *e*P **P 04 53 32.0 -7.7**
SKR MLR MLR
comp=N,1μm,20.0s,MS5.6
SKR MLR MLR
comp=E,2μm,20.0s,MS5.6
SKR MLR MLR
comp=Z,2μm,20.0s,MS5.3
DDI Dehra Dun 77.46 56 *e*P **P 04 53 42.5 +0.4**
KLR Kul'dur 77.81 11 *e*P **P 04 53 38.7 -5.0**
KLR *e*S S 05 03 25.5 -10
KLR pmax pmax
comp=Z,100nm,2.0s,mb5.4
KLR MLR MLR
comp=E,800nm,17.0s
KMBO Kilima Mbogo 78.22 108 *e*P **P 04 53 48.2 +1.7**
KMBO pmax pmax
comp=Z,5.0nm,1.0s
KMBO MLR MLR
comp=Z,2μm,20.0s
KMBO Kilima Mbogo 78.22 108 *e*P **P 04 53 48.2 +1.7**
comp=Z,5.4nm,1.0s,mb4.4
KMBO LR LR
comp=Z,2μm,20.0s,MS5.3
KMBO Kilima Mbogo 78.22 108 P **P 04 53 47.0 +0.5**
comp=Z,3.0nm,0.9s,mb4.2,baz=355,slow=10,SNR=10
KMBO LR LR 05 30 19.5
comp=Z,2μm,18.3s,MS5.5,baz=321,slow=37
KMBO Kilima Mbogo 78.22 108 *e*P **P 04 53 48.2 +1.7**
comp=Z,5.3nm,1.0s,mb4.4
NDI New Delhi 78.34 58 *e*P **P 04 53 47.5 +0.5**
AJM Ajmer 78.75 61 *e*P **P 04 53 49.2 -0.1**
AJM AMb AMB 04 53 57.9
comp=Z,19nm,0.8s,mb5.1
AJM *i* x x 04 56 50.4
HABR Khabarovsk 78.90 9 *e*P **P 04 53 48.1 -1.7**
HABR *e* 04 53 53.2
HABR *e* 04 53 56.4
HABR *e* 04 56 47.1
HABR *e* 04 58 35.3
HABR *e*S S 05 03 47.7 0.0
HABR *e* 05 03 54.8
HABR *e* 05 04 09.8
HABR *e* 05 08 54.4
HABR *e* 05 12 19.8
GTA Gaotai 79.38 36 *e*P **P 04 53 52.8 +0.3**
GTA AP pP 04 53 57.3 +1.5
GTA XP sP 04 54 00.1 +3.1
GTA PP PP 04 56 55.4 +3.6
GTA S S 05 03 53.3 +0.2
GTA XS sS 05 04 01.6 +3.1
GTA SCS ScS 05 04 11.8 -3.7
GTA SS SS 05 09 04.8 +5.9
GTA AMB AMB
comp=Z,19nm,1.9s,mb4.7
GTA AMB AMB
comp=Z,390nm,6.5s
GTA LR LR
comp=N,2μm,19.5s,MS5.6
GTA LR LR
comp=E,2μm,19.1s,MS5.6
GTA LR LR
comp=Z,3μm,19.5s,MS5.6
YSS Yuzh-Sakhalins 80.94 4 *e*P **P 04 54 02.1 +1.3**
YSS pmax pmax
comp=Z,112nm,2.5s,mb5.3
YSS MLR MLR
comp=Z,1μm,23.0s,MS5.1
YSS Yuzh-Sakhalins 80.94 4 *e*P **P 04 54 01.0 +0.2**
comp=Z,22nm,0.8s,mb5.2
YSS LR LR
comp=Z,885nm,19.0s,MS5.1
YSS Yuzh-Sakhalins 80.94 4 *e*P **P 04 54 01.0 +0.2**
comp=Z,22nm,0.8s,mb5.2
CPUP Villa Florida 81.50 203 *e*P **P 04 54 01.9 -1.9**
CPUP pmax pmax
comp=Z,37nm,0.9s
CPUP Villa Florida 81.50 203 *e*P **P 04 54 01.9 -2.0**
comp=Z,37nm,0.9s,mb5.3
CPUP Villa Florida 81.50 203 P **P 04 54 01.8 -2.1**
comp=Z,6.4nm,0.8s,mb4.6,baz=358,slow=5.1,SNR=13
CPUP LR LR 05 27 28.4
comp=Z,468nm,18.7s,MS4.9,baz=352,slow=34
CPUP Villa Florida 81.50 203 *e*P **P 04 54 01.9 -1.9**
comp=Z,37nm,0.9s,mb5.3
BTO Baotou 81.64 28 *e*P **P 04 54 03.8 -0.9**
HHC Hu-ho-hao-te 81.85 27 ⇓P **P 04 54 05.6 -0.2**
HHC AP pP 04 54 10.9 +1.8
HHC XP sP 04 54 12.8 +2.5
HHC PP PP 04 57 10.0 -2.2
HHC S S 05 04 16.5 -2.5
HHC SKS 05 04 19.8
HHC SS SS 05 09 35.8 +0.2
HHC AMB AMB
comp=Z,20nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,436nm,6.5s
HHC LR LR
comp=N,1μm,16.4s,MS5.5
HHC LR LR
comp=E,1μm,15.7s,MS5.5
HHC LR LR
comp=Z,1μm,16.9s,MS5.3
DANN Dangsing 81.93 53 *e*P **P 04 54 07.0 +0.6**
comp=Z,136nm,1.2s,mb5.8
MDJ Mudanjiang 82.06 13 P **P 04 54 04.9 -1.9**
MDJ AP pP 04 54 08.3 -1.8
MDJ PCP PcP 04 54 10.5 -1.8
MDJ S S 05 04 16.8 -4.2
MDJ SCS ScS 05 04 34.5 -2.8
MDJ SS SS 05 09 39.9 +1.4
MDJ AMB AMB
comp=Z,42nm,2.0s,mb5.0
MDJ AMB AMB
comp=Z,426nm,4.8s
MDJ LR LR
comp=N,534nm,16.5s,MS5.1
MDJ LR LR
comp=E,513nm,15.8s,MS5.1
MDJ LR LR
comp=Z,737nm,14.2s,MS5.2
MDJ Mudanjiang 82.06 13 *e*P **P 04 54 07.0 +0.2**
comp=Z,34nm,0.9s,mb5.3
MDJ LR LR
comp=Z,711nm,20.0s,MS5.0
MDJ Mudanjiang 82.06 13 *e*P **P 04 54 07.0 +0.2**
comp=Z,34nm,0.9s,mb5.3
CN2 Changchun 82.20 16 ⇓P **P 04 54 06.8 -0.8**
CN2 *e*XP sP 04 54 13.9 +1.8
CN2 PP PP 04 57 16.9 +1.9
CN2 *e*S S 05 04 19.4 -3.1
CN2 SS SS 05 09 41.0 +0.4
CN2 AMB AMB
comp=Z,50nm,1.2s,mb5.3
CN2 AMB AMB

comp=Z,200nm,3.0s
CN2 LR LR
comp=N,1μm,15.0s,MS5.4
CN2 LR LR
comp=E,700nm,15.0s,MS5.4
CN2 LR LR
comp=Z,900nm,16.0s,MS5.2
KOLN Koldanda 82.33 54 *eP* **P 04 54 08.7 +0.2**
comp=Z,52nm,1.0s,mb5.4
GKN Gorkha 82.65 53 *eP* **P 04 54 10.8 +0.6**
BHPL Bhopal 82.84 61 *eP* **P 04 54 11.0 -0.2**
BHPL AMb AMB 04 54 18.2
comp=Z,23nm,0.9s,mb5.2
BHPL *ex* x 04 57 21.8
KKN Kakani 83.14 53 *eP* **P 04 54 13.1 +0.4**
comp=Z,51nm,0.8s,mb5.6
TSUM Tsumeb 83.15 134 *eP* **P 04 54 11.8 -0.9**
comp=Z,9.5nm,1.0s,mb4.8
TSUM LR LR
comp=Z,2μm,20.0s,MS5.5
TSUM Tsumeb 83.15 134 *eP* **P 04 54 11.8 -0.9**
comp=Z,9.5nm,1.0s,mb4.8
DMN Daman 83.20 53 *eP* **P 04 54 13.3 +0.2**
comp=Z,147nm,1.2s,mb5.9
GUN Gumba 83.33 52 *eP* **P 04 54 14.5 +0.8**
comp=Z,164nm,1.2s,mb5.9
PKIN Phulchoki 83.37 53 *eP* **P 04 54 14.4 +0.5**
comp=Z,36nm,0.7s,mb5.5
PKI Pulchoki 83.38 53 *eP* **P 04 54 14.3 +0.3**
JIRN Jiri 83.69 52 *eP* **P 04 54 15.8 +0.2**
comp=Z,66nm,0.9s,mb5.8
SNY Shenyang 83.77 18 ⇓P **P 04 54 15.1 -0.6**
SNY AP pP 04 54 25.3 +6.2
SNY XP sP 04 54 30.3 +10
SNY PP PP 04 57 24.3 -3.6
SNY SKS 05 04 33.8
SNY S S 05 04 37.9 -0.6
SNY AMB AMB
comp=Z,38nm,2.2s,mb5.1
SNY AMB AMB
comp=Z,727nm,3.7s
SNY LR LR
comp=N,1μm,16.1s,MS5.3
SNY LR LR
comp=E,489nm,18.4s,MS5.3
SNY LR LR
comp=Z,906nm,16.1s,MS5.2
LZH Lanzhou 83.78 35 *eP* **P 04 54 16.5 +0.6**
LZH AP pP 04 54 21.1 +1.9
LZH XP sP 04 54 23.9 +3.5
LZH PP PP 04 57 27.3 -0.8
LZH *eS* S 05 04 37.0 -1.7
LZH XS sS 05 04 49.0 +4.8
LZH SS SS 05 10 11.3 +6.9
LZH AMB AMB
comp=Z,22nm,1.0s,mb5.2
LZH AMB AMB
comp=Z,117nm,4.8s
LZH LR LR
comp=E,2μm,16.2s
LZH LR LR
comp=Z,2μm,17.8s,MS5.6
BJI Beijing 83.84 24 P **P 04 54 16.3 +0.2**
BJI SKS 05 04 33.1
BJI S S 05 04 36.4 -2.8
BJI AMB AMB
comp=Z,25nm,2.2s,mb5.0
BJI AMB AMB
comp=Z,589nm,3.7s
BJI LR LR
comp=N,2μm,19.6s,MS5.5
BJI LR LR
comp=E,786nm,18.7s,MS5.5
BJI LR LR
comp=Z,2μm,20.7s,MS5.4
VLA Vladivostok 83.84 12 *d iP* **P 04 54 16.0 -0.1**
VLA pmax pmax
comp=Z,24nm,1.3s,mb5.2
VLA Vladivostok 83.84 12 *i* P **P 04 54 16.1 0.0**
BJT Baijiatuau 83.86 24 *eP* **P 04 54 15.7 -0.5**
BJT pmax pmax
comp=Z,54nm,1.4s
BJT MLR MLR
comp=Z,2μm,20.0s
BJT Baijiatuau 83.86 24 *eP* **P 04 54 15.7 -0.5**
comp=Z,54nm,1.4s,mb5.5
BJT LR LR
comp=Z,2μm,20.0s,MS5.5
BJT Baijiatuau 83.86 24 *eP* **P 04 54 15.7 -0.5**
comp=Z,54nm,1.4s,mb5.5
AKL Akola 84.67 63 *eP* **P 04 54 21.8 +1.1**
AKL AMb AMB 04 54 33.9
comp=Z,54nm,1.4s,mb5.5
LSZ Lusaka 84.87 123 *eP* **P 04 54 21.6 +0.1**
LSZ pmax pmax
comp=Z,19nm,0.8s,mb5.3
LSZ MLR MLR
comp=Z,3μm,21.0s,MS5.6
LSZ Lusaka 84.87 123 *eP* **P 04 54 21.6 +0.1**
comp=Z,19nm,0.8s,mb5.3
LSZ LR LR
comp=Z,3μm,21.0s,MS5.6
LSZ Lusaka 84.87 123 *eP* **P 04 54 21.6 +0.1**
comp=Z,19nm,0.8s,mb5.3
TIY Taiyuan 85.02 28 *i* P **P 04 54 19.9 -2.2**
TIY S S 05 04 48.1 -2.9
TIY SS SS 05 10 24.8 +2.3
TIY LR LR
comp=N,2μm,15.6s,MS5.8
TIY LR LR
comp=E,2μm,12.9s,MS5.8
TIY LR LR
comp=Z,3μm,15.8s,MS5.7
NGP Nagpur 85.41 61 *eP* **P 04 54 25.7 +1.3**
NGP AMb AMB 04 54 41.4
comp=Z,45nm,0.7s,mb5.7
KAD Karad 85.83 67 *eP* **P 04 54 25.1 -1.4**
KAD AMb AMB 04 54 34.6
comp=Z,36nm,1.2s,mb5.5
ERM Erimo 85.89 4 PFAKE 04 54 40.0 +14
ERM LR LR
comp=Z,1μm,19.0s,MS5.4
DL2 Dalian 86.19 21 P **P 04 54 27.9 0.0**
DL2 S S 05 05 01.0 -1.6
DL2 AMB AMB
comp=Z,40nm,0.9s,mb5.7
DL2 AMB AMB
comp=Z,200nm,8.4s
DL2 LR LR
comp=N,810nm,18.4s,MS5.3
DL2 LR LR
comp=E,630nm,17.8s,MS5.3
DL2 LR LR
comp=Z,720nm,17.2s,MS5.1
BLSP Bilaspur 86.24 58 *eP* **P 04 54 27.8 -0.6**
BLSP AMb AMB 04 54 30.1
comp=Z,36nm,1.3s,mb5.5
BOK Bokaro 86.77 54 *eP* **P 04 54 31.7 +0.7**
BOK AMb AMB 04 54 42.2
comp=Z,81nm,1.4s,mb5.8
XAN Xi'an 87.35 32 P **P 04 54 33.1 -0.6**
XAN AP pP 04 54 38.3 +1.3
XAN PP PP 04 58 02.8 +5.7
XAN S S 05 05 15.0 +1.1
XAN SS SS 05 10 57.4 +0.5
XAN AMB AMB
comp=Z,35nm,1.3s,mb5.4
XAN AMB AMB
comp=Z,243nm,5.0s
XAN LR LR
comp=N,550nm,19.4s,MS5.3
XAN LR LR
comp=E,1μm,16.5s,MS5.3
XAN LR LR
comp=Z,2μm,16.3s,MS5.5
TIA Tai'an 87.70 25 *eP* **P 04 54 34.3 -1.0**
LCO Las Campanas 87.91 213 PFAKE 04 54 50.0 +14
LCO LR LR
comp=Z,2μm,22.0s,MS5.5
SHL Shillong 88.15 49 *eP* **P 04 54 37.0 -0.7**
SHL *ex* x 05 05 10.0
CD2 Chengdu 88.40 37 P **P 04 54 38.8 0.0**
CD2 AP pP 04 54 43.8 +1.7
CD2 XP sP 04 54 45.9 +2.6
CD2 PP PP 04 58 08.9 +3.2
CD2 SKS 05 05 04.3
CD2 S S 05 05 20.5 -3.6
CD2 SS SS 05 11 15.8 +3.3
CD2 AMB AMB
comp=Z,20nm,0.8s,mb5.4
CD2 AMB AMB
comp=Z,360nm,5.3s
CD2 LR LR
comp=N,1μm,19.2s,MS5.5
CD2 LR LR
comp=E,1μm,16.8s,MS5.5
CD2 LR LR
comp=Z,1μm,21.0s,MS5.4
INCN Inchon 88.55 17 PFAKE 04 54 50.0 +11
INCN LR LR
comp=Z,718nm,19.0s,MS5.1
KSRS Korea Array 88.81 16 P **P 04 54 39.4 -1.2**
comp=Z,3.1nm,0.7s,mb4.8,baz=348,slow=5.4,SNR=12
KSRS LR LR 05 36 21.8
comp=Z,557nm,20.0s,MS5.0,baz=325,slow=37
VIS Vishakhapatnam 90.50 60 *eP* **P 04 54 48.1 -0.7**
VIS AMb AMB 04 54 53.8
comp=Z,34nm,1.6s,mb5.4
MAJO Matsushiro 91.02 8 PFAKE 04 55 00.0 +9.1
MAJO LR LR
comp=Z,1μm,20.0s,MS5.3
MJAR Matsushiro Arr 91.02 8 P **P 04 54 49.4 -1.6**
comp=Z,0.9nm,0.4s,mb4.5,baz=347,slow=5.4,SNR=4.9
MJAR Matsushiro Arr 91.02 8 P **P 04 54 49.3 -1.6**
LBTB Lobatse 91.84 130 PFAKE 04 55 10.0 +15
LBTB LR LR
comp=Z,2μm,20.0s,MS5.5
MSEY Mahe Island 91.98 95 PFAKE 04 55 10.0 +14
MSEY LR LR
comp=Z,737nm,20.0s,MS5.1
NJ2 Nanjing 92.09 25 *eP* **P 04 54 57.4 +1.5**
NJ2 AP pP 04 55 01.5 +2.2
NJ2 XP sP 04 55 04.9 +4.4
NJ2 S S 05 05 56.0 -2.1
NJ2 XS sS 05 06 06.0 +2.4
NJ2 AMB AMB
comp=Z,20nm,0.9s,mb5.5
NJ2 AMB AMB
comp=Z,200nm,7.5s
NJ2 LR LR
comp=N,670nm,19.2s,MS5.2
NJ2 LR LR
comp=E,640nm,24.2s,MS5.2
NJ2 LR LR
comp=Z,630nm,24.2s,MS5.0
WHN Wuhan 92.27 29 P **P 04 54 56.1 -0.7**
WHN AP pP 04 55 01.8 +1.6
WHN SKS 05 05 30.4
WHN S S 05 05 56.1 -3.7
WHN LR LR
comp=N,2μm,17.0s
WHN LR LR
comp=E,2μm,11.3s
WHN LR LR
comp=Z,3μm,16.6s,MS5.8
POHA Pohakuloa 93.18 308 PFAKE 04 55 10.0 +8.8
POHA LR LR
comp=Z,2μm,20.0s,MS5.7
KMI Kunming 93.21 40 P **P 04 55 00.0 -1.2**
KMI AP pP 04 55 04.0 -0.6
KMI PP PP 04 58 46.3 +2.4
KMI SKS 05 05 33.4
KMI S S 05 06 04.1 -4.2
KMI SS SS 05 12 21.3 -0.8
KMI AMB AMB
comp=Z,9.0nm,0.5s,mb5.5
KMI AMB AMB
comp=Z,128nm,3.5s
KMI LR LR
comp=N,883nm,14.8s,MS5.4
KMI LR LR
comp=E,759nm,17.1s,MS5.4
KMI LR LR
comp=Z,1μm,20.2s,MS5.4
KOD Kodaikanal 93.40 69 *eP* **P 04 55 02.2 0.0**
KOD AMb AMB 04 55 04.9
comp=Z,36nm,0.7s,mb5.9
GYA Guiyang 93.50 37⇑ *iP* **P 04 55 02.9 +0.4**
GYA PP PP 04 58 49.4 +3.3
GYA SKS 05 05 35.9
GYA S S 05 06 07.6 -3.2
GYA SS SS 05 12 27.3 +1.2
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.8
GYA AMB AMB
comp=Z,3μm,9.7s
GYA LR LR
comp=N,3μm,20.8s,MS5.8
GYA LR LR
comp=E,2μm,21.6s,MS5.8
GYA LR LR
comp=Z,4μm,20.9s,MS5.9
SSE Sheshan 93.58 23 P **P 04 55 01.0 -1.8**
SSE S S 05 06 07.9 -3.4
SSE AMB AMB
comp=Z,42nm,0.7s,mb6.0
SSE AMB AMB
comp=Z,110nm,6.1s
SSE LR LR
comp=N,758nm,21.4s,MS5.2
SSE LR LR
comp=E,508nm,21.4s,MS5.2
SSE LR LR
comp=Z,989nm,21.6s,MS5.2
TRQA Tornquist 93.83 203 *eP* **P 04 55 02.9 -0.6**
comp=Z,7.5nm,0.7s,mb5.2
TRQA Tornquist 93.83 203 *eP* **P 04 55 02.9 -0.6**
comp=Z,7.5nm,0.7s,mb5.2
MIDW Midway 94.30 330 PFAKE 04 55 20.0 +14
MIDW LR LR
comp=Z,2μm,19.0s,MS5.6
BOSA Boshof 94.76 132 *eP* **P 04 55 07.6 -0.4**
BOSA pmax pmax
comp=Z,33nm,1.3s,mb5.6
BOSA MLR MLR
comp=Z,3μm,19.0s,MS5.8
BOSA Boshof 94.76 132 *eP* **P 04 55 07.6 -0.4**
comp=Z,34nm,1.3s,mb5.6
BOSA LR LR
comp=Z,3μm,19.0s,MS5.8
BOSA Boshof 94.76 132 P **P 04 55 08.0 0.0**
comp=Z,13nm,1.1s,mb5.3,baz=108,slow=2.5,SNR=5.3
BOSA LR LR 05 36 17.9
comp=Z,3μm,19.2s,MS5.7,baz=335,slow=34
BOSA Boshof 94.76 132 *eP* **P 04 55 07.6 -0.4**
comp=Z,34nm,1.3s,mb5.6
SUR Sutherland 96.07 137 PFAKE 04 55 30.0 +16
SUR LR LR
comp=Z,5μm,22.0s,MS6.0
CHTO Chiang Mai 97.21 46 *eP* **P 04 55 19.2 -0.4**
CHTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.8
CHTO MLR MLR
comp=Z,1μm,20.0s,MS5.4
CHTO Chiang Mai 97.21 46 *eP* **P 04 55 19.2 -0.4**
comp=Z,2.7nm,0.8s,mb4.7
CHTO LR LR
comp=Z,1μm,20.0s,MS5.4
CHTO Chiang Mai 97.21 46 *eP* **P 04 55 19.2 -0.4**
comp=Z,2.7nm,0.8s,mb4.7
CM31 Chiang Mai Arr 97.52 47 PFAKE 04 55 30.0 +9.0
CM31 LR LR
comp=Z,832nm,20.0s,MS5.2
PALK Pallekele 97.64 68 PFAKE 04 55 30.0 +8.4
PALK LR LR
comp=Z,1μm,19.0s,MS5.4
ABPO Ambohimpanom 98.34 110 PFAKE 04 55 40.0 +16
ABPO LR LR
comp=Z,2μm,20.0s,MS5.6
PLCA Paso Flores 98.65 209 *eP* **P 04 55 25.0 -0.3**
PLCA pmax pmax
comp=Z,6.0nm,1.1s
PLCA MLR MLR
comp=Z,971nm,20.0s
PLCA Paso Flores 98.65 209 *eP* **P 04 55 25.0 -0.3**
comp=Z,5.9nm,1.1s,mb5.0
PLCA LR LR
comp=Z,971nm,20.0s,MS5.3
PLCA Paso Flores 98.65 209 P **P 04 55 24.7 -0.6**
comp=Z,3.4nm,1.1s,mb4.8,baz=6.1,slow=9.4,SNR=3.2
PLCA LR LR 05 37 40.7
comp=Z,614nm,20.3s,MS5.1,baz=9.5,slow=34
PLCA Paso Flores 98.65 209 *eP* **P 04 55 25.0 -0.3**
comp=Z,5.9nm,1.1s,mb5.0
TATO Taipei 99.51 24 PFAKE 04 55 40.0 +10
TATO LR LR
comp=Z,1μm,20.0s,MS5.4
QIZ Qiongzhong 101.45 37 P Pdif 04 55 36.3 -2.2
QIZ S Sdif 05 07 13.8 -5.0
QIZ LR LR
comp=N,695nm,18.1s
QIZ LR LR
comp=Z,967nm,17.7s,MS5.4
QIZ Qiongzhong 101.45 37 PFAKE 04 55 50.0 +12
QIZ LR LR
comp=Z,723nm,21.0s,MS5.2
RPN Rapa Nui 103.93 244 PFAKE 04 56 00.0 +10
RPN LR LR
comp=Z,2μm,21.0s,MS5.5
KKM Kota Kinabalu 115.74 36 *e*PKPdf PKPdf 05 00 29.2 -0.3
KKM Kota Kinabalu 115.74 36 *e*PKIKP PKPdf 05 00 29.2 -0.2
DAV Davao City (W) 117.70 26 PFAKE 05 00 40.0 +6.8
DAV LR LR
comp=Z,658nm,20.0s,MS5.2
COCO West Island 122.66 65 PFAKE 05 00 50.0 +7.4
COCO LR LR
comp=Z,788nm,19.0s,MS5.4
VNA1 Neumayer--Stat 123.88 171 *e*PKPdf PKPdf 05 00 42.9 -0.3
VNA1 *e* 05 00 51.5
VNA1 *e* 05 00 58.1
VNA2 Neumayer--Watz 124.23 171 *e*PKPdf PKPdf 05 00 43.2 -0.7
baz=338,slow=6.1
VNA2 *e* 05 00 51.6
VNA2 *e* 05 00 59.3
VNA3 Neumayer Olymp 124.32 172 *e*PKPdf PKPdf 05 00 42.8 -1.2
VNA3 *e* 05 00 51.4
VNA3 *e* 05 00 58.4
FUNA Funafuti 129.52 319 PFAKE 05 01 10.0 +14
FUNA LR LR
comp=Z,6μm,19.0s,MS6.3
AFI Afiamalu 130.16 305 PFAKE 05 01 10.0 +13
AFI LR LR
comp=Z,2μm,19.0s,MS5.8
SYO Syowa Base 131.78 153⇓ *e*PKPdf PKPdf 05 00 56.5 -1.8
SYO Syowa Base 131.78 153⇑ *e*PKIKP PKiKP 05 01 01.0 +1.7
HNR Honiara 136.13 343 PFAKE 05 01 20.0 +12
HNR LR LR
comp=Z,895nm,20.0s,MS5.5
KAKA Kakadu 138.45 24 *e*PKPpre 05 01 04.6
KAKA *e*PKPdf PKPdf 05 01 12.8 +0.3
MAW Mawson 138.48 145 PKIKP PKPdf 05 01 11.1 +0.3
MAW MLR MLR
comp=Z,1μm,20.0s
MAW Mawson 138.48 145 PKP PKPdf 05 01 11.1 +0.3
comp=Z,2.6nm,0.7s,baz=51,slow=6.5,SNR=7.3
COEN Coen 141.47 8 *e*PKPdf PKPdf 05 01 18.3 +0.4
COEN Coen 141.47 8 *e*PKIKP PKPdf 05 01 18.3 +0.4
FITZ Fitzroy Crossi 141.47 36 *eP* PKPdf 05 01 16.1 -1.7
comp=Z,10.0nm,0.8s
FITZ Fitzroy Crossi 141.47 36 PKP PKPdf 05 01 16.0 -1.9
comp=Z,5.7nm,0.8s,baz=240,slow=4.6,SNR=10.0
MBWA Marble Bar 141.85 46 PFAKE 05 01 30.0 +12
MBWA LR LR
comp=Z,778nm,22.0s,MS5.4
QSPA South Pole Qui 142.26 180 *e*PKPpre 05 01 12.2
QSPA *e*PKPdf PKPdf 05 01 18.5 +1.1
QSPA LR LR
comp=Z,1μm,19.0s,MS5.7
QSPA South Pole Qui 142.26 180 *e*PKIKP PKPdf 05 01 18.5 +1.1
WRAB Tennant Creek 145.86 24 *e*PKP2 PKPab 05 01 25.4 -1.1
WRAB MLR MLR
comp=Z,1μm,20.0s,MS5.6
WRA Warramunga Arr 145.87 24 PKPbc PKPbc 05 01 24.5 -1.5
comp=Z,41nm,0.8s,baz=335,slow=2.7,SNR=94
WB2 Warramunga Arr 145.87 24 *eP* PKPdf 05 01 25.1 -0.4
RAO Raoul Island 146.00 300 PFAKE 05 01 40.0 +15
RAO LR LR
comp=Z,2μm,20.0s,MS5.9
CTA Charters Tower 147.74 3 *eP* PKPdf 05 01 31.4 +2.8
comp=Z,24nm,1.0s
CTA Charters Tower 147.74 3 PKPbc PKPbc 05 01 30.3 -1.2
comp=Z,17nm,0.9s,baz=356,slow=4.1,SNR=12
CTAO Charters Tower 147.74 3 *e*PKP2 PKPab 05 01 30.7 -3.0
CTAO MLR MLR
comp=Z,808nm,20.0s,MS5.5
MUN Mundaring 149.10 61 *eP* PKPdf 05 01 33.1 +2.6
ASAR Alice Springs 149.31 26 PKP PKPdf 05 01 29.6 -1.5
comp=Z,33nm,0.6s,baz=354,slow=1.3,SNR=39
ASAR PKPbc PKPbc 05 01 34.4 -1.1
comp=Z,36nm,0.7s,baz=3.2,slow=1.7,SNR=137
KLBR Kellerberrin 149.62 59 *eP* PKPbc 05 01 34.9 -1.1
comp=Z,36nm,0.8s
MIR Mirnyy 149.76 139⇑ *i*PKP2 PKPab 05 01 35.0 -5.7
MIR pmax pmax
comp=Z,200nm,2.0s
NWAO Narrogin (SRO) 150.38 61 *e*PKIKP PKPdf 05 01 37.0 +4.5
NWAO MLR MLR
comp=Z,1μm,21.0s
NWAO Narrogin (SRO) 150.38 61 PKPbc PKPbc 05 01 36.5 -1.3
comp=Z,41nm,0.8s,baz=291,slow=3.7,SNR=20
EIDS Eidsvold 152.95 354 *e*PKPbc PKPbc 05 01 43.4 -0.5
EIDS *e*PKPab PKPab 05 01 54.9 -0.1
SBA Scott Base 153.54 189 *e*PKIKP PKPdf 05 01 35.7 -0.2
SBA MLR MLR
comp=Z,1μm,19.0s,MS5.7
FORT Forrest 153.84 42 *eP* PKPdf 05 01 44.6 +6.9
comp=Z,25nm,0.6s
VNDA Vanda 154.25 187 *e*PKPdf PKPdf 05 01 36.4 -0.6
VNDA *e*PKPab PKPab 05 01 59.3 0.0
VNDA LR LR
comp=Z,2μm,19.0s,MS5.9
VNDA Vanda 154.25 187 PKP PKPdf 05 01 36.0 -1.0
comp=Z,2.0nm,0.8s,baz=275,slow=1.2,SNR=13
VNDA PKPbc PKPbc 05 01 42.9 -2.3
comp=Z,5.9nm,1.1s,baz=139,slow=3.9,SNR=7.8
VNDA PKPab PKPab 05 01 58.6 -0.7
comp=Z,8.1nm,0.8s,baz=190,slow=2.6,SNR=12
CASY Casey 156.74 141 PFAKE 05 01 50.0 +9.5
CASY LR LR
comp=Z,1μm,20.0s,MS5.8
SNZO South Karori 158.91 291 PFAKE 05 01 50.0 +6.0
SNZO LR LR
comp=Z,2μm,22.0s,MS5.9
STKA Stephens Creek 158.95 16 *e*PKPab PKPab 05 02 20.8 +0.2
STKA Stephens Creek 158.95 16 PKPab PKPab 05 02 21.7 +1.1
comp=Z,2.9nm,0.5s,baz=6.0,slow=4.9,SNR=3.6
STKA Stephens Creek 158.95 16 *e*PKPab PKPab 05 02 20.8 +0.2

ISCJB ***23*** *05:01:07.6±2.3,3.17S±006×1362E±01,h53km±22km, mb4.1/8, Error ellipse: s-maj=21.9km s-min=9.9km az=1.6*
NEIC ***23*** *05:01:08.2±0.6,306S×13626E,mb4.2/7, Error ellipse: s-maj=21.2km s-min=9.4km az=79.0*
IDC ***23*** *05:01:15.0±4.8,3.10S×13586E,h96km±43km, mb3.7/4, mb1 3.9/6, mb1mx3.7/14, mbtmp3.8/6, MS3.8/2, Ms1 3.8/2, ms1mx3.1/19, Error ellipse: s-maj=41.7km s-min=12.4km az=83.0*

ISC 23 05:01:08.7±1.8,316S±007×1364E±01,h51km±18km,n25, σ1§34/26,mb4.1/8,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu** 108nm,0.5s	**10.28**	**202**	*e*Pn	**Pn**	**05 03 34.8**	**+1.1**
KAKA				*e*Sn	**Sn**	**05 05 27.2**	**-0.4**
COEN	**Coen** 6.7nm,0.6s	**12.63**	**149**	*e*Pn	**Pn**	**05 04 07.7**	**+2.0**
COEN				*e*Sn	**Sn**	**05 06 22.8**	**-2.1**
WRAB	**Tennant Creek**	**16.80**	**187**	*e*Pn	**Pn**	**05 04 59.8**	**-0.7**
WRAB				*e*Sn	**Sn**	**05 08 00.6**	**-5.7**
WB2	**Warramunga Arr**	**16.80**	**187**	*e*Pn	**Pn**	**05 04 59.8**	**-0.9**
WB2				*e*Sn	**Sn**	**05 08 03.2**	**-3.3**
WRA	**Warramunga Arr** 0.6nm,0.3s,baz=4.0,slow=13,SNR=19	**16.81**	**187**	P	**Pn**	**05 04 59.6**	**-1.0**
WRA				S	**S**	**05 08 03.6**	**-11**
FITZ	**Fitzroy Crossi** 11nm,0.7s	**18.23**	**215**	*e*P	**Pn**	**05 05 19.9**	**+1.6**
FITZ	**Fitzroy Crossi** 0.6nm,0.3s,baz=52,slow=15,SNR=14	**18.23**	**215**	P	**Pn**	**05 05 19.6**	**+1.4**
CTA	**Charters Tower** 0.6nm,0.3s,baz=320,slow=13,SNR=5.7	**19.36**	**151**	P	**Pn**	**05 05 35.9**	**+4.1**
CTA				LR	LR	05 13 37.9	
CTA	**Charters Tower** comp=Z,139nm,20.2s,baz=233,slow=38	**19.36**	**151**	P	**Pn**	**05 05 35.9**	**+4.1**
CTA				LR	LR	05 13 37.9	

CTAO	**Charters Tower**	**19.36**	**151**	*e*P	**Pn**	**05 05 32.8**	**+0.9**
	10.0nm,0.9s						
ASAR	**Alice Springs**	**20.53**	**187**	P	**P**	**05 05 45.7**	**+2.7**
	15nm,0.6s,baz=13,slow=11,SNR=69						
ASAR				S	**S**	**05 09 30.7**	**+0.7**
	2.0nm,0.9s,baz=12,slow=28,SNR=5.1						
MBWA	**Marble Bar**	**24.17**	**221**	*e*P	**P**	**05 06 20.5**	**0.0**
	4.8nm,0.5s,mb4.2						
ASAJ	**Asahikawa**	**47.39**	**6**	LR	LR	05 28 45.9	
	comp=Z,209nm,20.8s,baz=157,slow=35						
SONM	**Songino Array**	**57.18**	**336**	P	**P**	**05 10 51.0**	**+0.5**
	0.9nm,0.7s,mb3.9,baz=149,slow=9.6,SNR=2.4						
MK31	**Makanchi Array**	**68.77**	**323**	*e*P	**P**	**05 12 06.5**	**-1.0**
MKAR	**Makanchi Array**	**68.77**	**323**	P	**P**	**05 12 06.6**	**-0.8**
	1.3nm,0.7s,mb4.0,baz=116,slow=7.8,SNR=13						
ZALV	**Zalesovo Beam**	**71.19**	**331**	P	**P**	**05 12 19.6**	**-2.6**
	0.5nm,0.4s,mb3.8,baz=137,slow=8.9,SNR=2.9						
AML	**Almayashu**	**72.33**	**316**	*e*P	**P**	**05 12 29.1**	**-0.1**
	5.0nm,0.9s,mb4.4						
AML				*e*pP	pP	05 12 41.7	-1.9
EKS2	**Erkin-Say**	**72.46**	**317**	*e*P	**P**	**05 12 29.6**	**-0.5**
	2.0nm,0.9s,mb4.0						
EKS2				*e*pP	pP	05 12 42.0	-2.5
VNDA	**Vanda**	**75.55**	**174**	*e*P	**P**	**05 12 49.2**	**+1.8**
	1.7nm,0.9s,mb4.0						
QSPA	**South Pole Qui**	**86.79**	**180**	*e*P	**P**	**05 13 48.5**	**+1.4**
	3.6nm,0.8s,mb4.7						
TORD	**Torodi Ar. Bea**	**134.19**	**285**	PKP	PKPdf	05 20 21.0	-0.8
	0.3nm,0.6s,baz=93,slow=2.9,SNR=2.8						
CPUP	**Villa Florida**	**147.80**	**156**	PKPbc	PKPbc	05 20 50.7	+1.9
CPUP	**Villa Florida**	**147.80**	**156**	PKPbc	PKPbc	05 20 50.7	+1.9
	0.6nm,0.4s,baz=347,slow=0.3,SNR=3.3						
LPAZ	**La Paz**	**148.97**	**129**	PKPbc	PKPbc	05 20 55.1	+3.0
	1.0nm,0.7s,baz=0.7,slow=3.4,SNR=7.1						

*ISCJB **23** 05:16:53.7±0.3,3397N±002×10697W±003,h10km,Error ellipse: s-maj=3.6km s-min=2.7km az=40.6*
*NEIC **23** 05:16:55.1±0.6,3407N×10694W,h5km,ML3.4,Error ellipse: s-maj=7.1km s-min=6.0km az=8.0*
NEIC Felt [III] at Polvadera and Socorro. Also felt at Lemitar, Magdalena, Mountainair and Rio Rancho.

ISC 23 05:16:54.1±0.3,3400N±002×10692W±002,h10km,n48,
σ1§09/87,16C-23D,New Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
Y22C	**IRIS PASSCAL I**	**0.08**	**360**	⇑P	**Pg**	**05 16 57.2**	**+0.8**
	baz=0.1						
Y22C				⇑S	**Sg**	**05 16 59.6**	**+1.5**
	baz=0.1						
LENM	**Lemitar**	**0.17**	**345**	*e*Pg	**Pg**	**05 16 57.1**	**-0.7**
BNM	**Barren Site**	**0.29**	**57**	*e*Pg	**Pg**	**05 17 01.4**	**+1.6**
LPM	**Los Pinos Moun**	**0.40**	**37**	*e*Pg	**Pg**	**05 17 02.4**	**+0.5**
LAZ	**Ladron**	**0.44**	**336**	*e*Pg	**Pg**	**05 17 01.6**	**-1.2**
Y19A	**Nutrioso**	**1.94**	**270**	⇑P	**Pn**	**05 17 27.4**	**+0.3**
	baz=1.9,SNR=148						
Y19A				⇑S	**Sn**	**05 17 51.1**	**-0.4**
	baz=1.9						
X19A	**St. Johns**	**2.01**	**283**	⇓P	**Pn**	**05 17 28.4**	**+0.4**
	baz=1.9,SNR=49						
X19A				⇑S	**Sb**	**05 17 54.1**	**-1.6**
	baz=1.9						
Z19A	**T-Link Ranch,**	**2.08**	**251**	⇑P	**Pn**	**05 17 29.0**	**0.0**
	baz=2.1,SNR=39						
Z19A				⇑S	**Sn**	**05 17 55.1**	**+0.2**
	baz=2.1						
W19A	**Sanders**	**2.32**	**299**	⇓P	**Pn**	**05 17 32.8**	**+0.5**
	baz=2.2						
W19A				⇓S	**Sn**	**05 18 00.9**	**0.0**
	baz=2.2						
119A	**Ashpeak Ranch,**	**2.34**	**239**	P	**Pn**	**05 17 32.9**	**+0.3**
	baz=2.4,SNR=41						
119A				⇓S	**Sn**	**05 18 01.5**	**+0.2**
	baz=2.4						
X18A	**Snowflake**	**2.56**	**283**	⇓P	**Pn**	**05 17 35.8**	**+0.1**
	baz=2.5,SNR=9.9						
X18A				⇓S	**Sn**	**05 18 06.1**	**-0.8**
	baz=2.5						
W18A	**Petrified Fore**	**2.58**	**297**	⇓P	**Pn**	**05 17 36.5**	**+0.6**
	baz=2.5,SNR=7.8						
Y18A	**Canyon Day Jun**	**2.60**	**266**	⇓P	**Pn**	**05 17 36.1**	**0.0**
	baz=2.6,SNR=19						
Y18A				⇑S	**Sn**	**05 18 07.6**	**-0.2**
	baz=2.6						
MNTX	**Cornudas Mount**	**2.63**	**150**	*e*Pn	**Pn**	**05 17 39.2**	**+2.6**
MNTX				*e*Sn	**Sb**	**05 18 12.8**	**-0.9**
Z18A	**Geronimo**	**2.76**	**252**	⇓P	**Pn**	**05 17 38.3**	**0.0**
	baz=2.7						
219A	**White Tail Can**	**2.80**	**225**	⇑P	**Pn**	**05 17 38.9**	**+0.1**
	baz=2.8,SNR=56						
219A				⇓S	**Sn**	**05 18 12.1**	**-0.6**
	baz=2.8						
118A	**Homack Ranch,**	**2.89**	**243**	⇓P	**Pn**	**05 17 39.6**	**-0.5**
	baz=2.9,SNR=27						
118A				⇑S	**Sn**	**05 18 14.0**	**-0.9**
	baz=2.9						
Z17A	**San Carlos Hig**	**3.04**	**258**	⇑P	**Pn**	**05 17 42.3**	**0.0**
	baz=3.0						
Y17A	**Roosevelt**	**3.28**	**266**	⇑P	**Pn**	**05 17 45.7**	**+0.2**
	baz=3.2,SNR=12						
319A	**Douglas**	**3.28**	**218**	⇑P	**Pn**	**05 17 46.1**	**+0.5**
	baz=3.3,SNR=26						
319A				⇓S	**Sn**	**05 18 25.0**	**+0.4**
	baz=3.3						
218A	**Dragoon**	**3.31**	**233**	⇓P	**Pn**	**05 17 45.7**	**-0.2**
	baz=3.3,SNR=20						
218A				⇓S	**Sn**	**05 18 24.3**	**-1.0**
	baz=3.3						
MVCO	**Mesa Verde**	**3.46**	**339**	*e*Pn	**Pn**	**05 17 49.6**	**+1.7**
MVCO				*e*Sg	**Sg**	**05 18 42.6**	**-2.4**
117A	**Oracle**	**3.50**	**247**	⇓P	**Pn**	**05 17 48.2**	**-0.4**
	baz=3.5,SNR=13						
117A				⇑S	**Sn**	**05 18 28.8**	**-1.2**
	baz=3.5						
318A	**Bisbee**	**3.63**	**226**	⇓P	**Pn**	**05 17 50.5**	**+0.1**
	baz=3.7,SNR=42						
318A				⇓S	**Sn**	**05 18 33.3**	**0.0**
	baz=3.7						
TUC	**Tucson**	**3.65**	**244**	*e*Pn	**Pn**	**05 17 52.2**	**+1.6**
TUC				*e*Sg	**Sb**	**05 18 47.5**	**+4.5**
Y16A	**Circle Bar Ran**	**3.79**	**270**	⇓P	**Pn**	**05 17 52.4**	**-0.1**
	baz=3.7						
SDCO	**Great Sand Dun**	**3.92**	**17**	*e*Pn	**Pn**	**05 17 55.1**	**+0.9**
SDCO				*e*Sg	**Sb**	**05 18 56.0**	**+5.4**
217A	**Green Valley**	**3.96**	**237**	⇓P	**Pn**	**05 17 54.5**	**-0.3**
	baz=4.0						
217A				⇓S	**Sn**	**05 18 41.0**	**-0.2**
	baz=4.0						
WUAZ	**Wupatki**	**3.97**	**294**	*e*Pn	**Pn**	**05 17 56.1**	**+1.1**
WUAZ				*e*Sg	**Sb**	**05 18 52.9**	**+0.7**
WUAZ	**Wupatki**	**3.97**	**294**	⇑P	**Pn**	**05 17 55.7**	**+0.8**
	baz=3.9						
216A	**Three Points,**	**4.30**	**244**	⇓P	**Pn**	**05 17 59.1**	**-0.4**
	baz=4.3						
PV01	**Paradox Valley**	**4.34**	**343**	*e*Pn	**Pn**	**05 18 02.8**	**+2.7**
PV01				*e*Sg	**Sb**	**05 19 06.8**	**+4.0**
AMTX	**Amarillo**	**4.42**	**77**	*e*Pn	**Pn**	**05 18 01.8**	**+0.6**
AMTX				*e*Pb	**Pb**	**05 18 11.4**	**-0.4**
AMTX				*e*Pg	**Pg**	**05 18 15.8**	**-3.0**
AMTX				*e*Sg	**Sg**	**05 19 14.9**	**-1.1**
Y15A	**Casa Rosa Ranc**	**4.50**	**271**	⇓P	**Pn**	**05 18 02.5**	**+0.3**
	baz=4.4,SNR=14						
115A	**Sonoran Desert**	**4.63**	**255**	⇓P	**Pn**	**05 18 04.2**	**+0.2**
	baz=4.6,SNR=9.6						
PV10	**Paradox Valley**	**4.70**	**339**	*e*Pn	**Pn**	**05 18 06.1**	**+1.2**
PV10				*e*Sn	**Sn**	**05 19 02.2**	**+2.7**
Z14A	**Wintersburg**	**5.06**	**265**	⇑P	**Pn**	**05 18 09.9**	**-0.1**
	baz=5.0,SNR=7.8						
SMCO	**Snowmass**	**5.17**	**360**	Pn	**Pn**	**05 18 11.3**	**-0.2**
SMCO				*e*Pg	**Pg**	**05 18 30.1**	**-3.0**
SRU	**San Rafael**	**5.87**	**331**	*e*Pn	**Pn**	**05 18 21.4**	**+0.3**
SRU				*e*Pb	**Pb**	**05 18 35.0**	**-1.5**
SRU				*e*Sg	**Sg**	**05 19 54.4**	**-8.2**
ISCO	**Idaho Springs**	**5.89**	**10**	*e*Pg	**Pg**	**05 18 45.4**	**-1.4**
MSU	**Marysvale**	**6.19**	**318**	*e*Pn	**Pn**	**05 18 29.5**	**+4.0**
MVU	**Marysvale**	**6.21**	**318**	*e*Pn	**Pn**	**05 18 27.8**	**+2.1**
	7.4nm,0.8s						
MVU				*e*Sn	**Sn**	**05 19 41.7**	**+5.0**
TMUT	**Trail Mountain**	**6.31**	**328**	*e*Pn	**Pn**	**05 18 27.6**	**+0.4**
TMUT				*e*Pb	**Pb**	**05 18 42.8**	**-1.3**
TMUT				*e*Pg	**Pg**	**05 18 51.0**	**-4.0**
TMUT				*e*Sg	**Sg**	**05 20 10.4**	**-6.2**
ARUT	**Antelope Range**	**6.50**	**307**	*e*Pg	**Pg**	**05 18 55.2**	**-3.4**
ARUT				*e*Sg	**Sg**	**05 20 18.7**	**-4.2**
GLA	**Glamis**	**6.67**	**264**	*e*Pn	**Pn**	**05 18 34.3**	**+2.2**
GLA				*e*Pg	**Pg**	**05 18 56.8**	**-4.9**
GLA				*e*Sg	**Sg**	**05 20 22.0**	**-6.1**
WMOK	**Wichita Mounta**	**6.77**	**81**	Pn	**Pn**	**05 18 38.2**	**+4.7**
WMOK				*e*Pg	**Pg**	**05 18 57.3**	**-6.4**
WMOK				*e*Sg	**Sg**	**05 20 29.9**	**-1.5**
JCT	**Junction City**	**6.97**	**118**	*e*Pg	**Pg**	**05 19 03.6**	**-4.0**
JCT				*e*Sg	**Sg**	**05 20 34.7**	**-3.3**
RWWY	**Rawlins**	**7.68**	**358**	*e*Pg	**Pg**	**05 19 16.4**	**-4.7**
RWWY				*e*Sg	**Sg**	**05 20 54.8**	**-5.8**

*NEIC **23** 05:19:14.2,6983N×14466W,h10km,ML3.5(AEIC),After AEIC.*
*PGC **23** 05:19:16.7±3.8,6979N×14484W,h5km,ML3.4/1,142km east of Prudhoe Bay, Ak Alaska*

ISC 23 05:19:13.4±1.6,699N±01×1446W±01,h6km±13km,n20,
σ0§87/31,7D,Northern Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BM3	**Burnt Mountain**	**2.50**	**180**	P	**Pn**	**05 19 53.6**	**-0.8**
BM3				S	**Sn**	**05 20 25.3**	**+0.1**
COLD	**Coldfoot**	**3.39**	**220**	P	**Pn**	**05 20 06.8**	**+0.1**
COLD				S	**Sn**	**05 20 49.0**	**+1.9**
INK	**Inuvik**	**4.28**	**107**	*e*Pn	**Pn**	**05 20 22.5**	**+3.7**
INK	**Inuvik**	**4.28**	**107**	⇑Pn	**Pn**	**05 20 22.5**	**+3.7**
INK	**Inuvik**	**4.28**	**107**	⇓Pn	**Pn**	**05 20 22.5**	**+3.7**
INK				⇑Sn	**Sn**	**05 21 09.8**	**+0.9**
INK				⇑Sg	**Sg**	**05 21 31.0**	**+0.5**
IMA2	**Indian Mountai**	**5.16**	**226**	*e*Pn	**Pn**	**05 20 30.2**	**-0.7**
IMA2				*e*Pg	**Pb**	**05 20 44.0**	**+0.2**
IMA2				*e*Sg	**Sb**	**05 21 51.8**	**+5.9**
COLA	**College**	**5.21**	**196**	P	**Pn**	**05 20 31.9**	**+0.2**
IL1	**Eielson Array**	**5.24**	**191**	P	**Pn**	**05 20 31.4**	**-0.6**
IM3	**Indian Mountai**	**5.24**	**226**	P	**Pn**	**05 20 31.9**	**-0.2**
EGAK	**Eagle**	**5.32**	**164**	P	**Pn**	**05 20 33.0**	**-0.2**
DAWY	**Dawson**	**6.21**	**158**	P	**Pn**	**05 20 46.5**	**+1.1**
DAWY	**Dawson**	**6.21**	**158**	⇓Pn	**Pn**	**05 20 45.9**	**+0.5**
DAWY				⇓Sn	**Sn**	**05 21 53.8**	**-2.7**
DAWY	**Dawson**	**6.21**	**158**	⇓Pn	**Pn**	**05 20 45.9**	**+0.5**
DAWY				⇑Sn	**Sn**	**05 21 53.7**	**-2.8**
DOT	**Dot Lake**	**6.29**	**178**	P	**Pn**	**05 20 46.9**	**+0.4**
DOT				S	**Sn**	**05 21 58.7**	**+0.2**
KTH	**Kantishna Hill**	**6.86**	**204**	P	**Pn**	**05 20 53.2**	**-1.0**
BCA3	**Beaver Creek A**	**6.97**	**169**	P	**Pn**	**05 20 55.9**	**+0.2**
MENT	**Mentasta**	**7.01**	**177**	P	**Pn**	**05 20 56.9**	**+0.6**
HYT	**Haines Junctio**	**9.58**	**159**	⇑Pn	**Pn**	**05 21 32.4**	**+0.8**
HYT	**Haines Junctio**	**9.58**	**159**	⇓Pn	**Pn**	**05 21 31.3**	**-0.2**
HYT				⇓Sn	**Sn**	**05 23 13.9**	**-5.4**
YKW3	**Yellowknife Ar**	**14.00**	**107**	⇑Pn	**Pn**	**05 22 30.5**	**-1.3**
YKW3				⇓Sn	**Sn**	**05 24 56.1**	**-11**

IDC 23 05:54:52.6±3.6,1040N×9102E,h0km,mb3.5/4,mb1 3.7/4,
mb1mx3.5/21,mbtmp3.5/4,Error ellipse:
s-maj=134.6km s-min=24.3km az=66.0,Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**2.10**	**53**	*e*P	x	05 55 39.3	
PBA				*e*S	x	05 56 02.9	
PBA				*ex*	x	05 56 12.9	
PBA				*ex*	x	05 56 16.2	
	comp=N,824nm,0.7s						
MKAR	**Makanchi Array**	**37.02**	**350**	P	P	06 02 03.9	-0.1
	comp=N,0.1nm,0.3s,baz=161,slow=9.2,SNR=4.1						
SONM	**Songino Array**	**39.50**	**16**	P	P	06 02 25.1	+0.3
	comp=N,0.4nm,0.5s,baz=198,slow=8.8,SNR=2.1						
WRA	**Warramunga Arr**	**52.23**	**125**	P	P	06 04 05.9	+0.1
	comp=N,0.4nm,0.5s,baz=306,slow=8.4,SNR=8.6						
ASAR	**Alice Springs**	**53.89**	**129**	P	P	06 04 17.8	-0.2
	comp=N,0.6nm,0.7s,baz=312,slow=7.0,SNR=5.3						

*IDC **23** 05:55:17.2±0.6,5077N×17458E,h0km,mb4.2/20,mb1 4.4/20,mb1mx4.3/26,mbtmp4.2/20,MS3.9/3,Ms1 3.9/3,ms1mx3.4/38,Error ellipse: s-maj=21.1km s-min=12.6km az=162.0*
*BJI **23** 05:55:18.5,5129N×17435E,h5km,mB5.0,mb4.8,Ms4.7,Msz4.4*
*ISCJB **23** 05:55:19.1±0.3,5091N±005×17477E±004,h17km,mb4.5/82,MS4.2/8,Error ellipse: s-maj=6.8km s-min=3.8km az=0.0*
*NEIC **23** 05:55:20.4,5083N×17481E,h21km,mb4.6/43,ML4.8(PMR),ML4.0(AEIC),After AEIC.*
*MOS **23** 05:55:21.2±1.3,5091N×17471E,h33km,mb4.6/23,Error ellipse: s-maj=11.7km s-min=7.6km az=93.6*

ISC 23 05:55:21.5±0.3,5097N±005×17476E±004,h19km,
h19km±1.9km:pP-P,n164,σ0§98/162,mb4.5/82,MS4.2/8,
8C-2D,South of Aleutian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SMY	**Shemya**	**1.81**	**347**	P	**Pn**	**05 55 50.9**	**-0.7**
SMY				S	**Sn**	**05 56 15.6**	**+1.6**
FX1	**Attu Island--F**	**2.15**	**333**	P	**Pn**	**05 55 54.8**	**-1.5**
FX1				S	**Sn**	**05 56 22.1**	**-0.4**
AMKA	**Amchitka**	**2.89**	**80**	P	**Pn**	**05 56 03.1**	**-3.3**
ADK	**Adak**	**5.43**	**77**	P	**Pn**	**05 56 39.0**	**-2.3**
SKR	**Severo-Kuril's**	**11.80**	**276**	*e*P	**Pn**	**05 58 05.4**	**-3.2**
SKR				pmax	pmax		
	comp=Z,70nm,0.7s						
SKR				pmax	pmax		
	comp=N,40nm,0.6s						
SKR				pmax	pmax		
	comp=E,50nm,0.6s						
BILL	**Bilibino**	**17.62**	**349**	*e*P	**Pn**	**05 59 31.2**	**+5.6**
BILL				pmax	pmax		
	comp=Z,3.0nm,1.3s						
SVW2	**Sparrevohn**	**19.25**	**47**	*e*P	**Pn**	**05 59 43.8**	**-1.6**
TTA	**Tatalina**	**19.72**	**41**	*e*P	**Pn**	**05 59 51.7**	**+0.7**
KDAK	**Kodiak Island**	**20.05**	**57**	P	**P**	**05 59 50.0**	**-3.2**
	comp=Z,14nm,0.8s,baz=246,slow=10.0,SNR=4.4						
IMA2	**Indian Mountai**	**22.00**	**35**	*e*P	**P**	**06 00 15.2**	**+1.0**
PMR	**Palmer**	**22.38**	**48**	*e*P	**P**	**06 00 18.5**	**+0.3**
PMR				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.0						
PMR	**Palmer**	**22.38**	**48**	*e*P	**P**	**06 00 18.5**	**+0.3**
	comp=Z,4.2nm,0.6s,mb4.0						
ASAJ	**Asahikawa**	**22.64**	**265**	LR	LR	06 10 14.1	
	comp=Z,270nm,18.1s,MS3.7,baz=124,slow=40						
SML	**Sawmill**	**22.79**	**47**	*e*P	**P**	**06 00 21.7**	**-0.9**
COLA	**College**	**23.78**	**40**	*e*P	**P**	**06 00 30.7**	**-1.9**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.1						
COLA	**College**	**23.78**	**40**	*e*P	**P**	**06 00 30.7**	**-1.9**
	comp=Z,6.9nm,0.9s,mb4.1						
EGAK	**Eagle**	**26.54**	**42**	*e*P	**P**	**06 00 56.3**	**-1.3**
	comp=Z,35nm,0.8s,mb4.9						
YAK	**Yakutsk**	**26.65**	**312**	*e*P	**P**	**06 00 58.8**	**+0.1**
YAK				pmax	pmax		
	comp=E,20nm,1.4s						
YAK				pmax	pmax		
	comp=Z,28nm,0.9s,mb4.8						
YAK				pmax	pmax		
	comp=N,10.0nm,1.1s						
DAWY	**Dawson**	**27.19**	**44**	*e*P	**P**	**06 01 02.6**	**-0.8**
TIXI	**Tiksi**	**29.04**	**332**	*e*P	**P**	**06 01 18.3**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**29.74**	**255**	P	**P**	**06 01 21.6**	**-4.8**
	comp=Z,0.9nm,0.3s,mb4.0,baz=39,slow=15,SNR=2.8						
INK	**Inuvik**	**30.13**	**36**	P	**P**	**06 01 28.8**	**-0.8**
INK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
INK	**Inuvik**	**30.13**	**36**	*e*P	**P**	**06 01 28.5**	**-1.1**
	comp=Z,198nm,1.1s,mb5.8						
INK	**Inuvik**	**30.13**	**36**	P	**P**	**06 01 28.8**	**-0.8**
	comp=Z,3.1nm,0.8s,mb4.1,baz=249,slow=8.1,SNR=16						
CN2	**Changchun**	**33.61**	**277**	*e*P	**P**	**06 02 00.3**	**-0.1**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
BOD	**Bodaibo**	**34.94**	**305**	*e*P	**P**	**06 02 10.6**	**-1.1**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
KSRS	**Korea Array**	**35.58**	**266**	P	**P**	**06 02 16.5**	**-0.9**
	comp=Z,3.8nm,0.9s,mb4.3,baz=58,slow=8.0,SNR=8.8						
YKA	**Yellowknife Ar**	**38.41**	**45**	P	**P**	**06 02 41.4**	**+0.2**
YKA				LR	LR	06 21 11.7	
YKA	**Yellowknife Ar**	**38.41**	**45**	P	**P**	**06 02 41.4**	**+0.2**
	comp=Z,4.5nm,0.8s,mb4.3,baz=287,slow=8.4,SNR=44						
YKA				LR	LR	06 21 11.7	
	comp=Z,93nm,18.0s,MS3.6,baz=10.0,slow=40						
NLWA	**Neilton Lookou**	**39.26**	**70**	*e*P	**P**	**06 02 47.5**	**-1.0**
	comp=Z,14nm,1.2s,mb4.6						
BJI	**Beijing**	**41.46**	**278**	P	**P**	**06 03 02.3**	**-4.5**
BJI				AMB	AMB		
	comp=Z,5.0nm,1.2s,mb4.0						
BJI				AMB	AMB		
	comp=Z,152nm,4.6s						
BJT	**Baijiatuau**	**41.47**	**278**	*e*P	**P**	**06 03 07.6**	**+0.7**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	**Baijiatuau**	**41.47**	**278**	*e*P	**P**	**06 03 07.6**	**+0.7**
	comp=Z,8.0nm,0.7s,mb4.5						
HAWA	**Hanford**	**42.33**	**70**	*e*P	**P**	**06 03 14.8**	**+0.9**
	comp=Z,18nm,1.0s,mb4.7						
EDM	**Edmonton**	**42.50**	**58**	*e*P	**P**	**06 03 16.2**	**+1.0**
ULN	**Ulaanbaatar**	**42.75**	**293**	*e*P	**P**	**06 03 17.6**	**+0.3**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ULN	**Ulaanbaatar**	**42.75**	**293**	*e*P	**P**	**06 03 17.6**	**+0.3**
	comp=Z,3.5nm,0.9s,mb4.1						
NEW	**Newport**	**42.79**	**66**	*e*P	**P**	**06 03 19.1**	**+1.5**
NEW				pmax	pmax		
	comp=Z,9.0nm,1.1s						
NEW	**Newport**	**42.79**	**66**	*e*P	**P**	**06 03 19.1**	**+1.5**
	comp=Z,8.6nm,1.1s,mb4.4						
NEW	**Newport**	**42.79**	**66**	P	**P**	**06 03 19.1**	**+1.5**
	comp=Z,4.7nm,0.9s,mb4.2,baz=318,slow=6.4,SNR=7.0						
YBH	**Yreka Blue Hor**	**42.94**	**77**	P	**P**	**06 03 20.4**	**+1.5**
	comp=Z,4.1nm,1.0s,mb4.1,baz=185,slow=1.9,SNR=4.5						
SONM	**Songino Array**	**43.15**	**294**	P	**P**	**06 03 20.4**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.5,baz=64,slow=7.6,SNR=3.3						
SONM				PcP	PcP	06 05 09.0	-0.8
	comp=Z,1.4nm,0.9s,baz=96,slow=1.5,SNR=4.0						
ZAK	**Zakamensk**	**43.64**	**298**	*e*P	**P**	**06 03 24.6**	**+0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb4.0						
HHC	**Hu-ho-hao-te**	**43.86**	**282**	*e*P	**P**	**06 03 25.5**	**-0.8**
HHC				AP	pP	06 03 30.3	-1.8
HHC				XP	sP	06 03 32.8	-1.5
HHC				PP	PP	06 05 10.3	+2.0
HHC				SCP	ScP	06 09 02.3	-0.5
HHC				S	**S**	**06 09 55.0**	**-1.2**
HHC				XS	sS	06 10 02.9	-2.9
HHC				SS	SS	06 13 04.1	-8.2
HHC				SCS	ScS	06 13 22.4	-1.7
HHC				AMB	AMB		
	comp=Z,22nm,1.3s,mb4.7						
HHC				AMB	AMB		
	comp=Z,264nm,6.5s						
HHC				LR	LR		
	comp=N,245nm,14.9s,MS4.4						
HHC				LR	LR		
	comp=E,227nm,12.4s,MS4.4						
HHC				LR	LR		
	comp=Z,192nm,14.5s,MS4.2						
WALA	**Waterton Lakes**	**44.22**	**63**	*e*P	**P**	**06 03 28.4**	**-0.7**
	comp=Z,12nm,0.9s,mb4.6						
BMO	**Blue Mountains**	**44.48**	**70**	*e*P	**P**	**06 03 30.6**	**-0.6**
NJ2	**Nanjing**	**44.76**	**267**	*e*P	**P**	**06 03 35.6**	**+2.0**
NJ2				AP	pP	06 03 40.0	+0.6
NJ2				XP	sP	06 03 42.8	+1.2
NJ2				PP	PP	06 05 20.0	+2.0
NJ2				S	**S**	**06 10 08.5**	**-1.0**
NJ2				XS	sS	06 10 15.0	-4.0
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,230nm,8.6s						
NJ2				LR	LR		
	comp=N,550nm,21.5s,MS4.6						
NJ2				LR	LR		
	comp=E,350nm,17.1s,MS4.6						
NJ2				LR	LR		
	comp=Z,350nm,17.1s,MS4.3						
WVOR	**Wild Horse Val**	**45.03**	**74**	*e*P	**P**	**06 03 36.2**	**+0.6**
WVOR				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
WVOR	**Wild Horse Val**	**45.03**	**74**	*e*P	**P**	**06 03 36.2**	**+0.6**
	comp=Z,1.6nm,0.8s,mb3.9						
MSO	**Missoula**	**45.38**	**66**	*e*P	**P**	**06 03 38.1**	**-0.2**
	comp=Z,6.0nm,1.0s,mb4.4						
CHMT	**Chamberlain Mo**	**45.73**	**66**	*e*P	**P**	**06 03 41.9**	**+0.8**
HRY	**Holter Researc**	**46.65**	**65**	*e*P	**P**	**06 03 47.5**	**-0.9**
EGMT	**Eagleton**	**47.11**	**63**	*e*P	**P**	**06 03 51.9**	**0.0**
	comp=Z,3.6nm,0.8s,mb4.3						
MCMT	**McKenzie Canyo**	**47.12**	**68**	*e*P	**P**	**06 03 50.7**	**-1.3**
BOZ	**Bozeman (W)**	**47.37**	**66**	*e*P	**P**	**06 03 52.8**	**-1.2**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.5						
BOZ	**Bozeman (W)**	**47.37**	**66**	*e*P	**P**	**06 03 52.8**	**-1.2**
	comp=Z,7.1nm,1.0s,mb4.5						
NVAR	**M

AGMN Agassiz Refuge 54.46 55 *eP* **P 06 04 46.9 -0.3**
comp=Z,7.2nm,1.0s,mb4.6
CD2 Chengdu 55.05 277⇑*iP* **P 06 04 51.1 -0.7**
CD2 AP pP 06 04 55.8 -1.9
CD2 XP sP 06 04 58.5 -1.5
CD2 PP PP 06 06 55.8 +1.0
CD2 S **S 06 12 30.1 -3.1**
CD2 XS sS 06 12 38.6 -4.3
CD2 SS SS 06 16 14.3 -2.3
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb5.0
CD2 AMB AMB
comp=Z,20nm,5.2s
CD2 LR LR
comp=N,330nm,15.6s
CD2 LR LR
comp=Z,170nm,13.2s,MS4.3
SDCO Great Sand Dun 55.84 71 *eP* **P 06 04 58.7 +1.3**
comp=Z,5.6nm,1.3s,mb4.4
WMQ Urumqi 56.08 299 *eP* **P 06 05 00.0 +0.9**
TUC Tucson 56.25 79 *eP* **P 06 04 59.7 -0.7**
TUC pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
TUC Tucson 56.25 79 *eP* **P 06 04 59.7 -0.7**
comp=Z,3.4nm,1.1s,mb4.3
KURK Kurchatov 56.28 311 *eP* **P 06 05 00.1 -0.3**
KURK pmax pmax
comp=Z,32nm,1.0s,mb5.3
KURK Kurchatov 56.28 311 *eP* **P 06 05 00.1 -0.3**
comp=Z,32nm,1.0s,mb5.3
GYA Guiyang 56.30 271 P **P 06 05 01.3 +0.4**
GYA AP pP 06 05 06.8 0.0
GYA XP sP 06 05 09.3 +0.2
GYA PCP PcP 06 05 58.8 +0.7
GYA PP PP 06 07 08.6 +2.5
GYA SCP ScP 06 09 56.0 -0.2
GYA S **S 06 12 49.3 -0.7**
GYA SCS ScS 06 14 46.8 -2.3
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
GYA AMB AMB
comp=Z,80nm,5.9s
GYA LR LR
comp=N,490nm,19.8s,MS4.7
GYA LR LR
comp=E,420nm,18.6s,MS4.7
GYA LR LR
comp=Z,480nm,20.9s,MS4.6
ECSD EROS,Sioux Fal 56.99 60 *eP* **P 06 05 04.5 -1.1**
comp=Z,11nm,1.4s,mb4.7
MK31 Makanchi Array 57.03 305 *eP* **P 06 05 05.0 -0.7**
MKAR Makanchi Array 57.03 305 P **P 06 05 04.8 -0.9**
comp=Z,5.2nm,0.7s,mb4.7,baz=53,slow=7.1,SNR=36
BRVK Borovoye 58.51 317 *eP* **P 06 05 16.4 +0.3**
BRVK pmax pmax
comp=Z,5.0nm,0.6s,mb4.7
BRVK Borovoye 58.51 317 *eP* **P 06 05 16.4 +0.3**
comp=Z,5.0nm,0.6s,mb4.7
KMI Kunming 59.73 273 P **P 06 05 25.8 +0.9**
KMI AMB AMB
comp=Z,6.0nm,1.0s,mb4.6
MNTX Cornudas Mount 60.00 76 *eP* **P 06 05 26.9 +0.2**
comp=Z,6.5nm,1.1s,mb4.6
TXAR Lajitas Array 62.71 76 P **P 06 05 43.9 -1.2**
comp=Z,0.7nm,0.6s,mb4.0,baz=316,slow=3.5,SNR=8.9
SCHQ Schefferville 62.75 35 P **P 06 05 46.0 +1.1**
comp=Z,3.8nm,0.9s,mb4.5,baz=330,slow=5.9,SNR=7.7
JOF Joensuu 62.85 342 *ep* **P 06 05 44.4 -1.0**
comp=Z,9.3nm,0.8s,mb5.0
TKM2 Tokmak 2 63.15 306 *eP* **P 06 05 48.0 +0.3**
TKM2 pmax pmax
comp=Z,10.0nm,1.2s,mb4.8
TKM2 Tokmak 2 63.15 306 *eP* **P 06 05 48.0 +0.3**
comp=Z,10nm,1.2s,mb4.8
TKM2 Tokmak 2 63.15 306 P **P 06 05 48.6 +0.8**
SNR=6.0
ULHL Ulahol 63.29 305 P **P 06 05 49.6 +0.8**
SNR=6.8
USP Ospenovka 63.46 307 P **P 06 05 50.2 +0.4**
SNR=11
KBK Karagaybulak 63.67 306 P **P 06 05 51.6 +0.4**
SNR=6.2
AAK Ala-Archa 63.92 306 P **P 06 05 53.4 +0.6**
SNR=5.4
UCH Uchtor 64.20 306 *eP* **P 06 05 55.5 +0.8**
comp=Z,2.3nm,0.8s,mb4.3
EKS2 Erkin-Say 64.26 306 *eP* **P 06 05 55.8 +0.7**
comp=Z,10nm,0.9s,mb4.9
AML Almayashu 64.69 306 *eP* **P 06 05 58.0 +0.1**
comp=Z,10.0nm,1.0s,mb4.8
AML Almayashu 64.69 306 P **P 06 05 58.6 +0.7**
SNR=8.2
MIAR Mount Ida 65.03 66 *eP* **P 06 06 02.0 +1.8**
MIAR *e* pP 06 06 09.1 +2.9
MIAR pmax pmax
comp=Z,4.0nm,1.0s,mb4.4
MIAR Mount Ida 65.03 66 *eP* **P 06 06 02.0 +1.8**
comp=Z,3.5nm,1.0s,mb4.3
MIAR *e* pP 06 06 09.1 +2.8
FINES FINESS Array B 65.17 344 P **P 06 05 59.8 -0.9**
comp=Z,3.7nm,0.9s,mb4.4,baz=17,slow=7.0,SNR=8.9
KKM Kota Kinabalu 65.85 248 *eP* **P 06 06 07.6 +1.8**
SHL Shillong 66.21 282 *ex* **P 06 06 08.0 0.0**
CHTO Chiang Mai 66.73 271 *eP* **P 06 06 10.3 -1.1**
CHTO pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
CHTO Chiang Mai 66.73 271 *eP* **P 06 06 10.3 -1.0**
comp=Z,3.1nm,0.8s,mb4.4
NB2 NORSAR Subarra 67.56 351 P **P 06 06 16.2 +0.2**
comp=Z,0.6nm,0.5s,mb3.9,baz=9.0,slow=6.2
NOA NORSAR Array B 67.56 351 P **P 06 06 15.7 -0.3**
comp=Z,1.7nm,0.8s,mb4.1,baz=11,slow=6.4,SNR=3.6
JIRN Jiri 68.18 287 *eP* **P 06 06 20.9 +0.5**
comp=Z,30nm,0.9s,mb5.3
GUN Gumba 68.18 288 *eP* **P 06 06 20.6 +0.1**
comp=Z,38nm,1.0s,mb5.4
KKN Kakani 68.63 288 *eP* **P 06 06 23.4 +0.1**
PKI Pulchoki 68.71 288 *eP* **P 06 06 24.0 +0.2**
GKN Gorkha 68.86 289 *eP* **P 06 06 24.6 -0.1**
comp=Z,6.7nm,0.8s,mb4.6
DMN Daman 68.87 288 *eP* **P 06 06 24.8 0.0**
DANN Dangsing 69.13 289 *eP* **P 06 06 26.8 +0.4**
comp=Z,27nm,0.9s,mb5.2
KOLN Koldanda 69.65 289 *eP* **P 06 06 29.5 -0.1**
comp=Z,14nm,1.0s,mb4.9
KBL Kabul 72.79 304 *eP* **P 06 06 47.2 -1.3**
comp=Z,5.4nm,0.7s,mb4.6
AKASG Malin Array Be 74.55 338 P **P 06 06 57.4 -1.1**
comp=Z,1.9nm,0.6s,mb4.2,baz=25,slow=6.2,SNR=12
KWP Kalwaria 76.97 342 *eP* **P 06 07 13.5 +1.1**
KWP pmax pmax
comp=Z,8.0nm,0.4s,mb5.0
KWP Kalwaria 76.97 342 *eP* **P 06 07 13.5 +1.1**
comp=Z,8.2nm,0.4s,mb5.0
STHS Stebnicka Huta 77.46 343 *eP* **P 06 07 15.3 +0.1**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
STHS Stebnicka Huta 77.46 343 *eP* **P 06 07 15.3 +0.1**
comp=Z,5.6nm,1.1s,mb4.4
MORC Moravsky Berou 77.76 345 *eP* **P 06 07 17.1 +0.3**
MORC pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
MORC Moravsky Berou 77.76 345 *eP* **P 06 07 17.1 +0.3**
comp=Z,1.7nm,0.5s,mb4.2
CRVS Cervenica-Dubn 77.91 342 *eP* **P 06 07 18.7 +1.0**
VYHS Vyhne 78.78 344 *eP* **P 06 07 23.6 +1.1**
VYHS pmax pmax
comp=Z,3.0nm,1.2s,mb4.1
VYHS Vyhne 78.78 344 *eP* **P 06 07 23.6 +1.1**
comp=Z,3.0nm,1.2s,mb4.1
WRA Warramunga Arr 79.04 218 P **P 06 07 21.0 -3.2**
comp=Z,2.1nm,0.9s,mb4.1,baz=31,slow=6.1,SNR=11
PSZ Piszkesteto 79.15 343 *eP* **P 06 07 25.1 +0.6**
PSZ pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
PSZ Piszkesteto 79.15 343 *eP* **P 06 07 25.1 +0.6**
comp=Z,4.8nm,0.8s,mb4.5
MODS Modra-Piesok 79.17 345 *eP* **P 06 07 26.0 +1.4**
MODS Modra-Piesok 79.17 345 *eP* **P 06 07 25.9 +1.3**
GERES GERESS Array B 79.25 347 P **P 06 07 25.7 +0.6**
comp=Z,1.1nm,0.6s,mb3.9,baz=43,slow=6.0,SNR=7.6
CONA Conrad Observa 79.82 346⇓*iP* **P 06 07 29.1 +0.8**
comp=Z,6.3nm,0.9s,mb4.5
CSNA Conrad Observa 79.83 346⇑*iP* **P 06 07 29.2 +1.0**
comp=Z,6.0nm,0.9s,mb4.5
KBA Koelnbreinsper 81.03 347⇑*iP* **P 06 07 35.8 +1.1**
comp=Z,11nm,0.9s,mb4.8
KBA Koelnbreinsper 81.03 347⇑*iPcP* **P 06 07 35.8 +1.1**
comp=Z,11nm,0.9s,mb4.8
KBA Koelnbreinsper 81.03 347⇑*iP* **P 06 07 35.8 +1.1**
KBA pmax pmax
comp=Z,11nm,0.9s,mb4.8
SOKA Soboth 81.17 346⇓*iPcP* **P 06 07 36.4 +1.0**
DAVA Damuels 81.26 350⇑*iP* **P 06 07 37.0 +1.1**
comp=Z,4.8nm,0.9s,mb4.4
DAVA Dauels 81.26 350⇑*iPcP* **P 06 07 37.0 +1.1**
comp=Z,4.8nm,0.9s,mb4.4
ASAR Alice Springs 82.58 217 P **P 06 07 41.4 -1.6**
comp=Z,3.0nm,1.1s,mb4.2,baz=27,slow=3.5,SNR=10.0
MALT Malatya 83.19 327 *eP* **P 06 07 47.0 +0.8**
MALT pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
MALT Malatya 83.19 327 *eP* **P 06 07 47.0 +0.8**
comp=Z,5.4nm,1.1s,mb4.5
SJG San Juan 93.03 56 LR LR 06 50 57.7
comp=Z,93nm,19.4s,MS4.2,baz=273,slow=36
QSPA South Pole Qui 140.72 180 *eP*KPdf PKPdf 06 14 48.8 +0.8
MAW Mawson 143.70 217 PKP PKPdf 06 14 49.2 -4.4
comp=Z,6.0nm,0.7s,baz=59,slow=6.4,SNR=8.8
LBTB Lobatse 144.92 306 PKIKP PKPdf 06 14 54.7 -2.4
LBTB pmax pmax
comp=Z,7.0nm,0.8s
LBTB Lobatse 144.92 306 *eP*KPdf PKPdf 06 14 55.9 -1.2
LBTB Lobatse 144.92 306 PKP PKPdf 06 14 54.7 -2.4
comp=Z,7.1nm,0.8s,baz=59,slow=6.1,SNR=8.4
BOSA Boshof 148.01 303 PKPbc PKPbc 06 15 04.3 -1.0
comp=Z,3.1nm,0.8s,baz=4.1,slow=21,SNR=4.3
SYO Syowa Base 152.16 213⇑*eP* PKPdf 06 15 09.6 +2.2

IDC 23 06:15:35.9±3.4,211S×13818E,h0km,mb3.5/2,mb1 3.9/3, mb1mx3.6/13,mbtmp3.7/3,ML3.7/1,MS3.7/1,Ms1 3.7/1, ms1mx3.1/17,Error ellipse: s-maj=125.8km s-min=17.3km az=92.0,Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**18.11**	**192**	P	Pn	06 19 50.9	+1.8
	0.3nm,0.3s,baz=16,slow=13,SNR=12						
WRA				S	Sn	06 23 13.1	+1.2
	0.1nm,0.3s,baz=9.1,slow=22,SNR=4.6						
ASAR	**Alice Springs**	**21.82**	**191**	P	P	06 20 29.5	-0.4
	1.6nm,0.7s,baz=18,slow=10,SNR=9.8						
PSI	**Prapat**	**39.54**	**277**	LR	LR	06 41 40.3	
	comp=Z,98nm,19.9s,baz=264,slow=40						
MKAR	**Makanchi Array**	**68.99**	**322**	P	P	06 26 43.1	-0.1
	0.3nm,0.6s,baz=116,slow=6.6,SNR=3.7						

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*IDC **23** 06:20:30.1±2.3,54.10N×8637E,h0km,mb1 3.8/1, mb1mx3.2/22,mbtmp3.8/1,ML3.8/1,Error ellipse: s-maj=18.9km s-min=7.1km az=75.0*
*NNC **23** 06:20:32.4±1.5,5373N×8659E,h0km,mb3.4,mpv3.1, Error ellipse: s-maj=11.9km s-min=10.8km az=55.0*
ISC 23 06:20:32.3±2.7,543N±01×866E±03,h35km,n5,σ0°34/8, 5C-3D,Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.09**	**254**	Pg	**Pn**	**06 20 46.9**	**-4.1**
	6.2nm,0.3s,baz=78,slow=16,SNR=55						
ZALV				Lg		06 21 01.3	
	4.9nm,0.3s,baz=80,slow=28,SNR=21						
ZALV				Rg		06 21 08.7	
	12nm,0.6s,baz=77,slow=31,SNR=13						
KURK	**Kurchatov**	**6.02**	**237**	⇓Pn	**Pn**	**06 21 58.8**	**+0.1**
KURK				⇑Lg		06 23 36.8	
	6.5nm,1.1s						
KURBB	**Kurchatov Arra**	**6.12**	**237**	⇑Pn	**Pn**	**06 22 00.3**	**+0.1**
	0.8nm,0.4s						
KURBB				⇓Sn	**Sn**	**06 23 09.0**	**+0.1**
	0.4nm,0.7s						
KURBB				⇑Lg		06 23 39.0	
	1.1nm,0.7s						
MK31	**Makanchi Array**	**7.96**	**202**	⇓Pn	**Pn**	**06 22 25.4**	**+0.1**
	0.3nm,0.3s,baz=26,slow=14,SNR=62						
MK31				⇑Sn	**Sn**	**06 23 54.3**	**+0.2**
	0.7nm,0.6s,baz=21,slow=22,SNR=4.5						
MK31				⇑Lg		06 24 30.9	
	1.5nm,0.7s,baz=28,slow=30,SNR=3.6						
MKAR	**Makanchi Array**	**7.96**	**202**	Pn	**Pn**	**06 22 25.4**	**0.0**
	1.5nm,0.3s,baz=25,slow=14,SNR=68						
MKAR				Sn	**Sn**	**06 23 53.8**	**-0.3**
	0.3nm,0.3s,baz=21,slow=25,SNR=5.4						
MKAR				Lg		06 24 36.6	
	0.1nm,0.3s,baz=21,slow=28,SNR=5.4						

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*JMA **23** 06:27:16.3±0.1,2549N×12634E,h15km,M3.7*
*ISCJB **23** 06:27:17.6±0.4,2561N±010×12623E±009,h60km±7km, mb3.7/11,Error ellipse: s-maj=20.2km s-min=4.0km az=141.6*
*IDC **23** 06:27:21.9±3.1,2635N×12631E,h49km±32km,mb3.6/11, mb1 3.7/11,mb1mx3.6/22,mbtmp3.6/11,MS4.0/1, Ms1 4.0/1,ms1mx3.0/23,Error ellipse: s-maj=31.1km s-min=17.8km az=65.0*
ISC 23 06:27:18.0±1.9,2574N±007×12612E±006,h33km±16km, n28,σ1°08/37,mb3.7/11,Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JKE	**Kume jima 2**	**0.84**	**46**	P	**Pn**	**06 27 33.5**	**+0.1**
JKE				S	**Sn**	**06 27 47.1**	**+2.5**
JOGS	**Gusukube**	**1.17**	**213**	P	**Pn**	**06 27 36.8**	**-1.2**
JOGS				S	**Sn**	**06 27 53.1**	**+0.3**
JMJ	**Miyako jima 2**	**1.19**	**219**	P	**Pn**	**06 27 37.6**	**-0.6**
JMJ				*e*S	**Sn**	**06 27 53.0**	**-0.2**
JAGN	**Aguni-jima**	**1.32**	**50**	P	**Pn**	**06 27 40.0**	**0.0**
JAGN				*e*S	**Sn**	**06 27 58.7**	**+2.3**
NAH1	**Naha**	**1.49**	**72**	P	**Pn**	**06 27 41.6**	**-0.8**
NAH1				*e*S	**Sn**	**06 27 59.9**	**-0.8**
JJT2	**Tamagusuku 2**	**1.52**	**75**	P	**Pn**	**06 27 42.5**	**-0.3**
JTJ	**Tarama**	**1.69**	**230**	P	**Pn**	**06 27 44.6**	**-0.5**
JTJ				*e*S	**Sn**	**06 28 09.0**	**+3.4**
JIH	**Iheya**	**2.10**	**52**	P	**Pn**	**06 27 53.0**	**+2.2**
JOW	**Kunigami**	**2.22**	**60**	P	**Pn**	**06 27 52.5**	**+0.1**
JOW	**Kunigami**	**2.22**	**60**	P	**Pn**	**06 27 50.6**	**-1.8**
	16nm,0.3s,baz=223,slow=14,SNR=22						
JOW				S	**Sn**	**06 28 20.4**	**+1.7**
	38nm,0.3s,baz=129,slow=27,SNR=7.9						
JIJ	**Ishigaki jima**	**2.26**	**233**	P	**Pn**	**06 27 53.2**	**+0.3**
JIJ				*e*S	**Sn**	**06 28 20.9**	**+1.3**
JKRS	**Kuro-shima**	**2.43**	**232**	P	**Pn**	**06 27 55.6**	**+0.3**
IRIF	**Iriomote-Funau**	**2.58**	**238**	P	**Pn**	**06 27 58.3**	**+0.9**
YOJ	**Yonaguni jima**	**3.09**	**246**	P	**Pn**	**06 28 05.8**	**+1.4**
JAM	**Amami Oshima**	**4.09**	**49**	P	**Pn**	**06 28 16.7**	**-1.5**
JMZ	**Minamidaito 2**	**4.60**	**88**	P	**Pn**	**06 28 16.3**	**-8.9**
JMZ				S	**Sn**	**06 29 01.5**	**-16**
SONM	**Songino Array**	**26.97**	**330**	P	**P**	**06 32 55.5**	**-0.9**
	0.4nm,0.4s,mb3.3,baz=148,slow=11,SNR=2.9						
MKAR	**Makanchi Array**	**40.45**	**313**	P	**P**	**06 34 54.0**	**+0.8**
	1.1nm,0.4s,mb4.0,baz=99,slow=9.1,SNR=24						
ZALV	**Zalesovo Beam**	**41.50**	**324**	P	**P**	**06 35 01.3**	**-0.5**
	0.9nm,0.5s,mb3.7,baz=108,slow=7.3,SNR=4.6						
WRA	**Warramunga Arr**	**46.11**	**169**	P	**P**	**06 35 44.9**	**+5.8**
	1.2nm,1.0s,mb3.8,baz=347,slow=8.0,SNR=4.3						
ASAR	**Alice Springs**	**49.69**	**171**	P	**P**	**06 36 14.7**	**+7.9**
	0.2nm,0.5s,mb3.4,baz=358,slow=13,SNR=4.6						
AKTO	**Aktyubinsk**	**56.82**	**315**	P	**P**	**06 36 58.4**	**-0.6**
	0.8nm,0.6s,mb3.9,baz=90,slow=9.1,SNR=3.1						
INK	**Inuvik**	**70.08**	**23**	P	**P**	**06 38 25.6**	**-0.7**
	0.6nm,0.8s,mb3.6,baz=272,slow=13,SNR=4.9						
FINES	**FINESS Array B**	**72.34**	**330**	P	**P**	**06 38 39.6**	**-0.5**
	0.6nm,0.4s,mb3.9,baz=64,slow=5.1,SNR=5.8						
HFS	**Hagfors**	**78.36**	**332**	P	**P**	**06 39 14.4**	**-0.3**
	1.3nm,0.6s,mb4.0,baz=55,slow=5.6,SNR=5.3						
NB2	**NORSAR Subarra**	**78.90**	**333**	P	**P**	**06 39 17.1**	**-0.6**
	comp=Z,1.1nm,0.8s,mb3.8,baz=53,slow=5.6						
NOA	**NORSAR Array B**	**78.90**	**333**	P	**P**	**06 39 16.3**	**-1.4**
	comp=Z,1.5nm,0.8s,mb4.0,baz=54,slow=5.7,SNR=4.7						
YKA	**Yellowknife Ar**	**79.76**	**24**	P	**P**	**06 39 21.1**	**-1.2**
	comp=Z,0.4nm,0.7s,mb3.5,baz=301,slow=5.4,SNR=6.4						

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*ISCJB **23** 06:34:18.3±2.6,5230N±006×3192W±005,h8km±17km, mb4.3/90,MS3.5/22,Error ellipse: s-maj=9.6km s-min=4.4km az=11.6*
*MOS **23** 06:34:18.6±0.8,5233N×3188W,h10km,mb4.6/46,Error ellipse: s-maj=9.7km s-min=6.7km az=168.0*
*IDC **23** 06:34:18.9±0.5,5229N×3183W,h0km,mb4.1/21, mb1 4.2/23,mb1mx4.2/31,mbtmp4.1/23,ML4.5/2,MS3.7/15, Ms1 3.7/15,ms1mx3.5/35,Error ellipse: s-maj=16.2km s-min=11.1km az=5.0*
*NEIC **23** 06:34:20.3±0.2,5228N×3189W,h10km,mb4.4/60,Error ellipse: s-maj=7.1km s-min=2.9km az=194.0*
*CSEM **23** 06:34:21.5±0.1,5230N×3187W,h33km,mb4.5/53,Ms3.4, Error ellipse: s-maj=3.4km s-min=1.4km az=14.0*
ISC 23 06:34:19.3±2.8,5229N±006×3188W±005,h2km±18km, n251,σ0°87/243,mb4.3/90,MS3.5/22,3C-8D,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	**Eskdalemuir**	**17.15**	**68**	*e*P	**Pn**	**06 38 19.6**	**-0.2**
ESK				pmax	pmax		
	comp=Z,13nm,0.6s						
ESK	**Eskdalemuir**	**17.15**	**68**	*e*P	**Pn**	**06 38 19.6**	**-0.2**
	comp=Z,13nm,0.6s						
ESK	**Eskdalemuir**	**17.15**	**68**	*e*P	**Pn**	**06 38 19.6**	**-0.2**
	comp=Z,13nm,0.6s						
EKA	**Eskdalemuir Ar**	**17.18**	**68**	P	**Pn**	**06 38 18.5**	**-1.6**
	comp=Z,1.3nm,0.3s,baz=266,slow=9.9,SNR=36						
SFJD	**Kangerlussuaq**	**17.40**	**335**	P	**Pn**	**06 38 23.5**	**+0.6**
SFJD				LR	LR	06 43 43.3	
SFJD	**Kangerlussuaq**	**17.40**	**335**	P	**Pn**	**06 38 23.5**	**+0.6**
	comp=Z,0.7nm,0.3s,baz=97,slow=8.1,SNR=4.2						
SFJD				LR	LR	06 43 43.3	
	comp=Z,227nm,18.7s,baz=120,slow=32						
EMAZ	**Mazaricos**	**17.98**	**112**	P	**Pn**	**06 38 28.8**	**-1.4**
	comp=Z,20nm,0.6s						
EMAZ	**Mazaricos**	**17.98**	**112**	P	**Pn**	**06 38 28.8**	**-1.4**
	comp=Z,20nm,0.6s						
STS	**Santiago**	**18.26**	**112**	P	**Pn**	**06 38 34.8**	**+1.2**
ROSF	**Rostrenen**	**18.63**	**91**	*e*P	**Pn**	**06 38 38.1**	**-0.1**
EPON	**Pontenova**	**18.80**	**109**	P	**Pn**	**06 38 39.7**	**-0.5**
	comp=Z,21nm,0.7s						
EPON	**Pontenova**	**18.80**	**109**	P	**Pn**	**06 38 39.7**	**-0.5**
	comp=Z,21nm,0.7s						
SGMF	**Saint Gilles**	**19.11**	**91**	*e*P	**Pn**	**06 38 44.5**	**+0.6**
ELOB	**Lobios**	**19.19**	**113**	P	**Pn**	**06 38 44.8**	**-0.2**
	comp=Z,19nm,0.9s						
EARI	**Arriondas**	**19.95**	**106**	P	**Pn**	**06 38 53.1**	**-0.9**
	comp=Z,69nm,1.5s						
EARI	**Arriondas**	**19.95**	**106**	P	**Pn**	**06 38 53.1**	**-0.9**
	comp=Z,69nm,1.5s						
GRR	**Gorron**	**20.10**	**89**	*e*P	**P**	**06 38 54.8**	**+0.9**
FLN	**La Foliniere**	**20.18**	**88**	*e*P	**P**	**06 38 55.7**	**+0.8**
	comp=Z,31nm,0.9s						
FLN				*e*MLR	MLR		
	comp=Z,137nm,22.2s						
FLN	**La Foliniere**	**20.18**	**88**	*e*P	**P**	**06 38 55.7**	**+0.8**
FLN				pmax	pmax		
	comp=Z,16nm,0.9s						
FLN				MLR	MLR		
	comp=Z,140nm,22.3s,MS3.3						
FLN	**La Foliniere**	**20.18**	**88**	*e*P	**P**	**06 38 55.7**	**+0.8**
	comp=Z,16nm,0.9s						
FLN				LR	LR		
	comp=Z,140nm,22.3s,MS3.3						
LDF	**La Druitiere**	**20.47**	**88**	*e*P	**P**	**06 38 58.5**	**+0.5**
MTE	**Manteigas**	**20.47**	**116**	*e*P	**P**	**06 38 58.3**	**+0.2**
	comp=Z,27nm,1.0s						
MTE	**Manteigas**	**20.47**	**116**	*e*P	**P**	**06 38 58.3**	**+0.2**
	comp=Z,27nm,1.0s						
SCHQ	**Schefferville**	**20.79**	**291**	*e*P	**P**	**06 39 00.3**	**-1.1**
	comp=Z,8.2nm,0.7s						
SCHQ	**Schefferville**	**20.79**	**291**	P	**P**	**06 39 00.9**	**-0.5**
	comp=Z,3.6nm,0.6s,baz=80,slow=8.1,SNR=15						
SCHQ				LR	LR	06 45 28.3	
	comp=Z,241nm,21.2s,MS3.5,baz=37,slow=32						
SCHQ	**Schefferville**	**20.79**	**291**	*e*P	**P**	**06 39 00.3**	**-1.1**
	comp=Z,8.2nm,0.7s						
ELAN	**Lanestosa**	**21.04**	**104**	P	**P**	**06 39 06.0**	**+1.7**
	comp=Z,51nm,1.1s,mb4.8						
ELAN	**Lanestosa**	**21.04**	**104**	P	**P**	**06 39 06.0**	**+1.8**
	comp=Z,51nm,1.1s,mb4.8						
MFF	**Saint Martin d**	**21.29**	**93**	*e*P	**P**	**06 39 06.8**	**-0.1**
	comp=Z,76nm,1.2s,mb4.6						
MFF	**Saint Martin d**	**21.29**	**93**	*e*P	**P**	**06 39 06.8**	**-0.1**
MFF				pmax	pmax		
	comp=Z,38nm,1.2s,mb4.6						
MFF	**Saint Martin d**	**21.29**	**93**	*e*P	**P**	**06 39 06.8**	**-0.1**
	comp=Z,38nm,1.2s,mb4.6						
EVOP	**Sao Brissos**	**21.49**	**120**	*e*P	**P**	**06 39 09.3**	**+0.2**
	comp=Z,4.3nm,0.7s,mb3.9						
EVO	**Evora**	**21.55**	**120**	*e*P	**P**	**06 39 09.3**	**-0.4**
	comp=Z,8.6nm,0.7s,mb4.0						
EVO				*e*MLR	MLR		
	comp=Z,210nm,21.8s,MS3.2						
EBAD	**Badajoz**	**21.92**	**118**	P	**P**	**06 39 12.8**	**-0.9**
	comp=Z,6.0nm,0.6s,mb4.2						
EBAD	**Badajoz**	**21.92**	**118**	P	**P**	**06 39 12.9**	**-0.8**
	comp=Z,6.0nm,0.6s,mb4.2						
EALK	**Alkurruntz**	**22.20**	**102**	P	**P**	**06 39 18.0**	**+1.3**
	comp=Z,15nm,0.8s,mb4.5						
EALK	**Alkurruntz**	**22.20**	**102**	P	**P**	**06 39 18.0**	**+1.3**
	comp=Z,15nm,0.8s,mb4.5						
GUD	**Guadarrama**	**22.22**	**111**	P	**P**	**06 39 17.8**	**+0.9**
GUD				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.1						
GUD	**Guadarrama**	**22.22**	**111**	P	**P**	**06 39 17.8**	**+0.9**
	comp=Z,6.1nm,0.8s,mb4.1						
GUD	**Guadarrama**	**22.22**	**111**	P	**P**	**06 39 17.8**	**+0.9**
	comp=Z,6.1nm,0.8s,mb4.1						
SJPF	**Ste Jean**	**22.43**	**102**	*e*P	**P**	**06 39 18.2**	**-0.9**
	comp=Z,26nm,1.1s,mb4.3						
SJPF	**Ste Jean**	**22.43**	**102**	*e*P	**P**	**06 39 18.2**	**-0.9**
SJPF				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.3						
SJPF	**Ste Jean**	**22.43**	**102**	*e*P	**P**	**06 39 18.2**	**-0.9**
	comp=Z,13nm,1.1s,mb4.3						
BAIF	**Baives**	**22.59**	**81**	*e*P	**P**	**06 39 20.4**	**-0.4**
	comp=Z,16nm,0.6s,mb4.3						
BAIF	**Baives**	**22.59**	**81**	*e*P	**P**	**06 39 20.4**	**-0.4**
BAIF				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.3						
BAIF	**Baives**	**22.59**	**81**	*e*P	**P**	**06 39 20.4**	**-0.4**
	comp=Z,7.8nm,0.6s,mb4.3						
LFF	**La Frestale**	**22.64**	**96**	*e*P	**P**	**06 39 20.7**	**-0.6**
DOU	**Dourbes**	**22.81**	**81**	P	**P**	**06 39 23.1**	**-0.1**
	comp=Z,10nm,1.3s,mb4.1						
EMIN	**Mina Concepcio**	**22.82**	**120**	P	**P**	**06 39 22.9**	**-0.4**
	comp=Z,8.4nm,1.1s,mb4.1						
EMIN	**Mina Concepcio**	**22.82**	**120**	P	**P**	**06 39 23.0**	**-0.3**
	comp=Z,8.4nm,1.1s,mb4.1						
TCF	**Toulx Ste Croi**	**22.88**	**92**	*e*P	**P**	**06 39 23.5**	**-0.4**
	comp=Z,58nm,1.2s,mb4.6						
TCF	**Toulx Ste Croi**	**22.88**	**92**	*e*P	**P**	**06 39 23.5**	**-0.4**
TCF				pmax	pmax		
	comp=Z,29nm,1.2s,mb4.6						
TCF	**Toulx Ste Croi**	**22.88**	**92**	*e*P	**P**	**06 39 23.5**	**-0.4**
	comp=Z,29nm,1.2s,mb4.6						
RJF	**Les Rejaudoux**	**22.93**	**94**	*e*P	**P**	**06 39 23.4**	**-1.0**
RJF				*e*MLR	MLR		
	comp=Z,249nm,21.2s,MS3.3						
RJF	**Les Rejaudoux**	**22.93**	**94**	*e*P	**P**	**06 39 23.4**	**-1.0**
RJF				LR	LR		
	comp=Z,250nm,21.3s,MS3.6						
ETSF	**Etsaut**	**22.95**	**102**	*e*P	**P**	**06 39 23.7**	**-1.0**
	comp=Z,12nm,0.8s,mb4.1					

comp=Z,14nm,1.1s,mb4.3
HGN Heimansgroeve 23.40 79 *e*P **P 06 39 33.5 +4.1**
CAF Calviac 23.45 95 *e*P **P 06 39 28.6 -1.3**
comp=Z,33nm,1.3s,mb4.3
CAF Calviac 23.45 95 *e*P **P 06 39 28.6 -1.3**
CAF pmax pmax
comp=Z,17nm,1.3s,mb4.3
CAF Calviac 23.45 95 *e*P **P 06 39 28.6 -1.3**
comp=Z,17nm,1.3s,mb4.3
LOR Lormes 23.45 88 *e*P **P 06 39 28.9 -1.0**
comp=Z,19nm,0.9s,mb4.2
LOR *e*MLR MLR
comp=Z,204nm,21.5s,MS3.2
LOR Lormes 23.45 88 *e*P **P 06 39 28.9 -1.0**
LOR pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
LOR MLR MLR
comp=Z,200nm,21.5s,MS3.5
LOR Lormes 23.45 88 *e*P **P 06 39 28.9 -1.0**
comp=Z,9.6nm,0.9s,mb4.2
LOR LR LR
comp=Z,200nm,21.5s,MS3.5
EBIE Bielsa 23.50 101 P **P 06 39 31.2 +0.8**
comp=Z,5.2nm,0.5s,mb4.2
WTSB Winterswijk 23.56 75 *e*P **P 06 39 31.4 +0.4**
EADA Adamuz 23.67 116 P **P 06 39 32.0 -0.1**
comp=Z,11nm,1.0s,mb4.2
EADA Adamuz 23.67 116 P **P 06 39 32.0 -0.2**
comp=Z,11nm,1.0s,mb4.2
SMF Signal de Mont 23.72 89 *e*P **P 06 39 31.5 -1.0**
comp=Z,25nm,1.0s,mb4.3
SMF Signal de Mont 23.72 89 *e*P **P 06 39 31.5 -1.0**
SMF pmax pmax
comp=Z,13nm,1.0s,mb4.3
SMF Signal de Mont 23.72 89 *e*P **P 06 39 31.5 -1.0**
comp=Z,13nm,1.0s,mb4.3
WLF Walferdange 23.91 81 *e*P **P 06 39 36.9 +2.7**
comp=Z,13nm,1.0s,mb4.3
ESPR Espera 23.93 120 P **P 06 39 34.8 +0.3**
comp=Z,0.4nm,0.7s
ESPR Espera 23.93 120 P **P 06 39 34.8 +0.3**
comp=Z,0.4nm,0.7s
KONO Kongsberg 24.01 56⇑*e*P **P 06 39 39.1 +4.1**
MTLF Montolieu 24.39 98 *e*P **P 06 39 37.7 -0.9**
comp=Z,11nm,0.8s,mb4.1
MTLF Montolieu 24.39 98 *e*P **P 06 39 37.7 -0.9**
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.0
MTLF Montolieu 24.39 98 *e*P **P 06 39 37.7 -0.9**
comp=Z,5.4nm,0.8s,mb4.1
HAU Haudompre 24.67 85 *e*P **P 06 39 40.8 -0.3**
HAU *e*MLR MLR
comp=Z,194nm,17.8s,MS3.4
HAU Haudompre 24.67 85 *e*P **P 06 39 40.8 -0.3**
HAU LR LR
comp=Z,190nm,17.8s,MS3.6
NOA NORSAR Array B 24.82 52 P **P 06 39 43.1 +0.8**
comp=Z,0.9nm,0.7s,mb3.4,baz=270,slow=9.3,SNR=2.6
NOA LR LR 06 49 00.2
comp=Z,114nm,18.3s,MS3.4,baz=275,slow=36
HINF Hinteralfeld 25.05 85 *e*P **P 06 39 44.3 -0.4**
CDF Champ du Feu 25.07 83 *e*P **P 06 39 44.6 -0.2**
comp=Z,14nm,1.0s,mb4.2
CDF Champ du Feu 25.07 83 *e*P **P 06 39 44.6 -0.2**
CDF pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
CDF Champ du Feu 25.07 83 *e*P **P 06 39 44.6 -0.2**
comp=Z,6.8nm,1.0s,mb4.2
VIVF Saint-Julien-l 25.09 93 *e*P **P 06 39 44.6 -0.4**
comp=Z,39nm,1.2s,mb4.5
VIVF Saint-Julien-l 25.09 93 *e*P **P 06 39 44.6 -0.4**
VIVF pmax pmax
comp=Z,20nm,1.2s,mb4.5
VIVF Saint-Julien-l 25.09 93 *e*P **P 06 39 44.6 -0.4**
comp=Z,20nm,1.2s,mb4.5
BSEG Bad Segeberg 25.11 69 *e*P **P 06 39 46.3 +1.2**
comp=Z,12nm,1.0s,mb4.4
CABF La Chapelle 25.11 88 *e*P **P 06 39 45.1 -0.1**
comp=Z,27nm,1.0s,mb4.4
CABF La Chapelle 25.11 88 *e*P **P 06 39 45.1 -0.1**
CABF pmax pmax
comp=Z,14nm,1.0s,mb4.5
CABF La Chapelle 25.11 88 *e*P **P 06 39 45.1 -0.1**
comp=Z,14nm,1.0s,mb4.4
PKME Peaks-Kenny Pk 25.41 269 *e*P **P 06 39 44.8 -3.2**
comp=Z,8.6nm,0.9s,mb4.3
CLZ Clausthal 25.71 74 *e*P **P 06 39 53.0 +2.4**
CLZ pmax pmax
comp=Z,21nm,1.4s,mb4.5
CLZ Clausthal 25.71 74 *e*P **P 06 39 53.0 +2.4**
comp=Z,21nm,1.4s,mb4.5
BFO Black Forest 25.74 83 *e*P **P 06 39 52.6 +1.7**
BFO pmax pmax
comp=Z,9.0nm,0.3s,mb4.8
BFO Black Forest 25.74 83 *e*P **P 06 39 52.6 +1.7**
comp=Z,9.0nm,0.3s,mb4.8
ORIF Oris-en-Rattie 25.80 91 *e*P **P 06 39 51.4 0.0**
comp=Z,18nm,0.9s,mb4.3
ORIF *e*MLR MLR
comp=Z,193nm,20.5s,MS3.3
ORIF Oris-en-Rattie 25.80 91 *e*P **P 06 39 51.4 0.0**
ORIF pmax pmax
comp=Z,9.0nm,0.9s,mb4.3
ORIF Oris-en-Rattie 25.80 91 *e*P **P 06 39 51.4 0.0**
comp=Z,8.9nm,0.9s,mb4.3
UBBA Unterbreizbach 25.82 76 *e*P **P 06 39 53.2 +1.6**
comp=Z,8.0nm,1.1s,mb4.2
LPG La Plagne 26.05 90 *e*P **P 06 39 54.1 +0.4**
comp=Z,11nm,0.9s,mb4.1
LPG La Plagne 26.05 90 *e*P **P 06 39 54.1 +0.4**
LPG pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
LPG La Plagne 26.05 90 *e*P **P 06 39 54.1 +0.4**
comp=Z,5.6nm,0.9s,mb4.1
HFS Hagfors 26.06 54 LR LR 06 49 41.3
comp=Z,216nm,19.5s,MS3.7,baz=318,slow=35
SMRF Simiane la Rot 26.10 94 *e*P **P 06 39 54.0 -0.2**
comp=Z,33nm,1.0s,mb4.5
SMRF Simiane la Rot 26.10 94 *e*P **P 06 39 54.0 -0.2**
comp=Z,16nm,1.0s,mb4.5
MOX Moxa 26.85 76 *e*P **P 06 40 00.9 0.0**
comp=Z,10.0nm,1.1s,mb4.3
MOX Moxa 26.85 76 *e*P **P 06 40 00.9 0.0**
MOX pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
GRA1 Grafenberg Arr 26.96 78 *e*P **P 06 40 02.4 +0.5**
comp=Z,7.0nm,0.5s,mb4.5
GRF Grafenberg Arr 26.96 78 *e*P **P 06 40 02.4 +0.5**
GRF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
GRF Grafenberg Arr 26.96 78 *e*P **P 06 40 02.4 +0.5**
GRF pmax pmax
comp=Z,7.0nm,0.5s,mb4.5
GRF Grafenberg Arr 26.96 78 *e*P **P 06 40 02.4 +0.5**
comp=Z,7.0nm,0.5s,mb4.5
LMR La Mourre 27.01 94 *e*P **P 06 40 02.5 +0.1**
DAVOS Davos 27.28 85 P **P 06 40 06.2 +1.4**
WERD Werda 27.33 76 *e*P **P 06 40 05.4 +0.2**
comp=Z,7.0nm,1.2s,mb4.1
DAVOX Davos/Dischmat 27.36 85 P **P 06 40 06.2 +0.6**
comp=Z,1.5nm,0.3s,mb4.0,baz=320,slow=16,SNR=2.9
DAVOX LR LR 06 50 23.5
comp=Z,92nm,18.6s,MS3.4,baz=252,slow=35
MANZ Manzenberg 27.38 77 *e*P **P 06 40 05.5 -0.2**
comp=Z,5.0nm,1.2s,mb3.9
TANN Tannenbergstha 27.43 76 *e*P **P 06 40 06.1 0.0**
comp=Z,9.0nm,1.2s,mb4.2
CLL Collm 27.44 74⇓*i*P **P 06 40 05.8 -0.4**
CLL pmax pmax
comp=Z,4.0nm,0.6s,mb4.1
CLL MLR MLR
comp=Z,200nm,19.8s,MS3.7
CLL Collm 27.44 74⇓*i*P **P 06 40 05.8 -0.4**
comp=Z,4.0nm,0.6s,mb4.1
CLL LR LR
comp=Z,200nm,19.8s,MS3.7
CLL Collm 27.44 74 *e*P **P 06 40 05.6 -0.6**
comp=Z,9.0nm,0.7s,mb4.4
CLL Collm 27.44 74⇓*i*P **P 06 40 05.8 -0.4**
comp=Z,4.0nm,0.6s,mb4.1
CLL *i* (pP) pP 06 40 07.5 +0.6
comp=Z,8.0nm,0.8s
CLL *e*sP sP 06 40 11.0 +3.8
ROTZ Rotzenmuhle 27.52 77 *e*P **P 06 40 06.9 0.0**
comp=Z,17nm,1.9s,mb4.3
RETA Reutte 27.58 83⇓*i*P **P 06 40 09.7 +2.2**
comp=Z,6.8nm,0.9s,mb4.3
RETA Reutte 27.58 83⇓*i*pP pP 06 40 09.7 +1.6
comp=Z,6.8nm,0.9s
MDT Midelt 27.70 124 P **P 06 40 09.1 +0.5**
comp=Z,2.5nm,1.0s,mb3.8,baz=333,slow=12,SNR=3.2
FBE Freiberg 27.78 75 *e*P **P 06 40 10.0 +0.7**
comp=Z,12nm,1.3s,mb4.4
GEC2 GERESS Array S 28.79 78 *e*P **P 06 40 16.5 -1.7**
GEC2 pmax pmax
comp=Z,7.0nm,1.1s,mb4.3
GEC2 GERESS Array S 28.79 78 *e*P **P 06 40 16.5 -1.7**
comp=Z,7.0nm,1.1s,mb4.3
GERES GERESS Array B 28.79 78 P **P 06 40 18.6 +0.4**
comp=Z,3.8nm,0.9s,mb4.1,baz=298,slow=8.6,SNR=15
GERES LR LR 06 50 34.9
comp=Z,122nm,19.7s,MS3.5,baz=301,slow=34
PGF Pioggiola 28.97 93 *e*P **P 06 40 20.3 +0.4**
comp=Z,4.4nm,0.8s,mb4.0
PGF Pioggiola 28.97 93 *e*P **P 06 40 20.3 +0.4**
PGF pmax pmax
comp=Z,2.0nm,0.8s,mb3.9
PGF Pioggiola 28.97 93 *e*P **P 06 40 20.3 +0.4**
comp=Z,2.2nm,0.8s,mb4.0
VRAC Vranov 30.33 76 LR LR 06 51 40.6
comp=Z,142nm,20.2s,MS3.6,baz=296,slow=34
MORC Moravsky Berou 30.70 75 *e*P **P 06 40 37.2 +2.0**
MORC pmax pmax
comp=Z,10.0nm,1.4s,mb4.5
MORC Moravsky Berou 30.70 75 *e*P **P 06 40 37.2 +2.1**
comp=Z,10nm,1.4s,mb4.5
MORC Moravsky Berou 30.70 75 *e*P **P 06 40 37.2 +2.0**
comp=Z,10nm,1.4s,mb4.5
SPITS Spitsbergen Ar 31.07 17 P **P 06 40 38.9 +0.7**
comp=Z,1.4nm,0.6s,mb4.0,baz=260,slow=12,SNR=2.8
SPITS LR LR 06 50 18.9
comp=Z,59nm,20.9s,MS3.2,baz=205,slow=31
ARCES ARCESS Array B 31.23 35 P **P 06 40 39.9 +0.3**
comp=Z,6.4nm,1.1s,mb4.4,baz=243,slow=8.0,SNR=5.1
ARCES LR LR 06 50 25.2
comp=Z,109nm,18.6s,MS3.5,baz=90,slow=31
FINES FINESS Array B 31.94 50 P **P 06 40 45.0 -1.0**
comp=Z,0.7nm,0.5s,mb3.7,baz=297,slow=8.4,SNR=4.7
FINES LR LR 06 52 44.7
comp=Z,132nm,18.8s,MS3.6,baz=344,slow=35
PSZ Piszkesteto 32.91 77 *e*P **P 06 40 54.5 -0.1**
PSZ pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
PSZ Piszkesteto 32.91 77 *e*P **P 06 40 54.5 -0.1**
comp=Z,7.3nm,1.0s,mb4.6
PSZ Piszkesteto 32.91 77 *e*P **P 06 40 54.5 -0.1**
comp=Z,7.3nm,1.0s,mb4.6
KEST Kesra 33.42 103 P **P 06 40 58.8 -0.3**
comp=Z,3.8nm,0.9s,mb4.3,baz=268,slow=4.2,SNR=9.4
KIEV Kiev 37.08 67 *e*P **P 06 41 29.4 -1.1**
KIEV pmax pmax
comp=Z,6.0nm,0.8s,mb4.5
KIEV Kiev 37.08 67 *e*P **P 06 41 29.4 -1.1**
comp=Z,6.1nm,0.8s,mb4.5
KIEV Kiev 37.08 67 *e*P **P 06 41 29.4 -1.1**
comp=Z,6.1nm,0.8s,mb4.5
AKASG Malin Array Be 37.08 67 P **P 06 41 29.2 -1.3**
comp=Z,3.0nm,0.6s,mb4.3,baz=299,slow=8.5,SNR=11
AKBB Malin Array Si 37.08 67 *e*P **P 06 41 29.9 -0.6**
EYMN Ely 37.53 288 *e*P **P 06 41 34.4 0.0**
comp=Z,9.5nm,0.9s,mb4.5
EYMN Ely 37.53 288 *e*P **P 06 41 34.4 0.0**
comp=Z,9.5nm,0.9s,mb4.5
ULM Lac du Bonnet 38.93 293 P **P 06 41 45.2 -1.0**
ULM LR LR 06 55 40.5
ULM Lac du Bonnet 38.93 293 P **P 06 41 45.2 -1.0**
comp=Z,1.9nm,0.8s,mb3.9,baz=36,slow=12,SNR=3.1
ULM LR LR 06 55 40.5
comp=Z,170nm,20.4s,MS3.9,baz=15,slow=33
OBN Obninsk 39.15 58⇑*e*P **P 06 41 46.2 -1.7**
OBN *i* 06 41 53.4
OBN pmax pmax
comp=Z,25nm,1.5s,mb4.7
OBN MLR MLR
comp=Z,100nm,14.0s,MS3.8
OBN Obninsk 39.15 58 *e*P **P 06 41 46.2 -1.7**
comp=Z,25nm,1.5s,mb4.7
AGMN Agassiz Refuge 39.89 291 *e*P **P 06 41 56.3 +2.1**
comp=Z,3.3nm,0.9s,mb4.1
AGMN Agassiz Refuge 39.89 291 *e*P **P 06 41 56.3 +2.2**
comp=Z,3.2nm,0.9s,mb4.0
YKA Yellowknife Ar 42.69 317 P **P 06 42 16.7 -0.3**
YKA 06 44 07.9
YKA pmax pmax
comp=Z,3.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 42.69 317 P **P 06 42 16.8 -0.3**
YKA PcP PcP 06 44 07.9 -0.7
YKA LR LR 06 57 60.0
YKA Yellowknife Ar 42.69 317 P **P 06 42 16.7 -0.3**
comp=Z,3.3nm,0.9s,mb4.1,baz=60,slow=8.8,SNR=32
YKA PcP PcP 06 44 07.9 -0.7
comp=Z,1.0nm,0.8s,baz=59,slow=3.8,SNR=8.7
YKA LR LR 06 57 60.0
comp=Z,66nm,19.7s,MS3.5,baz=165,slow=33
YKA Yellowknife Ar 42.69 317 PcP PcP 06 44 07.9 -0.7
ECSD EROS,Sioux Fal 42.81 285 *e*P **P 06 42 17.8 -0.4**
comp=Z,5.3nm,0.8s,mb4.3
ECSD EROS,Sioux Fal 42.81 285 *e*P **P 06 42 17.8 -0.4**
comp=Z,5.3nm,0.8s,mb4.3
ANN Anapa 44.88 71 *e*P **P 06 42 36.3 +1.5**
ANN *e*S **S 06 49 11.7 -1.3**
ANN pmax pmax
comp=Z,23nm,1.0s,mb5.0
INK Inuvik 46.65 330 P **P 06 42 49.0 +0.5**
INK 06 44 21.6
INK pmax pmax
comp=Z,2.0nm,0.8s
INK pmax pmax
comp=Z,2.0nm,0.9s
INK Inuvik 46.65 330 *e*P **P 06 42 47.1 -1.4**
comp=Z,176nm,1.2s,mb5.9
INK Inuvik 46.65 330 P **P 06 42 49.0 +0.5**
comp=Z,2.4nm,0.8s,mb4.2,baz=54,slow=8.1,SNR=9.7
INK PcP PcP 06 44 21.6 -0.5
comp=Z,2.1nm,0.9s,baz=91,slow=6.6,SNR=4.8
INK Inuvik 46.65 330 *e*P **P 06 42 47.1 -1.4**
comp=Z,176nm,1.2s
MIAR Mount Ida 46.70 273 *e*P **P 06 42 49.5 +0.2**
MIAR pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
MIAR Mount Ida 46.70 273 *e*P **P 06 42 49.5 +0.2**
comp=Z,8.5nm,1.1s,mb4.6
MIAR Mount Ida 46.70 273 *e*P **P 06 42 49.5 +0.2**
comp=Z,8.5nm,1.1s,mb4.6
TORD Torodi Ar. Bea 47.40 133 P **P 06 42 54.7 -0.2**
TORD Torodi Ar. Bea 47.40 133 P **P 06 42 54.7 -0.2**
comp=Z,1.8nm,0.6s,mb4.2,baz=335,slow=7.4,SNR=20
EGMT Eagleton 47.82 298 *e*P **P 06 42 57.3 -0.6**
comp=Z,5.8nm,0.7s,mb4.7
EGMT Eagleton 47.82 298 *e*P **P 06 42 57.3 -0.6**
comp=Z,5.8nm,0.7s,mb4.7
KIV Kislovodsk 48.41 69 *e*P **P 06 43 02.8 +0.3**
KIV pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
WALA Waterton Lakes 49.43 301 *e*P **P 06 43 09.7 -0.5**
WALA Waterton Lakes 49.43 301 *e*P **P 06 43 09.7 -0.6**
RWWY Rawlins 50.26 290 *e*P **P 06 43 16.6 -0.1**
comp=Z,8.4nm,0.8s,mb4.8
RWWY Rawlins 50.26 290 *e*P **P 06 43 16.6 -0.1**
comp=Z,8.4nm,0.8s,mb4.8
ISCO Idaho Springs 50.53 287 *e*P **P 06 43 19.3 +0.5**
ISCO pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
ISCO Idaho Springs 50.53 287 *e*P **P 06 43 19.3 +0.5**
comp=Z,2.9nm,1.0s,mb4.2
ISCO Idaho Springs 50.53 287 *e*P **P 06 43 19.3 +0.5**
comp=Z,2.9nm,1.0s,mb4.2
DLMT Dillon 50.99 296 *e*P **P 06 43 22.9 +0.8**
comp=Z,3.0nm,0.8s,mb4.3
DLMT Dillon 50.99 296 *e*P **P 06 43 22.9 +0.8**
comp=Z,3.0nm,0.8s,mb4.3
DLBC Dease Lake 51.29 318 *e*P **P 06 43 25.2 +0.9**
DLBC Dease Lake 51.29 318 *e*P **P 06 43 25.2 +1.0**
NEW Newport 51.60 302 *e*P **P 06 43 27.1 +0.4**
NEW pmax pmax
comp=Z,5.0nm,1.1s
NEW Newport 51.60 302 *e*P **P 06 43 27.1 +0.4**
comp=Z,5.3nm,1.1s,mb4.4
NEW Newport 51.60 302 *e*P **P 06 43 27.1 +0.4**
comp=Z,5.3nm,1.1s,mb4.4
GNI Garni 51.99 71⇓*e*P **P 06 43 30.8 +1.1**
GNI pmax pmax
comp=Z,4.0nm,0.5s
HWUT Hardware Ranch 52.81 292 *e*P **P 06 43 35.9 +0.2**
comp=Z,13nm,0.9s,mb4.8
HWUT Hardware Ranch 52.81 292 *e*P **P 06 43 35.9 +0.1**
comp=Z,13nm,0.9s,mb4.8
JCT Junction City 53.30 274 *e*P **P 06 43 38.7 -0.9**
JCT pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
JCT Junction City 53.30 274 *e*P **P 06 43 38.7 -0.9**
comp=Z,6.0nm,0.9s,mb4.5
JCT Junction City 53.30 274 *e*P **P 06 43 38.7 -0.9**
comp=Z,6.0nm,0.9s,mb4.5
PV10 Paradox Valley 53.48 288 *e*P **P 06 43 40.7 0.0**
PV10 Paradox Valley 53.48 288 *e*P **P 06 43 40.7 0.0**
IMA2 Indian Mountai 53.96 335 *e*P **P 06 43 43.2 -0.7**
IMA2 Indian Mountai 53.96 335 *e*P **P 06 43 43.2 -0.6**
BGU Big Grassy Mou 54.09 292 *e*P **P 06 43 44.5 -0.7**
BGU Big Grassy Mou 54.09 292 *e*P **P 06 43 44.5 -0.7**
ANMO Albuquerque 54.26 283⇓*e*P **P 06 43 47.0 +0.5**
DUG Dugway 54.45 292 *e*P **P 06 43 46.8 -1.0**
DUG pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
DUG Dugway 54.45 292 *e*P **P 06 43 46.8 -1.0**
comp=Z,3.2nm,0.8s,mb4.3
DUG Dugway 54.45 292 *e*P **P 06 43 46.8 -1.0**
comp=Z,3.2nm,0.8s,mb4.3
MSU Marysvale 55.21 290 *e*P **P 06 43 52.6 -0.8**
TIXI Tiksi 55.61 7⇓*i*P **P 06 43 56.1 +0.3**
TIXI pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
TIXI Tiksi 55.61 7 *e*P **P 06 43 55.9 +0.1**
comp=Z,7.3nm,0.8s,mb4.8
WVOR Wild Horse Val 56.21 297 *e*P **P 06 44 00.9 +0.5**
WVOR pmax pmax
comp=Z,5.0nm,1.0s,mb4.5
WVOR Wild Horse Val 56.21 297 *e*P **P 06 44 00.8 +0.4**
comp=Z,5.5nm,1.0s,mb4.5
WVOR Wild Horse Val 56.21 297 *e*P **P 06 44 00.9 +0.5**
comp=Z,5.5nm,1.0s,mb4.5
TXAR Lajitas Array 56.48 276 P **P 06 44 03.0 +0.4**
TXAR 06 44 59.5
TXAR Lajitas Array 56.48 276 P **P 06 44 03.0 +0.4**
comp=Z,0.6nm,0.7s,mb3.7,baz=63,slow=9.0,SNR=7.1
TXAR PcP PcP 06 44 59.5 +0.1
comp=Z,0.4nm,0.7s,baz=90,slow=1.8,SNR=2.6
TXAR LR LR 07 07 08.1
comp=Z,95nm,20.3s,MS3.9,baz=20,slow=35
BRVK Borovoye 56.56 45 *e*P **P 06 44 01.6 -1.2**
BRVK pmax pmax
comp=Z,7.0nm,0.8s,mb4.7
BRVK Borovoye 56.56 45 *e*P **P 06 44 01.6 -1.2**
comp=Z,6.6nm,0.8s,mb4.7
BRVK Borovoye 56.56 45 *e*P **P 06 44 01.6 -1.2**
comp=Z,6.6nm,0.8s,mb4.7
NVAR Mina Array Bea 58.77 294 P **P 06 44 19.6 +1.1**
comp=Z,0.9nm,0.8s,mb3.9,baz=65,slow=6.4,SNR=3.7
NVAR Mina Array Bea 58.77 294 P **P 06 44 19.6 +1.1**
ROSC El Rosal 58.80 232 P **P 06 44 20.5 +1.5**
comp=Z,16nm,0.6s,mb5.2,baz=208,slow=6.1,SNR=11
BILL Bilibino 59.23 352 *e*P **P 06 44 20.5 -0.8**
BILL pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
NVS Novosibirsk 60.47 37 *e*P **P 06 44 30.2 +0.2**
NVS pmax pmax
comp=Z,13nm,1.4s,mb4.8
NVS pmax pmax
comp=N,9.0nm,1.8s
ZALV Zalesovo Beam 61.75 37 P **P 06 44 38.1 -0.6**
comp=N,1.2nm,0.6s,mb4.2,baz=310,slow=8.8,SNR=4.3
ZAL Zalesovo 61.75 37 P **P 06 44 38.1 -0.6**
KURK Kurchatov 61.81 43 *e*P **P 06 44 40.3 +1.1**
KURK pmax pmax
comp=Z,2.0nm,0.8s,mb4.3
KURK Kurchatov 61.81 43 *e*P **P 06 44 40.3 +1.1**
comp=Z,2.3nm,0.8s,mb4.4
KURK Kurchatov 61.81 43 *e*P **P 06 44 40.3 +1.1**
comp=Z,2.3nm,0.8s,mb4.4
SEY Seymchan 65.07 358⇑*e*P **P 06 45 00.4 -0.2**
MK31 Makanchi Array 66.39 43 *e*P **P 06 45 08.5 -0.8**
MKAR Makanchi Array 66.39 43 P **P 06 45 08.9 -0.4**
comp=Z,2.4nm,0.7s,mb4.3,baz=329,slow=6.0,SNR=25
MKAR LR LR 07 12 39.7
comp=Z,74nm,19.8s,MS3.9,baz=262,slow=35
SONM Songino Array 74.08 28 P **P 06 45 56.4 -0.1**
comp=Z,2.0nm,1.0s,mb4.0,baz=345,slow=6.7,SNR=5.9
ULN Ulaanbaatar 74.24 27 *e*P **P 06 45 57.8 +0.4**
ULN pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
ULN Ulaanbaatar 74.24 27 *e*P **P 06 45 57.8 +0.4**
comp=Z,2.2nm,0.6s,mb4.3
ULN Ulaanbaatar 74.24 27 *e*P **P 06 45 57.8 +0.4**
comp=Z,2.2nm,0.6s,mb4.3
LPAZ La Paz 75.18 216 P **P 06 46 03.0 -0.1**
comp=Z,1.3nm,0.9s,mb3.9,baz=21,slow=8.0,SNR=5.4
KLR Kul'dur 77.90 11 *e*P PcP 06 46 28.2 +0.1
WRA Warramunga Arr 145.97 24 PKP2 PKPbc 06 53 59.7 -0.7
WRA pmax pmax
comp=Z,4.0nm,0.7s
WRA Warramunga Arr 145.97 24 PKPbc PKPbc 06 53 59.7 -0.6
comp=Z,3.5nm,0.7s,baz=346,slow=3.2,SNR=21
ASAR Alice Springs 149.42 26 PKIKP PKPdf 06 54 03.8 -1.5
ASAR 06 54 08.6
ASAR pmax pmax
comp=Z,1.0nm,0.9s
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 149.42 26 PKP PKPdf 06 54 03.8 -1.5
comp=Z,0.9nm,0.8s,baz=355,slow=2.8,SNR=3.1
ASAR PKPbc PKPbc 06 54 08.6 -1.1
comp=Z,3.1nm,0.6s,baz=345,slow=2.3,SNR=34

IDC ***23*** *06:40:36.2±1.1, 184S×139.16E, h0km, mb4.1/6, mb1 4.3/8, mb1mx4.2/15, mbtmp4.2/8, ML4.2/2, MS3.5/4, Ms1 3.5/4, ms1mx3.2/20, Error ellipse: s-maj=42.5km s-min=15.2km az=88.0*

NEIC ***23*** *06:40:38.3±0.6, 190S×138.90E, h10km, mb4.3/7, Error ellipse: s-maj=21.7km s-min=10.2km az=86.0*

ISCJB ***23*** *06:40:39.9±0.7, 197S±006×138.9E±0.1, h33km, mb4.1/7, MS3.4/3, Error ellipse: s-maj=20.4km s-min=9.0km az=2.4*

ISC 23 06:40:42.3±0.8, 200S±007×138.8E±0.1, h35km, n25, σ0.9 94/23, mb4.1/7, MS3.4/3, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Time ISC	Res ISC
					h m s	
KAKA	**Kakadu**	**12.38**	**210**	*e*P	**Pn**	**06 43 36.3 +0.1**
	15nm,0.6s					
WRAB	**Tennant Creek**	**18.35**	**194**	*e*P	**Pn**	**06 44 54.4 +0.3**
	16nm,0.6s					
WB2	**Warramunga Arr**	**18.36**	**194**	*e*P	**Pn**	**06 44 53.8 -0.4**
WB2	**Warramunga Arr**	**18.36**	**194**	*e*P	**Pn**	**06 44 53.6 -0.6**
WRA	**Warramunga Arr**	**18.36**	**194**	P	**Pn**	**06 44 53.6 -0.7**
	0.7nm,0.3s,baz=18,slow=12,SNR=46					
WRA				S	**S**	**06 48 15.5 -6.7**
	0.2nm,0.3s,baz=7.8,slow=22,SNR=5.5					
WRA				LR	LR	06 52 46.5
	comp=Z,160nm,18.9s,baz=170,slow=39					
CTA	**Charters Tower**	**19.38**	**159**	*e*P	**Pn**	**06 45 05.2 -1.3**
	5.2nm,0.8s					
CTA	**Charters Tower**	**19.38**	**159**	P	**Pn**	**06 45 04.5 -2.0**
	0.7nm,0.3s,baz=4.2,slow=12,SNR=8.6					
FITZ	**Fitzroy Crossi**	**20.59**	**218**	*e*P	**P**	**06 45 21.7 +3.3**
	8.7nm,0.9s					
FITZ	**Fitzroy Crossi**	**20.59**	**218**	*e*P	**P**	**06 45 20.6 +2.2**
	9.6nm,0.8s					
FITZ	**Fitzroy Crossi**	**20.59**	**218**	P	**P**	**06 45 21.7 +3.3**
	2.7nm,0.8s,baz=66,slow=16,SNR=4.9					
FITZ				S	**S**	**06 49 05.7 -1.1**
	4.6nm,0.8s,baz=103,slow=18,SNR=5.1					
FITZ				LR	LR	06 54 19.4
	comp=Z,96nm,20.3s,MS3.1,baz=74,slow=39					
ASAR	**Alice Springs**	**22.06**	**192**	P	**P**	**06 45 34.6 +0.4**
	5.3nm,0.6s,mb4.2,baz=23,slow=10,SNR=56					
ASAR				S	**S**	**06 49 43.3 +7.7**
	1.2nm,0.9s,baz=16,slow=25,SNR=4.5					
EIDS	**Eidsvold**	**26.05**	**154**	*e*P	**P**	**06 46 13.7 +1.2**
	7.1nm,0.8s,mb4.2					
STKA	**Stephens Creek**	**29.83**	**175**	*e*P	**P**	**06 46 48.1 +1.9**
	2.9nm,1.0s,mb4.0					
STKA	**Stephens Creek**	**29.83**	**175**	P	**P**	**06 46 47.0 +0.8**
	2.9nm,0.9s,mb4.0,baz=287,slow=20,SNR=3.3					
STKA				LR	LR	06 57 57.1
	comp=Z,120nm,19.9s,MS3.5,baz=24,slow=35					
JHJ	**Hachijo jima 2**	**34.94**	**1**	LR	LR	06 59 13.2
	comp=Z,67nm,20.9s,MS3.4,baz=110,slow=32					
MK31	**Makanchi Array**	**69.31**	**322**	*e*P	**P**	**06 51 46.2 +0.1**

MKAR	**Makanchi Array**	**69.31 322**	P		**P**	**06 51 46.4**	**+0.3**
	1.6nm,0.7s,mb4.1,baz=108,slow=7.7,SNR=14						
ZALV	**Zalesovo Beam**	**71.39 330**	P		**P**	**06 51 57.6**	**-1.0**
	0.4nm,0.3s,mb3.8,baz=117,slow=7.2,SNR=3.7						
VNDA	**Vanda**	**76.47 175**	*e*P		**P**	**06 52 27.8**	**-0.2**
	2.8nm,0.9s,mb4.2						
VNDA	**Vanda**	**76.47 175**	P		**P**	**06 52 27.0**	**-1.0**
	1.8nm,0.7s,mb4.1,baz=326,slow=3.6,SNR=5.3						
BRVK	**Borovoye**	**78.88 325**	*e*P		**P**	**06 52 42.0**	**+0.1**
	2.6nm,0.6s,mb4.3						
TORD	**Torodi Ar. Bea**	**136.18 287**	PKP		PKPdf	07 00 02.0	+1.0
	0.7nm,0.7s,baz=42,slow=2.3,SNR=3.5						
DBIC	**Dimbokro**	**143.52 278**	PKP		PKPdf	07 00 11.9	-2.5
	3.4nm,0.6s,baz=110,slow=2.8,SNR=7.4						
LPAZ	**La Paz**	**147.75 125**	PKPbc		PKPbc	07 00 25.3	+0.9
LPAZ	**La Paz**	**147.75 125**	PKPbc		PKPbc	07 00 25.3	+0.9
	0.9nm,0.8s,baz=264,slow=5.5,SNR=4.0						

NIED ***23*** *06:57:00, 4350N×14740E, h65km, Mw3.9 Best double couple: M0=7.19000×10^14 NP1:φs=337.00000°, δ82.00000°, λ35.00000°. NP2:φs=241.00000°, δ55.00000°, λ170.00000°.*
JMA ***23*** *06:57:12.8±0.2, 4346N×14745E, h26km±4km, M4.0*
ISCJB ***23*** *06:57:13.5±1.2, 4358N±009×1474E±0.1, h78km±9km, mb3.8/10, Error ellipse: s-maj=16.1km s-min=11.0km az=143.0*
MOS ***23*** *06:57:13.3±0.9, 4380N×14746E, h68km, mb4.1/5, Error ellipse: s-maj=23.6km s-min=18.0km az=21.0*
IDC ***23*** *06:57:16.7±4.2, 4398N×14743E, h75km±44km, mb3.5/10, mb1 3.7/11, mb1mx3.6/20, mbtmp3.5/11, ML3.3/1, MS2.8/1, Ms1 2.8/1, ms1mx2.5/28, Error ellipse: s-maj=81.5km s-min=21.8km az=5.0*

ISC 23 06:57:14.6±1.2, 4360N±009×1474E±01, h70km±10km, n36, σ0°88/43, mb3.8/10, 1C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.20**	**292**	⇓*i*PN	**Pn**	**06 57 34.5**	**-1.2**
YUK				*i* S	**Sn**	**06 57 50.8**	**-0.6**
YUK				pmax	pmax		
	comp=E,180nm,0.4s						
YUK				pmax	pmax		
	comp=Z,1μm,0.4s						
YUK				smax			
	comp=N,5μm,1.0s						
YUK				smax			
	comp=E,4μm,2.0s						
YUK				smax			
	comp=N,3μm,0.5s						
YUK				smax			
	comp=E,980nm,0.4s						
NEM2	**Nemuro 2**	**1.24**	**260**	P	**Pn**	**06 57 34.8**	**-1.3**
NEM2				*e*S	**Sn**	**06 57 50.9**	**-1.3**
JRA	**Rausu**	**1.69**	**282**	P	**Pn**	**06 57 42.0**	**-0.1**
JRA				*e*S	**Sn**	**06 58 04.2**	**+1.3**
JNK	**Nakash**	**1.96**	**270**	P	**Pn**	**06 57 45.4**	**-0.2**
JNK				*e*S	**Sn**	**06 58 09.6**	**+0.3**
JAK	**Akkeshi**	**2.07**	**254**	P	**Pn**	**06 57 46.6**	**-0.6**
JAK				*e*S	**Sn**	**06 58 11.8**	**-0.3**
JTKR	**Abashiri--Toko**	**2.56**	**279**	P	**Pn**	**06 57 54.7**	**+0.9**
JAR	**Ashorobuto**	**2.67**	**265**	P	**Pn**	**06 57 55.7**	**+0.4**
JAR				*e*S	**Sn**	**06 58 27.3**	**+0.8**
JOB	**Onbets**	**2.71**	**256**	P	**Pn**	**06 57 56.0**	**+0.2**
JOB				*e*S	**Sn**	**06 58 27.7**	**+0.3**
JMP	**Maruseppu**	**2.96**	**279**	P	**Pn**	**06 58 00.4**	**+1.2**
JCH	**Churui**	**3.13**	**253**	P	**Pn**	**06 58 01.4**	**-0.1**
JCH				*e*S	**Sn**	**06 58 36.3**	**-1.3**
ERM	**Erimo**	**3.51**	**245**	⇑*e*PN	**Pn**	**06 58 08.2**	**+1.5**
JEM	**Erimo**	**3.51**	**245**	P	**Pn**	**06 58 07.8**	**+1.1**
ASAJ	**Asahikawa**	**3.52**	**280**	PN	**Pn**	**06 58 08.1**	**+1.3**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ	**Asahikawa**	**3.52**	**280**	P	**Pn**	**06 58 08.1**	**+1.2**
	comp=Z,1.8nm,0.3s,baz=59,slow=17,SNR=4.5						
JNBK	**Urakawa-nobuka**	**3.67**	**250**	P	**Pn**	**06 58 08.7**	**-0.2**
JNBK				*e*S	**Sn**	**06 58 50.2**	**-0.7**
KSRS	**Korea Array**	**16.03**	**254**	LR	LR	07 06 14.1	
	comp=Z,34nm,20.1s,baz=160,slow=33						
ZALV	**Zalesovo Beam**	**41.24**	**307**	P	**P**	**07 04 50.9**	**-1.4**
	comp=Z,0.4nm,0.4s,mb3.6,baz=87,slow=9.1,SNR=2.6						
MKAR	**Makanchi Array**	**44.82**	**298**	P	**P**	**07 05 22.4**	**+1.1**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.82**	**298**	P	**P**	**07 05 22.4**	**+1.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=80,slow=8.9,SNR=8.2						
KURK	**Kurchatov**	**45.77**	**304**	⇓*i*P	**P**	**07 05 28.3**	**-0.5**
BVAR	**Borovoye Array**	**49.74**	**310**	P	**P**	**07 06 00.8**	**+1.3**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	**49.74**	**310**	P	**P**	**07 06 00.8**	**+1.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=50,slow=13,SNR=3.5						
YKA	**Yellowknife Ar**	**55.82**	**34**	P	**P**	**07 06 44.0**	**-0.1**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**55.82**	**34**	P	**P**	**07 06 44.0**	**-0.1**
	comp=Z,0.9nm,0.6s,mb4.0,baz=300,slow=7.1,SNR=22						
ARCES	**ARCESS Array B**	**59.45**	**340**	P	**P**	**07 07 08.2**	**-1.3**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	**ARCESS Array B**	**59.45**	**340**	P	**P**	**07 07 08.2**	**-1.3**
	comp=Z,2.1nm,0.8s,mb4.2,baz=46,slow=6.9,SNR=5.1						
WRA	**Warramunga Arr**	**64.36**	**194**	pP	pP	07 08 00.4	-0.9
	comp=Z,0.5nm,0.6s,baz=14,slow=6.9,SNR=5.8						
FINES	**FINESS Array B**	**65.09**	**333**	P	**P**	**07 07 46.5**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**65.09**	**333**	P	**P**	**07 07 46.5**	**-0.8**
	comp=Z,1.2nm,0.7s,mb3.9,baz=51,slow=12,SNR=4.9						
NVAR	**Mina Array Bea**	**67.50**	**58**	P	**P**	**07 08 03.4**	**+0.4**
	comp=Z,0.6nm,0.6s,mb3.6,baz=290,slow=6.3,SNR=3.6						
NB2	**NORSAR Subarra**	**69.81**	**339**	P	**P**	**07 08 17.0**	**0.0**
	comp=Z,1.0nm,0.5s,mb3.9,baz=31,slow=6.5						
NOA	**NORSAR Array B**	**69.81**	**339**	P	**P**	**07 08 17.3**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**69.81**	**339**	P	**P**	**07 08 16.1**	**-0.9**
	comp=Z,1.6nm,0.6s,mb4.0,baz=32,slow=6.3,SNR=6.1						
AKASG	**Malin Array Be**	**71.81**	**324**	P	**P**	**07 08 30.5**	**+1.2**
AKASG	**Malin Array Be**	**71.81**	**324**	P	**P**	**07 08 28.1**	**-1.3**
	comp=Z,0.4nm,0.4s,mb3.6,baz=42,slow=5.6,SNR=4.7						
TXAR	**Lajitas Array**	**82.57**	**56**	P	**P**	**07 09 30.1**	**+0.2**
	comp=Z,0.4nm,0.8s,mb3.3,baz=299,slow=4.3,SNR=5.0						
TXAR				pP	pP	07 09 46.3	-2.8
	comp=Z,0.3nm,0.6s,baz=304,slow=3.7,SNR=3.9						

IDC ***23*** *07:06:19.2±3.5, 5446N×8728E, h0km, mb1 2.8/1, mb1mx2.7/21, mbtmp2.8/1, ML2.7/1, Error ellipse: s-maj=28.3km s-min=11.2km az=67.0*
NNC ***23*** *07:06:27.1±1.8, 5389N×8686E, h0km, mb3.3, mpv2.9, Error ellipse: s-maj=13.6km s-min=11.6km az=38.0*

ISC 23 07:06:26.3±2.4, 545N±01×868E±02, h35km, n5, σ0°83/9, 4C-4D, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.29**	**248**	Pg	**Pn**	**07 06 45.7**	**-2.1**
	1.5nm,0.3s,baz=66,slow=17,SNR=33						
ZALV				Lg		07 07 09.0	
	2.4nm,0.3s,baz=66,slow=26,SNR=7.9						
KURK	**Kurchatov**	**6.26**	**237**	⇓Pn	**Pn**	**07 07 56.7**	**+0.7**
KURK				⇑Sn	**Sn**	**07 09 06.3**	**+0.1**
	1.4nm,0.7s						
KURK				⇓Lg		07 09 39.6	
	5.1nm,1.0s						
KURBB	**Kurchatov Arra**	**6.36**	**236**	⇑Pn	**Pn**	**07 07 58.5**	**+1.0**
	0.5nm,0.6s						
KURBB				⇓Sn	**Sn**	**07 09 08.9**	**+0.2**
	0.9nm,0.6s						
KURBB				⇑Lg		07 09 42.2	
	0.9nm,0.7s						
MK31	**Makanchi Array**	**8.20**	**202**	⇓Pn	**Pn**	**07 08 22.7**	**+0.1**
	0.8nm,0.7s,baz=37,slow=12,SNR=4.6						
MK31				⇑Sn	**Sn**	**07 09 54.3**	**+0.4**
	0.5nm,0.5s,baz=25,slow=25,SNR=6.0						
MKAR	**Makanchi Array**	**8.20**	**202**	Pn	**Pn**	**07 08 22.8**	**+0.1**
	0.1nm,0.3s,baz=21,slow=12,SNR=4.7						
MKAR				Sn	**Sn**	**07 09 53.2**	**-0.8**
	0.2nm,0.3s,baz=23,slow=28,SNR=5.9						
MKAR				Lg		07 10 39.8	
	baz=25,slow=29,SNR=2.4						

ISCJB ***23*** *07:13:00.8±0.4, 5979N±003×2236E±005, h0km, Error ellipse: s-maj=4.4km s-min=3.3km az=166.9*
BER ***23*** *07:13:02.4±3.3, 5987N×2223E, h0km, ML2.0(NAO), Suspected explosion*
HEL ***23*** *07:13:02.2±0.1, 5979N×2231E, h0km, ML2.0, ML2.2(UPP), ML2.0(NAO), Explosion*
NAO ***23*** *07:13:02.1±1.1, 5987N×2233E, ML2.0*
IDC ***23*** *07:13:02.8±2.2, 5981N×2243E, h0km, mb1 2.9/3, mb1mx2.8/21, mbtmp2.8/3, ML2.5/3, Error ellipse: s-maj=25.9km s-min=11.1km az=166.0*

ISC 23 07:13:01.2±0.4, 5981N±003×2240E±004, h0km, n31, σ0°95/47, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.09**	**67**	*e*P	**Pg**	**07 13 22.1**	**+0.1**
MEF				*e*S	**Sg**	**07 13 36.0**	**-0.1**
RAF	**Rauma**	**1.26**	**346**	*e*P	**Pg**	**07 13 24.5**	**-0.9**
RAF				*e*S	**Sg**	**07 13 40.8**	**-1.0**
MTSE	**Matsula**	**1.31**	**146**	*e*P	**Pg**	**07 13 26.4**	**0.0**
MTSE				*e*S	**Sg**	**07 13 42.9**	**-0.5**
PVF	**Pernaja**	**1.89**	**65**	*e*P	**Pn**	**07 13 36.1**	**+1.5**
PVF				*e*S	**Sn**	**07 14 00.6**	**+1.5**
NRTU	**Norrtaelje**	**1.91**	**268**	*e*P	**Pn**	**07 13 35.0**	**0.0**
GRAU	**Graesoe**	**2.00**	**287**	*e*P	**Pn**	**07 13 36.0**	**-0.3**
FORU	**Forsmark**	**2.19**	**287**	*e*P	**Pn**	**07 13 39.4**	**+0.6**
FLYU	**Flymyra**	**2.29**	**280**	*e*P	**Pn**	**07 13 40.7**	**+0.5**
NYNU	**Nynaeshamn**	**2.38**	**252**	*e*P	**Pn**	**07 13 42.1**	**+0.6**
FIA0	**FINESS Array S**	**2.45**	**46**	*e*P	**Pn**	**07 13 44.7**	**+2.4**
FIA0				*e*SB	**Sb**	**07 14 17.6**	**+0.8**
FIA0				MSG		07 14 19.6	
	comp=Z,6.7nm,0.1s						
FIA0	**FINESS Array S**	**2.45**	**46**	Pn	**Pn**	**07 13 44.8**	**+2.4**
	baz=228,slow=12						
FIA0				Lg		07 14 17.1	
	baz=234,slow=22						
FINES	**FINESS Array B**	**2.45**	**46**	Pn	**Pn**	**07 13 44.8**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=226,slow=12,SNR=29						
FINES				Sn	**Sn**	**07 14 17.4**	**+4.5**
	comp=Z,2.8nm,0.3s,baz=232,slow=24,SNR=25						
VSU	**Vasula**	**2.61**	**119**	*e*PB	**Pb**	**07 13 47.1**	**-1.7**
VSU				*e*SG	**Sg**	**07 14 23.9**	**-1.1**
KEF	**Keuruu**	**2.66**	**26**	*e*PB	**Pb**	**07 13 48.8**	**-0.9**
KEF				*e*SB	**Sb**	**07 14 23.6**	**+0.8**
KEF				MSG		07 14 25.1	
	comp=Z,4.9nm,0.1s						
BACU	**Backbrunna**	**2.67**	**273**	*e*P	**Pn**	**07 13 46.0**	**+0.5**
OSTU	**Oestervaala**	**2.68**	**281**	*e*P	**Pn**	**07 13 45.7**	**+0.2**
IGGU	**Iggoen**	**2.74**	**295**	*e*P	**Pn**	**07 13 46.7**	**+0.3**
GOTU	**Gotland**	**2.91**	**225**	*e*P	**Pn**	**07 13 49.3**	**+0.6**
ARNU	**Arnoeviken**	**3.11**	**310**	*e*P	**Pn**	**07 13 51.9**	**+0.5**
ESKU	**Eskilstuna**	**3.11**	**262**	*e*P	**Pn**	**07 13 52.2**	**+0.7**
VAF	**Ylistaro**	**3.25**	**2**	*e*PG	**Pg**	**07 14 01.2**	**-2.3**
VAF				*e*SB	**Sb**	**07 14 39.8**	**0.0**
HEMU	**Hemsoen**	**3.57**	**326**	*e*P	**Pn**	**07 13 59.0**	**+1.3**
HASU	**Hassela**	**3.67**	**312**	*e*P	**Pn**	**07 13 59.9**	**+0.7**
HFS	**Hagfors**	**4.39**	**278**	*e*P	**Pn**	**07 14 09.2**	**+0.2**
HFS				*e*PB	**Pb**	**07 14 17.8**	**-1.2**
HFS				*e*SB	**Sb**	**07 15 12.8**	**+0.4**
HFS	**Hagfors**	**4.39**	**278**	Pn	**Pn**	**07 14 09.2**	**+0.2**
	baz=98,slow=8.6						
HFS				Pg	**Pb**	**07 14 17.8**	**-1.2**
	baz=93,slow=16						
HFS				Lg		07 15 12.8	
	baz=88,slow=28						
NB2	**NORSAR Subarra**	**5.68**	**287**	Pn	**Pn**	**07 14 25.8**	**-0.9**
	baz=95,slow=14						
NB2	**NORSAR Subarra**	**5.68**	**287**	*e*P	**Pn**	**07 14 25.8**	**-0.9**
NOA	**NORSAR Array B**	**5.68**	**287**	Pn	**Pn**	**07 14 25.9**	**-0.8**
	comp=Z,0.2nm,0.3s,baz=97,slow=14,SNR=2.8						
NOA				Sn	**Sn**	**07 15 31.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=319,slow=25,SNR=2.3						
NOA				Lg		07 15 56.4	
	comp=Z,0.3nm,0.3s,baz=49,slow=25,SNR=2.4						
ARA0	**ARCESS Array S**	**9.86**	**6**	Pn	**Pn**	**07 15 22.6**	**-1.4**
	baz=185,slow=16						
ARA0				Sn	**Sn**	**07 17 07.0**	**-8.2**
	baz=192,slow=28						
ARA0	**ARCESS Array S**	**9.86**	**6**	*e*P	**Pn**	**07 15 22.6**	**-1.4**
ARA0				*e*S	**Sn**	**07 17 07.0**	**-8.2**
ARCES	**ARCESS Array B**	**9.86**	**6**	Pn	**Pn**	**07 15 22.8**	**-1.2**
	comp=Z,0.1nm,0.3s,baz=184,slow=14,SNR=9.9						
ARCES				Sn	**Sn**	**07 17 07.8**	**-7.3**
	comp=Z,0.2nm,0.3s,baz=192,slow=24,SNR=3.0						

IDC 23 07:18:59.8±3.1, 3293S×17856W, h0km, mb3.7/2, mb1 4.0/3, mb1mx3.8/14, mbtmp3.8/3, ML3.9/1, MS2.6/1, Ms1 2.6/1, ms1mx2.3/24, Error ellipse: s-maj=70.4km s-min=36.3km az=114.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.39**	**212**	Pn	Pn	07 20 35.6	+0.5
	2.7nm,0.3s,baz=343,slow=18,SNR=30						
URZ				Sn	Sn	07 21 47.2	-1.5
	1.6nm,0.3s,baz=122,slow=22,SNR=5.7						
RPZ	**Rata Peaks**	**13.50**	**214**	LR	LR	07 26 49.2	
	comp=Z,23nm,18.1s,baz=346,slow=35						
ASAR	**Alice Springs**	**42.56**	**270**	P	P	07 26 57.0	-0.5
	0.4nm,0.5s,baz=112,slow=7.4,SNR=7.9						
WRA	**Warramunga Arr**	**43.78**	**275**	P	P	07 27 07.9	+0.5
	1.0nm,0.5s,baz=115,slow=7.7,SNR=32						
FINES	**FINESS Array B**	**147.33**	**338**	PKPbc	PKPbc	07 38 43.6	-0.9
	7.3nm,1.2s,baz=67,slow=3.6,SNR=5.1						

ISCJB ***23*** *07:37:44.7±1.2, 2994N±004×3629E±006, h0km, Error ellipse: s-maj=8.0km s-min=5.2km az=159.5*
GII ***23*** *07:37:46.2±1.4, 2996N×3616E, h0km, ML2.8/3*
SGS ***23*** *07:37:47.5, 3006N×3621E, h16km*

ISC 23 07:37:44.7±1.3, 2992N±004×3634E±006, h0km, n15, σ0°79/20, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.13**	**276**	Pg	**Pg**	**07 38 06.6**	**+0.2**
HRFI				Sg	**Sg**	**07 38 21.2**	**+0.1**
ZFRI	**Zfri**	**1.18**	**302**	Pg	**Pg**	**07 38 07.0**	**-0.3**
ZFRI				Sg	**Sg**	**07 38 24.3**	**+1.5**
EIL	**Elat**	**1.23**	**259**	Pg	**Pg**	**07 38 08.8**	**+0.6**
EIL				Sg	**Sg**	**07 38 24.9**	**+0.7**
PRNI	**Paran**	**1.23**	**291**	Pg	**Pg**	**07 38 08.3**	**0.0**
PRNI				Sg	**Sg**	**07 38 24.6**	**+0.4**
MBH	**Mount Berech**	**1.24**	**264**	Pg	**Pg**	**07 38 07.9**	**-0.5**
MBH				Sg	**Sg**	**07 38 25.6**	**+1.0**
HQLS		**1.27**	**241**	S	**Sg**	**07 38 24.3**	**-1.2**
HQLS		**1.27**	**241**	P	**Pg**	**07 38 08.8**	**-0.2**
JLOS		**1.39**	**212**	S	**Sg**	**07 38 29.5**	**+0.1**
JLOS		**1.39**	**212**	P	**Pn**	**07 38 11.2**	**-0.1**
KRMI	**Paran Flat**	**1.41**	**278**	Sg	**Sg**	**07 38 30.1**	**+0.1**
RMNI	**Mount Ramon**	**1.52**	**297**	Sn	**Sn**	**07 38 33.1**	**-0.5**
RTMI	**Retamim**	**1.81**	**309**	Sn	**Sg**	**07 38 42.1**	**-0.8**
DSI	**Dead Sea**	**1.84**	**334**	Pn	**Pn**	**07 38 18.5**	**+1.0**
KZIT	**Kziot**	**1.94**	**301**	Sn	**Sg**	**07 38 44.8**	**-2.3**
RSHS		**2.10**	**220**	P	**Pn**	**07 38 21.0**	**-0.1**

MAN 23 07:53:54, 1130N×12476E, h32km, mb4.6, ML3.4, MS3.4, 2C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.26**	**121**	*e*P	Pb	07 54 02.5	+1.4
LLP	**Lapu-Lapu**	**1.25**	**219**	⇑*e*P	Pn	07 54 15.8	+0.6
LLP				*i* S	Sn	07 54 31.1	+0.2
TBP	**Tagbilaran**	**1.82**	**209**	*e*P	Pn	07 54 24.3	+1.2
TBP				*e*S	Sn	07 54 49.0	+3.8
RCP	**Roxas**	**1.99**	**278**	⇑*e*P	Pn	07 54 26.6	+1.2

IDC 23 08:00:00.7±3.2, 5234N×3585E, h0km, mb3.4/1, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, ML3.2/4, MS3.2/1, Ms1 3.2/1, ms1mx2.4/34, Error ellipse: s-maj=46.1km s-min=14.0km az=129.0, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKASG	**Malin Array Be**	**4.45**	**251**	Pn	Pn	08 01 08.3	-1.0
	0.9nm,0.3s,baz=56,slow=11,SNR=3.2						
AKASG				Pg	Pg	08 01 17.6	-8.3
	1.8nm,0.3s,baz=59,slow=15,SNR=8.4						
AKASG				Sn	Sn	08 01 58.9	-2.9
	2.1nm,0.3s,baz=57,slow=26,SNR=5.8						
AKASG				Lg		08 02 13.3	
	2.4nm,0.3s,baz=68,slow=30,SNR=5.9						
FINES	**FINESS Array B**	**10.56**	**334**	Pn	Pn	08 02 28.8	-4.2
	0.1nm,0.3s,baz=145,slow=14,SNR=4.5						
GERES	**GERESS Array B**	**14.48**	**265**	LR	LR	08 09 35.5	
	comp=Z,83nm,18.3s,baz=320,slow=40						
NOA	**NORSAR Array B**	**16.00**	**313**	Pn	Pn	08 03 38.3	-8.4
	0.1nm,0.3s,baz=100,slow=12,SNR=2.4						
ARCES	**ARCESS Array B**	**17.92**	**348**	P	Pn	08 04 09.4	-1.5
	0.3nm,0.3s,baz=165,slow=12,SNR=10						
YKA	**Yellowknife Ar**	**63.16**	**345**	P	P	08 10 29.5	-0.2
	0.3nm,0.6s,baz=19,slow=6.8,SNR=5.8						

IDC 23 08:04:05.1±5.1, 736S×15522E, h170km±53km, mb3.7/5, mb1 3.8/7, mb1mx3.6/16, mbtmp3.7/7, MS3.4/5, Ms1 3.4/5, ms1mx3.3/24, Error ellipse: s-maj=57.0km s-min=20.8km az=150.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.11**	**114**	P	Pn	08 05 20.1	-0.3
	7.1nm,0.3s,baz=262,slow=7.1,SNR=2.7						
HNR				S	Sn	08 06 20.0	+0.7
	8.0nm,0.3s,baz=88,slow=15,SNR=4.2						
HNR				LR	LR	08 07 11.5	
	comp=Z,427nm,20.6s,baz=185,slow=36						
CTA	**Charters Tower**	**15.35**	**214**	P	Pn	08 07 34.0	+1.0
	0.2nm,0.3s,baz=53,slow=11,SNR=4.1						
CTA				LR	LR	08 11 17.3	
	comp=Z,61nm,21.2s,baz=53,slow=28						
WB2	**Warramunga Arr**	**23.79**	**236**	*e*P	P	08 09 02.8	+0.4
WRA	**Warramunga Arr**	**23.80**	**236**	P	P	08 09 02.6	+0.1
	5.0nm,0.8s,baz=61,slow=9.7,SNR=22						
ASAR	**Alice Springs**	**26.10**	**229**	P	P	08 09 23.2	-0.1
	0.7nm,0.6s,baz=60,slow=9.3,SNR=11						
STKA	**Stephens Creek**	**27.51**	**206**	P	P	08 09 35.1	-0.6
	2.0nm,0.7s,baz=24,slow=10.0,SNR=3.0						
STKA				LR	LR	08 20 54.2	
	comp=Z,146nm,20.9s,baz=205,slow=37						
FITZ	**Fitzroy Crossi**	**30.71**	**247**	*e*P	P	08 10 04.0	-0.3
	7.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**30.71**	**247**	P	P	08 10 04.7	+0.4
	4.8nm,1.0s,baz=80,slow=13,SNR=4.3						
FITZ				LR	LR	08 21 27.4	
	comp=Z,73nm,20.4s,baz=267,slow=34						
RPZ	**Rata Peaks**	**38.79**	**162**	LR	LR	08 25 10.7	
	comp=Z,92nm,18.1s,baz=147,slow=33						
YKA	**Yellowknife Ar**	**96.55**	**28**	P	P	08 17 15.0	0.0
	0.4nm,0.7s,baz=263,slow=4.9,SNR=7.8						

IDC 23 08:06:03.1±9.1, 2178N×14323E, h104km±84km, mb3.7/10, mb1 3.9/10, mb1mx3.7/21, mbtmp3.7/10, Error ellipse: s-maj=29.7km s-min=17.3km az=82.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.47**	**323**	P	P	08 10 34.5	+2.0
	1.8nm,0.5s,baz=146,slow=8.8,SNR=10						
SONM	**Songino Array**	**39.30**	**320**	P	P	08 13 21.4	-0.4
	1.2nm,0.6s,baz=119,slow=6.6,SNR=3.6						
WRA	**Warramunga Arr**	**42.37**	**192**	P	P	08 13 47.0	-0.2
	0.9nm,0.7s,baz=19,slow=8.9,SNR=5.1						
ASAR	**Alice Springs**	**46.08**	**192**	P	P	08 14 16.6	-0.2
	0.7nm,0.6s,baz=16,slow=11,SNR=8.3						
ZALV	**Zalesovo Beam**	**54.17**	**322**	P	P	08 15 17.0	-0.6
	2.0nm,0.6s,baz=88,slow=6.9,SNR=5.9						
MKAR	**Makanchi Array**	**54.67**	**313**	P	P	08 15 21.1	-0.2
	0.7nm,0.5s,baz=95,slow=8.7,SNR=8.7						
MKAR				PcP	PcP	08 16 23.5	+0.6
	0.8nm,0.6s,baz=90,slow=6.6,SNR=4.7						
BVAR	**Borovoye Array**	**62.64**	**319**	P	P	08 16 16.5	+0.1
	4.1nm,0.6s,baz=91,slow=8.1,SNR=23						
INK	**Inuvik**	**67.47**	**24**	P	P	08 16 45.6	-1.8
	1.7nm,0.8s,baz=268,slow=2.4,SNR=11						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	P	08 17 41.2	+0.6
	1.8nm,0.7s,baz=292,slow=5.8,SNR=20						
NVAR	**Mina Array Bea**	**83.06**	**51**	P	P	08 18 19.2	+1.9
	1.0nm,0.7s,baz=260,slow=5.8,SNR=7.2						

IDC 23 08:06:24.8±54.0, 2317S×17560W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, MS3.3/1, Ms1 3.3/1, ms1mx2.8/17, Error ellipse: s-maj=1013.0km s-min=176.7km az=87.0, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**6.40**	**198**	LR	LR	08 09 49.2	
	comp=Z,275nm,21.2s,baz=106,slow=32						
STKA	**Stephens Creek**	**38.74**	**248**	P	P	08 13 50.3	-0.6
	1.0nm,0.5s,baz=100,slow=11,SNR=3.1						
ASAR	**Alice Springs**	**46.14**	**259**	P	P	08 14 51.3	0.0
	0

YKA Yellowknife Ar 55.19 345 P **P 08 20 33.7 -1.3**
0.5nm,0.8s,mb3.6,baz=136,slow=7.3,SNR=11
YKA PcP PcP 08 21 36.3 +0.3
0.2nm,0.6s,baz=146,slow=4.1,SNR=7.8
INK Inuvik 64.78 343 P **P 08 21 41.2 +0.4**
1.0nm,1.1s,mb3.8,baz=134,slow=6.2,SNR=4.3

NIED ***23*** *08:16:00,22.10N×144.10E,h104km,Mw5.5 Best double couple: M0:1.80000×10^17 NP1:φs=170.00000°,δ82.00000°, λ,90.00000°. NP2:φs=350.00000°,δ8.00000°,λ,90.00000°.*
BJI ***23*** *08:16:08.0,2189N×14347E,h37km,mB5.2,mb5.0,Ms4.6, Msz4.4*
ISCJB ***23*** *08:16:08.2±0.1,2194N±003×14307E±002,h23km, mb5.2/169,MS4.4/44,Error ellipse: s-maj=3.8km s-min=2.7km az=6.8*
NEIC ***23*** *08:16:09.2±0.1,2188N×143.12E,mb5.4/95,MS4.8/2, Error ellipse: s-maj=4.6km s-min=4.1km az=132.0*
MOS ***23*** *08:16:09.1±0.9,2190N×14296E,h33km,mb5.5/64, MS4.4/9,Error ellipse: s-maj=9.1km s-min=4.9km az=101.7*
GCMT ***23*** *08:16:09.2±0.2,2179N×143.18E,h12km,MW5.2/104, Moment Tensor Solution. s44,c56; s104,c172; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=7.12±.12; Mθθ=1.60±.11; Mφφ=5.53±.12; Mrθ=-1.46±.42; Mθφ=-2.72±.09; Mφr=1.17±.39; Best double couple: M0=7.26300×10^16 NP1:φs=339.00000°,δ38.00000°,λ=-81.00000°. NP2: φs=147.00000°,δ52.00000°,λ=-97.00000°. Principal axes: T 7.1260, Plg7.0000°, Azm242.0000°; N 0.2850, Plg6.0000°, Azm151.0000°; P -7.4010, Plg81.0000°, Azm23.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***23*** *08:16:17.5±4.6,2186N×143.06E,h97km±41km,mb4.5/24, mb1 4.6/25,mb1mx4.6/28,mbtmp4.5/25,MS4.3/21, Ms1 4.3/21,ms1mx4.2/26 Error ellipse: s-maj=21.0km s-min=9.7km az=87.0*
ISC 23 08:16:12.3±0.1,2195N±003×14311E±002,h42km, h42km±6.0km:pP-P,n748,σ0°79/754,mb5.2/169,MS4.4/44, 145C-126D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**4.74**	**350**	P		**Pn**	**08 17 22.9**	**+1.6**
JHHJ				*e*S		**Sn**	**08 18 18.2**	**+3.2**
CBIJ	**Chichi jima**	**5.20**	**351**	P		**Pn**	**08 17 27.3**	**-0.3**
CBIJ				*e*S		**Sn**	**08 18 27.9**	**+1.7**
CBIJ	**Chichi jima**	**5.20**	**351**	P		**Pn**	**08 17 27.4**	**-0.2**
	34nm,0.3s,baz=95,slow=21,SNR=34							
CBIJ				S		**Sn**	**08 18 29.5**	**+3.3**
	10.0nm,0.3s,baz=142,slow=23,SNR=4.1							
CBIJ				LR		LR	08 19 11.8	
	comp=Z,1μm,19.1s,baz=160,slow=33							
GUMO	**Guam**	**8.48**	**168**	*e*P		**Pn**	**08 18 16.4**	**+3.8**
JHJ	**Hachijo jima 2**	**11.52**	**346**	LR		LR	08 23 09.4	
	comp=Z,2μm,20.5s,baz=147,slow=36							
BSO1	**Boso 1**	**12.80**	**352**	P		**Pn**	**08 19 10.7**	**-1.0**
BSO3	**Boso 3**	**13.01**	**350**	P		**Pn**	**08 19 12.7**	**-1.9**
BSO4	**Boso 4**	**13.22**	**350**	P		**Pn**	**08 19 15.1**	**-2.4**
JOD2	**Odawara 2**	**13.73**	**346**	P		**Pn**	**08 19 22.2**	**-2.2**
JNY	**Yasuok**	**14.13**	**342**	P		**Pn**	**08 19 27.6**	**-2.3**
JTO	**Tosashimizu**	**14.20**	**322**	P		**Pn**	**08 19 30.8**	**0.0**
JHU	**Hanno**	**14.26**	**347**	P		**Pn**	**08 19 27.1**	**-4.4**
JOW	**Kunigami**	**14.37**	**293**	LR		LR	08 24 13.2	
	comp=Z,2μm,19.2s,baz=333,slow=33							
JRY	**Ryogami san**	**14.49**	**346**	P		**Pn**	**08 19 31.6**	**-3.2**
JAG	**Ashikaga**	**14.78**	**348**	P		**Pn**	**08 19 33.4**	**-5.1**
JHO	**Hitachi**	**14.78**	**352**	P		**Pn**	**08 19 35.2**	**-3.3**
MJAR	**Matsushiro Arr**	**15.16**	**345**	P		**Pn**	**08 19 39.6**	**-3.9**
	0.6nm,0.3s,baz=155,slow=11,SNR=10.0							
MJAR				LR		LR	08 25 13.3	
	comp=Z,2μm,19.7s,baz=160,slow=35							
MAJO	**Matsushiro**	**15.16**	**345**	*e*P		**Pn**	**08 19 40.7**	**-2.8**
MAJO				pmax		pmax		
	comp=Z,14nm,0.8s							
MAJO	**Matsushiro**	**15.16**	**345**	*e*P		**Pn**	**08 19 40.6**	**-2.8**
	comp=Z,14nm,0.8s							
MAT	**Matsushiro**	**15.16**	**345**	P		**Pn**	**08 19 48.5**	**+5.0**
MAT				*e*S		**S**	**08 22 42.0**	**-3.8**
JFK	**Kawauchi**	**15.49**	**353**	P		**Pn**	**08 19 44.7**	**-3.1**
JNU	**Nakatsue**	**15.53**	**318**	P		**Pn**	**08 19 51.5**	**+3.2**
	comp=Z,0.4nm,0.3s,baz=131,slow=15,SNR=5.3							
JNU				LR		LR	08 25 06.4	
	comp=Z,526nm,18.6s,baz=122,slow=34							
JHS	**Saijyo**	**15.68**	**328**	P		**Pn**	**08 19 54.0**	**+3.7**
JMK	**Ichinoseki**	**17.03**	**355**	P		**Pn**	**08 20 05.0**	**-2.3**
JTU	**Tsushima**	**17.38**	**319**	P		**Pn**	**08 20 16.1**	**+4.3**
PVCP	**Virac**	**19.86**	**248**	*e*P		**Pn**	**08 20 41.5**	**-0.2**
NACB	**Ninganchiao**	**19.92**	**281**	P		**Pn**	**08 20 42.3**	**-0.2**
ERM	**Erimo**	**20.01**	**0**	⇓*i*P		**P**	**08 20 39.8**	**-1.6**
YHNB	**Yeheng**	**20.14**	**282**	*e*P		**P**	**08 20 46.3**	**+3.3**
KSRS	**Korea Array**	**20.28**	**323**	P		**P**	**08 20 45.6**	**+1.3**
	comp=Z,28nm,0.8s,baz=139,slow=11,SNR=32							
KSRS				LR		LR	08 27 43.4	
	comp=Z,1μm,19.9s,MS4.2,baz=138,slow=34							
KS15	**Wonju Array Si**	**20.29**	**323**	*e*Pn		**P**	**08 20 48.7**	**+4.3**
CAUP	**Cauayan**	**20.68**	**260**	*e*P		**P**	**08 20 51.3**	**+2.5**
BALP	**Baler**	**21.28**	**257**	*e*P		**P**	**08 20 55.2**	**-0.1**
SSE	**Sheshan**	**21.60**	**300**	P		**P**	**08 21 00.3**	**+1.6**
SSE				S		**S**	**08 24 56.0**	**+0.4**
SSE				AMB		AMB		
	comp=Z,40nm,0.8s,mb4.9							
SSE				AMB		AMB		
	comp=Z,252nm,6.7s							
SSE				LR		LR		
	comp=N,588nm,29.6s,MS4.0							
SSE				LR		LR		
	comp=E,708nm,29.6s,MS4.0							
SSE				LR		LR		
	comp=Z,961nm,23.7s							
ASAJ	**Asahikawa**	**22.12**	**359**	P		**P**	**08 21 06.0**	**+2.0**
	comp=Z,18nm,0.9s,mb4.5,baz=221,slow=22,SNR=4.7							
ASAJ				LR		LR	08 29 50.4	
	comp=Z,517nm,19.0s,MS4.0,baz=171,slow=37							
QZH	**Quanzhou**	**22.68**	**282**	⇑*i*P		**P**	**08 21 11.9**	**+1.6**
QZH				S		**S**	**08 25 18.8**	**+2.8**
QZH				AMB		AMB		
	comp=Z,280nm,1.1s,mb5.6							
QZH				AMB		AMB		
	comp=Z,1μm,3.4s							
QZH				LR		LR		
	comp=Z,2μm,20.8s,MS4.5							
VLA	**Vladivostok**	**23.09**	**339**	*c i*P		**P**	**08 21 14.5**	**+0.1**
VLA				pmax		pmax		
	comp=Z,296nm,1.7s,mb5.4							
VLA	**Vladivostok**	**23.09**	**339**	⇑*i*P		**P**	**08 21 14.6**	**+0.2**
NJ2	**Nanjing**	**23.80**	**300**	*e*P		**P**	**08 21 21.9**	**+0.7**
NJ2				PP			08 21 56.1	
NJ2				S		**S**	**08 25 40.5**	**+6.5**
NJ2				AMB		AMB		
	comp=Z,60nm,1.2s,mb4.9							
NJ2				AMB		AMB		
	comp=Z,740nm,3.9s							
NJ2				LR		LR		
	comp=N,950nm,21.4s,MS4.6							
NJ2				LR		LR		
	comp=E,2μm,19.1s,MS4.6							
NJ2				LR		LR		
	comp=Z,1μm,24.1s,MS4.4							
YSS	**Yuzh-Sakhalins**	**24.95**	**359**	*e*P		**P**	**08 21 32.0**	**+0.4**
YSS				*e*			08 21 46.5	
YSS				*e*			08 22 02.0	
YSS				*e*PPP			08 22 24.0	
YSS				*e*S		**S**	**08 25 52.0**	**-0.2**
YSS				*e*SS			08 26 56.0	
YSS				pmax		pmax		
	comp=Z,70nm,1.0s,mb5.2							
YSS	**Yuzh-Sakhalins**	**24.95**	**359**	*e*P		**P**	**08 21 32.3**	**+0.7**
	comp=Z,65nm,1.1s,mb5.1							
DL2	**Dalian**	**24.98**	**317**	⇑*i*P		**P**	**08 21 33.1**	**+1.1**
DL2				*e*S		**S**	**08 25 50.0**	**-2.9**
DL2				AMB		AMB		
	comp=Z,50nm,1.3s,mb4.9							
DL2				AMB		AMB		
	comp=Z,190nm,5.6s							
DL2				LR		LR		
	comp=N,520nm,17.3s,MS4.2							
DL2				LR		LR		
	comp=E,360nm,17.0s,MS4.2							
DL2				LR		LR		
	comp=Z,220nm,15.0s,MS3.8							
MDJ	**Mudanjiang**	**25.21**	**337**	P		**P**	**08 21 34.5**	**+0.5**
MDJ				PCP		PcP	08 25 07.0	+0.2
MDJ				AMB		AMB		
	comp=Z,34nm,1.1s,mb4.8							
MDJ				AMB		AMB		
	comp=Z,262nm,5.1s							
MDJ				LR		LR		
	comp=E,680nm,16.9s							
MDJ				LR		LR		
	comp=Z,729nm,17.2s,MS4.2							
MDJ	**Mudanjiang**	**25.21**	**337**	*e*P		**P**	**08 21 34.6**	**+0.7**
	comp=Z,57nm,1.3s,mb4.9							
SNY	**Shenyang**	**25.74**	**325**	⇑P		**P**	**08 21 38.6**	**-0.2**
SNY				AP		pP	08 21 48.1	-2.1
SNY				XP		sP	08 21 52.3	-3.0
SNY				PP			08 22 21.9	
SNY				AMB		AMB		
	comp=Z,50nm,1.6s,mb4.8							
SNY				AMB		AMB		
	comp=Z,258nm,4.6s							
SNY				LR		LR		
	comp=N,677nm,21.2s,MS4.4							
SNY				LR		LR		
	comp=E,733nm,16.9s,MS4.4							
SNY				LR		LR		
	comp=Z,829nm,22.7s							
CN2	**Changchun**	**26.26**	**330**	*e*P		**P**	**08 21 43.0**	**-0.5**
CN2				*e*S		**S**	**08 26 08.3**	**-4.7**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.8s,mb4.4							
CN2				AMB		AMB		
	comp=Z,200nm,5.0s							
CN2				LR		LR		
	comp=N,700nm,15.0s,MS4.4							
CN2				LR		LR		
	comp=E,500nm,15.0s,MS4.4							
CN2				LR		LR		
	comp=Z,700nm,17.0s,MS4.3							
TIA	**Tai'an**	**26.69**	**308**	*e*P		**P**	**08 21 48.6**	**+1.1**
TIA				AMB		AMB		
	comp=Z,24nm,1.0s,mb4.7							
TIA				LR		LR		
	comp=N,417nm,8.0s							
TIA				LR		LR		
	comp=E,354nm,8.0s							
WHN	**Wuhan**	**27.12**	**294**	⇑P		**P**	**08 21 52.1**	**+0.6**
WHN				S		**S**	**08 26 30.0**	**+3.0**
WHN				AMB		AMB		
	comp=Z,399nm,7.8s							
WHN				LR		LR		
	comp=N,998nm,12.2s,MS4.8							
WHN				LR		LR		
	comp=E,1μm,11.1s,MS4.8							
WHN				LR		LR		
	comp=Z,1μm,12.7s,MS4.7							
HABR	**Khabarovsk**	**27.24**	**348**	*e*P		**P**	**08 21 52.6**	**+0.3**
HABR				*e*		pP	08 22 03.3	-0.4
HABR				*e*			08 22 38.8	
HABR				*e*			08 25 09.2	
HABR				*e*S		**S**	**08 26 25.6**	**-2.9**
HABR				*e*			08 27 41.5	
HABR				*e*			08 32 36.6	
HABR				pmax		pmax		
	comp=Z,258nm,1.6s,mb5.5							
KLR	**Kul'dur**	**28.68**	**344**	*e*P		**P**	**08 22 00.0**	**-5.2**
KLR				pmax		pmax		
	comp=E,57nm,1.6s							
KLR				pmax		pmax		
	comp=Z,160nm,1.6s,mb5.5							
KLR				MLR		MLR		
	comp=E,600nm,13.0s							
KLR				MLR		MLR		
	comp=Z,800nm,13.0s,MS4.5							
BJT	**Baijiatuau**	**29.12**	**314**	*e*P		**P**	**08 22 09.8**	**+0.6**
BJT				pmax		pmax		
	comp=Z,66nm,1.4s							
BJT	**Baijiatuau**	**29.12**	**314**	*e*P		**P**	**08 22 09.8**	**+0.6**
	comp=Z,66nm,1.4s,mb5.2							
BJI	**Beijing**	**29.13**	**314**	P		**P**	**08 22 09.3**	**+0.1**
BJI				AMB		AMB		
	comp=Z,16nm,1.2s,mb4.6							
BJI				AMB		AMB		
	comp=Z,225nm,2.9s,mb5.4							
BJI				LR		LR		
	comp=N,498nm,13.6s,MS4.4							
BJI				LR		LR		
	comp=E,429nm,16.8s,MS4.4							
BJI				LR		LR		
	comp=Z,576nm,25.8s							
KKM	**Kota Kinabalu**	**30.42**	**243**	*e*P		**P**	**08 22 20.3**	**-0.7**
TIY	**Taiyuan**	**30.73**	**308**	*e*P		**P**	**08 22 20.8**	**-2.6**
TIY				S		**S**	**08 27 19.5**	**-4.0**
TIY				LR		LR		
	comp=N,709nm,12.8s,MS4.7							
TIY				LR		LR		
	comp=E,910nm,14.0s,MS4.7							
TIY				LR		LR		
	comp=Z,461nm,20.4s							
QIZ	**Qiongzhong**	**31.27**	**271**	P		**P**	**08 22 30.0**	**+1.6**
QIZ				PP		PP	08 23 32.8	-6.6
QIZ				S		**S**	**08 27 31.0**	**-1.3**
QIZ				SS		SS	08 29 20.1	-27
QIZ				AMB		AMB		
	comp=Z,21nm,1.4s,mb4.8							
QIZ				AMB		AMB		
	comp=Z,147nm,12.5s							
QIZ				LR		LR		
	comp=E,703nm,23.2s							
QIZ				LR		LR		
	comp=Z,976nm,31.5s							
XAN	**Xi'an**	**32.36**	**299**	P		**P**	**08 22 37.9**	**+0.1**
XAN				PP		PP	08 23 45.9	-5.5
XAN				PCP		PcP	08 25 28.8	+3.9
XAN				XS		sS	08 28 08.0	-0.2
XAN				SCP		ScP	08 29 02.9	-2.4
XAN				PCS		PcS	08 29 10.5	+0.6
XAN				SCS		ScS	08 33 00.1	-4.5
XAN				AMB		AMB		
	comp=Z,5.0nm,1.4s,mb4.2							
XAN				AMB		AMB		
	comp=Z,141nm,8.9s							
XAN				LR		LR		
	comp=N,166nm,13.3s,MS4.2							
XAN				LR		LR		
	comp=E,343nm,16.8s,MS4.2							
XAN				LR		LR		
	comp=Z,698nm,16.8s,MS4.4							
HHC	**Hu-ho-hao-te**	**32.62**	**313**	⇑P		**P**	**08 22 41.4**	**+1.4**
HHC				PP		PP	08 23 54.3	+0.1
HHC				PCP		PcP	08 25 24.9	-0.5
HHC				S		**S**	**08 27 52.3**	**-0.6**
HHC				SCP		ScP	08 29 01.9	-4.2
HHC				SS		SS	08 29 54.5	-20
HHC				AMB		AMB		
	comp=Z,26nm,1.0s,mb5.1							
HHC				AMB		AMB		
	comp=Z,186nm,7.3s							
HHC				LR		LR		
	comp=N,346nm,17.7s,MS4.4							
HHC				LR		LR		
	comp=E,492nm,15.9s,MS4.4							
HHC				LR		LR		
	comp=Z,466nm,19.1s,MS4.2							
HIA	**Hailar**	**32.96**	**331**	*e*P		**P**	**08 22 42.8**	**-0.1**
HIA				pmax		pmax		
	comp=Z,29nm,1.2s							
HIA	**Hailar**	**32.96**	**331**	*e*P		**P**	**08 22 42.8**	**-0.1**
	comp=Z,29nm,1.2s,mb5.1							
PET	**Petropavlovsk**	**33.24**	**17**	⇑*i*P		**P**	**08 22 46.3**	**+1.1**
PET				*e*S		**S**	**08 28 03.8**	**+1.6**
PET				pmax		pmax		
	comp=Z,35nm,1.6s,mb5.0							
PET				MLR		MLR		
	comp=Z,300nm,14.0s,MS4.2							
PET	**Petropavlovsk**	**33.24**	**17**	*e*P		**P**	**08 22 45.8**	**+0.5**
	comp=Z,83nm,1.6s,mb5.4							
GYA	**Guiyang**	**33.47**	**285**	⇓*i*P		**P**	**08 22 48.4**	**+0.7**
GYA				PP		PP	08 24 05.8	+1.9
GYA				PCP		PcP	08 25 30.3	+2.2
GYA				S		**S**	**08 28 05.3**	**-1.3**
GYA				SCP		ScP	08 29 05.8	-3.5
GYA				PCS		PcS	08 29 15.0	+1.0
GYA				SS		SS	08 30 13.9	-18
GYA				SCS		ScS	08 33 05.3	-5.3
GYA				AMB		AMB		
	comp=Z,20nm,1.3s,mb4.9							
GYA				AMB		AMB		
	comp=Z,120nm,4.2s							
GYA				LR		LR		
	comp=N,1μm,18.8s,MS4.8							
GYA				LR		LR		
	comp=E,1μm,19.6s,MS4.8							
GYA				LR		LR		
	comp=Z,1μm,19.9s,MS4.6							
KAPI	**Kappang**	**35.23**	**223**	P		**P**	**08 23 02.5**	**-0.5**
	comp=Z,26nm,0.8s,mb5.2,baz=216,slow=16,SNR=7.6							
COEN	**Coen**	**35.68**	**180**	*e*P		**P**	**08 23 04.3**	**-2.4**
	comp=Z,36nm,1.2s,mb5.2							
KAKA	**Kakadu**	**36.00**	**198**	*e*P		**P**	**08 23 11.6**	**+2.2**
	comp=Z,19nm,0.9s,mb5.0							
CD2	**Chengdu**	**36.20**	**293**	P		**P**	**08 23 12.8**	**+1.7**
CD2				PP		PP	08 24 37.8	+3.8
CD2				PCP		PcP	08 25 37.3	+1.3
CD2				S		**S**	**08 28 46.4**	**-2.1**
CD2				SS		SS	08 31 14.4	-13
CD2				SCS		ScS	08 33 20.3	-4.8
CD2				AMB		AMB		
	comp=Z,40nm,0.7s,mb5.5							
CD2				AMB		AMB		
	comp=Z,200nm,4.2s							
CD2				LR		LR		
	comp=N,800nm,12.0s							
CD2				LR		LR		
	comp=E,1μm,18.0s							
CD2				LR		LR		
	comp=Z,1μm,18.0s							
LZH	**Lanzhou**	**36.86**	**301**	*e*P		**P**	**08 23 20.1**	**+3.4**
LZH				PCP		PcP	08 25 39.1	+1.3
LZH				*e*S		**S**	**08 28 56.0**	**-2.4**
LZH				SS		SS	08 31 34.0	-6.8
LZH				AMB		AMB		
	comp=Z,50nm,1.3s,mb5.2							
LZH				AMB		AMB		
	comp=Z,277nm,4.0s							
LZH				LR		LR		
	comp=N,1μm,13.5s							
LZH				LR		LR		
	comp=Z,2μm,15.7s,MS4.9							
KMI	**Kunming**	**37.05**	**283**	P		**P**	**08 23 21.1**	**+2.6**
KMI				PP		PP	08 24 49.8	+6.3
KMI				PCP		PcP	08 25 40.8	+2.2
KMI				S		**S**	**08 29 01.1**	**-0.5**
KMI				SCP		ScP	08 29 18.8	-3.5
KMI				PCS		PcS	08 29 27.9	+0.9
KMI				SS		SS	08 31 34.8	-10
KMI				SCS		ScS	08 33 24.8	-5.2
KMI				AMB		AMB		
	comp=Z,14nm,1.1s,mb4.7							
KMI				AMB		AMB		
	comp=Z,150nm,3.1s							
KMI				LR		LR		
	comp=N,331nm,16.9s,MS4.4							
KMI				LR		LR		
	comp=E,412nm,15.1s,MS4.4							
KMI				LR		LR		
	comp=Z,586nm,19.3s,MS4.4							
BATI	**Kupang**	**37.22**	**213**	P		**P**	**08 23 19.9**	**+0.1**
	comp=Z,149nm,1.2s,mb5.7,baz=77,slow=1.5,SNR=3.8							
NRGR	**Nerungri**	**37.22**	**343**	*e*P		**P**	**08 23 19.1**	**-0.4**
NRGR				S		**S**	**08 29 00.5**	**-2.9**
NRGR				smax				
	comp=E,38nm,0.4s							
CLNS	**Chul'man**	**37.34**	**344**	*e*P		**P**	**08 23 19.9**	**-0.5**
CLNS				pmax		pmax		
	comp=Z,24nm,0.9s,mb5.0							
CLNS				pmax		pmax		
	comp=N,20nm,1.0s							
CLNS				pmax		pmax		
	comp=E,5.0nm,0.8s							
CLNS				MLR		MLR		
	comp=N,200nm,14.0s,MS4.1							
CLNS				MLR		MLR		
	comp=Z,300nm,14.0s,MS4.2							
CLNS				MLR		MLR		
	comp=E,100nm,13.0s,MS4.1							
MA2	**Magadan**	**37.99**	**6**	*e*P		**P**	**08 23 26.2**	**+0.3**
MA2				pmax		pmax		
	comp=Z,88nm,1.5s,mb5.3							
MA2	**Magadan**	**37.99**	**6**	*e*P		**P**	**08 23 26.2**	**+0.3**
	comp=Z,88nm,1.5s,mb5.3							
ULN	**Ulaanbaatar**	**38.73**	**321**	*e*P		**P**	**08 23 33.2**	**+0.9**
ULN				*e**PP		pP	08 23 39.6	-4.4
ULN				pmax		pmax		
	comp=Z,14nm,0.6s,mb4.9							
ULN	**Ulaanbaatar**	**38.73**	**321**	*e*P		**P**	**08 23 33.1**	**+0.8**
	comp=Z,14nm,0.6s,mb4.9							
ULN				*e*pP		pP	08 23 39.5	-4.4
SMY	**Shemya**	**38.83**	**30**	*e*P		**P**	**08 23 35.3**	**+2.2**
SMY				pmax		pmax		
	comp=Z,219nm,1.5s,mb5.7							
SMY				MLR		MLR		
	comp=Z,700nm,23.0s,MS4.4							
SMY	**Shemya**	**38.83**	**30**	*e*P		**P**	**08 23 35.3**	**+2.2**
	comp=Z,219nm,1.5s,mb5.7							
SMY				LR		LR		
	comp=Z,700nm,23.0s,MS4.4							
SONM	**Songino Array**	**39.11**	**320**	P		**P**	**08 23 35.9**	**+0.5**
	comp=Z,15nm,0.7s,mb4.8,baz=126,slow=7.7,SNR=34							
SONM				LR		LR	08 39 46.6	
	comp=Z,618nm,18.7s,MS4.5,baz=317,slow=36							
NANT	**Nan**	**39.79**	**273**	⇑P		**P**	**08 23 41.5**	**-0.1**
	comp=Z,181nm,0.9s,mb5.8							
GTA	**Gaotai**	**40.67**	**305**	P		**P**	**08 23 49.8**	**+1.2**
GTA				PP		PP	08 25 28.4	+5.6
GTA				PCP		PcP	08 25 52.5	+2.8
GTA				S		**S**	**08 29 53.8**	**-2.0**
GTA				SS		SS	08 32 52.1	-5.2
GTA				SCS		ScS	08 33 45.4	-5.2
GTA				AMB		AMB		
	comp=Z,23nm,1.4s,mb4.6							
GTA				AMB		AMB		
	comp=Z,326nm,5.7s							
GTA				LR		LR		
	comp=N,407nm,16.7s,MS4.5							
GTA				LR		LR		
	comp=E,383nm,18.3s,MS4.5							
GTA				LR		LR		
	comp=Z,450nm,20.5s,MS4.3							
NST	**Nakhon Sawan**	**41.06**	**269**	P		**P**	**08 23 53.0**	**+1.0**
	comp=Z,100nm,1.0s,mb5.4							
YAK	**Yakutsk**	**41.11**	**350**	*e*P		**P**	**08 23 52.1**	**+0.2**
YAK				pmax		pmax		
	comp=Z,64nm,1.1s,mb5.2							
YAK				pmax		pmax		
	comp=N,39nm,1.2s							
YAK				pmax		pmax		
	comp=E,13nm,1.3s							
YAK				MLR		MLR		
	comp=Z,446nm,18.0s,MS4.4							
YAK				MLR		MLR		
	comp=N,362nm,17.0s,MS4.5							
YAK				MLR		MLR		
	comp=E,362nm,17.0s,MS4.5							
YAK	**Yakutsk**	**41.11**	**350**	⇑*e*P		**P**	**08 23 51.1**	**-0.8**
CHG	**Chiang Mai**	**41.42**	**274**	⇓P		**P**	**08 23 56.4**	**+1.4**
	comp=E,83nm,1.0s,mb5.3							
CHTO	**Chiang Mai**	**41.42**	**274**	*e*P		**P**	**08 23 56.0**	**+1.0**
CHTO				*e**PP		pP	08 24 02.7	-4.0
CHTO				pmax		pmax		
	comp=Z,38nm,1.1s,mb4.9							
CHTO	**Chiang Mai**	**41.42**	**274**	*e*P		**P**	**08 23 56.0**	**+1.1**
	comp=Z,38nm,1.1s,mb4.9							
CHTO				*e*pP		pP	08 24 02.7	-4.0
CHTO	**Chiang Mai**	**41.42**	**274**	P		**P**	**08 23 56.4**	**+1.4**
	SNR=18							
CHTO	**Chiang Mai**	**41.42**	**274**	P		**P**	**08 23 56.4**	**+1.4**
	SNR=18							
SEY	**Seymchan**	**41.45**	**6**	⇑*e*P		**P**	**08 23 55.1**	**+0.5**
CM31	**Chiang Mai Arr**	**41.49**	**273**	*e*P		**P**	**08 23 55.6**	**0.0**
	comp=Z,17nm,0.8s,mb4.7							
BOD	**Bodaibo**	**41.59**	**337**	*e*P		**P**	**08 23 54.2**	**-1.6**
BOD				pmax		pmax		
	comp=Z,14nm,1.8s,mb4.3							
CTA	**Charters Tower**	**41.89**	**176**	*e*P		**P**	**08 23 59.2**	**+0.6**
	comp=Z,28nm,1.1s,mb4.8							
CTA				*e*			08 24 04.9	
CTA	**Charters Tower**	**41.89**	**176**	*

CTAO Charters Tower 41.89 176 *e*P **P 08 23 59.4 +0.8**
CTAO pmax pmax
comp=Z,77nm,1.0s,mb5.3
CTAO Charters Tower 41.89 176 *e*P **P 08 23 59.4 +0.7**
comp=Z,77nm,1.0s,mb5.3
ZAK Zakamensk 42.11 322⇓ *i*P **P 08 24 00.7 +0.5**
ZAK pmax pmax
comp=Z,32nm,1.3s,mb4.8
IRK Irkutsk 42.47 325 *e*P **P 08 24 00.8 -2.3**
IRK pmax pmax
comp=Z,122nm,1.9s,mb5.2
WRAB Tennant Creek 42.49 192 P **P 08 24 01.0 -2.6**
comp=Z,441nm,1.0s,mb6.0,SNR=11
WRAB Tennant Creek 42.49 192 *e*P **P 08 24 01.2 -2.4**
WRAB *e**PP pP 08 24 08.1 -7.3
WRAB pmax pmax
comp=Z,76nm,1.0s,mb5.3
WRAB Tennant Creek 42.49 192 *e*P **P 08 24 01.2 -2.4**
comp=Z,76nm,1.0s,mb5.3
WRAB *e*pP pP 08 24 08.1 -7.3
WB2 Warramunga Arr 42.50 192 *e*P **P 08 24 01.4 -2.3**
WB2 *e* 08 24 08.8
WRA Warramunga Arr 42.50 192 P **P 08 24 01.2 -2.4**
comp=Z,22nm,0.9s,mb4.9,baz=12,slow=8.6,SNR=42
WRA LR LR 08 41 02.7
comp=Z,344nm,18.3s,MS4.3,baz=25,slow=35
TLY Talaya 42.52 324 P **P 08 24 03.8 +0.2**
comp=Z,120nm,1.7s,mb5.3,SNR=9.9
TLY Talaya 42.52 324 *d i*P **P 08 24 02.9 -0.7**
TLY *e*S **S 08 30 26.1 +3.3**
TLY *e*SSS 08 34 02.2
TLY pmax pmax
comp=Z,39nm,1.3s,mb5.0
TLY MLR MLR
comp=Z,464nm,19.0s,MS4.4
TLY Talaya 42.52 324 *e*P **P 08 24 04.6 +1.0**
comp=Z,13nm,0.9s,mb4.7
TLY Talaya 42.52 324 P **P 08 24 05.1 +1.5**
SNR=16
TLY Talaya 42.52 324 P **P 08 24 05.1 +1.5**
SNR=16
ADK Adak 43.02 36 *e*P **P 08 24 08.1 +0.5**
ADK pmax pmax
comp=Z,234nm,1.8s,mb5.6
ADK Adak 43.02 36 *e*P **P 08 24 08.1 +0.5**
comp=Z,234nm,1.8s,mb5.6
FITZ Fitzroy Crossi 43.32 205 *e*P **P 08 24 11.6 +1.3**
comp=Z,18nm,1.0s,mb4.8
FITZ Fitzroy Crossi 43.32 205 P **P 08 24 10.2 -0.1**
comp=Z,8.1nm,0.9s,mb4.5,baz=77,slow=9.4,SNR=9.9
MOY Mondy 43.98 323 *e*P **P 08 24 16.2 +0.9**
MOY pmax pmax
comp=Z,90nm,2.7s,mb5.0
KULM Kulim 44.27 254 *e*P **P 08 24 19.0 +0.9**
ASAR Alice Springs 46.21 192 P **P 08 24 30.8 -2.5**
comp=Z,8.6nm,0.8s,mb4.7,baz=8.5,slow=6.5,SNR=47
LSA Lhasa 47.09 291 P **P 08 24 43.0 +2.8**
LSA Lhasa 47.09 291 *e*P **P 08 24 42.8 +2.6**
LSA pmax pmax
comp=Z,28nm,0.9s,mb5.2
LSA Lhasa 47.09 291 *e*P **P 08 24 42.8 +2.6**
comp=Z,28nm,0.9s,mb5.2
EIDS Eidsvold 47.66 170 *e*P **P 08 24 43.9 -0.7**
comp=Z,32nm,1.4s,mb5.2
BILL Bilibino 48.29 11 *e*P **P 08 24 49.2 +0.2**
BILL pmax pmax
comp=Z,65nm,1.5s,mb5.4
BILL Bilibino 48.29 11 *e*P **P 08 24 49.2 +0.2**
comp=Z,64nm,1.5s,mb5.4
MBWA Marble Bar 48.54 210 *e*P **P 08 24 50.1 -1.3**
comp=Z,32nm,0.9s,mb5.3
AKUT Akutan 49.96 37 *e*P **P 08 25 02.3 +0.4**
comp=Z,450nm,1.6s,mb6.2
WMQ Urumqi 50.37 309 P **P 08 25 07.0 +1.8**
WMQ PP PP 08 27 05.0 +4.1
WMQ S **S 08 32 13.0 -2.4**
WMQ SS SS 08 35 45.0 -4.4
WMQ AMB AMB
comp=Z,85nm,1.0s,mb5.7
WMQ AMB AMB
comp=Z,425nm,5.0s
WMQ LR LR
comp=N,215nm,15.0s,MS4.6
WMQ LR LR
comp=E,346nm,15.0s,MS4.6
WMQ LR LR
comp=Z,386nm,15.0s,MS4.5
TIXI Tiksi 50.40 354⇑ *e*P **P 08 25 03.9 -1.1**
TIXI pmax pmax
comp=Z,22nm,1.3s,mb5.0
TIXI Tiksi 50.40 354 *e*P **P 08 25 04.4 -0.6**
comp=Z,42nm,1.6s,mb5.2
GAMB Gambell 51.42 24 *e*P **P 08 25 13.2 +0.4**
comp=Z,25nm,1.0s,mb5.1
JIRN Jiri 51.61 289 *e*P **P 08 25 15.0 +0.2**
comp=Z,60nm,0.9s,mb5.5
GUN Gumba 51.85 289 *e*P **P 08 25 17.6 +1.0**
comp=Z,358nm,1.9s,mb6.0
PKI Pulchoki 52.31 289 *e*P **P 08 25 20.4 +0.4**
PKIN Phulchoki 52.32 289 *e*P **P 08 25 20.3 +0.2**
KKN Kakani 52.39 289 *e*P **P 08 25 21.8 +1.2**
DMN Daman 52.57 289 *e*P **P 08 25 22.8 +0.9**
ARMA Armidale 52.70 171 *e*P **P 08 25 22.2 -0.5**
ARMA *e* 08 25 29.1
GKN Gorkha 52.93 289 *e*P **P 08 25 26.4 +1.0**
STKA Stephens Creek 53.53 182 *e*P **P 08 25 26.9 -1.9**
comp=Z,19nm,0.9s,mb5.0
STKA Stephens Creek 53.53 182 P **P 08 25 27.2 -1.5**
comp=Z,13nm,0.8s,mb4.9,baz=339,slow=6.7,SNR=14
STKA LR LR 08 50 47.5
comp=Z,270nm,18.6s,MS4.3,baz=17,slow=39
DANN Dangsing 53.65 290 *e*P **P 08 25 30.5 +0.6**
comp=Z,173nm,0.9s,mb6.0
TNA Tin City 53.74 23 *e*P **P 08 25 30.5 +0.6**
comp=Z,33nm,1.1s,mb5.2
KOLN Koldanda 53.87 289 *e*P **P 08 25 31.4 -0.1**
comp=Z,56nm,1.1s,mb5.4
ZAA0 Zalesovo Array 53.98 322 *e*P **P 08 25 31.7 -0.2**
ZALV Zalesovo Beam 53.98 322 P **P 08 25 31.6 -0.3**
comp=Z,11nm,0.6s,mb5.0,baz=105,slow=7.3,SNR=27
ZALV LR LR 08 49 03.5
comp=Z,281nm,19.2s,MS4.3,baz=69,slow=36
ZAL Zalesovo 53.98 322 P **P 08 25 31.6 -0.3**
FORT Forrest 54.38 196 *e*P **P 08 25 32.9 -2.0**
comp=Z,46nm,0.9s,mb5.4
MK31 Makanchi Array 54.48 313 *i*P **P 08 25 35.7 +0.1**
MK31 pmax pmax
comp=Z,88nm,1.5s,mb5.5
MK31 Makanchi Array 54.48 313 *e*P **P 08 25 36.0 +0.4**
MKAR Makanchi Array 54.48 313 P **P 08 25 36.0 +0.3**
comp=Z,8.6nm,0.6s,mb4.8,baz=92,slow=9.3,SNR=77
NVS Novosibirsk 55.07 322⇑ *i*P **P 08 25 39.4 -0.3**
NVS pmax pmax
comp=Z,97nm,1.7s,mb5.6
NVS pmax pmax
comp=N,21nm,1.6s
NVS pmax pmax
comp=E,61nm,1.5s
RIV Riverview 55.99 172 *e*P **P 08 25 53.6 +7.1**
SVW2 Sparrevohn 57.23 30 *e*P **P 08 25 55.6 +0.6**
KURK Kurchatov 57.25 317 P **P 08 25 55.4 0.0**
comp=E,189nm,1.1s,mb6.0,SNR=17
KURK Kurchatov 57.25 317 *e*P **P 08 25 55.3 -0.1**
KURK pmax pmax
comp=Z,39nm,1.0s,mb5.4
KURK Kurchatov 57.25 317 *e*P **P 08 25 55.3 -0.1**
comp=Z,39nm,1.0s,mb5.4
KURK Kurchatov 57.25 317 P **P 08 25 55.3 -0.1**
SNR=31
KURK Kurchatov 57.25 317 P **P 08 25 55.3 -0.1**
SNR=31
CNB Canberra Magne 57.25 174 *e*P **P 08 25 55.5 0.0**
comp=Z,51nm,1.1s,mb5.5
TTA Tatalina 57.51 28 *e*P **P 08 25 58.0 +1.0**
KLBR Kellerberrin 58.52 205 *e*P **P 08 26 04.8 +0.4**
comp=Z,490nm,3.5s
ULHL Ulahol 58.69 307 P **P 08 26 06.2 +0.6**
SNR=25
KSH Kashi 59.04 304 *i*P **P 08 26 10.0 +1.9**
KSH *e*PCP PcP 08 26 59.0 +2.3
KSH *e*PP PP 08 28 22.3 +3.5
KSH *e*SCP ScP 08 30 51.3 -2.7
KSH *e*PCS PcS 08 31 00.5 +2.0
KSH *e*S **S 08 34 05.5 -6.4**
KSH *e*XS sS 08 34 38.0 +5.7
KSH *e*SCS ScS 08 35 48.3 -6.5
KSH LR LR
comp=Z,539nm,4.6s
TKM2 Tokmak 2 59.14 308 *e*P **P 08 26 09.6 +0.8**
TKM2 pmax pmax
comp=Z,43nm,1.1s,mb5.4
TKM2 Tokmak 2 59.14 308 *e*P **P 08 26 09.6 +0.8**
comp=Z,43nm,1.1s,mb5.4
TKM2 Tokmak 2 59.14 308 P **P 08 26 10.0 +1.3**
SNR=17
TOO Toolangi 59.24 178 *e*P **P 08 26 09.3 0.0**
comp=Z,364nm,0.9s,mb6.4
TOO Toolangi 59.24 178 *e*P **P 08 26 09.3 0.0**
TOO pmax pmax
comp=Z,364nm,0.9s,mb6.4
IMA2 Indian Mountai 59.34 25 *e*P **P 08 26 09.8 +0.1**
KZA Kyzart 59.43 307 P **P 08 26 13.1 +2.3**
SNR=31
KBK Karagaybulak 59.63 307 P **P 08 26 13.4 +1.3**
SNR=10
CHMS Chumysh 59.76 308 P **P 08 26 12.2 -0.8**
SNR=6.0
FRU Bishkek 59.86 308 *e*P **P 08 26 15.0 +1.3**
FRU pmax pmax
comp=Z,120nm,1.8s,mb5.6
USP Ospenovka 59.93 308 P **P 08 26 15.0 +0.8**
SNR=12
AAK Ala-Archa 59.97 307 P **P 08 26 14.8 +0.4**
comp=Z,89nm,1.0s,mb5.8,SNR=5.9
AAK Ala-Archa 59.97 307 P **P 08 26 15.1 +0.7**
SNR=6.3
UCH Uchtor 59.97 307 *e*P **P 08 26 16.1 +1.6**
comp=Z,111nm,1.4s,mb5.7
UCH Uchtor 59.97 307 P **P 08 26 16.0 +1.5**
SNR=30
PMR Palmer 60.37 31 *e*P **P 08 26 16.5 -0.4**
PMR pmax pmax
comp=Z,31nm,1.0s,mb5.3
PMR Palmer 60.37 31 *e*P **P 08 26 16.5 -0.4**
comp=Z,31nm,1.0s,mb5.3
EKS2 Erkin-Say 60.49 308 *e*P **P 08 26 18.8 +0.8**
comp=Z,25nm,1.2s,mb5.1
AML Almayashu 60.59 307 *e*P **P 08 26 19.9 +1.2**
comp=Z,40nm,1.1s,mb5.5
AML Almayashu 60.59 307 P **P 08 26 20.6 +1.9**
SNR=12
SML Sawmill 60.78 30 *e*P **P 08 26 17.1 -2.5**
COLA College 61.46 27 *e*P **P 08 26 22.5 -1.7**
COLA pmax pmax
comp=Z,7.0nm,0.7s,mb4.9
COLA College 61.46 27 *e*P **P 08 26 22.4 -1.7**
comp=Z,6.8nm,0.7s,mb4.9
DIV Divide 61.92 31 *e*P **P 08 26 27.8 +0.4**
comp=Z,103nm,1.6s,mb5.7
BRVK Borovoye 62.51 319 P **P 08 26 31.3 -0.1**
comp=Z,299nm,0.7s,mb6.5,SNR=19
BRVK Borovoye 62.51 319 *e*P **P 08 26 31.6 +0.2**
BRVK pmax pmax
comp=Z,32nm,0.7s,mb5.6
BRVK Borovoye 62.51 319 *e*P **P 08 26 31.6 +0.2**
comp=Z,32nm,0.7s,mb5.5
BRVK Borovoye 62.51 319 P **P 08 26 31.3 -0.2**
SNR=37
BRVK Borovoye 62.51 319 P **P 08 26 31.3 -0.2**
SNR=37
KK31 Karatay Array 62.85 308 *i*P **P 08 26 33.6 -0.3**
KK31 pmax pmax
comp=Z,43nm,0.9s,mb5.6
KK31 Karatay Array 62.85 308 *i*P **P 08 26 33.7 -0.2**
ZRNK Zerenda 63.28 319 *i*P **P 08 26 35.9 -0.7**
ZRNK pmax pmax
comp=Z,53nm,1.2s,mb5.5
EGAK Eagle 64.29 27 *e*P **P 08 26 42.6 -0.4**
comp=Z,5.6nm,0.7s,mb4.7
DAWY Dawson 65.03 28 *e*P **P 08 26 48.3 +0.4**
KBL Kabul 65.16 299 *e*P **P 08 26 50.0 +0.7**
comp=Z,100nm,1.5s,mb5.6
SKAG Skagway 67.11 33 *e*P **P 08 27 01.1 -0.2**
comp=Z,42nm,1.4s,mb5.3
SKAG LR LR
comp=Z,500nm,22.0s,MS4.7
INK Inuvik 67.37 24 *e*P **P 08 27 02.3 -0.5**
comp=Z,811nm,0.9s
INK Inuvik 67.37 24 P **P 08 27 02.4 -0.4**
comp=Z,30nm,1.1s,mb5.2,baz=278,slow=6.2,SNR=64
SVE Sverdlovsk 67.84 324 *e*P **P 08 27 05.6 -0.3**
SVE pmax pmax
comp=Z,69nm,1.3s,mb5.5
ARU Arti 69.03 324 *d i*P **P 08 27 13.1 -0.3**
ARU *e* 08 27 36.2
ARU *e* 08 29 44.5
ARU *e*PPP 08 31 22.2
ARU *e*S S 08 36 15.9 +0.8
ARU *e*SS SS 08 40 39.9 -1.1
ARU pmax pmax
comp=Z,84nm,1.7s,mb5.4
ARU Arti 69.03 324⇑ *i*P **P 08 27 13.2 -0.2**
AB31 Akbulak array 69.33 316 *i*P **P 08 27 14.5 -0.9**
DLBC Dease Lake 69.96 34 *e*P **P 08 27 19.6 +0.5**
AKTK Aktyubinsk 70.34 317 *i*P **P 08 27 20.3 -1.3**
AKTO Aktyubinsk 70.34 317 *i*P **P 08 27 20.3 -1.3**
ABKT Ailbek 73.05 305 P **P 08 27 39.3 +1.2**
comp=Z,101nm,1.3s,mb5.6,SNR=5.1
SPITS Spitsbergen Ar 75.58 350 P **P 08 27 51.8 -0.4**
comp=Z,4.0nm,0.6s,mb4.5,baz=0.0,slow=6.9,SNR=7.9
OBC Olympics--Boni 75.83 44 P **P 08 27 55.5 +1.5**
OSD Olympics--Snow 76.13 44 P **P 08 27 57.0 +1.2**
NLWA Neilton Lookou 76.15 44 *e*P **P 08 27 57.0 +1.1**
comp=Z,12nm,0.6s,mb5.0
NLWA Neilton Lookou 76.15 44⇑P **P 08 27 56.5 +0.6**
baz=76,SNR=11
SNB Saturna Island 76.18 43 P **P 08 27 56.9 +0.8**
YKW3 Yellowknife Ar 76.24 28 *e*P **P 08 27 55.3 -0.8**
YKA Yellowknife Ar 76.27 28 P **P 08 27 55.4 -0.8**
YKA LR LR 08 59 16.6
YKA Yellowknife Ar 76.27 28 P **P 08 27 55.4 -0.8**
comp=Z,8.3nm,0.5s,mb4.9,baz=293,slow=5.9,SNR=107
YKA LR LR 08 59 16.6
comp=Z,306nm,21.4s,MS4.6,baz=225,slow=34
D03A Wishkah Elem. 76.30 45⇓P **P 08 27 57.9 +1.2**
baz=76
ON2 Olympics--Nort 76.36 45 P **P 08 27 58.2 +1.1**
SQM Sequim 76.47 43 P **P 08 27 55.8 -2.0**
E03A Lebam 76.60 45⇑P **P 08 27 58.8 +0.3**
baz=76,SNR=7.0
C04A Brinnon 76.63 44⇑P **P 08 27 59.1 +0.4**
baz=76
PPT Papeete 76.69 115 LR LR 08 54 30.7
comp=Z,382nm,21.9s,MS4.7,baz=184,slow=30
GNW Green Mountain 76.77 44 *e*P **P 08 28 00.2 +0.8**
comp=Z,45nm,1.2s,mb5.3
F03A Seaside 76.79 46⇑P **P 08 27 59.9 +0.3**
baz=77,SNR=5.8
A05A Maple Falls 76.80 42⇓P **P 08 27 59.6 +0.1**
baz=77
TMCR Tamitsa 76.81 334 *e*P **P 08 27 57.0 -2.3**
TMCR *e**PP pP 08 28 10.5 -1.4
RES Resolute Bay 76.85 13 *e*P **P 08 27 59.5 +0.1**
comp=Z,1μm,0.8s
B05A Bryant 77.02 43⇓P **P 08 28 00.9 +0.1**
baz=77,SNR=5.6
APA Apatity 77.12 338⇑ *e*P **P 08 28 00.6 -0.4**
APA *i* 08 28 18.0
APA pmax pmax
comp=Z,36nm,1.2s,mb5.2
K01A Sixes 77.13 49⇑P **P 08 28 02.2 +0.6**
baz=77
E04A Onalaska 77.14 45⇓P **P 08 28 02.2 +0.7**
baz=77
A06A Chilliwack 77.14 42⇑P **P 08 28 01.3 -0.2**
baz=77
G03A Yamhill 77.17 46⇓P **P 08 28 01.9 +0.2**
baz=77
I02A Mapleton 77.20 48⇑P **P 08 28 02.5 +0.5**
baz=77
B06A Marblemount 77.33 43⇓P **P 08 28 02.4 -0.2**
baz=77
H03A Soap Creek Ran 77.36 47⇑P **P 08 28 02.8 0.0**
baz=77
D05A Enumclaw 77.43 44⇓P **P 08 28 03.8 +0.7**
baz=77
C05A Tolt Reservoir 77.46 44⇓P **P 08 28 03.4 +0.1**
baz=77
F04A Amboy 77.55 45⇓P **P 08 28 03.8 -0.1**
baz=78,SNR=7.9
TDL Tradedollar La 77.55 45 P **P 08 28 04.5 +0.6**
I03A Eugene 77.59 48⇑P **P 08 28 04.5 +0.4**
baz=78
LON Longmire 77.69 45 *e*P **P 08 28 04.6 0.0**
G04A Mulino 77.74 46⇓P **P 08 28 05.5 +0.5**
baz=78,SNR=5.3
K02A Glendale 77.83 49⇑P **P 08 28 06.0 +0.5**
baz=78
A07A Ashnola River, 77.84 42 P **P 08 28 05.8 +0.4**
baz=78,SNR=9.4
L02A Cave Junction 77.94 49⇑P **P 08 28 06.6 +0.5**
baz=78
J03A Ideyld Park 78.00 48⇓P **P 08 28 06.7 +0.3**
baz=78,SNR=5.5
JCC Jacoby Creek 78.07 51⇓P **P 08 28 07.7 +0.9**
baz=78
KEV Kevo 78.11 341 *e*p **P 08 28 00.2 -6.3**
comp=Z,19nm,1.0s,mb5.0
KEV Kevo 78.11 341 *e*P **P 08 28 00.2 -6.3**
KEV pmax pmax
comp=Z,19nm,1.0s,mb5.0
H04A Detroit Lake 78.11 47⇑P **P 08 28 06.9 -0.1**
baz=78,SNR=15
D06A Cle Elum 78.17 44⇓P **P 08 28 07.7 +0.4**
baz=78
F05A White Salmon 78.20 45⇓P **P 08 28 07.6 +0.2**
baz=78
B07A Winthrop 78.20 42⇑P **P 08 28 07.2 -0.2**
baz=78,SNR=8.2
I04A Tendick Farm, 78.24 48⇓P **P 08 28 07.8 0.0**
baz=78,SNR=9.6
HUMO Hull Mountain 78.25 49 *e*P **P 08 28 08.9 +1.1**
comp=Z,11nm,0.8s,mb4.8
HUMO Hull Mountain 78.25 49⇓P **P 08 28 08.1 +0.3**
baz=78,SNR=9.1
E06A Yakima 78.30 45 P **P 08 28 08.5 +0.5**
baz=78,SNR=9.4
TBM Table Mountain 78.33 44 P **P 08 28 08.3 +0.2**
BBOR Butler Butte 78.35 48 P **P 08 28 09.0 +0.6**
EBG Ellensburg 78.44 44 P **P 08 28 09.2 +0.4**
C07A Waterville 78.50 43 P **P 08 28 08.9 -0.1**
baz=78,SNR=6.4
G05A Wamic 78.51 46⇓P **P 08 28 08.9 -0.2**
baz=78
A08A Turner Farm, O 78.56 42 P **P 08 28 09.7 +0.3**
baz=78,SNR=12
WTV Waterville 78.57 43 P **P 08 28 09.4 0.0**
N02C Big Bar 78.58 51 P **P 08 28 10.3 +0.6**
baz=78,SNR=5.8
J04A Umpqua Nationa 78.63 48⇓P **P 08 28 10.2 +0.3**
baz=78,SNR=6.9
ARCES ARCESS Array B 78.67 341 P **P 08 28 09.0 -0.6**
comp=Z,15nm,0.9s,mb4.9,baz=72,slow=7.0,SNR=22
ARCES LR LR 09 06 59.9
comp=Z,212nm,19.0s,MS4.5,baz=278,slow=39
ARE0 ARCESS Array S 78.67 341 *e*P **P 08 28 09.4 -0.2**
F06A Goldendale 78.69 45⇓P **P 08 28 10.0 -0.1**
baz=79
YBH Yreka Blue Hor 78.71 50 *e*P **P 08 28 11.4 +1.0**
YBH pmax pmax
comp=Z,33nm,1.3s
YBH Yreka Blue Hor 78.71 50 *e*P **P 08 28 11.4 +1.0**
comp=Z,33nm,1.3s,mb5.1
YBH Yreka Blue Hor 78.71 50 P **P 08 28 10.9 +0.6**
baz=79,SNR=13
M02C Callahan 78.72 50⇑P **P 08 28 11.2 +0.7**
baz=79,SNR=6.9
D07A Quincy 78.73 44⇑P **P 08 28 10.0 -0.3**
baz=79
MXC Moxie City 78.73 44 P **P 08 28 11.2 +0.9**
B08A Colville Reser 78.73 42 P **P 08 28 10.2 -0.1**
baz=79,SNR=22
H05A Madras 78.77 46 P **P 08 28 10.9 +0.4**
baz=79,SNR=11
I05A Bend 78.90 47⇑P **P 08 28 11.5 +0.1**
baz=79
G06A Carlson Farm, 78.96 46⇑P **P 08 28 11.7 0.0**
baz=79
A09A Danville 78.98 42 P **P 08 28 12.1 +0.4**
baz=79,SNR=11
E07A Sunnyside 79.02 44⇑P **P 08 28 11.9 -0.1**
baz=79
K04A Chilquin 79.11 48⇓P **P 08 28 12.4 -0.1**
baz=79
C08A Higginbotham F 79.11 43 P **P 08 28 12.4 0.0**
baz=79,SNR=12
L04A Klamath Falls 79.14 49⇓P **P 08 28 12.8 +0.1**
baz=79,SNR=6.8
O02C Red Bluff 79.17 51⇓P **P 08 28 13.4 +0.5**
baz=79,SNR=7.8
F07A Phinny Hill Vi 79.20 45⇓P **P 08 28 13.1 +0.2**
baz=79
WDC Whiskeytown Da 79.21 51 *e*P **P 08 28 13.3 +0.2**
WDC pmax pmax
comp=Z,16nm,1.0s,mb4.9
WDC Whiskeytown Da 79.21 51 *e*P **P 08 28 13.2 +0.1**
comp=Z,16nm,1.0s,mb4.9
WDC Whiskeytown Da 79.21 51 P **P 08 28 13.2 +0.1**
baz=79,SNR=8.0
J05A Fort Rock 79.22 48 P **P 08 28 13.9 +0.8**
baz=79,SNR=26
VIPM Ingram Point 79.22 46 P **P 08 28 13.4 +0.3**
M03C McCloud 79.28 50 P **P 08 28 14.0 +0.5**
baz=79,SNR=12
HAWA Hanford 79.29 44 *e*P **P 08 28 13.9 +0.5**
comp=Z,79nm,1.8s,mb5.3
M04C Macdoel 79.31 49⇓P **P 08 28 13.9 +0.2**
baz=79,SNR=13
H06A Lindquist Farm 79.33 46⇑P **P 08 28 13.7 0.0**
baz=79,SNR=9.8
GASB Alder Springs 79.40 52⇓P **P 08 28 14.1 0.0**
baz=79
B09A Rice 79.45 42 P **P 08 28 14.6 +0.3**
baz=79,SNR=9.6
D08A Wollman Farm, 79.45 44 P **P 08 28 14.4 +0.2**
baz=79,SNR=9.7
OD2 Odessa Site #2 79.46 43 P **P 08 28 14.4 0.0**
E08A Dider Farm, El 79.56 44⇓P **P 08 28 14.9 0.0**
baz=80
C09A Chrisman Ranch 79.59 43 P **P 08 28 15.1 0.0**
baz=80,SNR=7.7
G07A Ruggs Ranch, H 79.59 45⇓P **P 08 28 15.2 +0.1**
baz=80,SNR=6.6
A10A Northport 79.61 41⇑P **P 08 28 14.9 -0.2**
baz=80
K05A Summer Lake 79.65 48⇓P **P 08 28 16.2 +0.7**
baz=80
I06A Prineville 79.69 47 P **P 08 28 16.3 +0.6**
baz=80,SNR=19
O03C Acorn Hollow, 79.78 51⇓P **P 08 28 15.9 -0.3**
baz=80
D09A Jones Farm, Ri 79.84 43⇓P **P 08 28 15.9 -0.5**
baz=80,SNR=5.4
FARB Farallon Islan 79.84 54⇓P **P 08 28 16.1 -0.5**
baz=80
MNRC McLaughlin Nat 79.86 52⇓P **P 08 28 16.6 0.0**
baz=80
H07A Lands Inn, Kim 79.90 46⇑P **P 08 28 16.7 -0.1**
baz=80
HATC Hat Creek Radi 79.91 50⇑P **P 08 28 16.8 -0.1**
baz=80,SNR=6.1
L05A Lakeview 79.92 49⇑P **P 08 28 17.1 +0.1**
baz=80,SNR=9.7
M05C Lookout 79.94 50⇓P **P 08 28 17.1 0.0**
baz=80,SNR=8.4
LBCM Butte Creek Ri 79.98 50 P **P 08 28 17.3 0.0**
F08A Pendleton 79.99 45⇓P **P 08 28 17.0 -0.2**
baz=80,SNR=7.9
CVS Carmenet Viney 80.03 53⇓P **P 08 28 17.1 -0.5**
baz=80
G08A Pilot Rock 80.05 45 P **P 08 28 17.9 +0.3**
baz=80,SNR=10
JOF Joensuu 80.06 334 *ep* **P 08 28 15.6 -1.7**
comp=Z,7.9nm,0.6s,mb4.8
K06A Valley Falls 80.06 48 P **P 08 28 17.9 +0.1**
baz=80,SNR=15
B10A Chitwood Farm, 80.07 42⇓P **P 08 28 17.7 +0.1**
baz=80
VRHR Novokhopersk 80.11 321 *e*P **P 08 28 17.7 -0.1**
VRHR pmax pmax
comp=Z,30nm,0.4s,mb5.6
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.8s
I07A Izee 80.12 47 P **P 08 28 17.7 -0.3**
baz=80,SNR=10.0
E09A Wood Farm, Sta 80.14 44 P **P 08 28 18.4 +0.3**
baz=80,SNR=8.9
NEW Newport 80.14 42 *e*P **P 08 28 17.9 -0.1**

NEW pmax pmax
comp=Z,14nm,0.8s
NEW Newport 80.14 42 *eP* **P 08 28 17.9 -0.2**
comp=Z,14nm,0.8s,mb4.9
C10A Spilker Farm, 80.19 42 P **P 08 28 18.4 +0.1**
baz=80,SNR=9.3
SUTB Sutter Butte 80.22 52 ⇑P **P 08 28 18.2 -0.4**
baz=80,SNR=6.5
Q03C Winters 80.26 52 ⇓P **P 08 28 18.9 +0.1**
baz=80
ORV Oroville 80.31 51 P **P 08 28 18.9 -0.3**
baz=80,SNR=20
MOD Modoc 80.34 49 *eP* **P 08 28 19.7 +0.5**
comp=Z,12nm,0.8s,mb4.9
MOD Modoc 80.34 49 P **P 08 28 19.5 +0.2**
baz=80,SNR=9.0
O04C Chester 80.35 50 ⇑P **P 08 28 19.0 -0.3**
baz=80,SNR=18
A11A Hall Mountain, 80.35 41 ⇓P **P 08 28 19.5 +0.4**
baz=80,SNR=15
OHCM Honcut 80.40 52 *eP* **P 08 28 19.7 +0.1**
MOS Moscow 80.43 326 *eP* **P 08 28 17.6 -1.8**
MOS *e* pP 08 28 32.3 +0.2
MOS *e* 08 31 19.8
EDM Edmonton 80.43 36 *eP* **P 08 28 19.8 +0.3**
M06C Likely Place G 80.47 49 ⇑P **P 08 28 19.8 -0.1**
baz=80,SNR=12
D10A Wagner Farm, O 80.50 43 ⇓P **P 08 28 19.5 -0.5**
baz=80,SNR=7.7
ELFS Eagle Lake Fie 80.50 50 ⇑P **P 08 28 20.1 0.0**
baz=80
J07A Hines 80.50 47 ⇓P **P 08 28 19.8 -0.3**
baz=80,SNR=30
H08A Prairie City 80.52 46 P **P 08 28 20.4 +0.3**
baz=80,SNR=17
B11A Sandpoint 80.55 42 P **P 08 28 20.6 +0.5**
baz=80,SNR=15
F09A S2 Ranch, Elgi 80.59 45 ⇑P **P 08 28 20.4 -0.1**
baz=80
O05C Quincy 80.59 51 ⇑P **P 08 28 20.1 -0.5**
baz=80
Q04C Lincoln 80.65 52 ⇑P **P 08 28 21.2 +0.2**
baz=81,SNR=5.7
A12A Yaak River Ran 80.79 41 ⇑P **P 08 28 21.7 +0.2**
baz=81
K07A Rock Creek Ran 80.79 48 P **P 08 28 22.1 +0.4**
baz=81,SNR=21
WENL Wente Brothers 80.80 53 ⇓P **P 08 28 21.6 -0.2**
baz=81
I08A Drewsey 80.81 46 P **P 08 28 21.9 +0.2**
baz=81,SNR=9.9
E10A Myers Farm, Un 80.81 44 P **P 08 28 21.7 0.0**
baz=81,SNR=6.1
F10A Beach Ranch, E 80.93 44 ⇓P **P 08 28 22.3 0.0**
baz=81,SNR=5.7
L07A Adell 80.97 48 ⇑P **P 08 28 22.7 +0.1**
baz=81,SNR=27
B12A Libby 81.01 41 ⇓P **P 08 28 22.7 0.0**
baz=81,SNR=5.9
BEKR Beckwourth 81.03 51 ⇑P **P 08 28 22.7 -0.3**
baz=81,SNR=21
P05C Yuba Gap, Truc 81.05 51 ⇑P **P 08 28 23.3 +0.2**
baz=81
J08A Circle Bar Ran 81.08 47 ⇓P **P 08 28 23.1 0.0**
baz=81,SNR=26
N06A Buffalo Meadow 81.09 50 ⇓P **P 08 28 22.9 -0.3**
baz=81,SNR=15
D11A Klaveano Farm, 81.09 43 P **P 08 28 22.8 -0.4**
baz=81,SNR=20
H09A Durkee 81.14 45 ⇑P **P 08 28 23.5 +0.1**
baz=81
LAVA Lava Cap Winer 81.15 52 ⇑P **P 08 28 22.8 -0.8**
baz=81
S04C Ingram Canyon, 81.16 53 ⇓P **P 08 28 22.9 -0.8**
baz=81,SNR=5.5
R04C Big Horse Ranc 81.18 52 ⇓P **P 08 28 22.7 -1.0**
baz=81
OBN Obninsk 81.24 326 *c iP* **P 08 28 22.9 -0.9**
OBN *i* 08 28 30.0
OBN pmax pmax
comp=Z,90nm,2.5s,mb5.3
OBN MLR MLR
comp=Z,300nm,15.0s,MS4.8
OBN Obninsk 81.24 326 ⇑ *iP* **P 08 28 22.0 -1.8**
OBN LR LR
comp=Z,300nm,15.0s,MS4.8
G10A Bishop Farm, J 81.26 45 P **P 08 28 24.0 0.0**
baz=81,SNR=23
K08A Mann Creek Ran 81.30 48 ⇓P **P 08 28 24.3 0.0**
baz=81,SNR=22
O06A Flanigan 81.30 50 ⇑P **P 08 28 24.2 -0.2**
baz=81,SNR=19
BMO Blue Mountains 81.30 45 *eP* **P 08 28 24.0 -0.3**
BMO pmax pmax
comp=Z,11nm,0.6s,mb5.0
BMO Blue Mountains 81.30 45 *eP* **P 08 28 24.0 -0.3**
comp=Z,12nm,0.6s,mb5.0
WVOR Wild Horse Val 81.31 48 *eP* **P 08 28 23.8 -0.6**
WVOR pmax pmax
comp=Z,58nm,1.6s,mb5.3
WVOR Wild Horse Val 81.31 48 *eP* **P 08 28 23.8 -0.5**
comp=Z,58nm,1.6s,mb5.3
M07A Soldier Meadow 81.32 49 ⇑P **P 08 28 24.7 +0.2**
baz=81
I09A Lost Marbles R 81.34 46 P **P 08 28 24.7 +0.2**
baz=81,SNR=12
PACP Pacheco Peak 81.36 54 ⇓P **P 08 28 24.5 -0.3**
baz=81,SNR=5.5
HAST Hastings Reser 81.39 54 ⇑P **P 08 28 25.0 +0.1**
baz=81
P06A Stead Airport, 81.43 51 ⇓P **P 08 28 25.3 +0.2**
baz=81
E11A Bogner Ranch, 81.44 43 P **P 08 28 24.5 -0.5**
baz=81,SNR=18
VRSR Storozhevoye 81.47 322 *eP* **P 08 28 24.5 -0.5**
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
VRSR pmax pmax
comp=N,9.0nm,1.9s
VRSR pmax pmax
comp=E,10.0nm,1.9s
VORD Divnogorie 81.51 322 *eP* **P 08 28 25.4 +0.1**
VORD pmax pmax
comp=Z,40nm,0.9s,mb5.3
VORD pmax pmax
comp=N,6.0nm,0.5s
VORD pmax pmax
comp=E,5.0nm,0.4s
A13A Flathead Natio 81.54 41 ⇓P **P 08 28 26.0 +0.5**
baz=81
J09A Fry Pan Ranch, 81.57 47 P **P 08 28 26.0 +0.3**
baz=82,SNR=29
L08A Fields 81.60 48 ⇑P **P 08 28 25.9 0.0**
baz=82,SNR=22
MTA Mtatsminda 81.63 311 P **P 08 28 25.9 -0.2**
R05C Kirkwood Meado 81.65 52 ⇑P **P 08 28 26.3 +0.1**
baz=82
TBLG Delisi 81.65 312 *eP* **P 08 28 29.0 +2.8**
TBLG Delisi 81.65 312 P **P 08 28 29.0 +2.8**
F11A Grangeville 81.66 44 ⇓P **P 08 28 25.3 -0.9**
baz=82,SNR=10
CMB Columbia Colle 81.67 52 *eP* **P 08 28 26.1 -0.3**
CMB pmax pmax
comp=Z,77nm,1.4s,mb5.4
CMB Columbia Colle 81.67 52 *eP* **P 08 28 26.1 -0.3**
comp=Z,77nm,1.4s,mb5.4
CMB Columbia Colle 81.67 52 ⇑P **P 08 28 25.9 -0.4**
baz=82,SNR=17
WCN Washoe City 81.67 51 ⇓P **P 08 28 26.3 0.0**
baz=82,SNR=5.7
N07B Gerlach 81.69 49 P **P 08 28 26.6 +0.2**
baz=82,SNR=19
D12A Red Ives Fores 81.71 43 ⇑P **P 08 28 26.4 0.0**
baz=82
B13A Whitefish 81.73 41 P **P 08 28 26.9 +0.4**
baz=82,SNR=25
H10A Noah's Angus R 81.77 45 P **P 08 28 26.3 -0.4**
baz=82,SNR=18
G11A Walters Elk Ra 81.77 44 P **P 08 28 26.3 -0.5**
baz=82,SNR=23
PAHR Pah Rah Range 81.79 51 *eP* **P 08 28 27.5 +0.5**
comp=Z,32nm,1.3s,mb5.1
WALA Waterton Lakes 81.80 40 *eP* **P 08 28 27.8 +1.0**
comp=Z,21nm,0.8s,mb5.1
WALA *e* pP 08 28 41.7 +2.2
K09A Rome 81.83 47 P **P 08 28 27.3 +0.2**
baz=82,SNR=23
M08A Happy Creek Ra 81.85 49 P **P 08 28 27.6 +0.3**
baz=82,SNR=7.5
T05C Eagle Field, D 81.86 54 ⇑P **P 08 28 28.0 +0.6**
baz=82
I10A Payette 81.93 46 ⇓P **P 08 28 27.7 +0.1**
baz=82,SNR=11
C13A Hot Springs 81.95 42 P **P 08 28 27.8 +0.1**
baz=82,SNR=31
S05C Merced 81.96 53 ⇓P **P 08 28 27.7 -0.2**
baz=82
U04C Hernandez Rese 81.97 54 ⇑P **P 08 28 28.0 -0.1**
baz=82
O07A Toulon 81.98 50 P **P 08 28 28.2 +0.2**
baz=82,SNR=11
S06C San Francisco 82.12 52 ⇓P **P 08 28 28.4 -0.3**
baz=82,SNR=8.3
L09A Wilkinson Ranc 82.13 48 ⇓P **P 08 28 28.6 -0.2**
baz=82,SNR=12
V04C Ramage Ranch, 82.17 55 ⇓P **P 08 28 29.1 +0.1**
baz=82
R06C Coleville 82.17 52 P **P 08 28 29.9 +0.9**
baz=82,SNR=7.3
WAKR Walker 82.19 52 *eP* **P 08 28 29.9 +0.8**
P07A Fallon 82.20 51 ⇑P **P 08 28 29.1 -0.1**
baz=82
KIV Kislovodsk 82.20 314 P **P 08 28 27.3 -1.8**
comp=Z,248nm,0.6s,mb6.3,SNR=12
KIV Kislovodsk 82.20 314 *eP* **P 08 28 28.8 -0.3**
KIV *eS* S 08 38 42.2 +1.0
KIV pmax pmax
comp=Z,50nm,3.1s
KIV pmax pmax
comp=Z,50nm,3.1s
KIV MLR MLR
comp=Z,140nm,19.0s,MS4.3
KIV Kislovodsk 82.20 314 *eP* **P 08 28 29.3 +0.2**
comp=Z,102nm,1.3s,mb5.6
KIV Kislovodsk 82.20 314 P **P 08 28 29.8 +0.7**
SNR=23
KIV Kislovodsk 82.20 314 P **P 08 28 29.8 +0.7**
SNR=23
J10A Berg Farm, Mel 82.20 46 ⇓P **P 08 28 28.6 -0.5**
baz=82
H11A Donnelly 82.21 45 P **P 08 28 28.6 -0.5**
baz=82,SNR=20
ONI Oni 82.22 313 P **P 08 28 29.0 -0.2**
GNI Garni 82.24 310 ⇑ *eP* **P 08 28 29.6 +0.3**
GNI pmax pmax
comp=Z,43nm,1.6s
GNI Garni 82.24 310 *eP* **P 08 28 30.2 +0.9**
comp=Z,120nm,1.8s,mb5.5
GNI Garni 82.24 310 P **P 08 28 30.7 +1.4**
SNR=12
GNI Garni 82.24 310 P **P 08 28 30.7 +1.4**
SNR=12
D13A Huson 82.25 42 ⇓P **P 08 28 28.7 -0.6**
baz=82,SNR=8.7
N08A GE Springer Mi 82.27 49 ⇑P **P 08 28 29.5 0.0**
baz=82
F12A Elk City 82.29 44 ⇑P **P 08 28 29.0 -0.5**
baz=82,SNR=13
PKD Parkfield 82.31 54 ⇑P **P 08 28 29.3 -0.4**
baz=82
K10A MacKenzie Ranc 82.39 47 P **P 08 28 30.4 +0.3**
baz=82,SNR=28
C14A Swan Lake 82.42 42 P **P 08 28 30.2 +0.1**
baz=82,SNR=21
O08A Rochester Mine 82.44 50 ⇑P **P 08 28 30.2 -0.2**
baz=82
U05C Westside ANR, 82.48 54 ⇓P **P 08 28 30.7 +0.1**
baz=82
M09A Marrel Ranch, 82.51 48 ⇑P **P 08 28 30.4 -0.3**
baz=82
T06C Millerton Lake 82.54 53 ⇓P **P 08 28 30.5 -0.4**
baz=82,SNR=24
I11A Placerville 82.56 46 ⇑P **P 08 28 30.4 -0.5**
baz=82,SNR=9.7
R07C Lee Vining 82.63 52 ⇑P **P 08 28 31.5 +0.1**
baz=82,SNR=10
PTRM Twissleman Ran 82.66 55 *eP* **P 08 28 31.7 +0.1**
N09A Rock Creek Ran 82.67 49 ⇑P **P 08 28 31.8 +0.2**
baz=83,SNR=13
MSO Missoula 82.69 42 *eP* **P 08 28 31.5 -0.1**
comp=Z,14nm,1.5s,mb4.8
E13A Victor 82.69 43 ⇑P **P 08 28 30.6 -1.0**
baz=83,SNR=7.2
KCC Kaiser Creek 82.72 53 ⇓P **P 08 28 31.2 -0.7**
baz=83,SNR=11
P08A Dixie Valley 82.72 50 ⇓P **P 08 28 32.1 +0.2**
baz=83
V05C Boulder Hill, 82.82 54 ⇓P **P 08 28 32.6 +0.2**
baz=83
MFID Camas Ranch 82.84 46 P **P 08 28 32.7 +0.3**
baz=83,SNR=28
D14A Greenough 82.86 42 ⇓P **P 08 28 31.9 -0.5**
baz=83,SNR=7.2
FIA1 FINESS Array S 82.93 334 *eP* **P 08 28 31.5 -1.0**
L10A Juniper Basin 82.93 48 P **P 08 28 33.1 +0.3**
baz=83,SNR=15
FINES FINESS Array B 82.93 334 *i P* **P 08 28 31.7 -0.8**
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 82.93 334 P **P 08 28 31.8 -0.7**
comp=Z,4.2nm,0.7s,mb4.6,baz=76,slow=4.6,SNR=31
FINES LR LR 09 11 07.3
comp=Z,174nm,19.9s,MS4.4,baz=172,slow=40
SMMC Simmler 82.95 55 ⇑P **P 08 28 33.1 -0.1**
baz=83
K11A Parker Ranch, 82.96 47 ⇓P **P 08 28 32.7 -0.3**
baz=83,SNR=22
MLAC Mammoth Lakes 82.96 52 ⇓P **P 08 28 33.2 +0.1**
baz=83
H12A Diamond D Ranc 83.03 45 ⇑P **P 08 28 33.0 -0.4**
baz=83,SNR=8.3
NVAR Mina Array Bea 83.04 51 P **P 08 28 33.8 +0.3**
comp=Z,9.6nm,0.7s,mb4.9,baz=269,slow=5.4,SNR=62
BMN Battle Mountai 83.05 49 *eP* **P 08 28 34.4 +0.9**
BMN pmax pmax
comp=Z,8.0nm,0.8s,mb4.8
BMN Battle Mountai 83.05 49 *eP* **P 08 28 34.4 +0.9**
comp=Z,8.4nm,0.8s,mb4.8
CHMT Chamberlain Mo 83.08 42 *eP* **P 08 28 33.4 -0.2**
M10A I.L. Ranch, Tu 83.10 48 ⇑P **P 08 28 33.9 +0.1**
baz=83,SNR=9.4
E14A Clinton 83.14 43 ⇓P **P 08 28 33.4 -0.5**
baz=83
Q08A Gabbs 83.15 51 P **P 08 28 34.2 +0.1**
baz=83,SNR=15
RCTC Rector, Farmer 83.15 54 ⇓P **P 08 28 33.8 -0.3**
baz=83,SNR=6.4
O09A Fish Creek Ran 83.17 50 ⇑P **P 08 28 33.9 -0.3**
baz=83,SNR=15
HELL Mitchell Peak 83.17 53 ⇓P **P 08 28 33.7 -0.6**
baz=83,SNR=13
G13A Cobalt 83.21 44 P **P 08 28 33.9 -0.4**
baz=83,SNR=29
R08A Mina 83.22 51 ⇑P **P 08 28 34.4 -0.1**
baz=83
DYDN Diyadin 83.22 310 *i P* **P 08 28 34.5 +0.1**
PKM Peak Mountain 83.24 55 ⇑P **P 08 28 34.7 +0.1**
baz=83,SNR=6.1
MTUM Tungsten Hills 83.26 53 *eP* **P 08 28 34.2 -0.5**
L11A Cat Creek Ranc 83.39 47 ⇓P **P 08 28 35.3 +0.1**
baz=83,SNR=11
J12A Stokes Ranch, 83.39 46 ⇑P **P 08 28 35.0 -0.3**
baz=83,SNR=14
H13A Challis 83.42 45 ⇓P **P 08 28 35.3 0.0**
baz=83,SNR=25
N10A Dunphy 83.44 49 ⇓P **P 08 28 35.7 +0.2**
baz=83
P09A Austin 83.45 50 ⇑P **P 08 28 35.3 -0.3**
baz=83,SNR=8.8
VES Vestal, Richgr 83.45 54 ⇓P **P 08 28 34.8 -0.8**
baz=83,SNR=6.9
F14A Wisdom 83.47 43 ⇓P **P 08 28 35.2 -0.4**
baz=83
D15A Lincoln 83.48 42 ⇑P **P 08 28 35.4 -0.2**
baz=83,SNR=6.2
SBC Santa Barbara 83.49 56 ⇑P **P 08 28 35.6 -0.3**
baz=83
S08C White Mtn Res 83.49 52 P **P 08 28 36.5 +0.7**
baz=83,SNR=18
O10A Cortez Mining, 83.61 49 P **P 08 28 37.1 +0.7**
baz=84,SNR=9.7
TIN Tinemaha 83.62 53 ⇑P **P 08 28 37.0 +0.4**
baz=84
M11A Holland Ranch, 83.65 48 ⇑P **P 08 28 36.6 -0.1**
baz=84,SNR=13
E15A Deer Lodge 83.67 42 P **P 08 28 36.6 0.0**
baz=84,SNR=22
Q09A Carvers 83.70 51 ⇑P **P 08 28 36.6 -0.3**
baz=84
BSC Santa Cruz Isl 83.72 56 ⇓P **P 08 28 36.9 -0.2**
baz=84
HLID Hailey 83.72 46 P **P 08 28 37.2 +0.3**
baz=84,SNR=22
I13A Wildhorse Cree 83.77 45 P **P 08 28 38.1 +0.9**
baz=84,SNR=16
K12A Draper Farm, C 83.77 47 P **P 08 28 37.5 +0.3**
baz=84,SNR=16
L12A House Creek Ra 83.90 47 P **P 08 28 38.5 +0.7**
baz=84,SNR=26
P10A Eureka 83.90 50 ⇑P **P 08 28 38.1 +0.2**
baz=84
ARVC Arvin 83.91 55 ⇑P **P 08 28 37.4 -0.7**
baz=84
N11A Elko Archery C 83.94 48 ⇓P **P 08 28 38.0 -0.1**
baz=84,SNR=6.5
J13A Cove Ranch, Pi 83.95 46 ⇑P **P 08 28 37.9 -0.2**
baz=84,SNR=23
TPH Tonopah 83.97 51 *eP* **P 08 28 38.2 -0.1**
TPH pmax pmax
comp=Z,73nm,1.8s,mb5.5
TPH Tonopah 83.97 51 *eP* **P 08 28 38.2 -0.1**
comp=Z,74nm,1.8s,mb5.5
HAKT HAKKARI 83.97 308 *i P* **P 08 28 36.6 -1.7**
R09A Tonopah 84.01 51 P **P 08 28 38.7 +0.2**
baz=84,SNR=26
F15A Butte 84.01 43 ⇑P **P 08 28 38.1 -0.3**
baz=84,SNR=18
LRM Limekiln Ridge 84.05 43 *eP* **P 08 28 38.4 -0.1**
HRY Holter Researc 84.05 42 *eP* **P 08 28 38.6 +0.1**
S09A Goldfield 84.10 52 ⇑P **P 08 28 39.0 0.0**
baz=84,SNR=18
MIB Mutribah 84.11 300 *eP* **P 08 28 38.4 -0.8**
MIB AMb AMB 08 28 41.5
comp=Z,78nm,1.0s,mb5.8
BLG Laguna Peak 84.12 56 ⇓P **P 08 28 38.3 -0.8**
baz=84
DLMT Dillon 84.15 43 *eP* **P 08 28 39.2 +0.1**
comp=Z,62nm,1.4s,mb5.5
OSI Osito Adit 84.18 55 ⇑P **P 08 28 39.4 -0.1**
baz=84
MCMT McKenzie Canyo 84.22 44 *eP* **P 08 28 39.0 -0.4**
M12A Wells 84.26 48 ⇑P **P 08 28 40.0 +0.3**
baz=84,SNR=27
Q10A Clear Creek Ra 84.26 51 ⇑P **P 08 28 39.7 -0.1**
baz=84,SNR=11
RDF Al-Radifah 84.27 299 *eP* **P 08 28 39.3 -0.7**
RDF AMb AMB 08 28 42.4
comp=Z,59nm,1.4s,mb5.5
O11A Cowboy Ranch, 84.27 49 P **P 08 28 40.1 +0.4**
baz=84,SNR=10
GRAC Grapevine Rang 84.28 53 ⇑P **P 08 28 39.5 -0.4**
baz=84,SNR=8.1
HOMI Horasan 84.28 311 *i P* **P 08 28 38.8 -1.0**
VSU Vasula 84.30 332 ⇑ *iP* **P 08 28 38.9 -0.7**
G15A Dillon 84.30 44 ⇑P **P 08 28 39.6 -0.3**
baz=84,SNR=19
K13A Stover Farm, H 84.32 46 ⇓P **P 08 28 40.1 +0.1**
baz=84,SNR=15
SOC Sochi 84.32 315 *eP* **P 08 28 38.4 -1.6**
SOC *e* 08 28 43.5
SOC *eS* S 08 38 56.5 -6.2
SOC pmax pmax
comp=Z,18nm,1.0s,mb5.2
SOC MLR MLR
comp=Z,546nm,22.0s,MS4.9
NAY Al-Naaiem 84.40 299 *eP* **P 08 28 39.8 -0.8**
NAY AMb AMB 08 28 42.9
comp=Z,51nm,1.2s,mb5.5
N12A Clover Valley, 84.41 48 P **P 08 28 40.8 +0.3**
baz=84,SNR=20
P11A Circle Ranch, 84.43 50 P **P 08 28 41.0 +0.4**
baz=84,SNR=8.7
S10A Tonopah Range, 84.48 51 P **P 08 28 41.2 +0.3**
baz=84,SNR=22
R10A Warm Springs 84.55 51 P **P 08 28 41.6 +0.3**
baz=84,SNR=10
MPMC Manual Prospec 84.56 53 P **P 08 28 41.5 +0.2**
baz=84,SNR=17
DECC Green Verdugo 84.62 55 ⇓P **P 08 28 40.9 -0.9**
baz=84
EDW2 Edwards Air Fo 84.64 55 ⇓P **P 08 28 41.2 -0.6**
baz=84,SNR=15
BOZ Bozeman (W) 84.64 43 *eP* **P 08 28 41.2 -0.4**
BOZ pmax pmax
comp=Z,8.0nm,0.9s,mb4.8
BOZ Bozeman (W) 84.64 43 *eP* **P 08 28 41.1 -0.4**
comp=Z,8.3nm,0.9s,mb4.9
BOZ Bozeman (W) 84.64 43 ⇑P **P 08 28 41.8 +0.2**
baz=84
L13A Double Diamond 84.65 47 ⇓P **P 08 28 42.0 +0.3**
baz=84,SNR=17
EGMT Eagleton 84.73 40 *eP* **P 08 28 41.7 -0.3**
comp=Z,54nm,1.3s,mb5.5
EGMT Eagleton 84.73 40 ⇑P **P 08 28 41.6 -0.4**
baz=85
Q11A Duckwater 84.79 50 P **P 08 28 42.5 0.0**
baz=85,SNR=24
M13A Montello 84.80 48 P **P 08 28 42.8 +0.3**
baz=85,SNR=22
MWC Mount Wilson 84.84 55 *eP* **P 08 28 42.8 0.0**
MWC pmax pmax
comp=Z,66nm,1.6s,mb5.5
MWC Mount Wilson 84.84 55 *eP* **P 08 28 42.8 -0.1**
comp=Z,66nm,1.6s,mb5.5
O12A Currie 84.85 49 ⇑P **P 08 28 42.6 -0.1**
baz=85,SNR=33
FMP Fort Macarthur 84.86 56 ⇓P **P 08 28 42.3 -0.6**
baz=85
FURC Furnace Creek, 84.86 53 ⇓P **P 08 28 42.9 0.0**
baz=85,SNR=6.1
CIS Catalina Islan 84.89 56 ⇑P **P 08 28 42.2 -0.9**
baz=85
MSL Mosul 84.93 307 *ex* x 08 28 43.0
K14A Jones Ranch, D 84.97 46 ⇓P **P 08 28 43.8 +0.6**
baz=85,SNR=30
N13A Wendover, West 84.98 48 ⇑P **P 08 28 43.3 -0.1**
baz=85,SNR=6.3
R11A Troy Canyon, C 85.04 51 P **P 08 28 43.9 +0.1**
baz=85,SNR=40
P12A McGill 85.06 49 ⇑P **P 08 28 43.7 -0.1**
baz=85,SNR=13
TPNV Topopah Spring 85.12 52 *eP* **P 08 28 44.1 -0.1**
TPNV pmax pmax
comp=Z,60nm,1.3s,mb5.6
TPNV Topopah Spring 85.12 52 *eP* **P 08 28 44.1 0.0**
comp=Z,60nm,1.3s,mb5.6
TPNV Topopah Spring 85.12 52 ⇑P **P 08 28 43.9 -0.2**
baz=85
QLMT Earthquake Lak 85.13 43 *eP* **P 08 28 44.9 +0.9**
BHD Baghdad 85.14 304 *ex* x 08 28 40.0
BFSC Mount Baldy St 85.14 55 ⇑P **P 08 28 44.0 -0.3**
baz=85
S11A Rachel 85.21 51 ⇓P **P 08 28 44.4 -0.2**
baz=85,SNR=8.9
U10A Ash Meadows, A 85.27 53 ⇑P **P 08 28 45.2 +0.3**
baz=85,SNR=5.0
ANN Anapa 85.28 317 *eP* **P 08 28 40.9 -3.9**
ANN *e*PP* pP 08 28 56.6 -0.9
ANN *eS* S 08 39 01.3 -11
ANN pmax pmax
comp=Z,30nm,1.7s,mb5.2
Q12A Willow Creek R 85.30 50 P **P 08 28 45.3 +0.3**
baz=85,SNR=20
M14A Sheep Mountain 85.30 47 ⇓P **P 08 28 45.0 +0.1**
baz=85,SNR=20
GSC Goldstone 85.37 54 *eP* **P 08 28 45.4 0.0**
GSC pmax pmax
comp=Z,53nm,1.4s,mb5.5
GSC Goldstone 85.37 54 *eP* **P 08 28 45.4 0.0**
comp=Z,53nm,1.4s,mb5.5
GSC Goldstone 85.37 54 P **P 08 28 45.4 0.0**
baz=85,SNR=16
RRX Edison Barstow 85.39 54 ⇑P **P 08 28 45.2 -0.3**
baz=85
O13A Hicks Ranch, I 85.44 49 ⇑P **P 08 28 45.3 -0.3**
baz=85,SNR=8.5
YMR Madison River 85.50 43 *eP* **P 08 28 47.0 +1.2**
comp=Z,153nm,1.5s,mb5.9
HVU Hansel Valley 85.57 47 *eP* **P 08 28 47.1 +0.8**
HVU pmax pmax
comp=Z,48nm,1.3s,mb5.6
HVU Hansel Valley 85.57 47 *eP* **P 08 28 47.1 +0.8**

comp=Z,48nm,1.3s,mb5.6
FFC Flin Flon 85.65 32 P **P 08 28 46.4 0.0**
comp=Z,374nm,1.4s,mb6.4,SNR=23
FFC Flin Flon 85.65 32 *e*P **P 08 28 46.3 -0.1**
FFC pmax pmax
comp=Z,67nm,1.0s,mb5.8
FFC Flin Flon 85.65 32 *e*P **P 08 28 46.3 -0.1**
comp=Z,67nm,1.0s,mb5.8
YFT Old Faithful 85.67 44 *e*P **P 08 28 49.4 +2.7**
N14A Grayback Hills 85.68 48 P **P 08 28 46.8 -0.1**
baz=86,SNR=11
BBRC Big Bear Sol-O 85.69 55 ⇓P **P 08 28 46.5 -0.6**
baz=86
P13A Bates Ranch, G 85.70 49 ⇑P **P 08 28 46.9 -0.1**
baz=86,SNR=48
MURC Murrieta 85.74 56 ⇓P **P 08 28 46.5 -0.8**
baz=86
R12A Pony Springs, 85.75 50 ⇓P **P 08 28 47.4 +0.2**
baz=86,SNR=26
T11A Corn Creek, Al 85.75 52 ⇑P **P 08 28 47.3 0.0**
baz=86,SNR=7.8
BGU Big Grassy Mou 85.76 48 *e*P **P 08 28 46.3 -1.0**
GCMT Greycliff 85.81 42 *e*P **P 08 28 47.5 +0.2**
DCID1 Drake Creek 85.83 45 *e*P **P 08 28 48.7 +1.1**
IMW Indian Meadow 85.86 44 *e*P **P 08 28 47.5 -0.2**
comp=Z,27nm,1.0s,mb5.4
S12A Delamar Landin 85.87 51 ⇓P **P 08 28 47.8 -0.1**
baz=86,SNR=6.7
LKWY Lake 85.90 43 *e*P **P 08 28 49.8 +1.9**
LKWY pmax pmax
comp=Z,11nm,1.0s,mb5.0
LKWY Lake 85.90 43 *e*P **P 08 28 49.8 +1.9**
comp=Z,11nm,1.0s,mb5.0
Q13A Wheeler Ranch, 85.90 50 ⇑P **P 08 28 47.8 -0.2**
baz=86,SNR=16
HEC Hector,Ludlow 85.91 54 ⇑P **P 08 28 47.8 -0.4**
baz=86,SNR=6.7
M15A Larsen Ranch, 85.92 47 ⇓P **P 08 28 48.0 -0.1**
baz=86,SNR=8.1
FLWY Flagg Ranch 85.93 44 *e*P **P 08 28 48.8 +0.8**
comp=Z,43nm,1.0s,mb5.6
U11A Corn Creek 85.97 52 ⇓P **P 08 28 48.2 -0.2**
baz=86
TUQ Turquoise Mtn. 85.97 53 P **P 08 28 48.4 0.0**
baz=86,SNR=25
TPAW Teton Pass 86.03 45 *e*P **P 08 28 49.5 +1.0**
comp=Z,54nm,1.4s,mb5.6
109C Camp Elliot, M 86.10 56 ⇑P **P 08 28 48.1 -1.0**
baz=86
SHPR Sheep Range 86.10 52 *e*P **P 08 28 49.2 +0.2**
N15A Stansbury Isla 86.12 47 ⇓P **P 08 28 49.0 -0.1**
baz=86
REDW Red Top Meadow 86.15 45 *e*P **P 08 28 49.8 +0.7**
comp=Z,78nm,1.6s,mb5.7
SNOW Snow King Moun 86.17 45 *e*P **P 08 28 49.8 +0.6**
comp=Z,46nm,1.5s,mb5.5
V11A Goodsprings 86.17 53 P **P 08 28 49.7 +0.3**
baz=86,SNR=8.0
LOHW Long Hollow 86.20 44 *e*P **P 08 28 50.1 +0.7**
comp=Z,20nm,1.1s,mb5.3
MARD Mardin 86.21 309 *i* P **P 08 28 46.8 -2.7**
DUG Dugway 86.22 48 *e*P **P 08 28 49.0 -0.6**
DUG pmax pmax
comp=Z,20nm,0.6s,mb5.5
DUG Dugway 86.22 48 *e*P **P 08 28 49.0 -0.6**
comp=Z,20nm,0.6s,mb5.5
DUG Dugway 86.22 48 ⇓P **P 08 28 49.1 -0.5**
baz=86
PFO Pinyon Flat Ob 86.31 55 P **P 08 28 49.6 -0.5**
comp=Z,131nm,1.1s,mb6.1,SNR=9.8
PFO Pinyon Flat Ob 86.31 55 *e*P **P 08 28 49.7 -0.4**
PFO pmax pmax
comp=Z,55nm,1.4s,mb5.6
PFO Pinyon Flat Ob 86.31 55 *e*P **P 08 28 49.7 -0.4**
comp=Z,55nm,1.4s,mb5.6
PFO Pinyon Flat Ob 86.31 55 ⇓P **P 08 28 49.9 -0.3**
baz=86,SNR=13
T12A Moapa 86.33 52 ⇓P **P 08 28 49.7 -0.5**
baz=86
GMRC Granite Mounta 86.44 54 P **P 08 28 50.7 0.0**
baz=86,SNR=19
HWUT Hardware Ranch 86.46 46 *e*P **P 08 28 50.8 +0.1**
comp=Z,53nm,1.2s,mb5.7
BELC Belle Mtn. 86.50 55 P **P 08 28 50.6 -0.4**
baz=86,SNR=15
NOQ North Oquirrh 86.50 47 *e*P **P 08 28 50.9 0.0**
BAR Barrett 86.52 56 *e*P **P 08 28 51.0 -0.1**
comp=Z,39nm,1.4s,mb5.4
U12A Valley of Fire 86.59 52 ⇓P **P 08 28 50.9 -0.5**
baz=86
S13A Holt Ranch, En 86.60 51 P **P 08 28 51.9 +0.4**
baz=86,SNR=18
MONP Monument Peak 86.62 56 ⇑P **P 08 28 51.4 -0.2**
baz=86,SNR=11
V12A Nelson 86.65 53 P **P 08 28 52.1 +0.3**
baz=86,SNR=17
LDFC Landfair 86.73 54 *e*P **P 08 28 52.2 +0.1**
CTU Camp Tracy 86.73 47 *e*P **P 08 28 52.4 +0.3**
comp=Z,23nm,0.9s,mb5.4
T13A Saint George 86.80 51 ⇓P **P 08 28 52.5 0.0**
baz=87,SNR=8.7
ARUT Antelope Range 86.81 51 *e*P **P 08 28 52.7 +0.2**
W12A Cal Nev Ari 86.81 53 ⇑P **P 08 28 52.3 -0.2**
baz=87
NLU North Lily Min 86.84 48 *e*P **P 08 28 52.6 0.0**
FCC Fort Churchill 86.85 26 *e*P **P 08 28 51.2 -1.0**
FCC pmax pmax
comp=Z,36nm,1.0s,mb5.6
FCC Fort Churchill 86.85 26 *e*P **P 08 28 51.2 -1.0**
comp=Z,36nm,1.0s,mb5.6
R14A James Farms, M 86.89 50 ⇑P **P 08 28 52.4 -0.5**
baz=87
CCUT Cedar City 86.97 51 *e*P **P 08 28 53.3 0.0**
JLU Jordanelle 86.98 47 *e*P **P 08 28 53.5 +0.2**
S14A Cedar City 87.02 50 ⇑P **P 08 28 53.5 0.0**
baz=87,SNR=7.1
BC3 Big Chuckw Mtn 87.05 55 ⇑P **P 08 28 53.4 -0.4**
baz=87,SNR=16
IRM Iron Mountain 87.08 54 ⇑P **P 08 28 53.1 -0.7**
baz=87,SNR=14
SWSC Sam W. Stewart 87.08 56 ⇑P **P 08 28 53.2 -0.7**
baz=87
MPU Maple Canyon 87.11 48 *e*P **P 08 28 54.2 +0.3**
comp=Z,25nm,1.0s,mb5.4
DAU Daniels Canyon 87.20 47 *e*P **P 08 28 54.6 +0.3**
NEE2 Needles Airpor 87.22 54 ⇑P **P 08 28 54.2 -0.4**
baz=87
V13A Grand Canyon W 87.24 52 ⇓P **P 08 28 54.4 -0.2**
baz=87,SNR=10
BW06 Boulder Array 87.27 45 *e*P **P 08 28 53.4 -1.2**
comp=Z,5.2nm,1.0s,mb4.7
AKASG Malin Array Be 87.27 324 P **P 08 28 52.6 -1.8**
comp=Z,4.4nm,0.6s,mb4.8,baz=46,slow=4.6,SNR=22
AKBB Malin Array Si 87.27 324 *e*P **P 08 28 51.0 -3.4**
KIEV Kiev 87.28 324 *e*P **P 08 28 52.4 -2.1**
KIEV pmax pmax
comp=Z,15nm,1.1s,mb5.1
KIEV Kiev 87.28 324 *e*P **P 08 28 52.4 -2.1**
comp=Z,15nm,1.1s,mb5.1
SIM Simferopol' 87.31 318 *e*P **P 08 28 53.6 -1.1**
SIM pmax pmax
comp=Z,16nm,1.0s,mb5.2
T14A Hurricane 87.38 51 ⇑P **P 08 28 55.2 -0.1**
baz=87,SNR=22
MSU Marysvale 87.40 49 *e*P **P 08 28 55.7 +0.4**
MALT Malatya 87.46 310 *e*P **P 08 28 55.5 -0.2**
MALT pmax pmax
comp=Z,16nm,1.4s,mb5.1
MALT Malatya 87.46 310 *e*P **P 08 28 55.5 -0.1**
comp=Z,16nm,1.4s,mb5.1
LAO LASA Array 87.48 40 *e*P **P 08 28 56.2 +0.7**
U14A Mt Trumbull 87.58 52 P **P 08 28 56.7 +0.4**
baz=88,SNR=20
W13A Hualapai Mount 87.63 53 ⇓P **P 08 28 56.1 -0.4**
baz=88,SNR=16
Y12C Blythe 87.72 55 ⇓P **P 08 28 56.6 -0.4**
baz=88,SNR=6.8
TMUT Trail Mountain 87.73 48 *e*P **P 08 28 57.1 +0.2**
DGMT Dagmar 87.77 38 *e*P **P 08 28 57.5 +0.6**
comp=Z,37nm,1.3s,mb5.5
PDMCI Parker Dam,Lak 87.78 54 ⇑P **P 08 28 57.0 -0.3**
baz=88,SNR=14
GLA Glamis 87.78 55 *e*P **P 08 28 57.4 +0.1**
GLA pmax pmax
comp=Z,29nm,0.9s,mb5.5
GLA Glamis 87.78 55 *e*P **P 08 28 57.4 +0.1**
comp=Z,29nm,0.9s,mb5.5
GLA Glamis 87.78 55 P **P 08 28 57.5 +0.2**
baz=88,SNR=11
X13A Yucca 87.88 54 ⇓P **P 08 28 57.6 -0.1**
baz=88,SNR=20
T15A Red Dirt Ranch 87.90 51 P **P 08 28 58.0 +0.3**
baz=88,SNR=16
V14A Boquillas Ranc 87.98 52 ⇑P **P 08 28 58.5 +0.4**
baz=88,SNR=27
W14A Seligman 88.17 53 P **P 08 28 59.7 +0.6**
baz=88,SNR=22
112A Yuma 88.18 56 ⇓P **P 08 28 58.7 -0.5**
baz=88
Y13A Salome 88.22 54 ⇓P **P 08 28 59.2 -0.1**
baz=88,SNR=8.7
SRU San Rafael 88.29 48 *e*P **P 08 28 59.7 +0.2**
HFS Hagfors 88.47 337 P **P 08 28 57.6 -2.3**
comp=Z,2.0nm,0.5s,mb4.7,baz=66,slow=3.6,SNR=15
SUW Suwalki 88.48 329 *e*P **P 08 28 59.6 -0.6**
SUW Suwalki 88.48 329 *e*P **P 08 28 59.6 -0.5**
T16A Glen Canyon Da 88.55 51 ⇑P **P 08 29 00.3 -0.5**
baz=88
V15A Kaibab Nationa 88.58 52 ⇑P **P 08 29 01.2 +0.2**
baz=88,SNR=17
X14A Yava 88.64 53 P **P 08 29 01.9 +0.5**
baz=88,SNR=22
NOA NORSAR Array B 88.69 339 P **P 08 28 59.7 -1.3**
comp=Z,1.6nm,1.0s,mb4.3,baz=51,slow=4.2,SNR=5.6
NOA LR LR 09 12 15.5
comp=Z,124nm,18.6s,MS4.4,baz=5.0,slow=38
113A Mohawk Valley, 88.71 55 ⇑P **P 08 29 01.0 -0.6**
baz=89,SNR=9.3
Y14A Wickenburg 88.78 54 ⇑P **P 08 29 01.6 -0.4**
baz=89,SNR=19
W15A Williams 88.79 52 ⇓P **P 08 29 02.6 +0.6**
baz=89,SNR=8.1
Z14A Wintersburg 89.08 54 ⇑P **P 08 29 03.4 0.0**
baz=89
X15A Humboldt 89.12 53 P **P 08 29 04.3 +0.8**
baz=89,SNR=24
Y15A Casa Rosa Ranc 89.28 54 ⇑P **P 08 29 04.3 0.0**
baz=89,SNR=20
WUAZ Wupatki 89.30 52 *e*P **P 08 29 04.8 +0.4**
WUAZ Wupatki 89.30 52 ⇑P **P 08 29 04.7 +0.4**
baz=89
RWWY Rawlins 89.31 45 *e*P **P 08 29 04.3 0.0**
W16A Flagstaff 89.37 52 ⇑P **P 08 29 05.1 +0.4**
baz=89
PV10 Paradox Valley 89.65 48 *e*P **P 08 29 06.0 0.0**
Z15A Gila River Ind 89.70 54 ⇓P **P 08 29 05.9 -0.4**
baz=90
X16A Lo Mia Camp, P 89.74 53 ⇑P **P 08 29 06.3 -0.1**
baz=90,SNR=11
115A Sonoran Desert 89.91 55 ⇑P **P 08 29 07.3 0.0**
baz=90,SNR=5.1
Y16A Circle Bar Ran 89.95 53 ⇑P **P 08 29 07.9 +0.5**
baz=90,SNR=14
W17A Winslow 89.97 52 ⇓P **P 08 29 07.5 0.0**
baz=90
PV01 Paradox Valley 90.09 48 *e*P **P 08 29 07.7 -0.4**
RSSD Black Hills 90.11 42 *e*P **P 08 29 07.4 -0.6**
RSSD pmax pmax
comp=Z,57nm,1.6s,mb5.7
RSSD Black Hills 90.11 42 *e*P **P 08 29 07.4 -0.6**
comp=Z,57nm,1.6s,mb5.7
Z16A Peralta Trail, 90.23 54 ⇑P **P 08 29 09.0 +0.2**
baz=90,SNR=10
116A Eloy 90.36 55 ⇑P **P 08 29 09.3 -0.2**
baz=90,SNR=5.6
Y17A Roosevelt 90.50 53 ⇓P **P 08 29 10.0 0.0**
baz=90,SNR=7.8
MVCO Mesa Verde 90.58 49 *e*P **P 08 29 10.3 -0.1**
comp=Z,56nm,1.6s,mb5.6
MVCO Mesa Verde 90.58 49 ⇓P **P 08 29 10.3 0.0**
baz=90
PHWY Pilot Hill 90.65 45 *e*P **P 08 29 11.3 +0.7**
W18A Petrified Fore 90.67 52 ⇓P **P 08 29 11.0 +0.2**
baz=91
SMCO Snowmass 90.69 47 *e*P **P 08 29 11.3 +0.5**
comp=Z,22nm,0.9s,mb5.5
X18A Snowflake 90.78 52 ⇑P **P 08 29 11.4 +0.1**
baz=91
216A Three Points, 90.80 55 ⇓P **P 08 29 11.4 0.0**
baz=91,SNR=5.7
W19A Sanders 90.93 51 ⇓P **P 08 29 12.1 +0.1**
baz=91
Z17A San Carlos Hig 90.96 53 ⇑P **P 08 29 12.6 +0.5**
baz=91
Y18A Canyon Day Jun 91.07 53 P **P 08 29 13.3 +0.6**
baz=91,SNR=9.0
117A Oracle 91.09 54 ⇓P **P 08 29 13.0 +0.2**
baz=91,SNR=5.7
TUC Tucson 91.17 54 *e*P **P 08 29 12.9 -0.3**
TUC pmax pmax
comp=Z,30nm,1.5s,mb5.4
TUC Tucson 91.17 54 *e*P **P 08 29 12.9 -0.3**
comp=Z,30nm,1.5s,mb5.4
ULM Lac du Bonnet 91.27 33 P **P 08 29 12.7 -0.6**
comp=Z,3.3nm,0.7s,mb4.8,baz=269,slow=3.8,SNR=7.2
ULM LR LR 09 09 46.6
comp=Z,212nm,19.6s,MS4.6,baz=326,slow=35
ISCO Idaho Springs 91.30 46 *e*P **P 08 29 14.2 +0.6**
X19A St. Johns 91.31 52 ⇑P **P 08 29 14.0 +0.2**
baz=91,SNR=9.9
KWP Kalwaria 91.33 326 *e*P **P 08 29 12.8 -0.8**
KWP Kalwaria 91.33 326 *e*P **P 08 29 12.8 -0.8**
Z18A Geronimo 91.38 53 ⇑P **P 08 29 14.2 +0.1**
baz=91
217A Green Valley 91.39 55 ⇑P **P 08 29 14.8 +0.6**
baz=91,SNR=12
Y19A Nutrioso 91.56 52 ⇑P **P 08 29 15.4 +0.4**
baz=91,SNR=10
118A Homack Ranch, 91.64 54 ⇓P **P 08 29 15.8 +0.4**
baz=92,SNR=10
Z19A T-Link Ranch, 91.86 53 ⇑P **P 08 29 17.0 +0.7**
baz=92
218A Dragoon 91.88 54 ⇑P **P 08 29 16.9 +0.4**
baz=92
119A Ashpeak Ranch, 92.08 53 ⇓P **P 08 29 17.6 +0.2**
baz=92,SNR=7.0
318A Bisbee 92.17 55 ⇓P **P 08 29 17.9 +0.1**
baz=92,SNR=8.6
SDCO Great Sand Dun 92.40 48 *e*P **P 08 29 18.4 -0.4**
comp=Z,24nm,1.4s,mb5.3
OJC Ojcow 92.45 327 *e*P **P 08 29 17.1 -1.6**
219A White Tail Can 92.46 54 ⇓P **P 08 29 19.4 +0.2**
baz=92,SNR=6.7
AGMN Agassiz Refuge 92.46 35 *e*P **P 08 29 18.1 -0.8**
comp=Z,35nm,1.4s,mb5.5
319A Douglas 92.73 55 ⇓P **P 08 29 20.4 -0.1**
baz=93
LAZ Ladron 92.89 51 *e*P **P 08 29 21.4 +0.3**
ANMO Albuquerque 93.11 50 ⇑*e*P **P 08 29 21.8 -0.3**
Y22C IRIS PASSCAL I 93.21 51 ⇑P **P 08 29 22.9 +0.3**
baz=93
LPM Los Pinos Moun 93.30 51 *e*P **P 08 29 24.2 +1.2**
BNM Barren Site 93.38 51 *e*P **P 08 29 23.1 -0.3**
OKC Ostrava-Krasne 93.52 328 AMS AMS 09 17 20.0
comp=Z,500nm,5.8s
KSP Ksiaz 93.75 329 *e*P **P 08 29 24.4 -0.3**
KSP Ksiaz 93.75 329 ⇑*e*P **P 08 29 24.0 -0.7**
KSP *e*pP pP 08 29 30.0 -7.6
DPC Dobruska-Polom 94.07 329 AMS AMS 09 15 40.0
comp=Z,400nm,20.0s
UPC Upice 94.11 329 *e*P **P 08 29 25.8 -0.5**
PVCC Panska Ves 94.77 330 *e*P **P 08 29 29.2 -0.2**
PVCC AMS AMS 09 13 20.0
ECSD EROS,Sioux Fal 94.78 39 *e*P **P 08 29 28.2 -1.3**
comp=Z,34nm,1.4s,mb5.6
CLL Collm 94.95 331 *e*P **P 08 29 27.0 -3.2**
CLL *e**PP pP 08 29 41.0 -2.0
CLL MLR MLR
comp=Z,300nm,16.9s,MS4.8
CLL Collm 94.95 331 *e*(P) **P 08 29 28.0 -2.2**
CLL *e*pP pP 08 29 36.0 -7.0
CLL *e*PP PP 08 33 15.0 -3.8
PRU Pruhonice 95.16 330 AMS AMS 09 11 10.0
TREC Trest 95.18 329 AMS AMS 09 15 00.0
comp=Z,500nm,22.1s
MNTX Cornudas Mount 95.50 53 *e*P **P 08 29 32.4 -0.7**
comp=Z,22nm,1.6s,mb5.3
NKC Novy Kostel 95.95 331 AMS AMS 09 15 30.0
comp=Z,400nm,21.9s
GDL2 Guadalupe Moun 96.00 52 *e*P **P 08 29 35.7 +0.3**
KHC Kasperske Hory 96.20 329 *e*P **P 08 29 35.0 -0.9**
KHC AMS AMS 09 16 40.0
comp=Z,400nm,18.1s
GERES GERESS Array B 96.34 329 P **P 08 29 34.6 -2.0**
comp=Z,0.2nm,0.2s,mb4.1,baz=44,slow=4.4,SNR=5.1
GERES LR LR 09 15 53.7
comp=Z,204nm,20.4s,MS4.6,baz=51,slow=37
TXAR Lajitas Array 97.96 54 P **P 08 29 44.8 +0.5**
comp=Z,0.6nm,0.5s,mb4.4,baz=279,slow=2.8,SNR=11
TXAR LR LR 09 06 18.8
comp=Z,207nm,20.9s,MS4.6,baz=350,slow=31
SCHQ Schefferville 99.35 17 LR LR 09 12 58.1
comp=Z,239nm,21.9s,MS4.7,baz=221,slow=34
VNDA Vanda 99.87 176 LR LR 09 15 21.5
comp=Z,32nm,20.9s,MS3.8,baz=317,slow=36
TORD Torodi Ar. Bea 128.53 309 PKP PKPdf 08 35 14.0 -1.6
comp=Z,0.9nm,0.6s,baz=39,slow=1.6,SNR=12
SDV Santo Domingo 134.90 51 *e*PKPdf PKPdf 08 35 26.5 -1.1
PLCA Paso Flores 145.97 131 PKPbc PKPbc 08 35 46.5 -1.1
comp=Z,4.4nm,0.6s,baz=261,slow=2.3,SNR=15
ARE Arequipa 146.92 87 *e*PKP2 PKPab 08 35 51.0 -1.4
LPAZ La Paz 149.98 85 *e*PKIKP PKPdf 08 35 53.7 -0.3
LPAZ *e* 08 35 59.0
LPAZ *e* 08 36 05.7
LPAZ La Paz 149.98 85 PKPbc PKPbc 08 35 57.3 -1.7
comp=Z,14nm,0.9s,baz=351,slow=4.4,SNR=17
LVC Limon Verde 150.39 97 *e*PKPdf PKPdf 08 35 55.1 +0.6

IDC 23 08:23:60.0±1.3, 5221N×3181W, h0km, mb3.6/3, mb1 3.9/4, mb1mx3.5/27, mbtmp3.8/4, ML3.9/1, MS3.4/1, Ms1 3.5/1, ms1mx2.7/30, Error ellipse: s-maj=57.2km s-min=25.8km az=29.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.16**	**68**	P	Pn	08 28 02.0	+1.2
	0.2nm,0.3s,baz=267,slow=11,SNR=7.6						
SCHQ	**Schefferville**	**20.86**	**291**	P	P	08 28 43.9	+0.8
	2.2nm,0.8s,baz=101,slow=7.9,SNR=4.4						
NOA	**NORSAR Array B**	**24.83**	**52**	LR	LR	08 38 29.7	
	comp=Z,88nm,18.4s,baz=305,slow=35						
YKA	**Yellowknife Ar**	**42.78**	**317**	P	P	08 31 58.5	-0.2
	1.1nm,1.0s,baz=59,slow=8.2,SNR=6.6						
TORD	**Torodi Ar. Bea**	**47.32**	**133**	P	P	08 32 35.5	+0.2
	0.6nm,0.7s,baz=338,slow=6.9,SNR=5.1						
WRA	**Warramunga Arr**	**146.03**	**24**	PKPbc	PKPbc	08 43 40.0	-1.5
	1.6nm,1.0s,baz=335,slow=2.8,SNR=5.2						
ASAR	**Alice Springs**	**149.47**	**26**	PKPbc	PKPbc	08 43 50.2	-0.6
	0.4nm,0.7s,baz=349,slow=2.0,SNR=7.3						

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*NIED **23** 08:42:00, 4230N×144.70E, h17km, Mw3.5 Best double couple: M0 1.89000×10^14 NP1:φs 58.00000°, δ 75.00000°, λ 114.00000°. NP2:φs 178.00000°, δ 28.00000°, λ 33.00000°.*

JMA 23 08:42:57.5, 4233N×14468E, h31km±1km, M3.6, 4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAK	**Akkeshi**	**0.67**	**1**	⇓P	Pb	08 43 10.3	-0.4
JAK				*e*S	Sb	08 43 20.2	+0.6
JOB	**Onbets**	**0.85**	**313**	⇓P	Pn	08 43 13.2	-0.1
JOB				*e*S	Sn	08 43 24.9	+0.3
JCH	**Churui**	**1.01**	**287**	⇓P	Pn	08 43 15.8	+0.2
JCH				*e*S	Sn	08 43 29.4	+0.6
JEM	**Erimo**	**1.18**	**255**	P	Pn	08 43 18.8	+1.0
JEM				*e*S	Sn	08 43 34.0	+1.3
JAR	**Ashorobuto**	**1.18**	**326**	⇓P	Pn	08 43 17.5	-0.3
JAR				*e*S	Sn	08 43 32.5	-0.2
NEM2	**Nemuro 2**	**1.30**	**37**	P	Pn	08 43 19.3	-0.1
NEM2				*e*S	Sn	08 43 36.2	+0.5
JNBK	**Urakawa-nobuka**	**1.43**	**269**	P	Pn	08 43 22.2	+0.9
JRA	**Rausu**	**1.64**	**11**	P	Pn	08 43 24.5	+0.3
JRA				*e*S	Sn	08 43 44.0	-0.2

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*CSEM **23** 09:07:40.7±1.2, 3736N×2450W, h10km, ML3.2, Error ellipse: s-maj=10.8km s-min=4.5km az=77.0, After PDA*

PDA 23 09:07:40.7±1.2, 3736N×2450W, h10km, MD3.8, ML3.2, Error ellipse: s-maj=10.8km s-min=4.5km az=77.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.58**	**232**	*e*P	Pg	09 07 50.2	-1.7
PSMN				*e*S	Sg	09 07 57.3	-2.2
CMLA	**Cha da Macela**	**0.91**	**296**	*e*P	Pg	09 07 55.1	-3.1
CMLA				*e*S	Sg	09 08 05.3	-4.7
CMLA				A		09 08 07.9	
	220nm,0.3s						
CMLA	**Cha da Macela**	**0.91**	**296**	*e*P	Pg	09 07 55.1	-3.1
CMLA				*e*S	Sg	09 08 05.3	-4.7
PDA	**Ponta Delgada**	**1.00**	**293**	*e*S	Sg	09 08 07.7	-5.3
PSET	**Sete Cidades**	**1.07**	**296**	*e*P	Pg	09 07 57.8	-3.5
PSET				*e*S	Sg	09 08 09.6	-5.7
PSET				A		09 08 14.4	
	240nm,0.3s						
PSET	**Sete Cidades**	**1.07**	**296**	*e*P	Pg	09 07 57.8	-3.5
PSET				*e*S	Sg	09 08 09.6	-5.7
PSCM	**Serra do Cume**	**2.46**	**304**	*e*P	Pn	09 08 16.0	-4.9
PSCM				*e*S	Sn	09 08 43.2	-7.8
PSCM				A		09 08 47.2	
	79nm,0.2s						
PSCM	**Serra do Cume**	**2.46**	**304**	*e*P	Pn	09 08 16.0	-4.9
PSCM				*e*S	Sn	09 08 43.2	-7.8
PSBA	**Serra de Santa**	**2.63**	**303**	*e*P	Sn	09 08 42.1	-13
PMAN	**Manadas**	**3.11**	**295**	*e*S	Sn	09 08 59.0	-7.9
PMAN				A		09 09 00.9	
	20nm,0.2s						
ROSA	**Rosais**	**3.25**	**296**	*e*P	Pn	09 08 29.0	-2.7
ROSA				*e*S	Sn	09 09 02.5	-7.9
PICO	**Pico**	**3.31**	**291**	*e*P	Pn	09 08 29.6	-2.9
PICO				*e*S	Sn	09 09 03.4	-8.4
CALA	**Caldeira**	**3.54**	**291**	*e*P	Pn	09 08 32.9	-2.7
CALA				*e*S	Sn	09 09 08.3	-9.2

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*ISCJB **23** 09:32:11.7±0.5, 39.12N±002×24.17E±002, h7km±4km, Error ellipse: s-maj=3.4km s-min=2.9km az=162.7*
*NEIC **23** 09:32:12.4, 39.14N×24.18E, h27km, ML3.5(ATH), After ATH.*
*CSEM **23** 09:32:12.8±0.1, 39.12N×24.17E, h12km, ML3.9, Error ellipse: s-maj=1.4km s-min=1.3km az=95.0*
*THE **23** 09:32:12.9, 39.12N×24.19E, h5km, ML3.9*
*ATH **23** 09:32:12.4, 39.14N×24.18E, h27km±1km, MD3.7/16, ML3.7*
*SOF **23** 09:32:14.8, 39.41N×2399E, h2km, MD2.9*
*SKO **23** 09:32:15.7, 39.30N×2401E, h1km*
*DDA **23** 09:32:19.4, 39.06N×2501E, h5km±3km, Md2.6*

ISC 23 09:32:12.4±0.5, 3911N±002×2418E±002, h9km±4km, n61, σ1§05/76, 7C-3D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOS	**Alonnisos**	**0.24**	**284**	*e*Pg	**Pg**	**09 32 18.0**	**+0.9**
NEO	**Neokhori**	**0.77**	**285**	*e*PN	**Pn**	**09 32 27.3**	**-2.0**
NEO				*e*SN	**Sg**	**09 32 38.8**	**+1.7**
XOR	**Xorichti**	**0.81**	**289**	*e*Pg	**Pg**	**09 32 28.1**	**+0.3**
XOR				*e*Sg	**Sg**	**09 32 40.0**	**+1.6**
LKR	**Lokris**	**1.03**	**244**	*e*Pg	**Pg**	**09 32 32.3**	**+0.1**
LKR				*e*Sg	**Sg**	**09 32 47.5**	**+2.0**
LKR	**Lokris**	**1.03**	**244**	*e*PN	**Pn**	**09 32 32.3**	**-0.7**
LKR				*e*SN	**Sn**	**09 32 47.5**	**0.0**
LOS	**Limnos**	**1.08**	**40**	*e*Pg	**Pg**	**09 32 33.2**	**+0.2**
LOS				*e*Sg	**Sg**	**09 32 48.3**	**+1.2**
PTL	**Penteli**	**1.09**	**193**	*e*PN	**Pn**	**09 32 33.5**	**-0.3**
ATH	**Athens Observa**	**1.20**	**198**	⇑*i*PN	**Pn**	**09 32 35.3**	**+0.1**
ATH				*e*SN	**Sn**	**09 32 52.4**	**+0.8**
OUR	**Ouranopolis**	**1.23**	**353**	*e*Pg	**Pg**	**09 32 35.4**	**-0.6**
KVR	**Kavouri**	**1.32**	**194**	*e*PN	**Pn**	**09 32 37.0**	**0.0**
PLG	**Polygyros**	**1.38**	**336**	*e*Pg	**Pg**	**09 32 37.1**	**-1.7**
PLG	**Polygyros**	**1.38**	**336**	*e*PN	**Pn**	**09 32 37.2**	**-0.6**
PLG				*e*SN	**Sn**	**09 32 55.0**	**-1.1**
AGG	**Agios Georgios**	**1.44**	**267**	*e*Pg	**Pg**	**09 32 38.7**	**-1.3**
AGG				*e*Sg	**Sg**	**09 32 58.8**	**+0.1**
LTK	**Loutraki**	**1.45**	**221**	*e*Pg	**Pg**	**09 32 38.8**	**-1.3**
NAIG	**Nisos Aigina**	**1.46**	**202**	*e*PB	**Pb**	**09 32 38.5**	**-1.1**
BOZC	**Bozcaada**	**1.62**	**63**	*i* P	**Pn**	**09 32 40.7**	**-0.4**
PRK	**Paraskevi**	**1.63**	**85**	*e*Pb	**Pb**	**09 32 41.8**	**-0.9**
PRK				*e*Sb	**Sb**	**09 33 03.2**	**-0.1**
PRK	**Paraskevi**	**1.63**	**85**	*e*PN	**Pn**	**09 32 41.8**	**+0.5**
LIT	**Litokhoron**	**1.64**	**308**	*e*Pb	**Pb**	**09 32 41.3**	**-1.4**
CHOS	**Chios island**	**1.64**	**116**	*e*Pb	**Pb**	**09 32 41.8**	**-0.9**
CHOS				*e*Sb	**Sb**	**09 33 03.3**	**-0.2**
HORT	**Hortiatis**	**1.70**	**331**	*e*Pb	**Pb**	**09 32 42.6**	**-1.1**

THL	**Klokotos Trika**	**1.74 286**	*e*Pb	**Pb**	**09 32 42.7**	**-1.7**
THL			*e*Sb	**Sb**	**09 33 06.6**	**+0.3**
THL	**Klokotos Trika**	**1.74 286**	*e*PN	**Pn**	**09 32 42.9**	**+0.2**
THL			*e*SN	**Sn**	**09 33 05.2**	**+0.2**
THL	**Klokotos Trika**	**1.74 286**	Pn	**Pn**	**09 32 42.9**	**+0.2**
THL			*e*Sn	**Sn**	**09 33 05.2**	**+0.2**
THL			*e*Sb	**Sb**	**09 33 06.6**	**+0.3**
DID	**Didima**	**1.77 205**	*e*Pb	**Pb**	**09 32 43.0**	**-1.9**
SOH	**Sokhos**	**1.82 340**	*e*Pb	**Pb**	**09 32 44.1**	**-1.7**
EVR	**Evrytania**	**1.86 265**	*e*PN	**Pn**	**09 32 45.2**	**+0.9**
AYVA	**Ayvalik**	**1.96 84**	*i* P	**Pn**	**09 32 45.8**	**+0.1**
URLA	**Izmir**	**2.04 111**	*i* P	**Pn**	**09 32 46.9**	**+0.1**
SRS	**Serrai**	**2.05 348**	*e*Pn	**Pn**	**09 32 46.9**	**-0.1**
KZN	**Kozani**	**2.21 303**	*e*PN	**Pn**	**09 32 49.2**	**+0.1**
VLX	**Vlachokerasia**	**2.24 220**	*e*Pn	**Pn**	**09 32 50.5**	**+0.9**
NVR	**Nevrokopi**	**2.25 354**	*e*PN	**Pn**	**09 32 49.5**	**-0.2**
NVR			*e*SN	**Sn**	**09 33 17.0**	**-0.5**
KNT	**Kendrikon**	**2.27 335**	*e*Pn	**Pn**	**09 32 50.9**	**+0.9**
RDO	**Rodhopi**	**2.28 27**	*e*PN	**Pn**	**09 32 49.5**	**-0.7**
ALN	**Alexandroupoli**	**2.29 38**	*e*Pn	**Pn**	**09 32 50.0**	**-0.2**
ALN	**Alexandroupoli**	**2.29 38**	*e*Pn	**Pn**	**09 32 50.0**	**-0.3**
APE	**Apeiranthos**	**2.30 152**	*e*Pn	**Pn**	**09 32 50.7**	**+0.2**
APE	**Apeiranthos**	**2.30 152**	⇑*i*Pn	**Pn**	**09 32 50.8**	**+0.3**
RLS	**Riolos of Patr**	**2.37 244**	*e*PB	**Pb**	**09 32 53.1**	**-2.1**
MMB	**Musomiste**	**2.50 352**	P	**Pn**	**09 32 53.2**	**+0.1**
SMG	**Samos**	**2.52 123**	*e*PN	**Pn**	**09 32 53.9**	**+0.5**
KDAG	**Bornova**	**2.52 105**	*i* P	**Pn**	**09 32 54.8**	**+1.3**
VLI	**Veliai**	**2.58 203**	⇓*i*PN	**Pn**	**09 32 54.5**	**+0.1**
ITM	**Ithomi**	**2.62 223**	*e*PB	**Pb**	**09 32 56.6**	**-2.9**
SART	**Tekirdag**	**2.79 55**	*i* P	**Pn**	**09 32 57.2**	**-0.1**
KKB	**Krupnik**	**2.87 343**	P	**Pn**	**09 32 58.7**	**+0.4**
VLS	**Valsamata**	**2.96 253**	*e*PN	**Pn**	**09 33 00.8**	**+1.3**
KYTH	**Kithira**	**2.97 198**	*e*PN	**Pn**	**09 33 00.0**	**+0.4**
KRUS	**Krusevo**	**3.18 316**	*e*Pn	**Pn**	**09 33 04.2**	**+1.7**
KRUS	**Krusevo**	**3.18 316**	*e*Pn	**Pn**	**09 33 04.1**	**+1.6**
VTS	**Vitosha**	**3.55 348**	P	**Pn**	**09 33 08.7**	**+1.1**
KARP	**Karpathos**	**4.28 145**	P	**Pn**	**09 33 19.4**	**+1.7**
TIP	**Timpagrande**	**5.77 273**	P	**Pn**	**09 33 41.7**	**+3.6**
VOIR		**6.35 6**	⇑P	**Pn**	**09 33 47.1**	**+1.0**
VOIR		**6.35 6**	⇑*i*P	**Pn**	**09 33 47.1**	**+1.0**
MLR	**Muntele Rosu**	**6.51 11**	⇓P	**Pn**	**09 33 50.7**	**+2.5**
MLR	**Muntele Rosu**	**6.51 11**	⇓*i*P	**Pn**	**09 33 50.7**	**+2.5**
PLOR	**Plostina**	**6.98 14**	⇑*i*P	**Pn**	**09 33 58.6**	**+3.9**
VRI	**Vrincioaia**	**7.01 15**	⇑P	**Pn**	**09 33 58.9**	**+3.8**
VRI	**Vrincioaia**	**7.01 15**	⇑*i*P	**Pn**	**09 33 58.9**	**+3.8**

IDC 23 09:43:08.2±1.4, 2177N×14333E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.5/20, mbtmp3.6/5, ML3.6/1, Error ellipse: s-maj=65.0km s-min=23.0km az=90.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.41**	**349**		Pn	Pn	09 44 30.9	+0.8
	4.2nm,0.3s,baz=270,slow=20,SNR=5.2							
CBIJ					Sn	Sn	09 45 29.4	-3.6
	3.6nm,0.3s,baz=285,slow=20,SNR=2.5							
SONM	**Songino Array**	**39.37**	**320**	P		P	09 50 38.9	-0.4
	0.3nm,0.5s,baz=128,slow=7.5,SNR=3.1							
WRA	**Warramunga Arr**	**42.38**	**193**	P		P	09 51 04.6	+0.2
	1.3nm,1.1s,baz=17,slow=8.8,SNR=3.7							
ASAR	**Alice Springs**	**46.08**	**192**	P		P	09 51 34.0	-0.1
	0.5nm,0.6s,baz=17,slow=11,SNR=13							
YKA	**Yellowknife Ar**	**76.33**	**28**	P		P	09 54 59.0	+0.2
	0.1nm,0.5s,baz=292,slow=5.9,SNR=3.2							

*ATH **23** 09:47:49.5, 3748N×2688E, h7km±5km, MD3.3/3*
*NEIC **23** 09:47:49.5, 3748N×2688E, h7km, MD3.3(ATH), After ATH.*
*DDA **23** 09:47:50.4, 3754N×2677E, h7km±4km, Md2.9*
*ISCJB **23** 09:47:50.1±0.6, 3754N±003×2675E±005, h6km±6km, Error ellipse: s-maj=6.1km s-min=4.4km az=8.8*
*CSEM **23** 09:47:50.3±0.1, 3756N×2682E, h12km, MD3.3, Error ellipse: s-maj=2.4km s-min=1.5km az=106.0*
*THE **23** 09:47:51.0, 3755N×2685E, h14km, ML3.0*
ISC 23 09:47:50.8±0.5, 3755N±003×2678E±005, h16km±7km, n14, σ0§69/23, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
SMG	**Samos**	**0.16**	**16**	⇑*i*PG		**Pg**	**09 47 54.5**	**-0.4**
SMG				*e*SG		**Sg**	**09 47 57.2**	**-0.5**
BDRM	**Kayabasi**	**0.72**	**132**	*i* P		**Pg**	**09 48 04.9**	**+0.1**
BDRM				*i* S		**Sg**	**09 48 14.7**	**+0.4**
URLA	**Izmir**	**0.82**	**350**	*i* P		**Pg**	**09 48 06.4**	**-0.4**
URLA				*i* S		**Sg**	**09 48 18.6**	**+1.1**
BLCB	**Balcova**	**0.86**	**14**	*e*Pg		**Pg**	**09 48 06.9**	**-0.6**
BLCB				*e*Sg		**Sg**	**09 48 19.0**	**+0.2**
AYDN	**Tasoluk**	**0.88**	**82**	*i* P		**Pg**	**09 48 01.5**	**-6.4**
KDAG	**Bornova**	**0.93**	**24**	*i* P		**Pb**	**09 48 07.5**	**-1.1**
KDAG				*i* S		**Sg**	**09 48 22.5**	**+1.4**
CHOS	**Chios island**	**1.01**	**326**	*e*Pg		**Pg**	**09 48 09.5**	**-0.9**
CHOS				*e*Sg		**Sg**	**09 48 24.6**	**+0.9**
CHOS	**Chios island**	**1.01**	**326**	*e*Pg		**Pg**	**09 48 09.5**	**-0.9**
CHOS				*e*Sg		**Sg**	**09 48 24.5**	**+0.9**
APE	**Apeiranthos**	**1.11**	**245**	*e*Pg		**Pg**	**09 48 11.7**	**-0.5**
APE				*e*Sg		**Sg**	**09 48 27.1**	**+0.6**
APE	**Apeiranthos**	**1.11**	**245**	*e*Pg		**Pg**	**09 48 11.6**	**-0.5**
APE				*e*Sg		**Sg**	**09 48 27.1**	**+0.5**
SANT	**Santorini**	**1.58**	**222**	P		**Pn**	**09 48 18.7**	**+0.5**
THR1	**Thera Island**	**1.58**	**222**	*e*Pg		**Pn**	**09 48 17.7**	**-0.5**
PRK	**Paraskevi**	**1.74**	**347**	*e*PG		**Pg**	**09 48 23.5**	**-0.7**
KARP	**Karpathos**	**2.02**	**171**	*e*PN		**Pn**	**09 48 24.6**	**+0.4**

*NEIC **23** 09:50:18.7, 3332S×7182W, h10km, ML2.6(GUC), After GUC.*
GUC 23 09:50:18.7±0.6, 3332S×7182W, h10km±12km, MD3.7, ML2.6, 2C-6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IHA	**Instituto Hidr**	**0.33**	**27**	⇓*i*P		Pg	09 50 25.8	+0.5
IHA				*i* S		Sg	09 50 31.4	+1.6
LNV	**Longovilo**	**0.72**	**152**	⇓*i*P		Pg	09 50 32.4	-0.2
LNV				*i* S		Sg	09 50 43.0	+1.0
TACH	**Talagante**	**0.81**	**114**	⇑*i*P		Pg	09 50 34.2	0.0
TACH				*i* S		Sg	09 50 45.6	+0.8
PEL	**Peldehue**	**0.97**	**80**	*e*P		Pg	09 50 36.8	-0.6
PEL				*i* S		Sg	09 50 51.8	+1.9
PEL					AML	AML	09 50 56.0	
	comp=E,390nm,0.3s							
CLCH	**Cerro Calan**	**1.08**	**94**	*e*P		Pb	09 50 38.0	-1.4
CLCH				*i* S		Sg	09 50 53.0	-0.4
PCH	**Pirque**	**1.13**	**106**	*e*P		Pb	09 50 39.2	-1.2
CHCH	**Chadas Angostu**	**1.15**	**122**	⇓*i*P		Pb	09 50 39.1	-1.5
FCH	**Farellones**	**1.28**	**91**	⇓*e*P		Pn	09 50 42.0	-0.7
FCH				*i* S		Sb	09 51 00.1	+0.7
FCH					AML	AML	09 51 05.8	
	comp=N,166nm,0.6s							
CACH	**El Canelo**	**1.29**	**128**	⇑*i*P		Pn	09 50 42.4	-0.3
SFDO	**San Fernando**	**1.45**	**153**	⇓*i*P		Pn	09 50 44.3	-0.7
SFDO				*i* S		Sn	09 51 03.6	-0.5
CICH	**Cipreses**	**1.53**	**131**	⇓*e*P		Pn	09 50 45.9	-0.2

ISC 23 09:57:41.4±2.4, 233N±01×937E±01, h35km, n10, σ0§83/12, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.49**	**8**	*e*P		**Pn**	**09 58 05.0**	**-0.7**
IMP				*e*S		**Sn**	**09 58 24.0**	**+0.1**
SHL	**Shillong**	**2.81**	**324**	*e*PN		**Pn**	**09 58 26.0**	**+2.2**
SHL				*e*SN		**Sn**	**09 58 56.0**	**-0.4**
JIRN	**Jiri**	**8.06**	**304**	*e*P		**Pn**	**09 59 36.6**	**+0.6**
	31nm,0.3s							
GUN	**Gumba**	**8.43**	**305**	*e*P		**Pn**	**09 59 41.0**	**0.0**
	14nm,0.3s							
PKI	**Pulchoki**	**8.62**	**301**	*e*P		**Pn**	**09 59 44.4**	**+0.7**
	40nm,0.6s							
KKN	**Kakani**	**8.83**	**302**	*e*P		**Pn**	**09 59 46.5**	**0.0**
DMN	**Daman**	**8.88**	**301**	*e*P		**Pn**	**09 59 47.7**	**+0.4**
GKN	**Gorkha**	**9.43**	**302**	*e*P		**Pn**	**09 59 54.5**	**-0.3**
	6.6nm,0.3s							
KOLN	**Koldanda**	**10.16**	**298**	*e*P		**Pn**	**10 00 04.1**	**-0.7**
	22nm,0.3s							
DANN	**Dangsing**	**10.28**	**301**	*e*P		**Pn**	**10 00 04.9**	**-1.5**
	13nm,0.4s							

*ISCJB **23** 10:00:12.9±0.7, 4305N±004×7492E±004, h5km±5km, Error ellipse: s-maj=6.1km s-min=4.6km az=10.4*
*NNC **23** 10:00:13.0±0.4, 4309N×7495E, h0km, mb2.8, mpv2.5, Error ellipse: s-maj=11.0km s-min=2.3km az=18.0*
*KNET **23** 10:00:12.3±0.4, 4303N×7489E, h14km±2km, ml2.0, Error ellipse: s-maj=3.0km s-min=2.1km az=17.0*
ISC 23 10:00:13.2±0.7, 4305N±004×7490E±004, h7km±6km, n13, σ0§74/23, 19C-4D, Central Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CHMS	**Chumysh**	**0.12**	**246**	⇑P		**Pg**	**10 00 15.6**	**-0.2**
	336nm,0.2s,SNR=254							
CHMS				⇑S		**Sg**	**10 00 17.5**	**-0.1**
	401nm,0.2s							
USP	**Ospenovka**	**0.37**	**307**	P		**Pg**	**10 00 20.4**	**0.0**
	117nm,0.1s,SNR=308							
USP				⇑S		**Sg**	**10 00 25.7**	**+0.5**
	239nm,0.2s							
KBK	**Karagaybulak**	**0.39**	**175**	⇑P		**Pg**	**10 00 21.1**	**+0.2**
	245nm,0.1s,SNR=277							
KBK				⇑S		**Sg**	**10 00 27.1**	**+1.2**
	694nm,0.4s							
AAK	**Ala-Archa**	**0.51**	**216**	⇑P		**Pg**	**10 00 23.0**	**-0.1**
	26nm,0.2s,SNR=62							
AAK				⇓S		**Sg**	**10 00 30.1**	**+0.3**
	133nm,0.3s							
TKM2	**Tokmak 2**	**0.53**	**104**	⇑P		**Pg**	**10 00 22.9**	**-0.5**
	9.0nm,0.2s							
TKM2				⇑S		**Sg**	**10 00 30.0**	**-0.2**
	15nm,0.1s							
TKM2	**Tokmak 2**	**0.53**	**104**	⇑P		**Pg**	**10 00 22.9**	**-0.4**
	34nm,0.1s,SNR=115							
TKM2				⇓S		**Sg**	**10 00 30.0**	**-0.2**
	172nm,0.1s							
UCH	**Uchtor**	**0.87**	**199**	⇑P		**Pg**	**10 00 29.5**	**-0.4**
	10nm,0.2s,SNR=24							
EKS2	**Erkin-Say**	**0.91**	**245**	⇑P		**Pg**	**10 00 30.6**	**-0.1**
	26nm,0.2s,SNR=43							
EKS2				⇓S		**Sg**	**10 00 43.1**	**+0.5**
	17nm,0.2s							
KZA	**Kyzart**	**1.00**	**165**	⇑P		**Pg**	**10 00 32.2**	**-0.2**
	17nm,0.2s,SNR=44							
KZA				⇑S		**Sg**	**10 00 45.4**	**0.0**
	16nm,0.2s							
ULHL	**Ulahol**	**1.27**	**129**	⇑P		**Pn**	**10 00 36.5**	**-0.9**
	6.7nm,0.1s,SNR=72							
AML	**Almayashu**	**1.28**	**225**	⇑P		**Pn**	**10 00 37.1**	**-0.4**
	11nm,0.2s,SNR=22							
AML				⇓S		**Sb**	**10 00 54.2**	**-0.1**
	31nm,0.2s							
KK31	**Karatay Array**	**3.22**	**272**	⇑Pn		**Pn**	**10 01 08.0**	**+3.8**
	0.1nm,0.3s,baz=89,slow=12,SNR=39							
KK31				⇑Pg		**Pg**	**10 01 13.5**	**-1.4**
	0.5nm,0.3s,baz=91,slow=16,SNR=20							
KK31				⇑Lg			10 01 52.9	
	1.9nm,0.3s,baz=89,slow=28,SNR=5.3							
MK31	**Makanchi Array**	**6.44**	**52**	⇑Pn		**Pn**	**10 01 51.0**	**+2.5**
	0.3nm,0.2s,baz=232,slow=15,SNR=5.6							

*NNC **23** 10:02:56.6±1.0, 4768N×8116E, h0km, mb3.7, mpv3.5, Error ellipse: s-maj=11.4km s-min=5.7km az=40.0*
*ISCJB **23** 10:02:58.6±0.9, 4783N±006×8136E±0.1, h33km, Error ellipse: s-maj=12.8km s-min=5.4km az=149.9*
ISC 23 10:03:00.7±0.9, 4781N±005×8146E±01, h35km, n15, σ1§04/19, 9C-8D, Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**1.17**	**150**	⇓P		**Pn**	**10 03 19.8**	**-0.7**
	21nm,0.2s,baz=315,slow=18,SNR=669							
MK31				⇓S		**Sn**	**10 03 34.6**	**-0.5**
	156nm,0.5s,baz=323,slow=28,SNR=22							
KURK	**Kurchatov**	**3.45**	**329**	⇑Pn		**Pn**	**10 03 53.5**	**+1.6**
KURK				⇓Lg			10 04 48.3	
	96nm,0.5s							
TKM2	**Tokmak 2**	**6.39**	**222**	⇑Pn		**Pn**	**10 04 31.9**	**-0.3**
	6.8nm,0.5s							
TKM2				⇑Lg			10 06 10.0	
	22nm,0.6s							
TKM2	**Tokmak 2**	**6.39**	**222**	P		**Pn**	**10 04 32.2**	**0.0**
	SNR=15							
USP	**Ospenovka**	**6.66**	**230**	P		**Pn**	**10 04 35.7**	**-0.3**
	SNR=71							
ULHL	**Ulahol**	**6.67**	**215**	P		**Pn**	**10 04 37.8**	**+1.7**
	SNR=57							
KBK	**Karagaybulak**	**6.89**	**224**	P		**Pn**	**10 04 39.2**	**0.0**
	SNR=12							
AAK	**Ala-Archa**	**7.13**	**226**	P		**Pn**	**10 04 41.3**	**-1.1**
	SNR=5.4							
KZA	**Kyzart**	**7.22**	**220**	P		**Pn**	**10 04 44.8**	**+1.2**
	SNR=10							
UCH	**Uchtor**	**7.43**	**224**	P		**Pn**	**10 04 47.9**	**+1.4**
	SNR=6.8							
EKS2	**Erkin-Say**	**7.46**	**229**	P		**Pn**	**10 04 47.2**	**+0.2**
	SNR=11							
VOSK	**Vostochnaya**	**8.31**	**310**	⇓Pn		**Pn**	**10 04 58.6**	**0.0**
	0.5nm,0.3s							
VOSK				⇑Sn		**Sn**	**10 06 30.0**	**-1.1**
	2.6nm,0.5s							
VOSK				⇑Lg			10 07 17.8	
	29nm,0.8s							
BVA0	**Borovoye Array**	**8.78**	**311**	⇓Pn		**Pn**	**10 05 05.9**	**+0.9**
	0.2nm,0.5s,baz=224,slow=51,SNR=11							
BVA0				⇑Sn		**Sn**	**10 06 42.6**	**+0.1**
	1.0nm,0.7s,baz=120,slow=26,SNR=5.8							
BVA0				⇑Lg			10 07 31.8	
	2.6nm,0.9s,baz=128,slow=26,SNR=3.8							
KK31	**Karatay Array**	**9.00**	**243**	⇓Pn		**Pn**	**10 05 05.9**	**-2.2**
	0.5nm,0.3s,baz=54,slow=13,SNR=24							
KK31				⇓Lg			10 07 34.0	
	4.8nm,0.5s,baz=61,slow=28,SNR=4.6							
ZRNK	**Zerenda**	**9.46**	**308**	⇑Pn		**Pn**	**10 05 13.4**	**-1.0**
	1.6nm,0.4s							
ZRNK				⇑Sn		**Sn**	**10 06 55.4**	**-4.0**
	4.1nm,0.7s							
ZRNK				⇓Lg			10 07 51.1	
	19nm,1.0s							

*NEIC **23** 10:10:39.4, 1567N×9724W, h6km, MD4.2(MEX), After MEX.*
MEX 23 10:10:39.3±1.0, 1568N×9724W, h4km±18km, MD4.2, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.09**	**85**	*i* P		Pg	10 10 57.9	-2.4
HUIG				*i* S		Sg	10 11 11.3	-3.3
HUIG	**Huatulco**	**1.09**	**85**	*i* P		Pg	10 10 57.9	-2.4
HUIG				*i* S		Sg	10 11 11.7	-2.9
PNIG	**Pinotepa**	**1.10**	**310**	*i* P		Pg	10 10 57.3	-3.2
PNIG				*i* S		Sg	10 11 11.2	-3.7
VHO	**Vista Hermosa**	**1.47**	**19**	*i* P		Pn	10 11 02.7	-3.8
VHO				*i* S		Sb	10 11 21.6	-4.5
UTMO	**Huajuapan**	**2.20**	**346**	*i* P		Pn	10 11 15.1	-1.5
UTMO				*i* S		Sn	10 11 40.5	-3.8
CMIG	**Matias Romero**	**2.66**	**58**	*e*P		Pn	10 11 18.9	-4.1
CMIG				*i* S		Sn	10 11 51.1	-4.5
TPIG	**Tehuac#an**	**2.72**	**358**	*i* P		Pn	10 11 22.2	-1.6
TPIG				*i* S		Sn	10 11 52.8	-4.4
ACX	**Acapulco**	**2.83**	**295**	*i* P		Pn	10 11 30.4	+5.2
ACX	**Acapulco**	**2.83**	**295**	*i* P		Pn	10 11 20.5	-4.7
MEIG	**Mezcala**	**3.19**	**315**	*i* P		Pn	10 11 30.1	-0.1
MEIG				*i* S		Sn	10 12 06.3	-2.3
CAIG	**El Cayaco**	**3.21**	**295**	*i* P		Pn	10 11 28.2	-2.2
CAIG				*i* S		Sn	10 12 00.9	-8.2
CAIG	**El Cayaco**	**3.21**	**295**	*i* P		Pn	10 11 28.2	-2.2
CAIG				*i* S		Sn	10 12 01.2	-7.9
PLIG	**Platanillo**	**3.45**	**322**	*i* P		Pg	10 11 40.6	-5.0
PLIG				*i* S		Sg	10 12 23.0	-7.4
PLIG	**Platanillo**	**3.45**	**322**	*i* P		Pn	10 11 33.2	-0.7
PLIG				*i* S		Sn	10 12 14.9	-0.4
YAIG	**Yautepec**	**3.61**	**331**	*i* P		Pg	10 11 43.8	-4.7
YAIG				*i* S		Sg	10 12 23.3	-12
YAIG	**Yautepec**	**3.61**	**331**	*i* P		Pn	10 11 34.7	-1.3
YAIG				*i* S		Sn	10 12 14.7	-4.4
PPM	**Popocatepetl**	**3.62**	**339**	*e*P		Pg	10 11 45.0	-3.6
PPM				*i* S		Sg	10 12 30.9	-4.6
PPM	**Popocatepetl**	**3.62**	**339**	*e*P		Pn	10 11 35.9	-0.1
PPM				*i* S		Sn	10 12 16.2	-3.0
MZVM		**3.97**	**332**	*i* P		Pn	10 11 34.4	-6.5
LVIG	**Laguna Verde**	**4.09**	**11**	*i* P		Pg	10 11 51.9	-5.9
LVIG				*i* S		Sg	10 12 37.8	-13
LVIG	**Laguna Verde**	**4.09**	**11**	*i* P		Pg	10 11 49.9	-7.9
LVIG				*i* S		Sn	10 12 30.4	-0.7
IIO	**Organos**	**4.13**	**340**	*i* P		Pg	10 11 55.3	-3.3
IIO				*i* S		Sg	10 12 47.1	-5.1
SZVM	**Salazar**	**4.16**	**331**	*e*P		Pn	10 11 42.2	-1.3
SZVM				*i* S		Sn	10 12 32.2	-0.3
CCIG	**Comitan**	**4.95**	**82**	*e*P		Pn	10 11 53.7	-0.7
CCIG				*i* S		Sn	10 12 44.0	-8.0
CCIG	**Comitan**	**4.95**	**82**	*e*P		Pn	10 11 52.1	-2.3
CCIG				*i* S		Sn	10 12 47.0	-5.1

IDC 23 10:39:02.1±1.1, 590N×7370W, h140km±6km, mb3.2/2, mb1 3.5/2, mb1mx3.0/19, mbtmp3.2/2, Error ellipse: s-maj=41.7km s-min=13.3km az=105.0, Colombia

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**1.21**	**211**	P		Pn	10 39 29.0	+1.1
	24nm,0.3s,baz=52,slow=2.5,SNR=60							
ROSC				S		Sn	10 39 48.3	+0.8
	70nm,0.3s,baz=281,slow=19,SNR=16							
PLCA	**Paso Flores**	**46.49**	**177**	P		P	10 47 14.4	-0.8
	3.4nm,1.0s,baz=349,slow=4.5,SNR=3.5							
PLCA				pP		pP	10 47 47.1	+0.2
	0.7nm,0.5s,baz=358,slow=2.4,SNR=1.2							
YKA	**Yellowknife Ar**	**63.93**	**340**	P		P	10 49 18.9	-1.0
	0.1nm,0.4s,baz=134,slow=6.0,SNR=3.5							
YKA				pP		pP	10 49 54.4	+1.0
	0.2nm,0.6s,baz=129,slow=7.1,SNR=2.6							
ASAR	**Alice Springs**	**148.10**	**234**	PKPbc		PKPbc	10 58 32.4	+0.2
	0.4nm,0.4s,baz=116,slow=3.8,SNR=12							
WRA	**Warramunga Arr**	**149.38**	**240**	PKPbc		PKPbc	10 58 35.8	+0.2
	0.6nm,0.4s,baz=109,slow=2.9,SNR=18							
WRA				pPKPbc		pPKPbc	10 59 11.4	-1.2
	0.4nm,0.7s,baz=105,slow=3.0,SNR=2.0							

*ISCJB **23** 10:53:21.3±0.6, 3798N±004×2393E±006, h11km±6km, Error ellipse: s-maj=8.0km s-min=6.8km az=22.3*
*CSEM **23** 10:53:21.2±0.1, 3798N×2400E, h2km, ML2.3, Error ellipse: s-maj=2.3km s-min=1.7km az=18.0*
*ATH **23** 10:53:21.3, 3799N×2394E, h13km±2km, MD2.8/5, ML2.3*
*NEIC **23** 10:53:21.3, 3799N×2394E, h13km, MD2.8(ATH), After ATH.*
*THE **23** 10:53:22.4, 3796N×2389E, h15km, ML2.9*
ISC 23 10:53:21.5±0.8, 3798N±004×2396E±007, h7km±9km, n11, σ0§44/18, 1C, Southern Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
PTL	**Penteli**	**0.10**	**312**	*e*PG		**Pg**	**10 53 24.0**	**+0.1**
PTL				*e*SG		**Sg**	**10 53 25.5**	**0.0**
ATH	**Athens Observa**	**0.19**	**268**	⇑*i*PG		**Pg**	**10 53 25.5**	**+0.1**
ATH				*e*SG		**Sg**	**10 53 28.2**	**+0.2**
KVR	**Kavouri**	**0.21**	**225**	*e*PG		**Pg**	**10 53 25.5**	**-0.3**
NAIG	**Nisos Aigina**	**0.43**	**240**	*e*PB		**Pg**	**10 53 30.0**	**+0.1**
DID	**Didima**	**0.74**	**231**	*e*Pg		**Pg**	**10 53 35.8**	**0.0**
DID				*e*Sg		**Sg**	**10 53 45.6**	**+0.2**
LTK	**Loutraki**	**0.79**	**273**	*e*Pg		**Pg**	**10 53 36.6**	**0.0**
LTK				*e*Sg		**Sg**	**10 53 47.2**	**+0.3**
LKR	**Lokris**	**1.01**	**312**	*e*Pg		**Pg**	**10 53 40.0**	**-1.0**
LKR				*e*Sg		**Sg**	**10 53 54.5**	**+0.4**
LKR	**Lokris**	**1.01**	**312**	*e*PG		**Pg**	**10 53 40.0**	**-0.9**
AOS	**Alonnisos**	**1.19**	**357**	*e*Pg		**Pn**	**10 53 43.9**	**-0.7**
APE	**Apeiranthos**	**1.54**	**126**	*e*Pg		**Pn**	**10 53 49.2**	**-0.2**
APE				*e*Sg		**Sn**	**10 54 09.5**	**-0.1**
CHOS	**Chios island**	**1.70**	**76**	*e*Pb		**Pn**	**10 53 51.2**	**-0.3**
CHOS				*e*Sb		**Sn**	**10 54 14.7**	**+1.2**

*GRAL **23** 10:57:06.8±2.6, 3455N×3692E, h0km±800km, MD3.0*
*CSEM **23** 10:57:07.9±0.4, 3439N×3676E, h2km, Mc1.6, Error ellipse: s-maj=7.7km s-min=3.6km az=123.0*
*NSSC **23** 10:57:07.5, 3423N×3620E, h10km±1km*
*ISCJB **23** 10:57:09.7±0.7, 3446N±002×3677E±006, h2km, Error ellipse: s-maj=6.7km s-min=3.0km az=9.9*
*GII **23** 10:57:09.9±1.6, 3451N×3665E, h0km, ML2.6/7*
ISC 23 10:57:09.7±0.7, 3448N±002×3679E±006, h0km, n23, σ1§16/43, 12D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HAWK	**Haweek**	**0.32**	**279**	⇑P		**Pg**	**10 57 14.5**	**-1.2**
HAWK				⇑S		**Sg**	**10 57 19.9**	**0.0**
HAWK	**Haweek**	**0.32**	**279**	⇑*i*P

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.03**	**117**	Pn	**Pn**	**11 47 27.5**	**0.0**
HNR				Sn	**Sn**	**11 48 24.8**	**0.0**
HNR				LR	LR	11 49 04.5	
HNR	**Honiara**	**5.03**	**117**	Pn	**Pn**	**11 47 27.5**	**0.0**
	5.6nm,0.3s,baz=277,slow=6.7,SNR=6.7						
HNR				Sn	**Sn**	**11 48 24.8**	**0.0**
	8.3nm,0.3s,baz=284,slow=14,SNR=6.1						
HNR				LR	LR	11 49 04.5	
	comp=Z,148nm,21.3s,baz=0.0,slow=35						
WRA	**Warrarmunga Arr**	**24.05**	**236**	P	**P**	**11 51 27.3**	**+0.4**
	0.4nm,0.6s,mb3.0,baz=62,slow=9.4,SNR=4.5						
ASAR	**Alice Springs**	**26.36**	**229**	P	**P**	**11 51 47.4**	**-0.4**
	0.3nm,0.9s,mb2.8,baz=56,slow=12,SNR=2.7						
SONM	**Songino Array**	**69.70**	**327**	P	**P**	**11 57 21.1**	**+0.1**
	0.7nm,0.8s,mb3.6,baz=115,slow=5.4,SNR=4.7						
MK31	**Makanchi Array**	**83.80**	**319**	*e*P	**P**	**11 58 40.8**	**+0.1**
MKAR	**Makanchi Array**	**83.80**	**319**	P	**P**	**11 58 40.5**	**-0.2**
	0.8nm,0.6s,mb4.0,baz=94,slow=5.7,SNR=10						

*CSEM **23** 11:49:32.4, 3552N×2724E, h13km, MD3.5/3, After ATH*
*NEIC **23** 11:49:32.4, 3552N×2724E, h13km, MD3.5(ATH), After ATH.*

ATH 23 11:49:32.4, 3552N×2724E, h13km±3km, MD3.5/3, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.07**	**293**	*e*PG	Pg	11 49 35.2	+0.2
ARG	**Arkhangelos**	**1.00**	**46**	*e*PG	Pg	11 49 51.1	-0.6
ARG				*e*SB	Sb	11 50 05.8	+1.1
NPS	**Neapolis**	**1.35**	**260**	*e*PB	Pb	11 49 57.2	-0.4
XRY	**Khrisi**	**1.42**	**243**	*e*PB	Pb	11 49 59.5	+0.8
APE	**Apeiranthos**	**2.07**	**319**	*e*PN	Pn	11 50 09.4	+2.5

IDC 23 11:53:09.6±3.6, 1670S×17479W, h0km, mb4.3/3, mb1 4.5/3, mb1mx3.9/14, mbtmp4.3/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/28, Error ellipse: s-maj=171.4km s-min=76.7km az=156.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**37.06**	**259**	LR	LR	12 12 08.2	
	comp=Z,91nm,19.0s,baz=60,slow=31						
STKA	**Stephens Creek**	**42.23**	**241**	P	P	12 01 05.3	+0.6
	1.1nm,0.5s,baz=83,slow=8.1,SNR=4.0						
WB2	**Warrarmunga Arr**	**48.24**	**258**	*e*P	P	12 01 52.2	-0.4
WRA	**Warrarmunga Arr**	**48.25**	**258**	P	P	12 01 52.5	-0.2
	1.7nm,0.3s,baz=96,slow=7.5,SNR=117						
WRA				PcP	PcP	12 03 19.9	-0.1
	0.2nm,0.4s,baz=90,slow=3.7,SNR=3.3						
ASAR	**Alice Springs**	**48.44**	**253**	P	P	12 01 53.9	-0.3
	4.6nm,0.7s,baz=90,slow=8.1,SNR=34						
ASAR				PcP	PcP	12 03 20.1	-0.4
	0.4nm,0.4s,baz=104,slow=3.5,SNR=4.8						
KAKA	**Kakadu**	**51.08**	**267**	*e*P	P	12 02 15.0	+0.7
	2.8nm,0.3s						

*ISCJB **23** 12:19:52.3±1.1, 3057S±002×7184W±007, h26km±7km, mb4.0/10, Error ellipse: s-maj=10.1km s-min=4.1km az=178.0*
*GUC **23** 12:19:55.3±1.1, 3054S×7162W, h29km±8km, ML4.4*
*NEIC **23** 12:19:55.3, 3054S×7162W, h29km, ML4.4(GUC), After GUC.*
*IDC **23** 12:19:56.3±3.0, 3064S×7175W, h50km±25km, mb3.9/10, mb1 4.0/14, mb1mx4.0/19, mbtmp3.9/14, ML4.1/4, Error ellipse: s-maj=21.3km s-min=18.3km az=76.0*

ISC 23 12:19:51.6±1.1, 3059S±002×7186W±006, h8km±6km, h10km±.9km: pP-P, n42, σ1°13/53, mb4.0/10, 6D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.56**	**92**	⇓*i*P	**Pg**	**12 20 03.3**	**+0.7**
OVCH				*i* S	**Sg**	**12 20 09.6**	**-0.3**
OVCH	**Ovalle**	**0.56**	**92**	⇓*i*P	**Pg**	**12 20 03.3**	**+0.7**
OVCH				*i* S	**Sg**	**12 20 09.6**	**-0.3**
OVCH				AML	AML	12 20 11.4	
	comp=N,40μm,0.3s						
LSCH	**La Serena**	**0.86**	**38**	⇓*e*P	**Pg**	**12 20 08.7**	**+0.6**
LSCH				*i* S	**Sg**	**12 20 19.0**	**-0.3**
TLL	**Tololo Astrono**	**1.00**	**66**	⇓*i*P	**Pg**	**12 20 10.5**	**-0.4**
TLL				*i* S	**Sg**	**12 20 21.9**	**-1.9**
TLL	**Tololo Astrono**	**1.00**	**66**	⇓*i*P	**Pg**	**12 20 10.5**	**-0.4**
TLL				*i* S	**Sg**	**12 20 21.9**	**-1.9**
TLL				AML	AML	12 20 26.4	
	comp=E,15μm,0.5s						
LCO	**Las Campanas**	**1.86**	**33**	*e*Sn	**Sn**	**12 20 49.1**	**+1.5**
VACH	**Vallenar**	**2.22**	**26**	*e*P	**Pn**	**12 20 29.1**	**+0.3**
VACH				*i* S	**Sn**	**12 20 57.5**	**+1.1**
JACH	**Jahuel**	**2.35**	**153**	*e*P	**Pn**	**12 20 30.7**	**+0.1**
PEL	**Peldehue**	**2.74**	**159**	⇓*i*P	**Pn**	**12 20 36.6**	**+0.7**
PEL				*i* S	**Sn**	**12 21 11.0**	**+1.8**
PEL				AML	AML	12 21 22.3	
	comp=E,5μm,0.6s						
CLCH	**Cerro Calan**	**3.02**	**159**	*e*P	**Pn**	**12 20 40.2**	**+0.4**
CLCH				*i* S	**Sn**	**12 21 15.9**	**-0.2**
FCH	**Farellones**	**3.04**	**154**	*e*P	**Pn**	**12 20 41.2**	**+1.2**
FCH				*i* S	**Sn**	**12 21 18.1**	**+1.4**
FCH				AML	AML	12 21 34.6	
	comp=E,1μm,0.5s						
PCH	**Pirque**	**3.23**	**160**	*e*P	**Pn**	**12 20 43.4**	**+0.7**
CFAA	**Coronel Fontan**	**3.27**	**109**	P	**Pn**	**12 20 44.5**	**+1.3**
CFAA				S	**Sn**	**12 21 21.7**	**-0.6**
CFAA	**Coronel Fontan**	**3.27**	**109**	P	**Pn**	**12 20 44.5**	**+1.3**
	comp=E,15nm,0.3s,baz=294,slow=11,SNR=179						
CFAA				S	**Sn**	**12 21 21.7**	**-0.6**
	comp=E,4.1nm,0.3s,baz=292,slow=18,SNR=3.3						
CPCH	**Copiapo**	**3.48**	**23**	*e*P	**Pn**	**12 20 47.2**	**+1.2**
CPCH				*i* S	**Sn**	**12 21 27.6**	**+0.1**
LMEL	**Las Melosas**	**3.54**	**157**	*e*P	**Pn**	**12 20 48.0**	**+1.1**
LMEL				*i* S	**Sn**	**12 21 28.5**	**-0.5**
LVC	**Limon Verde**	**8.37**	**19**	*e*Pn	**Pn**	**12 21 54.6**	**+1.3**
	comp=E,16nm,0.6s						
LVC				*e*Sn	**Sn**	**12 23 28.8**	**+0.8**
PLCA	**Paso Flores**	**10.18**	**174**	*e*Pn	**Pn**	**12 22 18.2**	**+0.1**
PLCA	**Paso Flores**	**10.18**	**174**	P	**Pn**	**12 22 17.9**	**-0.1**
	comp=E,0.2nm,0.3s,baz=252,slow=23,SNR=7.2						
TRQA	**Tornquist**	**11.05**	**135**	*e*Pn	**Pn**	**12 22 30.2**	**+0.2**
	comp=E,19nm,0.9s						
CPUP	**Villa Florida**	**13.46**	**75**	*e*Pn	**Pn**	**12 23 02.1**	**-0.9**
CPUP	**Villa Florida**	**13.46**	**75**	P	**Pn**	**12 23 02.1**	**-1.0**
	comp=E,1.1nm,0.3s,baz=234,slow=11,SNR=4.2						
LPAZ	**La Paz**	**14.63**	**14**	*e*Pn	**Pn**	**12 23 20.8**	**+1.7**
LPAZ	**La Paz**	**14.63**	**14**	P	**Pn**	**12 23 20.8**	**+1.7**
	comp=E,0.2nm,0.3s,baz=196,slow=7.6,SNR=9.5						
USHA	**Ushuaia**	**24.36**	**175**	P	**P**	**12 25 07.8**	**-2.1**
	comp=E,11nm,1.0s,mb4.3,baz=73,slow=5.8,SNR=3.0						
BDFB	**Brasilia**	**26.42**	**61**	P	**P**	**12 25 26.6**	**-2.4**
	comp=E,2.7nm,0.7s,mb3.9,baz=198,slow=15,SNR=6.8						
VNA3	**Neumayer Olymp**	**52.47**	**159**	*e*	**P**	**12 29 03.8**	**-0.7**
VNA3				*e*	pP	12 29 06.5	-0.4
VNA3				*e*		12 29 09.5	
VNA3				*e*		12 29 33.3	
VNA1	**Neumayer--Stat**	**52.76**	**158**	*e*	**P**	**12 29 07.7**	**+1.0**
VNA1				*e*	pP	12 29 11.3	+2.2
VNA2	**Neumayer--Watz**	**53.10**	**158**	*e*	**P**	**12 29 08.2**	**-1.0**
	baz=284,slow=8.5						
VNA2				*e*	pP	12 29 10.9	-0.8
VNA2				*e*		12 29 14.7	
VNA2				*e*		12 29 38.3	
TXAR	**Lajitas Array**	**66.85**	**330**	P	**P**	**12 30 43.8**	**-0.3**
	comp=E,0.3nm,0.6s,mb3.5,baz=148,slow=7.4,SNR=5.3						
DBIC	**Dimbokro**	**73.96**	**72**	P	**P**	**12 31 25.8**	**-2.3**
DBIC	**Dimbokro**	**73.96**	**72**	P	**P**	**12 31 25.8**	**-2.2**
	comp=E,2.6nm,0.4s,mb4.5,baz=148,slow=5.9,SNR=8.6						
MAW	**Mawson**	**76.40**	**164**	P	**P**	**12 31 40.3**	**-1.0**
	comp=E,5.9nm,0.8s,mb4.6,baz=205,slow=5.3,SNR=10						
NVAR	**Mina Array Bea**	**81.18**	**325**	P	**P**	**12 32 08.6**	**+0.8**
	comp=E,0.2nm,0.4s,mb3.4,baz=162,slow=9.1,SNR=3.7						
BOSA	**Boshof**	**81.53**	**118**	P	**P**	**12 32 08.4**	**-1.7**
	comp=E,3.9nm,0.8s,mb4.4,baz=105,slow=9.8,SNR=3.6						
TORD	**Torodi Ar. Bea**	**82.91**	**70**	P	**P**	**12 32 15.4**	**-2.0**
	comp=E,0.7nm,0.4s,mb4.0,baz=274,slow=6.9,SNR=19						
ULM	**Lac du Bonnet**	**83.25**	**345**	P	**P**	**12 32 16.8**	**-1.6**
	comp=E,2.5nm,1.1s,mb4.2,baz=159,slow=8.7,SNR=4.2						
YKA	**Yellowknife Ar**	**98.88**	**341**	P	**P**	**12 33 30.3**	**-1.4**
YKA	**Yellowknife Ar**	**98.88**	**341**	P	**P**	**12 33 30.3**	**-1.4**
	comp=E,0.1nm,0.5s,mb3.6,baz=140,slow=4.4,SNR=5.3						

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**120.67**	**208**	PKP	PKPdf	12 38 42.4	-2.4
	comp=E,0.3nm,0.8s,baz=134,slow=1.7,SNR=6.4						
WRA	**Warrarmunga Arr**	**123.80**	**210**	PKP	PKPdf	12 38 48.4	-2.4
	comp=E,0.5nm,0.5s,baz=156,slow=1.7,SNR=20						
ZALV	**Zalesovo Beam**	**151.22**	**29**	PKPbc	PKPbc	12 39 43.8	-1.4
	comp=E,4.0nm,0.4s,baz=293,slow=3.0,SNR=29						
ZALV				PKPab	PKPab	12 39 53.1	+0.1
	comp=E,5.2nm,0.5s,baz=299,slow=3.5,SNR=11						

IDC 23 12:45:51.2±2.5, 2207N×14247E, h0km, mb3.6/4, mb1 4.0/4, mb1mx3.7/17, mbtmp3.6/4, Error ellipse: s-maj=221.3km s-min=26.1km az=111.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrarmunga Arr**	**42.50**	**191**	P	P	12 53 48.5	+0.1
	1.0nm,0.9s,baz=5.1,slow=8.3,SNR=4.8						
ASAR	**Alice Springs**	**46.22**	**191**	P	P	12 54 17.9	-0.1
	0.4nm,0.6s,baz=14,slow=9.7,SNR=12						
YKA	**Yellowknife Ar**	**76.44**	**28**	P	P	12 57 42.6	+0.3
	0.2nm,0.5s,baz=292,slow=5.8,SNR=5.5						
NVAR	**Mina Array Bea**	**83.43**	**51**	P	P	12 58 20.9	+0.1
	0.4nm,0.6s,baz=277,slow=9.0,SNR=3.7						

*ISCJB **23** 14:00:13.4±0.4, 5980N±003×2237E±005, h0km, Error ellipse: s-maj=5.0km s-min=3.6km az=167.2*
*HEL **23** 14:00:14.7±0.1, 5980N×2233E, h0km, ML2.0, ML2.3(UPP), ML2.0(NAO), Explosion*
*NAO **23** 14:00:15.2±1.6, 5990N×2231E, ML2.0*
*IDC **23** 14:00:15.2±2.3, 5983N×2230E, h0km, mb1 3.0/3, mb1mx2.9/21, mbtmp2.9/3, ML2.6/3, Error ellipse: s-maj=27.4km s-min=9.9km az=168.0*
*BER **23** 14:00:16.1±2.6, 5993N×2219E, h0km, ML2.0(NAO), Suspected explosion*

ISC 23 14:00:13.9±0.4, 5982N±003×2240E±005, h0km, n27, σ1°07/44, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEF	**Metsahovi**	**1.08**	**67**	*e*P	**Pg**	**14 00 34.7**	**+0.2**
MEF				*e*S	**Sg**	**14 00 48.8**	**+0.3**
RAF	**Rauma**	**1.25**	**346**	*e*P	**Pg**	**14 00 37.1**	**-0.7**
RAF				*e*SN	**Sn**	**14 00 58.7**	**+2.6**
MTSE	**Matsula**	**1.32**	**146**	*e*P	**Pg**	**14 00 38.9**	**-0.4**
MTSE				*e*S	**Sg**	**14 00 55.6**	**-0.8**
PVF	**Pernaja**	**1.88**	**66**	*e*P	**Pn**	**14 00 48.6**	**+1.5**
PVF				*e*S	**Sn**	**14 01 13.0**	**+1.4**
NRTU	**Norrtaelje**	**1.91**	**267**	*e*P	**Pn**	**14 00 47.7**	**0.0**
NRTU				*e*S	**Sn**	**14 01 12.6**	**+0.2**
GRAU	**Graesoe**	**2.00**	**287**	*e*P	**Pn**	**14 00 48.6**	**-0.3**
GRAU				*e*S	**Sn**	**14 01 15.2**	**+0.6**
FORU	**Forsmark**	**2.19**	**287**	*e*P	**Pn**	**14 00 52.0**	**+0.5**
FLYU	**Flymyra**	**2.29**	**280**	*e*P	**Pn**	**14 00 52.9**	**0.0**
NYNU	**Nynaeshamn**	**2.39**	**252**	*e*P	**Pn**	**14 00 54.7**	**+0.5**
FIA0	**FINESS Array S**	**2.44**	**46**	*e*P	**Pn**	**14 00 57.4**	**+2.5**
FIA0				*e*SG	**Sg**	**14 01 30.1**	**-2.0**
FIA0				MSG		14 01 31.2	
	comp=Z,4.7nm,0.1s						
FIA0	**FINESS Array S**	**2.44**	**46**	Pn	**Pn**	**14 00 57.4**	**+2.5**
	baz=226,slow=12						
FIA0				Lg		14 01 29.7	
	baz=235,slow=22						
FINES	**FINESS Array B**	**2.44**	**46**	Pn	**Pn**	**14 00 57.3**	**+2.4**
	comp=Z,0.9nm,0.3s,baz=224,slow=12,SNR=35						
FINES				Sn	**Sn**	**14 01 29.5**	**+4.2**
	comp=Z,3.2nm,0.3s,baz=237,slow=23,SNR=24						
KEF	**Keuruu**	**2.65**	**26**	*e*PG	**Pg**	**14 01 02.2**	**-2.4**
KEF				*e*SB	**Sb**	**14 01 35.5**	**+0.5**
KEF				MSG		14 01 37.4	
	comp=Z,8.6nm,0.1s						
BACU	**Backbrunna**	**2.67**	**273**	*e*P	**Pn**	**14 00 58.5**	**+0.4**
OSTU	**Oestervaala**	**2.67**	**281**	*e*P	**Pn**	**14 00 58.5**	**+0.3**
IGGU	**Iggoen**	**2.74**	**295**	*e*P	**Pn**	**14 00 59.3**	**+0.3**
ARNU	**Arnoeviken**	**3.10**	**309**	*e*P	**Pn**	**14 01 04.4**	**+0.4**
ESKU	**Eskilstuna**	**3.12**	**262**	*e*P	**Pn**	**14 01 05.0**	**+0.8**
VAF	**Ylistaro**	**3.24**	**2**	*e*PB	**Pb**	**14 01 10.7**	**-1.4**
VAF				*e*SB	**Sb**	**14 01 52.7**	**+0.6**
VAF				MSG		14 01 53.8	
	comp=Z,2.9nm,0.1s						
HFS	**Hagfors**	**4.39**	**278**	*e*P	**Pn**	**14 01 21.5**	**-0.1**
HFS				*e*PG	**Pg**	**14 01 31.8**	**-6.1**
HFS				*e*SG	**Sg**	**14 02 26.9**	**-7.8**
HFS	**Hagfors**	**4.39**	**278**	Pn	**Pn**	**14 01 21.5**	**-0.1**
	baz=93,slow=11						
HFS				Pg	**Pg**	**14 01 31.8**	**-6.1**
	baz=96,slow=16						
HFS				Lg		14 02 26.9	
	baz=98,slow=37						
NB2	**NORSAR Subarra**	**5.67**	**287**	Pn	**Pn**	**14 01 38.5**	**-0.9**
	baz=96,slow=14						
NB2	**NORSAR Subarra**	**5.67**	**287**	*e*P	**Pn**	**14 01 38.5**	**-0.9**
NOA	**NORSAR Array B**	**5.67**	**287**	Pn	**Pn**	**14 01 38.2**	**-1.1**
	comp=Z,0.2nm,0.3s,baz=102,slow=8.7,SNR=2.6						
NOA				Sn	**Sn**	**14 02 42.6**	**-2.5**
	comp=Z,0.1nm,0.3s,baz=148,slow=14,SNR=2.4						
NOA				Lg		14 03 08.1	
	comp=Z,0.4nm,0.3s,baz=125,slow=15,SNR=2.5						
ARA0	**ARCESS Array S**	**9.85**	**6**	Pn	**Pn**	**14 02 35.2**	**-1.2**
	baz=186,slow=14						
ARA0				Sn	**Sn**	**14 04 20.1**	**-7.4**
	baz=194,slow=28						
ARA0	**ARCESS Array S**	**9.85**	**6**	*e*P	**Pn**	**14 02 35.2**	**-1.2**
ARA0				*e*S	**Sn**	**14 04 20.1**	**-7.4**
ARCES	**ARCESS Array B**	**9.85**	**6**	Pn	**Pn**	**14 02 35.9**	**-0.6**
	comp=Z,0.1nm,0.3s,baz=186,slow=13,SNR=8.2						
ARCES				Sn	**Sn**	**14 04 20.1**	**-7.4**
	comp=Z,0.1nm,0.3s,baz=191,slow=23,SNR=3.1						

*ISCJB **23** 14:32:02.6±0.8, 3466N±007×2757E±005, h33km, Error ellipse: s-maj=10.6km s-min=5.0km az=20.2*
*HLW **23** 14:32:04.4, 3475N×2728E, h33km, Mb3.1*
*CSEM **23** 14:32:05.2±0.2, 3443N×2697E, h10km, ML3.1, Error ellipse: s-maj=10.0km s-min=6.5km az=91.0*
*GII **23** 14:32:05.6±2.6, 3456N×2748E, h29km±64km, ML3.6/3*
*ATH **23** 14:32:10.0, 3542N×2651E, h3km, MD3.5/3*

ISC 23 14:32:03.9±0.7, 3475N±007×2747E±005, h35km, n22, σ0°93/25, Eastern Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.84**	**343**	*e*PG	**Pn**	**14 32 20.4**	**+1.2**
XRY	**Khrisi**	**1.46**	**276**	*e*PG	**Pn**	**14 32 26.5**	**-1.3**
ARG	**Arkhangelos**	**1.56**	**20**	*e*PB	**Pn**	**14 32 39.9**	**+11**
APE	**Apeiranthos**	**2.80**	**326**	*e*PB	**Pn**	**14 32 44.2**	**-2.0**
HMAT	**Matruh**	**3.65**	**185**	P	**Pn**	**14 32 59.3**	**+1.3**
HMAT	**Matruh**	**3.65**	**185**	P	**Pn**	**14 32 59.0**	**+1.1**
HMAT	**Matruh**	**3.65**	**185**	P	**Pn**	**14 32 59.0**	**+1.1**
SWA1		**5.67**	**196**	P	**Pn**	**14 33 25.9**	**+0.3**
SWA2		**5.75**	**198**	P	**Pn**	**14 33 26.4**	**-0.2**
SUZ		**6.67**	**136**	P	**Pn**	**14 33 41.8**	**+2.4**
KZIT	**Kziot**	**6.98**	**121**	Sn	**Sn**	**14 35 01.6**	**-0.1**
MMLI	**Mount Malkishu**	**7.03**	**107**	Sn	**Sn**	**14 35 03.9**	**+1.0**
RTMI	**Retamim**	**7.10**	**119**	Sn	**Sn**	**14 35 04.3**	**-0.4**
KSHT	**Keshet**	**7.16**	**102**	Sn	**Sn**	**14 35 05.8**	**-0.5**
DSI	**Dead Sea**	**7.35**	**113**	Pn	**Pn**	**14 33 48.8**	**+0.1**
DSI				Sn	**Sn**	**14 35 11.6**	**+0.7**
MZDA	**Masada**	**7.46**	**115**	Pn	**Pn**	**14 33 50.7**	**+0.5**
MZDA				Sn	**Sn**	**14 35 14.2**	**+0.5**
KRMI	**Paran Flat**	**7.68**	**125**	Sn	**Sn**	**14 35 18.3**	**-0.6**
PRNI	**Paran**	**7.72**	**122**	Pn	**Pn**	**14 33 54.8**	**+1.0**
PRNI				Sn	**Sn**	**14 35 19.8**	**-0.3**
ZFRI	**Zfri**	**7.73**	**121**	Sn	**Sn**	**14 35 19.2**	**-1.0**
HRFI	**Mount Harif**	**7.94**	**124**	Sn	**Sn**	**14 35 24.9**	**-0.4**
MBH	**Mount Berech**	**8.01**	**126**	Sn	**Sn**	**14 35 26.5**	**-0.6**
EIL	**Elat**	**8.11**	**127**	Sn	**Sn**	**14 35 28.5**	**-1.2**

TRN 23 14:38:27.8, 1294N×6028W, h15km, MD3.5, M3.2(FDF), 1D, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHS	**Barnard House**	**0.89**	**293**	*e*P	Sb	14 39 00.4	+3.8
FCV	**Fort Charlotte**	**0.96**	**283**	*e*P	Pb	14 38 47.4	+1.3
FCV				*e*S	Sb	14 39 02.4	+3.9
SSV	**Crater Summit**	**0.96**	**293**	*e*P	Pb	14 38 47.9	+1.8
SSV				*e*S	Sb	14 39 03.1	+4.3
SVV	**Soufriere Volc**	**0.98**	**292**	*e*P	Pb	14 38 48.3	+1.9
SVV				*e*S	Sb	14 39 02.7	+3.5
SLB	**Belfond**	**1.15**	**320**	*e*P	Pn	14 38 49.7	+0.4
SLB				*e*S	Sb	14 39 07.8	+3.9
GRCU	**Cariacou**	**1.23**	**248**	*e*P	Pn	14 38 51.4	+0.9
GRCU				*e*S	Sb	14 39 08.6	+2.2
GRIC	**Isle de Caille**	**1.43**	**243**	*e*P	Pn	14 38 55.0	+1.9
GRIC				*e*S	Sn	14 39 12.1	+0.5
GRSS	**Sisters**	**1.45**	**244**	*e*P	Pn	14 38 54.9	+1.6
GRSS				*e*S	Sn	14 39 13.6	+1.5
GRHS	**Sauteurs**	**1.50**	**242**	*e*P	Pn	14 38 55.4	+1.2
GRHS	**Sauteurs**	**1.50**	**242**	*e*P	Pn	14 38 57.0	+2.9
GRW	**Mount Saint Ca**	**1.55**	**240**	*e*P	Pn	14 38 56.3	+1.5
GRW				*e*S	Sn	14 39 16.3	+1.6
MVM	**Montagne Vaucl**	**1.71**	**340**	*e*P	Pn	14 38 56.9	-0.1
MVM				*e*S	Sn	14 39 18.3	-0.2
BIM	**Bigot**	**1.74**	**334**	⇓*e*P	Pn	14 38 57.8	+0.3
BIM				*e*S	Sn	14 39 19.6	+0.3
FDF	**Fort de France**	**1.97**	**335**	*e*P	Pn	14 39 01.6	+1.1
FDF				*e*S	Sn	14 39 25.6	+0.6

IDC 23 15:01:17.9±3.7, 9645N×10822E, h0km, mb3.7/3, mb1 3.8/3, mb1mx3.5/16, mbtmp3.7/3, MS3.6/1, Ms1 3.6/1, ms1mx2.9/21, Error ellipse: s-maj=143.8km s-min=29.4km az=48.0, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warrarmunga Arr**	**27.21**	**115**	P	P	15 07 03.7	+0.1
	0.5nm,0.7s,baz=285,slow=12,SNR=3.9						
CTA	**Charters Tower**	**38.11**	**110**	LR	LR	15 21 54.0	
	comp=Z,85nm,21.2s,baz=235,slow=32						
SONM	**Songino Array**	**57.24**	**359**	P	P	15 11 07.2	+0.2
	0.6nm,0.5s,baz=177,slow=6.5,SNR=6.2						
MKAR	**Makanchi Array**	**60.76**	**340**	P	P	15 11 31.4	0.0
	0.9nm,0.5s,baz=145,slow=7.6,SNR=12						

*ISCJB **23** 15:59:19.0±0.5, 3944N±003×12310W±004, h5km±7km, Error ellipse: s-maj=5.9km s-min=5.0km az=141.4*
*NEIC **23** 15:59:19.0, 3945N×123.11W, h5km, MD2.9(NCEDC), After NCEDC.*

ISC 23 15:59:19.2±0.5, 3944N±003×12310W±004, h10km±6km, n22, σ0°94/28, 5C-6D, Near coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
P01C	**Double 8 Ranch**	**0.18**	**278**	⇑P	**Pg**	**15 59 22.6**	**-0.5**
	baz=0.2						
P01C				⇓S	**Sg**	**15 59 25.6**	**-0.1**
	baz=0.2						
GASB	**Alder Springs**	**0.36**	**55**	P	**Pg**	**15 59 26.5**	**+0.1**
	baz=0.4,SNR=550						
GASB				⇓S	**Sg**	**15 59 32.1**	**+0.8**
	baz=0.4						
KCPM	**Cahto Peak**	**0.44**	**303**	*e*Pg	**Pg**	**15 59 27.9**	**0.0**
HOPS	**Hopland**	**0.45**	**177**	*e*Pg	**Pg**	**15 59 28.0**	**0.0**
HOPS				*e*Sg	**Sg**	**15 59 35.4**	**+1.4**
HOPS	**Hopland**	**0.45**	**177**	P	**Pg**	**15 59 28.1**	**+0.1**
	baz=0.5,SNR=808						
HOPS				⇑S	**Sg**	**15 59 35.4**	**+1.5**
	baz=0.5						
KIPM	**Iron Peak**	**0.47**	**321**	*e*Pg	**Pg**	**15 59 28.1**	**-0.1**
O02C	**Red Bluff**	**0.77**	**18**	P	**Pg**	**15 59 34.3**	**+0.3**
	baz=0.8,SNR=511						
O01C	**Eel River Cons**	**0.89**	**322**	⇓P	**Pg**	**15 59 36.9**	**+0.7**
	baz=0.9						
O03C	**Acorn Hollow,**	**0.99**	**56**	⇑P	**Pg**	**15 59 37.7**	**-0.5**
	baz=1.0,SNR=8.6						
NSHM	**Saint Helena R**	**1.00**	**157**	*e*Pg	**Pg**	**15 59 38.6**	**+0.2**
SUTB	**Sutter Butte**	**1.04**	**101**	⇑P	**Pg**	**15 59 38.0**	**-1.3**
	baz=1.0,SNR=11						
SUTB				⇑S	**Sg**	**15 59 52.5**	**-0.3**
	baz=1.0						
WDC	**Whiskeytown Da**	**1.21**	**21**	*e*Pg	**Pg**	**15 59 41.5**	**-0.9**
WDC				*e*S	**Sg**	**16 00 00.5**	**+2.2**
WDC	**Whiskeytown Da**	**1.21**	**21**	P	**Pb**	**15 59 41.8**	**-0.5**
	baz=1.2,SNR=77						
OHCM	**Honcut**	**1.26**	**94**	*e*Pn	**Pn**	**15 59 41.3**	**-1.5**
N02C	**Big Bar**	**1.39**	**354**	P	**Pn**	**15 59 44.3**	**-0.3**
	baz=1.4,SNR=76						
O04C	**Chester**	**1.78**	**60**	⇓Sb	**Sb**	**16 00 15.6**	**+1.3**
	baz=1.8						
P05C	**Yuba Gap, Truc**	**1.94**	**93**	⇓Sb	**Sb**	**16 00 18.5**	**-0.3**
	baz=1.9						
BEKR	**Beck

comp=N,12nm,0.8s,mb4.6
PMOR Pomariorio Ree 29.52 89 *e*P P 16 04 50.4 -0.1
comp=N,78nm,1.0s,mb5.3
TUZ Tuapeka 29.54 197 P P 16 04 50.9 +0.7
TUZ Tuapeka 29.54 197 PN P 16 04 50.9 +0.6
ARMA Armidale 29.78 240 *e*P P 16 04 54.7 +2.1
CNB Canberra Magne 33.26 232 *e*P P 16 05 24.1 +2.0
comp=N,110nm,0.6s,mb5.7
CTA Charters Tower 33.31 261 *e*P P 16 05 23.9 +1.1
comp=N,20nm,0.7s,mb4.8
CTA Charters Tower 33.31 261 *e*P P 16 05 23.9 +1.1
CTA pmax pmax
comp=Z,20nm,0.7s
CTA Charters Tower 33.31 261 P P 16 05 23.9 +1.1
comp=Z,26nm,0.7s,mb5.0,baz=95,slow=11,SNR=14
CTAO Charters Tower 33.31 261 *e*P P 16 05 24.0 +1.2
CTAO pmax pmax
comp=Z,21nm,0.6s,mb4.9
CTAO Charters Tower 33.31 261 *e*P P 16 05 23.9 +1.2
comp=Z,21nm,0.6s,mb4.9
COEN Coen 36.98 271 *e*P P 16 05 55.2 +1.9
comp=Z,24nm,0.8s,mb4.8
TOO Toolangi 37.00 231 *e*P P 16 05 54.5 +1.4
comp=Z,923nm,0.7s
TOO Toolangi 37.00 231 *e*P P 16 05 54.5 +1.4
TOO pmax pmax
comp=Z,923nm,0.7s
STKA Stephens Creek 38.47 241 ⇓*i*P P 16 06 06.8 +1.6
comp=Z,48nm,0.8s,mb5.1
STKA Stephens Creek 38.47 241 P P 16 06 07.1 +1.9
comp=Z,76nm,0.9s,mb5.2,baz=88,slow=9.1,SNR=90
WB2 Warramunga Arr 44.48 260 *e*P P 16 06 52.9 +0.2
WRAB Tennant Creek 44.48 260 *e*P P 16 06 53.0 +0.2
WRAB pmax pmax
comp=Z,17nm,0.5s,mb4.8
WRAB Tennant Creek 44.48 260 *e*P P 16 06 53.0 +0.3
comp=Z,17nm,0.5s,mb4.8
WRA Warramunga Arr 44.49 260 P P 16 06 52.9 +0.1
comp=Z,18nm,0.5s,mb4.9,baz=96,slow=7.1,SNR=659
WRA S S 16 12 47.1 -0.2
comp=Z,1.5nm,0.8s,baz=95,slow=14,SNR=6.3
ASAR Alice Springs 44.64 254 P P 16 06 54.8 +0.9
comp=Z,130nm,0.6s,mb5.7,baz=87,slow=8.6,SNR=2349
ASAR ScP ScP 16 11 22.2 -0.1
comp=Z,1.3nm,0.6s,baz=123,slow=3.8,SNR=5.1
ASAR S S 16 12 47.5 -1.8
comp=Z,7.0nm,0.9s,baz=89,slow=15,SNR=26
KAKA Kakadu 47.46 269 *e*P P 16 07 15.7 +0.3
comp=Z,29nm,0.6s,mb5.0
GUMO Guam 47.85 309 *e*P P 16 07 18.8 +0.5
GUMO pmax pmax
comp=Z,80nm,1.0s,mb5.2
GUMO Guam 47.85 309 *e*P P 16 07 18.8 +0.5
comp=Z,80nm,1.0s,mb5.2
FORT Forrest 49.85 245 *e*P P 16 07 33.0 +0.2
comp=Z,76nm,0.5s,mb5.4
FITZ Fitzroy Crossi 52.89 261 ⇓*i*P P 16 07 55.5 +0.5
comp=Z,6.0nm,0.4s,mb4.3
MBWA Marble Bar 57.93 256 *e*P P 16 08 29.7 -0.1
comp=Z,12nm,0.6s,mb4.2
KLBR Kellerberrin 58.67 244 ⇓*i*P P 16 08 34.4 -0.3
comp=Z,43nm,0.6s,mb4.8
MUN Mundaring 59.96 243 *e*P P 16 08 43.8 +0.5
SBA Scott Base 60.30 184 *e*P P 16 08 46.8 +2.1
SBA pmax pmax
comp=Z,14nm,0.8s,mb4.2
SBA Scott Base 60.30 184 *e*P P 16 08 46.8 +2.1
comp=Z,14nm,0.8s,mb4.2
VNDA Vanda 60.32 185 *e*P P 16 08 46.2 +1.3
VNDA pmax pmax
comp=Z,31nm,1.4s
VNDA Vanda 60.32 185 *e*P P 16 08 46.2 +1.3
comp=Z,31nm,1.4s,mb4.3
VNDA Vanda 60.32 185 P P 16 08 46.1 +1.2
comp=Z,7.9nm,0.6s,mb4.1,baz=351,slow=7.2,SNR=20
CASY Casey 65.98 205 ⇓*i*P P 16 09 21.5 +0.2
MJAR Matsushiro Arr 67.92 323 P P 16 09 33.0 -0.6
comp=Z,12nm,0.7s,mb4.5,baz=160,slow=6.0,SNR=42
MAJO Matsushiro 67.93 323 *e*P P 16 09 33.0 -0.7
MAJO pmax pmax
comp=Z,15nm,0.8s,mb4.5
MAJO Matsushiro 67.93 323 *e*P P 16 09 33.0 -0.7
comp=Z,15nm,0.8s,mb4.5
MAT Matsushiro 67.93 323 P P 16 09 33.1 -0.6
MAT *e*S S 16 17 48.0 +0.1
UNV Unalaska Valle 72.32 7 *e*P P 16 09 57.2 -2.0
MIR Mirnyy 73.01 205 ⇓*i*P P 16 10 03.0 -0.2
MIR pmax pmax
comp=Z,100nm,0.8s,mb5.4
PET Petropavlovsk 73.45 346 ⇑*i*P P 16 10 04.6 -1.2
PET pmax pmax
comp=Z,17nm,0.6s,mb4.8
YSS Yuzh-Sakhalins 73.46 333 ⇑*e*P P 16 10 05.8 -0.2
YSS pmax pmax
comp=Z,45nm,1.3s,mb4.8
KSRS Korea Array 74.70 318 P P 16 10 13.9 +0.7
KSRS pmax pmax
comp=Z,3.0nm,0.7s
KSRS Korea Array 74.70 318 P P 16 10 13.8 +0.6
comp=Z,2.6nm,0.7s,baz=130,slow=6.4,SNR=13
VLA Vladivostok 75.97 325 ⇓*i*P P 16 10 20.3 +0.2
VLA pmax pmax
comp=Z,20nm,1.7s,mb4.3
BSC Santa Cruz Isl 76.28 47 ⇑P P 16 10 22.4 +0.3
baz=76
HAST Hastings Reser 76.31 44 ⇑P P 16 10 22.6 +0.5
baz=76,SNR=9.7
V04C Ramage Ranch, 76.34 45 ⇓P P 16 10 22.7 +0.4
baz=76
SCI San Clemente I 76.50 48 ⇓P P 16 10 23.1 -0.1
baz=77
SAO San Andreas Ge 76.59 44 *e*P P 16 10 24.0 +0.3
SAO pmax pmax
comp=Z,28nm,1.0s,mb4.7
SAO San Andreas Ge 76.59 44 *e*P P 16 10 24.0 +0.3
comp=Z,28nm,1.0s,mb4.7
PKM Peak Mountain 76.64 46 ⇑P P 16 10 24.0 0.0
baz=77
PKD Parkfield 76.73 45 ⇑P P 16 10 24.6 +0.1
baz=77
PTRM Twissleman Ran 76.80 45 *e*P P 16 10 25.4 +0.6
U04C Hernandez Rese 76.81 45 ⇓P P 16 10 25.3 +0.5
baz=77,SNR=6.8
CIS Catalina Islan 76.83 48 ⇑P P 16 10 25.2 +0.1
baz=77
PACP Pacheco Peak 76.84 44 ⇓P P 16 10 25.5 +0.5
baz=77,SNR=12
HOPS Hopland 76.84 41 ⇑P P 16 10 24.9 -0.1
baz=77
P01C Double 8 Ranch 76.96 41 ⇑P P 16 10 25.8 +0.2
baz=77
O01C Eel River Cons 77.06 40 ⇓P P 16 10 26.7 +0.6
baz=77
S04C Ingram Canyon, 77.09 43 P P 16 10 26.7 +0.4
baz=77,SNR=8.9
MNRC McLaughlin Nat 77.17 42 ⇑P P 16 10 27.0 +0.3
baz=77
OSI Osito Adit 77.25 47 ⇓P P 16 10 27.5 +0.2
baz=77
Q03C Winters 77.30 42 ⇓P P 16 10 27.5 0.0
baz=77
JCC Jacoby Creek 77.35 39 ⇓P P 16 10 27.8 +0.2
baz=77
ARVC Arvin 77.45 46 ⇑P P 16 10 28.5 +0.1
baz=78
GASB Alder Springs 77.45 41 ⇑P P 16 10 29.0 +0.7
baz=78,SNR=6.7
S05C Merced 77.66 44 ⇑P P 16 10 28.9 -0.6
baz=78
VES Vestal, Richgr 77.67 46 ⇑P P 16 10 29.0 -0.5
baz=78,SNR=5.2
O02C Red Bluff 77.72 40 P P 16 10 30.5 +0.8
baz=78,SNR=11
N02C Big Bar 77.79 40 ⇓P P 16 10 30.2 +0.1
baz=78
MURC Murrieta 77.79 49 ⇑P P 16 10 30.2 -0.1
baz=78
SUTB Sutter Butte 77.79 42 ⇑P P 16 10 29.5 -0.6
baz=78
BFSC Mount Baldy St 77.80 48 P P 16 10 30.5 +0.3
baz=78,SNR=5.1
KRMB Red Mountain 77.85 39 *e*P P 16 10 31.0 +0.7
T06C Milleton Lake 77.88 44 ⇑P P 16 10 30.1 -0.5
baz=78,SNR=11
EDW2 Edwards Air Fo 77.90 47 ⇓P P 16 10 30.7 -0.1
baz=78,SNR=29
NJ2 Nanjing 77.92 310 *e*P P 16 10 29.4 -1.6

NJ2 AP pP 16 12 33.0 +1.9
NJ2 PP PP 16 13 37.5 -0.3
NJ2 S S 16 19 32.5 -5.8
NJ2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.3
NJ2 AMB AMB
comp=Z,80nm,9.2s
M01C Crescent City 77.92 38 ⇑P P 16 10 30.5 -0.2
baz=78
MONP Monument Peak 77.98 49 ⇓P P 16 10 31.4 +0.1
baz=78,SNR=27
CMB Columbia Colle 78.01 43 *e*P P 16 10 31.2 -0.1
CMB pmax pmax
comp=Z,33nm,1.0s,mb4.7
CMB Columbia Colle 78.01 43 *e*P P 16 10 31.1 -0.1
comp=Z,33nm,1.0s,mb4.7
CMB Columbia Colle 78.01 43 P P 16 10 31.4 +0.1
baz=78,SNR=15
HABR Khabarovsk 78.05 330 ⇑*e*P P 16 10 30.5 -0.8
HABR *e* 16 10 36.6
HABR *e* 16 13 31.0
HABR *e*S S 16 20 23.6 +45
HABR *e* 16 20 41.9
O03C Acorn Hollow, 78.08 41 ⇓P P 16 10 31.2 -0.4
baz=78
DVTC Desert V Tower 78.10 50 ⇑P P 16 10 32.1 +0.2
baz=78,SNR=13
WDC Whiskeytown Da 78.11 40 *e*P P 16 10 31.9 +0.1
WDC pmax pmax
comp=Z,36nm,1.3s,mb4.6
WDC Whiskeytown Da 78.11 40 *e*P P 16 10 31.9 +0.1
comp=Z,36nm,1.3s,mb4.6
WDC Whiskeytown Da 78.11 40 ⇓P P 16 10 31.6 -0.2
baz=78,SNR=7.8
ORV Oroville 78.16 42 P P 16 10 32.0 -0.1
baz=78,SNR=12
HELL Mitchell Peak 78.16 45 ⇓P P 16 10 31.9 -0.3
baz=78,SNR=13
LAVA Lava Cap Winer 78.19 43 ⇑P P 16 10 31.8 -0.5
baz=78,SNR=5.2
MDJ Mudanjiang 78.21 325 P P 16 10 33.0 +0.8
MDJ S S 16 19 46.6 +5.9
MDJ AMB AMB
comp=Z,31nm,0.9s,mb4.7
MDJ AMB AMB
comp=Z,59nm,5.1s
MDJ Mudanjiang 78.21 325 *e*P P 16 10 32.7 +0.5
comp=Z,18nm,0.9s,mb4.5
S06C San Francisco 78.27 44 ⇓P P 16 10 32.4 -0.3
baz=78,SNR=8.8
K01A Sixes 78.31 37 ⇑P P 16 10 33.2 +0.4
baz=78
KCC Kaiser Creek 78.31 44 ⇓P P 16 10 33.1 +0.1
baz=78
PFO Pinyon Flat Ob 78.33 49 P P 16 10 33.3 +0.2
baz=78,SNR=5.5
BBRC Big Bear Sol-O 78.33 48 ⇓P P 16 10 33.3 +0.1
baz=78
M02C Callahan 78.40 39 P P 16 10 34.0 +0.7
baz=78,SNR=15
L02A Cave Junction 78.41 38 ⇑P P 16 10 33.5 +0.2
baz=78
LRMC Laurel Mountai 78.43 47 ⇓P P 16 10 33.9 +0.3
baz=78
SWSC Sam W. Stewart 78.46 50 ⇑P P 16 10 33.9 0.0
baz=78
KDAK Kodiak Island 78.54 14 P P 16 10 34.1 +0.4
comp=Z,36nm,0.9s,mb4.7,baz=202,slow=3.4,SNR=7.4
P05C Yuba Gap, Truc 78.58 42 ⇑P P 16 10 34.3 0.0
baz=79,SNR=12
R05C Kirkwood Meado 78.58 43 ⇑P P 16 10 34.5 +0.1
baz=79,SNR=13
CWC Cottonwood Cre 78.67 46 ⇑P P 16 10 35.1 +0.2
baz=79
YBH Yreka Blue Hor 78.69 39 *e*P P 16 10 35.1 +0.2
YBH pmax pmax
comp=Z,30nm,0.8s
YBH Yreka Blue Hor 78.69 39 *e*P P 16 10 35.1 +0.2
comp=Z,30nm,0.8s,mb4.7
YBH Yreka Blue Hor 78.69 39 ⇑P P 16 10 35.2 +0.4
baz=79,SNR=18
O05C Quincy 78.76 41 ⇓P P 16 10 35.5 +0.3
baz=79
M03C McCloud 78.78 40 ⇓P P 16 10 35.6 +0.3
baz=79
MLAC Mammoth Lakes 78.80 44 ⇑P P 16 10 36.0 +0.5
baz=79
MTUM Tungsten Hills 78.83 45 *e*P P 16 10 36.1 +0.3
K02A Glendale 78.85 38 ⇓P P 16 10 35.9 +0.3
baz=79,SNR=7.3
BELC Belle Mtn. 78.85 49 ⇑P P 16 10 36.1 +0.2
baz=79
O04C Chester 78.86 41 ⇑P P 16 10 35.6 -0.2
baz=79,SNR=9.7
MPMC Manual Prospec 78.87 46 ⇑P P 16 10 36.3 +0.3
baz=79
R06C Coleville 78.89 43 P P 16 10 36.7 +0.7
baz=79,SNR=19
TIN Tinemaha 78.90 45 ⇓P P 16 10 36.2 +0.1
baz=79
HATC Hat Creek Radi 78.91 40 ⇓P P 16 10 36.1 0.0
baz=79,SNR=10.0
R07C Lee Vining 78.92 44 ⇓P P 16 10 36.2 +0.1
baz=79,SNR=8.5
LHEM Herd Peak 78.93 39 P P 16 10 36.8 +0.7
GSC Goldstone 78.95 47 *e*P P 16 10 36.5 +0.1
GSC pmax pmax
comp=Z,5.0nm,0.3s,mb4.3
GSC Goldstone 78.95 47 *e*P P 16 10 36.5 +0.1
comp=Z,4.6nm,0.3s,mb4.3
GSC Goldstone 78.95 47 ⇓P P 16 10 36.5 +0.1
baz=79
LBCM Butte Creek Ri 78.99 41 P P 16 10 37.0 +0.5
HEC Hector,Ludlow 79.04 48 ⇓P P 16 10 36.7 -0.2
baz=79
BEKR Beckwourth 79.06 42 ⇑P P 16 10 36.9 +0.1
baz=79,SNR=16
BC3 Big Chuckw Mtn 79.07 49 ⇓P P 16 10 37.4 +0.4
baz=79
HUMO Hull Mountain 79.07 38 *e*P P 16 10 37.1 +0.3
comp=Z,30nm,1.0s,mb4.6
HUMO Hull Mountain 79.07 38 ⇑P P 16 10 37.1 +0.3
baz=79
LTIM Timbered Crate 79.11 40 P P 16 10 37.7 +0.6
WCN Washoe City 79.13 43 ⇓P P 16 10 37.8 +0.6
baz=79
J02A Umpqua 79.17 37 ⇓P P 16 10 37.4 +0.1
baz=79,SNR=8.1
S08C White Mtn Res 79.18 45 ⇓P P 16 10 38.1 +0.6
baz=79,SNR=23
GLA Glamis 79.22 50 *e*P P 16 10 38.2 +0.3
GLA pmax pmax
comp=Z,31nm,1.0s,mb4.6
GLA Glamis 79.22 50 *e*P P 16 10 38.2 +0.3
comp=Z,31nm,1.0s,mb4.6
GLA Glamis 79.22 50 ⇑P P 16 10 38.1 +0.2
baz=79,SNR=9.9
M04C Macdoel 79.25 40 ⇓P P 16 10 37.7 -0.1
baz=79,SNR=12
ELFS Eagle Lake Fie 79.25 41 ⇑P P 16 10 38.1 +0.3
baz=79
BUOR Burton Butte 79.29 39 P P 16 10 38.7 +0.7
LASM Arnica Sink 79.30 40 P P 16 10 38.8 +0.7
BBOR Butler Butte 79.40 38 P P 16 10 38.9 +0.4
I02A Mapleton 79.41 37 ⇓P P 16 10 38.5 -0.1
baz=80,SNR=7.2
M05C Lookout 79.42 40 ⇓P P 16 10 38.5 -0.2
baz=80,SNR=22
L04A Klamath Falls 79.45 39 ⇑P P 16 10 39.0 +0.2
baz=80,SNR=11
GRAC Grapevine Rang 79.45 46 ⇑P P 16 10 39.2 +0.2
baz=80
GMRC Granite Mounta 79.49 48 ⇑P P 16 10 39.1 -0.2
baz=80
FURC Furnace Creek, 79.52 46 ⇑P P 16 10 39.8 +0.4
baz=80
J03A Ideyld Park 79.52 38 ⇑P P 16 10 39.6 +0.4
baz=80
IRM Iron Mountain 79.54 49 ⇓P P 16 10 39.5 0.0
baz=80
O06A Flanigan 79.56 42 ⇓P P 16 10 39.6 +0.1
baz=80,SNR=19
PAHR Pah Rah Range 79.59 42 *e*P P 16 10 39.8 +0.1
comp=Z,45nm,1.3s,mb4.6
NVAR Mina Array Bea 79.59 44 P P 16 10 40.0 +0.3
comp=Z,21nm,0.8s,mb4.5,baz=223,slow=9.5,SNR=105
SHOC Shoshone 79.62 47 ⇑P P 16 10 40.2 +0.3
baz=80
TUQ Turquoise Mtn. 79.64 47 ⇑P P 16 10 39.5 -0.4
baz=80
R08A Mina 79.68 44 ⇓P P 16 10 39.9 -0.2
baz=80,SNR=13
I03A Eugene 79.70 37 ⇓P P 16 10 39.9 -0.3
baz=80
M06C Likely Place G 79.75 41 ⇓P P 16 10 40.6 +0.1
baz=80,SNR=8.8
Y12C Blythe 79.79 50 ⇑P P 16 10 41.0 +0.2
baz=80
U10A Ash Meadows, A 79.86 46 ⇓P P 16 10 41.9 +0.8
baz=80
113A Mohawk Valley, 79.86 51 ⇑P P 16 10 41.5 +0.3
baz=80,SNR=9.2
N06A Buffalo Meadow 79.89 41 P P 16 10 41.5 +0.3
baz=80,SNR=24
S09A Goldfield 79.93 45 ⇓P P 16 10 41.1 -0.4
baz=80,SNR=6.0
J04A Umpqua Nationa 79.94 38 ⇑P P 16 10 41.8 +0.4
baz=80,SNR=40
L05A Lakeview 80.01 40 ⇓P P 16 10 42.0 +0.2
baz=80,SNR=17
CN2 Changchun 80.04 322 ⇑P P 16 10 42.3 +0.4
CN2 PCP PcP 16 10 47.9 +0.8
CN2 PP PP 16 13 57.8 +2.9
CN2 *e*S S 16 19 58.4 -1.2
CN2 AMB AMB
comp=Z,20nm,1.2s,mb4.3
Q08A Gabbs 80.07 44 P P 16 10 42.4 +0.2
baz=80,SNR=13
I04A Tendick Farm, 80.10 38 P P 16 10 41.9 -0.3
baz=80,SNR=13
TPH Tonopah 80.12 45 *e*P P 16 10 42.6 +0.1
TPH pmax pmax
comp=Z,36nm,1.2s,mb4.6
TPH Tonopah 80.12 45 *e*P P 16 10 42.5 +0.1
comp=Z,36nm,1.2s,mb4.6
H03A Soap Creek Ran 80.12 37 ⇑P P 16 10 42.3 0.0
baz=80,SNR=6.6
KLR Kul'dur 80.15 330 *e*P P 16 10 39.0 -3.3
O07A Toulon 80.17 42 ⇑P P 16 10 42.5 -0.1
baz=80
V11A Goodsprings 80.19 47 ⇓P P 16 10 42.7 -0.2
baz=80
TPNV Topopah Spring 80.19 46 *e*P P 16 10 42.9 +0.1
TPNV pmax pmax
comp=Z,28nm,1.3s,mb4.4
TPNV Topopah Spring 80.19 46 *e*P P 16 10 42.9 0.0
comp=Z,28nm,1.3s,mb4.4
MOD Modoc 80.25 40 *e*P P 16 10 43.1 0.0
comp=Z,27nm,0.7s,mb4.7
MOD Modoc 80.25 40 ⇑P P 16 10 43.4 +0.4
baz=80
R09A Tonopah 80.31 45 ⇑P P 16 10 43.3 -0.2
baz=80,SNR=5.3
Y13A Salome 80.32 50 ⇑P P 16 10 43.7 +0.1
baz=80
PDMCI Parker Dam,Lak 80.33 49 ⇓P P 16 10 43.9 +0.2
baz=80
K05A Summer Lake 80.37 39 P P 16 10 44.3 +0.7
baz=80,SNR=32
N07B Gerlach 80.45 42 ⇑P P 16 10 44.0 -0.1
baz=80
S10A Tonopah Range, 80.46 45 ⇓P P 16 10 44.1 -0.1
baz=80,SNR=32
J05A Fort Rock 80.49 39 ⇑P P 16 10 44.7 +0.4
baz=81
G03A Yamhill 80.52 36 ⇓P P 16 10 44.2 -0.2
baz=81
V12A Nelson 80.54 48 ⇑P P 16 10 44.7 0.0
baz=81
Q09A Carvers 80.55 44 ⇑P P 16 10 44.8 +0.1
baz=81,SNR=6.0
WHN Wuhan 80.57 306 ⇑P P 16 10 41.3 -3.7
M07A Soldier Meadow 80.66 41 ⇓P P 16 10 45.4 +0.2
baz=81,SNR=19
O08A Rochester Mine 80.70 42 ⇑P P 16 10 45.7 +0.2
baz=81
X13A Yucca 80.70 49 P P 16 10 46.0 +0.5
baz=81,SNR=9.6
F03A Seaside 80.74 35 ⇑P P 16 10 45.5 0.0
baz=81
Z14A Wintersburg 80.75 51 ⇓P P 16 10 46.6 +0.7
baz=81
H04A Detroit Lake 80.76 37 P P 16 10 45.2 -0.4
baz=81,SNR=30
K06A Valley Falls 80.80 39 ⇓P P 16 10 46.0 +0.1
baz=81,SNR=42
R10A Warm Springs 80.85 45 ⇓P P 16 10 46.7 +0.5
baz=81,SNR=30
S11A Rachel 80.89 46 P P 16 10 46.9 +0.4
baz=81,SNR=9.9
G04A Mulino 80.91 36 ⇓P P 16 10 46.5 +0.2
baz=81
L07A Adell 80.91 40 ⇓P P 16 10 46.9 +0.4
baz=81
W13A Hualapai Mount 80.91 49 ⇓P P 16 10 47.0 +0.4
baz=81,SNR=5.6
P09A Austin 80.96 43 ⇑P P 16 10 46.9 +0.1
baz=81
115A Sonoran Desert 80.97 51 ⇓P P 16 10 47.1 +0.1
baz=81
I05A Bend 80.98 38 ⇑P P 16 10 46.7 -0.1
baz=81
N08A GE Springer Mi 80.98 42 ⇓P P 16 10 46.8 -0.1
baz=81
Y14A Wickenburg 80.98 50 ⇑P P 16 10 47.0 0.0
baz=81,SNR=9.0
T11A Corn Creek, Al 81.04 46 ⇑P P 16 10 47.5 +0.2
baz=81,SNR=22
Q10A Clear Creek Ra 81.06 44 ⇓P P 16 10 47.2 -0.1
baz=81,SNR=16
U12A Valley of Fire 81.11 47 ⇓P P 16 10 48.0 +0.4
baz=81,SNR=7.3
E03A Lebam 81.12 35 ⇑P P 16 10 47.3 -0.1
baz=81
M08A Happy Creek Ra 81.19 41 ⇓P P 16 10 48.0 +0.1
baz=81
216A Three Points, 81.22 52 P P 16 10 49.3 +1.0
baz=81,SNR=12
O09A Fish Creek Ran 81.26 43 ⇑P P 16 10 48.2 -0.1
baz=81
MA2 Magadan 81.27 345 *e*P P 16 10 46.0 -1.9
MA2 *e* 16 20 03.6
MA2 pmax pmax
comp=Z,20nm,0.9s,mb4.5
H05A Madras 81.29 37 ⇓P P 16 10 48.2 -0.1
baz=81
116A Eloy 81.29 52 ⇑P P 16 10 49.2 +0.6
baz=81,SNR=5.0
X14A Yava 81.32 50 ⇑P P 16 10 49.2 +0.4
baz=81,SNR=22
K07A Rock Creek Ran 81.34 40 ⇑P P 16 10 48.8 +0.1
baz=81
D03A Wishkah Elem. 81.36 34 ⇑P P 16 10 48.9 +0.3
baz=82
R11A Troy Canyon, C 81.36 45 P P 16 10 48.8 0.0
baz=81,SNR=18
F04A Amboy 81.38 36 P P 16 10 49.0 +0.2
baz=82,SNR=6.0
BMN Battle Mountai 81.38 43 *e*P P 16 10 49.1 +0.2
BMN pmax pmax
comp=Z,42nm,1.0s,mb4.8
BMN Battle Mountai 81.38 43 *e*P P 16 10 49.1 +0.2
comp=Z,42nm,1.0s,mb4.8
N09A Rock Creek Ran 81.41 42 ⇓P P 16 10 49.1 0.0
baz=82
P10A Eureka 81.44 44 ⇑P P 16 10 49.4 +0.2
baz=82
C03A Quillayute Air 81.45 33 ⇓P P 16 10 49.6 +0.5
baz=82
I06A Prineville 81.47 38 ⇑P P 16 10 49.7 +0.4
baz=82
NLWA Neilton Lookou 81.47 34 *e*P P 16 10 48.7 -0.5
comp=Z,27nm,1.0s,mb4.6
Y15A Casa Rosa Ranc 81.48 50 P P 16 10 50.2 +0.7
baz=82,SNR=18
S12A Delamar Landin 81.48 46 ⇑P P 16 10 49.9 +0.4
baz=82,SNR=35
W14A Seligman 81.54 49 ⇑P P 16 10 50.4 +0.6
baz=82,SNR=22
Q11A Duckwater 81.57 45 P P 16 10 50.2 +0.3
baz=82,SNR=38
WVOR Wild Horse Val 81.57 40 *e*P P 16 10 49.9 0.0
WVOR pmax pmax
comp=Z,41nm,0.9s,mb5.0
WVOR Wild Horse Val 81.57 40 *e*P P 16 10 49.9 0.0

comp=Z,41nm,0.9s,mb5.0
G05A **Wamic** 81.59 37 ⇑P P 16 10 49.5 -0.3
baz=82
217A **Green Valley** 81.60 53 ⇓P P 16 10 51.2 +1.0
baz=82,SNR=19
E04A **Onalaska** 81.61 35 ⇑P P 16 10 50.1 +0.2
baz=82
L08A **Fields** 81.62 41 P P 16 10 50.5 +0.4
baz=82,SNR=46
GAMB **Gambell** 81.71 3 *eP* P 16 10 49.5 -0.5
comp=Z,7.2nm,0.4s,mb4.6
V14A **Boquillas Ranc** 81.73 48 ⇑P P 16 10 51.4 +0.6
baz=82,SNR=23
M09A **Marrel Ranch,** 81.76 42 ⇓P P 16 10 51.2 +0.4
baz=82
O10A **Cortez Mining,** 81.77 43 ⇑P P 16 10 51.0 +0.1
baz=82
X15A **Humboldt** 81.80 50 P P 16 10 52.0 +0.8
baz=82,SNR=17
K08A **Mann Creek Ran** 81.83 40 ⇑P P 16 10 51.7 +0.5
baz=82
T13A **Saint George** 81.84 47 ⇓P P 16 10 51.8 +0.4
baz=82,SNR=9.3
H06A **Lindquist Farm** 81.86 38 ⇑P P 16 10 51.4 +0.1
baz=82
TUC **Tucson** 81.87 52 *eP* P 16 10 52.4 +0.8
TUC pmax pmax
comp=Z,27nm,1.1s,mb4.7
TUC **Tucson** 81.87 52 *eP* P 16 10 52.4 +0.8
comp=Z,27nm,1.1s,mb4.7
F05A **White Salmon** 81.88 36 ⇑P P 16 10 51.1 -0.2
baz=82
L09A **Wilkinson Ranc** 81.95 41 ⇑P P 16 10 51.9 +0.2
baz=82
I07A **Izee** 81.97 39 ⇓P P 16 10 52.1 +0.3
baz=82
G06A **Carlson Farm,** 81.97 37 P P 16 10 51.7 -0.1
baz=82,SNR=17
N10A **Dunphy** 81.99 43 ⇓P P 16 10 52.2 +0.2
baz=82
R12A **Pony Springs,** 82.01 46 ⇓P P 16 10 52.5 +0.3
baz=82,SNR=10
117A **Oracle** 82.02 52 P P 16 10 53.5 +1.1
baz=82,SNR=13
U14A **Mt Trumbull** 82.05 48 ⇑P P 16 10 53.0 +0.5
baz=82
Y16A **Circle Bar Ran** 82.07 51 ⇓P P 16 10 53.2 +0.6
baz=82,SNR=16
318A **Bisbee** 82.08 53 ⇑P P 16 10 53.7 +1.0
baz=82,SNR=17
B04A **Port Angeles** 82.08 34 ⇑P P 16 10 52.3 0.0
baz=82
W15A **Williams** 82.11 49 ⇓P P 16 10 53.2 +0.5
baz=82,SNR=7.0
GNW **Green Mountain** 82.14 34 P P 16 10 52.5 -0.1
S13A **Holt Ranch, En** 82.15 46 ⇓P P 16 10 53.3 +0.4
baz=82,SNR=18
C04A **Brinnon** 82.16 34 ⇑P P 16 10 52.6 -0.1
baz=82,SNR=12
J08A **Circle Bar Ran** 82.19 40 P P 16 10 53.0 0.0
baz=82,SNR=35
F06A **Goldendale** 82.20 37 ⇓P P 16 10 52.8 -0.1
baz=82
Q12A **Willow Creek R** 82.22 45 P P 16 10 53.5 +0.2
baz=82,SNR=20
O11A **Cowboy Ranch,** 82.23 44 ⇓P P 16 10 53.3 0.0
baz=82
218A **Dragoon** 82.27 53 P P 16 10 54.8 +1.1
baz=82,SNR=7.8
K09A **Rome** 82.28 41 ⇓P P 16 10 53.7 +0.2
baz=82
X16A **Lo Mia Camp, P** 82.35 50 P P 16 10 55.0 +1.0
baz=82,SNR=13
D05A **Enumclaw** 82.37 35 ⇑P P 16 10 53.9 +0.2
baz=82,SNR=7.9
P12A **McGill** 82.39 44 P P 16 10 54.4 +0.3
baz=82,SNR=15
M10A **I.L. Ranch, Tu** 82.39 42 ⇓P P 16 10 54.7 +0.7
baz=82
T14A **Hurricane** 82.43 47 ⇑P P 16 10 54.3 0.0
baz=82,SNR=6.6
I08A **Drewsey** 82.44 39 ⇑P P 16 10 54.1 -0.1
baz=82
Y17A **Roosevelt** 82.46 51 P P 16 10 55.0 +0.5
baz=82,SNR=7.9
BBB **Bella Bella** 82.48 29 P P 16 10 54.1 -0.1
comp=Z,12nm,0.7s,mb4.6,baz=272,slow=6.8,SNR=10
V15A **Kaibab Nationa** 82.48 49 ⇑P P 16 10 55.3 +0.7
baz=82,SNR=17
N11A **Elko Archery C** 82.54 43 ⇑P P 16 10 54.5 -0.3
baz=83
E06A **Yakima** 82.54 36 ⇓P P 16 10 54.2 -0.4
baz=83
ARUT **Antelope Range** 82.54 46 *eP* P 16 10 54.9 0.0
G07A **Ruggs Ranch, H** 82.55 38 ⇑P P 16 10 54.4 -0.3
baz=83
Z17A **San Carlos Hig** 82.55 52 ⇑P P 16 10 55.6 +0.6
baz=83
319A **Douglas** 82.59 54 ⇓P P 16 10 56.2 +0.9
baz=83,SNR=16
W16A **Flagstaff** 82.60 50 ⇓P P 16 10 56.0 +0.7
baz=83
TTA **Tatalina** 82.61 10 *eP* P 16 10 53.9 -0.7
TTA pmax pmax
comp=Z,67nm,1.3s,mb5.0
TTA **Tatalina** 82.61 10 *eP* P 16 10 53.9 -0.7
comp=Z,67nm,1.3s,mb5.0
J09A **Fry Pan Ranch,** 82.62 40 ⇑P P 16 10 55.3 +0.2
baz=83
118A **Homack Ranch,** 82.63 52 P P 16 10 56.5 +1.0
baz=83,SNR=12
H08A **Prairie City** 82.71 39 ⇑P P 16 10 55.3 -0.3
baz=83
S14A **Cedar City** 82.72 47 ⇑P P 16 10 55.8 0.0
baz=83
Q13A **Wheeler Ranch,** 82.72 45 ⇓P P 16 10 55.7 -0.1
baz=83
L10A **Juniper Basin** 82.73 42 ⇓P P 16 10 55.8 +0.1
baz=83
PMR **Palmer** 82.74 14 *eP* P 16 10 53.9 -1.4
PMR pmax pmax
comp=Z,13nm,0.4s,mb4.8
PMR **Palmer** 82.74 14 *eP* P 16 10 53.9 -1.4
comp=Z,14nm,0.4s,mb4.8
Z18A **Geronimo** 82.78 52 ⇓P P 16 10 56.5 +0.3
baz=83
M11A **Holland Ranch,** 82.82 42 ⇓P P 16 10 56.6 +0.4
baz=83
C05A **Tolt Reservoir** 82.83 35 ⇓P P 16 10 55.4 -0.7
baz=83,SNR=14
K10A **MacKenzie Ranc** 82.86 41 ⇓P P 16 10 56.6 +0.3
baz=83
219A **White Tail Can** 82.88 53 ⇓P P 16 10 57.3 +0.6
baz=83
T15A **Red Dirt Ranch** 82.91 48 P P 16 10 57.3 +0.6
baz=83,SNR=14
A04A **Legoe Bay, Lum** 82.91 34 ⇑P P 16 10 56.4 0.0
baz=83
WUAZ **Wupatki** 82.91 49 *eP* P 16 10 56.7 -0.1
comp=Z,38nm,1.1s,mb4.8
B05A **Bryant** 82.95 34 P P 16 10 56.6 0.0
baz=83,SNR=11
I09A **Lost Marbles R** 82.97 39 ⇓P P 16 10 56.4 -0.5
baz=83
G08A **Pilot Rock** 82.98 38 P P 16 10 56.9 0.0
baz=83,SNR=40
P13A **Bates Ranch, G** 82.98 45 ⇓P P 16 10 57.3 +0.2
baz=83
D06A **Cle Elum** 83.00 36 ⇓P P 16 10 56.5 -0.4
baz=83,SNR=9.0
N12A **Clover Valley,** 83.01 43 P P 16 10 57.5 +0.4
baz=83,SNR=20
R14A **James Farms, M** 83.08 46 ⇓P P 16 10 58.0 +0.4
baz=83
Y18A **Canyon Day Jun** 83.09 51 ⇓P P 16 10 58.5 +0.7
baz=83
TBM **Table Mountain** 83.12 36 P P 16 10 57.6 +0.1
DIV **Divide** 83.14 15 *eP* P 16 10 56.0 -1.3
comp=Z,27nm,0.6s,mb5.0
E07A **Sunnyside** 83.18 36 ⇑P P 16 10 57.6 -0.3
baz=83
W17A **Winslow** 83.19 50 ⇑P P 16 10 58.7 +0.5
baz=83
119A **Ashpeak Ranch,** 83.19 53 ⇓P P 16 10 58.8 +0.6
baz=83
L11A **Cat Creek Ranc** 83.23 42 ⇑P P 16 10 58.6 +0.4
baz=83
J10A **Berg Farm, Mel** 83.27 40 ⇓P P 16 10 58.0 -0.4
baz=83
HAWA **Hanford** 83.27 37 *eP* P 16 10 57.9 -0.4
comp=Z,74nm,1.4s,mb5.0
O13A **Hicks Ranch, I** 83.34 44 ⇑P P 16 10 58.7 -0.1
baz=83
F08A **Pendleton** 83.37 37 ⇑P P 16 10 58.1 -0.7
baz=84
K11A **Parker Ranch,** 83.37 41 ⇑P P 16 10 58.8 -0.1
baz=84
M12A **Wells** 83.38 43 ⇑P P 16 10 58.9 -0.1
baz=84
H09A **Durkee** 83.39 39 ⇓P P 16 10 58.8 -0.1
baz=84
A05A **Maple Falls** 83.40 34 ⇑P P 16 10 57.7 -1.1
baz=84
B06A **Marblemount** 83.43 34 ⇑P P 16 10 57.9 -1.2
baz=84
Z19A **T-Link Ranch,** 83.45 52 ⇑P P 16 10 59.8 +0.2
baz=84
X18A **Snowflake** 83.50 51 ⇑P P 16 10 59.9 +0.2
baz=84
T16A **Glen Canyon Da** 83.51 48 ⇓P P 16 10 60.0 +0.2
baz=84
N13A **Wendover, West** 83.56 43 ⇓P P 16 10 59.8 0.0
baz=84
E08A **Dider Farm, El** 83.59 37 ⇓P P 16 10 59.6 -0.3
baz=84
I10A **Payette** 83.60 40 ⇑P P 16 11 00.2 +0.2
baz=84
WRAK **Wrangell Islan** 83.66 24 *eP* P 16 10 59.9 -0.1
comp=Z,18nm,0.8s,mb4.7
L12A **House Creek Ra** 83.69 42 ⇓P P 16 11 00.7 +0.2
baz=84
BMO **Blue Mountains** 83.71 39 *eP* P 16 10 60.0 -0.6
comp=Z,55nm,1.8s,mb4.8
MAW **Mawson** 83.71 200 ⇓*iP* P 16 11 00.3 +0.1
comp=Z,8.4nm,0.5s,mb4.5
MAW **Mawson** 83.71 200 P P 16 11 00.7 +0.5
MAW pmax pmax
comp=Z,12nm,0.5s
MAW **Mawson** 83.71 200 P P 16 11 00.7 +0.5
comp=Z,12nm,0.5s,mb4.7,baz=127,slow=6.5,SNR=36
C07A **Waterville** 83.72 35 ⇓P P 16 10 59.8 -0.7
baz=84
Y19A **Nutrioso** 83.75 51 ⇑P P 16 11 01.7 +0.6
baz=84
MSU **Marysvale** 83.76 46 *eP* P 16 11 01.5 +0.6
BJI **Beijing** 83.78 315 P P 16 11 01.1 +0.1
BJI S S 16 20 39.5 +2.4
BJI AMB AMB
comp=Z,12nm,1.0s,mb4.4
BJI AMB AMB
comp=Z,173nm,3.6s
A06A **Chilliwack** 83.78 34 ⇑P P 16 11 00.3 -0.4
baz=84
EPH **Ephrata** 83.78 36 P P 16 11 00.7 -0.1
F09A **S2 Ranch, Elgi** 83.82 38 ⇑P P 16 11 00.9 -0.1
baz=84
M13A **Montello** 83.84 43 ⇑P P 16 11 01.1 -0.1
baz=84
MFID **Camas Ranch** 83.84 41 ⇓P P 16 11 01.2 0.0
baz=84
SEY **Seymchan** 83.86 347 ⇑*eP* P 16 10 59.9 -0.9
H10A **Noah's Angus R** 83.90 39 ⇑P P 16 11 00.6 -0.9
baz=84
W18A **Petrified Fore** 83.92 50 ⇑P P 16 11 01.8 0.0
baz=84
X19A **St. Johns** 83.94 51 ⇓P P 16 11 02.6 +0.7
baz=84
D08A **Wollman Farm,** 83.99 36 ⇑P P 16 11 01.4 -0.4
baz=84
K12A **Draper Farm, C** 84.01 42 ⇓P P 16 11 02.1 +0.1
baz=84
I11A **Placerville** 84.02 40 ⇑P P 16 11 01.9 -0.2
baz=84
G10A **Bishop Farm, J** 84.06 39 ⇓P P 16 11 01.9 -0.3
baz=84
E09A **Wood Farm, Sta** 84.13 37 ⇑P P 16 11 01.9 -0.7
baz=84
B07A **Winthrop** 84.13 35 ⇓P P 16 11 02.1 -0.4
baz=84
W19A **Sanders** 84.17 50 ⇑P P 16 11 03.3 +0.3
baz=84
J12A **Stokes Ranch,** 84.21 41 ⇑P P 16 11 02.9 -0.2
baz=84
N14A **Grayback Hills** 84.22 44 ⇑P P 16 11 03.0 -0.1
baz=84
OD2 **Odessa Site #2** 84.30 36 P P 16 11 03.3 0.0
A07A **Ashnola River,** 84.33 34 ⇓P P 16 11 03.3 -0.2
baz=84
C08A **Higginbotham F** 84.34 36 ⇑P P 16 11 02.9 -0.6
baz=84
D09A **Jones Farm, Ri** 84.34 37 ⇓P P 16 11 03.3 -0.2
baz=84
L13A **Double Diamond** 84.35 43 ⇑P P 16 11 03.9 +0.1
baz=84
F10A **Beach Ranch, E** 84.37 38 ⇓P P 16 11 03.3 -0.4
baz=84
H11A **Donnelly** 84.41 39 ⇑P P 16 11 03.7 -0.2
baz=84
M14A **Sheep Mountain** 84.44 43 ⇑P P 16 11 04.5 +0.3
baz=84
B08A **Colville Reser** 84.50 35 ⇓P P 16 11 03.5 -0.8
baz=85
K13A **Stover Farm, H** 84.54 42 ⇓P P 16 11 05.0 +0.3
baz=85
G11A **Walters Elk Ra** 84.62 39 ⇓P P 16 11 04.3 -0.7
baz=85
N15A **Stansbury Isla** 84.68 44 ⇓P P 16 11 05.3 -0.1
baz=85
E10A **Myers Farm, Un** 84.71 38 ⇑P P 16 11 05.0 -0.4
baz=85
C09A **Chrisman Ranch** 84.78 36 ⇑P P 16 11 04.9 -0.7
baz=85
SKAG **Skagway** 84.85 21 *eP* P 16 11 05.5 -0.3
comp=Z,13nm,0.8s,mb4.6
J13A **Cove Ranch, Pi** 84.86 41 ⇓P P 16 11 06.5 +0.3
baz=85
A08A **Turner Farm, O** 84.88 35 ⇑P P 16 11 05.9 -0.2
baz=85
D10A **Wagner Farm, O** 84.93 37 ⇓P P 16 11 05.7 -0.7
baz=85
F11A **Grangeville** 84.95 38 ⇑P P 16 11 05.1 -1.5
baz=85
GYA **Guiyang** 84.99 300 P P 16 11 07.5 +0.3
GYA AP pP 16 13 13.4 +3.2
GYA XP sP 16 14 10.8 +2.9
GYA PP PP 16 14 37.9 +2.8
GYA SKS 16 20 35.6
GYA S S 16 20 48.6 -0.8
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
GYA AMB AMB
comp=Z,90nm,5.8s
M15A **Larsen Ranch,** 85.01 44 ⇓P P 16 11 06.5 -0.4
baz=85
H12A **Diamond D Ranc** 85.03 40 ⇓P P 16 11 06.7 -0.3
baz=85
K14A **Jones Ranch, D** 85.07 42 ⇓P P 16 11 07.3 0.0
baz=85
I13A **Wildhorse Cree** 85.16 41 ⇓P P 16 11 07.8 +0.2
baz=85
E11A **Bogner Ranch,** 85.17 38 ⇓P P 16 11 06.6 -1.0
baz=85
SRU **San Rafael** 85.19 46 *eP* P 16 11 07.4 -0.5
SRU pmax pmax
comp=Z,10.0nm,0.7s,mb4.5
SRU **San Rafael** 85.19 46 *eP* P 16 11 07.4 -0.5
comp=Z,9.5nm,0.7s,mb4.5
B09A **Rice** 85.19 36 ⇑P P 16 11 06.9 -0.8
baz=85
A09A **Danville** 85.26 35 ⇓P P 16 11 07.4 -0.6
baz=85
C10A **Spilker Farm,** 85.33 36 ⇑P P 16 11 08.0 -0.4
baz=85
H13A **Challis** 85.41 40 ⇓P P 16 11 08.7 -0.1
baz=86
F12A **Elk City** 85.42 39 ⇓P P 16 11 08.5 -0.4
baz=86
D11A **Klaveano Farm,** 85.47 37 ⇑P P 16 11 08.2 -0.8
baz=86
LENM **Lemitar** 85.55 52 *eP* P 16 11 10.4 +0.7
HWUT **Hardware Ranch** 85.66 44 *eP* P 16 11 09.2 -0.8
comp=Z,5.8nm,0.3s,mb4.7
NEW **Newport** 85.67 36 P P 16 11 09.6 -0.4
NEW pmax pmax
comp=Z,12nm,0.7s
NEW **Newport** 85.67 36 *eP* P 16 11 08.9 -1.0
comp=Z,7.2nm,0.6s,mb4.5
NEW **Newport** 85.67 36 P P 16 11 09.6 -0.4
comp=Z,12nm,0.7s,mb4.7,baz=168,slow=3.7,SNR=13
G13A **Cobalt** 85.69 40 ⇓P P 16 11 09.6 -0.5
baz=86
MNTX **Cornudas Mount** 85.74 55 *eP* P 16 11 10.4 -0.3
comp=Z,17nm,1.0s,mb4.6
BNM **Barren Site** 85.80 52 *eP* P 16 11 11.1 +0.2
A10A **Northport** 85.83 35 ⇑P P 16 11 10.0 -0.7
baz=86
LPM **Los Pinos Moun** 85.87 52 *eP* P 16 11 11.4 +0.1
IMA2 **Indian Mountai** 85.90 10 *eP* P 16 11 09.3 -1.3
COLA **College** 85.91 13 *eP* P 16 11 08.1 -2.6
COLA pmax pmax
comp=Z,11nm,0.6s,mb4.7
COLA **College** 85.91 13 *eP* P 16 11 08.1 -2.6
comp=Z,12nm,0.6s,mb4.7
DLBC **Dease Lake** 85.98 23 *eP* P 16 11 10.9 -0.3
PV01 **Paradox Valley** 86.11 48 *eP* P 16 11 12.0 -0.3
TXAR **Lajitas Array** 86.16 58 P P 16 11 13.7 +0.9
comp=Z,24nm,0.8s,mb4.9,baz=220,slow=6.1,SNR=164
B11A **Sandpoint** 86.19 36 ⇑P P 16 11 11.9 -0.5
baz=86
XAN **Xi'an** 86.23 307 P P 16 11 13.8 +0.8
XAN AMB AMB
comp=Z,19nm,1.2s,mb4.6
E13A **Victor** 86.41 39 ⇑P P 16 11 12.7 -0.8
baz=86
MCMT **McKenzie Canyo** 86.41 41 *eP* P 16 11 13.8 +0.3
A11A **Hall Mountain,** 86.47 36 ⇓P P 16 11 13.7 0.0
baz=87
AHID **Auburn Hatcher** 86.51 43 *eP* P 16 11 13.9 -0.2
comp=Z,5.4nm,0.5s,mb4.5
BILL **Bilibino** 86.53 354 ⇓*iP* P 16 11 11.5 -2.1
BILL pmax pmax
comp=Z,20nm,1.2s,mb4.7
BILL **Bilibino** 86.53 354 *eP* P 16 11 12.6 -1.0
comp=Z,12nm,0.8s,mb4.7
F14A **Wisdom** 86.58 39 ⇑P P 16 11 14.0 -0.3
baz=87
D13A **Huson** 86.58 38 ⇑P P 16 11 13.3 -1.0
baz=87
G15A **Dillon** 86.80 40 ⇑P P 16 11 15.4 0.0
baz=87
E14A **Clinton** 86.81 39 ⇑P P 16 11 15.0 -0.4
baz=87
C13A **Hot Springs** 86.82 37 ⇓P P 16 11 14.2 -1.2
baz=87
DLMT **Dillon** 86.83 40 *eP* P 16 11 15.5 0.0
comp=Z,37nm,1.1s,mb5.0
A12A **Yaak River Ran** 86.86 36 ⇑P P 16 11 15.5 -0.1
baz=87
TPAW **Teton Pass** 86.95 42 *eP* P 16 11 15.7 -0.5
comp=Z,39nm,1.3s,mb5.0
REDW **Red Top Meadow** 86.96 43 *eP* P 16 11 15.2 -0.9
comp=Z,55nm,1.2s,mb5.2
SNOW **Snow King Moun** 87.07 42 *eP* P 16 11 16.9 +0.2
comp=Z,26nm,0.8s,mb5.0
F15A **Butte** 87.12 40 ⇓P P 16 11 16.6 -0.3
baz=87
D14A **Greenough** 87.14 38 ⇓P P 16 11 15.9 -1.0
baz=87
IMW **Indian Meadow** 87.15 42 *eP* P 16 11 16.4 -0.6
comp=Z,49nm,1.1s,mb5.2
CHMT **Chamberlain Mo** 87.20 39 *eP* P 16 11 16.5 -0.7
DAWY **Dawson** 87.23 16 *eP* P 16 11 15.3 -1.6
LOHW **Long Hollow** 87.23 42 *eP* P 16 11 16.7 -0.8
comp=Z,15nm,0.7s,mb4.8
B13A **Whitefish** 87.24 37 ⇑P P 16 11 16.2 -1.1
baz=87
HHC **Hu-ho-hao-te** 87.27 315 *eP* P 16 11 18.4 +0.7
HHC PP PP 16 14 56.8 +3.9
HHC SKS 16 20 48.3
HHC S S 16 21 04.8 -5.5
HHC SS SS 16 27 13.5 +0.8
HHC AMB AMB
comp=Z,16nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,56nm,5.8s
QLMT **Earthquake Lak** 87.29 41 *eP* P 16 11 18.4 +0.7
E15A **Deer Lodge** 87.32 39 ⇑P P 16 11 17.2 -0.6
baz=87
EGAK **Eagle** 87.36 15 *eP* P 16 11 16.6 -1.0
comp=Z,27nm,1.1s,mb4.9
FLWY **Flagg Ranch** 87.39 42 *eP* P 16 11 18.1 -0.1
comp=Z,41nm,1.1s,mb5.1
BOZ **Bozeman (W)** 87.56 40 *eP* P 16 11 18.5 -0.4
BOZ pmax pmax
comp=Z,13nm,1.2s,mb4.5
BOZ **Bozeman (W)** 87.56 40 *eP* P 16 11 18.5 -0.5
comp=Z,13nm,1.2s,mb4.5
SMCO **Snowmass** 87.68 48 *eP* P 16 11 19.9 +0.3
comp=Z,14nm,1.1s,mb4.6
D15A **Lincoln** 87.70 39 ⇑P P 16 11 18.8 -0.8
baz=88
KMI **Kunming** 87.77 297 P P 16 11 22.0 +1.6
KMI AMB AMB
comp=Z,4.0nm,1.2s,mb4.0
LKWY **Lake** 87.81 42 *eP* P 16 11 21.5 +1.4
LKWY pmax pmax
comp=Z,13nm,1.1s,mb4.6
LKWY **Lake** 87.81 42 *eP* P 16 11 21.5 +1.4
comp=Z,13nm,1.1s,mb4.6
WALA **Waterton Lakes** 87.90 36 *eP* P 16 11 19.7 -0.8
comp=Z,9.4nm,0.8s,mb4.6
SDCO **Great Sand Dun** 88.13 49 *eP* P 16 11 21.4 -0.4
comp=Z,8.7nm,1.4s,mb4.3
RLMT **Red Lodge** 88.78 41 *eP* P 16 11 25.0 +0.3
comp=Z,20nm,1.3s,mb4.8
SYO **Syowa Base** 89.02 193 ⇑*eP* P 16 11 22.8 -2.6
SYO **Syowa Base** 89.02 193 ⇓*e*PcP PcP 16 11 24.0 -2.4
CD2 **Chengdu** 89.03 303 *eP* P 16 11 27.3 +1.2
CD2 AP pP 16 13 32.3 +1.8
CD2 XP sP 16 14 24.3 -3.5
CD2 PP PP 16 15 10.3 +3.3
CD2 SKS 16 21 04.8
CD2 S S 16 21 29.3 +2.3
CD2 XS sS 16 25 05.3 -3.6
CD2 SS SS 16 27 41.3 +2.9
CD2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.7
CD2 AMB AMB
comp=Z,20nm,8.6s
YAK **Yakutsk** 89.64 338 *eP* P 16 11 27.1 -1.1
YAK pmax pmax
comp=Z,10.0nm,1.1s,mb4.6
AMTX **Amarillo** 89.84 53 *eP* P 16 11 29.1 -0.7
comp=Z,16nm,0.8s,mb4.9
LZH **Lanzhou** 90.86 308 *eP* P 16 11 35.5 +1.0
LZH AP pP 16 13 44.5 +5.2
LZH XP sP 16 14 38.8 +2.4
LZH AMB AMB
comp=Z,17nm,1.3s,mb4.8
VNA2 **Neumayer--Watz** 91.07 177 *eP* P 16 11 34.9 0.0
baz=189,slow=3.3
VNA2 *e* 16 11 36.9
VNA2 *e* 16 11 45.6
VNA1 **Neumayer--Stat** 91.30 177 *eP* P 16 11 36.0 +0.1
VNA1 *e* 16 11 38.7
VNA1 *e* 16 11 47.7
RSSD **Black Hills** 91.73 44 *eP* P 16 11 37.7 -0.6
INK **Inuvik** 92.03 15 *eP* P 16 11 37.1 -2.0
INK pmax pmax
comp=Z,687nm,1.0s
INK **Inuvik** 92.03 15 *eP* P 16 11 37.0 -2.1
comp=Z,687nm,1.0s
ULN **Ulaanbaatar** 93.16 319 ⇑*eP* P 16 11 44.5 -0.3
DGMT **Dagmar** 93.36 40 *eP* P 16 11 45.7 0.0
comp=Z,11nm,0.4s,mb5.2
SONM **Songino Array** 93.56 319 P P 16 11 47.5 +0.9
comp=Z,0.8nm,0.6s,mb4.0,baz=121,slow=3.9,SNR=5.4
YKA **Yellowknife Ar** 94.49 25 P P 16 11 49.1 -1.4
YKA pmax pmax
comp=Z,3.0nm,0.5s
YKA **Yellowknife Ar** 94.49 25 P P 16 11 49.1 -1.3
comp=Z,2.6nm,0.5s,mb4.6,baz=242,slow=4.4,SNR=59
GTA **Gaotai** 95.01 310 *eP* P 16 11 53.9 +0.5
GTA AMB AMB
comp=Z,2.0nm,1.2s,mb4.1
TIXI **Tiksi** 96.23 345 ⇑*eP* P 16 11 55.8 -2.4
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb4.5
TIXI **Tiksi** 96.23 345 *eP* P 16 11 56.1 -2.0
comp=Z,1.2nm,0.5s,mb4.4
ZALV **Zalesovo Beam** 108.25 322 PKiKP PKiKP 16 16 52.9 -1.8
comp=Z,0.9nm,0.6s,baz=150,slow=1.0,SNR=5.1

MK31	Makanchi Array	109.13	314	*e*PKiKP	PKiKP	16 16 55.1	-1.5
MKAR	Makanchi Array	109.13	314	PKiKP	PKiKP	16 16 55.0	-1.6
	comp=Z,0.9nm,0.4s,baz=138,slow=0.8,SNR=23						
KURK	Kurchatov	111.83	318	⇑*i*PKiKP	PKiKP	16 16 59.5	-2.0
ARU	Arti	122.88	326	*i* PKiKP	PKiKP	16 17 20.2	-2.4
ARU						16 19 08.4	
ARCES	ARCESS Array B	126.41	350	PKP	PKPdf	16 17 27.9	-1.1
	comp=Z,5.4nm,0.7s,baz=36,slow=1.0,SNR=16						
JOF	Joensuu	130.63	343	*ep*	PKPdf	16 17 34.4	-2.8
	comp=Z,5.3nm,0.5s						
FINES	FINESS Array B	133.26	344	PKhKP		16 17 31.0	
	comp=Z,0.5nm,0.4s,baz=132,slow=2.8,SNR=4.4						
FINES				PKP	PKPdf	16 17 40.3	-1.9
	comp=Z,2.0nm,0.6s,baz=111,slow=3.5,SNR=9.8						
FINES				PP	PP	16 20 16.6	-0.9
	comp=Z,4.0nm,0.9s,baz=70,slow=2.2,SNR=5.9						
OBN	Obninsk	134.34	332	⇑*i*PKiKP	PKPdf	16 17 43.9	-0.5
OBN				pmax	pmax		
	comp=Z,13nm,1.5s						
NOA	NORSAR Array B	136.47	353	PKP	PKPdf	16 17 49.0	+0.8
	comp=Z,1.2nm,0.7s,baz=321,slow=2.5,SNR=4.7						
AKASG	Malin Array Be	140.60	332	PKhKP		16 17 47.6	
	comp=Z,0.9nm,0.3s,baz=43,slow=4.3,SNR=13						
AKASG				PKP	PKPdf	16 17 57.0	+1.0
	comp=Z,1.6nm,0.3s,baz=41,slow=3.0,SNR=7.5						
EKA	Eskdalemuir Ar	142.59	4	PKhKP		16 17 55.1	
	comp=Z,3.8nm,0.8s,baz=343,slow=2.8,SNR=8.1						
EKA				PKP	PKPdf	16 17 59.5	+0.1
	comp=Z,1.0nm,0.6s,baz=36,slow=1.2,SNR=9.1						
LVV	L'vov	143.46	335	*i* PKHKP	PKPdf	16 17 58.7	-2.4
BSEG	Bad Segeberg	143.51	351	*e*PKPbc	PKPdf	16 17 59.1	-2.0
DMUB	Kingscourt	143.61	8	*e*P	PKPdf	16 17 59.1	-2.1
DCN	Croghan	144.10	9	*e*P	PKPdf	16 18 00.7	-1.4
KWP	Kalwaria	144.13	336	*e*PKP	PKPdf	16 18 01.2	-1.1
KWP	Kalwaria	144.13	336	*e*PKP	PKPdf	16 18 01.2	-1.1
KWP	Kalwaria	144.13	336	⇓*i*P	PKPdf	16 18 01.2	-1.1
DLF	Lyons Farm	144.25	8	*e*P	PKPdf	16 18 01.1	-1.3
BURAR	Bucovina Array	144.66	332	⇑*i*P	PKPdf	16 18 03.4	+0.1
OJC	Ojcow	144.68	340	*e*PKP	PKPdf	16 18 03.0	-0.2
STHS	Stebnicka Huta	144.85	337	*i* PKP	PKPdf	16 18 04.3	+0.8
KOLS	Kolonicke sedl	144.86	336	*e*PKP	PKPdf	16 18 03.9	+0.3
UZH	Uzhgorod	145.10	336	*c i*PKIKP	PKPdf	16 18 04.8	+0.8
NIE	Niedzica	145.18	338	*e*PKP	PKPdf	16 18 05.0	+0.9
KSP	Ksiaz	145.19	343	*e*PKP	PKPdf	16 18 05.0	+0.9
KSP	Ksiaz	145.19	343	⇑*i*PKP	PKPdf	16 18 04.9	+0.8
CRVS	Cervenica-Dubn	145.19	337	*e*PKIKP	PKPdf	16 18 04.9	+0.8
CRVS	Cervenica-Dubn	145.19	337	*e*PKP	PKPdf	16 18 04.8	+0.7
VRI	Vrincioaia	145.21	328	⇓*i*P	PKPdf	16 18 04.8	+0.5
PLOR	Plostina	145.26	329	PKIKP	PKPdf	16 18 05.5	+1.1
ANTO	Ankara	145.28	315	*e*PKIKP	PKPdf	16 18 05.6	+1.0
TIRR	Tirgusor	145.29	325	⇓*i*P	PKPdf	16 18 05.1	+0.7
HARR	Harsova	145.40	326	PKP2	PKPbc	16 18 06.2	+0.3
TRPA	Tarpa	145.40	335	⇓*i*P	PKPdf	16 18 05.0	+0.5
IBBN	Ibbenburen	145.43	353	*e*PKPbc	PKPbc	16 18 05.2	-0.6
CLZ	Clausthal	145.53	350	*e*PKPbc	PKPbc	16 18 05.6	-0.5
OKC	Ostrava-Krasne	145.54	341	*e*PKIKP	PKPbc	16 18 05.9	-0.3
OKC				*e*		16 18 08.0	
OKC	Ostrava-Krasne	145.54	341	⇑*e*PKP	PKPbc	16 18 05.9	-0.3
OKC				*e*PKPAB	PKPab	16 18 08.0	+0.3
CLL	Collm	145.55	347	*e*PKPbc	PKPbc	16 18 05.4	-0.7
CLL	Collm	145.55	347	⇑*i*PKPbc	PKPbc	16 18 05.4	-0.7
	comp=Z,53nm,0.9s						
UPC	Upice	145.57	344	*e*PKIKP	PKPbc	16 18 06.2	0.0
UPC				*e*		16 18 08.3	
UPC	Upice	145.57	344	⇑*e*PKP	PKPdf	16 18 06.2	+1.5
UPC				*e*PKPAB	PKPab	16 18 08.3	+0.6
DPC	Dobruska-Polom	145.62	343	*e*PKPDF	PKPdf	16 18 04.6	-0.2
DPC				⇑*e*PKP	PKPdf	16 18 06.5	+1.7
DPC				*e*PKPAB	PKPab	16 18 08.8	+0.8
MORC	Moravsky Berou	145.78	341	*e*PKPbc	PKPbc	16 18 06.2	-0.7
MORC	Moravsky Berou	145.78	341	⇑*i*P	PKPdf	16 18 04.4	-0.7
MLR	Muntele Rosu	145.87	329	PKIKP	PKPdf	16 18 07.0	+1.6
MLR	Muntele Rosu	145.87	329	⇓*i*P	PKPbc	16 18 06.7	-0.5
WTSB	Winterswijk	145.87	354	*e*PKP	PKPdf	16 18 06.1	+0.9
	comp=Z,46nm,1.1s						
PVCC	Panska Ves	145.92	345	*e*PKIKP	PKPbc	16 18 07.0	-0.2
PVCC				*e*		16 18 09.5	
PVCC	Panska Ves	145.92	345	⇑*e*PKP	PKPbc	16 18 07.2	-0.2
PVCC				*e*PKPAB	PKPab	16 18 09.5	+0.4
BUG	Bochum--Univer	146.34	353	*e*PKPbc	PKPbc	16 18 07.3	-1.0
VOIR		146.34	329	⇑*i*P	PKPbc	16 18 08.7	+0.1
DRGR		146.39	333	⇑*i*P	PKPbc	16 18 08.5	-0.1
PRU	Pruhonice	146.42	345	*e*PKP	PKPbc	16 18 08.5	-0.1
PRU				*e*		16 18 10.9	
PRU	Pruhonice	146.42	345	⇑*e*PKP	PKPbc	16 18 08.5	-0.1
PRU				*e*PKPAB	PKPab	16 18 10.9	-0.3
MOX	Moxa	146.46	348	*e*PKP	PKPbc	16 18 08.0	-0.7
	comp=Z,22nm,1.4s						
MOX	Moxa	146.46	348	*e*PKPbc	PKPbc	16 18 08.0	-0.7
MOX				*e*PKPab	PKPab	16 18 10.7	-0.6
VRAC	Vranov	146.48	342	PKP2	PKPbc	16 18 08.9	+0.1
VYHS	Vyhne	146.48	339	*i* PKP	PKPbc	16 18 08.5	-0.3
TANN	Tannenbergstha	146.51	347	*e*PKPbc	PKPbc	16 18 08.2	-0.6
TANN				*e*PKPab	PKPab	16 18 11.1	-0.4
KOLL	Kolacno	146.56	339	*e*PKP	PKPbc	16 18 08.7	-0.3
PSZ	Piszkesteto	146.59	337	*e*PKPbc	PKPbc	16 18 08.5	-0.7
PSZ	Piszkesteto	146.59	337	⇓*i*P	PKPbc	16 18 09.0	-0.2
NKC	Novy Kostel	146.68	347	*e*PKP	PKPbc	16 18 09.2	-0.1
NKC				*e*		16 18 11.9	
NKC	Novy Kostel	146.68	347	⇑*e*PKP	PKPbc	16 18 09.2	-0.1
NKC				*e*PKPAB	PKPab	16 18 11.9	-0.3
TREC	Trest	146.81	343	*e*PKIKP	PKPdf	16 18 09.3	+2.5
TREC				*e*		16 18 12.8	
TREC	Trest	146.81	343	⇑*e*PKP	PKPbc	16 18 09.3	-0.4
TREC				*e*PKPAB	PKPab	16 18 12.8	+0.1
MANZ	Manzenberg	146.99	347	*e*PKPbc	PKPbc	16 18 09.5	-0.6
MODS	Modra-Piesok	147.10	340	*e*PKP	PKPbc	16 18 10.5	0.0
MODS				*e*		16 18 14.5	
MODS	Modra-Piesok	147.10	340	*e*PKP	PKPbc	16 18 10.5	0.0
MODS				*e*		16 18 14.4	
BEBN	Eben Emael	147.13	355	PKPbc	PKPbc	16 18 09.8	-0.7
HGN	Heimansgroeve	147.14	355	*e*PKP	PKPdf	16 18 09.8	+2.5
	comp=Z,18nm,1.0s						
ROTZ	Rotzenmuhle	147.17	347	*e*PKPbc	PKPbc	16 18 10.0	-0.6
ROTZ				*ep*PKPbc	pPKPbc	16 20 30.2	+8.4
UCC	Uccle	147.22	357	PKPbc	PKPbc	16 18 10.0	-0.7
MEM	Membach	147.29	355	PKPbc	PKPbc	16 18 10.5	-0.4
ZST	Bratislava	147.31	340	*e*PKP	PKPbc	16 18 11.0	0.0
GZR	Gura Zlata	147.44	332	P	PKPbc	16 18 11.0	-0.5
GZR	Gura Zlata	147.44	332	⇑*i*P	PKPbc	16 18 11.1	-0.4
GRA1	Grafenberg Arr	147.44	348	*e*PKPbc	PKPbc	16 18 11.0	-0.3
GRA1				*e*PKPab	PKPab	16 18 15.2	-0.1
GRA1				*ep*PKPbc	pPKPbc	16 20 30.7	+8.1
GRF	Grafenberg Arr	147.44	348	*e*PKPbc	PKPbc	16 18 11.0	-0.3
GRF				*e*PKPab	PKPab	16 18 15.2	-0.1
GRF				*ep*PKPbc	pPKPbc	16 20 30.7	+8.1
GRFO	Grafenberg	147.45	348	*e*PKIKP	PKPbc	16 18 10.6	-0.7
KHC	Kasperske Hory	147.46	345	*e*PKPDF	PKPdf	16 18 08.1	+0.2
KHC				⇑*e*PKP	PKPdf	16 18 11.1	+3.2
KHC				*e*PKPAB	PKPab	16 18 15.5	+0.1
BCLA	Clavier	147.53	355	PKPbc	PKPbc	16 18 11.7	+0.1
WET	Wettzell	147.61	346	*e*PKPbc	PKPbc	16 18 10.9	-0.9
WET				*e*PKPab	PKPab	16 18 15.8	-0.2
GEC2	GERESS Array S	147.69	345	*e*PKPbc	PKPbc	16 18 11.4	-0.6
GEC2				*e*PKPab	PKPab	16 18 16.2	-0.1
GERES	GERESS Array B	147.69	345	PKPbc	PKPbc	16 18 11.4	-0.6
	comp=Z,14nm,0.7s,baz=23,slow=3.0,SNR=77						
BZS	Buzias	147.78	333	⇓*i*P	PKPbc	16 18 11.4	-0.9
GIVF	Givet	147.88	356	*e*PKP1	PKPbc	16 18 11.6	-0.8
	comp=Z,44nm,0.7s						
DOU	Dourbes	147.91	356	PKPbc	PKPbc	16 18 11.8	-0.7
CONA	Conrad Observa	147.93	342	⇓*i*P	PKPbc	16 18 12.5	-0.1
	comp=Z,46nm,1.4s,SNR=13						
CSNA	Conrad Observa	147.94	342	⇑*i*PKPbc	PKPbc	16 18 12.4	-0.3
	comp=Z,41nm,1.3s						
BAIF	Baives	147.97	357	*e*PKP1	PKPbc	16 18 11.9	-0.7
	comp=Z,29nm,0.6s						
WLF	Walferdange	148.21	354	*e*PKPbc	PKPbc	16 18 13.2	-0.1
WLF				*e*PKPab	PKPab	16 18 18.1	-0.3
WLF	Walferdange	148.21	354	PKPbc	PKPbc	16 18 13.5	+0.2
WLF	Walferdange	148.21	354	*e*PKPbc	PKPbc	16 18 13.1	-0.2
WLF				*e*PKPab	PKPab	16 18 18.1	-0.3
WLF				*ep*PKPbc	pPKPbc	16 20 35.2	+10
PKSM	Moragy	148.49	337	⇑*i*P	PKPbc	16 18 13.3	-0.8
ARSA	Arzberg	148.64	341	⇑*i*P	PKPbc	16 18 13.5	-0.9
	comp=Z,29nm,1.6s						
STU	Stuttgart	148.69	350	*e*PKPbc	PKPbc	16 18 14.0	-0.5
STU				*e*PKPab	PKPab	16 18 19.8	-0.6
FUR	Furstenfeldbru	148.89	347	*e*PKPbc	PKPbc	16 18 14.6	-0.4
FUR				*e*PKPab	PKPab	16 18 21.0	-0.3
BFO	Black Forest	149.26	351	*e*PKHKP	PKPbc	16 18 14.8	-1.1
BFO				*e*		16 18 22.1	
BFO	Black Forest	149.26	351	*e*PKPbc	PKPbc	16 18 14.8	-1.1
BFO				*e*PKPab	PKPab	16 18 22.1	-0.7
BFO				*ep*PKPbc	pPKPbc	16 20 37.6	+10
FLN	La Foliniere	149.30	3	*e*PKP1	PKPbc	16 18 14.9	-1.1
	comp=Z,35nm,0.6s						
SOKA	Soboth	149.31	342	⇑*i*PKPbc	PKPbc	16 18 14.9	-1.1
	comp=Z,26nm,1.3s						
PERS	Pernice	149.32	341	*e*PKPbc	PKPbc	16 18 14.7	-1.4
VTS	Vitosha	149.32	328	⇓*i*P	PKPbc	16 18 15.6	-0.6
CDF	Champ du Feu	149.32	352	*e*PKP1	PKPbc	16 18 15.5	-0.5
	comp=Z,38nm,0.9s						
KBA	Koelnbreinsper	149.42	344	⇑*i*P	PKPbc	16 18 15.1	-1.2
	comp=Z,15nm,1.1s,SNR=8.6						
KBA	Koelnbreinsper	149.42	344	⇑*i*P	PKPbc	16 18 15.1	-1.2
MEZF	Maizieres J'vi	149.46	355	*e*PKP1	PKPbc	16 18 15.9	-0.5
LDF	La Druitiere	149.48	2	*e*PKP1	PKPbc	16 18 15.0	-1.4
	comp=Z,20nm,0.5s						
ROSF	Rostrenen	149.52	6	*e*PKP1	PKPbc	16 18 15.1	-1.4
	comp=Z,24nm,1.0s						
WATA	Walderalm	149.61	346	⇑*i*P	PKPbc	16 18 16.0	-0.7
	comp=Z,16nm,1.1s						
RETA	Reute	149.64	347	⇑*i*P	PKPbc	16 18 16.2	-0.6
	comp=Z,9.8nm,1.1s						
GRR	Gorron	149.66	3	*e*PKP1	PKPbc	16 18 15.8	-1.0
	comp=Z,30nm,0.5s						
WTTA	Wattenberg	149.66	346	⇑*i*P	PKPbc	16 18 16.2	-0.7
	comp=Z,41nm,1.1s						
SGMF	Saint Gilles	149.67	5	*e*PKP1	PKPbc	16 18 15.6	-1.3
	comp=Z,55nm,0.9s						
MOTA	Moosalm	149.70	347	⇓*i*P	PKPbc	16 18 16.3	-0.7
	comp=Z,14nm,0.9s						
MYKA	Terra Mystica	149.75	343	⇑*i*P	PKPbc	16 18 15.8	-1.4
	comp=Z,8.0nm,0.8s						
SQTA	Sankt Quirin	149.80	347	⇓*i*P	PKPbc	16 18 16.8	-0.4
	comp=Z,15nm,0.9s						
HAU	Haudompre	149.83	353	*e*PKP1	PKPbc	16 18 16.4	-0.8
	comp=Z,36nm,0.8s						
CRES	Cresnjev	149.94	340	*i* PKPbc	PKPbc	16 18 16.7	-0.9
ABTA	Abfaltersbach	149.94	345	⇑*i*P	PKPbc	16 18 16.0	-1.6
	comp=Z,21nm,0.9s,SNR=14						
QUIF	Quistinic	149.95	6	*e*PKP1	PKPbc	16 18 16.6	-0.9
HINF	Hinteralfeld	149.96	353	*e*PKP1	PKPbc	16 18 16.5	-1.1
	comp=Z,18nm,0.8s						
DAVA	Damuels	150.01	348	⇑*i*P	PKPbc	16 18 17.2	-0.5
	comp=Z,54nm,1.4s						
DAVA	Damuels	150.01	348	⇑*i*P	PKPbc	16 18 17.1	-0.5
LJU	Ljubljana	150.03	342	*i* PKPbc	PKPbc	16 18 17.0	-0.8
FETA	Feichten	150.09	347	⇑*i*P	PKPbc	16 18 17.5	-0.4
	comp=Z,48nm,1.4s,SNR=9.4						
VISS	Visnje	150.15	341	*i* PKPbc	PKPbc	16 18 17.2	-0.9
VISS				*e*		16 18 25.4	
VOY	Vojsko	150.23	342	*e*PKPbc	PKPbc	16 18 16.8	-1.4
VOY	Vojsko	150.23	342	*e*PKPbc	PKPbc	16 18 16.8	-1.4
BOJS	Bojanci	150.29	340	*i* PKPbc	PKPbc	16 18 18.0	-0.4
BOJS				*i*		16 18 26.2	
BOJS				*e*		16 20 40.7	
LOR	Lormes	150.77	357	*e*PKP1	PKPbc	16 18 18.8	-0.6
	comp=Z,26nm,0.5s						
SSF	Saint Saulge	150.99	357	*e*PKP1	PKPbc	16 18 19.4	-0.6
	comp=Z,20nm,0.5s						
CABF	La Chapelle	151.24	353	*e*PKP1	PKPbc	16 18 20.0	-0.5
	comp=Z,60nm,1.0s						
AVF	Avril sur Loir	151.27	357	*e*PKP1	PKPbc	16 18 19.5	-1.1
SMF	Signal de Mont	151.39	357	*e*PKP1	PKPbc	16 18 20.6	-0.3
MFF	Saint Martin d	151.47	2	*e*PKP1	PKPbc	16 18 20.3	-0.8
	comp=Z,42nm,0.9s						
BGF	Bois d'Agland	151.52	358	*e*PKP1	PKPbc	16 18 20.5	-0.7
TCF	Toulx Ste Croi	151.81	359	*e*PKP1	PKPbc	16 18 21.0	-0.8
	comp=Z,29nm,1.0s						
LPL	La Plagne	152.24	352	*e*PKP1	PKPbc	16 18 22.7	-0.1
	comp=Z,12nm,0.8s						
LPG	La Plagne	152.25	352	*e*PKP1	PKPbc	16 18 22.9	+0.1
	comp=Z,8.6nm,0.7s						
BNI	Bardonecchia	152.70	352	*e*PKIKP	PKPbc	16 18 23.2	-0.6
BNI				*e*		16 18 37.3	
RJF	Les Rejaudoux	152.80	360	*e*PKP1	PKPbc	16 18 23.5	-0.5
ORIF	Oris-en-Rattie	152.93	353	*e*PKP1	PKPbc	16 18 23.9	-0.4
MBDF	Montbardon	153.01	352	*e*PKP1	PKPbc	16 18 24.0	-0.5
	comp=Z,14nm,0.7s						
VIVF	Saint-Julien-l	153.11	355	*e*PKP1	PKPbc	16 18 24.1	-0.6
	comp=Z,13nm,0.9s						
CAF	Calviac	153.17	359	*e*PKP1	PKPbc	16 18 24.4	-0.4
SMRF	Simiane la Rot	153.90	353	*e*PKP1	PKPbc	16 18 26.1	-0.3
LASF	Ste Croix	153.95	356	*e*PKP1	PKPbc	16 18 25.9	-0.6
ESDC	Sonseca Array	157.92	11	PKPab	PKPab	16 18 59.1	-0.9
	comp=Z,1.5nm,0.5s,baz=346,slow=4.4,SNR=9.1						

*ISCJB **23** 16:17:47.7±0.6, 524N±0.1×318W±0.1, h10^km, mb4.0/14, Error ellipse: s-maj=18.3km s-min=9.3km az=178.5*
*IDC **23** 16:17:48.1±0.7, 5243N×3173W, h0^km, mb3.8/14, mb1 4.0/15, mb1mx3.9/26, mbtmp3.9/15, ML4.2/1, Error ellipse: s-maj=22.9km s-min=14.2km az=179.0*
*NEIC **23** 16:17:49.5±0.5, 5242N×3178W, h10^km, mb4.5/1, Error ellipse: s-maj=16.5km s-min=8.4km az=178.0*
*CSEM **23** 16:17:49.5, 5242N×3178W, h10^km, mb4.4/1, After NEIC*

ISC 23 16:17:49.7±0.6, 524N±01×317W±01, h10^km, n29, σ0§95/26, mb4.0/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ESK	Eskdalemuir	17.02	69	*e*P	Pn	16 21 49.9	+2.4
ESK	Eskdalemuir	17.02	69	*e*P	Pn	16 21 49.9	+2.4
EKA	Eskdalemuir Ar	17.04	69	P	Pn	16 21 47.0	-0.7
	0.5nm,0.3s,baz=267,slow=10.0,SNR=15						
EKA	Eskdalemuir Ar	17.04	69	P	Pn	16 21 47.0	-0.8
SCHQ	Schefferville	20.81	291	P	P	16 22 30.8	-0.1
SCHQ	Schefferville	20.81	291	P	P	16 22 30.8	-0.1
	2.8nm,0.5s,baz=82,slow=7.8,SNR=5.8						
ESDC	Sonseca Array	22.95	113	P	P	16 22 54.1	+0.2
	0.4nm,0.4s,baz=317,slow=10,SNR=4.3						
CLL	Collm	27.32	74	*e*P	P	16 23 33.0	-1.3
CLL				LmV		16 33 00.0	
	comp=Z,100nm,21.1s						
GERES	GERESS Array B	28.68	79	P	P	16 23 46.3	0.0
	comp=Z,1.6nm,0.9s,mb3.7,baz=289,slow=8.3,SNR=7.6						
ARCES	ARCESS Array B	31.05	35	P	P	16 24 06.7	-0.5
	comp=Z,1.8nm,0.8s,mb4.0,baz=263,slow=9.7,SNR=4.5						
FINES	FINESS Array B	31.78	51	P	P	16 24 13.1	-0.5
	comp=Z,1.1nm,0.6s,mb3.9,baz=284,slow=7.7,SNR=6.8						
AKASG	Malin Array Be	36.95	68	P	P	16 24 57.4	-1.2
	comp=Z,1.3nm,0.5s,mb4.0,baz=297,slow=8.6,SNR=7.9						
ULM	Lac du Bonnet	38.95	293	P	P	16 25 14.0	-1.4
	comp=Z,1.1nm,0.5s,mb3.8,baz=61,slow=10,SNR=2.3						
YKA	Yellowknife Ar	42.64	317	P	P	16 25 46.1	+0.4
YKA				PcP	PcP	16 27 37.2	-0.3
YKA	Yellowknife Ar	42.64	317	P	P	16 25 46.1	+0.4
	comp=Z,0.5nm,0.6s,mb3.5,baz=66,slow=8.3,SNR=11						
YKA				PcP	PcP	16 27 37.2	-0.3
	comp=Z,0.5nm,0.7s,baz=58,slow=3.7,SNR=8.1						
YKA	Yellowknife Ar	42.64	317	PcP	PcP	16 27 37.2	-0.3
TORD	Torodi Ar. Bea	47.44	133	P	P	16 26 23.7	-0.6
	comp=Z,1.2nm,0.5s,mb4.1,baz=337,slow=8.1,SNR=24						
HWUT	Hardware Ranch	52.83	292	*e*P	P	16 27 04.8	-0.2
	comp=Z,3.7nm,0.6s,mb4.5						
HWUT	Hardware Ranch	52.83	292	*e*P	P	16 27 04.8	-0.2
	comp=Z,3.7nm,0.6s,mb4.5						
TXAR	Lajitas Array	56.55	276	P	P	16 27 31.7	-0.4
	comp=Z,0.5nm,0.7s,mb3.6,baz=64,slow=9.8,SNR=4.8						
ROSC	El Rosal	58.96	232	P	P	16 27 50.9	+1.7
	comp=Z,11nm,0.6s,mb5.1,baz=82,slow=20,SNR=5.4						
ZALV	Zalesovo Beam	61.58	37	P	P	16 28 08.5	+1.9
	comp=Z,0.5nm,0.4s,mb4.0,baz=328,slow=9.0,SNR=2.8						
MK31	Makanchi Array	66.22	43	*e*P	P	16 28 37.5	+0.2
MK31	Makanchi Array	66.22	43	*e*P	P	16 28 37.5	+0.2
MKAR	Makanchi Array	66.22	43	P	P	16 28 37.5	+0.2
	comp=Z,0.8nm,0.7s,mb3.9,baz=325,slow=5.1,SNR=11						
SONM	Songino Array	73.91	28	P	P	16 29 25.3	+0.8
	comp=Z,0.8nm,0.9s,mb3.7,baz=323,slow=4.7,SNR=4.8						
KSRS	Korea Array	88.74	16	P	P	16 30 43.6	+0.3
	comp=Z,1.0nm,0.7s,mb4.2,baz=348,slow=4.9,SNR=7.3						
WRA	Warramunga Arr	145.80	24	PKPbc	PKPbc	16 37 28.6	-0.3
	comp=Z,3.3nm,1.1s,baz=341,slow=3.4,SNR=11						
ASAR	Alice Springs	149.25	26	PKPbc	PKPbc	16 37 37.6	-0.6
	comp=Z,0.9nm,0.6s,baz=351,slow=2.0,SNR=20						

*ISCJB **23** 16:48:50.2±1.9, 2648S±0.10×1773W±0.1, h124^km±18^km, mb4.2/9, Error ellipse: s-maj=21.0km s-min=14.5km az=24.0*
*NEIC **23** 16:48:51.3±1.5, 2644S×17728W, h117^km±14^km, mb4.4/3, Error ellipse: s-maj=20.8km s-min=13.5km az=118.0*
*IDC **23** 16:48:54.1±3.2, 2658S×17746W, h136^km±28^km, mb3.7/6, mb1 4.0/8, mb1mx3.9/14, mbtmp3.8/8, Error ellipse: s-maj=29.5km s-min=20.6km az=172.0*

ISC 23 16:48:51.3±1.4, 2644S±009×1773W±01, h119^km±14^km, n26, σ1§29/21, mb4.2/9, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	2.85	191	*e*Pn	Pn	16 49 36.4	+0.8
RAO				*e*Sn	Sn	16 50 01.8	-8.1
RAO	Raoul Island	2.85	191	P	Pn	16 49 36.6	+1.0
	180nm,0.3s,baz=92,slow=17,SNR=6.6						
RAO				S	Sn	16 50 01.6	-8.2
	450nm,0.3s,baz=78,slow=22,SNR=13						
URZ	Urewera	12.69	200	P	Pn	16 51 47.6	+0.2
	1.8nm,0.3s,baz=16,slow=18,SNR=8.1						
URZ				S	Sn	16 53 47.3	-20
	2.3nm,0.3s,baz=164,slow=19,SNR=10						
AFI	Afiamalu	13.50	24	P	Pn	16 51 56.6	-1.5
	1.9nm,0.3s,baz=178,slow=22,SNR=6.1						
AFI				S	Sn	16 54 17.5	-10
	1.9nm,0.3s,baz=38,slow=19,SNR=4.3						
CTA	Charters Tower	33.98	273	P	P	16 55 27.1	+3.5
	3.0nm,0.4s,mb4.5,baz=108,slow=11,SNR=8.4						
STKA	Stephens Creek	36.13	251	P	P	16 55 41.3	-0.7
	1.6nm,0.6s,mb4.1,baz=123,slow=18,SNR=6.0						
ASAR	Alice Springs	44.07	263	P	P	16 56 47.5	-0.2
	1.4nm,0.4s,mb4.1,baz=96,slow=7.0,SNR=84						
WRAB	Tennant Creek	44.70	268	*e*P	P	16 56 52.8	+0.2
	4.0nm,0.7s,mb4.3						
WRA	Warramunga Arr	44.70	268	P	P	16 56 52.8	+0.2
	5.4nm,0.7s,mb4.4,baz=106,slow=7.6,SNR=32						
SBA	Scott Base	52.02	184	*e*P	P	16 57 48.6	+0.6
VNDA	Vanda	52.08	186	*e*P	P	16 57 49.1	+0.7
	1.6nm,0.5s,mb4.3						
VNDA	Vanda	52.08	186	P	P	16 57 49.5	+1.1
	2.0nm,0.6s,mb4.3,baz=346,slow=8.1,SNR=6.4						
QSPA	South Pole Qui	63.66	180	*e*P	P	16 59 08.1	-1.1
	16nm,1.1s,mb4.8						
VNA3	Neumayer Olymp	82.20	176	*e*	P	17 00 56.0	-2.6
VNA3				*e*		17 01 01.7	
VNA3				*e*		17 01 15.0

BVV	**Ba Vi**	**4.21**	**81**	*e*Pn	**Pn**	**17 07 34.3**	**+0.4**
BVV				*e*Pg	**Pg**	**17 07 51.1**	**+0.9**
BVV				*e*Sg	**Sg**	**17 08 45.3**	**+0.5**
KKTK	**Khon Kaen**	**4.51**	**156**	P	**Pg**	**17 07 56.0**	**+0.1**
	1μm,0.5s						
HNV	**Hanoi**	**4.60**	**82**	*e*Pn	**Pn**	**17 07 38.4**	**-0.9**
HNV				*e*Pg	**Pg**	**17 07 56.2**	**-1.5**
HNV				*e*Sg	**Sg**	**17 08 54.4**	**-3.0**
DSV	**Doi Son**	**4.74**	**88**	*e*Pn	**Pn**	**17 07 41.9**	**+0.7**
DSV				*e*Pg	**Pg**	**17 08 01.0**	**+0.7**
DSV				*e*Sg	**Sg**	**17 09 02.6**	**+0.7**
NST	**Nakhon Sawan**	**4.85**	**189**	P	**Pg**	**17 07 55.0**	**-7.4**
	100nm,0.7s						
MTZV	**Met**	**5.18**	**77**	*e*Pn	**Pn**	**17 07 47.6**	**+0.3**
MTZV				*e*Pg	**Pg**	**17 08 09.4**	**+0.7**
MTZV				*e*Sg	**Sg**	**17 09 16.7**	**+0.8**

*NEIC **23** 17:15:12.6, 3192S×6928W, h128km, MD3.7(GUC), After GUC.*

GUC 23 17:15:12.6±0.8, 3192S×6928W, h128km±14km, MD3.7, ML3.7, 7C-4D, San Juan Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	**Jahuel**	**1.35**	**235**	*e*P	Pn	17 15 39.6	+0.8
JACH				*i* S	Sn	17 15 59.8	+0.9
CMCH	**Combarbala**	**1.64**	**296**	⇓*i*P	Pn	17 15 42.4	+0.2
CMCH				*i* S	Sn	17 16 05.8	+1.1
CMCH	**Combarbala**	**1.64**	**296**	⇓*i*P	Pn	17 15 42.4	+0.2
CMCH				*i* S	Sn	17 16 05.8	+1.1
CMCH				AML	AML	17 16 08.8	
	comp=E,4μm,0.7s						
FCH	**Farellones**	**1.65**	**211**	⇑*i*P	Pn	17 15 43.2	+1.0
FCH				*i* S	Sn	17 16 06.3	+1.4
FCH				AML	AML	17 16 10.6	
	comp=N,395nm,0.7s						
PEL	**Peldehue**	**1.70**	**224**	⇑*i*P	Pn	17 15 43.5	+0.6
PEL				*i* S	Sn	17 16 06.8	+0.8
PEL				AML	AML	17 16 09.2	
	comp=N,573nm,0.3s						
ROCH	**El Roble**	**1.80**	**234**	*i* P	Pn	17 15 44.6	+0.6
CLCH	**Cerro Calan**	**1.82**	**215**	*e*P	Pn	17 15 44.7	+0.4
CLCH				*i* S	Sn	17 16 09.2	+0.8
CLCH				AML	AML	17 16 20.1	
	comp=E,561nm,0.7s						
SAN	**Santiago**	**1.92**	**217**	*i* S	Sn	17 16 11.2	+0.4
SAN				AML	AML	17 16 14.1	
	comp=E,391nm,0.3s						
PCH	**Pirque**	**1.99**	**211**	*e*P	Pn	17 15 47.3	+1.0
PCH				*i* S	Sn	17 16 12.9	+0.7
LMEL	**Las Melosas**	**2.08**	**202**	⇑*i*P	Pn	17 15 48.0	+0.6
LMEL				AML	AML	17 16 23.5	
	comp=N,405nm,0.2s						
OVCH	**Ovalle**	**2.10**	**308**	*e*P	Pn	17 15 48.1	+0.4
OVCH				*i* S	Sn	17 16 15.2	+0.7
TLL	**Tololo Astrono**	**2.18**	**323**	⇑*i*P	Pn	17 15 49.8	+1.1
TLL				*i* S	Sn	17 16 17.9	+1.7
TLL	**Tololo Astrono**	**2.18**	**323**	⇑*i*P	Pn	17 15 49.8	+1.1
TLL				*i* S	Sn	17 16 17.9	+1.7
TLL				AML	AML	17 16 25.8	
	comp=E,445nm,0.5s						
TACH	**Talagante**	**2.22**	**218**	⇑*i*P	Pn	17 15 49.6	+0.4
TACH				*i* S	Sn	17 16 17.7	+0.4
CHCH	**Chadas Angostu**	**2.32**	**209**	⇓*i*P	Pn	17 15 51.1	+0.7
CHCH				*i* S	Sn	17 16 19.9	+0.5
CACH	**El Canelo**	**2.46**	**206**	⇑*i*P	Pn	17 15 53.8	+1.6
CACH				*i* S	Sn	17 16 23.7	+1.1
CICH	**Cipreses**	**2.58**	**201**	*e*P	Pn	17 15 54.7	+1.0
CICH				*i* S	Sn	17 16 26.1	+0.7
LSCH	**La Serena**	**2.62**	**319**	⇓*i*P	Pn	17 15 54.5	+0.3
LSCH				*i* S	Sn	17 16 26.0	-0.2
SFDO	**San Fernando**	**3.06**	**208**	*e*P	Pn	17 16 00.1	+0.3
LCO	**Las Campanas**	**3.14**	**337**	*e*Pn	Pn	17 16 01.5	+0.5
VACH	**Vallenar**	**3.56**	**339**	*i* S	Sn	17 16 48.0	-0.3
TRQA	**Tornquist**	**8.57**	**138**	*e*Pn	Pn	17 17 12.2	-1.5

*NEIC **23** 17:30:28.1, 36.10S×17788E, h208km, MG4.0(WEL), After WEL.*

WEL 23 17:30:28.1±0.4, 3610S×17787E, h208km±4km, ML4.1/5, Error ellipse: s-maj=7.7km s-min=4.9km az=90.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.50**	**167**	P	Pn	17 31 02.8	+0.4
MXZ				S	Sn	17 31 28.7	-0.7
MXZ	**Matakaoa Point**	**1.50**	**167**	PN	Pn	17 31 02.8	+0.4
MXZ				SN	Sn	17 31 28.7	-0.6
PUZ	**Puketiti**	**1.99**	**171**	P	Pn	17 31 07.2	+0.1
PUZ				S	Sn	17 31 36.2	-1.4
PUZ	**Puketiti**	**1.99**	**171**	PN	Pn	17 31 07.2	+0.2
PUZ				SN	Sn	17 31 36.2	-1.4
URZ	**Urewera**	**2.24**	**196**	P	Pn	17 31 10.0	+0.4
URZ	**Urewera**	**2.24**	**196**	PN	Pn	17 31 10.0	+0.4
URZ				SN	Sn	17 31 42.2	0.0
MWZ	**Matawai**	**2.25**	**187**	P	Pn	17 31 09.9	+0.2
MWZ				S	Sn	17 31 42.9	+0.6
MWZ	**Matawai**	**2.25**	**187**	PN	Pn	17 31 09.9	+0.2
MWZ				SN	Sn	17 31 42.9	+0.6
KNZ	**Kokohu**	**2.92**	**183**	P	Pn	17 31 17.0	-0.1
KNZ				S	Sn	17 31 55.6	-0.1
KNZ	**Kokohu**	**2.92**	**183**	PN	Pn	17 31 17.0	-0.1
KNZ				SN	Sn	17 31 55.6	-0.1
BKZ	**Black Stump Fm**	**3.25**	**199**	P	Pn	17 31 20.7	-0.3
BKZ	**Black Stump Fm**	**3.25**	**199**	PN	Pn	17 31 20.7	-0.3
MOVZ	**Moawhango**	**3.70**	**206**	P	Pn	17 31 26.1	-0.4
MOVZ	**Moawhango**	**3.70**	**206**	PN	Pn	17 31 26.1	-0.4
PXZ	**Pawanui**	**4.00**	**191**	PN	Pn	17 31 28.8	-1.3
WPHZ	**Waipukurau**	**4.12**	**195**	PN	Pn	17 31 30.5	-1.1
TSZ	**Takapari Road**	**4.23**	**200**	P	Pn	17 31 31.6	-1.3
TSZ	**Takapari Road**	**4.23**	**200**	PN	Pn	17 31 31.6	-1.3
MRZ	**Mangatainoka R**	**4.90**	**201**	P	Pn	17 31 39.5	-1.8
MRZ	**Mangatainoka R**	**4.90**	**201**	PN	Pn	17 31 39.5	-1.8
TIWZ	**Tintock**	**4.92**	**198**	PN	Pn	17 31 39.9	-1.8
HOWZ	**Holdsworth Sta**	**5.13**	**200**	PN	Pn	17 31 41.9	-2.4
KIW	**Kapiti Island**	**5.29**	**205**	P	Pn	17 31 43.8	-2.5
KIW	**Kapiti Island**	**5.29**	**205**	PN	Pn	17 31 43.8	-2.6
MTW	**Mount Morrison**	**5.38**	**199**	P	Pn	17 31 44.8	-2.6
MTW	**Mount Morrison**	**5.38**	**199**	PN	Pn	17 31 44.8	-2.6
CAW	**Cannon Point**	**5.46**	**203**	P	Pn	17 31 45.7	-2.8
CAW	**Cannon Point**	**5.46**	**203**	PN	Pn	17 31 45.7	-2.8
TCW	**Tory Channel**	**5.83**	**208**	*e*P	Pn	17 31 50.0	-3.2
TCW	**Tory Channel**	**5.83**	**208**	*e*PN	Pn	17 31 50.0	-3.2
PLWZ	**Palliser**	**5.83**	**200**	*e*PN	Pn	17 31 49.9	-3.3

*ISCJB **23** 17:34:56.6±0.5, 5145N±002×16.13E±003, h0km, Error ellipse: s-maj=3.6km s-min=2.1km az=18.8*
*NEIC **23** 17:34:57.0±0.8, 5160N×1620E, h5km, ML3.0(SZGRF), ML2.7(BRA), Error ellipse: s-maj=9.5km s-min=4.7km az=204.0*
*IPEC **23** 17:34:56.7±0.3, 5157N×1620E, h0km, ML2.4/4, Error ellipse: s-maj=1.9km s-min=1.5km az=42.0*
*BGR **23** 17:34:57.3±0.4, 5158N×1617E, h1km, ML3.0/15, Error ellipse: s-maj=4.4km s-min=2.2km az=17.0*
*CSEM **23** 17:34:58.9±0.1, 5148N×1614E, h0km, ML3.3/8, Error ellipse: s-maj=2.2km s-min=1.2km az=15.0*
*WAR **23** 17:34:58.9, 5151N×1611E, ML2.8, Mining Induced*
*PRU **23** 17:34:58.5, 5152N×1613E, h0km*
*VIE **23** 17:35:01.4±0.3, 5124N×1626E, h0km, mb2.4/6, ML2.8/6, Error ellipse: s-maj=2.2km s-min=1.6km az=103.0 54 km WNW of Wroclaw Suspected Mining induced.*

ISC 23 17:34:57.4±0.5, 5153N±002×1615E±003, h0km, n62, σ0§97/116, 7C-4D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.69**	**172**	*e*Pg	**Pg**	**17 35 11.3**	**+0.6**
KSP				*e*Sg	**Sg**	**17 35 20.4**	**+0.8**
KSP	**Ksiaz**	**0.69**	**172**	*e*Pg	**Pg**	**17 35 11.3**	**+0.5**
KSP				*e*Sg	**Sg**	**17 35 20.7**	**+1.0**
KSP	**Ksiaz**	**0.69**	**172**	⇓*i*Pg	**Pg**	**17 35 11.4**	**+0.7**
KSP				*e*Sg	**Sg**	**17 35 20.6**	**+0.9**
KSP				*e*		17 35 25.2	
KSP	**Ksiaz**	**0.69**	**172**	Pg	**Pg**	**17 35 11.3**	**+0.6**
KSP				*e*Sg	**Sg**	**17 35 19.4**	**-0.3**
UPC	**Upice**	**1.03**	**185**	*e*Pg	**Pg**	**17 35 17.5**	**+0.4**
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*Pg	**Pg**	**17 35 20.2**	**+0.1**
DPC				*e*Sg	**Sg**	**17 35 36.3**	**+0.8**
DPC	**Dobruska-Polom**	**1.19**	**175**	Pg	**Pg**	**17 35 20.2**	**+0.1**
DPC				*e*Sg	**Sg**	**17 35 35.2**	**-0.3**
DPC	**Dobruska-Polom**	**1.19**	**175**	*e*PG	**Pg**	**17 35 19.9**	**-0.2**
DPC				*e*SG	**Sg**	**17 35 36.0**	**+0.5**
	comp=Z,51nm,0.5s						
PVCC	**Panska Ves**	**1.41**	**225**	*e*Pg	**Pg**	**17 35 24.2**	**-0.3**
PVCC				*e*Sg	**Sg**	**17 35 42.6**	**-0.2**
RUE	**Ruedersdorf**	**1.75**	**304**	*e*Pn	**Pn**	**17 35 25.6**	**-3.3**
RUE				*e*Sn	**Sn**	**17 35 53.7**	**+1.8**
RUE	**Ruedersdorf**	**1.75**	**304**	*e*Pn	**Pn**	**17 35 25.6**	**-3.3**
RUE				*e*Sn	**Sn**	**17 35 53.7**	**+1.8**
PRU	**Pruhonice**	**1.85**	**214**	*e*Pg	**Pg**	**17 35 31.8**	**-1.1**
PRU				*e*Sg	**Sg**	**17 35 58.3**	**+1.5**
	comp=Z,43nm,0.3s						
PRU	**Pruhonice**	**1.85**	**214**	*e*PN	**Pn**	**17 35 29.9**	**-0.5**
PRU				*e*PG	**Pg**	**17 35 31.8**	**-1.1**
PRU				*ex*	x	17 35 48.8	
PRU				*e*SG	**Sg**	**17 35 58.3**	**+1.5**
	comp=Z,43nm,0.3s						
FBE	**Freiberg**	**1.86**	**252**	*e*Sg	**Sg**	**17 35 57.5**	**+0.4**
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**17 35 31.8**	**-0.2**
MORC				*e*Sg	**Sg**	**17 36 00.8**	**+0.3**
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**17 35 31.6**	**-0.4**
MORC				*e*Sn	**Sn**	**17 35 53.6**	**-3.7**
MORC	**Moravsky Berou**	**1.97**	**153**	*e*Pn	**Pn**	**17 35 31.6**	**-0.4**
MORC				*e*Sn	**Sn**	**17 35 53.6**	**-3.7**
MORC				*e*Sg	**Sg**	**17 36 00.8**	**+0.2**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**17 35 31.3**	**-0.9**
CLL				*e*Sg	**Sg**	**17 36 01.3**	**+0.2**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**17 35 31.0**	**-1.2**
CLL				*e*Pg	**Pg**	**17 35 35.0**	**-0.4**
CLL				*i* Sg	**Sg**	**17 36 01.4**	**+0.3**
CLL	**Collm**	**1.98**	**265**	*e*Pn	**Pn**	**17 35 31.0**	**-1.2**
CLL				*e*Pg	**Pg**	**17 35 35.0**	**-0.4**
CLL				*ex*	x	17 35 38.0	
CLL				*i* Sg	**Sg**	**17 36 01.4**	**+0.3**
	comp=Z,70nm,0.8s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pn	**Pn**	**17 35 33.7**	**-0.4**
OKC				*e*Sg	**Sg**	**17 36 05.3**	**-0.1**
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*Pg	**Pg**	**17 35 37.7**	**-0.3**
OKC				*e*Sg	**Sg**	**17 36 05.2**	**-0.2**
	comp=Z,46nm,0.7s						
OKC	**Ostrava-Krasne**	**2.12**	**142**	*e*PN	**Pn**	**17 35 33.8**	**-0.3**
OKC				*e*PG	**Pg**	**17 35 37.7**	**-0.3**
OKC				*e*SG	**Sg**	**17 36 05.2**	**-0.2**
	comp=Z,46nm,0.7s						
VRAC	**Vranov**	**2.24**	**173**	*e*Pn	**Pn**	**17 35 35.7**	**-0.1**
VRAC				*e*Sg	**Sg**	**17 36 08.3**	**-1.1**
	comp=Z,21nm,0.3s						
KRUC	**Moravsky**	**2.48**	**176**	*e*Pn	**Pn**	**17 35 38.8**	**-0.2**
KRUC				*e*Sg	**Sg**	**17 36 15.4**	**-1.5**
	comp=Z,8.9nm,0.2s						
TANN	**Tannenbergstha**	**2.58**	**246**	*e*Pn	**Pn**	**17 35 41.1**	**+0.6**
TANN				*e*Sg	**Sg**	**17 36 19.8**	**-0.6**
WERD	**Werda**	**2.66**	**247**	*e*Sg	**Sg**	**17 36 23.0**	**+0.2**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**17 35 46.7**	**-1.7**
OJC				*e*Sg	**Sg**	**17 36 22.7**	**-0.1**
OJC	**Ojcow**	**2.66**	**118**	*e*Pn	**Pn**	**17 35 41.5**	**0.0**
OJC				*e*Sg	**Sg**	**17 36 22.6**	**-0.2**
OJC	**Ojcow**	**2.66**	**118**	*e*Pg	**Pg**	**17 35 46.7**	**-1.7**
OJC				*e*Sg	**Sg**	**17 36 22.7**	**-0.1**
NKC	**Novy Kostel**	**2.68**	**242**	*e*Pg	**Pg**	**17 35 48.5**	**-0.2**
NKC				*e*Sg	**Sg**	**17 36 25.5**	**+2.1**
	comp=Z,130nm,1.0s						
NKC	**Novy Kostel**	**2.68**	**242**	*e*PN	**Pn**	**17 35 42.1**	**+0.3**
NKC				*e*PG	**Pg**	**17 35 48.5**	**-0.2**
NKC				*e*SG	**Sg**	**17 36 25.5**	**+2.1**
	comp=Z,130nm,1.0s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*Pg	**Pg**	**17 35 51.0**	**-2.2**
KHC				*e*Sg	**Sg**	**17 36 31.5**	**+0.6**
	comp=Z,16nm,0.4s						
KHC	**Kasperske Hory**	**2.91**	**215**	*e*PN	**Pn**	**17 35 45.0**	**0.0**
KHC				*e*PG	**Pg**	**17 35 51.0**	**-2.2**
KHC				*e*SG	**Sg**	**17 36 31.5**	**+0.6**
	comp=Z,16nm,0.4s						
MOX	**Moxa**	**2.99**	**255**	*e*Pn	**Pn**	**17 35 46.1**	**+0.1**
MOX				*e*Sg	**Sg**	**17 36 33.8**	**+0.3**
MOX	**Moxa**	**2.99**	**255**	*e*PN	**Pn**	**17 35 46.6**	**+0.5**
MOX				*e*PG	**Pg**	**17 35 53.7**	**-1.0**
MOX				*e*SG	**Sg**	**17 36 33.8**	**+0.3**
MANZ	**Manzenberg**	**2.99**	**241**	*e*Pn	**Pn**	**17 35 45.0**	**-1.1**
ROTZ	**Rotzenmuhle**	**3.07**	**236**	*e*Pn	**Pn**	**17 35 47.2**	**+0.1**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**17 35 48.7**	**+0.9**
GEC2	**GERESS Array S**	**3.11**	**211**	*e*Pn	**Pn**	**17 35 48.7**	**+1.0**
WET	**Wettzell**	**3.18**	**223**	*e*Pn	**Pn**	**17 35 48.9**	**+0.4**
WET	**Wettzell**	**3.18**	**223**	*e*Pn	**Pn**	**17 35 48.9**	**+0.3**
WET	**Wettzell**	**3.18**	**223**	Pn	**Pn**	**17 35 48.9**	**+0.3**
MODS	**Modra-Piesok**	**3.24**	**167**	*e*PG	**Pg**	**17 35 58.7**	**-0.8**
MODS				*e*SG	**Sg**	**17 36 44.2**	**+2.6**
KOLL	**Kolacno**	**3.29**	**153**	*e*PG	**Pg**	**17 36 00.9**	**+0.4**
KOLL				*e*SG	**Sg**	**17 36 43.6**	**+0.5**
NIE	**Niedzica**	**3.40**	**127**	*e*Pg	**Pg**	**17 36 01.5**	**-1.0**
NIE				*e*Sg	**Sg**	**17 36 46.4**	**-0.1**
VYHS	**Vyhne**	**3.50**	**149**	*e*PG	**Pg**	**17 36 04.7**	**+0.2**
VYHS				*e*SG	**Sg**	**17 36 51.8**	**+2.0**
CLZ	**Clausthal**	**3.61**	**277**	*e*Pn	**Pn**	**17 35 54.7**	**+0.2**
CLZ	**Clausthal**	**3.61**	**277**	*e*Pn	**Pn**	**17 35 54.7**	**+0.2**
CLZ	**Clausthal**	**3.61**	**277**	Pn	**Pn**	**17 35 54.7**	**+0.2**
CONA	**Conrad Observa**	**3.61**	**183**	⇑*i*Pn	**Pn**	**17 35 54.9**	**+0.3**
CONA				⇓*i*Sg	**Sg**	**17 36 51.3**	**-2.1**
	comp=Z,14nm,0.3s						
CSNA	**Conrad Observa**	**3.61**	**183**	⇑*i*Pn	**Pn**	**17 35 54.9**	**+0.3**
CSNA				⇓*i*Sg	**Sg**	**17 36 51.6**	**-1.7**
	comp=Z,9.4nm,0.3s						
GRA1	**Grafenberg Arr**	**3.64**	**242**	Sg	**Sg**	**17 36 54.1**	**-0.1**
GRF	**Grafenberg Arr**	**3.64**	**242**	*e*Sg	**Sg**	**17 36 54.1**	**-0.2**
GRFO	**Grafenberg**	**3.64**	**242**	*e*Pn	**Pn**	**17 35 55.3**	**+0.4**
GRFO				*e*Sg	**Sg**	**17 36 54.2**	**-0.1**
GRFO	**Grafenberg**	**3.64**	**242**	*e*Pn	**Pn**	**17 35 55.3**	**+0.4**
GRFO				*e*Sg	**Sg**	**17 36 54.2**	**0.0**
BSD	**Bornholm Skovb**	**3.67**	**349**	*i* P	**Pn**	**17 35 54.0**	**-1.3**
BSD				*i* S	**Sn**	**17 36 33.9**	**-5.3**
MOA	**Molln**	**3.88**	**199**	⇑*i*Pn	**Pn**	**17 35 58.7**	**+0.5**
MOA				⇑*i*Sg	**Sg**	**17 37 01.5**	**-0.6**
	comp=Z,9.8nm,0.4s						
STHS	**Stebnicka Huta**	**3.88**	**121**	*e*PG	**Pg**	**17 36 14.0**	**+2.2**
STHS				*e*SG	**Sg**	**17 37 04.0**	**+1.9**
ARSA	**Arzberg**	**4.30**	**186**	⇑*i*Pn	**Pn**	**17 36 04.7**	**+0.7**
ARSA				⇑*i*Sg	**Sg**	**17 37 14.4**	**-1.2**
	comp=Z,9.5nm,0.7s						
KBA	**Koelnbreinsper**	**4.82**	**203**	⇑*i*Pn	**Pn**	**17 36 12.0**	**+0.9**
KBA				⇓*i*Sg	**Sg**	**17 37 33.1**	**+1.0**
	comp=Z,9.6nm,0.5s						
BFO	**Black Forest**	**5.98**	**241**	*e*Sg	**Sg**	**17 38 02.9**	**-6.5**
	comp=Z,0.3nm,2.3s						

*ISCJB **23** 17:40:43.5±0.4, 2733N×003×8830E±003, h10km, mb3.6/7, Error ellipse: s-maj=5.3km s-min=3.6km az=37.9*
*IDC **23** 17:40:43.4±0.9, 2727N×8832E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.6/22, mbtmp3.6/8, Error ellipse: s-maj=35.4km s-min=18.3km az=56.0*
*NEIC **23** 17:40:44.7±0.5, 2720N×8825E, h10km, mb3.5/2, Error ellipse: s-maj=11.9km s-min=9.2km az=86.0*
*NDI **23** 17:40:45.2±2.8, 2730N×8832E, h10km, ML3.6, mb3.5(NEIC)*
*DMN **23** 17:40:48.0±0.3, 2740N×8839E, h60km, Ml4.5/7, Error ellipse: s-maj=25.8km s-min=6.2km az=9.0*

ISC 23 17:40:46.2±1.1, 2726N±004×8831E±004, h17km±7km, n31, σ1§15/48, mb3.6/7, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	**Shiliguri**	**0.57**	**171**	*i* P	**Pg**	**17 40 55.4**	**-2.0**
SLGI				*i* S	**Sg**	**17 41 05.7**	**+0.6**
JIRN	**Jiri**	**1.93**	**282**	*e*Pn	**Pn**	**17 41 19.9**	**+1.7**
JIRN				*e*Sn	**Sn**	**17 41 43.9**	**+1.9**
	688nm,0.3s						
SHBG	**Sahibganj**	**2.12**	**196**	*e*P	**Pn**	**17 41 21.5**	**+0.7**
SHBG				*ex*	**Sb**	**17 41 51.0**	**+0.8**
GUN	**Gumba**	**2.25**	**287**	*e*Pn	**Pn**	**17 41 24.2**	**+1.5**
GUN				*e*Sn	**Sn**	**17 41 50.8**	**+0.7**
	663nm,0.3s						
PKI	**Pulchoki**	**2.60**	**277**	*e*Pn	**Pn**	**17 41 29.1**	**+1.7**
PKI				*e*Sn	**Sn**	**17 41 59.3**	**+0.7**
	722nm,0.5s						
KKN	**Kakani**	**2.74**	**282**	*e*Pn	**Pn**	**17 41 30.5**	**+1.1**
KKN				*e*Sn	**Sn**	**17 42 02.4**	**+0.2**
	403nm,0.3s						
DMN	**Daman**	**2.87**	**278**	*e*Pn	**Pn**	**17 41 32.1**	**+0.9**
DMN				*e*Sn	**Sn**	**17 42 04.9**	**-0.4**
	1μm,0.6s						
GKN	**Gorkha**	**3.34**	**284**	*e*Pn	**Pn**	**17 41 38.6**	**+1.0**
GKN				*e*Sn	**Sn**	**17 42 15.2**	**-1.8**
SHL	**Shillong**	**3.62**	**117**	*e*P	**Pn**	**17 41 43.0**	**+1.5**
SHL				*ex*	**Sb**	**17 42 32.5**	**-0.9**
BOK	**Bokaro**	**4.09**	**213**	*e*P	**Pn**	**17 41 48.9**	**+1.0**
BOK				*e*S	**Sn**	**17 42 34.2**	**-1.3**
BOK				AML	AML	17 42 57.5	
	comp=N,96nm,0.1s						
BOK				AML	AML	17 42 58.6	
	comp=E,103nm,0.1s						
DANN	**Dangsing**	**4.17**	**286**	*e*Pn	**Pn**	**17 41 49.3**	**+0.2**
DANN				*e*Sn	**Sn**	**17 42 34.4**	**-3.1**
	comp=E,263nm,0.4s						
KOLN	**Koldanda**	**4.21**	**278**	*e*Pn	**Pn**	**17 41 49.8**	**+0.2**
KOLN				*e*Sn	**Sn**	**17 42 36.1**	**-2.4**
	comp=E,234nm,0.3s						
PTH	**Pithoragarh**	**7.49**	**290**	*e*P	**Pn**	**17 42 33.1**	**-1.5**
PTH				*e*S	**Sn**	**17 43 53.9**	**-5.2**
BLSP	**Bilaspur**	**7.60**	**229**	*e*P	**Pn**	**17 42 35.3**	**-0.8**
BLSP				*e*S	**Sn**	**17 43 56.7**	**-5.2**
BLSP				AML	AML	17 44 51.2	
	comp=N,42nm,0.6s						
BLSP				AML	AML	17 44 51.5	
	comp=E,34nm,0.2s						
NDI	**New Delhi**	**9.91**	**281**	*e*S	**Sn**	**17 44 52.0**	**-6.7**
SMLA	**Simla**	**10.47**	**294**	*e*P	**Pn**	**17 43 13.9**	**-1.6**
SMLA				*e*S	**Sn**	**17 45 03.6**	**-8.9**
SMLA				AML	AML	17 45 14.9	
	comp=E,27nm,0.4s						
SMLA				AML	AML	17 45 15.5	
	comp=N,16nm,0.4s						
BHPL	**Bhopal**	**10.64**	**250**	*e*P	**Pn**	**17 43 16.9**	**-0.9**
BHPL				*e*S	**Sn**	**17 45 07.4**	**-9.2**
BHPL				AML	AML	17 46 39.3	
	comp=N,21nm,0.5s						
BHPL				AML	AML	17 46 41.3	
	comp=E,12nm,0.6s						
HYB	**Hyderabad**	**13.32**	**225**	*e*P	**Pn**	**17 43 52.0**	**-2.5**
HYB	**Hyderabad**	**13.32**	**225**	*i* P	**Pn**	**17 43 52.0**	**-2.5**
KAD	**Karad**	**16.39**	**236**	*e*P	**Pn**	**17 44 35.2**	**-0.4**
KAD				*e*S	**Sn**	**17 47 40.2**	**+3.1**
KBL	**Kabul**	**18.04**	**298**	*e*P	**Pn**	**17 44 56.2**	**+0.1**
	comp=E,1.8nm,0.4s						
EKS2	**Erkin-Say**	**19.39**	**326**	*e*P	**Pn**	**17 45 11.6**	**-0.8**
	comp=E,2.3nm,0.7s						
MK31	**Makanchi Array**	**20.07**	**348**	*e*P	**P**	**17 45 18.2**	**-0.3**
MKAR	**Makanchi Array**	**20.07**	**348**	P	**P**	**17 45 18.5**	**0.0**
	comp=E,0.8nm,0.6s,baz=174,slow=11,SNR=11						
SONM	**Songino Array**	**24.93**	**30**	P	**P**	**17 46 08.5**	**+0.2**
	comp=E,1.1nm,0.7s,mb3.5,baz=215,slow=9.6,SNR=5.2						
ZALV	**Zalesovo Beam**	**26.78**	**355**	P	**P**	**17 46 24.9**	**-0.1**
	comp=E,0.4nm,0.3s,mb3.4,baz=172,slow=9.2,SNR=2.4						
FINES	**FINESS Array B**	**53.21**	**328**	P	**P**	**17 50 02.8**	**-0.5**
	comp=E,3.1nm,1.1s,mb4.2,baz=101,slow=7.0,SNR=3.9						
GERES	**GERESS Array B**	**60.12**	**313**	P	**P**	**17 50 52.1**	**-0.5**
	comp=E,0.2nm,0.5s,mb3.5,baz=82,slow=7.2,SNR=2.2						
WRA	**Warramunga Arr**	**64.72**	**132**	P	**P**	**17 51 23.6**	**-0.1**
	comp=E,0.6nm,0.5s,mb3.9,baz=324,slow=6.7,SNR=26						
ASAR	**Alice Springs**	**67.09**	**135**	P	**P**	**17 51 39.0**	**+0.1**
	comp=E,0.4nm,0.5s,mb3.7,baz=315,slow=6.4,SNR=11						
TORD	**Torodi Ar. Bea**	**81.13**	**280**	P	**P**	**17 53 02.1**	**+0.9**
	comp=E,0.3nm,0.9s,mb3.2,baz=66,slow=5.1,SNR=2.3						

*ATH **23** 17:46:04.7, 3802N×2279E, h14km±5km, MD3.0/4, ML2.8*
*ISCJB **23** 17:46:05.8±0.5, 3806N±003×2293E±004, h7km±5km, Error ellipse: s-maj=6.1km s-min=4.3km az=153.2*
*CSEM **23** 17:46:06.3±0.1, 3806N×2295E, h2km, ML2.7, Error ellipse: s-maj=3.0km s-min=2.5km az=63.0*
*THE **23** 17:46:06.3, 3805N×2294E, h5km, ML2.7*

**ISC 23 17:46:06.2±0.5, 3806N±003

mb1 4.1/21, mb1mx4.1/26, mbtmp3.9/21, ML3.6/1, Error ellipse: s-maj=19.9km s-min=13.7km az=134.0

SKHL ***23*** *18:04:23.6±7.4, 4641N×15349E, h43km±6km, mb5.0/6, Ms4.4/3, msh5.3/1*

NEIC ***23*** *18:04:24.5±0.4, 4668N×15299E, h10km, mb4.4/6, Error ellipse: s-maj=13.7km s-min=6.6km az=147.0*

ISCJB ***23*** *18:04:27.1±1.0, 4667N±006×153.12E±008, h44km±8km, mb4.3/35, Error ellipse: s-maj=12.3km s-min=6.1km az=144.1*

MOS ***23*** *18:04:28.0±1.4, 4655N×15302E, h55km, mb4.6/3, Error ellipse: s-maj=10.5km s-min=8.3km az=51.1*

ISC 23 18:04:30.0±0.9, 4675N±007×15308E±008, h51km±7km, n94, σ0§99/102, mb4.3/35, 1C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KUR	**Kuril'sk**	**3.94**	**249⇑**	*i*P	**Pn**	**18 05 26.4**	**-1.4**
KUR				AMB	AMB	18 05 27.0	
	213nm,0.5s						
KUR				*e*S	**Sn**	**18 06 13.5**	**+0.8**
KUR				A		18 06 45.0	
	9μm,1.0s						
KUR				A		18 06 45.0	
	10μm,1.0s						
KUR				A		18 06 45.5	
	11μm,1.0s						
KUR				A		18 06 45.5	
	4μm,1.0s						
KUR				AMS	AMS	18 07 10.0	
	5μm,13.0s						
KUR				AMS	AMS	18 07 10.0	
	8μm,13.0s						
KUR				AMS	AMS	18 07 10.0	
	6μm,13.0s						
SKR	**Severo-Kuril's**	**4.42**	**26**	*e*PN	**Pn**	**18 05 33.5**	**-0.9**
SKR				*e*S	**Sn**	**18 06 36.0**	**+12**
SKR				pmax	pmax		
	comp=N,60nm,0.5s						
SKR				pmax	pmax		
	comp=E,50nm,0.5s						
SKR				pmax	pmax		
	comp=Z,140nm,0.5s						
SKR				smax			
	comp=N,2μm,3.0s						
SKR				smax			
	comp=E,1μm,2.0s						
SKR				smax			
	comp=N,550nm,0.5s						
SKR				smax			
	comp=E,150nm,0.5s						
SKR				MLR	MLR		
	comp=Z,1μm,12.0s						
SKR				MLR	MLR		
	comp=E,1μm,10.0s						
SKR	**Severo-Kuril's**	**4.42**	**26**	*e*P	**Pn**	**18 05 33.5**	**-0.9**
SKR				AMB	AMB	18 05 35.5	
	comp=E,60nm,0.5s						
SKR				AMB	AMB	18 05 35.5	
	comp=E,50nm,0.5s						
SKR				AMB	AMB	18 05 35.5	
	comp=E,140nm,0.5s						
SKR				A		18 06 55.6	
	comp=E,2μm,3.0s						
SKR				A		18 06 55.6	
	comp=E,1μm,2.0s						
SKR				A		18 06 55.6	
	comp=E,1μm,2.0s						
SKR				A		18 07 01.5	
	comp=E,550nm,0.5s						
SKR				A		18 07 01.5	
	comp=E,150nm,0.5s						
SKR				AMS	AMS	18 08 10.0	
	comp=E,1μm,10.0s						
SKR				AMS	AMS	18 08 10.0	
	comp=E,1μm,12.0s						
YUK	**Yuzh-Kuril'sk**	**5.76**	**244**	*e*P	**Pn**	**18 05 52.0**	**-0.9**
YUK				AMB	AMB	18 05 56.3	
	comp=E,180nm,0.5s						
YUK				AMB	AMB	18 05 56.3	
	comp=E,290nm,0.5s						
YUK				AMB	AMB	18 05 56.3	
	comp=E,280nm,0.5s						
YUK				A		18 07 35.0	
	comp=E,8μm,1.0s						
YUK				A		18 07 35.0	
	comp=E,8μm,1.0s						
YUK				A		18 07 37.7	
	comp=E,4μm,0.5s						
YUK				A		18 07 37.7	
	comp=E,2μm,0.5s						
YSS	**Yuzh-Sakhalins**	**7.08**	**275**	*e*P	**Pn**	**18 06 10.9**	**0.0**
	comp=E,125nm,0.8s						
YSS	**Yuzh-Sakhalins**	**7.08**	**275⇓**	*e*P	**Pn**	**18 06 12.0**	**+1.1**
YSS				AMB	AMB	18 06 15.5	
	comp=E,50nm,0.9s						
PET	**Petropavlovsk**	**7.24**	**28**	*e*PN	**Pn**	**18 06 19.5**	**+6.5**
PET				*e*S	**Sn**	**18 07 45.1**	**+11**
PET				pmax	pmax		
	comp=Z,86nm,0.8s						
PET				smax			
	comp=N,129nm,0.7s						
PET				smax			
	comp=E,321nm,1.2s						
PET				MLR	MLR		
	comp=Z,600nm,16.0s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
JMP	**Maruseppu**	**7.37**	**252**	P	**Pn**	**18 06 14.4**	**-0.5**
UGL	**Uglegorsk**	**7.76**	**291**	PN	**Pn**	**18 06 22.0**	**+1.9**
UGL				*e*		18 07 59.5	
UGL				pmax	pmax		
	comp=Z,180nm,0.8s						
UGL				MLR	MLR		
	comp=N,1μm,15.0s						
UGL				MLR	MLR		
	comp=E,1μm,15.0s						
UGL				MLR	MLR		
	comp=Z,2μm,15.0s						
UGL	**Uglegorsk**	**7.76**	**291**	*e*P	**Pn**	**18 06 22.0**	**+1.9**
UGL				AMB	AMB	18 06 25.0	
	comp=Z,54nm,0.8s						
UGL				*e*L		18 08 50.0	
UGL				AMS	AMS	18 09 45.0	
	comp=Z,2μm,15.0s						
UGL				AMS	AMS	18 09 45.0	
	comp=Z,1μm,15.0s						
UGL				AMS	AMS	18 09 45.0	
	comp=Z,1μm,15.0s						
ASAJ	**Asahikawa**	**7.83**	**254**	PN	**Pn**	**18 06 21.9**	**+0.7**
ASAJ				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ASAJ	**Asahikawa**	**7.83**	**254**	P	**Pn**	**18 06 20.4**	**-0.8**
ASAJ	**Asahikawa**	**7.83**	**254**	Pn	**Pn**	**18 06 21.9**	**+0.7**
	comp=Z,2.7nm,0.3s,baz=86,slow=15,SNR=29						
TYV	**Tymovskoe**	**8.01**	**305**	*e*P	**Pn**	**18 06 28.0**	**+4.4**
TYV				AMB	AMB	18 06 53.4	
	comp=Z,16nm,0.6s						
TYV				AMB	AMB	18 06 53.4	
	comp=Z,27nm,0.6s						
TYV				AMB	AMB	18 06 53.4	
	comp=Z,39nm,1.0s						
TYV				*e*S	**Sn**	**18 08 06.8**	**+14**
TYV				A		18 08 16.4	
	comp=Z,29nm,0.8s						
TYV				A		18 08 16.4	
	comp=Z,19nm,0.8s						
JEM	**Erimo**	**8.54**	**240**	P	**Pn**	**18 06 30.7**	**-0.2**
ERM	**Erimo**	**8.54**	**240**	*e*PN	**Pn**	**18 06 29.0**	**-1.9**
ERM				pmax	pmax		
	comp=Z,168nm,0.6s						
ERM	**Erimo**	**8.54**	**240**	*e*P	**Pn**	**18 06 29.0**	**-1.8**
	comp=Z,168nm,0.6s						
JOT	**Ohata**	**10.18**	**243**	P	**Pn**	**18 06 49.1**	**-4.3**
JOT				S	**Sn**	**18 08 50.7**	**+4.7**
JTM	**Tenmabayashi**	**10.53**	**240**	P	**Pn**	**18 06 52.5**	**-5.6**
JTM				S	**Sn**	**18 09 03.6**	**+9.1**
JOM	**Ohasama**	**11.27**	**234**	P	**Pn**	**18 06 59.9**	**-8.3**
JOM				S	**Sn**	**18 09 14.4**	**+1.8**
HABR	**Khabarovsk**	**12.29**	**285**	*e*PN	**Pn**	**18 07 22.3**	**+0.2**
JYA	**Atsumi**	**12.76**	**235**	P	**Pn**	**18 07 22.5**	**-6.1**
JYA				S	**Sn**	**18 09 58.0**	**+8.9**
KLR	**Kul'dur**	**14.49**	**288**	*e*P	**Pn**	**18 07 52.0**	**+0.1**
KLR				MLR	MLR		
	comp=N,500nm,15.5s						
KLR				MLR	MLR		
	comp=E,900nm,15.5s						
KLR				MLR	MLR		
	comp=Z,1μm,15.5s						
MAJO	**Matsushiro**	**15.06**	**233**	*e*P	**Pn**	**18 07 54.0**	**-5.5**
MAJO				pmax	pmax		
	comp=Z,73nm,0.6s						
MAJO	**Matsushiro**	**15.06**	**233**	*e*P	**Pn**	**18 07 54.0**	**-5.4**
	comp=Z,73nm,0.6s						
MAT	**Matsushiro**	**15.06**	**233**	P	**Pn**	**18 07 54.2**	**-5.3**
MAT	**Matsushiro**	**15.06**	**233**	P	**Pn**	**18 07 53.2**	**-6.3**
MJAR	**Matsushiro Arr**	**15.06**	**233**	Pn	**Pn**	**18 07 54.9**	**-4.6**
	comp=Z,0.3nm,0.3s,baz=28,slow=14,SNR=12						
MDJ	**Mudanjiang**	**16.54**	**271**	P	**Pn**	**18 08 14.4**	**-3.9**
JWT	**Wachi**	**17.54**	**236**	P	**Pn**	**18 08 26.2**	**-4.5**
KSRS	**Korea Array**	**20.77**	**252**	P	**P**	**18 09 06.3**	**-0.3**
	comp=Z,5.9nm,0.9s,baz=58,slow=10,SNR=21						
JNU	**Nakatsue**	**21.70**	**239**	P	**P**	**18 09 15.8**	**-0.8**
JNU	**Nakatsue**	**21.70**	**239**	P	**P**	**18 09 15.8**	**-0.7**
	comp=Z,14nm,0.9s,mb4.4,baz=33,slow=16,SNR=7.3						
SONM	**Songino Array**	**31.31**	**289**	P	**P**	**18 10 45.8**	**+0.7**
	comp=Z,0.5nm,0.7s,mb3.5,baz=92,slow=7.4,SNR=2.4						
IMA2	**Indian Mountai**	**33.82**	**36**	*e*P	**P**	**18 11 07.5**	**+0.7**
XAN	**Xi'an**	**35.49**	**265**	P	**P**	**18 11 20.8**	**-0.8**
XAN				AMB	AMB		
	comp=Z,6.0nm,1.0s,mb4.5						
SML	**Sawmill**	**35.98**	**44**	*e*P	**P**	**18 11 28.5**	**+3.0**
COLA	**College**	**36.15**	**38**	*e*P	**P**	**18 11 25.4**	**-1.5**
LZH	**Lanzhou**	**37.86**	**272**	*e*P	**P**	**18 11 42.5**	**+0.7**
LZH				AP	pP	18 11 53.0	-2.0
LZH				XP	sP	18 11 58.0	-3.0
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.6						
EGAK	**Eagle**	**39.01**	**38**	*e*P	**P**	**18 11 51.6**	**+0.5**
	comp=Z,2.6nm,0.9s,mb4.0						
CD2	**Chengdu**	**40.85**	**265**	*e*P	**P**	**18 12 07.0**	**+0.3**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.7						
INK	**Inuvik**	**41.66**	**32**	P	**P**	**18 12 14.5**	**+1.6**
INK				pmax	pmax		
	comp=Z,4.0nm,0.9s						
INK	**Inuvik**	**41.66**	**32**	*e*P	**P**	**18 12 14.3**	**+1.4**
INK	**Inuvik**	**41.66**	**32**	P	**P**	**18 12 14.4**	**+1.6**
	comp=Z,4.3nm,0.9s,mb4.1,baz=277,slow=7.0,SNR=16						
GYA	**Guiyang**	**41.69**	**257**	P	**P**	**18 12 13.6**	**0.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.5						
ZALV	**Zalesovo Beam**	**42.59**	**306**	P	**P**	**18 12 20.9**	**+0.3**
	comp=Z,0.4nm,0.4s,mb3.5,baz=52,slow=8.2,SNR=2.1						
ZAL	**Zalesovo**	**42.60**	**306**	P	**P**	**18 12 20.9**	**+0.2**
KMI	**Kunming**	**45.22**	**259**	P	**P**	**18 12 42.3**	**+0.2**
KMI				AMB	AMB		
	comp=Z,6.0nm,2.0s						
KMI				LR	LR		
	comp=N,157nm,18.1s						
KMI				LR	LR		
	comp=E,174nm,19.1s						
KMI				LR	LR		
	comp=Z,160nm,19.3s						
MK31	**Makanchi Array**	**46.92**	**297**	*e*P	**P**	**18 12 53.9**	**-1.3**
MKAR	**Makanchi Array**	**46.92**	**297**	P	**P**	**18 12 54.2**	**-1.0**
	comp=Z,0.3nm,0.5s,mb3.5,baz=72,slow=8.7,SNR=6.5						
KURK	**Kurchatov**	**47.34**	**304**	P	**P**	**18 12 58.1**	**-0.3**
BVAR	**Borovoye Array**	**50.84**	**309**	P	**P**	**18 13 25.4**	**+0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=70,slow=6.3,SNR=2.4						
YKA	**Yellowknife Ar**	**50.94**	**37**	P	**P**	**18 13 26.9**	**+1.2**
	comp=Z,1.8nm,0.8s,mb4.1,baz=298,slow=7.3,SNR=20						
CHTO	**Chiang Mai**	**52.09**	**257**	*e*P	**P**	**18 13 35.3**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
CHTO	**Chiang Mai**	**52.09**	**257**	*e*P	**P**	**18 13 35.3**	**+0.3**
	comp=Z,2.8nm,0.9s,mb4.2						
JIRN	**Jiri**	**54.92**	**275**	*e*P	**P**	**18 13 56.5**	**+0.9**
GUN	**Gumba**	**54.98**	**275**	*e*P	**P**	**18 13 56.7**	**+0.8**
ARU	**Arti**	**54.99**	**317**	*e*P	**P**	**18 13 58.9**	**+3.3**
KKN	**Kakani**	**55.46**	**275**	*e*P	**P**	**18 14 00.3**	**+0.8**
	comp=Z,8.0nm,0.6s,mb4.9						
PKI	**Pulchoki**	**55.51**	**275**	*e*P	**P**	**18 14 00.0**	**+0.2**
DMN	**Daman**	**55.70**	**275**	*e*P	**P**	**18 14 01.3**	**+0.2**
	comp=Z,28nm,1.0s,mb5.2						
GKN	**Gorkha**	**55.77**	**276**	*e*P	**P**	**18 14 02.1**	**+0.5**
DANN	**Dangsing**	**56.15**	**277**	*e*P	**P**	**18 14 05.2**	**+0.8**
	comp=Z,10nm,0.5s,mb5.1						
KOLN	**Koldanda**	**56.62**	**276**	*e*P	**P**	**18 14 08.4**	**+0.7**
	comp=Z,8.4nm,0.7s,mb4.9						
ARCES	**ARCESS Array B**	**57.84**	**341**	P	**P**	**18 14 17.1**	**+1.3**
	comp=Z,3.4nm,0.9s,mb4.4,baz=31,slow=11,SNR=2.1						
BMO	**Blue Mountains**	**59.09**	**56**	*e*P	**P**	**18 14 23.2**	**-1.6**
	comp=Z,5.9nm,1.2s,mb4.5						
MOD	**Modoc**	**59.11**	**60**	*e*P	**P**	**18 14 26.1**	**+1.1**
	comp=Z,6.6nm,1.1s,mb4.6						
MSO	**Missoula**	**59.78**	**53**	*e*P	**P**	**18 14 30.1**	**+0.6**
NVAR	**Mina Array Bea**	**62.45**	**62**	P	**P**	**18 14 49.2**	**+1.5**
	comp=Z,0.8nm,0.7s,mb4.0,baz=287,slow=6.6,SNR=6.2						
TPAW	**Teton Pass**	**63.52**	**54**	*e*P	**P**	**18 14 57.2**	**+2.5**
	comp=Z,16nm,1.4s,mb4.8						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**18 14 57.7**	**-0.1**
	comp=Z,1.1nm,0.9s,mb3.9,baz=72,slow=6.2,SNR=5.9						
PSI	**Prapat**	**64.06**	**244**	P	**P**	**18 14 58.7**	**+0.1**
	comp=Z,1.6nm,0.3s,mb4.5,baz=330,slow=12,SNR=4.1						
ULM	**Lac du Bonnet**	**66.54**	**41**	P	**P**	**18 15 13.3**	**-0.9**
ULM	**Lac du Bonnet**	**66.54**	**41**	P	**P**	**18 15 13.3**	**-0.9**
	comp=Z,1.6nm,0.7s,mb4.2,baz=333,slow=2.9,SNR=3.5						
RSSD	**Black Hills**	**66.84**	**50**	P	**P**	**18 15 16.6**	**+0.4**
NB2	**NORSAR Subarra**	**68.22**	**341**	P	**P**	**18 15 24.5**	**-0.1**
	comp=Z,1.5nm,0.8s,mb4.1,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**68.22**	**341**	P	**P**	**18 15 25.1**	**+0.5**
	comp=Z,0.7nm,0.6s,mb3.9,baz=27,slow=6.5,SNR=4.1						
WRA	**Warramunga Arr**	**68.51**	**199**	P	**P**	**18 15 26.0**	**-0.9**
	comp=Z,1.5nm,0.9s,mb3.9,baz=16,slow=6.3,SNR=7.0						
FITZ	**Fitzroy Crossi**	**69.13**	**208**	P	**P**	**18 15 31.0**	**+0.2**
	comp=Z,4.2nm,1.1s,mb4.3,baz=165,slow=16,SNR=3.7						
ECSD	**EROS,Sioux Fal**	**70.90**	**46**	*e*P	**P**	**18 15 41.3**	**-0.2**
	comp=Z,1.6nm,0.7s,mb4.1						
AKASG	**Malin Array Be**	**71.53**	**326**	P	**P**	**18 15 44.5**	**-0.7**
	comp=Z,0.4nm,0.4s,mb3.7,baz=38,slow=5.8,SNR=2.2						
ASAR	**Alice Springs**	**72.20**	**198**	P	**P**	**18 15 49.6**	**+0.3**
	comp=Z,1.3nm,0.8s,mb3.9,baz=12,slow=5.4,SNR=19						
TXAR	**Lajitas Array**	**77.51**	**61**	P	**P**	**18 16 20.9**	**+0.7**
	comp=Z,1.0nm,0.8s,mb3.8,baz=300,slow=3.9,SNR=11						
GERES	**GERESS Array B**	**78.44**	**334**	P	**P**	**18 16 25.0**	**-0.1**
	comp=Z,0.1nm,0.4s,baz=14,slow=4.4,SNR=2.6						
BAIF	**Baives**	**79.88**	**340**	*e*P	**P**	**18 16 31.8**	**-1.0**
LDF	**La Druitiere**	**82.21**	**342**	*e*P	**P**	**18 16 43.8**	**-1.5**
LOR	**Lormes**	**82.57**	**339**	*e*P	**P**	**18 16 46.0**	**-1.2**
SGMF	**Saint Gilles**	**83.02**	**344**	*e*P	**P**	**18 16 47.8**	**-1.7**
	comp=Z,17nm,0.9s,mb4.8						
AVF	**Avril sur Loir**	**83.14**	**340**	*e*P	**P**	**18 16 48.9**	**-1.2**
	comp=Z,10nm,1.0s,mb4.5						
LPL	**La Plagne**	**83.46**	**337**	*e*P	**P**	**18 16 50.9**	**-0.9**
LPG	**La Plagne**	**83.47**	**337**	*e*P	**P**	**18 16 50.9**	**-1.0**
TCF	**Toulx Ste Croi**	**83.88**	**340**	*e*P	**P**	**18 16 52.7**	**-1.2**
	comp=Z,2.7nm,0.7s,mb4.2						
MBDF	**Montbardon**	**84.18**	**337**	*e*P	**P**	**18 16 54.5**	**-1.0**
CAF	**Calviac**	**85.19**	**340**	*e*P	**P**	**18 16 59.4**	**-1.2**

IDC ***23*** *18:04:38.5±0.5, 4680N×15286E, h0km, mb4.4/21, mb1 4.6/23, mb1mx4.6/28, mbtmp4.5/23, ML4.3/2, MS3.9/1, Ms1 3.9/1, ms1mx3.0/15, Error ellipse: s-maj=16.4km s-min=12.0km az=135.0*

BJI ***23*** *18:04:39.2, 4661N×15328E, h35km, mB4.4, mb4.6, Ms4.3, Msz4.1*

NEIC ***23*** *18:04:41.4±3.9, 4677N×15288E, h18km±24km, mb4.7/17, Error ellipse: s-maj=10.1km s-min=5.8km az=143.0*

MOS ***23*** *18:04:42.9±1.2, 4672N×15280E, h41km, mb4.8/12, Error ellipse: s-maj=13.1km s-min=8.4km az=90.7*

ISCJB ***23*** *18:04:43.2±1.1, 4666N±005×15292E±006, h48km±10km, mb4.5/41, MS4.0/6, Error ellipse: s-maj=8.7km s-min=6.3km az=139.3*

SZGRF ***23*** *18:04:56.5, 4656N×15284E, h33km, mb4.6, Kuril Islands, Russia*

ISC 23 18:04:45.4±0.9, 4674N±005×15285E±007, h48km±9km, n108, σ1§11/103, mb4.5/41, MS4.0/6, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
YSS	**Yuzh-Sakhalins**	**6.92**	**275**	*e*PN	**Pn**	**18 06 28.0**	**+3.8**
YSS				*e*S	**Sn**	**18 07 45.5**	**+3.9**
YSS				pmax	pmax		
	comp=E,220nm,1.0s						
YSS				pmax	pmax		
	comp=Z,190nm,1.0s						
YSS				MLR	MLR		
	comp=Z,2μm,18.0s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,2μm,18.0s						
YSS	**Yuzh-Sakhalins**	**6.92**	**275**	*e*P	**Pn**	**18 06 25.4**	**+1.2**
PET	**Petropavlovsk**	**7.33**	**29⇑**	*e*PN	**Pn**	**18 06 36.6**	**+7.0**
ASAJ	**Asahikawa**	**7.67**	**254**	PN	**Pn**	**18 06 35.6**	**+1.2**
ASAJ				pmax	pmax		
	comp=Z,12nm,0.3s						
ASAJ	**Asahikawa**	**7.67**	**254**	Pn	**Pn**	**18 06 35.6**	**+1.2**
	comp=Z,12nm,0.3s,baz=91,slow=18,SNR=30						
JWK2	**Keihoku**	**7.75**	**263**	P	**Pn**	**18 06 41.5**	**+6.0**
JEW	**Eniwo**	**8.99**	**248**	P	**Pn**	**18 06 52.7**	**+0.2**
JEW				S	Sn	18 08 59.2	+27
JSH	**Shimam**	**9.99**	**250**	P	**Pn**	**18 07 04.7**	**-1.5**
JSH				S	**Sn**	**18 09 12.0**	**+15**
MA2	**Magadan**	**12.92**	**355**	*e*PN	**Pn**	**18 07 43.7**	**-2.4**
MA2				pmax	pmax		
	comp=Z,18nm,0.6s						
MA2	**Magadan**	**12.92**	**355**	*d i*PN	**Pn**	**18 07 47.9**	**+1.8**
MA2				*e*S	**Sn**	**18 10 13.9**	**+5.7**
MA2				pmax	pmax		
	comp=Z,30nm,0.7s						
MA2				MLR	MLR		
	comp=Z,900nm,13.7s						
MA2	**Magadan**	**12.92**	**355**	*e*P	**Pn**	**18 07 43.7**	**-2.4**
	comp=Z,18nm,0.6s						
JYT	**Yasato**	**14.13**	**227**	P	**Pn**	**18 08 01.5**	**-1.2**
JYT				S	**Sn**	**18 10 28.5**	**-9.4**
MJAR	**Matsushiro Arr**	**14.93**	**232**	Pn	**Pn**	**18 08 10.6**	**-2.6**
	comp=Z,1.0nm,0.3s,baz=28,slow=13,SNR=15						
SEY	**Seymchan**	**16.23**	**359⇑**	*e*P	**Pn**	**18 08 31.9**	**+2.1**
MDJ	**Mudanjiang**	**16.38**	**271**	P	**Pn**	**18 08 33.4**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,19nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,94nm,4.7s						
MDJ	**Mudanjiang**	**16.38**	**271**	*e*P	**Pn**	**18 08 32.4**	**+0.6**
JHJ2	**Mitsune**	**16.85**	**221**	P	**Pn**	**18 08 37.9**	**+0.1**
JHJ	**Hachijo jima 2**	**16.86**	**221**	Pn	**Pn**	**18 08 38.0**	**+0.1**
	comp=Z,5.0nm,0.3s,baz=76,slow=18,SNR=4.9						
JAD	**Aida**	**18.35**	**237**	P	**Pn**	**18 08 57.7**	**+1.5**
JWZ	**Kozaga**	**18.54**	**231**	P	**Pn**	**18 08 56.6**	**-1.9**
JHS	**Saijyo**	**18.92**	**239**	P	**Pn**	**18 08 58.5**	**-4.5**
JMN	**Monobe**	**19.39**	**235**	P	**Pn**	**18 09 07.8**	**-0.9**
YAK	**Yakutsk**	**20.23**	**328**	*e*P	**P**	**18 09 12.9**	**-3.2**
YAK				*e*		18 09 30.0	
YAK				*e*S	**S**	**18 12 59.2**	**-1.0**
YAK				*e*		18 13 22.0	
YAK				*e*SSS		18 13 41.3	
YAK				*e*		18 20 40.2	
YAK				pmax	pmax		
	comp=Z,11nm,0.6s						
YAK				pmax	pmax		
	comp=N,10.0nm,1.7s						
YAK				pmax	pmax		
	comp=E,13nm,1.7s						
YAK				pmax	pmax		
	comp=Z,321nm,5.4s						
YAK				pmax	pmax		
	comp=N,53nm,1.7s						
YAK				pmax	pmax		
	comp=E,48nm,2.1s						
YAK				smax			
	comp=E,51nm,2.0s						
YAK				smax			
	comp=N,102nm,3.5s						
YAK				MLR	MLR		
	comp=N,246nm,15.0s,MS3.8						
YAK				MLR	MLR		
	comp=Z,163nm,15.0s,MS3.5						
YAK				MLR	MLR		
	comp=E,128nm,12.0s,MS3.8						
YAK	**Yakutsk**	**20.23**	**328**	*e*P	**P**	**18 09 15.0**	**-1.2**
	comp=E,24nm,0.6s						
KSRS	**Korea Array**	**20.62**	**252**	P	**P**	**18 09 21.1**	**+0.6**
	comp=E,17nm,0.9s,baz=57,slow=9.3,SNR=18						
INCN	**Inchon**	**21.45**	**254**	*e*P	**P**	**18 09 27.9**	**-1.5**
	comp=E,27nm,0.9s,mb4.6						
JTU	**Tsushima**	**21.48**	**244**	P	**P**	**18 09 28.9**	**-0.9**
JNU	**Nakatsue**	**21.56**	**239**	P	**P**	**18 09 30.2**	**-0.4**
	comp=E,52nm,0.9s,mb5.0,baz=60,slow=16,SNR=12						
BILL	**Bilibino**	**22.45**	**13**	*e*P	**P**	**18 09 37.8**	**-2.0**
BILL				*e*		18 10 03.1	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
BILL				MLR	MLR		
	comp=Z,500nm,18.0s,MS4.0						
BILL	**Bilibino**	**22.45**	**13**	*e*P	**P**	**18 09 36.8**	**-3.0**
	comp=Z,5.4nm,0.7s,mb4.1						
BOD	**Bodaibo**	**25.86**	**310**	*e*P	**P**	**18 10 10.4**	**-1.7**
BOD				pmax	pmax		
	comp=Z,4.0nm,1.4s,mb3.8						
GAMB	**Gambell**	**25.94**	**36**	*e*P	**P**	**18 10 09.7**	**-3.1**
	comp=Z,42nm,1.6s,mb4.7						
BJI	**Beijing**	**27.29**	**269**	P	**P**	**18 10 25.3**	**+0.1**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.2						
BJI				LR	LR		
	comp=N,295nm,17.0s,MS4.2						
BJI				LR	LR		
	comp=E,455nm,16.5s,MS4.2						
BJI				LR	LR		
	comp=Z,469nm,21.0s,MS4.0						
BJT	**Baijiatuau**	**27.31**	**269**	*e*P	**P**	**18 10 25.5**	**+0.2**
BJT				pmax	pmax		
	comp=Z,8.0nm,0.7s						
BJT	**Baijiatuau**	**27.31**	**269**	*e*P	**P**	**18 10 25.5**	**+0.2**
	comp=Z,7.6nm,0.7s,mb4.3						
SONM	**Songino Array**	**31.16**	**289**	P	**P**	**18 11 00.8**	**+1.3**
	comp=Z,1.9nm,0.7s,mb4.0,baz=72,slow=7.7,SNR=2.9						
TTA	**Tatalina**	**32.55**	**41**	*e*P	**P**	**18 11 07.5**	**-4.0**
TTA				pmax	pmax		
	comp=Z,17nm,1.1s,mb4.9						
TTA	**Tatalina**	**32.55**	**41**	P	**P**	**18 11 07.5**	**-4.0**
	comp=Z,17nm,1.1s,mb4.9						
IMA2	**Indian Mountai**	**33.92**	**36**	*e*P	**P**	**18 11 23.8**	**+0.4**
KDAK	**Kodiak Island**	**34.25**	**51**	P	**P**	**18 11 25.2**	**-1.1**
	comp=Z,25nm,1.0s,mb5.1,baz=315,slow=1.4,SNR=3.8						
XAN	**Xi'an**	**35.33**	**265**	P	**P**	**18 11 36.8**	**+0.9**
XAN				AP	pP	18 11 46.6	-1.9
XAN				XP	sP	18 11 50.3	-3.9
XAN				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.0						
XAN				LR	LR		
	comp=N,186nm,17.1s,MS4.0						
XAN				LR	LR		

ARU pmax pmax
comp=Z,1.0nm,0.5s,mb4.1
ARU MLR MLR
comp=Z,158nm,18.0s,MS4.1
HNR Honiara 56.27 172 LR LR 18 35 45.4
comp=Z,94nm,18.2s,MS3.9,baz=181,slow=33
HAWA Hanford 57.07 55 *e*P **P 18 14 27.0 +0.6**
comp=Z,9.7nm,0.6s,mb5.0
ARCES ARCESS Array B 57.80 341 P **P 18 14 30.0 -1.2**
comp=Z,2.1nm,0.8s,mb4.2,baz=24,slow=6.6,SNR=4.1
BMO Blue Mountains 59.23 56 *e*P **P 18 14 41.7 +0.2**
BMO pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
BMO Blue Mountains 59.23 56 *e*P **P 18 14 41.7 +0.2**
comp=Z,5.7nm,0.9s,mb4.6
MSO Missoula 59.92 52 *e*P **P 18 14 46.9 +0.7**
comp=Z,9.0nm,1.2s,mb4.7
WVOR Wild Horse Val 59.92 59 *e*P **P 18 14 47.3 +1.0**
WVOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
WVOR Wild Horse Val 59.92 59 *e*P **P 18 14 47.3 +1.0**
comp=Z,6.7nm,0.9s,mb4.7
FFC Flin Flon 60.87 40 *e*P **P 18 14 51.8 -0.7**
FFC pmax pmax
comp=Z,18nm,1.0s,mb5.2
FFC Flin Flon 60.87 40 *e*P **P 18 14 51.8 -0.7**
comp=Z,18nm,1.0s,mb5.2
KULM Kulim 60.90 244 *e*P **P 18 14 54.8 +1.5**
NVAR Mina Array Bea 62.60 62 P **P 18 15 05.1 +0.7**
comp=Z,3.0nm,0.7s,mb4.5,baz=286,slow=6.5,SNR=13
TPAW Teton Pass 63.66 54 *e*P **P 18 15 13.2 +1.8**
PSI Prapat 63.91 244 P **P 18 15 14.8 +1.4**
comp=Z,9.7nm,0.8s,mb4.9,baz=11,slow=2.5,SNR=4.5
FINES FINESS Array B 63.97 335 P **P 18 15 13.0 -0.1**
comp=Z,2.4nm,0.5s,mb4.5,baz=37,slow=8.0,SNR=6.3
TPNV Topopah Spring 64.80 62 *e*P **P 18 15 19.6 +0.6**
TPNV pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
TPNV Topopah Spring 64.80 62 *e*P **P 18 15 19.6 +0.6**
comp=Z,3.5nm,0.8s,mb4.4
ULM Lac du Bonnet 66.65 41 P **P 18 15 30.5 -0.2**
comp=Z,5.1nm,0.7s,mb4.7,baz=306,slow=6.6,SNR=7.5
RSSD Black Hills 66.97 50 *e*P **P 18 15 32.8 0.0**
RSSD pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
RSSD Black Hills 66.97 50 *e*P **P 18 15 32.8 0.0**
comp=Z,4.1nm,1.1s,mb4.4
AGMN Agassiz Refuge 68.06 42 *e*P **P 18 15 37.8 -1.8**
comp=Z,2.8nm,0.3s,mb4.8
NB2 NORSAR Subarra 68.18 341 P **P 18 15 40.1 0.0**
comp=Z,5.4nm,0.6s,mb4.8,baz=29,slow=6.5
NOA NORSAR Array B 68.18 341 P **P 18 15 40.4 +0.2**
comp=Z,4.2nm,0.6s,mb4.6,baz=27,slow=6.3,SNR=10
WRAB Tennant Creek 68.43 199‖ *e*P **P 18 15 38.7 -3.4**
WRA Warramunga Arr 68.44 199 P **P 18 15 41.9 -0.3**
comp=Z,3.5nm,0.9s,mb4.4,baz=15,slow=6.6,SNR=11
FITZ Fitzroy Crossi 69.05 208 P **P 18 15 46.7 +0.7**
comp=Z,5.7nm,0.8s,mb4.6,baz=338,slow=5.6,SNR=7.4
ECSD EROS,Sioux Fal 71.03 46 *e*P **P 18 15 56.9 -1.1**
comp=Z,12nm,1.3s,mb4.7
AKASG Malin Array Be 71.45 326 *i*P **P 18 16 00.0 -0.4**
AKASG pmax pmax
comp=Z,4.0nm,0.5s
AKASG Malin Array Be 71.45 326 P **P 18 15 58.8 -1.6**
comp=Z,4.3nm,0.5s,mb4.7,baz=33,slow=6.2,SNR=18
ASAR Alice Springs 72.14 198 P **P 18 16 05.5 +0.9**
comp=Z,3.7nm,0.7s,mb4.4,baz=10,slow=5.7,SNR=16
STHS Stebnicka Huta 75.44 330 *e*P **P 18 16 24.2 +0.4**
STHS *e* pP 18 16 38.7 +1.0
STHS pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
STHS Stebnicka Huta 75.44 330 *e*P **P 18 16 24.2 +0.4**
comp=Z,3.4nm,0.8s,mb4.3
STHS *e* pP 18 16 38.7 +1.0
KOLS Kolonicke sedl 75.48 329 *e*P **P 18 16 24.0 -0.1**
OKC Ostrava-Krasne 76.12 332 *e*PCP PcP 18 16 40.8 +1.1
DPC Dobruska-Polom 76.25 333 *e*P **P 18 16 29.5 +1.0**
DPC *e*PCP PcP 18 16 38.5 -1.8
CLL Collm 76.40 335 *i*P **P 18 16 29.5 +0.2**
CLL pmax pmax
comp=Z,15nm,1.7s,mb4.7
CLL Collm 76.40 335 *i*P **P 18 16 29.5 +0.2**
comp=Z,15nm,1.7s,mb4.7
VYHS Vyhne 77.05 331 *e*P **P 18 16 33.7 +0.7**
PRU Pruhonice 77.12 334 *e*PCP PcP 18 16 45.3 +1.2
PRU *e*x x 18 16 53.6
TXAR Lajitas Array 77.66 60 P **P 18 16 36.7 -0.1**
comp=Z,3.1nm,0.6s,mb4.4,baz=299,slow=3.9,SNR=19
MODS Modra-Piesok 77.67 331 *e*P **P 18 16 37.9 +1.4**
KHC Kasperske Hory 78.17 334 *e*P **P 18 16 40.1 +0.8**
KHC *e*PCP PcP 18 16 50.6 +2.0
GERES GERESS Array B 78.39 334 P **P 18 16 41.2 +0.7**
GERES pmax pmax
comp=Z,1.0nm,0.7s
GERES GERESS Array B 78.39 334 P **P 18 16 41.2 +0.7**
comp=Z,0.7nm,0.7s,mb3.7,baz=17,slow=4.9,SNR=4.3
QSPA South Pole Qui 136.47 180 PKP PKPdf 18 24 01.0 +0.8
comp=Z,2.6nm,0.8s,baz=317,slow=2.6,SNR=14
BDFB Brasilia 144.46 36 PKP PKPdf 18 24 15.5 -1.0
comp=Z,1.2nm,0.5s,baz=85,slow=19,SNR=3.4
CFAA Coronel Fontan 145.18 79 PKPbc PKPbc 18 24 16.7 -0.3
CFAA Coronel Fontan 145.18 79 PKPbc PKPbc 18 24 16.7 -0.3
comp=Z,1.0nm,0.7s,baz=292,slow=2.9,SNR=12
PLCA Paso Flores 148.39 95 PKPbc PKPbc 18 24 24.1 -1.9
comp=Z,3.8nm,0.7s,baz=266,slow=3.0,SNR=8.5
CPUP Villa Florida 148.63 60 PKPbc PKPbc 18 24 26.7 -0.3
comp=Z,0.9nm,0.5s,baz=314,slow=1.8,SNR=3.8
SNAA Sanae 152.49 196 PKPbc PKPbc 18 24 34.6 -0.2
comp=Z,1.5nm,0.6s,baz=181,slow=4.6,SNR=24
SNAA PKPab PKPab 18 24 46.0 +0.6
comp=Z,1.6nm,1.1s,baz=171,slow=1.6,SNR=4.3
VNA2 Neumayer--Watz 153.94 195 *e*PKPdf PKPdf 18 24 27.2 -2.7
baz=121,slow=1.6
VNA2 *e* 18 24 38.1
VNA2 *e* 18 24 40.8
VNA2 *e* 18 24 54.4

*MOS **23** 18:13:15.3±0.8, 4680N×15288E, h50km, mb4.0/7, Error ellipse: s-maj=25.2km s-min=12.4km az=55.2*
*ISCJB **23** 18:13:17.8±1.1, 465N±0.1×1528E±0.1, h83km±11km, mb3.5/10, Error ellipse: s-maj=23.1km s-min=7.1km az=144.8*
*IDC **23** 18:13:18.9±4.2, 4675N×15284E, h67km±39km, mb3.3/11, mb1 3.6/13, mb1mx3.5/23, mbtmp3.4/13, ML3.4/2, Error ellipse: s-maj=24.5km s-min=17.0km az=125.0*

ISC 23 18:13:19.3±0.9, 465N±01×1529E±01, h77km±10km, n44, σ1§33/59, mb3.5/10, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.70**	**252**	*e*PN		**Pn**	**Pn**	**18 14 13.0**	**-1.0**
KUR				*e*S			**Sn**	**18 14 59.0**	**+2.5**
KUR				pmax		pmax			
	comp=Z,210nm,0.7s								
KUR				smax					
	comp=N,320nm,0.5s								
KUR				smax					
	comp=E,390nm,0.5s								
SKR	**Severo-Kuril's**	**4.74**	**26**	*e*PN		**Pn**	**Pn**	**18 14 21.0**	**-7.1**
SKR				*e*S			**Sn**	**18 15 09.9**	**-12**
SKR				pmax		pmax			
	comp=N,80nm,0.5s								
SKR				pmax		pmax			
	comp=Z,110nm,0.5s								
SKR				smax					
	comp=N,140nm,0.5s								
SKR				smax					
	comp=E,80nm,0.5s								
NEM2	**Nemuro 2**	**5.93**	**241**	P		**Pn**	**Pn**	**18 14 43.2**	**-1.2**
NEM2				*e*S			**Sn**	**18 15 49.6**	**-1.3**
JRA	**Rausu**	**6.02**	**248**	P		**Pn**	**Pn**	**18 14 47.8**	**+2.1**
JAK	**Akkeshi**	**6.77**	**242**	P		**Pn**	**Pn**	**18 14 54.8**	**-1.1**
JAK				*e*S			**Sn**	**18 16 09.4**	**-2.1**
JMP	**Maruseppu**	**7.14**	**253**	P		**Pn**	**Pn**	**18 15 03.2**	**+2.2**
JAR	**Ashorobuto**	**7.19**	**247**	P		**Pn**	**Pn**	**18 15 02.7**	**+1.0**
JAR				*e*S			**Sn**	**18 16 23.9**	**+2.1**
JOB	**Onbets**	**7.35**	**244**	P		**Pn**	**Pn**	**18 15 04.3**	**+0.5**
JOB				*e*S			**Sn**	**18 16 25.6**	**-0.1**
PET	**Petropavlovsk**	**7.56**	**28**	*e*PN		**Pn**	**Pn**	**18 15 06.4**	**-0.2**
PET				pmax		pmax			
	comp=Z,11nm,0.5s								
JKK2	**Kamakawa 2**	**7.60**	**254**	P		**Pn**	**Pn**	**18 15 09.4**	**+2.2**
ASAJ	**Asahikawa**	**7.61**	**256**	PN		**Pn**	**Pn**	**18 15 08.4**	**+1.1**
ASAJ				pmax		pmax			
	comp=Z,1.0nm,0.3s								
ASAJ	**Asahikawa**	**7.61**	**256**	P		**Pn**	**Pn**	**18 15 08.4**	**+1.1**
	comp=Z,0.7nm,0.3s,baz=73,slow=11,SNR=3.8								
JCH	**Churui**	**7.80**	**244**	P		**Pn**	**Pn**	**18 15 09.7**	**-0.3**
JCH				*e*S			**Sn**	**18 16 34.7**	**-2.0**
JEM	**Erimo**	**8.26**	**241**	P		**Pn**	**Pn**	**18 15 17.0**	**+0.7**
JEM				*e*S			**Sn**	**18 16 47.1**	**-0.9**
ERM	**Erimo**	**8.27**	**241**‖	*e*PN		**Pn**	**Pn**	**18 15 17.1**	**+0.8**
JBT2	**Biratori 2**	**8.35**	**248**	P		**Pn**	**Pn**	**18 15 17.8**	**+0.4**
JBT2				*e*S			**Sn**	**18 16 52.2**	**+2.2**
JNBK	**Urakawa-nobuka**	**8.36**	**244**	P		**Pn**	**Pn**	**18 15 17.1**	**-0.5**
JNBK				*e*S			**Sn**	**18 16 49.0**	**-1.4**
JNB	**Noboribetsu**	**9.35**	**249**	P		**Pn**	**Pn**	**18 15 31.8**	**+0.7**
JNB				*e*S			**Sn**	**18 17 13.9**	**-0.6**
JKB	**Kayabe**	**9.65**	**246**	P		**Pn**	**Pn**	**18 15 33.8**	**-1.4**
JKB				*e*S			**Sn**	**18 17 17.7**	**-4.1**
JANG	**Nango**	**10.25**	**238**	P		**Pn**	**Pn**	**18 15 40.8**	**-2.6**
JANG				*e*S			**Sn**	**18 17 28.9**	**-7.6**
JTM	**Tenmabayashi**	**10.26**	**241**	P		**Pn**	**Pn**	**18 15 41.6**	**-1.9**
JTM				*e*S			**Sn**	**18 17 29.8**	**-6.9**
JTH	**Tanohata**	**10.34**	**235**	*e*S		**Sn**	**Sn**	**18 17 30.7**	**-8.0**
JOSM	**Okushiri--Mats**	**10.55**	**250**	P		**Pn**	**Pn**	**18 15 48.3**	**+0.9**
JIO	**Ouri**	**11.67**	**231**	P		**Pn**	**Pn**	**18 15 59.6**	**-3.1**
JIO				*e*S			**Sn**	**18 18 02.7**	**-8.4**
MJAR	**Matsushiro Arr**	**14.77**	**233**	P		**Pn**	**Pn**	**18 16 45.8**	**+1.9**
	comp=Z,0.1nm,0.3s,baz=31,slow=7.7,SNR=3.0								
KSRS	**Korea Array**	**20.55**	**253**	P		**P**	**P**	**18 17 52.1**	**+0.8**
	comp=Z,0.8nm,0.8s,baz=64,slow=10,SNR=3.2								
SONM	**Songino Array**	**31.26**	**290**	P		**P**	**P**	**18 19 31.7**	**+0.3**
SONM	**Songino Array**	**31.26**	**290**	P		**P**	**P**	**18 19 31.7**	**+0.3**
	comp=Z,0.2nm,0.5s,mb3.1,baz=108,slow=4.7,SNR=3.5								
INK	**Inuvik**	**41.98**	**32**	P		**P**	**P**	**18 21 00.8**	**-1.3**
INK				pmax		pmax			
	comp=Z,1.0nm,0.5s								
INK	**Inuvik**	**41.98**	**32**	P		**P**	**P**	**18 21 00.8**	**-1.3**
	comp=Z,0.9nm,0.5s,mb3.7,baz=332,slow=4.4,SNR=8.6								
YKA	**Yellowknife Ar**	**51.26**	**36**	P		**P**	**P**	**18 22 14.3**	**-0.3**
YKA				pmax		pmax			
	comp=Z,1.0nm,0.7s								
YKA	**Yellowknife Ar**	**51.26**	**36**	P		**P**	**P**	**18 22 14.3**	**-0.2**
	comp=Z,0.7nm,0.7s,mb3.8,baz=296,slow=7.1,SNR=8.0								
NVAR	**Mina Array Bea**	**62.72**	**62**	P		**P**	**P**	**18 23 35.8**	**-0.1**
	comp=Z,0.2nm,0.3s,mb3.5,baz=289,slow=8.3,SNR=3.9								
FINES	**FINESS Array B**	**64.22**	**335**	P		**P**	**P**	**18 23 44.4**	**-1.0**
FINES				pmax		pmax			
	comp=Z,1.0nm,0.4s								
FINES	**FINESS Array B**	**64.22**	**335**	P		**P**	**P**	**18 23 44.4**	**-1.0**
	comp=Z,0.6nm,0.4s,mb3.8,baz=50,slow=7.4,SNR=8.4								
WRA	**Warramunga Arr**	**68.19**	**199**	P		**P**	**P**	**18 24 12.9**	**+1.7**
	comp=Z,0.3nm,0.9s,mb3.1,baz=18,slow=7.1,SNR=2.6								
NOA	**NORSAR Array B**	**68.44**	**341**	P		**P**	**P**	**18 24 11.8**	**-0.6**
NOA				pmax		pmax			
	comp=Z,1.0nm,0.6s								
NOA	**NORSAR Array B**	**68.44**	**341**	P		**P**	**P**	**18 24 11.8**	**-0.6**
	comp=Z,0.8nm,0.6s,mb3.7,baz=28,slow=6.2,SNR=3.4								
AKASG	**Malin Array Be**	**71.68**	**326**	P		**P**	**P**	**18 24 31.8**	**-0.6**
AKASG				pmax		pmax			
	comp=Z,1.0nm,0.4s								
AKASG	**Malin Array Be**	**71.68**	**326**	P		**P**	**P**	**18 24 31.8**	**-0.6**
	comp=Z,0.5nm,0.4s,mb3.7,baz=32,slow=6.1,SNR=4.6								
ASAR	**Alice Springs**	**71.89**	**198**	P		**P**	**P**	**18 24 37.5**	**+3.7**
ASAR				pmax		pmax			
	comp=Z,1.0nm,1.1s								
ASAR	**Alice Springs**	**71.89**	**198**	P		**P**	**P**	**18 24 37.5**	**+3.7**
	comp=Z,0.5nm,1.1s,mb3.3,baz=6.5,slow=6.8,SNR=3.6								
TXAR	**Lajitas Array**	**77.78**	**60**	P		**P**	**P**	**18 25 08.3**	**+0.3**
TXAR				pmax		pmax			
	comp=Z,1.0nm,0.5s								
TXAR	**Lajitas Array**	**77.78**	**60**	P		**P**	**P**	**18 25 08.3**	**+0.3**
	comp=Z,0.6nm,0.5s,mb3.6,baz=310,slow=4.6,SNR=11								

*CSEM **23** 18:23:22.1, 3509N×2773E, h8km, MD3.6/4, After ATH*
*NEIC **23** 18:23:22.1, 3509N×2773E, h8km, MD3.6(ATH), After ATH.*

ATH 23 18:23:22.1, 3509N×2773E, h8km±4km, MD3.6/4, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.65**	**315**	*e*PB			Pb	18 23 33.9	-1.8
KARP				*e*SB			Sb	18 23 43.7	-1.3
ARG	**Arkhangelos**	**1.17**	**16**	*e*PB			Pb	18 23 44.1	-0.5
ARG				*e*SB			Sb	18 24 00.6	+0.7
XRY	**Khrisi**	**1.69**	**263**	*e*PB			Pb	18 23 54.0	+0.7
NPS	**Neapolis**	**1.74**	**276**	*e*PG			Pg	18 23 54.7	-0.8
APE	**Apeiranthos**	**2.66**	**319**	*e*PB			Pb	18 24 07.2	-2.8

FUNV 23 18:42:11.2, 674N×7311W, h166km, MW3.6, 1C-4D, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.37**	**35**‖	*i*P			Pn	18 42 40.3	-0.4
CAPV				*e*S			Sn	18 43 01.4	-2.0
VIGV	**El Vigia**	**2.71**	**40**‖	*e*P			Pn	18 42 54.7	-1.0
VIGV				*e*S			Sn	18 43 27.3	-2.8
SOCV	**Socops**	**2.71**	**55**‖	*e*P			Pn	18 42 55.0	-0.6
SOCV				*e*S			Sn	18 43 26.3	-3.8
ELOV	**Elorza**	**3.61**	**86**‖	*i*P			Pn	18 43 06.3	-0.6
VIRV	**Villa del Rosa**	**3.81**	**11**‖	*i*P			Pn	18 43 07.3	-2.1
VIRV				*e*S			Sn	18 43 50.1	-4.6
QARV	**Quebrada Arrib**	**4.29**	**36**	*e*P			Pn	18 43 14.2	-1.5
SANV	**Sanarito**	**4.48**	**52**	*e*P			Pn	18 43 17.0	-1.1
CURV	**Curarigua**	**4.51**	**44**	*e*P			Pn	18 43 16.9	-1.5
DABV	**Dabajuro**	**4.82**	**30**	*e*P			Pn	18 43 21.8	-0.8
TEPV	**Terepaima**	**5.03**	**50**	*e*P			Pn	18 43 23.2	-2.1
SIQV	**Siquisique**	**5.08**	**40**	*e*P			Pn	18 43 24.0	-1.9
BAUV	**El Baul**	**5.48**	**66**	*e*P			Pn	18 43 28.5	-2.7
CAOV	**Caicara del Or**	**6.76**	**85**	*e*P			Pn	18 43 45.4	-2.8
BIRV	**Birongo**	**7.72**	**61**	*e*P			Pn	18 43 58.8	-2.0
CUPV	**Cœpira**	**7.96**	**65**	*e*P			Pn	18 44 01.7	-2.3

*ISCJB **23** 19:09:12.5±0.9, 2191N±002×9632W±002, h2km±6km, mb5.2/173, MS4.9/170, Error ellipse: s-maj=3.4km s-min=2.2km az=24.3*
*BJI **23** 19:09:12.4, 2198N×9620W, h12km, mB5.6, mb5.5, Ms5.6, Msz5.2*
*IDC **23** 19:09:13.2±0.6, 2196N×9640W, h0km, mb4.9/20, mb1 5.0/21, mb1mx5.0/23, mbtmp4.9/21, ML6.0/2, MS4.7/22, Ms1 4.7/22, ms1mx4.6/33, Error ellipse: s-maj=19.5km s-min=11.3km az=58.0*
*MEX **23** 19:09:14.7±1.2, 2193N×9614W, h16km±19km, MD5.4*
*MOS **23** 19:09:14.4±1.4, 2205N×9639W, h10km, mb5.4/78, MS4.9/36, Error ellipse: s-maj=5.7km s-min=3.7km az=87.4*
*NEIC **23** 19:09:15.1±0.1, 2189N×9636W, h10km, mb5.4/125, MS4.8/129, MW5.6(SLM), Error ellipse: s-maj=3.1km s-min=2.4km az=214.0*
NEIC Felt [IV] at Jalapa and [III] at Altamira, Arrecife Tuxpan, Ciudad Madero and Tampico, Mexico. Felt at Chicontepec, Poza Rica and Progreso. Also felt at Austin, Texas.
*GCMT **23** 19:09:15.1±0.1, 2198N×9631W, h24km, MW5.7/97, Moment Tensor Solution. s82,c156; s97,c233; Duration: 1s6 Moment tensor: Scale 1017Nm; Mrr0.28±.04; Mθθ1.29±.04; Mφφ-1.56±.05; Mrθ0.00±.07; Mθφ3.29±.04; Mφr0.68±.08; Best double couple: M0 3.64700×1017 NP1:φs102.00000°, δ80.00000°, λ-1.00000°. NP2:φs192.00000°, δ89.00000°, λ-170.00000°. Principal axes: T 3.4940, Plg7.0000°, Azm326.0000°; N 0.3130, Plg80.0000°, Azm197.0000°; P -3.8000, Plg8.0000°, Azm57.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*BGS **23** 19:09:15.0, 2189N×9636W, h10km, mb5.4, MS4.9*
*SZGRF **23** 19:09:23.8, 2172N×9531W, h48km, mb5.2, MS4.8, Gulf of Mexico*

ISC 23 19:09:14.6±1.0, 2189N±002×9631W±002, h5km±6km, h49km±2.5km: pP-P, n1050, σ0§95/975, mb5.2/174, MS4.9/170, 133C-132D, Gulf of Mexico

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVIG	**Laguna Verde**	**2.16**	**183**	*i*P			**Pn**	**19 09 47.1**	**-4.2**
LVIG				*i*S			**Sn**	**19 10 11.9**	**-6.5**
DEIG	**Demacu**	**2.99**	**239**	*i*P			**Pn**	**19 10 00.9**	**-1.9**
DEIG				*i*S			**Sn**	**19 10 36.3**	**-2.8**
PPM	**Popocatepetl**	**3.55**	**218**	*i*P			**Pn**	**19 10 10.2**	**-0.2**
PPM	**Popocatepetl**	**3.55**	**218**	*i*P			**Pn**	**19 10 09.5**	**-0.9**
PPM				*i*P				19 10 10.2	
PPM				*i*S			**Sn**	**19 10 51.2**	**-1.5**
UNM	**Universidad Na**	**3.70**	**227**	*e*P			**Pn**	**19 10 12.4**	**-0.1**
UNM	**Universidad Na**	**3.70**	**227**	*i*P			**Pn**	**19 10 11.5**	**-1.0**
UNM				*e*P				19 10 12.4	
SZVM	**Salazar**	**3.84**	**229**	*i*P			**Pn**	**19 10 13.9**	**-0.6**
SZVM				*i*S			**Sn**	**19 11 00.8**	**+0.7**
YAIG	**Yautepec**	**3.97**	**221**	*e*P			**Pn**	**19 10 14.9**	**-1.2**
LNIG	**Linares**	**4.17**	**317**	*e*P			**Pn**	**19 10 14.9**	**-3.9**
LNIG				*i*S			**Sn**	**19 11 00.4**	**-7.6**
TUIG	**Tuzandepetl**	**4.23**	**155**	*e*P			**Pn**	**19 10 16.5**	**-3.2**
TUIG				*i*S			**Sn**	**19 11 03.1**	**-6.4**
PLIG	**Platanillo**	**4.59**	**221**	*e*P			**Pn**	**19 10 23.7**	**-1.0**
OXX	**Oaxaca**	**4.80**	**185**	*i*P			**Pn**	**19 10 26.7**	**-0.9**
VHO	**Vista Hermosa**	**4.81**	**185**	*i*P			**Pn**	**19 10 25.9**	**-1.8**
VHO				*i*S			**Sn**	**19 11 18.0**	**-5.9**
CMIG	**Matias Romero**	**4.96**	**164**	*e*P			**Pn**	**19 10 27.8**	**-2.1**
CMIG				*i*S			**Sn**	**19 11 20.9**	**-6.8**
MEIG	**Mezcala**	**5.02**	**219**	*i*P			**Pn**	**19 10 29.5**	**-1.2**
MOIG	**Morelia**	**5.06**	**245**	*e*P			**Pn**	**19 10 31.2**	**0.0**
PNIG	**Pinotepa**	**5.73**	**198**	*e*P			**Pn**	**19 10 36.6**	**-3.8**
KVTX	**Kingsville**	**5.81**	**346**	*e*Pn			**Pn**	**19 10 38.8**	**-2.6**
KVTX				*e*S			**Sn**	**19 11 39.7**	**-8.8**
ACX	**Acapulco**	**6.04**	**215**	*i*P			**Pn**	**19 10 36.5**	**-8.2**
CAIG	**El Cayaco**	**6.09**	**218**	*e*P			**Pn**	**19 10 41.9**	**-3.4**
HUIG	**Huatulco**	**6.09**	**178**	*i*P			**Pn**	**19 10 42.7**	**-2.6**
HUIG				*i*S			**Sn**	**19 11 49.8**	**-5.7**
SCX	**San Cristobal**	**6.19**	**145**	*i*P			**Pn**	**19 10 46.2**	**-0.6**
SCX				*i*S			**Sn**	**19 11 48.5**	**-10**
SCX	**San Cristobal**	**6.19**	**145**	*i*P			**Pn**	**19 10 42.5**	**-4.3**
SCX				*i*S			**Sn**	**19 11 49.5**	**-8.5**
SFJM	**Santa Fe**	**6.43**	**259**	*i*P			**Pn**	**19 10 49.1**	**-0.9**
CCIG	**Comitan**	**6.83**	**144**	*e*P			**Pn**	**19 10 51.7**	**-3.8**
MMIG	**Aquila**	**7.52**	**243**	*e*P			**Pn**	**19 11 03.8**	**-1.2**
TEIG	**Tepich**	**7.69**	**101**	*e*Pn			**Pn**	**19 11 05.8**	**-1.5**
	2.8nm,0.4s								
TEIG				*e*S			**Sn**	**19 12 20.2**	**-15**
TEIG	**Tepich**	**7.69**	**101**	Pn			**Pn**	**19 11 06.4**	**-0.8**
	869nm,0.3s,baz=282,slow=3.1,SNR=827								
TEIG				Sn			**Sn**	**19 12 27.0**	**-7.8**
	1μm,0.3s,baz=21,slow=23,SNR=24								
TEIG				LR			LR	19 14 40.7	
	comp=Z,5μm,20.0s,baz=285,slow=42								
ANIG	**Ahuacatlan**	**7.69**	**265**	*i*P			**Pn**	**19 11 06.1**	**-1.2**
HKT	**Hockley**	**8.04**	**3**	*e*Pn			**Pn**	**19 11 08.7**	**-3.4**
HKT				*e*Sn			**Sn**	**19 12 27.2**	**-16**
JCT	**Junction City**	**9.11**	**341**	*e*P			**Pn**	**19 11 24.1**	**-2.6**
MAIG	**Mazatlaan**	**9.43**	**280**	*e*P			**Pn**	**19 11 28.7**	**-2.5**
HPIG		**9.89**	**302**	*e*P			**Pn**	**19 11 37.2**	**-0.2**
TXAR	**Lajitas Array**	**9.94**	**320**	P			**Pn**	**19 11 37.7**	**-0.5**
TXAR								19 13 27.7	
TXAR				pmax		pmax			
	comp=Z,13nm,0.3s								
TXAR				smax					
	comp=N,6.0nm,0.3s								
TXAR				MLR		MLR			
	comp=Z,2μm,18.7s								
TXAR	**Lajitas Array**	**9.94**	**320**	Pn			**Pn**	**19 11 37.7**	**-0.5**
	comp=Z,13nm,0.3s,baz=138,slow=13,SNR=208								
TXAR				Sn			**Sn**	**19 13 27.7**	**-2.6**
	comp=Z,5.6nm,0.3s,baz=54,slow=18,SNR=3.2								
TXAR				LR			LR	19 16 19.3	
	comp=Z,2μm,18.7s,baz=10.0,slow=43								
VBMS	**Vicksburg**	**11.51**	**25**	*e*Pn			**Pn**	**19 11 54.4**	**-5.3**
VBMS				*e*Sn			**Sn**	**19 13 51.2**	**-17**
TGUH	**Tegucigalpa,Un**	**11.60**	**131**	*e*Pn			**Pn**	**19 12 01.9**	**+0.9**
	comp=Z,202nm,0.8s								
BRAL	**Brewton**	**12.29**	**40**	*e*Pn			**Pn**	**19 12 07.5**	**-2.9**
SOR	**Soroa**	**12.35**	**83**	*e*P			**Pn**	**19 12 06.8**	**-4.4**
SOR				*e*S			**Sn**	**19 14 15.8**	**-13**
	comp=N,16nm,0.5s								
SOR				*e*					
	comp=E,16nm,0.5s								
GDL2	**Guadalupe Moun**	**12.52**	**327**	*e*Pn			**Pn**	**19 12 12.8**	**-0.7**
MNTX	**Cornudas Mount**	**12.68**	**322**	*e*Pn			**Pn**	**19 12 14.8**	**-0.9**
MIAR	**Mount Ida**	**12.84**	**10**	*e*Pn			**Pn**	**19 12 13.3**	**-4.4**
MIAR				*e*Sn			**Sn**	**19 14 24.7**	**-16**
WMOK	**Wichita Mounta**	**12.98**	**351**	*e*Pn			**Pn**	**19 12 15.6**	**-4.1**
WMOK				*e*Sn			**Sn**	**19 14 31.6**	**-13**
LPIG	**La Paz**	**13.07**	**282**	Pn			**Pn**	**19 12 23.6**	**+2.5**
	comp=E,5.5nm,0.3s,baz=178,slow=8.1,SNR=7.7								
LPIG				LR			LR	19 18 20.9	
	comp=E,4μm,18.7s,baz=98,slow=42								
LPIG	**La Paz**	**13.07**	**282**	*e*P			**Pn**	**19 12 22.8**	**+1.7**
UALR	**University of**	**13.30**	**14**	*e*Pn			**Pn**	**19 12 20.2**	**-3.9**
CGIG		**13.44**	**311**	*i*P			**Pn**	**19 12 25.4**	**-0.7**
AMTX	**Amarillo**	**13.78**	**341**	*e*Pn			**Pn**	**19 12 26.4**	**-4.2**
OXF	**Oxford**	**13.96**	**24**	*e*P			**Pn**	**19 12 29.4**	**-3.8**
OXF				pmax		pmax			
	comp=Z,177nm,0.6s								
OXF	**Oxford

X18A Snowflake 17.38 319 P **Pn 19 13 19.8 +1.8**
baz=17,SNR=305
Y17A Roosevelt 17.40 316 P **Pn 19 13 20.2 +2.1**
baz=17,SNR=702
W19A Sanders 17.46 322 P **Pn 19 13 21.0 +2.1**
baz=17,SNR=173
SLM Saint Louis 17.49 16 *e*P **Pn 19 13 21.2 +2.0**
SLM Saint Louis 17.49 16 *e*P **Pn 19 13 17.9 -1.3**
TKL Tuckaleechee C 17.55 36 *e*P **Pn 19 13 16.9 -3.2**
Z16A Peralta Trail, 17.57 314 ⇑P **Pn 19 13 21.7 +1.4**
baz=18,SNR=83
W18A Petrified Fore 17.66 321 ⇓P **Pn 19 13 23.4 +2.0**
baz=18,SNR=55
USIN University of 17.67 23 *e*P **Pn 19 13 20.7 -0.8**
SDCO Great Sand Dun 17.68 335 *e*Pn **Pn 19 13 22.4 +0.8**
comp=Z,868nm,1.4s
BAR1 17.73 133⇓*e*P **Pn 19 13 23.8 +1.4**
115A Sonoran Desert 17.75 311 P **Pn 19 13 23.8 +1.2**
baz=18,SNR=109
Y16A Circle Bar Ran 17.93 315 ⇓P **Pn 19 13 26.8 +2.1**
baz=18,SNR=725
COW Cow Castle Cre 17.93 47 *e*P **Pn 19 13 21.6 -3.2**
MCJ Malvern 17.95 99⇓*e*P **Pn 19 13 26.7 +1.6**
MCJ *e*S **Sn 19 16 35.9 -10**
CVJ Coleyville 18.01 98⇓*e*P **Pn 19 13 26.5 +0.6**
Z15A Gila River Ind 18.03 312 P **Pn 19 13 27.2 +1.2**
baz=18,SNR=18
JSC Jenkinsville 18.11 44 *e*P **Pn 19 13 22.9 -4.0**
LMGC Las Mercedes 18.12 92 *e*P **Pn 19 13 26.9 -0.3**
LMGC *e*S **Sn 19 16 36.5 -13**
comp=N,3µm,22.2s
LMGC *e*
comp=E,3µm,18.0s
NHSC New Hope 18.13 49 *e*Pn **Pn 19 13 25.1 -2.2**
W17A Winslow 18.21 319 P **Pn 19 13 30.2 +1.9**
baz=18,SNR=45
BBJ Bamboo Saint A 18.22 98⇓*e*P **Pn 19 13 28.3 -0.1**
X16A Lo Mia Camp, P 18.24 316 P **Pn 19 13 30.6 +2.1**
baz=18,SNR=302
TZTN Tazewell 18.34 34 *e*P **Pn 19 13 25.8 -3.9**
comp=E,238nm,1.1s
LHS Liberty Hill 18.52 44 *e*P **Pn 19 13 32.6 +0.6**
Y15A Casa Rosa Ranc 18.54 314 P **Pn 19 13 33.2 +1.0**
baz=18,SNR=204
MVCO Mesa Verde 18.56 328 *e*Pn **Pn 19 13 33.2 +0.7**
MVCO Mesa Verde 18.56 328 ⇓P **Pn 19 13 33.3 +0.8**
baz=18
Z14A Wintersburg 18.62 311 ⇓P **Pn 19 13 33.9 +0.7**
baz=19,SNR=30
STH Stony Hill 18.72 98⇓*e*P **Pn 19 13 35.2 +0.7**
STH *e*S **Sn 19 16 48.3 -16**
W16A Flagstaff 18.73 318 P **Pn 19 13 36.3 +1.8**
baz=19,SNR=196
X15A Humboldt 18.80 315 P **Pn 19 13 36.4 +1.1**
baz=19,SNR=339
113A Mohawk Valley, 18.89 309 P **Pn 19 13 36.4 -0.1**
baz=19,SNR=191
WUAZ Wupatki 18.91 319 *e*Pn **Pn 19 13 38.1 +1.4**
WUAZ Wupatki 18.91 319 ⇓P **Pn 19 13 38.3 +1.5**
baz=19
Y14A Wickenburg 18.98 313 P **Pn 19 13 37.8 +0.2**
baz=19,SNR=207
BLO Bloomington 19.16 24 *e*P **Pn 19 13 38.9 -0.8**
X14A Yava 19.22 314 P **Pn 19 13 41.0 +0.6**
baz=19,SNR=341
W15A Williams 19.24 317 ⇓P **Pn 19 13 42.1 +1.3**
baz=19,SNR=115
PV01 Paradox Valley 19.33 330 *e*P **Pn 19 13 41.6 -0.1**
RCC Rio Carpintero 19.35 92 *e*P **Pn 19 13 40.7 -1.5**
RCC *e*S **Sn 19 17 14.0 -5.6**
comp=N,90nm,2.2s
RCC *e*
comp=E,89nm,1.8s
112A Yuma 19.37 307 ⇑P **Pn 19 13 41.9 -0.4**
baz=19
Y13A Salome 19.48 311 P **Pn 19 13 43.5 -0.1**
baz=19,SNR=171
SMCO Snowmass 19.50 334 *e*Pn **Pn 19 13 43.6 -0.2**
ISCO Idaho Springs 19.53 338 *e*P **Pn 19 13 44.0 -0.2**
ISCO pmax pmax
comp=Z,840nm,1.4s
ISCO Idaho Springs 19.53 338 *e*Pn **Pn 19 13 44.0 -0.2**
comp=Z,837nm,1.4s
HDIL Hopedale 19.54 16 *e*P **Pn 19 13 42.9 -1.4**
V15A Kaibab Nationa 19.60 319 P **Pn 19 13 45.7 +0.7**
baz=20,SNR=420
PV10 Paradox Valley 19.74 329 *e*P **Pn 19 13 45.1 -1.5**
W14A Seligman 19.79 316 P **Pn 19 13 47.5 +0.2**
baz=20,SNR=535
GLA Glamis 19.80 308 *e*P **Pn 19 13 47.1 -0.4**
GLA Glamis 19.80 308 P **Pn 19 13 47.2 -0.3**
baz=20,SNR=244
X13A Yucca 19.92 313 P **Pn 19 13 48.4 -0.5**
baz=20,SNR=220
Y12C Blythe 19.94 310 P **Pn 19 13 48.4 -0.7**
baz=20,SNR=93
PDMCI Parker Dam,Lak 19.97 312 P **Pn 19 13 48.9 -0.5**
baz=20,SNR=100
T16A Glen Canyon Da 19.99 322 P **Pn 19 13 49.4 -0.3**
baz=20,SNR=88
V14A Boquillas Ranc 20.06 317 P **P 19 13 50.4 +1.6**
baz=20,SNR=447
SCIA State Center 20.13 7 *e*P **P 19 13 49.5 +0.1**
W13A Hualapai Mount 20.25 314 P **P 19 13 52.1 +1.4**
baz=20,SNR=172
BCIP Isla Barro Col 20.27 126 *e*P **P 19 13 51.6 +0.4**
comp=Z,380nm,1.5s
BCIP LR LR
comp=Z,3µm,20.0s,MS4.7
ELN Prospectdale 20.37 38 *e*P **P 19 13 53.1 +1.0**
SWSC Sam W. Stewart 20.46 307 P **P 19 13 53.8 +0.6**
baz=20,SNR=45
T15A Red Dirt Ranch 20.52 321 P **P 19 13 55.4 +1.6**
baz=20,SNR=306
BLA Blacksburg 20.55 39 *e*P **P 19 13 54.8 +0.7**
BLA *e*S **S 19 17 33.2 -11**
BLA pmax pmax
comp=Z,74nm,0.5s
BLA MLR MLR
comp=Z,1µm,20.0s,MS4.3
BLA Blacksburg 20.55 39 *e*P **P 19 13 54.8 +0.7**
comp=Z,74nm,0.5s
BLA *e*S **S 19 17 33.1 -11**
BLA LR LR
comp=Z,1µm,20.0s,MS4.3
NEE2 Needles Airpor 20.55 313 P **P 19 13 55.4 +1.3**
baz=20,SNR=37
BC3 Big Chuckw Mtn 20.56 309 P **P 19 13 55.2 +1.0**
baz=20,SNR=236
DVTC Desert V Tower 20.57 306 P **P 19 13 55.8 +1.5**
baz=20,SNR=23
IRM Iron Mountain 20.60 310 P **P 19 13 55.8 +1.2**
baz=20,SNR=304
U14A Mt Trumbull 20.61 318 P **P 19 13 56.5 +1.8**
baz=21,SNR=267
MASC Masc 20.68 91 *e*P **P 19 13 57.6 +2.0**
PHWY Pilot Hill 20.84 340 *e*Pn **P 19 13 57.6 +0.5**
CNNC Cliffs of the 20.90 46 *e*Pn **P 19 13 58.8 +0.9**
CNNC LR LR
comp=Z,2µm,20.0s,MS4.5
MONP Monument Peak 20.91 306 P **P 19 13 59.1 +1.2**
baz=21,SNR=82
T14A Hurricane 20.97 320 P **P 19 14 00.2 +1.7**
baz=21,SNR=145
BAR Barrett 21.01 305 *e*P **P 19 13 59.7 +0.6**
comp=Z,271nm,1.1s,mb5.5
W12A Cal Nev Ari 21.02 313 ⇓P **P 19 14 00.5 +1.3**
baz=21,SNR=53
SRU San Rafael 21.04 328 *e*P **P 19 13 57.4 -1.9**
LDFC Landfair 21.06 313 *e*Pn **P 19 14 02.0 +2.4**
BELC Belle Mtn. 21.12 309 P **P 19 14 01.2 +0.9**
baz=21,SNR=193
V12A Nelson 21.25 314 P **P 19 14 02.8 +1.1**
baz=21,SNR=170
PFO Pinyon Flat Ob 21.26 308 P **P 19 14 02.3 +0.5**
comp=Z,1µm,1.2s,mb6.1,SNR=44
PFO Pinyon Flat Ob 21.26 308 P **P 19 14 03.0 +1.2**
PFO pmax pmax
comp=Z,149nm,1.0s,mb5.3
PFO MLR MLR
comp=Z,4µm,18.1s,MS4.8
PFO Pinyon Flat Ob 21.26 308 *e*P **P 19 14 02.6 +0.8**
comp=Z,345nm,1.2s,mb5.6
PFO LR LR
comp=Z,4µm,22.0s,MS4.7
PFO Pinyon Flat Ob 21.26 308 P **P 19 14 03.0 +1.2**
comp=Z,149nm,1.0s,mb5.3,baz=121,slow=12,SNR=128
PFO LR LR 19 23 08.3
comp=Z,4µm,18.1s,MS4.8,baz=120,slow=40
PFO Pinyon Flat Ob 21.26 308 P **P 19 14 02.8 +1.0**
baz=21,SNR=92
GMRC Granite Mounta 21.28 311 P **P 19 14 03.2 +1.2**
baz=21,SNR=383
109C Camp Elliot, M 21.43 305 ⇓P **P 19 14 03.4 -0.2**
baz=21,SNR=6.8
T13A Saint George 21.44 319 P **P 19 14 05.2 +1.5**
baz=21,SNR=120
MSU Marysvale 21.45 324 *e*P **P 19 14 05.0 +1.2**
CCUT Cedar City 21.46 320 *e*P **P 19 14 05.0 +1.1**
MVU Marysvale 21.46 324 PFAKE 19 14 20.0 +16
MVU LR LR
comp=Z,2µm,20.0s,MS4.5
U12A Valley of Fire 21.47 316 ⇓P **P 19 14 04.9 +0.9**
baz=21
S14A Cedar City 21.48 321 P **P 19 14 05.7 +1.5**
baz=21,SNR=134
ACSO Alum Creek Sta 21.51 29 *e*Pn **P 19 14 04.8 +0.3**
ACSO LR LR
comp=Z,2µm,20.0s,MS4.6
TMUT Trail Mountain 21.52 327 *e*Pn **P 19 14 05.5 +1.0**
JFWS Jewell Farm 21.57 12 *e*Pn **P 19 14 04.5 -0.5**
JFWS LR LR
comp=Z,2µm,21.0s,MS4.5
ARUT Antelope Range 21.66 321 *e*P **P 19 14 07.4 +1.3**
V11A Goodsprings 21.70 314 P **P 19 14 07.7 +1.2**
baz=22,SNR=131
T12A Moapa 21.76 317 ⇓P **P 19 14 07.9 +0.8**
baz=22,SNR=26
R14A James Farms, M 21.77 322 ⇓P **P 19 14 08.0 +0.8**
baz=22,SNR=7.2
RWWY Rawlins 21.77 338 *e*P **P 19 14 07.6 +0.5**
S13A Holt Ranch, En 21.77 320 P **P 19 14 08.7 +1.4**
baz=22,SNR=280
HEC Hector,Ludlow 21.78 311 P **P 19 14 08.3 +1.0**
baz=22,SNR=64
ECSD EROS,Sioux Fal 21.79 359 *e*Pn **P 19 14 07.1 -0.2**
ECSD LR LR
comp=Z,2µm,19.0s,MS4.5
MURC Murrieta 21.81 307 ⇓P **P 19 14 08.0 +0.3**
baz=22,SNR=18
TUQ Turquoise Mtn. 21.81 312 P **P 19 14 08.8 +1.1**
baz=22,SNR=224
SHPR Sheep Range 21.91 316 *e*P **P 19 14 09.7 +0.9**
BBRC Big Bear Sol-O 21.92 309 ⇓P **P 19 14 09.9 +1.1**
baz=22,SNR=6.8
U11A Corn Creek 22.01 315 ⇑P **P 19 14 10.8 +1.0**
baz=22,SNR=18
RRX Edison Barstow 22.28 310 ⇑P **P 19 14 13.0 +0.3**
baz=22
MPU Maple Canyon 22.28 328 *e*P **P 19 14 13.2 +0.5**
MPU LR LR
comp=Z,2µm,20.0s,MS4.6
SHOC Shoshone 22.31 313 ⇑P **P 19 14 13.2 +0.2**
baz=22,SNR=20
GSC Goldstone 22.35 311 *e*P **P 19 14 14.1 +0.6**
comp=Z,304nm,1.2s,mb5.6
GSC LR LR
comp=Z,2µm,21.0s,MS4.6
GSC Goldstone 22.35 311 P **P 19 14 14.2 +0.7**
baz=22,SNR=149
S12A Delamar Landin 22.39 318 ⇑P **P 19 14 15.0 +1.2**
baz=22,SNR=45
T11A Corn Creek, Al 22.39 317 P **P 19 14 14.8 +0.8**
baz=22,SNR=308
DAU Daniels Canyon 22.40 329 *e*P **P 19 14 14.4 +0.5**
BFSC Mount Baldy St 22.44 308 P **P 19 14 14.7 +0.2**
baz=22,SNR=24
NLU North Lily Min 22.46 327 *e*P **P 19 14 15.0 +0.5**
URVA University of 22.52 42 *e*P **P 19 14 14.7 -0.6**
SCI San Clemente I 22.57 304 ⇑P **P 19 14 15.9 +0.1**
baz=22,SNR=12
MCWV Mont Chateau 22.60 35 *e*P **P 19 14 16.6 +0.5**
MCWV LR LR
comp=Z,1µm,19.0s,MS4.4
CIS Catalina Islan 22.63 305 ⇓P **P 19 14 15.9 -0.5**
baz=23,SNR=15
U10A Ash Meadows, A 22.63 314 P **P 19 14 17.3 +0.8**
baz=23,SNR=89
JLU Jordanelle 22.64 329 *e*P **P 19 14 16.9 +0.4**
FMP Fort Macarthur 22.68 306 ⇑P **P 19 14 16.5 -0.4**
baz=23
R12A Pony Springs, 22.71 320 ⇑P **P 19 14 18.3 +1.0**
baz=23,SNR=37
MWC Mount Wilson 22.73 307 *e*P **P 19 14 17.7 +0.2**
Q13A Wheeler Ranch, 22.79 322 P **P 19 14 18.8 +0.8**
baz=23,SNR=413
CTU Camp Tracy 22.86 329 *e*P **P 19 14 18.9 +0.2**
TPNV Topopah Spring 22.88 315 *e*P **P 19 14 19.9 +0.8**
TPNV Topopah Spring 22.88 315 ⇑P **P 19 14 20.2 +1.2**
baz=23
DECC Green Verdugo 22.94 307 ⇑P **P 19 14 20.0 +0.2**
baz=23,SNR=9.4
AAM Ann Arbor 22.95 25 *e*P **P 19 14 18.8 -1.0**
AAM pmax pmax
comp=Z,159nm,1.0s,mb5.4
AAM MLR MLR
comp=Z,2µm,20.0s,MS4.5
AAM Ann Arbor 22.95 25 *e*P **P 19 14 18.8 -1.0**
comp=Z,159nm,1.0s,mb5.4
AAM LR LR
comp=Z,2µm,20.0s,MS4.5
S11A Rachel 22.97 317 ⇑P **P 19 14 21.2 +1.2**
baz=23,SNR=58
EDW2 Edwards Air Fo 22.98 309 P **P 19 14 20.1 -0.1**
baz=23,SNR=54
NOQ North Oquirrh 23.00 328 *e*P **P 19 14 20.7 +0.3**
DUG Dugway 23.01 326 *e*P **P 19 14 21.1 +0.7**
DUG LR LR
comp=Z,2µm,20.0s,MS4.6
DUG Dugway 23.01 326 ⇓P **P 19 14 21.1 +0.7**
baz=23
FURC Furnace Creek, 23.02 314 P **P 19 14 21.0 +0.5**
baz=23,SNR=81
CBN Corbin 23.02 41 *e*P **P 19 14 20.9 +0.4**
comp=Z,160nm,0.6s,mb5.6
CBN LR LR
comp=Z,2µm,19.0s,MS4.5
LRMC Laurel Mountai 23.06 311 P **P 19 14 21.2 +0.2**
baz=23,SNR=34
RSSD Black Hills 23.07 346 *e*P **P 19 14 20.2 -0.8**
RSSD pmax pmax
comp=Z,369nm,1.2s,mb5.7
RSSD MLR MLR
comp=Z,4µm,21.0s,MS4.8
RSSD Black Hills 23.07 346 *e*P **P 19 14 20.2 -0.8**
comp=Z,369nm,1.2s,mb5.7
RSSD LR LR
comp=Z,4µm,21.0s,MS4.8
P13A Bates Ranch, G 23.13 323 P **P 19 14 22.4 +0.8**
baz=23,SNR=175
MPMC Manual Prospec 23.22 312 P **P 19 14 22.7 0.0**
baz=23,SNR=99
Q12A Willow Creek R 23.31 321 P **P 19 14 24.0 +0.4**
baz=23,SNR=157
R11A Troy Canyon, C 23.31 319 P **P 19 14 23.9 +0.4**
baz=23,SNR=470
N15A Stansbury Isla 23.38 328 P **P 19 14 24.3 -0.1**
baz=23,SNR=26
OSI Osito Adit 23.40 308 ⇑P **P 19 14 23.9 -0.6**
baz=23
DAC Darwin (Calif) 23.41 312 PFAKE 19 14 40.0 +15
DAC LR LR
comp=Z,2µm,21.0s,MS4.5
SNCC San Nicolas Is 23.43 304 *e*P **P 19 14 23.8 -1.1**
comp=Z,282nm,1.6s,mb5.5
SNCC LR LR
comp=Z,3µm,22.0s,MS4.7
SNCC San Nicolas Is 23.43 304 ⇓P **P 19 14 24.3 -0.6**
baz=23
BLG Laguna Peak 23.43 306 ⇑P **P 19 14 24.5 -0.4**
baz=23,SNR=6.8
HWUT Hardware Ranch 23.48 330 *e*P **P 19 14 24.8 -0.6**
comp=Z,383nm,1.4s,mb5.6
HWUT LR LR
comp=Z,1µm,20.0s,MS4.4
BW06 Boulder Array 23.58 335 *e*P **P 19 14 25.2 -1.1**
BW06 LR LR
comp=Z,2µm,20.0s,MS4.7
O13A Hicks Ranch, I 23.58 324 ⇓P **P 19 14 27.3 +0.9**
baz=24,SNR=30
SDDR Presa de Saban 23.62 93 *e*P **P 19 14 27.5 +0.5**
SDDR LR LR
comp=Z,2µm,22.0s,MS4.6
P12A McGill 23.64 322 P **P 19 14 27.6 +0.6**
baz=24,SNR=125
GRAC Grapevine Rang 23.65 314 P **P 19 14 27.5 +0.4**
baz=24,SNR=174
BGU Big Grassy Mou 23.66 327 *e*P **P 19 14 26.8 -0.3**
SPUT South Promonto 23.67 329 *e*P **P 19 14 27.0 -0.2**
Q11A Duckwater 23.67 320 P **P 19 14 27.6 +0.4**
baz=24,SNR=578
S10A Tonopah Range, 23.68 317 P **P 19 14 27.9 +0.6**
baz=24,SNR=174
N14A Grayback Hills 23.69 327 P **P 19 14 27.5 +0.2**
baz=24,SNR=79
ARVC Arvin 23.71 309 ⇓P **P 19 14 27.1 -0.5**
baz=24,SNR=16
R10A Warm Springs 23.71 318 P **P 19 14 28.6 +1.0**
baz=24,SNR=26
M15A Larsen Ranch, 23.79 329 P **P 19 14 28.2 0.0**
baz=24,SNR=240
BSC Santa Cruz Isl 23.81 305 ⇑P **P 19 14 27.8 -0.8**
baz=24,SNR=11
CWC Cottonwood Cre 23.83 312 ⇑P **P 19 14 28.8 +0.1**
baz=24
ALLY Alegheny Colle 23.95 31 *e*P **P 19 14 28.9 -0.8**
comp=Z,417nm,1.5s,mb5.6
S09A Goldfield 23.96 316 P **P 19 14 29.9 0.0**
baz=24,SNR=102
SBC Santa Barbara 24.06 306 ⇑P **P 19 14 30.4 -0.4**
baz=24
O12A Currie 24.10 324 P **P 19 14 32.0 +0.9**
baz=24,SNR=194
Q10A Clear Creek Ra 24.11 319 P **P 19 14 32.3 +1.1**
baz=24,SNR=426
SDMD Soldier's Deli 24.11 39 *e*P **P 19 14 32.2 +0.9**
comp=Z,504nm,1.8s,mb5.7
TPH Tonopah 24.17 317 *e*P **P 19 14 32.0 +0.2**
comp=Z,176nm,1.1s,mb5.4
TPH LR LR
comp=Z,3µm,22.0s,MS4.7
R09A Tonopah 24.17 317 P **P 19 14 32.2 +0.4**
baz=24,SNR=152
HVU Hansel Valley 24.18 329 *e*P **P 19 14 32.3 +0.4**
P11A Circle Ranch, 24.18 321 P **P 19 14 32.5 +0.6**
baz=24,SNR=56
AHID Auburn Hatcher 24.21 333 *e*P **P 19 14 31.8 -0.2**
comp=Z,643nm,1.8s,mb5.8
AHID LR LR
comp=Z,836nm,21.0s,MS4.2
N13A Wendover, West 24.22 325 P **P 19 14 33.0 +0.8**
baz=24,SNR=67
VES Vestal, Richgr 24.23 310 ⇑P **P 19 14 32.4 0.0**
baz=24,SNR=32
TIN Tinemaha 24.25 313 ⇓P **P 19 14 33.0 +0.4**
baz=24,SNR=36
M14A Sheep Mountain 24.25 328 P **P 19 14 33.0 +0.5**
baz=24,SNR=196
PKM Peak Mountain 24.33 307 P **P 19 14 32.7 -0.6**
baz=24,SNR=32
SSPA Standing Stone 24.35 36 *e*P **P 19 14 33.8 +0.4**
SSPA LR LR
comp=Z,2µm,22.0s,MS4.5
ERPA Erie 24.38 30 *e*P **P 19 14 32.9 -0.8**
comp=Z,293nm,1.1s,mb5.6
ERPA LR LR
comp=Z,2µm,21.0s,MS4.5
S08C White Mtn Res 24.46 314 P **P 19 14 34.9 +0.5**
baz=24,SNR=141
O11A Cowboy Ranch, 24.51 322 P **P 19 14 35.7 +0.8**
baz=24,SNR=309
M13A Montello 24.56 326 P **P 19 14 36.0 +0.7**
baz=24,SNR=238
RCTC Rector, Farmer 24.57 311 ⇓P **P 19 14 35.2 -0.3**
baz=24,SNR=5.2
Q09A Carvers 24.59 318 P **P 19 14 36.6 +0.9**
baz=24,SNR=67
REDW Red Top Meadow 24.59 334 *e*P **P 19 14 35.6 +0.1**
comp=Z,306nm,1.1s,mb5.7
HELL Mitchell Peak 24.60 312 P **P 19 14 35.9 +0.1**
baz=25,SNR=219
SNOW Snow King Moun 24.64 334 *e*P **P 19 14 36.6 +0.6**
MTUM Tungsten Hills 24.64 314 *e*P **P 19 14 36.3 +0.2**
SMMC Simmler 24.64 308 ⇑P **P 19 14 36.0 -0.2**
baz=25,SNR=16
P10A Eureka 24.65 320 P **P 19 14 37.1 +1.0**
baz=25,SNR=91
N12A Clover Valley, 24.66 324 ⇓P **P 19 14 36.8 +0.5**
baz=25,SNR=147
LOHW Long Hollow 24.70 335 *e*P **P 19 14 37.1 +0.5**
comp=Z,176nm,1.1s,mb5.5
TPAW Teton Pass 24.74 334 *e*P **P 19 14 37.2 +0.3**
MVL Millersville 24.78 39 *e*P **P 19 14 38.2 +0.8**
comp=Z,187nm,1.4s,mb5.4
GLMI Grayling 24.82 20 PFAKE 19 14 50.0 +12
GLMI LR LR
comp=Z,1µm,20.0s,MS4.4
V05C Boulder Hill, 24.83 309 ⇓P **P 19 14 37.8 -0.1**
baz=25,SNR=8.7
COWI Conover 24.85 12 *e*P **P 19 14 37.1 -0.8**
COWI LR LR
comp=Z,2µm,21.0s,MS4.5
R08A Mina 24.89 316 P **P 19 14 39.1 +0.8**
baz=25,SNR=39
DCID1 Drake Creek 24.92 334 *e*P **P 19 14 39.5 +1.0**
K14A Jones Ranch, D 24.96 329 P **P 19 14 39.2 +0.2**
baz=25,SNR=484
MLAC Mammoth Lakes 24.97 314 ⇓P **P 19 14 39.5 +0.4**
baz=25
L13A Double Diamond 24.99 328 ⇓P **P 19 14 39.6 +0.4**
baz=25,SNR=66
M12A Wells 25.00 325 P **P 19 14 40.0 +0.7**
baz=25,SNR=327
P09A Austin 25.01 319 ⇑P **P 19 14 39.6 +0.2**
baz=25
N11A Elko Archery C 25.02 323 ⇑P **P 19 14 40.2 +0.7**
baz=25,SNR=13
NVAR Mina Array Bea 25.07 316 P **P 19 14 40.4 +0.4**
comp=Z,118nm,1.0s,mb5.4,baz=134,slow=9.5,SNR=304
IMW Indian Meadow 25.07 334 *e*P **P 19 14 38.8 -1.1**
Q08A Gabbs 25.08 317 P **P 19 14 40.5 +0.5**
baz=25,SNR=178
O10A Cortez Mining, 25.10 322 ⇓P **P 19 14 40.9 +0.6**
baz=25,SNR=31
FLWY Flagg Ranch 25.13 335 *e*P **P 19 14 40.4 -0.1**
KCC Kaiser Creek 25.14 313 ⇓P **P 19 14 40.4 -0.2**
baz=25,SNR=81
U05C Westside ANR, 25.20 310 ⇓P **P 19 14 40.7 -0.6**
baz=25
T06C Millerton Lake 25.24 312 P **P 19 14 40.2 -1.3**
baz=25,SNR=22
PKD Parkfield 25.32 309 ⇓P **P 19 14 41.4 -0.9**
baz=25
R07C Lee Vining 25.36 315 P **P 19 14 43.4 +0.8**
baz=25,SNR=29
N10A Dunphy 25.39 322 ⇓P **P 19 14 43.5 +0.6**
baz=25
LKWY Lake 25.43 336 *e*P **P 19 14 44.4 +1.2**
LKWY pmax pmax
comp=Z,150nm,1.0s,mb5.5
LKWY Lake 25.43 336 *e*P **P 19 14 44.4 +1.2**
comp=Z,154nm,1.0s,mb5.5
V04C Ramage Ranch, 25.43 308 ⇓P **P 19 14 42.8 -0.5**
baz=25,SNR=14
O09A Fish Creek Ran 25.43 321 P **P 19 14 43.9 +0.6**
baz=25,SNR=130
K13A Stover Farm, H 25.48 328 P **P 19 14 43.8 +0.1**
baz=25,SNR=250
YFT Old Faithful 25.50 335 *e*P **P 19 14 45.0 +1.2**
RLMT Red Lodge 25.50 338 *e*P **P 19 14 43.5 -0.3**
RLMT LR LR
comp=Z,2µm,20.0s,MS4.5
L12A House Creek Ra 25.57 326 P **P 19 14 44.8 +0.3**
baz=26,SNR=108
BMN Battle Mountai 25.61 321 *e*P **P 19 14 45.5 +0.6**
comp=Z,211nm,1.2s,mb5.5
BMN LR LR
comp=Z,3µm,21.0s,MS4.7
P08A Dixie Valley 25.67 319 ⇑P **P 19 14 45.9 +0.5**
baz=26
U04C Hernandez Rese 25.69 310 ⇓P **P 19 14 44.8 -0.9**
baz=26,SNR=11
YMR Madison River 25.73 335 *e*P **P 19 14 46.5 +0.6**
comp=Z,368nm,1.2s,mb5.8
YMR LR LR
comp=Z,4µm,20.0s,MS4.9
LUPA Lehigh Univers 25.74 39 *e*P **P 19 14 46.5 +0.5**
S06C San Francisco 25.79 313 ⇓P **P 19 14 46.1 -0.4**
baz=26
S05C Merced 25.84 312 ⇑P **P 19 14 46.1 -0.9**
baz=26,SNR=11

WAKR Walker 25.84 315 eP P 19 14 47.7 +0.6
T05C Eagle Field, D 25.86 311 ⇓P P 19 14 48.2 +1.0
baz=26
V03C Hunter Liggett 25.86 308 ⇓P P 19 14 47.8 +0.6
baz=26,SNR=8.4
R06C Coleville 25.86 315 P P 19 14 48.0 +0.8
baz=26,SNR=56
K12A Draper Farm, C 25.87 327 P P 19 14 47.3 +0.1
baz=26,SNR=129
M10A I.L. Ranch, Tu 25.95 324 P P 19 14 48.6 +0.7
baz=26,SNR=96
L11A Cat Creek Ranc 25.97 326 P P 19 14 48.5 +0.3
baz=26,SNR=171
LAO LASA Array 26.01 344 eP P 19 14 47.8 -0.7
comp=Z,114nm,1.0s,mb5.4
LAO LR LR
comp=Z,2μm,20.0s,MS4.7
QLMT Earthquake Lak 26.04 335 eP P 19 14 49.6 +0.8
N09A Rock Creek Ran 26.06 321 P P 19 14 49.7 +0.8
baz=26,SNR=174
O08A Rochester Mine 26.08 320 ⇑P P 19 14 49.3 +0.1
baz=26
P07A Fallon 26.08 318 ⇑P P 19 14 49.8 +0.6
baz=26
J13A Cove Ranch, Pi 26.09 329 P P 19 14 49.2 +0.1
baz=26,SNR=61
GCMT Greycliff 26.22 339 eP P 19 14 49.6 -0.7
CMB Columbia Colle 26.23 313 eP P 19 14 49.9 -0.6
CMB LR LR
comp=Z,2μm,22.0s,MS4.6
CMB Columbia Colle 26.23 313 ⇑P P 19 14 50.0 -0.5
baz=26
HAST Hastings Reser 26.25 309 ⇑P P 19 14 51.5 +0.7
baz=26
BRNJ Basking Ridge 26.27 40 eP P 19 14 52.9 +2.0
comp=Z,159nm,0.8s,mb5.6
EYMN Ely 26.28 7 eP P 19 14 49.2 -1.7
comp=Z,124nm,1.2s,mb5.3
EYMN LR LR
comp=Z,2μm,19.0s,MS4.7
L10A Juniper Basin 26.29 325 P P 19 14 51.4 +0.3
baz=26,SNR=108
HLID Hailey 26.33 329 ⇑P P 19 14 51.8 +0.4
baz=26
PACP Pacheco Peak 26.35 310 ⇓P P 19 14 52.5 +0.9
baz=26
SAO San Andreas Ge 26.35 310 PFAKE 19 15 00.0 +8.4
SAO LR LR
comp=Z,4μm,22.0s,MS4.9
AGMN Agassiz Refuge 26.35 1 eP P 19 14 50.2 -1.3
AGMN LR LR
comp=Z,2μm,22.0s,MS4.6
N08A GE Springer Mi 26.37 321 ⇑P P 19 14 52.0 +0.2
baz=26
R05C Kirkwood Meado 26.37 315 P P 19 14 52.5 +0.7
baz=26,SNR=30
M09A Marrel Ranch, 26.39 322 ⇑P P 19 14 52.8 +0.9
baz=26
J12A Stokes Ranch, 26.42 328 P P 19 14 52.0 -0.1
baz=26,SNR=74
O07A Toulon 26.44 319 P P 19 14 52.7 +0.3
baz=26,SNR=142
I13A Wildhorse Cree 26.46 330 P P 19 14 52.9 +0.4
baz=26,SNR=153
BINY Binghamton 26.46 35 eP P 19 14 53.2 +0.6
BINY LR LR
comp=Z,896nm,20.0s,MS4.3
PAHR Pah Rah Range 26.49 317 eP P 19 14 53.3 +0.5
comp=Z,367nm,1.3s,mb5.8
WCN Washoe City 26.49 316 ⇑P P 19 14 53.5 +0.6
baz=26
K11A Parker Ranch, 26.54 326 ⇑P P 19 14 53.3 0.0
baz=26
S04C Ingram Canyon, 26.61 311 ⇓P P 19 14 53.1 -0.9
baz=27
MCMT McKenzie Canyo 26.62 333 eP P 19 14 54.7 +0.7
CPNY Central Park 26.70 40 eP P 19 14 54.8 +0.1
comp=Z,97nm,1.3s,mb5.2
R04C Big Horse Ranc 26.71 313 ⇑P P 19 14 55.3 +0.4
baz=27
G15A Dillon 26.75 334 P P 19 14 55.8 +0.7
baz=27,SNR=75
P06A Stead Airport, 26.80 317 ⇑P P 19 14 56.1 +0.5
baz=27
BOZ Bozeman (W) 26.80 336 eP P 19 14 55.4 -0.3
BOZ LR LR
comp=Z,1μm,21.0s,MS4.4
LAVA Lava Cap Winer 26.84 314 ⇓P P 19 14 56.2 +0.1
baz=27
SADO Sadowa 26.84 28 P P 19 14 54.6 -1.4
baz=241,slow=11
PAL Palisades 26.86 40 eP P 19 14 56.1 -0.1
PAL pmax pmax
comp=Z,170nm,1.4s,mb5.4
PAL Palisades 26.86 40 eP P 19 14 56.1 0.0
comp=Z,172nm,1.4s,mb5.4
N07B Gerlach 26.87 320 ⇓P P 19 14 56.1 -0.2
baz=27,SNR=140
L09A Wilkinson Ranc 26.90 323 P P 19 14 56.9 +0.3
baz=27,SNR=126
MFID Camas Ranch 26.90 327 P P 19 14 56.4 -0.2
baz=27,SNR=45
M08A Happy Creek Ra 26.94 321 P P 19 14 57.2 +0.3
baz=27,SNR=174
DLMT Dillon 26.95 334 eP P 19 14 57.4 +0.4
comp=Z,272nm,1.3s,mb5.6
WENL Wente Brothers 26.97 311 ⇑P P 19 14 57.5 +0.3
baz=27
K10A MacKenzie Ranc 26.99 325 P P 19 14 57.2 -0.1
baz=27,SNR=40
H13A Challis 27.02 331 P P 19 14 58.1 +0.5
baz=27,SNR=73
O06A Flanigan 27.03 318 P P 19 14 58.3 +0.6
baz=27,SNR=104
BNLO Ben Lomond (Sa 27.03 310 ⇑P P 19 14 57.0 -0.8
baz=27
P05C Yuba Gap, Truc 27.04 315 P P 19 14 58.5 +0.7
baz=27,SNR=24
BEKR Beckwourth 27.19 317 P P 19 14 59.9 +0.7
baz=27,SNR=76
BDM Black Diamond 27.20 312 ⇑P P 19 14 59.5 +0.2
baz=27
JRSC Jasper Ridge 27.20 310 ⇓P P 19 14 58.8 -0.5
baz=27
ROSC El Rosal 27.21 125 eP P 19 15 02.0 +2.5
ROSC El Rosal 27.21 125 P P 19 15 03.6 +4.0
comp=Z,7.8nm,0.5s,mb4.5,baz=105,slow=18,SNR=7.1
ROSC LR LR 19 28 31.8
comp=Z,1μm,18.6s,MS4.5,baz=161,slow=42
DGMT Dagmar 27.26 349 eP P 19 14 59.2 -0.5
DGMT LR LR
comp=Z,2μm,19.0s,MS4.6
LRM Limekiln Ridge 27.27 335 eP P 19 14 59.9 +0.1
H12A Diamond D Ranc 27.28 330 ⇑P P 19 15 00.4 +0.5
baz=27
F15A Butte 27.30 335 P P 19 15 00.4 +0.3
baz=27,SNR=228
Q04C Lincoln 27.31 314 ⇑P P 19 15 00.6 +0.3
baz=27
I11A Placerville 27.33 328 ⇑P P 19 15 00.6 +0.2
baz=27
M07A Soldier Meadow 27.36 321 ⇑P P 19 15 00.2 -0.5
baz=27
N06A Buffalo Meadow 27.37 319 ⇑P P 19 15 01.0 +0.2
baz=27
J10A Berg Farm, Mel 27.39 326 ⇑P P 19 15 00.8 -0.1
baz=27
K09A Rome 27.39 324 ⇓P P 19 15 01.2 +0.2
baz=27
G13A Cobalt 27.43 332 ⇑P P 19 15 01.3 +0.1
baz=27
O05C Quincy 27.60 316 ⇓P P 19 15 03.7 +0.8
baz=28
F14A Wisdom 27.63 334 ⇑P P 19 15 03.3 +0.2
baz=28
Q03C Winters 27.64 313 ⇑P P 19 15 03.7 +0.6
baz=28
OHCM Honcut 27.64 315 eP P 19 15 03.0 -0.2
WVOR Wild Horse Val 27.72 323 P P 19 15 03.9 0.0
WVOR MLR MLR
comp=Z,2μm,20.0s,MS4.7
ORV Oroville 27.76 315 ⇑P P 19 15 04.4 +0.1
baz=28
SUTB Sutter Butte 27.78 314 ⇓P P 19 15 04.3 -0.2
baz=28
CVS Carmenet Viney 27.80 312 ⇑P P 19 15 04.3 -0.3
baz=28

K08A Mann Creek Ran 27.83 323 ⇓P P 19 15 05.3 +0.5
baz=28
E15A Deer Lodge 27.84 335 ⇑P P 19 15 04.8 -0.1
baz=28
J09A Fry Pan Ranch, 27.85 325 ⇓P P 19 15 05.0 -0.1
baz=28
ELFS Eagle Lake Fie 27.85 318 ⇑P P 19 15 05.8 +0.7
baz=28
L07A Adell 27.85 321 ⇑P P 19 15 05.3 +0.2
baz=28
SDV Santo Domingo 27.87 114 eP P 19 15 06.8 +1.2
comp=Z,184nm,0.7s,mb5.8
SDV e 19 15 17.5
SDV LR LR
comp=Z,1μm,22.0s,MS4.4
SDV Santo Domingo 27.87 114 P P 19 15 06.8 +1.2
comp=Z,46nm,0.8s,mb5.2,baz=345,slow=5.7,SNR=74
I10A Payette 27.88 327 ⇓P P 19 15 05.5 +0.3
baz=28
O04C Chester 27.91 317 ⇓P P 19 15 06.3 +0.7
baz=28
H11A Donnelly 27.94 329 ⇓P P 19 15 05.9 +0.1
baz=28
MCCM Marconi Confer 28.00 311 PFAKE 19 15 20.0 +14
MCCM LR LR
comp=Z,2μm,19.0s,MS4.6
MCCM Marconi Confer 28.00 311 ⇑P P 19 15 06.1 -0.3
baz=28
M06C Likely Place G 28.04 319 ⇑P P 19 15 06.7 0.0
baz=28
MNRC McLaughlin Nat 28.05 313 ⇓P P 19 15 06.9 +0.1
baz=28
H10A Noah's Angus R 28.21 328 ⇑P P 19 15 08.0 -0.3
baz=28
EGMT Eagleton 28.22 341 eP P 19 15 07.8 -0.5
comp=Z,259nm,1.3s,mb5.7
EGMT LR LR
comp=Z,2μm,22.0s,MS4.6
K07A Rock Creek Ran 28.23 323 ⇓P P 19 15 09.0 +0.6
baz=28
J08A Circle Bar Ran 28.24 324 ⇓P P 19 15 08.8 +0.2
baz=28
I09A Lost Marbles R 28.27 326 ⇓P P 19 15 08.7 -0.1
baz=28
ULM Lac du Bonnet 28.30 1 P P 19 15 07.0 -2.0
ULM Lac du Bonnet 28.30 1 P P 19 15 07.0 -2.0
comp=Z,13nm,0.6s,mb4.8,baz=189,slow=9.1,SNR=29
D15A Lincoln 28.31 336 ⇓P P 19 15 08.8 -0.3
baz=28
O03C Acorn Hollow, 28.34 315 ⇑P P 19 15 08.7 -0.8
baz=28
MOD Modoc 28.35 320 eP P 19 15 09.1 -0.4
MOD LR LR
comp=Z,2μm,21.0s,MS4.6
MOD Modoc 28.35 320 ⇓P P 19 15 09.3 -0.2
baz=28
LBCM Butte Creek Ri 28.36 317 P P 19 15 09.8 +0.1
F12A Elk City 28.39 331 ⇑P P 19 15 09.9 0.0
baz=28
HATC Hat Creek Radi 28.42 317 ⇓P P 19 15 10.4 +0.2
baz=28
E13A Victor 28.48 334 ⇓P P 19 15 10.2 -0.4
baz=28
CHMT Chamberlain Mo 28.48 335 eP P 19 15 10.2 -0.5
ACCN Adirondack Com 28.52 36 eP P 19 15 11.3 +0.2
HOPS Hopland 28.53 313 eP P 19 15 12.1 +0.9
comp=Z,274nm,1.9s,mb5.7
HOPS LR LR
comp=Z,2μm,21.0s,MS4.7
HOPS Hopland 28.53 313 ⇑P P 19 15 10.9 -0.3
baz=28
M05C Lookout 28.54 319 ⇑P P 19 15 11.1 -0.1
baz=28
QUA2 Belchertown 28.56 39 eP P 19 15 11.6 +0.2
comp=Z,241nm,1.5s,mb5.7
SJG San Juan 28.57 92 P P 19 15 10.4 -1.3
SJG pmax pmax
comp=Z,13nm,0.3s
SJG MLR MLR
comp=Z,860nm,21.5s
SJG San Juan 28.57 92 eP P 19 15 11.4 -0.4
SJG LR LR
comp=Z,2μm,22.0s,MS4.7
SJG San Juan 28.57 92 P P 19 15 10.4 -1.3
comp=Z,13nm,0.3s,mb5.2,baz=353,slow=21,SNR=10.0
SJG LR LR 19 27 44.6
comp=Z,860nm,21.5s,MS4.3,baz=277,slow=39
G11A Walters Elk Ra 28.58 330 ⇑P P 19 15 11.3 -0.2
baz=28
GASB Alder Springs 28.62 314 ⇑P P 19 15 12.3 +0.3
baz=29
NCB Newcomb 28.62 35 eP P 19 15 11.2 -0.7
NCB LR LR
comp=Z,2μm,20.0s,MS4.7
LTIM Timbered Crate 28.64 318 P P 19 15 12.3 +0.1
I08A Drewsey 28.66 325 ⇑P P 19 15 12.3 0.0
baz=29
BMO Blue Mountains 28.68 328 eP P 19 15 11.5 -0.9
comp=Z,195nm,1.4s,mb5.6
MSO Missoula 28.69 334 eP P 19 15 12.1 -0.3
comp=Z,140nm,1.4s,mb5.5
MSO LR LR
comp=Z,1μm,20.0s,MS4.5
D14A Greenough 28.72 335 ⇓P P 19 15 12.0 -0.8
baz=29
H09A Durkee 28.72 327 ⇓P P 19 15 12.4 -0.4
baz=29
L05A Lakeview 28.75 320 ⇑P P 19 15 13.1 0.0
baz=29
CPD Cerro la Pandu 28.80 92 eP P 19 15 13.4 -0.4
CBYP Canovanas 28.81 92 eP P 19 15 14.5 +0.6
comp=Z,158nm,1.6s,mb5.5
BRYW Bryant College 28.83 40 eP P 19 15 13.9 +0.1
HUMP Col San Antoni 28.84 92 eP P 19 15 15.0 +0.8
comp=Z,246nm,2.1s,mb5.6
K06A Valley Falls 28.87 322 ⇓P P 19 15 13.8 -0.3
baz=29
LONY Lake Ozonia 28.88 33 eP P 19 15 13.6 -0.6
comp=Z,259nm,2.5s,mb5.5
LONY LR LR
comp=Z,2μm,20.0s,MS4.6
F11A Grangeville 28.90 331 ⇑P P 19 15 13.6 -0.7
baz=29
G10A Bishop Farm, J 28.91 329 ⇑P P 19 15 14.1 -0.3
baz=29
P01C Double 8 Ranch 28.94 313 ⇓P P 19 15 14.9 0.0
baz=29
WDC Whiskeytown Da 28.98 316 eP P 19 15 12.6 -2.6
WDC LR LR
comp=Z,1μm,21.0s,MS4.5
WDC Whiskeytown Da 28.98 316 ⇓P P 19 15 12.6 -2.6
baz=29
D13A Huson 29.11 334 ⇓P P 19 15 15.7 -0.5
baz=29
MTP Monte Pirata 29.13 92 eP P 19 15 16.9 +0.2
H08A Prairie City 29.13 326 ⇑P P 19 15 16.4 -0.1
baz=29
K05A Summer Lake 29.20 321 ⇓P P 19 15 16.5 -0.5
baz=29
M04C Macdoel 29.20 319 ⇑P P 19 15 17.0 -0.1
baz=29
KIPM Iron Peak 29.21 314 eP P 19 15 17.4 +0.2
KCPM Cahto Peak 29.21 314 eP P 19 15 17.6 +0.4
WES Weston 29.23 40 eP P 19 15 17.9 +0.5
WES LR LR
comp=Z,863nm,20.0s,MS4.4
E11A Bogner Ranch, 29.28 331 ⇑P P 19 15 16.6 -1.2
baz=29
I07A Izee 29.28 325 ⇓P P 19 15 17.4 -0.4
baz=29
LHEM Herd Peak 29.35 318 P P 19 15 18.0 -0.4
F10A Beach Ranch, E 29.46 330 ⇑P P 19 15 18.9 -0.4
baz=29
L04A Klamath Falls 29.46 319 ⇑P P 19 15 18.8 -0.7
baz=29
FRNY Flat Rock 29.54 34 eP P 19 15 19.5 -0.6
I06A Prineville 29.57 324 ⇑P P 19 15 19.6 -0.7
baz=30
F09A S2 Ranch, Elgi 29.59 329 ⇑P P 19 15 20.0 -0.5
baz=30
O01C Eel River Cons 29.59 314 ⇑P P 19 15 20.6 0.0
baz=30
N02C Big Bar 29.61 316 ⇓P P 19 15 18.6 -2.1
baz=30
M02C Callahan 29.62 317 ⇑P P 19 15 18.9 -1.9
baz=30
K04A Chilquin 29.62 320 ⇓P P 19 15 20.0 -0.9

baz=30
C13A Hot Springs 29.63 335 ⇓P P 19 15 19.9 -0.9
baz=30
YBH Yreka Blue Hor 29.71 318 P P 19 15 19.4 -2.3
YBH pmax pmax
comp=Z,16nm,0.8s
YBH MLR MLR
comp=Z,2μm,19.2s
YBH Yreka Blue Hor 29.71 318 eP P 19 15 19.7 -2.0
YBH LR LR
comp=Z,2μm,20.0s,MS4.7
YBH Yreka Blue Hor 29.71 318 P P 19 15 19.4 -2.3
comp=Z,16nm,0.8s,mb4.8
YBH LR LR 19 28 50.7
comp=Z,2μm,19.1s,MS4.8,slow=40
YBH Yreka Blue Hor 29.71 318 ⇓P P 19 15 19.8 -1.9
baz=30
BUOR Burton Butte 29.74 319 P P 19 15 21.6 -0.2
J05A Fort Rock 29.74 322 ⇑P P 19 15 20.8 -1.0
baz=30
E10A Myers Farm, Un 29.79 330 ⇓P P 19 15 21.0 -1.2
baz=30
G08A Pilot Rock 29.82 327 ⇓P P 19 15 21.8 -0.7
baz=30
BSMT Bassoo Peak 29.85 335 eP P 19 15 22.2 -0.6
D11A Klaveano Farm, 29.86 332 ⇑P P 19 15 21.5 -1.4
baz=30
KHMM Horse Mountain 29.91 316 eP P 19 15 22.3 -1.1
BBSR BB Station 29.91 63 eP P 19 15 24.5 +0.9
comp=Z,60nm,0.8s,mb5.4
BBSR LR LR
comp=Z,2μm,22.0s,MS4.6
LBNH Lisbon 30.04 36 eP P 19 15 25.3 +0.8
LBNH LR LR
comp=Z,2μm,22.0s,MS4.7
JCC Jacoby Creek 30.07 315 ⇓P P 19 15 23.8 -1.0
baz=30
F08A Pendleton 30.08 328 ⇑P P 19 15 23.5 -1.3
baz=30
B13A Whitefish 30.15 336 ⇓P P 19 15 25.0 -0.5
baz=30
H06A Lindquist Farm 30.16 325 ⇑P P 19 15 24.9 -0.6
baz=30
G07A Ruggs Ranch, H 30.16 326 ⇑P P 19 15 24.7 -0.9
baz=30
J04A Umpqua Nationa 30.22 321 ⇑P P 19 15 24.9 -1.2
baz=30
D10A Wagner Farm, O 30.29 331 ⇑P P 19 15 25.3 -1.4
baz=30
E09A Wood Farm, Sta 30.29 329 ⇑P P 19 15 25.6 -1.1
baz=30
I05A Bend 30.30 323 ⇑P P 19 15 26.4 -0.5
baz=30
BBOR Butler Butte 30.35 320 P P 19 15 26.0 -1.3
HUMO Hull Mountain 30.36 319 eP P 19 15 25.0 -2.3
HUMO LR LR
comp=Z,3μm,21.0s,MS4.9
HUMO Hull Mountain 30.36 319 ⇓P P 19 15 25.3 -2.1
baz=30
KRMB Red Mountain 30.36 317 eP P 19 15 25.9 -1.4
L02A Cave Junction 30.50 318 ⇓P P 19 15 26.8 -1.8
baz=30
WALA Waterton Lakes 30.51 337 eP P 19 15 28.2 -0.4
comp=Z,78nm,1.3s,mb5.4
WIFE Three Sisters- 30.55 322 P P 19 15 28.5 -0.4
H05A Madras 30.59 324 ⇑P P 19 15 28.8 -0.5
baz=30
G06A Carlson Farm, 30.65 325 ⇑P P 19 15 29.1 -0.8
baz=31
M01C Crescent City 30.66 317 ⇑P P 19 15 28.9 -1.2
baz=31
B12A Libby 30.67 334 ⇑P P 19 15 29.8 -0.2
baz=31
E08A Dider Farm, El 30.71 328 ⇓P P 19 15 28.7 -1.7
baz=31
I04A Tendick Farm, 30.73 321 ⇓P P 19 15 28.9 -1.6
baz=31
F07A Phinny Hill Vi 30.73 327 ⇓P P 19 15 29.4 -1.2
baz=31
D09A Jones Farm, Ri 30.77 330 ⇓P P 19 15 29.9 -1.0
baz=31
K02A Glendale 30.77 319 ⇓P P 19 15 29.3 -1.7
baz=31
J03A Ideyld Park 30.80 320 ⇑P P 19 15 29.7 -1.5
baz=31
HAWA Hanford 30.87 328 eP P 19 15 30.4 -1.5
HAWA LR LR
comp=Z,1μm,20.0s,MS4.5
C10A Spilker Farm, 30.88 332 ⇓P P 19 15 30.9 -1.0
baz=31
KBO Bosley Butte 30.92 317 eP P 19 15 31.1 -1.2
B11A Sandpoint 30.96 334 ⇓P P 19 15 32.0 -0.5
baz=31
G05A Wamic 31.02 325 ⇓P P 19 15 32.2 -0.9
baz=31
D08A Wollman Farm, 31.05 329 ⇑P P 19 15 32.2 -1.2
baz=31
A12A Yaak River Ran 31.07 335 ⇓P P 19 15 33.0 -0.5
baz=31
F06A Goldendale 31.08 326 ⇓P P 19 15 33.0 -0.7
baz=31
H04A Detroit Lake 31.14 323 ⇓P P 19 15 33.2 -1.0
baz=31
NEW Newport 31.14 333 eP P 19 15 33.1 -1.1
comp=Z,112nm,1.6s,mb5.4
NEW LR LR
comp=Z,2μm,20.0s,MS4.8
E07A Sunnyside 31.15 328 ⇓P P 19 15 33.1 -1.2
baz=31
J02A Umpqua 31.16 320 ⇑P P 19 15 33.4 -1.0
baz=31
OD2 Odessa Site #2 31.19 330 P P 19 15 33.7 -1.0
B10A Chitwood Farm, 31.21 333 ⇑P P 19 15 33.3 -1.5
baz=31
HOOD Mount Hood Mea 31.25 324 eP P 19 15 36.0 +0.8
C09A Chrisman Ranch 31.30 331 ⇑P P 19 15 34.6 -0.9
baz=31
I03A Eugene 31.34 321 ⇓P P 19 15 34.6 -1.4
baz=31
KEBM Edson Butte 31.35 318 eP P 19 15 36.0 0.0
A11A Hall Mountain, 31.37 334 ⇓P P 19 15 36.1 0.0
baz=31
K01A Sixes 31.40 318 ⇓P P 19 15 36.5 0.0
baz=31
SSOR Sweet Springs 31.40 323 P P 19 15 35.4 -1.1
WVL Waterville 31.51 38 eP P 19 15 38.4 +0.9
F05A White Salmon 31.51 325 ⇑P P 19 15 37.6 +0.2
baz=31
G04A Mulino 31.63 324 ⇑P P 19 15 37.7 -0.8
baz=32
C08A Higginbotham F 31.64 330 ⇓P P 19 15 37.8 -0.8
baz=32
D07A Quincy 31.65 329 ⇓P P 19 15 38.0 -0.7
baz=32
I02A Mapleton 31.68 321 ⇑P P 19 15 38.2 -0.7
baz=32
E06A Yakima 31.70 327 ⇓P P 19 15 39.1 0.0
baz=32
B09A Rice 31.71 332 ⇓P P 19 15 38.4 -0.8
baz=32
COR Corvallis 31.71 322 eP P 19 15 39.0 -0.2
COR LR LR
comp=Z,2μm,22.0s,MS4.7
EBG Ellensburg 31.75 328 P P 19 15 39.4 -0.1
H03A Soap Creek Ran 31.76 322 ⇑P P 19 15 39.1 -0.6
baz=32
A10A Northport 31.88 333 ⇑P P 19 15 39.5 -1.2
baz=32
TBM Table Mountain 31.94 328 P P 19 15 41.2 0.0
LTY Liberty 32.04 328 P P 19 15 41.6 -0.5
C07A Waterville 32.04 329 ⇑P P 19 15 41.7 -0.4
baz=32
TWW Teanaway 32.05 328 P P 19 15 42.5 +0.2
F04A Amboy 32.05 325 ⇑P P 19 15 41.6 -0.6
baz=32
D06A Cle Elum 32.08 328 ⇑P P 19 15 42.3 -0.1
baz=32
G03A Yamhill 32.14 323 ⇑P P 19 15 42.9 -0.2
baz=32
PKME Peaks-Kenny Pk 32.14 37 eP P 19 15 43.6 +0.6
PKME LR LR
comp=Z,1μm,21.0s,MS4.6
H02A Toledo 32.17 321 ⇓P P 19 15 43.7 +0.4
baz=32
LON Longmire 32.27 326 eP P 19 15 44.3 +0.2
LON Longmire 32.27 326 P P 19 15 44.2 +0.1
A09A Danville 32.31 332 ⇑P P 19 15 43.9 -0.6

baz=32
A08A Turner Farm, O 32.60 331 ⇑P P 19 15 46.4 -0.5
baz=32
C06A Tall Timber Ra 32.61 329 ⇓P P 19 15 47.0 -0.1
baz=32
E04A Onalaska 32.64 325 ⇓P P 19 15 47.1 -0.2
baz=33
D05A Enumclaw 32.65 327 ⇓P P 19 15 47.3 -0.1
baz=33
F03A Seaside 32.67 324 ⇓P P 19 15 47.9 +0.2
baz=33
C05A Tolt Reservoir 32.84 328 ⇑P P 19 15 48.6 -0.5
baz=33
EMMW East Machias 32.87 39 eP P 19 15 50.6 +1.2
D04A Dobbs Creek Ra 33.02 326 ⇑P P 19 15 50.4 -0.2
baz=33
E03A Lebam 33.06 325 ⇑P P 19 15 50.9 -0.1
baz=33
FFC Flin Flon 33.06 354 eP P 19 15 49.6 -1.4
FFC LR LR
comp=Z,2μm,22.0s,MS4.7
A07A Ashnola River, 33.17 331 ⇑P P 19 15 51.8 -0.1
baz=33
B06A Marblemount 33.30 329 ⇓P P 19 15 51.9 -1.3
baz=33
GNW Green Mountain 33.32 327 P P 19 15 52.1 -1.2
ON2 Olympics--Nort 33.38 325 P P 19 15 53.9 +0.1
B05A Bryant 33.43 328 ⇑P P 19 15 52.7 -1.5
baz=33
C04A Brinnon 33.50 327 ⇓P P 19 15 53.9 -1.0
baz=33
D03A Wishkah Elem. 33.53 325 ⇓P P 19 15 55.5 +0.4
baz=34
A06A Chilliwack 33.71 330 ⇓P P 19 15 55.9 -0.8
baz=34
NLWA Neilton Lookou 33.75 326 eP P 19 15 57.1 0.0
NLWA LR LR
comp=Z,2μm,19.0s,MS4.8
NLWA Neilton Lookou 33.75 326 ⇑P P 19 15 57.2 +0.1
baz=34
SQM Sequim 33.77 327 P P 19 15 57.3 0.0
OSR Olympics--Salm 33.87 326 P P 19 15 58.5 +0.3
EDM Edmonton 33.89 342 eP P 19 15 57.2 -1.0
A05A Maple Falls 33.92 329 ⇓P P 19 15 57.3 -1.2
baz=34
OSD Olympics--Snow 33.94 326 P P 19 15 59.0 +0.3
B04A Port Angeles 33.99 327 ⇑P P 19 15 59.0 -0.1
baz=34
A04A Legoe Bay, Lum 34.03 328 ⇓P P 19 15 58.6 -0.9
baz=34
OBC Olympics--Boni 34.27 326 P P 19 16 01.8 +0.2
PGC Sidney 34.35 328 eP P 19 16 01.7 -0.6
GRGR Grenville 34.46 101 eP P 19 16 04.8 +1.2
comp=Z,970nm,1.3s
GRGR LR LR
comp=Z,1μm,19.0s
C03A Quillayute Air 34.47 326 ⇑P P 19 16 04.0 +0.7
baz=34
BBGH Gun Hill 36.04 98 PFAKE
BBGH LR LR 19 16 30.0 +13
comp=Z,4μm,22.0s,MS5.1
FCC Fort Churchill 36.87 2 eP P 19 16 22.5 -1.2
FCC pmax pmax
comp=Z,76nm,1.5s,mb5.3
FCC Fort Churchill 36.87 2 eP P 19 16 22.5 -1.2
comp=Z,76nm,1.5s,mb5.3
NNA Nana 38.71 149 PFAKE
NNA LR LR 19 16 50.0 +10
comp=Z,962nm,20.0s,MS4.6
SCHQ Schefferville 39.64 27 P P 19 16 45.4 -1.7
comp=Z,17nm,0.8s,mb4.8,baz=225,slow=8.2,SNR=18
SCHQ LR LR 19 34 06.6
comp=Z,717nm,21.4s,MS4.5,baz=69,slow=38
YKA Yellowknife Ar 42.46 348 P P 19 17 08.4 -1.9
YKA pmax pmax
comp=Z,14nm,0.6s
YKA MLR MLR
comp=Z,1μm,20.8s
YKA Yellowknife Ar 42.46 348 P P 19 17 08.4 -1.9
comp=Z,14nm,0.6s,mb4.8,baz=151,slow=7.7,SNR=194
YKA LR LR 19 36 34.9
comp=Z,1μm,20.8s,MS4.7,baz=165,slow=39
YKW3 Yellowknife Ar 42.52 348 eP P 19 17 09.0 -1.7
WRAK Wrangell Islan 43.49 332 PFAKE
WRAK LR LR 19 17 30.0 +11
comp=Z,951nm,21.0s,MS4.7
DLBC Dease Lake 43.81 335 eP P 19 17 22.1 +0.8
SIT Sitka 45.19 331 PFAKE
SIT LR LR 19 17 40.0 +7.7
comp=Z,1μm,21.0s,MS4.9
SKAG Skagway 46.59 334 eP P 19 17 43.7 +0.4
LPAZ La Paz 46.93 142 P P 19 17 46.3 -0.2
LPAZ pmax pmax
comp=Z,3.0nm,0.7s
LPAZ La Paz 46.93 142 eP P 19 17 47.2 +0.7
comp=Z,10nm,0.6s,mb4.9
LPAZ La Paz 46.93 142 P P 19 17 46.3 -0.2
comp=Z,2.6nm,0.7s,mb4.3,baz=307,slow=12,SNR=12
DAWY Dawson 50.86 337 eP P 19 18 14.6 -1.5
SIV San Ignacio 51.09 135 P P 19 18 18.1 -0.3
comp=Z,11nm,0.7s,mb4.9,baz=318,slow=7.8,SNR=22
MID Middleton Isla 51.42 330 eP P 19 18 19.4 -1.0
LVC Limon Verde 51.67 147 PFAKE
LVC LR LR 19 18 30.0 +7.3
comp=Z,1μm,22.0s,MS4.9
INK Inuvik 51.75 343 eP P 19 18 21.9 -0.8
MENT Mentasta 51.89 335 eP P 19 18 23.6 -0.2
DIV Divide 51.90 332 eP P 19 18 24.0 +0.1
comp=Z,79nm,1.2s,mb5.5
DIV LR LR
comp=Z,4μm,22.0s,MS5.4
EGAK Eagle 51.90 337 eP P 19 18 23.0 -0.9
EGAK LR LR
comp=Z,893nm,21.0s,MS4.8
RES Resolute Bay 52.84 0 eP P 19 18 29.6 -1.1
RES Resolute Bay 52.84 0 eP P 19 18 29.1 -1.6
SML Sawmill 53.30 332 eP P 19 18 34.1 -0.2
SML Sawmill 53.30 332 eP P 19 18 33.8 -0.5
SFJD Kangerlussuaq 53.43 20 P P 19 18 34.2 -1.0
SFJD pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
SFJD Kangerlussuaq 53.43 20 P P 19 18 34.2 -0.9
comp=Z,6.4nm,0.8s,mb4.6,baz=230,slow=6.3,SNR=3.3
SFJD Kangerlussuaq 53.43 20 i S S 19 25 59.6 -8.2
SFJD
comp=Z,630nm,20.0s
PMR Palmer 53.56 332 eP P 19 18 36.0 -0.2
comp=Z,89nm,1.3s,mb5.5
PMR LR LR
comp=Z,938nm,22.0s,MS4.8
SLKM Skilak Lake 53.64 330 eP P 19 18 36.6 -0.2
KDAK Kodiak Island 53.89 327 eP P 19 18 38.5 -0.2
comp=Z,200nm,1.4s,mb5.8
KDAK LR LR
comp=Z,257nm,20.0s,MS4.3
COLA College 54.42 336 eP P 19 18 41.2 -1.2
COLA pmax pmax
comp=Z,89nm,1.0s,mb5.7
COLA MLR MLR
comp=Z,732nm,21.0s,MS4.7
COLA College 54.42 336 eP P 19 18 41.2 -1.2
comp=Z,89nm,1.0s,mb5.7
COLA LR LR
comp=Z,732nm,21.0s,MS4.7
LCO Las Campanas 56.31 153 eP P 19 18 57.9 +1.4
comp=Z,240nm,1.7s,mb6.0
LCO e 19 19 07.2
LCO LR LR
comp=Z,1μm,19.0s,MS5.0
SVW2 Sparrevohn 56.32 330 eP P 19 18 55.2 -1.0
CHGN Chignik 56.63 324 eP P 19 18 57.2 -1.3
KIP Kipapa 56.98 282⇑eP P 19 19 00.4 -1.2
TTA Tatalina 57.04 332 eP P 19 19 00.3 -1.0
IMA2 Indian Mountai 57.13 336 eP P 19 19 00.2 -1.7
BDFB Brasilia 60.27 124 P P 19 19 25.5 +1.1
BDFB pmax pmax
comp=Z,5.0nm,0.9s
BDFB Brasilia 60.27 124 P P 19 19 25.4 +1.0
comp=Z,5.3nm,0.9s,mb4.6,baz=286,slow=14,SNR=8.4
UNV Unalaska Valle 60.98 320 eP P 19 19 28.4 -0.3
UNV LR LR
comp=Z,4μm,21.0s,MS5.5
CPUP Villa Florida 61.03 140 eP P 19 19 28.0 -1.4
CPUP pmax pmax
comp=Z,120nm,1.0s
CPUP Villa Florida 61.03 140 eP P 19 19 28.0 -1.4
comp=Z,120nm,1.0s,mb6.0
CPUP e 19 19 39.1
CPUP Villa Florida 61.03 140 P P 19 19 28.8 -0.6
comp=Z,3.2nm,0.6s,mb4.6,baz=330,slow=9.2,SNR=7.1
CPUP LR LR 19 49 18.4
comp=Z,587nm,20.9s,MS4.7,baz=83,slow=39
ALE Alert 62.05 5 P P 19 19 34.0 -1.7
comp=Z,126nm,1.3s,mb5.9,SNR=11
TNA Tin City 62.68 334 eP P 19 19 37.0 -3.0
TNA LR LR
comp=Z,635nm,22.0s,MS4.7
GAMB Gambell 64.14 331 eP P 19 19 48.9 -0.8
PPT Papeete 65.24 237 LR LR 19 42 26.3
comp=Z,379nm,20.1s,MS4.6,baz=84,slow=31
DAG Danmarks Havn 66.02 14⇓iP P 19 20 00.4 -1.4
DAG pmax pmax
comp=Z,65nm,0.7s,mb5.8
DAG Danmarks Havn 66.02 14⇓iP P 19 20 00.4 -1.4
comp=Z,65nm,0.7s,mb5.8
PLCA Paso Flores 66.75 159 P P 19 20 08.1 +1.3
PLCA pmax pmax
comp=Z,14nm,1.0s
PLCA MLR MLR
comp=Z,440nm,18.8s
PLCA Paso Flores 66.75 159 P P 19 20 08.1 +1.2
PLCA LR LR 19 45 34.6
PLCA Paso Flores 66.75 159 P P 19 20 08.1 +1.2
comp=Z,14nm,1.0s,mb4.9,baz=332,slow=7.8,SNR=19
PLCA LR LR 19 45 34.6
comp=Z,440nm,18.8s,MS4.7,baz=355,slow=33
ADK Adak 67.22 318 PFAKE
ADK LR LR 19 20 20.0 +10
comp=Z,867nm,19.0s,MS5.0
TRQA Tornquist 67.80 151 eP P 19 20 13.5 0.0
comp=Z,148nm,1.2s,mb5.9
TRQA e 19 20 21.1
TRQA LR LR
comp=Z,1μm,20.0s,MS5.1
KBS Kingsbay 72.10 11 eP P 19 20 40.3 +0.8
comp=Z,65nm,0.9s,mb5.6
KBS LR LR
comp=Z,1μm,22.0s,MS5.1
DCN Croghan 72.18 39 eP P 19 20 40.5 +0.1
KPL Plockton 72.20 35 eP P 19 20 39.8 -0.6
KPL AMb AMB 19 20 41.1
comp=Z,113nm,1.2s,mb5.7
DMUB Kingscourt 72.27 38 eP P 19 20 41.0 +0.1
KSB Sheil Bridge 72.35 35 eP P 19 20 41.2 -0.2
KAC Achnashellach 72.36 35 eP P 19 20 41.3 0.0
MIDW Midway 72.44 294 PFAKE
MIDW LR LR 19 20 50.0 +7.6
comp=Z,1μm,20.0s,MS5.1
DLF Lyons Farm 72.63 39 eP P 19 20 43.0 -0.1
BILL Bilibino 72.64 337c iP P 19 20 42.2 -0.7
BILL i 19 20 54.4
BILL eS S 19 30 00.7 -7.5
BILL pmax pmax
comp=Z,225nm,1.6s,mb5.8
BILL Bilibino 72.64 337 eP P 19 20 42.2 -0.6
comp=Z,296nm,1.5s,mb6.0
BILL e 19 20 54.5
BILL LR LR
comp=Z,708nm,19.0s,MS5.0
SMY Shemya 72.64 320 PFAKE
SMY LR LR 19 20 50.0 +6.8
comp=Z,481nm,20.0s,MS4.8
MDO Dochfour 72.86 34 eP P 19 20 44.5 +0.1
EAB Aberfoyle 73.17 36 eP P 19 20 45.7 -0.6
PGBU Glenifferbraes 73.19 36 eP P 19 20 46.0 -0.3
SPB4 Spitsbergen Ar 73.21 11 eP P 19 20 45.8 -0.3
SPITS Spitsbergen Ar 73.21 11 LR LR 19 56 01.8
comp=Z,1μm,21.4s,MS5.2,baz=170,slow=38
MCD Coleburn Disti 73.41 34 eP P 19 20 48.1 +0.5
MME1 Meikle Cairn 73.62 34 eP P 19 20 48.9 0.0
EDI Edinburgh 73.87 36 P P 19 20 49.8 -0.6
EDI AMb AMB 19 20 51.8
comp=Z,69nm,1.0s,mb5.5
EDI Edinburgh 73.87 36 eP P 19 20 49.8 -0.6
EDI AMb AMB 19 20 51.8
comp=Z,69nm,1.0s,mb5.5
EDI AMS AMS 19 58 36.2
comp=Z,1μm,21.3s,MS5.1
ESK Eskdalemuir 74.02 36 P P 19 20 50.3 -1.0
ESK AMb AMB 19 20 53.1
comp=Z,62nm,1.3s,mb5.4
ESK Eskdalemuir 74.02 36 eP P 19 20 50.3 -1.0
ESK AMb AMB 19 20 53.1
comp=Z,62nm,1.3s,mb5.4
ESK AMS AMS 19 58 38.8
comp=Z,753nm,22.0s,MS4.9
ESK Eskdalemuir 74.02 36 eP P 19 20 50.8 -0.4
ESK LR LR
comp=Z,1μm,20.0s,MS5.1
ECK Cauldkaine Hil 74.10 37 eP P 19 20 51.2 -0.5
ESY Stoneypath 74.18 36 eP P 19 20 52.6 +0.4
HTL Hartland 74.42 41 P P 19 20 53.3 -0.3
HTL AMb AMB 19 20 56.9
comp=Z,51nm,2.4s,mb5.0
HTL Hartland 74.42 41 eP P 19 20 53.3 -0.3
HTL AMb AMB 19 20 56.9
comp=Z,51nm,2.4s,mb5.0
HTL AMS AMS 19 50 57.4
comp=Z,610nm,22.3s,MS4.8
XAL Allendale 74.69 37 eP P 19 20 55.0 -0.1
EPON Pontenova 74.73 49 P P 19 20 55.8 +0.2
comp=Z,144nm,1.6s,mb5.7
HEX Exmoor 74.82 41 eP P 19 20 56.0 0.0
DYA Yadsworthy 74.91 41 eP P 19 20 56.0 -0.5
DYA AMS AMS 19 54 05.1
comp=Z,461nm,22.0s,MS4.7
MTE Manteigas 75.25 52 eP P 19 20 58.0 -0.7
LHO Holmfirth 75.27 38 eP P 19 20 57.8 -0.7
HPK Haverah Park 75.28 38 P P 19 20 58.9 +0.3
HPK AMb AMB 19 21 01.1
comp=Z,70nm,1.3s,mb5.4
HPK Haverah Park 75.28 38 eP P 19 20 58.9 +0.3
HPK AMb AMB 19 21 01.1
comp=Z,70nm,1.3s,mb5.4
HPK AMS AMS 19 56 37.4
comp=Z,529nm,21.1s,MS4.8
HAE Alders End 75.30 40 eP P 19 20 58.0 -0.7
KWE Weaver Farm 75.43 38 eP P 19 20 59.5 0.0
EVO Evora 75.43 54 eP P 19 20 58.8 -1.0
comp=Z,30nm,0.8s,mb5.0
EVO eMLR MLR
comp=Z,414nm,20.0s,MS4.4
KBI1 Birley Grange 75.54 38 eP P 19 21 00.8 +0.7
SSW Stow on the Wo 75.73 40 eP P 19 21 01.8 +0.6
CWF Charnwood Fore 75.82 39 P P 19 21 01.5 -0.2
CWF AMb AMB 19 21 04.2
comp=Z,36nm,1.3s,mb5.1
CWF Charnwood Fore 75.82 39 eP P 19 21 01.5 -0.2
CWF AMb AMB 19 21 04.2
comp=Z,36nm,1.3s,mb5.1
CWF AMS AMS 19 55 12.0
comp=Z,508nm,21.6s,MS4.8
ROSF Rostrenen 75.92 43 eP P 19 21 01.9 -0.5
comp=Z,59nm,1.1s,mb5.1
ROSF Rostrenen 75.92 43 eP P 19 21 01.9 -0.5
ROSF pmax pmax
comp=Z,29nm,1.1s,mb5.1
ROSF Rostrenen 75.92 43 eP P 19 21 01.9 -0.5
comp=Z,30nm,1.1s,mb5.1
QUIF Quistinic 76.12 44 eP P 19 21 02.9 -0.6
comp=Z,92nm,1.3s,mb5.2
QUIF Quistinic 76.12 44 eP P 19 21 02.9 -0.6
QUIF pmax pmax
comp=Z,46nm,1.3s,mb5.2
QUIF Quistinic 76.12 44 eP P 19 21 02.9 -0.6
comp=Z,46nm,1.3s,mb5.2
EGRO El Granado 76.12 55 P P 19 21 03.7 0.0
comp=Z,3.1nm,0.5s,mb4.5
WOL Wolverton 76.30 40 eP P 19 21 04.2 -0.3
SGMF Saint Gilles 76.41 43 eP P 19 21 04.2 -0.9
comp=Z,199nm,1.7s,mb5.5
SGMF Saint Gilles 76.41 43 eP P 19 21 04.2 -0.9
SGMF pmax pmax
comp=Z,100nm,1.7s,mb5.5
SGMF Saint Gilles 76.41 43 eP P 19 21 04.2 -0.9
comp=Z,100nm,1.7s,mb5.5
EMIN Mina Concepcio 76.66 55 P P 19 21 06.9 +0.1
comp=Z,2.7nm,0.6s,mb4.3
ELAN Lanestosa 77.36 48 P P 19 21 10.5 -0.1
comp=Z,1.5nm,0.5s,mb4.2
GRR Gorron 77.44 43 eP P 19 21 10.7 -0.3
comp=Z,112nm,1.1s,mb5.4
GRR Gorron 77.44 43 eP P 19 21 10.7 -0.3
GRR pmax pmax
comp=Z,56nm,1.1s,mb5.4
GRR Gorron 77.44 43 eP P 19 21 10.7 -0.3
comp=Z,56nm,1.1s,mb5.4
ECAB El Cabril 77.52 54 P P 19 21 11.5 -0.1
comp=Z,3.1nm,0.7s,mb4.3
FLN La Foliniere 77.56 42 eP P 19 21 11.0 -0.6
comp=Z,124nm,1.1s,mb5.5
FLN eMLR MLR
comp=Z,942nm,22.2s,MS4.8
FLN La Foliniere 77.56 42 eP P 19 21 11.0 -0.6
FLN pmax pmax
comp=Z,62nm,1.1s,mb5.5
FLN MLR MLR
comp=Z,940nm,22.3s,MS5.1
FLN La Foliniere 77.56 42 eP P 19 21 11.0 -0.6
comp=Z,62nm,1.1s,mb5.5
FLN LR LR
comp=Z,940nm,22.3s,MS5.1
GUD Guadarrama 77.65 51 P P 19 21 12.9 +0.6
GUD pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
GUD Guadarrama 77.65 51 P P 19 21 12.9 +0.6
comp=Z,4.9nm,0.6s,mb4.6
LDF La Druitiere 77.84 42 eP P 19 21 12.8 -0.4
comp=Z,79nm,1.2s,mb5.2
LDF La Druitiere 77.84 42 eP P 19 21 12.8 -0.4
LDF pmax pmax
comp=Z,39nm,1.2s,mb5.2
LDF La Druitiere 77.84 42 eP P 19 21 12.8 -0.4
comp=Z,39nm,1.2s,mb5.2
PAB San Pablo 77.85 52 eP P 19 21 13.7 +0.3
PAB pmax pmax
comp=Z,21nm,0.9s,mb5.1
PAB MLR MLR
comp=Z,972nm,22.0s,MS5.1
PAB San Pablo 77.85 52 eP P 19 21 13.7 +0.2
comp=Z,21nm,0.9s,mb5.1
PAB LR LR
comp=Z,972nm,22.0s,MS5.1
EJIF Jimena Fronter 77.98 56 P P 19 21 15.3 +1.1
EJIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.4
EJIF Jimena Fronter 77.98 56 P P 19 21 15.3 +1.1
comp=Z,2.9nm,0.6s,mb4.4
ESDC Sonseca Array 78.09 52 P P 19 21 14.9 +0.1
comp=Z,8.8nm,0.8s,mb4.7
ESDC Sonseca Array 78.09 52 P P 19 21 14.9 +0.1
comp=Z,7.3nm,0.9s,mb4.6,baz=300,slow=5.2,SNR=25
ESDC LR LR 19 53 28.1
comp=Z,264nm,20.7s,MS4.5,baz=295,slow=34
EADA Adamuz 78.12 54 P P 19 21 15.2 +0.2
comp=Z,5.2nm,0.7s,mb4.6
EMIJ Mijas 78.48 55 P P 19 21 17.3 +0.3
comp=Z,1.7nm,0.6s,mb4.2
MFF Saint Martin d 78.48 44 eP P 19 21 16.6 -0.2
comp=Z,78nm,1.2s,mb5.2
MFF Saint Martin d 78.48 44 eP P 19 21 16.6 -0.2
MFF pmax pmax
comp=Z,39nm,1.2s,mb5.2
MFF Saint Martin d 78.48 44 eP P 19 21 16.6 -0.2
comp=Z,39nm,1.2s,mb5.2
EALK Alkurruntz 78.69 48 P P 19 21 17.6 -0.5
comp=Z,2.3nm,0.8s,mb4.2
SJPF Ste Jean 78.92 48 eP P 19 21 19.2 -0.1
comp=Z,64nm,1.4s,mb5.1
SJPF Ste Jean 78.92 48 eP P 19 21 19.2 -0.1
SJPF pmax pmax
comp=Z,32nm,1.4s,mb5.1
SJPF Ste Jean 78.92 48 eP P 19 21 19.2 -0.1
comp=Z,32nm,1.4s,mb5.1
KONO Kongsberg 79.05 30⇑eP P 19 21 22.2 +2.6
KONO LR LR
comp=Z,2μm,21.0s,MS5.3
LARF Larrau 79.11 48 eP P 19 21 20.8 +0.5
NB2 NORSAR Subarra 79.18 28 P P 19 21 21.4 +1.1
comp=Z,0.5nm,0.8s,baz=301,slow=6.5
NOA NORSAR Array B 79.18 28 P P 19 21 21.7 +1.4
NOA pmax pmax
comp=Z,15nm,1.1s
NOA MLR MLR
comp=Z,472nm,22.0s
NOA NORSAR Array B 79.18 28 P P 19 21 21.7 +1.4
comp=Z,15nm,1.1s,mb4.8,baz=296,slow=5.6,SNR=9.7
NOA LR LR 19 57 09.8
comp=Z,472nm,21.9s,MS4.8,baz=285,slow=36
EQES Quesada 79.36 54 P P 19 21 22.6 +0.8
comp=Z,1.8nm,0.5s,mb4.3
ETSF Etsaut 79.46 48 eP P 19 21 22.0 -0.2
comp=Z,36nm,1.0s,mb5.0
ETSF Etsaut 79.46 48 eP P 19 21 22.0 -0.2
ETSF pmax pmax
comp=Z,18nm,1.0s,mb5.0
ETSF Etsaut 79.46 48 eP P 19 21 22.0 -0.2
comp=Z,18nm,1.0s,mb5.0
EVIA Vianos 79.50 53 P P 19 21 25.2 +2.6
EVIA pmax pmax
comp=Z,4.0nm,0.5s,mb4.6
EVIA Vianos 79.50 53 P P 19 21 25.2 +2.7
comp=Z,4.3nm,0.5s,mb4.6
LFF La Frestale 79.63 46 eP P 19 21 22.5 -0.6
comp=Z,91nm,1.0s,mb5.3
LFF La Frestale 79.63 46 eP P 19 21 22.5 -0.6
LFF pmax pmax
comp=Z,46nm,1.0s,mb5.4
LFF La Frestale 79.63 46 eP P 19 21 22.5 -0.6
comp=Z,46nm,1.0s,mb5.4
EBER Berja 79.80 54 P P 19 21 24.7 +0.5
comp=Z,14nm,0.6s,mb5.1
SEY Seymchan 79.91 334⇑eP P 19 21 23.9 -0.4
ARCES ARCESS Array B 79.94 18 P P 19 21 23.6 -0.7
ARCES pmax pmax
comp=Z,14nm,0.7s
ARCES ARCESS Array B 79.94 18 P P 19 21 23.6 -0.7
comp=Z,14nm,0.7s,mb5.0,baz=305,slow=4.3,SNR=27
BAIF Baives 79.97 40 eP P 19 21 24.5 -0.4
comp=Z,60nm,1.1s,mb5.1
BAIF Baives 79.97 40 eP P 19 21 24.5 -0.4
BAIF pmax pmax
comp=Z,30nm,1.1s,mb5.1
BAIF Baives 79.97 40 eP P 19 21 24.5 -0.4
comp=Z,30nm,1.1s,mb5.1
EBIE Bielsa 80.02 48 P P 19 21 26.9 +1.6
comp=Z,3.6nm,0.6s,mb4.5
RJF Les Rejaudoux 80.02 45 eP P 19 21 24.5 -0.7
comp=Z,106nm,1.2s,mb5.3
RJF eMLR MLR
comp=Z,421nm,20.0s,MS4.5
RJF Les Rejaudoux 80.02 45 eP P 19 21 24.5 -0.7
RJF pmax pmax
comp=Z,53nm,1.2s,mb5.3
RJF MLR MLR
comp=Z,420nm,20.0s,MS4.8
RJF Les Rejaudoux 80.02 45 eP P 19 21 24.5 -0.7
comp=Z,53nm,1.2s,mb5.3
RJF LR LR
comp=Z,420nm,20.0s,MS4.8
EPF Esparros 80.03 48 eP P 19 21 25.1 -0.2
comp=Z,47nm,1.3s,mb4.9
EPF Esparros 80.03 48 eP P 19 21 25.1 -0.2
EPF pmax pmax
comp=Z,24nm,1.3s,mb5.0
EPF Esparros 80.03 48 eP P 19 21 25.1 -0.2
comp=Z,24nm,1.3s,mb5.0
HYF Humbligny 80.04 43 eP P 19 21 25.1 -0.2
TCF Toulx Ste Croi 80.12 44 eP P 19 21 25.2 -0.5
comp=Z,123nm,1.3s,mb5.4
TCF Toulx Ste Croi 80.12 44 eP P 19 21 25.2 -0.5
TCF pmax pmax
comp=Z,62nm,1.3s,mb5.4
TCF Toulx Ste Croi 80.12 44 eP P 19 21 25.2 -0.5
comp=Z,62nm,1.3s,mb5.4
DOU Dourbes 80.19 40 P P 19 21 26.2 +0.2
comp=Z,9.4nm,1.3s,mb4.6
ETOB Tobarra 80.21 52 P P 19 21 29.3 +2.9
comp=Z,3.6nm,0.5s,mb4.6
KEV Kevo 80.22 17 eP P 19 21 24.0 -1.8
comp=Z,18nm,1.0s,mb5.0
KEV LR LR
comp=Z,777nm,19.0s,MS5.1
GIVF Givet 80.33 40 eP P 19 21 26.5 -0.3
EMOS Mosqueruela 80.39 50 P P 19 21 30.0 +2.7
comp=Z,3.8nm,0.5s,mb4.6
BGF Bois d'Agland 80.43 44 eP P 19 21 26.8 -0.6
BCLA Clavier 80.49 39 P P 19 21 28.0 +0.3

comp=Z,18nm,1.6s,mb4.7
CAF Calviac 80.52 45 *e*P **P 19 21 27.5 -0.4**
comp=Z,31nm,1.3s,mb4.8
CAF Calviac 80.52 45 *e*P **P 19 21 27.5 -0.4**
CAF pmax pmax
comp=Z,15nm,1.3s,mb4.8
CAF Calviac 80.52 45 *e*P **P 19 21 27.5 -0.4**
comp=Z,15nm,1.3s,mb4.8
MLS Moulis 80.58 48 *e*P **P 19 21 28.0 -0.3**
SSF Saint Saulge 80.66 43 *e*P **P 19 21 28.1 -0.6**
comp=Z,42nm,1.2s,mb5.0
SSF Saint Saulge 80.66 43 *e*P **P 19 21 28.1 -0.6**
SSF pmax pmax
comp=Z,21nm,1.2s,mb4.9
SSF Saint Saulge 80.66 43 *e*P **P 19 21 28.1 -0.6**
comp=Z,21nm,1.2s,mb5.0
AVF Avril sur Loir 80.67 43 *e*P **P 19 21 27.8 -0.9**
comp=Z,25nm,1.0s,mb4.8
AVF Avril sur Loir 80.67 43 *e*P **P 19 21 27.8 -0.9**
AVF pmax pmax
comp=Z,12nm,1.0s,mb4.8
AVF Avril sur Loir 80.67 43 *e*P **P 19 21 27.8 -0.9**
comp=Z,12nm,1.0s,mb4.8
HGN Heimansgroeve 80.72 39 *e*P **P 19 21 28.5 -0.4**
comp=Z,26nm,1.3s,mb5.0
HGN Heimansgroeve 80.72 39 *e*PP PP 19 24 08.5 -24
HGN Heimansgroeve 80.72 39 *e*S S 19 31 33.3 -3.9
WTSB Winterswijk 80.74 38 *e*P **P 19 21 30.1 +1.1**
comp=Z,21nm,1.3s,mb4.9
AGO Saint Agoulin 80.80 44 *e*P **P 19 21 30.3 +0.9**
LOR Lormes 80.81 43 *e*P **P 19 21 28.9 -0.5**
comp=Z,72nm,1.2s,mb5.2
LOR *e*MLR MLR
comp=Z,365nm,18.0s,MS4.5
LOR Lormes 80.81 43 *e*P **P 19 21 28.9 -0.5**
LOR pmax pmax
comp=Z,36nm,1.2s,mb5.2
LOR MLR MLR
comp=Z,360nm,18.0s,MS4.8
LOR Lormes 80.81 43 *e*P **P 19 21 28.9 -0.5**
comp=Z,36nm,1.2s,mb5.2
LOR LR LR
comp=Z,360nm,18.0s,MS4.8
MEM Membach 80.83 39 P **P 19 21 29.1 -0.4**
comp=Z,13nm,1.4s,mb4.7
PYM Petit Puy Mans 80.83 44 *e*P **P 19 21 29.8 +0.2**
SMF Signal de Mont 81.03 43 *e*P **P 19 21 29.8 -0.8**
comp=Z,32nm,1.1s,mb4.9
SMF Signal de Mont 81.03 43 *e*P **P 19 21 29.8 -0.8**
SMF pmax pmax
comp=Z,16nm,1.1s,mb4.9
SMF Signal de Mont 81.03 43 *e*P **P 19 21 29.8 -0.8**
comp=Z,16nm,1.1s,mb4.9
MEZF Maizieres J'vi 81.08 41 *e*P **P 19 21 30.7 -0.1**
IBBN Ibbenburen 81.14 37 *e*P **P 19 21 32.0 +0.9**
comp=Z,19nm,0.9s,mb5.0
IBBN *e*PP PP 19 24 35.9 +0.1
LBL Lubilhac 81.18 45 *e*P **P 19 21 31.9 +0.4**
MTLF Montolieu 81.20 47 *e*P **P 19 21 31.1 -0.5**
comp=Z,45nm,1.2s,mb5.0
MTLF Montolieu 81.20 47 *e*P **P 19 21 31.1 -0.5**
MTLF pmax pmax
comp=Z,23nm,1.2s,mb5.0
MTLF Montolieu 81.20 47 *e*P **P 19 21 31.1 -0.5**
comp=Z,22nm,1.2s,mb5.0
BUG Bochum--Univer 81.22 38 *e*P **P 19 21 33.0 +1.4**
comp=Z,31nm,1.4s,mb5.0
EMIR Miracle 81.25 48 P **P 19 21 34.4 +2.5**
comp=Z,3.8nm,0.8s,mb4.4
WLF Walferdange 81.29 40 *e*P **P 19 21 33.3 +1.4**
WLF Walferdange 81.29 40 P **P 19 21 31.4 -0.6**
comp=Z,16nm,1.5s,mb4.7
WLF Walferdange 81.29 40 *e*P **P 19 21 33.1 +1.2**
comp=Z,25nm,1.3s,mb5.0
WLF *e*PP PP 19 24 36.1 -0.9
PET Petropavlovsk 81.38 324 *e*P **P 19 21 31.6 -0.7**
PET *e*S S 19 31 35.9 -8.0
PET pmax pmax
comp=Z,12nm,0.6s,mb5.0
PET pmax pmax
comp=Z,100nm,14.3s
PET MLR MLR
comp=Z,300nm,19.0s,MS4.7
PET Petropavlovsk 81.38 324⇑*e*P **P 19 21 31.8 -0.5**
PET LR LR
comp=Z,422nm,22.0s,MS4.8
TIXI Tiksi 81.71 347 *e*P **P 19 21 31.9 -1.8**
TIXI *e*S S 19 31 42.2 -4.5
TIXI pmax pmax
comp=Z,50nm,1.9s,mb5.1
TIXI Tiksi 81.71 347 *e*P **P 19 21 32.1 -1.6**
comp=Z,29nm,1.2s,mb5.1
TIXI LR LR
comp=Z,526nm,22.0s,MS4.8
THEF They Montfort 81.76 41 *e*P **P 19 21 36.3 +1.8**
RUP Ruppelstein 81.81 40 *e*P **P 19 21 36.7 +2.0**
BSEG Bad Segeberg 81.85 35 *e*P **P 19 21 35.3 +0.5**
BSEG pmax pmax
comp=Z,35nm,1.2s,mb5.2
BSEG Bad Segeberg 81.85 35 *e*P **P 19 21 35.3 +0.5**
comp=Z,35nm,1.2s,mb5.2
LASF Ste Croix 82.03 46 *e*P **P 19 21 36.1 +0.2**
comp=Z,70nm,1.3s,mb5.1
ABH Alteburg 82.03 39 *e*P **P 19 21 37.8 +2.0**
HAU Haudompre 82.07 41 *e*P **P 19 21 35.4 -0.7**
comp=Z,29nm,0.9s,mb4.9
HAU *e*MLR MLR
comp=Z,767nm,21.5s,MS4.7
HAU Haudompre 82.07 41 *e*P **P 19 21 35.4 -0.7**
HAU pmax pmax
comp=Z,15nm,0.9s,mb4.9
HAU MLR MLR
comp=Z,770nm,21.5s,MS5.0
HAU Haudompre 82.07 41 *e*P **P 19 21 35.4 -0.7**
comp=Z,15nm,0.9s,mb4.9
HAU LR LR
comp=Z,770nm,21.5s,MS5.0
MA2 Magadan 82.24 332 *c i*P **P 19 21 35.4 -1.4**
MA2 *e*S S 19 31 43.8 -8.8
MA2 *e*PS 19 31 54.0
MA2 *e* 19 32 46.9
MA2 pmax pmax
comp=Z,80nm,1.0s,mb5.6
MA2 MLR MLR
comp=Z,800nm,22.6s,MS5.0
MA2 Magadan 82.24 332 *e*P **P 19 21 36.3 -0.5**
comp=Z,52nm,1.0s,mb5.4
MA2 LR LR
comp=Z,462nm,22.0s,MS4.8
VIVF Saint-Julien-l 82.26 45 *e*P **P 19 21 37.3 +0.1**
comp=Z,55nm,1.4s,mb5.0
VIVF Saint-Julien-l 82.26 45 *e*P **P 19 21 37.3 +0.1**
VIVF pmax pmax
comp=Z,27nm,1.4s,mb5.0
VIVF Saint-Julien-l 82.26 45 *e*P **P 19 21 37.3 +0.1**
comp=Z,27nm,1.4s,mb5.0
HINF Hinteralfeld 82.46 41 *e*P **P 19 21 37.8 -0.3**
comp=Z,13nm,0.9s,mb4.6
HINF Hinteralfeld 82.46 41 *e*P **P 19 21 37.8 -0.3**
HINF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
HINF Hinteralfeld 82.46 41 *e*P **P 19 21 37.8 -0.3**
comp=Z,6.6nm,0.9s,mb4.6
CABF La Chapelle 82.47 43 *e*P **P 19 21 37.2 -1.0**
comp=Z,26nm,1.2s,mb4.7
CABF La Chapelle 82.47 43 *e*P **P 19 21 37.2 -1.0**
CABF pmax pmax
comp=Z,13nm,1.2s,mb4.7
CABF La Chapelle 82.47 43 *e*P **P 19 21 37.2 -1.0**
comp=Z,13nm,1.2s,mb4.7
CDF Champ du Feu 82.47 41 *e*P **P 19 21 38.1 -0.1**
comp=Z,33nm,1.3s,mb4.8
CDF Champ du Feu 82.47 41 *e*P **P 19 21 38.1 -0.1**
CDF pmax pmax
comp=Z,17nm,1.3s,mb4.8
CDF Champ du Feu 82.47 41 *e*P **P 19 21 38.1 -0.1**
comp=Z,16nm,1.3s,mb4.8
ECH Echery 82.48 41 *e*P **P 19 21 39.7 +1.5**
MOF Molkenrain 82.62 41 *e*P **P 19 21 40.4 +1.4**
LOMF Lomont 82.63 42 *e*P **P 19 21 40.8 +1.7**
CLZ Clausthal 82.80 37 *e*P **P 19 21 41.0 +1.1**
CLZ pmax pmax
comp=Z,24nm,1.3s,mb5.1
CLZ Clausthal 82.80 37 *e*P **P 19 21 41.0 +1.1**
comp=Z,24nm,1.3s,mb5.1
TOD Tromm 82.88 39 *e*P **P 19 21 42.1 +1.8**

ORIF Oris-en-Rattie 83.02 44 *e*P **P 19 21 41.5 +0.4**
ORIF *e*MLR MLR
comp=Z,420nm,21.2s,MS4.5
UBBA Unterbreizbach 83.05 38 *e*P **P 19 21 42.7 +1.6**
comp=Z,15nm,1.5s,mb4.8
UBBA *e*PP PP 19 24 50.4 -1.1
FELD Feldberg im Sc 83.14 41 *e*P **P 19 21 41.7 0.0**
BFO Black Forest 83.14 41 *e*P **P 19 21 42.7 +1.0**
comp=Z,9.0nm,1.4s,mb4.6
BFO *e*PP PP 19 24 50.5 -1.8
BFO LR LR
comp=Z,550nm,20.0s,MS4.9
BFO Black Forest 83.14 41 *e*P **P 19 21 42.7 +1.0**
comp=Z,9.0nm,1.4s,mb4.6
BFO *e*PP PP 19 24 50.5 -1.8
SMRF Simiane la Rot 83.20 45 *e*P **P 19 21 42.4 +0.3**
comp=Z,43nm,1.4s,mb5.0
SMRF Simiane la Rot 83.20 45 *e*P **P 19 21 42.4 +0.3**
comp=Z,43nm,1.4s,mb5.3
LPL La Plagne 83.33 44 *e*P **P 19 21 42.2 -0.5**
LPG La Plagne 83.35 44 *e*P **P 19 21 42.6 -0.2**
comp=Z,47nm,1.3s,mb5.0
LPG La Plagne 83.35 44 *e*P **P 19 21 42.6 -0.2**
LPG pmax pmax
comp=Z,24nm,1.3s,mb5.1
LPG La Plagne 83.35 44 *e*P **P 19 21 42.6 -0.2**
comp=Z,24nm,1.3s,mb5.1
APA Apatity 83.42 17⇓*i*P **P 19 21 42.8 0.0**
APA *e*S S 19 32 05.0 +0.6
APA pmax pmax
comp=Z,54nm,1.6s,mb5.3
BNI Bardonecchia 83.49 44 *e*P **P 19 21 44.1 +0.6**
LVZ Lovozero 83.53 17⇑*e*P **P 19 21 43.6 +0.3**
LVZ pmax pmax
comp=Z,34nm,0.8s,mb5.5
LVZ Lovozero 83.53 17⇑*e*P **P 19 21 43.7 +0.4**
LVZ LR LR
comp=Z,770nm,22.0s,MS5.0
MBDF Montbardon 83.68 44 *e*P **P 19 21 44.9 +0.4**
PZZ Prazzo 83.99 44 P **P 19 21 48.1 +2.0**
MOX Moxa 84.04 38 *e*P **P 19 21 46.9 +0.6**
comp=Z,46nm,2.0s,mb5.3
MOX
comp=Z,300nm,21.0s
MOX Moxa 84.04 38 *e*P **P 19 21 46.9 +0.6**
MOX pmax pmax
comp=Z,46nm,2.0s,mb5.3
MOX MLR MLR
comp=Z,300nm,21.0s,MS4.7
MOX Moxa 84.04 38 *e*P **P 19 21 46.5 +0.2**
comp=Z,16nm,1.6s,mb4.9
DOI San Damiano 84.08 44 P **P 19 21 46.7 +0.1**
DOI pmax pmax
comp=Z,21nm,1.1s,mb5.2
DOI San Damiano 84.08 44 P **P 19 21 46.7 +0.1**
comp=Z,21nm,1.1s,mb5.2
FRF La Foret Royal 84.08 45 *e*P **P 19 21 45.4 -1.2**
LMR La Mourre 84.08 46 *e*P **P 19 21 45.5 -1.1**
GRA1 Grafenberg Arr 84.25 38 *e*P **P 19 21 48.6 +1.3**
comp=Z,37nm,1.7s,mb5.2
GRA1 *e*pP pP 19 22 02.6 +14
GRA1 *e*PP PP 19 25 00.3 -1.1
GRA1 *e*S S 19 32 09.5 -3.9
GRA1 LR LR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 84.25 38 *e*P **P 19 21 48.6 +1.3**
GRF *e* 19 25 00.3
GRF *e*S S 19 32 09.5 -3.9
GRF pmax pmax
comp=Z,37nm,1.7s,mb5.2
GRF MLR MLR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 84.25 38 *e*P **P 19 21 48.6 +1.3**
GRF *e* 19 25 00.3
GRF *e*S S 19 32 09.5 -3.9
GRF pmax pmax
comp=Z,37nm,1.7s,mb5.2
GRF MLR MLR
comp=Z,400nm,21.0s,MS4.8
GRF Grafenberg Arr 84.25 38 *e*P **P 19 21 48.6 +1.3**
comp=Z,37nm,1.7s,mb5.2
GRF *e*pP pP 19 22 02.6 +14
GRF *e*PP PP 19 25 00.3 -1.1
GRF *e*S S 19 32 09.5 -3.9
GRF *e*L 20 01 44.2
comp=Z,448nm,21.0s
GRFO Grafenberg 84.25 38 PFAKE 19 22 00.0 +13
GRFO LR LR
comp=Z,552nm,19.0s,MS5.0
SBF Sospel 84.47 45 *e*P **P 19 21 47.7 -0.9**
CLL Collm 84.51 37 *i* P **P 19 21 48.6 0.0**
CLL *e* 19 21 57.0
CLL *e*S S 19 32 20.0 +4.2
CLL pmax pmax
comp=Z,24nm,1.5s,mb5.1
CLL MLR MLR
comp=Z,1μm,23.4s,MS5.2
CLL Collm 84.51 37 *i* P **P 19 21 48.6 0.0**
comp=Z,24nm,1.5s,mb5.1
CLL *e* 19 21 57.0
CLL *i* 19 22 02.8
CLL *e*S S 19 32 20.0 +4.2
CLL LR LR
comp=Z,1μm,23.4s,MS5.2
CLL Collm 84.51 37 *e*P **P 19 21 48.6 0.0**
comp=Z,25nm,1.5s,mb5.1
CLL Collm 84.51 37 *i* P **P 19 21 48.6 0.0**
comp=Z,24nm,1.5s,mb5.1
CLL *e*x x 19 21 57.0
CLL *i* x x 19 22 02.8
CLL *i* x x 19 22 06.9
CLL *e*S S 19 32 20.0 +4.2
CLL *e*PS 19 33 05.0
CLL *e*PPS 19 33 31.0
CLL *e*x x 19 34 22.0
CLL *e*SS SS 19 37 43.0 -2.5
CLL *e*x x 19 39 24.0
WERD Werda 84.52 37 *e*P **P 19 21 49.3 +0.6**
comp=Z,28nm,1.6s,mb5.1
WERD *e*PP PP 19 25 05.0 +1.5
DAVA Damuels 84.54 41⇓*i*P **P 19 21 49.6 +0.8**
comp=Z,19nm,1.4s,mb5.0
DAVA Damuels 84.54 41⇓*i*pP pP 19 21 49.6 -0.8
comp=Z,19nm,1.4s
MANZ Manzenberg 84.63 38 *e*P **P 19 21 49.6 +0.4**
comp=Z,5.0nm,1.0s,mb4.6
MANZ *e*PP PP 19 25 05.2 +0.8
TANN Tannenbergstha 84.63 37 *e*P **P 19 21 49.4 +0.2**
comp=Z,18nm,1.2s,mb5.1
TANN *e*PP PP 19 25 06.1 +1.7
WERN Wernitzgruen 84.64 38 *e*P **P 19 21 49.9 +0.6**
comp=Z,28nm,1.5s,mb5.2
NKC Novy Kostel 84.70 38 *e*P **P 19 21 50.6 +1.0**
NKC *e*pP pP 19 22 06.6 +15
NKC *e*S S 19 32 17.5 -0.4
NKC Novy Kostel 84.70 38 *e*P **P 19 21 50.6 +1.0**
NKC *e*x x 19 22 06.6
NKC *e*S S 19 32 17.5 -0.4
NKC AMS AMS 19 50 00.0
comp=Z,2μm,51.5s
DAVOX Davos/Dischmat 84.76 42 LR LR 20 04 54.9
comp=Z,506nm,18.3s,MS4.9,baz=284,slow=39
ROTZ Rotzenmuhle 84.79 38 *e*P **P 19 21 50.0 0.0**
comp=Z,27nm,1.6s,mb5.1
FIN Finale Ligure 84.83 44 P **P 19 21 50.3 -0.1**
FBE Freiberg 84.89 37 *e*P **P 19 21 51.5 +1.0**
comp=Z,36nm,1.4s,mb5.3
RETA Reutte 84.98 41⇑*i*P **P 19 21 51.9 +0.8**
comp=Z,19nm,1.5s,mb5.0
RETA Reutte 84.98 41⇑*i*PcP PcP 19 21 51.9 -2.5
comp=Z,19nm,1.5s
FINES FINESS Array B 85.07 24 P **P 19 21 50.9 -0.3**
FINES pmax pmax
comp=Z,10.0nm,0.9s
FINES MLR MLR
comp=Z,732nm,20.0s
FINES FINESS Array B 85.07 24 P **P 19 21 50.9 -0.3**
FINES LR LR 20 04 16.2
FINES FINESS Array B 85.07 24 P **P 19 21 50.9 -0.3**
comp=Z,10nm,0.9s,mb4.9,baz=336,slow=1.2,SNR=19
FINES LR LR 20 04 16.2
comp=Z,732nm,20.0s,MS5.1,baz=304,slow=39
FETA Feichten 85.18 41⇓*i*P **P 19 21 52.9 +0.8**
comp=Z,25nm,1.2s,mb5.2
FETA Feichten 85.18 41⇓*i*PcP PcP 19 21 52.9 -2.4

comp=Z,25nm,1.2s
MOTA Moosalm 85.26 41⇓*i*P **P 19 21 53.1 +0.6**
comp=Z,23nm,1.1s,mb5.2
MOTA Moosalm 85.26 41⇓*i*PcP PcP 19 21 53.1 -2.5
comp=Z,23nm,1.1s
MOTA Moosalm 85.26 41⇓*i*P **P 19 21 53.1 +0.6**
MOTA pmax pmax
comp=Z,23nm,1.1s,mb5.2
WET Wettzell 85.47 38 *e*P **P 19 21 53.9 +0.4**
WET pmax pmax
comp=Z,31nm,1.1s,mb5.3
WET Wettzell 85.47 38 *e*P **P 19 21 53.9 +0.4**
comp=Z,31nm,1.1s,mb5.3
WTTA Wattenberg 85.61 41⇑*i*P **P 19 21 55.6 +1.4**
comp=Z,20nm,1.2s,mb5.2
WTTA Wattenberg 85.61 41⇑*i*PcP PcP 19 21 55.6 -1.6
comp=Z,20nm,1.2s
WTTA Wattenberg 85.61 41⇑*i*P **P 19 21 55.6 +1.3**
WTTA pmax pmax
comp=Z,20nm,1.2s,mb5.2
WTTA Wattenberg 85.61 41⇑*i*P **P 19 21 55.6 +1.3**
comp=Z,20nm,1.2s,mb5.2
PVCC Panska Ves 85.75 37 *e*P **P 19 21 57.6 +2.7**
PVCC *e*x x 19 22 11.1
PVCC *e*SKS 19 32 19.4
PVCC AMS AMS 19 54 00.0
comp=Z,2μm,30.4s
KHC Kasperske Hory 85.88 38 *e*P **P 19 21 56.4 +0.9**
KHC *e*x x 19 22 11.3
KHC *e*S S 19 32 30.7 +1.2
KHC AMS AMS 19 56 30.0
comp=Z,1μm,27.0s
JOF Joensuu 85.98 21 *e*p **P 19 21 51.3 -4.5**
comp=Z,6.7nm,0.8s,mb4.9
JOF Joensuu 85.98 21 *e*P **P 19 21 51.3 -4.5**
JOF pmax pmax
comp=Z,7.0nm,0.8s,mb4.9
PRU Pruhonice 86.00 37 *e*x PcP 19 22 11.7 +13
PRU *e*SKS 19 32 24.5
PRU AMS AMS 19 55 50.0
comp=Z,1μm,34.5s
PGF Pioggiola 86.07 46 *e*P **P 19 21 55.6 -1.0**
comp=Z,40nm,1.2s,mb5.2
PGF Pioggiola 86.07 46 *e*P **P 19 21 55.6 -1.0**
PGF pmax pmax
comp=Z,20nm,1.2s,mb5.2
PGF Pioggiola 86.07 46 *e*P **P 19 21 55.6 -1.0**
comp=Z,20nm,1.2s,mb5.2
GEC2 GERESS Array S 86.08 38 *e*P **P 19 21 56.8 +0.3**
GEC2 *e* 19 25 15.6
GEC2 pmax pmax
comp=Z,20nm,1.1s,mb5.3
GEC2 GERESS Array S 86.08 38 *e*P **P 19 21 56.8 +0.3**
comp=Z,20nm,1.1s,mb5.3
GEC2 *e*PP PP 19 25 15.6 -0.6
GERES GERESS Array B 86.08 38 P **P 19 21 57.1 +0.6**
GERES 19 25 17.0
GERES pmax pmax
comp=Z,6.0nm,0.8s
GERES pmax pmax
comp=Z,1.0nm,0.9s
GERES MLR MLR
comp=Z,423nm,21.8s
GERES GERESS Array B 86.08 38 P **P 19 21 57.1 +0.5**
comp=Z,6.2nm,0.8s,mb4.9,baz=320,slow=4.0,SNR=33
GERES PP PP 19 25 17.0 +0.7
comp=Z,1.4nm,0.9s,baz=309,slow=6.4,SNR=4.6
GERES LR LR 19 57 55.8
comp=Z,423nm,21.8s,MS4.8,baz=300,slow=34
ABTA Abfaltersbach 86.39 41⇓*i*P **P 19 21 58.1 0.0**
comp=Z,25nm,1.2s,mb5.3
ABTA Abfaltersbach 86.39 41⇓*i*PcP PcP 19 21 58.1 -2.5
comp=Z,25nm,1.2s
KSP Ksiaz 86.54 36 *e*P **P 19 22 01.6 +2.8**
KSP Ksiaz 86.54 36 *e*P **P 19 22 01.0 +2.2**
KSP *e*S S 19 32 32.0 -3.9
KSP *e*SS SS 19 38 14.0 -1.4
KSP LR LR
comp=Z,4μm,28.1s,MS5.6
UPC Upice 86.56 36 *e*P **P 19 22 01.7 +2.8**
UPC *e*x x 19 22 14.3
KBA Koelnbreinsper 86.73 40⇓*i*P **P 19 22 01.3 +1.5**
comp=Z,17nm,1.4s,mb5.1
KBA Koelnbreinsper 86.73 40⇓*i*pP pP 19 22 01.3 0.0
comp=Z,17nm,1.4s
KBA Koelnbreinsper 86.73 40⇓*i*P **P 19 22 01.3 +1.5**
KBA pmax pmax
comp=Z,17nm,1.4s,mb5.1
DPC Dobruska-Polom 86.81 36 *e*P **P 19 22 03.2 +3.1**
DPC *e*x x 19 22 16.1
DPC *e*S S 19 32 38.0 -0.6
DPC AMS AMS 19 52 10.0
comp=Z,2μm,32.7s
TREC Trest 86.88 38 *e*P **P 19 22 02.9 +2.4**
TREC *e*x x 19 22 14.5
TREC *e*SKS 19 32 31.9
TREC AMS AMS 19 56 10.0
comp=Z,1μm,33.0s
MOA Molln 86.90 39⇑*i*P **P 19 21 59.7 -0.9**
comp=Z,18nm,1.2s,mb5.2
PTCC Patocco-Chiusa 87.06 41 P **P 19 22 02.3 +0.9**
GRFL Gerfalco 87.10 44 P **P 19 22 02.0 +0.3**
comp=Z,21nm,1.1s,mb5.3
SFI Santa Sofia 87.31 43 P **P 19 22 02.7 0.0**
SFI pmax pmax
comp=Z,25nm,1.1s,mb5.4
SFI Santa Sofia 87.31 43 P **P 19 22 02.7 0.0**
comp=Z,25nm,1.1s,mb5.4
VSL Villasalto 87.68 48 *e*P **P 19 22 04.3 -0.3**
MORC Moravsky Berou 87.78 36 *e*P **P 19 22 05.3 +0.5**
MORC pmax pmax
comp=Z,22nm,1.6s,mb5.1
MORC Moravsky Berou 87.78 36 *e*P **P 19 22 05.3 +0.5**
comp=Z,22nm,1.6s,mb5.1
OKC Ostrava-Krasne 88.08 36 *e*P **P 19 22 08.9 +2.7**
OKC *e*S S 19 32 53.4 +2.6
OKC Ostrava-Krasne 88.08 36 *e*P **P 19 22 08.9 +2.7**
OKC *e*S S 19 32 53.4 +2.6
OKC AMS AMS 19 56 00.0
comp=Z,900nm,21.3s
ZST Bratislava 88.37 38 *e*P **P 19 22 10.8 +3.2**
comp=Z,14nm,1.3s,mb5.0
ZST *e* 19 22 22.0
ZST LR LR
comp=Z,200nm,23.7s,MS4.5
ZST Bratislava 88.37 38 *e*P **P 19 22 10.8 +3.2**
ZST *e* 19 22 22.0
MODS Modra-Piesok 88.37 38 *e*P **P 19 22 10.0 +2.4**
OJC Ojcow 88.77 35 *e*P **P 19 22 01.6 -7.9**
OJC *e*S S 19 32 31.3 -26
OJC L 20 04 49.8
comp=Z,0.9nm,23.9s
DBIC Dimbokro 88.89 83 P **P 19 22 10.4 -0.3**
DBIC pmax pmax
comp=Z,5.0nm,0.7s
DBIC MLR MLR
comp=Z,403nm,19.6s
DBIC Dimbokro 88.89 83 *e*P **P 19 22 11.2 +0.5**
comp=Z,73nm,1.6s,mb5.8
DBIC LR LR
comp=Z,477nm,19.0s,MS4.9
DBIC Dimbokro 88.89 83 P **P 19 22 10.4 -0.4**
comp=Z,5.1nm,0.7s,mb5.0,baz=229,slow=3.4,SNR=6.6
DBIC LR LR 20 02 20.9
comp=Z,403nm,19.6s,MS4.8,baz=268,slow=36
LIC Lamto 88.90 84 *e*P **P 19 22 09.1 -1.7**
comp=Z,61nm,1.2s,mb5.5
LIC *e*MLR MLR
comp=Z,734nm,21.2s,MS4.8
LIC Lamto 88.90 84 *e*P **P 19 22 09.1 -1.7**
comp=Z,31nm,1.2s,mb5.5
LIC LR LR
comp=Z,370nm,21.3s,MS4.8
VYHS Vyhne 89.19 37 *e*P **P 19 22 11.1 -0.4**
VYHS pmax pmax
comp=Z,5.0nm,1.3s,mb4.7
VYHS Vyhne 89.19 37 *e*P **P 19 22 11.1 -0.4**
comp=Z,4.8nm,1.3s,mb4.7
VYHS *e* 19 22 25.5
PMSA Palmer Station 89.91 167 PFAKE 19 22 30.0 +16
PMSA LR LR
comp=Z,15μm,22.0s,MS6.4
KOLS Kolonicke sedl 90.83 35 *e*P **P 19 22 19.9 +0.8**
UZH Uzhgorod 91.01 36 *d i*P **P 19 22 20.4 +0.4**
UZH *e* 19 25 57.0

UZH				*e*PPP		19 27 58.0	
UZH				*e*S	S	19 33 16.4	-1.8
UZH				*e*PS	PS	19 34 31.0	+5.0
UZH				MLR	MLR		
	comp=Z,400nm,22.0s,MS4.8						
LVV	**L'vov**	**91.23**	**34**	*e*P	**P**	**19 22 30.7**	**+10**
VAE	**Valguarnera**	**92.11**	**48**	LR	LR	20 04 05.9	
	comp=Z,712nm,20.1s,MS5.1,baz=152,slow=36						
TORD	**Torodi Ar. Bea**	**92.42**	**75**	P	**P**	**19 22 26.1**	**-1.1**
	comp=Z,5.0nm,1.1s,mb4.8,baz=299,slow=3.1,SNR=16						
TORD				LR	LR	20 01 39.0	
	comp=Z,673nm,21.4s,MS5.1,baz=285,slow=34						
YSS	**Yuzh-Sakhalins**	**93.27**	**324⇑**	*e*P	**P**	**19 22 29.2**	**-1.2**
YSS				pmax	pmax		
	comp=Z,46nm,2.5s,mb5.5						
KIEV	**Kiev**	**93.28**	**31**	PFAKE		19 22 40.0	+10
KIEV				LR	LR		
	comp=Z,507nm,22.0s,MS4.9						
AKASG	**Malin Array Be**	**93.28**	**31**	P	**P**	**19 22 30.3**	**-0.1**
	comp=Z,0.1nm,0.3s,mb3.7,baz=306,slow=3.7,SNR=4.7						
AKASG				LR	LR	20 04 07.3	
	comp=Z,464nm,22.0s,MS4.9,baz=320,slow=35						
OBN	**Obninsk**	**93.42**	**25⇓**	*e*P	**P**	**19 22 31.4**	**+0.4**
OBN				pmax	pmax		
	comp=Z,38nm,2.5s,mb5.4						
OBN				MLR	MLR		
	comp=Z,1μm,18.0s,MS5.4						
CLNS	**Chul'man**	**94.27**	**339**	*e*P	**P**	**19 22 43.1**	**+8.3**
CLNS				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.4						
CLNS				MLR	MLR		
	comp=N,1μm,26.0s,MS5.3						
CLNS				MLR	MLR		
	comp=Z,2μm,26.0s,MS5.4						
CLNS				MLR	MLR		
	comp=E,800nm,24.0s,MS5.3						
ERM	**Erimo**	**95.99**	**320**	PFAKE		19 22 50.0	+7.0
ERM				LR	LR		
	comp=Z,516nm,22.0s,MS5.0						
BOD	**Bodaibo**	**96.66**	**344**	*e*P	**P**	**19 22 42.7**	**-3.0**
BOD				pmax	pmax		
	comp=Z,8.0nm,1.2s,mb5.0						
KLR	**Kul'dur**	**97.30**	**331**	*e*P	**P**	**19 22 44.2**	**-4.6**
ARU	**Arti**	**99.15**	**14***d*	*i*P	**P**	**19 22 54.7**	**-2.2**
ARU				*e*		19 26 55.9	
ARU				*e*S	SKSac	19 33 30.0	-6.0
ARU				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.8						
ARU				MLR	MLR		
	comp=Z,934nm,25.0s,MS5.2						
ARU	**Arti**	**99.15**	**14⇑**	*e*P	**P**	**19 22 55.0**	**-1.9**
ARU				LR	LR		
	comp=Z,764nm,21.0s,MS5.2						
MDJ	**Mudanjiang**	**101.66**	**328**	P	Pdif	19 23 06.9	-1.3
MDJ				PP	PP	19 27 17.0	-0.8
MDJ				S	Sdif	19 34 46.4	-3.6
MDJ				AMB	AMB		
	comp=Z,4.0nm,1.0s						
MDJ				AMB	AMB		
	comp=Z,91nm,5.3s						
MDJ				LR	LR		
	comp=N,405nm,36.3s						
MDJ				LR	LR		
	comp=E,400nm,42.6s						
MDJ				LR	LR		
	comp=Z,512nm,39.5s,MS4.7						
MDJ	**Mudanjiang**	**101.66**	**328**	PFAKE		19 23 20.0	+12
MDJ				LR	LR		
	comp=Z,348nm,22.0s,MS4.8						
HIA	**Hailar**	**102.23**	**337**	PFAKE		19 23 20.0	+9.3
HIA				LR	LR		
	comp=Z,798nm,21.0s,MS5.2						
ANTO	**Ankara**	**102.37**	**38**	PFAKE		19 23 20.0	+8.6
ANTO				LR	LR		
	comp=Z,337nm,22.0s,MS4.8						
MAJO	**Matsushiro**	**102.38**	**318**	PFAKE		19 23 20.0	+8.6
MAJO				LR	LR		
	comp=Z,368nm,21.0s,MS4.9						
BRVK	**Borovoye**	**104.47**	**8**	PFAKE		19 23 30.0	+9.3
BRVK				LR	LR		
	comp=Z,627nm,22.0s,MS5.1						
KIV	**Kislovodsk**	**104.47**	**29**	PFAKE		19 23 30.0	+9.3
KIV				LR	LR		
	comp=Z,387nm,21.0s,MS4.9						
ZALV	**Zalesovo Beam**	**104.47**	**359**	Pdiff	Pdif	19 23 23.6	+2.9
	comp=Z,0.3nm,0.3s,baz=343,slow=4.5,SNR=2.3						
ZAL	**Zalesovo**	**104.48**	**359**	P	Pdif	19 23 23.7	+2.9
BVAR	**Borovoye Array**	**104.51**	**8**	P	Pdif	19 23 26.0	+5.1
BVAR						19 27 39.3	
BVAR				pmax	pmax		
	comp=Z,2.0nm,1.0s						
BVAR	**Borovoye Array**	**104.51**	**8**	Pdiff	Pdif	19 23 26.0	+5.1
	comp=Z,0.2nm,0.4s,baz=80,slow=1.6,SNR=2.5						
BVAR				PP	PP	19 27 39.3	+0.7
	comp=Z,1.7nm,1.0s,baz=346,slow=9.3,SNR=4.2						
TLY	**Talaya**	**104.68**	**347**	PFAKE		19 23 30.0	+8.3
TLY				LR	LR		
	comp=Z,462nm,22.0s,MS5.0						
HNR	**Honiara**	**106.14**	**266**	PFAKE		19 27 50.0	+9.1
HNR				LR	LR		
	comp=Z,423nm,21.0s,MS5.0						
ULN	**Ulaanbaatar**	**107.46**	**344**	PFAKE		19 27 50.0	+7.5
ULN				LR	LR		
	comp=Z,416nm,22.0s,MS5.0						
KURK	**Kurchatov**	**107.58**	**3**	PFAKE		19 27 50.0	+7.4
KURK				LR	LR		
	comp=Z,764nm,22.0s,MS5.2						
SONM	**Songino Array**	**107.66**	**344**	PP	PP	19 28 01.1	-0.8
	comp=Z,2.3nm,1.0s,baz=15,slow=6.2,SNR=6.9						
SONM				PKKP	PKKPbc	19 39 07.2	+9.3
	comp=Z,0.5nm,0.9s,baz=188,slow=4.5,SNR=4.1						
GNI	**Garni**	**108.40**	**31**	PFAKE		19 28 00.0	+16
GNI				LR	LR		
	comp=Z,294nm,21.0s,MS4.8						
INCN	**Inchon**	**108.43**	**325**	PFAKE		19 28 00.0	+15
INCN				LR	LR		
	comp=Z,435nm,22.0s,MS5.0						
DL2	**Dalian**	**109.86**	**329**	*e*PDIF	Pdif	19 23 37.9	-6.7
DL2				PP	PP	19 28 15.5	-2.9
DL2				SS	SS	19 43 38.1	-4.6
DL2				PP	PP		
	comp=Z,120nm,4.0s						
DL2				LR	LR		
	comp=N,180nm,21.0s,MS4.9						
DL2				LR	LR		
	comp=E,260nm,21.7s,MS4.9						
DL2				LR	LR		
	comp=Z,300nm,27.8s						
GUMO	**Guam**	**110.41**	**295**	PFAKE		19 28 00.0	+11
GUMO				LR	LR		
	comp=Z,646nm,20.0s,MS5.2						
BJI	**Beijing**	**111.34**	**334**	PDIF	Pdif	19 23 46.8	-4.5
BJI				PP	PP	19 28 29.3	+0.3
BJI				PP	PP		
	comp=Z,123nm,3.7s						
BJI				LR	LR		
	comp=N,323nm,25.0s,MS5.0						
BJI				LR	LR		
	comp=E,451nm,27.2s,MS5.0						
BJI				LR	LR		
	comp=Z,750nm,25.0s,MS5.2						
BJT	**Baijiatuau**	**111.36**	**334**	PFAKE		19 28 00.0	+10
BJT				LR	LR		
	comp=Z,571nm,22.0s,MS5.1						
MKAR	**Makanchi Array**	**111.63**	**1**	Pdiff	Pdif	19 23 56.7	+4.2
	comp=Z,0.2nm,0.6s,baz=71,slow=4.1,SNR=3.6						
HHC	**Hu-ho-hao-te**	**112.41**	**337**	*e*PKP	PKiKP	19 27 52.1	0.0
HHC				PP	PP	19 28 38.5	+2.0
HHC				PKS		19 31 27.8	
HHC				SKS	SKSdf	19 35 03.1	-1.9
HHC				SKKS	SKKSac	19 35 33.4	-7.6
HHC				SS	SS	19 44 15.5	-1.0
HHC				PP	PP		
	comp=Z,95nm,7.1s						
HHC				LR	LR		
	comp=N,359nm,20.6s,MS5.1						
HHC				LR	LR		
	comp=E,421nm,23.5s,MS5.1						
HHC				LR	LR		
	comp=Z,522nm,23.3s,MS5.0						
VNDA	**Vanda**	**113.78**	**193**	PFAKE		19 28 00.0	+6.5
VNDA				LR	LR		
	comp=Z,561nm,22.0s,MS5.1						
WMQ	**Urumqi**	**114.51**	**357**	*e*PKP	PKiKP	19 27 57.5	+1.5
WMQ				PP	PP	19 28 57.5	+6.3
WMQ				SS	SS	19 44 43.5	-0.2
WMQ				PP	PP		
	comp=Z,78nm,8.0s						
WMQ				LR	LR		
	comp=N,687nm,20.0s,MS5.5						
WMQ				LR	LR		
	comp=E,1μm,20.0s,MS5.5						
WMQ				LR	LR		
	comp=Z,653nm,20.0s,MS5.2						
TKM2	**Tokmak 2**	**115.08**	**7**	PFAKE		19 28 10.0	+13
TKM2				LR	LR		
	comp=Z,796nm,21.0s,MS5.3						
EKS2	**Erkin-Say**	**115.12**	**8**	PFAKE		19 28 10.0	+13
EKS2				LR	LR		
	comp=Z,445nm,21.0s,MS5.0						
UCH	**Uchtor**	**115.65**	**8**	PFAKE		19 28 10.0	+12
UCH				LR	LR		
	comp=Z,594nm,19.0s,MS5.2						
SSE	**Sheshan**	**116.20**	**324**	PKP	PKPdf	19 27 59.5	-0.1
SSE				PP	PP	19 29 08.3	+4.5
SSE				PP	PP		
	comp=Z,85nm,5.4s						
SSE				LR	LR		
	comp=N,163nm,25.9s,MS4.9						
SSE				LR	LR		
	comp=E,352nm,25.9s,MS4.9						
SSE				LR	LR		
	comp=Z,283nm,23.4s,MS4.8						
NJ2	**Nanjing**	**116.68**	**327**	*e*PKP	PKPdf	19 27 56.9	-3.6
NJ2				PP	PP	19 29 09.0	+2.0
NJ2				PP	PP		
	comp=Z,150nm,7.8s						
NJ2				LR	LR		
	comp=N,990nm,27.0s,MS5.4						
NJ2				LR	LR		
	comp=E,970nm,31.5s,MS5.4						
NJ2				LR	LR		
	comp=Z,970nm,31.4s,MS5.2						
GTA	**Gaotai**	**117.18**	**346**	*e*PKP	PKPdf	19 27 56.8	-4.5
GTA				PP	PP	19 29 08.1	-1.9
GTA				PKS		19 31 33.4	
GTA				SKS	SKSdf	19 35 09.8	-4.5
GTA				SKKS	SKKSac	19 36 03.0	-10
GTA				SS	SS	19 45 12.4	-6.5
GTA				PP	PP		
	comp=Z,137nm,8.8s						
GTA				LR	LR		
	comp=N,355nm,26.2s,MS4.9						
GTA				LR	LR		
	comp=E,211nm,27.0s,MS4.9						
GTA				LR	LR		
	comp=Z,575nm,24.7s,MS5.1						
TSUM	**Tsumeb**	**118.47**	**101**	PFAKE		19 28 20.0	+16
TSUM				LR	LR		
	comp=Z,532nm,21.0s,MS5.2						
LZH	**Lanzhou**	**119.27**	**341**	*e*PKP	PKPdf	19 28 00.0	-5.4
LZH				XPKP		19 28 10.0	
LZH				PP	PP	19 29 24.0	-0.6
LZH				*e*SKS	SKSdf	19 35 07.4	-11
LZH				*e*SKKS	SKKSac	19 36 11.8	-15
LZH				PP	PP		
	comp=Z,147nm,7.5s						
LZH				LR	LR		
	comp=E,1μm,19.6s						
LZH				LR	LR		
	comp=Z,3μm,20.5s,MS5.9						
TATO	**Taipei**	**120.69**	**320**	PFAKE		19 28 20.0	+12
TATO				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
SUR	**Sutherland**	**123.77**	**115**	PFAKE		19 28 30.0	+16
SUR				LR	LR		
	comp=Z,2μm,19.0s,MS5.7						
CD2	**Chengdu**	**124.08**	**339**	*e*PKP	PKPdf	19 28 13.3	-1.5
CD2				PP	PP	19 30 00.5	+3.1
CD2				PKS		19 31 49.0	
CD2				SKS	SKSdf	19 35 20.4	-7.3
CD2				SKKS	SKKSac	19 36 48.4	-10
CD2				SS	SS	19 46 42.5	-5.2
CD2				PP	PP		
	comp=Z,450nm,8.4s						
CD2				LR	LR		
	comp=N,990nm,32.2s,MS5.5						
CD2				LR	LR		
	comp=E,1μm,31.2s,MS5.5						
CD2				LR	LR		
	comp=Z,610nm,28.8s,MS5.1						
SYO	**Syowa Base**	**125.88**	**162⇑**	*e*PKiKP	PKiKP	19 28 18.6	+1.3
BOSA	**Boshof**	**127.17**	**110**	PKIKP	PKPdf	19 28 20.0	-0.6
BOSA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BOSA	**Boshof**	**127.17**	**110**	PKP	PKPdf	19 28 20.0	-0.6
	comp=Z,3.8nm,0.8s,baz=306,slow=7.0,SNR=5.8						
LSZ	**Lusaka**	**127.21**	**93**	PFAKE		19 28 30.0	+9.0
LSZ				LR	LR		
	comp=Z,514nm,20.0s,MS5.2						
STKA	**Stephens Creek**	**127.92**	**246**	*e*P	PKPdf	19 28 21.5	-0.4
	comp=Z,5.8nm,0.7s						
STKA	**Stephens Creek**	**127.92**	**246**	PKP	PKPdf	19 28 21.6	-0.3
	comp=Z,7.3nm,0.9s,baz=92,slow=1.5,SNR=8.1						
LSA	**Lhasa**	**128.21**	**352**	PFAKE		19 28 30.0	+7.3
LSA				LR	LR		
	comp=Z,3μm,20.0s,MS5.9						
KMI	**Kunming**	**129.74**	**337**	PKP	PKPdf	19 28 25.3	-0.4
KMI				PP	PP	19 30 38.3	+3.3
KMI				SS	SS	19 47 58.1	-0.4
KMI				PP	PP		
	comp=Z,80nm,5.3s						
KMI				LR	LR		
	comp=Z,658nm,26.0s,MS5.2						
DAV	**Davao City (W)**	**129.86**	**300**	PFAKE		19 28 40.0	+14
DAV				LR	LR		
	comp=Z,2μm,21.0s,MS5.7						
KMBO	**Kilima Mbogo**	**130.33**	**72**	PFAKE		19 28 40.0	+13
KMBO				LR	LR		
	comp=Z,902nm,21.0s,MS5.4						
QIZ	**Qiongzhong**	**131.95**	**326**	PKP	PKPdf	19 28 26.3	-3.7
QIZ				PP	PP	19 30 48.8	-0.9
QIZ				SS	SS	19 48 23.8	-2.5
QIZ				LR	LR		
	comp=Z,296nm,30.6s,MS4.8						
QIZ	**Qiongzhong**	**131.95**	**326**	PFAKE		19 28 40.0	+10
QIZ				LR	LR		
	comp=Z,3μm,21.0s,MS6.0						
WRAB	**Tennant Creek**	**132.80**	**263**	PFAKE		19 28 40.0	+8.5
WRAB				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
WB2	**Warramunga Arr**	**132.81**	**263**	*e*P	PKPdf	19 28 30.8	-0.7
WRA	**Warramunga Arr**	**132.82**	**263**	PKIKP	PKPdf	19 28 31.0	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**132.82**	**263**	PKP	PKPdf	19 28 31.0	-0.6
	comp=Z,1.4nm,0.5s,baz=77,slow=2.6,SNR=15						
ASAR	**Alice Springs**	**133.86**	**258**	PKIKP	PKPdf	19 28 30.9	-2.5
ASAR						19 31 02.3	
ASAR	**Alice Springs**	**133.86**	**258**	PKhKP		19 28 18.7	
	comp=Z,0.5nm,0.7s,baz=89,slow=4.0,SNR=4.5						
ASAR				PKP	PKPdf	19 28 30.9	-2.5
	comp=Z,1.6nm,0.8s,baz=91,slow=3.2,SNR=7.6						
ASAR				PP	PP	19 31 02.3	-1.1
	comp=Z,1.8nm,0.5s,baz=352,slow=10,SNR=28						
CHTO	**Chiang Mai**	**136.88**	**339**	PFAKE		19 28 50.0	+11
CHTO				LR	LR		
	comp=Z,2μm,19.0s,MS5.8						
KSM	**Kuching**	**145.14**	**308**	*e*P	PKPbc	19 28 52.3	-1.4
KSM				*e*		19 29 05.1	
MBWA	**Marble Bar**	**146.51**	**264**	*e*P	PKPdf	19 28 55.4	-0.9
MBWA				LR	LR		
	comp=Z,2μm,21.0s,MS5.9						
MSEY	**Mahe Island**	**147.76**	**62**	PFAKE		19 29 10.0	+11
MSEY				LR	LR		
	comp=Z,579nm,19.0s,MS5.4						
KLBR	**Kellerberrin**	**148.19**	**245**	*e*P	PKPdf	19 28 59.9	+1.1
	comp=Z,42nm,1.1s						
KULM	**Kulim**	**148.28**	**326**	*e*P	PKPdf	19 29 01.4	+1.8
NWAO	**Narrogin (SRO)**	**148.38**	**242**	PKIKP	PKPdf	19 29 00.4	+1.3
NWAO				pmax	pmax		
	comp=Z,12nm,0.8s						
NWAO	**Narrogin (SRO)**	**148.38**	**242**	PFAKE		19 29 10.0	+11
NWAO				LR	LR		
	comp=Z,2μm,19.0s,MS5.9						
NWAO	**Narrogin (SRO)**	**148.38**	**242**	PKPbc	PKPbc	19 29 00.4	-2.1
	comp=Z,12nm,0.8s,baz=121,slow=1.1,SNR=8.0						
MUN	**Mundaring**	**149.42**	**244**	*e*P	PKPdf	19 29 04.0	+3.2
PALK	**Pallekele**	**150.87**	**6**	PFAKE		19 29 10.0	+6.3
PALK				LR	LR		
	comp=Z,4μm,21.0s,MS6.2						
PSI	**Prapat**	**151.29**	**327**	PKIKP	PKPbc	19 29 08.0	-2.3
PSI				pmax	pmax		
	comp=Z,11nm,0.8s						
PSI	**Prapat**	**151.29**	**327**	PKPbc	PKPbc	19 29 08.0	-2.3
	comp=Z,11nm,0.8s,baz=250,slow=4.1,SNR=13						
PSI	**Prapat**	**151.29**	**327⇓**	*e*P	PKPbc	19 29 09.9	-0.4
DGAR	**Diego Garcia**	**161.98**	**39**	PFAKE		19 29 30.0	+12
DGAR				LR	LR		
	comp=Z,3μm,22.0s						
COCO	**West Island**	**164.16**	**305**	PFAKE		19 29 30.0	+10
COCO				LR	LR		
	comp=Z,1μm,19.0s						

IDC ***23*** *19:17:37.2±1.5, 308S×13062E, h0km, mb4.1/3, mb1 4.3/6, mb1mx3.9/17, mbtmp4.1/6, ML3.7/3, MS4.0/2, Ms1 4.0/2, ms1mx3.3/21, Error ellipse: s-maj=53.7km s-min=22.8km az=74.0*

NEIC ***23*** *19:17:38.4±1.0, 304S×13074E, h10km, mb3.8/1, Error ellipse: s-maj=33.1km s-min=10.9km az=66.0*

ISCJB ***23*** *19:17:42.2±2.8, 324S±010×1306E±0.1, h54km±29km, mb3.8/2, Error ellipse: s-maj=22.4km s-min=14.9km az=159.6*

ISC 23 19:17:44.0±2.3, 324S±010×1305E±01, h47km±22km, n12, σ1°11/14, mb3.8/2, Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.60**	**169**	*e*P		**Pn**	**19 19 59.9**	**+0.3**
	4.2nm,0.3s							
BATI	**Kupang**	**9.72**	**224**	Pn		**Pn**	**19 20 02.2**	**+0.9**
	0.2nm,0.3s,baz=45,slow=4.3,SNR=2.0							
FITZ	**Fitzroy Crossi**	**15.53**	**198**	Pn		**Pn**	**19 21 20.2**	**+0.2**
	0.2nm,0.3s,baz=23,slow=13,SNR=7.1							
FITZ				Sn		**Sn**	**19 24 09.6**	**-1.4**
	0.0nm,0.3s,baz=90,slow=20,SNR=2.0							
WRAB	**Tennant Creek**	**17.00**	**168**	*e*P		**Pn**	**19 21 40.4**	**+1.8**
	9.8nm,1.1s							
WRA	**Warramunga Arr**	**17.01**	**168**	P		**Pn**	**19 21 37.8**	**-0.9**
	0.5nm,0.3s,baz=347,slow=11,SNR=24							
WRA				S		**Sn**	**19 24 37.3**	**-10**
	0.3nm,0.3s,baz=352,slow=24,SNR=4.6							
WB2	**Warramunga Arr**	**17.01**	**168**	*e*P		**Pn**	**19 21 36.4**	**-2.3**
ASAR	**Alice Springs**	**20.57**	**171**	P		**P**	**19 22 19.5**	**+0.5**
	16nm,0.6s,baz=351,slow=11,SNR=331							
ASAR				S		**S**	**19 26 08.8**	**+2.2**
	0.6nm,0.7s,baz=5.7,slow=22,SNR=4.5							
KSM	**Kuching**	**20.75**	**283**	*e*P		**P**	**19 22 21.8**	**+0.7**
STKA	**Stephens Creek**	**30.33**	**161**	P		**P**	**19 23 51.6**	**+0.4**
	0.7nm,0.4s,mb3.7,baz=326,slow=7.3,SNR=3.2							
MK31	**Makanchi Array**	**65.41**	**326**	*e*P		**P**	**19 28 20.9**	**-0.9**
MKAR	**Makanchi Array**	**65.41**	**326**	P		**P**	**19 28 21.4**	**-0.4**
	0.8nm,0.6s,mb4.0,baz=112,slow=7.4,SNR=9.9							
TORD	**Torodi Ar. Bea**	**128.51**	**284**	PKP		PKPdf	19 36 46.4	-0.5
	0.5nm,0.9s,baz=84,slow=1.8,SNR=3.0							

IDC 23 19:28:08.9±2.1, 132N×12699E, h0km, mb3.5/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.5/3, Error ellipse: s-maj=171.4km s-min=26.0km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.33**	**162**	P		P	19 33 08.0	-0.3
	3.5nm,0.8s,baz=340,slow=11,SNR=11							
WB2	**Warramunga Arr**	**22.33**	**161**	*e*P		P	19 33 07.1	-1.3
ASAR	**Alice Springs**	**25.73**	**165**	P		P	19 33 41.6	+0.4
	0.6nm,0.4s,baz=345,slow=10,SNR=11							
MKAR	**Makanchi Array**	**59.67**	**326**	P		P	19 38 15.1	0.0
	0.3nm,0.6s,baz=118,slow=7.9,SNR=4.9							

ISCJB ***23*** *19:42:46.7±0.5, 1090N±002×62.19W±003, h97km±5km, Error ellipse: s-maj=4.7km s-min=3.5km az=37.4*

FUNV ***23*** *19:42:47.2, 1097N×6207W, h94km, MW3.6*

TRN ***23*** *19:42:50.0, 1098N×6209W, h80km, MD3.7*

ISC 23 19:42:47.7±0.5, 1091N±002×6219W±003, h92km±6km, n29, σ0°96/52, 8C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.26**	**188**	⇑*i*P		**Pn**	**19 43 01.5**	**+0.4**
GUIV				*e*S		**Sn**	**19 43 10.7**	**-0.4**
TCE	**Chacachacare**	**0.47**	**116**	⇓*i*P		**Pn**	**19 43 03.4**	**+1.0**
TCE				*e*S		**Sn**	**19 43 12.2**	**-1.1**
TRN	**Trinidad (W)**	**0.81**	**109**	⇑*i*P		**Pn**	**19 43 06.5**	**+1.0**
TRN				*e*S		**Sn**	**19 43 18.0**	**-0.7**
TPP	**Pointe-a-Pierr**	**0.93**	**129**	*e*P		**Pn**	**19 43 08.4**	**+1.6**
TPP				*e*S		**Sn**	**19 43 21.3**	**+0.3**
ITEV	**Isla Los Testi**	**1.03**	**296**	⇓*i*P		**Pn**	**19 43 08.1**	**+0.3**
ITEV				*e*S		**Sn**	**19 43 22.6**	**-0.4**
GUNV	**Guanoco**	**1.05**	**225**	⇑*i*P		**Pn**	**19 43 09.5**	**+1.4**
GUNV				*e*S		**Sn**	**19 43 25.4**	**+2.0**
CRUV	**Carupano**	**1.06**	**257**	⇑*i*P		**Pn**	**19 43 08.8**	**+0.7**
CRUV				*e*S		**Sn**	**19 43 23.6**	**+0.1**
TBH	**Brigand Hill**	**1.18**	**111**	⇑*i*P		**Pn**	**19 43 10.6**	**+1.0**
TBH				*e*S		**Sn**	**19 43 25.8**	**-0.3**
GRW	**Mount Saint Ca**	**1.35**	**22**	*e*P		**Pn**	**19 43 12.3**	**+0.7**
GRW				*e*S		**Sn**	**19 43 28.6**	**-1.0**
TPR	**Prospect**	**1.41**	**79**	⇑*i*P		**Pn**	**19 43 13.1**	**+0.7**
TPR				*e*S		**Sn**	**19 43 29.7**	**-1.4**
GRHS	**Sauteurs**	**1.41**	**22**	*e*P		**Pn**	**19 43 13.1**	**+0.6**
GRHS				*e*S		**Sn**	**19 43 29.9**	**-1.2**
GRIC	**Isle de Caille**	**1.49**	**23**	*e*P		**Pn**	**19 43 14.0**	**+0.6**
GRIC				*e*S		**Sn**	**19 43 32.2**	**-0.7**
GRSS	**Sisters**	**1.49**	**22**	*e*P		**Pn**	**19 43 14.4**	**+0.9**
GRSS				*e*S		**Sn**	**19 43 32.4**	**-0.5**
GRCU	**Cariacou**	**1.71**	**25**	*e*P		**Pn**	**19 43 16.4**	**+0.2**
GRCU				*e*S		**Sn**	**19 43 38.0**	**+0.1**
ORIV	**Oritupano**	**2.19**	**214**	*e*P		**Pn**	**19 43 23.3**	**+0.8**
ORIV				*e*S		**Sn**	**19 43 49.5**	**+0.5**
IBAV	**Isla La Blanqu**	**2.52**	**291**	⇓*i*P		**Pn**	**19 43 27.1**	**+0.3**
IBAV				*e*S		**Sn**	**19 43 55.5**	**-1.3**
PCRV	**Puerto La Cruz**	**2.52**	**253**	⇑*e*P		**Pn**	**19 43 27.6**	**+0.8**
PCRV				*e*S		**Sn**	**19 43 56.9**	**+0.1**
SVV	**Soufriere Volc**	**2.58**	**22**	*e*P		**Pn**	**19 43 28.4**	**+0.8**
SVV				*e*S		**Sn**	**19 43 57.0**	**-1.2**
RIOV	**Rio Grande**	**2.84**	**173**	*e*P		**Pn**	**19 43 31.7**	**+0.5**
RIOV				*e*S		**Sn**	**19 44 02.9**	**-1.7**
SLB	**Belfond**	**3.11**	**21**	*e*P		**Pn**	**19 43 35.7**	**+1.0**
SLB				*e*S		**Sn**	**19 44 11.6**	**+0.6**
GURV	**El Guri**	**3.25**	**196**	⇓*e*P		**Pn**	**19 43 36.6**	**0.0**
GURV				*e*S		**Sn**	**19 44 12.1**	**-2.3**
CUPV	**Cœpira**	**3.64**	**257**	⇑*i*P		**Pn**	**19 43 42.6**	**+0.7**
CUPV				*e*S		**Sn**	**19 44 23.3**	**-0.7**
BIRV	**Birongo**	**4.04**	**264**	*e*P		**Pn**	**19 43 48.2**	**+0.9**
**M

ISC 23 19:56:29.3±2.7,26N±02×9399E<009,h8km±14km,n13, σ0°73/14,mb3.6/7,1C,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**4.66**	**79**	P	**Pg**	**19 57 59.0**	**+0.3**
	67nm,1.1s						
PSI	**Prapat**	**4.94**	**87**	Pn	**Pn**	**19 57 43.9**	**0.0**
	1.6nm,0.3s,baz=329,slow=12,SNR=5.3						
PSI				Sn	**Sn**	**19 58 41.6**	**+0.4**
	1.6nm,0.3s,baz=162,slow=20,SNR=5.4						
PSI	**Prapat**	**4.94**	**87**	⇑*e*P	**Pn**	**19 57 44.3**	**+0.4**
KULM	**Kulim**	**7.17**	**68**	*e*P	**Pn**	**19 58 13.0**	**-1.6**
KKM	**Kota Kinabalu**	**22.43**	**80**	P	**P**	**20 01 32.7**	**+3.8**
LSA	**Lhasa**	**27.10**	**355**	P	**P**	**20 02 13.5**	**+0.8**
	6.2nm,1.0s,mb4.1						
MK31	**Makanchi Array**	**45.20**	**349**	*e*P	**P**	**20 04 46.6**	**-0.2**
MK31				*e*		20 04 55.4	
MKAR	**Makanchi Array**	**45.20**	**349**	P	**P**	**20 04 47.3**	**+0.5**
	1.0nm,0.7s,mb3.7,baz=162,slow=8.2,SNR=12						
WRA	**Warramunga Arr**	**45.49**	**121**	P	**P**	**20 04 48.6**	**-1.0**
	0.4nm,0.8s,mb3.3,baz=300,slow=8.6,SNR=5.0						
SONM	**Songino Array**	**46.34**	**12**	P	**P**	**20 04 55.5**	**-0.3**
	0.3nm,0.7s,mb3.4,baz=199,slow=7.9,SNR=4.0						
ASAR	**Alice Springs**	**46.79**	**126**	P	**P**	**20 05 00.6**	**+0.8**
	1.2nm,1.1s,mb3.8,baz=298,slow=7.7,SNR=4.9						
ZALV	**Zalesovo Beam**	**51.75**	**353**	P	**P**	**20 05 37.1**	**-0.1**
	0.5nm,0.3s,mb3.9,baz=168,slow=8.7,SNR=3.1						
GERES	**GERESS Array B**	**81.66**	**319**	P	**P**	**20 08 48.0**	**-0.3**
	0.3nm,0.7s,mb3.3,baz=116,slow=6.1,SNR=4.3						

*IDC **23** 20:19:08.1±0.4,262N×9548E,h0km,mb4.7/27, mb1 4.7/28,mb1mx4.7/30,mbtmp4.7/28,ML4.2/1,MS4.8/30, Ms1 4.8/30,ms1mx4.8/35,Error ellipse: s-maj=13.8km s-min=10.8km az=46.0*

*ISCJB **23** 20:19:09.6±0.8,263N±003×9549E±002,h17km±5km, mb5.1/180,MS5.0/73,Error ellipse: s-maj=5.2km s-min=3.8km az=12.7*

*SZGRF **23** 20:19:10.3,203N×9529E,h25km,mb5.1,MS4.7,Off west coast of northern Sumatera, Indonesia*

*BJI **23** 20:19:11.6,261N×9551E,h38km,mB5.4,mb5.2,Ms5.5, Msz5.2*

*MOS **23** 20:19:12.4±1.0,268N×9556E,h37km,mb5.4/82, MS4.8/23,Error ellipse: s-maj=8.7km s-min=4.2km az=122.6*

*NEIC **23** 20:19:14.2±0.8,263N×9555E,h40km±7km,mb5.1/91, MS4.8/10,Error ellipse: s-maj=5.9km s-min=3.6km az=222.0*

*GCMT **23** 20:19:14.2±0.2,248N×9539E,h12km,MW5.2/83, Moment Tensor Solution. s52,c70; s83,c150; Duration: 1s0 Moment tensor: Scale 10^{16}Nm; M_{rr}1.30±.16; $M_{\theta\theta}$-0.14±.15; $M_{\phi\phi}$-1.16±.18; $M_{r\theta}$4.44±.41; $M_{\theta\phi}$7.51±.12; $M_{\phi r}$1.72±.43; Best double couple: $M_0$8.95000×10^{16} NP1:ϕ_s358.00000°,δ61.00000°,λ167.00000°. NP2: ϕ_s95.00000°,δ78.00000°,λ30.00000°. Principal axes: T 9.3550, Plg29.0000°, Azm320.0000°; N -0.8120, Plg58.0000°, Azm114.0000°; P -8.5460, Plg12.0000°, Azm224.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 23 20:19:12.6±0.8,261N±003×9548E±002,h26km±6km, h27km±1.6km:pP-P,n491,σ0°90/495,mb5.1/180,MS5.0/73, 39C-24D,Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.87**	**356**	P	**Pn**	**20 19 53.5**	**-3.2**
	2μm,1.1s						
TSI	**Tuntungan**	**3.21**	**74**	P	**Pn**	**20 20 00.4**	**-1.0**
	4μm,0.8s						
PSI	**Prapat**	**3.45**	**87**	Pn	**Pn**	**20 20 04.8**	**+0.1**
	24nm,0.3s,baz=280,slow=6.7,SNR=126						
PSI	**Prapat**	**3.45**	**87**	⇑*e*P	**Pn**	**20 20 04.8**	**+0.1**
PPI	**Padang Panjang**	**5.79**	**122**	P	**Pn**	**20 20 35.8**	**-1.0**
	924nm,0.9s						
KULM	**Kulim**	**5.81**	**63**	*e*P	**Pn**	**20 20 37.4**	**+0.2**
KULM	**Kulim**	**5.81**	**63**	⇑P	**Pn**	**20 20 38.2**	**+1.1**
IPM	**Ipoh**	**5.84**	**71**	⇑P	**Pn**	**20 20 38.7**	**+1.1**
FRIM	**Kepong**	**6.17**	**84**	⇑P	**Pn**	**20 20 43.4**	**+1.2**
SNG	**Songkhla**	**6.84**	**48**	P	**Pn**	**20 20 51.5**	**+0.2**
	600nm,0.9s						
KGM	**Kluang**	**7.86**	**94**	⇑P	**Pn**	**20 21 05.8**	**+0.5**
KTGM	**Kuala Trenggan**	**8.10**	**70**	⇓P	**Pn**	**20 21 08.7**	**+0.1**
MYKOM	**Kota Tinggi**	**8.41**	**95**	⇑P	**Pn**	**20 21 13.7**	**+0.9**
PBA	**Port Blair**	**9.39**	**343**	*e*P	x	20 21 59.5	
PBA				*e*S	x	20 23 06.3	
KSI	**Kapahiang**	**9.45**	**131**	P	**Pn**	**20 21 25.0**	**-2.1**
	999nm,1.1s						
NNT	**Nongplab**	**10.78**	**23**	P	**Pn**	**20 21 48.0**	**+2.7**
TPI	**Tanjungpandan**	**13.29**	**114**	P	**Pn**	**20 22 22.0**	**+2.3**
	116nm,1.2s						
NST	**Nakhon Sawan**	**13.77**	**19**	P	**Pn**	**20 22 27.0**	**+0.8**
CBJI	**Citeko**	**14.47**	**128**	P	**Pn**	**20 22 40.3**	**+4.4**
	184nm,1.1s						
KSM	**Kuching**	**14.87**	**94**	*e*P	**Pn**	**20 22 40.6**	**-0.7**
KSM	**Kuching**	**14.87**	**94**	⇑P	**Pn**	**20 22 41.9**	**+0.6**
PALK	**Pallekele**	**15.43**	**288**	*e*P	**Pn**	**20 22 52.0**	**+3.4**
	115nm,1.1s						
PALK	**Pallekele**	**15.43**	**288**	P	**Pn**	**20 22 56.6**	**+7.9**
	SNR=6.6						
PALK	**Pallekele**	**15.43**	**288**	P	**Pn**	**20 22 56.6**	**+7.9**
	SNR=6.6						
KKTK	**Khon Kaen**	**15.44**	**27**	PN	**Pn**	**20 22 48.0**	**-0.7**
UBT	**Ubonrachathani**	**15.69**	**36**	⇓P	**Pn**	**20 22 57.0**	**+5.0**
CHG	**Chiang Mai**	**16.46**	**12**	⇓P	**Pn**	**20 23 00.2**	**-1.7**
	105nm,1.1s						
CHTO	**Chiang Mai**	**16.46**	**12**	*e*P	**Pn**	**20 23 00.1**	**-1.8**
CHTO				pmax	pmax		
	comp=Z,61nm,1.1s						
CHTO	**Chiang Mai**	**16.46**	**12**	*e*P	**Pn**	**20 23 00.1**	**-1.8**
	comp=Z,61nm,1.1s						
CHTO	**Chiang Mai**	**16.46**	**12**	P	**Pn**	**20 23 00.4**	**-1.5**
	SNR=22						
CHTO	**Chiang Mai**	**16.46**	**12**	P	**Pn**	**20 23 00.4**	**-1.5**
	SNR=22						
SBUM	**Sibu**	**16.73**	**90**	⇓P	**Pn**	**20 23 05.6**	**+0.3**
NANT	**Nan**	**16.88**	**17**	⇑P	**Pn**	**20 23 05.0**	**-2.2**
	comp=Z,244nm,1.0s						
BJII	**Banjamegara**	**17.30**	**125**	P	**Pn**	**20 23 18.3**	**+5.8**
	comp=Z,48nm,1.7s						
BTM	**Bintulu**	**17.59**	**88**	⇓P	**Pn**	**20 23 18.7**	**+2.6**
MDRS	**Chennai**	**18.30**	**305**	*e*P	**Pn**	**20 23 23.9**	**-0.9**
MDRS				*e*S	**Sn**	**20 26 52.9**	**+4.3**
VIS	**Vishakhapatnam**	**19.17**	**322**	*e*P	**Pn**	**20 23 35.4**	**0.0**
TRD	**Trivandrum**	**19.33**	**288**	*e*P	**Pn**	**20 23 36.6**	**-0.7**
TRD				AMb	AMB	20 23 47.1	
	comp=Z,95nm,1.3s						
KOD	**Kodaikanal**	**19.42**	**294**	*e*P	**Pn**	**20 23 38.5**	**+0.1**
KKM	**Kota Kinabalu**	**20.96**	**80**	*e*P	**P**	**20 23 53.7**	**-0.1**
KKM	**Kota Kinabalu**	**20.96**	**80**	⇑P	**P**	**20 23 54.4**	**+0.6**
AGT	**Agartala**	**21.54**	**349**	*ex*	x	20 24 40.0	
QIZ	**Qiongzhong**	**21.54**	**40**	P	**P**	**20 23 57.8**	**-2.2**
QIZ				AP		20 24 06.9	
QIZ				S	**S**	**20 27 50.5**	**-7.1**
QIZ				XS	sS	20 28 05.5	-3.7
QIZ				SS		20 28 25.5	
QIZ				AMB	AMB		
	comp=Z,22nm,1.7s,mb4.3						
QIZ				AMB	AMB		
	comp=Z,368nm,14.0s						
QIZ				LR	LR		
	comp=N,4μm,12.2s,MS5.1						
QIZ				LR	LR		
	comp=E,4μm,13.3s,MS5.1						
QIZ				LR	LR		
	comp=Z,4μm,13.9s,MS5.0						
QIZ	**Qiongzhong**	**21.54**	**40**	*e*P	**P**	**20 23 59.3**	**-0.8**
	comp=Z,50nm,1.0s,mb4.9						
KDM	**Kudat**	**21.70**	**78**	⇓P	**P**	**20 24 02.4**	**+0.5**
SDKM	**Sandakan**	**21.87**	**81**	⇑P	**P**	**20 24 04.1**	**+0.5**
IMP	**Imphal**	**22.09**	**356**	*e*P	**P**	**20 24 03.0**	**-2.9**
HYB	**Hyderabad**	**22.20**	**313**	*e*P	**P**	**20 24 08.0**	**+0.9**
HYB				pmax	pmax		
	comp=Z,50nm,1.0s,mb4.9						
HYB	**Hyderabad**	**22.20**	**313**	*e*P	**P**	**20 24 08.0**	**+0.9**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**20 28 16.0**	**+5.6**
HYB				*e*		20 31 56.0	
HYB	**Hyderabad**	**22.20**	**313**	⇓*i*P	**P**	**20 24 08.0**	**+0.9**
	comp=Z,50nm,1.0s,mb4.9						
HYB				*e*S	**S**	**20 28 16.0**	**+5.6**
HYB				LR	LR	20 31 56.0	
	comp=Z,6.4nm,16.0s						
TSM	**Tawau**	**22.42**	**85**	⇑P	**P**	**20 24 11.5**	**+1.9**
KHKI	**Kahang-Kahang**	**22.84**	**119**	P	**P**	**20 24 16.8**	**+2.8**
	comp=Z,118nm,1.0s,mb5.3						
BOK	**Bokaro**	**23.01**	**337**	*e*P	**P**	**20 24 14.4**	**-1.3**
BOK				AMb	AMB	20 24 24.8	
	comp=Z,108nm,1.3s,mb5.1						
BOK				*i* S	**S**	**20 28 25.3**	**+0.6**
SHL	**Shillong**	**23.09**	**352**	*e*P	**P**	**20 24 13.0**	**-3.4**
SHL				*ex*	x	20 28 34.0	
MYLDM	**Lahad Datu**	**23.11**	**83**	⇓P	**P**	**20 24 18.4**	**+1.5**
BLSP	**Bilaspur**	**23.34**	**327**	*e*P	**P**	**20 24 18.6**	**-0.4**
BLSP				AMb	AMB	20 24 28.8	
	comp=Z,108nm,1.3s,mb5.1						
BLSP				*ex*	x	20 28 29.6	
KMI	**Kunming**	**23.45**	**17**	P	**P**	**20 24 21.0**	**+0.7**
KMI				AP		20 24 28.6	
KMI				XP	sP	20 24 31.0	0.0
KMI				SCS	ScS	20 35 25.8	-3.2
KMI				AMB	AMB		
	comp=Z,89nm,1.3s,mb5.0						
KMI				AMB	AMB		
	comp=Z,652nm,3.1s						
KMI				LR	LR		
	comp=N,5μm,10.2s						
KMI				LR	LR		
	comp=E,8μm,15.3s						
KMI				LR	LR		
	comp=Z,4μm,9.8s						
LATR	**Latur**	**24.30**	**312**	*e*P	**P**	**20 24 28.5**	**+0.4**
NGP	**Nagpur**	**24.40**	**320**	*e*P	**P**	**20 24 29.6**	**+0.6**
NGP				*ex*	x	20 24 34.4	
	comp=Z,61nm,0.9s						
NGP				*e*S	**S**	**20 28 50.1**	**+2.7**
PCI	**Palu**	**24.60**	**98**	P	**P**	**20 24 30.5**	**-0.5**
	comp=Z,160nm,1.5s,mb5.3						
GOA	**Goa**	**24.88**	**302**	*e*P	**P**	**20 24 34.1**	**+0.7**
KAPI	**Kappang**	**25.41**	**107**	P	**P**	**20 24 37.8**	**-0.5**
	SNR=19						
KAPI	**Kappang**	**25.41**	**107**	P	**P**	**20 24 37.8**	**-0.5**
	SNR=19						
KAPI	**Kappang**	**25.41**	**107**	P	**P**	**20 24 36.8**	**-1.5**
	comp=Z,156nm,1.1s,mb5.4,baz=282,slow=8.2,SNR=16						
AKL	**Akola**	**25.44**	**316**	*e*P	**P**	**20 24 39.0**	**+0.5**
AKL				AMb	AMB	20 24 46.5	
	comp=Z,63nm,0.8s,mb5.2						
KAD	**Karad**	**25.51**	**306**	*e*P	**P**	**20 24 39.7**	**+0.6**
GYA	**Guiyang**	**26.03**	**23**	⇑*i*P	**P**	**20 24 43.3**	**-0.5**
GYA				XP	sP	20 24 56.8	+2.0
GYA				AMB	AMB		
	comp=Z,90nm,1.1s,mb5.2						
GYA				AMB	AMB		
	comp=Z,210nm,6.9s						
GYA				LR	LR		
	comp=N,5μm,18.0s,MS5.2						
GYA				LR	LR		
	comp=E,4μm,17.4s,MS5.2						
GYA				LR	LR		
	comp=Z,6μm,14.1s,MS5.3						
POO	**Poona**	**26.44**	**308**	*e*P	**P**	**20 24 47.3**	**-0.3**
JIRN	**Jiri**	**26.45**	**341**	*e*P	**P**	**20 24 48.1**	**+0.6**
	comp=Z,156nm,0.7s,mb5.7						
PKI	**Pulchoki**	**26.62**	**340**	*e*P	**P**	**20 24 48.9**	**-0.2**
	comp=Z,75nm,0.8s,mb5.3						
PKIN	**Phulchoki**	**26.63**	**340**	*e*P	**P**	**20 24 48.9**	**-0.3**
DMN	**Daman**	**26.76**	**339**	*e*P	**P**	**20 24 50.1**	**-0.3**
	comp=Z,116nm,0.9s,mb5.4						
GUN	**Gumba**	**26.78**	**341**	*e*P	**P**	**20 24 50.9**	**+0.4**
KKN	**Kakani**	**26.87**	**340**	*e*P	**P**	**20 24 51.1**	**-0.2**
	comp=Z,131nm,0.9s,mb5.5						
BHPL	**Bhopal**	**26.95**	**321**	*e*P	**P**	**20 24 52.1**	**0.0**
BHPL				AMb	AMB	20 25 03.3	
	comp=Z,55nm,1.1s,mb5.0						
BHPL				*e*S	**S**	**20 29 28.9**	**+1.0**
LSA	**Lhasa**	**27.25**	**352**	P	**P**	**20 24 56.0**	**+1.3**
LSA				LR	LR		
	comp=N,500nm,16.2s,MS4.6						
LSA				LR	LR		
	comp=E,1μm,14.5s,MS4.6						
LSA				LR	LR		
	comp=Z,1μm,17.9s,MS4.4						
LSA	**Lhasa**	**27.25**	**352**	*e*P	**P**	**20 24 55.4**	**+0.7**
LSA				pmax	pmax		
	comp=Z,55nm,0.6s,mb5.3						
LSA	**Lhasa**	**27.25**	**352**	*e*P	**P**	**20 24 55.4**	**+0.7**
	comp=Z,55nm,0.6s,mb5.3						
GKN	**Gorkha**	**27.29**	**339**	*e*P	**P**	**20 24 55.2**	**+0.1**
KOLN	**Koldanda**	**27.47**	**337**	*e*P	**P**	**20 24 56.8**	**0.0**
	comp=Z,116nm,0.6s,mb5.6						
DANN	**Dangsing**	**27.93**	**338**	*e*P	**P**	**20 25 00.8**	**0.0**
	comp=Z,170nm,0.8s,mb5.7						
CD2	**Chengdu**	**29.22**	**15**	P	**P**	**20 25 11.5**	**-0.7**
CD2				AP	pP	20 25 21.1	+1.0
CD2				XP	sP	20 25 25.3	+2.0
CD2				PP	PP	20 26 08.3	-10
CD2				PCP	PcP	20 28 16.0	-3.2
CD2				S	**S**	**20 30 02.4**	**-1.0**
CD2				XS	sS	20 30 19.1	+2.8
CD2				SCS	ScS	20 35 47.4	-6.2
CD2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,80nm,5.8s						
CD2				LR	LR		
	comp=N,5μm,15.6s,MS5.6						
CD2				LR	LR		
	comp=E,10μm,16.8s,MS5.6						
CD2				LR	LR		
	comp=Z,8μm,12.0s,MS5.5						
PTH	**Pithoragarh**	**30.46**	**333**	*e*P	**P**	**20 25 23.1**	**-0.2**
BATI	**Kupang**	**30.82**	**115**	P	**P**	**20 25 23.1**	**-3.5**
	comp=Z,16nm,0.6s,mb5.0,baz=183,slow=4.4,SNR=6.2						
AJM	**Ajmer**	**31.03**	**322**	*e*P	**P**	**20 25 28.6**	**+0.2**
AJM				AMb	AMB	20 25 37.8	
	comp=Z,34nm,0.9s,mb5.2						
NDI	**New Delhi**	**31.22**	**328**	*ex*	**P**	**20 25 26.0**	**-4.0**
QZH	**Quanzhou**	**31.46**	**43**	*e*P	**P**	**20 25 30.6**	**-1.6**
QZH				S	**S**	**20 30 36.3**	**-2.4**
QZH				LR	LR		
	comp=N,10μm,15.4s,MS5.8						
QZH				LR	LR		
	comp=E,10μm,15.0s,MS5.8						
QZH				LR	LR		
	comp=Z,4μm,11.6s,MS5.4						
DDI	**Dehra Dun**	**32.12**	**331**	*e*P	**P**	**20 25 39.0**	**+1.1**
WHN	**Wuhan**	**33.03**	**31**	⇑P	**P**	**20 25 46.3**	**+0.4**
WHN				S	**S**	**20 30 57.6**	**-5.5**
WHN				LR	LR		
	comp=N,4μm,10.9s,MS5.9						
WHN				LR	LR		
	comp=E,13μm,12.7s,MS5.9						
WHN				LR	LR		
	comp=Z,11μm,12.4s,MS5.8						
SMLA	**Simla**	**33.22**	**331**	*e*P	**P**	**20 25 47.0**	**-0.5**
SMLA				AMb	AMB	20 25 57.3	
	comp=Z,64nm,1.4s,mb5.4						
MBWA	**Marble Bar**	**33.50**	**136**	*e*P	**P**	**20 25 49.6**	**-0.5**
	comp=Z,60nm,1.5s,mb5.3						
XAN	**Xi'an**	**33.69**	**20**	P	**P**	**20 25 50.3**	**-1.3**
XAN				AP	pP	20 26 00.0	+0.5
XAN				PP	PP	20 27 05.8	-2.4
XAN				PCP	PcP	20 28 30.3	-0.9
XAN				S	**S**	**20 31 09.8**	**-3.5**
XAN				SCP	ScP	20 32 09.9	-4.4
XAN				PCS	PcS	20 32 14.8	-2.2
XAN				SS	SS	20 33 17.8	-22
XAN				SCS	ScS	20 36 09.3	-6.4
XAN				AMB	AMB		
	comp=Z,89nm,1.0s,mb5.7						
XAN				LR	LR		
	comp=N,2μm,15.7s,MS5.3						
XAN				LR	LR		
	comp=E,5μm,17.1s,MS5.3						
XAN				LR	LR		
	comp=Z,5μm,13.4s,MS5.4						
LZH	**Lanzhou**	**34.20**	**12**	*e*P	**P**	**20 25 55.3**	**-0.7**
LZH				AP	pP	20 26 03.3	-0.5
LZH				XP	sP	20 26 07.5	+0.4
LZH				PP	PP	20 27 08.1	-5.7
LZH				PCP	PcP	20 28 33.6	+1.1
LZH				*e*S	**S**	**20 31 22.0**	**+1.0**
LZH				XS	sS	20 31 38.0	+4.0
LZH				SS	SS	20 33 28.0	-22
LZH				AMB	AMB		
	comp=Z,44nm,1.4s,mb5.2						
LZH				AMB	AMB		
	comp=Z,167nm,4.8s						
LZH				LR	LR		
	comp=N,3μm,14.0s						
LZH				LR	LR		
	comp=Z,4μm,16.2s,MS5.2						
DLH	**Dalhousie**	**34.96**	**331**	*ex*	**P**	**20 26 07.0**	**+4.4**
THN	**Thein Dam**	**35.00**	**330**	*e*P	**P**	**20 26 00.8**	**-2.1**
FITZ	**Fitzroy Crossi**	**36.15**	**126**	*e*P	**P**	**20 26 11.2**	**-1.8**
	comp=Z,23nm,0.8s,mb5.2						
FITZ	**Fitzroy Crossi**	**36.15**	**126**	P	**P**	**20 26 11.1**	**-1.9**
	comp=Z,15nm,0.9s,mb4.9,baz=282,slow=5.6,SNR=14						
FITZ				LR	LR	20 43 41.5	
	comp=Z,1μm,19.1s,MS4.7,baz=319,slow=41						
NJ2	**Nanjing**	**36.63**	**34**	*e*P	**P**	**20 26 17.8**	**+0.9**
NJ2				AP	pP	20 26 26.3	+1.5
NJ2				XP	sP	20 26 30.3	+2.3
NJ2				PP	PP	20 27 42.6	+2.0
NJ2				S	**S**	**20 32 00.5**	**+2.1**
NJ2				XS	sS	20 32 14.0	+2.5
NJ2				AMB	AMB		
	comp=Z,30nm,1.0s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,210nm,7.4s						
NJ2				LR	LR		
	comp=N,6μm,21.0s,MS5.6						
NJ2				LR	LR		
	comp=E,7μm,18.8s,MS5.6						
NJ2				LR	LR		
	comp=Z,7μm,18.8s,MS5.5						
GTA	**Gaotai**	**36.84**	**6**	⇑P	**P**	**20 26 17.8**	**-0.8**
GTA				AMB	AMB		
	comp=Z,32nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,367nm,6.5s						
GTA				LR	LR		
	comp=N,1μm,18.2s,MS5.0						
GTA				LR	LR		
	comp=E,2μm,17.5s,MS5.0						
GTA				LR	LR		
	comp=Z,2μm,19.0s,MS4.9						
SSE	**Sheshan**	**37.31**	**38**	P	**P**	**20 26 20.6**	**-2.2**
SSE				AP	pP	20 26 29.4	-1.3
SSE				XP	sP	20 26 33.3	-0.6
SSE				PP	PP	20 27 46.1	-2.1
SSE				S	**S**	**20 32 06.1**	**-2.8**
SSE				XS	sS	20 32 21.3	-0.6
SSE				AMB	AMB		
	comp=Z,24nm,0.6s,mb5.2						
SSE				AMB	AMB		
	comp=Z,248nm,12.0s						
SSE				LR	LR		
	comp=N,4μm,17.1s,MS5.4						
SSE				LR	LR		
	comp=E,4μm,17.1s,MS5.4						
SSE				LR	LR		
	comp=Z,3μm,14.2s,MS5.2						
TIY	**Taiyuan**	**38.25**	**22**	*e*P	**P**	**20 26 33.4**	**+2.8**
TIY				LR	LR		
	comp=N,6μm,11.6s,MS5.7						
TIY				LR	LR		
	comp=E,4μm,10.5s,MS5.7						
TIY				LR	LR		
	comp=Z,7μm,12.6s,MS5.7						
TIA	**Tai'an**	**38.97**	**28**	*e*P	**P**	**20 26 36.5**	**-0.1**
TIA				S	**S**	**20 32 31.5**	**-2.3**
TIA				LR	LR		
	comp=E,2μm,13.0s						
JOW	**Kunigami**	**39.59**	**49**	P	**P**	**20 26 42.0**	**-0.1**
	comp=E,9.9nm,0.8s,mb4.6,baz=190,slow=6.1,SNR=3.7						
MUN	**Mundaring**	**39.63**	**152**	*e*P	**P**	**20 26 44.2**	**+2.0**
KAKA	**Kakadu**	**39.74**	**113**	*e*P	**P**	**20 26 41.2**	**-2.2**
	comp=E,38nm,0.9s,mb5.1						
BTO	**Baotou**	**40.05**	**17**	*e*P	**P**	**20 26 46.1**	**+0.5**
KBL	**Kabul**	**40.18**	**325**	*e*P	**P**	**20 26 45.5**	**-1.3**
	comp=E,7.7nm,0.8s,mb4.5						
HHC	**Hu-ho-hao-te**	**40.74**	**19**	*e*P	**P**	**20 26 52.5**	**+1.1**
HHC				AP	pP	20 27 02.8	+3.5
HHC				XP	sP	20 27 06.3	+3.8
HHC				PP	PP	20 28 32.8	+7.2
HHC				PCP	PcP	20 28 48.6	-3.9
HHC				SCP	ScP	20 32 35.1	-5.4
HHC				S	**S**	**20 33 06.6**	**+6.3**
HHC				SCS	ScS	20 36 51.4	-3.7
HHC				AMB	AMB		
	comp=Z,33nm,1.2s,mb4.8						
HHC				AMB	AMB		
	comp=Z,475nm,5.4s						
HHC				LR	LR		
	comp=N,4μm,15.3s,MS5.7						
HHC				LR	LR		
	comp=E,5μm,13.1s,MS5.7						
HHC				LR	LR		
	comp=Z,5μm,15.4s,MS5.4						
KSH	**Kashi**	**40.79**	**337**	*e*P	**P**	**20 26 52.1**	**+0.3**
KSH				*e*PP	PP	20 28 29.3	+3.2
KSH				*e*PCP	PcP	20 28 55.0	+2.4
KSH				*e*SCP	ScP	20 32 36.0	-4.7
KSH				*e*PCS	PcS	20 32 44.3	+0.9
KSH				*e*S	**S**	**20 32 51.0**	**-10**
KSH				*e*SCS	ScS	20 36 48.3	-7.1
KSH				AMB	AMB		
	comp=Z,582nm,3.6s						
KSH				LR	LR		
	comp=N,2μm,11.8s,MS5.5						
KSH				LR	LR		
	comp=E,4μm,14.7s,MS5.5						
KSH				LR	LR		
	comp=Z,3μm,16.6s,MS5.2						
NWAO	**Narrogin (SRO)**	**40.90**	**152**	P	**P**	**20 26 52.4**	**-0.4**
	comp=Z,14nm,1.0s,mb4.5,baz=302,slow=6.3,SNR=3.3						
WMQ	**Urumqi**	**41.61**	**352**	P	**P**	**20 26 59.4**	**+1.0**
WMQ				AMB	AMB		
	comp=Z,54nm,1.0s,mb5.1						
WMQ				LR	LR		
	comp=N,1μm,14.0s,MS5.2						
WMQ				LR	LR		
	comp=E,2μm,15.0s,MS5.2						
WMQ				LR	LR		
	comp=Z,987nm,14.0s,MS4.8						
BJT	**Baijiatuau**	**41.70**	**24**	*e*P	**P**	**20 26 59.9**	**+0.7**
BJT				pmax	pmax		
	comp=Z,54nm,0.8s						
BJT	**Baijiatuau**	**41.70**	**24**	*e*P	**P**	**20 26 59.9**	**+0.7**
	comp=Z,54nm,0.8s,mb5.2						
BJI	**Beijing**	**41.72**	**24**	P	**P**	**20 27 00.3**	**+0.9**
BJI				PP	PP	20 28 38.8	+2.6
BJI				S	**S**	**20 33 17.9**	**+3.1**
BJI				SCS	ScS	20 37 00.8	-0.2
BJI				AMB	AMB		
	comp=Z,66nm,0.9s,mb5.3						
BJI				LR	LR		
	comp=N,3μm,14.6s,MS5.5						
BJI				LR	LR		
	comp=E,4μm,15.7s,MS5.5						
BJI				LR	LR		
	comp=Z,1μm,18.5s,MS4.9						
ULHL

comp=Z,80nm,1.8s,mb5.2
FRU MLR MLR
comp=Z,2μm,18.0s,MS5.0
WRA Warramunga Arr 44.24 122 P **P** **20 27 19.0 -1.1**
comp=Z,21nm,1.0s,mb4.8,baz=300,slow=8.8,SNR=76
WRA LR LR 20 46 21.4
comp=Z,2μm,18.7s,MS5.0,baz=295,slow=37
WRAB Tennant Creek 44.24 122 *e*P **P** **20 27 19.0 -1.1**
WRAB pmax pmax
comp=Z,38nm,1.0s,mb5.1
WRAB Tennant Creek 44.24 122 *e*P **P** **20 27 19.0 -1.2**
comp=Z,38nm,1.0s,mb5.1
WB2 Warramunga Arr 44.25 122 *e*P **P** **20 27 19.0 -1.2**
CHMS Chumysh 44.26 338 P **P** **20 27 20.2 +0.4**
SNR=13
EKS2 Erkin-Say 44.34 337 *e*P **P** **20 27 21.1 +0.5**
comp=Z,19nm,0.8s,mb4.9
EKS2 Erkin-Say 44.34 337 P **P** **20 27 21.5 +1.0**
SNR=31
USP Ospenovka 44.58 338 P **P** **20 27 22.5 +0.1**
SNR=54
JNU Nakatsue 44.93 43 P **P** **20 27 25.2 -0.3**
comp=Z,8.9nm,0.9s,mb4.6,baz=224,slow=5.2,SNR=5.9
JNU LR LR 20 45 41.9
comp=Z,760nm,22.0s,MS4.6,baz=230,slow=36
FORT Forrest 45.46 139 *e*P **P** **20 27 29.9 +0.2**
comp=Z,40nm,0.8s,mb5.3
MK31 Makanchi Array 45.48 347 *i*P **P** **20 27 29.3 -0.3**
MK31 pmax pmax
comp=Z,97nm,1.0s,mb5.6
MK31 Makanchi Array 45.48 347 *e*P **P** **20 27 29.4 -0.2**
MKAR Makanchi Array 45.48 347 *i*P **P** **20 27 29.3 -0.3**
MKAR pmax pmax
comp=Z,34nm,0.7s
MKAR Makanchi Array 45.48 347 P **P** **20 27 29.4 -0.1**
MKAR LR LR 20 49 14.3
MKAR Makanchi Array 45.48 347 P **P** **20 27 29.4 -0.1**
comp=Z,34nm,0.7s,mb5.3,baz=165,slow=7.6,SNR=371
MKAR LR LR 20 49 14.3
comp=Z,1μm,21.7s,MS4.7,baz=51,slow=40
ASAR Alice Springs 45.61 127 P **P** **20 27 30.4 -0.6**
comp=Z,11nm,1.0s,mb4.8,baz=298,slow=8.0,SNR=50
ASAR PcP PcP 20 29 09.1 -0.1
comp=Z,1.9nm,0.6s,baz=302,slow=3.3,SNR=4.6
KSRS Korea Array 45.71 37 P **P** **20 27 30.3 -1.3**
comp=Z,6.6nm,0.8s,mb4.6,baz=228,slow=7.9,SNR=21
KSRS LR LR 20 47 45.3
comp=Z,2μm,20.4s,MS5.1,baz=232,slow=38
SONM Songino Array 46.03 10 P **P** **20 27 33.6 -0.3**
SONM 20 29 10.9
SONM Songino Array 46.03 10 P **P** **20 27 33.6 -0.3**
comp=Z,11nm,0.6s,mb5.0,baz=191,slow=7.9,SNR=64
SONM PcP PcP 20 29 10.9 +0.8
comp=Z,7.7nm,0.8s,baz=199,slow=2.8,SNR=4.0
SONM LR LR 20 48 24.5
comp=Z,1μm,18.4s,MS4.9,baz=189,slow=38
KK31 Karatay Array 46.04 335 *i*P **P** **20 27 33.1 -1.0**
KK31 pmax pmax
comp=Z,46nm,1.0s,mb5.4
ULN Ulaanbaatar 46.18 11 P **P** **20 27 35.3 +0.3**
SNR=8.5
ULN Ulaanbaatar 46.18 11 P **P** **20 27 35.3 +0.3**
SNR=8.5
SNY Shenyang 46.48 29 ⇑P **P** **20 27 37.3 -0.2**
SNY S **S** **20 34 24.4 +0.3**
SNY AMB AMB
comp=Z,20nm,0.5s,mb5.3
SNY AMB AMB
comp=Z,163nm,5.9s
SNY LR LR
comp=N,3μm,18.6s
SNY LR LR
comp=E,716nm,12.3s
SNY LR LR
comp=Z,3μm,17.8s,MS5.3
ZAK Zakamensk 48.06 7⇑*i*P **P** **20 27 49.4 -0.3**
ZAK *e* 20 29 18.1
ZAK pmax pmax
comp=Z,10.0nm,1.3s,mb4.7
ZAK pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
CN2 Changchun 48.87 29 *e*P **P** **20 27 56.3 +0.3**
CN2 PP PP 20 29 51.0 +1.4
CN2 *e*S **S** **20 35 01.1 +3.1**
CN2 AMB AMB
comp=Z,10.0nm,0.5s,mb5.1
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.4
CN2 LR LR
comp=E,2μm,15.0s,MS5.4
CN2 LR LR
comp=Z,2μm,18.0s,MS5.2
ABKT Ailbek 49.03 321 P **P** **20 27 57.3 -0.1**
comp=Z,200nm,0.7s,mb6.3,SNR=12
MOY Mondy 49.10 5 *e*P **P** **20 28 02.1 +4.4**
MOY pmax pmax
comp=Z,55nm,3.3s
TLY Talaya 49.38 7 *e*P **P** **20 28 00.1 +0.3**
TLY *e* 20 29 17.4
TLY *e* 20 29 55.8
TLY *e*S **S** **20 35 06.5 +1.6**
TLY *e*SS SS 20 38 25.5 -11
TLY pmax pmax
comp=Z,16nm,0.8s,mb5.1
TLY MLR MLR
comp=Z,1μm,16.0s,MS5.0
TLY Talaya 49.38 7 *e*P **P** **20 28 00.2 +0.4**
comp=Z,16nm,0.8s,mb5.1
IRK Irkutsk 50.01 7 *e*P **P** **20 28 05.3 +0.7**
IRK *e*S **S** **20 35 14.4 +0.7**
IRK pmax pmax
comp=Z,79nm,2.9s,mb5.2
KURK Kurchatov 50.01 346 *e*P **P** **20 28 04.6 0.0**
KURK pmax pmax
comp=Z,55nm,0.8s,mb5.6
KURK Kurchatov 50.01 346 *e*P **P** **20 28 04.5 0.0**
comp=Z,55nm,0.8s,mb5.6
KURK Kurchatov 50.01 346 P **P** **20 28 05.0 +0.4**
SNR=22
KURK Kurchatov 50.01 346 P **P** **20 28 05.0 +0.4**
SNR=22
HIA Hailar 50.90 20 *e*P **P** **20 28 11.9 +0.6**
HIA pmax pmax
comp=Z,30nm,1.1s
HIA Hailar 50.90 20 *e*P **P** **20 28 11.9 +0.5**
comp=Z,30nm,1.1s,mb5.1
CIT Chita 51.51 14 *e*P **P** **20 28 16.5 +0.6**
CIT *e* pP 20 28 23.7 -0.3
MDJ Mudanjiang 51.51 31 P **P** **20 28 12.6 -3.5**
MDJ S **S** **20 35 22.3 -13**
MDJ XS sS 20 35 47.5 -0.7
MDJ AMB AMB
comp=Z,14nm,1.1s,mb4.8
MDJ AMB AMB
comp=Z,157nm,4.3s
MDJ LR LR
comp=N,2μm,15.5s,MS5.5
MDJ LR LR
comp=E,3μm,14.7s,MS5.5
MDJ LR LR
comp=Z,2μm,17.7s,MS5.3
MDJ Mudanjiang 51.51 31 *e*P **P** **20 28 16.1 0.0**
comp=Z,13nm,0.9s,mb4.8
MJAR Matsushiro Arr 51.85 44 P **P** **20 28 18.4 -0.3**
MJAR 20 29 29.9
MJAR Matsushiro Arr 51.85 44 P **P** **20 28 18.4 -0.4**
comp=Z,1.7nm,0.7s,mb4.1,baz=242,slow=8.3,SNR=6.8
MJAR PcP PcP 20 29 29.9 -1.6
comp=Z,1.1nm,0.8s,baz=235,slow=4.3,SNR=3.1
MJAR LR LR 20 54 29.8
comp=Z,888nm,18.2s,MS4.8,baz=240,slow=41
ZAL Zalesovo 51.91 352 P **P** **20 28 18.8 0.0**
ZALV Zalesovo Beam 51.92 352 P **P** **20 28 18.8 -0.2**
comp=Z,69nm,0.7s,mb5.7,baz=179,slow=6.8,SNR=172
ZALV LR LR 20 54 10.5
comp=Z,993nm,18.6s,MS4.9,baz=334,slow=40
OPO Ambohidratompo 51.96 244 P **P** **20 28 20.7 +0.8**
comp=Z,1.1nm,0.3s,mb4.3,baz=57,slow=15,SNR=16
RDF Al-Radifah 52.51 305 *e*P **P** **20 28 23.4 -0.4**
RDF AMb AMB 20 28 29.9
comp=Z,62nm,1.0s,mb5.5
NAY Al-Naaiem 52.88 305 *e*P **P** **20 28 26.4 -0.1**
NAY AMb AMB 20 28 31.8
comp=Z,35nm,1.0s,mb5.2

ATD Arta Tunnel 52.90 282 LR LR 20 46 54.2
comp=Z,453nm,21.9s,MS4.5,baz=174,slow=32
MIB Mutribah 53.00 306 *e*P **P** **20 28 27.4 0.0**
MIB AMb AMB 20 28 33.4
comp=Z,144nm,0.8s,mb5.9
NVS Novosibirsk 53.01 351⇑*i*P **P** **20 28 26.3 -0.7**
NVS *e* 20 29 33.4
NVS *i*S **S** **20 35 55.7 +0.6**
NVS pmax pmax
comp=N,36nm,1.0s
NVS pmax pmax
comp=E,22nm,1.0s
NVS pmax pmax
comp=Z,54nm,1.0s,mb5.4
NVS smax
comp=N,30nm,1.8s
NVS smax
comp=E,19nm,2.2s
RST Umm Al-Ruwaisa 53.17 305 *e*P **P** **20 28 28.2 -0.5**
RST AMb AMB 20 28 33.8
comp=Z,1.2nm,1.1s
BVAR Borovoye Array 54.37 342 LR LR 20 55 21.7
comp=Z,1μm,20.2s,MS4.9,baz=42,slow=40
BRVK Borovoye 54.43 342 *e*P **P** **20 28 36.6 -0.8**
BRVK pmax pmax
comp=Z,81nm,1.0s,mb5.6
BRVK Borovoye 54.43 342 *e*P **P** **20 28 36.6 -0.9**
comp=Z,81nm,1.0s,mb5.6
BRVK Borovoye 54.43 342 P **P** **20 28 37.2 -0.3**
SNR=18
BRVK Borovoye 54.43 342 P **P** **20 28 37.2 -0.3**
SNR=18
CTA Charters Tower 54.67 117 *e*P **P** **20 28 39.6 -0.2**
comp=Z,17nm,0.9s,mb5.1
CTA Charters Tower 54.67 117 *e*P **P** **20 28 39.6 -0.2**
CTA pmax pmax
comp=Z,17nm,0.9s
CTA Charters Tower 54.67 117 P **P** **20 28 39.5 -0.3**
comp=Z,18nm,0.9s,mb5.1,baz=290,slow=4.3,SNR=8.7
CTAO Charters Tower 54.67 117 *e*P **P** **20 28 39.1 -0.7**
CTAO pmax pmax
comp=Z,24nm,0.9s,mb5.2
CTAO Charters Tower 54.67 117 *e*P **P** **20 28 39.1 -0.7**
comp=Z,24nm,0.9s,mb5.2
STKA Stephens Creek 55.57 132 *e*P **P** **20 28 45.3 -0.8**
comp=Z,16nm,1.1s,mb5.0
STKA Stephens Creek 55.57 132 P **P** **20 28 45.8 -0.3**
comp=Z,9.6nm,0.6s,mb5.0,baz=303,slow=5.2,SNR=19
STKA LR LR 20 52 24.1
comp=Z,986nm,20.4s,MS4.9,baz=292,slow=36
KLR Kul'dur 55.80 28 *e*P **P** **20 28 43.8 -3.6**
KLR *e*S **S** **20 36 33.5 +0.7**
KLR pmax pmax
comp=E,45nm,1.6s
KLR pmax pmax
comp=Z,80nm,1.6s,mb5.5
KLR MLR MLR
comp=Z,3μm,12.0s,MS5.5
HABR Khabarovsk 56.90 30 *e*P **P** **20 28 54.3 -0.9**
HABR *e* 20 29 07.0
HABR *e* 20 29 48.5
HABR *e* 20 30 56.3
HABR *e* 20 32 16.9
HABR *e*S **S** **20 36 47.0 -0.4**
HABR *e* 20 36 59.8
HABR *e* 20 38 37.8
HABR *e* 20 40 34.4
HABR pmax pmax
comp=Z,39nm,1.1s,mb5.3
BOD Bodaibo 56.97 12 *e*P **P** **20 28 54.6 -1.0**
BOD pmax pmax
comp=Z,24nm,1.2s,mb5.1
AKTO Aktyubinsk 57.19 332 *i*P **P** **20 28 55.8 -1.5**
AKTO pmax pmax
comp=Z,1.0nm,1.0s
KMBO Kilima Mbogo 58.33 267 *i*P **P** **20 29 07.5 +1.5**
KMBO pmax pmax
comp=Z,9.0nm,1.0s
KMBO Kilima Mbogo 58.33 267 P **P** **20 29 05.5 -0.4**
comp=Z,8.8nm,1.0s,mb4.7,baz=61,slow=12,SNR=4.9
KMBO LR LR 20 49 50.9
comp=Z,610nm,18.7s,MS4.7,baz=94,slow=32
CLNS Chul'man 58.93 18 *e*P **P** **20 29 10.2 +0.8**
CLNS pmax pmax
comp=Z,24nm,0.7s,mb5.3
CLNS pmax pmax
comp=N,15nm,0.9s
CLNS pmax pmax
comp=E,17nm,0.8s
CLNS pmax pmax
comp=N,13nm,0.9s
CLNS pmax pmax
comp=Z,13nm,0.9s,mb5.0
CLNS pmax pmax
comp=E,10.0nm,0.7s
CLNS MLR MLR
comp=Z,3μm,15.0s,MS5.5
CLNS MLR MLR
comp=N,2μm,14.0s,MS5.4
CLNS MLR MLR
comp=E,1μm,14.0s,MS5.4
GNI Garni 59.09 316⇑⇑*e*P **P** **20 29 11.0 +0.2**
GNI pmax pmax
comp=Z,29nm,2.0s
GNI Garni 59.09 316 P **P** **20 29 10.1 -0.7**
comp=Z,4.3nm,0.5s,mb4.8,baz=126,slow=5.9,SNR=4.5
DGRG David-gareji 59.24 318 P **P** **20 29 04.1 -7.7**
MTA Mtatsminda 59.73 318 P **P** **20 29 14.4 -0.8**
TBLG Delisi 59.79 318 *e*P **P** **20 29 14.5 -1.1**
TBLG Delisi 59.79 318 P **P** **20 29 14.6 -1.0**
YSS Yuzh-Sakhalins 60.18 35 *e*P **P** **20 29 18.2 0.0**
YSS *e*S **S** **20 37 36.0 +5.7**
YSS *e*PS 20 37 48.0
YSS pmax pmax
comp=Z,60nm,1.0s,mb5.6
YSS MLR MLR
comp=N,1μm,18.0s,MS5.3
YSS MLR MLR
comp=E,1μm,16.0s,MS5.3
YSS Yuzh-Sakhalins 60.18 35 *e*P **P** **20 29 18.5 +0.3**
comp=E,34nm,0.8s,mb5.4
GOR Gori 60.32 318 P **P** **20 29 19.9 +0.6**
SVE Sverdlovsk 60.76 339⇑⇑*e*P **P** **20 29 21.7 -0.2**
SVE *e*S **S** **20 37 49.2 +12**
SVE pmax pmax
comp=Z,75nm,1.0s,mb5.8
SVE MLR MLR
comp=Z,2μm,20.0s,MS5.1
ONI Oni 61.02 318 P **P** **20 29 25.2 +1.2**
TOO Toolangi 61.15 136 *e*P **P** **20 29 26.1 +1.2**
comp=Z,427nm,1.1s
TOO Toolangi 61.15 136 *e*P **P** **20 29 26.1 +1.2**
TOO pmax pmax
comp=Z,427nm,1.1s
ARU Arti 61.23 338 P **P** **20 29 24.9 -0.2**
comp=Z,188nm,1.0s,mb6.2,SNR=11
ARU Arti 61.23 338*c i*P **P** **20 29 24.0 -1.1**
ARU *e* 20 30 05.1
ARU *e* 20 31 35.7
ARU *e*S **S** **20 37 41.8 -1.4**
ARU *e*SS SS 20 41 39.0 -4.7
ARU *e*SSS 20 44 25.5
ARU pmax pmax
comp=Z,35nm,1.0s,mb5.4
ARU MLR MLR
comp=Z,1μm,22.0s,MS5.0
ARU Arti 61.23 338 *e*P **P** **20 29 23.9 -1.2**
comp=Z,37nm,1.0s,mb5.5
KIV Kislovodsk 62.12 319 *e*P **P** **20 29 30.4 -1.0**
KIV pmax pmax
comp=Z,33nm,1.2s,mb5.3
KIV MLR MLR
comp=Z,362nm,18.0s,MS4.6
KIV Kislovodsk 62.12 319 *e*P **P** **20 29 30.9 -0.5**
comp=Z,22nm,0.8s,mb5.3
KIV Kislovodsk 62.12 319 P **P** **20 29 31.1 -0.3**
SNR=8.7
ASF Jabal al Asfar 62.25 305 LR LR 20 58 45.4
comp=Z,922nm,18.1s,MS5.0,baz=106,slow=38
MALT Malatya 62.91 312 *e*P **P** **20 29 37.1 +0.3**
MALT pmax pmax
comp=Z,19nm,1.1s,mb5.1
MALT Malatya 62.91 312 *e*P **P** **20 29 37.1 +0.3**
comp=Z,19nm,1.1s,mb5.1
SOC Sochi 63.92 318 *e*P **P** **20 29 42.1 -1.3**
SOC *e* 20 30 15.6

SOC *e* 20 32 09.6
SOC *e*S **S** **20 38 16.0 -1.6**
SOC *e**SS sS 20 38 36.3 +5.0
SOC *e* 20 39 32.8
SOC *e*SS SS 20 42 27.5 +1.0
SOC pmax pmax
comp=Z,27nm,0.7s,mb5.4
SOC MLR MLR
comp=Z,527nm,21.0s,MS4.7
CSS Prodhromos 65.85 307 *e*P **P** **20 29 56.8 +0.7**
comp=Z,31nm,1.1s,mb5.2
ANN Anapa 65.91 319 *e*P **P** **20 29 55.6 -0.7**
ANN *e*S S 20 38 42.3 +0.3
ANN pmax pmax
comp=Z,33nm,1.2s,mb5.2
ANN MLR MLR
comp=Z,395nm,19.0s,MS4.6
ANN MLR MLR
comp=N,561nm,19.0s
VRHR Novokhopersk 66.00 326 *e*P **P** **20 29 55.4 -1.4**
VRHR pmax pmax
comp=Z,40nm,0.7s,mb5.6
VRHR pmax pmax
comp=N,20nm,0.6s
VRHR pmax pmax
comp=E,10.0nm,0.5s
VRSR Storozhevoye 67.42 325 *e*P **P** **20 30 04.0 -1.8**
VRSR pmax pmax
comp=N,1.0nm,0.7s
VRSR pmax pmax
comp=Z,4.0nm,0.7s,mb4.6
VRSR pmax pmax
comp=E,3.0nm,0.9s
ANTO Ankara 67.56 312 *e*P **P** **20 30 06.5 -0.4**
ANTO pmax pmax
comp=Z,15nm,0.9s,mb5.0
ANTO Ankara 67.56 312 *e*P **P** **20 30 06.5 -0.4**
comp=Z,15nm,0.9s,mb5.0
VOR Voronezh 67.64 326 *e*P **P** **20 30 06.0 -1.2**
VOR pmax pmax
comp=Z,100nm,0.8s,mb5.9
SIM Simferopol' 68.17 318 *e*P **P** **20 30 09.7 -1.0**
SIM pmax pmax
comp=Z,25nm,0.9s,mb5.2
SIM MLR MLR
comp=Z,400nm,18.8s,MS4.7
LSZ Lusaka 68.87 253 *e*P **P** **20 30 15.4 -0.2**
LSZ pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LSZ Lusaka 68.87 253 *e*P **P** **20 30 15.4 -0.2**
comp=Z,6.9nm,0.9s,mb4.6
MOS Moscow 70.25 329 *e*P **P** **20 30 23.3 0.0**
MOS *e* 20 30 43.2
MOS *e* 20 33 03.0
MOS pmax pmax
comp=Z,45nm,0.9s,mb5.4
MOS MLR MLR
comp=Z,2μm,22.5s,MS5.2
ARG Arkhangelos 70.26 308 *e*P **P** **20 30 25.0 +1.2**
OBN Obninsk 70.52 329*c i*P **P** **20 30 24.0 -1.0**
OBN *i* pP 20 30 31.4 -2.0
OBN *e*S S 20 39 36.0 -0.6
OBN pmax pmax
comp=Z,68nm,1.6s,mb5.3
OBN Obninsk 70.52 329 *e*P **P** **20 30 23.9 -1.1**
comp=Z,61nm,1.2s,mb5.4
MA2 Magadan 70.83 26 *e*P **P** **20 30 27.5 +0.7**
MA2 *e*S S 20 39 39.9 -0.1
MA2 pmax pmax
comp=Z,20nm,0.9s,mb5.0
MA2 MLR MLR
comp=Z,200nm,22.7s,MS4.3
MA2 Magadan 70.83 26 *e*P **P** **20 30 26.0 -0.8**
comp=Z,56nm,1.4s,mb5.3
KARP Karpathos 70.90 307 *e*P **P** **20 30 28.0 +0.3**
TIRR Tirgusor 71.92 316 P **P** **20 30 33.0 -0.7**
TIRR Tirgusor 71.92 316⇓⇓*i*P **P** **20 30 32.9 -0.8**
XRY Khrisi 71.96 306 *e*P **P** **20 30 35.0 +0.8**
PET Petropavlovsk 72.04 35 *e*P **P** **20 30 34.6 +0.4**
PET pmax pmax
comp=Z,16nm,0.6s,mb5.1
PET MLR MLR
comp=Z,700nm,18.0s,MS5.0
PET Petropavlovsk 72.04 35 P **P** **20 30 33.5 -0.7**
NPS Neapolis 72.09 306 *e*P **P** **20 30 36.0 +1.1**
TIXI Tiksi 72.12 11 *e*P **P** **20 30 32.8 -1.5**
TIXI pmax pmax
comp=Z,35nm,1.3s,mb5.1
TIXI MLR MLR
comp=Z,2μm,18.0s,MS5.4
TIXI Tiksi 72.12 11 *e*P **P** **20 30 32.8 -1.6**
comp=Z,41nm,1.2s,mb5.2
KIS Kishinev 72.31 319 *e*P **P** **20 30 35.0 -1.0**
KIS *e* pP 20 30 41.0 -3.4
KIS *e* 20 30 50.0
KIS MLR MLR
comp=E,300nm,20.0s
KIS MLR MLR
comp=Z,400nm,20.0s,MS4.7
KIS MLR MLR
comp=Z,500nm,20.0s
HARR Harsova 72.31 316 P **P** **20 30 35.7 -0.3**
HARR Harsova 72.31 316⇓⇓*i*P **P** **20 30 36.8 +0.8**
SANT Santorini 72.41 307 *e*P **P** **20 30 34.9 -1.9**
comp=Z,26nm,1.0s,mb5.1
AKASG Malin Array Be 73.10 323 P **P** **20 30 38.9 -1.6**
AKASG LR LR 21 07 13.8
AKASG Malin Array Be 73.10 323 P **P** **20 30 38.9 -1.6**
comp=Z,6.3nm,0.8s,mb4.6,baz=91,slow=4.8,SNR=32
AKASG LR LR 21 07 13.7
comp=Z,434nm,19.9s,MS4.7,baz=135,slow=40
AKBB Malin Array Si 73.10 323 *e*P **P** **20 30 38.7 -1.9**
KIEV Kiev 73.11 323 *e*P **P** **20 30 38.7 -1.9**
KIEV pmax pmax
comp=Z,13nm,0.9s,mb4.9
KIEV Kiev 73.11 323 *e*P **P** **20 30 38.7 -1.9**
comp=Z,13nm,0.9s,mb4.9
SEY Seymchan 73.16 24⇑⇑*e*P **P** **20 30 40.1 -0.6**
VAM Vamos 73.26 306 *e*P **P** **20 30 41.5 -0.4**
GVD Gavdhos 73.26 306 *e*P **P** **20 30 40.5 -1.4**
comp=Z,15nm,1.0s,mb4.9
VRI Vrincioaia 73.42 317 P **P** **20 30 42.7 +0.1**
VRI Vrincioaia 73.42 317⇓⇓*i*P **P** **20 30 42.5 -0.1**
PLOR Plostina 73.47 317⇑⇑*i*P **P** **20 30 43.8 +0.9**
MAW Mawson 73.70 192 P **P** **20 30 43.2 -0.5**
comp=Z,4.8nm,0.9s,mb4.4,baz=25,slow=9.7,SNR=6.7
MAW LR LR 20 55 30.0
comp=Z,357nm,18.2s,MS4.7,baz=141,slow=30
MLR Muntele Rosu 73.87 317 P **P** **20 30 45.3 +0.1**
MLR Muntele Rosu 73.87 317⇑⇑*i*P **P** **20 30 45.4 +0.2**
ZIMR 73.87 315 P **P** **20 30 45.2 -0.1**
PTL Penteli 73.94 309 *e*P **P** **20 30 45.0 -0.8**
TMCR Tamitsa 73.97 337 *e*P **P** **20 30 44.6 -0.8**
TMCR pmax pmax
comp=Z,32nm,0.8s,mb5.3
BOSA Boshof 74.00 239 P **P** **20 30 45.5 -0.8**
comp=Z,4.6nm,0.8s,mb4.5,baz=91,slow=7.2,SNR=5.4
BOSA LR LR 21 00 24.7
comp=Z,877nm,18.1s,MS5.1,baz=63,slow=34
VOIR 74.47 316⇓⇓*i*P **P** **20 30 46.9 -1.8**
BURAR Bucovina Array 74.83 319⇓⇓*i*P **P** **20 30 51.1 +0.3**
VTS Vitosha 75.22 313 P **P** **20 30 53.5 +0.4**
LVV L'vov 76.09 321 *e*P **P** **20 30 57.1 -0.9**
JOF Joensuu 76.14 335 *e*p **P** **20 30 53.6 -4.4**
comp=Z,17nm,0.9s,mb5.0
JOF Joensuu 76.14 335 *e*P **P** **20 30 53.6 -4.4**
JOF pmax pmax
comp=Z,17nm,0.9s,mb5.0
TRPA Tarpa 76.71 319⇑⇑*i*P **P** **20 31 02.5 +1.0**
KWP Kalwaria 76.89 320 *e*P **P** **20 31 03.0 +0.5**
KWP Kalwaria 76.89 320 *e*P **P** **20 31 03.0 +0.5**
KWP Kalwaria 76.89 320⇑⇑*i*P **P** **20 31 02.8 +0.3**
UZH Uzhgorod 76.96 319 *e*P **P** **20 31 03.0 +0.1**
UZH *e*S S 20 40 50.0 +0.4
UZH *e* 20 41 42.0
KOLS Kolonicke sedl 77.03 320 *e*P **P** **20 31 04.2 +0.9**
APA Apatity 77.21 340⇓⇓*i*P **P** **20 31 03.8 -0.1**
APA pmax pmax
comp=Z,21nm,1.0s,mb5.0
SUW Suwalki 77.54 325 *e*P **P** **20 31 05.0 -1.0**
SUW Suwalki 77.54 325 *e*P **P** **20 31 05.0 -1.0**
CRVS Cervenica-Dubn 77.55 319 *e*P **P** **20 31 08.3 +2.1**
STHS Stebnicka Huta 77.79 320 *e*P **P** **20 31 08.5 +1.0**
STHS *e* 20 31 26.1

STHS pmax pmax
comp=Z,16nm,1.0s,mb4.9
STHS Stebnicka Huta 77.79 320 *eP* **P 20 31 08.5 +1.0**
comp=Z,16nm,1.0s,mb4.9
STHS *e* 20 31 26.1
FIA1 FINESS Array S 77.96 333 *eP* **P 20 31 07.8 -0.4**
FINES FINESS Array B 77.96 333 *i P* **P 20 31 10.1 +1.9**
FINES pmax pmax
comp=Z,9.0nm,0.9s
FINES FINESS Array B 77.96 333 P **P 20 31 06.9 -1.3**
comp=Z,8.5nm,0.9s,mb4.7,baz=102,slow=3.7,SNR=14
FINES LR LR 21 10 54.6
comp=Z,720nm,20.3s,MS5.0,baz=112,slow=40
NIE Niedzica 78.39 320 *eP* **P 20 31 11.6 +0.7**
PSZ Piszkesteto 78.42 318 P **P 20 31 12.1 +1.0**
PSZ Piszkesteto 78.42 318⇓ *eP* **P 20 31 11.9 +0.8**
PSZ Piszkesteto 78.42 318⇑ *iP* **P 20 31 10.9 -0.2**
PKSM Moragy 79.02 316 P **P 20 31 15.0 +0.6**
PKSM Moragy 79.02 316⇓ *eP* **P 20 31 14.7 +0.3**
PKSM Moragy 79.02 316⇑ *iP* **P 20 31 13.6 -0.8**
VYHS Vyhne 79.20 319 *eP* **P 20 31 15.0 -0.4**
VYHS *e* pP 20 31 21.8 -2.1
VYHS pmax pmax
comp=Z,7.0nm,1.2s,mb4.5
VYHS Vyhne 79.20 319 *eP* **P 20 31 15.0 -0.4**
comp=Z,6.5nm,1.2s,mb4.4
VYHS *e* pP 20 31 21.8 -2.1
KOLL Kolacno 79.50 319 *eP* **P 20 31 16.1 -0.9**
OKC Ostrava-Krasne 79.84 320 *eP* **P 20 31 19.2 +0.4**
OKC Ostrava-Krasne 79.84 320 *eP* **P 20 31 19.2 +0.4**
OKC AMS AMS 21 14 20.0
comp=Z,400nm,21.3s
TDS Terranova Siba 79.97 310 P **P 20 31 21.7 +1.9**
TDS pmax pmax
comp=Z,48nm,0.9s,mb5.4
TDS Terranova Siba 79.97 310 P **P 20 31 21.7 +1.9**
comp=Z,48nm,0.9s,mb5.4
MODS Modra-Piesok 80.22 319 *eP* **P 20 31 21.2 +0.3**
MODS *e*PCP PcP 20 31 28.5 +0.5
MODS *e*pP pP 20 31 35.8 +6.4
MORC Moravsky Berou 80.22 320⇑ *iP* **P 20 31 22.1 +1.2**
ZST Bratislava 80.31 318 *eP* **P 20 31 22.3 +0.9**
ZST *e* 20 31 34.0
ZST pmax pmax
comp=Z,27nm,1.1s,mb5.1
ZST Bratislava 80.31 318 *eP* **P 20 31 22.3 +0.9**
comp=Z,27nm,1.1s,mb5.1
ZST *e* 20 31 28.2
ZST *e* 20 31 34.0
BILL Bilibino 80.47 21c *i P* **P 20 31 21.9 +0.1**
BILL pmax pmax
comp=Z,9.0nm,1.6s,mb4.5
ARCES ARCESS Array B 80.64 340 P **P 20 31 23.5 +0.8**
comp=Z,12nm,0.9s,mb4.8,baz=91,slow=5.7,SNR=19
ARCES LR LR 21 12 33.6
comp=Z,863nm,19.2s,MS5.1,baz=112,slow=40
CSSN Cassano Irpino 81.07 311 P **P 20 31 25.9 +0.3**
comp=Z,13nm,0.9s,mb4.9
DPC Dobruska-Polom 81.07 320 *eP* **P 20 31 25.9 +0.5**
DPC AMS AMS 21 15 00.0
comp=Z,500nm,15.2s
CONA Conrad Observa 81.11 318⇓ *iP* **P 20 31 26.1 +0.4**
comp=Z,5.7nm,1.1s,mb4.4
CSNA Conrad Observa 81.11 318⇑ *iP* **P 20 31 25.2 -0.5**
comp=Z,5.2nm,1.1s,mb4.4
KSP Ksiaz 81.15 321 *eP* **P 20 31 27.3 +1.5**
KSP Ksiaz 81.15 321 *eP* **P 20 31 27.0 +1.2**
ARSA Arzberg 81.27 317⇑ *iP* **P 20 31 27.0 +0.5**
comp=Z,15nm,0.9s,mb4.9,SNR=7.9
UPC Upice 81.29 321 *eP* **P 20 31 27.5 +0.9**
RPZ Rata Peaks 81.42 135 LR LR 21 05 21.2
comp=Z,590nm,19.8s,MS5.0,baz=187,slow=34
PERS Pernice 81.48 317 *eP* **P 20 31 28.2 +0.5**
TREC Trest 81.50 319 *eP* **P 20 31 27.9 +0.2**
TREC AMS AMS 21 14 20.0
comp=Z,500nm,19.9s
PDKS Podkum 81.52 316 *eP* **P 20 31 28.3 +0.4**
SOKA Soboth 81.55 317⇑ *iP* **P 20 31 27.9 -0.1**
comp=Z,15nm,1.1s,mb4.8
LJU Ljubljana 81.84 316 *eP* **P 20 31 29.9 +0.3**
MOA Molln 82.17 318⇑ *iP* **P 20 31 31.2 -0.1**
comp=Z,6.5nm,1.2s,mb4.4
MOA Molln 82.17 318⇑ *iP* **P 20 31 31.2 -0.1**
comp=Z,6.5nm,1.2s,mb4.4
PRU Pruhonice 82.17 320 *eP* **P 20 31 32.0 +0.8**
PRU AMS AMS 21 14 30.0
comp=Z,500nm,17.8s
PVCC Panska Ves 82.21 320 *eP* **P 20 31 32.5 +1.1**
PVCC AMS AMS 21 13 50.0
comp=Z,500nm,19.8s
AQU L'Aquila 82.39 312 *eP* **P 20 31 33.8 +1.3**
AQU pmax pmax
comp=Z,28nm,1.0s,mb5.2
AQU L'Aquila 82.39 312 *eP* **P 20 31 33.8 +1.2**
comp=Z,28nm,1.0s,mb5.1
CING Cingoli 82.60 313 P **P 20 31 34.0 +0.4**
comp=Z,19nm,1.2s,mb5.0
GEC2 GERESS Array S 82.62 319 *eP* **P 20 31 34.0 +0.4**
GEC2 pmax pmax
comp=Z,25nm,1.2s,mb5.1
GEC2 GERESS Array S 82.62 319 *eP* **P 20 31 34.0 +0.4**
comp=Z,25nm,1.2s,mb5.1
GERES GERESS Array B 82.62 319 P **P 20 31 33.6 0.0**
comp=Z,6.5nm,0.9s,mb4.7,baz=98,slow=5.5,SNR=37
GERES LR LR 21 15 53.8
comp=Z,282nm,18.1s,MS4.7,baz=84,slow=41
NRCA Norcia 82.63 313 P **P 20 31 34.1 +0.3**
comp=Z,14nm,1.2s,mb4.9
PTCC Patocco-Chiusa 82.68 316 P **P 20 31 33.8 -0.2**
comp=Z,31nm,1.6s,mb5.1
KHC Kasperske Hory 82.73 319 *eP* **P 20 31 34.2 0.0**
KHC AMS AMS 21 14 50.0
comp=Z,500nm,20.9s
KBA Koelnbreinsper 82.73 317⇑ *iP* **P 20 31 34.1 -0.1**
comp=Z,6.7nm,1.1s,mb4.6
KBA Koelnbreinsper 82.73 317⇑ *iP* **P 20 31 34.1 -0.1**
KBA pmax pmax
comp=Z,7.0nm,1.0s,mb4.7
SNTG Esanatoglia 82.78 313 P **P 20 31 34.8 +0.2**
comp=Z,15nm,1.0s,mb5.0
RUE Ruedersdorf 82.88 322 *eP* **P 20 31 35.6 +0.8**
comp=Z,30nm,1.1s,mb5.2
FSSB Fossombrone 82.92 314 P **P 20 31 35.8 +0.5**
comp=Z,22nm,1.3s,mb5.0
RSM Repubblica di 83.17 314 P **P 20 31 37.0 +0.4**
RSM pmax pmax
comp=Z,38nm,1.1s,mb5.3
RSM Repubblica di 83.17 314 P **P 20 31 37.0 +0.4**
comp=Z,38nm,1.1s,mb5.3
WET Wettzell 83.19 319 *eP* **P 20 31 37.0 +0.5**
WET pmax pmax
comp=Z,14nm,1.3s,mb4.8
WET Wettzell 83.19 319 *eP* **P 20 31 37.0 +0.5**
comp=Z,14nm,1.3s,mb4.8
CLL Collm 83.26 321⇓ *iP* **P 20 31 37.1 +0.2**
CLL *i* pP 20 31 43.3 -2.1
CLL pmax pmax
comp=Z,8.0nm,1.2s,mb4.6
CLL MLR MLR
comp=Z,400nm,20.0s,MS4.8
CLL Collm 83.26 321⇓ *iP* **P 20 31 37.1 +0.2**
comp=Z,8.0nm,1.2s,mb4.6
CLL *i* 20 31 40.3
CLL *i* pP 20 31 43.3 -2.1
CLL LR LR
comp=Z,400nm,20.0s,MS4.8
CLL Collm 83.26 321 *eP* **P 20 31 37.0 +0.1**
comp=Z,12nm,1.2s,mb4.8
CLL Collm 83.26 321⇓ *iP* **P 20 31 37.1 +0.2**
comp=Z,8.0nm,1.2s,mb4.6
CLL *i* PcP PcP 20 31 40.3 -1.0
CLL *i* x x 20 31 43.3
CLL *i* x x 20 31 51.1
CLL *e*PP PP 20 34 45.0 -3.5
NKC Novy Kostel 83.54 320 *eP* **P 20 31 37.9 -0.4**
NKC Novy Kostel 83.54 320 *eP* **P 20 31 37.9 -0.4**
NKC AMS AMS 21 15 00.0
comp=Z,600nm,22.3s
TANN Tannenbergstha 83.54 320 *eP* **P 20 31 38.7 +0.4**
comp=Z,9.0nm,1.2s,mb4.8
WERN Wernitzgruen 83.59 320 *eP* **P 20 31 38.9 +0.3**
comp=Z,9.0nm,1.1s,mb4.8
SFI Santa Sofia 83.61 314 P **P 20 31 40.5 +1.7**
SFI pmax pmax
comp=Z,27nm,0.9s,mb5.4
SFI Santa Sofia 83.61 314 P **P 20 31 40.5 +1.7**
comp=Z,27nm,0.9s,mb5.4
WERD Werda 83.64 320 *eP* **P 20 31 38.9 +0.1**
comp=Z,10.0nm,1.2s,mb4.8
ROTZ Rotzenmuhle 83.66 320 *eP* **P 20 31 39.3 +0.3**
comp=Z,12nm,1.1s,mb4.9
MANZ Manzenberg 83.74 320 *eP* **P 20 31 40.0 +0.6**
comp=Z,19nm,1.2s,mb5.1
CTI Castel Tesino 83.84 316 P **P 20 31 40.0 0.0**
CTI pmax pmax
comp=Z,18nm,0.8s,mb5.2
CTI Castel Tesino 83.84 316 P **P 20 31 40.0 0.0**
comp=Z,18nm,0.8s,mb5.2
WTTA Wattenberg 83.91 317⇓ *iP* **P 20 31 38.9 -1.3**
comp=Z,13nm,0.9s,mb5.0
WTTA Wattenberg 83.91 317⇓ *iP* **P 20 31 38.9 -1.4**
WTTA pmax pmax
comp=Z,13nm,0.9s,mb5.1
MOX Moxa 84.09 320 *eP* **P 20 31 42.2 +1.1**
MOX
comp=Z,11nm,1.4s,mb4.8
MOX
comp=Z,300nm,18.0s
MOX Moxa 84.09 320 *eP* **P 20 31 42.2 +1.1**
MOX pmax pmax
comp=Z,11nm,1.4s,mb4.8
MOX MLR MLR
comp=Z,300nm,18.0s,MS4.7
MOX Moxa 84.09 320 *eP* **P 20 31 41.4 +0.3**
comp=Z,13nm,1.5s,mb4.8
GRA1 Grafenberg Arr 84.30 320 *eP* **P 20 31 42.0 -0.2**
comp=Z,21nm,1.1s,mb5.2
GRA1 *e*pP pP 20 31 49.4 -1.4
GRA1 LR LR
comp=Z,300nm,20.1s,MS4.7
GRF Grafenberg Arr 84.30 320 *eP* **P 20 31 42.0 -0.2**
GRF *e**PP pP 20 31 49.4 -1.4
GRF pmax pmax
comp=Z,21nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,300nm,20.1s,MS4.7
GRF Grafenberg Arr 84.30 320 *eP* **P 20 31 42.0 -0.2**
comp=Z,21nm,1.1s,mb5.2
GRF *e*pP pP 20 31 49.4 -1.4
GRF *e*L 21 18 04.4
comp=Z,313nm,20.1s
GRFO Grafenberg 84.30 320 *eP* **P 20 31 42.8 +0.6**
GRFO pmax pmax
comp=Z,24nm,1.3s,mb5.2
GRFO Grafenberg 84.30 320 *eP* **P 20 31 42.8 +0.6**
comp=Z,24nm,1.3s,mb5.2
RETA Reutte 84.51 317⇓ *iP* **P 20 31 42.7 -0.7**
comp=Z,14nm,1.4s,mb4.9,SNR=7.1
FETA Feichten 84.52 317⇓ *iP* **P 20 31 43.7 +0.4**
comp=Z,8.4nm,1.1s,mb4.8
CLZ Clausthal 84.93 322 *eP* **P 20 31 45.6 +0.2**
CLZ pmax pmax
comp=Z,16nm,1.2s,mb5.0
CLZ Clausthal 84.93 322 *eP* **P 20 31 45.6 +0.2**
comp=Z,16nm,1.2s,mb5.0
NB2 NORSAR Subarra 84.94 331 P **P 20 31 44.3 -0.9**
comp=Z,12nm,1.1s,mb4.9,baz=96,slow=6.2
NOA NORSAR Array B 84.94 331 P **P 20 31 44.0 -1.2**
comp=Z,3.7nm,0.9s,mb4.5,baz=95,slow=5.6,SNR=5.6
NOA LR LR 21 13 44.5
comp=Z,658nm,20.0s,MS5.0,baz=75,slow=39
BSEG Bad Segeberg 85.05 324 *eP* **P 20 31 46.6 +0.7**
BSEG pmax pmax
comp=Z,21nm,1.2s,mb5.1
BSEG Bad Segeberg 85.05 324 *eP* **P 20 31 46.6 +0.7**
comp=Z,21nm,1.2s,mb5.1
DAVA Damuels 85.10 317⇑ *iP* **P 20 31 47.5 +1.2**
comp=Z,18nm,1.1s,mb5.1
DAVA Damuels 85.10 317⇑ *i*PcP PcP 20 31 47.5 -2.0
comp=Z,18nm,1.1s
SPITS Spitsbergen Ar 85.23 348 LR LR 21 15 16.8
comp=Z,933nm,19.9s,MS5.2,baz=345,slow=40
VSL Villasalto 85.34 309 *eP* **P 20 31 48.4 +0.7**
comp=Z,8.6nm,1.0s,mb4.8
KEST Kesra 85.34 305 P **P 20 31 48.2 +0.4**
comp=Z,4.1nm,0.9s,mb4.5,baz=225,slow=0.9,SNR=11
KEST LR LR 21 13 42.7
comp=Z,252nm,18.2s,MS4.7,baz=4.9,slow=38
PGF Pioggiola 85.65 312 *eP* **P 20 31 49.3 +0.1**
BFO Black Forest 86.17 318 *eP* **P 20 31 50.8 -0.8**
BFO pmax pmax
comp=Z,4.0nm,0.9s,mb4.7
BFO Black Forest 86.17 318 *eP* **P 20 31 50.8 -0.8**
comp=Z,4.0nm,0.9s,mb4.7
FIN Finale Ligure 86.23 314 P **P 20 31 51.4 -0.6**
IBBN Ibbenburen 86.55 322 *eP* **P 20 31 53.9 +0.5**
comp=Z,15nm,1.0s,mb5.2
SBF Sospel 86.79 314 *eP* **P 20 31 54.7 -0.1**
comp=Z,22nm,0.8s,mb5.1
SBF Sospel 86.79 314 *eP* **P 20 31 54.7 -0.1**
SBF pmax pmax
comp=Z,11nm,0.8s,mb5.1
SBF Sospel 86.79 314 *eP* **P 20 31 54.7 -0.1**
comp=Z,11nm,0.8s,mb5.1
BUG Bochum--Univer 86.86 321 *eP* **P 20 31 54.9 0.0**
comp=Z,20nm,1.1s,mb5.3
CDF Champ du Feu 86.87 318 *eP* **P 20 31 54.6 -0.4**
comp=Z,14nm,1.1s,mb4.8
CDF Champ du Feu 86.87 318 *eP* **P 20 31 54.6 -0.4**
CDF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
CDF Champ du Feu 86.87 318 *eP* **P 20 31 54.6 -0.4**
comp=Z,7.2nm,1.1s,mb4.8
MBDF Montbardon 87.26 314 *eP* **P 20 31 57.2 +0.2**
LPG La Plagne 87.26 315 *eP* **P 20 31 57.2 +0.2**
comp=Z,16nm,0.9s,mb4.9
LPG La Plagne 87.26 315 *eP* **P 20 31 57.2 +0.2**
LPG pmax pmax
comp=Z,8.0nm,0.9s,mb5.0
LPG La Plagne 87.26 315 *eP* **P 20 31 57.2 +0.2**
comp=Z,7.8nm,0.9s,mb4.9
LPL La Plagne 87.27 315 *eP* **P 20 31 57.2 +0.1**
comp=Z,18nm,1.0s,mb5.0
LPL La Plagne 87.27 315 *eP* **P 20 31 57.2 +0.1**
LPL pmax pmax
comp=Z,9.0nm,1.0s,mb5.0
LPL La Plagne 87.27 315 *eP* **P 20 31 57.2 +0.1**
comp=Z,9.1nm,1.0s,mb5.0
BNI Bardonecchia 87.32 315 *eP* **P 20 31 56.0 -1.3**
BNI pmax pmax
comp=Z,8.0nm,1.0s,mb4.9
BNI Bardonecchia 87.32 315 *eP* **P 20 31 56.0 -1.3**
comp=Z,8.0nm,1.0s,mb4.9
FRF La Foret Royal 87.37 313 *eP* **P 20 31 57.6 0.0**
comp=Z,28nm,1.2s,mb5.1
FRF La Foret Royal 87.37 313 *eP* **P 20 31 57.6 0.0**
FRF pmax pmax
comp=Z,14nm,1.2s,mb5.1
FRF La Foret Royal 87.37 313 *eP* **P 20 31 57.6 0.0**
comp=Z,14nm,1.2s,mb5.1
LMR La Mourre 87.47 313 *eP* **P 20 31 58.0 -0.1**
comp=Z,12nm,1.1s,mb4.7
LMR La Mourre 87.47 313 *eP* **P 20 31 58.0 -0.1**
LMR pmax pmax
comp=Z,6.0nm,1.1s,mb4.7
LMR La Mourre 87.47 313 *eP* **P 20 31 58.0 -0.1**
comp=Z,5.9nm,1.1s,mb4.7
HAU Haudompre 87.49 318 *eP* **P 20 31 57.7 -0.4**
HAU *e*MLR MLR
comp=Z,406nm,18.0s,MS4.6
HAU Haudompre 87.49 318 *eP* **P 20 31 57.7 -0.4**
HAU LR LR
comp=Z,410nm,18.0s,MS4.9
VNDA Vanda 87.54 168 P **P 20 31 58.8 +1.1**
comp=Z,0.9nm,0.6s,mb4.2,baz=239,slow=5.9,SNR=1.6
VNDA LR LR 21 09 34.2
comp=Z,579nm,18.6s,MS5.0,baz=293,slow=35
CABF La Chapelle 87.70 316 *eP* **P 20 31 59.2 +0.1**
comp=Z,25nm,1.1s,mb5.1
CABF La Chapelle 87.70 316 *eP* **P 20 31 59.2 +0.1**
CABF pmax pmax
comp=Z,13nm,1.1s,mb5.1
CABF La Chapelle 87.70 316 *eP* **P 20 31 59.2 +0.1**
comp=Z,12nm,1.1s,mb5.1
ORIF Oris-en-Rattie 87.89 315 *eP* **P 20 32 00.1 +0.1**
comp=Z,15nm,1.1s,mb4.8
ORIF *e*MLR MLR
comp=Z,587nm,20.2s,MS4.7
ORIF Oris-en-Rattie 87.89 315 *eP* **P 20 32 00.1 +0.1**
ORIF pmax pmax
comp=Z,7.0nm,1.1s,mb4.8
ORIF Oris-en-Rattie 87.89 315 *eP* **P 20 32 00.1 +0.1**
comp=Z,7.4nm,1.1s,mb4.8
SMRF Simiane la Rot 88.14 314 *eP* **P 20 32 01.1 -0.1**
GIVF Givet 88.44 320 *eP* **P 20 32 02.7 +0.2**
VIVF Saint-Julien-l 88.75 315 *eP* **P 20 32 04.1 0.0**
BAIF Baives 88.83 320 *eP* **P 20 32 04.6 +0.2**
comp=Z,26nm,1.1s,mb5.2
BAIF Baives 88.83 320 *eP* **P 20 32 04.6 +0.2**
BAIF pmax pmax
comp=Z,13nm,1.1s,mb5.2
BAIF Baives 88.83 320 *eP* **P 20 32 04.6 +0.2**
comp=Z,13nm,1.1s,mb5.2
GAMB Gambell 88.93 26 *eP* **P 20 32 03.9 -0.6**
comp=Z,11nm,0.8s,mb5.2
LOR Lormes 89.20 317 *eP* **P 20 32 06.0 -0.2**
comp=Z,33nm,1.3s,mb5.2
LOR *e*MLR MLR
comp=Z,296nm,20.0s,MS4.4
LOR Lormes 89.20 317 *eP* **P 20 32 06.0 -0.2**
LOR pmax pmax
comp=Z,16nm,1.3s,mb5.2
LOR MLR MLR
comp=Z,300nm,20.0s,MS4.7
LOR Lormes 89.20 317 *eP* **P 20 32 06.0 -0.2**
comp=Z,16nm,1.3s,mb5.2
LOR LR LR
comp=Z,300nm,20.0s,MS4.7
SMF Signal de Mont 89.25 316 *eP* **P 20 32 06.3 -0.1**
comp=Z,15nm,1.0s,mb5.0
SMF Signal de Mont 89.25 316 *eP* **P 20 32 06.3 -0.1**
SMF pmax pmax
comp=Z,7.0nm,1.0s,mb5.0
SMF Signal de Mont 89.25 316 *eP* **P 20 32 06.3 -0.1**
comp=Z,7.4nm,1.0s,mb5.0
LASF Ste Croix 89.37 314 *eP* **P 20 32 07.1 +0.1**
comp=Z,12nm,1.2s,mb4.8
SSF Saint Saulge 89.45 317 *eP* **P 20 32 07.5 +0.1**
AVF Avril sur Loir 89.57 317 *eP* **P 20 32 07.8 -0.1**
BGF Bois d'Agland 89.94 316 *eP* **P 20 32 09.8 +0.2**
comp=Z,34nm,1.3s,mb5.2
BGF Bois d'Agland 89.94 316 *eP* **P 20 32 09.8 +0.2**
BGF pmax pmax
comp=Z,17nm,1.3s,mb5.2
BGF Bois d'Agland 89.94 316 *eP* **P 20 32 09.8 +0.2**
comp=Z,17nm,1.3s,mb5.2
TCF Toulx Ste Croi 90.39 316 *eP* **P 20 32 11.3 -0.5**
CAF Calviac 90.60 315 *eP* **P 20 32 12.9 +0.1**
comp=Z,9.5nm,1.0s,mb4.8
CAF Calviac 90.60 315 *eP* **P 20 32 12.9 +0.1**
CAF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
CAF Calviac 90.60 315 *eP* **P 20 32 12.9 +0.1**
comp=Z,4.8nm,1.0s,mb4.8
MTLF Montolieu 90.60 313 *eP* **P 20 32 12.5 -0.3**
comp=Z,24nm,1.3s,mb5.1
MTLF Montolieu 90.60 313 *eP* **P 20 32 12.5 -0.3**
MTLF pmax pmax
comp=Z,12nm,1.3s,mb5.1
MTLF Montolieu 90.60 313 *eP* **P 20 32 12.5 -0.3**
comp=Z,12nm,1.3s,mb5.1
RJF Les Rejaudoux 90.95 315 *eP* **P 20 32 14.4 0.0**
comp=Z,48nm,1.5s,mb5.3
RJF *e*MLR MLR
comp=Z,369nm,21.5s,MS4.5
RJF Les Rejaudoux 90.95 315 *eP* **P 20 32 14.4 0.0**
RJF pmax pmax
comp=Z,24nm,1.5s,mb5.3
RJF MLR MLR
comp=Z,370nm,21.5s,MS4.8
RJF Les Rejaudoux 90.95 315 *eP* **P 20 32 14.4 0.0**
comp=Z,24nm,1.5s,mb5.3
RJF LR LR
comp=Z,370nm,21.5s,MS4.8
LDF La Druitiere 91.77 319 *eP* **P 20 32 18.1 0.0**
comp=Z,33nm,1.1s,mb5.3
LDF La Druitiere 91.77 319 *eP* **P 20 32 18.1 0.0**
LDF pmax pmax
comp=Z,17nm,1.1s,mb5.3
LDF La Druitiere 91.77 319 *eP* **P 20 32 18.1 0.0**
comp=Z,17nm,1.1s,mb5.3
FLN La Foliniere 91.99 319 *eP* **P 20 32 19.1 0.0**
comp=Z,41nm,1.1s,mb5.4
FLN *e*MLR MLR
comp=Z,344nm,20.8s,MS4.5
FLN La Foliniere 91.99 319 *eP* **P 20 32 19.1 0.0**
FLN pmax pmax
comp=Z,21nm,1.1s,mb5.4
FLN MLR MLR
comp=Z,340nm,20.8s,MS4.8
FLN La Foliniere 91.99 319 *eP* **P 20 32 19.1 0.0**
comp=Z,21nm,1.1s,mb5.4
FLN LR LR
comp=Z,340nm,20.8s,MS4.8
MFF Saint Martin d 91.99 317 *eP* **P 20 32 19.1 -0.1**
EPF Esparros 92.00 313 *eP* **P 20 32 18.7 -0.6**
JMIC Jan Mayen 92.09 341 LR LR 21 18 16.3
comp=Z,572nm,19.2s,MS5.0,baz=75,slow=38
GRR Gorron 92.28 318 *eP* **P 20 32 20.6 +0.1**
comp=Z,27nm,1.1s,mb5.2
GRR Gorron 92.28 318 *eP* **P 20 32 20.6 +0.1**
GRR pmax pmax
comp=Z,14nm,1.1s,mb5.2
GRR Gorron 92.28 318 *eP* **P 20 32 20.6 +0.1**
comp=Z,14nm,1.1s,mb5.2
ETSF Etsaut 92.67 313 *eP* **P 20 32 22.4 0.0**
comp=Z,24nm,1.2s,mb5.2
ETSF Etsaut 92.67 313 *eP* **P 20 32 22.4 0.0**
ETSF pmax pmax
comp=Z,12nm,1.2s,mb5.2
ETSF Etsaut 92.67 313 *eP* **P 20 32 22.4 0.0**
comp=Z,12nm,1.2s,mb5.2
TORD Torodi Ar. Bea 93.09 283 P **P 20 32 24.4 -0.5**
TORD PKKP PKKPbc 20 49 34.8 +1.0
TORD LR LR 21 12 39.1
TORD Torodi Ar. Bea 93.09 283 P **P 20 32 24.4 -0.5**
comp=Z,3.5nm,1.0s,mb4.8,baz=98,slow=6.3,SNR=12
TORD PKKP PKKPbc 20 49 34.8 +1.0
comp=Z,0.4nm,0.6s,baz=299,slow=3.3,SNR=5.8
TORD LR LR 21 12 39.2
comp=Z,597nm,18.6s,MS5.1,baz=125,slow=34
SJPF Ste Jean 93.13 313 *eP* **P 20 32 24.4 -0.1**
comp=Z,20nm,1.0s,mb5.2
SJPF Ste Jean 93.13 313 *eP* **P 20 32 24.4 -0.1**
SJPF pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
SJPF Ste Jean 93.13 313 *eP* **P 20 32 24.4 -0.1**
comp=Z,9.8nm,1.0s,mb5.2
SGMF Saint Gilles 93.42 318 *eP* **P 20 32 25.6 -0.1**
comp=Z,76nm,1.6s,mb5.6
SGMF Saint Gilles 93.42 318 *eP* **P 20 32 25.6 -0.1**
SGMF pmax pmax
comp=Z,38nm,1.6s,mb5.6
SGMF Saint Gilles 93.42 318 *eP* **P 20 32 25.6 -0.1**
comp=Z,38nm,1.6s,mb5.6
ROSF Rostrenen 93.88 319 *eP* **P 20 32 28.0 +0.1**
comp=Z,38nm,1.2s,mb5.4
ROSF Rostrenen 93.88 319 *eP* **P 20 32 28.0 +0.1**
ROSF pmax pmax
comp=Z,19nm,1.2s,mb5.4
ROSF Rostrenen 93.88 319 *eP* **P 20 32 28.0 +0.1**
comp=Z,19nm,1.2s,mb5.4
ESDC Sonseca Array 95.61 310 LR LR 21 18 11.2
comp=Z,294nm,20.2s,MS4.8,baz=155,slow=37
IMA2 Indian Mountai 95.95 23 *eP* **P 20 32 37.3 +0.3**
BORG Borgarnes 98.77 337 LR LR 21 21 53.9
comp=Z,489nm,18.7s,MS5.0,baz=46,slow=38
KDAK Kodiak Island 99.31 30 LR LR 21 24 38.7
comp=Z,422nm,19.1s,MS5.0,baz=49,slow=40
DBIC Dimbokro 99.95 277 LR LR 21 13 01.7
comp=Z,372nm,21.4s,MS4.9,baz=68,slow=32
SFJD Kangerlussuaq 106.52 347 *i P* PKiKP 20 37 43.1 +8.3
SFJD *i* 20 45 31.2
SFJD *i* 20 51 04.1
SFJD
comp=Z,540nm,20.0s
YKA Yellowknife Ar 111.18 14 Pdiff Pdif 20 33 47.8 +2.8
comp=Z,0.1nm,0.5s,baz=325,slow=5.3,SNR=2.8
YKA PP PP 20 38 10.8 -12
comp=Z,0.2nm,0.6s,baz=310,slow=2.3,SNR=4.1
DLMT Dillon 126.11 24 *eP* PKPdf 20 38 13.1 +0.2
ULM Lac du Bonnet 126.45 9 PKP PKPdf 20 38 12.9 -0.4
comp=Z,5.1nm,0.9s,baz=359,slow=2.8,SNR=5.2
NVAR Mina Array Bea 128.62 34 PKP PKPdf 20 38 19.2 +1.3

comp=Z,2.6nm,0.9s,baz=259,slow=2.3,SNR=7.7
ECSD EROS,Sioux Fal 132.60 12 *e*P PKPdf 20 38 25.1 -0.1
MIAR Mount Ida 142.07 12 *e*PKHKP 20 38 37.3
TXAR Lajitas Array 143.32 29 PKhKP 20 38 41.9
comp=Z,0.4nm,0.5s,baz=101,slow=0.9,SNR=4.7
TXAR PKP PKPdf 20 38 45.7 +0.3
comp=Z,2.3nm,0.8s,baz=237,slow=0.7,SNR=14
JCT Junction City 144.01 23 *e*PKIKP PKPdf 20 38 43.8 -2.7
CPUP Villa Florida 144.82 225 PKP PKPdf 20 38 46.6 -1.4
comp=Z,14nm,0.9s,baz=96,slow=1.3,SNR=9.6
HKT Hockley 145.87 18 *e*PKP2 PKPab 20 38 50.3 -0.4
LPAZ La Paz 158.91 229 PKP PKPdf 20 39 10.5 +1.3
LPAZ PKPab PKPab 20 39 46.7 +1.4
LPAZ La Paz 158.91 229 PKP PKPdf 20 39 10.5 +1.3
comp=Z,2.4nm,0.9s,baz=58,slow=3.3,SNR=6.6
LPAZ PKPab PKPab 20 39 46.7 +1.4
comp=Z,2.4nm,0.7s,baz=85,slow=5.5,SNR=8.6

IDC 23 20:36:35.0±7.2, 1905S×17673W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/14, mbtmp3.8/2, Error ellipse: s-maj=295.9km s-min=115.9km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**46.00**	**260**	P	P	20 45 00.4	0.0
	0.5nm,0.3s,baz=97,slow=7.7,SNR=37						
ASAR	**Alice Springs**	**46.03**	**255**	P	P	20 45 00.6	0.0
	0.2nm,0.3s,baz=94,slow=7.4,SNR=4.4						
AKASG	**Malin Array Be**	**142.30**	**333**	PKP	PKPdf	20 56 08.6	-0.9
	0.4nm,0.4s,baz=44,slow=3.9,SNR=4.7						

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*IDC **23** 20:39:35.9±1.4, 252N×95.31E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.7/23, mbtmp3.9/8, ML3.6/1, Error ellipse: s-maj=52.0km s-min=18.9km az=49.0*
*NEIC **23** 20:39:41.6±4.6, 261N×95.43E, h36km±36km, mb4.1/1, Error ellipse: s-maj=49.6km s-min=9.9km az=58.0*
*ISCJB **23** 20:39:43.1±4.8, 27N±02×95.6E±03, h61km±38km, mb4.1/12, Error ellipse: s-maj=59.7km s-min=13.1km az=141.6*
ISC 23 20:39:43.6±5.0, 27N±02×955E±03, h50km±40km, n22, σ0°53/22, mb4.1/12, 1C, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	**Prapat**	**3.39**	**88**	Pn	**Pn**	**20 40 33.7**	**-0.3**
	5.3nm,0.3s,baz=291,slow=7.4,SNR=16						
PSI	**Prapat**	**3.39**	**88**	*e*P	**Pn**	**20 40 35.1**	**+1.1**
KULM	**Kulim**	**5.73**	**63**	*e*P	**Pn**	**20 41 05.7**	**-0.5**
KAPI	**Kappang**	**25.37**	**107**	P	**P**	**20 45 10.2**	**+3.8**
KAPI	**Kappang**	**25.37**	**107**	P	**P**	**20 45 10.2**	**+3.8**
	13nm,1.1s,mb4.4,baz=228,slow=6.6,SNR=4.8						
JIRN	**Jiri**	**26.41**	**341**	*e*P	**P**	**20 45 15.7**	**+0.1**
	5.7nm,0.4s,mb4.5						
DMN	**Daman**	**26.73**	**339**	*e*P	**P**	**20 45 19.8**	**+1.3**
GUN	**Gumba**	**26.75**	**341**	*e*P	**P**	**20 45 18.6**	**0.0**
	8.2nm,0.5s,mb4.5						
KKN	**Kakani**	**26.84**	**340**	*e*P	**P**	**20 45 19.6**	**+0.1**
GKN	**Gorkha**	**27.26**	**339**	*e*P	**P**	**20 45 23.4**	**+0.1**
KOLN	**Koldanda**	**27.45**	**337**	*e*P	**P**	**20 45 25.2**	**+0.3**
	8.3nm,0.6s,mb4.4						
DANN	**Dangsing**	**27.90**	**337**	*e*P	**P**	**20 45 28.1**	**-0.9**
WRA	**Warramunga Arr**	**44.22**	**122**	P	**P**	**20 47 48.0**	**-0.2**
	1.0nm,0.9s,mb3.5,baz=300,slow=9.3,SNR=7.2						
WRAB	**Tennant Creek**	**44.22**	**122**	*e*P	**P**	**20 47 48.6**	**+0.3**
	3.2nm,0.9s,mb4.0						
MKAR	**Makanchi Array**	**45.44**	**347**	P	**P**	**20 47 57.2**	**-0.3**
	3.2nm,0.7s,mb4.3,baz=159,slow=8.0,SNR=27						
ASAR	**Alice Springs**	**45.60**	**127**	P	**P**	**20 47 58.8**	**-0.3**
	0.4nm,0.8s,mb3.4,baz=301,slow=7.4,SNR=3.6						
SONM	**Songino Array**	**45.97**	**10**	P	**P**	**20 48 01.8**	**+0.2**
	0.5nm,0.5s,mb3.8,baz=195,slow=7.8,SNR=4.4						
ZAA0	**Zalesovo Array**	**51.87**	**352**	*e*P	**P**	**20 48 46.7**	**0.0**
ZALV	**Zalesovo Beam**	**51.87**	**352**	P	**P**	**20 48 46.9**	**+0.1**
ZALV	**Zalesovo Beam**	**51.87**	**352**	P	**P**	**20 48 46.9**	**+0.1**
	2.7nm,0.5s,mb4.5,baz=177,slow=6.1,SNR=18						
BVAR	**Borovoye Array**	**54.34**	**342**	P	**P**	**20 49 04.6**	**-0.4**
	3.2nm,0.7s,mb4.4,baz=141,slow=9.0,SNR=29						
GERES	**GERESS Array B**	**82.62**	**319**	P	**P**	**20 52 01.2**	**-0.4**
	0.3nm,0.5s,mb3.5,baz=142,slow=5.0,SNR=3.1						

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*CSEM **23** 20:55:51.1±0.1, 43.19N×12.60E, h12km, ML2.8/4, Error ellipse: s-maj=1.1km s-min=0.9km az=52.0*
*ROM **23** 20:55:51.6±0.1, 43.20N×12.60E, h8km±1km, Md3.1/24, Ml2.6/22, Error ellipse: s-maj=1.2km s-min=1.0km az=62.0*
*NEIC **23** 20:55:51.6, 43.20N×12.60E, h8km, ML2.7(LDG), ML2.6(ROM), After ROM.*
*LDG **23** 20:55:52.7±0.2, 43.24N×12.68E, h10km, Ml2.7/5, Error ellipse: s-maj=4.7km s-min=3.7km az=50.0*
ISC 23 20:55:52.0±0.3, 4317N±002×1254E±003, h9km±3km, n54, σ0°88/82, 5C-6D, Central Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MURB	**Monte Urbino**	**0.10**	**354**	Pg	**Pg**	**20 55 54.1**	**-0.4**
MURB				Sg	**Sg**	**20 55 56.0**	**-0.2**
	12μm,0.3s						
ASS	**Assisi**	**0.13**	**141**	Pg	**Pg**	**20 55 55.2**	**+0.2**
ASS				Sg	**Sg**	**20 55 57.8**	**+0.8**
	117nm,0.3s						
SNTG	**Esanatoglia**	**0.31**	**73**	Pg	**Pg**	**20 55 57.5**	**-0.6**
SNTG				Sg	**Sg**	**20 56 02.2**	**-0.1**
CESI	**CESI - Serrava**	**0.31**	**121**	Pg	**Pg**	**20 55 58.0**	**-0.2**
CESI				Sg	**Sg**	**20 56 03.4**	**+1.0**
	498nm,0.4s						
CDCA	**Citt' di Caste**	**0.37**	**323**	Pg	**Pg**	**20 56 00.1**	**+0.8**
CDCA				Sg	**Sg**	**20 56 05.0**	**+0.9**
	127nm,0.5s						
PIEI	**Pieia**	**0.37**	**360**	Pg	**Pg**	**20 55 58.7**	**-0.6**
PIEI				Sg	**Sg**	**20 56 04.4**	**+0.1**
	703nm,0.3s						
BADI	**Badiali**	**0.41**	**328**	Pg	**Pg**	**20 55 59.8**	**-0.2**
	37μm,11.0s						
ARVD	**Arcevia**	**0.45**	**41**	Pg	**Pg**	**20 55 59.8**	**-0.9**
ARVD				Sg	**Sg**	**20 56 06.4**	**-0.2**
	570nm,0.7s						
CING	**Cingoli**	**0.53**	**66**	Pg	**Pg**	**20 56 01.3**	**-0.9**
CING				Sg	**Sg**	**20 56 09.1**	**0.0**
	559nm,0.6s						
NRCA	**Norcia**	**0.54**	**128**	Pg	**Pg**	**20 56 02.1**	**-0.3**
NRCA				Sg	**Sg**	**20 56 10.7**	**+1.2**
	69nm,0.2s						
FSSB	**Fossombrone**	**0.56**	**18**	Pg	**Pg**	**20 56 01.8**	**-1.0**
FSSB				Sg	**Sg**	**20 56 10.1**	**0.0**
	968nm,0.4s						
SACS	**San Casciano d**	**0.56**	**236**	Pg	**Pg**	**20 56 03.8**	**+1.0**
SACS				Sg	**Sg**	**20 56 13.7**	**+3.6**
	532nm,0.7s						
CRE	**Caprese Michel**	**0.62**	**317**	Pg	**Pg**	**20 56 03.9**	**-0.2**
	178nm,0.4s						
LNSS	**Leonessa**	**0.67**	**146**	Pg	**Pg**	**20 56 04.7**	**-0.3**
LNSS				Sg	**Sg**	**20 56 15.6**	**+1.8**
	833nm,0.4s						
SENI	**Senigallia**	**0.74**	**43**	Pg	**Pg**	**20 56 06.7**	**+0.4**
RSM	**Repubblica di**	**0.77**	**355**	Pg	**Pg**	**20 56 06.9**	**+0.1**
	38nm,0.4s						
LATE	**Laterza**	**0.77**	**225**	Pg	**Pg**	**20 56 07.9**	**+1.0**
	45nm,0.4s						
MNS	**Montasola**	**0.79**	**172**	Pg	**Pg**	**20 56 07.3**	**+0.1**
	254nm,0.4s						
PESA	**Pesaro**	**0.81**	**16**	Pg	**Pg**	**20 56 06.8**	**-0.8**
PESA				Sg	**Sg**	**20 56 19.4**	**+1.3**
	301nm,0.3s						
ARCI	**Arcidosso**	**0.84**	**248**	Pg	**Pg**	**20 56 08.5**	**+0.3**
	52nm,0.7s						
AOI	**Ancona**	**0.87**	**63**	Pg	**Pg**	**20 56 07.6**	**-1.1**
	146nm,0.6s						
SFI	**Santa Sofia**	**0.89**	**326**	Pg	**Pg**	**20 56 08.5**	**-0.7**
	200nm,1.0s						
CAMP	**Campotosto**	**0.90**	**134**	Pg	**Pg**	**20 56 08.4**	**-0.9**
	29nm,0.7s						
TERO	**Teramo**	**0.95**	**124**	Pg	**Pg**	**20 56 09.1**	**-1.2**
	191nm,0.8s						
CSNT	**Castellina Chi**	**0.96**	**289**	Pg	**Pg**	**20 56 10.7**	**+0.2**
	99nm,0.6s						
FIAM	**Fiamignano**	**0.99**	**154**	Pg	**Pg**	**20 56 10.3**	**-0.8**
	200nm,0.6s						
AQU	**L'Aquila**	**1.03**	**142**	*e*P	**Pg**	**20 56 11.0**	**-0.8**
AQU	**L'Aquila**	**1.03**	**142**	*e*P	**Pg**	**20 56 11.0**	**-0.8**
GRFL	**Gerfalco**	**1.14**	**270**	Pg	**Pg**	**20 56 14.3**	**+0.3**
	13nm,0.6s						
FAGN	**Fagnano**	**1.18**	**139**	Pg	**Pg**	**20 56 13.6**	**-1.2**
	212nm,0.5s						
CERT	**Cerreto**	**1.26**	**165**	Pg	**Pg**	**20 56 15.7**	**-0.5**
	103nm,0.7s						
CRMI	**Carmignano**	**1.30**	**299**	Pg	**Pg**	**20 56 17.0**	**0.0**
	45nm,0.8s						
PGF	**Pioggiola**	**2.67**	**258**	*e*Pn	**Pn**	**20 56 36.0**	**+0.7**
PGF				*e*Sn	**Sn**	**20 57 08.3**	**+0.5**
	2.9nm,0.4s						
PGF	**Pioggiola**	**2.67**	**258**	*e*Pn	**Pn**	**20 56 36.0**	**+0.7**
PGF				*e*Sn	**Sn**	**20 57 08.3**	**+0.5**
	1.5nm,0.4s						
VOY	**Vojsko**	**3.03**	**18**	*e*Pn	**Pg**	**20 56 42.4**	**-7.6**
VOY				*e*Sn	**Sg**	**20 57 29.7**	**+0.5**
ABTA	**Abfaltersbach**	**3.58**	**360**	⇑*i*Pn	**Pn**	**20 56 48.4**	**+0.6**
ABTA				⇑*i*Sn	**Sg**	**20 57 32.4**	**-15**
OBKA	**Obir**	**3.64**	**22**	⇓*i*Pn	**Pn**	**20 56 49.6**	**+1.1**
SBF	**Sospel**	**3.78**	**282**	*e*Pn	**Pn**	**20 56 50.3**	**-0.1**
SBF				*e*Sn	**Sn**	**20 57 33.1**	**-1.9**
	4.0nm,0.4s						
SBF	**Sospel**	**3.78**	**282**	*e*Pn	**Pn**	**20 56 50.3**	**-0.1**
SBF				*e*Sn	**Sn**	**20 57 33.1**	**-1.9**
	2.0nm,0.4s						
KBA	**Koelnbreinsper**	**3.96**	**8**	⇑*i*Pn	**Pn**	**20 56 53.4**	**+0.5**
KBA				⇓*i*Sn	**Sn**	**20 57 41.7**	**+2.4**
WTTA	**Wattenberg**	**4.15**	**351**	⇓*i*Pn	**Pn**	**20 56 55.7**	**+0.2**
WTTA				⇓*i*Sn	**Sn**	**20 57 45.4**	**+1.3**
FRF	**La Foret Royal**	**4.31**	**277**	*e*Pn	**Pn**	**20 56 57.6**	**-0.2**
LMR	**La Mourre**	**4.41**	**274**	*e*Pn	**Pn**	**20 56 58.9**	**-0.2**
MBDF	**Montbardon**	**4.45**	**293**	*e*Pn	**Pn**	**20 56 59.1**	**-0.5**
LPG	**La Plagne**	**4.76**	**301**	*e*Pn	**Pn**	**20 57 03.5**	**-0.4**
LPG				*e*Sn	**Sn**	**20 57 56.6**	**-2.6**
	2.2nm,0.6s						
LPG	**La Plagne**	**4.76**	**301**	*e*Pn	**Pn**	**20 57 03.5**	**-0.4**
LPG				*e*Sn	**Sn**	**20 57 56.6**	**-2.6**
	1.1nm,0.6s						
MOA	**Molln**	**4.84**	**14**	⇓*i*Sn	**Sn**	**20 58 04.8**	**+3.7**
MOA	**Molln**	**4.84**	**14**	⇑*i*Pn	**Pn**	**20 57 05.4**	**+0.4**
MOA				⇓*e*Sn	**Sn**	**20 58 03.1**	**+2.0**
MOA	**Molln**	**4.84**	**14**	⇑*i*Pn	**Pn**	**20 57 05.4**	**+0.4**
MOA				*i* Sn	**Sn**	**20 58 04.8**	**+3.7**
MOA	**Molln**	**4.84**	**14**	Pn	**Pn**	**20 57 05.4**	**+0.4**
MOA				Sn	**Sn**	**20 58 04.8**	**+3.7**
HINF	**Hinteralfeld**	**6.13**	**321**	*e*Pn	**Pn**	**20 57 21.1**	**-1.6**
HINF				*e*Sn	**Sn**	**20 58 27.7**	**-5.3**
	1.3nm,0.4s						
HINF	**Hinteralfeld**	**6.13**	**321**	*e*Pn	**Pn**	**20 57 21.1**	**-1.6**
HINF				*e*Sn	**Sn**	**20 58 27.7**	**-5.3**
	0.6nm,0.4s						
HAU	**Haudompre**	**6.50**	**320**	*e*Sn	**Sn**	**20 58 36.7**	**-5.4**
	3.2nm,0.2s						
HAU	**Haudompre**	**6.50**	**320**	*e*Sn	**Sn**	**20 58 36.7**	**-5.4**
	1.6nm,0.2s						

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*SZGRF **23** 20:57:07.2, 52.19N×157.52E, h33km, mb5.0, Kamchatka Peninsula, Russia*
*BGS **23** 20:57:15.1±1.6, 51.71N×159.98E, h135km, mb4.7*
*BJI **23** 20:57:16.5, 52.13N×157.96E, h152km, mb4.9, mB5.0*
*ISCJB **23** 20:57:17.8±0.3, 5201N±004×15775E±007, h143km±2km, mb4.6/132, Error ellipse: s-maj=8.3km s-min=4.0km az=41.0*
*MOS **23** 20:57:17.4±0.9, 5205N×157.65E, h136km, mb4.6/67, Error ellipse: s-maj=9.4km s-min=4.4km az=95.9*
*NEIC **23** 20:57:18.8±0.6, 5209N×157.72E, h135km±5km, mb4.7/69, Error ellipse: s-maj=7.4km s-min=5.7km az=150.0*
*KRSC **23** 20:57:18.8±0.6, 51.96N×158.39E, h132km±42km, ML4.7*
*IDC **23** 20:57:18.2±0.5, 52.18N×157.67E, h131km±5km, mb4.1/23, mb1 4.3/24, mb1mx4.2/26, mbtmp4.1/24, Error ellipse: s-maj=13.7km s-min=9.3km az=135.0*
ISC 23 20:57:19.0±0.3, 5202N±004×15778E±007, h140km±1km, h134km±2.6km: pP-P, n343, σ0°84/354, mb4.6/132, 20C-6D, Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	**Gorelyy**	**0.57**	**19**	*e*P	**Pn**	**20 57 40.2**	**+0.7**
GRL				*i* S	**Sn**	**20 57 56.2**	**+1.0**
RUS	**Russkaya**	**0.62**	**47**	*i* P	**Pn**	**20 57 39.1**	**-0.7**
RUS				*i* S	**Sn**	**20 57 54.3**	**-1.4**
MIPR	**Malaya Ipel'ka**	**0.68**	**293**	*i* P	**Pn**	**20 57 41.6**	**+1.4**
MIPR				*i* S	**Sn**	**20 57 58.4**	**+2.0**
PET	**Petropavlovsk**	**1.14**	**28**	*e*P	**Pn**	**20 57 43.7**	**-0.3**
PET	**Petropavlovsk**	**1.14**	**28**	*e*P	**Pn**	**20 57 44.0**	**-0.1**
PET				*i* S	**Sn**	**20 58 02.4**	**-0.8**
INSR	**Institute**	**1.17**	**25**	*e*P	**Pn**	**20 57 44.6**	**+0.3**
INSR				*i* S	**Sn**	**20 58 03.7**	**0.0**
AVH	**Avacha**	**1.38**	**25**	*e*P	**Pn**	**20 57 47.4**	**+1.0**
AVH				*i* S	**Sn**	**20 58 08.4**	**+0.9**
NLC	**Nalytchevo**	**1.50**	**39**	*e*P	**Pn**	**20 57 46.5**	**-1.2**
NLC				*i* S	**Sn**	**20 58 07.0**	**-2.8**
GNL	**Ganaly**	**1.69**	**3**	*e*P	**Pn**	**20 57 50.9**	**+1.1**
GNL				*i* S	**Sn**	**20 58 14.4**	**+1.0**
SKR	**Severo-Kuril's**	**1.69**	**219**	⇓*i*PN	**Pn**	**20 57 49.0**	**-0.9**
SKR				*i* S	**Sn**	**20 58 11.9**	**-1.6**
SKR				pmax	pmax		
	comp=E,880nm,0.5s						
SKR				pmax	pmax		
	comp=Z,2μm,0.5s						
SKR				pmax	pmax		
	comp=N,1μm,0.2s						
SKR				smax			
	comp=N,6μm,0.3s						
SKR				smax			
	comp=E,11nm,0.4s						
SKR				smax			
	comp=N,10μm,2.0s						
SKR				smax			
	comp=E,9μm,2.0s						
SPN	**Mys Shipunski**	**1.75**	**51**	*i* P	**Pn**	**20 57 49.5**	**-1.0**
SPN				*i* S	**Sn**	**20 58 11.4**	**-3.2**
KII	**Karymskiy**	**2.26**	**26**	*e*P	**Pn**	**20 57 56.8**	**+0.2**
KII				*i* S	**Sn**	**20 58 24.5**	**-1.0**
MKZ	**Mys Kozlova**	**3.48**	**41**	*e*P	**Pn**	**20 58 10.7**	**-1.3**
MKZ				*i* S	**Sn**	**20 58 47.9**	**-5.2**
TUMR	**Tumrok**	**3.56**	**22**	*e*P	**Pn**	**20 58 14.4**	**+1.3**
TUMR				*i* S	**Sn**	**20 58 55.2**	**+0.1**
KMNR	**Kamenistaya**	**4.02**	**20**	*e*P	**Pn**	**20 58 20.6**	**+1.5**
KMNR				*i* S	**Sn**	**20 59 06.4**	**+0.6**
BDR	**Baidarnaya**	**4.98**	**22**	*i* P	**Pn**	**20 58 33.3**	**+1.5**
SRKR	**Sorokina**	**5.05**	**22**	*e*P	**Pn**	**20 58 33.9**	**+1.1**
SRKR				*i* S	**Sn**	**20 59 29.1**	**-1.2**
SMKR	**Semkarok**	**5.06**	**24**	P	**Pn**	**20 58 34.1**	**+1.3**
KBTR	**Krutoberegovo**	**5.14**	**33**	*e*P	**Pn**	**20 58 33.1**	**-0.8**
KBTR				*i* S	**Sn**	**20 59 27.4**	**-5.0**
MA2	**Magadan**	**8.54**	**335**	*e*PN	**Pn**	**20 59 19.6**	**+0.2**
MA2				pmax	pmax		
	comp=Z,30nm,1.0s						
SMY	**Shemya**	**10.01**	**79**	*e*PN	**Pn**	**20 59 38.5**	**-0.6**
SMY				pmax	pmax		
	comp=Z,40nm,0.4s						
SMY	**Shemya**	**10.01**	**79**	*e*P	**Pn**	**20 59 38.5**	**-0.5**
	comp=Z,40nm,0.4s						
YSS	**Yuzh-Sakhalins**	**11.00**	**249**	*e*PN	**Pn**	**20 59 53.9**	**+1.7**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,50nm,1.0s						
SEY	**Seymchan**	**11.32**	**347**	⇑*e*PN	**Pn**	**20 59 56.9**	**+0.6**
ASAJ	**Asahikawa**	**12.85**	**238**	PN	**Pn**	**21 00 17.4**	**+1.1**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.3s						
ASAJ	**Asahikawa**	**12.85**	**238**	P	**Pn**	**21 00 17.4**	**+1.1**
	comp=Z,5.8nm,0.3s,baz=75,slow=12,SNR=45						
ERM	**Erimo**	**14.10**	**231**	*e*P	**Pn**	**21 00 29.7**	**-2.6**
ERM				pmax	pmax		
	comp=Z,30nm,0.4s						
ERM	**Erimo**	**14.10**	**231**	*e*P	**Pn**	**21 00 29.7**	**-2.6**
	comp=Z,30nm,0.4s						
HABR	**Khabarovsk**	**14.95**	**265**	P	**Pn**	**21 00 41.0**	**-1.9**
HABR				*e*		21 03 27.5	
BILL	**Bilibino**	**16.60**	**11**	*c i*P	**Pn**	**21 01 02.4**	**-0.6**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
BILL				MLR	MLR		
	comp=Z,2μm,14.0s						
KLR	**Kul'dur**	**16.72**	**271**	*e*P	**Pn**	**21 01 02.9**	**-1.8**
MAT	**Matsushiro**	**20.77**	**230**	P	**P**	**21 01 49.7**	**+1.1**
MJAR	**Matsushiro Arr**	**20.77**	**230**	P	**P**	**21 01 49.6**	**+1.0**
MJAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
MJAR	**Matsushiro Arr**	**20.77**	**230**	P	**P**	**21 01 49.6**	**+0.9**
	comp=Z,9.8nm,0.7s,baz=24,slow=9.3,SNR=44						
TIXI	**Tiksi**	**23.50**	**337**	*i* P	**P**	**21 02 15.2**	**-0.4**
TIXI				pmax	pmax		
	comp=Z,90nm,0.9s,mb5.3						
TIXI	**Tiksi**	**23.50**	**337**	*e*P	**P**	**21 02 14.4**	**-1.2**
	comp=Z,58nm,0.6s,mb5.3						
HIA	**Hailar**	**24.09**	**279**	*e*P	**P**	**21 02 21.0**	**-0.2**
HIA				pmax	pmax		
	comp=Z,39nm,0.6s						
HIA	**Hailar**	**24.09**	**279**	*e*P	**P**	**21 02 20.9**	**-0.2**
	comp=Z,39nm,0.6s,mb5.1						
BOD	**Bodaibo**	**25.45**	**301**	*e*P	**P**	**21 02 32.4**	**-1.0**
BOD				pmax	pmax		
	comp=Z,18nm,0.7s,mb4.7						
KSRS	**Korea Array**	**25.50**	**247**	P	**P**	**21 02 35.3**	**+1.3**
	comp=Z,3.3nm,0.6s,mb4.0,baz=44,slow=9.2,SNR=15						
JNU	**Nakatsue**	**27.12**	**236**	P	**P**	**21 02 49.8**	**+1.2**
	comp=Z,6.3nm,0.6s,mb4.4,baz=8.7,slow=22,SNR=6.6						
SONM	**Songino Array**	**32.77**	**283**	P	**P**	**21 03 39.4**	**+1.1**
SONM						21 06 20.1	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.4s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	**Songino Array**	**32.77**	**283**	P	**P**	**21 03 39.4**	**+1.1**
	comp=Z,2.0nm,0.4s,mb4.2,baz=52,slow=8.6,SNR=25						
SONM				PcP	PcP	21 06 20.1	+0.1
	comp=Z,1.8nm,0.7s,baz=73,slow=1.9,SNR=7.7						
TLY	**Talaya**	**32.79**	**291**	⇑*e*P	**P**	**21 03 38.1**	**-0.3**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
ZAK	**Zakamensk**	**33.52**	**289**	*e*P	**P**	**21 03 45.4**	**+0.7**
ZAK				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.2						
MOY	**Mondy**	**34.32**	**292**	*e*P	**P**	**21 03 52.8**	**+1.2**
NJ2	**Nanjing**	**34.57**	**250**	*e*P	**P**	**21 03 52.8**	**-1.2**
NJ2				AP	pP	21 04 22.3	-2.0
NJ2				PP	PP	21 05 13.0	-2.0
NJ2				S	**S**	**21 09 08.5**	**-4.0**
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,440nm,10.2s						
NJ2				LR	LR		
	comp=N,330nm,22.8s						
NJ2				LR	LR		
	comp=E,370nm,23.1s						
NJ2				LR	LR		
	comp=Z,370nm,23.0s						
INK	**Inuvik**	**35.58**	**37**	P	**P**	**21 04 01.6**	**-0.7**
INK						21 06 27.6	
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK				pmax	pmax		
	comp=Z,2.0nm,0.7s						
INK	**Inuvik**	**35.58**	**37**	P	**P**	**21 04 01.6**	**-0.7**
	comp=Z,1.3nm,0.4s,mb3.9,baz=283,slow=6.2,SNR=10						
INK				PcP	PcP	21 06 27.6	-0.1
	comp=Z,2.1nm,0.7s,baz=298,slow=4.4,SNR=4.9						
GTA	**Gaotai**	**41.32**	**276**	*e*P	**P**	**21 04 50.8**	**+0.3**
GTA				AMB	AMB		
	comp=Z,6.0nm,0.8s,mb4.3						
ZALV	**Zalesovo Beam**	**42.17**	**303**	P	**P**	**21 04 55.0**	**-2.2**
ZALV				PcP	PcP	21 06 48.6	-0.1
ZALV	**Zalesovo Beam**	**42.17**	**303**	P	**P**	**21 04 55.0**	**-2.2**
	comp=Z,3.4nm,0.5s,mb4.2,baz=55,slow=6.9,SNR=23						
ZALV				PcP	PcP	21 06 48.6	-0.1
	comp=Z,3.0nm,0.5s,baz=74,slow=3.7,SNR=9.7						
ZAL	**Zalesovo**	**42.19**	**303**	P	**P**	**21 04 55.0**	**-2.3**
ZAL						21 06 48.6	
NVS	**Novosibirsk**	**42.56**	**304**	*i* P	**P**	**21 04 59.3**	**-1.0**
RES	**Resolute Bay**	**44.85**	**21**	*e*P	**P**	**21 05 18.8**	**+0.4**
YKA	**Yellowknife Ar**	**44.91**	**41**	P	**P**	**21 05 19.2**	**+0.2**
YKA				*PP	pP	21 05 49.1	-1.4
YKA						21 06 57.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
YKA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
YKA				pmax	pmax		
	comp=Z,1.0nm,1.1s						
YKA	**Yellowknife Ar**	**44.91**	**41**	P	**P**	**21 05 19.2**	**+0.2**
YKA				pP	pP	21 05 49.1	-1.4
YKA				PcP	PcP	21 06 57.7	-0.1
YKA	**Yellowknife Ar**	**44.91**	**41**	P	**P**	**21 05 19.2**	**+0.2**
	comp=Z,0.8nm,0.5s,mb3.6,baz=297,slow=7.7,SNR=11						
YKA				pP	pP	21 05 49.1	-1.4
	comp=Z,0.6nm,0.8s,baz=295,slow=7.7,SNR=2.5						
YKA				PcP	PcP	21 06 57.7	-0.1
	comp=Z,1.3nm,1.1s,baz=308,slow=4.0,SNR=5.1						
KURK	**Kurchatov**	**47.10**	**302**	*e*P	**P**	**21 05 34.9**	**-1.4**
KURK				pmax	pmax		
	comp=Z,24nm,0.7s,mb4.9						
KURK	**Kurchatov**	**47.10**	**302**	*e*P	**P**	**21 05 34.9**	**-1.4**
	comp=Z,24nm,0.7s,mb4.9						
MK31	**Makanchi Array**	**47.34**	**295**	*i* P	**P**	**21 05 37.1**	**-1.1**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.2s,mb4.4						
MKAR	**Makanchi Array**	**47.34**	**295**	P	**P**	**21 05 37.2**	**-1.0**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.4s						
MKAR	**Makanchi Array**	**47.34**

PKI Pulchoki 58.12 275 *eP* **P 21 06 57.6 0.0**
PKIN Phulchoki 58.12 275 *eP* **P 21 06 57.7 0.0**
comp=Z,19nm,0.5s,mb5.2
DMN Daman 58.28 275 *eP* **P 21 06 59.1 +0.4**
comp=Z,44nm,0.5s,mb5.5
GKN Gorkha 58.29 276 *eP* **P 21 06 58.5 -0.3**
DANN Dangsing 58.58 277 *eP* **P 21 07 01.1 +0.3**
KOLN Koldanda 59.09 276 *eP* **P 21 07 04.4 +0.1**
comp=Z,20nm,0.4s,mb5.3
SFJD Kangerlussuaq 59.39 13 P **P 21 07 04.8 -1.0**
SFJD pmax pmax
comp=Z,5.0nm,0.3s,mb4.8
SFJD Kangerlussuaq 59.39 13 P **P 21 07 04.8 -1.0**
comp=Z,4.8nm,0.3s,mb4.8,baz=325,slow=7.0,SNR=6.4
TPNV Topopah Spring 59.65 68 P **P 21 07 07.8 -0.3**
FINES FINESS Array B 60.53 336 *i* P **P 21 07 12.6 -1.1**
FINES pmax pmax
comp=Z,2.0nm,0.5s
FINES FINESS Array B 60.53 336 P **P 21 07 12.2 -1.4**
comp=Z,2.0nm,0.5s,mb4.2,baz=43,slow=7.0,SNR=30
NB2 NORSAR Subarra 64.17 343 P **P 21 07 37.3 -0.5**
comp=Z,16nm,0.7s,mb5.0,baz=22,slow=6.9
NOA NORSAR Array B 64.17 343 P **P 21 07 37.5 -0.3**
NOA pmax pmax
comp=Z,13nm,0.7s
NOA NORSAR Array B 64.17 343 P **P 21 07 37.5 -0.4**
NOA NORSAR Array B 64.17 343 P **P 21 07 37.5 -0.4**
comp=Z,13nm,0.7s,mb4.9,baz=21,slow=6.6,SNR=56
SCHQ Schefferville 67.25 26 P **P 21 07 56.9 -0.8**
comp=Z,6.3nm,0.4s,mb4.8,baz=198,slow=16,SNR=14
SUW Suwalki 67.76 333 *eP* **P 21 08 00.4 -0.5**
SUW Suwalki 67.76 333 *eP* **P 21 08 00.4 -0.5**
AKASG Malin Array Be 68.79 328 *i* P **P 21 08 06.0 -1.4**
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 68.79 328 P **P 21 08 05.6 -1.8**
comp=Z,1.7nm,0.3s,mb4.2,baz=31,slow=6.0,SNR=23
AKBB Malin Array Si 68.79 328 *eP* **P 21 08 06.9 -0.5**
MCD Coleburn Disti 69.66 349 *eP* **P 21 08 12.5 -0.1**
MDO Dochfour 69.93 350 *eP* **P 21 08 13.7 -0.5**
WAR Warsaw 69.93 333 *eP* PcP 21 08 32.5 -3.3
KSB Sheil Bridge 70.27 350 *eP* **P 21 08 16.1 -0.2**
KAR1 Arisaig 70.59 351 *eP* **P 21 08 18.3 0.0**
BSEG Bad Segeberg 70.98 340 *eP* **P 21 08 20.5 -0.2**
BSEG pmax pmax
comp=Z,12nm,1.1s,mb4.5
BSEG Bad Segeberg 70.98 340 *eP* **P 21 08 20.5 -0.2**
comp=Z,12nm,1.1s,mb4.5
EBH Black Hill 71.00 349 *eP* **P 21 08 20.5 -0.3**
EAB Aberfoyle 71.16 350 *eP* **P 21 08 21.6 -0.1**
ESY Stoneypath 71.22 348 *eP* **P 21 08 21.7 -0.3**
RUE Ruedersdorf 71.57 338 *eP* **P 21 08 24.6 +0.4**
comp=Z,29nm,0.9s,mb5.0
XSO Sourhope Farm 71.59 348 *eP* **P 21 08 24.1 -0.2**
KWP Kalwaria 71.77 331 *eP* **P 21 08 25.8 +0.3**
ESK Eskdalemuir 71.88 349 *eP* **P 21 08 25.6 -0.4**
ESK AMb AMB 21 08 27.8
comp=Z,30nm,1.9s,mb4.7
ECK Cauldkaine Hil 72.00 349 *eP* **P 21 08 26.5 -0.3**
OJC Ojcow 72.09 333 *eP* **P 21 08 27.2 -0.2**
TXAR Lajitas Array 72.37 65 P **P 21 08 30.0 +0.6**
TXAR *PP pP 21 09 02.2 -1.5
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR pmax pmax
comp=Z,3.0nm,0.6s
TXAR Lajitas Array 72.37 65 P **P 21 08 30.0 +0.6**
comp=Z,3.1nm,0.7s,mb4.2,baz=299,slow=5.2,SNR=34
TXAR pP pP 21 09 02.2 -1.5
comp=Z,3.0nm,0.6s,baz=297,slow=5.0,SNR=12
STHS Stebnicka Huta 72.40 332 *eP* **P 21 08 29.4 +0.2**
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
STHS Stebnicka Huta 72.40 332 *eP* **P 21 08 29.4 +0.2**
comp=Z,6.8nm,0.8s,mb4.4
KSP Ksiaz 72.46 336 *eP* **P 21 08 29.8 +0.2**
GAL1 Galloway 72.50 349 *eP* **P 21 08 29.1 -0.7**
GAL1 AMb AMB 21 08 34.4
comp=Z,26nm,1.5s,mb4.8
KOLS Kolonicke sedl 72.53 331 *eP* **P 21 08 29.9 -0.1**
NIE Niedzica 72.66 332 *eP* **P 21 08 31.3 +0.5**
CRVS Cervenica-Dubn 72.80 332 *eP* **P 21 08 31.0 -0.6**
CLL Collm 72.84 338⇑ *iP* **P 21 08 31.2 -0.6**
CLL pmax pmax
comp=Z,21nm,1.0s,mb4.8
CLL Collm 72.84 338 *eP* **P 21 08 31.3 -0.5**
comp=Z,20nm,1.0s,mb4.8
CLL Collm 72.84 338⇑ *iP* **P 21 08 31.2 -0.6**
comp=Z,21nm,1.0s,mb4.8
UPC Upice 72.84 336 *eP* **P 21 08 32.5 +0.7**
OKC Ostrava-Krasne 72.89 334 *eP* **P 21 08 33.0 +0.9**
DPC Dobruska-Polom 72.90 335 *eP* **P 21 08 32.7 +0.5**
CLZ Clausthal 72.93 340 *eP* **P 21 08 32.6 +0.3**
CLZ pmax pmax
comp=Z,22nm,1.1s,mb4.8
CLZ Clausthal 72.93 340 *eP* **P 21 08 32.6 +0.3**
comp=Z,22nm,1.1s,mb4.8
HPK Haverah Park 73.00 347 *eP* **P 21 08 32.7 0.0**
HPK AMb AMB 21 08 33.6
comp=Z,27nm,0.6s,mb5.2
IBBN Ibbenburen 73.03 341 *eP* **P 21 08 33.0 +0.1**
comp=Z,12nm,0.6s,mb4.8
FBE Freiberg 73.11 337 *eP* **P 21 08 33.5 +0.1**
comp=Z,15nm,1.0s,mb4.7
PVCC Panska Ves 73.18 336 *eP* **P 21 08 35.6 +1.7**
LHO Holmfirth 73.44 347 *eP* **P 21 08 35.4 +0.1**
WTSB Winterswijk 73.55 342 *eP* **P 21 08 36.0 0.0**
comp=Z,19nm,0.8s,mb4.9
PRU Pruhonice 73.69 336 *eP* **P 21 08 37.1 +0.3**
MOX Moxa 73.78 338 *eP* **P 21 08 37.5 +0.2**
comp=Z,22nm,1.3s,mb4.7
MOX Moxa 73.78 338 *eP* **P 21 08 37.5 +0.2**
MOX pmax pmax
comp=Z,22nm,1.3s,mb4.7
MOX Moxa 73.78 338 *eP* **P 21 08 37.2 -0.1**
comp=Z,16nm,1.2s,mb4.6
TANN Tannenbergstha 73.80 338 *eP* **P 21 08 37.4 0.0**
comp=Z,6.0nm,1.2s,mb4.2
WERD Werda 73.80 338 *eP* **P 21 08 37.4 -0.1**
comp=Z,12nm,1.1s,mb4.5
GUNZ Gunzen 73.87 338 *eP* **P 21 08 37.9 0.0**
comp=Z,8.0nm,1.0s,mb4.4
VYHS Vyhne 73.92 333 *i* P **P 21 08 38.4 +0.2**
VYHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
VYHS Vyhne 73.92 333 *i* P **P 21 08 38.4 +0.2**
comp=Z,6.1nm,1.1s,mb4.2
WERN Wernitzgruen 73.93 338 *eP* **P 21 08 38.2 0.0**
comp=Z,10.0nm,0.9s,mb4.5
BUG Bochum-Univer 73.95 341 *eP* **P 21 08 38.3 0.0**
comp=Z,24nm,1.3s,mb4.8
KOLL Kolacno 73.96 333 *eP* **P 21 08 38.7 +0.3**
NKC Novy Kostel 73.97 338 *eP* **P 21 08 38.7 +0.3**
UBBA Unterbreizbach 73.97 339 *eP* **P 21 08 38.9 +0.4**
comp=Z,20nm,1.8s,mb4.5
TREC Trest 74.09 335 *eP* **P 21 08 39.3 +0.1**
CWF Charnwood Fore 74.15 347 *eP* **P 21 08 40.0 +0.6**
CWF AMb AMB 21 08 42.9
comp=Z,14nm,1.6s,mb4.5
SBD1 Bryn Du 74.25 348 *eP* **P 21 08 40.0 0.0**
MANZ Manzenberg 74.28 338 *eP* **P 21 08 40.1 -0.1**
comp=Z,9.0nm,1.2s,mb4.4
MODS Modra-Piesok 74.46 334 *eP* **P 21 08 41.8 +0.5**
ROTZ Rotzenmuhle 74.46 338 *eP* **P 21 08 41.2 -0.1**
comp=Z,12nm,1.0s,mb4.6
WRAB Tennant Creek 74.51 203‖ *eP* **P 21 08 41.5 -0.3**
WRA Warramunga Arr 74.52 203 P **P 21 08 42.3 +0.4**
WRA *PP pP 21 09 14.9 -1.5
WRA pmax pmax
comp=Z,4.0nm,0.5s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA Warramunga Arr 74.52 203 P **P 21 08 42.3 +0.4**
comp=Z,4.4nm,0.5s,mb4.4,baz=18,slow=6.0,SNR=84
WRA pP pP 21 09 14.9 -1.6
comp=Z,1.4nm,0.6s,baz=18,slow=6.2,SNR=2.8
ZST Bratislava 74.67 334 *eP* **P 21 08 42.0 -0.5**
ZST pmax pmax
comp=Z,9.0nm,1.1s,mb4.3
ZST Bratislava 74.67 334 *eP* **P 21 08 42.0 -0.5**
comp=Z,8.6nm,1.1s,mb4.3
KHC Kasperske Hory 74.72 337 *eP* **P 21 08 43.2 +0.4**
GRA1 Grafenberg Arr 74.76 338 *eP* **P 21 08 43.3 +0.3**
comp=Z,24nm,1.0s,mb4.8
GRF Grafenberg Arr 74.76 338 *eP* **P 21 08 43.3 +0.3**
GRF pmax pmax
comp=Z,24nm,1.0s,mb4.8
GRF Grafenberg Arr 74.76 338 *eP* **P 21 08 43.3 +0.3**
comp=Z,24nm,1.0s,mb4.8
GRFO Grafenberg 74.76 338 *eP* **P 21 08 41.0 -2.0**
GRFO pmax pmax
comp=Z,22nm,1.1s,mb4.7
GRFO Grafenberg 74.76 338 *eP* **P 21 08 41.0 -2.1**
comp=Z,22nm,1.1s,mb4.7
HGN Heimansgroeve 74.86 342 *eP* **P 21 08 43.5 -0.1**
comp=Z,22nm,1.3s,mb4.6
WET Wettzell 74.88 337 *eP* **P 21 08 43.9 +0.2**
WET pmax pmax
comp=Z,19nm,1.0s,mb4.7
WET Wettzell 74.88 337 *eP* **P 21 08 43.9 +0.2**
comp=Z,19nm,1.0s,mb4.7
GEC2 GERESS Array S 74.95 336 *eP* **P 21 08 43.9 -0.3**
GEC2 pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
GEC2 GERESS Array S 74.95 336 *eP* **P 21 08 43.9 -0.3**
comp=Z,8.0nm,1.0s,mb4.3
GERES GERESS Array B 74.95 336 P **P 21 08 44.1 -0.1**
GERES pmax pmax
comp=Z,4.0nm,0.6s
GERES GERESS Array B 74.95 336 P **P 21 08 44.1 -0.1**
comp=Z,4.2nm,0.6s,mb4.2,baz=33,slow=5.8,SNR=36
MEM Membach 74.99 342 P **P 21 08 44.8 +0.4**
comp=Z,14nm,1.1s,mb4.5
HAE Alders End 75.00 348 *eP* **P 21 08 44.2 -0.2**
HTR Trewern Hill 75.06 348 *eP* **P 21 08 44.3 -0.4**
MCH1 Michaelchurch 75.10 348 *eP* **P 21 08 44.5 -0.5**
MCH1 *eP* 21 08 44.5
MCH1 AMb AMB 21 08 52.3
comp=Z,28nm,1.6s,mb4.6
CONA Conrad Observa 75.25 335 *i* P **P 21 08 46.5 +0.7**
comp=Z,43nm,1.6s,mb4.8,SNR=9.6
CSNA Conrad Observa 75.25 335⇑ *iP* **P 21 08 46.5 +0.6**
comp=Z,39nm,1.6s,mb4.8
BCLA Clavier 75.31 342 P **P 21 08 46.3 +0.1**
comp=Z,7.8nm,1.3s,mb4.2
HGH Gray Hill 75.43 348 *eP* **P 21 08 46.2 -0.6**
GIVF Givet 75.70 342 *eP* **P 21 08 48.4 0.0**
MOA Molln 75.74 336⇑ *iP* **P 21 08 48.9 +0.2**
comp=Z,12nm,1.4s,mb4.3
DOU Dourbes 75.75 343 P **P 21 08 48.6 0.0**
BAIF Baives 75.86 343 *eP* **P 21 08 49.4 +0.1**
comp=Z,19nm,0.9s,mb4.4
BAIF Baives 75.86 343 *eP* **P 21 08 49.4 +0.1**
BAIF pmax pmax
comp=Z,10.0nm,0.9s,mb4.5
BAIF Baives 75.86 343 *eP* **P 21 08 49.4 +0.1**
comp=Z,9.6nm,0.9s,mb4.4
ARSA Arzberg 75.96 335⇑ *iP* **P 21 08 50.5 +0.5**
comp=Z,15nm,1.3s,mb4.5
HEX Exmoor 76.12 348 *eP* **P 21 08 50.4 -0.3**
FUR Furstenfeldbru 76.17 338 *eP* **P 21 08 51.9 +0.8**
FUR pmax pmax
comp=Z,26nm,1.0s,mb4.8
FUR Furstenfeldbru 76.17 338 *eP* **P 21 08 51.9 +0.8**
comp=Z,26nm,1.0s,mb4.8
SOKA Soboth 76.62 335⇑ *iP* **P 21 08 54.0 +0.4**
PERS Pernice 76.64 335 *i* P **P 21 08 54.1 +0.3**
BFO Black Forest 76.68 340 *eP* **P 21 08 53.7 -0.3**
BFO pmax pmax
comp=Z,12nm,1.3s,mb4.4
BFO Black Forest 76.68 340 *eP* **P 21 08 53.7 -0.3**
comp=Z,12nm,1.3s,mb4.4
KBA Koelnbreinsper 76.69 336 *i* P **P 21 08 55.0 +1.0**
comp=Z,52nm,1.2s,mb5.0,SNR=28
KBA Koelnbreinsper 76.69 336 *i* P **P 21 08 55.1 +1.1**
KBA pmax pmax
comp=Z,52nm,1.2s,mb5.0
DYA Yadsworthy 76.75 348 *eP* **P 21 08 54.1 -0.2**
DYA AMb AMB 21 08 57.5
comp=Z,22nm,1.6s,mb4.5
CDF Champ du Feu 76.83 340 *eP* **P 21 08 55.0 +0.2**
comp=Z,23nm,0.9s,mb4.5
CDF Champ du Feu 76.83 340 *eP* **P 21 08 55.0 +0.2**
CDF pmax pmax
comp=Z,12nm,0.9s,mb4.5
CDF Champ du Feu 76.83 340 *eP* **P 21 08 55.0 +0.2**
comp=Z,12nm,0.9s,mb4.5
WATA Walderalm 76.88 337⇑ *iP* **P 21 08 55.6 +0.5**
comp=Z,12nm,1.0s,mb4.5
WATA Walderalm 76.88 337⇑ *iP* **P 21 08 55.6 +0.5**
WATA pmax pmax
comp=Z,12nm,1.0s,mb4.5
OBKA Obir 76.90 335⇑ *iP* **P 21 08 55.6 +0.3**
comp=Z,20nm,1.3s,mb4.6,SNR=9.4
RETA Reute 76.93 338⇑ *iP* **P 21 08 55.6 +0.2**
comp=Z,16nm,1.2s,mb4.5
WTTA Wattenberg 76.93 337⇑ *iP* **P 21 08 56.2 +0.8**
comp=Z,44nm,1.3s,mb4.9
WTTA Wattenberg 76.93 337⇑ *iP* **P 21 08 56.2 +0.8**
WTTA pmax pmax
comp=Z,44nm,1.3s,mb4.9
MOTA Moosalm 76.98 337⇑ *iP* **P 21 08 56.1 +0.4**
comp=Z,23nm,1.1s,mb4.7,SNR=14
MOTA Moosalm 76.98 337⇑ *iP* **P 21 08 56.1 +0.4**
MOTA pmax pmax
comp=Z,23nm,1.1s,mb4.7
SQTA Sankt Quirin 77.08 337‖ *iP* **P 21 08 56.9 +0.7**
comp=Z,20nm,1.0s,mb4.7,SNR=13
SQTA Sankt Quirin 77.08 337‖ *iP* **P 21 08 56.9 +0.7**
SQTA pmax pmax
comp=Z,20nm,1.0s,mb4.7
MEZF Maizieres J'vi 77.19 342 *eP* **P 21 08 57.3 +0.5**
comp=Z,31nm,0.8s,mb4.7
MEZF Maizieres J'vi 77.19 342 *eP* **P 21 08 57.3 +0.5**
comp=Z,31nm,0.8s,mb5.0
ABTA Abfaltersbach 77.20 336⇑ *iP* **P 21 08 56.9 0.0**
comp=Z,19nm,1.1s,mb4.6,SNR=13
FVI Forni Avoltri 77.28 336 P **P 21 08 57.6 +0.3**
CRES Cresnjev 77.29 334 *eP* **P 21 08 57.3 -0.1**
PTCC Patocco-Chiusa 77.31 336 P **P 21 08 56.9 -0.6**
comp=Z,10.0nm,0.9s,mb4.5
DAVA Damuels 77.33 338⇑ *iP* **P 21 08 57.9 +0.3**
comp=Z,21nm,1.2s,mb4.6
FETA Feichten 77.38 338 *i* P **P 21 08 58.6 +0.7**
comp=Z,13nm,1.0s,mb4.5,SNR=15
HAU Haudompre 77.41 341 *eP* **P 21 08 58.0 0.0**
HINF Hinteralfeld 77.48 340 *eP* **P 21 08 58.1 -0.4**
BOJS Bojanci 77.64 334 *eP* **P 21 08 59.3 -0.1**
FLN La Foliniere 77.90 345 *eP* **P 21 09 00.7 -0.1**
comp=Z,14nm,0.7s,mb4.4
FLN La Foliniere 77.90 345 *eP* **P 21 09 00.7 -0.1**
FLN pmax pmax
comp=Z,7.0nm,0.6s,mb4.5
FLN La Foliniere 77.90 345 *eP* **P 21 09 00.7 -0.1**
comp=Z,6.8nm,0.6s,mb4.5
LDF La Druitiere 78.01 345 *eP* **P 21 09 01.1 -0.3**
comp=Z,9.3nm,0.7s,mb4.2
LDF La Druitiere 78.01 345 *eP* **P 21 09 01.1 -0.3**
LDF pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
LDF La Druitiere 78.01 345 *eP* **P 21 09 01.1 -0.3**
comp=Z,4.7nm,0.7s,mb4.2
ASAR Alice Springs 78.21 202 P **P 21 09 03.8 +1.2**
ASAR *PP pP 21 09 35.6 -1.8
ASAR pmax pmax
comp=Z,6.0nm,0.5s
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 78.21 202 P **P 21 09 03.8 +1.2**
comp=Z,6.0nm,0.5s,mb4.5,baz=14,slow=5.2,SNR=118
ASAR pP pP 21 09 35.6 -1.8
comp=Z,1.2nm,0.8s,baz=14,slow=5.4,SNR=2.9
GRR Gorron 78.32 346 *eP* **P 21 09 03.2 +0.1**
comp=Z,28nm,0.8s,mb4.6
GRR Gorron 78.32 346 *eP* **P 21 09 03.2 +0.1**
GRR pmax pmax
comp=Z,14nm,0.8s,mb4.6
GRR Gorron 78.32 346 *eP* **P 21 09 03.2 +0.1**
comp=Z,14nm,0.8s,mb4.6
MIB Mutribah 78.39 304 *eP* **P 21 09 02.2 -1.6**
MIB AMb AMB 21 09 03.5
comp=Z,19nm,0.5s,mb5.0
LOR Lormes 78.60 342 *eP* **P 21 09 04.7 +0.1**
comp=Z,21nm,0.8s,mb4.5
LOR Lormes 78.60 342 *eP* **P 21 09 04.7 +0.1**
LOR pmax pmax
comp=Z,11nm,0.8s,mb4.5
LOR Lormes 78.60 342 *eP* **P 21 09 04.7 +0.1**
comp=Z,11nm,0.8s,mb4.5
SGMF Saint Gilles 78.71 347 *eP* **P 21 09 05.4 +0.2**
comp=Z,22nm,0.7s,mb4.6
SGMF Saint Gilles 78.71 347 *eP* **P 21 09 05.4 +0.2**
SGMF pmax pmax
comp=Z,11nm,0.7s,mb4.6
SGMF Saint Gilles 78.71 347 *eP* **P 21 09 05.4 +0.2**
comp=Z,11nm,0.7s,mb4.6
ROSF Rostrenen 78.72 347 *eP* **P 21 09 05.5 +0.2**
comp=Z,20nm,0.8s,mb4.5
ROSF Rostrenen 78.72 347 *eP* **P 21 09 05.5 +0.2**
ROSF pmax pmax
comp=Z,10.0nm,0.8s,mb4.5
ROSF Rostrenen 78.72 347 *eP* **P 21 09 05.5 +0.2**
comp=Z,9.8nm,0.8s,mb4.5
CABF La Chapelle 78.79 341 *eP* **P 21 09 06.1 +0.4**
comp=Z,28nm,1.2s,mb4.5
CABF La Chapelle 78.79 341 *eP* **P 21 09 06.1 +0.4**
CABF pmax pmax
comp=Z,14nm,1.2s,mb4.5
CABF La Chapelle 78.79 341 *eP* **P 21 09 06.1 +0.4**
comp=Z,14nm,1.2s,mb4.5
RST Umm Al-Ruwaisa 78.81 304 *eP* **P 21 09 04.4 -1.7**
RST AMb AMB 21 09 06.5
comp=Z,0.7nm,0.6s,mb3.5
HYF Humbligny 78.83 343 *eP* **P 21 09 06.4 +0.5**
SSF Saint Saulge 78.87 342 *eP* **P 21 09 06.2 +0.1**
comp=Z,16nm,0.8s,mb4.4
SSF Saint Saulge 78.87 342 *eP* **P 21 09 06.2 +0.1**
SSF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
SSF Saint Saulge 78.87 342 *eP* **P 21 09 06.2 +0.1**
comp=Z,7.8nm,0.8s,mb4.4
NAY Al-Naaiem 78.89 303 *eP* **P 21 09 05.0 -1.5**
NAY AMb AMB 21 09 09.4
comp=Z,12nm,0.6s,mb4.7
RDF Al-Radifah 78.99 303 *eP* **P 21 09 05.3 -1.8**
RDF AMb AMB 21 09 08.0
comp=Z,27nm,0.7s,mb5.0
QUIF Quistinic 79.12 347 *eP* **P 21 09 07.5 0.0**
comp=Z,39nm,1.1s,mb4.7
QUIF Quistinic 79.12 347 *eP* **P 21 09 07.5 0.0**
QUIF pmax pmax
comp=Z,20nm,1.1s,mb4.7
QUIF Quistinic 79.12 347 *eP* **P 21 09 07.5 0.0**
comp=Z,20nm,1.1s,mb4.7
AVF Avril sur Loir 79.16 342 *eP* **P 21 09 07.9 +0.2**
comp=Z,22nm,0.8s,mb4.6
AVF Avril sur Loir 79.16 342 *eP* **P 21 09 07.9 +0.2**
AVF pmax pmax
comp=Z,11nm,0.8s,mb4.5
AVF Avril sur Loir 79.16 342 *eP* **P 21 09 07.9 +0.2**
comp=Z,11nm,0.8s,mb4.5
SMF Signal de Mont 79.20 342 *eP* **P 21 09 08.2 +0.3**
BGF Bois d'Agland 79.47 343 *eP* **P 21 09 09.7 +0.3**
comp=Z,9.5nm,0.5s,mb4.4
BGF Bois d'Agland 79.47 343 *eP* **P 21 09 09.7 +0.3**
BGF pmax pmax
comp=Z,5.0nm,0.5s,mb4.4
BGF Bois d'Agland 79.47 343 *eP* **P 21 09 09.7 +0.3**
comp=Z,4.8nm,0.5s,mb4.4
LPL La Plagne 79.70 340 *eP* **P 21 09 11.8 +1.2**
comp=Z,9.8nm,0.6s,mb4.3
LPL La Plagne 79.70 340 *eP* **P 21 09 11.8 +1.2**
LPL pmax pmax
comp=Z,5.0nm,0.6s,mb4.3
LPL La Plagne 79.70 340 *eP* **P 21 09 11.8 +1.2**
comp=Z,4.9nm,0.6s,mb4.3
LPG La Plagne 79.71 340 *eP* **P 21 09 12.0 +1.3**
comp=Z,21nm,0.9s,mb4.5
LPG La Plagne 79.71 340 *eP* **P 21 09 12.0 +1.3**
LPG pmax pmax
comp=Z,11nm,0.9s,mb4.5
LPG La Plagne 79.71 340 *eP* **P 21 09 12.0 +1.3**
comp=Z,11nm,0.9s,mb4.5
RSM Repubblica di 79.85 335 P **P 21 09 12.6 +1.1**
RSM pmax pmax
comp=Z,77nm,1.2s,mb5.2
RSM Repubblica di 79.85 335 P **P 21 09 12.6 +1.1**
comp=Z,77nm,1.2s,mb5.2
TCF Toulx Ste Croi 79.85 343 *eP* **P 21 09 11.8 +0.4**
comp=Z,15nm,0.8s,mb4.4
TCF Toulx Ste Croi 79.85 343 *eP* **P 21 09 11.8 +0.4**
TCF pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
TCF Toulx Ste Croi 79.85 343 *eP* **P 21 09 11.8 +0.4**
comp=Z,7.7nm,0.8s,mb4.4
MFF Saint Martin d 79.95 345 *eP* **P 21 09 12.5 +0.5**
comp=Z,17nm,0.7s,mb4.5
MFF Saint Martin d 79.95 345 *eP* **P 21 09 12.5 +0.5**
MFF pmax pmax
comp=Z,9.0nm,0.7s,mb4.5
MFF Saint Martin d 79.95 345 *eP* **P 21 09 12.5 +0.5**
comp=Z,8.6nm,0.7s,mb4.5
FSSB Fossombrone 79.98 335 P **P 21 09 11.8 -0.4**
comp=Z,44nm,1.0s,mb5.0
SFI Santa Sofia 80.03 336 P **P 21 09 13.5 +1.1**
VMG Vicchio 80.05 336 P **P 21 09 14.3 +1.8**
BNI Bardonecchia 80.15 340 *eP* **P 21 09 13.8 +0.7**
BNI pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BNI Bardonecchia 80.15 340 *eP* **P 21 09 13.8 +0.7**
comp=Z,7.5nm,1.0s,mb4.3
PIEI Pieia 80.19 335 P **P 21 09 13.9 +0.6**
comp=Z,13nm,0.9s,mb4.5
SNTG Esanatoglia 80.35 335 P **P 21 09 14.6 +0.4**
comp=Z,35nm,1.0s,mb5.0
MBDF Montbardon 80.44 339 *eP* **P 21 09 15.2 +0.6**
MURB Monte Urbino 80.45 335 P **P 21 09 16.2 +1.5**
comp=Z,51nm,1.1s,mb5.1
ORIF Oris-en-Rattie 80.45 340 *eP* **P 21 09 15.6 +0.9**
comp=Z,6.4nm,0.6s,mb4.1
ORIF Oris-en-Rattie 80.45 340 *eP* **P 21 09 15.6 +0.9**
ORIF pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
ORIF Oris-en-Rattie 80.45 340 *eP* **P 21 09 15.6 +0.9**
comp=Z,3.2nm,0.6s,mb4.1
NRCA Norcia 80.70 334 P **P 21 09 16.8 +0.8**
comp=Z,51nm,0.9s,mb5.2
VIVF Saint-Julien-l 80.76 341 *eP* **P 21 09 17.0 +0.7**
comp=Z,18nm,1.0s,mb4.3
VIVF Saint-Julien-l 80.76 341 *eP* **P 21 09 17.0 +0.7**
VIVF pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
VIVF Saint-Julien-l 80.76 341 *eP* **P 21 09 17.0 +0.7**
comp=Z,8.9nm,1.0s,mb4.3
RJF Les Rejaudoux 80.93 343 *eP* **P 21 09 17.9 +0.7**
comp=Z,14nm,0.8s,mb4.3
RJF Les Rejaudoux 80.93 343 *eP* **P 21 09 17.9 +0.7**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
RJF Les Rejaudoux 80.93 343 *eP* **P 21 09 17.9 +0.7**
comp=Z,6.8nm,0.8s,mb4.3
AQU L'Aquila 81.06 334 *eP* **P 21 09 19.1 +1.1**
AQU pmax pmax
comp=Z,21nm,0.8s,mb4.8
AQU L'Aquila 81.06 334 *eP* **P 21 09 19.1 +1.1**
comp=Z,21nm,0.8s,mb4.8
AQU P 21 09 19.6
SBF Sospel 81.12 339 *eP* **P 21 09 18.4 +0.1**
CAF Calviac 81.19 343 *eP* **P 21 09 19.6 +1.0**
comp=Z,13nm,0.7s,mb4.3
CAF Calviac 81.19 343 *eP* **P 21 09 19.6 +1.0**
CAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.3
CAF Calviac 81.19 343 *eP* **P 21 09 19.6 +1.0**
comp=Z,6.4nm,0.7s,mb4.4
FIAM Fiamignano 81.22 334 P **P 21 09 19.1 +0.3**
LFF La Frestale 81.42 344 *eP* **P 21 09 20.6 +0.8**
comp=Z,16nm,0.7s,mb4.5
LFF La Frestale 81.42 344 *eP* **P 21 09 20.6 +0.8**
LFF pmax pmax
comp=Z,8.0nm,0.7s,mb4.5
LFF La Frestale 81.42 344 *eP* **P 21 09 20.6 +0.8**
comp=Z,7.8nm,0.7s,mb4.5
SMRF Simiane la Rot 81.42 340 *eP* **P 21 09 20.9 +1.1**
ASF Jabal al Asfar 81.51 313 P **P 21 09 19.6 -0.9**
ASF pmax pmax
comp=Z,8.0nm,1.0s
ASF Jabal al Asfar 81.51 313 P **P 21 09 19.6 -0.9**
comp=Z,7.5nm,1.0s,mb4.3,baz=344,slow=0.9,SNR=9.4
SDI San Donato 81.55 334 P **P 21 09 20.2 -0.4**
FRF La Foret Royal 81.58 339 *eP* **P 21 09 20.8 +0.1**
LMR La Mourre 81.83 339 *eP* **P 21 09 22.0 0.0**
comp=Z,16nm,1.0s,mb4.3
LMR La Mourre 81.83 339 *eP* **P 21 09 22.0 0.0**

LMR pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
LMR La Mourre 81.83 339 *e*P **P 21 09 22.0 0.0**
comp=Z,8.1nm,1.0s,mb4.3
PGF Pioggiola 82.00 337 *e*P **P 21 09 22.8 -0.1**
comp=Z,7.1nm,0.7s,mb4.1
PGF Pioggiola 82.00 337 *e*P **P 21 09 22.8 -0.1**
PGF pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
PGF Pioggiola 82.00 337 *e*P **P 21 09 22.8 -0.1**
comp=Z,3.5nm,0.7s,mb4.1
MTLF Montolieu 82.70 342 *e*P **P 21 09 26.0 -0.5**
TIP Timpagrande 83.04 330 *e*P **P 21 09 28.0 -0.4**
comp=Z,16nm,0.9s,mb4.8
GVD Gavdhos 84.50 323 *e*P **P 21 09 34.1 -1.8**
comp=Z,17nm,0.6s,mb5.0
STKA Stephens Creek 84.73 194 P **P 21 09 37.0 +0.3**
comp=Z,2.0nm,0.8s,mb3.9,baz=325,slow=12,SNR=3.9
ESDC Sonseca Array 87.31 346 P **P 21 09 48.8 -0.8**
comp=Z,3.3nm,0.9s,mb4.2,baz=12,slow=5.2,SNR=6.6
KEST Kesra 88.36 335 P **P 21 09 54.1 -0.5**
comp=Z,2.2nm,0.7s,mb4.1,baz=134,slow=0.9,SNR=15
DBIC Dimbokro 119.68 340 PKIKP PKPdf 21 15 52.0 -0.4
DBIC pmax pmax
comp=Z,4.0nm,0.6s
DBIC Dimbokro 119.68 340 PKP PKPdf 21 15 52.0 -0.4
comp=Z,3.5nm,0.6s,baz=159,slow=4.1,SNR=8.4
BOSA Boshof 137.88 285 PKIKP PKPdf 21 16 26.0 -0.4
BOSA pmax pmax
comp=Z,4.0nm,1.0s
BOSA Boshof 137.88 285 PKP PKPdf 21 16 26.0 -0.4
comp=Z,3.7nm,0.9s,baz=31,slow=7.3,SNR=3.4
PLCA Paso Flores 145.41 90 PKP2 PKPab 21 16 39.3 -0.8
PLCA pmax pmax
comp=Z,5.0nm,0.9s
PLCA pmax pmax
comp=Z,2.0nm,0.6s
PLCA Paso Flores 145.41 90 PKPbc PKPbc 21 16 39.2 -0.4
comp=Z,4.8nm,0.9s,baz=302,slow=3.9,SNR=8.6
PLCA pPKPbc pPKPbc 21 17 13.6 -2.8
comp=Z,2.3nm,0.6s,baz=304,slow=3.4,SNR=3.0

IDC 23 21:10:42.5±1.0, 2180N×14314E, h0km, mb3.6/7, mb1 3.9/8, mb1mx3.7/20, mbtmp3.7/8, ML3.1/1, MS3.0/2, Ms1 3.0/2, ms1mx2.8/21, Error ellipse: s-maj=37.3km s-min=20.3km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.35**	**351**	Pn	Pn	21 12 02.1	-1.4
	1.4nm,0.3s,baz=236,slow=18,SNR=2.4						
CBIJ				LR	LR	21 14 10.4	
	comp=Z,89nm,19.1s,baz=141,slow=39						
KSRS	**Korea Array**	**20.41**	**323**	LR	LR	21 21 53.9	
	comp=Z,63nm,20.2s,baz=220,slow=33						
SONM	**Songino Array**	**39.24**	**320**	P	P	21 18 13.1	+0.5
	0.4nm,0.7s,baz=112,slow=6.3,SNR=4.0						
WRA	**Warramunga Arr**	**42.37**	**192**	P	P	21 18 38.1	-0.5
	0.8nm,0.9s,baz=19,slow=9.6,SNR=3.5						
ASAR	**Alice Springs**	**46.07**	**192**	P	P	21 19 08.3	0.0
	0.7nm,0.8s,baz=17,slow=9.2,SNR=7.6						
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	P	21 20 08.4	-0.6
	0.4nm,0.3s,baz=97,slow=5.1,SNR=3.7						
MKAR	**Makanchi Array**	**54.60**	**313**	P	P	21 20 13.4	+0.7
	0.3nm,0.6s,baz=90,slow=9.6,SNR=4.1						
YKA	**Yellowknife Ar**	**76.39**	**28**	P	P	21 22 33.3	-0.1
	0.5nm,0.5s,baz=297,slow=5.3,SNR=8.3						
NVAR	**Mina Array Bea**	**83.11**	**51**	P	P	21 23 11.3	+0.9
	0.4nm,0.6s,baz=270,slow=4.4,SNR=4.0						

IDC 23 21:28:23.9±2.6, 702S×12856E, h0km, mb3.3/1, mb1 3.8/3, mb1mx3.6/13, mbtmp3.6/3, ML4.0/2, Error ellipse: s-maj=287.3km s-min=31.0km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**14.02**	**157**	Pn	Pn	21 31 42.8	-1.1
	0.8nm,0.3s,baz=333,slow=14,SNR=36						
WRA				Sn	Sn	21 34 08.3	-12
	0.6nm,0.3s,baz=334,slow=22,SNR=9.5						
ASAR	**Alice Springs**	**17.33**	**163**	P	Pn	21 32 28.4	+1.0
	0.5nm,0.3s,baz=346,slow=9.8,SNR=20						
MKAR	**Makanchi Array**	**67.46**	**327**	P	P	21 39 21.6	+0.1
	0.2nm,0.5s,baz=126,slow=7.3,SNR=3.7						

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*TIF **23** 21:41:02.9, 4365N×4574E, h28km±2km*
*CSEM **23** 21:41:08.3±0.3, 4342N×4556E, h85km, mb4.1, Error ellipse: s-maj=7.5km s-min=3.7km az=29.0*
*MOS **23** 21:41:11.0±1.7, 4337N×4505E, h86km, mb4.1/1, Error ellipse: s-maj=13.8km s-min=12.1km az=29.6*
*ISCJB **23** 21:41:12.5±0.7, 4347N±005×4554E±004, h33km, Error ellipse: s-maj=7.2km s-min=3.7km az=10.5*
ISC 23 21:41:12.2±0.7, 4352N±005×4555E±004, h35km, n24, σ19/54/48, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TRKR	**Terskaya**	**0.63**	**289**	*i* P	**Pn**	**21 41 25.4**	**+0.8**
TRKR				*i* S	**Sn**	**21 41 43.2**	**+10**
SNJR	**Sundja**	**0.70**	**230**	*i* P	**Pn**	**21 41 25.4**	**-0.2**
SNJR				*i* S	**Sn**	**21 41 44.3**	**+9.1**
BTKR	**Batakoyurt**	**0.75**	**259**	*i* P	**Pn**	**21 41 26.6**	**+0.3**
BTKR				*i* S	**Sn**	**21 41 44.9**	**+8.5**
VLKR	**Vladikavkaz**	**0.80**	**234**	*e*P	**Pn**	**21 41 26.2**	**-0.7**
VLKR				*i* S	**Sn**	**21 41 45.4**	**+7.9**
DLMR	**Dylym**	**0.91**	**119**	P	**Pn**	**21 41 30.0**	**+1.6**
DLMR				*e*S	**Sn**	**21 41 42.0**	**+1.8**
KMSR	**Komsomolskaya**	**0.93**	**261**	*i* P	**Pn**	**21 41 28.2**	**-0.5**
KMSR				*i* S	**Sn**	**21 41 47.9**	**+7.1**
PRTR	**Priterechnaya**	**0.95**	**285**	*i* P	**Pn**	**21 41 27.7**	**-1.3**
PRTR				*i* S	**Sn**	**21 41 47.0**	**+5.6**
ARNR	**Ardon**	**0.99**	**251**	*i* P	**Pn**	**21 41 28.4**	**-1.1**
ARNR				*i* S	**Sn**	**21 41 48.2**	**+6.0**
LACR	**Lac**	**1.15**	**233**	*i* P	**Pn**	**21 41 29.2**	**-2.6**
LACR				*i* S	**Sn**	**21 41 47.1**	**+0.8**
KORR	**Kora**	**1.17**	**249**	*i* P	**Pn**	**21 41 29.7**	**-2.3**
KORR				*i* S	**Sn**	**21 41 50.1**	**+3.4**
KRNR	**Karanay**	**1.21**	**125**	P	**Pn**	**21 41 41.0**	**+8.5**
KRNR				*i* S	**Sn**	**21 41 49.8**	**+2.1**
UNCR	**Uncukul**	**1.21**	**131**	*e*P	**Pn**	**21 41 39.0**	**+6.4**
UNCR				*e*S	**Sn**	**21 41 46.5**	**-1.3**
UNCR				pmax	pmax		
	comp=Z,27nm,0.2s						
UNCR	**Uncukul**	**1.21**	**131**	*e*P	**Pn**	**21 41 39.0**	**+6.4**
	comp=Z,27nm,0.2s						
UNCR				*e*S	**Sn**	**21 41 46.5**	**-1.3**
LSNR	**Lesken**	**1.29**	**260**	*i* P	**Pn**	**21 41 30.8**	**-2.9**
LSNR				*i* S	**Sn**	**21 41 52.1**	**+2.4**
ZEI	**Tsey**	**1.43**	**239**	*i* P	**Pn**	**21 41 32.0**	**-3.5**
ZEI				*i* S	**Sn**	**21 41 53.0**	**0.0**
DIGR	**Digorskoe uzhe**	**1.57**	**247**	*e*P	**Pn**	**21 41 32.9**	**-4.6**
DIGR				*i* S	**Sn**	**21 41 56.0**	**-0.6**
KMKR	**Kumukh**	**1.79**	**140**	P	**Pn**	**21 41 41.0**	**+0.4**
KMKR				*e*S	**Sn**	**21 41 59.0**	**-3.1**
KMKR				pmax	pmax		
	comp=Z,14nm,0.2s						
ONI	**Oni**	**1.81**	**239**	P	**Pn**	**21 41 37.5**	**-3.3**
ONI				S	**Sn**	**21 42 04.1**	**+1.7**
GOR	**Gori**	**1.87**	**215**	P	**Pn**	**21 41 37.8**	**-3.8**
GOR				S	**Sn**	**21 42 04.2**	**+0.3**
TBLG	**Delisi**	**1.89**	**199**	*e*P	**Pn**	**21 41 38.1**	**-3.8**
TBLG				*e*S	**Sn**	**21 42 04.5**	**+0.1**
TBLG	**Delisi**	**1.89**	**199**	P	**Pn**	**21 41 38.1**	**-3.8**
TBLG				S	**Sn**	**21 42 04.5**	**+0.1**
MTA	**Mtatsminda**	**1.91**	**197**	P	**Pn**	**21 41 38.0**	**-4.2**
MTA				S	**Sn**	**21 42 04.5**	**-0.4**
DGRG	**David-gareji**	**2.07**	**184**	P	**Pn**	**21 41 40.4**	**-4.0**
DGRG				S	**Sn**	**21 42 09.3**	**+0.3**
KSMR	**Kasumkent**	**2.70**	**134**	P	**Pn**	**21 41 55.5**	**+2.5**
KSMR				*e*S	**Sn**	**21 42 21.5**	**-3.0**

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*IDC **23** 22:00:09.1±0.5, 794S×15660E, h0km, mb4.7/16, mb1 4.7/18, mb1mx4.7/19, mbtmp4.7/18, ML4.4/2, MS4.3/11, Ms1 4.3/11, ms1mx4.0/18, Error ellipse: s-maj=16.8km s-min=14.0km az=83.0*
*ISCJB **23** 22:00:09.9±0.2, 792S±004×15656E±004, h10km, mb4.9/60, MS4.5/22, Error ellipse: s-maj=5.5km s-min=5.1km az=15.7*
*BJI **23** 22:00:09.3, 774S×15668E, h6km, mB5.2, mb5.0, Ms5.0, Msz4.6*
*NEIC **23** 22:00:11.1±0.2, 792S×15663E, h10km, mb4.9/28, Error ellipse: s-maj=6.9km s-min=5.4km az=124.0*
*GCMT **23** 22:00:11.1±0.2, 8.11S×156.69E, h24km, MW5.2/77, Moment Tensor Solution. s45,c55; s77,c107; Duration: 1!0 Moment tensor: Scale 10^16 Nm; Mrr 6.63±.31; Mθθ -2.42±.20; Mφφ -4.22±.20; Mrθ -0.92±.28; Mφφ 4.34±.12; Mφr -2.93±.28; Best double couple: M0 7.87800×10^16 NP1: φs 301.00000°, δ42.00000°, λ58.00000°. NP2: φs 161.00000°, δ55.00000°, λ115.00000°. Principal axes: T 7.9980, Plg68.0000°, Azm125.0000°; N 0.1500, Plg20.0000°, Azm325.0000°; P -7.9580, Plg7.0000°, Azm233.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*MOS **23** 22:00:14.1±1.0, 783S×15647E, h33km, mb5.1/25, MS4.3/5 Error ellipse: s-maj=11.7km s-min=8.0km az=100.1*
ISC 23 22:00:11.1±1.5, 792S±004×15658E±004, h7km±9km, h16km±.4km: pP-P, n205, σ1!06/150, mb4.9/60, MS4.5/22, 5C-8D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**3.65**	**115**	P	**Pn**	**22 01 06.6**	**-1.5**
HNR						22 01 53.0	
HNR				pmax	pmax		
	comp=Z,310nm,0.3s						
HNR				smax			
	comp=N,974nm,0.3s						
HNR				MLR	MLR		
	comp=Z,11μm,19.9s						
HNR	**Honiara**	**3.65**	**115**	*e*Pn	**Pn**	**22 01 04.8**	**-3.2**
HNR				*e*Sn	**Sn**	**22 01 53.0**	**+1.6**
HNR	**Honiara**	**3.65**	**115**	Pn	**Pn**	**22 01 06.6**	**-1.5**
	comp=Z,310nm,0.3s,baz=254,slow=3.3,SNR=31						
HNR				Sn	**Sn**	**22 01 53.0**	**+1.6**
	comp=Z,974nm,0.3s,baz=273,slow=18,SNR=7.3						
HNR				LR	LR	22 02 26.1	
	comp=Z,11μm,19.9s,baz=314,slow=38						
COEN	**Coen**	**14.46**	**244**	*e*Pn	**Pn**	**22 03 37.6**	**+1.2**
	comp=Z,7.5nm,1.1s						
CTA	**Charters Tower**	**15.70**	**219**	*e*P	**Pn**	**22 03 58.8**	**+5.9**
	comp=Z,11nm,0.9s						
CTA				*e*S	**Sn**	**22 06 46.0**	**-1.2**
CTA	**Charters Tower**	**15.70**	**219**	*e*P	**Pn**	**22 03 58.8**	**+5.9**
CTA				*e*S	**Sn**	**22 06 46.0**	**-1.2**
CTA				pmax	pmax		
	comp=Z,11nm,0.9s						
CTA	**Charters Tower**	**15.70**	**219**	*e*P	**Pn**	**22 03 58.8**	**+5.9**
	comp=Z,11nm,0.9s						
CTA				*e*S	**Sn**	**22 06 46.0**	**-1.2**
CTA				LR	LR	22 09 07.7	
CTA	**Charters Tower**	**15.70**	**219**	Pn	**Pn**	**22 03 51.2**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=39,slow=6.5,SNR=2.5						
CTA				LR	LR	22 09 07.7	
	comp=Z,560nm,18.1s,baz=36,slow=34						
CTAO	**Charters Tower**	**15.70**	**219**	*e*P	**Pn**	**22 03 55.1**	**+2.2**
CTAO				pmax	pmax		
	comp=Z,10.0nm,0.6s						
CTAO	**Charters Tower**	**15.70**	**219**	*e*Pn	**Pn**	**22 03 55.1**	**+2.2**
	comp=Z,9.7nm,0.6s						
EIDS	**Eidsvold**	**18.13**	**196**	*e*P	**Pn**	**22 04 24.4**	**+0.8**
ARMA	**Armidale**	**22.86**	**191**	*e*P	**P**	**22 05 17.0**	**+1.9**
KAKA	**Kakadu**	**24.22**	**257**	‖*i*P	**P**	**22 05 28.4**	**-0.3**
	comp=Z,56nm,0.8s,mb5.0						
GUMO	**Guam**	**24.32**	**331**	*e*P	**P**	**22 05 30.3**	**+0.7**
GUMO				pmax	pmax		
	comp=Z,87nm,0.9s,mb5.2						
GUMO	**Guam**	**24.32**	**331**	*e*P	**P**	**22 05 30.2**	**+0.6**
	comp=Z,87nm,0.9s,mb5.2						
WRAB	**Tennant Creek**	**24.62**	**239**	P	**P**	**22 05 32.0**	**-0.4**
	comp=Z,281nm,0.9s,mb5.8,SNR=20						
WRAB	**Tennant Creek**	**24.62**	**239**	‖*e*P	**P**	**22 05 32.1**	**-0.3**
WRAB	**Tennant Creek**	**24.62**	**239**	*e*P	**P**	**22 05 31.9**	**-0.4**
WB2	**Warramunga Arr**	**24.63**	**239**	*e*P	**P**	**22 05 32.2**	**-0.2**
WB2				*e*PCP	PcP	22 09 10.3	+0.1
WB2				*e*S	**S**	**22 09 56.4**	**+2.2**
WRA	**Warramunga Arr**	**24.64**	**239**	P	**P**	**22 05 32.2**	**-0.3**
	comp=Z,18nm,0.6s,mb4.8,baz=64,slow=9.4,SNR=152						
WRA				PcP	PcP	22 09 10.2	-0.1
	comp=Z,6.3nm,0.6s,baz=63,slow=2.6,SNR=19						
ASAR	**Alice Springs**	**26.79**	**232**	P	**P**	**22 05 49.7**	**-2.3**
	comp=Z,0.9nm,0.5s,baz=62,slow=9.5,SNR=16						
ASAR				PcP	PcP	22 09 14.9	-0.1
	comp=Z,1.4nm,0.7s,baz=68,slow=2.6,SNR=5.4						
STKA	**Stephens Creek**	**27.62**	**208**	*e*P	**P**	**22 06 00.9**	**+1.5**
	comp=Z,14nm,0.9s,mb4.6						
STKA				*e*PCP	PcP	22 09 16.7	-0.2
STKA	**Stephens Creek**	**27.62**	**208**	P	**P**	**22 05 59.5**	**+0.1**
	comp=Z,14nm,0.8s,mb4.6,baz=44,slow=16,SNR=22						
STKA				PcP	PcP	22 09 16.4	-0.6
	comp=Z,5.2nm,0.6s,baz=337,slow=3.8,SNR=7.7						
STKA				LR	LR	22 14 53.4	
	comp=Z,627nm,20.6s,MS4.2,baz=28,slow=32						
FITZ	**Fitzroy Crossi**	**31.75**	**248**	*e*P	**P**	**22 06 35.8**	**-0.4**
	comp=Z,13nm,0.8s,mb4.8						
FITZ				*e*S	**S**	**22 11 49.8**	**+3.2**
FITZ	**Fitzroy Crossi**	**31.75**	**248**	P	**P**	**22 06 35.5**	**-0.6**
	comp=Z,3.1nm,0.5s,mb4.4,baz=75,slow=8.2,SNR=11						
RAO	**Raoul Island**	**32.02**	**135**	*e*P	**P**	**22 06 40.3**	**+1.9**
FORT	**Forrest**	**35.04**	**226**	*e*P	**P**	**22 07 03.2**	**-1.5**
	comp=Z,18nm,0.7s,mb5.1						
URZ	**Urewera**	**35.45**	**152**	P	**P**	**22 07 05.3**	**-2.7**
	comp=Z,9.3nm,0.7s,mb4.8,baz=3.1,slow=2.9,SNR=8.7						
KAPI	**Kappang**	**36.70**	**272**	P	**P**	**22 07 18.2**	**-0.9**
	comp=Z,3.4nm,0.6s,mb4.4,baz=99,slow=13,SNR=2.2						
CBIJ	**Chichi jima**	**37.50**	**339**	P	**P**	**22 07 23.2**	**-2.4**
	comp=Z,39nm,0.8s,mb5.3,baz=90,slow=8.1,SNR=3.3						
RPZ	**Rata Peaks**	**37.84**	**163**	P	**P**	**22 07 23.5**	**-4.9**
	comp=Z,16nm,0.5s,mb5.0,baz=286,slow=4.3,SNR=2.0						
MBWA	**Marble Bar**	**37.91**	**246**	*e*P	**P**	**22 07 28.7**	**-0.6**
	comp=Z,21nm,1.2s,mb4.7						
KKM	**Kota Kinabalu**	**42.58**	**288**	*e*P	**P**	**22 08 08.7**	**+0.5**
KLBR	**Kellerberrin**	**43.12**	**232**	*e*P	**P**	**22 08 10.9**	**-1.5**
	comp=Z,67nm,1.4s,mb5.2						
NWAO	**Narrogin (SRO)**	**44.09**	**230**	*e*P	**P**	**22 08 19.7**	**-0.4**
NWAO				pmax	pmax		
	comp=Z,5.0nm,0.5s						
NWAO	**Narrogin (SRO)**	**44.09**	**230**	*e*P	**P**	**22 08 19.7**	**-0.4**
	comp=Z,4.8nm,0.5s,mb4.5						
NACB	**Ninganchiao**	**46.72**	**314**	*e*P	**P**	**22 08 41.9**	**+0.8**
KSM	**Kuching**	**47.08**	**279**	*e*P	**P**	**22 08 44.6**	**+0.5**
YHNB	**Yeheng**	**47.19**	**314**	*e*P	**P**	**22 08 47.0**	**+2.3**
MJAR	**Matsushiro Arr**	**47.47**	**340**	P	**P**	**22 08 45.3**	**-1.4**
	comp=Z,3.7nm,0.5s,mb4.5,baz=165,slow=8.5,SNR=22						
MAJO	**Matsushiro**	**47.47**	**340**	*e*P	**P**	**22 08 45.9**	**-0.8**
MAJO				pmax	pmax		
	comp=Z,10.0nm,0.6s,mb4.9						
MAJO	**Matsushiro**	**47.47**	**340**	*e*P	**P**	**22 08 45.9**	**-0.8**
	comp=Z,10nm,0.6s,mb4.9						
MAT	**Matsushiro**	**47.47**	**340**	P	**P**	**22 08 46.1**	**-0.6**
MAT				S	**S**	**22 15 37.0**	**-4.6**
QZH	**Quanzhou**	**49.36**	**313**	‖*i*P	**P**	**22 09 02.3**	**+0.8**
QZH				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.5						
KSRS	**Korea Array**	**52.49**	**331**	P	**P**	**22 09 25.0**	**+0.2**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
KSRS				MLR	MLR		
	comp=Z,167nm,20.8s,MS4.1						
KSRS	**Korea Array**	**52.49**	**331**	P	**P**	**22 09 25.0**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.4,baz=152,slow=9.2,SNR=12						
KSRS				LR	LR	22 27 55.9	
	comp=Z,167nm,20.8s,MS4.1,baz=130,slow=32						
PPT	**Papeete**	**53.23**	**106**	LR	LR	22 29 09.8	
	comp=Z,275nm,18.1s,MS4.3,baz=286,slow=33						
QIZ	**Qiongzhong**	**53.28**	**301**	P	**P**	**22 09 32.8**	**+1.8**
QIZ				S	**S**	**22 17 04.8**	**+1.7**
QIZ				XS	sS	22 17 10.5	+3.7
QIZ				SS	SS	22 20 42.3	-0.8
QIZ				LR	LR		
	comp=E,269nm,22.3s						
QIZ				LR	LR		
	comp=Z,478nm,24.4s,MS4.5						
ASAJ	**Asahikawa**	**53.31**	**347**	LR	LR	22 31 39.6	
	comp=Z,259nm,18.8s,MS4.3,baz=157,slow=35						
NJ2	**Nanjing**	**53.62**	**320**	*e*P	**P**	**22 09 34.8**	**+1.5**
NJ2				AP	pP	22 09 39.0	+3.4
NJ2				XP	sP	22 09 41.6	+5.1
NJ2				PCP	PcP	22 10 38.3	-1.5
NJ2				S	**S**	**22 17 06.0**	**-1.4**
NJ2				XS	sS	22 17 13.5	+2.4
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
NJ2				AMB	AMB		
	comp=Z,290nm,4.5s						
NJ2				LR	LR		
	comp=N,580nm,24.3s,MS4.7						
NJ2				LR	LR		
	comp=E,540nm,21.3s,MS4.7						
NJ2				LR	LR		
	comp=Z,530nm,21.2s,MS4.6						
YSS	**Yuzh-Sakhalins**	**55.99**	**349**	‖*e*P	**P**	**22 09 50.0**	**-0.2**
YSS				pmax	pmax		
	comp=Z,43nm,1.7s,mb5.2						
YSS	**Yuzh-Sakhalins**	**55.99**	**349**	*e*P	**P**	**22 09 50.1**	**-0.1**
KULM	**Kulim**	**57.31**	**281**	*e*P	**P**	**22 09 59.4**	**-0.8**
TIA	**Tai'an**	**57.45**	**322**	‖P	**P**	**22 10 00.8**	**0.0**
MDJ	**Mudanjiang**	**57.68**	**337**	P	**P**	**22 10 03.8**	**+1.6**
MDJ				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,89nm,3.3s						
MDJ	**Mudanjiang**	**57.68**	**337**	*e*P	**P**	**22 10 02.8**	**+0.5**
CN2	**Changchun**	**58.70**	**334**	*e*P	**P**	**22 10 09.3**	**-0.1**
CN2				*e*AP	pP	22 10 13.6	+2.0
CN2				*e*S	**S**	**22 18 13.8**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
CN2				AMB	AMB		
	comp=Z,200nm,3.0s						
CN2				LR	LR		
	comp=N,200nm,12.0s,MS4.6						
CN2				LR	LR		
	comp=E,200nm,12.0s,MS4.6						
CN2				LR	LR		
	comp=Z,200nm,14.0s,MS4.4						
GYA	**Guiyang**	**59.26**	**307**	P	**P**	**22 10 16.3**	**+2.7**
GYA				PCP	PcP	22 11 03.6	+1.7
GYA				PP	PP	22 12 29.8	+5.1
GYA				SCP	ScP	22 15 03.4	+0.1
GYA				S	**S**	**22 18 24.3**	**+1.9**
GYA				SS	SS	22 22 20.8	+3.6
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,6.8s						
GYA				LR	LR		
	comp=N,890nm,18.9s,MS5.0						
GYA				LR	LR		
	comp=E,720nm,19.0s,MS5.0						
GYA				LR	LR		
	comp=Z,880nm,19.4s,MS4.9						
BJT	**Baijiatuau**	**60.55**	**325**	*e*P	**P**	**22 10 20.9**	**-1.4**
BJT				pmax	pmax		
	comp=Z,34nm,1.4s						
BJT	**Baijiatuau**	**60.55**	**325**	*e*P	**P**	**22 10 20.9**	**-1.4**
	comp=Z,34nm,1.4s,mb5.3						
BJI	**Beijing**	**60.57**	**325**	P	**P**	**22 10 22.6**	**+0.3**
BJI				PP	PP	22 12 34.0	-2.0
BJI				S	**S**	**22 18 43.8**	**+5.1**
BJI				SS	SS	22 22 31.6	-5.6
BJI				AMB	AMB		
	comp=Z,13nm,0.8s,mb5.1						
BJI				AMB	AMB		
	comp=Z,92nm,3.6s						
BJI				LR	LR		
	comp=N,263nm,19.1s,MS4.4						
BJI				LR	LR		
	comp=E,147nm,23.2s,MS4.4						
BJI				LR	LR		
	comp=Z,211nm,28.7s						
KLR	**Kul'dur**	**60.92**	**342**	*e*P	**P**	**22 10 20.8**	**-3.8**
KMI	**Kunming**	**61.83**	**304**	‖P	**P**	**22 10 31.8**	**+0.5**
KMI				AP	pP	22 10 37.0	+3.5
KMI				XP	sP	22 10 38.3	+3.9
KMI				PP	PP	22 12 50.3	+2.8
KMI				S	**S**	**22 18 53.9**	**-1.5**
KMI				XS	sS	22 19 00.8	+1.7
KMI				SS	SS	22 22 59.8	+2.2
KMI				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
KMI				AMB	AMB		
	comp=Z,58nm,3.4s						
KMI				LR	LR		
	comp=N,138nm,15.8s,MS4.5						
KMI				LR	LR		
	comp=E,246nm,18.0s,MS4.5						
KMI				LR	LR		
	comp=Z,355nm,16.5s,MS4.6						
CHTO	**Chiang Mai**	**62.72**	**296**	*e*P	**P**	**22 10 37.9**	**+0.6**
CD2	**Chengdu**	**63.60**	**310**	*e*P	**P**	**22 10 43.3**	**+0.3**
CD2				AP	pP	22 10 48.0	+2.7
CD2				XP	sP	22 10 51.3	+5.2
CD2				PP	PP	22 13 05.3	+2.3
CD2				S	**S**	**22 19 16.8**	**-0.7**
CD2				XS	sS	22 19 24.0	+2.8
CD2				SCS	ScS	22 20 32.6	-4.6
CD2				SS	SS	22 23 25.8	+0.6
CD2				AMB	AMB		
	comp=Z,20nm,0.8s,mb5.2						
CD2				AMB	AMB		
	comp=Z,60nm,5.8s						
CD2				LR	LR		
	comp=N,310nm,24.0s,MS5.0						
CD2				LR	LR		
	comp=E,940nm,19.2s,MS5.0						
CD2				LR	LR		
	comp=Z,340nm,21.6s,MS4.5						
HHC	**Hu-ho-hao-te**	**63.76**	**323**	*e*P	**P**	**22 10 44.3**	**+0.5**
HHC				AP	pP	22 10 49.0	+2.9
HHC				XP	sP	22 10 51.4	+4.4
HHC				PCP	PcP	22 11 19.6	-0.2
HHC				PP	PP	22 13 06.3	+2.1
HHC				SCP		22 15 20.1	
HHC				S	**S**	**22 19 18.6**	**-0.4**
HHC				XS	sS	22 19 27.5	+4.7
HHC				SCS	ScS	22 20 33.8	-4.2
HHC				SS	SS	22 23 28.8	+1.5
HHC				AMB	AMB		
	comp=Z,22nm,1.2s,mb5.1						
HHC				AMB	AMB		
	comp=Z,141nm,5.8s						
HHC				LR	LR		
	comp=N,164nm,15.9s,MS4.5						
HHC				LR	LR		
	comp=E,161nm,15.5s,MS4.5						
HHC				LR	LR		
	comp=Z,197nm,16.7s,MS4.4						
HIA	**Hailar**	**65.42**	**334**	*e*P	**P**	**22 10 54.9**	**+0.5**
HIA				pmax	pmax		
	comp=Z,26nm,0.8s						
HIA	**Hailar**	**65.42**	**334**	*e*P	**P**	**22 10 54.9**	**+0.5**
	comp=Z,26nm,0.8s,mb5.3						
LZH	**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GTA				AP	pP	22 11 32.3	+3.4
GTA				XP	sP	22 11 35.8	+6.1
GTA				PP	PP	22 14 03.8	+1.0
GTA				S	S	22 20 38.8	-1.4
GTA				XS	sS	22 20 47.5	+3.5
GTA				SCS	ScS	22 21 29.0	-1.3
GTA				SS	SS	22 25 10.3	-1.3
GTA				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
GTA				AMB	AMB		
	comp=Z,144nm,6.1s						
GTA				LR	LR		
	comp=N,158nm,18.6s,MS4.5						
GTA				LR	LR		
	comp=E,178nm,19.4s,MS4.5						
GTA				LR	LR		
	comp=Z,251nm,20.1s,MS4.5						
SEY	**Seymchan**	**70.71**	**358**⇓	iP	**P**	**22 11 27.2**	**-0.2**
SONM	**Songino Array**	**70.96**	**327**	P	**P**	**22 11 30.6**	**+1.3**
	comp=Z,31nm,0.7s,mb5.3,baz=129,slow=5.7,SNR=50						
SONM				LR	LR	22 42 33.0	
	comp=Z,135nm,18.2s,MS4.2,baz=80,slow=36						
SHL	**Shillong**	**71.11**	**300**	eP	**P**	**22 11 32.0**	**+1.3**
MIR	**Mirnyy**	**72.43**	**202**⇓	iP	**P**	**22 11 38.0**	**+0.2**
MIR				pmax	pmax		
	comp=Z,100nm,1.5s,mb5.5						
LSA	**Lhasa**	**73.09**	**304**	P	**P**	**22 11 43.6**	**+1.2**
LSA	**Lhasa**	**73.09**	**304**	eP	**P**	**22 11 43.7**	**+1.3**
LSA				e		22 11 59.2	
LSA				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
LSA	**Lhasa**	**73.09**	**304**	eP	**P**	**22 11 43.7**	**+1.3**
	comp=Z,6.1nm,0.8s,mb4.6						
LSA				ePcP	PcP	22 11 59.2	0.0
BOD	**Bodaibo**	**74.05**	**338**	eP	**P**	**22 11 46.8**	**-0.7**
BOD				pmax	pmax		
	comp=Z,16nm,1.1s,mb4.9						
ZAK	**Zakamensk**	**74.10**	**328**⇑	iP	**P**	**22 11 48.0**	**+0.1**
ZAK				pmax	pmax		
	comp=Z,14nm,1.2s,mb4.8						
TLY	**Talaya**	**74.65**	**329**	eP	**P**	**22 11 51.8**	**+0.7**
TLY				pmax	pmax		
	comp=Z,17nm,1.2s,mb4.8						
TLY	**Talaya**	**74.65**	**329**	eP	**P**	**22 11 51.9**	**+0.8**
IRK	**Irkutsk**	**74.66**	**330**	eP	**P**	**22 11 50.4**	**-0.8**
IRK				e		22 14 46.5	
IRK				pmax	pmax		
	comp=Z,52nm,1.4s,mb5.3						
MOY	**Mondy**	**76.02**	**328**	eP	**P**	**22 11 59.7**	**+0.7**
MOY				pmax	pmax		
	comp=Z,45nm,2.0s,mb5.0						
BILL	**Bilibino**	**76.08**	**4**	eP	**P**	**22 11 58.0**	**-1.0**
BILL				e		22 12 10.1	
BILL				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
BILL				MLR	MLR		
	comp=Z,200nm,19.0s,MS4.5						
BILL	**Bilibino**	**76.08**	**4**	eP	**P**	**22 11 58.8**	**-0.2**
	comp=Z,6.3nm,0.7s,mb4.7						
PALK	**Pallekele**	**77.14**	**279**	eP	**P**	**22 12 07.9**	**+1.7**
SVW2	**Sparrevohn**	**78.26**	**22**	eP	**P**	**22 12 11.8**	**+0.4**
TTA	**Tatalina**	**79.33**	**20**	eP	**P**	**22 12 17.4**	**+0.2**
TTA				pmax	pmax		
	comp=Z,34nm,1.5s,mb5.1						
TTA	**Tatalina**	**79.33**	**20**	eP	**P**	**22 12 17.4**	**+0.2**
	comp=Z,34nm,1.5s,mb5.0						
WMQ	**Urumqi**	**80.57**	**317**	eP	**P**	**22 12 25.0**	**+0.6**
WMQ				XP	sP	22 12 32.0	+4.5
WMQ				PP	PP	22 15 31.0	+3.0
WMQ				S	S	22 22 30.0	-1.7
WMQ				SS	SS	22 27 46.0	+1.6
WMQ				AMB	AMB		
	comp=Z,32nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,45nm,6.0s						
WMQ				LR	LR		
	comp=N,129nm,17.0s,MS4.5						
WMQ				LR	LR		
	comp=E,145nm,18.0s,MS4.5						
WMQ				LR	LR		
	comp=Z,145nm,18.0s,MS4.4						
PMR	**Palmer**	**81.00**	**23**	eP	**P**	**22 12 26.7**	**+0.4**
SML	**Sawmill**	**81.44**	**23**	eP	**P**	**22 12 29.0**	**+0.4**
TIXI	**Tiksi**	**81.49**	**351**⇑	eP	**P**	**22 12 27.1**	**-1.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.7s,mb4.4						
TIXI	**Tiksi**	**81.49**	**351**	eP	**P**	**22 12 27.3**	**-1.4**
	comp=Z,39nm,2.1s,mb5.0						
QSPA	**South Pole Qui**	**82.07**	**180**	eP	**P**	**22 12 31.0**	**-0.7**
	comp=Z,51nm,0.6s,mb5.6						
IMA2	**Indian Mountai**	**82.17**	**18**	eP	**P**	**22 12 31.9**	**-0.4**
DGAR	**Diego Garcia**	**83.22**	**263**	P	**P**	**22 12 38.8**	**-0.2**
COLA	**College**	**83.37**	**21**	eP	**P**	**22 12 36.0**	**-2.6**
COLA				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.9						
COLA	**College**	**83.37**	**21**	eP	**P**	**22 12 36.0**	**-2.6**
	comp=Z,7.3nm,0.6s,mb4.9						
MAW	**Mawson**	**84.16**	**203**	eP	**P**	**22 12 42.4**	**-0.3**
	comp=Z,5.6nm,0.7s,mb4.8						
MAW	**Mawson**	**84.16**	**203**	P	**P**	**22 12 42.0**	**-0.7**
MAW				pmax	pmax		
	comp=Z,6.0nm,0.7s						
MAW				MLR	MLR		
	comp=Z,236nm,18.3s						
MAW	**Mawson**	**84.16**	**203**	P	**P**	**22 12 42.0**	**-0.7**
	comp=Z,6.0nm,0.7s,mb4.8,baz=95,slow=6.3,SNR=14						
MAW				LR	LR	22 50 44.6	
	comp=Z,236nm,18.3s,MS4.6,baz=314,slow=36						
NDI	**New Delhi**	**84.53**	**300**	eP	**P**	**22 12 44.0**	**-1.4**
MKAR	**Makanchi Array**	**85.13**	**318**	PKKPbc	PKKPbc	22 30 51.2	-5.2
	comp=Z,0.3nm,0.6s,baz=297,slow=2.5,SNR=4.3						
MKAR				LR	LR	22 50 39.5	
	comp=Z,104nm,18.4s,MS4.3,baz=134,slow=36						
EGAK	**Eagle**	**85.76**	**22**	eP	**P**	**22 12 50.8**	**+0.1**
ZALV	**Zalesovo Beam**	**85.82**	**326**	P	**P**	**22 12 49.9**	**-1.4**
	comp=Z,1.4nm,0.4s,mb4.6,baz=115,slow=6.1,SNR=5.5						
ZALV				LR	LR	22 52 34.2	
	comp=Z,62nm,18.2s,MS4.0,baz=104,slow=37						
ZAL	**Zalesovo**	**85.83**	**326**	P	**P**	**22 12 49.9**	**-1.4**
DAWY	**Dawson**	**86.11**	**23**	eP	**P**	**22 12 53.1**	**+0.6**
KURK	**Kurchatov**	**88.53**	**322**	eP	**P**	**22 13 03.5**	**-0.9**
KURK				pmax	pmax		
	comp=Z,21nm,1.6s,mb5.2						
KURK	**Kurchatov**	**88.53**	**322**	eP	**P**	**22 13 03.5**	**-1.0**
	comp=Z,21nm,1.6s,mb5.2						
TKM2	**Tokmak 2**	**88.79**	**313**	eP	**P**	**22 13 05.1**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.9						
TKM2	**Tokmak 2**	**88.79**	**313**	eP	**P**	**22 13 05.1**	**-0.7**
	comp=Z,8.0nm,1.3s,mb4.9						
UCH	**Uchtor**	**89.43**	**313**	eP	**P**	**22 13 09.1**	**+0.2**
	comp=Z,4.6nm,1.3s,mb4.7						
AML	**Almayashu**	**90.01**	**312**	eP	**P**	**22 13 11.9**	**+0.3**
	comp=Z,7.4nm,1.2s,mb4.9						
EKS2	**Erkin-Say**	**90.05**	**313**	eP	**P**	**22 13 11.9**	**+0.1**
	comp=Z,1.6nm,0.7s,mb4.5						
MWC	**Mount Wilson**	**90.58**	**56**	eP	**P**	**22 13 15.4**	**+0.9**
NVAR	**Mina Array Bea**	**91.06**	**52**	P	**P**	**22 13 16.6**	**+0.1**
	comp=Z,5.4nm,1.0s,mb4.8,baz=241,slow=6.1,SNR=21						
WVOR	**Wild Horse Val**	**91.45**	**48**	eP	**P**	**22 13 18.3**	**0.0**
TPNV	**Topopah Spring**	**92.45**	**53**	eP	**P**	**22 13 23.5**	**+0.4**
BMO	**Blue Mountains**	**92.77**	**45**	eP	**P**	**22 13 23.8**	**-0.6**
BMO				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb4.3						
BMO	**Blue Mountains**	**92.77**	**45**	eP	**P**	**22 13 23.8**	**-0.6**
	comp=Z,1.3nm,0.8s,mb4.4						
SHPR	**Sheep Range**	**93.25**	**54**	eP	**P**	**22 13 27.8**	**+1.0**
BVAR	**Borovoye Array**	**93.97**	**323**	P	**P**	**22 13 27.7**	**-2.0**
	comp=Z,1.2nm,0.6s,mb4.5,baz=104,slow=4.7,SNR=11						
BRVK	**Borovoye**	**94.04**	**323**	P	**P**	**22 13 29.2**	**-0.8**
DUG	**Dugway**	**95.51**	**50**	P	**P**	**22 13 37.1**	**0.0**
DUG				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb5.0						
DUG	**Dugway**	**95.51**	**50**	P	**P**	**22 13 37.1**	**0.0**
	comp=Z,5.3nm,0.7s,mb5.1						
NLU	**North Lily Min**	**96.05**	**51**	eP	**P**	**22 13 38.3**	**-1.3**
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**22 13 39.9**	**-0.7**
YKA				PKKPbc	PKKPbc	22 30 23.2	-5.1
YKA	**Yellowknife Ar**	**96.41**	**28**	P	**P**	**22 13 39.9**	**-0.7**
	comp=Z,2.6nm,0.5s,mb4.9,baz=263,slow=4.8,SNR=44						
YKA				PKKPbc	PKKPbc	22 30 23.2	-5.1
	comp=Z,0.5nm,0.6s,baz=83,slow=2.9,SNR=9.4						
YKW3	**Yellowknife Ar**	**96.41**	**28**	eP	**P**	**22 13 40.2**	**-0.4**
BW06	**Boulder Array**	**98.14**	**48**	eP	**P**	**22 13 48.5**	**-0.5**
PV10	**Paradox Valley**	**98.28**	**52**	P	**P**	**22 13 51.3**	**+1.6**
ANMO	**Albuquerque**	**100.17**	**56**⇑	eP	Pdif	22 13 57.1	-0.6
VNA2	**Neumayer--Watz**	**100.59**	**185**	ePdiff	Pdif	22 13 56.9	-2.7
	baz=181,slow=6.3						
VNA2				e		22 14 01.4	
VNA2				e		22 14 03.0	
VNA2				e		22 18 25.2	
VNA2				e		22 18 27.3	
MIAR	**Mount Ida**	**110.78**	**56**	eP	Pdif	22 14 47.0	+2.1
ARCES	**ARCESS Array B**	**110.92**	**344**	PKiKP	PKiKP	22 18 43.5	-1.1
	comp=Z,4.8nm,1.1s,baz=48,slow=1.8,SNR=3.7						
KIV	**Kislovodsk**	**112.61**	**314**	i PKIKP	PKiKP	22 18 39.0	-10
KIV				pmax	pmax		
	comp=Z,5.0nm,1.1s						
KIV				MLR	MLR		
	comp=Z,107nm,20.0s,MS4.4						
FINES	**FINESS Array B**	**115.41**	**336**	PKP	PKPdf	22 18 52.0	-1.4
	comp=Z,1.5nm,0.9s,baz=52,slow=3.1,SNR=5.1						
MALT	**Malatya**	**116.88**	**309**	ePKIKP	PKPdf	22 18 56.0	-0.9
AKASG	**Malin Array Be**	**119.20**	**325**	PKP	PKPdf	22 18 59.5	-1.5
	comp=Z,1.1nm,0.5s,baz=62,slow=2.3,SNR=12						
BOSA	**Boshof**	**120.66**	**230**	PKP	PKPdf	22 19 02.3	-2.3
	comp=Z,1.6nm,0.6s,baz=282,slow=6.9,SNR=4.6						
NB2	**NORSAR Subarra**	**121.08**	**341**	PKPdf	PKPdf	22 19 02.7	-1.6
	comp=Z,0.3nm,0.4s,baz=39,slow=1.9						
NOA	**NORSAR Array B**	**121.08**	**341**	PKP	PKPdf	22 19 02.8	-1.5
	comp=Z,1.0nm,0.6s,baz=43,slow=1.8,SNR=4.4						
KOLS	**Kolonicke sedl**	**124.00**	**325**	ePKP	PKPdf	22 19 10.3	0.0
STHS	**Stebnicka Huta**	**124.32**	**326**	ePKP	PKPdf	22 19 11.3	+0.4
CRVS	**Cervenica-Dubn**	**124.47**	**326**	ePKP	PKPdf	22 19 11.6	+0.4
NIE	**Niedzica**	**124.82**	**327**	eP	PKPdf	22 19 12.8	+0.9
VYHS	**Vyhne**	**126.15**	**326**	ePKP	PKPdf	22 19 13.7	-0.7
KOLL	**Kolacno**	**126.34**	**327**	ePKP	PKPdf	22 19 14.7	-0.1
DPC	**Dobruska-Polom**	**126.37**	**329**	ePKPdf	PKPdf	22 19 15.7	+0.9
UPC	**Upice**	**126.43**	**330**	ePKPdf	PKPdf	22 19 15.5	+0.6
BSEG	**Bad Segeberg**	**126.69**	**336**	ePKPdf	PKPdf	22 19 15.1	-0.2
MODS	**Modra-Piesok**	**127.07**	**327**	ePKP	PKPdf	22 19 15.9	-0.3
SANT	**Santorini**	**127.34**	**310**	ePKPdf	PKPdf	22 19 16.0	-1.1
CLL	**Collm**	**127.36**	**332**⇓	iPKIKP	PKPdf	22 19 16.2	-0.5
CLL				i		22 19 25.3	
CLL	**Collm**	**127.36**	**332**	ePKPdf	PKPdf	22 19 16.1	-0.6
CLL	**Collm**	**127.36**	**332**⇓	iPKPdf	PKPdf	22 19 16.2	-0.5
	comp=Z,6.0nm,1.0s						
CLL				i x	x	22 19 25.3	
CLL				ePP	PP	22 21 12.0	-3.9
TREC	**Trest**	**127.45**	**329**	ePKPdf	PKPdf	22 19 16.8	-0.1
TREC				ex	x	22 19 26.2	
PRU	**Pruhonice**	**127.49**	**330**	ePKP	PKPdf	22 19 17.3	+0.4
CLZ	**Clausthal**	**128.18**	**334**	ePKPdf	PKPdf	22 19 18.3	+0.1
TANN	**Tannenbergstha**	**128.22**	**331**	ePKPdf	PKPdf	22 19 18.1	-0.2
MOX	**Moxa**	**128.46**	**332**	ePKP	PKPdf	22 19 19.3	+0.5
MOX	**Moxa**	**128.46**	**332**	ePKPdf	PKPdf	22 19 18.7	-0.1
KHC	**Kasperske Hory**	**128.52**	**330**	ePKP	PKPdf	22 19 19.3	+0.4
KHC				e		22 19 24.6	
KHC	**Kasperske Hory**	**128.52**	**330**	ePKPdf	PKPdf	22 19 19.3	+0.4
KHC				epPKP	pPKPdf	22 19 24.6	+3.2
GEC2	**GERESS Array S**	**128.65**	**329**	ePKPdf	PKPdf	22 19 18.9	-0.3
GERES	**GERESS Array B**	**128.65**	**329**	PKP	PKPdf	22 19 18.9	-0.3
	comp=Z,1.5nm,0.7s,baz=80,slow=1.5,SNR=18						
MANZ	**Manzenberg**	**128.68**	**331**	ePKPdf	PKPdf	22 19 19.2	0.0
WET	**Wettzell**	**128.86**	**330**	ePKPdf	PKPdf	22 19 19.9	+0.3
IBBN	**Ibbenburen**	**128.93**	**336**	ePKPdf	PKPdf	22 19 20.0	+0.4
UBBA	**Unterbreizbach**	**129.07**	**333**	ePKPdf	PKPdf	22 19 19.3	-0.6
GRA1	**Grafenberg Arr**	**129.30**	**332**	ePKPdf	PKPdf	22 19 20.9	+0.5
GRF	**Grafenberg Arr**	**129.30**	**332**	ePKPdf	PKPdf	22 19 20.9	+0.5
ROSC	**El Rosal**	**129.34**	**90**	PKP	PKPdf	22 19 21.4	-0.2
	comp=Z,4.0nm,0.5s,baz=102,slow=21,SNR=3.5						
LPAZ	**La Paz**	**129.64**	**119**	PKIKP	PKPdf	22 19 21.9	-0.1
LPAZ				pmax	pmax		
	comp=Z,1.0nm,0.7s						
LPAZ	**La Paz**	**129.64**	**119**	ePKPdf	PKPdf	22 19 22.9	+0.9
LPAZ	**La Paz**	**129.64**	**119**	PKP	PKPdf	22 19 21.9	-0.1
	comp=Z,1.2nm,0.7s,baz=60,slow=3.6,SNR=5.0						
STU	**Stuttgart**	**130.89**	**332**	ePKPdf	PKPdf	22 19 24.2	+0.8
BFO	**Black Forest**	**131.61**	**332**	ePKPdf	PKPdf	22 19 23.4	-1.4
CPUP	**Villa Florida**	**132.64**	**137**	PKP	PKPdf	22 19 26.7	-0.8
	comp=Z,1.7nm,0.6s,baz=144,slow=20,SNR=3.2						
SDV	**Santo Domingo**	**133.31**	**85**	ePKPdf	PKPdf	22 19 28.3	-0.7
CABF	**La Chapelle**	**133.90**	**332**	ePKIKP	PKPdf	22 19 27.9	-1.3
LPL	**La Plagne**	**134.39**	**330**	ePKIKP	PKPdf	22 19 29.1	-1.1
LPG	**La Plagne**	**134.40**	**330**	ePKIKP	PKPdf	22 19 29.2	-1.0
	comp=Z,9.1nm,0.9s						
SSF	**Saint Saulge**	**134.72**	**334**	ePKIKP	PKPdf	22 19 29.5	-1.2
	comp=Z,4.0nm,0.7s						
PGF	**Pioggiola**	**135.25**	**326**	ePKIKP	PKPdf	22 19 30.5	-1.4
	comp=Z,23nm,1.1s						
FRF	**La Foret Royal**	**135.82**	**328**	ePKIKP	PKPdf	22 19 31.3	-1.6
VIVF	**Saint-Julien-l**	**135.87**	**331**	ePKIKP	PKPdf	22 19 31.7	-1.2
	comp=Z,6.4nm,0.8s						
TCF	**Toulx Ste Croi**	**135.88**	**334**	ePKIKP	PKPdf	22 19 31.7	-1.2
LMR	**La Mourre**	**136.05**	**328**	ePKIKP	PKPdf	22 19 31.7	-1.6
	comp=Z,9.1nm,1.0s						
SMRF	**Simiane la Rot**	**136.07**	**330**	ePKIKP	PKPdf	22 19 31.9	-1.4
LASF	**Ste Croix**	**136.84**	**331**	ePKIKP	PKPdf	22 19 33.3	-1.5
MTLF	**Montolieu**	**138.17**	**332**	ePKIKP	PKPdf	22 19 35.6	-1.7
KEST	**Kesra**	**139.23**	**318**	PKP	PKPdf	22 19 36.8	-2.7
	comp=Z,0.6nm,0.7s,baz=127,slow=5.1,SNR=2.6						
ETSF	**Etsaut**	**139.78**	**334**	ePKIKP	PKPdf	22 19 38.8	-1.4
	comp=Z,7.0nm,0.8s						
BDFB	**Brasilia**	**146.22**	**134**	PKIKP	PKPdf	22 19 51.5	-0.8
BDFB				pmax	pmax		
	comp=Z,10.0nm,0.6s						
BDFB	**Brasilia**	**146.22**	**134**	PKPbc	PKPbc	22 19 51.5	-1.8
	comp=Z,10nm,0.6s,baz=222,slow=6.5,SNR=32						
TORD	**Torodi Ar. Bea**	**154.78**	**284**	PKP	PKPdf	22 20 04.6	-1.0
TORD				PKPbc	PKPbc	22 20 13.5	-0.7
TORD	**Torodi Ar. Bea**	**154.78**	**284**	PKP	PKPdf	22 20 04.6	-1.0
	comp=Z,0.8nm,0.6s,baz=13,slow=0.9,SNR=14						
TORD				PKPbc	PKPbc	22 20 13.5	-0.7
	comp=Z,2.3nm,0.7s,baz=63,slow=2.1,SNR=17						
DBIC	**Dimbokro**	**161.55**	**267**	PKPab	PKPab	22 20 57.0	-1.6
	comp=Z,3.2nm,0.6s,baz=133,slow=4.5,SNR=6.5						

*MOS **23** 22:05:49.4±0.6, 5134N×10221E, h10km, mb4.3/1, Error ellipse: s-maj=17.6km s-min=12.8km az=73.4*

BYKL 23 22:05:50.1±0.3, 5133N×10219E, h6km±20km, 6C, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
ARS	**Arshan**	**0.61**	**14**	ePG	Pg	22 06 01.4	-0.4
ARS				e		22 06 06.7	
ARS				pmax	pmax		
	comp=Z,147nm,0.2s						
ARS				smax			
	comp=N,2µm,0.4s						
ARS	**Arshan**	**0.61**	**14**	ePg	Pg	22 06 01.2	-0.6
ARS				i Sg	Sg	22 06 09.4	-0.3
ARS				Pmax			
	comp=N,73nm,0.1s						
ARS				Smax			
	comp=N,2µm,0.7s						
MOY	**Mondy**	**0.82**	**295**⇑	iPG	Pg	22 06 05.1	-0.7
MOY				e		22 06 16.0	
MOY				pmax	pmax		
	comp=Z,187nm,0.2s						
MOY				smax			
	comp=E,951nm,0.2s						
MOY	**Mondy**	**0.82**	**295**⇑	iPg	Pg	22 06 05.1	-0.7
MOY				i Sg	Sg	22 06 16.0	-0.5
MOY				Pmax			
	comp=E,188nm,0.3s						
MOY				Smax			
	comp=E,1µm,0.6s						
TLY	**Talaya**	**0.97**	**68**	ePG	Pg	22 06 07.7	-1.1
TLY				e		22 06 20.5	
TLY				pmax	pmax		
	comp=Z,246nm,0.2s						
TLY				smax			
	comp=E,1µm,0.2s						
TLY	**Talaya**	**0.97**	**68**	ePg	Pg	22 06 07.3	-1.5
TLY				e		22 06 07.7	
TLY				eSg	Sg	22 06 20.5	-0.9
TLY				max			
	comp=E,205nm,0.1s						
TLY				Smax			
	comp=E,1µm,0.2s						
ZAK	**Zakamensk**	**1.17**	**144**⇑	iPG	Pg	22 06 11.3	-1.3
ZAK				e		22 06 27.4	
ZAK				pmax	pmax		
	comp=Z,205nm,0.2s						
ZAK				smax			
	comp=N,1µm,0.3s						
ZAK	**Zakamensk**	**1.17**	**144**⇑	iPg	Pg	22 06 11.3	-1.3
ZAK			⇑	i		22 06 11.9	
ZAK				e		22 06 14.0	
ZAK				eSg	Sg	22 06 28.0	+0.2
ZAK				e		22 06 32.5	
ZAK				max			
	comp=N,251nm,0.3s						
ZAK				max			
	comp=N,1µm,0.3s						
IRK	**Irkutsk**	**1.58**	**54**	ePN	Pn	22 06 17.4	-1.2
IRK				e		22 06 37.2	
IRK				pmax	pmax		
	comp=Z,474nm,0.1s						
IRK				smax			
	comp=N,2µm,0.5s						
IRK	**Irkutsk**	**1.58**	**54**	ePg	Pg	22 06 18.1	-2.3
IRK				eSg	Sg	22 06 40.5	-0.4
IRK				Pmax			
	comp=N,472nm,0.1s						
IRK				Smax			
	comp=N,2µm,0.4s						
LSTR	**Listvyanka**	**1.73**	**71**	ePN	Pn	22 06 21.0	+0.3
LSTR				e		22 06 42.9	
LSTR				pmax	pmax		
	comp=Z,74nm,1.1s						
LSTR				smax			
	comp=N,297nm,0.8s						
LSTR	**Listvyanka**	**1.73**	**71**	ePn	Pn	22 06 21.0	+0.3
LSTR				ePg	Pg	22 06 21.9	-1.4
LSTR				eSn	Sn	22 06 43.4	+0.3
LSTR				eSg	Sg	22 06 45.6	-0.2
LSTR				Pmax			
	comp=N,63nm,0.4s						
LSTR				Smax			
	comp=N,298nm,0.8s						
ORL	**Orlik**	**1.91**	**310**	ePN	Pn	22 06 24.3	+1.2
ORL				e		22 06 49.5	
ORL				pmax	pmax		
	comp=Z,122nm,0.4s						
ORL				smax			
	comp=N,337nm,0.8s						
ORL	**Orlik**	**1.91**	**310**⇑	iPg	Pg	22 06 24.1	-2.5
ORL				eSg	Sg	22 06 49.4	-1.9
ORL				Pmax			
	comp=N,119nm,0.5s						
ORL				Smax			
	comp=N,326nm,0.7s						
STDB	**Stepnoy Dvoret**	**2.73**	**70**	eSg	Sg	22 07 14.8	-2.9
STDB				Smax			
	comp=N,484nm,0.2s						
KAB	**Kabansk**	**2.87**	**74**	eSg	Sg	22 07 18.4	-3.8
KAB				Smax			
	comp=N,397nm,0.5s						
TRG	**Tyrgan**	**2.94**	**59**	ePN	Pn	22 06 37.5	+0.2
TRG				e		22 06 42.5	
TRG				eS	Sn	22 07 11.6	-1.3
TRG				e		22 07 19.2	
TRG				pmax	pmax		
	comp=Z,32nm,0.2s						
TRG				smax			
	comp=E,159nm,0.2s						
TRG	**Tyrgan**	**2.94**	**59**	ePn	Pn	22 06 37.2	-0.1
TRG				ePg	Pg	22 06 41.8	-4.6
TRG				e		22 07 15.6	
TRG				eSg	Sg	22 07 19.2	-5.3
TRG				Pmax			
	comp=E,38nm,0.4s						
TRG				Smax			
	comp=E,170nm,0.4s						
HRMR	**Khuramsha**	**2.99**	**82**	ePn	Pn	22 06 39.2	+1.2
HRMR				ePg	Pg	22 06 43.8	-3.6
HRMR				eSg	Sg	22 07 22.6	-3.6
HRMR				Pmax			
	comp=E,48nm,0.3s						
HRMR				Smax			
	comp=E,776nm,0.5s						
ZRHB	**Zarechye**	**3.31**	**66**	eSg	Sg	22 07 32.7	-3.5
ZRHB				Smax			
	comp=E,413nm,0.8s						
UUDB	**Ulan-Yde**	**3.46**	**79**	ePg	Pg	22 06 51.6	-4.6
UUDB				eSg	Sg	22 07 37.8	-3.2
UUDB				Pmax			
	comp=E,13nm,0.5s						
UUDB				Smax			
	comp=E,101nm,1.3s						
TDJR	**Todzha**	**3.92**	**288**	ePg	Pg	22 06 59.5	-5.7
TDJR				eSg	Sg	22 07 50.9	-5.1
MXMB	**Maximikha**	**4.46**	**62**	ePg	Pg	22 07 09.0	-6.6
MXMB				eSg	Sg	22 08 07.9	-5.5
MXMB				Pmax			
	comp=E,10.0nm,0.5s						
MXMB				Smax			
	comp=E,123nm,0.7s						
NIZ	**Nizh Angarsk**	**6.25**	**42**	ePN	Pn	22 07 23.9	+1.3
NIZ				e		22 07 42.6	
NIZ				e		22 09 01.8	
NIZ				pmax	pmax		
	comp=Z,8.0nm,0.9s						
NIZ				smax			
	comp=N,37nm,0.6s						
NIZ	**Nizh Angarsk**	**6.25**	**42**	eSg	Sg	22 09 02.5	-7.9
NIZ				Smax			
	comp=N,41nm,0.4s						
YLYR	**Ulyunkhan**	**6.46**	**53**	eSg	Sg	22 09 10.4	-7.1
YLYR				Smax			
	comp=N,21nm,1.3s						
KPC	**Khapcheranga**	**6.70**	**100**	eSg	Sg	22 09 16.7	-8.3
KPC				Smax			
	comp=N,28nm,1.0s						
KMO	**Kumora**	**7.04**	**46**	eSg	Sg	22 09 28.6	-7.3
KMO				Smax			
	comp=N,28nm,1.7s						

*NNC **23** 22:10:30.5±5.0, 4382N×8688E, h0km, mb3.0, mpv2.6, Error ellipse: s-maj=92.6km s-min=45.8km az=47.0*

BJI 23 22:10:43.6, 4405N×8628E, h13km, ML2.3, 4C-3D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
WMQ	**Urumqi**	**1.05**	**102**	ePG	Pg	22 11 02.8	-1.0
WMQ				SG	Sg	22 11 18.1	+0.7
WMQ				Smax			
	comp=N,35nm,0.5s						
WMQ				Smax			
	comp=E,40nm,0.5s						
MK31	**Makanchi Array**	**3.93**	**316**	⇑Pn	Pn	22 11 40.8	-2.7
	comp=E,0.1nm,0.3s,baz=132,slow=16,SNR=11						
MK31				⇑Pg	Pg	22 11 53.8	-5.0
	comp=E,0.9nm,0.5s,baz=133,slow=17,SNR=5.7						
MK31				⇑Lg		22 12 45.8	
	comp=E,4.8nm,0.4s,baz=131,slow=28,SNR=6.5						
KURBB	**Kurchatov Arra**	**8.42**	**324**	⇓Pn	Pn	22 12 40.6	-4.5
	comp=E,0.9nm,1.3s						
KURBB				⇑Lg		22 15 09.1	
	comp=E,0.8nm,0.8s						
KURK	**Kurchatov**	**8.45**	**325**	⇓Pn	Pn	22 12 38.6	-7.0
KURK				⇓Lg		22 15 13.8	
	comp=E,3.4nm,1.0s						

*IDC **23** 22:25:16.8±0.9, 4632N×15441E, h0km, mb3.6/6, mb1 3.9/6, mb1mx3.6/20, mbtmp3.6/6, Error ellipse: s-maj=33.1km s-min=25.0km az=116.0*

*ISCJB **23** 22:25:23.6±2.7, 462N±02×1546E±02, h61km±23km, mb3.5/7, Error ellipse: s-maj=30.7km s-min=17.6km az=140.9*

*MOS **23** 22:25:23.5±1.3, 4614N×15463E, h59km, mb4.0/3, Error ellipse: s-maj=29.2km s-min=17.4km az=87.2*

ISC 23 22:25:26.0±2.4, 462N±02×1547E±02, h64km±20km, n13, σ1§03/13, mb3.5/7, 2C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**4.59**	**12**	ePN	**Pn**	**22 26 32.5**	**-0.3**
YSS	**Yuzh-Sakhalins**	**8.23**	**280**⇑	ePN	**Pn**	**22 27 22.5**	**-0.1**
BILL	**Bilibino**	**22.71**	**11**	eP	**P**	**22 30 23.4**	**+1.6**
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb3.7						
MKAR	**Makanchi Array**	**48.14**	**298**	i P	**P**	**22 34 00.9**	**+1.7**
MKAR	**Makanchi Array**	**48.14**	**298**	P	**P**	**22 33 56.3**	**-2.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=73,slow=6.3,SNR=4.0						
KURK	**Kurchatov**	**48.56**	**305**⇑	eP	**P**	**22 34 02.8**	**+0.5**
YKA	**Yellowknife Ar**	**50.73**	**37**	P	**P**	**22 34 17.7**	**-1.0**

comp=Z,0.1nm,0.5s,mb3.0,baz=299,slow=7.1,SNR=3.9
FINES FINESS Array B 64.99 336 P **P** **22 35 57.2 -1.3**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 64.99 336 P **P** **22 35 57.2 -1.3**
comp=Z,0.5nm,0.4s,mb3.9,baz=35,slow=7.0,SNR=5.7
WRA Warramunga Arr 68.35 201 P **P** **22 36 19.6 -0.7**
comp=Z,0.4nm,0.6s,mb3.6,baz=20,slow=6.8,SNR=3.2
ASAR Alice Springs 72.04 200 P **P** **22 36 43.8 +1.0**
comp=Z,0.3nm,0.9s,mb3.2,baz=3.9,slow=6.8,SNR=4.3
TXAR Lajitas Array 76.83 61 P **P** **22 37 11.1 +0.3**
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR Lajitas Array 76.83 61 P **P** **22 37 11.1 +0.3**
comp=Z,0.5nm,0.5s,mb3.7,baz=308,slow=4.7,SNR=15

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*BJI **23** 23:03:21.7,2330N×10890W,h16km,mB5.5,mb5.1,Ms5.0, Msz4.5*
*ISCJB **23** 23:03:22.7±0.5,2351N±005×10886W±004,h10km, mb4.3/15,MS3.7/12, Error ellipse: s-maj=7.8km s-min=4.0km az=31.8*
*NEIC **23** 23:03:23.7±3.7,2328N×10893W,h16km±23km,mb4.7/20, Error ellipse: s-maj=11.7km s-min=6.4km az=204.0*
*IDC **23** 23:03:29.1±0.8,2449N×10875W,h0km,mb4.0/10, mb1 4.2/13,mb1mx4.1/24,mbtmp4.0/13,ML3.4/2,MS3.6/11, Ms1 3.6/11,ms1mx3.3/34, Error ellipse: s-maj=27.1km s-min=16.2km az=65.0*
ISC 23 23:03:23.8±0.5,**2343N**±005×**10886W**±004,**h10**km,**n362**, o**087**/348,**mb4.3**/15,**MS3.7**/12,**94C-96D,Gulf of California**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.48**	**297**	Pn	**Pn**	**23 03 46.7**	**-3.9**
	138nm,0.3s,baz=60,slow=5.1,SNR=12						
LPIG				Sn	**Sn**	23 04 03.5	-6.6
	278nm,0.3s,baz=211,slow=7.2,SNR=21						
MAIG	**Mazatlaan**	**2.25**	**96**	*e*P	**Pn**	23 04 06.2	+5.0
MAIG				*i* S	**Sn**	23 04 24.0	-5.0
MAIG				*i* S	**Sn**	23 04 37.3	+8.3
TXAR	**Lajitas Array**	**7.50**	**37**	Pn	**Pn**	23 05 07.2	-6.1
	0.2nm,0.3s,baz=204,slow=16,SNR=4.0						
TXAR				Pg	**Pg**	23 05 39.0	-8.5
	0.6nm,0.3s,baz=212,slow=14,SNR=7.3						
TXAR				Lg		23 07 07.0	
	0.9nm,0.3s,baz=239,slow=24,SNR=4.4						
318A	**Bisbee**	**8.04**	**353**	⇑P	**Pn**	23 05 19.0	-1.7
	baz=8.2						
218A	**Dragoon**	**8.58**	**353**	⇑P	**Pn**	23 05 27.8	-0.2
	baz=8.7						
MNTX	**Cornudas Mount**	**8.79**	**20**	*e*Pn	**Pn**	23 05 32.3	+1.3
TUC	**Tucson**	**9.01**	**350**	*e*Pn	**Pn**	23 05 37.4	+3.5
TUC				Sn	**Sn**	23 07 29.0	+14
118A	**Homack Ranch,**	**9.23**	**354**	⇓P	**Pn**	23 05 36.4	-0.5
	baz=9.4						
117A	**Oracle**	**9.26**	**350**	⇑P	**Pn**	23 05 36.6	-0.8
	baz=9.4						
Z17A	**San Carlos Hig**	**9.93**	**352**	⇑P	**Pn**	23 05 45.4	-1.3
	baz=10						
113A	**Mohawk Valley,**	**10.26**	**336**	⇑P	**Pn**	23 05 50.7	-0.4
	baz=10						
Y17A	**Roosevelt**	**10.38**	**351**	⇓P	**Pn**	23 05 51.6	-1.1
	baz=10						
Y19A	**Nutrioso**	**10.49**	**358**	⇓P	**Pn**	23 05 53.9	-0.5
	baz=11						
Y15A	**Casa Rosa Ranc**	**10.92**	**345**	⇑P	**Pn**	23 05 59.5	-0.6
	baz=11,SNR=5.9						
GLA	**Glamis**	**10.93**	**333**	*e*Pn	**Pn**	23 05 59.7	-0.6
GLA	**Glamis**	**10.93**	**333**	⇓P	**Pn**	23 06 00.4	0.0
	baz=11						
LAZ	**Ladron**	**11.04**	**7**	*e*P	**Pn**	23 06 00.3	-1.5
Y14A	**Wickenburg**	**11.08**	**342**	⇑P	**Pn**	23 06 01.7	-0.7
	baz=11						
X18A	**Snowflake**	**11.10**	**355**	⇓P	**Pn**	23 06 01.7	-0.9
	baz=11						
X16A	**Lo Mia Camp, P**	**11.18**	**349**	⇓P	**Pn**	23 06 03.1	-0.6
	baz=11						
DVTC	**Desert V Tower**	**11.19**	**327**	⇓P	**Pn**	23 06 03.8	-0.1
	baz=11						
Y13A	**Salome**	**11.23**	**338**	⇓P	**Pn**	23 06 03.3	-1.1
	baz=11						
SWSC	**Sam W. Stewart**	**11.27**	**329**	⇓P	**Pn**	23 06 04.8	-0.2
	baz=11						
X15A	**Humboldt**	**11.40**	**346**	⇓P	**Pn**	23 06 05.9	-0.8
	baz=12,SNR=6.5						
Y12C	**Blythe**	**11.42**	**335**	⇓P	**Pn**	23 06 06.9	-0.1
	baz=12,SNR=7.0						
MONP	**Monument Peak**	**11.54**	**326**	⇑P	**Pn**	23 06 07.9	-0.7
	baz=12						
X14A	**Yava**	**11.55**	**343**	⇑P	**Pn**	23 06 09.0	+0.2
	baz=12						
ANMO	**Albuquerque**	**11.67**	**10**	Pn	**Pn**	23 06 09.8	-0.6
W18A	**Petrified Fore**	**11.67**	**356**	⇓P	**Pn**	23 06 11.4	+0.9
	baz=12						
BC3	**Big Chuckw Mtn**	**11.72**	**332**	⇑P	**Pn**	23 06 10.2	-0.9
	baz=12,SNR=7.7						
PDMCI	**Parker Dam,Lak**	**11.77**	**338**	⇑P	**Pn**	23 06 12.0	+0.1
	baz=12						
W16A	**Flagstaff**	**11.86**	**349**	⇓P	**Pn**	23 06 12.4	-0.5
	baz=12						
X13A	**Yucca**	**11.94**	**340**	⇓P	**Pn**	23 06 13.3	-0.8
	baz=12,SNR=5.6						
IRM	**Iron Mountain**	**12.03**	**334**	P	**Pn**	23 06 14.6	-0.7
	baz=12,SNR=18						
PFO	**Pinyon Flat Ob**	**12.14**	**328**	*e*Pn	**Pn**	23 06 16.4	-0.4
PFO	**Pinyon Flat Ob**	**12.14**	**328**	Pn	**Pn**	23 06 12.9	-3.9
	0.2nm,0.3s,baz=157,slow=15,SNR=4.3						
PFO	**Pinyon Flat Ob**	**12.14**	**328**	⇑P	**Pn**	23 06 16.6	-0.2
	baz=12						
WUAZ	**Wupatki**	**12.24**	**350**	*e*Pn	**Pn**	23 06 19.3	+1.1
BELC	**Belle Mtn.**	**12.25**	**331**	⇓P	**Pn**	23 06 17.6	-0.8
	baz=12						
W14A	**Seligman**	**12.30**	**344**	⇑P	**Pn**	23 06 19.1	0.0
	baz=12						
W13A	**Hualapai Mount**	**12.42**	**341**	⇑P	**Pn**	23 06 20.3	-0.4
	baz=13						
V15A	**Kaibab Nationa**	**12.68**	**348**	⇑P	**Pn**	23 06 24.0	-0.2
	baz=13,SNR=7.1						
V14A	**Boquillas Ranc**	**12.71**	**344**	⇑P	**Pn**	23 06 23.9	-0.7
	baz=13						
GMRC	**Granite Mounta**	**12.77**	**334**	P	**Pn**	23 06 25.0	-0.5
	baz=13,SNR=7.6						
LDFC	**Landfair**	**12.82**	**336**	*e*Pn	**Pn**	23 06 27.7	+1.5
HEC	**Hector,Ludlow**	**13.09**	**332**	⇑P	**Pn**	23 06 30.7	+0.8
	baz=13						
V12A	**Nelson**	**13.31**	**338**	⇓P	**Pn**	23 06 33.2	+0.4
	baz=14,SNR=5.4						
MWC	**Mount Wilson**	**13.43**	**325**	*e*Pn	**Pn**	23 06 36.2	+1.7
TUQ	**Turquoise Mtn.**	**13.45**	**334**	⇓P	**Pn**	23 06 34.6	-0.1
	baz=14						
U14A	**Mt Trumbull**	**13.47**	**345**	⇓P	**Pn**	23 06 35.2	+0.1
	baz=14,SNR=8.3						
V11A	**Goodsprings**	**13.62**	**337**	⇑P	**Pn**	23 06 36.8	-0.2
	baz=14						
GSC	**Goldstone**	**13.70**	**331**	*e*Pn	**Pn**	23 06 37.8	-0.4
GSC	**Goldstone**	**13.70**	**331**	⇓P	**Pn**	23 06 37.6	-0.6
	baz=14						
MVCO	**Mesa Verde**	**13.74**	**1**	*e*Pn	**Pn**	23 06 46.4	+7.7
T15A	**Red Dirt Ranch**	**13.88**	**348**	⇑P	**Pn**	23 06 40.8	+0.2
	baz=14,SNR=5.8						
EDW2	**Edwards Air Fo**	**13.91**	**327**	⇓P	**Pn**	23 06 40.8	-0.3
	baz=14						
SHOC	**Shoshone**	**13.99**	**334**	⇑P	**Pn**	23 06 41.5	-0.7
	baz=14						
T14A	**Hurricane**	**14.06**	**346**	⇑P	**Pn**	23 06 43.4	+0.3
	baz=14,SNR=6.4						
SHPR	**Sheep Range**	**14.12**	**339**	*e*Pn	**Pn**	23 06 45.0	+1.1
T13A	**Saint George**	**14.22**	**343**	⇓P	**Pn**	23 06 45.7	+0.4
	baz=14,SNR=7.8						
LRMC	**Laurel Mountai**	**14.25**	**329**	⇓P	**Pn**	23 06 46.3	+0.7
	baz=14						
WMOK	**Wichita Mounta**	**14.29**	**36**	*e*Pn	**Pn**	23 06 42.4	-3.9
U10A	**Ash Meadows, A**	**14.47**	**335**	⇑P	**Pn**	23 06 49.1	+0.5
	baz=15						
SDCO	**Great Sand Dun**	**14.56**	**11**	*e*Pn	**Pn**	23 06 56.4	+6.6
CCUT	**Cedar City**	**14.60**	**346**	*e*Pn	**Pn**	23 06 50.7	+0.3
MPMC	**Manual Prospec**	**14.64**	**331**	P	**Pn**	23 06 50.5	-0.5
	baz=15,SNR=10						
PV01	**Paradox Valley**	**14.66**	**1**	Pn	**Pn**	23 06 50.3	-1.0
FURC	**Furnace Creek,**	**14.72**	**334**	⇑P	**Pn**	23 06 51.9	-0.1
	baz=15						
S13A	**Holt Ranch, En**	**14.74**	**344**	P	**Pn**	23 06 52.3	-0.1
	baz=15,SNR=9.7						
S14A	**Cedar City**	**14.75**	**346**	⇑P	**Pn**	23 06 52.2	-0.4
	baz=15						
T11A	**Corn Creek, Al**	**14.81**	**340**	P	**Pn**	23 06 53.2	-0.1
	baz=15,SNR=15						
ARUT	**Antelope Range**	**14.84**	**346**	*e*Pn	**Pn**	23 06 54.9	+1.2
PV10	**Paradox Valley**	**14.90**	**359**	*e*Pn	**Pn**	23 06 57.3	+2.8
TPNV	**Topopah Spring**	**14.90**	**336**	*e*Pn	**Pn**	23 06 54.5	-0.1
S12A	**Delamar Landin**	**15.04**	**341**	P	**Pn**	23 06 56.4	0.0
	baz=15,SNR=8.4						
VES	**Vestal, Richgr**	**15.21**	**327**	⇑P	**Pn**	23 06 58.4	-0.3
	baz=15,SNR=6.5						
MSU	**Marysvale**	**15.30**	**350**	*e*P	**Pn**	23 07 05.7	+5.9
S11A	**Rachel**	**15.35**	**339**	P	**Pn**	23 07 00.2	-0.3
	baz=16,SNR=15						
GRAC	**Grapevine Rang**	**15.38**	**333**	⇓P	**Pn**	23 07 01.4	+0.4
	baz=16,SNR=5.9						
R12A	**Pony Springs,**	**15.64**	**343**	P	**Pn**	23 07 04.2	-0.1
	baz=16,SNR=21						
SRU	**San Rafael**	**15.70**	**355**	*e*Pn	**Pn**	23 07 06.9	+1.9
SMCO	**Snowmass**	**15.78**	**5**	*e*Pn	**Pn**	23 07 09.6	+3.5
	36nm,1.3s						
TIN	**Tinemaha**	**15.79**	**331**	⇑P	**Pn**	23 07 07.1	+0.8
	baz=16,SNR=7.3						
HELL	**Mitchell Peak**	**15.85**	**329**	⇓P	**Pn**	23 07 07.2	+0.2
	baz=16,SNR=22						
S10A	**Tonopah Range,**	**15.89**	**337**	P	**Pn**	23 07 07.2	-0.4
	baz=16,SNR=19						
R11A	**Troy Canyon, C**	**15.94**	**340**	P	**Pn**	23 07 07.5	-0.8
	baz=16,SNR=9.6						
TMUT	**Trail Mountain**	**15.94**	**353**	*e*P	**Pn**	23 07 13.8	+5.6
S09A	**Goldfield**	**15.95**	**335**	P	**Pn**	23 07 08.0	-0.4
	baz=16,SNR=6.9						
V04C	**Ramage Ranch,**	**16.02**	**322**	⇓P	**Pn**	23 07 08.8	-0.4
	baz=16						
PKD	**Parkfield**	**16.06**	**324**	⇓P	**Pn**	23 07 09.0	-0.8
	baz=16						
Q13A	**Wheeler Ranch,**	**16.09**	**345**	P	**Pn**	23 07 09.6	-0.5
	baz=16,SNR=20						
R10A	**Warm Springs**	**16.12**	**338**	⇓P	**Pn**	23 07 11.1	+0.6
	baz=16,SNR=14						
S08C	**White Mtn Res**	**16.14**	**332**	⇓P	**Pn**	23 07 10.7	-0.1
	baz=16,SNR=10						
MTUM	**Tungsten Hills**	**16.19**	**331**	*e*Pn	**Pn**	23 07 11.9	+0.5
TPH	**Tonopah**	**16.26**	**336**	*e*Pn	**Pn**	23 07 12.6	+0.3
	102nm,1.3s						
R09A	**Tonopah**	**16.35**	**336**	⇑P	**Pn**	23 07 13.4	0.0
	baz=16,SNR=16						
Q12A	**Willow Creek R**	**16.37**	**343**	P	**Pn**	23 07 13.3	-0.3
	baz=16,SNR=11						
Q11A	**Duckwater**	**16.42**	**341**	⇓P	**Pn**	23 07 14.8	+0.5
	baz=17,SNR=24						
T06C	**Millerton Lake**	**16.44**	**328**	⇑P	**Pn**	23 07 15.1	+0.5
	baz=17,SNR=13						
V03C	**Hunter Liggett**	**16.50**	**322**	⇓P	**Pn**	23 07 15.9	+0.5
	baz=17						
U04C	**Hernandez Rese**	**16.50**	**324**	⇓P	**Pn**	23 07 15.8	+0.4
	baz=17,SNR=7.4						
KCC	**Kaiser Creek**	**16.51**	**329**	⇓P	**Pn**	23 07 17.1	+1.6
	baz=17,SNR=9.1						
ISCO	**Idaho Springs**	**16.55**	**9**	*e*Pn	**Pn**	23 07 20.1	+4.1
P13A	**Bates Ranch, G**	**16.57**	**346**	⇑P	**Pn**	23 07 16.6	+0.4
	baz=17,SNR=17						
Q10A	**Clear Creek Ra**	**16.64**	**339**	⇓P	**Pn**	23 07 17.4	+0.3
	baz=17,SNR=23						
NLU	**North Lily Min**	**16.70**	**351**	*e*P	**Pn**	23 07 23.8	+6.0
MPU	**Maple Canyon**	**16.70**	**353**	*e*P	**Pn**	23 07 21.3	+3.4
P12A	**McGill**	**16.80**	**344**	⇑P	**Pn**	23 07 19.3	+0.2
	baz=17,SNR=7.1						
Q09A	**Caves**	**16.91**	**337**	⇑P	**Pn**	23 07 20.9	+0.3
	baz=17,SNR=9.0						
HAST	**Hastings Reser**	**16.94**	**323**	⇓P	**Pn**	23 07 20.7	-0.3
	baz=17						
NVAR	**Mina Array Bea**	**16.99**	**334**	Pn	**Pn**	23 07 19.7	-1.8
	baz=160,slow=13,SNR=6.6						
R07C	**Lee Vining**	**17.01**	**332**	⇑P	**Pn**	23 07 22.2	+0.3
	baz=17,SNR=7.0						
S05C	**Merced**	**17.02**	**327**	⇑P	**Pn**	23 07 21.9	0.0
	baz=17						
DUG	**Dugway**	**17.05**	**350**	*e*Pn	**Pn**	23 07 23.0	+0.8
	87nm,1.4s						
DAU	**Daniels Canyon**	**17.05**	**354**	*e*P	**Pn**	23 07 25.9	+3.6
P11A	**Circle Ranch,**	**17.10**	**342**	⇓P	**Pn**	23 07 23.1	+0.1
	baz=17						
O13A	**Hicks Ranch, I**	**17.20**	**347**	⇑P	**Pn**	23 07 24.7	+0.5
	baz=17						
S06C	**San Francisco**	**17.21**	**329**	⇑P	**Pn**	23 07 24.9	+0.6
	baz=17						
Q08A	**Gabbs**	**17.21**	**335**	⇑P	**Pn**	23 07 24.5	+0.2
	baz=17						
PACP	**Pacheco Peak**	**17.25**	**324**	⇓P	**Pn**	23 07 26.2	+1.3
	baz=17						
JLU	**Jordanelle**	**17.26**	**353**	*e*P	**Pn**	23 07 31.3	+6.4
MIAR	**Mount Ida**	**17.34**	**47**	*e*Pn	**Pn**	23 07 29.1	+3.1
P10A	**Eureka**	**17.38**	**340**	⇑P	**Pn**	23 07 26.7	+0.3
	baz=18						
CTU	**Camp Tracy**	**17.38**	**353**	*e*Pn	**Pn**	23 07 26.3	-0.2
O12A	**Currie**	**17.51**	**345**	⇑P	**Pn**	23 07 27.3	-0.7
	baz=18,SNR=7.7						
WAKR	**Walker**	**17.53**	**331**	*e*Pn	**Pn**	23 07 28.6	+0.3
R06C	**Coleville**	**17.55**	**331**	⇓P	**Pn**	23 07 28.5	-0.1
	baz=18,SNR=12						
CMB	**Columbia Colle**	**17.59**	**329**	*e*P	**Pn**	23 07 33.2	+4.2
CMB	**Columbia Colle**	**17.59**	**329**	⇓P	**Pn**	23 07 28.5	-0.5
	baz=18,SNR=5.5						
O11A	**Cowboy Ranch,**	**17.61**	**343**	⇓P	**Pn**	23 07 28.9	-0.5
	baz=18,SNR=10						
S04C	**Ingram Canyon,**	**17.65**	**326**	⇑P	**Pn**	23 07 29.5	-0.3
	baz=18						
N15A	**Stansbury Isla**	**17.68**	**351**	⇑P	**Pn**	23 07 29.9	-0.2
	baz=18,SNR=7.4						
N14A	**Grayback Hills**	**17.75**	**349**	⇓P	**Pn**	23 07 30.8	-0.2
	baz=18,SNR=15						
BGU	**Big Grassy Mou**	**17.79**	**350**	*e*Pn	**Pn**	23 07 32.3	+0.8
N13A	**Wendover, West**	**17.95**	**347**	P	**Pn**	23 07 34.3	+0.9
	baz=18,SNR=6.4						
R05C	**Kirkwood Meado**	**17.98**	**330**	⇓P	**Pn**	23 07 33.4	-0.4
	baz=18,SNR=8.5						
PHWY	**Pilot Hill**	**18.05**	**8**	*e*Pn	**Pn**	23 07 36.5	+1.8
SPUT	**South Promonto**	**18.08**	**351**	*e*Pn	**Pn**	23 07 35.7	+0.6
O09A	**Fish Creek Ran**	**18.11**	**339**	⇓P	**Pn**	23 07 36.7	+1.2
	baz=18						
N12A	**Clover Valley,**	**18.13**	**345**	⇓P	**Pn**	23 07 36.7	+1.0
	baz=18,SNR=6.0						
M15A	**Larsen Ranch,**	**18.23**	**351**	⇓P	**Pn**	23 07 36.5	-0.4
	baz=18,SNR=7.4						
HWUT	**Hardware Ranch**	**18.27**	**354**	*e*Pn	**Pn**	23 07 38.1	+0.7
LAVA	**Lava Cap Winer**	**18.33**	**329**	⇓P	**Pn**	23 07 37.6	-0.5
	baz=18						
WCN	**Washoe City**	**18.33**	**332**	⇑P	**Pn**	23 07 38.6	+0.5
	baz=18						
BMN	**Battle Mountai**	**18.36**	**339**	*e*Pn	**Pn**	23 07 39.7	+1.2
	47nm,1.4s						
M14A	**Sheep Mountain**	**18.41**	**349**	⇑P	**Pn**	23 07 39.4	+0.3
	baz=19,SNR=21						
M13A	**Montello**	**18.42**	**347**	⇑P	**Pn**	23 07 39.0	-0.3
	baz=19						
PAHR	**Pah Rah Range**	**18.52**	**334**	*e*Pn	**Pn**	23 07 40.8	+0.4
	34nm,1.2s						
HVU	**Hansel Valley**	**18.59**	**351**	*e*P	**Pn**	23 07 40.6	-0.7
M12A	**Wells**	**18.64**	**346**	⇑P	**Pn**	23 07 41.3	-0.6
	baz=19,SNR=9.8						
O07A	**Toulon**	**18.70**	**335**	⇑P	**Pn**	23 07 42.9	+0.2
	baz=19,SNR=8.0						
P05C	**Yuba Gap, Truc**	**18.71**	**330**	⇓P	**Pn**	23 07 42.2	-0.5
	baz=19						
N09A	**Rock Creek Ran**	**18.84**	**339**	⇑P	**Pn**	23 07 43.9	-0.4
	baz=19,SNR=8.9						
N08A	**GE Springer Mi**	**18.98**	**338**	⇓P	**Pn**	23 07 46.5	+0.5
	baz=19						
BEKR	**Beckwourth**	**19.06**	**332**	⇑P	**Pn**	23 07 46.9	-0.1
	baz=19,SNR=10						
L13A	**Double Diamond**	**19.08**	**348**	⇓P	**Pn**	23 07 46.4	-0.9
	baz=19,SNR=5.6						
O06A	**Flanigan**	**19.08**	**334**	⇓P	**Pn**	23 07 47.2	-0.1
	baz=19						
M10A	**I.L. Ranch, Tu**	**19.15**	**342**	P	**Pn**	23 07 47.6	-0.5
	baz=19,SNR=18						
MNRC	**McLaughlin Nat**	**19.26**	**326**	⇑P	**Pn**	23 07 48.7	-0.7
	baz=19						
N07B	**Gerlach**	**19.28**	**336**	⇑P	**Pn**	23 07 49.8	+0.1
	baz=19						
BW06	**Boulder Array**	**19.29**	**358**	*e*P	**Pn**	23 07 47.6	-2.2
ORV	**Oroville**	**19.32**	**329**	⇓P	**Pn**	23 07 49.8	-0.4
	baz=19,SNR=9.0						
M09A	**Marrel Ranch,**	**19.33**	**340**	⇓P	**Pn**	23 07 50.1	-0.2
	baz=20						
L12A	**House Creek Ra**	**19.36**	**346**	⇑P	**Pn**	23 07 49.7	-0.9
	baz=20,SNR=16						
AHID	**Auburn Hatcher**	**19.37**	**355**	*e*Pn	**Pn**	23 07 55.0	+4.3
	35nm,1.4s						
TEIG	**Tepich**	**19.37**	**96**	*e*Pn	**Pn**	23 07 49.9	-1.0
TEIG	**Tepich**	**19.37**	**96**	LR	LR	23 18 03.3	
	comp=Z,151nm,18.0s,baz=255,slow=45						
O05C	**Quincy**	**19.38**	**331**	⇑P	**Pn**	23 07 49.7	-1.2
	baz=20						
K14A	**Jones Ranch, D**	**19.40**	**350**	⇑P	**Pn**	23 07 49.6	-1.4
	baz=20						
L11A	**Cat Creek Ranc**	**19.55**	**345**	⇑P	**Pn**	23 07 51.0	-1.9
	baz=20,SNR=7.4						
N06A	**Buffalo Meadow**	**19.58**	**334**	⇓P	**Pn**	23 07 52.4	-0.9
	baz=20,SNR=21						
L10A	**Juniper Basin**	**19.65**	**343**	P	**Pn**	23 07 52.1	-1.9
	baz=20,SNR=32						
K13A	**Stover Farm, H**	**19.65**	**348**	⇑P	**Pn**	23 07 52.5	-1.6
	baz=20,SNR=6.5						
M08A	**Happy Creek Ra**	**19.66**	**338**	P	**Pn**	23 07 53.1	-1.1
	baz=20,SNR=25						
O04C	**Chester**	**19.75**	**331**	⇑P	**Pn**	23 07 54.3	-1.0
	baz=20,SNR=10						
K12A	**Draper Farm, C**	**19.80**	**347**	⇓P	**Pn**	23 07 53.9	-2.0
	baz=20,SNR=7.6						
ELFS	**Eagle Lake Fie**	**19.84**	**333**	⇓P	**Pn**	23 07 55.2	-1.2
	baz=20,SNR=12						
M07A	**Soldier Meadow**	**19.88**	**337**	⇑P	**Pn**	23 07 55.7	-1.2
	baz=20						
L09A	**Wilkinson Ranc**	**19.94**	**340**	⇓P	**Pn**	23 07 56.7	-0.8
	baz=20,SNR=6.7						
REDW	**Red Top Meadow**	**19.95**	**356**	*e*Pn	**Pn**	23 07 58.0	+0.4
	51nm,1.3s						
SNOW	**Snow King Moun**	**20.04**	**356**	*e*Pn	**P**	23 08 01.8	+4.8
	33nm,0.9s						
TPAW	**Teton Pass**	**20.08**	**356**	*e*Pn	**P**	23 07 58.8	+1.4
	45nm,1.3s						
K11A	**Parker Ranch,**	**20.19**	**345**	⇓P	**P**	23 07 59.4	+0.9
	baz=20,SNR=12						
DCID1	**Drake Creek**	**20.20**	**355**	*e*Pn	**P**	23 08 01.2	+2.5
M06C	**Likely Place G**	**20.23**	**334**	⇓P	**P**	23 07 59.8	+0.8
	baz=20,SNR=11						
OXF	**Oxford**	**20.25**	**53**	P	**P**	23 07 58.3	-1.0
LBCM	**Butte Creek Ri**	**20.29**	**332**	P	**P**	23 08 00.0	+0.4
HATC	**Hat Creek Radi**	**20.32**	**332**	⇑P	**P**	23 08 00.6	+0.6
	baz=20,SNR=8.8						
J13A	**Cove Ranch, Pi**	**20.39**	**349**	⇓P	**P**	23 08 01.4	+0.6
	baz=21,SNR=11						
K10A	**MacKenzie Ranc**	**20.41**	**343**	⇑P	**P**	23 08 00.9	0.0
	baz=21,SNR=9.7						
J12A	**Stokes Ranch,**	**20.43**	**347**	⇓P	**P**	23 08 00.9	-0.2
	baz=21,SNR=37						
IMW	**Indian Meadow**	**20.49**	**356**	*e*P	**P**	23 07 59.6	-2.1
KIPM	**Iron Peak**	**20.49**	**326**	P	**P**	23 08 02.3	+0.5
L07A	**Adell**	**20.50**	**337**	P	**P**	23 08 01.7	-0.2
	baz=21,SNR=28						
K09A	**Rome**	**20.58**	**341**	⇓P	**P**	23 08 02.3	-0.5
	baz=21,SNR=26						
WDC	**Whiskeytown Da**	**20.62**	**329**	*e*P	**P**	23 08 03.6	+0.4
WDC	**Whiskeytown Da**	**20.62**	**329**	⇓P	**P**	23 08 02.8	-0.4
	baz=21,SNR=5.8						
LTIM	**Timbered Crate**	**20.62**	**332**	P	**P**	23 08 03.4	+0.1
WVOR	**Wild Horse Val**	**20.62**	**339**	*e*P	**P**	23 08 03.6	+0.3
	125nm,1.6s						
M05C	**Lookout**	**20.63**	**333**	⇑P	**P**	23 08 03.1	-0.2
	baz=21,SNR=12						
FLWY	**Flagg Ranch**	**20.66**	**356**	*e*P	**P**	23 08 04.0	+0.4
	142nm,1.5s						
MFID	**Camas Ranch**	**20.75**	**346**	⇑P	**P**	23 08 03.9	-0.7
	baz=21,SNR=7.1						
MOD	**Modoc**	**20.75**	**335**	*e*Pn	**P**	23 08 07.8	+3.1
MOD	**Modoc**	**20.75**	**335**	⇓P	**P**	23 08 04.4	-0.2
	baz=21,SNR=15						
K08A	**Mann Creek Ran**	**20.84**	**340**	⇑P	**P**	23 08 05.3	-0.4
	baz=21,SNR=20						
I13A	**Wildhorse Cree**	**20.89**	**349**	P	**P**	23 08 05.6	-0.5
	baz=21,SNR=33						
O01C	**Eel River Cons**	**20.91**	**326**	⇑P	**P**	23 08 05.3	-1.1
	baz=21						
M03C	**McCloud**	**20.98**	**331

G10A	**Bishop Farm, J**	22.82	345	⇓P	P	23 08 26.3	-0.5
	baz=23						
F12A	**Elk City**	22.87	348	⇓P	P	23 08 27.1	-0.2
	baz=23,SNR=8.6						
SWET	**Sewanee**	23.13	54	*e*P	P	23 08 31.3	+1.2
E15A	**Deer Lodge**	23.14	353	⇓P	P	23 08 30.1	-0.1
	baz=23,SNR=8.5						
F11A	**Grangeville**	23.17	347	⇓P	P	23 08 30.2	-0.4
	baz=23,SNR=6.7						
I04A	**Tendick Farm,**	23.18	334	⇓P	P	23 08 30.3	-0.3
	baz=23,SNR=5.5						
USIN	**University of**	23.21	46	*e*P	P	23 08 31.6	+0.6
H06A	**Lindquist Farm**	23.23	339	⇑P	P	23 08 31.2	0.0
	baz=23,SNR=13						
E14A	**Clinton**	23.24	352	⇑P	P	23 08 31.2	0.0
	baz=23,SNR=6.8						
KEBM	**Edson Butte**	23.25	330	*e*P	P	23 08 38.1	+6.7
G08A	**Pilot Rock**	23.31	342	⇓P	P	23 08 31.7	-0.2
	baz=24,SNR=5.8						
E13A	**Victor**	23.36	351	⇓P	P	23 08 32.7	+0.3
	baz=24,SNR=7.3						
H05A	**Madras**	23.46	337	⇓P	P	23 08 33.0	-0.5
	baz=24,SNR=7.0						
F10A	**Beach Ranch, E**	23.49	345	⇑P	P	23 08 33.6	-0.3
	baz=24						
G07A	**Ruggs Ranch, H**	23.50	341	⇓P	P	23 08 33.9	0.0
	baz=24						
E11A	**Bogner Ranch,**	23.63	347	⇑P	P	23 08 34.9	-0.3
	baz=24,SNR=10						
I03A	**Eugene**	23.67	333	⇑P	P	23 08 34.4	-1.2
	baz=24,SNR=7.4						
CHMT	**Chamberlain Mo**	23.70	352	*e*P	P	23 08 35.2	-0.6
MSO	**Missoula**	23.70	351	*e*P	P	23 08 36.4	+0.6
	54nm,1.4s,mb4.8						
F08A	**Pendleton**	23.72	343	⇓P	P	23 08 34.5	-1.6
	baz=24,SNR=5.1						
D15A	**Lincoln**	23.74	354	⇓P	P	23 08 35.6	-0.6
	baz=24,SNR=8.7						
G06A	**Carlson Farm,**	23.77	339	⇓P	P	23 08 36.6	0.0
	baz=24						
H04A	**Detroit Lake**	23.84	336	⇑P	P	23 08 36.7	-0.5
	baz=24						
D14A	**Greenough**	23.89	352	⇓P	P	23 08 36.4	-1.2
	baz=24,SNR=44						
D13A	**Huson**	24.04	351	⇓P	P	23 08 37.4	-1.5
	baz=24,SNR=6.9						
E09A	**Wood Farm, Sta**	24.22	344	⇓P	P	23 08 39.3	-1.2
	baz=24						
CPCT	**Cooper Cave**	24.28	55	*e*P	P	23 08 41.5	+0.3
D11A	**Klaveano Farm,**	24.32	348	P	P	23 08 41.2	-0.3
	baz=24,SNR=20						
EGMT	**Eagleton**	24.55	359	*e*P	P	23 08 44.3	+0.7
C13A	**Hot Springs**	24.62	351	⇑P	P	23 08 43.9	-0.4
	baz=25,SNR=6.7						
JFWS	**Jewell Farm**	24.81	34	*e*P	P	23 08 52.7	+6.7
BSMT	**Bassoo Peak**	24.82	350	*e*P	P	23 08 45.5	-0.6
TKL	**Tuckaleechee C**	24.92	55	*e*P	P	23 08 46.7	-0.4
TKL				*e*PcP	PcP	23 12 21.3	-1.4
E06A	**Yakima**	25.05	340	⇑P	P	23 08 48.0	-0.2
	baz=25,SNR=7.8						
DWPF	**Disney**	25.11	74	P	P	23 08 48.8	-0.1
B13A	**Whitefish**	25.29	351	⇑P	P	23 08 50.7	+0.4
	baz=26,SNR=7.7						
D07A	**Quincy**	25.33	342	⇓P	P	23 08 51.6	+0.9
	baz=26,SNR=6.3						
TZTN	**Tazewell**	25.43	53	*e*P	P	23 08 51.2	-0.5
LON	**Longmire**	25.50	339	*e*P	P	23 08 52.9	+0.7
	22nm,1.0s,mb4.6						
B12A	**Libby**	25.55	350	⇑P	P	23 08 53.1	+0.4
	baz=26						
C08A	**Higginbotham F**	25.63	344	⇓P	P	23 08 53.4	0.0
	baz=26						
NEW	**Newport**	25.64	347	*e*P	P	23 08 52.3	-1.2
	13nm,0.9s,mb4.5						
NEW	**Newport**	25.64	347	P	P	23 08 51.8	-1.7
	1.7nm,0.4s,mb4.0,baz=147,slow=10,SNR=4.4						
B11A	**Sandpoint**	25.66	348	⇑P	P	23 08 53.7	0.0
	baz=26,SNR=5.4						
C07A	**Waterville**	25.81	342	⇓P	P	23 08 55.0	0.0
	baz=26,SNR=5.6						
WALA	**Waterton Lakes**	25.89	352	*e*P	P	23 08 58.2	+2.4
	47nm,1.4s,mb4.8						
E03A	**Lebam**	25.93	336	⇓P	P	23 08 56.8	+0.6
	baz=26						
A11A	**Hall Mountain,**	26.16	349	⇓P	P	23 08 58.9	+0.7
	baz=26,SNR=5.5						
B08A	**Colville Reser**	26.23	344	⇑P	P	23 08 59.0	+0.1
	baz=26,SNR=8.3						
JTS	**JuntasAbangare**	26.29	116	LR	LR	23 18 36.5	
	comp=Z,141nm,21.4s,MS3.5,baz=167,slow=34						
B07A	**Winthrop**	26.53	343	⇑P	P	23 09 02.3	+0.8
	baz=27,SNR=5.3						
GNW	**Green Mountain**	26.55	339	*e*P	P	23 09 05.7	+4.0
A09A	**Danville**	26.63	346	⇓P	P	23 09 03.8	+1.4
	baz=27						
NLWA	**Neilton Lookou**	26.76	337	*e*P	P	23 09 09.1	+5.5
A08A	**Turner Farm, O**	26.77	345	⇑P	P	23 09 04.5	+0.8
	baz=27						
AGMN	**Agassiz Refuge**	26.88	19	*e*P	P	23 09 05.4	+0.7
A07A	**Ashnola River,**	27.14	343	⇓P	P	23 09 09.2	+2.2
	baz=27						
B04A	**Port Angeles**	27.20	338	⇑P	P	23 09 08.6	+1.0
	baz=27						
A04A	**Legoe Bay, Lum**	27.52	340	⇓P	P	23 09 11.9	+1.4
	baz=28						
A05A	**Maple Falls**	27.57	341	⇑P	P	23 09 12.1	+1.2
	baz=28						
COWI	**Conover**	27.68	30	*e*P	P	23 09 12.7	+0.8
ELN	**Prospectdale**	27.77	54	*e*P	P	23 09 12.7	-0.2
EYMN	**Ely**	28.11	25	*e*P	P	23 09 15.5	-0.2
ULM	**Lac du Bonnet**	28.63	18	P	P	23 09 18.2	-2.1
	2.9nm,0.9s,mb4.0,baz=204,slow=8.8,SNR=4.2						
ULM				LR	LR	23 21 29.1	
	comp=Z,84nm,21.9s,MS3.3,baz=48,slow=39						
SSPA	**Standing Stone**	31.15	49	*e*P	P	23 09 44.5	+1.7
BBB	**Bella Bella**	32.28	338	LR	LR	23 21 53.2	
	comp=Z,116nm,20.4s,MS3.6,baz=188,slow=35						
BINY	**Binghamton**	33.09	48	*e*P	P	23 09 59.2	-0.6
	19nm,1.0s,mb5.0						
FCC	**Fort Churchill**	36.84	13	*e*P	P	23 10 32.5	+0.6
ROSC	**El Rosal**	38.07	114	LR	LR	23 27 54.3	
	comp=Z,71nm,20.3s,MS3.5,baz=23,slow=38						
DLBC	**Dease Lake**	38.11	342	*e*P	P	23 10 45.0	+2.2
YKA	**Yellowknife Ar**	39.24	356	P	P	23 10 49.2	-2.9
	1.8nm,0.9s,mb3.8,baz=170,slow=7.8,SNR=19						
YKA				LR	LR	23 27 25.6	
	comp=Z,84nm,21.6s,MS3.5,baz=45,slow=38						
YKW3	**Yellowknife Ar**	39.31	356	*e*P	P	23 10 52.4	-0.3
SDV	**Santo Domingo**	39.31	105	P	P	23 10 53.6	+0.2
BBSR	**BB Station**	39.80	67	P	P	23 10 56.4	-0.9
SJG	**San Juan**	40.18	89	LR	LR	23 31 00.3	
	comp=Z,95nm,18.7s,MS3.7,baz=270,slow=41						
SCHQ	**Schefferville**	44.17	34	P	P	23 11 33.0	+0.4
	1.8nm,0.9s,mb3.8,baz=245,slow=9.4,SNR=1.7						
DAWY	**Dawson**	45.33	342	*e*P	P	23 11 48.1	+6.4
PMR	**Palmer**	46.97	335	P	P	23 11 54.4	-0.2
NNA	**Nana**	47.12	135	P	P	23 11 55.8	-0.7
INK	**Inuvik**	47.36	348	*e*P	P	23 11 58.7	+1.1
	389nm,1.1s						
TTA	**Tatalina**	50.41	334	*e*P	P	23 12 26.4	+5.4
IMA2	**Indian Mountai**	51.19	338	*e*P	P	23 12 32.4	+5.5
LPAZ	**La Paz**	56.06	131	P	P	23 13 06.2	+2.9
LPAZ	**La Paz**	56.06	131	P	pP	23 13 14.4	+7.9
	1.2nm,0.8s,baz=2.5,slow=9.7,SNR=4.4						
PPT	**Papeete**	56.94	228	LR	LR	23 31 29.3	
	comp=Z,90nm,20.4s,MS3.9,baz=288,slow=29						
LVC	**Limon Verde**	60.03	137	*e*P	P	23 13 29.5	-1.6
CPUP	**Villa Florida**	70.22	132	P	pP	23 14 48.2	+7.7
	0.7nm,0.5s,baz=13,slow=18,SNR=3.4						
BDFB	**Brasilia**	71.03	117	LR	LR	23 46 21.4	
	comp=Z,63nm,19.7s,MS3.9,baz=121,slow=36						
PLCA	**Paso Flores**	73.10	151	P	P	23 14 52.8	-1.4
PLCA	**Paso Flores**	73.10	151	P	PcP	23 15 05.8	-5.1
	8.9nm,1.0s,baz=340,slow=9.9,SNR=3.1						
ESDC	**Sonseca Array**	86.04	48	P	P	23 16 08.7	+3.9
	0.3nm,0.5s,mb3.8,baz=297,slow=5.6,SNR=2.6						
ESLA	**Sonseca Array**	86.04	48	*e*P	P	23 16 04.2	-0.6
MJAR	**Matsushiro Arr**	93.08	312	P	P	23 16 40.4	+2.3
	0.5nm,0.3s,mb4.4,baz=57,slow=3.8,SNR=3.2						
CN2	**Changchun**	96.62	324	*e*P	P	23 16 50.4	-3.8
KSRS	**Korea Array**	99.27	318	LR	LR	23 59 12.6	
	comp=Z,21nm,18.8s,MS3.7,baz=120,slow=34						
HHC	**Hu-ho-hao-te**	105.83	329	*e*PDIF	Pdif	23 17 36.6	+1.5
HHC				PP	PP	23 22 01.8	+4.5
HHC				S	Sdif	23 29 29.8	-2.7
HHC				SS	SS	23 36 59.3	+3.2
HHC				PP	PP		
	comp=Z,81nm,5.4s						
HHC				LR	LR		
	comp=N,130nm,22.6s,MS4.6						
HHC				LR	LR		
	comp=E,119nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,112nm,18.9s,MS4.4						
CD2	**Chengdu**	117.57	328	*e*PKP	PKPdf	23 22 08.6	-1.9
CD2				XPKP		23 22 17.5	
CD2				PP	PP	23 23 25.1	+3.5
CD2				PKS		23 25 44.0	
CD2				SKS	SKSdf	23 29 15.8	-7.2
CD2				SKKS	SKKSac	23 30 13.8	-10
CD2				SS	SS	23 39 29.5	-3.1
CD2				PP	PP		
	comp=Z,80nm,10.8s						
CD2				LR	LR		
	comp=N,150nm,24.4s						
CD2				LR	LR		
	comp=Z,130nm,24.8s,MS4.5						
GYA	**Guiyang**	119.67	323	*e*PDIF	Pdif	23 18 35.3	-1.3
GYA				PKP	PKPdf	23 22 13.0	-1.7
GYA				PP	PP	23 23 39.4	+3.1
GYA				PP	PP		
	comp=Z,90nm,7.8s						
WRA	**Warramunga Arr**	121.58	260	PKP	PKPdf	23 22 26.5	+8.1
	comp=Z,2.0nm,0.8s,baz=70,slow=1.5,SNR=9.7						
KMI	**Kunming**	122.84	326	PKP	PKPdf	23 22 20.8	0.0
ASAR	**Alice Springs**	122.90	256	PKP	PKPdf	23 22 29.4	+8.6
	comp=Z,1.6nm,0.9s,baz=98,slow=2.1,SNR=10						
MAW	**Mawson**	135.52	175	PKPdf	PKPdf	23 22 42.3	-1.2
LSZ	**Lusaka**	138.80	87	*e*PKPdf	PKPdf	23 22 50.5	-0.6

CSEM ***23*** *23:23:41.8, 3632N×579E, h0km, ML3.5, After ALG*

CRAAG 23 23:23:41.8, 3632N×579E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DFRA	**Djebel Bou Aff**	0.23	17	P	Pg	23 23 47.0	+0.7
SET	**Setif**	0.34	249	P	Pg	23 23 50.0	+1.7
CKHR	**Kef el Ahmar**	0.38	217	P	Pg	23 23 50.0	+0.9
CTEI	**Djebel Teioual**	0.56	117	P	Pg	23 23 55.0	+2.5
CASM	**Ain Smara**	0.57	96	P	Pg	23 23 54.0	+1.3
CMER	**Merouana**	0.71	173	P	Pg	23 23 58.0	+2.7
CKFL	**Kef-Lekhel**	0.75	84	P	Pg	23 23 57.0	+0.8
CAEH	**'Ain El Ouahch**	0.97	62	P	Pg	23 24 02.0	+1.7
CMAH	**Djebel Manchou**	1.34	77	P	Pg	23 24 08.0	+0.4

CSEM ***23*** *23:38:50.9±1.9, 27.19N×56.16E, h10km, ML3.3/4, Error ellipse: s-maj=70.3km s-min=5.4km az=58.0*
ISCJB ***23*** *23:38:56.3±1.7, 268N±0.1×555E±0.2, h10km, Error ellipse: s-maj=28.9km s-min=4.8km az=44.9*
KISR ***23*** *23:38:57.3±0.8, 2773N×5580E, h33km, ML3.1*
OMAN ***23*** *23:39:06.3, 2609N×5590E, h6km*

ISC 23 23:38:59.0±2.0, 266N±02×554E±02, h10km, n14, σ1§08/23, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BANOM	**Banah**	1.06	133	P	Pg	23 39 13.9	-5.4
	SNR=289						
BANOM	**Banah**	1.06	133	P	Pg	23 39 14.3	-5.0
	SNR=13						
BANOM				S	Sg	23 39 27.1	-6.0
NAZ	**Nazwa, Dubai**	1.66	173	P	Pn	23 39 29.2	+1.0
HATD	**Hatta, Dubai**	1.92	161	P	Pn	23 39 31.4	-0.3
	SNR=14						
HATD				S	Sn	23 39 55.1	-0.8
ASUD	**Al Ashush, Dub**	2.01	183	P	Pn	23 39 34.5	+1.5
	SNR=11						
ASHO	**Ashiyiah**	2.03	164	P	Pn	23 39 32.5	-0.8
	SNR=16						
ASHO	**Ashiyiah**	2.03	164	P	Pn	23 39 32.3	-1.0
	SNR=32						
RDF	**Al-Radifah**	7.35	290	*e*P	Pn	23 40 48.1	+1.7
RDF				*e*S	Sn	23 42 10.5	+0.7
NAY	**Al-Naaiem**	7.70	292	*e*P	Pn	23 40 52.1	+0.9
NAY				*e*S	Sn	23 42 18.6	+0.2
NAY				AML	AML	23 42 19.7	
	comp=Z,1.4nm,0.5s						
NAY	**Al-Naaiem**	7.70	292	*e*P	Pn	23 40 51.9	+0.7
NAY				*e*S	Sn	23 42 16.3	-2.2
	comp=Z,1.0nm,0.5s						
MIB	**Mutribah**	7.81	296	*e*P	Pn	23 40 52.9	+0.2
MIB				*e*S	Sn	23 42 19.1	-2.1
MIB				AML	AML	23 42 22.6	
	comp=Z,2.8nm,0.4s						
MIB	**Mutribah**	7.81	296	*e*P	Pn	23 40 53.0	+0.3
MIB				*e*S	Sn	23 42 19.5	-1.6
RST	**Umm Al-Ruwaisa**	7.98	293	*e*P	Pn	23 40 55.2	+0.2
RST				*e*S	Sn	23 42 24.4	-1.0
RST	**Umm Al-Ruwaisa**	7.98	293	*e*P	Pn	23 40 55.3	+0.2
RST				*e*S	Sn	23 42 24.0	-1.4

IDC 23 23:46:58.0±2.0, 816S×12706E, h0km, mb3.2/1, mb1 3.7/3, mb1mx3.5/13, mbtmp3.4/3, ML3.7/2, Error ellipse: s-maj=256.7km s-min=31.8km az=62.0, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	13.67	150	Pn	Pn	23 50 11.6	-1.7
	0.4nm,0.3s,baz=327,slow=15,SNR=4.5						
WRA				Sn	Sn	23 52 31.7	-14
	0.4nm,0.3s,baz=324,slow=24,SNR=5.4						
ASAR	**Alice Springs**	16.75	158	Pn	Pn	23 50 55.9	+1.7
	0.3nm,0.3s,baz=331,slow=9.6,SNR=9.7						
ASAR				Sn	Sn	23 53 55.1	-6.0
	0.2nm,0.3s,baz=324,slow=20,SNR=6.5						
MKAR	**Makanchi Array**	67.64	328	P	P	23 57 56.8	+0.1
	0.2nm,0.7s,baz=112,slow=6.1,SNR=2.8						

IDC ***24*** *00:05:40.8±0.8, 4666N×156.16E, h0km, mb3.9/10, mb1 4.1/12, mb1mx3.9/24, mbtmp3.9/12, ML3.6/1, MS3.2/1, Ms1 3.2/1, ms1mx2.6/36, Error ellipse: s-maj=23.3km s-min=18.2km az=141.0*
ISCJB ***24*** *00:05:41.1±0.5, 4675N±007×156.1E±0.1, h10km, mb4.1/17, Error ellipse: s-maj=12.3km s-min=7.6km az=44.9*
MOS ***24*** *00:05:41.0±1.6, 4685N×156.05E, h10km, mb4.3/12, Error ellipse: s-maj=13.4km s-min=8.7km az=80.1*
NEIC ***24*** *00:05:46.2±0.8, 4668N×15623E, h35km, mb4.2/7, Error ellipse: s-maj=17.8km s-min=10.9km az=126.0*

ISC 24 00:05:43.0±0.5, 4674N±007×1561E±01, h10km, n50, σ1§11/52, mb4.1/17, 4C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	3.95	360	*e*P	Pn	00 06 39.3	-4.2
SKR				*e*S	Sn	00 07 22.0	-7.9
SKR				pmax	pmax		
	comp=Z,20nm,0.5s						
SKR				smax			
	comp=N,220nm,0.3s						
SKR				smax			
	comp=E,310nm,0.3s						
PET	**Petropavlovsk**	6.50	14	*e*P	Pn	00 07 14.4	-4.2
PET				*e*S	Sn	00 08 23.7	-9.0
PET				pmax	pmax		
	comp=Z,16nm,0.5s						
PET				smax			
	comp=N,56nm,0.6s						
PET				smax			
	comp=E,40nm,0.6s						
PET	**Petropavlovsk**	6.50	14	*e*Pn	Pn	00 07 15.2	-3.3
ASAJ	**Asahikawa**	9.87	260	P	Pn	00 08 05.1	+0.3
ASAJ				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ASAJ	**Asahikawa**	9.87	260	Pn	Pn	00 08 05.1	+0.3
	comp=Z,0.6nm,0.3s,baz=246,slow=33,SNR=1.9						
ERM	**Erimo**	10.42	248	*e*P	Pn	00 08 11.3	-1.0
MA2	**Magadan**	13.25	348	*e*P	Pn	00 08 49.4	-1.5
MA2	**Magadan**	13.25	348	*e*Pn	Pn	00 08 52.5	+1.6
MAJO	**Matsushiro**	16.79	239	*e*P	Pn	00 09 38.7	+0.6
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.3s						
MAJO	**Matsushiro**	16.79	239	*e*Pn	Pn	00 09 38.7	+0.6
	comp=Z,3.9nm,0.3s						
MJAR	**Matsushiro Arr**	16.79	239	P	Pn	00 09 37.1	-1.0
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	16.79	239	Pn	Pn	00 09 37.1	-1.0
	comp=Z,0.5nm,0.3s,baz=19,slow=12,SNR=4.5						
BILL	**Bilibino**	21.99	10	⇑P	P	00 10 37.0	+0.3
BILL				*e*		00 10 40.7	
BILL				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.0						
TIXI	**Tiksi**	28.09	342	*e*P	P	00 11 33.1	-1.2
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.9						
TIXI	**Tiksi**	28.09	342	*e*P	P	00 11 36.9	+2.5
	comp=Z,2.0nm,0.3s,mb4.2						
ULN	**Ulaanbaatar**	32.86	290	*e*P	P	00 12 19.5	+2.9
ULN				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb4.1						
ULN	**Ulaanbaatar**	32.86	290	*e*P	P	00 12 19.5	+2.9
	comp=Z,0.9nm,0.4s,mb4.0						
SONM	**Songino Array**	33.29	290	P	P	00 12 20.1	-0.3
	comp=Z,0.4nm,0.6s,mb3.5,baz=44,slow=11,SNR=3.6						
COLA	**College**	34.86	38	⇑*e*P	P	00 12 35.5	+1.7
NACB	**Ninganchiao**	35.60	243	P	P	00 12 42.5	+1.9
EGAK	**Eagle**	37.72	38	*e*P	P	00 12 57.1	-1.2
	comp=Z,3.5nm,0.7s,mb4.2						
INK	**Inuvik**	40.55	33	P	P	00 13 21.6	-0.3
INK				pmax	pmax		
	comp=Z,3.0nm,0.5s						
INK	**Inuvik**	40.55	33	*e*P	P	00 13 21.6	-0.2
	comp=Z,81nm,0.5s,mb5.6						
INK	**Inuvik**	40.55	33	P	P	00 13 21.6	-0.3
	comp=Z,2.8nm,0.5s,mb4.1,baz=300,slow=6.3,SNR=24						
ZALV	**Zalesovo Beam**	44.29	307	P	P	00 13 51.8	-0.7
	comp=Z,0.9nm,0.5s,mb3.7,baz=50,slow=6.6,SNR=4.4						
ZALV				LR	LR	00 34 39.3	
	comp=Z,27nm,20.0s,baz=38,slow=39						
ZAL	**Zalesovo**	44.31	307	P	P	00 13 51.8	-0.8
MK31	**Makanchi Array**	48.78	299	*e*P	P	00 14 28.1	+0.3
MK31				*e*		00 15 52.0	
MKAR	**Makanchi Array**	48.78	299	P	P	00 14 26.3	-1.5
	comp=Z,0.4nm,0.7s,mb3.6,baz=63,slow=7.6,SNR=4.4						
KURK	**Kurchatov**	49.09	305	*e*P	P	00 14 30.1	0.0
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	49.09	305	*e*P	P	00 14 30.1	0.0
	comp=Z,1.8nm,0.6s,mb4.3						
YKA	**Yellowknife Ar**	49.68	38	P	P	00 14 34.0	-0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	49.68	38	P	P	00 14 34.0	-0.5
YKA	**Yellowknife Ar**	49.68	38	P	P	00 14 34.0	-0.5
	comp=Z,0.6nm,0.7s,mb3.8,baz=295,slow=7.2,SNR=5.7						
LSA	**Lhasa**	52.34	275	P	P	00 14 57.0	+2.0
BVAR	**Borovoye Array**	52.46	311	P	P	00 14 55.4	-0.1
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
BVAR	**Borovoye Array**	52.46	311	P	P	00 14 55.4	0.0
	comp=Z,1.0nm,0.5s,mb4.0,baz=60,slow=8.8,SNR=8.1						
BRVK	**Borovoye**	52.50	311	*e*P	P	00 14 56.2	+0.5
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
BRVK	**Borovoye**	52.50	311	*e*P	P	00 14 56.2	+0.4
	comp=Z,2.6nm,0.7s,mb4.3						
TPNV	**Topopah Spring**	62.78	64	P	P	00 16 10.4	+2.0
FINES	**FINESS Array B**	64.92	336	P	P	00 16 23.2	+1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	64.92	336	P	P	00 16 23.1	+1.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=40,slow=8.7,SNR=7.1						
WRAB	**Tennant Creek**	69.21	202	P	P	00 16 49.1	-0.6
WRAB				pmax	pmax		
	comp=Z,10.0nm,1.3s,mb4.6						
WRAB	**Tennant Creek**	69.21	202	P	P	00 16 49.1	-0.6
	comp=Z,9.8nm,1.3s,mb4.6						
WRA	**Warramunga Arr**	69.22	202	*i*P	P	00 16 49.2	-0.6
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
WRA	**Warramunga Arr**	69.22	202	P	P	00 16 48.4	-1.4
	comp=Z,1.4nm,0.7s,mb4.0,baz=20,slow=6.8,SNR=6.4						
ASAR	**Alice Springs**	72.90	201	P	P	00 17 11.8	-0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	72.90	201	P	P	00 17 11.8	-0.3
	comp=Z,1.2nm,0.6s,mb4.0,baz=20,slow=5.7,SNR=13						
TXAR	**Lajitas Array**	75.67	62	P	P	00 17 28.1	-0.3
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
TXAR	**Lajitas Array**	75.67	62	P	P	00 17 28.1	-0.3
	comp=Z,1.1nm,0.5s,mb4.0,baz=306,slow=4.8,SNR=22						
STKA	**Stephens Creek**	79.34	193	*e*P	P	00 17 48.4	-0.2

ISCJB ***24*** *00:34:18.5±0.3, 3969N±002×1680E±003, h11km, Error ellipse: s-maj=3.4km s-min=2.5km az=1.5*
CSEM ***24*** *00:34:18.8±0.1, 3967N×1677E, h20km, ML3.8/3, Error ellipse: s-maj=1.6km s-min=1.0km az=81.0*
ROM ***24*** *00:34:20.1±0.1, 3965N×1682E, h11km, Md3.0/32, Ml2.6/27, Error ellipse: s-maj=0.6km s-min=0.5km az=84.0*
NEIC ***24*** *00:34:20.1, 3965N×1682E, h11km, ML2.6(ROM), After ROM.*

ISC 24 00:34:19.6±0.4, 3968N±002×1680E±004, h8km±6km, n56, σ1§05/70, 2C-3D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TDS	**Terranova Siba**	0.36	267	Pg	Pg	00 34 27.7	+1.1
ORI	**Oriolo Calabro**	0.47	325	Pg	Pg	00 34 30.0	+1.3
ORI				Sg	Sg	00 34 39.0	+4.1
	2μm,0.5s						
TIP	**Timpagrande**	0.50	184	*e*P	Pg	00 34 29.6	+0.4
TIP				*e*S

55nm,0.7s
SOI Samo 1.70 200 Pg **Pg 00 34 51.1 -1.1**
32nm,0.8s
MSRU Castanea 1.73 216 Pg **Pg 00 34 49.8 -3.0**
148nm,1.1s
SNAL S. Angelo Dei 1.74 316 Pg **Pg 00 34 51.5 -1.5**
88nm,0.9s
FG4 Candela 1.75 326 Pg **Pg 00 34 54.3 +1.1**
CSSN Cassano Irpino 1.80 312 Pg **Pg 00 34 52.3 -1.8**
15nm,0.4s
CAFE Carife 1.80 319 Pg **Pg 00 34 52.1 -2.0**
SGTA Sant Agata di 1.82 324 Pg **Pg 00 34 54.4 -0.1**
MPAZ Palizzi 1.83 200 Pg **Pg 00 34 52.0 -2.6**
34nm,0.6s
SLNA Salina 1.89 235 Pg **Pg 00 34 56.6 +0.8**
FG5 Orsara di Pugl 1.98 324 Pg **Pg 00 34 52.8 -4.8**
12nm,0.2s
RGNG Rignano Grg 2.20 336 Pg **Pg 00 34 57.7 -4.0**
KEK Kerkira 2.31 88 Pg **Pg 00 34 57.7 -6.3**
PTRJ Pietraroja 2.42 315 Pg **Pg 00 35 00.6 -5.3**
SGG Gregorio Mates 2.51 314 Pg **Pg 00 35 02.7 -5.1**
IGT Igoumenitsa 2.73 92 *e*S **Sn 00 35 36.0 -0.8**
IGT *e*P 00 35 03.9
IGT Igoumenitsa 2.73 92 P **Pn 00 35 03.9 +0.2**
IGT S **Sn 00 35 36.0 -0.8**
IGT Igoumenitsa 2.73 92 P **Pn 00 35 03.8 +0.1**
IGT S **Sn 00 35 36.0 -0.9**
VLS Valsamata 3.31 116 *e*P **Pn 00 35 11.1 -0.5**
KFL Anninata 3.48 115 *e*P **Pn 00 35 13.6 -0.4**
FNA Florina 3.67 71 *e*S **Sn 00 36 00.2 +0.2**
FNA *e*P 00 35 17.2
FNA Florina 3.67 71 P **Pn 00 35 17.2 +0.6**
FNA S **Sn 00 36 00.2 +0.2**
FNA Florina 3.67 71 P **Pn 00 35 17.2 +0.6**
FNA S **Sn 00 36 00.2 +0.1**
GRG Griva 4.47 72 *e*P **Pn 00 35 27.7 +0.2**
OBKA Obir 7.03 347 ⇑*i*Pn **Pn 00 36 03.1 +0.5**
SOKA Soboth 7.12 350 ⇑*i*Pn **Pn 00 36 03.5 -0.3**
MOA Molln 8.37 348 ⇓*i*Pn **Pn 00 36 21.1 0.0**
MOA ⇓*i*Sn **Sn 00 37 57.9 +2.2**
MOA Molln 8.37 348 ⇓*i*Pn **Pn 00 36 21.1 0.0**

*CSEM **24** 00:36:45.4, 35.71N×27.51E, h19km, MD3.5/3, After ATH*
*NEIC **24** 00:36:45.4, 35.71N×27.51E, h19km, MD3.5(ATH), After ATH.*

ATH 24 00:36:45.4, 35.71N×27.51E, h19km±1km, MD3.5/3, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.33**	**240**	*e*PB	Pg	00 36 52.4	-0.1
ARG	**Arkhangelos**	**0.71**	**45**	⇑*i*PN	Pn	00 36 59.4	-1.0
ARG				*e*SN	Sn	00 37 09.4	-1.4
NPS	**Neapolis**	**1.61**	**254**	*e*PN	Pn	00 37 14.6	+1.8
NPS				*e*SN	Sn	00 37 35.5	+2.5
SMG	**Samos**	**2.07**	**345**	*e*PN	Pn	00 37 21.6	+2.5
APE	**Apeiranthos**	**2.10**	**311**	*e*PN	Pn	00 37 21.7	+2.2

IDC 24 00:37:03.4±2.6, 293S×13076E, h0km, mb3.8/2, mb1 4.0/4, mb1mx3.8/16, mbtmp3.8/4, ML3.5/2, Error ellipse: s-maj=134.8km s-min=27.2km az=75.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**15.89**	**198**	Pn	Pn	00 40 48.7	+0.1
0.1nm,0.3s,baz=27,slow=14,SNR=3.3							
WRA	**Warramunga Arr**	**17.27**	**169**	P	Pn	00 41 06.4	+0.3
0.2nm,0.3s,baz=348,slow=11,SNR=6.7							
ASAR	**Alice Springs**	**20.84**	**172**	P	P	00 41 46.6	-0.2
5.2nm,0.6s,baz=351,slow=10,SNR=70							
MKAR	**Makanchi Array**	**65.28**	**326**	P	P	00 47 47.4	+0.2
0.3nm,0.5s,baz=128,slow=8.0,SNR=4.8							

*THR **24** 00:50:42.3±0.3, 27.23N×55.96E, h40km±1km, ML2.8*
*ISCJB **24** 00:50:43.2±1.0, 27.49N±007×55.76E±005, h6km±11km, Error ellipse: s-maj=12.3km s-min=6.1km az=29.8*
*CSEM **24** 00:50:43.0±0.1, 27.54N×55.80E, h10km, ML3.3/2, Error ellipse: s-maj=3.5km s-min=2.5km az=39.0*
*OMAN **24** 00:50:52.0, 26.91N×55.88E, h4km*

ISC 24 00:50:44.5±0.9, 2750N±007×5581E±006, h10km±9km, n16, σ0°52/21, Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**0.33**	**107**	*e*Pg	**Pg**	**00 50 50.4**	**-0.7**
BNDS				*e*Sg	**Sg**	**00 50 56.3**	**+0.7**
BNDS				AML	AML	00 51 07.2	
comp=N,1μm,0.5s							
BNDS	**Bandar-Abbas**	**0.33**	**107**	*e*Pg	**Pg**	**00 50 50.4**	**-0.7**
SNR=144							
BNDS				*e*Sg	**Sg**	**00 50 56.3**	**+0.7**
comp=N,1μm,0.5s,SNR=144							
BANOM	**Banah**	**1.63**	**164**	P	**Pn**	**00 51 12.2**	**-1.1**
SNR=72							
BANOM	**Banah**	**1.63**	**164**	P	**Pn**	**00 51 12.2**	**-1.1**
SNR=72							
BANOM	**Banah**	**1.63**	**164**	P	**Pn**	**00 51 12.2**	**-1.1**
SNR=72							
BANOM	**Banah**	**1.63**	**164**	P	**Pn**	**00 51 12.5**	**-0.8**
SNR=72							
BANOM				S	**Sn**	**00 51 34.9**	**+0.6**
KRBR	**Kerman**	**2.61**	**18**	*e*Pn	**Pn**	**00 51 27.0**	**+0.2**
GHIR	**Ghir-Karzin**	**2.62**	**288**	*e*Pn	**Pn**	**00 51 26.9**	**-0.1**
GHIR				*e*Sg	**Sg**	**00 52 09.1**	**+0.3**
GHIR				AML	AML	00 52 16.8	
comp=E,33nm,0.6s							
GHIR				AML	AML	00 52 18.2	
comp=N,34nm,0.6s							
GHIR	**Ghir-Karzin**	**2.62**	**288**	*e*Pn	**Pn**	**00 51 26.9**	**-0.1**
SNR=54							
GHIR				*e*Sg	**Sg**	**00 52 09.1**	**+0.3**
SNR=95							
HATD	**Hatta, Dubai**	**2.68**	**174**	P	**Pn**	**00 51 27.9**	**+0.2**
SNR=6.9							
HATD	**Hatta, Dubai**	**2.68**	**174**	P	**Pn**	**00 51 27.9**	**+0.2**
SNR=6.9							
HATD	**Hatta, Dubai**	**2.68**	**174**	P	**Pn**	**00 51 27.9**	**+0.2**
SNR=6.9							
HATD	**Hatta, Dubai**	**2.68**	**174**	P	**Pn**	**00 51 27.6**	**-0.1**
SNR=6.9							
ASHO	**Ashiyiah**	**2.81**	**175**	P	**Pn**	**00 51 29.4**	**-0.2**
SNR=54							
ASUD	**Al Ashush, Dub**	**2.89**	**189**	P	**Pn**	**00 51 31.2**	**+0.5**
SNR=12							
SHAO	**Shalim**	**9.43**	**181**	P	**Pn**	**00 53 00.1**	**-0.4**
SNR=7.6							

*IDC **24** 00:51:33.8±7.5, 36.16N×70.78E, h101km±66km, mb3.3/5, mb1 3.3/8, mb1mx3.1/24, mbtmp3.2/8, ML3.5/3, Error ellipse: s-maj=40.5km s-min=26.4km az=4.0*
*ISCJB **24** 00:51:39.6±0.5, 3653N±003×7089E±006, h166km±6km, mb3.4/6, Error ellipse: s-maj=7.7km s-min=4.8km az=169.3*
*NEIC **24** 00:51:40.2±0.8, 36.34N×71.45E, h140km±8km, mb4.2/6, Error ellipse: s-maj=13.5km s-min=7.8km az=133.0*
*MOS **24** 00:51:43.0±1.1, 3653N×7148E, h177km, mb3.9/2, Error ellipse: s-maj=22.8km s-min=12.9km az=73.7*
*NNC **24** 00:51:46.0±7.4, 36.92N×70.22E, h129km±145km, mb2.9, mpv4.2, Error ellipse: s-maj=108.9km s-min=48.7km az=64.0*

ISC 24 00:51:40.6±0.5, 3652N±003×7092E±006, h160km±6km, n41, σ0°84/50, mb3.4/6, 2C-4D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.50**	**218**	*e*Pn	**Pn**	**00 52 22.6**	**+0.3**
KBL				*e*Sn	**Sn**	**00 52 53.8**	**-0.5**
DLH	**Dalhousie**	**5.75**	**132**	*e*P	**Pn**	**00 53 05.0**	**+0.9**
DLH				*e*S	**Sn**	**00 54 11.0**	**+1.5**
AML	**Almayashu**	**6.00**	**20**	*e*Pn	**Pn**	**00 53 07.5**	**+0.2**
35nm,0.5s							
AML				*e*Sn	**Sn**	**00 54 15.3**	**0.0**
AML	**Almayashu**	**6.00**	**20**	P	**Pn**	**00 53 07.6**	**+0.3**
SNR=45							
UCH	**Uchtor**	**6.34**	**25**	*e*Pn	**Pn**	**00 53 11.8**	**-0.1**
8.6nm,0.3s							
UCH				*e*Sn	**Sn**	**00 54 22.9**	**-0.5**
UCH	**Uchtor**	**6.34**	**25**	P	**Pn**	**00 53 11.7**	**-0.1**
SNR=12							
KZA	**Kyzart**	**6.49**	**30**	P	**Pn**	**00 53 13.5**	**-0.2**
SNR=11							
EKS2	**Erkin-Say**	**6.52**	**19**	*e*Pn	**Pn**	**00 53 14.4**	**+0.3**
4.4nm,0.5s							
EKS2				*e*Sn	**Sn**	**00 54 26.4**	**-1.3**
EKS2	**Erkin-Say**	**6.52**	**19**	P	**Pn**	**00 53 14.7**	**+0.5**
SNR=8.4							
KK31	**Karatay Array**	**6.58**	**357**	⇓P	**Pn**	**00 53 14.8**	**-0.3**
8.7nm,0.3s,baz=176,slow=13,SNR=244							
KK31				⇑S	**Sn**	**00 54 25.1**	**-4.0**
49nm,0.5s							
AAK	**Ala-Archa**	**6.70**	**23**	P	**Pn**	**00 53 17.0**	**+0.5**
SNR=7.0							
USP	**Ospenovka**	**7.28**	**21**	P	**Pn**	**00 53 24.8**	**+0.6**
SNR=8.1							
TKM2	**Tokmak 2**	**7.34**	**28**	*e*PN	**Pn**	**00 53 25.3**	**+0.3**
TKM2				pmax	pmax		
comp=Z,5.0nm,0.4s							
TKM2	**Tokmak 2**	**7.34**	**28**	*e*Pn	**Pn**	**00 53 25.2**	**+0.2**
comp=Z,4.9nm,0.4s							
TKM2				Sn	**Sn**	**00 54 42.1**	**-5.1**
TKM2	**Tokmak 2**	**7.34**	**28**	P	**Pn**	**00 53 25.5**	**+0.5**
SNR=7.7							
MK31	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**00 54 42.4**	**-0.8**
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**00 54 43.0**	**-0.2**
comp=Z,0.1nm,0.3s,baz=209,slow=13,SNR=2.4							
DANN	**Dangsing**	**13.55**	**123**	*e*P	**Pn**	**00 54 45.0**	**-1.5**
comp=Z,12nm,0.3s							
KOLN	**Koldanda**	**13.83**	**126**	*e*P	**Pn**	**00 54 49.8**	**-0.1**
comp=Z,6.6nm,0.3s							
GKN	**Gorkha**	**14.37**	**122**	*e*P	**Pn**	**00 54 55.6**	**-1.1**
comp=Z,3.4nm,0.3s							
KKN	**Kakani**	**14.94**	**122**	*e*P	**Pn**	**00 55 03.7**	**-0.2**
comp=Z,10nm,0.4s							
AB31	**Akbulak array**	**15.04**	**331**	⇓P	**Pn**	**00 55 03.5**	**-1.3**
comp=Z,0.5nm,0.3s							
AB31				⇓S	**S**	**00 57 43.2**	**-9.0**
comp=Z,2.1nm,0.6s							
PKI	**Pulchoki**	**15.17**	**122**	*e*P	**Pn**	**00 55 06.8**	**+0.1**
comp=Z,9.9nm,0.3s							
GUN	**Gumba**	**15.28**	**120**	*e*P	**Pn**	**00 55 07.4**	**-0.7**
comp=Z,9.5nm,0.4s							
JIRN	**Jiri**	**15.65**	**120**	*e*P	**Pn**	**00 55 13.1**	**+0.5**
comp=Z,18nm,0.3s							
BVAR	**Borovoye Array**	**16.51**	**359**	P	**Pn**	**00 55 23.7**	**+0.9**
comp=Z,0.2nm,0.3s,baz=172,slow=12,SNR=4.2							
AKTK	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**00 55 26.3**	**+0.8**
AKTO	**Aktyubinsk**	**16.73**	**330**	⇓P	**Pn**	**00 55 26.1**	**+0.6**
comp=Z,0.1nm,0.9s							
AKTO				⇑S	**S**	**00 58 23.7**	**-7.5**
AKTO	**Aktyubinsk**	**16.73**	**330**	P	**Pn**	**00 55 26.3**	**+0.8**
comp=Z,0.4nm,0.3s,baz=144,slow=9.1,SNR=8.9							
ZAL	**Zalesovo**	**19.91**	**25**	P	**P**	**00 56 00.8**	**+1.3**
ZALV	**Zalesovo Beam**	**19.92**	**25**	P	**P**	**00 56 00.8**	**+1.0**
comp=Z,2.2nm,0.4s,baz=211,slow=11,SNR=5.9							
KIV	**Kislovodsk**	**22.72**	**298**	*e*P	**P**	**00 56 34.5**	**+5.8**
KIV				pmax	pmax		
comp=Z,3.0nm,0.6s,mb3.9							
KIV	**Kislovodsk**	**22.72**	**298**	*e*P	**P**	**00 56 34.5**	**+5.7**
comp=Z,3.1nm,0.6s,mb3.9							
MALT	**Malatya**	**25.80**	**284**	*e*P	**P**	**00 57 03.2**	**+6.4**
MALT				pmax	pmax		
comp=Z,1.0nm,0.5s,mb3.7							
MALT	**Malatya**	**25.80**	**284**	*e*P	**P**	**00 57 03.2**	**+6.4**
comp=Z,0.6nm,0.5s,mb3.5							
ULN	**Ulaanbaatar**	**28.82**	**55**	P	**P**	**00 57 22.6**	**-0.9**
KIEV	**Kiev**	**32.89**	**309**	P	**P**	**00 58 05.6**	**+6.3**
TORD	**Torodi Ar. Bea**	**65.65**	**269**	P	**P**	**01 02 06.6**	**-1.4**
comp=Z,0.8nm,1.3s,mb3.4,baz=47,slow=6.0,SNR=15							
YKA	**Yellowknife Ar**	**81.23**	**3**	P	**P**	**01 03 40.2**	**+2.0**
comp=Z,0.2nm,0.5s,mb3.0,baz=352,slow=5.3,SNR=4.0							
WRA	**Warramunga Arr**	**82.06**	**122**	P	**P**	**01 03 43.3**	**+0.1**
comp=Z,0.3nm,0.3s,mb3.4,baz=328,slow=5.0,SNR=3.2							
ASAR	**Alice Springs**	**84.32**	**125**	P	**P**	**01 03 53.9**	**-0.8**
comp=Z,0.4nm,0.6s,mb3.3,baz=306,slow=4.2,SNR=5.0							

PGC 24 00:54:11.0±0.1, 6617N×13514W, h1km, ML2.6/2, 11D, 145km Ssw of Fort McPherson, Nt Northern Yukon Territory, Canada, Northern Yukon Territory

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
INK	**Inuvik**	**2.24**	**16**	⇓Pn	Pn	00 54 47.9	-1.3
INK				⇑Sn	Sn	00 55 15.0	-2.4
INK				⇓Sg	Sg	00 55 22.6	-0.3
INK	**Inuvik**	**2.24**	**16**	⇓Pn	Pn	00 54 47.9	-1.3
INK				⇓Sn	Sn	00 55 21.8	+4.4
DAWY	**Dawson**	**2.77**	**222**	⇓Pn	Pn	00 54 55.0	-1.5
DAWY				⇓Sg	Sg	00 55 32.7	-7.2
DAWY	**Dawson**	**2.77**	**222**	⇓Pn	Pn	00 54 55.0	-1.4
DAWY				⇑Sn	Sn	00 55 31.8	+1.3
HYT	**Haines Junctio**	**5.47**	**192**	⇑Sg	Sg	00 57 00.5	-5.9
HYT	**Haines Junctio**	**5.47**	**192**	⇓Pn	Pn	00 55 33.9	+0.5
WHY	**Whitehorse**	**5.53**	**179**	⇓Sg	Sg	00 57 05.2	-3.2
YKW3	**Yellowknife Ar**	**9.58**	**103**	⇑Pn	Pn	00 56 29.0	-0.8
YKW3	**Yellowknife Ar**	**9.58**	**103**	⇓Pn	Pn	00 56 28.6	-1.3
YKW3				⇓Sn	Sn	00 58 09.0	-8.9

*ISCJB **24** 01:00:58.1±1.4, 2187N±004×14301E±006, h40km±11km, mb4.6/40, MS3.3/2, Error ellipse: s-maj=8.6km s-min=7.2km az=174.8*
*IDC **24** 01:00:58.9±3.3, 2186N×14309E, h41km±28km, mb3.9/14, mb1 4.1/16, mb1mx4.0/22, mbtmp3.9/16, ML3.4/2, MS3.6/5, Ms1 3.6/5, ms1mx3.4/32, Error ellipse: s-maj=25.2km s-min=14.2km az=84.0*
*BJI **24** 01:01:00.1, 2207N×14366E, h83km, mB5.0, mb4.7*
*NEIC **24** 01:01:03.0±0.9, 2185N×14308E, h72km±8km, mb4.9/22, Error ellipse: s-maj=5.2km s-min=4.3km az=70.0*

ISC 24 01:01:01.1±1.1, 2188N±004×14307E±005, h52km±10km, n115, σ0°80/109, mb4.6/40, MS3.3/2, 1C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**5.25**	**351**	P	**Pn**	**01 02 15.2**	**-1.8**
3.4nm,0.3s,baz=252,slow=20,SNR=5.4							
CBIJ				S	**Sn**	**01 03 14.7**	**-1.7**
14nm,0.3s,baz=280,slow=22,SNR=7.0							
GUMO	**Guam**	**8.42**	**168**	Pn	**Pn**	**01 03 02.2**	**+1.6**
JOW	**Kunigami**	**14.35**	**293**	LR	LR	01 09 00.9	
comp=Z,386nm,18.9s,baz=126,slow=34							
MJAR	**Matsushiro Arr**	**15.21**	**345**	P	**Pn**	**01 04 31.6**	**-0.9**
0.2nm,0.3s,baz=163,slow=8.9,SNR=4.0							
MJAR				LR	LR	01 10 00.6	
comp=Z,335nm,19.7s,baz=150,slow=36							
MAJO	**Matsushiro**	**15.21**	**345**	Pn	**Pn**	**01 04 35.2**	**+2.7**
3.0nm,0.4s							
JNU	**Nakatsue**	**15.55**	**319**	LR	LR	01 10 02.9	
comp=Z,123nm,18.6s,baz=90,slow=35							
NACB	**Ninganchiao**	**19.89**	**281**	*e*P	**Pn**	**01 05 29.5**	**-0.8**
YHNB	**Yeheng**	**20.12**	**282**	*e*P	**P**	**01 05 32.2**	**+1.5**
KSRS	**Korea Array**	**20.30**	**323**	P	**P**	**01 05 32.9**	**+0.3**
1.3nm,0.8s,baz=66,slow=25,SNR=3.4							
KSRS				LR	LR	01 12 30.8	
comp=Z,183nm,19.2s,MS3.5,baz=148,slow=34							
INCN	**Inchon**	**21.06**	**321**	*e*P	**P**	**01 05 42.3**	**+1.5**
ASAJ	**Asahikawa**	**22.18**	**359**	LR	LR	01 15 00.4	
comp=Z,94nm,19.8s,MS3.2,baz=185,slow=38							
MDJ	**Mudanjiang**	**25.25**	**337**	*e*P	**P**	**01 06 23.0**	**+0.8**
5.7nm,0.6s,mb4.3							
MA2	**Magadan**	**38.05**	**6**	*e*P	**P**	**01 08 14.0**	**-0.3**
9.0nm,0.8s,mb4.5							
SONM	**Songino Array**	**39.13**	**320**	P	**P**	**01 08 23.3**	**-0.1**
2.4nm,0.9s,mb3.9,baz=115,slow=6.8,SNR=7.9							
GTA	**Gaotai**	**40.68**	**305**	*e*P	**P**	**01 08 37.3**	**+0.9**
GTA				AMB	AMB		
comp=Z,6.0nm,2.4s,mb3.8							
YAK	**Yakutsk**	**41.17**	**350**	*e*P	**P**	**01 08 40.4**	**+0.3**
CHTO	**Chiang Mai**	**41.38**	**274**	*e*P	**P**	**01 08 44.6**	**+2.1**
CTAO	**Charters Tower**	**41.83**	**176**	*e*P	**P**	**01 08 45.2**	**-0.8**
CTAO				*e*		01 10 33.4	
WRAB	**Tennant Creek**	**42.42**	**192**	*e*P	**P**	**01 08 50.0**	**-0.8**
comp=Z,17nm,1.1s,mb4.6							
WB2	**Warramunga Arr**	**42.43**	**192**	*e*P	**P**	**01 08 50.4**	**-0.5**
WRA	**Warramunga Arr**	**42.44**	**192**	P	**P**	**01 08 49.5**	**-1.4**
comp=Z,5.9nm,1.0s,mb4.2,baz=13,slow=9.0,SNR=8.9							
TLY	**Talaya**	**42.55**	**324**	*e*P	**P**	**01 08 51.4**	**-0.2**
BJII	**Banjamegara**	**43.74**	**232**	⇑*e*P	**P**	**01 09 07.8**	**+6.2**
ASAR	**Alice Springs**	**46.14**	**192**	P	**P**	**01 09 18.9**	**-1.7**
comp=Z,2.2nm,0.7s,mb4.2,baz=9.6,slow=7.0,SNR=23							
LSA	**Lhasa**	**47.07**	**291**	*e*P	**P**	**01 09 29.8**	**+2.0**
BILL	**Bilibino**	**48.36**	**11**	*e*P	**P**	**01 09 36.8**	**-0.4**
comp=Z,6.7nm,1.2s,mb4.5							
WMQ	**Urumqi**	**50.38**	**309**	*e*P	**P**	**01 09 53.3**	**+0.2**
WMQ				AMB	AMB		
comp=Z,29nm,1.0s,mb5.3							
ARMA	**Armidale**	**52.65**	**171**	*e*P	**P**	**01 10 10.4**	**+0.4**
STKA	**Stephens Creek**	**53.47**	**182**	*e*P	**P**	**01 10 15.1**	**-0.9**
STKA	**Stephens Creek**	**53.47**	**182**	P	**P**	**01 10 15.3**	**-0.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=346,slow=19,SNR=3.5							
ZAA0	**Zalesovo Array**	**54.00**	**322**	*e*P	**P**	**01 10 19.1**	**-0.6**
ZALV	**Zalesovo Beam**	**54.00**	**322**	P	**P**	**01 10 19.0**	**-0.7**
ZALV	**Zalesovo Beam**	**54.00**	**322**	P	**P**	**01 10 19.0**	**-0.7**
comp=Z,2.4nm,0.7s,mb4.3,baz=105,slow=7.3,SNR=12							
MK31	**Makanchi Array**	**54.49**	**313**	*e*P	**P**	**01 10 24.1**	**+0.6**
MKAR	**Makanchi Array**	**54.49**	**313**	P	**P**	**01 10 23.1**	**-0.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=88,slow=9.5,SNR=10							
KURK	**Kurchatov**	**57.27**	**317**	*e*P	**P**	**01 10 42.9**	**-0.3**
TKM2	**Tokmak 2**	**59.15**	**308**	*e*P	**P**	**01 10 57.6**	**+1.1**
comp=Z,6.7nm,1.2s,mb4.5							
NWAO	**Narrogin (SRO)**	**59.83**	**205**	P	**P**	**01 11 01.1**	**0.0**
UCH	**Uchtor**	**59.98**	**307**	*e*P	**P**	**01 11 03.2**	**+1.0**
comp=Z,15nm,1.3s,mb4.9							
PMR	**Palmer**	**60.45**	**31**	P	**P**	**01 11 05.6**	**+0.5**
EKS2	**Erkin-Say**	**60.50**	**308**	*e*P	**P**	**01 11 06.8**	**+1.0**
AML	**Almayashu**	**60.59**	**307**	*e*P	**P**	**01 11 07.8**	**+1.3**
comp=Z,6.7nm,1.1s,mb4.7							
BVAR	**Borovoye Array**	**62.46**	**319**	P	**P**	**01 11 18.1**	**-0.7**
comp=Z,3.8nm,0.5s,mb4.8,baz=97,slow=7.8,SNR=35							
BRVK	**Borovoye**	**62.53**	**319**	*e*P	**P**	**01 11 19.1**	**-0.1**
comp=Z,5.6nm,0.8s,mb4.8							
INK	**Inuvik**	**67.44**	**24**	*e*P	**P**	**01 11 49.8**	**-1.2**
ARU	**Arti**	**69.05**	**324**	*e*P	**P**	**01 12 00.5**	**-0.8**
comp=Z,20nm,1.4s,mb4.8							
DLBC	**Dease Lake**	**70.03**	**34**	*e*P	**P**	**01 12 07.9**	**+0.7**
YKW3	**Yellowknife Ar**	**76.31**	**28**	*e*P	**P**	**01 12 43.5**	**-0.7**
YKA	**Yellowknife Ar**	**76.34**	**28**	P	**P**	**01 12 43.6**	**-0.8**
comp=Z,2.4nm,0.6s,mb4.3,baz=293,slow=5.5,SNR=26							
GNW	**Green Mountain**	**76.84**	**44**	*e*P	**P**	**01 12 48.4**	**+0.9**
RES	**Resolute Bay**	**76.92**	**13**	*e*P	**P**	**01 12 47.1**	**-0.3**
ARCES	**ARCESS Array B**	**78.71**	**341**	P	**P**	**01 12 57.5**	**+0.1**
comp=Z,2.8nm,0.9s,mb4.2,baz=58,slow=8.6,SNR=4.0							
YBH	**Yreka Blue Hor**	**78.78**	**50**	*e*P	**P**	**01 12 58.9**	**+0.5**
LASM	**Arnica Sink**	**79.62**	**49**	P	**P**	**01 13 03.5**	**+0.5**
LTIM	**Timbered Crate**	**79.83**	**50**	P	**P**	**01 13 03.7**	**-0.5**
LBCM	**Butte Creek Ri**	**80.05**	**50**	P	**P**	**01 13 05.0**	**-0.3**
NEW	**Newport**	**80.22**	**42**	*e*P	**P**	**01 13 06.1**	**0.0**
WVOR	**Wild Horse Val**	**81.38**	**48**	P	**P**	**01 13 12.5**	**+0.1**
CMB	**Columbia Colle**	**81.73**	**52**	*e*P	**P**	**01 13 14.3**	**0.0**
BSMT	**Bassoo Peak**	**81.82**	**42**	P	**P**	**01 13 14.8**	**+0.2**
WALA	**Waterton Lakes**	**81.87**	**40**	*e*P	**P**	**01 13 14.8**	**0.0**
KIV	**Kislovodsk**	**82.22**	**314**	*e*P	**P**	**01 13 16.7**	**-0.1**
FINES	**FINESS Array B**	**82.97**	**334**	P	**P**	**01 13 18.6**	**-1.7**
comp=Z,0.8nm,0.6s,mb3.9,baz=68,slow=5.4,SNR=6.5							
NVAR	**Mina Array Bea**	**83.11**	**51**	P	**P**	**01 13 21.1**	**-0.4**
comp=Z,4.4nm,1.0s,mb4.5,baz=266,slow=5.6,SNR=20							
CHMT	**Chamberlain Mo**	**83.16**	**42**	P	**P**	**01 13 20.6**	**-1.0**
TPH	**Tonopah**	**84.03**	**51**	*e*P	**P**	**01 13 26.2**	**-0.1**
ISA	**Isabella**	**84.04**	**54**	*e*P	**P**	**01 13 26.6**	**+0.3**
MIB	**Mutribah**	**84.11**	**300**	*e*P	**P**	**01 13 25.5**	**-1.3**
MIB				AMb	AMB	01 13 28.4	
comp=Z,18nm,1.2s,mb5.1							
LRM	**Limekiln Ridge**	**84.12**	**43**	*e*P	**P**	**01 13 26.5**	**0.0**
DLMT	**Dillon**	**84.22**	**43**	*e*P	**P**	**01 13 27.5**	**+0.4**
RDF	**Al-Radifah**	**84.26**	**299**	*e*P	**P**	**01 13 26.3**	**-1.3**
RDF				AMb	AMB	01 13 29.3	
comp=Z,14nm,1.1s,mb5.0							
MCMT	**McKenzie Canyo**	**84.29**	**44**	P	**P**	**01 13 27.2**	**-0.2**
NAY	**Al-Naaiem**	**84.39**	**299**	*e*P	**P**	**01 13 26.9**	**-1.3**
NAY				AMb	AMB	01 13 30.5	
comp=Z,14nm,1.3s,mb4.9							
BOZ	**Bozeman (W)**	**84.71**	**43**	*e*P	**P**	**01 13 29.9**	**+0.4**
EGMT	**Eagleton**	**84.81**	**40**	*e*P	**P**	**01 13 30.1**	**+0.1**
comp=Z,23nm,1.4s,mb5.1							
TPNV	**Topopah Spring**	**85.19**	**52**	*e*P	**P**	**01 13 31.8**	**-0.3**
comp=Z,18nm,1.4s,mb5.0							
QLMT	**Earthquake Lak**	**85.20**	**43**	*e*P	**P**	**01 13 33.0**	**+1.0**
GSC	**Goldstone**	**85.43**	**54**	*e*P	**P**	**01 13 33.5**	**+0.1**
comp=Z,13nm,1.3s,mb4.9							
YMR	**Madison River**	**85.57**	**43**	*e*P	**P**	**01 13 34.4**	**+0.5**
comp=Z,16nm,1.3s,mb5.1							
HVU	**Hansel Valley**	**85.64**	**47**	*e*P	**P**	**01 13 34.9**	**+0.6**
FFC	**Flin Flon**	**85.73**	**32**	*e*P	**P**	**01 13 34.3**	**-0.1**
GCMT	**Greycliff**	**85.88**	**42**	*e*P	**P**	**01 13 35.1**	**-0.2**
IMW	**Indian Meadow**	**85.93**	**44**	*e*P	**P**	**01 13 35.7**	**0.0**
comp=Z,

M_{0}1.79±.04; M_{0}r0.35±.04; Best double couple: M_{0}2.74300×10[17] NP1:φs39.00000°,δ36.00000°, λ-106.00000°. NP2:φs239.00000°,δ55.00000°, λ-78.00000°. Principal axes: T 3.0720, Plg10.0000°, Azm320.0000°; N -0.6530, Plg10.0000°, Azm52.0000°; P -2.4140, Plg76.0000°, Azm186.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
AUST **24** 01:06:27,960S×11886E,h50km,ML5.5
IDC **24** 01:06:29.3±0.4,935S×11893E,h70km±3km,mb4.9/30, mb1 4.9/30,mb1mx4.9/31,mbtmp4.9/30,MS4.8/23, Ms1 4.8/23,ms1mx4.7/29,Error ellipse: s-maj=9.8km s-min=8.5km az=77.0
ISC 24 01:06:28.0±0.2,**959S**±003×**11888E**±003,**h65**km, **h65**km±2.3km**:pP-P,n1016,**σ1§**19**/425,**mb5.3**/121, **160C-151D,Sumbawa region**

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KHKI Kahang-Kahang 3.45 290 P **Pn 01 07 19.4 0.0**
5µm,0.6s
NBBI Negara 4.38 286 P **Pn 01 07 32.4 +0.4**
7µm,1.3s
KAPI Kappang 4.63 11 P **Pn 01 07 37.9 +2.4**
KAPI S **Sn 01 08 30.1 +2.2**
KAPI LR LR 01 09 39.3
KAPI Kappang 4.63 11 P **Pn 01 07 39.6 +4.1**
SNR=102
KAPI Kappang 4.63 11 P **Pn 01 07 39.6 +4.1**
SNR=102
KAPI Kappang 4.63 11 P **Pn 01 07 39.6 +4.1**
SNR=102
KAPI Kappang 4.63 11 P **Pn 01 07 37.9 +2.4**
136nm,0.3s,baz=196,slow=7.9,SNR=281
KAPI S **Sn 01 08 30.1 +2.2**
662nm,0.3s,baz=269,slow=23,SNR=16
KAPI LR LR 01 09 39.3
comp=Z,23µm,20.4s,baz=200,slow=43
BATI Kupang 4.76 98 P **Pn 01 07 39.2 +2.0**
1µm,0.3s,baz=272,slow=1.5,SNR=698
BATI S **Sn 01 08 31.0 -0.1**
933nm,0.3s,baz=220,slow=24,SNR=14
BATI LR LR 01 09 51.5
comp=Z,19µm,20.0s,baz=276,slow=43
KMMI Kalianget 5.47 297 P **Pn 01 07 48.9 +1.8**
1µm,0.9s
KRKI Karangkates 6.50 282 P **Pn 01 08 00.2 -1.0**
5µm,0.6s
KDI Kendari 6.72 34 P **Pn 01 08 09.8 +5.7**
528nm,1.1s
PCI Palu 8.68 6 P **Pn 01 08 38.3 +7.3**
1µm,1.2s
BJII Banjamegara 9.34 283 P **Pn 01 08 40.9 +0.9**
491nm,0.9s
FITZ Fitzroy Crossi 10.71 143 ⇑*i*P **Pn 01 08 56.0 -2.7**
1µm,0.6s
FITZ *e*S **Sn 01 10 47.3 -10**
FITZ Fitzroy Crossi 10.71 143 P **Pn 01 08 56.2 -2.4**
41nm,0.3s,baz=328,slow=11,SNR=468
FITZ S **Sn 01 10 47.0 -10**
80nm,0.3s,baz=181,slow=23,SNR=8.3
FITZ LR LR 01 13 24.2
comp=Z,5µm,21.8s,baz=322,slow=38
LEM Lembang 11.48 283 P **Pn 01 09 08.1 -1.1**
472nm,1.1s
MBWA Marble Bar 11.53 176 *e*Pn **Pn 01 09 06.6 -3.3**
MBWA *e*Sn **Sn 01 11 02.1 -15**
MBWA Marble Bar 11.53 176 P **Pn 01 09 08.4 -1.5**
SNR=37
MBWA Marble Bar 11.53 176 P **Pn 01 09 08.4 -1.5**
SNR=37
MBWA Marble Bar 11.53 176 P **Pn 01 09 08.4 -1.5**
SNR=37
MBWA Marble Bar 11.53 176 P **Pn 01 09 08.4 -1.5**
SNR=37
CBJI Citeko 12.32 284 P **Pn 01 09 17.4 -3.3**
872nm,1.0s
XMIS Christmas Isla 13.05 265 *e*Pn **Pn 01 09 32.9 +2.2**
TPI Tanjungpandan 13.05 301 P **Pn 01 09 31.9 +1.2**
128nm,1.7s
SBJI Serang 13.09 284 P **Pn 01 09 30.8 -0.4**
354nm,1.0s
KAKA Kakadu 13.66 104 *e*P **Pn 01 09 35.8 -3.1**
578nm,0.6s
KAKA *e*S **Sn 01 12 00.4 -8.7**
SBUM Sibu 13.68 331 ⇑P **Pn 01 09 42.9 +3.8**
TSM Tawau 13.83 356 ⇑P **Pn 01 09 47.1 +6.1**
KSM Kuching 13.91 322 ⇑*i*Pn **Pn 01 09 44.6 +2.4**
KSM *i* Sn **Sn 01 12 25.3 +10**
KSM Kuching 13.91 322 ⇑P **Pn 01 09 45.2 +3.0**
BTM Bintulu 13.95 335 ⇑P **Pn 01 09 51.1 +8.3**
MYLDM Lahad Datu 14.68 359 ⇑P **Pn 01 09 59.2 +7.0**
SDKM Sandakan 15.22 354 ⇓P **Pn 01 10 05.2 +5.9**
KKM Kota Kinabalu 15.76 350 *e*Pn **Pn 01 10 08.4 +2.3**
KKM Kota Kinabalu 15.76 350 ⇓P **Pn 01 10 09.8 +3.7**
KDM Kudat 16.52 353 ⇑P **Pn 01 10 20.3 +4.6**
KSI Kapahiang 17.21 289 P **Pn 01 10 22.5 -1.8**
1µm,1.2s
DAV Davao City (W) 17.84 22 Pn **Pn 01 10 28.9 -3.1**
DAV Davao City (W) 17.84 22 *e*P **Pn 01 10 41.7 +10**
WRA Warramunga Arr 18.14 126 P **Pn 01 10 33.3 -2.2**
21nm,0.3s,baz=301,slow=14,SNR=307
WRA S **S 01 13 44.8 -14**
16nm,0.3s,baz=297,slow=24,SNR=6.0
WRA LR LR 01 18 11.6
comp=Z,3µm,19.3s,baz=300,slow=38
WRAB Tennant Creek 18.14 126 P **Pn 01 10 33.8 -1.7**
4µm,1.1s
WRAB Tennant Creek 18.14 126 *e*P **Pn 01 10 33.3 -2.2**
WRAB pmax pmax
comp=Z,590nm,1.0s
WRAB Tennant Creek 18.14 126 *e*P **Pn 01 10 33.3 -2.3**
comp=Z,590nm,0.9s
WRAB *e*S **S 01 13 39.5 -19**
WB2 Warramunga Arr 18.14 126 *e*P **Pn 01 10 33.3 -2.3**
WB2 *e*S **S 01 13 43.0 -16**
MYKOM Kota Tinggi 18.76 306 ⇓P **Pn 01 10 43.5 +0.5**
KGM Kluang 19.32 306 ⇓P **Pn 01 10 48.7 -1.0**
TBP Tagbilaran 19.79 15 *e*P **Pn 01 10 56.4 +1.2**
ASAR Alice Springs 20.05 136 P **P 01 10 56.0 0.0**
comp=Z,240nm,0.8s,baz=320,slow=11,SNR=476
ASAR S **S 01 14 30.5 -7.4**
comp=Z,165nm,0.9s,baz=312,slow=24,SNR=7.3
PPI Padang Panjang 20.50 295 P **P 01 10 58.3 -2.7**
comp=Z,295nm,0.9s
PPI Padang Panjang 20.50 295⇓*e*P **P 01 10 58.3 -2.7**
FRIM Kepong 21.40 306 ⇑P **P 01 11 10.5 -0.1**
PLP Palo 21.49 17 *e*P **P 01 11 13.9 +2.4**
KTGM Kuala Trenggan 21.58 313 ⇓P **P 01 11 14.4 +1.9**
COCO West Island 21.80 261 PFAKE 01 11 30.0 +15
COCO LR LR
comp=Z,2µm,22.0s
KLBR Kellerberrin 21.92 183 *e*P **P 01 11 15.4 -0.6**
comp=Z,102nm,0.9s,mb5.2
KLBR *e* 01 11 26.9
KLBR *e*S **S 01 15 01.2 -13**
MUN Mundaring 22.42 186 *e*P **P 01 11 32.7 +11**
MUN *e*S **S 01 15 16.0 -7.4**
IPM Ipoh 22.62 307 ⇓P **P 01 11 23.8 +0.2**
FORT Forrest 22.75 159 *e*P **P 01 11 24.3 -0.5**
comp=Z,176nm,0.5s,mb5.7
FORT *e*S **S 01 15 29.1 +0.2**
NWAO Narrogin (SRO) 23.27 183 *e*P **P 01 11 29.8 -0.2**
NWAO S **S 01 15 35.0 -2.3**
NWAO LR LR 01 20 41.8
NWAO Narrogin (SRO) 23.27 183 P **P 01 11 29.6 -0.5**
comp=Z,33nm,0.7s,mb4.8,baz=14,slow=8.7,SNR=24
NWAO S **S 01 15 35.0 -2.3**
comp=Z,225nm,0.6s,baz=271,slow=22,SNR=3.3
NWAO LR LR 01 20 41.8
comp=Z,2µm,20.8s,baz=170,slow=36
PSI Prapat 23.38 301 P **P 01 11 29.6 -1.7**
comp=Z,204nm,0.7s,mb5.5,baz=152,slow=8.9,SNR=105
PSI LR LR 01 23 01.8
comp=Z,2µm,20.7s,baz=127,slow=43
KULM Kulim 23.42 308 ⇑*i*P **P 01 11 29.7 -1.9**
KULM *e*S **S 01 15 45.3 +5.3**
KULM Kulim 23.42 308 ⇑P **P 01 11 30.6 -1.0**
TSI Tuntungan 24.06 302 P **P 01 11 37.5 +0.1**
comp=Z,2µm,1.0s,mb6.3
TSI Tuntungan 24.06 302⇑*e*P **P 01 11 36.0 -1.4**
SNG Songkhla 24.66 312 P **P 01 11 44.0 +1.1**
comp=Z,220nm,1.1s,mb5.5
BSI Banda Aceh 27.87 302 P **P 01 12 12.4 +0.5**
comp=Z,83nm,1.2s,mb5.1
CTA Charters Tower 28.40 115 *e*P **P 01 12 18.3 +1.7**
comp=Z,25nm,0.8s,mb4.8
CTA Charters Tower 28.40 115 *e*P **P 01 12 18.3 +1.7**
CTA pmax pmax
comp=Z,25nm,0.8s
CTA Charters Tower 28.40 115 P **P 01 12 18.5 +2.0**
comp=Z,37nm,1.0s,mb4.9,baz=284,slow=12,SNR=6.4
CTA LR LR 01 22 56.9
comp=Z,2µm,21.9s,baz=284,slow=35
CTAO Charters Tower 28.40 115 *e*P **P 01 12 18.5 +1.9**
CTAO pmax pmax
comp=Z,190nm,1.3s,mb5.5
CTAO Charters Tower 28.40 115 *e*P **P 01 12 18.5 +1.9**
comp=Z,190nm,1.3s,mb5.5
QIZ Qiongzhong 29.80 343 P **P 01 12 30.8 +1.9**
QIZ AP pP 01 12 43.1 -1.6
QIZ XP sP 01 12 49.1 -3.3
QIZ PP PP 01 13 32.8 -4.5
QIZ S **S 01 17 24.8 +3.8**
QIZ XS sS 01 17 44.8 -3.3
QIZ SS SS 01 19 00.5 -30
QIZ AMB AMB
comp=Z,69nm,1.6s,mb5.0
QIZ LR LR
comp=E,1µm,21.6s
QIZ LR LR
comp=Z,2µm,34.6s
QIZ Qiongzhong 29.80 343 *e*P **P 01 12 28.8 -0.1**
comp=Z,41nm,1.0s,mb5.0
QIZ *e*PP PP 01 13 32.8 -4.5
QIZ LR LR
comp=Z,1µm,21.0s
KKTK Khon Kaen 30.27 328 P **P 01 12 34.5 +1.5**
comp=Z,679nm,0.9s,mb6.3
STKA Stephens Creek 30.58 140⇓*i*P **P 01 12 36.5 +0.8**
comp=Z,46nm,0.8s,mb5.2
STKA *e*S **S 01 17 19.4 -14**
STKA Stephens Creek 30.58 140 P **P 01 12 36.6 +0.9**
comp=Z,44nm,0.7s,mb5.3,baz=311,slow=8.7,SNR=62
STKA LR LR 01 25 38.4
comp=Z,3µm,18.1s,baz=126,slow=37
NST Nakhon Sawan 31.22 323 P **P 01 12 40.0 -1.5**
GZH Guangzhou 32.92 351 P **P 01 13 00.6 +4.3**
GZH S **S 01 18 17.3 +7.6**
GZH AMB AMB
comp=Z,125nm,0.9s,mb5.7
GZH LR LR
comp=N,1µm,25.9s
GZH LR LR
comp=E,890nm,26.2s
GZH LR LR
comp=Z,2µm,19.4s
NACB Ninganchiao 33.66 4 P **P 01 13 02.8 0.0**
comp=Z,59nm,1.3s,mb5.3
CM31 Chiang Mai Arr 34.11 325 *e*P **P 01 13 07.8 +1.1**
comp=Z,20nm,0.7s,mb5.0
CM31 LR LR
comp=Z,2µm,20.0s
YHNB Yeheng 34.14 4 *e*P **P 01 13 07.2 +0.4**
comp=Z,79nm,1.0s,mb5.5
QZH Quanzhou 34.32 360 *e*P **P 01 13 12.0 +3.5**
QZH S **S 01 18 29.0 -2.3**
QZH LR LR
comp=N,860nm,13.4s
QZH LR LR
comp=E,1µm,10.8s
CHG Chiang Mai 34.40 325 ⇑P **P 01 13 09.8 +0.6**
comp=E,75nm,0.9s,mb5.5
CHTO Chiang Mai 34.40 325 *e*P **P 01 13 09.8 +0.6**
CHTO LR LR
comp=Z,2µm,22.0s
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
CHTO Chiang Mai 34.40 325 P **P 01 13 10.3 +1.2**
SNR=14
TATO Taipei 34.45 4 *e*P **P 01 13 09.7 +0.1**
comp=Z,112nm,0.9s,mb5.7
TATO *e* pP 01 13 26.3 +0.7
TATO LR LR
comp=Z,1µm,21.0s
GUMO Guam 34.58 49 PFAKE 01 13 20.0 +9.2
GUMO LR LR
comp=Z,2µm,19.0s
TOO Toolangi 36.77 144 *e*P **P 01 13 31.5 +2.1**
comp=Z,931nm,0.9s
TOO Toolangi 36.77 144 *e*P **P 01 13 31.5 +2.1**
TOO pmax pmax
comp=Z,931nm,0.9s
ARMA Armidale 36.88 129 *e*P **P 01 13 33.2 +2.7**
JOW Kunigami 37.34 14 P **P 01 13 34.6 +0.4**
comp=Z,14nm,0.6s,mb5.0,baz=175,slow=6.4,SNR=6.8
JOW LR LR 01 28 04.4
comp=Z,1µm,20.4s,baz=184,slow=35
GYA Guiyang 37.74 342⇑*i*P **P 01 13 41.3 +3.6**
GYA AP pP 01 13 54.9 +1.0
GYA PP PP 01 15 12.0 +6.9
GYA PCP PcP 01 15 56.9 +3.3
GYA S **S 01 19 29.5 +5.9**
GYA SCP ScP 01 19 39.3 +3.7
GYA PCS PcS 01 19 44.8 +2.3
GYA SS SS 01 22 07.3 -4.2
GYA SCS ScS 01 23 46.8 +2.3
GYA AMB AMB
comp=Z,80nm,1.0s,mb5.5
GYA AMB AMB
comp=Z,190nm,5.2s
GYA LR LR
comp=N,680nm,20.2s
GYA LR LR
comp=E,690nm,21.2s
GYA LR LR
comp=Z,2µm,22.2s
KMI Kunming 37.92 336 P **P 01 13 41.9 +2.7**
KMI AP pP 01 13 53.9 -1.5
KMI PP PP 01 15 12.3 +5.3
KMI PCP PcP 01 15 58.8 +4.6
KMI AMB AMB
comp=Z,91nm,1.1s,mb5.5
KMI AMB AMB
comp=Z,246nm,3.1s
KMI LR LR
comp=N,965nm,18.1s
KMI LR LR
comp=E,986nm,14.7s
KMI LR LR
comp=Z,2µm,31.1s
WHN Wuhan 40.14 354⇑*i*P **P 01 13 59.8 +2.2**
WHN AP pP 01 14 10.0 -3.9
WHN S **S 01 20 00.3 +0.8**
WHN LR LR
comp=N,895nm,10.6s
WHN LR LR
comp=E,2µm,14.8s
WHN LR LR
comp=Z,2µm,18.2s
HNR Honiara 40.49 93 P **P 01 14 00.4 -0.5**
HNR MLR MLR
comp=Z,2µm,22.0s
HNR Honiara 40.49 93 LR LR 01 30 21.1
comp=Z,1µm,19.4s,baz=179,slow=35
SSE Sheshan 40.51 3 P **P 01 14 02.6 +1.9**
SSE XP sP 01 14 22.1 -2.5
SSE S **S 01 20 11.0 +5.9**
SSE AMB AMB
comp=Z,34nm,1.2s,mb5.0
SSE AMB AMB
comp=Z,341nm,9.0s
SSE LR LR
comp=N,656nm,25.3s
SSE LR LR
comp=E,481nm,25.3s
SSE LR LR
comp=Z,1µm,23.5s
ENH Enshi 40.65 347 PFAKE 01 14 10.0 +8.2
ENH LR LR
comp=Z,3.0nm,19.0s
NJ2 Nanjing 41.40 360 *e*P **P 01 14 09.9 +1.9**
NJ2 AP pP 01 14 18.3 -6.1
NJ2 XP sP 01 14 26.5 -5.5
NJ2 PP PP 01 15 47.3 +2.4
NJ2 S **S 01 20 17.5 -0.8**
NJ2 XS sS 01 20 35.0 -11
NJ2 AMB AMB
comp=Z,60nm,0.8s,mb5.5
NJ2 AMB AMB
comp=Z,480nm,5.4s
NJ2 LR LR
comp=N,2µm,16.6s
NJ2 LR LR
comp=E,1µm,17.8s
NJ2 LR LR
comp=Z,1µm,17.8s
TAU Tasmania Unive 41.46 148 *e*P **P 01 14 10.4 +1.9**
TAU pmax pmax
comp=Z,19nm,0.7s,mb5.0
TAU MLR MLR
comp=Z,3µm,20.0s
TAU Tasmania Unive 41.46 148 *e*P **P 01 14 10.3 +1.9**
comp=Z,19nm,0.7s,mb5.0
TAU LR LR
comp=Z,3µm,20.0s
PALK Pallekele 41.55 292 P **P 01 14 10.5 +0.9**
comp=Z,148nm,0.5s,mb6.0,SNR=5.2
PALK Pallekele 41.55 292 *e*P **P 01 14 10.0 +0.4**
PALK LR LR
comp=Z,863nm,22.0s
CD2 Chengdu 42.80 341⇑*i*P **P 01 14 20.1 +0.6**
CD2 AP pP 01 14 35.6 -0.3
CD2 PP PP 01 16 06.6 +6.6
CD2 PCP PcP 01 16 13.4 +3.6
CD2 PCS PcS 01 20 04.5 +2.4
CD2 S **S 01 20 37.0 -2.0**
CD2 SS SS 01 23 51.4 -1.0
CD2 SCS ScS 01 24 17.3 +2.8
CD2 AMB AMB
comp=Z,260nm,0.8s,mb6.0
CD2 AMB AMB
comp=Z,370nm,7.2s
CD2 LR LR
comp=N,1µm,25.2s
CD2 LR LR
comp=E,940nm,18.0s
CD2 LR LR
comp=Z,940nm,26.4s
AGT Agartala 42.84 321 *e*x x 01 15 12.0
CBIJ Chichi jima 42.91 31 P **P 01 14 19.2 -1.2**
comp=Z,104nm,0.7s,mb5.7,baz=262,slow=17,SNR=4.4
SHL Shillong 43.72 324 *e*P **P 01 14 26.0 -1.0**
SHL *e*x x 01 18 28.0
JNU Nakatsue 43.98 15 P **P 01 14 28.6 -0.3**
comp=Z,29nm,1.0s,mb5.0,baz=208,slow=14,SNR=9.8
VIS Vishakhapatnam 44.38 308 *e*P **P 01 14 31.2 -1.1**
XAN Xi'an 44.41 348 P **P 01 14 32.4 +0.1**
XAN XP sP 01 14 49.8 -6.5
XAN PP PP 01 16 15.6 -1.5
XAN AMB AMB
comp=Z,69nm,1.2s,mb5.3
XAN AMB AMB
comp=Z,139nm,5.9s
XAN LR LR
comp=N,819nm,24.6s
XAN LR LR
comp=E,289nm,21.8s
XAN LR LR
comp=Z,2µm,22.5s
TRD Trivandrum 45.45 292 *e*P **P 01 14 40.1 -0.8**
TIA Tai'an 45.58 358 ⇓P **P 01 14 43.0 +1.4**
KOD Kodaikanal 45.67 294 *e*P **P 01 14 42.2 -0.4**
BOK Bokaro 46.27 316 *e*P **P 01 14 46.1 -1.1**
JHJ Hachijo jima 2 46.91 24 LR LR 01 32 10.6
comp=Z,1µm,21.3s,baz=32,slow=33
LSA Lhasa 47.31 327 P **P 01 14 58.0 +2.7**
LSA AP pP 01 15 07.0 -5.0
LSA XP sP 01 15 11.4 -8.1
LSA PP PP 01 16 45.6 -1.5
LSA S **S 01 21 40.0 -4.3**
LSA SS SS 01 25 04.0 -8.8
LSA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
LSA AMB AMB
comp=Z,110nm,2.8s,mb5.1
LSA LR LR
comp=N,540nm,30.5s
LSA LR LR
comp=E,790nm,30.5s
LSA LR LR
comp=Z,1µm,36.6s
LSA Lhasa 47.31 327 *e*P **P 01 14 56.1 +0.8**
LSA pmax pmax
comp=Z,118nm,1.1s,mb5.5
LSA MLR MLR
comp=Z,991nm,21.0s
LSA Lhasa 47.31 327 *e*P **P 01 14 56.1 +0.8**
comp=Z,118nm,1.1s,mb5.5
LSA LR LR
comp=Z,991nm,21.0s
INCN Inchon 47.38 8 PFAKE 01 15 10.0 +14
INCN LR LR
comp=Z,592nm,20.0s
KS15 Wonju Array Si 47.54 10 *e*P **P 01 14 58.0 +1.1**
KS15 *e*pP pP 01 15 15.3 +1.7
KSRS Korea Array 47.56 10 P **P 01 14 57.0 -0.1**
comp=Z,13nm,1.0s,mb4.7,baz=186,slow=8.4,SNR=25
KSRS pP pP 01 15 13.2 -0.5
comp=Z,26nm,0.9s,baz=186,slow=9.2,SNR=8.1
KSRS PcP PcP 01 16 25.1 -1.0
comp=Z,13nm,0.9s,baz=182,slow=6.5,SNR=3.2
KSRS ScP ScP 01 20 14.3 -0.4
comp=Z,3.5nm,0.9s,baz=201,slow=4.5,SNR=4.9
KSRS LR LR 01 39 01.5
comp=Z,547nm,18.3s,baz=186,slow=41
LZH Lanzhou 47.59 343⇑*i*P **P 01 14 58.9 +1.6**
LZH AP pP 01 15 07.0 -7.0
LZH XP sP 01 15 11.9 -10
LZH PCP PcP 01 16 29.1 +2.9
LZH PP PP 01 16 48.0 -1.5
LZH *e*S **S 01 21 47.0 -0.9**
LZH XS sS 01 22 08.0 -8.2
LZH AMB AMB
comp=Z,98nm,1.0s,mb5.6
LZH AMB AMB
comp=Z,405nm,5.6s
LZH LR LR
comp=N,2µm,15.0s
LZH LR LR
comp=Z,2µm,16.2s
BLSP Bilaspur 47.87 312 *e*P **P 01 14 58.5 -1.3**
HYB Hyderabad 48.04 304 *e*P **P 01 15 00.0 -1.1**
HYB pmax pmax
comp=Z,50nm,1.0s,mb5.3
HYB Hyderabad 48.04 304 *e*P **P 01 15 00.0 -1.1**
comp=Z,50nm,1.0s,mb5.3
HYB Hyderabad 48.04 304 *i* P **P 01 15 00.0 -1.1**
comp=Z,50nm,1.0s,mb5.3
DL2 Dalian 48.31 3 P **P 01 15 02.4 -0.4**
DL2 XP sP 01 15 19.6 -7.4
DL2 S **S 01 21 56.3 -1.8**
DL2 SCS ScS 01 24 49.6 -0.1
DL2 AMB AMB
comp=Z,40nm,0.8s,mb5.3
DL2 AMB AMB
comp=Z,210nm,5.7s
DL2 LR LR
comp=N,260nm,22.8s
DL2 LR LR
comp=E,380nm,22.0s
DL2 LR LR
comp=Z,520nm,22.2s
JIRN Jiri 48.71 320 *e*P **P 01 15 06.3 +0.1**
comp=Z,193nm,0.7s,mb6.2
GUN Gumba 49.09 320 *e*P **P 01 15 09.0 0.0**
comp=Z,217nm,0.7s,mb6.2
PKI Pulchoki 49.15 320 *e*P **P 01 15 09.0 -0.5**
comp=Z,77nm,0.6s,mb5.8
PKIN Phulchoki 49.16 320 *e*P **P 01 15 09.0 -0.6**
comp=Z,52nm,0.5s,mb5.7
MAJO Matsushiro 49.36 21 *e*P **P 01 15 09.9 -1.0**
comp=Z,61nm,1.2s,mb5.4
MAJO LR LR
comp=Z,848nm,21.0s
MAT Matsushiro 49.36 21 P **P 01 15 09.5 -1.4**

MAT S S 01 22 11.0 -1.8
MJAR Matsushiro Arr 49.36 21 P **P** **01 15 09.2 -1.7**
MJAR *PP pP 01 15 26.4 -1.3
MJAR Matsushiro Arr 49.36 21 P **P** **01 15 09.2 -1.7**
comp=Z,37nm,1.0s,mb5.3,baz=194,slow=7.9,SNR=72
MJAR pP pP 01 15 26.4 -1.3
comp=Z,18nm,0.8s,baz=198,slow=7.6,SNR=5.1
MJAR ScP ScP 01 20 21.7 -0.7
comp=Z,0.5nm,0.3s,baz=197,slow=5.3,SNR=4.3
MJAR LR LR 01 33 16.0
comp=Z,825nm,21.4s,baz=185,slow=33
DMN Daman 49.37 319 *e*P **P** **01 15 10.9 -0.3**
comp=Z,82nm,0.5s,mb5.9
KKN Kakani 49.38 320 *e*P **P** **01 15 11.5 +0.2**
comp=Z,122nm,0.9s,mb5.8
BJT Baijiatuau 49.42 357 *e*P **P** **01 15 11.6 +0.3**
BJT *e* 01 16 33.6
BJT pmax pmax
comp=Z,80nm,0.6s
BJT MLR MLR
comp=Z,1μm,22.0s
BJT Baijiatuau 49.42 357 *e*P **P** **01 15 11.6 +0.3**
comp=Z,80nm,0.6s,mb5.8
BJT *e*PcP PcP 01 16 33.6 +0.9
BJT LR LR
comp=Z,1μm,22.0s
BJI Beijing 49.44 357 P **P** **01 15 11.6 +0.1**
BJI S **S** **01 22 10.0 -3.9**
BJI SS SS 01 25 44.8 -2.0
BJI AMB AMB
comp=Z,49nm,1.0s,mb5.4
BJI LR LR
comp=N,708nm,19.8s
BJI LR LR
comp=E,530nm,25.6s
BJI LR LR
comp=Z,1μm,23.3s
NGP Nagpur 49.64 308 *e*P **P** **01 15 13.2 -0.1**
NGP AMb AMB 01 15 16.1
comp=Z,79nm,1.3s,mb5.5
GKN Gorkha 49.94 319 *e*P **P** **01 15 14.9 -0.6**
comp=Z,13nm,0.4s,mb5.2
KOLN Koldanda 50.45 318 *e*P **P** **01 15 18.8 -0.6**
comp=Z,148nm,0.8s,mb6.0
BTO Baotou 50.61 351 *e*P **P** **01 15 20.6 +0.3**
HHC Hu-ho-hao-te 50.64 353 *e*P **P** **01 15 21.3 +0.8**
HHC AP pP 01 15 36.9 -0.4
HHC PCP PcP 01 16 36.5 -0.7
HHC PP PP 01 17 19.9 +2.7
HHC SCP ScP 01 20 27.3 -0.5
HHC S **S** **01 22 29.8 -0.7**
HHC SCS ScS 01 25 04.0 -1.4
HHC SS SS 01 26 05.3 -0.5
HHC AMB AMB
comp=Z,38nm,1.2s,mb5.3
HHC AMB AMB
comp=Z,154nm,4.5s
HHC LR LR
comp=N,578nm,15.1s
HHC LR LR
comp=E,763nm,16.2s
HHC LR LR
comp=Z,743nm,22.5s
DANN Dangsing 50.74 319 *e*P **P** **01 15 21.1 -0.4**
comp=Z,308nm,0.7s,mb6.5
AKL Akola 50.99 306 *e*P **P** **01 15 23.1 -0.5**
GOA Goa 51.11 299 *e*x x 01 15 12.9
SNY Shenyang 51.34 4 ⇓P **P** **01 15 25.1 -0.7**
SNY AP pP 01 15 36.3 -6.4
SNY XP sP 01 15 43.3 -6.8
SNY SCS ScS 01 25 08.0 -2.2
SNY SS SS 01 26 13.3 -3.7
SNY AMB AMB
comp=Z,30nm,1.4s,mb5.1
SNY AMB AMB
comp=Z,370nm,12.0s
SNY LR LR
comp=N,383nm,13.5s
SNY LR LR
comp=E,367nm,17.1s
SNY LR LR
comp=Z,967nm,40.2s
KAD Karad 51.62 301 *e*P **P** **01 15 26.8 -1.5**
GTA Gaotai 51.87 341 ⇓*i*P **P** **01 15 31.0 +1.2**
GTA AP pP 01 15 44.3 -2.3
GTA XP sP 01 15 49.3 -4.8
GTA PCP PcP 01 16 43.6 +1.8
GTA PP PP 01 17 28.9 +0.5
GTA SCP ScP 01 20 34.8 +1.7
GTA PCS PcS 01 20 39.3 -0.6
GTA S **S** **01 22 47.9 +0.4**
GTA XS sS 01 23 11.1 -5.0
GTA SCS ScS 01 25 12.4 -1.5
GTA SS SS 01 26 23.9 -1.5
GTA AMB AMB
comp=Z,131nm,0.9s,mb6.0
GTA AMB AMB
comp=Z,235nm,6.1s
GTA LR LR
comp=N,554nm,19.8s
GTA LR LR
comp=E,756nm,19.4s
GTA LR LR
comp=Z,879nm,20.9s
BHPL Bhopal 52.05 309 *e*P **P** **01 15 30.1 -1.3**
POO Poona 52.48 302 *e*P **P** **01 15 33.1 -1.6**
CN2 Changchun 53.47 6 *e*P **P** **01 15 40.4 -1.1**
CN2 *e*AP pP 01 15 53.1 -5.4
CN2 PCP PcP 01 16 44.6 -3.2
CN2 *e*S **S** **01 23 02.6 -6.6**
CN2 SCS ScS 01 25 26.0 +1.1
CN2 AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
CN2 AMB AMB
comp=Z,200nm,3.0s
CN2 LR LR
comp=N,700nm,22.0s
CN2 LR LR
comp=E,500nm,22.0s
CN2 LR LR
comp=Z,700nm,22.0s
PTH Pithoragarh 53.86 318 *e*P **P** **01 15 43.1 -1.5**
MDJ Mudanjiang 54.81 9 P **P** **01 15 51.6 +0.3**
MDJ AP pP 01 16 03.4 -4.9
MDJ XP sP 01 16 08.3 -7.4
MDJ S **S** **01 23 22.8 -4.5**
MDJ AMB AMB
comp=Z,34nm,1.2s,mb5.2
MDJ AMB AMB
comp=Z,327nm,12.0s
MDJ LR LR
comp=N,815nm,38.4s
MDJ LR LR
comp=Z,922nm,38.4s
MDJ Mudanjiang 54.81 9 *e*P **P** **01 15 51.6 +0.3**
comp=Z,81nm,0.8s,mb5.8
MDJ LR LR
comp=Z,1μm,21.0s
NDI New Delhi 55.36 315 *e*P **P** **01 15 53.0 -2.6**
BHV Bhavnagar 55.43 305 *e*P **P** **01 15 55.0 -1.2**
DDI Dehra Dun 55.79 317 *e*P **P** **01 15 59.0 +0.4**
AJM Ajmer 55.95 311 *e*P **P** **01 15 58.3 -1.5**
ERM Erimo 55.97 22 PFAKE 01 16 10.0 +10
ERM LR LR
comp=Z,1μm,20.0s
RPZ Rata Peaks 56.46 137 LR LR 01 39 52.8
comp=Z,2μm,18.5s,baz=285,slow=35
SMLA Simla 56.89 317 *e*P **P** **01 16 06.1 -0.4**
SMLA AMb AMB 01 16 14.6
comp=Z,75nm,1.6s,mb5.5
CASY Casey 56.90 184 PFAKE 01 16 20.0 +14
CASY LR LR
comp=Z,2μm,19.0s
SDNR Sundarnagar 57.25 317 *e*P **P** **01 16 08.0 -1.0**
ASAJ Asahikawa 57.62 20 P **P** **01 16 09.2 -2.1**
comp=Z,14nm,0.8s,mb5.1,baz=225,slow=8.7,SNR=5.9
ULN Ulaanbaatar 58.15 351 PFAKE 01 16 30.0 +15
ULN LR LR
comp=Z,1μm,22.0s
BHJ Bhuj 58.17 305 *e*P **P** **01 16 15.2 -0.3**
SONM Songino Array 58.23 350 P **P** **01 16 15.4 -0.1**
SONM *PP pP 01 16 32.9 +0.2
SONM S **S** **01 24 10.1 -2.3**
SONM Songino Array 58.23 350 P **P** **01 16 15.4 -0.1**
comp=Z,57nm,0.8s,mb5.7,baz=166,slow=7.2,SNR=51
SONM pP pP 01 16 32.9 +0.2
comp=Z,72nm,0.8s,baz=173,slow=6.2,SNR=10
SONM ScP ScP 01 21 00.8 0.0
comp=Z,4.9nm,1.1s,baz=219,slow=1.9,SNR=3.5
SONM S **S** **01 24 10.1 -2.3**
comp=Z,0.8nm,0.8s,baz=160,slow=17,SNR=2.8
SONM PKPPKP 01 45 59.8
comp=Z,1.6nm,1.1s,baz=240,slow=2.9,SNR=5.9
SNZO South Karori 58.26 133 PFAKE 01 16 30.0 +14
SNZO LR LR
comp=Z,1μm,19.0s
HIA Hailar 58.61 1 *e*P **P** **01 16 18.1 0.0**
HIA pmax pmax
comp=Z,48nm,1.0s
HIA MLR MLR
comp=Z,672nm,19.0s
HIA Hailar 58.61 1 *e*P **P** **01 16 18.1 0.0**
comp=Z,48nm,1.0s,mb5.5
HIA LR LR
comp=Z,672nm,19.0s
THN Thein Dam 58.67 317 *e*P **P** **01 16 16.4 -2.5**
URZ Urewera 59.28 129 LR LR 01 42 24.6
comp=Z,1μm,20.3s,baz=110,slow=36
FUNA Funafuti 59.51 94 PFAKE 01 16 40.0 +15
FUNA LR LR
comp=Z,6μm,21.0s
MIR Mirnyy 59.55 192 ⇓*i*P **P** **01 16 26.0 +1.6**
MIR *i* 01 17 12.5
MIR pmax pmax
comp=Z,300nm,2.0s,mb6.0
HABR Khabarovsk 59.55 12 *e*P **P** **01 16 23.7 -0.9**
HABR *e* pP 01 16 41.8 0.0
HABR *e* 01 17 11.4
HABR *e* 01 18 33.5
HABR *e* 01 26 04.6
HABR *e* 01 28 23.2
KLR Kul'dur 59.65 10 *e*P **P** **01 16 20.3 -5.0**
KLR *e* pP 01 16 38.1 -4.4
KLR *e* 01 18 45.5
KLR pmax pmax
comp=Z,50nm,1.8s,mb5.2
YSS Yuzh-Sakhalins 60.18 19 *e*P **P** **01 16 32.2 +3.2**
YSS Yuzh-Sakhalins 60.18 19 PFAKE 01 16 40.0 +11
YSS LR LR
comp=Z,3053μm,20.0s
WMQ Urumqi 60.23 334 P **P** **01 16 30.0 +0.6**
WMQ AP pP 01 16 43.0 -3.6
WMQ XP sP 01 16 48.0 -6.0
WMQ PP PP 01 18 45.0 +2.0
WMQ S **S** **01 24 39.0 +0.6**
WMQ SS SS 01 28 37.0 +0.1
WMQ AMB AMB
comp=Z,132nm,1.0s,mb5.9
WMQ AMB AMB
comp=Z,264nm,6.0s
WMQ LR LR
comp=N,1μm,15.0s
WMQ LR LR
comp=E,1μm,15.0s
WMQ LR LR
comp=Z,1μm,15.0s
ZAK Zakamensk 61.25 349 ⇓*e*P **P** **01 16 36.1 -0.1**
ZAK pmax pmax
comp=Z,15nm,1.1s,mb4.9
CIT Chita 61.53 356 *e*P **P** **01 16 47.5 +9.5**
CIT *e* 01 16 55.9
TLY Talaya 62.42 349 P **P** **01 16 45.0 +1.0**
comp=Z,179nm,1.0s,mb6.0,SNR=5.5
TLY Talaya 62.42 349 *e*P **P** **01 16 44.1 +0.1**
TLY *e*S **S** **01 25 05.4 -0.5**
TLY pmax pmax
comp=Z,39nm,0.9s,mb5.4
TLY MLR MLR
comp=Z,1μm,27.0s
TLY Talaya 62.42 349 *e*P **P** **01 16 45.5 +1.5**
TLY LR LR
comp=Z,530nm,21.0s
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
TLY Talaya 62.42 349 P **P** **01 16 45.2 +1.2**
SNR=10
IRK Irkutsk 62.85 350 *e*P **P** **01 16 45.0 -1.9**
IRK pmax pmax
comp=Z,58nm,1.1s,mb5.4
MOY Mondy 62.93 348 *e*P **P** **01 16 47.8 +0.4**
MOY pmax pmax
comp=Z,62nm,2.9s,mb5.0
KSH Kashi 63.00 324 ⇑*i*P **P** **01 16 49.5 +1.3**
KSH *e*AP pP 01 17 02.0 -3.5
KSH *e*XP sP 01 17 08.1 -4.8
KSH *e*PCP PcP 01 17 27.0 +1.4
KSH *e*PP PP 01 19 10.3 +2.7
KSH *e*SCP ScP 01 21 24.0 +1.7
KSH *e*PCS PcS 01 21 29.0 0.0
KSH *e*S **S** **01 25 11.5 -2.2**
KSH *e*XS sS 01 25 35.1 -8.0
KSH *e*SCS ScS 01 26 34.1 -1.2
KSH *e*SS SS 01 29 21.4 +0.8
KSH AMB AMB
comp=Z,664nm,2.1s,mb6.2
KSH LR LR
comp=N,637nm,4.8s
KSH LR LR
comp=E,675nm,5.0s
KSH LR LR
comp=Z,3μm,22.8s
MSEY Mahe Island 63.03 270 PFAKE 01 17 00.0 +11
MSEY LR LR
comp=Z,332nm,22.0s
KBL Kabul 64.42 316 *e*P **P** **01 16 56.3 -1.3**
comp=Z,57nm,0.7s,mb5.5
KBL *e*PcP PcP 01 17 29.7 -1.8
ULHL Ulahol 64.67 326 P **P** **01 16 59.0 -0.1**
SNR=14
MK31 Makanchi Array 64.92 333 *i* P **P** **01 17 00.0 -0.6**
MK31 pmax pmax
comp=Z,29nm,0.5s,mb5.4
MK31 Makanchi Array 64.92 333 *e*P **P** **01 17 00.5 -0.1**
MKAR Makanchi Array 64.92 333 ⇑*e*P **P** **01 17 00.4 -0.2**
MKAR Makanchi Array 64.92 333 P **P** **01 17 00.3 -0.2**
MKAR pP pP 01 17 19.4 +1.4
MKAR P'P' 01 45 41.7
MKAR ⇑*e* 01 45 50.9
MKAR LR LR 01 48 51.6
MKAR Makanchi Array 64.92 333 P **P** **01 17 00.3 -0.2**
comp=Z,72nm,0.8s,mb5.6,baz=154,slow=5.7,SNR=177
MKAR pP pP 01 17 19.4 +1.4
comp=Z,46nm,0.7s,baz=148,slow=6.7,SNR=10
MKAR PKPPKP 01 45 41.7
comp=Z,0.3nm,0.8s,baz=250,slow=3.6,SNR=3.7
MKAR PKP2bc 01 45 50.9
comp=Z,3.2nm,0.9s,baz=336,slow=2.7,SNR=16
MKAR LR LR 01 48 51.7
comp=Z,521nm,21.8s,baz=139,slow=39
KZA Kyzart 65.10 326 P **P** **01 17 02.5 +0.6**
SNR=55
TKM2 Tokmak 2 65.47 326 ⇓*e*P **P** **01 17 04.0 -0.3**
TKM2 *e*S S 01 25 41.4 -2.7
TKM2 pmax pmax
comp=Z,13nm,0.6s,mb4.9
TKM2 MLR MLR
comp=Z,572nm,22.0s
TKM2 Tokmak 2 65.47 326 ⇓*e*P **P** **01 17 04.0 -0.2**
comp=Z,13nm,0.6s,mb4.9
TKM2 *e*S S 01 25 41.4 -2.7
TKM2 LR LR
comp=Z,572nm,22.0s
TKM2 Tokmak 2 65.47 326 P **P** **01 17 04.1 -0.1**
SNR=22
UCH Uchtor 65.61 325 *e*P **P** **01 17 05.7 +0.5**
comp=Z,26nm,0.8s,mb5.1
UCH LR LR
comp=Z,838nm,22.0s
UCH Uchtor 65.61 325 P **P** **01 17 05.7 +0.5**
SNR=12
KBK Karagaybulak 65.65 326 P **P** **01 17 05.6 +0.1**
SNR=29
AAK Ala-Archa 65.89 326 P **P** **01 17 06.9 -0.1**
comp=Z,239nm,0.7s,mb6.1,SNR=21
AAK Ala-Archa 65.89 326 P **P** **01 17 07.3 +0.4**
SNR=28
FRU Bishkek 65.95 326 ⇑*e*P **P** **01 17 08.0 +0.6**
FRU *e*S S 01 25 46.0 -3.9
FRU *e* 01 26 05.0
FRU pmax pmax
comp=Z,90nm,2.0s,mb5.2
FRU smax
comp=N,1μm,6.0s
FRU smax
comp=E,800nm,6.0s
FRU MLR MLR
comp=Z,500nm,20.0s
AML Almayashu 66.02 325 *e*P **P** **01 17 08.0 +0.2**
comp=Z,69nm,0.8s,mb5.5
AML Almayashu 66.02 325 P **P** **01 17 08.2 +0.5**
SNR=32
NRGR Nerungri 66.18 4 *e*P **P** **01 17 09.2 +0.7**
NRGR S S 01 25 50.1 -2.0
NRGR smax
comp=N,28nm,0.4s
EKS2 Erkin-Say 66.31 325 *e*P **P** **01 17 09.7 0.0**
comp=N,44nm,0.8s,mb5.3
EKS2 *e*PP PP 01 19 35.7 -0.8
EKS2 LR LR
comp=Z,823nm,20.0s
EKS2 Erkin-Say 66.31 325 P **P** **01 17 09.9 +0.2**
SNR=29
CLNS Chul'man 66.37 4 *e*P **P** **01 17 08.4 -1.3**
CLNS *e**PP pP 01 17 15.6 -12
CLNS *e* 01 17 37.9
CLNS *e*S S 01 25 48.7 -5.7
CLNS *e*PS 01 26 10.7
CLNS *e* 01 26 54.3
CLNS *e*SS SS 01 30 14.3 +1.9
CLNS pmax pmax
comp=Z,29nm,0.7s,mb5.2
CLNS pmax pmax
comp=N,26nm,0.8s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
CLNS pmax pmax
comp=N,11nm,0.8s
CLNS pmax pmax
comp=E,14nm,0.9s
CLNS smax
comp=N,172nm,10.3s
CLNS smax
comp=Z,78nm,9.0s
CLNS smax
comp=E,216nm,11.1s
CLNS MLR MLR
comp=Z,300nm,12.0s
CLNS MLR MLR
comp=N,400nm,14.0s
CLNS MLR MLR
comp=E,200nm,12.0s
BOD Bodaibo 67.29 357 ⇑*i*P **P** **01 17 15.1 -0.4**
BOD pmax pmax
comp=Z,73nm,1.2s,mb5.4
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
SMDO Samad 67.77 300 P **P** **01 17 20.1 +0.8**
SNR=5.5
AFI Afiamalu 67.83 101 LR LR 01 43 46.8
comp=Z,441nm,21.2s,baz=102,slow=33
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
BIDO Bidbid 67.87 300 P **P** **01 17 20.2 +0.2**
SNR=8.1
KK31 Karatay Array 68.46 324 *i* P **P** **01 17 22.5 -0.7**
KK31 pmax pmax
comp=Z,10.0nm,0.5s,mb4.9
KK31 Karatay Array 68.46 324 *i* P **P** **01 17 22.6 -0.6**
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
HOQ Hoqain 68.59 300 P **P** **01 17 25.2 +0.7**
SNR=6.0
MAW Mawson 68.64 200 ⇓*i*P **P** **01 17 25.5 +1.5**
comp=Z,26nm,1.4s,mb4.9
MAW Mawson 68.64 200 *e*P **P** **01 17 25.5 +1.5**
MAW *e* pP 01 17 45.4 +3.8
MAW pmax pmax
comp=Z,130nm,1.4s
MAW Mawson 68.64 200 *e*P **P** **01 17 25.5 +1.5**
comp=Z,130nm,1.4s,mb5.6
MAW *e*PcP PcP 01 17 45.4 -3.1
MAW Mawson 68.64 200 P **P** **01 17 24.9 +0.9**
comp=Z,15nm,0.7s,mb5.4,baz=66,slow=7.3,SNR=48
MAW pP pP 01 17 44.3 +2.7
comp=Z,20nm,0.8s,baz=69,slow=8.8,SNR=5.2
MAW LR LR 01 41 28.3
comp=Z,399nm,21.0s,baz=73,slow=30
KURK Kurchatov 69.47 334 P **P** **01 17 28.9 -0.4**
comp=Z,398nm,0.9s,mb6.2,SNR=37
KURK Kurchatov 69.47 334 ⇑*e*P **P** **01 17 28.7 -0.6**
KURK *i* *PP pP 01 17 49.5 +2.6
KURK Kurchatov 69.47 334 *e*P **P** **01 17 28.0 -1.3**
comp=Z,59nm,0.9s,mb5.4
KURK LR LR
comp=Z,648nm,21.0s
KURK Kurchatov 69.47 334 P **P** **01 17 29.1 -0.2**
SNR=36
KURK Kurchatov 69.47 334 P **P** **01 17 29.1 -0.2**
SNR=36
KURK Kurchatov 69.47 334 P **P** **01 17 29.1 -0.2**
SNR=36
ZAL Zalesovo 69.54 339 P **P** **01 17 28.5 -1.2**
ZAL *PP pP 01 17 46.7 -0.6
ZAL S S 01 26 26.8 -5.6
ZAA0 Zalesovo Array 69.54 339 *e*P **P** **01 17 28.7 -1.0**
ZALV Zalesovo Beam 69.54 339 P **P** **01 17 28.5 -1.2**
ZALV pP pP 01 17 46.7 -0.6
ZALV S S 01 26 26.8 -5.7
ZALV ⇑*e* 01 45 36.9
ZALV Zalesovo Beam 69.54 339 P **P** **01 17 28.5 -1.2**
comp=Z,27nm,0.5s,mb5.4,baz=140,slow=4.5,SNR=65
ZALV pP pP 01 17 46.7 -0.6
comp=Z,30nm,0.6s,baz=143,slow=4.4,SNR=7.1
ZALV S S 01 26 26.8 -5.7
comp=Z,3.8nm,0.9s,baz=139,slow=9.2,SNR=5.7
ZALV PKP2bc 01 45 36.9
comp=Z,2.0nm,0.8s,baz=291,slow=4.1,SNR=5.1
OPO Ambohidratompo 69.74 254 P **P** **01 17 33.3 +1.6**
comp=Z,5.5nm,0.7s,mb4.5,baz=78,slow=5.9,SNR=9.8

OPO pP pP 01 17 52.8 +3.5
comp=Z,22nm,0.8s,baz=74,slow=6.4,SNR=13
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
WHFO Wadi Hawf 69.84 293 P **P 01 17 32.0 -0.2**
SNR=5.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
HATD Hatta, Dubai 70.04 301 P **P 01 17 33.8 +0.3**
SNR=9.5
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ASHO Ashiyiah 70.06 301 P **P 01 17 33.4 -0.1**
SNR=9.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
ABTO Aybut 70.10 292 P **P 01 17 34.2 +0.3**
SNR=7.2
NVS Novosibirsk 70.81 339⇓ *i*P **P 01 17 35.6 -1.8**
NVS *e**PP pP 01 17 54.0 -1.1
NVS *i* S S 01 26 40.6 -6.6
NVS *e* 01 27 17.9
NVS pmax pmax
comp=Z,56nm,1.1s,mb5.3
NVS pmax pmax
comp=N,24nm,1.0s
NVS pmax pmax
comp=E,35nm,1.2s
NVS smax
comp=N,62nm,2.5s
NVS smax
comp=E,73nm,2.3s
PET Petropavlovsk 70.98 24 *e*P **P 01 17 39.4 +0.9**
PET *e* 01 26 44.0
PET Petropavlovsk 70.98 24⇑ *e*P **P 01 17 39.0 +0.5**
PET *e*pP pP 01 17 57.0 +0.9
PET LR LR
comp=Z,905nm,21.0s
VNDA Vanda 71.43 171⇓ *e*P **P 01 17 42.2 +1.3**
VNDA pP 01 18 01.4 +2.8
VNDA pmax pmax
comp=Z,35nm,1.0s
VNDA MLR MLR
comp=Z,1μm,20.0s
VNDA Vanda 71.43 171⇓ *e*P **P 01 17 42.2 +1.3**
comp=Z,35nm,1.0s,mb5.1
VNDA PcP PcP 01 18 01.4 +1.2
VNDA LR LR
comp=Z,1μm,20.0s
VNDA Vanda 71.43 171 P **P 01 17 42.2 +1.3**
comp=Z,19nm,0.9s,mb4.9,baz=317,slow=5.4,SNR=37
YAK Yakutsk 71.89 5 *e*P **P 01 17 43.7 -0.1**
YAK *e**PP pP 01 17 52.2 -9.3
YAK *e* pP 01 18 03.0 +1.5
YAK *e* 01 20 22.8
YAK *e*PPP 01 22 01.2
YAK *e*S S 01 26 55.0 -4.4
YAK *e**SS sS 01 27 23.7 -5.7
YAK *e* 01 27 38.6
YAK *e*SSS 01 34 50.6
YAK pmax pmax
comp=N,23nm,1.0s
YAK pmax pmax
comp=Z,57nm,1.0s,mb5.4
YAK pmax pmax
comp=E,10.0nm,1.2s
YAK pmax pmax
comp=Z,26nm,0.8s,mb5.1
YAK smax
comp=N,563nm,7.8s
YAK smax
comp=E,77nm,2.3s
YAK Yakutsk 71.89 5 PFAKE 01 18 00.0 +16
YAK LR LR
comp=Z,570nm,19.0s
SBA Scott Base 72.43 171 *e*P **P 01 17 49.1 +2.2**
comp=Z,54nm,1.0s,mb5.3
SBA LR LR
comp=Z,2μm,21.0s
MA2 Magadan 73.52 16*c* *i*P **P 01 17 53.3 -0.2**
MA2 *i* S S 01 27 09.5 -8.5
MA2 *e* 01 28 00.6
MA2 pmax pmax
comp=Z,60nm,1.4s,mb5.1
MA2 Magadan 73.52 16 *e*P **P 01 17 53.7 +0.2**
comp=Z,46nm,0.8s,mb5.3
MA2 LR LR
comp=Z,678nm,19.0s
ABKT Ailbek 73.76 314 P **P 01 17 55.4 0.0**
comp=Z,150nm,0.9s,mb5.7,SNR=8.3
VAN Vannovskaya 73.78 314⇑ *i*P **P 01 17 55.5 0.0**
VAN S S 01 27 14.6 -7.2
BVAR Borovoye Array 74.75 332 P **P 01 18 00.3 -0.5**
comp=Z,28nm,0.9s,mb5.0,baz=138,slow=6.9,SNR=58
BRVK Borovoye 74.83 332 P **P 01 18 00.5 -0.7**
comp=Z,211nm,1.0s,mb5.8,SNR=12
BRVK Borovoye 74.83 332 *e*P **P 01 18 01.1 -0.2**
BRVK LR LR
comp=Z,572nm,22.0s
BRVK Borovoye 74.83 332 P **P 01 18 00.9 -0.3**
SNR=20
BRVK Borovoye 74.83 332 P **P 01 18 00.9 -0.3**
SNR=20
BRVK Borovoye 74.83 332 P **P 01 18 00.9 -0.3**
SNR=20
BRVK Borovoye 74.83 332 P **P 01 18 00.9 -0.3**
SNR=20
BRVK Borovoye 74.83 332 P **P 01 18 00.9 -0.3**
SNR=20
ZRNK Zerenda 75.35 331 *i* P **P 01 18 02.9 -1.4**
ZRNK pmax pmax
comp=Z,117nm,1.2s,mb5.5
SEY Seymchan 76.76 15⇑ *e*P **P 01 18 12.4 +0.3**
SEY Seymchan 76.76 15⇑ *e*P **P 01 18 12.5 +0.4**
SYO Syowa Base 77.27 201⇑ *i*P **P 01 18 14.7 -0.2**
SYO Syowa Base 77.27 201⇓ *e*pP pP 01 18 30.5 -2.3
SYO Syowa Base 77.27 201⇑ *e*PP PP 01 21 12.4 +2.9
SMY Shemya 77.83 31 *e*P **P 01 18 19.1 +0.8**
SMY LR LR
comp=Z,891nm,20.0s
AB31 Akbulak array 77.97 325⇑ *e*P **P 01 18 18.2 -0.9**
ATD Arta Tunnel 78.44 284 P **P 01 18 23.4 +1.0**
comp=Z,11nm,0.7s,mb4.7,baz=152,slow=22,SNR=5.7
RAR Rarotonga 78.58 110 PFAKE 01 18 40.0 +17
RAR LR LR
comp=Z,1.0nm,19.0s
RAR Rarotonga 78.58 110 LR LR 01 48 51.7
comp=Z,726nm,18.9s,baz=261,slow=32
RDF Al-Radifah 78.63 302 *e*P **P 01 18 22.8 -0.4**
RDF AMb AMB 01 18 26.2
comp=Z,100nm,0.8s,mb5.7
NAY Al-Naaiem 78.98 302 *e*P **P 01 18 24.6 -0.6**
NAY AMb AMB 01 18 28.0
comp=Z,39nm,0.8s,mb5.3
MIB Mutribah 79.07 303 *e*P **P 01 18 25.1 -0.6**
MIB AMb AMB 01 18 28.6
comp=Z,69nm,0.9s,mb5.5
RST Umm Al-Ruwaisa 79.26 303 *e*P **P 01 18 26.1 -0.6**
RST AMb AMB 01 18 30.3
comp=Z,4.5nm,0.4s,mb4.6
AKTK Aktyubinsk 79.64 325 P **P 01 18 27.9 -0.4**
AKTO Aktyubinsk 79.64 325 P **P 01 18 27.9 -0.4**
comp=Z,27nm,0.8s,mb5.1,baz=106,slow=5.9,SNR=47
QSPA South Pole Qui 80.41 180⇓ *i*P **P 01 18 33.5 +1.5**
comp=Z,134nm,1.3s,mb5.6
QSPA LR LR
comp=Z,1μm,19.0s
TIXI Tiksi 81.33 3 *e*P **P 01 18 35.6 -1.3**
TIXI *e*S S 01 28 34.4 -7.8
TIXI pmax pmax
comp=Z,32nm,1.0s,mb5.1
TIXI Tiksi 81.33 3 *e*P **P 01 18 35.8 -1.2**
comp=Z,48nm,1.0s,mb5.3
TIXI LR LR
comp=Z,593nm,19.0s
SVE Sverdlovsk 81.54 332⇑ *e*P **P 01 18 37.3 -1.0**
SVE *e* 01 21 48.4
SVE *e*S S 01 28 40.5 -4.3
SVE *e*SS SS 01 34 04.8 +1.6
SVE pmax pmax
comp=Z,60nm,1.2s,mb5.3
SVE MLR MLR
comp=Z,870nm,23.0s
KMBO Kilima Mbogo 81.56 270 *e*P **P 01 18 41.2 +1.8**
KMBO LR LR
comp=Z,485nm,22.0s
KMBO Kilima Mbogo 81.56 270 P **P 01 18 41.5 +2.1**
SNR=8.4
KMBO Kilima Mbogo 81.56 270 P **P 01 18 41.5 +2.1**
SNR=8.4
KMBO Kilima Mbogo 81.56 270 P **P 01 18 41.5 +2.1**
SNR=8.4
KMBO Kilima Mbogo 81.56 270 P **P 01 18 41.5 +2.1**
SNR=8.4
KMBO Kilima Mbogo 81.56 270 P **P 01 18 41.5 +2.1**
SNR=8.4
KMBO Kilima Mbogo 81.56 270 P **P 01 18 41.2 +1.8**
comp=Z,9.1nm,0.9s,mb4.6,baz=63,slow=6.1,SNR=22
KMBO LR LR 01 48 10.8
comp=Z,473nm,21.6s,baz=274,slow=31
ADK Adak 82.31 34 PFAKE 01 18 50.0 +7.6
ADK LR LR
comp=Z,906nm,20.0s
ARU Arti 82.31 331*d* *i*P **P 01 18 41.1 -1.3**
ARU *e* 01 18 47.1
ARU *e* 01 21 46.7
ARU *e*PPP 01 23 40.9
ARU *e*S S 01 28 48.1 -4.7
ARU pmax pmax
comp=Z,28nm,1.7s,mb4.8
ARU MLR MLR
comp=Z,793nm,24.0s
ARU Arti 82.31 331 *e*P **P 01 18 41.2 -1.2**
ARU LR LR
comp=Z,349nm,19.0s
BHD Baghdad 82.50 305 *ex* x 01 18 40.0
MAK Makhachkala 83.17 316 *e*P **P 01 18 44.9 -2.2**
MAK *e*S S 01 28 57.3 -4.8
MAK *e*SS SS 01 34 23.8 -4.3
MAK pmax pmax
comp=Z,169nm,1.3s,mb5.7
DGRG David-gareji 84.18 314 P **P 01 18 54.3 +1.9**
DGRG S S 01 29 11.3 -1.1
GNI Garni 84.24 312⇑ *e*P **P 01 18 53.6 +0.9**
GNI pmax pmax
comp=Z,53nm,1.6s
GNI Garni 84.24 312 *e*P **P 01 18 53.9 +1.3**
comp=Z,43nm,1.1s,mb5.2
GNI LR LR
comp=Z,239nm,19.0s
GNI Garni 84.24 312 P **P 01 18 54.1 +1.4**
SNR=13
GNI Garni 84.24 312 P **P 01 18 54.1 +1.4**
SNR=13
GNI Garni 84.24 312 P **P 01 18 54.1 +1.4**
SNR=13
GNI Garni 84.24 312 P **P 01 18 54.1 +1.4**
SNR=13
GNI Garni 84.24 312 P **P 01 18 54.1 +1.4**
SNR=13
GNI Garni 84.24 312 P **P 01 18 53.5 +0.8**
comp=Z,7.3nm,0.7s,mb4.6,baz=318,slow=16,SNR=9.9
MSL Mosul 84.37 308 *ex* x 01 18 54.0
BILL Bilibino 84.39 16⇑ *e*P **P 01 18 52.7 -0.1**
BILL 01 18 59.0
BILL *e**PP pP 01 19 07.1 -3.8
BILL *i* 01 29 09.4
BILL pmax pmax
comp=Z,16nm,1.2s,mb4.7
BILL MLR MLR
comp=Z,300nm,15.0s
BILL Bilibino 84.39 16⇑ *i*P **P 01 18 52.7 -0.1**
MTA Mtatsminda 84.67 314 P **P 01 18 56.0 +1.2**
MTA S S 01 29 12.3 -5.0
TBLG Delisi 84.72 314 *e*P **P 01 18 56.2 +1.1**
TBLG Delisi 84.72 314 P **P 01 18 56.2 +1.1**
TBLG S S 01 29 00.0 -18
GOR Gori 85.25 314 P **P 01 18 59.6 +1.9**
GOR S S 01 29 00.0 -23
ONI Oni 85.89 314 P **P 01 19 02.0 +1.1**
ONI S S 01 29 19.4 -10
MAIT Maitri 86.57 198 *e*P **P 01 19 03.6 -0.1**
KIV Kislovodsk 86.82 315 *e*P **P 01 19 05.3 -0.1**
KIV *e* 01 22 32.3
KIV *e* 01 29 22.7
KIV pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
KIV MLR MLR
comp=Z,196nm,20.0s
KIV Kislovodsk 86.82 315 *i* P **P 01 19 05.3 -0.1**
LSZ Lusaka 88.17 255 *e*P **P 01 19 14.0 +1.5**
LSZ LR LR
comp=Z,492nm,22.0s
LSZ Lusaka 88.17 255 P **P 01 19 14.4 +1.8**
SNR=8.5
LSZ Lusaka 88.17 255 P **P 01 19 14.4 +1.8**
SNR=8.5
LSZ Lusaka 88.17 255 P **P 01 19 14.0 +1.4**
comp=Z,31nm,0.8s,mb5.4,baz=100,slow=4.5,SNR=61
LSZ pP pP 01 19 33.4 +2.6
comp=Z,78nm,0.9s,baz=97,slow=4.9,SNR=14
ASF Jabal al Asfar 88.34 303 P **P 01 19 14.8 +1.8**
comp=Z,17nm,0.8s,mb5.1,baz=335,slow=1.9,SNR=25
MALT Malatya 88.48 309 *e*P **P 01 19 14.4 +0.9**
PPT Papeete 88.61 107 LR LR 01 55 57.9
comp=Z,494nm,18.6s,baz=269,slow=34
BOSA Boshof 88.62 241⇓ *e*P **P 01 19 15.8 +1.4**
BOSA pmax pmax
comp=Z,24nm,0.9s,mb5.2
BOSA MLR MLR
comp=Z,731nm,20.0s
BOSA Boshof 88.62 241⇓ *e*P **P 01 19 15.8 +1.4**
comp=Z,24nm,0.9s,mb5.2
BOSA LR LR
comp=Z,731nm,20.0s
BOSA Boshof 88.62 241 P **P 01 19 15.7 +1.3**
comp=Z,10nm,0.7s,mb5.0,baz=98,slow=3.8,SNR=42
BOSA pP pP 01 19 35.0 +2.3
comp=Z,23nm,0.9s,baz=114,slow=5.8,SNR=7.2
SOC Sochi 88.79 314 *e*P **P 01 19 13.5 -1.3**
SOC *e* 01 22 38.5
SOC *e*PPP 01 24 44.6
SOC *e*S S 01 29 34.5 -23
SOC *e* 01 29 53.6
SOC *e*SS SS 01 35 47.2 -3.3
SOC *e*SSS 01 39 17.4
SOC pmax pmax
comp=Z,28nm,0.9s,mb5.3
SOC MLR MLR
comp=Z,396nm,23.0s
LBTB Lobatse 88.95 245 *e*P **P 01 19 17.1 +1.1**
LBTB *e* 01 19 27.3
LBTB pmax pmax
comp=Z,25nm,0.9s,mb5.2
LBTB MLR MLR
comp=Z,795nm,20.0s
LBTB Lobatse 88.95 245 *e*P **P 01 19 17.1 +1.0**
comp=Z,25nm,0.9s,mb5.2
LBTB *e* 01 19 27.3
LBTB LR LR
comp=Z,795nm,20.0s
LBTB Lobatse 88.95 245 P **P 01 19 17.6 +1.6**
comp=Z,14nm,0.9s,mb5.0,baz=130,slow=6.4,SNR=15
LBTB pP pP 01 19 37.4 +3.1
comp=Z,35nm,1.0s,baz=129,slow=5.1,SNR=9.2
VRHR Novokhopersk 89.50 322 *e*P **P 01 19 17.2 -0.7**
VRHR pmax pmax
comp=N,10.0nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=E,40nm,0.7s
BHL Bhannes 89.72 304 *e*P **P 01 19 20.3 +0.9**
MMAI Mount Meron Ar 89.75 303 P **P 01 19 21.3 +1.7**
comp=E,4.3nm,0.5s,mb4.8,baz=84,slow=7.6,SNR=22
VRSR Storozhevoye 91.01 322 *e*P **P 01 19 23.7 -1.3**
VRSR pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
VRSR pmax pmax
comp=N,1.0nm,0.5s
VRSR pmax pmax
comp=E,2.0nm,0.9s
SUR Sutherland 91.66 237 *e*P **P 01 19 29.9 +1.4**
CSS Prodhromos 91.81 305 *e*P **P 01 19 28.9 -0.2**
comp=E,37nm,1.0s,mb5.6
VNA2 Neumayer--Watz 92.04 195 *e*P **P 01 19 30.9 +1.4**
baz=117,slow=3.9
VNA2 *e* 01 19 32.3
VNA2 *e* 01 19 39.3
VNA2 *e* pP 01 19 44.8 -3.0
VNA2 *e* pP 01 19 52.0 +4.2
VNA3 Neumayer Olymp 92.42 195 *e*P **P 01 19 31.2 0.0**
VNA3 *e* 01 19 33.2
VNA3 *e* 01 19 40.4
VNA3 *e* pP 01 19 46.3 -3.2
VNA3 *e* pP 01 19 53.3 +3.8
VNA1 Neumayer--Stat 92.43 195 *e*P **P 01 19 32.6 +1.3**
VNA1 *e* 01 19 33.9
VNA1 *e* 01 19 41.9
VNA1 *e* pP 01 19 46.6 -3.0
VNA1 *e* pP 01 19 54.5 +4.9
SIM Simferopol' 93.01 315 *e*P **P 01 19 34.0 -0.4**
SIM *e*S S 01 30 35.0 -0.5
SIM *e*PS PS 01 31 50.0 -6.3
SIM pmax pmax
comp=Z,16nm,0.9s,mb5.3
ANTO Ankara 93.08 310 PFAKE 01 19 50.0 +15
ANTO LR LR
comp=Z,177nm,22.0s
OBN Obninsk 93.42 325κ *e*P **P 01 19 35.1 -0.9**
OBN *e* 01 19 44.1
OBN *e* 01 23 23.9
OBN 01 30 03.2
OBN *e*PS PS 01 31 52.7 -7.6
OBN *e*PPS 01 32 28.9
OBN SS SS 01 36 54.0 -2.6
OBN pmax pmax
comp=Z,10.0nm,0.7s,mb5.2
OBN MLR MLR
comp=Z,700nm,23.0s
OBN Obninsk 93.42 325 PFAKE 01 19 50.0 +14
OBN LR LR
comp=Z,633nm,22.0s
TMCR Tamitsa 94.59 334 *e*P **P 01 19 44.0 +2.8**
LVZ Lovozero 96.64 338 PFAKE 01 20 00.0 +10
LVZ LR LR
comp=Z,786nm,21.0s
KIS Kishinev 96.97 316 *e* SP 01 32 24.0 -7.0
KIS *e*L 02 01 48.0
KIS LRM 02 18 54.0
comp=Z,400nm,22.0s
APA Apatity 97.06 337⇑ *i*P pP 01 20 06.3 -4.4
APA *i* 01 20 17.0
APA pmax pmax
comp=Z,10.0nm,1.0s,mb5.2
AKASG Malin Array Be 97.12 320 *i* P **P 01 19 51.4 -1.6**
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 97.12 320 P **P 01 19 51.4 -1.6**
AKASG Malin Array Be 97.12 320 P **P 01 19 51.4 -1.6**
comp=Z,1.6nm,0.7s,mb4.6,baz=80,slow=4.8,SNR=9.6
KIEV Kiev 97.13 320 PFAKE 01 20 00.0 +6.9
KIEV LR LR
comp=Z,499nm,22.0s
KDAK Kodiak Island 97.25 33 PFAKE 01 20 10.0 +17
KDAK LR LR
comp=Z,235nm,22.0s
JOF Joensuu 97.35 333 *e*p **P 01 19 54.0 +0.2**
comp=Z,5.7nm,0.8s,mb5.0
JOF Joensuu 97.35 333 *e*P **P 01 19 54.0 +0.2**
JOF pmax pmax
comp=Z,6.0nm,0.8s,mb5.1
TSUM Tsumeb 97.38 249 *e*P **P 01 19 56.3 +1.3**
comp=Z,3.9nm,0.8s,mb4.9
TSUM LR LR
comp=Z,599nm,20.0s
TSUM Tsumeb 97.38 249 P **P 01 19 55.8 +0.9**
comp=Z,2.1nm,0.8s,mb4.6,baz=92,slow=11,SNR=3.6
SANT Santorini 98.35 305 *e*P **P 01 19 58.0 -0.9**
comp=Z,17nm,1.1s,mb5.5
IDI Anoyia 98.70 304 PKKPbc PKKPbc 01 36 30.8 +1.0
comp=Z,9.0nm,0.8s,baz=329,slow=4.0,SNR=13
MLR Muntele Rosu 98.81 315 P **P 01 19 59.7 -1.0**
comp=Z,0.8nm,0.5s,mb4.5,baz=239,slow=3.5,SNR=4.3
PMR Palmer 99.31 29 PFAKE 01 20 10.0 +7.4
PMR LR LR
comp=Z,364nm,20.0s
KEV Kevo 99.58 339 PFAKE 01 20 20.0 +16
KEV LR LR
comp=Z,596nm,19.0s
FINES FINESS Array B 99.69 331 *i* P Pdif 01 20 03.5 -1.0
FINES pmax pmax
comp=Z,3.0nm,0.8s
FINES FINESS Array B 99.69 331 P Pdif 01 20 03.6 -1.0
comp=Z,2.7nm,0.8s,baz=93,slow=9.5,SNR=8.6
FINES PKiKP PKiKP 01 24 33.5 +0.8
comp=Z,1.4nm,0.5s,baz=106,slow=3.1,SNR=9.2
FINES LR LR 02 11 23.9
comp=Z,420nm,21.7s,baz=252,slow=39
COLA College 100.00 26 PFAKE 01 20 20.0 +14
COLA LR LR
comp=Z,397nm,19.0s
ARCES ARCESS Array B 100.10 339 P Pdif 01 20 05.3 -1.1
comp=Z,1.9nm,0.7s,baz=86,slow=6.2,SNR=10
ARCES PKiKP PKiKP 01 24 34.4 +1.1
comp=Z,1.1nm,0.4s,baz=71,slow=1.0,SNR=20
ARCES LR LR 02 14 46.4
comp=Z,359nm,18.6s,baz=89,slow=41
KWP Kalwaria 101.22 319 P Pdif 01 20 10.2 -1.2
KBS Kingsbay 102.59 349 PFAKE 01 20 30.0 +13
KBS LR LR
comp=Z,544nm,21.0s
EGAK Eagle 102.86 26 PFAKE 01 20 30.0 +11
EGAK LR LR
comp=Z,553nm,21.0s
PSZ Piszkesteto 103.06 317 P Pdif 01 20 19.8 +0.3
OKC Ostrava-Krasne 104.18 319 *e*PKP PKiKP 01 24 43.7 +2.5
OKC AMS AMS 02 11 30.0
comp=Z,400nm,25.2s
MORC Moravsky Berou 104.58 319 *e*P Pdif 01 20 27.0 +0.7
DPC Dobruska-Polom 105.33 320 AMS AMS 02 21 40.0
comp=Z,600nm,19.2s
INK Inuvik 105.34 22 P Pdif 01 20 29.7 0.0
TIP Timpagrande 105.37 308 *e*PKiKP PKiKP 01 24 45.7 +2.0
HFS Hagfors 105.82 330 PKiKP PKiKP 01 24 45.9 +2.0
comp=Z,1.1nm,0.5s,baz=84,slow=7.6,SNR=4.0
PRU Pruhonice 106.50 319 *e*PKP PKiKP 01 24 49.4 +3.9
PRU AMS AMS 02 22 40.0
comp=Z,500nm,19.6s
SIT Sitka 106.58 33 PFAKE 01 25 00.0 +15
SIT LR LR
comp=Z,1μm,20.0s

NOA NORSAR Array B 106.87 331 PKPdf PKiKP 01 24 45.2 -0.7
NOA NORSAR Array B 106.87 331 PKiKP PKiKP 01 24 45.2 -0.7
comp=Z,1.3nm,0.8s,baz=64,slow=5.1,SNR=3.9
GERES GERESS Array B 107.14 318 PKiKP PKiKP 01 24 47.4 +0.6
comp=Z,1.8nm,0.9s,baz=72,slow=1.7,SNR=8.3
GERES PKKPbc PKKPbc 01 36 03.6 -1.6
comp=Z,1.5nm,0.9s,baz=264,slow=2.7,SNR=8.0
KHC Kasperske Hory 107.20 318 AMS AMS 02 23 20.0
comp=Z,500nm,19.3s
CLL Collm 107.35 321 ePKP PKiKP 01 24 48.0 +1.0
CLL e 01 24 56.0
CLL eSKS SKSac 01 31 13.0 +0.1
CLL eSdif Sdif 01 32 28.0 -8.5
CLL LR LR
comp=Z,500nm,28.9s
CLL Collm 107.35 321 ePKiKP PKiKP 01 24 48.0 +1.0
CLL epPKiKP 01 24 58.0
CLL LV 01 25 00.0
comp=Z,300nm,21.3s
CLL eSKSac SKSac 01 31 13.0 +0.1
CLL eSdif Sdif 01 32 33.0 -3.5
CLL eSP SP 01 34 20.0 -0.5
CLL ePPS 01 35 36.0
CLL eSS SS 01 40 00.0 -11
NKC Novy Kostel 107.82 320 AMS AMS 02 14 40.0
comp=Z,500nm,21.1s
AQU L'Aquila 107.83 311 PKiKP PKiKP 01 24 49.6 +1.4
KONO Kongsberg 107.93 330 PFAKE 01 25 00.0 +12
KONO LR LR
comp=Z,747nm,20.0s
WRAK Wrangell Islan 108.30 34 PFAKE 01 25 00.0 +11
WRAK LR LR
comp=Z,750nm,19.0s
GRF Grafenberg Arr 108.67 319 eSP SP 01 34 28.0 -6.1
GRF eL 02 26 39.3
comp=Z,323nm,22.0s
GRFO Grafenberg 108.67 319 PFAKE 01 25 00.0 +10
GRFO LR LR
comp=Z,421nm,21.0s
WTTA Wattenberg 108.68 317 ⇓iP PKiKP 01 24 50.5 +0.9
comp=Z,6.2nm,0.7s
DAVA Damuels 109.86 317 ⇑iP PKiKP 01 24 52.5 +0.6
comp=Z,3.8nm,0.6s
BFO Black Forest 110.75 318 PFAKE 01 25 10.0 +16
BFO LR LR
comp=Z,355nm,22.0s
PGF Pioggiola 111.06 312 ePKIKP PKiKP 01 24 53.9 -0.4
comp=Z,3.4nm,0.6s
VSL Villasalto 111.07 309 ePKiKP PKiKP 01 24 55.5 +1.1
HINF Hinteralfeld 111.81 318 ePKIKP PKiKP 01 24 54.6 -0.9
comp=Z,6.3nm,0.6s
WLF Walferdange 111.92 320 ePKIKP PKiKP 01 24 56.7 +1.0
SBF Sospel 112.03 313 ePKIKP PKiKP 01 24 55.6 -0.5
comp=Z,16nm,0.7s
HAU Haudompre 112.11 318 ePKIKP PKiKP 01 24 55.4 -0.7
comp=Z,5.7nm,0.5s
HAU eMLR MLR
comp=Z,379nm,19.0s
HAU Haudompre 112.11 318 ePKPdf PKiKP 01 24 55.4 -0.7
HAU LR LR
comp=Z,380nm,19.0s
LPG La Plagne 112.27 315 ePKIKP PKiKP 01 24 56.5 0.0
LPL La Plagne 112.28 315 ePKIKP PKiKP 01 24 56.4 -0.1
BCLA Clavier 112.30 321 PKP PKiKP 01 24 57.1 +0.7
BNI Bardonecchia 112.39 315 ePKIKP PKiKP 01 24 57.9 +1.2
BNI e 01 25 43.5
CABF La Chapelle 112.53 317 ePKIKP PKiKP 01 24 56.8 -0.2
comp=Z,10nm,0.7s
FRF La Foret Royal 112.64 313 ePKIKP PKiKP 01 24 56.9 -0.4
comp=Z,13nm,0.9s
GIVF Givet 112.67 320 ePKIKP PKiKP 01 24 57.2 +0.1
LMR La Mourre 112.77 313 ePKIKP PKiKP 01 24 57.2 -0.3
comp=Z,4.0nm,0.6s
DOU Dourbes 112.82 320 PKP PKiKP 01 24 58.7 +1.3
MEZF Maizieres J'vi 112.86 319 ePKIKP PKiKP 01 24 57.2 -0.3
comp=Z,3.4nm,0.4s
ORIF Oris-en-Rattie 112.97 315 ePKIKP PKiKP 01 24 57.5 -0.3
comp=Z,7.7nm,0.8s
ORIF eMLR MLR
comp=Z,457nm,22.5s
HOPE Hope Point 113.05 195 PFAKE 01 25 10.0 +12
HOPE LR LR
comp=Z,4.0nm,19.0s
BAIF Baives 113.07 320 ePKIKP PKiKP 01 24 57.8 -0.1
comp=Z,6.0nm,0.5s
SMRF Simiane la Rot 113.34 314 ePKIKP PKiKP 01 24 58.6 0.0
comp=Z,12nm,0.8s
VIVF Saint-Julien-l 113.82 315 ePKIKP PKiKP 01 24 59.1 -0.4
comp=Z,10nm,1.0s
LOR Lormes 113.91 318 ePKIKP PKiKP 01 24 59.0 -0.6
comp=Z,5.6nm,0.6s
LOR eMLR MLR
comp=Z,331nm,21.8s
LOR Lormes 113.91 318 ePKPdf PKiKP 01 24 59.0 -0.6
LOR LR LR
comp=Z,330nm,21.8s
SMF Signal de Mont 114.05 317 ePKIKP PKiKP 01 24 59.0 -0.9
SSF Saint Saulge 114.18 317 ePKIKP PKiKP 01 24 59.8 -0.3
comp=Z,14nm,0.8s
AVF Avril sur Loir 114.34 317 ePKIKP PKiKP 01 24 59.7 -0.7
comp=Z,4.9nm,0.6s
LASF Ste Croix 114.54 314 ePKIKP PKiKP 01 25 00.7 -0.2
comp=Z,15nm,1.0s
BGF Bois d'Agland 114.74 317 ePKIKP PKiKP 01 25 01.1 -0.1
comp=Z,30nm,0.8s
YKW3 Yellowknife Ar 114.74 24 ePKiKP PKiKP 01 25 01.1 +0.4
C03A Quillayute Air 114.77 41 ⇓P PKiKP 01 25 03.5 +2.3
baz=115
YKA Yellowknife Ar 114.78 24 ⇑iPKIKP PKiKP 01 25 01.1 +0.3
YKA Yellowknife Ar 114.78 24 PKP PKiKP 01 25 01.1 +0.4
YKA PKKPbc PKKPbc 01 35 32.4 -8.3
YKA Yellowknife Ar 114.78 24 PKP PKiKP 01 25 01.1 +0.4
comp=Z,5.6nm,0.6s,baz=310,slow=1.8,SNR=57
YKA PKKPbc PKKPbc 01 35 32.4 -8.3
comp=Z,0.9nm,0.9s,baz=95,slow=3.8,SNR=5.5
OOW Octopus West 115.06 42 P PKiKP 01 25 04.2 +2.5
TCF Toulx Ste Croi 115.22 317 ePKIKP PKPdf 01 25 01.9 -0.2
comp=Z,6.9nm,0.7s
NLWA Neilton Lookou 115.36 42 ePKiKP PKiKP 01 25 04.5 +2.2
NLWA LR LR
comp=Z,399nm,19.0s
NLWA Neilton Lookou 115.36 42 ⇓P PKiKP 01 25 04.6 +2.2
baz=115
OSD Olympics--Snow 115.36 41 P PKiKP 01 25 04.8 +2.5
D03A Wishkah Elem. 115.49 42 ⇓P PKiKP 01 25 04.6 +2.0
baz=116
CAF Calviac 115.63 315 ePKIKP PKPdf 01 25 03.0 +0.1
comp=Z,15nm,0.9s
E03A Lebam 115.77 43 ⇑P PKiKP 01 25 04.8 +1.6
baz=116,SNR=11
EKA Eskdalemuir Ar 115.77 327 PKP PKPdf 01 25 02.5 -0.4
comp=Z,1.7nm,0.7s,baz=29,slow=1.7,SNR=10
A04A Legoe Bay, Lum 115.77 40 ⇓P PKiKP 01 25 04.4 +1.3
baz=116
ESK Eskdalemuir 115.80 327 ePKIKP PKPdf 01 25 04.0 +1.1
ESK MLR MLR
comp=Z,494nm,20.0s
MTLF Montolieu 115.85 314 ePKIKP PKPdf 01 25 02.9 -0.5
comp=Z,4.9nm,0.7s
C04A Brinnon 115.87 41 ⇑P PKiKP 01 25 04.9 +1.6
baz=116,SNR=5.9
H02A Toledo 115.90 45 ⇓P PKPdf 01 25 05.5 +2.0
baz=116
F03A Seaside 115.92 43 ⇓P PKPdf 01 25 05.4 +1.9
baz=116
RJF Les Rejaudoux 115.92 316 ePKIKP PKPdf 01 25 03.5 0.0
comp=Z,7.0nm,0.7s
RJF eMLR MLR
comp=Z,333nm,21.0s
RJF Les Rejaudoux 115.92 316 ePKPdf PKPdf 01 25 03.5 0.0
RJF LR LR
comp=Z,330nm,21.0s
GNW Green Mountain 116.00 42 ePKiKP PKiKP 01 25 05.7 +2.2
I02A Mapleton 116.16 46 ⇑P PKPdf 01 25 05.4 +1.4
baz=116
LDF La Druitiere 116.18 320 ePKIKP PKPdf 01 25 03.3 -0.6
comp=Z,6.5nm,0.7s
B05A Bryant 116.29 41 ⇓P PKPdf 01 25 05.4 +1.3
baz=116,SNR=7.7
FLN La Foliniere 116.36 320 ePKIKP PKPdf 01 25 03.8 -0.4
comp=Z,10nm,0.7s
FLN eMLR MLR
comp=Z,331nm,22.5s
FLN La Foliniere 116.36 320 ePKPdf PKPdf 01 25 03.8 -0.4
FLN LR LR
comp=Z,330nm,22.5s

H03A Soap Creek Ran 116.39 45 ⇑P PKPdf 01 25 05.7 +1.3
baz=116
M01C Crescent City 116.39 48 ⇑P PKPdf 01 25 05.7 +1.2
baz=116
COR Corvallis 116.40 45 PFAKE 01 25 20.0 +16
COR LR LR
comp=Z,300nm,19.0s
A06A Chilliwack 116.44 40 ⇓P PKPdf 01 25 06.0 +1.7
baz=116
J02A Umpqua 116.48 46 ⇓P PKPdf 01 25 06.0 +1.4
baz=117
LFF La Frestale 116.54 316 ePKIKP PKPdf 01 25 04.8 +0.1
comp=Z,19nm,0.7s
I03A Eugene 116.56 46 ⇑P PKPdf 01 25 06.1 +1.3
baz=117
B06A Marblemount 116.61 40 ⇑P PKPdf 01 25 06.6 +1.9
baz=117
D05A Enumclaw 116.65 42 ⇑P PKPdf 01 25 06.3 +1.5
baz=117,SNR=6.1
K02A Glendale 116.67 47 ⇓P PKPdf 01 25 06.4 +1.3
baz=117
F04A Amboy 116.69 43 ⇑P PKPdf 01 25 06.1 +1.2
baz=117,SNR=6.9
C05A Tolt Reservoir 116.71 41 P PKPdf 01 25 06.4 +1.4
baz=117,SNR=5.8
GRR Gorron 116.71 320 ePKIKP PKPdf 01 25 04.4 -0.5
comp=Z,9.9nm,0.4s
L02A Cave Junction 116.71 48 ⇓P PKPdf 01 25 06.2 +1.1
baz=117
MFF Saint Martin d 116.73 318 ePKIKP PKPdf 01 25 04.6 -0.4
comp=Z,10nm,0.5s
G04A Mulino 116.83 44 ⇓P PKPdf 01 25 06.9 +1.7
baz=117
KHMM Horse Mountain 116.87 49 ePKPdf PKPdf 01 25 08.2 +2.7
LON Longmire 116.88 42 ePKIKP PKPdf 01 25 06.4 +1.1
J03A Ideyld Park 116.91 46 ⇑P PKPdf 01 25 07.3 +1.9
baz=117,SNR=6.4
BROR Big Rock Looko 117.07 45 P PKPdf 01 25 07.1 +1.4
HUMO Hull Mountain 117.08 47 ePKPdf PKPdf 01 25 07.7 +1.8
HUMO LR LR
comp=Z,384nm,19.0s
HUMO Hull Mountain 117.08 47 ⇑P PKPdf 01 25 07.5 +1.7
baz=117,SNR=11
A07A Ashnola River, 117.15 39 ⇓P PKPdf 01 25 06.9 +1.1
baz=117,SNR=6.3
H04A Detroit Lake 117.15 45 P PKPdf 01 25 07.0 +1.2
baz=117,SNR=5.3
N02C Big Bar 117.20 49 ⇑P PKPdf 01 25 07.5 +1.4
baz=117
I04A Tendick Farm, 117.21 46 P PKPdf 01 25 07.2 +1.2
baz=117,SNR=8.9
EPF Esparros 117.26 314 ePKIKP PKPdf 01 25 05.8 -0.4
comp=Z,6.0nm,0.8s
D06A Cle Elum 117.40 42 ⇑P PKPdf 01 25 07.5 +1.2
baz=118
TWW Teanaway 117.40 42 P PKPdf 01 25 08.5 +2.2
M02C Callahan 117.42 48 ⇓P PKPdf 01 25 08.2 +1.7
baz=118,SNR=7.4
YBH Yreka Blue Hor 117.45 48 ePKPdf PKPdf 01 25 08.4 +1.8
YBH LR LR
comp=Z,323nm,20.0s
YBH Yreka Blue Hor 117.45 48 ⇑P PKPdf 01 25 07.9 +1.3
baz=118
E06A Yakima 117.49 42 ⇓P PKPdf 01 25 07.8 +1.3
baz=118,SNR=10
B07A Winthrop 117.49 40 P PKPdf 01 25 08.0 +1.5
baz=118,SNR=5.7
NAC Naches 117.54 42 P PKPdf 01 25 08.3 +1.7
J04A Umpqua Nationa 117.55 46 ⇑P PKPdf 01 25 08.2 +1.5
baz=118,SNR=15
G05A Wamic 117.61 44 ⇓P PKPdf 01 25 08.4 +1.6
baz=118
O02C Red Bluff 117.71 50 ⇓P PKPdf 01 25 08.6 +1.5
baz=118
HOPS Hopland 117.72 51 PFAKE 01 25 20.0 +13
HOPS LR LR
comp=Z,399nm,19.0s
C07A Waterville 117.76 41 ⇑P PKPdf 01 25 08.1 +1.1
baz=118
WDC Whiskeytown Da 117.81 49 ePKPdf PKPdf 01 25 08.8 +1.5
WDC LR LR
comp=Z,328nm,19.0s
WDC Whiskeytown Da 117.81 49 ⇑P PKPdf 01 25 07.9 +0.6
baz=118
H05A Madras 117.83 44 ⇓P PKPdf 01 25 08.4 +1.3
baz=118,SNR=6.3
SGMF Saint Gilles 117.83 320 ePKIKP PKPdf 01 25 06.4 -0.7
comp=Z,7.2nm,0.6s
LHEM Herd Peak 117.83 48 P PKPdf 01 25 08.9 +1.6
F06A Goldendale 117.83 43 ⇓P PKPdf 01 25 08.6 +1.4
baz=118
GASB Alder Springs 117.87 50 ⇓P PKPdf 01 25 09.4 +2.0
baz=118
A08A Turner Farm, O 117.87 39 P PKPdf 01 25 08.7 +1.5
baz=118,SNR=8.8
I05A Bend 117.92 45 ⇓P PKPdf 01 25 08.9 +1.5
baz=118
ETSF Etsaut 117.93 314 ePKIKP PKPdf 01 25 07.6 +0.1
comp=Z,4.3nm,0.5s
MXC Moxie City 117.94 42 P PKPdf 01 25 09.2 +1.9
L04A Klamath Falls 117.95 47 ⇓P PKPdf 01 25 08.8 +1.3
baz=118,SNR=5.5
D07A Quincy 117.97 41 ⇓P PKPdf 01 25 09.1 +1.7
baz=118
K04A Chilquin 117.97 47 ⇓P PKPdf 01 25 09.0 +1.4
baz=118
M03C McCloud 117.98 48 ⇑P PKPdf 01 25 09.0 +1.4
baz=118,SNR=5.4
MCCM Marconi Confer 118.02 52 PFAKE 01 25 20.0 +12
MCCM LR LR
comp=Z,423nm,21.0s
B08A Colville Reser 118.02 40 P PKPdf 01 25 08.5 +1.1
baz=118,SNR=12
M04C Macdoel 118.08 48 ⇓P PKPdf 01 25 09.3 +1.5
baz=118,SNR=5.4
G06A Carlson Farm, 118.08 44 ⇑P PKPdf 01 25 09.0 +1.4
baz=118
J05A Fort Rock 118.16 46 ⇑P PKPdf 01 25 09.7 +1.8
baz=118,SNR=28
EPH Ephrata 118.16 41 P PKPdf 01 25 08.9 +1.2
MNRC McLaughlin Nat 118.22 51 ⇑P PKPdf 01 25 10.5 +2.3
baz=118,SNR=5.0
ROSF Rostrenen 118.26 320 ePKIKP PKPdf 01 25 07.3 -0.6
comp=Z,11nm,0.7s
A09A Danville 118.29 39 ⇑P PKPdf 01 25 09.3 +1.4
baz=118
LASM Arnica Sink 118.31 48 P PKPdf 01 25 10.1 +1.9
QUIF Quistinic 118.32 320 ePKIKP PKPdf 01 25 07.3 -0.7
comp=Z,8.1nm,0.8s
BORG Borgarnes 118.33 342 ePKPdf PKPdf 01 25 08.0 +0.5
SJPF Ste Jean 118.35 314 ePKIKP PKPdf 01 25 08.6 +0.3
comp=Z,64nm,1.3s
F07A Phinny Hill Vi 118.37 43 ⇑P PKPdf 01 25 09.7 +1.5
baz=118
C08A Higginbotham F 118.39 41 ⇓P PKPdf 01 25 09.2 +1.1
baz=118
H06A Lindquist Farm 118.42 44 ⇓P PKPdf 01 25 09.4 +1.1
baz=118,SNR=26
TOA0 Torodi Ar. Sit 118.44 280 ePKPdf PKPdf 01 25 09.8 +0.6
TORD Torodi Ar. Bea 118.44 280 PKP PKPdf 01 25 09.7 +0.5
TORD PKKPbc PKKPbc 01 35 26.5 +0.1
TORD Torodi Ar. Bea 118.44 280 PKP PKPdf 01 25 09.7 +0.5
comp=Z,8.3nm,0.6s,baz=66,slow=1.6,SNR=85
TORD PKKPbc PKKPbc 01 35 26.5 +0.1
comp=Z,1.4nm,1.0s,baz=304,slow=4.0,SNR=7.1
LTIM Timbered Crate 118.47 48 P PKPdf 01 25 10.2 +1.7
HAWA Hanford 118.49 42 ePKPdf PKPdf 01 25 10.5 +2.1
HAWA LR LR
comp=Z,370nm,19.0s
K05A Summer Lake 118.54 46 ⇓P PKPdf 01 25 10.4 +1.8
baz=119,SNR=18
HATC Hat Creek Radi 118.57 49 ⇑P PKPdf 01 25 10.2 +1.5
baz=119,SNR=5.6
WRD Warden 118.62 42 P PKPdf 01 25 10.6 +1.9
LBCM Butte Creek Ri 118.64 49 P PKPdf 01 25 10.4 +1.5
JRSC Jasper Ridge 118.65 53 ⇑P PKPdf 01 25 09.0 0.0
baz=119
SUTB Sutter Butte 118.66 50 ⇓P PKPdf 01 25 09.7 +0.7
baz=119
M05C Lookout 118.68 48 ⇑P PKPdf 01 25 10.5 +1.5
baz=119,SNR=11
D08A Wollman Farm, 118.69 41 ⇑P PKPdf 01 25 10.1 +1.3
baz=119,SNR=8.3
I06A Prineville 118.71 45 ⇑P PKPdf 01 25 10.8 +1.8
baz=119,SNR=12
G07A Ruggs Ranch, H 118.72 43 ⇑P PKPdf 01 25 10.0 +1.1
baz=119

L05A Lakeview 118.75 47 ⇑P PKPdf 01 25 10.8 +1.8
baz=119,SNR=11
B09A Rice 118.75 40 ⇑P PKPdf 01 25 09.9 +1.1
baz=119,SNR=14
E08A Dider Farm, El 118.77 42 ⇑P PKPdf 01 25 10.4 +1.5
baz=119
ORV Oroville 118.81 50 ⇓P PKPdf 01 25 10.1 +0.8
baz=119
C09A Chrisman Ranch 118.87 40 ⇑P PKPdf 01 25 10.2 +1.1
baz=119
O04C Chester 118.95 49 ⇓P PKPdf 01 25 10.9 +1.4
baz=119,SNR=10
ECHE Chera 118.97 310 PKIKP PKPdf 01 25 11.2 +1.6
K06A Valley Falls 118.98 46 ⇓P PKPdf 01 25 11.0 +1.6
baz=119,SNR=20
WENL Wente Brothers 118.99 52 ⇑P PKPdf 01 25 11.2 +1.5
baz=119
D09A Jones Farm, Ri 119.09 41 ⇓P PKPdf 01 25 10.7 +1.2
baz=119,SNR=5.3
ELFS Eagle Lake Fie 119.15 49 P PKPdf 01 25 11.8 +1.9
baz=119,SNR=9.8
O05C Quincy 119.16 50 P PKPdf 01 25 11.7 +1.8
baz=119,SNR=8.9
MOD Modoc 119.16 47 ePKPdf PKPdf 01 25 11.8 +1.9
MOD LR LR
comp=Z,367nm,19.0s
MOD Modoc 119.16 47 ⇓P PKPdf 01 25 11.5 +1.6
baz=119,SNR=19
I07A Izee 119.17 45 ⇑P PKPdf 01 25 11.4 +1.6
baz=119,SNR=15
F08A Pendleton 119.17 43 ⇓P PKPdf 01 25 11.1 +1.4
baz=119
G08A Pilot Rock 119.20 43 ⇓P PKPdf 01 25 11.2 +1.4
baz=119,SNR=35
M06C Likely Place G 119.20 48 ⇓P PKPdf 01 25 11.6 +1.6
baz=119,SNR=8.1
S04C Ingram Canyon, 119.34 52 ⇓P PKPdf 01 25 12.0 +1.6
baz=119
E09A Wood Farm, Sta 119.37 42 ⇓P PKPdf 01 25 11.2 +1.2
baz=119
HAST Hastings Reser 119.37 54 ⇓P PKPdf 01 25 11.4 +1.0
baz=120
SAO San Andreas Ge 119.39 53 PFAKE 01 25 20.0 +10
SAO LR LR
comp=Z,640nm,20.0s
CART Cartagena 119.39 308 PKPdf PKPdf 01 25 11.4 +1.0
NEW Newport 119.45 40 ePKPdf PKPdf 01 25 11.5 +1.3
NEW LR LR
comp=Z,452nm,19.0s
PACP Pacheco Peak 119.47 53 ⇑P PKPdf 01 25 12.1 +1.5
baz=120,SNR=5.1
J07A Hines 119.50 45 ⇓P PKPdf 01 25 11.6 +1.2
baz=120,SNR=7.5
R04C Big Horse Ranc 119.50 51 ⇑P PKPdf 01 25 12.0 +1.4
baz=120
P05C Yuba Gap, Truc 119.53 50 ⇑P PKPdf 01 25 12.3 +1.7
baz=120,SNR=8.8
LAVA Lava Cap Winer 119.55 51 P PKPdf 01 25 12.3 +1.6
baz=120,SNR=8.6
BEKR Beckwourth 119.60 50 P PKPdf 01 25 12.3 +1.6
baz=120,SNR=10.0
H08A Prairie City 119.62 44 ⇑P PKPdf 01 25 12.0 +1.3
baz=120,SNR=11
A11A Hall Mountain, 119.67 39 ⇓P PKPdf 01 25 12.2 +1.6
baz=120
EDM Edmonton 119.70 33 ePKIKP PKPdf 01 25 11.8 +1.3
K07A Rock Creek Ran 119.72 46 ⇓P PKPdf 01 25 12.7 +1.8
baz=120,SNR=21
D10A Wagner Farm, O 119.76 41 ⇑P PKPdf 01 25 11.7 +0.9
baz=120,SNR=13
N06A Buffalo Meadow 119.78 48 ⇓P PKPdf 01 25 12.6 +1.5
baz=120,SNR=24
L07A Adell 119.83 47 ⇓P PKPdf 01 25 12.8 +1.6
baz=120,SNR=13
B11A Sandpoint 119.86 39 ⇑P PKPdf 01 25 12.3 +1.3
baz=120,SNR=7.4
I08A Drewsey 119.86 45 ⇓P PKPdf 01 25 12.7 +1.6
baz=120,SNR=7.5
O06A Flanigan 119.93 49 ⇓P PKPdf 01 25 12.8 +1.5
baz=120,SNR=30
CMB Columbia Colle 119.97 52 ePKPdf PKPdf 01 25 13.2 +1.7
CMB LR LR
comp=Z,328nm,19.0s
CMB Columbia Colle 119.97 52 ⇑P PKPdf 01 25 12.7 +1.1
baz=120,SNR=5.4
P06A Stead Airport, 119.99 50 ⇑P PKPdf 01 25 12.8 +1.3
baz=120
U04C Hernandez Rese 119.99 54 ⇓P PKPdf 01 25 13.6 +2.0
baz=120,SNR=6.8
E10A Myers Farm, Un 120.06 41 ⇓P PKPdf 01 25 12.8 +1.4
baz=120
R05C Kirkwood Meado 120.07 51 ⇑P PKPdf 01 25 13.2 +1.5
baz=120,SNR=13
J08A Circle Bar Ran 120.08 45 ⇑P PKPdf 01 25 12.9 +1.3
baz=120,SNR=20
M07A Soldier Meadow 120.11 48 ⇑P PKPdf 01 25 13.4 +1.7
baz=120
A12A Yaak River Ran 120.12 38 ⇓P PKPdf 01 25 13.2 +1.7
baz=120
F10A Beach Ranch, E 120.14 42 ⇓P PKPdf 01 25 13.7 +2.1
baz=120
S05C Merced 120.16 52 ⇓P PKPdf 01 25 13.5 +1.6
baz=120
WCN Washoe City 120.18 50 ⇓P PKPdf 01 25 13.3 +1.4
baz=120
WVOR Wild Horse Val 120.22 46 PKIKP PKPdf 01 25 13.6 +1.7
K08A Mann Creek Ran 120.25 46 ⇑P PKPdf 01 25 13.7 +1.8
baz=120,SNR=6.5
PKD Parkfield 120.26 54 ⇓P PKPdf 01 25 13.4 +1.2
baz=120
H09A Durkee 120.26 44 P PKPdf 01 25 13.3 +1.5
baz=120,SNR=9.8
EVIA Vianos 120.34 309 PKIKP PKPdf 01 25 13.0 +0.8
PAHR Pah Rah Range 120.37 49 ePKPdf PKPdf 01 25 14.4 +2.1
D11A Klaveano Farm, 120.37 41 P PKPdf 01 25 12.9 +0.9
baz=120,SNR=16
N07B Gerlach 120.41 48 ⇑P PKPdf 01 25 13.9 +1.6
baz=120,SNR=32
S06C San Francisco 120.42 52 ⇑P PKPdf 01 25 13.7 +1.3
baz=120,SNR=16
G10A Bishop Farm, J 120.43 43 ⇑P PKPdf 01 25 12.8 +0.6
baz=120
BMO Blue Mountains 120.45 43 ePKIKP PKPdf 01 25 13.0 +0.8
EHUE Huescar 120.58 308 PKIKP PKPdf 01 25 13.9 +1.2
R06C Coleville 120.59 51 ⇓P PKPdf 01 25 14.7 +2.0
baz=121,SNR=6.7
J09A Fry Pan Ranch, 120.59 45 P PKPdf 01 25 14.4 +1.9
baz=121,SNR=28
WAKR Walker 120.60 51 ePKPdf PKPdf 01 25 15.3 +2.6
O07A Toulon 120.64 49 ⇓P PKPdf 01 25 14.4 +1.7
baz=121,SNR=17
M08A Happy Creek Ra 120.67 47 P PKPdf 01 25 15.1 +2.3
baz=121,SNR=13
E11A Bogner Ranch, 120.69 41 P PKPdf 01 25 13.5 +0.8
baz=121,SNR=14
T06C Millerton Lake 120.71 53 P PKPdf 01 25 14.5 +1.5
baz=121,SNR=12
K09A Rome 120.80 46 P PKPdf 01 25 14.9 +1.9
baz=121,SNR=11
SMMC Simmler 120.81 55 ⇓P PKPdf 01 25 14.5 +1.3
baz=121
F11A Grangeville 120.88 42 P PKPdf 01 25 13.9 +0.9
baz=121,SNR=10
H10A Noah's Angus R 120.91 43 P PKPdf 01 25 14.3 +1.2
baz=121,SNR=42
KCC Kaiser Creek 120.95 52 ⇓P PKPdf 01 25 14.5 +1.1
baz=121
EQES Quesada 120.96 308 PKP PKPdf 01 25 15.8 +2.4
G11A Walters Elk Ra 120.97 42 ⇑P PKPdf 01 25 13.9 +0.7
baz=121,SNR=16
R07C Lee Vining 120.99 51 ⇓P PKPdf 01 25 15.5 +2.0
baz=121,SNR=7.5
I10A Payette 121.03 44 ⇓P PKPdf 01 25 14.8 +1.4
baz=121,SNR=8.7
N08A GE Springer Mi 121.03 48 ⇓P PKPdf 01 25 14.9 +1.5
baz=121,SNR=18
PKM Peak Mountain 121.03 55 ⇓P PKPdf 01 25 15.2 +1.6
baz=121,SNR=5.1
L09A Wilkinson Ranc 121.03 47 ⇑P PKPdf 01 25 15.2 +1.7
baz=121,SNR=17
B13A Whitefish 121.06 39 ⇑P PKPdf 01 25 14.2 +0.9
baz=121,SNR=5.0
BSMT Bassoo Peak 121.06 39 ePKPdf PKPdf 01 25 14.3 +1.0
GUD Guadarrama 121.09 312 PKIKP PKPdf 01 25 15.1 +1.5
ESDC Sonseca Array 121.20 311 PKP PKPdf 01 25 14.8 +1.0
comp=Z,1.6nm,0.5s,baz=28,slow=2.7,SNR=15
ESDC PP PP 01 26 40.3 -4.5
comp=Z,5.1nm,0.9s,baz=26,slow=3.6,SNR=4.0

ESLA **Sonseca Array** 121.20 311 *e*PKPdf PKPdf 01 25 15.4 +1.5
ESLA LR LR
comp=Z,2µm,21.0s
J10A **Berg Farm, Mel** 121.25 45 ⇓P PKPdf 01 25 15.5 +1.6
baz=121,SNR=6.8
C13A **Hot Springs** 121.26 39 ⇑P PKPdf 01 25 13.8 +0.2
baz=121,SNR=14
MLAC **Mammoth Lakes** 121.26 52 ⇓P PKPdf 01 25 15.9 +1.9
baz=121
HELL **Mitchell Peak** 121.31 53 ⇑P PKPdf 01 25 15.7 +1.6
baz=121,SNR=11
M09A **Marrel Ranch,** 121.35 47 ⇑P PKPdf 01 25 15.8 +1.7
baz=121,SNR=11
H11A **Donnelly** 121.37 43 ⇓P PKPdf 01 25 15.3 +1.3
baz=121,SNR=58
K10A **MacKenzie Ranc** 121.38 45 ⇓P PKPdf 01 25 15.8 +1.8
baz=121,SNR=26
EBAN **Banos Encina** 121.42 309 PKIKP PKPdf 01 25 14.9 +0.6
VES **Vestal, Richgr** 121.44 54 ⇑P PKPdf 01 25 15.2 +0.8
baz=122
N09A **Rock Creek Ran** 121.45 48 ⇑P PKPdf 01 25 16.1 +1.8
baz=122,SNR=12
NVAR **Mina Array Bea** 121.48 51 PKP PKPdf 01 25 16.6 +2.2
comp=Z,7.7nm,0.8s,baz=242,slow=2.6,SNR=42
NVAR pPKP pPKPdf 01 25 36.9 +3.5
comp=Z,5.0nm,0.7s,baz=236,slow=2.9,SNR=7.1
NVAR PKKPbc PKKPbc 01 35 16.9 +1.1
comp=Z,0.9nm,0.6s,baz=133,slow=4.7,SNR=7.8
F12A **Elk City** 121.52 42 ⇑P PKPdf 01 25 15.6 +1.3
baz=122,SNR=10
PAB **San Pablo** 121.52 311 PFAKE 01 25 30.0 +16
PAB LR LR
comp=Z,499nm,19.0s
MTUM **Tungsten Hills** 121.53 52 *e*PKPdf PKPdf 01 25 16.9 +2.3
D13A **Huson** 121.55 40 ⇑P PKPdf 01 25 14.7 +0.4
baz=122,SNR=18
SNCC **San Nicolas Is** 121.56 57 PFAKE 01 25 30.0 +15
SNCC LR LR
comp=Z,599nm,20.0s
SNCC **San Nicolas Is** 121.56 57 ⇓P PKPdf 01 25 16.0 +1.2
baz=122
I11A **Placerville** 121.66 44 ⇓P PKPdf 01 25 15.9 +1.3
baz=122,SNR=12
Q08A **Gabbs** 121.66 50 P PKPdf 01 25 16.9 +2.1
baz=122,SNR=15
ARVC **Arvin** 121.78 55 ⇑P PKPdf 01 25 16.8 +1.7
baz=122
BMN **Battle Mountai** 121.79 48 PFAKE 01 25 30.0 +15
BMN LR LR
comp=Z,234nm,20.0s
S08C **White Mtn Res** 121.80 52 ⇑P PKPdf 01 25 17.3 +2.2
baz=122,SNR=13
L10A **Juniper Basin** 121.87 46 ⇓P PKPdf 01 25 16.8 +1.7
baz=122,SNR=18
O09A **Fish Creek Ran** 121.88 48 ⇑P PKPdf 01 25 17.1 +1.9
baz=122
MFID **Camas Ranch** 121.91 44 ⇓P PKPdf 01 25 16.8 +1.8
baz=122,SNR=26
ELUQ **Luque** 121.94 308 PKIKP PKPdf 01 25 16.2 +0.9
ISA **Isabella** 121.96 54 PFAKE 01 25 30.0 +15
ISA LR LR
comp=Z,3.0nm,19.0s
E13A **Victor** 121.96 41 ⇑P PKPdf 01 25 15.8 +0.7
baz=122,SNR=19
K11A **Parker Ranch,** 121.97 45 P PKPdf 01 25 17.2 +2.0
baz=122,SNR=13
MSO **Missoula** 121.98 40 *e*PKPdf PKPdf 01 25 16.1 +1.0
MSO LR LR
comp=Z,223nm,22.0s
M10A **I.L. Ranch, Tu** 121.98 47 ⇑P PKPdf 01 25 17.1 +1.8
baz=122
EADA **Adamuz** 122.03 309 PKP PKPdf 01 25 16.1 +0.6
P09A **Austin** 122.08 49 ⇓P PKPdf 01 25 17.1 +1.5
baz=122
CWC **Cottonwood Cre** 122.11 53 ⇓P PKPdf 01 25 17.5 +1.8
baz=122
D14A **Greenough** 122.16 40 P PKPdf 01 25 16.3 +0.8
baz=122,SNR=29
H12A **Diamond D Ranc** 122.20 43 P PKPdf 01 25 17.5 +1.9
baz=122,SNR=25
SFJD **Kangerlussuaq** 122.23 355 ⇓*i*PKIKP PKPdf 01 25 15.1 +0.1
SFJD *i* 01 32 05.7
SFJD *i* 01 43 26.3
SFJD pmax pmax
comp=Z,16nm,0.9s
SFJD MLR MLR
comp=Z,380nm,20.0s
SFJD **Kangerlussuaq** 122.23 355 PFAKE 01 25 30.0 +15
SFJD LR LR
comp=Z,503nm,21.0s
SFJD **Kangerlussuaq** 122.23 355 ⇓*i*P PKPdf 01 25 15.1 +0.1
comp=Z,16nm,0.9s
SFJD *i* 01 25 34.3
SFJD *i* 01 32 05.7
SFJD *i* 01 43 26.3
SFJD
comp=Z,370nm,20.0s
N10A **Dunphy** 122.23 48 ⇑P PKPdf 01 25 17.6 +1.8
baz=122
L11A **Cat Creek Ranc** 122.35 46 P PKPdf 01 25 18.4 +2.4
baz=122,SNR=29
O10A **Cortez Mining,** 122.36 48 P PKPdf 01 25 17.9 +1.8
baz=122,SNR=6.8
CHMT **Chamberlain Mo** 122.38 40 *e*PKPdf PKPdf 01 25 16.8 +1.0
TPH **Tonopah** 122.39 51 *e*PKPdf PKPdf 01 25 18.7 +2.5
TPH LR LR
comp=Z,358nm,19.0s
E14A **Clinton** 122.42 40 P PKPdf 01 25 17.4 +1.4
baz=122,SNR=20
G13A **Cobalt** 122.42 42 ⇓P PKPdf 01 25 17.4 +1.4
baz=122
J12A **Stokes Ranch,** 122.47 44 ⇓P PKPdf 01 25 18.2 +2.0
baz=122,SNR=34
R09A **Tonopah** 122.47 51 ⇓P PKPdf 01 25 18.2 +1.9
baz=122,SNR=9.7
S09A **Goldfield** 122.48 51 ⇑P PKPdf 01 25 18.5 +2.1
baz=123,SNR=13
EDW2 **Edwards Air Fo** 122.51 55 ⇑P PKPdf 01 25 18.5 +2.0
baz=123,SNR=25
DAC **Darwin (Calif)** 122.53 53 PFAKE 01 25 30.0 +13
DAC LR LR
comp=Z,325nm,20.0s
GRAC **Grapevine Rang** 122.54 52 ⇑P PKPdf 01 25 18.8 +2.3
baz=123
M11A **Holland Ranch,** 122.55 47 ⇓P PKPdf 01 25 18.6 +2.2
baz=123,SNR=9.1
P10A **Eureka** 122.57 49 ⇓P PKPdf 01 25 18.2 +1.8
baz=123
MWC **Mount Wilson** 122.58 55 *e*PKIKP PKPdf 01 25 18.2 +1.5
H13A **Challis** 122.59 43 P PKPdf 01 25 18.2 +1.8
baz=123,SNR=75
LRMC **Laurel Mountai** 122.62 54 ⇑P PKPdf 01 25 18.6 +1.9
baz=123,SNR=11
MPMC **Manual Prospec** 122.66 53 ⇑P PKPdf 01 25 18.9 +2.2
baz=123,SNR=26
F14A **Wisdom** 122.72 41 ⇓P PKPdf 01 25 18.0 +1.4
baz=123,SNR=5.1
N11A **Elko Archery C** 122.77 47 ⇑P PKPdf 01 25 18.7 +1.9
baz=123
D15A **Lincoln** 122.79 39 ⇑P PKPdf 01 25 17.6 +1.0
baz=123,SNR=16
K12A **Draper Farm, C** 122.80 45 ⇓P PKPdf 01 25 18.5 +1.7
baz=123,SNR=7.8
Q10A **Clear Creek Ra** 122.83 50 P PKPdf 01 25 19.2 +2.2
baz=123,SNR=7.0
HLID **Hailey** 122.83 44 P PKPdf 01 25 19.4 +2.5
baz=123,SNR=81
L12A **House Creek Ra** 122.88 46 ⇓P PKPdf 01 25 19.3 +2.3
baz=123,SNR=9.7
S10A **Tonopah Range,** 122.91 51 P PKPdf 01 25 19.2 +2.0
baz=123,SNR=24
I13A **Wildhorse Cree** 122.91 43 P PKPdf 01 25 19.4 +2.3
baz=123,SNR=82
E15A **Deer Lodge** 122.96 40 ⇑P PKPdf 01 25 18.0 +1.0
baz=123,SNR=8.1
O11A **Cowboy Ranch,** 123.02 48 P PKPdf 01 25 19.4 +2.1
baz=123,SNR=15
R10A **Warm Springs** 123.04 50 ⇓P PKPdf 01 25 19.5 +2.1
baz=123
J13A **Cove Ranch, Pi** 123.05 44 ⇑P PKPdf 01 25 19.5 +2.2
baz=123,SNR=67
FURC **Furnace Creek,** 123.06 53 P PKPdf 01 25 19.8 +2.3
baz=123,SNR=13
P11A **Circle Ranch,** 123.11 49 ⇓P PKPdf 01 25 19.4 +1.9
baz=123
M12A **Wells** 123.18 46 ⇑P PKPdf 01 25 19.6 +2.1
baz=123,SNR=24

MDT **Midelt** 123.20 303 PKP PKPdf 01 25 18.9 +1.0
comp=Z,5.9nm,0.9s,baz=68,slow=3.1,SNR=12
N12A **Clover Valley,** 123.26 47 P PKPdf 01 25 19.9 +2.1
baz=123,SNR=22
F15A **Butte** 123.28 41 P PKPdf 01 25 19.2 +1.6
baz=123,SNR=13
LRM **Limekiln Ridge** 123.31 41 *e*PKPdf PKPdf 01 25 19.3 +1.6
ESPR **Espera** 123.33 308 PKP PKPdf 01 25 19.0 +0.9
GSC **Goldstone** 123.37 54 *e*PKPdf PKPdf 01 25 20.4 +2.3
GSC LR LR
comp=Z,369nm,19.0s
GSC **Goldstone** 123.37 54 P PKPdf 01 25 20.6 +2.4
baz=123,SNR=15
K13A **Stover Farm, H** 123.37 45 ⇓P PKPdf 01 25 20.4 +2.5
baz=123,SNR=18
Q11A **Duckwater** 123.39 50 P PKPdf 01 25 20.2 +2.1
baz=124,SNR=20
DLMT **Dillon** 123.40 41 *e*PKPdf PKPdf 01 25 20.2 +2.3
MURC **Murrieta** 123.40 56 ⇑P PKPdf 01 25 20.0 +1.7
baz=124
TPNV **Topopah Spring** 123.42 52 *e*PKPdf PKPdf 01 25 20.1 +1.9
TPNV LR LR
comp=Z,318nm,19.0s
TPNV **Topopah Spring** 123.42 52 ⇓P PKPdf 01 25 20.5 +2.3
baz=124
MCMT **McKenzie Canyo** 123.43 42 *e*PKPdf PKPdf 01 25 20.1 +2.2
U10A **Ash Meadows, A** 123.49 53 ⇓P PKPdf 01 25 21.0 +2.7
baz=124,SNR=22
G15A **Dillon** 123.54 42 ⇑P PKPdf 01 25 19.7 +1.5
baz=124,SNR=8.4
R11A **Troy Canyon, C** 123.57 50 P PKPdf 01 25 20.6 +2.2
baz=124,SNR=23
109C **Camp Elliot, M** 123.62 57 ⇑P PKPdf 01 25 20.3 +1.6
baz=124
S11A **Rachel** 123.63 51 ⇓P PKPdf 01 25 20.6 +2.1
baz=124,SNR=11
MTE **Manteigas** 123.64 312 *e*P PKPdf 01 25 19.9 +1.4
SHOC **Shoshone** 123.65 53 ⇓P PKPdf 01 25 20.8 +2.1
baz=124,SNR=8.1
O12A **Currie** 123.65 48 P PKPdf 01 25 20.6 +2.1
baz=124,SNR=15
L13A **Double Diamond** 123.65 45 ⇓P PKPdf 01 25 20.7 +2.2
baz=124,SNR=16
SFS **San Fernando** 123.70 308 PKIKP PKPdf 01 25 19.3 +0.5
EBAD **Badajoz** 123.72 310 PKP PKPdf 01 25 19.9 +1.1
M13A **Montello** 123.73 46 ⇑P PKPdf 01 25 20.3 +1.7
baz=124,SNR=27
EMIN **Mina Concepcio** 123.73 309 PKP PKPdf 01 25 20.3 +1.5
P12A **McGill** 123.77 49 ⇑P PKPdf 01 25 20.6 +1.9
baz=124,SNR=8.4
HEC **Hector,Ludlow** 123.85 54 ⇑P PKPdf 01 25 21.2 +2.1
baz=124,SNR=8.3
N13A **Wendover, West** 123.86 47 ⇓P PKPdf 01 25 20.7 +1.8
baz=124,SNR=9.6
BOZ **Bozeman (W)** 123.91 41 *e*PKPdf PKPdf 01 25 20.7 +1.8
BOZ LR LR
comp=Z,221nm,19.0s
BOZ **Bozeman (W)** 123.91 41 ⇑P PKPdf 01 25 20.6 +1.8
baz=124
Q12A **Willow Creek R** 123.95 49 ⇓P PKPdf 01 25 20.7 +1.6
baz=124
PFO **Pinyon Flat Ob** 124.01 56 *e*PKIKP PKPdf 01 25 21.2 +1.8
PFO MLR MLR
comp=Z,374nm,19.0s
PFO **Pinyon Flat Ob** 124.01 56 ⇑P PKPdf 01 25 21.4 +1.9
baz=124,SNR=11
K14A **Jones Ranch, D** 124.03 45 ⇑P PKPdf 01 25 21.3 +2.1
baz=124,SNR=20
TUQ **Turquoise Mtn.** 124.04 54 ⇓P PKPdf 01 25 21.7 +2.2
baz=124,SNR=7.2
EGMT **Eagleton** 124.07 37 *e*PKPdf PKPdf 01 25 20.5 +1.4
EGMT LR LR
comp=Z,356nm,19.0s
EGMT **Eagleton** 124.07 37 P PKPdf 01 25 20.5 +1.5
baz=124,SNR=40
T11A **Corn Creek, Al** 124.14 51 ⇑P PKPdf 01 25 22.1 +2.5
baz=124,SNR=50
MONP **Monument Peak** 124.18 57 ⇑P PKPdf 01 25 22.3 +2.5
baz=124,SNR=6.2
O13A **Hicks Ranch, I** 124.25 48 ⇑P PKPdf 01 25 21.2 +1.5
baz=124
M14A **Sheep Mountain** 124.27 46 P PKPdf 01 25 21.9 +2.2
baz=124,SNR=27
DBIC **Dimbokro** 124.27 272 PKP PKPdf 01 25 21.2 +0.7
comp=Z,12nm,0.8s,baz=85,slow=2.7,SNR=17
BELC **Belle Mtn.** 124.30 55 ⇑P PKPdf 01 25 22.2 +2.2
baz=124,SNR=16
R12A **Pony Springs,** 124.32 50 ⇓P PKPdf 01 25 21.8 +1.9
baz=124,SNR=6.4
S12A **Delamar Landin** 124.33 51 ⇓P PKPdf 01 25 22.3 +2.4
baz=124,SNR=15
V11A **Goodsprings** 124.33 53 ⇑P PKPdf 01 25 22.1 +2.1
baz=124,SNR=8.9
QLMT **Earthquake Lak** 124.37 42 *e*PKPdf PKPdf 01 25 22.5 +2.7
SHPR **Sheep Range** 124.38 52 *e*PKPdf PKPdf 01 25 22.6 +2.6
LIC **Lamto** 124.38 271 ⇑*i*PKIKP PKPdf 01 25 21.6 +0.9
comp=Z,29nm,0.8s
LIC *e*MLR MLR
comp=Z,410nm,20.8s
LIC **Lamto** 124.38 271 ⇑*i*PKPdf PKPdf 01 25 21.6 +0.9
LIC LR LR
comp=Z,210nm,20.8s
GMRC **Granite Mounta** 124.40 54 ⇑P PKPdf 01 25 22.4 +2.2
baz=124,SNR=20
EGRO **El Granado** 124.42 309 PKP PKPdf 01 25 22.8 +2.7
P13A **Bates Ranch, G** 124.43 48 ⇑P PKPdf 01 25 21.9 +1.8
baz=124,SNR=22
EVO **Evora** 124.54 310 *e*PKIKP PKPdf 01 25 20.4 +0.1
comp=Z,35nm,1.1s
EVO *e*MLR MLR
comp=Z,258nm,20.5s
HVU **Hansel Valley** 124.58 45 *e*PKIKP PKPdf 01 25 22.6 +2.3
Q13A **Wheeler Ranch,** 124.58 49 P PKPdf 01 25 22.2 +1.9
baz=125,SNR=19
FFC **Flin Flon** 124.58 27 *e*PKIKP PKPdf 01 25 21.0 +1.2
FFC MLR MLR
comp=Z,457nm,20.0s
N14A **Grayback Hills** 124.59 47 ⇑P PKPdf 01 25 21.7 +1.4
baz=125,SNR=5.4
BGU **Big Grassy Mou** 124.68 46 *e*PKPdf PKPdf 01 25 22.0 +1.5
BGU *e*PP PP 01 27 07.9 -0.3
SWSC **Sam W. Stewart** 124.69 57 ⇓P PKPdf 01 25 22.7 +1.9
baz=125
YMR **Madison River** 124.73 42 *e*PKPdf PKPdf 01 25 23.2 +2.8
YMR LR LR
comp=Z,1µm,21.0s
BC3 **Big Chuckw Mtn** 124.82 56 ⇑P PKPdf 01 25 23.0 +2.1
baz=125,SNR=13
V12A **Nelson** 124.82 53 P PKPdf 01 25 23.4 +2.5
baz=125,SNR=32
YFT **Old Faithful** 124.91 42 *e*PKPdf PKPdf 01 25 24.8 +4.0
M15A **Larsen Ranch,** 124.92 46 ⇑P PKPdf 01 25 22.7 +1.8
baz=125
FCC **Fort Churchill** 124.92 20 *e*PKIKP PKPdf 01 25 20.6 +0.2
IRM **Iron Mountain** 124.95 55 ⇑P PKPdf 01 25 23.7 +2.5
baz=125,SNR=5.8
SPUT **South Promonto** 124.97 46 *e*PKPdf PKPdf 01 25 23.6 +2.6
IMW **Indian Meadow** 125.06 42 *e*PKPdf PKPdf 01 25 22.1 +1.0
N15A **Stansbury Isla** 125.06 46 P PKPdf 01 25 23.1 +1.9
baz=125,SNR=38
DUG **Dugway** 125.08 47 *e*PKIKP PKPdf 01 25 23.3 +2.0
DUG **Dugway** 125.08 47 PFAKE 01 25 30.0 +8.7
DUG LR LR
comp=Z,278nm,20.0s
DUG **Dugway** 125.08 47 ⇑P PKPdf 01 25 23.3 +2.0
baz=125
S13A **Holt Ranch, En** 125.09 51 ⇑P PKPdf 01 25 23.5 +2.2
baz=125,SNR=18
GCMT **Greycliff** 125.11 40 *e*PKPdf PKPdf 01 25 22.8 +1.7
TPAW **Teton Pass** 125.21 43 *e*PKPdf PKPdf 01 25 23.5 +2.1
T13A **Saint George** 125.21 51 ⇑P PKPdf 01 25 23.9 +2.3
baz=125,SNR=15
REDW **Red Top Meadow** 125.32 43 *e*PKPdf PKPdf 01 25 24.1 +2.5
SNOW **Snow King Moun** 125.35 43 *e*PKPdf PKPdf 01 25 24.4 +2.7
AHID **Auburn Hatcher** 125.38 44 PFAKE 01 25 30.0 +8.2
AHID LR LR
comp=Z,353nm,19.0s
LOHW **Long Hollow** 125.39 43 *e*PKPdf PKPdf 01 25 24.2 +2.4
NOQ **North Oquirrh** 125.42 47 *e*PKPdf PKPdf 01 25 24.3 +2.4
GLA **Glamis** 125.46 56 *e*PKPdf PKPdf 01 25 24.8 +2.6
GLA LR LR
comp=Z,431nm,20.0s
GLA **Glamis** 125.46 56 ⇓P PKPdf 01 25 24.6 +2.4
baz=126,SNR=7.3
CCUT **Cedar City** 125.48 50 *e*PKPdf PKPdf 01 25 24.8 +2.7
HWUT **Hardware Ranch** 125.48 45 *e*PKPdf PKPdf 01 25 23.6 +1.6

HWUT LR LR
comp=Z,248nm,20.0s
R14A **James Farms, M** 125.52 50 ⇑P PKPdf 01 25 24.3 +2.2
baz=126
Y12C **Blythe** 125.55 55 ⇓P PKPdf 01 25 24.4 +2.0
baz=126
S14A **Cedar City** 125.57 50 ⇓P PKPdf 01 25 24.3 +2.0
baz=126
RLMT **Red Lodge** 125.65 40 *e*PKPdf PKPdf 01 25 24.6 +2.4
RLMT LR LR
comp=Z,384nm,19.0s
CTU **Camp Tracy** 125.68 46 *e*PKPdf PKPdf 01 25 24.6 +2.2
NLU **North Lily Min** 125.69 47 *e*PKPdf PKPdf 01 25 24.9 +2.5
W13A **Hualapai Mount** 125.74 54 ⇓P PKPdf 01 25 25.0 +2.3
baz=126,SNR=12
112A **Yuma** 125.78 57 ⇓P PKPdf 01 25 24.9 +2.0
baz=126
T14A **Hurricane** 125.83 51 ⇓P PKPdf 01 25 25.3 +2.5
baz=126,SNR=6.3
X13A **Yucca** 125.91 54 ⇑P PKPdf 01 25 25.0 +1.9
baz=126,SNR=15
JLU **Jordanelle** 125.92 46 *e*PKPdf PKPdf 01 25 25.2 +2.4
U14A **Mt Trumbull** 125.94 52 ⇓P PKPdf 01 25 25.4 +2.4
baz=126,SNR=22
MPU **Maple Canyon** 125.99 47 *e*PKPdf PKPdf 01 25 27.7 +4.7
MPU LR LR
comp=Z,943nm,19.0s
MVU **Marysvale** 126.06 49 PFAKE 01 25 40.0 +17
MVU LR LR
comp=Z,440nm,19.0s
MSU **Marysvale** 126.08 49 *e*PKIKP PKPdf 01 25 25.9 +2.6
Y13A **Salome** 126.10 55 ⇓P PKPdf 01 25 25.5 +2.0
baz=126,SNR=7.1
DAU **Daniels Canyon** 126.13 47 *e*PKIKP PKPdf 01 25 26.0 +2.7
V14A **Boquillas Ranc** 126.21 53 ⇑P PKPdf 01 25 26.2 +2.6
baz=126,SNR=33
W14A **Seligman** 126.34 53 ⇓P PKPdf 01 25 26.4 +2.6
baz=126,SNR=13
T15A **Red Dirt Ranch** 126.38 51 ⇓P PKPdf 01 25 26.0 +2.1
baz=126
113A **Mohawk Valley,** 126.39 56 ⇓P PKPdf 01 25 25.8 +1.8
baz=126
BW06 **Boulder Array** 126.43 43 *e*PKPdf PKPdf 01 25 25.4 +1.6
BW06 LR LR
comp=Z,340nm,20.0s
TMUT **Trail Mountain** 126.54 48 *e*PKPdf PKPdf 01 25 26.9 +2.7
X14A **Yava** 126.69 54 ⇓P PKPdf 01 25 27.0 +2.4
baz=127,SNR=10
Y14A **Wickenburg** 126.73 55 P PKPdf 01 25 27.1 +2.4
baz=127,SNR=7.0
LAO **LASA Array** 126.82 38 *e*PKPdf PKPdf 01 25 26.9 +2.5
LAO LR LR
comp=Z,436nm,20.0s
V15A **Kaibab Nationa** 126.89 52 ⇑P PKPdf 01 25 27.3 +2.4
baz=127,SNR=39
Z14A **Wintersburg** 126.92 55 ⇑P PKPdf 01 25 26.8 +1.8
baz=127
W15A **Williams** 127.00 53 ⇓P PKPdf 01 25 27.3 +2.2
baz=127,SNR=5.5
T16A **Glen Canyon Da** 127.06 51 ⇓P PKPdf 01 25 27.0 +1.9
baz=127,SNR=6.2
DGMT **Dagmar** 127.08 35 *e*PKPdf PKPdf 01 25 26.5 +1.7
DGMT LR LR
comp=Z,465nm,20.0s
SRU **San Rafael** 127.11 48 *e*PKIKP PKPdf 01 25 27.2 +2.0
X15A **Humboldt** 127.21 54 ⇑P PKPdf 01 25 27.7 +2.2
baz=127,SNR=11
Y15A **Casa Rosa Ranc** 127.27 55 P PKPdf 01 25 27.9 +2.2
baz=127,SNR=14
W16A **Flagstaff** 127.60 53 ⇑P PKPdf 01 25 28.3 +2.0
baz=128
WUAZ **Wupatki** 127.60 52 *e*PKPdf PKPdf 01 25 28.9 +2.7
WUAZ LR LR
comp=Z,423nm,19.0s
WUAZ **Wupatki** 127.60 52 ⇓P PKPdf 01 25 28.6 +2.3
baz=128
115A **Sonoran Desert** 127.67 56 ⇑P PKPdf 01 25 28.2 +1.7
baz=128,SNR=8.7
X16A **Lo Mia Camp, P** 127.86 54 ⇑P PKPdf 01 25 28.5 +1.8
baz=128,SNR=22
Y16A **Circle Bar Ran** 127.97 54 ⇓P PKPdf 01 25 29.3 +2.3
baz=128
116A **Eloy** 128.13 56 ⇑P PKPdf 01 25 28.8 +1.5
baz=128,SNR=8.5
Z16A **Peralta Trail,** 128.16 55 ⇑P PKPdf 01 25 29.5 +2.1
baz=128
W17A **Winslow** 128.25 53 ⇓P PKPdf 01 25 29.8 +2.3
baz=128
PV10 **Paradox Valley** 128.45 48 *e*PKPdf PKPdf 01 25 30.4 +2.6
RWWY **Rawlins** 128.46 44 *e*PKPdf PKPdf 01 25 29.5 +1.8
216A **Three Points,** 128.47 57 ⇑P PKPdf 01 25 30.1 +2.1
baz=128,SNR=5.8
Y17A **Roosevelt** 128.53 54 ⇑P PKPdf 01 25 29.8 +1.7
baz=129,SNR=7.2
PV01 **Paradox Valley** 128.88 48 *e*PKPdf PKPdf 01 25 30.8 +2.2
117A **Oracle** 128.92 56 ⇑P PKPdf 01 25 30.8 +2.0
baz=129,SNR=12
Z17A **San Carlos Hig** 128.94 55 ⇑P PKPdf 01 25 31.1 +2.2
baz=129
TUC **Tucson** 128.95 56 PFAKE 01 25 40.0 +11
TUC LR LR
comp=Z,436nm,19.0s
W18A **Petrified Fore** 129.00 52 ⇑P PKPdf 01 25 31.2 +2.3
baz=129,SNR=8.0
X18A **Snowflake** 129.01 53 ⇓P PKPdf 01 25 31.2 +2.2
baz=129,SNR=8.3
217A **Green Valley** 129.06 57 ⇓P PKPdf 01 25 31.3 +2.2
baz=129,SNR=14
Y18A **Canyon Day Jun** 129.16 54 ⇓P PKPdf 01 25 31.7 +2.5
baz=129,SNR=6.1
PLCA **Paso Flores** 129.18 171 PKP PKPdf 01 25 31.2 +2.0
comp=Z,6.0nm,0.9s,baz=153,slow=4.0,SNR=9.1
MVCO **Mesa Verde** 129.26 49 *e*PKPdf PKPdf 01 25 31.8 +2.4
MVCO LR LR
comp=Z,423nm,19.0s
MVCO **Mesa Verde** 129.26 49 ⇓P PKPdf 01 25 31.4 +2.1
baz=129,SNR=15
W19A **Sanders** 129.27 52 ⇓P PKPdf 01 25 31.6 +2.1
baz=129
Z18A **Geronimo** 129.35 55 ⇓P PKPdf 01 25 31.9 +2.2
baz=129
RSSD **Black Hills** 129.42 39 *e*PKIKP PKPdf 01 25 30.4 +1.0
RSSD MLR MLR
comp=Z,421nm,20.0s
118A **Homack Ranch,** 129.53 55 ⇓P PKPdf 01 25 32.2 +2.2
baz=130,SNR=8.6
X19A **St. Johns** 129.56 53 ⇑P PKPdf 01 25 32.2 +2.2
baz=130,SNR=6.7
218A **Dragoon** 129.64 56 ⇓P PKPdf 01 25 32.4 +2.2
baz=130
SMCO **Snowmass** 129.65 46 *e*PKPdf PKPdf 01 25 32.7 +2.7
Y19A **Nutrioso** 129.73 54 ⇓P PKPdf 01 25 32.8 +2.5
baz=130
PHWY **Pilot Hill** 129.81 43 *e*PKPdf PKPdf 01 25 32.6 +2.4
318A **Bisbee** 129.82 57 ⇑P PKPdf 01 25 32.5 +1.9
baz=130,SNR=13
Z19A **T-Link Ranch,** 129.91 54 ⇓P PKPdf 01 25 33.0 +2.3
baz=130
119A **Ashpeak Ranch,** 130.03 55 ⇑P PKPdf 01 25 33.0 +2.1
baz=130
219A **White Tail Can** 130.28 56 ⇓P PKPdf 01 25 33.6 +2.2
baz=130,SNR=10
ULM **Lac du Bonnet** 130.32 29 PKP PKPdf 01 25 30.4 -0.6
comp=Z,12nm,0.8s,baz=320,slow=2.1,SNR=17
ULM pPKP pPKPdf 01 25 50.6 +0.7
comp=Z,4.2nm,0.7s,baz=323,slow=1.5,SNR=3.5
ULM SKPbc SKPbc 01 28 47.5 -1.1
comp=Z,3.3nm,0.9s,baz=195,slow=1.4,SNR=3.6
ISCO **Idaho Springs** 130.35 45 *e*PKPdf PKPdf 01 25 33.6 +2.2
ISCO LR LR
comp=Z,418nm,19.0s
319A **Douglas** 130.43 57 ⇑P PKPdf 01 25 33.9 +2.1
baz=130,SNR=9.2
LAZ **Ladron** 131.25 52 *e*PKPdf PKPdf 01 25 35.7 +2.5
SDCO **Great Sand Dun** 131.27 48 *e*PKPdf PKPdf 01 25 34.6 +1.4
SDCO LR LR
comp=Z,259nm,19.0s
LENM **Lemitar** 131.46 53 *e*PKPdf PKPdf 01 25 37.5 +3.9
ANMO **Albuquerque** 131.59 51 ⇑*i*PKIKP PKPdf 01 25 36.5 +2.6
AGMN **Agassiz Refuge** 131.63 31 *e*PKPdf PKPdf 01 25 34.9 +1.4
AGMN LR LR
comp=Z,476nm,19.0s
LPM **Los Pinos Moun** 131.68 52 *e*PKPdf PKPdf 01 25 36.9 +2.9
BNM **Barren Site** 131.74 52 *e*PKPdf PKPdf 01 25 36.5 +2.3
TRQA **Tornquist** 132.60 179 PFAKE 01 25 50.0 +14
TRQA LR LR
comp=Z,737nm,19.0s

MNTX	Cornudas Mount	133.52	55	ePKPdf	PKPdf	01 25 39.0	+1.4
MNTX				LR	LR		
comp=Z,547nm,19.0s							
EYMN	Ely	133.99	28	ePKPdf	PKPdf	01 25 39.0	+1.0
EYMN				LR	LR		
comp=Z,385nm,20.0s							
ECSD	EROS,Sioux Fal	134.11	36	ePKPdf	PKPdf	01 25 39.0	+0.7
ECSD				LR	LR		
comp=Z,319nm,19.0s							
SCHQ	Schefferville	134.65	5	PKP	PKPdf	01 25 39.7	+0.8
SCHQ				SKPbc	SKPbc	01 29 03.5	0.0
SCHQ	Schefferville	134.65	5	PKP	PKPdf	01 25 39.7	+0.8
comp=Z,15nm,0.8s,baz=273,slow=2.8,SNR=12							
SCHQ				SKPbc	SKPbc	01 29 03.5	0.0
comp=Z,17nm,1.0s,baz=15,slow=2.7,SNR=6.6							
CBKS	Cedar Bluff	134.86	43	ePKPdf	PKPdf	01 25 42.8	+2.9
CBKS				LR	LR		
comp=Z,305nm,19.0s							
AMTX	Amarillo	135.25	49	PFAKE		01 25 50.0	+9.3
AMTX				LR	LR		
comp=Z,369nm,19.0s							
TXAR	Lajitas Array	135.65	58	PKP	PKPdf	01 25 43.8	+2.2
TXAR				SKPbc	SKPbc	01 29 07.0	-0.5
TXAR	Lajitas Array	135.65	58	PKhKP		01 25 31.6	
comp=Z,2.5nm,0.9s,baz=237,slow=2.7,SNR=14							
TXAR				PKP	PKPdf	01 25 43.8	+2.2
comp=Z,7.0nm,0.9s,baz=258,slow=0.6,SNR=23							
TXAR				SKPbc	SKPbc	01 29 07.0	-0.5
comp=Z,4.0nm,1.1s,baz=279,slow=2.4,SNR=5.4							
COWI	Conover	136.44	28	ePKPdf	PKPdf	01 25 43.4	+0.8
COWI				LR	LR		
comp=Z,420nm,21.0s							
KSU1	Kansas State U	136.79	41	PFAKE		01 26 00.0	+17
KSU1				LR	LR		
comp=Z,427nm,19.0s							
SCIA	State Center	137.21	36	PFAKE		01 26 00.0	+16
SCIA				LR	LR		
comp=Z,393nm,21.0s							
WMOK	Wichita Mounta	137.47	48	ePKPdf	PKPdf	01 25 38.0	-6.8
WMOK				LR	LR		
comp=Z,380nm,19.0s							
JFWS	Jewell Farm	138.18	32	ePKIKP	PKPdf	01 25 46.4	+0.5
JFWS				MLR	MLR		
comp=Z,457nm,21.0s							
JCT	Junction City	138.43	54	ePKPdf	PKPdf	01 25 39.7	-7.1
JCT				LR	LR		
comp=Z,304nm,20.0s							
GLMI	Grayling	139.46	26	PFAKE		01 26 00.0	+12
GLMI				LR	LR		
comp=Z,431nm,19.0s							
HDIL	Hopedale	140.32	34	ePKPdf	PKPdf	01 25 50.4	+0.5
HDIL				LR	LR		
comp=Z,377nm,20.0s							
CCM	Cathedral Cave	140.81	39	ePKPdf	PKPdf	01 25 44.5	-6.4
CCM				LR	LR		
comp=Z,295nm,19.0s							
KVTX	Kingsville	141.04	58	PFAKE		01 26 00.0	+8.4
KVTX				LR	LR		
comp=Z,303nm,19.0s							
MIAR	Mount Ida	141.29	45	ePKPdf	PKPdf	01 25 47.2	-4.6
MIAR				LR	LR		
comp=Z,495nm,19.0s							
FVM	French Village	141.35	38	ePKIKP	PKPdf	01 25 48.4	-3.4
HKT	Hockley	141.80	53	PFAKE		01 26 10.0	+17
HKT				LR	LR		
comp=Z,314nm,19.0s							
AAM	Ann Arbor	141.88	27	PFAKE		01 26 10.0	+17
AAM				LR	LR		
comp=Z,658nm,20.0s							
NATX	Nacogdoches	141.90	50	PFAKE		01 26 10.0	+17
NATX				LR	LR		
comp=Z,354nm,19.0s							
UALR	University of	142.02	44	ePKPdf	PKPdf	01 25 55.0	+1.9
SIUC	Southern Illin	142.26	38	ePKPdf	PKPdf	01 25 54.9	+1.5
BLO	Bloomington	142.81	33	ePKIKP	PKPdf	01 25 55.4	+1.0
GNAR	Gosnell	142.87	40	ePKPdf	PKPdf	01 25 56.1	+1.5
USIN	University of	143.01	36	ePKPdf	PKPdf	01 25 52.1	-2.7
LONY	Lake Ozonia	143.21	16	ePKPdf	PKPdf	01 25 52.0	-2.9
LONY				LR	LR		
comp=Z,369nm,20.0s							
FRNY	Flat Rock	143.27	15	ePKPdf	PKPdf	01 25 53.0	-2.0
UTMT	University of	143.36	39	PKPdf	PKPdf	01 25 53.7	-1.8
CAM4	Nova Friburgo	143.41	210	eP	PKPdf	01 25 56.3	+0.3
CAM4				i		01 25 57.9	
CAM4				i		01 26 02.6	
CAM4				i		01 26 05.6	
CAM4				i		01 26 26.6	
ERPA	Erie	143.60	24	ePKPdf	PKPdf	01 25 55.2	-0.5
ERPA				LR	LR		
comp=Z,478nm,22.0s							
PKME	Peaks-Kenny Pk	143.76	10	ePKPdf	PKPdf	01 25 54.2	-1.7
PKME				LR	LR		
comp=Z,531nm,21.0s							
ACSO	Alum Creek Sta	143.82	29	ePKPdf	PKPdf	01 25 54.1	-2.0
ACSO				LR	LR		
comp=Z,379nm,20.0s							
NCB	Newcomb	143.91	16	ePKPdf	PKPdf	01 25 55.2	-1.0
NCB				LR	LR		
comp=Z,469nm,20.0s							
ALLY	Alegheny Colle	143.93	25	ePKPdf	PKPdf	01 25 54.3	-2.0
CPUP	Villa Florida	144.11	186	PKP	PKPdf	01 25 56.3	-0.8
comp=Z,27nm,0.8s,baz=156,slow=3.4,SNR=38							
OXF	Oxford	144.14	42	ePKIKP	PKPdf	01 25 55.4	-1.5
OXF				MLR	MLR		
comp=Z,379nm,19.0s							
LBNH	Lisbon	144.23	13	ePKPdf	PKPdf	01 25 56.0	-0.7
LBNH				LR	LR		
comp=Z,625nm,20.0s							
WVL	Waterville	144.38	10	ePKPdf	PKPdf	01 25 56.3	-0.7
EMMW	East Machias	144.58	8	ePKPdf	PKPdf	01 25 56.6	-0.7
ACCN	Adirondack Com	144.60	16	ePKPdf	PKPdf	01 25 56.6	-0.8
HNH	Hanover	144.65	14	ePKPdf	PKPdf	01 25 57.4	-0.1
VBMS	Vicksburg	144.70	46	ePKPdf	PKPdf	01 25 58.6	+0.7
VBMS				LR	LR		
comp=Z,369nm,19.0s							
PLAL	Pickwick Lake	144.72	40	ePKPdf	PKPdf	01 25 56.9	-0.9
PLAL				LR	LR		
comp=Z,506nm,19.0s							
BINY	Binghamton	144.99	19	ePKPab	PKPab	01 25 57.9	+0.4
BINY				LR	LR		
comp=Z,671nm,19.0s							
FFD	Franklin Falls	145.02	13	ePKP	PKPdf	01 25 58.1	-0.1
SSPA	Standing Stone	145.69	23	ePKPdf	PKPdf	01 26 00.3	+1.0
SSPA				LR	LR		
comp=Z,380nm,20.0s							
MCWV	Mont Chateau	145.72	26	ePKP	PKPdf	01 26 00.6	+1.2
MCWV				LR	LR		
comp=Z,636nm,19.0s							
SWET	Sewanee	145.89	38	ePKPdf	PKPdf	01 26 00.6	+0.7
QUA2	Belchertown	145.98	15	ePKP	PKPdf	01 26 01.1	+1.3
WES	Weston	146.13	14	ePKPdf	PKPdf	01 26 01.9	+1.8
WES				LR	LR		
comp=Z,1μm,21.0s							
TZTN	Tazewell	146.33	34	ePKPdf	PKPdf	01 26 02.0	+1.5
TZTN				LR	LR		
comp=Z,407nm,19.0s							
BRYW	Bryant College	146.52	14	ePKPdf	PKPdf	01 26 02.5	+1.8
CPCT	Cooper Cave	146.57	36	ePKPdf	PKPdf	01 26 02.9	+1.9
LUPA	Lehigh Univers	146.63	20	ePKPdf	PKPdf	01 26 02.1	+1.1
PAL	Palisades	146.73	18	ePKP2	PKPab	01 26 03.3	-0.8
BRNJ	Basking Ridge	146.82	19	ePKP	PKPdf	01 26 04.3	+3.0
MVL	Millersville	146.82	22	ePKPdf	PKPdf	01 26 02.1	+0.8
TKL	Tuckaleechee C	146.85	35	ePKIKP	PKPdf	01 26 02.9	+1.4
CPNY	Central Park	146.91	18	ePKPdf	PKPdf	01 26 03.0	+1.5
LVC	Limon Verde	147.10	167	ePKPdf	PKPdf	01 26 05.6	+3.2
LVC				LR	LR		
comp=Z,526nm,21.0s							
SDMD	Soldier's Deli	147.15	23	ePKPdf	PKPdf	01 26 02.1	+0.3
ELN	Prospectdale	147.26	30	ePKPdf	PKPdf	01 26 03.2	+1.1
BLA	Blacksburg	147.43	29	ePKIKP	PKPdf	01 26 03.5	+1.1
BLA				MLR	MLR		
comp=Z,644nm,19.0s							
BRAL	Brewton	147.81	45	ePKPdf	PKPdf	01 26 05.5	+2.3
BRAL				LR	LR		
comp=Z,793nm,19.0s							
CBN	Corbin	147.98	25	ePKPdf	PKPdf	01 26 05.0	+1.7
CBN				LR	LR		
comp=Z,612nm,20.0s							
URVA	University of	148.45	25	ePKPdf	PKPdf	01 26 05.1	+1.0
URVA				ePKPbc	PKPbc	01 26 08.4	+0.8
GOGA	Godfrey	148.61	38	ePKIKP	PKPdf	01 26 06.3	+1.8
GOGA				e		01 26 09.9	
GOGA				MLR	MLR		
comp=Z,537nm,19.0s							
JSC	Jenkinsville	149.26	34	ePKIKP	PKPdf	01 26 07.8	+2.3
JSC				e		01 26 11.3	
LHS	Liberty Hill	149.36	33	ePKP2	PKPab	01 26 12.2	-2.6
CNNC	Cliffs of the	150.23	28	ePKPdf	PKPbc	01 26 13.4	+1.3
CNNC				ePKPab	PKPab	01 26 22.9	+4.5
CNNC				LR	LR		
comp=Z,586nm,19.0s							
COW	Cow Castle Cre	150.24	34	ePKPdf	PKPdf	01 26 08.3	+1.2
COW				ePKPbc	PKPbc	01 26 14.3	+2.1
NHSC	New Hope	150.74	34	ePKPbc	PKPbc	01 26 15.0	+1.6
NHSC				LR	LR		
comp=Z,303nm,19.0s							
TEIG	Tepich	151.76	65	ePKPdf	PKPdf	01 26 11.5	+1.7
TEIG				ePKPbc	PKPbc	01 26 17.5	+1.4
TEIG				LR	LR		
comp=Z,354nm,22.0s							
BDFB	Brasilia	151.77	208	PKIKP	PKPdf	01 26 10.9	+1.0
BDFB						01 26 17.9	
BDFB						01 26 27.2	
BDFB				MLR	MLR		
comp=Z,440nm,20.0s							
BDFB	Brasilia	151.77	208	PKP	PKPdf	01 26 10.9	+1.0
comp=Z,6.6nm,0.8s,baz=162,slow=6.4,SNR=15							
BDFB				PKPbc	PKPbc	01 26 17.9	+1.6
comp=Z,12nm,0.5s,baz=152,slow=3.6,SNR=28							
BDFB				PKPab	PKPab	01 26 27.2	+2.0
comp=Z,14nm,0.9s,baz=282,slow=2.1,SNR=9.0							
ARE	Arequipa	152.16	158	ePKIKP	PKPbc	01 26 19.0	+1.9
LPAZ	La Paz	153.37	165	PKP	PKPdf	01 26 11.5	-0.7
comp=Z,4.3nm,0.9s,baz=290,slow=2.6,SNR=4.5							
LPAZ				PKPbc	PKPbc	01 26 22.4	+2.6
comp=Z,24nm,1.0s,baz=172,slow=4.6,SNR=34							
LPAZ				PKPab	PKPab	01 26 34.5	+2.7
comp=Z,18nm,0.8s,baz=243,slow=2.3,SNR=10							
NNA	Nana	153.48	144	ePKPdf	PKPbc	01 26 20.1	-0.1
NNA				LR	LR		
comp=Z,455nm,19.0s							
TGUH	Tegucigalpa,Un	154.03	78	ePKPbc	PKPbc	01 26 22.6	+1.3
TGUH				LR	LR		
comp=Z,324nm,22.0s							
JTS	JuntasAbangare	156.52	86	ePKIKP	PKPdf	01 26 16.7	+0.1
JTS				MLR	MLR		
comp=Z,325nm,20.0s							
BBSR	BB Station	157.09	8	PFAKE		01 26 30.0	+13
BBSR				LR	LR		
comp=Z,494nm,19.0s							
ROSC	El Rosal	166.08	109	ePKPdf	PKPdf	01 26 29.1	+2.4
SDDR	Presa de Saban	166.43	45	PFAKE		01 26 40.0	+13
SDDR				LR	LR		
comp=Z,390nm,20.0s							
SJG	San Juan	170.22	29	PFAKE		01 26 40.0	+11
SJG				LR	LR		
comp=Z,305nm,22.0s							
SDV	Santo Domingo	170.59	93	ePKPdf	PKPdf	01 26 29.6	-0.1
SDV				LR	LR		
comp=Z,153nm,19.0s							

*NEIC **24** 01:06:58.9±0.4, 923S×15743E, h10km, mb5.2/18, Error ellipse: s-maj=12.3km s-min=8.0km az=123.0*
*BJI **24** 01:06:58.9, 920S×15740E, h10km, mB5.2, mb4.9, Ms5.1, Msz4.9*
*GCMT **24** 01:06:58.9±0.1, 932S×15742E, h19km, MW5.5/103, Moment Tensor Solution. s70,c115; s103,c190; Duration: 1ꝏ4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.23±.04; $M_{\theta\theta}$0.70±.03; $M_{\phi\phi}$-0.46±.04; $M_{r\theta}$-0.64±.07; $M_{\theta\phi}$2.00±.03; $M_{\phi r}$-0.10±.07; Best double couple: $M_0$2.17400×10^{17} NP1:ϕ_s188.00000°, δ74.00000°, λ178.00000°. NP2:ϕ_s278.00000°, δ88.00000°, λ16.00000°. Principal axes: T 2.3280, Plg13.0000°, Azm144.0000°; N -0.3050, Plg74.0000°, Azm285.0000°; P -2.0210, Plg10.0000°, Azm52.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ISCJB **24** 01:07:00.7±0.4, 933S±007×15740E±008, h33km, mb5.2/18 Error ellipse: s-maj=11.8km s-min=8.2km az=36.2*

ISC 24 01:07:02.5±0.4, 930S±006×15744E±008, h35km, n44, σ1ꝏ20/41, mb5.2/18, 1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.48	93	eP		Pn	01 07 36.4	-4.0
COEN	Coen	14.72	250	ePn		Pn	01 10 28.5	+0.2
145nm,1.4s								
CTA	Charters Tower	15.23	224	eP		Pn	01 10 33.2	-1.9
13nm,0.8s								
EIDS	Eidsvold	17.09	200	eP		Pn	01 10 58.4	-0.4
42nm,1.0s								
ARMA	Armidale	21.71	194	eP		P	01 11 50.5	-0.1
ARMA				i S		S	01 15 51.7	+2.8
WRAB	Tennant Creek	24.69	242	P		P	01 12 16.7	-3.7
324nm,1.0s,mb5.8								
GUMO	Guam	25.94	331	eP		P	01 12 29.6	-2.2
271nm,1.2s,mb5.7								
CNB	Canberra Magne	26.93	195	eP		P	01 12 41.8	+1.2
71nm,1.2s,mb5.1								
FITZ	Fitzroy Crossi	32.07	251	P		P	01 13 27.1	+0.7
DAV	Davao City (W)	35.67	296	P		P	01 13 58.2	+0.5
KKM	Kota Kinabalu	43.82	289	eP		P	01 15 03.7	-1.9
YHNB	Yeheng	48.76	315	eP		P	01 15 44.4	+0.2
QIZ	Qiongzhong	54.72	301	P		P	01 16 29.9	+1.1
79nm,1.5s,mb5.5								
YSS	Yuzh-Sakhalins	57.51	348	eP		P	01 16 45.6	-2.6
85nm,1.1s,mb5.7								
KULM	Kulim	58.42	282	P		P	01 16 56.6	+1.3
DRV	Dumont d'Urvil	58.51	188	P		P	01 16 53.0	-2.0
DRV				R			01 35 00.0	
DRV	Dumont d'Urvil	58.51	188	P		P	01 16 53.0	-2.0
DRV				R			01 35 00.0	
XAN	Xi'an	63.03	316	P		P	01 17 26.4	+0.1
XAN				AMB		AMB		
comp=Z,14nm,1.0s,mb5.0								
KMI	Kunming	63.30	304	P		P	01 17 30.9	+2.6
KMI				AMB		AMB		
comp=Z,12nm,1.5s,mb4.8								
CASY	Casey	65.19	199	eP		P	01 17 40.4	+0.4
comp=Z,26nm,0.8s,mb5.3								
LSA	Lhasa	74.56	304	eP		P	01 18 36.8	-1.5
comp=Z,11nm,0.7s,mb4.9								
PALK	Pallekele	78.20	279	P		P	01 19 01.2	+2.0
SVW2	Sparrevohn	79.23	21	eP		P	01 19 03.1	-0.7
TTA	Tatalina	80.33	20	eP		P	01 19 09.8	+0.1
HYB	Hyderabad	82.31	289	eP		PcP	01 19 29.0	+2.6
HYB	Hyderabad	82.31	289	i P		P	01 19 21.5	+0.3
HYB				ePcP		PcP	01 19 29.0	+2.6
IMA2	Indian Mountai	83.20	18	eP		P	01 19 24.3	-0.5
MAW	Mawson	83.22	203	eP		P	01 19 24.1	-0.9
comp=Z,20nm,1.1s,mb5.1								
COLA	College	84.35	20	eP		P	01 19 29.5	-1.2
comp=Z,16nm,0.8s,mb5.2								
MENT	Mentasta	84.78	23	eP		P	01 19 33.2	+0.3
EGAK	Eagle	86.70	22	eP		P	01 19 42.8	+0.4
comp=Z,18nm,1.0s,mb5.2								
MK31	Makanchi Array	86.72	318	eP		P	01 19 42.2	-0.7
MK31				e		pP	01 19 51.1	-2.9
DAWY	Dawson	87.03	23	eP		P	01 19 44.7	+0.7
ZAA0	Zalesovo Array	87.43	326	eP		P	01 19 47.1	+0.9
YBH	Yreka Blue Hor	88.64	47	eP		P	01 19 53.5	+1.3
comp=Z,8.8nm,1.3s,mb4.9								
CMB	Columbia Colle	89.56	51	P		P	01 19 57.5	+0.9
comp=Z,0.9nm,0.5s,mb4.4								
PAHR	Pah Rah Range	90.66	50	P		P	01 19 59.2	-2.6
comp=Z,18nm,1.4s,mb5.2								
MTUM	Tungsten Hills	90.84	52	eP		P	01 20 03.0	+0.4
WVOR	Wild Horse Val	91.75	47	eP		P	01 20 07.7	+1.0
comp=Z,10.0nm,1.1s,mb5.1								
TPNV	Topopah Spring	92.59	53	eP		P	01 20 11.7	+1.0
comp=Z,9.9nm,1.1s,mb5.2								
BMO	Blue Mountains	93.13	45	eP		P	01 20 13.0	-0.1
comp=Z,11nm,1.5s,mb5.1								
OBN	Obninsk	114.98	327	PKiKP		PKiKP	01 25 39.9	+0.3
KMBO	Kilima Mbogo	119.55	263	PKPdf		PKPdf	01 25 51.5	+1.8
NB2	NORSAR Subarra	122.65	341	PKPdf		PKPdf	01 26 01.8	+7.6
comp=Z,1.6nm,0.9s,baz=39,slow=1.9								

*ISK **24** 01:24:52.8, 3536N×2781E, h8km, MD3.5*
*ISCJB **24** 01:24:53.2±1.1, 3539N±008×2779E±008, h5km, Error ellipse: s-maj=13.7km s-min=6.4km az=149.4*
*CSEM **24** 01:24:53.2±0.3, 3540N×2787E, h5km, MD3.7, Error ellipse: s-maj=7.3km s-min=3.4km az=169.0*
*ATH **24** 01:24:56.3, 3582N×2734E, h5km, MD3.7/6*
*NEIC **24** 01:24:56.4, 3574N×2744E, h5km, MD3.7(ATH), After ATH.*

ISC 24 01:24:53.4±1.6, 3539N±009×2779E±008, h1km±11km, n19, σ0ꝏ70/20, 1D, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.54	287	ePB		Pg	01 25 02.7	-0.9
KARP	Karpathos	0.54	287	Pg		Pg	01 25 02.6	-1.0
ARG	Arkhangelos	0.87	18	ePB		Pg	01 25 11.0	+1.0
ARG	Arkhangelos	0.87	18	Pb		Pg	01 25 10.7	+0.7
DAT	Datca	1.34	353	ePN		Pn	01 25 18.6	-0.7
DAT				eSN		Sn	01 25 38.1	+0.3
DALT	Dalyan (Mudla)	1.54	26	ePN		Pn	01 25 21.8	-0.1
FETY	Fethiye	1.62	40	ePN		Pn	01 25 22.4	-0.8
YER	Yerkesik	1.78	13	ePN		Pn	01 25 25.5	+0.1
NPS	Neapolis	1.79	266	ePG		Pn	01 25 24.3	-1.0
NPS	Neapolis	1.79	266	⇓Pn		Pn	01 25 24.1	-1.2
XRY	Khrisi	1.79	254	ePB		Pb	01 25 28.0	+1.0
MLSB	Milas	1.90	360	ePN		Pn	01 25 27.6	+0.7
ELL	Elmali	2.19	51	ePN		Pn	01 25 30.7	-0.2
SMG	Samos	2.44	342	Pg		Pn	01 25 34.3	0.0
APE	Apeiranthos	2.48	313	ePN		Pn	01 25 34.0	-0.8
VAM	Vamos	2.93	271	ePN		Pn	01 25 42.5	+1.4
BCK	Bucak	3.06	47	ePN		Pn	01 25 42.9	0.0
KULA	Kula-Manisa	3.19	12	ePN		Pn	01 25 44.6	-0.1
VLI	Veliai	4.15	290	Pn		Pn	01 25 58.1	+0.3

*ISK **24** 01:29:11.8, 3503N×2753E, h8km, MD3.8*
*CSEM **24** 01:29:15.4±0.1, 3518N×2788E, h5km, MD3.9, Error ellipse: s-maj=2.7km s-min=2.5km az=151.0*
*ISCJB **24** 01:29:16.6±1.0, 3518N±004×2785E±005, h16km±12km, Error ellipse: s-maj=7.2km s-min=5.6km az=26.6*
*ATH **24** 01:29:18.3, 3533N×2772E, h18km±2km, MD3.9/9*
*HLW **24** 01:29:18.2, 3527N×2775E, h33km, Mb4.2*
*NEIC **24** 01:29:18.3, 3533N×2772E, h18km, MD3.9(ATH), After ATH.*

ISC 24 01:29:16.4±1.4, 3523N±004×2782E±005, h2km±10km, n35, σ0ꝏ86/37, 4C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.62	301	⇑iPN		Pg	01 29 28.3	-0.1
ARG	Arkhangelos	1.02	14	ePN		Pg	01 29 36.5	+0.5
DAT	Datca	1.51	353	ePN		Pn	01 29 43.0	-1.6
DAT				eSN		Sg	01 30 05.0	-0.1
DALT	Dalyan (Mudla)	1.68	23	ePN		Pn	01 29 46.2	-0.7
FETY	Fethiye	1.74	36	ePN		Pn	01 29 47.6	-0.2
XRY	Khrisi	1.78	259	ePN		Pn	01 29 49.0	+0.8
NPS	Neapolis	1.81	272	ePN		Pb	01 29 49.8	-0.5
LAST	Lasithi	1.92	269	P		Pb	01 29 51.8	-0.4
YER	Yerkesik	1.94	11	ePN		Pn	01 29 49.5	-1.0
MLSB	Milas	2.06	359	ePN		Pn	01 29 50.8	-1.4
ELL	Elmali	2.28	48	ePN		Pn	01 29 55.1	0.0
SMG	Samos	2.60	343	ePN		Pn	01 30 00.3	+0.7
APE	Apeiranthos	2.61	315	ePN		Pn	01 30 00.0	+0.3
DENT	Denizli	2.71	21	ePN		Pn	01 30 01.1	+0.1
VAM	Vamos	2.96	275	ePB		Pn	01 30 06.9	+2.3
GVD	Gavdhos	3.09	264	ePN		Pn	01 30 07.5	+1.3
BCK	Bucak	3.16	44	ePN		Pn	01 30 07.7	+0.5
KULA	Kula-Manisa	3.35	11	ePN		Pn	01 30 09.2	-0.6
KHL	Karahalli	3.38	23	ePN		Pn	01 30 10.5	+0.2
AKS	Akhisar	3.65	360	ePN		Pn	01 30 13.1	-0.8
SHUT	Suhut-Afyon	3.98	33	ePN		Pn	01 30 19.7	+1.2
HDMB	Hadim	4.16	64	ePN		Pn	01 30 21.9	+0.9
HMAT	Matruh	4.17	189	⇑P		Pn	01 30 20.7	-0.4
VLI	Veliai	4.23	292	⇑iPN		Pn	01 30 21.9	0.0
BALB	Balikesir	4.41	1	ePN		Pn	01 30 24.0	-0.4
DST	Dursunbey	4.42	8	ePN		Pn	01 30 24.4	-0.2
KONT	Konya--Tatoy	4.55	52	ePN		Pn	01 30 27.8	+1.4
EZN	Ezine	4.74	346	ePN		Pn	01 30 27.7	-1.3
KIZT	Kizilcal	4.88	40	ePN		Pn	01 30 32.0	+1.1
ITM	Ithomi	5.15	294	ePN		Pn	01 30 36.0	+1.4
RKY	Sarkoy-Tekirda	5.48	355	ePN		Pn	01 30 38.9	-0.2
SWA1		6.21	197	P		Pn	01 30 48.0	-1.2
SWA1				S		Sn	01 31 54.1	-6.6
SWA2		6.29	199	⇑P		Pn	01 30 49.3	-1.0
AMAG	Maghara	6.43	134	P		Pn	01 30 52.0	-0.3
HNKL	Nakhl	7.41	134	P		Pn	01 31 05.7	0.0

IDC 24 01:31:16.5±1.5, 917S×15753E, h0km, mb3.6/3, mb1 3.8/5, mb1mx3.7/15, mbtmp3.7/5, ML3.9/2, Error ellipse: s-maj=48.3km s-min=27.7km az=164.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.40	97	Pn		Pn	01 31 56.8	-0.2
44nm,0.3s,baz=250,slow=5.9,SNR=6.2								
HNR						Sn	01 32 23.9	-3.2
172nm,0.3s,baz=273,slow=14,SNR=12								
CTA	Charters Tower	15.38	224	Pn		Pn	01 34 54.1	-0.9
0.2nm,0.3s,baz=48,slow=16,SNR=2.0								
CTA						Sn	01 37 36.2	-10
0.3nm,0.3s,baz=88,slow=18,SNR=2.4								
WRA	Warramunga Arr	24.84	242	P		P	01 36 39.2	-1.5
1.7nm,0.7s,baz=68,slow=9.7,SNR=5.2								
ASAR	Alice Springs	26.80	235	P		P	01 37 00.4	+1.9
0.6nm,0.8s,baz=80,slow=7.8,SNR=4.3								
MKAR	Makanchi Array	86.69	318	P		P	01 44 02.5	+0.3
0.2nm,0.6s,baz=88,slow=7.3,SNR=2.6								

*ISCJB **24** 01:38:36.4±1.4, 547S±006×14703E±009, h196km±14km, mb4.1/13, Error ellipse: s-maj=14.9km s-min=9.0km az=22.2*
*NEIC **24** 01:38:40.3±1.6, 555S×14706E, h226km±16km, mb4.3/13, Error ellipse: s-maj=12.3km s-min=11.3km az=91.0*
*IDC **24** 01:38:42.1±3.6, 569S×147.12E, h243km±35km, mb3.6/6, mb

COCO	West Island	49.97 259	P	P		01 47 11.3	-1.0
BJT	Baijiatuau	53.55 331	eP	P		01 47 38.6	+0.3
	5.3nm,0.6s,mb4.2						
HIA	Hailar	59.58 340	eP	P		01 48 21.4	+0.8
	5.6nm,1.1s,mb4.1						
LSA	Lhasa	64.03 307	P	P		01 48 50.2	-0.4
VNDA	Vanda	72.32 177	eP	P		01 49 40.3	-0.9
	2.6nm,0.6s,mb4.0						
VNDA	Vanda	72.32 177	P	P		01 49 40.8	-0.5
	2.9nm,0.6s,mb4.1,baz=340,slow=5.0,SNR=8.1						
MKAR	Makanchi Array	77.21 320	P	P		01 50 10.2	+0.5
	2.9nm,1.2s,mb3.8,baz=108,slow=7.8,SNR=5.3						
TKM2	Tokmak 2	80.38 315	eP	P		01 50 27.8	+0.7
	0.7nm,0.4s,mb3.6						
MAW	Mawson	82.64 203	eP	P		01 50 38.9	+0.5
	14nm,1.5s,mb4.5						
QSPA	South Pole Qui	84.38 180	eP	P		01 50 47.6	+0.5
	3.3nm,0.4s,mb4.4						
GERES	GERESS Array B	121.59 326	PKP	PKPdf		01 57 07.1	-0.5
	0.3nm,0.5s,baz=53,slow=0.7,SNR=4.6						
TORD	Torodi Ar. Bea	145.03 285	PKP	PKPdf		01 57 50.8	-1.4
	1.1nm,0.6s,baz=66,slow=3.6,SNR=17						

*NEIC **24** 01:45:48.5,3735S×17647E,h272km,MG3.8(WEL),After WEL.*

WEL 24 01:45:48.5±0.5,3735S×17647E,h272km±6km,ML3.8/12,1C-1D,Error ellipse: s-maj=9.0km s-min=8.6km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	1.04	151	P	Pn	01 46 26.1	+0.1
URZ	Urewera	1.04	151	PN	Pn	01 46 26.1	+0.1
URZ				SN	S	01 46 54.9	-0.8
MWZ	Matawai	1.29	140	P	Pn	01 46 27.8	+0.4
MWZ	Matawai	1.29	140	PN	Pn	01 46 27.8	+0.3
MXZ	Matakaoa Point	1.48	99	PN	Pn	01 46 29.0	+0.3
PUZ	Puketiti	1.59	117	P	Pn	01 46 29.5	0.0
PUZ				S	S	01 47 00.8	-1.2
PUZ	Puketiti	1.59	117	PN	Pn	01 46 29.5	0.0
PUZ				SN	S	01 47 00.8	-1.2
BKZ	Black Stump Fm	1.81	179	⇓P	Pn	01 46 31.5	+0.3
BKZ				S	S	01 47 05.4	+0.4
BKZ	Black Stump Fm	1.81	179	⇑PN	Pn	01 46 31.5	+0.3
BKZ				SN	S	01 47 05.4	+0.4
KNZ	Kokohu	1.92	151	eP	Pn	01 46 32.9	+0.9
KNZ	Kokohu	1.92	151	ePN	Pn	01 46 32.9	+0.8
TUVZ	Tukino	2.02	198	P	Pn	01 46 33.4	+0.5
TUVZ	Tukino	2.02	198	PN	Pn	01 46 33.4	+0.5
WNVZ	Wahianoa	2.09	199	P	Pn	01 46 34.0	+0.5
WNVZ	Wahianoa	2.09	199	PN	Pn	01 46 34.0	+0.5
MOVZ	Moawhango	2.13	195	P	Pn	01 46 34.0	+0.2
MOVZ	Moawhango	2.13	195	PN	Pn	01 46 34.0	+0.2
TSZ	Takapari Road	2.73	188	PN	Pn	01 46 39.0	-0.5
MRZ	Mangatainoka R	3.38	192	P	Pn	01 46 44.9	-1.3
MRZ	Mangatainoka R	3.38	192	PN	Pn	01 46 44.9	-1.4
KIW	Kapiti Island	3.71	199	PN	Pn	01 46 48.5	-1.4
MTW	Mount Morrison	3.88	191	P	Pn	01 46 49.9	-1.9
MTW	Mount Morrison	3.88	191	PN	Pn	01 46 49.9	-1.8
CAW	Cannon Point	3.91	196	P	Pn	01 46 50.1	-2.0
CAW	Cannon Point	3.91	196	PN	Pn	01 46 50.1	-2.0
DUWZ	D'Urville Isla	3.98	209	PN	Pn	01 46 51.2	-1.7
MRW	Makara Radio	4.11	199	P	Pn	01 46 52.7	-1.7
MRW	Makara Radio	4.11	199	PN	Pn	01 46 52.7	-1.7
TCW	Tory Channel	4.21	203	P	Pn	01 46 54.0	-1.6
TCW	Tory Channel	4.21	203	PN	Pn	01 46 54.0	-1.6
PLWZ	Palliser	4.32	192	PN	Pn	01 46 54.7	-2.1
NNZ	Nelson	4.54	211	P	Pn	01 46 57.2	-2.3
NNZ	Nelson	4.54	211	PN	Pn	01 46 57.2	-2.3
QRZ	Quartz Range	4.63	220	P	Pn	01 46 57.9	-2.6
QRZ	Quartz Range	4.63	220	PN	Pn	01 46 57.9	-2.6
THZ	Tophouse	5.20	211	P	Pn	01 47 05.3	-1.9
THZ	Tophouse	5.20	211	PN	Pn	01 47 05.3	-1.9
KHZ	Kahutara	5.54	203	P	Pn	01 47 09.2	-2.1
KHZ	Kahutara	5.54	203	PN	Pn	01 47 09.2	-2.1
LTZ	Lake Taylor	6.31	209	P	Pn	01 47 17.6	-3.1
LTZ	Lake Taylor	6.31	209	PN	Pn	01 47 17.6	-3.1

*HLW **24** 01:49:24.5,3559N×2782E,h9km,Mb3.2*
*CSEM **24** 01:49:27.1±0.1,3509N×2794E,h2km,MD3.9,Error ellipse: s-maj=1.8km s-min=1.4km az=97.0*
*ISK **24** 01:49:27.9,3516N×2766E,h9km,MD3.7*
*ISCJB **24** 01:49:28.8±1.4,3513N±003×2787E±004,h10km±11km,Error ellipse: s-maj=6.0km s-min=4.8km az=32.8*
*ATH **24** 01:49:31.8,3535N×2767E,h18km±3km,MD3.9/8*
*NEIC **24** 01:49:31.8,3535N×2767E,h18km,MD3.9(ATH),After ATH.*

ISC 24 01:49:29.3±1.0,3517N±003×2783E±004,h1km±7km,n43,σ0°96/46,1C-3D,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.66	305	ePB	Pg	01 49 41.2	-0.7
ARG	Arkhangelos	1.07	13	ePN	Pn	01 49 49.8	-1.6
ZKR	Zakros	1.32	268	P	Pg	01 49 53.8	-0.8
DAT	Datca	1.57	353	ePN	Pn	01 49 56.9	-1.4
DAT				eSN	Sn	01 50 17.8	-1.4
DALT	Dalyan (Mudla)	1.72	22	ePN	Pn	01 50 00.3	-0.1
XRY	Khrisi	1.77	261	ePN	Pn	01 50 02.0	+0.9
FETY	Fethiye	1.78	35	ePN	Pn	01 50 01.1	-0.1
NPS	Neapolis	1.81	273	⇓iPN	Pn	01 50 02.7	+1.1
BDRM	Kayabasi	1.91	351	iP	Pn	01 50 03.3	+0.3
YER	Yerkesik	1.99	11	ePN	Pn	01 50 03.2	-0.9
MLSB	Milas	2.12	359	ePN	Pn	01 50 04.8	-1.0
SANT	Santorini	2.27	303	P	Pb	01 50 11.8	+0.8
ELL	Elmali	2.31	46	ePN	Pn	01 50 08.8	+0.4
IDI	Anoyia	2.41	274	P	Pn	01 50 11.8	+2.0
AYDN	Tasoluk	2.48	1	iP	Pn	01 50 10.6	-0.3
APE	Apeiranthos	2.65	316	ePN	Pn	01 50 12.4	-0.8
SMG	Samos	2.65	343	ePB	Pn	01 50 13.5	+0.3
DENT	Denizli	2.75	20	ePN	Pn	01 50 14.5	0.0
VAM	Vamos	2.98	276	ePB	Pn	01 50 20.0	+2.4
GVD	Gavdhos	3.09	265	ePn	Pn	01 50 21.9	+2.8
GVD				Sn	Sn	01 50 55.7	-0.9
BCK	Bucak	3.19	44	ePN	Pn	01 50 21.3	+0.7
KDAG	Bornova	3.25	352	iP	Pg	01 50 30.6	-1.1
URLA	Izmir	3.33	343	iP	Pn	01 50 22.3	-0.2
KULA	Kula-Manisa	3.40	11	ePN	Pn	01 50 22.9	-0.6
KHL	Karahalli	3.43	23	ePN	Pn	01 50 24.1	+0.3
TKTP	Tekketepe	3.50	34	iP	Pg	01 50 36.9	+0.6
AKS	Akhisar	3.70	360	ePN	Pn	01 50 27.3	-0.3
HMAT	Matruh	4.11	189	P	Pn	01 50 33.1	-0.1
GDZ	Gediz	4.13	18	iP	Pn	01 50 33.5	+0.1
HDMB	Hadim	4.18	63	ePN	Pn	01 50 35.6	+1.5
VLI	Veliai	4.26	293	⇓iPN	Pn	01 50 35.0	-0.2
ERMK	Ermenek	4.38	69	iP	Pn	01 50 38.0	+1.1
BALB	Balikesir	4.46	1	ePN	Pn	01 50 37.8	-0.2
DST	Dursunbey	4.47	8	ePN	Pn	01 50 38.4	+0.2
KONT	Konya--Tatoy	4.58	52	ePN	Pn	01 50 41.1	+1.5
EZN	Ezine	4.80	346	ePN	Pn	01 50 42.5	-0.2
KIZT	Kizilcal	4.92	40	ePN	Pn	01 50 45.6	+1.3
ITM	Ithomi	5.17	294	⇓iPN	Pn	01 50 48.7	+0.9
RKY	Sarkoy-Tekirda	5.53	355	ePN	Pn	01 50 53.2	+0.5
SWA1		6.16	198	P	Pn	01 51 00.8	-0.6
SWA1				S	Sn	01 52 11.6	-0.8
SWA2		6.24	199	⇑P	Pn	01 51 02.1	-0.4
AMAG	Maghara	6.39	133	P	Pn	01 51 02.7	-1.9
HNKL	Nakhl	7.37	133	P	Pn	01 51 16.9	-1.1

*NEIC **24** 01:49:59.8,19.11N×6470W,h69km,MD3.5(RSPR),After RSPR.*

RSPR 24 01:49:59.8,1911N×6470W,h69km±3km,MD3.5/9,MD3.5/9,10C,Virgin Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABV	Anegada	0.51	137	⇑eP	Pn	01 50 11.8	-0.8
ABV	Anegada	0.51	137	eS	Sn	01 50 21.7	-0.4
TBVI	Tortola	0.69	174	⇑eP	Pn	01 50 13.7	-0.9
TBVI				eS	Sn	01 50 25.1	-0.3
STVI	Saint Thomas	0.79	198	⇑eP	Pn	01 50 14.7	-1.0
MTP	Monte Pirata	1.29	219	⇑eP	Pn	01 50 21.6	-0.4
MTP				eS	Sn	01 50 37.8	-0.8
CBYP	Canovanas	1.38	233	⇑eP	Pn	01 50 22.1	-1.1
CBYP				eS	Sn	01 50 39.9	-0.8
HUMP	Col San Antoni	1.46	229	⇑eP	Pn	01 50 23.6	-0.5
HUMP				eS	Sn	01 50 41.7	-0.8
CPD	Cerro la Pandu	1.57	227	⇑eP	Pn	01 50 25.0	-0.7
CPD				eS	Sn	01 50 45.2	-0.1
SJG	San Juan	1.70	234	⇑eP	Pn	01 50 27.0	-0.4
SJG				eS	Sn	01 50 47.6	-0.6
CELP	Cerrillos	2.06	240	⇑eP	Pn	01 50 31.8	-0.4
CELP				eS	Sn	01 50 56.7	-0.3
AOPR	Arecibo Observ	2.09	249	eS	Sn	01 50 57.2	-0.5
CRPR	Cabo Rojo, PR	2.54	245	⇑eP	Pn	01 50 38.9	+0.2
CRPR				eS	Sn	01 51 08.0	-0.6

*IDC **24** 02:02:59.9±4.1,3309S×7094W,h116km±37km,mb3.6/1,mb1 3.3/4,mb1mx3.3/16,mbtmp3.2/4,Error ellipse: s-maj=80.6km s-min=33.7km az=103.0*
*ISCJB **24** 02:03:03.0±0.5,3276S±003×702W±01,h118km±5km,mb3.7/1,Error ellipse: s-maj=15.7km s-min=5.2km az=174.6*
*GUC **24** 02:03:03.6±0.7,3275S×7016W,h107km±4km,MD4.0,ML4.0*
*NEIC **24** 02:03:03.6,3275S×7016W,h107km,mb4.1/2,MD4.0(GUC),After GUC.*

ISC 24 02:03:03.9±0.5,3276S±003×702W±01,h112km±5km,n31,σ0°62/43,mb3.7/1,8C-7D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JACH	Jahuel	0.34	284	⇑iP	Pn	02 03 19.8	-0.2
PEL	Peldehue	0.56	227	⇑iP	Pn	02 03 21.1	-0.2
PEL				iS	Sn	02 03 34.2	-0.2
PEL				AML	AML	02 03 35.7	
	comp=E,5μm,0.6s						
FCH	Farellones	0.57	188	⇑iP	Pn	02 03 21.5	+0.1
FCH				iS	Sn	02 03 35.0	+0.4
FCH				AML	AML	02 03 36.7	
	comp=N,5μm,0.8s						
CLCH	Cerro Calan	0.69	204	⇓iP	Pn	02 03 22.3	0.0
CLCH				iS	Sn	02 03 36.4	+0.1
CLCH				AML	AML	02 03 40.7	
	comp=E,2μm,0.6s						
FSR	Penalolen	0.76	201	eP	Pn	02 03 23.0	+0.1
FSR				S	Sn	02 03 38.0	+0.6
FSR	Penalolen	0.76	201	eP	Pn	02 03 23.0	+0.1
FSR				iS	Sn	02 03 38.0	+0.6
FSR				AML	AML	02 03 39.5	
	comp=E,2μm,0.3s						
PCH	Pirque	0.89	197	⇓eP	Pn	02 03 24.2	0.0
TACH	Talagante	1.08	215	⇑iP	Pn	02 03 25.8	-0.2
LMEL	Las Melosas	1.08	180	⇑iP	Pn	02 03 26.0	-0.1
LMEL				iS	Sn	02 03 43.3	+0.4
CHCH	Chadas Angostu	1.23	198	⇓iP	Pn	02 03 27.7	+0.1
IHA	Instituto Hidr	1.24	257	⇓iP	Pn	02 03 27.7	-0.1
IHA				iS	Sn	02 03 45.6	-0.3
CACH	El Canelo	1.39	194	⇓iP	Pn	02 03 30.0	+0.5
LNV	Longovilo	1.56	220	eP	Pn	02 03 30.6	-0.9
CICH	Cipreses	1.56	187	⇑iP	Pn	02 03 31.7	+0.2
CMCH	Combarbala	1.73	337	⇓iP	Pn	02 03 33.5	-0.1
CMCH				iS	Sn	02 03 56.6	+0.5
CMCH	Combarbala	1.73	337	⇓iP	Pn	02 03 33.5	-0.1
CMCH				iS	Sn	02 03 56.6	+0.5
CMCH				AML	AML	02 03 57.9	
	comp=N,23μm,0.5s						
SFDO	San Fernando	1.97	200	eP	Pn	02 03 36.2	-0.3
NICH	Los Niches	2.39	201	eP	Pn	02 03 41.6	-0.3
TLL	Tololo Astrono	2.64	349	⇑eP	Pn	02 03 45.6	+0.4
TLL				iS	Sn	02 04 17.3	+0.4
TLL	Tololo Astrono	2.64	349	⇑eP	Pn	02 03 45.6	+0.4
TLL				iS	Sn	02 04 17.3	+0.4
TLL				AML	AML	02 04 23.3	
	comp=N,765nm,0.6s						
LCO	Las Campanas	3.77	353	ePn	Pn	02 03 59.5	-0.6
LCO				eSn	Sn	02 04 42.6	-1.0
PLCA	Paso Flores	7.96	182	P	Pn	02 04 48.5	-8.2
PLCA	Paso Flores	7.96	182	P	Pn	02 04 48.5	-8.2
	comp=N,0.0nm,0.3s,baz=297,slow=4.5,SNR=1.6						
TRQA	Tornquist	8.54	130	ePn	Pn	02 05 01.8	-2.7
	comp=N,6.5nm,0.6s						
CPUP	Villa Florida	12.90	64	P	Pn	02 06 08.2	+5.0
	comp=N,0.4nm,0.3s,baz=236,slow=11,SNR=2.7						
LPAZ	La Paz	16.51	7	eP	Pn	02 06 50.4	+1.6
	comp=N,3.3nm,0.9s						
LPAZ	La Paz	16.51	7	P	Pn	02 06 50.4	+1.5
	comp=N,0.2nm,0.3s,baz=189,slow=9.7,SNR=10.0						
VNA3	Neumayer Olymp	49.93	158	e	P	02 11 46.2	+0.5
VNA2	Neumayer--Watz	50.56	158	e	P	02 11 51.2	+0.8
TORD	Torodi Ar. Bea	82.34	69	P	P	02 15 12.8	-0.7
TORD				pP	pP	02 15 43.2	+1.0
TORD	Torodi Ar. Bea	82.34	69	P	P	02 15 12.8	-0.7
	comp=N,0.9nm,0.7s,mb3.7,baz=250,slow=4.2,SNR=15						
TORD				pP	pP	02 15 43.2	+1.0
	comp=N,0.8nm,0.9s,baz=245,slow=6.1,SNR=3.3						

*IDC **24** 02:20:36.3±0.7,3025S×13054E,h0km,mb4.4/11,mb1 4.5/12,mb1mx4.4/18,mbtmp4.4/12,ML4.3/1,MS3.8/7,Ms1 3.8/7,ms1mx3.6/25,Error ellipse: s-maj=32.7km s-min=14.7km az=70.0*
*ISCJB **24** 02:20:39.2±0.3,3195S±004×13065E±007,h33km,mb4.5/24,MS3.7/5,Error ellipse: s-maj=10.3km s-min=5.3km az=165.0*
*NEIC **24** 02:20:41.8±0.3,3145S×13057E,h35km,mb4.4/16,Error ellipse: s-maj=13.1km s-min=6.9km az=64.0*

ISC 24 02:20:41.2±0.3,3195S±004×13069E±007,h35km,n56,σ1°11/53,mb4.5/24,MS3.7/5,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	9.61	170	eP	Pn	02 22 57.6	+0.4
	23nm,0.6s						
KAKA				eS	Sn	02 24 42.3	-1.7
BATI	Kupang	9.86	225	Pn	Pn	02 23 04.7	+4.1
	2.2nm,0.3s,baz=243,slow=4.9,SNR=3.8						
BATI				LR	LR	02 26 54.3	
	comp=Z,799nm,21.9s,baz=105,slow=38						
KAPI	Kappang	11.06	260	Pn	Pn	02 23 19.2	+2.1
	0.7nm,0.3s,baz=101,slow=14,SNR=3.9						
FITZ	Fitzroy Crossi	15.62	198	eP	Pn	02 24 19.1	+0.2
	11nm,0.9s						
FITZ	Fitzroy Crossi	15.62	198	Pn	Pn	02 24 20.8	+1.9
	0.9nm,0.3s,baz=26,slow=12,SNR=19						
FITZ				Sn	Sn	02 27 10.9	-0.1
	0.2nm,0.3s,baz=148,slow=21,SNR=3.0						
FITZ				LR	LR	02 30 08.0	
	comp=Z,230nm,18.2s,baz=33,slow=36						
COEN	Coen	16.32	132	ePn	Pn	02 24 27.9	+0.1
	9.8nm,0.9s						
WRAB	Tennant Creek	17.02	168	ePn	Pn	02 24 34.8	-1.8
	26nm,0.8s						
WRAB				eP		02 24 39.9	
WRAB				eSn	Sn	02 27 39.8	-4.9
WRA	Warramunga Arr	17.02	168	P	Pn	02 24 35.7	-1.0
	2.0nm,0.3s,baz=348,slow=12,SNR=29						
WRA				S	Sn	02 27 38.0	-7.0
	1.3nm,0.3s,baz=358,slow=22,SNR=5.4						
WB2	Warramunga Arr	17.02	168	eP	Pn	02 24 35.1	-1.6
WB2				eP		02 24 40.3	
WB2				eS	Sn	02 27 37.9	-7.1
ASAR	Alice Springs	20.59	172	P	P	02 25 19.1	+1.8
	76nm,0.7s,baz=350,slow=10.0,SNR=505						
ASAR				S	S	02 29 05.3	-0.4
	3.4nm,0.9s,baz=353,slow=19,SNR=5.2						
MBWA	Marble Bar	20.80	210	eP	P	02 25 18.4	-1.3
	13nm,0.9s						
KSM	Kuching	20.90	283	eP	P	02 25 21.4	+0.6
CTA	Charters Tower	22.64	139	eP	P	02 25 41.8	+2.5
	14nm,0.8s,mb4.4						
CTA	Charters Tower	22.64	139	P	P	02 25 41.6	+2.3
	8.1nm,0.7s,mb4.3,baz=314,slow=12,SNR=9.7						
CTAO	Charters Tower	22.64	139	eP	P	02 25 41.7	+2.4
	16nm,0.8s,mb4.5						
JOW	Kunigami	29.94	356	LR	LR	02 37 15.4	
	comp=Z,263nm,21.1s,MS3.9,baz=127,slow=34						
STKA	Stephens Creek	30.32	161	eP	P	02 26 50.6	+1.1
	6.0nm,0.9s,mb4.3						
STKA	Stephens Creek	30.32	161	P	P	02 26 50.8	+1.3
	5.3nm,0.7s,mb4.4,baz=342,slow=8.7,SNR=9.1						
STKA				LR	LR	02 40 04.9	
	comp=Z,288nm,21.3s,MS3.9,baz=17,slow=38						
KULM	Kulim	31.17	286	eP	P	02 26 57.0	-0.2
CBIJ	Chichi jima	32.09	20	LR	LR	02 37 11.6	
	comp=Z,165nm,21.7s,MS3.7,baz=97,slow=31						
PSI	Prapat	32.31	280	P	P	02 27 05.8	-1.5
PSI	Prapat	32.31	280	P	P	02 27 05.8	-1.5
	11nm,0.9s,mb4.7,baz=114,slow=6.5,SNR=10						
ARMA	Armidale	33.55	146	eP	P	02 27 21.7	+3.8
MJAR	Matsushiro Arr	40.15	9	P	P	02 28 12.9	-1.0
	1.0nm,0.3s,mb4.0,baz=198,slow=7.0,SNR=3.5						
MJAR				LR	LR	02 41 52.6	
	comp=Z,92nm,19.2s,MS3.6,baz=200,slow=32						
KSRS	Korea Array	40.52	357	P	P	02 28 15.9	-1.0
	1.4nm,0.6s,mb3.8,baz=176,slow=8.6,SNR=6.6						
KSRS				LR	LR	02 44 16.4	
	comp=Z,88nm,18.5s,MS3.6,baz=342,slow=35						
JIRN	Jiri	52.69	309	eP	P	02 29 51.8	-0.8
	6.4nm,0.6s,mb4.8						
GUN	Gumba	53.05	309	eP	P	02 29 55.1	-0.1
	20nm,0.7s,mb5.1						
KKN	Kakani	53.47	308	eP	P	02 29 58.0	-0.3
DMN	Daman	53.52	308	eP	P	02 29 58.5	-0.2
	9.2nm,0.6s,mb4.9						
GKN	Gorkha	54.07	308	eP	P	02 30 02.1	-0.6
KOLN	Koldanda	54.78	307	eP	P	02 30 07.9	0.0
	24nm,0.7s,mb5.3						
DANN	Dangsing	54.91	308	eP	P	02 30 08.6	-0.2
	22nm,0.7s,mb5.3						
SONM	Songino Array	55.09	340	P	P	02 30 07.5	-2.2
	0.4nm,0.4s,mb3.8,baz=133,slow=12,SNR=3.1						
MK31	Makanchi Array	65.47	326	eP	P	02 31 20.9	+0.2
MKAR	Makanchi Array	65.47	326	P	P	02 31 20.6	-0.1
	3.9nm,0.7s,mb4.6,baz=124,slow=8.1,SNR=35						
TKM2	Tokmak 2	67.53	319	eP	P	02 31 34.5	+0.4
	3.2nm,0.7s,mb4.5						
UCH	Uchtor	67.93	318	eP	P	02 31 38.0	+1.4
	2.1nm,0.7s,mb4.3						
AML	Almayashu	68.44	318	eP	P	02 31 40.6	+0.9
	7.4nm,1.2s,mb4.6						
ZALV	Zalesovo Beam	68.51	333	P	P	02 31 38.1	-1.8
	0.8nm,0.3s,mb4.1,baz=108,slow=4.8,SNR=5.2						
EKS2	Erkin-Say	68.61	318	eP	P	02 31 41.3	+0.4
	2.3nm,0.7s,mb4.2						
KURK	Kurchatov	69.67	328	eP	P	02 31 47.5	+0.3
	11nm,0.9s,mb4.8						
TIXI	Tiksi	74.72	359	eP	P	02 32 17.6	+0.6
	2.6nm,0.6s,mb4.3						
BVAR	Borovoye Array	75.25	327	P	P	02 32 20.1	-0.2
	1.9nm,0.7s,mb4.1,baz=142,slow=7.5,SNR=11						
VNDA	Vanda	76.12	173	eP	P	02 32 26.8	+1.8
	3.2nm,1.0s,mb4.2						
TTA	Tatalina	85.29	26	eP	P	02 33 15.6	+1.4
	30nm,1.6s,mb5.2						
NAY	Al-Naaiem	85.83	299	eP	P	02 33 17.8	+0.1
QSPA	South Pole Qui	86.76	180	eP	P	02 33 22.7	+1.5
	6.5nm,1.0s,mb4.8						
INK	Inuvik	95.10	22	eP	P	02 34 00.8	+0.4
ARCES	ARCESS Array B	98.27	340	P	P	02 34 13.7	-1.0
	1.7nm,0.8s,mb4.6,baz=104,slow=5.1,SNR=3.6						
TOA0	Torodi Ar. Sit	128.65	284	ePKPdf	PKPdf	02 39 46.4	+0.6
TORD	Torodi Ar. Bea	128.65	284	PKP	PKPdf	02 39 45.5	-0.3
	0.8nm,0.7s,baz=68,slow=0.8,SNR=8.5						
LVC	Limon Verde	147.99	144	ePKPbc	PKPbc	02 40 26.8	+2.9
CPUP	Villa Florida	149.64	166	ePKPbc	PKPbc	02 40 29.8	+1.8
CPUP	Villa Florida	149.64	166	PKPbc	PKPbc	02 40 28.8	+0.8
	3.9nm,0.8s,baz=178,slow=5.9,SNR=6.0						
LPAZ	La Paz	153.15	137	ePKPbc	PKPbc	02 40 40.0	+3.6
LPAZ	La Paz	153.15	137	PKPbc	PKPbc	02 40 39.6	+3.2
	0.9nm,0.4s,baz=217,slow=0.6,SNR=7.2						

*CSEM **24** 02:22:59.6±0.2,3901N×4056E,h5km,MD3.0,Error ellipse: s-maj=5.0km s-min=3.7km az=118.0*
*ISK **24** 02:22:59.6,3901N×4054E,h2km,MD3.0*
*ISCJB **24** 02:23:01.0±0.5,3895N±004×4055E±004,h5km,Error ellipse: s-maj=5.5km s-min=3.7km az=151.5*
*DDA **24** 02:23:02.5,3894N×4058E,h4km±3km,Md3.0*

ISC 24 02:23:01.3±0.6,3896N±004×4055E±004,h4km±6km,n13,σ1°05/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.10	208	PG	Pg	02 23 03.1	-0.1
BNGL	BINGOL	0.47	91	iP	Pg	02 23 10.3	0.0
BNGL				iS	Sg	02 23 17.8	+1.5
PTK	Pertek	0.91	266	ePG	Pg	02 23 17.2	-1.4
PTK				eSG	Sg	02 23 31.0	+0.6
EZC	Erzincan	0.97	324	ePN	Pn	02 23 23.1	+1.5
BTMT	Batman	1.06	136	ePG	Pg	02 23 20.8	-0.9
EZM	Erzurum	1.13	34	ePN	Pn	02 23 21.4	-2.5
SVRC	Sivrice-ELAZID	1.13	239	ePN	Pn	02 23 22.9	-1.0
ERZM	Erzurum	1.14	34	iP	Pg	02 23 21.5	-1.5
ERZM				iS	Sg	02 23 38.4	+0.6
ELZG	Elazig	1.31	250	iP	Pn	02 23 26.1	-0.1
ELZG				iS	Sg	02 23 44.8	+1.5
HOMI	Horasan	1.51	44	iP	Pn	02 23 28.5	-0.5
HOMI				iS	Sn	02 23 50.5	+1.5
MARD	Mardin	1.66	174	iP	Pn	02 23 31.6	+0.6
MARD				iS	Sn	02 23 52.4	-0.3
GUMT	Gumushane	1.71	331	ePN	Pn	02 23 31.1	-0.7
URFA	Urfa	2.04	222	ePN	Pn	02 23 36.7	+0.5

*NEIC **24** 02:24:48.4±1.2,2897S×17899W,h300km,mb3.4/1,Error ellipse: s-maj=34.1km s-min=22.2km az=83.0*
*IDC **24** 02:24:50.5±8.0,2917S×17

NNZ	Nelson	14.27 206	SN	S	03 33 22.7	-1.5
THZ	Tophouse	14.92 206	SN	S	03 33 37.1	-0.2
AFI	Afiamalu	15.86 24	P	Pn	03 30 55.5	-11
	5.0nm,0.3s,baz=186,slow=7.1,SNR=3.6					
AFI			S	S	03 33 30.0	-27
	6.4nm,0.3s,baz=38,slow=23,SNR=3.5					
RPZ	Rata Peaks	17.30 206	S	S	03 34 26.8	+2.0
	2.7nm,0.3s,baz=124,slow=21,SNR=6.7					
RAR	Rarotonga	18.45 71	P	P	03 31 31.9	-0.8
	1.2nm,0.3s,baz=268,slow=3.6,SNR=3.6					
CNB	Canberra Magne	28.04 248	*e*P	P	03 33 06.9	+4.4
	3.1nm,0.4s,mb4.1					
CTA	Charters Tower	33.15 277	P	P	03 33 47.7	+0.3
CTA	Charters Tower	33.15 277	P	P	03 33 47.7	+0.3
	4.0nm,0.6s,mb4.1,baz=89,slow=14,SNR=4.3					
STKA	Stephens Creek	34.54 254	*e*P	P	03 34 01.2	+2.0
	5.6nm,1.2s,mb4.0					
STKA	Stephens Creek	34.54 254	P	P	03 34 02.0	+2.9
	8.8nm,1.1s,mb4.2,baz=103,slow=9.8,SNR=4.5					
ASAR	Alice Springs	42.84 265	P	P	03 35 08.6	+0.8
	4.1nm,0.6s,mb3.8,baz=95,slow=6.9,SNR=75					
ASAR			ScP	ScP	03 40 17.8	+1.4
	0.2nm,0.6s,baz=330,slow=38,SNR=3.0					
WB2	Warramunga Arr	43.65 270	*e*P	P	03 35 14.1	-0.2
WB2	Warramunga Arr	43.65 270	*e*P	P	03 35 13.9	-0.4
WRA	Warramunga Arr	43.66 270	PcP	PcP	03 36 56.3	+0.2
WRA	Warramunga Arr	43.66 270	P	P	03 35 13.9	-0.4
	6.0nm,0.9s,mb3.8,baz=106,slow=6.3,SNR=38					
WRA			PcP	PcP	03 36 56.3	+0.2
	2.1nm,0.8s,baz=111,slow=3.3,SNR=7.3					
VNDA	Vanda	49.86 186	*e*P	P	03 36 07.7	+6.4
	1.9nm,0.6s,mb3.6					
VNDA	Vanda	49.86 186	P	P	03 36 08.0	+6.7
	2.6nm,0.5s,mb3.8,baz=5.8,slow=8.1,SNR=10.0					
FITZ	Fitzroy Crossi	51.98 269	*e*P	P	03 36 18.0	+0.1
	5.9nm,0.8s,mb4.0					
FITZ	Fitzroy Crossi	51.98 269	P	P	03 36 18.8	+0.9
	2.5nm,0.6s,mb3.7,baz=135,slow=7.0,SNR=6.2					
MBWA	Marble Bar	56.05 263	*e*P	P	03 36 46.8	-0.3
	9.2nm,0.7s,mb4.3					
QSPA	South Pole Qui	61.53 180	*e*P	P	03 37 29.3	+5.6
	9.7nm,0.6s,mb4.6					
QSPA	South Pole Qui	61.53 180	P	P	03 37 29.8	+6.2
	8.7nm,0.7s,mb4.5,baz=25,slow=1.4,SNR=51					
MAW	Mawson	73.87 200	*e*P	P	03 38 44.6	+4.1
	2.9nm,0.6s,mb4.1					
MAW	Mawson	73.87 200	P	P	03 38 44.4	+3.9
	3.0nm,0.6s,mb4.1,baz=141,slow=9.0,SNR=15					
MJAR	Matsushiro Arr	76.52 325	P	P	03 38 53.5	-2.4
	1.8nm,0.7s,mb3.9,baz=166,slow=5.7,SNR=5.4					
SYO	Syowa Base	78.80 193⇑	*e*P	P	03 39 10.0	+2.0
KSRS	Korea Array	82.70 320	P	P	03 39 28.3	-0.7
	0.9nm,0.5s,mb3.8,baz=138,slow=7.7,SNR=3.9					
PLCA	Paso Flores	84.04 133	*e*P	P	03 39 39.4	+3.4
	3.3nm,0.9s,mb4.2					
NVAR	Mina Array Bea	87.18 43	P	P	03 39 47.5	-3.6
	0.6nm,0.6s,mb3.6,baz=218,slow=9.1,SNR=5.1					
CHTO	Chiang Mai	92.59 290	*e*P	P	03 40 16.7	-0.1
	2.6nm,0.8s,mb4.2					
TKM2	Tokmak 2	120.03 305	*e*PKPdf	PKPdf	03 45 54.8	+1.1
FINES	FINESS Array B	143.30 340	PKP		03 46 32.9	
FINES	FINESS Array B	143.30 340	PKhKP		03 46 32.9	
	1.3nm,0.9s,baz=48,slow=2.8,SNR=6.8					
NB2	NORSAR Subarra	146.90 351	PKP	PKPdf	03 46 44.1	+1.2
	comp=Z,0.2nm,0.5s,baz=18,slow=3.7					
NOA	NORSAR Array B	146.90 351	PKPbc	PKPbc	03 46 43.4	-1.9
	comp=Z,0.9nm,0.5s,baz=15,slow=4.5,SNR=3.4					
HFS	Hagfors	147.39 349	PKPbc	PKPbc	03 46 44.2	-2.4
	comp=Z,1.4nm,0.5s,baz=33,slow=1.4,SNR=12					
MALT	Malatya	147.91 297	*e*PKPbc	PKPbc	03 46 48.9	+0.2
AKASG	Malin Array Be	149.60 324	PKPbc	PKPbc	03 46 51.6	-0.9
	comp=Z,1.2nm,0.4s,baz=45,slow=3.4,SNR=10					
EKA	Eskdalemuir Ar	153.05 6	PKPbc	PKPbc	03 46 59.6	-0.7
	comp=Z,1.7nm,1.0s,baz=340,slow=3.2,SNR=3.4					
TOA0	Torodi Ar. Sit	164.65 181	*e*PKPab	PKPab	03 48 07.7	+3.5
TORD	Torodi Ar. Bea	164.65 181	PKPab	PKPab	03 48 06.8	+2.7
	comp=Z,1.4nm,0.6s,baz=176,slow=2.4,SNR=33					

*NEIC **24** 03:38:13.3, 3254S×7148W, h26km, ML2.7(GUC), After GUC.*

GUC 24 03:38:13.3±0.8, 3254S×7148W, h26km±5km, MD3.8, ML2.7, 4C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
PACH	Papudo	0.04	79	*e*P	Pb	03 38 19.3	+1.5
IHA	Instituto Hidr	0.50	196	⇓*i*P	Pb	03 38 23.2	-0.3
IHA				*i* S	Sb	03 38 30.5	0.0
JACH	Jahuel	0.76	101	*e*P	Pb	03 38 27.9	0.0
PEL	Peldehue	0.90	132	⇓*e*P	Pn	03 38 30.0	-0.2
PEL				*i* S	Sb	03 38 41.6	-0.2
PEL				AML	AML	03 38 45.2	
	comp=N,338nm,0.3s						
CLCH	Cerro Calan	1.16	137	*e*P	Pn	03 38 33.7	-0.1
CLCH				*i* S	Sn	03 38 49.5	+0.6
CLCH				AML	AML	03 38 59.9	
	comp=E,163nm,0.4s						
TACH	Talagante	1.20	158	⇓*e*P	Pn	03 38 34.1	-0.2
FCH	Farellones	1.27	128	⇓*i*P	Pn	03 38 35.7	+0.4
FCH				*i* S	Sn	03 38 52.9	+1.4
FCH				AML	AML	03 38 54.9	
	comp=E,131nm,0.2s						
PCH	Pirque	1.34	143	⇑*i*P	Pn	03 38 37.0	+0.6
PCH				*i* S	Sn	03 38 54.8	+1.4
LNV	Longovilo	1.41	178	⇑*i*P	Pn	03 38 36.2	-1.0
LNV				*i* S	Sn	03 38 54.0	-0.9
CMCH	Combarbala	1.43	17	*e*P	Pn	03 38 37.7	+0.3
CMCH				*i* S	Sn	03 38 56.7	+1.3
CMCH	Combarbala	1.43	17	*e*P	Pn	03 38 37.7	+0.3
CMCH				*i* S	Sn	03 38 56.7	+1.3
CMCH				AML	AML	03 38 58.2	
	comp=E,774nm,0.5s						
CHCH	Chadas Angostu	1.55	154	⇓*i*P	Pn	03 38 39.9	+0.7
CHCH				*i* S	Sn	03 39 00.3	+1.9
LMEL	Las Melosas	1.68	141	⇑*e*P	Pn	03 38 41.8	+0.8
LMEL				*i* S	Sn	03 39 03.5	+1.8
LMEL	Las Melosas	1.68	141	⇑*e*P	Pn	03 38 41.8	+0.8
LMEL				*i* S	Sn	03 39 03.5	+1.8
LMEL				AML	AML	03 39 08.7	
	comp=N,201nm,0.2s						
CACH	El Canelo	1.73	155	*e*P	Pn	03 38 43.4	+1.7
CICH	Cipreses	1.98	154	*e*P	Pn	03 38 46.4	+1.3
SFDO	San Fernando	2.10	169	*e*P	Pn	03 38 47.5	+0.8
TLL	Tololo Astrono	2.44	14	*e*P	Pn	03 38 53.3	+1.9
TLL				*i* S	Sn	03 39 23.6	+3.3
TLL	Tololo Astrono	2.44	14	*e*P	Pn	03 38 53.3	+1.9
TLL				*i* S	Sn	03 39 23.6	+3.3
TLL				AML	AML	03 39 34.0	
	comp=N,48nm,0.4s						

*NEIC **24** 03:53:30.0, 3337S×6994W, h3km, ML2.9(GUC), After GUC.*

GUC 24 03:53:30.0±0.6, 3337S×6994W, h3km±2km, MD3.9, ML2.9, 5C-6D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
FCH	Farellones	0.30	277	⇓*i*P	Pg	03 53 36.4	+0.6
FCH				*i* S	Sg	03 53 41.0	+1.3
FCH				AML	AML	03 53 41.2	
	comp=N,2μm,0.1s						
SJCH	San Jose de Ma	0.44	232	⇓*i*P	Pg	03 53 38.8	+0.3
SJCH				*i* S	Sg	03 53 45.5	+1.1
CLCH	Cerro Calan	0.51	266	⇓*i*P	Pg	03 53 40.0	+0.3
CLCH				*i* S	Sg	03 53 47.4	+1.2
CLCH				AML	AML	03 53 49.2	
	comp=N,1μm,0.6s						
FSR	Penalolen	0.51	257	*e*P	Pg	03 53 39.9	+0.1
FSR				*i* S	Sg	03 53 47.6	+1.2
FSR	Penalolen	0.51	257	*e*P	Pg	03 53 39.9	+0.1
FSR				*i* S	Sg	03 53 47.6	+1.2
FSR				AML	AML	03 53 48.5	
	comp=N,930nm,0.6s						
LMEL	Las Melosas	0.53	205	⇑*e*P	Pg	03 53 40.3	+0.1
LMEL				*i* S	Sg	03 53 48.3	+1.2
LMEL	Las Melosas	0.53	205	⇑*e*P	Pg	03 53 40.3	+0.1
LMEL				*i* S	Sg	03 53 48.3	+1.2
LMEL				AML	AML	03 53 49.0	
	comp=N,981nm,0.1s						
PCH	Pirque	0.55	242	*e*P	Pg	03 53 40.9	+0.4
PCH				*i* S	Sg	03 53 48.6	+1.0
SAN	Santiago	0.61	262	*i* S	Sg	03 53 50.9	+1.1
PEL	Peldehue	0.67	289	⇓*e*P	Pg	03 53 42.6	-0.2
PEL				*i* S	Sg	03 53 52.2	+0.8
CHCH	Chadas Angostu	0.82	226	*e*P	Pg	03 53 45.7	-0.1
CHCH				*i* S	Sg	03 53 57.5	+1.0
TACH	Talagante	0.89	251	⇓*i*P	Pg	03 53 46.5	-0.5
TACH				*i* S	Sg	03 53 59.1	+0.7
CACH	El Canelo	0.93	216	⇑*i*P	Pg	03 53 48.1	+0.3
CACH				*i* S	Sg	03 54 01.4	+1.4
CICH	Cipreses	1.03	203	*e*P	Pg	03 53 49.4	-0.4
LNV	Longovilo	1.36	244	⇓*i*P	Pn	03 53 54.8	-1.1
LNV				*i* S	Sg	03 54 13.3	-0.6
SFDO	San Fernando	1.53	215	⇑*i*P	Pn	03 53 58.3	+0.1
SFDO				*i* S	Sn	03 54 19.4	+0.7
CMCH	Combarbala	2.37	337	P	Pn	03 54 11.8	+2.1
CMCH				S	Sn	03 54 42.8	+3.6
CMCH	Combarbala	2.37	337	⇑*e*P	Pn	03 54 11.8	+2.1
CMCH				*i* S	Sn	03 54 42.8	+3.6
CMCH				AML	AML	03 54 46.7	
	comp=E,360nm,0.5s						
TLL	Tololo Astrono	3.27	347	*e*P	Pn	03 54 29.0	+6.8

IDC 24 04:02:07.2±2.8, 716S×15522E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=77.3km s-min=33.7km az=106.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
WRA	Warramunga Arr	23.91	236	P	P	04 07 23.7	+0.8
	1.9nm,0.8s,baz=61,slow=9.6,SNR=8.6						
ASAR	Alice Springs	26.23	229	P	P	04 07 43.5	-0.5
	0.2nm,0.4s,baz=61,slow=9.0,SNR=2.7						
STKA	Stephens Creek	27.68	206	P	P	04 07 56.9	-0.1
	1.3nm,0.5s,baz=16,slow=7.4,SNR=2.9						
MKAR	Makanchi Array	83.68	319	P	P	04 14 38.1	+0.2
	0.4nm,0.6s,baz=104,slow=6.2,SNR=7.2						

ISC 24 04:05:01.4±2.5, 233N±01×941E±02, h35km, n10, σ0§31/13, Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
IMP	Imphal	1.45	353	*e*P	Pn	04 05 25.0	-0.1
IMP				*e*S	Sn	04 05 43.0	0.0
SHL	Shillong	3.03	318	*e*PN	Sn	04 05 47.0	+0.2
SHL				*i* SN	Sn	04 06 27.5	+5.7
JIRN	Jiri	8.37	303	*e*P	Pn	04 07 00.7	+0.5
	15nm,0.3s						
JIRN				*e*S	Sn	04 08 33.5	-0.1
GUN	Gumba	8.74	303	*e*P	Pn	04 07 05.7	+0.5
	12nm,0.2s						
PKI	Pulchoki	8.95	300	*e*P	Pn	04 07 07.9	-0.2
	13nm,0.4s						
KKN	Kakani	9.15	301	*e*P	Pn	04 07 10.5	-0.3
DMN	Daman	9.20	299	*e*P	Pn	04 07 11.9	+0.3
	6.9nm,0.3s						
GKN	Gorkha	9.75	300	*e*P	Pn	04 07 18.6	-0.5
	2.5nm,0.3s						
KOLN	Koldanda	10.49	297	*e*P	Pn	04 07 29.4	+0.1
	4.3nm,0.2s						
DANN	Dangsing	10.60	300	*e*P	Pn	04 07 30.4	-0.3
	4.9nm,0.3s						

*MOS **24** 04:15:58.7±1.0, 3626N×7097E, h134km, mb3.8/3, Error ellipse: s-maj=25.9km s-min=10.8km az=82.9*
*IDC **24** 04:15:58.1±7.2, 3620N×7100E, h116km±64km, mb3.5/8, mb1 3.6/11, mb1mx3.4/24, mbtmp3.5/11, Error ellipse: s-maj=36.1km s-min=20.3km az=26.0*
*NEIC **24** 04:15:59.2±1.9, 3624N×7105E, h127km±15km, mb4.1/2, Error ellipse: s-maj=18.0km s-min=12.0km az=207.0*
*ISCJB **24** 04:16:00.7±0.8, 3641N±004×71.15E±009, h149km±9km, mb3.4/7, Error ellipse: s-maj=12.4km s-min=3.7km az=158.1*
*NNC **24** 04:16:08.4±3.6, 3695N×7085E, h161km±32km, mb3.0, mpv4.5, Error ellipse: s-maj=33.8km s-min=20.2km az=38.0*

ISC 24 04:16:01.6±0.8, 3639N±004×7114E±010, h142km±9km, n62, σ0§97/80, mb3.4/7, 6C-2D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
THN	Thein Dam	5.47	135	*e*P	Pn	04 17 21.4	+0.3
THN				*e*S	Sn	04 18 22.5	-0.6
DLH	Dalhousie	5.54	133	*e*x	Pn	04 17 14.0	-8.0
DLH				*e*x	Sn	04 18 27.0	+2.2
AML	Almayashu	6.07	18	*e*Pn	Pn	04 17 28.9	-0.1
	93nm,0.4s						
AML				*e*Sn	Sn	04 18 35.4	-2.0
AML	Almayashu	6.07	18	P	Pn	04 17 29.2	+0.2
	SNR=95						
UCH	Uchtor	6.39	23	*e*Pn	Pn	04 17 33.8	+0.4
	45nm,0.4s						
UCH				*e*Sn	Sn	04 18 42.7	-2.4
UCH	Uchtor	6.39	23	P	Pn	04 17 33.6	+0.2
	SNR=91						
KZA	Kyzart	6.51	28	P	Pn	04 17 34.8	-0.2
	SNR=31						
EKS2	Erkin-Say	6.59	17	*e*Pn	Pn	04 17 36.1	+0.1
	18nm,0.6s						
EKS2				*e*Sn	Sn	04 18 41.0	-8.8
EKS2	Erkin-Say	6.59	17	P	Pn	04 17 36.3	+0.4
	SNR=16						
KK31	Karatay Array	6.72	356	P	Pn	04 17 37.3	-0.4
	23nm,0.5s,baz=178,slow=13,SNR=392						
KK31				⇓S	Sn	04 18 47.6	-5.4
	54nm,0.5s,baz=177,slow=22						
AAK	Ala-Archa	6.75	22	P	Pn	04 17 38.7	+0.5
	SNR=14						
SDNR	Sundarnagar	6.88	134	*e*P	Pn	04 17 40.5	+0.6
SDNR				*e*S	Sn	04 18 55.5	-1.4
KBK	Karagaybulak	6.92	24	P	Pn	04 17 41.0	+0.6
	SNR=6.3						
ULHL	Ulahol	7.06	33	P	Pn	04 17 42.4	+0.1
	SNR=21						
CHMS	Chumysh	7.16	22	P	Pn	04 17 45.0	+1.3
	SNR=7.2						
USP	Ospenovka	7.34	20	P	Pn	04 17 46.7	+0.6
	SNR=10						
TKM2	Tokmak 2	7.37	26	*e*PN	Pn	04 17 46.4	-0.1
TKM2				pmax	pmax		
	comp=Z,15nm,0.5s						
TKM2	Tokmak 2	7.37	26	*e*Pn	Pn	04 17 46.4	-0.1
	comp=Z,15nm,0.5s						
TKM2	Tokmak 2	7.37	26	P	Pn	04 17 46.6	+0.1
	SNR=30						
KLP	Kalpa	7.64	127	*e*P	Pn	04 17 51.1	+0.9
KLP				*e*S	Sn	04 19 12.7	-2.6
KLP				AML	AML	04 19 18.9	
	comp=N,351nm,0.3s						
KLP				AML	AML	04 19 19.0	
	comp=E,258nm,0.6s						
JOSI	Joshimath	9.13	127	*e*P	Pn	04 18 09.7	-0.3
JOSI				*e*S	Sn	04 19 47.4	-3.8
JOSI				AML	AML	04 19 58.4	
	comp=E,138nm,0.5s						
JOSI				AML	AML	04 20 00.5	
	comp=N,111nm,0.6s						
KHET	Khetri	9.19	153	*e*S	Sn	04 19 44.5	-8.1
NDI	New Delhi	9.24	145	*e*x	Pn	04 18 14.0	+2.4
SONA	Sohna	9.55	147	*e*P	Pn	04 18 15.8	+0.1
SONA				*e*S	Sn	04 19 54.0	-7.4
SONA				AML	AML	04 19 59.0	
	comp=E,27nm,0.5s						
SONA				AML	AML	04 20 01.8	
	comp=N,15nm,0.3s						
MK31	Makanchi Array	13.32	35	⇑P	Pn	04 19 05.3	+0.4
	comp=N,2.0nm,0.7s,baz=207,slow=9.8,SNR=13						
MK31	Makanchi Array	13.32	35	*e*P	Pn	04 19 04.7	-0.3
MKAR	Makanchi Array	13.32	35	P	Pn	04 19 05.5	+0.6
	comp=N,0.2nm,0.3s,baz=218,slow=12,SNR=11						
DANN	Dangsing	13.34	123	*e*P	Pn	04 19 04.3	-1.0
	comp=N,32nm,0.4s						
KOLN	Koldanda	13.61	126	*e*P	Pn	04 19 08.2	-0.6
	comp=N,19nm,0.4s						
GKN	Gorkha	14.15	122	*e*P	Pn	04 19 15.0	-0.7
DMN	Daman	14.72	123	*e*P	Pn	04 19 23.2	+0.3
	comp=N,25nm,0.6s						
KKN	Kakani	14.73	122	*e*P	Pn	04 19 22.3	-0.6
	comp=N,24nm,0.4s						
PKIN	Phulchoki	14.94	122	*e*P	Pn	04 19 26.2	+0.6
PKI	Pulchoki	14.95	122	*e*P	Pn	04 19 26.1	+0.3
	comp=N,15nm,0.4s						
GUN	Gumba	15.07	120	*e*P	Pn	04 19 27.1	-0.1
	comp=N,17nm,0.4s						
KURBB	Kurchatov Arra	15.19	18	⇑P	Pn	04 19 30.4	+2.0
	comp=N,0.4nm,0.7s						
AB31	Akbulak array	15.23	331	⇓P	Pn	04 19 27.1	-1.9
	comp=N,4.4nm,0.5s,baz=147,slow=12,SNR=109						
AB31				⇑S	S	04 22 08.8	-15
	comp=N,9.2nm,0.7s,baz=151,slow=24,SNR=20						
KURK	Kurchatov	15.30	18	*e*P	Pn	04 19 31.7	+1.9
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
KURK	Kurchatov	15.30	18	*e*P	Pn	04 19 31.7	+1.9
	comp=Z,2.9nm,0.8s						
JIRN	Jiri	15.44	120	*e*P	Pn	04 19 32.6	+0.8
	comp=Z,58nm,0.5s						
BVA0	Borovoye Array	16.64	358	⇑P	Pn	04 19 46.0	-0.3
	comp=Z,0.6nm,1.0s,baz=186,slow=15,SNR=10						
BVA0				S	S	04 22 44.9	-6.4
	comp=Z,0.1nm,0.5s,baz=169,slow=21,SNR=4.0						
BVAR	Borovoye Array	16.64	358	P	Pn	04 19 46.6	+0.3
BVAR				S	S	04 22 44.7	-6.6
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	Borovoye Array	16.64	358	P	Pn	04 19 46.6	+0.3
	comp=Z,0.6nm,0.3s,baz=173,slow=13,SNR=7.3						
BVAR				S	S	04 22 44.7	-6.7
	comp=Z,0.4nm,0.3s,baz=172,slow=22,SNR=3.9						
AKTK	Aktyubinsk	16.93	330	P	Pn	04 19 49.5	-0.2
AKTK				S	S	04 22 51.6	-6.3
AKTO	Aktyubinsk	16.93	330	⇑P	Pn	04 19 49.4	-0.3
	comp=Z,0.2nm,0.7s						
AKTO				⇑S	S	04 22 50.6	-7.3
	comp=Z,0.2nm,0.9s						
AKTO	Aktyubinsk	16.93	330	P	Pn	04 19 49.5	-0.3
AKTO				S	S	04 22 51.6	-6.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO				smax			
	comp=N,1.0nm,0.3s						
AKTO	Aktyubinsk	16.93	330	P	Pn	04 19 49.5	-0.2
	comp=N,1.1nm,0.3s,baz=132,slow=12,SNR=47						
AKTO				S	S	04 22 51.6	-6.3
	comp=N,0.5nm,0.3s,baz=87,slow=22,SNR=6.3						
ZAL	Zalesovo	19.95	24	P	P	04 20 22.5	+0.2
ZAA0	Zalesovo Array	19.97	24	*e*P	P	04 20 21.9	-0.5
ZALV	Zalesovo Beam	19.97	24	P	P	04 20 22.5	+0.1
ZALV	Zalesovo Beam	19.97	24	P	P	04 20 22.5	+0.1
	comp=N,5.5nm,0.5s,baz=222,slow=11,SNR=20						
FINES	FINESS Array B	37.64	326	P	P	04 23 02.6	+0.3
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	FINESS Array B	37.64	326	P	P	04 23 02.5	+0.2
	comp=Z,2.1nm,1.0s,mb3.7,baz=118,slow=9.5,SNR=3.7						
ARCES	ARCESS Array B	41.29	338	P	P	04 23 33.3	+0.9
ARCES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARCES	ARCESS Array B	41.29	338	P	P	04 23 33.2	+0.8
	comp=Z,2.7nm,1.0s,mb3.8,baz=115,slow=8.7,SNR=6.8						
NOA	NORSAR Array B	44.53	323	P	P	04 23 58.3	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	44.53	323	P	P	04 23 58.2	-0.4
	comp=Z,0.9nm,0.8s,mb3.4,baz=92,slow=8.5,SNR=3.2						
TORD	Torodi Ar. Bea	65.83	269	P	P	04 26 30.2	-1.8
TORD	Torodi Ar. Bea	65.83	269	P	P	04 26 30.2	-1.8
	comp=Z,0.3nm,0.5s,mb3.4,baz=52,slow=6.1,SNR=9.5						
YKA	Yellowknife Ar	81.35	3	P	P	04 28 02.0	+0.2
	comp=Z,0.3nm,0.6s,mb3.1,baz=351,slow=5.4,SNR=6.6						
WRA	Warramunga Arr	81.84	122	P	P	04 28 04.7	-0.3
	comp=Z,0.4nm,0.3s,mb3.5,baz=325,slow=4.9,SNR=6.3						
ASAR	Alice Springs	84.10	125	P	P	04 28 16.4	-0.1
	comp=Z,0.2nm,0.4s,mb3.2,baz=307,slow=5.2,SNR=9.0						

*ISCJB **24** 05:01:49.3±1.9, 506S±006×13304E±008, h5km±10km, mb4.3/5, MS3.7/3, Error ellipse: s-maj=13.2km s-min=9.3km az=172.7*
*IDC **24** 05:01:50.5±0.9, 473S×133.11E, h0km, mb4.2/4, mb1 4.5/7, mb1mx4.2/13, mbtmp4.6/7, ML4.9/3, MS3.7/3, Ms1 3.7/3, ms1mx3.1/25, Error ellipse: s-maj=34.1km s-min=20.5km az=66.0*
*NEIC **24** 05:01:55.5±0.6, 486S×13302E, h35km, mb4.3/5, Error ellipse: s-maj=15.7km s-min=10.4km az=68.0*

ISC 24 05:01:51.8±2.0, 500S±005×13314E±008, h14km±11km, n35, σ1§42/41, mb4.3/5, MS3.7/3, 1D, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KAKA	Kakadu	7.69	185	⇓*i*P	Pn	05 03 45.9	+2.5
	171nm,0.6s						
KAKA				*e*S	Sn	05 05 10.1	-0.3
BATI	Kupang	10.72	241	Pn	Pn	05 04 27.0	+2.0
	22nm,0.3s,baz=136,slow=4.3,SNR=9.9						
BATI				Sn	Sn	05 06 23.7	-1.1
	7.5nm,0.3s,baz=24,slow=23,SNR=4.3						
KAPI	Kappang	13.33	269	Pn	Pn	05 05 00.9	+0.2
KAPI				Sn	Sn	05 07 22.3	-6.7
KAPI	Kappang	13.33	269	Pn	Pn	05 05 00.9	+0.2
	9.6nm,0.3s,baz=214,slow=21,SNR=31						
KAPI				Sn	Sn	05 07 22.3	-6.6
	2.5nm,0.3s,baz=162,slow=18,SNR=5.0						
WRAB	Tennant Creek	14.89	176	*e*Pn	Pn	05 05 20.4	-1.6
	28nm,0.5s						
WRAB				*e*P		05 05 30.8	
WRAB				*e*Sn	Sn	05 07 59.4	-7.4
WRA	Warramunga Arr	14.90	176	Pn	Pn	05 05 20.3	-1.8
	1.2nm,0.3s,baz=354,slow=13,SNR=91						
WRA				Sn	Sn	05 07 59.2	-7.8
	2.9nm,0.3s,baz=0.5,slow=22,SNR=9.4						
WB2	Warramunga Arr	14.90	176	*e*P	Pn	05 05 20.5	-1.6
WB2		

0.7nm,0.4s,mb3.9,baz=102,slow=3.5,SNR=5.4
CPUP Villa Florida 147.25 162 PKPbc PKPbc 05 21 37.2 +1.6
CPUP Villa Florida 147.25 162 PKPbc PKPbc 05 21 37.2 +1.7
7.2nm,1.1s,baz=180,slow=6.1,SNR=3.3
LPAZ La Paz 150.17 136 PKPbc PKPbc 05 21 46.1 +2.8
3.3nm,0.9s,baz=224,slow=2.3,SNR=12

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*ISCJB **24** 05:10:06.7±0.6, 38.07N±0.03×22.10E±0.04, h61km±8km, Error ellipse: s-maj=6.0km s-min=4.8km az=141.6*
*CSEM **24** 05:10:06.2±0.1, 38.04N×22.11E, h58km±1km, ML3.5, Error ellipse: s-maj=2.5km s-min=1.7km az=28.0*
*ATH **24** 05:10:06.2, 38.03N×22.09E, h57km±4km, MD3.3/14, ML3.2*
*NEIC **24** 05:10:06.2, 38.03N×22.09E, h57km, MD3.3(ATH), After ATH.*
*THE **24** 05:10:07.8, 38.13N×22.12E, h56km, ML3.5*
ISC 24 05:10:07.4±0.6, 3806N±0.03×2210E±0.04, h56km±8km, n23, σ0.63/35, 1C-1D, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SELA	**Sela**	**0.27**	**322**	*e*Pg	**Pn**	**05 10 16.4**	**-0.5**
SELA				*e*Sg	**Sn**	**05 10 23.8**	**+0.1**
RLS	**Riolos of Patr**	**0.50**	**270**	||*e*P	**Pn**	**05 10 18.6**	**-0.5**
RLS				*e*S	**Sn**	**05 10 27.0**	**-0.5**
LTK	**Loutraki**	**0.68**	**93**	*e*Pg	**Pn**	**05 10 21.2**	**0.0**
LTK				*e*Sg	**Sn**	**05 10 31.4**	**+0.2**
VLX	**Vlachokerasia**	**0.72**	**162**	*e*Pg	**Pn**	**05 10 22.7**	**+1.0**
VLX				*e*Sg	**Sn**	**05 10 35.1**	**+3.1**
EVR	**Evrytania**	**0.89**	**345**	*e*P	**Pn**	**05 10 24.4**	**+0.6**
EVR				*e*S	**Sn**	**05 10 36.9**	**+1.0**
ITM	**Ithomi**	**0.89**	**189**	*e*P	**Pn**	**05 10 23.5**	**-0.3**
ITM				*e*S	**Sn**	**05 10 35.6**	**-0.3**
LKR	**Lokris**	**0.92**	**50**	*e*Pg	**Pn**	**05 10 23.8**	**-0.4**
LKR				*e*Sg	**Sn**	**05 10 37.0**	**+0.4**
LKR	**Lokris**	**0.92**	**50**	*e*P	**Pn**	**05 10 24.1**	**-0.1**
LKR				*e*Sg	**Sn**	**05 10 37.0**	**+0.4**
AGG	**Agios Georgios**	**0.98**	**10**	*e*Pg	**Pn**	**05 10 24.6**	**-0.4**
AGG				*e*Sg	**Sn**	**05 10 36.8**	**-1.1**
KFL	**Anninata**	**1.04**	**273**	*e*Pg	**Pn**	**05 10 26.0**	**+0.2**
DID	**Didima**	**1.05**	**121**	*e*Pg	**Pn**	**05 10 26.1**	**+0.1**
NAIG	**Nisos Aigina**	**1.14**	**105**	*e*P	**Pn**	**05 10 26.5**	**-0.6**
VLS	**Valsamata**	**1.20**	**276**	||*i*P	**Pn**	**05 10 27.4**	**-0.5**
ATH	**Athens Observa**	**1.28**	**93**	*e*P	**Pn**	**05 10 28.7**	**-0.3**
KVR	**Kavouri**	**1.34**	**99**	*e*P	**Pn**	**05 10 29.9**	**+0.1**
PTL	**Penteli**	**1.39**	**90**	*e*P	**Pn**	**05 10 30.5**	**0.0**
PTL				*e*S	**Sn**	**05 10 47.5**	**-0.3**
VLI	**Veliai**	**1.49**	**153**	*e*P	**Pn**	**05 10 31.1**	**-0.8**
THL	**Klokotos Trika**	**1.50**	**357**	*e*P	**Pn**	**05 10 32.4**	**+0.3**
JAN	**Janina**	**1.87**	**329**	*e*P	**Pn**	**05 10 38.0**	**+1.0**
KEK	**Kerkira**	**2.44**	**313**	*e*P	**Pn**	**05 10 45.0**	**+0.2**
APE	**Apeiranthos**	**2.90**	**109**	*e*P	**Pn**	**05 10 51.1**	**+0.1**
KRUS	**Krusevo**	**3.37**	**349**	*e*Pn	**Pn**	**05 10 58.4**	**+0.8**
KRUS				*e*Sn	**Sn**	**05 11 35.6**	**-0.6**
KRUS	**Krusevo**	**3.37**	**349**	*e*Pn	**Pn**	**05 10 58.3**	**+0.8**
KRUS				*e*Sn	**Sn**	**05 11 35.6**	**-0.7**

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*NIED **24** 05:12:00, 43.70N×147.30E, h53km, Mw4.2 Best double couple: M0=2.11000×10^15 NP1:φ=87.00000°, δ=54.00000°, λ=133.00000°. NP2:φ=209.00000°, δ=54.00000°, λ=47.00000°.*
*NEIC **24** 05:12:44.3±0.3, 44.12N×147.33E, h10km, mb4.4/20, Error ellipse: s-maj=10.1km s-min=4.8km az=155.0*
*MOS **24** 05:12:45.0±1.5, 43.87N×147.50E, h33km, mb4.5/20, Error ellipse: s-maj=9.6km s-min=6.8km az=82.4*
*IDC **24** 05:12:46.5±0.7, 44.92N×147.36E, h0km, mb4.0/14, mb1 4.2/15, mb1mx4.1/22, mbtmp4.0/15, ML4.0/1, MS2.9/3, Ms1 2.9/3, ms1mx2.7/27, Error ellipse: s-maj=20.4km s-min=16.4km az=169.0*
*ISCJB **24** 05:12:47.7±0.6, 43.88N±0.04×147.37E±0.06, h59km±5km, mb4.2/36, Error ellipse: s-maj=8.4km s-min=4.9km az=138.4*
*SKHL **24** 05:12:47.7±0.7, 43.99N×147.38E, h57km±7km, mb4.5/3*
*JMA **24** 05:12:48.4±0.2, 43.67N×147.29E, h26km, M4.4*
ISC 24 05:12:48.8±0.6, 4389N±004×14738E±005, h51km±5km, n108, σ1.02/120, mb4.2/36, 7C-5D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.11**	**278**	||*i*PN	**Pn**	**05 13 07.2**	**-0.8**
YUK				*i* S	**Sn**	**05 13 21.3**	**-0.9**
YUK	**Yuzh-Kuril'sk**	**1.11**	**278**	*e*P	**Pn**	**05 13 07.2**	**-0.8**
YUK				*e*S	**Sn**	**05 13 21.3**	**-0.9**
YUK				A		05 13 23.3	
	10μm,0.4s						
YUK				A		05 13 23.3	
	8μm,0.4s						
NEM2	**Nemuro 2**	**1.30**	**247**	P	**Pn**	**05 13 09.2**	**-1.4**
NEM2				*e*S	**Sn**	**05 13 24.5**	**-2.3**
KUR	**Kuril'sk**	**1.39**	**14**	*e*PN	**Pn**	**05 13 11.0**	**-0.8**
KUR				S	**Sn**	**05 13 30.0**	**+1.0**
KUR	**Kuril'sk**	**1.39**	**14**	*e*P	**Pn**	**05 13 11.0**	**-0.8**
KUR				AMB	AMB	05 13 18.0	
	258nm,0.7s						
KUR				AMB	AMB	05 13 18.0	
	215nm,0.7s						
KUR				*e*S	**Sn**	**05 13 29.0**	**0.0**
KUR				A		05 13 32.0	
	2μm,0.6s						
KUR				A		05 13 32.0	
	2μm,0.6s						
JRA	**Rausu**	**1.63**	**273**	P	**Pn**	**05 13 15.3**	**+0.2**
JRA				*e*S	**Sn**	**05 13 35.2**	**+0.2**
JNK	**Nakash**	**1.95**	**262**	P	**Pn**	**05 13 19.1**	**-0.4**
JNK				*e*S	**Sn**	**05 13 42.1**	**-0.7**
JAK	**Akkeshi**	**2.15**	**246**	P	**Pn**	**05 13 21.3**	**-0.9**
JAK				*e*S	**Sn**	**05 13 45.2**	**-2.4**
JTKR	**Abashiri--Toko**	**2.51**	**273**	P	**Pn**	**05 13 28.0**	**+0.9**
JAR	**Ashorobuto**	**2.69**	**259**	P	**Pn**	**05 13 30.1**	**+0.5**
JOB	**Onbets**	**2.77**	**250**	P	**Pn**	**05 13 30.6**	**0.0**
JOB				*e*S	**Sn**	**05 14 02.0**	**-0.8**
JMP	**Maruseppu**	**2.91**	**274**	P	**Pn**	**05 13 33.8**	**+1.3**
JCH	**Churui**	**3.20**	**248**	P	**Pn**	**05 13 36.0**	**-0.6**
JKK2	**Kamakawa 2**	**3.35**	**271**	P	**Pn**	**05 13 40.6**	**+2.0**
ASAJ	**Asahikawa**	**3.46**	**275**	PN	**Pn**	**05 13 42.3**	**+2.2**
ASAJ						05 14 28.6	
ASAJ				pmax	pmax		
	comp=Z,10.0nm,0.3s						
ASAJ				smax			
	comp=N,9.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,281nm,19.9s						
ASAJ	**Asahikawa**	**3.46**	**275**	P	**Pn**	**05 13 42.1**	**+2.0**
ASAJ	**Asahikawa**	**3.46**	**275**	Pn	**Pn**	**05 13 42.2**	**+2.1**
	comp=Z,9.6nm,0.3s,baz=86,slow=14,SNR=25						
ASAJ				Sn	**Sn**	**05 14 28.6**	**+8.7**
	comp=Z,8.5nm,0.3s,baz=183,slow=26,SNR=6.2						
ASAJ				LR	LR	05 15 05.0	
	comp=Z,281nm,19.9s,baz=0.3,slow=40						
JFR	**Furan**	**3.56**	**260**	P	**Pn**	**05 13 43.1**	**+1.6**
JSE	**Soyaes**	**3.60**	**289**	P	**Pn**	**05 13 43.4**	**+1.4**
JEM	**Erimo**	**3.62**	**240**	P	**Pn**	**05 13 43.8**	**+1.4**
ERM	**Erimo**	**3.62**	**240**	||*i*PN	**Pn**	**05 13 43.7**	**+1.3**
ERM	**Erimo**	**3.62**	**240**	*e*Pn	**Pn**	**05 13 43.7**	**+1.4**
ERM				*e*Sn	**Sn**	**05 14 25.8**	**+1.9**
JNBK	**Urakawa-nobuka**	**3.75**	**246**	P	**Pn**	**05 13 44.0**	**-0.1**
YSS	**Yuzh-Sakhalins**	**4.47**	**315**	||*e*PN	**Pn**	**05 13 55.2**	**+1.2**
YSS				*e*S	**Sn**	**05 14 46.3**	**+1.6**
YSS				pmax	pmax		
	comp=Z,50nm,0.6s						
YSS				pmax	pmax		
	comp=N,30nm,0.5s						
YSS				smax			
	comp=N,60nm,0.9s						
YSS	**Yuzh-Sakhalins**	**4.47**	**315**	*e*Pn	**Pn**	**05 13 55.3**	**+1.4**
YSS	**Yuzh-Sakhalins**	**4.47**	**315**	||*e*P	**Pn**	**05 13 55.2**	**+1.2**
YSS				AMB	AMB	05 13 56.0	
	comp=N,50nm,0.6s						
YSS				AMB	AMB	05 13 56.0	
	comp=N,30nm,0.5s						
YSS				*e*S	**Sn**	**05 14 46.3**	**+1.6**
YSS				A		05 14 50.0	
	comp=N,60nm,0.9s						
SKR	**Severo-Kuril's**	**9.02**	**38**	*e*PN	**Pn**	**05 14 55.9**	**-0.3**
SKR				pmax	pmax		
	comp=Z,80nm,0.5s						
MAJO	**Matsushiro**	**10.15**	**227**	*e*PN	**Pn**	**05 15 11.2**	**-0.6**
MAT	**Matsushiro**	**10.15**	**227**	P	**Pn**	**05 15 11.3**	**-0.5**
MJAR	**Matsushiro Arr**	**10.15**	**227**	PN	**Pn**	**05 15 11.4**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,55nm,22.0s						
MJAR	**Matsushiro Arr**	**10.15**	**227**	Pn	**Pn**	**05 15 11.3**	**-0.4**
MJAR				LR	LR	05 19 59.8	
MJAR	**Matsushiro Arr**	**10.15**	**227**	Pn	**Pn**	**05 15 11.3**	**-0.4**
	comp=Z,0.8nm,0.3s,baz=32,slow=13,SNR=6.5						
MJAR				LR	LR	05 19 59.8	
	comp=Z,55nm,21.9s,baz=35,slow=40						
PET	**Petropavlovsk**	**11.80**	**35**	||*e*PN	**Pn**	**05 15 31.4**	**-2.8**
KLR	**Kul'dur**	**12.01**	**302**	*e*PN	**Pn**	**05 15 37.0**	**-0.1**
MA2	**Magadan**	**15.85**	**6**	||*e*P	**Pn**	**05 16 26.2**	**-2.0**
MA2				pmax	pmax		
	comp=Z,8.0nm,1.0s						
KSRS	**Korea Array**	**16.09**	**253**	Pn	**Pn**	**05 16 32.5**	**+1.0**
	comp=Z,0.2nm,0.3s,baz=60,slow=11,SNR=5.0						
KSRS				LR	LR	05 21 42.7	
	comp=Z,47nm,21.8s,baz=129,slow=33						
ZEA	**Zeya**	**16.46**	**314**	*e*P	**Pn**	**05 16 34.4**	**-1.7**
ZEA				AMB	AMB	05 16 35.5	
	comp=Z,12nm,1.0s						
SEY	**Seymchan**	**19.30**	**7**	||*e*P	**Pn**	**05 17 08.7**	**-1.9**
YAK	**Yakutsk**	**20.94**	**336**	||*e*P	**P**	**05 17 27.9**	**+0.9**
YAK				pmax	pmax		
	comp=Z,13nm,0.6s						
SONM	**Songino Array**	**28.57**	**292**	P	**P**	**05 18 39.4**	**-0.3**
	comp=Z,0.3nm,0.3s,mb3.4,baz=67,slow=8.7,SNR=3.1						
TIXI	**Tiksi**	**29.26**	**348**	||*e*P	**P**	**05 18 49.0**	**+3.4**
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.7s,mb3.8						
TTA	**Tatalina**	**37.22**	**39**	*e*P	**P**	**05 19 55.3**	**+0.5**
TTA				pmax	pmax		
	comp=Z,10.0nm,0.8s,mb4.7						
TTA	**Tatalina**	**37.22**	**39**	*e*P	**P**	**05 19 55.3**	**+0.4**
	comp=Z,10nm,0.8s,mb4.7						
IMA2	**Indian Mountai**	**38.47**	**34**	*e*P	**P**	**05 20 05.4**	**0.0**
KDAK	**Kodiak Island**	**39.03**	**47**	P	**P**	**05 20 09.2**	**-1.0**
	comp=Z,13nm,0.6s,mb4.8,baz=11,slow=2.0,SNR=16						
SLKM	**Skilak Lake**	**40.00**	**43**	*e*P	**P**	**05 20 18.1**	**-0.1**
COLA	**College**	**40.86**	**36**	*e*P	**P**	**05 20 25.7**	**+0.5**
COLA				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.4						
COLA	**College**	**40.86**	**36**	*e*P	**P**	**05 20 25.7**	**+0.4**
	comp=Z,8.3nm,0.8s,mb4.4						
ZALV	**Zalesovo Beam**	**41.05**	**307**	P	**P**	**05 20 26.0**	**-0.9**
	comp=Z,0.4nm,0.3s,mb3.5,baz=97,slow=6.0,SNR=2.2						
ZAL	**Zalesovo**	**41.06**	**307**	P	**P**	**05 20 26.0**	**-1.1**
EGAK	**Eagle**	**43.72**	**36**	*e*P	**P**	**05 20 48.5**	**0.0**
	comp=Z,6.2nm,0.6s,mb4.5						
DAWY	**Dawson**	**44.59**	**37**	*e*P	**P**	**05 20 55.5**	**+0.1**
MK31	**Makanchi Array**	**44.67**	**298**	*e*P	**P**	**05 20 55.6**	**-0.7**
MKAR	**Makanchi Array**	**44.67**	**298**	P	**P**	**05 20 55.8**	**-0.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**44.67**	**298**	P	**P**	**05 20 55.8**	**-0.6**
	comp=Z,0.6nm,0.5s,mb3.7,baz=82,slow=7.6,SNR=5.9						
KURK	**Kurchatov**	**45.59**	**304**	*e*P	**P**	**05 21 02.8**	**-0.8**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.5s,mb4.3						
KURK	**Kurchatov**	**45.59**	**304**	*e*P	**P**	**05 21 02.8**	**-0.8**
	comp=Z,1.8nm,0.5s,mb4.3						
INK	**Inuvik**	**46.20**	**30**	P	**P**	**05 21 08.6**	**+0.5**
INK				pmax	pmax		
	comp=Z,4.0nm,0.6s						
INK	**Inuvik**	**46.20**	**30**	*e*P	**P**	**05 21 08.2**	**+0.1**
INK	**Inuvik**	**46.20**	**30**	P	**P**	**05 21 08.6**	**+0.5**
	comp=Z,3.7nm,0.6s,mb4.5,baz=309,slow=6.8,SNR=43						
BVAR	**Borovoye Array**	**49.55**	**309**	P	**P**	**05 21 34.2**	**0.0**
	comp=Z,0.4nm,0.5s,mb3.7,baz=81,slow=4.5,SNR=2.7						
BRVK	**Borovoye**	**49.59**	**309**	*e*P	**P**	**05 21 36.0**	**+1.4**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.5						
BRVK	**Borovoye**	**49.59**	**309**	*e*P	**P**	**05 21 36.0**	**+1.5**
	comp=Z,1.8nm,0.4s,mb4.5						
TKM2	**Tokmak 2**	**50.60**	**295**	*e*P	**P**	**05 21 42.5**	**+0.2**
TKM2				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
TKM2	**Tokmak 2**	**50.60**	**295**	*e*P	**P**	**05 21 42.5**	**+0.2**
	comp=Z,4.5nm,1.2s,mb4.3						
AML	**Almayashu**	**52.21**	**295**	*e*P	**P**	**05 21 54.2**	**-0.2**
	comp=Z,1.7nm,0.8s,mb4.0						
ARU	**Arti**	**54.36**	**317**	*d*|*i*P	**P**	**05 22 12.4**	**+2.4**
ARU				*e*		05 24 13.2	
ARU				*e*PPP		05 25 25.7	
ARU				*e*S	**S**	**05 29 52.3**	**+8.2**
ARU				*e*SS	SS	05 33 34.9	+8.8
ARU				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
YKA	**Yellowknife Ar**	**55.59**	**34**	P	**P**	**05 22 18.8**	**0.0**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
YKA	**Yellowknife Ar**	**55.59**	**34**	P	**P**	**05 22 18.8**	**+0.1**
YKA	**Yellowknife Ar**	**55.59**	**34**	P	**P**	**05 22 18.8**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.4,baz=298,slow=6.8,SNR=38						
ARCES	**ARCESS Array B**	**59.18**	**340**	P	**P**	**05 22 43.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**59.18**	**340**	P	**P**	**05 22 43.4**	**-0.5**
	comp=Z,2.7nm,0.9s,mb4.3,baz=35,slow=8.0,SNR=4.1						
KBL	**Kabul**	**59.30**	**290**	*e*P	**P**	**05 22 50.1**	**+4.8**
	comp=Z,13nm,0.5s,mb5.2						
EDM	**Edmonton**	**61.19**	**43**	*e*P	**P**	**05 22 57.8**	**-0.1**
WDC	**Whiskeytown Da**	**63.45**	**58**	*e*P	**P**	**05 23 13.4**	**+0.1**
WDC				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb4.1						
WDC	**Whiskeytown Da**	**63.45**	**58**	*e*P	**P**	**05 23 13.4**	**+0.1**
	comp=Z,0.7nm,0.6s,mb4.0						
BMO	**Blue Mountains**	**64.03**	**52**	*e*P	**P**	**05 23 17.0**	**0.0**
	comp=Z,0.9nm,0.7s,mb3.9						
WRA	**Warramunga Arr**	**64.63**	**194**	P	pP	05 23 32.5	-2.7
	comp=Z,1.2nm,1.0s,baz=9.1,slow=6.8,SNR=4.7						
FIA1	**FINESS Array S**	**64.83**	**333**	*e*P	**P**	**05 23 20.6**	**-1.3**
FINES	**FINESS Array B**	**64.83**	**333**	P	**P**	**05 23 20.6**	**-1.3**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.5s						
FINES	**FINESS Array B**	**64.83**	**333**	P	**P**	**05 23 20.6**	**-1.3**
	comp=Z,1.6nm,0.5s,mb4.3,baz=44,slow=6.9,SNR=18						
FCC	**Fort Churchill**	**65.82**	**30**	*e*P	**P**	**05 23 27.6**	**-0.8**
FCC				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
FCC	**Fort Churchill**	**65.82**	**30**	*e*P	**P**	**05 23 27.6**	**-0.8**
	comp=Z,3.2nm,0.5s,mb4.6						
BOZ	**Bozeman (W)**	**66.69**	**49**	*e*P	**P**	**05 23 34.8**	**+0.6**
BOZ				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.3						
BOZ	**Bozeman (W)**	**66.69**	**49**	*e*P	**P**	**05 23 34.8**	**+0.6**
	comp=Z,3.0nm,0.9s,mb4.3						
NVAR	**Mina Array Bea**	**67.36**	**58**	P	**P**	**05 23 39.3**	**+0.8**
	comp=Z,2.8nm,0.8s,mb4.4,baz=285,slow=6.7,SNR=22						
ASAR	**Alice Springs**	**68.35**	**193**	P	pP	05 23 56.9	-2.1
	comp=Z,0.4nm,0.7s,baz=17,slow=6.5,SNR=3.8						
TPAW	**Teton Pass**	**68.45**	**50**	*e*P	**P**	**05 23 46.3**	**+1.0**
	comp=Z,4.0nm,0.9s,mb4.5						
LOHW	**Long Hollow**	**68.56**	**50**	*e*P	**P**	**05 23 47.2**	**+1.2**
	comp=Z,1.2nm,0.5s,mb4.1						
LAO	**LASA Array**	**68.86**	**45**	*e*P	**P**	**05 23 48.5**	**+0.6**
	comp=Z,3.7nm,0.7s,mb4.4						
DUG	**Dugway**	**69.53**	**54**	*e*P	**P**	**05 23 52.2**	**+0.2**
DUG				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
DUG	**Dugway**	**69.53**	**54**	*e*P	**P**	**05 23 52.2**	**+0.1**
	comp=Z,2.5nm,0.8s,mb4.2						
NB2	**NORSAR Subarra**	**69.53**	**339**	P	**P**	**05 23 50.5**	**-1.2**
	comp=Z,0.9nm,0.4s,mb4.0,baz=32,slow=6.5						
NOA	**NORSAR Array B**	**69.53**	**339**	P	**P**	**05 23 51.0**	**-0.7**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
NOA	**NORSAR Array B**	**69.53**	**339**	P	**P**	**05 23 51.0**	**-0.7**
	comp=Z,0.6nm,0.4s,mb3.9,baz=44,slow=5.5,SNR=4.4						
BW06	**Boulder Array**	**69.69**	**50**	*e*P	**P**	**05 23 52.9**	**-0.1**
	comp=Z,1.2nm,0.7s,mb3.9						
KIV	**Kislovodsk**	**69.80**	**312**	*c*|*i*P	**P**	**05 23 54.3**	**+0.7**
KIV				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb4.8						
MPU	**Maple Canyon**	**70.33**	**53**	*e*P	**P**	**05 23 57.5**	**+0.5**
	comp=Z,2.4nm,0.6s,mb4.3						
AKASG	**Malin Array Be**	**71.57**	**324**	P	**P**	**05 24 03.2**	**-1.1**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	**Malin Array Be**	**71.57**	**324**	P	**P**	**05 24 03.2**	**-1.1**
AKASG	**Malin Array Be**	**71.57**	**324**	P	**P**	**05 24 03.2**	**-1.1**
	comp=Z,1.6nm,0.4s,mb4.3,baz=38,slow=6.1,SNR=16						
AKBB	**Malin Array Si**	**71.57**	**324**	*e*P	**P**	**05 24 03.1**	**-1.2**
SRU	**San Rafael**	**71.57**	**53**	*e*P	**P**	**05 24 04.7**	**+0.2**
SRU				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
SRU	**San Rafael**	**71.57**	**53**	*e*P	**P**	**05 24 04.7**	**+0.1**
	comp=Z,1.1nm,0.5s,mb4.0						
SMCO	**Snowmass**	**73.56**	**51**	*e*P	**P**	**05 24 16.8**	**+0.5**
	comp=Z,1.7nm,0.8s,mb4.0						
ANMO	**Albuquerque**	**76.78**	**54**	||*e*P	**P**	**05 24 35.5**	**+0.6**
TXAR	**Lajitas Array**	**82.43**	**56**	P	**P**	**05 25 06.0**	**+0.3**
TXAR				pmax	pmax		
	comp=Z,2.0nm,0.7s						
TXAR	**Lajitas Array**	**82.43**	**56**	P	**P**	**05 25 06.0**	**+0.3**
	comp=Z,1.5nm,0.7s,mb4.0,baz=295,slow=3.8,SNR=17						

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*IDC **24** 06:03:46.7±1.4, 7.04S×155.66E, h0km, mb4.1/5, mb1 4.2/6, mb1mx4.0/14, mbtmp4.1/6, ML4.6/1, MS2.8/2, Ms1 2.8/2, ms1mx2.6/23, Error ellipse: s-maj=35.3km s-min=27.2km az=101.0*
*ISCJB **24** 06:03:49.7±0.9, 7.13S±0.1×155.38E±0.1, h33km, mb3.9/5, Error ellipse: s-maj=20.4km s-min=16.3km az=12.3*
*NEIC **24** 06:04:03.6±2.7, 7.90S×156.62E, h191km±34km, Error ellipse: s-maj=50.6km s-min=15.4km az=141.0*
ISC 24 06:03:51.5±0.9, 71S±0.1×1558E±0.1, h35km, n10, σ0.44/10, mb3.9/5, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.74**	**120**	Pn	**Pn**	**06 05 00.4**	**0.0**
	22nm,0.3s,baz=252,slow=3.2,SNR=4.2						
HNR				Sn	**Sn**	**06 05 45.4**	**-8.8**
	27nm,0.3s,baz=281,slow=23,SNR=3.9						
HNR				LR	LR	06 06 33.0	
	comp=Z,104nm,18.4s,baz=179,slow=34						
CTA	**Charters Tower**	**15.89**	**215**	LR	LR	06 11 24.1	
	comp=Z,33nm,21.9s,baz=233,slow=29						
WB2	**Warramunga Arr**	**24.40**	**236**	*e*P	**P**	**06 09 06.7**	**0.0**
WRA	**Warramunga Arr**	**24.41**	**236**	P	**P**	**06 09 07.4**	**+0.5**
	7.2nm,0.7s,mb4.2,baz=61,slow=9.6,SNR=48						
WRA				PcP	PcP	06 12 58.5	+13
	0.2nm,0.5s,baz=54,slow=3.3,SNR=4.9						
ASAR	**Alice Springs**	**26.70**	**229**	P	**P**	**06 09 26.8**	**-0.8**
	0.7nm,0.8s,mb3.2,baz=52,slow=8.8,SNR=6.5						
STKA	**Stephens Creek**	**27.99**	**206**	P	**P**	**06 09 39.4**	**+0.3**
	1.9nm,0.7s,mb3.9,baz=29,slow=13,SNR=2.8						
MK31	**Makanchi Array**	**83.99**	**319**	*e*P	**P**	**06 16 17.7**	**-0.5**
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**06 16 18.2**	**-0.1**
MKAR	**Makanchi Array**	**83.99**	**319**	P	**P**	**06 16 18.2**	**0.0**
	1.1nm,0.6s,mb4.2,baz=103,slow=5.9,SNR=13						
ZALV	**Zalesovo Beam**	**84.69**	**326**	P	**P**	**06 16 22.2**	**+0.6**
	0.5nm,0.4s,mb4.0,baz=123,slow=5.3,SNR=2.4						

IDC 24 06:06:20.6±11.0, 3704N×6758E, h0km, mb3.3/2, mb1 3.5/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=345.6km s-min=50.5km az=152.0, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**14.64**	**44**	Pn	Pn	06 09 46.4	-2.4
	0.1nm,0.3s,baz=235,slow=14,SNR=4.1						
ZALV	**Zalesovo Beam**	**20.69**	**30**	P	P	06 11 02.0	0.0
	0.5nm,0.3s,baz=232,slow=7.1,SNR=3.6						
YKA	**Yellowknife Ar**	**80.80**	**1**	P	P	06 18 35.7	0.0
	0.2nm,0.6s,baz=352,slow=5.6,SNR=7.2						

WEL 24 06:06:25.7±0.2, 3956S×17579E, h10km±1km, ML3.6/46, Error ellipse: s-maj=1.0km s-min=0.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MOVZ	**Moawhango**	**0.16**	**348**	PG	Pg	06 06 29.7	+0.6
MOVZ				SG	Sg	06 06 32.8	+1.3
WNVZ	**Wahianoa**	**0.28**	**327**	PG	Pg	06 06 31.9	+0.6
WNVZ				SG	Sg	06 06 36.6	+1.5
MTVZ	**Mangateitei**	**0.30**	**305**	PG	Pg	06 06 32.4	+0.6
MTVZ				SG	Sg	06 06 37.4	+1.5
TUVZ	**Tukino**	**0.31**	**340**	PG	Pg	06 06 32.5	+0.5
TUVZ				SG	Sg	06 06 37.0	+0.9
TRVZ	**Turoa**	**0.32**	**324**	PG	Pg	06 06 32.6	+0.5
TRVZ				SG	Sg	06 06 37.5	+1.1
DRZ	**Dome Shelter**	**0.34**	**328**	PG	Pg	06 06 33.0	+0.7
DRZ				SG	Sg	06 06 37.7	+0.9
**F

SDV S Sn 06 11 17.1 +0.9
98nm,0.3s,baz=334,slow=16,SNR=27
ELOV Elorza 3.42 86 ⇓i/P Pn 06 10 44.0 +1.7
VIRV Villa del Rosa 3.73 8 ⇑i/P Pn 06 10 44.7 -1.6
VIRV eS Sn 06 11 27.6 -3.4
QARV Quebrada Arrib 4.15 35 ⇑i/P Pn 06 10 52.3 +0.6
QARV eS Sn 06 11 38.9 -1.6
SANV Sanarito 4.30 51 eP Pn 06 10 54.1 +0.4
SANV eS Sn 06 11 42.6 -1.5
CURV Curarigua 4.35 42 eP Pn 06 10 54.9 +0.6
CURV eS Sn 06 11 43.6 -1.5
DABV Dabajuro 4.69 29 eP Pn 06 10 58.7 -0.1
TEPV Terepaima 4.86 49 ⇑i/P Pn 06 11 01.5 +0.5
SIQV Siquisique 4.92 38 ⇑i/P Pn 06 11 01.6 -0.1
BAUV El Baul 5.29 66 ⇓i/P Pn 06 11 06.0 -0.6
JACV Jacura 5.89 43 eP Pn 06 11 15.1 +0.6
TURV Turiamo 6.21 54 eP Pn 06 11 18.9 +0.2
CAOV Caicara del Or 6.57 85 ⇓i/P Pn 06 11 23.1 -0.5
MERV Las Mercedes 7.00 69 eP Pn 06 11 28.8 -0.5
BCIP Isla Barro Col 7.25 290 ePn Pn 06 11 27.3 -5.3
39nm,0.9s
BIRV Birongo 7.53 60 eP Pn 06 11 35.7 -0.6
CUPV Cœpira 7.77 65 ⇓i/P Pn 06 11 39.3 -0.2
PCRV Puerto La Cruz 8.86 67 eP Pn 06 11 54.4 +0.5
PCRV Puerto La Cruz 8.86 67 P Pn 06 11 56.0 +2.1
2.4nm,0.3s,baz=211,slow=3.8,SNR=14
PCRV S Sn 06 13 31.7 -0.9
1.7nm,0.3s,baz=211,slow=12,SNR=2.5
GUNV Guanoco 10.43 71 eP Pn 06 12 13.9 -0.7
STH Stony Hill 11.85 342 ⇑eP Pn 06 12 33.7 +0.6
STH eS Sn 06 14 32.2 -12
CVJ Coleyville 12.23 339 ⇑eP Pn 06 12 39.8 +1.7
BBJ Bamboo Saint A 12.29 340 ⇑eP Pn 06 12 40.4 +1.7
JTS JuntasAbangare 12.40 287 Pn Pn 06 12 37.6 -2.6
30nm,0.8s
JTS JuntasAbangare 12.40 287 P Pn 06 12 38.5 -1.7
0.4nm,0.3s,baz=247,slow=15,SNR=5.5
SJG San Juan 13.05 30 P Pn 06 12 47.8 -0.8
3.2nm,0.3s,baz=215,slow=19,SNR=9.9
RCC Rio Carpintero 13.41 349 eP Pn 06 12 54.4 +1.4
baz=181
RCC eS Sn 06 15 05.2 -17
comp=N,19nm,0.3s
RCC e
comp=E,23nm,1.5s
TEIG Tepich 20.01 313 P P 06 14 09.1 -0.2
comp=E,11nm,0.5s,baz=306,slow=5.4,SNR=14
LPAZ La Paz 23.40 160 P P 06 14 43.3 -0.1
comp=E,0.5nm,0.3s,mb3.4,baz=337,slow=11,SNR=8.1
BDFB Brasilia 33.24 132 P P 06 16 12.2 +1.3
comp=E,1.2nm,0.5s,mb3.9,baz=315,slow=17,SNR=6.2
TXAR Lajitas Array 36.64 312 P P 06 16 39.7 -0.2
TXAR Lajitas Array 36.64 312 P P 06 16 39.7 -0.2
comp=E,1.4nm,0.6s,mb3.8,baz=127,slow=9.4,SNR=23
EYMN Ely 43.97 342 eP P 06 17 39.4 -0.5
comp=E,2.5nm,0.5s,mb4.1
ULM Lac du Bonnet 47.39 340 P P 06 18 05.8 -0.8
comp=E,1.8nm,0.3s,mb4.1,baz=128,slow=5.2,SNR=8.3
SCHQ Schefferville 48.16 5 P P 06 18 13.5 +1.0
comp=E,11nm,0.5s,mb4.7,baz=188,slow=6.9,SNR=38
YKA Yellowknife Ar 63.37 340 P P 06 20 00.3 -0.3
YKA pP pP 06 20 39.6 +0.2
YKA Yellowknife Ar 63.37 340 P P 06 20 00.3 -0.3
comp=E,1.7nm,0.6s,mb4.1,baz=132,slow=6.4,SNR=14
YKA pP pP 06 20 39.6 +0.2
comp=E,0.4nm,0.5s,baz=132,slow=6.7,SNR=2.2
DBIC Dimbokro 67.54 86 P P 06 20 27.7 -0.7
DBIC Dimbokro 67.54 86 P P 06 20 27.7 -0.6
comp=E,4.2nm,0.6s,mb4.3,baz=260,slow=8.8,SNR=9.0
TORD Torodi Ar. Bea 73.55 78 P P 06 21 04.0 -0.7
comp=E,0.7nm,0.4s,mb3.7,baz=283,slow=6.5,SNR=17
NB2 NORSAR Subarra 81.27 29 P P 06 21 47.3 +0.6
comp=Z,0.8nm,0.5s,mb3.6,baz=268,slow=5.6
NOA NORSAR Array B 81.27 29 P P 06 21 47.7 +1.1
NOA NORSAR Array B 81.27 29 P P 06 21 47.7 +1.1
comp=Z,1.4nm,0.7s,mb3.7,baz=268,slow=5.4,SNR=4.1
GERES GERESS Array B 82.72 42 P P 06 21 53.8 -0.7
comp=Z,0.4nm,0.2s,mb3.7,baz=205,slow=5.9,SNR=4.0
ARCES ARCESS Array B 86.64 20 P P 06 22 13.2 -0.5
comp=Z,1.3nm,0.6s,mb4.0,baz=280,slow=4.4,SNR=8.7
FINES FINESS Array B 88.38 28 P P 06 22 22.4 +0.3
comp=Z,1.6nm,0.9s,mb3.8,baz=173,slow=34,SNR=2.9
ZALV Zalesovo Beam 116.66 15 PKP PKPdf 06 28 13.6 -0.1
ZALV Zalesovo Beam 116.66 15 PKP PKPdf 06 28 13.6 -0.1
comp=Z,0.7nm,0.4s,baz=48,slow=2.1,SNR=4.3
MKAR Makanchi Array 122.29 20 PKP PKPdf 06 28 24.3 -0.4
comp=Z,0.7nm,0.4s,baz=302,slow=2.5,SNR=14
SHL Shillong 144.62 24 eP PKPdf 06 29 05.5 -1.4
ASAR Alice Springs 149.25 234 PKP PKPdf 06 29 13.9 -0.8
comp=Z,0.3nm,0.5s,baz=101,slow=1.3,SNR=4.7
ASAR PKPbc PKPbc 06 29 18.2 -0.9
comp=Z,1.6nm,0.5s,baz=117,slow=3.6,SNR=26
ASAR pPKPbc pPKPbc 06 30 00.2 -2.0
comp=Z,0.9nm,0.7s,baz=125,slow=4.3,SNR=2.7
WRA Warramunga Arr 150.49 241 PKP PKPdf 06 29 16.1 -0.6
comp=Z,0.6nm,0.8s,baz=104,slow=2.5,SNR=4.9
WRA PKPbc PKPbc 06 29 21.3 -1.0
comp=Z,2.2nm,0.6s,baz=109,slow=2.5,SNR=4.6
WRA pPKPbc pPKPbc 06 30 04.1 -1.2
comp=Z,1.3nm,0.5s,baz=108,slow=2.6,SNR=3.7

*ISCJB **24** 06:11:37.8±0.4, 34.19N±001×11737W±001, h7km±3km, Error ellipse: s-maj=2.3km s-min=1.9km az=25.2*
*NEIC **24** 06:11:39.0, 3420N×11738W, h13km, ML3.9(PAS), After PAS.*
NEIC Felt [IV] at Corona, Covina, Crestline, Rancho Cucamonga and Rialto; [III] at Aliso Viejo, Apple Valley, Bloomington, Cedarpines Park, Chino, Chino Hills, Claremont, Colton, Diamond Bar, Fontana, Glendale, Glendora, Grand Terrace, Hesperia, Highland, Irvine, La Verne, Lake Arrowhead, Loma Linda, Los Alamitos, Los Angeles, Lytle Creek, Mira Loma, Montclair, Moreno Valley, Newport Beach, Norco, Ontario, Pasadena, Phelan, Pinon Hills, Pomona, Redlands, Riverside, San Bernardino, San Dimas, San Jacinto, Sun City, Upland, Victorville, Walnut, West Covina, Wrightwood and Yorba Linda; [II] at Anaheim, Fullerton, Huntington Beach, La Puente, Lake Forest, Lakewood, Long Beach, Mission Viejo, Perris, Rowland Heights and Studio City. Felt as far north as Lancaster, as far east as Lucerne Valley and as far south as Hemet.

ISC 24 06:11:38.9±0.3, 3416N±001×11740W±001, h9km±2km, n116, σ0°93/162, 54C-54D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSC	**Mount Baldy St** baz=0.2,SNR=1000	**0.23**	**289**	⇓P	**Pg**	**06 11 44.3**	**+0.8**
BFSC	baz=0.2			⇑S	**Sg**	**06 11 47.8**	**+1.1**
BBRC	**Big Bear Sol-O** baz=0.4,SNR=1000	**0.41**	**76**	⇑P	**Pg**	**06 11 47.4**	**+0.6**
MURC	**Murrieta** baz=0.6,SNR=1000	**0.58**	**164**	P	**Pg**	**06 11 50.6**	**+0.4**
MURC	baz=0.6			⇓S	**Sg**	**06 11 59.0**	**+1.2**
DECC	**Green Verdugo** baz=0.8,SNR=118	**0.78**	**277**	P	**Pg**	**06 11 54.0**	**+0.2**
DECC	baz=0.8			⇑S	**Sg**	**06 12 05.0**	**+0.9**
RRX	**Edison Barstow** baz=0.8,SNR=105	**0.79**	**25**	P	**Pg**	**06 11 53.6**	**-0.4**
RRX	baz=0.8			⇑S	**Sg**	**06 12 03.8**	**-0.5**
EDW2	**Edwards Air Fo** baz=0.8,SNR=1000	**0.87**	**326**	⇑P	**Pg**	**06 11 55.0**	**-0.6**
EDW2	baz=0.8			⇓S	**Sg**	**06 12 06.1**	**-0.7**
FMP	**Fort Macarthur** baz=0.9,SNR=38	**0.87**	**239**	P	**Pg**	**06 11 55.7**	**+0.1**
FMP	baz=0.9			⇓S	**Sg**	**06 12 07.7**	**+0.7**
PFO	**Pinyon Flat Ob**	**0.96**	**125**	ePg	**Pg**	**06 11 57.1**	**-0.2**
PFO				eSg	**Sg**	**06 12 10.0**	**+0.2**
PFO	**Pinyon Flat Ob** baz=1.0,SNR=1000	**0.96**	**125**	⇓P	**Pg**	**06 11 57.2**	**-0.1**
PFO	baz=1.0			⇓S	**Sg**	**06 12 10.1**	**+0.3**
HEC	**Hector,Ludlow** baz=1.1,SNR=1000	**1.10**	**53**	P	**Pg**	**06 11 59.4**	**-0.7**
HEC	baz=1.1			⇓S	**Sg**	**06 12 13.7**	**-0.8**
CIS	**Catalina Islan** baz=1.2,SNR=268	**1.13**	**228**	⇑P	**Pb**	**06 12 00.4**	**-0.1**
CIS	baz=1.2			⇓S	**Sg**	**06 12 16.1**	**+1.0**
BELC	**Belle Mtn.** baz=1.2,SNR=495	**1.17**	**98**	⇓P	**Pb**	**06 12 01.2**	**-0.1**
BELC	baz=1.2			⇓S	**Sb**	**06 12 16.8**	**+0.2**
OSI	**Osito Adit** baz=1.2,SNR=26	**1.19**	**293**	⇓P	**Pb**	**06 12 01.1**	**-0.5**
OSI	baz=1.2			⇓S	**Sb**	**06 12 17.0**	**0.0**
GSC	**Goldstone**	**1.24**	**23**	ePg	**Pg**	**06 12 01.5**	**-1.1**
GSC				eSg	**Sg**	**06 12 17.6**	**-1.1**
GSC	**Goldstone** baz=1.2,SNR=108	**1.24**	**23**	P	**Pn**	**06 12 01.5**	**-0.8**
GSC	baz=1.2			⇑S	**Sb**	**06 12 17.4**	**-1.1**
109C	**Camp Elliot, M** baz=1.3,SNR=91	**1.29**	**169**	⇓P	**Pn**	**06 12 02.2**	**-0.9**
109C	baz=1.3			⇑S	**Sb**	**06 12 19.7**	**-0.3**
LRMC	**Laurel Mountai** baz=1.3,SNR=707	**1.33**	**350**	P	**Pn**	**06 12 02.7**	**-1.0**
LRMC	baz=1.3			⇑S	**Sb**	**06 12 20.3**	**-0.9**
BLG	**Laguna Peak** baz=1.4,SNR=215	**1.38**	**268**	P	**Pn**	**06 12 03.2**	**-1.2**
BLG	baz=1.4			⇑S	**Sb**	**06 12 22.7**	**+0.1**
MONP	**Monument Peak** baz=1.5,SNR=1000	**1.51**	**147**	⇑P	**Pn**	**06 12 06.2**	**+0.2**
MONP	baz=1.5			⇑S	**Sn**	**06 12 26.3**	**+0.5**
SCI	**San Clemente I** baz=1.6,SNR=54	**1.52**	**219**	⇓P	**Pn**	**06 12 05.7**	**-0.6**
SCI	baz=1.6			⇑S	**Sn**	**06 12 26.4**	**+0.3**
ARVC	**Arvin** baz=1.5,SNR=119	**1.52**	**310**	⇑P	**Pn**	**06 12 05.6**	**-0.6**
ARVC	baz=1.5			⇑S	**Sn**	**06 12 26.2**	**0.0**
GMRC	**Granite Mounta** baz=1.5,SNR=784	**1.56**	**66**	P	**Pn**	**06 12 05.7**	**-1.1**
GMRC	baz=1.5			⇑Sb	**Sb**	**06 12 28.7**	**+0.9**
BC3	**Big Chuckw Mtn** baz=1.7,SNR=90	**1.69**	**107**	⇑P	**Pn**	**06 12 07.9**	**-0.7**
BC3	baz=1.7			⇓Sb	**Sb**	**06 12 33.2**	**+1.6**
ISA	**Isabella** baz=1.7	**1.74**	**330**	⇓S	**Sn**	**06 12 30.7**	**-0.8**
TUQ	**Turquoise Mtn.** baz=1.7	**1.76**	**43**	⇑P	**Pn**	**06 12 08.4**	**-1.1**
TUQ	baz=1.7			⇓Sb	**Sb**	**06 12 33.7**	**+0.3**
SWSC	**Sam W. Stewart** baz=1.8,SNR=224	**1.81**	**132**	⇑P	**Pn**	**06 12 08.9**	**-1.3**
SWSC	baz=1.8			⇑Sb	**Sb**	**06 12 35.9**	**+1.0**
DVTC	**Desert V Tower** baz=1.9	**1.85**	**144**	⇑Sb	**Sb**	**06 12 37.2**	**+1.2**
BSC	**Santa Cruz Isl** baz=1.9,SNR=17	**1.86**	**265**	⇓P	**Pn**	**06 12 09.8**	**-1.1**
IRM	**Iron Mountain** baz=1.9,SNR=627	**1.86**	**89**	⇓P	**Pn**	**06 12 09.6**	**-1.3**
IRM	baz=1.9			⇓Sb	**Sb**	**06 12 37.6**	**+1.1**
MPMC	**Manual Prospec** baz=1.9,SNR=1000	**1.90**	**358**	⇑P	**Pn**	**06 12 10.5**	**-0.9**
MPMC	baz=1.9			⇑Sb	**Sb**	**06 12 38.8**	**+1.4**
SBC	**Santa Barbara** baz=1.9	**1.94**	**279**	⇑P	**Pn**	**06 12 11.5**	**-0.5**
SHOC	**Shoshone** baz=1.9,SNR=18	**1.96**	**28**	⇑P	**Pn**	**06 12 11.3**	**-1.0**
SHOC	baz=1.9			⇓Sb	**Sb**	**06 12 40.1**	**+0.8**
SNCC	**San Nicolas Is**	**1.99**	**243**	ePn	**Pn**	**06 12 11.4**	**-1.3**
SNCC				eSn	**Sn**	**06 12 43.0**	**+5.3**
SNCC	**San Nicolas Is** baz=2.0,SNR=9.8	**1.99**	**243**	⇑P	**Pn**	**06 12 11.5**	**-1.3**
SNCC	baz=2.0			⇑Sb	**Sb**	**06 12 41.8**	**+1.5**
PKM	**Peak Mountain** baz=2.1,SNR=46	**2.13**	**291**	⇓P	**Pn**	**06 12 14.5**	**-0.1**
VES	**Vestal, Richgr** baz=2.2,SNR=32	**2.17**	**321**	⇓P	**Pn**	**06 12 14.9**	**-0.3**
V11A	**Goodsprings** baz=2.3,SNR=74	**2.32**	**43**	⇓P	**Pn**	**06 12 16.5**	**-0.8**
V11A	baz=2.3			⇓Sb	**Sb**	**06 12 51.1**	**+1.4**
W12A	**Cal Nev Ari** baz=2.3	**2.37**	**61**	⇑P	**Pn**	**06 12 17.2**	**-0.8**
W12A	baz=2.3			⇑Sb	**Sb**	**06 12 53.1**	**+2.0**
NEE2	**Needles Airpor** baz=2.4,SNR=7.3	**2.37**	**74**	⇑P	**Pn**	**06 12 17.3**	**-0.7**
NEE2	baz=2.4			⇑Sb	**Sb**	**06 12 53.4**	**+2.3**
GLA	**Glamis**	**2.41**	**117**	ePn	**Pn**	**06 12 18.2**	**-0.3**
GLA				eSg	**Sg**	**06 12 56.0**	**-0.4**
GLA	**Glamis** baz=2.4,SNR=15	**2.41**	**117**	⇑P	**Pn**	**06 12 17.9**	**-0.7**
GLA	baz=2.4			⇓Sb	**Sb**	**06 12 54.6**	**+2.3**
U10A	**Ash Meadows, A** baz=2.4	**2.42**	**21**	⇑P	**Pn**	**06 12 17.8**	**-0.8**
U10A	baz=2.4			⇑Sb	**Sb**	**06 12 54.4**	**+2.0**
Y12C	**Blythe** baz=2.4	**2.42**	**99**	⇓P	**Pn**	**06 12 17.4**	**-1.2**
SMMC	**Simmler** baz=2.4,SNR=50	**2.43**	**299**	⇓P	**Pn**	**06 12 18.6**	**-0.1**
V12A	**Nelson** baz=2.6,SNR=49	**2.61**	**53**	⇓P	**Pn**	**06 12 20.5**	**-0.7**
PDMCI	**Parker Dam,Lak** baz=2.7	**2.70**	**86**	⇑P	**Pn**	**06 12 21.9**	**-0.6**
PTRM	**Twissleman Ran**	**2.75**	**304**	ePn	**Pn**	**06 12 22.6**	**-0.5**
PTRM				eSg	**Sg**	**06 13 09.2**	**+2.0**
U11A	**Corn Creek** baz=2.8	**2.79**	**36**	⇓Sb	**Sb**	**06 13 05.6**	**+2.4**
GRAC	**Grapevine Rang** baz=2.8,SNR=9.5	**2.83**	**0**	⇓P	**Pn**	**06 12 24.3**	**0.0**
HELL	**Mitchell Peak** baz=2.8,SNR=103	**2.84**	**333**	P	**Pn**	**06 12 24.5**	**+0.1**
TPNV	**Topopah Spring**	**2.93**	**18**	ePn	**Pn**	**06 12 25.6**	**0.0**
TPNV				eSg	**Sg**	**06 13 11.3**	**-1.9**
TPNV	**Topopah Spring** baz=2.9	**2.93**	**18**	⇓P	**Pn**	**06 12 25.7**	**0.0**
TPNV	baz=2.9			⇓Sb	**Sb**	**06 13 10.0**	**+2.7**
X13A	**Yucca** baz=3.0,SNR=180	**2.98**	**81**	P	**Pn**	**06 12 25.6**	**-0.8**
Y13A	**Salome** baz=3.0,SNR=30	**2.98**	**96**	⇑P	**Pn**	**06 12 25.5**	**-0.9**
W13A	**Hualapai Mount** baz=3.0,SNR=632	**3.04**	**71**	⇓P	**Pn**	**06 12 27.0**	**-0.2**
PKD	**Parkfield** baz=3.1,SNR=68	**3.13**	**305**	⇓P	**Pn**	**06 12 27.6**	**-0.8**
V04C	**Ramage Ranch,** baz=3.2,SNR=44	**3.21**	**298**	P	**Pn**	**06 12 28.8**	**-0.6**
U12A	**Valley of Fire** baz=3.2	**3.25**	**45**	⇑P	**Pn**	**06 12 29.4**	**-0.6**
V13A	**Grand Canyon W** baz=3.2	**3.27**	**58**	⇑P	**Pn**	**06 12 29.8**	**-0.5**
MTUM	**Tungsten Hills**	**3.32**	**344**	ePn	**Pn**	**06 12 31.8**	**+0.8**
MTUM				eS	**Sn**	**06 13 23.3**	**+13**
T12A	**Moapa** baz=3.3	**3.37**	**40**	⇑Sb	**Sb**	**06 13 22.9**	**+3.2**
S08C	**White Mtn Res** baz=3.4,SNR=15	**3.39**	**350**	⇑P	**Pn**	**06 12 32.4**	**+0.5**
T06C	**Millerton Lake** baz=3.4,SNR=5.8	**3.41**	**327**	P	**Pn**	**06 12 32.2**	**+0.1**
KCC	**Kaiser Creek** baz=3.5,SNR=35	**3.52**	**334**	P	**Pn**	**06 12 34.8**	**+1.1**
U04C	**Hernandez Rese** baz=3.5	**3.53**	**309**	⇓P	**Pn**	**06 12 34.1**	**+0.2**
T11A	**Corn Creek, Al** baz=3.5,SNR=8.1	**3.55**	**29**	⇑P	**Pn**	**06 12 34.2**	**+0.1**
S09A	**Goldfield** baz=3.5,SNR=5.0	**3.56**	**2**	⇑P	**Pn**	**06 12 34.7**	**+0.4**
V03C	**Hunter Liggett** baz=3.6,SNR=46	**3.65**	**302**	P	**Pn**	**06 12 34.4**	**-1.2**
Y14A	**Wickenburg** baz=3.6,SNR=54	**3.65**	**92**	P	**Pn**	**06 12 35.3**	**-0.3**
W14A	**Seligman** baz=3.7,SNR=26	**3.71**	**72**	⇓P	**Pn**	**06 12 35.9**	**-0.3**
X14A	**Yava** baz=3.7,SNR=211	**3.74**	**84**	P	**Pn**	**06 12 36.2**	**-0.6**
Z14A	**Wintersburg** baz=3.8,SNR=8.6	**3.79**	**101**	⇑P	**Pn**	**06 12 36.5**	**-1.0**
S10A	**Tonopah Range,** baz=3.8,SNR=10	**3.81**	**10**	⇑P	**Pn**	**06 12 37.7**	**+0.1**
V14A	**Boquillas Ranc** baz=3.8,SNR=23	**3.82**	**66**	P	**Pn**	**06 12 37.8**	**-0.1**
TPH	**Tonopah**	**3.91**	**2**	ePn	**Pn**	**06 12 39.5**	**+0.5**
TPH				eSg	**Sg**	**06 13 45.5**	**+1.2**
S05C	**Merced** baz=4.0,SNR=12	**3.97**	**324**	⇓P	**Pn**	**06 12 39.9**	**0.0**
T13A	**Saint George** baz=4.0,SNR=12	**4.03**	**44**	⇑P	**Pn**	**06 12 40.7**	**0.0**
HAST	**Hastings Reser** baz=4.0,SNR=44	**4.06**	**304**	⇓P	**Pn**	**06 12 39.8**	**-1.3**
R09A	**Tonopah** baz=4.0,SNR=6.4	**4.08**	**4**	⇓P	**Pn**	**06 12 41.8**	**+0.5**
U14A	**Mt Trumbull** baz=4.1	**4.12**	**56**	⇓P	**Pn**	**06 12 42.0**	**+0.1**
SAO	**San Andreas Ge**	**4.20**	**309**	ePn	**Pn**	**06 12 41.8**	**-1.3**
Y15A	**Casa Rosa Ranc** baz=4.2,SNR=150	**4.21**	**91**	P	**Pn**	**06 12 43.0**	**-0.2**
S06C	**San Francisco** baz=4.2	**4.21**	**333**	⇓P	**Pn**	**06 12 43.8**	**+0.6**
X15A	**Humboldt** baz=4.3,SNR=44	**4.28**	**84**	⇑P	**Pn**	**06 12 44.0**	**-0.2**
S13A	**Holt Ranch, En** baz=4.4,SNR=9.2	**4.46**	**39**	⇑P	**Pn**	**06 12 47.4**	**+0.8**
T14A	**Hurricane** baz=4.5,SNR=24	**4.55**	**49**	⇓P	**Pn**	**06 12 48.5**	**+0.6**
CMB	**Columbia Colle**	**4.56**	**329**	ePn	**Pn**	**06 12 48.7**	**+0.7**
CMB				eSn	**Sn**	**06 13 40.9**	**-0.2**
CMB	**Columbia Colle** baz=4.5	**4.56**	**329**	⇑P	**Pn**	**06 12 48.7**	**+0.7**
115A	**Sonoran Desert** baz=4.6,SNR=6.3	**4.56**	**107**	⇓P	**Pn**	**06 12 47.7**	**-0.4**
V15A	**Kaibab Nationa** baz=4.6,SNR=14	**4.60**	**67**	⇓P	**Pn**	**06 12 48.9**	**+0.4**
CCUT	**Cedar City**	**4.71**	**43**	Pn	**Pn**	**06 12 49.5**	**-0.5**
CCUT				eSg	**Sg**	**06 14 03.9**	**-6.2**
Q08A	**Gabbs** baz=4.7	**4.71**	**355**	⇑P	**Pn**	**06 12 50.8**	**+0.7**
ARUT	**Antelope Range**	**4.84**	**40**	ePn	**Pn**	**06 12 49.2**	**-2.6**
ARUT				eSg	**Sg**	**06 14 07.7**	**-6.5**
Y16A	**Circle Bar Ran** baz=4.9,SNR=89	**4.92**	**92**	⇓P	**Pn**	**06 12 53.2**	**+0.2**
X16A	**Lo Mia Camp, P** baz=4.9,SNR=16	**4.94**	**85**	⇑P	**Pn**	**06 12 53.5**	**+0.2**
T15A	**Red Dirt Ranch** baz=4.9,SNR=5.2	**4.98**	**54**	⇓P	**Pn**	**06 12 54.4**	**+0.6**
R05C	**Kirkwood Meado** baz=5.0,SNR=12	**5.02**	**335**	⇑P	**Pn**	**06 12 56.3**	**+2.0**
Z16A	**Peralta Trail,** baz=5.0,SNR=18	**5.04**	**98**	⇑P	**Pn**	**06 12 53.9**	**-0.7**
WUAZ	**Wupatki** 24nm,0.7s	**5.13**	**73**	ePn	**Pn**	**06 12 56.8**	**+0.9**
Y17A	**Roosevelt** baz=5.4,SNR=30	**5.47**	**93**	⇑P	**Pn**	**06 13 00.2**	**-0.3**
PAHR	**Pah Rah Range** 5.0nm,0.6s	**5.76**	**345**	ePn	**Pn**	**06 13 06.4**	**+1.9**
Z17A	**San Carlos Hig** baz=5.8	**5.83**	**97**	⇓P	**Pn**	**06 13 05.3**	**-0.3**
TUC	**Tucson** 7.7nm,0.9s	**5.84**	**107**	ePn	**Pn**	**06 13 04.8**	**-0.8**
TUC				eSg	**Sg**	**06 14 44.3**	**-2.1**
MSU	**Marysvale**	**6.05**	**43**	ePn	**Pn**	**06 13 08.2**	**-0.3**
Y18A	**Canyon Day Jun** baz=6.1,SNR=8.7	**6.13**	**92**	P	**Pn**	**06 13 10.3**	**+0.8**
O10A	**Cortez Mining,** baz=6.1	**6.16**	**6**	⇓P	**Pn**	**06 13 11.4**	**+1.5**
BEKR	**Beckwourth** baz=6.1,SNR=18	**6.17**	**338**	⇓P	**Pn**	**06 13 12.2**	**+2.1**
X18A	**Snowflake** baz=6.1,SNR=12	**6.17**	**85**	⇓P	**Pn**	**06 13 10.7**	**+0.5**
118A	**Homack Ranch,** baz=6.4,SNR=6.2	**6.39**	**102**	⇓P	**Pn**	**06 13 13.3**	**+0.1**
X19A	**St. Johns** baz=6.7	**6.71**	**85**	⇓P	**Pn**	**06 13 18.5**	**+0.8**
Y19A	**Nutrioso** baz=6.7	**6.76**	**89**	⇓P	**Pn**	**06 13 19.0**	**+0.8**
119A	**Ashpeak Ranch,** baz=6.9	**6.91**	**99**	⇑P	**Pn**	**06 13 20.4**	**+0.1**
DUG	**Dugway** 4.1nm,0.7s	**7.04**	**30**	ePg	**Pg**	**06 13 49.6**	**-4.1**
DUG				eSg	**Sg**	**06 15 20.3**	**-4.7**
MVCO	**Mesa Verde** 11nm,0.6s	**7.85**	**65**	ePn	**Pn**	**06 13 33.5**	**+0.2**
PV10	**Paradox Valley**	**7.95**	**56**	ePn	**Pn**	**06 13 33.0**	**-1.6**
PV10				eSg	**Sn**	**06 15 47.9**	**+43**
MNTX	**Cornudas Mount** 1.1nm,0.4s	**10.39**	**100**	ePn	**Pn**	**06 14 08.7**	**+0.7**

IDC 24 06:14:59.5±2.1, 2930S×13957E, h0km, mb1 2.9/3, mb1mx2.9/12, mbtmp2.7/3, ML2.6/3, Error ellipse: s-maj=98.9km s-min=15.4km az=55.0, South Australia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek** 0.4nm,0.3s,baz=304,slow=14,SNR=6.1	**3.11**	**146**	Pn	Pn	06 15 50.0	+0.2
STKA	0.8nm,0.3s,baz=36,slow=16,SNR=3.9			Sn	Sn	06 16 29.5	+1.9
STKA	2.6nm,0.3s,baz=105,slow=20,SNR=6.0			Lg		06 16 37.9	
ASAR	**Alice Springs** 0.1nm,0.3s,baz=142,slow=14,SNR=3.7	**7.56**	**317**	Pn	Pn	06 16 49.3	-1.7
ASAR	0.1nm,0.3s,baz=151,slow=22,SNR=4.8			Sn	Sn	06 18 18.2	+0.7
WRA	**Warramunga Arr** 0.1nm,0.3s,baz=148,slow=13,SNR=4.1	**10.46**	**332**	Pn	Pn	06 17 32.2	+1.4
WRA	0.0nm,0.3s,baz=152,slow=25,SNR=2.7			Sn	Sn	06 19 31.9	+3.2

*ISCJB **24** 06:15:13.9±0.4, 34.17N±001×11738W±002, h11km±3km, Error ellipse: s-maj=2.6km s-min=2.0km az=27.6*
*NEIC **24** 06:15:15.0, 3420N×11738W, h10km, ML3.9(PAS), After PAS.*
NEIC Felt [IV] at Crestline, Fontana, Grand Terrace, Pinon Hills and Riverside; [III] at Aliso Viejo, Anaheim, Apple Valley, Brea, Chino, Chino Hills, Claremont, Colton, Corona, Diamond Bar, Fullerton, Glendora, Hacienda Heights, Hesperia, Highland, Irvine, Lake Arrowhead, Lakewood, Loma Linda, Los Angeles, Lytle Creek, Mira Loma, Montclair, Moreno Valley, Newport Beach, Norco, Ontario, Orange, Pasadena, Phelan, Pomona, Rancho Cucamonga, Redlands, Rialto, San Dimas, San Bernardino, Seal Beach, Upland, Victorville, Walnut, West Covina and Wrightwood; [II] at Costa Mesa, Covina, Huntington Beach, La Verne, Lake Forest, Long Beach, Los Alamitos, Mission Viejo, Perris, San Jacinto, Santa Ana, Sun City, Trabuco Canyon, Tustin, Westminster, Yorba Linda and Yucaipa. Felt as far north as Lancaster, as far east as Big Bear City and as far south as Hemet.

ISC 24 06:15:14.6±0.3, 3416N±001×11740W±001, h8km±2km, n124, σ0°91/163, 52C-65D, Southern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BFSC	**Mount Baldy St** baz=0.2,SNR=1000	**0.23**	**290**	⇓P	**Pg**	**06 15 20.2**	**+1.0**
BFSC	baz=0.2			⇑S	**Sg**	**06 15 23.7**	**+1.5**
BBRC	**Big Bear Sol-O** baz=0.4,SNR=1000	**0.41**	**76**	⇓P	**Pg**	**06 15 23.1**	**+0.6**
BBRC	baz=0.4			⇓S	**Sg**	**06 15 28.6**	**+0.7**
MURC	**Murrieta** baz=0.6	**0.59**	**163**	⇑P	**Pg**	**06 15 26.6**	**+0.7**
MURC	baz=0.6			⇓S	**Sg**	**06 15 34.6**	**+1.1**
DECC	**Green Verdugo** baz=0.8,SNR=594	**0.78**	**277**	P	**Pg**	**06 15 29.9**	**+0.4**
DECC	baz=0.8			⇓S	**Sg**	**06 15 40.8**	**+1.2**
RRX	**Edison Barstow** baz=0.8,SNR=380	**0.79**	**25**	P	**Pg**	**06 15 29.5**	**-0.3**
RRX	baz=0.8			⇓S	**Sg**	**06 15 39.7**	**-0.3**
EDW2	**Edwards Air Fo** baz=0.8,SNR=1000	**0.86**	**326**	P	**Pg**	**06 15 30.9**	**-0.3**
EDW2				⇑S	**Sg**	**06 15 42.1**	**-0.4**

	baz=0.8						
FMP	**Fort Macarthur**	**0.87**	**239**	⇑P	**Pg**	**06 15 31.5**	**+0.2**
	baz=0.9,SNR=77						
FMP				⇓S	**Sg**	**06 15 43.2**	**+0.7**
	baz=0.9						
PFO	**Pinyon Flat Ob**	**0.96**	**125**	*e*Pg	**Pg**	**06 15 32.8**	**-0.2**
PFO				*e*Sg	**Sg**	**06 15 45.5**	**0.0**
PFO	**Pinyon Flat Ob**	**0.96**	**125**	⇑P	**Pg**	**06 15 33.0**	**0.0**
	baz=1.0						
PFO				⇓S	**Sg**	**06 15 45.7**	**+0.2**
	baz=1.0						
HEC	**Hector,Ludlow**	**1.11**	**53**	P	**Pg**	**06 15 35.3**	**-0.6**
	baz=1.1,SNR=1000						
HEC				⇑S	**Sg**	**06 15 49.6**	**-0.6**
	baz=1.1						
CIS	**Catalina Islan**	**1.12**	**228**	⇓P	**Pg**	**06 15 35.6**	**-0.5**
	baz=1.2,SNR=320						
CIS				⇓S	**Sg**	**06 15 51.8**	**+1.1**
	baz=1.2						
BELC	**Belle Mtn.**	**1.18**	**98**	⇑P	**Pb**	**06 15 36.8**	**-0.3**
	baz=1.2,SNR=1000						
OSI	**Osito Adit**	**1.18**	**293**	⇑P	**Pb**	**06 15 36.9**	**-0.3**
	baz=1.2,SNR=38						
GSC	**Goldstone**	**1.24**	**23**	*e*Pg	**Pg**	**06 15 37.3**	**-1.0**
GSC				*e*Sg	**Sg**	**06 15 53.6**	**-0.8**
GSC	**Goldstone**	**1.24**	**23**	⇓P	**Pn**	**06 15 37.3**	**-0.9**
	baz=1.2,SNR=258						
GSC				⇑S	**Sb**	**06 15 53.3**	**-0.9**
	baz=1.2						
109C	**Camp Elliot, M**	**1.29**	**169**	P	**Pn**	**06 15 38.0**	**-0.8**
	baz=1.3,SNR=169						
109C				⇓S	**Sb**	**06 15 55.5**	**-0.3**
	baz=1.3						
LRMC	**Laurel Mountai**	**1.33**	**350**	P	**Pn**	**06 15 38.5**	**-0.9**
	baz=1.3,SNR=666						
LRMC				⇑S	**Sb**	**06 15 56.5**	**-0.5**
	baz=1.3						
BLG	**Laguna Peak**	**1.38**	**268**	⇑P	**Pn**	**06 15 39.0**	**-1.1**
	baz=1.4,SNR=308						
MONP	**Monument Peak**	**1.51**	**147**	⇓P	**Pn**	**06 15 42.1**	**+0.2**
	baz=1.5						
MONP				⇓S	**Sn**	**06 16 01.9**	**+0.2**
	baz=1.5						
SCI	**San Clemente I**	**1.52**	**219**	⇓P	**Pn**	**06 15 41.4**	**-0.6**
	baz=1.6						
ARVC	**Arvin**	**1.52**	**310**	⇑P	**Pn**	**06 15 41.4**	**-0.6**
	baz=1.5,SNR=152						
GMRC	**Granite Mounta**	**1.56**	**66**	⇓P	**Pn**	**06 15 41.5**	**-1.1**
	baz=1.5,SNR=854						
BC3	**Big Chuckw Mtn**	**1.70**	**107**	P	**Pn**	**06 15 43.7**	**-0.7**
	baz=1.7,SNR=180						
BC3				⇑Sb	**Sb**	**06 16 09.0**	**+1.6**
	baz=1.7						
ISA	**Isabella**	**1.74**	**330**	⇓S	**Sn**	**06 16 06.7**	**-0.6**
	baz=1.7						
TUQ	**Turquoise Mtn.**	**1.76**	**43**	⇓P	**Pn**	**06 15 44.6**	**-0.7**
	baz=1.7						
SWSC	**Sam W. Stewart**	**1.81**	**132**	P	**Pn**	**06 15 44.9**	**-1.1**
	baz=1.8,SNR=153						
DVTC	**Desert V Tower**	**1.85**	**144**	⇓P	**Pn**	**06 15 46.3**	**-0.3**
	baz=1.9						
BSC	**Santa Cruz Isl**	**1.86**	**265**	⇑P	**Pn**	**06 15 45.3**	**-1.4**
	baz=1.9,SNR=17						
IRM	**Iron Mountain**	**1.87**	**89**	⇑P	**Pn**	**06 15 45.6**	**-1.2**
	baz=1.9,SNR=1000						
IRM				⇑Sb	**Sb**	**06 16 13.8**	**+1.5**
	baz=1.9						
MPMC	**Manual Prospec**	**1.89**	**358**	⇓P	**Pn**	**06 15 46.2**	**-1.0**
	baz=1.9,SNR=110						
SBC	**Santa Barbara**	**1.94**	**279**	⇑P	**Pn**	**06 15 47.3**	**-0.4**
	baz=1.9,SNR=15						
SHOC	**Shoshone**	**1.96**	**28**	⇓P	**Pn**	**06 15 47.0**	**-1.0**
	baz=1.9,SNR=22						
SNCC	**San Nicolas Is**	**1.99**	**243**	*e*Pn	**Pn**	**06 15 47.2**	**-1.3**
SNCC				*e*Sg	**Sg**	**06 16 19.1**	**+0.5**
SNCC	**San Nicolas Is**	**1.99**	**243**	⇑P	**Pn**	**06 15 47.1**	**-1.3**
	baz=2.0,SNR=10						
PKM	**Peak Mountain**	**2.13**	**291**	⇓P	**Pn**	**06 15 50.3**	**0.0**
	baz=2.1,SNR=66						
VES	**Vestal, Richgr**	**2.17**	**321**	⇑P	**Pn**	**06 15 50.7**	**-0.2**
	baz=2.2,SNR=32						
VES				⇑S	**Sn**	**06 16 17.9**	**0.0**
	baz=2.2						
V11A	**Goodsprings**	**2.33**	**43**	⇑P	**Pn**	**06 15 52.6**	**-0.5**
	baz=2.3,SNR=75						
V11A				⇓Sb	**Sb**	**06 16 27.3**	**+1.7**
	baz=2.3						
CWC	**Cottonwood Cre**	**2.34**	**346**	⇑P	**Pn**	**06 15 52.9**	**-0.3**
	baz=2.3						
CWC				⇑Sb	**Sb**	**06 16 27.6**	**+1.7**
	baz=2.3						
FURC	**Furnace Creek,**	**2.34**	**11**	⇓P	**Pn**	**06 15 52.8**	**-0.5**
	baz=2.3						
W12A	**Cal Nev Ari**	**2.37**	**61**	⇓P	**Pn**	**06 15 53.8**	**0.0**
	baz=2.3						
W12A				⇓Sb	**Sb**	**06 16 28.9**	**+1.9**
	baz=2.3						
NEE2	**Needles Airpor**	**2.38**	**75**	⇓P	**Pn**	**06 15 53.5**	**-0.3**
	baz=2.4,SNR=6.2						
NEE2				⇓Sb	**Sb**	**06 16 29.3**	**+2.3**
	baz=2.4						
U10A	**Ash Meadows, A**	**2.42**	**21**	⇑P	**Pn**	**06 15 53.8**	**-0.5**
	baz=2.4,SNR=31						
GLA	**Glamis**	**2.42**	**117**	*e*Pn	**Pn**	**06 15 53.7**	**-0.6**
GLA				*e*Sg	**Sg**	**06 16 32.0**	**-0.2**
GLA	**Glamis**	**2.42**	**117**	⇓P	**Pn**	**06 15 53.7**	**-0.6**
	baz=2.4,SNR=19						
GLA				⇓Sb	**Sb**	**06 16 30.6**	**+2.4**
	baz=2.4						
SMMC	**Simmler**	**2.43**	**299**	⇑P	**Pn**	**06 15 54.6**	**+0.1**
	baz=2.4,SNR=49						
Y12C	**Blythe**	**2.43**	**99**	⇑P	**Pn**	**06 15 53.2**	**-1.2**
	baz=2.4,SNR=44						
V12A	**Nelson**	**2.61**	**53**	⇑P	**Pn**	**06 15 56.4**	**-0.6**
	baz=2.6,SNR=57						
V12A				⇓Sb	**Sb**	**06 16 36.0**	**+2.2**
	baz=2.6						
RCTC	**Rector, Farmer**	**2.62**	**325**	⇑P	**Pn**	**06 15 57.0**	**-0.1**
	baz=2.6,SNR=6.5						
RCTC				⇓S	**Sn**	**06 16 29.0**	**-0.1**
	baz=2.6						
V05C	**Boulder Hill,**	**2.67**	**310**	⇓P	**Pn**	**06 15 57.9**	**+0.2**
	baz=2.7						
PDMCI	**Parker Dam,Lak**	**2.71**	**86**	⇓P	**Pn**	**06 15 57.8**	**-0.5**
	baz=2.7						
PTRM	**Twissleman Ran**	**2.75**	**304**	*e*Pn	**Pn**	**06 15 58.5**	**-0.4**
U11A	**Corn Creek**	**2.79**	**36**	⇑P	**Pn**	**06 15 59.4**	**-0.1**
	baz=2.8,SNR=7.6						
U11A				⇓Sb	**Sb**	**06 16 41.6**	**+2.5**
	baz=2.8						
GRAC	**Grapevine Rang**	**2.83**	**1**	⇓P	**Pn**	**06 16 00.2**	**+0.1**
	baz=2.8,SNR=13						
HELL	**Mitchell Peak**	**2.84**	**333**	⇑P	**Pn**	**06 16 00.1**	**0.0**
	baz=2.8,SNR=51						
TPNV	**Topopah Spring**	**2.93**	**18**	*e*Pn	**Pn**	**06 16 01.6**	**+0.1**
TPNV				*e*Sg	**Sg**	**06 16 46.9**	**-1.9**
TPNV	**Topopah Spring**	**2.93**	**18**	⇑P	**Pn**	**06 16 01.5**	**+0.1**
	baz=2.9,SNR=142						
TIN	**Tinemaha**	**2.96**	**347**	⇑P	**Pn**	**06 16 02.2**	**+0.3**
	baz=2.9						
X13A	**Yucca**	**2.98**	**81**	P	**Pn**	**06 16 01.4**	**-0.8**
	baz=3.0,SNR=87						
Y13A	**Salome**	**2.99**	**96**	P	**Pn**	**06 16 01.6**	**-0.6**
	baz=3.0,SNR=16						
W13A	**Hualapai Mount**	**3.05**	**71**	⇑P	**Pn**	**06 16 02.8**	**-0.2**
	baz=3.0,SNR=578						
PKD	**Parkfield**	**3.13**	**306**	P	**Pn**	**06 16 03.6**	**-0.5**
	baz=3.1,SNR=126						
V04C	**Ramage Ranch,**	**3.21**	**298**	⇓P	**Pn**	**06 16 04.6**	**-0.6**
	baz=3.2,SNR=72						
U12A	**Valley of Fire**	**3.26**	**45**	⇑P	**Pn**	**06 16 05.9**	**+0.1**
	baz=3.2						
V13A	**Grand Canyon W**	**3.27**	**58**	⇑P	**Pn**	**06 16 05.8**	**-0.2**
	baz=3.2						
MTUM	**Tungsten Hills**	**3.32**	**344**	*e*Pn	**Pn**	**06 16 07.5**	**+0.7**
MTUM				*e*Sg	**Sg**	**06 16 59.1**	**-2.1**
113A	**Mohawk Valley,**	**3.34**	**114**	⇓P	**Pn**	**06 16 06.1**	**-0.9**
	baz=3.3,SNR=7.7						
S08C	**White Mtn Res**	**3.39**	**350**	⇓P	**Pn**	**06 16 08.4**	**+0.7**
	baz=3.4,SNR=24						
T06C	**Millerton Lake**	**3.41**	**327**	⇑P	**Pn**	**06 16 07.5**	**-0.4**
	baz=3.4						
KCC	**Kaiser Creek**	**3.52**	**334**	⇓P	**Pn**	**06 16 10.6**	**+1.2**
	baz=3.5,SNR=37						
U04C	**Hernandez Rese**	**3.53**	**309**	⇑P	**Pn**	**06 16 09.0**	**-0.7**
	baz=3.5						
T11A	**Corn Creek, Al**	**3.55**	**29**	⇓P	**Pn**	**06 16 10.1**	**+0.2**
	baz=3.5,SNR=15						
S09A	**Goldfield**	**3.56**	**2**	P	**Pn**	**06 16 10.6**	**+0.5**
	baz=3.5,SNR=48						
V03C	**Hunter Liggett**	**3.65**	**302**	⇑P	**Pn**	**06 16 10.1**	**-1.2**
	baz=3.6,SNR=54						
Y14A	**Wickenburg**	**3.66**	**92**	P	**Pn**	**06 16 11.0**	**-0.4**
	baz=3.6,SNR=95						
W14A	**Seligman**	**3.71**	**72**	⇑P	**Pn**	**06 16 11.8**	**-0.3**
	baz=3.7,SNR=29						
X14A	**Yava**	**3.75**	**84**	⇓P	**Pn**	**06 16 12.3**	**-0.3**
	baz=3.7,SNR=391						
Z14A	**Wintersburg**	**3.80**	**101**	⇑P	**Pn**	**06 16 12.5**	**-0.8**
	baz=3.8,SNR=14						
S10A	**Tonopah Range,**	**3.81**	**10**	⇓P	**Pn**	**06 16 13.8**	**+0.4**
	baz=3.8,SNR=18						
T05C	**Eagle Field, D**	**3.81**	**317**	⇓P	**Pn**	**06 16 13.9**	**+0.4**
	baz=3.8,SNR=5.3						
V14A	**Boquillas Ranc**	**3.82**	**66**	P	**Pn**	**06 16 13.7**	**0.0**
	baz=3.8,SNR=26						
TPH	**Tonopah**	**3.91**	**2**	*e*Pn	**Pn**	**06 16 15.8**	**+0.9**
TPH				*e*Sg	**Sg**	**06 17 18.4**	**-1.6**
S05C	**Merced**	**3.97**	**324**	⇓P	**Pn**	**06 16 15.8**	**+0.1**
	baz=4.0,SNR=19						
R09A	**Tonopah**	**4.08**	**4**	⇓P	**Pn**	**06 16 17.7**	**+0.5**
	baz=4.1,SNR=14						
U14A	**Mt Trumbull**	**4.12**	**56**	⇓P	**Pn**	**06 16 18.0**	**+0.2**
	baz=4.1,SNR=19						
SAO	**San Andreas Ge**	**4.20**	**309**	*e*Pn	**Pn**	**06 16 17.8**	**-1.0**
SAO				Sn	**Sn**	**06 17 06.6**	**-1.5**
S06C	**San Francisco**	**4.21**	**333**	⇓P	**Pn**	**06 16 19.8**	**+0.8**
	baz=4.2,SNR=42						
Y15A	**Casa Rosa Ranc**	**4.21**	**91**	⇓P	**Pn**	**06 16 18.7**	**-0.3**
	baz=4.2,SNR=234						
X15A	**Humboldt**	**4.29**	**84**	⇓P	**Pn**	**06 16 19.9**	**-0.1**
	baz=4.3,SNR=103						
S13A	**Holt Ranch, En**	**4.46**	**39**	⇑P	**Pn**	**06 16 22.8**	**+0.3**
	baz=4.4,SNR=15						
T14A	**Hurricane**	**4.55**	**49**	⇑P	**Pn**	**06 16 24.2**	**+0.6**
	baz=4.5						
CMB	**Columbia Colle**	**4.56**	**329**	*e*Pn	**Pn**	**06 16 24.4**	**+0.7**
CMB				*e*Sn	**Sn**	**06 17 17.1**	**+0.2**
CMB	**Columbia Colle**	**4.56**	**329**	⇓P	**Pn**	**06 16 24.5**	**+0.8**
	baz=4.5,SNR=7.5						
115A	**Sonoran Desert**	**4.56**	**107**	⇑P	**Pn**	**06 16 23.4**	**-0.4**
	baz=4.6,SNR=33						
V15A	**Kaibab Nationa**	**4.60**	**67**	⇓P	**Pn**	**06 16 24.7**	**+0.4**
	baz=4.6						
S04C	**Ingram Canyon,**	**4.62**	**317**	⇑P	**Pn**	**06 16 24.6**	**0.0**
	baz=4.6						
CCUT	**Cedar City**	**4.71**	**43**	*e*Pn	**Pn**	**06 16 25.4**	**-0.5**
CCUT				*e*Sg	**Sg**	**06 17 39.9**	**-5.9**
R12A	**Pony Springs,**	**4.73**	**28**	⇓P	**Pn**	**06 16 27.0**	**+0.9**
	baz=4.7						
ARUT	**Antelope Range**	**4.84**	**40**	*e*Pn	**Pn**	**06 16 28.7**	**+1.1**
ARUT				*e*Sg	**Sg**	**06 17 44.9**	**-4.9**
Y16A	**Circle Bar Ran**	**4.93**	**92**	P	**Pn**	**06 16 29.0**	**+0.2**
	baz=4.9,SNR=93						
X16A	**Lo Mia Camp, P**	**4.94**	**85**	⇓P	**Pn**	**06 16 29.2**	**+0.2**
	baz=4.9						
T15A	**Red Dirt Ranch**	**4.98**	**54**	⇓P	**Pn**	**06 16 30.7**	**+1.0**
	baz=4.9						
R04C	**Big Horse Ranc**	**4.99**	**326**	⇓P	**Pn**	**06 16 31.1**	**+1.5**
	baz=5.0						
R05C	**Kirkwood Meado**	**5.02**	**335**	⇓P	**Pn**	**06 16 32.2**	**+2.1**
	baz=5.0						
116A	**Eloy**	**5.03**	**107**	⇓P	**Pn**	**06 16 29.6**	**-0.6**
	baz=5.0						
Z16A	**Peralta Trail,**	**5.04**	**98**	P	**Pn**	**06 16 29.7**	**-0.7**
	baz=5.0,SNR=67						
JRSC	**Jasper Ridge**	**5.09**	**311**	⇓P	**Pn**	**06 16 31.1**	**0.0**
	baz=5.1,SNR=5.4						
WUAZ	**Wupatki**	**5.14**	**73**	*e*Pn	**Pn**	**06 16 29.7**	**-2.1**
WUAZ				*e*Sg	**Sg**	**06 17 57.5**	**-2.1**
Y17A	**Roosevelt**	**5.47**	**93**	⇓P	**Pn**	**06 16 36.1**	**-0.2**
	baz=5.4,SNR=44						
PAHR	**Pah Rah Range**	**5.76**	**345**	Pn	**Pn**	**06 16 47.6**	**+7.4**
PAHR				*e*Sg	**Sg**	**06 18 20.2**	**+0.8**
117A	**Oracle**	**5.79**	**104**	⇑P	**Pn**	**06 16 40.3**	**-0.5**
	baz=5.8,SNR=10						
CVS	**Carmenet Viney**	**5.84**	**317**	⇑P	**Pn**	**06 16 41.2**	**-0.1**
	baz=5.8,SNR=5.3						
TUC	**Tucson**	**5.84**	**107**	*e*Pn	**Pn**	**06 16 40.6**	**-0.9**
	6.7nm,0.9s						
TUC				*e*Sg	**Sg**	**06 18 20.7**	**-1.5**
O09A	**Fish Creek Ran**	**6.00**	**2**	⇑P	**Pn**	**06 16 45.1**	**+1.6**
	baz=6.0						
MSU	**Marysvale**	**6.05**	**43**	*e*Pn	**Pn**	**06 16 45.7**	**+1.5**
Y18A	**Canyon Day Jun**	**6.13**	**92**	⇓P	**Pn**	**06 16 45.9**	**+0.5**
	baz=6.1,SNR=15						
O10A	**Cortez Mining,**	**6.16**	**6**	⇓P	**Pn**	**06 16 47.4**	**+1.6**
	baz=6.1						
BEKR	**Beckwourth**	**6.17**	**338**	⇑P	**Pn**	**06 16 48.4**	**+2.6**
	baz=6.1						
X18A	**Snowflake**	**6.17**	**85**	⇓P	**Pn**	**06 16 46.9**	**+0.9**
	baz=6.1,SNR=34						
118A	**Homack Ranch,**	**6.40**	**102**	⇑P	**Pn**	**06 16 49.1**	**0.0**
	baz=6.4						
O12A	**Currie**	**6.45**	**18**	⇑P	**Pn**	**06 16 51.1**	**+1.3**
	baz=6.4						
X19A	**St. Johns**	**6.72**	**85**	⇓P	**Pn**	**06 16 54.4**	**+0.9**
	baz=6.7,SNR=7.5						
Y19A	**Nutrioso**	**6.76**	**89**	⇑P	**Pn**	**06 16 55.3**	**+1.2**
	baz=6.7,SNR=19						
318A	**Bisbee**	**6.80**	**111**	⇑P	**Pn**	**06 16 54.6**	**0.0**
	baz=6.8						
Z19A	**T-Link Ranch,**	**6.83**	**95**	⇓P	**Pn**	**06 16 55.5**	**+0.5**
	baz=6.8						

*IDC **24** 06:45:03.8±1.9, 248N×9522E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.6/23, mbtmp3.6/7, ML3.4/1, Error ellipse: s-maj=64.2km s-min=19.5km az=52.0*
*ISCJB **24** 06:45:07.1±1.1, 259N±009×953E±02, h33km, mb3.6/6, Error ellipse: s-maj=24.0km s-min=10.4km az=156.1*
*NEIC **24** 06:45:07.8±1.2, 255N×9532E, h25km, Error ellipse: s-maj=34.5km s-min=13.0km az=44.0*

ISC 24 06:45:09.6±1.1, 26N±01×954E±02, h35km, n9, σ0°97/10, mb3.6/6, 1D, Off west coast of northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	**Banda Aceh**	**2.84**	**358**	⇓*e*P	**Pn**	**06 45 50.5**	**-2.0**
BSI				*e*S	**Sn**	**06 46 26.0**	**+0.4**
PSI	**Prapat**	**3.54**	**87**	Pn	**Pn**	**06 46 02.1**	**+0.1**
	2.7nm,0.3s,baz=302,slow=11,SNR=9.2						
WRA	**Warramunga Arr**	**44.33**	**122**	P	**P**	**06 53 15.0**	**-1.6**
	0.4nm,0.8s,mb3.2,baz=277,slow=8.3,SNR=3.3						
MK31	**Makanchi Array**	**45.44**	**347**	*e*P	**P**	**06 53 24.8**	**-0.2**
MKAR	**Makanchi Array**	**45.44**	**347**	P	**P**	**06 53 25.4**	**+0.4**
	1.0nm,0.7s,mb3.8,baz=158,slow=7.9,SNR=13						
ASAR	**Alice Springs**	**45.70**	**127**	P	**P**	**06 53 28.6**	**+1.1**
	0.3nm,0.9s,mb3.2,baz=291,slow=7.8,SNR=2.8						
SONM	**Songino Array**	**46.02**	**10**	P	**P**	**06 53 30.8**	**+1.3**
	0.4nm,0.7s,mb3.5,baz=194,slow=8.6,SNR=2.1						
ZALV	**Zalesovo Beam**	**51.88**	**352**	P	**P**	**06 54 14.8**	**+0.4**
	0.7nm,0.3s,mb4.0,baz=164,slow=5.7,SNR=3.5						
BVAR	**Borovoye Array**	**54.32**	**342**	P	**P**	**06 54 32.1**	**-0.3**
	1.0nm,0.6s,mb3.9,baz=178,slow=8.7,SNR=4.3						

IDC 24 07:00:56.7±0.9, 2187N×14303E, h0km, mb3.5/6, mb1 3.8/6, mb1mx3.6/19, mbtmp3.5/6, Error ellipse: s-maj=37.3km s-min=22.3km az=93.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**42.41**	**192**	P	P	07 08 52.7	-0.4
	0.2nm,0.5s,baz=15,slow=9.1,SNR=4.2						
ASAR	**Alice Springs**	**46.12**	**192**	P	P	07 09 23.0	+0.2
	0.4nm,0.6s,baz=18,slow=13,SNR=8.9						
ZALV	**Zalesovo Beam**	**53.99**	**322**	P	P	07 10 21.6	-0.7
	0.4nm,0.3s,baz=116,slow=3.4,SNR=2.0						
MKAR	**Makanchi Array**	**54.48**	**313**	P	P	07 10 26.8	+0.8
	0.2nm,0.6s,baz=85,slow=8.5,SNR=3.2						
YKA	**Yellowknife Ar**	**76.38**	**28**	P	P	07 12 47.0	-0.5
	0.4nm,0.6s,baz=293,slow=5.7,SNR=7.9						
NVAR	**Mina Array Bea**	**83.15**	**51**	P	P	07 13 25.9	+1.0
	0.3nm,0.6s,baz=267,slow=5.4,SNR=3.0						

IDC 24 07:33:24.2±5.0, 2142S×16979E, h0km, mb3.4/2, mb1 3.7/2, mb1mx3.6/12, mbtmp3.4/2, Error ellipse: s-maj=226.2km s-min=42.6km az=152.0, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**33.16**	**266**	P	P	07 40 02.7	+0.1
	0.2nm,0.5s,baz=99,slow=8.5,SNR=6.8						
ASAR	**Alice Springs**	**33.17**	**259**	P	P	07 40 02.4	-0.2
	0.3nm,0.6s,baz=77,slow=9.1,SNR=6.5						
VNA3	**Neumayer Olymp**	**87.59**	**180**	*e*	P	07 46 05.2	-8.6
VNA3				*e*		07 46 10.0	
VNA3				*e*		07 46 16.6	
VNA3				*e*		07 46 23.1	
VNA2	**Neumayer--Watz**	**87.89**	**181**	*e*	P	07 46 06.8	-8.5
	baz=174,slow=3.5						
VNA2				*e*		07 46 11.6	
VNA2				*e*		07 46 17.6	
VNA2				*e*		07 46 24.2	
EKA	**Eskdalemuir Ar**	**145.72**	**353**	PKPbc	PKPbc	07 53 03.1	-1.5
	1.0nm,0.4s,baz=352,slow=2.1,SNR=5.8						
GERES	**GERESS Array B**	**146.64**	**331**	PKPbc	PKPbc	07 53 08.0	+0.4
	0.6nm,0.4s,baz=45,slow=4.7,SNR=4.0						

*ISCJB **24** 07:33:50.7±1.2, 1360N±010×919W±0.1, h33km, mb3.5/2, Error ellipse: s-maj=19.9km s-min=11.6km az=149.0*
*NEIC **24** 07:33:53.6±2.6, 1353N×9184W, h46km±24km, Error ellipse: s-maj=43.4km s-min=13.8km az=51.0*
*IDC **24** 07:33:55.8±5.4, 1358N×9164W, h76km±57km, mb3.2/2, ML3.2/1, Error ellipse: s-maj=77.2km s-min=37.5km az=56.0*

ISC 24 07:33:53.5±1.2, 136N±01×919W±01, h35km, n11, σ1°50/13, mb3.5/2, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.64**	**355**	*e*P	**Pn**	**07 34 34.2**	**+0.6**
CCIG				*i* S	**Sn**	**07 35 02.5**	**-1.9**
SCX	**San Cristobal**	**3.17**	**347**	*i* P	**Pn**	**07 34 43.3**	**+2.5**
CMIG	**Matias Romero**	**4.49**	**320**	*i* P	**Pn**	**07 34 55.4**	**-3.6**
CMIG				*i* S	**Sn**	**07 35 43.3**	**-6.7**
TEIG	**Tepich**	**7.41**	**27**	P	**Pn**	**07 35 41.0**	**+1.8**
JTS	**JuntasAbangare**	**7.56**	**115**	P	**Pn**	**07 35 40.0**	**-1.2**
JTS	**JuntasAbangare**	**7.56**	**115**	P	**Pn**	**07 35 40.0**	**-1.2**
	baz=308,slow=17						
TXAR	**Lajitas Array**	**19.06**	**327**	P	**Pn**	**07 38 13.2**	**-0.6**
	0.0nm,0.3s,baz=143,slow=9.1,SNR=8.0						
NVAR	**Mina Array Bea**	**34.02**	**321**	P	**P**	**07 40 35.4**	**+1.3**
	0.6nm,0.8s,mb3.5,baz=132,slow=11,SNR=4.7						
MCMT	**McKenzie Canyo**	**35.84**	**334**	*e*P	**P**	**07 40 50.9**	**+1.2**
YKA	**Yellowknife Ar**	**51.40**	**347**	P	**P**	**07 42 53.2**	**-1.4**
YKA	**Yellowknife Ar**	**51.40**	**347**	P	**P**	**07 42 53.2**	**-1.3**
	0.4nm,0.7s,mb3.5,baz=150,slow=7.4,SNR=12						

*ISCJB **24** 07:42:44.6±0.7, 164S±01×721W±0.1, h107km±8km, mb3.5/3, Error ellipse: s-maj=27.2km s-min=8.6km az=141.8*
*NEIC **24** 07:42:45.6±1.2, 1649S×7230W, h104km±12km, Error ellipse: s-maj=31.4km s-min=16.7km az=221.0*
*IDC **24** 07:42:48.7±4.0, 1635S×7231W, h129km±22km, mb3.1/3, mb1 3.5/5, mb1mx3.3/19, mbtmp3.3/5, Error ellipse: s-maj=78.5km s-min=12.2km az=23.0*

ISC 24 07:42:47.3±0.9, 166S±01×724W±01, h123km±12km, n9, σ0°80/11, mb3.5/3, 1D, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.85**	**84**	⇓*i*P	**Pn**	**07 43 01.9**	**-6.3**
ARE				*i* S	**Sn**	**07 43 15.1**	**-8.9**
LPAZ	**La Paz**	**4.08**	**87**	P	**Pn**	**07 43 48.1**	**+0.2**
	4.2nm,0.3s,baz=281,slow=12,SNR=143						
LPAZ				S	**Sn**	**07 44 37.1**	**+2.2**
	1.7nm,0.3s,baz=178,slow=23,SNR=6.1						
NNA	**Nana**	**6.27**	**316**	P	**Pn**	**07 44 17.1**	**-0.3**
	5.3nm,0.3s,baz=140,slow=11,SNR=10						
NNA				S	**Sn**	**07 45 28.2**	**+0.4**
	2.7nm,0.3s,baz=147,slow=17,SNR=3.4						
LVC	**Limon Verde**	**6.86**	**152**	*e*Pn	**Pn**	**07 44 24.3**	**-1.0**
	17nm,0.5s						
LVC				*e*Sn	**Sn**	**07 45 42.7**	**+0.7**
TXAR	**Lajitas Array**	**54.71**	**326**	P	**P**	**07 52 03.7**	**-0.2**
	0.5nm,1.1s,mb3.5,baz=161,slow=5.7,SNR=3.0						
TORD	**Torodi Ar. Bea**	**78.90**	**73**	P	**P**	**07 54 37.6**	**0.0**
	0.6nm,0.8s,mb3.5,baz=243,slow=6.3,SNR=3.2						
YKA	**Yellowknife Ar**	**85.47**	**342**	P	**P**	**07 55 10.8**	**+0.1**
	0.3nm,0.5s,mb3.5,baz=136,slow=5.0,SNR=10						
WRA	**Warramunga Arr**	**135.24**	**217**	PKP	PKPdf	08 01 55.0	+1.9
	0.5nm,1.1s,baz=142,slow=1.9,SNR=3.5						
MKAR	**Makanchi Array**	**143.25**	**29**	PKP	PKPdf	08 02 06.7	-0.1
	0.1nm,0.5s,baz=215,slow=1.8,S

VLS	**Valsamata**	**0.54**	**341**	*e*Pb	**Pg**	**07 46 46.5**	**+1.2**
VLS				*e*Sg	**Sg**	**07 46 52.3**	**-0.1**
VLS				*e*Sb	**Sb**	**07 46 54.5**	**+0.5**
RLS	**Riolos of Patr**	**0.65**	**53**	⇓*i*PN	**Pg**	**07 46 46.9**	**-0.6**
RLS				*e*SN	**Sg**	**07 46 55.8**	**-0.2**
ITM	**Ithomi**	**1.02**	**118**	*e*PN	**Pn**	**07 46 54.5**	**-0.5**
LKD	**Levkas**	**1.04**	**353**	*e*Pg	**Pg**	**07 46 54.8**	**-0.2**
LKD				*e*Sg	**Sg**	**07 47 10.1**	**+1.5**
SELA	**Sela**	**1.05**	**54**	*e*Pg	**Pg**	**07 46 53.7**	**-1.4**
SELA				*e*Sg	**Sg**	**07 47 09.7**	**+1.0**
PYL	**PYLOS**	**1.07**	**136**	*e*Pg	**Pg**	**07 46 55.5**	**0.0**
PYL				*e*Sg	**Sg**	**07 47 10.6**	**+1.2**

*IDC **24** 07:48:32.4±1.0, 2230S×17042E, h0km, mb4.0/9, mb1 4.1/9, mb1mx4.1/13, mbtmp4.0/9, MS3.1/3, Ms1 3.1/3, ms1mx2.9/21, Error ellipse: s-maj=34.0km s-min=22.1km az=143.0*
*ISCJB **24** 07:48:36.0±0.9, 223S±02×1704E±02, h33km, mb3.9/9, MS3.1/2, Error ellipse: s-maj=25.2km s-min=20.3km az=143.5*

ISC 24 07:48:37.8±0.9, 223S±02×1704E±02, h35km, n17, σ0§69/10, mb3.9/9, MS3.1/2, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**18.88**	**67**	LR	LR	07 58 13.0	
	comp=Z,74nm,18.1s,baz=177,slow=31						
CTA	**Charters Tower**	**22.62**	**271**	P	**P**	**07 53 36.5**	**+0.9**
	1.3nm,0.3s,mb3.8,baz=90,slow=12,SNR=2.5						
STKA	**Stephens Creek**	**27.28**	**243**	P	**P**	**07 54 19.7**	**+0.7**
	1.9nm,0.8s,mb3.7,baz=103,slow=14,SNR=2.4						
ASAR	**Alice Springs**	**33.57**	**261**	P	**P**	**07 55 14.3**	**-0.3**
	0.9nm,0.7s,mb3.8,baz=69,slow=9.5,SNR=13						
WRA	**Warramunga Arr**	**33.67**	**267**	P	**P**	**07 55 14.5**	**-1.1**
	0.5nm,0.5s,mb3.8,baz=98,slow=8.5,SNR=18						
FITZ	**Fitzroy Crossi**	**42.10**	**267**	LR	LR	08 14 14.9	
	comp=Z,64nm,21.2s,MS3.5,baz=135,slow=37						
MJAR	**Matsushiro Arr**	**65.98**	**332**	P	**P**	**07 59 19.4**	**-1.1**
	1.7nm,0.6s,mb4.3,baz=170,slow=7.4,SNR=6.1						
KSRS	**Korea Array**	**71.66**	**326**	P	**P**	**07 59 56.0**	**+0.1**
	1.1nm,0.7s,mb3.9,baz=150,slow=5.6,SNR=4.4						
MAW	**Mawson**	**75.99**	**202**	P	**P**	**08 00 20.7**	**-0.1**
	2.6nm,0.9s,mb4.2,baz=58,slow=9.5,SNR=2.9						
VNA2	**Neumayer--Watz**	**86.98**	**181**	*e*	**P**	**08 01 18.5**	**-0.4**
	baz=173,slow=4.6						
VNA2				*e*		08 01 22.6	
VNA2				*e*	pP	08 01 28.6	-1.4
VNA2				*e*		08 01 38.4	
NVAR	**Mina Array Bea**	**90.04**	**48**	P	**P**	**08 01 34.5**	**+0.6**
	0.1nm,0.5s,mb3.4,baz=232,slow=6.6,SNR=2.9						
NVAR				LR	LR	08 33 38.1	
	comp=Z,3.2nm,21.0s,MS2.7,baz=315,slow=30						
SONM	**Songino Array**	**90.33**	**323**	P	**P**	**08 01 35.6**	**+0.7**
	1.1nm,0.5s,mb4.4,baz=134,slow=8.3,SNR=3.0						
ARCES	**ARCESS Array B**	**128.32**	**345**	PKP	PKPdf	08 07 39.5	-0.3
	1.9nm,0.9s,baz=346,slow=2.5,SNR=4.5						
FINES	**FINESS Array B**	**133.85**	**337**	PKP	PKPdf	08 07 52.3	+1.8
	1.3nm,0.9s,baz=225,slow=30,SNR=2.2						
BRG	**Berggiesshubel**	**146.11**	**333**	*e*P	PKPbc	08 08 14.4	+0.5
	1.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**146.70**	**353**	PKPbc	PKPbc	08 08 14.8	-0.7
	2.6nm,0.5s,baz=352,slow=2.5,SNR=11						
GERES	**GERESS Array B**	**147.72**	**331**	PKPbc	PKPbc	08 08 19.0	+0.4
	1.7nm,0.6s,baz=46,slow=3.9,SNR=7.5						

*MOS **24** 07:50:25.8±0.6, 4228N×4989E, h36km, mb4.1/1, Error ellipse: s-maj=71.5km s-min=25.0km az=172.3*
*ISCJB **24** 07:50:32.4±0.7, 4207N±005×4924E±008, h63km±16km, Error ellipse: s-maj=10.5km s-min=7.6km az=164.4*
*CSEM **24** 07:50:34.9±0.1, 4199N×4903E, h40km, mb4.1, Error ellipse: s-maj=1.7km s-min=1.4km az=119.0*

ISC 24 07:50:33.8±0.8, 4204N±004×4914E±008, h65km±16km, n15, σ1§10/27, 2C-1D, Caspian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.60**	**269**	*i* P	**Pn**	**07 50 45.8**	**-1.4**
DRN				*i* S	**Sn**	**07 50 56.8**	**-0.3**
DRN				pmax	pmax		
	comp=Z,87nm,0.2s						
DRN	**Derbent**	**0.60**	**269**	*i* P	**Pn**	**07 50 45.8**	**-1.4**
	comp=Z,87nm,0.2s						
DRN				*i* S	**Sn**	**07 50 56.8**	**-0.3**
KSMR	**Kasumkent**	**0.87**	**240**	*i* P	**Pn**	**07 50 50.5**	**+0.1**
KSMR				*i* S	**Sn**	**07 51 04.0**	**+1.3**
KSMR				pmax	pmax		
	comp=Z,337nm,0.1s						
KSMR	**Kasumkent**	**0.87**	**240**	*i* P	**Pn**	**07 50 50.5**	**+0.1**
	comp=Z,337nm,0.1s						
KSMR				*i* S	**Sn**	**07 51 04.0**	**+1.3**
SIZA	**Siyzn**	**0.98**	**191**	P	**Pn**	**07 50 52.1**	**+0.3**
	SNR=7.9						
SIZA				S	**Sn**	**07 51 05.2**	**+0.1**
URKR	**Urkarakh**	**1.13**	**277**	*i* P	**Pn**	**07 50 53.0**	**-0.7**
URKR				*i* S	**Sn**	**07 51 08.0**	**-0.5**
PQL	**Pirkuli**	**1.32**	**198**	P	**Pn**	**07 50 56.6**	**+0.5**
	SNR=3.1						
PQL				S	**Sn**	**07 51 12.4**	**-0.5**
KMKR	**Kumukh**	**1.52**	**274**	*e*P	**Pn**	**07 50 59.5**	**+0.6**
KMKR				*e*S	**Sn**	**07 51 21.0**	**+3.2**
KMKR				pmax	pmax		
	comp=Z,32nm,0.3s						
KMKR	**Kumukh**	**1.52**	**274**	*e*P	**Pn**	**07 50 59.5**	**+0.6**
	comp=Z,32nm,0.3s						
KMKR				*e*S	**Sn**	**07 51 21.0**	**+3.2**
SEKA	**Sheki**	**1.68**	**241**	P	**Pn**	**07 51 02.8**	**+1.9**
	SNR=8.1						
DBC	**Dubki**	**1.97**	**301**	*i* P	**Pn**	**07 51 03.0**	**-1.9**
DBC				*i* S	**Sn**	**07 51 29.5**	**+1.0**
BRDA	**Brd**	**2.31**	**220**	S	**Sn**	**07 51 36.5**	**-0.4**
GANJ	**Ganja**	**2.54**	**238**	P	**Pn**	**07 51 12.1**	**-0.5**
	SNR=3.8						
GANJ				S	**Sn**	**07 51 39.6**	**-2.8**
AKTO	**Aktyubinsk**	**10.40**	**33**	⇓Sn	**Sn**	**07 54 54.2**	**-0.5**
AB31	**Akbulak array**	**10.45**	**43**	⇑Pn	**Pn**	**07 53 01.9**	**+1.3**
	comp=Z,0.3nm,0.5s,baz=224,slow=15,SNR=34						
AB31				⇑Sn	**Sn**	**07 54 51.7**	**-4.1**
	comp=Z,0.6nm,0.5s,baz=225,slow=21,SNR=3.4						

*MOS **24** 07:53:21.9±0.9, 5164N×16.13E, h10km, mb3.9/1, Error ellipse: s-maj=10.2km s-min=5.0km az=78.5*
*ISCJB **24** 07:53:22.6±0.3, 5142N±002×1606E±002, h0km, mb3.6/2, Error ellipse: s-maj=2.8km s-min=1.7km az=13.6*
*STR **24** 07:53:23.2±2.1, 5111N×16.13E, h2km, Ml3.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*NEIC **24** 07:53:23.1±0.4, 5157N×16.11E, h5km, ML3.2(SZGRF), ML2.9(CLL), Error ellipse: s-maj=5.4km s-min=4.8km az=205.0*
*IDC **24** 07:53:24.6±0.7, 5146N×1595E, h0km, mb3.6/2, mb1 3.7/8, mb1mx3.5/23, mbtmp3.5/8, ML3.3/6, Error ellipse: s-maj=13.5km s-min=7.2km az=110.0*
*CSEM **24** 07:53:24.9±0.1, 5144N×1610E, h1km, ML3.8/10, Error ellipse: s-maj=2.1km s-min=1.4km az=12.0*
*BGR **24** 07:53:24.4±0.4, 5145N×1609E, h1km, ML3.1/15, Error ellipse: s-maj=5.6km s-min=2.2km az=14.0*
*IPEC **24** 07:53:25.1±0.3, 5141N×1652E, h0km, ML2.8/4, Error ellipse: s-maj=3.0km s-min=1.9km az=97.0*
*WAR **24** 07:53:25.1, 5146N×1608E, ML3.1, Mining Induced*
*PRU **24** 07:53:25.1, 5144N×1608E, h0km*
*VIE **24** 07:53:27.1±0.5, 5124N×1621E, h0km, mb2.7/5, ML3.1/6, Error ellipse: s-maj=4.1km s-min=3.1km az=103.0 58 km WNW of Wroclaw Suspected Mining induced.*

ISC 24 07:53:23.3±0.3, 5150N±002×1608E±002, h0km, n98, σ1§13/174, mb3.6/2, 6C-7D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**07 53 36.7**	**+0.5**
KSP				*e*Sg	**Sg**	**07 53 45.0**	**+0.2**
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**07 53 36.5**	**+0.4**
KSP				*e*Sg	**Sg**	**07 53 43.9**	**-0.9**
KSP	**Ksiaz**	**0.67**	**168**	⇓*i*P	**Pg**	**07 53 36.6**	**+0.4**
KSP				*e*		07 53 44.4	
KSP	**Ksiaz**	**0.67**	**168**	⇓*i*Pg	**Pg**	**07 53 36.5**	**+0.4**
KSP				*e*Sg	**Sg**	**07 53 44.4**	**-0.5**
KSP				*e*		07 53 49.0	
KSP	**Ksiaz**	**0.67**	**168**	*e*Pg	**Pg**	**07 53 36.6**	**+0.4**
KSP				*e*Sg	**Sg**	**07 53 44.4**	**-0.5**
UPC	**Upice**	**0.99**	**182**	*e*Pg	**Pg**	**07 53 42.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*Pn	**Pn**	**07 53 45.5**	**-1.3**
DPC				*e*Sg	**Sg**	**07 54 00.1**	**-0.5**
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*P	**Pg**	**07 53 45.3**	**-0.3**
DPC				*e*		07 53 59.8	
DPC				smax			
	comp=N,130nm,0.6s						
DPC	**Dobruska-Polom**	**1.16**	**172**	*e*PG	**Pg**	**07 53 45.3**	**-0.3**
DPC				*e*SG	**Sg**	**07 53 59.8**	**-0.8**
	comp=Z,130nm,0.6s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*P	**Pg**	**07 53 49.5**	**+0.1**
PVCC				*e*		07 54 08.0	
PVCC				smax			
	comp=N,355nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**225**	*e*Pg	**Pg**	**07 53 49.5**	**+0.1**
PVCC				*e*Sg	**Sg**	**07 54 08.0**	**+0.9**
	comp=N,355nm,0.4s						
BRG	**Berggiesshubel**	**1.48**	**246**	*e*Pn	**Pn**	**07 53 50.9**	**-0.4**
BRG				*e*Sg	**Sg**	**07 54 09.9**	**-1.1**
BRG	**Berggiesshubel**	**1.48**	**246**	P	**Pn**	**07 53 50.8**	**-0.4**
BRG						07 54 12.0	
BRG				smax			
	comp=N,157nm,0.6s						
BRG	**Berggiesshubel**	**1.48**	**246**	Pg	**Pg**	**07 53 52.3**	**+0.5**
BRG				Sg	**Sg**	**07 54 09.9**	**-1.1**
BRG				S	**Sg**	**07 54 12.0**	**+1.0**
	comp=N,157nm,0.6s						
BRG	**Berggiesshubel**	**1.48**	**246**	PN	**Pn**	**07 53 50.8**	**-0.4**
BRG				PG	**Pg**	**07 53 52.3**	**+0.6**
BRG				SG	**Sg**	**07 54 12.0**	**+1.1**
	comp=N,262nm,0.6s						
RUE	**Ruedersdorf**	**1.73**	**306**	*e*Pn	**Pn**	**07 53 54.7**	**+0.1**
RUE				*e*Sn	**Sn**	**07 54 16.8**	**-0.5**
RUE	**Ruedersdorf**	**1.73**	**306**	*e*Pn	**Pn**	**07 53 54.7**	**+0.1**
RUE				*e*Sn	**Sn**	**07 54 16.8**	**-0.5**
PRA	**Prague**	**1.77**	**217**	PG	**Pg**	**07 53 55.0**	**-2.3**
PRA				SG	**Sg**	**07 54 19.0**	**-1.2**
PRU	**Pruhonice**	**1.80**	**213**	*e*P	**Pn**	**07 53 55.2**	**-0.4**
PRU				*e*		07 54 20.7	
PRU				smax			
	comp=N,63nm,0.4s						
PRU	**Pruhonice**	**1.80**	**213**	*e*Pg	**Pg**	**07 53 56.6**	**-1.2**
PRU				*e*Sg	**Sg**	**07 54 20.7**	**-0.5**
	comp=N,62nm,0.4s						
PRU	**Pruhonice**	**1.80**	**213**	*e*PN	**Pn**	**07 53 55.2**	**-0.4**
PRU				*e*PG	**Pg**	**07 53 56.6**	**-1.2**
PRU				*e*SG	**Sg**	**07 54 20.7**	**-0.5**
	comp=Z,62nm,0.4s						
FBE	**Freiberg**	**1.81**	**252**	*e*Pn	**Pn**	**07 53 57.1**	**+1.4**
FBE				*e*Sg	**Sg**	**07 54 22.5**	**+1.1**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**07 53 57.3**	**-0.2**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**07 53 57.0**	**-0.5**
CLL				*i* Pg	**Pg**	**07 54 00.5**	**+0.1**
CLL				*i* Sg	**Sg**	**07 54 26.5**	**+1.0**
CLL	**Collm**	**1.94**	**265**	*e*Pn	**Pn**	**07 53 57.0**	**-0.5**
CLL				*i* Pg	**Pg**	**07 54 00.5**	**+0.1**
CLL				*ex*	x	07 54 05.0	
CLL				*ex*	x	07 54 15.0	
CLL				*i* x	x	07 54 22.4	
CLL				*i* Sg	**Sg**	**07 54 26.5**	**+1.0**
	comp=Z,71nm,0.7s						
CLL	**Collm**	**1.94**	**265**	*i* Pg	**Pg**	**07 54 00.5**	**+0.1**
CLL				*i* S	**Sg**	**07 54 26.5**	**+1.0**
RAC	**Raciborz**	**1.95**	**136**	*e*Pg	**Pg**	**07 54 00.2**	**-0.5**
RAC				*e*Sg	**Sg**	**07 54 26.7**	**+0.7**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**07 53 57.6**	**-0.1**
MORC				*e*Sg	**Sg**	**07 54 24.9**	**-1.4**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**07 53 57.2**	**-0.6**
MORC				*e*Sn	**Sn**	**07 54 23.8**	**+0.7**
MORC	**Moravsky Berou**	**1.96**	**151**	*e*Pn	**Pn**	**07 53 57.2**	**-0.6**
MORC				*e*Sn	**Sn**	**07 54 23.8**	**+0.7**
MORC				Sg	**Sg**	**07 54 24.9**	**-1.4**
OKC	**Ostrava-Krasne**	**2.12**	**141**	*e*Pg	**Pg**	**07 54 03.2**	**-0.8**
OKC				*e*Sg	**Sg**	**07 54 29.6**	**-1.9**
VRAC	**Vranov**	**2.22**	**171**	Pn	**Pn**	**07 54 01.4**	**0.0**
	comp=Z,5.0nm,0.3s,baz=334,slow=13,SNR=12						
VRAC				Lg		07 54 32.9	
	comp=Z,8.4nm,0.3s,baz=250,slow=22,SNR=11						
VRAC	**Vranov**	**2.22**	**171**	Pn	**Pn**	**07 54 01.4**	**+0.1**
VRAC				*e*Sg	**Sg**	**07 54 31.2**	**-3.4**
	comp=Z,36nm,0.3s						
TREC	**Trest**	**2.24**	**190**	*e*Pg	**Pg**	**07 54 05.3**	**-0.9**
KRUC	**Moravsky**	**2.45**	**175**	*e*Pn	**Pn**	**07 54 04.5**	**0.0**
KRUC				*e*Sg	**Sg**	**07 54 38.2**	**-3.8**
	comp=Z,53nm,0.5s						
TANN	**Tannenbergstha**	**2.53**	**246**	*e*Pn	**Pn**	**07 54 06.2**	**+0.5**
TANN				*e*Sg	**Sg**	**07 54 44.2**	**-0.5**
WERD	**Werda**	**2.61**	**248**	*e*Pn	**Pn**	**07 54 07.2**	**+0.5**
WERD				*e*Sg	**Sg**	**07 54 46.9**	**-0.1**
NKC	**Novy Kostel**	**2.63**	**243**	*e*P	**Pn**	**07 54 07.5**	**+0.5**
NKC				*e*		07 54 49.0	
NKC				smax			
	comp=N,90nm,0.3s						
NKC	**Novy Kostel**	**2.63**	**243**	*e*Pn	**Pn**	**07 54 07.5**	**+0.5**
NKC				*e*Sg	**Sg**	**07 54 49.0**	**+1.3**
	comp=N,90nm,0.3s						
OJC	**Ojcow**	**2.68**	**117**	*e*Pn	**Pn**	**07 54 06.5**	**-1.2**
OJC				*e*P		07 54 13.6	
OJC				*e*Pg	**Pg**	**07 54 15.8**	**+1.1**
OJC				*e*Sg	**Sg**	**07 54 50.4**	**+0.9**
OJC	**Ojcow**	**2.68**	**117**	*e*Sg	**Sg**	**07 54 48.8**	**-0.7**
OJC	**Ojcow**	**2.68**	**117**	*e*Pg	**Pg**	**07 54 15.8**	**+1.1**
OJC				*e*Sg	**Sg**	**07 54 50.4**	**+0.9**
JAVC	**Velka Javorina**	**2.83**	**158**	*e*Pn	**Pn**	**07 54 11.4**	**+1.6**
JAVC				*e*Sg	**Sg**	**07 54 52.9**	**-1.5**
	comp=N,70nm,0.8s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*Pg	**Pg**	**07 54 16.5**	**-1.7**
KHC				*e*Sn	**Sn**	**07 54 44.0**	**-1.3**
KHC				*e*Sg	**Sg**	**07 54 55.6**	**+0.3**
	comp=N,27nm,0.5s						
KHC	**Kasperske Hory**	**2.86**	**215**	*e*PN	**Pn**	**07 54 10.6**	**+0.4**
KHC				*e*PG	**Pg**	**07 54 16.5**	**-1.7**
KHC				*e*SN	**Sn**	**07 54 44.0**	**-1.3**
KHC				*e*SG	**Sg**	**07 54 55.6**	**+0.3**
	comp=Z,27nm,0.5s						
MANZ	**Manzenberg**	**2.94**	**241**	*e*Pn	**Pn**	**07 54 11.8**	**+0.5**
MOX	**Moxa**	**2.94**	**255**	*e*Pn	**Pn**	**07 54 11.6**	**+0.3**
MOX	**Moxa**	**2.94**	**255**	*e*PN	**Pn**	**07 54 11.4**	**+0.1**
MOX				*e*PG	**Pg**	**07 54 19.8**	**+0.1**
MOX				*e*SG	**Sg**	**07 54 59.5**	**+1.7**
ROTZ	**Rotzenmuhle**	**3.02**	**236**	*e*Pn	**Pn**	**07 54 13.0**	**+0.8**
ROTZ				*e*Sg	**Sg**	**07 54 59.3**	**-0.8**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**07 54 14.1**	**+1.1**
GEC2				*e*Sg	**Sg**	**07 54 58.8**	**-3.0**
GEC2	**GERESS Array S**	**3.07**	**211**	*e*Pn	**Pn**	**07 54 14.1**	**+1.1**
GEC2				*e*Sg	**Sg**	**07 54 58.8**	**-3.0**
GERES	**GERESS Array B**	**3.07**	**211**	Pn	**Pn**	**07 54 13.8**	**+0.8**
	comp=Z,2.0nm,0.3s,baz=31,slow=12,SNR=20						
GERES				Pg	**Pg**	**07 54 19.8**	**-2.2**
	comp=Z,9.0nm,0.3s,baz=33,slow=15,SNR=46						
GERES				Lg		07 54 58.6	
	comp=Z,8.4nm,0.3s,baz=30,slow=26,SNR=8.6						
GERES	**GERESS Array B**	**3.07**	**211**	Pg	**Pg**	**07 54 19.8**	**-2.3**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**07 54 14.3**	**+0.5**
WET				*e*Sg	**Sg**	**07 55 02.3**	**-1.4**
WET	**Wettzell**	**3.13**	**222**	*e*Pn	**Pn**	**07 54 14.3**	**+0.5**
WET				*e*Sg	**Sg**	**07 55 02.3**	**-1.4**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*PN	**Pn**	**07 54 17.6**	**+2.4**
MODS				*e*PG	**Pg**	**07 54 24.8**	**-0.3**
MODS				*e*SG	**Sg**	**07 55 09.9**	**+3.0**
ZST	**Bratislava**	**3.37**	**168**	*e*SG	**Sg**	**07 55 14.4**	**+2.8**
NIE	**Niedzica**	**3.41**	**126**	*e*P	**Pg**	**07 54 28.1**	**-0.6**
NIE				*e*S	**Sg**	**07 55 12.6**	**-0.4**
VYHS	**Vyhne**	**3.50**	**148**	*e*SG	**Sg**	**07 55 18.5**	**+2.9**
CONA	**Conrad Observa**	**3.58**	**182**	⇑*i*Pn	**Pn**	**07 54 20.7**	**+0.7**
CONA				⇓*i*Sg	**Sg**	**07 55 17.6**	**-0.6**
	comp=Z,64nm,0.7s						
CSNA	**Conrad Observa**	**3.58**	**182**	⇑*i*Pn	**Pn**	**07 54 20.8**	**+0.8**
CSNA				⇓*i*Sg	**Sg**	**07 55 17.6**	**-0.6**
	comp=Z,40nm,0.5s						
GRA1	**Grafenberg Arr**	**3.58**	**242**	*e*Pn	**Pn**	**07 54 21.4**	**+1.3**
GRA1				*e*Sg	**Sg**	**07 55 18.9**	**+0.4**
GRA1	**Grafenberg Arr**	**3.58**	**242**	Pn	**Pn**	**07 54 21.4**	**+1.3**
GRA1				Sg	**Sg**	**07 55 18.9**	**+0.4**
GRF	**Grafenberg Arr**	**3.58**	**242**	*e*Pn	**Pn**	**07 54 21.4**	**+1.3**
GRF				*e*Sg	**Sg**	**07 55 18.9**	**+0.5**
GRFO	**Grafenberg**	**3.59**	**242**	*e*Pn	**Pn**	**07 54 20.6**	**+0.4**
GRFO				*e*Sg	**Sg**	**07 55 18.8**	**+0.3**
GRFO	**Grafenberg**	**3.59**	**242**	*e*Pn	**Pn**	**07 54 20.5**	**+0.4**
GRFO				*e*Sg	**Sg**	**07 55 18.8**	**+0.3**
BSD	**Bornholm Skovb**	**3.69**	**350**	*i* P	**Pn**	**07 54 21.3**	**-0.2**
BSD				*i* S	**Sn**	**07 55 04.1**	**-1.5**
MOA	**Molln**	**3.84**	**199**	⇑*i*Pn	**Pn**	**07 54 24.3**	**+0.7**
MOA				⇓*i*Sg	**Sg**	**07 55 27.1**	**+0.5**
	comp=Z,47nm,0.6s						
HROE	**Hohe Rhon--Fla**	**3.86**	**258**	⇓*i*Pn	**Pn**	**07 54 24.4**	**+0.5**
ARSA	**Arzberg**	**4.27**	**185**	⇑*i*Pn	**Pn**	**07 54 30.5**	**+1.0**
ARSA				⇓*i*Sg	**Sg**	**07 55 39.1**	**-1.3**
	comp=Z,39nm,0.7s						
ARSA	**Arzberg**	**4.27**	**185**	Pn	**Pn**	**07 54 30.5**	**+1.0**
ARSA				Sg	**Sg**	**07 55 39.1**	**-1.3**
	comp=Z,39nm,0.7s						
CRVS	**Cervenica-Dubn**	**4.33**	**125**	*e*PG	**Pg**	**07 54 49.3**	**+3.1**
CRVS				*e*SG	**Sg**	**07 55 41.3**	**-0.9**
KWP	**Kalwaria**	**4.62**	**111**	*e*Pn	**Pn**	**07 54 34.1**	**-0.2**
KWP				*e*Pg	**Pg**	**07 54 53.4**	**+1.6**
KWP				*e*Sg	**Sg**	**07 55 53.1**	**+1.4**
KWP	**Kalwaria**	**4.62**	**111**	*e*Pn	**Pn**	**07 54 34.1**	**-0.2**
KWP				*e*Pg	**Pg**	**07 54 53.4**	**+1.6**
KWP				*e*Sg	**Sg**	**07 55 53.1**	**+1.4**
KOLS	**Kolonicke sedl**	**4.73**	**120**	*e*PG	**Pg**	**07 54 56.6**	**+2.6**
KOLS				*e*SG	**Sg**	**07 56 01.5**	**+6.2**
KBA	**Koelnbreinsper**	**4.77**	**203**	⇑*i*Pn	**Pn**	**07 54 37.2**	**+0.8**
KBA				⇑*i*Sg	**Sg**	**07 55 57.5**	**+0.9**
	comp=Z,23nm,0.7s						
UZH	**Uzhgorod**	**4.92**	**123**	*e*P	**Pn**	**07 54 37.2**	**-1.3**
UZH				*i* S	**Sn**	**07 55 37.8**	**+1.6**
TOD	**Tromm**	**5.01**	**251**	P	**Pn**	**07 54 38.7**	**-1.0**
TOD				S	**Sn**	**07 55 39.7**	**+1.4**
GROS	**Grobnik**	**5.06**	**185**	*i* Pn	**Pn**	**07 54 41.0**	**+0.7**
GROS				*i* Sg	**Sg**	**07 56 06.3**	**+0.6**
GROS	**Grobnik**	**5.06**	**185**	*i* Pn	**Pn**	**07 54 41.0**	**+0.6**
GROS				*i* Sg	**Sg**	**07 56 06.3**	**+0.6**
ZAVS	**Zavodnje**	**5.12**	**188**	*i* Pn	**Pn**	**07 54 43.3**	**+2.1**
ABH	**Alteburg**	**5.66**	**257**	P	**Pn**	**07 54 46.7**	**-1.9**
SPAK	**Spaichingen-Ko**	**5.82**	**237**	P	**Pn**	**07 54 46.2**	**-4.6**
RUP	**Ruppelstein**	**6.02**	**256**	P	**Pn**	**07 54 52.2**	**-1.3**
BOJS	**Bojanci**	**6.03**	**186**	*i* Pn	**Pn**	**07 54 54.4**	**+0.8**
DAVOX	**Davos/Dischmat**	**6.23**	**223**	Lg		07 56 39.2	
	comp=Z,0.6nm,0.3s,baz=21,slow=23,SNR=2.6						
FELD	**Feldberg im Sc**	**6.37**	**238**	P	**Pn**	**07 54 56.8**	**-1.6**
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**07 55 24.1**	**-0.9**
AKASG				Lg		07 57 51.4	
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**07 55 24.1**	**-0.9**
	comp=Z,1.2nm,0.3s,baz=278,slow=12,SNR=7.9						
AKASG				Lg		07 57 51.4	
	comp=Z,0.5nm,0.3s,baz=270,slow=30,SNR=3.1						
AKASG	**Malin Array Be**	**8.31**	**90**	Pn	**Pn**	**07 55 24.1**	**-0.9**
HFS	**Hagfors**	**8.76**	**352**	Pn	**Pn**	**07 55 29.3**	**-1.8**
	comp=Z,0.2nm,0.3s,baz=165,slow=12,SNR=5.2						
FINES	**FINESS Array B**	**11.38**	**25**	Pn	**Pn**	**07 56 05.6**	**-1.4**
	comp=Z,0.4nm,0.3s,baz=208,slow=12,SNR=12						
ARCES	**ARCESS Array B**	**18.64**	**10**	P	**Pn**	**07 57 38.4**	**-4.0**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
ARCES	**ARCESS Array B**	**18.64**	**10**	Pn	**Pn**	**07 57 38.4**	**-4.0**
	comp=Z,0.5nm,0.3s,baz=198,slow=12,SNR=15						
TORD	**Torodi Ar. Bea**	**39.98**	**202**	P	**P**	**08 00 58.4**	**-1.2**
	comp=Z,0.9nm,0.9s,mb3.4,baz=17,slow=9.1,SNR=4.5						
YKA	**Yellowknife Ar**	**59.86**	**336**	P	**P**	**08 03 31.4**	**+1.3**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**59.86**	**336**	P	**P**	**08 03 31.4**	**+1.3**
YKA	**Yellowknife Ar**	**59.86**	**336**	P	**P**	**08 03 31.4**	**+1.3**
	comp=Z,0.6nm,0.7s,mb3.7,baz=29,slow=7.0,SNR=12						

*IDC **24** 08:00:21.9±3.7, 3997N×6306E, h0km, mb3.6/2, mb1 3.7/5, mb1mx3.4/23, mbtmp3.7/5, ML3.7/3, Error ellipse: s-maj=49

ZALV	Zalesovo Beam	53.95 322	P	P	08 13 09.9	-0.7
	0.7nm,0.4s,baz=84,slow=5.9,SNR=4.6					
MKAR	Makanchi Array	54.41 313	P	P	08 13 14.8	+0.6
	0.6nm,0.6s,baz=94,slow=8.6,SNR=6.8					
YKA	Yellowknife Ar	76.47 28	P	P	08 15 35.0	-0.1
	0.8nm,0.5s,baz=293,slow=5.9,SNR=18					
NVAR	Mina Array Bea	83.28 51	P	P	08 16 12.9	+0.8
	0.6nm,0.7s,baz=260,slow=5.2,SNR=4.8					

*CSEM **24** 08:28:36.3±0.1,3902N×4055E,h5km,MD3.1,Error ellipse: s-maj=2.4km s-min=1.9km az=136.0*
*ISK **24** 08:28:36.6,3901N×4055E,h6km,MD3.1*
*ISCJB **24** 08:28:37.6±0.4,3900N±003×4051E±004,h5km,Error ellipse: s-maj=5.2km s-min=3.6km az=150.4*
*DDA **24** 08:28:37.5,3900N×4051E,h7km±2km,Md3.0*
ISC 24 08:28:38.0±0.6,3900N±004×4052E±004,h6km±5km,n17,σ1§27/25,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.13	191	PG	Pg	08 28 40.2	-0.4
BINT				eSG	Sg	08 28 42.6	+0.2
BNGL	BINGOL	0.49	95	i P	Pg	08 28 47.2	-0.3
BNGL				i S	Sg	08 28 55.3	+1.3
PTK	Pertek	0.89	263	ePG	Pg	08 28 54.4	-0.6
PTK				eSG	Sg	08 29 07.5	+1.0
EZC	Erzincan	0.93	324	ePN	Pn	08 28 59.7	+2.2
BTMT	Batman	1.11	136	ePG	Pg	08 28 57.3	-1.9
EZM	Erzurum	1.11	36	ePN	Pn	08 28 57.9	-2.2
ERZM	Erzurum	1.12	36	i P	Pg	08 28 58.7	-0.8
ERZM				i S	Sg	08 29 16.0	+2.0
SVRC	Sivrice-ELAZID	1.14	237	ePN	Pn	08 28 59.1	-1.3
ELZG	Elazig	1.30	248	i P	Pn	08 29 02.3	-0.4
ELZG				i S	Sb	08 29 24.0	+4.2
HOMI	Horasan	1.50	45	i P	Pn	08 29 06.0	+0.6
HOMI				i S	Sn	08 29 29.7	+4.5
GUMT	Gumushane	1.66	332	ePN	Pn	08 29 07.1	-0.6
MARD	Mardin	1.70	173	i P	Pn	08 29 09.1	+1.0
MARD				i S	Sn	08 29 31.7	+1.6
MYA	Malataya	1.77	248	ePN	Pn	08 29 08.8	-0.3
MALT	Malatya	1.78	248	ePN	Pn	08 29 09.2	0.0
AGRB	Hanur-Agry	2.00	73	ePN	Pn	08 29 11.4	-1.0
URFA	Urfa	2.05	221	ePN	Pn	08 29 12.9	-0.1
GZT	Gaziantep	2.85	236	i P	Pg	08 29 29.9	-2.7
GZT				i S	Sg	08 30 12.3	+2.7

IDC 24 08:31:09.5±1.1,3832N×10989E,h0km,mb3.6/4, mb1 3.9/5,mb1mx3.6/20,mbtmp3.6/5,ML3.4/1,Error ellipse: s-maj=54.0km s-min=22.9km az=64.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.85	346	Pn	Pn	08 33 32.2	0.0
	0.3nm,0.3s,baz=162,slow=11,SNR=3.6						
MKAR	Makanchi Array	21.94	302	P	P	08 36 04.4	0.0
	0.9nm,0.8s,baz=96,slow=12,SNR=7.1						
WRA	Warramunga Arr	62.34	154	P	P	08 41 33.5	-0.2
	0.3nm,0.2s,baz=345,slow=7.2,SNR=9.6						
ASAR	Alice Springs	65.65	156	P	P	08 41 55.8	+0.3
	0.7nm,0.7s,baz=338,slow=6.4,SNR=8.8						
YKA	Yellowknife Ar	73.36	20	P	P	08 42 42.8	+0.2
	0.1nm,0.8s,baz=324,slow=4.3,SNR=4.2						

*NEIC **24** 08:49:27.4,1670N×6081W,h35km,mb4.3/3, MD4.5(RSPR),MD4.2(TRN),After TRN.*
*TRN **24** 08:49:28.7,1682N×6086W,h34km,MD4.1,M3.9(FDF), M4.0(FDF)*
TRN Felt (II), Guadeloupe.
*ISCJB **24** 08:49:30.1±0.6,1681N±003×6094W±004,h61km±5km, mb4.0/15,Error ellipse: s-maj=7.7km s-min=3.4km az=140.8*
*IDC **24** 08:49:31.8±2.9,1679N×6091W,h61km±28km,mb3.8/13, mb1 3.9/17,mb1mx3.8/26,mbtmp3.9/17,ML3.8/2,MS3.4/7, Ms1 3.5/7,ms1mx3.2/28,Error ellipse: s-maj=17.9km s-min=12.9km az=70.0*
*RSPR **24** 08:49:32.5,1697N×6093W,h25km±45km,MD4.5/14, MD4.5/14*
ISC 24 08:49:30.4±0.7,1683N±003×6086W±005,h44km±7km,n75,σ1§04/101,mb4.0/15,MS3.7/3,25C-6D,Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SFG	Saint Francois	0.66	210⇓	ePN	Pn	08 49 42.4	-1.0
BPA	Boggy Peak	0.98	283⇑	ePN	Pn	08 49 46.4	-1.4
BPA				eS	Sn	08 50 01.1	+0.6
MGG	Marie-Galante	1.00	206⇑	ePN	Pn	08 49 47.7	-0.4
BCG	Bois Riant Cap	1.04	225	ePN	Pn	08 49 48.7	+0.2
DOG	Dongo Capester	1.08	223	ePN	Pn	08 49 49.1	0.0
LZG	Guadaloupe-1	1.11	232	ePN	Pn	08 49 49.2	-0.3
SCG	Saint Claude	1.12	225⇑	ePN	Pn	08 49 49.7	+0.1
HMG	Houelmont	1.17	224⇑	ePN	Pn	08 49 50.7	+0.4
HMG				eS	Sn	08 50 06.0	+1.0
TBG	Guadaloupe-3	1.23	218⇓	ePN	Pn	08 49 51.6	+0.5
CPB	Codrington	1.23	311	ePN	Pn	08 49 50.5	-0.7
CPB				eS	Sn	08 50 02.4	-4.2
CPB				eS	Sn	08 50 08.4	+1.8
FDF	Fort de France	2.10	188⇑	ePN	Pn	08 50 02.1	-1.0
FDF				eS	Sn	08 50 27.2	-0.8
SEUS	St. Eustatius	2.14	288	eS	Sn	08 50 26.2	-2.8
SEUS	St. Eustatius	2.14	288⇓	ePN	Pn	08 50 03.9	+0.3
MVM	Montagne Vaucl	2.26	181	ePN	Pn	08 50 05.3	0.0
BIM	Bigot	2.31	185⇓	ePN	Pn	08 50 06.1	+0.2
SABA	Saba	2.41	289	eS	Sn	08 50 33.5	-2.2
SABA	Saba	2.41	289⇓	ePN	Pn	08 50 07.8	+0.5
SABT	Saba	2.41	289	eS	Sn	08 50 33.5	-2.2
SMRT	St. Maarten	2.44	300	eS	Sn	08 50 34.0	-2.4
SMRT	St. Maarten	2.44	300⇑	ePN	Pn	08 50 07.9	+0.1
STMA	St. Maarten, A	2.47	300⇑	ePN	Pn	08 50 07.9	-0.2
STMA				eS	Sn	08 50 39.1	+2.0
STMA	St. Maarten, A	2.47	300	ePN	Pn	08 50 09.1	+0.9
STMA				eS	Sn	08 50 39.1	+2.0
SLW	Petit Monier	2.79	182	ePN	Pn	08 50 09.5	-3.1
SLW				eS	Sn	08 50 40.7	-4.3
SLW	Petit Monier	2.79	182	ePN	Pn	08 50 13.3	+0.7
SLW				eS	Sn	08 50 40.7	-4.3
SLB	Belfond	2.99	183	ePN	Pn	08 50 13.0	-2.3
SLB	Belfond	2.99	183	ePN	Pn	08 50 15.9	+0.7
SLB				eS	Sn	08 50 42.9	-7.0
MCLT	Moule a Chique	3.10	182	ePN	Pn	08 50 14.1	-2.8
MCLT				eS	Sn	08 50 47.2	-5.5
ABV	Anegada	3.81	300⇑	ePN	Pn	08 50 27.9	+1.2
ABV	Anegada	3.81	300⇓	ePN	Pn	08 50 27.9	+1.2
ABV				eS	Sn	08 51 09.3	-0.9
BBGH	Gun Hill	3.87	161	Pn	Pn	08 50 22.3	-5.2
TBVI	Tortola	3.92	294⇑	ePN	Pn	08 50 27.3	-0.8
TBVI				eS	Sn	08 51 10.8	-2.1
STVI	Saint Thomas	4.19	292⇑	ePN	Pn	08 50 30.6	-1.2
STVI				eS	Sn	08 51 18.8	-0.7
MTP	Monte Pirata	4.66	286⇑	ePN	Pn	08 50 38.1	-0.1
MTP				eS	Sn	08 51 30.9	-0.2
GRGR	Grenville	4.73	190	ePn	Pn	08 50 40.3	+1.0
GRGR				eSn	Sn	08 51 43.0	+10
HUMP	Col San Antoni	4.94	286⇑	ePN	Pn	08 50 43.1	+0.9
HUMP				eS	Sn	08 51 36.7	-1.4
CPD	Cerro la Pandu	4.98	285⇑	ePN	Pn	08 50 42.7	+0.1
CPD				eS	Sn	08 51 39.0	+0.1
CBYP	Canovanas	4.98	288⇑	ePN	Pn	08 50 42.4	-0.3
CBYP				eS	Sn	08 51 38.4	-0.6
SJG	San Juan	5.21	285⇑	ePN	Pn	08 50 47.1	+1.3
SJG	San Juan	5.21	285⇑	ePN	Pn	08 50 46.6	+0.7
SJG				eS	Sn	08 51 45.1	+0.4
SJG	San Juan	5.21	285	P	Pn	08 50 47.0	+1.1
	6.8nm,0.3s,baz=314,slow=20,SNR=18						
SJG				S	Sn	08 51 45.8	+1.1
	5.1nm,0.3s,baz=312,slow=21,SNR=3.6						
SJG				LR	LR	08 52 11.0	
	comp=Z,66nm,19.3s,baz=113,slow=31						
SJG	San Juan	5.21	285⇑	ePN	Pn	08 50 47.1	+1.3
SJG				eS	Sn	08 51 45.1	+0.4
ICM	Isla Caja Muer	5.51	282⇑	ePN	Pn	08 50 50.3	+0.3
ICM				eS	Sn	08 51 52.7	+0.6
CELP	Cerrillos	5.60	284⇑	ePN	Pn	08 50 52.2	+1.0
OBIP	Obispado Ponce	5.62	283⇑	ePN	Pn	08 50 52.6	+1.1
AOPR	Arecibo Observ	5.83	286⇑	ePN	Pn	08 50 55.9	+1.7
AOPR				eS	Sn	08 52 00.0	+0.2
LRS	Lares	5.89	285⇑	ePN	Pn	08 50 57.0	+1.8
LRS	Lares	5.89	285⇑	ePN	Pn	08 50 47.0	-8.2
CRPR	Cabo Rojo, PR	6.08	282⇑	ePN	Pn	08 50 58.4	+0.6
LSP	Las Mesas	6.09	284	ePN	Pn	08 50 60.0	+2.0
LSP				eS	Sn	08 52 07.8	+1.4
AGPR	Aguadilla, PR	6.18	286⇑	ePN	Pn	08 51 00.0	+0.8
PCRV	Puerto La Cruz	7.56	210	P	Pn	08 51 18.3	+0.1
	1.0nm,0.3s,baz=27,slow=6.8,SNR=3.7						
PCRV				S	Sn	08 52 43.2	+0.6
	0.2nm,0.3s,baz=267,slow=18,SNR=2.1						
PCRV				LR	LR	08 54 34.3	
	comp=Z,367nm,19.1s,baz=14,slow=40						
SDDR	Presa de Saban	10.16	284	Pn	Pn	08 51 54.5	+0.7
	30nm,0.8s						
SDDR				eSn	Sn	08 53 46.9	+0.6
SDV	Santo Domingo	12.37	232	P	Pn	08 52 24.0	0.0
	0.7nm,0.3s,baz=77,slow=9.6,SNR=14						
SDV				LR	LR	08 57 43.3	
	comp=Z,192nm,19.1s,baz=180,slow=40						
ROSC	El Rosal	17.77	230	P	Pn	08 53 36.5	+1.7
	0.7nm,0.3s,baz=105,slow=15,SNR=8.4						
ROSC				LR	LR	09 00 56.0	
	comp=Z,151nm,21.1s,baz=208,slow=39						
BCIP	Isla Barro Col	19.99	250	ePN	Pn	08 53 59.6	-1.7
	31nm,1.1s						
ATAH	Atahualpa	29.35	218	P	P	08 55 30.7	+1.3
	14nm,0.8s,mb4.7,baz=32,slow=2.6,SNR=7.8						
LPAZ	La Paz	33.68	193	P	P	08 56 07.0	-0.3
	1.4nm,0.8s,mb3.9,baz=264,slow=3.5,SNR=6.2						
TXAR	Lajitas Array	41.09	295	P	P	08 57 09.6	-0.5
	0.3nm,0.6s,mb3.1,baz=113,slow=7.6,SNR=7.7						
MNTX	Cornudas Mount	42.91	299	eP	P	08 57 24.8	-0.2
	3.1nm,0.9s,mb4.0						
CPUP	Villa Florida	43.03	175	P	P	08 57 24.2	-1.7
CPUP	Villa Florida	43.03	175	P	P	08 57 24.2	-1.7
	1.1nm,0.5s,mb3.9,baz=344,slow=8.1,SNR=4.4						
ULM	Lac du Bonnet	43.60	328	P	P	08 57 29.4	-0.8
ULM	Lac du Bonnet	43.60	328	P	P	08 57 29.4	-0.8
	1.8nm,0.7s,mb3.9,baz=114,slow=8.4,SNR=2.5						
WUAZ	Wupatki	48.46	303	eP	P	08 58 09.3	+0.6
	2.4nm,0.8s,mb4.3						
BGU	Big Grassy Mou	50.74	309	eP	P	08 58 26.8	+0.7
NVAR	Mina Array Bea	54.35	305	P	P	08 58 53.1	+0.3
	0.6nm,0.7s,mb3.6,baz=116,slow=6.6,SNR=5.2						
DBIC	Dimbokro	55.59	93	P	P	08 59 02.1	0.0
	7.1nm,0.9s,mb4.7,baz=279,slow=4.6,SNR=7.4						
PLCA	Paso Flores	57.97	189	P	P	08 59 18.1	-0.3
	2.6nm,0.8s,mb4.3,baz=348,slow=11,SNR=4.6						
YKA	Yellowknife Ar	58.82	334	P	P	08 59 23.0	-1.1
	0.7nm,0.8s,mb3.7,baz=106,slow=7.4,SNR=9.3						
TORD	Torodi Ar. Bea	60.33	84	P	P	08 59 34.6	-0.7
	2.5nm,0.7s,mb4.3,baz=288,slow=6.4,SNR=16						
TORD				LR	LR	09 21 30.0	
	comp=Z,62nm,18.8s,MS3.8,baz=230,slow=32						
KEST	Kesra	64.46	58	P	P	09 00 04.2	+1.6
	1.1nm,0.6s,mb4.1,baz=248,slow=5.4,SNR=3.3						
NOA	NORSAR Array B	66.75	30	P	P	09 00 17.0	+0.1
NOA				LR	LR	09 24 00.2	
NOA	NORSAR Array B	66.75	30	P	P	09 00 17.0	+0.1
	0.8nm,0.6s,mb3.9,baz=258,slow=6.7,SNR=3.5						
NOA				LR	LR	09 24 00.2	
	comp=Z,35nm,19.6s,MS3.6,baz=335,slow=31						
FINES	FINESS Array B	73.92	30	P	P	09 01 00.8	0.0
	1.8nm,0.8s,mb4.0,baz=154,slow=14,SNR=3.5						
BVAR	Borovoye Array	98.75	27	LR	LR	09 46 39.0	
	comp=Z,32nm,19.6s,MS3.8,baz=212,slow=35						

*IDC **24** 08:50:44.5±0.8,2226S×17035E,h0km,mb4.1/9, mb1 4.3/10,mb1mx4.2/14,mbtmp4.2/10,ML2.5/1,MS3.6/7, Ms1 3.7/7,ms1mx3.4/20,Error ellipse: s-maj=25.8km s-min=21.3km az=137.0*
*ISCJB **24** 08:50:47.7±3.9,222S±01×1703E±0.1,h33km±36km, mb4.1/9,MS3.9/4,Error ellipse: s-maj=19.8km s-min=17.5km az=138.4*
*NEIC **24** 08:50:48.1±7.5,22.16S×17029E,h20km±45km,Error ellipse: s-maj=19.4km s-min=14.7km az=155.0*
*VIE **24** 08:51:17.6,21.98S×169.10E,h240km,mb3.6 478 km S of Port Vila*
ISC 24 08:50:50.6±3.1,222S±01×1704E±01,h44km±30km,n33,σ0§96/13,mb4.1/9,MS3.9/4,1C-4D,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	16.15	320	LR	LR	09 00 08.5	
	comp=Z,90nm,18.4s,baz=18,slow=35						
URZ	Urewera	17.04	162	Pn	Pn	08 54 47.1	+1.5
	0.1nm,0.3s,baz=224,slow=17,SNR=2.2						
URZ				LR	LR	09 00 18.9	
	comp=Z,136nm,18.1s,baz=148,slow=34						
AFI	Afiamalu	18.86	67	P	Pn	08 55 06.7	-1.4
	0.9nm,0.3s,baz=224,slow=22,SNR=3.7						
AFI				LR	LR	09 00 45.7	
	comp=Z,70nm,20.6s,baz=266,slow=32						
RPZ	Rata Peaks	21.48	179	LR	LR	09 02 56.7	
	comp=Z,187nm,18.2s,MS3.5,baz=346,slow=34						
STKA	Stephens Creek	27.31	243	P	P	08 56 31.8	+0.5
	2.8nm,0.9s,mb3.8,baz=301,slow=13,SNR=4.9						
STKA				LR	LR	09 05 37.6	
	comp=Z,150nm,18.8s,MS3.6,baz=302,slow=33						
ASAR	Alice Springs	33.56	260	P	P	08 57 26.4	-0.2
	1.2nm,0.7s,mb4.0,baz=75,slow=9.5,SNR=22						
WRA	Warramunga Arr	33.65	267	P	P	08 57 26.3	-1.1
	0.9nm,0.5s,mb4.0,baz=99,slow=8.4,SNR=18						
WRA				PcP	PcP	09 00 07.6	+0.8
	0.8nm,1.0s,baz=103,slow=3.6,SNR=3.8						
VNDA	Vanda	55.54	182	LR	LR	09 20 58.8	
	comp=Z,157nm,18.8s,MS4.1,baz=262,slow=33						
MJAR	Matsushiro Arr	65.84	332	P	P	09 01 31.7	+0.2
	2.8nm,0.6s,mb4.5,baz=165,slow=6.7,SNR=9.3						
QSPA	South Pole Qui	67.88	180	P	P	09 01 43.7	-0.2
	2.0nm,0.9s,mb4.1,baz=47,slow=3.1,SNR=9.2						
KSRS	Korea Array	71.52	326	P	P	09 02 07.2	+0.3
	2.1nm,0.8s,mb4.1,baz=141,slow=6.3,SNR=6.6						
MAW	Mawson	76.11	202	P	P	09 02 33.1	-0.3
	1.0nm,0.5s,mb4.0,baz=168,slow=4.0,SNR=4.0						
VNA3	Neumayer Olymp	86.82	180	e	P	09 03 28.8	-1.2
VNA3				e		09 03 33.2	
VNA3				e		09 03 36.9	
VNA2	Neumayer--Watz	87.13	181	e	P	09 03 30.7	-0.8
	baz=174,slow=4.6						
VNA2				e		09 03 35.1	
VNA2				e		09 03 39.1	
NVAR	Mina Array Bea	89.97	48	P	P	09 03 47.3	+2.0
	0.1nm,0.3s,mb3.6,baz=238,slow=6.1,SNR=2.9						
SONM	Songino Array	90.19	323	P	P	09 03 47.1	+0.9
	1.8nm,0.7s,mb4.5,baz=124,slow=2.7,SNR=4.4						
TXAR	Lajitas Array	97.24	61	LR	LR	09 44 55.4	
	comp=Z,70nm,18.2s,MS4.2,baz=0.0,slow=33						
ARCES	ARCESS Array B	128.17	345	PKP	PKPdf	09 09 51.5	+0.2
	1.3nm,0.8s,baz=11,slow=2.5,SNR=6.4						
KECS	Kecovo	144.46	325	ePKP	PKPdf	09 10 21.5	-0.5
KSP	Ksiaz	144.97	331	eP	PKPdf	09 10 23.1	+0.3
VYHS	Vyhne	145.32	326	ePKP	PKPdf	09 10 24.7	+1.2
BRG	Berggiesshubel	145.97	333	i P	PKPbc	09 10 26.6	+1.4
	5.7nm,0.6s						
BRG				i		09 10 30.5	
	8.9nm,0.7s						
CLL	Collm	146.02	334⇓	iP	PKPdf	09 10 26.4	+1.8
CLL	Collm	146.02	334⇓	iPKPbc	PKPbc	09 10 26.4	+1.0
	comp=Z,8.0nm,0.8s						
MODS	Modra-Piesok	146.19	327	ePKP	PKPbc	09 10 27.9	+1.9
CONA	Conrad Observa	147.19	328⇓	iPKPbc	PKPbc	09 10 28.9	0.0
	comp=Z,4.3nm,1.0s						
CONA	Conrad Observa	147.19	328⇓	iP	PKPdf	09 10 28.9	+2.3
	comp=Z,4.3nm,1.0s						
GERES	GERESS Array B	147.57	331	PKPbc	PKPbc	09 10 30.5	+0.6
	comp=Z,1.7nm,0.6s,baz=29,slow=3.0,SNR=9.2						
GRA1	Grafenberg Arr	147.99	334	ePKP	PKPab	09 10 35.1	+1.3
GRF	Grafenberg Arr	147.99	334	ePKP	PKPab	09 10 35.1	+1.3
FETA	Feichten	150.26	331⇑	iP	PKPbc	09 10 37.6	+0.7
	comp=Z,7.3nm,1.0s						
CGRP	Cima Grappa	150.62	329	ePg	PKPab	09 10 43.0	-1.6
TORD	Torodi Ar. Bea	165.96	232	PKP	PKPdf	09 10 51.3	-0.3
	comp=Z,0.9nm,0.9s,baz=200,slow=2.5,SNR=4.0						

*VIE **24** 09:08:24.3±0.2,4922N×1696E,h0km,mb1.2/2,ML1.6/3, Error ellipse: s-maj=2.9km s-min=1.3km az=126.0 21 km E of Brno Suspected Mining explosion.*
ISC 24 09:08:22.5±3.3,495N±02×166E±01,h0km,n5,σ0§78/9,4C-2D,Czech and Slovak Republics

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MODS	Modra-Piesok	1.17	157	ePN	Pn	09 08 47.0	+1.0
MODS				eSN	Sn	09 09 03.8	+1.2
CONA	Conrad Observa	1.60	198⇓	iPg	Pg	09 08 52.8	-0.3
CONA				⇑iSg	Sg	09 09 13.4	-0.5
	comp=E,8.8nm,0.5s						
CONA	Conrad Observa	1.60	198⇓	iPg	Pg	09 08 52.8	-0.3
CONA				⇑iSg	Sg	09 09 13.4	-0.5
	8.8nm,0.5s						
CSNA	Conrad Observa	1.60	198⇑	iPg	Pg	09 08 52.9	-0.2
CSNA				⇑iSg	Sg	09 09 13.9	0.0
	6.4nm,0.4s						
VYHS	Vyhne	1.75	122	eSN	Sn	09 09 15.9	-1.2

GII 24 09:14:58.2±1.2,3094N×3491E,h0km,ML1.4/2,Dead Sea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RTMI	Retamim	0.22	302	Sg	Sg	09 15 07.2	+2.0
MZDA	Masada	0.54	47	Pg	Pg	09 15 09.8	+1.3
MZDA				Sg	Sg	09 15 18.6	+3.2
MZDA	Masada	0.54	47	Sg	Sg	09 15 18.5	+3.0
PRNI	Paran	0.59	172	Pg	Pg	09 15 10.8	+1.2
PRNI				Sg	Sg	09 15 19.5	+2.2
PRNI	Paran	0.59	172	Pg	Pg	09 15 10.6	+1.1
PRNI				Sg	Sg	09 15 19.6	+2.4
KRMI	Paran Flat	0.84	191	Pg	Pg	09 15 15.0	+0.8
HRFI	Mount Harif	0.91	173	Sg	Sg	09 15 30.5	+3.1
MBH	Mount Berech	1.15	180	Pg	Pg	09 15 21.6	+1.4
MBH				Sg	Sg	09 15 37.5	+2.5
MBH	Mount Berech	1.15	180	Pg	Pg	09 15 21.5	+1.4
MBH				Sg	Sg	09 15 37.7	+2.7
EIL	Elat	1.27	178	Sg	Sg	09 15 42.1	+3.1

IDC 24 09:20:08.0±1.3,3838N×10993E,h0km,mb3.7/3, mb1 3.9/4,mb1mx3.6/20,mbtmp3.7/4,ML3.1/1,Error ellipse: s-maj=69.6km s-min=20.8km az=61.0,Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	9.80	346	Pn	Pn	09 22 31.0	+1.0
	0.2nm,0.3s,baz=160,slow=14,SNR=4.9						
SONM				Lg		09 25 17.9	
	0.2nm,0.3s,baz=165,slow=28,SNR=2.8						
MKAR	Makanchi Array	21.93	301	P	P	09 25 02.8	-0.1
	0.9nm,0.8s,baz=103,slow=11,SNR=8.4						
WRA	Warramunga Arr	62.38	154	P	P	09 30 32.3	-0.1
	1.5nm,1.1s,baz=344,slow=7.0,SNR=8.9						
ASAR	Alice Springs	65.69	156	P	P	09 30 54.4	+0.2
	0.9nm,0.7s,baz=342,slow=6.8,SNR=12						

KRSC 24 09:20:10.4±0.8,5275N×16058E,h26km±25km,ML3.5,Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	Mys Shipunski	0.48	316	eP	Pb	09 20 21.1	+0.7
SPN				i S	Sb	09 20 28.8	+1.6
NLC	Nalytchevo	0.86	300	eP	Pb	09 20 26.7	+0.1
NLC				i S	Sb	09 20 38.9	+1.2
PET	Petropavlovsk	1.20	284	eP	Pn	09 20 31.9	+0.5
PET				i S	Sn	09 20 47.4	+0.6
AVH	Avacha	1.23	296	eP	Pn	09 20 32.5	+0.7
AVH				i S	Sn	09 20 49.0	+1.5
RUS	Russkaya	1.30	257	eP	Pn	09 20 33.2	+0.4
RUS				i S	Sn	09 20 49.7	+0.4
KII	Karymskiy	1.46	333	eP	Pn	09 20 36.7	+1.7
KII				i S	Sn	09 20 55.7	+2.5
GRL	Gorelyy	1.54	264	eP	Pn	09 20 37.8	+1.7
GRL				i S	Sn	09 20 57.6	+2.4
GNL	Ganaly	1.85	302	eP	Pn	09 20 42.5	+2.2
GNL				i S	Sn	09 21 06.3	+3.5
MKZ	Mys Kozlova	1.94	20	eP	Pn	09 20 42.3	+0.8
MKZ				i S	Sn	09 21 05.7	+0.7
MIPR	Malaya Ipel'ka	2.38	260	eP	Pn	09 20 49.4	+1.7
TUMR	Tumrok	2.55	354	P	Pn	09 20 51.6	+1.6
KBTR	Krutoberegovo	3.70	20	eP	Pn	09 21 07.5	+1.7

*CSEM **24** 09:35:31.6±0.1,4138N×3368E,h10km,MD3.0,Error ellipse: s-maj=1.7km s-min=1.5km az=175.0*
*DDA **24** 09:35:32.0,4151N×3359E,h34km,Md3.0*
*ISK **24** 09:35:31.8,4138N×3368E,h8km,MD3.0*
*ISCJB **24** 09:35:32.1±0.6,4136N±004×3370E±004,h4km±8km, Error ellipse: s-maj=7.1km s-min=5.0km az=169.4*
ISC 24 09:35:32.6±0.5,4136N±004×3369E±004,h6km±7km,n14,σ0§60/19,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BALT	Daday	0.29	306	i P	Pg	09 35 38.1	-0.1
BALT				i S	Sg	09 35 42.3	+0.3
TOS	Tosya	0.41	143	PG	Pg	09 35 40.7	+0.1
BZK	Bozkurt	0.64	21	ePG	Pg	09 35 44.6	-0.3
BZK				eSG	Sg	09 35 53.7	+0.5
CANT	Cankiri	0.76	184	ePG	Pg	09 35 47.1	-0.1
SAFT	Safranbolu	0.77	261	ePG	Pg	09 35 46.9	-0.5
SAFT				eSG	Sg	09 35 57.7	+0.4
BYBT	Boyabat	0.81	82	ePG	Pg	09 35 47.8	-0.4
BOYT	Boyabat	0.91	86	i P	Pg	09 35 49.7	-0.4
BOYT				i S	Sg	09 36 03.0	+1.1
CTKT	Corum

LKR	Lokris	1.68	58	*e*Pn	Pn	09 37 25.4	+0.5
LKR				*e*Sb	Sb	09 37 48.6	+0.9
VLI	Veliai	1.77	126	*e*PN	Pn	09 37 28.4	+2.3
NAIG	Nisos Aigina	1.84	90	*e*PN	Pn	09 37 27.5	+0.4
THL	Klokotos Trika	1.90	20	*e*Pn	Pn	09 37 29.0	+1.1
THL				*e*Sb	Sb	09 37 53.3	-0.7
ATH	Athens Observa	2.02	84	*e*PN	Pn	09 37 30.7	+1.1
KVR	Kavouri	2.06	88	*e*PB	Pb	09 37 30.5	-2.4
KYTH	Kithira	2.12	135	*e*PN	Pn	09 37 33.1	+2.2
PTL	Penteli	2.15	82	*e*PN	Pn	09 37 32.0	+0.7
KEK	Kerkira	2.21	331	*e*PB	Pb	09 37 32.8	-2.6
XOR	Xorichti	2.24	44	*e*Pn	Pn	09 37 33.0	+0.4
LIT	Litokhoron	2.53	24	*e*Pn	Pn	09 37 37.5	+0.8
AOS	Alonnisos	2.54	56	*e*Pn	Pn	09 37 37.0	+0.3
FNA	Florina	3.00	3	*e*Pn	Pn	09 37 43.7	+0.6
APE	Apeiranthos	3.54	100	*e*Pn	Pn	09 37 50.2	-0.3
KNT	Kendrikon	3.63	21	*e*Pn	Pn	09 37 52.3	+0.6
VAY	Valandovo	3.70	17	*e*Pn	Pn	09 37 52.2	-0.4
VAY	Valandovo	3.70	17	*e*Pn	Pn	09 37 52.1	-0.5
CHOS	Chios island	3.90	80	*e*Pn	Pn	09 37 56.0	+0.6
HAVL	Avola	4.88	262	Pn	Pn	09 38 07.0	-1.9
HAVL				Sn	Sn	09 39 01.4	-4.2

*CSEM **24** 09:39:43.4±1.7, 4259N×4947E, h5km, mb3.9, Error ellipse: s-maj=27.1km s-min=13.1km az=67.0*
*MOS **24** 09:39:52.1±2.1, 4256N×4893E, h19km, mb3.9/1, Error ellipse: s-maj=35.2km s-min=21.5km az=45.6*

ISC 24 09:39:45.2±2.5, **4254N**±006×**493E**±01, **h12**km±13km, **n12**, σ0**97**/19, **Caspian Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRN	**Derbent**	**0.89**	**235**	*e*PG	**Pg**	**09 40 03.4**	**+1.1**
DRN				*i* S	**Sg**	**09 40 14.4**	**+0.6**
DRN				pmax	pmax		
	comp=Z,52nm,0.2s						
DRN	**Derbent**	**0.89**	**235**	*e*Pg	**Pg**	**09 40 03.4**	**+1.1**
	comp=Z,52nm,0.2s						
DRN				*i* Sg	**Sg**	**09 40 14.4**	**+0.6**
KSMR	**Kasumkent**	**1.28**	**223**	*i* PG	**Pg**	**09 40 11.0**	**+1.1**
KSMR				*i* S	**Sg**	**09 40 27.0**	**+0.4**
KSMR				pmax	pmax		
	comp=Z,162nm,0.1s						
KSMR	**Kasumkent**	**1.28**	**223**	*i* Pg	**Pg**	**09 40 11.0**	**+1.1**
	comp=Z,162nm,0.1s						
KSMR				*i* Sg	**Sg**	**09 40 27.0**	**+0.4**
URKR	**Urkarakh**	**1.29**	**254**	*i* Pg	**Pg**	**09 40 10.0**	**-0.1**
URKR				*i* Sg	**Sg**	**09 40 25.5**	**-1.4**
SIZA	**Siyzn**	**1.50**	**192**	S	**Sn**	**09 40 31.4**	**+0.1**
AKT	**Akhty**	**1.58**	**228**	*i* PG	**Pg**	**09 40 14.0**	**-1.6**
AKT				pmax	pmax		
	comp=Z,49nm,0.2s						
AKT	**Akhty**	**1.58**	**228**	*i* Pg	**Pg**	**09 40 14.0**	**-1.6**
	comp=Z,49nm,0.2s						
KRNR	**Karanay**	**1.79**	**280**	*e*PG	**Pg**	**09 40 26.5**	**+7.0**
KRNR				*i* S	**Sg**	**09 40 44.0**	**+1.3**
KRNR				pmax	pmax		
	comp=Z,29nm,0.2s						
KRNR	**Karanay**	**1.79**	**280**	*i* Sg	**Sg**	**09 40 44.0**	**+1.3**
DBC	**Dubki**	**1.88**	**285**	*e*PG	**Pg**	**09 40 20.0**	**-1.3**
DBC				*i* S	**Sg**	**09 40 46.0**	**+0.3**
SEKA	**Sheki**	**2.06**	**230**	S	**Sg**	**09 40 50.6**	**-0.8**

TRN 24 09:45:58.1, 1693N×6080W, h15km**, MD3.5, M3.0**(FDF), **2D, Leeward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	**La Desirade**	**0.66**	**202**	*e*P	Pg	09 46 07.7	-3.4
DEG				*e*S	Sg	09 46 16.9	-3.0
BPA	**Boggy Peak**	**1.02**	**277**	*e*P	Pb	09 46 14.2	-3.4
BPA				*e*S	Sb	09 46 25.2	-5.6
MGG	**Marie-Galante**	**1.12**	**206**⇓	*e*P	Pb	09 46 14.9	-4.4
BCG	**Bois Riant Cap**	**1.15**	**223**	*e*P	Pn	09 46 16.4	-3.3
DOG	**Dongo Capester**	**1.19**	**222**	*e*P	Pn	09 46 16.8	-3.5
LZG	**Guadaloupe-1**	**1.22**	**230**	*e*P	Pn	09 46 17.2	-3.6
SCG	**Saint Claude**	**1.23**	**224**	*e*P	Pn	09 46 17.6	-3.3
HMG	**Houelmont**	**1.28**	**223**	*e*P	Pn	09 46 18.2	-3.4
TBG	**Guadaloupe-3**	**1.34**	**217**⇓	*e*P	Pn	09 46 19.0	-3.5

*ISCJB **24** 09:55:15.6±5.5, 7.18S±0.10×15561E±007, h2km±34km, mb4.1/10, Error ellipse: s-maj=17.9km s-min=10.4km az=25.4*
*IDC **24** 09:55:16.4±1.0, 731S×15561E, h0km, mb4.2/8, mb1 4.3/9, mb1mx4.2/4, mbtmp4.2/9, ML4.9/1, MS3.4/2, Ms1 3.4/2, ms1mx2.8/20, Error ellipse: s-maj=25.9km s-min=22.7km az=98.0*
*NEIC **24** 09:55:22.8±2.6, 735S×15568E, h50km±29km, mb4.4/2, Error ellipse: s-maj=26.9km s-min=11.0km az=145.0*

ISC 24 09:55:22.4±3.2, **73S**±02×**1556E**±01, **h39**km±35km, **n15**, σ0**92**/15, **mb4.1**/10, **Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.84**	**117**	Pn	**Pn**	**09 56 31.4**	**-1.5**
	46nm,0.3s,baz=255,slow=3.2,SNR=13						
HNR				Sn	**Sn**	**09 57 29.2**	**+1.4**
	16nm,0.3s,baz=90,slow=19,SNR=3.6						
HNR				LR	LR	09 57 35.4	
	comp=Z,132nm,18.6s,baz=357,slow=29						
KAKA	**Kakadu**	**23.40**	**255**	*e*P	**P**	**10 00 28.4**	**+0.2**
	8.9nm,0.5s,mb4.5						
WRAB	**Tennant Creek**	**24.12**	**236**	*e*P	**P**	**10 00 35.0**	**+0.3**
	7.2nm,0.8s,mb4.2						
WRAB				*e*PcP	PcP	10 04 09.7	-5.7
WB2	**Warramunga Arr**	**24.12**	**236**	*e*P	**P**	**10 00 34.8**	**0.0**
WRA	**Warramunga Arr**	**24.13**	**236**	P	**P**	**10 00 35.1**	**+0.2**
	4.7nm,0.7s,mb4.0,baz=59,slow=9.1,SNR=86						
WRA				ScP	ScP	10 07 53.8	+2.7
	0.7nm,0.9s,baz=64,slow=3.3,SNR=5.0						
ASAR	**Alice Springs**	**26.42**	**230**	P	**P**	**10 00 54.7**	**-0.9**
	0.7nm,0.5s,mb3.5,baz=56,slow=10,SNR=18						
STKA	**Stephens Creek**	**27.74**	**206**	LR	LR	10 11 22.6	
	comp=Z,168nm,18.1s,baz=204,slow=35						
MJAR	**Matsushiro Arr**	**46.52**	**341**	P	**P**	**10 03 45.5**	**-0.5**
	2.2nm,0.8s,mb4.1,baz=163,slow=7.4,SNR=6.1						
KSRS	**Korea Array**	**51.44**	**332**	P	**P**	**10 04 24.8**	**+1.0**
	1.0nm,0.7s,mb3.9,baz=145,slow=8.6,SNR=3.8						
SONM	**Songino Array**	**69.80**	**327**	P	**P**	**10 06 30.9**	**+1.8**
	2.1nm,0.4s,mb4.4,baz=134,slow=4.7,SNR=12						
MK31	**Makanchi Array**	**83.97**	**319**	*e*P	**P**	**10 07 48.9**	**+0.3**
MKAR	**Makanchi Array**	**83.97**	**319**	P	**P**	**10 07 49.0**	**+0.4**
	3.0nm,0.7s,mb4.5,baz=102,slow=6.0,SNR=33						
ZALV	**Zalesovo Beam**	**84.71**	**326**	P	**P**	**10 07 51.6**	**-0.6**
	2.6nm,0.5s,mb4.6,baz=107,slow=6.7,SNR=7.4						
PTRM	**Twissleman Ran**	**89.52**	**54**	*e*P	**P**	**10 08 15.4**	**-0.5**
YKA	**Yellowknife Ar**	**96.31**	**28**	P	**P**	**10 08 45.0**	**-1.6**
	0.1nm,0.6s,mb3.5,baz=264,slow=4.8,SNR=3.4						

*ATH **24** 10:13:38.5, 3677N×2051E, h5km±1km, MD3.3/4*
*NEIC **24** 10:13:38.5, 3677N×2051E, h5km, MD3.3(ATH), After ATH.*
*CSEM **24** 10:13:39.7±0.5, 3675N×2048E, h2km, ML3.5, Error ellipse: s-maj=7.7km s-min=4.2km az=46.0*
*THE **24** 10:13:40.9, 3682N×2055E, h3km, ML3.5*

ISC 24 10:13:39.2±2.2, **3675N**±006×**2048E**±009, **h3**km±11km, **n11**, σ0**64**/17, **Central Mediterranean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**1.02**	**81**	*e*Pg	**Pg**	**10 13 58.4**	**-0.3**
PYL				*e*Sg	**Sg**	**10 14 12.3**	**+0.3**
ITM	**Ithomi**	**1.23**	**69**	*e*PB	Pn	**10 14 01.5**	**-1.8**
KFL	**Anninata**	**1.38**	**10**	*e*Pg	Pn	**10 14 05.0**	**-0.3**
VLS	**Valsamata**	**1.43**	**3**	*e*Pg	Pn	**10 14 05.6**	**-0.4**
VLS				*e*Sg	**Sg**	**10 14 24.9**	**-0.2**
VLS	**Valsamata**	**1.43**	**3**	*e*PB	Pn	**10 14 05.5**	**-0.5**
VLS				*e*SB	**Sb**	**10 14 25.2**	**+0.2**
RLS	**Riolos of Patr**	**1.52**	**31**	*e*PB	Pn	**10 14 07.0**	**-0.3**
RLS				*e*SB	**Sb**	**10 14 27.7**	**-0.1**
VLX	**Vlachokerasia**	**1.64**	**67**	*e*Pg	Pn	**10 14 09.2**	**+0.3**
VLX				*e*Sg	**Sg**	**10 14 32.0**	**+0.2**
SELA	**Sela**	**1.89**	**36**	*e*Pb	Pn	**10 14 13.3**	**+0.9**
SELA				*e*Sb	**Sb**	**10 14 38.0**	**-0.4**
LKD	**Levkas**	**1.96**	**4**	*e*Pb	Pn	**10 14 14.2**	**+0.9**
VLI	**Veliai**	**1.97**	**90**	*e*PN	**Pb**	**10 14 15.4**	**-0.3**
DID	**Didima**	**2.33**	**70**	*e*Pn	**Pn**	**10 14 19.3**	**+1.0**

*CSEM **24** 10:29:00.2±0.2, 3682N×2765E, h0km±2km, MD2.8, Error ellipse: s-maj=6.1km s-min=2.6km az=106.0*
*ISCJB **24** 10:29:01.2±0.8, 3681N±004×2760E±007, h8km±7km, Error ellipse: s-maj=10.0km s-min=5.5km az=164.9*
*DDA **24** 10:29:01.5, 3683N×2753E, h7km±1km, Md2.9*
*ISK **24** 10:29:01.1, 3680N×2763E, h7km, MD2.8*

ISC 24 10:29:01.5±0.8, **3679N**±004×**2761E**±007, **h8**km±7km, **n9**, σ0**67**/14, **Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DAT	**Datca**	**0.07**	**202**	*e*PG	**Pg**	**10 29 02.8**	**-0.6**
DAT				*e*SG	**Sg**	**10 29 05.7**	**+1.0**
BDRM	**Kayabasi**	**0.30**	**334**	*i* P	**Pg**	**10 29 06.5**	**-1.6**
BDRM				*i* S	**Sg**	**10 29 10.7**	**-0.9**
MLSB	**Milas**	**0.52**	**15**	*e*PG	**Pg**	**10 29 11.9**	**+0.2**
MLSB				*e*SG	**Sg**	**10 29 18.8**	**+0.4**
YER	**Yerkesik**	**0.64**	**57**	*e*PG	**Pg**	**10 29 14.3**	**+0.4**
DALT	**Dalyan (Mudla)**	**0.83**	**91**	*e*PG	**Pg**	**10 29 16.9**	**-0.5**
AYDN	**Tasoluk**	**0.90**	**14**	*i* P	**Pg**	**10 29 18.5**	**-0.3**
AYDN				*i* S	**Sg**	**10 29 30.9**	**+0.5**
FETY	**Fethiye**	**1.20**	**97**	*e*PN	**Pn**	**10 29 23.8**	**-0.7**
URLA	**Izmir**	**1.76**	**333**	*i* P	**Pn**	**10 29 33.5**	**+1.2**
URLA				*i* S	**Sg**	**10 29 58.4**	**+0.3**
ELL	**Elmali**	**1.85**	**91**	*e*PN	**Pn**	**10 29 33.7**	**+0.2**

*ISCJB **24** 10:39:17.9±0.7, 685N±006×7297W±007, h174km±7km, Error ellipse: s-maj=13.1km s-min=7.2km az=40.4*
*FUNV **24** 10:39:18.1, 675N×7314W, h171km, MW3.5*
*IDC **24** 10:39:21.4±6.8, 676N×7568W, h135km±83km, mb3.3/1, mb1 3.6/2, mb1mx3.1/20, mbtmp3.5/2, Error ellipse: s-maj=190.5km s-min=39.1km az=81.0*

ISC 24 10:39:18.9±0.7, **683N**±006×**7295W**±007, **h168**km±7km, **n18**, σ0**78**/24, **4C-1D, Northern Colombia**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.21**	**311**⇑	*i* P	**Pn**	**10 39 47.9**	**+0.8**
CAPV				*e*S	**Sn**	**10 40 09.2**	**+0.3**
ROSC	**El Rosal**	**2.39**	**215**	P	**Pn**	**10 39 59.7**	**0.0**
	36nm,0.3s,baz=350,slow=2.3,SNR=48						
ROSC				S	**Sn**	**10 40 30.6**	**-0.7**
	54nm,0.3s,baz=97,slow=17,SNR=6.9						
SOCV	**Socops**	**2.53**	**55**⇑	*i* P	**Pn**	**10 40 02.5**	**+1.3**
SOCV				*e*S	**Sn**	**10 40 34.4**	**+0.3**
VIGV	**El Vigia**	**2.54**	**38**	*e*P	**Pn**	**10 40 02.0**	**+0.6**
VIGV				*e*S	**Sn**	**10 40 35.0**	**+0.6**
ELOV	**Elorza**	**3.44**	**87**⇑	*i* P	**Pn**	**10 40 13.9**	**+1.3**
ELOV				*e*S	**Sn**	**10 40 52.9**	**-1.4**
VIRV	**Villa del Rosa**	**3.69**	**8**⇓	*i* P	**Pn**	**10 40 14.5**	**-1.2**
VIRV				*e*S	**Sn**	**10 40 56.6**	**-3.4**
QARV	**Quebrada Arrib**	**4.13**	**35**	*e*P	**Pn**	**10 40 20.8**	**-0.4**
QARV				*e*S	**Sn**	**10 41 08.9**	**-1.1**
SANV	**Sanarito**	**4.30**	**52**	*e*P	**Pn**	**10 40 23.9**	**+0.4**
CURV	**Curarigua**	**4.33**	**43**	*e*P	**Pn**	**10 40 24.4**	**+0.4**
TEPV	**Terepaima**	**4.85**	**50**	*e*P	**Pn**	**10 40 31.1**	**+0.4**
SIQV	**Siquisique**	**4.90**	**39**	*e*P	**Pn**	**10 40 31.5**	**+0.2**
BAUV	**El Baul**	**5.29**	**66**⇑	*i* P	**Pn**	**10 40 35.8**	**-0.7**
TURV	**Turiamo**	**6.20**	**54**	*e*P	**Pn**	**10 40 48.4**	**0.0**
CAOV	**Caicara del Or**	**6.59**	**85**	*e*P	**Pn**	**10 40 53.2**	**-0.4**
BIRV	**Birongo**	**7.53**	**61**	*e*P	**Pn**	**10 41 05.9**	**-0.2**
CUPV	**Cepira**	**7.77**	**65**	*e*P	**Pn**	**10 41 08.8**	**-0.4**
YKA	**Yellowknife Ar**	**63.32**	**340**	P	**P**	**10 49 30.1**	**+0.5**
	0.5nm,0.6s,baz=132,slow=6.5,SNR=14						
WRA	**Warramunga Arr**	**150.49**	**241**	PKPbc	PKPbc	10 58 51.4	-0.2
	0.1nm,0.5s,baz=108,slow=2.6,SNR=6.3						

IDC 24 11:07:07.1±1.2, **716S**×**15537E, h0**km**, mb3.8/5, mb1 4.0/6, mb1mx3.8**/14, **mbtmp3.9**/6, **ML4.5**/1, **Error ellipse: s-maj=28.2km s-min=27.3km az=39.0, Bougainville - Solomon Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.06**	**117**	Pn	Pn	11 08 25.1	+0.7
	18nm,0.3s,baz=243,slow=3.8,SNR=9.0						
HNR				Sn	Sn	11 09 23.1	-0.5
	13nm,0.3s,baz=83,slow=15,SNR=4.7						
WRA	**Warramunga Arr**	**24.03**	**236**	P	P	11 12 24.9	+0.9
	1.9nm,0.7s,baz=60,slow=9.1,SNR=23						
ASAR	**Alice Springs**	**26.34**	**229**	P	P	11 12 44.0	-1.0
	0.3nm,0.5s,baz=58,slow=9.5,SNR=8.7						
SONM	**Songino Array**	**69.68**	**327**	P	P	11 18 19.7	+1.1
	0.7nm,0.7s,baz=138,slow=7.1,SNR=2.5						
MKAR	**Makanchi Array**	**83.77**	**319**	P	P	11 19 38.9	+0.6
	1.2nm,0.7s,baz=99,slow=6.0,SNR=10.0						
ZALV	**Zalesovo Beam**	**84.53**	**326**	P	P	11 19 40.3	-1.6
	0.7nm,0.4s,baz=116,slow=6.8,SNR=4.0						

*SGS **24** 11:16:15.4, 3038N×3653E, h12km*
*CSEM **24** 11:16:16.0±0.8, 2995N×3661E, h2km, ML2.8, Error ellipse: s-maj=20.7km s-min=9.8km az=78.0*
*GII **24** 11:16:20.2±1.0, 2987N×3623E, h0km, ML2.2/6*
*HLW **24** 11:16:22.6, 2960N×3644E, h22km, Mb2.8*

ISC 24 11:16:18.9±1.0, **2985N**±003×**3636E**±006, **h0**km, **n17**, σ0**59**/25, **2C, Western Arabian Peninsula**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.16**	**280**	Pg	**Pg**	**11 16 40.5**	**-0.7**
HRFI				Sg	**Sg**	**11 16 56.7**	**+0.5**
EIL	**Elat**	**1.23**	**262**	Pg	**Pg**	**11 16 42.6**	**0.0**
EIL				Sg	**Sg**	**11 16 59.3**	**+0.7**
HQLS		**1.25**	**245**	P	**Pg**	**11 16 42.5**	**-0.5**
MBH	**Mount Berech**	**1.25**	**268**	Pg	**Pg**	**11 16 42.7**	**-0.3**
MBH				Sg	**Sg**	**11 16 59.6**	**+0.4**
PRNI	**Paran**	**1.27**	**294**	Pg	**Pg**	**11 16 42.2**	**-1.2**
PRNI				Sg	**Sg**	**11 17 00.4**	**+0.4**
JLOS		**1.34**	**215**	P	**Pg**	**11 16 45.2**	**+0.5**
KRMI	**Paran Flat**	**1.44**	**281**	Pn	**Pn**	**11 16 46.2**	**-0.1**
KRMI				Sn	**Sn**	**11 17 05.3**	**-0.6**
HBST	**Basata**	**1.55**	**246**	⇑P	**Pn**	**11 16 47.9**	**+0.1**
MZDA	**Masada**	**1.69**	**330**	Pn	**Pn**	**11 16 50.1**	**+0.3**
MZDA				Sn	**Sn**	**11 17 12.2**	**+0.1**
YTIR	**Yattir**	**1.85**	**325**	Pn	**Pn**	**11 16 52.6**	**+0.7**
HDHB	**Dhahab**	**1.89**	**234**	⇑P	**Pn**	**11 16 51.4**	**-1.0**
DSI	**Dead Sea**	**1.91**	**334**	Pn	**Pn**	**11 16 53.7**	**+0.9**
DSI				Sn	**Sg**	**11 17 19.6**	**-0.9**
RSHS		**2.06**	**222**	P	**Pn**	**11 16 55.2**	**+0.5**
RSHS		**2.06**	**222**	P	**Pn**	**11 16 55.2**	**+0.4**
RSHS				S	**Sg**	**11 17 24.6**	**-0.5**
HNKL	**Nakhl**	**2.06**	**273**	P	**Pn**	**11 16 55.5**	**+0.6**
HKAT	**Jabal Katrina**	**2.45**	**238**	P	**Pn**	**11 17 00.2**	**0.0**
AMAG	**Maghara**	**2.84**	**287**	P	**Pg**	**11 17 08.3**	**-5.1**

*NEIC **24** 11:19:50.6, 3232S×7141W, h40km, MD3.7(GUC), After GUC.*

GUC 24 11:19:50.6±0.4, **3232S**×**7141W, h40**km±1km, **MD3.7, ML2.4, 1C-2D, Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PEL	**Peldehue**	**1.02**	**144**	*e*P	Pn	11 20 09.2	+0.8
PEL				*i* S	Sn	11 20 23.2	+1.7
PEL				AML	AML	11 20 25.9	
	comp=E,294nm,0.2s						
FCH	**Farellones**	**1.37**	**137**⇓	*i* P	Pn	11 20 15.2	+1.9
FCH				*i* S	Sn	11 20 33.7	+3.5
FCH				AML	AML	11 20 34.2	
	comp=N,95nm,0.2s						
TACH	**Talagante**	**1.38**	**164**⇓	*i* P	Pn	11 20 12.2	-1.2
PCH	**Pirque**	**1.50**	**150**⇑	*i* P	Pn	11 20 16.0	+1.1
PCH				*i* S	Sn	11 20 35.6	+2.4
LMEL	**Las Melosas**	**1.82**	**147**	*e*P	Pn	11 20 20.9	+1.4
LMEL				*i* S	Sn	11 20 44.0	+2.7
LMEL	**Las Melosas**	**1.82**	**147**	*e*P	Pn	11 20 20.9	+1.4
LMEL				*i* S	Sn	11 20 44.0	+2.7
LMEL				AML	AML	11 20 47.6	
	comp=N,52nm,0.2s						
SFDO	**San Fernando**	**2.31**	**172**	*e*P	Pn	11 20 27.4	+1.3

*ISCJB **24** 11:47:11.5±0.4, 3272N±002×11593W±003, h14km±2km, Error ellipse: s-maj=4.0km s-min=3.1km az=35.9*
*ECX **24** 11:47:12.6±0.7, 3271N×11595W, h4km±1km, MD2.5, ML2.6*

ISC 24 11:47:11.2±0.3, **3271N**±002×**11592W**±003, **h18**km±2km, **n25**, σ0**60**/40, **14C-17D, California-Baja California border region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUH	**Yuha Desert**	**0.06**	**179**⇓	*e*P	**Pg**	**11 47 13.8**	**-0.7**
DVTC	**Desert V Tower**	**0.16**	**252**	⇑P	**Pg**	**11 47 15.3**	**-0.2**
	baz=0.1,SNR=124						
DVTC				⇓S	**Sg**	**11 47 17.7**	**-0.6**
	baz=0.1						
RMX	**La Rumorosa**	**0.17**	**231**⇓	*i* P	**Pg**	**11 47 15.6**	**-0.1**
RMX				*e*S	**Sg**	**11 47 18.0**	**-0.6**
SGL	**Mount Signal**	**0.18**	**109**⇑	*e*P	**Pg**	**11 47 16.0**	**+0.2**
CRR	**Carrizo Plain**	**0.18**	**348**⇓	*e*P	**Pg**	**11 47 16.0**	**+0.2**
COK	**Cook Ranch**	**0.22**	**50**⇑	*e*P	**Pg**	**11 47 17.2**	**+0.8**
SWSC	**Sam W. Stewart**	**0.26**	**25**	⇓P	**Pg**	**11 47 17.5**	**+0.5**
	baz=0.3,SNR=251						
SWSC				⇓S	**Sg**	**11 47 21.3**	**+0.4**
	baz=0.3						
MONP	**Monument Peak**	**0.46**	**294**	P	**Pg**	**11 47 20.6**	**+0.1**
	baz=0.4,SNR=153						
MONP				⇓S	**Sg**	**11 47 26.6**	**-0.1**
	baz=0.4						
CPBX	**Cerro Prieto**	**0.60**	**119**	*e*P	**Pg**	**11 47 23.8**	**+0.7**
BAR	**Barrett**	**0.63**	**268**⇑	*e*P	**Pg**	**11 47 23.6**	**-0.1**
CBX	**Cerro Bola**	**0.74**	**238**⇑	*e*P	**Pb**	**11 47 25.5**	**0.0**
CBX				*e*S	**Sb**	**11 47 35.1**	**-0.2**
RDX	**Rancho Dowling**	**0.77**	**182**⇓	*e*P	**Pb**	**11 47 26.0**	**-0.1**
RDX				*e*S	**Sb**	**11 47 36.3**	**0.0**
RDX				⇓*e*		11 47 37.4	
	comp=E,167nm,0.4s						
GLA	**Glamis**	**0.98**	**69**	P	**Pb**	**11 47 29.6**	**-0.2**
	baz=1.0,SNR=58						
GLA				⇓S	**Sb**	**11 47 42.0**	**-0.4**
	baz=1.0						
PFO	**Pinyon Flat Ob**	**1.00**	**334**	⇑P	**Pb**	**11 47 29.7**	**-0.4**
	baz=1.0						
109C	**Camp Elliot, M**	**1.01**	**281**	⇑P	**Pb**	**11 47 30.0**	**-0.3**
	baz=1.0,SNR=25						
109C				⇑S	**Sb**	**11 47 42.6**	**-0.6**
	baz=1.0						
BC3	**Big Chuckw Mtn**	**1.02**	**23**	⇓P	**Pb**	**11 47 31.0**	**+0.5**
	baz=1.0,SNR=15						
BC3				⇓S	**Sb**	**11 47 43.3**	**-0.3**
	baz=1.0						
ENX	**Ensenada**	**1.03**	**218**⇓	*e*P	**Pb**	**11 47 30.8**	**+0.1**
ENX				*e*S	**Sb**	**11 47 44.0**	**+0.1**
ENX				⇑*e*		11 47 48.2	
	comp=N,151nm,0.6s						
112A	**Yuma**	**1.15**	**98**	⇑S	**Sb**	**11 47 45.9**	**-1.2**
	baz=1.2						
PBX	**Punta Banda**	**1.18**	**215**	*e*P	**Pn**	**11 47 33.2**	**+0.4**
PBX				*e*S	**Sb**	**11 47 48.4**	**+0.3**
PBX				⇓*e*		11 47 52.2	
	comp=N,206nm,0.6s						
ECNX	**Esteban Cantu**	**1.19**	**209**⇓	*e*P	**Pn**	**11 47 33.5**	**+0.5**
ECNX				*e*P		11 47 31.1	
ECNX				*e*S	**Sb**	**11 47 44.6**	**-3.9**
ECNX				*e*S	**Sb**	**11 47 48.7**	**+0.3**
BELC	**Belle Mtn.**	**1.29**	**357**	⇓P	**Pn**	**11 47 34.1**	**-0.3**
	baz=1.3						
BELC				⇑S	**Sn**	**11 47 50.1**	**-1.2**
	baz=1.3						
MURC	**Murrieta**	**1.39**	**310**	⇑Sb	**Sb**	**11 47 54.6**	**+0.4**
	baz=1.4						
IRM	**Iron Mountain**	**1.59**	**24**	⇓S	**Sn**	**11 47 58.5**	**-0.1**
	baz=1.6						
SPX	**San Pedro Mart**	**1.70**	**167**⇑	*e*PN	**Pn**	**11 47 43.3**	**+3.2**
SPX				*e*S	**Sn**	**11 48 06.4**	**+4.9**
BFSC	**Mount Baldy St**	**2.10**	**317**	⇑Sb	**Sb**	**11 48 16.1**	**+1.4**
	baz=2.1						

*NEIC **24** 11:55:23.2, 19.12N×6540W, h113km, MD3.6(RSPR), After RSPR.*

RSPR 24 11:55:23.2, 1912N×6540W, h113km±8km, **MD3.6**/4, **MD3.6**/4, **8C, Puerto Rico region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBYP	**Canovanas**	**0.95**	**207**⇑	*e*P	Pn	11 55 43.4	-0.8
CBYP				*e*S	Sn	11 55 59.5	-0.4
MTP	**Monte Pirata**	**1.03**	**188**⇑	*e*P	Pn	11 55 43.8	-1.2
MTP				*e*S	Sn	11 56 01.2	-0.1
HUMP	**Col San Antoni**	**1.06**	**204**⇑	*e*P	Pn	11 55 44.4	-0.9
HUMP				*e*S	Sn	11 56 02.2	+0.2
ABV	**Anegada**	**1.08**	**111**⇑	*e*P	Pn	11 55 45.5	0.0
CPD	**Cerro la Pandu**	**1.18**	**204**	*e*Pn	Pn	11 55 45.0	-1.5
AOPR	**Arecibo Observ**	**1.50**	**239**⇑	*e*P	Pn	11 55 49.4	-0.7
CELP	**Cerrillos**	**1.52**	**227**⇑	*e*P	Pn	11 55 50.0	-0.5
CELP				*e*S	Sn	11 56 11.3	+0.1
ICM	**Isla Caja Muer**	**1.62**	**221**⇑	*e*P	Pn	11 55 52.0	+0.4
CRPR	**Cabo Rojo, PR**	**1.96**	**236**⇑	*e*P	Pn	11 55 55.9	0.0
CRPR

0.7nm,0.8s,mb3.6,baz=132,slow=6.4,SNR=2.8
MKAR Makanchi Array 86.85 318 P **P 12 44 02.8 +0.3**
0.6nm,0.7s,mb4.0,baz=103,slow=5.5,SNR=5.1
NVAR Mina Array Bea 91.20 51 P **P 12 44 24.4 +1.2**
0.2nm,0.7s,mb3.5,baz=232,slow=5.6,SNR=2.3

BJI ***24*** *12:39:27.2, 6230N×17170E, h10km, mB5.1, mb5.1, Ms5.7, Msz5.3*
MOS ***24*** *12:39:28.1±0.9, 6224N×17165E, h9km, mb5.3/130, MS5.1/47, Error ellipse: s-maj=8.1km s-min=3.8km az=93.4*
IDC ***24*** *12:39:28.2±0.4, 6239N×17149E, h0km, mb4.7/24, mb1 4.9/25, mb1mx4.9/28, mbtmp4.7/25, ML4.6/1, MS4.9/22, Ms1 4.9/22, ms1mx4.7/31, Error ellipse: s-maj=14.9km s-min=10.4km az=175.0*
ISCJB ***24*** *12:39:28.2±0.1, 6223N±002×17163E±002, h10km, mb5.1/268, MS5.1/73, Error ellipse: s-maj=3.4km s-min=1.6km az=6.8*
NERS ***24*** *12:39:29.5, 6236N×17156E, h10km, MPV5.2, MSH5.5, Felt I=IV MSK at Anadyr)*
NEIC ***24*** *12:39:30.2±0.1, 6227N×17168E, h10km, mb5.2/193, Error ellipse: s-maj=3.8km s-min=2.2km az=13.0*
SZGRF ***24*** *12:39:30.3, 6166N×16931E, h16km, mb5.4, MS4.9, Eastern Siberia, Russia*
GCMT ***24*** *12:39:30.2±0.1, 6226N×17168E, h18km, MW5.4/102, Moment Tensor Solution. s68,c114; s102,c197; Duration: 1s2 Moment tensor: Scale 1017Nm; Mrr-0.03±.02; Mθθ 1.32±.02; Mφφ-1.29±.02; Mrθ-0.24±.05; Mθφ-0.04±.02; Mφr-0.08±.05; Best double couple: M0 1.33000×1017 NP1:φs316.00000°, δ80.00000°, λ4.00000°. NP2:φs226.00000°, δ86.00000°, λ170.00000°. Principal axes: T 1.3630, Plg10.0000°, Azm181.0000°; N -0.0680, Plg79.0000°, Azm22.0000°; P -1.2960, Plg4.0000°, Azm271.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 24 12:39:29.5±0.7, 6228N±002×17169E±002, h5km±4km, h15km±.7km:pP-P,n949,σ0977/981, mb5.1/268, MS5.1/73, 166C-154D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDR	**Anadyr'**	**3.58**	**44**	Sgmax	**Pn**	**12 40 25.8**	**+0.2**
ANDR				Pmax		12 40 32.3	
	120nm,0.7s						
ANDR				*e*Pg	**Pg**	**12 40 36.7**	**-1.4**
ANDR				Pgmax		12 40 43.9	
	2μm,1.1s						
ANDR				Pgmax	**Sg**	**12 41 22.1**	**-2.4**
ANDR				Sgmax		12 41 32.1	
	10μm,1.1s						
EVNR	**Evensk**	**5.85**	**272**	*e*P	**Pn**	**12 40 56.3**	**-0.4**
EVNR				*e*Pg	**Pg**	**12 41 16.1**	**-5.3**
EVNR				Pgmax		12 41 26.4	
	160nm,0.7s						
EVNR				*e*		12 41 52.2	
EVNR				*e*S	**Sn**	**12 42 01.2**	**-2.8**
EVNR				*e*S	**Sg**	**12 42 39.0**	**+2.0**
EVNR				Sgmax		12 42 52.2	
	720nm,0.9s						
EVNR				Sgmax		12 42 52.2	
	810nm,0.9s						
BILL	**Bilibino**	**6.22**	**341**	α *i*P	**Pn**	**12 41 02.1**	**+0.3**
BILL						12 42 11.0	
BILL				pmax	pmax		
	comp=Z,337nm,1.1s						
BILL				smax			
	comp=E,691nm,1.1s						
BILL	**Bilibino**	**6.22**	**341**	*e*Pn	**Pn**	**12 41 02.2**	**+0.4**
	comp=E,1μm,0.9s						
BILL				*e*Sn	**Sn**	**12 42 12.6**	**-0.4**
BILL	**Bilibino**	**6.22**	**341**	⇑Sgmax		12 41 02.1	
BILL				Pmax		12 41 03.1	
	comp=E,360nm,1.2s						
BILL				Pmax		12 41 03.1	
	comp=E,130nm,1.1s						
BILL				Pmax		12 41 03.1	
	comp=E,80nm,1.1s						
BILL				*e*P		12 41 25.0	
BILL				Pgmax		12 41 26.2	
	comp=E,730nm,0.9s						
BILL				Pgmax		12 41 26.2	
	comp=E,360nm,0.9s						
BILL				Pgmax		12 41 26.2	
	comp=E,1μm,0.9s						
BILL				*e*S	**Sn**	**12 42 16.4**	**+3.4**
BILL				*e*S	**Sg**	**12 42 47.3**	**-1.6**
BILL				Sgmax		12 42 58.3	
	comp=E,12μm,1.8s						
BILL				Sgmax		12 42 58.3	
	comp=E,4μm,1.6s						
OMS	**Omsukchan**	**7.40**	**279**	*e*P	**Pn**	**12 41 13.2**	**-4.8**
OMS				Pmax		12 41 25.0	
	comp=E,40nm,1.0s						
OMS				*e*P		12 41 28.8	
OMS				*e*S	**Sn**	**12 42 33.1**	**-9.1**
OMS				*e*S	**Sg**	**12 43 10.0**	**-17**
OMS				Sgmax		12 43 43.1	
	comp=E,3μm,1.4s						
OMS				Sgmax		12 43 43.1	
	comp=E,1μm,1.4s						
OMS				Sgmax		12 43 43.1	
	comp=E,1μm,1.4s						
SEY	**Seymchan**	**8.92**	**283**	*i* P	**Pn**	**12 41 39.4**	**+0.6**
SEY				*e*S	**Sn**	**12 43 19.1**	**-0.5**
SEY				pmax	pmax		
	comp=Z,70nm,1.4s						
SEY				pmax	pmax		
	comp=N,10.0nm,0.9s						
SEY				pmax	pmax		
	comp=E,60nm,0.9s						
SEY				MLR	MLR		
	comp=Z,3μm,8.0s						
SEY	**Seymchan**	**8.92**	**283**	⇓*e*P	**Pn**	**12 41 39.4**	**+0.6**
SEY				Pmax		12 41 41.2	
	comp=Z,60nm,1.4s						
SEY				Pmax		12 41 41.2	
	comp=Z,70nm,1.4s						
SEY				Pmax		12 41 41.2	
	comp=Z,10.0nm,0.9s						
SEY				*e*S	**Sn**	**12 43 19.1**	**-0.5**
SEY				*e*		12 46 30.9	
	comp=Z,3μm,8.0s						
TLAR	**Talaya**	**9.23**	**271**	*e*P	**Pn**	**12 41 54.0**	**+11**
TLAR				Pmax		12 41 54.7	
	comp=Z,10.0nm,0.5s						
TLAR				Pmax		12 41 54.7	
	comp=Z,20nm,0.5s						
TLAR				Pmax		12 41 54.7	
	comp=Z,20nm,0.5s						
TLAR				*e*S	Sn	12 43 48.5	+21
TLAR				*e*		12 44 24.8	
SMY	**Shemya**	**9.66**	**171**	*e*P	**Pn**	**12 41 47.8**	**-1.2**
SMY				pmax	pmax		
	comp=Z,220nm,1.1s						
SMY	**Shemya**	**9.66**	**171**	*e*P	**Pn**	**12 41 47.8**	**-1.2**
	comp=Z,26nm,0.7s						
MGD	**Magadan 1**	**10.36**	**267**	*d i*P	**Pn**	**12 41 58.9**	**+0.4**
MGD				*e*S	**Sn**	**12 43 57.4**	**+2.6**
MGD				pmax	pmax		
	comp=N,30nm,0.9s						
MGD				pmax	pmax		
	comp=E,70nm,0.9s						
MGD				pmax	pmax		
	comp=Z,70nm,0.9s						
MGD	**Magadan 1**	**10.36**	**267**	⇓*i*P	**Pn**	**12 41 58.9**	**+0.4**
MGD				Pmax		12 42 02.1	
	comp=Z,30nm,0.9s						
MGD				Pmax		12 42 02.1	
	comp=Z,70nm,0.9s						
MGD				Pmax		12 42 02.1	
	comp=Z,70nm,0.9s						
MGD				*e*S	**Sn**	**12 43 57.4**	**+2.6**
MGD				Smax		12 44 13.7	
	comp=E,60nm,6.2s						
MA2	**Magadan**	**10.52**	**264**	*d i*P	**Pn**	**12 42 01.1**	**+0.4**
MA2				*e*S	**Sn**	**12 43 59.1**	**+0.3**
MA2				pmax	pmax		
	comp=N,40nm,1.5s						
MA2				pmax	pmax		
	comp=Z,100nm,1.5s						
MA2				pmax	pmax		
	comp=E,100nm,1.7s						
MA2				MLR	MLR		
	comp=Z,8μm,13.0s						
MA2	**Magadan**	**10.52**	**264**	*e*Pn	**Pn**	**12 41 59.9**	**-0.9**
	comp=Z,60nm,1.0s						
MA2	**Magadan**	**10.52**	**264**	⇓*i*P	**Pn**	**12 42 01.1**	**+0.4**
MA2				Pmax		12 42 04.1	
	comp=Z,40nm,1.5s						
MA2				Pmax		12 42 04.1	
	comp=Z,100nm,1.5s						
MA2				Pmax		12 42 04.1	
	comp=Z,100nm,1.7s						
MA2				*e*S	**Sn**	**12 43 59.1**	**+0.3**
MA2				*e*		12 45 04.3	
MA2				*e*		12 46 07.3	
MA2				*e*		12 47 47.9	
	comp=Z,8μm,13.0s						
SUUS	**Susuman**	**10.86**	**283**	*e*P	**Pn**	**12 42 07.5**	**+2.1**
SUUS				S	**Sn**	**12 44 08.4**	**+1.3**
SUUS				pmax	pmax		
	comp=E,70nm,1.4s						
SUUS				pmax	pmax		
	comp=Z,90nm,1.4s						
SUUS	**Susuman**	**10.86**	**283**	*e*P	**Pn**	**12 42 07.5**	**+2.1**
SUUS				Pmax		12 42 11.4	
	comp=Z,70nm,1.4s						
SUUS				Pmax		12 42 11.4	
	comp=Z,90nm,1.4s						
SUUS				*e*S	**Sn**	**12 44 08.4**	**+1.3**
SUUS				*e*		12 44 47.7	
SUUS				*e*		12 45 14.7	
OCHR	**Omchak**	**11.21**	**277**	*e*P	**Pn**	**12 42 22.6**	**+12**
OCHR				Pmax		12 42 25.7	
	comp=Z,50nm,1.1s						
OCHR				Pmax		12 42 25.7	
	comp=Z,60nm,1.1s						
OCHR				Pmax		12 42 25.7	
	comp=Z,20nm,1.4s						
OCHR				*e*S	**Sn**	**12 44 33.5**	**+18**
OCHR				*e*		12 45 06.1	
OCHR				*e*		12 45 38.0	
OCHR				*e*		12 46 24.9	
OCHR				*e*		12 47 02.1	
	comp=Z,1μm,6.0s						
PET	**Petropavlovsk**	**11.59**	**223**	*e*P	**Pn**	**12 42 17.1**	**+1.8**
PET				*e*S	**Sn**	**12 44 24.8**	**-0.1**
PET				pmax	pmax		
	comp=Z,17nm,0.9s						
PET				pmax	pmax		
	comp=Z,300nm,4.4s						
PET				pmax	pmax		
	comp=Z,100nm,13.3s						
PET				MLR	MLR		
	comp=Z,12μm,16.0s						
PET				MLR	MLR		
	comp=Z,11μm,15.0s						
PET	**Petropavlovsk**	**11.59**	**223**	*e*Pn	**Pn**	**12 42 17.6**	**+2.3**
	comp=Z,61nm,1.1s						
AMKA	**Amchitka**	**11.68**	**156**	*e*Pn	**Pn**	**12 42 16.6**	**0.0**
AMKA				*e*Sn	**Sn**	**12 44 21.9**	**-5.4**
AKUT	**Akutan**	**14.34**	**114**	*e*Pn	**Pn**	**12 42 54.5**	**+1.6**
	comp=Z,185nm,1.4s						
SKR	**Severo-Kuril's**	**14.40**	**223**	*e*P	**Pn**	**12 43 01.2**	**+7.4**
SKR				pmax	pmax		
	comp=N,130nm,1.0s						
SKR				pmax	pmax		
	comp=Z,400nm,1.0s						
SKR				MLR	MLR		
	comp=E,4μm,12.0s						
SKR				MLR	MLR		
	comp=Z,7μm,12.0s						
SKR				MLR	MLR		
	comp=N,4μm,16.0s						
TTA	**Tatalina**	**14.80**	**73**	*e*P	**Pn**	**12 43 00.8**	**+1.7**
TTA				pmax	pmax		
	comp=Z,1μm,1.7s						
TTA	**Tatalina**	**14.80**	**73**	*e*P	**Pn**	**12 43 00.0**	**+0.9**
IMA2	**Indian Mountai**	**15.42**	**61**	*e*P	**Pn**	**12 43 08.0**	**+0.7**
SVW2	**Sparrevohn**	**15.48**	**80**	*e*P	**Pn**	**12 43 08.9**	**+0.7**
SDPT	**Sand Point**	**15.90**	**103**	*e*P	**Pn**	**12 43 14.1**	**+0.4**
	comp=Z,736nm,1.8s						
COLA	**College**	**17.97**	**64**	*e*P	**Pn**	**12 43 40.2**	**+0.5**
COLA				pmax	pmax		
	comp=Z,190nm,1.0s						
COLA	**College**	**17.97**	**64**	*e*P	**Pn**	**12 43 40.1**	**+0.5**
	comp=Z,191nm,1.0s						
SLKM	**Skilak Lake**	**18.15**	**78**	*e*P	**Pn**	**12 43 42.3**	**+0.4**
KDAK	**Kodiak Island**	**18.24**	**88**	*e*P	**Pn**	**12 43 42.8**	**-0.2**
	comp=Z,62nm,0.9s						
KDAK	**Kodiak Island**	**18.24**	**88**	P	**Pn**	**12 43 42.8**	**-0.3**
	comp=Z,1.8nm,0.3s,baz=1.8,slow=6.0,SNR=11						
KDAK				LR	LR	12 51 02.9	
	comp=Z,5μm,21.4s,baz=305,slow=38						
PMR	**Palmer**	**18.26**	**75**	*e*P	**Pn**	**12 43 44.3**	**+1.0**
PMR				pmax	pmax		
	comp=Z,150nm,1.6s						
PMR	**Palmer**	**18.26**	**75**	*e*P	**Pn**	**12 43 44.3**	**+1.0**
	comp=Z,150nm,1.6s						
TIXI	**Tiksi**	**18.73**	**318**	*c i*P	**Pn**	**12 43 48.7**	**-0.2**
TIXI				*e*S	**Sn**	**12 47 23.1**	**+4.8**
TIXI				pmax	pmax		
	comp=Z,108nm,1.6s						
TIXI				MLR	MLR		
	comp=Z,8μm,12.0s						
TIXI	**Tiksi**	**18.73**	**318**	*e*P	**Pn**	**12 43 48.7**	**-0.2**
	comp=Z,231nm,1.6s						
TIXI	**Tiksi**	**18.73**	**318**	*e*	**Pn**	**12 43 48.8**	**-0.1**
YAK	**Yakutsk**	**19.38**	**288**	*e*P	**Pn**	**12 43 55.4**	**-1.4**
YAK				*e*S	**Sn**	**12 47 33.2**	**-0.9**
YAK				pmax	pmax		
	comp=E,103nm,1.1s						
YAK				pmax	pmax		
	comp=Z,162nm,1.1s						
YAK				pmax	pmax		
	comp=N,21nm,1.3s						
YAK				smax			
	comp=N,2μm,9.4s						
YAK				smax			
	comp=E,2μm,7.3s						
YAK				MLR	MLR		
	comp=Z,5μm,10.0s						
YAK				MLR	MLR		
	comp=N,9μm,14.0s						
YAK				MLR	MLR		
	comp=E,4μm,8.0s						
YAK	**Yakutsk**	**19.38**	**288**	*e*P	**Pn**	**12 43 55.6**	**-1.2**
	comp=E,280nm,0.7s						
YAK	**Yakutsk**	**19.38**	**288**	*e*	**Pn**	**12 43 55.7**	**-1.1**
MENT	**Mentasta**	**20.22**	**68**	*e*P	**P**	**12 44 05.1**	**+0.2**
MID	**Middleton Isla**	**20.37**	**79**	*e*P	**P**	**12 44 06.4**	**-0.2**
EGAK	**Eagle**	**20.78**	**62**	*e*P	**P**	**12 44 10.1**	**-0.9**
	comp=E,60nm,0.8s						
DAWY	**Dawson**	**21.72**	**64**	*e*P	**P**	**12 44 20.4**	**-0.7**
YSS	**Yuzh-Sakhalins**	**22.44**	**240**	⇑*e*P	**P**	**12 44 30.3**	**+1.4**
YSS				*e*PPP		12 45 11.6	
YSS				*e*S	**S**	**12 48 35.0**	**-0.6**
YSS				*e*SS		12 49 17.0	
YSS				pmax	pmax		
	comp=Z,50nm,1.2s,mb4.8						
YSS				pmax	pmax		
	comp=N,50nm,1.3s						
YSS				smax			
	comp=N,2μm,14.0s						
YSS				smax			
	comp=E,1μm,14.0s						
YSS				MLR	MLR		
	comp=Z,4μm,14.0s,MS5.0						
YSS				MLR	MLR		
	comp=N,3μm,13.0s,MS5.2						
YSS				MLR	MLR		
	comp=E,5μm,13.0s,MS5.2						
YSS	**Yuzh-Sakhalins**	**22.44**	**240**	*e*P	**P**	**12 44 30.2**	**+1.3**
	comp=E,86nm,1.1s,mb5.1						
YSS	**Yuzh-Sakhalins**	**22.44**	**240**	*e*	**P**	**12 44 28.2**	**-0.7**
INK	**Inuvik**	**22.96**	**51**	P	**P**	**12 44 33.0**	**-1.2**
INK				pmax	pmax		
	comp=Z,110nm,1.0s						
INK	**Inuvik**	**22.96**	**51**	*e*P	**P**	**12 44 33.8**	**-0.4**
	comp=Z,4μm,1.0s						
INK	**Inuvik**	**22.96**	**51**	P	**P**	**12 44 33.0**	**-1.2**
	comp=Z,110nm,1.0s,mb5.2,baz=292,slow=11,SNR=99						
CLNS	**Chul'man**	**23.88**	**278**	*e*P	**P**	**12 44 41.2**	**-2.4**
CLNS				*e*PPP		12 45 11.2	
CLNS				*e*S	**S**	**12 48 49.1**	**-11**
CLNS				*e*SS		12 49 38.1	
CLNS				pmax	pmax		
	comp=Z,25nm,0.9s,mb4.6						
CLNS				pmax	pmax		
	comp=N,15nm,0.7s						
CLNS				pmax	pmax		
	comp=E,26nm,1.2s						
CLNS				smax			
	comp=N,133nm,11.2s						
CLNS				smax			
	comp=Z,785nm,10.1s						
CLNS				smax			
	comp=E,998nm,9.6s						
CLNS				MLR	MLR		
	comp=E,14μm,12.0s,MS5.7						
CLNS				MLR	MLR		
	comp=Z,20μm,12.0s,MS5.8						
CLNS				MLR	MLR		
	comp=N,5μm,11.0s,MS5.7						
NRGR	**Nerungri**	**24.06**	**278**	*e*P	**P**	**12 44 44.8**	**-0.4**
HABR	**Khabarovsk**	**24.57**	**253**	⇓*i*P	**P**	**12 44 48.6**	**-1.3**
HABR				*e*		12 44 51.9	
HABR				*e*		12 45 20.6	
HABR				*e*		12 48 23.8	
HABR				*e*S	**S**	**12 49 11.4**	**+0.5**
HABR				*e*		12 49 14.0	
HABR				*e*		12 49 55.9	
HABR				pmax	pmax		
	comp=Z,119nm,1.3s,mb5.3						
HABR				MLR	MLR		
	comp=Z,5μm,19.5s,MS5.0						
SKAG	**Skagway**	**25.34**	**72**	*e*P	**P**	**12 44 57.0**	**+0.1**
	comp=Z,318nm,2.5s,mb5.4						
KLR	**Kul'dur**	**25.51**	**258**	*e*P	**P**	**12 44 53.2**	**-5.2**
KLR				*e*		12 50 25.5	
KLR				pmax	pmax		
	comp=E,100nm,1.6s						
KLR				pmax	pmax		
	comp=Z,140nm,1.6s,mb5.2						
ERM	**Erimo**	**26.42**	**233**	*e*P	**P**	**12 45 08.6**	**+1.9**
ERM				pmax	pmax		
	comp=Z,56nm,0.9s,mb5.1						
ERM	**Erimo**	**26.42**	**233**	*e*P	**P**	**12 45 08.6**	**+1.9**
	comp=Z,56nm,0.9s,mb5.1						
SIT	**Sitka**	**26.60**	**77**	*e*P	**P**	**12 45 08.1**	**-0.2**
SIT				pmax	pmax		
	comp=Z,61nm,1.1s,mb5.0						
SIT	**Sitka**	**26.60**	**77**	*e*P	**P**	**12 45 08.1**	**-0.2**
	comp=Z,60nm,1.1s,mb5.0						
DLBC	**Dease Lake**	**28.23**	**71**	*e*P	**P**	**12 45 23.8**	**+1.0**
DLBC	**Dease Lake**	**28.23**	**71**	P	**P**	**12 45 23.5**	**+0.7**
	baz=294,slow=11						
BOD	**Bodaibo**	**28.30**	**287**	⇑*i*P	**P**	**12 45 22.4**	**-1.1**
BOD				pmax	pmax		
	comp=Z,73nm,1.1s,mb5.2						
WRAK	**Wrangell Islan**	**28.32**	**76**	*e*P	**P**	**12 45 24.4**	**+0.8**
	comp=Z,41nm,1.1s,mb5.0						
CRAG	**Craig**	**28.52**	**78**	*e*P	**P**	**12 45 26.0**	**+0.5**
	comp=Z,27nm,1.1s,mb4.9						
MDJ	**Mudanjiang**	**29.94**	**254**	P	**P**	**12 45 37.3**	**-0.9**
MDJ				AP	pP	12 45 40.3	+0.6
MDJ				XP	sP	12 45 41.8	+1.4
MDJ				S	**S**	**12 50 36.8**	**+0.9**
MDJ				SCP	ScP	12 52 22.0	-0.8
MDJ				PCS	PcS	12 52 23.5	-0.1
MDJ				SCS	ScS	12 56 17.1	-0.8
MDJ				AMB	AMB		
	comp=Z,11nm,1.6s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,49nm,3.9s						
MDJ				LR	LR		
	comp=N,4μm,16.7s,MS5.2						
MDJ				LR	LR		
	comp=E,2μm,16.7s,MS5.2						
MDJ				LR	LR		
	comp=Z,4μm,14.4s,MS5.2						
HIA	**Hailar**	**31.05**	**270**	*e*P	**P**	**12 45 48.1**	**+0.2**
HIA				pmax	pmax		
	comp=Z,15nm,1.0s						
HIA	**Hailar**	**31.05**	**270**	*e*P	**P**	**12 45 48.1**	**+0.2**
	comp=Z,15nm,1.0s,mb4.8						
RES	**Resolute Bay**	**32.35**	**30**	*e*P	**P**	**12 45 59.6**	**+0.5**
	comp=Z,1μm,1.6s						
CN2	**Changchun**	**32.45**	**257**	*e*P	**P**	**12 45 59.5**	**-0.8**
CN2				*e*XP	sP	12 46 06.8	+4.3
CN2				*e*S	**S**	**12 51 11.8**	**-3.3**
CN2				AMB	AMB		
	comp=Z,10.0nm,1.3s,mb4.5						
CN2				AMB	AMB		
	comp=Z,200nm,4.0s						
CN2				LR	LR		
	comp=N,4μm,16.0s,MS5.3						
CN2				LR	LR		
	comp=E,3μm,16.0s,MS5.3						
CN2				LR	LR		
	comp=Z,2μm,16.0s,MS4.9						
YKA	**Yellowknife Ar**	**32.46**	**56**	P	**P**	**12 46 00.1**	**0.0**
YKA						12 48 47.3	
YKA				pmax	pmax		
	comp=Z,12nm,0.8s						
YKA	**Yellowknife Ar**	**32.46**	**56**	P	**P**	**12 46 00.1**	**0.0**
YKA				PcP	PcP	12 48 47.3	+0.4
YKA	**Yellowknife Ar**	**32.46**	**56**	P	**P**	**12 46 00.1**	**0.0**
	comp=Z,12nm,0.8s,mb4.8,baz=302,slow=8.0,SNR=86						
YKA				PcP	PcP	12 48 47.3	+0.4
	comp=Z,2.5nm,0.9s,baz=315,slow=3.2,SNR=5.7						
ALE	**Alert**	**32.84**	**11**	P	**P**	**12 46 04.0**	**+0.7**
	comp=Z,153nm,1.2s,mb5.8,SNR=17						
MAJO	**Matsushiro**	**33.06**	**235**	P	**P**	**12 46 05.0**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,46nm,1.0s,mb5.4						
MAJO	**Matsushiro**	**33.06**	**235**	*e*P	**P**	**12 46 04.2**	**-1.4**
	comp=Z,46nm,0.9s,mb5.4						
MAT	**Matsushiro**	**33.06**	**235**	P	**P**	**12 46 04.4**	**-1.2**
MAT				S	**S**	**12 51 27.0**	**+2.4**
MJAR	**Matsushiro Arr**	**33.06**	**235**	P	**P**	**12 46 04.7**	**-0.9**
MJAR						12 48 51.2	
MJAR				pmax	pmax		
	comp=Z,29nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,2μm,20.5s						
MJAR	**Matsushiro Arr**	**33.06**	**235**	P	**P**	**12 46 04.7**	**-1.0**
MJAR				PcP	PcP	12 48 51.2	+2.3
MJAR				LR	LR	12 59 33.5	
MJAR	**Matsushiro Arr**	**33.06**	**235**	P	**P**	**12 46 04.7**	**-1.0**
	comp=Z,29nm,1.0s,mb5.2,baz=15,slow=8.0,SNR=32						
MJAR				PcP	PcP	12 48 51.2	+2.3
	comp=Z,1.8nm,0.9s,baz=102,slow=0.8,SNR=4.1						
MJAR				LR	LR	12 59 33.5	
	comp=Z,2μm,20.5s,MS4.8,baz=35,slow=36						
SNY	**Shenyang**	**34.85**	**257**	⇑P	**P**	**12 46 21.0**	**-0.2**
SNY				S	**S**	**12 51 47.6**	**-4.7**
SNY				AMB	AMB		
	comp=Z,25nm,2.2s,mb4.8						
SNY				AMB	AMB		
	comp=Z,104nm,3.5s						
SNY				LR	LR		
	comp=N,7μm,15.6s,MS5.6						
SNY				LR	LR		
	comp=E,3μm,13.2s,MS5.6						
SNY				LR	LR		
	comp=Z,3μm,13.2s,MS5.3						
IRK	**Irkutsk**	**36.15**	**286**	*e*P	**P**	**12 46 30.3**	**-1.9**
IRK				*e*		12 48 00.4	
IRK				pmax	pmax		
	comp=Z,140nm,1.4s,mb5.7						
KSRS	**Korea Array**	**36.49**	**248**	P	**P**	**12 46 34.5**	**-0.7**
	comp=Z,10nm,0.9s,mb4.7,baz=27,slow=9.1,SNR=18						
TLY	**Talaya**	**36.82**	**286**	*e*P	**P**	**12 46 38.5**	**+0.6**
TLY				*e*		12 48 09.8	
TLY				*e*S	**S**	**12 52 26.8**	**+4.6**
TLY				pmax	pmax		
	comp=Z,65nm,1.5s,mb5.2						
TLY	**Talaya**	**36.82**	**286**	*e*P	**P**	**12 46 36.8**	**-1.1**
	comp=Z,41nm,1.3s,mb5.1						
C03A	**Quillayute Air**	**37.49**	**82**	⇓P	**P**	**12 46 45.0**	**+1.3**
	baz=37						
PGC	**Sidney**	**37.50**	**80**	*e*P	**P**	**12 46 43.6**	**-0.1**
	comp=Z,88nm,1.2s,mb5.4						
OBC	**Olympics--Boni**	**37.66**	**82**	P	**P**	**12 46 46.6**	**+1.6**
A04A	**Legoe Bay, Lum**	**37.79**	**80**	⇓P	**P**	**12 46 46.7**	**+0.5**
	baz=38,SNR=9.8						
A05A	**Maple Falls**	**37.88**	**79**	⇓P	**P**	**12 46 47.1**	**+0.1**
	baz=38						
ZAK	**Zakamensk**	**37.89**	**284**	⇓*i*P	**P**	**12 46 47.1**	**+0.1**
ZAK				*e*		12 49 00.3	
ZAK				pmax	pmax		

comp=Z,24nm,1.2s,mb4.8
B04A Port Angeles 37.90 81 ⇓P P 12 46 46.7 -0.5
baz=38
ULN Ulaanbaatar 37.97 278 *e*P **P 12 46 48.4 +0.7**
ULN pmax pmax
comp=Z,15nm,1.0s,mb4.7
ULN Ulaanbaatar 37.97 278 *e*P **P 12 46 48.4 +0.7**
comp=Z,15nm,1.0s,mb4.7
OSD Olympics--Snow 37.98 82 P **P 12 46 49.2 +1.4**
MOY Mondy 38.02 287 *e*P **P 12 46 48.8 +0.7**
MOY pmax pmax
comp=Z,101nm,1.6s,mb5.3
A06A Chilliwack 38.08 78 ⇑P **P 12 46 48.7 0.0**
baz=38
DL2 Dalian 38.09 256 P **P 12 46 45.3 -3.5**
DL2 S **S 12 52 37.0 -4.7**
DL2 AMB AMB
comp=Z,20nm,1.1s,mb4.8
DL2 AMB AMB
comp=Z,140nm,3.6s
DL2 LR LR
comp=N,3μm,18.4s,MS5.2
DL2 LR LR
comp=E,2μm,18.6s,MS5.2
DL2 LR LR
comp=Z,1μm,15.0s,MS4.8
NLWA Neilton Lookou 38.22 82 *e*P **P 12 46 50.3 +0.4**
comp=Z,30nm,1.2s,mb4.9
SONM Songino Array 38.29 279 P **P 12 46 50.1 -0.3**
SONM 12 49 04.5
SONM pmax pmax
comp=Z,24nm,1.2s
SONM MLR MLR
comp=Z,6μm,18.5s
SONM Songino Array 38.29 279 P **P 12 46 50.1 -0.3**
comp=Z,24nm,1.2s,mb4.8,baz=54,slow=6.4,SNR=49
SONM PcP PcP 12 49 04.5 +0.3
comp=Z,7.7nm,0.9s,baz=23,slow=2.3,SNR=8.9
SONM LR LR 13 03 32.7
comp=Z,6μm,18.5s,MS5.5,baz=43,slow=38
C04A Brinnon 38.40 81 ⇓P **P 12 46 51.0 -0.3**
baz=38
B05A Bryant 38.40 80 ⇑P **P 12 46 51.8 +0.4**
baz=38,SNR=13
D03A Wishkah Elem. 38.47 82 ⇓P **P 12 46 52.8 +0.9**
baz=38
B06A Marblemount 38.50 79 ⇓P **P 12 46 52.1 -0.1**
baz=38
KBS Kingsbay 38.52 354 *e*PP PP 12 48 24.9 +5.2
KBS *e*SS SS 12 55 43.4 +7.6
KBS AMS AMS 13 02 50.8
comp=Z,1μm,21.7s,MS4.7
KBS Kingsbay 38.52 354 *e*P **P 12 46 52.9 +0.9**
GNW Green Mountain 38.58 81 P **P 12 46 55.4 +2.6**
A07A Ashnola River, 38.62 78 ⇑P **P 12 46 53.6 +0.4**
baz=38,SNR=9.9
EDM Edmonton 38.81 68 *e*P **P 12 46 54.8 +0.1**
D04A Dobbs Creek Ra 38.92 82 ⇓P **P 12 46 56.2 +0.5**
baz=39
E03A Lebam 38.98 83 ⇑P **P 12 46 56.9 +0.7**
baz=39
SPB4 Spitsbergen Ar 38.99 352 *e*P **P 12 46 56.0 +0.1**
C05A Tolt Reservoir 39.01 80 ⇓P **P 12 46 56.7 +0.3**
baz=39
B07A Winthrop 39.17 78 ⇓P **P 12 46 57.9 +0.1**
baz=39,SNR=18
A08A Turner Farm, O 39.20 77 ⇑P **P 12 46 58.2 +0.2**
baz=39,SNR=41
D05A Enumclaw 39.24 81 ⇑P **P 12 46 59.0 +0.6**
baz=39
E04A Onalaska 39.34 82 ⇑P **P 12 46 59.9 +0.6**
baz=39
F03A Seaside 39.44 84 ⇓P **P 12 47 00.8 +0.7**
baz=39
A09A Danville 39.49 76 ⇑P **P 12 47 00.8 +0.3**
baz=39,SNR=36
B08A Colville Reser 39.60 78 ⇑P **P 12 47 01.5 +0.1**
baz=39,SNR=31
BJI Beijing 39.68 262 P **P 12 47 01.8 -0.3**
BJI S **S 12 53 12.8 +7.2**
BJI AMB AMB
comp=Z,12nm,1.9s,mb4.3
BJI AMB AMB
comp=Z,143nm,3.3s
BJI LR LR
comp=N,4μm,13.3s,MS5.6
BJI LR LR
comp=E,5μm,14.7s,MS5.6
BJI LR LR
comp=Z,1μm,19.9s
C07A Waterville 39.76 79 ⇑P **P 12 47 02.6 -0.1**
baz=40,SNR=15
D06A Cle Elum 39.76 80 ⇑P **P 12 47 02.9 +0.1**
baz=40
TWW Teanaway 39.79 80 P **P 12 47 04.0 +1.0**
E05A Randle 39.81 81 ⇓P **P 12 47 02.9 -0.2**
baz=40,SNR=9.6
TBM Table Mountain 39.89 80 P **P 12 47 04.6 +0.7**
F04A Amboy 39.97 83 ⇓P **P 12 47 04.5 0.0**
baz=40,SNR=6.4
G03A Yamhill 40.03 84 ⇓P **P 12 47 05.6 +0.5**
baz=40,SNR=7.2
B09A Rice 40.09 77 ⇑P **P 12 47 05.7 +0.2**
baz=40,SNR=30
C08A Higginbotham F 40.15 78 ⇑P **P 12 47 05.6 -0.4**
baz=40,SNR=15
D07A Quincy 40.16 79 P **P 12 47 06.4 +0.3**
baz=40,SNR=13
E06A Yakima 40.18 81 ⇓P **P 12 47 06.5 +0.2**
baz=40,SNR=16
F05A White Salmon 40.45 82 ⇑P **P 12 47 08.7 +0.3**
baz=40
C09A Chrisman Ranch 40.49 77 ⇑P **P 12 47 08.5 -0.3**
baz=40,SNR=6.7
A11A Hall Mountain, 40.51 75 ⇑P **P 12 47 09.4 +0.4**
baz=40,SNR=18
COR Corvallis 40.58 85 *e*P **P 12 47 10.9 +1.4**
COR pmax pmax
comp=Z,76nm,1.2s,mb5.2
COR Corvallis 40.58 85 *e*P **P 12 47 10.9 +1.3**
comp=Z,76nm,1.2s,mb5.2
B10A Chitwood Farm, 40.60 76 ⇑P **P 12 47 09.8 +0.1**
baz=40
NEW Newport 40.68 76 *e*P **P 12 47 10.7 +0.4**
NEW pmax pmax
comp=Z,30nm,1.1s
NEW Newport 40.68 76 *e*P **P 12 47 10.7 +0.4**
comp=Z,30nm,1.2s,mb4.8
E07A Sunnyside 40.69 80 ⇓P **P 12 47 10.5 +0.1**
baz=40
D08A Wollman Farm, 40.75 79 ⇑P **P 12 47 10.4 -0.5**
baz=41,SNR=19
I02A Mapleton 40.77 86 ⇑P **P 12 47 10.6 -0.6**
baz=41
A12A Yaak River Ran 40.85 74 ⇑P **P 12 47 11.5 -0.2**
baz=41
F06A Goldendale 40.85 81 ⇓P **P 12 47 11.6 -0.3**
baz=41
B11A Sandpoint 40.89 75 ⇓P **P 12 47 11.6 -0.4**
baz=41,SNR=17
C10A Spilker Farm, 40.92 77 ⇓P **P 12 47 12.1 -0.2**
baz=41
HAWA Hanford 40.96 80 *e*P **P 12 47 12.9 +0.2**
comp=Z,32nm,1.3s,mb4.8
G05A Wamic 41.00 82 ⇑P **P 12 47 12.4 -0.6**
baz=41
H04A Detroit Lake 41.02 84 ⇑P **P 12 47 13.0 -0.2**
baz=41,SNR=18
D09A Jones Farm, Ri 41.02 78 ⇑P **P 12 47 12.2 -1.0**
baz=41,SNR=12
DAG Danmarks Havn 41.04 4⇑*i*P **P 12 47 12.5 -0.5**
DAG pmax pmax
comp=Z,7.0nm,0.8s,mb4.3
DAG MLR MLR
comp=Z,4μm,17.0s,MS5.3
DAG Danmarks Havn 41.04 4⇑*i*P **P 12 47 12.5 -0.5**
comp=Z,6.7nm,0.8s,mb4.3
DAG
comp=Z,4μm,17.0s
I03A Eugene 41.05 85 ⇓P **P 12 47 13.6 +0.2**
baz=41,SNR=16
E08A Dider Farm, El 41.11 79 ⇓P **P 12 47 13.7 -0.2**
baz=41
F07A Phinny Hill Vi 41.15 81 ⇓P **P 12 47 14.2 0.0**
baz=41,SNR=9.3
HHC Hu-ho-hao-te 41.18 267 *e*P **P 12 47 16.4 +1.8**
HHC AP pP 12 47 21.0 +4.8
HHC XP sP 12 47 23.3 +6.5
HHC PP PP 12 48 54.5 +5.2
HHC PCP PcP 12 49 18.3 +4.8
HHC SCP ScP 12 52 59.5 -4.1
HHC S **S 12 53 27.8 -0.3**
HHC XS sS 12 53 36.3 +5.6
HHC SS SS 12 56 26.3 -4.2
HHC SCS ScS 12 57 18.4 -0.7
HHC AMB AMB
comp=Z,24nm,1.0s,mb4.8
HHC AMB AMB
comp=Z,129nm,5.6s
HHC LR LR
comp=N,4μm,16.5s,MS5.4
HHC LR LR
comp=E,2μm,14.9s,MS5.4
HHC LR LR
comp=Z,3μm,17.5s,MS5.2
G06A Carlson Farm, 41.32 82 ⇑P **P 12 47 15.5 -0.1**
baz=41
KEBM Edson Butte 41.41 87 *e*P **P 12 47 18.1 +1.8**
H05A Madras 41.49 83 ⇓P **P 12 47 16.8 -0.2**
baz=41,SNR=17
D10A Wagner Farm, O 41.50 77 ⇓P **P 12 47 16.3 -0.8**
baz=41,SNR=12
E09A Wood Farm, Sta 41.51 79 ⇓P **P 12 47 16.8 -0.4**
baz=41,SNR=8.7
WALA Waterton Lakes 41.54 73 *e*P **P 12 47 17.8 +0.4**
comp=Z,44nm,1.0s,mb5.0
I04A Tendick Farm, 41.59 85 ⇓P **P 12 47 17.6 -0.3**
baz=41,SNR=17
J03A Ideyld Park 41.66 86 ⇓P **P 12 47 19.0 +0.5**
baz=42
G07A Ruggs Ranch, H 41.75 81 ⇑P **P 12 47 18.7 -0.4**
baz=42
F08A Pendleton 41.76 80 ⇑P **P 12 47 18.9 -0.3**
baz=42
B13A Whitefish 41.80 74 ⇓P **P 12 47 19.2 -0.4**
baz=42,SNR=61
H06A Lindquist Farm 41.84 82 ⇓P **P 12 47 19.8 -0.1**
baz=42,SNR=34
I05A Bend 41.84 83 ⇑P **P 12 47 19.7 -0.2**
baz=42
K02A Glendale 41.88 87 ⇓P **P 12 47 20.7 +0.4**
baz=42,SNR=11
D11A Klaveano Farm, 41.94 77 ⇓P **P 12 47 20.2 -0.4**
baz=42,SNR=13
E10A Myers Farm, Un 42.00 78 ⇑P **P 12 47 20.9 -0.3**
baz=42,SNR=8.9
G08A Pilot Rock 42.05 80 ⇑P **P 12 47 21.4 -0.3**
baz=42,SNR=8.1
J04A Umpqua Nationa 42.16 85 ⇓P **P 12 47 22.9 +0.4**
baz=42,SNR=14
BBOR Butler Butte 42.17 86 P **P 12 47 23.5 +0.9**
F09A S2 Ranch, Elgi 42.22 79 ⇓P **P 12 47 22.8 -0.2**
baz=42
HUMO Hull Mountain 42.25 86 *e*P **P 12 47 23.6 +0.3**
comp=Z,28nm,1.1s,mb4.8
HUMO Hull Mountain 42.25 86 ⇓P **P 12 47 23.6 +0.3**
baz=42,SNR=15
C13A Hot Springs 42.26 75 ⇑P **P 12 47 23.4 0.0**
baz=42,SNR=45
M01C Crescent City 42.30 88 ⇓P **P 12 47 23.9 +0.2**
baz=42
L02A Cave Junction 42.30 87 ⇓P **P 12 47 23.9 +0.2**
baz=42
H07A Lands Inn, Kim 42.31 82 ⇓P **P 12 47 23.6 -0.1**
baz=42,SNR=18
F10A Beach Ranch, E 42.34 78 ⇑P **P 12 47 23.5 -0.4**
baz=42,SNR=15
TIA Tai'an 42.34 258 *e*P **P 12 47 23.6 -0.5**
TIA LR LR
comp=N,996nm,18.0s,MS4.9
TIA LR LR
comp=E,657nm,14.0s,MS4.9
FFC Flin Flon 42.49 59 P **P 12 47 24.8 -0.3**
FFC pmax pmax
comp=Z,26nm,1.3s,mb4.7
FFC Flin Flon 42.49 59 *e*P **P 12 47 24.9 -0.3**
comp=Z,26nm,1.3s,mb4.7
I06A Prineville 42.50 83 ⇑P **P 12 47 25.3 0.0**
baz=42,SNR=11
E11A Bogner Ranch, 42.51 77 ⇓P **P 12 47 24.8 -0.6**
baz=42,SNR=13
J05A Fort Rock 42.53 84 ⇑P **P 12 47 26.2 +0.6**
baz=42,SNR=40
C14A Swan Lake 42.57 74 ⇑P **P 12 47 25.5 -0.4**
baz=42,SNR=20
FCC Fort Churchill 42.57 50 *e*P **P 12 47 25.3 -0.4**
FCC pmax pmax
comp=Z,33nm,1.1s,mb5.0
FCC Fort Churchill 42.57 50 *e*P **P 12 47 25.3 -0.4**
comp=Z,33nm,1.2s,mb4.9
KRMB Red Mountain 42.65 88 *e*P **P 12 47 27.1 +0.5**
I07A Izee 42.72 82 P **P 12 47 27.2 +0.1**
baz=43,SNR=16
D13A Huson 42.75 75 P **P 12 47 27.1 -0.2**
baz=43,SNR=42
H08A Prairie City 42.77 81 P **P 12 47 27.7 +0.1**
baz=43,SNR=19
K04A Chilquin 42.82 85 ⇑P **P 12 47 27.9 0.0**
baz=43
F11A Grangeville 42.89 78 ⇓P **P 12 47 27.9 -0.6**
baz=43,SNR=14
G10A Bishop Farm, J 42.90 79 ⇓P **P 12 47 29.7 +1.2**
baz=43,SNR=12
YBH Yreka Blue Hor 43.05 87 *e*P **P 12 47 30.6 +0.8**
YBH pmax pmax
comp=Z,48nm,1.1s
YBH Yreka Blue Hor 43.05 87 *e*P **P 12 47 30.6 +0.8**
comp=Z,48nm,1.1s,mb5.1
YBH Yreka Blue Hor 43.05 87 P **P 12 47 30.9 +1.1**
comp=Z,39nm,1.1s,mb5.1,baz=296,slow=2.1,SNR=35
YBH Yreka Blue Hor 43.05 87 ⇓P **P 12 47 30.1 +0.3**
baz=43,SNR=33
L04A Klamath Falls 43.09 86 ⇑P **P 12 47 30.2 +0.2**
baz=43,SNR=15
K05A Summer Lake 43.12 84 ⇓P **P 12 47 30.9 +0.5**
baz=43,SNR=20
H09A Durkee 43.13 80 ⇑P **P 12 47 30.6 +0.2**
baz=43,SNR=5.4
BMO Blue Mountains 43.15 80 *e*P **P 12 47 30.5 -0.1**
comp=Z,36nm,1.4s,mb4.9
MSO Missoula 43.19 75 *e*P **P 12 47 30.8 -0.1**
comp=Z,21nm,1.1s,mb4.8
D14A Grough 43.19 74 ⇑P **P 12 47 30.5 -0.4**
baz=43,SNR=55
G11A Walters Elk Ra 43.21 78 ⇑P **P 12 47 30.7 -0.3**
baz=43,SNR=44
M02C Callahan 43.25 87 ⇑P **P 12 47 32.1 +0.7**
baz=43,SNR=16
NVS Novosibirsk 43.25 302 *e*P **P 12 47 31.3 0.0**
NVS pmax pmax
comp=N,28nm,2.0s
NVS pmax pmax
comp=E,23nm,2.0s
NVS pmax pmax
comp=Z,36nm,2.0s,mb4.8
ZAA0 Zalesovo Array 43.28 301 *e*P **P 12 47 32.6 +1.1**
ZALV Zalesovo Beam 43.28 301 P **P 12 47 30.8 -0.6**
ZALV PP PP 12 49 15.6 +4.0
ZALV LR LR 13 05 41.4
ZALV Zalesovo Beam 43.28 301 P **P 12 47 30.8 -0.6**
comp=Z,1.9nm,0.7s,baz=28,slow=6.7,SNR=6.2
ZALV PP PP 12 49 15.6 +4.0
comp=Z,3.7nm,0.8s,baz=25,slow=11,SNR=3.3
ZALV LR LR 13 05 41.4
comp=Z,770nm,20.8s,MS4.6,baz=216,slow=36
I08A Drewsey 43.29 81 ⇓P **P 12 47 31.5 -0.2**
baz=43
ZAL Zalesovo 43.29 301 P **P 12 47 30.8 -0.8**
ZAL 12 49 15.6
K06A Valley Falls 43.37 84 P **P 12 47 32.6 +0.3**
baz=43,SNR=19
E13A Victor 43.37 76 ⇓P **P 12 47 31.9 -0.4**
baz=43,SNR=18
F12A Elk City 43.40 77 ⇑P **P 12 47 32.2 -0.3**
baz=43,SNR=34
M04C Macdoel 43.42 86 P **P 12 47 32.8 +0.1**
baz=43,SNR=13
CHMT Chamberlain Mo 43.43 74 *e*P **P 12 47 32.4 -0.4**
N02C Big Bar 43.48 88 ⇓P **P 12 47 33.3 -0.1**
baz=43,SNR=12
H10A Noah's Angus R 43.61 79 ⇓P **P 12 47 34.1 -0.2**
baz=43,SNR=13
I09A Lost Marbles R 43.62 81 ⇑P **P 12 47 34.3 0.0**
baz=44
D15A Lincoln 43.66 74 ⇓P **P 12 47 34.6 -0.1**
baz=44,SNR=13
L05A Lakeview 43.68 85 ⇓P **P 12 47 35.3 +0.4**
baz=44,SNR=25
E14A Clinton 43.70 75 ⇑P **P 12 47 34.6 -0.4**
baz=44,SNR=49
J08A Circle Bar Ran 43.76 82 ⇑P **P 12 47 35.3 -0.1**
baz=44,SNR=22
O01C Eel River Cons 43.78 89 ⇑P **P 12 47 35.4 -0.3**
baz=44,SNR=10
H11A Donnelly 43.86 79 ⇓P **P 12 47 35.9 -0.3**
baz=44,SNR=43
K07A Rock Creek Ran 43.92 83 ⇓P **P 12 47 37.0 +0.2**
baz=44,SNR=25
I10A Payette 43.97 80 ⇑P **P 12 47 37.2 +0.1**
baz=44
WDC Whiskeytown Da 44.03 88 *e*P **P 12 47 37.3 -0.4**
WDC pmax pmax
comp=Z,40nm,1.2s,mb5.0
WDC Whiskeytown Da 44.03 88 *e*P **P 12 47 37.3 -0.4**
comp=Z,40nm,1.2s,mb5.0
WDC Whiskeytown Da 44.03 88 ⇓P **P 12 47 37.4 -0.3**
baz=44,SNR=21
MOD Modoc 44.04 85 *e*P **P 12 47 37.6 -0.1**
comp=Z,65nm,1.5s,mb5.1
MOD Modoc 44.04 85 ⇑P **P 12 47 38.5 +0.8**
baz=44,SNR=6.0
M05C Lookout 44.07 86 ⇑P **P 12 47 38.1 0.0**
baz=44,SNR=9.1
E15A Deer Lodge 44.08 74 ⇓P **P 12 47 37.8 -0.2**
baz=44,SNR=30
J09A Fry Pan Ranch, 44.10 81 ⇓P **P 12 47 38.1 -0.2**
baz=44,SNR=25
EGMT Eagleton 44.16 71 *e*P **P 12 47 38.2 -0.4**
comp=Z,53nm,1.0s,mb5.2
EGMT Eagleton 44.16 71 ⇑P **P 12 47 38.1 -0.5**
baz=44,SNR=25
F14A Wisdom 44.22 76 ⇓P **P 12 47 38.5 -0.6**
baz=44,SNR=6.5
HRY Holter Researc 44.23 74 *e*P **P 12 47 39.2 0.0**
O02C Red Bluff 44.24 88 ⇓P **P 12 47 39.8 +0.4**
baz=44,SNR=16
K08A Mann Creek Ran 44.24 82 ⇑P **P 12 47 39.6 +0.2**
baz=44,SNR=18
HATC Hat Creek Radi 44.35 87 ⇓P **P 12 47 39.9 -0.3**
baz=44,SNR=9.3
G13A Cobalt 44.37 77 ⇓P **P 12 47 39.9 -0.5**
baz=44,SNR=15
L07A Adell 44.40 84 P **P 12 47 40.9 +0.2**
baz=44,SNR=17
WVOR Wild Horse Val 44.40 83 *e*P **P 12 47 40.8 +0.2**
WVOR pmax pmax
comp=Z,34nm,1.3s,mb4.9
WVOR Wild Horse Val 44.40 83 *e*P **P 12 47 40.8 +0.2**
comp=Z,34nm,1.3s,mb4.9
I11A Placerville 44.49 79 ⇑P **P 12 47 40.5 -0.8**
baz=44,SNR=15
J10A Berg Farm, Mel 44.49 80 ⇑P **P 12 47 40.6 -0.8**
baz=44
M06C Likely Place G 44.50 85 ⇑P **P 12 47 41.3 -0.2**
baz=44,SNR=7.7
H12A Diamond D Ranc 44.51 78 ⇑P **P 12 47 41.0 -0.5**
baz=44,SNR=28
P01C Double 8 Ranch 44.54 89 ⇓P **P 12 47 41.5 -0.3**
baz=44
F15A Butte 44.59 75 ⇓P **P 12 47 41.6 -0.5**
baz=44,SNR=39
K09A Rome 44.62 82 ⇓P **P 12 47 42.2 -0.2**
baz=44,SNR=16
GASB Alder Springs 44.68 89 ⇓P **P 12 47 43.5 +0.6**
baz=44,SNR=9.3
L08A Fields 44.73 83 ⇑P **P 12 47 43.5 +0.2**
baz=45,SNR=18
O03C Acorn Hollow, 44.73 88 ⇓P **P 12 47 43.4 +0.1**
baz=45
H13A Challis 44.77 77 ⇑P **P 12 47 43.0 -0.6**
baz=45,SNR=23
SSE Sheshan 44.81 250 P **P 12 47 42.5 -1.6**
SSE PP PP 12 49 28.5 0.0
SSE S **S 12 54 20.3 -1.3**
SSE XS sS 12 54 25.8 +1.6
SSE AMB AMB
comp=Z,43nm,0.7s,mb5.4
SSE AMB AMB
comp=Z,84nm,4.2s
SSE LR LR
comp=N,1μm,15.7s,MS5.0
SSE LR LR
comp=E,1μm,15.7s,MS5.0
SSE LR LR
comp=Z,2μm,16.5s,MS5.1
ELFS Eagle Lake Fie 44.85 86 ⇓P **P 12 47 44.4 +0.2**
baz=45,SNR=10
DLMT Dillon 44.91 75 *e*P **P 12 47 45.0 +0.3**
comp=Z,38nm,1.1s,mb5.1
O04C Chester 44.92 87 ⇑P **P 12 47 44.8 0.0**
baz=45,SNR=29
MFID Camas Ranch 44.94 80 ⇓P **P 12 47 44.7 -0.2**
baz=45,SNR=18
K10A MacKenzie Ranc 44.95 81 ⇓P **P 12 47 44.9 -0.2**
baz=45,SNR=18
NJ2 Nanjing 45.03 253 *e*P **P 12 47 47.8 +2.0**
NJ2 AP pP 12 47 52.3 +4.9
NJ2 XP sP 12 47 55.8 +7.8
NJ2 PCP PcP 12 49 26.5 -0.1
NJ2 S **S 12 54 30.0 +5.2**
NJ2 XS sS 12 54 39.0 +12
NJ2 AMB AMB
comp=Z,90nm,0.8s,mb5.7
NJ2 AMB AMB
comp=Z,220nm,9.3s
NJ2 LR LR
comp=N,9μm,20.6s,MS5.7
NJ2 LR LR
comp=E,5μm,21.6s,MS5.7
NJ2 LR LR
comp=Z,5μm,22.1s,MS5.4
G15A Dillon 45.11 76 ⇑P **P 12 47 45.5 -0.7**
baz=45,SNR=45
BOZ Bozeman (W) 45.13 74 *e*P **P 12 47 46.8 +0.4**
BOZ pmax pmax
comp=Z,20nm,1.1s,mb4.9
BOZ Bozeman (W) 45.13 74 *e*P **P 12 47 46.8 +0.4**
comp=Z,20nm,1.1s,mb4.9
N06A Buffalo Meadow 45.16 85 P **P 12 47 46.6 -0.1**
baz=45,SNR=26
L09A Wilkinson Ranc 45.17 82 ⇓P **P 12 47 47.0 +0.2**
baz=45
MCMT McKenzie Canyo 45.20 76 *e*P **P 12 47 46.7 -0.3**
O05C Quincy 45.28 87 ⇑P **P 12 47 47.6 -0.1**
baz=45,SNR=14
M08A Happy Creek Ra 45.29 84 ⇓P **P 12 47 48.0 +0.2**
baz=45,SNR=20
ORV Oroville 45.33 88 P **P 12 47 47.2 -0.9**
baz=45,SNR=18
I13A Wildhorse Cree 45.33 78 P **P 12 47 48.0 -0.1**
baz=45,SNR=131
K11A Parker Ranch, 45.34 80 ⇑P **P 12 47 47.7 -0.4**
baz=45,SNR=8.8
J12A Stokes Ranch, 45.40 79 ⇑P **P 12 47 48.1 -0.4**
baz=45,SNR=35
MNRC McLaughlin Nat 45.43 89 ⇑P **P 12 47 48.8 0.0**
baz=45,SNR=10.0
SUTB Sutter Butte 45.46 88 ⇑P **P 12 47 48.2 -0.9**
baz=45
HLID Hailey 45.47 78 ⇓P **P 12 47 48.8 -0.3**
baz=45,SNR=26
OHCM Honcut 45.51 88 *e*P **P 12 47 47.1 -2.5**
N07B Gerlach 45.54 85 ⇓P **P 12 47 49.6 -0.1**
baz=45
BEKR Beckwourth 45.62 87 ⇓P **P 12 47 49.8 -0.6**
baz=46
O06A Flanigan 45.63 86 ⇓P **P 12 47 49.7 -0.7**
baz=46,SNR=9.0
NSHM Saint Helena R 45.64 90 *e*P **P 12 47 49.9 -0.7**
L10A Juniper Basin 45.68 81 ⇓P **P 12 47 50.9 +0.1**
baz=46,SNR=22
J13A Cove Ranch, Pi 45.71 78 ⇑P **P 12 47 50.9 -0.1**
baz=46,SNR=16
M09A Marrel Ranch, 45.74 83 ⇑P **P 12 47 51.7 +0.4**
baz=46
QLMT Earthquake Lak 45.85 75 *e*P **P 12 47 52.5 +0.4**
CVS Carmenet Viney 45.85 90 ⇑P **P 12 47 51.9 -0.3**
baz=46,SNR=7.5
GCMT Greycliff 45.90 73 *e*P **P 12 47 53.2 +0.7**
KEV Kevo 45.91 344 *e*p **P 12 47 50.6 -1.7**
comp=Z,18nm,1.0s,mb5.0

KEV	**Kevo**	**45.91**	**344**	*e*P	**P**	**12 47 50.6**	**-1.7**
KEV				pmax	pmax		
	comp=Z,18nm,1.0s,mb5.0						
N08A	**GE Springer Mi**	**45.93**	**84**	⇑P	**P**	**12 47 52.8**	**0.0**
	baz=46,SNR=7.3						
L11A	**Cat Creek Ranc**	**45.94**	**81**	⇓P	**P**	**12 47 52.8**	**0.0**
	baz=46,SNR=11						
P05C	**Yuba Gap, Truc**	**45.95**	**87**	⇓P	**P**	**12 47 52.3**	**-0.7**
	baz=46,SNR=18						
Q04C	**Lincoln**	**45.96**	**88**	⇓P	**P**	**12 47 52.8**	**-0.3**
	baz=46						
K12A	**Draper Farm, C**	**45.97**	**80**	⇑P	**P**	**12 47 52.6**	**-0.4**
	baz=46,SNR=6.0						
P06A	**Stead Airport,**	**45.98**	**86**	⇓P	**P**	**12 47 52.5**	**-0.7**
	baz=46						
O07A	**Toulon**	**46.07**	**85**	⇑P	**P**	**12 47 53.5**	**-0.5**
	baz=46,SNR=25						
M10A	**I.L. Ranch, Tu**	**46.09**	**82**	⇓P	**P**	**12 47 53.5**	**-0.5**
	baz=46,SNR=8.0						
N09A	**Rock Creek Ran**	**46.16**	**83**	⇓P	**P**	**12 47 54.1**	**-0.5**
	baz=46						
PAHR	**Pah Rah Range**	**46.20**	**86**	*e*P	**P**	**12 47 54.7**	**-0.3**
	comp=Z,58nm,1.5s,mb5.3						
DGMT	**Dagmar**	**46.24**	**66**	*e*P	**P**	**12 47 56.2**	**+1.0**
	comp=Z,12nm,0.4s,mb5.2						
L12A	**House Creek Ra**	**46.30**	**80**	⇑P	**P**	**12 47 54.6**	**-1.1**
	baz=46,SNR=9.0						
ARCES	**ARCESS Array B**	**46.31**	**344**	P	**P**	**12 47 53.6**	**-1.8**
ARCES				pmax	pmax		
	comp=Z,17nm,0.7s						
ARCES				MLR	MLR		
	comp=Z,2μm,19.1s						
ARCES	**ARCESS Array B**	**46.31**	**344**	P	**P**	**12 47 53.6**	**-1.8**
	comp=Z,17nm,0.7s,mb5.1,baz=17,slow=5.9,SNR=26						
ARCES				LR	LR	13 09 05.7	
	comp=Z,2μm,19.1s,MS5.1,baz=24,slow=38						
ARE0	**ARCESS Array S**	**46.31**	**344**	*e*P	**P**	**12 47 54.1**	**-1.3**
LAVA	**Lava Cap Winer**	**46.33**	**88**	⇑P	**P**	**12 47 55.1**	**-0.8**
	baz=46,SNR=20						
K13A	**Stover Farm, H**	**46.33**	**79**	⇑P	**P**	**12 47 55.4**	**-0.6**
	baz=46						
WCN	**Washoe City**	**46.35**	**86**	⇑P	**P**	**12 47 55.7**	**-0.5**
	baz=46,SNR=7.3						
YFT	**Old Faithful**	**46.41**	**75**	*e*P	**P**	**12 47 57.9**	**+1.3**
BDM	**Black Diamond**	**46.44**	**89**	⇑P	**P**	**12 47 56.3**	**-0.5**
	baz=46						
LVZ	**Lovozero**	**46.48**	**339**	*e*P	**P**	**12 47 56.0**	**-0.8**
LVZ				pmax	pmax		
	comp=Z,77nm,1.4s,mb5.4						
M11A	**Holland Ranch,**	**46.50**	**81**	⇑P	**P**	**12 47 56.9**	**-0.4**
	baz=46,SNR=9.7						
LKWY	**Lake**	**46.52**	**74**	*e*P	**P**	**12 47 59.3**	**+1.9**
LKWY				pmax	pmax		
	comp=Z,30nm,1.0s,mb5.2						
LKWY	**Lake**	**46.52**	**74**	*e*P	**P**	**12 47 59.3**	**+1.9**
	comp=Z,30nm,1.0s,mb5.2						
BMN	**Battle Mountai**	**46.63**	**83**	*e*P	**P**	**12 47 58.3**	**0.0**
BMN				pmax	pmax		
	comp=Z,27nm,1.4s,mb5.0						
BMN	**Battle Mountai**	**46.63**	**83**	*e*P	**P**	**12 47 58.2**	**-0.1**
	comp=Z,27nm,1.4s,mb5.0						
R05C	**Kirkwood Meado**	**46.68**	**87**	⇑P	**P**	**12 47 57.9**	**-0.8**
	baz=46,SNR=9.5						
JRSC	**Jasper Ridge**	**46.71**	**90**	⇑P	**P**	**12 47 58.0**	**-1.0**
	baz=47						
LAO	**LASA Array**	**46.73**	**69**	*e*P	**P**	**12 47 58.3**	**-0.8**
	comp=Z,43nm,1.1s,mb5.3						
FLWY	**Flagg Ranch**	**46.76**	**75**	*e*P	**P**	**12 48 00.3**	**+1.1**
	comp=Z,89nm,1.0s,mb5.7						
IMW	**Indian Meadow**	**46.79**	**75**	*e*P	**P**	**12 47 59.3**	**-0.2**
	comp=Z,19nm,1.0s,mb5.0						
K14A	**Jones Ranch, D**	**46.83**	**78**	⇓P	**P**	**12 47 59.8**	**-0.1**
	baz=47,SNR=16						
M12A	**Wells**	**46.92**	**81**	⇓P	**P**	**12 48 00.3**	**-0.3**
	baz=47,SNR=21						
TRO	**Tromso**	**46.97**	**347**	*e*P	**P**	**12 47 60.0**	**-0.6**
TRO				AMb	AMB	12 48 12.5	
	comp=Z,89nm,1.4s,mb5.5						
TRO				*e*SS	SS	12 58 31.9	+14
TRO	**Tromso**	**46.97**	**347**	*e*P	**P**	**12 48 00.0**	**-0.6**
TRO				pmax	pmax		
	comp=Z,89nm,1.4s,mb5.5						
TRO	**Tromso**	**46.97**	**347**	*e*P	**P**	**12 47 60.0**	**-0.6**
	comp=Z,89nm,1.4s,mb5.5						
JMIC	**Jan Mayen**	**47.01**	**0**	*e*SS	SS	12 58 31.7	+13
S04C	**Ingram Canyon,**	**47.05**	**89**	⇑P	**P**	**12 48 02.4**	**+0.7**
	baz=47						
CMB	**Columbia Colle**	**47.07**	**88**	*e*P	**P**	**12 48 01.5**	**-0.3**
CMB				pmax	pmax		
	comp=Z,21nm,1.3s,mb4.9						
CMB	**Columbia Colle**	**47.07**	**88**	*e*P	**P**	**12 48 01.5**	**-0.2**
	comp=Z,21nm,1.3s,mb4.9						
CMB	**Columbia Colle**	**47.07**	**88**	⇓P	**P**	**12 48 01.6**	**-0.2**
	baz=47,SNR=6.3						
O10A	**Cortez Mining,**	**47.08**	**83**	⇑P	**P**	**12 48 02.4**	**+0.6**
	baz=47,SNR=5.4						
TPAW	**Teton Pass**	**47.10**	**76**	*e*P	**P**	**12 48 02.8**	**+0.8**
	comp=Z,49nm,1.1s,mb5.3						
LOHW	**Long Hollow**	**47.17**	**75**	*e*P	**P**	**12 48 03.4**	**+0.9**
	comp=Z,38nm,1.1s,mb5.2						
SNOW	**Snow King Moun**	**47.22**	**76**	*e*P	**P**	**12 48 03.6**	**+0.8**
	comp=Z,42nm,1.1s,mb5.3						
REDW	**Red Top Meadow**	**47.25**	**76**	*e*P	**P**	**12 48 03.6**	**+0.5**
	comp=Z,42nm,1.1s,mb5.3						
N12A	**Clover Valley,**	**47.31**	**81**	⇓P	**P**	**12 48 03.7**	**+0.1**
	baz=47,SNR=8.3						
M13A	**Montello**	**47.31**	**80**	P	**P**	**12 48 04.1**	**+0.5**
	baz=47,SNR=18						
SFJD	**Kangerlussuaq**	**47.40**	**21**	*i* P	**P**	**12 48 03.7**	**-0.3**
SFJD				*i* S	**S**	**12 54 57.3**	**-0.7**
SFJD				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.2						
SFJD				MLR	MLR		
	comp=Z,1μm,22.0s,MS4.8						
SFJD	**Kangerlussuaq**	**47.40**	**21**	*e*P	**P**	**12 48 03.0**	**-1.0**
	comp=Z,56nm,1.4s,mb5.3						
SFJD	**Kangerlussuaq**	**47.40**	**21**	*i* P	**P**	**12 48 03.7**	**-0.3**
	comp=Z,33nm,1.1s,mb5.2						
SFJD				*i* S	**S**	**12 54 57.3**	**-0.7**
SFJD				*e*		12 58 29.8	
SFJD							
	comp=Z,1μm,22.0s						
S06C	**San Francisco**	**47.44**	**88**	⇑P	**P**	**12 48 04.9**	**+0.2**
	baz=47,SNR=9.3						
PACP	**Pacheco Peak**	**47.48**	**90**	⇓P	**P**	**12 48 05.3**	**+0.3**
	baz=47,SNR=7.5						
M14A	**Sheep Mountain**	**47.57**	**79**	⇑P	**P**	**12 48 05.6**	**-0.1**
	baz=47,SNR=16						
O11A	**Cowboy Ranch,**	**47.59**	**82**	⇓P	**P**	**12 48 06.0**	**+0.1**
	baz=47,SNR=7.8						
HVU	**Hansel Valley**	**47.62**	**79**	*e*P	**P**	**12 48 06.0**	**0.0**
HVU				pmax	pmax		
	comp=Z,33nm,1.2s,mb5.2						
HVU	**Hansel Valley**	**47.62**	**79**	*e*P	**P**	**12 48 06.0**	**0.0**
	comp=Z,33nm,1.2s,mb5.2						
P10A	**Eureka**	**47.63**	**83**	⇑P	**P**	**12 48 06.2**	**+0.1**
	baz=48,SNR=5.5						
R07C	**Lee Vining**	**47.65**	**87**	⇑P	**P**	**12 48 06.2**	**-0.1**
	baz=48						
S05C	**Merced**	**47.65**	**89**	⇑P	**P**	**12 48 05.2**	**-1.2**
	baz=48						
N13A	**Wendover, West**	**47.69**	**81**	⇑P	**P**	**12 48 06.3**	**-0.3**
	baz=48						
NVAR	**Mina Array Bea**	**47.72**	**86**	P	**P**	**12 48 06.8**	**-0.1**
	comp=Z,7.0nm,1.0s,mb4.7,baz=297,slow=6.1,SNR=22						
GTA	**Gaotai**	**47.81**	**276**	*e*P	**P**	**12 48 07.4**	**-0.1**
GTA				AP	pP	12 48 12.9	+3.8
GTA				XP	sP	12 48 15.8	+6.0
GTA				PP	PP	12 49 59.9	+0.9
GTA				S	**S**	**12 55 03.0**	**-1.4**
GTA				SS	SS	12 58 27.3	-5.0
GTA				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.8						
GTA				AMB	AMB		
	comp=Z,218nm,7.7s						
GTA				LR	LR		
	comp=N,5μm,14.5s,MS5.8						
GTA				LR	LR		
	comp=E,6μm,13.4s,MS5.8						
GTA				LR	LR		
	comp=Z,8μm,17.6s,MS5.7						
HAST	**Hastings Reser**	**47.85**	**90**	⇓P	**P**	**12 48 07.9**	**0.0**
	baz=48,SNR=5.3						
O12A	**Currie**	**47.91**	**81**	⇓P	**P**	**12 48 08.2**	**0.0**
	baz=48,SNR=20						
XAN	**Xi'an**	**47.92**	**264**	P	**P**	**12 48 10.3**	**+1.9**
XAN				PP	PP	12 49 56.8	-3.3
XAN				S	**S**	**12 54 57.0**	**-9.1**
XAN				SS	SS	12 58 28.0	-6.3
XAN				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb4.7						
XAN				AMB	AMB		
	comp=Z,47nm,3.9s						
XAN				LR	LR		
	comp=N,2μm,14.5s,MS5.5						
XAN				LR	LR		
	comp=E,3μm,15.0s,MS5.5						
XAN				LR	LR		
	comp=Z,3μm,15.5s,MS5.4						
Q09A	**Carvers**	**47.92**	**85**	⇓P	**P**	**12 48 08.3**	**-0.1**
	baz=48						
P11A	**Circle Ranch,**	**48.01**	**83**	⇑P	**P**	**12 48 08.9**	**-0.1**
	baz=48,SNR=6.4						
M15A	**Larsen Ranch,**	**48.02**	**79**	⇑P	**P**	**12 48 09.0**	**-0.1**
	baz=48,SNR=9.5						
MLAC	**Mammoth Lakes**	**48.12**	**87**	⇑P	**P**	**12 48 09.8**	**-0.2**
	baz=48						
KCC	**Kaiser Creek**	**48.14**	**88**	⇑P	**P**	**12 48 10.3**	**+0.2**
	baz=48,SNR=7.4						
N14A	**Grayback Hills**	**48.16**	**80**	⇑P	**P**	**12 48 10.1**	**-0.2**
	baz=48,SNR=15						
BGU	**Big Grassy Mou**	**48.18**	**80**	*e*P	**P**	**12 48 11.6**	**+1.2**
KURK	**Kurchatov**	**48.21**	**302**	P	**P**	**12 48 09.0**	**-1.5**
	comp=Z,203nm,0.7s,mb6.3,SNR=5.7						
KURK	**Kurchatov**	**48.21**	**302**	*e*P	**P**	**12 48 09.1**	**-1.4**
KURK				pmax	pmax		
	comp=Z,32nm,0.9s,mb5.3						
KURK	**Kurchatov**	**48.21**	**302**	*e*P	**P**	**12 48 09.1**	**-1.4**
	comp=Z,32nm,0.9s,mb5.3						
T06C	**Millerton Lake**	**48.22**	**88**	⇑P	**P**	**12 48 10.2**	**-0.5**
	baz=48						
U04C	**Hernandez Rese**	**48.24**	**90**	⇑P	**P**	**12 48 10.4**	**-0.5**
	baz=48						
Q10A	**Clear Creek Ra**	**48.29**	**84**	⇑P	**P**	**12 48 10.9**	**-0.4**
	baz=48,SNR=30						
V03C	**Hunter Liggett**	**48.30**	**90**	⇓P	**P**	**12 48 11.0**	**-0.4**
	baz=48						
BW06	**Boulder Array**	**48.30**	**75**	*e*P	**P**	**12 48 11.2**	**-0.1**
	comp=Z,34nm,1.0s,mb5.3						
HWUT	**Hardware Ranch**	**48.31**	**78**	*e*P	**P**	**12 48 11.5**	**+0.2**
	comp=Z,42nm,1.1s,mb5.4						
ULM	**Lac du Bonnet**	**48.32**	**59**	*e*P	**P**	**12 48 10.9**	**-0.4**
	comp=Z,23nm,1.0s,mb5.2						
ULM	**Lac du Bonnet**	**48.32**	**59**	P	**P**	**12 48 10.4**	**-0.9**
	comp=Z,23nm,1.0s,mb5.2,baz=315,slow=8.7,SNR=12						
ULM				LR	LR	13 10 03.2	
	comp=Z,2μm,18.3s,MS5.2,baz=128,slow=38						
WHN	**Wuhan**	**48.34**	**256**	P	**P**	**12 48 14.0**	**+2.2**
WHN				PP	PP	12 50 04.8	+0.7
WHN				S	**S**	**12 55 15.3**	**+3.2**
WHN				AMB	AMB		
	comp=Z,54nm,1.1s,mb5.5						
WHN				LR	LR		
	comp=N,7μm,14.7s,MS5.9						
WHN				LR	LR		
	comp=E,3μm,10.0s,MS5.9						
WHN				LR	LR		
	comp=Z,4μm,16.2s						
O13A	**Hicks Ranch, I**	**48.37**	**81**	⇑P	**P**	**12 48 11.2**	**-0.7**
	baz=48						
N15A	**Stansbury Isla**	**48.44**	**79**	⇑P	**P**	**12 48 12.3**	**-0.1**
	baz=48						
R09A	**Tonopah**	**48.45**	**85**	⇓P	**P**	**12 48 11.7**	**-0.8**
	baz=48,SNR=20						
P12A	**McGill**	**48.47**	**82**	⇓P	**P**	**12 48 12.2**	**-0.4**
	baz=48,SNR=13						
MTUM	**Tungsten Hills**	**48.47**	**87**	*e*P	**P**	**12 48 12.0**	**-0.7**
TPH	**Tonopah**	**48.51**	**85**	*e*P	**P**	**12 48 14.2**	**+1.2**
TPH				pmax	pmax		
	comp=Z,16nm,1.0s,mb5.0						
TPH	**Tonopah**	**48.51**	**85**	*e*P	**P**	**12 48 14.2**	**+1.2**
	comp=Z,16nm,1.0s,mb5.0						
S08C	**White Mtn Res**	**48.53**	**87**	⇑P	**P**	**12 48 13.2**	**+0.1**
	baz=48,SNR=21						
LZH	**Lanzhou**	**48.61**	**270**	*e*P	**P**	**12 48 13.8**	**0.0**
LZH				AP	pP	12 48 16.4	+1.0
LZH				XP	sP	12 48 18.8	+2.8
LZH				PCP	PcP	12 49 41.5	+2.3
LZH				*e*S	**S**	**12 55 09.3**	**-6.5**
LZH				AMB	AMB		
	comp=Z,43nm,1.0s,mb5.4						
LZH				AMB	AMB		
	comp=Z,249nm,4.0s						
LZH				LR	LR		
	comp=E,2μm,14.9s						
LZH				LR	LR		
	comp=Z,3μm,16.1s,MS5.3						
Q11A	**Duckwater**	**48.62**	**83**	P	**P**	**12 48 14.0**	**+0.2**
	baz=48,SNR=25						
PKD	**Parkfield**	**48.69**	**90**	⇑P	**P**	**12 48 14.1**	**-0.3**
	baz=48,SNR=5.6						
R10A	**Warm Springs**	**48.77**	**84**	⇓P	**P**	**12 48 14.5**	**-0.5**
	baz=49,SNR=17						
V04C	**Ramage Ranch,**	**48.79**	**90**	⇓P	**P**	**12 48 14.4**	**-0.7**
	baz=49						
S09A	**Goldfield**	**48.80**	**86**	⇑P	**P**	**12 48 14.7**	**-0.5**
	baz=49,SNR=17						
HELL	**Mitchell Peak**	**48.80**	**88**	⇑P	**P**	**12 48 14.7**	**-0.5**
	baz=49,SNR=17						
Q12A	**Willow Creek R**	**48.85**	**83**	⇓P	**P**	**12 48 14.4**	**-1.1**
	baz=49,SNR=6.0						
DUG	**Dugway**	**48.86**	**80**	*e*P	**P**	**12 48 15.6**	**0.0**
DUG				pmax	pmax		
	comp=Z,23nm,1.1s,mb5.1						
DUG	**Dugway**	**48.86**	**80**	*e*P	**P**	**12 48 15.6**	**0.0**
	comp=Z,23nm,1.1s,mb5.1						
DUG	**Dugway**	**48.86**	**80**	⇑P	**P**	**12 48 14.9**	**-0.7**
	baz=49,SNR=18						
P13A	**Bates Ranch, G**	**48.89**	**82**	⇓P	**P**	**12 48 15.4**	**-0.5**
	baz=49,SNR=19						
S10A	**Tonopah Range,**	**48.93**	**85**	⇓P	**P**	**12 48 15.7**	**-0.5**
	baz=49,SNR=24						
CTU	**Camp Tracy**	**48.95**	**79**	*e*P	**P**	**12 48 15.5**	**-0.8**
	comp=Z,29nm,1.1s,mb5.2						
R11A	**Troy Canyon, C**	**49.05**	**84**	⇑P	**P**	**12 48 16.4**	**-0.7**
	baz=49,SNR=7.4						
PTRM	**Twissleman Ran**	**49.08**	**90**	*e*P	**P**	**12 48 19.2**	**+1.9**
JLU	**Jordanelle**	**49.16**	**79**	*e*P	**P**	**12 48 17.9**	**0.0**
TMCR	**Tamitsa**	**49.22**	**335**	*e*P	**P**	**12 48 16.7**	**-1.4**
TMCR				pmax	pmax		
	comp=Z,66nm,1.1s,mb5.6						
Q13A	**Wheeler Ranch,**	**49.29**	**82**	⇑P	**P**	**12 48 18.8**	**-0.1**
	baz=49,SNR=11						
GRAC	**Grapevine Rang**	**49.31**	**86**	⇑P	**P**	**12 48 19.4**	**+0.2**
	baz=49,SNR=6.3						
NLU	**North Lily Min**	**49.39**	**80**	*e*P	**P**	**12 48 19.7**	**0.0**
DAU	**Daniels Canyon**	**49.40**	**79**	*e*P	**P**	**12 48 20.0**	**+0.3**
CWC	**Cottonwood Cre**	**49.44**	**87**	⇑P	**P**	**12 48 20.8**	**+0.7**
	baz=49						
VES	**Vestal, Richgr**	**49.46**	**89**	⇑P	**P**	**12 48 19.8**	**-0.4**
	baz=49,SNR=6.5						
SMMC	**Simmler**	**49.46**	**90**	⇓P	**P**	**12 48 20.4**	**+0.1**
	baz=49,SNR=6.4						
R12A	**Pony Springs,**	**49.52**	**83**	⇑P	**P**	**12 48 20.6**	**-0.1**
	baz=49,SNR=17						
BVAR	**Borovoye Array**	**49.53**	**309**	P	**P**	**12 48 17.6**	**-3.0**
BVAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
BVAR	**Borovoye Array**	**49.53**	**309**	P	**P**	**12 48 17.6**	**-2.9**
	comp=Z,2.0nm,0.6s,mb4.3,baz=56,slow=6.1,SNR=14						
MPU	**Maple Canyon**	**49.54**	**79**	*e*P	**P**	**12 48 20.5**	**-0.4**
	comp=Z,46nm,1.5s,mb5.3						
S11A	**Rachel**	**49.55**	**84**	⇓P	**P**	**12 48 21.2**	**+0.3**
	baz=49,SNR=5.7						
RSSD	**Black Hills**	**49.70**	**70**	P	**P**	**12 48 21.3**	**-0.7**
RSSD				pmax	pmax		
	comp=Z,28nm,1.0s,mb5.2						
RSSD	**Black Hills**	**49.70**	**70**	*e*P	**P**	**12 48 21.3**	**-0.6**
	comp=Z,28nm,1.0s,mb5.2						
SVE	**Sverdlovsk**	**49.76**	**318**	⇑*e*P	**P**	**12 48 22.1**	**-0.2**
SVE				*e*S	**S**	**12 55 35.0**	**+3.6**
SVE				pmax	pmax		
	comp=Z,37nm,1.1s,mb5.3						
SVE				MLR	MLR		
	comp=Z,4μm,18.0s,MS5.5						
MK31	**Makanchi Array**	**49.79**	**296**	*e*P	**P**	**12 48 22.3**	**-0.3**
MKAR	**Makanchi Array**	**49.79**	**296**	P	**P**	**12 48 20.4**	**-2.2**
MKAR						12 50 17.0	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,2μm,18.7s						
MKAR	**Makanchi Array**	**49.79**	**296**	P	**P**	**12 48 20.4**	**-2.3**
	comp=Z,1.5nm,0.5s,mb4.3,baz=53,slow=8.3,SNR=12						
MKAR				PP	PP	12 50 17.0	+0.1
	comp=Z,8.0nm,1.1s,baz=48,slow=7.2,SNR=5.8						
MKAR				LR	LR	13 09 41.0	
	comp=Z,2μm,18.7s,MS5.1,baz=26,slow=36						
WMQ	**Urumqi**	**49.81**	**290**	*e*P	**P**	**12 48 23.0**	**+0.1**
WMQ				XP	sP	12 48 30.0	+4.9
WMQ				PP	PP	12 50 19.0	+1.9
WMQ				S	**S**	**12 55 31.0**	**-1.5**
WMQ				SS	SS	12 58 59.0	-5.4
WMQ				AMB	AMB		
	comp=Z,34nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,58nm,5.0s						
WMQ				LR	LR		
	comp=N,4μm,14.0s,MS5.7						
WMQ				LR	LR		
	comp=E,4μm,15.0s,MS5.7						
WMQ				LR	LR		
	comp=Z,2μm,14.0s,MS5.2						
AGMN	**Agassiz Refuge**	**49.86**	**61**	*e*P	**P**	**12 48 22.5**	**-0.6**
	comp=Z,20nm,0.9s,mb5.2						
TPNV	**Topopah Spring**	**49.88**	**85**	*e*P	**P**	**12 48 22.9**	**-0.5**
TPNV				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.3						
TPNV	**Topopah Spring**	**49.88**	**85**	*e*P	**P**	**12 48 22.9**	**-0.6**
	comp=Z,56nm,1.8s,mb5.3						
TPNV	**Topopah Spring**	**49.88**	**85**	⇓P	**P**	**12 48 23.9**	**+0.4**
	baz=50						
PKM	**Peak Mountain**	**49.88**	**90**	⇑P	**P**	**12 48 24.1**	**+0.6**
	baz=50						
FURC	**Furnace Creek,**	**49.98**	**86**	⇑P	**P**	**12 48 24.4**	**+0.2**
	baz=50,SNR=20						
S12A	**Delamar Landin**	**49.99**	**84**	⇑P	**P**	**12 48 24.3**	**0.0**
	baz=50,SNR=5.6						
MPMC	**Manual Prospec**	**50.02**	**87**	P	**P**	**12 48 24.8**	**+0.3**
	baz=50,SNR=18						
T11A	**Corn Creek, Al**	**50.12**	**84**	⇑P	**P**	**12 48 25.1**	**-0.2**
	baz=50,SNR=28						
ARVC	**Arvin**	**50.16**	**89**	⇓P	**P**	**12 48 25.9**	**+0.4**
	baz=50						
RWWY	**Rawlins**	**50.22**	**74**	*e*P	**P**	**12 48 25.9**	**-0.1**
	comp=Z,24nm,1.0s,mb5.2						
U10A	**Ash Meadows, A**	**50.27**	**86**	⇓P	**P**	**12 48 26.6**	**+0.2**
	baz=50,SNR=11						
R14A	**James Farms, M**	**50.28**	**82**	⇑P	**P**	**12 48 26.6**	**+0.1**
	baz=50						
TMUT	**Trail Mountain**	**50.32**	**79**	*e*P	**P**	**12 48 26.1**	**-0.7**
LRMC	**Laurel Mountai**	**50.40**	**88**	⇑P	**P**	**12 48 27.3**	**-0.1**
	baz=50,SNR=14						
S13A	**Holt Ranch, En**	**50.48**	**83**	⇓P	**P**	**12 48 28.0**	**0.0**
	baz=50,SNR=15						
MSU	**Marysvale**	**50.50**	**81**	*e*P	**P**	**12 48 29.0**	**+0.9**
ARUT	**Antelope Range**	**50.50**	**82**	*e*P	**P**	**12 48 28.1**	**-0.1**
S14A	**Cedar City**	**50.65**	**82**	⇓P	**P**	**12 48 28.7**	**-0.6**
	baz=50,SNR=15						
BSC	**Santa Cruz Isl**	**50.71**	**91**	⇓P	**P**	**12 48 29.6**	**-0.2**
	baz=51						
CCUT	**Cedar City**	**50.73**	**82**	*e*P	**P**	**12 48 29.9**	**0.0**
ARU	**Arti**	**50.73**	**319**	*d i*P	**P**	**12 48 29.7**	**+0.1**
ARU				*e*		12 50 20.6	
ARU				*e*PPP		12 51 18.9	
ARU				*e*S	**S**	**12 55 45.4**	**+0.4**
ARU				*e*SS	SS	12 59 16.6	-2.0
ARU				pmax	pmax		
	comp=Z,19nm,1.2s,mb4.9						
ARU				MLR	MLR		
	comp=Z,3μm,20.0s,MS5.3						
ARU	**Arti**	**50.73**	**319**	*e*P	**P**	**12 48 29.7**	**+0.1**
	comp=Z,16nm,0.9s,mb5.0						
EDW2	**Edwards Air Fo**	**50.75**	**88**	⇑P	**P**	**12 48 29.7**	**-0.4**
	baz=51,SNR=8.1						
SRU	**San Rafael**	**50.78**	**79**	*e*P	**P**	**12 48 30.5**	**+0.3**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.4						
SRU	**San Rafael**	**50.78**	**79**	*e*P	**P**	**12 48 30.5**	**+0.3**
	comp=Z,5.4nm,0.9s,mb4.5						
T13A	**Saint George**	**50.91**	**83**	⇑P	**P**	**12 48 30.9**	**-0.4**
	baz=51,SNR=5.2						
GSC	**Goldstone**	**50.96**	**87**	*e*P	**P**	**12 48 31.9**	**+0.3**
GSC				pmax	pmax		
	comp=Z,45nm,1.2s,mb5.3						
GSC	**Goldstone**	**50.96**	**87**	*e*P	**P**	**12 48 31.9**	**+0.2**
	comp=Z,45nm,1.2s,mb5.3						
GSC	**Goldstone**	**50.96**	**87**	⇓P	**P**	**12 48 31.5**	**-0.2**
	baz=51,SNR=21						
U12A	**Valley of Fire**	**51.09**	**84**	⇓P	**P**	**12 48 32.4**	**-0.2**
	baz=51,SNR=6.5						
V11A	**Goodsprings**	**51.16**	**85**	⇓P	**P**	**12 48 32.6**	**-0.6**
	baz=51						
T14A	**Hurricane**	**51.26**	**83**	⇓P	**P**	**12 48 34.1**	**+0.3**
	baz=51,SNR=8.0						
TUQ	**Turquoise Mtn.**	**51.26**	**86**	⇓P	**P**	**12 48 33.9**	**0.0**
	baz=51,SNR=6.0						
QZH	**Quanzhou**	**51.27**	**249**	P	**P**	**12 48 34.9**	**+0.8**
QZH				S	**S**	**12 55 48.0**	**-5.2**
QZH				LR	LR		
	comp=N,2μm,15.2s,MS5.6						
QZH				LR	LR		
	comp=E,3μm,13.8s,MS5.6						
QZH				LR	LR		
	comp=Z,2μm,13.3s,MS5.4						
PHWY	**Pilot Hill**	**51.32**	**73**	*e*P	**P**	**12 48 31.4**	**-2.8**
BFSC	**Mount Baldy St**	**51.44**	**89**	⇑P	**P**	**12 48 35.0**	**-0.2**
	baz=51,SNR=11						
V12A	**

CD2 AMB AMB
comp=Z,50nm,0.9s,mb5.4
CD2 AMB AMB
comp=Z,120nm,6.8s
CD2 LR LR
comp=N,3µm,15.6s,MS5.6
CD2 LR LR
comp=E,3µm,16.8s,MS5.6
CD2 LR LR
comp=Z,3µm,14.4s,MS5.4
X13A Yucca 52.93 85 P **P 12 48 46.4 0.0**
baz=53,SNR=20
BC3 Big Chuckw Mtn 52.95 87 P **P 12 48 46.6 +0.1**
baz=53,SNR=7.5
PDMCI Parker Dam,Lak 53.03 86 P **P 12 48 47.1 +0.1**
baz=53,SNR=9.5
MONP Monument Peak 53.13 88 ⇑P **P 12 48 47.4 -0.4**
baz=53,SNR=6.2
W15A Williams 53.18 83 ⇑P **P 12 48 48.4 +0.3**
baz=53
ECSD EROS,Sioux Fal 53.21 65 *e*P **P 12 48 47.3 -1.0**
comp=Z,9.2nm,1.0s,mb4.7
MVCO Mesa Verde 53.25 79 *e*P **P 12 48 48.4 -0.3**
comp=Z,11nm,1.1s,mb4.7
MVCO Mesa Verde 53.25 79 ⇓P **P 12 48 48.6 0.0**
baz=53
Y12C Blythe 53.30 86 ⇑P **P 12 48 49.1 0.0**
baz=53,SNR=11
WUAZ Wupatki 53.31 82 *e*P **P 12 48 49.4 +0.3**
comp=Z,34nm,1.1s,mb5.2
WUAZ Wupatki 53.31 82 ⇑P **P 12 48 48.9 -0.2**
baz=53
SWSC Sam W. Stewart 53.38 88 ⇑P **P 12 48 49.4 -0.2**
baz=53
DVTC Desert V Tower 53.47 88 ⇓P **P 12 48 50.7 +0.4**
baz=53
X14A Yava 53.47 84 ⇓P **P 12 48 50.4 +0.1**
baz=53,SNR=16
Y13A Salome 53.57 86 ⇑P **P 12 48 51.3 +0.2**
baz=53,SNR=7.0
W16A Flagstaff 53.59 83 ⇑P **P 12 48 51.3 +0.2**
baz=53,SNR=17
GLA Glamis 53.74 87 *e*P **P 12 48 52.7 +0.4**
GLA pmax pmax
comp=Z,46nm,1.3s,mb5.2
GLA Glamis 53.74 87 *e*P **P 12 48 52.7 +0.4**
comp=Z,46nm,1.3s,mb5.2
GLA Glamis 53.74 87 ⇑P **P 12 48 52.3 0.0**
baz=54,SNR=7.8
X15A Humboldt 53.76 84 ⇓P **P 12 48 52.9 +0.4**
baz=54,SNR=23
Y14A Wickenburg 53.85 85 ⇓P **P 12 48 53.5 +0.3**
baz=54,SNR=15
FIA1 FINESS Array S 53.86 340 *e*P **P 12 48 52.1 -0.6**
FINES FINESS Array B 53.86 340 P **P 12 48 50.5 -2.3**
FINES pmax pmax
comp=Z,11nm,0.8s
FINES MLR MLR
comp=Z,1µm,19.2s
FINES FINESS Array B 53.86 340 P **P 12 48 50.5 -2.3**
comp=Z,11nm,0.8s,mb4.8,baz=29,slow=8.7,SNR=19
FINES LR LR 13 16 38.8
comp=Z,1µm,19.2s,MS5.0,baz=186,slow=42
W17A Winslow 53.98 82 ⇓P **P 12 48 54.1 0.0**
baz=54
Y15A Casa Rosa Ranc 54.16 84 ⇑P **P 12 48 55.8 +0.4**
baz=54,SNR=9.3
SDCO Great Sand Dun 54.18 76 *e*P **P 12 48 55.7 +0.2**
comp=Z,18nm,1.1s,mb4.9
X16A Lo Mia Camp, P 54.19 83 ⇑P **P 12 48 56.0 +0.4**
baz=54,SNR=23
COWI Conover 54.34 58 *e*P **P 12 48 55.5 -1.0**
comp=Z,16nm,0.5s,mb5.2
Z14A Wintersburg 54.36 85 ⇓P **P 12 48 57.0 +0.2**
baz=54
W18A Petrified Fore 54.40 81 ⇓P **P 12 48 57.4 +0.3**
baz=54
113A Mohawk Valley, 54.47 86 ⇑P **P 12 48 57.8 +0.1**
baz=54,SNR=6.9
W19A Sanders 54.56 81 ⇑P **P 12 48 58.2 -0.1**
baz=54
SCHQ Schefferville 54.57 37 *e*P **P 12 48 57.6 -0.4**
comp=Z,33nm,1.2s,mb5.2
SCHQ Schefferville 54.57 37 P **P 12 48 57.9 -0.2**
comp=Z,6.2nm,0.5s,mb4.9,baz=318,slow=7.0,SNR=20
SCHQ LR LR 13 14 14.6
comp=Z,2µm,18.6s,MS5.1,baz=324,slow=38
Y16A Circle Bar Ran 54.61 84 ⇓P **P 12 48 59.0 +0.3**
baz=54
X18A Snowflake 54.78 82 ⇑P **P 12 49 00.3 +0.4**
baz=55,SNR=17
Y17A Roosevelt 55.06 83 ⇑P **P 12 49 02.2 +0.3**
baz=55,SNR=14
Z16A Peralta Trail, 55.08 84 ⇓P **P 12 49 02.7 +0.6**
baz=55
X19A St. Johns 55.17 81 ⇑P **P 12 49 03.0 +0.3**
baz=55,SNR=13
GZH Guangzhou 55.21 253 P **P 12 48 58.8 -4.3**
GZH S **S 12 56 37.3 -9.4**
GZH LR LR
comp=N,2µm,15.7s,MS5.4
GZH LR LR
comp=E,1µm,13.3s,MS5.4
GZH LR LR
comp=Z,2µm,17.0s,MS5.3
115A Sonoran Desert 55.24 85 ⇑P **P 12 49 03.3 +0.1**
baz=55,SNR=23
GYA Guiyang 55.34 261 ⇑*i*P **P 12 49 05.3 +1.3**
GYA PCP PcP 12 50 06.4 +1.9
GYA PP PP 12 51 10.4 +3.0
GYA SCP ScP 12 54 03.6 +0.1
GYA S **S 12 56 47.0 -1.5**
GYA SCS ScS 12 58 51.6 -2.0
GYA SS SS 13 00 31.8 -0.6
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.3
GYA AMB AMB
comp=Z,140nm,5.4s
GYA LR LR
comp=N,880nm,19.2s,MS5.0
GYA LR LR
comp=E,790nm,20.2s,MS5.0
GYA LR LR
comp=Z,1µm,21.2s,MS5.0
Y18A Canyon Day Jun 55.37 82 ⇑P **P 12 49 04.8 +0.7**
baz=55,SNR=23
Z17A San Carlos Hig 55.56 83 ⇓P **P 12 49 06.2 +0.7**
baz=55,SNR=15
Y19A Nutrioso 55.58 82 ⇓P **P 12 49 06.4 +0.8**
baz=55,SNR=23
116A Eloy 55.60 85 ⇓P **P 12 49 06.3 +0.5**
baz=55
TKM2 Tokmak 2 55.72 298 *e*P **P 12 49 05.9 -0.6**
TKM2 pmax pmax
comp=Z,18nm,1.3s,mb4.9
TKM2 Tokmak 2 55.72 298 *e*P **P 12 49 05.9 -0.6**
comp=Z,18nm,1.3s,mb5.0
TKM2 Tokmak 2 55.72 298 P **P 12 49 06.2 -0.3**
SNR=6.6
USP Ospenovka 55.88 299 P **P 12 49 09.2 +1.5**
SNR=8.7
CBKS Cedar Bluff 55.88 71 *e*P **P 12 49 07.4 -0.4**
CBKS pmax pmax
comp=Z,32nm,1.1s,mb5.3
CBKS Cedar Bluff 55.88 71 *e*P **P 12 49 07.4 -0.4**
comp=Z,32nm,1.1s,mb5.3
Z18A Geronimo 55.94 83 ⇑P **P 12 49 08.8 +0.6**
baz=56
AKTK Aktyubinsk 55.98 315 P **P 12 49 07.5 -0.7**
AKTK LR LR 13 15 00.4
AKTO Aktyubinsk 55.98 315 P **P 12 49 07.6 -0.7**
AKTO pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
AKTO MLR MLR
comp=Z,3µm,20.0s,MS5.3
AKTO Aktyubinsk 55.98 315 P **P 12 49 07.5 -0.7**
comp=Z,3.4nm,0.6s,mb4.5,baz=46,slow=6.0,SNR=9.4
AKTO LR LR 13 15 00.4
comp=Z,3µm,20.0s,MS5.3,baz=203,slow=38
117A Oracle 56.04 84 ⇑P **P 12 49 09.0 0.0**
baz=56,SNR=28
ANMO Albuquerque 56.05 79 *e*P **P 12 49 09.0 0.0**
NB2 NORSAR Subarra 56.11 349 P **P 12 49 08.0 -1.0**
comp=Z,37nm,1.0s,mb5.4,baz=11,slow=7.4
NOA NORSAR Array B 56.11 349 P **P 12 49 08.3 -0.7**
comp=Z,19nm,0.9s,mb5.1,baz=11,slow=7.3,SNR=16
NOA LR LR 13 12 38.2
comp=Z,834nm,21.7s,MS4.8,baz=5.0,slow=36
Z19A T-Link Ranch, 56.13 82 ⇓P **P 12 49 10.3 +0.7**
baz=56,SNR=7.3
SCIA State Center 56.14 64 *e*P **P 12 49 09.0 -0.5**
comp=Z,58nm,1.0s,mb5.6
216A Three Points, 56.18 85 ⇓P **P 12 49 10.4 +0.4**
baz=56,SNR=15
FRU Bishkek 56.19 299 *e*P **P 12 49 11.0 +1.1**
FRU *i* 12 51 16.0
FRU *e* 13 00 44.0
FRU pmax pmax
comp=Z,60nm,1.7s,mb5.3
KBK Karagaybulak 56.20 298 P **P 12 49 09.9 -0.1**
SNR=6.6
TUC Tucson 56.24 84 *e*P **P 12 49 10.6 +0.2**
TUC pmax pmax
comp=Z,19nm,1.2s,mb5.0
TUC Tucson 56.24 84 *e*P **P 12 49 10.6 +0.2**
comp=Z,19nm,1.2s,mb5.0
118A Homack Ranch, 56.34 83 ⇑P **P 12 49 11.6 +0.5**
baz=56,SNR=19
AAK Ala-Archa 56.41 298 P **P 12 49 10.7 -0.8**
comp=Z,68nm,1.3s,mb5.5,SNR=5.7
AAK Ala-Archa 56.41 298 P **P 12 49 13.1 +1.6**
SNR=7.5
JFWS Jewell Farm 56.53 61 P **P 12 49 13.9 +1.6**
JFWS pmax pmax
comp=Z,22nm,1.0s,mb5.1
JFWS Jewell Farm 56.53 61 *e*P **P 12 49 11.5 -0.8**
comp=Z,22nm,1.0s,mb5.1
119A Ashpeak Ranch, 56.55 82 ⇓P **P 12 49 13.3 +0.7**
baz=56,SNR=14
VSU Vasula 56.58 339 *e*P **P 12 49 12.4 -0.1**
217A Green Valley 56.67 84 P **P 12 49 14.5 +1.0**
baz=56,SNR=15
EKS2 Erkin-Say 56.68 299 *e*P **P 12 49 13.3 -0.1**
comp=Z,24nm,1.4s,mb5.0
EKS2 Erkin-Say 56.68 299 P **P 12 49 14.9 +1.5**
SNR=8.7
218A Dragoon 56.86 84 ⇑P **P 12 49 15.4 +0.6**
baz=57,SNR=20
MOS Moscow 56.97 331 *e*P **P 12 49 15.0 -0.3**
MOS *e* 12 49 20.3
AML Almayashu 57.16 299 *e*P **P 12 49 17.1 +0.4**
comp=Z,14nm,1.1s,mb4.9
AML Almayashu 57.16 299 P **P 12 49 17.2 +0.5**
SNR=6.1
219A White Tail Can 57.21 83 ⇓P **P 12 49 17.7 +0.5**
baz=57,SNR=57
318A Bisbee 57.34 84 ⇓P **P 12 49 18.6 +0.4**
baz=57,SNR=34
KONO Kongsberg 57.62 349 AMS AMS 13 20 52.3
comp=Z,920nm,18.4s,MS4.9
KONO Kongsberg 57.62 349 *e*P **P 12 49 20.6 +0.8**
KK31 Karatay Array 57.63 302 *i* P **P 12 49 19.5 -0.6**
KK31 pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
319A Douglas 57.72 83 ⇓P **P 12 49 21.3 +0.4**
baz=58,SNR=21
OBN Obninsk 57.79 331 κ*e*P **P 12 49 21.7 +0.7**
OBN *e* 12 49 26.6
OBN S **S 12 57 23.0 +2.9**
OBN 12 59 13.0
OBN *e* 13 03 29.1
OBN pmax pmax
comp=Z,37nm,1.4s,mb5.2
OBN MLR MLR
comp=Z,2µm,16.0s,MS5.2
AMTX Amarillo 58.27 75 *e*P **P 12 49 24.3 -0.5**
comp=Z,19nm,1.1s,mb5.0
KMI Kunming 58.30 264 ⇑P **P 12 49 25.8 +0.8**
KMI AP pP 12 49 29.3 +2.6
KMI PCP PcP 12 50 17.8 +1.7
KMI PP PP 12 51 36.3 +2.5
KMI PCS PcS 12 54 17.6 -0.1
KMI S **S 12 57 25.8 -1.8**
KMI XS sS 12 57 31.5 +1.2
KMI SCS ScS 12 59 12.3 -2.9
KMI SS SS 13 01 18.4 -0.6
KMI AMB AMB
comp=Z,40nm,0.7s,mb5.6
KMI AMB AMB
comp=Z,72nm,3.1s
KMI LR LR
comp=N,3µm,14.5s,MS5.6
KMI LR LR
comp=E,3µm,14.5s,MS5.6
KMI LR LR
comp=Z,1µm,16.5s,MS5.2
HDIL Hopedale 58.89 62 *e*P **P 12 49 27.5 -1.4**
comp=Z,29nm,0.7s,mb5.4
MNTX Cornudas Mount 59.25 80 *e*P **P 12 49 31.7 +0.1**
comp=Z,46nm,1.1s,mb5.4
WMOK Wichita Mounta 59.70 73 *e*P **P 12 49 33.8 -0.8**
WMOK pmax pmax
comp=Z,38nm,1.1s,mb5.3
WMOK Wichita Mounta 59.70 73 *e*P **P 12 49 33.8 -0.8**
comp=Z,38nm,1.1s,mb5.3
LSA Lhasa 59.83 277 P **P 12 49 36.6 +1.0**
SLM Saint Louis 60.12 63 P **P 12 49 37.8 +0.3**
CCM Cathedral Cave 60.19 65 *e*P **P 12 49 36.4 -1.5**
CCM pmax pmax
comp=Z,18nm,1.1s,mb5.0
CCM Cathedral Cave 60.19 65 *e*P **P 12 49 36.4 -1.5**
comp=Z,18nm,1.1s,mb5.0
QIZ Qiongzhong 60.32 254 P **P 12 49 39.8 +0.8**
QIZ S **S 12 57 52.6 -1.2**
QIZ XS sS 12 57 58.4 +1.9
QIZ SS SS 13 01 49.6 -1.3
QIZ AMB AMB
comp=Z,22nm,1.3s,mb5.0
QIZ LR LR
comp=N,1µm,20.4s,MS5.2
QIZ LR LR
comp=E,1µm,19.7s,MS5.2
QIZ LR LR
comp=Z,2µm,13.6s
FVM French Village 60.59 64 *e*P **P 12 49 39.6 -1.1**
FVM pmax pmax
comp=Z,50nm,1.0s,mb5.6
FVM French Village 60.59 64 *e*P **P 12 49 39.6 -1.1**
comp=Z,50nm,1.0s,mb5.6
VRSR Storozhevoye 60.76 328 *e*P **P 12 49 39.8 -1.8**
VRSR *e**SP sP 12 49 42.9 -1.0
VRSR *e*S **S 12 57 53.5 -5.2**
VRSR pmax pmax
comp=Z,1.0nm,0.6s,mb4.1
VRSR pmax pmax
comp=N,4.0nm,1.3s
VRSR pmax pmax
comp=E,2.0nm,0.8s
VRSR smax
comp=N,2.0nm,0.6s
VRSR smax
comp=E,2.0nm,0.7s
VRSR MLR MLR
comp=Z,520nm,17.0s,MS4.8
VRSR MLR MLR
comp=N,340nm,20.0s
VRSR MLR MLR
comp=E,130nm,14.0s
VORD Divnogorie 60.96 328 *e*P **P 12 49 43.0 0.0**
VORD pmax pmax
comp=Z,20nm,1.2s,mb5.1
VORD pmax pmax
comp=N,40nm,1.0s
VORD pmax pmax
comp=E,10.0nm,0.9s
VORD MLR MLR
comp=Z,2µm,15.0s,MS5.4
VORD MLR MLR
comp=N,2µm,16.0s,MS5.4
VORD MLR MLR
comp=E,680nm,13.0s,MS5.4
LONY Lake Ozonia 61.03 48 *e*P **P 12 49 41.8 -1.8**
comp=E,31nm,1.1s,mb5.3
FRNY Flat Rock 61.19 48 *e*P **P 12 49 41.6 -3.0**
comp=E,21nm,1.1s,mb5.2
SIUC Southern Illin 61.33 63 *e*P **P 12 49 44.9 -0.8**
comp=E,55nm,1.1s,mb5.6
SUW Suwalki 61.43 339 *e*P **P 12 49 46.6 +0.5**
SUW LMZ 13 16 56.5
comp=E,900nm,21.3s
SUW Suwalki 61.43 339 *e*P **P 12 49 46.6 +0.4**
SUW MLR MLR
comp=Z,900nm,21.3s,MS4.9
ACSO Alum Creek Sta 61.70 57 *e*P **P 12 49 48.5 +0.3**
comp=Z,19nm,0.7s,mb5.3
NCB Newcomb 61.72 48 *e*P **P 12 49 48.8 +0.5**
comp=Z,7.5nm,0.8s,mb4.9
TXAR Lajitas Array 62.03 80 P **P 12 49 49.9 -0.7**
TXAR pmax pmax
comp=Z,11nm,1.1s
TXAR MLR MLR
comp=Z,935nm,18.6s
TXAR Lajitas Array 62.03 80 P **P 12 49 49.9 -0.7**
comp=Z,11nm,1.1s,mb4.9,baz=320,slow=4.5,SNR=37
TXAR LR LR 13 16 44.6
comp=Z,935nm,18.6s,MS5.0,baz=0.0,slow=36
MIAR Mount Ida 62.16 68 *e*P **P 12 49 50.8 -0.5**
MIAR pmax pmax
comp=Z,28nm,1.2s,mb5.3
MIAR Mount Ida 62.16 68 *e*P **P 12 49 50.8 -0.5**
comp=Z,28nm,1.2s,mb5.3
PKME Peaks-Kenny Pk 62.25 44 *e*P **P 12 49 51.4 -0.4**
comp=Z,18nm,0.8s,mb5.2
LBNH Lisbon 62.28 47 *e*P **P 12 49 51.2 -0.8**
LBNH pmax pmax
comp=Z,44nm,1.2s,mb5.5
LBNH Lisbon 62.28 47 *e*P **P 12 49 51.2 -0.8**
comp=Z,44nm,1.2s,mb5.5
ACCN Adirondack Com 62.43 48 *e*P **P 12 49 53.7 +0.7**
comp=Z,33nm,1.3s,mb5.3
HNH Hanover 62.63 47 *e*P **P 12 49 54.5 +0.2**
comp=Z,27nm,1.0s,mb5.3
ESK Eskdalemuir 62.68 357 *e*P **P 12 49 54.3 -0.2**
ESK pmax pmax
comp=Z,53nm,1.0s,mb5.6
ESK Eskdalemuir 62.68 357 *e*P **P 12 49 54.2 -0.2**
comp=Z,53nm,1.0s,mb5.6
JCT Junction City 62.83 76 *e*P **P 12 49 55.0 -0.9**
JCT pmax pmax
comp=Z,71nm,1.0s,mb5.8
JCT Junction City 62.83 76 *e*P **P 12 49 55.0 -0.9**
comp=Z,71nm,1.0s,mb5.8
BSEG Bad Segeberg 63.20 348 *e*P **P 12 49 59.7 +1.7**
BSEG pmax pmax
comp=Z,58nm,1.7s,mb5.4
BSEG Bad Segeberg 63.20 348 *e*P **P 12 49 59.7 +1.7**
comp=Z,58nm,1.7s,mb5.4
SSPA Standing Stone 63.30 53 *e*P **P 12 49 57.6 -1.3**
comp=Z,24nm,1.1s,mb5.2
LPIG La Paz 63.40 89 P **P 12 50 01.4 +1.6**
LPIG LR LR 13 15 26.1
LPIG La Paz 63.40 89 P **P 12 50 01.4 +1.6**
comp=Z,14nm,0.3s,mb5.6,baz=270,slow=1.0,SNR=4.8
LPIG LR LR 13 15 26.1
comp=Z,528nm,21.6s,MS4.7,baz=333,slow=34
MCWV Mont Chateau 63.41 55 *e*P **P 12 50 00.5 +0.9**
comp=Z,48nm,1.2s,mb5.5
AKASG Malin Array Be 63.49 334 P **P 12 49 57.3 -2.7**
AKASG 12 52 20.6
AKASG pmax pmax
comp=Z,8.0nm,0.8s
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG MLR MLR
comp=Z,1µm,18.2s
AKASG Malin Array Be 63.49 334 P **P 12 49 57.3 -2.6**
comp=Z,8.3nm,0.8s,mb4.9,baz=19,slow=6.5,SNR=31
AKASG PP PP 12 52 20.6 +1.7
comp=Z,0.9nm,0.5s,baz=18,slow=9.2,SNR=4.5
AKASG LR LR 13 20 39.7
comp=Z,1µm,18.2s,MS5.0,baz=15,slow=39
AKBB Malin Array Si 63.49 334 *e*P **P 12 49 58.4 -1.6**
KIEV Kiev 63.50 334 P **P 12 49 58.1 -1.9**
KIEV pmax pmax
comp=Z,37nm,1.3s,mb5.3
KIEV Kiev 63.50 334 *e*P **P 12 49 58.2 -1.9**
comp=Z,37nm,1.3s,mb5.4
GUN Gumba 63.78 280 *e*P **P 12 50 01.3 -0.9**
comp=Z,76nm,0.7s,mb5.8
JIRN Jiri 63.85 280 *e*P **P 12 50 02.2 -0.5**
comp=Z,36nm,0.6s,mb5.6
OXF Oxford 63.98 65 *e*P **P 12 50 02.5 -0.9**
OXF pmax pmax
comp=Z,105nm,1.1s,mb5.8
OXF Oxford 63.98 65 *e*P **P 12 50 02.5 -0.9**
comp=Z,105nm,1.1s,mb5.8
PLAL Pickwick Lake 64.14 64 *e*P **P 12 50 03.4 -1.1**
comp=Z,37nm,1.0s,mb5.4
KKN Kakani 64.16 281 *e*P **P 12 50 04.2 -0.5**
comp=Z,57nm,0.8s,mb5.6
DMUB Kingscourt 64.16 359 *e*P **P 12 50 05.3 +1.0**
GKN Gorkha 64.27 281 *e*P **P 12 50 04.5 -1.0**
PKI Pulchoki 64.29 281 *e*P **P 12 50 04.4 -1.1**
comp=Z,32nm,0.8s,mb5.4
PKIN Phulchoki 64.29 281 *e*P **P 12 50 04.5 -1.1**
comp=Z,17nm,0.7s,mb5.2
DANN Dangsing 64.38 282 *e*P **P 12 50 05.5 -0.6**
comp=Z,123nm,0.7s,mb6.0
DMN Daman 64.39 281 *e*P **P 12 50 05.8 -0.4**
comp=Z,36nm,0.9s,mb5.4
TZTN Tazewell 64.65 60 *e*P **P 12 50 07.2 -0.7**
comp=Z,209nm,2.0s,mb5.8
NANT Nan 64.69 262 ⇑P **P 12 50 07.0 -1.3**
comp=Z,294nm,1.0s,mb6.3
DCN Croghan 64.72 359 *e*P **P 12 50 09.1 +1.1**
DLF Lyons Farm 64.76 359 *e*P **P 12 50 09.0 +0.7**
SWET Sewanee 64.83 62 *e*P **P 12 50 08.6 -0.4**
KOLN Koldanda 64.95 282 *e*P **P 12 50 08.7 -1.2**
comp=Z,40nm,0.8s,mb5.5
IBBN Ibbenburen 65.05 349 *e*P **P 12 50 11.8 +1.6**
comp=Z,46nm,1.0s,mb5.5
ELN Prospectdale 65.17 57 *e*P **P 12 50 10.5 -0.7**
CPCT Cooper Cave 65.20 61 *e*P **P 12 50 11.8 +0.4**
CLZ Clausthal 65.27 347 *e*P **P 12 50 11.9 +0.3**
CLZ pmax pmax
comp=Z,50nm,1.2s,mb5.4
CLZ Clausthal 65.27 347 *e*P **P 12 50 11.9 +0.3**
comp=Z,50nm,1.2s,mb5.4
LVV L'vov 65.32 338 *e*P **P 12 50 16.0 +4.0**
LVV *e*S S 12 59 01.0 +5.2
LVV MLR MLR
comp=Z,1µm,16.0s,MS5.2
WTSB Winterswijk 65.47 350 *e*P **P 12 50 14.0 +1.1**
comp=Z,37nm,1.1s,mb5.3
CHG Chiang Mai 65.50 264 ⇑P **P 12 50 12.7 -0.8**
comp=Z,41nm,0.8s,mb5.5
CHTO Chiang Mai 65.50 264 P **P 12 50 13.3 -0.2**
CHTO pmax pmax
comp=Z,20nm,1.0s,mb5.1
CHTO Chiang Mai 65.50 264 *e*P **P 12 50 13.3 -0.2**
comp=Z,20nm,1.0s,mb5.1
CLL Collm 65.50 345 ⇑*i*P **P 12 50 13.6 +0.5**
CLL *e* 12 50 18.0
CLL *e*S S 12 59 04.0 +6.0
CLL pmax pmax
comp=Z,28nm,1.4s,mb5.1
CLL MLR MLR
comp=Z,1µm,21.1s,MS5.0
CLL Collm 65.50 345 ⇑*i*P **P 12 50 13.6 +0.5**
comp=Z,28nm,1.4s,mb5.1
CLL *e* 12 50 18.0
CLL *e*S S 12 59 04.0 +6.0
CLL LR LR
comp=Z,1µm,21.1s,MS5.0
CLL Collm 65.50 345 *e*P **P 12 50 13.6 +0.5**
comp=Z,28nm,1.5s,mb5.1
CLL Collm 65.50 345 ⇑*i*P **P 12 50 13.6 +0.5**
comp=Z,28nm,1.4s,mb5.1
CLL *e*sP sP 12 50 18.0 +2.6
CLL *e*x x 12 50 29.0
CLL *e*x x 12 51 51.0
CLL *e*PPP 12 54 20.0
CLL *e*PPPP 12 55 00.0
CLL *e*S S 12 59 04.0 +6.0
CLL *e*(PPS) 12 59 35.0
CLL *e*x x 13 00 44.0
CLL *e*SS SS 13 03 36.0 +26
CLL *e*SSS 13 06 06.0
CLL LmV 13 17 00.0
comp=Z,1µm,21.1s
CLL LmH 13 20 00.0
comp=N,800nm,20.6s
CLL LmH 13 20 00.0
comp=E,1µm,18.4s
KBL Kabul 65.52 298 *e*P **P 12 50 12.8 -0.7**
comp=E,9.9nm,0.9s,mb4.8
KSP Ksiaz 65.54 343 *e*P **P 12 50 13.6 +0.2**
KSP LMZ 13 18 36.6
comp=E,2µm,21.9s

KSP Ksiaz 65.54 343 *e*P **P** **12 50 12.5 -0.9**
KSP LR LR
comp=Z,3µm,18.4s,MS5.5
OJC Ojcow 65.64 341 *e*P **P** **12 50 10.4 -3.6**
OJC *ep*P pP 12 50 14.1 -1.6
OJC *e*S S 12 58 55.0 -4.7
OJC L 13 20 46.6
comp=Z,2.0nm,20.7s
KWP Kalwaria 65.73 338 *e*P **P** **12 50 15.7 +1.1**
KWP LMZ 13 21 26.6
comp=Z,2µm,20.6s
KWP Kalwaria 65.73 338 P **P** **12 50 13.7 -0.9**
KWP pmax pmax
comp=Z,100nm,1.5s,mb5.6
KWP Kalwaria 65.73 338 *e*P **P** **12 50 15.7 +1.1**
KWP Kalwaria 65.73 338 ⇑*i*P **P** **12 50 15.7 +1.1**
CM31 Chiang Mai Arr 65.81 264 *e*P **P** **12 50 15.4 -0.1**
comp=Z,22nm,1.1s,mb5.1
BRG Berggiesshubel 65.82 345 *e*P **P** **12 50 15.7 +0.5**
BRG *e* 12 50 20.1
BRG pmax pmax
comp=Z,15nm,1.6s,mb4.8
BRG MLR MLR
comp=Z,560nm,18.4s,MS4.8
BRG MLR MLR
comp=N,510nm,17.6s,MS5.2
BRG MLR MLR
comp=E,1µm,17.6s,MS5.2
BRG Berggiesshubel 65.82 345 *e*P **P** **12 50 15.7 +0.6**
comp=E,15nm,1.6s,mb4.8
BRG *e* 12 50 20.1
BRG LR LR
comp=Z,560nm,18.4s,MS4.8
BRG Berggiesshubel 65.82 345 *e*P **P** **12 50 15.7 +0.6**
comp=Z,25nm,1.6s,mb5.0
BRG *e* 12 50 20.1
comp=Z,8.5nm,0.9s
BRG
comp=Z,935nm,18.4s
BRG
comp=N,852nm,17.6s
BRG
comp=E,2µm,17.6s
FBE Freiberg 65.84 345 *e*P **P** **12 50 16.1 +0.8**
UPC Upice 65.91 343 *e*P **P** **12 50 16.5 +0.7**
UPC *ep*P pP 12 50 20.9 +3.5
BUG Bochum--Univer 65.96 349 *e*P **P** **12 50 16.9 +0.9**
comp=Z,26nm,1.1s,mb5.2
MAK Makhachkala 65.96 318 *e*P **P** **12 50 14.1 -2.1**
MAK *i* 12 50 52.5
MAK *i* 12 52 37.2
MAK *e*PPP 12 54 13.7
MAK *e*S S 12 58 58.8 -5.0
MAK *e* 13 00 06.2
MAK *e*SS SS 13 03 20.1 +2.3
MAK pmax pmax
comp=Z,159nm,1.3s,mb5.9
MAK MLR MLR
comp=Z,3µm,18.0s,MS5.5
DPC Dobruska-Polom 66.02 343 *e*P **P** **12 50 15.8 -0.7**
DPC *ep*P pP 12 50 21.7 +3.6
DPC AMS AMS 13 24 00.0
comp=Z,2µm,17.7s
PVCC Panska Ves 66.08 344 *e*P **P** **12 50 18.3 +1.5**
PVCC AMS AMS 13 24 10.0
comp=Z,900nm,14.6s
URVA University of 66.12 54 *e*P **P** **12 50 15.2 -2.1**
STHS Stebnicka Huta 66.19 339 *e*P **P** **12 50 18.8 +1.2**
STHS pmax pmax
comp=Z,14nm,1.3s,mb4.8
STHS Stebnicka Huta 66.19 339 *e*P **P** **12 50 18.8 +1.2**
comp=Z,14nm,1.3s,mb4.8
OKC Ostrava-Krasne 66.26 342 *e*P **P** **12 50 18.9 +0.9**
OKC AMS AMS 13 21 20.0
comp=Z,1µm,15.4s
MOX Moxa 66.31 346 *e*P **P** **12 50 19.1 +0.7**
comp=Z,28nm,1.4s,mb5.1
MOX
comp=Z,700nm,21.0s
MOX Moxa 66.31 346 *e*P **P** **12 50 19.1 +0.7**
MOX pmax pmax
comp=Z,28nm,1.4s,mb5.1
MOX MLR MLR
comp=Z,700nm,21.0s,MS4.8
MOX Moxa 66.31 346 *e*P **P** **12 50 19.2 +0.8**
comp=Z,46nm,1.7s,mb5.2
MORC Moravsky Berou 66.41 342 *e*P **P** **12 50 19.1 +0.1**
MORC pmax pmax
comp=Z,18nm,1.4s,mb4.9
MORC Moravsky Berou 66.41 342 *e*P **P** **12 50 19.1 +0.1**
comp=Z,18nm,1.4s,mb4.9
MORC Moravsky Berou 66.41 342 ⇓*i*P **P** **12 50 20.1 +1.1**
WERD Werda 66.43 346 *e*P **P** **12 50 19.1 0.0**
KOLS Kolonicke sedl 66.48 339 *e*P **P** **12 50 18.9 -0.6**
KOLS *e* PcP 12 50 48.1 -0.9
KOLS Kolonicke sedl 66.48 339 *e*P **P** **12 50 18.9 -0.6**
KOLS *e*PP PcP 12 50 48.0 -1.0
KIV Kislovodsk 66.50 322 *e*P **P** **12 50 19.6 0.0**
KIV *e*S S 12 59 10.6 +0.3
KIV *e*SS SS 13 03 26.8 +0.8
KIV pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
KIV MLR MLR
comp=Z,1µm,18.0s,MS5.2
WERN Wernitzgruen 66.58 346 *e*P **P** **12 50 21.0 +0.9**
PRU Pruhonice 66.61 344 *e*P **P** **12 50 20.9 +0.6**
PRU *ep*P pP 12 50 25.1 +3.2
PRU AMS AMS 13 26 00.0
comp=Z,1µm,14.2s
NKC Novy Kostel 66.63 346 *e*P **P** **12 50 21.1 +0.7**
NKC *e* 12 50 24.8
NKC Novy Kostel 66.63 346 *e*P **P** **12 50 21.1 +0.7**
NKC *ep*P pP 12 50 24.8 +2.8
NKC AMS AMS 13 21 00.0
comp=Z,1µm,18.6s
CRVS Cervenica-Dubn 66.65 339 *e*P **P** **12 50 21.1 +0.6**
CRVS *e* PcP 12 50 42.9 -6.8
CRVS Cervenica-Dubn 66.65 339 *e*P **P** **12 50 21.0 +0.5**
CRVS *e*PP PcP 12 50 42.9 -6.8
HGN Heimansgroeve 66.74 350 *e*P **P** **12 50 21.9 +0.9**
comp=Z,30nm,1.5s,mb5.1
HGN Heimansgroeve 66.74 350 *e*S S 12 59 17.2 +4.2
UZH Uzhgorod 66.77 338 *e*P **P** **12 50 21.0 -0.3**
UZH *e*S S 12 59 05.0 -8.5
UZH MLR MLR
comp=Z,700nm,16.0s,MS5.0
MEM Membach 66.89 350 P **P** **12 50 21.3 -0.7**
comp=Z,23nm,1.3s,mb5.0
MANZ Manzenberg 66.91 346 *e*P **P** **12 50 22.8 +0.6**
comp=Z,12nm,1.1s,mb4.8
VRAC Vranov 67.00 343 ⇑*i*P PcP 12 50 41.9 -9.2
KIS Kishinev 67.09 333 *e*P **P** **12 50 22.0 -1.4**
KIS *e*S S 12 59 12.0 -5.4
KIS MLR MLR
comp=N,2µm,15.0s
KIS MLR MLR
comp=Z,2µm,15.0s,MS5.5
KIS MLR MLR
comp=Z,3µm,16.0s
KIS Kishinev 67.09 333 *e*PP PP 12 52 32.0 -18
KIS *e*S S 12 59 12.0 -5.4
KIS LRM 13 24 38.0
comp=Z,3µm,16.0s
ROTZ Rotzenmuhle 67.11 346 *e*P **P** **12 50 24.4 +0.9**
comp=Z,28nm,1.5s,mb5.1
ANN Anapa 67.15 326 *e*P **P** **12 50 22.4 -1.4**
ANN *e**PP pP 12 50 25.7 +0.3
ANN *e*S S 12 59 16.5 -1.6
ANN pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
TREC Trest 67.17 343 *e*P **P** **12 50 28.5 +4.7**
TREC AMS AMS 13 24 10.0
comp=Z,1µm,16.0s
MENF Mencas 67.20 353 *e*P **P** **12 50 24.9 +0.9**
KECS Kecovo 67.22 340 *e*P **P** **12 50 24.4 +0.3**
KECS pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
KECS Kecovo 67.22 340 *e*P **P** **12 50 24.4 +0.3**
comp=Z,5.6nm,1.2s,mb4.5
GRA1 Grafenberg Arr 67.30 346 *e*P **P** **12 50 25.7 +1.1**
comp=Z,26nm,1.1s,mb5.2
GRA1 *ep*P pP 12 50 30.3 +4.0
GRA1 LR LR
comp=Z,700nm,20.1s,MS4.9
GRF Grafenberg Arr 67.30 346 *e*P **P** **12 50 25.7 +1.1**
GRF *e**PP pP 12 50 30.3 +4.0
GRF pmax pmax
comp=Z,26nm,1.1s,mb5.2
GRF MLR MLR
comp=Z,700nm,20.1s,MS4.9
GRF Grafenberg Arr 67.30 346 *e*P **P** **12 50 25.7 +1.1**
comp=Z,26nm,1.1s,mb5.2
GRF *ep*P pP 12 50 30.3 +4.0
GRF *e*L 13 21 50.7
comp=Z,744nm,20.1s
VYHS Vyhne 67.47 341 *i*P **P** **12 50 26.6 +0.9**
VYHS pmax pmax
comp=Z,13nm,1.5s,mb4.7
VYHS Vyhne 67.47 341 *i*P **P** **12 50 26.6 +0.9**
comp=Z,13nm,1.5s,mb4.7
VYHS *e*PP PP 12 52 50.9 -2.8
ABH Alteburg 67.48 349 *e*P **P** **12 50 26.4 +0.6**
GIVF Givet 67.48 351 *e*P **P** **12 50 25.7 -0.1**
DOU Dourbes 67.50 351 P **P** **12 50 25.7 -0.2**
comp=Z,11nm,1.7s,mb4.6
BAIF Baives 67.57 351 *e*P **P** **12 50 26.6 +0.3**
KHC Kasperske Hory 67.58 345 *e*P **P** **12 50 27.3 +0.9**
KHC *e* 12 50 32.1
KHC MLR MLR
comp=Z,1µm,14.3s,MS5.2
KHC Kasperske Hory 67.58 345 *e*P **P** **12 50 27.3 +0.9**
KHC *ep*P pP 12 50 32.1 +4.0
KHC *ex* x 12 51 14.5
KHC AMS AMS 13 25 30.0
comp=Z,1µm,14.3s
TOD Tromm 67.63 348 *e*P **P** **12 50 27.4 +0.6**
WET Wettzell 67.65 345 *e*P **P** **12 50 27.9 +1.0**
WET pmax pmax
comp=Z,51nm,1.7s,mb5.3
WET Wettzell 67.65 345 *e*P **P** **12 50 27.9 +1.0**
comp=Z,51nm,1.7s,mb5.3
RUP Ruppelstein 67.70 349 *e*P **P** **12 50 28.1 +0.9**
WLF Walferdange 67.81 350 *e*P **P** **12 50 29.2 +1.3**
comp=Z,39nm,1.4s,mb5.2
MODS Modra-Piesok 67.82 342 *e*P **P** **12 50 27.1 -0.8**
SIM Simferopol' 67.84 329 P **P** **12 50 29.0 +0.9**
SIM *e*S S 12 59 33.0 +6.6
SIM pmax pmax
comp=Z,7.0nm,0.5s,mb5.0
SIM MLR MLR
comp=Z,2µm,16.4s,MS5.3
GEC2 GERESS Array S 67.84 344 *e*P **P** **12 50 28.7 +0.6**
GEC2 pmax pmax
comp=Z,35nm,1.7s,mb5.1
GEC2 GERESS Array S 67.84 344 *e*P **P** **12 50 28.7 +0.6**
comp=Z,35nm,1.7s,mb5.1
GERES GERESS Array B 67.84 344 P **P** **12 50 26.9 -1.2**
comp=Z,0.7nm,0.4s,mb4.0,baz=28,slow=6.0,SNR=12
GERES LR LR 13 26 59.8
comp=Z,1µm,19.1s,MS5.1,baz=14,slow=42
ZST Bratislava 68.02 342 *e*P **P** **12 50 30.6 +1.4**
ZST pmax pmax
comp=Z,13nm,0.6s,mb5.1
ZST MLR MLR
comp=Z,1µm,17.6s,MS5.1
ZST Bratislava 68.02 342 *e*P **P** **12 50 30.6 +1.4**
comp=Z,13nm,0.6s,mb5.1
ZST *e* 12 50 48.7
ZST LR LR
comp=Z,1µm,17.6s,MS5.1
ZST Bratislava 68.02 342 *e*P **P** **12 50 30.6 +1.4**
ZST *e* 12 50 48.6
LANF Langenberg 68.35 349 *e*P **P** **12 50 32.0 +0.7**
CONA Conrad Observa 68.46 343 ⇓*i*P **P** **12 50 31.4 -0.6**
comp=Z,22nm,1.3s,mb5.0,SNR=11
CSNA Conrad Observa 68.46 343 ⇓*i*P **P** **12 50 31.5 -0.5**
comp=Z,20nm,1.4s,mb5.0
MOA Molln 68.75 344 ⇑*i*P **P** **12 50 33.5 -0.3**
comp=Z,30nm,1.4s,mb5.0,SNR=10
BFO Black Forest 68.94 348 *e*P **P** **12 50 35.9 +0.9**
BFO pmax pmax
comp=Z,17nm,1.1s,mb4.9
BFO Black Forest 68.94 348 *e*P **P** **12 50 35.9 +0.9**
comp=Z,17nm,1.1s,mb4.9
CDF Champ du Feu 68.96 349 *e*P **P** **12 50 35.1 0.0**
comp=Z,15nm,0.8s,mb4.7
CDF Champ du Feu 68.96 349 *e*P **P** **12 50 35.1 0.0**
CDF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
CDF Champ du Feu 68.96 349 *e*P **P** **12 50 35.1 0.0**
comp=Z,7.7nm,0.8s,mb4.7
MLR Muntele Rosu 69.12 335 ⇓*i*P **P** **12 50 38.1 +2.0**
SPAK Spaichingen-Ko 69.12 348 *e*P **P** **12 50 36.3 +0.2**
FLN La Foliniere 69.13 354 *e*P **P** **12 50 35.7 -0.5**
comp=Z,39nm,1.1s,mb5.0
FLN *e*MLR MLR
comp=Z,957nm,21.2s,MS4.7
FLN La Foliniere 69.13 354 *e*P **P** **12 50 35.7 -0.5**
FLN pmax pmax
comp=Z,20nm,1.1s,mb5.0
FLN MLR MLR
comp=Z,960nm,21.3s,MS5.0
FLN La Foliniere 69.13 354 *e*P **P** **12 50 35.7 -0.5**
comp=Z,20nm,1.1s,mb5.0
FLN LR LR
comp=Z,960nm,21.3s,MS5.0
KKM Kota Kinabalu 69.14 241 *e*P **P** **12 50 37.9 +1.3**
ECH Echery 69.16 349 *e*P **P** **12 50 36.7 +0.3**
THEF They Montfort 69.25 350 *e*P **P** **12 50 37.1 +0.2**
LDF La Druitiere 69.28 354 *e*P **P** **12 50 36.6 -0.5**
comp=Z,55nm,1.2s,mb5.1
LDF La Druitiere 69.28 354 *e*P **P** **12 50 36.6 -0.5**
LDF pmax pmax
comp=Z,27nm,1.2s,mb5.0
LDF La Druitiere 69.28 354 *e*P **P** **12 50 36.6 -0.5**
comp=Z,27nm,1.2s,mb5.1
VOIR 69.35 336 ⇓*i*P **P** **12 50 45.1 +7.6**
VOIR 69.35 336 ⇓*i*P **P** **12 50 45.0 +7.5**
GNI Garni 69.38 319 *e*P **P** **12 50 38.4 +0.6**
GNI pmax pmax
comp=Z,18nm,1.5s
FELD Feldberg im Sc 69.42 348 *e*P **P** **12 50 38.0 0.0**
HAU Haudompre 69.44 350 *e*P **P** **12 50 37.9 -0.2**
comp=Z,16nm,0.7s,mb4.8
HAU *e*MLR MLR
comp=Z,909nm,22.2s,MS4.7
HAU Haudompre 69.44 350 *e*P **P** **12 50 37.9 -0.2**
HAU pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
HAU MLR MLR
comp=Z,910nm,22.3s,MS5.0
HAU Haudompre 69.44 350 *e*P **P** **12 50 37.9 -0.2**
comp=Z,7.8nm,0.7s,mb4.8
HAU LR LR
comp=Z,910nm,22.3s,MS5.0
GRR Gorron 69.52 355 *e*P **P** **12 50 38.4 -0.2**
comp=Z,85nm,1.4s,mb5.2
GRR Gorron 69.52 355 *e*P **P** **12 50 38.4 -0.2**
GRR pmax pmax
comp=Z,42nm,1.4s,mb5.2
GRR Gorron 69.52 355 *e*P **P** **12 50 38.4 -0.2**
comp=Z,42nm,1.4s,mb5.2
MOF Molkenrain 69.53 349 *e*P **P** **12 50 38.4 -0.2**
HINF Hinteralfeld 69.59 349 *e*P **P** **12 50 38.7 -0.3**
comp=Z,17nm,0.8s,mb4.7
HINF Hinteralfeld 69.59 349 *e*P **P** **12 50 38.7 -0.3**
HINF pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
HINF Hinteralfeld 69.59 349 *e*P **P** **12 50 38.7 -0.3**
comp=Z,8.6nm,0.8s,mb4.7
TIRR Tirgusor 69.60 333 ⇓*i*P **P** **12 50 39.9 +0.8**
KBA Koelnbreinsper 69.62 344 *i*P **P** **12 50 39.5 +0.3**
comp=Z,37nm,1.5s,mb5.1,SNR=12
KBA Koelnbreinsper 69.62 344 *i*pP pP 12 50 39.5 -1.3
comp=Z,37nm,1.5s,SNR=12
KBA Koelnbreinsper 69.62 344 *i*P **P** **12 50 39.5 +0.3**
KBA pmax pmax
comp=Z,37nm,1.5s,mb5.1
WTTA Wattenberg 69.65 346 ⇑*i*P **P** **12 50 39.9 +0.5**
comp=Z,24nm,1.2s,mb5.0
WTTA Wattenberg 69.65 346 ⇑*i*pP pP 12 50 39.9 -1.1
comp=Z,24nm,1.2s
WTTA Wattenberg 69.65 346 ⇑*i*P **P** **12 50 39.9 +0.5**
WTTA pmax pmax
comp=Z,24nm,1.2s,mb5.0
ROSF Rostrenen 69.66 356 *e*P **P** **12 50 39.5 +0.1**
comp=Z,65nm,1.2s,mb5.1
ROSF Rostrenen 69.66 356 *e*P **P** **12 50 39.5 +0.1**
ROSF pmax pmax
comp=Z,33nm,1.2s,mb5.1
ROSF Rostrenen 69.66 356 *e*P **P** **12 50 39.5 +0.1**
comp=Z,33nm,1.2s,mb5.1
SGMF Saint Gilles 69.72 356 *e*P **P** **12 50 39.8 0.0**
PERS Pernice 69.83 343 *i*P **P** **12 50 40.6 +0.2**
BBS Basel-Blauen 69.88 349 *e*P **P** **12 50 41.3 +0.5**
OBKA Obir 70.03 343 *i*P **P** **12 50 41.1 -0.6**
comp=Z,53nm,1.0s,mb5.4,SNR=18
LOMF Lomont 70.05 349 *e*P **P** **12 50 42.0 +0.2**
QUIF Quistinic 70.08 356 *e*P **P** **12 50 41.9 -0.1**
comp=Z,60nm,1.4s,mb5.0
QUIF Quistinic 70.08 356 *e*P **P** **12 50 41.9 -0.1**
QUIF pmax pmax
comp=Z,30nm,1.4s,mb5.0
QUIF Quistinic 70.08 356 *e*P **P** **12 50 41.9 -0.1**
comp=Z,30nm,1.4s,mb5.0
FVI Forni Avoltri 70.17 345 P **P** **12 50 43.8 +1.2**
FVI pmax pmax
comp=Z,70nm,1.5s,mb5.4
FVI Forni Avoltri 70.17 345 P **P** **12 50 43.8 +1.2**
comp=Z,70nm,1.5s,mb5.4
PTCC Patocco-Chiusa 70.28 344 P **P** **12 50 43.7 +0.4**
comp=Z,48nm,1.8s,mb5.1
LOR Lormes 70.37 351 *e*P **P** **12 50 43.7 -0.1**
comp=Z,129nm,1.4s,mb5.3
LOR *e*MLR MLR
comp=Z,754nm,18.0s,MS4.7
LOR Lormes 70.37 351 *e*P **P** **12 50 43.7 -0.1**
LOR pmax pmax
comp=Z,65nm,1.4s,mb5.4
LOR MLR MLR
comp=Z,750nm,18.0s,MS5.0
LOR Lormes 70.37 351 *e*P **P** **12 50 43.7 -0.1**
comp=Z,65nm,1.4s,mb5.4
LOR LR LR
comp=Z,750nm,18.0s,MS5.0
VNDS Vrh nad Dolski 70.41 343 *e*P **P** **12 50 44.0 -0.1**
SSF Saint Saulge 70.60 351 *e*P **P** **12 50 45.1 -0.1**
comp=Z,78nm,1.4s,mb5.2
SSF Saint Saulge 70.60 351 *e*P **P** **12 50 45.1 -0.1**
SSF pmax pmax
comp=Z,39nm,1.4s,mb5.1
SSF Saint Saulge 70.60 351 *e*P **P** **12 50 45.1 -0.1**
comp=Z,39nm,1.4s,mb5.2
JAVS Javornik 70.69 344 *e*P **P** **12 50 44.4 -1.4**
CABF La Chapelle 70.85 350 *e*P **P** **12 50 46.8 +0.1**
comp=Z,22nm,0.7s,mb4.9
CABF La Chapelle 70.85 350 *e*P **P** **12 50 46.8 +0.1**
CABF pmax pmax
comp=Z,11nm,0.7s,mb4.9
CABF La Chapelle 70.85 350 *e*P **P** **12 50 46.8 +0.1**
comp=Z,11nm,0.7s,mb4.9
AVF Avril sur Loir 70.88 352 *e*P **P** **12 50 46.8 -0.1**
comp=Z,100nm,1.4s,mb5.3
AVF Avril sur Loir 70.88 352 *e*P **P** **12 50 46.8 -0.1**
AVF pmax pmax
comp=Z,50nm,1.4s,mb5.2
AVF Avril sur Loir 70.88 352 *e*P **P** **12 50 46.8 -0.1**
comp=Z,50nm,1.4s,mb5.2
BOJS Bojanci 70.92 343 *i*P **P** **12 50 46.9 -0.2**
SMF Signal de Mont 70.99 351 *e*P **P** **12 50 47.4 -0.2**
comp=Z,44nm,1.1s,mb5.0
SMF Signal de Mont 70.99 351 *e*P **P** **12 50 47.4 -0.2**
SMF pmax pmax
comp=Z,22nm,1.1s,mb5.0
SMF Signal de Mont 70.99 351 *e*P **P** **12 50 47.4 -0.2**
comp=Z,22nm,1.1s,mb5.0
BGF Bois d'Agland 71.15 352 *e*P **P** **12 50 48.6 +0.1**
MFF Saint Martin d 71.27 354 *e*P **P** **12 50 49.4 +0.1**
comp=Z,53nm,1.3s,mb5.0
MFF Saint Martin d 71.27 354 *e*P **P** **12 50 49.4 +0.1**
MFF pmax pmax
comp=Z,27nm,1.3s,mb5.0
MFF Saint Martin d 71.27 354 *e*P **P** **12 50 49.4 +0.1**
comp=Z,27nm,1.3s,mb5.0
TCF Toulx Ste Croi 71.46 352 *e*P **P** **12 50 50.3 -0.1**
comp=Z,35nm,1.1s,mb4.9
TCF Toulx Ste Croi 71.46 352 *e*P **P** **12 50 50.3 -0.1**
TCF pmax pmax
comp=Z,17nm,1.1s,mb4.9
TCF Toulx Ste Croi 71.46 352 *e*P **P** **12 50 50.3 -0.1**
comp=Z,18nm,1.1s,mb4.9
AGO Saint Agoulin 71.63 352 *e*P **P** **12 50 52.8 +1.3**
PLDF La Plantade 71.68 351 *e*P **P** **12 50 52.8 +1.0**
LPL La Plagne 71.88 349 *e*P **P** **12 50 53.8 +0.8**
comp=Z,44nm,1.2s,mb5.0
LPL La Plagne 71.88 349 *e*P **P** **12 50 53.8 +0.8**
LPL pmax pmax
comp=Z,22nm,1.2s,mb5.0
LPL La Plagne 71.88 349 *e*P **P** **12 50 53.8 +0.8**
comp=Z,22nm,1.2s,mb5.0
LPG La Plagne 71.90 349 *e*P **P** **12 50 53.9 +0.8**
comp=Z,17nm,0.8s,mb4.7
LPG La Plagne 71.90 349 *e*P **P** **12 50 53.9 +0.8**
LPG pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
LPG La Plagne 71.90 349 *e*P **P** **12 50 53.9 +0.8**
comp=Z,8.5nm,0.8s,mb4.7
PYM Petit Puy Mans 71.94 352 *e*P **P** **12 50 54.1 +0.8**
BNI Bardonecchia 72.34 349 *e*P **P** **12 50 56.5 +0.7**
BNI pmax pmax
comp=Z,44nm,1.6s,mb5.1
BNI Bardonecchia 72.34 349 *e*P **P** **12 50 56.5 +0.7**
comp=Z,44nm,1.6s,mb5.1
LBL Lubilhac 72.44 351 *e*P **P** **12 50 56.6 +0.3**
RJF Les Rejaudoux 72.48 353 *e*P **P** **12 50 56.5 -0.1**
RJF *e*MLR MLR
comp=Z,893nm,19.5s,MS4.8
RJF Les Rejaudoux 72.48 353 *e*P **P** **12 50 56.5 -0.1**
RJF LR LR
comp=Z,890nm,19.5s,MS5.0
ORIF Oris-en-Rattie 72.55 349 *e*P **P** **12 50 57.6 +0.6**
comp=Z,29nm,1.2s,mb4.8
ORIF *e*MLR MLR
comp=Z,1µm,21.0s,MS4.8
ORIF Oris-en-Rattie 72.55 349 *e*P **P** **12 50 57.6 +0.6**
ORIF pmax pmax
comp=Z,15nm,1.2s,mb4.8
ORIF Oris-en-Rattie 72.55 349 *e*P **P** **12 50 57.6 +0.6**
comp=Z,15nm,1.2s,mb4.8
MBDF Montbardon 72.66 349 *e*P **P** **12 50 58.2 +0.6**
comp=Z,17nm,0.9s,mb4.7
MBDF Montbardon 72.66 349 *e*P **P** **12 50 58.2 +0.6**
MBDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
MBDF Montbardon 72.66 349 *e*P **P** **12 50 58.2 +0.6**
comp=Z,8.4nm,0.9s,mb4.7
VIVF Saint-Julien-l 72.71 350 *e*P **P** **12 50 58.2 +0.3**
comp=Z,49nm,1.4s,mb5.3
VIVF Saint-Julien-l 72.71 350 *e*P **P** **12 50 58.2 +0.3**
VIVF pmax pmax
comp=Z,28nm,1.4s,mb5.0
VIVF Saint-Julien-l 72.71 350 *e*P **P** **12 50 58.2 +0.3**
comp=Z,28nm,1.4s,mb5.0
CAF Calviac 72.82 352 *e*P **P** **12 50 59.0 +0.4**
LFF La Frestale 72.89 353 *e*P **P** **12 50 59.2 +0.2**
VMG Vicchio 72.91 345 P **P** **12 51 00.8 +1.6**
SAOF Saorge 73.32 348 *e*P **P** **12 51 00.8 -0.8**
TOUF Mont Tournerai 73.32 348 *e*P **P** **12 51 02.0 +0.4**
LUCF Luceram 73.43 348 *e*P **P** **12 51 03.2 +1.0**
SNTG Esanatoglia 73.44 344 P **P** **12 51 02.8 +0.5**
comp=Z,49nm,1.3s,mb5.3
MVIF Mont Vial 73.45 348 *e*P **P** **12 51 02.5 +0.2**
SBF Sospel 73.45 348 *e*P **P** **12 51 02.0 -0.4**
comp=Z,33nm,0.8s,mb5.0
SBF Sospel 73.45 348 *e*P **P** **12 51 02.0 -0.4**
SBF pmax pmax
comp=Z,16nm,0.8s,mb5.0
SBF Sospel 73.45 348 *e*P **P** **12 51 02.0 -0.4**
comp=Z,16nm,0.8s,mb5.0
SMRF Simiane la Rot 73.51 350 *e*P **P** **12 51 03.5 +0.8**
comp=Z,35nm,1.1s,mb4.9
SMRF Simiane la Rot 73.51 350 *e*P **P** **12 51 03.5 +0.8**
comp=Z,35nm,1.1s,mb5.2
LASF Ste Croix 73.55 351 *e*P **P** **12 51 03.7 +0.8**
comp=Z,45nm,1.3s,mb4.9
CALN Calern 73.61 349 *e*P **P** **12 51 03.4 +0.1**
GRFL Gerfalco 73.78 345 P **P** **12 51 04.6 +0.3**
LMR La Mourre 74.06 349 *e*P **P** **12 51 05.9 -0.1**
comp=Z,22nm,0.9s,mb4.8
LMR La Mourre 74.06 349 *e*P **P** **12 51 05.9 -0.1**
LMR pmax pmax

comp=Z,11nm,0.9s,mb4.8
LMR La Mourre 74.06 349 *e*P **P 12 51 05.9 -0.1**
comp=Z,11nm,0.9s,mb4.8
MTLF Montolieu 74.39 352 *e*P **P 12 51 08.4 +0.5**
comp=Z,45nm,1.1s,mb5.0
MTLF Montolieu 74.39 352 *e*P **P 12 51 08.4 +0.5**
MTLF pmax pmax
comp=Z,23nm,1.1s,mb5.0
MTLF Montolieu 74.39 352 *e*P **P 12 51 08.4 +0.5**
comp=Z,22nm,1.1s,mb5.0
PGF Pioggiola 74.60 347 *e*P **P 12 51 08.7 -0.4**
comp=Z,28nm,1.3s,mb4.7
PGF Pioggiola 74.60 347 *e*P **P 12 51 08.7 -0.4**
PGF pmax pmax
comp=Z,14nm,1.3s,mb4.7
PGF Pioggiola 74.60 347 *e*P **P 12 51 08.7 -0.4**
comp=Z,14nm,1.3s,mb4.7
EPON Pontenova 74.74 359 P **P 12 51 09.8 -0.1**
comp=Z,120nm,1.7s,mb5.5
EARI Arriondas 74.74 358 P **P 12 51 09.3 -0.6**
comp=Z,195nm,1.6s,mb5.8
ELAN Lanestosa 74.77 356 P **P 12 51 11.1 +1.0**
comp=Z,62nm,1.2s,mb5.4
SJPF Ste Jean 74.81 355 *e*P **P 12 51 10.9 +0.6**
comp=Z,28nm,1.3s,mb4.8
SJPF Ste Jean 74.81 355 *e*P **P 12 51 10.9 +0.6**
SJPF pmax pmax
comp=Z,14nm,1.3s,mb4.7
SJPF Ste Jean 74.81 355 *e*P **P 12 51 10.9 +0.6**
comp=Z,14nm,1.3s,mb4.7
EPF Esparros 74.81 353 *e*P **P 12 51 10.0 -0.3**
ETSF Etsaut 74.99 354 *e*P **P 12 51 12.0 +0.7**
comp=Z,58nm,1.4s,mb5.0
ETSF Etsaut 74.99 354 *e*P **P 12 51 12.0 +0.7**
ETSF pmax pmax
comp=Z,29nm,1.4s,mb5.0
ETSF Etsaut 74.99 354 *e*P **P 12 51 12.0 +0.7**
comp=Z,29nm,1.4s,mb5.0
EBIE Bielsa 75.17 354 P **P 12 51 12.6 +0.2**
comp=Z,46nm,1.3s,mb5.2
STS Santiago 75.19 0 P **P 12 51 12.5 0.0**
ERUA La Rua 75.68 359 P **P 12 51 13.6 -1.7**
ERUA pmax pmax
comp=Z,12nm,1.1s,mb4.7
ERUA La Rua 75.68 359 P **P 12 51 13.6 -1.7**
comp=Z,12nm,1.1s,mb4.8
KSM Kuching 75.73 245 *e*P **P 12 51 16.8 +0.8**
HYB Hyderabad 76.20 281 *e*P **P 12 51 17.0 -1.6**
HYB pmax pmax
comp=Z,25nm,1.0s,mb5.1
HYB Hyderabad 76.20 281 *e*P **P 12 51 17.0 -1.6**
comp=Z,25nm,1.0s,mb5.1
HYB Hyderabad 76.20 281 *i* P **P 12 51 17.0 -1.6**
comp=Z,25nm,1.0s,mb5.1
ELOB Lobios 76.20 360 P **P 12 51 17.0 -1.3**
comp=Z,65nm,1.3s,mb5.4
EPOB Poblet 76.44 353 P **P 12 51 19.8 +0.2**
comp=Z,44nm,1.1s,mb5.3
AFI Afiamalu 77.05 164 LR LR 13 20 56.6
comp=Z,627nm,19.1s,MS5.0,baz=352,slow=32
GUD Guadarrama 77.37 357 P **P 12 51 26.0 +1.1**
GUD pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
GUD Guadarrama 77.37 357 P **P 12 51 26.0 +1.0**
comp=Z,4.0nm,0.6s,mb4.5
MIB Mutribah 78.01 313 *e*P **P 12 51 27.3 -1.4**
MIB AMb AMB 12 51 31.4
comp=Z,38nm,1.2s,mb5.2
ECHE Chera 78.31 354 P **P 12 51 32.7 +2.6**
ECHE pmax pmax
comp=Z,8.0nm,0.6s,mb4.8
ECHE Chera 78.31 354 P **P 12 51 32.7 +2.5**
comp=Z,8.1nm,0.6s,mb4.8
ESDC Sonseca Array 78.33 357 P **P 12 51 29.7 -0.6**
comp=Z,2.6nm,0.7s,mb4.3
ESDC Sonseca Array 78.33 357 P **P 12 51 29.5 -0.8**
comp=Z,9.1nm,0.9s,mb4.7,baz=1.2,slow=5.6,SNR=12
ESLA Sonseca Array 78.33 357 *e*P **P 12 51 29.9 -0.4**
comp=Z,8.6nm,1.2s,mb4.6
PAB San Pablo 78.47 357 *e*P **P 12 51 30.8 -0.3**
PAB pmax pmax
comp=Z,33nm,1.4s,mb5.1
PAB San Pablo 78.47 357 *e*P **P 12 51 30.8 -0.3**
comp=Z,33nm,1.4s,mb5.1
NAY Al-Naaiem 78.55 313 *e*P **P 12 51 32.1 +0.4**
NAY AMb AMB 12 51 34.3
comp=Z,20nm,1.2s,mb5.0
RDF Al-Radifah 78.74 312 *e*P **P 12 51 32.4 -0.3**
RDF AMb AMB 12 51 35.0
comp=Z,35nm,1.0s,mb5.2
COEN Coen 79.22 208 *e*P **P 12 51 34.8 -0.4**
comp=Z,11nm,1.0s,mb4.8
EBAD Badajoz 79.31 359 P **P 12 51 35.9 +0.2**
EVIA Vianos 79.32 355 P **P 12 51 38.4 +2.7**
EVIA pmax pmax
comp=Z,19nm,1.1s,mb4.9
EVIA Vianos 79.32 355 P **P 12 51 38.4 +2.7**
comp=Z,19nm,1.1s,mb5.0
EVO Evora 79.54 360 *e*P **P 12 51 36.1 -0.8**
comp=Z,55nm,1.4s,mb5.0
EVO *e*MLR MLR
comp=Z,854nm,23.0s,MS4.7
EBAN Banos Encina 79.84 356 P **P 12 51 38.7 +0.1**
EBAN pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
EBAN Banos Encina 79.84 356 P **P 12 51 38.7 +0.2**
comp=Z,4.4nm,0.6s,mb4.6
EADA Adamuz 79.86 357 P **P 12 51 38.0 -0.7**
comp=Z,56nm,1.4s,mb5.3
ECAB El Cabril 79.97 358 P **P 12 51 41.2 +1.9**
comp=Z,25nm,1.2s,mb5.0
EHUE Huescar 80.15 355 P **P 12 51 40.4 +0.2**
EHUE pmax pmax
comp=Z,21nm,1.2s,mb4.9
EHUE Huescar 80.15 355 P **P 12 51 40.4 +0.2**
comp=Z,21nm,1.2s,mb4.9
EMIN Mina Concepcio 80.29 359 P **P 12 51 41.0 0.0**
comp=Z,63nm,1.5s,mb5.3
EGRO El Granado 80.53 359 P **P 12 51 41.8 -0.5**
comp=Z,37nm,1.3s,mb5.2
ECOG Cogollos-Vega 80.72 356 P **P 12 51 44.2 +0.9**
ECOG pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
ECOG Cogollos-Vega 80.72 356 P **P 12 51 44.2 +0.9**
comp=Z,7.0nm,0.6s,mb4.8
KAKA Kakadu 80.79 219 *e*P **P 12 51 43.5 -0.3**
comp=Z,13nm,0.8s,mb4.9
ELOJ Sierra Loja 80.86 357 P **P 12 51 45.7 +1.6**
ELOJ pmax pmax
comp=Z,17nm,1.1s,mb4.9
ELOJ Sierra Loja 80.86 357 P **P 12 51 45.7 +1.6**
comp=Z,17nm,1.1s,mb4.9
ESPR Espera 81.18 358 P **P 12 51 46.5 +0.8**
comp=Z,60nm,1.7s,mb5.2
KEST Kesra 81.29 346 P **P 12 51 51.5 +5.1**
comp=Z,2.3nm,1.1s,mb4.0,baz=301,slow=5.9,SNR=4.5
KEST LR LR 13 32 04.2
comp=Z,324nm,20.4s,MS4.7,baz=182,slow=39
EJIF Jimena Fronter 81.59 358 P **P 12 51 48.6 +0.6**
EJIF pmax pmax
comp=Z,23nm,1.3s,mb5.0
EJIF Jimena Fronter 81.59 358 P **P 12 51 48.6 +0.6**
comp=Z,23nm,1.3s,mb5.0
CTA Charters Tower 84.54 204 *e*P **P 12 52 02.7 -0.5**
comp=Z,13nm,1.0s,mb5.0
CTA Charters Tower 84.54 204 *e*P **P 12 52 02.7 -0.5**
CTA pmax pmax
comp=Z,13nm,1.0s
CTAO Charters Tower 84.54 204 *e*P **P 12 52 02.9 -0.3**
CTAO pmax pmax
comp=Z,70nm,1.5s,mb5.6
CTAO Charters Tower 84.54 204 *e*P **P 12 52 02.9 -0.3**
comp=Z,70nm,1.5s,mb5.6
PPT Papeete 85.25 143 LR LR 13 22 20.9
comp=Z,417nm,20.6s,MS4.8,baz=341,slow=30
WRAB Tennant Creek 87.12 215 *e*P **P 12 52 11.4 -4.6**
WRAB pmax pmax
comp=Z,19nm,1.4s,mb5.1
WRAB Tennant Creek 87.12 215 *e*P **P 12 52 11.4 -4.6**
comp=Z,19nm,1.4s,mb5.1
WB2 Warramunga Arr 87.13 215 *e*P **P 12 52 15.5 -0.5**
WRA Warramunga Arr 87.13 215 P **P 12 52 15.3 -0.8**
WRA pmax pmax
comp=Z,3.0nm,0.6s
WRA MLR MLR
comp=Z,187nm,18.9s
WRA Warramunga Arr 87.13 215 P **P 12 52 15.3 -0.7**
comp=Z,2.7nm,0.6s,mb4.7,baz=19,slow=5.8,SNR=21
WRA LR LR 13 32 31.1
comp=Z,187nm,18.9s,MS4.5,baz=55,slow=36
FITZ Fitzroy Crossi 87.95 223 *e*P **P 12 52 23.3 +3.3**
comp=Z,5.4nm,0.8s,mb4.8
CPD Cerro la Pandu 88.07 54 *e*P **P 12 52 22.1 +1.3**
CPD pmax pmax
comp=Z,23nm,0.9s,mb5.4
CPD Cerro la Pandu 88.07 54 *e*P **P 12 52 22.1 +1.2**
comp=Z,23nm,0.9s,mb5.4
EIDS Eidsvold 88.89 199 *e*P **P 12 52 23.5 -0.8**
comp=Z,5.8nm,1.0s,mb4.9
ASAR Alice Springs 90.80 214 P **P 12 52 32.1 -1.2**
ASAR pmax pmax
comp=Z,1.0nm,0.5s
ASAR Alice Springs 90.80 214 P **P 12 52 32.1 -1.2**
comp=Z,1.0nm,0.5s,mb4.4,baz=16,slow=4.5,SNR=18
ROSC El Rosal 96.61 66 LR LR 13 41 06.7
comp=Z,508nm,18.8s,MS5.0,baz=20,slow=38
STKA Stephens Creek 96.91 205 LR LR 13 33 05.1
comp=Z,282nm,22.0s,MS4.7,baz=135,slow=33
TORD Torodi Ar. Bea 104.41 350 PP PP 12 57 49.7 -3.2
comp=Z,3.1nm,1.1s,baz=356,slow=5.6,SNR=6.8
CFAA Coronel Fontan 131.37 80 PKP PKPdf 12 58 43.6 +1.5
comp=Z,0.2nm,0.6s,baz=259,slow=6.0,SNR=3.5
PLCA Paso Flores 137.74 89 PKIKP PKPdf 12 58 54.8 +1.1
PLCA pmax pmax
comp=Z,4.0nm,1.0s
PLCA Paso Flores 137.74 89 PKP PKPdf 12 58 54.8 +1.0
comp=Z,3.5nm,1.0s,baz=266,slow=2.4,SNR=4.7
MAW Mawson 150.96 228 PKIKP PKPbc 12 59 21.7 +0.3
MAW pmax pmax
comp=Z,14nm,1.0s
MAW Mawson 150.96 228 PKPbc PKPbc 12 59 21.7 +0.3
comp=Z,14nm,1.0s,baz=7.9,slow=2.8,SNR=13
QSPA South Pole Qui 152.06 180 PKPbc PKPbc 12 59 22.7 -1.0
comp=Z,19nm,0.8s,baz=328,slow=1.7,SNR=50
QSPA PKPab PKPab 12 59 32.9 -0.4
comp=Z,8.2nm,0.6s,baz=320,slow=9.2,SNR=7.4

IDC 24 12:42:17.0±1.2, 2195N×14350E, h0km, mb3.7/5, mb1 3.9/5, mb1mx3.7/20, mbtmp3.7/5, Error ellipse: s-maj=52.1km s-min=23.3km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.50	322	P	P	12 46 58.4	+1.9
	1.3nm,0.5s,baz=143,slow=8.7,SNR=6.9						
WRA	Warramunga Arr	42.59	193	P	P	12 50 14.3	-0.6
	0.8nm,1.1s,baz=18,slow=9.3,SNR=3.9						
ASAR	Alice Springs	46.29	192	P	P	12 50 45.4	+0.8
	0.4nm,0.7s,baz=16,slow=13,SNR=6.6						
BVAR	Borovoye Array	62.68	319	P	P	12 52 41.9	-1.5
	1.5nm,0.6s,baz=86,slow=7.0,SNR=3.7						
YKA	Yellowknife Ar	76.10	28	P	P	12 54 06.6	+0.3
	0.7nm,0.6s,baz=292,slow=5.8,SNR=6.3						

IDC 24 12:53:07.4±1.2, 383S×10299W, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.9/17, mbtmp4.0/5, MS3.6/3, Ms1 3.6/3, ms1mx3.0/27, Error ellipse: s-maj=45.2km s-min=30.2km az=83.0, Central East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAH	Atahualpa	24.68	98	LR	LR	13 05 52.9	
	comp=Z,107nm,20.7s,baz=115,slow=31						
TXAR	Lajitas Array	32.98	359	P	P	12 59 44.8	+0.7
	0.3nm,0.8s,baz=184,slow=13,SNR=3.3						
TXAR				PcP	PcP	13 02 29.1	+0.7
	0.3nm,0.7s,baz=167,slow=5.9,SNR=3.9						
SDV	Santo Domingo	34.64	68	P	P	12 59 59.0	+0.2
	5.8nm,0.8s,baz=278,slow=9.6,SNR=7.1						
SDV				LR	LR	13 10 55.6	
	comp=Z,66nm,20.5s,baz=169,slow=31						
PCRV	Puerto La Cruz	40.65	70	LR	LR	13 16 31.1	
	comp=Z,110nm,18.4s,baz=305,slow=34						
YKA	Yellowknife Ar	66.73	354	P	P	13 03 58.9	-1.2
	1.4nm,1.0s,baz=162,slow=6.6,SNR=10						
INK	Inuvik	75.05	349	P	P	13 04 51.5	+0.9
	0.8nm,1.0s,baz=154,slow=3.8,SNR=4.1						
QSPA	South Pole Qui	86.22	180	P	P	13 05 50.7	+0.4
	3.5nm,0.8s,baz=61,slow=0.6,SNR=9.8						
MKAR	Makanchi Array	136.96	355	PKP	PKPdf	13 12 31.5	-1.0
	0.5nm,0.8s,baz=60,slow=3.5,SNR=4.7						

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*IDC **24** 12:54:19.4±1.1, 2239N×6973E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.5/22, mbtmp3.7/5, Error ellipse: s-maj=33.9km s-min=28.9km az=167.0*
*ISCJB **24** 12:54:22.2±0.7, 2295N±005×6979E±005, h36km±8km, mb3.8/7, Error ellipse: s-maj=9.8km s-min=6.0km az=43.5*
ISC 24 12:54:23.7±0.8, 2296N±005×**6975E**±005, **h28**km±7km, **n24,** σ0§**88**/29, **mb3.8/7, 1C, Southern India**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BHJ	Bhuj	0.31	344¶	*e*P	Pb	12 54 30.1	-0.9
BHJ				*e*S	Sb	12 54 36.0	0.0
BHJ				AML	AML	12 54 36.2	
	comp=E,2μm,0.1s						
BHJ				AML	AML	12 54 36.5	
	comp=N,3μm,0.1s						
BHV	Bhavnagar	2.52	118	*e*P	Pn	12 55 05.0	+2.2
BHV				*e*S	Sn	12 55 39.5	+6.8
BOM	Bombay	4.95	144	*e*x	x	12 55 19.3	
BOM				*e*x	x	12 55 21.0	
	comp=Z,58nm,0.2s						
BOM				*e*S	Sn	12 56 32.5	-0.2
AJM	Ajmer	5.67	51	*e*P	Pn	12 55 46.2	+0.1
AJM				*e*S	Sn	12 56 50.1	-0.1
AJM				AML	AML	12 57 13.9	
	comp=N,162nm,0.4s						
AJM				AML	AML	12 57 14.2	
	comp=E,248nm,0.4s						
POO	Poona	5.84	138	*e*S	Sn	12 56 54.7	+0.1
POO				AML	AML	12 57 34.7	
	comp=E,94nm,0.8s						
POO				AML	AML	12 57 37.1	
	comp=N,71nm,0.7s						
KAD	Karad	7.00	143	*e*P	Pn	12 56 05.7	+1.4
KAD				*e*S	Sn	12 57 21.7	-1.4
KAD				AML	AML	12 58 14.4	
	comp=E,73nm,0.7s						
KAD				AML	AML	12 58 14.4	
	comp=N,43nm,0.5s						
BHPL	Bhopal	7.07	86	*e*P	Pn	12 56 06.0	+0.6
BHPL				*e*S	Sn	12 57 24.6	-0.3
BHPL				AML	AML	12 57 59.5	
	comp=N,81nm,0.7s						
BHPL				AML	AML	12 58 00.1	
	comp=E,50nm,0.6s						
LATR	Latur	7.81	124	*e*x	x	12 56 30.5	
LATR				*e*x	x	12 58 05.5	
HYB	Hyderabad	9.94	122	*e*P	Pn	12 56 45.0	+0.3
HYB				*e*S	Sn	12 58 30.0	-5.3
KOLN	Koldanda	13.41	66	*e*P	Pn	12 57 23.0	-9.1
DANN	Dangsing	13.73	64	*e*P	Pn	12 57 30.6	-5.9
DMN	Daman	14.64	68	*e*P	Pn	12 57 39.5	-10
KKN	Kakani	14.84	68	*e*P	Pn	12 57 42.0	-10
PKI	Pulchoki	14.89	69	*e*P	Pn	12 57 43.6	-8.8
GUN	Gumba	15.38	68	*e*P	Pn	12 57 50.0	-8.8
JIRN	Jiri	15.59	69	*e*P	Pn	12 57 52.7	-8.8
RDF	Al-Radifah	20.81	291	*e*P	P	12 59 03.5	+0.5
RDF				AMb	AMB	12 59 05.4	
	comp=Z,22nm,0.6s						
NAY	Al-Naaiem	21.14	292	*e*P	P	12 59 06.7	+0.1
NAY				AMb	AMB	12 59 08.1	
	comp=Z,9.1nm,0.7s,mb4.2						
MIB	Mutribah	21.18	294	*e*P	P	12 59 07.0	0.0
MIB				AMb	AMB	12 59 08.5	
	comp=Z,12nm,0.6s,mb4.4						
MKAR	Makanchi Array	25.84	20	P	P	12 59 57.2	+4.5
	comp=Z,0.5nm,0.7s,mb3.1,baz=206,slow=8.1,SNR=4.0						
SONM	Songino Array	38.29	40	P	P	13 01 45.5	+3.8
	comp=Z,1.1nm,0.7s,mb3.7,baz=244,slow=7.7,SNR=3.1						
TORD	Torodi Ar. Bea	64.96	274	P	P	13 05 01.6	+0.2
	comp=Z,1.9nm,0.8s,mb4.2,baz=72,slow=5.6,SNR=10						
WRA	Warramunga Arr	76.08	119	P	P	13 06 07.6	-1.6
	comp=Z,0.6nm,0.7s,mb3.6,baz=313,slow=5.3,SNR=4.6						
ASAR	Alice Springs	77.67	122	P	P	13 06 17.0	-1.0
	comp=Z,0.5nm,0.7s,mb3.5,baz=297,slow=5.2,SNR=4.6						

IDC 24 13:02:33.4±1.2, 736N×7751W, h0km, mb3.5/1, mb1 3.9/3, mb1mx3.5/21, mbtmp3.8/3, ML3.1/2, Error ellipse: s-maj=43.1km s-min=19.5km az=37.0, Panama-Colombia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	El Rosal	4.02	128	Pn	Pn	13 03 37.8	+1.5
	6.9nm,0.3s,baz=95,slow=21,SNR=9.2						
ROSC				Sn	Sn	13 04 26.9	+2.8
	2.1nm,0.3s,baz=277,slow=23,SNR=3.8						
ROSC				Lg		13 04 41.1	
	3.0nm,0.3s,baz=86,slow=18,SNR=4.0						
SDV	Santo Domingo	6.97	77	Pn	Pn	13 04 16.6	-0.2
	2.7nm,0.3s,baz=301,slow=8.4,SNR=11						
YKA	Yellowknife Ar	61.31	341	P	P	13 12 50.6	+0.2
	0.2nm,0.4s,baz=133,slow=6.9,SNR=6.3						
ASAR	Alice Springs	145.79	238	PKPbc	PKPbc	13 22 14.7	-0.7
	0.3nm,0.4s,baz=119,slow=3.9,SNR=15						
WRA	Warramunga Arr	146.70	245	PKPbc	PKPbc	13 22 16.9	-1.3
	0.3nm,0.7s,baz=98,slow=2.5,SNR=5.8						

IDC 24 13:15:14.9±0.9, 2171N×14325E, h0km, mb3.7/7, mb1 4.0/7, mb1mx3.9/18, mbtmp3.7/7, Error ellipse: s-maj=35.9km s-min=21.1km az=88.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.54	323	P	P	13 19 59.2	+4.2
	0.5nm,0.5s,baz=139,slow=8.5,SNR=6.9						
SONM	Songino Array	39.37	320	P	P	13 22 45.0	-1.1
	0.5nm,0.6s,baz=125,slow=9.3,SNR=3.5						
WRA	Warramunga Arr	42.30	193	P	P	13 23 10.2	-0.3
	2.1nm,0.9s,baz=11,slow=8.9,SNR=8.6						
ASAR	Alice Springs	46.01	192	P	P	13 23 40.4	+0.1
	0.9nm,0.6s,baz=17,slow=11,SNR=26						
ZALV	Zalesovo Beam	54.24	322	P	P	13 24 43.9	+1.5
	1.1nm,0.5s,baz=63,slow=6.6,SNR=2.8						
MKAR	Makanchi Array	54.73	313	P	P	13 24 45.6	-0.5
	0.3nm,0.5s,baz=88,slow=8.2,SNR=3.7						
YKA	Yellowknife Ar	76.41	28	P	P	13 27 05.3	-0.7
	0.4nm,0.5s,baz=292,slow=5.9,SNR=6.1						
NVAR	Mina Array Bea	83.08	51	P	P	13 27 43.6	+0.9
	0.2nm,0.5s,baz=258,slow=4.2,SNR=3.0						

IDC 24 13:42:11.6±1.0, 2181N×14331E, h0km, mb3.5/8, mb1 3.8/8, mb1mx3.7/19, mbtmp3.6/8, Error ellipse: s-maj=35.1km s-min=20.8km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.50	323	P	P	13 46 52.0	+0.9
	1.3nm,0.9s,baz=34,slow=14,SNR=4.2						
SONM	Songino Array	39.33	320	P	P	13 49 42.4	0.0
	0.6nm,0.5s,baz=127,slow=7.7,SNR=4.7						
WRA	Warramunga Arr	42.41	193	P	P	13 50 08.4	+0.4
	0.8nm,0.9s,baz=13,slow=8.6,SNR=4.7						
ASAR	Alice Springs	46.12	192	P	P	13 50 37.5	-0.3
	0.3nm,0.7s,baz=13,slow=8.3,SNR=10.0						
ZALV	Zalesovo Beam	54.20	322	P	P	13 51 38.3	-0.5
	0.9nm,0.7s,baz=72,slow=9.3,SNR=3.3						
MKAR	Makanchi Array	54.71	313	P	P	13 51 42.6	0.0
	0.3nm,0.4s,baz=87,slow=10,SNR=4.0						
YKA	Yellowknife Ar	76.30	28	P	P	13 54 02.3	+0.3
	0.6nm,0.7s,baz=291,slow=5.6,SNR=5.6						
NVAR	Mina Array Bea	82.98	52	P	P	13 54 39.0	+0.2
	0.4nm,0.6s,baz=271,slow=4.6,SNR=4.9						

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*ISCJB **24** 13:46:40.1±0.5, 4019N±004×2479E±003, h10km, Error ellipse: s-maj=6.1km s-min=3.1km az=12.9*
*CSEM **24** 13:46:40.7±0.2, 4017N×2480E, h10km, ML2.8, Error ellipse: s-maj=5.7km s-min=3.4km az=10.0*
*THE **24** 13:46:41.1, 4012N×2478E, h13km, ML2.8*
*ATH **24** 13:46:43.2, 3986N×2450E, h56km, MD3.0/3*
ISC 24 13:46:40.7±0.5, 4016N±004×**2479E**±003, **h10**km, **n14,** σ0§**92**/25, **Aegean Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LOS	Limnos	0.32	136	*e*Pg	Pg	13 46 46.9	-0.1
LOS				*e*Sg	Sg	13 46 51.0	-0.4
OUR	Ouranopolis	0.64	286	*e*Pg	Pg	13 46 53.4	+0.3
OUR				*e*Sg	Sg	13 47 03.0	+1.5
OUR	Ouranopolis	0.64	286	*e*Pg	Pg	13 46 53.4	+0.3
OUR				*e*Sg	Sg	13 47 03.0	+1.5
PAIG	Paliouri	0.89	255	*e*Pg	Pg	13 46 57.6	-0.1
PAIG				*e*Sg	Sg	13 47 10.2	+0.9
BOZC	Bozcaada	1.02	108	*i* P	Pg	13 47 00.4	0.0
BOZC				*i* S	Sg	13 47 14.0	+0.4
PLG	Polygyros	1.05	282	*e*Pg	Pg	13 47 00.7	-0.2
PLG				*e*Sg	Sg	13 47 14.9	+0.3
PLG	Polygyros	1.05	282	*e*P	Pg	13 47 01.0	+0.1
PLG				*e*S	Sg	13 47 14.0	-0.5
PLG	Polygyros	1.05	282	*e*P	Pg	13 47 01.0	+0.1
PLG				*e*S	Sg	13 47 14.0	-0.5
PLG				*e*Sg	Sg	13 47 14.9	+0.4
RDO	Rodhopi	1.13	30	*e*P	Pb	13 47 09.0	+6.6
ALN	Alexandroupoli	1.20	52	*e*Pg	Pg	13 47 03.0	-0.8
ALN				*e*Sg	Sg	13 47 20.1	+0.6
AOS	Alonnisos	1.22	216	*e*Pg	Pg	13 47 02.3	-1.7
SOH	Sokhos	1.28	301	*e*Pg	Pg	13 47 03.9	-1.3
SOH				*e*Sg	Sg	13 47 22.2	+0.4
SRS	Serrai	1.32	317	*e*Pg	Pg	13 47 04.5	-1.5
PRK	Paraskevi	1.47	128	*e*P	Pn	13 47 08.9	+1.8

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*ISCJB **24** 14:10:59.5±1.2, 3660N±004×257E±0.1, h7km±13km, Error ellipse: s-maj=16.8km s-min=7.4km az=175.2*
*ATH **24** 14:10:59.8, 3662N×2571E, h20km±7km, MD3.2/3*
*NEIC **24** 14:10:59.8, 3662N×2571E, h20km, MD3.2(ATH), After ATH.*
*CSEM **24** 14:11:00.4±0.1, 3659N×2563E, h15km, MD3.2, Error ellipse: s-maj=4.9km s-min=2.5km az=105.0*
*THE **24** 14:11:00.6, 3660N×2551E, h15km*
ISC 24 14:10:59.9±0.8, 3659N±004×**256E**±02, **h14**km±12km, **n11,** σ1§**02**/17, **1C, Dodecanese Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SANT	Santorini	0.25	209	*e*Pg	Pg	14 11 05.8	+0.6
SANT				*e*Sg	Sg	14 11 09.8	+0.9
SANT	Santorini	0.25	209	*e*Pg	Pg	14 11 05.8	+0.5
SANT				*e*Sg	Sg	14 11 09.1	+0.1
SANT	Santorini	0.25	209	*e*Pg	Pg	14 11 05.8	+0.5
SANT				*e*Sg	Sg	14 11 09.8	+0.9
THR1	Thera Island	0.26	209	*e*Pg	Pg	14 11 05.9	+0.6
APE	Apeiranthos	0.48	352	*e*Pg	Pg	14 11 09.5	+0.2
APE	Apeiranthos	0.48	352	¶ *i*PB	Pb	14 11 09.4	-0.7
APE				*e*SB	Sb	14 11 16.4	-0.6
APE	Apeiranthos	0.48	352	*e*Pg	Pg	14 11 09.5	+0.1
APE				*e*Sb	Sb	14 11 16.4	-0.6
NPS	Neapolis	1.33	180	*e*PN	Pn	14 11 25.3	+1.3
LAST	Lasithi	1.43	184	*e*Pg	Pg	14 11 25.8	-1.6
LAST				*e*Sg	Sg	14 11 43.1	-2.9
SMG	Samos	1.48	41	*e*PN	Pn	14 11 26.9	+0.8
KARP	Karpathos	1.63	129	*e*PN	Pn	14 11 28.3	+0.1

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*ISCJB **24** 14:14:11.0±2.2, 1945S×0317.7W±02, h514km±33km, mb3.5/5, Error ellipse: s-maj=52.5km s-min=20.6km az=167.8*
*NEIC **24** 14:14:11.7±1.7, 1931S×17756W, h520km±20km, mb4.1/1, Error ellipse: s-maj=50.1km s-min=19.1km az=157.0*
*IDC **24** 14:14:12.9±2.1, 1934S×17751W, h531km±23km, mb2.9/4, mb1 3.2/5, mb1mx3.0/16, mbtmp3.0/5, Error ellipse: s-maj=46.6km s-min=17.4km az=155.0*
ISC 24 14:14:11.4±2.2, 195S×**0317W**±02, **h507**km±32km, **n10,** σ0§**95**/11, **mb3.5/5, Fiji Islands region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.87	46	P	P	14 16 05.8	-0.9
AFI				*e*S	S	14 17 40.6	-0.6
AFI	Afiamalu	7.87	46	P	P	14 16 05.8	-0.9
	1.5nm,0.3s,baz=233,slow=21,SNR=2.5						
AFI				S	S	14 17 42.9	+1.8

2.7nm,0.3s,baz=0.7,slow=20,SNR=4.0
WRAB Tennant Creek 45.10 261 P **P** **14 21 41.1 -1.0**
8.5nm,1.3s,mb4.0
WRA Warramunga Arr 45.11 261 P **P** **14 21 42.7 +0.5**
0.4nm,0.4s,mb3.2,baz=97,slow=8.0,SNR=20
WRA PcP PcP 14 23 11.2 -1.0
0.3nm,0.5s,baz=89,slow=3.1,SNR=4.4
ASAR Alice Springs 45.11 256 P **P** **14 21 43.5 +1.3**
0.8nm,0.4s,mb3.5,baz=88,slow=8.3,SNR=40
ASAR PcP PcP 14 23 11.2 -1.0
0.4nm,0.6s,baz=107,slow=3.9,SNR=7.2
ASAR S **S** **14 27 41.0 -3.3**
0.4nm,0.8s,baz=90,slow=18,SNR=4.6
TXAR Lajitas Array 86.20 57 P **P** **14 25 59.0 0.0**
0.5nm,0.6s,mb3.3,baz=214,slow=6.0,SNR=5.2
SNAA Sanae 89.02 178 P **P** **14 26 11.0 -0.5**
0.3nm,0.7s,mb3.2,baz=225,slow=4.3,SNR=4.7
VNA2 Neumayer–Watz 89.58 177 *e* **P** **14 26 14.5 +0.5**
baz=187,slow=4.2
VNA2 *e* 14 26 15.6
VNA2 *e* 14 26 19.7
ARCES ARCESS Array B 127.98 350 PKP PKPdf 14 32 16.9 -1.7
1.8nm,0.9s,baz=333,slow=1.9,SNR=6.2
GERES GERESS Array B 149.31 345 PKPbc PKPbc 14 33 00.6 -2.0
0.7nm,0.5s,baz=37,slow=3.3,SNR=5.3

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*BJI **24** 14:22:28.1,2180N×14320E,h85km,mB5.0,mb4.4,Ms4.1, Msz3.9*
*ISCJB **24** 14:22:30.0±3.5,2181N±008×1432E±0.1,h109km±32km, mb4.4/25, Error ellipse: s-maj=20.8km s-min=13.1km az=171.5*
*NEIC **24** 14:22:29.2±3.1,2184N×14322E,h85km±27km,mb4.6/14, Error ellipse: s-maj=16.2km s-min=10.7km az=83.0*
*IDC **24** 14:22:39.6±5.9,2169N×14286E,h175km±55km,mb3.5/10, mb1 3.6/11,mb1mx3.6/20,mbtmp3.5/11, Error ellipse: s-maj=31.5km s-min=12.6km az=83.0*
ISC 24 14:22:29.8±3.4,2183N±008×1433E±01,h91km±30km,n36, σ0°99/35,mb4.4/25,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.30**	**344**	P	**Pn**	**14 26 07.8**	**+7.1**
0.3nm,0.3s,baz=172,slow=14,SNR=3.7							
MAJO	**Matsushiro**	**15.31**	**344**	P	**Pn**	**14 26 00.3**	**-0.4**
YHNB	**Yeheng**	**20.30**	**282**	P	**P**	**14 26 58.8**	**+0.4**
KSRS	**Korea Array**	**20.45**	**323**	P	**P**	**14 27 03.7**	**+3.8**
3.2nm,0.8s,baz=140,slow=8.8,SNR=14							
ULN	**Ulaanbaatar**	**38.91**	**321**	*eP*	**P**	**14 29 46.1**	**-0.3**
9.2nm,1.2s,mb4.5							
SONM	**Songino Array**	**39.28**	**320**	P	**P**	**14 29 49.6**	**+0.1**
1.7nm,0.7s,mb4.0,baz=124,slow=6.7,SNR=13							
GTA	**Gaotai**	**40.85**	**305**	*eP*	**P**	**14 30 03.0**	**+0.4**
GTA				AMB	AMB		
comp=Z,4.0nm,1.4s,mb4.1							
WRAB	**Tennant Creek**	**42.41**	**192**	*eP*	**P**	**14 30 15.5**	**+0.1**
comp=Z,6.4nm,1.0s,mb4.3							
WRA	**Warramunga Arr**	**42.42**	**192**	P	**P**	**14 30 14.4**	**-1.1**
comp=Z,4.4nm,1.0s,mb4.1,baz=14,slow=9.0,SNR=15							
KULM	**Kulim**	**44.37**	**255**	P	**P**	**14 30 24.7**	**-6.8**
ASAR	**Alice Springs**	**46.13**	**192**	P	**P**	**14 30 45.2**	**+0.2**
comp=Z,1.4nm,0.8s,mb3.7,baz=16,slow=11,SNR=26							
BILL	**Bilibino**	**48.38**	**11**	P	**P**	**14 31 08.4**	**+6.4**
comp=Z,4.1nm,1.2s,mb4.1							
STKA	**Stephens Creek**	**53.42**	**182**	P	**P**	**14 31 40.2**	**0.0**
comp=Z,4.3nm,0.9s,mb4.5							
STKA	**Stephens Creek**	**53.42**	**182**	P	**P**	**14 31 40.6**	**+0.4**
comp=Z,3.4nm,0.9s,mb4.4,baz=335,slow=23,SNR=3.3							
ZAA0	**Zalesovo Array**	**54.15**	**322**	P	**P**	**14 31 44.0**	**-1.4**
ZALV	**Zalesovo Beam**	**54.15**	**322**	P	**P**	**14 31 45.1**	**-0.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=101,slow=7.7,SNR=7.4							
MKAR	**Makanchi Array**	**54.66**	**313**	P	**P**	**14 31 49.6**	**+0.5**
comp=Z,0.3nm,0.3s,mb3.8,baz=87,slow=10,SNR=6.2							
KURK	**Kurchatov**	**57.43**	**317**	*eP*	**P**	**14 32 07.8**	**-1.0**
comp=Z,7.4nm,1.3s,mb4.6							
TKM2	**Tokmak 2**	**59.32**	**308**	*eP*	**P**	**14 32 23.1**	**+1.0**
comp=Z,6.8nm,1.0s,mb4.6							
UCH	**Uchtor**	**60.15**	**307**	*eP*	**P**	**14 32 29.3**	**+1.4**
comp=Z,11nm,1.2s,mb4.8							
EKS2	**Erkin-Say**	**60.67**	**308**	*eP*	**P**	**14 32 31.8**	**+0.4**
comp=Z,5.1nm,1.1s,mb4.5							
AML	**Almayashu**	**60.77**	**307**	*eP*	**P**	**14 32 32.4**	**+0.3**
comp=Z,5.9nm,1.1s,mb4.5							
BRVK	**Borovoye**	**62.68**	**319**	*eP*	**P**	**14 32 44.6**	**-0.1**
comp=Z,8.1nm,1.0s,mb4.6							
INK	**Inuvik**	**67.42**	**24**	*eP*	**P**	**14 33 14.3**	**-0.8**
comp=Z,194nm,1.3s,mb5.8							
ARU	**Arti**	**69.20**	**324**	*eP*	**P**	**14 33 26.0**	**-0.4**
comp=Z,4.7nm,0.9s,mb4.3							
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**14 34 09.7**	**+1.3**
YKA	**Yellowknife Ar**	**76.31**	**28**	P	**P**	**14 34 09.7**	**+1.3**
comp=Z,0.6nm,0.4s,mb3.7,baz=292,slow=5.5,SNR=8.5							
RES	**Resolute Bay**	**76.93**	**13**	*eP*	**P**	**14 34 02.8**	**-9.0**
comp=Z,278nm,1.3s,mb5.8							
KIV	**Kislovodsk**	**82.38**	**314**	P	**P**	**14 34 38.4**	**-3.4**
comp=Z,18nm,1.2s,mb4.8							
NVAR	**Mina Array Bea**	**83.01**	**52**	P	**P**	**14 34 47.7**	**+2.5**
NVAR	**Mina Array Bea**	**83.01**	**52**	P	**P**	**14 34 47.7**	**+2.5**
comp=Z,1.0nm,0.9s,mb3.7,baz=256,slow=7.2,SNR=5.1							
FINES	**FINESS Array B**	**83.09**	**334**	P	**P**	**14 34 44.7**	**-0.4**
comp=Z,0.5nm,0.4s,mb3.7,baz=103,slow=6.1,SNR=4.6							
QLMT	**Earthquake Lak**	**85.11**	**44**	*eP*	**P**	**14 34 56.9**	**+1.2**
FFC	**Flin Flon**	**85.68**	**32**	*eP*	**P**	**14 34 57.5**	**-0.8**
comp=Z,9.8nm,1.1s,mb4.7							
FCC	**Fort Churchill**	**86.89**	**26**	*eP*	**P**	**14 35 01.6**	**-2.5**
comp=Z,5.6nm,1.0s,mb4.5							
LPAZ	**La Paz**	**149.86**	**85**	PKPbc	PKPbc	14 42 13.3	+3.2
comp=Z,4.0nm,1.3s,baz=180,slow=2.1,SNR=4.6							

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*ISCJB **24** 14:50:53.1±2.1,683S±008×15554E±007,h76km±21km, mb4.4/27, Error ellipse: s-maj=13.3km s-min=11.1km az=147.6*
*NEIC **24** 14:50:54.1±1.4,684S×15560E,h73km±13km,mb4.6/17, Error ellipse: s-maj=8.9km s-min=7.8km az=137.0*
*IDC **24** 14:50:54.6±2.3,691S×15552E,h72km±21km,mb4.0/12, mb1 4.1/13,mb1mx4.1/16,mbtmp4.1/13,MS3.7/5, Ms1 3.6/5,ms1mx3.3/19, Error ellipse: s-maj=18.1km s-min=14.0km az=69.0*
ISC 24 14:50:55.2±1.8,685S±008×15554E±008,h80km±19km, n52,σ0°97/40,mb4.4/27,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**5.06**	**121**	*e*Pn	**Pn**	**14 52 06.8**	**-1.8**
550nm,1.1s							
HNR	**Honiara**	**5.06**	**121**	P	**Pn**	**14 52 07.5**	**-1.1**
38nm,0.3s,baz=250,slow=4.4,SNR=19							
HNR				S	**Sn**	**14 53 07.1**	**+1.4**
72nm,0.3s,baz=86,slow=19,SNR=8.2							
HNR				LR	LR	14 54 05.8	
comp=Z,420nm,19.9s,baz=358,slow=38							
CTA	**Charters Tower**	**15.95**	**214**	LR	LR	14 59 15.2	
comp=Z,176nm,20.7s,baz=125,slow=32							
CTAO	**Charters Tower**	**15.95**	**214**	P	**Pn**	**14 54 28.8**	**-6.1**
KAKA	**Kakadu**	**23.49**	**254**	*eP*	**P**	**14 55 58.5**	**+0.5**
12nm,0.9s,mb4.2							
WRAB	**Tennant Creek**	**24.33**	**236**	*eP*	**P**	**14 56 06.4**	**+0.8**
9.7nm,0.7s,mb4.2							
WB2	**Warramunga Arr**	**24.34**	**236**	*eP*	**P**	**14 56 06.7**	**+1.0**
WB2				*e*		14 56 18.2	
WRA	**Warramunga Arr**	**24.35**	**236**	P	**P**	**14 56 06.9**	**+1.2**
4.1nm,0.6s,mb3.9,baz=61,slow=9.9,SNR=52							
WRA				PcP	PcP	14 59 44.4	+0.8
1.5nm,0.6s,baz=63,slow=2.6,SNR=9.9							
ASAR	**Alice Springs**	**26.68**	**229**	P	**P**	**14 56 26.8**	**-0.1**
1.5nm,0.6s,mb3.7,baz=58,slow=9.3,SNR=27							
ASAR				PcP	PcP	14 59 49.5	+0.7
1.3nm,0.8s,baz=62,slow=2.0,SNR=7.7							
ASAR				ScP	ScP	15 03 25.5	+3.6
0.2nm,0.6s,baz=59,slow=3.4,SNR=4.3							
STKA	**Stephens Creek**	**28.10**	**206**	*eP*	**P**	**14 56 39.4**	**0.0**
4.2nm,0.9s,mb4.0							
STKA	**Stephens Creek**	**28.10**	**206**	P	**P**	**14 56 37.6**	**-1.9**
3.4nm,1.0s,mb3.8,baz=160,slow=12,SNR=2.6							
STKA				LR	LR	15 07 11.9	
comp=Z,246nm,19.6s,baz=23,slow=35							
FITZ	**Fitzroy Crossi**	**31.21**	**246**	*eP*	**P**	**14 57 07.4**	**+0.3**
13nm,0.7s,mb4.8							
FITZ				*e*		14 57 15.4	
FITZ	**Fitzroy Crossi**	**31.21**	**246**	LR	LR	15 09 39.9	
comp=Z,97nm,20.6s,baz=129,slow=36							
FORT	**Forrest**	**35.07**	**224**	*eP*	**P**	**14 57 39.8**	**-0.8**
17nm,0.7s,mb5.0							
URZ	**Urewera**	**36.87**	**151**	P	**P**	**14 57 56.6**	**+0.7**
1.9nm,0.3s,mb4.5,baz=270,slow=16,SNR=5.8							
MBWA	**Marble Bar**	**37.43**	**244**	*eP*	**P**	**14 58 00.4**	**-0.5**
6.5nm,0.6s,mb4.7							
RPZ	**Rata Peaks**	**39.16**	**162**	P	**P**	**14 58 14.4**	**-0.7**
8.8nm,0.8s,mb4.6,baz=178,slow=19,SNR=6.2							
KKM	**Kota Kinabalu**	**41.28**	**287**	*eP*	**P**	**14 58 32.4**	**-0.6**
KLBR	**Kellerberrin**	**43.00**	**230**	*eP*	**P**	**14 58 46.0**	**-0.8**
5.0nm,0.3s,mb4.7							
NWAO	**Narrogin (SRO)**	**44.00**	**229**	LR	LR	15 15 19.8	
comp=Z,148nm,20.7s,baz=27,slow=33							
KSM	**Kuching**	**45.89**	**279**	*eP*	**P**	**14 59 08.6**	**-1.5**
MJAR	**Matsushiro Arr**	**46.12**	**341**	P	**P**	**14 59 11.4**	**0.0**
2.1nm,0.6s,mb4.0,baz=163,slow=8.5,SNR=8.2							
MAJO	**Matsushiro**	**46.12**	**341**	*eP*	**P**	**14 59 10.9**	**-0.6**
4.1nm,0.6s,mb4.3							
KSRS	**Korea Array**	**51.06**	**332**	P	**P**	**14 59 50.5**	**+1.0**
1.1nm,0.7s,mb4.0,baz=150,slow=7.7,SNR=5.7							
KSRS				PcP	PcP	15 01 05.3	+1.1
1.4nm,0.7s,baz=148,slow=4.8,SNR=7.2							
QIZ	**Qiongzhong**	**51.85**	**301**	*eP*	**P**	**14 59 54.8**	**-0.8**
53nm,1.5s,mb5.3							
YSS	**Yuzh-Sakhalins**	**54.76**	**349**	P	**P**	**15 00 11.9**	**-4.5**
17nm,1.4s,mb4.9							
KULM	**Kulim**	**56.10**	**281**	*eP*	**P**	**15 00 26.1**	**-0.5**
CM31	**Chiang Mai Arr**	**61.21**	**295**	*eP*	**P**	**15 01 03.9**	**+1.7**
4.9nm,0.7s,mb4.7							
SONM	**Songino Array**	**69.51**	**327**	P	**P**	**15 01 57.0**	**+1.9**
2.6nm,0.7s,mb4.2,baz=130,slow=6.3,SNR=23							
BILL	**Bilibino**	**75.09**	**4**	P	**P**	**15 02 26.7**	**-1.2**
12nm,1.2s,mb4.5							
IMA2	**Indian Mountai**	**81.49**	**19**	*eP*	**P**	**15 03 02.5**	**-0.7**
QSPA	**South Pole Qui**	**83.13**	**180**	*eP*	**P**	**15 03 11.8**	**+0.1**
7.9nm,0.9s,mb4.5							
MK31	**Makanchi Array**	**83.65**	**319**	*eP*	**P**	**15 03 16.0**	**+1.0**
MKAR	**Makanchi Array**	**83.65**	**319**	P	**P**	**15 03 15.9**	**+1.0**
2.4nm,0.6s,mb4.2,baz=104,slow=5.3,SNR=17							
ZALV	**Zalesovo Beam**	**84.36**	**326**	P	**P**	**15 03 18.1**	**-0.3**
0.9nm,0.4s,mb4.0,baz=111,slow=8.1,SNR=4.9							
MAW	**Mawson**	**84.74**	**203**	*eP*	**P**	**15 03 19.9**	**-0.2**
4.7nm,0.7s,mb4.5							
MAW	**Mawson**	**84.74**	**203**	P	**P**	**15 03 18.8**	**-1.3**
4.4nm,0.8s,mb4.5,baz=79,slow=7.1,SNR=11							
EGAK	**Eagle**	**85.17**	**23**	*eP*	**P**	**15 03 22.1**	**-0.2**
4.5nm,1.2s,mb4.3							
KURK	**Kurchatov**	**87.05**	**322**	*eP*	**P**	**15 03 28.5**	**-3.3**
TKM2	**Tokmak 2**	**87.31**	**314**	*eP*	**P**	**15 03 34.2**	**+0.9**
1.7nm,0.7s,mb4.1							
UCH	**Uchtor**	**87.95**	**313**	*eP*	**P**	**15 03 41.4**	**+5.0**
1.7nm,0.7s,mb4.2							
YKA	**Yellowknife Ar**	**95.95**	**28**	P	**P**	**15 04 12.8**	**-0.1**
1.0nm,0.6s,mb4.4,baz=266,slow=4.5,SNR=14							
ARCES	**ARCESS Array B**	**109.61**	**343**	PKiKP	PKiKP	15 09 14.4	-1.7
0.6nm,0.5s,baz=45,slow=3.6,SNR=9.9							
FINES	**FINESS Array B**	**114.03**	**336**	PKiKP	PKiKP	15 09 24.5	-0.2
2.7nm,1.0s,baz=101,slow=1.4,SNR=6.2							
AKASG	**Malin Array Be**	**117.74**	**325**	PKP	PKPdf	15 09 31.8	-0.3
0.4nm,0.4s,baz=75,slow=2.0,SNR=4.8							
BOSA	**Boshof**	**120.54**	**231**	PKP	PKPdf	15 09 39.4	+1.2
BOSA	**Boshof**	**120.54**	**231**	PKP	PKPdf	15 09 39.4	+1.2
2.1nm,0.7s,baz=89,slow=5.3,SNR=5.1							
GERES	**GERESS Array B**	**127.21**	**329**	PKP	PKPdf	15 09 50.8	+0.4
1.6nm,0.8s,baz=85,slow=1.5,SNR=10							
BDFB	**Brasilia**	**147.69**	**134**	PKPbc	PKPbc	15 10 30.8	-0.7
1.9nm,0.7s,baz=126,slow=25,SNR=3.4							
TOA0	**Torodi Ar. Sit**	**153.51**	**286**	PKPdf	PKPdf	15 10 38.0	+0.2
TOA0				*e*PKPbc	PKPbc	15 10 44.2	-1.3
TOA0				*e*PKPab	PKPab	15 10 57.8	-0.3
TORD	**Torodi Ar. Bea**	**153.51**	**286**	PKPbc	PKPbc	15 10 45.1	-0.4
1.8nm,0.6s,baz=58,slow=2.0,SNR=12							
TORD				PKPab	PKPab	15 10 58.5	+0.4
2.9nm,0.7s,baz=76,slow=3.9,SNR=13							
DBIC	**Dimbokro**	**160.53**	**271**	PKPab	PKPab	15 11 29.3	+0.8
5.1nm,0.8s,baz=88,slow=4.5,SNR=4.4							

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*ISCJB **24** 14:51:26.5±0.4,3276N±002×11543W±002,h11km±3km, Error ellipse: s-maj=4.2km s-min=3.2km az=170.4*
*ECX **24** 14:51:27.4±0.6,3277N×11545W,h16km±3km,MD2.5, ML2.5*
ISC 24 14:51:26.7±0.4,3277N±003×11544W±002,h15km±3km, n22,σ0°82/33,15C-11D,California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNR	**Schaffner Ranc**	**0.10**	**360**	⇓*e*P	**Pg**	**14 51 30.2**	**+0.3**
SGL	**Mount Signal**	**0.27**	**245**	⇑*e*P	**Pg**	**14 51 32.5**	**0.0**
SWSC	**Sam W. Stewart**	**0.35**	**300**	⇑P	**Pg**	**14 51 34.1**	**+0.2**
baz=0.4,SNR=7.5							
SWSC				⇑S	**Sg**	**14 51 39.7**	**+0.9**
baz=0.4							
CPBX	**Cerro Prieto**	**0.36**	**162**	*e*P	**Pg**	**14 51 34.2**	**+0.1**
CPBX				*e*S	**Sg**	**14 51 40.2**	**+1.0**
CPBX				*e*		14 51 42.7	
comp=N,1μm,0.1s							
YUH	**Yuha Desert**	**0.43**	**254**	⇑*e*P	**Pg**	**14 51 35.2**	**-0.1**
CRR	**Carrizo Plain**	**0.46**	**285**	⇑*e*P	**Pg**	**14 51 36.0**	**0.0**
DVTC	**Desert V Tower**	**0.57**	**259**	⇑P	**Pg**	**14 51 37.6**	**-0.3**
baz=0.6,SNR=9.5							
DVTC				⇑S	**Sg**	**14 51 45.6**	**+0.1**
baz=0.6							
GLA	**Glamis**	**0.59**	**61**	⇑*e*P	**Pg**	**14 51 38.2**	**0.0**
GLA	**Glamis**	**0.59**	**61**	⇓S	**Sg**	**14 51 45.6**	**-0.5**
baz=0.6							
112A	**Yuma**	**0.76**	**107**	⇑S	**Sg**	**14 51 51.3**	**-0.2**
baz=0.7							
MONP	**Monument Peak**	**0.84**	**279**	⇑P	**Pb**	**14 51 42.0**	**-0.9**
baz=0.9,SNR=15							
MONP				⇓S	**Sb**	**14 51 53.7**	**-0.3**
baz=0.9							
BC3	**Big Chuckw Mtn**	**0.89**	**359**	⇓P	**Pb**	**14 51 43.0**	**-0.8**
baz=1.0,SNR=20							
BC3				⇑S	**Sb**	**14 51 55.6**	**+0.1**
baz=1.0							
BAR	**Barrett**	**1.04**	**266**	⇑*e*P	**Pb**	**14 51 45.3**	**-1.2**
CBX	**Cerro Bola**	**1.13**	**247**	*e*P	**Pb**	**14 51 46.8**	**-1.2**
CBX				*e*S	**Sb**	**14 52 01.8**	**-0.6**
PFO	**Pinyon Flat Ob**	**1.20**	**315**	⇑P	**Pn**	**14 51 48.1**	**-0.8**
baz=1.3							
PFO				⇓S	**Sb**	**14 52 05.2**	**+0.8**
baz=1.3							
Y12C	**Blythe**	**1.25**	**38**	⇑Pg	**Pg**	**14 51 50.1**	**-0.7**
baz=1.3,SNR=12							
Y12C				⇓S	**Sb**	**14 52 05.9**	**+0.1**
baz=1.3							
113A	**Mohawk Valley,**	**1.41**	**89**	⇓Pb	**Pb**	**14 51 51.2**	**-1.5**
baz=1.4							
113A				⇓S	**Sn**	**14 52 09.1**	**-1.0**
baz=1.4							
IRM	**Iron Mountain**	**1.41**	**10**	⇓Pb	**Pb**	**14 51 52.1**	**-0.7**
baz=1.5,SNR=11							
MURC	**Murrieta**	**1.70**	**300**	⇓Sb	**Sb**	**14 52 20.2**	**+1.4**
baz=1.8							
Y13A	**Salome**	**1.71**	**52**	Pb	**Pb**	**14 51 58.3**	**+0.5**
baz=1.7,SNR=8.1							
Y13A				⇓Sb	**Sb**	**14 52 19.7**	**+0.7**
baz=1.7							
SPX	**San Pedro Mart**	**1.71**	**181**	*e*PN	**Pn**	**14 51 57.0**	**+1.0**
SPX				*e*S	**Sn**	**14 52 19.4**	**+1.8**
X13A	**Yucca**	**2.26**	**36**	⇑Sb	**Sb**	**14 52 37.0**	**+1.9**
baz=2.3							

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*ISCJB **24** 15:30:53.2±0.7, 152S±0.1×444W±0.1,h10km,mb4.1/11, Error ellipse: s-maj=16.4km s-min=13.7km az=156.9*
*NEIC **24** 15:30:53.3±0.8,1536S×4420W,h10km,mb4.4/7,Error ellipse: s-maj=23.6km s-min=14.1km az=151.0*
*IDC **24** 15:30:53.9±0.9,1496S×4414W,h0km,mb3.8/6,mb1 4.1/7, mb1mx3.8/25,mbtmp3.8/7,ML3.9/1, Error ellipse: s-maj=30.0km s-min=19.7km az=168.0*
ISC 24 15:30:55.8±0.7,152S±01×4449W±006,h10km,n21, σ1°29/23,mb4.1/11,Brazil

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BDFB	**Brasilia**	**3.43**	**262**	*e*Pn	**Pn**	**15 31 51.7**	**+2.4**
BDFB				*e*Pg	**Pg**	**15 32 01.0**	**-0.5**
BDFB				*e*Sg	**Sg**	**15 32 45.4**	**-0.5**
BDFB	**Brasilia**	**3.43**	**262**	Pn	**Pn**	**15 31 51.8**	**+2.5**
5.1nm,0.3s,baz=70,slow=18,SNR=36							
BDFB				Pg	**Pg**	**15 32 01.2**	**-0.3**
7.7nm,0.3s,baz=61,slow=19,SNR=25							
BDFB				Lg		15 32 45.8	
18nm,0.3s,baz=38,slow=25,SNR=9.0							
SIV	**San Ignacio**	**15.99**	**265**	Pn	**Pn**	**15 34 40.0**	**-1.0**
0.4nm,0.3s,baz=90,slow=14,SNR=9.5							
SIV				Lg		15 39 32.4	
0.3nm,0.3s,baz=338,slow=22,SNR=4.3							
CPUP	**Villa Florida**	**16.32**	**225**	*e*Pn	**Pn**	**15 34 42.0**	**-3.2**
36nm,0.5s							
CPUP	**Villa Florida**	**16.32**	**225**	Pn	**Pn**	**15 34 42.7**	**-2.5**
2.6nm,0.3s,baz=51,slow=9.6,SNR=18							
CPUP				Sn	**Sn**	**15 37 59.3**	**+13**
1.0nm,0.3s,baz=189,slow=20,SNR=3.1							
CPUP				Lg		15 39 42.9	
0.6nm,0.3s,baz=304,slow=17,SNR=2.8							
LPAZ	**La Paz**	**22.78**	**264**	*e*P	**P**	**15 36 02.2**	**+3.6**
4.5nm,0.8s,mb4.0							
LPAZ	**La Paz**	**22.78**	**264**	P	**P**	**15 36 03.7**	**+5.1**
4.0nm,0.8s,mb3.9,baz=96,slow=5.3,SNR=17							
LCO	**Las Campanas**	**27.83**	**236**	P	**P**	**15 36 41.0**	**-4.5**
20nm,0.8s,mb4.8							
BBGH	**Gun Hill**	**31.85**	**331**	P	**P**	**15 37 21.6**	**+0.4**
1μm,1.6s							
PLCA	**Paso Flores**	**34.07**	**217**	P	**P**	**15 37 39.7**	**-0.7**
5.7nm,1.4s,mb4.3							
SDV	**Santo Domingo**	**35.26**	**311**	P	**P**	**15 37 50.4**	**-0.5**
2.5nm,0.9s,mb4.1							
TOA0	**Torodi Ar. Sit**	**53.68**	**61**	*e*P	**P**	**15 40 13.0**	**-5.2**
TORD	**Torodi Ar. Bea**	**53.68**	**61**	P	**P**	**15 40 14.3**	**-3.9**
1.0nm,0.6s,mb3.9,baz=240,slow=8.1,SNR=14							
SNAA	**Sanae**	**61.63**	**166**	P	**P**	**15 41 14.2**	**+0.9**
0.2nm,0.7s,mb3.4,baz=307,slow=12,SNR=7.0							
TXAR	**Lajitas Array**	**72.23**	**308**	P	**P**	**15 42 22.1**	**+0.7**
0.7nm,0.8s,mb3.7,baz=103,slow=7.0,SNR=6.3							
QSPA	**South Pole Qui**	**74.98**	**180**	*e*P	**P**	**15 42 37.5**	**+0.7**
2.4nm,0.6s,mb4.3							
EKA	**Eskdalemuir Ar**	**78.43**	**23**	P	**P**	**15 42 54.2**	**-2.3**
0.6nm,0.5s,mb3.8,baz=228,slow=6.4,SNR=4.0							
HWUT	**Hardware Ranch**	**83.69**	**316**	*e*P	**P**	**15 43 25.4**	**+0.5**
2.2nm,0.7s,mb4.4							
NVAR	**Mina Array Bea**	**87.12**	**311**	P	**P**	**15 43 44.0**	**+2.0**
0.7nm,0.7s,mb4.0,baz=134,slow=6.4,SNR=4.9							
ASAR	**Alice Springs**	**141.35**	**178**	PKhKP		15 50 20.3	
0.2nm,0.8s,baz=164,slow=2.8,SNR=3.5							
ASAR				PKP	PKPdf	15 50 27.6	-0.2
0.2nm,0.5s,baz=180,slow=1.3,SNR=4.2							
WRA	**Warramunga Arr**	**145.07**	**178**	PKPbc	PKPbc	15 50 33.6	-0.1
2.5nm,0.6s,baz=193,slow=2.8,SNR=30							

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*ISCJB **24** 15:31:23.9±1.0,218N±0.1×143.1E±03,h33km,mb3.9/11, Error ellipse: s-maj=33.9km s-min=15.5km az=171.6*
*NEIC **24** 15:31:26.9±7.8,2183N×143.12E,h44km±74km,mb4.2/4, Error ellipse: s-maj=24.0km s-min=11.0km az=82.0*
*IDC **24** 15:31:36.0±10.0,2179N×14307E,h129km±98km,mb3.3/8, mb1 3.5/8,mb1mx3.4/20,mbtmp3.3/8, Error ellipse: s-maj=47.6km s-min=16.2km az=79.0*
ISC 24 15:31:26.0±1.0,218N±01×1432E±03,h35km,n13, σ0°55/13,mb3.9/11,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.41**	**323**	P	**P**	**15 36 03.4**	**+3.4**
1.4nm,0.6s,baz=146,slow=8.4,SNR=8.0							
YSS	**Yuzh-Sakhalins**	**25.07**	**359**	P	**P**	**15 36 47.3**	**+0.3**
5.5nm,0.8s,mb4.1							
ULN	**Ulaanbaatar**	**38.86**	**321**	P	**P**	**15 38 47.8**	**0.0**
1.5nm,0.7s,mb3.8							
SONM	**Songino Array**	**39.24**	**320**	P	**P**	**15 38 50.5**	**-0.4**
0.7nm,0.5s,mb3.7,baz=122,slow=7.0,SNR=6.5							
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**	**15 39 17.3**	**+0.1**
0.3nm,0.5s,mb3.2,baz=18,slow=9.2,SNR=7.1							
ASAR	**Alice Springs**	**46.10**	**192**	P	**P**	**15 39 46.9**	**0.0**
0.4nm,0.6s,mb3.5,baz=16,slow=9.8,SNR=10							
ZALV	**Zalesovo Beam**	**54.11**	**322**	P	**P**	**15 40 46.5**	**-0.8**
1.0nm,0.7s,mb3.9,baz=105,slow=9.3,SNR=5.6							
MKAR	**Makanchi Array**	**54.61**	**313**	P	**P**	**15 40 51.0**	**0.0**
MKAR	**Makanchi Array**	**54.61**	**313**	P	**P**	**15 40 51.0**	**0.0**
0.3nm,0.4s,mb3.7,baz=93,slow=8.7,SNR=5.6							
**K

BNLO				⇑S	Sb	16 02 00.0	-0.6
	baz=1.3						
LAVA	Lava Cap Winer	1.35	76	⇓P	Pn	16 01 43.5	0.0
	baz=1.4,SNR=22						
KCPM	Cahto Peak	1.54	324	ePn	Pn	16 01 48.6	+2.4
O03C	Acorn Hollow,	1.58	11	⇑S	Sn	16 02 06.7	-0.4
	baz=1.6						
KIPM	Iron Peak	1.60	329	ePn	Pn	16 01 51.5	+4.4
CMB	Columbia Colle	1.65	104	ePn	Pn	16 01 48.1	+0.4
CMB				eSn	Sn	16 02 08.7	0.0
CMB	Columbia Colle	1.65	104	⇑Pb	Pb	16 01 48.3	-0.9
	baz=1.7,SNR=132						
CMB				⇓Sb	Sb	16 02 10.7	+0.8
	baz=1.7						
P05C	Yuba Gap, Truc	1.65	58	⇑Pb	Pb	16 01 48.6	-0.7
	baz=1.7,SNR=18						
P05C				⇑Sb	Sb	16 02 11.1	+1.1
	baz=1.7						
PACP	Pacheco Peak	1.69	148	⇑P	Pn	16 01 48.1	-0.2
	baz=1.7						
SAO	San Andreas Ge	1.84	155	ePn	Pn	16 01 49.1	-1.3
R05C	Kirkwood Meado	1.85	81	⇓Pb	Pb	16 01 51.9	-0.8
	baz=1.9,SNR=129						
R05C				⇑Sb	Sb	16 02 16.0	+0.2
	baz=1.9						
O05C	Quincy	1.91	37	⇑Pb	Pb	16 01 53.5	-0.2
	baz=1.9						
O05C				⇓Sb	Sb	16 02 17.8	+0.3
	baz=1.9						
S05C	Merced	1.98	123	⇑P	Pn	16 01 52.5	+0.3
	baz=2.0,SNR=43						
S05C				⇑S	Sn	16 02 17.1	+0.2
	baz=2.0						
S06C	San Francisco	2.10	105	⇓Pb	Pb	16 01 55.9	-1.1
	baz=2.1,SNR=172						
S06C				⇓Sb	Sb	16 02 22.9	0.0
	baz=2.1						
WDC	Whiskeytown Da	2.14	357	ePn	Pn	16 01 53.5	-1.0
WDC	Whiskeytown Da	2.14	357	⇓S	Sn	16 02 19.3	-1.5
	baz=2.2						
BEKR	Beckwourth	2.14	48	⇓Pb	Pb	16 01 56.9	-0.8
	baz=2.2,SNR=16						
BEKR				⇓Sb	Sb	16 02 23.6	-0.4
	baz=2.2						
O04C	Chester	2.14	28	⇑Pb	Pb	16 01 57.4	-0.3
	baz=2.2,SNR=9.2						
HAST	Hastings Reser	2.16	161	⇓P	Pn	16 01 54.0	-0.8
	baz=2.2,SNR=125						
HAST				⇑S	Sn	16 02 20.9	-0.5
	baz=2.2						
WCN	Washoe City	2.24	67	⇓Pb	Pb	16 01 58.6	-0.8
	baz=2.3						
WCN				⇓Sb	Sb	16 02 28.5	+1.4
	baz=2.3						
P06A	Stead Airport,	2.31	57	⇑Sb	Sb	16 02 30.4	+1.3
	baz=2.4						
U04C	Hernandez Rese	2.45	148	⇑P	Pn	16 01 58.5	-0.3
	baz=2.5,SNR=15						
ELFS	Eagle Lake Fie	2.53	30	⇑Pb	Pb	16 02 03.4	-1.0
	baz=2.6						
T06C	Millerton Lake	2.58	123	⇓P	Pn	16 02 00.7	+0.2
	baz=2.6,SNR=11						
V03C	Hunter Liggett	2.59	158	⇓P	Pn	16 02 00.1	-0.6
	baz=2.6,SNR=7.1						
O06A	Flanigan	2.64	49	⇓Pb	Pb	16 02 05.8	-0.4
	baz=2.7						
PAHR	Pah Rah Range	2.67	61	ePn	Pn	16 02 03.3	+1.5
KCC	Kaiser Creek	2.69	114	⇑P	Pn	16 02 03.0	+0.9
	baz=2.7,SNR=35						
PKD	Parkfield	2.91	149	⇓P	Pn	16 02 05.2	+0.2
	baz=2.9						
MTUM	Tungsten Hills	3.23	108	ePn	Pn	16 02 11.9	+2.4
MTUM				eSg	Sg	16 02 58.7	-4.2
O07A	Toulon	3.23	57	⇓P	Pn	16 02 09.9	+0.3
	baz=3.3,SNR=18						
YBH	Yreka Blue Hor	3.29	356	ePn	Pn	16 02 13.8	+3.5
PTRM	Twissleman Ran	3.29	147	Pn	Pn	16 02 11.0	+0.7
N07B	Gerlach	3.54	48	⇓P	Pn	16 02 14.7	+1.0
	baz=3.6,SNR=7.2						
MOD	Modoc	3.81	24	ePn	Pn	16 02 20.5	+3.0
TPH	Tonopah	4.10	94	ePg	Pg	16 02 33.2	-4.5
PKM	Peak Mountain	4.11	149	⇑P	Pn	16 02 22.0	+0.4
	baz=4.1,SNR=10						
HUMO	Hull Mountain	4.18	354	ePn	Pn	16 02 28.8	+6.3
WVOR	Wild Horse Val	4.92	35	Pn	Pn	16 02 32.5	-0.1
TPNV	Topopah Spring	5.11	105	ePn	Pn	16 02 36.3	+1.0
	7.4nm,0.6s						
TPNV				ePb	Pb	16 02 47.3	-1.0

*ISCJB **24** 16:10:34.8±1.0, 1803N±006×6198W±005, h33km, Error ellipse: s-maj=10.7km s-min=4.2km az=37.2*
*TRN **24** 16:10:34.9, 1793N×6205W, h36km, MD3.1, M3.7(FDE)*
*NEIC **24** 16:10:34.2, 1794N×6200W, h35km, MD3.5(RSPR), MD3.2(TRN), After TRN.*
*RSPR **24** 16:10:35.6, 1804N×6191W, h25km±22km, MD3.5/5, MD3.5/5*

ISC 24 16:10:35.1±1.3, 1797N±006×6202W±005, h23km±8km, n23, σ0°64/32, 5C-5D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPA	Boggy Peak	0.94	170	eP	Pb	16 10 52.7	0.0
BPA				eS	Sb	16 11 04.1	-0.6
SMRT	St. Maarten	1.01	274	⇓eP	Pn	16 10 53.6	-0.2
SMRT	St. Maarten	1.01	274	eS	Sb	16 11 07.1	+0.4
SEUS	St. Eustatius	1.03	243	⇑eP	Pn	16 10 53.8	-0.5
SEUS	St. Eustatius	1.03	243	eS	Sb	16 11 07.9	+0.3
STMA	St. Maarten, A	1.04	274	eP	Pn	16 10 55.4	+1.1
STMA				eS	Sb	16 11 07.2	-0.5
SABA	Saba	1.22	253	⇓eP	Pn	16 10 56.4	-0.3
SABA	Saba	1.22	253	eS	Sn	16 11 13.2	+0.7
SABS	Saba	1.22	253	⇓eP	Pn	16 10 56.4	-0.4
SABS				eS	Sn	16 11 13.2	+0.7
SABT	Saba	1.22	253	⇓eP	Pn	16 10 56.4	-0.4
SABT				eS	Sn	16 11 13.2	+0.7
LZG	Guadaloupe-1	1.84	173	eP	Pn	16 11 05.3	+0.1
LZG				eS	Sn	16 11 27.3	-0.5
SCG	Saint Claude	1.96	170	eP	Pn	16 11 07.7	+0.7
TBG	Guadaloupe-3	2.14	170	eP	Pn	16 11 09.7	+0.2
MGG	Marie-Galante	2.15	162	eP	Pn	16 11 09.7	+0.1
ABV	Anegada	2.32	289	eS	Sn	16 11 39.9	+0.1
ABV	Anegada	2.32	289	eS	Sn	16 11 39.9	+0.1
TBVI	Tortola	2.51	281	⇑eP	Pn	16 11 14.2	-0.3
TBVI				eS	Sn	16 11 43.9	-0.5
STVI	Saint Thomas	2.81	278	⇑eP	Pn	16 11 17.9	-0.8
MTP	Monte Pirata	3.36	273	⇓eP	Pn	16 11 26.2	-0.1
MTP				eS	Sn	16 12 06.1	+0.6
HUMP	Col San Antoni	3.65	273	⇑eP	Pn	16 11 30.7	+0.5
CBYP	Canovanas	3.66	275	⇑eP	Pn	16 11 31.0	+0.6
CPD	Cerro la Pandu	3.71	272	ePn	Pn	16 11 31.7	+0.7
CPD				eSn	Sn	16 12 11.4	-2.6
SJG	San Juan	3.93	273	eP	Pn	16 11 34.4	+0.2
SJG				eSn	Sn	16 12 18.5	-1.0

*ISCJB **24** 16:23:21.4±1.0, 1062N±003×5979W±007, h10km, Error ellipse: s-maj=9.9km s-min=4.8km az=3.4*
*TRN **24** 16:23:24.8, 1076N×5981W, h19km, MD4.3, M4.5(FDF)*
*NEIC **24** 16:23:25.5, 1079N×5990W, h14km, MD4.3(TRN), After TRN.*
*FUNV **24** 16:23:31.2, 1060N×6015W, h35km, MW3.5*

ISC 24 16:23:23.0±0.9, 1068N±003×5976W±006, h10km, n29, σ1°13/48, 2C, North Atlantic Ocean

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPR	Prospect	1.11	297	⇑iP	Pb	16 23 46.4	+2.1
TPR				eS	Sg	16 23 59.4	+0.5
TBH	Brigand Hill	1.30	261	eP	Pn	16 23 49.4	+2.2
TBH				eS	Sb	16 24 06.7	+2.5
TRN	Trinidad (W)	1.61	269	eP	Pn	16 23 52.7	+1.1
TRN				eS	Sn	16 24 12.2	-0.2
TCE	Chacachacare	1.96	271	eP	Pn	16 23 58.0	+1.8
TCE				eS	Sn	16 24 21.4	+0.5
GRW	Mount Saint Ca	2.37	308	eP	Pn	16 24 02.8	+0.9
GRW				eS	Sn	16 24 31.0	-0.2
GRIC	Isle de Caille	2.39	312	eP	Pn	16 24 03.4	+1.1
GRIC				eS	Sn	16 24 31.4	-0.3
GRHS	Sauteurs	2.40	310	eP	Pn	16 24 03.9	+1.5
GRHS				eS	Sn	16 24 32.1	+0.4
GUIV	Guiria	2.42	269	eP	Pn	16 24 02.4	-0.2
GUIV				eS	Sn	16 24 25.2	-7.1
GRSS	Sisters	2.42	312	eP	Pn	16 24 03.2	+0.5
GRSS				eS	Sn	16 24 31.2	-1.2
GRCU	Cariacou	2.43	317	eP	Pn	16 24 03.1	+0.3
GRCU				eS	Sn	16 24 32.4	-0.2
FCV	Fort Charlotte	2.85	330	eS	Sn	16 24 42.9	-0.2
SSV	Crater Summit	2.98	332	eS	Sn	16 24 46.2	+0.1
SVV	Soufriere Volc	2.98	332	eS	Sn	16 24 45.1	-1.0
GUNV	Guanoco	3.17	261	eP	Pn	16 24 12.6	-0.4
GUNV				eS	Sn	16 24 42.7	-8.2
RIOV	Rio Grande	3.29	218	eP	Pn	16 24 14.9	+0.2
RIOV				eS	Sn	16 24 48.5	-5.3
SLB	Belfond	3.37	338	eP	Pn	16 24 17.3	+1.6
SLB				eS	Sn	16 24 54.6	-1.1
ITEV	Isla Los Testi	3.37	282	eP	Pn	16 24 15.6	-0.1
ITEV				eS	Sn	16 24 48.4	-7.5
CRUV	Carupano	3.41	270	⇑eP	Pn	16 24 15.4	-0.9
CRUV				eS	Sn	16 24 47.6	-9.2
MVM	Montagne Vaucl	4.00	344	eP	Pn	16 24 24.9	+0.5
BIM	Bigot	4.02	342	eP	Pn	16 24 25.1	+0.5
FDF	Fort de France	4.25	342	eP	Pn	16 24 28.8	+1.0
FDF				eS	Sn	16 25 15.4	-2.0
GURV	El Guri	4.38	229	eP	Pn	16 24 29.1	-0.5
GURV				eS	Sn	16 25 12.4	-8.4
PCRV	Puerto La Cruz	4.82	264	eP	Pn	16 24 34.6	-1.1
IBAV	Isla La Blanqu	4.86	284	eP	Pn	16 24 35.1	-1.0
PRGV	PARIAGUAN	5.18	249	eS	Sn	16 25 29.3	-11
BIRV	Birongo	6.40	269	eP	Pn	16 24 56.0	-1.4
BIRV				eS	Sn	16 25 59.0	-12
CAOV	Caicara del Or	7.29	243	eP	Pn	16 25 08.1	-1.5
CAOV				eS	Sn	16 26 19.4	-13
TURV	Turiamo	7.94	269	eP	Pn	16 25 16.5	-2.1
BAUV	El Baul	8.34	259	eP	Pn	16 25 21.7	-2.3

*ISCJB **24** 16:43:03.7±2.9, 108S±01×1620E±02, h84km±22km, mb4.2/16, Error ellipse: s-maj=27.5km s-min=13.7km az=24.6*
*IDC **24** 16:43:03.2±5.5, 1091S×16206E, h63km±43km, mb3.8/6, mb1 4.0/8, mb1mx3.8/16, mbtmp3.8/8, ML4.3/2, MS3.3/4, Ms1 3.3/4, ms1mx3.1/20, Error ellipse: s-maj=40.8km s-min=22.4km az=118.0*
*NEIC **24** 16:43:04.2±2.9, 1073S×16202E, h74km±21km, mb4.5/11, Error ellipse: s-maj=26.5km s-min=11.9km az=121.0*

ISC 24 16:43:04.3±2.9, 1079S±010×1621E±02, h75km±21km, n31, σ1°01/30, mb4.2/16, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.47	303	ePn	Pn	16 43 41.2	-1.2
HNR				eSn	Sn	16 44 12.1	+0.5
HNR				S	Sn	16 44 13.0	+1.4
HNR	Honiara	2.47	303	P	Pn	16 43 40.7	-1.7
	206nm,0.3s,baz=166,slow=1.0,SNR=111						
HNR				S	Sn	16 44 13.0	+1.4
	252nm,0.3s,baz=109,slow=11,SNR=4.6						
CTA	Charters Tower	17.80	237	P	Pn	16 47 07.8	+0.7
	0.3nm,0.3s,baz=63,slow=14,SNR=3.6						
CTA				LR	LR	16 53 07.7	
	comp=Z,61nm,20.1s,baz=235,slow=34						
COEN	Coen	18.70	258	eP	Pn	16 47 19.1	+1.0
	17nm,1.2s						
AFI	Afiamalu	25.75	100	LR	LR	16 57 04.9	
	comp=Z,71nm,21.4s,baz=236,slow=33						
WRAB	Tennant Creek	28.18	248	eP	P	16 48 49.5	-0.3
	3.0nm,0.7s,mb3.9						
WB2	Warramunga Arr	28.18	248	eP	P	16 48 49.8	0.0
WB2	Warramunga Arr	28.18	248	eP	P	16 48 49.3	-0.5
WRA	Warramunga Arr	28.19	248	P	P	16 48 50.0	0.0
	1.2nm,0.4s,mb3.8,baz=78,slow=8.8,SNR=27						
STKA	Stephens Creek	28.24	219	eP	P	16 48 56.5	+6.2
	4.6nm,1.4s,mb3.8						
STKA	Stephens Creek	28.24	219	LR	LR	16 59 48.5	
	comp=Z,171nm,19.4s,baz=207,slow=36						
KAKA	Kakadu	29.05	263	eP	P	16 48 57.9	+0.3
	4.1nm,0.7s,mb4.2						
KAKA	Kakadu	29.05	263	eP	P	16 48 57.8	+0.2
	23nm,1.1s,mb4.7						
GUMO	Guam	29.62	324	eP	P	16 49 01.9	-0.7
	89nm,1.1s,mb5.3						
ASAR	Alice Springs	29.70	241	P	P	16 49 02.5	-0.8
	0.7nm,0.4s,mb3.6,baz=64,slow=10,SNR=27						
FITZ	Fitzroy Crossi	35.95	254	eP	P	16 49 57.2	-0.7
	5.6nm,0.4s,mb4.8						
MBWA	Marble Bar	41.85	250	eP	P	16 50 47.3	+0.1
	7.0nm,0.9s,mb4.4						
KKM	Kota Kinabalu	48.59	288	eP	P	16 51 40.4	-0.3
KSRS	Korea Array	57.68	328	LR	LR	17 18 45.0	
	comp=Z,17nm,18.1s,baz=138,slow=37						
YSS	Yuzh-Sakhalins	60.01	345	P	P	16 53 00.2	-2.7
	10nm,1.1s,mb4.8						
MA2	Magadan	70.71	354	P	P	16 54 10.3	-1.5
ULN	Ulaanbaatar	75.99	325	P	P	16 54 44.5	+1.4
	1.1nm,0.6s,mb3.8						
SONM	Songino Array	76.34	325	P	P	16 54 46.4	+1.2
	0.8nm,0.6s,mb3.6,baz=142,slow=5.8,SNR=7.8						
YAK	Yakutsk	76.86	345	eP	P	16 54 46.6	-1.2
	12nm,0.4s,mb5.0						
BILL	Bilibino	78.68	2	eP	P	16 54 58.9	+1.1
QSPA	South Pole Qui	79.21	180	P	P	16 55 00.2	-0.4
	6.5nm,1.2s,mb4.3						
NVAR	Mina Array Bea	88.65	51	P	P	16 55 50.8	+1.4
	0.6nm,0.7s,mb3.8,baz=229,slow=6.9,SNR=5.6						
MKAR	Makanchi Array	90.86	317	P	P	16 55 59.2	-0.3
MKAR	Makanchi Array	90.86	317	P	P	16 55 59.2	-0.2
	0.4nm,0.5s,mb3.8,baz=89,slow=6.5,SNR=5.6						
YKA	Yellowknife Ar	96.42	28	P	P	16 56 25.7	+1.1
	0.5nm,0.5s,mb4.2,baz=262,slow=4.6,SNR=7.2						
ARCES	ARCESS Array B	115.15	344	PKP	PKiKP	17 01 36.5	+0.3
	1.1nm,0.8s,baz=50,slow=1.9,SNR=5.8						

IDC 24 16:47:33.2±7.5, 1877S×17675W, h0km, mb3.3/2, mb1 3.6/2, mb1mx3.4/14, mbtmp3.3/2, Error ellipse: s-maj=318.4km s-min=119.8km az=152.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.04	260	P	P	16 55 59.2	+0.2
	0.1nm,0.4s,baz=96,slow=7.6,SNR=6.3						
ASAR	Alice Springs	46.09	255	P	P	16 55 59.0	-0.3
	0.3nm,0.7s,baz=93,slow=7.7,SNR=5.4						
AKASG	Malin Array Be	142.04	333	PKP	PKPdf	17 07 06.3	-0.8
	0.6nm,0.5s,baz=44,slow=3.6,SNR=6.4						

*CSEM **24** 17:17:54.4±0.1, 3845N×3929E, h2km, MD3.5, Error ellipse: s-maj=1.8km s-min=1.4km az=158.0*
*DDA **24** 17:17:54.3, 3840N×3932E, h8km±7km, Md3.6*
*ISK **24** 17:17:54.1, 3845N×3928E, h5km, MD3.5*
*ISCJB **24** 17:17:55.5±0.3, 3842N±003×3929E±004, h10km, Error ellipse: s-maj=4.7km s-min=3.6km az=142.7*

ISC 24 17:17:56.1±0.3, 3842N±003×3930E±004, h10km, n30, σ1°08/34, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVRC	Sivrice-ELAZID	0.04	170	PG	Pg	17 17 55.6	-2.3
ELZG	Elazig	0.26	289	iP	Pg	17 17 59.5	-1.8
PTK	Pertek	0.48	9	ePG	Pg	17 18 03.1	-2.3
PTK				eSG	Sg	17 18 11.1	-0.8
MALT	Malatya	0.69	262	ePG	Pg	17 18 07.7	-1.8
BINT	Bingol	1.04	63	ePG	Pg	17 18 15.3	-0.8
URFA	Urfa	1.04	201	ePG	Pg	17 18 15.6	-0.5
ATAB	Bozova	1.23	220	iP	Pn	17 18 19.4	+0.1
ATAB				iS	Sb	17 18 34.9	-0.5
EZC	Erzincan	1.39	17	ePN	Pn	17 18 20.7	-0.8
BNGL	BINGOL	1.54	69	iP	Pn	17 18 23.8	+0.2
BNGL				iS	Sg	17 18 50.6	+4.8
MARD	Mardin	1.61	133	iP	Pn	17 18 23.7	-0.8
MARD				iS	Sn	17 18 45.2	-0.1
GZT	Gaziantep	1.73	233	iP	Pn	17 18 26.0	-0.2
GZT				iS	Sn	17 18 46.1	-2.2
BTMT	Batman	1.74	97	ePN	Pn	17 18 25.0	-1.3
GUMT	Gumushane	2.05	4	ePN	Pn	17 18 30.5	-0.1
GAZ	Gaziantep	2.07	234	ePN	Pn	17 18 31.6	+0.7
KMRS	Kahramanmaras	2.10	245	ePN	Pn	17 18 31.8	+0.5
EZM	Erzurum	2.19	47	ePN	Pn	17 18 32.9	+0.4
ERZM	Erzurum	2.19	47	iP	Pn	17 18 33.8	+1.3
SVSK	Karacayir	2.33	311	ePN	Pn	17 18 35.0	+0.5
ANDN	Andirin	2.48	251	iP	Pn	17 18 37.5	+1.0
ESPY	Espiye-Giresun	2.54	350	ePN	Pn	17 18 37.5	+0.3
SIRT	Sirnak	2.65	109	ePN	Pn	17 18 40.0	+1.2
BNN	Bunyan	2.74	280	ePN	Pn	17 18 40.7	+0.6
TOKT	Tokat	2.86	313	ePN	Pn	17 18 42.2	+0.5
KOZT	Kozan	2.90	252	ePN	Pn	17 18 43.4	+1.2
AGRB	Hanur-Agry	3.10	67	ePN	Pn	17 18 46.2	+1.1
YOZ	Yozgat	3.33	293	ePN	Pn	17 18 49.2	+1.0
KARA	Karaisali	3.55	252	ePN	Pn	17 18 52.9	+1.7
HAKT	HAKKARI	3.59	102	iP	Pn	17 18 52.5	+0.8
MSL	Mosul	3.69	124	ex	x	17 19 03.0	
MSL				ex	x	17 19 52.0	
NIG	Nigde	3.70	267	ePN	Pn	17 18 54.6	+1.3

IDC 24 17:31:19.0±2.0, 731S×12315E, h248km±21km, mb3.2/2, mb1 3.3/6, mb1mx3.1/18, mbtmp3.1/6, Error ellipse: s-maj=81.0km s-min=13.3km az=59.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	2.92	170	P	Pn	17 32 11.9	+1.4
	32nm,0.3s,baz=359,slow=5.8,SNR=52						
BATI				S	S	17 32 51.5	+0.2
	38nm,0.3s,baz=334,slow=22,SNR=13						
FITZ	Fitzroy Crossi	11.00	167	P	Pn	17 33 52.1	+1.9
	0.2nm,0.3s,baz=6.8,slow=12,SNR=10						
FITZ				S	S	17 35 48.8	-4.5
	0.3nm,0.3s,baz=143,slow=14,SNR=5.4						
WRA	Warramunga Arr	16.60	140	P	P	17 34 56.3	-0.3
	0.5nm,0.3s,baz=315,slow=12,SNR=11						
WRA				S	S	17 38 02.5	+5.1
	0.1nm,0.3s,baz=322,slow=24,SNR=4.3						
ASAR	Alice Springs	19.26	149	P	P	17 35 25.1	-0.2
	0.4nm,0.3s,baz=326,slow=12,SNR=43						
ASAR				S	S	17 38 51.8	+1.8
	0.1nm,0.3s,baz=329,slow=25,SNR=5.4						
STKA	Stephens Creek	29.89	147	P	P	17 37 02.9	-1.0
	2.7nm,1.1s,baz=324,slow=14,SNR=4.8						
MKAR	Makanchi Array	64.93	330	P	P	17 41 32.3	+0.2
	0.1nm,0.2s,baz=129,slow=8.4,SNR=2.9						

*ISCJB **24** 17:39:01.0±0.5, 4670N±007×155.15E±009, h10km, mb4.1/28, MS3.6/2, Error ellipse: s-maj=11.7km s-min=6.4km az=142.0*
*IDC **24** 17:39:01.3±0.7, 4662N×155.14E, h0km, mb3.9/16, mb1 4.1/17, mb1mx4.1/23, mbtmp3.9/17, ML3.5/1, MS3.5/2, Ms1 3.5/2, ms1mx2.8/22, Error ellipse: s-maj=20.0km s-min=16.4km az=147.0*
*MOS **24** 17:39:03.7±1.4, 4669N×15506E, h27km, mb4.3/12, Error ellipse: s-maj=12.3km s-min=7.6km az=88.1*
*SKHL **24** 17:39:05.8±2.8, 4691N×15496E, h73km±32km, mb4.8/2*
*NEIC **24** 17:39:06.9±1.7, 4671N×15507E, h37km±14km, mb4.4/12, Error ellipse: s-maj=14.7km s-min=9.7km az=139.0*

ISC 24 17:39:02.1±3.6, 4667N±007×1552E±01, h4km±22km, n82, σ1°11/69, mb4.1/28, MS3.6/2, 1C, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	Severo-Kuril's	4.07	8	eP	Pn	17 40 03.0	-2.0
SKR				eS	Sn	17 40 48.0	-5.0
SKR				A		17 40 52.0	
	270nm,0.2s						
SKR				A		17 40 52.0	
	200nm,0.5s						
SKR				A		17 40 52.0	
	60nm,0.5s						
KUR	Kuril'sk	5.31	257	eP	Pn	17 40 22.5	+0.4
KUR				AMB	AMB	17 40 28.2	
	269nm,0.8s						
KUR				eS	Sn	17 41 18.0	-5.7
KUR				A		17 41 20.0	
	319nm,0.5s						
KUR				A		17 41 20.0	
	228nm,0.5s						
PET	Petropavlovsk	6.75	18	ePN	Pn	17 40 40.8	-1.0
PET				pmax	pmax		
	comp=Z,5.0nm,0.6s						
PET				MLR	MLR		
	comp=Z,100nm,14.0s						
YUK	Yuzh-Kuril'sk	7.09	252	eP	Pn	17 40 46.4	-0.1
YUK				A		17 42 03.9	
	comp=Z,210nm,0.5s						
YUK				A		17 42 03.9	
	comp=Z,160nm,0.3s						
YSS	Yuzh-Sakhalins	8.54	276	ePn	Pn	17 41 09.0	+2.6
YSS	Yuzh-Sakhalins	8.54	276	eP	Pn	17 41 08.4	+1.9
TYV	Tymovskoe	9.29	301	eP	Pn	17 41 18.8	+2.2
TYV				AMB	AMB	17 41 20.0	
	comp=Z,22nm,1.0s						
ERM	Erimo	9.80	246	ePN	Pn	17 41 23.5	-0.2
MA2	Magadan	13.20	350	ePN	Pn	17 42 10.1	0.0
MA2				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MA2	Magadan	13.20	350	ePn	Pn	17 42 10.1	0.0
	comp=Z,4.6nm,0.7s						
HABR	Khabarovsk	13.72	285	eP	Pn	17 42 16.1	-1.2
HABR						17 44 49.9	
MAJO	Matsushiro	16.21	237	P	Pn	17 42 56.0	+5.4
MAJO				pmax	pmax		
	comp=Z,12nm,1.2s						
MAJO	Matsushiro	16.21	237	Pn	Pn	17 42 56.0	+5.4
	comp=Z,12nm,1.2s						
MJAR	Matsushiro Arr	16.21	237	Pn	Pn	17 42 50.1	-0.5
	comp=Z,0.2nm,0.3s,baz=32,slow=8.5,SNR=2.5						
SEY	Seymchan	16.38	355	eP	Pn	17 42 55.4	+2.8
YAK	Yakutsk	21.18	326	eP	P	17 43 48.9	+0.7
YAK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.0						
YAK	Yakutsk	21.18	326	eP	P	17 43 45.1	-3.0
	comp=Z,5.4nm,0.5s,mb4.1						
KSRS	Korea Array	22.15	255	P	P	17 43 59.7	+0.9
	comp=Z,1.1nm,0.7s,mb3.4,baz=52,slow=11,SNR=6.1						
BILL	Bilibino	22.18	11	P	P	17 43 59.0	+0.3
BILL				e		17 44 03.5	
BILL				e		17 44 08.1	
BILL				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.4						
BILL	Bilibino	22.18	11	eP	P	17 43 58.3	-0.4
	comp=Z,8.3nm,1.0s,mb4.1						
TIXI	Tiksi	27.97	343	⇑eP	P	17 44 53.5	+0.3
TIXI				pm

BRVK	Borovoye	52.06	310	eP	P	17 48 12.0	-0.6
	comp=Z,3.3nm,0.7s,mb4.4						
EKS2	Erkin-Say	55.58	298	P	P	17 48 38.0	-0.4
	comp=Z,1.7nm,0.8s,mb4.1						
HNR	Honiara	56.00	174	LR	LR	18 12 59.7	
	comp=Z,57nm,18.7s,MS3.7,baz=0.5,slow=36						
ARU	Arti	56.04	318	eP	P	17 48 45.5	+3.9
ARU	Arti	56.04	318	P	P	17 48 40.6	-1.0
	comp=Z,4.2nm,0.6s,mb4.7						
ARCES	ARCESS Array B	58.40	341	P	P	17 48 57.8	-0.3
	comp=Z,2.4nm,0.8s,mb4.3,baz=27,slow=8.2,SNR=4.7						
ARCES				LR	LR	18 20 49.9	
	comp=Z,30nm,18.9s,MS3.4,baz=250,slow=43						
FFC	Flin Flon	59.87	41	P	P	17 49 09.4	+0.9
FFC				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
FFC	Flin Flon	59.87	41	P	P	17 49 09.4	+1.0
	comp=Z,5.4nm,0.8s,mb4.6						
FCC	Fort Churchill	60.54	34	eP	P	17 49 12.8	-0.2
FCC				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.4						
FCC	Fort Churchill	60.54	34	eP	P	17 49 12.8	-0.2
	comp=Z,2.3nm,0.6s,mb4.5						
NVAR	Mina Array Bea	61.19	63	P	P	17 49 18.2	+0.5
	comp=Z,0.8nm,0.7s,mb4.0,baz=280,slow=6.9,SNR=6.4						
JOF	Joensuu	62.04	335	ep	P	17 49 23.2	+0.1
	comp=Z,3.6nm,0.7s,mb4.6						
FINES	FINESS Array B	64.72	336	P	P	17 49 43.1	+2.3
FINES				pmax	pmax		
	comp=Z,4.0nm,0.7s						
FINES	FINESS Array B	64.72	336	P	P	17 49 42.0	+1.1
FINES	FINESS Array B	64.72	336	P	P	17 49 42.0	+1.1
	comp=Z,4.1nm,0.7s,mb4.6,baz=38,slow=8.0,SNR=22						
NB2	NORSAR Subarra	68.76	342	P	P	17 50 10.2	+3.6
	comp=Z,1.5nm,0.6s,mb4.1,baz=25,slow=6.5						
NOA	NORSAR Array B	68.76	342	eP	P	17 50 10.6	+4.0
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	NORSAR Array B	68.76	342	P	P	17 50 06.0	-0.6
	comp=Z,0.9nm,0.4s,mb4.0,baz=28,slow=6.6,SNR=3.2						
WRA	Warramunga Arr	68.92	201	eP	P	17 50 07.1	-0.9
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	Warramunga Arr	68.92	201	P	P	17 50 06.6	-1.5
	comp=Z,0.7nm,0.8s,mb3.7,baz=22,slow=6.4,SNR=5.0						
AKASG	Malin Array Be	72.41	327	P	P	17 50 32.9	+3.9
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	72.41	327	P	P	17 50 28.0	-1.0
	comp=Z,0.4nm,0.5s,mb3.6,baz=31,slow=6.1,SNR=3.4						
ASAR	Alice Springs	72.61	200	P	P	17 50 30.3	-0.1
	comp=Z,1.1nm,0.7s,mb3.9,baz=16,slow=5.3,SNR=23						
TXAR	Lajitas Array	76.28	62	P	P	17 50 52.6	+0.7
	comp=Z,3.6nm,0.6s,mb4.5,baz=303,slow=4.1,SNR=58						
CLL	Collm	77.12	337	eP	P	17 51 00.0	+3.6
CLL				e		17 51 08.0	
CLL				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.4						
CLL	Collm	77.12	337	eP	P	17 51 00.0	+3.6
	comp=Z,4.0nm,0.8s,mb4.4						
CLL				epP	pP	17 51 08.0	+10
KHC	Kasperske Hory	78.93	335	eP	P	17 51 08.4	+2.0
GERES	GERESS Array B	79.15	335	P	P	17 51 09.0	+1.4
	comp=Z,0.3nm,0.3s,mb3.7,baz=41,slow=9.2,SNR=3.0						
FLN	La Foliniere	82.63	344	eP	pP	17 51 32.4	+4.8
	comp=Z,6.2nm,0.6s						
LOR	Lormes	83.15	341	eP	pP	17 51 35.0	+4.6
	comp=Z,5.2nm,0.6s						
CABF	La Chapelle	83.24	339	eP	pP	17 51 35.6	+4.7
	comp=Z,6.1nm,0.8s						
SSF	Saint Saulge	83.42	341	eP	pP	17 51 36.5	+4.7
	comp=Z,3.8nm,0.6s						
SGMF	Saint Gilles	83.49	345	eP	pP	17 51 37.4	+5.2
	comp=Z,6.8nm,0.6s						
ROSF	Rostrenen	83.54	346	eP	pP	17 51 36.8	+4.4
	comp=Z,7.0nm,0.7s						
AVF	Avril sur Loir	83.71	341	eP	pP	17 51 38.2	+4.9
	comp=Z,4.8nm,0.6s						
SMF	Signal de Mont	83.74	341	eP	pP	17 51 38.3	+4.9
	comp=Z,12nm,0.8s						
TCF	Toulx Ste Croi	84.44	342	eP	pP	17 51 42.2	+5.2
MFF	Saint Martin d	84.63	343	eP	pP	17 51 43.4	+5.4
ORIF	Oris-en-Rattie	84.87	339	eP	pP	17 51 44.7	+5.5
	comp=Z,4.7nm,0.6s						
VIVF	Saint-Julien-l	85.23	339	eP	pP	17 51 46.5	+5.5
RJF	Les Rejaudoux	85.53	342	eP	pP	17 51 48.0	+5.5
LMR	La Mourre	86.19	338	eP	pP	17 51 51.9	+6.1
	comp=Z,7.2nm,0.9s						

IDC 24 17:44:49.1±1.3,4665N×15418E,h0km,mb3.5/4, mb1 3.7/4,mb1mx3.4/20,mbtmp3.5/4,Error ellipse: s-maj=37.9km s-min=35.4km az=71.0,East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	Songino Array	32.06	290	P	P	17 51 17.3	-0.1
	0.2nm,0.5s,baz=80,slow=12,SNR=2.4						
FINES	FINESS Array B	64.45	335	P	P	17 55 27.1	+0.3
	1.5nm,1.0s,baz=54,slow=9.8,SNR=4.6						
ASAR	Alice Springs	72.35	199	P	P	17 56 16.8	+0.2
	0.5nm,0.8s,baz=14,slow=6.3,SNR=7.8						
TXAR	Lajitas Array	76.90	61	P	P	17 56 43.2	0.0
	0.3nm,0.8s,baz=316,slow=6.3,SNR=3.7						

MAN 24 18:11:17,1703N×12003E,h21km,mb4.1,ML2.9,MS2.7, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.65	190	eP	Pb	18 11 29.9	+0.3
BOLP				eS	Sb	18 11 38.7	+0.3
BCPH	Baguio City Da	0.83	140	↑iP	Pb	18 11 31.7	-1.1
BCPH				i S	Sb	18 11 42.5	-1.1
ABRA	Dolores	0.90	47	eP	Pb	18 11 34.4	+0.5
ABRA				eS	Sb	18 11 47.3	+1.8
APYP	Conner	1.43	54	eP	Pn	18 11 41.1	-0.6
APYP				eS	Sn	18 11 59.4	-0.5
CAUP	Cauayan	1.72	92	eP	Pn	18 11 47.2	+1.4
BALP	Baler	1.96	130	eP	Pn	18 11 50.0	+0.9

GUC 24 18:36:47.8±0.5,3317S×7016W,h6km±2km,MD3.6,ML2.1, 3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FCH	Farellones	0.19	215	↑eP	Pg	18 36 52.5	+0.9
FCH				i S	Sg	18 36 55.6	+1.5
FCH				AML	AML	18 36 56.7	
	comp=E,798nm,0.1s						
CLCH	Cerro Calan	0.39	234	eP	Pg	18 36 56.0	+0.7
CLCH				i S	Sg	18 37 02.2	+1.8
CLCH				AML	AML	18 37 04.6	
	comp=E,262nm,0.4s						
PEL	Peldehue	0.44	274	eP	Pg	18 36 55.5	-0.8
PEL				i S	Sg	18 37 02.2	+0.2
PCH	Pirque	0.54	213	↑eP	Pg	18 36 58.9	+0.7
PCH				i S	Sg	18 37 07.3	+2.2
LMEL	Las Melosas	0.68	183	eP	Pg	18 37 01.6	+0.8
LMEL				i S	Sg	18 37 12.1	+2.5
TACH	Talagante	0.81	233	↑eP	Pg	18 37 03.3	0.0
LNV	Longovilo	1.30	233	||iP	Pn	18 37 10.9	-1.5
SFDO	San Fernando	1.60	206	eP	Pn	18 37 17.0	+0.4

*IDC **24** 18:46:05.9±2.1,756S×12672E,h0km,mb3.5/1,mb1 4.2/3, mb1mx3.8/13,mbtmp4.0/3,ML4.3/2,Error ellipse: s-maj=271.8km s-min=31.9km az=62.0*
*NEIC **24** 18:46:07.2±1.0,782S×12633E,h10km,mb4.3/1,Error ellipse: s-maj=61.7km s-min=12.0km az=57.0*
*ISCJB **24** 18:46:08.3±1.0,78S±03×1266E±04,h33km,mb3.8/2, Error ellipse: s-maj=67.5km s-min=13.0km az=146.5*

ISC 24 18:46:10.6±1.1,79S±03×1264E±04,h35km,n7,σ0∂87/9, mb3.8/2,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	Kakadu	7.65	129	eP	Pn	18 48 00.1	+0.4
WRAB	Tennant Creek	14.26	148	eP	Pn	18 49 29.8	-0.2
	5.3nm,0.6s						
WRA	Warramunga Arr	14.26	148	Pn	Pn	18 49 29.8	-0.3
	1.7nm,0.3s,baz=325,slow=14,SNR=49						
WRA				Sn	Sn	18 51 54.6	-13
	2.5nm,0.3s,baz=326,slow=24,SNR=20						
WB2	Warramunga Arr	14.27	148	eP	Pn	18 49 29.2	-1.0
ASAR	Alice Springs	17.28	156	P	Pn	18 50 11.3	+2.1
	0.5nm,0.3s,baz=340,slow=12,SNR=79						
ASAR				S	S	18 53 09.6	-19
	0.2nm,0.3s,baz=343,slow=25,SNR=4.2						
MKAR	Makanchi Array	67.05	329	P	P	18 57 00.4	+0.3
	0.2nm,0.4s,mb3.5,baz=118,slow=7.9,SNR=4.6						
KURK	Kurchatov	71.44	330	eP	P	18 57 26.9	-0.4
	1.3nm,0.6s,mb4.0						

*ISCJB **24** 19:13:43.4±0.7,1942N±004×15525W±004,h7km±4km, mb4.3/15,MS4.1/7,Error ellipse: s-maj=7.6km s-min=6.8km az=138.9*
*NEIC **24** 19:13:44.0,1940N×15525W,h2km,mb4.2/5, MD4.7(HVO),After HVO.*
NEIC Felt [V] at Volcano; [IV] at Hawai'i Volcanoes National Park and Pahoa; [III] at Hilo and Mountain View; [II] at Kea'au. Felt at Hakalau, Honomu, Kamuela, Kurtistown and Papa'ikou and Waimea.
*IDC **24** 19:13:45.1±1.4,1950N×15535W,h0km,mb3.7/4, mb1 4.0/4,mb1mx3.8/21,mbtmp3.7/4,MS3.8/4,Ms1 3.8/4, ms1mx3.1/32,Error ellipse: s-maj=57.7km s-min=29.5km az=153.0*
*BJI **24** 19:13:47.7,1974N×15605W,h10km,mB5.1,mb4.7,Ms4.9, Msz4.6*

ISC 24 19:13:43.9±0.8,1941N±004×15526W±004,h0km±5km,n36, σ0∂98/36,mb4.4/15,MS4.1/7,Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	Steam Cracks	0.12	102	ePg	Pg	19 13 46.9	+0.6
KHU	Kahuku	0.38	244	ePg	Pg	19 13 51.1	-0.1
KHU				eSg	Sg	19 13 55.8	-0.4
HPO	Honuapo	0.43	221	ePg	Pg	19 13 52.5	+0.4
HPO				eSg	Sg	19 13 57.3	-0.4
POHA	Pohakuloa	0.43	323	ePg	Pg	19 13 52.5	+0.3
POHA				eSg	Sg	19 13 58.1	+0.3
KKH	Kailua Kona	0.76	289	ePg	Pg	19 13 57.9	-0.6
HKL	Haleakala	1.60	324	P	Pn	19 14 07.9	-5.5
HON	Honolulu	3.20	307	ePn	Pn	19 14 35.1	-0.3
HON				eSn	Sn	19 15 07.1	-7.2
KIP	Kipapa	3.27	308	ePn	Pn	19 14 29.6	-6.8
AFI	Afiamalu	36.89	207	LR	LR	19 32 17.9	
	comp=Z,260nm,19.4s,MS4.0,baz=124,slow=30						
PPT	Papeete	37.17	171	LR	LR	19 32 09.9	
	comp=Z,132nm,20.1s,MS3.7,baz=344,slow=30						
PFO	Pinyon Flat Ob	37.26	60	P	P	19 20 58.5	+1.0
TPNV	Topopah Spring	38.25	55	eP	P	19 21 03.5	-2.4
	4.1nm,1.0s,mb4.1						
GLA	Glamis	38.49	61	P	P	19 21 04.4	-3.5
	2.2nm,1.0s,mb3.8						
REDW	Red Top Meadow	44.12	47	P	P	19 21 53.3	-0.8
	17nm,1.0s,mb4.7						
YFT	Old Faithful	44.49	46	eP	P	19 22 00.7	+3.7
LENM	Lemitar	45.13	61	P	P	19 22 01.4	-0.9
MNTX	Cornudas Mount	46.27	64	eP	P	19 22 09.6	-1.7
	2.6nm,1.0s,mb4.2						
SDCO	Great Sand Dun	46.78	56	eP	P	19 22 16.0	+0.7
	2.0nm,1.0s,mb4.2						
TXAR	Lajitas Array	47.70	68	P	P	19 22 24.3	+1.8
	2.2nm,0.8s,mb4.3,baz=263,slow=7.8,SNR=16						
INK	Inuvik	50.75	10	eP	P	19 22 44.0	-1.3
YKA	Yellowknife Ar	51.31	23	P	P	19 22 50.1	+0.5
	0.8nm,0.8s,mb3.7,baz=232,slow=7.6,SNR=7.5						
HNR	Honiara	52.62	241	LR	LR	19 42 00.8	
	comp=Z,68nm,18.6s,MS3.7,baz=358,slow=32						
MDJ	Mudanjiang	66.17	311	P	P	19 24 32.9	-0.5
MDJ				AMB	AMB		
	comp=Z,16nm,2.8s,mb4.8						
MDJ				AMB	AMB		
	comp=Z,128nm,4.0s						
CN2	Changchun	69.22	310	eP	P	19 24 53.3	+0.7
MVL	Millersville	69.45	54	eP	P	19 24 53.2	-1.0
	comp=Z,19nm,0.8s,mb5.4						
NJ2	Nanjing	76.59	299	eP	P	19 25 35.8	-0.8
NJ2				AP		19 25 41.3	
NJ2				XP	sP	19 25 43.6	+6.9
NJ2				PCP	PcP	19 25 46.8	-1.4
NJ2				S	S	19 35 19.5	-4.7
NJ2				XS	sS	19 35 27.0	+2.7
NJ2				LR	LR		
	comp=N,460nm,19.3s,MS4.8						
NJ2				LR	LR		
	comp=E,300nm,22.8s,MS4.8						
NJ2				LR	LR		
	comp=Z,290nm,22.8s,MS4.5						
BJI	Beijing	76.71	308	P	P	19 25 36.0	-1.2
BJI				AMB	AMB		
	comp=Z,5.0nm,0.6s,mb4.8						
HHC	Hu-ho-hao-te	79.89	310	eP	P	19 25 55.6	+0.9
HHC				PCP	PcP	19 26 03.9	+1.6
HHC				PP	PP	19 28 57.6	+1.7
HHC				S	S	19 35 58.9	-0.5
HHC				SKS		19 36 09.6	
HHC				SCS	ScS	19 36 17.8	-2.9
HHC				AMB	AMB		
	comp=Z,16nm,1.0s,mb4.9						
HHC				AMB	AMB		
	comp=Z,102nm,5.3s						
HHC				LR	LR		
	comp=N,137nm,19.1s,MS4.5						
HHC				LR	LR		
	comp=E,141nm,18.6s,MS4.5						
HHC				LR	LR		
	comp=Z,88nm,15.7s,MS4.2						
ASAR	Alice Springs	81.25	241	P	P	19 26 03.2	+1.0
	comp=Z,0.3nm,0.8s,mb3.4,baz=68,slow=8.1,SNR=4.3						
SONM	Songino Array	81.27	318	P	P	19 26 03.0	+1.0
	comp=Z,0.2nm,0.6s,mb3.3,baz=59,slow=5.6,SNR=2.6						
SPITS	Spitsbergen Ar	82.49	2	LR	LR	20 02 58.1	
	comp=Z,27nm,19.1s,MS3.6,baz=20,slow=36						
LZH	Lanzhou	87.18	307	eP	P	19 26 32.9	+0.6
LZH				AP		19 26 35.5	
GYA	Guiyang	88.42	297	P	P	19 26 38.0	-0.5
GYA				PP	PP	19 30 07.4	+1.4
GYA				SKS		19 37 05.8	
GYA				S	S	19 37 22.3	-3.3
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s,mb5.1						
GYA				AMB	AMB		
	comp=Z,80nm,5.8s						
GYA				LR	LR		
	comp=N,380nm,22.6s,MS4.9						
GYA				LR	LR		
	comp=E,290nm,21.4s,MS4.9						
GYA				LR	LR		
	comp=Z,350nm,22.8s,MS4.7						
CD2	Chengdu	89.18	302	eP	P	19 26 42.1	+0.2
KMI	Kunming	92.20	297	P	P	19 26 56.9	+0.8
KMI				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.5						
WMQ	Urumqi	94.75	320	eP	P	19 27 09.0	+1.6

IDC 24 19:14:25.1±5.2,2233S×6835W,h0km,mb3.5/1, mb1 3.5/2,mb1mx3.3/16,mbtmp3.4/2,ML3.3/1,Error ellipse: s-maj=156.7km s-min=55.7km az=69.0, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	6.01	2	Pn	Pn	19 15 56.0	+0.6
	0.4nm,0.3s,baz=182,slow=7.2,SNR=8.5						
TORD	Torodi Ar. Bea	77.15	70	P	P	19 26 21.2	+0.1
	0.3nm,0.6s,baz=260,slow=5.1,SNR=6.9						
MKAR	Makanchi Array	145.99	37	PKPbc	PKPbc	19 34 06.0	-0.7
	0.3nm,0.3s,baz=325,slow=2.3,SNR=5.0						

IDC 24 19:18:00.7±10.0,1058S×6628E,h0km,mb3.7/5, mb1 3.9/5,mb1mx3.6/21,mbtmp3.7/5,MS3.7/5,Ms1 3.7/5, ms1mx3.3/29,Error ellipse: s-maj=349.2km s-min=29.5km az=63.0,Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	30.33	286	LR	LR	19 34 35.0	
	comp=Z,54nm,20.4s,baz=96,slow=33						
PSI	Prapat	35.10	70	LR	LR	19 36 22.8	
	comp=Z,147nm,18.3s,baz=164,slow=31						
MKAR	Makanchi Array	58.88	13	P	P	19 28 00.8	-0.4
	0.2nm,0.2s,baz=190,slow=7.2,SNR=3.5						
MKAR				LR	LR	19 53 13.4	
	comp=Z,27nm,18.5s,baz=346,slow=36						
ASAR	Alice Springs	65.42	111	P	P	19 28 45.5	-0.2
	1.3nm,1.1s,baz=276,slow=5.6,SNR=5.8						
WRA	Warramunga Arr	65.95	107	P	P	19 28 49.5	+0.2
	1.3nm,0.9s,baz=278,slow=5.7,SNR=7.8						
ZALV	Zalesovo Beam	66.18	12	P	P	19 28 50.0	+0.1
	0.2nm,0.3s,baz=218,slow=6.4,SNR=3.3						
SONM	Songino Array	68.17	28	P	P	19 29 03.5	+0.8
	0.6nm,0.7s,baz=235,slow=5.2,SNR=5.5						
SONM				LR	LR	19 58 06.8	
	comp=Z,81nm,18.0s,baz=250,slow=35						
STKA	Stephens Creek	72.07	120	LR	LR	19 58 18.8	
	comp=Z,134nm,20.7s,baz=204,slow=34						

*SZGRF **24** 19:25:00.3,1728S×6728W,h33km,mb5.0,Central Bolivia*
*ISCJB **24** 19:25:05.6±0.2,1773S±004×6932W±004,h140km, mb4.7/107,Error ellipse: s-maj=6.8km s-min=4.6km az=32.7*
*NEIC **24** 19:25:05.3±0.6,1773S×6926W,h123km±5km,mb4.8/90, Error ellipse: s-maj=6.4km s-min=4.2km az=215.0*
*MOS **24** 19:25:05.9±1.2,1773S×6935W,h143km,mb4.9/40,Error ellipse: s-maj=9.9km s-min=7.6km az=82.7*
*BJI **24** 19:25:07.2,1770S×6930W,h123km,mB5.2*
*IDC **24** 19:25:07.2±0.4,1772S×6931W,h142km±3km,mb4.5/16, mb1 4.6/19,mb1mx4.5/23,mbtmp4.5/19,MS3.8/5, Ms1 3.8/5,ms1mx3.0/31,Error ellipse: s-maj=10.2km s-min=8.7km az=120.0*
*LDG **24** 19:25:09.7±0.7,1736S×6874W,h149km,Mb4.8/31, Ms3.6/8,Error ellipse: s-maj=46.3km s-min=11.7km az=70.0*

ISC 24 19:25:07.5±0.2,1775S±004×6924W±004,h142km, h142km±1.1km:pP-P,n275,σ0∂94/247,mb4.7/107,6C-1D, Peru-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	1.80	36	P	Pn	19 25 42.1	+2.3
LPAZ				S	Sn	19 26 06.6	+2.0
LPAZ	La Paz	1.80	36	P	Pn	19 25 42.1	+2.3
	baz=216,slow=8.6						
LPAZ				S	Sn	19 26 06.5	+2.0
	106nm,0.3s,baz=61,slow=19,SNR=6.8						
LPAZ				LR	LR	19 26 25.0	
	comp=Z,2μm,18.3s,baz=129,slow=43						
ARE	Arequipa	2.51	300	↑iP	Pn	19 25 45.0	-3.3
ARE				i S	Sn	19 26 14.0	-5.7
LVC	Limon Verde	4.84	176	eP	Pn	19 26 17.2	-1.5
SIV	San Ignacio	8.01	79	P	Pn	19 27 00.4	-0.7
	105nm,0.3s,baz=271,slow=10.0,SNR=305						
SIV				S	Sn	19 28 28.8	-1.5
	8.2nm,0.3s,baz=341,slow=20,SNR=8.5						
NNA	Nana	9.32	307	P	Pn	19 27 13.0	-5.6
	19nm,0.3s,baz=137,slow=11,SNR=26						
NNA				S	Sn	19 28 50.3	-12
	6.3nm,0.3s,baz=49,slow=19,SNR=3.8						
CFAA	Coronel Fontan	13.82	176	P	Pn	19 28 12.5	-4.9
	0.4nm,0.3s,baz=352,slow=12,SNR=11						
CFAA				S	Sn	19 30 37.3	-13
	0.4nm,0.3s,baz=220,slow=23,SNR=6.8						
ATAH	Atahualpa	13.93	319	P	Pn	19 28 15.3	-3.6
	0.5nm,0.3s,baz=180,slow=8.1,SNR=3.6						
CPUP	Villa Florida	13.95	130	P	Pn	19 28 17.7	-1.4
	3.0nm,0.3s,baz=288,slow=12,SNR=34						
BDFB	Brasilia	20.44	87	P	P	19 29 33.6	-0.2
BDFB				eP		19 29 34.2	
BDFB	Brasilia	20.44	87	P	P	19 29 33.6	-0.2
	99nm,0.4s,baz=256,slow=16,SNR=44						
TRQA	Tornquist	21.20	164	eP	P	19 29 40.8	-0.9
	66nm,0.9s,mb5.0						
PLCA	Paso Flores	22.93	183	P	P	19 29 57.6	-1.6
	16nm,0.7s,mb4.5,baz=0.6,slow=11,SNR=46						
PLCA				LR	LR	19 38 32.8	
	comp=Z,196nm,18.5s,baz=270,slow=35						
CAM4	Nova Friburgo	25.45	105	||iP	P	19 30 22.9	+0.6
CAM4				i		19 30 24.1	
CAM4				i		19 30 25.4	
CAM4				i		19 30 28.8	
SDV	Santo Domingo	26.50	357	P	P	19 30 29.9	-1.9
	5.8nm,0.4s,mb4.6,baz=199,slow=7.5,SNR=10.0						
PCRV	Puerto La Cruz	28.12	10	LR	LR	19 43 46.8	
	comp=Z,158nm,18.4s,baz=17,slow=40						
EFI	East Falkland	34.99	168	i P	P	19 31 46.7	+0.8
SJG	San Juan	35.77	5	P	P	19 31 50.6	-2.4
	29nm,0.2s,mb5.5,baz=314,slow=17,SNR=6.6						
MTP	Monte Pirata	35.81	6	eP	P	19 31 49.9	-3.4
TEIG	Tepich	42.11	333	P	P	19 32 44.6	-1.1
	9.6nm,0.4s,mb4.8,baz=231,slow=0.4,SNR=14						
JCT	Junction City	56.26	328	eP	P	19 34 32.0	-1.2
JCT				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
JCT	Junction City	56.26	328	eP	P	19 34 32.0	-1.2
	comp=Z,10nm,0.7s,mb4.8						
MIAR	Mount Ida	56.93	336	eP	P	19 34 36.8	-1.0
MIAR				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb4.8						
MIAR	Mount Ida	56.93	336	eP	P	19 34 36.8	-1.0
	comp=Z,7.0nm,0.5s,mb4.8						
TXAR	Lajitas Array	57.41	324	P	P	19 34 40.5	-0.8
	comp=Z,1.4nm,0.7s,mb3.9,baz=150,slow=7.1,SNR=16						
TXAR				pP	pP	19 35 13.2	-1.5
	comp=Z,2.9nm,0.8s,baz=141,slow=8.1,SNR=8.9						
SIUC	Southern Illin	58.29	341	eP	P	19 34 46.1	-1.2
	comp=Z,24nm,0.6s,mb5.2						
SIUC				epP	pP	19 35 19.7	-1.0
SSPA	Standing Stone	58.64	352	eP	P	19 34 48.0	-1.6
	comp=Z,6.0nm,0.5s,mb4.7						
FVM	French Village	58.91	341	eP	P	19 34 50.2	-1.3
FVM				pmax	pmax		
	comp=Z,34nm,0.6s,mb5.3						
FVM	French Village	58.91	341	eP	P	19 34 50.2	-1.3
	comp=Z,34nm,0.6s,mb5.3						
CCM	Cathedral Cave	59.24	340	eP	P	19 34 52.3	-1.5
CCM				pmax	pmax		
	comp=Z,12nm,0.6s,mb4.9						
CCM	Cathedral Cave	59.24	340	eP	P	19 34 52.2	-1.6
	comp=Z,12nm,0.6s,mb4.9						
BRYW	Bryant College	59.41	358	eP	P	19 34 53.9	-0.9
	comp=Z,26nm,0.6s,mb5.2						
MNTX	Cornudas Mount	60.16	325	eP	P	19 34 59.0	-1.3
	comp=Z,5.8nm,1.0s,mb4.4						
MNTX				e	pP	19 35 31.9	-2.0
ERPA	Erie	60.39	351	eP	P	19 34 59.6	-2.0
KSU1	Kansas State U	62.09	336	eP	P	19 35 12.8	-0.3
	comp=Z,17nm,0.8s,mb4.9						
BNM	Barren Site	62.70	325	eP	P	19 35 17.4	+0.1
BNM				e	pP	19 35 50.7	-0.5
LPM	Los Pinos Moun	62.83	326	eP	P	19 35 18.6	+0.5
LPM				e	pP	19 35 51.2	-0.9
ANMO	Albuquerque	63.22	326	eP	P	19 35 23.1	+2.4
JFWS	Jewell Farm	63.39	343	eP	P	19 35 20

WUAZ **Wupatki 66.34 323** eP **P** **19 35 41.1 +0.2**
comp=Z,5.7nm,1.0s,mb4.4
WUAZ e pP 19 36 15.1 -0.1
ISCO Idaho Springs 66.55 330 eP **P** **19 35 42.8 +0.6**
ISCO e*PP pP 19 36 16.2 -0.3
ISCO pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
ISCO Idaho Springs 66.55 330 eP **P** **19 35 42.8 +0.6**
comp=Z,2.5nm,0.6s,mb4.2
ISCO epP pP 19 36 16.2 -0.2
SMCO Snowmass 66.73 329 eP **P** **19 35 43.9 +0.6**
comp=Z,4.7nm,0.6s,mb4.5
SMCO epP pP 19 36 17.9 +0.3
PV01 Paradox Valley 66.74 327 eP **P** **19 35 44.0 +0.6**
PV01 epP pP 19 36 17.8 +0.1
CHIE El Hierro 67.16 49 P **P** **19 35 45.7 -0.6**
comp=Z,17nm,0.7s,mb5.0
LIC Lamto 67.69 75⇑ iP **P** **19 35 49.9 -0.1**
comp=Z,49nm,0.4s,mb5.3
LIC eMLR MLR
comp=Z,73nm,22.4s
LIC Lamto 67.69 75⇑ iP **P** **19 35 49.8 -0.2**
comp=Z,223nm,0.9s,mb5.9
TIC Toumodi 67.86 75⇑ iP **P** **19 35 50.9 -0.1**
comp=Z,325nm,0.9s
EGOM La Gomera 67.95 49 P **P** **19 35 51.5 +0.3**
comp=Z,68nm,0.7s,mb5.5
KIC Kosan Boka 68.01 75⇑ iP **P** **19 35 52.1 +0.2**
comp=Z,783nm,0.8s
DBIC Dimbokro 68.02 75 P **P** **19 35 52.2 +0.2**
DBIC LR LR 20 04 20.8
DBIC Dimbokro 68.02 75 P **P** **19 35 52.2 +0.2**
comp=Z,142nm,0.7s,mb5.8,baz=227,slow=6.5,SNR=164
DBIC LR LR 20 04 20.8
comp=Z,64nm,19.8s,baz=248,slow=35
EYMN Ely 68.37 344 eP **P** **19 35 52.0 -1.4**
comp=Z,15nm,0.8s,mb4.8
EYMN epP pP 19 36 27.7 -0.1
CCAN Las Canadas 68.42 49 P **P** **19 35 54.9 +0.7**
comp=Z,11nm,0.6s,mb4.8
MSU Marysvale 68.94 325 eP **P** **19 35 58.2 +1.1**
MSU e*PP pP 19 36 31.9 +0.3
RSSD Black Hills 69.31 334 eP **P** **19 35 59.8 +0.5**
RSSD e*PP pP 19 36 33.7 -0.1
RSSD pmax pmax
comp=Z,4.0nm,0.4s,mb4.5
RSSD Black Hills 69.31 334 eP **P** **19 35 59.8 +0.5**
comp=Z,4.2nm,0.4s,mb4.5
RSSD epP pP 19 36 33.7 -0.1
AGMN Agassiz Refuge 69.92 341 eP **P** **19 36 02.1 -0.9**
comp=Z,8.3nm,0.5s,mb4.7
AGMN epP pP 19 36 36.8 -0.8
TPNV Topopah Spring 70.17 321 eP **P** **19 36 05.9 +1.1**
TPNV e*PP pP 19 36 39.7 +0.3
TPNV pmax pmax
comp=Z,14nm,0.9s,mb4.7
TPNV Topopah Spring 70.17 321 eP **P** **19 36 05.9 +1.1**
comp=Z,14nm,0.9s,mb4.7
TPNV epP pP 19 36 39.7 +0.4
CFTV Fuerteventura 70.36 50 P **P** **19 36 06.2 +0.2**
comp=Z,26nm,1.2s,mb4.8
DUG Dugway 70.49 326 eP **P** **19 36 07.4 +0.8**
DUG e*PP pP 19 36 41.2 0.0
DUG pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
DUG Dugway 70.49 326 eP **P** **19 36 07.4 +0.8**
comp=Z,1.5nm,0.6s,mb3.9
DUG epP pP 19 36 41.2 0.0
HWUT Hardware Ranch 70.86 328 eP **P** **19 36 08.8 0.0**
comp=Z,3.0nm,0.5s,mb4.3
HWUT epP pP 19 36 41.1 -2.4
ULM Lac du Bonnet 71.67 342 P **P** **19 36 12.6 -0.9**
comp=Z,20nm,0.5s,mb5.1,baz=157,slow=6.2,SNR=55
ULM pP pP 19 36 47.4 -0.8
comp=Z,7.1nm,0.5s,baz=144,slow=4.2,SNR=3.8
MTUM Tungsten Hills 71.83 320 eP **P** **19 36 15.7 +0.9**
MTUM epP pP 19 36 49.4 -0.1
IMW Indian Meadow 72.24 330 eP **P** **19 36 15.7 -1.4**
comp=Z,8.3nm,0.9s,mb4.5
IMW epP pP 19 36 49.9 -2.0
FLWY Flagg Ranch 72.27 330 eP **P** **19 36 18.2 +1.0**
comp=Z,6.4nm,0.8s,mb4.4
FLWY epP pP 19 36 52.3 +0.3
SCHQ Schefferville 72.32 1 P **P** **19 36 16.2 -1.1**
SCHQ Schefferville 72.32 1 P **P** **19 36 16.2 -1.1**
comp=Z,8.5nm,0.6s,mb4.6,baz=199,slow=4.9,SNR=20
NVAR Mina Array Bea 72.37 321 P **P** **19 36 18.7 +0.7**
NVAR pP pP 19 36 52.9 +0.1
NVAR Mina Array Bea 72.37 321 P **P** **19 36 18.7 +0.7**
comp=Z,3.4nm,0.8s,mb4.1,baz=155,slow=7.4,SNR=21
NVAR pP pP 19 36 52.9 +0.1
comp=Z,6.3nm,0.9s,baz=153,slow=7.2,SNR=9.4
QSPA South Pole Qui 72.42 180 eP **P** **19 36 18.4 +0.8**
comp=Z,4.5nm,0.5s,mb4.5
GCMT Greycliff 73.08 332 eP **P** **19 36 22.2 +0.3**
GCMT epP pP 19 36 56.8 0.0
HLID Hailey 73.73 328 eP **P** **19 36 26.7 +0.9**
comp=Z,6.3nm,1.1s,mb4.3
HLID epP pP 19 37 01.0 +0.3
PAHR Pah Rah Range 73.84 322 eP **P** **19 36 27.9 +1.3**
comp=Z,19nm,0.8s,mb4.9
PAHR epP pP 19 37 01.8 +0.2
MCMT McKenzie Canyo 73.86 329 eP **P** **19 36 26.4 -0.1**
MCMT epP pP 19 37 01.9 +0.5
CHMT Chamberlain Mo 75.57 331 eP **P** **19 36 37.2 +0.9**
CHMT epP pP 19 37 11.5 +0.1
MOD Modoc 75.79 323 eP **P** **19 36 38.4 +0.6**
comp=Z,16nm,1.4s,mb4.5
MOD epP pP 19 37 12.9 +0.1
BMO Blue Mountains 76.12 327 eP **P** **19 36 39.3 -0.2**
comp=Z,5.6nm,0.8s,mb4.2
BMO epP pP 19 37 14.2 -0.4
WDC Whiskeytown Da 76.27 321 eP **P** **19 36 38.9 -1.6**
WDC e*PP pP 19 37 13.7 -1.9
WDC pmax pmax
comp=Z,4.0nm,0.7s,mb4.2
WDC Whiskeytown Da 76.27 321 eP **P** **19 36 38.9 -1.6**
comp=Z,4.2nm,0.7s,mb4.2
WDC epP pP 19 37 13.7 -1.9
TOA0 Torodi Ar. Sit 76.42 71 eP **P** **19 36 41.5 -0.4**
TORD Torodi Ar. Bea 76.42 71 P **P** **19 36 41.8 -0.1**
comp=Z,42nm,0.5s,mb5.4,baz=257,slow=5.5,SNR=496
TORD pP pP 19 37 17.0 0.0
comp=Z,8.4nm,0.9s,baz=243,slow=6.4,SNR=1.1
TORD LR LR 20 10 21.0
comp=Z,98nm,18.1s,baz=285,slow=36
YBH Yreka Blue Hor 77.08 322 eP **P** **19 36 44.6 -0.4**
YBH e*PP pP 19 37 17.9 -2.3
YBH pmax pmax
comp=Z,56nm,2.3s
YBH Yreka Blue Hor 77.08 322 eP **P** **19 36 44.5 -0.4**
comp=Z,56nm,2.3s,mb4.8
YBH epP pP 19 37 17.9 -2.3
YBH Yreka Blue Hor 77.08 322 LR LR 20 09 33.2
comp=Z,39nm,20.5s,baz=124,slow=35
WALA Waterton Lakes 77.44 332 eP **P** **19 36 47.1 +0.3**
comp=Z,6.0nm,0.9s,mb4.2
WALA epP pP 19 37 21.8 -0.2
FCC Fort Churchill 78.93 347 eP **P** **19 36 54.5 -0.3**
FCC e*PP pP 19 37 30.0 -0.1
FCC pmax pmax
comp=Z,3.0nm,0.5s,mb4.2
FCC Fort Churchill 78.93 347 eP **P** **19 36 54.5 -0.3**
comp=Z,2.6nm,0.5s,mb4.1
FCC epP pP 19 37 30.0 -0.1
TWW Teanaway 79.49 327 P **P** **19 36 59.8 +1.6**
CBSW Chelan Butte S 79.50 328 P **P** **19 36 58.6 +0.5**
ETW Entiat 79.52 328 P **P** **19 36 59.4 +1.2**
ERK Elk Rock 79.73 326 P **P** **19 37 00.4 +1.0**
NLW Nelson Butte 79.83 328 P **P** **19 37 00.2 +0.3**
EGRO El Granado 79.94 45 P **P** **19 37 02.4 +1.6**
comp=Z,6.8nm,0.4s,mb4.6
GSM Grass Mountain 80.02 327 P **P** **19 37 01.3 +0.4**
EVO Evora 80.11 44 eP **P** **19 37 01.1 -0.6**
comp=Z,34nm,1.0s,mb4.6
EVO eMLR MLR
comp=Z,59nm,18.5s
PNT Penticton 80.30 329 P **P** **19 37 02.8 +0.4**
EMIN Mina Concepcio 80.61 45 P **P** **19 37 05.8 +1.4**
comp=Z,20nm,1.1s,mb4.7
RPW Rockport 80.67 328 P **P** **19 37 04.5 +0.1**
ESPR Espera 80.71 47 P **P** **19 37 05.4 +0.4**
comp=Z,28nm,1.6s,mb4.6
JCW Jim Creek 80.72 327 P **P** **19 37 04.5 -0.2**
EBAD Badajoz 80.89 44 P **P** **19 37 07.2 +1.3**
comp=Z,9.4nm,1.1s,mb4.3
CMW Cultus Mountai 80.96 327 P **P** **19 37 06.1 +0.1**
MBW Mount Baker 81.08 328 P **P** **19 37 06.5 -0.1**
EMIJ Mijas 81.32 47 P **P** **19 37 09.1 +0.9**
comp=Z,26nm,1.4s,mb4.7
OSD Olympics--Snow 81.41 326 P **P** **19 37 09.6 +1.3**
TSUM Tsumeb 81.43 107 eP **P** **19 37 10.1 +0.9**
comp=Z,15nm,0.7s,mb4.7
TSUM epP pP 19 37 42.9 -1.8
STW Striped Peak 81.60 327 P **P** **19 37 10.7 +1.3**
PGC Sidney 81.79 327 eP **P** **19 37 11.2 +0.9**
comp=Z,46nm,1.1s,mb5.0
PGC epP pP 19 37 44.8 -1.1
ELOB Lobios 81.86 41 P **P** **19 37 11.5 +0.6**
comp=Z,83nm,2.0s,mb5.0
EADA Adamuz 82.24 46 P **P** **19 37 13.8 +0.8**
comp=Z,26nm,2.1s,mb4.5
ECAL Calabor 82.73 42 P **P** **19 37 16.8 +1.4**
comp=Z,50nm,1.6s,mb5.0
EBAN Banos Encina 82.78 46 P **P** **19 37 17.8 +2.0**
EBAN pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
EBAN Banos Encina 82.78 46 P **P** **19 37 17.8 +2.1**
comp=Z,8.0nm,0.8s,mb4.5
EBER Berja 82.80 48 P **P** **19 37 16.2 +0.3**
comp=Z,48nm,1.7s,mb5.0
PAB San Pablo 83.08 45 eP **P** **19 37 18.1 +0.9**
PAB e*PP pP 19 37 53.8 +0.9
PAB pmax pmax
comp=Z,8.0nm,0.8s,mb4.5
PAB San Pablo 83.08 45 eP **P** **19 37 18.1 +0.9**
comp=Z,7.9nm,0.8s,mb4.5
PAB epP pP 19 37 53.8 +0.9
EQES Quesada 83.11 47 P **P** **19 37 18.1 +0.7**
comp=Z,63nm,1.8s,mb5.0
EPON Pontenova 83.20 40 P **P** **19 37 19.0 +1.2**
comp=Z,73nm,2.2s,mb5.0
ESDC Sonseca Array 83.40 45 P **P** **19 37 19.9 +1.0**
comp=Z,7.1nm,0.9s,mb4.4
ESDC Sonseca Array 83.40 45 P **P** **19 37 19.3 +0.4**
comp=Z,3.5nm,0.6s,mb4.2,baz=248,slow=4.2,SNR=22
ESDC pP pP 19 37 55.7 +1.1
comp=Z,4.5nm,0.8s,baz=250,slow=5.2,SNR=5.3
ESLA Sonseca Array 83.40 45 eP **P** **19 37 19.5 +0.6**
comp=Z,13nm,1.4s,mb4.5
ESLA epP pP 19 37 58.2 +3.6
GUD Guadarrama 83.75 44 P **P** **19 37 21.4 +0.7**
GUD pmax pmax
comp=Z,7.0nm,0.8s,mb4.4
GUD Guadarrama 83.75 44 P **P** **19 37 21.4 +0.7**
comp=Z,7.1nm,0.8s,mb4.5
EVIA Vianos 83.90 46 P **P** **19 37 22.2 +0.7**
EVIA pmax pmax
comp=Z,8.0nm,0.5s,mb4.7
EVIA Vianos 83.90 46 P **P** **19 37 22.2 +0.7**
comp=Z,8.1nm,0.5s,mb4.7
EARI Arriondas 84.40 41 P **P** **19 37 24.1 +0.2**
comp=Z,139nm,2.5s,mb5.2
ETOB Tobarra 84.56 47 P **P** **19 37 25.6 +0.8**
comp=Z,104nm,2.3s,mb5.2
ECHE Chera 85.40 46 P **P** **19 37 32.2 +3.2**
ECHE pmax pmax
comp=Z,25nm,1.2s,mb4.8
ECHE Chera 85.40 46 P **P** **19 37 32.2 +3.2**
comp=Z,25nm,1.2s,mb4.8
ELAN Lanestosa 85.49 42 P **P** **19 37 30.5 +1.2**
comp=Z,74nm,1.8s,mb5.1
SJPF Ste Jean 86.85 43 eP **P** **19 37 36.6 +0.6**
comp=Z,14nm,0.8s,mb4.5
SJPF Ste Jean 86.85 43 eP **P** **19 37 36.6 +0.6**
SJPF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
SJPF Ste Jean 86.85 43 eP **P** **19 37 36.6 +0.6**
comp=Z,7.0nm,0.8s,mb4.5
LBTB Lobatse 86.87 115 eP **P** **19 37 36.8 +0.1**
LBTB pmax pmax
comp=Z,9.0nm,0.7s,mb4.7
LBTB Lobatse 86.87 115 eP **P** **19 37 36.8 +0.2**
comp=Z,8.8nm,0.7s,mb4.7
ERTA Horta de San J 86.90 45 P **P** **19 37 36.2 -0.1**
ETSF Etsaut 87.19 43 eP **P** **19 37 38.2 +0.6**
comp=Z,14nm,0.8s,mb4.5
ETSF epP pP 19 38 16.1 +2.5
ETSF Etsaut 87.19 43 eP **P** **19 37 38.2 +0.6**
ETSF e*PP pP 19 38 16.1 +2.5
ETSF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
ETSF Etsaut 87.19 43 eP **P** **19 37 38.2 +0.6**
comp=Z,7.0nm,0.8s,mb4.5
ETSF epP pP 19 38 16.1 +2.5
EBIE Bielsa 87.55 44 P **P** **19 37 39.3 -0.1**
YKA Yellowknife Ar 87.57 341 P **P** **19 37 38.8 -0.1**
comp=Z,3.8nm,0.5s,mb4.5,baz=133,slow=4.9,SNR=63
YKA pP pP 19 38 14.2 -0.7
comp=Z,7.5nm,0.9s,baz=134,slow=5.0,SNR=5.5
EPF Esparros 87.84 43 eP **P** **19 37 41.0 +0.3**
QUIF Quistinic 87.95 38 eP **P** **19 37 40.3 -0.8**
comp=Z,14nm,0.8s,mb4.5
QUIF epP pP 19 38 18.2 +1.0
QUIF Quistinic 87.95 38 eP **P** **19 37 40.3 -0.8**
QUIF e*PP pP 19 38 18.2 +1.0
QUIF pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
QUIF Quistinic 87.95 38 eP **P** **19 37 40.3 -0.8**
comp=Z,6.8nm,0.8s,mb4.5
QUIF epP pP 19 38 18.2 +1.0
MAW Mawson 87.99 163 P **P** **19 37 40.7 -0.4**
comp=Z,4.8nm,0.6s,mb4.5,baz=99,slow=1.5,SNR=12
MAW pP pP 19 38 17.6 +0.4
comp=Z,6.0nm,0.9s,baz=249,slow=6.9,SNR=3.9
ROSF Rostrenen 88.09 38 eP **P** **19 37 41.1 -0.7**
comp=Z,19nm,0.9s,mb4.6
ROSF epP pP 19 38 19.0 +1.1
ROSF Rostrenen 88.09 38 eP **P** **19 37 41.1 -0.7**
ROSF e*PP pP 19 38 19.0 +1.1
ROSF pmax pmax
comp=Z,9.0nm,0.9s,mb4.6
ROSF Rostrenen 88.09 38 eP **P** **19 37 41.1 -0.7**
comp=Z,9.3nm,0.9s,mb4.6
ROSF epP pP 19 38 19.0 +1.1
SGMF Saint Gilles 88.47 38 eP **P** **19 37 42.5 -1.1**
comp=Z,6.5nm,0.7s,mb4.3
SGMF Saint Gilles 88.47 38 eP **P** **19 37 42.5 -1.1**
SGMF pmax pmax
comp=Z,3.0nm,0.6s,mb4.3
SGMF Saint Gilles 88.47 38 eP **P** **19 37 42.5 -1.1**
comp=Z,3.3nm,0.6s,mb4.3
LFF La Frestale 88.95 42 eP **P** **19 37 45.7 -0.2**
comp=Z,41nm,0.9s,mb5.1
LFF La Frestale 88.95 42 eP **P** **19 37 45.7 -0.2**
LFF pmax pmax
comp=Z,21nm,0.9s,mb5.1
LFF La Frestale 88.95 42 eP **P** **19 37 45.7 -0.2**
comp=Z,20nm,0.9s,mb5.1
MFF Saint Martin d 89.14 40 eP **P** **19 37 46.2 -0.6**
comp=Z,20nm,1.0s,mb4.7
MFF Saint Martin d 89.14 40 eP **P** **19 37 46.2 -0.6**
MFF pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
MFF Saint Martin d 89.14 40 eP **P** **19 37 46.2 -0.6**
comp=Z,10nm,1.0s,mb4.7
MTLF Montolieu 89.21 44 eP **P** **19 37 46.8 -0.4**
comp=Z,14nm,0.9s,mb4.6
MTLF Montolieu 89.21 44 eP **P** **19 37 46.8 -0.4**
MTLF pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
MTLF Montolieu 89.21 44 eP **P** **19 37 46.8 -0.4**
comp=Z,7.0nm,0.9s,mb4.6
GRR Gorron 89.53 38 eP **P** **19 37 47.6 -1.0**
comp=Z,18nm,0.6s,mb4.9
GRR epP pP 19 38 25.4 +0.7
GRR Gorron 89.53 38 eP **P** **19 37 47.6 -1.0**
GRR e*PP pP 19 38 25.4 +0.7
GRR pmax pmax
comp=Z,9.0nm,0.6s,mb4.9
GRR Gorron 89.53 38 eP **P** **19 37 47.6 -1.0**
comp=Z,9.1nm,0.6s,mb4.9
GRR epP pP 19 38 25.4 +0.7
RJF Les Rejaudoux 89.60 42 eP **P** **19 37 48.5 -0.4**
comp=Z,24nm,1.0s,mb4.8
RJF eMLR MLR
comp=Z,71nm,17.5s
RJF Les Rejaudoux 89.60 42 eP **P** **19 37 48.5 -0.4**
RJF pmax pmax
comp=Z,12nm,1.0s,mb4.8
RJF MLR MLR
comp=Z,70nm,17.5s
RJF Les Rejaudoux 89.60 42 eP **P** **19 37 48.5 -0.4**
comp=Z,12nm,1.0s,mb4.8
RJF LR LR
comp=Z,70nm,17.5s
CAF Calviac 89.79 42 eP **P** **19 37 49.6 -0.2**
comp=Z,12nm,0.7s,mb4.6
CAF Calviac 89.79 42 eP **P** **19 37 49.6 -0.2**
CAF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
CAF Calviac 89.79 42 eP **P** **19 37 49.6 -0.2**
comp=Z,5.8nm,0.7s,mb4.6
FLN La Foliniere 89.93 38 eP **P** **19 37 49.7 -0.7**
comp=Z,13nm,0.6s,mb4.7
FLN eMLR MLR
comp=Z,48nm,17.5s
FLN La Foliniere 89.93 38 eP **P** **19 37 49.7 -0.7**
FLN pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
FLN MLR MLR
comp=Z,50nm,17.5s
FLN La Foliniere 89.93 38 eP **P** **19 37 49.7 -0.7**
comp=Z,6.6nm,0.6s,mb4.7
FLN LR LR
comp=Z,50nm,17.5s
LDF La Druitiere 90.06 38 eP **P** **19 37 50.2 -0.8**
comp=Z,26nm,0.8s,mb4.9
LDF La Druitiere 90.06 38 eP **P** **19 37 50.2 -0.8**
LDF pmax pmax
comp=Z,13nm,0.8s,mb4.9
LDF La Druitiere 90.06 38 eP **P** **19 37 50.2 -0.8**
comp=Z,13nm,0.8s,mb4.9
TCF Toulx Ste Croi 90.46 41 eP **P** **19 37 52.2 -0.7**
comp=Z,8.7nm,0.9s,mb4.4
TCF Toulx Ste Croi 90.46 41 eP **P** **19 37 52.2 -0.7**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
TCF Toulx Ste Croi 90.46 41 eP **P** **19 37 52.2 -0.7**
comp=Z,4.3nm,0.9s,mb4.4
LASF Ste Croix 90.59 44 eP **P** **19 37 53.6 0.0**
comp=Z,11nm,0.9s,mb4.6
DLBC Dease Lake 90.75 333 eP **P** **19 37 54.7 +0.7**
DLBC epP pP 19 38 28.9 -1.2
BGF Bois d'Agland 90.98 41 eP **P** **19 37 54.9 -0.4**
comp=Z,24nm,1.0s,mb4.9
BGF Bois d'Agland 90.98 41 eP **P** **19 37 54.9 -0.4**
BGF pmax pmax
comp=Z,12nm,1.0s,mb4.9
BGF Bois d'Agland 90.98 41 eP **P** **19 37 54.9 -0.4**
comp=Z,12nm,1.0s,mb4.9
KEST Kesra 91.30 53 P **P** **19 37 56.3 -0.8**
comp=Z,2.9nm,0.7s,mb4.4,baz=209,slow=1.3,SNR=9.6
AVF Avril sur Loir 91.39 41 eP **P** **19 37 56.4 -0.8**
VIVF Saint-Julien-l 91.44 43 eP **P** **19 37 57.7 +0.2**
comp=Z,19nm,1.0s,mb4.8
VIVF epP pP 19 38 35.7 +2.0
VIVF Saint-Julien-l 91.44 43 eP **P** **19 37 57.7 +0.2**
VIVF e*PP pP 19 38 35.7 +2.0
VIVF pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
VIVF Saint-Julien-l 91.44 43 eP **P** **19 37 57.7 +0.2**
comp=Z,9.7nm,1.0s,mb4.8
VIVF epP pP 19 38 35.7 +2.0
SSF Saint Saulge 91.60 41 eP **P** **19 37 57.2 -1.0**
SMF Signal de Mont 91.64 41 eP **P** **19 37 57.9 -0.5**
comp=Z,14nm,0.9s,mb4.7
SMF Signal de Mont 91.64 41 eP **P** **19 37 57.9 -0.5**
SMF pmax pmax
comp=Z,7.0nm,0.9s,mb4.7
SMF Signal de Mont 91.64 41 eP **P** **19 37 57.9 -0.5**
comp=Z,7.0nm,0.9s,mb4.7
SMRF Simiane la Rot 91.69 44 eP **P** **19 37 59.1 +0.4**
comp=Z,17nm,1.2s,mb4.7
SMRF Simiane la Rot 91.69 44 eP **P** **19 37 59.1 +0.4**
comp=Z,17nm,1.2s,mb5.0
LOR Lormes 91.90 41 eP **P** **19 37 58.4 -1.2**
comp=Z,4.1nm,0.5s,mb4.4
LOR eMLR MLR
comp=Z,40nm,19.2s
LOR Lormes 91.90 41 eP **P** **19 37 58.4 -1.2**
LOR pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
LOR MLR MLR
comp=Z,40nm,19.3s
LOR Lormes 91.90 41 eP **P** **19 37 58.4 -1.2**
comp=Z,2.0nm,0.5s,mb4.4
LOR LR LR
comp=Z,40nm,19.3s
LMR La Mourre 92.07 45 eP **P** **19 38 00.4 0.0**
comp=Z,9.5nm,0.9s,mb4.5
LMR La Mourre 92.07 45 eP **P** **19 38 00.4 0.0**
LMR pmax pmax
comp=Z,5.0nm,0.9s,mb4.5
LMR La Mourre 92.07 45 eP **P** **19 38 00.4 0.0**
comp=Z,4.8nm,0.9s,mb4.5
FRF La Foret Royal 92.25 45 eP **P** **19 38 01.3 0.0**
comp=Z,11nm,1.2s,mb4.5
FRF La Foret Royal 92.25 45 eP **P** **19 38 01.3 0.0**
FRF pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
FRF La Foret Royal 92.25 45 eP **P** **19 38 01.3 0.0**
comp=Z,5.7nm,1.2s,mb4.5
ORIF Oris-en-Rattie 92.26 43 eP **P** **19 38 01.9 +0.6**
comp=Z,21nm,0.9s,mb4.9
ORIF eMLR MLR
comp=Z,66nm,20.0s
ORIF Oris-en-Rattie 92.26 43 eP **P** **19 38 01.9 +0.6**
ORIF pmax pmax
comp=Z,11nm,0.9s,mb4.9
ORIF Oris-en-Rattie 92.26 43 eP **P** **19 38 01.9 +0.6**
comp=Z,11nm,0.9s,mb4.9
MBDF Montbardon 92.77 44 eP **P** **19 38 04.1 +0.4**
SBF Sospel 92.89 45 eP **P** **19 38 04.1 -0.1**
LPL La Plagne 93.04 43 eP **P** **19 38 05.6 +0.7**
CABF La Chapelle 93.05 42 eP **P** **19 38 04.5 -0.4**
comp=Z,4.7nm,0.6s,mb4.5
CABF La Chapelle 93.05 42 eP **P** **19 38 04.5 -0.4**
CABF pmax pmax
comp=Z,2.0nm,0.6s,mb4.4
CABF La Chapelle 93.05 42 eP **P** **19 38 04.5 -0.4**
comp=Z,2.3nm,0.6s,mb4.5
LPG La Plagne 93.05 43 eP **P** **19 38 05.8 +0.9**
comp=Z,16nm,1.0s,mb4.8
LPG epP pP 19 38 43.7 +2.6
LPG La Plagne 93.05 43 eP **P** **19 38 05.8 +0.9**
LPG e*PP pP 19 38 43.7 +2.6
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LPG La Plagne 93.05 43 eP **P** **19 38 05.8 +0.9**
comp=Z,8.2nm,1.0s,mb4.8
LPG epP pP 19 38 43.7 +2.6
MEZF Maizieres J'vi 93.14 40 eP **P** **19 38 03.8 -1.4**
comp=Z,7.5nm,0.5s,mb4.8
MEZF Maizieres J'vi 93.14 40 eP **P** **19 38 03.8 -1.4**
comp=Z,7.5nm,0.5s,mb5.1
BAIF Baives 93.25 38 eP **P** **19 38 04.8 -0.9**
PGF Pioggiola 93.48 46 eP **P** **19 38 06.7 -0.3**
comp=Z,5.5nm,0.8s,mb4.4
PGF Pioggiola 93.48 46 eP **P** **19 38 06.7 -0.3**
PGF pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
PGF Pioggiola 93.48 46 eP **P** **19 38 06.7 -0.3**
comp=Z,2.8nm,0.8s,mb4.4
GIVF Givet 93.63 38 eP **P** **19 38 05.8 -1.7**
HINF Hinteralfeld 93.98 41 eP **P** **19 38 07.4 -1.8**
CDF Champ du Feu 94.47 41 eP **P** **19 38 10.8 -0.6**
comp=Z,4.6nm,0.7s,mb4.4
CDF epP pP 19 38 48.6 +1.0
CDF Champ du Feu 94.47 41 eP **P** **19 38 10.8 -0.6**
CDF e*PP pP 19 38 48.6 +1.0
CDF pmax pmax
comp=Z,2.0nm,0.7s,mb4.4
CDF Champ du Feu 94.47 41 eP **P** **19 38 10.8 -0.6**
comp=Z,2.3nm,0.7s,mb4.4
CDF epP pP 19 38 48.6 +1.0
GRA1 Grafenberg Arr 97.35 40 eP **P** **19 38 24.1 -0.3**
comp=Z,5.0nm,1.0s,mb4.8
GRF Grafenberg Arr 97.35 40 eP **P** **19 38 24.1 -0.3**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
GRF Grafenberg Arr 97.35 40 eP **P** **19 38 24.1 -0.3**
GRF pmax pmax
comp=Z,5.0nm,1.0s,mb4.8
GRF Grafenberg Arr 97.35 40 eP **P** **19 38 24.1 -0.3**
comp=Z,5.0nm,1.0s,mb4.8
GERES GERESS Array B 98.64 42 P **P** **19 38 30.0 -0.2**

comp=Z,1.1nm,0.7s,mb4.4,baz=242,slow=2.9,SNR=10
GERES pP pP 19 39 07.2 +0.7
comp=Z,0.9nm,0.8s,baz=255,slow=2.6,SNR=3.2
KHC Kasperske Hory 98.64 41 *i* P **P 19 38 29.5 -0.7**
FINES FINESS Array B 107.95 30 PKiKP PKiKP 19 43 17.4 -0.3
comp=Z,0.9nm,0.8s,baz=270,slow=4.2,SNR=3.8
AKASG Malin Array Be 108.85 42 PKiKP PKiKP 19 43 18.8 -0.9
comp=Z,0.5nm,0.3s,baz=283,slow=2.4,SNR=6.2
ARU Arti 125.20 32 ⇑*i*PKIKP PKPdf 19 43 51.5 +0.7
SEY Seymchan 126.54 338 *i* PKIKP PKPdf 19 43 54.4 +1.2
BRVK Borovoye 132.78 32 *e*PKIKP PKPdf 19 44 06.2 +0.8
ASAR Alice Springs 133.04 210 PKIKP PKPdf 19 44 06.6 -0.3
ASAR 19 44 43.3
ASAR Alice Springs 133.04 210 PKP PKPdf 19 44 06.6 -0.3
comp=Z,0.9nm,0.6s,baz=137,slow=1.9,SNR=22
ASAR pPKP pPKPdf 19 44 43.2 -1.4
comp=Z,2.8nm,1.0s,baz=160,slow=2.6,SNR=6.0
ASAR SKPbc SKPbc 19 47 21.6 0.0
comp=Z,1.6nm,0.8s,baz=144,slow=4.4,SNR=9.2
ASAR PKKP 19 53 57.0
comp=Z,0.3nm,0.5s,baz=344,slow=2.1,SNR=4.8
WRA Warramunga Arr 135.97 213 PKHKP 19 44 01.3
WRA 19 44 11.9
WRA 19 44 48.6
WRA Warramunga Arr 135.97 213 PKhKP 19 44 01.3
comp=Z,0.3nm,0.7s,baz=133,slow=3.2,SNR=4.0
WRA PKP PKPdf 19 44 11.9 -0.5
comp=Z,1.8nm,0.6s,baz=150,slow=1.8,SNR=18
WRA pPKP pPKPdf 19 44 48.6 -1.7
comp=Z,3.2nm,0.9s,baz=156,slow=1.5,SNR=5.5
WRA SKPbc SKPbc 19 47 30.8 -0.4
comp=Z,2.3nm,1.0s,baz=132,slow=3.1,SNR=5.7
KURK Kurchatov 138.32 31 *i* PKIKP PKPdf 19 44 16.9 +1.1
KURK Kurchatov 138.32 31 *e*PKPdf PKPdf 19 44 15.7 -0.1
ZAA0 Zalesovo Array 138.68 23 *e*PKPdf PKPdf 19 44 15.4 -0.9
ZAA0 *ep*PKPdf pPKPdf 19 44 53.5 -0.6
ZALV Zalesovo Beam 138.68 23 PKhKP 19 44 07.7
comp=Z,4.4nm,0.5s,baz=290,slow=2.3,SNR=4.8
ZALV PKP PKPdf 19 44 15.5 -0.8
comp=Z,13nm,0.7s,baz=301,slow=2.3,SNR=36
ZALV pPKP pPKPdf 19 44 53.9 -0.3
comp=Z,6.3nm,0.8s,baz=299,slow=3.1,SNR=3.2
ZALV SKPbc SKPbc 19 47 38.9 +0.9
comp=Z,2.9nm,0.8s,baz=321,slow=3.6,SNR=6.2
ZAL Zalesovo 138.68 23 PKHKP 19 44 07.7
ZAL 19 44 15.5
ZAL 19 44 53.9
AML Almayashu 140.19 44 *e*PKPdf PKPdf 19 44 20.3 +0.8
UCH Uchtor 140.69 44 *e*PKPdf PKPdf 19 44 22.8 +2.4
FITZ Fitzroy Crossi 141.48 203 PKhKP 19 44 16.5
comp=Z,1.8nm,0.8s,baz=170,slow=6.1,SNR=4.3
MK31 Makanchi Array 142.73 33 *e*PKIKP PKPdf 19 44 20.0 -3.9
MKAR Makanchi Array 142.73 33 PKIKP PKPdf 19 44 20.0 -3.9
MKAR 19 44 59.2
MKAR Makanchi Array 142.73 33 PKP PKPdf 19 44 19.9 -3.9
MKAR pPKP pPKPdf 19 44 59.2 -2.5
MKAR SKPbc SKPbc 19 47 50.2 +1.4
MKAR Makanchi Array 142.73 33 PKhKP 19 44 19.9
comp=Z,2.3nm,0.6s,baz=296,slow=2.9,SNR=12
MKAR pPKP pPKPdf 19 44 59.2 -2.5
comp=Z,1.4nm,0.7s,baz=338,slow=1.3,SNR=2.1
MKAR SKPbc SKPbc 19 47 50.2 +1.4
comp=Z,2.2nm,0.8s,baz=336,slow=2.7,SNR=7.0
MOY Mondy 145.29 11 *e*PKP2 PKPab 19 44 29.4 +1.0
MOY pmax pmax
comp=Z,26nm,2.3s
ZAK Zakamensk 146.90 9 *e*PKP2 PKPab 19 44 33.5 -1.2
ZAK pmax pmax
comp=Z,5.0nm,1.4s
ZAK pmax pmax
comp=Z,8.0nm,1.4s
HYB Hyderabad 149.31 86 *e*PKP2 PKPbc 19 44 40.5 +0.1
HYB Hyderabad 149.31 86 *i* PKP PKPbc 19 44 40.5 +0.1
comp=Z,35nm,1.0s
HYB *e* 19 44 55.0
MJAR Matsushiro Arr 149.40 313 PKPbc PKPbc 19 44 39.7 -0.3
comp=Z,2.4nm,0.7s,baz=40,slow=2.5,SNR=9.3
MJAR pPKPbc pPKPbc 19 45 16.5 -1.1
comp=Z,6.1nm,0.8s,baz=96,slow=1.4,SNR=9.3
MAJO Matsushiro 149.40 313 *e*PKPbc PKPbc 19 44 38.5 -1.6
MAJO *ep*P 19 45 16.6
MAT Matsushiro 149.40 313 P PKPbc 19 44 40.1 +0.1
SONM Songino Array 149.79 6 PKP PKPdf 19 44 36.5 +0.8
comp=Z,9.5nm,0.6s,baz=349,slow=2.2,SNR=24
SONM PKPbc PKPbc 19 44 41.1 +0.5
comp=Z,9.5nm,0.6s,baz=327,slow=2.8,SNR=70
SONM pPKPbc pPKPbc 19 45 18.1 -0.1
comp=Z,4.9nm,0.9s,baz=331,slow=1.8,SNR=3.0
KAPI Kappang 155.70 202 PKPab PKPab 19 45 11.7 -0.5
comp=Z,13nm,0.9s,baz=163,slow=0.2,SNR=4.4
GTA Gaotai 156.42 22 *e*PKP PKPdf 19 44 45.6 0.0
PSI Prapat 161.14 141 PKPab PKPab 19 45 36.0 +0.2
comp=Z,3.5nm,0.7s,baz=157,slow=21,SNR=5.3

*ISCJB **24** 19:27:55.8±0.3, 6365N±003×14730W±006, h7km, mb3.9/2, Error ellipse: s-maj=4.0km s-min=3.8km az=165.9*
*NEIC **24** 19:27:56.3, 6358N×14732W, h7km, ML4.1(PGC), ML4.0(PMR), ML3.5(AEIC), After AEIC.*
*IDC **24** 19:27:56.7±1.3, 6404N×14757W, h0km, mb3.9/2, mb1 3.7/4, mb1mx3.5/22, mbtmp3.7/4, ML3.1/2, Error ellipse: s-maj=30.3km s-min=22.3km az=127.0*
*PGC **24** 19:27:57.2±0.1, 6369N×14740W, h1km, ML4.1/1, 128km Sse of Fairbanks, Ak Central Alaska*
ISC 24 19:27:56.0±0.8, 6364N±003×14724W±006, h1km±6km, n35, σ1§06/45, mb4.0/2, 3D, Central Alaska

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PAX	**Paxson**	**1.04**	**129**	P	**Pg**	**19 28 15.3**	**-0.7**
IL1	**Eielson Array**	**1.15**	**8**	P	**Pg**	**19 28 18.1**	**+0.1**
IL1				S	**Sg**	**19 28 34.3**	**+1.5**
COLA	**College**	**1.27**	**348**	P	**Pg**	**19 28 20.0**	**-0.3**
COLA				S	**Sg**	**19 28 38.1**	**+1.4**
DOT	**Dot Lake**	**1.42**	**88**	P	**Pn**	**19 28 22.6**	**-0.2**
DOT				S	**Sg**	**19 28 41.9**	**+0.4**
KTH	**Kantishna Hill**	**1.65**	**269**	P	**Pn**	**19 28 24.3**	**-1.7**
KTH				S	**Sn**	**19 28 47.0**	**-0.9**
MENT	**Mentasta**	**1.74**	**112**	P	**Pn**	**19 28 27.9**	**+0.7**
SML	**Sawmill**	**1.91**	**196**	P	**Pn**	**19 28 28.5**	**-1.1**
GHO	**Glory Hole Cre**	**2.03**	**203**	P	**Pn**	**19 28 31.2**	**0.0**
PMR	**Palmer**	**2.23**	**204**	P	**Pn**	**19 28 34.2**	**+0.1**
BCA3	**Beaver Creek A**	**2.52**	**101**	P	**Pn**	**19 28 38.0**	**0.0**
DIV	**Divide**	**2.61**	**164**	P	**Pn**	**19 28 40.2**	**+1.0**
RC01	**Rabbit Creek A**	**2.81**	**206**	P	**Pn**	**19 28 42.2**	**+0.1**
BMRM	**Bremner River**	**2.95**	**154**	P	**Pn**	**19 28 45.1**	**+1.2**
SLKM	**Skilak Lake**	**3.44**	**205**	P	**Pn**	**19 28 51.6**	**+0.9**
RAGM	**Ragged Mountai**	**3.48**	**159**	P	**Pn**	**19 28 52.3**	**+1.1**
DAWY	**Dawson**	**3.50**	**79**	P	**Pn**	**19 28 52.6**	**+1.2**
DAWY	**Dawson**	**3.50**	**79**	⇑Pn	**Pn**	**19 28 52.2**	**+0.8**
DAWY				⇓Sn	**Sn**	**19 29 34.1**	**+0.7**
DAWY				⇑Sg	**Sg**	**19 29 46.1**	**-2.2**
IM3	**Indian Mountai**	**3.64**	**313**	P	**Pn**	**19 28 52.2**	**-1.2**
IMA2	**Indian Mountai**	**3.68**	**314**	P	**Pn**	**19 28 53.0**	**-0.9**
SEW	**Seward**	**3.70**	**197**	P	**Pn**	**19 28 55.8**	**+1.6**
COLD	**Coldfoot**	**3.81**	**342**	P	**Pn**	**19 28 55.8**	**+0.1**
BM3	**Burnt Mountain**	**3.95**	**15**	P	**Pn**	**19 28 58.0**	**+0.3**
TTA	**Tatalina**	**4.03**	**264**	*e*P	**Pn**	**19 28 59.3**	**+0.6**
TT01	**Tatalina**	**4.04**	**263**	P	**Pn**	**19 28 59.4**	**+0.6**
SVW2	**Sparrevohn**	**4.65**	**240**	P	**Pn**	**19 29 07.2**	**0.0**
HYT	**Haines Junctio**	**5.36**	**117**	⇑Pn	**Pn**	**19 29 19.4**	**+2.4**
HYT				⇑Sg	**Sg**	**19 30 45.7**	**-2.1**
KDAK	**Kodiak Island**	**6.43**	**206**	Pn	**Pn**	**19 29 31.6**	**-0.2**
KDAK				Sn	**Sn**	**19 30 39.7**	**-6.0**
KDAK	**Kodiak Island**	**6.43**	**206**	Pn	**Pn**	**19 29 31.6**	**-0.2**
1.0nm,0.3s,baz=32,slow=15,SNR=4.2							
KDAK				Sn	**Sn**	**19 30 39.7**	**-6.0**
0.5nm,0.3s,baz=14,slow=15,SNR=1.9							
WHY	**Whitehorse**	**6.51**	**112**	⇑Pn	**Pn**	**19 29 33.8**	**+1.0**
WHY				⇓Sg	**Sg**	**19 31 21.6**	**-3.4**
INK	**Inuvik**	**7.29**	**44**	*e*P	**Pn**	**19 29 43.0**	**-0.4**
160nm,0.4s							
INK	**Inuvik**	**7.29**	**44**	⇓Pn	**Pn**	**19 29 43.2**	**-0.2**
YKA	**Yellowknife Ar**	**14.74**	**80**	Pn	**Pn**	**19 31 25.0**	**-0.3**
0.1nm,0.3s,baz=287,slow=13,SNR=5.0							
MKAR	**Makanchi Array**	**63.19**	**324**	P	**P**	**19 38 23.5**	**-1.7**
0.4nm,0.4s,mb3.9,baz=33,slow=6.3,SNR=3.7							
CLL	**Collm**	**64.35**	**14**	*e*P	**P**	**19 38 32.0**	**-0.7**
AKASG	**Malin Array Be**	**65.97**	**2**	P	**P**	**19 38 41.4**	**-1.9**
0.6nm,0.5s,mb4.1,baz=0.5,slow=6.5,SNR=6.4							

*ISCJB **24** 19:32:20.4±1.4, 348N±0.1×2524E±006, h10km, Error ellipse: s-maj=14.7km s-min=6.8km az=168.3*
*CSEM **24** 19:32:25.2, 3482N×2553E, h22km, MD3.1/3, After ATH*
*ATH **24** 19:32:25.2, 3482N×2553E, h22km, MD3.1/3*
*NEIC **24** 19:32:25.2, 3482N×2553E, h22km, MD3.1(ATH), After ATH.*
ISC 24 19:32:20.3±1.5, 347N±01×2522E±006, h10km, n7, σ1§11/9, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XRY	**Khrisi**	**0.42**	**67**	*e*Pb	**Pg**	**19 32 29.9**	**+1.3**
XRY				*e*Sb	**Sg**	**19 32 33.6**	**-0.6**
NPS	**Neapolis**	**0.64**	**30**	*e*Pb	**Pg**	**19 32 34.3**	**+1.7**
NPS				*e*Sb	**Sg**	**19 32 40.7**	**-0.3**
GVD	**Gavdhos**	**0.94**	**278**	*e*Pb	**Pg**	**19 32 39.0**	**+0.6**
VAM	**Vamos**	**1.09**	**310**	*e*Pb	**Pb**	**19 32 39.7**	**-1.5**
SANT	**Santorini**	**1.67**	**7**	*e*P	**Pg**	**19 32 52.7**	**+0.4**
KARP	**Karpathos**	**1.79**	**62**	*e*PN	**Pg**	**19 32 53.2**	**-1.5**
VLI	**Velíai**	**2.73**	**318**	*e*Pb	**Pn**	**19 32 59.6**	**-4.6**

NEIC 24 19:33:09.8, 1938N×15524W, h3km, MD4.1(HVO), 1D, After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STCH	**Steam Cracks**	**0.10**	**88**	⇓*i*P	Pg	19 33 12.4	+0.5
KHU	**Kahuku**	**0.38**	**249**	*e*Pg	Pg	19 33 17.1	-0.1
POHA	**Pohakuloa**	**0.46**	**323**	*e*P	Pg	19 33 18.6	-0.2
KKH	**Kailua Kona**	**0.79**	**290**	*e*P	Pg	19 33 20.9	-3.9
KIP	**Kipapa**	**3.30**	**308**	*e*P	Pn	19 34 02.3	0.0

IDC 24 19:57:05.8±5.7, 5450S×14458E, h0km, mb3.6/2, mb1 3.9/2, mb1mx3.7/12, mbtmp3.6/2, MS3.7/3, Ms1 3.7/3, ms1mx3.4/14, Error ellipse: s-maj=291.1km s-min=71.1km az=87.0, West of Macquarie Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**20.29**	**69**	LR	LR	20 08 05.9	
comp=Z,215nm,18.4s,baz=195,slow=32							
URZ	**Urewera**	**27.37**	**67**	LR	LR	20 13 23.5	
comp=Z,107nm,18.0s,baz=221,slow=36							
NWAO	**Narrogin (SRO)**	**28.94**	**307**	LR	LR	20 11 51.6	
comp=Z,219nm,21.5s,baz=16,slow=31							
ASAR	**Alice Springs**	**31.81**	**341**	P	P	20 03 31.8	-0.2
0.6nm,0.9s,baz=165,slow=9.8,SNR=6.1							
WRA	**Warramunga Arr**	**35.37**	**343**	P	P	20 04 03.2	+0.2
0.9nm,0.6s,baz=168,slow=7.8,SNR=9.9							
FINES	**FINESS Array B**	**147.79**	**308**	PKPbc	PKPbc	20 16 50.4	-0.7
2.1nm,1.0s,baz=126,slow=2.6,SNR=3.3							

*BJI **24** 20:12:54.3, 2720N×14206E, h61km, mB4.9, mb5.0, Ms4.3, Msz4.1*
*MOS **24** 20:12:58.4±0.8, 2734N×14131E, h56km, mb5.5/100, MS4.3/11, Error ellipse: s-maj=8.6km s-min=3.9km az=106.5*
*BGS **24** 20:12:59.4±1.7, 2657N×13940E, h60km±999km, mb5.7*
*NEIC **24** 20:13:00.3±0.1, 2734N×14132E, mb5.3/151, MW5.0(NIED), Error ellipse: s-maj=3.5km s-min=3.3km az=110.0*
NEIC Recorded [2 JMA] in the Chichijima-retto.
*NIED **24** 20:13:00, 2730N×14180E, h32km, Mw5.0 Best double couple: M0=4.15000×10^16 NP1:φs=174.00000°, δ49.00000°, λ100.00000°. NP2:φs=339.00000°, δ42.00000°, λ78.00000°.*
*GCMT **24** 20:13:00.3±0.2, 2730N×14173E, h69km±1km, MW5.1/84, Moment Tensor Solution. s62,c90; s84,c140; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr=5.24±.13; Mθθ=0.07±.12; Mφφ=-5.30±.12; Mrθ=-1.37±.09; Mrφ=1.35±.11; Mθφ=1.29±.11; Best double couple: M0=5.75400×10^16 NP1:φs=178.00000°, δ38.00000°, λ108.00000°. NP2: φs=336.00000°, δ54.00000°, λ77.00000°. Principal axes: T 5.6620, Plg76.0000°, Azm202.0000°; N 0.1900, Plg11.0000°, Azm344.0000°; P -5.8470, Plg8.0000°, Azm75.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*JMA **24** 20:13:00.7±0.1, 2731N×14183E, h67km±3km, M5.1*
JMA Felt II J1.
*ISCJB **24** 20:13:00.3±0.1, 2744N±002×14138E±002, h66km, mb5.2/248, Error ellipse: s-maj=2.9km s-min=2.1km az=164.7*
*IDC **24** 20:13:01.5±1.6, 2727N×14131E, h72km±13km, mb4.9/18, mb1 5.1/18, mb1mx5.1/19, mbtmp4.9/18, MS4.1/20, Ms1 4.1/20, ms1mx3.9/27, Error ellipse: s-maj=16.9km s-min=9.6km az=87.0*
ISC 24 20:13:01.8±0.1, 2741N±002×14139E±002, h68km, h68km±1.6km: pP-P, n1048, σ0§83/1039, mb5.2/248, 181C-153D, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**0.77**	**113**	P	**Pn**	**20 13 12.2**	**-5.2**
CBIJ				*e*S	**Sn**	**20 13 20.6**	**-8.3**
JHHJ	**Haha-jima-NKT**	**1.05**	**138**	P	**Pn**	**20 13 16.0**	**-4.8**
JHHJ				S	**Sn**	**20 13 27.2**	**-7.7**
JHJ2	**Mitsune**	**5.84**	**347**	P	**Pn**	**20 14 27.3**	**+1.5**
JHJ2				*e*S	**Sn**	**20 15 33.1**	**+1.7**
JMY	**Miyakejima3**	**6.84**	**347**	P	**Pn**	**20 14 45.1**	**+5.8**
JKO	**Kozu shima**	**7.03**	**345**	P	**Pn**	**20 14 46.8**	**+4.8**
NJJJ	**Nii jima 2**	**7.20**	**346**	P	**Pn**	**20 14 47.5**	**+3.1**
BSO1	**Boso 1**	**7.23**	**357**	P	**Pn**	**20 14 45.2**	**+0.4**
JWZ	**Kozaga**	**7.82**	**323**	P	**Pn**	**20 14 57.0**	**+4.2**
JIE	**Ise**	**8.04**	**331**	P	**Pn**	**20 14 59.6**	**+3.8**
JOD2	**Odawara 2**	**8.07**	**346**	P	**Pn**	**20 14 58.1**	**+1.8**
JRY	**Ryogami san**	**8.84**	**347**	P	**Pn**	**20 15 07.4**	**+0.7**
JRY				*e*S	**Sn**	**20 16 46.2**	**+1.4**
JGF	**Kuroka**	**8.86**	**338**	P	**Pn**	**20 15 08.9**	**+1.9**
JTO	**Tosashimizu**	**9.21**	**308**	P	**Pn**	**20 15 19.1**	**+7.3**
JMZ	**Minamidaito 2**	**9.24**	**262**	P	**Pn**	**20 15 16.8**	**+4.6**
MJAR	**Matsushiro Arr**	**9.50**	**344**	P	**Pn**	**20 15 15.6**	**-0.1**
1.6nm,0.3s,baz=157,slow=11,SNR=16							
MAJO	**Matsushiro**	**9.50**	**344**	*e*P	**Pn**	**20 15 14.0**	**-1.7**
MAJO				pmax	pmax		
comp=Z,45nm,0.6s							
MAJO	**Matsushiro**	**9.50**	**344**	*e*Pn	**Pn**	**20 15 13.9**	**-1.8**
comp=Z,45nm,0.6s							
MAT	**Matsushiro**	**9.50**	**344**	P	**Pn**	**20 15 16.4**	**+0.7**
MAT				S	**Sn**	**20 17 00.3**	**-0.6**
MAT	**Matsushiro**	**9.50**	**344**	P	**Pn**	**20 15 16.5**	**+0.8**
JHS	**Saijyo**	**10.36**	**319**	P	**Pn**	**20 15 35.4**	**+7.9**
JAM	**Amami Oshima**	**10.47**	**278**	P	**Pn**	**20 15 36.5**	**+7.4**
JIO	**Ouri**	**11.02**	**360**	P	**Pn**	**20 15 35.2**	**-1.2**
JSJ	**Shimokoshiki**	**11.02**	**296**	P	**Pn**	**20 15 43.6**	**+7.1**
JYA	**Atsumi**	**11.24**	**353**	P	**Pn**	**20 15 39.2**	**-0.3**
JMK	**Ichinoseki**	**11.51**	**359**	P	**Pn**	**20 15 43.2**	**0.0**
JMK				*e*S	**Sn**	**20 17 39.8**	**-10**
JOW	**Kunigami**	**11.70**	**270**	P	**Pn**	**20 15 50.4**	**+4.6**
JIH	**Iheya**	**11.95**	**271**	P	**Pn**	**20 15 54.5**	**+5.2**
JAGN	**Aguni-jima**	**12.64**	**270**	P	**Pn**	**20 16 05.2**	**+6.5**
JKE	**Kume jima 2**	**13.08**	**269**	P	**Pn**	**20 16 08.6**	**+3.9**
JOT	**Ohata**	**13.94**	**359**	P	**Pn**	**20 16 18.6**	**+2.6**
GUMO	**Guam**	**14.13**	**166**	P	**Pn**	**20 16 17.4**	**-1.2**
GUMO				pmax	pmax		
comp=Z,258nm,0.9s							
GUMO	**Guam**	**14.13**	**166**	P	**Pn**	**20 16 17.4**	**-1.2**
comp=Z,258nm,0.9s							
JKB	**Kajabe**	**14.45**	**359**	P	**Pn**	**20 16 24.2**	**+1.6**
ERM	**Erimo**	**14.64**	**5**	Pn	**Pn**	**20 16 23.4**	**-1.8**
comp=Z,445nm,0.6s,SNR=18							
ERM	**Erimo**	**14.64**	**5**	*e*P	**Pn**	**20 16 22.4**	**-2.8**
ERM				pmax	pmax		
comp=Z,63nm,0.9s							
ERM	**Erimo**	**14.64**	**5**	*e*Pn	**Pn**	**20 16 22.4**	**-2.8**
comp=Z,63nm,0.9s							
KSRS	**Korea Array**	**15.14**	**315**	P	**Pn**	**20 16 35.1**	**+3.5**
comp=Z,1.0nm,0.3s,baz=123,slow=11,SNR=26							
KSRS				PcP	PcP	20 21 34.9	+0.3
comp=Z,0.5nm,0.3s,baz=202,slow=1.1,SNR=16							
KSRS				LR	LR	20 21 51.8	
comp=Z,868nm,21.2s,baz=129,slow=35							
KSRS				ScP	ScP	20 25 02.8	+0.1
comp=Z,0.2nm,0.3s,baz=139,slow=1.4,SNR=9.1							
JIJ	**Ishigaki jima**	**15.81**	**263**	P	**Pn**	**20 16 47.7**	**+7.4**
IRIF	**Iriomote-Funau**	**16.18**	**263**	P	**Pn**	**20 16 52.8**	**+7.8**
NEM2	**Nemuro 2**	**16.31**	**11**	P	**Pn**	**20 16 46.5**	**+0.1**
NEM2				*e*S	S	20 19 32.2	-23
JTKR	**Abashiri--Toko**	**16.65**	**6**	P	**Pn**	**20 16 50.2**	**-0.4**
JTKR				*e*S	S	20 19 40.8	-22
YOJ	**Yonaguni jima**	**16.79**	**264**	P	**Pn**	**20 16 59.7**	**+7.2**
SSE	**Sheshan**	**18.00**	**287**	P	**Pn**	**20 17 05.9**	**-1.5**
SSE				XP	sP	20 17 32.1	+2.4
SSE				S	**S**	**20 20 27.4**	**-1.3**
SSE				XS	sS	20 20 55.1	+2.3
SSE				AMB	AMB		
comp=Z,38nm,0.7s							
SSE				AMB	AMB		
comp=Z,329nm,11.1s							
SSE				LR	LR		
comp=N,336nm,24.5s							
SSE				LR	LR		
comp=E,408nm,24.5s							
SSE				LR	LR		
comp=Z,535nm,24.2s							
TATO	**Taipei**	**18.02**	**267**	P	**Pn**	**20 17 10.9**	**+3.3**
comp=Z,89nm,0.8s							
NACB	**Ninganchiao**	**18.11**	**264**	*e*P	**Pn**	**20 17 10.0**	**+1.3**
YHNB	**Yeheng**	**18.19**	**266**	*e*P	**Pn**	**20 17 12.9**	**+3.3**
YSS	**Yuzh-Sakhalins**	**19.54**	**3**	*e*P	**Pn**	**20 17 25.8**	**+0.2**
YSS				*e*S	**S**	**20 21 03.0**	**+2.4**
YSS				pmax	pmax		
comp=N,50nm,1.0s							
YSS				pmax	pmax		
comp=Z,60nm,1.0s							
YSS				MLR	MLR		
comp=Z,300nm,16.0s							
YSS				MLR	MLR		
comp=N,300nm,14.0s							
YSS				MLR	MLR		
comp=E,400nm,15.0s							
YSS	**Yuzh-Sakhalins**	**19.54**	**3**	*e*P	**Pn**	**20 17 25.4**	**-0.2**
comp=E,54nm,0.8s							
MDJ	**Mudanjiang**	**19.61**	**334**	P	**Pn**	**20 17 26.1**	**-0.3**
MDJ				XP	sP	20 17 49.8	+2.6
MDJ				S	**S**	**20 21 05.8**	**+3.8**
MDJ				PCP	PcP	20 21 41.8	+0.2
MDJ				PCS	PcS	20 25 19.1	+0.4
MDJ				AMB	AMB		
comp=Z,24nm,0.9s							
MDJ				AMB	AMB		
comp=Z,77nm,3.5s							
MDJ				LR	LR		
comp=N,347nm,27.2s							
MDJ				LR	LR		
comp=E,129nm,31.3s							
MDJ				LR	LR		
comp=Z,462nm,31.3s							
MDJ	**Mudanjiang**	**19.61**	**334**	P	**Pn**	**20 17 26.3**	**-0.1**
comp=Z,17nm,0.8s							
DL2	**Dalian**	**20.08**	**310**	P	**P**	**20 17 30.3**	**+0.6**
DL2				S	**S**	**20 21 13.8**	**+2.2**
DL2				XS	sS	20 21 30.3	-4.5
DL2				AMB	AMB		
comp=Z,10.0nm,0.8s							
DL2				LR	LR		
comp=N,130nm,17.5s							
DL2				LR	LR		
comp=E,190nm,16.3s							
DL2				LR	LR		
comp=Z,260nm,17.9s							
NJ2	**Nanjing**	**20.10**	**289**	*e*P	**P**	**20 17 33.8**	**+3.9**
NJ2				AP		20 17 48.9	
NJ2				PP		20 17 56.4	
NJ2				S	**S**	**20 21 09.0**	**-3.0**
NJ2				XS	sS	20 21 33.5	-1.8
NJ2				AMB	AMB		
comp=Z,60nm,0.9s							
NJ2				AMB	AMB		
comp=Z,330nm,8.1s							
NJ2				LR	LR		
comp=N,700nm,21.1s							
NJ2				LR	LR		
comp=E,720nm,23.5s							
NJ2				LR	LR		
comp=Z,680nm,22.4s							
PALP	**Palanan**	**20.32**	**244**	*e*P	**P**	**20 17 35.9**	**+3.5**
SNY	**Shenyang**	**20.48**	**319**	⇓P	**P**	**20 17 35.3**	**+1.4**
SNY				S	**S**	**20 21 21.6**	**+2.3**
SNY				AMB	AMB		
comp=Z,465nm,1.4s							
SNY				AMB	AMB		
comp=Z,97nm,4.1s							
SNY				LR	LR		
comp=N,221nm,24.3s							
SNY				LR	LR		
comp=E,298nm,23.1s							
SNY				LR	LR		
comp=Z,447nm,21.0s							
QZH	**Quanzhou**	**20.60**	**268**	⇑*i*P	**P**	**20 17 40.4**	**+5.0**
QZH				S	**S**	**20 21 18.3**	**-3.8**
QZH				AMB	AMB		
comp=Z,150nm,0.7s							
QZH				LR	LR		
comp=Z,720nm,24.7s							
CN2	**Changchun**	**20.81**	**326**	*e*P	**P**	**20 17 38.3**	**+0.8**
CN2				*e*S	**S**	**20 21 19.1**	**-6.7**
CN2				PCP	PcP	20 21 44.1	+0.2
CN2				SCP	ScP	20 25 13.0	-1.6
CN2				AMB	AMB		
comp=Z,10.0nm,1.2s							
CN2				AMB	AMB		
comp=Z,200nm,3.0s							
CN2				LR	LR		
comp=N,400nm,18.0s							
CN2				LR	LR		
comp=E,400nm,18.0s							
CN2				LR	LR		
comp=Z,600nm,21.0s							
APYP	**Conner**	**20.85**	**247**	*e*P	**P**	**20 17 40.2**	**+2.0**
CAUP	**Cauayan**	**20.87**	**244**	*e*P	**P**	**20 17 40.0**	**+1.7**
PVCP	**Virac**	**21.16**	**233**	*e*P	**P**	**20 17 44.5**	**+3.1**
ABRA	**Dolores**	**21.40**	**247**	*e*P	**P**	**20 17 45.5**	**+1.5**
CNP	**Catarman**	**21.56**	**230**	*e*P	**P**	**20 17 48.6**	**+2.8**
HABR	**Khabarovsk**	**21.60**	**348**	⇑*i*P	**P**	**20 17 47.1**	**+1.2**
HABR				*e*		20 18 02.1	
HABR				*e*		20 18 12.0	
HABR				*e*		20 21 42.7	
HABR				*e*S	**S**	**20 21 44.6**	**+3.4**
HABR				*e*		20 22 10.4	
HABR				*e*		20 28 56.9	
HABR				pmax	pmax		
comp=Z,93nm,1.0s,mb5.1							
BALP	**Baler**	**21.74**	**242**	*e*P	**P**	**20 17 50.8**	**+3.1**
PLP	**Palo**	**22.34**	**227**	*e*P	**P**	**20 17 55.6**	**+1.6**
TIA	**Tai'an**	**22.37**	**299**	*e*P	**P**	**20 17 53.6**	**-0.6**
TIA				AMB	AMB		
comp=Z,63nm,1.0s,mb4.9							
OCLP	**Ormoc**	**22.66**	**227**	*e*P	**P**	**20 17 59.0**	**+1.5**
BOLP	**Bolinao**	**22.71**	**246**	*e*P	**P**	**20 17 57.5**	**-0.4**
KLR	**Kul'dur**	**23.03**	**344**	*e*P	**P**	**20 17 56.8**	**-4.2**
KLR				*e*S	**S**	**20 22 04.5**	**

comp=Z,415nm,18.6s
BUKP Musuan 24.83 222 *e*P **P** **20 18 17.8 0.0**
MATI Mati 24.91 218 *e*P **P** **20 18 17.5 -1.1**
DAV Davao City (W) 25.18 219 P **P** **20 18 21.7 +0.7**
CUYO Cuyo Island 25.26 233 *e*P **P** **20 18 22.4 +0.6**
GZH Guangzhou 25.70 267 P **P** **20 18 23.9 -1.8**
GZH S **S** **20 22 50.5 +0.9**
GZH LR LR
comp=N,377nm,28.4s
GZH LR LR
comp=E,512nm,25.3s
GZH LR LR
comp=Z,852nm,32.1s
SKR Severo-Kuril's 25.81 22 *e*P **P** **20 18 36.0 +10**
PAGZ Pagadian 25.87 225 *e*P **P** **20 18 27.5 +0.2**
ENPP El Nido 26.18 236 *e*P **P** **20 18 31.3 +1.2**
HIA Hailar 27.47 328 *e*P **P** **20 18 39.6 -1.7**
HIA pmax pmax
comp=Z,10.0nm,0.7s
HIA Hailar 27.47 328 *e*P **P** **20 18 39.6 -1.7**
comp=Z,10nm,0.7s,mb4.5
HHC Hu-ho-hao-te 27.94 306 *e*P **P** **20 18 47.0 +1.4**
HHC AP pP 20 19 04.5 +2.6
HHC XP sP 20 19 13.5 +3.6
HHC PP PP 20 19 39.8 -10
HHC PCP PcP 20 22 00.9 +1.4
HHC S **S** **20 23 25.8 +1.2**
HHC XS sS 20 23 54.8 +2.2
HHC SS SS 20 24 51.5 -33
HHC SCP ScP 20 25 33.4 -1.0
HHC SCS ScS 20 29 24.0 -2.8
HHC AMB AMB
comp=Z,15nm,1.2s,mb4.4
HHC AMB AMB
comp=Z,50nm,6.1s
HHC LR LR
comp=N,260nm,17.0s
HHC LR LR
comp=E,646nm,17.4s
HHC LR LR
comp=Z,427nm,16.7s
XAN Xi'an 28.60 291 P **P** **20 18 52.3 +0.7**
XAN AP pP 20 19 11.9 +4.0
XAN S **S** **20 23 32.5 -2.7**
XAN AMB AMB
comp=Z,107nm,0.7s,mb5.6
XAN AMB AMB
comp=Z,37nm,3.2s
XAN LR LR
comp=E,174nm,16.9s
XAN LR LR
comp=Z,220nm,13.0s
PET Petropavlovsk 28.63 22 *e*P **P** **20 18 52.8 +1.2**
PET *e**PP pP 20 19 11.7 +3.8
PET *e*S **S** **20 23 33.2 -2.0**
PET pmax pmax
comp=Z,16nm,0.6s,mb4.8
PET MLR MLR
comp=Z,300nm,11.0s
PET MLR MLR
comp=Z,200nm,16.0s
BATP Bataraza 28.97 235 *e*P **P** **20 18 57.0 +1.9**
QIZ Qiongzhong 30.10 261 P **P** **20 19 08.0 +3.0**
QIZ PP PP 20 20 08.3 -5.7
QIZ S **S** **20 24 00.8 +1.8**
QIZ XS sS 20 24 31.4 +4.5
QIZ SS SS 20 25 42.9 -26
QIZ AMB AMB
comp=Z,37nm,1.0s,mb5.0
QIZ LR LR
comp=E,292nm,24.8s
QIZ LR LR
comp=Z,546nm,31.0s
QIZ Qiongzhong 30.10 261 *e*P **P** **20 19 07.6 +2.6**
comp=Z,37nm,0.9s,mb5.0
GYA Guiyang 30.91 276⇑*i*P **P** **20 19 13.8 +1.7**
GYA AP pP 20 19 31.8 +3.3
GYA PP PP 20 20 17.5 -5.5
GYA PCP PcP 20 22 08.4 +1.1
GYA S **S** **20 24 10.5 -1.1**
GYA SCP ScP 20 25 43.0 -1.2
GYA PCS PcS 20 25 51.3 -0.2
GYA SCS ScS 20 29 38.6 -2.7
GYA AMB AMB
comp=Z,30nm,1.0s,mb5.0
GYA AMB AMB
comp=Z,140nm,5.8s
GYA LR LR
comp=N,780nm,18.8s
GYA LR LR
comp=E,690nm,17.4s
GYA LR LR
comp=Z,850nm,19.6s
KDM Kudat 30.95 233⇓P **P** **20 19 14.0 +1.4**
MYLDM Lahad Datu 31.04 229⇑P **P** **20 19 15.4 +2.0**
NRGR Nerungri 31.57 342 *i* P **P** **20 19 19.9 +2.4**
NRGR S **S** **20 24 26.8 +5.7**
NRGR smax
comp=N,23nm,0.5s
SDKM Sandakan 31.59 231⇓P **P** **20 19 20.1 +1.9**
CLNS Chul'man 31.68 343 *e*P **P** **20 19 18.0 -0.5**
CLNS *e*PPP 20 20 31.7
CLNS *e* 20 22 04.6
CLNS *e*S **S** **20 24 25.7 +2.9**
CLNS *e*SS SS 20 26 17.8 -23
CLNS pmax pmax
comp=Z,33nm,0.8s,mb5.1
CLNS pmax pmax
comp=N,26nm,0.7s
CLNS pmax pmax
comp=E,17nm,0.7s
CLNS pmax pmax
comp=Z,23nm,0.9s,mb4.9
CLNS pmax pmax
comp=N,18nm,0.8s
CLNS pmax pmax
comp=E,22nm,1.0s
CLNS smax
comp=N,19nm,1.1s
CLNS smax
comp=Z,12nm,1.2s
CLNS smax
comp=E,13nm,1.1s
CLNS MLR MLR
comp=Z,1µm,26.0s
CLNS MLR MLR
comp=N,400nm,14.0s
CLNS MLR MLR
comp=E,500nm,15.0s
KKM Kota Kinabalu 32.00 233 *e*P **P** **20 19 23.0 +1.3**
KKM Kota Kinabalu 32.00 233⇑P **P** **20 19 24.4 +2.6**
TSM Tawau 32.12 228⇑P **P** **20 19 24.2 +1.4**
MA2 Magadan 32.80 9 *e*P **P** **20 19 29.1 +0.8**
MA2 *e*S **S** **20 24 40.9 +0.7**
MA2 pmax pmax
comp=Z,30nm,0.8s,mb5.2
MA2 Magadan 32.80 9 *e*P **P** **20 19 28.3 +0.1**
comp=Z,20nm,0.8s,mb5.0
LZH Lanzhou 32.92 295 *e*P **P** **20 19 30.4 +0.8**
LZH PP PP 20 20 45.3 +0.2
LZH PCP PcP 20 22 14.3 +1.7
LZH *e*S **S** **20 24 42.1 -0.5**
LZH AMB AMB
comp=Z,23nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,93nm,5.7s
LZH LR LR
comp=N,1µm,13.9s
LZH LR LR
comp=Z,2µm,14.9s
CD2 Chengdu 32.95 285 *e*P **P** **20 19 30.4 +0.5**
CD2 AP pP 20 19 48.3 +1.9
CD2 XP sP 20 19 57.4 +3.1
CD2 PP PP 20 20 42.4 -3.1
CD2 PCP PcP 20 22 14.1 +1.3
CD2 S **S** **20 24 40.9 -2.3**
CD2 XS sS 20 25 11.8 +0.5
CD2 SCS ScS 20 29 48.6 -2.8
CD2 AMB AMB
comp=Z,180nm,4.8s
CD2 LR LR
comp=N,550nm,20.4s
CD2 LR LR
comp=E,940nm,16.8s
CD2 LR LR

comp=Z,520nm,18.0s
SONM Songino Array 34.00 316 P **P** **20 19 38.8 -0.1**
SONM 20 22 15.0
SONM Songino Array 34.00 316 P **P** **20 19 38.8 0.0**
SONM PcP PcP 20 22 15.0 -0.4
SONM ScP ScP 20 25 53.7 -0.7
SONM Songino Array 34.00 316 P **P** **20 19 38.8 0.0**
comp=Z,3.9nm,0.6s,mb4.4,baz=121,slow=8.0,SNR=34
SONM PcP PcP 20 22 15.0 -0.4
comp=Z,4.4nm,0.4s,baz=126,slow=2.4,SNR=16
SONM ScP ScP 20 25 53.7 -0.7
comp=Z,6.4nm,1.0s,baz=114,slow=3.1,SNR=14
SONM PKiKP PKiKP 20 29 38.2 -1.2
comp=Z,0.7nm,0.6s,baz=258,slow=0.6,SNR=4.5
SONM LR LR 20 33 20.7
comp=Z,313nm,22.0s,baz=112,slow=36
KMI Kunming 34.64 275 P **P** **20 19 46.5 +1.8**
KMI AP pP 20 20 03.8 +2.6
KMI PP PP 20 21 04.3 0.0
KMI PCP PcP 20 22 18.6 +0.9
KMI S **S** **20 25 06.9 -2.6**
KMI XS sS 20 25 39.5 +1.8
KMI SCS ScS 20 29 57.5 -3.0
KMI AMB AMB
comp=Z,36nm,1.1s,mb5.1
KMI AMB AMB
comp=Z,168nm,3.1s
KMI LR LR
comp=N,261nm,14.4s
KMI LR LR
comp=E,214nm,18.9s
KMI LR LR
comp=Z,370nm,24.7s
YAK Yakutsk 35.49 351c *i*P **P** **20 19 51.7 +0.2**
YAK *e**PP pP 20 20 11.2 +3.1
YAK *e* 20 21 13.5
YAK *e* 20 22 19.3
YAK *e*S **S** **20 25 20.2 -1.5**
YAK *e* 20 29 59.2
YAK pmax pmax
comp=Z,84nm,0.9s,mb5.6
YAK pmax pmax
comp=N,19nm,1.0s
YAK pmax pmax
comp=E,5.0nm,0.7s
YAK pmax pmax
comp=Z,14nm,1.0s,mb4.8
YAK smax
comp=N,367nm,5.2s
YAK smax
comp=E,124nm,3.5s
YAK Yakutsk 35.49 351 *e*P **P** **20 19 51.6 +0.1**
comp=E,85nm,0.8s,mb5.6
BOD Bodaibo 35.98 335 *e*P **P** **20 19 55.3 -0.4**
BOD pmax pmax
comp=Z,23nm,1.0s,mb5.1
BTM Bintulu 36.20 233⇑P **P** **20 20 00.2 +2.0**
SEY Seymchan 36.26 8⇑*e*P **P** **20 19 59.2 +1.2**
GTA Gaotai 36.41 300 *e*P **P** **20 19 59.5 -0.2**
GTA AP pP 20 20 18.3 +2.0
GTA XP sP 20 20 27.3 +3.0
GTA PP PP 20 21 26.0 +2.4
GTA PCP PcP 20 22 21.8 -0.9
GTA S **S** **20 25 35.5 -0.9**
GTA SCP ScP 20 26 01.6 -1.7
GTA XS sS 20 26 07.3 +2.6
GTA PCS PcS 20 26 09.6 -0.8
GTA AMB AMB
comp=Z,5.0nm,1.3s,mb4.3
GTA AMB AMB
comp=Z,126nm,6.5s
GTA LR LR
comp=N,144nm,16.8s
GTA LR LR
comp=E,253nm,22.2s
GTA LR LR
comp=Z,439nm,25.6s
ZAK Zakamensk 36.91 319 *e*P **P** **20 20 03.0 -0.8**
ZAK *e* 20 22 20.4
ZAK pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
ZAK pmax pmax
comp=Z,5.0nm,1.3s,mb4.3
ZAK pmax pmax
comp=Z,5.0nm,1.2s,mb4.3
IRK Irkutsk 37.16 322 *e*P **P** **20 20 05.7 -0.2**
IRK *e* 20 28 54.7
IRK pmax pmax
comp=Z,26nm,1.9s,mb4.8
TLY Talaya 37.25 321 P **P** **20 20 07.0 +0.3**
comp=Z,159nm,0.5s,mb6.2,SNR=6.5
TLY Talaya 37.25 321 *e*P **P** **20 20 07.5 +0.8**
TLY *e*S **S** **20 25 51.9 +3.1**
TLY *e*SS SS 20 28 15.7 -17
TLY pmax pmax
comp=Z,13nm,0.6s,mb5.0
TLY MLR MLR
comp=Z,329nm,21.0s
TLY Talaya 37.25 321 *e*P **P** **20 20 07.2 +0.5**
comp=Z,10nm,0.6s,mb4.9
KKTK Khon Kaen 37.31 261 P pP 20 20 19.5 -4.7
comp=Z,617nm,0.8s
SBUM Sibu 37.34 233⇑P **P** **20 20 09.7 +1.8**
NANT Nan 38.26 266⇑P **P** **20 20 16.6 +1.1**
comp=Z,416nm,0.9s,mb6.3
KAPI Kappang 38.42 216 P **P** **20 20 16.3 -0.6**
comp=Z,326nm,1.0s,mb6.1,SNR=11
KAPI Kappang 38.42 216 P **P** **20 20 17.1 +0.2**
SNR=7.1
KAPI Kappang 38.42 216 P **P** **20 20 17.1 +0.2**
SNR=7.1
KAPI Kappang 38.42 216 LR LR 20 34 00.3
comp=Z,216nm,20.7s,baz=37,slow=33
MOY Mondy 38.75 320 *e*P **P** **20 20 19.1 -0.2**
KSM Kuching 39.39 234 *e*P **P** **20 20 25.4 +0.3**
KSM Kuching 39.39 234⇓P **P** **20 20 26.5 +1.4**
CHG Chiang Mai 39.81 267⇑P **P** **20 20 29.7 +1.2**
comp=Z,96nm,0.8s,mb5.7
CHTO Chiang Mai 39.81 267 *e*P **P** **20 20 29.5 +1.0**
CHTO *e**PP pP 20 20 49.6 +4.3
CHTO pmax pmax
comp=Z,34nm,0.8s,mb5.2
CHTO Chiang Mai 39.81 267 *e*P **P** **20 20 29.5 +1.0**
comp=Z,34nm,0.8s,mb5.2
CHTO *e*pP pP 20 20 49.6 +4.3
CHTO Chiang Mai 39.81 267 P **P** **20 20 30.1 +1.6**
SNR=13
CHTO Chiang Mai 39.81 267 P **P** **20 20 30.1 +1.6**
SNR=13
NST Nakhon Sawan 39.94 262⇓P **P** **20 20 31.7 +2.1**
comp=Z,67nm,1.0s,mb5.4
HNR Honiara 40.80 151 LR LR 20 37 11.1
comp=Z,202nm,18.6s,baz=358,slow=36
KAKA Kakadu 40.81 193 *e*P **P** **20 20 35.0 -1.7**
comp=Z,27nm,0.7s,mb5.2
BATI Kupang 41.15 207 S **S** **20 26 44.1 -3.8**
comp=Z,38nm,0.9s,baz=295,slow=23,SNR=4.2
KTGM Kuala Trenggan 42.49 246⇓P **P** **20 20 52.9 +2.3**
IMP Imphal 42.50 278 *e*P **P** **20 20 50.0 -0.6**
BILL Bilibino 43.31 13 *e*P **P** **20 20 57.2 +0.7**
BILL pmax pmax
comp=Z,8.0nm,0.4s,mb4.8
BILL Bilibino 43.31 13 *e*P **P** **20 20 57.2 +0.7**
comp=Z,8.1nm,0.4s,mb4.8
SNG Songkhla 43.54 250 P **P** **20 21 01.0 +1.9**
comp=Z,360nm,0.9s,mb6.1
LSA Lhasa 43.91 285 P **P** **20 21 04.0 +2.1**
LSA Lhasa 43.91 285 *e*P **P** **20 21 04.1 +2.2**
LSA pmax pmax
comp=Z,32nm,0.8s,mb5.1
LSA Lhasa 43.91 285 *e*P **P** **20 21 04.1 +2.2**
comp=Z,32nm,0.8s,mb5.1
MYKOM Kota Tinggi 44.04 241⇓P **P** **20 21 05.2 +2.1**
SHL Shillong 44.11 279⇑*i*P **P** **20 21 04.5 +0.9**
SHL *e*S **S** **20 27 33.5 +2.0**
KGM Kluang 44.32 242⇓P **P** **20 21 07.8 +2.5**
KULM Kulim 44.54 248 *e*P **P** **20 21 08.5 +1.4**
KULM Kulim 44.54 248⇑P **P** **20 21 09.1 +2.0**
IPM Ipoh 44.69 247⇓P **P** **20 21 09.7 +1.4**
TIXI Tiksi 44.83 354 *i* P **P** **20 21 08.9 +0.3**
TIXI pmax pmax
comp=Z,46nm,0.9s,mb5.2
TIXI Tiksi 44.83 354 *e*P **P** **20 21 08.7 +0.1**
comp=Z,40nm,0.6s,mb5.3
FRIM Kepong 44.93 245⇑P **P** **20 21 12.1 +1.9**

WMQ Urumqi 45.82 306 *e*P **P** **20 21 17.0 +0.2**
WMQ AP pP 20 21 36.0 +2.1
WMQ PP PP 20 23 06.0 +0.8
WMQ S **S** **20 27 54.0 -1.7**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.0
WMQ AMB AMB
comp=Z,67nm,4.0s
BJII Banjamegara 46.18 226⇓*i*P **P** **20 21 28.5 +8.5**
CTA Charters Tower 47.45 174⇑*i*P **P** **20 21 27.9 -1.8**
comp=Z,55nm,0.6s,mb5.5
CTA Charters Tower 47.45 174⇑*i*P **P** **20 21 27.9 -1.8**
CTA pmax pmax
comp=Z,55nm,0.6s
CTA Charters Tower 47.45 174 LR LR 20 41 50.8
comp=Z,144nm,18.9s,baz=334,slow=36
CTAO Charters Tower 47.45 174 *e*P **P** **20 21 28.2 -1.5**
CTAO pmax pmax
comp=Z,82nm,0.8s,mb5.5
CTAO Charters Tower 47.45 174 *e*P **P** **20 21 28.2 -1.5**
comp=Z,82nm,0.8s,mb5.5
WRAB Tennant Creek 47.55 189 P **P** **20 21 29.0 -1.5**
comp=Z,2µm,0.9s
WRAB Tennant Creek 47.55 189 *e*P **P** **20 21 28.9 -1.6**
WRAB pmax pmax
comp=Z,325nm,0.9s,mb6.2
WRAB Tennant Creek 47.55 189 *e*P **P** **20 21 28.9 -1.6**
comp=Z,325nm,0.9s,mb6.2
WB2 Warramunga Arr 47.56 189⇑*i*P **P** **20 21 29.0 -1.6**
WB2 *e*pP pP 20 21 47.9 +0.1
WB2 *e*PCP PcP 20 22 59.1 -0.5
WRA Warramunga Arr 47.56 189 P **P** **20 21 28.2 -2.4**
WRA 20 22 59.2
WRA S **S** **20 28 13.7 -7.2**
WRA Warramunga Arr 47.56 189 P **P** **20 21 28.2 -2.4**
WRA PcP PcP 20 22 59.2 -0.4
WRA ScP ScP 20 26 45.2 -2.6
WRA S **S** **20 28 13.7 -7.1**
WRA Warramunga Arr 47.56 189 P **P** **20 21 28.2 -2.4**
comp=Z,257nm,0.8s,mb6.1,baz=9.4,slow=8.4,SNR=404
WRA PcP PcP 20 22 59.2 -0.4
comp=Z,24nm,0.7s,baz=3.4,slow=3.7,SNR=5.4
WRA ScP ScP 20 26 45.2 -2.6
comp=Z,4.6nm,0.9s,baz=4.9,slow=4.7,SNR=7.8
WRA S **S** **20 28 13.7 -7.1**
comp=Z,3.4nm,0.8s,baz=10,slow=14,SNR=4.7
WRA PKiKP PKiKP 20 29 50.0 -1.9
comp=Z,0.6nm,0.3s,baz=325,slow=1.6,SNR=11
FITZ Fitzroy Crossi 47.75 200⇑*i*P **P** **20 21 31.0 -1.1**
comp=Z,38nm,0.4s,mb5.6
FITZ *e*PCP PcP 20 22 59.0 -1.3
FITZ Fitzroy Crossi 47.75 200 LR LR 20 40 12.1
comp=Z,97nm,19.8s,baz=17,slow=34
JIRN Jiri 48.59 284⇑*i*P **P** **20 21 40.2 +1.6**
comp=Z,417nm,0.5s,mb6.6
ZALV Zalesovo Beam 48.79 319 P **P** **20 21 38.6 -1.1**
ZALV PcP PcP 20 23 02.9 -0.7
ZALV ScP ScP 20 26 50.7 -2.0
ZALV LR LR 20 42 43.8
ZALV Zalesovo Beam 48.79 319 P **P** **20 21 38.6 -1.1**
comp=Z,12nm,0.6s,mb5.0,baz=99,slow=6.9,SNR=47
ZALV PcP PcP 20 23 02.9 -0.7
comp=Z,11nm,0.5s,baz=121,slow=3.6,SNR=11
ZALV ScP ScP 20 26 50.7 -2.0
comp=Z,2.2nm,0.7s,baz=111,slow=4.1,SNR=4.3
ZALV LR LR 20 42 43.8
comp=Z,187nm,20.7s,baz=72,slow=36
GUN Gumba 48.80 284⇑*i*P **P** **20 21 41.7 +1.5**
comp=Z,366nm,0.8s,mb6.4
ZAL Zalesovo 48.80 319 P **P** **20 21 38.6 -1.2**
ZAL 20 23 02.9
PKI Pulchoki 49.28 284⇑*i*P **P** **20 21 44.7 +0.8**
PKIN Phulchoki 49.29 284⇑*i*P **P** **20 21 44.7 +0.7**
KKN Kakani 49.34 284⇑*i*P **P** **20 21 45.2 +0.8**
comp=Z,162nm,0.9s,mb6.0
DMN Daman 49.53 284⇑*i*P **P** **20 21 46.7 +0.9**
comp=Z,118nm,0.8s,mb5.9
MK31 Makanchi Array 49.73 309 *e*P **P** **20 21 45.9 -1.1**
MKAR Makanchi Array 49.73 309 P **P** **20 21 45.7 -1.3**
MKAR 20 23 07.6
MKAR Makanchi Array 49.73 309 P **P** **20 21 45.7 -1.3**
MKAR PcP PcP 20 23 07.6 +0.4
MKAR ScP ScP 20 26 55.5 -1.4
MKAR LR LR 20 43 32.3
MKAR Makanchi Array 49.73 309 P **P** **20 21 45.7 -1.3**
comp=Z,4.2nm,0.7s,mb4.5,baz=89,slow=9.0,SNR=35
MKAR PcP PcP 20 23 07.6 +0.4
comp=Z,5.3nm,0.5s,baz=70,slow=7.8,SNR=8.9
MKAR ScP ScP 20 26 55.5 -1.4
comp=Z,1.4nm,0.5s,baz=82,slow=4.8,SNR=7.7
MKAR LR LR 20 43 32.3
comp=Z,192nm,21.0s,baz=95,slow=37
BOK Bokaro 49.84 279 *e*P **P** **20 21 48.5 +0.2**
BOK AMb AMB 20 21 51.0
comp=Z,88nm,0.8s,mb5.8
GKN Gorkha 49.85 285⇑*i*P **P** **20 21 49.1 +0.9**
NVS Novosibirsk 49.85 320 *i* P **P** **20 21 46.4 -1.4**
NVS *e* pP 20 22 06.7 +1.6
NVS pmax pmax
comp=Z,18nm,1.1s,mb4.9
NVS pmax pmax
comp=N,6.0nm,0.9s
NVS pmax pmax
comp=E,12nm,1.1s
SDPT Sand Point 49.92 39 *e*P **P** **20 21 47.4 -0.9**
comp=E,68nm,0.5s,mb5.8
DANN Dangsing 50.52 285⇑*i*P **P** **20 21 54.6 +1.3**
comp=E,311nm,0.8s,mb6.4
KOLN Koldenda 50.79 285⇑*i*P **P** **20 21 56.2 +0.8**
comp=E,102nm,0.8s,mb5.9
ASAR Alice Springs 51.29 189 P **P** **20 21 57.1 -1.8**
ASAR 20 23 12.9
ASAR S **S** **20 29 11.9 -1.0**
ASAR Alice Springs 51.29 189 P **P** **20 21 57.0 -1.9**
comp=E,12nm,0.4s,mb5.3,baz=4.3,slow=5.5,SNR=159
ASAR PcP PcP 20 23 12.9 -0.2
comp=E,30nm,0.8s,baz=15,slow=3.9,SNR=21
ASAR ScP ScP 20 27 01.5 -2.1
comp=E,1.7nm,0.8s,baz=17,slow=5.3,SNR=4.7
ASAR S **S** **20 29 11.9 -1.0**
comp=E,1.1nm,0.8s,baz=18,slow=21,SNR=3.8
ASAR PKPPKP 20 52 27.4
comp=E,0.7nm,1.0s,baz=191,slow=3.3,SNR=4.8
KURK Kurchatov 52.26 314 P **P** **20 22 04.6 -1.4**
comp=E,160nm,0.7s,mb6.2,SNR=37
KURK Kurchatov 52.26 314 *e*P **P** **20 22 04.1 -1.9**
KURK pmax pmax
comp=Z,32nm,1.0s,mb5.3
KURK Kurchatov 52.26 314 *e*P **P** **20 22 04.1 -1.8**
comp=Z,32nm,1.0s,mb5.3
KURK Kurchatov 52.26 314 P **P** **20 22 05.4 -0.6**
SNR=15
KURK Kurchatov 52.26 314 P **P** **20 22 05.4 -0.6**
SNR=15
MBWA Marble Bar 52.63 206 *e*P **P** **20 22 07.9 -1.1**
comp=Z,66nm,0.8s,mb5.7
PTH Pithoragarh 53.26 288 *e*P **P** **20 22 13.9 +0.2**
EIDS Eidsvold 53.30 169 *e*P **P** **20 22 11.8 -2.0**
comp=Z,20nm,0.6s,mb5.3
SVW2 Sparrevohn 53.41 33 *e*P **P** **20 22 15.3 +1.0**
TTA Tatalina 53.54 30 *e*P **P** **20 22 15.7 +0.6**
BLSP Bilaspur 53.64 278 *e*P **P** **20 22 16.6 +0.1**
BLSP AMb AMB 20 22 18.6
comp=Z,98nm,0.9s,mb5.8
KDAK Kodiak Island 54.54 37 *e*P **P** **20 22 22.0 -0.5**
KDAK Kodiak Island 54.54 37 P **P** **20 22 21.9 -0.6**
comp=Z,37nm,0.7s,mb5.5,baz=268,slow=5.1,SNR=27
TKM2 Tokmak 2 54.66 305 *e*P **P** **20 22 23.5 -0.2**
TKM2 pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
TKM2 Tokmak 2 54.66 305 *e*P **P** **20 22 23.5 -0.1**
comp=Z,4.1nm,0.6s,mb4.6
IMA2 Indian Mountai 55.13 27 *e*P **P** **20 22 27.7 +1.0**
FRU Bishkek 55.38 305 *e*P **P** **20 22 29.0 +0.1**
FRU *e* 20 22 54.0
SMLA Simla 55.45 290 *e*P **P** **20 22 29.1 -0.5**
SMLA AMb AMB 20 22 30.8
comp=Z,41nm,0.0s
UCH Uchtor 55.53 304 *e*P **P** **20 22 30.6 +0.7**
comp=Z,12nm,1.0s,mb4.9
SLKM Skilak Lake 55.95 34 *e*P **P** **20 22 32.6 -0.1**
NDI New Delhi 56.02 287 *e*P **P** **20 22 33.0 -0.7**
EKS2 Erkin-Say 56.02 305 *e*P **P** **20 22 32.9 -0.6**
comp=Z,4.0nm,0.9s,mb4.5
DLH Dalhousie 56.12 292 *e*P **P** **20 22 34.0 -0.3**

AML **Almayashu** 56.15 304 eP P 20 22 34.8 +0.4
comp=Z,9.0nm,0.5s,mb5.1
PMR **Palmer** 56.55 32 eP P 20 22 36.6 -0.3
PMR pmax pmax
comp=Z,10.0nm,0.3s,mb5.3
PMR **Palmer** 56.55 32 eP P 20 22 36.6 -0.3
comp=Z,10nm,0.3s,mb5.3
NGP **Nagpur** 56.67 278 eP P 20 22 35.1 -3.3
BVAR **Borovoye Array** 57.33 317 PKPPKP 20 52 30.7
comp=Z,0.3nm,0.6s,baz=176,slow=6.8,SNR=3.9
COLA **College** 57.38 29 dP P 20 22 43.7 +1.0
BRVK **Borovoye** 57.40 317 P P 20 22 42.4 -0.6
comp=Z,186nm,0.8s,mb6.2,SNR=9.6
BRVK **Borovoye** 57.40 317 eP P 20 22 41.9 -1.1
BRVK pmax pmax
comp=Z,26nm,0.8s,mb5.3
BRVK **Borovoye** 57.40 317 eP P 20 22 41.9 -1.1
comp=Z,26nm,0.8s,mb5.3
BHPL **Bhopal** 57.41 281 eP P 20 22 43.5 -0.2
BHPL AMb AMB 20 22 44.0
comp=Z,40nm,0.5s,mb5.7
ARMA **Armidale** 58.33 170⇑ iP P 20 22 48.6 -1.1
ARMA epP pP 20 23 06.0 -1.4
ARMA ePCP PcP 20 23 30.2 -10
HYB **Hyderabad** 58.42 274 eP P 20 22 51.5 +0.8
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.4
HYB **Hyderabad** 58.42 274 eP P 20 22 51.5 +0.8
comp=Z,40nm,1.0s,mb5.4
HYB **Hyderabad** 58.42 274⇑ iP P 20 22 51.5 +0.8
comp=Z,40nm,1.0s,mb5.4
HYB ePcP PcP 20 23 40.0 -0.9
AKL **Akola** 58.61 279 eP P 20 22 52.9 +0.9
AKL AMb AMB 20 22 53.8
comp=Z,73nm,0.9s,mb5.7
AJM **Ajmer** 58.83 286 eP P 20 22 53.3 -0.2
AJM AMb AMB 20 22 53.6
comp=Z,20nm,0.6s,mb5.4
STKA **Stephens Creek** 58.95 180⇑ iP P 20 22 52.3 -1.7
comp=Z,36nm,0.6s,mb5.6
STKA **Stephens Creek** 58.95 180 eP P 20 22 51.9 -2.1
STKA **Stephens Creek** 58.95 180 P P 20 22 52.4 -1.7
comp=Z,62nm,0.7s,mb5.8,baz=348,slow=7.3,SNR=127
STKA LR LR 20 46 29.6
comp=Z,236nm,21.5s,baz=25,slow=34
MENT **Mentasta** 59.13 31 eP P 20 22 55.7 +0.8
FORT **Forrest** 59.24 193⇑ iP P 20 22 54.5 -1.5
comp=Z,105nm,0.6s,mb6.0
FORT epP pP 20 23 18.0 +4.2
EGAK **Eagle** 60.23 29 eP P 20 23 02.4 -0.1
comp=Z,12nm,0.7s,mb5.0
DAWY **Dawson** 61.03 30 eP P 20 23 08.7 +0.7
KBL **Kabul** 61.25 296 eP P 20 23 09.4 -0.5
comp=Z,17nm,0.8s,mb5.1
POO **Poona** 62.17 277⇑ iP P 20 23 15.0 -1.3
comp=Z,100nm,1.0s,mb5.8
KOD **Kodaikanal** 62.26 267 eP P 20 23 17.0 0.0
KOD AMb AMB 20 23 19.0
comp=Z,38nm,1.1s,mb5.3
KAD **Karad** 62.33 276 eP P 20 23 17.3 -0.1
KAD AMb AMB 20 23 18.8
comp=Z,44nm,1.1s,mb5.4
SVE **Sverdlovsk** 62.55 322⇑ eP P 20 23 18.0 -0.2
SVE pmax pmax
comp=Z,32nm,0.8s,mb5.3
SVE MLR MLR
comp=Z,229nm,20.0s
CNB **Canberra Magne** 62.84 173 eP P 20 23 19.1 -1.2
comp=Z,39nm,1.2s,mb5.2
KLBR **Kellerberrin** 62.85 203 eP P 20 23 19.3 -1.2
comp=Z,80nm,0.8s,mb5.7
INK **Inuvik** 63.04 25 eP P 20 23 21.2 -0.1
comp=Z,393nm,0.6s,mb6.5
SKAG **Skagway** 63.46 35 eP P 20 23 24.8 +0.5
comp=Z,40nm,1.1s,mb5.3
MUN **Mundaring** 63.74 204 eP P 20 23 25.0 -1.4
ARU **Arti** 63.74 322 P P 20 23 25.4 -0.8
comp=Z,269nm,0.9s,mb6.1,SNR=23
ARU **Arti** 63.74 322 c iP P 20 23 25.3 -0.9
ARU e*PP pP 20 23 44.7 +0.6
ARU e 20 23 59.1
ARU e 20 25 45.0
ARU eS S 20 31 54.1 -1.4
ARU eSS SS 20 36 02.8 -1.0
ARU pmax pmax
comp=Z,42nm,1.0s,mb5.2
ARU **Arti** 63.74 322 eP P 20 23 25.1 -1.0
comp=Z,23nm,0.6s,mb5.2
NWAO **Narrogin (SRO)** 64.25 202 P P 20 23 29.0 -0.7
comp=Z,84nm,0.8s,mb5.6,baz=28,slow=6.4,SNR=27
TOO **Toolangi** 64.75 176⇑ iP P 20 23 31.9 -0.9
comp=Z,575nm,0.8s,mb6.5
TOO epP pP 20 23 52.5 +1.7
TOO **Toolangi** 64.75 176⇑ iP P 20 23 31.9 -0.9
TOO e*PP pP 20 23 52.5 +1.7
TOO pmax pmax
comp=Z,575nm,0.8s,mb6.5
DLBC **Dease Lake** 66.36 35 eP P 20 23 43.9 +0.8
ABKT **Ailbek** 68.74 303 P P 20 23 58.1 -0.4
comp=Z,137nm,0.7s,mb5.9,SNR=9.9
ALE **Alert** 69.69 3 P P 20 24 04.0 +0.3
comp=Z,250nm,1.0s,mb6.0,SNR=36
SPB4 **Spitsbergen Ar** 69.95 350 eP P 20 24 06.4 +1.1
KBS **Kingsbay** 70.12 351 ⇓ iP P 20 24 08.0 +1.7
KBS **Kingsbay** 70.12 351 eP P 20 24 07.6 +1.3
KBS pmax pmax
comp=Z,65nm,1.1s,mb5.4
KBS **Kingsbay** 70.12 351 eP P 20 24 07.6 +1.3
comp=Z,65nm,1.1s,mb5.4
LVZ **Lovozero** 70.92 337⇑ eP P 20 24 12.5 +1.2
LVZ pmax pmax
comp=Z,38nm,1.2s,mb5.1
TMCR **Tamitsa** 71.24 333 ⇓ iP P 20 24 13.5 +0.2
TMCR e pP 20 24 31.5 0.0
RES **Resolute Bay** 71.92 13 eP P 20 24 17.1 -0.2
comp=Z,766nm,1.0s,mb6.5
YKA **Yellowknife Ar** 72.20 28 P P 20 24 18.7 -0.4
YKA pmax pmax
comp=Z,18nm,0.8s
YKA MLR MLR
comp=Z,50nm,20.1s
YKA **Yellowknife Ar** 72.20 28 P P 20 24 18.7 -0.4
comp=Z,18nm,0.8s,mb4.9,baz=294,slow=5.6,SNR=110
YKA LR LR 20 55 40.0
comp=Z,50nm,20.1s,baz=260,slow=35
KEV **Kevo** 72.45 341 ep P 20 24 20.6 +0.1
comp=Z,70nm,0.7s,mb5.6
KEV **Kevo** 72.45 341 eP P 20 24 20.6 +0.1
KEV pmax pmax
comp=Z,70nm,0.7s,mb5.6
OBC **Olympics--Boni** 73.01 44 P P 20 24 25.0 +0.8
ARCES **ARCESS Array B** 73.02 341 P P 20 24 24.5 +0.7
comp=Z,72nm,0.7s,mb5.6,baz=74,slow=8.6,SNR=292
ARCES PKiKP PKiKP 20 30 21.2 -1.0
comp=Z,1.1nm,0.8s,baz=55,slow=4.6,SNR=3.8
ARCES LR LR 21 00 55.1
comp=Z,169nm,19.1s,baz=271,slow=39
ARE0 **ARCESS Array S** 73.02 341 eP P 20 24 24.3 +0.5
ARE0 epP pP 20 24 43.7 +1.6
OOW **Octopus West** 73.05 45 P P 20 24 25.6 +1.1
OSD **Olympics--Snow** 73.32 45 P P 20 24 27.1 +1.0
B04A **Port Angeles** 73.36 44 ⇑P P 20 24 26.6 +0.4
baz=73
NLWA **Neilton Lookou** 73.38 45 eP P 20 24 27.2 +0.9
comp=Z,28nm,0.9s,mb5.1
NLWA epP pP 20 24 40.8 -3.9
URZ **Urewera** 73.39 151 P P 20 24 23.4 -2.9
comp=Z,17nm,0.8s,mb4.9,baz=52,slow=3.0,SNR=9.0
D03A **Wishkah Elem.** 73.55 45 ⇓P P 20 24 27.8 +0.5
baz=73
A04A **Legoe Bay, Lum** 73.59 43 ⇓P P 20 24 27.7 +0.1
baz=74
A05A **Maple Falls** 73.86 43 ⇑P P 20 24 29.1 0.0
baz=74
E03A **Lebam** 73.90 46 ⇑P P 20 24 29.9 +0.5
baz=74,SNR=7.8
GNW **Green Mountain** 73.97 45 P P 20 24 30.5 +0.7
F03A **Seaside** 74.14 46 ⇓P P 20 24 31.0 +0.2
baz=74
B05A **Bryant** 74.14 44 ⇓P P 20 24 31.1 +0.3
baz=74
B06A **Marblemount** 74.42 43 ⇓P P 20 24 32.5 +0.1
baz=74
JOF **Joensuu** 74.49 334 ep P 20 24 31.7 -0.8
comp=Z,131nm,0.7s,mb5.8
HOQ **Hoqain** 74.56 289 P P 20 24 33.7 +0.1
SNR=5.8
HOQ **Hoqain** 74.56 289 P P 20 24 33.7 +0.1
SNR=5.8
G03A **Yamhill** 74.56 47 ⇓P P 20 24 33.9 +0.6
baz=74
C05A **Tolt Reservoir** 74.62 44 ⇑P P 20 24 33.8 +0.2
baz=74
D05A **Enumclaw** 74.64 45 ⇓P P 20 24 34.3 +0.6
baz=74
RAR **Rarotonga** 74.66 124 LR LR 20 52 57.5
comp=Z,197nm,18.3s,baz=344,slow=32
MPOR **Mary's Peak** 74.71 48 P P 20 24 34.7 +0.6
I02A **Mapleton** 74.72 48 ⇓P P 20 24 34.7 +0.4
baz=75
K01A **Sixes** 74.77 50 ⇑P P 20 24 34.7 +0.2
baz=75
TRO **Tromso** 74.82 342 eP P 20 24 34.4 +0.1
TRO **Tromso** 74.82 342 eP P 20 24 34.9 +0.5
KEBM **Edson Butte** 74.83 49 eP P 20 24 35.7 +0.8
A07A **Ashnola River,** 74.86 42 ⇑P P 20 24 35.1 +0.1
baz=75,SNR=5.9
F04A **Amboy** 74.87 46 ⇓P P 20 24 35.2 +0.1
baz=75,SNR=8.8
VRHR **Novokhopersk** 74.91 320 eP P 20 24 34.5 -0.7
VRHR pmax pmax
comp=Z,80nm,0.7s,mb5.6
VRHR pmax pmax
comp=N,50nm,0.6s
VRHR pmax pmax
comp=E,40nm,0.7s
E05A **Randle** 75.04 45 ⇓P P 20 24 35.8 -0.3
baz=75
HATD **Hatta, Dubai** 75.05 290 P P 20 24 36.6 +0.1
SNR=5.1
HATD **Hatta, Dubai** 75.05 290 P P 20 24 36.6 +0.1
SNR=5.1
MOS **Moscow** 75.05 325 eP P 20 24 31.2 -4.7
MOS e pP 20 24 45.6 -8.7
MOS e 20 24 54.6
I03A **Eugene** 75.10 48 ⇑P P 20 24 36.8 +0.4
baz=75,SNR=6.5
G04A **Mulino** 75.13 47 ⇓P P 20 24 36.8 +0.2
baz=75
J02A **Umpqua** 75.15 49 ⇑P P 20 24 36.9 +0.2
baz=75,SNR=9.1
B07A **Winthrop** 75.27 43 ⇓P P 20 24 37.3 0.0
baz=75,SNR=8.5
DAG **Danmarks Havn** 75.34 355⇓ eP P 20 24 38.1 +0.9
DAG pmax pmax
comp=Z,13nm,0.9s,mb4.7
DAG **Danmarks Havn** 75.34 355⇓ iP P 20 24 38.1 +0.9
comp=Z,13nm,0.9s,mb4.7
D06A **Cle Elum** 75.35 44 ⇓P P 20 24 38.0 +0.1
baz=75,SNR=5.0
TWW **Teanaway** 75.36 44 P P 20 24 38.5 +0.7
M01C **Crescent City** 75.39 50 ⇑P P 20 24 37.7 -0.4
baz=75
K02A **Glendale** 75.44 49 ⇓P P 20 24 38.8 +0.3
baz=75,SNR=8.8
F05A **White Salmon** 75.50 46 ⇓P P 20 24 39.1 +0.4
baz=75
TBM **Table Mountain** 75.51 44 P P 20 24 39.1 +0.4
BROR **Big Rock Looko** 75.53 48 P P 20 24 39.2 +0.3
H04A **Detroit Lake** 75.53 47 P P 20 24 39.0 +0.1
baz=75,SNR=22
E06A **Yakima** 75.53 45 ⇑P P 20 24 39.2 +0.3
baz=75,SNR=9.9
J03A **Ideyld Park** 75.55 49 ⇑P P 20 24 39.3 +0.3
baz=75,SNR=6.3
A08A **Turner Farm, O** 75.57 42 ⇓P P 20 24 39.3 +0.2
baz=75
L02A **Cave Junction** 75.62 50 ⇑P P 20 24 39.6 +0.1
baz=76,SNR=6.9
C07A **Waterville** 75.63 44 ⇑P P 20 24 39.2 -0.2
baz=76
EBG **Ellensburg** 75.64 44 P P 20 24 40.0 +0.5
I04A **Tendick Farm,** 75.75 48 ⇑P P 20 24 40.2 0.0
baz=76,SNR=28
B08A **Colville Reser** 75.79 43 ⇓P P 20 24 40.5 +0.2
baz=76,SNR=14
HBO **Huckleberry Mo** 75.79 48 P P 20 24 40.9 +0.5
G05A **Wamic** 75.86 46 ⇑P P 20 24 40.9 +0.1
baz=76,SNR=6.2
JCC **Jacoby Creek** 75.86 51 ⇑P P 20 24 41.3 +0.4
baz=76
HUMO **Hull Mountain** 75.87 49 eP P 20 24 40.9 0.0
comp=Z,12nm,1.0s,mb4.6
HUMO **Hull Mountain** 75.87 49 ⇑P P 20 24 41.4 +0.5
baz=76,SNR=7.9
OBN **Obninsk** 75.87 325 keP P 20 24 40.3 -0.3
OBN e pP 20 24 56.9 -2.1
OBN e pP 20 25 03.2 +4.2
OBN S S 20 34 17.1 -0.5
OBN pmax pmax
comp=Z,24nm,0.8s,mb5.0
OBN MLR MLR
comp=Z,300nm,19.0s
BBOR **Butler Butte** 75.94 49 P P 20 24 41.6 +0.3
A09A **Danville** 75.97 42 ⇑P P 20 24 41.8 +0.4
baz=76,SNR=7.0
F06A **Goldendale** 75.98 46 ⇑P P 20 24 41.7 +0.2
baz=76
H05A **Madras** 76.17 47 ⇑P P 20 24 42.6 +0.1
baz=76,SNR=7.6
J04A **Umpqua Nationa** 76.17 48 ⇑P P 20 24 42.9 +0.3
baz=76,SNR=19
C08A **Higginbotham F** 76.21 43 P P 20 24 42.9 +0.2
baz=76,SNR=9.5
E07A **Sunnyside** 76.23 45 ⇑P P 20 24 43.0 +0.1
baz=76
VRSR **Storozhevoye** 76.24 321 eP P 20 24 42.0 -0.8
VRSR pmax pmax
comp=N,6.0nm,0.7s
VRSR pmax pmax
comp=E,8.0nm,0.7s
VRSR pmax pmax
comp=Z,10.0nm,0.7s,mb4.7
O01C **Eel River Cons** 76.29 52 ⇓P P 20 24 43.4 +0.1
baz=76
VORD **Divnogorie** 76.30 320 eP P 20 24 42.3 -0.8
VORD pmax pmax
comp=N,10.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.6s
VORD pmax pmax
comp=Z,20nm,0.6s,mb5.0
G06A **Carlson Farm,** 76.30 46 ⇑P P 20 24 43.6 +0.3
baz=76,SNR=12
I05A **Bend** 76.34 47 ⇓P P 20 24 43.7 +0.2
baz=76
N02C **Big Bar** 76.36 51 ⇑P P 20 24 44.3 +0.5
baz=76,SNR=9.1
YBH **Yreka Blue Hor** 76.40 50 P P 20 24 44.4 +0.5
YBH **Yreka Blue Hor** 76.40 50 ⇓P P 20 24 44.2 +0.3
baz=76,SNR=29
M02C **Callahan** 76.44 50 ⇓P P 20 24 44.5 +0.4
baz=76,SNR=19
F07A **Phinny Hill Vi** 76.47 45 ⇓P P 20 24 44.4 +0.2
baz=76
B09A **Rice** 76.47 42 P P 20 24 44.6 +0.4
baz=76,SNR=8.0
HAWA **Hanford** 76.50 45 eP P 20 24 44.5 +0.1
comp=Z,35nm,1.5s,mb4.9
HAWA epP pP 20 24 59.2 -3.6
A10A **Northport** 76.58 42 ⇑P P 20 24 45.0 +0.2
baz=76
OD2 **Odessa Site #2** 76.58 43 P P 20 24 44.6 -0.2
DGRG **David-gareji** 76.59 310 P P 20 24 45.4 +0.4
D08A **Wollman Farm,** 76.60 44 P P 20 24 45.1 +0.2
baz=76,SNR=13
KCPM **Cahto Peak** 76.64 52 eP P 20 24 46.1 +0.8
KCPM epP pP 20 25 00.5 -3.3
C09A **Chrisman Ranch** 76.67 43 ⇑P P 20 24 45.2 -0.1
baz=76
K04A **Chilquin** 76.69 49 ⇑P P 20 24 45.7 +0.2
baz=77
H06A **Lindquist Farm** 76.71 46 ⇓P P 20 24 45.3 -0.3
baz=77,SNR=16
J05A **Fort Rock** 76.73 48 ⇓P P 20 24 46.4 +0.7
baz=77,SNR=29
E08A **Dider Farm, El** 76.76 44 ⇑P P 20 24 45.9 +0.1
baz=77
L04A **Klamath Falls** 76.77 49 ⇓P P 20 24 46.3 +0.3
baz=77,SNR=6.9
MTA **Mtatsminda** 76.88 310 P P 20 24 46.6 -0.1
P01C **Double 8 Ranch** 76.90 52 ⇑P P 20 24 46.7 -0.1
baz=77,SNR=7.1
G07A **Ruggs Ranch, H** 76.90 46 P P 20 24 47.0 +0.3
baz=77,SNR=13
TBLG **Delisi** 76.91 310 eP P 20 24 46.8 0.0
TBLG **Delisi** 76.91 310 P P 20 24 46.9 +0.1
M04C **Macdoel** 76.97 50 ⇑P P 20 24 47.5 +0.4
baz=77,SNR=16
D09A **Jones Farm, Ri** 76.97 44 ⇑P P 20 24 47.1 +0.1
baz=77,SNR=7.7
M03C **McCloud** 76.99 50 ⇑P P 20 24 47.3 +0.1
baz=77,SNR=5.8
EDM **Edmonton** 76.99 37 eP P 20 24 46.7 -0.3
O02C **Red Bluff** 76.99 51 ⇑P P 20 24 47.4 +0.1
baz=77,SNR=16
WDC **Whiskeytown Da** 76.99 51 eP P 20 24 47.3 0.0
WDC pmax pmax
comp=Z,19nm,1.0s,mb4.8
WDC **Whiskeytown Da** 76.99 51 eP P 20 24 47.3 0.0
comp=Z,19nm,1.0s,mb4.8
WDC **Whiskeytown Da** 76.99 51 P P 20 24 47.5 +0.2
baz=77,SNR=10
B10A **Chitwood Farm,** 77.08 42 ⇑P P 20 24 47.9 +0.3
baz=77
I06A **Prineville** 77.13 47 P P 20 24 48.5 +0.6
baz=77,SNR=23
NEW **Newport** 77.16 42 eP P 20 24 48.1 +0.1
NEW e*PP pP 20 25 05.1 -1.4
NEW pmax pmax
comp=Z,30nm,0.9s
NEW **Newport** 77.16 42 eP P 20 24 48.1 +0.1
comp=Z,30nm,0.9s,mb5.0
NEW epP pP 20 25 05.1 -1.4
K05A **Summer Lake** 77.20 48 ⇑P P 20 24 49.0 +0.6
baz=77,SNR=34
F08A **Pendleton** 77.24 45 P P 20 24 49.4 +0.8
baz=77,SNR=9.8
C10A **Spilker Farm,** 77.24 43 ⇑P P 20 24 48.7 +0.2
baz=77
GASB **Alder Springs** 77.26 52 ⇑P P 20 24 49.3 +0.5
baz=77,SNR=10
LOF **Lofoten** 77.28 342 eP P 20 24 50.4 +2.0
HOPS **Hopland** 77.29 53 ⇑P P 20 24 48.8 -0.2
baz=77
A11A **Hall Mountain,** 77.29 41 ⇓P P 20 24 49.9 +1.1
baz=77,SNR=9.6
E09A **Wood Farm, Sta** 77.31 44 ⇑P P 20 24 49.0 0.0
baz=77,SNR=8.8
KIV **Kislovodsk** 77.32 313 P P 20 24 49.1 +0.1
comp=Z,336nm,0.8s,mb6.1,SNR=18
KIV **Kislovodsk** 77.32 313 eP P 20 24 48.8 -0.2
KIV pmax pmax
comp=Z,55nm,1.0s,mb5.2
KIV MLR MLR
comp=Z,162nm,19.0s
KIV **Kislovodsk** 77.32 313 ⇑P P 20 24 49.0 -0.1
KIV **Kislovodsk** 77.32 313 P P 20 24 49.2 +0.2
SNR=12
KIV **Kislovodsk** 77.32 313 P P 20 24 49.2 +0.2
SNR=12
KIV **Kislovodsk** 77.32 313⇑ iP P 20 24 49.0 0.0
G08A **Pilot Rock** 77.34 45 P P 20 24 49.5 +0.4
baz=77,SNR=18
FIA1 **FINESS Array S** 77.35 334 eP P 20 24 48.5 -0.3
FINES **FINESS Array B** 77.36 334 P P 20 24 48.6 -0.3
comp=Z,33nm,0.5s,mb5.3,baz=70,slow=5.3,SNR=248
FINES LR LR 21 04 36.2
comp=Z,63nm,19.8s,baz=13,slow=40
ONI **Oni** 77.41 311 P P 20 24 50.3 +0.8
B11A **Sandpoint** 77.53 42 ⇓P P 20 24 50.3 +0.2
baz=77,SNR=11
I07A **Izee** 77.53 47 P P 20 24 50.4 +0.2
baz=77,SNR=13
L05A **Lakeview** 77.53 49 P P 20 24 50.7 +0.5
baz=77,SNR=18
GNI **Garni** 77.57 309 c iP P 20 24 51.0 +0.5
GNI pmax pmax
comp=Z,38nm,1.3s
GNI **Garni** 77.57 309 eP P 20 24 51.1 +0.6
comp=Z,38nm,1.0s,mb5.1
O03C **Acorn Hollow,** 77.59 51 ⇑P P 20 24 49.9 -0.8
baz=78
K06A **Valley Falls** 77.60 48 P P 20 24 51.1 +0.5
baz=78,SNR=20
D10A **Wagner Farm, O** 77.61 43 ⇓P P 20 24 50.1 -0.5
baz=78
M05C **Lookout** 77.62 50 ⇓P P 20 24 50.5 -0.2
baz=78,SNR=10
HATC **Hat Creek Radi** 77.64 50 P P 20 24 51.2 +0.4
baz=78,SNR=6.3
A12A **Yaak River Ran** 77.72 41 ⇑P P 20 24 52.0 +0.9
baz=78
MNRC **McLaughlin Nat** 77.78 53 ⇑P P 20 24 51.6 -0.1
baz=78
F09A **S2 Ranch, Elgi** 77.82 45 ⇑P P 20 24 52.0 +0.3
baz=78
H08A **Prairie City** 77.87 46 ⇑P P 20 24 52.2 +0.1
baz=78,SNR=12
FARB **Farallon Islan** 77.89 54 ⇑P P 20 24 51.6 -0.7
baz=78
MOD **Modoc** 77.95 49 eP P 20 24 52.6 0.0
comp=Z,22nm,0.8s,mb4.9
MOD epP pP 20 25 09.7 -1.3
MOD **Modoc** 77.95 49 ⇑P P 20 24 52.6 0.0
baz=78,SNR=11
J07A **Hines** 77.96 47 ⇑P P 20 24 53.1 +0.5
baz=78,SNR=26
E10A **Myers Farm, Un** 77.97 44 ⇑P P 20 24 52.6 0.0
baz=78
B12A **Libby** 77.97 42 ⇑P P 20 24 53.0 +0.5
baz=78,SNR=5.2
CVS **Carmenet Viney** 78.00 53 ⇓P P 20 24 52.5 -0.5
baz=78
SUTB **Sutter Butte** 78.09 52 ⇑P P 20 24 52.5 -1.0
baz=78
G09A **Cove** 78.10 45 ⇑P P 20 24 53.5 +0.1
baz=78,SNR=22
O04C **Chester** 78.11 51 ⇓P P 20 24 53.4 -0.1
baz=78,SNR=9.3
F10A **Beach Ranch, E** 78.13 44 ⇑P P 20 24 53.3 -0.1
baz=78
M06C **Likely Place G** 78.14 50 ⇑P P 20 24 53.8 +0.1
baz=78,SNR=6.8
ORV **Oroville** 78.15 52 ⇓P P 20 24 52.9 -0.8
baz=78,SNR=12
D11A **Klaveano Farm,** 78.18 43 ⇑P P 20 24 53.6 -0.2
baz=78,SNR=5.2
I08A **Drewsey** 78.21 47 ⇑P P 20 24 54.3 +0.3
baz=78,SNR=6.4
ELFS **Eagle Lake Fie** 78.22 50 ⇓P P 20 24 54.4 +0.3
baz=78,SNR=16
OHCM **Honcut** 78.26 52 eP P 20 24 53.8 -0.5
OHCM epP pP 20 25 10.9 -2.0
K07A **Rock Creek Ran** 78.31 48 P P 20 24 55.0 +0.5
baz=78,SNR=40
O05C **Quincy** 78.38 51 ⇑P P 20 24 54.7 -0.3
baz=78
MOR8 **Moi Rana** 78.39 341 eP P 20 24 53.6 -0.9
MOR8 AMb AMB 20 24 55.4
comp=Z,112nm,1.1s,mb5.5
MOR8 **Moi Rana** 78.39 341 eP P 20 24 53.6 -0.9
comp=Z,112nm,1.1s,mb5.5
G10A **Bishop Farm, J** 78.50 45 P P 20 24 55.9 +0.3
baz=78,SNR=44
J08A **Circle Bar Ran** 78.52 47 P P 20 24 56.2 +0.5
baz=78,SNR=29
L07A **Adell** 78.55 49 ⇓P P 20 24 56.4 +0.6
baz=78,SNR=38
JRSC **Jasper Ridge** 78.56 54 ⇓P P 20 24 55.5 -0.6
baz=78
E11A **Bogner Ranch,** 78.58 44 P P 20 24 56.0 0.0
baz=78,SNR=7.0
BDM **Black Diamond** 78.59 53 ⇑P P 20 24 56.2 0.0
baz=78
BMO **Blue Mountains** 78.59 45 eP P 20 24 56.3 +0.2
comp=Z,36nm,0.9s,mb5.2
BMO epP pP 20 25 13.0 -1.5
WALA **Waterton Lakes** 78.67 40 eP P 20 24 57.0 +0.5
comp=Z,31nm,0.8s,mb5.2
WALA epP pP 20 25 13.8 -1.1
B13A **Whitefish** 78.67 41 ⇑P P 20 24 57.1 +0.6
baz=78,SNR=20
I09A **Lost Marbles R** 78.71 46 P P 20 24 57.2 +0.5
baz=79,SNR=11
BNLO **Ben Lomond (Sa** 78.72 54 ⇑P P 20 24 56.4 -0.5
baz=79
N06A **Buffalo Meadow** 78.78 50 ⇓P P 20 24 56.9 -0.3
baz=79,SNR=24
K08A **Mann Creek Ran** 78.79 48 ⇑P P 20 24 57.4 +0.2

baz=79,SNR=23
BEKR Beckwourth 78.81 51 ⇓P P 20 24 57.0 -0.4
baz=79,SNR=32
WENL Wente Brothers 78.81 53 ⇑P P 20 24 57.4 0.0
baz=79
WVOR Wild Horse Val 78.83 48 *e*P **P 20 24 57.5 +0.1**
WVOR pmax pmax
comp=Z,21nm,1.0s,mb4.9
WVOR Wild Horse Val 78.83 48 *e*P **P 20 24 57.5 0.0**
comp=Z,21nm,1.0s,mb4.9
F11A Grangeville 78.83 44 P **P 20 24 57.1 -0.3**
baz=79,SNR=10
P05C Yuba Gap, Truc 78.88 52 ⇑P P 20 24 57.6 -0.2
baz=79,SNR=5.8
M07A Soldier Meadow 78.94 49 ⇑P P 20 24 58.0 -0.1
baz=79,SNR=23
C13A Hot Springs 78.94 42 ⇓P P 20 24 58.1 +0.2
baz=79,SNR=30
G11A Walters Elk Ra 78.99 45 P **P 20 24 57.9 -0.3**
baz=79,SNR=42
J09A Fry Pan Ranch, 78.99 47 ⇓P P 20 24 58.6 +0.3
baz=79,SNR=21
LAVA Lava Cap Winer 79.03 52 ⇑P P 20 24 57.9 -0.7
baz=79,SNR=5.3
O06A Flanigan 79.04 50 ⇑P P 20 24 58.5 -0.2
baz=79,SNR=19
H10A Noah's Angus R 79.06 45 ⇓P P 20 24 58.4 -0.2
baz=79,SNR=34
R04C Big Horse Ranc 79.11 53 ⇓P P 20 24 58.4 -0.7
baz=79
L08A Fields 79.13 48 ⇑P P 20 24 59.4 +0.3
baz=79,SNR=22
S04C Ingram Canyon, 79.17 53 ⇓P P 20 24 58.8 -0.5
baz=79
I10A Payette 79.26 46 ⇓P P 20 24 59.8 +0.1
baz=79
D13A Huson 79.29 42 ⇑P P 20 24 59.4 -0.4
baz=79,SNR=11
K09A Rome 79.31 47 ⇑P P 20 25 00.1 +0.1
baz=79,SNR=16
SOC Sochi 79.41 314 *e*P **P 20 24 59.6 -1.0**
SOC *e* 20 25 03.4
SOC *e**PP pP 20 25 19.9 +0.8
SOC *e*S S 20 34 47.0 -9.2
SOC pmax pmax
comp=Z,31nm,0.7s,mb5.2
SOC MLR MLR
comp=Z,230nm,20.0s
SAO San Andreas Ge 79.41 54 *e*P **P 20 25 00.5 -0.2**
SAO pmax pmax
comp=Z,23nm,1.0s,mb5.0
SAO San Andreas Ge 79.41 54 *e*P **P 20 25 00.5 -0.2**
comp=Z,23nm,1.0s,mb5.0
PACP Pacheco Peak 79.42 54 ⇓P P 20 25 00.6 -0.2
baz=79,SNR=15
HAKT HAKKARI 79.43 307 *i*P **P 20 25 00.4 -0.4**
M08A Happy Creek Ra 79.44 49 ⇓P P 20 25 01.1 +0.3
baz=79,SNR=11
F12A Elk City 79.45 44 P **P 20 25 00.6 -0.1**
baz=79,SNR=18
H11A Donnelly 79.47 45 P **P 20 25 00.8 -0.1**
baz=79,SNR=10
WCN Washoe City 79.48 51 ⇓P P 20 25 01.1 +0.1
baz=79
HAST Hastings Reser 79.50 55 ⇓P P 20 25 00.9 -0.3
baz=79,SNR=14
R05C Kirkwood Meado 79.52 52 ⇑P P 20 25 00.9 -0.3
baz=79
PAHR Pah Rah Range 79.55 51 *e*P **P 20 25 01.3 -0.1**
comp=Z,24nm,1.0s,mb5.0
J10A Berg Farm, Mel 79.59 46 ⇓P P 20 25 01.5 0.0
baz=80
CMB Columbia Colle 79.60 53 *e*P **P 20 25 01.4 -0.3**
CMB pmax pmax
comp=Z,28nm,0.8s,mb5.1
CMB Columbia Colle 79.60 53 *e*P **P 20 25 01.4 -0.4**
comp=Z,28nm,0.8s,mb5.1
CMB Columbia Colle 79.60 53 P **P 20 25 01.6 -0.1**
baz=80,SNR=21
L09A Wilkinson Ranc 79.66 48 ⇓P P 20 25 02.1 +0.2
baz=80
O07A Toulon 79.69 50 ⇑P P 20 25 02.4 +0.2
baz=80,SNR=19
E13A Victor 79.77 43 ⇑P P 20 25 01.7 -0.8
baz=80,SNR=5.3
K10A MacKenzie Ranc 79.83 47 ⇓P P 20 25 02.9 +0.1
baz=80,SNR=24
D14A Greenough 79.87 42 P **P 20 25 02.7 -0.3**
baz=80,SNR=9.0
I11A Placerville 79.88 46 ⇓P P 20 25 03.2 +0.1
baz=80
V03C Hunter Liggett 79.89 55 ⇑P P 20 25 03.3 0.0
baz=80
N08A GE Springer Mi 79.91 49 ⇓P P 20 25 03.3 0.0
baz=80,SNR=11
S05C Merced 79.95 53 ⇓P P 20 25 03.1 -0.6
baz=80,SNR=6.4
P07A Fallon 79.97 51 ⇑P P 20 25 03.7 +0.1
baz=80
ERZM Erzurum 80.00 310 *i*P **P 20 25 04.8 +0.9**
S06C San Francisco 80.05 53 P **P 20 25 04.0 -0.2**
baz=80,SNR=10
U04C Hernandez Rese 80.06 54 ⇑P P 20 25 04.2 -0.1
baz=80
M09A Marrel Ranch, 80.08 49 ⇑P P 20 25 04.4 +0.2
baz=80,SNR=6.4
CHMT Chamberlain Mo 80.10 42 *e*P **P 20 25 03.8 -0.5**
MFID Camas Ranch 80.20 46 ⇑P P 20 25 05.2 +0.4
baz=80,SNR=13
E14A Clinton 80.20 43 ⇑P P 20 25 04.4 -0.4
baz=80,SNR=6.9
H12A Diamond D Ranc 80.27 45 P **P 20 25 05.2 0.0**
baz=80,SNR=22
ANN Anapa 80.28 315 *e*P **P 20 25 04.2 -1.0**
ANN *e*S S 20 35 05.2 -0.1
ANN pmax pmax
comp=Z,45nm,1.0s,mb5.2
N09A Rock Creek Ran 80.29 49 ⇑P P 20 25 05.6 +0.2
baz=80,SNR=20
V04C Ramage Ranch, 80.33 55 ⇑P P 20 25 05.9 +0.2
baz=80
K11A Parker Ranch, 80.37 47 ⇓P P 20 25 05.8 0.0
baz=80,SNR=34
G13A Cobalt 80.40 44 P **P 20 25 05.8 -0.1**
baz=80,SNR=25
L10A Juniper Basin 80.42 48 P **P 20 25 06.5 +0.5**
baz=80,SNR=15
PKD Parkfield 80.43 55 ⇑P P 20 25 06.0 -0.3
baz=80,SNR=18
PPT Papeete 80.44 115 LR LR 20 52 53.2
comp=Z,176nm,21.1s,baz=188,slow=30
D15A Lincoln 80.47 42 P **P 20 25 06.2 0.0**
baz=80,SNR=7.4
R07C Lee Vining 80.52 52 ⇓P P 20 25 06.9 +0.2
baz=80,SNR=17
T06C Millerton Lake 80.55 53 ⇑P P 20 25 06.3 -0.5
baz=80,SNR=11
F14A Wisdom 80.57 43 ⇓P P 20 25 06.4 -0.5
baz=80
M10A I.L. Ranch, Tu 80.63 48 ⇓P P 20 25 07.4 +0.2
baz=80,SNR=17
H13A Challis 80.64 45 P **P 20 25 07.6 +0.4**
baz=80,SNR=29
KCC Kaiser Creek 80.68 53 ⇓P P 20 25 07.1 -0.5
baz=81,SNR=9.6
BMN Battle Mountai 80.69 49 *e*P **P 20 25 07.7 +0.2**
BMN *e**PP pP 20 25 24.6 -1.5
BMN pmax pmax
comp=Z,19nm,1.1s,mb4.8
BMN Battle Mountai 80.69 49 *e*P **P 20 25 07.7 +0.1**
comp=Z,19nm,1.1s,mb4.8
BMN *e*pP pP 20 25 24.6 -1.5
E15A Deer Lodge 80.71 42 P **P 20 25 07.7 +0.2**
baz=81,SNR=17
J12A Stokes Ranch, 80.75 46 P **P 20 25 08.2 +0.4**
baz=81,SNR=11
O09A Fish Creek Ran 80.83 50 ⇑P P 20 25 08.6 +0.2
baz=81,SNR=8.0
L11A Cat Creek Ranc 80.84 47 P **P 20 25 08.8 +0.5**
baz=81,SNR=21
MLAC Mammoth Lakes 80.88 52 ⇓P P 20 25 08.7 +0.1
baz=81
NVAR Mina Array Bea 80.88 52 P **P 20 25 08.9 +0.3**
comp=Z,21nm,0.7s,mb5.1,baz=280,slow=5.4,SNR=147
NVAR LR LR 20 57 29.2
comp=Z,6.3nm,21.4s,baz=120,slow=33
V05C Boulder Hill, 80.92 54 ⇓P P 20 25 08.9 0.0
baz=81

Q08A Gabbs 80.94 51 P **P 20 25 09.4 +0.5**
baz=81,SNR=7.4
HLID Hailey 81.03 46 *e*P **P 20 25 09.6 +0.3**
comp=Z,13nm,0.8s,mb4.8
HLID *e*pP pP 20 25 26.7 -1.2
HLID Hailey 81.03 46 ⇑P P 20 25 09.8 +0.5
baz=81,SNR=20
I13A Wildhorse Cree 81.05 45 P **P 20 25 10.2 +0.8**
baz=81,SNR=31
F15A Butte 81.09 43 ⇑P P 20 25 09.7 +0.2
baz=81,SNR=54
K12A Draper Farm, C 81.17 47 P **P 20 25 10.7 +0.7**
baz=81,SNR=6.2
M11A Holland Ranch, 81.17 48 P **P 20 25 11.0 +0.9**
baz=81,SNR=14
HELL Mitchell Peak 81.18 53 P **P 20 25 09.7 -0.6**
baz=81,SNR=9.8
MTUM Tungsten Hills 81.20 53 *e*P **P 20 25 10.2 -0.1**
J13A Cove Ranch, Pi 81.26 46 P **P 20 25 11.3 +0.8**
baz=81,SNR=9.3
DLMT Dillon 81.27 43 *e*P **P 20 25 10.7 +0.1**
comp=Z,19nm,0.9s,mb4.9
DLMT *e*pP pP 20 25 27.4 -1.7
L12A House Creek Ra 81.33 47 ⇓P P 20 25 11.4 +0.5
baz=81,SNR=19
MCMT McKenzie Canyo 81.38 44 *e*P **P 20 25 11.1 0.0**
S08C White Mtn Res 81.41 52 P **P 20 25 11.9 +0.5**
baz=81,SNR=17
G15A Dillon 81.43 43 P **P 20 25 11.5 +0.1**
baz=81,SNR=14
Q09A Carvers 81.47 51 ⇓P P 20 25 11.6 -0.1
baz=81,SNR=5.5
N11A Elko Archery C 81.50 48 ⇓P P 20 25 12.1 +0.2
baz=81
VES Vestal, Richgr 81.53 54 ⇑P P 20 25 11.2 -0.9
baz=81
EGMT Eagleton 81.58 40 *e*P **P 20 25 11.6 -0.5**
comp=Z,23nm,0.9s,mb5.0
EGMT *e*pP pP 20 25 28.5 -2.2
EGMT Eagleton 81.58 40 ⇓P P 20 25 12.2 +0.1
baz=81
P10A Eureka 81.59 50 ⇓P P 20 25 12.4 +0.1
baz=82,SNR=9.3
K13A Stover Farm, H 81.69 46 ⇑P P 20 25 13.4 +0.6
baz=82,SNR=9.2
BOZ Bozeman (W) 81.71 43 *e*P **P 20 25 13.1 +0.3**
BOZ *e**PP pP 20 25 29.8 -1.7
BOZ pmax pmax
comp=Z,12nm,0.8s,mb4.8
BOZ Bozeman (W) 81.71 43 *e*P **P 20 25 13.1 +0.2**
comp=Z,12nm,0.8s,mb4.8
BOZ *e*pP pP 20 25 29.8 -1.6
BOZ Bozeman (W) 81.71 43 ⇑P P 20 25 13.3 +0.4
baz=82
M12A Wells 81.75 48 P **P 20 25 14.0 +0.9**
baz=82,SNR=29
TPH Tonopah 81.80 51 *e*P **P 20 25 13.6 +0.1**
TPH pmax pmax
comp=Z,7.0nm,0.3s,mb5.0
TPH Tonopah 81.80 51 *e*P **P 20 25 13.6 +0.2**
comp=Z,7.5nm,0.3s,mb5.0
R09A Tonopah 81.83 51 P **P 20 25 13.7 +0.1**
baz=82,SNR=54
FFC Flin Flon 81.85 32 P **P 20 25 13.3 -0.1**
comp=Z,111nm,0.8s,mb5.7,SNR=5.2
FFC Flin Flon 81.85 32 *e*P **P 20 25 12.9 -0.5**
FFC *e**PP pP 20 25 29.0 -3.0
FFC pmax pmax
comp=Z,16nm,0.9s,mb4.8
FFC Flin Flon 81.85 32 *e*P **P 20 25 12.9 -0.5**
comp=Z,16nm,0.9s,mb4.8
FFC *e*pP pP 20 25 29.0 -3.0
O11A Cowboy Ranch, 81.89 49 P **P 20 25 14.2 +0.3**
baz=82,SNR=13
AKASG Malin Array Be 81.95 324 P **P 20 25 13.0 -1.0**
comp=Z,12nm,0.6s,mb4.9,baz=50,slow=6.0,SNR=62
AKASG LR LR 21 03 44.1
comp=Z,193nm,21.0s,baz=80,slow=37
AKBB Malin Array Si 81.95 324 *e*P **P 20 25 12.8 -1.2**
N12A Clover Valley, 81.95 48 ⇑P P 20 25 14.2 0.0
baz=82,SNR=14
KIEV Kiev 81.96 324 *e*P **P 20 25 12.7 -1.3**
KIEV pmax pmax
comp=Z,22nm,0.8s,mb5.0
KIEV Kiev 81.96 324 *e*P **P 20 25 12.7 -1.3**
comp=Z,22nm,0.8s,mb5.0
S09A Goldfield 81.97 52 ⇑P P 20 25 14.3 0.0
baz=82,SNR=15
BSC Santa Cruz Isl 81.98 56 ⇑P P 20 25 13.8 -0.7
baz=82
Q10A Clear Creek Ra 82.01 50 P **P 20 25 14.6 +0.1**
baz=82,SNR=19
ARVC Arvin 82.04 55 ⇓P P 20 25 14.2 -0.6
baz=82
L13A Double Diamond 82.06 47 ⇑P P 20 25 15.4 +0.6
baz=82,SNR=8.9
P11A Circle Ranch, 82.10 50 ⇓P P 20 25 15.1 +0.1
baz=82
GRAC Grapevine Rang 82.21 52 ⇓P P 20 25 15.8 +0.1
baz=82
SIM Simferopol' 82.25 317 *d*iP **P 20 25 16.0 +0.3**
SIM *e*S S 20 35 25.0 -0.7
SIM pmax pmax
comp=Z,22nm,0.6s,mb5.2
QLMT Earthquake Lak 82.25 43 *e*P **P 20 25 16.0 +0.3**
QLMT *e*pP pP 20 25 33.5 -0.8
M13A Montello 82.27 47 ⇑P P 20 25 16.2 +0.4
baz=82,SNR=6.5
ELZG Elazig 82.30 309 *i*P **P 20 25 17.0 +0.9**
S10A Tonopah Range, 82.31 51 ⇑P P 20 25 15.8 -0.3
baz=82,SNR=27
K14A Jones Ranch, D 82.32 46 ⇑P P 20 25 16.9 +0.8
baz=82,SNR=11
R10A Warm Springs 82.34 51 ⇓P P 20 25 16.5 +0.3
baz=82,SNR=17
BLG Laguna Peak 82.34 56 ⇑P P 20 25 16.3 -0.1
baz=82
O12A Currie 82.43 49 P **P 20 25 17.0 +0.3**
baz=82,SNR=51
N13A Wendover, West 82.50 48 ⇓P P 20 25 17.9 +0.8
baz=82
Q11A Duckwater 82.51 50 P **P 20 25 17.2 0.0**
baz=82,SNR=19
MPMC Manual Prospec 82.57 53 P **P 20 25 17.5 0.0**
baz=82,SNR=21
FCC Fort Churchill 82.64 26 *e*P **P 20 25 16.2 -1.2**
FCC pmax pmax
comp=Z,18nm,1.4s,mb4.7
FCC Fort Churchill 82.64 26 *e*P **P 20 25 16.2 -1.2**
comp=Z,18nm,1.4s,mb4.7
LRMC Laurel Mountai 82.70 54 P **P 20 25 18.5 +0.2**
baz=83,SNR=6.2
P12A McGill 82.71 49 P **P 20 25 18.5 +0.3**
baz=83,SNR=20
M14A Sheep Mountain 82.74 47 P **P 20 25 19.0 +0.7**
baz=83,SNR=42
EDW2 Edwards Air Fo 82.77 55 P **P 20 25 18.5 -0.1**
baz=83,SNR=17
MALT Malatya 82.77 309 ⇑*i*P **P 20 25 19.2 +0.7**
R11A Troy Canyon, C 82.80 51 P **P 20 25 18.8 +0.1**
baz=83,SNR=39
YFT Old Faithful 82.81 43 *e*P **P 20 25 21.1 +2.5**
FURC Furnace Creek, 82.82 53 P **P 20 25 18.8 -0.1**
baz=83,SNR=7.8
HVU Hansel Valley 82.97 46 *e*P **P 20 25 20.2 +0.7**
HVU *e**PP pP 20 25 36.9 -1.2
HVU pmax pmax
comp=Z,17nm,0.6s,mb5.0
HVU Hansel Valley 82.97 46 *e*P **P 20 25 20.1 +0.7**
comp=Z,17nm,0.6s,mb5.0
HVU *e*pP pP 20 25 36.9 -1.3
Q12A Willow Creek R 82.98 50 P **P 20 25 19.9 +0.3**
baz=83,SNR=9.6
O13A Hicks Ranch, I 83.00 48 ⇑P P 20 25 19.8 +0.1
baz=83
DOMB Dombas 83.01 339 *e*P **P 20 25 19.4 +0.1**
DOMB AMb AMB 20 25 20.1
comp=Z,75nm,0.9s,mb5.5
DOMB Dombas 83.01 339 *e*P **P 20 25 19.4 +0.1**
comp=Z,75nm,0.9s,mb5.5
SUW Suwalki 83.02 328 *e*P **P 20 25 18.6 -0.8**
SUW *e* 20 25 19.4
SUW Suwalki 83.02 328 *e*P **P 20 25 18.7 -0.8**
SUW *e* 20 25 19.4
TPNV Topopah Spring 83.02 52 *e*P **P 20 25 19.6 -0.2**
TPNV pmax pmax
comp=Z,17nm,0.8s,mb4.9

TPNV Topopah Spring 83.02 52 *e*P **P 20 25 19.6 -0.3**
comp=Z,17nm,0.8s,mb4.9
TPNV Topopah Spring 83.02 52 ⇑P P 20 25 20.1 +0.3
baz=83
S11A Rachel 83.03 51 P **P 20 25 20.5 +0.6**
baz=83,SNR=6.3
IMW Indian Meadow 83.04 44 *e*P **P 20 25 19.8 0.0**
comp=Z,24nm,0.8s,mb5.1
IMW *e*pP pP 20 25 33.4 -5.1
NB2 NORSAR Subarra 83.06 338 P **P 20 25 19.1 -0.5**
comp=Z,44nm,0.7s,mb5.4,baz=45,slow=4.8
NOA NORSAR Array B 83.06 338 P **P 20 25 19.0 -0.5**
NOA PKKPbc PKKPbc 20 43 43.2 +1.5
NOA LR LR 21 05 08.6
NOA NORSAR Array B 83.06 338 P **P 20 25 19.0 -0.5**
comp=Z,65nm,0.9s,mb5.5,baz=46,slow=4.9,SNR=124
NOA PKKPbc PKKPbc 20 43 43.2 +1.5
comp=Z,0.8nm,0.8s,baz=248,slow=2.3,SNR=3.4
NOA LR LR 21 05 08.6
comp=Z,81nm,21.9s,baz=15,slow=38
FLWY Flagg Ranch 83.09 44 *e*P **P 20 25 21.3 +1.3**
comp=Z,20nm,0.7s,mb5.1
FLWY *e*pP pP 20 25 38.4 -0.3
N14A Grayback Hills 83.17 47 P **P 20 25 21.0 +0.5**
baz=83,SNR=9.4
U10A Ash Meadows, A 83.22 53 P **P 20 25 21.5 +0.6**
baz=83,SNR=9.3
BGU Big Grassy Mou 83.23 47 *e*P **P 20 25 21.0 +0.1**
TPAW Teton Pass 83.24 44 *e*P **P 20 25 21.2 +0.3**
comp=Z,14nm,0.6s,mb5.0
BFSC Mount Baldy St 83.31 55 ⇑P P 20 25 21.0 -0.4
baz=83
NAO01 NORSAR Array S 83.31 338 *e*P **P 20 25 20.4 -0.5**
comp=Z,29nm,0.8s,mb5.2
P13A Bates Ranch, G 83.32 49 P **P 20 25 21.6 +0.3**
baz=83,SNR=19
M15A Larsen Ranch, 83.34 47 ⇑P P 20 25 22.1 +0.7
baz=83
REDW Red Top Meadow 83.37 44 *e*P **P 20 25 22.0 +0.4**
comp=Z,17nm,1.2s,mb4.8
LOHW Long Hollow 83.39 44 *e*P **P 20 25 22.3 +0.6**
comp=Z,14nm,0.9s,mb4.8
RLMT Red Lodge 83.40 42 *e*P **P 20 25 22.5 +0.8**
comp=Z,19nm,0.6s,mb5.1
RLMT *e*pP pP 20 25 39.5 -0.9
GSC Goldstone 83.42 54 *e*P **P 20 25 21.6 -0.3**
GSC pmax pmax
comp=Z,14nm,0.8s,mb4.8
GSC Goldstone 83.42 54 *e*P **P 20 25 21.6 -0.4**
comp=Z,14nm,0.8s,mb4.8
GSC Goldstone 83.42 54 P **P 20 25 21.8 -0.1**
baz=83,SNR=10
R12A Pony Springs, 83.48 50 P **P 20 25 22.8 +0.6**
baz=83,SNR=13
SHOC Shoshone 83.50 53 ⇑P P 20 25 22.0 -0.4
baz=83
AHID Auburn Hatcher 83.53 45 *e*P **P 20 25 22.8 +0.4**
comp=Z,16nm,0.9s,mb4.8
Q13A Wheeler Ranch, 83.57 49 ⇓P P 20 25 22.5 -0.1
baz=83,SNR=11
BOYT Boyabat 83.57 313 *i*P **P 20 25 22.9 +0.3**
N15A Stansbury Isla 83.58 47 ⇓P P 20 25 23.2 +0.5
baz=83
T11A Corn Creek, Al 83.59 51 ⇓P P 20 25 22.8 0.0
baz=84,SNR=14
S12A Delamar Landin 83.67 51 ⇑P P 20 25 23.2 0.0
baz=84,SNR=5.1
DUG Dugway 83.75 48 *e*P **P 20 25 23.4 -0.1**
DUG pmax pmax
comp=Z,19nm,0.7s,mb5.0
DUG Dugway 83.75 48 *e*P **P 20 25 23.4 -0.1**
comp=Z,19nm,0.7s,mb5.0
DUG Dugway 83.75 48 ⇓P P 20 25 23.8 +0.3
baz=84
HWUT Hardware Ranch 83.83 46 *e*P **P 20 25 24.2 +0.3**
comp=Z,37nm,1.1s,mb5.1
GZT Gaziantep 83.84 309 *i*P **P 20 25 24.4 +0.3**
MURC Murrieta 83.95 55 ⇓P P 20 25 24.3 -0.4
baz=84
NOQ North Oquirrh 83.97 47 *e*P **P 20 25 24.4 -0.2**
TUQ Turquoise Mtn. 83.98 53 ⇑P P 20 25 24.3 -0.5
baz=84,SNR=8.8
HEC Hector,Ludlow 83.99 54 ⇑P P 20 25 24.3 -0.6
baz=84
CTKT Corum 84.05 313 *i*P **P 20 25 25.6 +0.5**
V11A Goodsprings 84.14 53 ⇓P P 20 25 25.3 -0.3
baz=84
CTU Camp Tracy 84.19 47 *e*P **P 20 25 26.0 +0.2**
comp=Z,22nm,1.0s,mb4.9
LAO LASA Array 84.32 40 *e*P **P 20 25 26.7 +0.4**
comp=Z,20nm,0.8s,mb5.0
NLU North Lily Min 84.36 48 *e*P **P 20 25 26.9 +0.2**
S13A Holt Ranch, En 84.36 51 ⇓P P 20 25 26.9 +0.2
baz=84,SNR=13
JLU Jordanelle 84.43 47 *e*P **P 20 25 27.5 +0.6**
U12A Valley of Fire 84.47 52 ⇑P P 20 25 27.2 0.0
baz=84
BALT Daday 84.48 314 *i*P **P 20 25 27.5 +0.3**
PFO Pinyon Flat Ob 84.49 55 P **P 20 25 27.0 -0.4**
comp=Z,133nm,0.9s,mb5.8,SNR=6.7
PFO Pinyon Flat Ob 84.49 55 *e*P **P 20 25 26.9 -0.5**
PFO pmax pmax
comp=Z,17nm,0.8s,mb4.9
PFO Pinyon Flat Ob 84.49 55 *e*P **P 20 25 26.9 -0.6**
comp=Z,17nm,0.8s,mb4.9
PFO Pinyon Flat Ob 84.49 55 P **P 20 25 27.2 -0.3**
baz=84,SNR=9.4
GMRC Granite Mounta 84.49 54 P **P 20 25 27.4 0.0**
baz=84,SNR=14
ANDN Andirin 84.56 310 *i*P **P 20 25 27.6 -0.1**
HYA Hoyanger 84.57 340 *e*P **P 20 25 28.0 +0.8**
HYA AMb AMB 20 25 31.3
comp=Z,106nm,1.3s,mb5.6
HYA *e*pP pP 20 25 47.2 +1.2
HYA Hoyanger 84.57 340 *e*P **P 20 25 28.0 +0.8**
comp=Z,106nm,1.3s,mb5.6
V12A Nelson 84.60 53 ⇓P P 20 25 28.2 +0.3
baz=84
MPU Maple Canyon 84.61 48 *e*P **P 20 25 27.6 -0.3**
comp=Z,20nm,0.7s,mb5.2
T13A Saint George 84.61 51 ⇓P P 20 25 28.4 +0.4
baz=84
BELC Belle Mtn. 84.63 55 P **P 20 25 27.7 -0.4**
baz=84,SNR=16
KONO Kongsberg 84.63 338 *e*P **P 20 25 27.5 -0.1**
DAU Daniels Canyon 84.65 47 *e*P **P 20 25 28.5 +0.4**
CCUT Cedar City 84.72 50 *e*P **P 20 25 28.6 0.0**
S14A Cedar City 84.75 50 ⇓P P 20 25 29.3 +0.7
baz=85
W12A Cal Nev Ari 84.80 53 ⇓P P 20 25 29.1 +0.2
baz=85
MONP Monument Peak 84.87 56 P **P 20 25 29.2 -0.1**
baz=85,SNR=7.9
AVNT Avonos 84.96 311 *i*P **P 20 25 29.7 0.0**
MSU Marysvale 85.03 49 *e*P **P 20 25 30.4 +0.3**
V13A Grand Canyon W 85.15 52 P **P 20 25 30.8 +0.1**
baz=85,SNR=12
T14A Hurricane 85.16 51 ⇓P P 20 25 30.7 -0.1
baz=85
IRM Iron Mountain 85.17 54 P **P 20 25 30.7 -0.1**
baz=85,SNR=11
BC3 Big Chuckw Mtn 85.20 55 P **P 20 25 30.9 -0.1**
baz=85,SNR=24
DVTC Desert V Tower 85.21 56 ⇑P P 20 25 30.9 -0.2
baz=85
NEE2 Needles Airpor 85.24 53 ⇑P P 20 25 30.9 -0.3
baz=85
TMUT Trail Mountain 85.27 48 *e*P **P 20 25 31.3 +0.1**
SWSC Sam W. Stewart 85.30 55 ⇑P P 20 25 31.0 -0.5
baz=85
ASK Askoy 85.41 340 ⇓*i*P **P 20 25 31.9 +0.4**
ODD1 Odda 85.41 339 ⇓*i*P **P 20 25 31.0 -0.5**
ODD1 AMb AMB 20 25 32.6
comp=Z,90nm,1.4s,mb5.5
ODD1 Odda 85.41 339 ⇓*i*P **P 20 25 31.0 -0.5**
comp=Z,90nm,1.4s,mb5.5
RUND Rundenannen 85.41 340 ⇓*i*P **P 20 25 34.2 +2.8**
RUND AMb AMB 20 25 35.8
comp=Z,98nm,1.2s,mb5.6
RUND Rundenannen 85.41 340 ⇓*i*P **P 20 25 34.2 +2.8**
comp=Z,98nm,1.2s,mb5.6
U14A Mt Trumbull 85.42 51 P **P 20 25 32.4 +0.3**
baz=85,SNR=17
BER Bergen 85.44 340 *e*P **P 20 25 32.4 +0.7**
SFJD Kangerlussuaq 85.45 5 ⇑*i*P **P 20 25 31.9 +0.3**
SFJD pmax pmax
comp=Z,39nm,0.6s,mb5.5

SFJD Kangerlussuaq 85.45 5 *eP* **P 20 25 31.8 +0.2**
comp=Z,46nm,0.8s,mb5.5
SFJD Kangerlussuaq 85.45 5⇑*iP* **P 20 25 31.9 +0.3**
comp=Z,39nm,0.6s,mb5.5
EGD Espegrend 85.56 340⇓*iP* **P 20 25 32.7 +0.5**
EGD AMb AMB 20 25 34.7
comp=Z,117nm,1.6s,mb5.6
EGD Espegrend 85.56 340⇓*iP* **P 20 25 32.7 +0.5**
comp=Z,117nm,1.6s,mb5.6
W13A Hualapai Mount 85.60 53 P **P 20 25 32.7 -0.2**
baz=86,SNR=10
T15A Red Dirt Ranch 85.66 50 P **P 20 25 33.6 +0.3**
baz=86,SNR=12
ANTO Ankara 85.75 313⇑*iP* **P 20 25 33.6 0.0**
PDMCI Parker Dam,Lak 85.82 53⇑P **P 20 25 34.3 +0.2**
baz=86
SRU San Rafael 85.82 48 *eP* **P 20 25 33.8 -0.2**
SRU pmax pmax
comp=Z,24nm,0.6s,mb5.3
SRU San Rafael 85.82 48 *eP* **P 20 25 33.8 -0.2**
comp=Z,24nm,0.6s,mb5.3
Y12C Blythe 85.82 54⇑P **P 20 25 33.6 -0.5**
baz=86
BLS5 Blasjo 85.84 339⇓*iP* **P 20 25 34.5 +0.8**
BLS5 AMb AMB 20 25 36.1
comp=Z,52nm,1.1s,mb5.4
BLS5 Blasjo 85.84 339⇓*iP* **P 20 25 34.5 +0.8**
comp=Z,52nm,1.1s,mb5.4
V14A Boquillas Ranc 85.87 52 P **P 20 25 34.7 +0.4**
baz=86,SNR=18
X13A Yucca 85.89 53 P **P 20 25 34.4 -0.1**
baz=86,SNR=19
BSD Bornholm Skovb 85.92 332⇓*iP* **P 20 25 33.6 -0.5**
BSD pmax pmax
comp=Z,31nm,0.9s,mb5.2
BSD Bornholm Skovb 85.92 332⇓*iP* **P 20 25 33.6 -0.5**
comp=Z,31nm,0.9s,mb5.2
TIRR Tirgusor 85.92 319⇓P **P 20 25 33.6 -0.8**
TIRR Tirgusor 85.92 319⇓*iP* **P 20 25 33.5 -0.9**
GLA Glamis 85.95 55 *eP* **P 20 25 34.4 -0.3**
GLA pmax pmax
comp=Z,28nm,0.7s,mb5.3
GLA Glamis 85.95 55 *eP* **P 20 25 34.4 -0.3**
comp=Z,28nm,0.7s,mb5.3
GLA Glamis 85.95 55 P **P 20 25 34.9 +0.1**
baz=86,SNR=20
KWP Kalwaria 85.96 325 *eP* **P 20 25 34.8 +0.3**
KWP Kalwaria 85.96 325 *eP* **P 20 25 34.8 +0.4**
KWP Kalwaria 85.96 325⇓*iP* **P 20 25 34.7 +0.3**
HARR Harsova 86.07 319⇑*iP* **P 20 25 35.2 +0.1**
VRI Vrincioaia 86.08 320⇑*iP* **P 20 25 35.8 +0.7**
W14A Seligman 86.11 52 P **P 20 25 35.9 +0.5**
baz=86,SNR=14
T16A Glen Canyon Da 86.28 50⇓P **P 20 25 36.0 -0.3**
baz=86
Y13A Salome 86.29 54 P **P 20 25 36.7 +0.3**
baz=86,SNR=14
KMY Karmoy 86.39 339 *eP* **P 20 25 36.6 +0.2**
KMY AMb AMB 20 25 38.1
comp=Z,68nm,0.8s,mb5.6
KMY Karmoy 86.39 339 *eP* **P 20 25 36.6 +0.2**
comp=Z,68nm,0.8s,mb5.6
V15A Kaibab Nationa 86.43 51 P **P 20 25 37.5 +0.5**
baz=86,SNR=17
SNART Snartemo 86.43 338⇓*iP* **P 20 25 36.6 0.0**
SNART AMb AMB 20 25 38.0
comp=Z,69nm,1.2s,mb5.5
COP Copenhagen 86.51 334 *iP* **P 20 25 37.1 +0.1**
COP pmax pmax
comp=Z,28nm,0.9s,mb5.2
COP Copenhagen 86.51 334 *iP* **P 20 25 37.1 +0.1**
comp=Z,28nm,0.9s,mb5.2
RWWY Rawlins 86.54 44 *eP* **P 20 25 37.7 +0.3**
KOLS Kolonicke sedl 86.62 325 *eP* **P 20 25 38.1 +0.4**
X14A Yava 86.62 53 P **P 20 25 38.5 +0.5**
baz=86,SNR=18
W15A Williams 86.69 52⇓P **P 20 25 38.8 +0.5**
baz=87,SNR=6.0
MLR Muntele Rosu 86.75 320⇓*iP* **P 20 25 38.0 -0.4**
UZH Uzhgorod 86.80 325*dP* **P 20 25 39.0 +0.4**
UZH *e* pP 20 25 55.0 -2.4
Y14A Wickenburg 86.81 53⇓P **P 20 25 38.7 -0.2**
baz=87,SNR=11
STHS Stebnicka Huta 86.84 326 *eP* **P 20 25 39.1 +0.4**
STHS pmax pmax
comp=Z,6.0nm,1.1s,mb4.4
STHS Stebnicka Huta 86.84 326 *eP* **P 20 25 39.1 +0.4**
comp=Z,6.2nm,1.1s,mb4.5
113A Mohawk Valley, 86.86 55 P **P 20 25 39.0 -0.2**
baz=87,SNR=11
KDHN Kadinhani 86.92 312 *iP* **P 20 25 37.9 -1.5**
TRPA Tarpa 86.99 324⇓*iP* **P 20 25 39.8 +0.3**
OJC Ojcow 87.03 327 *eP* **P 20 25 39.4 -0.3**
CRVS Cervenica-Dubn 87.06 325 *eP* **P 20 25 39.8 0.0**
CRVS *esP* sP 20 26 03.8 -2.2
RSSD Black Hills 87.06 41 *eP* **P 20 25 39.5 -0.4**
RSSD pmax pmax
comp=Z,7.0nm,0.7s,mb4.7
RSSD Black Hills 87.06 41 *eP* **P 20 25 39.5 -0.5**
comp=Z,6.7nm,0.7s,mb4.7
X15A Humboldt 87.08 53⇓P **P 20 25 40.6 +0.4**
baz=87,SNR=17
WUAZ Wupatki 87.14 51 *eP* **P 20 25 40.6 +0.1**
comp=Z,15nm,0.9s,mb4.9
WUAZ Wupatki 87.14 51⇑P **P 20 25 41.0 +0.5**
baz=87
Z14A Wintersburg 87.15 54⇑P **P 20 25 40.7 +0.1**
baz=87
MUD Monsted U'grnd 87.18 336 *iP* **P 20 25 39.9 -0.4**
MUD pmax pmax
comp=Z,22nm,0.9s,mb5.1
MUD Monsted U'grnd 87.18 336 *iP* **P 20 25 39.9 -0.4**
comp=Z,22nm,0.9s,mb5.1
PV10 Paradox Valley 87.19 48 *eP* **P 20 25 40.8 +0.1**
W16A Flagstaff 87.25 52⇑P **P 20 25 41.3 +0.2**
baz=87
Y15A Casa Rosa Ranc 87.28 53 P **P 20 25 41.5 +0.3**
baz=87,SNR=25
NIE Niedzica 87.30 326 *eP* **P 20 25 41.4 +0.4**
LRW Lerwick 87.53 342 *eP* **P 20 25 41.6 -0.2**
LRW *eP* 20 25 41.6
LRW AMb AMB 20 25 43.5
comp=Z,122nm,1.2s,mb5.8
WAL1 Walls 87.55 343 *eP* **P 20 25 41.9 0.0**
ULM Lac du Bonnet 87.57 33 P **P 20 25 41.5 -0.7**
ULM PKKPbc PKKPbc 20 43 28.2 -2.7
ULM LR LR 21 01 55.0
ULM Lac du Bonnet 87.57 33 P **P 20 25 41.5 -0.7**
comp=Z,1.9nm,0.6s,mb4.3,baz=304,slow=5.3,SNR=3.6
ULM PKKPbc PKKPbc 20 43 28.2 -2.7
comp=Z,1.3nm,0.5s,baz=188,slow=7.6,SNR=3.0
ULM LR LR 21 01 55.0
comp=Z,129nm,21.2s,baz=344,slow=33
PV01 Paradox Valley 87.63 48 *eP* **P 20 25 42.6 -0.3**
X16A Lo Mia Camp, P 87.67 52⇓P **P 20 25 43.2 +0.2**
baz=88
DRGR 87.73 323⇑*iP* **P 20 25 42.6 -0.5**
KECS Kecovo 87.82 325 *eP* **P 20 25 43.3 -0.2**
KECS pmax pmax
comp=Z,3.0nm,0.9s,mb4.3
KECS Kecovo 87.82 325 *eP* **P 20 25 43.3 -0.2**
comp=Z,3.3nm,0.9s,mb4.4
Y16A Circle Bar Ran 87.93 53⇑P **P 20 25 44.8 +0.4**
baz=88
CSS Prodhromos 88.00 309 *eP* **P 20 25 42.9 -1.8**
comp=Z,20nm,1.0s,mb5.1
115A Sonoran Desert 88.01 54 P **P 20 25 45.5 +0.8**
baz=88,SNR=9.2
OKC Ostrava-Krasne 88.09 327 *eP* **P 20 25 44.7 0.0**
OKC *epP* pP 20 26 04.2 +0.6
SMCO Snowmass 88.09 46 *eP* **P 20 25 45.5 +0.5**
comp=Z,15nm,1.1s,mb4.9
KSP Ksiaz 88.28 329 *eP* **P 20 25 45.4 -0.2**
KSP Ksiaz 88.28 329 *eP* **P 20 25 44.7 -0.9**
MORC Moravsky Berou 88.42 327⇓P **P 20 25 45.6 -0.7**
MORC Moravsky Berou 88.42 327⇓*iP* **P 20 25 45.5 -0.8**
Y17A Roosevelt 88.47 53⇑P **P 20 25 47.2 +0.3**
baz=88
PSZ Piszkesteto 88.49 325 *eP* **P 20 25 46.7 0.0**
PSZ pmax pmax
comp=Z,15nm,1.0s,mb5.0
PSZ Piszkesteto 88.49 325 *eP* **P 20 25 46.7 +0.1**
comp=Z,15nm,1.0s,mb5.0
DPC Dobruska-Polom 88.60 328 *eP* **P 20 25 46.7 -0.5**
DPC *epP* pP 20 26 08.0 +2.0
BSEG Bad Segeberg 88.63 334 *eP* **P 20 25 46.8 -0.4**
comp=Z,31nm,0.9s,mb5.3
UPC Upice 88.64 329 *eP* **P 20 25 47.3 0.0**
VYHS Vyhne 88.64 326 *iP* **P 20 25 47.6 +0.2**
VYHS pmax pmax
comp=Z,11nm,0.9s,mb4.9
VYHS Vyhne 88.64 326 *iP* **P 20 25 47.6 +0.2**
comp=Z,11nm,0.9s,mb4.9
VYHS *e* 20 43 25.5
X18A Snowflake 88.66 51⇓P **P 20 25 48.1 +0.3**
baz=88
W19A Sanders 88.73 51⇓P **P 20 25 48.1 +0.1**
baz=89
AGMN Agassiz Refuge 88.87 34 *eP* **P 20 25 47.2 -1.2**
comp=Z,23nm,1.4s,mb5.0
AGMN *epP* pP 20 26 04.8 -2.5
216A Three Points, 88.93 54 P **P 20 25 50.0 +0.9**
baz=89,SNR=6.4
Z17A San Carlos Hig 88.95 53⇓P **P 20 25 50.0 +0.9**
baz=89
Y18A Canyon Day Jun 89.00 52⇑P **P 20 25 50.3 +1.0**
baz=89
117A Oracle 89.14 53⇓P **P 20 25 50.6 +0.5**
baz=89
X19A St. Johns 89.17 51 P **P 20 25 50.9 +0.7**
baz=89,SNR=9.5
VRAC Vranov 89.19 327⇑*iP* **P 20 25 50.1 +0.2**
PVCC Panska Ves 89.29 329 *eP* **P 20 25 50.2 -0.2**
BRG Berggiesshubel 89.33 330⇓*iP* **P 20 25 50.3 -0.2**
BRG pmax pmax
comp=Z,8.0nm,0.7s,mb4.9
BRG Berggiesshubel 89.33 330 *eP* **P 20 25 50.1 -0.4**
comp=Z,13nm,0.7s,mb5.1
BRG Berggiesshubel 89.33 330⇓*iP* **P 20 25 50.3 -0.2**
comp=Z,13nm,0.7s,mb5.0
Z18A Geronimo 89.37 53⇓P **P 20 25 51.4 +0.3**
baz=89
HLG Helgoland 89.39 335 *eP* **P 20 25 50.2 -0.5**
comp=Z,57nm,0.8s,mb5.7
CLL Collm 89.43 331⇓*iP* **P 20 25 50.4 -0.6**
CLL *e*PP* pP 20 26 11.0 +1.1
CLL pmax pmax
comp=Z,18nm,1.0s,mb5.1
CLL Collm 89.43 331⇓*iP* **P 20 25 50.4 -0.6**
comp=Z,18nm,1.0s,mb5.1
CLL *epP* pP 20 26 11.0 +1.1
CLL Collm 89.43 331 *eP* **P 20 25 50.1 -0.9**
comp=Z,18nm,0.9s,mb5.1
CLL Collm 89.43 331⇓*iP* **P 20 25 50.4 -0.6**
comp=Z,18nm,1.0s,mb5.1
CLL *epP* pP 20 26 08.0 -1.9
CLL *ePP* PP 20 29 29.0 +6.8
Y19A Nutrioso 89.45 52⇓P **P 20 25 52.3 +0.8**
baz=89
MODS Modra-Piesok 89.50 326 *iP* **P 20 25 52.1 +0.7**
MODS *e* 20 43 23.8
217A Green Valley 89.51 54 P **P 20 25 52.4 +0.6**
baz=89,SNR=8.8
FBE Freiberg 89.55 330 *eP* **P 20 25 51.5 -0.1**
comp=Z,23nm,0.9s,mb5.3
118A Homack Ranch, 89.66 53 P **P 20 25 53.1 +0.6**
baz=90,SNR=5.7
PRU Pruhonice 89.68 329 *eP* **P 20 25 50.8 -1.4**
ZST Bratislava 89.70 326 *eP* **P 20 25 52.4 0.0**
ZST pmax pmax
comp=Z,21nm,1.4s,mb5.1
ZST Bratislava 89.70 326 *eP* **P 20 25 52.4 0.0**
comp=Z,20nm,1.4s,mb5.1
TREC Trest 89.72 328 *eP* **P 20 25 52.1 -0.3**
Z19A T-Link Ranch, 89.80 52⇓P **P 20 25 53.8 +0.7**
baz=90
SDCO Great Sand Dun 89.86 47 *eP* **P 20 25 53.4 +0.1**
comp=Z,4.8nm,1.0s,mb4.6
218A Dragoon 89.96 54⇓P **P 20 25 54.9 +1.0**
baz=90
119A Ashpeak Ranch, 90.06 53⇑P **P 20 25 55.5 +1.1**
baz=90
CLZ Clausthal 90.17 332 *eP* **P 20 25 54.0 -0.4**
CLZ pmax pmax
comp=Z,22nm,1.1s,mb5.2
CLZ Clausthal 90.17 332 *eP* **P 20 25 54.0 -0.4**
comp=Z,22nm,1.1s,mb5.2
MVH1 Achvaich 90.23 342 *eP* **P 20 25 54.5 -0.1**
PKSM Moragy 90.26 324⇓*iP* **P 20 25 53.9 -1.1**
MCD Coleburn Disti 90.27 342 *eP* **P 20 25 54.5 -0.4**
318A Bisbee 90.29 54 P **P 20 25 56.0 +0.6**
baz=90,SNR=14
WERD Werda 90.36 330 *eP* **P 20 25 55.1 -0.3**
comp=Z,8.0nm,0.9s,mb4.8
GUNZ Gunzen 90.41 330 *eP* **P 20 25 55.4 -0.2**
comp=Z,18nm,1.0s,mb5.2
MME1 Meikle Cairn 90.42 342 *eP* **P 20 25 54.8 -0.7**
WERN Wernitzgruen 90.44 330 *eP* **P 20 25 55.7 -0.1**
comp=Z,21nm,1.1s,mb5.2
NKC Novy Kostel 90.45 330 *eP* **P 20 25 55.6 -0.2**
CONA Conrad Observa 90.49 327⇑*iP* **P 20 25 55.7 -0.4**
comp=Z,24nm,1.1s,mb5.2
CONA Conrad Observa 90.49 327⇑*iPcP* PcP 20 25 55.7 -1.5
comp=Z,24nm,1.1s
CSNA Conrad Observa 90.49 327⇑*iPcP* PcP 20 25 55.5 -1.6
comp=Z,21nm,1.1s
219A White Tail Can 90.51 53 P **P 20 25 57.0 +0.6**
baz=90,SNR=12
MOX Moxa 90.52 331 *eP* **P 20 25 55.6 -0.5**
MOX Moxa 90.52 331 *eP* **P 20 25 55.4 -0.7**
comp=Z,12nm,0.9s,mb5.0
MDO Dochfour 90.70 342 *eP* **P 20 25 57.0 +0.2**
KHC Kasperske Hory 90.73 329 *eP* **P 20 25 56.2 -0.9**
KHC *epP* pP 20 26 18.6 +2.6
KHC AMS AMS 21 11 00.0
comp=Z,100nm,13.7s
MANZ Manzenberg 90.78 330 *eP* **P 20 25 56.5 -0.8**
ANMO Albuquerque 90.82 50⇓*iP* **P 20 25 57.7 -0.1**
319A Douglas 90.83 54⇓P **P 20 25 58.6 +0.6**
baz=91
IBBN Ibbenburen 90.87 334 *eP* **P 20 25 57.3 -0.4**
comp=Z,64nm,0.9s,mb5.8
GEC2 GERESS Array S 90.88 328 *eP* **P 20 25 56.7 -1.1**
GEC2 pmax pmax
comp=Z,15nm,0.8s,mb5.2
GEC2 GERESS Array S 90.88 328 *eP* **P 20 25 56.7 -1.1**
comp=Z,15nm,0.8s,mb5.2
GERES GERESS Array B 90.88 328 P **P 20 25 57.0 -0.8**
comp=Z,10nm,0.7s,mb5.1,baz=43,slow=4.5,SNR=109
GERES PKKPbc PKKPbc 20 43 21.0 -1.8
comp=Z,1.8nm,0.8s,baz=209,slow=2.4,SNR=16
GERES LR LR 21 11 18.5
comp=Z,90nm,18.4s,baz=210,slow=38
ROTZ Rotzenmuhle 90.90 330 *eP* **P 20 25 57.3 -0.6**
comp=Z,19nm,1.0s,mb5.2
KAC Achnashellach 90.90 343 *eP* **P 20 25 57.7 0.0**
WET Wettzell 91.04 329 *eP* **P 20 25 57.8 -0.8**
WET pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
WET Wettzell 91.04 329 *eP* **P 20 25 57.8 -0.8**
comp=Z,8.0nm,1.0s,mb4.8
ARSA Arzberg 91.13 326⇑*iP* **P 20 25 58.7 -0.3**
comp=Z,22nm,1.3s,mb5.1,SNR=7.7
ARSA Arzberg 91.13 326⇑*iPcP* PcP 20 25 58.7 -1.2
comp=Z,22nm,1.3s,SNR=7.7
KPL Plockton 91.13 343 *eP* **P 20 25 58.8 0.0**
KPL AMb AMB 20 26 00.8
comp=Z,103nm,1.2s,mb5.8
BNM Barren Site 91.16 50 *eP* **P 20 25 60.0 +0.5**
KSB Shell Bridge 91.19 343 *eP* **P 20 25 58.0 -1.1**
EYMN Ely 91.25 32 *eP* **P 20 25 59.1 -0.5**
comp=Z,24nm,1.5s,mb5.1
MOA Molln 91.32 328⇑*iP* **P 20 25 59.5 -0.4**
comp=Z,26nm,1.3s,mb5.2,SNR=18
MOA Molln 91.32 328⇑*iPcP* PcP 20 25 59.5 -1.3
comp=Z,26nm,1.3s,SNR=18
GRA1 Grafenberg Arr 91.39 330 *eP* **P 20 25 59.6 -0.6**
comp=Z,30nm,1.0s,mb5.4
GRF Grafenberg Arr 91.39 330 *eP* **P 20 25 59.6 -0.6**
GRF pmax pmax
comp=Z,30nm,1.0s,mb5.4
GRF Grafenberg Arr 91.39 330 *eP* **P 20 25 59.6 -0.6**
GRF pmax pmax
comp=Z,30nm,1.0s,mb5.4
GRF Grafenberg Arr 91.39 330 *eP* **P 20 25 59.6 -0.6**
comp=Z,30nm,1.0s,mb5.4
GRFO Grafenberg 91.39 330 *eP* **P 20 26 00.1 -0.1**
GRFO pmax pmax
comp=Z,24nm,0.9s,mb5.3
GRFO Grafenberg 91.39 330 *eP* **P 20 26 00.1 0.0**
comp=Z,24nm,0.9s,mb5.3
ECSD EROS,Sioux Fal 91.49 38 *eP* **P 20 26 00.2 -0.5**
comp=Z,7.0nm,0.8s,mb4.8
ECSD *epP* pP 20 26 17.4 -2.3
WTSB Winterswijk 91.51 334 *eP* **P 20 25 59.4 -1.3**
comp=Z,20nm,0.9s,mb5.3
ESY Stoneypath 91.52 341 *eP* **P 20 26 00.1 -0.5**
BUG Bochum--Univer 91.73 333 *eP* **P 20 26 00.9 -0.8**
comp=Z,20nm,0.8s,mb5.4
PERS Pernice 91.75 326 *eP* **P 20 26 00.8 -1.1**
SOKA Soboth 91.77 326⇓*iPcP* PcP 20 26 00.9 -1.9
comp=Z,26nm,1.2s
EBL Broad Law 91.77 341 *eP* **P 20 26 01.7 -0.1**
XSO Sourhope Farm 91.77 340 *eP* **P 20 26 01.2 -0.6**
EAB Aberfoyle 91.78 342 *eP* **P 20 26 01.3 -0.5**
EAU Auchinoon 91.82 341 *eP* **P 20 26 01.8 -0.3**
OBKA Obir 92.12 326⇑*iP* **P 20 26 03.5 -0.2**
comp=Z,19nm,1.3s,mb5.2
OBKA Obir 92.12 326⇑*iPcP* PcP 20 26 03.5 -0.9
comp=Z,19nm,1.3s
PGBU Glenifferbraes 92.15 342 *eP* **P 20 26 03.9 +0.4**
PGBU AMb AMB 20 26 05.3
comp=Z,125nm,1.2s,mb6.0
ESK Eskdalemuir 92.21 341 *eP* **P 20 26 03.2 -0.6**
ESK AMb AMB 20 26 04.7
comp=Z,63nm,1.1s,mb5.8
XAL Allendale 92.30 340 *eP* **P 20 26 03.0 -1.3**
ECK Cauldkaine Hil 92.30 341 *eP* **P 20 26 03.9 -0.4**
KBA Koelnbreinsper 92.30 327⇓*iP* **P 20 26 03.7 -0.7**
comp=Z,14nm,1.2s,mb5.0,SNR=8.3
KBA Koelnbreinsper 92.30 327⇓*iPcP* PcP 20 26 03.7 -1.5
comp=Z,14nm,1.2s,SNR=8.3
KBA Koelnbreinsper 92.30 327⇓*iP* **P 20 26 03.7 -0.8**
KBA pmax pmax
comp=Z,14nm,1.3s,mb5.0
VNDS Vrh nad Dolski 92.33 326 *iP* **P 20 26 03.7 -0.9**
BOJS Bojanci 92.47 325 *iP* **P 20 26 05.0 -0.3**
MYKA Terra Mystica 92.48 327⇓*iP* **P 20 26 04.4 -0.9**
comp=Z,20nm,1.0s,mb5.3
MYKA Terra Mystica 92.48 327⇓*iPcP* PcP 20 26 04.4 -1.6
comp=Z,20nm,1.0s
FUR Furstenfeldbru 92.48 329 *eP* **P 20 26 05.4 +0.1**
FUR pmax pmax
comp=Z,54nm,0.7s,mb5.9
FUR Furstenfeldbru 92.48 329 *eP* **P 20 26 05.4 +0.1**
comp=Z,54nm,0.7s,mb5.9
TOD Tromm 92.50 331 *eP* **P 20 26 04.4 -0.9**
PTCC Patocco-Chiusa 92.78 327 P **P 20 26 05.6 -1.1**
comp=Z,13nm,1.1s,mb5.2
VOY Vojsko 92.78 326 *eP* **P 20 26 05.7 -1.0**
VOY *e* pP 20 26 24.7 -0.9
HGN Heimansgroeve 92.79 334 *eP* **P 20 26 05.7 -1.0**
comp=Z,15nm,1.2s,mb5.2
JAVS Javornik 92.80 326 *iP* **P 20 26 05.1 -1.7**
CKE Keswick 92.80 340 *eP* **P 20 26 06.2 -0.4**
ABH Alteburg 92.82 332 *eP* **P 20 26 05.7 -1.1**
CBKS Cedar Bluff 92.84 43 *eP* **P 20 26 06.4 -0.7**
CBKS *e*PP* pP 20 26 23.6 -2.4
CBKS pmax pmax
comp=Z,27nm,0.9s,mb5.6
CBKS Cedar Bluff 92.84 43 *eP* **P 20 26 06.4 -0.7**
comp=Z,27nm,0.9s,mb5.6
CBKS *epP* pP 20 26 23.6 -2.4
GMK Mull of Kintyr 92.86 342 *eP* **P 20 26 06.0 -0.9**
HPK Haverah Park 92.88 339 *eP* **P 20 26 06.5 -0.5**
HPK AMb AMB 20 26 08.6
comp=Z,56nm,0.9s,mb5.9
MEM Membach 92.88 333 P **P 20 26 05.3 -1.8**
comp=Z,5.9nm,1.0s,mb4.9
FVI Forni Avoltri 92.92 327 P **P 20 26 05.7 -1.6**
FVI pmax pmax
comp=Z,19nm,1.2s,mb5.3
FVI Forni Avoltri 92.92 327 P **P 20 26 05.7 -1.6**
comp=Z,19nm,1.2s,mb5.3
ABTA Abfaltersbach 92.94 328⇑*iP* **P 20 26 05.4 -2.0**
comp=Z,14nm,0.9s,mb5.3,SNR=14
STU Stuttgart 92.96 331 *eP* **P 20 26 07.0 -0.5**
comp=Z,30nm,0.8s,mb5.7
WTTA Wattenberg 92.98 328⇑*iP* **P 20 26 06.9 -0.6**
comp=Z,16nm,1.3s,mb5.2
WTTA Wattenberg 92.98 328⇑*iPcP* PcP 20 26 06.9 -1.2
comp=Z,16nm,1.3s
WTTA Wattenberg 92.98 328⇑*iP* **P 20 26 06.9 -0.7**
WTTA pmax pmax
comp=Z,16nm,1.3s,mb5.2
KTD Kalmit 93.03 332 *eP* **P 20 26 06.6 -1.1**
RUP Ruppelstein 93.16 332 *eP* **P 20 26 07.9 -0.5**
MOTA Moosalm 93.17 329⇓*iP* **P 20 26 07.8 -0.6**
comp=Z,6.0nm,0.9s,mb4.9
MOTA Moosalm 93.17 329⇓*iPcP* PcP 20 26 07.8 -1.2
comp=Z,6.0nm,0.9s
MOTA Moosalm 93.17 329⇓*iP* **P 20 26 07.8 -0.6**
MOTA pmax pmax
comp=Z,6.0nm,0.9s,mb4.9
LHO Holmfirth 93.31 339⇑*eP* **P 20 26 08.1 -0.8**
BCLA Clavier 93.31 334 P **P 20 26 08.4 -0.6**
comp=Z,7.8nm,1.2s,mb4.9
UCC Uccle 93.38 334 P **P 20 26 08.5 -0.9**
LANF Langenberg 93.40 331 *eP* **P 20 26 08.7 -0.8**
MNTX Cornudas Mount 93.41 52 *eP* **P 20 26 09.8 -0.1**
comp=Z,16nm,0.8s,mb5.4
KBI1 Birley Grange 93.45 339 *eP* **P 20 26 08.8 -0.8**
WLF Walferdange 93.56 333 *eP* **P 20 26 10.0 -0.2**
WLF pmax pmax
comp=Z,43nm,1.5s,mb5.6
WLF Walferdange 93.56 333 *eP* **P 20 26 10.0 -0.2**
comp=Z,43nm,1.5s,mb5.6
WLF Walferdange 93.56 333 P **P 20 26 10.2 0.0**
comp=Z,22nm,1.4s,mb5.3
WLF Walferdange 93.56 333 *eP* **P 20 26 09.8 -0.4**
comp=Z,29nm,0.9s,mb5.6
FETA Feichten 93.58 329⇓*iP* **P 20 26 09.7 -0.6**
comp=Z,15nm,1.1s,mb5.2
FETA Feichten 93.58 329⇓*iPcP* PcP 20 26 09.7 -1.1
comp=Z,15nm,1.1s
SPAK Spaichingen-Ko 93.65 330 *eP* **P 20 26 09.4 -1.2**
BFO Black Forest 93.67 331 *eP* **P 20 26 10.2 -0.5**
BFO pmax pmax
comp=Z,22nm,0.7s,mb5.6
BFO Black Forest 93.67 331 *eP* **P 20 26 10.2 -0.5**
comp=Z,22nm,0.7s,mb5.6
GIVF Givet 93.75 334 *eP* **P 20 26 10.2 -0.9**
KWE Weaver Farm 93.75 339 *eP* **P 20 26 10.1 -0.9**
DAVA Damuels 93.77 329⇑*iP* **P 20 26 08.9 -2.3**
comp=Z,49nm,1.4s,mb5.6
CWF Charnwood Fore 93.81 338 *eP* **P 20 26 10.6 -0.7**
CWF AMb AMB 20 26 11.8
comp=Z,69nm,1.2s,mb5.9
DOU Dourbes 93.85 334 P **P 20 26 10.8 -0.7**
comp=Z,4.0nm,1.1s,mb4.7
GMM Mts of Mourne 93.94 341 *eP* **P 20 26 10.7 -1.2**
BAIF Baives 94.03 334 *eP* **P 20 26 11.3 -1.0**
comp=Z,18nm,0.9s,mb5.1
BAIF Baives 94.03 334 *eP* **P 20 26 11.3 -1.0**
BAIF pmax pmax
comp=Z,9.0nm,0.9s,mb5.1
BAIF Baives 94.03 334 *eP* **P 20 26 11.3 -1.0**
comp=Z,8.9nm,0.9s,mb5.1
AMTX Amarillo 94.03 47 *eP* **P 20 26 13.1 +0.4**
comp=Z,12nm,0.7s,mb5.3
CDF Champ du Feu 94.06 331 *eP* **P 20 26 11.5 -1.0**
comp=Z,38nm,0.8s,mb5.5
CDF Champ du Feu 94.06 331 *eP* **P 20 26 11.5 -1.0**
CDF pmax pmax
comp=Z,19nm,0.8s,mb5.5
CDF Champ du Feu 94.06 331 *eP* **P 20 26 11.5 -1.0**
comp=Z,19nm,0.8s,mb5.5
BRMO Bormio 94.14 328 P **P 20 26 12.8 -0.1**
comp=Z,69nm,3.5s
FELD Feldberg im Sc 94.16 331 *eP* **P 20 26 10.9 -2.1**
ECH Echery 94.27 331 *eP* **P 20 26 12.0 -1.5**
SKP1 Kophill 94.50 338 *eP* **P 20 26 12.7 -1.8**
DMUB Kingscourt 94.50 342 *eP* **P 20 26 15.2 +0.8**
KSU1 Kansas State U 94.53 41 *eP* **P 20 26 14.2 -0.7**
comp=Z,21nm,0.8s,mb5.6
MOF Molkenrain 94.56 331 *eP* **P 20 26 13.5 -1.3**
SCHQ Schefferville 94.58 16 P **P 20 26 14.2 -0.5**
comp=Z,4.4nm,0.9s,mb4.9,baz=337,slow=9.3,SNR=4.4
SCHQ PKKPbc PKKPbc 20 43 08.7 -4.8
comp=Z,2.2nm,0.6s,baz=60,slow=16,SNR=5.8
SCHQ LR LR 21 07 06.7
comp=Z,133nm,21.6s,baz=95,slow=34
SSW Stow on the Wo 94.64 338 *eP* **P 20 26 14.7 -0.4**
BBS Basel-Blauen 94.69 331 *eP* **P 20 26 13.9 -1.5**
HINF Hinteralfeld 94.70 331 *eP* **P 20 26 14.1 -1.4**
comp=Z,21nm,0.9s,mb5.2
HINF Hinteralfeld 94.70 331 *eP* **P 20 26 14.1 -1.4**

HINF pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
HINF Hinteralfeld 94.70 331 *eP* **P 20 26 14.1 -1.4**
comp=Z,10nm,0.9s,mb5.3
THEF They Montfort 94.75 332 *eP* **P 20 26 14.6 -1.1**
HAU Haudompre 94.77 332 *eP* **P 20 26 14.6 -1.2**
comp=Z,18nm,0.7s,mb5.3
HAU *e*MLR MLR
comp=Z,143nm,21.2s
HAU Haudompre 94.77 332 *eP* **P 20 26 14.6 -1.2**
HAU pmax pmax
comp=Z,9.0nm,0.7s,mb5.3
HAU MLR MLR
comp=Z,140nm,21.3s
HAU Haudompre 94.77 332 *eP* **P 20 26 14.6 -1.2**
comp=Z,8.9nm,0.7s,mb5.3
HAU LR LR
comp=Z,140nm,21.3s
MEZF Maizieres J'vi 94.92 333 *eP* **P 20 26 15.6 -0.9**
comp=Z,52nm,0.8s,mb5.7
MEZF Maizieres J'vi 94.92 333 *eP* **P 20 26 15.6 -0.9**
comp=Z,52nm,0.8s,mb6.0
MCH1 Michaelchurch 94.99 339 *eP* **P 20 26 15.8 -0.8**
MCH1 AMb AMB 20 26 17.3
comp=Z,34nm,1.6s,mb5.5
DCN Croghan 95.10 342 *eP* **P 20 26 16.8 -0.4**
CABF La Chapelle 95.97 331 *eP* **P 20 26 19.9 -1.4**
comp=Z,13nm,0.7s,mb5.2
CABF La Chapelle 95.97 331 *eP* **P 20 26 19.9 -1.4**
CABF pmax pmax
comp=Z,7.0nm,0.7s,mb5.2
CABF La Chapelle 95.97 331 *eP* **P 20 26 19.9 -1.4**
comp=Z,6.7nm,0.7s,mb5.2
TXAR Lajitas Array 95.98 53 P **P 20 26 22.1 +0.4**
comp=Z,9.5nm,0.8s,mb5.3,baz=308,slow=2.9,SNR=85
TXAR PKKPbc PKKPbc 20 43 07.9 -1.1
comp=Z,0.3nm,0.8s,baz=75,slow=5.4,SNR=4.0
TXAR LR LR 21 01 50.1
comp=Z,98nm,20.5s,baz=180,slow=30
TIP Timpagrande 96.00 320 *eP* **P 20 26 21.8 +0.2**
comp=Z,12nm,1.2s,mb5.2
TRAV 96.08 329 P **P 20 26 20.3 -1.5**
LOR Lormes 96.39 332 *eP* **P 20 26 22.0 -1.2**
comp=Z,31nm,1.1s,mb5.3
LOR *e*MLR MLR
comp=Z,129nm,21.5s
LOR Lormes 96.39 332 *eP* **P 20 26 22.0 -1.2**
LOR pmax pmax
comp=Z,15nm,1.1s,mb5.3
LOR MLR MLR
comp=Z,130nm,21.5s
LOR Lormes 96.39 332 *eP* **P 20 26 22.0 -1.2**
comp=Z,15nm,1.1s,mb5.3
LOR LR LR
comp=Z,130nm,21.5s
LPL La Plagne 96.53 330 *eP* **P 20 26 23.0 -0.9**
comp=Z,17nm,0.6s,mb5.4
LPL La Plagne 96.53 330 *eP* **P 20 26 23.0 -0.9**
LPL pmax pmax
comp=Z,9.0nm,0.6s,mb5.4
LPL La Plagne 96.53 330 *eP* **P 20 26 23.0 -0.9**
comp=Z,8.5nm,0.6s,mb5.3
LPG La Plagne 96.54 330 *eP* **P 20 26 23.0 -0.9**
comp=Z,20nm,0.5s,mb5.5
LPG La Plagne 96.54 330 *eP* **P 20 26 23.0 -0.9**
LPG pmax pmax
comp=Z,10.0nm,0.5s,mb5.5
LPG La Plagne 96.54 330 *eP* **P 20 26 23.0 -0.9**
comp=Z,10nm,0.5s,mb5.5
SSF Saint Saulge 96.70 333 *eP* **P 20 26 23.3 -1.3**
comp=Z,21nm,0.9s,mb5.3
SSF Saint Saulge 96.70 333 *eP* **P 20 26 23.3 -1.3**
SSF pmax pmax
comp=Z,11nm,0.9s,mb5.3
SSF Saint Saulge 96.70 333 *eP* **P 20 26 23.3 -1.3**
comp=Z,11nm,0.9s,mb5.3
FLN La Foliniere 96.86 336 *eP* **P 20 26 23.8 -1.5**
FLN *e*MLR MLR
comp=Z,89nm,20.0s
FLN La Foliniere 96.86 336 *eP* **P 20 26 23.8 -1.5**
FLN LR LR
comp=Z,90nm,20.0s
LDF La Druitiere 96.87 335 *eP* **P 20 26 23.9 -1.4**
comp=Z,18nm,1.0s,mb5.2
LDF La Druitiere 96.87 335 *eP* **P 20 26 23.9 -1.4**
LDF pmax pmax
comp=Z,9.0nm,1.0s,mb5.2
LDF La Druitiere 96.87 335 *eP* **P 20 26 23.9 -1.4**
comp=Z,9.2nm,1.0s,mb5.2
HYF Humbligny 96.89 333 *eP* **P 20 26 24.6 -0.8**
SMF Signal de Mont 96.89 332 *eP* **P 20 26 24.4 -1.1**
comp=Z,29nm,1.0s,mb5.4
SMF Signal de Mont 96.89 332 *eP* **P 20 26 24.4 -1.1**
SMF pmax pmax
comp=Z,15nm,1.0s,mb5.4
SMF Signal de Mont 96.89 332 *eP* **P 20 26 24.4 -1.1**
comp=Z,15nm,1.0s,mb5.4
BNI Bardonecchia 96.91 330 *eP* **P 20 26 24.9 -0.7**
BNI pmax pmax
comp=Z,4.0nm,0.8s,mb4.9
BNI Bardonecchia 96.91 330 *eP* **P 20 26 24.9 -0.7**
comp=Z,4.5nm,0.8s,mb5.0
AVF Avril sur Loir 96.98 332 *eP* **P 20 26 24.6 -1.3**
comp=Z,33nm,0.8s,mb5.5
AVF Avril sur Loir 96.98 332 *eP* **P 20 26 24.6 -1.3**
AVF pmax pmax
comp=Z,16nm,0.8s,mb5.5
AVF Avril sur Loir 96.98 332 *eP* **P 20 26 24.6 -1.3**
comp=Z,16nm,0.8s,mb5.5
MBDF Montbardon 97.12 329 *eP* **P 20 26 24.5 -2.0**
comp=Z,7.6nm,0.6s,mb5.0
MBDF Montbardon 97.12 329 *eP* **P 20 26 24.5 -2.0**
MBDF pmax pmax
comp=Z,4.0nm,0.6s,mb5.0
MBDF Montbardon 97.12 329 *eP* **P 20 26 24.5 -2.0**
comp=Z,3.8nm,0.6s,mb5.0
GRR Gorron 97.31 336 *eP* **P 20 26 26.0 -1.3**
comp=Z,11nm,0.6s,mb5.2
GRR Gorron 97.31 336 *eP* **P 20 26 26.0 -1.3**
GRR pmax pmax
comp=Z,6.0nm,0.6s,mb5.2
GRR Gorron 97.31 336 *eP* **P 20 26 26.0 -1.3**
comp=Z,5.7nm,0.6s,mb5.2
BGF Bois d'Agland 97.38 333 *eP* **P 20 26 26.5 -1.1**
ORIF Oris-en-Rattie 97.38 330 *eP* **P 20 26 26.5 -1.2**
comp=Z,8.3nm,0.7s,mb5.0
ORIF *e*MLR MLR
comp=Z,194nm,19.8s
ORIF Oris-en-Rattie 97.38 330 *eP* **P 20 26 26.5 -1.2**
ORIF pmax pmax
comp=Z,4.0nm,0.7s,mb5.0
ORIF Oris-en-Rattie 97.38 330 *eP* **P 20 26 26.5 -1.2**
comp=Z,4.2nm,0.7s,mb5.0
SBF Sospel 97.48 328 *eP* **P 20 26 26.7 -1.5**
comp=Z,19nm,0.9s,mb5.2
SBF Sospel 97.48 328 *eP* **P 20 26 26.7 -1.5**
SBF pmax pmax
comp=Z,9.0nm,0.9s,mb5.2
SBF Sospel 97.48 328 *eP* **P 20 26 26.7 -1.5**
comp=Z,9.3nm,0.9s,mb5.2
PLDF La Plantade 97.53 332 *eP* **P 20 26 27.5 -0.8**
PGF Pioggiola 97.72 327 *eP* **P 20 26 27.9 -1.4**
comp=Z,8.2nm,0.9s,mb5.0
PGF Pioggiola 97.72 327 *eP* **P 20 26 27.9 -1.4**
PGF pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
PGF Pioggiola 97.72 327 *eP* **P 20 26 27.9 -1.4**
comp=Z,4.1nm,0.9s,mb5.0
TCF Toulx Ste Croi 97.85 333 *eP* **P 20 26 28.7 -1.1**
comp=Z,8.4nm,0.9s,mb5.0
TCF Toulx Ste Croi 97.85 333 *eP* **P 20 26 28.7 -1.1**
TCF pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
TCF Toulx Ste Croi 97.85 333 *eP* **P 20 26 28.7 -1.1**
comp=Z,4.2nm,0.9s,mb5.0
VIVF Saint-Julien-l 97.96 331 *eP* **P 20 26 28.9 -1.4**
comp=Z,5.2nm,0.8s,mb4.8
VIVF Saint-Julien-l 97.96 331 *eP* **P 20 26 28.9 -1.4**
VIVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.9
VIVF Saint-Julien-l 97.96 331 *eP* **P 20 26 28.9 -1.4**
comp=Z,2.6nm,0.8s,mb4.8
PYM Petit Puy Mans 97.96 332 *eP* **P 20 26 27.1 -3.2**
SGMF Saint Gilles 98.03 337 *eP* **P 20 26 29.5 -1.1**
FRF La Foret Royal 98.08 329 *eP* **P 20 26 29.6 -1.3**
comp=Z,8.4nm,0.9s,mb5.0
FRF La Foret Royal 98.08 329 *eP* **P 20 26 29.6 -1.3**
FRF pmax pmax
comp=Z,4.0nm,0.9s,mb5.0
FRF La Foret Royal 98.08 329 *eP* **P 20 26 29.6 -1.3**
comp=Z,4.2nm,0.9s,mb5.0
ROSF Rostrenen 98.21 337 *eP* **P 20 26 30.5 -0.9**
comp=Z,28nm,1.1s,mb5.4
ROSF Rostrenen 98.21 337 *eP* **P 20 26 30.5 -0.9**
ROSF pmax pmax
comp=Z,14nm,1.1s,mb5.4
ROSF Rostrenen 98.21 337 *eP* **P 20 26 30.5 -0.9**
comp=Z,14nm,1.1s,mb5.4
LMR La Mourre 98.32 328 *eP* **P 20 26 30.0 -1.9**
comp=Z,8.6nm,0.8s,mb5.0
LMR La Mourre 98.32 328 *eP* **P 20 26 30.0 -1.9**
LMR pmax pmax
comp=Z,4.0nm,0.8s,mb5.0
LMR La Mourre 98.32 328 *eP* **P 20 26 30.0 -1.9**
comp=Z,4.3nm,0.8s,mb5.0
MFF Saint Martin d 98.53 334 *eP* **P 20 26 31.8 -1.0**
LASF Ste Croix 98.93 330 *eP* **P 20 26 33.7 -1.0**
comp=Z,6.4nm,0.8s,mb4.9
RJF Les Rejaudoux 98.94 333 *eP* **P 20 26 33.8 -0.9**
comp=Z,14nm,0.8s,mb5.2
RJF *e*MLR MLR
comp=Z,197nm,22.0s
RJF Les Rejaudoux 98.94 333 *eP* **P 20 26 33.8 -0.9**
RJF pmax pmax
comp=Z,7.0nm,0.8s,mb5.2
RJF MLR MLR
comp=Z,200nm,22.0s
RJF Les Rejaudoux 98.94 333 *eP* **P 20 26 33.8 -0.9**
comp=Z,6.8nm,0.8s,mb5.2
RJF LR LR
comp=Z,200nm,22.0s
CAF Calviac 99.02 332 *eP* **P 20 26 34.1 -0.9**
LFF La Frestale 99.55 333 *eP* Pdif 20 26 36.6 -0.7
comp=Z,9.5nm,0.6s
LFF La Frestale 99.55 333 *eP* Pdif 20 26 36.6 -0.7
LFF pmax pmax
comp=Z,5.0nm,0.6s,mb5.3
LFF La Frestale 99.55 333 *eP* Pdif 20 26 36.6 -0.7
comp=Z,4.8nm,0.6s
ETSF Etsaut 101.76 332 *eP* Pdif 20 26 46.4 -0.8
ESDC Sonseca Array 105.86 333 PKKPab PKKPab 20 42 57.4 -3.4
comp=Z,1.8nm,0.7s,baz=221,slow=5.0,SNR=8.7
QSPA South Pole Qui 117.18 180 *e*PKPdf PKPdf 20 31 37.0 -1.0
LSZ Lusaka 117.25 266 *e*PKIKP PKPdf 20 31 39.1 -0.8
SYO Syowa Base 119.51 204⇓ *e*PKPdf PKPdf 20 31 40.2 -2.5
TOA0 Torodi Ar. Sit 123.84 311 *e*PKPdf PKPdf 20 31 51.6 -1.1
TORD Torodi Ar. Bea 123.84 311 PKP PKPdf 20 31 51.8 -0.9
comp=Z,9.1nm,0.6s,baz=46,slow=1.0,SNR=184
TORD PKKPbc PKKPbc 20 41 37.2 -1.5
comp=Z,1.3nm,0.7s,baz=227,slow=2.8,SNR=15
BOSA Boshof 124.22 253 PKP PKPdf 20 31 52.9 -0.1
comp=Z,3.1nm,0.7s,baz=170,slow=5.0,SNR=6.4
CPD Cerro la Pandu 127.64 33 *e*PKIKP PKPdf 20 31 58.8 -1.1
SDV Santo Domingo 132.42 45 *e*PKPdf PKPdf 20 32 08.8 -0.3
ROSC El Rosal 132.90 53 PKP PKPdf 20 32 11.0 +0.9
comp=Z,4.9nm,0.4s,baz=96,slow=20,SNR=4.7
DBIC Dimbokro 132.95 311 PKP PKPdf 20 32 10.3 +0.2
comp=Z,13nm,0.7s,baz=29,slow=1.4,SNR=15
VNA2 Neumayer--Watz 133.03 193 *e*PKPdf PKPdf 20 32 07.8 -0.7
baz=110,slow=1.9
VNA2 Neumayer--Watz 133.03 193 *e*PKPdf PKPdf 20 32 07.8 -0.7
baz=156,slow=1.1
VNA2 *e* 20 32 09.2
VNA2 *e* 20 32 28.9
VNA2 *e* 20 32 30.6
VNA2 *e* 20 32 36.7
VNA2 *e* 20 34 31.7
VNA2 *e* 20 35 27.7
VNA2 *e* 20 35 30.8
VNA2 *e* 20 35 38.9
TIC Toumodi 133.08 311 *e*PKIKP PKPdf 20 32 10.5 +0.1
comp=Z,48nm,0.7s
KIC Kosan Boka 133.10 311 *e*PKIKP PKPdf 20 32 10.5 +0.1
comp=Z,56nm,0.8s
VNA3 Neumayer Olymp 133.23 192 *e*PKPdf PKPdf 20 32 08.0 -0.9
VNA3 Neumayer Olymp 133.23 192 *e*PKPdf PKPdf 20 32 08.0 -0.9
VNA3 *e* 20 32 09.3
VNA3 *e* 20 32 29.3
VNA3 *e* 20 32 30.4
VNA3 *e* 20 32 37.2
VNA3 *e* 20 34 32.8
VNA3 *e* 20 35 29.3
VNA3 *e* 20 35 32.8
VNA3 *e* 20 35 41.4
LIC Lamto 133.39 311⇑ *f*PKIKP PKPdf 20 32 10.9 -0.1
comp=Z,28nm,0.8s
LIC Lamto 133.39 311 *e*PKIKP PKPdf 20 32 10.8 -0.2
comp=Z,56nm,0.9s
VNA1 Neumayer--Stat 133.43 193 *e*PKPdf PKPdf 20 32 08.7 -0.5
VNA1 Neumayer--Stat 133.43 193 *e*PKPdf PKPdf 20 32 08.7 -0.5
VNA1 *e* 20 32 10.3
VNA1 *e* 20 32 29.9
VNA1 *e* 20 32 31.4
VNA1 *e* 20 32 39.2
VNA1 *e* 20 34 35.3
VNA1 *e* 20 35 29.9
VNA1 *e* 20 35 32.7
ARE Arequipa 147.71 77 *e*PKP2 PKPab 20 32 40.0 -1.8
LPAZ La Paz 150.53 74 PKP PKPdf 20 32 41.8 +0.8
comp=Z,5.3nm,0.8s,baz=322,slow=2.7,SNR=26
LPAZ PKPbc PKPbc 20 32 47.2 +0.8
comp=Z,31nm,0.7s,baz=337,slow=2.8,SNR=89
PLCA Paso Flores 150.57 125 PKP PKPdf 20 32 40.0 -0.3
comp=Z,8.3nm,0.9s,baz=208,slow=2.9,SNR=17
PLCA PKPbc PKPbc 20 32 45.8 0.0
comp=Z,31nm,0.9s,baz=230,slow=4.5,SNR=38
LVC Limon Verde 152.17 87 *e*PKPbc PKPbc 20 32 50.3 +0.2
CPUP Villa Florida 163.26 91 PKP PKPdf 20 32 56.5 -0.4
comp=Z,8.9nm,0.9s,baz=352,slow=3.3,SNR=11
CPUP PKPab PKPab 20 33 46.9 -0.9
comp=Z,6.6nm,0.7s,baz=270,slow=3.8,SNR=9.6
BDFB Brasilia 165.40 39 PKP PKPdf 20 32 59.1 0.0
comp=Z,3.6nm,0.8s,baz=178,slow=23,SNR=6.4
BDFB PKPab PKPab 20 33 56.7 -0.5
comp=Z,1.9nm,0.6s,baz=11,slow=26,SNR=3.0

*THR **24** 20:16:29.3±1.2, 3068N×5040E, h15km, ML2.8*
*ISCJB **24** 20:16:30.7±3.2, 3066N±005×5052E±007, h18km±36km, Error ellipse: s-maj=11.2km s-min=7.9km az=25.2*
*CSEM **24** 20:16:30.2±0.1, 3065N×5061E, h20km, ML2.8, Error ellipse: s-maj=6.4km s-min=3.0km az=121.0*
*KISR **24** 20:16:31.7±1.2, 3106N×4991E, h34km±58km, ML1.6*
ISC 24 20:16:30.9±2.8, 3069N±005×5046E±008, h6km±22km, n21, σ0°85/27, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHGR	**Shooshtar-Gavs**	**2.01**	**315**	*e*Pg	**Pn**	**20 17 04.9**	**-0.4**
SHGR				AML	AML	20 17 35.0	
comp=N,131nm,0.8s							
SHGR				AML	AML	20 17 38.9	
comp=E,112nm,0.7s							
UMR	**Umm Al-Rimmam**	**2.63**	**245**	*e*P	**Pn**	**20 17 14.6**	**+0.7**
UMR				*e*S	**Sn**	**20 17 46.8**	**+0.7**
UMR				AML	AML	20 17 58.2	
comp=Z,0.8nm,0.1s							
UMR	**Umm Al-Rimmam**	**2.63**	**245**	*e*P	**Pn**	**20 17 14.9**	**+1.0**
MIB	**Mutribah**	**2.84**	**253**	*e*P	**Pn**	**20 17 16.9**	**+0.1**
MIB	**Mutribah**	**2.84**	**253**	*e*P	**Pn**	**20 17 17.4**	**+0.7**
NASN	**Na'in**	**2.90**	**43**	*e*Pn	**Pn**	**20 17 17.4**	**-0.1**
RDF	**Al-Radifah**	**3.08**	**236**	*e*P	**Pn**	**20 17 20.9**	**+0.9**
RDF				*e*S	**Sn**	**20 17 59.4**	**+2.2**
RDF				AML	AML	20 18 00.2	
comp=Z,8.6nm,0.2s							
RDF	**Al-Radifah**	**3.08**	**236**	*e*P	**Pn**	**20 17 20.7**	**+0.7**
RDF				*e*S	**Sn**	**20 17 57.8**	**+0.7**
NAY	**Al-Naaiem**	**3.14**	**244**	*e*P	**Pn**	**20 17 21.6**	**+0.8**
NAY				*e*S	**Sn**	**20 17 58.8**	**+0.1**
NAY				AML	AML	20 18 00.1	
comp=Z,6.1nm,0.3s							
NAY	**Al-Naaiem**	**3.14**	**244**	*e*P	**Pn**	**20 17 21.7**	**+0.9**
RST	**Umm Al-Ruwaisa**	**3.23**	**249**	*e*P	**Pn**	**20 17 21.8**	**-0.3**
RST				*e*S	**Sn**	**20 17 58.8**	**-2.0**
RST				AML	AML	20 18 00.4	
comp=Z,0.2nm,0.4s							
RST	**Umm Al-Ruwaisa**	**3.23**	**249**	*e*P	**Pn**	**20 17 22.4**	**+0.4**
GHIR	**Ghir-Karzin**	**3.25**	**137**	*e*Pn	**Pn**	**20 17 22.6**	**+0.2**
GHIR				AML	AML	20 18 06.9	
comp=N,18nm,0.5s							
KFJS		**3.32**	**222**	P	**Pn**	**20 17 22.3**	**-1.1**
KFJS				S	**Sn**	**20 18 02.8**	**-0.3**
GHVR	**GHOM**	**3.85**	**10**	*e*Pn	**Pn**	**20 17 30.9**	**+0.3**
ASAO	**Ashtian**	**3.87**	**355**	*e*Pn	**Pn**	**20 17 31.1**	**+0.3**
ASAO				AML	AML	20 18 17.3	
comp=N,11nm,0.6s							
ASAO				AML	AML	20 18 17.4	
comp=E,12nm,0.6s							
DAMV	**Damavand**	**5.09**	**14**	*e*Pn	**Pn**	**20 17 47.3**	**-0.3**
ASYS		**6.22**	**241**	P	**Pn**	**20 18 01.1**	**-2.2**
BTHS		**6.62**	**177**	P	**Pn**	**20 18 08.3**	**-0.4**
HRDDS		**7.78**	**187**	P	**Pn**	**20 18 24.7**	**+0.1**

IDC 24 20:37:43.5±31.0, 1962S×17465W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.7/16, mbtmp3.9/4, Error ellipse: s-maj=567.5km s-min=152.6km az=76.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
CTA	**Charters Tower**	**36.72**	**262**	P	P	20 44 53.4	+0.7
5.8nm,1.0s,baz=307,slow=12,SNR=3.2							
STKA	**Stephens Creek**	**41.00**	**244**	P	P	20 45 28.8	+0.3
1.0nm,0.8s,baz=315,slow=20,SNR=2.3							
ASAR	**Alice Springs**	**47.79**	**255**	P	P	20 46 21.2	-1.7
0.4nm,0.7s,baz=95,slow=7.8,SNR=5.2							
WRA	**Warramunga Arr**	**47.85**	**261**	P	P	20 46 23.8	+0.5
0.7nm,0.3s,baz=96,slow=8.4,SNR=8.3							

NEIC 24 20:51:36.9, 1938N×15524W, h1km, MD3.9(HVO), After HVO., Hawaiian Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
STCH	**Steam Cracks**	**0.11**	**87**	*e*P	Pg	20 51 39.7	+0.7
KHU	**Kahuku**	**0.38**	**250**	*e*P	Pg	20 51 45.2	+1.0
POHA	**Pohakuloa**	**0.46**	**324**	*e*P	Pg	20 51 46.6	+0.8
KKH	**Kailua Kona**	**0.78**	**291**	*e*P	Pg	20 51 52.0	+0.1

*NIED **24** 20:53:00, 2620N×12700E, h56km, Mw4.6 Best double couple: M0 7.94000×10^15 NP1:φs345.00000°, δ58.00000°, λ-122.00000°. NP2:φs215.00000°, δ44.00000°, λ-50.00000°.*
*MOS **24** 20:53:32.9±1.1, 2614N×12702E, h33km, mb4.9/25, Error ellipse: s-maj=13.3km s-min=7.1km az=114.5*
*ISCJB **24** 20:53:36.4±0.2, 2617N±003×12702E±003, h61km±2km, mb4.7/62, Error ellipse: s-maj=5.9km s-min=2.6km az=141.4*
*JMA **24** 20:53:36.9±0.1, 2618N×12700E, h54km±1km, M4.7*
JMA Felt III J1.
*IDC **24** 20:53:39.4±3.5, 2602N×12668E, h76km±32km, mb4.3/15, mb1 4.4/17, mb1mx4.3/22, mbtmp4.3/17, MS3.5/10, Ms1 3.5/10, ms1mx3.4/27, Error ellipse: s-maj=27.7km s-min=10.9km az=72.0*
*BJI **24** 20:53:41.5, 2599N×12694E, h121km, mB4.7, mb4.4*
*SZGRF **24** 20:53:41.6, 2775N×12751E, h33km, mb4.8, Ryukyu Islands, Japan*
*NEIC **24** 20:53:41.9±0.8, 2606N×12682E, h96km±7km, mb4.7/27, MW4.5(NIED), Error ellipse: s-maj=7.9km s-min=6.4km az=107.0*
NEIC Felt [II] at Chatan and Okinawa. Also felt at Ginowan, Naha, Nago and Tomigusuku. Recorded [3 JMA] on Kume-jima and [2 JMA] on Okinawa.
ISC 24 20:53:37.6±0.2, 2617N±003×12704E±003, h55km±2km, h51km±3.1km: pP-P, n161, σ1.9°01/175, mb4.7/62, MS3.7/11, 10C-10D, Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
JKE	**Kume jima 2**	**0.27**	**305**	P	**Pn**	**20 53 45.9**	**-1.0**
JKE				S	**Sn**	**20 53 52.4**	**-1.3**
JAGN	**Aguni-jima**	**0.46**	**24**	P	**Pn**	**20 53 48.1**	**-0.6**
JAGN				S	**Sn**	**20 53 56.1**	**-0.6**
NAH1	**Naha**	**0.59**	**87**	P	**Pn**	**20 53 49.6**	**-0.6**
NAH1				S	**Sn**	**20 53 58.8**	**-0.5**
JJT2	**Tamagusuku 2**	**0.64**	**93**	P	**Pn**	**20 53 50.7**	**-0.1**
JJT2				S	**Sn**	**20 54 01.1**	**+0.7**
JIH	**Iheya**	**1.20**	**44**	P	**Pn**	**20 53 57.7**	**-0.4**
JIH				S	**Sn**	**20 54 12.8**	**-0.5**
JOW	**Kunigami**	**1.29**	**59**	P	**Pn**	**20 53 59.2**	**-0.1**
JOW				S	**Sn**	**20 54 15.1**	**-0.5**
JOGS	**Gusukube**	**2.04**	**227**	P	**Pn**	**20 54 09.3**	**-0.1**
JOGS				*e*S	**Sn**	**20 54 34.2**	**+0.5**
JMJ	**Miyako jima 2**	**2.07**	**230**	P	**Pn**	**20 54 09.5**	**-0.5**
JMJ				*e*S	**Sn**	**20 54 34.2**	**-0.4**
JTK	**Tokunoshima**	**2.35**	**46**	P	**Pn**	**20 54 13.1**	**-0.6**
JTK				S	**Sn**	**20 54 41.8**	**+0.5**
JTJ	**Tarama**	**2.60**	**235**	P	**Pn**	**20 54 17.4**	**+0.2**
JTJ				S	**Sn**	**20 54 46.9**	**-0.7**
JIJ	**Ishigaki jima**	**3.18**	**236**	P	**Pn**	**20 54 24.1**	**-1.0**
JIJ				S	**Sn**	**20 55 01.4**	**-0.3**
JAM	**Amami Oshima**	**3.19**	**45**	P	**Pn**	**20 54 25.6**	**+0.3**
JAM				S	**Sn**	**20 55 02.1**	**0.0**
JKRS	**Kuro-shima**	**3.35**	**236**	P	**Pn**	**20 54 27.1**	**-0.3**
JKRS				S	**Sn**	**20 55 05.7**	**-0.3**
JZK	**Kikaishima**	**3.38**	**50**	P	**Pn**	**20 54 28.4**	**+0.6**
JZK				*e*S	**Sn**	**20 55 07.4**	**+0.8**
IRIF	**Iriomote-Funau**	**3.51**	**239**	P	**Pn**	**20 54 28.7**	**-0.9**
IRIF				*e*S	**Sn**	**20 55 10.2**	**+0.4**
HATJ	**Hateruma jima**	**3.61**	**235**	P	**Pn**	**20 54 32.2**	**+1.3**
JMZ	**Minamidaito 2**	**3.78**	**94**	P	**Pn**	**20 54 29.5**	**-3.9**
JMZ				S	**Sn**	**20 55 09.6**	**-7.0**
YOJ	**Yonaguni jima**	**4.02**	**246**	P	**Pn**	**20 54 37.6**	**+1.0**
YOJ				S	**Sn**	**20 55 24.3**	**+1.9**
JNN	**Nakanoshima**	**4.43**	**34**	P	**Pn**	**20 54 43.4**	**+1.1**
JNN				S	**Sn**	**20 55 34.3**	**+1.7**
TATO	**Taipei**	**5.15**	**258**	*e*P	**Pn**	**20 54 54.9**	**+2.8**
NACB	**Ninganchiao**	**5.32**	**249**	*e*P	**Pn**	**20 54 53.0**	**-1.4**
128nm,0.7s							
YHNB	**Yeheng**	**5.33**	**255**	*e*P	**Pn**	**20 54 56.4**	**+1.9**
470nm,0.8s							
KSRS	**Korea Array**	**11.27**	**4**	P	**Pn**	**20 56 19.1**	**+3.3**
0.4nm,0.3s,baz=184,slow=13,SNR=19							
KSRS				LR	LR	21 00 39.1	
comp=Z,190nm,20.3s,baz=147,slow=37							
INCN	**Inchon**	**11.28**	**358**	*e*P	**Pn**	**20 56 21.1**	**+5.1**
25nm,0.8s							
WHN	**Wuhan**	**11.99**	**294**	*e*P	**Pn**	**20 56 27.5**	**+1.8**
WHN				LR	LR		
comp=N,875nm,6.7s							
WHN				LR	LR		
comp=E,358nm,3.5s							
WHN				LR	LR		
comp=Z,403nm,11.0s							
DL2	**Dalian**	**13.49**	**342**	P		20 56 55.3	
DL2				AMB	AMB		
comp=Z,20nm,0.8s							
DL2				LR	LR		
comp=N,130nm,15.4s							
DL2				LR	LR		
comp=E,100nm,15.3s							
DL2				LR	LR		
comp=Z,100nm,15.5s							
MAJO	**Matsushiro**	**14.06**	**40**	*e*P	**Pn**	**20 57 01.1**	**+7.3**
MAJO				pmax	pmax		
comp=Z,13nm,0.6s							
MAJO	**Matsushiro**	**14.06**	**40**	*e*P	**Pn**	**20 57 01.1**	**+7.3**
comp=Z,13nm,0.6s							
MJAR	**Matsushiro Arr**	**14.06**	**40**	P	**Pn**	**20 57 01.2**	**+7.4**
comp=Z,2.2nm,0.3s,baz=226,slow=9.6,SNR=32							
MJAR				LR	LR	21 02 34.4	
comp=Z,135nm,21.8s,baz=230,slow=37							
QIZ	**Qiongzhong**	**17.38**	**249**	P	**Pn**	**20 57 33.3**	**-3.0**
QIZ				S	**S**	**21 00 44.6**	**-10**
QIZ				LR	LR		
comp=N,195nm,25.6s							
QIZ				LR	LR		
comp=Z,197nm,32.4s							
XAN	**Xi'an**	**17.51**	**301**	P	**Pn**	**20 57 39.3**	**+1.5**
XAN				AMB	AMB		
comp=Z,3.0nm,0.8s							
XAN				LR	LR		
comp=E,115nm,13.8s							
XAN				LR	LR		
comp=Z,185nm,17.7s							
CN2	**Changchun**	**17.64**	**356**	*e*P	**Pn**	**20 57 41.1**	**+1.8**
CN2				AMB	AMB		
comp=Z,20nm,1.0s							
ERM	**Erimo**	**20.63**	**36⇓**	*e*P	**P**	**20 58 11.2**	**-1.1**

LZH Lanzhou 22.13 302 *e*P **P 20 58 29.4 +0.9**
LZH AMB AMB
comp=Z,17nm,1.0s,mb4.4
MYLDM Lahad Datu 22.41 203 ⇓P **P 20 58 33.5 +1.9**
SDKM Sandakan 22.48 206 ⇓P **P 20 58 34.3 +2.0**
KKM Kota Kinabalu 22.52 209 *e*P **P 20 58 32.8 0.0**
KKM Kota Kinabalu 22.52 209 ⇑P pP 20 58 43.3 -2.0
TSM Tawau 23.46 204 ⇑P **P 20 58 43.9 +1.6**
YSS Yuzh-Sakhalins 24.20 27 *e*P **P 20 58 49.5 +0.8**
YSS pmax pmax
comp=Z,18nm,0.8s,mb4.5
YSS Yuzh-Sakhalins 24.20 27 *e*P **P 20 58 49.5 +0.7**
comp=Z,18nm,0.8s,mb4.5
KKTK Khon Kaen 24.56 251 P **P 20 58 52.6 +0.3**
comp=Z,247nm,0.7s,mb5.8
GTA Gaotai 26.30 307 *e*P **P 20 59 07.3 -0.7**
GTA AMB AMB
comp=Z,7.0nm,0.8s,mb4.2
GTA LR LR
comp=N,134nm,15.7s,MS3.6
GTA LR LR
comp=E,87nm,16.8s,MS3.6
GTA LR LR
comp=Z,139nm,15.7s,MS3.6
BTM Bintulu 26.48 213 ⇓P **P 20 59 12.1 +2.4**
CHG Chiang Mai 26.93 260 ⇓P **P 20 59 13.7 -0.1**
comp=Z,39nm,0.8s,mb5.0
CHTO Chiang Mai 26.93 260 *e*P **P 20 59 13.8 0.0**
CHTO pmax pmax
comp=Z,14nm,0.8s,mb4.5
CHTO Chiang Mai 26.93 260 *e*P **P 20 59 13.8 0.0**
comp=Z,14nm,0.8s,mb4.6
SONM Songjino Array 27.03 328 P **P 20 59 15.7 +1.3**
comp=Z,2.4nm,0.4s,mb4.1,baz=138,slow=9.2,SNR=18
SONM LR LR 21 11 52.0
comp=Z,85nm,18.3s,MS3.3,baz=240,slow=40
SBUM Sibu 27.55 214 ⇓P **P 20 59 19.9 +0.5**
LSA Lhasa 31.82 285 *e*P **P 20 59 57.3 +0.2**
LSA pmax pmax
comp=Z,2.0nm,0.6s,mb4.1
LSA Lhasa 31.82 285 *e*P **P 20 59 57.2 +0.1**
comp=Z,2.4nm,0.6s,mb4.2
MYKOM Kota Tinggi 32.94 226 ⇑P **P 21 00 08.4 +1.4**
KGM Kluang 33.11 227 ⇑P **P 21 00 09.9 +1.3**
YAK Yakutsk 35.90 2⇑*e*P **P 21 00 32.8 +0.8**
YAK pmax pmax
comp=Z,7.0nm,0.6s,mb4.8
BATI Kupang 36.31 186 P **P 21 00 33.0 -3.1**
comp=Z,34nm,0.6s,mb5.4,baz=307,slow=4.6,SNR=12
JIRN Jiri 36.34 282 *e*P **P 21 00 37.0 +0.7**
comp=Z,7.5nm,0.4s,mb5.0
GUN Gumba 36.58 282 *e*P **P 21 00 38.9 +0.6**
comp=Z,14nm,0.4s,mb5.2
PKI Pulchoki 37.03 282 *e*P **P 21 00 41.9 -0.3**
comp=Z,7.6nm,0.3s,mb5.0
KKN Kakani 37.12 282 *e*P **P 21 00 42.7 -0.2**
DMN Daman 37.30 282 *e*P **P 21 00 44.3 -0.1**
comp=Z,6.6nm,0.6s,mb4.6
GKN Gorkha 37.66 283 *e*P **P 21 00 47.4 -0.1**
DANN Dangsing 38.38 283 *e*P **P 21 00 53.3 -0.3**
comp=Z,22nm,0.5s,mb5.1
KOLN Koldanda 38.60 282 *e*P **P 21 00 54.6 -0.8**
comp=Z,3.4nm,0.4s,mb4.5
SEY Seymchan 40.39 18⇑*e*P **P 21 01 10.8 +1.0**
MK31 Makanchi Array 40.78 312 *i*P **P 21 01 12.4 -0.8**
MK31 pmax pmax
comp=Z,2.0nm,0.3s,mb4.2
MK31 Makanchi Array 40.78 312 *e*P **P 21 01 11.7 -1.6**
MKAR Makanchi Array 40.78 312 P **P 21 01 12.2 -1.0**
comp=Z,5.4nm,0.4s,mb4.5,baz=95,slow=9.7,SNR=89
ZAA0 Zalesovo Array 41.65 323 *e*P **P 21 01 19.5 -0.8**
ZALV Zalesovo Beam 41.65 323 P **P 21 01 19.4 -0.9**
ZALV LR LR 21 19 04.4
ZALV Zalesovo Beam 41.65 323 P **P 21 01 19.4 -0.9**
comp=Z,7.0nm,0.4s,mb4.7,baz=113,slow=8.8,SNR=29
ZALV LR LR 21 19 04.4
comp=Z,36nm,18.8s,MS3.3,baz=92,slow=37
ZAL Zalesovo 41.65 323 P **P 21 01 19.4 -0.9**
FITZ Fitzroy Crossi 44.03 182 ⇓*i*P **P 21 01 38.8 -1.1**
comp=Z,17nm,0.6s,mb5.0
KURK Kurchatov 44.13 317 *e*P **P 21 01 39.4 -1.0**
KURK pmax pmax
comp=Z,5.0nm,0.3s,mb4.7
KURK Kurchatov 44.13 317 *e*P **P 21 01 39.4 -1.0**
comp=Z,5.4nm,0.3s,mb4.8
TKM2 Tokmak 2 44.84 305 *e*P **P 21 01 46.7 +0.5**
TKM2 pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
TKM2 Tokmak 2 44.84 305 *e*P **P 21 01 46.7 +0.5**
comp=Z,6.4nm,0.6s,mb4.6
TIXI Tiksi 45.53 1⇑*e*P **P 21 01 50.3 -0.9**
TIXI pmax pmax
comp=Z,1.0nm,1.0s,mb3.7
TIXI Tiksi 45.53 1 *e*P **P 21 01 49.9 -1.3**
comp=Z,1.6nm,0.3s,mb4.4
UCH Uchtor 45.59 304 *e*P **P 21 01 53.2 +1.1**
comp=Z,6.6nm,0.8s,mb4.6
HYB Hyderabad 45.64 269 *e*P **P 21 01 53.0 +0.2**
HYB Hyderabad 45.64 269⇑*i*P **P 21 01 53.0 +0.2**
AML Almayashu 46.19 304 *e*P **P 21 01 57.8 +0.9**
WRAB Tennant Creek 46.38 170 *e*P **P 21 01 57.3 -1.2**
WRAB pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
WRAB Tennant Creek 46.38 170 *e*P **P 21 01 57.3 -1.2**
comp=Z,8.4nm,0.7s,mb4.8
WRA Warramunga Arr 46.38 170 P **P 21 01 57.7 -0.8**
comp=Z,7.7nm,0.7s,mb4.8,baz=352,slow=8.6,SNR=32
WB2 Warramunga Arr 46.39 170 ⇓*i*P **P 21 01 57.4 -1.1**
MBWA Marble Bar 47.58 189 *e*P **P 21 02 06.7 -1.2**
BILL Bilibino 48.07 19 P **P 21 02 12.0 +0.9**
BILL 21 03 38.0
BILL *e*S **S 21 09 00.7 -4.5**
BILL pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
BILL MLR MLR
comp=Z,100nm,19.0s,MS3.8
KK31 Karatay Array 48.57 305 *i*P **P 21 02 15.1 -0.3**
KK31 pmax pmax
comp=Z,1.0nm,0.3s,mb4.3
BVAR Borovoye Array 49.60 319 P **P 21 02 22.6 -0.5**
comp=Z,2.3nm,0.3s,mb4.7,baz=109,slow=9.2,SNR=26
CTA Charters Tower 49.62 156 LR LR 21 22 55.8
comp=Z,86nm,19.6s,MS3.8,baz=151,slow=35
BRVK Borovoye 49.67 319 *e*P **P 21 02 23.1 -0.5**
BRVK pmax pmax
comp=Z,20nm,1.0s,mb5.1
BRVK Borovoye 49.67 319 *e*P **P 21 02 23.1 -0.6**
comp=Z,20nm,1.0s,mb5.1
ASAR Alice Springs 49.99 172 P **P 21 02 25.9 -0.4**
comp=Z,4.8nm,0.8s,mb4.6,baz=356,slow=9.7,SNR=49
ASAR PcP PcP 21 03 45.2 -0.4
comp=Z,2.0nm,0.7s,baz=357,slow=2.7,SNR=6.5
KBL Kabul 50.15 294 *e*P **P 21 02 27.2 -0.4**
comp=Z,8.5nm,0.7s,mb4.9
SVE Sverdlovsk 55.65 322 *e*P **P 21 03 07.2 -0.5**
SVE pmax pmax
comp=Z,10.0nm,0.8s,mb4.9
ARU Arti 56.77 322 *d*i*P **P 21 03 14.5 -1.2**
ARU *e*S **S 21 11 08.0 +3.5**
ARU *e*SS SS 21 14 57.6 +4.9
ARU pmax pmax
comp=Z,9.0nm,1.2s,mb4.7
STKA Stephens Creek 59.37 166 ⇓*i*P **P 21 03 33.5 -0.6**
comp=Z,8.6nm,0.7s,mb4.9
STKA Stephens Creek 59.37 166 P **P 21 03 33.6 -0.5**
comp=Z,9.7nm,0.7s,mb5.0,baz=342,slow=7.9,SNR=28
IMA2 Indian Mountai 62.05 27 *e*P **P 21 03 53.1 +1.1**
CNB Canberra Magne 64.70 160 *e*P **P 21 04 10.8 +1.0**
comp=Z,14nm,0.8s,mb5.0
TMCR Tamitsa 66.35 331 *e*P **P 21 04 19.3 -0.8**
TMCR pmax pmax
comp=Z,12nm,0.8s,mb5.0
EGAK Eagle 67.41 28 *e*P **P 21 04 27.1 +0.2**
comp=Z,3.7nm,0.7s,mb4.5
KIV Kislovodsk 68.45 309⇑*e*P **P 21 04 33.8 0.0**
KIV pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
KEV Kevo 69.10 338 *e*p **P 21 04 35.5 -1.9**
MIB Mutribah 69.11 294 *e*P **P 21 04 37.2 -0.9**
MIB AMb AMB 21 04 38.2
comp=Z,18nm,0.4s,mb5.3
RDF Al-Radifah 69.22 293 *e*P **P 21 04 37.7 -1.1**
RDF AMb AMB 21 04 40.7
comp=Z,13nm,0.7s,mb5.0
NAY Al-Naaiem 69.36 293 *e*P **P 21 04 38.8 -0.9**
NAY AMb AMB 21 04 40.5
comp=Z,14nm,0.7s,mb5.0
INK Inuvik 69.37 23 *e*P **P 21 04 39.3 +0.3**
comp=Z,445nm,1.3s
JOF Joensuu 69.57 331 *e*p **P 21 04 38.8 -1.6**
comp=Z,4.7nm,0.5s,mb4.7
ARCES ARCESS Array B 69.67 338 P **P 21 04 39.2 -1.7**
comp=Z,0.9nm,0.3s,mb4.1,baz=70,slow=6.8,SNR=32
SOC Sochi 70.61 310 *e*P **P 21 04 43.2 -4.0**
SOC pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
SOC MLR MLR
comp=Z,265nm,26.0s,MS4.4
AFI Afiamalu 71.59 116 LR LR 21 30 07.1
comp=Z,69nm,19.8s,MS3.9,baz=274,slow=30
FINES FINESS Array B 72.38 330 *i*P **P 21 04 56.5 -1.0**
FINES pmax pmax
comp=Z,3.0nm,0.3s
FINES FINESS Array B 72.38 330 P **P 21 04 56.6 -0.9**
comp=Z,3.0nm,0.3s,mb4.7,baz=60,slow=5.7,SNR=68
FINES LR LR 21 40 17.1
comp=Z,49nm,20.8s,MS3.8,baz=1.3,slow=39
MALT Malatya 73.26 305 *e*P **P 21 05 03.6 +0.5**
MALT pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
MALT Malatya 73.26 305 *e*P **P 21 05 03.6 +0.5**
comp=Z,2.4nm,0.6s,mb4.3
AKASG Malin Array Be 74.88 319 *i*P **P 21 05 11.1 -1.2**
AKASG pmax pmax
comp=Z,6.0nm,0.3s
AKASG Malin Array Be 74.88 319 P **P 21 05 11.2 -1.1**
comp=Z,5.5nm,0.3s,mb4.9,baz=60,slow=6.4,SNR=36
AKBB Malin Array Si 74.88 319 *e*P **P 21 05 11.3 -1.0**
KIEV Kiev 74.89 319 *e*P **P 21 05 11.1 -1.3**
KIEV pmax pmax
comp=Z,6.0nm,0.3s,mb5.0
KIEV Kiev 74.89 319 *e*P **P 21 05 11.1 -1.2**
comp=Z,6.4nm,0.3s,mb5.0
RES Resolute Bay 75.80 11 *e*P **P 21 05 17.1 -0.1**
comp=Z,184nm,0.7s
SUW Suwalki 76.87 324 *e*P **P 21 05 23.4 -0.2**
SUW Suwalki 76.87 324 *e*P **P 21 05 23.4 -0.2**
NB2 NORSAR Subarra 78.89 333 P **P 21 05 33.6 -1.1**
comp=Z,6.3nm,0.9s,mb4.5,baz=51,slow=6.2
NOA NORSAR Array B 78.89 333 P **P 21 05 33.8 -0.9**
comp=Z,2.8nm,0.6s,mb4.4,baz=54,slow=6.0,SNR=14
NOA LR LR 21 43 39.6
comp=Z,30nm,18.2s,MS3.7,baz=25,slow=38
YKA Yellowknife Ar 79.03 25 *i*P **P 21 05 35.7 +0.3**
YKA pmax pmax
comp=Z,3.0nm,0.7s
YKA Yellowknife Ar 79.03 25 P **P 21 05 35.8 +0.4**
YKA LR LR 21 40 13.4
YKA Yellowknife Ar 79.03 25 P **P 21 05 35.8 +0.4**
comp=Z,2.6nm,0.7s,mb4.3,baz=299,slow=5.3,SNR=27
YKA LR LR 21 40 13.4
comp=Z,15nm,21.5s,MS3.3,baz=220,slow=35
KWP Kalwaria 79.12 320 *e*P **P 21 05 36.3 +0.1**
KWP Kalwaria 79.12 320 *e*P **P 21 05 36.3 +0.1**
KOLS Kolonicke sedl 79.70 320 *e*P **P 21 05 39.1 -0.2**
STHS Stebnicka Huta 80.07 320 *e*P **P 21 05 40.8 -0.5**
STHS pmax pmax
comp=Z,1.0nm,0.7s,mb3.9
STHS Stebnicka Huta 80.07 320 *e*P **P 21 05 40.8 -0.5**
comp=Z,1.2nm,0.7s,mb3.9
CRVS Cervenica-Dubn 80.19 320 *e*P **P 21 05 44.1 +2.1**
OJC Ojcow 80.50 322 *e*P **P 21 05 43.3 -0.3**
VYHS Vyhne 81.90 320 *e*P **P 21 05 51.3 +0.2**
VYHS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VYHS Vyhne 81.90 320 *e*P **P 21 05 51.3 +0.2**
comp=Z,4.2nm,1.3s,mb4.2
MODS Modra-Piesok 82.86 321 *e*P **P 21 05 57.1 +1.0**
CLL Collm 83.58 325 *e*P **P 21 06 00.0 +0.3**
CLL *e* 21 06 07.0
KHC Kasperske Hory 84.50 323⇑*e*P **P 21 06 05.2 +0.7**
GERES GERESS Array B 84.59 322 P **P 21 06 05.4 +0.4**
comp=Z,1.3nm,0.6s,mb4.2,baz=48,slow=4.7,SNR=13
GVD Gavdhos 85.19 306 *e*P **P 21 06 07.5 -0.7**
comp=Z,10nm,0.9s,mb5.0
GRA1 Grafenberg Arr 85.44 324 *e*P **P 21 06 09.9 +0.7**
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 85.44 324 *e*P **P 21 06 09.9 +0.7**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 85.44 324 *e*P **P 21 06 09.9 +0.7**
GRF pmax pmax
comp=Z,5.0nm,0.9s,mb4.6
GRF Grafenberg Arr 85.44 324 *e*P **P 21 06 09.9 +0.7**
comp=Z,5.0nm,0.9s,mb4.6
BMO Blue Mountains 88.19 40 *e*P **P 21 06 22.9 +0.3**
comp=Z,2.1nm,1.0s,mb4.3
BMO *e* pP 21 06 37.1 -1.4
FCC Fort Churchill 88.76 20 *e*P **P 21 06 24.7 -0.3**
FCC *e* pP 21 06 38.5 -2.4
FCC pmax pmax
comp=Z,72nm,1.8s,mb5.7
FCC Fort Churchill 88.76 20 *e*P **P 21 06 24.7 -0.4**
comp=Z,72nm,1.8s,mb5.7
FCC *e* pP 21 06 38.5 -2.4
FFC Flin Flon 89.12 26 *e*P **P 21 06 23.7 -3.1**
FFC *e* pP 21 06 40.7 -1.9
FFC pmax pmax
comp=Z,4.0nm,0.7s,mb4.9
FFC Flin Flon 89.12 26 *e*P **P 21 06 23.7 -3.1**
comp=Z,3.9nm,0.7s,mb4.8
FFC *e* pP 21 06 40.7 -1.9
EGMT Eagleton 90.30 34 *e*P **P 21 06 32.9 +0.4**
comp=Z,3.4nm,0.8s,mb4.7
DLMT Dillon 90.53 37 *e*P **P 21 06 34.0 +0.5**
comp=Z,9.0nm,1.0s,mb5.0
DLMT *e* pP 21 06 48.6 -0.8
NVAR Mina Array Bea 91.32 46 P **P 21 06 40.0 +2.6**
NVAR Mina Array Bea 91.32 46 P **P 21 06 40.0 +2.6**
comp=Z,0.6nm,0.7s,mb4.0,baz=258,slow=5.6,SNR=4.9
FLWY Flagg Ranch 92.39 38 *e*P **P 21 06 44.4 +2.2**
comp=Z,5.5nm,0.8s,mb4.9
FLWY *e* pP 21 06 58.3 +0.2
SCHQ Schefferville 98.45 8 LR LR 21 55 30.2
comp=Z,44nm,20.5s,MS3.9,baz=101,slow=38
QSPA South Pole Qui 115.95 180 PKiKP PKiKP 21 12 11.9 -1.1
comp=Z,0.6nm,0.6s,baz=342,slow=2.9,SNR=5.9
VNA2 Neumayer--Watz 128.40 197 *e*PKPdf PKPdf 21 12 38.1 +1.0
baz=51,slow=1.8
VNA2 *e* 21 12 43.1
VNA2 *e* 21 12 58.7

CSEM ***24*** *21:15:15.4±0.1,3897N×4051E,h8km,MD2.9,Error ellipse: s-maj=4.2km s-min=3.1km az=123.0*
ISK ***24*** *21:15:15.0,3902N×4050E,h5km,MD2.9*
ISCJB ***24*** *21:15:16.2±0.8,3898N±004×4051E±005,h1km±8km, Error ellipse: s-maj=6.5km s-min=5.6km az=144.5*
DDA ***24*** *21:15:17.2,3899N×4057E,h7km±3km,Md2.8*
ISC 24 21:15:16.8±0.6,**3897N**±004×**4052E**±005,**h8**km±7km,**n10,** σ**1§11/15,Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	**Bingol**	**0.10**	**194**	PG	**Pg**	**21 15 18.6**	**-0.5**
BNGL	**BINGOL**	**0.49**	**92**	*i* P	**Pg**	**21 15 26.1**	**-0.3**
BNGL				*i* S	**Sg**	**21 15 33.5**	**+0.8**
PTK	**Pertek**	**0.88**	**265**	*e*PG	**Pg**	**21 15 32.6**	**-1.2**
PTK				*e*SG	**Sg**	**21 15 46.3**	**+1.1**
KOPT	**Kop Dagi**	**1.05**	**359**	*i* P	**Pg**	**21 15 37.2**	**+0.2**
KOPT				*i* S	**Sg**	**21 15 52.2**	**+1.6**
BTMT	**Batman**	**1.09**	**135**	*e*PN	**Pn**	**21 15 37.2**	**-1.2**
SVRC	**Sivrice-ELAZID**	**1.12**	**239**	*e*PN	**Pn**	**21 15 37.8**	**-0.9**
EZM	**Erzurum**	**1.14**	**35**	*e*PN	**Pn**	**21 15 37.2**	**-1.9**
ERZM	**Erzurum**	**1.14**	**35**	*i* P	**Pg**	**21 15 37.6**	**-1.2**
ERZM				*i* S	**Sg**	**21 15 53.9**	**+0.3**
MARD	**Mardin**	**1.67**	**173**	*i* P	**Pn**	**21 15 47.1**	**+0.8**
MARD				*i* S	**Sn**	**21 16 10.5**	**+2.6**
AGRB	**Hanur-Agry**	**2.01**	**72**	*e*PN	**Pn**	**21 15 51.5**	**+0.5**

ISCJB ***24*** *21:20:04.4±0.8,2423S×005×6681W±008,h141km±13km, Error ellipse: s-maj=12.7km s-min=7.8km az=17.5*
IDC ***24*** *21:20:05.1±1.8,2417S×6702W,h149km±22km,mb3.6/1, mb1 3.7/5,mb1mx3.4/18,mbtmp3.6/5,Error ellipse: s-maj=44.8km s-min=14.5km az=107.0*
NEIC ***24*** *21:20:06.2±0.9,2414S×6704W,h161km±19km,Error ellipse: s-maj=25.4km s-min=10.3km az=106.0*
ISC 24 21:20:05.4±0.7,**2421S**±005×**6681W**±008,**h131**km±12km,
n11,σ**1§11/15,Salta Province**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.50**	**309**	*e*P	**Pn**	**21 20 46.3**	**+0.6**
CFAA	**Coronel Fontan**	**7.47**	**189**	P	**Pn**	**21 21 52.8**	**+1.0**
0.2nm,0.3s,baz=3.1,slow=13,SNR=17							
CFAA				S	**Sn**	**21 23 13.8**	**-1.1**
0.3nm,0.3s,baz=264,slow=19,SNR=11							
LPAZ	**La Paz**	**7.98**	**351**	*e*P	**Pn**	**21 21 58.4**	**-0.3**
LPAZ				S	**Sn**	**21 23 22.8**	**-4.6**
LPAZ	**La Paz**	**7.98**	**351**	P	**Pn**	**21 21 58.4**	**-0.3**
8.4nm,0.3s,baz=178,slow=9.7,SNR=228							
LPAZ				S	**Sn**	**21 23 22.8**	**-4.6**
baz=137,slow=24,SNR=1.8							
CPUP	**Villa Florida**	**8.84**	**106**	S	**Sn**	**21 23 48.2**	**+0.1**
0.2nm,0.3s,baz=150,slow=20,SNR=2.3							
SIV	**San Ignacio**	**9.79**	**34**	P	**Pn**	**21 22 23.5**	**+0.5**
1.4nm,0.3s,baz=218,slow=13,SNR=13							
SIV				S	**Sn**	**21 24 10.2**	**-1.1**
0.2nm,0.3s,baz=268,slow=18,SNR=2.6							
PLCA	**Paso Flores**	**16.77**	**190**	P	**Pn**	**21 23 51.5**	**-0.8**
0.1nm,0.3s,baz=358,slow=12,SNR=3.2							
BDFB	**Brasilia**	**19.61**	**68**	P	**P**	**21 24 25.2**	**+1.7**
0.8nm,0.3s,baz=238,slow=17,SNR=20							
VNA3	**Neumayer Olymp**	**56.90**	**161**	*e*	**P**	**21 29 38.4**	**+2.2**
VNA3				*e*		21 29 41.6	
VNA3				*e*		21 29 43.7	
VNA2	**Neumayer--Watz**	**57.46**	**160**	*e*	**P**	**21 29 39.5**	**-0.6**
baz=277,slow=6.9							
VNA2				*e*		21 29 42.9	
VNA2				*e*		21 29 44.7	
TORD	**Torodi Ar. Bea**	**76.48**	**69**	P	**P**	**21 31 39.6**	**-1.6**
1.0nm,0.6s,baz=260,slow=6.3,SNR=17							

MAN 24 21:30:48,874N×12578E,h15km,mb4.7,ML3.6,MS3.6, 2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BIPH	**Bislig**	**0.80**	**134**⇓	*e*P	Pg	21 31 02.4	-1.2
BIPH				*e*S	Sg	21 31 15.5	+1.3
SCPH	**Surigao**	**1.07**	**345**	*e*P	Pb	21 31 08.4	+0.1
SCPH				*e*S	Sb	21 31 23.5	+1.5
CGP	**Cagayan de Oro**	**1.11**	**255**⇑	*i*P	Pb	21 31 08.3	-0.6
CGP				*i* S	Sb	21 31 23.3	+0.2
BUKP	**Musuan**	**1.11**	**220**	*e*P	Pb	21 31 07.9	-1.0
BUKP				*e*S	Sb	21 31 25.0	+1.8
MSLP	**Maasin**	**1.65**	**327**	*e*P	Pn	21 31 16.8	+0.4
MATI	**Mati**	**1.85**	**165**	*e*P	Pn	21 31 19.7	+0.5
MATI				*e*S	Sn	21 31 44.5	+2.2
KCP	**Kidapawan**	**1.85**	**202**⇑	*i*P	Pn	21 31 24.2	+5.0
KCP				*i* S	Sn	21 31 49.8	+7.4
TBP	**Tagbilaran**	**2.11**	**297**	*e*P	Pn	21 31 24.4	+1.6
TBP				*e*S	Sn	21 31 48.7	-0.1
DCPH	**Dipolog City**	**2.40**	**266**	*e*P	Pn	21 31 28.0	+1.2
DCPH				*e*S	Sn	21 31 58.8	+2.9
PAGZ	**Pagadian**	**2.53**	**250**	*e*P	Pn	21 31 31.8	+3.3
SNPH	**Sibulan**	**2.58**	**284**	*e*P	Pn	21 31 31.0	+1.8
CNP	**Catarman**	**3.90**	**344**	*e*P	Pn	21 31 51.6	+4.2

TEH ***24*** *21:50:48.7,2831N×5229E,h15km,ML3.9*
THR ***24*** *21:51:37.9±0.6,2802N×5236E,h18km±5km,ML4.4*
IDC ***24*** *21:51:40.7±1.0,2823N×5236E,h0km,mb3.9/18, mb1 4.0/19,mb1mx4.0/27,mbtmp3.9/19,ML3.5/1,MS3.0/7, Ms1 3.0/7,ms1mx2.8/32,Error ellipse: s-maj=22.8km s-min=15.8km az=170.0*
CSEM ***24*** *21:51:40.3±0.1,2821N×5228E,h14km,mb4.2/16,Error ellipse: s-maj=1.7km s-min=1.5km az=68.0*
ISCJB ***24*** *21:51:40.5±0.7,2825N±003×5238E±003,h10km±5km, mb4.0/35,MS3.0/4,Error ellipse: s-maj=4.4km s-min=4.3km az=18.6*
NEIC ***24*** *21:51:41.6±0.4,2821N×5238E,h10km,mb4.1/17, ML4.0(THR),Error ellipse: s-maj=9.4km s-min=5.3km az=177.0*
MOS ***24*** *21:51:44.0±0.7,2826N×5224E,h34km,mb4.3/10,Error ellipse: s-maj=13.7km s-min=6.3km az=125.5*
ISC 24 21:51:41.8±0.7,**2824N**±003×**5239E**±003,**h7**km±5km,**n156,** σ**1§10/168,mb4.0/35,MS3.0/4,3C,Southern Iran**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**0.53**	**85**	Pg	**Pg**	**21 51 50.0**	**-1.9**
GHIR				Sg	**Sg**	**21 51 58.0**	**-0.8**
GHIR	**Ghir-Karzin**	**0.53**	**85**	*e*Pg	**Pg**	**21 51 50.4**	**-1.6**
GHIR				*e*Sg	**Sg**	**21 51 58.5**	**-0.3**
GHIR				AML	AML	21 52 04.4	
comp=N,18μm,0.5s							
GHIR				AML	AML	21 52 08.9	
comp=E,19μm,0.5s							
GHIR	**Ghir-Karzin**	**0.53**	**85**	*e*Pg	**Pg**	**21 51 50.3**	**-1.6**
SNR=96							
GHIR				Sg	**Sg**	**21 51 58.0**	**-0.8**
IMOK	**Mouk**	**0.85**	**19**	*e*Pg	**Pg**	**21 51 57.4**	**-0.8**
IMOK				*e*		21 52 17.0	
comp=Z,45μm,0.3s							
ISRV	**Sarvestan**	**1.30**	**29**	*e*Pg	**Pg**	**21 52 08.4**	**+1.6**
ISRV				*e*		21 52 33.5	
comp=Z,32μm,0.2s							
SHI	**Shiraz**	**1.40**	**4**	*e*Pg	**Pg**	**21 52 09.7**	**+1.0**
SHI				*e*		21 52 39.9	
comp=Z,22μm,0.3s							
IPAR	**Pars**	**1.70**	**20**	*e*Pg	**Pg**	**21 52 14.6**	**+0.3**
IPAR				*e*		21 52 43.5	
comp=Z,34μm,0.4s							
IMEH	**Mehriz**	**3.69**	**31**	*e*Pn	**Pn**	**21 52 41.4**	**+2.2**
IMEH				*e*Sn	**Sn**	**21 53 23.3**	**+0.4**
IMEH				*e*		21 53 57.1	
comp=Z,2μm,0.4s							
IMEH	**Mehriz**	**3.69**	**31**	*e*Pn	**Pn**	**21 52 41.4**	**+2.2**
IMEH				*e*Sn	**Sn**	**21 53 23.3**	**+0.4**
SLWS		**3.77**	**205**	P	**Pn**	**21 52 40.5**	**+0.2**
SLWS		**3.77**	**205**	P	**Pn**	**21 52 40.5**	**+0.2**
IGAR	**Gharneh**	**4.16**	**356**	*e*Pn	**Pn**	**21 52 44.7**	**-1.0**
BANOM	**Banah**	**4.18**	**123**	P	**Pn**	**21 52 46.6**	**+0.6**
SNR=20							
RDF	**Al-Radifah**	**4.31**	**280**	*e*P	**Pn**	**21 52 48.8**	**+1.0**
RDF				*e*S	**Sn**	**21 53 40.2**	**+1.9**
RDF				AML	AML	21 53 42.1	
comp=Z,80nm,0.5s							
RDF	**Al-Radifah**	**4.31**	**280**	*e*P	**Pn**	**21 52 48.4**	**+0.6**
IBAF	**Bafgh**	**4.33**	**39**	*e*Pn	**Pn**	**21 52 49.8**	**+1.8**
IBAF				*e*		21 54 14.3	
comp=Z,1μm,0.5s							
ICHK	**Chekchek**	**4.36**	**23**	*e*Pn	**Pn**	**21 52 50.3**	**+1.9**
ICHK				*e*		21 52 53.6	
comp=Z,1μm,0.2s							
NAZ	**Nazwa, Dubai**	**4.36**	**137**	P	**Pn**	**21 52 49.8**	**+1.3**
SNR=13							
BTHS		**4.40**	**199**	P	**Pn**	**21 52 49.4**	**+0.4**
ASUD	**Al Ashush, Dub**	**4.46**	**143**	P	**Pn**	**21 52 51.6**	**+1.8**
SNR=24							
NASN	**Na'in**	**4.56**	**4**	Pn	**Pn**	**21 52 51.0**	**-0.2**
NASN				Sg	**Sg**	**21 54 04.0**	**-4.2**
NASN	**Na'in**	**4.56**	**4**	*e*Pn	**Pn**	**21 52 51.6**	**+0.4**
NASN				Sn	**Sn**	**21 53 45.2**	**+0.8**
NASN				*e*Sg	**Sg**	**21 54 06.5**	**-1.7**
IPIR	**Pirpir**	**4.62**	**344**	*e*Pn	**Pn**	**21 52 49.9**	**-2.1**
IPIR				*e*		21 53 49.4	
comp=Z,832nm,0.5s							
NAY	**Al-Naaiem**	**4.63**	**284**	*e*P	**Pn**	**21 52 53.0**	**+0.8**
NAY				*e*S	**Sn**	**21 53 48.0**	**+1.8**
NAY				AML	AML	21 53 49.2	
comp=Z,38nm,0.6s							
IZEF	**Zefreh**	**4.64**	**359**	*e*Pn	**Pn**	**21 52 50.7**	**-1.6**
MIB	**Mutribah**	**4.69**	**291**	*e*P	**Pn**	**21 52 53.8**	**+0.8**
MIB				*e*S	**Sn**	**21 53 48.4**	**+0.7**
MIB				AML	AML	21 53 51.8	
comp=Z,110nm,0.6s							
MIB	**Mutribah**	**4.69**	**291**	*e*P	**Pn**	**21 52 54.0**	**+1.0**
HATD	**Hatta, Dubai**	**4.77**	**135**	P	**Pn**	**21 52 54.6**	**+0.5**
SNR=17							
ASHO	**Ashiyiah**	**4.83**	**136**	P	**Pn**	**21 52 55.1**	**+0.2**
SNR=30							
RST	**Umm Al-Ruwaisa**	**4.89**	**286**	*e*P	**Pn**	**21 52 57.0**	**+1.2**
RST				*e*S	**Sn**	**21 53 54.8**	**+2.1**
RST				AML	AML	21 53 57.5	
comp=Z,3.2nm,0.6s							
IKLH	**Kolahrood**	**5.11**	**352**	*e*Pn	**Pn**	**21 52 56.8**	**-2.0**
IKLH				*e*		21 54 15.8	
comp=Z,583nm,0.2s							

HRDDS		5.91 207	P	Pn	21 53 10.0	+0.2
GHVR	GHOM	6.29 352	ePn	Pn	21 53 15.3	+0.3
ASAO	Ashtian	6.61 343	Pn	Pn	21 53 19.0	-0.3
ASAO	Ashtian	6.61 343	ePn	Pn	21 53 19.4	0.0
ASYS		7.16 266	P	Pn	21 53 25.9	-1.1
IKOM	Komasi	7.24 326	ePn	Pn	21 53 28.7	+0.6
IKOM			eSn	Sn	21 54 44.6	-6.0
IKOM			e		21 54 54.7	
	comp=Z,799nm,0.3s					
IKOM	Komasi	7.24 326	ePn	Pn	21 53 28.7	+0.6
IKOM			eSn	Sn	21 54 44.6	-6.0
IDMV	Damavand	7.32 358	ePn	Pn	21 53 29.3	+0.2
IDMV			e		21 56 11.8	
	comp=Z,303nm,0.5s					
DAMV	Damavand	7.38 357	Pn	Pn	21 53 30.0	+0.1
DAMV	Damavand	7.38 357	ePn	Pn	21 53 30.1	+0.2
IFIR	Firoozkooh	7.39 2	ePn	Pn	21 53 30.6	+0.6
IFIR			e		21 53 32.9	
	comp=Z,78nm,0.1s					
IRAZ	Razeghan	7.45 344	ePn	Pn	21 53 30.7	-0.1
IRAZ			e		21 54 23.2	
	comp=Z,200nm,0.3s					
IAFJ	Afjeh	7.62 356	ePn	Pn	21 53 33.6	+0.4
IAFJ			e		21 53 34.9	
	comp=Z,252nm,0.1s					
LYLS		7.74 218	P	Pn	21 53 34.6	-0.3
IGHG	Ghaleghazi	7.85 322	ePn	Pn	21 53 37.0	+0.6
IGHG			e		21 55 12.3	
	comp=Z,549nm,0.2s					
SNGE	Sanandaj	8.07 329	Pn	Pn	21 53 39.0	-0.4
SNGE	Sanandaj	8.07 329	ePn	Pn	21 53 39.3	-0.1
IGLO	Ghaloghah	8.33 8	ePn	Pn	21 53 44.0	+1.1
IGLO			e		21 54 00.5	
	comp=Z,140nm,0.2s					
GNI	Garni	13.45 334	LR	LR	22 00 45.1	
	comp=Z,96nm,18.4s,baz=265,slow=40					
MMAI	Mount Meron Ar	15.38 292	Pn	Pn	21 55 18.0	-1.2
	comp=Z,0.2nm,0.3s,baz=38,slow=49,SNR=3.3					
MMAI			LR	LR	22 01 48.1	
	comp=Z,21nm,19.5s,baz=195,slow=40					
MALT	Malatya	15.39 314	eP	Pn	21 55 18.8	-0.5
MALT			pmax	pmax		
	comp=Z,6.0nm,0.8s					
MALT	Malatya	15.39 314	eP	Pn	21 55 18.8	-0.5
	comp=Z,6.0nm,0.8s					
MALT	Malatya	15.39 314	eP	Pn	21 55 18.8	-0.5
	comp=Z,6.0nm,0.8s					
GZT	Gaziantep	15.41 310	i P	Pn	21 55 26.9	+7.2
KBL	Kabul	15.54 62	eP	Pn	21 55 20.9	-0.4
	comp=Z,8.2nm,1.1s					
KBL	Kabul	15.54 62	eP	Pn	21 55 21.0	-0.3
	comp=Z,8.1nm,1.1s					
KIV	Kislovodsk	17.51 336	eP	Pn	21 55 45.4	-1.0
KIV			pmax	pmax		
	comp=Z,6.0nm,1.1s					
KIV			MLR	MLR		
	comp=Z,45nm,12.0s					
KIV	Kislovodsk	17.51 336	eP	Pn	21 55 45.4	-1.0
	comp=Z,45nm,12.0s					
CDAG	Cicekdag	18.74 312	i P	Pn	21 55 59.5	-2.0
ATD	Arta Tunnel	18.87 210	LR	LR	22 03 24.0	
	comp=Z,24nm,19.4s,baz=69,slow=37					
CTKT	Corum	19.02 315	i P	Pn	21 56 07.3	+2.4
BOYT	Boyabat	19.42 317	i P	Pn	21 56 12.6	+2.9
BALT	Daday	20.41 315	i P	P	21 56 24.0	+4.6
ESKT	Eskisehir	21.08 308	i P	P	21 56 27.1	+0.5
SEYT	Eskypehyr	21.08 308	i P	P	21 56 27.1	+0.5
SIM	Simferopol'	22.13 324	i P	P	21 56 38.0	+0.1
SIM			e		21 56 51.0	
AML	Almayashu	22.17 46	eP	P	21 56 39.1	+0.7
	comp=Z,6.6nm,0.6s,mb4.2					
AML	Almayashu	22.17 46	eP	P	21 56 39.1	+0.7
	comp=Z,6.6nm,0.6s,mb4.2					
EKS2	Erkin-Say	22.51 45	eP	P	21 56 47.9	+5.9
	comp=Z,3.6nm,0.8s,mb3.9					
AKTK	Aktyubinsk	22.58 9	P	P	21 56 44.4	+1.8
AKTK	Aktyubinsk	22.58 9	P	P	21 56 44.3	+1.8
AKTO	Aktyubinsk	22.58 9	P	P	21 56 44.4	+1.8
	comp=Z,1.8nm,0.5s,mb3.8,baz=183,slow=16,SNR=6.0					
BDRM	Kayabasi	22.73 299	i P	P	21 56 45.5	+1.2
UCH	Uchtor	22.75 46	eP	P	21 56 50.4	+5.9
	comp=Z,3.0nm,0.8s,mb3.8					
SANT	Santorini	24.11 296	eP	P	21 56 58.4	+0.2
	comp=Z,9.9nm,0.8s,mb4.3					
SANT	Santorini	24.11 296	eP	P	21 56 58.4	+0.3
	comp=Z,9.9nm,0.8s,mb4.3					
APE	Apeiranthos	24.21 298⇑	iP	P	21 57 01.1	+2.1
IDI	Anoyia	24.37 294	P	P	21 57 02.0	+1.5
	comp=Z,4.1nm,0.6s,mb4.1,baz=100,slow=8.0,SNR=18					
GVD	Gavdhos	24.95 292	eP	P	21 57 05.4	-0.4
	comp=Z,7.3nm,0.8s,mb4.3					
GVD	Gavdhos	24.95 292	eP	P	21 57 05.4	-0.4
	comp=Z,7.2nm,0.8s,mb4.2					
TIRR	Tirgusor	25.07 317⇑	iP	P	21 57 08.6	+1.9
MLR	Muntele Rosu	27.10 317	P	P	21 57 26.3	+1.2
	comp=Z,1.9nm,0.7s,mb3.7,baz=36,slow=9.8,SNR=7.0					
MLR			LR	LR	22 11 31.4	
	comp=Z,72nm,18.2s,MS3.3,baz=125,slow=44					
MLR	Muntele Rosu	27.10 317⇑	iP	P	21 57 28.6	+3.5
BVAR	Borovoye Array	28.12 23	P	P	21 57 34.5	+0.4
BVAR			pmax	pmax		
	comp=Z,1.0nm,0.5s					
BVAR	Borovoye Array	28.12 23	P	P	21 57 34.5	+0.4
	comp=Z,0.8nm,0.5s,mb3.6,baz=222,slow=7.8,SNR=5.2					
AKASG	Malin Array Be	28.47 328	P	P	21 57 36.5	-0.8
AKASG	Malin Array Be	28.47 328	P	P	21 57 36.5	-0.8
	comp=Z,0.4nm,0.3s,mb3.6,baz=137,slow=8.0,SNR=5.8					
MKAR	Makanchi Array	29.83 44	P	P	21 57 49.8	+0.4
	comp=Z,0.5nm,0.6s,mb3.4,baz=230,slow=8.4,SNR=6.7					
KURK	Kurchatov	29.95 34	P	P	21 57 51.1	+0.7
KOLS	Kolonicke sedl	31.01 320	eP	P	21 58 00.8	+1.0
CRVS	Cervenica-Dubn	31.45 319	eP	P	21 58 03.9	+0.1
KECS	Kecovo	31.82 318	eP	P	21 58 08.3	+1.3
KECS			pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.0					
KECS	Kecovo	31.82 318	eP	P	21 58 08.3	+1.3
	comp=Z,2.0nm,0.9s,mb4.0					
ZAL	Zalesovo	34.91 34	P	P	21 58 33.7	-0.2
ZALV	Zalesovo Beam	34.93 34	P	P	21 58 33.6	-0.4
	comp=Z,1.6nm,0.5s,mb4.2,baz=240,slow=9.4,SNR=10.0					
ZALV			LR	LR	22 14 31.3	
	comp=Z,16nm,19.1s,MS2.8,baz=79,slow=39					
GERES	GERESS Array B	36.07 315	P	P	21 58 42.8	-1.1
	comp=Z,0.3nm,0.5s,mb3.5,baz=109,slow=8.4,SNR=5.8					
KEST	Kesra	37.03 293	P	P	21 58 52.0	-0.4
	comp=Z,1.0nm,0.8s,mb3.7,baz=1,9,slow=6.2,SNR=4.6					
VSL	Villasalto	37.12 299	eP	P	21 58 54.1	+1.1
	comp=Z,6.0nm,0.7s,mb4.5					
VSL	Villasalto	37.12 299	eP	P	21 58 54.2	+1.2
	comp=Z,6.0nm,0.7s,mb4.5					
JOF	Joensuu	37.32 344	ep	P	21 58 52.9	-1.4
	comp=Z,4.8nm,0.8s,mb4.4					
CLL	Collm	37.40 319	eP	P	21 58 55.0	-0.2
FINES	FINESS Array B	37.55 340	P	P	21 58 55.8	-0.6
	comp=Z,1.9nm,0.6s,mb4.0,baz=152,slow=9.9,SNR=15					
PGF	Pioggiola	37.73 304	eP	P	21 58 57.0	-1.1
FRF	La Foret Royal	39.57 305	eP	P	21 59 12.2	-1.4
LMR	La Mourre	39.65 305	eP	P	21 59 12.9	-1.3
	comp=Z,1.9nm,0.6s,mb3.7					
LMR	La Mourre	39.65 305	eP	P	21 59 12.9	-1.3
LMR			pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.7					
LMR	La Mourre	39.65 305	eP	P	21 59 12.9	-1.3
	comp=Z,0.9nm,0.6s,mb3.6					
LPG	La Plagne	39.78 308	eP	P	21 59 14.4	-0.9
LPL	La Plagne	39.80 308	eP	P	21 59 14.5	-1.0
CDF	Champ du Feu	40.02 313	eP	P	21 59 16.2	-1.0
CABF	La Chapelle	40.43 310	eP	P	21 59 19.6	-1.1
	comp=Z,5.5nm,0.6s,mb4.1					
CABF	La Chapelle	40.43 310	eP	P	21 59 19.6	-1.1
CABF			pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2					
CABF	La Chapelle	40.43 310	eP	P	21 59 19.6	-1.1
	comp=Z,2.8nm,0.6s,mb4.1					
LASF	Ste Croix	41.64 306	eP	P	21 59 29.4	-1.3
SMF	Signal de Mont	41.97 309	eP	P	21 59 32.2	-1.1
SSF	Saint Saulge	42.26 310	eP	P	21 59 34.6	-1.1
	comp=Z,3.2nm,0.8s,mb3.7					
SSF	Saint Saulge	42.26 310	eP	P	21 59 34.6	-1.1
SSF			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8					
SSF	Saint Saulge	42.26 310	eP	P	21 59 34.6	-1.1
	comp=Z,1.6nm,0.8s,mb3.7					
BAIF	Baives	42.35 315	eP	P	21 59 35.5	-0.9
NB2	NORSAR Subarra	42.74 332	P	P	21 59 38.2	-1.2
	comp=Z,1.0nm,0.6s,mb3.7,baz=121,slow=8.6					
NOA	NORSAR Array B	42.74 332	P	P	21 59 38.0	-1.4
	comp=Z,0.5nm,0.4s,mb3.6,baz=122,slow=8.3,SNR=3.8					
NOA			LR	LR	22 19 33.5	
	comp=Z,10nm,20.4s,MS2.7,baz=280,slow=39					
MTLF	Montolieu	42.76 304	eP	P	21 59 38.6	-1.3
RJF	Les Rejaudoux	43.42 307	eP	P	21 59 43.9	-1.2
	comp=Z,4.6nm,0.7s,mb4.0					
RJF	Les Rejaudoux	43.42 307	eP	P	21 59 43.9	-1.2
RJF			pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0					
RJF	Les Rejaudoux	43.42 307	eP	P	21 59 43.9	-1.2
	comp=Z,2.3nm,0.7s,mb4.0					
ARCES	ARCESS Array B	44.16 347	P	P	21 59 51.0	+0.2
	comp=Z,1.3nm,0.7s,mb3.8,baz=142,slow=10,SNR=7.9					
ARCES			LR	LR	22 18 42.0	
	comp=Z,38nm,20.0s,MS3.3,baz=232,slow=37					
MFF	Saint Martin d	44.69 309	eP	P	21 59 54.2	-1.1
	comp=Z,5.2nm,0.8s,mb4.1					
MFF	Saint Martin d	44.69 309	eP	P	21 59 54.2	-1.1
MFF			pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2					
MFF	Saint Martin d	44.69 309	eP	P	21 59 54.2	-1.1
	comp=Z,2.6nm,0.8s,mb4.1					
ETSF	Etsaut	44.78 304	eP	P	21 59 54.9	-1.2
LDF	La Druitiere	44.89 312	eP	P	21 59 55.7	-1.2
	comp=Z,4.1nm,0.7s,mb4.1					
LDF	La Druitiere	44.89 312	eP	P	21 59 55.7	-1.2
LDF			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1					
LDF	La Druitiere	44.89 312	eP	P	21 59 55.7	-1.2
	comp=Z,2.0nm,0.7s,mb4.1					
FLN	La Foliniere	45.15 312	eP	P	21 59 58.0	-0.9
	comp=Z,3.6nm,0.6s,mb4.1					
FLN	La Foliniere	45.15 312	eP	P	21 59 58.0	-0.9
FLN			pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1					
FLN	La Foliniere	45.15 312	eP	P	21 59 58.0	-0.9
	comp=Z,1.8nm,0.6s,mb4.1					
SJPF	Ste Jean	45.27 304	eP	P	21 59 58.8	-1.2
	comp=Z,8.4nm,0.7s,mb4.3					
SJPF	Ste Jean	45.27 304	eP	P	21 59 58.8	-1.2
SJPF			pmax	pmax		
	comp=Z,4.0nm,0.7s,mb4.4					
SJPF	Ste Jean	45.27 304	eP	P	21 59 58.8	-1.2
	comp=Z,4.2nm,0.7s,mb4.3					
GRR	Gorron	45.35 311	eP	P	21 59 59.6	-0.9
SONM	Songino Array	45.80 49	P	P	22 00 05.1	+1.1
	comp=Z,0.4nm,0.7s,mb3.5,baz=303,slow=13,SNR=3.2					
QUIF	Quistinic	46.85 310	eP	P	22 00 11.4	-0.9
ROSF	Rostrenen	46.95 311	eP	P	22 00 12.2	-0.9
TOA0	Torodi Ar. Sit	49.40 263	eP	P	22 00 32.0	-0.5
TOA0	Torodi Ar. Sit	49.40 263	eP	P	22 00 32.0	-0.5
TORD	Torodi Ar. Bea	49.40 263	P	P	22 00 32.2	-0.3
TORD	Torodi Ar. Bea	49.40 263	P	P	22 00 32.2	-0.3
	comp=Z,1.6nm,0.5s,mb4.3,baz=59,slow=8.4,SNR=35					
BOD	Bodaibo	51.53 37	eP	P	22 00 44.8	-3.2
DBIC	Dimbokro	58.10 260	P	P	22 01 36.5	+0.2
	comp=Z,3.0nm,0.7s,mb4.5,baz=90,slow=11,SNR=4.2					
LIC	Lamto	58.46 259	eP	P	22 01 38.2	-0.6
	comp=Z,85nm,1.5s,mb5.2					
LIC	Lamto	58.46 259	eP	P	22 01 38.2	-0.6
	comp=Z,43nm,1.5s,mb5.2					
YKA	Yellowknife Ar	88.98 354	P	P	22 04 36.9	-0.1
YKA	Yellowknife Ar	88.98 354	P	P	22 04 36.9	0.0
	comp=Z,0.4nm,0.6s,mb4.0,baz=7.5,slow=4.8,SNR=6.1					
WRA	Warramunga Arr	92.48 111	P	P	22 04 54.5	+0.6
	comp=Z,0.6nm,1.0s,mb3.9,baz=311,slow=4.0,SNR=5.3					
ASAR	Alice Springs	93.93 115	P	P	22 04 59.6	-0.9
	comp=Z,0.4nm,0.7s,mb4.0,baz=306,slow=5.2,SNR=3.6					

*ISK **24** 21:59:18.5, 3903N×4079E, h5km, MD3.3*
*CSEM **24** 21:59:19.9±0.1, 3901N×4076E, h10km, MD3.3, Error ellipse: s-maj=3.4km s-min=2.5km az=25.0*
*DDA **24** 21:59:19.4, 3897N×4078E, h5km±3km, Md3.1*
*ISCJB **24** 21:59:20.1±0.9, 3902N±004×4080E±004, h8km±7km, Error ellipse: s-maj=7.6km s-min=4.9km az=158.5*
ISC 24 21:59:19.7±0.9, 3906N±004×4077E±005, h1km±8km, n17, σ0.9 81/23, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BINT	Bingol	0.29	230	PG	Pg	21 59 25.7	+0.5
BNGL	BINGOL	0.32	110	i P	Pg	21 59 24.9	-0.9
BNGL				i S	Sg	21 59 30.5	+0.7
EZC	Erzincan	1.01	313	ePN	Pn	21 59 44.8	+3.9
BTMT	Batman	1.03	147	ePG	Pg	21 59 38.4	-1.1
BTMT				eSG	Sg	21 59 53.4	+0.5
PTK	Pertek	1.09	262	ePN	Pn	21 59 40.1	-1.9
PTK				eSN	Sn	21 59 56.9	-0.8
HOMI	Horasan	1.32	41	i P	Pg	21 59 45.6	+0.6
HOMI				i S	Sg	22 00 09.9	-1.2
SVRC	Sivrice-ELAZID	1.33	240	ePN	Pn	21 59 45.1	-0.3
ELZG	Elazig	1.50	249	i P	Pn	21 59 47.8	+0.1
ELZG				i S	Sg	22 00 13.6	+5.6
GUMT	Gumushane	1.71	325	ePN	Pn	21 59 51.9	+1.3
MARD	Mardin	1.74	180	i P	Pn	21 59 50.6	-0.5
MARD				i S	Sg	22 00 16.0	+0.3
AGRB	Hanur-Agry	1.80	73	ePN	Pn	21 59 51.5	-0.3
MALT	Malatya	1.98	249	ePN	Pn	21 59 55.0	+0.7
SIRT	Sirnak	2.04	139	ePN	Pn	21 59 55.0	-0.1
VANB	Van	2.10	102	ePN	Pn	21 59 56.5	+0.5
URFA	Urfa	2.23	224	ePN	Pn	21 59 57.4	-0.3
CLDR	Caldiran	2.45	87	ePN	Pn	22 00 01.3	+0.6
SVSK	Karacayir	3.04	288	ePN	Pn	22 00 09.8	+1.0

*ISCJB **24** 22:13:44.9±0.5, 2198S±0.10×17053E±006, h10km, mb4.5/15, MS3.8/8, Error ellipse: s-maj=13.7km s-min=8.2km az=177.7*
*IDC **24** 22:13:45.3±1.2, 2197S×17045E, h0km, mb4.2/7, mb1 4.3/7, mb1mx4.2/13, mbtmp4.2/7, MS3.7/7, Ms1 3.7/7, ms1mx3.5/16, Error ellipse: s-maj=35.2km s-min=28.0km az=84.0*
*LDG **24** 22:13:47.5±0.3, 2136S×17059E, h10km, Mb4.9/3, Ms3.9/6, Error ellipse: s-maj=30.4km s-min=4.9km az=159.0*
*SZGRF **24** 22:13:49.3, 2255S×17077E, h33km, Southeast of Loyalty Islands*
*NEIC **24** 22:13:51.0±0.3, 2194S×17048E, h35km, mb4.6/13, Error ellipse: s-maj=13.9km s-min=10.8km az=161.0*
*ORF **24** 22:13:57.4, 1850S×170.11E, h30km, mb5.6*
ISC 24 22:13:47.2±4.9, 2195S±01×17053E±006, h13km±31km, n98, σ1.9 01/27, mb4.5/15, MS3.8/8, 7C-9D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	Mont Dzumac	3.79	267	eP	Pn	22 14 45.9	+0.6
DZM				eS	Sn	22 15 29.4	-0.4
HNR	Honiara	16.06	319	Pn	Pn	22 17 31.2	-1.7
	198nm,1.2s						
AFI	Afiamalu	18.62	68	eP	Pn	22 18 05.1	+0.2
	13nm,0.7s						
AFI	Afiamalu	18.62	68	LR	LR	22 22 53.2	
	comp=Z,79nm,21.7s,baz=256,slow=29						
CTA	Charters Tower	22.73	270	LR	LR	22 25 43.8	
	comp=Z,325nm,21.4s,MS3.7,baz=69,slow=32						
STKA	Stephens Creek	27.56	243	eP	P	22 19 35.1	+1.2
	2.4nm,0.8s,mb3.9						
STKA	Stephens Creek	27.56	243	P	P	22 19 32.5	-1.4
	3.3nm,1.1s,mb3.9,baz=112,slow=16,SNR=2.6						
STKA				PcP	PcP	22 22 52.0	+0.3
	2.5nm,0.7s,baz=110,slow=6.1,SNR=3.8						
STKA				LR	LR	22 29 26.6	
	comp=Z,254nm,21.9s,MS3.8,baz=34,slow=34						
ASAR	Alice Springs	33.75	260	P	P	22 20 29.2	+0.5
	1.1nm,0.7s,mb3.9,baz=84,slow=9.3,SNR=13						
ASAR				PcP	PcP	22 23 08.0	-0.2
	1.2nm,0.9s,baz=88,slow=2.9,SNR=5.6						
WB2	Warramunga Arr	33.80	267	eP	P	22 20 29.3	+0.1
WB2	Warramunga Arr	33.80	267	eP	P	22 20 28.3	-0.9
WRAB	Tennant Creek	33.80	267	eP	P	22 20 28.6	-0.6
	3.5nm,0.8s,mb4.3						
WRA	Warramunga Arr	33.81	267	P	P	22 20 28.8	-0.4
	0.7nm,0.5s,mb3.9,baz=103,slow=8.0,SNR=5.1						
WRA				PcP	PcP	22 23 08.0	-0.4
	0.2nm,0.3s,baz=105,slow=2.7,SNR=5.7						
WRA				LR	LR	22 34 40.6	
	comp=Z,236nm,18.4s,MS4.0,baz=95,slow=37						
KAKA	Kakadu	37.41	278	eP	P	22 21 02.4	+2.1
	15nm,1.2s,mb4.7						
PPT	Papeete	37.73	91	LR	LR	22 32 41.7	
	comp=Z,177nm,18.8s,MS3.9,baz=138,slow=30						
FITZ	Fitzroy Crossi	42.24	267	eP	P	22 21 41.6	+1.2
	7.5nm,0.8s,mb4.4						
MBWA	Marble Bar	47.07	261	eP	P	22 22 19.7	+0.8
	4.4nm,0.5s,mb4.6						
NWAO	Narrogin (SRO)	48.11	245	eP	P	22 22 26.2	-0.7
	27nm,1.2s,mb5.2						
VNDA	Vanda	55.79	182	eP	P	22 23 23.0	-0.4
	1.2nm,0.5s,mb4.2						
VNDA	Vanda	55.79	182	P	P	22 23 23.1	-0.4
	1.7nm,0.7s,mb4.2,baz=356,slow=6.4,SNR=4.2						
SBA	Scott Base	55.99	181	eP	P	22 23 25.6	+0.7
	16nm,1.0s,mb5.0						
MJAR	Matsushiro Arr	65.69	332	P	P	22 24 31.1	-0.3
	2.8nm,0.9s,mb4.3,baz=166,slow=5.8,SNR=6.3						
QSPA	South Pole Qui	68.13	180	eP	P	22 24 45.6	-0.8
	10nm,1.0s,mb4.8						
KSRS	Korea Array	71.40	325	LR	LR	22 56 02.3	
	comp=Z,21nm,18.1s,MS3.4,baz=140,slow=36						
PSI	Prapat	74.06	280	P	P	22 25 22.9	-0.6
	2.0nm,0.4s,mb4.4,baz=156,slow=14,SNR=5.8						
MAW	Mawson	76.40	202	eP	P	22 25 36.1	+0.2
	4.7nm,0.6s,mb4.6						
MAW	Mawson	76.40	202	P	P	22 25 36.3	+0.4
	4.9nm,0.7s,mb4.5,baz=125,slow=7.3,SNR=10						
CHTO	Chiang Mai	80.87	294	eP	P	22 26 03.4	+2.0
	8.5nm,0.9s,mb4.7						
SYO	Syowa Base	82.69	196⇓	eP	P	22 26 07.6	-2.5
COLA	College	92.27	16	P	P	22 26 55.8	-0.6
ANMO	Albuquerque	96.84	55	P	P	22 27 18.8	+0.7
TXAR	Lajitas Array	96.99	61	LR	LR	23 02 05.9	
	comp=Z,56nm,19.0s,MS4.1,baz=5.0,slow=30						
KURK	Kurchatov	107.84	318	PKiKP	PKiKP	22 32 14.7	+0.6
SDV	Santo Domingo	119.97	92	PKPdf	PKPdf	22 32 38.4	0.0
MLR	Muntele Rosu	142.78	318⇑	iP	PKPdf	22 33 17.1	-3.2
CRVS	Cervenica-Dubn	143.57	325	ePKP	PKPdf	22 33 19.9	-1.7
DRGR		144.08	321	⇓iP	PKPdf	22 33 21.1	-1.4
KECS	Kecovo	144.34	325	ePKP	PKPdf	22 33 21.9	-1.0
RUE	Ruedersdorf	144.65	335	ePKPbc	PKPdf	22 33 22.7	-0.6
OKC	Ostrava-Krasne	144.66	329	ePKP	PKPdf	22 33 21.9	-1.5
OKC				ex		22 33 29.5	
BSEG	Bad Segeberg	144.70	340	ePKPbc	PKPdf	22 33 22.8	-0.6
KSP	Ksiaz	144.82	331	eP	PKPdf	22 33 23.2	-0.5
MORC	Moravsky Berou	144.99	329⇑	iP	PKPdf	22 33 23.2	-0.8
PSZ	Piszkesteto	145.00	325	ePKPdf	PKPdf	22 33 24.3	+0.2
PSZ	Piszkesteto	145.00	325	⇓iP	PKPbc	22 33 23.9	+0.5
DPC	Dobruska-Polom	145.16	331	ePKP	PKPdf	22 33 24.6	+0.3
DPC				epPKP	pPKPdf	22 33 30.8	+2.0
UPC	Upice	145.19	331	ePKP	PKPdf	22 33 24.4	+0.1
UPC				epPKP	pPKPdf	22 33 31.1	+2.2
VYHS	Vyhne	145.20	326	i PKP	PKPdf	22 33 24.7	+0.3
VRAC	Vranov	145.76	329⇑	iP	PKPdf	22 33 26.8	+1.4
PVCC	Panska Ves	145.81	332	ePKP	PKPdf	22 33 26.1	+0.7
BRG	Berggiesshubel	145.81	333	ePKPbc	PKPbc	22 33 26.6	+0.7
BRG	Berggiesshubel	145.81	333	⇓iP	PKPdf	22 33 26.1	+0.7
	23nm,1.2s						
BRG				e		22 33 33.2	
	8.9nm,1.1s						
VTS	Vitosha	145.85	315⇑	iP	PKPdf	22 33 27.6	+1.9
CLL	Collm	145.86	335	ePKPbc	PKPbc	22 33 26.4	+0.4
CLL	Collm	145.86	335	⇓iPKPbc	PKPbc	22 33 26.0	0.0
	comp=Z,23nm,1.2s						
FBE	Freiberg	146.02	334	ePKPbc	PKPbc	22 33 27.3	+0.8
MODS	Modra-Piesok	146.06	327	i PKP	PKPbc	22 33 28.0	+1.3
PRU	Pruhonice	146.22	332	ePKP	PKPdf	22 33 27.2	+1.1
PRU				e		22 33 34.0	
PRU	Pruhonice	146.22	332	ePKP	PKPdf	22 33 27.2	+1.1
PRU				epPKP	pPKPdf	22 33 34.0	+3.3
ZST	Bratislava	146.27	327	i PKP	PKPbc	22 33 28.5	+1.1
TREC	Trest	146.29	330	ePKP	PKPdf	22 33 27.7	+1.4
CLZ	Clausthal	146.42	338	ePKPbc	PKPbc	22 33 28.5	+0.8
SANT	Santorini	146.48	303	ePKPdf	PKPdf	22 33 27.5	+0.5
PKSM	Moragy	146.72	323	⇓iP	PKPdf	22 33 28.7	+1.6
WERD	Werda	146.81	334	ePKPbc	PKPbc	22 33 29.5	+0.6
GUNZ	Gunzen	146.87	334	ePKPbc	PKPbc	22 33 29.8	+0.8
IBBN	Ibbenburen	146.90	341	ePKPbc	PKPbc	22 33 30.2	+1.1
WERN	Wernitzgruen	146.91	334	ePKPbc	PKPbc	22 33 30.1	+1.0
NKC	Novy Kostel	146.92	334	ePKP	PKPbc	22 33 29.4	+0.2
MOX	Moxa	146.93	335	ePKP	PKPbc	22 33 29.6	+0.4
MOX	Moxa	146.93	335	ePKPbc	PKPbc	22 33 29.7	+0.5
CONA	Conrad Observa	147.06	328⇑	iP	PKPbc	22 33 30.5	+0.8
	comp=Z,7.6nm,1.1s						
CSNA	Conrad Observa	147.07	328⇓	iPKPab	PKPab	22 33 30.5	-0.8
	comp=Z,6.6nm,1.1s						
MANZ	Manzenberg	147.25	334	ePKPbc	PKPbc	22 33 30.7	+0.6
KHC	Kasperske Hory	147.27	332	ePKP	PKPbc	22

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
FWVZ	**Far West T-bar**	**2.14**	**205**	P	Pn	22 15 52.8	+0.3
FWVZ				S	S	22 16 27.0	+0.2
FWVZ	**Far West T-bar**	**2.14**	**205**	PN	Pn	22 15 52.8	+0.3
FWVZ				SN	S	22 16 27.0	+0.2
TRVZ	**Turoa**	**2.18**	**205**	PN	Pn	22 15 53.2	+0.3
WNVZ	**Wahianoa**	**2.19**	**204**	P	Pn	22 15 53.0	0.0
WNVZ	**Wahianoa**	**2.19**	**204**	PN	Pn	22 15 53.0	0.0
MOVZ	**Moawhango**	**2.22**	**200**	P	Pn	22 15 52.8	-0.4
MOVZ	**Moawhango**	**2.22**	**200**	PN	Pn	22 15 52.8	-0.5
PKVZ	**Pokaka**	**2.25**	**209**	PN	Pn	22 15 53.5	0.0
MTVZ	**Mangateitei**	**2.29**	**205**	PN	Pn	22 15 53.8	-0.1
PXZ	**Pawanui**	**2.71**	**178**	PN	Pn	22 15 57.5	-0.6
WPHZ	**Waipukurau**	**2.75**	**185**	PN	Pn	22 15 58.3	-0.2
WAZ	**Wanganui**	**2.79**	**209**	P	Pn	22 15 58.7	-0.3
WAZ	**Wanganui**	**2.79**	**209**	PN	Pn	22 15 58.7	-0.3
TSZ	**Takapari Road**	**2.80**	**192**	P	Pn	22 15 58.2	-0.9
TSZ	**Takapari Road**	**2.80**	**192**	PN	Pn	22 15 58.2	-0.9
NEZ	**North Egmont**	**2.85**	**226**	P	Pn	22 16 00.8	+1.2
NEZ	**North Egmont**	**2.85**	**226**	PN	Pn	22 16 00.8	+1.2
PKE	**Pukeiti**	**2.86**	**228**	P	Pn	22 16 01.1	+1.3
PKE	**Pukeiti**	**2.86**	**228**	PN	Pn	22 16 01.1	+1.3
MRZ	**Mangatainoka R**	**3.45**	**195**	P	Pn	22 16 04.5	-1.8
MRZ	**Mangatainoka R**	**3.45**	**195**	PN	Pn	22 16 04.5	-1.8
TIWZ	**Tintock**	**3.51**	**191**	PN	Pn	22 16 05.8	-1.1
HOWZ	**Holdsworth Sta**	**3.69**	**195**	PN	Pn	22 16 07.2	-1.8
KIW	**Kapiti Island**	**3.81**	**201**	PN	Pn	22 16 08.4	-2.0
MTW	**Mount Morrison**	**3.95**	**194**	P	Pn	22 16 09.8	-2.2
MTW	**Mount Morrison**	**3.95**	**194**	PN	Pn	22 16 09.8	-2.2
CAW	**Cannon Point**	**4.00**	**198**	P	Pn	22 16 10.6	-2.0
CAW	**Cannon Point**	**4.00**	**198**	PN	Pn	22 16 10.6	-2.0
DUWZ	**D'Urville Isla**	**4.11**	**211**	PN	Pn	22 16 11.4	-2.5
TRWZ	**Traveller**	**4.15**	**191**	PN	Pn	22 16 12.9	-1.5
PAWZ	**Paruwai Farm**	**4.18**	**194**	P	Pn	22 16 12.6	-2.1
PAWZ	**Paruwai Farm**	**4.18**	**194**	PN	Pn	22 16 12.6	-2.1
MRW	**Makara Radio**	**4.21**	**201**	P	Pn	22 16 11.9	-3.2
MRW	**Makara Radio**	**4.21**	**201**	PN	Pn	22 16 11.9	-3.2
MSWZ	**Moikau Station**	**4.25**	**195**	P	Pn	22 16 13.2	-2.3
MSWZ	**Moikau Station**	**4.25**	**195**	PN	Pn	22 16 13.2	-2.3
SNZO	**South Karori**	**4.28**	**201**	P	Pn	22 16 13.6	-2.4
SNZO	**South Karori**	**4.28**	**201**	PN	Pn	22 16 13.6	-2.4
BHW	**Baring Head**	**4.33**	**199**	P	Pn	22 16 14.2	-2.3
BHW	**Baring Head**	**4.33**	**199**	PN	Pn	22 16 14.2	-2.3
TCW	**Tory Channel**	**4.33**	**205**	P	Pn	22 16 14.1	-2.4
TCW	**Tory Channel**	**4.33**	**205**	PN	Pn	22 16 14.1	-2.4
PLWZ	**Palliser**	**4.39**	**195**	PN	Pn	22 16 15.0	-2.3
TUWZ	**Tuamarina**	**4.64**	**207**	PN	Pn	22 16 17.4	-2.9
NNZ	**Nelson**	**4.68**	**213**	P	Pn	22 16 17.7	-3.1
NNZ	**Nelson**	**4.68**	**213**	PN	Pn	22 16 17.7	-3.0
QRZ	**Quartz Range**	**4.79**	**222**	P	Pn	22 16 18.5	-3.6
QRZ	**Quartz Range**	**4.79**	**222**	PN	Pn	22 16 18.5	-3.6
BSWZ	**Blackbirch Sta**	**4.91**	**206**	P	Pn	22 16 21.2	-2.4
BSWZ	**Blackbirch Sta**	**4.91**	**206**	PN	Pn	22 16 21.2	-2.4
THZ	**Tophouse**	**5.33**	**213**	P	Pn	22 16 25.1	-3.6
THZ	**Tophouse**	**5.33**	**213**	PN	Pn	22 16 25.1	-3.6
KHZ	**Kahutara**	**5.65**	**205**	P	Pn	22 16 30.2	-2.5
KHZ	**Kahutara**	**5.65**	**205**	PN	Pn	22 16 30.2	-2.5
DSZ	**Denniston Nort**	**5.83**	**219**	P	Pn	22 16 32.0	-3.0
DSZ	**Denniston Nort**	**5.83**	**219**	PN	Pn	22 16 32.0	-3.0
LTZ	**Lake Taylor**	**6.44**	**211**	P	Pn	22 16 39.0	-3.5
LTZ	**Lake Taylor**	**6.44**	**211**	PN	Pn	22 16 39.0	-3.5
MQZ	**McQueen's Vall**	**7.09**	**205**	P	Pn	22 16 46.7	-4.1
MQZ	**McQueen's Vall**	**7.09**	**205**	PN	Pn	22 16 46.7	-4.1

*BJI **24** 22:18:55.7, 6230N×17140E, h19km, mB4.6, mb4.5, Ms4.5, Msz4.1*
*NERS **24** 22:18:56.2, 6228N×17157E, h0km*
*IDC **24** 22:18:56.8±0.9, 6238N×17140E, h0km, mb3.8/15, mb1 4.0/15, mb1mx3.9/25, mbtmp3.9/15, MS3.6/9, Ms1 3.6/9, ms1mx3.3/31, Error ellipse: s-maj=25.2km s-min=14.8km az=164.0*
*ISCJB **24** 22:18:56.6±0.3, 6227N±006×17135E±006, h10km, mb4.2/32, MS3.6/10, Error ellipse: s-maj=8.7km s-min=3.9km az=172.9*
*MOS **24** 22:18:57.0±1.2, 6228N×17135E, h14km, mb4.4/13, Error ellipse: s-maj=13.9km s-min=9.9km az=91.6*
*NEIC **24** 22:18:59.7±4.1, 6226N×17136E, h19km±26km, mb4.4/12, Error ellipse: s-maj=12.7km s-min=6.5km az=174.0*

ISC 24 22:18:58.5±0.3, 6227N±004×17135E±006, h10km, n87, σ1§19/95, mb4.2/32, MS3.6/10, 2C, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
ANDR	**Anadyr'**	**3.70**	**45**	*e*P	**Pn**	**22 19 57.5**	**+1.9**
ANDR				*e*Pg	**Pg**	**22 20 03.6**	**-5.7**
ANDR				Pgmax		22 20 08.3	
	70nm,0.7s						
ANDR				*e*Sg	**Sg**	**22 20 47.9**	**-9.3**
ANDR				Sgmax		22 21 01.6	
	400nm,1.0s						
EVNR	**Evensk**	**5.69**	**272**	*e*P	**Pn**	**22 20 24.1**	**+1.2**
EVNR				*e*Pg	**Pg**	**22 20 44.9**	**-2.4**
EVNR				Pgmax		22 20 54.2	
	40nm,0.8s						
EVNR				*e*S	**Sn**	**22 21 26.2**	**-1.9**
EVNR				*e*Sg	**Sg**	**22 22 05.5**	**+4.6**
EVNR				Sgmax		22 22 15.0	
	210nm,1.0s						
EVNR				Sgmax		22 22 15.0	
	150nm,0.9s						
BILL	**Bilibino**	**6.17**	**342**	*αe*P	**Pn**	**22 20 30.1**	**+0.6**
BILL						22 21 43.0	
BILL				pmax	pmax		
	comp=Z,17nm,0.6s						
BILL				pmax	pmax		
	comp=Z,97nm,0.8s						
BILL				smax			
	comp=E,104nm,1.4s						
BILL				MLR	MLR		
	comp=Z,700nm,16.0s						
BILL	**Bilibino**	**6.17**	**342**	*e*Pn	**Pn**	**22 20 30.0**	**+0.5**
	comp=Z,106nm,0.8s						
BILL				*e*Sn	**Sn**	**22 21 47.4**	**+7.3**
BILL	**Bilibino**	**6.17**	**342**	*e*P	**Pn**	**22 20 30.3**	**+0.8**
BILL				*e*Pg	**Pg**	**22 20 52.5**	**-4.1**
BILL				Pgmax		22 20 53.7	
	comp=Z,30nm,0.8s						
BILL				Pgmax		22 20 53.7	
	comp=Z,50nm,0.8s						
BILL				Pgmax		22 20 53.7	
	comp=Z,70nm,0.8s						
BILL				*e*S	**Sn**	**22 21 41.5**	**+1.4**
BILL				*e*Sg	**Sg**	**22 22 16.1**	**-0.3**
BILL				Sgmax		22 22 23.9	
	comp=Z,100nm,0.8s						
BILL				Sgmax		22 22 23.9	
	comp=Z,150nm,0.8s						
OMS	**Omsukchan**	**7.24**	**279**	*e*P	**Pn**	**22 20 46.5**	**+2.3**
OMS				*e*Pg	**Pg**	**22 21 12.0**	**-5.0**
OMS				Pgmax		22 21 13.5	
	comp=Z,20nm,0.8s						
OMS				*e*S	**Sn**	**22 22 03.0**	**-3.4**
OMS				*e*Sg	**Sg**	**22 22 47.0**	**-3.7**
OMS				Sgmax		22 23 08.0	
	comp=Z,250nm,1.3s						
OMS				Sgmax		22 23 08.0	
	comp=Z,90nm,1.0s						
SEY	**Seymchan**	**8.77**	**283**	*e*P	**Pn**	**22 21 07.2**	**+2.1**
SEY	**Seymchan**	**8.77**	**283**	*e*	**Sn**	**22 22 51.0**	**+7.1**
SUUS	**Susuman**	**10.71**	**283**	*e*P	**Pn**	**22 21 35.7**	**+4.1**
SUUS				*e*		22 23 58.9	
SUUS				*e*		22 24 31.0	
PET	**Petropavlovsk**	**11.47**	**222**	*e*P	**Pn**	**22 21 42.5**	**+0.4**
PET	**Petropavlovsk**	**11.47**	**222**	Pn	**Pn**	**22 21 39.5**	**-2.6**
TTA	**Tatalina**	**14.95**	**73**	*e*P	**Pn**	**22 22 30.6**	**+1.1**
IMA2	**Indian Mountai**	**15.56**	**61**	*e*Pn	**Pn**	**22 22 36.8**	**-0.7**
SVW2	**Sparrevohn**	**15.64**	**80**	*e*Pn	**Pn**	**22 22 42.8**	**+4.2**
COLA	**College**	**18.11**	**64**	P	**Pn**	**22 23 09.2**	**-0.6**
TIXI	**Tiksi**	**18.63**	**318**	*e*P	**Pn**	**22 23 15.7**	**-0.3**
TIXI				pmax	pmax		
	comp=Z,19nm,1.6s						
TIXI				MLR	MLR		
	comp=Z,348nm,12.0s						
TIXI	**Tiksi**	**18.63**	**318**	*e*P	**Pn**	**22 23 16.6**	**+0.6**
	comp=Z,13nm,1.1s						
YAK	**Yakutsk**	**19.23**	**288**	*e*P	**Pn**	**22 23 23.8**	**+0.4**
YAK				pmax	pmax		
	comp=Z,40nm,0.8s						
YAK				pmax	pmax		
	comp=N,8.0nm,1.4s						
YAK				pmax	pmax		
	comp=E,18nm,1.2s						
YAK				pmax	pmax		
	comp=Z,16nm,0.5s						
YAK	**Yakutsk**	**19.23**	**288**	*e*P	**Pn**	**22 23 23.3**	**0.0**
	comp=Z,50nm,0.8s						
EGAK	**Eagle**	**20.93**	**62**	*e*P	**P**	**22 23 38.4**	**-2.4**
DAWY	**Dawson**	**21.86**	**63**	*e*P	**P**	**22 23 50.1**	**-0.7**
YSS	**Yuzh-Sakhalins**	**22.30**	**240**	*e*P	**P**	**22 23 55.9**	**+0.3**
YSS				pmax	pmax		
	comp=Z,13nm,1.3s,mb4.2						
INK	**Inuvik**	**23.09**	**51**	P	**P**	**22 24 03.7**	**-0.1**
INK				pmax	pmax		
	comp=Z,10.0nm,1.0s						
INK	**Inuvik**	**23.09**	**51**	*e*P	**P**	**22 24 03.1**	**-0.7**
INK	**Inuvik**	**23.09**	**51**	P	**P**	**22 24 03.6**	**-0.1**
	comp=Z,9.5nm,1.0s,mb4.2,baz=281,slow=10,SNR=17						
NRGR	**Nerungri**	**23.90**	**278**	S	**S**	**22 28 23.0**	**-4.8**
NRGR				smax			
	comp=E,46nm,0.4s						
KLR	**Kul'dur**	**25.35**	**257**	*e*P	**P**	**22 24 21.7**	**-3.5**
BOD	**Bodaibo**	**28.15**	**287**	*e*P	**P**	**22 24 49.5**	**-0.9**
BOD				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.5						
HIA	**Hailar**	**30.90**	**269**	*e*P	**P**	**22 25 15.4**	**+0.7**
YKA	**Yellowknife Ar**	**32.59**	**56**	P	**P**	**22 25 28.0**	**-1.5**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**32.59**	**56**	P	**P**	**22 25 28.0**	**-1.5**
	comp=Z,1.1nm,0.6s,mb3.9,baz=303,slow=8.3,SNR=13						
MAJO	**Matsushiro**	**32.92**	**234**	*e*P	**P**	**22 25 32.0**	**-0.7**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.7						
MAJO	**Matsushiro**	**32.92**	**234**	*e*P	**P**	**22 25 32.0**	**-0.7**
	comp=Z,8.0nm,0.8s,mb4.7						
MAT	**Matsushiro**	**32.92**	**234**	P	**P**	**22 25 32.3**	**-0.4**
MJAR	**Matsushiro Arr**	**32.92**	**234**	P	**P**	**22 25 32.7**	**0.0**
	comp=Z,6.5nm,0.9s,mb4.6,baz=13,slow=8.1,SNR=18						
KSRS	**Korea Array**	**36.34**	**247**	P	**P**	**22 26 02.0**	**-0.2**
	comp=Z,1.8nm,0.9s,mb4.0,baz=22,slow=8.0,SNR=5.7						
KSRS				LR	LR	22 41 56.3	
	comp=Z,54nm,18.2s,MS3.4,baz=226,slow=38						
TLY	**Talaya**	**36.67**	**285**	*e*P	**P**	**22 26 05.4**	**+0.6**
ZAK	**Zakamensk**	**37.74**	**284**	*e*P	**P**	**22 26 13.2**	**-0.7**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb3.9						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.7						
ULN	**Ulaanbaatar**	**37.81**	**278**	*e*P	**P**	**22 26 15.0**	**+0.4**
MOY	**Mondy**	**37.87**	**287**	*e*P	**P**	**22 26 16.6**	**+1.6**
MOY				pmax	pmax		
	comp=Z,17nm,1.8s,mb4.5						
SONM	**Songino Array**	**38.14**	**279**	P	**P**	**22 26 19.2**	**+1.9**
	comp=Z,1.0nm,0.9s,mb3.5,baz=30,slow=8.6,SNR=7.9						
SONM				PcP	PcP	22 28 31.6	-0.3
	comp=Z,1.0nm,0.7s,baz=12,slow=2.5,SNR=5.6						
BJT	**Baijiatuan**	**39.54**	**262**	*e*P	**P**	**22 26 29.8**	**+0.6**
FCC	**Fort Churchill**	**42.70**	**50**	*e*P	**P**	**22 26 54.4**	**-0.5**
ZALV	**Zalesovo Beam**	**43.15**	**300**	LR	LR	22 45 44.1	
	comp=Z,76nm,18.0s,MS3.6,baz=25,slow=37						
YBH	**Yreka Blue Hor**	**43.21**	**87**	*e*P	**P**	**22 27 00.4**	**+1.1**
YBH				pmax	pmax		
	comp=Z,5.0nm,1.1s						
YBH	**Yreka Blue Hor**	**43.21**	**87**	*e*P	**P**	**22 27 00.4**	**+1.1**
	comp=Z,4.9nm,1.1s,mb4.2						
BMO	**Blue Mountains**	**43.31**	**79**	*e*P	**P**	**22 27 00.0**	**0.0**
	comp=Z,10.0nm,1.5s,mb4.3						
BOZ	**Bozeman (W)**	**45.28**	**74**	*e*P	**P**	**22 27 16.8**	**+1.0**
BOZ				pmax	pmax		
	comp=Z,7.0nm,1.8s,mb4.2						
BOZ	**Bozeman (W)**	**45.28**	**74**	*e*P	**P**	**22 27 16.8**	**+1.0**
	comp=Z,7.3nm,1.8s,mb4.2						
HLID	**Hailey**	**45.63**	**78**	*e*P	**P**	**22 27 20.0**	**+1.4**
	comp=Z,35nm,2.8s,mb4.8						
ARCES	**ARCESS Array B**	**46.27**	**344**	P	**P**	**22 27 22.3**	**-1.0**
	comp=Z,2.5nm,0.9s,mb4.1,baz=13,slow=7.5,SNR=4.0						
ARCES				ScP	ScP	22 32 51.0	-0.4
	comp=Z,1.7nm,0.9s,baz=30,slow=3.2,SNR=4.7						
ARCES				LR	LR	22 48 23.6	
	comp=Z,60nm,19.0s,MS3.6,baz=112,slow=38						
NVAR	**Mina Array Bea**	**47.88**	**86**	P	**P**	**22 27 37.0**	**+0.8**
	comp=Z,0.8nm,0.6s,mb3.9,baz=293,slow=8.0,SNR=5.9						
KURK	**Kurchatov**	**48.08**	**301**	*e*P	**P**	**22 27 37.0**	**-0.7**
KURK				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
KURK	**Kurchatov**	**48.08**	**301**	*e*P	**P**	**22 27 37.0**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
BW06	**Boulder Array**	**48.46**	**75**	*e*P	**P**	**22 27 40.7**	**0.0**
BVAR	**Borovoye Array**	**49.41**	**309**	P	**P**	**22 27 47.5**	**-0.3**
	comp=Z,0.8nm,0.8s,mb3.8,baz=44,slow=11,SNR=4.4						
MKAR	**Makanchi Array**	**49.65**	**296**	*e*P	**P**	**22 27 49.4**	**-0.4**
MKAR	**Makanchi Array**	**49.65**	**296**	P	**P**	**22 27 47.9**	**-1.9**
	comp=Z,0.2nm,0.4s,mb3.5,baz=49,slow=6.8,SNR=4.8						
MKAR				LR	LR	22 50 34.1	
	comp=Z,113nm,18.6s,MS3.9,baz=218,slow=38						
ARU	**Arti**	**50.64**	**319**	P	**P**	**22 27 49.2**	**-7.9**
PHWY	**Pilot Hill**	**51.47**	**73**	*e*P	**P**	**22 28 02.9**	**-0.6**
FINES	**FINESS Array B**	**53.82**	**340**	P	**P**	**22 28 18.7**	**-1.9**
	comp=Z,0.9nm,0.7s,mb3.8,baz=19,slow=8.8,SNR=4.0						
FINES				LR	LR	22 56 14.6	
	comp=Z,46nm,18.3s,MS3.6,baz=13,slow=42						
SCHQ	**Schefferville**	**54.67**	**37**	P	**P**	**22 28 25.2**	**-1.8**
	comp=Z,1.6nm,0.6s,mb4.2,baz=45,slow=8.9,SNR=3.8						
SCHQ				LR	LR	22 51 46.9	
	comp=Z,34nm,19.8s,MS3.4,baz=348,slow=36						
TKM2	**Tokmak 2**	**55.58**	**298**	P	**P**	**22 28 33.4**	**-0.3**
AKTK	**Aktyubinsk**	**55.88**	**315**	P	**P**	**22 28 36.6**	**+0.9**
AKTO	**Aktyubinsk**	**55.88**	**315**	P	**P**	**22 28 36.6**	**+0.9**
	comp=Z,0.4nm,0.4s,mb3.8,baz=80,slow=11,SNR=2.8						
NB2	**NORSAR Subarra**	**56.08**	**349**	P	**P**	**22 28 35.5**	**-1.5**
	comp=Z,1.0nm,0.7s,mb4.0,baz=34,slow=5.6						
NOA	**NORSAR Array B**	**56.08**	**349**	*e*P	**P**	**22 28 41.3**	**+4.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	**56.08**	**349**	P	**P**	**22 28 35.5**	**-1.6**
	comp=Z,0.8nm,0.7s,mb3.9,baz=11,slow=7.2,SNR=3.1						
NOA				LR	LR	22 51 53.9	
	comp=Z,27nm,21.4s,MS3.3,baz=5.0,slow=35						
UCH	**Uchtor**	**56.60**	**298**	*e*P	**P**	**22 28 41.6**	**+0.6**
	comp=Z,3.7nm,1.3s,mb4.2						
AML	**Almayashu**	**57.02**	**298**	P	**P**	**22 28 45.8**	**+1.8**
OBN	**Obninsk**	**57.72**	**331**	*e*P	**P**	**22 28 51.0**	**+2.3**
KMI	**Kunming**	**58.14**	**264**	P	**P**	**22 28 51.3**	**-0.8**
KMI				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.7						
MNTX	**Cornudas Mount**	**59.41**	**80**	*e*P	**P**	**22 29 01.2**	**+0.3**
	comp=Z,7.1nm,1.4s,mb4.5						
LSA	**Lhasa**	**59.67**	**277**	*e*P	**P**	**22 29 03.5**	**+0.8**
LSA				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.4						
LSA	**Lhasa**	**59.67**	**277**	*e*P	**P**	**22 29 03.5**	**+0.8**
	comp=Z,2.6nm,0.7s,mb4.4						
WMOK	**Wichita Mounta**	**59.85**	**72**	*e*P	**P**	**22 29 02.4**	**-1.4**
WMOK				pmax	pmax		
	comp=Z,5.0nm,1.0s,mb4.5						
WMOK	**Wichita Mounta**	**59.85**	**72**	*e*P	**P**	**22 29 02.4**	**-1.5**
	comp=Z,4.8nm,1.0s,mb4.5						
TXAR	**Lajitas Array**	**62.19**	**80**	*e*P	**P**	**22 29 19.5**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
TXAR	**Lajitas Array**	**62.19**	**80**	P	**P**	**22 29 19.6**	**-0.3**
	comp=Z,0.5nm,0.7s,mb3.8,baz=327,slow=2.1,SNR=4.6						
AKASG	**Malin Array Be**	**63.43**	**334**	P	**P**	**22 29 32.4**	**+4.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG	**Malin Array Be**	**63.43**	**334**	P	**P**	**22 29 27.7**	**0.0**
	comp=Z,0.2nm,0.3s,mb3.7,baz=20,slow=5.6,SNR=5.0						
KIV	**Kislovodsk**	**66.41**	**322**	*e*P	**P**	**22 29 52.2**	**+5.0**
KIV				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.4						
KIV				MLR	MLR		
	comp=Z,62nm,18.0s,MS3.9						
ANN	**Anapa**	**67.07**	**326**	*e*P	**P**	**22 29 49.7**	**-1.7**
ANN				pmax	pmax		
	comp=Z,14nm,1.0s,mb5.0						
LHS	**Liberty Hill**	**67.69**	**58**	*e*P	**P**	**22 29 56.3**	**+0.8**
GERES	**GERESS Array B**	**67.81**	**344**	LR	LR	23 06 00.2	
	comp=Z,43nm,18.3s,MS3.7,baz=288,slow=42						
AFI	**Afiamalu**	**77.08**	**163**	LR	LR	23 00 40.1	
	comp=Z,80nm,20.1s,MS4.0,baz=65,slow=32						
QSPA	**South Pole Qui**	**152.04**	**180**	*e*PKPdf	PKPdf	22 38 44.8	-0.3
QSPA				*e*PKPbc	PKPbc	22 38 51.3	-0.4

*NEIC **24** 22:25:18.1, 3279S×7025W, h102km, MD3.6(GUC), After GUC.*

GUC 24 22:25:18.1±0.6, 3279S×7025W, h102km±4km, MD3.6, ML3.6, 8C-5D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
PEL	**Peldehue**	**0.51**	**225**	⇑*i*P	Pn	22 25 34.4	+0.3
PEL				*i*S	Sn	22 25 46.9	+0.7
PEL				AML	AML	22 25 47.9	
	comp=E,7μm,0.7s						
FCH	**Farellones**	**0.54**	**184**	*e*P	Pn	22 25 35.3	+0.9
FCH				*i*S	Sn	22 25 47.5	+0.9
FCH				AML	AML	22 25 48.1	
	comp=N,5μm,0.3s						
CLCH	**Cerro Calan**	**0.66**	**201**	⇓*i*P	Pn	22 25 35.7	+0.4
CLCH				*i*S	Sn	22 25 48.9	+0.8
CLCH				AML	AML	22 25 50.8	
	comp=E,2μm,0.5s						
FSR	**Penalolen**	**0.73**	**198**	⇑*i*P	Pn	22 25 36.7	+0.7
FSR				*i*S	Sn	22 25 50.3	+1.0
PCH	**Pirque**	**0.86**	**195**	⇑*i*P	Pn	22 25 37.7	+0.5
PCH				*i*S	Sn	22 25 52.2	+0.6
TACH	**Talagante**	**1.04**	**213**	⇑*i*P	Pn	22 25 39.3	+0.2
TACH				*i*S	Sn	22 25 55.3	+0.4
LMEL	**Las Melosas**	**1.06**	**178**	⇑*i*P	Pn	22 25 39.9	+0.6
LMEL				S	Sn	22 25 57.1	+1.8
LMEL	**Las Melosas**	**1.06**	**178**	⇑*i*P	Pn	22 25 39.9	+0.6
LMEL				*i*S	Sn	22 25 57.1	+1.8
LMEL				AML	AML	22 25 59.7	
	comp=N,1μm,0.1s						
CHCH	**Chadas Ångostu**	**1.19**	**196**	*e*P	Pn	22 25 41.1	+0.3
IHA	**Instituto Hidr**	**1.19**	**258**	⇑*i*P	Pn	22 25 40.5	-0.2
IHA				*i*S	Sn	22 25 58.5	+0.5
LNV	**Longovilo**	**1.52**	**219**	⇑*i*P	Pn	22 25 44.2	-0.4
CICH	**Cipreses**	**1.54**	**185**	⇓*i*P	Pn	22 25 45.6	+0.7
CMCH	**Combarbala**	**1.73**	**338**	⇓*i*P	Pn	22 25 47.8	+0.5
CMCH				*i*S	Sn	22 26 10.6	+1.1
CMCH	**Combarbala**	**1.73**	**338**	⇓*i*P	Pn	22 25 47.8	+0.5
CMCH				*i*S	Sn	22 26 10.6	+1.1
CMCH				AML	AML	22 26 13.0	
	comp=N,1μm,0.3s						
SFDO	**San Fernando**	**1.93**	**199**	⇓*i*P	Pn	22 25 49.7	-0.1
TLL	**Tololo Astrono**	**2.65**	**350**	*e*P	Pn	22 26 00.2	+1.0
TLL				*i*S	Sn	22 26 32.0	+1.1
TLL	**Tololo Astrono**	**2.65**	**350**	*e*P	Pn	22 26 00.2	+1.0
TLL				*i*S	Sn	22 26 32.0	+1.1
TLL				AML	AML	22 26 35.8	
	comp=E,100nm,0.2s						

*ATH **24** 22:37:36.5, 3746N×2688E, h6km±4km, MD3.2/4*
*NEIC **24** 22:37:36.5, 3746N×2688E, h6km, MD3.2(ATH), After ATH.*
*CSEM **24** 22:37:37.7±0.1, 3754N×2688E, h12km, MD3.2, Error ellipse: s-maj=2.2km s-min=1.3km az=103.0*
*ISCJB **24** 22:37:37.6±0.6, 3752N±002×2671E±004, h3km±6km, Error ellipse: s-maj=5.7km s-min=3.8km az=17.8*
*DDA **24** 22:37:38.1, 3753N×2672E, h5km±4km, Md3.1*
*THE **24** 22:37:38.9, 3756N×2686E, h15km, ML2.9*

ISC 24 22:37:38.2±0.6, 3752N±003×2671E±004, h6km±6km, n19, σ1§20/36, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
SMG	**Samos**	**0.22**	**28**	*e*PG	**Pg**	**22 37 41.8**	**-0.7**
SMG				*e*SG	**Sg**	**22 37 44.7**	**-0.8**
BDRM	**Kayabasi**	**0.74**	**127**	*i*P	**Pg**	**22 37 52.9**	**+0.5**
BDRM				*i*S	**Sg**	**22 38 03.5**	**+1.5**
URLA	**Izmir**	**0.85**	**354**	*i*P	**Pg**	**22 37 54.2**	**-0.3**
URLA				*i*S	**Sg**	**22 38 07.9**	**+2.4**
BLCB	**Balcova**	**0.91**	**17**	*e*Pg	**Pg**	**22 37 54.5**	**-1.1**
BLCB				*e*Sg	**Sg**	**22 38 06.8**	**-0.6**
KDAG	**Bornova**	**0.99**	**26**	*i*P	**Pg**	**22 37 56.1**	**-1.1**
KDAG				*i*S	**Sg**	**22 38 11.2**	**+1.1**
CHOS	**Chios island**	**1.01**	**330**	*e*Pg	**Pg**	**22 37 57.6**	**0.0**
CHOS				*e*Sg	**Sg**	**22 38 11.8**	**+1.1**
APE	**Apeiranthos**	**1.04**	**245**	*e*Pg	**Pg**	**22 37 59.2**	**+1.1**
APE				*e*Sg	**Sg**	**22 38 16.1**	**+4.5**
APE	**Apeiranthos**	**1.04**	**245**	*e*PB	**Pb**

CTA Charters Tower 31.49 270 P **P** **22 55 09.8 +2.0**
comp=Z,55nm,0.5s,mb5.3,baz=94,slow=11,SNR=84
CTAO Charters Tower 31.49 270 *e*P **P** **22 55 09.7 +1.8**
CTAO pmax pmax
comp=Z,53nm,0.5s,mb5.2
CTAO Charters Tower 31.49 270 *e*P **P** **22 55 09.7 +1.9**
comp=Z,53nm,0.5s,mb5.2
TOO Toolangi 32.69 236 *e*P **P** **22 55 19.3 +1.4**
comp=Z,62nm,0.4s,mb5.4
TOO Toolangi 32.69 236 *e*P **P** **22 55 19.3 +1.4**
TOO pmax pmax
comp=Z,62nm,0.4s,mb5.4
STKA Stephens Creek 34.90 248⇑*i*P **P** **22 55 38.0 +1.4**
comp=Z,6.5nm,0.4s,mb4.4
STKA *e*PCP PcP 22 57 55.2 -0.7
STKA Stephens Creek 34.90 248 *e*P **P** **22 55 37.9 +1.2**
STKA *e*PcP PcP 22 57 55.3 -0.7
STKA Stephens Creek 34.90 248 P **P** **22 55 38.0 +1.4**
comp=Z,11nm,0.6s,mb4.5,baz=93,slow=10,SNR=39
STKA PcP PcP 22 57 54.8 -1.2
comp=Z,3.1nm,0.5s,baz=65,slow=5.0,SNR=4.6
ASAR Alice Springs 42.12 260 P **P** **22 56 36.3 +0.8**
ASAR 22 58 18.2
ASAR S **S** **23 02 15.5 -3.8**
ASAR Alice Springs 42.12 260 P **P** **22 56 36.2 +0.7**
comp=Z,17nm,0.5s,mb4.7,baz=97,slow=7.8,SNR=163
ASAR PcP PcP 22 58 18.2 -0.8
comp=Z,4.1nm,0.9s,baz=99,slow=4.6,SNR=9.5
ASAR ScP ScP 23 01 19.9 -2.7
comp=Z,4.0nm,0.8s,baz=115,slow=4.1,SNR=15
ASAR S **S** **23 02 15.4 -3.8**
comp=Z,2.3nm,0.8s,baz=100,slow=14,SNR=13
WB2 Warramunga Arr 42.44 266⇑*i*P **P** **22 56 38.2 +0.1**
WB2 Warramunga Arr 42.44 266 *e*P **P** **22 56 38.3 +0.2**
WB2 *e* 22 58 19.1
WRAB Tennant Creek 42.44 266 *e*P **P** **22 56 38.1 0.0**
WRAB pmax pmax
comp=Z,19nm,0.4s,mb4.9
WRAB Tennant Creek 42.44 266 *e*P **P** **22 56 38.1 0.0**
comp=Z,19nm,0.4s,mb4.9
WRA Warramunga Arr 42.45 266 P **P** **22 56 38.0 -0.2**
WRA 22 58 19.4
WRA S **S** **23 02 18.4 -5.7**
WRA Warramunga Arr 42.45 266 P **P** **22 56 38.0 -0.2**
comp=Z,20nm,0.4s,mb4.9,baz=91,slow=8.5,SNR=140
WRA PcP PcP 22 58 19.4 -0.8
comp=Z,4.0nm,0.8s,baz=96,slow=3.5,SNR=6.3
WRA ScP ScP 23 01 21.6 -2.4
comp=Z,3.5nm,1.0s,baz=96,slow=4.3,SNR=8.2
WRA S **S** **23 02 18.4 -5.7**
comp=Z,6.2nm,1.1s,baz=104,slow=13,SNR=8.5
KAKA Kakadu 46.29 275 *e*P **P** **22 57 07.8 -0.2**
comp=Z,13nm,0.7s,mb4.5
FORT Forrest 46.47 249⇑*i*P **P** **22 57 08.9 -0.3**
comp=Z,45nm,0.5s,mb5.2
FITZ Fitzroy Crossi 50.88 265 *e*P **P** **22 57 42.2 0.0**
comp=Z,13nm,0.4s,mb4.6
FITZ Fitzroy Crossi 50.88 265 *e*P **P** **22 57 42.6 +0.5**
comp=Z,16nm,0.5s,mb4.6
SBA Scott Base 54.80 183 *e*P **P** **22 58 11.7 +2.4**
SBA pmax pmax
comp=Z,14nm,0.9s,mb4.3
SBA Scott Base 54.80 183 *e*P **P** **22 58 11.7 +2.4**
comp=Z,14nm,0.9s,mb4.3
VNDA Vanda 54.80 185 *e*P **P** **22 58 10.0 +0.7**
VNDA *e* 22 59 03.6
VNDA pmax pmax
comp=Z,2.0nm,0.7s
VNDA Vanda 54.80 185 *e*P **P** **22 58 09.9 +0.6**
comp=Z,2.5nm,0.7s,mb3.6
VNDA PcP PcP 22 59 03.2 -1.1
VNDA *e*PcP PcP 22 59 03.6 -0.7
VNDA Vanda 54.80 185 P **P** **22 58 09.9 +0.6**
comp=Z,2.3nm,0.8s,mb3.6,baz=347,slow=6.3,SNR=5.7
VNDA PcP PcP 22 59 03.2 -1.1
comp=Z,1.8nm,0.7s,baz=331,slow=5.4,SNR=4.4
KLBR Kellerberrin 55.17 247⇑*i*P **P** **22 58 12.2 -0.5**
comp=Z,27nm,0.8s,mb4.6
NWAO Narrogin (SRO) 55.42 245 *e*P **P** **22 58 14.3 -0.2**
NWAO pmax pmax
comp=Z,2.0nm,0.4s
NWAO Narrogin (SRO) 55.42 245 *e*P **P** **22 58 14.3 -0.2**
comp=Z,2.4nm,0.4s,mb3.9
MBWA Marble Bar 55.46 260 *e*P **P** **22 58 14.1 -0.8**
comp=Z,11nm,0.4s,mb4.5
MUN Mundaring 56.41 246 *e*P **P** **22 58 21.1 -0.3**
CASY Casey 60.50 206 *e*P **P** **22 58 47.6 -0.7**
comp=Z,13nm,0.8s,mb4.4
QSPA South Pole Qui 66.61 180 *e*P **P** **22 59 28.1 +0.7**
comp=Z,25nm,0.6s,mb5.0
QSPA South Pole Qui 66.61 180 P **P** **22 59 27.8 +0.4**
comp=Z,28nm,0.8s,mb4.9,baz=14,slow=0.8,SNR=3.1
MJAR Matsushiro Arr 71.56 326 P **P** **22 59 57.1 -0.7**
comp=Z,2.6nm,0.6s,mb3.9,baz=162,slow=5.5,SNR=11
MAJO Matsushiro 71.56 326 *e*P **P** **22 59 57.7 -0.1**
MAJO pmax pmax
comp=Z,4.0nm,0.7s,mb4.1
MAJO Matsushiro 71.56 326 *e*P **P** **22 59 57.7 -0.1**
comp=Z,4.0nm,0.7s,mb4.1
TATO Taipei 74.41 307 P **P** **23 00 15.7 +1.2**
YSS Yuzh-Sakhalins 77.76 335 *i*P **P** **23 00 31.7 -0.8**
YSS pmax pmax
comp=Z,25nm,1.4s,mb4.5
YSS Yuzh-Sakhalins 77.76 335 P **P** **23 00 31.1 -1.4**
KSRS Korea Array 77.93 320 P **P** **23 00 34.2 +0.5**
KSRS pmax pmax
comp=Z,2.0nm,0.7s,mb3.7
KSRS Korea Array 77.93 320 P **P** **23 00 34.1 +0.5**
comp=Z,2.3nm,0.7s,mb3.7,baz=139,slow=5.3,SNR=9.9
MAW Mawson 78.15 200⇑*i*P **P** **23 00 34.1 -0.3**
comp=Z,7.9nm,0.7s,mb4.2
MAW Mawson 78.15 200 *e*P **P** **23 00 34.3 -0.1**
MAW pmax pmax
comp=Z,22nm,1.0s
MAW Mawson 78.15 200 *e*P **P** **23 00 34.2 -0.2**
comp=Z,22nm,1.0s,mb4.5
NJ2 Nanjing 80.39 311 *e*P **P** **23 00 46.8 -0.1**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
NSHM Saint Helena R 81.80 42 P **P** **23 00 54.3 +0.3**
HABR Khabarovsk 82.14 332 *e*P **P** **23 00 53.1 -2.4**
HABR *e* 23 04 11.7
HABR *e* 23 06 05.8
HABR *e*S S 23 10 21.0 -8.2
HABR *e* 23 10 33.0
HABR *e* 23 15 58.3
HABR *e* 23 19 33.4
CMB Columbia Colle 82.88 43 *e*P **P** **23 00 59.4 -0.1**
CMB pmax pmax
comp=Z,11nm,1.0s,mb4.3
CMB Columbia Colle 82.88 43 *e*P **P** **23 00 59.4 -0.1**
comp=Z,11nm,1.0s,mb4.3
PSI Prapat 82.95 276 P **P** **23 00 58.6 -1.8**
comp=Z,6.3nm,0.8s,mb4.2,baz=341,slow=23,SNR=5.3
CN2 Changchun 83.56 324 *e*P **P** **23 01 02.8 +0.1**
GSC Goldstone 83.62 47 *e*P **P** **23 01 03.7 +0.4**
MTUM Tungsten Hills 83.64 45 *e*P **P** **23 01 04.1 +0.7**
GLA Glamis 83.74 50 *e*P **P** **23 01 05.1 +1.2**
YBH Yreka Blue Hor 83.75 39 *e*P **P** **23 01 04.4 +0.6**
HUMO Hull Mountain 84.16 39 *e*P **P** **23 01 06.3 +0.6**
comp=Z,12nm,1.2s,mb4.3
NVAR Mina Array Bea 84.44 44 P **P** **23 01 07.3 +0.1**
comp=Z,4.5nm,0.9s,mb4.0,baz=219,slow=8.2,SNR=21
PAHR Pah Rah Range 84.51 42 *e*P **P** **23 01 08.1 +0.5**
TPNV Topopah Spring 84.92 46 *e*P **P** **23 01 09.7 0.0**
TPNV pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
TPNV Topopah Spring 84.92 46 *e*P **P** **23 01 09.7 0.0**
comp=Z,5.2nm,1.0s,mb4.1
TPH Tonopah 84.93 45 P **P** **23 01 09.2 -0.5**
MOD Modoc 85.27 40 *e*P **P** **23 01 11.2 0.0**
comp=Z,4.4nm,0.8s,mb4.1
SHPR Sheep Range 85.41 47 *e*P **P** **23 01 12.3 +0.3**
VNA2 Neumayer--Watz 85.72 178 *e*P **P** **23 01 11.5 -1.5**
baz=192,slow=4.3
VNA2 *e* 23 01 13.8
VNA2 *e* 23 01 18.8
VNA1 Neumayer--Stat 85.95 177 *e*P **P** **23 01 12.8 -1.3**
VNA1 *e* 23 01 15.2
VNA1 *e* 23 01 19.8
MA2 Magadan 86.17 346 *e*P **P** **23 01 13.8 -1.3**
MA2 pmax pmax
comp=Z,20nm,1.1s,mb4.7
MA2 Magadan 86.17 346 *e*P **P** **23 01 14.4 -0.7**
comp=Z,9.2nm,0.7s,mb4.5

TUC Tucson 86.25 52 *e*P **P** **23 01 16.9 +0.7**
TUC pmax pmax
comp=Z,26nm,1.4s,mb4.7
TUC Tucson 86.25 52 *e*P **P** **23 01 16.9 +0.7**
comp=Z,26nm,1.4s,mb4.7
WVOR Wild Horse Val 86.58 41 P **P** **23 01 17.6 +0.1**
VIPM Ingram Point 86.67 38 P **P** **23 01 18.1 +0.2**
TDL Tradedollar La 86.93 36 P **P** **23 01 19.8 +0.8**
CCUT Cedar City 87.18 47 *e*P **P** **23 01 20.9 +0.4**
GNW Green Mountain 87.37 35 *e*P **P** **23 01 21.6 +0.5**
LON Longmire 87.40 36 *e*P **P** **23 01 21.2 0.0**
RCM Mount Rainier- 87.50 36 P **P** **23 01 22.1 +0.4**
RMW Rattlesnake Mo 87.84 35 P **P** **23 01 23.6 +0.3**
EBG Ellensburg 88.17 36 P **P** **23 01 25.3 +0.4**
SNIWA Snively Ranch 88.39 37 P **P** **23 01 26.3 +0.4**
MSU Marysvale 88.48 47 *e*P **P** **23 01 27.3 +0.8**
XAN Xi'an 88.49 308 P **P** **23 01 27.0 +0.3**
XAN AMB AMB
comp=Z,9.0nm,0.8s,mb4.5
PLCA Paso Flores 88.55 134 P **P** **23 01 26.6 -0.4**
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 88.55 134 *e*P **P** **23 01 26.3 -0.7**
comp=Z,3.0nm,0.8s,mb4.2
PLCA Paso Flores 88.55 134 P **P** **23 01 26.6 -0.3**
comp=Z,2.3nm,0.7s,mb4.1,baz=331,slow=4.5,SNR=5.8
BMO Blue Mountains 88.78 39 *e*P **P** **23 01 27.4 -0.4**
comp=Z,6.5nm,1.4s,mb4.3
SEY Seymchan 88.86 348⇑*e*P **P** **23 01 27.3 -0.4**
TMUT Trail Mountain 89.54 46 *e*P **P** **23 01 31.7 +0.3**
HLID Hailey 89.77 41 *e*P **P** **23 01 32.3 0.0**
comp=Z,5.5nm,1.0s,mb4.3
HVU Hansel Valley 89.82 44 *e*P **P** **23 01 33.0 +0.3**
HVU pmax pmax
comp=Z,22nm,1.3s,mb4.8
HVU Hansel Valley 89.82 44 *e*P **P** **23 01 33.0 +0.4**
comp=Z,22nm,1.3s,mb4.8
SRU San Rafael 89.90 47 *e*P **P** **23 01 33.3 +0.2**
SRU pmax pmax
comp=Z,12nm,0.9s,mb4.7
SRU San Rafael 89.90 47 *e*P **P** **23 01 33.3 +0.2**
comp=Z,12nm,0.9s,mb4.7
DAU Daniels Canyon 90.08 45 P **P** **23 01 35.2 +1.3**
TXAR Lajitas Array 90.19 58 P **P** **23 01 35.2 +0.6**
comp=Z,5.4nm,0.7s,mb4.5,baz=214,slow=6.2,SNR=24
HWUT Hardware Ranch 90.50 44 *e*P **P** **23 01 35.2 -0.6**
comp=Z,4.0nm,0.7s,mb4.5
ANMO Albuquerque 90.68 52⇓*i*P **P** **23 01 35.2 -1.6**
PV01 Paradox Valley 90.73 48 *e*P **P** **23 01 36.6 -0.3**
MCMT McKenzie Canyo 91.40 41 *e*P **P** **23 01 40.2 +0.3**
COLA College 91.50 13 *i*P **P** **23 01 38.2 -1.6**
BILL Bilibino 91.81 355⇓*e*P **P** **23 01 40.9 -0.3**
BILL pmax pmax
comp=Z,9.0nm,1.3s,mb4.5
SMCO Snowmass 92.33 48 *e*P **P** **23 01 44.1 -0.2**
comp=Z,3.7nm,0.9s,mb4.3
SDCO Great Sand Dun 92.68 50 *e*P **P** **23 01 45.5 -0.4**
comp=Z,3.5nm,0.9s,mb4.4
ULN Ulaanbaatar 96.41 320 *i*P **P** **23 02 02.6 -0.1**
RSSD Black Hills 96.56 45 *e*P **P** **23 02 02.8 -0.6**
RSSD pmax pmax
comp=Z,1.0nm,0.7s,mb4.2
RSSD Black Hills 96.56 45 *e*P **P** **23 02 02.8 -0.6**
comp=Z,1.3nm,0.7s,mb4.3
SONM Songino Array 96.79 319 P **P** **23 02 04.1 -0.3**
comp=Z,0.4nm,0.6s,mb3.8,baz=134,slow=6.2,SNR=4.2
SONM PKKPbc PKKPbc 23 18 43.4 -2.2
comp=Z,0.8nm,0.8s,baz=275,slow=2.1,SNR=4.1
INK Inuvik 97.62 16 P **P** **23 02 06.0 -1.6**
TIXI Tiksi 101.14 345 *e*P Pdif 23 02 21.5 -2.4
TIXI pmax pmax
comp=Z,4.0nm,0.6s
TIXI Tiksi 101.14 345 *e*Pdif Pdif 23 02 21.5 -2.4
comp=Z,4.2nm,0.6s
PLAL Pickwick Lake 104.55 58 *e*Pdif Pdif 23 02 38.6 -0.4
comp=Z,7.9nm,0.6s
ZALV Zalesovo Beam 111.63 321 PKPdf PKiKP 23 07 00.5 -4.3
ZALV Zalesovo Beam 111.63 321 PKiKP PKiKP 23 07 00.5 -4.3
comp=Z,2.1nm,0.6s,baz=172,slow=6.8,SNR=11
ZAL Zalesovo 111.64 321 PKIKP PKiKP 23 07 00.5 -4.4
MK31 Makanchi Array 111.88 313 *e*PKIKP PKiKP 23 07 03.1 -2.4
MKAR Makanchi Array 111.88 313 P Pdif 23 03 12.1 +0.5
MKAR 23 07 03.3
MKAR 23 17 58.0
MKAR Makanchi Array 111.88 313 Pdiff Pdif 23 03 12.1 +0.5
comp=Z,0.2nm,0.4s,baz=97,slow=4.2,SNR=4.2
MKAR PKiKP PKiKP 23 07 03.2 -2.3
comp=Z,1.4nm,0.6s,baz=186,slow=0.8,SNR=20
MKAR PKKPbc PKKPbc 23 17 58.0 -2.4
comp=Z,0.6nm,0.8s,baz=306,slow=2.7,SNR=4.7
MKAR PKKPab PKKPab 23 18 08.7 -0.4
comp=Z,0.9nm,0.7s,baz=279,slow=3.7,SNR=8.1
KURK Kurchatov 114.90 317 *i*PKIKP PKPdf 23 07 09.3 -1.9
AML Almayashu 117.17 307 *e*PKPdf PKPdf 23 07 15.0 -0.8
OPO Ambohidratompo 117.82 232 PKiKP PKiKP 23 07 16.1 -1.8
comp=Z,4.4nm,0.8s,baz=128,slow=4.7,SNR=4.3
BDFB Brasilia 119.04 125 PKIKP PKPdf 23 07 17.9 -2.4
BDFB pmax pmax
comp=Z,1.0nm,0.3s
BDFB Brasilia 119.04 125 PKPdf PKPdf 23 07 17.7 -2.5
BDFB PKP PKPdf 23 07 17.9 -2.4
BDFB Brasilia 119.04 125 PKP PKPdf 23 07 17.9 -2.4
comp=Z,0.6nm,0.3s,baz=148,slow=24,SNR=3.0
KBL Kabul 119.66 297 *e*PKIKP PKPdf 23 07 20.0 -0.9
BVAR Borovoye Array 120.13 319 PKP PKPdf 23 07 19.1 -2.1
comp=Z,3.2nm,0.4s,baz=123,slow=1.9,SNR=23
BRVK Borovoye 120.19 319 *e*PKIKP PKPdf 23 07 19.3 -2.0
PKME Peaks-Kenny Pk 120.63 50 PKPdf PKPdf 23 07 19.9 -2.6
BOSA Boshof 122.79 206 PKP PKPdf 23 07 25.5 -1.7
comp=Z,4.8nm,1.1s,baz=327,slow=4.9,SNR=6.6
SVE Sverdlovsk 125.35 324 *e*PKIKP PKPdf 23 07 28.1 -3.0
SVE pmax pmax
comp=Z,10.0nm,1.0s
ARU Arti 126.55 324 *i*PKIKP PKPdf 23 07 31.7 -1.7
ARU 23 09 37.0
ARU Arti 126.55 324 *e*P PKPdf 23 07 31.8 -1.6
KEV Kevo 131.00 348 *e*p PKPdf 23 07 33.1 -8.4
comp=Z,9.7nm,0.8s
ARCES ARCESS Array B 131.47 348 PKP PKPdf 23 07 40.4 -2.0
comp=Z,7.0nm,0.8s,baz=57,slow=1.6,SNR=28
JOF Joensuu 135.34 340 *e*p 23 07 34.3
comp=Z,7.0nm,0.7s
JOF Joensuu 135.34 340 *e*PKHKP 23 07 34.3
JOF pmax pmax
comp=Z,7.0nm,0.7s
KMBO Kilima Mbogo 136.32 241 PKP PKPdf 23 07 52.6 -0.6
comp=Z,0.7nm,0.4s,baz=57,slow=14,SNR=4.9
FINES FINESS Array B 138.05 342 PKHKP 23 07 44.2
FINES 23 07 52.6
FINES 23 10 36.6
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES pmax pmax
comp=N,2.0nm,0.8s
FINES FINESS Array B 138.05 342 PKP PKPdf 23 07 52.6 -2.3
FINES pPKP pPKPdf 23 09 59.2 +7.7
FINES SKP 23 10 36.6
FINES FINESS Array B 138.05 342 PKhKP 23 07 44.1
comp=N,1.0nm,0.4s,baz=46,slow=4.2,SNR=12
FINES PKP PKPdf 23 07 52.6 -2.3
comp=N,1.2nm,0.5s,baz=119,slow=2.3,SNR=9.9
FINES pPKP pPKPdf 23 09 59.2 +7.8
comp=N,1.7nm,0.7s,baz=109,slow=10,SNR=3.1
FINES SKP 23 10 36.6
comp=N,1.8nm,0.8s,baz=153,slow=2.1,SNR=3.7
OBN Obninsk 138.42 329⇑*e*PKIKP PKPdf 23 07 56.2 +0.5
OBN pmax pmax
comp=Z,8.0nm,0.8s
KIV Kislovodsk 139.60 311 PKIKP PKPdf 23 07 58.6 +0.3
KIV Kislovodsk 139.60 311 PKPdf PKPdf 23 07 58.6 +0.3
NB2 NORSAR Subarra 141.66 351 PKP PKPdf 23 07 55.2 -6.2
comp=Z,4.7nm,0.6s,baz=15,slow=3.2
NOA NORSAR Array B 141.66 351 PKhKP 23 07 55.5
comp=Z,4.5nm,0.7s,baz=16,slow=4.7,SNR=20
ANN Anapa 142.88 314 *i*PKHKP 23 08 00.1
ANN pmax pmax
comp=Z,38nm,0.9s
GRSN GIRESUNGRSN 143.60 308 *i*P PKPdf 23 08 02.5 -3.0
ELZG Elazig 143.68 304 *i*P PKPdf 23 08 04.8 -0.9
MALT Malatya 144.15 303 *e*PKP PKPdf 23 08 05.4 -1.1
MALT Malatya 144.15 303⇑*i*P PKPdf 23 08 05.6 -0.9

AKASG Malin Array Be 144.62 328 PKP PKPdf 23 08 05.0 -1.9
AKASG pPKP pPKPdf 23 10 14.5 +11
AKASG SKPbc SKPbc 23 10 53.7 -5.9
AKASG Malin Array Be 144.62 328 PKP PKPdf 23 08 05.0 -1.9
comp=Z,17nm,0.6s,baz=44,slow=3.9,SNR=121
AKASG pPKP pPKPdf 23 10 14.5 +11
comp=Z,3.1nm,0.7s,baz=40,slow=3.5,SNR=5.3
AKASG SKPbc SKPbc 23 10 53.7 -5.9
comp=Z,2.1nm,0.8s,baz=46,slow=2.3,SNR=6.8
AKBB Malin Array Si 144.62 328 *e*PKHKP 23 08 04.8
KIEV Kiev 144.63 328 *e*PKHKP 23 08 05.1
SUW Suwalki 144.88 336 *e*PKP PKPdf 23 08 06.3 -0.9
SUW Suwalki 144.88 336 *e*PKP PKPdf 23 08 06.3 -1.0
SIM Simferopol' 144.97 316*c i*PKIKP PKPdf 23 08 07.0 -0.7
SIM *e*PS 23 24 19.0
GZT Gaziantep 145.03 302 *i*P PKPdf 23 08 08.2 +0.2
BOYT Boyabat 145.84 310 *i*P PKPdf 23 08 10.8 +1.4
BSD Bornholm Skovb 146.51 344⇑*i*PKIKP PKPdf 23 08 10.6 +0.6
BSD pmax pmax
comp=Z,20nm,0.8s
BSD Bornholm Skovb 146.51 344⇑*i*P PKPdf 23 08 10.6 +0.6
comp=Z,20nm,0.8s
AVNT Avonos 146.73 306 *i*P PKPbc 23 08 12.5 -1.0
BALT Daday 146.86 311 *i*P PKPbc 23 08 13.3 -0.4
GKP Gorka Klasztor 147.51 341 *e*PKP PKPbc 23 08 14.2 -0.9
GKP Gorka Klasztor 147.51 341 *e*PKP PKPbc 23 08 14.1 -1.0
KWP Kalwaria 148.40 331 *e*PKP PKPbc 23 08 16.4 -1.0
KWP Kalwaria 148.40 331 *e*PKP PKPbc 23 08 16.5 -1.0
BSEG Bad Segeberg 148.61 348 *e*PKPbc PKPbc 23 08 16.6 -1.2
BSEG *ep*PKPab pPKPab 23 10 26.8 +12
TIRR Tirgusor 148.75 319⇑*i*P PKPbc 23 08 17.1 -1.4
HARR Harsova 148.91 320⇓*i*P PKPbc 23 08 18.1 -0.8
VRI Vrincioaia 148.92 323⇑*i*P PKPbc 23 08 17.5 -1.4
KOLS Kolonicke sedl 149.11 331 *e*PKHKP PKPbc 23 08 18.5 -0.7
KOLS *e* 23 08 26.3
KOLS Kolonicke sedl 149.11 331 *e*PKP PKPbc 23 08 18.5 -0.7
KOLS *e* 23 08 26.3
KOLS *e* 23 10 39.7
KOLS Kolonicke sedl 149.11 331 *e*PKP PKPbc 23 08 18.5 -0.7
KOLS *e* 23 08 26.2
KOLS *e* 23 10 39.7
OJC Ojcow 149.16 335 *e*PKP PKPbc 23 08 18.0 -1.3
DMUB Kingscourt 149.17 8 *e*P PKPbc 23 08 17.6 -1.6
STHS Stebnicka Huta 149.20 332 *i*PKP PKPbc 23 08 18.8 -0.6
UZH Uzhgorod 149.32 330*d i*PKHKP PKPbc 23 08 18.0 -1.8
UZH *i* 23 08 23.2
ESKT Eskisehir 149.42 309 *i*P PKPbc 23 08 18.9 -1.4
CRVS Cervenica-Dubn 149.49 332 *e*PKP PKPbc 23 08 19.0 -1.1
TRPA Tarpa 149.57 330⇓*i*P PKPbc 23 08 18.6 -1.8
NIE Niedzica 149.58 333 *e*PKP PKPbc 23 08 19.8 -0.5
MLR Muntele Rosu 149.59 323⇑*i*P PKPbc 23 08 18.8 -1.7
DCN Croghan 149.67 9 *i*P PKPbc 23 08 18.6 -1.8
KSP Ksiaz 149.90 339 *e*PKP PKPbc 23 08 20.5 -0.6
KSP Ksiaz 149.90 339 *e*PKPdf PKPbc 23 08 20.0 -1.0
KSP *ep*PKP pPKPdf 23 10 31.2 +19
OKC Ostrava-Krasne 150.10 336 *e*PKPbc PKPbc 23 08 19.9 -1.6
OKC *ep*PKP pPKPdf 23 10 30.8 +18
VOIR 150.12 323⇓*i*P PKPbc 23 08 21.0 -0.7
KECS Kecovo 150.23 332 *e*PKP PKPbc 23 08 20.6 -1.3
KECS *e* 23 08 29.1
UPC Upice 150.28 339 *e*PKPbc PKPbc 23 08 21.0 -0.9
UPC *e*PKPab PKPab 23 08 30.5 +0.2
DPC Dobruska-Polom 150.31 339 *e*PKIKP PKPbc 23 08 21.2 -0.8
DPC *e* 23 08 29.6
DPC Dobruska-Polom 150.31 339 *e*PKPbc PKPbc 23 08 21.2 -0.8
DPC *e*PKPab PKPab 23 08 29.6 -0.8
DPC *ep*PKP pPKPdf 23 10 32.2 +19
MORC Moravsky Berou 150.37 337⇓*i*P PKPbc 23 08 21.0 -1.2
DRGR 150.44 327⇓*i*P PKPbc 23 08 21.2 -1.3
CLL Collm 150.45 343 *e*PKIKP PKPdf 23 08 15.0 -1.5
CLL *i* 23 08 21.0
CLL *i* 23 08 30.1
CLL Collm 150.45 343 *e*PKP PKPdf 23 08 15.0 -1.5
CLL ⇑*i*PKP PKPdf 23 08 21.0 +4.5
CLL ⇓*i*PKP PKPdf 23 08 30.1 +14
CLL *i*pPKP pPKPdf 23 10 31.1 +18
CLL Collm 150.45 343 *e*PKPbc PKPbc 23 08 21.0 -1.3
CLL *ep*PKPab pPKPab 23 10 31.7 +9.2
CLL Collm 150.45 343 *e*PKPdf PKPdf 23 08 15.0 -1.5
CLL ⇑*i*PKPbc PKPbc 23 08 21.0 -1.3
comp=Z,36nm,0.9s
CLL *e*PKiKP PKiKP 23 08 23.0 +0.2
CLL ⇓*i*PKPab PKPab 23 08 30.1 -0.9
comp=Z,9.0nm,0.9s
CLL *i*pPKPab pPKPab 23 10 31.1 +8.6
comp=Z,15nm,1.2s
CLL *i*x x 23 10 37.3
CLZ Clausthal 150.58 347 *e*PKIKP PKPbc 23 08 21.8 -1.1
CLZ *e* 23 08 30.8
CLZ Clausthal 150.58 347 *e*PKPbc PKPbc 23 08 21.5 -1.1
CLZ *e*PKPab PKPab 23 08 30.8 -0.7
CLZ *ep*PKPab pPKPab 23 10 32.4 +9.4
BRG Berggiesshubel 150.59 342 *e*PKPbc PKPbc 23 08 21.5 -1.2
BRG *ep*PKPab pPKPab 23 10 32.4 +9.3
BRG Berggiesshubel 150.59 342⇑*i*PKP PKPbc 23 08 21.6 -1.1
BRG pPKP pPKPdf 23 10 32.4 +19
comp=Z,17nm,1.4s
IBBN Ibbenburen 150.61 350 *e*PKPbc PKPbc 23 08 21.4 -1.3
IBBN *e*PKPab PKPab 23 08 31.0 -0.6
IBBN *ep*PKPab pPKPab 23 10 33.3 +10
PVCC Panska Ves 150.71 341 *e*PKPbc PKPbc 23 08 21.9 -1.0
PVCC *ep*PKP pPKPdf 23 10 32.2 +18
VYHS Vyhne 150.91 334 *i*PKIKP PKPbc 23 08 22.2 -1.3
VYHS *e* 23 08 32.3
VYHS Vyhne 150.91 334 *i*PKP PKPbc 23 08 22.2 -1.3
VYHS *e* 23 08 32.3
VYHS *e* 23 10 32.5
VYHS Vyhne 150.91 334 *i*PKP PKPbc 23 08 22.2 -1.3
VYHS *e* 23 08 32.2
VYHS *e* 23 10 32.5
PSZ Piszkesteto 150.92 332⇓*i*P PKPdf 23 08 17.6 +0.3
WTSB Winterswijk 151.08 351 *e*PKP PKPbc 23 08 22.1 -1.6
comp=Z,34nm,0.6s
PRU Pruhonice 151.20 340 *e*PKPbc PKPbc 23 08 22.7 -1.4
PRU *ep*PKP pPKPdf 23 10 33.8 +19
GZR Gura Zlata 151.36 325⇑*i*P PKPbc 23 08 23.2 -1.4
MOX Moxa 151.41 344 *e*PKP PKPbc 23 08 23.0 -1.5
comp=Z,14nm,1.3s
MOX *e* 23 08 34.0
MOX *e* 23 10 34.3
MOX Moxa 151.41 344 *e*PKIKP PKPbc 23 08 23.0 -1.5
MOX *e* 23 08 34.0
MOX Moxa 151.41 344 *e*PKPbc PKPbc 23 08 23.1 -1.4
MOX *e*PKPab PKPab 23 08 33.7 -1.3
MOX *ep*PKPab pPKPab 23 10 34.2 +7.8
TREC Trest 151.49 339 *e*PKPbc PKPbc 23 08 23.4 -1.4
TREC *e*PKPab PKPab 23 08 34.2 -1.2
BUG Bochum--Univer 151.52 350 *e*PKPbc PKPbc 23 08 23.2 -1.6
NKC Novy Kostel 151.58 343 *e*PKPbc PKPbc 23 08 23.6 -1.3
NKC *ep*PKP pPKPdf 23 10 32.1 +17
MODS Modra-Piesok 151.62 335 *e*PKIKP PKPbc 23 08 24.0 -1.1
MODS *e* 23 08 34.9
MODS Modra-Piesok 151.62 335 *e*PKP PKPbc 23 08 24.0 -1.1
MODS *e* 23 08 34.9
MODS *e* 23 10 33.0
MODS Modra-Piesok 151.62 335 *e*PKP PKPbc 23 08 24.0 -1.1
MODS *e* 23 08 34.9
MODS *e* 23 10 32.9
MANZ Manzenberg 151.89 343 *e*PKPbc PKPbc 23 08 24.5 -1.1
MANZ *ep*PKPab pPKPab 23 10 35.3 +6.9
ROTZ Rotzenmuhle 152.07 343 *e*PKPbc PKPbc 23 08 24.6 -1.4
ROTZ *e*PKPab PKPab 23 08 37.5 -0.3
ROTZ *ep*PKPab pPKPab 23 10 35.7 +6.6
KHC Kasperske Hory 152.25 341 *e*PKIKP PKPbc 23 08 25.1 -1.4
KHC *e* 23 08 38.1
KHC Kasperske Hory 152.25 341 *e*PKPbc PKPbc 23 08 25.1 -1.4
KHC *e*PKPab PKPab 23 08 38.1 -0.5
KHC *ep*PKP pPKPdf 23 10 35.8 +20
HGN Heimansgroeve 152.37 352 *e*PKP PKPbc 23 08 25.2 -1.4
GRA1 Grafenberg Arr 152.39 344 *e*PKPbc PKPbc 23 08 25.1 -1.6
GRA1 *e*PKPab PKPab 23 08 39.0 -0.2
GRF Grafenberg Arr 152.39 344 *e*PKPbc PKPbc 23 08 25.1 -1.6
GRF *e*PKPab PKPab 23 08 39.0 -0.2
WET Wettzell 152.44 342 *e*PKPab PKPab 23 08 39.4 0.0
GEC2 GERESS Array S 152.46 340 *e*PKIKP PKPbc 23 08 25.3 -1.6
GERES GERESS Array B 152.46 340 PKIKP PKPdf 23 08 16.4 -3.2
GERES 23 08 25.4
GERES GERESS Array B 152.46 340 PKP PKPdf 23 08 16.4 -3.1
comp=Z,1.3nm,1.1s,baz=76,slow=5.6,SNR=5.0
GERES PKPbc PKPbc 23 08 25.4 -1.5

comp=Z,2.9nm,0.8s,baz=56,slow=2.4,SNR=23
GERES pPKPbc pPKPbc 23 10 35.7 +13
comp=Z,2.4nm,0.9s,baz=47,slow=2.4,SNR=7.4
CONA Conrad Observa 152.52 337 ⇓*i* PKPab 23 08 40.1 +0.2
comp=Z,6.5nm,0.6s
CONA Conrad Observa 152.52 337 ⇑*i* PKPbc PKPbc 23 08 25.9 -1.2
comp=Z,7.4nm,1.0s
CONA ⇓*i* PKPab PKPab 23 08 40.1 +0.2
comp=Z,6.5nm,0.6s
CONA ⇑*i* pPKPab pPKPab 23 10 29.5 -1.6
CONA Conrad Observa 152.52 337 ⇑*i* P PKPbc 23 08 25.9 -1.2
CONA *i* 23 08 40.1
CSNA Conrad Observa 152.53 337 ⇑*i* PKPbc PKPbc 23 08 25.8 -1.3
comp=Z,7.3nm,1.0s
CSNA ⇓*i* PKPab PKPab 23 08 40.1 +0.3
comp=Z,6.2nm,0.6s
CSNA ⇓*i* pPKPab pPKPab 23 10 34.8 +3.7
PKSM Moragy 152.78 331 ⇑*i* P PKPdf 23 08 17.8 -2.3
BDRM Kayabasi 152.83 306 *i* P PKPbc 23 08 26.3 -1.8
VTS Vitosha 152.92 320 ⇑*i* P PKPbc 23 08 26.9 -1.2
WLF Walferdange 153.42 351 *e*PKPbc PKPbc 23 08 28.0 -1.0
WLF *e*PKPab PKPab 23 08 43.0 -0.6
STU Stuttgart 153.73 346 *e*PKPab PKPab 23 08 43.9 -1.0
FUR Furstenfeldbru 153.78 343 *e*PKPab PKPab 23 08 44.9 -0.3
BFO Black Forest 154.33 347 *e*PKPbc PKPbc 23 08 29.0 -1.9
BFO *e*PKPab PKPab 23 08 45.9 -1.6
WTTA Wattenberg 154.50 341 ⇓*i* PKPab 23 08 48.2 0.0
comp=Z,5.2nm,0.5s
WTTA Wattenberg 154.50 341 ⇑*i* PKPbc PKPbc 23 08 29.6 -1.7
comp=Z,5.8nm,1.0s
WTTA ⇓*i* PKPab PKPab 23 08 48.2 0.0
comp=Z,5.2nm,0.5s
WTTA ⇓*i* pPKPab pPKPab 23 10 38.5 -0.9
WTTA Wattenberg 154.50 341 ⇑*i* P PKPbc 23 08 29.6 -1.7
WTTA *i* 23 08 48.2
SANT Santorini 154.56 306 *e*PKP PKPbc 23 08 28.8 -3.0
BOJS Bojanci 154.78 334 *i* PKPdf PKPdf 23 08 21.5 -1.4
BOJS *i* PKPbc PKPdf 23 08 30.7 +7.8
BOJS *e* 23 08 49.0
JAVS Javornik 154.90 336 *i* PKPdf PKPdf 23 08 21.4 -1.7
JAVS *i* PKPbc PKPdf 23 08 30.6 +7.5
JAVS *i* 23 08 48.7
LOR Lormes 156.06 354 *e*PKIKP PKPdf 23 08 22.8 -1.8
comp=Z,3.5nm,0.7s
SSF Saint Saulge 156.30 354 *e*PKIKP PKPdf 23 08 23.0 -1.9
comp=Z,12nm,1.2s
CABF La Chapelle 156.40 350 *e*PKIKP PKPdf 23 08 24.7 -0.3
comp=Z,6.8nm,0.8s
TCF Toulx Ste Croi 157.17 356 *e*PKIKP PKPdf 23 08 24.1 -1.9
comp=Z,14nm,1.2s
LIC Lamto 162.18 163 *e*P PKPab 23 09 19.7 -2.7
comp=Z,110nm,2.2s
KIC Kosan Boka 162.38 164 *e*P PKPab 23 09 22.1 -1.2
comp=Z,223nm,1.6s
DBIC Dimbokro 162.65 164 PKP PKPdf 23 08 29.3 -3.8
comp=Z,3.9nm,0.8s,baz=121,slow=9.0,SNR=4.6
DBIC PKPab PKPab 23 09 23.1 -1.3
comp=Z,10nm,1.1s,baz=63,slow=3.2,SNR=3.2
EVO Evora 163.50 23 *e*PKIKP PKPdf 23 08 31.7 -1.4
comp=Z,18nm,1.0s
ESDC Sonseca Array 163.50 11 PKPab PKPab 23 09 26.7 -1.0
comp=Z,1.4nm,0.8s,baz=350,slow=5.0,SNR=6.4
KEST Kesra 165.35 329 PKPab PKPab 23 09 35.4 -0.6
comp=Z,0.8nm,0.8s,baz=298,slow=6.0,SNR=3.9
TORD Torodi Ar. Bea 169.61 189 PKP PKPdf 23 08 35.4 -3.0
comp=Z,6.3nm,1.2s,baz=314,slow=0.5,SNR=13
TORD PKPab PKPab 23 09 53.8 -1.4
comp=Z,3.9nm,0.9s,baz=178,slow=3.8,SNR=13

MAN 24 23:28:22, 1127N×12473E, h49km, mb3.9, ML2.7, MS2.3, 1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.27**	**114**	*e*P	Pn	23 28 32.3	+1.6
PLP				*e*S	Sn	23 28 40.2	+3.3
LLP	**Lapu-Lapu**	**1.21**	**218**	*e*P	Pn	23 28 42.5	0.0
LLP				*e*S	Sn	23 28 59.2	+1.4
TBP	**Tagbilaran**	**1.79**	**209**	*e*P	Pn	23 28 54.3	+3.9
RCP	**Roxas**	**1.97**	**279**	⇓*e*P	Pn	23 28 53.8	+0.9
RCP				*e*S	Sn	23 29 17.9	+1.5

*ISCJB **25** 00:19:55.1±0.4, 5032N±003×1884E±003, h0km, Error ellipse: s-maj=4.4km s-min=2.1km az=13.4*
*WAR **25** 00:19:56.7, 5026N×1891E, ML2.7, Mining Induced*
*NEIC **25** 00:19:57.0±0.5, 5022N×1888E, h5km, ML2.8(CSEM), Error ellipse: s-maj=9.4km s-min=3.9km az=189.0*
*CSEM **25** 00:19:57.4±0.1, 5028N×1883E, h2km, ML3.2/4, Error ellipse: s-maj=2.9km s-min=1.3km az=5.0*
*PRU **25** 00:19:57.8, 5025N×1883E, h0km*
*IPEC **25** 00:19:57.0±0.1, 5027N×1887E, h4km±1km, ML2.2/3, Error ellipse: s-maj=1.5km s-min=0.7km az=171.0*
*VIE **25** 00:19:58.4±0.7, 4983N×1894E, h0km, mb1.8/2, ML2.6/4, Error ellipse: s-maj=5.4km s-min=4.2km az=152.0 47 km S of Katowice Suspected Mining induced.*

ISC 25 00:19:56.6±0.4, 5026N±003×1884E±002, h0km, n37, σ1°21/72, 3C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAC	**Raciborz**	**0.45**	**247**	*e*Pg	**Pg**	**00 20 07.1**	**+1.8**
RAC				*e*Sg	**Sg**	**00 20 11.1**	**0.0**
RAC	**Raciborz**	**0.45**	**247**	*e*Pg	**Pg**	**00 20 07.0**	**+1.7**
RAC				*e*Sg	**Sg**	**00 20 11.1**	**0.0**
OJC	**Ojcow**	**0.62**	**94**	*i* Pg	**Pg**	**00 20 08.0**	**-0.4**
OJC				*e*Sg	**Sg**	**00 20 16.2**	**-0.1**
OJC	**Ojcow**	**0.62**	**94**	*i* Pg	**Pg**	**00 20 08.0**	**-0.4**
OJC				*e*Sg	**Sg**	**00 20 16.6**	**+0.3**
OKC	**Ostrava-Krasne**	**0.62**	**227**	*e*PG	**Pg**	**00 20 09.5**	**+1.1**
OKC				*e*SG	**Sg**	**00 20 18.0**	**+1.6**
comp=Z,32nm,0.2s							
MORC	**Moravsky Berou**	**0.97**	**240**	*e*P	**Pg**	**00 20 15.8**	**+0.6**
MORC				*e*S	**Sg**	**00 20 28.9**	**+1.2**
MORC	**Moravsky Berou**	**0.97**	**240**	*e*Pg	**Pg**	**00 20 15.5**	**+0.4**
MORC				*e*Sg	**Sg**	**00 20 28.8**	**+1.1**
comp=Z,49nm,0.3s							
NIE	**Niedzica**	**1.27**	**131**	*e*Pg	**Pg**	**00 20 20.2**	**-0.8**
NIE				*e*Sg	**Sg**	**00 20 38.9**	**+1.4**
JAVC	**Velka Javorina**	**1.60**	**209**	*e*Pn	**Pn**	**00 20 26.6**	**+0.5**
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*Pg	**Pg**	**00 20 26.3**	**-1.3**
DPC				*e*Sg	**Sg**	**00 20 48.5**	**0.0**
DPC	**Dobruska-Polom**	**1.62**	**274**	*e*PG	**Pg**	**00 20 26.3**	**-1.3**
DPC				*e*SG	**Sg**	**00 20 48.5**	**0.0**
comp=Z,35nm,0.3s							
KSP	**Ksiaz**	**1.73**	**291**	*e*Pn	**Pn**	**00 20 27.8**	**0.0**
KSP				*e*Pg	**Pg**	**00 20 29.8**	**+0.1**
KSP				*e*Sn	**Sn**	**00 20 53.7**	**+3.2**
KSP	**Ksiaz**	**1.73**	**291**	*e*Pn	**Pn**	**00 20 27.6**	**-0.2**
KSP				*i* Pg	**Pg**	**00 20 29.7**	**+0.1**
KSP				*e*Sg	**Sg**	**00 20 53.5**	**+1.5**
KSP	**Ksiaz**	**1.73**	**291**	*i* Pg	**Pg**	**00 20 29.7**	**+0.1**
KSP				*e*Sg	**Sg**	**00 20 53.5**	**+1.5**
VRAC	**Vranov**	**1.74**	**238**	*e*Pn	**Pn**	**00 20 28.5**	**+0.5**
VRAC				*e*Sg	**Sg**	**00 20 51.8**	**-0.7**
comp=Z,21nm,0.3s							
STHS	**Stebnicka Huta**	**1.77**	**118**	*e*PN	**Pn**	**00 20 27.8**	**-0.6**
STHS				*e*SN	**Sg**	**00 20 54.2**	**+0.8**
VYHS	**Vyhne**	**1.77**	**180**	*e*PN	**Pn**	**00 20 27.7**	**-0.7**
VYHS				*e*SN	**Sn**	**00 20 51.8**	**+0.2**
UPC	**Upice**	**1.83**	**279**	*e*Sg	**Sg**	**00 20 54.7**	**-0.6**
KRUC	**Moravsky**	**1.99**	**234**	*e*Pn	**Pn**	**00 20 31.6**	**+0.1**
KRUC				*e*Sg	**Sg**	**00 20 58.8**	**-1.8**
comp=Z,11nm,0.3s							
KECS	**Kecovo**	**2.08**	**148**	*e*PN	**Pn**	**00 20 31.7**	**-1.0**
KECS				*e*PG	**Pg**	**00 20 35.0**	**-1.4**
KECS				*e*SN	**Sn**	**00 21 00.8**	**+1.5**
MODS	**Modra-Piesok**	**2.15**	**209**	*e*SG	**Sg**	**00 21 07.7**	**+2.1**
CRVS	**Cervenica-Dubn**	**2.18**	**128**	*e*PN	**Pn**	**00 20 33.3**	**-0.8**
CRVS				*e*PG	**Pg**	**00 20 36.8**	**-1.6**
CRVS				*e*SN	**Sn**	**00 21 04.4**	**+2.6**
PSZ	**Piszkesteto**	**2.45**	**163**	*e*Pn	**Pn**	**00 20 38.5**	**+0.7**
PSZ	**Piszkesteto**	**2.45**	**163**	*e*Pn	**Pn**	**00 20 38.5**	**+0.8**
KWP	**Kalwaria**	**2.58**	**103**	*e*Pn	**Pn**	**00 20 39.0**	**-0.5**
KWP				*e*Pg	**Pg**	**00 20 46.4**	**+0.4**
KWP	**Kalwaria**	**2.58**	**103**	*e*Pn	**Pn**	**00 20 39.0**	**-0.5**
KWP				*e*Pg	**Pg**	**00 20 46.4**	**+0.5**
KOLS	**Kolonicke sedl**	**2.60**	**120**	*e*PG	**Pg**	**00 20 45.7**	**-0.7**
PVCC	**Panska Ves**	**2.75**	**277**	*e*Pn	**Pn**	**00 20 42.1**	**+0.3**
PVCC				*e*Sg	**Sg**	**00 21 23.8**	**-1.0**
PRU	**Pruhonice**	**2.78**	**266**	*e*PN	**Pn**	**00 20 44.2**	**+1.9**
PRU				*e*SG	**Sg**	**00 21 23.0**	**-2.9**
comp=Z,5.6nm,0.4s							
CONA Conrad Observa 3.05 221 ⇑*i* Pn					**Pn**	**00 20 44.2**	**-1.8**
CONA ⇓*i* Sg					**Sg**	**00 21 30.6**	**-3.9**
comp=Z,4.7nm,0.5s							
BRG Berggiesshubel 3.18 283 PG **Pg 00 20 58.5 +1.0**
BRG				SG	**Sg**	**00 21 40.0**	**+1.2**
comp=Z,6.5nm,0.6s							
KHC Kasperske Hory 3.60 254 *e*Pg **Pg 00 21 01.8 -3.7**
KHC				*e*Sn	**Sn**	**00 21 32.0**	**-4.7**
KHC				*e*Sg	**Sg**	**00 21 50.8**	**-1.4**
comp=Z,11nm,0.6s							
KHC Kasperske Hory 3.60 254 *e*PN **Pn 00 20 53.3 -0.3**
KHC				*e*PG	**Pg**	**00 21 01.8**	**-3.7**
KHC				*ex*	x	00 21 32.0	
KHC				*e*SG	**Sg**	**00 21 50.8**	**-1.4**
comp=Z,11nm,0.6s							
CLL Collm 3.85 288 *e*Sg **Sg 00 22 02.0 +1.8**
comp=Z,15nm,1.4s							
MOA Molln 3.86 233 ⇑*i* Pg **Pg 00 21 08.7 -1.8**
MOA				⇑*i* Sg	**Sg**	**00 21 58.6**	**-1.8**
comp=Z,5.8nm,0.4s							
MOX Moxa 4.63 277 (SG) **Sg 00 22 33.0 +7.7**
BSD Bornholm Skovb 5.41 335 *i* P **Pn 00 21 17.1 -1.4**
BSD				*i* S	**Sn**	**00 22 15.7**	**-5.7**

MAN 25 00:30:29, 924N×12545E, h1km, mb4.2, ML3.0, MS2.7, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	**Surigao**	**0.54**	**4**	*e*P	Pg	00 30 40.4	+1.0
SCPH				*e*S	Sg	00 30 48.2	+1.9
MSLP	**Maasin**	**1.06**	**327**	*e*P	Pg	00 30 50.2	+0.8
BUKP	**Musuan**	**1.41**	**196**	*e*P	Pn	00 30 55.7	-0.1
TBP	**Tagbilaran**	**1.63**	**286**	*e*P	Pn	00 30 59.5	+0.7
TBP				*e*S	Sn	00 31 21.6	+1.0
PLP	**Palo**	**1.97**	**346**	*e*P	Pn	00 31 04.5	+1.0
PLP				*e*S	Sn	00 31 33.1	+4.2
PAGZ	**Pagadian**	**2.47**	**236**	*e*P	Pn	00 31 11.8	+1.4

*IDC **25** 00:32:04.8±5.7, 3633N×7094E, h160km±53km, mb3.8/10, mb1 3.9/13, mb1mx3.6/24, mbtmp3.7/13, Error ellipse: s-maj=24.5km s-min=17.0km az=23.0*
*MOS **25** 00:32:06.4±0.8, 3646N×7102E, h187km, mb4.2/5, Error ellipse: s-maj=14.6km s-min=8.5km az=96.0*
*ISCJB **25** 00:32:06.5±0.3, 3650N±002×7102E±004, h189km±4km, mb4.1/17, Error ellipse: s-maj=5.3km s-min=3.3km az=168.5*
*BJI **25** 00:32:07.5, 3667N×7092E, h170km, mb4.2*
*NEIC **25** 00:32:07.1±0.6, 3645N×7101E, h180km±5km, mb4.3/9, Error ellipse: s-maj=6.9km s-min=5.8km az=140.0*
*NNC **25** 00:32:14.9±5.1, 3712N×7079E, h190km±40km, mb2.7, mpv4.2, Error ellipse: s-maj=46.4km s-min=30.4km az=32.0*

ISC 25 00:32:07.1±0.3, 3649N±002×7097E±004, h179km±4km, n92, σ1°05/118, mb4.1/17, 5C-5D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.50**	**219**	*e*Pn	**Pn**	**00 32 50.8**	**+1.0**
KBL				*e*Sn	**Sn**	**00 33 21.1**	**-1.7**
CEP	**Cherat**	**2.77**	**164**	⇓P	**Pn**	**00 32 55.6**	**+2.6**
CEP				S	**Sn**	**00 33 31.0**	**+2.4**
CHCP	**Chirah Chowk**	**3.40**	**146**	P	**Pn**	**00 33 03.2**	**+2.6**
THW	**Thamme Wali**	**3.74**	**170**	P	**Pn**	**00 33 07.2**	**+2.2**
SARP	**Sargodha**	**4.77**	**162**	P	**Pn**	**00 33 19.6**	**+1.5**
KSH	**Kashi**	**4.97**	**51**	*e*P	**Pn**	**00 33 22.8**	**+2.2**
KSH				S	**Sn**	**00 34 16.5**	**-1.8**
KSH				Smax			
comp=N,854nm,0.4s							
KSH				Smax			
comp=E,1μm,0.6s							
THN	**Thein Dam**	**5.63**	**135**	*e*P	**Pn**	**00 33 28.8**	**-0.5**
THN				*ex*	**Sn**	**00 34 32.3**	**-1.6**
DLH	**Dalhousie**	**5.70**	**132**	*e*P	**Pn**	**00 33 32.0**	**+1.8**
DLH				*ex*	**Sn**	**00 34 37.0**	**+1.5**
AML	**Almayashu**	**6.01**	**20**	*e*Pn	**Pn**	**00 33 34.6**	**+0.4**
AML				*e*Sn	**Sn**	**00 34 40.3**	**-2.4**
AML	**Almayashu**	**6.01**	**20**	P	**Pn**	**00 33 34.2**	**0.0**
SNR=135							
UCH	**Uchtor**	**6.35**	**25**	*e*Pn	**Pn**	**00 33 39.0**	**+0.4**
comp=E,17nm,0.4s							
UCH				*e*Sn	**Sn**	**00 34 48.2**	**-2.5**
UCH	**Uchtor**	**6.35**	**25**	P	**Pn**	**00 33 38.9**	**+0.3**
SNR=27							
KZA	**Kyzart**	**6.49**	**29**	P	**Pn**	**00 33 40.3**	**-0.1**
SNR=12							
EKS2	**Erkin-Say**	**6.53**	**19**	*e*Pn	**Pn**	**00 33 41.3**	**+0.4**
comp=E,10nm,0.5s							
EKS2				*e*Sn	**Sn**	**00 34 52.0**	**-2.9**
EKS2	**Erkin-Say**	**6.53**	**19**	P	**Pn**	**00 33 41.8**	**+0.8**
SNR=8.5							
KK31	**Karatay Array**	**6.61**	**357**	⇑P	**Pn**	**00 33 41.5**	**-0.5**
comp=E,9.4nm,0.3s,baz=173,slow=13,SNR=419							
KK31				⇑S	**Sn**	**00 34 51.1**	**-5.8**
comp=E,53nm,0.4s,baz=174,slow=19							
AAK	**Ala-Archa**	**6.71**	**23**	P	**Pn**	**00 33 43.9**	**+0.6**
SNR=12							
BHK	**Bhakra**	**6.79**	**137**	*e*P	**Pn**	**00 33 42.8**	**-1.7**
BHK				*ex*	**Sn**	**00 34 52.0**	**-9.2**
SDNR	**Sundarnagar**	**7.04**	**133**	*e*P	**Pn**	**00 33 46.5**	**-1.3**
SDNR				*e*S	**Sn**	**00 35 02.0**	**-5.3**
CHMS	**Chumysh**	**7.12**	**23**	P	**Pn**	**00 33 48.8**	**+0.1**
SNR=7.9							
USP	**Ospenovka**	**7.29**	**21**	P	**Pn**	**00 33 50.8**	**-0.1**
SNR=9.5							
TKM2	**Tokmak 2**	**7.34**	**28**	*e*PN	**Pn**	**00 33 52.0**	**+0.4**
TKM2				*e*		00 35 15.0	
TKM2				pmax	pmax		
comp=Z,11nm,0.5s							
TKM2	**Tokmak 2**	**7.34**	**28**	*e*Pn	**Pn**	**00 33 52.0**	**+0.4**
comp=Z,11nm,0.5s							
TKM2				*e*Sn	**Sn**	**00 35 15.0**	**+0.8**
TKM2	**Tokmak 2**	**7.34**	**28**	P	**Pn**	**00 33 52.1**	**+0.5**
SNR=18							
KLP	**Kalpa**	**7.81**	**127**	*e*P	**Pn**	**00 33 58.4**	**+0.6**
KLP				*e*S	**Sn**	**00 35 20.1**	**-5.3**
KLP				AML	AML	00 35 24.2	
comp=N,198nm,0.3s							
KLP				AML	AML	00 35 28.4	
comp=E,373nm,0.5s							
DDI	**Dehra Dun**	**8.54**	**134**	*e*P	**Pn**	**00 34 08.4**	**+0.9**
DDI				*ex*	x	00 35 29.0	
JOSI	**Joshimath**	**9.29**	**127**	*e*P	**Pn**	**00 34 18.6**	**+1.2**
JOSI				*e*S	**Sn**	**00 35 54.7**	**-6.3**
JOSI				AML	AML	00 36 01.0	
comp=E,338nm,0.5s							
JOSI				AML	AML	00 36 01.1	
comp=N,321nm,0.5s							
KHET	**Khetri**	**9.34**	**153**	*e*P	**Pn**	**00 34 16.9**	**-1.1**
KHET				*e*S	**Sn**	**00 35 54.4**	**-7.7**
KHET				AML	AML	00 35 57.9	
comp=E,58nm,0.4s							
KHET				AML	AML	00 35 59.3	
comp=N,55nm,0.4s							
NDI	**New Delhi**	**9.40**	**144**	*e*P	**Pn**	**00 34 18.0**	**-0.8**
NDI				*e*S	**Sn**	**00 35 55.0**	**-8.6**
SONA	**Sohna**	**9.71**	**146**	*e*P	**Pn**	**00 34 22.1**	**-0.7**
SONA				*e*S	**Sn**	**00 36 03.2**	**-7.7**
AJM	**Ajmer**	**10.46**	**162**	*e*P	**Pn**	**00 34 32.2**	**-0.5**
AJM				*e*S	**Sn**	**00 36 21.3**	**-7.7**
MK31	**Makanchi Array**	**13.31**	**36**	⇑P	**Pn**	**00 35 12.8**	**+3.8**
comp=N,1.8nm,0.6s,baz=217,slow=13,SNR=12							
MK31	**Makanchi Array**	**13.31**	**36**	*e*Pn	**Pn**	**00 35 09.2**	**+0.2**
MK31				*e*Sn	**Sn**	**00 37 38.3**	**+1.4**
MKAR	**Makanchi Array**	**13.31**	**36**	P	**Pn**	**00 35 09.3**	**+0.3**
comp=N,0.5nm,0.3s,baz=211,slow=12,SNR=12							
DANN	**Dangsing**	**13.50**	**123**	*e*P	**Pn**	**00 35 10.9**	**-0.8**
comp=N,35nm,0.2s							
DANN				*e*S	**Sn**	**00 37 33.1**	**-8.8**
KOLN	**Koldanda**	**13.78**	**126**	*e*P	**Pn**	**00 35 14.7**	**-0.4**
comp=N,29nm,0.3s							
KOLN				*e*S	**Sn**	**00 37 39.7**	**-8.7**
GKN	**Gorkha**	**14.32**	**122**	*e*P	**Pn**	**00 35 20.9**	**-1.0**
comp=N,13nm,0.3s							
GKN				*e*S	**Sn**	**00 37 52.1**	**-9.3**
BHPL	**Bhopal**	**14.34**	**155**	*ex*	**Pn**	**00 35 25.5**	**+3.4**
BHPL				*ex*	**Sn**	**00 37 55.3**	**-6.5**
DMN	**Daman**	**14.89**	**123**	*e*P	**Pn**	**00 35 28.6**	**-0.3**
comp=N,118nm,0.8s							
KKN	**Kakani**	**14.89**	**122**	*e*P	**Pn**	**00 35 27.9**	**-1.0**
comp=N,42nm,0.5s							
AB31	**Akbulak array**	**15.08**	**331**	P	**Pn**	**00 35 29.4**	**-1.6**
comp=N,4.3nm,0.3s,baz=151,slow=12,SNR=177							
AB31				⇑S	**S**	**00 38 08.6**	**-10**
comp=N,2.5nm,0.5s,baz=150,slow=21							
PKIN Phulchoki 15.11 122 *e*P **Pn 00 35 31.6 0.0**
comp=N,66nm,0.4s							
PKI Pulchoki 15.12 122 *e*P **Pn 00 35 31.8 +0.1**
comp=N,76nm,0.4s							
KURBB Kurchatov Arra 15.14 19 ⇓P **Pn 00 35 31.9 +0.2**
comp=N,0.3nm,0.8s							
GUN Gumba 15.23 120 *e*P **Pn 00 35 32.9 -0.2**
comp=N,27nm,0.3s							
KURK Kurchatov 15.24 19 *e*P **Pn 00 35 32.6 -0.4**
JIRN Jiri 15.60 120 *e*P **Pn 00 35 37.5 -0.2**
comp=N,82nm,0.4s							
BANOM Banah 16.37 234 P **Pn 00 35 46.8 -0.1**
SNR=14							
BVA0 Borovoye Array 16.54 359 ⇓P **Pn 00 35 48.5 -0.1**
comp=N,0.5nm,1.1s,baz=170,slow=14,SNR=7.2							
BVA0				S	**S**	**00 38 47.8**	**-3.9**
comp=N,0.3nm,0.9s,baz=171,slow=24,SNR=5.9							
BVAR Borovoye Array 16.54 359 P **Pn 00 35 48.5 -0.1**
comp=N,0.3nm,0.3s,baz=197,slow=15,SNR=7.7							
BRVK Borovoye 16.57 359 *e*P **Pn 00 35 49.5 +0.4**
AKTK Aktyubinsk 16.77 330 P **Pn 00 35 51.6 0.0**
AKTO Aktyubinsk 16.77 330 ⇓P **Pn 00 35 51.5 0.0**
comp=N,0.1nm,0.6s							
AKTO				⇑S	**S**	**00 38 51.3**	**-5.2**
comp=N,0.1nm,0.6s							
AKTO Aktyubinsk 16.77 330 P **Pn 00 35 51.6 0.0**
comp=N,2.3nm,0.3s,baz=144,slow=7.5,SNR=39							
ASHO Ashiyiah 17.39 232 P **Pn 00 35 58.8 -0.3**
SNR=8.2							
LSA Lhasa 18.20 106 *e*P **P 00 36 06.2 -0.3**
LSA				pmax	pmax		
comp=Z,10.0nm,0.6s							
LSA Lhasa 18.20 106 *e*P **P 00 36 06.2 -0.3**
comp=Z,9.7nm,0.6s							
ZAL Zalesovo 19.91 25 P **P 00 36 25.5 +0.7**
ZAA0 Zalesovo Array 19.93 25 *e*P **P 00 36 25.3 +0.3**
ZALV Zalesovo Beam 19.93 25 P **P 00 36 25.5 +0.5**
comp=Z,3.3nm,0.4s,baz=219,slow=11,SNR=20							
MIB Mutribah 20.86 258 *e*P **P 00 36 35.0 -0.1**
MIB				AMb	AMB	00 36 38.5	
comp=Z,19nm,0.8s							
GNI Garni 20.87 288 *e*P **P 00 36 35.9 +0.7**
RDF Al-Radifah 21.07 256 *e*P **P 00 36 37.1 -0.2**
RDF				AMb	AMB	00 36 39.4	
comp=Z,15nm,0.6s,mb4.5							
NAY Al-Naaiem 21.17 257 *e*P **P 00 36 37.4 -1.1**
NAY				AMb	AMB	00 36 40.6	
comp=Z,7.8nm,0.8s,mb4.1							
RST Umm Al-Ruwaisa 21.25 258 *e*P **P 00 36 38.0 -1.4**
RST				AMb	AMB	00 36 41.3	
comp=Z,0.5nm,0.6s							
KIV Kislovodsk 22.77 298 *e*P **P 00 36 54.0 -0.1**
KIV Kislovodsk 22.77 298 *e*P **P 00 36 54.0 0.0**
OBN Obninsk 29.93 319 *e*P **P 00 37 58.5 +0.5**
AKASG Malin Array Be 32.93 309 P **P 00 38 24.8 +0.4**
comp=Z,4.8nm,0.5s,mb4.5,baz=79,slow=7.3,SNR=31							
JOF Joensuu 35.86 330 *ep* **P 00 38 49.4 0.0**
comp=Z,5.1nm,0.6s,mb4.3							
JOF Joensuu 35.86 330 *e*P **P 00 38 49.4 0.0**
JOF				pmax	pmax		
comp=Z,5.0nm,0.6s,mb4.3							
KWP Kalwaria 37.00 306 *e*P **P 00 39 00.4 +1.2**
KWP				pmax	pmax		
comp=Z,4.0nm,0.4s,mb4.4							
KWP Kalwaria 37.00 306 *e*P **P 00 39 00.4 +1.2**
comp=Z,4.1nm,0.4s,mb4.4							
FINES FINESS Array B 37.48 326 P **P 00 39 03.6 +0.5**
comp=Z,1.7nm,0.4s,mb4.0,baz=123,slow=9.4,SNR=32							
GVD Gavdhos 37.84 282 *e*P **P 00 39 06.3 -0.1**
KEV Kevo 40.80 338 *ep* **P 00 39 30.6 +0.1**
comp=Z,1.0nm,0.3s,mb3.9							
KEV Kevo 40.80 338 *e*P **P 00 39 30.6 +0.1**
KEV				pmax	pmax		
comp=Z,1.0nm,0.3s,mb3.9							
ARCES ARCESS Array B 41.14 338 P **P 00 39 34.1 +0.8**
comp=Z,5.2nm,0.6s,mb4.4,baz=112,slow=8.6,SNR=56							
BRG Berggiesshubel 42.61 308 *i* P **P 00 39 46.8 +1.4**
BRG				pmax	pmax		
comp=Z,2.0nm,0.6s,mb3.9							
BRG Berggiesshubel 42.61 308 *i* P **P 00 39 46.8 +1.4**
comp=Z,3.7nm,0.6s,mb4.2							
YAK Yakutsk 43.98 35 P **P 00 39 59.0 +2.7**
NB2 NORSAR Subarra 44.37 323 P **P 00 39 59.1 -0.2**
comp=Z,7.5nm,0.6s,mb4.5,baz=96,slow=7.9							
NOA NORSAR Array B 44.37 323 P **P 00 39 59.5 +0.1**
comp=Z,7.1nm,0.6s,mb4.5,baz=96,slow=7.8,SNR=45							
DAVA Damuels 45.66 304 ⇓*i* P **P 00 40 09.8 +0.1**
comp=Z,4.1nm,0.5s,mb4.4							
TORD Torodi Ar. Bea 65.69 269 P **P 00 42 31.3 -1.4**
comp=Z,1.0nm,0.5s,mb3.9,baz=52,slow=6.1,SNR=35							
BOSA Boshof 77.73 220 P **P 00 43 44.4 +0.3**
comp=Z,1.9nm,0.6s,mb3.9,baz=156,slow=7.1,SNR=6.6							
YKA Yellowknife Ar 81.25 3 P **P 00 44 03.5 +0.7**
comp=Z,1.1nm,0.3s,mb3.9,baz=348,slow=5.4,SNR=36							
WRA Warramunga Arr 82.01 122 P **P 00 44 06.5 -0.8**
comp=Z,1.0nm,0.7s,mb3.6,baz=326,slow=4.9,SNR=5.5							
WRAB Tennant Creek 82.01 122 *e*P **P 00 44 06.7 -0.6**
WRAB				pmax	pmax		
comp=Z,1.0nm,0.6s,mb3.6							
WRAB Tennant Creek 82.01 122 *e*P **P 00 44 06.7 -0.6**
comp=Z,1.2nm,0.6s,mb3.7							
ASAR Alice Springs 84.27 125 P **P 00 44 18.2 -0.6**
comp=Z,1.1nm,0.6s,mb3.8,baz=312,slow=5.

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.27**	**283**	⇑ *i*PB	**Pg**	**01 13 50.6**	**-0.1**
KARP				*e*SB	**Sg**	**01 13 54.4**	**+0.1**
ARG	**Arkhangelos**	**0.90**	**35**	*e*PN	**Pn**	**01 14 03.0**	**-1.4**
DAT	**Datca**	**1.24**	**4**	*e*PN	**Pn**	**01 14 06.9**	**-2.3**
DAT				*e*SN	**Sn**	**01 14 26.0**	**-0.1**
NPS	**Neapolis**	**1.54**	**262**	*e*PN	**Pn**	**01 14 13.1**	**-0.2**
DALT	**Dalyan (Mudla)**	**1.58**	**36**	*e*PN	**Pn**	**01 14 14.5**	**+0.6**
XRY	**Khrisi**	**1.59**	**248**	*e*PN	**Pn**	**01 14 15.0**	**+1.1**
FETY	**Fethiye**	**1.73**	**48**	*e*PN	**Pn**	**01 14 17.8**	**+1.9**
YER	**Yerkesik**	**1.77**	**21**	*e*PN	**Pn**	**01 14 17.0**	**+0.6**
MLSB	**Milas**	**1.82**	**7**	*e*PN	**Pn**	**01 14 17.4**	**+0.3**
SANT	**Santorini**	**1.86**	**299**	*e*Pn	**Pn**	**01 14 17.7**	**0.0**
SANT				*e*Sn	**Sn**	**01 14 36.0**	**-5.5**
SANT	**Santorini**	**1.86**	**299**	*e*Pn	**Pn**	**01 14 17.7**	**0.0**
SANT				*e*Sn	**Sn**	**01 14 36.0**	**-5.5**
APE	**Apeiranthos**	**2.23**	**316**	*e*PN	**Pn**	**01 14 22.5**	**-0.3**
VAM	**Vamos**	**2.68**	**269**	*e*PN	**Pn**	**01 14 29.6**	**+0.7**
HMAT	**Matruh**	**4.39**	**184**	P	**Pn**	**01 14 52.4**	**-0.1**
SWA1		**6.38**	**194**	P	**Pn**	**01 15 19.3**	**-0.6**
SWA1				S	**Sn**	**01 16 27.6**	**-5.4**
SWA2		**6.46**	**196**	P	**Pn**	**01 15 20.3**	**-0.5**

IDC 25 01:35:52.6±1.2, 016S×12569E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.7/17, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=109.8km s-min=19.8km az=69.0, Southern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**17.83**	**180**	P	Pn	01 40 02.7	+0.5
	0.1nm,0.3s,baz=30,slow=13,SNR=5.2						
WRA	**Warramunga Arr**	**21.41**	**157**	P	P	01 40 41.4	-0.7
	1.2nm,0.5s,baz=336,slow=11,SNR=6.8						
ASAR	**Alice Springs**	**24.69**	**162**	P	P	01 41 15.9	+0.5
	0.5nm,0.5s,baz=343,slow=8.9,SNR=9.8						
STKA	**Stephens Creek**	**34.95**	**156**	P	P	01 42 46.3	-0.1
	1.0nm,0.5s,baz=329,slow=12,SNR=3.1						
SONM	**Songino Array**	**50.67**	**343**	P	P	01 44 54.3	+0.6
	0.8nm,0.8s,baz=159,slow=8.9,SNR=4.2						
MKAR	**Makanchi Array**	**60.19**	**327**	P	P	01 46 01.9	-0.4
	0.3nm,0.4s,baz=120,slow=8.5,SNR=5.2						

*HLW **25** 01:39:41.8, 3590N×2730E, h33km, Mb2.7*
*ISK **25** 01:39:43.9, 3556N×2727E, h5km, MD3.6*
*CSEM **25** 01:39:44.9±0.1, 3540N×2743E, h20km, MD3.5, Error ellipse: s-maj=4.4km s-min=2.7km az=115.0*
*ISCJB **25** 01:39:44.1±0.5, 3541N±004×2747E±006, h10km, Error ellipse: s-maj=7.4km s-min=4.4km az=31.8*
*ATH **25** 01:39:45.9, 3560N×2735E, h18km, MD3.5/8*
*NEIC **25** 01:39:45.9, 3560N×2735E, h18km, MD3.5(ATH), MD3.5(ISK), After ATH.*
ISC 25 01:39:45.8±1.3, 3547N±004×2745E±006, h13km±8km, n21, σ1°06/27, 1C, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	**Karpathos**	**0.24**	**288**	⇑ *i*PB	**Pg**	**01 39 50.3**	**-0.7**
ARG	**Arkhangelos**	**0.93**	**36**	*e*PN	**Pn**	**01 40 02.8**	**-1.7**
ARG				*e*SN	**Sn**	**01 40 15.2**	**-2.4**
DAT	**Datca**	**1.26**	**5**	*e*PN	**Pn**	**01 40 07.4**	**-1.7**
DAT				*e*SN	**Sn**	**01 40 25.5**	**-0.3**
NPS	**Neapolis**	**1.51**	**263**	*e*PN	**Pn**	**01 40 13.1**	**+0.6**
NPS				*e*SN	**Sn**	**01 40 32.5**	**+0.5**
XRY	**Khrisi**	**1.55**	**248**	*e*PN	**Pn**	**01 40 14.5**	**+1.4**
DALT	**Dalyan (Mudla)**	**1.62**	**36**	*e*PN	**Pn**	**01 40 14.9**	**+0.9**
FETY	**Fethiye**	**1.76**	**48**	*e*PN	**Pn**	**01 40 17.9**	**+1.9**
YER	**Yerkesik**	**1.79**	**22**	*e*PN	**Pn**	**01 40 16.8**	**+0.4**
MLSB	**Milas**	**1.84**	**8**	*e*PN	**Pn**	**01 40 16.9**	**-0.1**
SANT	**Santorini**	**1.85**	**300**	*e*Pn	**Pn**	**01 40 16.5**	**-0.6**
SANT				*e*Sn	**Sn**	**01 40 34.7**	**-5.6**
SANT	**Santorini**	**1.85**	**300**	*e*Pn	**Pn**	**01 40 16.5**	**-0.6**
SANT				*e*Sn	**Sn**	**01 40 34.7**	**-5.6**
APE	**Apeiranthos**	**2.22**	**316**	*e*PN	**Pn**	**01 40 22.2**	**-0.1**
SMG	**Samos**	**2.29**	**348**	*e*PN	**Pn**	**01 40 23.0**	**-0.2**
VAM	**Vamos**	**2.65**	**270**	*e*PB	**Pb**	**01 40 29.7**	**-3.4**
BLCB	**Balcova**	**2.93**	**354**	*e*PN	**Pn**	**01 40 32.1**	**+0.1**
KULA	**Kula-Manisa**	**3.19**	**17**	*e*PN	**Pn**	**01 40 36.7**	**+1.1**
KHL	**Karahalli**	**3.30**	**30**	*e*PN	**Pn**	**01 40 38.6**	**+1.5**
VLI	**Veliai**	**3.86**	**290**	*e*PN	**Pn**	**01 40 45.5**	**+0.7**
HMAT	**Matruh**	**4.37**	**184**	P	**Pn**	**01 40 52.0**	**+0.1**
SWA1		**6.36**	**194**	P	**Pn**	**01 41 19.0**	**-0.1**
SWA1				S	**Sn**	**01 42 30.3**	**-1.3**
SWA2		**6.43**	**196**	P	**Pn**	**01 41 20.1**	**0.0**

*BJI **25** 01:44:49.0, 2197N×14320E, h88km, mB4.9, mb4.6*
*ISCJB **25** 01:44:53.8±6.0, 2169N±007×1430E±01, h135km±55km, mb4.1/25, Error ellipse: s-maj=23.0km s-min=11.7km az=170.6*
*NEIC **25** 01:44:53.2±4.3, 2172N×14309E, h117km±39km, mb4.5/12, Error ellipse: s-maj=15.3km s-min=7.7km az=82.0*
*IDC **25** 01:44:55.8±9.3, 2174N×14309E, h142km±87km, mb3.6/12, mb1 3.8/12, mb1mx3.7/21, mbtmp3.6/12, MS3.4/6, Ms1 3.4/6, ms1mx3.2/17, Error ellipse: s-maj=28.6km s-min=13.2km az=86.0*
ISC 25 01:44:54.0±5.2, 2171N±007×1431E±01, h123km±47km, n37, σ0°77/34, mb4.3/25, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.37**	**345**	LR	LR	01 53 40.9	
	comp=Z,144nm,20.6s,baz=215,slow=34						
YHNB	**Yeheng**	**20.17**	**283**	P	**P**	**01 49 20.1**	**+1.2**
KSRS	**Korea Array**	**20.45**	**323**	P	**P**	**01 49 22.6**	**+0.9**
	1.9nm,0.8s,baz=140,slow=11,SNR=6.7						
KSRS				LR	LR	01 57 27.5	
	comp=Z,25nm,19.5s,baz=337,slow=37						
INCN	**Inchon**	**21.20**	**321**	*e*P	**P**	**01 49 28.2**	**-1.6**
	16nm,0.4s,mb4.7						
MDJ	**Mudanjiang**	**25.41**	**337**	P	**P**	**01 50 10.7**	**+0.7**
LZH	**Lanzhou**	**36.96**	**302**	*e*P	**P**	**01 51 51.5**	**+0.2**
LZH				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.8						
LZH				AMB	AMB		
	comp=Z,87nm,4.6s						
ULN	**Ulaanbaatar**	**38.90**	**321**	*e*P	**P**	**01 52 06.9**	**-0.5**
	comp=Z,1.1nm,0.4s,mb4.0						
SONM	**Songino Array**	**39.27**	**321**	P	**P**	**01 52 10.0**	**-0.5**
	comp=Z,0.7nm,0.5s,mb3.8,baz=117,slow=7.1,SNR=6.0						
SONM				LR	LR	02 08 21.4	
	comp=Z,45nm,19.1s,baz=58,slow=36						
GTA	**Gaotai**	**40.79**	**306**	*e*P	**P**	**01 52 22.6**	**-0.6**
GTA				AMB	AMB		
	comp=Z,4.0nm,1.4s,mb4.1						
CTA	**Charters Tower**	**41.66**	**176**	LR	LR	02 06 06.9	
	comp=Z,72nm,21.9s,baz=230,slow=30						
WRAB	**Tennant Creek**	**42.26**	**192**	*e*P	**P**	**01 52 34.9**	**-0.5**
	comp=Z,14nm,1.1s,mb4.6						
WB2	**Warramunga Arr**	**42.27**	**192**	*e*P	**P**	**01 52 35.2**	**-0.2**
WRA	**Warramunga Arr**	**42.27**	**192**	P	**P**	**01 52 35.3**	**-0.1**
	comp=Z,7.1nm,0.9s,mb4.4,baz=14,slow=9.0,SNR=20						
ASAR	**Alice Springs**	**45.98**	**192**	P	**P**	**01 53 04.7**	**-0.2**
	comp=Z,2.7nm,0.7s,mb4.1,baz=12,slow=9.4,SNR=32						
PSI	**Prapat**	**46.83**	**253**	P	**P**	**01 53 13.0**	**+1.2**
	comp=Z,5.0nm,0.9s,mb4.3,baz=135,slow=9.8,SNR=5.7						
STKA	**Stephens Creek**	**53.30**	**182**	*e*P	**P**	**01 53 59.5**	**-0.8**
STKA	**Stephens Creek**	**53.30**	**182**	P	**P**	**01 53 60.0**	**-0.3**
	comp=Z,3.3nm,0.8s,mb4.4,baz=318,slow=8.9,SNR=5.6						
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**01 54 05.0**	**-1.2**
ZALV				LR	LR	02 15 48.5	
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**01 54 05.0**	**-1.2**
	comp=Z,2.3nm,1.0s,mb4.2,baz=110,slow=6.8,SNR=6.1						
ZALV				LR	LR	02 15 48.5	
	comp=Z,19nm,19.7s,baz=52,slow=34						
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**01 54 10.1**	**+0.3**
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**01 54 10.1**	**+0.3**
	comp=Z,0.5nm,0.6s,mb3.7,baz=90,slow=9.1,SNR=8.2						
KURK	**Kurchatov**	**57.40**	**317**	*e*P	**P**	**01 54 29.2**	**-0.3**
	comp=Z,6.4nm,1.2s,mb4.5						
UCH	**Uchtor**	**60.09**	**307**	*e*P	**P**	**01 54 48.3**	**0.0**
	comp=Z,8.3nm,1.2s,mb4.6						
AML	**Almayashu**	**60.71**	**307**	*e*P	**P**	**01 54 54.0**	**+1.6**
	comp=Z,3.6nm,0.9s,mb4.4						
BRVK	**Borovoye**	**62.66**	**320**	*e*P	**P**	**01 55 05.5**	**0.0**
	comp=Z,2.7nm,0.6s,mb4.3						
INK	**Inuvik**	**67.59**	**24**	*e*P	**P**	**01 55 36.6**	**-0.4**
INK	**Inuvik**	**67.59**	**24**	P	**P**	**01 55 36.2**	**-0.7**
	comp=Z,3.7nm,1.1s,mb4.1,baz=274,slow=5.1,SNR=7.5						

YKA	**Yellowknife Ar**	**76.48**	**28**	P	**P**	**01 56 29.5**	**-0.6**
	comp=Z,1.2nm,0.7s,mb3.7,baz=294,slow=5.4,SNR=16						
PPT	**Papeete**	**76.62**	**115**	LR	LR	02 24 25.9	
	comp=Z,134nm,19.6s,baz=273,slow=31						
FINES	**FINESS Array B**	**83.13**	**334**	P	**P**	**01 57 04.5**	**-1.4**
	comp=Z,0.7nm,0.6s,mb3.7,baz=33,slow=4.5,SNR=3.9						
NVAR	**Mina Array Bea**	**83.21**	**51**	P	**P**	**01 57 07.7**	**+1.0**
NVAR	**Mina Array Bea**	**83.21**	**51**	P	**P**	**01 57 07.7**	**+1.0**
	comp=Z,1.1nm,0.8s,mb3.7,baz=267,slow=5.4,SNR=8.5						
TPNV	**Topopah Spring**	**85.28**	**52**	*e*P	**P**	**01 57 17.3**	**0.0**
	comp=Z,4.9nm,1.0s,mb4.4						
FFC	**Flin Flon**	**85.86**	**32**	*e*P	**P**	**01 57 19.9**	**+0.1**
	comp=Z,10nm,1.0s,mb4.7						
DUG	**Dugway**	**86.39**	**48**	*e*P	**P**	**01 57 22.8**	**+0.1**
	comp=Z,5.5nm,1.0s,mb4.4						
HWUT	**Hardware Ranch**	**86.64**	**46**	*e*P	**P**	**01 57 24.4**	**+0.6**
	comp=Z,3.6nm,1.0s,mb4.3						
SMCO	**Snowmass**	**90.87**	**47**	*e*P	**P**	**01 57 45.2**	**+1.3**
	comp=Z,3.9nm,1.0s,mb4.5						

*CSEM **25** 02:20:11.8±0.2, 3768N×2085E, h12km, ML2.6, Error ellipse: s-maj=4.7km s-min=2.2km az=48.0*
*ATH **25** 02:20:11.8, 3773N×2084E, h22km±3km, MD3.2/3*
*NEIC **25** 02:20:11.8, 3773N×2084E, h22km, MD3.2(ATH), After ATH.*
*ISCJB **25** 02:20:12.8±1.3, 3773N±007×209E±0.1, h25km±12km, Error ellipse: s-maj=17.8km s-min=12.0km az=167.0*
*THE **25** 02:20:12.8, 3773N×2089E, h3km, ML2.6*
ISC 25 02:20:11.9±1.3, 3770N±006×2084E±007, h20km±7km, n9, σ0°97/16, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	**Anninata**	**0.41**	**355**	*e*Pg	**Pg**	**02 20 20.2**	**-0.3**
KFL				*e*Sg	**Sg**	**02 20 26.6**	**+0.3**
VLS	**Valsamata**	**0.51**	**338**	*e*Pg	**Pg**	**02 20 22.0**	**-0.3**
VLS				*e*Sg	**Sg**	**02 20 30.1**	**+0.7**
RLS	**Riolos of Patr**	**0.61**	**54**	*e*PN	**Pn**	**02 20 23.1**	**-2.3**
RLS				*e*SN	**Sb**	**02 20 32.5**	**+0.4**
ITM	**Ithomi**	**1.01**	**121**	*e*PN	**Pn**	**02 20 31.5**	**+0.6**
SELA	**Sela**	**1.01**	**55**	*e*Pg	**Pg**	**02 20 30.2**	**-1.3**
SELA				*e*Sg	**Sg**	**02 20 44.5**	**-0.4**
SELA	**Sela**	**1.01**	**55**	*e*Pg	**Pg**	**02 20 30.2**	**-1.4**
SELA				*e*Sg	**Sg**	**02 20 44.5**	**-0.4**
LKD	**Levkas**	**1.02**	**352**	*e*Pg	**Pg**	**02 20 30.9**	**-0.7**
LKD				*e*Sg	**Sg**	**02 20 45.6**	**+0.6**
VLX	**Vlachokerasia**	**1.27**	**105**	*e*Pg	**Pg**	**02 20 35.7**	**-0.7**
VLX				*e*Sg	**Sg**	**02 20 54.6**	**+1.6**
EVR	**Evrytania**	**1.43**	**32**	*e*PN	**Pn**	**02 20 38.1**	**+1.4**

*NEIC **25** 02:20:22.9, 3068S×7129W, h50km, MD3.7(GUC), After GUC.*
GUC 25 02:20:22.9±0.8, 3068S×7129W, h50km±5km, MD3.7, ML2.9, 1C-4D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	**Ovalle**	**0.10**	**46**	⇑ *i*P	Pn	02 20 31.2	+0.5
OVCH				*i* S	Sn	02 20 36.9	+0.7
CMCH	**Combarbala**	**0.55**	**153**	⇓ *i*P	Pn	02 20 35.3	+0.5
CMCH				*i* S	Sn	02 20 44.2	+1.0
CMCH	**Combarbala**	**0.55**	**153**	⇓ *i*P	Pn	02 20 35.3	+0.5
CMCH				*i* S	Sn	02 20 44.2	+1.0
CMCH				AML	AML	02 20 44.6	
	comp=N,5μm,0.2s						
TLL	**Tololo Astrono**	**0.66**	**39**	⇓ *i*P	Pn	02 20 37.5	+1.4
TLL				*i* S	Sn	02 20 47.7	+2.0
TLL	**Tololo Astrono**	**0.66**	**39**	⇓ *i*P	Pn	02 20 37.5	+1.4
TLL				*i* S	Sn	02 20 47.7	+2.0
TLL				AML	AML	02 20 49.5	
	comp=N,253nm,0.4s						
LSCH	**La Serena**	**0.77**	**3**	*e*P	Pn	02 20 37.9	+0.3
LSCH				*i* S	Sn	02 20 48.8	+0.6

IDC 25 02:23:35.0±2.2, 241N×12817E, h0km, mb3.4/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.4/3, Error ellipse: s-maj=150.5km s-min=25.6km az=68.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.02**	**165**	P	P	02 28 42.1	+0.3
	0.8nm,0.4s,baz=344,slow=10,SNR=5.6						
ASAR	**Alice Springs**	**26.51**	**168**	P	P	02 29 13.7	-0.6
	0.2nm,0.4s,baz=356,slow=7.7,SNR=4.4						
MKAR	**Makanchi Array**	**59.45**	**325**	P	P	02 33 40.0	+0.4
	0.2nm,0.4s,baz=118,slow=8.5,SNR=3.8						

*IDC **25** 02:51:48.7±2.7, 1381S×16764E, h0km, mb4.4/5, mb1 4.5/5, mb1mx4.1/14, mbtmp4.4/5, Error ellipse: s-maj=97.6km s-min=32.1km az=129.0*
*NEIC **25** 02:51:54.5±1.6, 1384S×16753E, h35km, mb4.3/1, Error ellipse: s-maj=57.1km s-min=18.4km az=131.0*
ISC 25 02:51:56.3±3.0, 137S±04×1672E±05, h35km, n35, σ0°34/8, mb4.2/6, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.65**	**228**	P	**P**	**02 57 58.8**	**+0.1**
	2.0nm,0.5s,mb4.1,baz=46,slow=7.8,SNR=10						
WB2	**Warramunga Arr**	**32.05**	**254**	*e*P	**P**	**02 58 20.1**	**+0.1**
WRAB	**Tennant Creek**	**32.05**	**254**	*e*P	**P**	**02 58 19.8**	**-0.2**
	2.7nm,0.7s,mb4.2						
WRA	**Warramunga Arr**	**32.06**	**254**	P	**P**	**02 58 20.3**	**+0.2**
	1.9nm,0.5s,mb4.2,baz=86,slow=9.1,SNR=11						
ASAR	**Alice Springs**	**33.03**	**248**	P	**P**	**02 58 28.2**	**-0.2**
	1.6nm,0.5s,mb4.2,baz=76,slow=9.3,SNR=22						
MK31	**Makanchi Array**	**96.43**	**316**	*e*P	**P**	**03 05 22.0**	**+0.2**
MKAR	**Makanchi Array**	**96.43**	**316**	P	**P**	**03 05 22.3**	**+0.5**
	0.9nm,0.6s,mb4.4,baz=90,slow=6.6,SNR=8.2						
ZALV	**Zalesovo Beam**	**96.54**	**324**	P	**P**	**03 05 21.4**	**-0.7**
	0.6nm,0.3s,mb4.5,baz=94,slow=4.3,SNR=2.8						
ARCES	**ARCESS Array B**	**119.24**	**346**	PKP	PKPdf	03 10 38.8	-2.3
	1.0nm,0.6s,baz=80,slow=2.7,SNR=10						
LDF	**La Druitiere**	**143.66**	**346**	*e*PKP1	PKPdf	03 11 24.5	-3.0
	7.2nm,0.8s						
LOR	**Lormes**	**143.75**	**341**	*e*PKP1	PKPdf	03 11 25.5	-2.2
	2.2nm,0.5s						
GRR	**Gorron**	**144.02**	**346**	*e*PKP1	PKPdf	03 11 25.3	-2.9
	23nm,1.1s						
SSF	**Saint Saulge**	**144.04**	**341**	*e*PKP1	PKPdf	03 11 25.8	-2.5
	11nm,0.8s						
LPL	**La Plagne**	**144.23**	**336**	*e*PKP1	PKPdf	03 11 26.9	-1.7
	6.8nm,0.7s						
LPG	**La Plagne**	**144.24**	**336**	*e*PKP1	PKPdf	03 11 27.0	-1.7
	7.0nm,0.7s						
SMF	**Signal de Mont**	**144.30**	**340**	*e*PKP1	PKPdf	03 11 26.4	-2.3
	9.7nm,1.0s						
AVF	**Avril sur Loir**	**144.33**	**341**	*e*PKP1	PKPdf	03 11 26.4	-2.4
	7.5nm,0.9s						
SGMF	**Saint Gilles**	**144.51**	**348**	*e*PKP1	PKPdf	03 11 26.8	-2.2
	8.3nm,0.6s						
BGF	**Bois d'Agland**	**144.70**	**341**	*e*PKP1	PKPdf	03 11 27.7	-1.7
	10nm,1.0s						
MBDF	**Montbardon**	**144.87**	**336**	*e*PKP1	PKPdf	03 11 28.2	-1.6
	5.5nm,0.7s						
ORIF	**Oris-en-Rattie**	**145.06**	**337**	*e*PKP1	PKPbc	03 11 29.2	-0.3
	9.7nm,0.7s						
TCF	**Toulx Ste Croi**	**145.14**	**342**	*e*PKP1	PKPbc	03 11 29.0	-0.7
SBF	**Sospel**	**145.30**	**334**	*e*PKP1	PKPbc	03 11 29.3	-1.0
	12nm,0.7s						
MFF	**Saint Martin d**	**145.51**	**345**	*e*PKP1	PKPbc	03 11 30.8	-0.1
	8.0nm,0.7s						
VIVF	**Saint-Julien-l**	**145.57**	**338**	*e*PKP1	PKPbc	03 11 30.7	-0.5
	5.8nm,0.8s						
PGF	**Pioggiola**	**145.64**	**331**	*e*PKP1	PKPbc	03 11 30.5	-0.9
	11nm,0.8s						
FRF	**La Foret Royal**	**145.88**	**334**	*e*PKP1	PKPbc	03 11 31.1	-1.1
	7.6nm,0.6s						
SMRF	**Simiane la Rot**	**145.97**	**336**	*e*PKP1	PKPbc	03 11 31.9	-0.5
	5.4nm,0.7s						
LMR	**La Mourre**	**146.12**	**334**	*e*PKP1	PKPbc	03 11 31.8	-1.1
	13nm,1.0s						
RJF	**Les Rejaudoux**	**146.24**	**342**	*e*PKP1	PKPbc	03 11 32.4	-0.8
	2.8nm,0.5s						
CAF	**Calviac**	**146.40**	**341**	*e*PKP1	PKPbc	03 11 33.1	-0.6
LASF	**Ste Croix**	**146.54**	**338**	*e*PKP1	PKPbc	03 11 33.4	-0.7
	5.1nm,0.7s						
LFF	**La Frestale**	**146.80**	**342**	*e*PKP1	PKPbc	03 11 33.9	-0.9
MTLF	**Montolieu**	**147.76**	**339**	*e*PKP1	PKPbc	03 11 36.2	-1.4
	7.5nm,0.8s						
ETSF	**Etsaut**	**149.04**	**342**	*e*PKP1	PKPbc	03 11 40.3	-0.6
	1.8nm,0.4s						

IDC 25 02:59:08.4±3.2, 564S×10462E, h0km, mb3.6/5, mb1 3.7/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=146.3km s-min=22.7km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.20**	**119**	P	P	03 05 38.4	0.0
	0.3nm,0.3s,baz=294,slow=8.6,SNR=3.8						
ASAR	**Alice Springs**	**33.40**	**125**	P	P	03 05 49.0	+0.1
	0.2nm,0.3s,baz=301,slow=7.6,SNR=4.6						
STKA	**Stephens Creek**	**43.30**	**132**	P	P	03 07 12.0	-0.2
	0.9nm,0.5s,baz=309,slow=14,SNR=2.9						
SONM	**Songino Array**	**53.27**	**1**	P	P	03 08 28.8	0.0
	0.6nm,0.7s,baz=169,slow=8.6,SNR=3.6						
MKAR	**Makanchi Array**	**55.84**	**342**	P	P	03 08 47.6	+0.1
	0.4nm,0.3s,baz=146,slow=7.9,SNR=7.3						

*ISCJB **25** 03:13:50.6±0.8, 3116N±010×827E±0.1, h10km, mb3.6/7, Error ellipse: s-maj=14.5km s-min=13.5km az=44.7*
*IDC **25** 03:13:50.4±1.2, 3103N×8276E, h0km, mb3.6/7, mb1 3.7/8, mb1mx3.6/23, mbtmp3.6/8, ML2.8/1, Error ellipse: s-maj=32.8km s-min=25.7km az=50.0*
*NEIC **25** 03:13:52.5±0.7, 3118N×8275E, h10km, mb3.7/1, Error ellipse: s-maj=21.4km s-min=12.6km az=69.0*
ISC 25 03:13:52.3±0.8, 3117N±010×826E±01, h10km, n12, σ1°01/12, mb3.6/7, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DDI	**Dehra Dun**	**4.03**	**259**	*ex*	**Pb**	**03 15 02.5**	**-0.9**
MK31	**Makanchi Array**	**15.61**	**359**	*e*Pn	**Pn**	**03 17 37.5**	**+5.2**
MKAR	**Makanchi Array**	**15.61**	**359**	Pn	**Pn**	**03 17 30.8**	**-1.5**
	0.0nm,0.3s,baz=177,slow=11,SNR=2.3						
KURK	**Kurchatov**	**19.76**	**352**	*e*P	**Pn**	**03 18 22.4**	**-1.3**
	3.8nm,0.9s						
ZALV	**Zalesovo Beam**	**22.82**	**3**	P	**P**	**03 18 55.2**	**0.0**
	1.2nm,0.5s,mb3.6,baz=196,slow=10.0,SNR=5.1						
SONM	**Songino Array**	**24.61**	**41**	P	**P**	**03 19 13.3**	**+0.7**
	0.7nm,0.6s,mb3.4,baz=231,slow=9.4,SNR=4.2						
KULM	**Kulim**	**30.80**	**143**	*e*P	**P**	**03 20 08.6**	**+0.3**
AKASG	**Malin Array Be**	**43.75**	**312**	P	**P**	**03 21 59.1**	**+1.4**
	0.2nm,0.4s,mb3.2,baz=82,slow=7.7,SNR=5.8						
FINES	**FINESS Array B**	**47.26**	**327**	P	**P**	**03 22 26.7**	**+1.3**
	1.1nm,0.8s,mb3.9,baz=114,slow=9.5,SNR=3.4						
ARCES	**ARCESS Array B**	**49.78**	**337**	P	**P**	**03 22 45.6**	**+0.9**
	2.2nm,0.9s,mb4.2,baz=33,slow=7.2,SNR=5.1						
WRA	**Warramunga Arr**	**71.02**	**129**	P	**P**	**03 25 09.4**	**-1.2**
	0.5nm,0.5s,mb3.7,baz=324,slow=6.1,SNR=5.8						
TORD	**Torodi Ar. Bea**	**75.65**	**277**	P	**P**	**03 25 38.2**	**+0.2**
	0.5nm,0.9s,mb3.4,baz=67,slow=4.3,SNR=5.6						

*ISCJB **25** 03:14:23.5±1.2, 311N±0.1×826E±0.3, h10km, mb3.6/6, Error ellipse: s-maj=31.7km s-min=20.1km az=170.1*
*IDC **25** 03:14:23.7±1.2, 3106N×8258E, h0km, mb3.6/6, mb1 3.7/7, mb1mx3.5/23, mbtmp3.6/7, ML3.1/1, Error ellipse: s-maj=40.4km s-min=24.8km az=58.0*
*NEIC **25** 03:14:25.3±0.8, 3114N×8262E, h10km, mb3.6/1, Error ellipse: s-maj=23.5km s-min=14.8km az=82.0*
ISC 25 03:14:25.4±1.2, 312N±01×827E±03, h10km, n9, σ0°77/9, mb3.6/6, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**15.60**	**359**	*e*Pn	**Pn**	**03 18 09.7**	**+4.4**
MKAR	**Makanchi Array**	**15.60**	**359**	Pn	**Pn**	**03 18 05.8**	**+0.6**
	0.1nm,0.3s,baz=183,slow=11,SNR=3.8						
KURK	**Kurchatov**	**19.75**	**352**	*e*P	**Pn**	**03 18 54.7**	**-2.0**
	2.5nm,0.8s						
ZALV	**Zalesovo Beam**	**22.81**	**3**	P	**P**	**03 19 28.6**	**+0.4**
	1.0nm,0.5s,mb3.5,baz=182,slow=10,SNR=3.2						
AKASG	**Malin Array Be**	**43.75**	**312**	P	**P**	**03 22 31.2**	**+0.4**
	0.2nm,0.2s,mb3.4,baz=85,slow=7.4,SNR=5.0						
FINES	**FINESS Array B**	**47.26**	**327**	P	**P**	**03 22 58.8**	**+0.3**
	1.0nm,0.8s,mb3.8,baz=78

RDF	**Al-Radifah**	**74.07 297**	*e*P	**P**	**03 45 56.5**	**-1.5**
RDF			AMb	AMB	03 45 57.9	
comp=Z,10.0nm,0.6s,mb4.9						
MIB	**Mutribah**	**74.19 298**	*e*P	**P**	**03 45 57.9**	**-0.7**
MIB			AMb	AMB	03 45 59.0	
comp=Z,18nm,0.7s,mb5.1						
NAY	**Al-Naaiem**	**74.31 297**	*e*P	**P**	**03 45 57.6**	**-1.7**
NAY			AMb	AMB	03 45 58.9	
comp=Z,4.9nm,0.6s,mb4.6						
JOF	**Joensuu**	**81.69 333**	*ep*	**P**	**03 46 39.4**	**-0.2**
comp=Z,4.8nm,0.8s,mb4.5						
SPITS	**Spitsbergen Ar**	**82.57 349**	LR	LR	04 22 34.8	
comp=Z,13nm,21.8s,MS3.2,baz=55,slow=35						
ARCES	**ARCESS Array B**	**82.70 340**	P	**P**	**03 46 45.1**	**+0.4**
comp=Z,4.6nm,0.8s,mb4.6,baz=77,slow=5.8,SNR=15						
FINES	**FINESS Array B**	**84.39 332**	P	**P**	**03 46 53.8**	**+0.3**
comp=Z,2.4nm,0.6s,mb4.5,baz=78,slow=5.4,SNR=22						
AKASG	**Malin Array Be**	**85.10 321**	P	**P**	**03 46 56.9**	**-0.5**
comp=Z,3.2nm,0.7s,mb4.5,baz=68,slow=4.7,SNR=13						
NOA	**NORSAR Array B**	**91.25 334**	P	**P**	**03 47 24.9**	**-1.7**
comp=Z,0.7nm,0.7s,mb4.1,baz=61,slow=4.3,SNR=4.0						
NOA			LR	LR	04 32 30.0	
comp=Z,12nm,18.3s,MS3.4,baz=80,slow=38						
YKA	**Yellowknife Ar**	**92.80 24**	P	**P**	**03 47 34.1**	**+0.5**
comp=Z,0.1nm,0.5s,mb3.5,baz=304,slow=4.5,SNR=3.0						
TORD	**Torodi Ar. Bea**	**119.14 292**	PKP	PKPdf	03 53 10.3	-0.8
comp=Z,0.1nm,0.5s,baz=93,slow=1.1,SNR=3.3						
PLCA	**Paso Flores**	**147.71 157**	PKPbc	PKPbc	03 54 07.2	+1.1
PLCA	**Paso Flores**	**147.71 157**	PKPbc	PKPbc	03 54 07.2	+1.1
comp=Z,0.8nm,0.5s,baz=248,slow=2.0,SNR=3.8						

*IDC **25** 03:50:09.9±3.3, 3402N×8228E, h0km, mb3.5/3, mb1 3.7/4, mb1mx3.3/23, mbtmp3.6/4, ML3.3/1, Error ellipse: s-maj=86.8km s-min=42.4km az=115.0*
*ISCJB **25** 03:50:14.5±5.6, 3439N±0.10×815E±04, h18km±48km, mb3.4/2, Error ellipse: s-maj=52.4km s-min=13.4km az=169.1*

ISC 25 03:50:19.2±1.7, 3438N±010×816E±04, h40km±25km, n13, σ1§02/13, mb3.4/2, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DANN	**Dangsing**	**6.29**	**162**	*e*P	**Pn**	**03 51 48.1**	**-1.4**
KOLN	**Koldanda**	**6.81**	**165**	*e*P	**Pn**	**03 51 55.0**	**-1.6**
GKN	**Gorkha**	**6.88**	**157**	*e*P	**Pn**	**03 51 57.3**	**-0.2**
KKN	**Kakani**	**7.30**	**153**	*e*P	**Pn**	**03 52 03.6**	**+0.4**
9.4nm,0.5s							
DMN	**Daman**	**7.40**	**155**	*e*P	**Pn**	**03 52 04.7**	**+0.1**
8.9nm,0.3s							
GUN	**Gumba**	**7.43**	**149**	*e*P	**Pn**	**03 52 06.3**	**+1.2**
8.6nm,0.4s							
PKIN	**Phulchoki**	**7.53**	**153**	*e*P	**Pn**	**03 52 06.6**	**+0.1**
PKI	**Pulchoki**	**7.54**	**153**	*e*P	**Pn**	**03 52 06.8**	**+0.2**
7.9nm,0.4s							
JIRN	**Jiri**	**7.78**	**148**	*e*P	**Pn**	**03 52 11.1**	**+1.2**
MKAR	**Makanchi Array**	**12.42**	**2**	Pn	**Pn**	**03 53 12.4**	**-0.8**
0.2nm,0.3s,baz=182,slow=13,SNR=16							
BVAR	**Borovoye Array**	**20.27**	**340**	P	**P**	**03 54 52.9**	**+1.8**
2.0nm,0.7s,baz=140,slow=9.4,SNR=7.3							
TORD	**Torodi Ar. Bea**	**74.41**	**275**	P	**P**	**04 01 53.8**	**+0.4**
0.3nm,0.8s,mb3.3,baz=44,slow=5.9,SNR=5.1							
YKA	**Yellowknife Ar**	**82.59**	**7**	P	**P**	**04 02 36.1**	**-1.5**
0.2nm,0.5s,mb3.4,baz=340,slow=5.2,SNR=4.3							

IDC 25 04:27:41.1±1.2, 5910S×2315W, h0km, mb4.1/3, mb1 4.1/3, mb1mx3.8/17, mbtmp4.1/3, Error ellipse: s-maj=44.6km s-min=33.6km az=37.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**34.69**	**281**	P	P	04 34 32.3	+0.1
0.7nm,0.7s,baz=111,slow=7.5,SNR=3.3							
MAW	**Mawson**	**36.41**	**140**	P	P	04 34 46.4	-0.2
2.8nm,1.0s,baz=277,slow=5.7,SNR=3.6							
TORD	**Torodi Ar. Bea**	**74.77**	**25**	P	P	04 39 22.8	+0.1
2.9nm,0.7s,baz=202,slow=6.1,SNR=43							
YKA	**Yellowknife Ar**	**139.88**	**314**	PKP	PKPdf	04 47 08.4	-1.0
0.2nm,0.4s,baz=125,slow=2.3,SNR=6.0							
SONM	**Songino Array**	**148.69**	**88**	PKPbc	PKPbc	04 47 28.8	-0.2
1.5nm,0.9s,baz=242,slow=3.2,SNR=9.9							

*IDC **25** 04:52:52.8±5.3, 3815N×7389E, h101km±45km, mb3.6/7, mb1 3.7/11, mb1mx3.5/24, mbtmp3.6/11, Error ellipse: s-maj=33.3km s-min=19.8km az=14.0*
*MOS **25** 04:52:54.4±0.8, 3827N×7379E, h129km, mb3.5/1, Error ellipse: s-maj=22.7km s-min=10.0km az=81.0*
*ISCJB **25** 04:52:54.6±0.5, 3822N±003×7391E±007, h139km±6km, mb3.5/7, Error ellipse: s-maj=8.7km s-min=5.0km az=170.1*
*NNC **25** 04:52:56.7±9.3, 3894N×7377E, h0km, mb3.9, mpv3.6, Error ellipse: s-maj=103.3km s-min=44.9km az=14.0*
*BJI **25** 04:52:56.1, 3832N×7389E, h131km*
*NEIC **25** 04:52:56.0±1.8, 3829N×7389E, h130km±12km, mb4.2/1, Error ellipse: s-maj=19.5km s-min=10.8km az=185.0*

ISC 25 04:52:55.6±0.4, 3821N±003×7395E±007, h134km±6km, n53, σ1§08/63, mb3.5/7, 5C-3D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**2.05**	**50**	*e*P	**Pn**	**04 53 32.1**	**+1.7**
KSH				S	**Sn**	**04 53 58.1**	**+1.0**
KSH				Smax			
comp=N,4μm,0.4s							
KSH				Smax			
comp=E,7μm,0.3s							
AML	**Almayashu**	**3.92**	**357**	*e*Pn	**Pn**	**04 53 54.6**	**+0.2**
AML	**Almayashu**	**3.92**	**357**	P	**Pn**	**04 53 54.8**	**+0.5**
SNR=43							
KZA	**Kyzart**	**3.99**	**14**	P	**Pn**	**04 53 55.6**	**+0.4**
SNR=53							
UCH	**Uchtor**	**4.04**	**6**	*e*Pn	**Pn**	**04 53 56.2**	**+0.3**
UCH	**Uchtor**	**4.04**	**6**	P	**Pn**	**04 53 56.2**	**+0.3**
SNR=44							
ULHL	**Ulahol**	**4.40**	**23**	P	**Pn**	**04 54 00.8**	**+0.2**
SNR=21							
AAK	**Ala-Archa**	**4.44**	**5**	P	**Pn**	**04 54 01.6**	**+0.4**
SNR=11							
EKS2	**Erkin-Say**	**4.45**	**358**	*e*Pn	**Pn**	**04 54 00.4**	**-0.9**
EKS2				*e*Sn	**Sn**	**04 54 50.5**	**-1.9**
EKS2	**Erkin-Say**	**4.45**	**358**	P	**Pn**	**04 54 02.2**	**+0.9**
SNR=7.3							
KBK	**Karagaybulak**	**4.51**	**9**	P	**Pn**	**04 54 02.9**	**+0.8**
SNR=14							
CHCP	**Chirah Chowk**	**4.58**	**187**	P	**Pn**	**04 54 07.2**	**+4.1**
CEP	**Cherat**	**4.68**	**201**	⇓P	**Pn**	**04 54 07.4**	**+2.9**
CEP				S	**Sn**	**04 54 57.0**	**-1.0**
CHMS	**Chumysh**	**4.82**	**7**	P	**Pn**	**04 54 06.8**	**+0.5**
SNR=6.1							
TKM2	**Tokmak 2**	**4.87**	**14**	*e*PN	**Pn**	**04 54 07.2**	**+0.3**
TKM2	**Tokmak 2**	**4.87**	**14**	P	**Pn**	**04 54 07.4**	**+0.4**
SNR=33							
USP	**Ospenovka**	**5.07**	**5**	P	**Pn**	**04 54 09.6**	**0.0**
SNR=6.9							
KK31	**Karatay Array**	**5.54**	**333**	⇓Pn	**Pn**	**04 54 15.7**	**-0.2**
comp=E,3.2nm,0.3s,baz=157,slow=13,SNR=85							
KK31				⇑Sn	**Sn**	**04 55 12.6**	**-5.9**
comp=E,104nm,0.7s,baz=154,slow=24							
THW	**Thamme Wali**	**5.70**	**199**	P	**Pn**	**04 54 20.3**	**+2.2**
MK31	**Makanchi Array**	**10.55**	**33**	⇑Pn	**Pn**	**04 55 22.8**	**-0.3**
comp=E,5.1nm,0.7s,baz=208,slow=10,SNR=37							
MK31	**Makanchi Array**	**10.55**	**33**	*e*P	**Pn**	**04 55 23.4**	**+0.3**
MKAR	**Makanchi Array**	**10.55**	**33**	P	**Pn**	**04 55 22.3**	**-0.7**
comp=E,0.3nm,0.3s,baz=204,slow=14,SNR=47							
DANN	**Dangsing**	**12.80**	**137**	*e*P	**Pn**	**04 55 51.8**	**-1.0**
comp=E,27nm,0.3s							
DANN				*e*S	**Sn**	**04 58 03.4**	**-11**
KURBB	**Kurchatov Arra**	**12.83**	**13**	⇑Pn	**Pn**	**04 55 50.0**	**-2.9**
comp=E,3.0nm,0.8s							
KURK	**Kurchatov**	**12.94**	**13**	*e*P	**Pn**	**04 55 59.5**	**+5.2**
KURK				pmax	pmax		
comp=Z,6.0nm,0.7s							
KURK	**Kurchatov**	**12.94**	**13**	*e*P	**Pn**	**04 55 59.5**	**+5.2**
comp=Z,6.3nm,0.7s							
KOLN	**Koldanda**	**13.18**	**139**	*e*P	**Pn**	**04 55 56.9**	**-0.8**
comp=Z,11nm,0.4s							
KOLN				*e*S	**Sn**	**04 58 13.9**	**-9.3**
GKN	**Gorkha**	**13.55**	**136**	*e*P	**Pn**	**04 56 01.0**	**-1.4**
comp=Z,7.0nm,0.4s							
KKN	**Kakani**	**14.07**	**134**	*e*P	**Pn**	**04 56 08.7**	**-0.4**
comp=Z,15nm,0.5s							
DMN	**Daman**	**14.12**	**135**	*e*P	**Pn**	**04 56 09.2**	**-0.4**
comp=Z,8.7nm,0.5s							
DMN				*e*S	**Sn**	**04 58 35.3**	**-10**
PKI	**Pulchoki**	**14.32**	**134**	*e*P	**Pn**	**04 56 11.5**	**-0.6**
comp=Z,7.8nm,0.4s							
GUN	**Gumba**	**14.33**	**132**	*e*P	**Pn**	**04 56 11.7**	**-0.6**
comp=Z,7.5nm,0.3s							
JIRN	**Jiri**	**14.70**	**132**	*e*P	**Pn**	**04 56 16.9**	**0.0**
comp=Z,7.6nm,0.3s							
AB31	**Akbulak array**	**14.95**	**322**	⇑Pn	**Pn**	**04 56 16.2**	**-3.7**
comp=Z,1.6nm,0.5s,baz=137,slow=12,SNR=30							
AB31				Sn	**Sn**	**04 58 52.9**	**-13**
comp=Z,1.7nm,0.7s,baz=124,slow=22,SNR=9.6							
BVA0	**Borovoye Array**	**15.02**	**352**	⇓Pn	**Pn**	**04 56 24.1**	**+3.4**
comp=Z,2.1nm,0.7s,baz=165,slow=9.8							
BVAR	**Borovoye Array**	**15.02**	**352**	P	**Pn**	**04 56 19.0**	**-1.7**
comp=Z,0.1nm,0.3s,baz=153,slow=10.0,SNR=5.4							
AKTK	**Aktyubinsk**	**16.66**	**322**	P	**Pn**	**04 56 40.0**	**-1.0**
AKTK				S	**S**	**04 59 33.9**	**-13**
AKTO	**Aktyubinsk**	**16.66**	**322**	⇑Pn	**Pn**	**04 56 40.6**	**-0.5**
comp=Z,0.1nm,0.8s							
AKTO	**Aktyubinsk**	**16.66**	**322**	P	**Pn**	**04 56 40.0**	**-1.0**
comp=Z,0.5nm,0.3s,baz=123,slow=17,SNR=12							
AKTO				S	**S**	**04 59 33.9**	**-13**
comp=Z,0.1nm,0.3s,baz=110,slow=11,SNR=4.5							
ZAL	**Zalesovo**	**17.40**	**22**	P	**Pn**	**04 56 49.2**	**-0.7**
ZAA0	**Zalesovo Array**	**17.42**	**22**	*e*P	**Pn**	**04 56 49.1**	**-0.9**
ZALV	**Zalesovo Beam**	**17.42**	**22**	P	**Pn**	**04 56 49.2**	**-0.9**
comp=Z,1.7nm,0.3s,baz=218,slow=10.0,SNR=21							
NVS	**Novosibirsk**	**17.79**	**18**	*i*P	**Pn**	**04 56 53.9**	**-0.6**
ZAK	**Zakamensk**	**24.10**	**50**	*e*P	**P**	**04 58 00.7**	**+2.2**
SONM	**Songino Array**	**25.44**	**57**	P	**P**	**04 58 12.1**	**+1.4**
comp=Z,1.1nm,0.8s,mb3.5,baz=256,slow=10,SNR=8.1							
FINES	**FINESS Array B**	**37.42**	**324**	P	**P**	**04 59 55.9**	**+0.6**
comp=Z,0.8nm,0.5s,mb3.6,baz=98,slow=12,SNR=9.5							
ARCES	**ARCESS Array B**	**40.50**	**336**	P	**P**	**05 00 21.6**	**+0.9**
comp=Z,2.5nm,0.6s,mb4.0,baz=108,slow=8.9,SNR=28							
NB2	**NORSAR Subarra**	**44.46**	**322**	P	**P**	**05 00 53.5**	**+0.6**
comp=Z,0.8nm,0.6s,mb3.5,baz=92,slow=7.9							
NOA	**NORSAR Array B**	**44.46**	**322**	P	**P**	**05 00 53.5**	**+0.7**
comp=Z,0.9nm,0.6s,mb3.6,baz=93,slow=7.6,SNR=5.5							
TORD	**Torodi Ar. Bea**	**68.09**	**270**	P	**P**	**05 03 41.9**	**+0.7**
comp=Z,0.6nm,0.3s,mb3.7,baz=49,slow=5.7,SNR=23							
YKA	**Yellowknife Ar**	**79.41**	**4**	P	**P**	**05 04 47.4**	**+1.1**
YKA	**Yellowknife Ar**	**79.41**	**4**	P	**P**	**05 04 47.4**	**+1.1**
comp=Z,0.4nm,0.5s,mb3.3,baz=348,slow=5.6,SNR=9.6							
WRA	**Warramunga Arr**	**80.95**	**124**	P	**P**	**05 04 56.0**	**+0.8**
comp=Z,0.2nm,0.5s,mb3.0,baz=322,slow=4.2,SNR=6.3							

IDC 25 05:02:52.9±1.9, 4906S×12007E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.6/14, mbtmp3.5/4, MS3.6/1, Ms1 3.6/1, ms1mx3.1/17, Error ellipse: s-maj=168.2km s-min=21.9km az=109.0, Western Indian-Antarctic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**27.59**	**28**	P	P	05 08 42.5	+0.8
0.5nm,0.8s,baz=205,slow=11,SNR=3.2							
WRA	**Warramunga Arr**	**31.23**	**27**	P	P	05 09 14.0	0.0
0.5nm,1.0s,baz=201,slow=13,SNR=2.7							
VNDA	**Vanda**	**32.66**	**164**	LR	LR	05 20 51.8	
comp=Z,92nm,19.6s,baz=247,slow=33							
QSPA	**South Pole Qui**	**41.06**	**180**	P	P	05 10 37.7	+0.3
0.8nm,0.9s,baz=290,slow=11,SNR=2.9							
SNAA	**Sanae**	**53.02**	**199**	P	P	05 12 11.3	+0.4
0.6nm,0.8s,baz=138,slow=9.3,SNR=6.2							
YKA	**Yellowknife Ar**	**147.53**	**45**	PKPbc	PKPbc	05 22 35.6	-2.0
0.2nm,0.6s,baz=263,slow=3.2,SNR=4.5							

*ISCJB **25** 05:06:47.9±0.9, 3951N±003×2572E±008, h12km±6km, Error ellipse: s-maj=10.5km s-min=4.2km az=177.5*
*CSEM **25** 05:06:49.0±0.2, 3948N×2568E, h2km, MD3.2, Error ellipse: s-maj=5.7km s-min=2.3km az=79.0*
*DDA **25** 05:06:50.0, 3950N×2617E, h7km±1km, Md3.2*
*THE **25** 05:06:49.4, 3944N×2679E, h16km, ML3.2*
*ISK **25** 05:06:52.0, 3970N×2583E, h5km, MD3.2*

ISC 25 05:06:49.0±0.9, 3951N±003×2575E±008, h17km±5km, n20, σ0§93/27, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.41**	**35**	*i*P	**Pg**	**05 06 57.2**	**-0.1**
BOZC				*i*S	**Sg**	**05 07 03.1**	**+0.1**
PRK	**Paraskevi**	**0.48**	**122**	*e*Pg	**Pg**	**05 06 58.3**	**-0.3**
PRK				*e*Sg	**Sg**	**05 07 05.3**	**+0.2**
EZN	**Ezine**	**0.55**	**54**	*e*PG	**Pg**	**05 07 00.3**	**+0.4**
EZN				*e*SG	**Sg**	**05 07 07.8**	**+0.6**
GADA	**Gvkgeada**	**0.69**	**9**	*e*PG	**Pg**	**05 07 02.2**	**-0.4**
CHOS	**Chios island**	**1.14**	**168**	*e*Pg	**Pg**	**05 07 10.2**	**-0.8**
CHOS				*e*Sg	**Sg**	**05 07 26.8**	**+0.8**
ENEZ	**Enez**	**1.27**	**14**	*e*PG	**Pg**	**05 07 13.7**	**+0.2**
URLA	**Izmir**	**1.32**	**150**	*i*P	**Pn**	**05 07 12.4**	**-0.3**
URLA				*i*S	**Sn**	**05 07 29.5**	**-0.3**
ALN	**Alexandroupoli**	**1.41**	**9**	*e*Pg	**Pg**	**05 07 15.6**	**-0.6**
ALN				*e*Sg	**Sg**	**05 07 35.4**	**+0.9**
BLCB	**Balcova**	**1.50**	**138**	*e*PN	**Pg**	**05 07 23.0**	**+5.1**
RKY	**Sarkoy-Tekirda**	**1.61**	**42**	*e*PN	**Pg**	**05 07 19.3**	**-0.6**
SART	**Tekirdag**	**1.61**	**42**	*i*P	**Pn**	**05 07 18.5**	**+1.8**
SART				*i*S	**Sn**	**05 07 36.9**	**-0.2**
BALB	**Balikesir**	**1.65**	**85**	*e*PN	**Pg**	**05 07 22.1**	**+1.4**
AKS	**Akhisar**	**1.72**	**111**	*e*PN	**Pg**	**05 07 24.4**	**+2.4**
MFT	**Murefte**	**1.74**	**42**	*e*PN	**Pg**	**05 07 22.2**	**-0.1**
MRMT	**Marmara Adasi**	**1.79**	**52**	*e*PN	**Pg**	**05 07 22.6**	**-0.9**
EDC	**Edincik**	**1.83**	**62**	*e*PN	**Pg**	**05 07 23.6**	**-0.5**
BNT	**Bandirma**	**1.87**	**62**	*e*PN	**Pg**	**05 07 24.0**	**-1.0**
DST	**Dursunbey**	**2.23**	**86**	*e*PN	**Pg**	**05 07 29.8**	**-1.9**
EDRB	**Edirne**	**2.46**	**18**	*e*PN	**Pn**	**05 07 31.7**	**+3.4**
YLV	**Yalova**	**2.98**	**68**	*e*PN	**Pb**	**05 07 40.7**	**-0.8**

*NIED **25** 05:08:00, 3690N×13770E, h8km, Mw3.8 Best double couple: M0:4.94000×10^14 NP1:φs=352.00000°, δ65.00000°, λ48.00000°. NP2:φs=237.00000°, δ47.00000°, λ145.00000°.*
*ISCJB **25** 05:08:14.1±0.6, 3686N±004×13764E±005, h28km±6km, mb3.5/3, Error ellipse: s-maj=8.0km s-min=6.4km az=138.2*
*JMA **25** 05:08:14.3, 3687N×13767E, h0km, M4.3 Broadband fault plane solution: P waves. NP1:φs=213.00000°, δ42.00000°, λ111.00000°. NP2:φs=5.00000°, δ52.00000°, λ72.00000°. Principal axes: T Plg75.0000°, Azm217.0000°; N Plg14.0000°, Azm17.0000°; P Plg5.0000°, Azm108.0000°;*
JMA Felt II J1.
*IDC **25** 05:08:16.3±1.2, 3628N×13771E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/20, mbtmp3.5/3, MS2.6/1, Ms1 2.6/1, ms1mx2.3/18 Error ellipse: s-maj=30.0km s-min=9.2km az=146.0*

ISC 25 05:08:14.6±0.6, 3686N±004×13766E±005, h12km±6km, n10, σ0§65/15, mb3.5/3, 1C-3D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTT	**Ttatey**	**0.37**	**225**	⇓P	**Pg**	**05 08 22.2**	**+0.3**
JTT				S	**Sg**	**05 08 27.3**	**+0.4**
MAT	**Matsushiro**	**0.55**	**126**	P	**Pg**	**05 08 25.1**	**-0.2**
MAT				S	**Sg**	**05 08 32.7**	**+0.2**
MJAR	**Matsushiro Arr**	**0.55**	**126**	Pg	**Pg**	**05 08 25.8**	**+0.5**
473nm,0.3s,baz=305,slow=17,SNR=1241							
MJAR				Lg		05 08 32.8	
163nm,0.3s,baz=315,slow=30,SNR=22							
JNG	**Nsakai**	**0.58**	**142**	⇓P	**Pg**	**05 08 25.7**	**-0.2**
JSZ	**Suzu**	**0.63**	**338**	⇓P	**Pg**	**05 08 26.3**	**-0.6**
JSZ				S	**Sg**	**05 08 35.1**	**0.0**
JGN	**Niukaw**	**0.70**	**203**	⇑P	**Pg**	**05 08 27.6**	**-0.5**
JGN				S	**Sg**	**05 08 36.8**	**-0.5**
KSRS	**Korea Array**	**7.80**	**277**	Pn	**Pn**	**05 10 09.4**	**+1.6**
0.9nm,0.3s,baz=94,slow=15,SNR=4.7							
KSRS				Sn	**Sn**	**05 11 35.6**	**-0.4**
0.3nm,0.3s,baz=94,slow=25,SNR=3.0							
KSRS				Lg		05 12 23.6	
0.2nm,0.3s,baz=267,slow=26,SNR=2.7							
KSRS				LR	LR	05 12 50.7	
comp=Z,39nm,19.2s,baz=95,slow=34							
SONM	**Songino Array**	**25.41**	**305**	P	**P**	**05 13 49.0**	**+7.2**
0.5nm,0.6s,mb3.2,baz=111,slow=7.9,SNR=3.8							
WRA	**Warramunga Arr**	**56.59**	**184**	P	**P**	**05 17 55.9**	**-1.3**
0.7nm,0.7s,mb3.8,baz=359,slow=7.7,SNR=9.2							
ASAR	**Alice Springs**	**60.31**	**184**	P	**P**	**05 18 23.6**	**+0.6**
0.3nm,0.6s,mb3.5,baz=11,slow=14,SNR=4.8							

JMA 25 05:37:49.1±0.3, 4380N×14730E, h12km±5km, M3.6, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	**Nemuro 2**	**1.21**	**250**	P	Pn	05 38 11.5	-0.3
NEM2				*e*S	Sb	05 38 27.3	-0.2
JRA	**Rausu**	**1.58**	**276**	P	Pn	05 38 17.1	+0.2
JRA				*e*S	Sn	05 38 38.1	+0.8
JNK	**Nakash**	**1.88**	**264**	P	Pn	05 38 21.4	+0.3
JNK				*e*S	Sn	05 38 45.3	+0.6
JAK	**Akkeshi**	**2.06**	**248**	P	Pn	05 38 23.7	+0.2
JAK				*e*S	Sn	05 38 49.0	-0.1
JTKR	**Abashiri--Toko**	**2.46**	**275**	P	Pn	05 38 29.5	+0.5
JAR	**Ashorobuto**	**2.62**	**260**	P	Pn	05 38 32.1	+1.0
JAR				*e*S	Sn	05 39 04.1	+1.3
JOB	**Onbets**	**2.68**	**252**	P	Pn	05 38 33.0	+1.0
JMP	**Maruseppu**	**2.85**	**276**	P	Pn	05 38 36.9	+2.5
JCH	**Churui**	**3.11**	**249**	P	Pn	05 38 39.0	+1.0
JCH				*e*S	Sn	05 39 15.9	+0.8
JEM	**Erimo**	**3.53**	**241**	P	Pn	05 38 44.9	+1.2
JNBK	**Urakawa-nobuka**	**3.66**	**247**	P	Pn	05 38 47.6	+2.1

*NEIC **25** 06:19:11.4±0.5, 1284S×16927E, h630km, mb4.3/2, Error ellipse: s-maj=15.5km s-min=11.3km az=141.0*
*ISCJB **25** 06:19:15.1±2.9, 1315S±02×169.1E±0.1, h706km±46km, mb3.8/10, Error ellipse: s-maj=32.0km s-min=18.1km az=167.1*
*IDC **25** 06:19:15.7±2.3, 1305S×169.14E, h692km±33km, mb3.2/9, mb1 3.4/9, mb1mx3.2/16, mbtmp3.2/9, Error ellipse: s-maj=22.8km s-min=13.8km az=157.0*

ISC 25 06:19:15.2±2.9, 1305S±02×1692E±01, h686km±48km, n15, σ0§51/13, mb3.9/9, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**26.12**	**166**	P	**P**	**06 23 58.8**	**-0.7**
3.1nm,0.3s,mb4.3,baz=328,slow=0.6,SNR=6.9							
STKA	**Stephens Creek**	**31.49**	**229**	*e*P	**P**	**06 24 46.7**	**+1.1**
1.6nm,0.3s,mb4.0							
STKA	**Stephens Creek**	**31.49**	**229**	P	**P**	**06 24 46.0**	**+0.4**
1.8nm,0.3s,mb4.0,baz=49,slow=7.2,SNR=9.3							
WB2	**Warramunga Arr**	**34.03**	**254**	*e*P	**P**	**06 25 06.7**	**-0.2**
WRA	**Warramunga Arr**	**34.04**	**254**	P	**P**	**06 25 06.9**	**-0.1**
4.7nm,0.3s,mb4.4,baz=84,slow=8.6,SNR=129							
WRA				S	**S**	**06 29 47.2**	**-0.6**
1.6nm,0.9s,baz=87,slow=13,SNR=6.1							
ASAR	**Alice Springs**	**35.01**	**247**	P	**P**	**06 25 15.3**	**+0.4**
5.9nm,0.4s,mb4.4,baz=74,slow=9.5,SNR=92							
ASAR				S	**S**	**06 30 01.8**	**-0.3**
0.6nm,0.9s,baz=71,slow=14,SNR=4.5							
KAKA	**Kakadu**	**35.78**	**266**	*e*P	**P**	**06 25 21.3**	**0.0**
24nm,1.5s,mb4.5							
FITZ	**Fitzroy Crossi**	**42.15**	**257**	P	**P**	**06 26 12.5**	**+0.6**
0.7nm,0.3s,mb3.5,baz=65,slow=11,SNR=8.1							
MJAR	**Matsushiro Arr**	**57.28**	**331**	P	**P**	**06 28 00.3**	**-0.7**
0.5nm,0.3s,mb3.1,baz=84,slow=11,SNR=3.2							
NVAR	**Mina Array Bea**	**84.77**	**49**	P	**P**	**06 30 40.8**	**+0.6**
0.3nm,0.6s,mb3.1,baz=236,slow=6.9,SNR=3.8							
YKA	**Yellowknife Ar**	**95.20**	**27**	P	**P**	**06 31 27.7**	**-0.1**
0.6nm,0.8s,mb3.8,baz=253,slow=4.9,SNR=11							
MKAR	**Makanchi Array**	**97.24**	**316**	P	Pdif	06 31 38.0	+0.6
0.3nm,0.5s,baz=93,slow=4.1,SNR=4.0							
ARCES	**ARCESS Array B**	**119.05**	**346**	PKP	PKPdf	06 36 48.7	+0.7
ARCES	**ARCESS Array B**	**119.05**	**346**	PKP	PKPdf	06 36 48.7	+0.7
2.3nm,1.0s,baz=79,slow=2.6,SNR=6.6							
TORD	**Torodi Ar. Bea**	**167.78**	**272**	PKP	PKPdf	06 38 05.6	-0.6
0.4nm,1.0s,baz=160,slow=4.6,SNR=2.5							

*BJI **25** 06:32:46.9, 730S×13071E, h131km, mB5.0, mb5.0*
*MOS **25** 06:32:47.1±0.9, 643S×130.16E, h67km, mb5.4/15, Error ellipse: s-maj=13.4km s-min=6.5km az=107.7*
*ISCJB **25** 06:32:53.4±0.2, 660S±003×13029E±003, h128km, mb4.9/73, Error ellipse: s-maj=4.8km s-min=3.3km az=156.2*
*NEIC **25** 06:32:55.4±0.1, 661S×13022E, mb5.1/24, Error ellipse: s-maj=7.0km s-min=4.3km az=68.0*
NEIC Felt [III] at Waingapu, Indonesia.
*GCMT **25** 06:32:55.3±0.2, 666S×13036E, h156km±2km, MW5.1/71, Moment Tensor Solution. s45,c52; s71,c106; Duration: 0 Moment tensor: Scale 10^16Nm; Mrr-3.13±.13; Mθθ0.73±.15; Mφφ2.40±.18; Mrθ0.28±.10; Mφθ-1.83±.14; Mφr4.08±.13; Best double couple: M0:5.29100×10^16 NP1:φs306.00000°, δ26.00000°, λ-135.00000°. NP2: φs174.00000°, δ72.00000°, λ-71.00000°. Principal axes: T 5.0840, Plg24.0000°, Azm249.0000°; N 0.4100, Plg18.0000°, Azm347.0000°; P -5.4980, Plg59.0000°, Azm111.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to sur

SDKM	Sandakan	17.84 313	⇑P	Pn	06 36 56.4	+0.8
KKM	Kota Kinabalu	18.83 312	eP	P	06 37 06.2	+0.9
KKM	Kota Kinabalu	18.83 312	⇑P	P	06 37 04.7	-0.6
BTM	Bintulu	19.73 299	⇑P	P	06 37 14.7	-0.4
SBUM	Sibu	20.14 296	⇓P	P	06 37 21.3	+1.7
BJII	Banjamegara	20.43 267	P	P	06 37 25.0	+2.4
	84nm,1.5s					
CTA	Charters Tower	20.50 132	⇓iP	P	06 37 24.8	+1.5
	108nm,0.9s					
CTA	Charters Tower	20.50 132	⇓iP	P	06 37 24.8	+1.5
CTA			pmax	pmax		
	comp=Z,108nm,0.9s					
CTA	Charters Tower	20.50 132	P	P	06 37 25.1	+1.8
	comp=Z,162nm,0.9s,baz=311,slow=12,SNR=68					
CTAO	Charters Tower	20.50 132	eP	P	06 37 25.0	+1.7
CTAO			pmax	pmax		
	comp=Z,172nm,0.9s					
CTAO	Charters Tower	20.50 132	ePn	P	06 37 25.0	+1.7
	comp=Z,172nm,0.9s					
KSM	Kuching	21.48 291	eP	P	06 37 33.1	-0.8
KSM	Kuching	21.48 291	⇑P	P	06 37 33.8	-0.1
JCJI	Jatiwangi	21.86 269	P	P	06 37 40.1	+2.2
	comp=Z,267nm,1.5s,mb5.5					
LEM	Lembang	22.50 268	P	P	06 37 45.3	+0.6
	comp=Z,295nm,1.0s,mb5.7					
TPI	Tanjungpandan	22.86 279	P	P	06 37 51.0	+3.0
	comp=Z,87nm,1.7s,mb4.9					
CBJI	Citeko	23.28 269	P	P	06 37 49.3	-2.4
	comp=Z,575nm,1.0s,mb6.0					
SBJI	Serang	24.00 270	P	P	06 37 59.1	+0.8
	comp=Z,150nm,1.2s,mb5.4					
FORT	Forrest	24.14 185	eP	P	06 37 59.6	+0.2
	comp=Z,52nm,0.7s,mb5.2					
FORT			eS	sS	06 42 32.6	-24
EIDS	Eidsvold	27.28 135	eP	P	06 38 27.2	-0.5
STKA	Stephens Creek	27.28 159	⇓iP	P	06 38 27.9	+0.2
	comp=Z,25nm,0.5s,mb5.1					
STKA	Stephens Creek	27.28 159	P	P	06 38 27.9	+0.3
	comp=Z,49nm,0.7s,mb5.2,baz=331,slow=8.9,SNR=75					
STKA			pP	pP	06 38 59.5	+4.0
	comp=Z,10nm,0.4s,baz=322,slow=5.5,SNR=2.9					
STKA			LR	LR	06 50 42.6	
	comp=Z,376nm,21.1s,baz=7.9,slow=39					
KLBR	Kellerberrin	27.48 204	eP	P	06 38 29.8	+0.3
	comp=Z,12nm,0.6s,mb4.7					
KLBR			eS	sS	06 43 43.6	-6.2
MYKOM	Kota Tinggi	27.66 287	⇓P	P	06 38 31.5	+0.1
MUN	Mundaring	28.46 206	eP	P	06 38 48.6	+10
MUN			eS	sS	06 44 08.2	+2.9
NWAO	Narrogin (SRO)	28.87 203	P	P	06 38 42.6	+0.8
	comp=Z,6.3nm,0.5s,mb4.6,baz=11,slow=6.4,SNR=7.2					
NWAO			LR	LR	06 49 29.5	
	comp=Z,393nm,21.7s,baz=189,slow=34					
FRIM	Kepong	30.23 288	⇑P	P	06 38 55.6	+1.5
PPI	Padang Panjang	30.43 280	P	P	06 38 54.8	-1.1
	comp=Z,70nm,1.2s,mb5.3					
ARMA	Armidale	31.04 142	⇓iP	P	06 39 02.2	+1.2
IPM	Ipoh	31.21 290	⇓P	P	06 39 04.8	+2.1
KULM	Kulim	31.84 291	⇓P	P	06 39 06.8	-1.5
QIZ	Qiongzhong	32.47 322	P	P	06 39 13.5	-0.1
QIZ			S	S	06 44 17.3	-1.7
QIZ			AMB	AMB		
	comp=Z,20nm,1.8s,mb4.5					
PSI	Prapat	32.66 286	P	P	06 39 12.9	-2.5
PSI			pP	pP	06 39 45.4	+1.7
PSI	Prapat	32.66 286	P	P	06 39 12.9	-2.6
	comp=Z,32nm,1.0s,mb5.0,baz=167,slow=11,SNR=9.0					
PSI			pP	pP	06 39 45.4	+1.7
	comp=Z,31nm,0.8s,baz=110,slow=3.6,SNR=7.1					
RIV	Riverview	33.29 147	eP	P	06 39 22.3	+1.7
CNB	Canberra Magne	33.54 151	⇓iP	P	06 39 23.9	+1.1
	comp=Z,52nm,0.9s,mb5.3					
TOO	Toolangi	33.80 158	⇓iP	P	06 39 26.8	+1.8
	comp=Z,419nm,0.7s					
TOO	Toolangi	33.80 158	⇓iP	P	06 39 26.8	+1.8
TOO			pmax	pmax		
	comp=Z,419nm,0.7s					
KKTK	Khon Kaen	35.46 310	P	P	06 39 39.5	0.0
BSI	Banda Aceh	36.92 288	P	P	06 39 52.1	0.0
	comp=Z,28nm,1.3s,mb4.7					
CHG	Chiang Mai	39.90 310	⇑P	P	06 40 16.5	-0.4
	comp=Z,56nm,0.7s,mb5.3					
CHTO	Chiang Mai	39.90 310	eP	P	06 40 17.0	+0.1
NJ2	Nanjing	39.95 345	eP	P	06 40 18.3	+1.2
NJ2			AP	pP	06 40 43.3	-2.8
NJ2			XP	sP	06 40 57.3	-3.6
NJ2			PP	PP	06 41 55.5	+3.8
NJ2			S	S	06 46 16.5	+3.8
NJ2			XS	sS	06 47 05.0	+1.9
NJ2			AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2					
NJ2			AMB	AMB		
	comp=Z,310nm,4.2s					
NJ2			LR	LR		
	comp=N,430nm,23.6s					
NJ2			LR	LR		
	comp=E,840nm,21.6s					
NJ2			LR	LR		
	comp=Z,640nm,25.7s					
WHN	Wuhan	39.96 338	P	P	06 40 18.0	+0.8
WHN			AP	pP	06 40 49.0	+2.7
GYA	Guiyang	40.05 326	eP	P	06 40 20.0	+2.0
GYA			AP	pP	06 40 47.8	+0.7
GYA			XP	sP	06 41 01.5	-0.4
GYA			PP	PP	06 41 58.0	+5.1
GYA			PCP	PcP	06 42 10.8	-10
GYA			S	S	06 46 17.5	+3.1
GYA			XS	sS	06 47 07.0	+2.1
GYA			AMB	AMB		
	comp=Z,20nm,0.7s,mb4.9					
GYA			AMB	AMB		
	comp=Z,100nm,4.2s					
GYA			LR	LR		
	comp=N,470nm,17.7s					
GYA			LR	LR		
	comp=E,440nm,16.5s					
GYA			LR	LR		
	comp=Z,490nm,17.2s					
KMI	Kunming	41.38 321	P	P	06 40 31.5	+2.5
KMI			AP	pP	06 40 59.3	+1.1
KMI			XP	sP	06 41 09.8	-3.1
KMI			PP	PP	06 42 11.0	+3.7
KMI			S	S	06 46 32.5	-1.7
KMI			SS	SS	06 49 40.5	-3.0
KMI			AMB	AMB		
	comp=Z,8.0nm,1.3s,mb4.2					
KMI			AMB	AMB		
	comp=Z,54nm,4.0s					
KMI			LR	LR		
	comp=N,88nm,13.7s					
KMI			LR	LR		
	comp=E,136nm,15.6s					
KMI			LR	LR		
	comp=Z,96nm,14.3s					
MAJO	Matsushiro	43.55 9	eP	P	06 40 44.9	-1.4
MAJO			pmax	pmax		
	comp=Z,43nm,0.8s,mb5.1					
MAJO	Matsushiro	43.55 9	eP	P	06 40 44.9	-1.4
	comp=Z,43nm,0.8s,mb5.1					
MAT	Matsushiro	43.55 9	P	P	06 40 44.8	-1.5
MAT			S	S	06 47 01.0	-4.7
MJAR	Matsushiro Arr	43.55 9	P	P	06 40 44.3	-2.0
	comp=Z,34nm,0.9s,mb5.0,baz=188,slow=9.5,SNR=49					
MJAR			pP	pP	06 41 15.2	-0.6
	comp=Z,5.6nm,0.8s,baz=178,slow=8.7,SNR=2.1					
KSRS	Korea Array	43.88 357	P	P	06 40 48.7	-0.2
	comp=Z,5.9nm,0.6s,mb4.4,baz=173,slow=9.1,SNR=25					
KSRS			pP	pP	06 41 19.5	+1.1
	comp=Z,2.2nm,0.8s,baz=165,slow=10,SNR=2.1					
KSRS			PcP	PcP	06 42 32.4	-0.5
	comp=Z,4.9nm,0.8s,baz=184,slow=4.6,SNR=7.8					
CD2	Chengdu	45.12 327	⇓iP	P	06 40 58.0	-0.9
CD2			AP	pP	06 41 26.0	-2.5
CD2			XP	sP	06 41 38.5	-4.6
CD2			PP	PP	06 42 46.3	-0.7
CD2			S	S	06 47 29.0	+0.5
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.5					
CD2			AMB	AMB		
	comp=Z,20nm,5.8s					
CD2			LR	LR		
	comp=N,110nm,12.0s					
CD2			LR	LR		
	comp=E,120nm,10.8s					
CD2			LR	LR		
	comp=Z,130nm,12.0s					
XAN	Xi'an	45.19 335	P	P	06 40 58.5	-0.9
XAN			AP	pP	06 41 30.0	+0.9
XAN			AMB	AMB		
	comp=Z,13nm,0.8s,mb4.6					
BJT	Baijiatuau	48.18 345	eP	P	06 41 22.1	-0.5
BJT			pmax	pmax		
	comp=Z,20nm,0.6s					
BJT	Baijiatuau	48.18 345	eP	P	06 41 22.1	-0.4
	comp=Z,20nm,0.6s,mb4.9					
BJI	Beijing	48.20 345	P	P	06 41 22.3	-0.4
BJI			S	S	06 48 11.5	-0.6
BJI			AMB	AMB		
	comp=Z,47nm,0.7s,mb5.2					
BJI			LR	LR		
	comp=N,93nm,16.4s					
BJI			LR	LR		
	comp=E,113nm,17.3s					
BJI			LR	LR		
	comp=Z,86nm,21.5s					
SNY	Shenyang	48.58 353	⇓P	P	06 41 25.0	-0.6
SNY			S	S	06 48 18.0	+0.6
SNY			AMB	AMB		
	comp=Z,25nm,1.2s,mb4.7					
SNY			AMB	AMB		
	comp=Z,162nm,3.5s					
SHL	Shillong	49.13 312	eP	P	06 41 29.5	-0.7
LZH	Lanzhou	49.18 332	eP	P	06 41 31.0	+0.7
LZH			AP	pP	06 42 02.0	+1.6
LZH			XP	sP	06 42 17.0	+2.1
LZH			PP	PP	06 43 27.3	+1.9
LZH			eS	S	06 48 25.3	-0.8
LZH			SS	SS	06 51 55.3	-4.0
LZH			AMB	AMB		
	comp=Z,26nm,1.2s,mb4.7					
LZH			AMB	AMB		
	comp=Z,100nm,4.0s					
HHC	Hu-ho-hao-te	50.25 342	eP	P	06 41 38.3	0.0
HHC			AP	pP	06 42 04.5	-4.0
HHC			PCP	PcP	06 42 54.8	-0.7
HHC			PP	PP	06 43 37.3	+2.2
HHC			S	S	06 48 42.0	+1.3
HHC			SCS	ScS	06 51 13.8	-2.5
HHC			SS	SS	06 52 14.0	-2.2
HHC			AMB	AMB		
	comp=Z,25nm,1.1s,mb4.8					
HHC			AMB	AMB		
	comp=Z,90nm,6.5s					
HHC			LR	LR		
	comp=N,235nm,20.1s					
HHC			LR	LR		
	comp=E,749nm,21.6s					
HHC			LR	LR		
	comp=Z,137nm,17.9s					
CN2	Changchun	50.35 355	eP	P	06 41 38.0	-1.0
CN2			eAP	pP	06 42 07.5	-1.7
CN2			eXP	sP	06 42 21.8	-1.9
CN2			PCP	PcP	06 42 55.8	0.0
CN2			SCP	ScP	06 46 35.3	-4.4
CN2			eS	S	06 48 41.5	-0.6
CN2			SS	SS	06 52 20.0	+2.3
CN2			AMB	AMB		
	comp=Z,20nm,0.6s,mb4.9					
CN2			AMB	AMB		
	comp=Z,200nm,4.0s					
MDJ	Mudanjiang	50.98 359	P	P	06 41 43.8	+0.1
MDJ			AP	pP	06 42 09.5	-4.5
MDJ			PP	PP	06 43 40.0	-1.6
MDJ			S	S	06 48 52.3	+1.6
MDJ			SS	SS	06 52 30.0	+2.4
MDJ			AMB	AMB		
	comp=Z,25nm,0.9s,mb4.8					
MDJ			AMB	AMB		
	comp=Z,126nm,3.9s					
MDJ	Mudanjiang	50.98 359	eP	P	06 41 43.6	-0.2
	comp=Z,10nm,0.6s,mb4.6					
PALK	Pallekele	51.34 285	eP	P	06 41 46.1	-0.9
	comp=Z,17nm,1.0s,mb4.6					
RPZ	Rata Peaks	51.38 143	P	P	06 41 47.5	+0.7
	comp=Z,52nm,0.9s,mb5.2,baz=297,slow=2.3					
LSA	Lhasa	52.10 316	P	P	06 41 53.0	+0.6
URZ	Urewera	52.74 134	P	P	06 41 56.6	-0.4
	comp=Z,6.7nm,0.4s,mb4.7,baz=345,slow=6.6,SNR=14					
YSS	Yuzh-Sakhalins	54.46 10	⇓iP	P	06 42 08.8	-0.4
YSS			pmax	pmax		
	comp=Z,50nm,0.7s,mb5.3					
YSS	Yuzh-Sakhalins	54.46 10	eP	P	06 42 09.1	-0.1
	comp=Z,36nm,0.6s,mb5.3					
JIRN	Jiri	54.53 311	eP	P	06 42 10.1	-0.1
	comp=Z,9.7nm,0.2s,mb5.2					
GUN	Gumba	54.90 311	eP	P	06 42 12.6	-0.2
	comp=Z,54nm,0.5s,mb5.5					
HABR	Khabarovsk	55.00 4	eP	P	06 42 12.3	-0.8
HABR			e		06 43 11.5	
HABR			e		06 44 15.9	
HABR			eS	S	06 49 44.4	-0.6
HABR			e		06 51 46.8	
HABR			e		06 53 33.9	
PKI	Pulchoki	55.08 310	eP	P	06 42 13.6	-0.5
	comp=Z,15nm,0.6s,mb4.9					
KKN	Kakani	55.29 310	eP	P	06 42 15.1	-0.5
	comp=Z,26nm,0.6s,mb5.1					
DMN	Daman	55.33 310	eP	P	06 42 15.6	-0.3
	comp=Z,24nm,0.5s,mb5.2					
KLR	Kul'dur	55.61 1	eP	P	06 42 13.2	-4.3
KLR			pmax	pmax		
	comp=Z,55nm,1.4s,mb5.2					
GKN	Gorkha	55.88 310	eP	P	06 42 19.5	-0.4
	comp=Z,8.6nm,0.5s,mb4.9					
HYB	Hyderabad	56.39 296	eP	P	06 42 21.0	-2.6
HYB	Hyderabad	56.39 296	iP	P	06 42 21.0	-2.6
HYB			e		06 43 00.5	
KOLN	Koldanda	56.56 309	eP	P	06 42 24.5	-0.2
	comp=Z,25nm,0.5s,mb5.3					
DANN	Dangsing	56.73 310	eP	P	06 42 25.6	-0.3
	comp=Z,14nm,0.4s,mb5.1					
AFI	Afiamalu	57.37 102	P	P	06 42 31.5	+0.9
	comp=Z,24nm,0.7s,mb5.2,baz=262,slow=7.5,SNR=6.6					
ULN	Ulaanbaatar	57.97 342	eP	P	06 42 34.8	+0.6
ULN			pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.5					
ULN	Ulaanbaatar	57.97 342	eP	P	06 42 34.8	+0.6
	comp=Z,5.7nm,0.7s,mb4.5					
SONM	Songino Array	58.15 341	P	P	06 42 35.6	+0.2
	comp=Z,5.7nm,0.4s,mb4.7,baz=156,slow=6.1,SNR=54					
SONM			pP	pP	06 43 07.5	+1.0
	comp=Z,3.6nm,0.6s,baz=144,slow=5.3,SNR=4.2					
SONM			PKPPKP		07 12 27.5	
	comp=Z,1.4nm,1.0s,baz=316,slow=4.1,SNR=5.9					
KAD	Karad	60.29 294	eP	P	06 42 54.0	+3.3
ZAK	Zakamensk	61.38 341	eP	P	06 42 57.7	+0.2
ZAK			pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2					
ZAK			pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.3					
TLY	Talaya	62.38 342	diP	P	06 43 04.8	+0.7
TLY			pmax	pmax		
	comp=Z,1.0nm,0.5s,mb3.9					
TLY	Talaya	62.38 342	eP	P	06 43 04.8	+0.7
WMQ	Urumqi	63.21 327	eP	P	06 43 12.0	+2.2
WMQ			AP	pP	06 43 42.0	+0.7
WMQ			XP	sP	06 43 57.0	+1.6
WMQ			PP	PP	06 45 34.0	+3.4
WMQ			S	S	06 51 31.0	-0.1
WMQ			SS	SS	06 55 41.0	+1.0
WMQ			AMB	AMB		
	comp=Z,38nm,1.2s,mb5.1					
WMQ			AMB	AMB		
	comp=Z,76nm,6.0s					
WMQ			LR	LR		
	comp=N,95nm,16.0s					
WMQ			LR	LR		
	comp=E,145nm,16.0s					
WMQ			LR	LR		
	comp=Z,34nm,14.0s					
MOY	Mondy	63.23 340	eP	P	06 43 10.7	+0.9
MOY			pmax	pmax		
	comp=Z,25nm,1.5s,mb4.8					
BOD	Bodaibo	65.55 351	eP	P	06 43 14.9	-10
BOD			pmax	pmax		
	comp=Z,14nm,1.3s,mb4.6					
MA2	Magadan	67.95 11	⇑eP	P	06 43 40.8	+0.8
MA2			pmax	pmax		
	comp=Z,25nm,1.0s,mb4.9					
MA2	Magadan	67.95 11	eP	P	06 43 40.1	+0.1
	comp=Z,17nm,0.8s,mb4.8					
MK31	Makanchi Array	68.04 327	iP	P	06 43 40.8	0.0
MK31			pmax	pmax		
	comp=Z,11nm,0.4s,mb4.9					
MK31	Makanchi Array	68.04 327	eP	P	06 43 41.0	+0.2
MKAR	Makanchi Array	68.04 327	P	P	06 43 40.9	+0.1
MKAR			*PP	pP	06 44 11.8	-0.8
MKAR			S	S	06 52 27.0	-2.8
MKAR	Makanchi Array	68.04 327	P	P	06 43 40.9	+0.1
MKAR			pP	pP	06 44 11.8	-0.9
MKAR			S	S	06 52 26.9	-2.8
MKAR			P'P'		07 11 56.8	
MKAR	Makanchi Array	68.04 327	P	P	06 43 40.9	+0.1
	comp=Z,18nm,0.4s,mb5.2,baz=113,slow=8.5,SNR=271					
MKAR			pP	pP	06 44 11.8	-0.9
	comp=Z,14nm,0.8s,baz=124,slow=7.9,SNR=2.5					
MKAR			S	S	06 52 26.9	-2.8
	comp=Z,0.7nm,1.0s,baz=164,slow=11,SNR=3.9					
MKAR			PKPPKP		07 11 56.8	
	comp=Z,0.2nm,0.8s,baz=5.7,slow=1.2,SNR=3.9					
YAK	Yakutsk	68.43 360	diP	P	06 43 42.6	-0.3
YAK			pmax	pmax		
	comp=Z,131nm,1.0s,mb5.6					
YAK	Yakutsk	68.43 360	eP	P	06 43 42.9	+0.1
RAR	Rarotonga	68.97 110	P	P	06 43 47.5	+0.4
	comp=Z,7.6nm,0.6s,mb4.6,baz=249,slow=8.6,SNR=2.7					
KZA	Kyzart	69.65 319	P	P	06 43 52.3	+1.4
	SNR=16					
SMY	Shemya	69.80 27	eP	P	06 43 51.6	+0.1
SMY			pmax	pmax		
	comp=Z,57nm,1.1s,mb5.2					
SMY	Shemya	69.80 27	eP	P	06 43 51.6	+0.1
	comp=Z,57nm,1.1s,mb5.2					
TKM2	Tokmak 2	69.85 320	eP	P	06 43 52.3	+0.2
TKM2			pmax	pmax		
	comp=Z,9.0nm,0.8s,mb4.5					
TKM2	Tokmak 2	69.85 320	eP	P	06 43 52.3	+0.2
	comp=Z,9.2nm,0.8s,mb4.6					
TKM2	Tokmak 2	69.85 320	P	P	06 43 52.4	+0.3
	SNR=9.9					
UCH	Uchtor	70.20 319	P	P	06 43 55.8	+1.5
	SNR=9.5					
AAK	Ala-Archa	70.41 320	P	P	06 43 55.4	-0.1
	comp=Z,67nm,0.5s,mb5.6,SNR=5.4					
AAK	Ala-Archa	70.41 320	P	P	06 43 56.5	+1.0
	SNR=7.8					
AML	Almayashu	70.69 319	eP	P	06 43 58.2	+1.0
	comp=Z,13nm,0.8s,mb4.7					
AML	Almayashu	70.69 319	P	P	06 43 58.4	+1.2
	SNR=13					
USP	Ospenovka	70.72 320	P	P	06 43 57.7	+0.4
	SNR=6.8					
EKS2	Erkin-Say	70.89 319	eP	P	06 43 59.1	+0.7
	comp=Z,8.9nm,0.8s,mb4.5					
EKS2	Erkin-Say	70.89 319	P	P	06 43 59.6	+1.2
	SNR=9.8					
ZAA0	Zalesovo Array	71.35 334	eP	P	06 43 60.0	-0.9
ZALV	Zalesovo Beam	71.35 334	P	P	06 43 59.9	-1.0
	comp=Z,8.0nm,0.8s,mb4.5,baz=108,slow=4.8,SNR=34					
ZALV			pP	pP	06 44 32.6	-0.4
	comp=Z,3.6nm,0.8s,baz=142,slow=6.2,SNR=2.5					
ZAL	Zalesovo	71.35 334	P	P	06 43 59.9	-1.0
SEY	Seymchan	71.36 10	⇓eP	P	06 44 00.9	+0.1
KURK	Kurchatov	72.32 328	P	P	06 44 06.9	+0.1
	comp=Z,77nm,0.9s,mb5.4,SNR=9.8					
KURK	Kurchatov	72.32 328	diP	P	06 44 06.4	-0.4
KURK	Kurchatov	72.32 328	eP	P	06 44 06.3	-0.5
NVS	Novosibirsk	72.63 334	eP	P	06 44 07.4	-1.1
NVS			iS	S	06 53 18.0	-4.8
NVS			pmax	pmax		
	comp=N,10.0nm,1.2s					
NVS			pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5					
NVS			pmax	pmax		
	comp=E,7.0nm,1.1s					
NVS			smax			
	comp=N,23nm,1.5s					
NVS			smax			
	comp=E,30nm,1.6s					
VNDA	Vanda	72.81 173	P	P	06 44 09.7	+0.4
	comp=E,9.5nm,0.8s,mb4.6,baz=316,slow=6.3,SNR=22					
VNDA			LR	LR	07 13 44.3	
	comp=E,101nm,18.9s,baz=344,slow=34					
SBA	Scott Base	73.69 172	eP	P	06 44 15.9	+1.4
SBA			pmax	pmax		
	comp=Z,179nm,2.8s,mb5.3					
SBA	Scott Base	73.69 172	eP	P	06 44 15.9	+1.4
	comp=Z,178nm,2.8s,mb5.3					
MAW	Mawson	75.42 201	⇓iP	P	06 44 25.3	+0.7
	comp=Z,7.3nm,0.8s,mb4.4					
MAW	Mawson	75.42 201	⇓iP	P	06 44 25.3	+0.7
MAW			pmax	pmax		
	comp=Z,7.0nm,0.8s					
MAW	Mawson	75.42 201	P	P	06 44 25.4	+0.8
	comp=Z,13nm,0.9s,mb4.5,baz=70,slow=7.0,SNR=18					
MAW			LR	LR	07 14 51.7	
	comp=Z,68nm,21.9s,baz=246,slow=33					
HKL	Haleakala	77.02 67	eP	P	06 44 34.6	0.0
TIXI	Tiksi	78.09 360	⇑eP	P	06 44 38.5	-0.9
TIXI			pmax	pmax		
	comp=Z,22nm,1.4s,mb4.6					
TIXI	Tiksi	78.09 360	eP	P	06 44 36.9	-2.5
BILL	Bilibino	78.66 13	⇑eP	P	06 44 42.1	-0.5
BILL			e*PP	pP	06 45 06.4	-8.9
BILL			e		06 47 43.4	
BILL			eS	S	06 54 38.2	+10
BILL			pmax	pmax		
	comp=Z,3.0nm,0.9s,mb3.9					
QSPA	South Pole Qui	83.38 180	eP	P	06 45 07.5	0.0
	comp=Z,65nm,1.3s,mb5.2					
SDPT	Sand Point	83.84 32	eP	P	06 45 09.7	-0.5
SYO	Syowa Base	84.13 201	⇑eP	P	06 45 10.5	-1.0
SYO	Syowa Base	84.13 201	⇓ePcP	PcP	06 45 14.8	-0.3
SVE	Sverdlovsk	84.57 329	⇓eP	P	06 45 13.7	-0.2
SVE			eS	S	06 55 36.6	+6.8
SVE			pmax	pmax		
	comp=Z,31nm,1.4s,mb4.8					
ARU	Arti	85.51 328	diP	P	06 45 17.6	-1.0
ARU			e		06 48 39.0	
ARU			eS	S	06 55 28.1	-11
ARU			SS	SS	07 01 15.5	-2.3
ARU			pmax	pmax		
	comp=Z,17nm,1.3s,mb4.6					
ARU	Arti	85.51 328	eP	P	06 45 17.4	-1.1
RDF	Al-Radifah	86.83 299	eP	P	06 45 24.4	-1.3
RDF			eS	pP	06 46 01.2	+2.3
RDF			AML	AML	06 46 02.7	
	comp=Z,4.0nm,0.6s					
NAY	Al-Naaiem	87.15 300	eP	P	06 45 24.7	-2.5
NAY			eS	pP	06 45 59.9	-0.6
NAY			AML	AML	06 46 01.3	
	comp=Z,3.1nm,0.6s					
TTA	Tatalina	88.51 26	eP	P	06 45 32.5	-0.4
IMA2	Indian Mountai	90.37 23	eP	P	06 45 40.9	-0.7
PMR	Palmer	91.30 28	eP	P	06 45 46.1	+0.2
COLA	College	92.48 25	⇑eP	P	06 45 49.1	-2.2
EGAK	Eagle	95.31 25	eP	P	06 46 03.7	-0.6
DAWY	Dawson	96.03 26	eP	P	06 46 07.5	-0.1
OBN	Obninsk	97.49 325	⇓eP	P	06 46 11.8	-2.6
OBN			e*PP	pP	06 46 35.8	-12
OBN			e		06 50 12.6	
OBN			eS	S	06 56 38.3	-49
OBN			ePS	PS	06 58 50.1	-17
OBN			pmax	pmax		
	comp=Z,10.0nm,0.8s,mb5.2					
VNA2	Neumayer--Watz	97.68 193	eP	P	06 46 15.2	+0.2
VNA2			e		06 46 19.3	
VNA2			e		06 46 24.3	
VNA2			e		06 46 30.6	
VNA2			e		06 46 36.6	
VNA2			e		06 46 40.6	
VNA2			e	pP	06 46 47.3	-1.3
VNA3	Neumayer Olymp	97.93 192	eP	P	06 46 16.8	+0.6
VNA3			e		06 46 19.7	
VNA3			e		06 46 24.3	
VNA3			e		06 46 30.4	
VNA3			e		06 46 37.7	
VNA3			e		06 46 41.9	
VNA3			e	pP	06 46 48.3	-1.4
VNA1	Neumayer--Stat	98.08 193	eP	P	06 46 17.1	+0.3
VNA1			e		06 46 22.6	
VNA1			e		06 46 26.5	
VNA1			e		06 46 32.9	
VNA1			e		06 46 38.5	

VNA1				*e*		06 46 42.0		
VNA1				*e*	pP	06 46 47.5	-2.9	
INK	**Inuvik**	**98.39**	**22**	*e*P	**P**	**06 46 16.9**	**-1.3**	
ARCES	**ARCESS Array B**	**101.30**	**340**	P	Pdif	06 46 29.4	-2.1	
	comp=Z,4.6nm,1.1s,baz=83,slow=4.0,SNR=9.0							
ARCES				PKiKP	PKiKP	06 50 54.2	-0.7	
	comp=Z,1.6nm,0.9s,baz=113,slow=1.2,SNR=3.9							
ARCES				PKKPbc	PKKPbc	07 02 38.8	-4.5	
	comp=Z,1.6nm,1.0s,baz=235,slow=4.0,SNR=6.2							
FINES	**FINESS Array B**	**102.55**	**331**	PKiKP	PKiKP	06 50 57.3	-0.1	
	comp=Z,4.5nm,1.2s,baz=64,slow=3.2,SNR=3.3							
YKA	**Yellowknife Ar**	**107.27**	**26**	Pdif	Pdif	06 46 57.0	-1.0	
YKA				PKPdf	PKiKP	06 51 05.0	-1.0	
YKA				PKKPbc	PKKPbc	07 02 21.6	-3.4	
YKA	**Yellowknife Ar**	**107.27**	**26**	Pdiff	Pdif	06 46 57.0	-1.0	
	comp=Z,0.2nm,0.6s,baz=288,slow=5.3,SNR=3.9							
YKA				PKiKP	PKiKP	06 51 05.0	-1.0	
	comp=Z,1.4nm,0.7s,baz=297,slow=1.7,SNR=22							
YKA				PKKPbc	PKKPbc	07 02 21.6	-3.4	
	comp=Z,0.4nm,0.4s,baz=105,slow=3.1,SNR=10.0							
HOOD	**Mount Hood Mea**	**107.36**	**45**	*e*Pdif	Pdif	06 46 53.2	-5.3	
HOOD				*e*PKiKP	PKiKP	06 51 02.9	-3.8	
NVAR	**Mina Array Bea**	**110.83**	**51**	PKPdf	PKiKP	06 51 13.8	+0.3	
NVAR	**Mina Array Bea**	**110.83**	**51**	PKiKP	PKiKP	06 51 13.8	+0.3	
	comp=Z,0.8nm,0.9s,baz=259,slow=1.5,SNR=4.6							
EDM	**Edmonton**	**110.89**	**35**	*e*PKiKP	PKiKP	06 51 12.7	-0.4	
GERES	**GERESS Array B**	**112.29**	**320**	PKiKP	PKiKP	06 51 14.8	-1.1	
	comp=Z,0.6nm,0.4s,baz=70,slow=2.0,SNR=5.8							
HLID	**Hailey**	**112.78**	**45**	*e*PKiKP	PKiKP	06 51 18.1	+1.1	
MCMT	**McKenzie Canyo**	**113.56**	**44**	*e*PKP	PKiKP	06 51 18.7	+0.3	
WTTA	**Wattenberg**	**114.07**	**319**	⇑*i*P	PKiKP	06 51 18.4	-0.9	
	comp=Z,5.4nm,0.4s							
BOZ	**Bozeman (W)**	**114.18**	**43**	*e*PKiKP	PKiKP	06 51 20.7	+1.1	
EGMT	**Eagleton**	**114.69**	**40**	*e*PKiKP	PKiKP	06 51 20.0	-0.5	
DAVA	**Damuels**	**115.20**	**320**	⇑*i*P	PKiKP	06 51 20.4	-1.1	
	comp=Z,3.4nm,0.4s							
REDW	**Red Top Meadow**	**115.34**	**45**	*e*PKiKP	PKiKP	06 51 22.6	+0.7	
SNOW	**Snow King Moun**	**115.38**	**45**	*e*PKiKP	PKiKP	06 51 23.1	+1.2	
LOHW	**Long Hollow**	**115.44**	**45**	*e*PKiKP	PKiKP	06 51 22.9	+0.8	
GCMT	**Greycliff**	**115.45**	**42**	*e*PKPdf	PKPdf	06 51 22.3	+0.3	
BW06	**Boulder Array**	**116.41**	**45**	*e*PKiKP	PKiKP	06 51 24.2	+0.2	
WUAZ	**Wupatki**	**116.80**	**54**	*e*PKPdf	PKPdf	06 51 25.8	+0.9	
PGF	**Pioggiola**	**117.26**	**315**	*e*PKiKP	PKPdf	06 51 25.1	-0.5	
	comp=Z,2.5nm,0.5s							
LPG	**La Plagne**	**117.84**	**318**	*e*PKiKP	PKPdf	06 51 25.9	-0.8	
	comp=Z,3.9nm,0.5s							
LPL	**La Plagne**	**117.85**	**318**	*e*PKiKP	PKPdf	06 51 25.6	-1.1	
CABF	**La Chapelle**	**117.88**	**320**	*e*PKiKP	PKPdf	06 51 25.8	-0.9	
	comp=Z,5.7nm,0.5s							
FCC	**Fort Churchill**	**117.88**	**24**	*e*PKiKP	PKPdf	06 51 25.0	-1.3	
TUC	**Tucson**	**117.89**	**57**	*e*PKiKP	PKPdf	06 51 27.9	+0.7	
SBF	**Sospel**	**117.94**	**317**	*e*PKiKP	PKPdf	06 51 25.5	-1.4	
PV10	**Paradox Valley**	**117.97**	**50**	*e*PKPdf	PKPdf	06 51 27.8	+0.7	
MBDF	**Montbardon**	**118.10**	**318**	*e*PKiKP	PKPdf	06 51 26.3	-0.9	
	comp=Z,3.4nm,0.5s							
PV01	**Paradox Valley**	**118.39**	**50**	*e*PKPdf	PKPdf	06 51 28.7	+0.8	
RWWY	**Rawlins**	**118.40**	**46**	*e*PKPdf	PKPdf	06 51 28.2	+0.3	
ORIF	**Oris-en-Rattie**	**118.63**	**318**	*e*PKiKP	PKPdf	06 51 27.0	-1.2	
	comp=Z,2.5nm,0.4s							
MVCO	**Mesa Verde**	**118.68**	**51**	*e*PKPdf	PKPdf	06 51 29.5	+1.0	
LOR	**Lormes**	**119.03**	**321**	*e*PKiKP	PKPdf	06 51 28.1	-0.8	
SMRF	**Simiane la Rot**	**119.17**	**317**	*e*PKiKP	PKPdf	06 51 27.8	-1.4	
	comp=Z,1.5nm,0.4s							
SMCO	**Snowmass**	**119.31**	**49**	*e*PKPdf	PKPdf	06 51 29.2	-0.5	
SMCO				*e*PKPdf	PKPdf	06 51 30.1	+0.4	
SSF	**Saint Saulge**	**119.33**	**321**	*e*PKiKP	PKPdf	06 51 28.9	-0.6	
	comp=Z,7.0nm,0.7s							
BGF	**Bois d'Agland**	**119.95**	**321**	*e*PKiKP	PKPdf	06 51 29.8	-0.9	
	comp=Z,6.9nm,0.4s							
ISCO	**Idaho Springs**	**120.13**	**48**	*e*PKiKP	PKPdf	06 51 32.5	+1.3	
LAZ	**Ladron**	**120.44**	**54**	*e*PKPdf	PKPdf	06 51 32.5	+0.5	
SDCO	**Great Sand Dun**	**120.83**	**50**	*e*PKPdf	PKPdf	06 51 33.2	+0.6	
ANMO	**Albuquerque**	**120.84**	**53**	⇑*i*PKiKP	PKPdf	06 51 32.8	0.0	
BNM	**Barren Site**	**120.91**	**54**	*e*PKPdf	PKPdf	06 51 33.4	+0.5	
MTLF	**Montolieu**	**121.66**	**318**	*e*PKiKP	PKPdf	06 51 32.8	-1.3	
	comp=Z,2.6nm,0.5s							
MFF	**Saint Martin d**	**121.79**	**322**	*e*PKiKP	PKPdf	06 51 33.1	-1.1	
	comp=Z,5.4nm,0.5s							
ULM	**Lac du Bonnet**	**121.96**	**33**	PKP	PKPdf	06 51 33.1	-1.3	
	comp=Z,5.7nm,0.9s,baz=214,slow=0.4,SNR=3.4							
SGMF	**Saint Gilles**	**122.43**	**325**	*e*PKiKP	PKPdf	06 51 34.1	-1.3	
MNTX	**Cormudas Mount**	**122.51**	**57**	*e*PKPdf	PKPdf	06 51 36.2	+0.2	
TXAR	**Lajitas Array**	**124.49**	**59**	PKP	PKPdf	06 51 39.8	-0.1	
	comp=Z,2.6nm,0.9s,baz=262,slow=1.6,SNR=23							
ECSD	**EROS,Sioux Fal**	**124.81**	**40**	*e*PKPdf	PKPdf	06 51 39.4	-0.7	
WMOK	**Wichita Mounta**	**126.94**	**51**	*e*PKiKP	PKPdf	06 51 44.4	0.0	
JCT	**Junction City**	**127.44**	**57**	*e*PKiKP	PKPdf	06 51 45.5	0.0	
TORD	**Torodi Ar. Bea**	**129.00**	**282**	PKP	PKPdf	06 51 48.0	-0.9	
	comp=Z,2.3nm,0.7s,baz=78,slow=1.7,SNR=17							
TORD				pPKP	pPKPdf	06 52 24.3	+0.5	
	comp=Z,1.4nm,0.7s,baz=96,slow=1.1,SNR=3.2							
TORD				SKPbc		06 54 54.1		
	comp=Z,2.4nm,0.7s,baz=66,slow=3.8,SNR=6.9							
PLCA	**Paso Flores**	**129.16**	**160**	PKP	PKPdf	06 51 49.6	+1.0	
	comp=Z,4.5nm,0.7s,baz=209,slow=4.1,SNR=15							
PLCA				SKPbc		06 54 55.1		
	comp=Z,1.8nm,0.8s,baz=188,slow=4.1,SNR=4.4							
SCHQ	**Schefferville**	**129.98**	**13**	PKP	PKPdf	06 51 49.0	-0.6	
	comp=Z,4.3nm,0.7s,baz=69,slow=2.5,SNR=8.7							
MIAR	**Mount Ida**	**130.98**	**49**	*e*PKiKP	PKPdf	06 51 53.9	+1.7	
CCM	**Cathedral Cave**	**131.09**	**44**	*e*PKiKP	PKPdf	06 51 52.1	-0.2	
HDIL	**Hopedale**	**131.10**	**40**	*e*PKPdf	PKPdf	06 51 52.5	+0.3	
FVM	**French Village**	**131.69**	**44**	*e*PKiKP	PKPdf	06 51 52.7	-0.7	
DBIC	**Dimbokro**	**135.45**	**273**	PKP	PKPdf	06 52 01.1	0.0	
	comp=Z,2.5nm,0.6s,baz=314,slow=4.1,SNR=4.4							
BINY	**Binghamton**	**137.59**	**29**	*e*PKPdf	PKPdf	06 52 06.0	+1.6	
WVL	**Waterville**	**138.37**	**22**	*e*PKPdf	PKPdf	06 52 07.1	+1.4	
JTS	**JuntasAbangare**	**144.97**	**82**	*e*PKP2	PKPdf	06 52 17.6	-0.7	
JTS	**JuntasAbangare**	**144.97**	**82**	PKPbc	PKPdf	06 52 17.4	-0.9	
	comp=Z,62nm,0.5s,baz=332,slow=3.4,SNR=70							
LVC	**Limon Verde**	**145.42**	**148**	*e*PKPab	PKPab	06 52 20.3	+1.0	
CPUP	**Villa Florida**	**146.44**	**168**	PKPbc	PKPbc	06 52 20.7	-1.4	
	comp=Z,30nm,0.8s,baz=189,slow=2.2,SNR=37							
NNA	**Nana**	**147.31**	**124**	*e*PKPab	PKPab	06 52 25.8	-1.1	
ARE	**Arequipa**	**148.55**	**137**	*e*PKPbc	PKPbc	06 52 29.0	+1.0	
BCIP	**Isla Barro Col**	**150.07**	**83**	*e*PKPdf	PKPbc	06 52 31.3	-0.5	
CAM4	**Nova Friburgo**	**150.38**	**193**	⇓*i*P	PKPbc	06 52 33.1	+0.7	
CAM4				*i*		06 52 44.2		
CAM4				*i*		06 52 58.1		
CAM4				*i*		06 53 15.6		
CAM4				*i*		06 53 24.0		
LPAZ	**La Paz**	**150.86**	**141**	PKP	PKPdf	06 52 29.6	+1.7	
	comp=Z,15nm,1.1s,baz=252,slow=0.3,SNR=14							
LPAZ				PKPbc	PKPbc	06 52 35.0	+1.4	
	comp=Z,27nm,0.4s,baz=32,slow=3.8,SNR=363							
ROSC	**El Rosal**	**155.46**	**93**	*e*PKPdf	PKPdf	06 52 35.6	+1.0	
ROSC				*e*PKPab	PKPab	06 53 03.5	+2.6	
ROSC	**El Rosal**	**155.46**	**93**	PKPbc	PKPdf	06 52 44.7	+10	
	comp=Z,4.8nm,0.4s,baz=104,slow=20,SNR=6.8							
SDDR	**Presa de Saban**	**155.67**	**58**	*e*PKPab	PKPab	06 53 01.8	+0.2	
BDFB	**Brasilia**	**157.84**	**184**	*e*PKPdf	PKPdf	06 52 31.7	-6.0	
BDFB				PKP	PKPdf	06 52 38.0	+0.4	
BDFB	**Brasilia**	**157.84**	**184**	PKP	PKPdf	06 52 38.0	+0.4	
	comp=Z,2.1nm,0.8s,baz=266,slow=8.1,SNR=6.3							
SDV	**Santo Domingo**	**159.16**	**82**	*e*PKPdf	PKPdf	06 52 39.1	-0.2	
SDV				*e*PKPab	PKPab	06 53 18.0	+1.1	
SJG	**San Juan**	**160.31**	**53**	*e*PKP2	PKPab	06 53 21.3	-0.3	
HUMP	**Col San Antoni**	**160.53**	**52**	*e*PKPab	PKPab	06 53 22.7	+0.1	
CPD	**Cerro la Pandu**	**160.54**	**53**	*e*PKP2	PKPab	06 53 22.4	-0.2	
MTP	**Monte Pirata**	**160.79**	**52**	*e*PKPab	PKPab	06 53 24.0	+0.3	

IDC 25 06:44:44.5±2.2, 1780S×17827W, h468km±28km, mb3.5/5, mb1 3.7/6, mb1mx3.4/16, mbtmp3.5/6, Error ellipse: s-maj=84.4km s-min=16.4km az=153.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.34**	**59**	P	P	06 46 33.5	+0.1
	3.0nm,0.3s,baz=184,slow=6.4,SNR=5.1						
CTA	**Charters Tower**	**33.60**	**260**	P	P	06 50 45.2	+0.4
	4.0nm,0.4s,baz=88,slow=8.9,SNR=5.6						
STKA	**Stephens Creek**	**38.80**	**241**	P	P	06 51 27.9	0.0
	4.0nm,0.5s,baz=92,slow=5.0,SNR=14						
WRA	**Warramunga Arr**	**44.78**	**259**	P	P	06 52 15.0	-0.6
	1.1nm,0.3s,baz=97,slow=7.7,SNR=60						
ASAR	**Alice Springs**	**44.95**	**254**	P	P	06 52 16.8	0.0
	12nm,0.7s,baz=89,slow=8.5,SNR=96						
TXAR	**Lajitas Array**	**85.82**	**58**	P	P	06 56 34.2	+0.3
	0.5nm,0.8s,baz=217,slow=6.7,SNR=5.2						
MKAR	**Makanchi Array**	**109.16**	**314**	PKiKP	PKiKP	07 02 19.0	-1.3
	0.1nm,0.5s,baz=135,slow=1.6,SNR=3.6						
MMAI	**Mount Meron Ar**	**146.20**	**303**	PKPbc	PKPbc	07 03 32.5	+0.4
	0.4nm,0.3s,baz=65,slow=7.2,SNR=3.6						
GERES	**GERESS Array B**	**147.54**	**345**	PKPbc	PKPbc	07 03 34.6	-0.6
	1.0nm,0.5s,baz=32,slow=5.4,SNR=6.7						

*NEIC **25** 06:44:47.3, 1946N×7051W, h64km, MD4.0(RSPR), After RSPR.*

RSPR 25 06:44:47.3, 1946N×7050W, h64km±6km, MD4.0/8, MD4.0/8, 6C-2D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SDDR	**Presa de Saban**	**0.88**	**238**	⇑*e*P	Pn	06 45 03.4	-0.5
STDO	**Santo Domingo**	**1.14**	**151**	⇓*e*P	Pn	06 45 06.8	-0.5
STDO				*e*S	Sn	06 45 21.5	-0.8
DR12	**Loma Pena Alta**	**1.25**	**122**	⇓*i*P	Pn	06 45 07.7	-1.1
DR12				*e*S	Sn	06 45 23.9	-1.0
CRPR	**Cabo Rojo, PR**	**3.53**	**114**	⇑*e*P	Pn	06 45 42.9	+3.2
MASC	**Masc**	**3.58**	**282**	*e*PG	Pn	06 45 41.5	+1.1
	baz=144						
MASC				*e*SG	Sn	06 46 25.9	+4.4
	comp=N,0.5nm,0.2s						
MASC				*e*			
	comp=E,0.6nm,0.4s						
CELP	**Cerrillos**	**3.96**	**110**	⇑*e*P	Pn	06 45 51.7	+6.1
CPD	**Cerro la Pandu**	**4.57**	**107**	⇑*e*P	Pn	06 45 54.1	+0.1
HUMP	**Col San Antoni**	**4.60**	**106**	⇑*e*P	Pn	06 45 55.2	+0.9
HUMP				*e*S	Sn	06 46 43.0	-3.5
MTP	**Monte Pirata**	**4.88**	**105**	⇑*e*P	Pn	06 45 58.3	+0.1

*CSEM **25** 06:46:29.8±0.2, 3727N×37.16E, h15km, MD2.8, Error ellipse: s-maj=6.5km s-min=4.5km az=29.0*
*ISCJB **25** 06:46:30.6±0.7, 3731N±006×37.16E±005, h9km±7km, Error ellipse: s-maj=9.7km s-min=5.6km az=19.8*
*DDA **25** 06:46:30.4, 3734N×3721E, h24km±4km, Md2.6*
*ISK **25** 06:46:30.0, 3732N×37.17E, h8km, MD2.8*

ISC 25 06:46:30.7±0.8, 3729N±006×3716E±005, h11km±7km, n7, σ0°31/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GAZ	**Gaziantep**	**0.13**	**160**	PG	**Pg**	**06 46 33.5**	**-0.2**
GAZ				*e*SG	**Sg**	**06 46 36.2**	**+0.2**
KMRS	**Kahramanmaras**	**0.29**	**316**	*e*PG	**Pg**	**06 46 36.5**	**-0.1**
KMRS				*e*SG	**Sg**	**06 46 40.6**	**0.0**
GZT	**Gaziantep**	**0.33**	**79**	*i* P	**Pg**	**06 46 36.5**	**-0.7**
GZT				*i* S	**Sg**	**06 46 42.0**	**+0.2**
ANDN	**Andirin**	**0.71**	**294**	*i* P	**Pg**	**06 46 44.6**	**+0.3**
ANDN				*i* S	**Sg**	**06 46 58.0**	**+4.4**
ATAB	**Bozova**	**0.92**	**79**	*i* P	**Pg**	**06 46 48.6**	**+0.1**
ATAB				*i* S	**Sg**	**06 47 00.7**	**+0.2**
KOZT	**Kozan**	**1.08**	**280**	*e*PN	**Pn**	**06 46 51.6**	**0.0**
MALT	**Malatya**	**1.43**	**44**	*e*PN	**Pn**	**06 46 56.6**	**+0.1**

IDC 25 06:51:12.6±8.2, 2161N×14304E, h214km±78km, mb3.0/6, mb1 3.2/6, mb1mx3.1/19, mbtmp3.0/6, Error ellipse: s-maj=51.1km s-min=16.4km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.50**	**324**	P	P	06 55 34.2	+0.1
	1.2nm,0.5s,baz=144,slow=8.5,SNR=4.6						
WRA	**Warramunga Arr**	**42.17**	**192**	P	P	06 58 44.8	+0.5
	0.8nm,1.0s,baz=14,slow=9.5,SNR=3.4						
ASAR	**Alice Springs**	**45.88**	**192**	P	P	06 59 12.8	-0.8
	0.4nm,0.7s,baz=15,slow=10.0,SNR=4.6						
MKAR	**Makanchi Array**	**54.65**	**313**	P	P	07 00 19.6	+0.4
	0.3nm,0.6s,baz=87,slow=8.5,SNR=4.4						
YKA	**Yellowknife Ar**	**76.59**	**28**	P	P	07 02 39.3	+0.2
	0.6nm,0.7s,baz=292,slow=5.3,SNR=6.9						
ARCES	**ARCESS Array B**	**78.96**	**341**	P	P	07 02 51.8	-0.2
	1.0nm,0.8s,baz=77,slow=1.9,SNR=3.7						

*IDC **25** 07:18:57.7±9.3, 1482S×167.19E, h185km±67km, mb4.0/6, mb1 4.2/7, mb1mx3.8/16, mbtmp4.1/7, Error ellipse: s-maj=83.6km s-min=25.2km az=112.0*
*ISCJB **25** 07:18:58.1±4.0, 149S±0.1×167.1E±0.3, h195km±30km, mb4.3/9, Error ellipse: s-maj=43.4km s-min=21.6km az=7.3*
*NEIC **25** 07:18:58.5±3.7, 1478S×167.14E, h191km±26km, mb4.7/5, Error ellipse: s-maj=37.9km s-min=14.8km az=103.0*
*LDG **25** 07:19:00.8±0.3, 1537S×16653E, h210km, Error ellipse: s-maj=49.2km s-min=5.6km az=86.0*

ISC 25 07:18:57.7±4.0, 148S±01×1672E±03, h184km±30km, n36, σ0°80/16, mb4.5/9, 1D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.88**	**306**	P	**Pn**	**07 21 02.3**	**-0.4**
	10nm,0.3s,baz=291,slow=0.8,SNR=4.2						
CTA	**Charters Tower**	**20.64**	**252**	P	**P**	**07 23 24.1**	**+1.0**
	4.0nm,0.7s,baz=68,slow=12,SNR=6.5						
ARMA	**Armidale**	**21.11**	**220**	*e*P	**P**	**07 23 28.8**	**+0.8**
CNB	**Canberra Magne**	**25.93**	**215**	*e*P	**P**	**07 24 13.4**	**+0.4**
	17nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**28.87**	**230**	⇓*i*P	**P**	**07 24 40.1**	**+0.8**
	12nm,0.4s,mb5.0						
STKA	**Stephens Creek**	**28.87**	**230**	P	**P**	**07 24 40.0**	**+0.8**
	16nm,0.4s,mb5.1,baz=51,slow=8.4,SNR=82						
WB2	**Warramunga Arr**	**31.72**	**256**	*e*P	**P**	**07 25 03.7**	**-0.7**
WRA	**Warramunga Arr**	**31.73**	**256**	P	**P**	**07 25 03.5**	**-1.1**
	2.6nm,0.5s,mb4.2,baz=84,slow=8.6,SNR=49						
ASAR	**Alice Springs**	**32.57**	**249**	P	**P**	**07 25 11.2**	**-0.7**
	8.9nm,0.5s,mb4.7,baz=81,slow=9.0,SNR=152						
FORT	**Forrest**	**39.18**	**239**	*e*P	**P**	**07 26 07.8**	**-0.2**
	16nm,0.6s,mb4.8						
FITZ	**Fitzroy Crossi**	**39.92**	**259**	*e*P	**P**	**07 26 13.9**	**-0.4**
	13nm,0.4s,mb4.9						
MBWA	**Marble Bar**	**45.45**	**255**	*e*P	**P**	**07 26 58.9**	**+0.3**
	14nm,1.2s,mb4.5						
NACB	**Ninganchiao**	**59.04**	**310**	*e*P	**P**	**07 28 44.0**	**+5.4**
SONM	**Songino Array**	**82.53**	**324**	P	**P**	**07 31 01.3**	**+1.5**
	0.5nm,0.4s,mb3.6,baz=125,slow=4.3,SNR=4.2						
VNA2	**Neumayer--Watz**	**94.38**	**182**	*e*	**P**	**07 31 54.7**	**-1.5**
	baz=196,slow=4.8						
MKAR	**Makanchi Array**	**97.22**	**316**	P	**P**	**07 32 09.7**	**+0.2**
	0.4nm,0.6s,mb3.9,baz=84,slow=7.4,SNR=4.2						
ARCES	**ARCESS Array B**	**120.33**	**345**	PKP	PKPdf	07 37 24.9	-1.5
	0.5nm,0.4s,baz=88,slow=2.0,SNR=11						
FLN	**La Foiniere**	**144.67**	**346**	*e*PKP1	PKPdf	07 38 11.2	-1.2
	7.1nm,0.5s						
LDF	**La Druitiere**	**144.74**	**345**	*e*PKP1	PKPdf	07 38 11.4	-1.2
	4.9nm,0.6s						
LOR	**Lormes**	**144.80**	**340**	*e*PKP1	PKPdf	07 38 12.9	+0.2
	6.2nm,0.5s						
SSF	**Saint Saulge**	**145.10**	**340**	*e*PKP1	PKPbc	07 38 13.5	+0.4
	10nm,0.6s						
GRR	**Gorron**	**145.11**	**346**	*e*PKP1	PKPbc	07 38 12.9	-0.2
	9.4nm,0.5s						
LPL	**La Plagne**	**145.25**	**336**	*e*PKP1	PKPbc	07 38 14.5	+0.9
	8.0nm,0.6s						
LPG	**La Plagne**	**145.26**	**336**	*e*PKP1	PKPbc	07 38 14.5	+0.8
	12nm,0.8s						
MBDF	**Montbardon**	**145.88**	**335**	*e*PKP1	PKPbc	07 38 16.1	+0.5
	3.7nm,0.5s						
ORIF	**Oris-en-Rattie**	**146.08**	**336**	*e*PKP1	PKPbc	07 38 16.5	+0.3
	13nm,0.7s						
TCF	**Toulx Ste Croi**	**146.20**	**341**	*e*PKP1	PKPbc	07 38 17.3	+0.8
	14nm,1.0s						
SBF	**Sospel**	**146.30**	**333**	*e*PKP1	PKPbc	07 38 16.0	-0.9
	18nm,0.7s						
MFF	**Saint Martin d**	**146.59**	**344**	*e*PKP1	PKPbc	07 38 17.6	0.0
PGF	**Pioggiola**	**146.60**	**330**	*e*PKP1	PKPbc	07 38 17.1	-0.7
SMRF	**Simiane la Rot**	**146.99**	**335**	*e*PKP1	PKPbc	07 38 19.2	+0.4
	4.7nm,0.6s						
RJF	**Les Rejaudoux**	**147.30**	**341**	*e*PKP1	PKPbc	07 38 19.1	-0.5
	4.6nm,0.6s						
LASF	**Ste Croix**	**147.57**	**337**	*e*PKP1	PKPbc	07 38 20.6	+0.2
	10nm,0.9s						
MTLF	**Montolieu**	**148.80**	**339**	*e*PKP1	PKPbc	07 38 23.7	+0.1
	5.1nm,0.8s						
ETSF	**Etsaut**	**150.11**	**342**	*e*PKP1	PKPbc	07 38 27.3	+0.5
LIC	**Lamto**	**168.53**	**223**	*e*PKP2	PKPab	07 39 49.6	-4.3
	2.3nm,0.3s						

IDC 25 08:00:36.8±1.8, 134N×12345E, h0km, mb3.7/3, mb1 3.9/3, mb1mx3.6/17, mbtmp3.7/3, Error ellipse: s-maj=182.1km s-min=26.4km az=62.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.69**	**154**	P	P	08 05 50.3	-0.3
	0.7nm,0.3s,baz=331,slow=10,SNR=38						
ASAR	**Alice Springs**	**26.85**	**158**	P	P	08 06 19.6	+0.3
	0.6nm,0.4s,baz=337,slow=6.9,SNR=16						
MKAR	**Makanchi Array**	**57.73**	**328**	P	P	08 10 29.3	-0.1
	0.4nm,0.6s,baz=113,slow=5.8,SNR=3.6						

*TRN **25** 08:35:35.9, 1139N×6194W, h23km*
*FUNV **25** 08:35:36.5, 1038N×62.11W, h5km, MW2.5*
*ISCJB **25** 08:35:37.1±0.5, 1027N±004×6226W±003, h10km, Error ellipse: s-maj=5.7km s-min=4.5km az=169.2*

ISC 25 08:35:38.4±0.8, 1038N±005×6219W±004, h25km±8km, n14, σ1°03/25, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.53**	**53**	*e*P	**Pb**	**08 35 49.6**	**+0.4**
TCE				*e*S	**Sb**	**08 36 00.2**	**+3.7**
GUNV	**Guanoco**	**0.77**	**254**	*e*P	**Pb**	**08 35 52.5**	**-0.8**
GUNV				*e*S	**Sb**	**08 36 04.3**	**+0.9**
TRN	**Trinidad (W)**	**0.82**	**71**	*e*P	**Pb**	**08 35 53.8**	**-0.1**
CRUV	**Carupano**	**1.07**	**286**	*e*P	**Pn**	**08 35 56.8**	**-1.1**
CRUV				*e*S	**Sn**	**08 36 10.7**	**-1.4**
ITEV	**Isla Los Testi**	**1.34**	**316**	*e*P	**Pn**	**08 36 01.7**	**+0.1**
ITEV				*e*S	**Sn**	**08 36 21.6**	**+2.9**
TPR	**Prospect**	**1.60**	**60**	*e*P	**Pn**	**08 35 56.8**	**-8.3**
TPR				*e*S	**Sn**	**08 36 07.4**	**-18**
ORIV	**Oritupano**	**1.77**	**223**	*e*P	**Pn**	**08 36 08.2**	**+0.7**
ORIV				*e*S	**Sn**	**08 36 31.4**	**+2.2**
RIOV	**Rio Grande**	**2.32**	**171**	*e*P	**Pn**	**08 36 14.4**	**-0.7**
RIOV				*e*S	**Sn**	**08 36 43.5**	**+0.6**
PCRV	**Puerto La Cruz**	**2.42**	**266**	*e*P	**Pn**	**08 36 16.6**	**+0.2**
PCRV				*e*S	**Sn**	**08 36 46.1**	**+0.8**
PRGV	**PARIAGUAN**	**2.91**	**237**	*e*P	**Pn**	**08 36 23.2**	**0.0**
CUPV	**Cœpira**	**3.56**	**265**	*e*P	**Pn**	**08 36 31.6**	**-0.5**
CUPV				*e*S	**Sn**	**08 37 13.7**	**+0.3**
BIRV	**Birongo**	**4.02**	**272**	*e*P	**Pn**	**08 36 38.5**	**+0.1**
BIRV				*e*S	**Sn**	**08 37 25.1**	**+0.4**
CAOV	**Caicara del Or**	**5.09**	**234**	*e*P	**Pn**	**08 36 51.7**	**-1.4**
CAOV				*e*S	**Sn**	**08 37 48.9**	**-2.2**
BAUV	**El Baul**	**5.95**	**257**	*e*P	**Pn**	**08 37 04.8**	**-0.2**

*ISCJB **25** 08:42:16.8±0.6, 1026N±003×6228W±003, h19km±6km, Error ellipse: s-maj=6.2km s-min=3.4km az=148.3*
*TRN **25**

BIA				*e*Sg	Sg	08 56 47.5	+0.4
BIA	**Bitola**	0.25	1	*i* Pg	Pg	08 56 43.3	-0.4
BIA				*i* Sg	Sg	08 56 48.0	+1.0
BIA				*e*Lg		08 56 48.1	
	comp=E,1μm,0.5s						
BIA				*e*Lg		08 56 48.3	
	comp=N,1μm,0.4s						
BIA	**Bitola**	0.25	1	*e*Pg	Pg	08 56 43.4	-0.3
BIA				*e*Sg	Sg	08 56 48.1	+1.0
BIA	**Bitola**	0.25	1	*i* Pg	Pg	08 56 43.3	-0.4
BIA				*i* Sg	Sg	08 56 48.0	+0.9
KBN	**Korca**	0.43	250	*e*PG	Pg	08 56 46.4	-0.7
KBN				*i* SG	Sg	08 56 52.8	0.0
OHR	**Ohrid**	0.52	311	*e*Pg	Pg	08 56 47.4	-1.4
OHR				*e*Sg	Sg	08 56 55.7	+0.2
OHR	**Ohrid**	0.52	311	*i* Pg	Pg	08 56 47.4	-1.4
OHR				*i* Sg	Sg	08 56 55.7	+0.1
OHR				*e*Lg		08 56 55.9	
	comp=N,1μm,0.6s						
OHR				*e*Lg		08 56 56.0	
	comp=E,2μm,0.5s						
OHR	**Ohrid**	0.52	311	*e*Pg	Pg	08 56 47.5	-1.3
OHR	**Ohrid**	0.52	311	*e*Pg	Pg	08 56 47.4	-1.4
OHR				*i* Sg	Sg	08 56 55.6	0.0
KZN	**Kozani**	0.58	143	*e*PN	Pg	08 56 52.4	+2.4
KZN				*e*SN	Sg	08 57 01.2	+3.6
KRUS	**Krusevo**	0.60	355	*i* Pg	Pg	08 56 50.5	+0.2
KRUS				*i* Sg	Sg	08 56 59.3	+1.2
KRUS				*e*Lg		08 56 59.8	
	comp=E,374nm,0.4s						
KRUS				*e*Lg		08 57 00.1	
	comp=N,402nm,0.3s						
KRUS	**Krusevo**	0.60	355	*e*Pg	Pg	08 56 50.3	0.0
KRUS				*e*Sg	Sg	08 56 59.5	+1.4
KRUS	**Krusevo**	0.60	355	*e*Pg	Pg	08 56 50.3	0.0
KRUS				*i* Sg	Sg	08 56 59.3	+1.2
GRG	**Griva**	0.84	77	*e*Pg	Pg	08 56 55.0	0.0
GRG				*e*Sg	Sg	08 57 06.5	+0.6
MEV	**Metsovon**	0.99	184	*e*Pg	Pg	08 56 56.5	-1.3
MEV				*e*Sg	Sg	08 57 12.5	+1.9
VAY	**Valandovo**	1.09	60	*e*Pg	Pg	08 56 58.6	-1.1
VAY				*e*Sg	Sg	08 57 14.2	+0.2
VAY	**Valandovo**	1.09	60	*i* Pg	Pg	08 56 58.5	-1.3
VAY				*i* Sg	Sg	08 57 14.0	0.0
VAY				*e*Lg		08 57 14.2	
	comp=N,108nm,0.4s						
VAY				*e*Lg		08 57 14.4	
	comp=E,88nm,0.4s						
VAY	**Valandovo**	1.09	60	*e*Pg	Pg	08 56 58.8	-1.0
VAY				*e*Sg	Sg	08 57 14.2	+0.2
VAY	**Valandovo**	1.09	60	*e*Pg	Pg	08 56 58.7	-1.1
VAY				*i* Sg	Sg	08 57 14.0	0.0
LIT	**Litokhoron**	1.12	127	*e*Pg	Pg	08 56 59.4	-0.9
LIT				*e*Sg	Sg	08 57 16.5	+1.7
PHP	**Peshkopia**	1.12	324	*e*PG	Pg	08 56 58.4	-1.9
PHP				*i* SG	Sg	08 57 15.3	+0.4
STIP	**Stip**	1.13	35	*e*Pg	Pg	08 57 00.3	-0.2
STIP				*i* Sg	Sg	08 57 18.8	+3.7
STIP	**Stip**	1.13	35	*e*Pg	Pg	08 57 00.2	-0.2
STIP				*i* Sg	Sg	08 57 18.8	+3.7
JAN	**Janina**	1.17	198	*e*PN	Pn	08 57 03.8	+2.5
SKO	**Skopje**	1.20	4	*e*Pg	Pg	08 57 01.6	-0.2
SKO				*e*Sg	Sg	08 57 18.4	+1.0
SKO	**Skopje**	1.20	4	*e*Pg	Pg	08 57 00.9	-0.9
SKO				*i* Sg	Sg	08 57 18.4	+1.0
SKO				*e*Lg		08 57 18.6	
	comp=E,305nm,0.8s						
KNT	**Kendrikon**	1.26	72	*e*Pg	Pg	08 57 02.3	-0.6
KNT				*e*Sg	Sg	08 57 20.3	+1.1
QSH	**Qafa e Shtames**	1.30	305	*e*PN	Pn	08 57 02.6	-0.5
QSH				*i* SN	Sn	08 57 21.0	+0.4
THL	**Klokotos Trika**	1.32	156	*e*Pg	Pg	08 57 01.9	-2.2
THL				*e*Sg	Sg	08 57 22.1	+0.9
THL	**Klokotos Trika**	1.32	156	*e*PN	Pn	08 57 02.4	-0.9
THL				*e*Sg	Sg	08 57 22.1	+0.9
SRN	**Sarande**	1.34	229	*e*PN	Pn	08 57 03.1	-0.6
HORT	**Hortiatis**	1.37	97	*e*Pg	Pg	08 57 04.2	-0.8
HORT				*e*Sg	Sg	08 57 23.9	+1.2
SOH	**Sokhos**	1.55	88	*e*Pg	Pg	08 57 06.7	-1.7
SOH				*e*Sg	Sg	08 57 27.5	-1.0
KEK	**Kerkira**	1.57	228	*e*PN	Pn	08 57 09.7	+2.9
KEK				*e*SN	Sn	08 57 30.8	+3.6
PUK	**Puka**	1.66	320	*e*PN	Pn	08 57 08.7	+0.7
PUK				*i* SN	Sn	08 57 33.5	+4.1
PLG	**Polygyros**	1.67	103	*e*Sb	Sb	08 57 30.9	+0.2
PLG				*e*Sb	Sb	08 57 35.9	+5.1
PLG	**Polygyros**	1.67	103	*e*Pb	Pb	08 57 08.1	-1.5
PLG				*e*Sb	Sb	08 57 35.8	+5.0
KKB	**Krupnik**	1.72	50	*i* P	Pn	08 57 09.3	+0.4
EVR	**Evrytania**	1.89	168	*e*PB	Pb	08 57 13.1	-0.3
MMB	**Musomiste**	1.99	65	P	Pn	08 57 13.5	+0.9
PAIG	**Paliouri**	1.99	114	*e*Pn	Pn	08 57 11.8	-0.8
PAIG				*e*Sn	Sn	08 57 36.8	-0.9
XOR	**Xorichti**	2.01	134	*e*Pn	Pn	08 57 12.4	-0.4
OUR	**Ouranopolis**	2.08	101	*e*Pn	Pn	08 57 13.7	-0.1
VTS	**Vitosha**	2.30	37	P	Pn	08 57 17.0	+0.1

IDC ***25*** *09:17:36.9±0.7,4078N±2060E,h0km,mb3.8/12, mb1 3.9/16,mb1mx3.9/26,mbtmp3.8/16,ML3.6/4,MS2.5/1, Ms1 2.5/1,ms1mx1.8/39,Error ellipse: s-maj=15.5km s-min=11.3km az=111.0*

BEO ***25*** *09:17:37.9,4073N±2070E,ML3.8/9*

ATH ***25*** *09:17:37.1,4090N±2070E,h15km±1km,MD4.1/13,ML4.2*

ISCJB ***25*** *09:17:37.6±0.3,4086N±001×2064E±001,h9km±2km, mb3.9/15,Error ellipse: s-maj=2.1km s-min=1.7km az=136.4*

CSEM ***25*** *09:17:37.9±0.0,4090N±2066E,h2km,mb4.4/2,Error ellipse: s-maj=1.1km s-min=0.9km az=13.0*

PDG ***25*** *09:17:38.6±0.5,4082N±2076E,h7km±1km,MD3.8/5, ML3.8/10,Error ellipse: s-maj=0.8km s-min=1.2km az=0.0*

TIR ***25*** *09:17:38.7±5.3,4091N±2058E,h6km±16km,ML3.8*

SKO ***25*** *09:17:38.0,4083N±2070E,h15km,M3.5,ML3.8*

LDG ***25*** *09:17:38.3±0.1,4076N±2064E,h10km,Ml4.0/4,Error ellipse: s-maj=3.9km s-min=2.8km az=14.0*

THE ***25*** *09:17:39.2,4082N±2078E,h3km,ML4.3*

MOS ***25*** *09:17:39.5±1.0,4079N±2065E,h25km,mb4.3/6,Error ellipse: s-maj=5.5km s-min=4.1km az=97.9*

NEIC ***25*** *09:17:40.0,4090N±2068E,h10km,ML4.3(THE), ML3.7(ATH),After ATH.*

SOF ***25*** *09:17:43.9,4107N±2127E,h2km,MD3.4*

HLW ***25*** *09:18:29.6,3767N±2406E,h33km,Mb3.4*

ISC 25 09:17:38.6±0.3,4082N±001×2067E±002,h5km±2km,n230,σ1§27/324,mb3.9/15,23C-22D,Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
KBN	**Korca**	0.21	154	*e*Pg	Pg		09 17 42.4	-0.3
KBN				*i* Sg	Sg		09 17 46.5	+1.0
OHR	**Ohrid**	0.31	19	*i* Pg	Pg		09 17 44.3	-0.4
OHR				*e*Sg	Sg		09 17 49.9	+1.1
OHR	**Ohrid**	0.31	19	*i* Pg	Pg		09 17 44.4	-0.3
OHR				*e*Lg			09 17 50.0	
	comp=E,11μm,0.4s							
OHR				*i* Sg	Sg		09 17 50.0	+1.2
OHR				*e*Lg			09 17 50.5	
	comp=N,5μm,0.4s							
OHR	**Ohrid**	0.31	19	*e*Pg	Pg		09 17 44.3	-0.4
OHR				*e*Sg	Sg		09 17 49.5	+0.7
BIA	**Bitola**	0.54	68	*e*Pg	Pg		09 17 48.1	-0.9
BIA	**Bitola**	0.54	68	*i* Pg	Pg		09 17 47.9	-1.1
BIA				*e*Sg	Sg		09 17 56.4	+0.4
BIA	**Bitola**	0.54	68	⇑*i*Pg	Pg		09 17 47.9	-1.1
BIA				*e*Lg			09 17 56.3	
	comp=N,4μm,0.3s							
BIA				*i* Sg	Sg		09 17 56.4	+0.4
BIA				*e*Lg			09 17 56.6	
	comp=E,5μm,0.3s							
BIA	**Bitola**	0.54	68	*e*Pg	Pg		09 17 48.1	-0.9
BIA				*i* Sg	Sg		09 17 56.4	+0.4
KRUS	**Krusevo**	0.71	38	*i* Pg	Pg		09 17 51.0	-1.2
KRUS				*i* Sg	Sg		09 18 02.2	+0.8
KRUS				*e*Lg			09 18 02.7	
	comp=N,1μm,0.4s							
KRUS				*e*Lg			09 18 02.9	
	comp=E,2μm,0.3s							
KRUS	**Krusevo**	0.71	38	*i* Pg	Pg		09 17 51.0	-1.2
KRUS				*i* Sg	Sg		09 18 02.1	+0.7
TPE	**Tepelena**	0.72	224	*e*PG	Pg		09 17 50.3	-2.1
TPE				*i* SG	Sg		09 18 03.5	+1.7
TIR	**Tirane**	0.81	312	*e*PG	Pg		09 17 54.1	0.0
PHP	**Peshkopia**	0.89	349	*e*Pg	Pg		09 17 55.4	-0.2
PHP				*i* Sg	Sg		09 18 09.3	+2.2
QSH	**Qafa e Shtames**	0.91	321	*e*PG	Pg		09 17 55.0	-1.1
QSH				*i* SG	Sg		09 18 06.8	-1.1
VLO	**Vlora**	0.95	249	*e*PG	Pg		09 17 58.2	+1.3
VLO				*i* SG	Sg		09 18 12.5	+3.2
KZN	**Kozani**	0.98	121	*e*PN	Pn		09 17 56.5	-2.6
KZN				*e*SN	Sn		09 18 10.0	-3.4
KZN	**Kozani**	0.98	121	*e*Pn	Pn		09 17 59.2	+0.1
KZN				*e*Sn	Sn		09 18 13.5	+0.1
SRN	**Sarande**	1.06	209	*e*PG	Pg		09 18 00.9	+1.9
SRN				*i* SG	Sg		09 18 17.5	+4.7
MEV	**Metsovon**	1.11	157	*e*Pg	Pg		09 17 59.5	-0.4
JAN	**Janina**	1.17	173	*e*PN	Pn		09 18 00.6	-1.0
JAN				*e*SN	Sn		09 18 18.0	+0.2
KEK	**Kerkira**	1.28	211	*e*PN	Pn		09 18 03.0	-0.2
KEK				*e*SN	Sn		09 18 21.5	+0.7
KEK	**Kerkira**	1.28	211	*e*Pn	Pn		09 18 02.6	-0.6
SKO	**Skopje**	1.29	26	*e*Pg	Pg		09 18 03.3	-0.1
SKO				*e*Sg	Sg		09 18 22.0	+1.7
SKO	**Skopje**	1.29	26	*i* Pg	Pg		09 18 03.3	-0.1
SKO				*e*Sg	Sg		09 18 22.2	+2.0
SKO	**Skopje**	1.29	26	*e*Pg	Pg		09 18 03.1	-0.4
SKO				*e*Sg	Sg		09 18 21.1	+0.9
SKO				*e*Lg			09 18 22.8	
	comp=N,2μm,0.3s							
SKO				*e*Lg			09 18 23.0	
	comp=E,2μm,0.5s							
SKO	**Skopje**	1.29	26	*i* PG	Pg		09 18 03.3	-0.1
SKO				*i* SG	Sg		09 18 22.0	+1.8
SKO	**Skopje**	1.29	26	*e*Pg	Pg		09 18 03.0	-0.4
SKO				*e*Sg	Sg		09 18 21.1	+0.9
SKO				S	Sg		09 18 22.0	+1.8
IGT	**Igoumenitsa**	1.31	191	*e*Pg	Pg		09 18 04.1	+0.5
IGT				*e*Sg	Sg		09 18 24.0	+3.5
GRG	**Griva**	1.32	83	*e*Pg	Pg		09 18 02.4	-1.6
GRG				*e*Sg	Sg		09 18 21.4	+0.3
GRG	**Griva**	1.32	83	*e*Pg	Pg		09 18 02.3	-1.7
GRG				*e*Sg	Sg		09 18 21.4	+0.3
PUK	**Puka**	1.36	335	*e*PN	Pn		09 18 04.7	+0.5
PUK				*i* SN	Sn		09 18 26.9	+4.3
STIP	**Stip**	1.44	52	*e*Pg	Pg		09 18 05.1	-1.2
STIP				*e*Sg	Sg		09 18 25.6	+0.6
STIP	**Stip**	1.44	52	*i* Pg	Pg		09 18 05.0	-1.3
STIP				*e*Sg	Sg		09 18 26.5	+1.5
STIP				*i* Sg	Sg		09 18 26.5	+1.5
STIP				*e*Lg			09 18 26.8	
	comp=N,545nm,0.4s							
STIP				*e*Lg			09 18 26.8	
	comp=E,499nm,0.6s							
STIP	**Stip**	1.44	52	*e*Pg	Pg		09 18 05.1	-1.2
STIP				*e*Sg	Sg		09 18 26.5	+1.5
VAY	**Valandovo**	1.53	70	*e*Pg	Pg		09 18 05.5	-2.4
VAY	**Valandovo**	1.53	70	*i* Pg	Pg		09 18 05.3	-2.6
VAY				*e*Sg	Sg		09 18 26.7	-0.9
VAY	**Valandovo**	1.53	70	*i* Pg	Pg		09 18 05.5	-2.4
VAY				*e*Sg	Sg		09 18 26.7	-1.0
VAY				*e*Lg			09 18 30.0	
	comp=E,1μm,0.8s							
VAY				*e*Lg			09 18 30.5	
	comp=N,1μm,0.6s							
VAY	**Valandovo**	1.53	70	*e*Pg	Pg		09 18 05.5	-2.4
VAY				*e*Sg	Sg		09 18 26.6	-1.0
LIT	**Litokhoron**	1.56	117	*e*Pg	Pg		09 18 07.0	-1.6
LIT				*e*Sg	Sg		09 18 29.4	+0.6
ULC	**Ulcinj**	1.57	318	⇓*i*Pn	Pg		09 18 08.4	-0.2
ULC				*e*Sn	Sg		09 18 32.2	+3.3
ULC	**Ulcinj**	1.57	318	*i* PG	Pg		09 18 08.4	-0.2
ULC				*i* SG	Sg		09 18 32.2	+3.3
BCI	**Bajram Curri**	1.61	344	*e*PN	Pn		09 18 09.5	+1.7
BCI				*i* SN	Sn		09 18 34.1	+5.2
THL	**Klokotos Trika**	1.62	140	*e*Pg	Pg		09 18 07.4	-2.3
THL				*e*Sg	Sg		09 18 30.3	-0.4
THL	**Klokotos Trika**	1.62	140	*e*PN	Pn		09 18 07.3	-0.5
THL				*e*SN	Sn		09 18 30.0	+0.9
THL	**Klokotos Trika**	1.62	140	*e*Sn	Sn		09 18 30.0	+0.9
THL				*e*Sg	Sg		09 18 30.3	-0.4
KNT	**Kendrikon**	1.73	78	*e*Pb	Pb		09 18 08.8	-1.9
KNT				*e*Sb	Sb		09 18 32.0	-0.7
THE	**Thessaloniki**	1.76	95	*e*Pb	Pb		09 18 08.8	-2.5
THE				*e*Sb	Sb		09 18 32.5	-1.2
PVY	**Plav**	1.85	344	⇑*i*Pn	Pn		09 18 12.5	+1.5
PVY				*e*Sn	Sg		09 18 38.3	+0.2
PVY	**Plav**	1.85	344	*i* PG	Pn		09 18 12.5	+1.5
PVY				*i* SG	Sg		09 18 38.3	+0.2
HORT	**Hortiatis**	1.86	96	*e*Pb	Pb		09 18 10.3	-2.8
HORT				*e*Sb	Sn		09 18 33.8	-1.3
HORT	**Hortiatis**	1.86	96	S	Sn		09 18 33.8	-1.3
PDG	**Podgorica**	1.93	327	*i* PG	Pn		09 18 13.4	+1.4
PDG				*i* SG	Sg		09 18 40.4	-0.1
TTG	**Podgorica**	1.93	327	⇓*i*Pn	Pn		09 18 13.4	+1.4
TTG				*e*Sn	Sg		09 18 40.4	-0.1
BUM	**Brajici-Budva**	1.99	319	⇓*i*Pn	Pn		09 18 14.2	+1.3
BUM				*e*Sn	Sg		09 18 42.2	-0.4
BUM	**Brajici-Budva**	1.99	319	*i* PG	Pn		09 18 14.2	+1.3
BUM				*i* SG	Sg		09 18 42.2	-0.4
LCI	**Lecce**	2.00	257	Pn	Pn		09 18 12.1	-1.0
SOH	**Sokhos**	2.04	89	*e*Pb	Pb		09 18 13.0	-3.2
EVR	**Evrytania**	2.09	155	*e*PN	Pn		09 18 15.5	+1.2
EVR				*e*SN	Sn		09 18 42.5	+1.8
EVR	**Evrytania**	2.09	155	*e*Pb	Pb		09 18 16.0	-1.0
KKB	**Krupnik**	2.10	59	*i* P	Pn		09 18 14.7	+0.2
LKD	**Levkas**	2.10	180	*e*Pn	Pn		09 18 15.4	+0.9
LKD				*e*Sn	Sn		09 18 45.2	+4.1
BEY	**Berane**	2.13	345	*i* PG	Pn		09 18 17.0	+2.1
BEY				*i* SG	Sg		09 18 44.9	-2.3
IVA	**Berane**	2.13	345	⇑*i*Pn	Pn		09 18 17.0	+2.1
IVA				*e*Sn	Sg		09 18 44.9	-2.3
PLG	**Polygyros**	2.16	101	*e*Pn	Pn		09 18 14.8	-0.4
PLG	**Polygyros**	2.16	101	*e*PN	Pn		09 18 15.0	-0.3
PLG				*e*SN	Sn		09 18 42.0	-0.5
BARS	**Barje**	2.18	23	*i* Pn	Pn		09 18 15.4	-0.1
AGG	**Agios Georgios**	2.20	144	*e*Pn	Pn		09 18 15.8	0.0
AGG				*e*Sn	Sn		09 18 43.6	+0.2
SRS	**Serrai**	2.24	81	*e*Pn	Pn		09 18 15.5	-0.8
SRS				*e*Sn	Sn		09 18 44.2	-0.1
HCY	**Herceg Novi**	2.30	316	⇑*i*Pn	Pn		09 18 19.0	+1.8
HCY				*e*Sn	Sn		09 18 49.9	+4.0
HCY	**Herceg Novi**	2.30	316	*i* PG	Pn		09 18 19.0	+1.8
HCY				*i* SG	Sg		09 18 49.0	-3.6
NKY	**Niksic**	2.35	329	⇓*i*Pn	Pn		09 18 19.2	+1.3
NKY				*e*Sn	Sg		09 18 50.9	-3.3
NKY	**Niksic**	2.35	329	*i* PG	Pn		09 18 19.2	+1.3
NKY				*i* SG	Sg		09 18 50.9	-3.3
XOR	**Xorichti**	2.42	126	*e*Pn	Pn		09 18 17.9	-0.9
MMB	**Musomiste**	2.44	70	*i* P	Pn		09 18 19.4	+0.3
PE1	**Pezze di Greco**	2.46	271	*e*Pn	Pn		09 18 18.3	-1.1
PAIG	**Paliouri**	2.47	110	*e*Pn	Pn		09 18 18.7	-0.8
PAIG				*e*Sn	Sn		09 18 49.0	-0.9
NEO	**Neokhori**	2.47	127	*e*PB	Pb		09 18 18.7	-4.8
NVR	**Nevrokopi**	2.48	76	*e*PN	Pn		09 18 19.1	-0.5
SJES	**Sjenica**	2.50	348	*e*Pn	Pn		09 18 23.7	+3.8
VTS	**Vitosha**	2.60	46	*e*Pn	Pn		09 18 22.0	+0.6
VTS				*e*Sn	Sn		09 18 54.4	+1.1
VTS	**Vitosha**	2.60	46	*i* Pn	Pn		09 18 21.9	+0.6
VTS				*e*Sn	Sn		09 18 53.8	+0.5
VTS	**Vitosha**	2.60	46	*i* P	Pn		09 18 22.3	+1.0
BRY	**Bratogost**	2.62	323	⇓*i*Pn	Pn		09 18 22.9	+1.4
BRY				*e*Sn	Sn		09 18 57.2	+3.5
VLS	**Valsamata**	2.63	181	*e*Pn	Pn		09 18 22.5	+0.7
VLS	**Valsamata**	2.63	181	*e*Pn	Pn		09 18 21.7	-0.1
VLS	**Valsamata**	2.63	181	*e*PN	Pn		09 18 22.0	+0.2
PLE	**Pljevlja**	2.69	340	⇓*i*Pn	Pn		09 18 24.4	+1.9
PLE				*e*Sn	Sn		09 18 58.6	+3.2
KFL	**Anninata**	2.70	178	*e*Pn	Pn		09 18 23.0	+0.3
SELA	**Sela**	2.71	159	*e*Pn	Pn		09 18 24.9	+2.2
UPM	**Unac-Piva**	2.72	332	⇑*i*Pn	Pn		09 18 24.8	+1.8
UPM				*e*Sn	Sn		09 18 59.9	+3.6
LKR	**Lokris**	2.81	139	*e*Pn	Pn		09 18 24.0	-0.2
LKR	**Lokris**	2.81	139	*e*PN	Pn		09 18 23.7	-0.5
RLS	**Riolos of Patr**	2.82	167	*e*PB	Pb		09 18 26.1	-3.4
ZAPS	**Zavoj**	2.86	30	*i* Pn	Pn		09 18 25.9	+1.0
BAI	**Bari**	2.88	277	*e*Pn	Pn		09 18 23.7	-1.5
STON	**Ston**	3.02	314	*e*Pn	Pn		09 18 27.4	+0.3
STON				Sn	Sn		09 19 03.3	-0.4
SG1	**Sgolgore (BA)**	3.02	272	*e*Pn	Pn		09 18 26.4	-0.7
GRUS	**Gruza**	3.07	1	*e*Pn	Pn		09 18 26.7	-1.1
PGB	**Panagyurishte**	3.14	55	P	Pn		09 18 29.3	+0.5
RZN	**Rozhen**	3.18	73	*i* P	Pn		09 18 29.7	+0.5
PLD	**Plovdiv**	3.30	66	*e*Pn	Pn		09 18 31.1	+0.2
PLD				*e*Sn	Sn		09 19 11.4	+1.0
PLD	**Plovdiv**	3.30	66	*i* P	Pn		09 18 31.5	+0.6
PLD	**Plovdiv**	3.30	66	*e*Pn	Pn		09 18 31.1	+0.2
PLD				*e*Sn	Sn		09 19 11.4	+1.0
LTK	**Loutraki**	3.31	147	*e*Pn	Pn		09 18 31.7	+0.6
DIVS	**Divibare**	3.32	352	*e*Pn	Pn		09 18 31.4	+0.2
DIVS	**Divibare**	3.32	352	*i* Pn	Pn		09 18 31.6	+0.4
TIP	**Timpagrande**	3.42	243	P	Pn		09 18 34.0	+1.5
LOS	**Limnos**	3.49	103	*e*Pn	Pn		09 18 32.6	-0.8
FGMS	**Monte Sant'Ang**	3.66	286	Pn	Pn		09 18 35.3	-0.6
MSI	**Monte Sant'Ang**	3.67	286	*e*Pn	Pn		09 18 35.4	-0.6
ATH	**Athens Observa**	3.69	139	*e*PN	Pn		09 18 36.8	+0.5
RDO	**Rodhopi**	3.70	83	*e*PN	Pn		09 18 35.5	-1.0
PTL	**Penteli**	3.71	137	*e*PN	Pn		09 18 37.5	+0.9
ITM	**Ithomi**	3.76	164	*e*PN	Pn		09 18 38.5	+1.2
KVR	**Kavouri**	3.83	140	*e*PN	Pn		09 18 38.6	+0.3
DID	**Didima**	3.86	148	*e*Pn	Pn		09 18 39.5	+0.9
DID				*e*Sn	Sn		09 19 25.0	+0.6
DID	**Didima**	3.86	148	*e*Pn	Pn		09 18 39.5	+0.9
DID				*e*Sn	Sn		09 19 25.0	+0.6
MGR	**Morigerati**	3.96	262	Pn	Pn		09 18 39.7	-0.3
PYL	**PYLOS**	4.00	168	*e*Pn	Pn		09 18 40.8	+0.2
ALN	**Alexandroupoli**	4.08	87	*e*Pn	Pn		09 18 41.0	-0.6
SGO	**Sicignano**	4.08	268	Pn	Pn		09 18 40.8	-0.9
FG5	**Orsara di Pugl**	4.11	278	Pn	Pn		09 18 41.4	-0.6
CSSN	**Cassano Irpino**	4.28	272	Pn	Pn		09 18 44.8	+0.4
CIGN	**Sant'Elia a Pi**	4.42	283	Pn	Pn		09 18 45.8	-0.6
VLI	**Velial**	4.46	156	*e*PN	Pn		09 18 48.8	+1.9
SZH	**Strazhica**	4.62	56	P	Pn		09 18 50.4	+1.3
SGG	**Gregorio Mates**	4.78	279	Pn	Pn		09 18 51.7	+0.4
GZR	**Gura Zlata**	4.83	18	⇓*i*P	Pn		09 18 53.4	+1.5
BZS	**Buzias**	4.85	8	⇑*i*P	Pn		09 18 51.7	-0.5
MIDA	**Miranda**	4.91	282	Pn	Pn		09 18 52.9	-0.1
SDI	**San Donato**	5.24	282	P	Pn		09 18 58.1	+0.5
SDI				pmax	pmax			
	comp=Z,76nm,0.6s							
SDI	**San Donato**	5.24	282	Pn	Pn		09 18 58.1	+0.5
	comp=Z,76nm,0.6s							
APE	**Apeiranthos**	5.33	133	*e*Pn	Pn		09 18 58.6	-0.2
APE	**Apeiranthos**	5.33	133	⇑*i*P	Pn		09 18 59.1	+0.3
APE	**Apeiranthos**	5.33	133	*e*Pn	Pn		09 18 58.9	+0.1
PKSM	**Moragy**	5.59	345	⇑*i*P	Pn		09 19 03.3	+0.9
PKSM	**Moragy**	5.59	345	⇑P	Pn		09 19 03.2	+0.8
VOIR		5.62	33	⇑*i*P	Pn		09 19 04.2	+1.4
AQU	**L'Aquila**	5.66	288	*e*P	Pn		09 19 03.7	+0.4
AQU				pmax	pmax			
	comp=Z,53nm,0.9s							
AQU	**L'Aquila**	5.66

HFS	Hagfors	19.82	350	P	Pn	09 22 08.8	-2.5
	comp=Z,0.2nm,0.3s,baz=159,slow=13,SNR=6.4						
FINES	FINESS Array B	20.92	7	P	P	09 22 20.9	-0.8
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	20.92	7	P	P	09 22 20.9	-0.9
	comp=Z,1.0nm,0.5s,baz=179,slow=11,SNR=7.1						
NB2	NORSAR Subarra	21.07	347	P	P	09 22 21.7	-1.6
	comp=Z,1.7nm,0.6s,mb3.5,baz=153,slow=10						
NOA	NORSAR Array B	21.07	347	P	P	09 22 21.9	-1.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	21.07	347	P	P	09 22 21.9	-1.5
	comp=Z,1.0nm,0.6s,mb3.3,baz=153,slow=10.0,SNR=5.7						
EKA	Eskdalemuir Ar	21.40	321	P	P	09 22 25.8	-1.2
EKA				pmax	pmax		
	comp=Z,3.0nm,0.7s						
EKA	Eskdalemuir Ar	21.40	321	P	P	09 22 25.8	-1.2
	comp=Z,3.3nm,0.7s,mb3.8,baz=116,slow=11,SNR=4.8						
MIB	Mutribah	24.29	108	eP	P	09 22 54.2	-2.7
MIB				AMb	AMB	09 22 57.9	
	comp=Z,12nm,0.6s,mb4.5						
NAY	Al-Naaiem	24.54	110	eP	P	09 22 55.9	-3.2
NAY				AMb	AMB	09 23 00.1	
	comp=Z,2.7nm,0.6s,mb3.9						
RDF	Al-Radifah	24.94	110	eP	P	09 22 57.7	-5.1
RDF				AMb	AMB	09 23 13.9	
	comp=Z,7.6nm,0.8s,mb4.3						
ARCES	ARCESS Array B	28.90	4	P	P	09 23 36.5	-1.5
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
ARCES	ARCESS Array B	28.90	4	P	P	09 23 36.5	-1.5
	comp=Z,0.5nm,0.4s,mb3.6,baz=192,slow=9.9,SNR=5.4						
TORD	Torodi Ar. Bea	32.18	216	P	P	09 24 05.9	-1.6
	comp=Z,0.9nm,0.6s,mb3.8,baz=29,slow=9.1,SNR=9.5						
DBIC	Dimbokro	40.93	221	P	P	09 25 20.9	-1.2
DBIC				pmax	pmax		
	comp=Z,3.0nm,0.7s						
DBIC	Dimbokro	40.93	221	P	P	09 25 20.9	-1.2
	comp=Z,3.4nm,0.7s,mb4.1,baz=106,slow=18,SNR=6.4						
MKAR	Makanchi Array	43.87	61	iP	P	09 25 45.7	-0.1
MKAR	Makanchi Array	43.87	61	P	P	09 25 45.8	0.0
	comp=Z,0.3nm,0.5s,mb3.2,baz=265,slow=7.2,SNR=3.9						
ZALV	Zalesovo Beam	43.88	50	P	P	09 25 44.6	-1.1
	comp=Z,1.1nm,0.5s,mb3.9,baz=270,slow=10,SNR=3.2						
BILL	Bilibino	68.43	13	‖eP	P	09 28 41.0	+0.1
BILL				e		09 31 10.6	
BILL				eS	S	09 37 43.0	+0.4
BILL				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
BILL	Bilibino	68.43	13	eP	P	09 28 41.0	+0.1
	comp=Z,3.0nm,1.0s,mb4.3						
BOSA	Boshof	69.21	176	P	P	09 28 45.7	-0.4
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
BOSA	Boshof	69.21	176	P	P	09 28 45.7	-0.4
	comp=Z,1.6nm,0.6s,mb4.1,baz=270,slow=9.4,SNR=4.2						
YKA	Yellowknife Ar	70.96	340	P	P	09 28 55.4	-1.2
YKA	Yellowknife Ar	70.96	340	P	P	09 28 55.4	-1.2
	comp=Z,0.2nm,0.5s,mb3.3,baz=35,slow=5.4,SNR=6.0						
ULM	Lac du Bonnet	73.65	323	P	P	09 29 11.7	-1.2
	comp=Z,2.0nm,0.8s,mb4.1,baz=72,slow=3.2,SNR=3.1						
VLA	Vladivostok	75.98	45	iP	P	09 29 30.7	+4.1
TXAR	Lajitas Array	93.24	314	P	P	09 30 54.1	-0.2
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
TXAR	Lajitas Array	93.24	314	P	P	09 30 54.0	-0.3
	comp=Z,0.8nm,0.8s,mb4.2,baz=90,slow=5.0,SNR=5.9						
ASAR	Alice Springs	122.31	95	PKP	PKPdf	09 36 33.0	-1.9
	comp=Z,0.2nm,0.6s,baz=321,slow=1.9,SNR=4.1						

DMN 25 09:21:23.3±4.9, 2445N×8738E, h60km, Mb3.8/1, Error ellipse: s-maj=118.8km s-min=9.5km az=149.0, Northern India

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHBG	Sahibganj	0.81	19	eP	Pn	09 21 31.7	-7.2
JIRN	Jiri	3.37	342	eP	Pn	09 22 15.3	+1.9
	18nm,0.2s						
PKI	Pulchoki	3.58	331	eP	Pn	09 22 18.4	+2.1
PKIN	Phulchoki	3.59	331	eP	Pn	09 22 18.5	+2.1
GUN	Gumba	3.70	339	eP	Pn	09 22 20.1	+2.1
DMN	Daman	3.75	327	eP	Pn	09 22 20.7	+2.0
	6.2nm,0.2s						
KKN	Kakani	3.82	331	eP	Pn	09 22 21.5	+1.8
GKN	Gorkha	4.31	326	eP	Pn	09 22 28.1	+1.8
KOLN	Koldanda	4.74	315	eP	Pn	09 22 34.3	+2.1
DANN	Dangsing	5.06	321	eP	Pn	09 22 39.0	+2.4
	2.4nm,0.3s						

TIR ***25*** *09:27:57.8±2.1, 4070N×2052E, h6km±7km*
SKO ***25*** *09:27:57.4, 4072N×2062E, h0km, M2.1, ML2.5*
THE ***25*** *09:27:58.9, 4080N×2071E, h3km, ML3.3*
ISCJB ***25*** *09:27:59.0±0.4, 4079N±002×2074E±004, h5km, Error ellipse: s-maj=4.0km s-min=2.6km az=162.5*
CSEM ***25*** *09:27:59.5±0.2, 4083N×2078E, h5km, ML3.2, Error ellipse: s-maj=3.9km s-min=2.4km az=76.0*
ATH ***25*** *09:28:00.3, 4091N×2064E, h45km, MD3.2/4*
NEIC ***25*** *09:28:00.3, 4091N×2064E, h45km, MD3.2(ATH), After ATH.*

ISC 25 09:27:59.3±0.5, 4078N±002×2071E±004, h4km±5km, n29, σ1§16/52, 2C, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBN	Korca	0.16	158	ePG	Pg	09 28 02.2	-0.3
KBN				i SG	Sg	09 28 06.1	+1.5
OHR	Ohrid	0.34	12	ePg	Pg	09 28 04.5	-1.4
OHR				eSg	Sg	09 28 10.6	+0.3
OHR	Ohrid	0.34	12	i Pg	Pg	09 28 04.4	-1.4
OHR				i Sg	Sg	09 28 10.5	+0.2
OHR				eLg		09 28 10.6	
	comp=E,453nm,0.5s						
OHR				eLg		09 28 10.8	
	comp=N,273nm,0.4s						
OHR	Ohrid	0.34	12	ePg	Pg	09 28 04.5	-1.4
OHR				i Sg	Sg	09 28 10.5	+0.1
BIA	Bitola	0.53	62	ePg	Pg	09 28 07.8	-1.6
BIA				eSg	Sg	09 28 16.3	0.0
BIA	Bitola	0.53	62	⇑iPg	Pg	09 28 07.8	-1.6
BIA				i Sg	Sg	09 28 16.2	0.0
BIA				eLg		09 28 16.4	
	comp=E,345nm,0.3s						
BIA				eLg		09 28 16.9	
	comp=N,247nm,0.4s						
BIA	Bitola	0.53	62	⇑iPg	Pg	09 28 07.8	-1.6
BIA				i Sg	Sg	09 28 16.2	-0.1
KRUS	Krusevo	0.72	35	i Pg	Pg	09 28 12.1	-1.0
KRUS				i Sg	Sg	09 28 23.1	+0.6
KRUS				eLg		09 28 23.5	
	comp=N,79nm,0.5s						
KRUS				eLg		09 28 23.6	
	comp=E,87nm,0.3s						
KRUS	Krusevo	0.72	35	i Pg	Pg	09 28 12.0	-1.1
KRUS				i Sg	Sg	09 28 23.0	+0.5
PHP	Peshkopia	0.93	348	ePG	Pg	09 28 16.9	-0.2
PHP				i SG	Sg	09 28 30.8	+1.6
KZN	Kozani	0.94	120	eP	Pg	09 28 19.3	+2.1
KZN				eS	Sg	09 28 34.5	+5.1
QSH	Qafa e Shtames	0.96	321	ePG	Pg	09 28 16.0	-1.7
QSH				i SG	Sg	09 28 29.0	-1.1
MEV	Metsovon	1.07	158	ePg	Pg	09 28 20.1	+0.4
JAN	Janina	1.12	174	eP	Pg	09 28 23.0	+2.2
KEK	Kerkira	1.27	213	eP	Pg	09 28 23.7	+0.1
SKO	Skopje	1.32	25	ePg	Pn	09 28 24.4	-0.1
SKO				eSg	Sg	09 28 43.0	+1.4
PUK	Puka	1.41	334	ePN	Pn	09 28 26.7	+1.0
PUK				i SN	Sn	09 28 48.1	+3.5
STIP	Stip	1.45	50	ePg	Pn	09 28 25.0	-1.2
STIP				eSg	Sg	09 28 45.9	+0.2
STIP	Stip	1.45	50	i Pg	Pn	09 28 25.1	-1.0
STIP				i Sg	Sg	09 28 46.4	+0.7
STIP	Stip	1.45	50	ePg	Pn	09 28 25.0	-1.2
STIP				i Sg	Sg	09 28 46.4	+0.7
VAY	Valandovo	1.51	68	ePg	Pn	09 28 25.5	-1.6
VAY				eSg	Sg	09 28 48.1	+0.2
VAY	Valandovo	1.51	68	i Pg	Pn	09 28 25.4	-1.7
LIT	Litokhoron	1.52	116	ePg	Pg	09 28 27.0	-1.4
LIT				eSg	Sg	09 28 48.6	+0.6
THL	Klokotos Trika	1.57	140	ePg	Pg	09 28 27.0	-2.3
THL				eSg	Sg	09 28 48.7	-1.0
THL	Klokotos Trika	1.57	140	eP	Pn	09 28 28.3	+0.4
THL				eS	Sn	09 28 48.8	+0.1
BCI	Bajram Curri	1.66	343	ePN	Pg	09 28 31.4	+0.3
BCI				i SN	Sg	09 28 55.8	+3.2
KNT	Kendrikon	1.70	76	ePb	Pn	09 28 28.9	-0.8
PLG	Polygyros	2.12	100	ePn	Pn	09 28 35.4	-0.1
PLG				eSn	Sn	09 29 03.4	+1.0
PLG	Polygyros	2.12	100	eP	Pn	09 28 35.5	0.0

IDC ***25*** *09:32:46.8±0.7, 1836N×1190Z E, h0km, mb3.9/13, mb1 4.1/13, mb1mx4.0/21, mbtmp3.9/13, MS3.4/6, Ms1 3.4/6, ms1mx3.2/31, Error ellipse: s-maj=32.9km s-min=14.3km az=68.0*
BJI ***25*** *09:32:47.6, 1805N×11879E, h8km, mB4.7, mb4.4, Ms3.9, Msz3.8*
NEIC ***25*** *09:32:48.4±0.5, 1831N×1190Z E, h10km, mb4.4/2, Error ellipse: s-maj=16.4km s-min=10.0km az=59.0*
ISCJB ***25*** *09:32:49.2±2.0, 1835N±006×11894E±005, h27km±17km, mb4.0/15, MS3.5/7, Error ellipse: s-maj=10.8km s-min=7.2km az=33.4*
MAN ***25*** *09:32:53, 18.18N×119.30E, h14km, mb4.8, ML3.8, MS3.8*

ISC 25 09:32:51.1±2.2, 1834N±006×11901E±005, h28km±18km, n41, σ1§20/39, mb4.0/15, MS3.5/7, 2C-1D, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	1.53	90	⇑eP	Pn	09 33 14.1	-2.5
ABRA	Dolores	1.76	113	eP	Pn	09 33 18.2	-1.6
BOLP	Bolinao	2.13	156	eP	Pn	09 33 24.5	-0.3
APYP	Conner	2.18	102	eP	Pn	09 33 24.5	-1.0
BCPH	Baguio City Da	2.46	142	⇑iP	Pn	09 33 28.9	-0.5
SCZP	Santa Cruz	2.69	161	eP	Pn	09 33 32.4	-0.1
CVP	Callao Caves	2.75	103	eP	Pn	09 33 33.3	-0.1
SGCP	Mt. Cagua	2.89	91	eP	Pn	09 33 35.5	+0.2
CAUP	Cauayan	3.02	117	eP	Pn	09 33 38.6	+1.5
PALP	Palanan	3.50	111	eP	Pn	09 33 44.2	+0.5
PALP				eS	Sn	09 34 28.9	+4.8
BALP	Baler	3.56	136	eP	Pn	09 33 46.1	+1.5
LUBP	Lubang	4.73	165	eP	Pn	09 34 02.9	+2.3
QIZ	Qiongzhong	8.71	276	P	Pn	09 34 54.8	-0.5
QIZ				S	Sn	09 36 30.5	-2.1
QIZ				LR	LR		
	comp=N,360nm,15.8s						
QIZ				LR	LR		
	comp=Z,194nm,15.1s						
QIZ	Qiongzhong	8.71	276	ePn	Pn	09 34 54.7	-0.6
	comp=Z,42nm,0.6s						
GYA	Guiyang	13.98	308	P	Pn	09 36 07.3	-0.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
XAN	Xi'an	18.05	332	P	Pn	09 37 02.0	+2.1
XAN				AMB	AMB		
	comp=Z,10.0nm,1.3s						
XAN				LR	LR		
	comp=N,132nm,14.7s						
XAN				LR	LR		
	comp=E,191nm,16.6s						
XAN				LR	LR		
	comp=Z,249nm,15.3s						
KSRS	Korea Array	20.59	21	P	P	09 37 26.4	-1.6
	comp=Z,2.3nm,0.8s,baz=203,slow=11,SNR=8.5						
KSRS				LR	LR	09 47 08.0	
	comp=Z,40nm,18.2s,MS2.8,baz=314,slow=42						
LZH	Lanzhou	22.18	326	eP	P	09 37 49.0	+3.9
LZH				PP		09 38 10.0	
LZH				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.5						
LZH				AMB	AMB		
	comp=Z,100nm,4.0s						
LZH				LR	LR		
	comp=E,418nm,13.6s						
LZH				LR	LR		
	comp=Z,589nm,14.8s,MS4.1						
MJAR	Matsushiro Arr	24.80	39	P	P	09 38 10.3	-0.5
MJAR	Matsushiro Arr	24.80	39	P	P	09 38 10.3	-0.5
	comp=Z,0.9nm,0.4s,mb3.6,baz=215,slow=7.5,SNR=5.2						
SONM	Songino Array	31.17	343	P	P	09 39 07.7	0.0
	comp=Z,0.3nm,0.5s,mb3.4,baz=148,slow=7.2,SNR=5.2						
SONM				LR	LR	09 51 22.5	
	comp=Z,48nm,19.3s,MS3.2,baz=93,slow=36						
WRA	Warramunga Arr	40.91	158	P	P	09 40 30.5	-0.6
	comp=Z,3.0nm,0.6s,mb4.1,baz=340,slow=9.1,SNR=52						
WRA				PcP	PcP	09 42 32.4	+0.9
	comp=Z,0.9nm,0.8s,baz=340,slow=2.8,SNR=5.4						
WB2	Warramunga Arr	40.91	158	‖iP	P	09 40 30.4	-0.8
MKAR	Makanchi Array	41.38	322	P	P	09 40 33.8	-0.9
	comp=Z,1.2nm,0.9s,mb3.5,baz=123,slow=8.8,SNR=6.2						
MKAR				LR	LR	09 59 01.9	
	comp=Z,57nm,19.8s,MS3.4,baz=156,slow=38						
ASAR	Alice Springs	44.21	160	P	P	09 40 58.3	+0.4
	comp=Z,8.3nm,0.7s,mb4.6,baz=340,slow=6.9,SNR=152						
ZALV	Zalesovo Beam	44.22	332	P	P	09 40 58.3	+0.6
ZALV				LR	LR	09 59 46.3	
ZALV	Zalesovo Beam	44.22	332	P	P	09 40 58.3	+0.6
	comp=Z,0.8nm,0.5s,mb3.7,baz=131,slow=8.1,SNR=3.9						
ZALV				LR	LR	09 59 46.3	
	comp=Z,26nm,19.6s,MS3.2,baz=53,slow=37						
KURK	Kurchatov	45.47	325	eP	P	09 41 09.4	+1.7
	comp=Z,3.3nm,0.7s,mb4.3						
BVAR	Borovoye Array	51.06	324	P	P	09 41 51.6	+0.8
	comp=Z,0.7nm,0.6s,mb3.8,baz=120,slow=8.8,SNR=6.3						
TIXI	Tiksi	53.63	4	eP	P	09 42 09.7	+0.1
	comp=Z,3.0nm,0.9s,mb4.2						
STKA	Stephens Creek	54.42	156	P	P	09 42 15.6	-0.2
	comp=Z,3.8nm,0.7s,mb4.5,baz=351,slow=13,SNR=6.9						
AKTK	Aktyubinsk	57.66	319	P	P	09 42 40.6	+1.8
AKTO	Aktyubinsk	57.66	319	P	P	09 42 40.6	+1.8
	comp=Z,1.2nm,0.6s,mb4.1,baz=108,slow=7.7,SNR=5.9						
JOF	Joensuu	72.81	331	ep	pP	09 44 27.8	+2.1
	comp=Z,3.6nm,0.8s						
ARCES	ARCESS Array B	74.20	339	P	P	09 44 23.1	-1.8
	comp=Z,3.5nm,1.0s,mb4.3,baz=72,slow=7.8,SNR=5.0						
ARCES				LR	LR	10 22 49.2	
	comp=Z,38nm,18.0s,MS3.7,baz=78,slow=40						
AKASG	Malin Array Be	75.90	319	P	P	09 44 33.6	-1.4
	comp=Z,0.3nm,0.4s,mb3.6,baz=74,slow=3.4,SNR=2.3						
NOA	NORSAR Array B	82.42	332	LR	LR	10 24 23.4	
	comp=Z,44nm,18.1s,MS3.9,baz=50,slow=38						
YKA	Yellowknife Ar	89.12	22	P	P	09 45 44.7	+1.0
YKA	Yellowknife Ar	89.12	22	P	P	09 45 44.7	+1.0
	comp=Z,0.7nm,0.9s,mb4.0,baz=317,slow=5.0,SNR=7.9						
TXAR	Lajitas Array	117.22	42	PKP	PKPdf	09 51 35.6	+1.2
	comp=Z,0.3nm,0.6s,baz=45,slow=0.2,SNR=3.9						
SDV	Santo Domingo	151.33	20	ePKPbc	PKPbc	09 52 43.9	+0.8

IDC ***25*** *09:39:44.0±0.8, 3961N×1680E, h0km, mb3.8/12, mb1 4.1/18, mb1mx4.0/31, mbtmp4.0/18, ML4.3/5, MS3.4/14, Ms1 3.4/14, ms1mx3.2/34, Error ellipse: s-maj=13.4km s-min=11.1km az=56.0*
MOS ***25*** *09:39:44.9±0.9, 3975N×1677E, h10km, mb4.6/4, Error ellipse: s-maj=5.8km s-min=4.1km az=78.3*
CSEM ***25*** *09:39:45.3±0.1, 3968N×1665E, h10km, mb4.6, Error ellipse: s-maj=2.5km s-min=1.3km az=37.0*
SZGRF ***25*** *09:39:45.2, 3951N×1701E, h10km, mb4.0, Southern Italy*
PRU ***25*** *09:39:45.2, 3973N×1641E, h0km, M3.7*
ISCJB ***25*** *09:39:45.7±0.3, 3972N±001×1687E±002, h11km±3km, mb3.9/12, MS3.5/9, Error ellipse: s-maj=2.6km s-min=2.0km az=135.6*
NEIC ***25*** *09:39:46.2, 3966N×1683E, h10km, mb3.7/1, ML3.9(ROM), ML3.9(PDG), After ROM.*
ROM ***25*** *09:39:46.2±0.1, 3966N×1683E, h10km, Ml3.9/65, Error ellipse: s-maj=1.9km s-min=1.0km az=87.0*
PDG ***25*** *09:39:46.2±0.6, 3965N×1703E, h22km±2km, MD4.0/1, ML3.9/9, Error ellipse: s-maj=1.0km s-min=1.5km az=0.0*
THE ***25*** *09:39:47.2, 3970N×1669E, h11km, ML4.8*

ISC 25 09:39:46.7±0.4, 3971N±001×1684E±002, h9km±3km, n262, σ1§09/312, mb3.9/12, MS3.5/9, 25C-25D, Southern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORI	Oriolo Calabro	0.46	320	Pg	Pg	09 39 56.7	+1.0
ORI				Sg	Sg	09 40 03.9	+2.1
	26μm,0.4s						
TIP	Timpagrande	0.53	187	Pg	Pg	09 39 56.3	-0.7
TIP				Sg	Sg	09 40 03.4	-0.6
	10μm,0.7s						
CARO	Carolei	0.66	227	Pg	Pg	09 39 58.2	-1.2
CARO				Sg	Sg	09 40 06.8	-1.2
	20μm,0.5s						
SERS	Sersale	0.68	190	Pg	Pg	09 39 58.6	-1.2
	8μm,0.7s						
SCHR	S. Chirico Rap	0.76	310	Pg	Pg	09 40 01.1	-0.3
	2μm,0.6s						
SIRI	Monte Sirino -	0.88	303	Pg	Pg	09 40 02.7	-0.9
	4μm,0.6s						
GRI	Girifalco	0.94	200	Pg	Pg	09 40 03.4	-1.4
	4μm,0.5s						
MIGL	Miglionico	0.94	341	Pg	Pg	09 40 04.1	-0.7
	9μm,0.6s						
MTSN	Montesano sull	1.00	304	Pg	Pg	09 40 04.6	-1.3
	4μm,0.7s						
MCEL	Monticello	1.00	308	Pg	Pg	09 40 04.8	-1.2
	4μm,0.5s						
PTRP	Pietrapertosa	1.01	324	Pg	Pg	09 40 06.1	+0.1
	4μm,0.5s						
MGR	Morigerati	1.08	294	Pg	Pg	09 40 06.0	-1.3
	5μm,0.6s						
NOCI	Noci	1.09	9	Pg	Pg	09 40 06.5	-1.1
	3μm,0.3s						
SG1	Sgolgore (BA)	1.14	354	ePn	Pn	09 40 07.2	-1.5
LCI	Lecce	1.16	57	Pg	Pn	09 40 08.1	-1.0
	892nm,0.5s						
PE1	Pezze di Greco	1.18	22	ePn	Pn	09 40 09.3	-0.1
AMUR	Altamura	1.21	352	Pg	Pg	09 40 09.3	-0.6
	2μm,0.3s						
PLAC	Placanica	1.30	194	Pg	Pn	09 40 09.2	-1.7
	2μm,0.7s						
SCTE	Santa Cesarea	1.31	73	Pg	Pn	09 40 10.6	-0.5
	2μm,0.3s						
CMPR	Campora	1.33	298	Pg	Pn	09 40 11.0	-0.4
	1μm,0.5s						
JOPP	Joppolo	1.33	214	Pg	Pn	09 40 09.7	-1.7
	2μm,0.7s						
BAI	Bari	1.40	1	ePn	Pn	09 40 12.5	+0.2
PALZ	Palazzo San Ge	1.40	332	Pg	Pn	09 40 12.8	+0.4
	5μm,1.1s						
CDRU	Civita di Ruta	1.41	304	Pg	Pn	09 40 11.8	-0.7
	773nm,0.5s						
MRVN	Minervino Murg	1.44	340	Pg	Pn	09 40 13.1	+0.2
	947nm,0.5s						
SGO	Sicignano	1.45	306	Pg	Pn	09 40 13.3	+0.3
VULT	Monte Vulture	1.56	324	Pg	Pn	09 40 14.9	+0.4
	4μm,1.3s						
MCRV	Calabrutti - M	1.67	311	Pg	Pn	09 40 17.0	+0.9
	969nm,0.5s						
SNAL	S. Angelo Dei	1.74	315	Pg	Pn	09 40 18.3	+1.3
	4μm,1.3s						
SOI	Samo	1.75	201	Pg	Pn	09 40 17.2	+0.1
	1μm,0.7s						
MSRU	Castanea	1.78	216	Pg	Pn	09 40 16.4	-1.2
	3μm,0.8s						
CAFE	Carife	1.80	318	Pg	Pn	09 40 18.3	+0.5
	5μm,2.1s						
SGTA	Sant Agata di	1.81	322	Pg	Pn	09 40 18.6	+0.5
	1μm,1.0s						
MPAZ	Palizzi	1.87	201	Pg	Pn	09 40 18.0	-0.8
	1μm,0.6s						
MTTG	Motta San Giov	1.93	208	Pg	Pn	09 40 19.3	-0.3
	2μm,0.8s						
LLI	Lipari	1.94	230	Pg	Pn	09 40 19.8	0.0
	8μm,0.8s						
VPL	Vulcano Piano	1.96	228	Pg	Pn	09 40 19.2	-0.9
	3μm,0.6s						
MRB1	Monte Rocchett	2.01	315	Pg	Pn	09 40 22.2	+1.5
	2μm,1.2s						
FGMS	Monte Sant'Ang	2.11	342	Pg	Pn	09 40 21.9	-0.2
	424nm,0.5s						
MS1	Monte Sant'Ang	2.11	341	ePn	Pn	09 40 22.3	+0.2
MSAG	Monte S. Angel	2.12	341	Pg	Pn	09 40 22.2	-0.1
	1μm,0.4s						
MMME	Mongiuffi-Meli	2.16	215	Pg	Pn	09 40 22.5	-0.3
	491nm,0.5s						
PSB1	Pescosannita	2.16	315	Pg	Pn	09 40 24.3	+1.4
	2μm,1.5s						
RGNG	Rignano Grg	2.18	335	Pg	Pn	09 40 23.4	+0.3
SGRT	San Giovanni R	2.21	338	Pg	Pn	09 40 23.5	0.0
	700nm,0.6s						
KEK	Kerkira	2.28	89	eP	Pn	09 40 24.0	-0.5
KEK	Kerkira	2.28	89	Pg	Pn	09 40 24.2	-0.3
	855nm,0.7s						
SACR	S. Croce Del S	2.34	317	Pg	Pn	09 40 26.3	+1.0
	931nm,1.4s						
PTRJ	Pietraroja	2.41	314	Pg	Pn	09 40 26.9	+0.6
	337nm,0.7s						
CIGN	Sant'Elia a Pi	2.44	324	Pg	Pn	09 40 27.9	+1.3
	1μm,1.7s						
BSSO	Busso	2.51	318	Pg	Pn	09 40 28.6	+1.0
	406nm,0.9s						
SGG	Gregorio Mates	2.51	313	Pg	Pn	09 40 28.5	+0.8
	337nm,0.7s						
VAGA	Valle Agricola	2.61	312	Pg	Pn	09 40 30.0	+0.9
	1μm,1.7s						
MOCO	Biccari - m.te	2.63	310	Pg	Pn	09 40 22.9	-6.4
	3μm,2.3s						
GALF	Gagliano Caste	2.67	222	Pg	Pn	09 40 31.6	+1.7
	2μm,0.7s						
RFI	Roccamonfina	2.69	307	Pg	Pn	09 40 31.1	+0.9
	18nm,0.5s						
IGT	Igoumenitsa	2.71	93	ePn	Pn	09 40 30.9	+0.6
IGT				eSn	Sn	09 41 03.0	-0.2
MIDA	Miranda	2.75	315	Pg	Pn	09 40 33.6	+2.6
	2μm,2.8s						
GIB	Gibilmanna	2.79	233	Pg	Pn	09 40 31.3	-0.1
	421nm,0.7s						
FRES	Fresagrandinar	2.80	325	Pg	Pn	09 40 33.3	+1.7
	466nm,0.7s						
VENT	Ventotene	2.83	294	⇑iPg	Pn	09 40 31.6	-0.4
	330nm,1.1s						
RNI2	Rionero Sannit	2.85	315	Pg	Pn	09 40 34.4	+2.1
	466nm,1.1s						
CERA	Filignano	2.86	312	Pg	Pn	09 40 33.6	+1.2
	1μm,1.7s						
ULC	Ulcinj	2.90	38	‖iPn	Pn	09 40 32.3	-0.7
ULC				eSn	Sn	09 41 07.2	-0.8
VAE	Valguarnera	2.93	221	Pn	Pn	09 40 33.1	-0.3
	baz=104,slow=13,SNR=2.5						
VAE				Pg	Pg	09 40 41.4	-1.4

FNA	Florina	3.64	71	P	Pn	09 40 43.8	+0.7
FNA				S	Sn	09 41 27.5	+1.4
FNA	Florina	3.64	71	*e*Pn	Pn	09 40 43.7	+0.6
FNA				S	Sn	09 41 27.5	+1.4
BIA	Bitola	3.67	68	*e*Pn	Pn	09 40 43.4	-0.2
BIA				*e*Sn	Sn	09 41 26.6	-0.4
BIA	Bitola	3.67	68	P	Pn	09 40 44.0	+0.4
BIA	Bitola	3.67	68	*i* Pn	Pn	09 40 43.5	-0.1
CERT	Cerreto	3.68	309	Pg	Pn	09 40 44.4	+0.7
	68nm,0.6s						
PVY	Plav	3.73	38	⇓*i*Pn	Pn	09 40 44.1	-0.3
PVY				*e*Sn	Sn	09 41 27.1	-1.3
KRUS	Krusevo	3.75	62	*i* Pn	Pn	09 40 46.2	+1.5
KRUS	Krusevo	3.75	62	*i* Pn	Pn	09 40 46.1	+1.4
TERO	Teramo	3.80	321	Pg	Pn	09 40 47.3	+2.0
	91nm,0.7s						
FIAM	Fiamignano	3.80	313	Pg	Pn	09 40 47.7	+2.3
	189nm,1.0s						
UPM	Unac-Piva	3.82	23	⇑*i*Pn	Pn	09 40 45.0	-0.7
UPM				*e*Sn	Sn	09 41 29.7	-1.0
CAMP	Campotosto	3.83	319	Pg	Pn	09 40 48.7	+2.9
	55nm,1.5s						
KZN	Kozani	3.84	79	*e*P	Pb	09 40 53.5	-1.0
IVA	Berane	3.91	35	⇓*i*Pn	Pn	09 40 46.9	0.0
IVA				*e*Sn	Sn	09 41 31.3	-1.6
EVR	Evrytania	3.94	100	*e*P	Pn	09 40 48.5	+1.3
THL	Klokotos Trika	4.00	90	*e*Pn	Pn	09 40 49.0	+0.9
THL				*e*Sn	Sn	09 41 36.5	+1.4
PLE	Pljevlja	4.09	27	⇑*i*Pn	Pn	09 40 49.6	+0.2
PLE				*e*Sn	Sn	09 41 35.5	-1.9
SKO	Skopje	4.16	56	*e*Pn	Pn	09 40 52.5	+2.2
SELA	Sela	4.19	108	*e*Pn	Pn	09 40 52.1	+1.4
NRCA	Norcia	4.20	319	Pg	Pn	09 40 53.3	+2.5
	26nm,0.6s						
AGG	Agios Georgios	4.31	97	*e*Pn	Pn	09 40 53.5	+1.1
AGG				*e*Sn	Sn	09 41 44.7	+1.9
AGG	Agios Georgios	4.31	97	P	Pn	09 40 55.0	+2.5
AGG				S	Sn	09 41 43.7	+0.9
AGG	Agios Georgios	4.31	97	P	Pn	09 40 55.0	+2.6
AGG				S	Sn	09 41 43.7	+0.9
TOLF	Tolfa	4.36	304	Pg	Pn	09 40 53.7	+0.7
	71nm,1.3s						
LIT	Litokhoron	4.37	83	*e*Pn	Pn	09 40 54.0	+0.9
LIT				*e*Sn	Sn	09 41 44.8	+0.7
LIT	Litokhoron	4.37	83	P	Pn	09 40 54.0	+0.9
LIT				S	Sn	09 41 44.2	+0.1
LIT	Litokhoron	4.37	83	*e*Pn	Pn	09 40 54.0	+0.9
LIT				S	Sn	09 41 44.2	+0.1
GRG	Griva	4.43	72	*e*Pn	Pn	09 40 54.7	+0.7
GRG				*e*Sn	Sn	09 41 46.2	+0.5
GRG	Griva	4.43	72	P	Pn	09 40 54.8	+0.7
GRG				S	Sn	09 41 45.1	-0.6
GRG	Griva	4.43	72	*e*Pn	Pn	09 40 54.7	+0.7
GRG				S	Sn	09 41 45.1	-0.6
STIP	Stip	4.52	62	*e*Pn	Pn	09 40 55.5	+0.2
STIP	Stip	4.52	62	*e*Pn	Pn	09 40 55.4	+0.1
VAY	Valandovo	4.66	68	*e*Pn	Pn	09 40 56.7	-0.4
ITM	Ithomi	4.73	121	*e*P	Pn	09 40 58.5	+0.4
PYL	PYLOS	4.77	125	*e*Pn	Pn	09 40 57.5	-1.2
KNT	Kendrikon	4.85	71	*e*Pn	Pn	09 40 59.8	0.0
KNT	Kendrikon	4.85	71	P	Pn	09 40 59.9	+0.1
LKR	Lokris	4.90	100	*e*Pn	Pn	09 41 01.4	+0.8
LKR	Lokris	4.90	100	P	Pn	09 41 01.4	+0.8
LKR				S	Sn	09 41 55.1	-2.3
LKR	Lokris	4.90	100	*e*Pn	Pn	09 41 01.4	+0.9
LKR				S	Sn	09 41 55.1	-2.3
XOR	Xorichti	4.92	92	*e*Pn	Pn	09 41 01.5	+0.7
XOR	Xorichti	4.92	92	P	Pn	09 41 01.6	+0.8
VLX	Vlachokerasia	4.93	117	*e*Pn	Pn	09 41 01.6	+0.6
NEO	Neokhori	4.96	93	*e*P	Pn	09 41 01.0	-0.3
DIVS	Divibare	4.98	27	*e*Pn	Pn	09 41 01.4	-0.1
PIEI	Pieia	5.00	321	Pg	Pn	09 41 03.5	+1.6
	56nm,1.0s						
NVLJ	Novalja	5.07	344	*e*Pn	Pn	09 41 02.5	-0.2
NVLJ				Sn	Sn	09 41 58.9	-2.4
LTK	Loutraki	5.07	107	*e*Pn	Pn	09 41 03.2	+0.3
SOH	Sokhos	5.11	75	*e*Pn	Pn	09 41 03.5	+0.2
SOH	Sokhos	5.11	75	P	Pn	09 41 03.6	+0.2
SOH				S	Sn	09 42 04.0	+1.6
PLG	Polygyros	5.12	80	*e*Pn	Pn	09 41 04.0	+0.6
PLG	Polygyros	5.12	80	*e*P	Pn	09 41 05.0	+1.6
KKB	Krupnik	5.21	64	*i* P	Pn	09 41 07.3	+2.6
PAIG	Paliouri	5.27	85	*e*Pn	Pn	09 41 05.2	-0.4
PAIG	Paliouri	5.27	85	P	Pn	09 41 05.3	-0.4
PAIG				S	Sn	09 42 01.7	-4.8
SRS	Serrai	5.34	73	*e*Pn	Pn	09 41 07.4	+0.8
SRS	Serrai	5.34	73	P	Pn	09 41 07.4	+0.8
SRS				S	Sn	09 42 05.3	-2.9
SRS	Serrai	5.34	73	*e*Pn	Pn	09 41 07.4	+0.8
SRS				S	Sn	09 42 05.3	-2.9
DID	Didima	5.47	112	*e*Pn	Pn	09 41 07.9	-0.5
AOS	Alonnisos	5.48	93	*e*Pn	Pn	09 41 08.8	+0.4
MMB	Musomiste	5.57	68	*i* P	Pn	09 41 09.8	+0.2
VTS	Vitosha	5.61	57	⇓*i*P	Pn	09 41 10.8	+0.6
VTS	Vitosha	5.61	57	P	Pn	09 41 11.9	+1.7
ATH	Athens Observa	5.64	106	*e*P	Pn	09 41 11.0	+0.3
VLI	Veliai	5.66	120	*e*P	Pn	09 41 11.5	+0.6
PTL	Penteli	5.73	105	*e*P	Pn	09 41 12.0	+0.1
KVR	Kavouri	5.73	107	*e*P	Pn	09 41 12.0	+0.1
VSL	Villasalto	5.76	270	Pg	Pn	09 41 11.6	-0.8
	22nm,0.7s						
SISC	Sisak	5.77	357	Sn	Sn	09 42 16.9	-1.7
BOJS	Bojanci	5.91	349	*i* Pn	Pn	09 41 15.2	+0.9
KYTH	Kithira	5.97	123	*e*P	Pn	09 41 16.0	+0.8
LJU	Ljubljana	6.55	346	*e*Pn	Pn	09 41 23.7	+0.5
LJU				*e*Sn	Sn	09 42 36.0	-2.0
PKSM	Moragy	6.63	11	⇑*i*P	Pn	09 41 24.2	-0.1
VOY	Vojsko	6.68	342	*e*Pn	Pn	09 41 24.8	-0.1
VOY				*e*Sn	Sn	09 42 39.2	-1.9
GROS	Grobnik	6.82	352	*i* Pn	Pn	09 41 26.7	-0.1
BZS	Buzias	6.87	29	⇓*i*P	Pn	09 41 27.8	+0.2
GORS	Gorjuse	6.92	343	*i* Pn	Pn	09 41 28.2	-0.1
DIM	Dimitrovgrad	6.99	68	P	Pn	09 41 21.3	-7.9
OBKA	Obir	7.00	347	⇑*i*Sn	Sn	09 42 46.1	-2.9
OBKA	Obir	7.00	347	⇓*i*Pn	Pn	09 41 29.3	0.0
	SNR=35						
OBKA				⇓*i*Sn	Sn	09 42 49.5	+0.6
OBKA	Obir	7.00	347	⇓*i*Pn	Pn	09 41 29.3	0.0
OBKA				*i* Sn	Sn	09 42 46.1	-2.9
SOKA	Soboth	7.09	350	⇑*i*Pn	Pn	09 41 30.6	+0.1
KEST	Kesra	7.14	239	Pn	Pn	09 41 38.0	+6.8
	0.4nm,0.3s,baz=330,slow=6.2,SNR=3.6						
KEST				LR	LR	09 44 51.3	
	comp=Z,111nm,19.2s,baz=248,slow=44						
MLNI	Malnisio	7.14	336	⇑*i*Pg	Pn	09 41 30.9	-0.4
GZR	Gura Zlata	7.17	36	⇑P	Pn	09 41 33.4	+1.7
GZR	Gura Zlata	7.17	36	⇑*i*P	Pn	09 41 33.3	+1.6
VAM	Vamos	7.25	124	*e*P	Pn	09 41 30.5	-2.3
CHOS	Chios island	7.29	98	*e*Pn	Pn	09 41 33.7	+0.4
MYKA	Terra Mystica	7.30	342	⇑*i*Pn	Pn	09 41 33.9	+0.5
MYKA				⇑*i*Sn	Sn	09 42 53.6	-2.7
APE	Apeiranthos	7.32	108	*d i*P	Pn	09 41 33.6	-0.1
APE	Apeiranthos	7.32	108	⇓P	Pn	09 41 33.5	-0.2
APE	Apeiranthos	7.32	108	⇓*i*P	Pn	09 41 33.5	-0.2
APE	Apeiranthos	7.32	108	*i* P	Pn	09 41 33.6	-0.1
ARSA	Arzberg	7.60	353	⇓*i*Pn	Pn	09 41 37.3	-0.2
ARSA				⇑*i*Sn	Sn	09 43 01.6	-2.1
ARSA	Arzberg	7.60	353	*e*Pn	Pn	09 41 37.4	-0.1
ABTA	Abfaltersbach	7.71	337	⇓*i*Sn	Sn	09 43 04.2	-2.2
ABTA	Abfaltersbach	7.71	337	⇓*i*Pn	Pn	09 41 39.4	+0.4
	SNR=5.9						
ABTA				⇓*e*Sn	Sn	09 43 06.2	-0.2
IDI	Anoyia	7.77	122	Pn	Pn	09 41 39.0	-1.0
	5.8nm,0.3s,baz=298,slow=9.9,SNR=23						
IDI				Sn	Sn	09 43 03.7	-4.3
	7.5nm,0.3s,baz=344,slow=22,SNR=8.4						
IDI				LR	LR	09 44 17.3	
	comp=Z,40nm,19.2s,baz=299,slow=35						
KBA	Koelnbreinsper	7.79	342	⇑*i*Pn	Pn	09 41 40.4	+0.2
	SNR=9.7						
KBA				⇑*i*Sn	Sn	09 43 05.4	-3.1
KBA	Koelnbreinsper	7.79	342	*e*Pn	Pn	09 41 40.3	+0.1
KBA				*e*Sn	Sn	09 43 03.2	-5.2
CONA	Conrad Observa	8.25	355	⇑*i*Pn	Pn	09 41 46.2	-0.2
	SNR=6.7						
CSNA	Conrad Observa	8.25	355	⇓*i*Pn	Pn	09 41 46.3	-0.1
MOA	Molln	8.35	348	⇓*i*Sn	Sn	09 43 19.0	-3.1
MOA	Molln	8.35	348	⇓*i*Pn	Pn	09 41 48.3	+0.6
	SNR=45						
MOA				⇓*i*Sn	Sn	09 43 22.9	+0.8
MOA	Molln	8.35	348	⇑*i*Pn	Pn	09 41 48.3	+0.6
MOA				*i* Sn	Sn	09 43 19.0	-3.1
MOA	Molln	8.35	348	*e*Pn	Pn	09 41 48.6	+0.8
MOA				*e*Sn	Sn	09 43 22.8	+0.7
WTTA	Wattenberg	8.44	335	⇓*i*Pn	Pn	09 41 49.6	+0.5
WTTA	Wattenberg	8.44	335	*e*Pn	Pn	09 41 51.4	+2.3
WTTA				*e*Sn	Sn	09 43 26.0	+1.6
PSZ	Piszkesteto	8.50	14	⇓*e*P	Pn	09 41 50.5	+0.7
PSZ	Piszkesteto	8.50	14	⇑*e*	Pn	09 41 50.5	+0.7
FETA	Feichten	8.55	331	⇓*i*Pn	Pn	09 41 51.3	+0.7
DAVOX	Davos/Dischmat	8.70	327	Pn	Pn	09 41 54.3	+1.7
	1.2nm,0.3s,baz=151,slow=15,SNR=9.0						
MLR	Muntele Rosu	8.86	46	Pn	Pn	09 42 00.2	+5.4
	0.6nm,0.3s,baz=180,slow=4.3,SNR=4.4						
MLR	Muntele Rosu	8.86	46	⇑*i*P	Pn	09 42 00.1	+5.3
GEC2	GERESS Array S	9.40	347	*e*P	Pn	09 42 02.3	0.0
GERES	GERESS Array B	9.40	347	P	Pn	09 42 02.1	-0.2
GERES						09 43 43.2	
GERES	GERESS Array B	9.40	347	Pn	Pn	09 42 02.1	-0.1
	1.2nm,0.3s,baz=166,slow=12,SNR=39						
GERES				Sn	Sn	09 43 43.2	-4.9
	0.7nm,0.3s,baz=165,slow=24,SNR=3.7						
GERES				LR	LR	09 46 25.3	
	comp=Z,326nm,18.2s,baz=303,slow=42						
VRAC	Vranov	9.60	359	LR	LR	09 45 51.2	
	comp=Z,116nm,20.6s,baz=194,slow=38						
KHC	Kasperske Hory	9.70	347	*e*Pn	Pn	09 42 05.8	-0.5
KHC				*e*Sn	Sn	09 43 50.1	-5.3
KHC	Kasperske Hory	9.70	347	*e*P	Pn	09 42 05.8	-0.5
KHC				*ex*	x	09 42 14.5	
KHC				*e*S	Sn	09 43 50.1	-5.3
KHC				AMS	AMS	09 46 20.0	
	700nm,9.7s						
BURAR	Bucovina Array	9.96	35	⇑*i*P	Pn	09 42 11.6	+1.7
MORC	Moravsky Berou	10.08	3	⇓*i*P	Pn	09 42 13.1	+1.6
OKC	Ostrava-Krasne	10.17	5	AMS	AMS	09 47 00.0	
	400nm,11.8s						
PRU	Pruhonice	10.41	352	*e*P	Pn	09 42 15.2	-0.8
	800nm,13.2s						
PRU	Pruhonice	10.41	352	*e*P	Pn	09 42 15.2	-0.8
PRU				AMS	AMS	09 46 50.0	
	800nm,13.2s						
BFO	Black Forest	10.57	327	*e*Pn	Pn	09 42 16.6	-1.6
DPC	Dobruska-Polom	10.65	358	AMS	AMS	09 47 10.0	
	400nm,8.5s						
ISP	Isparta	10.84	96	*i* P	Pn	09 42 23.7	+1.8
PVCC	Panska Ves	10.94	352	AMS	AMS	09 47 10.0	
	700nm,11.7s						
CLL	Collm	11.90	348	*e*(P)	Pn	09 42 35.0	-1.5
AKASG	Malin Array Be	14.02	34	Pn	Pn	09 43 09.4	+4.1
	0.6nm,0.3s,baz=226,slow=11,SNR=7.5						
ESDC	Sonseca Array	16.01	277	LR	LR	09 49 08.6	
	comp=Z,111nm,19.4s,baz=105,slow=35						
MMAI	Mount Meron Ar	16.37	108	Pn	Pn	09 43 37.0	+0.4
	1.5nm,0.3s,baz=284,slow=14,SNR=5.0						
MALT	Malatya	16.84	88	*e*P	Pn	09 43 42.3	-0.3
MALT				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MALT	Malatya	16.84	88	*e*Pn	Pn	09 43 42.3	-0.3
	comp=Z,5.7nm,0.9s						
MALT	Malatya	16.84	88	*e*P	Pn	09 43 42.3	-0.3
	comp=Z,6.0nm,0.9s						
SOC	Sochi	17.52	70	*e*P	Pn	09 43 51.6	+0.6
SOC				pmax	pmax		
	comp=Z,42nm,1.0s						
SOC	Sochi	17.52	70	*e*P	Pn	09 43 51.6	+0.6
	comp=Z,42nm,1.0s						
ASF	Jabal al Asfar	17.88	109	P	Pn	09 43 56.3	+0.7
	comp=Z,0.2nm,0.3s,baz=326,slow=2.0,SNR=3.4						
EIL	Elat	17.92	118	P	Pn	09 43 53.6	-2.5
EIL				S	Sn	09 47 12.8	-3.2
EIL	Elat	17.92	118	P	Pn	09 43 53.6	-2.5
	comp=Z,0.9nm,0.3s,baz=299,slow=5.7,SNR=7.1						
EIL				S	Sn	09 47 12.8	-3.2
	comp=Z,0.7nm,0.3s,baz=322,slow=22,SNR=4.0						
MDT	Midelt	18.59	255	LR	LR	09 50 19.7	
	comp=Z,70nm,21.4s,baz=331,slow=34						
KIV	Kislovodsk	19.69	69	*i* P	Pn	09 44 18.6	+1.1
KIV				*e*S	Sn	09 48 03.3	+4.7
KIV				pmax	pmax		
	comp=Z,6.0nm,0.5s						
KIV	Kislovodsk	19.69	69	*i* P	Pn	09 44 18.6	+1.1
	comp=Z,6.0nm,0.5s						
OBN	Obninsk	20.28	34	⇑*e*P	P	09 44 21.8	-0.6
OBN				*e*S	S	09 48 08.7	-1.0
OBN				pmax	pmax		
	comp=Z,9.0nm,0.4s						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS3.3						
OBN	Obninsk	20.28	34	*e*P	P	09 44 21.8	-0.6
	comp=Z,100nm,16.0s						
EKA	Eskdalemuir Ar	20.54	326	P	P	09 44 23.7	-1.5
	comp=Z,5.5nm,0.8s,baz=133,slow=13,SNR=12						
HFS	Hagfors	20.54	356	P	P	09 44 25.1	-0.1
	comp=Z,4.6nm,0.6s,baz=170,slow=9.0,SNR=9.2						
GNI	Garni	21.37	80	⇓*e*P	P	09 44 35.9	+1.6
GNI				pmax	pmax		
	comp=Z,12nm,1.0s						
GNI	Garni	21.37	80	P	P	09 44 35.4	+1.1
	comp=Z,4.3nm,0.5s,mb4.0,baz=83,slow=1.5,SNR=4.0						
NB2	NORSAR Subarra	21.64	353	P	P	09 44 36.2	-0.8
	comp=Z,4.6nm,0.8s,mb4.0,baz=170,slow=12						
NOA	NORSAR Array B	21.64	353	P	P	09 44 36.3	-0.7
	comp=Z,4.9nm,0.8s,mb4.0,baz=167,slow=10,SNR=6.7						
NOA				LR	LR	09 54 18.4	
	comp=Z,117nm,20.0s,MS3.3,baz=180,slow=40						
FINES	FINESS Array B	22.49	12	P	P	09 44 44.6	-1.5
	comp=Z,2.3nm,0.4s,mb3.9,baz=180,slow=9.8,SNR=11						
TORD	Torodi Ar. Bea	29.64	211	P	P	09 45 49.6	-2.8
	comp=Z,0.5nm,0.5s,mb3.5,baz=20,slow=9.4,SNR=12						
ARCES	ARCESS Array B	30.24	6	P	P	09 45 56.4	-1.0
	comp=Z,2.1nm,0.9s,mb3.9,baz=187,slow=8.6,SNR=4.1						
ARCES				LR	LR	09 59 38.0	
	comp=Z,89nm,20.1s,MS3.4,baz=200,slow=39						
ARU	Arti	31.90	44	*c i*P	P	09 46 15.7	+3.6
ARU				*e*		09 47 21.1	
ARU				*e*S	S	09 51 29.8	+6.9
ARU				*e*SS	SS	09 53 20.0	-19
ARU				pmax	pmax		
	comp=Z,7.0nm,0.7s,mb4.6						
BVAR	Borovoye Array	38.38	52	P	P	09 47 07.6	-0.3
	comp=Z,0.6nm,0.5s,mb3.6,baz=232,slow=40,SNR=3.2						
SPITS	Spitsbergen Ar	38.58	360	LR	LR	10 05 35.2	
	comp=Z,50nm,18.3s,MS3.4,baz=305,slow=40						
KURK	Kurchatov	43.69	54	⇓*e*P	P	09 47 58.9	+7.2
ZALV	Zalesovo Beam	46.83	49	P	P	09 48 17.7	+1.2
	comp=Z,0.6nm,0.4s,mb3.8,baz=283,slow=8.4,SNR=3.8						
MKAR	Makanchi Array	46.96	59	P	P	09 48 17.9	+0.2
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	Makanchi Array	46.96	59	P	P	09 48 17.9	+0.2
	comp=Z,0.6nm,0.5s,mb3.8,baz=284,slow=7.2,SNR=5.1						
SCHQ	Schefferville	55.37	316	LR	LR	10 10 42.3	
	comp=Z,58nm,21.1s,MS3.6,baz=78,slow=34						
SONM	Songino Array	61.69	50	P	P	09 50 05.9	+1.0
	comp=Z,0.3nm,0.3s,mb3.9,baz=335,slow=6.5,SNR=3.1						
BOSA	Boshof	68.42	172	LR	LR	10 23 43.3	
	comp=Z,76nm,19.4s,MS3.9,baz=132,slow=39						
BILL	Bilibino	70.14	12	*e*P	P	09 50 59.2	+0.3
BILL				*e*S	S	10 00 08.7	-1.1
BILL				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.2						
YKA	Yellowknife Ar	70.94	338	P	P	09 51 02.7	-1.2
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA				MLR	MLR		
	comp=Z,42nm,19.7s						
YKA	Yellowknife Ar	70.94	338	P	P	09 51 02.7	-1.2
	comp=Z,0.5nm,0.7s,mb3.5,baz=37,slow=5.4,SNR=7.6						
YKA				LR	LR	10 24 21.9	
	comp=Z,42nm,19.7s,MS3.7,baz=20,slow=38						
ULM	Lac du Bonnet	72.74	322	LR	LR	10 21 52.0	
	comp=Z,66nm,19.8s,MS3.9,baz=20,slow=35						
KSRS	Korea Array	80.53	49	LR	LR	10 32 13.5	
	comp=Z,12nm,20.9s,MS3.2,baz=320,slow=39						
KBN	Korca	1.12	353	*e*PN	Px	09 40 08.6	
KBN				*i* SN	Sn	09 40 38.4	-2.1
PUK	Puka	2.66	342	*e*PN	Pn	09 40 39.7	-6.5
PUK				*i* SN	Sn	09 41 18.6	+0.1
BCI	Bajram Curri	2.94	347	*e*PN	Pn	09 40 45.6	-4.4
BCI				*i* SN	Sn	09 41 26.9	+1.7
HMAT	Matruh	9.77	147	P	Pn	09 42 23.9	0.0
SWA2		10.89	159	P	Pn	09 42 39.4	+0.2
SWA1		10.94	158	P	Pn	09 42 39.5	-0.4
SWA1				S	Sn	09 44 21.0	-21
HNAT	Natroun	12.65	138	P	Pn	09 43 02.9	-0.3
KOT	Kottamia	13.07	134	P	Pn	09 43 09.4	+0.5
HFRF	Wahat Farafira	13.76	151	P	Pn	09 43 17.4	-1.1
GRB	Gharib	14.88	135	P	Pn	09 43 34.0	+0.4
GRB	Gharib	14.88	135	P	Pn	09 43 34.0	+0.3
HHRG	Al Ghardaqah	16.13	136	P	Pn	09 43 50.9	+0.8

NEIC ***25*** *09:54:51.4, 29.49S×72.57W, h47km, MG4.1(GUC), After GUC.*

GUC 25 09:54:51.4±0.8, 29.49S×72.57W, h47km±13km, ML4.1, 2C-2D, Off coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OVCH	Ovalle	1.63	134	⇑*i*P	Pn	09 55 17.9	+0.3
OVCH				*i* S	Sn	09 55 38.4	+0.9
TLL	Tololo Astrono	1.68	114	⇑*i*P	Pn	09 55 19.8	+1.5
TLL				*i* S	Sn	09 55 41.0	+2.4
LCO	Las Campanas	1.70	74	*e*Pn	Pn	09 55 19.2	+0.6
VACH	Vallenar	1.83	61	*e*P	Pn	09 55 19.8	-0.5
VACH				*e*		09 55 20.0	
VACH				*i* S	Sn	09 55 42.8	+0.5
CMCH	Combarbala	2.16	141	⇓*i*P	Pn	09 55 25.4	+0.5
CMCH				*i* S	Sn	09 55 51.3	+0.8
CMCH	Combarbala	2.16	141	⇓*i*P	Pn	09 55 25.4	+0.5
CMCH				*i* S	Sn	09 55 51.3	+0.8
CMCH				AML	AML	09 55 54.5	
	comp=E,720nm,0.8s						
CPCH	Copiapo	2.88	43	*i* S	Sn	09 56 08.7	+0.4
CPCH				AML	AML	09 56 12.6	
	comp=E,1μm,0.1s						
PEL	Peldehue	3.99	157	*e*P	Pn	09 55 50.8	+0.8
CLCH	Cerro Calan	4.27	156	*e*P	Pn	09 55 54.8	+1.0
FCH	Farellones	4.30	154	*e*P	Pn	09 55 55.8	+1.5
FCH				*i* S	Sn	09 56 44.4	+1.4
LMEL	Las Melosas	4.79	156	*e*P	Pn	09 56 02.2	+1.2
LMEL				*i* S	Sn	09 56 55.3	0.0

ISCJB ***25*** *10:00:13.6±2.0, 64N±01×1275E±02, h62km±18km, mb3.9/10, Error ellipse: s-maj=30.8km s-min=11.4km az=152.7*

NEIC ***25*** *10:00:14.5±3.6, 638N×12748E, h54km±30km, mb4.4/2, Error ellipse: s-maj=54.9km s-min=9.0km az=67.0*

IDC ***25*** *10:00:21.7±13.0, 619N×12728E, h117km±121km, mb3.5/8, mb1 3.6/8, mb1mx3.4/20, mbtmp3.5/8, Error ellipse: s-maj=106.4km s-min=22.5km az=65.0*

MAN ***25*** *10:00:22, 623N×12652E, h15km, mb4.7, ML3.6, MS3.6*

ISC 25 10:00:14.7±2.2, 64N±01×1275E±02, h53km±19km, n21, σ0=91/22, mb3.9/10, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	1.32	296	*e*P	Pn	10 00 36.6	-0.2
MATI				*e*S	Sn	10 00 50.1	-3.1
DAV	Davao City (W)	1.98	291	*e*P	Pn	10 00 45.9	0.0
KCP	Kidapawan	2.43	285	*e*P	Pn	10 00 53.3	+1.4
KCP				*e*S	Sn	10 01 20.7	+0.3
GSPH	General Santos	2.50	264	*e*P	Pn	10 00 45.1	-7.8
BUKP	Musuan	2.81	303	*e*P	Pn	10 00 58.4	+1.3
SCPH	Surigao	3.91	330	*e*P	Pn	10 01 19.8	+7.6
SCPH				*e*S	Sn	10 02 12.5	+16
PAGZ	Pagadian	4.30	290	*e*P	Pn	10 01 15.8	-1.7
FITZ	Fitzroy Crossi	24.38	184	P	P	10 05 27.4	-0.6
	1.3nm,0.8s,mb3.4,baz=12,slow=14,SNR=3.5						
WRAB	Tennant Creek	27.00	166	*e*P	P	10 05 51.1	-0.6
	2.8nm,0.8s,mb3.8						
WRA	Warramunga Arr	27.01	166	P	P	10 05 51.7	-0.1
	1.0nm,0.5s,mb3.6,baz=334,slow=11,SNR=19						
WB2	Warramunga Arr	27.01	166	*e*P	P	10 05 53.3	+1.4
ASAR	Alice Springs	30.51	168	P	P	10 06 22.6	-0.4
	0.3nm,0.3s,mb3.5,baz=343,slow=7.1,SNR=12						
BJT	Baijiatuau	35.01	345	*e*P	P	10 07 00.8	-1.3
	9.3nm,0

0.6nm,0.3s,baz=171,slow=20,SNR=7.3
ASAR Alice Springs 43.04 267 P P 10 27 13.8 -0.3
0.3nm,0.6s,baz=102,slow=7.5,SNR=5.3
WRA Warramunga Arr 44.04 272 P P 10 27 22.3 +0.1
0.6nm,0.5s,baz=111,slow=8.1,SNR=15
FINES FINESS Array B 145.24 340 PKPbc PKPbc 10 38 50.2 -0.8
0.6nm,0.6s,baz=46,slow=5.5,SNR=5.1

*CSEM **25** 10:28:44.8±3.2, 44.11N×2883W, h10km, mb4.1/4, Ms3.2, Error ellipse: s-maj=100.7km s-min=61.6km az=77.0*
*ISCJB **25** 10:28:51.8±1.0, 448N±02×282W±01, h10km, mb3.8/8, MS3.3/14, Error ellipse: s-maj=29.1km s-min=13.4km az=178.7*
*IDC **25** 10:28:52.8±1.2, 4449N×2854W, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.6/26, mbtmp3.7/5, ML3.8/1, MS3.4/14, Ms1 3.4/14, ms1mx3.2/30, Error ellipse: s-maj=36.7km s-min=24.3km az=18.0*
*NEIC **25** 10:28:53.6±0.8, 4478N×28.16W, h10km, mb4.1/4, MS3.4/1, Error ellipse: s-maj=23.8km s-min=10.9km az=179.0*
ISC 25 10:28:53.8±1.0, 448N±02×282W±01, h10km, n34, σ0°55/23, mb3.8/8, MS3.3/14, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSF	**Rostrenen**	**17.44**	**69**	*eP*	**Pn**	**10 32 57.0**	**0.0**
ESDC	**Sonseca Array**	**18.60**	**98**	LR	LR	10 39 09.5	
	comp=Z,102nm,18.2s,baz=265,slow=33						
GRR	**Gorron**	**19.06**	**69**	*eP*	**Pn**	**10 33 17.7**	**+1.0**
	2.5nm,0.4s						
GRR	**Gorron**	**19.06**	**69**	*eP*	**Pn**	**10 33 17.7**	**+1.0**
	1.2nm,0.4s						
EKA	**Eskdalemuir Ar**	**19.09**	**48**	P	**Pn**	**10 33 22.2**	**+5.2**
	0.1nm,0.3s,baz=239,slow=8.2,SNR=3.2						
LDF	**La Druitiere**	**19.55**	**69**	*eP*	**Pn**	**10 33 23.1**	**+0.5**
TCF	**Toulx Ste Croi**	**21.26**	**75**	*eP*	**P**	**10 33 40.4**	**+0.4**
	18nm,1.0s,mb4.1						
TCF	**Toulx Ste Croi**	**21.26**	**75**	*eP*	**P**	**10 33 40.4**	**+0.4**
	8.8nm,1.0s,mb4.1						
BGF	**Bois d'Agland**	**21.66**	**74**	*eP*	**P**	**10 33 43.8**	**-0.5**
	11nm,0.7s,mb4.1						
BGF	**Bois d'Agland**	**21.66**	**74**	*eP*	**P**	**10 33 43.8**	**-0.5**
	5.4nm,0.7s,mb4.1						
AVF	**Avril sur Loir**	**21.98**	**74**	*eP*	**P**	**10 33 47.5**	**-0.2**
SSF	**Saint Saulge**	**22.06**	**73**	*eP*	**P**	**10 33 48.4**	**-0.1**
	8.4nm,0.8s,mb3.9						
SSF	**Saint Saulge**	**22.06**	**73**	*eP*	**P**	**10 33 48.4**	**-0.1**
	4.2nm,0.8s,mb3.9						
LOR	**Lormes**	**22.28**	**72**	*eP*	**P**	**10 33 50.8**	**-0.1**
	16nm,0.9s,mb4.2						
LOR				*e*MLR	MLR		
	comp=Z,126nm,19.5s,MS3.0						
LOR	**Lormes**	**22.28**	**72**	*eP*	**P**	**10 33 50.8**	**-0.1**
	comp=Z,8.1nm,0.9s,mb4.2						
LOR				LR	LR		
	comp=Z,130nm,19.5s,MS3.4						
SMF	**Signal de Mont**	**22.34**	**74**	*eP*	**P**	**10 33 50.3**	**-1.2**
BAIF	**Baives**	**22.40**	**65**	*eP*	**P**	**10 33 52.2**	**0.0**
DAVOX	**Davos/Dischmat**	**26.43**	**72**	LR	LR	10 44 07.4	
	comp=Z,68nm,18.4s,MS3.2,baz=265,slow=34						
SCHQ	**Schefferville**	**26.57**	**306**	LR	LR	10 43 17.0	
	comp=Z,112nm,18.3s,MS3.5,baz=100,slow=33						
NOA	**NORSAR Array B**	**28.19**	**41**	LR	LR	10 44 46.2	
	comp=Z,18nm,19.3s,MS2.7,baz=150,slow=33						
GERES	**GERESS Array B**	**28.66**	**67**	LR	LR	10 45 28.4	
	comp=Z,52nm,18.5s,MS3.2,baz=93,slow=34						
KEST	**Kesra**	**29.79**	**95**	LR	LR	10 44 42.5	
	comp=Z,39nm,21.7s,MS3.0,baz=352,slow=32						
ARCES	**ARCESS Array B**	**36.31**	**29**	LR	LR	10 50 17.1	
	comp=Z,18nm,19.1s,MS2.9,baz=80,slow=35						
AKASG	**Malin Array Be**	**38.18**	**60**	P	**P**	**10 36 17.2**	**+4.0**
AKASG	**Malin Array Be**	**38.18**	**60**	P	**P**	**10 36 17.2**	**+4.0**
	comp=Z,0.4nm,0.4s,mb3.5,baz=274,slow=9.0,SNR=4.6						
TORD	**Torodi Ar. Bea**	**40.52**	**132**	P	**P**	**10 36 33.1**	**+0.1**
TORD				LR	LR	10 52 30.7	
TORD	**Torodi Ar. Bea**	**40.52**	**132**	P	**P**	**10 36 33.1**	**+0.1**
	comp=Z,2.7nm,0.8s,mb3.9,baz=328,slow=7.8,SNR=14						
TORD				LR	LR	10 52 30.7	
	comp=Z,104nm,18.6s,MS3.7,baz=315,slow=35						
DBIC	**Dimbokro**	**43.07**	**145**	LR	LR	10 52 38.4	
	comp=Z,73nm,19.8s,MS3.6,baz=292,slow=33						
ULM	**Lac du Bonnet**	**44.62**	**302**	LR	LR	10 54 05.1	
	comp=Z,99nm,18.5s,MS3.8,baz=7.4,slow=34						
YKA	**Yellowknife Ar**	**50.02**	**323**	P	**P**	**10 37 47.6**	**-0.3**
	comp=Z,0.4nm,0.8s,mb3.5,baz=63,slow=8.0,SNR=5.6						
YKA				LR	LR	10 56 00.7	
	comp=Z,24nm,21.5s,MS3.2,baz=85,slow=32						
TXAR	**Lajitas Array**	**60.15**	**283**	P	**P**	**10 39 01.8**	**+0.2**
TXAR				LR	LR	11 03 11.8	
TXAR	**Lajitas Array**	**60.15**	**283**	P	**P**	**10 39 01.8**	**+0.3**
	comp=Z,0.5nm,0.7s,mb3.6,baz=73,slow=7.1,SNR=6.5						
TXAR				LR	LR	11 03 11.8	
	comp=Z,69nm,21.4s,MS3.8,baz=185,slow=34						
ZALV	**Zalesovo Beam**	**66.28**	**36**	LR	LR	11 08 55.6	
	comp=Z,7.9nm,19.1s,MS2.9,baz=85,slow=36						
BOSA	**Boshof**	**87.80**	**135**	LR	LR	11 18 50.5	
	comp=Z,85nm,18.4s,MS4.2,baz=143,slow=34						

KRSC 25 10:51:50.3±1.5, 4897N×15815E, h30km±30km, ML3.8, East of Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ALID	**Alaid**	**2.54**	**320**	*eP*	Pn	10 52 30.3	+0.9
ALID				*eS*	Sn	10 52 59.6	+0.4
MIPR	**Malaya Ipel'ka**	**3.43**	**346**	*eP*	Pn	10 52 44.6	+3.0
RUS	**Russkaya**	**3.48**	**4**	*eP*	Pn	10 52 44.9	+2.6
RUS				*eS*	Sn	10 53 24.2	+1.9
GRL	**Gorelyy**	**3.59**	**359**	*eP*	Pn	10 52 47.3	+3.5
GRL				*eS*	Sn	10 53 28.4	+3.3
PET	**Petropavlovsk**	**4.07**	**4**	P	Pn	10 52 53.0	+2.6
PET				S	Sn	10 53 38.6	+1.6
NLC	**Nalytchevo**	**4.27**	**10**	*eS*	Sn	10 53 43.1	+1.1
SPN	**Mys Shipunski**	**4.30**	**15**	*eP*	Pn	10 52 56.9	+3.3
SPN				*eS*	Sn	10 53 44.9	+2.3
AVH	**Avacha**	**4.32**	**5**	*eP*	Pn	10 52 57.7	+3.9
AVH				*eS*	Sn	10 53 47.1	+4.0
GNL	**Ganaly**	**4.73**	**359**	*eP*	Pn	10 53 03.6	+4.1
MKZ	**Mys Kozlova**	**6.02**	**20**	*eP*	Pn	10 53 21.4	+4.2
MKZ				*eS*	Sn	10 54 26.2	+1.2
KBTR	**Krutoberegovo**	**7.79**	**20**	*eP*	Pn	10 53 45.5	+4.1

*ISCJB **25** 11:08:48.0±1.2, 2887N±004×348E±01, h1km±9km, Error ellipse: s-maj=17.9km s-min=6.5km az=178.8*
*SGS **25** 11:08:48.1, 2888N×3478E, h12km*
*GII **25** 11:08:50.3±0.0, 2893N×3482E, h5km±2km, ML2.6/2*
ISC 25 11:08:48.6±1.2, 2886N±004×348E±01, h5km±9km, n10, σ0°38/14, Egypt

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HQLS		**0.50**	**28**	S	**Sg**	**11 09 05.2**	**+0.3**
HQLS		**0.50**	**28**	P	**Pg**	**11 08 58.0**	**-0.3**
RSHS		**0.56**	**179**	P	**Pg**	**11 08 59.4**	**+0.1**
JLOS		**0.63**	**101**	P	**Pg**	**11 09 00.6**	**-0.1**
EIL	**Elat**	**0.82**	**10**	Pg	**Pg**	**11 09 04.3**	**-0.1**
EIL				Sg	**Sg**	**11 09 15.3**	**+0.2**
MBH	**Mount Berech**	**0.94**	**7**	Pg	**Pg**	**11 09 06.3**	**-0.3**
MBH				Sg	**Sg**	**11 09 19.4**	**+0.6**
HRFI	**Mount Harif**	**1.19**	**10**	Pg	**Pg**	**11 09 12.1**	**+0.5**
HRFI				Sg	**Sg**	**11 09 26.1**	**-0.9**
KRMI	**Paran Flat**	**1.25**	**357**	Sg	**Sg**	**11 09 28.9**	**-0.2**
PRNI	**Paran**	**1.50**	**7**	Pn	**Pn**	**11 09 16.3**	**+0.1**
PRNI				Sn	**Sn**	**11 09 36.1**	**+0.1**
PRNI	**Paran**	**1.50**	**7**	Sn	**Sn**	**11 09 35.9**	**-0.2**

*ISCJB **25** 11:12:43.0±1.1, 2984N±004×3629E±006, h0km, Error ellipse: s-maj=7.8km s-min=6.3km az=9.0*
*SGS **25** 11:12:44.1, 3007N×3625E, h10km*
*GII **25** 11:12:44.0±1.0, 2991N×3618E, h0km, ML2.5/2*
ISC 25 11:12:43.0±1.2, 2983N±004×3634E±006, h0km, n11, σ0°55/17, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.15**	**281**	Pg	**Pg**	**11 13 04.2**	**-0.8**
HRFI				Sg	**Sg**	**11 13 20.4**	**+0.4**
EIL	**Elat**	**1.22**	**263**	Pg	**Pg**	**11 13 06.4**	**+0.1**
HQLS		**1.23**	**245**	S	**Sg**	**11 13 22.7**	**+0.1**
HQLS		**1.23**	**245**	P	**Pg**	**11 13 06.2**	**-0.4**
MBH	**Mount Berech**	**1.24**	**269**	Pg	**Pg**	**11 13 07.1**	**+0.3**
MBH				Sg	**Sg**	**11 13 23.4**	**+0.6**
PRNI	**Paran**	**1.27**	**295**	Pg	**Pg**	**11 13 06.1**	**-1.3**
PRNI				Sg	**Sg**	**11 13 23.8**	**0.0**
JLOS		**1.32**	**215**	P	**Pg**	**11 13 09.0**	**+0.8**
KRMI	**Paran Flat**	**1.43**	**282**	Pg	**Pg**	**11 13 09.6**	**-0.8**
KRMI				Sg	**Sg**	**11 13 29.0**	**0.0**
YTIR	**Yattir**	**1.86**	**326**	Pn	**Pn**	**11 13 16.1**	**0.0**
YTIR				Sn	**Sn**	**11 13 40.6**	**+0.3**
DSI	**Dead Sea**	**1.92**	**335**	Pn	**Pn**	**11 13 17.6**	**+0.6**
DSI				Sn	**Sn**	**11 13 42.4**	**+0.5**
RSHS		**2.04**	**222**	P	**Pn**	**11 13 18.2**	**-0.3**

IDC 25 11:32:02.0±1.9, 133N×12615E, h0km, mb3.6/3, mb1 3.8/3, mb1mx3.5/15, mbtmp3.7/3, Error ellipse: s-maj=167.3km s-min=24.2km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.62**	**160**	P	P	11 37 04.3	-0.2
	2.1nm,0.6s,baz=338,slow=11,SNR=21						
ASAR	**Alice Springs**	**25.97**	**164**	P	P	11 37 36.8	+0.4
	0.3nm,0.5s,baz=343,slow=7.6,SNR=9.4						
MKAR	**Makanchi Array**	**59.20**	**326**	P	P	11 42 04.9	0.0
	0.8nm,0.4s,baz=122,slow=8.2,SNR=8.6						

*ISCJB **25** 11:35:28.5±0.4, 3270N±002×11601W±002, h14km±3km, Error ellipse: s-maj=2.8km s-min=2.4km az=169.2*
*ECX **25** 11:35:29.7±0.7, 3271N×11607W, h3km±2km, MD3.3, ML3.3*
*NEIC **25** 11:35:29.5, 3269N×11607W, h9km, ML3.3(PAS), ML3.3(ECX), After PAS.*
NEIC Felt in the Ocotillo area.
ISC 25 11:35:28.8±0.3, 3269N±002×11603W±002, h12km±2km, n70, σ0°99/96, 39C-31D, California-Baja California border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVTC	**Desert V Tower**	**0.07**	**242**	↑P	**Pg**	**11 35 31.2**	**0.0**
	baz=0.0,SNR=1000						
DVTC				↑S	**Sg**	**11 35 32.9**	**-0.1**
	baz=0.0						
RMX	**La Rumorosa**	**0.10**	**204**	*e*S	**Sg**	**11 35 33.7**	**+0.2**
CRR	**Carrizo Plain**	**0.20**	**15**	↓*e*P	**Pg**	**11 35 33.4**	**+0.2**
SGL	**Mount Signal**	**0.26**	**99**	↑*e*P	**Pg**	**11 35 34.8**	**+0.6**
COK	**Cook Ranch**	**0.30**	**58**	↑*e*P	**Pg**	**11 35 35.7**	**+0.8**
SWSC	**Sam W. Stewart**	**0.32**	**38**	P	**Pg**	**11 35 35.6**	**+0.3**
	baz=0.3,SNR=654						
SWSC				↑S	**Sg**	**11 35 40.0**	**+0.4**
	baz=0.3						
MONP	**Monument Peak**	**0.38**	**301**	P	**Pg**	**11 35 36.5**	**0.0**
	baz=0.4,SNR=1000						
MONP				↑S	**Sg**	**11 35 41.3**	**-0.3**
	baz=0.4						
CBX	**Cerro Bola**	**0.65**	**235**	↑*e*P	**Pg**	**11 35 41.4**	**0.0**
CBX				*e*S	**Sg**	**11 35 50.1**	**+0.1**
CPBX	**Cerro Prieto**	**0.67**	**114**	*e*P	**Pg**	**11 35 42.3**	**+0.5**
CPBX				*e*S	**Sg**	**11 35 52.5**	**+1.9**
RDX	**Rancho Dowling**	**0.76**	**175**	↓*e*P	**Pg**	**11 35 43.3**	**-0.2**
RDX				*e*S	**Sg**	**11 35 54.6**	**+1.2**
RDX				*e*		11 35 56.3	
	comp=N,919nm,0.3s						
109C	**Camp Elliot, M**	**0.93**	**283**	P	**Pg**	**11 35 45.8**	**-0.9**
	baz=0.9,SNR=159						
109C				↑S	**Sg**	**11 35 57.5**	**-1.2**
	baz=0.9						
ENX	**Ensenada**	**0.97**	**214**	↑*e*P	**Pg**	**11 35 47.0**	**-0.5**
ENX				*e*S	**Sg**	**11 35 59.8**	**-0.3**
ENX				↓*e*		11 36 03.8	
	comp=N,1μm,0.5s						
PFO	**Pinyon Flat Ob**	**0.98**	**339**	*e*P	**Pg**	**11 35 46.5**	**-1.2**
PFO				*e*S	**Sg**	**11 35 59.3**	**-1.3**
PFO	**Pinyon Flat Ob**	**0.98**	**339**	P	**Pg**	**11 35 46.8**	**-1.0**
	baz=1.0,SNR=1000						
PFO				↓S	**Sg**	**11 36 00.4**	**-0.1**
	baz=1.0						
GLA	**Glamis**	**1.08**	**70**	*e*P	**Pb**	**11 35 47.8**	**-1.5**
GLA	**Glamis**	**1.08**	**70**	P	**Pb**	**11 35 48.1**	**-1.3**
	baz=1.1,SNR=271						
GLA				↑S	**Sb**	**11 36 02.3**	**-1.0**
	baz=1.1						
BC3	**Big Chuckw Mtn**	**1.08**	**27**	↓P	**Pb**	**11 35 48.4**	**-1.0**
	baz=1.1,SNR=137						
BC3				↓S	**Sb**	**11 36 03.5**	**+0.1**
	baz=1.1						
PBX	**Punta Banda**	**1.11**	**212**	↓*e*P	**Pb**	**11 35 49.6**	**-0.3**
PBX				*e*S	**Sb**	**11 36 04.4**	**-0.1**
ECNX	**Esteban Cantu**	**1.14**	**205**	↓*e*P	**Pb**	**11 35 50.0**	**-0.3**
ECNX				*e*P		11 35 47.3	
ECNX				*e*S	**Sb**	**11 36 00.2**	**-4.8**
ECNX				*e*S	**Sb**	**11 36 05.1**	**0.0**
112A	**Yuma**	**1.23**	**97**	↑P	**Pn**	**11 35 50.0**	**-1.8**
	baz=1.3,SNR=16						
112A				↑S	**Sb**	**11 36 05.8**	**-2.1**
	baz=1.3						
BELC	**Belle Mtn.**	**1.31**	**1**	↓P	**Pn**	**11 35 51.5**	**-1.4**
	baz=1.3,SNR=58						
BELC				↓S	**Sb**	**11 36 07.5**	**-2.5**
	baz=1.3						
MURC	**Murrieta**	**1.34**	**313**	↓P	**Pn**	**11 35 52.3**	**-1.0**
	baz=1.3,SNR=115						
MURC				↓S	**Sb**	**11 36 10.4**	**-0.5**
	baz=1.3						
IRM	**Iron Mountain**	**1.64**	**26**	↑P	**Pn**	**11 35 56.5**	**-1.0**
	baz=1.7						
Y12C	**Blythe**	**1.65**	**50**	P	**Pn**	**11 35 56.4**	**-1.1**
	baz=1.7,SNR=12						
Y12C				↓S	**Sn**	**11 36 17.9**	**-0.7**
	baz=1.7						
SPX	**San Pedro Mart**	**1.71**	**163**	*e*P	**Pn**	**11 36 00.4**	**+2.0**
SPX				*e*S	**Sn**	**11 36 22.6**	**+2.4**
BBRC	**Big Bear Sol-O**	**1.73**	**335**	↑P	**Pn**	**11 35 58.5**	**-0.3**
	baz=1.7,SNR=156						
BBRC				↑Sb	**Sb**	**11 36 23.4**	**+1.0**
	baz=1.7						
113A	**Mohawk Valley,**	**1.91**	**87**	↑P	**Pn**	**11 36 00.0**	**-1.1**
	baz=1.9,SNR=20						
113A				↓S	**Sn**	**11 36 24.1**	**-1.1**
	baz=1.9						
BFSC	**Mount Baldy St**	**2.06**	**319**	↑P	**Pn**	**11 36 02.7**	**-0.5**
	baz=2.0						
BFSC				↑Sb	**Sb**	**11 36 31.9**	**+0.2**
	baz=2.0						
GMRC	**Granite Mounta**	**2.11**	**8**	↑P	**Pn**	**11 36 02.9**	**-1.0**
	baz=2.1						
CIS	**Catalina Islan**	**2.12**	**290**	↑P	**Pn**	**11 36 03.6**	**-0.4**
	baz=2.1,SNR=38						
CIS				↓S	**Sn**	**11 36 30.2**	**0.0**
	baz=2.1						
SCI	**San Clemente I**	**2.14**	**278**	P	**Pn**	**11 36 04.2**	**-0.1**
	baz=2.1,SNR=38						
SCI				↑S	**Sn**	**11 36 30.3**	**-0.4**
	baz=2.1						
HEC	**Hector,Ludlow**	**2.15**	**353**	↓Sb	**Sb**	**11 36 36.2**	**+2.0**
	baz=2.2						
FMP	**Fort Macarthur**	**2.15**	**299**	↑Sb	**Sb**	**11 36 34.9**	**+0.5**
	baz=2.1						
Y13A	**Salome**	**2.16**	**58**	↓P	**Pn**	**11 36 03.7**	**-0.9**
	baz=2.2						
PDMCI	**Parker Dam,Lak**	**2.25**	**44**	↓P	**Pn**	**11 36 05.2**	**-0.6**
	baz=2.3						
RRX	**Edison Barstow**	**2.33**	**340**	↑Sb	**Sb**	**11 36 41.7**	**+2.3**
	baz=2.3						
NEE2	**Needles Airpor**	**2.38**	**29**	↑Sb	**Sb**	**11 36 43.1**	**+2.1**
	baz=2.4						
X13A	**Yucca**	**2.64**	**43**	↑P	**Pn**	**11 36 10.8**	**-0.5**
	baz=2.7,SNR=9.9						
Z14A	**Wintersburg**	**2.68**	**75**	↑P	**Pn**	**11 36 10.8**	**-0.9**
	baz=2.7						
GSC	**Goldstone**	**2.68**	**346**	*e*Pg	**Pg**	**11 36 18.5**	**-1.8**
EDW2	**Edwards Air Fo**	**2.73**	**324**	↓Pb	**Pb**	**11 36 17.5**	**+0.1**
	baz=2.7						
EDW2				↑Sb	**Sb**	**11 36 52.7**	**+1.8**
	baz=2.7						
TUQ	**Turquoise Mtn.**	**2.74**	**2**	↑Sb	**Sb**	**11 36 54.3**	**+3.0**
	baz=2.8						
OSI	**Osito Adit**	**2.95**	**311**	↑Sb	**Sb**	**11 36 59.5**	**+2.1**
	baz=2.9						
SNCC	**San Nicolas Is**	**2.99**	**282**	*e*Pn	**Pn**	**11 36 16.6**	**+0.6**
SNCC	**San Nicolas Is**	**2.99**	**282**	↑S	**Sn**	**11 36 51.4**	**-0.4**
	baz=3.0						
LRMC	**Laurel Mountai**	**3.10**	**334**	↓P	**Pn**	**11 36 17.2**	**-0.3**
	baz=3.1						
X14A	**Yava**	**3.17**	**55**	↓P	**Pn**	**11 36 17.9**	**-0.5**
	baz=3.2,SNR=32						
115A	**Sonoran Desert**	**3.21**	**89**	↓P	**Pn**	**11 36 18.5**	**-0.5**
	baz=3.2						
SHOC	**Shoshone**	**3.21**	**356**	↑Sb	**Sb**	**11 37 09.0**	**+4.2**
	baz=3.2						
Y15A	**Casa Rosa Ranc**	**3.34**	**67**	↓P	**Pn**	**11 36 20.4**	**-0.5**
	baz=3.4,SNR=14						
W14A	**Seligman**	**3.51**	**43**	↓P	**Pn**	**11 36 23.2**	**+0.1**
	baz=3.5,SNR=9.8						
X15A	**Humboldt**	**3.64**	**59**	↓P	**Pn**	**11 36 24.7**	**-0.2**
	baz=3.7						
V14A	**Boquillas Ranc**	**3.81**	**39**	↓P	**Pn**	**11 36 27.7**	**+0.4**
	baz=3.8,SNR=18						
Y16A	**Circle Bar Ran**	**3.99**	**71**	↑P	**Pn**	**11 36 29.5**	**-0.3**
	baz=4.0,SNR=12						
X16A	**Lo Mia Camp, P**	**4.20**	**65**	↓P	**Pn**	**11 36 33.1**	**+0.4**
	baz=4.2,SNR=12						
TPNV	**Topopah Spring**	**4.25**	**358**	*e*P	**Pn**	**11 36 33.8**	**+0.4**
TPNV	**Topopah Spring**	**4.25**	**358**	↑P	**Pn**	**11 36 33.8**	**+0.5**
	baz=4.3						
W16A	**Flagstaff**	**4.44**	**56**	↑P	**Pn**	**11 36 36.4**	**+0.4**
	baz=4.5						
TUC	**Tucson**	**4.45**	**93**	*e*P	**Pn**	**11 36 36.5**	**+0.4**
Y17A	**Roosevelt**	**4.46**	**76**	↓P	**Pn**	**11 36 35.8**	**-0.5**
	baz=4.5,SNR=11						
117A	**Oracle**	**4.47**	**90**	↓P	**Pn**	**11 36 36.5**	**+0.2**
	baz=4.5						
V15A	**Kaibab Nationa**	**4.47**	**45**	↑P	**Pn**	**11 36 37.7**	**+1.4**
	baz=4.5						
WUAZ	**Wupatki**	**4.78**	**53**	*e*P	**Pn**	**11 36 41.3**	**+0.6**
X18A	**Snowflake**	**5.39**	**68**	↑P	**Pn**	**11 36 49.7**	**+0.6**
	baz=5.4,SNR=7.0						
T16A	**Glen Canyon Da**	**5.67**	**40**	↓P	**Pn**	**11 36 54.2**	**+1.3**
	baz=5.7						
Y19A	**Nutrioso**	**5.81**	**76**	↑P	**Pn**	**11 36 55.5**	**+0.7**
	baz=5.8						
X19A	**St. Johns**	**5.89**	**71**	↑P	**Pn**	**11 36 56.5**	**+0.6**
	baz=5.9						
R08A	**Mina**	**5.89**	**344**	↑P	**Pn**	**11 36 56.5**	**+0.6**
	baz=5.9						
W19A	**Sanders**	**6.03**	**65**	↓P	**Pn**	**11 36 59.3**	**+1.5**
	baz=6.0,SNR=5.8						
MVCO	**Mesa Verde**	**7.65**	**52**	P	**Pn**	**11 37 23.6**	**+3.5**

IDC 25 11:42:17.0±51.0, 1512S×17155W, h0km, mb4.3/3, mb1 4.4/3, mb1mx3.8/16, mbtmp4.3/3, Error ellipse: s-maj=1006.0km s-min=172.7km az=79.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**45.73**	**240**	P	P	11 50 40.2	0.0
	1.0nm,0.3s,baz=92,slow=11,SNR=11						
WRA	**Warramunga Arr**	**51.25**	**256**	P	P	11 51 25.8	-0.2
	0.7nm,0.5s,baz=93,slow=6.9,SNR=27						
ASAR	**Alice Springs**	**51.90**	**252**	P	P	11 51 27.8	0.0
	8.3nm,0.5s,baz=89,slow=7.8,SNR=194						

IDC 25 11:45:46.3±3.2, 535S×10245E, h0km, mb3.8/6, mb1 3.9/6, mb1mx3.7/18, mbtmp3.8/6, MS3.5/1, Ms1 3.5/1, ms1mx2.6/20, Error ellipse: s-maj=144.9km s-min=19.0km az=55.0, Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**34.23**	**118**	P	P	11 52 33.5	-0.6
	0.5nm,0.5s,baz=309,slow=8.6,SNR=8.3						
WRA				LR	LR	12 05 41.2	
	comp=Z,78nm,21.8s,baz=215,slow=35						
ASAR	**Alice Springs**	**35.34**	**124**	P	P	11 52 43.4	-0.2
	0.3nm,0.7s,baz=297,slow=8.0,SNR=3.8						
STKA	**Stephens Creek**	**45.12**	**131**	P	P	11 54 05.0	+0.3
	1.5nm,0.5s,baz=241,slow=15,SNR=6.2						
SONM	**Songino Array**	**53.07**	**3**	P	P	11 55 05.8	+0.5
	1.5nm,0.8s,baz=185,slow=8.4,SNR=9.4						
MKAR	**Makanchi Array**	**54.91**	**343**	P	P	11 55 18.9	+0.2
	0.8nm,0.4s,baz=147,slow=8.9,SNR=17						
ZALV	**Zalesovo Beam**	**60.91**	**348**	P	P	11 55 59.7	-1.0
	1.5nm,0.5s,baz=179,slow=5.2,SNR=6.3						
TXAR	**Lajitas Array**	**145.67**	**43**	PKPbc	PKPbc	12 05 27.9	+0.2
	1.1nm,0.4s,baz=308,slow=1.0,SNR=20						

*NEIC **25** 11:47:26.0, 4779S×16595E, h12km, ML4.0(WEL), After WEL.*
WEL 25 11:47:26.0±1.2, 4779S×16595E, h12km, ML4.0/8, Error ellipse: s-maj=11.7km s-min=8.6km az=90.0, Off west coast of South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APZ	**The Paps**	**1.69**	**56**	PN	Pn	11 47 54.1	-1.2
APZ				SN	Sn	11 48 15.0	-1.7
PYZ	**Puysegur Point**	**1.70**	**17**	PN	Pn	11 47 53.8	-1.6
PYZ				SN	Sn	11 48 15.5	-1.5
WHZ	**Wether Hill Ro**	**2.34**	**37**	P	Pn	11 48 03.9	-0.4
WHZ				S	Sn	11 48 32.0	-0.9
WHZ	**Wether Hill Ro**	**2.34**	**37**	PN	Pn	11 48 03.9	-0.3
WHZ				SN	Sn	11 48 32.0	-0.9
DCZ	**Deep Cove**	**2.46**	**20**	P	Pn	11 48 05.0	-0.9
DCZ	**Deep Cove**	**2.46**	**20**	PN	Pn	11 48 05.0	-0.9
SYZ	**Scrubby Hill**	**2.51**	**61**	PN	Pn	11 48 05.7	-0.9
MLZ	**Mavora Lakes**	**2.88**	**33**	P	Pn	11 48 11.7	0.0
MLZ				S	Sn	11 48 45.3	-1.0
MLZ

RDX	**Rancho Dowling**	**0.77**	**174**	⇓*iP*	**Pg**	**11 48 14.3**	**-0.3**
RDX				*eS*	**Sg**	**11 48 24.5**	**-0.2**
RDX				⇓*e*		11 48 25.3	
	comp=N,390nm,0.3s						
109C	**Camp Elliot, M**	**0.92**	**282**	⇓P	**Pg**	**11 48 16.7**	**-0.7**
	baz=0.9,SNR=87						
109C				⇓S	**Sg**	**11 48 28.4**	**-1.1**
	baz=0.9						
PFO	**Pinyon Flat Ob**	**0.97**	**339**	*eP*	**Pb**	**11 48 17.6**	**-0.7**
PFO				*eS*	**Sg**	**11 48 30.5**	**-0.6**
PFO	**Pinyon Flat Ob**	**0.97**	**339**	P	**Pb**	**11 48 17.9**	**-0.3**
	baz=1.0,SNR=469						
PFO				⇓S	**Sg**	**11 48 31.0**	**-0.1**
	baz=1.0						
ENX	**Ensenada**	**0.97**	**213**	⇑*eP*	**Pb**	**11 48 18.0**	**-0.3**
ENX				*eS*	**Sg**	**11 48 30.7**	**-0.4**
ENX				⇑*e*		11 48 36.2	
	comp=N,405nm,0.5s						
BC3	**Big Chuckw Mtn**	**1.07**	**27**	⇓P	**Pb**	**11 48 19.4**	**-0.5**
	baz=1.1,SNR=39						
BC3				⇓S	**Sb**	**11 48 34.6**	**+0.8**
	baz=1.1						
GLA	**Glamis**	**1.08**	**71**	*eP*	**Pb**	**11 48 18.9**	**-1.1**
GLA				*eS*	**Sb**	**11 48 33.0**	**-1.0**
GLA	**Glamis**	**1.08**	**71**	⇓P	**Pb**	**11 48 19.1**	**-0.9**
	baz=1.1,SNR=90						
GLA				⇑S	**Sb**	**11 48 32.9**	**-1.1**
	baz=1.1						
PBX	**Punta Banda**	**1.12**	**212**	*eP*	**Pb**	**11 48 20.5**	**-0.3**
PBX				*eS*	**Sb**	**11 48 35.3**	**0.0**
PBX				*e*		11 48 39.0	
	comp=E,450nm,0.6s						
ECNX	**Esteban Cantu**	**1.15**	**205**	*eP*	**Pb**	**11 48 20.8**	**-0.4**
ECNX				*eP*		11 48 17.8	
ECNX				*eS*	**Sb**	**11 48 31.2**	**-4.8**
ECNX				*eS*	**Sb**	**11 48 36.0**	**+0.1**
112A	**Yuma**	**1.24**	**97**	⇓P	**Pn**	**11 48 21.2**	**-1.4**
	baz=1.3						
112A				⇓S	**Sb**	**11 48 36.9**	**-1.8**
	baz=1.3						
BELC	**Belle Mtn.**	**1.30**	**1**	⇑P	**Pn**	**11 48 22.5**	**-0.8**
	baz=1.3,SNR=15						
BELC				⇑S	**Sb**	**11 48 38.6**	**-1.8**
	baz=1.3						
MURC	**Murrieta**	**1.33**	**313**	⇑S	**Sb**	**11 48 40.6**	**-0.6**
	baz=1.3						
Y12C	**Blythe**	**1.64**	**50**	⇑P	**Pn**	**11 48 27.4**	**-0.7**
	baz=1.7						
Y12C				⇓S	**Sn**	**11 48 49.1**	**0.0**
	baz=1.7						
SPX	**San Pedro Mart**	**1.72**	**163**	*eP*	**Pn**	**11 48 31.1**	**+1.9**
SPX				*eS*	**Sn**	**11 48 53.7**	**+2.7**
BBRC	**Big Bear Sol-O**	**1.72**	**335**	⇓Sb	**Sb**	**11 48 54.2**	**+1.6**
	baz=1.7						
113A	**Mohawk Valley,**	**1.91**	**87**	⇓P	**Pn**	**11 48 31.0**	**-0.8**
	baz=1.9,SNR=20						
113A				⇑S	**Sn**	**11 48 54.7**	**-1.1**
	baz=1.9						
BFSC	**Mount Baldy St**	**2.05**	**319**	⇓Sb	**Sb**	**11 49 02.8**	**+0.8**
	baz=2.0						
FMP	**Fort Macarthur**	**2.15**	**299**	⇑Sb	**Sb**	**11 49 05.4**	**+0.6**
	baz=2.1						
GSC	**Goldstone**	**2.67**	**346**	*e*Pg	**Pg**	**11 48 49.4**	**-1.5**
GSC				*eS*	**Sn**	**11 49 23.1**	**+8.6**
EDW2	**Edwards Air Fo**	**2.71**	**324**	⇑Sb	**Sb**	**11 49 23.1**	**+1.9**
	baz=2.7						
W14A	**Seligman**	**3.51**	**44**	⇓P	**Pn**	**11 48 54.3**	**+0.6**
	baz=3.5,SNR=7.5						
X15A	**Humboldt**	**3.64**	**60**	⇑P	**Pn**	**11 48 56.2**	**+0.6**
	baz=3.7,SNR=23						
TPNV	**Topopah Spring**	**4.24**	**358**	Pn	**Pn**	**11 49 06.8**	**+3.0**

*NEIC **25** 12:57:57.2, 3132S×7161W, h20km, ML3.3(GUC), After GUC.*

GUC 25 12:57:57.2±0.6, 3132S×7161W, h20km±3km, MD3.9, ML3.3, 4C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMCH	**Combarbala**	**0.54**	**75**	⇑*iP*	Pb	12 58 07.7	-0.3
CMCH				*i* S	Sb	12 58 15.9	+0.6
CMCH	**Combarbala**	**0.54**	**75**	⇑*iP*	Pb	12 58 07.7	-0.3
CMCH				*i* S	Sb	12 58 15.9	+0.6
CMCH				AML	AML	12 58 16.9	
	comp=N,6μm,0.7s						
OVCH	**Ovalle**	**0.79**	**27**	⇑*iP*	Pb	12 58 11.6	-0.6
OVCH				*i* S	Sb	12 58 22.3	-0.2
TLL	**Tololo Astrono**	**1.34**	**31**	⇓*iP*	Pn	12 58 20.8	0.0
TLL				*i* S	Sn	12 58 38.7	+0.7
TLL	**Tololo Astrono**	**1.34**	**31**	⇓*iP*	Pn	12 58 20.8	0.0
TLL				*i* S	Sn	12 58 38.7	+0.7
TLL				AML	AML	12 58 42.4	
	comp=E,497nm,0.5s						
LSCH	**La Serena**	**1.44**	**13**	⇑*iP*	Pn	12 58 22.0	-0.1
LSCH				*i* S	Sn	12 58 40.5	0.0
JACH	**Jahuel**	**1.61**	**148**	*eP*	Pn	12 58 25.0	+0.5
JACH				*i* S	Sn	12 58 46.0	+1.3
ROCH	**El Roble**	**1.73**	**163**	*eP*	Pn	12 58 26.8	+0.7
ROCH				*i* S	Sn	12 58 49.0	+1.5
CLCH	**Cerro Calan**	**2.26**	**157**	*eP*	Pn	12 58 34.8	+1.4
CLCH				*i* S	Sn	12 59 03.1	+2.4
CLCH				AML	AML	12 59 11.5	
	comp=E,251nm,0.8s						
FCH	**Farellones**	**2.29**	**151**	*eP*	Pn	12 58 35.0	+1.1
FCH				*i* S	Sn	12 59 04.9	+3.3
FCH				AML	AML	12 59 17.8	
	comp=E,114nm,0.5s						
TACH	**Talagante**	**2.40**	**166**	*eP*	Pn	12 58 36.3	+1.0
PCH	**Pirque**	**2.48**	**158**	*eP*	Pn	12 58 37.9	+1.5
PCH				*i* S	Sn	12 59 08.4	+2.3
CHCH	**Chadas Angostu**	**2.73**	**163**	*eP*	Pn	12 58 41.4	+1.5
CHCH				*i* S	Sn	12 59 14.8	+2.5
LMEL	**Las Melosas**	**2.79**	**155**	*eP*	Pn	12 58 42.1	+1.4
LMEL				*i* S	Sn	12 59 16.3	+2.6
LMEL	**Las Melosas**	**2.79**	**155**	*eP*	Pn	12 58 42.1	+1.4
LMEL				*i* S	Sn	12 59 16.3	+2.6
LMEL				AML	AML	12 59 24.4	
	comp=N,138nm,0.2s						
CICH	**Cipreses**	**3.16**	**162**	*eP*	Pn	12 58 47.2	+1.5

*IDC **25** 13:00:09.9±2.6, 1620S×17481W, h0km, mb4.3/4, mb1 4.4/4, mb1mx3.9/15, mbtmp4.3/4, ML1.4/1, Error ellipse: s-maj=159.0km s-min=30.4km az=149.0*
*NEIC **25** 13:00:11.4±1.4, 1605S×17489W, h10km, mb4.2/1, Error ellipse: s-maj=116.0km s-min=12.2km az=152.0*
*ISCJB **25** 13:00:12.9±1.8, 160S±09×1749W±05, h33km, mb4.3/5, Error ellipse: s-maj=145.1km s-min=15.1km az=152.2*

ISC 25 13:00:14.7±1.9, 161S±09×1748W±05, h35km, n7, σ0=53/7, mb4.3/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.64**	**54**	Pn	**Pn**	**13 01 08.5**	**0.0**
	1.7nm,0.3s,baz=73,slow=23,SNR=7.0						
STKA	**Stephens Creek**	**42.52**	**240**	P	**P**	**13 08 07.0**	**+0.1**
	1.1nm,0.3s,mb4.0,baz=85,slow=11,SNR=8.7						
WB2	**Warramunga Arr**	**48.35**	**257**	*eP*	**P**	**13 08 52.8**	**-0.5**
WRAB	**Tennant Creek**	**48.35**	**257**	*eP*	**P**	**13 08 53.1**	**-0.2**
	1.5nm,0.6s,mb4.2						
WRA	**Warramunga Arr**	**48.36**	**257**	P	**P**	**13 08 53.0**	**-0.3**
	1.1nm,0.5s,mb4.2,baz=94,slow=7.1,SNR=48						
ASAR	**Alice Springs**	**48.60**	**252**	P	**P**	**13 08 55.0**	**-0.3**
	11nm,0.6s,mb5.1,baz=88,slow=8.3,SNR=286						
FITZ	**Fitzroy Crossi**	**56.73**	**259**	P	**P**	**13 09 56.7**	**+1.3**
	1.6nm,0.9s,mb4.0,baz=112,slow=5.4,SNR=5.0						

*IDC **25** 13:02:01.5±15.0, 3598N×7050E, h122km±139km, mb3.3/4, mb1 3.3/5, mb1mx3.1/22, mbtmp3.3/5, ML3.9/1, Error ellipse: s-maj=80.1km s-min=27.9km az=177.0*
*ISCJB **25** 13:02:11.6±0.5, 3652N±003×7067E±008, h221km±7km, mb3.2/3, Error ellipse: s-maj=10.0km s-min=4.6km az=178.0*
*NEIC **25** 13:02:11.9±0.8, 3651N×7052E, h220km±10km, mb4.4/4, Error ellipse: s-maj=29.7km s-min=10.1km az=122.0*

ISC 25 13:02:12.3±0.5, 3654N±003×7060E±009, h216km±7km, n42, σ0=91/51, mb3.2/3, 4C-1D, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**2.36**	**213**	*eP*	**Pn**	**13 02 55.8**	**+0.1**
KBL				*eS*	**S**	**13 03 28.7**	**-0.9**
CEP	**Cherat**	**2.91**	**158**	P	**Pn**	**13 03 02.0**	**+0.3**
CHCP	**Chirah Chowk**	**3.61**	**142**	P	**Pn**	**13 03 10.5**	**+0.6**
CHCP				S	**S**	**13 03 50.0**	**-5.2**
THW	**Thamme Wali**	**3.85**	**166**	P	**Pn**	**13 03 12.7**	**-0.1**
DRP	**Derazinda**	**4.79**	**184**	P	**Pn**	**13 03 24.5**	**0.0**
DLH	**Dalhousie**	**5.96**	**130**	*eP*	**Pn**	**13 03 40.0**	**+0.8**
DLH				*ex*	x	13 04 47.0	
AML	**Almayashu**	**6.08**	**22**	*eP*	**Pn**	**13 03 41.2**	**+0.6**
	78nm,0.5s						
AML				*eS*	**S**	**13 04 48.8**	**-2.1**
AML	**Almayashu**	**6.08**	**22**	P	**Pn**	**13 03 41.2**	**+0.5**
	SNR=111						
UCH	**Uchtor**	**6.44**	**27**	*eP*	**Pn**	**13 03 45.8**	**+0.6**
	27nm,0.6s						
UCH				*eS*	**S**	**13 04 57.1**	**-2.2**
UCH	**Uchtor**	**6.44**	**27**	P	**Pn**	**13 03 46.0**	**+0.8**
	SNR=42						
KK31	**Karatay Array**	**6.56**	**359**	⇑Pn	**Pn**	**13 03 47.3**	**+0.5**
	1.6nm,0.4s,baz=183,slow=12,SNR=24						
KK31				⇑Pg	**Pn**	**13 03 57.2**	**+10**
	2.8nm,0.4s,baz=177,slow=12,SNR=5.5						
KK31				⇑Lg		13 04 58.5	
	9.1nm,0.5s,baz=175,slow=17,SNR=11						
EKS2	**Erkin-Say**	**6.59**	**21**	*eP*	**Pn**	**13 03 48.0**	**+0.9**
	5.3nm,0.5s						
EKS2				*eS*	**S**	**13 05 01.0**	**-1.8**
EKS2	**Erkin-Say**	**6.59**	**21**	P	**Pn**	**13 03 48.2**	**+1.0**
	SNR=7.0						
KZA	**Kyzart**	**6.60**	**32**	P	**Pn**	**13 03 47.5**	**+0.1**
	SNR=13						
AAK	**Ala-Archa**	**6.79**	**25**	P	**Pn**	**13 03 50.7**	**+0.9**
	SNR=16						
KBK	**Karagaybulak**	**6.97**	**27**	P	**Pn**	**13 03 53.6**	**+1.5**
	SNR=6.0						
ULHL	**Ulahol**	**7.18**	**36**	P	**Pn**	**13 03 55.5**	**+0.7**
	SNR=8.1						
CHMS	**Chumysh**	**7.20**	**25**	P	**Pn**	**13 03 55.9**	**+0.9**
	SNR=5.3						
SDNR	**Sundarnagar**	**7.29**	**132**	*eP*	**Pn**	**13 03 58.0**	**+1.6**
SDNR				*eS*	**S**	**13 05 13.0**	**-6.4**
TKM2	**Tokmak 2**	**7.45**	**30**	⇓Pn	**Pn**	**13 03 58.7**	**+0.5**
	7.3nm,0.6s						
TKM2				⇑Lg		13 05 21.1	
	15nm,0.8s						
TKM2	**Tokmak 2**	**7.45**	**30**	*eP*	**Pn**	**13 03 58.1**	**-0.1**
	10.0nm,0.5s						
TKM2	**Tokmak 2**	**7.45**	**30**	P	**Pn**	**13 03 58.9**	**+0.6**
	SNR=5.5						
KLP	**Kalpa**	**8.07**	**126**	*eP*	**Pn**	**13 04 06.4**	**0.0**
KLP				*eS*	**S**	**13 05 32.9**	**-4.9**
KLP				AML	AML	13 05 36.3	
	comp=E,126nm,0.5s						
KLP				AML	AML	13 05 37.1	
	comp=N,110nm,0.3s						
KHET	**Khetri**	**9.52**	**151**	*eS*	**S**	**13 06 02.4**	**-10**
JOSI	**Joshimath**	**9.56**	**126**	*eP*	**Pn**	**13 04 25.5**	**-0.2**
JOSI				*eS*	**S**	**13 06 07.1**	**-5.9**
JOSI				AML	AML	13 06 10.4	
	comp=N,109nm,1.2s						
JOSI				AML	AML	13 06 10.4	
	comp=E,95nm,0.6s						
SONA	**Sohna**	**9.91**	**145**	*eS*	**S**	**13 06 12.2**	**-9.2**
MK31	**Makanchi Array**	**13.45**	**37**	*eP*	**Pn**	**13 05 14.4**	**-0.2**
MKAR	**Makanchi Array**	**13.45**	**37**	P	**Pn**	**13 05 14.6**	**-0.1**
	comp=E,0.6nm,0.3s,baz=225,slow=14,SNR=12						
DANN	**Dangsing**	**13.78**	**123**	*eP*	**Pn**	**13 05 18.5**	**-0.4**
KOLN	**Koldanda**	**14.05**	**125**	*eP*	**Pn**	**13 05 22.2**	**0.0**
GKN	**Gorkha**	**14.60**	**122**	*eP*	**Pn**	**13 05 28.8**	**-0.1**
DMN	**Daman**	**15.17**	**122**	*eP*	**Pn**	**13 05 35.4**	**-0.4**
KKN	**Kakani**	**15.17**	**121**	*eP*	**Pn**	**13 05 35.0**	**-0.9**
	comp=E,32nm,0.4s						
PKIN	**Phulchoki**	**15.38**	**121**	*eP*	**Pn**	**13 05 38.3**	**-0.2**
PKI	**Pulchoki**	**15.40**	**121**	*eP*	**Pn**	**13 05 38.2**	**-0.4**
	comp=E,31nm,0.3s						
GUN	**Gumba**	**15.52**	**119**	*eP*	**Pn**	**13 05 39.8**	**-0.2**
	comp=E,9.5nm,0.3s						
JIRN	**Jiri**	**15.88**	**119**	*eP*	**Pn**	**13 05 44.1**	**-0.4**
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**13 06 29.2**	**+0.7**
ZALV	**Zalesovo Beam**	**20.02**	**25**	P	**P**	**13 06 29.2**	**+0.8**
	comp=E,3.2nm,0.5s,baz=215,slow=11,SNR=12						
SONM	**Songino Array**	**28.58**	**55**	P	**P**	**13 07 50.0**	**+2.0**
	comp=E,0.4nm,0.6s,mb3.2,baz=261,slow=8.6,SNR=3.3						
TORD	**Torodi Ar. Bea**	**65.40**	**268**	P	**P**	**13 12 30.9**	**-1.2**
	comp=E,0.9nm,0.5s,mb3.6,baz=41,slow=5.6,SNR=8.5						
WRA	**Warramunga Arr**	**82.28**	**122**	P	**P**	**13 14 08.0**	**-1.7**
	comp=E,0.1nm,0.5s,mb2.7,baz=323,slow=5.0,SNR=4.6						

*IDC **25** 13:40:13.0±0.9, 2572N×11003W, h0km, mb4.0/3, mb1 4.1/6, mb1mx3.9/23, mbtmp3.8/6, ML3.4/3, MS3.9/20, Ms1 3.9/20, ms1mx3.7/31, Error ellipse: s-maj=20.5km s-min=10.4km az=102.0*
*ISCJB **25** 13:40:15.8±0.5, 2597N±005×11006W±004, h10km, mb4.3/15, MS3.9/18, Error ellipse: s-maj=7.2km s-min=4.2km az=19.1*
*BJI **25** 13:40:15.1, 2642N×109.15W, h12km, mB5.2, mb4.8, Ms5.2, Msz4.8*
*NEIC **25** 13:40:17.1±0.6, 2583N×11008W, h10km, mb4.3/35, ML4.5(MEX), MW4.5(SLM), Error ellipse: s-maj=8.9km s-min=6.2km az=217.0*
*MEX **25** 13:40:19.3±0.5, 2570N×11047W, h10km, MD4.5*

ISC 25 13:40:15.2±1.3, 2573N±004×11010W±004, h8km±9km, n249, σ1=29/236, mb4.3/17, MS3.9/18, 62C-75D, Gulf of California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPIG	**La Paz**	**1.63**	**187**	*i* P	**Pn**	**13 40 44.0**	**-0.1**
LPIG				*e*		13 40 44.9	
LPIG				*eS*	**Sn**	**13 40 57.4**	**-7.9**
LPIG				*e*		13 40 58.3	
LPIG	**La Paz**	**1.63**	**187**	Pg	**Pg**	**13 40 44.2**	**-2.3**
	45nm,0.3s,baz=276,slow=0.6,SNR=90						
LPIG				Lg		13 41 03.7	
	134nm,0.3s,baz=8.2,slow=21,SNR=11						
LPIG	**La Paz**	**1.63**	**187**	*i* P	**Pn**	**13 40 44.0**	**-0.1**
LPIG				*i* S	**Sn**	**13 41 04.5**	**-0.9**
HSIG		**3.36**	**347**	*i* P	**Pn**	**13 41 03.7**	**-4.3**
HSIG				*i* S	**Sn**	**13 41 48.9**	**+0.8**
HPIG		**4.16**	**72**	*i* P	**Pn**	**13 41 25.4**	**+6.5**
HPIG				*eS*	**Sn**	**13 42 17.5**	**+10**
CGIG		**4.99**	**22**	*i* P	**Pn**	**13 41 33.0**	**+2.7**
CGIG				*i* S	**Sn**	**13 42 30.8**	**+2.7**
319A	**Douglas**	**5.67**	**7**	⇓P	**Pn**	**13 41 36.3**	**-3.4**
	baz=5.5,SNR=11						
318A	**Bisbee**	**5.69**	**1**	⇑P	**Pn**	**13 41 37.0**	**-3.0**
	baz=5.5,SNR=32						
218A	**Dragoon**	**6.22**	**0**	⇓P	**Pn**	**13 41 44.3**	**-3.0**
	baz=6.0						
219A	**White Tail Can**	**6.29**	**7**	⇓P	**Pn**	**13 41 44.3**	**-3.9**
	baz=6.1,SNR=8.4						
216A	**Three Points,**	**6.36**	**350**	⇑P	**Pn**	**13 41 46.7**	**-2.5**
	baz=6.2,SNR=10						
TUC	**Tucson**	**6.58**	**355**	*eP*	**Pn**	**13 41 48.4**	**-3.8**
	14nm,0.8s						
TXAR	**Lajitas Array**	**6.75**	**56**	Pn	**Pn**	**13 41 52.6**	**-1.8**
TXAR				Sn	**Sn**	**13 43 11.2**	**-0.3**
TXAR				Lg		13 43 44.8	
TXAR				LR	LR	13 44 42.2	
TXAR	**Lajitas Array**	**6.75**	**56**	Pn	**Pn**	**13 41 52.6**	**-1.8**
	0.4nm,0.3s,baz=229,slow=14,SNR=14						
TXAR				Sn	**Sn**	**13 43 11.2**	**-0.3**
	2.3nm,0.3s,baz=239,slow=26,SNR=4.2						
TXAR				Lg		13 43 44.8	
	7.5nm,0.3s,baz=250,slow=28,SNR=6.8						
TXAR				LR	LR	13 44 42.2	
	comp=Z,1μm,18.8s,baz=190,slow=40						
117A	**Oracle**	**6.84**	**355**	⇓P	**Pn**	**13 41 53.0**	**-2.8**
	baz=6.6,SNR=17						
118A	**Homack Ranch,**	**6.89**	**1**	⇓P	**Pn**	**13 41 52.7**	**-3.7**
	baz=6.7,SNR=20						
116A	**Eloy**	**6.95**	**349**	⇓P	**Pn**	**13 41 54.8**	**-2.5**
	baz=6.8,SNR=16						
119A	**Ashpeak Ranch,**	**7.05**	**5**	⇑P	**Pn**	**13 41 54.9**	**-3.7**
	baz=6.8						
115A	**Sonoran Desert**	**7.19**	**346**	⇑P	**Pn**	**13 41 58.4**	**-2.2**
	baz=7.0						
MNTX	**Cornudas Mount**	**7.25**	**34**	*eP*	**Pn**	**13 42 00.5**	**-0.9**
	30nm,0.9s						
Y17A	**Roosevelt**	**7.96**	**356**	⇑P	**Pn**	**13 42 08.5**	**-2.7**
	baz=7.8,SNR=17						
GLA	**Glamis**	**8.38**	**332**	*eP*	**Pn**	**13 42 14.2**	**-2.7**
	17nm,0.8s						
GLA	**Glamis**	**8.38**	**332**	⇓P	**Pn**	**13 42 14.6**	**-2.3**
	baz=8.2,SNR=9.7						
X16A	**Lo Mia Camp, P**	**8.74**	**353**	⇓P	**Pn**	**13 42 21.3**	**-0.5**
	baz=8.5						
X18A	**Snowflake**	**8.77**	**1**	⇓P	**Pn**	**13 42 20.4**	**-1.8**
	baz=8.6						
LENM	**Lemitar**	**8.83**	**17**	*eP*	**Pn**	**13 42 22.1**	**-1.0**
BNM	**Barren Site**	**8.92**	**19**	*eP*	**Pn**	**13 42 23.3**	**-1.0**
X15A	**Humboldt**	**8.92**	**349**	⇑P	**Pn**	**13 42 23.0**	**-1.4**
	baz=8.7						
LAZ	**Ladron**	**9.02**	**16**	*eP*	**Pn**	**13 42 25.4**	**-0.2**
MONP	**Monument Peak**	**9.02**	**324**	⇓P	**Pn**	**13 42 27.4**	**+1.8**
	baz=8.9						
X14A	**Yava**	**9.04**	**345**	⇓P	**Pn**	**13 42 24.6**	**-1.3**
	baz=8.9						
LPM	**Los Pinos Moun**	**9.07**	**19**	*eP*	**Pn**	**13 42 25.5**	**-0.8**
BC3	**Big Chuckw Mtn**	**9.16**	**331**	⇓P	**Pn**	**13 42 28.5**	**+0.8**
	baz=9.0						
X13A	**Yucca**	**9.40**	**341**	⇓P	**Pn**	**13 42 30.1**	**-0.9**
	baz=9.2						
W16A	**Flagstaff**	**9.42**	**353**	⇓P	**Pn**	**13 42 28.5**	**-2.6**
	baz=9.2						
IRM	**Iron Mountain**	**9.47**	**334**	⇑P	**Pn**	**13 42 32.9**	**+1.0**
	baz=9.3						
PFO	**Pinyon Flat Ob**	**9.60**	**326**	Pn	**Pn**	**13 42 35.6**	**+2.0**
	0.2nm,0.3s,baz=148,slow=21,SNR=3.1						
PFO				LR	LR	13 45 31.5	
	comp=Z,329nm,20.9s,baz=315,slow=33						
PFO	**Pinyon Flat Ob**	**9.60**	**326**	⇑P	**Pn**	**13 42 35.4**	**+1.8**
	baz=9.5						
W15A	**Williams**	**9.60**	**349**	⇓P	**Pn**	**13 42 33.1**	**-0.5**
	baz=9.4						
BELC	**Belle Mtn.**	**9.70**	**330**	⇓P	**Pn**	**13 42 36.2**	**+1.2**
	baz=9.5						
W14A	**Seligman**	**9.79**	**346**	⇑P	**Pn**	**13 42 36.6**	**+0.3**
	baz=9.6,SNR=11						
WUAZ	**Wupatki**	**9.82**	**354**	*eP*	**Pn**	**13 42 36.1**	**-0.5**
	8.7nm,0.7s						
WUAZ	**Wupatki**	**9.82**	**354**	⇑P	**Pn**	**13 42 36.0**	**-0.6**
	baz=9.6						
W13A	**Hualapai Mount**	**9.89**	**342**	⇓P	**Pn**	**13 42 38.3**	**+0.7**
	baz=9.7,SNR=17						
V14A	**Boquillas Ranc**	**10.21**	**346**	⇓P	**Pn**	**13 42 41.6**	**-0.3**
	baz=10.0,SNR=18						
V15A	**Kaibab Nationa**	**10.21**	**350**	⇓P	**Pn**	**13 42 43.7**	**+1.6**
	baz=10.0,SNR=10						
GMRC	**Granite Mounta**	**10.22**	**333**	⇑P	**Pn**	**13 42 43.2**	**+1.1**
	baz=10						
JCT	**Junction City**	**10.25**	**60**	*eP*	**Pn**	**13 42 44.3**	**+1.7**
	7.0nm,0.7s						
W12A	**Cal Nev Ari**	**10.39**	**338**	⇑P	**Pn**	**13 42 45.5**	**+1.1**
	baz=10						
HEC	**Hector,Ludlow**	**10.54**	**331**	⇓P	**Pn**	**13 42 48.8**	**+2.2**
	baz=10						
V13A	**Grand Canyon W**	**10.63**	**343**	⇓P	**Pn**	**13 42 48.3**	**+0.6**
	baz=10,SNR=17						
V12A	**Nelson**	**10.77**	**339**	⇑P	**Pn**	**13 42 50.8**	**+1.1**
	baz=11,SNR=8.9						
TUQ	**Turquoise Mtn.**	**10.89**	**334**	⇑P	**Pn**	**13 42 53.1**	**+1.7**
	baz=11,SNR=9.4						
U14A	**Mt Trumbull**	**10.98**	**347**	⇓P	**Pn**	**13 42 51.6**	**-0.8**
	baz=11,SNR=17						
GSC	**Goldstone**	**11.15**	**330**	*eP*	**Pn**	**13 42 57.7**	**+2.8**
	15nm,1.4s						
EDW2	**Edwards Air Fo**	**11.38**	**325**	⇓P	**Pn**	**13 42 59.3**	**+1.3**
	baz=11						
SHOC	**Shoshone**	**11.44**	**334**	⇓P	**Pn**	**13 42 59.5**	**+0.6**
	baz=11						
MVCO	**Mesa Verde**	**11.53**	**6**	*eP*	**Pn**	**13 43 00.5**	**+0.5**
	45nm,1.3s						
MVCO	**Mesa Verde**	**11.53**	**6**	⇓P	**Pn**	**13 42 58.3**	**-1.7**
	baz=11,SNR=6.4						
LRMC	**Laurel Mountai**	**11.70**	**328**	⇑P	**Pn**	**13 43 03.6**	**+1.2**
	baz=12,SNR=12						
U10A	**Ash Meadows, A**	**11.91**	**335**	⇑P	**Pn**	**13 43 06.2**	**+0.8**
	baz=12,SNR=9.7						
MPMC	**Manual Prospec**	**12.09**	**330**	⇑P	**Pn**	**13 43 08.8**	**+1.1**
	baz=12,SNR=10.0						
CCUT	**Cedar City**	**12.11**	**348**	*eP*	**Pn**	**13 43 11.0**	**+3.1**
FURC	**Furnace Creek,**	**12.17**	**333**	⇑P	**Pn**	**13 43 10.3**	**+1.5**
	baz=12						
T11A	**Corn Creek, Al**	**12.28**	**340**	⇓P	**Pn**	**13 43 11.3**	**+1.0**
	baz=12						
ARUT	**Antelope Range**	**12.35**	**348**	*eP*	**Pn**	**13 43 14.0**	**+2.7**
TPNV	**Topopah Spring**	**12.35**	**336**	*eP*	**Pn**	**13 43 12.0**	**+0.7**
	108nm,2.0s						
TPNV	**Topopah Spring**	**12.35**	**336**	⇑P	**Pn**	**13 43 12.1**	**+0.8**
	baz=12						
PV01	**Paradox Valley**	**12.44**	**6**	*eP*	**Pn**	**13 43 12.9**	**+0.4**
PV10	**Paradox Valley**	**12.64**	**4**	*eP*	**Pn**	**13 43 14.4**	**-0.8**
CWC	**Cottonwood Cre**	**12.67**	**329**	⇓P	**Pn**	**13 43 17.3**	**+1.6**
	baz=12						
VES	**Vestal, Richgr**	**12.69**	**325**	⇑P	**Pn**	**13 43 16.4**	**+0.5**
	baz=12						
S11A	**Rachel**	**12.81**	**339**	⇑P	**Pn**	**13 43 19.0**	**+1.4**
	baz=13						
GRAC	**Grapevine Rang**	**12.83**	**333**	⇑P	**Pn**	**13

AHID	Auburn Hatcher	17.01	357	P	Pn	13 44 15.7 +2.3
N06A	Buffalo Meadow	17.03	334	⇓P	Pn	13 44 12.9 -0.7
	baz=17,SNR=18					
L11A	Cat Creek Ranc	17.05	346	⇑P	Pn	13 44 12.7 -1.1
	baz=17,SNR=28					
M08A	Happy Creek Ra	17.11	338	⇓P	Pn	13 44 15.0 +0.3
	baz=17,SNR=12					
L10A	Juniper Basin	17.13	344	⇓P	Pn	13 44 13.8 -1.0
	baz=17,SNR=18					
O04C	Chester	17.20	330	⇓P	Pn	13 44 14.9 -0.8
	baz=17,SNR=16					
ELFS	Eagle Lake Fie	17.29	332	⇓P	Pn	13 44 15.7 -1.1
	baz=17,SNR=8.4					
M07A	Soldier Meadow	17.33	337	⇓P	Pn	13 44 17.1 -0.3
	baz=17					
KSU1	Kansas State U	17.51	37	eP	Pn	13 44 20.8 +1.2
REDW	Red Top Meadow	17.60	358	eP	Pn	13 44 20.9 +0.1
	35nm,1.4s					
M06C	Likely Place G	17.67	333	⇓P	Pn	13 44 22.2 +0.5
	baz=18					
K11A	Parker Ranch,	17.68	345	⇑P	Pn	13 44 21.2 -0.6
	baz=18,SNR=8.9					
SNOW	Snow King Moun	17.70	358	eP	Pn	13 44 21.2 -0.7
	70nm,1.4s					
TPAW	Teton Pass	17.73	358	eP	Pn	13 44 21.6 -0.8
	32nm,1.4s					
LOHW	Long Hollow	17.85	359	eP	Pn	13 44 23.8 0.0
	30nm,1.4s					
K10A	MacKenzie Ranc	17.89	344	⇓P	Pn	13 44 24.3 0.0
	baz=18					
L07A	Adell	17.95	337	⇑P	Pn	13 44 25.6 +0.6
	baz=18					
K09A	Rome	18.05	342	⇑P	Pn	13 44 26.0 -0.3
	baz=18,SNR=31					
LTIM	Timbered Crate	18.07	331	P	Pn	13 44 28.4 +1.8
WVOR	Wild Horse Val	18.08	339	eP	Pn	13 44 27.4 +0.7
	16nm,1.3s					
HLID	Hailey	18.14	350	eP	Pn	13 44 28.7 +1.4
	12nm,1.9s					
HLID	Hailey	18.14	350	⇓P	Pn	13 44 27.0 -0.3
	baz=18					
IMW	Indian Meadow	18.14	358	eP	Pn	13 44 27.1 -0.3
	14nm,0.9s					
MOD	Modoc	18.20	335	eP	Pn	13 44 28.8 +0.7
	21nm,1.3s					
MOD	Modoc	18.20	335	⇑P	Pn	13 44 28.0 -0.1
	baz=18,SNR=5.8					
K08A	Mann Creek Ran	18.30	340	⇑P	Pn	13 44 29.1 -0.3
	baz=18,SNR=5.5					
FLWY	Flagg Ranch	18.32	359	eP	Pn	13 44 30.1 +0.6
	23nm,0.9s					
I13A	Wildhorse Cree	18.43	351	⇓P	Pn	13 44 30.6 -0.4
	baz=18,SNR=13					
K07A	Rock Creek Ran	18.51	338	⇓P	Pn	13 44 32.2 +0.3
	baz=18,SNR=14					
L05A	Lakeview	18.53	334	⇓P	Pn	13 44 32.8 +0.7
	baz=18,SNR=13					
YFT	Old Faithful	18.69	358	eP	Pn	13 44 35.4 +1.4
I11A	Placerville	18.76	347	⇑P	Pn	13 44 34.0 -0.9
	baz=19,SNR=9.9					
J08A	Circle Bar Ran	18.87	341	⇑P	Pn	13 44 34.9 -1.4
	baz=19,SNR=13					
K06A	Valley Falls	18.95	336	⇓P	Pn	13 44 37.5 +0.2
	baz=19					
YBH	Yreka Blue Hor	19.06	330	LR	LR	13 51 23.0
	comp=Z,198nm,18.3s,baz=151,slow=35					
QLMT	Earthquake Lak	19.09	357	eP	Pn	13 44 40.1 +1.2
H13A	Challis	19.09	351	⇓P	Pn	13 44 37.6 -1.3
	baz=19,SNR=8.0					
K05A	Summer Lake	19.13	335	⇓P	Pn	13 44 38.4 -1.0
	baz=19					
J07A	Hines	19.14	339	⇓P	Pn	13 44 39.5 -0.1
	baz=19					
H12A	Diamond D Ranc	19.17	350	⇑P	Pn	13 44 38.9 -1.0
	baz=19					
MCMT	McKenzie Canyo	19.18	354	P	Pn	13 44 41.2 +1.1
I09A	Lost Marbles R	19.23	343	⇑P	Pn	13 44 39.6 -1.0
	baz=19					
RLMT	Red Lodge	19.36	2	eP	Pn	13 44 41.5 -0.7
	14nm,1.3s					
I08A	Drewsey	19.40	341	⇓P	Pn	13 44 41.8 -0.9
	baz=19					
G15A	Dillon	19.49	355	⇓P	Pn	13 44 42.5 -1.2
	baz=19,SNR=11					
H11A	Donnelly	19.53	347	⇑P	Pn	13 44 43.0 -1.2
	baz=19					
H10A	Noah's Angus R	19.57	346	⇓P	Pn	13 44 43.2 -1.6
	baz=19,SNR=19					
G13A	Cobalt	19.61	351	⇓P	Pn	13 44 43.5 -1.6
	baz=19,SNR=13					
DLMT	Dillon	19.69	355	eP	Pn	13 44 47.7 +1.5
	50nm,1.2s					
J05A	Fort Rock	19.74	335	⇓P	Pn	13 44 45.2 -1.5
	baz=20,SNR=13					
I07A	Izee	19.84	340	⇑P	Pn	13 44 46.2 -1.7
	baz=20,SNR=8.2					
H09A	Durkee	19.86	344	⇑P	Pn	13 44 46.3 -1.9
	baz=20,SNR=16					
BOZ	Bozeman (W)	19.91	357	eP	Pn	13 44 47.9 -0.9
	13nm,1.2s					
BOZ	Bozeman (W)	19.91	357	⇑P	Pn	13 44 46.3 -2.5
	baz=20					
I06A	Prineville	19.95	338	⇑P	Pn	13 44 46.6 -2.5
	baz=20,SNR=7.1					
BMO	Blue Mountains	19.95	345	eP	Pn	13 44 47.3 -1.9
	26nm,1.4s					
H08A	Prairie City	19.99	342	⇑P	Pn	13 44 48.2 -1.5
	baz=20,SNR=15					
CCM	Cathedral Cave	20.14	48	eP	P	13 44 51.9 +2.3
	11nm,1.0s					
F15A	Butte	20.16	355	⇓P	P	13 44 49.7 -0.2
	baz=20,SNR=16					
H07A	Lands Inn, Kim	20.32	340	⇓P	P	13 44 51.3 -0.3
	baz=20,SNR=10					
G10A	Bishop Farm, J	20.32	346	⇑P	P	13 44 50.5 -1.1
	baz=20,SNR=9.3					
F12A	Elk City	20.41	350	⇓P	P	13 44 51.7 -0.8
	baz=20,SNR=11					
FVM	French Village	20.65	49	eP	P	13 44 57.4 +2.2
	7.8nm,0.5s					
H06A	Lindquist Farm	20.69	339	⇓P	P	13 44 55.4 -0.2
	baz=20					
E15A	Deer Lodge	20.75	355	⇑P	P	13 44 54.9 -1.4
	baz=21					
G08A	Pilot Rock	20.78	342	⇑P	P	13 44 56.2 -0.4
	baz=21,SNR=6.5					
TEIG	Tepich	20.82	101	eP	P	13 45 04.3 +7.2
TEIG	Tepich	20.82	101	LR	LR	13 54 04.9
	comp=Z,346nm,21.1s,MS3.7,baz=132,slow=40					
F09A	S2 Ranch, Elgi	20.90	345	⇓P	P	13 44 57.4 -0.5
	baz=21,SNR=8.2					
E13A	Victor	20.93	352	⇑P	P	13 44 57.3 -0.8
	baz=21,SNR=11					
G07A	Ruggs Ranch, H	20.96	341	⇓P	P	13 44 57.5 -1.0
	baz=21,SNR=7.5					
HRY	Holter Researc	20.98	357	eP	P	13 44 59.3 +0.5
ECSD	EROS,Sioux Fal	21.06	28	eP	P	13 44 59.6 +0.1
	8.1nm,0.9s,mb4.0					
PLAL	Pickwick Lake	21.09	59	eP	P	13 45 03.0 +2.9
	31nm,1.1s,mb4.5					
LNOR	Lincton Mounta	21.14	344	P	P	13 45 01.5 +1.1
E11A	Bogner Ranch,	21.16	348	⇑P	P	13 44 59.1 -1.5
	baz=21,SNR=12					
G06A	Carlson Farm,	21.23	339	⇑P	P	13 45 01.0 -0.5
	baz=21					
MSO	Missoula	21.28	353	eP	P	13 45 02.1 +0.2
	21nm,1.3s,mb4.3					
CHMT	Chamberlain Mo	21.29	354	eP	P	13 45 01.8 -0.3
SIUC	Southern Illin	21.36	51	eP	P	13 45 03.5 +0.6
	69nm,1.0s,mb4.9					
E10A	Myers Farm, Un	21.45	347	⇓P	P	13 45 03.3 -0.5
	baz=21					
D14A	Greenough	21.48	354	⇑P	P	13 45 03.5 -0.6
	baz=21,SNR=29					
D13A	Huson	21.60	352	⇓P	P	13 45 04.6 -0.8
	baz=21,SNR=16					
D11A	Klaveano Farm,	21.84	348	⇓P	P	13 45 07.1 -0.9
	baz=22,SNR=9.5					
HAWA	Hanford	21.95	342	eP	P	13 45 07.9 -1.3
	9.2nm,0.8s,mb4.3					
D10A	Wagner Farm, O	22.03	347	⇓P	P	13 45 08.9 -1.1
	baz=22					
C13A	Hot Springs	22.19	352	⇑P	P	13 45 10.6 -1.1
	baz=22					
EGMT	Eagleton	22.25	1	eP	P	13 45 12.2 -0.2
	12nm,1.4s,mb4.1					
EGMT	Eagleton	22.25	1	⇑P	P	13 45 10.2 -2.1
	baz=22					
D08A	Wollman Farm,	22.41	344	⇑P	P	13 45 12.8 -1.3
	baz=22					
E06A	Yakima	22.51	340	⇑P	P	13 45 15.0 -0.1
	baz=22					
HDIL	Hopedale	22.77	44	eP	P	13 45 19.3 +1.4
	18nm,0.8s,mb4.5					
SWET	Sewanee	22.83	60	eP	P	13 45 21.5 +2.9
B13A	Whitefish	22.86	352	⇑P	P	13 45 17.3 -1.5
	baz=23,SNR=11					
NEW	Newport	23.16	348	eP	P	13 45 24.4 +2.4
	7.7nm,0.9s,mb4.1					
NEW	Newport	23.16	348	P	P	13 45 21.5 -0.5
	4.1nm,0.6s,mb4.0,baz=153,slow=16,SNR=4.1					
NEW				LR	LR	13 54 37.6
	comp=Z,379nm,18.9s,MS3.9,baz=167,slow=37					
C07A	Waterville	23.29	343	⇓P	P	13 45 22.7 -0.6
	baz=23					
E03A	Lebam	23.38	336	⇓P	P	13 45 24.5 +0.1
	baz=23					
WALA	Waterton Lakes	23.48	354	eP	P	13 45 24.3 -1.0
	41nm,1.3s,mb4.7					
A11A	Hall Mountain,	23.70	350	⇓P	P	13 45 25.7 -1.7
	baz=24,SNR=10					
B08A	Colville Reser	23.72	345	⇑P	P	13 45 26.7 -0.9
	baz=24					
CPCT	Cooper Cave	24.00	60	eP	P	13 45 32.5 +2.1
B07A	Winthrop	24.01	343	⇑P	P	13 45 29.1 -1.2
	baz=24					
A09A	Danville	24.13	346	⇑P	P	13 45 30.4 -1.0
	baz=24					
A08A	Turner Farm, O	24.27	345	⇓P	P	13 45 31.9 -0.7
	baz=24					
TKL	Tuckaleechee C	24.64	60	eP	P	13 45 38.5 +2.3
AGMN	Agassiz Refuge	25.15	23	eP	P	13 45 40.8 +0.1
	11nm,0.8s,mb4.4					
ULM	Lac du Bonnet	26.83	20	P	P	13 45 55.4 -0.5
	1.5nm,0.6s,mb3.7,baz=14,slow=12,SNR=2.1					
ULM				LR	LR	13 55 52.9
	comp=Z,193nm,18.1s,MS3.7,baz=227,slow=35					
JTS	JuntasAbangare	28.34	118	LR	LR	13 58 56.7
	comp=Z,145nm,18.6s,MS3.6,baz=153,slow=40					
BBB	Bella Bella	29.73	337	LR	LR	13 57 49.9
	comp=Z,219nm,19.2s,MS3.8,baz=76,slow=36					
DLBC	Dease Lake	35.59	342	eP	P	13 47 17.9 +5.0
YKA	Yellowknife Ar	36.88	357	P	P	13 47 22.4 -1.4
YKA				LR	LR	14 03 05.5
YKA	Yellowknife Ar	36.88	357	P	P	13 47 22.4 -1.4
	1.2nm,0.8s,mb3.8,baz=177,slow=8.0,SNR=21					
YKA				LR	LR	14 03 05.5
	comp=Z,315nm,19.3s,MS4.1,baz=185,slow=37					
ROSC	El Rosal	40.04	115	LR	LR	14 06 49.1
	comp=Z,82nm,21.5s,MS3.5,baz=21,slow=40					
SDV	Santo Domingo	41.03	107	eP	P	13 48 01.4 +2.2
	18nm,1.0s,mb4.7					
SDV				eP	pP	13 48 06.6 +4.8
DAWY	Dawson	42.80	342	eP	P	13 48 14.4 +1.4
SCHQ	Schefferville	42.93	36	P	P	13 48 15.8 +1.6
SCHQ	Schefferville	42.93	36	P	P	13 48 15.8 +1.6
	8.4nm,1.1s,mb4.4,baz=244,slow=6.6,SNR=6.4					
IMA2	Indian Mountai	48.65	338	eP	P	13 48 58.2 -1.0
PPT	Papeete	57.68	226	LR	LR	14 08 13.3
	comp=Z,102nm,20.9s,MS3.9,baz=94,slow=29					
BILL	Bilibino	64.04	335	eP	P	13 50 48.7 -0.3
	2.0nm,0.6s,mb4.3					
CPUP	Villa Florida	72.59	132	P	P	13 51 46.6 +3.4
CPUP	Villa Florida	72.59	132	LR	LR	14 25 08.1
	comp=Z,68nm,19.6s,MS3.9,baz=326,slow=37					
BDFB	Brasilia	73.07	117	LR	LR	14 25 00.8
	comp=Z,34nm,18.6s,MS3.7,baz=282,slow=37					
TIXI	Tiksi	74.80	344	eP	P	13 51 57.1 +1.6
	2.5nm,0.6s,mb4.3					
PLCA	Paso Flores	75.65	150	eP	P	13 52 04.9 +4.2
	2.8nm,1.0s,mb4.2					
PLCA	Paso Flores	75.65	150	LR	LR	14 17 56.0
	comp=Z,108nm,21.2s,MS4.1,baz=5.4,slow=30					
NOA	NORSAR Array B	81.43	25	LR	LR	14 26 44.0
	comp=Z,60nm,20.0s,MS4.0,baz=340,slow=34					
FINES	FINESS Array B	86.22	19	LR	LR	14 30 05.8
	comp=Z,68nm,19.3s,MS4.1,baz=337,slow=35					
BBTS	Babate	86.89	75	LR	LR	14 35 03.0
	comp=Z,68nm,18.9s,MS4.1,baz=333,slow=38					
GERES	GERESS Array B	90.42	33	LR	LR	14 30 53.5
	comp=Z,80nm,20.9s,MS4.1,baz=102,slow=34					
AKASG	Malin Array Be	95.84	25	LR	LR	14 41 32.9
	comp=Z,43nm,18.1s,MS4.0,baz=30,slow=38					
ZALV	Zalesovo Beam	99.61	351	LR	LR	14 40 31.4
	comp=Z,47nm,19.9s,MS4.0,baz=153,slow=36					
BJI	Beijing	101.65	325	P	Pdif	13 54 09.0 +0.8
BJI				S	Sdif	14 05 41.0 -8.5
BJI				LR	LR	
	comp=N,145nm,15.0s,MS4.8					
BJI				LR	LR	
	comp=E,209nm,16.6s,MS4.8					
BJI				LR	LR	
	comp=Z,218nm,29.6s					
LZH	Lanzhou	110.67	331	ePKP	PKiKP	13 58 48.0 -0.8
LZH				XPKP		13 58 52.8
CD2	Chengdu	115.03	328	ePKP	PKiKP	13 58 58.3 +1.0
WRA	Warramunga Arr	120.83	261	PKP	PKPdf	13 59 07.7 -0.9
	comp=Z,0.4nm,0.8s,baz=60,slow=3.3,SNR=2.9					
ASAR	Alice Springs	122.33	257	PKP	PKPdf	13 59 10.0 -1.4
	comp=Z,0.4nm,0.8s,baz=67,slow=2.4,SNR=2.8					

*CSEM **25** 13:40:17.6, 36.16N×2.71E, h0km, ML3.7, After ALG*

CRAAG 25 13:40:17.6, 36.16N×2.71E, Ml3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.20	79	P	Pg	13 40 22.5	+1.0
EBNR	Beni Rached	0.96	278	P	Pg	13 40 37.5	+1.5
ECHA	Ech Chlef	1.09	270	P	Pg	13 40 39.0	+0.6
EANR	'Ain N'Sour	1.32	261	P	Pg	13 40 43.1	+0.2
ETRT	Tiaret	1.38	236	P	Pg	13 40 44.1	0.0

IDC 25 13:51:58.5±1.3, 871S×15687E, h0km, mb3.7/5, mb1 3.9/6, mb1mx3.8/14, mbtmp3.8/6, ML4.5/1, Error ellipse: s-maj=32.7km s-min=28.4km az=139.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	3.12	104	Pn	Pn	13 52 47.5	-1.5
	52nm,0.3s,baz=275,slow=2.6,SNR=45						
WRA	Warramunga Arr	24.49	240	P	P	13 57 18.9	-0.7
	1.2nm,0.8s,baz=66,slow=9.6,SNR=6.9						
ASAR	Alice Springs	26.54	233	P	P	13 57 37.3	-0.9
	0.6nm,1.0s,baz=59,slow=9.1,SNR=4.3						
STKA	Stephens Creek	27.07	210	P	P	13 57 44.6	+1.7
	1.7nm,0.7s,baz=20,slow=15,SNR=3.8						
SONM	Songino Array	71.78	327	P	P	14 03 23.0	+0.3
	0.4nm,0.5s,baz=123,slow=5.5,SNR=4.8						
MKAR	Makanchi Array	85.91	318	P	P	14 04 41.2	+0.8
	0.7nm,0.7s,baz=101,slow=6.0,SNR=4.6						

*IDC **25** 13:58:33.5±0.5, 237N×9708E, h0km, mb4.2/18, mb1 4.3/18, mb1mx4.3/22, mbtmp4.2/18, MS4.1/11, Ms1 4.1/11, ms1mx3.7/32, Error ellipse: s-maj=21.6km s-min=12.9km az=59.0*

*BJI **25** 13:58:36.4, 267N×97.10E, h11km, mB4.6, mb4.5, Ms4.2, Msz4.1*

*NEIC **25** 13:58:38.2±0.3, 232N×9707E, h30km, mb4.5/13, Error ellipse: s-maj=11.2km s-min=7.2km az=48.0*

*ISCJB **25** 13:58:39.7±1.0, 236N±005×97.13E±006, h60km±8km, mb4.4/43, Error ellipse: s-maj=11.2km s-min=7.0km az=146.8*

*MOS **25** 13:58:39.8±1.5, 249N×9736E, h56km, mb4.6/14, MS4.1/5, Error ellipse: s-maj=14.0km s-min=7.9km az=108.1*

*SZGRF **25** 13:58:40.8, 279N×9700E, h33km, mb4.7, Northern Sumatera, Indonesia*

ISC 25 13:58:42.2±1.0, 238N±005×9720E±006, h66km±8km, n103, σ19 05/100, mb4.3/43, 5C-4D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	Tuntungan	1.76	51	P	Pn	13 59 11.1	+0.5
	3μm,1.3s						
TSI	Tuntungan	1.76	51	⇓eP	Pn	13 59 14.0	+3.4
TSI				eS	Sn	13 59 37.0	+5.0
PSI	Prapat	1.77	76	Pn	Pn	13 59 10.7	0.0
	20nm,0.3s,baz=263,slow=9.1,SNR=83						
BSI	Banda Aceh	3.63	329	P	Pn	13 59 32.5	-3.6
	260nm,0.9s						
BSI	Banda Aceh	3.63	329	⇓eP	Pn	13 59 32.0	-4.1
BSI				eS	Sn	14 00 09.0	-8.7
PPI	Padang Panjang	4.26	131	P	Pn	13 59 47.3	+2.7
	186nm,1.1s						
PPI	Padang Panjang	4.26	131	⇑eP	Pn	13 59 44.5	-0.1
PPI				eS	Sx	14 00 56.0	
KULM	Kulim	4.50	50	eP	Pn	13 59 47.5	-0.3
SNG	Songkhla	5.86	35	P	Pn	14 00 07.5	+1.0
	410nm,0.9s						
KSI	Kapahiang	8.06	138	P	Pn	14 00 36.2	-0.5
	133nm,0.7s						
KKTK	Khon Kaen	14.93	21	P	Pn	14 02 12.5	+2.8
CHTO	Chiang Mai	16.42	6	eP	Pn	14 02 28.0	-0.6
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.8s						
CHTO	Chiang Mai	16.42	6	eP	Pn	14 02 28.0	-0.6
	comp=Z,4.7nm,0.8s						
NANT	Nan	16.68	12	P	Pn	14 02 37.0	+5.3
KKM	Kota Kinabalu	19.31	79	eP	Pn	14 03 03.4	-0.3
QIZ	Qiongzhong	20.66	36	P	P	14 03 15.0	-1.8
QIZ				S	S	14 06 57.3	-6.9
QIZ				XS	sS	14 07 11.0	-16
QIZ				AMB	AMB		
	comp=Z,13nm,1.2s						
QIZ				LR	LR		
	comp=N,529nm,17.7s						
QIZ				LR	LR		
	comp=Z,559nm,20.2s						
KMI	Kunming	23.23	13	P	P	14 03 44.3	+0.4
KMI				AP		14 03 49.5	
KMI				XP	sP	14 03 52.5	-14
KMI				PP		14 04 06.5	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.1s,mb4.0						
KMI				AMB	AMB		
	comp=Z,25nm,3.6s						
KMI				LR	LR		
	comp=N,620nm,17.7s						
KMI				LR	LR		
	comp=E,275nm,19.0s						
KMI				LR	LR		
	comp=Z,757nm,17.7s						
SHL	Shillong	23.61	348	eP	P	14 03 45.5	-1.9
HYB	Hyderabad	23.64	310	eP	P	14 03 50.0	+2.3
HYB	Hyderabad	23.64	310	i P	P	14 03 50.0	+2.3
KAPI	Kappang	23.70	108	LR	LR	14 14 01.6	
	comp=Z,404nm,19.5s,baz=61,slow=39						
JIRN	Jiri	27.25	338	eP	P	14 04 20.8	+0.4
PKI	Pulchoki	27.47	337	eP	P	14 04 22.9	+0.6
GUN	Gumba	27.60	338	eP	P	14 04 23.6	+0.2
	comp=Z,23nm,0.6s,mb4.8						
DMN	Daman	27.63	336	eP	P	14 04 24.2	+0.5
KKN	Kakani	27.72	337	eP	P	14 04 25.0	+0.5
	comp=Z,14nm,0.9s,mb4.5						
GKN	Gorkha	28.17	336	eP	P	14 04 28.4	-0.1
	comp=Z,2.0nm,0.3s,mb4.1						
KOLN	Koldanda	28.40	334	eP	P	14 04 31.4	+0.8
	comp=Z,20nm,0.8s,mb4.7						
DANN	Dangsing	28.84	335	eP	P	14 04 34.5	0.0
	comp=Z,12nm,0.6s,mb4.7						
XAN	Xi'an	33.35	18	P	P	14 05 14.5	+0.4
XAN				AMB	AMB		
	comp=Z,11nm,0.8s,mb4.7						
XAN				AMB	AMB		
	comp=Z,41nm,4.2s						
XAN				LR	LR		
	comp=N,303nm,15.7s						
XAN				LR	LR		
	comp=E,175nm,15.1s						
XAN				LR	LR		
	comp=Z,643nm,14.5s						
FITZ	Fitzroy Crossi	34.62	127	eP	P	14 05 25.3	-0.1
	comp=Z,6.2nm,0.8s,mb4.5						
FITZ	Fitzroy Crossi	34.62	127	P	P	14 05 24.8	-0.6
	comp=Z,1.6nm,0.7s,mb4.0,baz=107,slow=22,SNR=5.3						
SSE	Sheshan	36.46	36	P	P	14 05 42.0	+1.0
SSE				AP	pP	14 05 48.0	-9.1
SSE				PP	PP	14 07 04.5	-0.6
SSE				S	S	14 11 22.0	+3.7
SSE				XS	sS	14 11 32.8	-13
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.1						
SSE				AMB	AMB		
	comp=Z,39nm,5.5s						
SSE				LR	LR		
	comp=N,203nm,13.0s						
SSE				LR	LR		
	comp=E,160nm,13.0s						
SSE				LR	LR		
	comp=Z,353nm,16.4s						
GTA	Gaotai	36.94	3	eP	P	14 05 45.8	+0.9
GTA				AP	pP	14 05 55.3	-5.8
GTA				S	S	14 11 34.5	+9.2
GTA				AMB	AMB		
	comp=Z,7.0nm,0.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,40nm,6.1s						
GTA				LR	LR		
	comp=N,150nm,17.9s						
GTA				LR	LR		
	comp=E,124nm,16.7s						
GTA				LR	LR		
	comp=Z,147nm,18.6s						
NWAO	Narrogin (SRO)	39.90	153	P	P	14 06 07.7	-2.2
	comp=Z,14nm,0.9s,mb4.8,baz=265,slow=22,SNR=1.6						
NWAO				LR	LR	14 19 59.2	
	comp=Z,527nm,20.3s,baz=282,slow=32						
WRA	Warramunga Arr	42.66	123	P	P	14 06 33.1	+0.4
	comp=Z,3.4nm,0.7s,mb4.2,baz=302,slow=9.2,SNR=22						
WRAB	Tennant Creek	42.67	123	eP	P	14 06 32.1	-0.7
WRAB				pmax	pmax		
	comp=Z,8.0nm,0.8s,mb4.5						
WRAB	Tennant Creek	42.67	123	eP	P	14 06 32.1	-0.7
	comp=Z,8.2nm,0.8s,mb4.5						
WB2	Warramunga Arr	42.67	123	eP	P	14 06 33.2	+0.4
ASAR	Alice Springs	44.11	128	P	P	14 06 45.0	+0.6
	comp=Z,1.6nm,0.8s,mb3.8,baz=299,slow=7.8,SNR=26						
TKM2	Tokmak 2	44.73	337	eP	P	14 06 49.7	+0.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
TKM2	Tokmak 2	44.73	337	eP	P	14 06 49.7	+0.7
	comp=Z,3.4nm,0.6s,mb4.2						
KSRS	Korea Array	44.89	35	P	P	14 06 50.6	+0.3
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
KSRS				MLR	MLR		
	comp=Z,249nm,19.4s						
KSRS	Korea Array	44.89	35	P	P	14 06 50.5	+0.2
	comp=Z,1.5nm,0.6s,mb3.9,baz=233,slow=7.9,SNR=9.1						
KSRS				LR	LR	14 27 02.2	
	comp=Z,248nm,19.4s,baz=211,slow=38						
SONM	Songino Array	45.97	9	P	P	14 06 58.9	+0.2
	comp=Z,1.3nm,0.5s,mb4.0,baz=191,slow=8.8,SNR=9.9						
SONM				LR	LR	14 28 51.5	
	comp=Z,363nm,19.4s,baz=71,slow=40						
MK31	Makanchi Array	46.10	346	eP	P	14 06 59.3	-0.5
MKAR	Makanchi Array	46.10	346	P	P	14 06 59.4	-0.4
MKAR				LR	LR	14 30 47.4	
MKAR	Makanchi Array	46.10	346	P	P	14 06 59.4	-0.4
	comp=Z,5.2nm,0.8s,mb4.3,baz=156,slow=7.8,SNR=35	

NVS smax
comp=N,12nm,1.7s
RDF Al-Radifah 54.06 304 *eP* **P 14 08 00.2 -0.2**
RDF AML AML 14 08 14.5
comp=Z,7.0nm,0.5s
STKA Stephens Creek 54.15 133⇑ *iP* **P 14 08 02.0 +1.1**
comp=Z,5.4nm,0.9s,mb4.6
STKA Stephens Creek 54.15 133 P P 14 08 02.4 +1.5
comp=Z,7.2nm,0.9s,mb4.7,baz=316,slow=6.6,SNR=10
NAY Al-Naaiem 54.42 305 *eP* **P 14 08 02.6 -0.4**
NAY AML AML 14 08 11.0
comp=Z,3.2nm,0.5s
MIB Mutribah 54.53 305 *eP* **P 14 08 04.0 +0.2**
MIB AML AML 14 08 12.5
comp=Z,9.1nm,0.9s
BRVK Borovoye 55.21 341 *eP* **P 14 08 06.9 -1.3**
BRVK pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
BRVK Borovoye 55.21 341 *eP* **P 14 08 06.9 -1.3**
comp=Z,4.6nm,0.8s,mb4.6
KLR Kul'dur 55.21 27 *eP* **P 14 08 06.2 -2.1**
KMBO Kilima Mbogo 60.04 267 P **P 14 08 41.5 -1.4**
comp=Z,1.4nm,0.7s,mb4.1,baz=38,slow=18,SNR=3.9
KIV Kislovodsk 63.42 319 *eP* **P 14 09 06.0 +0.9**
KIV *i* 14 09 16.7
KIV *i* pP 14 09 26.5 +4.0
KIV *i* 14 09 39.9
KIV pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
YAK Yakutsk 64.30 16*d iP* **P 14 09 10.9 +0.4**
YAK pmax pmax
comp=Z,21nm,1.2s,mb4.8
YAK Yakutsk 64.30 16 *eP* **P 14 09 11.0 +0.5**
comp=Z,13nm,0.8s,mb4.8
OBN Obninsk 71.62 328⇑ *eP* **P 14 09 56.6 0.0**
OBN *i* S S 14 19 12.6 +1.7
OBN pmax pmax
comp=Z,22nm,1.6s,mb4.7
OBN MLR MLR
comp=Z,100nm,18.0s
TIXI Tiksi 72.03 10⇑ *eP* **P 14 09 59.0 +0.2**
TIXI pmax pmax
comp=Z,3.0nm,1.5s,mb3.9
TIXI MLR MLR
comp=Z,100nm,15.0s
TIXI Tiksi 72.03 10 *eP* **P 14 09 58.8 +0.1**
comp=Z,2.2nm,0.6s,mb4.2
SEY Seymchan 72.68 23⇑ *eP* **P 14 10 04.4 +1.6**
MAW Mawson 73.85 193 P **P 14 10 09.6 +0.1**
comp=Z,2.0nm,0.6s,mb4.0,baz=1.0,slow=5.7,SNR=6.5
MAW LR LR 14 36 09.1
comp=Z,103nm,18.6s,baz=245,slow=31
AKASG Malin Array Be 74.33 322 *i* P **P 14 10 10.8 -1.9**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 74.33 322 P **P 14 10 10.9 -1.8**
comp=Z,1.3nm,0.6s,mb3.9,baz=92,slow=4.7,SNR=8.4
BOSA Boshof 75.37 240 LR LR 14 42 52.4
comp=Z,134nm,18.1s,baz=238,slow=35
JOF Joensuu 77.09 335 *ep* **P 14 10 25.3 -2.9**
comp=Z,2.1nm,0.7s,mb4.0
KOLS Kolonicke sedl 78.33 319 *eP* **P 14 10 36.8 +1.4**
CRVS Cervenica-Dubn 78.85 319 *eP* **P 14 10 40.3 +2.0**
FINES FINESS Array B 78.96 332 P **P 14 10 38.6 0.0**
comp=Z,2.0nm,0.7s,mb4.0,baz=146,slow=3.7,SNR=6.7
STHS Stebnicka Huta 79.07 320 *eP* **P 14 10 40.8 +1.3**
STHS pmax pmax
comp=Z,3.0nm,1.1s,mb4.0
STHS Stebnicka Huta 79.07 320 *eP* **P 14 10 40.8 +1.3**
comp=Z,2.7nm,1.1s,mb4.0
KECS Kecovo 79.42 319 *eP* **P 14 10 41.9 +0.5**
KECS pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
KECS Kecovo 79.42 319 *eP* **P 14 10 41.9 +0.5**
comp=Z,1.7nm,0.7s,mb4.0
BILL Bilibino 80.07 21⇓ *eP* **P 14 10 43.2 -1.3**
BILL *eS* S 14 20 52.0 +8.5
BILL pmax pmax
comp=Z,3.0nm,1.8s,mb3.8
BILL MLR MLR
comp=Z,200nm,18.0s
VYHS Vyhne 80.51 319 *eP* **P 14 10 48.9 +1.6**
VYHS pmax pmax
comp=Z,5.0nm,1.9s,mb4.0
VYHS Vyhne 80.51 319 *eP* **P 14 10 48.9 +1.6**
comp=Z,5.4nm,1.9s,mb4.0
ARCES ARCESS Array B 81.43 340 P **P 14 10 52.5 +0.7**
comp=Z,1.1nm,0.5s,mb3.9,baz=90,slow=6.1,SNR=8.0
ARCES LR LR 14 49 59.0
comp=Z,107nm,20.2s,baz=86,slow=38
GERES GERESS Array B 83.93 319 P **P 14 11 06.6 +1.4**
comp=Z,1.5nm,0.8s,mb3.9,baz=76,slow=5.6,SNR=13
GRA1 Grafenberg Arr 85.59 319 *eP* **P 14 11 14.0 +0.5**
comp=Z,6.0nm,1.3s,mb4.4
GRF Grafenberg Arr 85.59 319 *eP* **P 14 11 14.0 +0.5**
GRF pmax pmax
comp=Z,6.0nm,1.3s,mb4.4
GRF Grafenberg Arr 85.59 319 *eP* **P 14 11 14.0 +0.5**
comp=Z,6.0nm,1.3s,mb4.4
NB2 NORSAR Subarra 85.98 331 P **P 14 11 15.2 0.0**
comp=Z,4.5nm,1.1s,mb4.3,baz=96,slow=5.1
NOA NORSAR Array B 85.98 331 P **P 14 11 15.7 +0.5**
comp=Z,2.6nm,0.9s,mb4.1,baz=94,slow=5.1,SNR=4.3
NOA LR LR 14 55 24.0
comp=Z,45nm,19.7s,baz=315,slow=40
VNDA Vanda 86.97 169 LR LR 14 46 07.0
comp=Z,93nm,18.3s,baz=299,slow=33
TORD Torodi Ar. Bea 94.82 283 P **P 14 11 57.5 -0.2**
comp=Z,1.1nm,1.1s,mb4.2,baz=74,slow=3.7,SNR=3.9
IMA2 Indian Mountai 95.50 23 *eP* **P 14 11 59.1 -0.5**
ULM Lac du Bonnet 126.38 10 PKP PKPdf 14 17 38.3 +0.6
comp=Z,2.7nm,0.8s,baz=354,slow=3.4,SNR=3.7
NVAR Mina Array Bea 127.83 35 PKP PKPdf 14 17 43.1 +2.2
comp=Z,0.9nm,0.9s,baz=234,slow=1.2,SNR=7.1
TXAR Lajitas Array 142.67 31 PKP PKPdf 14 18 09.2 +0.5
comp=Z,0.9nm,0.9s,baz=332,slow=4.3,SNR=5.6
CPUP Villa Florida 145.87 223 PKPbc PKPbc 14 18 15.7 +0.7
comp=Z,8.1nm,0.8s,baz=114,slow=2.9,SNR=17
SJG San Juan 153.85 322 PKPbc PKPbc 14 18 35.1 0.0
comp=Z,5.9nm,0.3s,baz=335,slow=23,SNR=4.6
LPAZ La Paz 160.01 225 PKP PKPdf 14 18 36.5 +1.5
comp=Z,0.7nm,1.0s,baz=355,slow=3.7,SNR=3.6

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*IDC **25** 14:09:23.8±1.4,24.38N×120.94E,h0km,mb3.6/3, mb1 3.7/4,mb1mx3.5/19,mbtmp3.6/4,ML2.9/1,Error ellipse: s-maj=90.7km s-min=23.5km az=75.0*
*ISCJB **25** 14:09:24.8±2.5,2481N±007×1219E±02,h24km±19km, mb3.6/3,Error ellipse: s-maj=31.9km s-min=10.1km az=165.9*
*NEIC **25** 14:09:24.7±5.2,2477N×12193E,h10km±32km, MG3.0(JMA),Error ellipse: s-maj=57.9km s-min=10.8km az=72.0*

ISC 25 14:09:24.9±2.7,2479N±007×1219E±02,h11km±18km,n7, σ0§41/10,mb3.6/3,Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**0.43**	**295**	*eP*g	**Pg**	**14 09 33.3**	**0.0**
TATO				*eS*g	**Sg**	**14 09 39.1**	**0.0**
YHNB	**Yeheng**	**0.51**	**256**	*eP*g	**Pg**	**14 09 34.7**	**-0.1**
YHNB				*eS*g	**Sg**	**14 09 41.4**	**-0.2**
NACB	**Ninganchiao**	**0.69**	**206**	*eP*g	**Pg**	**14 09 37.9**	**-0.2**
NACB				*eS*g	**Sg**	**14 09 47.7**	**+0.6**
NACB				eLg		14 09 56.7	
KSRS	**Korea Array**	**13.62**	**21**	Pn	**Pn**	**14 12 48.8**	**+11**
	0.1nm,0.3s,baz=196,slow=13,SNR=5.4						
SONM	**Songino Array**	**26.08**	**336**	P	**P**	**14 14 59.1**	**+0.8**
	2.6nm,1.0s,mb3.7,baz=145,slow=7.8,SNR=11						
WRA	**Warramunga Arr**	**46.08**	**164**	P	**P**	**14 17 48.4**	**-0.6**
	0.5nm,0.5s,mb3.8,baz=347,slow=8.9,SNR=10						
ASAR	**Alice Springs**	**49.55**	**166**	P	**P**	**14 18 15.8**	**-0.1**
	0.2nm,0.6s,mb3.4,baz=343,slow=7.9,SNR=4.7						

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*IDC **25** 14:18:07.7±1.2,2.12N×9677E,h0km,mb3.6/7,mb1 3.7/8, mb1mx3.6/21,mbtmp3.6/8,ML3.4/1,MS3.3/1,Ms1 3.3/1, ms1mx2.7/37,Error ellipse: s-maj=43.5km s-min=19.1km az=45.0*
*NEIC **25** 14:18:09.3±0.6,2.12N×9680E,h10km,mb4.1/2,Error ellipse: s-maj=13.8km s-min=10.2km az=67.0*
*ISCJB **25** 14:18:11.0±0.6,2.16N±006×9685E±006,h33km,mb3.7/9, Error ellipse: s-maj=9.6km s-min=8.1km az=137.2*

ISC 25 14:18:13.1±0.7,219N±006×9689E±006,h35km,n16, σ1§07/18,mb3.7/9,1C-1D,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**2.12**	**52**⇑	*eP*	**Pn**	**14 18 45.5**	**-0.6**
TSI				*eS*	**Sn**	**14 19 11.0**	**-0.3**
PSI	**Prapat**	**2.12**	**73**	Pn	**Pn**	**14 18 46.4**	**+0.2**
	9.6nm,0.3s,baz=290,slow=11,SNR=23						
PSI				LR	LR	14 19 52.2	
	comp=Z,565nm,18.6s,baz=284,slow=47						
BSI	**Banda Aceh**	**3.65**	**334**⇓	*eP*	**Pn**	**14 19 07.5**	**+0.4**
BSI				*eS*	**Sn**	**14 19 47.5**	**-1.5**
KULM	**Kulim**	**4.86**	**51**	*e*Pn	**Pn**	**14 19 23.3**	**-0.5**
COCO	**West Island**	**14.29**	**180**	Pn	**Pn**	**14 21 30.4**	**-2.7**
	63nm,0.7s						
WRA	**Warramunga Arr**	**42.83**	**123**	P	**P**	**14 26 07.7**	**-0.3**
	1.4nm,0.8s,mb3.8,baz=302,slow=9.2,SNR=12						
WRAB	**Tennant Creek**	**42.83**	**123**	P	**P**	**14 26 08.3**	**+0.2**
	6.0nm,1.1s,mb4.2						
ASAR	**Alice Springs**	**44.24**	**128**	P	**P**	**14 26 20.1**	**+0.7**
	0.2nm,0.4s,mb3.2,baz=298,slow=7.7,SNR=13						
UCH	**Uchtor**	**44.62**	**336**	P	**P**	**14 26 24.1**	**+1.9**
	1.8nm,0.8s,mb4.0						
SONM	**Songino Array**	**46.20**	**9**	P	**P**	**14 26 34.6**	**0.0**
	0.3nm,0.3s,mb3.6,baz=202,slow=6.3,SNR=3.3						
MK31	**Makanchi Array**	**46.21**	**346**	P	**P**	**14 26 32.6**	**-2.0**
MKAR	**Makanchi Array**	**46.21**	**346**	P	**P**	**14 26 35.8**	**+1.2**
	1.3nm,0.8s,mb3.9,baz=160,slow=8.5,SNR=7.4						
ULN	**Ulaanbaatar**	**46.34**	**9**	P	**P**	**14 26 37.7**	**+2.0**
AKASG	**Malin Array Be**	**74.29**	**322**	P	**P**	**14 29 46.6**	**-0.2**
	0.2nm,0.3s,mb3.6,baz=99,slow=4.1,SNR=4.1						
FINES	**FINESS Array B**	**78.98**	**332**	P	**P**	**14 30 13.3**	**+0.1**
	0.2nm,0.4s,mb3.4,baz=68,slow=3.7,SNR=3.9						
ARCES	**ARCESS Array B**	**81.50**	**340**	P	**P**	**14 30 26.8**	**+0.3**
	1.5nm,1.0s,mb3.9,baz=98,slow=5.4,SNR=6.3						

KRSC 25 14:29:32.2±0.3,5538N×16145E,h107km±37km,ML4.0, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.75**	**263**	*eP*	Pn	14 29 51.4	+0.7
TUMR				*i* S	Sn	14 30 04.6	0.0
MKZ	**Mys Kozlova**	**0.84**	**169**	*eP*	Pn	14 29 52.4	+0.9
MKZ				*i* S	Sn	14 30 06.8	+0.8
KLY	**Klyuchi**	**1.04**	**335**	*eP*	Pn	14 29 54.1	+0.6
KLY				*i* S	Sn	14 30 09.5	-0.1
KOZ	**Kozyrevsk**	**1.12**	**308**	*eP*	Pn	14 29 55.1	+0.7
KOZ				*i* S	Sn	14 30 12.3	+1.1
KBTR	**Krutoberegovo**	**1.13**	**42**	*eP*	Pn	14 29 56.4	+1.9
KBTR				*i* S	Sn	14 30 13.6	+2.2
BDR	**Baidarnaya**	**1.20**	**354**	*eP*	Pn	14 29 57.0	+1.8
BDR				*i* S	Sn	14 30 14.4	+1.7
SMKR	**Semkarok**	**1.21**	**0**	P	Pn	14 29 57.3	+2.0
SRKR	**Sorokina**	**1.29**	**353**	*eP*	Pn	14 29 57.9	+1.7
SRKR				*i* S	Sn	14 30 16.4	+1.9
SRDR	**Sredinnyy**	**1.35**	**315**	*eP*	Pn	14 29 57.6	+0.6
KII	**Karymskiy**	**1.78**	**222**	*eP*	Pn	14 30 04.0	+1.8
KII				*i* S	Sn	14 30 27.2	+2.2
SPN	**Mys Shipunski**	**2.44**	**201**	*eP*	Pn	14 30 11.3	+0.7
SPN				*i* S	Sn	14 30 38.9	-1.2
NLC	**Nalytchevo**	**2.53**	**210**	*eP*	Pn	14 30 13.5	+1.6
NLC				*i* S	Sn	14 30 44.7	+2.3
AVH	**Avacha**	**2.65**	**218**	*eP*	Pn	14 30 16.1	+2.7
GNL	**Ganaly**	**2.65**	**232**	*eP*	Pn	14 30 15.4	+2.0
PET	**Petropavlovsk**	**2.88**	**216**	*eP*	Pn	14 30 18.8	+2.4
PET				*i* S	Sn	14 30 53.3	+2.9
GRL	**Gorelyy**	**3.46**	**217**	P	Pn	14 30 26.9	+2.7
MIPR	**Malaya Ipel'ka**	**4.17**	**224**	*eP*	Pn	14 30 36.7	+3.0

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*ISCJB **25** 14:42:23.7±3.7,2177N±008×143.11E±008,h36km±33km, mb4.5/37,MS4.1/1,Error ellipse: s-maj=13.9km s-min=12.7km az=28.9*
*MOS **25** 14:42:23.3±1.1,2178N×143.14E,h33km,mb4.8/17,Error ellipse: s-maj=16.9km s-min=9.0km az=108.4*
*BJI **25** 14:42:23.5,2201N×14309E,h16km,mB5.2,mb4.7,Ms4.4, Msz4.1*
*NEIC **25** 14:42:25.1±0.4,2176N×143.19E,h35km,mb4.7/17,Error ellipse: s-maj=10.6km s-min=9.8km az=76.0*
*IDC **25** 14:42:40.3±6.8,2169N×142.89E,h170km±63km,mb3.6/11, mb1 3.8/11,mb1mx3.8/19,mbtmp3.6/11,Error ellipse: s-maj=29.4km s-min=13.5km az=78.0*

ISC 25 14:42:32.8±3.2,2173N±008×14310E±009,h105km±29km, h35km±3.1km:pP-P,n69,σ1§02/68,mb4.4/37,4C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.44**	**323**	P	**P**	**14 47 04.6**	**+2.7**
KSRS				pmax	pmax		
	comp=Z,7.0nm,0.9s						
KSRS	**Korea Array**	**20.44**	**323**	P	**P**	**14 47 04.5**	**+2.7**
	comp=Z,7.1nm,0.9s,baz=142,slow=11,SNR=20						
NJ2	**Nanjing**	**23.89**	**301**	*eP*	**P**	**14 47 34.3**	**-2.6**
NJ2				AP		14 47 43.5	
NJ2				XP	sP	14 47 47.8	-24
NJ2				PP		14 48 06.0	
NJ2				S	**S**	**14 51 45.0**	**-0.6**
NJ2				XS	sS	14 51 57.5	-28
NJ2				AMB	AMB		
	comp=Z,20nm,0.7s,mb4.6						
NJ2				AMB	AMB		
	comp=Z,980nm,11.0s						
NJ2				LR	LR		
	comp=N,620nm,19.3s						
NJ2				LR	LR		
	comp=E,640nm,21.8s						
NJ2				LR	LR		
	comp=Z,640nm,21.7s						
KLR	**Kul'dur**	**28.89**	**345**	*eP*	**P**	**14 48 17.2**	**-4.3**
HIA	**Hailar**	**33.15**	**332**	*i* P	**P**	**14 48 59.0**	**0.0**
LZH	**Lanzhou**	**36.96**	**302**	*eP*	**P**	**14 49 31.0**	**-1.0**
LZH				AP	pP	14 49 42.5	-13
LZH				XP	sP	14 49 46.0	-22
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,98nm,5.1s						
ULN	**Ulaanbaatar**	**38.89**	**321**	*eP*	**P**	**14 49 47.3**	**-0.7**
ULN				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.2						
ULN	**Ulaanbaatar**	**38.89**	**321**	*eP*	**P**	**14 49 47.3**	**-0.7**
	comp=Z,4.3nm,1.0s,mb4.2						
SONM	**Songino Array**	**39.26**	**320**	P	**P**	**14 49 51.4**	**+0.3**
	comp=Z,4.1nm,0.9s,mb4.2,baz=120,slow=7.9,SNR=6.4						
GTA	**Gaotai**	**40.79**	**306**	*eP*	**P**	**14 50 04.0**	**+0.1**
GTA				AP	pP	14 50 14.0	-14
GTA				XP	sP	14 50 18.5	-21
GTA				AMB	AMB		
	comp=Z,3.0nm,1.1s,mb4.0						
YAK	**Yakutsk**	**41.32**	**350**⇓	*eP*	**P**	**14 50 06.5**	**-1.4**
YAK				pmax	pmax		
	comp=Z,11nm,0.7s,mb4.8						
YAK	**Yakutsk**	**41.32**	**350**	*eP*	**P**	**14 50 06.2**	**-1.6**
	comp=Z,9.2nm,0.6s,mb4.8						
CHTO	**Chiang Mai**	**41.42**	**274**	*eP*	**P**	**14 50 09.7**	**+0.4**
CHTO				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.3						
CHTO	**Chiang Mai**	**41.42**	**274**	*eP*	**P**	**14 50 09.7**	**+0.4**
	comp=Z,6.0nm,1.2s,mb4.3						
SEY	**Seymchan**	**41.66**	**6**⇑	*eP*	**P**	**14 50 11.1**	**+0.5**
ZAK	**Zakamensk**	**42.27**	**322**⇓	*iP*	**P**	**14 50 16.1**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.3						
WRAB	**Tennant Creek**	**42.28**	**192**	P	**P**	**14 50 14.7**	**-1.5**
WRAB				pmax	pmax		
	comp=Z,25nm,1.5s,mb4.7						
WRAB	**Tennant Creek**	**42.28**	**192**	P	**P**	**14 50 14.7**	**-1.5**
	comp=Z,25nm,1.5s,mb4.7						
WRA	**Warramunga Arr**	**42.30**	**192**	*i* P	**P**	**14 50 17.1**	**+0.8**
WRA				pmax	pmax		
	comp=Z,3.0nm,1.0s						
WRA	**Warramunga Arr**	**42.30**	**192**	P	**P**	**14 50 16.1**	**-0.1**
	comp=Z,3.4nm,1.0s,mb4.0,baz=12,slow=8.7,SNR=11						
ASAR	**Alice Springs**	**46.00**	**192**	P	**P**	**14 50 46.0**	**+0.1**
	comp=Z,1.3nm,0.8s,baz=16,slow=13,SNR=17						
BILL	**Bilibino**	**48.50**	**11**⇓	*eP*	**P**	**14 51 04.6**	**0.0**
BILL				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.2						
BILL	**Bilibino**	**48.50**	**11**	*eP*	**P**	**14 51 03.7**	**-0.9**
	comp=Z,1.0nm,0.6s,mb3.8						
TIXI	**Tiksi**	**50.61**	**354**⇑	*eP*	**P**	**14 51 19.9**	**-0.7**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.9						
ZALV	**Zalesovo Beam**	**54.14**	**322**	P	**P**	**14 51 46.4**	**-0.6**
	comp=Z,6.0nm,1.0s,mb4.6,baz=99,slow=6.5,SNR=15						
ZAL	**Zalesovo**	**54.15**	**322**	P	**P**	**14 51 46.4**	**-0.6**
MK31	**Makanchi Array**	**54.62**	**313**	*eP*	**P**	**14 51 51.1**	**+0.5**
MKAR	**Makanchi Array**	**54.62**	**313**	P	**P**	**14 51 51.4**	**+0.8**
	comp=Z,1.8nm,0.7s,mb4.2,baz=92,slow=9.1,SNR=17						
NVS	**Novosibirsk**	**55.23**	**322**	*eP*	**P**	**14 51 53.7**	**-1.1**
NVS				pmax	pmax		
	comp=Z,20nm,1.9s,mb4.8						
NVS				pmax	pmax		
	comp=E,8.0nm,1.3s						
KURK	**Kurchatov**	**57.40**	**317**	*eP*	**P**	**14 52 09.3**	**-1.0**
KURK				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.7						
KURK	**Kurchatov**	**57.40**	**317**	*eP*	**P**	**14 52 09.2**	**-1.0**
	comp=Z,7.7nm,1.1s,mb4.7						
TKM2	**Tokmak 2**	**59.26**	**308**	*eP*	**P**	**14 52 24.7**	**+1.3**
TKM2				pmax	pmax		
	comp=Z,9.0nm,1.1s,mb4.7						
TKM2	**Tokmak 2**	**59.26**	**308**	*eP*	**P**	**14 52 24.6**	**+1.2**
	comp=Z,8.9nm,1.1s,mb4.7						
UCH	**Uchtor**	**60.09**	**307**	*eP*	**P**	**14 52 31.1**	**+1.9**
	comp=Z,14nm,1.2s,mb4.8						
EKS2	**Erkin-Say**	**60.61**	**308**	*eP*	**P**	**14 52 33.5**	**+0.9**
	comp=Z,3.6nm,1.0s,mb4.4						
AML	**Almayashu**	**60.71**	**307**	*eP*	**P**	**14 52 35.1**	**+1.8**
	comp=Z,9.5nm,1.2s,mb4.7						
SML	**Sawmill**	**60.97**	**30**	*eP*	**P**	**14 52 33.3**	**-1.4**
BRVK	**Borovoye**	**62.66**	**320**	*eP*	**P**	**14 52 46.1**	**-0.1**
BRVK				pmax	pmax		
	comp=Z,20nm,1.4s,mb4.8						
BRVK	**Borovoye**	**62.66**	**320**	*eP*	**P**	**14 52 46.1**	**-0.1**
	comp=Z,20nm,1.4s,mb4.8						
KBL	**Kabul**	**65.26**	**299**	P	**P**	**14 53 02.3**	**-1.3**
INK	**Inuvik**	**67.57**	**24**	*eP*	**P**	**14 53 17.7**	**0.0**
INK				pmax	pmax		
	comp=Z,138nm,1.1s						
INK	**Inuvik**	**67.57**	**24**	*eP*	**P**	**14 53 17.7**	**0.0**
	comp=Z,138nm,1.1s,mb5.7						
ARU	**Arti**	**69.19**	**324***c iP*		**P**	**14 53 28.3**	**+0.3**
ARU				*e*		14 55 59.0	
ARU				*e*S	S	15 02 31.8	+6.4
ARU				*e*SS	SS	15 06 52.2	-1.0
ARU				pmax	pmax		
	comp=Z,13nm,1.7s,mb4.5						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**14 54 11.0**	**+0.2**
YKA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
YKA	**Yellowknife Ar**	**76.46**	**28**	P	**P**	**14 54 11.0**	**+0.2**
	comp=Z,2.4nm,0.7s,mb4.0,baz=293,slow=5.6,SNR=28						
RES	**Resolute Bay**	**77.06**	**13**	*eP*	**P**	**14 54 14.3**	**+0.3**
RES				pmax	pmax		
	comp=Z,388nm,1.4s						
RES	**Resolute Bay**	**77.06**	**13**	*eP*	**P**	**14 54 14.3**	**+0.3**
	comp=Z,388nm,1.4s						
OBN	**Obninsk**	**81.42**	**326**⇑	*eP*	**P**	**14 54 39.1**	**+1.1**
OBN				*e*S	S	15 04 51.0	+10
OBN				pmax	pmax		
	comp=Z,8.0nm,0.5s,mb4.8						
BMO	**Blue Mountains**	**81.46**	**45**	*eP*	**P**	**14 54 39.1**	**+0.6**
BMO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
BMO	**Blue Mountains**	**81.46**	**45**	*eP*	**P**	**14 54 39.1**	**+0.6**
	comp=Z,2.1nm,0.8s,mb4.0						
KIV	**Kislovodsk**	**82.34**	**314**	*i* P	**P**	**14 54 45.4**	**+2.3**
KIV				*e*		14 54 51.8	
KIV				pmax	pmax		
	comp=Z,11nm,0.9s,mb4.7						
FINES	**FINESS Array B**	**83.12**	**334**	P	**P**	**14 54 46.3**	**-0.4**
	comp=Z,1.2nm,0.9s,mb3.7,baz=56,slow=3.5,SNR=4.1						
NVAR	**Mina Array Bea**	**83.18**	**51**	P	**P**	**14 54 49.3**	**+1.7**
	comp=Z,2.4nm,0.8s,mb4.1,baz=258,slow=6.0,SNR=16						
EGMT	**Eagleton**	**84.90**	**40**	*eP*	**P**	**14 54 50.2**	**-5.9**
	comp=Z,7.9nm,1.1s,mb4.6						
TPNV	**Topopah Spring**	**85.26**	**52**	*eP*	**P**	**14 54 58.0**	**-0.1**
TPNV				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.2						
TPNV	**Topopah Spring**	**85.26**	**52**	*eP*	**P**	**14 54 58.0**	**-0.1**
	comp=Z,3.0nm,1.0s,mb4.2						
QLMT	**Earthquake Lak**	**85.28**	**43**	P	**P**	**14 54 52.7**	**-5.4**
ANN	**Anapa**	**85.43**	**317**	*eP*	**P**	**14 54 54.5**	**-4.3**
ANN				*e**PP	pP	14 55 04.5	-21
ANN				*e*S	S	15 05 15.2	-6.2
ANN				pmax	pmax		
	comp=Z,40nm,1.4s,mb5.2						
FFC	**Flin Flon**	**85.84**	**32**	*eP*	**P**	**14 54 59.9**	**-0.7**
FFC				pmax	pmax		
	comp=Z,17nm,1.3s,mb4.8						
FFC	**Flin Flon**	**85.84**	**32**	*eP*	**P**	**14 54 59.9**	**-0.7**
	comp=Z,16nm,1.3s,mb4.8						
RLMT	**Red Lodge**	**86.53**	**43**	*eP*	**P**	**14 55 05.1**	**+0.9**
	comp=Z,7.0nm,1.0s,mb4.5						
FCC	**Fort Churchill**	**87.04**	**26**	*eP*	**P**	**14 55 06.0**	**-0.4**
FCC				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.3						
FCC	**Fort Churchill**	**87.04**	**26**	*eP*	**P**	**14 55 06.0**	**-0.4**
	comp=Z,4.2nm,1.1s,mb4.3						
AKASG	**Malin Array Be**	**87.44**	**324**	*i* P	**P**	**14 55 07.8**	**-0.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**87.44**	**324**	P	**P**	**14 55 07.2**	**-1.3**
AKASG	**Malin Array Be**	**87.44**	**324**	P	**P**	**14 55 07.2**	**-1.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=47,slow=4.6,SNR=7.9						
NOA	**NORSAR Array B**	**88.89**	**339**	P	**P**	**14 55 14.3**	**-0.8**
	comp=Z,0.7nm,0.7s,mb3.8,baz=319,slow=22,SNR=2.8						
PLCA	**Paso Flores**	**145.84**	**131**	PKPbc	PKPbc	15 02 00.5	+0.4
	comp=Z,0.9nm,0.8s,baz=174,slow=16,SNR=3.1						
LPAZ	**La Paz**	**150.01**	**85**	PKPbc	PKPbc	15 02 13.7	+1.8
	comp=Z,1.6nm,1.0s,baz=305,slow=3.6,SNR=4.5						

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*MOS **25** 14:44:25.1±0.9,2178N×14300E,h58km,mb5.0/36,Error ellipse: s-maj=12.8km s-min=7.0km az=102.9*
*ISCJB **25** 14:44:26.8±2.3,2174N±006×14308E±006,h73km±19km, mb4.6/65,Error ellipse: s-maj=9.5km s-min=8.4km az=151.4*
*BJI **25** 14:44:28.5,2169N×14340E,h113km,mB4.9,mb4.7*
*GCMT **25** 14:44:30.1±0.2,2175N×143.18E,h12km,MW5.0/86, Moment Tensor Solution. s21,c23; s86,c130; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.25±.07; $M_{\theta\theta}$1.39±.06; $M_{\phi\phi}$1.85±.07; $M_{r\theta}$-0.66±.32; $M_{\theta\phi}$-1.42±.05; $M_{\phi r}$0.20±.29; Best double couple: $M_0$3.22800×10^{16} NP1:ϕ_s325.00000°,δ40.00000°,λ-81.00000°. NP2: ϕ_s133.00000°,δ51.00000°,λ-98.00000°. Principal axes: T 3.1130, Plg5.0000°, Az

comp=Z,30nm,1.0s,mb4.7
DL2 AMB AMB
comp=Z,110nm,3.9s
DL2 LR LR
comp=N,120nm,15.9s
DL2 LR LR
comp=E,220nm,15.5s
DL2 LR LR
comp=Z,150nm,12.6s
YSS Yuzh-Sakhalins 25.17 359 *e*P **P 14 49 38.6 -8.3**
YSS *e* 14 54 12.0
MDJ Mudanjiang 25.40 337 P **P 14 49 48.3 -0.7**
comp=Z,23nm,1.2s,mb4.5
HABR Khabarovsk 27.45 348 *e*P **P 14 50 07.7 +0.3**
HABR *e* 14 50 20.9
HABR *e* 14 51 01.5
HABR *e* 14 53 27.3
HABR *e*S **S 14 54 48.4 +6.6**
HABR *e* 14 55 59.5
HABR *e* 14 56 16.5
HABR *e* 15 00 53.2
QIZ Qiongzhong 31.26 271 P **P 14 50 40.0 -1.5**
QIZ S **S 14 55 42.3 +0.1**
QIZ AMB AMB
comp=Z,13nm,1.3s,mb4.5
QIZ LR LR
comp=E,320nm,21.6s
QIZ LR LR
comp=Z,330nm,21.8s
HIA Hailar 33.15 332 P **P 14 50 52.8 -4.9**
HIA pmax pmax
comp=Z,9.0nm,1.1s
HIA Hailar 33.15 332 P **P 14 50 52.8 -4.9**
comp=Z,8.9nm,1.1s,mb4.5
PET Petropavlovsk 33.45 17 *i*P **P 14 51 01.9 +1.7**
PET pmax pmax
comp=Z,31nm,1.8s,mb4.8
PET Petropavlovsk 33.45 17 P **P 14 51 01.2 +0.9**
comp=Z,24nm,1.2s,mb4.9
GYA Guiyang 33.52 285 P **P 14 51 02.5 +1.3**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.6
LZH Lanzhou 36.96 302 *e*P **P 14 51 31.3 +0.6**
LZH AMB AMB
comp=Z,37nm,1.6s,mb5.1
LZH AMB AMB
comp=Z,160nm,4.8s
KMI Kunming 37.09 283 P **P 14 51 33.8 +1.9**
KMI PP PP 14 53 00.0 +2.1
KMI S **S 14 57 20.0 +7.9**
KMI SS SS 14 59 52.5 -3.8
KMI AMB AMB
comp=Z,11nm,1.4s,mb4.6
KMI AMB AMB
comp=Z,85nm,4.3s
KMI LR LR
comp=N,154nm,15.6s
KMI LR LR
comp=E,165nm,18.6s
KMI LR LR
comp=Z,271nm,20.8s
MA2 Magadan 38.21 6 P **P 14 51 40.3 -0.5**
MA2 pmax pmax
comp=Z,7.0nm,0.8s,mb4.5
MA2 Magadan 38.21 6 P **P 14 51 40.3 -0.5**
comp=Z,6.6nm,0.8s,mb4.5
ULN Ulaanbaatar 38.89 321 *e*P **P 14 51 46.0 -0.7**
ULN pmax pmax
comp=Z,12nm,1.1s,mb4.6
ULN Ulaanbaatar 38.89 321 *e*P **P 14 51 46.0 -0.8**
comp=Z,12nm,1.1s,mb4.6
SONM Songino Array 39.27 320 P **P 14 51 49.4 -0.4**
comp=Z,6.6nm,0.8s,mb4.5,baz=123,slow=8.1,SNR=19
NANT Nan 39.79 274 P **P 14 51 53.0 -1.6**
GTA Gaotai 40.79 306 *e*P **P 14 52 03.0 +0.4**
GTA AMB AMB
comp=Z,10.0nm,1.5s,mb4.4
GTA AMB AMB
comp=Z,60nm,4.9s
GTA LR LR
comp=N,163nm,16.7s
GTA LR LR
comp=E,155nm,13.3s
GTA LR LR
comp=Z,107nm,15.6s
NST Nakhon Sawan 41.04 269 P **P 14 52 07.0 +2.1**
YAK Yakutsk 41.33 350⇑*e*P **P 14 52 05.4 -1.2**
YAK pmax pmax
comp=Z,11nm,0.5s,mb4.9
YAK Yakutsk 41.33 350 *e*P **P 14 52 02.7 -3.9**
comp=Z,18nm,0.8s,mb5.0
CHG Chiang Mai 41.42 274 ⇑P **P 14 52 09.9 +1.9**
comp=Z,28nm,1.2s,mb5.0
CHTO Chiang Mai 41.42 274 *e*P **P 14 52 09.2 +1.2**
CHTO pmax pmax
comp=Z,15nm,1.2s,mb4.7
CHTO Chiang Mai 41.42 274 *e*P **P 14 52 09.2 +1.2**
comp=Z,15nm,1.2s,mb4.7
CM31 Chiang Mai Arr 41.49 274 *e*P **P 14 52 08.9 +0.3**
comp=Z,4.3nm,0.8s,mb4.3
SEY Seymchan 41.66 6⇑*e*P **P 14 52 09.6 +0.2**
CTA Charters Tower 41.67 176 *e*P **P 14 52 10.7 +0.8**
comp=Z,8.1nm,1.0s,mb4.4
CTA Charters Tower 41.67 176 *e*P **P 14 52 10.7 +0.8**
CTA pmax pmax
comp=Z,8.0nm,1.0s
CTA Charters Tower 41.67 176 P **P 14 52 10.0 +0.1**
comp=Z,12nm,1.1s,mb4.6,baz=342,slow=8.7,SNR=4.1
CTAO Charters Tower 41.67 176 *e*P **P 14 52 10.5 +0.6**
CTAO pmax pmax
comp=Z,19nm,1.1s,mb4.7
CTAO Charters Tower 41.67 176 *e*P **P 14 52 10.5 +0.6**
comp=Z,19nm,1.1s,mb4.7
ZAK Zakamensk 42.27 322⇓*i*P **P 14 52 14.5 0.0**
ZAK pmax pmax
comp=Z,11nm,1.1s,mb4.5
WRAB Tennant Creek 42.28 192 *e*P **P 14 52 14.0 -0.9**
WRAB pmax pmax
comp=Z,17nm,1.2s,mb4.7
WRAB Tennant Creek 42.28 192 *e*P **P 14 52 13.9 -0.9**
comp=Z,17nm,1.2s,mb4.6
WB2 Warramunga Arr 42.29 192 *e*P **P 14 52 14.7 -0.2**
WRA Warramunga Arr 42.29 192 *i*P **P 14 52 14.8 -0.2**
WRA pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 42.29 192 P **P 14 52 14.9 0.0**
comp=Z,6.4nm,1.1s,mb4.3,baz=15,slow=8.8,SNR=11
WRA LR LR 15 09 36.1
comp=Z,218nm,21.9s,baz=330,slow=36
TLY Talaya 42.69 324 *i*P **P 14 52 15.5 -2.4**
TLY pmax pmax
comp=Z,2.0nm,1.8s
TLY Talaya 42.69 324 *e*P **P 14 52 15.8 -2.1**
comp=Z,24nm,1.4s,mb4.7
KULM Kulin 44.20 255 P **P 14 52 27.5 -3.1**
ASAR Alice Springs 46.00 192 P **P 14 52 44.0 -0.5**
comp=Z,1.6nm,0.7s,mb3.9,baz=17,slow=10,SNR=12
LSA Lhasa 47.15 291 *e*P **P 14 52 56.2 +2.5**
LSA pmax pmax
comp=Z,14nm,1.1s,mb4.6
LSA Lhasa 47.15 291 *e*P **P 14 52 56.1 +2.5**
comp=Z,14nm,1.1s,mb4.6
BILL Bilibino 48.51 11⇑*e*P **P 14 53 03.3 -0.2**
BILL pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
BILL Bilibino 48.51 11 *e*P **P 14 53 03.1 -0.4**
comp=Z,7.6nm,1.0s,mb4.6
TIXI Tiksi 50.61 354⇑*e*P **P 14 53 18.6 -0.9**
TIXI pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
TIXI Tiksi 50.61 354 *e*P **P 14 53 17.9 -1.6**
comp=Z,2.6nm,0.6s,mb4.4
STKA Stephens Creek 53.32 182 *e*P **P 14 53 38.2 -1.8**
comp=Z,16nm,1.4s,mb4.9
STKA Stephens Creek 53.32 182 P **P 14 53 39.4 -0.6**
comp=Z,7.3nm,1.2s,mb4.6,baz=61,slow=6.7,SNR=4.0
ZAA0 Zalesovo Array 54.14 322 *e*P **P 14 53 45.2 -0.6**
ZALV Zalesovo Beam 54.14 322 P **P 14 53 44.1 -1.7**
comp=Z,9.6nm,0.8s,mb4.9,baz=101,slow=6.3,SNR=14
ZAL Zalesovo 54.15 322 P **P 14 53 44.1 -1.8**
MK31 Makanchi Array 54.62 313 *i*P **P 14 53 49.2 -0.2**
MK31 pmax pmax
comp=Z,6.0nm,0.7s,mb4.7
MK31 Makanchi Array 54.62 313 *e*P **P 14 53 48.4 -1.0**
MKAR Makanchi Array 54.62 313 *i*P **P 14 53 49.5 +0.1**
MKAR pmax pmax
comp=Z,3.0nm,0.7s
MKAR Makanchi Array 54.62 313 P **P 14 53 49.6 +0.2**
comp=Z,2.5nm,0.7s,mb4.4,baz=93,slow=8.8,SNR=16
NVS Novosibirsk 55.23 322 *i*P **P 14 53 53.1 -0.6**
NVS pmax pmax
comp=Z,34nm,1.9s,mb5.0
NVS pmax pmax
comp=E,23nm,1.5s
KURK Kurchatov 57.40 317 *e*P **P 14 54 08.3 -0.9**
KURK pmax pmax
comp=Z,16nm,1.0s,mb5.0
KURK Kurchatov 57.40 317 *e*P **P 14 54 08.3 -0.9**
comp=Z,16nm,1.0s,mb5.0
ULHL Ulahol 58.81 307 P **P 14 54 20.8 +1.6**
SNR=10
TKM2 Tokmak 2 59.26 308 *e*P **P 14 54 23.0 +0.7**
TKM2 pmax pmax
comp=Z,15nm,1.0s,mb5.0
TKM2 Tokmak 2 59.26 308 *e*P **P 14 54 23.0 +0.7**
comp=Z,15nm,1.0s,mb5.0
TKM2 Tokmak 2 59.26 308 P **P 14 54 24.0 +1.7**
SNR=11
KZA Kyzart 59.55 307 P **P 14 54 26.8 +2.5**
SNR=15
KBK Karagaybulak 59.75 308 P **P 14 54 27.1 +1.5**
SNR=7.0
USP Ospenovka 60.05 308 P **P 14 54 28.7 +1.0**
SNR=9.5
UCH Uchtor 60.09 307 *e*P **P 14 54 29.5 +1.5**
comp=Z,17nm,1.0s,mb5.0
UCH Uchtor 60.09 307 P **P 14 54 30.4 +2.4**
SNR=19
EKS2 Erkin-Say 60.61 308 *e*P **P 14 54 32.2 +0.7**
comp=Z,5.9nm,1.0s,mb4.6
AML Almayashu 60.71 307 *e*P **P 14 54 33.9 +1.6**
comp=Z,9.9nm,1.0s,mb4.8
AML Almayashu 60.71 307 P **P 14 54 34.3 +2.1**
SNR=9.0
SML Sawmill 60.97 30 *e*P **P 14 54 33.5 -0.2**
COLA College 61.66 27 *i*P **P 14 54 39.0 +0.8**
BVAR Borovoye Array 62.60 319 LR LR 15 23 43.7
comp=Z,84nm,18.2s,baz=289,slow=38
BRVK Borovoye 62.66 320 *e*P **P 14 54 44.1 -1.0**
BRVK pmax pmax
comp=Z,19nm,0.9s,mb5.0
BRVK Borovoye 62.66 320 *e*P **P 14 54 44.1 -1.0**
comp=Z,19nm,0.9s,mb5.0
KK31 Karatay Array 62.98 308 *i*P **P 14 54 47.7 +0.3**
KK31 pmax pmax
comp=Z,14nm,0.9s,mb4.9
DAWY Dawson 65.23 28 *e*P **P 14 55 01.5 -0.3**
KBL Kabul 65.25 299 *e*P **P 14 55 02.0 -0.5**
KBL pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
KBL Kabul 65.25 299 *e*P **P 14 55 02.0 -0.5**
comp=Z,10nm,1.2s,mb4.5
INK Inuvik 67.58 24 *e*P **P 14 55 16.2 -0.5**
INK pmax pmax
comp=Z,206nm,1.1s
INK Inuvik 67.58 24 *e*P **P 14 55 16.2 -0.4**
comp=Z,206nm,1.1s,mb5.9
INK Inuvik 67.58 24 LR LR 15 24 35.0
comp=Z,138nm,20.5s,baz=138,slow=36
ARU Arti 69.19 324*c i*P **P 14 55 26.6 -0.4**
ARU *e* pP 14 55 49.8 +1.2
ARU *e*S S 15 04 30.5 +4.3
ARU *e*SS SS 15 08 55.4 +1.9
ARU pmax pmax
comp=Z,30nm,1.7s,mb4.8
ARU Arti 69.19 324 *e*P **P 14 55 25.7 -1.3**
comp=Z,13nm,1.2s,mb4.6
YKA Yellowknife Ar 76.47 28 P **P 14 56 10.0 +0.1**
comp=Z,3.6nm,0.7s,mb4.2,baz=292,slow=5.5,SNR=28
RES Resolute Bay 77.07 13 *e*P **P 14 56 13.1 0.0**
RES pmax pmax
comp=Z,712nm,1.4s
RES Resolute Bay 77.07 13 *e*P **P 14 56 13.1 0.0**
comp=Z,712nm,1.4s
YBH Yreka Blue Hor 78.86 50 *e*P **P 14 56 24.2 +0.6**
YBH pmax pmax
comp=Z,4.0nm,1.0s
YBH Yreka Blue Hor 78.86 50 *e*P **P 14 56 24.2 +0.6**
comp=Z,3.8nm,1.0s,mb4.2
ARCES ARCESS Array B 78.87 341 P **P 14 56 22.7 -0.4**
comp=Z,2.1nm,0.8s,mb4.0,baz=38,slow=6.1,SNR=5.2
VRHR Novokhopersk 80.27 321 *e*P **P 14 56 30.9 -0.2**
VRHR pmax pmax
comp=Z,10.0nm,0.4s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.8s
OBN Obninsk 81.42 326⇓*e*P **P 14 56 37.3 +0.2**
OBN *e*S S 15 06 37.2 -4.3
OBN pmax pmax
comp=Z,6.0nm,0.5s,mb4.7
BMO Blue Mountains 81.47 45 *e*P **P 14 56 37.8 +0.2**
comp=Z,7.6nm,1.3s,mb4.4
VRSR Storozhevoye 81.63 322 *e*P **P 14 56 37.7 -0.6**
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.3
VRSR pmax pmax
comp=N,4.0nm,0.8s
VRSR pmax pmax
comp=E,5.0nm,0.9s
VORD Divnogorie 81.67 322 *e*P **P 14 56 37.7 -0.8**
VORD pmax pmax
comp=N,20nm,1.0s
VORD pmax pmax
comp=Z,10.0nm,1.0s,mb4.6
VORD pmax pmax
comp=E,10.0nm,0.6s
CMB Columbia Colle 81.81 52 *e*P **P 14 56 39.6 +0.1**
CMB pmax pmax
comp=Z,12nm,1.3s,mb4.6
CMB Columbia Colle 81.81 52 *e*P **P 14 56 39.6 +0.1**
comp=Z,12nm,1.3s,mb4.6
WALA Waterton Lakes 81.97 40 *e*P **P 14 56 40.8 +0.6**
comp=Z,6.1nm,1.1s,mb4.3
KIV Kislovodsk 82.34 314 *e*P **P 14 56 42.5 +0.3**
KIV pmax pmax
comp=Z,18nm,1.0s,mb4.9
KIV Kislovodsk 82.34 314 *e*P **P 14 56 43.5 +1.3**
comp=Z,17nm,0.9s,mb4.9
FINES FINESS Array B 83.12 334 P **P 14 56 44.9 -1.0**
comp=Z,0.8nm,0.5s,mb3.8,baz=71,slow=5.3,SNR=7.2
NVAR Mina Array Bea 83.19 51 P **P 14 56 47.8 +1.1**
comp=Z,3.6nm,0.8s,mb4.2,baz=257,slow=6.3,SNR=19
RDF Al-Radifah 84.36 299 *e*P **P 14 56 52.0 -0.8**
NAY Al-Naaiem 84.49 299 *e*P **P 14 56 52.8 -0.7**
TPNV Topopah Spring 85.27 52 *e*P **P 14 56 57.2 0.0**
TPNV pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
TPNV Topopah Spring 85.27 52 *e*P **P 14 56 57.2 -0.1**
comp=Z,7.0nm,1.0s,mb4.5
QLMT Earthquake Lak 85.29 43 *e*P **P 14 56 58.0 +0.8**
ANN Anapa 85.43 317 *e*P **P 14 56 58.6 +0.7**
ANN *e* 15 00 18.0
ANN *e*S S 15 07 20.8 -1.5
ANN pmax pmax
comp=Z,35nm,1.3s,mb5.1
FFC Flin Flon 85.84 32 *e*P **P 14 57 00.2 +0.5**
FFC pmax pmax
comp=Z,17nm,1.1s,mb4.9
FFC Flin Flon 85.84 32 *e*P **P 14 57 00.2 +0.5**
comp=Z,17nm,1.1s,mb4.9
DUG Dugway 86.38 48 *e*P **P 14 57 02.8 +0.1**
DUG pmax pmax
comp=Z,12nm,1.1s,mb4.7
DUG Dugway 86.38 48 *e*P **P 14 57 02.8 +0.1**
comp=Z,12nm,1.1s,mb4.7
PFO Pinyon Flat Ob 86.44 55 *e*P **P 14 57 03.0 -0.1**
PFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
PFO Pinyon Flat Ob 86.44 55 *e*P **P 14 57 03.0 -0.1**
comp=Z,7.6nm,1.0s,mb4.6
HWUT Hardware Ranch 86.62 46 *e*P **P 14 57 04.0 +0.1**
comp=Z,8.8nm,1.0s,mb4.6
FCC Fort Churchill 87.05 26 *e*P **P 14 57 03.6 -1.9**
FCC pmax pmax
comp=Z,14nm,1.3s,mb4.7
FCC Fort Churchill 87.05 26 *e*P **P 14 57 03.6 -1.9**
comp=Z,14nm,1.3s,mb4.7
AKASG Malin Array Be 87.44 324 P **P 14 57 06.4 -1.2**
comp=Z,0.3nm,0.2s,mb3.8,baz=47,slow=4.7,SNR=11
MSU Marysvale 87.55 49 *e*P **P 14 57 09.3 +0.9**
MALT Malatya 87.59 310 P **P 14 57 08.0 -0.6**
MALT pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
MALT Malatya 87.59 310 P **P 14 57 08.0 -0.6**
comp=Z,6.7nm,1.1s,mb4.6
HFS Hagfors 88.67 337 P **P 14 57 11.1 -2.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=270,slow=2.9,SNR=3.2
SMCO Snowmass 90.85 47 *e*P **P 14 57 25.0 +1.2**
comp=Z,5.7nm,0.8s,mb4.8
SDCO Great Sand Dun 92.56 48 *e*P **P 14 57 31.8 0.0**
comp=Z,5.1nm,1.4s,mb4.7
ECSD EROS,Sioux Fal 94.96 39 P **P 14 57 43.7 +1.0**
comp=Z,9.8nm,0.8s,mb5.3
VNDA Vanda 99.65 176 LR LR 15 40 30.9
comp=Z,103nm,20.2s,baz=328,slow=34
TORD Torodi Ar. Bea 128.66 309 PKP PKPdf 15 03 27.4 -0.5
comp=Z,1.4nm,1.1s,baz=357,slow=1.1,SNR=4.3
PLCA Paso Flores 145.84 131 PKPbc PKPbc 15 03 59.2 0.0
comp=Z,2.2nm,1.0s,baz=102,slow=2.1,SNR=2.6
LPAZ La Paz 150.02 85 *e*PKPdf PKPdf 15 04 05.5 -0.6
LPAZ *e*PKPbc PKPbc 15 04 12.4 +1.2
LPAZ PKPbc PKPbc 15 04 12.8 +1.6
LPAZ PKPab PKPab 15 04 20.1 +2.9
LPAZ La Paz 150.02 85 PKPbc PKPbc 15 04 12.8 +1.6
comp=Z,5.5nm,1.1s,baz=344,slow=4.6,SNR=8.3
LPAZ PKPab PKPab 15 04 20.1 +2.9
comp=Z,5.1nm,1.0s,baz=312,slow=5.3,SNR=7.3

IDC ***25*** *14:55:09.2±28.0, 43.98N×147.77E, h0km, mb3.7/5, mb1 3.8/5, mb1mx3.6/20, mbtmp3.7/5, MS3.9/3, Ms1 3.9/3, ms1mx3.3/17, Error ellipse: s-maj=661.7km s-min=75.9km az=156.0*
JMA ***25*** *14:55:16.7±0.2, 43.61N×147.26E, h31km, M4.0*
MOS ***25*** *14:55:17.1±0.5, 44.64N×147.05E, h33km, mb4.3/4, Error ellipse: s-maj=40.5km s-min=28.4km az=93.3*
ISC 25 14:55:16.9±1.6, 437N±01×1473E±01, h57km±13km, n22, σ0.77/28, mb3.9/6, MS4.0/3, 1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YUK	**Yuzh-Kuril'sk**	**1.10**	**287**	⇓*i*PN	**Pn**	**14 55 35.4**	**-0.7**
YUK				*i*S	**Sn**	**14 55 49.9**	**-0.5**
YUK				pmax	pmax		
	comp=Z,1μm,0.3s						
YUK				smax			
	comp=N,6μm,0.4s						
YUK				smax			
	comp=E,5μm,0.4s						
YUK				smax			
	comp=N,4μm,0.5s						
YUK				smax			
	comp=E,8μm,0.5s						
NEM2	**Nemuro 2**	**1.20**	**253**	P	**Pn**	**14 55 36.8**	**-0.7**
NEM2				*e*S	**Sn**	**14 55 51.3**	**-1.6**
JRA	**Rausu**	**1.60**	**278**	P	**Pn**	**14 55 43.2**	**+0.3**
JRA				*e*S	**Sn**	**14 56 03.1**	**+0.6**
JNK	**Nakash**	**1.89**	**267**	P	**Pn**	**14 55 46.8**	**0.0**
JNK				*e*S	**Sn**	**14 56 09.4**	**-0.2**
JAK	**Akkeshi**	**2.05**	**250**	P	**Pn**	**14 55 48.6**	**-0.4**
JAK				*e*S	**Sn**	**14 56 12.4**	**-1.0**
JTKR	**Abashiri--Toko**	**2.48**	**277**	P	**Pn**	**14 55 56.0**	**+1.2**
JAR	**Ashorobuto**	**2.62**	**262**	P	**Pn**	**14 55 57.8**	**+1.1**
JAR				*e*S	**Sn**	**14 56 28.4**	**+1.1**
JOB	**Onbets**	**2.67**	**253**	P	**Pn**	**14 55 58.2**	**+0.7**
JOB				*e*S	**Sn**	**14 56 28.7**	**0.0**
JCH	**Churui**	**3.10**	**250**	P	**Pn**	**14 56 03.7**	**+0.3**
JCH				*e*S	**Sn**	**14 56 38.8**	**-0.4**
JNBK	**Urakawa-nobuka**	**3.65**	**248**	P	**Pn**	**14 56 12.0**	**+1.2**
MKAR	**Makanchi Array**	**44.70**	**298**	P	**P**	**15 03 25.2**	**+1.2**
	comp=E,0.2nm,0.5s,mb3.2,baz=83,slow=1.3,SNR=4.7						
JOF	**Joensuu**	**62.16**	**332**	*e*p	**P**	**15 05 30.5**	**-1.2**
	comp=E,0.7nm,0.3s,mb4.3						
JOF	**Joensuu**	**62.16**	**332**	*e*P	**P**	**15 05 30.5**	**-1.2**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.4						
FINES	**FINESS Array B**	**64.95**	**333**	P	**P**	**15 05 49.3**	**-0.8**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.95**	**333**	P	**P**	**15 05 49.3**	**-0.8**
	comp=Z,0.6nm,0.4s,mb3.9,baz=50,slow=7.5,SNR=10						
NOA	**NORSAR Array B**	**69.67**	**339**	P	**P**	**15 06 20.0**	**+0.1**
	comp=Z,0.3nm,0.5s,mb3.5,baz=42,slow=5.3,SNR=2.4						
HFS	**Hagfors**	**69.76**	**337**	P	**P**	**15 06 20.1**	**-0.4**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
HFS	**Hagfors**	**69.76**	**337**	P	**P**	**15 06 20.1**	**-0.4**
	comp=Z,1.2nm,0.5s,mb4.1,baz=28,slow=6.7,SNR=9.7						
AKASG	**Malin Array Be**	**71.67**	**324**	P	**P**	**15 06 32.4**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.6s						
AKASG				MLR	MLR		
	comp=Z,174nm,19.2s						
AKASG	**Malin Array Be**	**71.67**	**324**	P	**P**	**15 06 32.4**	**+0.1**
	comp=Z,1.3nm,0.6s,mb4.0,baz=38,slow=5.7,SNR=4.3						
AKASG				LR	LR	15 39 40.5	
	comp=Z,174nm,19.2s,MS4.3,baz=75,slow=37						
KEST	**Kesra**	**92.16**	**327**	LR	LR	15 53 55.0	
	comp=Z,34nm,20.1s,MS3.8,baz=336,slow=38						
ESDC	**Sonseca Array**	**93.02**	**338**	LR	LR	15 57 45.1	
	comp=Z,46nm,21.7s,MS3.9,baz=150,slow=40						

ISCJB ***25*** *15:05:25.4±4.1, 21.78N±0.05×143.06E±0.05, h2km±25km, mb4.6/51, MS3.6/6, Error ellipse: s-maj=9.6km s-min=6.8km az=21.2*
MOS ***25*** *15:05:29.4±0.9, 21.75N×143.11E, h33km, mb5.0/24, Error ellipse: s-maj=16.0km s-min=7.1km az=108.1*
BJI ***25*** *15:05:29.1, 21.93N×143.31E, h28km, mB5.0, mb4.6, Ms4.5, Msz4.2*
NEIC ***25*** *15:05:31.0±4.0, 21.75N×143.15E, h34km±29km, mb4.9/24, Error ellipse: s-maj=9.1km s-min=6.9km az=70.0*
IDC ***25*** *15:05:44.8±5.2, 21.68N×143.02E, h160km±48km, mb3.8/15, mb1 3.9/16, mb1mx3.8/23, mbtmp3.7/16, MS3.6/6, Ms1 3.6/6, ms1mx3.2/24, Error ellipse: s-maj=22.8km s-min=11.6km az=81.0*
ISC 25 15:05:28.2±5.5, 21.79N±0.06×143.14E±0.05, h10km±34km, h29km±3.6km: pP-P, n216, σ0.80/214, mb4.6/51, MS3.6/6, 53C-54D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**8.32**	**168**	P	**Pn**	**15 07 28.6**	**-0.4**
MJAR	**Matsushiro Arr**	**15.31**	**345**	P	**Pn**	**15 09 12.3**	**+7.9**
	0.2nm,0.3s,baz=206,slow=13,SNR=4.1						
MJAR				LR	LR	15 14 35.3	
	comp=Z,254nm,21.7s,baz=170,slow=34						
NACB	**Ninganchiao**	**19.98**	**281**	P	**Pn**	**15 09 53.7**	**-8.8**
KSRS	**Korea Array**	**20.42**	**323**	P	**P**	**15 10 10.6**	**+5.1**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.5s						
KSRS				MLR	MLR		
	comp=Z,121nm,18.8s,MS3.3						
KSRS	**Korea Array**	**20.42**	**323**	P	**P**	**15 10 10.6**	**+5.0**
	comp=Z,5.1nm,0.5s,baz=142,slow=8.5,SNR=21						
KSRS				LR	LR	15 16 42.1	
	comp=Z,121nm,18.8s,MS3.3,baz=275,slow=32						
HABR	**Khabarovsk**	**27.40**	**348**	*e*P	**P**	**15 11 12.0**	**-1.8**
HABR				*e*		15 11 21.4	
HABR				*e*		15 14 30.0	
HABR				*e*S	**S**	**15 15 50.0**	**-3.9**
HABR				*e*		15 16 07.9	
HABR				*e*		15 17 04.6	
HABR				*e*		15 22 03.5	
KLR	**Kul'dur**	**28.84**	**344**	*e*P	**P**	**15 11 23.0**	**-3.7**
GYA	**Guiyang**	**33.54**	**285**	P	**P**	**15 12 09.8**	**+1.4**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.5s,mb4.5						
LZH	**Lanzhou**	**36.96**	**301**	*e*P	**P**	**15 12 40.0**	**+2.3**
LZH				AP	pP	15 12 50.0	+9.3
LZH				XP	sP	15 12 54.5	+13
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.9						
LZH				AMB	AMB		
	comp=Z,110nm,4.0s						
KMI	**Kunming**	**37.11**	**283**	P	**P**	**15 12 41.0**	**+1.8**
KMI				AP	pP	15 12 47.8	+5.7
KMI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.3						
KMI				LR	LR		
	comp=Z,108nm,19.9s,MS3.6						
KSM	**Kuching**	**37.80**	**242**	P	**P**	**15 12 41.8**	**-3.2**

MA2 Magadan 38.14 6 P **P** **15 12 46.7 -0.7**
MA2 pmax pmax
comp=Z,12nm,1.2s,mb4.5
MA2 Magadan 38.14 6 P **P** **15 12 46.7 -0.7**
comp=Z,12nm,1.2s,mb4.5
ULN Ulaanbaatar 38.87 321 *eP* **P** **15 12 53.8 +0.1**
ULN pmax pmax
comp=Z,23nm,1.6s,mb4.7
ULN Ulaanbaatar 38.87 321 *eP* **P** **15 12 53.8 +0.2**
comp=Z,23nm,1.6s,mb4.7
SONM Songino Array 39.24 320 P **P** **15 12 57.2 +0.4**
comp=Z,2.1nm,0.6s,mb4.1,baz=119,slow=7.8,SNR=15
SONM LR LR 15 28 47.0
comp=Z,97nm,21.1s,MS3.6,baz=246,slow=35
GTA Gaotai 40.78 306 *eP* **P** **15 13 11.0 +1.3**
GTA AP pP 15 13 16.5 +3.8
GTA XP sP 15 13 19.5 +5.6
GTA AMB AMB
comp=Z,10.0nm,1.8s,mb4.1
YAK Yakutsk 41.27 350⇑ *eP* **P** **15 13 13.0 -0.4**
YAK pmax pmax
comp=Z,22nm,1.4s,mb4.6
YAK Yakutsk 41.27 350 P **P** **15 13 11.8 -1.6**
SEY Seymchan 41.60 6⇓ *eP* **P** **15 13 16.7 +0.6**
CTAO Charters Tower 41.73 176 *eP* **P** **15 13 17.0 -0.6**
CTAO pmax pmax
comp=Z,31nm,1.3s,mb4.8
CTAO Charters Tower 41.73 176 *eP* **P** **15 13 16.9 -0.7**
comp=Z,31nm,1.3s,mb4.8
ZAK Zakamensk 42.25 322⇓ *iP* **P** **15 13 22.0 +0.4**
ZAK pmax pmax
comp=Z,11nm,1.4s,mb4.3
WRAB Tennant Creek 42.35 192 *eP* **P** **15 13 22.3 -0.3**
WRAB pmax pmax
comp=Z,32nm,1.4s,mb4.8
WRAB Tennant Creek 42.35 192 *eP* **P** **15 13 22.2 -0.4**
comp=Z,32nm,1.4s,mb4.8
WB2 Warramunga Arr 42.36 192 *eP* **P** **15 13 22.0 -0.7**
WRA Warramunga Arr 42.36 192 *iP* **P** **15 13 22.7 0.0**
WRA pmax pmax
comp=Z,6.0nm,1.1s
WRA Warramunga Arr 42.36 192 P **P** **15 13 21.7 -1.0**
comp=Z,6.1nm,1.1s,mb4.2,baz=14,slow=8.1,SNR=18
TLY Talaya 42.66 324 *iP* **P** **15 13 26.2 +1.3**
TLY pmax pmax
comp=Z,1.0nm,0.9s
TLY Talaya 42.66 324 P **P** **15 13 25.4 +0.4**
comp=Z,14nm,1.2s,mb4.6
FITZ Fitzroy Crossi 43.19 205 *eP* **P** **15 13 32.4 +2.9**
comp=Z,4.1nm,0.9s,mb4.2
MOY Mondy 44.12 323 *eP* **P** **15 13 37.4 +0.7**
MOY pmax pmax
comp=Z,27nm,1.8s,mb4.7
KULM Kulim 44.25 255 P **P** **15 13 37.7 -0.5**
ASAR Alice Springs 46.07 192 P **P** **15 13 51.9 -0.6**
comp=Z,1.9nm,0.8s,mb4.1,baz=12,slow=9.8,SNR=18
BILL Bilibino 48.44 11⇓ *eP* **P** **15 14 10.6 +0.2**
BILL pmax pmax
comp=Z,11nm,2.0s,mb4.5
BILL Bilibino 48.44 11 P **P** **15 14 09.4 -1.0**
comp=Z,7.4nm,1.2s,mb4.6
TIXI Tiksi 50.55 354⇓ *eP* **P** **15 14 25.6 -0.9**
TIXI pmax pmax
comp=Z,5.0nm,1.6s,mb4.2
STKA Stephens Creek 53.38 182 *eP* **P** **15 14 47.9 -0.1**
comp=Z,4.0nm,0.9s,mb4.3
STKA Stephens Creek 53.38 182 P **P** **15 14 46.9 -1.1**
comp=Z,3.3nm,0.8s,mb4.3,baz=358,slow=7.4,SNR=5.9
ZAA0 Zalesovo Array 54.11 322 *eP* **P** **15 14 52.5 -0.7**
ZALV Zalesovo Beam 54.11 322 P **P** **15 14 52.9 -0.3**
comp=Z,4.0nm,0.7s,mb4.5,baz=96,slow=7.6,SNR=8.6
ZAL Zalesovo 54.12 322 P **P** **15 14 52.9 -0.4**
MK31 Makanchi Array 54.60 313 *eP* **P** **15 14 57.2 +0.3**
MKAR Makanchi Array 54.60 313 P **P** **15 14 56.7 -0.2**
comp=Z,1.4nm,0.6s,mb4.2,baz=93,slow=9.7,SNR=12
MKAR LR LR 15 39 05.8
comp=Z,37nm,19.6s,MS3.5,baz=269,slow=37
NVS Novosibirsk 55.21 322 *eP* **P** **15 15 00.4 -0.7**
NVS pmax pmax
comp=Z,36nm,1.8s,mb5.1
NVS pmax pmax
comp=E,29nm,1.7s
KURK Kurchatov 57.38 317 P **P** **15 15 16.4 -0.3**
comp=E,45nm,1.1s,mb5.4,SNR=5.7
KURK Kurchatov 57.38 317 *eP* **P** **15 15 15.6 -1.1**
KURK pmax pmax
comp=Z,37nm,1.8s,mb5.1
KURK Kurchatov 57.38 317 *eP* **P** **15 15 15.6 -1.1**
comp=Z,37nm,1.8s,mb5.1
ULHL Ulahol 58.80 307 P **P** **15 15 28.3 +1.4**
SNR=8.9
TKM2 Tokmak 2 59.26 308 *eP* **P** **15 15 30.9 +0.9**
TKM2 pmax pmax
comp=Z,9.0nm,1.1s,mb4.7
TKM2 Tokmak 2 59.26 308 *eP* **P** **15 15 30.9 +0.9**
comp=Z,9.3nm,1.1s,mb4.7
TKM2 Tokmak 2 59.26 308 P **P** **15 15 31.5 +1.5**
SNR=7.2
IMA2 Indian Mountai 59.47 25 *eP* **P** **15 15 30.6 -0.4**
KZA Kyzart 59.55 307 P **P** **15 15 33.7 +1.7**
SNR=15
FRU Bishkek 59.98 308 *eP* **P** **15 15 35.0 0.0**
UCH Uchtor 60.09 307 *eP* **P** **15 15 37.3 +1.6**
comp=Z,27nm,1.4s,mb5.1
UCH Uchtor 60.09 307 P **P** **15 15 37.5 +1.8**
SNR=11
EKS2 Erkin-Say 60.60 308 *eP* **P** **15 15 39.5 +0.3**
comp=Z,12nm,1.4s,mb4.8
AML Almayashu 60.70 307 *eP* **P** **15 15 40.8 +0.9**
comp=Z,26nm,1.5s,mb5.1
AML Almayashu 60.70 307 P **P** **15 15 41.5 +1.6**
SNR=6.5
BVAR Borovoye Array 62.57 319 P **P** **15 15 52.5 +0.1**
comp=Z,5.9nm,0.7s,mb4.8,baz=90,slow=7.6,SNR=36
BRVK Borovoye 62.64 320 *eP* **P** **15 15 52.5 -0.3**
BRVK pmax pmax
comp=Z,37nm,1.6s,mb5.3
BRVK Borovoye 62.64 320 *eP* **P** **15 15 52.5 -0.3**
comp=Z,38nm,1.6s,mb5.3
KBL Kabul 65.26 299 *eP* **P** **15 16 10.2 -0.2**
KBL pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
KBL Kabul 65.26 299 *eP* **P** **15 16 10.2 -0.2**
comp=Z,1.3nm,0.6s,mb4.1
INK Inuvik 67.50 24 P **P** **15 16 23.6 -0.5**
INK pmax pmax
comp=Z,4.0nm,1.0s
INK Inuvik 67.50 24 *eP* **P** **15 16 23.8 -0.3**
comp=Z,285nm,1.3s,mb6.1
INK Inuvik 67.50 24 P **P** **15 16 23.6 -0.6**
comp=Z,3.6nm,1.0s,mb4.4,baz=289,slow=4.6,SNR=9.0
ARU Arti 69.17 324 *c iP* **P** **15 16 33.9 -0.9**
ARU *e* 15 16 56.3
ARU *e*PPP 15 20 42.4
ARU *e*S S 15 25 37.5 -2.9
ARU pmax pmax
comp=Z,25nm,1.7s,mb4.9
ARU Arti 69.17 324 *eP* **P** **15 16 33.4 -1.4**
comp=Z,26nm,1.4s,mb5.0
AKTK Aktyubinsk 70.47 317 P **P** **15 16 41.6 -1.3**
AKTO Aktyubinsk 70.47 317 P **P** **15 16 41.6 -1.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=80,slow=9.9,SNR=5.3
YKA Yellowknife Ar 76.39 28 P **P** **15 17 17.2 -0.4**
YKA LR LR 15 49 00.5
YKA Yellowknife Ar 76.39 28 P **P** **15 17 17.2 -0.4**
comp=Z,2.1nm,0.6s,mb4.2,baz=293,slow=5.5,SNR=22
YKA LR LR 15 49 00.5
comp=Z,49nm,20.9s,MS3.8,baz=270,slow=34
PPT Papeete 76.61 115 LR LR 15 45 15.7
comp=Z,78nm,20.8s,MS4.0,baz=332,slow=31
RES Resolute Bay 77.00 13 *eP* **P** **15 17 20.2 -0.6**
RES pmax pmax
comp=Z,800nm,1.5s
RES Resolute Bay 77.00 13 *eP* **P** **15 17 20.1 -0.6**
comp=Z,800nm,1.5s
B07A Winthrop 78.30 42 ⇓P **P** **15 17 27.1 -1.5**
baz=78
I04A Tendick Farm, 78.33 47 ⇑P **P** **15 17 28.3 -0.5**
baz=78
HUMO Hull Mountain 78.33 49 ⇑P **P** **15 17 29.0 +0.1**
baz=78
E06A Yakima 78.39 45 ⇑P **P** **15 17 28.8 -0.2**
baz=78
N02C Big Bar 78.66 51 ⇑P **P** **15 17 30.8 +0.1**
baz=78
YBH Yreka Blue Hor 78.79 50 ⇑P **P** **15 17 30.8 -0.6**
baz=79
ARCES ARCESS Array B 78.82 341 P **P** **15 17 29.3 -1.7**
comp=Z,6.3nm,1.2s,mb4.4,baz=82,slow=9.2,SNR=4.8
B08A Colville Reser 78.83 42 ⇓P **P** **15 17 31.5 0.0**
baz=79
C08A Higginbotham F 79.21 43 ⇓P **P** **15 17 32.5 -1.0**
baz=79
J05A Fort Rock 79.31 48 ⇑P **P** **15 17 33.8 -0.4**
baz=79
H06A Lindquist Farm 79.42 46 ⇑P **P** **15 17 34.6 -0.2**
baz=79
HOPS Hopland 79.43 52 ⇑P **P** **15 17 33.6 -1.3**
baz=79
K05A Summer Lake 79.73 48 ⇑P **P** **15 17 36.2 -0.3**
baz=80
I06A Prineville 79.78 47 ⇑P **P** **15 17 36.1 -0.6**
baz=80
L05A Lakeview 80.00 49 ⇑P **P** **15 17 36.3 -1.8**
baz=80
G08A Pilot Rock 80.14 45 ⇑P **P** **15 17 38.3 -0.4**
baz=80
K06A Valley Falls 80.15 48 ⇑P **P** **15 17 38.9 +0.1**
baz=80
I07A Izee 80.21 46 ⇑P **P** **15 17 38.9 -0.2**
baz=80
JOF Joensuu 80.21 334 *ep* **P** **15 17 38.4 -0.3**
comp=Z,0.4nm,0.4s,mb3.7
VRHR Novokhopersk 80.24 321 *eP* **P** **15 17 38.8 -0.3**
VRHR pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
VRHR pmax pmax
comp=N,10.0nm,0.7s
VRHR pmax pmax
comp=E,8.0nm,0.5s
ORV Oroville 80.39 51 ⇓P **P** **15 17 39.7 -0.4**
baz=80
A11A Hall Mountain, 80.45 41 ⇓P **P** **15 17 41.7 +1.4**
baz=80
ELFS Eagle Lake Fie 80.58 50 ⇓P **P** **15 17 41.5 +0.3**
baz=80
H08A Prairie City 80.61 46 ⇑P **P** **15 17 40.1 -1.1**
baz=80
K07A Rock Creek Ran 80.88 48 ⇓P **P** **15 17 42.2 -0.5**
baz=81
L07A Adell 81.06 48 ⇓P **P** **15 17 43.8 +0.2**
baz=81
BEKR Beckwourth 81.11 51 ⇑P **P** **15 17 44.0 0.0**
baz=81
P05C Yuba Gap, Truc 81.13 51 ⇓P **P** **15 17 43.4 -0.7**
baz=81
J08A Circle Bar Ran 81.17 47 ⇑P **P** **15 17 44.1 -0.1**
baz=81
N06A Buffalo Meadow 81.17 50 ⇑P **P** **15 17 43.7 -0.6**
baz=81
S04C Ingram Canyon, 81.23 53 ⇓P **P** **15 17 44.3 -0.4**
baz=81
G10A Bishop Farm, J 81.35 45 ⇑P **P** **15 17 44.9 -0.2**
baz=81
O06A Flanigan 81.38 50 ⇑P **P** **15 17 44.8 -0.6**
baz=81
OBN Obninsk 81.39 326⇓ *eP* **P** **15 17 45.2 +0.1**
OBN *e* 15 20 53.4
OBN *e*S S 15 28 01.1 +4.9
OBN pmax pmax
comp=Z,11nm,1.3s,mb4.6
K08A Mann Creek Ran 81.39 48 ⇓P **P** **15 17 45.7 +0.3**
baz=81
BMO Blue Mountains 81.39 45 *eP* **P** **15 17 45.2 -0.2**
BMO pmax pmax
comp=Z,15nm,1.7s,mb4.7
BMO Blue Mountains 81.39 45 *eP* **P** **15 17 45.2 -0.2**
comp=Z,15nm,1.7s,mb4.6
VRSR Storozhevoye 81.61 322 *eP* **P** **15 17 45.9 -0.5**
VRSR pmax pmax
comp=Z,5.0nm,1.5s,mb4.2
VRSR pmax pmax
comp=N,3.0nm,1.8s
VRSR pmax pmax
comp=E,4.0nm,1.6s
J09A Fry Pan Ranch, 81.66 47 ⇑P **P** **15 17 46.8 0.0**
baz=82
CMB Columbia Colle 81.74 52 *eP* **P** **15 17 46.8 -0.6**
CMB pmax pmax
comp=Z,24nm,1.8s,mb4.8
CMB Columbia Colle 81.74 52 *eP* **P** **15 17 46.8 -0.5**
comp=Z,24nm,1.8s,mb4.8
CMB Columbia Colle 81.74 52 ⇑P **P** **15 17 46.4 -1.0**
baz=82
N07B Gerlach 81.77 49 ⇓P **P** **15 17 47.7 +0.2**
baz=82
B13A Whitefish 81.83 41 ⇓P **P** **15 17 47.8 +0.2**
baz=82
G11A Walters Elk Ra 81.86 44 ⇓P **P** **15 17 47.4 -0.5**
baz=82
K09A Rome 81.92 47 ⇑P **P** **15 17 47.5 -0.7**
baz=82
C13A Hot Springs 82.05 42 ⇑P **P** **15 17 49.6 +0.8**
baz=82
KIV Kislovodsk 82.33 314 *eP* **P** **15 17 50.8 +0.5**
KIV pmax pmax
comp=Z,14nm,0.9s,mb4.9
KIV Kislovodsk 82.33 314 *eP* **P** **15 17 50.4 0.0**
comp=Z,35nm,1.4s,mb5.1
PKD Parkfield 82.38 54 ⇑P **P** **15 17 50.1 -0.6**
baz=82
F12A Elk City 82.38 44 ⇓P **P** **15 17 50.2 -0.4**
baz=82
K10A MacKenzie Ranc 82.47 47 ⇑P **P** **15 17 51.6 +0.5**
baz=82
T06C Millerton Lake 82.61 53 ⇓P **P** **15 17 51.4 -0.6**
baz=82
KCC Kaiser Creek 82.79 53 ⇓P **P** **15 17 52.7 -0.2**
baz=83
MFID Camas Ranch 82.93 46 ⇑P **P** **15 17 53.4 -0.1**
baz=83
L10A Juniper Basin 83.02 48 ⇑P **P** **15 17 54.1 +0.1**
baz=83
K11A Parker Ranch, 83.04 47 ⇑P **P** **15 17 55.0 +0.9**
baz=83
FINES FINESS Array B 83.08 334 *i P* **P** **15 17 52.0 -1.9**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 83.08 334 P **P** **15 17 52.6 -1.3**
comp=Z,0.7nm,0.5s,mb4.0,baz=77,slow=6.9,SNR=11
NVAR Mina Array Bea 83.12 51 P **P** **15 17 54.5 0.0**
comp=Z,2.4nm,0.8s,mb4.2,baz=260,slow=6.3,SNR=16
HELL Mitchell Peak 83.25 53 ⇑P **P** **15 17 54.8 -0.5**
baz=83
G13A Cobalt 83.31 44 ⇓P **P** **15 17 54.8 -0.6**
baz=83
L11A Cat Creek Ranc 83.47 47 ⇑P **P** **15 17 56.2 -0.1**
baz=83
J12A Stokes Ranch, 83.48 46 ⇓P **P** **15 17 55.6 -0.7**
baz=83
H13A Challis 83.51 45 ⇓P **P** **15 17 57.2 +0.8**
baz=83
S08C White Mtn Res 83.57 52 ⇑P **P** **15 17 56.2 -0.7**
baz=83
E15A Deer Lodge 83.77 42 ⇑P **P** **15 17 58.0 +0.2**
baz=84
HLID Hailey 83.81 46 ⇑P **P** **15 17 58.1 0.0**
baz=84
I13A Wildhorse Cree 83.86 45 ⇑P **P** **15 17 58.2 -0.1**
baz=84
L12A House Creek Ra 83.98 47 ⇑P **P** **15 17 59.2 +0.3**
baz=84
J13A Cove Ranch, Pi 84.04 46 ⇓P **P** **15 17 59.7 +0.5**
baz=84
R09A Tonopah 84.09 51 P **P** **15 17 59.9 +0.3**
baz=84,SNR=8.1
F15A Butte 84.11 43 P **P** **15 18 00.1 +0.7**
baz=84,SNR=5.3
M12A Wells 84.35 48 ⇑P **P** **15 18 01.7 +0.9**
baz=84
O11A Cowboy Ranch, 84.35 49 ⇑P **P** **15 18 00.4 -0.5**
baz=84
GRAC Grapevine Rang 84.35 53 ⇓P **P** **15 18 01.1 +0.2**
baz=84
RDF Al-Radifah 84.36 299 *eP* **P** **15 18 00.1 -1.1**
G15A Dillon 84.40 44 ⇓P **P** **15 18 01.5 +0.6**
baz=84
K13A Stover Farm, H 84.41 46 ⇑P **P** **15 18 01.9 +0.8**
baz=84
N12A Clover Valley, 84.49 48 ⇓P **P** **15 18 02.0 +0.5**
baz=84
NAY Al-Naaiem 84.49 299 *eP* **P** **15 18 00.4 -1.4**
S10A Tonopah Range, 84.56 51 P **P** **15 18 02.2 +0.3**
baz=84,SNR=5.3
R10A Warm Springs 84.62 51 ⇓P **P** **15 18 02.4 +0.1**
baz=84
MPMC Manual Prospec 84.63 53 P **P** **15 18 02.6 +0.3**
baz=84,SNR=5.5
LRMC Laurel Mountai 84.70 54 ⇑P **P** **15 18 03.0 +0.2**
baz=85
EDW2 Edwards Air Fo 84.71 55 ⇑P **P** **15 18 04.0 +1.2**
baz=85
BOZ Bozeman (W) 84.74 43 ⇓P **P** **15 18 03.4 +0.7**
baz=85
Q11A Duckwater 84.87 50 ⇑P **P** **15 18 02.8 -0.7**
baz=85
M13A Montello 84.88 48 ⇑P **P** **15 18 03.9 +0.4**
baz=85
O12A Currie 84.93 49 ⇓P **P** **15 18 03.4 -0.4**
baz=85
FURC Furnace Creek, 84.93 53 ⇓P **P** **15 18 04.2 +0.3**
baz=85
K14A Jones Ranch, D 85.06 46 ⇓P **P** **15 18 05.4 +1.0**
baz=85
R11A Troy Canyon, C 85.12 51 P **P** **15 18 04.9 +0.2**
baz=85,SNR=11
TPNV Topopah Spring 85.19 52 *eP* **P** **15 18 04.1 -1.1**
TPNV pmax pmax
comp=Z,23nm,1.8s,mb5.0
TPNV Topopah Spring 85.19 52 *eP* **P** **15 18 04.1 -1.1**
comp=Z,23nm,1.8s,mb5.0
TPNV Topopah Spring 85.19 52 P **P** **15 18 05.6 +0.4**
baz=85,SNR=6.8
U10A Ash Meadows, A 85.35 53 ⇓P **P** **15 18 07.1 +1.2**
baz=85
M14A Sheep Mountain 85.38 47 P **P** **15 18 06.7 +0.7**
baz=85,SNR=7.8
ANN Anapa 85.41 317 *eP* **P** **15 18 01.6 -4.5**
ANN *e**PP pP 15 18 11.8 +2.5
ANN *e* 15 21 17.9
ANN *e*S S 15 28 22.5 -15
ANN pmax pmax
comp=Z,59nm,1.8s,mb5.4
N14A Grayback Hills 85.77 48 ⇑P **P** **15 18 08.1 +0.2**
baz=86
FFC Flin Flon 85.77 32 *eP* **P** **15 18 07.9 +0.2**
FFC pmax pmax
comp=Z,35nm,1.5s,mb5.4
FFC Flin Flon 85.77 32 *eP* **P** **15 18 07.9 +0.2**
comp=Z,35nm,1.5s,mb5.4
P13A Bates Ranch, G 85.78 49 P **P** **15 18 08.8 +0.8**
baz=86,SNR=9.8
R12A Pony Springs, 85.83 50 P **P** **15 18 09.2 +0.9**
baz=86,SNR=7.1
T11A Corn Creek, Al 85.83 52 ⇑P **P** **15 18 08.7 +0.3**
baz=86
TUQ Turquoise Mtn. 86.04 53 ⇓P **P** **15 18 10.0 +0.6**
baz=86
DUG Dugway 86.31 48 ⇓P **P** **15 18 11.3 +0.6**
baz=86
PFO Pinyon Flat Ob 86.38 55 ⇓P **P** **15 18 10.7 -0.4**
baz=86
GMRC Granite Mounta 86.51 54 ⇓P **P** **15 18 11.7 0.0**
baz=86
HWUT Hardware Ranch 86.55 46 *eP* **P** **15 18 11.3 -0.5**
comp=Z,21nm,1.7s,mb5.1
MONP Monument Peak 86.69 56 ⇓P **P** **15 18 12.4 -0.3**
baz=86
V12A Nelson 86.72 53 ⇓P **P** **15 18 13.4 +0.7**
baz=87
FCC Fort Churchill 86.97 26 *eP* **P** **15 18 12.4 -1.1**
FCC pmax pmax
comp=Z,20nm,1.5s,mb5.1
FCC Fort Churchill 86.97 26 *eP* **P** **15 18 12.4 -1.1**
comp=Z,20nm,1.5s,mb5.1
BC3 Big Chuckw Mtn 87.12 55 ⇑P **P** **15 18 15.0 +0.2**
baz=87
IRM Iron Mountain 87.14 54 ⇓P **P** **15 18 14.8 -0.1**
baz=87
V13A Grand Canyon W 87.31 52 ⇓P **P** **15 18 15.8 +0.2**
baz=87
AKASG Malin Array Be 87.41 324 P **P** **15 18 13.5 -2.3**
comp=Z,0.9nm,0.7s,mb4.1,baz=45,slow=4.5,SNR=9.1
MSU Marysvale 87.48 49 *eP* **P** **15 18 17.0 +0.6**
U14A Mt Trumbull 87.66 52 ⇓P **P** **15 18 17.6 +0.3**
baz=88
GLA Glamis 87.85 55 ⇓P **P** **15 18 19.2 +0.9**
baz=88
X13A Yucca 87.95 54 ⇓P **P** **15 18 19.3 +0.5**
baz=88
T15A Red Dirt Ranch 87.98 51 ⇓P **P** **15 18 20.1 +1.3**
baz=88
V14A Boquillas Ranc 88.05 52 ⇓P **P** **15 18 19.2 0.0**
baz=88
W14A Seligman 88.25 53 ⇑P **P** **15 18 20.1 0.0**
baz=88
V15A Kaibab Nationa 88.65 52 ⇓P **P** **15 18 22.9 +0.8**
baz=88
X14A Yava 88.71 53 ⇑P **P** **15 18 23.0 +0.7**
baz=89
X15A Humboldt 89.19 53 ⇑P **P** **15 18 25.7 +1.1**
baz=89
Y15A Casa Rosa Ranc 89.35 54 ⇓P **P** **15 18 25.5 +0.1**
baz=89
X16A Lo Mia Camp, P 89.81 53 ⇑P **P** **15 18 28.4 +1.0**
baz=90
Y16A Circle Bar Ran 90.02 53 ⇓P **P** **15 18 29.4 +0.9**
baz=90
217A Green Valley 91.46 55 ⇑P **P** **15 18 36.4 +1.2**
baz=91
Y19A Nutrioso 91.63 52 ⇓P **P** **15 18 37.0 +1.1**
baz=92
118A Homack Ranch, 91.70 54 ⇓P **P** **15 18 37.1 +0.8**
baz=92
219A White Tail Can 92.53 54 ⇓P **P** **15 18 40.9 +0.8**
baz=92
BRG Berggiesshubel 94.97 330 *eP* **P** **15 18 55.3 +4.3**
BRG pmax pmax
comp=Z,2.0nm,1.2s,mb4.4
BRG Berggiesshubel 94.97 330 *eP* **P** **15 18 55.3 +4.3**
comp=Z,3.5nm,1.2s,mb4.7
LUPA Lehigh Univers 108.33 30 *eP* Pdif 15 19 54.5 +3.8
LPAZ La Paz 149.97 85 PKPbc PKPbc 15 25 17.4 -2.3
comp=Z,4.0nm,1.2s,baz=352,slow=8.0,SNR=3.8

ISCJB ***25*** *15:17:43.0±0.4,3733N±004×7167E±008,h120km±14km, mb4.0/2, Error ellipse: s-maj=12.0km s-min=5.3km az=25.8*
NEIC ***25*** *15:17:43.6±1.1,3727N×7182E,h119km±14km,mb4.3/5, Error ellipse: s-maj=25.1km s-min=10.3km az=129.0*
BJI ***25*** *15:17:43.5,3706N×7185E,h140km*
NNC ***25*** *15:17:47.4±3.3,3761N×7165E,h128km±48km,mb2.9, mpv4.0, Error ellipse: s-maj=29.2km s-min=17.2km az=9.0*
IDC ***25*** *15:17:53.8±22.0,38.13N×7183E,h146km±117km,mb3.5/1, mb1 3.4/5,mb1mx3.0/24,mbtmp3.3/5,ML3.7/4, Error ellipse: s-maj=240.9km s-min=51.2km az=2.0*

ISC 25 15:17:44.2±0.4,3735N±004×7163E±008,h111km±12km, n33,σ1§14/41,mb4.0/2,4C-1D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBL	**Kabul**	**3.50**	**218**	*e*Pn	**Pn**	**15 18 37.0**	**+0.1**
KBL				*e*Sn	**Sn**	**15 19 18.1**	**+0.5**
CEP	**Cherat**	**3.53**	**176**	P	**Pn**	**15 18 37.1**	**-0.1**
CEP				S	**Sn**	**15 19 18.0**	**-0.2**
CHCP	**Chirah Chowk**	**3.92**	**160**	P	**Pn**	**15 18 41.1**	**-1.4**
KSH	**Kashi**	**4.04**	**56**	*e*P	**Pn**	**15 18 46.5**	**+2.5**
KSH				S	**Sn**	**15 19 32.0**	**+1.5**
KSH				Smax			
KSH	comp=N,200nm,0.6s						
	comp=E,270nm,0.8s			Smax			
THW	**Thamme Wali**	**4.55**	**179**	P	**Pn**	**15 18 49.9**	**-1.0**
AML	**Almayashu**	**5.03**	**18**	*e*Pn	**Pn**	**15 18 57.9**	**+0.5**
	comp=E,29nm,0.3s						
AML				*e*Sn	**Sn**	**15 19 44.8**	**-10**
AML	**Almayashu**	**5.03**	**18**	P	**Pn**	**15 18 58.3**	**+0.9**
	SNR=37						
UCH	**Uchtor**	**5.35**	**24**	*e*Pn	**Pn**	**15 19 02.3**	**+0.6**
	comp=E,1μm,1.2s						
UCH				*e*Sn	**Sn**	**15 19 59.9**	**-2.2**
UCH	**Uchtor**	**5.35**	**24**	P	**Pn**	**15 19 02.5**	**+0.8**
	SNR=12						
KZA	**Kyzart**	**5.49**	**30**	P	**Pn**	**15 19 03.8**	**+0.3**
	SNR=26						
EKS2	**Erkin-Say**	**5.55**	**17**	*e*Pn	**Pn**	**15 19 04.7**	**+0.3**
	comp=E,12nm,0.6s						

EKS2				*e*Sn	Sn	15 19 51.7	-15
EKS2	**Erkin-Say**	**5.55**	**17**	P	Pn	15 19 04.9	+0.5
	SNR=14						
AAK	**Ala-Archa**	**5.72**	**22**	P	Pn	15 19 07.6	+1.0
	SNR=29						
KK31	**Karatay Array**	**5.81**	**352**	⇑P	Pn	15 19 08.2	+0.3
	comp=E,6.2nm,0.4s,baz=175,slow=13,SNR=111						
KK31				S	Sn	15 20 10.8	-2.3
	comp=E,8.0nm,0.4s,baz=169,slow=22,SNR=15						
ULHL	**Ulahol**	**6.04**	**35**	P	Pn	15 19 11.0	-0.1
	SNR=16						
CHMS	**Chumysh**	**6.13**	**22**	P	Pn	15 19 12.8	+0.6
	SNR=7.9						
USP	**Ospenovka**	**6.30**	**19**	P	Pn	15 19 14.5	0.0
	SNR=11						
TKM2	**Tokmak 2**	**6.34**	**27**	⇑P	Pn	15 19 15.2	+0.1
	comp=E,12nm,0.6s						
TKM2				⇑S	Sn	15 20 25.2	-0.8
	comp=E,7.7nm,0.7s						
TKM2	**Tokmak 2**	**6.34**	**27**	*e*Pn	Pn	15 19 15.2	+0.1
	comp=E,13nm,0.5s						
TKM2	**Tokmak 2**	**6.34**	**27**	P	Pn	15 19 15.6	+0.5
	SNR=19						
MK31	**Makanchi Array**	**12.31**	**37**	⇓P	Pn	15 20 34.4	-1.1
	comp=E,1.0nm,0.6s						
MK31	**Makanchi Array**	**12.31**	**37**	*e*Pn	Pn	15 20 33.7	-1.8
MK31				*e*		15 20 42.4	
MKAR	**Makanchi Array**	**12.31**	**37**	P	Pn	15 20 34.5	-1.0
	comp=E,0.1nm,0.3s,baz=226,slow=15,SNR=9.1						
KURK	**Kurchatov**	**14.27**	**18**	P	Pn	15 21 02.6	+1.8
	comp=E,1.9nm,0.6s						
AB31	**Akbulak array**	**14.60**	**328**	P	Pn	15 21 04.3	-0.9
	comp=E,0.2nm,0.3s,baz=166,slow=11,SNR=12						
BVAR	**Borovoye Array**	**15.70**	**357**	P	Pn	15 21 16.8	-2.1
	comp=E,0.5nm,0.3s,baz=185,slow=14,SNR=3.6						
AKTK	**Aktyubinsk**	**16.31**	**328**	P	Pn	15 21 28.1	+1.6
AKTO	**Aktyubinsk**	**16.31**	**328**	⇑P	Pn	15 21 28.2	+1.7
	comp=E,0.1nm,1.0s						
AKTO	**Aktyubinsk**	**16.31**	**328**	P	Pn	15 21 28.1	+1.6
	comp=E,0.2nm,0.3s,baz=139,slow=13,SNR=8.0						
ZALV	**Zalesovo Beam**	**18.93**	**25**	P	P	15 21 55.4	-0.8
ZALV	**Zalesovo Beam**	**18.93**	**25**	P	P	15 21 55.4	-0.8
	comp=E,0.9nm,0.3s,baz=224,slow=12,SNR=3.9						
ARU	**Arti**	**21.00**	**339**	*e*P	P	15 22 10.6	-7.8
	comp=E,3.9nm,0.4s,mb4.1						
ARU				*e*P		15 22 25.3	
ARCES	**ARCESS Array B**	**40.55**	**337**	P	P	15 25 12.7	+0.5
	comp=E,1.7nm,0.9s,mb3.9,baz=101,slow=6.3,SNR=4.2						

*ISCJB **25** 15:53:09.3±0.7, 35.19N±003×9.12W±008, h10km, Error ellipse: s-maj=9.5km s-min=3.6km az=14.6*
*CNRM **25** 15:53:09.4, 3545N×926W, h24km, MD3.5*
*MDD **25** 15:53:12.4±2.0, 3526N×951W, h24km±21km, mbLg2.8/11, Error ellipse: s-maj=20.6km s-min=6.6km az=105.0, PRXIMO*
*CSEM **25** 15:53:13.1±0.3, 35.13N×896W, h35km, ML2.7, Error ellipse: s-maj=8.3km s-min=3.0km az=105.0*
*NEIC **25** 15:53:14.5, 3555N×930W, h0km, MN2.7(MDD), After MDD.*

ISC 25 15:53:11.0±0.7, 3518N±003×914W±007, h10km, n27, σ1§41/49, 2C-1D, West of Gibraltar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**2.16**	**10**	P	Pn	15 53 46.2	-0.8
MORF				S	Sn	15 54 08.6	-5.3
EGRO	**El Granado**	**2.71**	**29**	⇑P	Pn	15 53 55.4	+0.9
	8.9nm,0.2s,SNR=18						
EGRO				S	Sn	15 54 25.4	-2.0
	19nm,0.1s,SNR=13						
EGRO	**El Granado**	**2.71**	**29**	P	Pn	15 53 55.4	+0.9
	8.9nm,0.2s,SNR=18						
EGRO				S	Sn	15 54 25.4	-1.9
	19nm,0.1s,SNR=13						
ESPR	**Espera**	**3.15**	**57**	⇓P	Pn	15 54 03.1	+2.5
	9.3nm,0.2s,SNR=18						
ESPR				S	Sn	15 54 40.2	+1.9
	1.7nm,0.1s						
EJIF	**Jimena Fronter**	**3.24**	**66**	P	Pn	15 54 05.9	+4.0
	4.1nm,0.2s,SNR=6.2						
EJIF				S	Sn	15 54 44.0	+3.4
	1.0nm,0.1s						
EMIN	**Mina Concepcio**	**3.26**	**37**	⇑P	Pn	15 54 03.1	+0.9
	2.6nm,0.1s,SNR=18						
EMIN				S	Sn	15 54 38.1	-2.9
	1.7nm,0.1s,SNR=5.5						
EMIN	**Mina Concepcio**	**3.26**	**37**	P	Pn	15 54 03.1	+0.9
	2.6nm,0.1s,SNR=18						
EMIN				S	Sn	15 54 38.1	-2.9
	1.7nm,0.1s,SNR=5.5						
JHA	**Jbel Lahdid**	**3.44**	**184**	*e*P	Pn	15 54 05.0	+0.3
JHA				*i* S	Sn	15 54 45.0	-0.5
CIA	**Chichaoua**	**3.62**	**175**	*e*P	Pn	15 54 06.0	-1.1
CIA				*i* S	Sn	15 54 49.0	-0.8
EBAD	**Badajoz**	**3.96**	**25**	P	Pn	15 54 11.6	-0.2
	3.1nm,0.2s,SNR=23						
EBAD				S	Sn	15 54 53.8	-4.4
	10nm,0.2s,SNR=4.9						
EBAD	**Badajoz**	**3.96**	**25**	P	Pn	15 54 11.6	-0.1
	3.1nm,0.2s,SNR=23						
CZD	**Col de Zad**	**4.01**	**121**	*e*P	Pn	15 54 12.0	-0.5
CZD				*i* S	Sn	15 54 58.0	-1.6
OUK	**Oukaimeden**	**4.10**	**165**	*e*P	Pn	15 54 14.0	+0.3
OUK				*i* S	Sn	15 55 02.0	+0.3
ECAB	**El Cabril**	**4.16**	**45**	P	Pn	15 54 16.3	+1.8
ECAB				S	Sn	15 54 59.4	-3.8
ECAB	**El Cabril**	**4.16**	**45**	P	Pn	15 54 16.3	+1.8
	3.0nm,0.2s,SNR=10						
ECAB				S	Sn	15 55 02.0	-1.2
	2.7nm,0.2s						
ECAB	**El Cabril**	**4.16**	**45**	P	Pn	15 54 16.3	+1.8
	3.0nm,0.2s,SNR=10						
EADA	**Adamuz**	**4.73**	**50**	P	Pn	15 54 24.2	+1.8
	3.6nm,0.2s,SNR=10						
EADA				S	Sn	15 55 15.9	-1.2
	6.2nm,0.1s						
EADA	**Adamuz**	**4.73**	**50**	P	Pn	15 54 24.2	+1.9
	3.6nm,0.2s,SNR=10						
EADA				S	Sn	15 55 15.9	-1.3
	6.2nm,0.1s						
EBAN	**Banos Encina**	**5.23**	**54**	P	Pn	15 54 30.8	+1.5
	3.7nm,0.1s,SNR=7.9						
EBAN				S	Sn	15 55 28.0	-1.7
	5.8nm,0.3s,SNR=7.9						
EQES	**Quesada**	**5.55**	**60**	P	Pn	15 54 36.0	+2.4
	1.6nm,0.2s,SNR=7.9						
EQES				S	Sn	15 55 36.0	-1.4
	1.9nm,0.2s,SNR=7.9						
EQES	**Quesada**	**5.55**	**60**	P	Pn	15 54 36.0	+2.4
	1.6nm,0.2s,SNR=7.9						
EQES				S	Sn	15 55 36.0	-1.4
	1.9nm,0.2s,SNR=7.9						
ESDC	**Sonseca Array**	**6.09**	**41**	P	Pn	15 54 42.5	+1.4
	0.9nm,0.2s,baz=231,slow=13,SNR=4.4						
ESDC	**Sonseca Array**	**6.09**	**41**	P	Pn	15 54 42.5	+1.4
	0.9nm,0.2s,SNR=4.4						
ELOB	**Lobios**	**6.73**	**7**	P	Pn	15 54 48.0	-1.8
	1.6nm,0.1s,SNR=6.7						
ELOB				S	Sn	15 55 56.0	-11
	2.4nm,0.2s						
ETOB	**Tobarra**	**7.00**	**58**	P	Pn	15 54 54.2	+0.7
	1.7nm,0.2s,SNR=7.9						
ETOB				S	Sn	15 56 09.0	-4.1
	1.8nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**7.00**	**58**	P	Pn	15 54 54.2	+0.7
	1.7nm,0.2s,SNR=7.9						
ECAL	**Calabor**	**7.01**	**15**	P	Pn	15 54 53.0	-0.7
	2.7nm,0.2s,SNR=7.9						
ECAL				S	Sn	15 56 06.3	-7.1
	4.2nm,0.4s,SNR=7.9						

WEL 25 15:57:10.3±0.3, 4117S×17254E, h12km, ML3.5/26, Error ellipse: s-maj=3.3km s-min=2.0km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.34**	**359**	P*	Pg	15 57 17.3	+0.1
NNZ	**Nelson**	**0.64**	**95**	P*	Pb	15 57 21.8	-1.6
NNZ				S*	Sb	15 57 30.3	-1.8
THZ	**Tophouse**	**0.65**	**155**	P*	Pb	15 57 21.8	-1.8
DSZ	**Denniston Nort**	**0.80**	**224**	P*	Pb	15 57 25.2	-0.8
TUWZ	**Tuamarina**	**1.09**	**104**	P*	Pb	15 57 29.6	-1.4
DUWZ	**D'Urville Isla**	**1.11**	**71**	P*	Pb	15 57 30.5	-0.9
DUWZ				S*	Sb	15 57 46.0	+0.2
BSWZ	**Blackbirch Sta**	**1.14**	**119**	P*	Pb	15 57 31.4	-0.5
TCW	**Tory Channel**	**1.31**	**92**	PN	Pn	15 57 33.4	-1.0
CMWZ	**Cape Campbell**	**1.39**	**115**	PN	Pn	15 57 36.6	+1.2
KHZ	**Kahutara**	**1.45**	**149**	PN	Pn	15 57 37.3	+0.9
KHZ				SN	Sn	15 57 57.6	+2.2
LTZ	**Lake Taylor**	**1.62**	**187**	PN	Pn	15 57 39.0	+0.4
MRW	**Makara Radio**	**1.63**	**93**	SN	Sn	15 58 00.5	+0.8
SNZO	**South Karori**	**1.64**	**96**	PN	Pn	15 57 38.0	-0.9
KIW	**Kapiti Island**	**1.82**	**81**	PN	Pn	15 57 43.0	+1.6
CAW	**Cannon Point**	**1.91**	**89**	PN	Pn	15 57 44.7	+2.1
MSWZ	**Moikau Station**	**2.06**	**98**	PN	Pn	15 57 45.8	+1.1
MTW	**Mount Morrison**	**2.24**	**91**	PN	Pn	15 57 48.0	+0.9
HOWZ	**Holdsworth Sta**	**2.27**	**84**	PN	Pn	15 57 49.2	+1.7
HOWZ				SN	Sn	15 58 18.7	+3.2
WVZ	**Waitaha Valley**	**2.33**	**215**	PN	Pn	15 57 48.2	-0.1
WAZ	**Wanganui**	**2.34**	**54**	PN	Pn	15 57 50.6	+2.1
VRZ	**Vera Road**	**2.66**	**41**	PN	Pn	15 57 54.0	+1.1
RPZ	**Rata Peaks**	**2.77**	**203**	PN	Pn	15 57 54.4	0.0
FOZ	**Fox Glacier**	**3.19**	**220**	PN	Pn	15 57 58.7	-1.5
JCZ	**Jackson Bay**	**4.02**	**223**	PN	Pn	15 58 11.5	-0.1
ODZ	**Otahua Downs**	**4.11**	**199**	PN	Pn	15 58 11.9	-1.0

IDC 25 16:08:12.1±6.6, 1448N×14494E, h0km, mb3.6/4, mb1 3.7/4, mb1mx3.6/17, mbtmp3.6/4, Error ellipse: s-maj=256.4km s-min=25.3km az=81.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**27.43**	**330**	P	P	16 14 00.3	+0.7
	0.6nm,0.4s,baz=147,slow=9.5,SNR=4.7						
WRA	**Warramunga Arr**	**35.76**	**197**	P	P	16 15 13.1	+0.2
	1.0nm,0.9s,baz=20,slow=9.7,SNR=6.2						
ASAR	**Alice Springs**	**39.42**	**196**	P	P	16 15 43.8	-0.1
	0.3nm,0.9s,baz=16,slow=7.9,SNR=4.1						
MKAR	**Makanchi Array**	**60.91**	**316**	P	P	16 18 26.0	-0.6
	0.5nm,0.7s,baz=109,slow=8.6,SNR=3.7						

IDC 25 16:15:09.1±2.8, 697S×15084E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/14, mbtmp3.7/4, Error ellipse: s-maj=68.2km s-min=43.6km az=112.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.56**	**230**	P	P	16 19 50.2	+0.7
	1.8nm,0.7s,baz=55,slow=11,SNR=18						
ASAR	**Alice Springs**	**23.24**	**223**	P	P	16 20 18.6	+0.4
	0.7nm,0.5s,baz=54,slow=9.1,SNR=30						
STKA	**Stephens Creek**	**26.24**	**198**	P	P	16 20 45.5	-0.4
	1.1nm,0.7s,baz=23,slow=13,SNR=3.9						
FITZ	**Fitzroy Crossi**	**26.93**	**243**	P	P	16 20 51.3	-1.1
	1.8nm,1.0s,baz=80,slow=12,SNR=2.6						
TORD	**Torodi Ar. Bea**	**149.03**	**284**	PKPbc	PKPbc	16 35 00.4	+0.1
	0.7nm,0.7s,baz=67,slow=3.9,SNR=4.2						

MAN 25 16:27:22, 1107N×12630E, h8km, mb4.0, ML2.8, MS2.5, Philippine Islands region

IDC 25 16:33:25.3±3.1, 1279S×6690E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.4/21, mbtmp3.5/4, MS3.5/1, Ms1 3.4/1, ms1mx2.7/18, Error ellipse: s-maj=118.5km s-min=28.5km az=50.0, Mid-Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**41.78**	**241**	LR	LR	16 56 52.6	
	comp=Z,58nm,18.1s,baz=328,slow=34						
MKAR	**Makanchi Array**	**60.89**	**12**	P	P	16 43 39.9	+0.2
	0.2nm,0.6s,baz=191,slow=6.8,SNR=3.2						
ASAR	**Alice Springs**	**64.07**	**110**	P	P	16 44 01.5	-0.1
	0.4nm,0.7s,baz=273,slow=6.5,SNR=12						
WRA	**Warramunga Arr**	**64.74**	**106**	P	P	16 44 06.3	+0.2
	0.7nm,0.6s,baz=274,slow=5.7,SNR=10.0						
AKASG	**Malin Array Be**	**71.26**	**336**	P	P	16 44 46.3	0.0
	0.1nm,0.3s,baz=138,slow=5.1,SNR=4.1						

IDC 25 16:37:16.5±9.7, 2202N×14411E, h0km, mb3.4/4, mb1 3.5/4, mb1mx3.4/19, mbtmp3.4/4, Error ellipse: s-maj=372.5km s-min=24.9km az=75.0, Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.64**	**320**	P	P	16 44 50.4	+0.4
	0.4nm,0.4s,baz=119,slow=8.4,SNR=2.5						
WRA	**Warramunga Arr**	**42.78**	**194**	P	P	16 45 15.4	-0.7
	0.8nm,1.1s,baz=16,slow=9.5,SNR=3.2						
ASAR	**Alice Springs**	**46.48**	**193**	P	P	16 45 46.3	+0.8
	0.3nm,0.7s,baz=17,slow=9.4,SNR=5.3						
MKAR	**Makanchi Array**	**55.11**	**312**	P	P	16 46 50.0	-0.5
	0.3nm,0.6s,baz=82,slow=10,SNR=4.2						

*ISCJB **25** 16:54:27.8±0.7, 1079N±003×62.18W±004, h100km±7km, Error ellipse: s-maj=6.8km s-min=5.3km az=29.7*
*FUNV **25** 16:54:29.0, 1085N×62.11W, h95km, MW3.1*
*TRN **25** 16:54:33.9, 1105N×62.11W, h35km, MD3.1*
*NEIC **25** 16:54:33.9, 1105N×62.11W, h35km, MD3.1(TRN), After TRN.*

ISC 25 16:54:28.5±0.7, 1083N±003×6216W±004, h96km±7km, n18, σ1§22/34, 2C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.19**	**198**	⇓*i*P	Pn	16 54 42.6	+0.5
GUIV				*i* S	Sn	16 54 52.0	-0.3
TRN	**Trinidad (W)**	**0.77**	**103**	⇑*i*P	Pn	16 54 48.7	+2.5
TRN				*e*S	Sn	16 54 59.6	+0.2
GUNV	**Guanoco**	**1.01**	**229**	⇑*i*P	Pn	16 54 50.1	+1.4
GUNV				*e*S	Sn	16 55 05.3	+1.4
CRUV	**Carupano**	**1.06**	**262**	*e*P	Pn	16 54 49.8	+0.5
CRUV				*e*S	Sn	16 55 04.6	-0.4
ITEV	**Isla Los Testi**	**1.09**	**299**	*e*P	Pn	16 54 49.8	+0.2
ITEV				*e*S	Sn	16 55 05.0	-0.5
GRW	**Mount Saint Ca**	**1.42**	**20**	*e*P	Pn	16 54 54.7	+1.2
GRW				*e*S	Sn	16 55 09.0	-3.4
GRHS	**Sauteurs**	**1.48**	**20**	*e*P	Pn	16 54 55.5	+1.2
GRHS				*e*S	Sn	16 55 09.5	-4.3
GRIC	**Isle de Caille**	**1.56**	**21**	*e*P	Pn	16 54 56.7	+1.4
GRIC				*e*S	Sn	16 55 14.0	-1.5
GRSS	**Sisters**	**1.56**	**20**	*e*P	Pn	16 54 57.0	+1.7
GRSS				*e*S	Sn	16 55 12.3	-3.3
GRCU	**Cariacou**	**1.78**	**23**	*e*P	Pn	16 54 58.6	+0.5
GRCU				*e*S	Sn	16 55 18.6	-1.9
PCRV	**Puerto La Cruz**	**2.52**	**255**	*e*P	Pn	16 55 08.3	+0.6
PCRV				*e*S	Sn	16 55 36.9	-0.9
IBAV	**Isla La Blanqu**	**2.57**	**293**	*e*P	Pn	16 55 09.5	+1.1
RIOV	**Rio Grande**	**2.76**	**173**	*e*P	Pn	16 55 11.9	+0.9
RIOV				*e*S	Sn	16 55 42.2	-1.4
GURV	**El Guri**	**3.18**	**197**	*e*P	Pn	16 55 16.9	+0.3
GURV				*e*S	Sn	16 55 51.8	-1.9
ORCV	**Isla La Orchil**	**4.07**	**284**	*e*P	Pn	16 55 29.1	+0.5
LUEV	**Luepa**	**5.00**	**172**	*e*P	Pn	16 55 40.2	-1.0
LUEV				*e*S	Sn	16 56 33.5	-4.3
CAOV	**Caicara del Or**	**5.38**	**230**	*e*P	Pn	16 55 45.7	-0.7
CAOV				*e*S	Sn	16 56 43.2	-3.9
BAUV	**El Baul**	**6.09**	**253**	*e*P	Pn	16 55 54.5	-1.5
BAUV				*e*S	Sn	16 56 59.2	-5.1

MAN 25 17:14:01, 1387N×12376E, h14km, mb4.4, ML3.2, MS3.0, 1D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PVCP	**Virac**	**0.47**	**125**	⇓*e*P	Pg	17 14 11.1	+0.8
CNP	**Catarman**	**1.61**	**147**	*e*P	Pn	17 14 29.2	+0.2
CNP				*e*S	Sn	17 14 50.7	+1.1
POLP	**Polilio Island**	**1.96**	**296**	*e*P	Pn	17 14 34.4	+0.6
BALP	**Baler**	**2.81**	**312**	*e*P	Pn	17 14 50.2	+4.6
CAUP	**Cauayan**	**3.58**	**329**	*e*P	Pn	17 14 57.6	+1.5
APYP	**Conner**	**4.65**	**329**	*e*P	Pn	17 15 12.2	+1.4

*BJI **25** 17:26:07.0, 1824S×17777W, h562km, mB5.0, mb4.8*
*ISCJB **25** 17:26:08.2±0.6, 1778S±004×17878W±004, h521km±7km, mb5.0/118, Error ellipse: s-maj=7.5km s-min=3.9km az=145.8*
*MOS **25** 17:26:09.6±0.8, 1767S×17877W, h535km, mb5.2/40, Error ellipse: s-maj=9.4km s-min=6.9km az=56.2*
*NEIC **25** 17:26:12.0±0.1, 1789S×17873W, mb5.2/96, Error ellipse: s-maj=5.4km s-min=2.8km az=133.0*
*BGS **25** 17:26:11.9±5.8, 1789S×17873W, h563km, mb5.2(NEIC)*
*GCMT **25** 17:26:12.0±0.6, 1769S×17864W, h579km±3km, MW5.4/50, Moment Tensor Solution. s50,c73; Duration: 1s2 Moment tensor: Scale 10^{17}Nm; M_{rr}0.55±.04; $M_{\theta\theta}$0.24±.06; $M_{\phi\phi}$-0.78±.06; $M_{r\theta}$0.88±.06; $M_{\theta\phi}$0.55±.06; $M_{\phi r}$-0.55±.07; Best double couple: $M_0$1.36400×10^{17} NP1:φs12.00000°, δ32.00000°, λ152.00000°. NP2:φs126.00000°, δ76.00000°, λ61.00000°. Principal axes: T 1.2920, Plg51.0000°, Azm4.0000°; N 0.1430, Plg28.0000°, Azm134.0000°; P -1.4350, Plg25.0000°, Azm238.0000°; nsta1 refers to body waves, cutoff=40s.*
*IDC **25** 17:26:12.4±0.5, 1795S×17869W, h564km±6km, mb4.5/28, mb1 4.5/29, mb1mx4.5/31, mbtmp4.5/29 Error ellipse: s-maj=9.4km s-min=6.7km az=140.0*
*SZGRF **25** 17:26:19.6, 1670S×17747W, h598km, Fiji Islands region*

ISC 25 17:26:09.1±0.6, 1777S±004×17874W±004, h519km±7km, h553km±4.7km; pP-P, n882, σ0§63/627, mb5.0/117, 204C-154D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**7.72**	**61**	⇓*i*P	P	17 28 03.2	0.0
AFI				pmax	pmax		
	comp=Z,1μm,0.8s						
AFI	**Afiamalu**	**7.72**	**61**	⇓*i*P	P	17 28 03.2	0.0
	comp=Z,1μm,0.8s						
AFI	**Afiamalu**	**7.72**	**61**	P	P	17 28 03.4	+0.2
	comp=Z,107nm,0.3s,baz=35,slow=2.5,SNR=72						
AFI				S	S	17 29 35.5	-1.2
	comp=Z,6.4nm,0.3s,baz=18,slow=20,SNR=2.1						
FUNA	**Funafuti**	**9.40**	**347**	*e*P	P	17 28 20.3	-0.2
	comp=Z,98nm,0.9s						
RAR	**Rarotonga**	**18.21**	**104**	P	P	17 29 49.8	-0.6
	comp=Z,1.1nm,0.3s,baz=283,slow=5.9,SNR=6.1						
OUZ	**Omahuta**	**18.67**	**200**	PN	P	17 29 57.0	+2.5
WCZ	**Waipu Caves**	**19.11**	**197**	P	P	17 30 00.7	+2.2
WCZ	**Waipu Caves**	**19.11**	**197**	PN	P	17 30 00.7	+2.2
KUZ	**Kuaotunu**	**19.53**	**193**	P	P	17 30 03.5	+1.2
KUZ	**Kuaotunu**	**19.53**	**193**	PN	P	17 30 03.1	+0.8
MKAZ	**Moumakai**	**20.00**	**194**	P	P	17 30 07.6	+1.0
MKAZ	**Moumakai**	**20.00**	**194**	PN	P	17 30 07.6	+1.1
URZ	**Urewera**	**20.74**	**189**	P	P	17 30 11.0	-2.2
	comp=Z,77nm,0.7s,baz=17,slow=4.6,SNR=44						
URZ				S	S	17 33 24.5	-6.6
	comp=Z,13nm,0.8s,baz=112,slow=13,SNR=3.2						
MWZ	**Matawai**	**20.75**	**188**	P	P	17 30 10.9	-2.4
MWZ	**Matawai**	**20.75**	**188**	PN	P	17 30 11.0	-2.3
HNR	**Honiara**	**22.29**	**289**	*e*P	P	17 30 27.3	-0.3
HNR				pmax	pmax		
	comp=Z,116nm,0.8s,mb5.6						
HNR	**Honiara**	**22.29**	**289**	*e*P	P	17 30 27.3	-0.3
	comp=Z,116nm,0.8s,mb5.6						
HNR	**Honiara**	**22.29**	**289**	P	P	17 30 29.5	+2.0
	comp=Z,131nm,0.7s,mb5.7,baz=252,slow=1.6,SNR=11						
SNZO	**South Karori**	**24.13**	**192**	*e*P	P	17 30 41.6	-1.9
	comp=Z,67nm,0.7s,mb5.4						
QRZ	**Quartz Range**	**24.18**	**196**	P	P	17 30 44.2	+0.2
QRZ	**Quartz Range**	**24.18**	**196**	PN	P	17 30 44.3	+0.2
NNZ	**Nelson**	**24.33**	**195**	P	P	17 30 44.5	-0.9
NNZ	**Nelson**	**24.33**	**195**	PN	P	17 30 43.9	-1.5
THZ	**Tophouse**	**24.96**	**195**	P	P	17 30 49.8	-1.2
THZ	**Tophouse**	**24.96**	**195**	PN	P	17 30 49.0	-2.0
KHZ	**Kahutara**	**25.44**	**193**	P	P	17 30 52.5	-2.6
KHZ	**Kahutara**	**25.44**	**193**	PN	P	17 30 52.8	-2.4
RPZ	**Rata Peaks**	**27.27**	**196**	P	P	17 31 10.3	-1.0
RPZ	**Rata Peaks**	**27.27**	**196**	P	P	17 31 10.3	-0.9
	comp=Z,27nm,0.6s,mb5.0,baz=69,slow=0.5,SNR=19						
LBZ	**Lake Benmore**	**28.13**	**197**	P	P	17 31 16.3	-2.5
LBZ	**Lake Benmore**	**28.13**	**197**	PN	P	17 31 16.1	-2.6
EIDS	**Eidsvold**	**29.02**	**250**	⇓*i*P	P	17 31 27.4	+0.5
	comp=Z,102nm,0.9s,mb5.5						
TUZ	**Tuapeka**	**29.72**	**196**	P	P	17 31 32.1	-0.6
TUZ	**Tuapeka**	**29.72**	**196**	PN	P	17 31 32.1	-0.6
ARMA	**Armidale**	**29.74**	**239**	⇓*i*P	P	17 31 34.8	+1.8
RIV	**Riverview**	**31.32**	**233**	*e*P	P	17 31 47.8	+1.2
CTA	**Charters Tower**	**33.16**	**260**	⇓*i*P	P	17 32 03.3	+0.8
	comp=Z,83nm,0.8s,mb5.3						
CTA				*e*PCP	PP	17 33 38.0	+3.2
CTA	**Charters Tower**	**33.16**	**260**	⇓*i*P	P	17 32 03.3	+0.8
CTA				*e*		17 33 38.0	
CTA				pmax	pmax		
	comp=Z,83nm,0.8s						
CTA	**Charters Tower**	**33.16**	**260**	P	P	17 32 03.4	+0.9
	comp=Z,162nm,1.0s,mb5.5,baz=90,slow=10,SNR=57						
CTAO	**Charters Tower**	**33.16**	**260**	⇓*i*P	P	17 32 03.0	+0.5
CTAO				pmax	pmax		
	comp=Z,167nm,0.9s,mb5.6						
CTAO	**Charters Tower**	**33.16**	**260**	⇓*i*P	P	17 32 03.0	+0.5
	comp=Z,167nm,0.9s,mb5.6						
CNB	**Canberra Magne**	**33.26**	**232**	⇓*i*P	P	17 32 04.3	+1.2
	comp=Z,446nm,0.7s,mb6.1						
COEN	**Coen**	**36.79**	**270**	⇓*i*P	P	17 32 33.7	+0.8
	comp=Z,74nm,0.8s,mb5.3						
TOO	**Toolangi**	**37.01**	**230**	⇓*i*P	P	17 32 35.3	+0.9
	comp=Z,5μm,0.8s						
TOO	**Toolangi**	**37.01**	**230**	⇓*i*P	P	17 32 35.3	+0.9
TOO				pmax	pmax		
	comp=Z,5μm,0.8s						

NWAO **Narrogin (SRO)** 59.00 242 *eP* P 17 35 18.5 -0.4
comp=Z,65nm,1.1s,mb4.8
NWAO **Narrogin (SRO)** 59.00 242 P P 17 35 18.8 -0.1
comp=Z,53nm,1.0s,mb4.7,baz=108,slow=4.0,SNR=14
MUN **Mundaring** 59.91 243 *eP* P 17 35 24.9 0.0
SBA **Scott Base** 60.54 183 *eP* P 17 35 29.0 +0.7
SBA pmax pmax
comp=Z,42nm,1.2s,mb4.6
SBA **Scott Base** 60.54 183 *eP* P 17 35 29.0 +0.7
comp=Z,42nm,1.2s,mb4.6
VNDA **Vanda** 60.56 185⇓*eP* P 17 35 28.4 0.0
VNDA pmax pmax
comp=Z,24nm,1.4s
VNDA **Vanda** 60.56 185⇓*eP* P 17 35 28.4 0.0
comp=Z,24nm,1.4s,mb4.3
VNDA **Vanda** 60.56 185 P P 17 35 28.4 -0.1
comp=Z,6.4nm,0.8s,mb4.0,baz=357,slow=7.4,SNR=18
MYLDM **Lahad Datu** 65.97 284 ⇑P P 17 36 06.6 +2.4
CASY **Casey** 66.13 205 *eP* P 17 36 04.0 -0.3
TSM **Tawau** 66.22 283 ⇑P P 17 36 06.9 +1.0
SDKM **Sandakan** 67.35 284 ⇑P P 17 36 13.8 +1.0
MJAR **Matsushiro Arr** 67.60 324 P P 17 36 13.7 -0.2
comp=Z,34nm,0.7s,mb5.0,baz=159,slow=6.0,SNR=70
MAJO **Matsushiro** 67.61 324 *eP* P 17 36 13.2 -0.7
MAJO pmax pmax
comp=Z,44nm,0.7s,mb5.1
MAJO **Matsushiro** 67.61 324 *eP* P 17 36 13.2 -0.7
comp=Z,44nm,0.7s,mb5.1
KDM **Kudat** 68.15 285 ⇑P P 17 36 18.5 +0.8
AMKA **Amchitka** 68.87 359 *eP* P 17 36 19.9 -1.3
ADK **Adak** 69.37 1⇑*iP* P 17 36 23.1 -1.1
ADK pmax pmax
comp=Z,71nm,0.7s,mb5.3
ADK **Adak** 69.37 1⇑*iP* P 17 36 23.1 -1.2
comp=Z,71nm,0.7s,mb5.3
SMY **Shemya** 70.47 355⇑*iP* P 17 36 29.5 -1.3
SMY pmax pmax
comp=Z,152nm,0.8s,mb5.6
SMY **Shemya** 70.47 355⇑*iP* P 17 36 29.5 -1.2
comp=Z,152nm,0.8s,mb5.6
SBUM **Sibu** 70.87 279 ⇓P P 17 36 35.6 +1.5
SKR **Severo-Kuril's** 71.65 343 *eP* P 17 36 36.1 -1.7
SKR pmax pmax
comp=N,30nm,0.6s
SKR pmax pmax
comp=E,30nm,0.6s
SKR pmax pmax
comp=Z,60nm,0.6s,mb5.2
QSPA **South Pole Qui** 72.29 180 *eP* P 17 36 40.1 -1.0
comp=Z,33nm,0.7s,mb4.9
QSPA **South Pole Qui** 72.29 180 P P 17 36 40.9 -0.2
comp=Z,37nm,0.9s,mb4.8,baz=27,slow=1.8,SNR=110
QSPA pP pP 17 38 36.5 +6.5
comp=Z,22nm,1.2s,baz=310,slow=1.4,SNR=7.5
KSM **Kuching** 72.35 277⇓*iP* P 17 36 43.1 +0.4
KSM **Kuching** 72.35 277 ⇓P P 17 36 43.3 +0.6
KSM **Kuching** 72.35 277 ⇓P P 17 36 43.6 +0.9
YSS **Yuzh-Sakhalins** 73.15 334 *eP* P 17 36 47.0 +0.5
YSS pmax pmax
comp=Z,90nm,1.2s,mb5.1
YSS **Yuzh-Sakhalins** 73.15 334 *eP* P 17 36 47.5 +1.0
comp=Z,12nm,0.6s,mb4.5
PET **Petropavlovsk** 73.16 346⇑*iP* P 17 36 45.7 -0.7
PET pmax pmax
comp=Z,13nm,0.4s,mb4.7
PET **Petropavlovsk** 73.16 346⇑*iP* P 17 36 45.7 -0.7
comp=Z,13nm,0.4s,mb4.7
MIR **Mirnyy** 73.16 205⇓*iP* P 17 36 46.0 -0.4
MIR pmax pmax
comp=Z,200nm,1.0s,mb5.5
KSRS **Korea Array** 74.39 318 P P 17 36 54.9 +1.1
comp=Z,5.9nm,0.8s,mb4.1,baz=130,slow=6.0,SNR=27
SDPT **Sand Point** 74.46 11 *eP* P 17 36 52.0 -1.7
comp=Z,135nm,1.1s,mb5.3
SNCC **San Nicolas Is** 75.93 48 ⇑P P 17 37 02.5 0.0
baz=76
FARB **Farallon Islan** 76.06 42 ⇓P P 17 37 03.3 +0.1
baz=76
BSC **Santa Cruz Isl** 76.25 47 ⇓P P 17 37 04.5 +0.2
baz=76,SNR=17
V03C **Hunter Liggett** 76.27 45 ⇑P P 17 37 04.6 +0.3
baz=76,SNR=12
BNLO **Ben Lomond (Sa** 76.27 43 ⇑P P 17 37 04.3 0.0
baz=76,SNR=5.8
V04C **Ramage Ranch,** 76.30 45 ⇓P P 17 37 04.7 +0.2
baz=76,SNR=14
JRSC **Jasper Ridge** 76.39 43 ⇑P P 17 37 05.0 +0.1
baz=77,SNR=6.2
MCCM **Marconi Confer** 76.40 42 ⇑P P 17 37 04.8 -0.2
baz=77
SBC **Santa Barbara** 76.43 47 ⇓P P 17 37 05.2 0.0
baz=77
SCI **San Clemente I** 76.48 49 ⇓P P 17 37 05.7 +0.2
baz=77,SNR=11
SAO **San Andreas Ge** 76.54 44⇑*iP* P 17 37 05.4 -0.4
SAO pmax pmax
comp=Z,92nm,0.9s,mb5.2
SAO **San Andreas Ge** 76.54 44⇑*iP* P 17 37 05.4 -0.4
comp=Z,92nm,0.9s,mb5.2
PKM **Peak Mountain** 76.61 46 P P 17 37 07.0 +0.8
baz=77,SNR=21
PKD **Parkfield** 76.69 45 ⇓P P 17 37 06.5 -0.1
baz=77,SNR=21
SMMC **Simmler** 76.71 46 ⇓P P 17 37 07.1 +0.4
baz=77,SNR=16
BLG **Laguna Peak** 76.71 47 ⇑P P 17 37 06.6 -0.2
baz=77
PTRM **Twissleman Ran** 76.75 46 P P 17 37 07.2 +0.2
U04C **Hernandez Rese** 76.76 45 ⇓P P 17 37 07.6 +0.6
baz=77,SNR=36
HOPS **Hopland** 76.78 41⇑*iP* P 17 37 06.5 -0.5
comp=Z,70nm,1.3s,mb4.9
HOPS **Hopland** 76.78 41 ⇑P P 17 37 07.4 +0.3
baz=77,SNR=5.6
PACP **Pacheco Peak** 76.79 44 ⇓P P 17 37 07.5 +0.4
baz=77,SNR=25
CVS **Carmenet Viney** 76.79 42 ⇓P P 17 37 07.0 -0.1
baz=77
CIS **Catalina Islan** 76.81 48 ⇓P P 17 37 07.0 -0.4
baz=77
WENL **Wente Brothers** 76.83 43 ⇑P P 17 37 07.6 +0.3
baz=77
P01C **Double 8 Ranch** 76.89 41 ⇑P P 17 37 07.5 -0.2
baz=77,SNR=5.2
O01C **Eel River Cons** 76.99 40 ⇑P P 17 37 08.7 +0.6
baz=77
KIPM **Iron Peak** 77.00 41 *eP* P 17 37 08.8 +0.6
S04C **Ingram Canyon,** 77.04 43 ⇑P P 17 37 08.6 +0.1
baz=77,SNR=20
V05C **Boulder Hill,** 77.08 45 ⇓P P 17 37 09.0 +0.3
baz=77
MNRC **McLaughlin Nat** 77.11 42 ⇑P P 17 37 09.1 +0.3
baz=77
OSI **Osito Adit** 77.22 47 ⇓P P 17 37 09.5 -0.1
baz=77
Q03C **Winters** 77.24 42 ⇑P P 17 37 10.0 +0.5
baz=77
JCC **Jacoby Creek** 77.27 39 ⇓P P 17 37 10.0 +0.4
baz=77
DECC **Green Verdugo** 77.30 48 ⇓P P 17 37 09.5 -0.5
baz=78
GASB **Alder Springs** 77.39 41 ⇓P P 17 37 11.3 +0.9
baz=78,SNR=20
ARVC **Arvin** 77.42 47 ⇑P P 17 37 10.0 -0.6
baz=78,SNR=6.6
109C **Camp Elliot, M** 77.47 49 ⇑P P 17 37 10.4 -0.6
baz=78
S05C **Merced** 77.61 44 ⇑P P 17 37 11.4 -0.2
baz=78,SNR=8.3
VES **Vestal, Richgr** 77.63 46 ⇓P P 17 37 11.3 -0.5
baz=78,SNR=9.2
O02C **Red Bluff** 77.65 41 ⇑P P 17 37 12.4 +0.6
baz=78,SNR=23
N02C **Big Bar** 77.72 40 ⇓P P 17 37 12.2 +0.1
baz=78,SNR=11
R04C **Big Horse Ranc** 77.72 43 ⇑P P 17 37 11.7 -0.5
baz=78
SUTB **Sutter Butte** 77.73 42 ⇑P P 17 37 11.6 -0.6
baz=78
HABR **Khabarovsk** 77.73 331⇑*eP* P 17 37 13.3 +1.3
HABR *e* 17 37 19.4
HABR *e* 17 39 59.3
HABR *e* 17 40 10.9
HABR *e*S S 17 46 19.8 -1.8
HABR *e* 17 46 36.2
HABR *e* 17 46 41.3
HABR *e* 17 51 33.5
HABR *e* 17 55 02.7
MURC **Murrieta** 77.76 49 ⇓P P 17 37 12.4 -0.2
baz=78,SNR=6.4
Q04C **Lincoln** 77.77 42 ⇑P P 17 37 12.1 -0.3
baz=78
BFSC **Mount Baldy St** 77.77 48 P P 17 37 12.4 -0.1
baz=78,SNR=14
KRMB **Red Mountain** 77.77 39 *eP* P 17 37 13.1 +0.8
T06C **Millerton Lake** 77.83 45 P P 17 37 12.7 -0.1
baz=78,SNR=32
M01C **Crescent City** 77.84 39 ⇑P P 17 37 13.1 +0.3
baz=78,SNR=5.3
EDW2 **Edwards Air Fo** 77.87 47 P P 17 37 13.3 +0.2
baz=78,SNR=48
MDJ **Mudanjiang** 77.89 325 P P 17 37 14.5 +1.6
MDJ PP PP 17 40 19.5 +1.1
MDJ S S 17 46 25.0 +1.5
MDJ SCS ScS 17 46 44.5 +0.4
MDJ AMB AMB
comp=Z,70nm,1.0s,mb5.0
MDJ AMB AMB
comp=Z,173nm,3.9s
MDJ **Mudanjiang** 77.89 325 *eP* P 17 37 13.6 +0.7
comp=Z,60nm,0.9s,mb4.9
CMB **Columbia Colle** 77.95 43⇑*iP* P 17 37 13.1 -0.3
CMB pmax pmax
comp=Z,60nm,1.0s,mb4.9
CMB **Columbia Colle** 77.95 43⇑*iP* P 17 37 13.1 -0.4
comp=Z,60nm,1.0s,mb4.9
CMB **Columbia Colle** 77.95 43 ⇑P P 17 37 13.3 -0.2
baz=78,SNR=22
MONP **Monument Peak** 77.97 50 P P 17 37 14.2 +0.6
baz=78,SNR=65
OHCM **Honcut** 77.98 42 *eP* P 17 37 13.1 -0.4
O03C **Acorn Hollow,** 78.02 41 ⇓P P 17 37 13.8 +0.1
baz=78
WDC **Whiskeytown Da** 78.04 40 *eP* P 17 37 13.7 -0.1
WDC pmax pmax
comp=Z,82nm,1.4s,mb4.9
WDC **Whiskeytown Da** 78.04 40 *eP* P 17 37 13.7 -0.1
comp=Z,82nm,1.4s,mb4.9
WDC **Whiskeytown Da** 78.04 40 ⇓P P 17 37 13.8 -0.1
baz=78,SNR=22
DVTC **Desert V Tower** 78.08 50 P P 17 37 14.8 +0.5
baz=78,SNR=30
ORV **Oroville** 78.10 42 P P 17 37 14.1 -0.1
baz=78,SNR=29
HELL **Mitchell Peak** 78.12 45 ⇓P P 17 37 14.0 -0.4
baz=78,SNR=37
LAVA **Lava Cap Winer** 78.13 43 ⇑P P 17 37 14.3 -0.1
baz=78,SNR=10.0
K01A **Sixes** 78.22 38 ⇑P P 17 37 14.3 -0.5
baz=78
S06C **San Francisco** 78.22 44 P P 17 37 14.9 0.0
baz=78,SNR=31
KCC **Kaiser Creek** 78.27 45 ⇓P P 17 37 14.9 -0.3
baz=78,SNR=40
BBRC **Big Bear Sol-O** 78.30 48 ⇑P P 17 37 15.7 +0.2
baz=78
PFO **Pinyon Flat Ob** 78.30 49 P P 17 37 15.2 -0.2
comp=Z,147nm,1.0s,mb5.3,SNR=5.9
PFO **Pinyon Flat Ob** 78.30 49 P P 17 37 15.5 +0.1
comp=Z,18nm,0.9s,mb4.4,baz=273,slow=2.7,SNR=12
PFO **Pinyon Flat Ob** 78.30 49 P P 17 37 15.7 +0.2
baz=78,SNR=8.4
M02C **Callahan** 78.33 40 P P 17 37 16.2 +0.9
baz=78,SNR=36
L02A **Cave Junction** 78.33 39 ⇑P P 17 37 15.6 +0.2
baz=78,SNR=11
KDAK **Kodiak Island** 78.34 14 P P 17 37 15.0 0.0
comp=Z,637nm,0.9s,mb6.0,SNR=11
KDAK **Kodiak Island** 78.34 14 *eP* P 17 37 14.6 -0.5
comp=Z,152nm,1.1s,mb5.2
KDAK **Kodiak Island** 78.34 14 P P 17 37 15.1 0.0
comp=Z,64nm,0.8s,mb5.0,baz=219,slow=2.4,SNR=25
LRMC **Laurel Mountai** 78.39 47 P P 17 37 16.0 +0.1
baz=79,SNR=18
SWSC **Sam W. Stewart** 78.44 50 P P 17 37 16.4 +0.2
baz=79,SNR=13
P05C **Yuba Gap, Truc** 78.52 42 ⇑P P 17 37 16.8 +0.4
baz=79,SNR=33
R05C **Kirkwood Meado** 78.53 43 ⇑P P 17 37 16.6 0.0
baz=79,SNR=24
MYKOM **Kota Tinggi** 78.57 276 ⇑P P 17 37 17.8 +0.4
YBH **Yreka Blue Hor** 78.62 39 *eP* P 17 37 17.5 +0.6
YBH pmax pmax
comp=Z,55nm,0.9s
YBH **Yreka Blue Hor** 78.62 39 *eP* P 17 37 17.5 +0.6
comp=Z,55nm,0.9s,mb4.9
YBH **Yreka Blue Hor** 78.62 39 P P 17 37 17.5 +0.6
comp=Z,52nm,0.8s,mb4.9,baz=199,slow=1.0,SNR=105
YBH **Yreka Blue Hor** 78.62 39 ⇑P P 17 37 17.4 +0.5
baz=79,SNR=45
CWC **Cottonwood Cre** 78.63 46 ⇓P P 17 37 17.4 +0.2
baz=79
LPIG **La Paz** 78.64 60 P P 17 37 17.5 0.0
comp=Z,27nm,0.3s,mb5.0,baz=59,slow=2.6,SNR=4.5
O05C **Quincy** 78.70 42 ⇑P P 17 37 17.1 -0.3
baz=79
M03C **McCloud** 78.70 40 ⇑P P 17 37 17.3 -0.1
baz=79,SNR=14
MLAC **Mammoth Lakes** 78.76 44 ⇓P P 17 37 18.2 +0.4
baz=79,SNR=7.7
K02A **Glendale** 78.77 38 ⇑P P 17 37 17.9 +0.3
baz=79,SNR=15
MTUM **Tungsten Hills** 78.79 45 *eP* P 17 37 18.3 +0.3
O04C **Chester** 78.80 41 P P 17 37 18.2 +0.4
baz=79,SNR=16
BELC **Belle Mtn.** 78.83 49 P P 17 37 18.6 +0.3
baz=79,SNR=19
MPMC **Manual Prospec** 78.84 46 P P 17 37 18.7 +0.5
baz=79,SNR=20
R06C **Coleville** 78.84 43 ⇓P P 17 37 18.4 +0.3
baz=79,SNR=48
HATC **Hat Creek Radi** 78.84 41 ⇓P P 17 37 18.4 +0.2
baz=79,SNR=15
TIN **Tinemaha** 78.86 45 P P 17 37 19.0 +0.7
baz=79,SNR=16
R07C **Lee Vining** 78.87 44 P P 17 37 18.7 +0.4
baz=79,SNR=55
GSC **Goldstone** 78.92 47 *eP* P 17 37 18.7 0.0
GSC pmax pmax
comp=Z,59nm,1.4s,mb4.7
GSC **Goldstone** 78.92 47 *eP* P 17 37 18.7 0.0
comp=Z,59nm,1.4s,mb4.7
GSC **Goldstone** 78.92 47 P P 17 37 18.9 +0.2
baz=79,SNR=8.0
HUMO **Hull Mountain** 78.99 38 *eP* P 17 37 19.1 +0.2
comp=Z,62nm,1.0s,mb4.9
HUMO **Hull Mountain** 78.99 38 P P 17 37 19.5 +0.6
baz=79,SNR=47
BEKR **Beckwourth** 79.00 42 P P 17 37 19.2 +0.3
baz=79,SNR=32
HEC **Hector,Ludlow** 79.01 48 ⇑P P 17 37 19.2 0.0
baz=79,SNR=6.7
BC3 **Big Chuckw Mtn** 79.05 49 P P 17 37 19.9 +0.5
baz=79,SNR=12
WCN **Washoe City** 79.07 43 P P 17 37 19.9 +0.5
baz=79,SNR=29
J02A **Umpqua** 79.08 38 P P 17 37 19.6 +0.3
baz=79,SNR=14
S08C **White Mtn Res** 79.13 45 P P 17 37 20.6 +0.9
baz=79,SNR=64
112A **Yuma** 79.14 51 ⇓P P 17 37 20.4 +0.5
baz=79
KGM **Kluang** 79.14 276 ⇑P P 17 37 21.4 +1.0
M04C **Macdoel** 79.17 40 ⇓P P 17 37 20.0 +0.1
baz=79,SNR=20
P06A **Stead Airport,** 79.19 42 ⇑P P 17 37 20.3 +0.3
baz=79
ELFS **Eagle Lake Fie** 79.19 41 P P 17 37 20.4 +0.4
baz=79,SNR=18
GLA **Glamis** 79.21 50 *eP* P 17 37 20.6 +0.3
GLA pmax pmax
comp=Z,52nm,0.9s,mb4.9
GLA **Glamis** 79.21 50 *eP* P 17 37 20.6 +0.3
comp=Z,52nm,0.9s,mb4.9
GLA **Glamis** 79.21 50 ⇑P P 17 37 20.9 +0.6
baz=79,SNR=15
BUOR **Burton Butte** 79.22 39 P P 17 37 20.5 +0.4
BBOR **Butler Butte** 79.32 38 P P 17 37 20.7 +0.1
I02A **Mapleton** 79.32 37 ⇓P P 17 37 20.8 +0.2
baz=80,SNR=12
M05C **Lookout** 79.35 40 P P 17 37 21.2 +0.4
baz=80,SNR=53
L04A **Klamath Falls** 79.37 39 ⇓P P 17 37 20.8 -0.1
baz=80,SNR=20
GRAC **Grapevine Rang** 79.41 46 P P 17 37 21.8 +0.5
baz=80,SNR=24
VSP **Spence Mountai** 79.43 39 P P 17 37 21.5 +0.3
J03A **Ideyld Park** 79.44 38 ⇓P P 17 37 21.6 +0.4
baz=80,SNR=12
HSO **Harness Mounta** 79.46 38 P P 17 37 21.8 +0.5
GMRC **Granite Mounta** 79.46 48 P P 17 37 22.0 +0.4
baz=80,SNR=9.2
FURC **Furnace Creek,** 79.48 46 ⇓P P 17 37 21.6 -0.1
baz=80,SNR=8.5
Q07A **Schurz** 79.48 43 ⇑P P 17 37 22.0 +0.4
baz=80
O06A **Flanigan** 79.50 42 ⇓P P 17 37 21.6 -0.1
baz=80,SNR=57
IRM **Iron Mountain** 79.52 49 P P 17 37 22.4 +0.5
baz=80,SNR=11
HOG **Hogback Mounta** 79.52 39 P P 17 37 22.1 +0.4
PAHR **Pah Rah Range** 79.53 42⇑*iP* P 17 37 21.7 -0.1
comp=Z,75nm,1.0s,mb5.0
NVAR **Mina Array Bea** 79.54 44 P P 17 37 22.1 +0.2
comp=Z,46nm,0.8s,mb4.8,baz=223,slow=9.5,SNR=221
SHOC **Shoshone** 79.59 47 ⇓P P 17 37 22.2 -0.1
baz=80,SNR=8.1
TUQ **Turquoise Mtn.** 79.61 48 ⇑P P 17 37 22.0 -0.3
baz=80,SNR=16
I03A **Eugene** 79.62 37 ⇓P P 17 37 22.1 -0.1
baz=80,SNR=5.3
R08A **Mina** 79.63 44 ⇑P P 17 37 22.6 +0.2
baz=80
H02A **Toledo** 79.63 36 ⇑P P 17 37 22.6 +0.4
baz=80
M06C **Likely Place G** 79.68 41 P P 17 37 23.1 +0.5
baz=80,SNR=40
K04A **Chilquin** 79.72 39 ⇓P P 17 37 22.6 -0.1
baz=80
P07A **Fallon** 79.76 43 ⇑P P 17 37 23.4 +0.4
baz=80
Y12C **Blythe** 79.77 50 ⇓P P 17 37 23.4 +0.2
baz=80,SNR=6.0
MPOR **Mary's Peak** 79.78 37 P P 17 37 23.5 +0.5
N06A **Buffalo Meadow** 79.82 41 ⇑P P 17 37 23.3 0.0
baz=80,SNR=79
U10A **Ash Meadows, A** 79.82 47 ⇑P P 17 37 24.0 +0.5
baz=80,SNR=6.5
KLR **Kul'dur** 79.83 330 *eP* P 17 37 19.8 -3.3
KLR pmax pmax
comp=Z,48nm,1.4s,mb4.6
113A **Mohawk Valley,** 79.85 51 ⇑P P 17 37 23.7 +0.1
baz=80,SNR=15
J04A **Umpqua Nationa** 79.86 38 ⇓P P 17 37 23.8 +0.4
baz=80
S09A **Goldfield** 79.89 45 P P 17 37 23.8 +0.1
baz=80,SNR=11
L05A **Lakeview** 79.94 40 P P 17 37 24.6 +0.8
baz=80,SNR=48
COR **Corvallis** 79.97 37 *eP* P 17 37 23.7 -0.3
COR pmax pmax
comp=Z,17nm,0.8s,mb4.4
COR **Corvallis** 79.97 37 *eP* P 17 37 23.7 -0.3
comp=Z,17nm,0.8s,mb4.4
I04A **Tendick Farm,** 80.01 38 P P 17 37 24.1 -0.1
baz=80,SNR=30
Q08A **Gabbs** 80.02 44 P P 17 37 24.6 +0.2
baz=80,SNR=33
TPH **Tonopah** 80.07 45 *eP* P 17 37 24.1 -0.6
TPH pmax pmax
comp=Z,136nm,1.5s,mb5.1
TPH **Tonopah** 80.07 45 *eP* P 17 37 24.1 -0.6
comp=Z,136nm,1.5s,mb5.1
HBO **Huckleberry Mo** 80.10 38 P P 17 37 24.9 +0.2
TPNV **Topopah Spring** 80.15 46 *eP* P 17 37 25.3 +0.2
TPNV pmax pmax
comp=Z,67nm,1.3s,mb4.8
TPNV **Topopah Spring** 80.15 46 *eP* P 17 37 25.3 +0.1
comp=Z,67nm,1.3s,mb4.8
TPNV **Topopah Spring** 80.15 46 ⇑P P 17 37 25.3 +0.2
baz=80
V11A **Goodsprings** 80.16 47 ⇓P P 17 37 25.5 +0.3
baz=80,SNR=6.6
MOD **Modoc** 80.18 40⇓*iP* P 17 37 25.0 -0.1
comp=Z,75nm,0.8s,mb5.1
MOD **Modoc** 80.18 40 ⇓P P 17 37 25.4 +0.3
baz=80,SNR=68
NEE2 **Needles Airpor** 80.20 49 ⇑P P 17 37 25.6 +0.2
baz=80
R09A **Tonopah** 80.26 45 P P 17 37 25.9 +0.2
baz=80,SNR=15
BROR **Big Rock Looko** 80.27 37 P P 17 37 25.4 -0.2
W12A **Cal Nev Ari** 80.28 48 ⇓P P 17 37 26.4 +0.5
baz=80,SNR=5.3
K05A **Summer Lake** 80.29 39 P P 17 37 26.4 +0.7
baz=80,SNR=63
Y13A **Salome** 80.31 50 ⇑P P 17 37 26.5 +0.4
baz=80,SNR=12
PDMCI **Parker Dam,Lak** 80.31 49 ⇑P P 17 37 26.3 +0.3
baz=80,SNR=7.8
P08A **Dixie Valley** 80.37 43 ⇓P P 17 37 26.5 +0.3
baz=80
KTGM **Kuala Trenggan** 80.37 279 ⇓P P 17 37 27.9 +1.1
N07B **Gerlach** 80.39 42 P P 17 37 26.6 +0.3
baz=81,SNR=47
J05A **Fort Rock** 80.41 39 P P 17 37 27.0 +0.7
baz=81,SNR=156
S10A **Tonopah Range,** 80.42 45 P P 17 37 26.9 +0.4
baz=81,SNR=26
G03A **Yamhill** 80.43 36 ⇓P P 17 37 26.3 -0.1
baz=81,SNR=5.7
U11A **Corn Creek** 80.48 47 ⇑P P 17 37 27.8 +1.0
baz=81
Q09A **Carvers** 80.50 44 ⇓P P 17 37 27.1 +0.1
baz=81,SNR=5.2
V12A **Nelson** 80.51 48 ⇑P P 17 37 27.1 0.0
baz=81,SNR=8.4
WIFE **Three Sisters-** 80.52 38 P P 17 37 27.0 +0.1
M07A **Soldier Meadow** 80.60 41 P P 17 37 27.9 +0.5
baz=81,SNR=83
SSOR **Sweet Springs** 80.62 37 P P 17 37 27.2 -0.2
F03A **Seaside** 80.65 36 ⇓P P 17 37 27.8 +0.4
baz=81,SNR=7.2
H04A **Detroit Lake** 80.67 37 ⇓P P 17 37 27.2 -0.5
baz=81,SNR=37
X13A **Yucca** 80.68 49 ⇑P P 17 37 28.0 +0.1
baz=81,SNR=10
K06A **Valley Falls** 80.72 39 P P 17 37 28.4 +0.4
baz=81,SNR=73
Z14A **Wintersburg** 80.74 51 ⇓P P 17 37 28.8 +0.5
baz=81,SNR=8.3
SVW2 **Sparrevohn** 80.76 11 *eP* P 17 37 26.5 -1.2
R10A **Warm Springs** 80.80 45 ⇓P P 17 37 29.0 +0.5
baz=81,SNR=11
G04A **Mulino** 80.81 37 ⇑P P 17 37 27.9 -0.5
baz=81
L07A **Adell** 80.84 41 P P 17 37 29.2 +0.6
baz=81,SNR=112
S11A **Rachel** 80.85 46 ⇑P P 17 37 28.6 -0.2
baz=81,SNR=12
W13A **Hualapai Mount** 80.89 49 P P 17 37 29.6 +0.5
baz=81,SNR=11
I05A **Bend** 80.90 38 ⇓P P 17 37 28.8 0.0
baz=81
P09A **Austin** 80.91 44 ⇓P P 17 37 28.7 -0.3
baz=81,SNR=9.6
N08A **GE Springer Mi** 80.92 42 P P 17 37 29.3 +0.2
baz=81,SNR=51
115A **Sonoran Desert** 80.96 52 ⇓P P 17 37 29.8 +0.3
baz=81,SNR=6.3
Y14A **Wickenburg** 80.97 50 P P 17 37 29.8 +0.4
baz=81,SNR=12
MA2 **Magadan** 80.98 345*c iP* P 17 37 27.8 -1.1
MA2 pmax pmax
comp=Z,70nm,1.1s,mb5.0
MA2 **Magadan** 80.98 345 *eP* P 17 37 27.9 -1.0
comp=Z,49nm,0.9s,mb4.9
T11A **Corn Creek, Al** 81.01 46 P P 17 37 29.9 +0.3
baz=81,SNR=28
Q10A **Clear Creek Ra** 81.02 44 P P 17 37 29.9 +0.3
baz=81,SNR=20
E03A **Lebam** 81.02 35 ⇓P P 17 37 29.5 +0.1
baz=81,SNR=20
T12A **Moapa** 81.10 47 ⇑P P 17 37 30.3 +0.2
baz=81
ON2 **Olympics--Nort** 81.11 35 P P 17 37 30.4 +0.5
M08A **Happy Creek Ra** 81.13 41 P P 17 37 30.7 +0.6
baz=81,SNR=71
V13A **Grand Canyon W** 81.18 48 ⇑P P 17 37 30.5 -0.1
baz=81,SNR=13
O09A **Fish Creek Ran** 81.20 43 ⇑P P 17 37 30.6 +0.1
baz=81,SNR=5.9

H05A	Madras	81.20	38	⇓P	P	17 37 30.1	-0.4
	baz=81,SNR=12						
216A	Three Points,	81.22	52	⇓P	P	17 37 31.3	+0.5
	baz=81,SNR=19						
D03A	Wishkah Elem.	81.25	34	⇓P	P	17 37 30.8	+0.2
	baz=81,SNR=5.0						
K07A	Rock Creek Ran	81.27	40	⇓P	P	17 37 31.3	+0.5
	baz=81,SNR=107						
F04A	Amboy	81.28	36	⇓P	P	17 37 30.2	-0.6
	baz=82,SNR=7.0						
Z15A	Gila River Ind	81.28	51	⇓P	P	17 37 31.7	+0.6
	baz=81						
116A	Eloy	81.29	52	⇑P	P	17 37 31.7	+0.6
	baz=81,SNR=15						
X14A	Yava	81.30	50	P	P	17 37 31.9	+0.7
	baz=82,SNR=24						
BMN	Battle Mountai	81.32	43	⇑*i*P	P	17 37 30.9	-0.2
BMN				pmax	pmax		
	comp=Z,101nm,1.2s,mb5.1						
BMN	Battle Mountai	81.32	43	⇑*i*P	P	17 37 30.9	-0.2
	comp=Z,101nm,1.2s,mb5.1						
R11A	Troy Canyon, C	81.32	45	P	P	17 37 31.3	+0.1
	baz=82,SNR=18						
SLKM	Skilak Lake	81.33	14	*e*P	P	17 37 29.6	-1.1
C03A	Quillayute Air	81.35	33	⇓P	P	17 37 31.7	+0.6
	baz=82,SNR=6.8						
N09A	Rock Creek Ran	81.35	42	P	P	17 37 31.6	+0.3
	baz=82,SNR=20						
NLWA	Neilton Lookou	81.37	34	⇑*i*P	P	17 37 30.9	-0.3
	comp=Z,53nm,1.0s,mb4.9						
NLWA	Neilton Lookou	81.37	34	⇑P	P	17 37 31.1	-0.1
	baz=82,SNR=21						
P10A	Eureka	81.39	44	⇑P	P	17 37 31.4	-0.1
	baz=82,SNR=14						
OSR	Olympics--Salm	81.39	34	P	P	17 37 31.8	+0.5
I06A	Prineville	81.40	39	P	P	17 37 32.0	+0.6
	baz=82,SNR=67						
OOW	Octopus West	81.42	34	P	P	17 37 32.0	+0.6
S12A	Delamar Landin	81.45	46	⇑P	P	17 37 32.2	+0.3
	baz=82,SNR=19						
Y15A	Casa Rosa Ranc	81.47	50	⇑P	P	17 37 32.2	+0.2
	baz=82,SNR=25						
G05A	Wamic	81.50	37	P	P	17 37 32.0	+0.1
	baz=82,SNR=11						
WVOR	Wild Horse Val	81.50	40	⇑*i*P	P	17 37 32.0	0.0
WVOR				pmax	pmax		
	comp=Z,103nm,1.0s,mb5.2						
WVOR	Wild Horse Val	81.50	40	⇑*i*P	P	17 37 32.0	0.0
	comp=Z,103nm,1.0s,mb5.2						
W14A	Seligman	81.52	49	⇓P	P	17 37 32.8	+0.6
	baz=82,SNR=30						
Q11A	Duckwater	81.53	45	⇑P	P	17 37 32.1	-0.1
	baz=82,SNR=33						
OTR	Olympics--Tyee	81.55	33	P	P	17 37 32.7	+0.6
L08A	Fields	81.55	41	⇓P	P	17 37 32.3	+0.1
	baz=82,SNR=108						
217A	Green Valley	81.60	53	⇓P	P	17 37 33.4	+0.6
	baz=82,SNR=23						
J07A	Hines	81.61	39	⇓P	P	17 37 32.6	0.0
	baz=82,SNR=52						
OBC	Olympics--Boni	81.66	34	P	P	17 37 32.9	+0.2
M09A	Marrel Ranch,	81.70	42	⇑P	P	17 37 33.3	+0.3
	baz=82,SNR=30						
V14A	Boquillas Ranc	81.70	49	P	P	17 37 34.0	+0.8
	baz=82,SNR=27						
O10A	Cortez Mining,	81.71	43	P	P	17 37 33.5	+0.4
	baz=82,SNR=25						
OSD	Olympics--Snow	81.72	34	P	P	17 37 33.4	+0.4
K08A	Mann Creek Ran	81.76	40	P	P	17 37 33.8	+0.5
	baz=82,SNR=138						
H06A	Lindquist Farm	81.77	38	P	P	17 37 33.4	0.0
	baz=82,SNR=132						
D04A	Dobbs Creek Ra	81.78	35	⇑P	P	17 37 33.6	+0.3
	baz=82						
X15A	Humboldt	81.79	50	P	P	17 37 34.4	+0.7
	baz=82,SNR=24						
F05A	White Salmon	81.79	36	⇓P	P	17 37 33.2	-0.3
	baz=82,SNR=20						
T13A	Saint George	81.81	47	P	P	17 37 34.3	+0.6
	baz=82,SNR=13						
P11A	Circle Ranch,	81.82	44	⇓P	P	17 37 33.9	+0.2
	baz=82,SNR=5.2						
Z16A	Peralta Trail,	81.85	51	P	P	17 37 34.9	+0.8
	baz=82,SNR=9.2						
TUC	Tucson	81.86	52	⇑*i*P	P	17 37 34.8	+0.7
L09A	Wilkinson Ranc	81.88	41	P	P	17 37 34.4	+0.4
	baz=82,SNR=25						
G06A	Carlson Farm,	81.89	37	⇑P	P	17 37 33.7	-0.2
	baz=82,SNR=28						
I07A	Izee	81.89	39	P	P	17 37 34.4	+0.4
	baz=82,SNR=125						
N10A	Dunphy	81.93	43	⇑P	P	17 37 34.7	+0.5
	baz=82						
R12A	Pony Springs,	81.97	46	P	P	17 37 35.0	+0.5
	baz=82,SNR=23						
B04A	Port Angeles	81.98	34	⇓P	P	17 37 34.3	0.0
	baz=82						
117A	Oracle	82.02	52	⇑P	P	17 37 35.4	+0.5
	baz=82,SNR=17						
U14A	Mt Trumbull	82.03	48	P	P	17 37 35.7	+0.9
	baz=82,SNR=36						
GNW	Green Mountain	82.04	34	P	P	17 37 34.4	-0.2
C04A	Brinnon	82.05	34	P	P	17 37 35.0	+0.3
	baz=82,SNR=18						
Y16A	Circle Bar Ran	82.06	51	⇓P	P	17 37 35.6	+0.5
	baz=82,SNR=14						
318A	Bisbee	82.08	54	P	P	17 37 36.2	+0.9
	baz=82,SNR=23						
IPM	Ipoh	82.09	277	⇑P	P	17 37 36.2	+0.5
W15A	Williams	82.09	49	⇑P	P	17 37 35.8	+0.6
	baz=82,SNR=9.6						
LON	Longmire	82.11	36	P	P	17 37 34.4	-0.6
F06A	Goldendale	82.11	37	⇓P	P	17 37 34.8	-0.2
	baz=82,SNR=6.0						
J08A	Circle Bar Ran	82.11	40	P	P	17 37 35.4	+0.3
	baz=82,SNR=80						
S13A	Holt Ranch, En	82.11	47	P	P	17 37 35.9	+0.6
	baz=82,SNR=16						
Q12A	Willow Creek R	82.18	45	⇑P	P	17 37 35.7	+0.2
	baz=82,SNR=21						
O11A	Cowboy Ranch,	82.18	44	P	P	17 37 36.0	+0.5
	baz=82,SNR=80						
K09A	Rome	82.22	41	P	P	17 37 36.0	+0.3
	baz=82,SNR=160						
D05A	Enumclaw	82.27	35	⇓P	P	17 37 36.1	+0.3
	baz=82,SNR=14						
218A	Dragoon	82.28	53	⇑P	P	17 37 36.8	+0.6
	baz=82,SNR=25						
M10A	I.L. Ranch, Tu	82.33	42	P	P	17 37 36.9	+0.6
	baz=82,SNR=84						
X16A	Lo Mia Camp, P	82.34	50	P	P	17 37 37.4	+0.9
	baz=82,SNR=32						
P12A	McGill	82.34	45	⇑P	P	17 37 36.4	+0.1
	baz=82,SNR=19						
BBB	Bella Bella	82.35	29	P	P	17 37 35.6	-0.4
	comp=Z,40nm,1.0s,mb4.8,baz=270,slow=5.9,SNR=14						
I08A	Drewsey	82.36	39	⇓P	P	17 37 36.3	-0.1
	baz=82,SNR=60						
PGC	Sidney	82.37	33	⇑*i*P	P	17 37 35.8	-0.4
	comp=Z,226nm,1.4s,mb5.4						
TTA	Tatalina	82.39	10	*e*P	P	17 37 35.5	-0.5
TTA				pmax	pmax		
	comp=Z,124nm,1.2s,mb5.2						
TTA	Tatalina	82.39	10	*e*P	P	17 37 35.5	-0.6
	comp=Z,124nm,1.2s,mb5.2						
T14A	Hurricane	82.40	47	⇑P	P	17 37 37.1	+0.4
	baz=83,SNR=13						
CCUT	Cedar City	82.44	47	*e*P	P	17 37 37.3	+0.4
Y17A	Roosevelt	82.45	51	P	P	17 37 37.7	+0.6
	baz=83,SNR=13						
E06A	Yakima	82.45	36	⇑P	P	17 37 36.6	-0.1
	baz=83,SNR=31						
V15A	Kaibab Nationa	82.46	49	P	P	17 37 38.0	+1.0
	baz=83,SNR=23						
G07A	Ruggs Ranch, H	82.47	38	P	P	17 37 36.8	-0.1
	baz=83,SNR=47						
N11A	Elko Archery C	82.48	43	⇑P	P	17 37 37.3	+0.2
	baz=83						
ARUT	Antelope Range	82.51	47	⇑*e*P	P	17 37 37.0	-0.2
ARUT				*e*		17 37 55.9	
CRAG	Craig	82.52	24	⇑*e*P	P	17 37 36.6	-0.3
	comp=Z,67nm,1.4s,mb5.0						
PMR	Palmer	82.54	14	⇑*i*P	P	17 37 35.5	-1.3
PMR				pmax	pmax		
	comp=Z,49nm,0.7s,mb5.2						
PMR	Palmer	82.54	14	⇑*i*P	P	17 37 35.5	-1.3
	comp=Z,49nm,0.7s,mb5.2						

Z17A	San Carlos Hig	82.54	52	⇓P	P	17 37 38.1	+0.6
	baz=83						
J09A	Fry Pan Ranch,	82.55	40	P	P	17 37 37.6	+0.3
	baz=83,SNR=145						
W16A	Flagstaff	82.58	50	⇑P	P	17 37 38.4	+0.7
	baz=83,SNR=12						
319A	Douglas	82.60	54	⇑P	P	17 37 38.4	+0.6
	baz=83,SNR=13						
118A	Homack Ranch,	82.63	52	⇑P	P	17 37 38.5	+0.5
	baz=83,SNR=16						
H08A	Prairie City	82.64	39	⇑P	P	17 37 37.6	-0.1
	baz=83,SNR=23						
L10A	Juniper Basin	82.67	42	⇓P	P	17 37 38.0	+0.1
	baz=83,SNR=102						
F07A	Phinny Hill Vi	82.67	37	P	P	17 37 37.9	0.0
	baz=83,SNR=8.6						
Q13A	Wheeler Ranch,	82.68	45	⇓P	P	17 37 37.9	-0.2
	baz=83,SNR=31						
KULM	Kulim	82.70	278	*e*P	P	17 37 38.9	+0.1
KULM	Kulim	82.70	278	⇓P	P	17 37 39.3	+0.5
C05A	Tolt Reservoir	82.73	35	⇑P	P	17 37 37.7	-0.4
	baz=83,SNR=22						
M11A	Holland Ranch,	82.77	42	⇓P	P	17 37 38.6	+0.2
	baz=83,SNR=62						
Z18A	Geronimo	82.78	52	⇓P	P	17 37 39.6	+0.9
	baz=83						
K10A	MacKenzie Ranc	82.79	41	P	P	17 37 38.8	+0.3
	baz=83,SNR=91						
A04A	Legoe Bay, Lum	82.80	34	⇓P	P	17 37 38.1	-0.3
	baz=83,SNR=8.8						
B05A	Bryant	82.85	34	⇓P	P	17 37 38.4	-0.3
	baz=83,SNR=17						
O12A	Currie	82.85	44	⇑P	P	17 37 38.9	0.0
	baz=83,SNR=17						
MXC	Moxie City	82.86	36	P	P	17 37 38.6	-0.2
T15A	Red Dirt Ranch	82.88	48	P	P	17 37 39.6	+0.5
	baz=83,SNR=17						
219A	White Tail Can	82.89	53	P	P	17 37 40.1	+0.8
	baz=83,SNR=15						
EBG	Ellensburg	82.89	36	P	P	17 37 38.9	0.0
WUAZ	Wupatki	82.89	49	⇑*e*P	P	17 37 38.5	-0.8
	comp=Z,80nm,1.0s,mb5.2						
WUAZ	Wupatki	82.89	49	⇓P	P	17 37 39.5	+0.3
	baz=83						
G08A	Pilot Rock	82.89	38	P	P	17 37 39.0	+0.1
	baz=83,SNR=63						
I09A	Lost Marbles R	82.89	40	⇓P	P	17 37 38.7	-0.3
	baz=83,SNR=20						
D06A	Cle Elum	82.90	36	P	P	17 37 39.1	+0.1
	baz=83,SNR=17						
P13A	Bates Ranch, G	82.93	45	⇓P	P	17 37 39.3	0.0
	baz=83,SNR=32						
N12A	Clover Valley,	82.96	43	⇑P	P	17 37 39.7	+0.2
	baz=83,SNR=49						
TBM	Table Mountain	83.03	36	P	P	17 37 39.4	-0.2
R14A	James Farms, M	83.04	46	⇓P	P	17 37 39.8	-0.2
	baz=83						
Y18A	Canyon Day Jun	83.09	51	⇓P	P	17 37 40.6	+0.4
	baz=83,SNR=13						
E07A	Sunnyside	83.09	37	⇓P	P	17 37 39.7	-0.2
	baz=83,SNR=5.7						
L11A	Cat Creek Ranc	83.17	42	⇓P	P	17 37 40.6	+0.1
	baz=83,SNR=82						
W17A	Winslow	83.17	50	⇑P	P	17 37 41.0	+0.4
	baz=83,SNR=7.1						
HAWA	Hanford	83.18	37	⇑*i*P	P	17 37 40.2	-0.2
	comp=Z,95nm,1.0s,mb5.3						
119A	Ashpeak Ranch,	83.19	53	⇓P	P	17 37 41.4	+0.7
	baz=83,SNR=6.5						
J10A	Berg Farm, Mel	83.20	40	⇓P	P	17 37 40.1	-0.5
	baz=83,SNR=7.0						
F08A	Pendleton	83.28	38	⇓P	P	17 37 40.9	0.0
	baz=83,SNR=14						
O13A	Hicks Ranch, I	83.29	44	⇑P	P	17 37 41.2	+0.1
	baz=83						
A05A	Maple Falls	83.30	34	⇓P	P	17 37 40.0	-0.9
	baz=84						
C06A	Tall Timber Ra	83.30	35	⇑P	P	17 37 40.0	-0.9
	baz=84						
K11A	Parker Ranch,	83.31	41	⇑P	P	17 37 41.1	0.0
	baz=84,SNR=51						
H09A	Durkee	83.32	39	⇓P	P	17 37 40.8	-0.4
	baz=84,SNR=32						
M12A	Wells	83.32	43	⇑P	P	17 37 41.2	-0.1
	baz=84,SNR=51						
B06A	Marblemount	83.33	34	⇑P	P	17 37 40.3	-0.8
	baz=84,SNR=5.0						
D07A	Quincy	83.39	36	⇑P	P	17 37 41.0	-0.4
	baz=84,SNR=17						
Z19A	T-Link Ranch,	83.45	52	⇑P	P	17 37 42.4	+0.3
	baz=84,SNR=5.2						
BJT	Baijiatuau	83.46	315	*e*P	P	17 37 42.3	+0.4
BJT				pmax	pmax		
	comp=Z,7.0nm,0.6s						
BJT	Baijiatuau	83.46	315	*e*P	P	17 37 42.3	+0.3
	comp=Z,7.3nm,0.6s,mb4.4						
T16A	Glen Canyon Da	83.48	48	⇓P	P	17 37 42.1	-0.1
	baz=84,SNR=6.7						
X18A	Snowflake	83.48	51	⇑P	P	17 37 42.4	+0.2
	baz=84,SNR=8.3						
N13A	Wendover, West	83.50	44	P	P	17 37 42.3	+0.2
	baz=84,SNR=32						
E08A	Dier Farm, El	83.51	37	⇑P	P	17 37 41.7	-0.4
	baz=84,SNR=11						
WRAK	Wrangell Islan	83.51	24	*e*P	P	17 37 41.5	-0.3
	comp=Z,69nm,1.0s,mb5.1						
I10A	Payette	83.53	40	⇓P	P	17 37 42.5	+0.3
	baz=84,SNR=6.7						
PSI	Prapat	83.56	275	P	P	17 37 42.6	-0.5
	comp=Z,12nm,0.8s,mb4.5,baz=182,slow=1.3,SNR=12						
SEY	Seymchan	83.57	347	*c i*P	P	17 37 41.5	-0.4
C07A	Waterville	83.62	36	P	P	17 37 42.0	-0.5
	baz=84,SNR=29						
L12A	House Creek Ra	83.63	42	P	P	17 37 43.2	+0.4
	baz=84,SNR=46						
BMO	Blue Mountains	83.63	39	⇑*i*P	P	17 37 42.3	-0.4
	comp=Z,31nm,1.0s,mb4.8						
A06A	Chilliwack	83.68	34	⇓P	P	17 37 42.3	-0.5
	baz=84						
EPH	Ephrata	83.69	36	P	P	17 37 42.7	-0.2
MSU	Marysvale	83.73	46	*e*P	P	17 37 43.8	+0.5
Y19A	Nutrioso	83.75	52	P	P	17 37 44.4	+0.9
	baz=84,SNR=13						
MFID	Camas Ranch	83.77	41	⇑P	P	17 37 43.2	-0.2
	baz=84,SNR=28						
M13A	Montello	83.78	43	⇑P	P	17 37 43.4	-0.1
	baz=84,SNR=17						
H10A	Noah's Angus R	83.83	39	P	P	17 37 43.4	-0.3
	baz=84,SNR=66						
MAW	Mawson	83.89	200	*e*P	P	17 37 42.7	-0.9
	comp=Z,11nm,0.8s,mb4.4						
MAW				*e*		17 39 41.9	
MAW	Mawson	83.89	200	*e*P	P	17 37 42.7	-0.9
MAW				*e*		17 39 41.9	
MAW				pmax	pmax		
	comp=Z,11nm,0.8s						
MAW	Mawson	83.89	200	P	P	17 37 42.9	-0.7
	comp=Z,14nm,0.9s,mb4.5,baz=128,slow=5.6,SNR=27						
MAW				pP	pP	17 39 42.9	+6.2
	comp=Z,10nm,1.0s,baz=133,slow=4.3,SNR=9.1						
D08A	Wollman Farm,	83.90	36	P	P	17 37 43.9	-0.1
	baz=84,SNR=31						
W18A	Petrified Fore	83.90	50	⇓P	P	17 37 44.7	+0.5
	baz=84						
X19A	St. Johns	83.93	51	P	P	17 37 45.1	+0.7
	baz=84,SNR=19						
I11A	Placerville	83.95	40	⇑P	P	17 37 44.1	-0.2
	baz=84,SNR=11						
K12A	Draper Farm, C	83.95	42	⇓P	P	17 37 44.2	-0.1
	baz=84,SNR=21						
G10A	Bishop Farm, J	83.98	39	P	P	17 37 44.2	-0.2
	baz=84,SNR=36						
B07A	Winthrop	84.03	35	P	P	17 37 44.2	-0.4
	baz=84,SNR=40						
E09A	Wood Farm, Sta	84.05	37	P	P	17 37 44.4	-0.3
	baz=84,SNR=13						
PMSA	Palmer Station	84.06	157	P	P	17 37 38.4	-6.2
DUG	Dugway	84.10	45	*e*P	P	17 37 43.7	-1.4
DUG				pmax	pmax		
	comp=Z,35nm,1.4s,mb4.7						
DUG	Dugway	84.10	45	*e*P	P	17 37 43.7	-1.4
	comp=Z,35nm,1.4s,mb4.7						
DUG	Dugway	84.10	45	⇓P	P	17 37 45.0	-0.2
	baz=84						
J12A	Stokes Ranch,	84.14	41	P	P	17 37 45.6	+0.3
	baz=84,SNR=62						
W19A	Sanders	84.16	50	⇑P	P	17 37 45.7	+0.1
	baz=84						

N14A	Grayback Hills	84.17	44	⇓P	P	17 37 45.4	-0.1
	baz=84,SNR=5.2						
OD2	Odessa Site #2	84.21	36	P	P	17 37 45.2	-0.3
A07A	Ashnola River,	84.23	34	⇑P	P	17 37 45.2	-0.4
	baz=84,SNR=25						
C08A	Higginbotham F	84.24	36	P	P	17 37 45.3	-0.3
	baz=84,SNR=28						
D09A	Jones Farm, Ri	84.25	37	P	P	17 37 45.6	-0.1
	baz=84,SNR=47						
F10A	Beach Ranch, E	84.28	38	⇓P	P	17 37 45.3	-0.5
	baz=84,SNR=22						
BGU	Big Grassy Mou	84.31	44	*e*P	P	17 37 45.8	-0.4
H11A	Donnelly	84.33	40	P	P	17 37 46.0	-0.1
	baz=84,SNR=51						
M14A	Sheep Mountain	84.39	43	⇑P	P	17 37 46.2	-0.3
	baz=84,SNR=59						
B08A	Colville Reser	84.41	35	P	P	17 37 45.6	-0.8
	baz=85,SNR=36						
K13A	Stover Farm, H	84.48	42	⇑P	P	17 37 47.2	+0.3
	baz=85,SNR=21						
NLU	North Lily Min	84.48	45	*e*P	P	17 37 46.0	-1.0
G11A	Walters Elk Ra	84.55	39	P	P	17 37 46.9	-0.3
	baz=85,SNR=93						
E10A	Myers Farm, Un	84.63	38	⇓P	P	17 37 46.8	-0.7
	baz=85,SNR=7.1						
N15A	Stansbury Isla	84.63	44	⇑P	P	17 37 47.3	-0.5
	baz=85						
SKAG	Skagway	84.68	21	*e*P	P	17 37 47.7	+0.2
	comp=Z,103nm,1.4s,mb5.2						
SKAG				*e*pP	pP	17 39 45.7	+4.7
C09A	Chrisman Ranch	84.68	36	P	P	17 37 47.5	-0.3
	baz=85,SNR=17						
HLID	Hailey	84.73	41	*e*P	P	17 37 48.4	+0.2
	comp=Z,45nm,0.9s,mb5.0						
HLID				*e*pP	pP	17 39 45.8	+4.2
HLID	Hailey	84.73	41	P	P	17 37 48.6	+0.5
	baz=85,SNR=65						
DPW	Davenport	84.76	36	P	P	17 37 47.8	-0.4
TMUT	Trail Mountain	84.76	46	*e*P	P	17 37 48.8	+0.4
A08A	Turner Farm, O	84.78	35	⇓P	P	17 37 47.9	-0.4
	baz=85,SNR=39						
NOQ	North Oquirrh	84.79	45	*e*P	P	17 37 47.9	-0.6
	comp=Z,51nm,1.3s,mb4.9						
J13A	Cove Ranch, Pi	84.80	41	P	P	17 37 49.0	+0.5
	baz=85,SNR=45						
D10A	Wagner Farm, O	84.84	37	P	P	17 37 47.9	-0.7
	baz=85,SNR=36						
SPUT	South Promonto	84.88	44	*e*P	P	17 37 48.3	-0.6
HVU	Hansel Valley	84.90	43	⇑*i*P	P	17 37 48.8	-0.2
HVU				pmax	pmax		
	comp=Z,65nm,1.6s,mb4.9						
HVU	Hansel Valley	84.90	43	⇑*i*P	P	17 37 48.8	-0.2
	comp=Z,65nm,1.6s,mb4.9						
M15A	Larsen Ranch,	84.96	44	⇑P	P	17 37 48.9	-0.4
	baz=85,SNR=7.4						
H12A	Diamond D Ranc	84.96	40	P	P	17 37 49.1	-0.1
	baz=85,SNR=94						
K14A	Jones Ranch, D	85.01	42	P	P	17 37 49.9	+0.4
	baz=85,SNR=16						
CTU	Camp Tracy	85.05	45	*e*P	P	17 37 49.0	-0.8
	comp=Z,14nm,0.9s,mb4.5						
E11A	Bogner Ranch,	85.09	38	P	P	17 37 49.0	-0.9
	baz=85,SNR=19						
I13A	Wildhorse Cree	85.09	41	P	P	17 37 50.0	+0.1
	baz=85,SNR=34						
B09A	Rice	85.10	36	P	P	17 37 49.3	-0.5
	baz=85,SNR=41						
SRU	San Rafael	85.15	46	*e*P	P	17 37 50.2	-0.1
SRU				pmax	pmax		
	comp=Z,19nm,0.7s,mb4.7						
SRU	San Rafael	85.15	46	*e*P	P	17 37 50.1	-0.2
	comp=Z,19nm,0.7s,mb4.7						
A09A	Danville	85.16	35	P	P	17 37 49.9	-0.2
	baz=85,SNR=22						
JLU	Jordanelle	85.21	45	*e*P	P	17 37 50.5	-0.1
C10A	Spilker Farm,	85.24	36	⇑P	P	17 37 50.2	-0.3
	baz=85						
H13A	Challis	85.34	40	⇓P	P	17 37 50.8	-0.3
	baz=86,SNR=40						
F12A	Elk City	85.34	39	P	P	17 37 50.8	-0.3
	baz=86,SNR=171						
D11A	Klaveano Farm,	85.38	37	P	P	17 37 50.5	-0.7
	baz=86,SNR=13						
B10A	Chitwood Farm,	85.55	36	⇑P	P	17 37 51.2	-0.8
	baz=86						
NEW	Newport	85.58	36	*e*P	P	17 37 51.1	-1.1
NEW				pmax	pmax		
	comp=Z,38nm,1.1s						
NEW	Newport	85.58	36	*e*P	P	17 37 51.1	-1.0
	comp=Z,38nm,1.1s,mb4.9						
NEW	Newport	85.58	36	P	P	17 37 51.5	-0.6
	comp=Z,27nm,0.8s,mb4.9,baz=229,slow=3.1,SNR=32						
HWUT	Hardware Ranch	85.61	44	*e*P	P	17 37 51.8	-0.6
	comp=Z,11nm,0.7s,mb4.6						
G13A	Cobalt	85.62	40	P	P	17 37 52.3	-0.1
	baz=86,SNR=37						
IMA2	Indian Mountai	85.69	10	*e*P	P	17 37 50.8	-1.5
COLA	College	85.70	13	*e*P	P	17 37 50.5	-1.9
COLA				pmax	pmax		
	comp=Z,108nm,1.2s,mb5.3						
COLA	College	85.70	13	*e*P	P	17 37 50.5	-1.9
	comp=Z,108nm,1.2s,mb5.3						
MVCO	Mesa Verde	85.72	49	⇓P	P	17 37 53.8	+0.7
	baz=86						
A10A	Northport	85.73	35	⇓P	P	17 37 52.3	-0.5
	baz=86,SNR=6.0						
MNTX	Cornudas Mount	85.75	55	*e*P	P	17 37 53.0	-0.4
DLBC	Dease Lake	85.83	23	*e*P	P	17 37 52.8	-0.2
PV10	Paradox Valley	85.85	48	*e*P	P	17 37 53.2	-0.5
HIA	Hailar	86.07	325	*e*P	P	17 37 53.9	-0.6
HIA				pmax	pmax		
	comp=Z,5.0nm,0.7s						
HIA	Hailar	86.07	325	*e*P	P	17 37 53.9	-0.6
	comp=Z,5.4nm,0.7s,mb4.3						
PV01	Paradox Valley	86.08	48	*e*P	P	17 37 54.3	-0.5
B11A	Sandpoint	86.10	36	P	P	17 37 54.5	-0.2
	baz=86,SNR=15						
TXAR	Lajitas Array	86.19	58	P	P	17 37 56.3	+0.8
	comp=Z,42nm,0.8s,mb5.

baz=87,SNR=15
EGAK Eagle 87.16 15⇑ *i*P P 17 37 58.0 -1.3
comp=Z,72nm,1.3s,mb5.1
LOHW Long Hollow 87.18 42 *e*P P 17 37 60.0 +0.1
comp=Z,39nm,0.8s,mb5.1
QLMT Earthquake Lak 87.22 41 *e*P P 17 38 00.6 +0.5
E15A Deer Lodge 87.25 39 P P 17 37 59.7 -0.4
baz=87,SNR=17
FLWY Flagg Ranch 87.33 42⇑ *i*P P 17 38 00.8 +0.3
comp=Z,105nm,1.1s,mb5.4
YFT Old Faithful 87.42 42⇑ *e*P P 17 38 02.0 +1.1
YMR Madison River 87.44 41 *e*P P 17 38 01.9 +0.8
comp=Z,117nm,1.6s,mb5.3
BOZ Bozeman (W) 87.49 40 *e*P P 17 38 00.9 -0.3
BOZ pmax pmax
comp=Z,33nm,1.2s,mb4.8
BOZ Bozeman (W) 87.49 40 *e*P P 17 38 00.9 -0.4
comp=Z,32nm,1.2s,mb4.8
BOZ Bozeman (W) 87.49 40 ⇑P P 17 38 01.2 0.0
baz=88
SMCO Snowmass 87.66 48 *e*P P 17 38 01.6 -0.6
comp=Z,23nm,1.0s,mb4.9
WALA Waterton Lakes 87.81 37 *e*P P 17 38 02.1 -0.5
comp=Z,36nm,0.9s,mb5.1
HRY Holter Researc 87.88 39 *e*P P 17 38 02.6 -0.4
SDCO Great Sand Dun 88.11 49 *e*P P 17 38 03.9 -0.5
comp=Z,1.7nm,0.6s,mb4.0
RWWY Rawlins 88.56 45 *e*P P 17 38 05.9 -0.4
comp=Z,95nm,1.3s,mb5.5
RLMT Red Lodge 88.72 42 *e*P P 17 38 07.0 0.0
comp=Z,39nm,1.0s,mb5.2
ISCO Idaho Springs 88.87 48 *e*P P 17 38 07.6 -0.2
ISCO pmax pmax
comp=Z,50nm,1.8s,mb5.0
ISCO Idaho Springs 88.87 48 *e*P P 17 38 07.6 -0.3
comp=Z,50nm,1.8s,mb5.0
SYO Syowa Base 89.22 193⇑ *e*X 17 38 05.6
YAK Yakutsk 89.33 338*c* *i*P P 17 38 08.1 -1.3
YAK pmax pmax
comp=Z,26nm,0.9s,mb5.1
YAK Yakutsk 89.33 338 *e*P P 17 38 08.0 -1.4
PHWY Pilot Hill 89.59 46 *e*P P 17 38 10.7 -0.5
JCT Junction City 89.73 58 *e*P P 17 38 11.1 -1.0
JCT pmax pmax
comp=Z,25nm,1.0s,mb5.0
JCT Junction City 89.73 58 *e*P P 17 38 11.1 -0.9
comp=Z,25nm,1.0s,mb5.0
EGMT Eagleton 89.74 39 *e*P P 17 38 11.1 -0.6
comp=Z,32nm,1.3s,mb5.0
EGMT Eagleton 89.74 39 ⇑P P 17 38 11.2 -0.5
baz=90
AMTX Amarillo 89.84 53 *e*P P 17 38 12.2 -0.3
comp=Z,21nm,0.9s,mb5.0
EDM Edmonton 90.21 33 *e*P P 17 38 12.4 -1.3
SNAA Sanae 90.75 179 P P 17 38 14.1 -1.9
comp=Z,1.9nm,0.9s,mb4.0,baz=208,slow=6.4,SNR=41
SNAA pP pP 17 40 17.4 +6.4
comp=Z,0.6nm,1.0s,baz=218,slow=11,SNR=1.7
LAO LASA Array 91.31 41 *e*P P 17 38 19.3 +0.3
comp=Z,116nm,1.3s,mb5.7
RSSD Black Hills 91.68 44 *e*P P 17 38 20.0 -0.7
RSSD pmax pmax
comp=Z,25nm,0.9s,mb5.2
RSSD Black Hills 91.68 44 *e*P P 17 38 20.0 -0.7
comp=Z,25nm,0.9s,mb5.2
INK Inuvik 91.83 15⇑ *i*P P 17 38 19.1 -1.8
INK Inuvik 91.83 15 P P 17 38 19.5 -1.4
comp=Z,40nm,1.0s,mb5.4,baz=215,slow=4.7,SNR=93
INK pP pP 17 42 06.0 -3.4
comp=Z,5.0nm,1.2s,baz=213,slow=6.8,SNR=4.4
CBKS Cedar Bluff 92.71 50 *e*P P 17 38 24.8 -0.8
CBKS pmax pmax
comp=Z,49nm,1.2s,mb5.4
CBKS Cedar Bluff 92.71 50 *e*P P 17 38 24.8 -0.8
comp=Z,49nm,1.2s,mb5.4
ULN Ulaanbaatar 92.84 320 *e*P P 17 38 25.7 -0.3
ULN pmax pmax
comp=Z,21nm,1.4s,mb5.0
ULN Ulaanbaatar 92.84 320 *e*P P 17 38 25.7 -0.3
comp=Z,21nm,1.4s,mb5.0
SONM Songino Array 93.24 319 P P 17 38 27.6 -0.1
comp=Z,1.8nm,0.7s,mb4.2,baz=102,slow=3.6,SNR=12
SONM PP PP 17 42 19.8 -0.9
comp=Z,1.0nm,0.8s,baz=87,slow=7.7,SNR=2.8
DGMT Dagmar 93.29 40 *e*P P 17 38 27.7 -0.3
comp=Z,124nm,1.0s,mb5.9
BOD Bodaibo 93.38 330 *e*P P 17 38 25.7 -2.5
BOD pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
YKA Yellowknife Ar 94.34 25 P P 17 38 31.2 -1.2
YKA pP pP 17 40 36.9 +9.1
YKA PP PP 17 42 19.8 -8.9
YKA Yellowknife Ar 94.34 25 P P 17 38 31.2 -1.2
comp=Z,13nm,0.8s,mb5.1,baz=244,slow=4.4,SNR=116
YKA pP pP 17 40 36.9 +9.1
comp=Z,0.4nm,0.7s,baz=240,slow=4.7,SNR=3.0
YKA PP PP 17 42 19.8 -8.9
comp=Z,1.7nm,1.0s,baz=235,slow=7.4,SNR=5.2
KSU1 Kansas State U 95.11 51 *e*P P 17 38 36.2 -0.3
comp=Z,26nm,0.8s,mb5.4
TIXI Tiksi 95.94 345⇑ *e*P P 17 38 37.9 -1.6
TIXI pmax pmax
comp=Z,25nm,2.0s,mb5.1
TIXI Tiksi 95.94 345 *e*P P 17 38 37.8 -1.8
comp=Z,7.7nm,0.8s,mb5.0
ECSD EROS,Sioux Fal 96.56 46 *e*P P 17 38 41.4 -1.5
comp=Z,9.3nm,0.8s,mb5.1
ULM Lac du Bonnet 99.01 40 P Pdif 17 38 52.2 -1.6
comp=Z,3.1nm,0.8s,baz=247,slow=4.7,SNR=3.0
ZALV Zalesovo Beam 107.93 322 PKiKP PKiKP 17 43 35.0 -2.2
comp=Z,1.6nm,0.5s,baz=181,slow=0.5,SNR=7.1
MK31 Makanchi Array 108.81 314 *e*PKPdf PKiKP 17 43 36.9 -2.2
MKAR Makanchi Array 108.81 314 PKiKP PKiKP 17 43 37.3 -1.8
comp=Z,1.7nm,0.6s,baz=144,slow=0.5,SNR=10
KURK Kurchatov 111.51 318⇑ *i*PKIKP PKiKP 17 43 41.8 -2.2
KURK Kurchatov 111.51 318 *e*PKPdf PKiKP 17 43 41.6 -2.5
LONY Lake Ozonia 112.26 48 *e*Pdif Pdif 17 39 57.8 +5.1
TKM2 Tokmak 2 113.25 310 *e*PKIKP PKiKP 17 43 45.9 -1.7
BRVK Borovoye 116.60 321 *e*PKIKP PKPdf 17 43 51.3 -2.4
KBL Kabul 117.94 300 *e*PKPdf PKPdf 17 43 55.9 -1.0
DAG Danmarks Havn 120.10 5⇓ *i*P PP 17 45 29.8 -4.0
comp=Z,8.0nm,1.0s
SOKR Solikamsk 122.38 330*d* *i*PKIKP PKPdf 17 44 03.3 -1.4
SOKR pmax pmax
comp=Z,20nm,0.8s
ARU Arti 122.56 326 *i* PKIKP PKPdf 17 44 03.6 -1.5
ARU Arti 122.56 326 *e*PKPdf PKPdf 17 44 03.4 -1.7
KEV Kevo 125.67 349 *e*p PKPdf 17 44 07.6 -3.1
comp=Z,5.2nm,0.7s
KEV Kevo 125.67 349 *e*PKIKP PKPdf 17 44 07.6 -3.1
KEV pmax pmax
comp=Z,5.0nm,0.7s
ARCES ARCESS Array B 126.12 350 PKP PKPdf 17 44 10.3 -1.3
comp=Z,13nm,0.8s,baz=56,slow=0.4,SNR=25
JOF Joensuu 130.33 343 *e*p PKPdf 17 44 18.3 -1.4
comp=Z,9.6nm,0.6s
JOF Joensuu 130.33 343 *e*PKIKP PKPdf 17 44 18.3 -1.4
JOF pmax pmax
comp=Z,10.0nm,0.6s
FINES FINESS Array B 132.97 344 PKhKP 17 44 15.0
comp=Z,0.9nm,0.6s,baz=87,slow=4.2,SNR=5.0
FINES PKP PKPdf 17 44 23.3 -1.5
comp=Z,4.4nm,0.7s,baz=81,slow=2.5,SNR=14
FINES PP PP 17 46 59.5 +1.8
comp=Z,1.2nm,0.6s,baz=35,slow=10,SNR=7.7
OBN Obninsk 134.03 332⇓ *i*PKIKP PKPdf 17 44 26.9 0.0
OBN *e* 17 47 05.4
OBN *e*SS SS 18 04 08.5 -3.1
OBN pmax pmax
comp=Z,13nm,0.7s
NB2 NORSAR Subarra136.20 353 PKP 17 44 17.3
comp=Z,3.7nm,0.7s,baz=14,slow=4.0
NOA NORSAR Array B 136.20 353 PKhKP 17 44 18.6
comp=Z,1.0nm,0.6s,baz=5.9,slow=3.6,SNR=5.1
NOA PKP PKPdf 17 44 29.6 -1.2
comp=Z,3.0nm,0.7s,baz=13,slow=4.1,SNR=9.9
GNI Garni 136.45 310 *i* PKIKP PKPdf 17 44 32.8 +0.9
KIV Kislovodsk 136.53 316 *i* PKIKP PKPdf 17 44 32.3 +0.3
KIV pmax pmax
comp=Z,13nm,1.2s
SOC Sochi 138.64 317 *i* PKHKP 17 44 20.2
SOC *e* 17 47 40.7
SOC *e* 17 59 58.4
ANN Anapa 139.52 320 *i* PKHKP 17 44 28.0
ANN pmax pmax
comp=Z,28nm,1.1s

AKASG Malin Array Be 140.29 332 PKhKP 17 44 28.6
comp=Z,4.4nm,0.7s,baz=40,slow=4.3,SNR=16
AKASG PKP PKPdf 17 44 36.4 -2.2
comp=Z,5.1nm,0.7s,baz=41,slow=3.4,SNR=9.9
KIEV Kiev 140.30 332 *e*PKHKP 17 44 28.5
BSD Bornholm Skovb 141.28 347 *i* PKHKP 17 44 34.0
BSD pmax pmax
comp=Z,2.0nm,0.4s
BSD Bornholm Skovb 141.28 347 *i* P 17 44 34.0
comp=Z,2.0nm,0.4s
MALT Malatya 141.68 310 PKIKP PKPdf 17 44 40.0 -1.5
MALT Malatya 141.68 310 *e*PKPpre 17 44 36.9
MALT Malatya 141.68 310⇓ *i*P PKPdf 17 44 39.8 -1.7
GMK Mull of Kintyr 142.13 6⇑ *e*P PKPdf 17 44 37.1 -4.6
ESK Eskdalemuir 142.36 4 *e*P PKPdf 17 44 36.1 -6.0
ESK AMb AMB 17 44 41.3
comp=Z,40nm,1.6s
ECK Cauldkaine Hil 142.50 4 *e*P PKPdf 17 44 37.3 -5.1
GAL1 Galloway 142.69 6 *e*P PKPdf 17 44 38.2 -4.5
GAL1 *e*P 17 44 38.2
GAL1 AMb AMB 17 44 39.4
comp=Z,47nm,1.6s
XAL Allendale 142.88 3⇑ *e*P PKPdf 17 44 38.9 -4.2
KIS Kishinev 143.07 328 *e*PKP PKPdf 17 44 38.0 -5.7
LVV L'vov 143.15 335 *e*PKHKP 17 44 39.7
LVV MLR MLR
comp=Z,1μm,22.0s
GMM Mts of Mourne 143.18 7⇑ *e*P PKPdf 17 44 39.8 -3.8
BSEG Bad Segeberg 143.23 351 *e*PKPbc PKPdf 17 44 40.9 -2.8
DMUB Kingscourt 143.39 8 *e*P PKPdf 17 44 41.0 -3.0
HPK Haverah Park 143.81 3 *e*P PKPdf 17 44 42.6 -2.1
HPK AMb AMB 17 44 44.4
comp=Z,162nm,1.6s
KWP Kalwaria 143.81 336 *e*PKP PKPdf 17 44 43.6 -1.3
KWP Kalwaria 143.81 336 *e*PKP PKPdf 17 44 43.6 -1.3
OCN Croghan 143.88 9 *e*P PKPdf 17 44 42.9 -2.0
RUE Ruedersdorf 143.99 347 *e*PKPdf PKPdf 17 44 43.0 -2.1
DLF Lyons Farm 144.03 8 *e*P PKPdf 17 44 43.4 -1.7
LHO Holmfirth 144.21 3⇑ *i*P PKPdf 17 44 43.5 -1.9
BURAR Bucovina Array 144.34 332⇓ *i*P PKPdf 17 44 46.2 +0.3
OJC Ojcow 144.37 339 *i* PKPdfc PKPdf 17 44 44.5 -1.3
KBI1 Birley Grange 144.52 3⇑ *i*P PKPdf 17 44 44.7 -1.3
KOLS Kolonicke sedl 144.55 336 *e*PKP PKPdf 17 44 45.7 -0.5
KOLS *e* 18 17 05.7
STNC Stoke 144.65 4⇑ *e*P PKPdf 17 44 45.7 -0.5
STNC AMb AMB 17 44 47.7
comp=Z,447nm,1.5s
NRDL Niedersach Rie 144.66 351 *e*PKPbc PKPdf 17 44 45.6 -0.6
KWE Weaver Farm 144.74 3⇑ *e*P PKPdf 17 44 45.5 -0.9
SBD1 Bryn Du 144.76 5⇑ *i*P PKPdf 17 44 45.6 -0.8
UZH Uzhgorod 144.78 336*d* *i*PKIKP PKPdf 17 44 46.0 -0.6
NIE Niedzica 144.87 338 *i* PKPdf PKPdf 17 44 47.1 +0.4
NIE Niedzica 144.87 338 *e*PKPdf PKPdf 17 44 47.1 +0.4
CRVS Cervenica-Dubn 144.88 337 *e*PKP PKPdf 17 44 45.6 -1.2
CRVS *e* 18 17 09.7
KSP Ksiaz 144.89 343 *e*PKP PKPdf 17 44 46.9 +0.2
KSP Ksiaz 144.89 343 *e*PKP PKPdf 17 44 46.2 -0.5
KSP *e*pPKP pPKPdf 17 47 01.0 +12
VRI Vrincioaia 144.89 328 PKIKP PKPdf 17 44 47.3 +0.4
VRI Vrincioaia 144.89 328⇓ *i*P PKPdf 17 44 47.0 +0.1
PLOR Plostina 144.94 329 PKIKP PKPdf 17 44 47.4 +0.4
ANTO Ankara 144.96 315 *e*PKIKP PKPdf 17 44 46.7 -0.5
ANTO Ankara 144.96 315⇓ *i*P PKPdf 17 44 47.9 +0.7
TIRR Tirgusor 144.97 325 PKIKP PKPdf 17 44 47.5 +0.4
TIRR Tirgusor 144.97 325⇑ *i*P PKPdf 17 44 47.2 +0.1
RAC Raciborz 145.01 341 *e*PKIKP PKPdf 17 44 47.4 +0.5
RAC MLR MLR
comp=Z,500nm,20.8s
CWF Charnwood Fore 145.04 3 *e*P PKPdf 17 44 45.3 -1.6
CWF AMb AMB 17 44 48.5
comp=Z,165nm,1.7s
HARR Harsova 145.08 326⇓ *i*P PKPdf 17 44 48.1 +0.9
TRPA Tarpa 145.09 335⇑ *i*P PKPdf 17 44 47.2 +0.1
IBBN Ibbenburen 145.16 353 *e*PKPbc PKPbc 17 44 47.1 -0.9
IBBN *e*pPKPbc 17 47 02.1
OKC Ostrava-Krasne 145.24 341 *e*PKP PKPdf 17 44 46.6 -0.7
CLZ Clausthal 145.24 350 *e*PKPbc PKPbc 17 44 47.9 -0.3
CLL Collm 145.26 347⇑ *i*PKIKP PKPdf 17 44 47.5 +0.2
CLL pmax pmax
comp=Z,129nm,0.9s
CLL Collm 145.26 347⇑ *i*PKP PKPdf 17 44 47.5 +0.2
CLL *e*pPKP pPKPdf 17 46 59.0 +9.0
CLL Collm 145.26 347 *e*PKPdf PKPdf 17 44 46.2 -1.1
CLL *e*PKPbc PKPbc 17 44 47.6 -0.7
CLL Collm 145.26 347⇑ *i*PKPbc PKPbc 17 44 47.5 -0.8
comp=Z,129nm,0.9s
CLL *e*PKiKP PKiKP 17 44 51.0 -0.5
CLL *e*pPKPdf pPKPdf 17 46 59.0 +9.0
CLL *e*PP PP 17 48 09.0 -3.3
UPC Upice 145.27 343 *e*PKP PKPdf 17 44 46.9 -0.5
DPC Dobruska-Polom 145.32 343 *e*PKP PKPdf 17 44 47.1 -0.4
DPC *ex* x 17 44 48.5
BRG Berggiesshubel 145.45 346 *i* PKIKP PKPdf 17 44 46.8 -0.9
BRG *i* 17 44 48.4
BRG pmax pmax
comp=Z,6.0nm,1.1s
BRG pmax pmax
comp=Z,55nm,1.1s
BRG pmax pmax
comp=Z,12nm,0.8s
BRG pmax pmax
comp=Z,18nm,2.1s
BRG Berggiesshubel 145.45 346 *e*PKPdf PKPdf 17 44 46.8 -0.9
BRG *e*PKPbc PKPbc 17 44 48.4 -0.5
BRG Berggiesshubel 145.45 346 *i* PKP PKPdf 17 44 46.8 -0.9
comp=Z,11nm,1.1s
BRG *i* 17 44 48.4
comp=Z,92nm,1.1s
BRG *i* 17 44 56.0
comp=Z,20nm,0.8s
BRG pPKP pPKPdf 17 47 00.1 +10
comp=Z,30nm,2.1s
MORC Moravsky Berou 145.48 341 *e*PKIKP PKPdf 17 44 46.5 -1.2
MORC Moravsky Berou 145.48 341⇑ *i*P PKPdf 17 44 47.4 -0.3
MLR Muntele Rosu 145.55 329 PKP2 PKPab 17 44 49.5 -1.2
MLR Muntele Rosu 145.55 329⇓ *i*P PKPdf 17 44 48.8 +0.8
HTR Trewern Hill 145.58 5⇑ *e*P PKPdf 17 44 47.8 -0.1
KECS Kecovo 145.59 337 *i* PKP PKPdf 17 44 48.7 +0.7
KECS *e* 18 17 12.5
WTSB Winterswijk 145.60 354 *e*PKP PKPdf 17 44 48.1 +0.2
comp=Z,120nm,1.2s
PVCC Panska Ves 145.62 345 *e*PKP PKPdf 17 44 47.6 -0.4
HAE Alders End 145.67 4⇑ *i*P PKPdf 17 44 48.2 +0.2
MCH1 Michaelchurch 145.68 5⇑ *e*P PKPdf 17 44 47.6 -0.4
MCH1 ⇑*e*P 17 44 47.6
MCH1 AMb AMB 17 44 49.4
comp=Z,133nm,1.6s
SSW Stow on the Wo 145.79 3⇑ *i*P PKPdf 17 44 48.9 +0.7
VOIR 146.03 329 PKP2 PKPab 17 44 50.8 -1.8
VOIR 146.03 329⇓ *i*P PKPdf 17 44 50.6 +1.8
HGH Gray Hill 146.05 5⇑ *i*P PKPdf 17 44 49.1 +0.4
BUG Bochum--Univer 146.06 353 *e*PKPdf PKPdf 17 44 47.7 -1.0
BUG *e*PKPbc PKPbc 17 44 49.7 -0.9
BUG *e*pPKPbc 17 47 06.2
DRGR 146.07 333⇑ *i*P PKPdf 17 44 50.5 +1.7
SKP1 Kophill 146.08 2⇑ *i*P PKPdf 17 44 48.9 +0.2
PRU Pruhonice 146.13 345 *e*PKP PKPdf 17 44 48.0 -0.8
PRU *ex* x 17 44 50.2
MOX Moxa 146.17 348 *e*PKP PKPdf 17 44 48.1 -0.8
comp=Z,97nm,1.6s
MOX *e* 17 46 22.7
MOX Moxa 146.17 348 *e*PKIKP PKPdf 17 44 48.1 -0.8
MOX pmax pmax
comp=Z,97nm,1.6s
MOX Moxa 146.17 348 *e*PKPdf PKPdf 17 44 48.0 -0.9
MOX *e*PKPbc PKPbc 17 44 50.1 -0.8
MOX *e*pPKPbc 17 47 06.7
VYHS Vyhne 146.17 339 *e*PKP PKPdf 17 44 48.1 -0.9
VYHS *i* 17 44 50.6
VRAC Vranov 146.18 342 PKP2 PKPab 17 44 50.9 -2.1
VRAC Vranov 146.18 342⇓ *i*P PKPdf 17 44 50.8 +1.9
SWN1 Swindon 146.24 3 *e*P PKPdf 17 44 49.5 +0.6
SWN1 *e*P 17 44 49.5
SWN1 AMb AMB 17 44 53.8
comp=Z,167nm,1.7s
KOLL Kolacno 146.25 339 *e*PKP PKPbc 17 44 51.1 -0.1
PSZ Piszkesteto 146.28 337 PKP2 PKPbc 17 44 51.1 -0.2
PSZ Piszkesteto 146.28 337⇑ *e*P PKPdf 17 44 50.6 +1.4
PSZ Piszkesteto 146.28 337⇑ *e*PKP PKPdf 17 44 50.6 +1.4
PSZ Piszkesteto 146.28 337⇓ *i*P PKPdf 17 44 50.8 +1.6
NKC Novy Kostel 146.39 347 *e*PKP PKPdf 17 44 48.0 -1.3
NKC *ex* x 17 44 51.1

WOL Wolverton 146.47 3⇑ *e*P PKPdf 17 44 50.3 +0.9
TREC Trest 146.51 343 *e*PKP PKPdf 17 44 51.1 +1.6
HEX Exmoor 146.53 6 *e*P PKPdf 17 44 50.2 +0.8
SWK Warminster 146.58 4⇑ *e*P PKPdf 17 44 50.5 +0.9
MANZ Manzenberg 146.69 347 *e*PKPdf PKPdf 17 44 49.2 -0.6
MANZ *e*PKPbc PKPbc 17 44 51.8 -0.6
TFO1 Folkestone 146.73 0 P PKPbc 17 44 51.8 -0.7
TFO1 Folkestone 146.73 0 *e*P PKPdf 17 44 51.7 +1.9
TFO1 ⇑*e*P 17 44 51.8
CSS Prodhromos 146.74 307 *e*PKPbc PKPbc 17 44 51.8 -1.3
MODS Modra-Piesok 146.80 340 *e*PKP PKPdf 17 44 49.3 -0.7
MODS *e* 17 44 52.9
BEBN Eben Emael 146.86 355 PKPbc PKPbc 17 44 52.3 -0.5
HGN Heimansgroeve 146.87 355 *e*PKP PKPdf 17 44 51.9 +1.8
comp=Z,53nm,0.8s
ROTZ Rotzenmuhle 146.88 347 *e*PKPdf PKPdf 17 44 49.1 -1.0
ROTZ *e*PKPbc PKPbc 17 44 52.4 -0.5
UCC Uccle 146.95 356 PKPbc PKPbc 17 44 52.2 -0.8
BUD Budapest 146.97 338⇑ *e*PKP2 PKPbc 17 44 52.7 -0.5
BUD Budapest 146.97 338⇑ *e*PKP PKPbc 17 44 52.7 -0.5
ZST Bratislava 147.01 340 *e*PKP PKPbc 17 44 53.4 +0.1
MEM Membach 147.02 354 PKPbc PKPbc 17 44 52.4 -0.8
CSA1 St Austell 147.12 7 *e*P PKPdf 17 44 51.6 +1.2
GZR Gura Zlata 147.12 332 PKHKP PKPbc 17 44 53.1 -0.6
GZR Gura Zlata 147.12 332⇑ *i*P PKPbc 17 44 53.0 -0.7
ZIMR 147.13 327 PKP2 PKPbc 17 44 53.6 -0.2
DYA Yadsworthy 147.15 6 *e*P PKPdf 17 44 51.8 +1.3
DYA AMb AMB 17 44 56.4
comp=Z,95nm,1.2s
GRA1 Grafenberg Arr 147.16 348 *e*PKPbc PKPbc 17 44 53.3 -0.3
GRA1 *e*PKPab PKPab 17 44 56.5 -0.4
GRA1 *ep*PKPbc pPKPbc 17 47 09.0 +15
GRF Grafenberg Arr 147.16 348 *e*PKP2 PKPab 17 44 56.5 -0.4
GRF Grafenberg Arr 147.16 348 *e*PKPbc PKPbc 17 44 53.3 -0.3
GRF *e*PKPab PKPab 17 44 56.5 -0.4
GRF *ep*PKPbc pPKPbc 17 47 09.0 +15
GRFO Grafenberg 147.16 348 *e*PKPbc PKPbc 17 44 53.1 -0.5
GRFO *e*PKPab PKPab 17 44 56.8 -0.1
KHC Kasperske Hory 147.16 345 *e*PKP PKPdf 17 44 50.0 -0.6
KHC *ex* x 17 44 53.3
KHC *ex* x 17 44 57.0
CCA1 Carnmenellis 147.24 8 *e*P PKPdf 17 44 52.2 +1.5
BCLA Clavier 147.26 355 PKPbc PKPbc 17 44 52.9 -1.0
PKSG 147.27 338⇓ *e*P PKPbc 17 44 53.5 -0.5
WET Wettzell 147.32 346 *e*PKPdf PKPdf 17 44 49.9 -0.9
WET *e*PKPbc PKPbc 17 44 53.4 -0.7
GEC2 GERESS Array S 147.39 345 *e*PKPdf PKPdf 17 44 49.7 -1.3
GEC2 *e*PKPbc PKPbc 17 44 53.7 -0.6
GEC2 *e*PKPab PKPab 17 44 57.5 -0.4
GERES GERESS Array B 147.39 345 PKP PKPdf 17 44 49.7 -1.2
comp=Z,40nm,0.8s,baz=45,slow=0.6,SNR=90
GERES PKPbc PKPbc 17 44 53.6 -0.7
comp=Z,41nm,0.8s,baz=20,slow=3.1,SNR=169
BZS Buzias 147.47 333 PKP2 PKPbc 17 44 53.8 -0.8
BZS Buzias 147.47 333⇑ *i*P PKPbc 17 44 53.6 -1.0
ABH Alteburg 147.57 352 PKP PKPdf 17 44 49.9 -1.3
GIVF Givet 147.62 356 *e*PKIKP PKPdf 17 44 49.7 -1.6
SOP Sopron 147.63 341⇑ *e*PKP2 PKPbc 17 44 54.6 -0.3
SOP Sopron 147.63 341⇑ *e*PKP PKPbc 17 44 54.6 -0.3
DOU Dourbes 147.64 356 PKPbc PKPbc 17 44 54.2 -0.7
TOD Tromm 147.66 351 PKIKP PKPdf 17 44 49.7 -1.7
RUP Ruppelstein 147.80 353 PKHKP PKPdf 17 44 50.5 -1.1
WLF Walferdange 147.94 354 *e*PKPdf PKPdf 17 44 50.6 -1.2
WLF *e*PKPbc PKPbc 17 44 55.4 -0.3
WLF Walferdange 147.94 354 *e*PKPbc PKPbc 17 44 55.8 +0.2
WLF Walferdange 147.94 354 *e*PKPdf PKPdf 17 44 51.5 -0.3
WLF *e*PKPbc PKPbc 17 44 55.4 -0.2
MOA Molln 148.16 343⇓ *i*P PKPdf 17 44 51.2 -1.1
comp=Z,88nm,1.6s,SNR=17
PKSM Moragy 148.18 337 PKHKP PKPbc 17 44 55.4 -1.0
PKSM Moragy 148.18 337⇑ *e*P PKPbc 17 44 55.3 -1.1
PKSM Moragy 148.18 337⇑ *i*P PKPbc 17 44 55.3 -1.1
ARSA Arzberg 148.34 341⇑ *i*P PKPdf 17 44 51.6 -1.0
comp=Z,81nm,1.8s,SNR=11
STU Stuttgart 148.41 350 *e*PKPdf PKPdf 17 44 52.0 -0.6
STU *e*PKPbc PKPbc 17 44 56.2 -0.7
LANF Langenberg 148.41 352 PKP PKPdf 17 44 51.2 -1.4
FUR Furstenfeldbru 148.59 347 *e*PKP2 PKPab 17 45 02.6 -0.2
FUR Furstenfeldbru 148.59 347 *e*PKPbc PKPbc 17 44 56.8 -0.5
FUR *e*PKPab PKPab 17 45 02.6 -0.2
RHK3 Tenkes 148.60 337⇓ *e*P PKPbc 17 44 56.9 -0.5
KOGS Kog 148.82 340 *i* PKPbc PKPbc 17 44 56.8 -1.2
BFO Black Forest 148.97 351 *e*PKPdf PKPdf 17 44 52.7 -0.9
BFO *e*PKPbc PKPbc 17 44 57.4 -0.9
VTS Vitosha 149.00 328 P PKPbc 17 44 58.0 -0.5
VTS Vitosha 149.00 328⇑ *i*P PKPbc 17 44 58.2 -0.3
PERS Pernice 149.01 341 *i* PKPbc PKPbc 17 44 57.1 -1.3
CDF Champ du Feu 149.04 352 *e*PKIKP PKPdf 17 44 51.7 -2.0
FLN La Foliniere 149.05 2 *e*PKIKP PKPdf 17 44 51.7 -2.0
comp=Z,51nm,1.1s
KBA Koelnbreinsper 149.12 344⇑ *i*P PKPdf 17 44 51.6 -2.3
comp=Z,45nm,1.1s,SNR=17
LDF La Druitiere 149.23 2 *e*PKIKP PKPdf 17 44 51.9 -2.1
comp=Z,21nm,0.9s
ECH Echery 149.25 352 PKP PKPdf 17 44 51.8 -2.2
ROSF Rostrenen 149.29 6 *e*PKIKP PKPdf 17 44 51.9 -2.1
comp=Z,24nm,1.1s
OBKA Obir 149.30 342⇑ *i*P PKPdf 17 44 50.8 -3.4
comp=Z,65nm,1.7s,SNR=8.4
WATA Walderalm 149.31 346⇑ *i*P PKPdf 17 44 53.3 -0.8
comp=Z,47nm,1.1s,SNR=6.0
WTTA Wattenberg 149.37 346⇓ *i*P PKPdf 17 44 53.5 -0.7
comp=Z,94nm,1.1s,SNR=18
THEF They Montfort 149.38 354 PKP PKPdf 17 44 52.3 -1.9
GRR Gorron 149.41 3 *e*PKIKP PKPdf 17 44 52.5 -1.7
MOTA Moosalm 149.41 347⇑ *i*P PKPdf 17 44 52.7 -1.6
comp=Z,49nm,1.0s
SGMF Saint Gilles 149.43 5 *e*PKIKP PKPdf 17 44 52.4 -1.9
MYKA Terra Mystica 149.45 343⇓ *i*P PKPdf 17 44 53.0 -1.4
comp=Z,88nm,1.2s
FELD Feldberg im Sc 149.47 351 PKP PKPdf 17 44 52.3 -2.0
HAU Haudompre 149.56 353 *e*PKIKP PKPdf 17 44 52.7 -1.8
MOF Molkenrain 149.61 352 PKP PKPdf 17 44 52.5 -2.1
ABTA Abfaltersbach 149.64 345⇓ *i*P PKPdf 17 44 53.3 -1.4
comp=Z,87nm,1.1s,SNR=20
HINF Hinteralfeld 149.68 353 *e*PKIKP PKPdf 17 44 52.7 -2.0
comp=Z,5.8nm,0.8s
FVI Forni Avoltri 149.71 344 PKHKP 17 44 58.4
SEST Monte Rota 149.71 345 PKP PKPdf 17 44 54.9 +0.1
DAVA Damuels 149.72 348⇑ *i*P PKPdf 17 44 53.5 -1.2
comp=Z,90nm,1.2s,SNR=19
LJU Ljubljana 149.73 342 *e*PKPdf PKPdf 17 44 53.4 -1.4
LJU *e*PKPbc PKPbc 17 44 59.1 -1.0
PTCC Patocco-Chiusa 149.74 343 PKP PKPdf 17 44 54.1 -0.7
FETA Feichten 149.80 347⇑ *i*P PKPdf 17 44 53.7 -1.2
comp=Z,85nm,1.2s,SNR=10
ROBS Robic 149.84 343 *i* PKPbc PKPbc 17 44 58.6 -1.8
GMNA Gemona 149.89 343 PKP PKPdf 17 44 51.8 -3.3
VOY Vojsko 149.92 342 *e*PKPdf PKPdf 17 44 53.8 -1.3
VOY *e*PKPbc PKPbc 17 44 59.2 -1.4
VOY *e* 17 45 07.6
BBS Basel-Blauen 149.94 352 PKIKP PKPdf 17 44 53.8 -1.3
BOJS Bojanci 149.98 340 *e*PKPdf PKPdf 17 44 54.0 -1.2
BOJS *e*PKPbc PKPbc 17 45 00.1 -0.7
BOJS *e* 17 47 12.1
CEY Cerknica 150.03 341 *e*PKPdf PKPdf 17 44 53.8 -1.5
CEY *e*PKPbc PKPbc 17 44 59.8 -1.1
CEY *i* PKPab PKPab 17 45 07.9 -1.0
LOMF Lomont 150.14 352 PKP PKPdf 17 44 52.9 -2.5
KNDS Knezji Dol 150.24 341 *i* PKPbc PKPbc 17 45 00.2 -1.1
BRMO Bormio 150.39 347 PKP PKPdf 17 44 54.7 -1.1
LOR Lormes 150.50 356 *e*PKIKP PKPdf 17 44 54.4 -1.6
comp=Z,21nm,1.0s
CTI Castel Tesino 150.51 345 PKIKP PKPdf 17 44 54.8 -1.2
HYF Humbligny 150.56 358 *e*PKIKP PKPdf 17 44 55.0 -1.1
TUE Stuetta 150.60 349 PKP PKPdf 17 44 55.1 -1.1
SSF Saint Saulge 150.73 357 *e*PKIKP PKPdf 17 44 54.9 -1.4
CABF La Chapelle 150.96 353 *e*PKIKP PKPdf 17 44 55.7 -1.0
AVF Avril sur Loir 151.01 357 *e*PKIKP PKPdf 17 44 54.9 -1.9
SMF Signal de Mont 151.12 356 *e*PKIKP PKPdf 17 44 55.2 -1.7
comp=Z,25nm,1.2s
MFF Saint Martin d 151.22 2 *e*PKIKP PKPdf 17 44 55.2 -1.9
comp=Z,36nm,1.1s
APE Apeiranthos 151.26 317⇓ *i*P PKPbc 17 45 02.0 -2.0
VAI Varese 151.29 349 PKIKP PKPdf 17 44 56.0 -1.2
TCF Toulx Ste Croi 151.55 359 *e*PKIKP PKPdf 17 44 55.9 -1.7
PLDF La Plantade 151.81 357 PKP PKPdf 17 44 57.6 -0.4
**LPL La Plagne 151

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNI				*e*		17 45 04.6	
BNI				*e*		17 45 18.9	
SFI	**Santa Sofia**	**152.45**	**343**	PKIKP	PKPdf	17 44 58.4	-0.6
RJF	**Les Rejaudoux**	**152.54**	**360**	*e*PKIKP	PKPdf	17 44 57.4	-1.7
LBL	**Lubilhac**	**152.57**	**357**	PKP	PKPdf	17 44 59.0	-0.1
ORIF	**Oris-en-Rattie**	**152.65**	**353**	*e*PKIKP	PKPdf	17 44 58.1	-1.2
	comp=Z,10nm,0.9s						
MBDF	**Montbardon**	**152.73**	**351**	*e*PKIKP	PKPdf	17 44 57.9	-1.5
SNTG	**Esanatoglia**	**152.73**	**341**	PKP	PKPdf	17 44 58.5	-0.9
VIVF	**Saint-Julien-l**	**152.84**	**355**	*e*PKIKP	PKPdf	17 44 58.2	-1.3
NRCA	**Norcia**	**153.06**	**341**	PKP	PKPdf	17 44 58.4	-1.5
SAOF	**Saorge**	**153.33**	**350**	PKP	PKPdf	17 44 58.3	-2.0
AUTN	**L'Aution**	**153.34**	**350**	PKP	PKPdf	17 44 58.6	-1.7
AQU	**L'Aquila**	**153.39**	**340**	*e*PKIKP	PKPdf	17 44 58.3	-2.1
AQU				*e*		17 45 23.4	
LUCF	**Luceram**	**153.45**	**350**	PKP	PKPdf	17 44 59.2	-1.2
SBF	**Sospel**	**153.47**	**350**	*e*PKIKP	PKPdf	17 44 58.6	-1.9
	comp=Z,42nm,1.2s						
MVIF	**Mont Vial**	**153.48**	**350**	PKP	PKPdf	17 44 58.3	-2.2
SMRF	**Simiane la Rot**	**153.62**	**353**	*e*PKIKP	PKPdf	17 44 59.6	-1.1
	comp=Z,15nm,1.1s						
LASF	**Ste Croix**	**153.68**	**356**	*e*PKIKP	PKPdf	17 44 59.6	-1.2
	comp=Z,41nm,1.3s						
FRF	**La Foret Royal**	**153.89**	**351**	*e*PKIKP	PKPdf	17 44 58.9	-2.2
LMR	**La Mourre**	**154.13**	**351**	*e*PKIKP	PKPdf	17 44 59.9	-1.5
PGF	**Pioggiola**	**154.43**	**347**	*e*PKIKP	PKPdf	17 44 59.8	-2.1
	comp=Z,41nm,1.3s						
MTLF	**Montolieu**	**154.49**	**358**	*e*PKIKP	PKPdf	17 45 00.4	-1.5
TIP	**Timpagrande**	**154.76**	**331**	*e*PKPdf	PKPdf	17 45 00.6	-1.8
TIP				*e*PKPbc	PKPdf	17 45 10.3	+7.9
TIP				*e*PKPab	PKPab	17 45 28.5	-0.7
EPF	**Esparros**	**154.81**	**2**	*e*PKIKP	PKPdf	17 45 00.9	-1.4
	comp=Z,18nm,0.9s						
ETSF	**Etsaut**	**154.90**	**3**	*e*PKIKP	PKPdf	17 45 01.3	-1.2
	comp=Z,13nm,1.0s						
ESDC	**Sonseca Array**	**157.71**	**11**	PKP	PKPdf	17 45 05.6	-0.6
	comp=Z,2.6nm,1.0s,baz=2.9,slow=3.7,SNR=5.5						
ESDC				PKPab	PKPab	17 45 40.8	-1.0
	comp=Z,8.8nm,0.8s,baz=335,slow=3.5,SNR=20						
EVO	**Evora**	**157.78**	**20**	*e*PKIKP	PKPdf	17 45 05.3	-1.0
	comp=Z,6.1nm,0.6s						
KEST	**Kesra**	**160.72**	**340**	PKPab	PKPab	17 45 54.8	-0.3
	comp=Z,4.6nm,0.8s,baz=215,slow=0.1,SNR=9.4						
LIC	**Lamto**	**166.99**	**151**	*e*PKIKP	PKPdf	17 45 13.0	-3.1
	comp=Z,8.2nm,0.8s						
DBIC	**Dimbokro**	**167.46**	**151**	PKP	PKPdf	17 45 14.0	-2.4
	comp=Z,5.0nm,1.1s,baz=106,slow=6.1,SNR=3.4						
TOA0	**Torodi Ar. Sit**	**175.39**	**185**	*e*PKPdf	PKPdf	17 45 16.8	-3.3
TORD	**Torodi Ar. Bea**	**175.39**	**185**	PKP	PKPdf	17 45 17.7	-2.4
TORD				PKPab	PKPab	17 46 59.1	-1.1
TORD				pPKP	pPKPdf	17 47 29.9	+6.0
TORD				pPKPab	pPKPab	17 49 02.5	+6.4
TORD	**Torodi Ar. Bea**	**175.39**	**185**	PKP	PKPdf	17 45 17.7	-2.4
	comp=Z,3.1nm,0.9s,baz=327,slow=0.9,SNR=14						
TORD				PKPab	PKPab	17 46 59.1	-1.1
	comp=Z,1.6nm,1.0s,baz=163,slow=5.3,SNR=4.8						
TORD				pPKP	pPKPdf	17 47 29.9	+6.0
	comp=Z,0.9nm,0.9s,baz=186,slow=3.0,SNR=3.0						
TORD				pPKPab	pPKPab	17 49 02.5	+6.4
	comp=Z,1.3nm,0.9s,baz=186,slow=3.4,SNR=5.2						

MOS ***25*** *17:47:26.7±1.0,2420S×67.13W,h148km,mb5.6/88, MS4.9/13,Error ellipse: s-maj=7.5km s-min=5.0km az=84.6*

ISCJB ***25*** *17:47:30.4±0.1,2417S±003×6697W±003,h180km, mb5.5/230,Error ellipse: s-maj=4.5km s-min=3.1km az=31.5*

BJI ***25*** *17:47:30.4,2391S×6761W,h176km,mB5.5*

GUC ***25*** *17:47:30.6±1.0,2428S×6754W,h180km±32km,ML6.0, mb5.6(NEIC),MW5.9(NEIC)*

NEIC ***25*** *17:47:31.3±0.1,2422S×6703W,mb5.5/211,MW5.9,Error ellipse: s-maj=4.8km s-min=3.5km az=219.0,Moment Tensor Solution. s52 Moment tensor: Scale 10^{17}Nm; M_{rr}-1.78; $M_{\theta\theta}$-3.10; $M_{\phi\phi}$4.88; $M_{r\theta}$2.84; $M_{\theta\phi}$0.36; $M_{\phi r}$-5.88; Best double couple: $M_0$7.70000×10^{17} NP1:ϕ_s225.00000°, δ28.00000°,λ-19.00000°. NP2:ϕ_s331.00000°,δ81.00000°, λ-117.00000°. Principal axes: T 8.4200, Plg31.0000°, Azm83.0000°; N -1.4100, Plg26.0000°, Azm336.0000°; P -7.0200, Plg47.0000°, Azm214.0000°;*

NEIC Felt [III] at Antofagasta, Chanaral, Copiapo, El Salvador, Mejillones, Sierra Gorda, Taltal and Tierra Amarilla; [II] at Huara and Iquique, Chile.

GCMT ***25*** *17:47:31.3±0.1,2433S×6736W,h188km,MW5.9/104, Moment Tensor Solution. s103,c210; s104,c288; Duration: 2s1 Moment tensor: Scale 10^{17}Nm; M_{rr}-2.75±.07; $M_{\theta\theta}$-2.34±.08; $M_{\phi\phi}$5.09±.09; $M_{r\theta}$3.47±.06; $M_{\theta\phi}$-0.57±.08; $M_{\phi r}$-6.41±.06; Best double couple: $M_0$8.46300×10^{17} NP1:ϕ_s211.00000°,δ22.00000°, λ-33.00000°. NP2:ϕ_s331.00000°,δ78.00000°, λ-109.00000°. Principal axes: T 9.1220, Plg31.0000°, Azm77.0000°; N -1.3170, Plg19.0000°, Azm335.0000°; P -7.8050, Plg53.0000°, Azm219.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*

IDC ***25*** *17:47:31.2±0.4,2421S×6695W,h179km±3km,mb5.1/24, mb1 5.2/30,mb1mx5.2/30,mbtmp5.1/30,MS4.7/10, Ms1 4.7/10,ms1mx4.4/24 Error ellipse: s-maj=8.2km s-min=7.2km az=77.0*

LDG ***25*** *17:47:33.7±0.8,2362S×6661W,h182km,Mb5.4/34, Ms4.9/10,Error ellipse: s-maj=53.2km s-min=25.5km az=67.0*

SZGRF ***25*** *17:47:36.9,2311S×6658W,h183km,Jujuy Province, Argentina*

ISC 25 17:47:31.8±0.1,2425S±003×6694W±003,h182km, h182km±.5km;pP-P,n1221,c0°80/917,mb5.5/228, 122C-178D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.44**	**312**	*e*Pn	**Pn**	**17 48 10.3**	**-3.6**
LVC				*e*Sn	**Sn**	**17 48 34.9**	**-12**
CEN1	**Los Morros**	**3.11**	**285**	⇑*i*P	**Pn**	**17 48 17.0**	**-4.8**
CEN1				*e*S	**Sn**	**17 48 51.5**	**-9.2**
CPN1	**Cerro Paranal**	**3.18**	**263**	⇑*i*P	**Pn**	**17 48 16.8**	**-5.9**
CPN1				*i* S	**Sn**	**17 48 52.3**	**-10**
CPN1				AML	AML	17 48 55.0	
	comp=E,38μm,0.5s						
ANCH	**Antofagasta**	**3.23**	**279**	⇑*i*P	**Pn**	**17 48 16.8**	**-6.5**
ANCH				*i* S	**Sn**	**17 48 51.8**	**-12**
CPCH	**Copiapo**	**4.36**	**224**	⇑*i*P	**Pn**	**17 48 30.7**	**-6.8**
CPCH				*i* S	**Sn**	**17 49 19.0**	**-10**
VACH	**Vallenar**	**5.50**	**218**	*i* P	**Pn**	**17 48 45.8**	**-6.5**
VACH				*i* S	**Sn**	**17 49 45.5**	**-10**
LCO	**Las Campanas**	**5.81**	**215**	*e*Pn	**Pn**	**17 48 49.1**	**-7.3**
	comp=E,4μm,0.7s						
LSCH	**La Serena**	**6.82**	**213**	*e*P	**Pn**	**17 49 01.3**	**-8.2**
LSCH				*e*S	**Sn**	**17 50 14.8**	**-12**
TLL	**Tololo Astrono**	**6.83**	**209**	⇑*i*P	**Pn**	**17 49 02.8**	**-6.8**
TLL				*i* S	**Sn**	**17 50 17.9**	**-9.0**
CFAA	**Coronel Fontan**	**7.42**	**189**	P	**Pn**	**17 49 12.6**	**-4.8**
CFAA				S	**Sn**	**17 50 32.8**	**-8.0**
CFAA				LR	LR	17 52 38.7	
CFAA	**Coronel Fontan**	**7.42**	**189**	P	**Pn**	**17 49 12.6**	**-4.8**
	comp=E,6.2nm,0.3s,baz=7.0,slow=13,SNR=281						
CFAA				S	**Sn**	**17 50 32.8**	**-8.1**
	comp=E,13nm,0.3s,baz=215,slow=17,SNR=13						
CFAA				LR	LR	17 52 38.7	
	comp=E,864nm,18.5s,baz=350,slow=41						
LPAZ	**La Paz**	**8.00**	**352**	*e*P	**Pn**	**17 49 23.4**	**-1.7**
LPAZ				pmax	pmax		
	comp=Z,42nm,1.6s						
LPAZ	**La Paz**	**8.00**	**352**	⇓*e*Pn	**Pn**	**17 49 23.3**	**-1.8**
	comp=Z,42nm,1.6s						
LPAZ	**La Paz**	**8.00**	**352**	P	**Pn**	**17 49 23.3**	**-1.8**
	comp=Z,165nm,0.3s,baz=166,slow=7.7,SNR=1745						
LPAZ				S	**Sn**	**17 50 50.1**	**-4.8**
	comp=Z,28nm,0.3s,baz=337,slow=11,SNR=6.3						
ARE	**Arequipa**	**8.85**	**330**	*e*P	**Pn**	**17 49 30.0**	**-6.2**
ARE				*e*S	**Sn**	**17 51 03.0**	**-12**
CPUP	**Villa Florida**	**8.94**	**105**	*e*P	**Pn**	**17 49 36.5**	**-0.9**
CPUP				pmax	pmax		
	comp=Z,5.0nm,1.0s						
CPUP	**Villa Florida**	**8.94**	**105**	⇑*e*Pn	**Pn**	**17 49 35.3**	**-2.1**
	comp=Z,4.5nm,1.0s						
CPUP	**Villa Florida**	**8.94**	**105**	P	**Pn**	**17 49 35.6**	**-1.8**
	comp=Z,5.4nm,0.3s,baz=265,slow=11,SNR=135						
PEL	**Peldehue**	**9.45**	**200**	*e*P	**Pn**	**17 49 38.3**	**-5.8**
FCH	**Farellones**	**9.51**	**197**	⇑*e*P	**Pn**	**17 49 39.6**	**-5.2**
CLCH	**Cerro Calan**	**9.64**	**198**	*e*P	**Pn**	**17 49 43.1**	**-3.5**
SIV	**San Ignacio**	**9.89**	**35**	P	**Pn**	**17 49 47.8**	**-2.2**
	comp=Z,75nm,0.3s,baz=224,slow=14,SNR=2607						
SIV				S	**Sn**	**17 51 28.8**	**-11**
	baz=228,slow=15,SNR=4.5						
LPA	**La Plata**	**13.19**	**146**	*de*P	**Pn**	**17 50 30.0**	**-2.2**
LPA				*es*P		17 51 16.0	
LPA	**La Plata**	**13.19**	**146**	*e*P	**Pn**	**17 50 30.0**	**-2.2**
LPA				*es*P		17 51 16.0	
TRQA	**Tornquist**	**14.40**	**164**	*e*Pn	**Pn**	**17 50 42.9**	**-4.4**
	comp=Z,532nm,0.6s						
TRQA				*e*Sn	**Sn**	**17 53 25.7**	**-2.1**
NNA	**Nana**	**15.39**	**321**	Pn	**Pn**	**17 50 58.3**	**-1.4**
	comp=Z,1μm,1.1s,SNR=16						
NNA	**Nana**	**15.39**	**321**	⇓*e*Pn	**Pn**	**17 50 56.9**	**-2.8**
	comp=Z,1μm,1.7s						
NNA	**Nana**	**15.39**	**321**	P	**Pn**	**17 50 57.4**	**-2.4**
	comp=Z,4.6nm,0.3s,baz=168,slow=11,SNR=30						
NNA				S	**Sn**	**17 53 41.5**	**-10**
	comp=Z,4.4nm,0.3s,baz=63,slow=9.0,SNR=3.4						
PLCA	**Paso Flores**	**16.71**	**190**	P	**Pn**	**17 51 13.1**	**-2.3**
PLCA				S	**S**	**17 54 17.6**	**-2.2**
PLCA				pmax	pmax		
	comp=Z,4.0nm,0.3s						
PLCA				smax			
	comp=N,1.0nm,0.3s						
PLCA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
PLCA	**Paso Flores**	**16.71**	**190**	⇓*i*P	**Pn**	**17 51 12.5**	**-2.9**
	comp=Z,305nm,0.6s						
PLCA				*e*S	**S**	**17 54 19.2**	**-0.6**
PLCA				*e*PcP	PcP	17 55 52.6	-0.3
PLCA				*e*ScP	ScP	17 59 12.0	+1.4
PLCA	**Paso Flores**	**16.71**	**190**	P	**Pn**	**17 51 13.1**	**-2.3**
	comp=Z,4.4nm,0.3s,baz=9.4,slow=14,SNR=250						
PLCA				S	**S**	**17 54 17.6**	**-2.2**
	comp=Z,0.6nm,0.3s,baz=305,slow=15,SNR=1.6						
PLCA				PcP	PcP	17 55 52.6	-0.3
	comp=Z,1.1nm,0.3s,baz=318,slow=4.8,SNR=3.4						
PLCA				ScP	ScP	17 59 11.8	+1.3
	comp=Z,0.2nm,0.3s,baz=105,slow=1.6,SNR=6.1						
BDFB	**Brasilia**	**19.73**	**68**	P	**P**	**17 51 48.0**	**+0.3**
BDFB				S	**S**	**17 55 22.3**	**+2.1**
BDFB				pmax	pmax		
	comp=Z,68nm,0.3s						
BDFB				smax			
	comp=N,1.0nm,0.3s						
BDFB	**Brasilia**	**19.73**	**68**	⇑*i*P	**P**	**17 51 47.4**	**-0.2**
	comp=N,3μm,1.0s						
BDFB	**Brasilia**	**19.73**	**68**	P	**P**	**17 51 48.0**	**+0.3**
	comp=N,68nm,0.3s,baz=234,slow=16,SNR=743						
BDFB				S	**S**	**17 55 22.3**	**+2.1**
	comp=N,0.5nm,0.3s,baz=127,slow=20,SNR=1.4						
ATAH	**Atahualpa**	**20.37**	**325**	P	**P**	**17 51 53.8**	**-0.7**
	comp=N,52nm,0.8s,baz=164,slow=9.0,SNR=34						
CAM4	**Nova Friburgo**	**22.46**	**90**	⇑*i*P	**P**	**17 52 15.6**	**-0.2**
CAM4				*i*		17 52 17.3	
CAM4				*i*		17 52 19.6	
CAM4				*i*		17 52 27.2	
EFI	**East Falkland**	**28.22**	**168**	*e*P	**P**	**17 53 05.7**	**-1.7**
EFI				pmax	pmax		
	comp=Z,46nm,0.5s,mb5.5						
EFI	**East Falkland**	**28.22**	**168**	*e*P	**P**	**17 53 05.7**	**-1.7**
	comp=Z,46nm,0.5s,mb5.5						
EFI				*e*pP	pP	17 53 46.5	+1.7
ROSC	**El Rosal**	**29.81**	**345**	P	**P**	**17 53 20.3**	**-1.6**
ROSC	**El Rosal**	**29.81**	**345**	P	**P**	**17 53 21.7**	**-0.2**
	comp=Z,11nm,0.5s,mb4.8,baz=86,slow=12,SNR=4.9						
ROSC				LR	LR	18 06 13.4	
	comp=Z,574nm,21.7s,baz=187,slow=38						
USHA	**Ushuaia**	**30.57**	**182**	P	**P**	**17 53 27.3**	**-0.7**
	comp=Z,85nm,0.8s,mb5.5,baz=342,slow=6.6,SNR=46						
SDV	**Santo Domingo**	**33.13**	**353**	*e*P	**P**	**17 53 47.1**	**-3.8**
	comp=Z,84nm,0.8s,mb5.5						
SDV				*e*S	**S**	**17 59 04.4**	**+7.6**
TRN	**Trinidad (W)**	**35.10**	**9**	*e*P	**P**	**17 54 08.0**	**+0.1**
TRN	**Trinidad (W)**	**35.10**	**9**	*e*	**P**	**17 54 08.0**	**+0.1**
BCIP	**Isla Barro Col**	**35.52**	**338**	*e*P	**P**	**17 54 11.0**	**-0.4**
	comp=Z,240nm,1.4s,mb5.6						
BCIP				*e*		17 54 27.5	
BCIP				*e*pP	pP	17 54 50.4	+0.8
TPR	**Prospect**	**35.73**	**10**	*e*P	**P**	**17 54 14.1**	**+0.9**
TPR	**Prospect**	**35.73**	**10**	*e*	**P**	**17 54 14.1**	**+0.9**
GRGR	**Grenville**	**36.52**	**9**	*e*P	**P**	**17 54 18.2**	**-1.8**
	comp=Z,421nm,1.0s,mb6.0						
GRW	**Mount Saint Ca**	**36.55**	**9**	*e*P	**P**	**17 54 21.7**	**+1.5**
GRW	**Mount Saint Ca**	**36.55**	**9**	*e*	**P**	**17 54 21.7**	**+1.5**
GRHS	**Sauteurs**	**36.62**	**9**	*e*P	**P**	**17 54 25.4**	**+4.7**
GRHS	**Sauteurs**	**36.62**	**9**	*e*	**P**	**17 54 25.4**	**+4.7**
GRSS	**Sisters**	**36.69**	**9**	*e*P	**P**	**17 54 23.2**	**+1.7**
GRSS	**Sisters**	**36.69**	**9**	*e*	**P**	**17 54 23.2**	**+1.7**
GRCU	**Cariacou**	**36.89**	**9**	*e*P	**P**	**17 54 23.6**	**+0.5**
GRCU	**Cariacou**	**36.89**	**9**	*e*	**P**	**17 54 23.6**	**+0.5**
BBGH	**Gun Hill**	**37.86**	**12**	P	**P**	**17 54 30.7**	**-0.5**
RPN	**Rapa Nui**	**38.18**	**256**	P	**P**	**17 54 32.7**	**-1.3**
	comp=Z,30nm,0.3s,mb5.3,baz=18,slow=3.6,SNR=3.6						
BIM	**Bigot**	**38.95**	**9**	*e*P	**P**	**17 54 38.9**	**-1.4**
MVM	**Montagne Vauci**	**39.02**	**9**	*e*P	**P**	**17 54 39.2**	**-1.7**
FDF	**Fort de France**	**39.15**	**9**	*e*P	**P**	**17 54 40.4**	**-1.6**
PMSA	**Palmer Station**	**40.56**	**178**	*e*P	**P**	**17 54 52.5**	**-0.6**
	comp=Z,139nm,1.1s,mb5.5						
PMSA	**Palmer Station**	**40.56**	**178**	P	**P**	**17 54 52.9**	**-0.1**
	comp=Z,78nm,0.8s,mb5.4,baz=8.4,slow=8.7,SNR=16						
CPD	**Cerro la Pandu**	**42.04**	**1**	*e*P	**P**	**17 55 02.5**	**-3.1**
CPD				*e*		17 56 46.9	
CPD				pmax	pmax		
	comp=Z,44nm,0.6s,mb5.3						
CPD	**Cerro la Pandu**	**42.04**	**1**	*e*P	**P**	**17 55 02.5**	**-3.1**
	comp=Z,44nm,0.6s,mb5.3						
CPD				*e*	pP	17 55 41.9	-3.0
CPD				*e*PP	PP	17 56 46.9	-0.1
MTP	**Monte Pirata**	**42.11**	**2**	*e*P	**P**	**17 55 02.1**	**-4.0**
MTP				*e*PP	PP	17 56 45.5	-2.2
MTP				*e*PcP	PcP	17 56 57.8	+0.5
SJG	**San Juan**	**42.11**	**1**	⇑*i*P	**P**	**17 55 02.4**	**-3.7**
SJG				*e**PP	pP	17 55 40.1	-5.3
SJG				pmax	pmax		
	comp=Z,158nm,1.1s						
SJG	**San Juan**	**42.11**	**1**	⇑*i*P	**P**	**17 55 02.4**	**-3.7**
	comp=Z,158nm,1.1s,mb5.6						
SJG				*e*pP	pP	17 55 40.1	-5.3
SJG				*e*S	**S**	**18 01 03.3**	**-8.8**
TGUH	**Tegucigalpa,Un**	**42.94**	**330**	⇓*i*P	**P**	**17 55 11.9**	**-1.1**
	comp=Z,97nm,0.6s,mb5.6						
TGUH				*e*pP	pP	17 55 50.8	-1.6
SDDR	**Presa de Saban**	**43.18**	**354**	*e*P	**P**	**17 55 12.1**	**-2.7**
	comp=Z,22nm,0.6s,mb5.0						
SDDR				*e*ScP	ScP	18 00 35.7	+0.8
TEIG	**Tepich**	**48.85**	**333**	⇓*i*P	**P**	**17 55 57.0**	**-2.0**
	comp=Z,90nm,0.6s,mb5.6						
TEIG				*e*pP	pP	17 56 35.9	-3.5
TEIG				*e*ScP	ScP	18 00 49.3	-9.2
SOR	**Soroa**	**49.30**	**340**	*e*P	**P**	**17 56 01.3**	**-1.1**
OXX	**Oaxaca**	**50.32**	**322**	*e*P	**P**	**17 56 13.0**	**+2.8**
ACX	**Acapulco**	**52.02**	**319**	*i* P	**P**	**17 56 24.5**	**+1.7**
PLIG	**Platanillo**	**52.96**	**320**	*i* P	**P**	**17 56 29.8**	**+0.1**
PPM	**Popocatepetl**	**52.98**	**322**	*e*P	**P**	**17 56 32.5**	**+2.6**
IIO	**Organos**	**53.46**	**322**	*i* P	**P**	**17 56 34.0**	**+0.6**
ZIIG	**Zihuatanejo**	**53.53**	**318**	*i* P	**P**	**17 56 33.2**	**-0.7**
PTVM	**Pico Tres Padr**	**53.68**	**321**	*i* P	**P**	**17 56 35.1**	**+0.2**
DWPF	**Disney**	**53.90**	**344**	P	**P**	**17 56 35.4**	**-1.0**
MOIG	**Morelia**	**54.95**	**320**	*i* P	**P**	**17 56 44.5**	**+0.3**
BBSR	**BB Station**	**56.34**	**2**	*e*P	**P**	**17 56 52.9**	**-0.9**
	comp=Z,17nm,0.9s,mb4.9						
BBSR				*e*		17 57 00.7	
SFJM	**Santa Fe**	**56.68**	**319**	*i* P	**P**	**17 56 59.0**	**+2.6**
VNA1	**Neumayer--Stat**	**57.10**	**160**	*e*P	**P**	**17 56 59.5**	**+0.8**
VNA1				*e*		17 57 04.8	
VNA1				*e*	pP	17 57 42.7	+2.4
VNA1				*e*		17 57 52.4	
VNA1				*e*		17 57 53.9	
VNA1				*e*		18 01 36.5	
VNA1				*e*		18 01 53.7	
VNA1				*e*S	**S**	**18 04 42.9**	**+4.0**
CJM	**Chamela**	**57.17**	**316**	*i* P	**P**	**17 56 59.7**	**-0.2**
VNA2	**Neumayer--Watz**	**57.47**	**160**	*e*P	**P**	**17 57 01.6**	**+0.3**
	baz=294,slow=7.0						
VNA2				*e*		17 57 07.2	
VNA2				*e*	pP	17 57 44.8	+1.9
VNA2				*e*		17 57 53.4	
VNA2				*e*		17 57 54.6	
VNA2				*e*		18 01 37.6	
VNA2				*e*		18 01 53.4	
VNA2				*e*S	**S**	**18 04 46.7**	**+3.0**
SHEL	**Horse Pasture**	**57.68**	**94**	P	**P**	**17 57 04.3**	**+0.7**
	comp=Z,1μm,0.7s,mb6.8,SNR=6.0						
BRAL	**Brewton**	**58.23**	**340**	*e*P	**P**	**17 57 06.4**	**-0.6**
	comp=Z,255nm,0.8s,mb6.1						
NHSC	**New Hope**	**58.41**	**347**	*e*P	**P**	**17 57 07.9**	**-0.4**
	comp=Z,575nm,1.2s,mb6.3						
NHSC				*e*pP	pP	17 57 45.9	-4.2
COW	**Cow Castle Cre**	**58.79**	**347**	*e*P	**P**	**17 57 10.2**	**-0.7**
COW				*e*pP	pP	17 57 52.5	-0.2
SNAA	**Sanae**	**59.10**	**161**	P	**P**	**17 57 12.5**	**0.0**
	comp=Z,26nm,0.9s,mb5.1,baz=294,slow=5.9,SNR=204						
SNAA				pP	pP	17 57 54.3	-0.1
	comp=Z,16nm,1.1s,baz=288,slow=6.8,SNR=2.2						
GOGA	**Godfrey**	**59.46**	**344**	⇓*i*P	**P**	**17 57 13.9**	**-1.6**
GOGA				*e**PP	pP	17 57 55.0	-2.4
GOGA				pmax	pmax		
	comp=Z,93nm,1.2s,mb5.5						
GOGA	**Godfrey**	**59.46**	**344**	⇓*i*P	**P**	**17 57 13.9**	**-1.6**
	comp=Z,93nm,1.2s,mb5.5						
GOGA				*e*pP	pP	17 57 55.0	-2.4
JSC	**Jenkinsville**	**59.78**	**346**	*e*P	**P**	**17 57 17.0**	**-0.6**
JSC				*e**PP	pP	17 57 58.5	-1.1
LHS	**Liberty Hill**	**59.87**	**347**	P	**P**	**17 57 17.9**	**-0.4**
VBMS	**Vicksburg**	**60.50**	**337**	*e*P	**P**	**17 57 21.2**	**-1.4**
	comp=Z,45nm,0.6s,mb5.5						
HKT	**Hockley**	**60.61**	**331**	*e*P	**P**	**17 57 22.4**	**-1.0**
HKT				*e*	pP	17 58 04.2	-1.3
HKT				pmax	pmax		
	comp=Z,39nm,0.6s,mb5.4						
HKT	**Hockley**	**60.61**	**331**	⇓*i*P	**P**	**17 57 22.0**	**-1.4**
	comp=Z,39nm,0.6s,mb5.4						
HKT				*e*pP	pP	17 58 04.0	-1.4
CPCT	**Cooper Cave**	**61.66**	**344**	⇓*i*P	**P**	**17 57 28.7**	**-1.6**
CPCT				*e*pP	pP	17 58 08.8	-3.8
TKL	**Tuckaleechee C**	**61.67**	**344**	*e*P	**P**	**17 57 28.7**	**-1.7**
TKL				*e*	pP	17 58 09.1	-3.6
TKL	**Tuckaleechee C**	**61.67**	**344**	*e*P	**P**	**17 57 28.6**	**-1.9**
TKL				*e*	pP	17 58 09.1	-3.6
NATX	**Nacogdoches**	**61.68**	**333**	⇓*i*P	**P**	**17 57 29.7**	**-0.8**
	comp=Z,473nm,1.5s,mb6.1						
NATX				*e*pP	pP	17 58 11.3	-1.4
SWET	**Sewanee**	**61.82**	**342**	*e*P	**P**	**17 57 29.8**	**-1.6**
SWET				*e*pP	pP	17 58 11.1	-2.5
OXF	**Oxford**	**62.21**	**339**	*e*P	**P**	**17 57 31.2**	**-2.8**
OXF				*e**PP	pP	17 58 10.3	-6.0
OXF				pmax	pmax		
	comp=Z,185nm,1.0s,mb5.9						
OXF	**Oxford**	**62.21**	**339**	*e*P	**P**	**17 57 31.2**	**-2.8**
	comp=Z,185nm,1.0s,mb5.9						
OXF				*e*pP	pP	17 58 10.3	-6.0
PLAL	**Pickwick Lake**	**62.22**	**340**	⇓*i*P	**P**	**17 57 32.0**	**-2.1**
	comp=Z,99nm,1.0s,mb5.6						
PLAL				*e*pP	pP	17 58 13.9	-2.5
TZTN	**Tazewell**	**62.47**	**345**	*e*P	**P**	**17 57 33.3**	**-2.3**
	comp=Z,69nm,1.4s,mb5.3						
TZTN				*e*pP	pP	17 58 12.2	-5.8
ELN	**Prospectdale**	**62.52**	**348**	*e*P	**P**	**17 57 35.6**	**-0.4**
ELN				*e*pP	pP	17 58 16.8	-1.5
BBTS	**Babate**	**62.59**	**57**	LR	LR	18 26 40.2	
	comp=Z,1μm,18.2s,baz=52,slow=38						
JCT	**Junction City**	**62.88**	**328**	⇓*i*P	**P**	**17 57 37.5**	**-1.1**
JCT				*e**PP	pP	17 58 21.2	+0.2
JCT				pmax	pmax		
	comp=Z,158nm,0.8s,mb5.9						
JCT	**Junction City**	**62.88**	**328**	⇓*i*P	**P**	**17 57 37.5**	**-1.1**
	comp=Z,158nm,0.8s,mb5.9						
JCT				*e*pP	pP	17 58 21.2	+0.2
UALR	**University of**	**63.46**	**337**	⇓*i*P	**P**	**17 57 40.6**	**-1.7**
	comp=Z,115nm,1.2s,mb5.6						
UALR				*e*pP	pP	17 58 22.4	-2.3
HALT	**Halls

comp=Z,16nm,0.5s,mb5.1
LIC LR LR
comp=Z,1µm,19.8s
TIC Toumodi 67.67 71 *e*P **P 17 58 09.2 -0.6**
comp=Z,369nm,1.2s,mb6.0
HDIL Hopedale 67.75 342 *e*P **P 17 58 07.1 -2.5**
comp=Z,146nm,1.1s,mb5.6
HDIL *ep*P pP 17 58 50.1 -2.5
KIC Kosan Boka 67.78 72 *e*P **P 17 58 09.9 -0.5**
comp=Z,402nm,0.8s,mb6.2
HNH Hanover 67.80 356 *e*P **P 17 58 10.4 +0.6**
comp=Z,109nm,1.3s,mb5.4
HNH *ep*P pP 17 58 53.4 +0.6
DBIC Dimbokro 67.83 71 P **P 17 58 10.3 -0.4**
DBIC S S 18 06 54.3 -0.3
DBIC pmax pmax
comp=Z,133nm,1.0s
DBIC smax
comp=N,5.0nm,1.0s
DBIC MLR MLR
comp=Z,2µm,19.5s
DBIC Dimbokro 67.83 71⇑*i*P **P 17 58 09.8 -0.9**
comp=Z,99nm,0.9s,mb5.5
DBIC *e*PcP PcP 17 58 36.5 +0.4
DBIC *ep*P pP 17 58 52.4 -1.3
DBIC Dimbokro 67.83 71 P **P 17 58 10.2 -0.5**
comp=Z,133nm,1.0s,mb5.6,baz=218,slow=6.8,SNR=81
DBIC S S 18 06 54.3 -0.3
comp=Z,5.0nm,1.0s,baz=356,slow=19,SNR=4.9
DBIC LR LR 18 27 19.4
comp=Z,2µm,19.5s,baz=138,slow=35
AAM Ann Arbor 67.99 347 P **P 17 58 10.2 -0.9**
AAM pmax pmax
comp=Z,26nm,0.4s,mb5.3
AAM Ann Arbor 67.99 347 *e*P **P 17 58 09.0 -2.1**
comp=Z,26nm,0.4s,mb5.3
NCB Newcomb 68.21 354 *e*P **P 17 58 12.0 -0.4**
comp=Z,36nm,1.1s,mb5.0
LBNH Lisbon 68.31 356 *e*P **P 17 58 12.6 -0.4**
LBNH pmax pmax
comp=Z,23nm,0.8s,mb5.0
LBNH Lisbon 68.31 356 *e*P **P 17 58 12.6 -0.4**
comp=Z,23nm,0.8s,mb5.0
LBNH *ep*P pP 17 58 56.1 +0.1
319A Douglas 68.56 322⇑P **P 17 58 15.4 +0.5**
baz=69,SNR=53
KSU1 Kansas State U 68.86 336 *e*P **P 17 58 14.8 -1.8**
comp=Z,149nm,1.0s,mb5.7
KSU1 *ep*P pP 17 58 58.7 -1.0
LONY Lake Ozonia 68.89 354 *e*P **P 17 58 16.2 -0.4**
comp=Z,152nm,1.6s,mb5.5
LONY *e* 17 58 27.7
LONY *ep*P pP 17 58 59.6 -0.1
318A Bisbee 69.01 321⇑P **P 17 58 18.0 +0.4**
baz=69,SNR=178
FRNY Flat Rock 69.02 355 *e*P **P 17 58 16.2 -1.2**
comp=Z,114nm,1.5s,mb5.4
FRNY *ep*P pP 17 59 00.4 -0.1
219A White Tail Can 69.02 322 P **P 17 58 18.0 +0.3**
baz=69,SNR=91
PKME Peaks-Kenny Pk 69.21 358 *e*P **P 17 58 17.5 -1.0**
comp=Z,46nm,1.0s,mb5.2
PKME *ep*P pP 17 59 00.6 -1.1
Y22C IRIS PASSCAL I 69.34 325⇑P **P 17 58 20.1 +0.5**
baz=70
218A Dragoon 69.44 322 P **P 17 58 20.8 +0.4**
baz=70,SNR=150
119A Ashpeak Ranch, 69.62 323 P **P 17 58 21.8 +0.5**
baz=70,SNR=42
217A Green Valley 69.73 321 P **P 17 58 22.4 +0.3**
baz=70,SNR=152
ANMO Albuquerque 69.79 326*d i*P **P 17 58 22.5 +0.1**
CBKS Cedar Bluff 69.85 333 *e*P **P 17 58 22.2 -0.4**
CBKS pmax pmax
comp=Z,310nm,1.0s,mb6.0
CBKS Cedar Bluff 69.85 333 *e*P **P 17 58 22.2 -0.4**
comp=Z,310nm,1.0s,mb6.0
CBKS *ep*P pP 17 59 05.5 -0.3
118A Homack Ranch, 69.89 322 P **P 17 58 23.4 +0.3**
baz=70,SNR=85
Z19A T-Link Ranch, 69.99 323 P **P 17 58 24.5 +0.8**
baz=70,SNR=21
CHIE El Hierro 70.00 45 P **P 17 58 23.2 -0.6**
comp=Z,74nm,0.9s,mb5.4
TUC Tucson 70.11 321 *e*P **P 17 58 23.8 -0.6**
TUC pmax pmax
comp=Z,123nm,1.3s,mb5.5
TUC Tucson 70.11 321 *e*P **P 17 58 23.8 -0.6**
comp=Z,123nm,1.3s,mb5.5
TUC *ep*P pP 17 59 07.8 +0.1
SCIA State Center 70.17 339 *e*P **P 17 58 23.1 -1.5**
comp=Z,92nm,1.0s,mb5.5
SCIA *ep*P pP 17 59 06.1 -1.7
JFWS Jewell Farm 70.20 342 *e*P **P 17 58 23.3 -1.4**
JFWS pmax pmax
comp=Z,90nm,0.6s,mb5.7
JFWS Jewell Farm 70.20 342 *e*P **P 17 58 23.3 -1.3**
comp=Z,90nm,0.6s,mb5.7
JFWS *ep*P pP 17 59 06.8 -1.1
Z18A Geronimo 70.26 322⇓P **P 17 58 25.6 +0.3**
baz=70,SNR=7.6
216A Three Points, 70.27 321⇑P **P 17 58 25.5 +0.2**
baz=70,SNR=34
117A Oracle 70.28 322 P **P 17 58 25.5 +0.1**
baz=70,SNR=81
Y19A Nutrioso 70.49 324 P **P 17 58 27.7 +1.0**
baz=71,SNR=153
GLMI Grayling 70.61 347 *e*P **P 17 58 25.4 -1.7**
comp=Z,156nm,1.0s,mb5.7
EHIG Higuera 70.66 45 P **P 17 58 28.2 +0.4**
comp=Z,260nm,0.9s,mb6.0
Z17A San Carlos Hig 70.67 322⇑P **P 17 58 27.9 +0.2**
baz=71,SNR=12
EGOM La Gomera 70.78 46 P **P 17 58 28.4 -0.1**
comp=Z,286nm,0.9s,mb6.0
Y18A Canyon Day Jun 70.78 323 P **P 17 58 28.8 +0.4**
baz=71,SNR=10
116A Eloy 70.82 321⇑P **P 17 58 28.8 +0.2**
baz=71,SNR=31
X19A St. Johns 70.87 324⇓P **P 17 58 29.3 +0.3**
baz=71,SNR=20
Y17A Roosevelt 71.17 322⇓P **P 17 58 31.3 +0.6**
baz=71,SNR=91
CCAN Las Canadas 71.21 46 P **P 17 58 31.4 +0.3**
comp=Z,50nm,0.8s,mb5.3
115A Sonoran Desert 71.22 321 P **P 17 58 31.6 +0.5**
baz=71,SNR=19
Z16A Peralta Trail, 71.23 322⇑P **P 17 58 31.4 +0.2**
baz=71,SNR=9.3
X18A Snowflake 71.30 324⇓P **P 17 58 32.1 +0.6**
baz=72,SNR=27
W19A Sanders 71.44 324⇑P **P 17 58 32.7 +0.4**
baz=72,SNR=13
SDCO Great Sand Dun 71.53 329 *e*P **P 17 58 33.3 +0.5**
comp=Z,204nm,1.4s,mb5.7
SDCO *ep*P pP 17 59 15.5 -0.7
EBAJ Bajamar 71.60 46 P **P 17 58 33.1 -0.3**
comp=Z,156nm,1.2s,mb5.6
Z15A Gila River Ind 71.61 321⇓P **P 17 58 33.5 +0.1**
baz=72
W18A Petrified Fore 71.63 324⇓P **P 17 58 34.0 +0.5**
baz=72,SNR=22
Y16A Circle Bar Ran 71.66 322 P **P 17 58 34.4 +0.7**
baz=72,SNR=66
EOSO Osorio 71.81 47 P **P 17 58 32.9 -1.8**
comp=Z,631nm,1.4s,mb6.2
X16A Lo Mia Camp, P 72.03 322 P **P 17 58 36.6 +0.7**
baz=72,SNR=66
Z14A Wintersburg 72.12 321⇑P **P 17 58 36.5 +0.1**
baz=72,SNR=9.2
W17A Winslow 72.12 323⇓P **P 17 58 36.9 +0.5**
baz=72,SNR=12
113A Mohawk Valley, 72.17 320⇑P **P 17 58 36.6 -0.1**
baz=72,SNR=11
Y15A Casa Rosa Ranc 72.20 322⇓P **P 17 58 37.2 +0.3**
baz=72,SNR=55
112A Yuma 72.49 319⇓P **P 17 58 38.8 +0.1**
baz=73
X15A Humboldt 72.53 322 P **P 17 58 39.5 +0.7**
baz=73,SNR=65
Y14A Wickenburg 72.57 321⇑P **P 17 58 39.2 +0.1**
baz=73,SNR=40
MVCO Mesa Verde 72.58 326 *e*P **P 17 58 39.2 +0.2**
comp=Z,348nm,1.4s,mb5.9
MVCO Mesa Verde 72.58 326 P **P 17 58 39.5 +0.5**
baz=73
W16A Flagstaff 72.59 323⇑P **P 17 58 40.2 +1.0**
baz=73,SNR=65
WUAZ Wupatki 72.81 323 *e*P **P 17 58 41.1 +0.6**
WUAZ *ep*P pP 17 59 25.4 +1.3
WUAZ Wupatki 72.81 323⇓P **P 17 58 41.1 +0.7**
baz=73
COWI Conover 72.86 344 *e*P **P 17 58 39.4 -1.1**
comp=Z,99nm,1.3s,mb5.4
X14A Yava 72.89 322 P **P 17 58 41.6 +0.7**
baz=73,SNR=38
ECSD EROS,Sioux Fal 72.93 338 *e*P **P 17 58 40.0 -1.0**
comp=Z,138nm,1.2s,mb5.6
ECSD *e*PcP PcP 17 58 56.9 0.0
ECSD *ep*P pP 17 59 21.8 -2.7
Y13A Salome 72.95 321 P **P 17 58 41.9 +0.5**
baz=73,SNR=42
GLA Glamis 73.00 319 *e*P **P 17 58 41.6 0.0**
GLA pmax pmax
comp=Z,221nm,1.4s,mb5.7
GLA Glamis 73.00 319 *e*P **P 17 58 41.6 0.0**
comp=Z,221nm,1.4s,mb5.7
GLA *ep*P pP 17 59 24.1 -1.1
GLA Glamis 73.00 319 P **P 17 58 41.9 +0.3**
baz=73,SNR=43
CFTV Fuerteventura 73.01 47 P **P 17 58 42.2 +0.3**
comp=Z,72nm,0.8s,mb5.5
W15A Williams 73.05 322⇓P **P 17 58 42.9 +1.0**
baz=73,SNR=22
ISCO Idaho Springs 73.22 330 *e*P **P 17 58 43.2 +0.4**
ISCO pmax pmax
comp=Z,116nm,1.2s,mb5.5
ISCO Idaho Springs 73.22 330 *e*P **P 17 58 43.2 +0.4**
comp=Z,116nm,1.2s,mb5.5
ISCO *ep*P pP 17 59 26.6 +0.2
SYO Syowa Base 73.30 159⇑*i*P **P 17 58 41.6 -1.3**
SYO Syowa Base 73.30 159⇓*i*pP pP 17 59 25.8 -0.7
SYO Syowa Base 73.30 159⇓*i*X 17 59 39.0
Y12C Blythe 73.31 320⇑P **P 17 58 43.9 +0.5**
baz=74,SNR=27
PV01 Paradox Valley 73.33 327 *e*P **P 17 58 43.6 +0.2**
SMCO Snowmass 73.36 329 *e*P **P 17 58 44.2 +0.6**
comp=Z,184nm,1.1s,mb5.7
SMCO *ep*P pP 17 59 27.0 -0.3
SBA Scott Base 73.46 190 *e*P **P 17 58 44.3 +0.6**
SBA pmax pmax
comp=Z,199nm,1.3s,mb5.7
SBA Scott Base 73.46 190 *e*P **P 17 58 44.3 +0.6**
comp=Z,199nm,1.3s,mb5.7
V15A Kaibab Nationa 73.47 323 P **P 17 58 45.5 +1.1**
baz=74,SNR=42
PDMCI Parker Dam,Lak 73.48 321 P **P 17 58 44.7 +0.2**
baz=74,SNR=8.4
DVTC Desert V Tower 73.49 318 P **P 17 58 45.1 +0.6**
baz=74,SNR=23
SWSC Sam W. Stewart 73.50 319 P **P 17 58 44.9 +0.3**
baz=74,SNR=16
X13A Yucca 73.51 321 P **P 17 58 45.1 +0.5**
baz=74,SNR=52
W14A Seligman 73.53 322 P **P 17 58 45.7 +0.9**
baz=74,SNR=34
PV10 Paradox Valley 73.75 327 *e*P **P 17 58 45.6 -0.3**
BC3 Big Chuckw Mtn 73.79 319 P **P 17 58 46.7 +0.4**
baz=74,SNR=72
EFAM Famara 73.84 47 P **P 17 58 46.2 -0.4**
comp=Z,444nm,1.3s,mb6.0
MONP Monument Peak 73.84 318 P **P 17 58 47.1 +0.5**
baz=74,SNR=36
V14A Boquillas Ranc 73.85 322 P **P 17 58 47.6 +1.1**
baz=74,SNR=90
W13A Hualapai Mount 73.91 321⇓P **P 17 58 47.6 +0.7**
baz=74,SNR=41
IRM Iron Mountain 73.97 320⇓P **P 17 58 47.6 +0.3**
baz=74,SNR=45
T16A Glen Canyon Da 73.97 324⇓P **P 17 58 48.0 +0.8**
baz=74,SNR=8.2
NEE2 Needles Airpor 74.09 321⇑P **P 17 58 48.1 +0.2**
baz=74
109C Camp Elliot, M 74.26 318⇑P **P 17 58 48.9 -0.1**
baz=74
BELC Belle Mtn. 74.36 319 P **P 17 58 50.1 +0.6**
baz=75,SNR=30
PFO Pinyon Flat Ob 74.36 319 P **P 17 58 50.3 +0.7**
comp=Z,439nm,1.1s,mb6.1,SNR=22
PFO Pinyon Flat Ob 74.36 319 *e*P **P 17 58 49.8 +0.2**
PFO pmax pmax
comp=Z,97nm,1.1s,mb5.5
PFO Pinyon Flat Ob 74.36 319 *e*P **P 17 58 49.8 +0.3**
comp=Z,97nm,1.1s,mb5.5
PFO *ep*P pP 17 59 33.5 +0.2
PFO Pinyon Flat Ob 74.36 319 P **P 17 58 50.1 +0.5**
comp=Z,54nm,0.9s,mb5.3,baz=123,slow=5.2,SNR=62
PFO LR LR 18 26 42.3
comp=Z,443nm,21.5s,baz=137,slow=32
PFO Pinyon Flat Ob 74.36 319⇓P **P 17 58 50.1 +0.5**
baz=75,SNR=38
PHWY Pilot Hill 74.36 331 *e*P **P 17 58 48.9 -0.5**
PHWY *ep*P pP 17 59 33.2 +0.1
U14A Mt Trumbull 74.47 323⇑P **P 17 58 51.2 +1.1**
baz=75,SNR=96
VNDA Vanda 74.47 190 *e*P **P 17 58 49.9 +0.3**
VNDA pmax pmax
comp=Z,223nm,0.4s
VNDA Vanda 74.47 190 *e*P **P 17 58 49.9 +0.3**
comp=Z,223nm,0.4s,mb6.2
VNDA Vanda 74.47 190 P **P 17 58 50.4 +0.8**
comp=Z,68nm,0.9s,mb5.4,baz=138,slow=5.1,SNR=123
T15A Red Dirt Ranch 74.47 324⇑P **P 17 58 51.0 +0.9**
baz=75,SNR=67
V13A Grand Canyon W 74.50 322 P **P 17 58 51.0 +0.6**
baz=75,SNR=64
W12A Cal Nev Ari 74.61 321⇓P **P 17 58 51.2 +0.2**
baz=75,SNR=15
GMRC Granite Mounta 74.70 320⇑P **P 17 58 52.3 +0.8**
baz=75,SNR=102
MURC Murrieta 74.81 318⇓P **P 17 58 52.2 +0.1**
baz=75,SNR=13
T14A Hurricane 74.88 323⇑P **P 17 58 53.3 +0.8**
baz=75,SNR=39
V12A Nelson 74.91 321 P **P 17 58 53.0 +0.4**
baz=75,SNR=54
SRU San Rafael 75.06 326 *e*P **P 17 58 53.5 +0.1**
SRU *e**PP pP 17 59 33.3 -3.9
SRU pmax pmax
comp=Z,82nm,0.8s,mb5.4
SRU San Rafael 75.06 326 *e*P **P 17 58 53.5 +0.1**
comp=Z,82nm,0.8s,mb5.4
SRU *ep*P pP 17 59 33.3 -3.9
BBRC Big Bear Sol-O 75.09 319⇓P **P 17 58 54.6 +0.8**
baz=75
HEC Hector,Ludlow 75.13 320⇓P **P 17 58 54.7 +0.8**
baz=75,SNR=31
EYMN Ely 75.18 343 *e*P **P 17 58 52.3 -1.6**
comp=Z,155nm,1.4s,mb5.4
EYMN *ep*P pP 17 59 35.8 -1.9
SCI San Clemente I 75.21 317⇓P **P 17 58 54.6 +0.1**
baz=75,SNR=19
T13A Saint George 75.30 323 P **P 17 58 55.9 +1.0**
baz=76,SNR=27
V11A Goodsprings 75.32 321⇓P **P 17 58 55.4 +0.4**
baz=76,SNR=20
TUQ Turquoise Mtn. 75.32 320 P **P 17 58 55.6 +0.6**
baz=76,SNR=41
CCUT Cedar City 75.39 323⇓*i*P **P 17 58 56.4 +1.0**
CCUT *ep*P pP 17 59 37.6 -1.7
CIS Catalina Islan 75.41 317 P **P 17 58 55.8 +0.2**
baz=76,SNR=9.5
S14A Cedar City 75.44 324⇓P **P 17 58 56.5 +0.9**
baz=76,SNR=6.8
RWWY Rawlins 75.46 330⇓*i*P **P 17 58 55.9 +0.3**
comp=Z,445nm,1.8s,mb5.8
RWWY *ep*P pP 17 59 40.5 +0.9
MSU Marysvale 75.46 325 *e*P **P 17 58 56.2 +0.5**
MSU *ep*P pP 17 59 39.9 +0.3
BFSC Mount Baldy St 75.52 319 P **P 17 58 56.5 +0.3**
baz=76,SNR=37
T12A Moapa 75.54 322⇑P **P 17 58 56.5 +0.2**
baz=76
TMUT Trail Mountain 75.55 326⇓*i*P **P 17 58 56.4 +0.1**
FMP Fort Macarthur 75.55 318⇓P **P 17 58 56.5 +0.2**
baz=76
RRX Edison Barstow 75.56 319⇓P **P 17 58 56.9 +0.5**
baz=76
ARUT Antelope Range 75.61 324 *e*P **P 17 58 57.4 +0.8**
SUR Sutherland 75.64 119 P **P 17 58 59.0 +1.9**
comp=Z,482nm,1.3s,mb6.0,SNR=26
SUR Sutherland 75.64 119 *e*P **P 17 58 58.6 +1.5**
comp=Z,178nm,1.0s,mb5.7
S13A Holt Ranch, En 75.68 323 P **P 17 58 58.2 +1.2**
baz=76,SNR=108
U11A Corn Creek 75.70 321⇓P **P 17 58 58.0 +0.8**
baz=76,SNR=9.3
GSC Goldstone 75.74 320⇑*i*P **P 17 58 57.8 +0.4**
GSC pmax pmax
comp=Z,162nm,1.4s,mb5.5
GSC Goldstone 75.74 320⇑*i*P **P 17 58 57.8 +0.4**
comp=Z,162nm,1.4s,mb5.5
GSC *ep*P pP 17 59 42.0 +0.7
GSC Goldstone 75.74 320 P **P 17 58 57.9 +0.4**
baz=76,SNR=52
R14A James Farms, M 75.75 324⇓P **P 17 58 58.3 +0.9**
baz=76,SNR=17
SHOC Shoshone 75.85 321⇑P **P 17 58 58.0 0.0**
baz=76,SNR=18
DECC Green Verdugo 75.94 318⇓P **P 17 58 58.8 +0.2**
baz=76
SNCC San Nicolas Is 76.00 317 *e*P **P 17 58 58.7 -0.2**
comp=Z,350nm,1.6s,mb5.7
SNCC San Nicolas Is 76.00 317⇓P **P 17 58 58.9 -0.1**
baz=76,SNR=15
RSSD Black Hills 76.05 333 *e*P **P 17 58 57.7 -1.3**
RSSD pmax pmax
comp=Z,69nm,1.0s,mb5.2
RSSD Black Hills 76.05 333 *e*P **P 17 58 57.7 -1.3**
comp=Z,69nm,1.0s,mb5.2
RSSD *ep*P pP 17 59 42.9 +0.1
EDW2 Edwards Air Fo 76.16 319⇑P **P 17 58 59.7 -0.1**
baz=76,SNR=30
T11A Corn Creek, Al 76.19 322 P **P 17 59 00.9 +1.0**
baz=76,SNR=123
U10A Ash Meadows, A 76.24 321⇑P **P 17 59 01.0 +0.7**
baz=76,SNR=42
S12A Delamar Landin 76.25 323 P **P 17 59 01.4 +1.1**
baz=76,SNR=17
BLG Laguna Peak 76.29 318⇓P **P 17 59 00.4 -0.2**
baz=76,SNR=11
MPU Maple Canyon 76.30 326⇓*i*P **P 17 59 00.7 +0.2**
comp=Z,127nm,1.1s,mb5.5
MPU *ep*P pP 17 59 45.9 +1.5
MPU *es*P sP 18 00 07.4 +3.7
LRMC Laurel Mountai 76.38 319 P **P 17 59 01.3 +0.2**
baz=77,SNR=39
DAU Daniels Canyon 76.41 327 *e*P **P 17 59 01.4 +0.3**
OSI Osito Adit 76.42 318⇑P **P 17 59 01.2 0.0**
baz=77
PPT Papeete 76.46 257 P **P 17 59 02.5 +0.5**
PPT pmax pmax
comp=Z,56nm,0.3s
PPT Papeete 76.46 257 *e*P **P 17 59 02.8 +0.9**
PPT Papeete 76.46 257 P **P 17 59 02.5 +0.6**
comp=Z,56nm,0.3s,mb5.7,baz=358,slow=21,SNR=13
NLU North Lily Min 76.48 326 *e*P **P 17 59 00.9 -0.6**
BSC Santa Cruz Isl 76.56 317 P **P 17 59 02.3 +0.2**
baz=77,SNR=31
TPNV Topopah Spring 76.57 321⇓*i*P **P 17 59 02.6 +0.5**
TPNV *ep*P pP 17 59 46.2 +0.2
TPNV Topopah Spring 76.57 321⇓P **P 17 59 02.9 +0.9**
baz=77
FURC Furnace Creek, 76.58 321 P **P 17 59 02.7 +0.6**
baz=77,SNR=55
TOA0 Torodi Ar. Sit 76.61 69⇑*i*P **P 17 59 02.3 -0.4**
TORD Torodi Ar. Bea 76.61 69 P **P 17 59 02.5 -0.2**
TORD pP pP 17 59 45.7 -1.0
TORD S S 18 08 32.1 -2.2
TORD LR LR 18 33 32.5
TORD Torodi Ar. Bea 76.61 69 P **P 17 59 02.5 -0.2**
comp=Z,530nm,1.2s,mb6.0,baz=261,slow=5.7,SNR=829
TORD pP pP 17 59 45.7 -1.0
comp=Z,9.7nm,0.5s,baz=257,slow=5.6,SNR=0.7
TORD S S 18 08 32.1 -2.2
comp=Z,1.9nm,0.8s,baz=251,slow=11,SNR=5.2
TORD LR LR 18 33 32.5
comp=Z,1µm,18.5s,baz=240,slow=36
R12A Pony Springs, 76.63 323 P **P 17 59 03.6 +1.2**
baz=77,SNR=100
JLU Jordanelle 76.65 327⇓*i*P **P 17 59 02.9 +0.4**
JLU *ep*P pP 17 59 45.2 -1.2
MPMC Manual Prospec 76.67 320⇑P **P 17 59 02.8 +0.2**
baz=77,SNR=47
AGMN Agassiz Refuge 76.73 341⇓*i*P **P 17 59 01.5 -1.1**
comp=Z,118nm,1.1s,mb5.4
AGMN *ep*P pP 17 59 46.5 -0.2
Q13A Wheeler Ranch, 76.77 324 P **P 17 59 03.9 +0.8**
baz=77,SNR=74
S11A Rachel 76.77 322⇑P **P 17 59 04.4 +1.2**
baz=77
ARVC Arvin 76.83 319⇑P **P 17 59 03.7 +0.1**
baz=77
CTU Camp Tracy 76.87 327⇓*i*P **P 17 59 03.5 -0.1**
comp=Z,23nm,1.0s,mb4.8
CTU *ep*P pP 17 59 49.1 +1.5
SBC Santa Barbara 76.91 317⇑P **P 17 59 04.0 -0.1**
baz=77
NOQ North Oquirrh 77.03 326 *e*P **P 17 59 04.3 -0.2**
comp=Z,62nm,1.2s,mb5.1
DUG Dugway 77.04 326⇓*i*P **P 17 59 04.8 +0.2**
DUG pmax pmax
comp=Z,121nm,1.2s,mb5.4
DUG Dugway 77.04 326⇓*i*P **P 17 59 04.8 +0.2**
comp=Z,121nm,1.2s,mb5.4
DUG *ep*P pP 17 59 49.5 +0.9
DUG Dugway 77.04 326⇑P **P 17 59 05.2 +0.6**
baz=77
P13A Bates Ranch, G 77.13 324 P **P 17 59 06.0 +0.8**
baz=77,SNR=108
R11A Troy Canyon, C 77.18 323 P **P 17 59 06.4 +0.9**
baz=77,SNR=97
GRAC Grapevine Rang 77.25 321 P **P 17 59 06.5 +0.7**
baz=78,SNR=26
Q12A Willow Creek R 77.26 324 P **P 17 59 06.5 +0.7**
baz=78,SNR=52
CWC Cottonwood Cre 77.27 320⇑P **P 17 59 06.6 +0.6**
baz=78,SNR=8.6
PKM Peak Mountain 77.28 318 P **P 17 59 06.7 +0.6**
baz=78,SNR=73
N15A Stansbury Isla 77.41 326⇓P **P 17 59 06.7 +0.1**
baz=78,SNR=12
S10A Tonopah Range, 77.44 322 P **P 17 59 07.5 +0.6**
baz=78,SNR=69
VES Vestal, Richgr 77.46 319 P **P 17 59 07.2 +0.2**
baz=78,SNR=27
HWUT Hardware Ranch 77.47 327⇓*i*P **P 17 59 06.7 -0.2**
comp=Z,210nm,1.3s,mb5.6
HWUT *ep*P pP 17 59 49.2 -1.8
TSUM Tsumeb 77.53 106⇑*i*P **P 17 59 08.0 +0.1**
comp=Z,79nm,1.0s,mb5.3
TSUM *ep*P pP 17 59 49.2 -2.8
R10A Warm Springs 77.54 322 P **P 17 59 08.7 +1.3**
baz=78,SNR=108
Q11A Duckwater 77.57 323⇓P **P 17 59 08.2 +0.6**
baz=78
O13A Hicks Ranch, I 77.60 325⇓P **P 17 59 08.3 +0.6**
baz=78,SNR=5.8
P12A McGill 77.62 324 P **P 17 59 08.6 +0.8**
baz=78,SNR=28
S09A Goldfield 77.66 321⇑P **P 17 59 08.5 +0.4**
baz=78,SNR=20
SMMC Simmler 77.66 318⇑P **P 17 59 08.8 +0.6**
baz=78,SNR=25
SPUT South Promonto 77.68 327⇓*i*P **P 17 59 08.3 +0.1**
SPUT *ep*P pP 17 59 52.7 +0.5
BGU Big Grassy Mou 77.69 326⇓*i*P **P 17 59 08.1 -0.1**
BGU *ep*P pP 17 59 51.4 -0.9
N14A Grayback Hills 77.72 326 P **P 17 59 08.6 +0.3**
baz=78,SNR=38
TIN Tinemaha 77.78 320⇑P **P 17 59 09.4 +0.6**
baz=78,SNR=8.0
M15A Larsen Ranch, 77.80 327 P **P 17 59 08.9 +0.2**
baz=78,SNR=28
TPH Tonopah 77.91 322⇓*i*P **P 17 59 09.7 +0.2**
TPH pmax pmax
comp=Z,130nm,1.2s,mb5.4
TPH Tonopah 77.91 322⇓*i*P **P 17 59 09.7 +0.2**
comp=Z,130nm,1.2s,mb5.4
TPH *ep*P pP 17 59 53.9 +0.3
R09A Tonopah 77.94 322 P **P 17 59 10.1 +0.4**
baz=78,SNR=58
Q10A Clear Creek Ra 77.97 323 P **P 17 59 10.7 +0.9**
baz=78,SNR=64
V05C Boulder Hill, 77.97 318⇓P **P 17 59 10.4 +0.5**
baz=78,SNR=6.8
HELL Mitchell Peak 77.99 320 P **P 17 59 09.9 -0.1**
baz=78,SNR=102
PTRM Twissleman Ran 78.02 318 *e*P **P 17 59 10.7 +0.5**
PTRM *ep*P pP 17 59 55.5 +1.2
S08C White Mtn Res 78.05 321 P **P 17 59 10.9 +0.6**

baz=78,SNR=42
O12A Currie 78.10 325 ⇑P P 17 59 10.8 +0.3
baz=78,SNR=31
AHID Auburn Hatcher 78.12 328⇓iP P 17 59 10.3 -0.1
comp=Z,166nm,1.0s,mb5.6
AHID epP pP 17 59 53.7 -1.0
P11A Circle Ranch, 78.13 324 ⇓P P 17 59 11.4 +0.7
baz=78
MTUM Tungsten Hills 78.18 320⇓iP P 17 59 11.1 +0.1
HVU Hansel Valley 78.19 327⇓iP P 17 59 10.6 -0.4
HVU pmax pmax
comp=Z,114nm,1.1s,mb5.4
HVU Hansel Valley 78.19 327⇓iP P 17 59 10.6 -0.4
comp=Z,114nm,1.1s,mb5.4
HVU epP pP 17 59 57.0 +1.9
N13A Wendover, West 78.25 325 ⇓P P 17 59 11.2 0.0
baz=78,SNR=11
M14A Sheep Mountain 78.28 326 P P 17 59 11.7 +0.2
baz=78,SNR=111
Q09A Carvers 78.41 322 P P 17 59 12.8 +0.6
baz=79,SNR=16
V04C Ramage Ranch, 78.41 318 ⇓P P 17 59 12.8 +0.5
baz=79,SNR=9.6
PKD Parkfield 78.41 318 ⇓P P 17 59 12.3 0.0
baz=79,SNR=26
REDW Red Top Meadow 78.45 329⇓iP P 17 59 12.3 -0.1
comp=Z,212nm,1.3s,mb5.6
REDW epP pP 17 59 55.8 -0.7
ULM Lac du Bonnet 78.48 342⇓iP P 17 59 11.2 -1.1
comp=Z,166nm,1.4s,mb5.5
ULM epP pP 17 59 54.1 -2.4
ULM Lac du Bonnet 78.48 342 P P 17 59 11.3 -0.9
comp=Z,48nm,0.7s,mb5.2,baz=156,slow=6.1,SNR=69
ULM pP pP 17 59 55.1 -1.4
comp=Z,30nm,0.8s,baz=147,slow=6.0,SNR=4.5
SNOW Snow King Moun 78.48 329 eP P 17 59 12.6 +0.1
comp=Z,114nm,1.0s,mb5.5
O11A Cowboy Ranch, 78.49 324 P P 17 59 13.2 +0.6
baz=79,SNR=48
LOHW Long Hollow 78.53 329⇓iP P 17 59 12.8 0.0
comp=Z,192nm,1.3s,mb5.6
LOHW epP pP 17 59 57.5 +0.6
MLAC Mammoth Lakes 78.53 320 ⇓P P 17 59 13.5 +0.6
baz=79,SNR=8.9
P10A Eureka 78.56 323 ⇓P P 17 59 13.9 +0.8
baz=79,SNR=31
M13A Montello 78.59 326 ⇓P P 17 59 13.1 -0.1
baz=79,SNR=20
TPAW Teton Pass 78.60 329⇓iP P 17 59 13.3 +0.2
comp=Z,139nm,1.1s,mb5.5
TPAW epP pP 17 59 57.5 +0.2
R08A Mina 78.60 321 ⇓P P 17 59 13.7 +0.4
baz=79
KCC Kaiser Creek 78.60 320 P P 17 59 13.0 -0.3
baz=79,SNR=28
T06C Milleton Lake 78.62 319 P P 17 59 12.3 -1.1
baz=79,SNR=12
N12A Clover Valley 78.68 325 P P 17 59 13.8 +0.2
baz=79,SNR=37
SCHQ Schefferville 78.75 0 P P 17 59 13.1 -0.6
comp=Z,14nm,0.4s,mb4.9,baz=180,slow=3.7,SNR=55
SCHQ pP pP 17 59 57.0 -0.9
comp=Z,25nm,1.0s,baz=189,slow=1.5,SNR=2.3
NVAR Mina Array Bea 78.77 321 P P 17 59 14.4 +0.3
NVAR pP pP 17 59 58.0 -0.4
NVAR PKKPbc PKKPbc 18 18 08.3 -0.6
NVAR Mina Array Bea 78.77 321 P P 17 59 14.4 +0.3
comp=Z,29nm,1.0s,mb4.9,baz=156,slow=7.1,SNR=137
NVAR pP pP 17 59 58.0 -0.4
comp=Z,12nm,1.1s,baz=138,slow=11,SNR=1.8
NVAR PKKPbc PKKPbc 18 18 08.3 -0.6
comp=Z,0.2nm,0.6s,baz=11,slow=0.8,SNR=3.7
DCID1 Drake Creek 78.79 329 eP P 17 59 14.1 -0.1
U04C Hernandez Rese 78.84 318 P P 17 59 14.9 +0.3
baz=79,SNR=35
Q08A Gabbs 78.85 322 P P 17 59 14.8 +0.2
baz=79,SNR=58
P09A Austin 78.89 323 ⇓P P 17 59 15.1 +0.3
baz=79
V03C Hunter Liggett 78.89 318 P P 17 59 15.6 +0.7
baz=79,SNR=16
IMW Indian Meadow 78.90 329⇓iP P 17 59 14.0 -0.8
comp=Z,169nm,1.1s,mb5.6
IMW epP pP 17 59 58.5 -0.5
FLWY Flagg Ranch 78.93 329⇓iP P 17 59 15.6 +0.7
comp=Z,331nm,1.4s,mb5.8
R07C Lee Vining 78.96 321 ⇑P P 17 59 16.1 +0.8
baz=79,SNR=44
K14A Jones Ranch, D 78.96 327 ⇑P P 17 59 15.1 0.0
baz=79,SNR=21
L13A Double Diamond 79.01 326 ⇑P P 17 59 16.0 +0.5
baz=79,SNR=26
M12A Wells 79.02 325 ⇑P P 17 59 15.7 +0.2
baz=79
N11A Elko Archery C 79.02 324 ⇓P P 17 59 15.7 +0.2
baz=79
LAO LASA Array 79.04 334⇓iP P 17 59 15.1 -0.4
comp=Z,158nm,1.0s,mb5.6
LAO epP pP 17 59 60.0 +0.3
O10A Cortez Mining, 79.06 324 P P 17 59 16.1 +0.4
baz=79,SNR=30
RLMT Red Lodge 79.09 331⇓iP P 17 59 16.0 +0.3
comp=Z,182nm,1.4s,mb5.5
RLMT epP pP 17 59 59.6 -0.4
T05C Eagle Field, D 79.12 319 ⇓P P 17 59 16.4 +0.3
baz=79
LKWY Lake 79.16 330 P P 17 59 18.2 +2.0
LKWY pmax pmax
comp=Z,130nm,1.4s,mb5.4
LKWY Lake 79.16 330 eP P 17 59 17.9 +1.7
comp=Z,125nm,1.4s,mb5.3
S05C Merced 79.21 319 ⇑P P 17 59 16.8 +0.2
baz=79,SNR=16
YFT Old Faithful 79.28 330 eP P 17 59 18.2 +1.4
S06C San Francisco 79.29 320 P P 17 59 17.2 +0.2
baz=80,SNR=60
O09A Fish Creek Ran 79.35 323 P P 17 59 17.0 -0.3
baz=80,SNR=23
N10A Dunphy 79.36 324 ⇓P P 17 59 17.6 +0.3
baz=80
Q07A Schurz 79.40 321 ⇓P P 17 59 18.3 +0.7
baz=80
R06C Coleville 79.49 321 P P 17 59 18.8 +0.7
baz=80,SNR=45
M11A Holland Ranch, 79.49 325 P P 17 59 18.7 +0.7
baz=80,SNR=121
K13A Stover Farm, H 79.49 327 ⇑P P 17 59 18.4 +0.4
baz=80,SNR=33
SAO San Andreas Ge 79.50 318 P P 17 59 18.0 -0.2
SAO pmax pmax
comp=Z,56nm,1.3s,mb5.0
SAO San Andreas Ge 79.50 318 eP P 17 59 17.4 -0.8
comp=Z,56nm,1.4s,mb5.0
YMR Madison River 79.50 330 eP P 17 59 18.4 +0.4
comp=Z,411nm,1.3s,mb5.9
YMR epP pP 18 00 01.9 -0.4
P08A Dixie Valley 79.51 322 ⇑P P 17 59 18.6 +0.4
baz=80,SNR=5.5
BMN Battle Mountai 79.55 323 P P 17 59 18.1 -0.3
BMN pmax pmax
comp=Z,42nm,1.1s,mb5.0
BMN Battle Mountai 79.55 323 eP P 17 59 17.6 -0.8
comp=Z,42nm,1.1s,mb5.0
PACP Pacheco Peak 79.56 319 ⇓P P 17 59 18.8 +0.2
baz=80,SNR=18
L12A House Creek Ra 79.60 326 P P 17 59 19.3 +0.7
baz=80,SNR=58
CMB Columbia Colle 79.71 320 P P 17 59 19.0 -0.3
CMB pmax pmax
comp=Z,98nm,1.6s,mb5.2
CMB Columbia Colle 79.71 320⇓iP P 17 59 18.7 -0.5
comp=Z,98nm,1.7s,mb5.2
CMB Columbia Colle 79.71 320 P P 17 59 19.1 -0.2
baz=80,SNR=21
DGMT Dagmar 79.71 336⇓iP P 17 59 19.1 +0.1
comp=Z,661nm,1.5s,mb6.0
DGMT epP pP 18 00 02.6 -0.8
GCMT Greycliff 79.78 331 eP P 17 59 19.7 +0.2
QLMT Earthquake Lak 79.84 330 eP P 17 59 20.6 +0.8
P07A Fallon 79.86 322 ⇓P P 17 59 20.6 +0.6
baz=80
K12A Draper Farm, C 79.90 326 P P 17 59 21.1 +0.9
baz=80,SNR=78
S04C Ingram Canyon, 79.92 319 P P 17 59 20.5 +0.1
baz=80,SNR=14
M10A I.L. Ranch, Tu 79.95 324 P P 17 59 20.9 +0.4
baz=80,SNR=40

O08A Rochester Mine 79.96 323 ⇑P P 17 59 20.4 -0.2
baz=80
R05C Kirkwood Meado 79.97 321 P P 17 59 21.3 +0.6
baz=80,SNR=43
L11A Cat Creek Ranc 80.00 325 P P 17 59 21.3 +0.6
baz=80,SNR=98
N09A Rock Creek Ran 80.01 323 ⇓P P 17 59 20.3 -0.5
baz=80,SNR=5.8
J13A Cove Ranch, Pi 80.09 327 P P 17 59 21.9 +0.7
baz=80,SNR=64
R04C Big Horse Ranc 80.18 320 P P 17 59 22.0 +0.2
baz=80,SNR=8.4
BNLO Ben Lomond (Sa 80.18 318 ⇑P P 17 59 21.8 0.0
baz=80,SNR=7.2
WCN Washoe City 80.19 321 P P 17 59 22.4 +0.6
baz=80,SNR=16
WENL Wente Brothers 80.25 319 ⇑P P 17 59 22.6 +0.4
baz=80
PAHR Pah Rah Range 80.25 322 eP P 17 59 22.4 +0.2
comp=Z,225nm,1.1s,mb5.7
PAHR epP pP 18 00 06.1 -0.4
N08A GE Springer Mi 80.29 323 P P 17 59 21.8 -0.5
baz=80,SNR=42
L10A Juniper Basin 80.31 325 P P 17 59 22.9 +0.5
baz=80,SNR=133
HLID Hailey 80.33 327 eP P 17 59 23.1 +0.6
comp=Z,188nm,1.0s,mb5.7
HLID epP pP 18 00 05.8 -1.0
HLID ePP PP 18 02 23.2 -5.1
HLID Hailey 80.33 327 P P 17 59 23.4 +1.0
baz=81,SNR=173
M09A Marrel Ranch, 80.36 324 P P 17 59 22.9 +0.2
baz=81,SNR=33
LAVA Lava Cap Winer 80.39 320 P P 17 59 22.8 -0.1
baz=81,SNR=14
JRSC Jasper Ridge 80.40 318 ⇓P P 17 59 22.9 -0.1
baz=81
I13A Wildhorse Cree 80.44 327 P P 17 59 24.1 +1.0
baz=81,SNR=159
J12A Stokes Ranch, 80.44 326 P P 17 59 23.6 +0.5
baz=81,SNR=142
MCMT McKenzie Canyo 80.50 329⇓eP P 17 59 24.3 +0.9
MCMT epP pP 18 00 08.7 +0.9
P06A Stead Airport, 80.52 321 ⇓P P 17 59 23.9 +0.3
baz=81
BDM Black Diamond 80.53 319 ⇓P P 17 59 24.1 +0.4
baz=81,SNR=9.1
BOZ Bozeman (W) 80.55 330⇓iP P 17 59 23.2 -0.4
BOZ pmax pmax
comp=Z,58nm,1.4s,mb5.0
BOZ Bozeman (W) 80.55 330⇓iP P 17 59 23.2 -0.4
comp=Z,58nm,1.4s,mb5.0
BOZ epP pP 18 00 06.9 -1.1
BOZ Bozeman (W) 80.55 330 ⇓P P 17 59 23.4 -0.2
baz=81
BOSA Boshof 80.57 117 P P 17 59 24.5 +0.2
BOSA pmax pmax
comp=Z,112nm,0.9s,mb5.5
BOSA Boshof 80.57 117⇑iP P 17 59 24.3 0.0
comp=Z,148nm,1.0s,mb5.6
BOSA Boshof 80.57 117 P P 17 59 24.5 +0.2
comp=Z,112nm,0.9s,mb5.5,baz=251,slow=5.6,SNR=113
K11A Parker Ranch, 80.57 326 ⇑P P 17 59 24.1 +0.3
baz=81
G15A Dillon 80.59 329 P P 17 59 24.1 +0.3
baz=81,SNR=71
P05C Yuba Gap, Truc 80.68 321 P P 17 59 24.9 +0.5
baz=81,SNR=37
N07B Gerlach 80.75 323 P P 17 59 23.8 -1.0
baz=81,SNR=116
DLMT Dillon 80.78 329⇓iP P 17 59 25.1 +0.2
comp=Z,171nm,1.3s,mb5.5
DLMT epP pP 18 00 09.3 +0.1
O06A Flanigan 80.81 322 ⇑P P 17 59 25.2 0.0
baz=81
Q04C Lincoln 80.82 320 ⇓P P 17 59 25.6 +0.3
baz=81
M08A Happy Creek Ra 80.89 323 P P 17 59 25.5 0.0
baz=81,SNR=64
L09A Wilkinson Ranc 80.90 324 ⇓P P 17 59 25.6 +0.1
baz=81,SNR=23
BEKR Beckwourth 80.91 321 P P 17 59 26.0 +0.3
baz=81,SNR=42
MFID Camas Ranch 80.93 326 P P 17 59 26.1 +0.5
baz=81,SNR=43
H13A Challis 80.98 328 P P 17 59 26.7 +0.8
baz=81,SNR=228
K10A MacKenzie Ranc 81.01 325 P P 17 59 26.2 +0.1
baz=81,SNR=83
FARB Farallon Islan 81.05 318 ⇓P P 17 59 26.2 -0.3
baz=81
Q03C Winters 81.06 319 ⇑P P 17 59 27.2 +0.7
baz=81
F15A Butte 81.09 330 P P 17 59 26.9 +0.5
baz=81,SNR=129
CVS Carmenet Viney 81.14 319 ⇑P P 17 59 26.6 -0.4
baz=81,SNR=13
MAW Mawson 81.18 163⇓iP P 17 59 26.9 +0.1
comp=Z,78nm,1.2s,mb5.2
MAW Mawson 81.18 163 P P 17 59 27.1 +0.3
MAW pmax pmax
comp=Z,76nm,0.9s
MAW MLR MLR
comp=Z,408nm,20.2s
MAW Mawson 81.18 163 P P 17 59 27.1 +0.4
comp=Z,76nm,0.9s,mb5.3,baz=224,slow=6.6,SNR=72
MAW LR LR 18 34 33.0
comp=Z,408nm,20.2s,baz=221,slow=35
N06A Buffalo Meadow 81.21 322 P P 17 59 27.4 +0.2
baz=81,SNR=76
OHCM Honcut 81.21 320 eP P 17 59 26.8 -0.5
OHCM epP pP 18 00 12.6 +0.9
H12A Diamond D Ranc 81.26 328 P P 17 59 27.9 +0.6
baz=82,SNR=102
MCCM Marconi Confer 81.26 319 eP P 17 59 26.8 -0.7
comp=Z,367nm,1.8s,mb5.7
MCCM Marconi Confer 81.26 319 ⇓P P 17 59 27.3 -0.3
baz=82
M07A Soldier Meadow 81.28 323 P P 17 59 27.7 +0.2
baz=82,SNR=118
O05C Quincy 81.30 321 ⇓P P 17 59 27.9 +0.2
baz=82,SNR=18
SUTB Sutter Butte 81.32 320 ⇓P P 17 59 27.3 -0.5
baz=82,SNR=5.1
NSHM Saint Helena R 81.34 319 eP P 17 59 27.8 -0.2
NSHM epP pP 18 00 11.0 -1.4
I11A Placerville 81.35 327 ⇓P P 17 59 27.8 -0.1
baz=82,SNR=19
G13A Cobalt 81.36 328 P P 17 59 28.7 +0.8
baz=82,SNR=342
ORV Oroville 81.36 320 P P 17 59 28.0 0.0
baz=82,SNR=77
L08A Fields 81.38 324 P P 17 59 28.1 0.0
baz=82,SNR=56
K09A Rome 81.40 325 P P 17 59 28.3 +0.1
baz=82,SNR=85
J10A Berg Farm, Mel 81.42 326 ⇑P P 17 59 27.9 -0.3
baz=82
HRY Holter Researc 81.45 331 eP P 17 59 28.5 +0.1
HRY epP pP 18 00 13.4 +0.6
MNRC McLaughlin Nat 81.48 319 ⇑P P 17 59 28.6 -0.1
baz=82
F14A Wisdom 81.48 329 P P 17 59 29.4 +0.9
baz=82,SNR=72
EGMT Eagleton 81.56 333⇓iP P 17 59 28.1 -0.7
comp=Z,142nm,1.1s,mb5.5
EGMT epP pP 18 00 12.7 -0.6
EGMT Eagleton 81.56 333 ⇓P P 17 59 28.5 -0.4
baz=82
E15A Deer Lodge 81.60 330 P P 17 59 29.5 +0.4
baz=82,SNR=66
ELFS Eagle Lake Fie 81.62 322 P P 17 59 29.7 +0.3
baz=82,SNR=73
O04C Chester 81.63 321 ⇑P P 17 59 29.2 -0.3
baz=82,SNR=21
WVOR Wild Horse Val 81.70 324 P P 17 59 29.5 -0.3
WVOR pmax pmax
comp=Z,94nm,1.6s,mb5.2
WVOR Wild Horse Val 81.70 324 eP P 17 59 28.9 -0.9
comp=Z,94nm,1.6s,mb5.2
L07A Adell 81.80 323 P P 17 59 30.9 +0.6
baz=82,SNR=75
K08A Mann Creek Ran 81.83 324 P P 17 59 30.5 +0.1
baz=82,SNR=33
J09A Fry Pan Ranch, 81.87 325 P P 17 59 30.6 0.0
baz=82,SNR=45
M06C Likely Place G 81.88 322 ⇑P P 17 59 30.8 +0.1

baz=82,SNR=13
I10A Payette 81.90 326 ⇓P P 17 59 31.0 +0.2
baz=82,SNR=5.5
HOPS Hopland 81.92 319 ⇑P P 17 59 31.2 +0.1
baz=82
H11A Donnelly 81.94 327 P P 17 59 31.1 +0.2
baz=82,SNR=26
O03C Acorn Hollow, 81.96 320 ⇑P P 17 59 30.0 -1.2
baz=82
E14A Clinton 81.99 330 ⇑P P 17 59 31.6 +0.4
baz=82,SNR=72
GASB Alder Springs 82.14 320 ⇑P P 17 59 32.6 +0.4
baz=82,SNR=22
MDT Midelt 82.14 49 LR LR 18 36 07.8
comp=Z,876nm,19.4s,baz=298,slow=36
HATC Hat Creek Radi 82.17 321 ⇓P P 17 59 31.9 -0.4
baz=82,SNR=8.5
K07A Rock Creek Ran 82.21 324 P P 17 59 32.9 +0.5
baz=82,SNR=159
H10A Noah's Angus R 82.23 327 P P 17 59 32.4 -0.1
baz=82,SNR=48
LBTB Lobatse 82.24 114 P P 17 59 33.7 +0.6
LBTB pmax pmax
comp=Z,56nm,0.5s,mb5.5
LBTB Lobatse 82.24 114⇑eP P 17 59 32.9 -0.2
comp=Z,126nm,1.0s,mb5.5
LBTB Lobatse 82.24 114 P P 17 59 33.6 +0.5
comp=Z,56nm,0.5s,mb5.5,baz=268,slow=6.4,SNR=152
CHMT Chamberlain Mo 82.25 330 eP P 17 59 32.4 -0.1
CHMT epP pP 18 00 17.2 +0.2
MOD Modoc 82.25 323⇑iP P 17 59 32.5 -0.2
comp=Z,113nm,1.2s,mb5.4
MOD epP pP 18 00 14.7 -2.5
MOD Modoc 82.25 323 P P 17 59 32.8 +0.2
baz=82,SNR=63
J08A Circle Bar Ran 82.26 325 P P 17 59 33.0 +0.4
baz=82,SNR=104
I09A Lost Marbles R 82.30 326 ⇓P P 17 59 33.0 +0.1
baz=82,SNR=16
E13A Victor 82.33 329 P P 17 59 33.5 +0.6
baz=83,SNR=80
F12A Elk City 82.33 328 P P 17 59 33.0 0.0
baz=83,SNR=72
M05C Lookout 82.35 322 P P 17 59 33.1 -0.1
baz=83,SNR=30
P01C Double 8 Ranch 82.39 319 ⇑P P 17 59 33.6 +0.2
baz=83,SNR=11
MSO Missoula 82.50 330⇓iP P 17 59 33.5 -0.2
comp=Z,61nm,1.4s,mb5.1
MSO epP pP 18 00 18.3 -0.1
MSO ePP PP 18 02 47.0 +1.0
O02C Red Bluff 82.52 320 P P 17 59 33.5 -0.6
baz=83,SNR=15
G11A Walters Elk Ra 82.57 327 P P 17 59 34.4 +0.2
baz=83,SNR=103
L05A Lakeview 82.64 323 P P 17 59 35.2 +0.5
baz=83,SNR=68
WDC Whiskeytown Da 82.64 321 P P 17 59 32.8 -1.9
WDC pmax pmax
comp=Z,34nm,0.8s,mb5.1
WDC Whiskeytown Da 82.64 321⇓iP P 17 59 32.6 -2.1
comp=Z,34nm,0.8s,mb5.1
WDC Whiskeytown Da 82.64 321 ⇑P P 17 59 33.0 -1.7
baz=83,SNR=27
KCPM Cahto Peak 82.67 319⇓iP P 17 59 35.2 +0.3
KCPM epP pP 18 00 20.9 +1.4
I08A Drewsey 82.69 325 P P 17 59 35.4 +0.5
baz=83,SNR=31
BMO Blue Mountains 82.70 326⇓iP P 17 59 34.4 -0.4
comp=Z,133nm,1.4s,mb5.5
BMO epP pP 18 00 18.3 -1.2
J07A Hines 82.71 324 ⇑P P 17 59 35.1 +0.2
baz=83,SNR=30
H09A Durkee 82.75 326 P P 17 59 35.2 +0.1
baz=83,SNR=15
K06A Valley Falls 82.82 323 P P 17 59 36.0 +0.4
baz=83,SNR=95
M03C McCloud 82.85 321 ⇓P P 17 59 34.9 -0.9
baz=83,SNR=8.5
F11A Grangeville 82.87 328 ⇓P P 17 59 35.3 -0.4
baz=83
G10A Bishop Farm, J 82.92 327 P P 17 59 36.4 +0.4
baz=83,SNR=60
D13A Huson 82.94 329 P P 17 59 36.3 +0.2
baz=83,SNR=81
M04C Macdoel 83.02 322 ⇑P P 17 59 36.3 -0.3
baz=83,SNR=17
EGRO El Granado 83.05 44 P P 17 59 35.9 -1.0
comp=Z,189nm,1.4s,mb5.6
O01C Eel River Cons 83.10 320 ⇓P P 17 59 37.5 +0.4
baz=83,SNR=5.3
K05A Summer Lake 83.12 323 ⇑P P 17 59 37.6 +0.4
baz=83,SNR=80
H08A Prairie City 83.16 326 P P 17 59 37.3 0.0
baz=83,SNR=27
E11A Bogner Ranch, 83.23 328 P P 17 59 37.0 -0.6
baz=84,SNR=28
N02C Big Bar 83.24 320 P P 17 59 37.8 0.0
baz=83,SNR=28
HOG Hogback Mounta 83.25 322 P P 17 59 37.9 +0.1
I07A Izee 83.30 325 P P 17 59 38.3 +0.3
baz=84,SNR=66
L04A Klamath Falls 83.31 322 P P 17 59 38.0 -0.1
baz=84,SNR=14
EVO Evora 83.33 43⇑iP P 17 59 38.7 +0.4
comp=Z,62nm,0.9s,mb5.0
EVO epP pP 18 00 23.4 +0.5
EVO eMLR MLR
comp=Z,1μm,23.0s
M02C Callahan 83.34 321 P P 17 59 37.5 -0.7
baz=84,SNR=16
C13A Hot Springs 83.42 330 P P 17 59 38.7 +0.2
baz=84,SNR=48
F10A Beach Ranch, E 83.45 327 P P 17 59 38.7 0.0
baz=84,SNR=24
VSP Spence Mountai 83.45 322 P P 17 59 38.8 0.0
YBH Yreka Blue Hor 83.48 321 P P 17 59 37.8 -1.2
YBH pmax pmax
comp=Z,110nm,1.6s
YBH Yreka Blue Hor 83.48 321⇓iP P 17 59 37.1 -1.8
comp=Z,109nm,1.6s,mb5.3
YBH Yreka Blue Hor 83.48 321 P P 17 59 37.6 -1.3
comp=Z,18nm,0.8s,mb4.8,baz=92,slow=3.3,SNR=46
YBH Yreka Blue Hor 83.48 321 ⇓P P 17 59 37.5 -1.4
baz=84,SNR=17
K04A Chilquin 83.51 323 ⇑P P 17 59 39.2 +0.1
baz=84
I06A Prineville 83.58 324 P P 17 59 40.0 +0.7
baz=84,SNR=52
JCC Jacoby Creek 83.66 320 ⇓P P 17 59 39.9 0.0
baz=84
J05A Fort Rock 83.68 323 ⇑P P 17 59 40.2 +0.2
baz=84,SNR=76
ESPR Espera 83.69 45 P P 17 59 38.7 -1.5
comp=Z,90nm,1.0s,mb5.5
EJIF Jimena Fronter 83.69 45 P P 17 59 41.7 +1.5
EJIF pmax pmax
comp=Z,18nm,0.7s,mb4.9
EJIF Jimena Fronter 83.69 45 P P 17 59 41.7 +1.6
comp=Z,18nm,0.7s,mb4.9
EMIN Mina Concepcio 83.70 44 P P 17 59 39.7 -0.5
comp=Z,170nm,1.5s,mb5.5
E10A Myers Farm, Un 83.76 328 P P 17 59 40.2 -0.1
baz=84,SNR=27
D11A Klavearno Farm, 83.78 329 P P 17 59 39.8 -0.6
baz=84,SNR=5.8
G08A Pilot Rock 83.84 326 P P 17 59 40.6 -0.1
baz=84,SNR=34
B13A Whitefish 83.88 330 P P 17 59 40.8 -0.1
baz=84,SNR=24
KRMB Red Mountain 84.04 321⇓iP P 17 59 41.4 -0.4
KRMB epP pP 18 00 25.3 -1.2
EBAD Badajoz 84.09 43 P P 17 59 41.5 -0.6
comp=Z,378nm,1.9s,mb5.8
J04A Umpqua Nationa 84.13 323 P P 17 59 42.4 +0.1
baz=84,SNR=28
WALA Waterton Lakes 84.14 331⇓iP P 17 59 41.6 -0.5
comp=Z,59nm,0.9s,mb5.3
WALA epP pP 18 00 25.6 -1.2
H06A Lindquist Farm 84.18 325 P P 17 59 42.9 +0.5
baz=84,SNR=47
G07A Ruggs Ranch, H 84.19 326 P P 17 59 42.9 +0.4
baz=84,SNR=38
HUMO Hull Mountain 84.19 322⇓iP P 17 59 41.2 -1.3
comp=Z,38nm,1.3s,mb5.0
HUMO Hull Mountain 84.19 322 P P 17 59 41.6 -0.9
baz=84,SNR=13

EMIJ Mijas 84.21 46 P **P 17 59 42.4 -0.4**
comp=Z,136nm,1.7s,mb5.4
FFC Flin Flon 84.21 340 P **P 17 59 41.0 -1.3**
comp=Z,182nm,1.3s,mb5.7,SNR=17
FFC Flin Flon 84.21 340⇓*i*P **P 17 59 41.0 -1.3**
FFC pmax pmax
comp=Z,43nm,1.1s,mb5.1
FFC Flin Flon 84.21 340⇓*i*P **P 17 59 41.0 -1.3**
comp=Z,43nm,1.1s,mb5.1
FFC *ep*P pP 18 00 28.4 +1.3
BBOR Butler Butte 84.22 322 P **P 17 59 41.6 -1.1**
D10A Wagner Farm, O 84.24 328 P **P 17 59 42.0 -0.7**
baz=84,SNR=29
L02A Cave Junction 84.27 321⇑P **P 17 59 42.9 0.0**
baz=84,SNR=20
E09A Wood Farm, Sta 84.28 327⇓P **P 17 59 42.0 -0.9**
baz=84,SNR=7.6
I05A Bend 84.29 324⇓P **P 17 59 43.3 +0.4**
baz=84,SNR=11
M01C Crescent City 84.37 321⇓P **P 17 59 43.4 0.0**
baz=85
B12A Libby 84.46 330 P **P 17 59 43.9 +0.2**
baz=85,SNR=22
WIFE Three Sisters- 84.52 324 P **P 17 59 44.2 0.0**
H05A Madras 84.59 324 P **P 17 59 44.9 +0.4**
baz=85,SNR=6.7
K02A Glendale 84.59 322 P **P 17 59 44.6 0.0**
baz=85,SNR=42
KBO Bosley Butte 84.66 321⇓*i*P **P 17 59 44.9 0.0**
KBO *ep*P pP 18 00 29.7 0.0
I04A Tendick Farm, 84.66 323 P **P 17 59 44.1 -0.7**
baz=85,SNR=26
G06A Carlson Farm, 84.67 325 P **P 17 59 45.2 +0.3**
baz=85,SNR=26
ECAB El Cabril 84.68 44 P **P 17 59 43.7 -1.4**
comp=Z,74nm,1.0s,mb5.4
J03A Ideyld Park 84.69 323 P **P 17 59 44.4 -0.7**
baz=85,SNR=8.1
E08A Dider Farm, El 84.72 327⇓P **P 17 59 44.6 -0.5**
baz=85,SNR=6.0
D09A Jones Farm, Ri 84.75 328 P **P 17 59 44.8 -0.4**
baz=85,SNR=25
F07A Phinny Hill Vi 84.75 326 P **P 17 59 45.6 +0.4**
baz=85,SNR=5.4
MTE Manteigas 84.77 41⇑*i*P **P 17 59 46.0 +0.5**
comp=Z,81nm,0.9s,mb5.5
MTE *ep*P pP 18 00 31.0 +0.7
B11A Sandpoint 84.80 329⇑P **P 17 59 44.9 -0.6**
baz=85
C10A Spilker Farm, 84.80 329⇑P **P 17 59 44.9 -0.5**
baz=85
A12A Yaak River Ran 84.83 330⇓P **P 17 59 45.5 -0.1**
baz=85,SNR=12
HSO Harness Mounta 84.86 323 P **P 17 59 45.9 0.0**
HAWA Hanford 84.89 326⇓*i*P **P 17 59 45.6 -0.4**
comp=Z,162nm,1.4s,mb5.6
HAWA *ep*P pP 18 00 30.9 +0.2
ELOJ Sierra Loja 84.95 46 P **P 17 59 47.4 +0.9**
ELOJ pmax pmax
comp=Z,16nm,0.5s,mb5.0
ELOJ Sierra Loja 84.95 46 P **P 17 59 47.4 +0.9**
comp=Z,16nm,0.5s,mb5.0
WRD Warden 84.98 327 P **P 17 59 46.9 +0.5**
NEW Newport 85.03 329 P **P 17 59 45.4 -1.2**
NEW pmax pmax
comp=Z,21nm,0.8s
NEW Newport 85.03 329⇓*i*P **P 17 59 45.2 -1.4**
comp=Z,21nm,0.8s,mb4.9
J02A Umpqua 85.03 322 P **P 17 59 46.8 0.0**
baz=85,SNR=26
G05A Wamic 85.03 325 P **P 17 59 47.2 +0.5**
baz=85,SNR=9.7
D08A Wollman Farm, 85.05 327⇑P **P 17 59 46.4 -0.3**
baz=85,SNR=26
ERON Agron 85.11 46 P **P 17 59 47.0 -0.2**
F06A Goldendale 85.11 325⇑P **P 17 59 47.1 0.0**
baz=85
ELUQ Luque 85.12 45 P **P 17 59 48.5 +1.2**
ELUQ pmax pmax
comp=Z,61nm,0.8s,mb5.4
ELUQ Luque 85.12 45 P **P 17 59 48.5 +1.2**
comp=Z,61nm,0.8s,mb5.4
H04A Detroit Lake 85.12 324 P **P 17 59 46.5 -0.6**
baz=85,SNR=26
KEBM Edson Butte 85.14 322⇓*i*P **P 17 59 47.1 -0.1**
A11A Hall Mountain, 85.17 330 P **P 17 59 46.9 -0.3**
baz=85,SNR=73
E07A Sunnyside 85.17 326⇓P **P 17 59 47.3 0.0**
baz=85
OD2 Odessa Site #2 85.17 328 P **P 17 59 47.1 -0.2**
K01A Sixes 85.18 321⇑P **P 17 59 47.4 -0.1**
baz=85,SNR=5.9
C09A Chrisman Ranch 85.25 328 P **P 17 59 47.6 -0.1**
baz=86,SNR=48
I03A Eugene 85.25 323⇑P **P 17 59 47.7 -0.1**
baz=86,SNR=27
DPW Davenport 85.26 328 P **P 17 59 47.5 -0.3**
EADA Adamuz 85.27 44 P **P 17 59 48.7 +0.6**
comp=Z,89nm,1.1s,mb5.4
ELOB Lobios 85.36 40 P **P 17 59 49.0 +0.6**
comp=Z,53nm,0.8s,mb5.3
SSOR Sweet Springs 85.39 324 P **P 17 59 47.9 -0.5**
ECOG Cogollos-Vega 85.41 46 P **P 17 59 49.6 +0.8**
ECOG pmax pmax
comp=Z,25nm,1.0s,mb4.9
ECOG Cogollos-Vega 85.41 46 P **P 17 59 49.6 +0.8**
comp=Z,25nm,1.0s,mb4.9
EMAZ Mazaricos 85.51 39 P **P 17 59 50.2 +1.0**
comp=Z,79nm,1.2s,mb5.3
F05A White Salmon 85.53 325 P **P 17 59 49.0 -0.1**
baz=86,SNR=10
I02A Mapleton 85.58 323⇑P **P 17 59 49.2 -0.2**
baz=86,SNR=9.1
EPH Ephrata 85.58 327 P **P 17 59 49.1 -0.3**
C08A Higginbotham F 85.61 328⇑P **P 17 59 48.8 -0.7**
baz=86,SNR=16
B09A Rice 85.62 329 P **P 17 59 48.9 -0.6**
baz=86,SNR=76
G04A Mulino 85.62 324 P **P 17 59 49.5 -0.2**
baz=86,SNR=10
EBER Berja 85.64 46 P **P 17 59 49.4 -0.5**
comp=Z,136nm,1.4s,mb5.5
D07A Quincy 85.66 327 P **P 17 59 49.8 +0.1**
baz=86,SNR=16
COR Corvallis 85.67 323⇓*i*P **P 17 59 49.8 0.0**
COR pmax pmax
comp=Z,312nm,1.5s,mb5.8
COR Corvallis 85.67 323⇓*i*P **P 17 59 49.8 -0.1**
comp=Z,312nm,1.5s,mb5.8
COR *ep*P pP 18 00 33.3 -1.4
FCC Fort Churchill 85.71 346⇓*i*P **P 17 59 49.0 -0.7**
FCC pmax pmax
comp=Z,67nm,0.6s,mb5.5
FCC Fort Churchill 85.71 346⇓*i*P **P 17 59 49.0 -0.7**
comp=Z,67nm,0.6s,mb5.5
FCC *ep*P pP 18 00 33.9 -0.7
STS Santiago 85.72 39 P **P 17 59 49.8 -0.3**
H03A Soap Creek Ran 85.72 323 P **P 17 59 50.4 +0.3**
baz=86,SNR=20
E06A Yakima 85.73 326 P **P 17 59 49.9 -0.2**
baz=86,SNR=31
A10A Northport 85.74 329⇑P **P 17 59 49.1 -0.9**
baz=86
EBG Ellensburg 85.77 326 P **P 17 59 50.5 +0.2**
EBAN Banos Encina 85.78 45 P **P 17 59 51.9 +1.3**
EBAN pmax pmax
comp=Z,124nm,0.8s,mb5.7
EBAN Banos Encina 85.78 45 P **P 17 59 51.9 +1.4**
comp=Z,124nm,0.8s,mb5.7
EQES Quesada 86.03 45 P **P 17 59 51.1 -0.8**
comp=Z,53nm,1.0s,mb5.2
C07A Waterville 86.04 327 P **P 17 59 51.3 -0.3**
baz=86,SNR=44
F04A Amboy 86.07 325 P **P 17 59 51.2 -0.6**
baz=86,SNR=19
D06A Cle Elum 86.10 326 P **P 17 59 51.7 -0.2**
baz=86,SNR=7.6
H02A Toledo 86.10 323⇑P **P 17 59 51.6 -0.4**
baz=86
G03A Yamhill 86.13 324 P **P 17 59 52.4 +0.3**
baz=86,SNR=16
ENIJ Nijar 86.13 47 P **P 17 59 50.9 -1.4**
ENIJ pmax pmax
comp=Z,34nm,1.0s,mb5.0
ENIJ Nijar 86.13 47 P **P 17 59 50.9 -1.4**
comp=Z,34nm,1.0s,mb5.0
B08A Colville Reser 86.15 328 P **P 17 59 51.4 -0.7**
baz=86,SNR=9.8
ECAL Calabor 86.19 40 P **P 17 59 52.3 -0.2**
comp=Z,284nm,2.1s,mb5.6
A09A Danville 86.22 329 P **P 17 59 51.9 -0.6**
baz=86,SNR=22
PAB San Pablo 86.22 43⇑*i*P **P 17 59 53.2 +0.5**
PAB pmax pmax
comp=Z,65nm,0.9s,mb5.4
PAB San Pablo 86.22 43⇑*i*P **P 17 59 53.2 +0.5**
comp=Z,65nm,0.9s,mb5.4
PAB *ep*P pP 18 00 38.7 +1.0
ERUA La Rua 86.22 40 P **P 17 59 53.1 +0.5**
ERUA pmax pmax
comp=Z,28nm,1.1s,mb4.9
ERUA La Rua 86.22 40 P **P 17 59 53.1 +0.5**
comp=Z,28nm,1.1s,mb4.9
EHUE Huescar 86.35 46 P **P 17 59 52.6 -0.8**
EHUE pmax pmax
comp=Z,21nm,1.0s,mb4.8
EHUE Huescar 86.35 46 P **P 17 59 52.6 -0.8**
comp=Z,21nm,1.0s,mb4.8
A08A Turner Farm, O 86.53 328 P **P 17 59 53.6 -0.3**
baz=87,SNR=59
ESDC Sonseca Array 86.54 44 P **P 17 59 55.0 +0.7**
ESDC Sonseca Array 86.54 44 P **P 17 59 54.2 -0.1**
comp=Z,8.0nm,0.6s,mb4.8,baz=231,slow=5.1,SNR=56
ESDC pP pP 18 00 39.3 +0.1
comp=Z,29nm,1.1s,baz=229,slow=5.2,SNR=3.3
ESDC LR LR 18 37 25.9
comp=Z,662nm,19.8s,baz=245,slow=35
ESLA Sonseca Array 86.54 44⇑*i*P **P 17 59 54.7 +0.4**
comp=Z,112nm,1.7s,mb5.4
ESLA *ep*P pP 18 00 39.8 +0.5
B07A Winthrop 86.60 328 P **P 17 59 53.7 -0.6**
baz=87,SNR=61
C06A Tall Timber Ra 86.61 327⇓P **P 17 59 53.3 -1.1**
baz=87
E04A Onalaska 86.66 325⇑P **P 17 59 54.2 -0.4**
baz=87
F03A Seaside 86.67 324⇓P **P 17 59 54.6 -0.1**
baz=87
D05A Enumclaw 86.68 326 P **P 17 59 54.1 -0.6**
baz=87,SNR=13
EPON Pontenova 86.79 39 P **P 17 59 55.8 +0.4**
comp=Z,88nm,1.4s,mb5.4
C05A Tolt Reservoir 86.86 326 P **P 17 59 54.3 -1.3**
baz=87,SNR=11
EVIA Vianos 86.88 45 P **P 17 59 56.1 +0.2**
EVIA pmax pmax
comp=Z,47nm,0.7s,mb5.4
EVIA Vianos 86.88 45 P **P 17 59 56.1 +0.2**
comp=Z,47nm,0.7s,mb5.4
GUD Guadarrama 86.98 43 P **P 17 59 57.0 +0.6**
GUD pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
GUD Guadarrama 86.98 43 P **P 17 59 57.0 +0.6**
comp=Z,7.0nm,0.5s,mb4.8
EDM Edmonton 87.01 334⇓*i*P **P 17 59 54.5 -1.7**
EDM *ep*P pP 18 00 39.8 -1.4
D04A Dobbs Creek Ra 87.04 326⇑P **P 17 59 56.4 -0.1**
baz=87
E03A Lebam 87.07 325⇑P **P 17 59 56.2 -0.4**
baz=87,SNR=16
DRV Dumont d'Urvil 87.11 190 P **P 17 59 59.0 +2.3**
DRV Dumont d'Urvil 87.11 190 PP PP 18 03 22.0 0.0
DRV S S 18 10 24.0 +3.9
DRV SS SS 18 16 21.0 +15
DRV L 18 24 00.0
DRV R 18 29 00.0
A07A Ashnola River, 87.13 328 P **P 17 59 56.9 0.0**
baz=87,SNR=67
B06A Marblemount 87.31 327 P **P 17 59 56.7 -1.0**
baz=88,SNR=12
GNW Green Mountain 87.35 326 P **P 17 59 56.9 -1.1**
B05A Bryant 87.44 327 P **P 17 59 57.4 -0.9**
baz=88,SNR=13
ETOB Tobarra 87.50 45 P **P 18 00 00.6 +1.7**
comp=Z,51nm,0.8s,mb5.4
C04A Brinnon 87.53 326 P **P 17 59 58.5 -0.3**
baz=88,SNR=16
D03A Wishkah Elem. 87.55 325⇑P **P 17 59 59.0 +0.1**
baz=88
A06A Chilliwack 87.69 328⇓P **P 17 59 58.6 -0.9**
baz=88
NLWA Neilton Lookou 87.78 325⇓*i*P **P 17 59 59.5 -0.5**
comp=Z,165nm,1.6s,mb5.6
NLWA *ep*P pP 18 00 40.7 -4.4
NLWA Neilton Lookou 87.78 325⇑P **P 17 59 59.7 -0.3**
baz=88,SNR=8.6
EARI Arriondas 87.91 40 P **P 18 00 01.3 +0.6**
comp=Z,93nm,1.7s,mb5.3
A05A Maple Falls 87.92 327 P **P 17 59 60.0 -0.7**
baz=88,SNR=14
OSD Olympics--Snow 87.97 326 P **P 18 00 01.1 +0.2**
B04A Port Angeles 88.02 326⇑P **P 18 00 01.0 -0.1**
baz=88,SNR=6.7
A04A Legoe Bay, Lum 88.05 327 P **P 18 00 01.0 -0.2**
baz=88,SNR=8.2
OOW Octopus West 88.17 325 P **P 18 00 02.0 +0.2**
MIR Mirnyy 88.22 172 *e*P **P 18 00 00.0 -1.9**
MIR *i* 18 00 36.0
MIR *i* 18 00 50.0
MIR pmax pmax
comp=Z,200nm,2.0s,mb5.6
PGC Sidney 88.38 326⇓*e*P **P 18 00 02.1 -0.7**
comp=Z,327nm,1.4s,mb6.0
PGC *ep*P pP 18 00 46.0 -2.0
LSZ Lusaka 88.38 106⇓*i*P **P 18 00 05.6 +1.9**
LSZ pmax pmax
comp=Z,178nm,1.0s,mb5.8
LSZ Lusaka 88.38 106⇓*i*P **P 18 00 05.6 +1.9**
comp=Z,178nm,1.0s,mb5.8
LSZ *ep*P pP 18 00 49.4 +0.6
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
LSZ Lusaka 88.38 106 P **P 18 00 06.3 +2.6**
SNR=42
EBEN Beniarda 88.39 46 P **P 18 00 04.1 +1.0**
comp=Z,82nm,1.2s,mb5.4
ECHE Chera 88.40 45 P **P 18 00 04.3 +1.2**
ECHE pmax pmax
comp=Z,27nm,0.8s,mb5.1
ECHE Chera 88.40 45 P **P 18 00 04.3 +1.2**
comp=Z,27nm,0.8s,mb5.1
C03A Quillayute Air 88.50 325 P **P 18 00 03.5 +0.2**
baz=89,SNR=6.4
ELAN Lanestosa 88.92 41 P **P 18 00 06.5 +1.1**
comp=Z,65nm,1.0s,mb5.5
EMOS Mosqueruela 89.14 44 P **P 18 00 07.4 +0.8**
comp=Z,176nm,1.8s,mb5.7
EIBI Ibiza 89.60 46 P **P 18 00 09.9 +1.1**
comp=Z,98nm,1.4s,mb5.5
CASY Casey 89.74 179⇓*i*P **P 18 00 09.3 +0.3**
ESAC San Caprasio 89.88 43 P **P 18 00 12.3 +2.3**
comp=Z,123nm,1.1s,mb5.8
ERTA Horta de San J 89.98 44 P **P 18 00 11.2 +0.7**
comp=Z,47nm,1.1s,mb5.3
ELIZ Elizondo 90.03 42 P **P 18 00 11.6 +1.0**
ELIZ pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
ELIZ Elizondo 90.03 42 P **P 18 00 11.6 +0.9**
comp=Z,5.6nm,0.4s,mb4.8
SJPF Ste Jean 90.18 42 *e*P **P 18 00 11.6 +0.2**
comp=Z,94nm,1.0s,mb5.4
SJPF *ep*P pP 18 00 57.8 +1.2
SJPF Ste Jean 90.18 42 *e*P **P 18 00 11.6 +0.2**
SJPF pmax pmax
comp=Z,47nm,1.0s,mb5.4
SJPF Ste Jean 90.18 42 *e*P **P 18 00 11.6 +0.2**
comp=Z,47nm,1.0s,mb5.4
SJPF *ep*P pP 18 00 57.8 +1.2
OSSF Osses 90.24 42 *e*P **P 18 00 11.7 +0.1**
ETSF Etsaut 90.47 42 *e*P **P 18 00 13.4 +0.7**
comp=Z,102nm,1.0s,mb5.4
ETSF Etsaut 90.47 42 *e*P **P 18 00 13.4 +0.7**
ETSF pmax pmax
comp=Z,51nm,1.0s,mb5.4
ETSF Etsaut 90.47 42 *e*P **P 18 00 13.4 +0.7**
comp=Z,51nm,1.0s,mb5.4
EBIE Bielsa 90.79 43 P **P 18 00 15.4 +1.2**
comp=Z,40nm,1.1s,mb5.4
VIEF Viey 90.82 43 *e*P **P 18 00 14.9 +0.6**
EPF Esparros 91.10 43 *e*P **P 18 00 16.0 +0.4**
comp=Z,47nm,1.2s,mb5.1
EPF Esparros 91.10 43 *e*P **P 18 00 16.0 +0.4**
EPF pmax pmax
comp=Z,24nm,1.2s,mb5.1
EPF Esparros 91.10 43 *e*P **P 18 00 16.0 +0.4**
comp=Z,24nm,1.2s,mb5.1
MELF Melles 91.27 43 *e*P **P 18 00 17.6 +1.2**
SALF Salau 91.48 43 *e*P **P 18 00 18.6 +1.2**
MLS Moulis 91.53 43 *e*P **P 18 00 18.6 +1.0**
QUIF Quistinic 91.77 37 *e*P **P 18 00 18.3 -0.3**
comp=Z,161nm,1.4s,mb5.6
QUIF *ep*P pP 18 01 03.7 -0.2
QUIF Quistinic 91.77 37 *e*P **P 18 00 18.3 -0.3**
QUIF pmax pmax
comp=Z,81nm,1.4s,mb5.6
QUIF Quistinic 91.77 37 *e*P **P 18 00 18.3 -0.3**
comp=Z,80nm,1.4s,mb5.6
QUIF *ep*P pP 18 01 03.7 -0.2
SFJD Kangerlussuaq 91.79 6 P **P 18 00 25.3 +7.1**
SFJD pmax pmax
comp=Z,48nm,1.3s,mb5.4
SFJD Kangerlussuaq 91.79 6 *i* P PcP 18 00 29.6 +11
comp=Z,22nm,0.9s
SFJD *i* 18 10 32.7
SFJD *i* 18 11 03.0
SFJD
comp=Z,160nm,22.0s
ROSF Rostrenen 91.95 37 *e*P **P 18 00 19.2 -0.2**
comp=Z,165nm,1.4s,mb5.6
ROSF Rostrenen 91.95 37 *e*P **P 18 00 19.2 -0.2**
ROSF pmax pmax
comp=Z,83nm,1.4s,mb5.6
ROSF Rostrenen 91.95 37 *e*P **P 18 00 19.2 -0.2**
comp=Z,82nm,1.4s,mb5.6
CARF Carcanieres 92.03 44 *e*P **P 18 00 20.6 +0.7**
SGMF Saint Gilles 92.30 37 *e*P **P 18 00 20.8 -0.2**
LFF La Frestale 92.37 41 *e*P **P 18 00 21.0 -0.4**
comp=Z,38nm,0.7s,mb5.2
LFF La Frestale 92.37 41 *e*P **P 18 00 21.0 -0.4**
LFF pmax pmax
comp=Z,19nm,0.7s,mb5.2
LFF La Frestale 92.37 41 *e*P **P 18 00 21.0 -0.4**
comp=Z,19nm,0.7s,mb5.2
MTLF Montolieu 92.43 43 *e*P **P 18 00 21.4 -0.4**
comp=Z,33nm,0.9s,mb5.1
MTLF *ep*P pP 18 01 07.4 +0.3
MTLF Montolieu 92.43 43 *e*P **P 18 00 21.4 -0.4**
MTLF pmax pmax
comp=Z,16nm,0.9s,mb5.0
MTLF Montolieu 92.43 43 *e*P **P 18 00 21.4 -0.4**
comp=Z,16nm,0.9s,mb5.1
MTLF *ep*P pP 18 01 07.4 +0.3
MFF Saint Martin d 92.74 39 *e*P **P 18 00 23.1 0.0**
comp=Z,98nm,1.0s,mb5.6
MFF *ep*P pP 18 01 08.6 +0.2
MFF Saint Martin d 92.74 39 *e*P **P 18 00 23.1 0.0**
MFF pmax pmax
comp=Z,49nm,1.0s,mb5.6
MFF Saint Martin d 92.74 39 *e*P **P 18 00 23.1 0.0**
comp=Z,49nm,1.0s,mb5.6
MFF *ep*P pP 18 01 08.6 +0.2
DCN Croghan 92.89 31 *e*P **P 18 00 25.5 +1.9**
BBB Bella Bella 92.91 327 P **P 18 00 23.2 -0.5**
comp=Z,23nm,0.9s,mb5.3,baz=60,slow=2.6,SNR=8.8
RJF Les Rejaudoux 93.03 41 *e*P **P 18 00 24.1 -0.4**
comp=Z,51nm,1.2s,mb5.2
RJF *e*MLR MLR
comp=Z,966nm,19.2s
RJF Les Rejaudoux 93.03 41 *e*P **P 18 00 24.1 -0.4**
RJF pmax pmax
comp=Z,26nm,1.2s,mb5.2
RJF MLR MLR
comp=Z,970nm,19.3s
RJF Les Rejaudoux 93.03 41 *e*P **P 18 00 24.1 -0.4**
comp=Z,26nm,1.2s,mb5.2
RJF LR LR
comp=Z,970nm,19.3s
CAF Calviac 93.16 42 *e*P **P 18 00 24.9 -0.2**
comp=Z,40nm,1.1s,mb5.2
CAF Calviac 93.16 42 *e*P **P 18 00 24.9 -0.2**
CAF pmax pmax
comp=Z,20nm,1.1s,mb5.2
CAF Calviac 93.16 42 *e*P **P 18 00 24.9 -0.2**
comp=Z,20nm,1.1s,mb5.2
DLF Lyons Farm 93.21 32 *e*P **P 18 00 24.9 -0.2**
GRR Gorron 93.31 38 *e*P **P 18 00 25.1 -0.6**
DMUB Kingscourt 93.40 31 *e*P **P 18 00 25.7 -0.3**
KEST Kesra 93.52 52 P **P 18 00 26.5 -0.5**
comp=Z,5.3nm,0.8s,mb4.7,baz=247,slow=4.9,SNR=10
FLN La Foliniere 93.72 37 *e*P **P 18 00 27.2 -0.4**
comp=Z,82nm,1.2s,mb5.4
FLN *ep*P pP 18 01 12.8 -0.1
FLN *e*MLR MLR
comp=Z,760nm,22.5s
FLN La Foliniere 93.72 37 *e*P **P 18 00 27.2 -0.4**
FLN pmax pmax
comp=Z,41nm,1.2s,mb5.4
FLN MLR MLR
comp=Z,760nm,22.5s
FLN La Foliniere 93.72 37 *e*P **P 18 00 27.2 -0.4**
comp=Z,41nm,1.2s,mb5.4
FLN *ep*P pP 18 01 12.8 -0.1
FLN LR LR
comp=Z,760nm,22.5s
LASF Ste Croix 93.83 43 *e*P **P 18 00 27.8 -0.4**
comp=Z,29nm,1.2s,mb5.0
LDF La Druitiere 93.83 38 *e*P **P 18 00 27.7 -0.4**
comp=Z,51nm,1.0s,mb5.3
LDF La Druitiere 93.83 38 *e*P **P 18 00 27.7 -0.4**
LDF pmax pmax
comp=Z,26nm,1.0s,mb5.3
LDF La Druitiere 93.83 38 *e*P **P 18 00 27.7 -0.4**
comp=Z,26nm,1.0s,mb5.3
TCF Toulx Ste Croi 93.95 41 *e*P **P 18 00 28.3 -0.4**
comp=Z,21nm,0.9s,mb5.0
TCF *ep*P pP 18 01 14.0 -0.1
TCF Toulx Ste Croi 93.95 41 *e*P **P 18 00 28.3 -0.4**
TCF pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
TCF Toulx Ste Croi 93.95 41 *e*P **P 18 00 28.3 -0.4**
comp=Z,10nm,0.9s,mb5.0
TCF *ep*P pP 18 01 14.0 -0.1
LBL Lubilhac 94.03 42 *e*P **P 18 00 29.9 +0.8**
PYM Petit Puy Mans 94.15 41 *e*P **P 18 00 30.4 +0.8**
YKA Yellowknife Ar 94.38 340 P **P 18 00 29.6 -0.6**
YKA pmax pmax
comp=Z,30nm,0.8s
YKA pmax pmax
comp=Z,9.0nm,0.8s
YKA MLR MLR
comp=Z,210nm,18.5s
YKA Yellowknife Ar 94.38 340 P **P 18 00 29.6 -0.6**
YKA pP pP 18 01 15.0 -0.6
YKA PKKPbc PKKPbc 18 17 28.8 -3.1
YKA LR LR 18 48 47.7
YKA Yellowknife Ar 94.38 340 P **P 18 00 29.6 -0.6**
comp=Z,30nm,0.8s,mb5.5,baz=132,slow=4.5,SNR=243
YKA pP pP 18 01 15.0 -0.6
comp=Z,9.4nm,0.8s,baz=132,slow=4.6,SNR=4.3
YKA PKKPbc PKKPbc 18 17 28.8 -3.1
comp=Z,0.3nm,0.7s,baz=331,slow=2.4,SNR=4.3
YKA LR LR 18 48 47.7
comp=Z,210nm,18.5s,baz=145,slow=39
AGO Saint Agoulin 94.38 41 *e*P **P 18 00 30.8 +0.1**
BGF Bois d'Agland 94.47 41 *e*P **P 18 00 30.6 -0.5**
PLDF La Plantade 94.63 41 *e*P **P 18 00 32.2 +0.4**
VIVF Saint-Julien-l 94.72 43 *e*P **P 18 00 32.1 -0.2**
comp=Z,36nm,1.1s,mb5.2
VIVF Saint-Julien-l 94.72 43 *e*P **P 18 00 32.1 -0.2**
VIVF pmax pmax
comp=Z,18nm,1.1s,mb5.2
VIVF Saint-Julien-l 94.72 43 *e*P **P 18 00 32.1 -0.2**
comp=Z,18nm,1.1s,mb5.2
SMRF Simiane la Rot 94.85 44 *e*P **P 18 00 32.6 -0.3**
AVF Avril sur Loir 94.89 40 *e*P **P 18 00 32.6 -0.4**
AVF *ep*P pP 18 01 18.4 +0.1
SMF Signal de Mont 95.11 41 *e*P **P 18 00 33.5 -0.5**
comp=Z,127nm,1.5s,mb5.6

SMF	**Signal de Mont**	**95.11**	**41**	*eP*	**P**		**18 00 33.5**	**-0.5**
SMF					pmax	pmax		
comp=Z,64nm,1.5s,mb5.6								
SMF	**Signal de Mont**	**95.11**	**41**	*eP*	**P**		**18 00 33.5**	**-0.5**
comp=Z,64nm,1.5s,mb5.6								
SSF	**Saint Saulge**	**95.12**	**40**	*eP*	**P**		**18 00 33.6**	**-0.4**
comp=Z,21nm,0.9s,mb5.1								
SSF	**Saint Saulge**	**95.12**	**40**	*eP*	**P**		**18 00 33.6**	**-0.4**
SSF					pmax	pmax		
comp=Z,11nm,0.9s,mb5.1								
SSF	**Saint Saulge**	**95.12**	**40**	*eP*	**P**		**18 00 33.6**	**-0.4**
comp=Z,11nm,0.9s,mb5.1								
LMR	**La Mourre**	**95.14**	**45**	*eP*	**P**		**18 00 33.8**	**-0.4**
comp=Z,50nm,1.1s,mb5.4								
LMR	**La Mourre**	**95.14**	**45**	*eP*	**P**		**18 00 33.8**	**-0.4**
LMR					pmax	pmax		
comp=Z,25nm,1.1s,mb5.4								
LMR	**La Mourre**	**95.14**	**45**	*eP*	**P**		**18 00 33.8**	**-0.4**
comp=Z,25nm,1.1s,mb5.4								
FRF	**La Foret Royal**	**95.33**	**44**	*eP*	**P**		**18 00 34.6**	**-0.5**
comp=Z,92nm,1.6s,mb5.5								
FRF	**La Foret Royal**	**95.33**	**44**	*eP*	**P**		**18 00 34.6**	**-0.5**
FRF					pmax	pmax		
comp=Z,46nm,1.6s,mb5.5								
FRF	**La Foret Royal**	**95.33**	**44**	*eP*	**P**		**18 00 34.6**	**-0.5**
comp=Z,46nm,1.6s,mb5.5								
LOR	**Lormes**	**95.43**	**40**	*eP*	**P**		**18 00 35.0**	**-0.4**
comp=Z,17nm,0.9s,mb5.0								
LOR				*ep*P	pP		18 01 20.7	-0.1
LOR				*e*MLR	MLR			
comp=Z,874nm,20.5s								
LOR	**Lormes**	**95.43**	**40**	*eP*	**P**		**18 00 35.0**	**-0.4**
LOR					pmax	pmax		
comp=Z,9.0nm,0.9s,mb5.0								
LOR					MLR	MLR		
comp=Z,870nm,20.5s								
LOR	**Lormes**	**95.43**	**40**	*eP*	**P**		**18 00 35.0**	**-0.4**
comp=Z,8.7nm,0.9s,mb5.0								
LOR				*ep*P	pP		18 01 20.7	-0.1
LOR					LR	LR		
comp=Z,870nm,20.5s								
ORIF	**Oris-en-Rattie**	**95.50**	**43**	*eP*	**P**		**18 00 36.8**	**+1.0**
comp=Z,46nm,0.9s,mb5.4								
ORIF				*ep*P	pP		18 01 22.4	+1.2
ORIF				*e*MLR	MLR			
comp=Z,971nm,22.0s								
ORIF	**Oris-en-Rattie**	**95.50**	**43**	*eP*	**P**		**18 00 36.8**	**+1.0**
ORIF					pmax	pmax		
comp=Z,23nm,0.9s,mb5.4								
ORIF	**Oris-en-Rattie**	**95.50**	**43**	*eP*	**P**		**18 00 36.8**	**+1.0**
comp=Z,23nm,0.9s,mb5.4								
ORIF				*ep*P	pP		18 01 22.4	+1.2
CALN	**Calern**	**95.58**	**44**	*eP*	**P**		**18 00 37.1**	**+0.9**
MVIF	**Mont Vial**	**95.81**	**44**	*eP*	**P**		**18 00 38.4**	**+1.1**
TOUF	**Mont Tournerai**	**95.93**	**44**	*eP*	**P**		**18 00 38.6**	**+0.8**
LUCF	**Luceram**	**95.94**	**44**	*eP*	**P**		**18 00 38.8**	**+1.0**
MBDF	**Montbardon**	**95.97**	**43**	*eP*	**P**		**18 00 38.7**	**+0.8**
comp=Z,52nm,1.2s,mb5.4								
MBDF	**Montbardon**	**95.97**	**43**	*eP*	**P**		**18 00 38.7**	**+0.8**
MBDF					pmax	pmax		
comp=Z,26nm,1.2s,mb5.4								
MBDF	**Montbardon**	**95.97**	**43**	*eP*	**P**		**18 00 38.7**	**+0.8**
comp=Z,26nm,1.2s,mb5.4								
SBF	**Sospel**	**95.98**	**44**	*eP*	**P**		**18 00 37.8**	**-0.2**
comp=Z,82nm,1.2s,mb5.7								
SBF	**Sospel**	**95.98**	**44**	*eP*	**P**		**18 00 37.8**	**-0.2**
SBF					pmax	pmax		
comp=Z,41nm,1.2s,mb5.6								
SBF	**Sospel**	**95.98**	**44**	*eP*	**P**		**18 00 37.8**	**-0.2**
comp=Z,41nm,1.2s,mb5.6								
ESK	**Eskdalemuir**	**95.98**	**31**	P	**P**		**18 00 36.5**	**-1.2**
ESK					pmax	pmax		
comp=Z,23nm,1.3s,mb5.3								
ESK	**Eskdalemuir**	**95.98**	**31**	P	**P**		**18 00 36.5**	**-1.2**
comp=Z,23nm,1.3s,mb5.3								
AUTN	**L'Aution**	**96.04**	**44**	*eP*	**P**		**18 00 40.5**	**+2.2**
BNI	**Bardonecchia**	**96.06**	**43**	*eP*	**P**		**18 00 38.9**	**+0.5**
BNI					pmax	pmax		
comp=Z,13nm,1.1s,mb5.2								
BNI	**Bardonecchia**	**96.06**	**43**	*eP*	**P**		**18 00 38.9**	**+0.6**
comp=Z,13nm,1.1s,mb5.2								
BNI				*ep*P	pP		18 01 25.0	+1.2
SAOF	**Saorge**	**96.11**	**44**	*eP*	**P**		**18 00 39.2**	**+0.6**
LPL	**La Plagne**	**96.31**	**43**	*eP*	**P**		**18 00 40.7**	**+1.2**
comp=Z,49nm,1.0s,mb5.5								
LPL	**La Plagne**	**96.31**	**43**	*eP*	**P**		**18 00 40.7**	**+1.2**
LPL					pmax	pmax		
comp=Z,24nm,1.0s,mb5.5								
LPL	**La Plagne**	**96.31**	**43**	*eP*	**P**		**18 00 40.7**	**+1.2**
comp=Z,24nm,1.0s,mb5.5								
LPG	**La Plagne**	**96.32**	**43**	*eP*	**P**		**18 00 40.9**	**+1.4**
comp=Z,42nm,0.9s,mb5.5								
LPG	**La Plagne**	**96.32**	**43**	*eP*	**P**		**18 00 40.9**	**+1.4**
LPG					pmax	pmax		
comp=Z,21nm,0.9s,mb5.5								
LPG	**La Plagne**	**96.32**	**43**	*eP*	**P**		**18 00 40.9**	**+1.4**
comp=Z,21nm,0.9s,mb5.5								
PGF	**Pioggiola**	**96.39**	**46**	*eP*	**P**		**18 00 39.6**	**-0.3**
comp=Z,41nm,1.1s,mb5.4								
PGF				*ep*P	pP		18 01 26.0	+0.7
PGF	**Pioggiola**	**96.39**	**46**	*eP*	**P**		**18 00 39.6**	**-0.3**
PGF					pmax	pmax		
comp=Z,20nm,1.1s,mb5.4								
PGF	**Pioggiola**	**96.39**	**46**	*eP*	**P**		**18 00 39.6**	**-0.3**
comp=Z,20nm,1.1s,mb5.4								
PGF				*ep*P	pP		18 01 26.0	+0.7
CABF	**La Chapelle**	**96.44**	**42**	*eP*	**P**		**18 00 39.7**	**-0.3**
comp=Z,53nm,1.2s,mb5.5								
CABF	**La Chapelle**	**96.44**	**42**	*eP*	**P**		**18 00 39.7**	**-0.3**
CABF					pmax	pmax		
comp=Z,27nm,1.2s,mb5.5								
CABF	**La Chapelle**	**96.44**	**42**	*eP*	**P**		**18 00 39.7**	**-0.3**
comp=Z,27nm,1.2s,mb5.5								
RSP	**Reno Superiore**	**96.47**	**43**	P	**P**		**18 00 41.2**	**+1.0**
RSP					pmax	pmax		
comp=Z,60nm,1.3s,mb5.8								
RSP	**Reno Superiore**	**96.47**	**43**	P	**P**		**18 00 41.2**	**+1.0**
comp=Z,60nm,1.3s,mb5.8								
MEZF	**Maizieres J'vi**	**96.74**	**40**	*eP*	**P**		**18 00 40.9**	**-0.4**
MEZF				*ep*P	pP		18 01 26.9	+0.2
BAIF	**Baives**	**97.02**	**38**	*eP*	**P**		**18 00 42.0**	**-0.5**
comp=Z,27nm,1.2s,mb5.2								
BAIF	**Baives**	**97.02**	**38**	*eP*	**P**		**18 00 42.0**	**-0.5**
BAIF					pmax	pmax		
comp=Z,13nm,1.2s,mb5.1								
BAIF	**Baives**	**97.02**	**38**	*eP*	**P**		**18 00 42.0**	**-0.5**
comp=Z,13nm,1.2s,mb5.2								
THEF	**They Montfort**	**97.15**	**40**	*eP*	**P**		**18 00 43.1**	**-0.1**
LOMF	**Lomont**	**97.24**	**41**	*eP*	**P**		**18 00 45.9**	**+2.3**
DOU	**Dourbes**	**97.25**	**38**	P	**P**		**18 00 43.4**	**-0.2**
comp=Z,26nm,2.5s,mb5.1								
DOU				AP	pP		18 01 29.0	-0.1
HAU	**Haudompre**	**97.26**	**40**	*eP*	**P**		**18 00 43.3**	**-0.4**
HAU				*e*MLR	MLR			
comp=Z,526nm,21.2s								
HAU	**Haudompre**	**97.26**	**40**	*eP*	**P**		**18 00 43.3**	**-0.4**
HAU				LR	LR			
comp=Z,530nm,21.3s								
GIVF	**Givet**	**97.38**	**38**	*eP*	**P**		**18 00 43.8**	**-0.4**
GIVF				*ep*P	pP		18 01 29.7	+0.1
UCC	**Uccle**	**97.46**	**37**	P	**P**		**18 00 44.7**	**+0.2**
comp=Z,26nm,1.5s,mb5.3								
UCC				AP	pP		18 01 30.1	+0.1
HINF	**Hinteralfeld**	**97.47**	**41**	*eP*	**P**		**18 00 44.1**	**-0.6**
DLBC	**Dease Lake**	**97.47**	**332**	*eP*	**P**		**18 00 43.6**	**-0.8**
DLBC				*ep*P	pP		18 01 29.5	-0.3
MOF	**Molkenrain**	**97.65**	**41**	*eP*	**P**		**18 00 47.2**	**+1.7**
BCLA	**Clavier**	**97.81**	**38**	P	**P**		**18 00 46.2**	**+0.1**
comp=Z,26nm,2.2s,mb5.3								
BCLA				AP	pP		18 01 31.9	+0.3
ECH	**Echery**	**97.84**	**40**	*eP*	**P**		**18 00 45.7**	**-0.6**
WLF	**Walferdange**	**97.93**	**39**	*eP*	**P**		**18 00 46.8**	**+0.1**
WLF					pmax	pmax		
comp=Z,36nm,1.0s,mb5.8								
WLF	**Walferdange**	**97.93**	**39**	*eP*	**P**		**18 00 45.4**	**-1.3**
comp=Z,36nm,1.0s,mb5.8								
WLF				*ep*P	pP		18 01 31.9	-0.2
WLF	**Walferdange**	**97.93**	**39**	P	**P**		**18 00 47.2**	**+0.6**
comp=Z,29nm,1.3s,mb5.5								
WLF				AP	pP		18 01 32.8	+0.6
WLF	**Walferdange**	**97.93**	**39**	*e*Pdiff	**P**		**18 00 46.4**	**-0.3**
WLF				*e*PP	PP		18 04 45.1	-3.0
CDF	**Champ du Feu**	**98.00**	**40**	*eP*	**P**		**18 00 46.7**	**-0.3**
comp=Z,30nm,1.1s,mb5.3								
CDF	**Champ du Feu**	**98.00**	**40**	*eP*	**P**		**18 00 46.7**	**-0.3**
CDF					pmax	pmax		
comp=Z,15nm,1.1s,mb5.3								
CDF	**Champ du Feu**	**98.00**	**40**	*eP*	**P**		**18 00 46.7**	**-0.3**
comp=Z,15nm,1.1s,mb5.3								
FELD	**Feldberg im Sc**	**98.18**	**41**	*eP*	**P**		**18 00 47.9**	**0.0**
BEBN	**Eben Emael**	**98.19**	**38**	P	**P**		**18 00 49.2**	**+1.3**
BEBN				AP	pP		18 01 34.0	+0.7
MEM	**Membach**	**98.29**	**38**	P	**P**		**18 00 48.5**	**+0.2**
MEM				AP	pP		18 01 33.7	0.0
HGN	**Heimansgroeve**	**98.32**	**38⇑**	*eP*	pP		18 01 33.4	-0.4
comp=Z,36nm,2.9s								
HGN	**Heimansgroeve**	**98.32**	**38**	*e*PP	PP		18 04 40.9	-10
RUP	**Ruppelstein**	**98.47**	**39**	*eP*	**P**		**18 00 49.2**	**+0.1**
BFO	**Black Forest**	**98.58**	**41**	*eP*	**P**		**18 00 47.6**	**-2.0**
BFO					pmax	pmax		
comp=Z,7.0nm,1.0s,mb5.0								
BFO	**Black Forest**	**98.58**	**41**	*e*Pdiff	**P**		**18 00 49.3**	**-0.3**
BFO				*e*PP	PP		18 04 48.0	-5.2
SPAK	**Spaichingen-Ko**	**98.75**	**41**	*eP*	**P**		**18 00 52.4**	**+2.0**
DAVA	**Damuels**	**99.06**	**42⇑**	*iP*	**P**		**18 00 52.6**	**+0.9**
comp=Z,15nm,0.8s,mb5.4,SNR=8.1								
AQU	**L'Aquila**	**99.24**	**48**	*eP*	Pdif		18 00 51.5	-1.3
WTSB	**Winterswijk**	**99.36**	**37⇓**	*eP*	pP		18 01 38.1	-0.4
comp=Z,48nm,2.4s								
BUG	**Bochum--Univer**	**99.38**	**38**	*e*Pdiff	Pdif		18 00 53.5	+0.1
BUG				*ep*Pdiff			18 01 38.9	
FETA	**Feichten**	**99.47**	**43⇑**	*iP*	Pdif		18 00 54.0	+0.3
comp=Z,24nm,1.4s								
CTI	**Castel Tesino**	**99.63**	**44**	P	Pdif		18 00 54.9	+0.4
RETA	**Reutte**	**99.69**	**42**	*i* P	Pdif		18 00 55.1	+0.4
comp=Z,15nm,1.1s,SNR=8.3								
MOTA	**Moosalm**	**99.84**	**42⇑**	*iP*	Pdif		18 00 55.6	+0.2
comp=Z,16nm,1.1s								
MOTA	**Moosalm**	**99.84**	**42⇑**	*iP*	Pdif		18 00 55.6	+0.2
MOTA					pmax	pmax		
comp=Z,16nm,1.1s,mb5.4								
SQTA	**Sankt Quirin**	**99.85**	**43⇓**	*iP*	Pdif		18 00 56.1	+0.7
comp=Z,36nm,1.5s,SNR=7.4								
SQTA	**Sankt Quirin**	**99.85**	**43⇓**	*iP*	Pdif		18 00 56.1	+0.7
SQTA					pmax	pmax		
comp=Z,36nm,1.5s,mb5.6								
IBBN	**Ibbenburen**	**100.05**	**37**	*e*Pdiff	Pdif		18 00 56.7	+0.4
IBBN				*ep*Pdiff			18 01 42.1	
WTTA	**Wattenberg**	**100.13**	**43⇑**	*iP*	Pdif		18 00 57.3	+0.6
comp=Z,29nm,1.6s,SNR=6.4								
WTTA	**Wattenberg**	**100.13**	**43⇑**	*iP*	Pdif		18 00 57.3	+0.6
WTTA					pmax	pmax		
comp=Z,29nm,1.6s								
FUR	**Furstenfeldbru**	**100.29**	**42**	*ep*Pdiff			18 01 43.6	
FUR				*e*PP	PP		18 05 01.1	-5.0
ABTA	**Abfaltersbach**	**100.46**	**43⇑**	*iP*	Pdif		18 00 58.7	+0.5
comp=Z,7.3nm,0.9s,SNR=7.0								
FVI	**Forni Avoltri**	**100.57**	**44**	P	Pdif		18 00 59.0	+0.3
UBBA	**Unterbreizbach**	**100.65**	**39**	*e*Pdiff	Pdif		18 00 58.5	-0.5
UBBA				*ep*Pdiff			18 01 45.2	
PTCC	**Patocco-Chiusa**	**100.86**	**44**	P	Pdif		18 01 00.4	+0.5
GRA1	**Grafenberg Arr**	**100.89**	**40**	*e*Pdif	Pdif		18 01 01.9	+1.8
GRA1				*e*PP	PP		18 05 05.7	-4.9
GRF	**Grafenberg Arr**	**100.89**	**40**	*e*Pdif	Pdif		18 01 01.9	+1.8
GRF				*ep*Pdiff			18 01 46.5	
GRF				*e*PP	PP		18 05 05.7	-4.9
JAVS	**Javornik**	**101.11**	**45**	*i* Pdiff	Pdif		18 01 01.0	0.0
JAVS				*ep*Pdiff			18 01 47.1	
JAVS				*e*PP	PP		18 05 06.4	-5.9
CEY	**Cerknica**	**101.28**	**45**	*ep*Pdiff			18 01 47.6	
CEY				*e*SKSac	SKSac		18 11 26.7	+3.4
CLZ	**Clausthal**	**101.30**	**38**	*e*Pdiff	Pdif		18 01 02.1	+0.2
CLZ				*ep*Pdiff			18 01 47.4	
CLZ				*e*PKKP	PKKPbc		18 17 34.8	+23
NRDL	**Niedersach Rie**	**101.42**	**37**	*ep*Pdiff			18 01 48.3	
NRDL				*e*PP	PP		18 05 11.4	-3.1
NRDL				*e*PKKP	PKKPbc		18 17 34.3	+23
LJU	**Ljubljana**	**101.46**	**45**	*ep*Pdiff			18 01 48.2	
LJU				*e*SKSac	SKSac		18 11 27.7	+3.6
LJU				*e*			18 12 32.5	
LJU				*e*			18 14 06.0	
ROTZ	**Rotzenmuhle**	**101.50**	**41**	*e*Pdiff	Pdif		18 01 03.6	+0.8
ROTZ				*ep*Pdiff			18 01 48.8	
ROTZ				*e*PP	PP		18 05 10.5	-4.7
MOX	**Moxa**	**101.51**	**40**	*eP*	Pdif		18 01 05.1	+2.2
MOX				*e*			18 01 48.2	
comp=Z,27nm,1.9s								
MOX								
comp=Z,500nm,21.0s								
MOX	**Moxa**	**101.51**	**40**	*eP*	Pdif		18 01 05.1	+2.2
comp=Z,27nm,1.9s								
MOX				*e*			18 01 48.2	
MOX				LR	LR			
comp=Z,500nm,21.0s								
MOX	**Moxa**	**101.51**	**40**	*ep*Pdiff			18 01 48.3	
MANZ	**Manzenberg**	**101.53**	**40**	*e*Pdiff	Pdif		18 01 03.6	+0.6
MANZ				*ep*Pdiff			18 01 49.0	
MANZ				*e*PP	PP		18 05 11.7	-3.7
WET	**Wettzell**	**101.66**	**41**	*e*Pdiff	Pdif		18 01 04.1	+0.6
WET				*ep*Pdiff			18 01 49.6	
WET				*e*PP	PP		18 05 12.5	-3.8
BOJS	**Bojanci**	**101.72**	**45**	*ep*Pdiff			18 01 49.8	
BOJS				*e*SKSac	SKSac		18 11 28.5	+3.1
BOJS				*e*			18 12 31.9	
BOJS				*e*			18 14 08.0	
BOJS				*e*PKKPbc	PKKPbc		18 17 09.7	-0.9
NKC	**Novy Kostel**	**101.83**	**40**	*i* P	Pdif		18 01 04.8	+0.5
NKC				*e*			18 11 32.0	
NKC				*e*			18 12 35.6	
NKC	**Novy Kostel**	**101.83**	**40**	*e*PDIF	Pdif		18 01 04.8	+0.5
NKC				*ep*P			18 01 50.8	
NKC				*e*SKS			18 11 32.0	
NKC				*e*SDIF	Sdif		18 12 35.6	+5.6
CRES	**Cresnjev**	**101.98**	**45**	*e*Pdiff	Pdif		18 01 04.8	-0.1
CRES				*ep*Pdiff			18 01 50.7	
CRES				*e*PP	PP		18 05 12.8	-6.1
CRES				*e*PKKPbc	PKKPbc		18 17 08.8	-1.1
CRES				*e*			18 17 32.1	
MOA	**Molln**	**102.00**	**43⇓**	*iP*	Pdif		18 01 05.1	+0.1
comp=Z,9.2nm,1.3s								
GEC2	**GERESS Array S**	**102.04**	**42**	*ep*Pdiff			18 01 50.6	
GEC2				*e*PKKP	PKKPbc		18 17 31.0	+21
GERES	**GERESS Array B**	**102.04**	**42**	P	Pdif		18 01 04.3	-0.9
comp=Z,1.2nm,0.9s,baz=224,slow=3.7,SNR=8.1								
GERES				pP			18 01 50.2	
comp=Z,0.6nm,0.7s,baz=201,slow=7.0,SNR=2.3								
GERES				PKKPbc	PKKPbc		18 17 06.9	-2.9
comp=Z,1.9nm,0.9s,baz=60,slow=3.2,SNR=3.9								
PERS	**Pernice**	**102.07**	**44**	*e*PKKPbc	PKKPbc		18 17 08.0	-1.6
PERS				*e*			18 17 31.1	
KHC	**Kasperske Hory**	**102.07**	**41**	*i* P	Pdif		18 01 05.2	-0.1
KHC				*e*			18 11 30.6	
KHC				*e*			18 12 36.6	
KHC				*e*			18 14 06.7	
KHC	**Kasperske Hory**	**102.07**	**41**	*e*PDIF	Pdif		18 01 05.2	-0.1
KHC				*ep*P			18 01 51.1	
KHC				*e*SKS			18 11 30.6	
KHC				*e*SDIF	Sdif		18 12 36.6	+4.6
KHC				*e*SP	SP		18 14 06.7	+0.5
BSEG	**Bad Segeberg**	**102.14**	**36**	*ep*Pdiff			18 01 51.2	
CLL	**Collm**	**102.58**	**39**	*eP*	Pdif		18 01 09.0	+1.4
CLL				*e*			18 11 35.0	
CLL				*e*S	Sdif		18 12 42.0	+5.7
CLL				pmax	pmax			
comp=Z,6.0nm,0.9s								
CLL				pmax	pmax			
comp=Z,25nm,1.8s								
CLL				pmax	pmax			
comp=Z,30nm,1.9s								
CLL	**Collm**	**102.58**	**39**	*e*Pdif	Pdif		18 01 09.0	+1.4
comp=Z,6.0nm,0.9s								
CLL				*i* pP			18 01 53.8	
CLL				*e*PP	PP		18 05 16.0	-7.2
CLL				*e*SKS			18 11 35.0	
CLL				*e*Sdif	Sdif		18 12 42.0	+5.7
CLL				*i* PKKP	PKKPbc		18 17 27.4	+19
CLL	**Collm**	**102.58**	**39**	*e*Pdif	Pdif		18 01 07.8	+0.2
CLL				*ep*Pdiff			18 01 53.0	
CLL				*e*PP	PP		18 05 19.5	-3.7
CLL				*ep*PP			18 05 59.4	
CLL				*e*SKSac	SKSac		18 11 34.1	+4.9
CLL				*e*Sdiff	Sdif		18 12 39.9	+3.6
CLL				*e*SP	SP		18 14 13.1	+1.7
CLL				*e*PPS			18 15 30.2	
CLL				*e*PKKPbc	PKKPbc		18 17 05.1	-3.2
CLL				*e*PKKPdf	PKKPdf		18 17 12.7	-3.1
CLL				*e*			18 17 28.0	
CLL				*ep*PKKPbc			18 17 49.7	
CLL				*e*SS	SS		18 19 49.1	+0.9
CLL				*e*SS	SS		18 19 50.6	+2.5
CLL	**Collm**	**102.58**	**39**	*e*Pdif	Pdif		18 01 09.0	+1.4
comp=Z,6.0nm,0.9s								
CLL				*i* pDif			18 01 53.8	
comp=Z,46nm,2.0s								
CLL				*e*PP	PP		18 05 18.0	-5.2
comp=Z,25nm,1.8s								
CLL				*ep*PP			18 05 59.0	
CLL				*e*SKSac	SKSac		18 11 35.0	+5.8
CLL				*e*Sdif	Sdif		18 12 42.0	+5.7
CLL				*e*SP	SP		18 14 08.0	-3.4
CLL				*e*SPP			18 15 10.0	
CLL				*e*PPS			18 15 27.0	
CLL				*e*SS	SS		18 19 50.0	+1.9
CLL				*ex*	x		18 22 18.0	
CLL				LmV			18 47 00.0	
comp=Z,500nm,18.7s								
MUD	**Monsted U'grnd**	**102.59**	**34**	*i* P			18 01 51.4	
MUD				*i* S	SKSac		18 11 35.4	+6.4
MUD				*i*			18 12 39.2	
MUD				*i*			18 14 16.9	
MUD								
comp=Z,360nm,18.0s								
BRG	**Berggiesshubel**	**102.96**	**40**	*eP*	Pdif		18 01 11.6	+2.3
BRG							18 11 37.0	
BRG				SS	SS		18 19 53.0	-0.4
BRG				pmax	pmax			
comp=Z,6.0nm,1.4s								
BRG				pmax	pmax			
comp=Z,35nm,2.9s								
BRG				pmax	pmax			
comp=Z,15nm,1.7s								
BRG				pmax	pmax			
comp=Z,21nm,2.0s								
BRG				pmax	pmax			
comp=Z,2.0nm,0.9s								
BRG				pmax	pmax			
comp=Z,8.0nm,1.6s								
BRG				pmax	pmax			
comp=Z,3.0nm,1.6s								
BRG				MLR	MLR			
comp=Z,270nm,23.4s								
BRG				MLR	MLR			
comp=N,110nm,19.0s								
BRG				MLR	MLR			
comp=E,200nm,19.0s								
BRG	**Berggiesshubel**	**102.96**	**40**	*eP*	Pdif		18 01 11.6	+2.3
comp=E,5.7nm,1.4s								
BRG				*e*			18 01 36.8	
BRG				*e*			18 01 55.6	
BRG				PP	PP		18 05 16.2	-10
BRG				SKS			18 11 37.0	
BRG				*e*			18 12 47.0	
BRG				SP	SP		18 14 13.0	-2.4
BRG				PKKP	PKKPbc		18 17 05.3	-1.8
BRG				*e*			18 17 27.1	
BRG				SS	SS		18 19 53.0	-0.4
BRG				P'P'			18 27 12.6	
BRG				LR	LR			
comp=Z,270nm,23.4s								
BRG	**Berggiesshubel**	**102.96**	**40**	*e*Pdiff	Pdif		18 01 11.6	+2.3
BRG				*ep*Pdiff			18 01 55.4	
BRG	**Berggiesshubel**	**102.96**	**40**	*eP*	Pdif		18 01 11.6	+2.3
comp=Z,9.5nm,1.4s								
BRG				*e*			18 01 36.8	
comp=Z,59nm,2.9s								
BRG				*e*			18 01 55.6	
comp=Z,24nm,1.7s								
BRG				PP	PP		18 05 16.2	-10
comp=Z,34nm,2.0s								
BRG				SKS			18 11 37.0	
BRG				*e*			18 12 47.0	
BRG				SP	SP		18 14 13.0	-2.4
BRG				PKKP	PKKPbc		18 17 05.3	-1.8
comp=Z,3.7nm,0.9s								
BRG				*e*			18 17 27.1	
comp=Z,13nm,1.6s								
BRG				SS	SS		18 19 53.0	-0.4
BRG				PKPPKP			18 27 12.6	
comp=Z,5.7nm,1.6s								
BRG								
comp=Z,451nm,23.4s								
BRG								
comp=N,184nm,19.0s								
BRG								
comp=E,334nm,19.0s								
PRU	**Pruhonice**	**102.98**	**41**	*i* P	Pdif		18 01 09.4	0.0
PRU				*e*			18 11 36.4	
PRU				*e*			18 12 44.6	
PRU				*e*			18 14 16.7	
PRU	**Pruhonice**	**102.98**	**41**	*e*PDIF	Pdif		18 01 09.4	0.0
PRU				*ep*P			18 01 55.6	
PRU				*ex*	x		18 04 01.4	
PRU				*e*SKS			18 11 36.4	
PRU				*e*SDIF	Sdif		18 12 44.6	+5.0
PRU				*e*SP	SP		18 14 16.7	+1.0
PVCC	**Panska Ves**	**103.20**	**40**	*e*SKS			18 11 37.7	
TREC	**Trest**	**103.29**	**42**	*i* P	Pdif		18 01 12.7	+1.9
TREC				*e*			18 11 37.0	
TREC

AKBB *e*PP PP 18 06 28.1 -5.1
FINES FINESS Array B 112.41 31 PKPdf PkiKP 18 05 45.2 -0.2
FINES PKKPbc PKKPbc 18 16 35.2 -2.6
FINES PKKPab PKKPab 18 16 43.8 +0.7
FINES FINESS Array B 112.41 31 PkiKP PkiKP 18 05 45.2 -0.2
comp=Z,0.9nm,0.7s,baz=346,slow=2.9,SNR=5.9
FINES pPKiKP 18 06 30.1
comp=Z,3.1nm,0.8s,baz=242,slow=4.1,SNR=5.2
FINES PKKPbc PKKPbc 18 16 35.2 -2.6
comp=Z,0.8nm,0.4s,baz=88,slow=4.6,SNR=16
FINES PKKPab PKKPab 18 16 43.8 +0.7
comp=Z,2.4nm,0.7s,baz=84,slow=5.9,SNR=6.9
ARCES ARCESS Array B 113.33 22 PKPdf PkiKP 18 05 45.7 -1.3
ARCES PKKPbc PKKPbc 18 16 32.5 -2.3
ARCES PKKPab PKKPab 18 16 39.7 +0.9
ARCES ARCESS Array B 113.33 22 PkiKP PkiKP 18 05 45.7 -1.3
comp=Z,3.2nm,1.0s,baz=210,slow=1.0,SNR=5.0
ARCES PKKPbc PKKPbc 18 16 32.5 -2.3
comp=Z,3.1nm,0.6s,baz=87,slow=3.4,SNR=24
ARCES PKKPab PKKPab 18 16 39.7 +0.9
comp=Z,5.7nm,0.8s,baz=79,slow=6.3,SNR=9.7
SIM Simferopol' 114.32 50 P Pdif 18 02 05.6 +5.8
SIM *i* 18 05 50.0
SIM *e* 18 06 48.0
SIM *e* 18 12 23.0
SIM *e*PS PS 18 16 07.0 -22
SIM *e*PPS 18 17 28.0
SIM pmax pmax
comp=Z,62nm,11.6s
SIM MLR MLR
comp=Z,330nm,16.8s
JOF Joensuu 115.03 30 *e*p PKiKP 18 05 49.2 -1.3
comp=Z,0.6nm,0.4s
JOF Joensuu 115.03 30 *e*PKIKP PKiKP 18 05 49.2 -1.3
JOF pmax pmax
comp=Z,1.0nm,0.4s
MALT Malatya 116.26 58 *e*PKIKP PKPdf 18 05 53.9 +0.3
ANN Anapa 116.62 50 *i* PKIKP PKPdf 18 05 56.0 +1.9
ANN *e* 18 07 11.9
ANN *e* 18 12 34.3
ANN pmax pmax
comp=Z,32nm,0.9s
OBN Obninsk 117.18 39⇑ *i*PKIKP PKPdf 18 05 54.4 -0.4
OBN *e* 18 12 30.4
OBN *i* PS PS 18 16 35.2 -19
OBN pmax pmax
comp=Z,38nm,1.2s
OBN MLR MLR
comp=Z,400nm,21.0s
OBN Obninsk 117.18 39⇑ *e*PKP PKPdf 18 05 55.0 +0.2
MOS Moscow 117.82 38 *e*PKIKP PKPdf 18 05 55.8 -0.2
STKA Stephens Creek 117.88 207 *e*PKP PKPdf 18 05 56.6 -0.5
comp=Z,4.9nm,0.8s
STKA Stephens Creek 117.88 207 PKP PKPdf 18 05 56.7 -0.4
comp=Z,5.1nm,0.8s,baz=272,slow=1.1,SNR=9.7
STKA pPKP pPKPdf 18 06 43.2 -1.3
comp=Z,3.9nm,0.8s,baz=213,slow=2.1,SNR=3.4
STKA PKKPbc PKKPbc 18 16 17.0 -1.3
comp=Z,2.6nm,0.7s,baz=296,slow=6.5,SNR=10.0
SOC Sochi 118.08 52 *e*PKIKP PKPdf 18 05 56.8 -0.1
SOC *e* 18 06 54.3
SOC *e* 18 07 19.9
SOC *e* 18 12 29.2
SOC *e* 18 16 39.4
SOC *e*SS SS 18 23 12.8 -2.5
SOC pmax pmax
comp=Z,34nm,0.9s
SOC pmax pmax
comp=Z,29nm,1.0s
VRSR Storozhevoye 118.49 43 *i* PKIKP PKPdf 18 05 56.9 -0.6
VRSR pmax pmax
comp=Z,6.0nm,0.9s
VRSR pmax pmax
comp=N,1.0nm,0.3s
VRSR pmax pmax
comp=E,4.0nm,1.3s
MSL Mosul 119.56 61 *e*x x 18 05 59.5
MSL *e*x x 18 12 43.0
VRHR Novokhopersk 120.02 44 *i* PKIKP PKPdf 18 05 54.9 -5.5
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=Z,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.7s
KIV Kislovodsk 120.26 52⇑ *i*PKIKP PKPdf 18 06 01.3 +0.2
KIV *i* 18 12 41.1
KIV *i* PS SP 18 17 00.2 -0.7
KIV pmax pmax
comp=Z,44nm,1.4s
KIV Kislovodsk 120.26 52 *e*PKPdf PKPdf 18 06 00.5 -0.6
KIV Kislovodsk 120.26 52 P PKPdf 18 06 02.0 +0.9
SNR=5.8
KIV Kislovodsk 120.26 52 P PKPdf 18 06 02.0 +0.9
SNR=5.8
KIV Kislovodsk 120.26 52 P PKPdf 18 06 02.0 +0.9
SNR=5.8
KIV Kislovodsk 120.26 52 PKPdf PKPdf 18 06 02.0 +0.9
SNR=5.8
KIV Kislovodsk 120.26 52 P PKPdf 18 06 02.0 +0.9
SNR=5.8
KIV Kislovodsk 120.26 52 P PKPdf 18 06 02.0 +0.9
SNR=5.8
KIV Kislovodsk 120.26 52 P PKPdf 18 06 02.0 +0.9
SNR=5.8
ONI Oni 120.68 54 P PP 18 07 27.9 -4.8
GNI Garni 121.38 57⇑ *i*PKIKP PKPdf 18 06 04.9 +1.5
GNI Garni 121.38 57⇑ *e*PKP PKPdf 18 06 04.0 +0.6
RST Umm Al-Ruwaisa 121.53 69 *e*P PKPdf 18 06 04.0 0.0
RST AMb AMB 18 06 06.1
comp=Z,2.0nm,0.7s
MTA Mtatsminda 121.58 55 P PP 18 07 33.8 -5.1
NAY Al-Naaiem 121.69 70 *e*P PKPdf 18 06 04.1 -0.2
NAY AMb AMB 18 06 06.6
comp=Z,15nm,0.7s
MIB Mutribah 121.88 69 *e*P PKPdf 18 06 04.7 0.0
MIB AMb AMB 18 06 07.2
comp=Z,36nm,0.8s
RDF Al-Radifah 121.89 70 *e*P PKPdf 18 06 04.7 0.0
RDF AMb AMB 18 06 07.0
comp=Z,36nm,0.7s
DGRG David-gareji 122.00 55 P PP 18 07 29.3 -12
NWAO Narrogin (SRO) 123.00 184 PKP PKPdf 18 06 05.7 -1.3
comp=Z,11nm,0.7s,baz=154,slow=6.8
FORT Forrest 123.43 195 *e*PKP PKPdf 18 06 06.5 -1.3
comp=Z,18nm,0.7s
MAK Makhachkala 123.68 53 *i* PKIKP PKPdf 18 06 20.7 +13
MAK *i* PS PS 18 17 49.8 -3.0
MAK pmax pmax
comp=Z,25nm,0.4s
MAK MLR MLR
comp=Z,241nm,17.0s
MUN Mundaring 124.01 183 *e*PKP PKPdf 18 06 08.1 -0.8
KLBR Kellerberrin 124.29 185 *e*PKP PKPdf 18 06 08.2 -1.2
comp=Z,18nm,0.5s
CTA Charters Tower 125.35 219 *e*PKP PKPdf 18 06 11.6 -0.1
comp=Z,22nm,0.8s
CTA Charters Tower 125.35 219 PKIKP PKPdf 18 06 11.2 -0.5
CTA pmax pmax
comp=Z,32nm,0.9s
CTA Charters Tower 125.35 219 PKP PKPdf 18 06 11.2 -0.5
comp=Z,32nm,0.9s,baz=224,slow=0.5,SNR=16
BILL Bilibino 125.73 338*d* *i*PKIKP PKPdf 18 06 10.7 -0.2
BILL Bilibino 125.73 338 *e*PKPdf PKPdf 18 06 10.6 -0.3
SOKR Solikamsk 127.56 32⇑ *i*PKIKP PKPdf 18 06 15.6 +1.0
SOKR pmax pmax
comp=Z,20nm,1.1s
ASAR Alice Springs 128.25 205 PKHKP 18 05 52.3
ASAR 18 06 16.1
ASAR 18 08 25.6
ASAR Alice Springs 128.25 205 PKhKP 18 05 52.2
comp=Z,0.5nm,0.7s,baz=144,slow=2.9,SNR=5.3
ASAR PKP PKPdf 18 06 16.1 -1.1
comp=Z,35nm,0.8s,baz=147,slow=2.2,SNR=150
ASAR pPKP pPKPdf 18 07 02.6 -2.0
comp=Z,12nm,0.9s,baz=152,slow=2.2,SNR=4.5
ASAR PP PP 18 08 25.6 +3.6
comp=Z,3.0nm,1.0s,baz=161,slow=7.3,SNR=4.4
ASAR SKPbc 18 09 19.1
comp=Z,3.7nm,0.8s,baz=147,slow=4.7,SNR=4.2
ASAR PKKP 18 16 25.2
comp=Z,0.3nm,0.5s,baz=344,slow=1.8,SNR=5.6
ASAR SKKP 18 19 28.9
comp=Z,2.9nm,0.9s,baz=336,slow=3.9,SNR=6.4
HATD Hatta, Dubai 128.54 77 P PKPdf 18 06 18.1 +0.5
SNR=6.3
HATD Hatta, Dubai 128.54 77 P PKPdf 18 06 18.1 +0.5
SNR=6.3
HATD Hatta, Dubai 128.54 77 P PKPdf 18 06 18.1 +0.5
SNR=6.3
HATD Hatta, Dubai 128.54 77 PKPdf PKPdf 18 06 18.1 +0.5
SNR=6.3
HATD Hatta, Dubai 128.54 77 P PKPdf 18 06 18.1 +0.5
SNR=6.3
HATD Hatta, Dubai 128.54 77 P PKPdf 18 06 18.1 +0.5
SNR=6.3
HATD Hatta, Dubai 128.54 77 P PKPdf 18 06 18.1 +0.5
SNR=6.3
BSY Bisya 129.04 80 P PKPdf 18 06 19.0 +0.4
SNR=6.3
BSY Bisya 129.04 80 P PKPdf 18 06 19.0 +0.4
SNR=6.3
BSY Bisya 129.04 80 P PKPdf 18 06 19.0 +0.4
SNR=6.3
BSY Bisya 129.04 80 PKPdf PKPdf 18 06 19.0 +0.4
SNR=6.3
BSY Bisya 129.04 80 P PKPdf 18 06 19.0 +0.4
SNR=6.3
BSY Bisya 129.04 80 P PKPdf 18 06 19.0 +0.4
SNR=6.3
BSY Bisya 129.04 80 P PKPdf 18 06 19.0 +0.4
SNR=6.3
ARU Arti 129.35 36 *i* PKIKP PKPdf 18 06 19.0 +0.9
ARU 18 08 29.9
ARU SS SS 18 25 32.6 -3.7
ARU Arti 129.35 36 *e*PKPdf PKPdf 18 06 18.3 +0.2
ARU *ep*PKPdf pPKPdf 18 07 05.8 +0.3
ARU *e*PP PP 18 08 22.9 -6.9
ARU *e*SKP 18 09 24.8
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 PKPdf PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
SMDO Samad 129.88 80 P PKPdf 18 06 20.7 +0.5
SNR=13
BIDO Bidbid 130.05 79 P PKPdf 18 06 20.9 +0.4
SNR=5.7
BIDO Bidbid 130.05 79 P PKPdf 18 06 20.9 +0.4
SNR=5.7
BIDO Bidbid 130.05 79 P PKPdf 18 06 20.9 +0.4
SNR=5.7
BIDO Bidbid 130.05 79 PKPdf PKPdf 18 06 20.9 +0.4
SNR=5.7
BIDO Bidbid 130.05 79 P PKPdf 18 06 20.9 +0.4
SNR=5.7
BIDO Bidbid 130.05 79 P PKPdf 18 06 20.9 +0.4
SNR=5.7
BIDO Bidbid 130.05 79 P PKPdf 18 06 20.9 +0.4
SNR=5.7
SVE Sverdlovsk 130.33 35⇓ *i*PKIKP PKPdf 18 06 20.9 +0.9
SVE pmax pmax
comp=Z,29nm,1.3s
AKTO Aktyubinsk 130.42 44 SKPbc SKPbc 18 09 28.0 +1.2
comp=Z,20nm,1.0s,baz=281,slow=3.2,SNR=20
WBK Wadi Bani Khal 130.60 80 P PKPdf 18 06 22.7 +1.2
SNR=11
WBK Wadi Bani Khal 130.60 80 P PKPdf 18 06 22.7 +1.2
SNR=11
WBK Wadi Bani Khal 130.60 80 P PKPdf 18 06 22.7 +1.2
SNR=11
WBK Wadi Bani Khal 130.60 80 PKPdf PKPdf 18 06 22.7 +1.2
SNR=11
WBK Wadi Bani Khal 130.60 80 P PKPdf 18 06 22.7 +1.2
SNR=11
WBK Wadi Bani Khal 130.60 80 P PKPdf 18 06 22.7 +1.2
SNR=11
WBK Wadi Bani Khal 130.60 80 P PKPdf 18 06 22.7 +1.2
SNR=11
WB2 Warramunga Arr 131.43 207 *e*PKPpre 18 06 03.3
WB2 *e*PKPdf PKPdf 18 06 22.4 -0.8
WB2 *e*PKP PKPdf 18 06 22.9 -0.4
WB2 *ep*PKPdf pPKPdf 18 07 09.2 -1.6
WB2 *e*SKP 18 09 31.1
WRA Warramunga Arr 131.43 207 PKHKP 18 05 59.4
WRA 18 06 22.6
WRA Warramunga Arr 131.43 207 PKhKP 18 05 59.4
comp=Z,0.6nm,0.6s,baz=160,slow=2.4,SNR=14
WRA PKP PKPdf 18 06 22.6 -0.7
comp=Z,24nm,0.5s,baz=155,slow=1.8,SNR=77
WRA pPKP pPKPdf 18 07 09.3 -1.5
comp=Z,12nm,1.0s,baz=161,slow=1.5,SNR=3.7
WRA SKPbc SKPbc 18 09 31.3 -0.2
comp=Z,18nm,0.7s,baz=155,slow=3.7,SNR=22
WRAB Tennant Creek 131.44 207 *e*PKHKP 18 06 06.8
WRAB *e* 18 06 22.6
WRAB Tennant Creek 131.44 207 *e*PKPpre 18 06 06.8
WRAB *e*PKPdf PKPdf 18 06 22.6 -0.7
WRAB *ep*PKPdf pPKPdf 18 07 07.9 -2.9
WRAB *e*SKP 18 09 31.1
TIXI Tiksi 131.73 353 *e*PKIKP 18 06 14.4
TIXI *e* 18 07 08.9
TIXI Tiksi 131.73 353 *e*PKPpre 18 06 14.4
TIXI *e*PKPdf PKPdf 18 06 21.6 -0.6
TIXI *ep*PKPdf pPKPdf 18 07 08.9 -0.7
TIXI *e*SKP 18 09 30.9
SEY Seymchan 133.33 337⇓ *i*PKIKP PKPdf 18 06 25.6 +0.1
SEY Seymchan 133.33 337⇓ *e*PKP PKPdf 18 06 25.7 +0.2
MBWA Marble Bar 134.40 189 *e*PKPdf PKPdf 18 06 26.9 -2.0
MBWA *e*SKP 18 09 41.6
PET Petropavlovsk 135.34 322*d* *i*PKIKP PKPdf 18 06 29.1 -0.4
PET Petropavlovsk 135.34 322 *e*PKPdf PKPdf 18 06 28.8 -0.8
PET *e*SKP 18 09 42.8
MA2 Magadan 135.98 333 *e*PKIKP PKPdf 18 06 25.2 -5.3
MA2 *e* 18 09 10.6
MA2 *e* 18 26 52.8
MA2 pmax pmax
comp=Z,40nm,1.6s
FITZ Fitzroy Crossi 136.16 197 *e*PKP PKPdf 18 06 29.8 -2.4
comp=Z,18nm,0.7s
FITZ *e*SKP 18 09 47.7
FITZ Fitzroy Crossi 136.16 197 *e*PKPpre 18 06 17.6
FITZ *e*PKP PKPdf 18 06 29.8 -2.4
FITZ *e*PKPdf PKPdf 18 06 32.0 -0.1
FITZ *ep*PKPdf pPKPdf 18 07 19.6 -0.1
FITZ *e*PP PP 18 09 15.8 +3.4
FITZ *e*SKP 18 09 45.4
FITZ *e*SKP 18 09 47.7
FITZ Fitzroy Crossi 136.16 197 PKhKP 18 06 16.7
comp=Z,2.3nm,0.7s,baz=103,slow=6.1,SNR=8.9
FITZ PKP PKPdf 18 06 32.1 -0.1
comp=Z,9.7nm,0.6s,baz=186,slow=5.5,SNR=16
FITZ SKPbc SKPbc 18 09 48.0 +0.7
comp=Z,6.8nm,0.8s,baz=203,slow=1.6,SNR=5.3
BRVK Borovoye 136.89 37 *e*PKIKP PKPdf 18 06 32.7 +0.3
BRVK *e* 18 09 18.6
BRVK Borovoye 136.89 37 *e*PKPdf PKPdf 18 06 32.7 +0.3
BRVK *e*PP PP 18 09 18.6 +0.9
BRVK *e*SKP 18 09 48.5
BVAR Borovoye Array 136.96 37 SKPbc SKPbc 18 09 50.0 +1.6
comp=Z,4.1nm,0.8s,baz=289,slow=4.5,SNR=4.0
BVAR SKKPbc 18 18 38.9
comp=Z,1.8nm,0.9s,baz=90,slow=3.0,SNR=3.8
SKR Severo-Kuril's 137.68 320 *e*P Pdif 18 03 40.5 -3.1
KAKA Kakadu 138.67 209 *e*PKP PKPdf 18 06 27.7 -9.2
comp=Z,34nm,1.2s
KAKA Kakadu 138.67 209 *e*PKPpre 18 06 24.1
KAKA *e*PKP PKPdf 18 06 27.7 -9.2
QUE Quetta 138.79 71 *e*P PKPdf 18 06 28.0 -8.6
QUE *e*S PP 18 09 31.0 +0.4
KBL Kabul 140.57 65 *e*PKPpre 18 06 34.1
YAK Yakutsk 140.58 348 *e*PKHKP 18 06 30.7
YAK pmax pmax
comp=Z,65nm,1.6s
YAK pmax pmax
comp=N,8.0nm,1.3s
YAK pmax pmax
comp=E,7.0nm,1.4s
YAK pmax pmax
comp=Z,27nm,1.0s
YAK pmax pmax
comp=Z,14nm,0.7s
YAK pmax pmax
comp=N,7.0nm,1.2s
YAK Yakutsk 140.58 348 *e*PKPpre 18 06 30.1
YAK *i* PKP PKPdf 18 06 39.2 +0.3
YAK *e*PKPdf PKPdf 18 06 39.6 +0.7
YAK *ep*PKPdf pPKPdf 18 07 27.1 +0.7
YAK *e*SKP 18 09 57.3
DRP Derazinda 141.62 69 P PKPdf 18 06 36.6 -5.1
NVS Novosibirsk 142.30 28 *e*PKIKP PKPdf 18 06 38.3 -3.9
NVS *i* 18 07 29.7
NVS pmax pmax
comp=E,33nm,1.4s
NVS pmax pmax
comp=Z,95nm,1.4s
KURK Kurchatov 142.54 36 *e*PKPdf PKPdf 18 06 38.8 -3.9
KURK *i* PKP PKPdf 18 06 44.3 +1.6
KURK Kurchatov 142.54 36 P PKPdf 18 06 39.9 -2.9
SNR=12
KURK Kurchatov 142.54 36 P PKPdf 18 06 39.9 -2.9
SNR=12
KURK Kurchatov 142.54 36 P PKPdf 18 06 39.9 -2.9
SNR=12
KURK Kurchatov 142.54 36 PKPdf PKPdf 18 06 39.9 -2.9
SNR=12
KURK Kurchatov 142.54 36 P PKPdf 18 06 39.9 -2.9
SNR=12
KURK Kurchatov 142.54 36 P PKPdf 18 06 39.9 -2.9
SNR=12
EKS2 Erkin-Say 142.84 51 *e*PKPdf PKPdf 18 06 41.2 -2.3
EKS2 *e*PP PP 18 09 52.5 -2.2
EKS2 Erkin-Say 142.84 51 P PKPdf 18 06 41.4 -2.2
SNR=32
THW Thamme Wali 142.90 67 P PKPdf 18 06 39.6 -4.4
AML Almayashu 142.93 52 *e*PKPdf PKPdf 18 06 40.6 -3.1
AML Almayashu 142.93 52 P PKPdf 18 06 42.5 -1.2
SNR=13
CEP Cherat 142.98 65 P PKPdf 18 06 40.5 -3.6
CEP S 18 07 35.0
KAD Karad 143.09 93 *e*P PKPdf 18 06 42.4 -2.3
USP Ospenovka 143.16 49 P PKPdf 18 06 41.8 -2.3
SNR=11
AAK Ala-Archa 143.35 50 P PKPdf 18 06 43.0 -1.4
SNR=22
FRU Bishkek 143.38 50 *e*PKIKP PKPdf 18 06 43.0 -1.5
FRU pmax pmax
comp=Z,90nm,2.0s
KOD Kodaikanal 143.39 106 *e*P PKPdf 18 06 42.7 -2.6
CHMS Chumysh 143.42 50 P PKPdf 18 06 43.1 -1.4
SNR=9.8
UCH Uchtor 143.49 51 *e*PKPdf PKPdf 18 06 43.8 -0.9
UCH Uchtor 143.49 51 P PKPdf 18 06 44.3 -0.4
SNR=17
ZAL Zalesovo 143.59 28 PKIKP PKPdf 18 06 42.6 -1.9
ZAL 18 10 07.8
ZAA0 Zalesovo Array 143.59 28 *e*PKPdf PKPdf 18 06 42.2 -2.3
ZAA0 *ep*PKPdf pPKPdf 18 07 27.2 -4.8
ZALV Zalesovo Beam 143.59 28 PKP PKPdf 18 06 42.6 -1.9
ZALV pPKP pPKPdf 18 07 29.4 -2.6
ZALV SKPbc SKPbc 18 10 07.8 +1.9
ZALV Zalesovo Beam 143.59 28 PKP PKPdf 18 06 42.6 -1.9
comp=Z,94nm,0.8s,baz=300,slow=4.0,SNR=160
ZALV pPKP pPKPdf 18 07 29.4 -2.6
comp=Z,34nm,0.8s,baz=304,slow=3.4,SNR=3.0
ZALV SKPbc SKPbc 18 10 07.8 +1.9
comp=Z,16nm,0.7s,baz=311,slow=3.5,SNR=4.1
KBK Karagaybulak 143.66 50 P PKPdf 18 06 44.1 -0.9
SNR=55
TKM2 Tokmak 2 144.03 50 *e*PKIKP PKPdf 18 06 44.6 -1.0
TKM2 *e* 18 09 59.4
TKM2 Tokmak 2 144.03 50 P PKPdf 18 06 45.3 -0.3
SNR=6.0
KZA Kyzart 144.05 51 P PKPdf 18 06 46.1 +0.5
SNR=28
CHCP Chirah Chowk 144.12 66 P PKPdf 18 06 44.3 -1.8
BATI Kupang 144.22 198 PKP PKPdf 18 06 45.5 -1.4
comp=Z,133nm,0.7s,baz=290,slow=1.3,SNR=54
ULHL Ulahol 144.70 50 P PKPdf 18 06 47.8 +1.0
SNR=283
PALK Pallekele 144.72 113 *e*PKPdf PKPdf 18 06 47.0 -0.7
PALK *ep*PKPdf pPKPdf 18 07 38.0 +2.8
KSH Kashi 145.29 55 *i* PKP PKPdf 18 06 49.0 +1.1
KSH *e*XPKP 18 07 48.3
KSH *e*PKS 18 10 22.0
KSH *e*SKS SKSdf 18 13 42.0 +2.1
AJM Ajmer 145.30 78 *e*P PKPdf 18 06 48.4 +0.1
THN Thein Dam 146.27 67 *e*P PKPdf 18 06 50.3 +0.5
CLNS Chul'man 146.33 348 *e*PKIKP PKPdf 18 06 47.6 -1.5
CLNS pmax pmax
comp=Z,48nm,0.9s
CLNS pmax pmax
comp=N,37nm,1.0s
CLNS pmax pmax
comp=E,37nm,1.0s
BOD Bodaibo 146.45 359 *e*PKIKP PKPdf 18 06 48.5 -0.8
BOD pmax pmax
comp=Z,107nm,1.2s
DLH Dalhousie 146.47 67 *e*x PKPbc 18 06 53.0 +1.1
AKL Akola 146.56 89 *e*P PKPdf 18 06 50.6 0.0
MK31 Makanchi Array 146.68 40 *e*PKIKP PKPdf 18 06 50.5 +0.5
MK31 *e* 18 06 52.2
MK31 Makanchi Array 146.68 40 *e*PKPdf PKPdf 18 06 50.5 +0.4
MK31 *e*PKPbc PKPbc 18 06 52.1 +0.2
MK31 *ep*PKPdf pPKPdf 18 07 37.5 -0.1
MK31 *e*SKP 18 10 10.9
MKAR Makanchi Array 146.68 40 PKP2 PKPbc 18 06 50.6 -1.4
MKAR 18 10 14.5
MKAR Makanchi Array 146.68 40 PKPbc PKPbc 18 06 50.6 -1.3
comp=Z,157nm,1.0s,baz=280,slow=1.5,SNR=197
MKAR pPKPbc pPKPbc 18 07 38.5 -0.3
comp=Z,32nm,0.9s,baz=350,slow=2.7,SNR=2.0
MKAR SKPbc SKPbc 18 10 14.5 +1.2
comp=Z,4.8nm,0.8s,baz=335,slow=2.4,SNR=2.7
MKAR SKKPbc 18 18 00.9
comp=Z,3.4nm,1.0s,baz=126,slow=3.1,SNR=6.5
YUK Yuzh-Kuril'sk 146.75 315 *e*PKP2 PKPbc 18 06 51.0 -1.3
YUK pmax pmax
comp=Z,3μm,4.0s
YUK pmax pmax
comp=Z,1μm,1.1s
BHK Bhakra 146.93 69 *e*P PKPdf 18 06 51.2 +0.2
MDRS Chennai 147.06 104 *e*x PKPbc 18 06 55.9 +1.9
HYB Hyderabad 147.10 95 *e*P PKPdf 18 06 52.5 +0.9
HYB *e* 18 07 41.0
HYB *e*S SKKSac 18 16 56.0 +1.3
HYB Hyderabad 147.10 95 *i* PKP PKPdf 18 06 52.5 +0.9
comp=Z,195nm,1.0s
HYB *e* 18 07 41.0
HYB *ep*PKP pPKPab 18 08 06.0 +24
YSS Yuzh-Sakhalins 147.22 321⇓ *e*PKIKP PKPdf 18 06 51.0 +0.1
YSS *e* 18 07 41.0
YSS pmax pmax
comp=Z,100nm,0.7s
YSS pmax pmax
comp=Z,1μm,5.0s
YSS Yuzh-Sakhalins 147.22 321 *e*PKPdf PKPdf 18 06 51.1 +0.2
YSS *ep*PKPdf pPKPdf 18 07 38.2 -0.2
BHPL Bhopal 147.42 84 *e*P PKPdf 18 06 52.0 0.0
SMLA Simla 147.59 70 *e*P PKPdf 18 06 52.8 +0.7
NDI New Delhi 147.69 74 *e*P PKPdf 18 06 52.5 +0.2
NDI *e*P 18 06 52.8
GUMO Guam 148.17 256 *e*PKIKP PKPdf 18 06 52.1 -1.3
GUMO *e* 18 06 56.1
GUMO Guam 148.17 256 *e*PKPdf PKPdf 18 06 52.0 -1.4
GUMO *e*PKPbc PKPbc 18 06 56.1 -0.9
GUMO *ep*PKPdf pPKPdf 18 07 40.2 -0.8
NGP Nagpur 148.52 89 *e*P PKPdf 18 06 54.8 +0.9
KAPI Kappang 150.19 194 P PKPbc 18 07 01.6 -0.5
SNR=25
KAPI Kappang 150.19 194 P PKPbc 18 07 01.6 -0.5
SNR=25
KAPI Kappang 150.19 194 P PKPbc 18 07 01.6 -0.5
SNR=25
KAPI Kappang 150.19 194 PKPdf PKPbc 18 07 01.6 -0.5
SNR=25
KAPI Kappang 150.19 194 P PKPbc 18 07 01.6 -0.5

	SNR=25							
KAPI	**Kappang**	**150.19**	**194**	P	PKPbc	18 07 01.6	-0.5	
	SNR=25							
KAPI	**Kappang**	**150.19**	**194**	PKP	PKPdf	18 06 56.3	-0.6	
	comp=Z,144nm,1.0s,baz=47,slow=10,SNR=5.3							
KAPI				PKPbc	PKPbc	18 07 01.2	-0.9	
	comp=Z,116nm,0.9s,baz=226,slow=2.7,SNR=34							
HABR	**Khabarovsk**	**150.24**	**330**	*e*PKIKP	PKPdf	18 06 55.6	-0.2	
HABR				*e*		18 07 06.5		
HABR				*e*		18 10 35.4		
HABR				*e*		18 13 48.6		
HABR				*e*		18 13 58.8		
HABR				*e*		18 29 41.3		
HABR				*e*		18 35 23.4		
PTH	**Pithoragarh**	**150.30**	**73**	*e*P	PKPdf	18 06 57.9	+1.4	
LGTI	**Lohaghat**	**150.33**	**73**	*e*x	PKPbc	18 07 01.5	-0.4	
KLR	**Kul'dur**	**151.07**	**334**	*e*PKIKP	PKPdf	18 06 53.2	-3.8	
MOY	**Mondy**	**151.10**	**16**	*e*PKIKP	PKPdf	18 06 58.9	+1.9	
MOY				pmax	pmax			
	comp=Z,207nm,1.6s							
IRK	**Irkutsk**	**151.25**	**11**	*e*PKIKP	PKPdf	18 06 56.9	-0.3	
IRK				*e*		18 07 53.8		
IRK				pmax	pmax			
	comp=Z,95nm,2.1s							
WMQ	**Urumqi**	**151.50**	**41**	*e*PKP	PKPdf	18 06 56.0	-1.9	
WMQ				PP	PP	18 10 46.0	+1.0	
WMQ				SKS	SKSdf	18 13 46.0	-2.1	
WMQ				SKKS	SKKSac	18 17 17.0	-0.7	
WMQ				SS	SS	18 29 54.0	-0.6	
WMQ				PP	PP			
	comp=Z,86nm,10.0s							
WMQ				LR	LR			
	comp=N,368nm,22.0s							
WMQ				LR	LR			
	comp=E,386nm,22.0s							
WMQ				LR	LR			
	comp=Z,298nm,22.0s							
BLSP	**Bilaspur**	**151.52**	**88**	*e*P	PKPdf	18 06 56.8	-1.7	
TLY	**Talaya**	**151.67**	**12**	*i* PKIKP	PKPdf	18 06 59.4	+1.6	
TLY				pmax	pmax			
	comp=Z,43nm,1.0s							
TLY				MLR	MLR			
	comp=Z,235nm,21.0s							
TLY	**Talaya**	**151.67**	**12**	*e*PKPdf	PKPdf	18 06 58.9	+1.0	
TLY				*e*PKPbc	PKPbc	18 07 04.8	+0.5	
TLY				*e*PKPab	PKPab	18 07 14.9	+1.3	
TLY				⇓*e*pPKP	pPKPdf	18 07 45.6	+0.1	
TLY				*es*PKPdf		18 08 00.1		
TLY	**Talaya**	**151.67**	**12**	P	PKPdf	18 07 00.0	+2.2	
	SNR=7.6							
TLY	**Talaya**	**151.67**	**12**	P	PKPdf	18 07 00.0	+2.2	
	SNR=7.6							
TLY	**Talaya**	**151.67**	**12**	P	PKPdf	18 07 00.0	+2.2	
	SNR=7.6							
TLY	**Talaya**	**151.67**	**12**	PKPdf	PKPdf	18 07 00.0	+2.2	
	SNR=7.6							
TLY	**Talaya**	**151.67**	**12**	P	PKPdf	18 07 00.0	+2.2	
	SNR=7.6							
TLY	**Talaya**	**151.67**	**12**	P	PKPdf	18 07 00.0	+2.2	
	SNR=7.6							
ZAK	**Zakamensk**	**152.83**	**14**	*e*PKIKP	PKPdf	18 07 00.3	+0.7	
ZAK				*e*		18 07 53.8		
ZAK				pmax	pmax			
	comp=Z,11nm,1.5s							
ZAK				pmax	pmax			
	comp=Z,23nm,1.4s							
ZAK				pmax	pmax			
	comp=Z,2.0nm,2.1s							
KOLN	**Koldanda**	**153.32**	**76**	*e*P	PKPdf	18 07 01.4	+0.3	
	comp=Z,22nm,0.5s							
DANN	**Dangsing**	**153.45**	**75**	*e*P	PKPdf	18 07 02.2	+1.0	
GKN	**Gorkha**	**154.23**	**76**	*e*P	PKPdf	18 07 02.9	+0.6	
HIA	**Hailar**	**154.48**	**350**	*e*PKPdf	PKPdf	18 07 01.6	-0.4	
HIA				*e*PKPbc	PKPbc	18 07 10.0	-0.6	
HIA				*e*PKPab	PKPab	18 07 25.2	-0.4	
HIA				*e*PP	PP	18 10 58.9	-2.1	
DMN	**Daman**	**154.66**	**76**	*e*P	PKPdf	18 07 03.4	+0.5	
PSI	**Prapat**	**154.68**	**145**	PKP	PKPdf	18 07 03.2	-0.2	
	comp=Z,2.6nm,0.4s,baz=274,slow=5.2,SNR=13							
PSI				PKPab	PKPab	18 07 27.9	+0.4	
	comp=Z,14nm,0.8s,baz=240,slow=5.6,SNR=11							
KKN	**Kakani**	**154.81**	**76**	*e*P	PKPdf	18 07 03.4	+0.3	
	comp=Z,15nm,0.5s							
PKI	**Pulchoki**	**154.93**	**76**	*e*P	PKPdf	18 07 03.7	+0.4	
MJAR	**Matsushiro Arr**	**155.17**	**305**	PKIKP	PKPdf	18 07 03.0	-0.4	
MJAR						18 07 28.1		
MJAR						18 11 04.6		
MJAR	**Matsushiro Arr**	**155.17**	**305**	PKP	PKPdf	18 07 03.0	-0.4	
MJAR				PKPbc	PKPdf	18 07 11.7	+8.3	
MJAR				PKPab	PKPab	18 07 28.1	-1.0	
MJAR				pPKPab	pPKPab	18 08 14.0	-0.8	
MJAR				PP	PP	18 11 04.6	-1.6	
MJAR	**Matsushiro Arr**	**155.17**	**305**	PKP	PKPdf	18 07 03.0	-0.4	
	comp=Z,4.5nm,1.0s,baz=244,slow=1.4,SNR=11							
MJAR				PKPbc	PKPdf	18 07 11.7	+8.3	
	comp=Z,8.4nm,0.7s,baz=63,slow=0.8,SNR=10							
MJAR				PKPab	PKPab	18 07 28.1	-1.0	
	comp=Z,66nm,0.9s,baz=84,slow=2.5,SNR=38							
MJAR				pPKPab	pPKPab	18 08 14.0	-0.8	
	comp=Z,16nm,1.0s,baz=58,slow=1.5,SNR=3.3							
MJAR				PP	PP	18 11 04.6	-1.6	
	comp=Z,15nm,1.3s,baz=78,slow=3.4,SNR=4.4							
MAJO	**Matsushiro**	**155.17**	**305**	*e*PKIKP	PKPdf	18 07 02.7	-0.7	
MAJO				*e*		18 07 11.3		
MAJO				*e*		18 07 28.4		
MAT	**Matsushiro**	**155.17**	**305**	PKP	PKPdf	18 07 02.8	-0.6	
BOK	**Bokaro**	**155.19**	**85**	*e*P	PKPdf	18 07 04.2	+0.4	
GUN	**Gumba**	**155.34**	**76**	*e*P	PKPdf	18 07 04.4	+0.5	
JIRN	**Jiri**	**155.62**	**76**	*e*P	PKPdf	18 07 04.7	+0.5	
	comp=Z,26nm,1.1s							
MDJ	**Mudanjiang**	**155.62**	**331**	PKP	PKPdf	18 07 03.0	-0.7	
MDJ				PP	PP	18 11 03.8	-4.0	
MDJ				SS	SS	18 30 31.8	-6.9	
SONM	**Songino Array**	**155.87**	**11**	PKP	PKPdf	18 07 04.3	+0.3	
	comp=Z,4.7nm,0.7s,baz=310,slow=0.8,SNR=23							
SONM				PKPab	PKPab	18 07 32.2	+0.6	
	comp=Z,9.6nm,0.8s,baz=337,slow=5.1,SNR=7.7							
KSM	**Kuching**	**157.20**	**173**	*e*PKPdf	PKPdf	18 07 06.4	-0.4	
KSM				*e*PKPab	PKPab	18 07 38.3	+0.1	
KSM				*e*PP	PP	18 11 14.1	-1.8	
KULM	**Kulim**	**157.69**	**146**	*e*PKPdf	PKPdf	18 07 06.9	-0.4	
KULM				*e*PKPab	PKPab	18 07 40.1	-0.3	
KULM				*e*pPKPdf	pPKPdf	18 07 52.2	-2.8	
KULM				*e*PP	PP	18 11 15.4	-3.9	
CN2	**Changchun**	**158.01**	**335**	*e*PKP	PKPdf	18 07 06.0	-0.8	
CN2				PKP2	PKPab	18 07 40.0	-1.0	
CN2				APKP		18 07 47.3		
CN2				XPKP		18 08 05.0		
CN2				PP	PP	18 11 17.5	-3.2	
CN2				PP	PP			
	comp=Z,200nm,4.0s							
LSA	**Lhasa**	**159.74**	**70**	*e*PKIKP	PKPdf	18 07 10.5	+1.2	
LSA						18 07 49.6		
LSA				*e*		18 11 28.6		
SNY	**Shenyang**	**160.41**	**336**	⇓PKP	PKPdf	18 07 09.0	-0.6	
SNY				APKP		18 07 51.0		
SNY				SKS	SKSdf	18 13 55.3	-2.3	
SNY				SS	SS	18 31 25.0	-4.2	
SNY				PP	PP			
	comp=Z,192nm,6.2s							
SHL	**Shillong**	**160.75**	**82**	⇓*i*P	PKPdf	18 07 10.0	-0.5	
GTA	**Gaotai**	**161.19**	**33**	PKP	PKPdf	18 07 11.3	+0.8	
GTA				APKP		18 07 55.0		
GTA				XPKP		18 08 11.5		
GTA				PP	PP	18 11 35.5	-2.7	
GTA				SKKS	SKKSac	18 18 07.0	-2.2	
GTA				SS	SS	18 31 34.0	-3.9	
GTA				PP	PP			
	comp=Z,299nm,9.5s							
GTA				LR	LR			
	comp=N,147nm,25.9s							
GTA				LR	LR			
	comp=E,134nm,25.5s							
GTA				LR	LR			
	comp=Z,229nm,19.4s							
KSRS	**Korea Array**	**161.70**	**319**	PKP	PKPdf	18 07 10.8	-0.3	
	comp=Z,13nm,1.0s,baz=72,slow=0.8,SNR=47							
KSRS				PKPab	PKPab	18 07 57.3	0.0	
	comp=Z,18nm,1.0s,baz=51,slow=3.7,SNR=22							
KSRS				pPKPab	pPKPab	18 08 42.5	-0.4	
	comp=Z,8.8nm,0.9s,baz=59,slow=4.5,SNR=4.2							
IMP	**Imphal**	**162.58**	**84**	*e*x	PKPab	18 08 03.0	+1.3	
HHC	**Hu-ho-hao-te**	**163.40**	**4**	*e*PKP	PKPdf	18 07 13.0	+0.3	
HHC				APKP		18 07 56.3		
HHC				XPKP		18 08 15.3		
HHC				PKS		18 10 44.3		
HHC				PP	PP	18 11 53.5	+4.3	
HHC				SKS	SKSdf	18 13 59.5	-0.6	
HHC				PP	PP			
	comp=Z,69nm,8.6s							
HHC				LR	LR			
	comp=N,184nm,20.8s							
HHC				LR	LR			
	comp=E,283nm,22.9s							
HHC				LR	LR			
	comp=Z,302nm,22.2s							
DL2	**Dalian**	**163.68**	**336**	PKPR	PKPdf	18 07 13.0	0.0	
DL2				APKP		18 07 57.0		
DL2				PKP2	PKPab	18 08 05.0	-0.9	
DL2				PP	PP	18 11 50.5	-0.6	
DL2				PP	PP			
	comp=Z,140nm,8.2s							
BJI	**Beijing**	**164.04**	**351**	PKP	PKPdf	18 07 13.3	0.0	
BJI				PP	PP	18 11 48.0	-4.6	
BJI				SS	SS	18 32 02.0	-4.2	
BJI				LR	LR			
	comp=N,380nm,34.5s							
BJI				LR	LR			
	comp=E,360nm,35.0s							
BJI				LR	LR			
	comp=Z,178nm,38.4s							
NST	**Nakhon Sawan**	**165.16**	**123**	⇓P	PKPab	18 08 14.0	+0.9	
LZH	**Lanzhou**	**165.77**	**32**	*e*PKP	PKPdf	18 07 16.5	+1.6	
LZH				APKP		18 08 04.5		
LZH				PKP2	PKPab	18 08 17.8	+2.6	
LZH				XPKP		18 08 22.5		
LZH				PP	PP	18 12 02.3	+0.1	
LZH				SKKS	SKKSac	18 18 32.5	-0.1	
LZH				SS	SS	18 32 27.0	+2.0	
LZH				PP	PP			
	comp=Z,390nm,4.3s							
CHG	**Chiang Mai**	**165.80**	**110**	⇓P	PKPdf	18 07 15.5	+0.1	
	comp=Z,69nm,1.2s							
CHTO	**Chiang Mai**	**165.80**	**110**	*e*PKIKP	PKPdf	18 07 15.2	-0.2	
CHTO				*e*		18 08 16.6		
CHTO				*e*		18 12 03.0		
CHTO	**Chiang Mai**	**165.80**	**110**	P	PKPdf	18 07 15.7	+0.3	
	SNR=13							
CHTO	**Chiang Mai**	**165.80**	**110**	P	PKPdf	18 07 15.7	+0.3	
	SNR=13							
CHTO	**Chiang Mai**	**165.80**	**110**	PKPdf	PKPdf	18 07 15.7	+0.3	
	SNR=13							
CHTO	**Chiang Mai**	**165.80**	**110**	P	PKPdf	18 07 15.7	+0.3	
	SNR=13							
CHTO	**Chiang Mai**	**165.80**	**110**	P	PKPdf	18 07 15.7	+0.3	
	SNR=13							
CHTO	**Chiang Mai**	**165.80**	**110**	P	PKPab	18 08 17.8	+1.9	
	SNR=6.0							
CHTO	**Chiang Mai**	**165.80**	**110**	P	PKPab	18 08 17.8	+1.9	
	SNR=6.0							
TIY	**Taiyuan**	**166.57**	**2**	PKP	PKPdf	18 07 16.3	+0.8	
TIY				SS	SS	18 32 24.3	-7.6	
TIY				LR	LR			
	comp=N,294nm,5.3s							
TIY				LR	LR			
	comp=E,181nm,4.3s							
TIY				LR	LR			
	comp=Z,536nm,18.8s							
KKTK	**Khon Kaen**	**167.59**	**127**	⇓P	PKPab	18 08 21.0	-2.8	
CD2	**Chengdu**	**169.41**	**49**	*e*PKP	PKPdf	18 07 17.5	-0.2	
CD2				APKP		18 08 00.3		
CD2				XPKP		18 08 16.8		
CD2				PKP2	PKPab	18 08 29.5	-2.1	
CD2				SKS	SKSdf	18 14 03.5	-0.8	
CD2				SS	SS	18 33 04.0	+1.3	
CD2				PP	PP			
	comp=Z,230nm,8.4s							
CD2				LR	LR			
	comp=N,330nm,20.4s							
CD2				LR	LR			
	comp=Z,320nm,20.4s							
XAN	**Xi'an**	**169.60**	**19**	PKP	PKPdf	18 07 18.0	+0.3	
SSE	**Sheshan**	**170.08**	**315**	PKP	PKPdf	18 07 16.0	-2.1	
SSE				PP	PP	18 12 25.8	+1.2	
SSE				PP	PP			
	comp=Z,165nm,7.6s							
SSE				LR	LR			
	comp=N,395nm,17.7s							
SSE				LR	LR			
	comp=E,364nm,17.7s							
SSE				LR	LR			
	comp=Z,224nm,15.9s							
KMI	**Kunming**	**170.57**	**83**	PKP	PKPdf	18 07 18.8	+0.3	
KMI				APKP		18 08 06.0		
KMI				XPKP		18 08 25.5		
KMI				PKP2	PKPab	18 08 38.0	+1.0	
KMI				PP	PP	18 12 28.8	+0.7	
KMI				SKKS	SKKSac	18 18 57.3	+0.1	
KMI				PP	PP			
	comp=Z,439nm,4.6s							
KMI				LR	LR			
	comp=N,194nm,20.4s							
KMI				LR	LR			
	comp=E,93nm,23.7s							
KMI				LR	LR			
	comp=Z,255nm,21.4s							
NJ2	**Nanjing**	**170.70**	**328**	*e*PKP	PKPdf	18 07 19.0	+0.6	
NJ2				APKP		18 08 01.3		
NJ2				XPKP		18 08 18.8		
NJ2				PKP2	PKPab	18 08 39.3	+2.2	
NJ2				PP	PP	18 12 26.0	-1.2	
NJ2				PP	PP			
	comp=Z,340nm,6.6s							
NJ2				LR	LR			
	comp=N,890nm,19.2s							
NJ2				LR	LR			
	comp=E,960nm,21.9s							
NJ2				LR	LR			
	comp=Z,960nm,22.0s							
GYA	**Guiyang**	**173.81**	**68**	PKP	PKPdf	18 07 19.3	-0.6	
GYA				APKP		18 08 01.5		
GYA				XPKP		18 08 17.5		
GYA				PKP2	PKPab	18 08 53.0	+1.7	
GYA				PKS		18 10 50.0		
GYA				PP	PP	18 12 45.3	+1.5	
GYA				SKS	SKSdf	18 14 05.0	-1.1	
GYA				SKKS	SKKSac	18 19 10.0	-2.6	
GYA				SS	SS	18 33 45.5	-1.3	
GYA				PP	PP			
	comp=Z,550nm,6.4s							
GYA				LR	LR			
	comp=N,870nm,19.4s							
GYA				LR	LR			
	comp=E,690nm,21.3s							
GYA				LR	LR			
	comp=Z,720nm,20.7s							
QIZ	**Qiongzhong**	**174.01**	**149**	PKP	PKPdf	18 07 19.0	-1.2	
QIZ				PP	PP	18 12 48.5	+5.2	
QIZ				SS	SS	18 33 50.5	+4.3	
QIZ				PP	PP			
	comp=Z,368nm,14.5s							
QZH	**Quanzhou**	**174.92**	**279**	PKP	PKPdf	18 07 18.8	-1.5	
QZH				PKP2	PKPab	18 08 57.3	+1.0	
QZH				PP	PP	18 12 45.5	-3.9	
QZH				SKKS	SKKSac	18 19 18.0	0.0	
QZH				PP	PP			
	comp=Z,910nm,6.6s							

ISK ***25*** *18:16:46.9, 4047N×2580E, h11km, MD2.9*
ISCJB ***25*** *18:16:47.7±0.7, 4047N±004×2585E±006, h11km±7km, Error ellipse: s-maj=8.3km s-min=6.4km az=41.9*
CSEM ***25*** *18:16:47.2±0.2, 4046N×2585E, h12km, MD2.9, Error ellipse: s-maj=5.8km s-min=2.5km az=107.0*
ATH ***25*** *18:16:54.7, 4080N×2534E, h10km, MD3.1/3*

ISC 25 18:16:47.8±0.7, 4047N±005×2581E±006, h12km±6km, n13, σ0967/16, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GADA	**Gvkgeada**	**0.29**	**167**	*e*PG	**Pg**	**18 16 53.5**	**-0.1**
GADA				*e*SG	**Sg**	**18 16 57.4**	**-0.1**
ENEZ	**Enez**	**0.37**	**44**	*e*PG	**Pg**	**18 16 54.7**	**-0.5**
ENEZ				*e*SG	**Sg**	**18 17 00.3**	**+0.1**
RDO	**Rodhopi**	**0.71**	**343**	*e*PB	**Pb**	**18 17 02.2**	**+0.2**
LPK	**Lapseki**	**0.73**	**97**	*e*PG	**Pg**	**18 17 02.1**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.06**	**78**	*e*PG	**Pg**	**18 17 07.6**	**-0.7**
RKY				*e*SG	**Sg**	**18 17 23.2**	**+1.2**
MFT	**Murefte**	**1.16**	**74**	*e*PN	**Pn**	**18 17 09.8**	**0.0**
TKR	**Tekirdag**	**1.41**	**68**	*e*PN	**Pn**	**18 17 12.7**	**-0.5**
EDRB	**Edirne**	**1.54**	**27**	*e*PN	**Pn**	**18 17 15.6**	**+0.5**
EDC	**Edincik**	**1.57**	**94**	*e*PN	**Pn**	**18 17 15.7**	**+0.2**
BNT	**Bandirma**	**1.61**	**93**	*e*PN	**Pn**	**18 17 15.4**	**-0.6**
NVR	**Nevrokopi**	**1.72**	**301**	*e*PB	**Pb**	**18 17 18.1**	**-1.2**
PLG	**Polygyros**	**1.81**	**268**	*e*PB	**Pb**	**18 17 22.5**	**+1.7**
CTT	**Catalca**	**2.10**	**70**	*e*PN	**Pn**	**18 17 22.7**	**0.0**

MAN 25 18:19:48, 727N×12691E, h143km, mb4.7, ML3.6, MS3.6, 1C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.72**	**244**	*e*P	Pn	18 20 11.7	+1.8
MATI				*e*S	Sn	18 20 29.0	+2.5
KCP	**Kidapawan**	**1.82**	**262**	⇑*e*P	Pn	18 20 25.4	+4.8
KCP				*i* S	Sn	18 20 49.9	+4.3
BUKP	**Musuan**	**1.93**	**288**	*e*P	Pn	18 20 23.0	+1.1
BUKP				*e*S	Sn	18 20 49.2	+1.4
GSPH	**General Santos**	**2.27**	**239**	*e*P	Sn	18 20 51.3	-3.9
GSPH				*i* S	Sn	18 20 51.3	-3.9

PGC ***25*** *18:24:07.7±7.3, 4895N×12945W, h10km, ML3.5/11, Mw4.1, 243km southwest of Pt. Hardy, Bc Vancouver Island Region*
NEIC ***25*** *18:24:07.7, 4895N×12945W, h10km, mb4.4/16, MW4.1(PGC), After PGC.*
BJI ***25*** *18:24:07.7, 4890N×12940W, h10km, mB5.1, mb4.8, Ms4.8, Msz4.4*
ISCJB ***25*** *18:24:09.3±0.3, 4918N±003×12914W±005, h10km, mb4.5/16, MS4.5/4, Error ellipse: s-maj=4.8km s-min=3.3km az=143.3*
IDC ***25*** *18:24:09.4±1.4, 4915N×12922W, h0km, mb3.9/4, mb1 4.0/10, mb1mx3.8/26, mbtmp3.8/10, ML3.6/5, MS4.0/4, Ms1 4.0/4, ms1mx3.4/35, Error ellipse: s-maj=27.5km s-min=11.6km az=71.0*

ISC 25 18:24:11.3±0.3, 4926N±003×12910W±005, h10km, (h15km±1.8km:pP-P), n101, σ1920/105, mb4.5/16, MS4.5/4, 1D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BPBC	**Brooks Peninsu**	**1.25**	**43**	Pn	**Pn**	**18 24 34.3**	**-0.4**
EDB	**Eliza Dome**	**1.43**	**64**	Pn	**Pn**	**18 24 36.1**	**-1.2**
EDB				Sn	**Sn**	**18 24 57.2**	**+1.1**
HOLB	**Holberg**	**1.52**	**24**	Pn	**Pn**	**18 24 38.0**	**-0.5**
ETB	**Estevan Point**	**1.68**	**85**	Pn	**Pn**	**18 24 39.3**	**-1.3**
MAYB	**Maynard**	**1.70**	**47**	Pn	**Pn**	**18 24 40.7**	**-0.2**
PHC	**Port Hardy**	**1.81**	**36**	Pn	**Pn**	**18 24 42.4**	**0.0**
PHC				Sn	**Sn**	**18 25 07.7**	**+2.3**
WOSB	**Woss**	**1.88**	**60**	Pn	**Pn**	**18 24 42.7**	**-0.6**
GDR	**Gold River**	**2.07**	**74**	Pn	**Pn**	**18 24 45.0**	**-1.0**
BTB	**Buttle Lake**	**2.35**	**83**	Pn	**Pn**	**18 24 48.9**	**-1.0**
BTB				Sn	**Sn**	**18 25 18.0**	**-0.7**
OZB	**Mount Ozzard**	**2.39**	**96**	Pn	**Pn**	**18 24 47.9**	**-2.5**
OZB				Sn	**Sn**	**18 25 17.7**	**-2.0**
BBB	**Bella Bella**	**3.00**	**12**	Pn	**Pn**	**18 24 58.4**	**-0.4**
	8.6nm,0.3s,baz=208,slow=13,SNR=87						
BBB				Sn	**Sn**	**18 25 35.4**	**+0.6**
	19nm,0.3s,baz=18,slow=8.6,SNR=6.9						
BBB				LR	LR	18 26 16.5	
	comp=Z,420nm,19.4s,baz=286,slow=41						
BBB	**Bella Bella**	**3.00**	**12**	⇑Pn	**Pn**	**18 24 58.4**	**-0.4**
PGC	**Sidney**	**3.77**	**97**	*e*Pn	**Pn**	**18 25 08.8**	**-0.7**
SNB	**Saturna Island**	**3.93**	**95**	P	**Pn**	**18 25 11.1**	**-0.5**
NLWA	**Neilton Lookou**	**3.96**	**116**	*e*Pn	**Pn**	**18 25 10.6**	**-1.4**
MCW	**Mount Constitu**	**4.17**	**96**	P	**Pn**	**18 25 14.5**	**-0.4**
HDW	**Hoodsport**	**4.33**	**109**	P	**Pn**	**18 25 16.6**	**-0.5**
DIB	**Dawson Inlet,**	**4.49**	**333**	Pn	**Pn**	**18 25 17.4**	**-1.8**
	SNR=6.3						
VIB	**Van Inlet**	**4.55**	**333**	Pn	**Pn**	**18 25 18.4**	**-1.7**
VDB	**Vedder Mountai**	**4.60**	**90**	P	**Pn**	**18 25 20.3**	**-0.5**
CMW	**Cultus Mountai**	**4.68**	**98**	P	**Pn**	**18 25 21.4**	**-0.6**
MBW	**Mount Baker**	**4.76**	**93**	⇓P	**Pn**	**18 25 23.2**	**+0.2**
JCW	**Jim Creek**	**4.86**	**100**	P	**Pn**	**18 25 25.4**	**+1.0**
RPW	**Rockport**	**5.07**	**96**	P	**Pn**	**18 25 27.9**	**+0.6**
TDL	**Tradedollar La**	**5.47**	**119**	P	**Pn**	**18 25 32.7**	**-0.1**
FMW	**Mount Fremont**	**5.49**	**112**	P	**Pn**	**18 25 33.2**	**+0.2**
TWW	**Teanaway**	**5.90**	**108**	P	**Pn**	**18 25 39.8**	**+1.2**
TBM	**Table Mountain**	**6.05**	**107**	P	**Pn**	**18 25 40.9**	**+0.1**
COR	**Corvallis**	**6.13**	**137**	*e*Pn	**Pn**	**18 25 39.3**	**-2.5**
	32nm,0.7s						
HUMO	**Hull Mountain**	**7.91**	**145**	*e*Pn	**Pn**	**18 26 06.1**	**-0.1**
	13nm,0.9s						
NEW	**Newport**	**7.98**	**93**	*e*Pn	**Pn**	**18 26 08.1**	**+0.9**
	9.9nm,0.9s						
NEW	**Newport**	**7.98**	**93**	Pn	**Pn**	**18 26 08.1**	**+1.0**
	0.6nm,0.3s,baz=284,slow=15,SNR=4.1						
NEW				LR	LR	18 29 18.1	
	comp=Z,968nm,19.5s,baz=70,slow=38						
KRMB	**Red Mountain**	**8.55**	**153**	*e*Pn	**Pn**	**18 26 14.1**	**-0.9**
YBH	**Yreka Blue Hor**	**8.76**	**147**	*e*Pn	**Pn**	**18 26 18.5**	**+0.6**
	23nm,1.0s						
YBH	**Yreka Blue Hor**	**8.76**	**147**	Pn	**Pn**	**18 26 18.9**	**+1.1**
	0.2nm,0.3s,baz=343,slow=13,SNR=24						
BMO	**Blue Mountains**	**9.17**	**114**	*e*Pn	**Pn**	**18 26 23.0**	**-0.6**
	3.6nm,0.8s						
DLBC	**Dease Lake**	**9.22**	**357**	*e*Pn	**Pn**	**18 26 27.5**	**+3.4**
DLBC	**Dease Lake**	**9.22**	**357**	Pn	**Pn**	**18 26 27.4**	**+3.2**
	baz=191,slow=15						
MOD	**Modoc**	**9.59**	**137**	*e*Pn	**Pn**	**18 26 30.9**	**+1.6**
	13nm,0.9s						
WDC	**Whiskeytown Da**	**9.84**	**149**	*e*Pn	**Pn**	**18 26 31.4**	**-1.2**
	32nm,1.3s						
WALA	**Waterton Lakes**	**9.96**	**85**	*e*Pn	**Pn**	**18 26 35.0**	**+0.7**
	7.4nm,0.8s						
WVOR	**Wild Horse Val**	**9.98**	**129**	*e*Pn	**Pn**	**18 26 36.3**	**+1.7**
	17nm,1.0s						
CHMT	**Chamberlain Mo**	**10.86**	**96**	*e*Pn	**Pn**	**18 26 46.6**	**0.0**
OHCM	**Honcut**	**11.31**	**148**	*e*Pn	**Pn**	**18 26 52.0**	**-0.9**
HLID	**Hailey**	**11.62**	**114**	Pn	**Pn**	**18 27 03.9**	**+6.8**
	3.8nm,0.9s						
BMN	**Battle Mountai**	**12.19**	**132**	*e*Pn	**Pn**	**18 27 06.8**	**+1.9**
BOZ	**Bozeman (W)**	**12.36**	**100**	*e*Pn	**

MVCO	**Mesa Verde**	19.17	121	*e*P	Pn	18 28 35.7	0.0
	26nm,1.0s						
INK	**Inuvik**	19.24	355	*e*P	Pn	18 28 35.0	-1.2
	566nm,1.5s						
INK	**Inuvik**	19.24	355	P	Pn	18 28 34.8	-1.4
	baz=166,slow=8.8,SNR=8.1						
TTA	**Tatalina**	20.11	323	*e*P	P	18 28 44.0	-0.8
	12nm,1.0s						
SDCO	**Great Sand Dun**	20.53	115	*e*P	P	18 28 50.8	+1.2
	5.4nm,1.0s						
IMA2	**Indian Mountai**	21.13	332	*e*P	P	18 28 57.0	+1.2
ULM	**Lac du Bonnet**	21.39	75	*e*P	P	18 28 59.3	+0.5
	41nm,1.1s,mb4.7						
ULM	**Lac du Bonnet**	21.39	75	P	P	18 28 59.3	+0.4
	22nm,0.8s,mb4.6,baz=292,slow=10.0,SNR=17						
AGMN	**Agassiz Refuge**	21.83	80	*e*P	P	18 29 03.9	+0.3
	24nm,1.1s,mb4.5						
FCC	**Fort Churchill**	22.42	52	*e*P	P	18 29 10.5	+0.8
	14nm,0.7s,mb4.5						
ECSD	**EROS,Sioux Fal**	22.92	92	*e*P	P	18 29 15.0	-0.2
	6.2nm,0.9s,mb4.0						
EYMN	**Ely**	24.74	79	*e*P	P	18 29 33.7	+1.1
	12nm,0.8s,mb4.5						
TXAR	**Lajitas Array**	27.76	126	P	P	18 29 59.4	-0.7
	0.6nm,0.8s,mb3.3,baz=322,slow=9.5,SNR=3.8						
JCT	**Junction City**	29.01	119	*e*P	P	18 30 12.6	+1.4
	8.6nm,0.9s,mb4.5						
OXF	**Oxford**	32.60	102	*e*P	P	18 30 41.4	-1.5
	32nm,0.9s,mb5.2						
SCHQ	**Schefferville**	37.57	57	LR	LR	18 47 18.4	
	comp=Z,348nm,20.5s,MS4.1,baz=94,slow=37						
MDJ	**Mudanjiang**	64.09	309	P	P	18 34 44.8	-0.4
MDJ				AMB	AMB		
	comp=Z,181nm,3.8s						
BJI	**Beijing**	74.12	314	P	P	18 35 47.8	+0.3
BJI				AMB	AMB		
	comp=Z,3.0nm,0.3s,mb4.7						
BJI				AMB	AMB		
	comp=Z,73nm,6.0s						
BJI				LR	LR		
	comp=N,161nm,15.8s						
BJI				LR	LR		
	comp=E,194nm,25.3s						
BJI				LR	LR		
	comp=Z,264nm,42.6s						
HHC	**Hu-ho-hao-te**	75.60	317	*e*P	P	18 35 56.0	-0.1
HHC				AP	pP	18 36 01.0	+1.6
HHC				XP	sP	18 36 03.8	+3.2
HHC				PCP	PcP	18 36 10.0	+1.0
HHC				PP	PP	18 38 48.0	+3.1
HHC				S	S	18 45 35.8	-1.0
HHC				XS	sS	18 45 44.5	+2.2
HHC				SKS		18 46 01.8	
HHC				SS	SS	18 50 27.0	+0.2
HHC				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,204nm,5.0s						
HHC				LR	LR		
	comp=N,163nm,19.1s,MS4.6						
HHC				LR	LR		
	comp=E,239nm,19.6s,MS4.6						
HHC				LR	LR		
	comp=Z,331nm,18.6s,MS4.7						
ESDC	**Sonseca Array**	79.09	40	P	P	18 36 16.9	+1.3
	comp=Z,0.7nm,0.6s,mb3.8,baz=325,slow=6.3,SNR=4.0						
MKAR	**Makanchi Array**	80.53	339	P	P	18 36 22.4	-0.9
	comp=Z,0.5nm,0.7s,mb3.5,baz=34,slow=4.7,SNR=5.9						
MKAR				LR	LR	19 12 52.4	
	comp=Z,445nm,21.8s,MS4.8,baz=280,slow=36						
WMQ	**Urumqi**	81.87	334	*e*P	P	18 36 31.0	+0.5
LZH	**Lanzhou**	82.92	319	*e*P	P	18 36 37.5	+1.3
LZH				AP	pP	18 36 42.5	+3.0
LZH				XP	sP	18 36 46.5	+5.8
LZH				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,68nm,4.5s						
CD2	**Chengdu**	87.36	317	*e*P	P	18 36 59.0	+0.5
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.0						
CD2				AMB	AMB		
	comp=Z,20nm,6.8s						
GYA	**Guiyang**	89.75	312	P	P	18 37 10.8	+0.9
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb5.2						
KMI	**Kunming**	92.75	314	P	P	18 37 22.8	-1.0
KMI				AP	pP	18 37 26.0	-1.1
KMI				XP	sP	18 37 28.0	-0.3
KMI				PP	PP	18 41 07.0	+2.0
KMI				S	S	18 48 26.8	-2.2
KMI				SS	SS	18 54 45.0	+4.6
KMI				AMB	AMB		
	comp=Z,6.0nm,1.3s,mb4.9						
KMI				AMB	AMB		
	comp=Z,108nm,10.3s						
KMI				LR	LR		
	comp=N,125nm,26.0s,MS4.5						
KMI				LR	LR		
	comp=E,177nm,22.5s,MS4.5						
KMI				LR	LR		
	comp=Z,297nm,40.4s						

*ISCJB **25** 18:47:53.7±0.8,3652N±005×706E±0.1,h33km,Error ellipse: s-maj=15.1km s-min=6.8km az=167.9*
*NNC **25** 18:48:03.4±2.8,3747N×7076E,h0km,mb3.9,mpv3.8, Error ellipse: s-maj=22.4km s-min=21.1km az=48.0*

ISC 25 18:47:55.5±0.8,3647N±005×706E±01,h35km,n13, σ1§07/17,2C-4D,Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	2.86	157	P	Pn	18 48 39.3	+0.7
CEP				S	Sn	18 49 08.0	-3.7
CHCP	**Chirah Chowk**	3.57	141	P	Pn	18 48 47.0	-1.4
THW	**Thamme Wali**	3.79	165	P	Pn	18 48 52.0	+0.6
AML	**Almayashu**	6.16	22	P	Pn	18 49 23.6	-0.3
	SNR=33						
UCH	**Uchtor**	6.52	27	P	Pn	18 49 28.2	-0.6
	SNR=11						
KK31	**Karatay Array**	6.63	360	⇓Pn	Pn	18 49 30.9	+0.5
	2.2nm,0.5s,baz=173,slow=12,SNR=34						
KK31				⇓Sn	Sn	18 50 40.2	-4.5
	3.4nm,0.5s,baz=174,slow=18,SNR=14						
EKS2	**Erkin-Say**	6.67	21	P	Pn	18 49 33.0	+2.1
	SNR=11						
KZA	**Kyzart**	6.68	32	P	Pn	18 49 29.2	-1.9
	SNR=6.7						
AAK	**Ala-Archa**	6.87	25	P	Pn	18 49 33.7	0.0
	SNR=14						
KBK	**Karagaybulak**	7.05	27	P	Pn	18 49 37.5	+1.4
	SNR=9.0						
TKM2	**Tokmak 2**	7.52	29	⇑Pn	Pn	18 49 42.4	-0.3
	7.8nm,0.5s						
TKM2				⇑Sn	Sn	18 50 59.1	-7.6
	2.6nm,0.6s						
TKM2	**Tokmak 2**	7.52	29	P	Pn	18 49 43.0	+0.4
	SNR=18						
AB31	**Akbulak array**	14.95	332	⇓Pn	Pn	18 51 24.2	+0.2
	0.2nm,0.4s,baz=154,slow=12,SNR=5.1						
AB31				⇓Sn	Sn	18 54 07.5	-0.8
	0.3nm,0.5s						

*BJI **25** 19:04:04.8,4177N×7954E,h11km,ML3.3*
*NNC **25** 19:04:05.5±2.6,4226N×7935E,h0km,mb3.6,mpv3.3, Error ellipse: s-maj=29.6km s-min=9.3km az=149.0*
*ISCJB **25** 19:04:06.5±1.3,4228N±008×792E±0.1,h10km,Error ellipse: s-maj=17.1km s-min=6.6km az=36.5*

ISC 25 19:04:08.8±1.3,4228N±009×791E±01,h10km,n18, σ1§27/20,10C-6D,Lake Issyk-Kul region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ULHL	**Ulahol**	2.08	270	P	Pn	19 04 43.2	-0.5
	SNR=99						
TKM2	**Tokmak 2**	2.63	285	⇓Pn	Pn	19 04 52.2	+1.0
	11nm,0.4s						
TKM2				⇓Lg		19 05 32.6	
	311nm,0.5s						
TKM2	**Tokmak 2**	2.63	285	P	Pn	19 04 52.3	+1.0
	SNR=48						
KZA	**Kyzart**	2.83	267	P	Pn	19 04 53.8	-0.3
	SNR=27						
KBK	**Karagaybulak**	3.06	279	P	Pn	19 04 57.5	+0.4
	SNR=21						
UCH	**Uchtor**	3.37	271	P	Pn	19 05 05.1	+3.7
	SNR=24						
AAK	**Ala-Archa**	3.39	278	P	Pn	19 05 02.4	+0.7
	SNR=7.7						
KSH	**Kashi**	3.61	221	*e*P	Pn	19 05 03.5	-1.2
KSH				S	Sn	19 05 50.8	+3.4
KSH				Smax			
	comp=N,226nm,0.8s						
KSH				Smax			
	comp=E,190nm,0.6s						
EKS2	**Erkin-Say**	3.92	277	P	Pb	19 05 17.9	0.0
	SNR=21						
AML	**Almayashu**	3.98	270	P	Pb	19 05 18.2	-0.8
	SNR=12						
MK31	**Makanchi Array**	5.08	26	⇑Pn	Pn	19 05 24.2	-0.7
	comp=E,1.9nm,0.5s,baz=204,slow=13,SNR=48						
MK31				⇑Sn	Sn	19 06 26.2	+2.7
	comp=E,3.1nm,0.3s						
MK31				⇑Lg		19 06 45.5	
	comp=E,4.2nm,0.3s						
KK31	**Karatay Array**	6.35	280	⇑Pg	Pg	19 06 08.4	-1.9
	comp=E,1.9nm,0.6s,baz=88,slow=16,SNR=15						
KK31				Lg		19 07 28.5	
	comp=E,6.8nm,0.5s,baz=101,slow=29,SNR=8.3						
KURBB	**Kurchatov Arra**	8.36	358	⇑Pn	Pn	19 06 08.2	-1.6
	comp=E,0.4nm,0.8s						
KURBB				⇓Lg		19 08 37.3	
	comp=E,3.8nm,0.8s						
KURK	**Kurchatov**	8.45	358	⇑Pn	Pn	19 06 09.9	-1.3
KURK				⇑Lg		19 08 39.6	
	comp=E,11nm,0.6s						
VOSK	**Vostochnaya**	11.78	335	⇓Pn	Pn	19 07 00.8	+4.0
	comp=E,4.8nm,2.2s						
VOSK				⇑Lg		19 10 26.2	
	comp=E,6.5nm,1.2s						
BVA0	**Borovoye Array**	12.22	335	⇓Pn	Pn	19 07 03.5	+0.7
	comp=E,0.2nm,0.7s,baz=148,slow=15,SNR=5.7						
BVA0				⇓Lg		19 10 38.6	
	comp=E,0.4nm,0.8s,baz=149,slow=14,SNR=3.5						
ZRNK	**Zerenda**	12.63	331	⇑Pn	Pn	19 07 08.4	0.0
	comp=E,1.8nm,0.6s						
AB31	**Akbulak array**	15.03	304	⇑Pn	Pn	19 07 43.3	+2.2
	comp=E,0.1nm,0.3s,baz=104,slow=12,SNR=6.0						

*ISCJB **25** 19:10:43.5±0.3,4307N±002×2085E±002,h5km±3km, Error ellipse: s-maj=2.6km s-min=2.5km az=174.2*
*SKO **25** 19:10:45.7,4304N×2113E,h2km*
*CSEM **25** 19:10:45.0±0.1,4304N×2081E,h20km,ML3.4,Error ellipse: s-maj=1.6km s-min=1.5km az=98.0*
*BEO **25** 19:10:45.1±0.2,4305N×2084E,h8km±3km,ML3.4/16*
*PRU **25** 19:10:46.7,4321N×2063E,h0km*
*PDG **25** 19:10:47.3±0.2,4304N×2067E,h8km,MD3.0/2,ML2.9/10, Error ellipse: s-maj=0.5km s-min=0.8km az=0.0*
*NEIC **25** 19:10:47.3,4304N×2067E,h8km,ML3.4(BUC), ML2.9(PDG),After PDG.*

ISC 25 19:10:44.8±0.3,4306N±001×2086E±002,h5km±2km,n81, σ1§05/127,18C-22D,Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SJES	**Sjenica**	0.68	288	*i* Pg	Pg	19 10 57.2	-0.6
SJES				*i* Sg	Sg	19 11 06.1	-0.5
IVA	**Berane**	0.73	255	⇓*i*Pg	Pg	19 10 58.4	-0.3
IVA				*e*Sg	Sg	19 11 07.9	-0.3
BARS	**Barje**	0.74	109	*i* Pg	Pg	19 10 59.1	+0.1
BARS				*e*Sg	Sg	19 11 09.5	+0.8
PVY	**Plav**	0.80	235	⇑*i*Pg	Pg	19 10 59.8	-0.3
PVY				*e*Sg	Sg	19 11 11.2	+0.8
GRUS	**Gruza**	0.84	353	*i* Pg	Pg	19 11 00.2	-0.6
GRUS				*e*Sg	Sg	19 11 13.6	+1.9
PLE	**Pljevlja**	1.10	285	⇑*i*Pg	Pg	19 11 05.4	-0.5
PLE				*e*Sg	Sg	19 11 20.7	+0.5
SKO	**Skopje**	1.17	158	*i* Pg	Pg	19 11 05.9	-1.2
SKO				*e*Sg	Sg	19 11 22.5	+0.2
SKO	**Skopje**	1.17	158	*e*Pn	Pn	19 11 06.2	-1.4
SKO				*e*Sn	Sg	19 11 22.5	+0.2
SKO	**Skopje**	1.17	158	*e*Pn	Pn	19 11 06.2	-1.5
SKO				*e*Sn	Sg	19 11 22.5	+0.2
DIVS	**Divibare**	1.22	329	*i* Pg	Pg	19 11 07.6	-0.5
DIVS				*e*Sg	Sg	19 11 25.2	+1.4
SVIS	**Svilajnac**	1.23	12	*i* Pg	Pg	19 11 08.3	-0.1
SVIS				*e*Sg	Sg	19 11 24.7	+0.3
ZAPS	**Zavoj**	1.32	80	*i* Pg	Pg	19 11 10.4	+0.4
ZAPS				*e*Sg	Sg	19 11 27.8	+0.7
TTG	**Podgorica**	1.33	242	⇓*i*Pg	Pg	19 11 09.4	-0.9
TTG				*e*Sg	Sg	19 11 28.5	+0.9
NKY	**Niksic**	1.39	260	⇓*i*Pg	Pg	19 11 10.3	-1.0
NKY				*e*Sg	Sg	19 11 29.9	+0.6
UPM	**Unac-Piva**	1.43	276	⇑*i*Pg	Pg	19 11 11.6	-0.6
UPM				*e*Sg	Sg	19 11 30.7	-0.1
ULC	**Ulcinj**	1.62	228	⇑*i*Pg	Pg	19 11 15.2	-0.5
ULC				*e*Sg	Sg	19 11 38.4	+1.8
BUM	**Brajici-Budva**	1.63	243	⇓*i*Pg	Pg	19 11 15.0	-1.0
BUM				*e*Sg	Sg	19 11 37.8	+0.7
STIP	**Stip**	1.68	144	*e*Pn	Pn	19 11 12.9	-1.8
BRY	**Bratogost**	1.71	265	⇑*i*Pg	Pg	19 11 16.2	-1.2
BRY				*e*Sg	Sg	19 11 39.4	-0.1
KRUS	**Krusevo**	1.71	170	*e*Pn	Pn	19 11 14.9	-0.3
KRUS				*e*Sn	Sn	19 11 39.4	+1.9
KRUS	**Krusevo**	1.71	170	*e*Pn	Pn	19 11 14.9	-0.3
KRUS				*e*Sn	Sn	19 11 39.3	+1.9
BEO	**Beograd**	1.77	351	*e*Pn	Pn	19 11 17.4	+1.4
BEO				*e*Sg	Sg	19 11 41.8	+0.1
BEO				*e*Sg	Sg	19 11 42.1	+0.4
BEO				*e*Sg	Sg	19 11 42.3	+0.6
VTS	**Vitosha**	1.79	104	*i* Pn	Pn	19 11 16.0	-0.3
VTS	**Vitosha**	1.79	104	⇑*i*P	Pn	19 11 15.9	-0.4
VTS	**Vitosha**	1.79	104	P	Pn	19 11 16.1	-0.2
HCY	**Herceg Novi**	1.84	251	⇓*i*Pn	Pn	19 11 18.5	+1.5
HCY				*e*Sn	Sn	19 11 43.4	+2.8
OHR	**Ohrid**	1.95	181	*e*Pn	Pn	19 11 19.3	+0.9
OHR	**Ohrid**	1.95	181	*e*Pn	Pn	19 11 19.8	+1.4
OHR				*e*Sn	Sn	19 11 42.5	-0.7
OHR	**Ohrid**	1.95	181	*e*Pn	Pn	19 11 19.7	+1.3
OHR				*e*Sn	Sn	19 11 42.4	-0.8
DJES	**Djerdap**	2.01	36	*e*Pn	Pn	19 11 19.2	-0.1
DJES				*e*Sg	Sg	19 11 47.6	-1.6
BIA	**Bitola**	2.07	170	*i* Pn	Pn	19 11 19.6	-0.5
BIA				*e*Sg	Sg	19 11 50.8	-0.3
BIA	**Bitola**	2.07	170	*e*Pn	Pn	19 11 20.6	+0.6
VAY	**Valandovo**	2.15	143	*i* Pn	Pn	19 11 19.6	-1.6
VAY	**Valandovo**	2.15	143	*e*Pn	Pn	19 11 19.6	-1.6
STON	**Ston**	2.33	266	*e*Pn	Pn	19 11 24.8	+1.2
STON				Sn	Sn	19 11 56.9	+4.3
BZS	**Buzias**	2.62	12	P	Pn	19 11 28.1	+0.5
BZS	**Buzias**	2.62	12	⇓*i*P	Pn	19 11 26.5	-1.1
BZS	**Buzias**	2.62	12	P	Pn	19 11 28.1	+0.5
GZR	**Gura Zlata**	2.71	30	P	Pn	19 11 29.2	+0.3
GZR	**Gura Zlata**	2.71	30	⇑*i*P	Pn	19 11 28.2	-0.7
GZR	**Gura Zlata**	2.71	30	P	Pn	19 11 29.2	+0.3
RHK3	**Tenkes**	3.39	328	⇓*i*P	Pn	19 11 38.0	-0.2
RHK3				*e*S	Sn	19 12 18.7	-0.1
PKSM	**Moragy**	3.53	334	*i* Pn	Pn	19 11 39.5	-0.6
PKSM	**Moragy**	3.53	334	⇓*i*P	Pn	19 11 39.6	-0.5
PKSM	**Moragy**	3.53	334	⇑*e*P	Pn	19 11 39.6	-0.5
PKSM				*e*S	Sn	19 12 22.7	+0.5
PKS6	**Bocsa**	3.66	346	⇓*e*P	Pn	19 11 41.9	0.0
VOIR		3.84	50	⇓P	Pn	19 11 47.8	+3.3
VOIR		3.84	50	⇓*i*P	Pn	19 11 47.8	+3.4
PKS7	**Kunszentmiklos**	4.17	344	*e*S	Sn	19 12 38.7	+0.8
NVLJ	**Novalja**	4.59	291	*e*Pn	Pn	19 11 55.9	+1.2
BUD	**Budapest**	4.61	344	⇓*e*Pn	Pn	19 11 54.9	-0.1
PKSG		4.67	339	*e*S	Sn	19 12 50.7	+0.3
BOJS	**Bojanci**	4.71	303	*i* Pn	Pn	19 11 57.1	+0.7
PENC	**Penc**	4.86	347	⇓*e*P	Pn	19 11 58.5	+0.1
PENC				*e*S	Sn	19 12 56.1	+1.1
PSZ	**Piszkesteto**	4.91	352	⇑*i*P	Pn	19 11 58.4	-0.7
PSZ	**Piszkesteto**	4.91	352	⇓*e*P	Pn	19 12 01.0	+1.9
PSZ				*e*S	Sn	19 12 52.7	-3.5
GROS	**Grobnik**	5.11	314	*i* Pn	Pn	19 12 01.8	-0.1
KECS	**Kecovo**	5.43	357	*e*PN	Pn	19 12 04.8	-1.5
KECS				*e*SN	Sn	19 13 04.1	-5.0
KECS	**Kecovo**	5.43	357	*e*Pn	Pn	19 12 04.9	-1.4
KECS				*e*Sn	Sn	19 13 04.1	-5.0
BURAR	**Bucovina Array**	5.50	32	⇑P	Pn	19 12 09.3	+2.1
BURAR	**Bucovina Array**	5.50	32	⇑*i*P	Pn	19 12 09.3	+2.1
SOKA	**Soboth**	5.50	313	⇓*i*Pn	Pn	19 12 07.2	0.0
SOKA				⇓*i*Sn	Sn	19 13 08.3	-2.4
SOKA	**Soboth**	5.50	313	Pn	Pn	19 12 07.2	0.0
AQU	**L'Aquila**	5.54	265	P	Pn	19 12 06.4	-1.4
AQU	**L'Aquila**	5.54	265	⇓*i*P	Pn	19 12 06.1	-1.7
AQU	**L'Aquila**	5.54	265	P	Pn	19 12 06.4	-1.4
VYHS	**Vyhne**	5.62	346	*e*PN	Pn	19 12 08.8	0.0
VYHS				*e*SN	Sn	19 13 09.5	-4.2
ARSA	**Arzberg**	5.64	320	⇓*i*Pn	Pn	19 12 09.1	0.0
ARSA				⇑*i*Sn	Sn	19 13 11.9	-2.3
ARSA	**Arzberg**	5.64	320	⇓*i*Pn	Pn	19 12 09.1	0.0
ARSA				*i* Sn	Sn	19 13 11.1	-3.1
OBKA	**Obir**	5.66	310	⇑*i*Sn	Sn	19 13 12.1	-2.7
OBKA	**Obir**	5.66	310	⇑*i*Pn	Pn	19 12 10.2	+0.8
OBKA				⇑*i*Sn	Sn	19 13 16.7	+1.9
OBKA	**Obir**	5.66	310	⇑*i*Pn	Pn	19 12 10.2	+0.8
OBKA				*i* Sn	Sn	19 13 12.1	-2.7
CRVS	**Cervenica-Dubn**	5.86	4	*e*PN	Pn	19 12 12.7	+0.5
MODS	**Modra-Piesok**	5.88	336	*e*PN	Pn	19 12 12.8	+0.4
MODS				*e*SN	Sn	19 13 15.1	-5.0
GORS	**Gorjuse**	5.88	306	*i* Pn	Pn	19 12 13.1	+0.7
KOLS	**Kolonicke sedl**	5.96	9	*e*PG	Pg	19 12 39.8	+1.0
KOLS				*e*SG	Sg	19 13 52.7	-3.3
MOA	**Molln**	6.67	318	⇓*i*Sn	Sn	19 13 36.5	-2.9
MOA	**Molln**	6.67	318	⇑*i*Pn	Pn	19 12 24.1	+0.9
MOA				⇑*i*Sn	Sn	19 13 38.1	-1.4
MOA	**Molln**	6.67	318	⇓*i*Pn	Pn	19 12 23.2	0.0
MOA				*i* Sn	Sn	19 13 36.5	-3.0
MOA	**Molln**	6.67	318	⇓*i*Pn	Pn	19 12 23.2	0.0
KHC	**Kasperske Hory**	7.90	323	*e*PN	Pn	19 12 39.6	-0.6
KHC				*e*SN	Sn	19 14 06.3	-3.6

*HEL **25** 19:23:04.9±0.9,6772N×3433E,h0km,ML2.1, ML2.5(NAO),Explosion*
*NAO **25** 19:23:04.3±1.5,6773N×3421E,ML2.5*
*IDC **25** 19:23:07.0±3.9,6802N×3427E,h0km,mb1 3.1/3, mb1mx2.9/21,mbtmp2.9/3,ML2.8/3,Error ellipse: s-maj=44.4km s-min=13.5km az=77.0*

ISC 25 19:23:05.6±1.3,6777N±004×340E±02,h0km,n15, σ1§10/29,Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
APA0	**Apatity Array**	0.42	247	*i* P	Pg	19 23 13.7	0.0
APA0				*i* S	Sg	19 23 19.5	+0.4
APA0				*e*RG		19 23 23.0	
APA0	**Apatity Array**	0.42	247	Pg	Pg	19 23 13.7	0.0
	baz=74,slow=14						
APA0				Lg		19 23 19.5	
	baz=80,slow=37						
APA0				Rg		19 23 23.0	
	baz=80,slow=37						
KU6	**Riekki**	2.39	225	*e*P	Pn	19 23 45.3	-0.6
	baz=43						
KU6				*e*SG	Sg	19 24 20.7	-1.6
MSF	**Maaselka**	2.71	229	*e*P	Pn	19 23 51.7	+1.4
MSF				*e*SG	Sg	19 24 33.0	+0.5
MSF				MSG		19 24 33.0	
	comp=Z,6.2nm,0.4s						
SGF	**Sodankyl**	2.88	267	*e*PB	Pb	19 23 57.0	-0.8
	baz=75						
SGF				*e*SB	Sb	19 24 34.5	+0.9
KEV	**Kevo**	3.24	311	*e*P	Pn	19 24 00.5	+3.0
	baz=123						
KEV				*e*		19 24 57.3	
ARA0	**ARCESS Array S**	3.58	304	*e*P	Pn	19 24 01.9	-0.4
ARA0				*e*PB	Pb	19 24 08.3	-1.3
ARA0				*e*S	Sn	19 24 46.2	+1.1
ARA0				*e*SG	Sg	19 24 59.6	-0.8
ARA0	**ARCESS Array S**	3.58	304	Pn	Pn	19 24 01.9	-0.4
	baz=122,slow=16						
ARA0				Pg	Pb	19 24 08.3	-1.3
	baz=120,slow=16						
ARA0				Sn	Sn	19 24 46.2	+1.1
	baz=123,slow=28						
ARA0				Lg		19 24 59.6	
	baz=105,slow=37						
ARCES	**ARCESS Array B**	3.58	304	Pn	Pn	19 24 01.9	-0.3
	comp=Z,0.6nm,0.3s,baz=122,slow=14,SNR=34						
ARCES				Sn	Sn	19 24 45.0	-0.1
	comp=Z,3.0nm,0.3s,baz=116,slow=16,SNR=9.2						
HEF	**Hetta**	3.93	284	*e*PB	Pb	19 24 15.3	-0.4
	baz=103						
HEF				*e*S	Sn	19 24 58.0	+4.1
OUL	**Oulu**	4.23	234	*e*PB	Pb	19 24 16.5	-4.2
OUL				*e*SG	Sg	19 25 20.8	-0.5
FIA0	**FINESS Array S**	7.20	212	*e*P	Pn	19 24 49.2	-2.7
FIA0				*e*SG	Sg	19 26 48.4	-8.3
FIA0	**FINESS Array S**	7.20	212	Pn	Pn	19 24 49.2	-2.7
FIA0				Lg		19 26 48.4	
	baz=37,slow=28						
FINES	**FINESS Array B**	7.20	212	Pn	Pn	19 24 55.6	+3.6
	comp=Z,0.1nm,0.3s,baz=30,slow=16,SNR=5.3						
FINES				Sn	Sn	19 26 15.3	+1.0
	comp=Z,0.3nm,0.3s,baz=30,slow=23,SNR=5.7						
FINES				Lg		19 26 49.0	
	comp=Z,1.2nm,0.3s,baz=24,slow=25,SNR=11						
NOA	**NORSAR Array B**	11.88	246	Pn	Pn	19 25 57.8	+1.9
	comp=Z,0.2nm,0.3s,baz=45,slow=11,SNR=2.8						

*ISCJB **25** 20:00:44.8±0.4,4381N±003×105.12W±005,h0km,mb4.0/4, Error ellipse: s-maj=4.9km s-min=3.8km az=17.5*
*IDC **25** 20:00:44.7±0.9,4340N×10500W,h0km,mb3.9/4, mb1 3.8/9,mb1mx3.6/26,mbtmp3.7/9,ML3.3/4,MS3.0/1, Ms1 3.0/1,ms1mx2.2/33,Error ellipse: s-maj=22.4km s-min=11.1km az=135.0*
*NEIC **25** 20:00:47.3±0.4,4382N×105.19W,h0km,ML3.5,Error ellipse: s-maj=5.9km s-min=4.2km az=134.0,Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 25 20:00:47.2±0.4,4381N±003×10515W±004,h0km,n72, σ1§00/88,mb4.0/4,11C-6D,Wyoming

| Code | Station Name |

M15A	Larsen Ranch,	5.87	249	⇓P	Pn	20 02 14.6	-0.8
	baz=7.0						
E15A	Deer Lodge	5.91	299	⇑P	Pn	20 02 15.2	-0.7
	baz=7.0,SNR=45						
SPUT	South Promonto	5.94	248	*e*Pn	Pn	20 02 16.1	-0.2
HVU	Hansel Valley	5.96	253	*e*Pn	Pn	20 02 16.4	-0.3
	12nm,0.6s						
D15A	Lincoln	6.11	304	⇓P	Pn	20 02 18.5	-0.1
	baz=7.2,SNR=12						
PV10	Paradox Valley	6.17	210	*e*Pn	Pn	20 02 21.8	+2.2
F14A	Wisdom	6.18	292	⇑P	Pn	20 02 19.9	+0.4
	baz=7.4						
ECSD	EROS,Sioux Fal	6.18	88	*e*Pn	Pn	20 02 21.4	+1.7
	11nm,0.4s						
N15A	Stansbury Isla	6.19	244	⇑P	Pn	20 02 19.2	-0.5
	baz=7.3						
SRU	San Rafael	6.19	222	*e*Pn	Pn	20 02 18.4	-1.4
	17nm,0.4s						
PV01	Paradox Valley	6.23	206	*e*Pn	Pn	20 02 21.1	+0.8
PV01				*e*Pg	Pg	20 02 37.6	-9.0
TMUT	Trail Mountain	6.40	227	*e*Pn	Pn	20 02 22.8	+0.2
E14A	Clinton	6.45	297	⇑P	Pn	20 02 22.7	-0.6
	baz=7.6,SNR=11						
M14A	Sheep Mountain	6.47	252	⇑P	Pn	20 02 23.2	-0.4
	baz=7.6						
CHMT	Chamberlain Mo	6.49	301	*e*Pn	Pn	20 02 23.7	-0.3
BGU	Big Grassy Mou	6.51	246	*e*Pn	Pn	20 02 24.1	-0.1
D14A	Greenough	6.72	302	⇓P	Pn	20 02 26.3	-0.8
	baz=7.8,SNR=12						
DUG	Dugway	6.75	240	*e*Pn	Pn	20 02 26.5	-1.0
	4.7nm,0.4s						
M13A	Montello	7.09	253	⇑P	Pn	20 02 31.8	-0.3
	baz=8.2						
D13A	Huson	7.32	300	⇓P	Pn	20 02 35.0	-0.2
	baz=8.4						
N13A	Wendover, West	7.33	249	⇑P	Pn	20 02 34.8	-0.6
	baz=8.5						
MSU	Marysvale	7.49	227	*e*Pn	Pn	20 02 36.9	-0.7
M12A	Wells	7.59	255	⇑P	Pn	20 02 39.3	+0.3
	baz=8.8						
C13A	Hot Springs	7.64	304	⇑P	Pn	20 02 39.2	-0.4
	baz=8.7						
AGMN	Agassiz Refuge	7.86	52	*e*Pn	Pn	20 02 41.2	-1.5
	18nm,0.5s						
AGMN				*e*Pg	Pg	20 03 11.8	-5.9
P13A	Bates Ranch, G	7.94	240	⇑P	Pn	20 02 42.5	-1.3
	baz=9.0						
WALA	Waterton Lakes	8.01	314	*e*Pn	Pn	20 02 44.0	-0.6
	3.6nm,0.4s						
ARUT	Antelope Range	8.70	229	*e*Pn	Pn	20 02 54.5	+0.3
CCUT	Cedar City	8.83	228	*e*Pn	Pn	20 02 56.1	+0.1
ULM	Lac du Bonnet	9.03	41	Pn	Pn	20 02 58.4	-0.3
ULM				Pg	Pg	20 03 29.4	-11
ULM				Lg		20 05 27.7	
ULM	Lac du Bonnet	9.03	41	Pn	Pn	20 02 58.4	-0.3
	2.3nm,0.3s,baz=230,slow=12,SNR=19						
ULM				Pg	Pg	20 03 29.4	-11
	0.8nm,0.3s,baz=215,slow=16,SNR=2.6						
ULM				Lg		20 05 27.7	
	0.7nm,0.3s,baz=305,slow=9.1,SNR=2.2						
WUAZ	Wupatki	9.57	212	*e*Pn	Pn	20 03 06.7	+0.6
	8.4nm,0.6s						
FFC	Flin Flon	11.12	10	*e*Pn	Pn	20 03 26.1	-1.1
	6.7nm,0.6s						
NVAR	Mina Array Bea	11.28	246	Pn	Pn	20 03 29.4	-0.1
	0.2nm,0.3s,baz=57,slow=11,SNR=7.4						
YBH	Yreka Blue Hor	13.07	267	Pn	Pn	20 03 57.4	+3.4
	0.1nm,0.3s,baz=200,slow=5.2,SNR=4.2						
TXAR	Lajitas Array	14.50	175	Pn	Pn	20 04 06.0	-7.6
	0.0nm,0.3s,baz=1.8,slow=12,SNR=2.6						
BBB	Bella Bella	17.44	307	LR	LR	20 12 28.6	
	comp=Z,40nm,18.4s,baz=318,slow=40						
YKA	Yellowknife Ar	19.51	347	Pn	Pn	20 05 14.7	-2.1
YKA				Sn	Sn	20 09 04.6	+8.4
YKA	Yellowknife Ar	19.51	347	Pn	Pn	20 05 14.7	-2.1
	0.1nm,0.3s,baz=156,slow=12,SNR=5.5						
YKA				Sn	Sn	20 09 04.6	+8.4
	0.1nm,0.3s,baz=166,slow=23,SNR=3.8						
ARCES	ARCESS Array B	61.32	18	P	P	20 11 03.4	-0.6
	2.0nm,0.9s,mb4.2,baz=330,slow=7.0,SNR=4.4						
FINES	FINESS Array B	67.93	23	P	P	20 11 45.8	-1.4
	0.7nm,0.7s,mb4.0,baz=335,slow=6.2,SNR=3.2						
ZALV	Zalesovo Beam	82.24	354	P	P	20 13 09.2	-0.7
	0.8nm,0.6s,mb4.0,baz=341,slow=5.4,SNR=4.4						
MKAR	Makanchi Array	89.54	355	P	P	20 13 45.9	-0.3
	0.5nm,0.7s,mb3.9,baz=4.2,slow=4.4,SNR=6.4						

NEIC ***25*** *20:04:30.5,3742N×11853W,h9km,ML3.4(NCEDC), After NCEDC.*
ISCJB ***25*** *20:04:31.3±0.2,3740N±001×11855W±002,h10km,Error ellipse: s-maj=2.0km s-min=1.8km az=167.5*
ISC 25 20:04:31.3±0.2,3740N±001×11854W±002,h10km,n57, σ1§10/93,36C-25D,California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	Tungsten Hills	0.05	199	*e*Pg	Pg	20 04 32.4	-0.9
S08C	White Mtn Res	0.31	71	⇓P	Pg	20 04 36.5	-1.1
	baz=0.3,SNR=1000						
S08C				⇑S	Sg	20 04 41.1	-0.7
	baz=0.3						
MLAC	Mammoth Lakes	0.33	315	⇑P	Pg	20 04 37.2	-0.6
	baz=0.3,SNR=15						
MLAC				⇑S	Sg	20 04 42.1	-0.2
	baz=0.3						
TIN	Tinemaha	0.43	144	P	Pg	20 04 39.2	-0.4
	baz=0.4,SNR=65						
TIN				⇑S	Sg	20 04 45.2	-0.1
	baz=0.4						
KCC	Kaiser Creek	0.62	263	P	Pg	20 04 42.3	-1.0
	baz=0.6,SNR=335						
KCC				⇑S	Sg	20 04 50.8	-0.7
	baz=0.6						
R07C	Lee Vining	0.80	330	⇓P	Pg	20 04 45.6	-1.1
	baz=0.8,SNR=278						
R07C				⇓S	Sg	20 04 56.9	-0.1
	baz=0.8						
HELL	Mitchell Peak	0.81	208	⇓P	Pg	20 04 46.0	-1.0
	baz=0.8,SNR=225						
HELL				⇓S	Sg	20 04 56.9	-0.6
	baz=0.8						
T06C	Millerton Lake	1.01	248	P	Pg	20 04 49.5	-1.2
	baz=1.0,SNR=106						
T06C				⇑S	Sg	20 05 02.8	-1.0
	baz=1.0						
R08A	Mina	1.01	20	⇑P	Pg	20 04 49.3	-1.4
	baz=1.0,SNR=62						
R08A				⇓S	Sg	20 05 03.2	-0.6
	baz=1.0						
GRAC	Grapevine Rang	1.02	113	⇑P	Pg	20 04 50.3	-0.6
	baz=1.0,SNR=12						
GRAC				⇑S	Sg	20 05 04.2	+0.1
	baz=1.0						
CWC	Cottonwood Cre	1.03	159	⇑P	Pg	20 04 49.7	-1.3
	baz=1.0,SNR=29						
CWC				⇓S	Sg	20 05 03.5	-0.8
	baz=1.0						
S09A	Goldfield	1.10	72	P	Pb	20 04 51.0	-1.4
	baz=1.1,SNR=1000						
S09A				⇓S	Sg	20 05 05.8	-0.9
	baz=1.1						
S06C	San Francisco	1.14	295	P	Pb	20 04 51.6	-1.5
	baz=1.1,SNR=120						
S06C				⇑S	Sb	20 05 06.5	-1.5
	baz=1.1						
RCTC	Rector, Farmer	1.22	207	⇑P	Pn	20 04 53.4	-1.0
	baz=1.2,SNR=5.8						
RCTC				⇑S	Sb	20 05 09.9	-0.4
	baz=1.2						
TPH	Tonopah	1.25	57	*e*Pn	Pn	20 04 53.6	-1.1
TPH				*e*Sn	Sn	20 05 09.9	-1.7
R06C	Coleville	1.33	328	P	Pn	20 04 55.5	-0.5
	baz=1.3,SNR=88						
R06C				⇑S	Sb	20 05 13.7	+0.2
	baz=1.3						
S05C	Merced	1.42	268	P	Pn	20 04 56.9	-0.3
	baz=1.4,SNR=53						
S05C				⇑S	Sn	20 05 15.2	-0.7
	baz=1.4						
R09A	Tonopah	1.44	54	P	Pn	20 04 57.0	-0.4
	baz=1.4,SNR=354						
R09A				⇑S	Sn	20 05 16.6	+0.3
	baz=1.4						
Q08A	Gabbs	1.54	18	⇑P	Pn	20 04 58.7	-0.1
	baz=1.5,SNR=13						
Q08A				⇑S	Sn	20 05 19.4	+0.6
	baz=1.5						
MPMC	Manual Prospec	1.58	147	P	Pn	20 04 59.3	0.0
	baz=1.6,SNR=150						
MPMC				⇑S	Sn	20 05 21.0	+1.2
	baz=1.6						
CMB	Columbia Colle	1.59	294	*e*Pn	Pn	20 04 59.1	-0.4
CMB				*e*Sn	Sn	20 05 19.5	-0.7
CMB	Columbia Colle	1.59	294	P	Pn	20 04 59.4	-0.1
	baz=1.6,SNR=142						
CMB				⇓S	Sn	20 05 20.4	+0.3
	baz=1.6						
VES	Vestal, Richgr	1.61	196	⇓P	Pn	20 05 00.4	+0.6
	baz=1.6,SNR=45						
VES				⇓S	Sn	20 05 22.1	+1.4
	baz=1.6						
S10A	Tonopah Range,	1.63	71	P	Pn	20 04 59.7	-0.4
	baz=1.6,SNR=371						
S10A				⇓S	Sn	20 05 22.0	+0.9
	baz=1.6						
FURC	Furnace Creek,	1.64	124	⇑Pb	Pb	20 05 01.2	-0.3
	baz=1.6,SNR=7.8						
U05C	Westside ANR,	1.65	230	⇓Pb	Pb	20 05 01.3	-0.4
	baz=1.7						
U05C				⇑Sb	Sb	20 05 24.4	+1.8
	baz=1.7						
ISA	Isabella	1.73	178	⇑S	Sn	20 05 25.4	+1.8
	baz=1.8						
T05C	Eagle Field, D	1.77	254	⇓Pb	Pb	20 05 03.5	-0.4
	baz=1.8,SNR=16						
T05C				⇓Sb	Sb	20 05 28.1	+1.9
	baz=1.8						
R05C	Kirkwood Meado	1.78	318	⇑P	Pn	20 05 02.5	+0.4
	baz=1.8,SNR=33						
R05C				⇑Sb	Sb	20 05 27.2	+0.9
	baz=1.8						
Q09A	Carvers	1.79	36	Pb	Pb	20 05 03.8	-0.4
	baz=1.8,SNR=25						
Q09A				⇑Sb	Sb	20 05 28.4	+1.7
	baz=1.8						
V05C	Boulder Hill,	1.88	216	Pb	Pb	20 05 05.1	-0.6
	baz=1.9,SNR=19						
V05C				⇑Sb	Sb	20 05 31.1	+1.9
	baz=1.9						
TPNV	Topopah Spring	1.89	103	*e*Pn	Pn	20 05 03.2	-0.4
TPNV				*e*Sn	Sn	20 05 31.3	+3.9
TPNV	Topopah Spring	1.89	103	⇑P	Pn	20 05 03.4	-0.2
	baz=1.9,SNR=129						
R10A	Warm Springs	1.98	63	⇑Pb	Pb	20 05 07.1	-0.3
	baz=2.0,SNR=150						
R10A				⇓Sb	Sb	20 05 34.1	+1.9
	baz=2.0						
U10A	Ash Meadows, A	2.03	118	⇓Pb	Pb	20 05 07.9	-0.3
	baz=2.0						
U10A				⇓Sb	Sb	20 05 36.1	+2.7
	baz=2.0						
LRMC	Laurel Mountai	2.04	160	Pb	Pb	20 05 08.2	-0.2
	baz=2.1,SNR=9.4						
U04C	Hernandez Rese	2.07	241	⇑P	Pn	20 05 07.2	+1.1
	baz=2.1,SNR=114						
R04C	Big Horse Ranc	2.08	295	⇓Pb	Pb	20 05 07.9	-1.2
	baz=2.1						
WCN	Washoe City	2.13	334	P	Pn	20 05 07.4	+0.5
	baz=2.1,SNR=21						
WCN				⇑Sb	Sb	20 05 38.5	+2.2
	baz=2.1						
P07A	Fallon	2.15	353	⇑Pb	Pb	20 05 10.1	-0.3
	baz=2.1						
PKD	Parkfield	2.16	229	P	Pn	20 05 08.3	+0.9
	baz=2.2,SNR=44						
PTRM	Twissleman Ran	2.20	218	*e*Pn	Pn	20 05 08.3	+0.5
PTRM				*e*Sn	Sn	20 05 32.9	-2.2
LAVA	Lava Cap Winer	2.20	309	⇑Pb	Pb	20 05 10.5	-0.6
	baz=2.2						
Q10A	Clear Creek Ra	2.21	49	⇓Pb	Pb	20 05 10.6	-0.7
	baz=2.2,SNR=62						
S04C	Ingram Canyon,	2.22	274	P	Pn	20 05 09.8	+1.7
	baz=2.2,SNR=62						
PACP	Pacheco Peak	2.22	261	⇓P	Pn	20 05 09.5	+1.3
	baz=2.2,SNR=11						
ARVC	Arvin	2.28	186	⇓Pb	Pb	20 05 12.2	-0.3
	baz=2.3						
PAHR	Pah Rah Range	2.40	344	*e*Pn	Pn	20 05 09.9	-0.6
PAHR				*e*Pg	Pg	20 05 13.8	-3.5
SAO	San Andreas Ge	2.41	256	*e*Pn	Pn	20 05 11.6	+0.9
P09A	Austin	2.42	27	⇑Sb	Sb	20 05 46.9	+2.2
	baz=2.4						
R11A	Troy Canyon, C	2.53	67	Pb	Pb	20 05 16.3	-0.4
	baz=2.5,SNR=32						
R11A				⇓Sb	Sb	20 05 49.8	+2.0
	baz=2.5						
EDW2	Edwards Air Fo	2.55	170	⇑Sb	Sb	20 05 51.9	+3.3
	baz=2.6						
V03C	Hunter Liggett	2.56	238	⇓P	Pn	20 05 13.6	+0.8
	baz=2.6,SNR=12						
WENL	Wente Brothers	2.56	276	⇓Sb	Sb	20 05 50.9	+1.9
	baz=2.6						
Q04C	Lincoln	2.66	304	⇑Sb	Sb	20 05 53.8	+2.1
	baz=2.7						
Q11A	Duckwater	2.70	57	⇑Sb	Sb	20 05 55.6	+2.8
	baz=2.7						
OHCM	Honcut	3.01	311	*e*Pn	Pn	20 05 19.5	+0.5
OHCM				*e*S	Sn	20 05 59.8	+4.6

IDC 25 20:22:20.9±0.9,981N×5727E,h0km,mb3.7/11, mb1 3.9/11,mb1mx3.7/21,mbtmp3.7/11,MS2.9/1, Ms1 2.9/1,ms1mx2.1/22,Error ellipse: s-maj=23.4km s-min=22.2km az=169.0,Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KMBO	Kilima Mbogo	22.70	242	P	P	20 27 26.7	+2.3
	0.7nm,0.5s,baz=61,slow=19,SNR=2.5						
AKTO	Aktyubinsk	40.50	1	P	P	20 30 02.5	+1.1
	0.3nm,0.3s,baz=188,slow=15,SNR=2.9						
MKAR	Makanchi Array	42.55	25	P	P	20 30 19.7	+1.3
	1.4nm,0.7s,baz=214,slow=8.5,SNR=21						
MKAR				LR	LR	20 48 22.0	
	comp=Z,18nm,22.0s,baz=92,slow=37						
AKASG	Malin Array Be	46.86	336	P	P	20 30 52.0	-0.6
	0.1nm,0.3s,baz=146,slow=7.1,SNR=5.1						
ZALV	Zalesovo Beam	49.23	21	P	P	20 31 11.3	+0.4
	1.4nm,0.6s,baz=218,slow=8.5,SNR=4.1						
TORD	Torodi Ar. Bea	54.48	279	P	P	20 31 50.4	-0.4
	0.7nm,0.9s,baz=103,slow=6.5,SNR=4.0						
FINES	FINESS Array B	56.39	343	P	P	20 32 02.6	-1.1
	0.7nm,0.6s,baz=132,slow=10,SNR=4.7						
ESDC	Sonseca Array	61.73	310	P	P	20 32 41.1	-0.1
	1.9nm,0.7s,baz=82,slow=7.0,SNR=7.9						
ARCES	ARCESS Array B	63.05	348	P	P	20 32 48.5	-1.1
	2.9nm,1.0s,baz=14,slow=5.6,SNR=4.6						
WRA	Warramunga Arr	81.37	112	P	P	20 34 40.1	+0.1
	0.4nm,0.7s,baz=289,slow=4.2,SNR=3.2						
ASAR	Alice Springs	81.87	116	P	P	20 34 42.0	-0.7
	0.4nm,0.7s,baz=290,slow=5.5,SNR=7.0						

ISCJB ***25*** *20:23:10.6±0.5,3986N±003×44.17E±006,h10km±8km, Error ellipse: s-maj=8.7km s-min=3.6km az=25.9*
TIF ***25*** *20:23:10.3,3981N×44.17E,h9km±1km*
CSEM ***25*** *20:23:10.1±0.1,3981N×44.15E,h15km,MD3.2,Error ellipse: s-maj=2.3km s-min=1.5km az=124.0*
ISK ***25*** *20:23:10.4,3982N×44.11E,h4km,MD3.2*
DDA ***25*** *20:23:13.7,3971N×4326E,h11km,Md3.2*
ISC 25 20:23:11.3±0.5,3982N±003×4417E±006,h18km±7km,n12, σ1§10/20,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DYDN	Diyadin	0.46	233	*i* P	Pg	20 23 20.8	+0.1
DYDN				*i* S	Sg	20 23 28.0	+1.0
GNI	Garni	0.55	53	*e*PG	Pg	20 23 22.4	+0.1
GNI				*e*SG	Sg	20 23 31.3	+1.6
CLDR	Caldiran	0.70	196	*e*PG	Pg	20 23 24.2	-1.0
CLDR				*e*SG	Sg	20 23 34.5	0.0
DIGO	Kars	0.85	314	*i* P	Pb	20 23 27.4	-0.1
DIGO				*i* S	Sg	20 23 40.5	+1.4
AGRB	Hanur-Agry	0.94	255	*e*PG	Pg	20 23 28.5	-1.1
KARS	Kars	1.14	314	*e*PN	Pn	20 23 31.7	-0.6
VANB	Van	1.37	207	*e*PN	Pn	20 23 36.8	+1.3
TVAN	Van	1.42	205	*i* P	Pn	20 23 35.5	-0.7
TVAN				*i* S	Sg	20 24 01.3	+4.1
AKH	Akhalkalaki	1.67	342	P	Pn	20 23 40.9	+1.3
DGRG	David-gareji	1.87	29	P	Pg	20 23 46.3	-0.9
DGRG				S	Sg	20 24 13.3	+1.8
MTA	Mtatsminda	1.93	14	P	Pg	20 23 46.5	-1.9
MTA				S	Sg	20 24 12.8	-0.6
TBLG	Delisi	1.96	13	P	Pg	20 23 47.1	-1.8
TBLG				S	Sg	20 24 14.0	-0.3

JMA 25 20:45:35.3±0.2,4342N×14735E,h35km±5km,M3.6,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NEM2	Nemuro 2	1.17	268	P	Pn	20 45 55.9	+0.7
NEM2				*e*S	Sn	20 46 11.0	+1.1
JRA	Rausu	1.70	289	P	Pn	20 46 03.4	+1.0
JRA				*e*S	Sn	20 46 24.1	+1.2
JNK	Nakash	1.92	276	P	Pn	20 46 06.4	+0.9
JNK				*e*S	Sn	20 46 29.9	+1.5
JAK	Akkeshi	1.99	259	P	Pn	20 46 07.9	+1.6
JAK				*e*S	Sn	20 46 31.5	+1.5
JTKR	Abashiri--Toko	2.56	284	P	Pn	20 46 16.1	+1.9
JTKR				*e*S	Sn	20 46 47.8	+3.8
JAR	Ashorobuto	2.61	269	P	Pn	20 46 16.9	+1.9
JAR				*e*S	Sn	20 46 47.4	+1.9
JOB	Onbets	2.62	260	*e*S	Sn	20 46 47.4	+1.7
JMP	Maruseppu	2.95	283	P	Pn	20 46 22.0	+2.4
JCH	Churui	3.03	256	P	Pn	20 46 23.4	+2.7
JCH				*e*S	Sn	20 46 58.0	+2.2
JEM	Erimo	3.39	247	P	Pn	20 46 27.7	+2.0
JEM				*e*S	Sn	20 47 06.2	+1.5
JNBK	Urakawa-nobuka	3.57	253	*e*S	Sn	20 47 11.4	+2.4

IDC 25 20:51:36.1±3.9,362S×13590E,h0km,mb3.2/2,mb1 3.4/3, mb1mx3.3/12,mbtmp3.2/3,ML2.8/1,Error ellipse: s-maj=181.8km s-min=30.3km az=80.0,Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	16.29	185	Pn	Pn	20 55 25.7	-0.7
	0.0nm,0.3s,baz=4.4,slow=12,SNR=3.4						
WRA				Sn	Sn	20 58 12.0	-16
	0.0nm,0.3s,baz=15,slow=23,SNR=3.6						
ASAR	Alice Springs	20.02	185	P	P	20 56 11.1	+0.4
	1.2nm,0.8s,baz=9.4,slow=10,SNR=10						
MKAR	Makanchi Array	68.83	324	P	P	21 02 42.4	+0.1
	0.2nm,0.6s,baz=111,slow=7.9,SNR=2.8						

ISC 25 22:01:11.1±0.8,4640N±004×1312E±007,h10km,n5, σ0§40/10,2C-1D,Austria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOO	Bordoo	0.08	189	⇑*i*Pg	Pg	22 01 13.3	-0.1
BOO				*i* Sg	Sg	22 01 15.5	+0.4
PLRO	Paularo	0.15	8	⇓*e*Pg	Pg	22 01 14.3	-0.2
PLRO				*e*Sg	Sg	22 01 17.0	+0.2
ZOU	Zoufplan	0.19	328	⇑*i*Pg	Pg	22 01 14.8	-0.2
ZOU				*i* Sg	Sg	22 01 18.0	+0.3
ROBS	Robic	0.31	120	*i* Pg	Pg	22 01 16.6	-0.7
ROBS				*i* Sg	Sg	22 01 21.7	+0.2
GORS	Gorjuse	0.61	97	*i* Pg	Pg	22 01 22.3	-0.6
GORS				*i* Sg	Sg	22 01 31.6	+0.6

IDC ***25*** *22:22:53.9±1.2,585S×124.17E,h0km,mb4.0/4,mb1 4.2/6, mb1mx3.9/17,mbtmp4.1/6,ML4.0/2,MS3.0/2,Ms1 3.0/2, ms1mx2.7/26,Error ellipse: s-maj=49.4km s-min=20.3km az=63.0*
ISCJB ***25*** *22:22:54.8±0.7,629S±008×124.1E±0.1,h33km,mb4.0/4, Error ellipse: s-maj=19.7km s-min=7.8km az=149.5*
NEIC ***25*** *22:22:56.6±0.7,6.14S×12427E,h35km,mb4.0/3,Error ellipse: s-maj=21.3km s-min=10.1km az=50.0*
ISC 25 22:22:56.8±0.7,618S±007×1242E±01,h35km,n18, σ1§36/21,mb4.0/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	4.04	188	Pn	Pn	22 24 02.2	+5.9
	4.4nm,0.3s,baz=304,slow=3.7,SNR=4.1						
BATI				LR	LR	22 25 55.2	
	comp=Z,351nm,20.6s,baz=95,slow=42						
KAPI	Kappang	4.61	284	Pn	Pn	22 24 02.5	-1.6
	13nm,0.3s,baz=129,slow=7.2,SNR=49						
KAPI				Sn	Sn	22 24 49.7	-6.7
	baz=295,slow=19,SNR=2.2						
FITZ	Fitzroy Crossi	11.93	174	*e*P	Pn	22 25 45.9	+1.4
	5.7nm,0.9s						
FITZ	Fitzroy Crossi	11.93	174	*e*Pn	Pn	22 25 45.4	+0.8
	27nm,1.7s						
FITZ	Fitzroy Crossi	11.93	174	Pn	Pn	22 25 44.9	+0.4
	0.3nm,0.3s,baz=355,slow=14,SNR=6.9						
FITZ				Sn	Sn	22 27 55.6	-0.9
	0.1nm,0.3s,baz=153,slow=19,SNR=1.6						
FITZ				LR	LR	22 31 47.1	
	comp=Z,43nm,19.4s,baz=153,slow=44						
MBWA	Marble Bar	15.52	196	Pn	Pn	22 26 35.0	+1.9
WRAB	Tennant Creek	16.84	145	*e*Pn	Pn	22 26 49.5	-0.5
	12nm,1.0s						
WRA	Warramunga Arr	16.84	145	P	Pn	22 26 49.2	-0.8
	0.3nm,0.3s,baz=320,slow=12,SNR=12						
WB2	Warramunga Arr	16.85	145	*e*P	Pn	22 26 49.8	-0.3
WB2	Warramunga Arr	16.85	145	*e*Pn	Pn	22 26 49.7	-0.4
WB2				*e*Sn	Sn	22 29 47.6	-8.7
ASAR	Alice Springs	19.72	153	P	Pn	22 27 27.9	+2.7
	3.6nm,0.8s,baz=331,slow=11,SNR=27						
COEN	Coen	20.18	114	P	P	22 27 26.7	-1.9
	3.8nm,0.9s						
KULM	Kulim	26.15	295	*e*P	P	22 28 26.2	-1.9
STKA	Stephens Creek	30.29	150	P	P	22 29 05.2	+0.5
STKA	Stephens Creek	30.29	150	P	P	22 29 09.9	+5.2
	2.4nm,0.8s,mb4.0,baz=328,slow=12,SNR=3.5						
MKAR	Makanchi Array	64.50	329	P	P	22 33 30.1	+0.1
	1.0nm,0.5s,mb4.1,baz=127,slow=7.7,SNR=17						
ZALV	Zalesovo Beam	68.42	336	P	P	22 33 56.2	+1.3
	0.5nm,0.4s,mb3.9,baz=121,slow=5.7,SNR=5.0						
KURK	Kurchatov	68.92	331	*e*P	P	22 33 59.9	+1.7
	1.4nm,0.8s,mb3.9						

IDC 25 22:25:44.7±1.8,597S×12417E,h0km,mb4.0/1,mb1 3.7/4, mb1mx3.5/17,mbtmp3.6/4,ML3.3/2,Error ellipse: s-maj=72.1km s-min=27.3km az=50.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	4

SUR	Sutherland	8.48	30	Pn	Pn	22 31 58.8	+2.8
SUR				Sn	Sn	22 33 32.0	+0.2
SUR				LR	LR	22 34 20.5	
SUR	Sutherland	8.48	30	Pn	Pn	22 31 58.8	+2.8
	comp=Z,2.2nm,0.3s,baz=204,slow=15,SNR=21						
SUR				Sn	Sn	22 33 32.0	+0.2
	comp=Z,1.6nm,0.3s,baz=141,slow=21,SNR=6.2						
SUR				LR	LR	22 34 20.5	
	comp=Z,60nm,20.0s,baz=277,slow=31						
SUR				T		22 39 14.0	
	comp=Z,0.5nm,0.3s,baz=172,slow=12,SNR=2.8						
GRM	Grahamstown	10.76	56	eP	Pn	22 32 27.7	+0.4
GRM				eS	Sn	22 34 20.6	-7.3
GRM				AML	AML	22 34 36.6	
	comp=Z,25nm,0.5s						
HVD	Gariep Dam	12.13	43	eP	Pn	22 32 47.4	+1.3
HVD				eS	Sn	22 34 54.4	-7.1
HVD				AML	AML	22 35 26.0	
	comp=Z,13nm,0.4s						
BOSA	Boshof	13.64	37	eP	Pn	22 33 08.7	+2.0
BOSA				eS	Sn	22 35 31.0	-7.3
BOSA				AML	AML	22 36 26.0	
	comp=Z,5.1nm,0.7s						
BOSA	Boshof	13.64	37	ePn	Pn	22 33 08.5	+1.7
	comp=Z,6.8nm,0.7s						
BOSA				eSn	Sn	22 35 35.5	-2.8
BOSA	Boshof	13.64	37	Pn	Pn	22 33 09.4	+2.7
	comp=Z,0.4nm,0.3s,baz=220,slow=14,SNR=8.0						
BOSA				Sn	Sn	22 35 35.7	-2.6
	comp=Z,1.1nm,0.3s,baz=228,slow=7.9,SNR=5.4						
BOSA				LR	LR	22 37 38.9	
	comp=Z,70nm,20.0s,baz=324,slow=34						
LBTB	Lobatse	16.92	32	P	Pn	22 33 52.7	+2.6
	comp=Z,0.2nm,0.3s,baz=219,slow=13,SNR=3.5						
LBTB				S	Sn	22 36 47.1	-11
	comp=Z,0.1nm,0.3s,baz=302,slow=15,SNR=1.6						
LBTB				LR	LR	22 39 40.2	
	comp=Z,51nm,18.6s,baz=264,slow=34						
TSUM	Tsumeb	20.66	5	eP	P	22 34 32.6	-0.4
	comp=Z,3.3nm,1.0s						
TSUM	Tsumeb	20.66	5	P	P	22 34 33.2	+0.1
	comp=Z,2.1nm,0.8s,baz=139,slow=20,SNR=3.6						
TSUM				LR	LR	22 42 21.4	
	comp=Z,20nm,20.4s,MS2.5,baz=316,slow=36						
LSZ	Lusaka	26.77	27	LR	LR	22 45 23.8	
	comp=Z,72nm,18.1s,MS3.3,baz=200,slow=35						
SNAA	Sanae	33.24	191	P	P	22 36 28.8	-1.2
	comp=Z,0.6nm,0.9s,mb3.5,baz=300,slow=6.5,SNR=9.0						
VNA2	Neumayer--Watz	33.33	194	e	P	22 36 30.8	0.0
	baz=18,slow=8.1						
VNA2				e	pP	22 36 34.5	+0.6
VNA2				e		22 36 43.7	
VNA3	Neumayer Olymp	34.02	194	e	P	22 36 36.0	-0.8
VNA3				e	pP	22 36 39.6	-0.3
VNA3				e		22 36 51.1	
QSPA	South Pole Qui	50.36	180	P	P	22 38 50.2	+0.5
	comp=Z,2.9nm,0.6s,mb4.5,baz=247,slow=2.2,SNR=30						
TORD	Torodi Ar. Bea	54.38	343	P	P	22 39 20.1	-0.1
	comp=Z,1.3nm,0.7s,mb4.0,baz=161,slow=6.4,SNR=22						
VNDA	Vanda	61.02	172	P	P	22 40 05.1	-1.1
	comp=Z,0.9nm,0.7s,mb4.0,baz=266,slow=6.6,SNR=4.5						
TXAR	Lajitas Array	129.98	278	PKP	PKPdf	22 49 02.2	-0.9
TXAR	Lajitas Array	129.98	278	PKP	PKPdf	22 49 02.2	-0.9
	comp=Z,0.2nm,0.7s,baz=116,slow=2.9,SNR=3.5						
YKA	Yellowknife Ar	142.90	324	PKP	PKPdf	22 49 25.7	-0.2
	comp=Z,0.4nm,0.7s,baz=82,slow=3.3,SNR=4.6						
NVAR	Mina Array Bea	144.74	283	PKP	PKPdf	22 49 29.1	-0.9
	comp=Z,1.0nm,0.6s,baz=146,slow=4.0,SNR=9.1						
BMO	Blue Mountains	145.43	294	ePKPdf	PKPdf	22 49 28.7	-2.2
INK	Inuvik	147.04	340	PKPbc	PKPbc	22 49 35.4	+0.3
INK				ePKPab	PKPab	22 49 35.8	-0.8
INK	Inuvik	147.04	340	PKPbc	PKPbc	22 49 35.4	+0.3
	comp=Z,1.2nm,0.6s,baz=354,slow=1.5,SNR=6.5						

*ISCJB **25** 22:30:33.6±0.2, 3742N±002×11852W±002, h10km, Error ellipse: s-maj=2.7km s-min=2.4km az=178.1*
*NEIC **25** 22:30:33.3, 3742N×11853W, h9km, ML3.2(NCEDC), After NCEDC.*

ISC 25 22:30:33.5±0.2, 3741N±002×11852W±002, h10km, n67, σ0=94/80, 17C-28D, California-Nevada border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTUM	Tungsten Hills	0.07	214	ePg	Pg	22 30 35.3	-0.4
S08C	White Mtn Res	0.29	72	P	Pg	22 30 39.2	-0.1
	baz=0.3,SNR=1000						
S08C				↑S	Sg	22 30 43.9	+0.7
	baz=0.3						
MLAC	Mammoth Lakes	0.34	311	↑P	Pg	22 30 40.0	-0.2
	baz=0.3,SNR=19						
MLAC				↓S	Sg	22 30 45.1	+0.4
	baz=0.3						
TIN	Tinemaha	0.42	147	↓P	Pg	22 30 41.9	+0.2
	baz=0.4,SNR=53						
KCC	Kaiser Creek	0.65	263	P	Pg	22 30 45.3	-0.7
	baz=0.6,SNR=240						
R07C	Lee Vining	0.80	328	P	Pg	22 30 48.4	-0.5
	baz=0.8,SNR=162						
HELL	Mitchell Peak	0.83	209	↑P	Pg	22 30 48.9	-0.6
	baz=0.8,SNR=154						
R08A	Mina	0.99	19	↑P	Pg	22 30 52.2	-0.4
	baz=1.0,SNR=22						
GRAC	Grapevine Rang	1.00	114	↓P	Pg	22 30 52.8	0.0
	baz=1.0,SNR=8.7						
CWC	Cottonwood Cre	1.03	160	↑P	Pg	22 30 52.5	-0.8
	baz=1.0,SNR=33						
CWC				↓S	Sg	22 31 06.4	-0.2
	baz=1.0						
T06C	Millerton Lake	1.03	247	P	Pg	22 30 52.3	-1.0
	baz=1.0,SNR=69						
T06C				↓S	Sg	22 31 05.7	-1.0
	baz=1.0						
S09A	Goldfield	1.07	73	↓P	Pg	22 30 53.6	-0.5
	baz=1.1,SNR=574						
S06C	San Francisco	1.16	294	P	Pb	22 30 54.5	-1.1
	baz=1.1,SNR=107						
S06C				↑S	Sb	22 31 09.3	-1.3
	baz=1.1						
TPH	Tonopah	1.22	57	ePg	Pg	22 30 56.5	-0.4
TPH				eSg	Sg	22 31 13.4	+0.5
RCTC	Rector, Farmer	1.24	208	↓P	Pn	22 30 56.3	-0.6
	baz=1.2						
RCTC				↓S	Sb	22 31 12.7	-0.3
	baz=1.2						
WAKR	Walker	1.31	327	ePn	Pn	22 30 57.7	-0.2
WAKR				eSg	Sg	22 31 15.7	-0.1
R06C	Coleville	1.33	327	↑P	Pn	22 30 58.2	0.0
	baz=1.3,SNR=41						
R09A	Tonopah	1.41	54	↑P	Pn	22 30 59.9	+0.6
	baz=1.4,SNR=70						
S05C	Merced	1.45	268	↓P	Pn	22 30 59.6	-0.1
	baz=1.4,SNR=59						
S05C				↑S	Sn	22 31 18.3	-0.4
	baz=1.4						
Q08A	Gabbs	1.52	17	↓P	Pn	22 31 01.5	+0.8
	baz=1.5,SNR=7.3						
Q07A	Schurz	1.54	352	↓Pb	Pb	22 31 02.3	+0.1
	baz=1.5						
MPMC	Manual Prospec	1.58	148	↓P	Pn	22 31 01.9	+0.3
	baz=1.6,SNR=37						
CMB	Columbia Colle	1.61	293	ePn	Pn	22 31 01.3	-0.6
CMB	Columbia Colle	1.61	293	P	Pn	22 31 02.2	+0.3
	baz=1.6,SNR=191						
S10A	Tonopah Range,	1.61	71	↓P	Pn	22 31 02.5	+0.5
	baz=1.6,SNR=236						
VES	Vestal, Richgr	1.63	196	↓Pb	Pb	22 31 03.3	-0.3
	baz=1.6,SNR=118						
Q09A	Carvers	1.77	36	↓Pb	Pb	22 31 06.4	+0.4
	baz=1.8,SNR=14						
R05C	Kirkwood Meado	1.78	317	↓Pb	Pb	22 31 05.9	-0.3
	baz=1.8,SNR=12						
T05C	Eagle Field, D	1.80	254	↑Pb	Pb	22 31 06.4	-0.1
	baz=1.8,SNR=6.6						
TPNV	Topopah Spring	1.87	104	ePn	Pn	22 31 06.2	+0.7
TPNV				eSg	Sg	22 31 34.7	+1.1
TPNV	Topopah Spring	1.87	104	↓P	Pn	22 31 06.1	+0.6
	baz=1.9						
V05C	Boulder Hill,	1.90	216	↓Pb	Pb	22 31 08.1	-0.2
	baz=1.9,SNR=11						
V05C				↓Sb	Sb	22 31 34.0	+2.0
	baz=1.9						
R10A	Warm Springs	1.96	63	↓Pb	Pb	22 31 09.8	+0.6
	baz=2.0						
U10A	Ash Meadows, A	2.01	119	↑Pb	Pb	22 31 10.5	+0.3
	baz=2.0						
LRMC	Laurel Mountai	2.04	161	↑Pb	Pb	22 31 10.8	+0.2
	baz=2.1,SNR=35						
R04C	Big Horse Ranc	2.09	295	↓P	Pn	22 31 09.9	+1.3
	baz=2.1,SNR=16						
U04C	Hernandez Rese	2.10	241	↑P	Pn	22 31 09.8	+1.1
	baz=2.1,SNR=51						
WCN	Washoe City	2.13	333	↑P	Pn	22 31 10.2	+1.1
	baz=2.1,SNR=17						
P07A	Fallon	2.15	352	↓Pb	Pb	22 31 12.9	+0.5
	baz=2.1						
PKD	Parkfield	2.19	229	↓P	Pn	22 31 10.8	+0.9
	baz=2.2,SNR=30						
Q10A	Clear Creek Ra	2.19	49	↓Pg	Pg	22 31 13.6	-1.8
	baz=2.2,SNR=24						
LAVA	Lava Cap Winer	2.21	308	↓Pb	Pb	22 31 13.4	-0.1
	baz=2.2,SNR=9.6						
PTRM	Twissleman Ran	2.22	218	ePn	Pg	22 31 21.2	+5.1
S04C	Ingram Canyon,	2.24	273	↓P	Pn	22 31 12.2	+1.6
	baz=2.2,SNR=60						
PACP	Pacheco Peak	2.25	261	↑P	Pn	22 31 12.0	+1.3
	baz=2.2,SNR=8.0						
PAHR	Pah Rah Range	2.39	344	ePn	Pn	22 31 14.0	+1.3
SAO	San Andreas Ge	2.43	256	ePn	Pn	22 31 15.0	+1.8
R11A	Troy Canyon, C	2.50	67	↑Pb	Pb	22 31 19.0	+0.5
	baz=2.5						
GSC	Goldstone	2.52	146	ePn	Pn	22 31 15.3	+0.9
EDW2	Edwards Air Fo	2.56	170	↓Pb	Pb	22 31 19.7	+0.2
	baz=2.6,SNR=20						
V04C	Ramage Ranch,	2.59	228	↓P	Pn	22 31 16.6	+1.1
	baz=2.6,SNR=5.1						
SHPR	Sheep Range	2.84	108	ePn	Pn	22 31 19.9	+1.1
O09A	Fish Creek Ran	2.94	20	↑P	Pn	22 31 21.0	+0.7
	baz=2.9,SNR=6.7						
OHCM	Honcut	3.02	310	ePn	Pn	22 31 25.3	+4.0
BMN	Battle Mountai	3.18	18	ePn	Pn	22 31 25.1	+1.5
BMN				eSb	Sb	22 32 13.3	+4.4
MWC	Mount Wilson	3.20	173	ePg	Pg	22 31 33.0	-1.8
NSHM	Saint Helena R	3.42	290	ePn	Pn	22 31 31.8	+5.0
ARUT	Antelope Range	4.05	83	ePn	Pg	22 31 49.5	-1.6
CCUT	Cedar City	4.10	86	ePn	Pg	22 31 50.7	-1.3
PFO	Pinyon Flat Ob	4.15	155	ePn	Pg	22 31 51.1	-1.9
WDC	Whiskeytown Da	4.46	317	eSb	Sg	22 32 54.6	-1.9
MOD	Modoc	4.69	343	ePn	Pb	22 31 56.0	+0.1
MVU	Marysvale	5.10	76	ePn	Pn	22 31 48.0	-2.0
MVU				eSb	Sb	22 32 58.2	-5.9
MSU	Marysvale	5.13	76	ePn	Pg	22 32 08.0	-3.7
DUG	Dugway	5.25	56	ePn	Pg	22 32 12.2	-1.8
SPUT	South Promonto	6.10	48	eSg	Sg	22 33 48.8	-0.6
TUC	Tucson	8.14	126	ePn	Pn	22 32 23.5	-8.2

*ISCJB **25** 22:48:25.6±1.5, 2988S±007×1789W±0.1, h155km±15km, mb4.0/8, Error ellipse: s-maj=19.4km s-min=11.0km az=15.9*
*NEIC **25** 22:48:26.5±2.2, 2997S×17850W, h172km±25km, mb4.3/4, Error ellipse: s-maj=27.0km s-min=16.7km az=139.0*
*IDC **25** 22:48:26.5±3.8, 2978S×17868W, h162km±34km, mb3.8/6, mb1 4.1/8, mb1mx3.9/14, mbtmp3.9/8, Error ellipse: s-maj=26.8km s-min=21.8km az=159.0*

ISC 25 22:48:23.2±1.2, 2975S±007×1787W±0.1, h124km±13km, n51, σ1=20/50, mb4.2/8, Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	8.18	197	P	Pn	22 50 22.2	+3.2
MXZ	Matakaoa Point	8.18	197	ePN	Pn	22 50 21.9	+2.9
MXZ				SN	Sn	22 51 51.3	+1.6
PUZ	Puketiti	8.67	196	P	Pn	22 50 27.5	+1.8
PUZ				S	Sn	22 52 01.7	0.0
PUZ	Puketiti	8.67	196	ePN	Pn	22 50 26.6	+0.9
PUZ				SN	Sn	22 52 00.7	-1.0
MWZ	Matawai	9.11	199	P	Pn	22 50 33.2	+1.6
MWZ				S	Sn	22 52 12.9	+0.6
MWZ	Matawai	9.11	199	ePN	Pn	22 50 32.4	+0.8
MWZ				SN	Sn	22 52 12.9	+0.6
URZ	Urewera	9.17	201	P	Pn	22 50 34.8	+2.5
URZ	Urewera	9.17	201	P	Pn	22 50 34.9	+2.5
	1.8nm,0.3s,baz=2.2,slow=4.5,SNR=18						
URZ				S	Sn	22 52 11.6	-2.1
	6.3nm,0.3s,baz=133,slow=23,SNR=14						
URZ	Urewera	9.17	201	PN	Pn	22 50 34.5	+2.1
KNZ	Kokohu	9.72	197	ePN	Pn	22 50 39.9	+0.2
BKZ	Black Stump Fm	10.19	202	ePN	Pn	22 50 44.9	-1.2
PXZ	Pawanui	10.88	198	SN	Sn	22 52 47.2	-7.8
MRZ	Mangatainoka R	11.84	202	P	Pn	22 51 06.1	-1.9
MRZ				S	Sn	22 53 12.5	-5.8
MRZ	Mangatainoka R	11.84	202	ePN	Pn	22 51 04.3	-3.7
MRZ				SN	Sn	22 53 12.2	-6.2
TCW	Tory Channel	12.78	205	P	Pn	22 51 19.6	-0.6
TCW	Tory Channel	12.78	205	PN	Pn	22 51 18.9	-1.3
TUWZ	Tuamarina	13.09	205	ePN	Pn	22 51 24.6	+0.3
NNZ	Nelson	13.12	207	P	Pn	22 51 23.6	-1.1
NNZ	Nelson	13.12	207	ePN	Pn	22 51 22.8	-1.9
NNZ				SN	Sn	22 53 41.0	-8.3
KHZ	Kahutara	14.10	204	P	Pn	22 51 34.9	-2.3
KHZ	Kahutara	14.10	204	ePN	Pn	22 51 34.8	-2.4
KHZ				SN	Sn	22 54 02.5	-10
AFI	Afiamalu	17.02	24	eP	Pn	22 52 13.5	-0.2
	16nm,0.4s						
AFI				eS	S	22 55 23.1	-0.4
AFI	Afiamalu	17.02	24	P	Pn	22 52 13.1	-0.6
	3.2nm,0.3s,baz=108,slow=6.4,SNR=4.9						
AFI				S	S	22 55 10.1	-13
	1.7nm,0.3s,baz=228,slow=22,SNR=2.8						
CTA	Charters Tower	33.08	279	P	P	22 54 48.2	+1.0
	5.8nm,0.8s,mb4.5,baz=98,slow=13,SNR=3.3						
CTAO	Charters Tower	33.08	279	eP	P	22 54 49.5	+2.2
	6.7nm,0.8s,mb4.5						
STKA	Stephens Creek	34.02	256	eP	P	22 54 57.5	+2.2
	4.6nm,0.9s,mb4.3						
STKA	Stephens Creek	34.02	256	P	P	22 54 58.4	+3.2
	1.7nm,0.5s,mb4.1,baz=108,slow=16,SNR=2.7						
ASAR	Alice Springs	42.52	267	P	P	22 56 06.2	-0.3
	1.1nm,0.5s,mb3.8,baz=102,slow=6.7,SNR=18						
WB2	Warramunga Arr	43.44	272	eP	P	22 56 13.6	-0.3
WRAB	Tennant Creek	43.45	272	eP	P	22 56 14.0	0.0
	4.2nm,0.7s,mb4.3						
WRA	Warramunga Arr	43.45	272	P	P	22 56 13.9	-0.1
	3.6nm,0.6s,mb4.3,baz=110,slow=7.7,SNR=22						
MJAR	Matsushiro Arr	77.35	326	P	P	23 00 03.5	-0.6
MJAR	Matsushiro Arr	77.35	326	P	P	23 00 03.5	-0.6
	4.3nm,0.9s,mb4.2,baz=157,slow=5.6,SNR=8.4						
VNA3	Neumayer Olymp	78.99	176	e	P	23 00 12.5	-0.2
VNA3				e		23 00 14.4	
VNA3				e		23 00 25.1	
VNA3				e		23 01 06.8	
VNA3				e		23 01 10.3	
VNA2	Neumayer--Watz	79.42	177	e	P	23 00 15.0	-0.1
	baz=180,slow=4.6						
VNA2				e		23 00 17.1	
VNA2				e		23 00 27.7	
VNA2				e		23 01 09.4	
VNA2				e		23 01 13.8	
VNA1	Neumayer--Stat	79.66	177	e	P	23 00 17.2	+0.9
VNA1				e		23 00 18.6	
VNA1				e		23 01 11.0	
VNA1				e		23 01 14.7	
KSRS	Korea Array	83.45	320	P	P	23 00 36.2	-0.5
	2.0nm,0.7s,mb4.0,baz=144,slow=6.3,SNR=6.9						
NVAR	Mina Array Bea	88.19	43	P	P	23 01 00.6	+0.6
	1.3nm,0.8s,mb4.0,baz=218,slow=8.4,SNR=9.3						
MKAR	Makanchi Array	116.85	310	PKP	PKPdf	23 06 50.3	-2.4
	0.1nm,0.4s,baz=222,slow=1.9,SNR=6.2						
ARCES	ARCESS Array B	137.82	348	PKhKP		23 07 21.8	
	2.2nm,0.9s,baz=88,slow=2.8,SNR=4.7						
JOF	Joensuu	141.58	338	ep	PKPdf	23 07 33.7	-5.2
	0.5nm,0.4s						
FINES	FINESS Array B	144.32	340	PKP	PKPdf	23 07 40.9	-2.9
	4.0nm,0.3s,baz=61,slow=4.3,SNR=127						
NB2	NORSAR Subarra	148.01	351	PKP	PKPdf	23 07 51.6	+1.6
	comp=Z,1.8nm,0.7s,baz=25,slow=3.0						
NOA	NORSAR Array B	148.01	351	PKPbc	PKPbc	23 07 51.7	-1.6
	comp=Z,1.8nm,0.6s,baz=15,slow=4.2,SNR=9.8						
AKASG	Malin Array Be	150.41	323	PKPbc	PKPbc	23 07 57.6	-1.9
	comp=Z,1.3nm,0.5s,baz=51,slow=2.7,SNR=16						
STHS	Stebnicka Huta	155.19	328	ePKP	PKPab	23 08 26.7	+0.1
CRVS	Cervenica-Dubn	155.44	327	ePKP	PKPab	23 08 27.5	-0.2
CLL	Collm	156.75	341	ePKPab	PKPab	23 08 32.0	-1.2
VYHS	Vyhne	156.95	329	ePKP	PKPab	23 08 34.5	+0.3
GERES	GERESS Array B	158.70	337	PKPab	PKPab	23 08 41.1	-0.7
	comp=Z,0.6nm,0.6s,baz=38,slow=5.0,SNR=5.8						
TORD	Torodi Ar. Bea	163.48	181	PKPab	PKPab	23 09 02.0	-1.3
	comp=Z,1.1nm,0.8s,baz=191,slow=1.9,SNR=11						

*IDC **25** 22:52:02.8±3.3, 1312N×12462E, h0km, mb3.5/4, mb1 3.7/4, mb1mx3.5/18, mbtmp3.5/4, MS3.1/1, Ms1 3.1/1, ms1mx2.5/19, Error ellipse: s-maj=300.1km s-min=24.2km az=63.0*
*NEIC **25** 22:52:06.6±0.8, 1341N×125.15E, h35km, mb4.2/2, Error ellipse: s-maj=64.1km s-min=13.4km az=68.0*
*MAN **25** 22:52:07, 1263N×12333E, h48km*
*ISCJB **25** 22:52:08.1±0.5, 1264N±004×12332E±004, h44km±8km, mb3.8/6, Error ellipse: s-maj=7.3km s-min=6.5km az=138.9*

ISC 25 22:52:05.3±0.8, 1264N±004×12334E±004, h2km±6km, n24, σ0=91/26, mb3.8/6, 3C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RCP	Roxas	1.22	208	↑eP	Pg	22 52 28.4	-0.3
RCP				eS	Sg	22 52 44.9	+0.4
PVCP	Virac	1.24	40	eP	Pg	22 52 28.5	-0.6
CNP	Cataman	1.30	96	eP	Pg	22 52 29.7	-0.6
CNP				eS	Sg	22 52 47.9	+0.7
QTRP	Odiongan	1.31	258	eP	Pg	22 52 29.8	-0.7
KALP	Kalibo	1.37	226	↑eP	Px	22 52 41.7	
OCLP	Ormoc	2.01	142	eP	Pn	22 52 42.5	+2.3
GUIM	Jordan	2.13	200	eP	Pn	22 52 42.1	+0.2
GUIM				eS	Sn	22 53 13.2	+4.3
SJMP	San Jose	2.17	266	eP	Pn	22 52 42.8	+0.4
LLP	Lapu-Lapu	2.39	165	↑eP	Pn	22 52 45.2	-0.2
LLP				eS	Sn	22 53 15.5	+0.2
POLP	Polilio Island	2.48	327	eP	Pn	22 52 47.7	+1.0
CUYO	Cuyo Island	2.88	232	eP	Pn	22 52 52.2	0.0
MSLP	Maasin	2.91	149	eP	Pn	22 52 52.9	+0.4
TBP	Tagbilaran	2.98	170	eP	Pn	22 52 53.5	0.0
LUBP	Lubang	3.20	290	eP	Pn	22 52 56.7	+0.1
BALP	Baler	3.52	331	eP	Pn	22 53 01.4	+0.4
ENPP	El Nido	4.08	250	eP	Pn	22 53 09.0	+0.2
WRA	Warramunga Arr	34.14	161	P	P	22 58 51.4	-0.4
	0.3nm,0.6s,mb3.4,baz=346,slow=9.2,SNR=2.9						
ASAR	Alice Springs	37.54	164	P	P	22 59 18.6	-2.2
	0.2nm,0.4s,mb3.2,baz=342,slow=6.5,SNR=4.4						
SONM	Songino Array	37.84	341	LR	LR	23 17 44.5	
	comp=Z,25nm,18.9s,baz=60,slow=41						
STKA	Stephens Creek	47.60	159	P	P	23 00 40.4	-2.3
	1.0nm,0.5s,mb4.1,baz=295,slow=5.6,SNR=3.0						
MK31	Makanchi Array	48.41	323	eP	P	23 00 49.5	+0.7
MKAR	Makanchi Array	48.41	323	P	P	23 00 49.6	+0.9
	0.8nm,0.7s,mb3.9,baz=118,slow=8.8,SNR=12						
KURK	Kurchatov	52.50	326	eP	P	23 01 18.1	-1.5
	1.7nm,0.9s,mb4.0						
TIXI	Tiksi	59.07	2	eP	P	23 01 57.2	-9.3
	1.7nm,0.4s,mb4.4						

*NEIC **25** 22:57:41.6, 1632N×9974W, h2km, MD3.8(MEX), After MEX.*

MEX 25 22:57:41.6±0.4, 1632N×9974W, h2km±4km, MD3.8, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.57	343	iP	Pg	22 57 52.0	-0.5
ACX				iS	Sg	22 58 00.5	+0.7
CAIG	El Cayaco	0.88	325	iP	Pg	22 57 57.1	-1.4
CAIG				iS	Sg	22 58 08.9	-1.0
MEIG	Mezcala	1.60	4	iP	Pn	22 58 07.1	-3.8
MEIG				iS	Sn	22 58 27.3	-4.8
PLIG	Platanillo	2.07	6	iP	Pn	22 58 14.4	-3.0
PLIG				iS	Sn	22 58 40.3	-3.5
ZIIG	Zihuatanejo	2.09	308	iP	Pn	22 58 17.4	-0.3
ZIIG	Zihuatanejo	2.09	308	iP	Pn	22 58 14.7	-3.0
ZIIG				iS	Sn	22 58 40.6	-3.6
MZVM		2.89	10	eP	Pn	22 58 26.4	-2.3
MZVM				iS	Sn	22 59 03.3	-0.8
PPM	Popocatepetl	2.93	21	iP	Pn	22 58 29.6	+0.4
PPM				eP		22 58 34.5	
VHO	Vista Hermosa	2.98	75	iP	Pn	22 58 18.4	-12
VHO				iS	Sn	22 59 02.6	-3.6
VHO	Vista Hermosa	2.98	75	iP	Pn	22 58 28.2	-1.6
VHO				iS	Sn	22 59 02.6	-3.6
PTVM	Pico Tres Padr	3.31	10	iP	Pn	22 58 36.7	+2.3
IIO	Organos	3.39	16	iP	Pn	22 58 44.3	+8.8
IIO	Organos	3.39	16	iS	Sn	22 59 13.9	-2.5

*ISCJB **25** 22:58:53.5±1.7, 109N±0.1×6230W±008, h98km±12km, Error ellipse: s-maj=17.4km s-min=12.0km az=14.3*
*FUNV **25** 22:58:53.9, 1091N×6224W, h98km, MW2.5*

ISC 25 22:58:54.1±1.7, 109N±01×6228W±008, h94km±13km, n8, σ0=29/13, 2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	Guiria	0.27	167	eP	Pn	22 59 07.9	0.0
GUIV				eS	Sn	22 59 17.8	-0.3
TRN	Trinidad (W)	0.91	107	eP	Pn	22 59 13.1	0.0
TRN				eS	Sn	22 59 21.6	-5.6
ITEV	Isla Los Testi	0.94	298	↓eP	Pn	22 59 13.5	+0.1
ITEV				eS	Sn	22 59 28.2	+0.3
CRUV	Carupano	0.97	256	↓iP	Pn	22 59 13.6	-0.1
CRUV				eS	Sn	22 59 28.1	-0.3
GUNV

DST	Dursunbey	3.14	5	*e*PN	Pn	23 13 55.3 +0.7
BALB	Balikesir	3.18	354	*e*PN	Pn	23 13 55.8 +0.6
PRK	Paraskevi	3.20	330	*e*PN	Pn	23 13 56.2 +0.7
KIZT	Kizilcal	3.72	49	*e*PN	Pn	23 14 03.7 +1.1
IZI	Iznik	3.96	13	*e*PN	Pn	23 14 06.9 +0.9
GADA	Gvkgeada	4.16	334	*e*PN	Pn	23 14 10.2 +1.5
RKY	Sarkoy-Tekirda	4.30	349	*e*PN	Pn	23 14 11.8 +1.2
VLI	Veliai	4.32	275	*e*PN	Pn	23 14 12.7 +1.8
ENEZ	Enez	4.58	339	*e*PN	Pn	23 14 15.7 +1.3
RDO	Rodhopi	5.14	336	*e*PN	Pn	23 14 22.8 +0.7
HMAT	Matruh	5.46	191	P	Pn	23 14 24.2 -2.3
AMAG	Maghara	7.11	143	P	Pn	23 14 45.7 -3.5
HHAG	Hagoal	7.24	153	P	Pn	23 14 45.8 -5.1
SWA1		7.51	198	P	Pn	23 14 53.0 -1.7
SWA1				S	Sn	23 15 57.4 -2.1
SWA2		7.60	199	P	Pn	23 14 54.8 -1.1
AWBH		8.14	176	P	Pn	23 14 57.2 -6.1
HFRF	Wahat Farafira	9.30	180	P	Pn	23 15 13.8 -5.4

NIED ***25*** *23:54:00, 42.30N×143.00E, h56km, Mw3.9 Best double couple: M0 7.96000×10^14 NP1:φ=25.00000°, δ=69.00000°, λ=87.00000°; NP2:φ=214.00000°, δ=22.00000°, λ=98.00000°.*
IDC ***25*** *23:54:30.3±1.9, 42.67N×142.86E, h0km, mb4.0/8, mb1 4.0/10, mb1mx3.8/22, mbtmp3.9/10, ML3.6/2, MS2.5/2, Ms1 2.5/2, ms1mx2.4/25, Error ellipse: s-maj=44.1km s-min=25.9km az=139.0*
MOS ***25*** *23:54:35.7±1.8, 42.26N×142.83E, h72km, mb4.2/7, Error ellipse: s-maj=23.2km s-min=13.5km az=88.7*
ISCJB ***25*** *23:54:35.9±0.5, 42.30N±0.005×142.97E±0.005, h73km±3km, mb3.9/9, Error ellipse: s-maj=8.8km s-min=5.7km az=154.8*
JMA ***25*** *23:54:37.6±0.1, 42.34N×143.00E, h55km±1km, M3.7*
JMA Felt II J1.
NEIC ***25*** *23:54:37.6, 42.34N×143.00E, h55km, MG3.9(JMA), After JMA.*
NEIC Recorded [2 JMA] in south-central Hokkaido.

ISC 25 23:54:37.1±0.4, 4232N±0.005×14297E±0.005, h66km±3km, n32, σ0.9 71/41, mb3.9/9, 5C-4D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	Urakawa-nobuka	0.17	256	⇑P	Pn	23 54 46.3	-0.7
JNBK				*e*S	Sn	23 54 53.1	-1.2
JEM	Erimo	0.34	156	⇑P	Pn	23 54 47.8	-0.2
ERM	Erimo	0.34	156	⇓*i*Pn	Pn	23 54 48.0	-0.1
ERM				*e*Sn	Sn	23 54 56.6	+0.6
JCH	Churui	0.41	45	⇑P	Pn	23 54 48.1	-0.6
JCH				*e*S	Sn	23 54 56.2	-0.9
JBT2	Biratori 2	0.64	316	⇓P	Pn	23 54 50.8	-0.2
JBT2				*e*S	Sn	23 55 01.6	+0.4
JOB	Onbets	0.86	47	⇑P	Pn	23 54 54.1	+0.5
JOB				*e*S	Sn	23 55 06.5	+0.7
JFR	Furan	0.89	342	P	Pn	23 54 53.2	-0.7
JAR	Ashorobuto	1.14	31	P	Pn	23 54 56.8	-0.3
JAR				*e*S	Sn	23 55 11.6	-0.4
JEW	Eniwo	1.24	295	⇓P	Pn	23 54 59.0	+0.6
JEW				*e*S	Sn	23 55 15.5	+1.1
JAB	Ashibetsu	1.30	335	P	Pn	23 54 59.9	+0.6
JAK	Akkeshi	1.44	62	⇑P	Pn	23 55 00.9	-0.2
JAK				*e*S	Sn	23 55 19.0	-0.1
YUK	Yuzh-Kuril'sk	2.72	50	*e*PN	Pn	23 55 19.9	+1.5
YUK				*e*S	Sn	23 55 50.9	+0.8
YUK				pmax	pmax		
	comp=Z,270nm,0.3s						
YUK				smax			
	comp=N,930nm,0.5s						
YUK				smax			
	comp=E,320nm,0.4s						
YSS	Yuzh-Sakhalins	4.63	358	PN	Pn	23 55 49.0	+4.5
MJAR	Matsushiro Arr	6.85	214	Pn	Pn	23 56 15.9	+1.1
	comp=E,1.0nm,0.3s,baz=28,slow=13,SNR=6.2						
KSRS	Korea Array	12.54	252	Pn	Pn	23 57 33.0	+0.5
	comp=E,0.4nm,0.3s,baz=65,slow=13,SNR=4.8						
KSRS				LR	LR	00 02 35.2	
	comp=E,21nm,18.5s,baz=113,slow=38						
SONM	Songino Array	26.24	295	P	P	00 00 03.8	-1.9
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM	Songino Array	26.24	295	P	P	00 00 03.8	-1.9
	comp=Z,1.9nm,0.7s,mb3.6,baz=105,slow=11,SNR=4.9						
ZALV	Zalesovo Beam	39.43	308	P	P	00 02 00.2	-0.1
	comp=Z,2.2nm,0.5s,mb4.2,baz=82,slow=7.9,SNR=9.3						
ZALV				LR	LR	00 18 28.6	
	comp=Z,8.2nm,21.7s,baz=337,slow=37						
MK31	Makanchi Array	42.53	298	⇓*i*P	P	00 02 26.2	+0.4
MKAR	Makanchi Array	42.53	298	P	P	00 02 26.0	+0.1
MKAR						00 04 17.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MKAR	Makanchi Array	42.53	298	P	P	00 02 25.9	+0.1
	comp=Z,2.1nm,0.8s,mb3.9,baz=83,slow=9.5,SNR=19						
MKAR				PcP	PcP	00 04 17.9	+0.6
	comp=Z,0.3nm,0.5s,baz=67,slow=2.6,SNR=3.5						
INK	Inuvik	49.16	29	P	P	00 03 18.1	+0.3
	comp=Z,0.3nm,0.3s,mb3.6,baz=344,slow=2.3,SNR=8.6						
ARU	Arti	53.28	316	P	P	00 03 48.7	0.0
ARCES	ARCESS Array B	59.49	339	P	P	00 04 33.3	+0.6
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ARCES	ARCESS Array B	59.49	339	P	P	00 04 33.2	+0.5
	comp=Z,1.8nm,0.8s,mb4.1,baz=36,slow=10,SNR=4.6						
JOF	Joensuu	61.89	331	*e*p	P	00 04 48.7	-0.4
	comp=Z,0.4nm,0.3s,mb3.9						
FINES	FINESS Array B	64.72	332	P	P	00 05 07.4	-0.4
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	64.72	332	P	P	00 05 07.3	-0.4
	comp=Z,0.9nm,0.5s,mb3.9,baz=59,slow=6.6,SNR=17						
NOA	NORSAR Array B	69.78	337	P	P	00 05 38.8	-1.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
NOA	NORSAR Array B	69.78	337	P	P	00 05 38.8	-1.0
	comp=Z,1.2nm,0.8s,mb3.8,baz=36,slow=6.1,SNR=3.9						
AKASG	Malin Array Be	70.87	322	P	P	00 05 46.1	-0.5
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	Malin Array Be	70.87	322	P	P	00 05 46.0	-0.6
	comp=Z,0.5nm,0.4s,mb3.7,baz=43,slow=5.3,SNR=4.2						

ISCJB ***26*** *00:08:22.6±0.5, 3204S±0.002×7153W±0.007, h64km±4km, mb4.2/10, Error ellipse: s-maj=9.7km s-min=3.5km az=177.0*
GUC ***26*** *00:08:22.8±0.7, 3206S×7139W, h37km±2km, MD4.5, ML4.5*
NEIC ***26*** *00:08:22.8, 3206S×7139W, h37km, mb4.7/1, MD4.5(GUC), After GUC.*
IDC ***26*** *00:08:23.8±3.2, 3202S×7118W, h53km±27km, mb4.0/9, mb1 4.0/13, mb1mx3.8/19, mbtmp3.9/13, ML4.0/4, MS3.3/6, Ms1 3.3/6, ms1mx3.1/18, Error ellipse: s-maj=28.1km s-min=16.7km az=97.0*

ISC 26 00:08:23.5±0.5, 3205S±0.002×7153W±0.007, h56km±5km, h64km±6.5km: pP-P, n54, σ0.9 95/65, mb4.2/10, MS3.3/4, 10C-12D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IHA	Instituto Hidr	0.98	185	⇓*i*P	Pn	00 08 40.4	-0.8
IHA				*i*S	Sn	00 08 54.1	0.0
CMCH	Combarbala	0.98	28	⇑*i*P	Pn	00 08 40.4	-0.8
CMCH				*i*S	Sn	00 08 53.2	-1.0
PEL	Peldehue	1.30	147	⇓*i*P	Pn	00 08 44.8	-0.7
PEL				*i*S	Sn	00 09 01.1	-0.8
PEL				AML	AML	00 09 02.8	
	comp=E,14μm,0.6s						
OVCH	Ovalle	1.46	11	⇓*i*P	Pn	00 08 47.9	+0.2
OVCH				*i*S	Sn	00 09 07.0	+1.3
OVCH	Ovalle	1.46	11	⇓*i*P	Pn	00 08 47.9	+0.2
OVCH				*i*S	Sn	00 09 07.0	+1.3
OVCH				AML	AML	00 09 10.7	
	comp=N,19μm,0.4s						
SAN	Santiago	1.58	153	*i*P	Pn	00 08 48.6	-0.6
SAN				AML	AML	00 09 14.4	
	comp=E,8μm,0.6s						
CLCH	Cerro Calan	1.58	148	⇓*i*P	Pn	00 08 48.9	-0.4
CLCH				*i*S	Sn	00 09 08.5	-0.1
CLCH				AML	AML	00 09 10.6	
	comp=E,14μm,0.8s						
CLCH				AML	AML	00 09 11.2	
	comp=E,18μm,0.7s						
FCH	Farellones	1.65	141	⇑*i*P	Pn	00 08 50.1	-0.1
FCH				*i*S	Sn	00 09 10.6	+0.3
FCH				AML	AML	00 09 11.7	
	comp=E,5μm,0.2s						
FSR	Penalolen	1.66	150	⇑*i*P	Pn	00 08 50.1	-0.2
FSR				*i*S	Sn	00 09 10.7	+0.3
FSR	Penalolen	1.66	150	⇑*i*P	Pn	00 08 50.1	-0.2
FSR				*i*S	Sn	00 09 10.7	+0.3
FSR				AML	AML	00 09 13.9	
	comp=E,9μm,0.6s						
TACH	Talagante	1.68	163	⇑*i*P	Pn	00 08 50.1	-0.4
TACH				*i*S	Sn	00 09 11.8	+0.9
PCH	Pirque	1.79	152	⇑*i*P	Pn	00 08 51.6	-0.4
PCH				*i*S	Sn	00 09 14.1	+0.5
SJCH	San Jose de Ma	1.87	148	⇑*i*P	Pn	00 08 52.5	-0.6
SJCH				*i*S	Sn	00 09 15.9	+0.2
TLL	Tololo Astrono	1.98	19	⇓*i*P	Pn	00 08 55.2	+0.6
TLL				*i*S	Sn	00 09 20.4	+2.2
TLL	Tololo Astrono	1.98	19	⇓*i*P	Pn	00 08 55.2	+0.6
TLL				*i*S	Sn	00 09 20.4	+2.2
TLL				AML	AML	00 09 26.2	
	comp=E,5μm,0.7s						
YECH	El Yeso	2.02	143	*i*P	Pn	00 08 55.5	+0.3
YECH				*i*S	Sn	00 09 19.9	+0.5
YECH				AML	AML	00 09 29.3	
	comp=N,4μm,0.7s						
LMEL	Las Melosas	2.11	148	⇓*i*P	Pn	00 08 56.6	+0.1
LMEL				*i*S	Sn	00 09 21.9	+0.3
LMEL	Las Melosas	2.11	148	⇓*i*P	Pn	00 08 56.6	+0.1
LMEL				*i*S	Sn	00 09 21.9	+0.3
LMEL				AML	AML	00 09 29.6	
	comp=N,5μm,0.1s						
CACH	El Canelo	2.21	159	⇓*i*P	Pn	00 08 58.3	+0.5
CICH	Cipreses	2.45	158	⇑*i*P	Pn	00 09 01.4	+0.4
SFDO	San Fernando	2.59	171	⇓*i*P	Pn	00 09 03.2	+0.2
CFAA	Coronel Fontan	2.84	82	P	Pn	00 09 07.7	+1.3
	comp=N,4.1nm,0.3s,baz=113,slow=18,SNR=516						
CFAA				S	Sn	00 09 41.0	+1.7
	comp=N,6.9nm,0.3s,baz=259,slow=16,SNR=3.3						
LCO	Las Campanas	3.11	14	*e*Pn	Pn	00 09 10.1	0.0
LCO				*e*Sn	Sn	00 09 45.6	-0.5
PLCA	Paso Flores	8.70	175	*e*Pn	Pn	00 10 24.2	-2.5
	comp=N,2.5nm,0.5s						
PLCA	Paso Flores	8.70	175	P	Pn	00 10 26.8	+0.1
	comp=N,0.6nm,0.3s,baz=328,slow=9.5,SNR=11						
PLCA				LR	LR	00 13 46.2	
	comp=N,137nm,20.9s,baz=289,slow=37						
LVC	Limon Verde	9.68	15	*e*Pn	Pn	00 10 39.1	-1.1
	comp=N,14nm,0.8s						
TRQA	Tornquist	9.86	130	*e*Pn	Pn	00 10 40.9	-1.5
	comp=N,33nm,0.9s						
CPUP	Villa Florida	13.65	69	*e*Pn	Pn	00 11 29.1	-5.2
	comp=N,21nm,0.6s						
CPUP	Villa Florida	13.65	69	P	Pn	00 11 30.5	-3.8
	comp=N,0.3nm,0.3s,baz=243,slow=11,SNR=2.5						
CPUP				LR	LR	00 17 23.9	
	comp=N,123nm,18.3s,baz=32,slow=40						
LPAZ	La Paz	15.99	12	*e*Pn	Pn	00 12 04.8	-0.1
	comp=N,5.1nm,0.7s						
LPAZ	La Paz	15.99	12	P	Pn	00 12 05.3	+0.4
	comp=N,0.1nm,0.3s,baz=193,slow=9.3,SNR=7.3						
SIV	San Ignacio	18.60	33	P	Pn	00 12 35.3	-1.8
	comp=N,0.2nm,0.3s,baz=208,slow=10,SNR=11						
USHA	Ushuaia	22.88	175	P	P	00 13 22.8	+0.7
	comp=N,14nm,1.0s,mb4.3,baz=0.0,slow=9.1,SNR=4.3						
ATAH	Atahualpa	25.73	344	LR	LR	00 22 33.5	
	comp=N,39nm,20.6s,MS2.9,baz=159,slow=33						
BDFB	Brasilia	26.91	58	P	P	00 13 57.7	-1.8
	comp=N,5.5nm,1.1s,mb4.0,baz=220,slow=15,SNR=5.5						
BDFB				LR	LR	00 25 28.4	
	comp=N,41nm,20.4s,MS3.0,baz=15,slow=38						
VNA3	Neumayer Olymp	51.01	158	*e*	P	00 17 20.3	+1.0
VNA3				*e*		00 17 23.5	
VNA3				*e*		00 17 27.3	
VNA3				*e*	pP	00 17 37.9	+3.8
VNA3				*e*		00 17 41.0	
VNA3				*e*		00 17 43.7	
VNA3				*e*		00 17 46.6	
VNA1	Neumayer--Stat	51.30	158	*e*	P	00 17 19.5	-2.0
VNA1				*e*		00 17 22.9	
VNA1				*e*		00 17 26.4	
VNA1				*e*		00 17 39.0	
VNA1				*e*		00 17 42.1	
VNA1				*e*		00 17 45.1	
VNA1				*e*		00 17 47.6	
VNA2	Neumayer--Watz	51.65	158	*e*	P	00 17 24.8	+0.7
	baz=294,slow=8.2						
VNA2				*e*		00 17 27.6	
VNA2				*e*		00 17 31.8	
VNA2				*e*	pP	00 17 42.4	+3.5
VNA2				*e*		00 17 46.1	
VNA2				*e*		00 17 49.5	
VNA2				*e*		00 17 52.1	
SNAA	Sanae	53.23	158	P	P	00 17 36.2	+0.4
	comp=N,3.5nm,0.8s,mb4.3,baz=284,slow=6.4,SNR=24						
QSPA	South Pole Qui	58.18	180	*e*P	P	00 18 12.6	+1.5
	comp=N,6.1nm,0.9s,mb4.6						
VNDA	Vanda	66.09	191	LR	LR	00 45 58.7	
	comp=N,67nm,19.9s,MS3.9,baz=130,slow=34						
SYO	Syowa Base	67.52	159	⇑*e*P	pP	00 19 30.0	+1.3
TXAR	Lajitas Array	68.25	330	P	P	00 19 19.9	+1.5
	comp=N,0.5nm,1.0s,mb3.5,baz=144,slow=11,SNR=3.7						
TXAR				LR	LR	00 44 49.8	
	comp=N,26nm,18.2s,MS3.5,baz=0.0,slow=32						
DBIC	Dimbokro	74.15	71	P	P	00 19 53.3	-1.2
	comp=N,4.8nm,0.9s,mb4.4,baz=238,slow=8.6,SNR=5.6						
MAW	Mawson	74.93	164	P	P	00 19 59.1	+1.0
	comp=N,1.1nm,0.7s,mb3.9,baz=197,slow=11,SNR=3.6						
BOSA	Boshof	80.60	118	P	P	00 20 29.4	-1.0
	comp=N,6.7nm,1.1s,mb4.5,baz=252,slow=2.6,SNR=4.1						
NVAR	Mina Array Bea	82.53	325	P	P	00 20 41.8	+1.7
	comp=N,0.4nm,0.6s,mb3.6,baz=165,slow=6.3,SNR=4.9						
TOA0	Torodi Ar. Sit	83.14	70	*e*P	P	00 20 43.2	-0.6
TOA0				*e*pP	pP	00 20 57.0	-2.6
TOA0				*e*sP	sP	00 21 02.9	-2.9
TORD	Torodi Ar. Bea	83.14	70	P	P	00 20 42.9	-0.9
	comp=N,4.1nm,0.8s,mb4.5,baz=258,slow=4.8,SNR=19						
WRA	Warramunga Arr	122.67	209	PKP	PKPdf	00 27 12.9	-0.6
	comp=N,0.4nm,0.6s,baz=152,slow=1.7,SNR=3.1						
KK31	Karatay Array	148.21	59	⇓P	PKPdf	00 28 02.1	+2.5
	comp=N,1.2nm,0.6s,baz=163,slow=11,SNR=16						
KK31				⇑S		00 29 05.7	
	comp=N,0.5nm,0.3s,baz=170,slow=22						
ZALV	Zalesovo Beam	152.34	31	PKPbc	PKPbc	00 28 13.0	+0.4
	comp=N,5.3nm,0.6s,baz=305,slow=3.4,SNR=22						
ZALV				PKPab	PKPab	00 28 23.7	+0.9
	comp=N,1.3nm,0.3s,baz=290,slow=3.1,SNR=5.9						
MKAR	Makanchi Array	155.14	46	PKP	PKPdf	00 28 10.3	+0.3
MKAR				PKPbc	PKPdf	00 28 18.9	+9.0
MKAR				PKPab	PKPab	00 28 33.1	-1.8
MKAR	Makanchi Array	155.14	46	PKP	PKPdf	00 28 10.3	+0.3
	comp=N,0.2nm,0.7s,baz=297,slow=0.9,SNR=2.8						
MKAR				PKPbc	PKPdf	00 28 18.9	+9.0
	comp=N,0.8nm,0.8s,baz=296,slow=2.0,SNR=8.0						
MKAR				PKPab	PKPab	00 28 33.1	-1.8
	comp=N,0.9nm,0.8s,baz=298,slow=5.2,SNR=7.8						

ISCJB ***26*** *00:23:05.0±1.1, 60S±0.1×1548E±0.2, h200km, mb4.0/8, Error ellipse: s-maj=30.6km s-min=15.8km az=24.0*
NEIC ***26*** *00:23:08.0±6.9, 603S×15475E, h216km±64km, mb4.3/4, Error ellipse: s-maj=31.3km s-min=24.4km az=194.0*
IDC ***26*** *00:23:07.6±13.0, 599S×15470E, h209km±119km, mb3.6/6, mb1 3.8/7, mb1mx3.5/15, mbtmp3.6/7, Error ellipse: s-maj=66.1km s-min=48.0km az=124.0*

ISC 26 00:23:06.4±1.1, 60S±0.1×1548E±0.2, h200km, n15, σ0.9 66/14, mb4.0/8, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.28	210	P	P	00 26 43.5	0.0
	0.4nm,0.3s,baz=19,slow=15,SNR=3.3						
CTAO	Charters Tower	16.28	210	P	P	00 26 43.5	+0.1
	7.0nm,0.8s						
KAKA	Kakadu	23.01	252	*e*P	P	00 27 54.0	0.0
	7.7nm,0.6s,mb4.4						
WRAB	Tennant Creek	24.21	233	*e*P	P	00 28 04.4	-0.5
	6.3nm,0.6s,mb4.4						
WB2	Warramunga Arr	24.21	233	*e*P	P	00 28 05.8	+0.9
WRA	Warramunga Arr	24.22	233	P	P	00 28 05.5	+0.6
	6.6nm,0.4s,mb4.6,baz=56,slow=10.0,SNR=39						
ARMA	Armidale	24.48	187	*e*P	P	00 28 06.8	-0.4
ASAR	Alice Springs	26.68	227	P	P	00 28 26.9	-0.3
	1.1nm,0.5s,mb3.8,baz=58,slow=8.7,SNR=14						
FITZ	Fitzroy Crossi	30.87	244	*e*P	P	00 29 03.8	-0.4
	2.6nm,0.4s,mb4.2						
FITZ	Fitzroy Crossi	30.87	244	P	P	00 29 03.9	-0.3
	1.7nm,0.6s,mb3.9,baz=80,slow=11,SNR=4.0						
MKAR	Makanchi Array	82.50	319	P	P	00 35 07.4	+0.8
	0.2nm,0.3s,mb3.4,baz=114,slow=5.7,SNR=7.7						
ZALV	Zalesovo Beam	83.22	326	P	P	00 35 08.7	-1.5
	0.7nm,0.4s,mb3.7,baz=101,slow=4.6,SNR=3.8						
YKA	Yellowknife Ar	95.55	28	P	P	00 36 09.0	+0.6
YKA	Yellowknife Ar	95.55	28	P	P	00 36 09.0	+0.6
	0.2nm,0.6s,mb3.6,baz=271,slow=4.2,SNR=3.8						
TORD	Torodi Ar. Bea	152.53	287	PKPbc	PKPbc	00 42 39.9	-0.1
	0.3nm,0.3s,baz=78,slow=1.9,SNR=22						

NEIC ***26*** *00:36:54.4, 16.76N×99.17W, h10km, MD3.6(MEX), After MEX.*

MEX 26 00:36:54.6±0.6, 1686N×9923W, h5km±26km, MD3.6, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	Acapulco	0.66	271	*i*P	Pg	00 37 07.0	-0.3
ACX				*i*S	Sg	00 37 15.5	-0.4
CAIG	El Cayaco	1.01	281	*e*P	Pg	00 37 11.9	-2.2
CAIG				*i*S	Sg	00 37 25.0	-2.3
CAIG				*i*S	Sg	00 37 25.9	-1.4
CAIG	El Cayaco	1.01	281	*e*P	Pg	00 37 11.9	-2.2
CAIG				*i*S	Sg	00 37 25.0	-2.3
UTMO	Huajuapan	1.67	54	*e*P	Pn	00 37 20.7	-3.7
ZIIG	Zihuatanejo	2.27	290	*i*P	Pn	00 37 27.9	-4.9
PPM	Popocatepetl	2.27	14	*i*P	Pn	00 37 30.0	-2.8

NEIC ***26*** *00:39:46.1, 19.13N×66.50W, h24km, MD3.2(RSPR), After RSPR.*

RSPR 26 00:39:46.1, 1913N×6650W, h24km±15km, MD3.2/14, MD3.2/14, 13C, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AOPR	Arecibo Observ	0.81	197	⇑*e*P	Pb	00 39 59.7	-1.9
AOPR				*e*S	Sb	00 40 10.1	-2.1
AGPR	Aguadilla, PR	0.88	222	⇑*e*P	Pb	00 40 00.2	-2.5
AGPR				*e*S	Sb	00 40 11.7	-2.3
LRS	Lares	0.89	202	⇑*e*P	Pb	00 40 00.7	-2.3
LRS				*e*S	Sb	00 40 11.9	-2.6
CBYP	Canovanas	1.05	144	⇑*e*P	Pn	00 40 02.9	-2.4
CBYP				*e*S	Sb	00 40 15.9	-3.0
CELP	Cerrillos	1.05	184	⇑*i*P	Pn	00 40 03.1	-2.3
CELP				*e*S	Sb	00 40 16.2	-2.8
SJG	San Juan	1.06	162	⇑*e*P	Pn	00 40 03.2	-2.3
SJG				*e*S	Sb	00 40 17.0	-2.4
SJG	San Juan	1.06	162	⇑*e*P	Pn	00 40 03.1	-2.5
SJG				*e*S	Sb	00 40 16.4	-2.9
OBIP	Obispado Ponce	1.08	185	⇑*e*P	Pn	00 40 03.7	-2.2
OBIP				*e*S	Sb	00 40 16.8	-3.2
MPR	Mayaguez	1.09	214	*e*Pn	Pn	00 40 03.7	-2.3
MPR				*e*Sn	Sn	00 40 17.8	-2.6
LSP	Las Mesas	1.10	211	⇑*e*P	Pn	00 40 03.9	-2.1
LSP				*e*S	Sb	00 40 17.6	-2.7
HUMP	Col San Antoni	1.16	148	⇑*e*P	Pn	00 40 04.5	-2.4
HUMP				*e*S	Sn	00 40 18.6	-3.4
GBPR	Guanica, Bosqu	1.20	198	*e*S	Sn	00 40 20.0	-3.0
CPD	Cerro la Pandu	1.22	153	⇑*e*P	Pn	00 40 05.5	-2.2
CPD				*e*S	Sn	00 40 20.8	-2.7
ICM	Isla Caja Muer	1.23	181	⇑*e*P	Pn	00 40 06.0	-1.8
ICM				*e*S	Sn	00 40 20.9	-2.8
CRPR	Cabo Rojo, PR	1.26	208	⇑*e*P	Pn	00 40 06.1	-2.1
CRPR				*e*S	Sn	00 40 21.3	-3.1
MTP	Monte Pirata	1.36	139	⇑*e*P	Pn	00 40 07.2	-2.4
MTP				*e*S	Sn	00 40 23.9	-3.1
SDDR	Presa de Saban	4.53	269	Pn	Pn	00 40 57.0	+3.7
SDDR				*e*Sn	Sn	00 41 49.1	+3.8

ISK ***26*** *01:03:39.5, 3874N×2650E, h18km, MD3.4*
DDA ***26*** *01:03:39.4, 3879N×2650E, h8km±3km, Md3.1*
ATH ***26*** *01:03:39.5, 3873N×2631E, h25km±2km, MD3.3/4*
NEIC ***26*** *01:03:39.0, 3874N×2650E, h18km, MD3.4(ISK), MD3.3(ATH), After ISK.*
THE ***26*** *01:03:40.3, 3876N×2651E, h1km, ML3.1*
CSEM ***26*** *01:03:40.0±0.1, 3875N×2655E, h20km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.5km az=86.0*
ISCJB ***26*** *01:03:40.4±0.4, 3876N±0.002×2647E±0.004, h23km±5km, Error ellipse: s-maj=5.1km s-min=3.5km az=161.4*

ISC 26 01:03:40.3±0.4, 3876N±0.002×2650E±0.004, h16km±3km, n31, σ0.9 73/44, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URLA	Izmir	0.41	169	*i*P	Pg	01 03 47.8	-0.8
URLA				*i*S	Sg	01 03 55.5	+1.4
CHOS	Chios island	0.51	223	*e*Pg	Pg	01 03 50.7	+0.3
CHOS				*e*Sg	Sg	01 03 57.9	+0.7
PRK	Paraskevi	0.52	340	*e*Pg	Pg	01 03 50.2	-0.4
PRK				*e*Sg	Sg	01 03 58.5	+0.9
PRK	Paraskevi	0.52	340	*e*PN	Pg	01 03 50.1	-0.5
AYVA	Ayvalik	0.57	15	*i*P	Pg	01 03 50.0	-1.5
AYVA				*i*S	Sg	01 03 59.3	+0.1
BLCB	Balcova	0.57	131	*e*PG	Pg	01 03 50.9	-0.6
BLCB				*

PEL *i* S Sn 01 14 02.0 +0.3
PEL AML AML 01 14 03.3
comp=E,181nm,0.4s
FCH Farellones 2.00 196 ⇑*i*P Pn 01 13 37.5 +1.2
FCH *i* S Sn 01 14 04.4 +1.6
FCH AML AML 01 14 07.0
comp=N,101nm,0.7s
CLCH Cerro Calan 2.13 200 ⇓*i*P Pn 01 13 39.0 +1.1
CLCH *i* S Sn 01 14 06.4 +0.8
CLCH AML AML 01 14 09.6
comp=N,115nm,0.3s
PCH Pirque 2.34 198 ⇑*i*P Pn 01 13 41.3 +0.9
PCH *i* S Sn 01 14 11.6 +1.5
LMEL Las Melosas 2.49 191 *e*P Pn 01 13 43.2 +0.9
LMEL *i* S Sn 01 14 15.0 +1.5
LMEL Las Melosas 2.49 191 *e*P Pn 01 13 43.2 +0.9
LMEL *i* S Sn 01 14 15.0 +1.5
LMEL AML AML 01 14 22.1
comp=N,77nm,0.1s
TACH Talagante 2.50 206 *e*P Pn 01 13 42.6 +0.2
TACH *i* S Sn 01 14 14.3 +0.6
CHCH Chadas Angostu 2.67 198 *i* S Sn 01 14 18.1 +0.6
CACH El Canelo 2.83 196 *e*P Pn 01 13 47.6 +1.0

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*IDC **26** 01:20:41.1±12.0, 2332S×17972W, h511km±127km, mb3.4/5, mb1 3.6/6, mb1mx3.2/16, mbtmp3.5/6, Error ellipse: s-maj=171.0km s-min=74.4km az=57.0*
*ISCJB **26** 01:20:47.8±1.7, 238S±02×1799W±02, h615km±45km, mb4.1/8, Error ellipse: s-maj=30.9km s-min=22.8km az=9.1*
*NEIC **26** 01:20:47.1±1.3, 2381S×17993W, h573km±32km, mb4.6/6, Error ellipse: s-maj=24.6km s-min=17.9km az=96.0*
ISC 26 01:20:47.2±1.6, 238S±01×1799W±02, h578km±38km, n16, σ0°71/16, mb4.1/8, 1D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**12.50**	**39**	P		**P**		**01 23 31.1**	**0.0**
	13nm,0.3s								
AFI				*e*S		S		01 25 13.0	-33
URZ	**Urewera**	**14.62**	**189**	P		**P**		**01 23 52.5**	**+0.2**
	0.7nm,0.3s,baz=7.4,slow=1.1,SNR=6.6								
CTA	**Charters Tower**	**31.55**	**270**	⇓*i*P		**P**		**01 26 23.7**	**+0.2**
	8.5nm,0.3s,mb4.8								
CTA	**Charters Tower**	**31.55**	**270**	P		**P**		**01 26 23.8**	**+0.2**
	9.3nm,0.3s,mb4.8,baz=102,slow=14								
CTAO	**Charters Tower**	**31.55**	**270**	*e*P		**P**		**01 26 23.4**	**-0.1**
	10nm,0.5s,mb4.7								
TAU	**Tasmania Unive**	**33.05**	**227**	P		**P**		**01 26 32.2**	**-3.6**
	107nm,1.5s,mb5.2								
STKA	**Stephens Creek**	**34.83**	**248**	*e*P		**P**		**01 26 51.4**	**+0.5**
	1.5nm,0.4s,mb4.0								
STKA	**Stephens Creek**	**34.83**	**248**	*e*P		**P**		**01 26 51.4**	**+0.5**
STKA	**Stephens Creek**	**34.83**	**248**	P		**P**		**01 26 50.9**	**0.0**
	2.1nm,0.5s,mb4.0,baz=98,slow=12,SNR=7.0								
ASAR	**Alice Springs**	**42.12**	**261**	P		**P**		**01 27 50.4**	**+0.4**
	3.2nm,1.0s,mb3.8,baz=94,slow=8.7,SNR=18								
WB2	**Warramunga Arr**	**42.48**	**266**	*e*P		**P**		**01 27 52.2**	**-0.6**
WRAB	**Tennant Creek**	**42.48**	**266**	*e*P		**P**		**01 27 52.0**	**-0.8**
	2.2nm,0.5s,mb3.9								
WRA	**Warramunga Arr**	**42.49**	**266**	P		**P**		**01 27 52.8**	**-0.1**
	1.3nm,0.3s,mb4.0,baz=94,slow=8.2,SNR=100								
FITZ	**Fitzroy Crossi**	**50.91**	**266**	*e*P		**P**		**01 28 58.5**	**+2.2**
	2.8nm,0.6s,mb3.9								
FITZ	**Fitzroy Crossi**	**50.91**	**266**	P		**P**		**01 28 56.8**	**+0.5**
	1.7nm,0.6s,mb3.6,baz=97,slow=8.1,SNR=4.6								
SBA	**Scott Base**	**54.47**	**183**	P		**P**		**01 29 20.6**	**-0.1**
	0.5nm,0.4s,mb3.2								

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*IDC **26** 02:29:18.9±0.4, 1777S×17308W, h0km, mb5.0/16, mb1 5.1/16, mb1mx5.0/19, mbtmp4.9/16, MS5.1/14, Ms1 5.1/14, ms1mx4.8/25, Error ellipse: s-maj=17.6km s-min=12.3km az=145.0*
*BJI **26** 02:29:22.7, 1724S×17268W, h21km, mB5.8, mb5.3, Ms5.3, Msz5.0*
*ORF **26** 02:29:22.7, 2048S×16743W, h30km, mb6.1*
*ISCJB **26** 02:29:22.8±0.1, 1774S±004×17276W±004, h33km, mb5.2/109, MS5.3/211, Error ellipse: s-maj=7.0km s-min=3.8km az=141.6*
*GCMT **26** 02:29:24.3±0.1, 1777S×17228W, h12km, MW5.4/99, Moment Tensor Solution. s74,c124; s99,c189; Duration: 1±2 Moment tensor: Scale 10^{17}Nm; M_{rr}1.25±.02; $M_{\theta\theta}$-0.04±.02; $M_{\phi\phi}$-1.21±.02; $M_{r\theta}$0.26±.05; $M_{\theta\phi}$-0.36±.01; $M_{r\phi}$0.80±.04; Best double couple: $M_0$1.53300×10^{17} NP1:φs194.00000°, δ28.00000°, λ88.00000°. NP2:φs17.00000°, δ62.00000°, λ91.00000°. Principal axes: T 1.5020, Plg73.0000°, Azm290.0000°; N 0.0610, Plg1.0000°, Azm196.0000°; P -1.5630, Plg17.0000°, Azm106.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 02:29:24.3±0.1, 1770S×17292W, mb5.2/81, MS5.3/187 Error ellipse: s-maj=7.4km s-min=3.7km az=138.0*
*MOS **26** 02:29:25.4±0.9, 1694S×17275W, h27km, mb5.4/52, MS5.2/56, Error ellipse: s-maj=13.6km s-min=7.2km az=69.9*
*SZGRF **26** 02:29:30.8, 1598S×172.19W, h33km, mb5.5, Samoa Islands region*
ISC 26 02:29:24.7±0.1, 1775S±004×17280W±004, h34km, h34km±.8km: pP-P, n870, σ0°78/498, mb5.2/109, MS5.3/211, 137C-108D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**3.94**	**15**	P		**Pn**		**02 30 13.8**	**-8.9**
AFI								02 30 56.4	
AFI				pmax		pmax			
	comp=Z,30nm,0.3s								
AFI				smax					
	comp=N,41nm,0.3s								
AFI				pmax		pmax			
	comp=Z,41nm,0.3s								
AFI	**Afiamalu**	**3.94**	**15**	*e*Pn		**Pn**		**02 30 14.1**	**-8.7**
AFI	**Afiamalu**	**3.94**	**15**	Pn		**Pn**		**02 30 13.8**	**-9.0**
	comp=Z,30nm,0.3s,baz=311,slow=1.4,SNR=20								
AFI				Sn		**Sn**		**02 30 56.4**	**-11**
	comp=Z,41nm,0.3s,baz=211,slow=16,SNR=5.6								
AFI				T				02 34 26.9	
	comp=Z,41nm,0.3s,baz=176,slow=10,SNR=6.1								
RAR	**Rarotonga**	**12.76**	**108**	Pn		**Pn**		**02 32 14.8**	**-8.9**
	comp=Z,6.5nm,0.3s,baz=254,slow=6.8,SNR=24								
RAR				LR		LR		02 36 34.9	
	comp=Z,8μm,18.4s,baz=201,slow=34								
WCZ	**Waipu Caves**	**21.41**	**210**	P		**P**		**02 34 09.9**	**+0.3**
WCZ	**Waipu Caves**	**21.41**	**210**	PN		**P**		**02 34 09.5**	**-0.1**
PUZ	**Puketiti**	**21.71**	**199**	P		**P**		**02 34 12.9**	**+0.1**
PUZ	**Puketiti**	**21.71**	**199**	PN		**P**		**02 34 12.1**	**-0.7**
PUZ				SN		**S**		**02 38 05.2**	**-6.0**
MKAZ	**Moumakai**	**22.01**	**206**	P		**P**		**02 34 16.3**	**+0.3**
PPT	**Papeete**	**22.13**	**93**	P		**P**		**02 34 16.3**	**-1.2**
PPT				pmax		pmax			
	comp=Z,54nm,0.3s								
PPT				MLR		MLR			
	comp=Z,6μm,18.4s								
PPT	**Papeete**	**22.13**	**93**	P		**P**		**02 34 16.3**	**-1.1**
	comp=Z,54nm,0.3s,mb5.5,baz=206,slow=9.4,SNR=4.6								
PPT				LR		LR		02 41 30.2	
	comp=Z,6μm,18.4s,MS5.0,baz=253,slow=33								
URZ	**Urewera**	**22.26**	**201**	P		**P**		**02 34 17.4**	**-1.3**
	comp=Z,173nm,0.8s,mb5.6,baz=0.6,slow=5.9,SNR=38								
HIZ	**Hauiti**	**23.34**	**205**	P		**P**		**02 34 30.9**	**+0.9**
HIZ	**Hauiti**	**23.34**	**205**	PN		**P**		**02 34 30.8**	**+0.8**
SNZO	**South Karori**	**25.82**	**202**	*e*P		**P**		**02 34 51.3**	**-1.4**
SNZO				LR		LR			
	comp=Z,4μm,19.0s,MS4.9								
KHZ	**Kahutara**	**27.21**	**202**	P		**P**		**02 35 11.8**	**+6.6**
KHZ	**Kahutara**	**27.21**	**202**	*e*PN		**P**		**02 35 08.3**	**+3.1**
HNR	**Honiara**	**27.72**	**284**	PFAKE				02 35 20.0	+10
HNR				LR		LR			
	comp=Z,3μm,22.0s,MS4.9								
WVZ	**Waitaha Valley**	**28.86**	**205**	P		**P**		**02 35 24.4**	**+4.5**
WVZ	**Waitaha Valley**	**28.86**	**205**	PN		**P**		**02 35 24.2**	**+4.3**
RPZ	**Rata Peaks**	**29.26**	**204**	P		**P**		**02 35 20.5**	**-3.0**
	comp=Z,8.4nm,0.8s,mb4.5,baz=15,slow=9.7,SNR=2.0								
RPZ	**Rata Peaks**	**29.26**	**204**	PN		**P**		**02 35 27.0**	**+3.5**
ARMA	**Armidale**	**34.69**	**242**	*e*P		**P**		**02 36 09.6**	**-1.7**
CNB	**Canberra Magne**	**37.83**	**235**	⇓*i*P		**P**		**02 36 36.6**	**-1.5**
	comp=Z,16nm,0.8s,mb4.8								
CTA	**Charters Tower**	**38.74**	**260**	*e*P		**P**		**02 36 44.1**	**-1.8**
	comp=Z,10nm,0.6s,mb4.7								
CTA				*e*S		**S**		**02 42 55.0**	**+14**
CTA	**Charters Tower**	**38.74**	**260**	*e*P		**P**		**02 36 44.1**	**-1.8**
CTA				*e*S		**S**		**02 42 55.0**	**+14**
CTA				pmax		pmax			
	comp=Z,10.0nm,0.6s								
CTAO	**Charters Tower**	**38.74**	**260**	*e*P		**P**		**02 36 43.1**	**-2.8**
CTAO				pmax		pmax			
	comp=Z,18nm,0.7s,mb4.9								
CTAO				MLR		MLR			
	comp=Z,2μm,19.0s,MS4.9								
CTAO	**Charters Tower**	**38.74**	**260**	*e*P		**P**		**02 36 43.1**	**-2.8**
	comp=Z,18nm,0.7s,mb4.9								
CTAO				LR		LR			
	comp=Z,2μm,19.0s,MS4.9								
PTCN	**Pitcairn Islan**	**40.29**	**108**	PFAKE				02 37 10.0	+11
PTCN				LR		LR			
	comp=Z,3μm,19.0s,MS5.1								
POHA	**Pohakuloa**	**40.95**	**25**	PFAKE				02 37 20.0	+16
POHA				LR		LR			
	comp=Z,2μm,19.0s,MS5.0								
TOO	**Toolangi**	**41.48**	**233**	⇓*i*P		**P**		**02 37 07.0**	**-1.4**
	comp=Z,185nm,0.7s,mb5.8								
TOO	**Toolangi**	**41.48**	**233**	⇓*i*P		**P**		**02 37 07.0**	**-1.4**
TOO				pmax		pmax			
	comp=Z,185nm,0.7s,mb5.8								
KIP	**Kipapa**	**41.53**	**21**	PFAKE				02 37 20.0	+11
KIP				LR		LR			
	comp=Z,3μm,20.0s,MS5.2								
TAU	**Tasmania Unive**	**42.03**	**225**	PFAKE				02 37 20.0	+7.2
TAU				LR		LR			
	comp=Z,5μm,20.0s,MS5.4								
COEN	**Coen**	**42.45**	**269**	*e*P		**P**		**02 37 14.3**	**-2.4**
	comp=Z,16nm,0.9s,mb4.6								
STKA	**Stephens Creek**	**43.41**	**242**	*e*P		**P**		**02 37 22.4**	**-1.9**
	comp=Z,15nm,0.8s,mb4.8								
STKA				*e*S		S		02 44 11.8	+22
STKA	**Stephens Creek**	**43.41**	**242**	P		**P**		**02 37 22.2**	**-2.0**
	comp=Z,18nm,0.8s,mb4.8,baz=88,slow=9.7,SNR=18								
STKA				LR		LR		02 54 52.1	
	comp=Z,2μm,18.6s,MS5.0,baz=65,slow=36								
MIDW	**Midway**	**45.90**	**354**	PFAKE				02 38 00.0	+16
MIDW				LR		LR			
	comp=Z,4μm,20.0s,MS5.3								
WB2	**Warramunga Arr**	**49.90**	**259**	*e*P		**P**		**02 38 11.7**	**-3.5**
WRAB	**Tennant Creek**	**49.90**	**259**	P		**P**		**02 38 12.0**	**-3.2**
	comp=Z,154nm,0.6s,mb6.2,SNR=27								
WRAB	**Tennant Creek**	**49.90**	**259**	*e*P		**P**		**02 38 12.3**	**-2.9**
WRAB				pmax		pmax			
	comp=Z,16nm,0.6s,mb5.2								
WRAB				MLR		MLR			
	comp=Z,3μm,19.0s,MS5.3								
WRAB	**Tennant Creek**	**49.90**	**259**	*e*P		**P**		**02 38 12.3**	**-2.9**
	comp=Z,16nm,0.6s,mb5.2								
WRAB				LR		LR			
	comp=Z,3μm,19.0s,MS5.3								
WRA	**Warramunga Arr**	**49.91**	**259**	P		**P**		**02 38 12.8**	**-2.5**
WRA				S		**S**		**02 45 20.2**	**-3.3**
WRA				pmax		pmax			
	comp=Z,13nm,0.6s								
WRA				smax					
	comp=N,1.0nm,0.9s								
WRA	**Warramunga Arr**	**49.91**	**259**	P		**P**		**02 38 12.8**	**-2.6**
WRA				S		**S**		**02 45 20.2**	**-3.3**
WRA				LR		LR		02 58 09.2	
WRA	**Warramunga Arr**	**49.91**	**259**	P		**P**		**02 38 12.8**	**-2.6**
	comp=N,13nm,0.6s,mb5.2,baz=96,slow=7.5,SNR=166								
WRA				S		**S**		**02 45 20.2**	**-3.3**
	comp=N,1.0nm,0.9s,baz=95,slow=13,SNR=3.2								
WRA				LR		LR		02 58 09.2	
	comp=N,2μm,19.5s,MS5.0,baz=90,slow=35								
ASAR	**Alice Springs**	**49.97**	**254**	P		**P**		**02 38 13.2**	**-2.5**
ASAR				S		**S**		**02 45 21.5**	**-2.8**
ASAR				pmax		pmax			
	comp=Z,92nm,0.7s								
ASAR				smax					
	comp=N,1.0nm,0.8s								
ASAR	**Alice Springs**	**49.97**	**254**	P		**P**		**02 38 13.2**	**-2.5**
	comp=N,92nm,0.7s,mb5.9,baz=90,slow=8.4,SNR=681								
ASAR				S		**S**		**02 45 21.4**	**-2.9**
	comp=N,1.0nm,0.8s,baz=94,slow=15,SNR=5.5								
GUMO	**Guam**	**52.10**	**304**	PFAKE				02 38 40.0	+8.3
GUMO				LR		LR			
	comp=Z,755nm,20.0s,MS4.7								
KAKA	**Kakadu**	**52.93**	**267**	*e*P		**P**		**02 38 35.8**	**-2.2**
	comp=Z,16nm,0.6s,mb5.1								
FORT	**Forrest**	**54.90**	**245**	*e*P		**P**		**02 38 49.5**	**-2.7**
	comp=Z,22nm,0.6s,mb5.4								
FITZ	**Fitzroy Crossi**	**58.32**	**259**	*e*P		**P**		**02 39 15.0**	**-1.7**
	comp=Z,7.5nm,0.8s,mb4.8								
SBA	**Scott Base**	**60.97**	**185**	*e*P		**P**		**02 39 35.9**	**+1.9**
SBA				pmax		pmax			
	comp=Z,24nm,1.1s,mb5.2								
SBA				MLR		MLR			
	comp=Z,2μm,20.0s,MS5.2								
SBA	**Scott Base**	**60.97**	**185**	*e*P		**P**		**02 39 35.9**	**+1.9**
	comp=Z,24nm,1.1s,mb5.2								
SBA				LR		LR			
	comp=Z,2μm,20.0s,MS5.2								
VNDA	**Vanda**	**61.12**	**186**	*e*P		**P**		**02 39 36.1**	**+1.1**
VNDA				pmax		pmax			
	comp=Z,18nm,1.2s								
VNDA				MLR		MLR			
	comp=Z,1μm,19.0s								
VNDA	**Vanda**	**61.12**	**186**	*e*P		**P**		**02 39 36.0**	**+1.1**
	comp=Z,18nm,1.2s,mb5.1								
VNDA				LR		LR			
	comp=Z,1μm,19.0s,MS5.0								
VNDA	**Vanda**	**61.12**	**186**	P		**P**		**02 39 35.4**	**+0.4**
	comp=Z,7.9nm,1.0s,mb4.8,baz=8.9,slow=7.3,SNR=16								
MBWA	**Marble Bar**	**63.28**	**255**	*e*P		**P**		**02 39 49.3**	**-1.1**
	comp=Z,50nm,1.4s,mb5.5								
MBWA				LR		LR			
	comp=Z,2μm,19.0s,MS5.3								
KLBR	**Kellerberrin**	**63.67**	**243**	*e*P		**P**		**02 39 52.3**	**-0.6**
	comp=Z,56nm,1.3s,mb5.4								
NWAO	**Narrogin (SRO)**	**63.99**	**242**	PFAKE				02 40 10.0	+15
NWAO				LR		LR			
	comp=Z,1μm,19.0s,MS5.1								
MUN	**Mundaring**	**64.95**	**242**	*e*P		**P**		**02 40 02.4**	**+1.2**
DAV	**Davao City (W)**	**65.64**	**287**	PFAKE				02 40 20.0	+14
DAV				LR		LR			
	comp=Z,1μm,19.0s,MS5.2								
CASY	**Casey**	**68.53**	**205**	PFAKE				02 40 40.0	+17
CASY				LR		LR			
	comp=Z,594nm,19.0s,MS4.8								
ADK	**Adak**	**69.41**	**357**	PFAKE				02 40 40.0	+11
ADK				LR		LR			
	comp=Z,1μm,20.0s,MS5.1								
MJAR	**Matsushiro Arr**	**71.09**	**320**	P		**P**		**02 40 39.1**	**-0.5**
MJAR				pmax		pmax			
	comp=Z,5.0nm,1.0s								
MJAR	**Matsushiro Arr**	**71.09**	**320**	P		**P**		**02 40 39.1**	**-0.5**
	comp=Z,5.4nm,0.9s,mb4.5,baz=158,slow=6.0,SNR=11								
SMY	**Shemya**	**71.09**	**352**	P		**P**		**02 40 36.1**	**-3.1**
SMY				MLR		MLR			
	comp=Z,2μm,20.0s,MS5.4								
MAJO	**Matsushiro**	**71.10**	**320**	PFAKE				02 40 50.0	+10
MAJO				LR		LR			
	comp=Z,765nm,20.0s,MS5.0								
MAT	**Matsushiro**	**71.10**	**320**	P		**P**		**02 40 39.1**	**-0.5**
MAT				S		S		02 49 55.0	+1.2
MYLDM	**Lahad Datu**	**71.48**	**282**	⇑P		**P**		**02 40 43.4**	**+0.9**
UNV	**Unalaska Valle**	**71.50**	**4**	PFAKE				02 40 50.0	+8.4
UNV				LR		LR			
	comp=Z,5μm,20.0s,MS5.8								
TSM	**Tawau**	**71.76**	**281**	⇓P		**P**		**02 40 47.1**	**+3.0**
SNCC	**San Nicolas Is**	**71.81**	**45**	PFAKE				02 41 00.0	+16
SNCC				LR		LR			
	comp=Z,2μm,20.0s,MS5.4								
ERM	**Erimo**	**72.03**	**327**	PFAKE				02 41 00.0	+15
ERM				LR		LR			
	comp=Z,1μm,20.0s,MS5.2								
QSPA	**South Pole Qui**	**72.31**	**180**	*e*P		**P**		**02 40 46.9**	**+0.6**
	comp=Z,37nm,1.2s,mb5.2								
QSPA				LR		LR			
	comp=Z,1μm,20.0s,MS5.2								
QSPA	**South Pole Qui**	**72.31**	**180**	P		**P**		**02 40 45.7**	**-0.6**
	comp=Z,14nm,1.0s,mb4.8,baz=42,slow=2.3,SNR=20								
QSPA				LR		LR		03 06 08.5	
	comp=Z,304nm,19.6s,MS4.6,baz=214,slow=31								
MCCM	**Marconi Confer**	**72.69**	**39**	PFAKE				02 41 00.0	+11
MCCM				LR		LR			
	comp=Z,2μm,19.0s,MS5.3								
SAO	**San Andreas Ge**	**72.70**	**41**	PFAKE				02 41 00.0	+11
SAO				LR		LR			
	comp=Z,2μm,19.0s,MS5.4								
SMMC	**Simmler**	**72.73**	**43**	⇑P		**P**		**02 40 50.1**	**+0.7**
	baz=73								
PKD	**Parkfield**	**72.76**	**42**	⇑P		**P**		**02 40 50.7**	**+1.1**
	baz=73								
SDKM	**Sandakan**	**72.86**	**282**	⇓P		**P**		**02 40 52.8**	**+2.1**
U04C	**Hernandez Rese**	**72.87**	**42**	⇑P		**P**		**02 40 51.2**	**+1.0**
	baz=73,SNR=6.7								
FMP	**Fort Macarthur**	**72.91**	**45**	⇑P		**P**		**02 40 51.3**	**+0.8**
	baz=73								
PACP	**Pacheco Peak**	**72.95**	**41**	⇑P		**P**		**02 40 51.4**	**+0.7**
	baz=73,SNR=7.0								
HOPS	**Hopland**	**73.13**	**38**	PFAKE				02 41 00.0	+8.3
HOPS				LR		LR			
	comp=Z,2μm,19.0s,MS5.5								
S04C	**Ingram Canyon,**	**73.23**	**41**	⇑P		**P**		**02 40 52.5**	**+0.1**
	baz=74,SNR=8.5								
MWC	**Mount Wilson**	**73.37**	**45**	*e*P		**P**		**02 40 53.3**	**+0.1**
MWC				pmax		pmax			
	comp=Z,33nm,1.4s,mb5.1								
MWC	**Mount Wilson**	**73.37**	**45**	*e*P		**P**		**02 40 53.3**	**0.0**
	comp=Z,33nm,1.4s,mb5.1								
SKR	**Severo-Kuril's**	**73.41**	**340**	*e*P		**P**		**02 40 50.0**	**-3.1**
SKR				*e*				02 43 42.0	
SKR				*e*PPP				02 45 24.0	
SKR				*e*				02 50 46.0	
SKR				pmax		pmax			
	comp=N,1μm,4.0s								
SKR				pmax		pmax			
	comp=E,1μm,4.0s								
SKR				pmax		pmax			
	comp=Z,1μm,4.0s								
SKR				MLR		MLR			
	comp=Z,1μm,20.0s,MS5.2								
SKR				MLR		MLR			
	comp=N,1μm,18.0s,MS5.3								
SKR				MLR		MLR			
	comp=E,1μm,18.0s,MS5.3								
MNRC	**McLaughlin Nat**	**73.43**	**39**	⇓P		**P**		**02 40 54.2**	**+0.8**
	baz=74,SNR=7.2								
BAR	**Barrett**	**73.43**	**47**	*e*P		**P**		**02 40 54.5**	**+0.9**
MURC	**Murrieta**	**73.59**	**46**	⇑P		**P**		**02 40 54.6**	**0.0**
	baz=74								
KDM	**Kudat**	**73.64**	**283**	⇑P		**P**		**02 40 56.6**	**+1.3**
VES	**Vestal, Richgr**	**73.64**	**43**	⇑P		**P**		**02 40 54.9**	**+0.1**
	baz=74								
BFSC	**Mount Baldy St**	**73.64**	**45**	⇓P		**P**		**02 40 54.4**	**-0.5**
	baz=74								
MONP	**Monument Peak**	**73.72**	**47**	⇑P		**P**		**02 40 54.9**	**-0.5**
	baz=74,SNR=7.0								
GASB	**Alder Springs**	**73.77**	**38**	⇑P		**P**		**02 40 55.7**	**+0.2**
	baz=74,SNR=7.2								
LPIG	**La Paz**	**73.78**	**58**	LR		LR		03 06 50.7	
	comp=E,1μm,19.0s,MS5.2,baz=64,slow=30								
EDW2	**Edwards Air Fo**	**73.79**	**44**	⇓P		**P**		**02 40 55.3**	**-0.4**
	baz=74,SNR=11								
KKM	**Kota Kinabalu**	**73.91**	**282**	*e*P		**P**		**02 40 57.1**	**+0.2**
KKM	**Kota Kinabalu**	**73.91**	**282**	⇑P		**P**		**02 40 58.0**	**+1.1**
T06C	**Millerton Lake**	**73.94**	**42**	⇓P		**P**		**02 40 56.0**	**-0.5**
	baz=74,SNR=9.1								
O02C	**Red Bluff**	**74.06**	**38**	⇓P		**P**		**02 40 56.6**	**-0.6**
	baz=74,SNR=6.6								
PFO	**Pinyon Flat Ob**	**74.11**	**46**	*e*P		**P**		**02 40 57.0**	**-0.6**
PFO				*e**PP		pP		02 41 08.2	-0.1
PFO				pmax		pmax			
	comp=Z,19nm,1.2s,mb4.9								
PFO				MLR		MLR			
	comp=Z,2μm,19.0s,MS5.4								
PFO	**Pinyon Flat Ob**	**74.11**	**46**	*e*P		**P**		**02 40 57.0**	**-0.5**
	comp=Z,19nm,1.2s,mb4.9								
PFO				*e*pP		pP		02 41 08.2	-0.1
PFO				LR		LR			
	comp=Z,2μm,19.0s,MS5.4								
PFO	**Pinyon Flat Ob**	**74.11**	**46**	LR		LR		03 07 42.9	
	comp=Z,2μm,18.6s,MS5.4,baz=251,slow=31								
PFO	**Pinyon Flat Ob**	**74.11**	**46**	⇓P		**P**		**02 40 56.9**	**-0.7**
	baz=74								
CMB	**Columbia Colle**	**74.15**	**41**	*e*P		**P**		**02 40 57.9**	**+0.2**
CMB				pmax		pmax			
	comp=Z,18nm,1.1s,mb4.9								
CMB				MLR		MLR			
	comp=Z,2μm,20.0s,MS5.3								
CMB	**Columbia Colle**	**74.15**	**41**	*e*P		**P**		**02 40 57.9**	**+0.1**
	comp=Z,18nm,1.1s,mb4.9								
CMB				LR		LR			
	comp=Z,2μm,20.0s,MS5.3								
CMB	**Columbia Colle**	**74.15**	**41**	P		**P**		**02 40 57.6**	**-0.1**
	baz=74,SNR=8.9								
HELL	**Mitchell Peak**	**74.18**	**42**	P		**P**		**02 40 57.2**	**-0.7**
	baz=74,SNR=9.6								
KRMB	**Red Mountain**	**74.31**	**36**	*e*P		**P**		**02 40 59.7**	**+1.1**
LRMC	**Laurel Mountai**	**74.34**	**44**	⇓P		**P**		**02 40 59.1**	**+0.2**
	baz=75								
LAVA	**Lava Cap Winer**	**74.38**	**40**	⇑P		**P**		**02 40 58.8**	**-0.2**
	baz=75								
KCC	**Kaiser Creek**	**74.38**	**42**	⇑P		**P**		**02 40 59.3**	**+0.2**
	baz=75,SNR=5.3								
ORV	**Oroville**	**74.42**	**39**	⇑P		**P**		**02 40 58.7**	**-0.6**
	baz=75,SNR=5.6								
WDC	**Whiskeytown Da**	**74.47**	**37**	*e*P		**P**		**02 41 00.3**	**+0.8**
WDC				pmax		pmax			
	comp=Z,29nm,1.4s,mb5.0								
WDC				MLR		MLR			
	comp=Z,3μm,19.0s,MS5.5								
WDC	**Whiskeytown Da**	**74.47**	**37**	*e*P		**P**		**02 41 00.3**	**+0.8

YBH LR LR
comp=Z,2µm,19.0s,MS5.4
YBH Yreka Blue Hor 75.12 36 LR LR 03 10 05.4
comp=Z,2µm,18.1s,MS5.5,baz=238,slow=32
YBH Yreka Blue Hor 75.12 36 P **P 02 41 03.6 +0.3**
baz=75,SNR=13
O04C Chester 75.15 38 ⇑P **P 02 41 03.4 -0.1**
baz=75
M03C McCloud 75.16 37 ⇓P **P 02 41 03.8 +0.3**
baz=75
S08C White Mtn Res 75.22 42 ⇑P **P 02 41 03.6 -0.3**
baz=75,SNR=19
HATC Hat Creek Radi 75.25 38 ⇓P **P 02 41 03.6 -0.4**
baz=76,SNR=5.5
BEKR Beckwourth 75.30 39 ⇓P **P 02 41 04.1 -0.3**
baz=76,SNR=12
GMRC Granite Mounta 75.31 46 ⇑P **P 02 41 03.7 -0.8**
baz=76,SNR=6.2
IRM Iron Mountain 75.31 46 ⇓P **P 02 41 04.2 -0.4**
baz=76,SNR=16
LBCM Butte Creek Ri 75.33 38 P **P 02 41 04.7 +0.3**
GRAC Grapevine Rang 75.44 43 ⇑P **P 02 41 05.5 +0.3**
baz=76
LTIM Timbered Crate 75.46 37 P **P 02 41 06.3 +1.0**
FURC Furnace Creek, 75.47 44 ⇑P **P 02 41 05.3 -0.1**
baz=76,SNR=10.0
TUQ Turquoise Mtn. 75.50 45 ⇓P **P 02 41 05.5 -0.1**
baz=76
Y12C Blythe 75.52 47 ⇑P **P 02 41 05.9 +0.1**
baz=76,SNR=6.3
SHOC Shoshone 75.52 44 ⇑P **P 02 41 05.6 -0.2**
baz=76
MIR Mirnyy 75.53 204 ⇓*i*P **P 02 41 07.0 +1.7**
MIR *i* pP 02 41 16.0 -0.1
MIR *i* pP 02 41 20.0 +3.9
MIR pmax pmax
comp=Z,100nm,1.5s,mb5.5
HUMO Hull Mountain 75.56 36 *e*P **P 02 41 06.2 +0.4**
comp=Z,20nm,1.4s,mb4.9
HUMO LR LR
comp=Z,1µm,20.0s,MS5.3
NVAR Mina Array Bea 75.69 41 P **P 02 41 06.7 +0.1**
comp=Z,17nm,1.1s,mb4.9,baz=224,slow=9.3,SNR=25
R08A Mina 75.77 41 ⇑P **P 02 41 07.4 +0.4**
baz=76
M05C Lookout 75.78 38 ⇓P **P 02 41 07.0 0.0**
baz=76,SNR=5.9
U10A Ash Meadows, A 75.79 44 ⇓P **P 02 41 07.5 +0.3**
baz=76,SNR=7.7
PAHR Pah Rah Range 75.79 40 *e*P **P 02 41 05.5 -1.7**
comp=Z,28nm,1.2s,mb5.1
YSS Yuzh-Sakhalins 75.80 330 ⇓*e*P **P 02 41 06.0 -1.0**
YSS *e**PP pP 02 41 16.0 -1.8
YSS pmax pmax
comp=Z,370nm,2.0s,mb6.0
YSS MLR MLR
comp=N,700nm,17.0s
YSS MLR MLR
comp=Z,800nm,17.0s,MS5.1
YSS Yuzh-Sakhalins 75.80 330 *e*P **P 02 41 06.5 -0.5**
O06A Flanigan 75.81 39 ⇑P **P 02 41 06.9 -0.3**
baz=76,SNR=12
BBOR Butler Butte 75.89 36 P **P 02 41 08.9 +1.3**
S09A Goldfield 75.96 42 ⇓P **P 02 41 07.6 -0.6**
baz=76,SNR=11
J03A Ideyld Park 76.06 35 ⇑P **P 02 41 09.1 +0.5**
baz=76
M06C Likely Place G 76.07 38 ⇑P **P 02 41 09.2 +0.5**
baz=76,SNR=7.1
TPNV Topopah Spring 76.14 44 *e*P **P 02 41 09.1 -0.1**
TPNV pmax pmax
comp=Z,120nm,2.3s,mb5.4
TPNV MLR MLR
comp=Z,2µm,19.0s,MS5.5
TPNV Topopah Spring 76.14 44 *e*P **P 02 41 09.1 -0.1**
comp=Z,120nm,2.3s,mb5.4
TPNV LR LR
comp=Z,2µm,19.0s,MS5.5
TPNV Topopah Spring 76.14 44 ⇓P **P 02 41 09.0 -0.3**
baz=76,SNR=13
TPH Tonopah 76.16 42 *e*P **P 02 41 09.4 +0.1**
TPH pmax pmax
comp=Z,39nm,1.3s,mb5.2
TPH MLR MLR
comp=Z,2µm,19.0s,MS5.4
TPH Tonopah 76.16 42 *e*P **P 02 41 09.4 0.0**
comp=Z,39nm,1.3s,mb5.2
TPH LR LR
comp=Z,2µm,19.0s,MS5.4
N06A Buffalo Meadow 76.17 39 ⇓P **P 02 41 09.0 -0.3**
baz=76,SNR=15
Q08A Gabbs 76.18 41 ⇓P **P 02 41 09.2 -0.2**
baz=76,SNR=13
NACB Ninganchiao 76.34 301 *e*P **P 02 41 10.4 -0.2**
R09A Tonopah 76.36 42 ⇓P **P 02 41 10.3 -0.1**
baz=77,SNR=18
O07A Toulon 76.38 40 P **P 02 41 10.3 -0.2**
baz=77,SNR=20
V12A Nelson 76.39 45 ⇓P **P 02 41 10.9 +0.3**
baz=77,SNR=6.2
L05A Lakeview 76.40 37 ⇓P **P 02 41 10.4 -0.1**
baz=77,SNR=12
Z14A Wintersburg 76.42 48 ⇓P **P 02 41 11.0 +0.1**
baz=77,SNR=6.6
J04A Umpqua Nationa 76.44 36 ⇑P **P 02 41 10.5 -0.3**
baz=77
X13A Yucca 76.46 47 ⇑P **P 02 41 10.8 -0.3**
baz=77,SNR=11
SBUM Sibu 76.47 277 ⇑P **P 02 41 12.0 +0.4**
S10A Tonopah Range, 76.48 43 P **P 02 41 10.9 -0.2**
baz=77,SNR=21
MPOR Mary's Peak 76.50 34 P **P 02 41 12.2 +1.1**
MOD Modoc 76.61 38 *e*P **P 02 41 11.7 0.0**
comp=Z,28nm,1.2s,mb5.1
MOD LR LR
comp=Z,2µm,19.0s,MS5.5
MOD Modoc 76.61 38 ⇑P **P 02 41 11.7 -0.1**
baz=77,SNR=15
SHPR Sheep Range 76.61 44 *e*P **P 02 41 12.2 +0.2**
I04A Tendick Farm, 76.64 35 ⇓P **P 02 41 11.8 -0.1**
baz=77
COR Corvallis 76.68 34 PFAKE 02 41 20.0 +7.9
COR LR LR
comp=Z,3µm,20.0s,MS5.6
Y14A Wickenburg 76.69 48 ⇑P **P 02 41 12.1 -0.3**
baz=77,SNR=11
N07B Gerlach 76.70 39 ⇑P **P 02 41 11.8 -0.5**
baz=77,SNR=12
H03A Soap Creek Ran 76.75 34 ⇑P **P 02 41 12.5 0.0**
baz=77,SNR=5.4
216A Three Points, 76.79 50 ⇑P **P 02 41 12.5 -0.5**
baz=77,SNR=9.7
TATO Taipei 76.79 302 PFAKE 02 41 20.0 +6.8
TATO LR LR
comp=Z,786nm,20.0s,MS5.0
K05A Summer Lake 76.79 37 ⇓P **P 02 41 12.7 -0.1**
baz=77,SNR=15
R10A Warm Springs 76.88 42 P **P 02 41 13.8 +0.5**
baz=77,SNR=12
116A Eloy 76.90 49 ⇑P **P 02 41 13.4 -0.2**
baz=77
M07A Soldier Meadow 76.95 38 ⇓P **P 02 41 13.8 0.0**
baz=77,SNR=5.5
J05A Fort Rock 76.96 36 ⇓P **P 02 41 13.7 0.0**
baz=77,SNR=18
T11A Corn Creek, Al 76.98 44 P **P 02 41 13.9 -0.1**
baz=77,SNR=21
U12A Valley of Fire 76.99 45 ⇓P **P 02 41 14.2 +0.2**
baz=77
V13A Grand Canyon W 77.04 45 ⇓P **P 02 41 14.1 -0.3**
baz=77,SNR=9.0
X14A Yava 77.05 47 ⇑P **P 02 41 14.0 -0.4**
baz=77,SNR=14
KDAK Kodiak Island 77.10 11 PFAKE 02 41 30.0 +16
KDAK LR LR
comp=Z,424nm,19.0s,MS4.8
KDAK Kodiak Island 77.10 11 LR LR 03 08 08.4
comp=Z,608nm,20.4s,MS4.9,baz=195,slow=30
Q10A Clear Creek Ra 77.13 42 ⇑P **P 02 41 15.0 +0.2**
baz=77,SNR=5.6
WIFE Three Sisters- 77.14 35 P **P 02 41 15.0 +0.3**
217A Green Valley 77.14 50 P **P 02 41 14.8 -0.2**
baz=77,SNR=18
Y15A Casa Rosa Ranc 77.17 48 ⇓P **P 02 41 15.2 0.0**
baz=77,SNR=18
K06A Valley Falls 77.21 37 P **P 02 41 14.8 -0.4**
baz=77,SNR=18

N08A GE Springer Mi 77.21 39 ⇓P **P 02 41 15.0 -0.1**
baz=77
L07A Adell 77.25 38 P **P 02 41 15.4 +0.1**
baz=78,SNR=17
W14A Seligman 77.31 46 P **P 02 41 16.5 +0.6**
baz=78,SNR=16
BKCOR Black Crater 77.36 35 P **P 02 41 15.8 -0.2**
R11A Troy Canyon, C 77.37 43 ⇑P **P 02 41 16.1 -0.1**
baz=78,SNR=16
O09A Fish Creek Ran 77.42 40 ⇓P **P 02 41 16.2 -0.2**
baz=78,SNR=7.7
TUC Tucson 77.44 50 *e*P **P 02 41 16.5 -0.2**
TUC pmax pmax
comp=Z,24nm,1.3s,mb5.0
TUC MLR MLR
comp=Z,1µm,19.0s,MS5.2
TUC Tucson 77.44 50 *e*P **P 02 41 16.5 -0.1**
comp=Z,24nm,1.3s,mb5.0
TUC LR LR
comp=Z,1µm,19.0s,MS5.2
M08A Happy Creek Ra 77.46 39 ⇓P **P 02 41 17.0 +0.4**
baz=78,SNR=9.5
Z16A Peralta Trail, 77.50 49 ⇑P **P 02 41 16.8 -0.1**
baz=78,SNR=6.7
X15A Humboldt 77.52 47 ⇓P **P 02 41 17.3 +0.2**
baz=78,SNR=13
V14A Boquillas Ranc 77.52 46 ⇓P **P 02 41 16.7 -0.4**
baz=78,SNR=14
P10A Eureka 77.55 41 ⇓P **P 02 41 16.9 -0.2**
baz=78
BMN Battle Mountai 77.55 40 *e*P **P 02 41 16.9 -0.2**
BMN pmax pmax
comp=Z,29nm,1.4s,mb5.0
BMN MLR MLR
comp=Z,1µm,19.0s,MS5.3
BMN Battle Mountai 77.55 40 *e*P **P 02 41 16.9 -0.3**
comp=Z,29nm,1.4s,mb5.0
BMN LR LR
comp=Z,1µm,19.0s,MS5.3
318A Bisbee 77.58 51 ⇓P **P 02 41 17.2 -0.3**
baz=78,SNR=14
117A Oracle 77.60 50 ⇓P **P 02 41 17.5 0.0**
baz=78,SNR=17
Q11A Duckwater 77.61 42 ⇑P **P 02 41 17.4 -0.1**
baz=78,SNR=23
N09A Rock Creek Ran 77.62 40 ⇓P **P 02 41 17.1 -0.4**
baz=78,SNR=5.4
K07A Rock Creek Ran 77.72 37 ⇓P **P 02 41 17.3 -0.6**
baz=78,SNR=17
T13A Saint George 77.73 45 ⇓P **P 02 41 18.8 +0.6**
baz=78,SNR=7.3
Y16A Circle Bar Ran 77.74 48 ⇓P **P 02 41 18.6 +0.3**
baz=78,SNR=13
E03A Lebam 77.86 32 ⇓P **P 02 41 18.8 +0.1**
baz=78
U14A Mt Trumbull 77.89 45 ⇓P **P 02 41 19.0 -0.1**
baz=78,SNR=14
WVOR Wild Horse Val 77.91 38 *e*P **P 02 41 19.0 -0.1**
WVOR pmax pmax
comp=Z,26nm,1.4s,mb5.0
WVOR MLR MLR
comp=Z,2µm,19.0s,MS5.5
WVOR Wild Horse Val 77.91 38 *e*P **P 02 41 19.0 0.0**
comp=Z,26nm,1.4s,mb5.0
WVOR LR LR
comp=Z,2µm,19.0s,MS5.5
O10A Cortez Mining, 77.92 41 ⇓P **P 02 41 19.4 +0.3**
baz=78,SNR=6.1
L08A Fields 77.93 38 ⇓P **P 02 41 19.1 -0.1**
baz=78,SNR=9.1
I06A Prineville 77.95 36 ⇑P **P 02 41 19.5 +0.3**
baz=78,SNR=13
KSM Kuching 77.98 275 *e*P **P 02 41 20.3 +0.2**
KSM *e*pP pP 02 41 32.3 +1.4
KSM Kuching 77.98 275 ⇑P **P 02 41 21.3 +1.2**
R12A Pony Springs, 78.00 43 ⇓P **P 02 41 20.0 +0.4**
baz=78,SNR=8.1
M09A Marrel Ranch, 78.00 39 ⇓P **P 02 41 20.2 +0.6**
baz=78,SNR=8.7
X16A Lo Mia Camp, P 78.04 48 ⇑P **P 02 41 20.4 +0.5**
baz=78,SNR=18
F04A Amboy 78.04 33 ⇑P **P 02 41 20.3 +0.6**
baz=78
S13A Holt Ranch, En 78.07 44 ⇑P **P 02 41 20.6 +0.5**
baz=78,SNR=13
319A Douglas 78.08 51 ⇓P **P 02 41 20.7 +0.4**
baz=78,SNR=9.2
VIPM Ingram Point 78.08 35 P **P 02 41 19.9 -0.1**
Y17A Roosevelt 78.09 49 ⇑P **P 02 41 20.7 +0.4**
baz=78,SNR=11
VFP Flag Point 78.15 34 P **P 02 41 20.2 -0.1**
K08A Mann Creek Ran 78.18 38 P **P 02 41 20.8 +0.2**
baz=78,SNR=10
118A Homack Ranch, 78.20 50 ⇑P **P 02 41 21.1 +0.2**
baz=78,SNR=16
KSRS Korea Array 78.23 316 P **P 02 41 22.5 +1.6**
comp=Z,11nm,0.9s,mb4.8,baz=129,slow=6.1,SNR=25
L09A Wilkinson Ranc 78.23 39 ⇑P **P 02 41 20.8 0.0**
baz=78,SNR=7.6
Q12A Willow Creek R 78.25 42 ⇑P **P 02 41 21.0 -0.1**
baz=78
V15A Kaibab Nationa 78.26 46 P **P 02 41 22.0 +0.8**
baz=78,SNR=12
NLWA Neilton Lookou 78.28 32 *e*P **P 02 41 22.6 +1.6**
NLWA LR LR
comp=Z,2µm,20.0s,MS5.4
T14A Hurricane 78.31 45 ⇓P **P 02 41 21.6 +0.2**
baz=78
W16A Flagstaff 78.33 47 ⇑P **P 02 41 22.0 +0.5**
baz=78
O11A Cowboy Ranch, 78.35 41 ⇑P **P 02 41 21.7 +0.2**
baz=79,SNR=17
H06A Lindquist Farm 78.39 35 ⇑P **P 02 41 21.3 -0.3**
baz=79,SNR=17
CCUT Cedar City 78.39 44 *e*P **P 02 41 21.8 -0.1**
219A White Tail Can 78.40 51 ⇓P **P 02 41 21.9 -0.1**
baz=79,SNR=13
I07A Izee 78.44 36 ⇑P **P 02 41 21.8 -0.1**
baz=79,SNR=17
P12A McGill 78.45 42 ⇓P **P 02 41 21.4 -0.7**
baz=79
ARUT Antelope Range 78.47 44 *e*P **P 02 41 23.4 +1.2**
F05A White Salmon 78.52 34 ⇑P **P 02 41 21.8 -0.5**
baz=79
J08A Circle Bar Ran 78.57 37 P **P 02 41 22.7 0.0**
baz=79,SNR=15
K09A Rome 78.61 38 P **P 02 41 22.9 0.0**
baz=79,SNR=15
M10A I.L. Ranch, Tu 78.61 40 P **P 02 41 23.3 +0.4**
baz=79,SNR=14
WUAZ Wupatki 78.66 47 *e*P **P 02 41 23.8 +0.4**
comp=Z,16nm,1.2s,mb4.8
WUAZ LR LR
comp=Z,1µm,19.0s,MS5.2
WUAZ Wupatki 78.66 47 ⇓P **P 02 41 23.6 +0.2**
baz=79,SNR=9.1
Y18A Canyon Day Jun 78.72 49 ⇑P **P 02 41 24.4 +0.7**
baz=79,SNR=15
H07A Lands Inn, Kim 78.72 36 ⇑P **P 02 41 22.9 -0.6**
baz=79
Q13A Wheeler Ranch, 78.73 43 ⇓P **P 02 41 23.1 -0.5**
baz=79,SNR=8.5
T15A Red Dirt Ranch 78.76 45 ⇓P **P 02 41 24.6 +0.7**
baz=79,SNR=10
I08A Drewsey 78.86 37 ⇑P **P 02 41 24.1 -0.1**
baz=79,SNR=6.2
LON Longmire 78.90 33 *e*P **P 02 41 23.9 -0.5**
GNW Green Mountain 78.92 32 P **P 02 41 25.2 +0.8**
J09A Fry Pan Ranch, 78.98 38 ⇑P **P 02 41 24.5 -0.4**
baz=79,SNR=18
L10A Juniper Basin 78.98 39 ⇓P **P 02 41 24.9 -0.1**
baz=79,SNR=19
O12A Currie 79.00 41 P **P 02 41 25.4 +0.3**
baz=79,SNR=14
P13A Bates Ranch, G 79.01 42 ⇑P **P 02 41 25.1 -0.1**
baz=79,SNR=12
M11A Holland Ranch, 79.02 40 ⇓P **P 02 41 25.9 +0.7**
baz=79,SNR=7.8
G07A Ruggs Ranch, H 79.09 35 ⇓P **P 02 41 25.9 +0.4**
baz=79,SNR=5.8
D05A Enumclaw 79.09 33 ⇑P **P 02 41 25.9 +0.5**
baz=79,SNR=7.5
INCN Inchon 79.11 315 PFAKE 02 41 40.0 +14
INCN LR LR
comp=Z,635nm,20.0s,MS5.0
QZH Quanzhou 79.14 301 ⇑*i*P **P 02 41 27.0 +0.8**
QZH S S 02 51 30.8 +7.1

QZH AMB AMB
comp=Z,1µm,5.3s
QZH LR LR
comp=Z,620nm,21.3s,MS4.9
N12A Clover Valley, 79.15 41 ⇑P **P 02 41 26.3 +0.4**
baz=79,SNR=11
K10A MacKenzie Ranc 79.16 38 ⇓P **P 02 41 25.9 0.0**
baz=79,SNR=23
E06A Yakima 79.20 34 ⇑P **P 02 41 25.4 -0.7**
baz=79,SNR=6.5
Y19A Nutrioso 79.37 49 ⇑P **P 02 41 27.3 0.0**
baz=80,SNR=19
L11A Cat Creek Ranc 79.47 39 ⇑P **P 02 41 27.4 -0.2**
baz=80,SNR=17
G08A Pilot Rock 79.49 35 ⇓P **P 02 41 27.4 -0.3**
baz=80,SNR=16
M12A Wells 79.55 40 ⇑P **P 02 41 28.1 0.0**
baz=80,SNR=12
X19A St. Johns 79.58 49 ⇓P **P 02 41 27.9 -0.6**
baz=80,SNR=16
C05A Tolt Reservoir 79.58 32 ⇓P **P 02 41 27.9 -0.2**
baz=80
K11A Parker Ranch, 79.65 39 ⇓P **P 02 41 28.5 -0.1**
baz=80,SNR=14
MVU Marysvale 79.67 44 PFAKE 02 41 40.0 +11
MVU LR LR
comp=Z,2µm,19.0s,MS5.5
N13A Wendover, West 79.67 41 P **P 02 41 28.7 0.0**
baz=80,SNR=8.0
MSU Marysvale 79.69 44 *e*P **P 02 41 29.8 +0.8**
MSU *e**PP pP 02 41 40.4 +0.6
SVW2 Sparrevohn 79.78 8 *e*P **P 02 41 28.2 -0.7**
SSE Sheshan 79.83 307 P **P 02 41 30.5 +0.7**
SSE XP sP 02 41 47.5 +2.9
SSE S S 02 51 30.0 -0.8
SSE XS sS 02 51 49.5 +0.8
SSE SS SS 02 56 39.0 -1.9
SSE AMB AMB
comp=Z,21nm,0.9s,mb5.1
SSE AMB AMB
comp=Z,275nm,6.6s
SSE LR LR
comp=N,326nm,22.4s,MS4.8
SSE LR LR
comp=E,431nm,22.4s,MS4.8
SSE LR LR
comp=Z,608nm,19.5s,MS5.0
HAWA Hanford 79.87 34 *e*P **P 02 41 29.3 -0.4**
comp=Z,64nm,1.8s,mb5.2
HAWA LR LR
comp=Z,3µm,19.0s,MS5.7
L12A House Creek Ra 79.90 40 ⇓P **P 02 41 29.8 -0.2**
baz=80,SNR=7.7
F08A Pendleton 79.91 35 ⇓P **P 02 41 29.9 -0.1**
baz=80
M13A Montello 79.98 41 ⇓P **P 02 41 29.5 -0.9**
baz=80,SNR=11
SLKM Skilak Lake 80.09 11 *e*P **P 02 41 29.7 -0.8**
G09A Cove 80.14 36 ⇓P **P 02 41 30.9 -0.3**
baz=80
BMO Blue Mountains 80.15 37 *e*P **P 02 41 30.2 -1.0**
comp=Z,18nm,1.3s,mb4.8
BMO *e*pP pP 02 41 41.6 -0.5
MFID Camas Ranch 80.15 38 ⇑P **P 02 41 30.7 -0.6**
baz=80,SNR=7.7
DUG Dugway 80.19 42 *e*P **P 02 41 31.5 -0.1**
DUG *e**PP pP 02 41 42.0 -0.4
DUG pmax pmax
comp=Z,14nm,1.3s,mb4.7
DUG MLR MLR
comp=Z,1µm,19.0s,MS5.2
DUG Dugway 80.19 42 *e*P **P 02 41 31.5 -0.1**
comp=Z,14nm,1.3s,mb4.7
DUG *e*pP pP 02 41 42.0 -0.5
DUG LR LR
comp=Z,1µm,19.0s,MS5.2
DUG Dugway 80.19 42 ⇓P **P 02 41 31.0 -0.6**
baz=80,SNR=10
K12A Draper Farm, C 80.25 39 ⇑P **P 02 41 31.5 -0.4**
baz=80,SNR=6.1
H10A Noah's Angus R 80.31 37 P **P 02 41 31.3 -0.8**
baz=80,SNR=21
N14A Grayback Hills 80.31 42 ⇑P **P 02 41 31.3 -0.9**
baz=80,SNR=9.6
I11A Placerville 80.37 38 ⇑P **P 02 41 32.0 -0.5**
baz=81
C07A Waterville 80.42 33 ⇑P **P 02 41 32.0 -0.6**
baz=81,SNR=6.0
BGU Big Grassy Mou 80.45 42 *e*P **P 02 41 33.8 +0.8**
WTV Waterville 80.48 33 P **P 02 41 32.4 -0.6**
J12A Stokes Ranch, 80.49 39 ⇑P **P 02 41 32.7 -0.4**
baz=81,SNR=15
G10A Bishop Farm, J 80.52 36 P **P 02 41 33.0 -0.2**
baz=81,SNR=10
M14A Sheep Mountain 80.57 41 P **P 02 41 33.7 +0.1**
baz=81,SNR=34
D08A Wollman Farm, 80.62 34 ⇑P **P 02 41 33.5 -0.2**
baz=81,SNR=5.8
HABR Khabarovsk 80.62 328 *e*P **P 02 41 32.3 -1.4**
HABR *e* 02 41 38.7
HABR *e* pP 02 41 42.0 -2.5
HABR *e* 02 44 33.0
HABR *e*S S 02 51 34.7 -3.6
HABR *e* 02 51 48.8
HABR *e* 02 51 53.6
HABR *e* 02 56 46.4
HABR *e* 03 00 12.8
E09A Wood Farm, Sta 80.70 35 ⇑P **P 02 41 34.3 +0.1**
baz=81
TMUT Trail Mountain 80.75 44 *e*P **P 02 41 34.9 +0.3**
N15A Stansbury Isla 80.75 42 ⇓P **P 02 41 34.7 +0.1**
baz=81,SNR=5.7
K13A Stover Farm, H 80.76 40 ⇑P **P 02 41 34.9 +0.3**
baz=81,SNR=5.8
H11A Donnelly 80.80 37 ⇑P **P 02 41 34.4 -0.4**
baz=81,SNR=16
SIT Sitka 80.82 20 PFAKE 02 41 50.0 +15
SIT LR LR
comp=Z,2µm,19.0s,MS5.4
MPU Maple Canyon 80.85 43 *e*P **P 02 41 35.3 +0.1**
MPU LR LR
comp=Z,4µm,20.0s,MS5.8
F10A Beach Ranch, E 80.87 36 P **P 02 41 34.1 -1.0**
baz=81,SNR=13
B07A Winthrop 80.88 32 ⇓P **P 02 41 34.3 -0.7**
baz=81,SNR=8.3
D09A Jones Farm, Ri 80.95 34 ⇑P **P 02 41 35.0 -0.5**
baz=81,SNR=6.5
C08A Higginbotham F 81.01 33 ⇑P **P 02 41 35.1 -0.6**
baz=81,SNR=6.4
SPUT South Promonto 81.03 42 *e*P **P 02 41 37.0 +1.0**
G11A Walters Elk Ra 81.07 37 ⇓P **P 02 41 35.6 -0.6**
baz=81,SNR=16
HLID Hailey 81.08 39 *e*P **P 02 41 36.2 -0.1**
HLID LR LR
comp=Z,634nm,19.0s,MS5.0
HLID Hailey 81.08 39 P **P 02 41 36.1 -0.1**
baz=81,SNR=22
HVU Hansel Valley 81.08 41 *e*P **P 02 41 37.3 +1.0**
HVU *e**PP pP 02 41 46.0 -1.2
HVU pmax pmax
comp=Z,18nm,1.3s,mb4.8
HVU Hansel Valley 81.08 41 *e*P **P 02 41 37.3 +1.0**
comp=Z,18nm,1.3s,mb4.8
HVU *e*pP pP 02 41 46.0 -1.2
SRU San Rafael 81.11 44 *e*P **P 02 41 36.7 +0.2**
SRU pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
SRU San Rafael 81.11 44 *e*P **P 02 41 36.7 +0.2**
comp=Z,9.5nm,1.2s,mb4.6
M15A Larsen Ranch, 81.11 41 ⇓P **P 02 41 36.1 -0.4**
baz=81,SNR=12
LAZ Ladron 81.12 50 *e*P **P 02 41 37.2 +0.5**
A07A Ashnola River, 81.12 32 ⇓P **P 02 41 35.4 -0.9**
baz=81,SNR=7.5
J13A Cove Ranch, Pi 81.13 39 ⇑P **P 02 41 36.7 +0.2**
baz=81,SNR=15
LENM Lemitar 81.13 50 *e*P **P 02 41 35.5 -1.3**
LENM *e*pP pP 02 41 45.1 -2.4
MNTX Cornudas Mount 81.17 53 *e*P **P 02 41 37.0 0.0**
comp=Z,35nm,1.5s,mb5.1
MNTX LR LR
comp=Z,790nm,19.0s,MS5.1
B08A Colville Reser 81.22 33 P **P 02 41 36.2 -0.7**
baz=81,SNR=9.5
MDJ Mudanjiang 81.22 322 PFAKE 02 41 50.0 +13

MDJ LR LR
comp=Z,880nm,20.0s,MS5.1
JLU Jordanelle 81.28 43 *e*P **P 02 41 37.6 +0.2**
JLU *e*pP pP 02 41 47.0 -1.3
PMR Palmer 81.29 11 *e*P **P 02 41 36.4 -0.6**
PMR pmax pmax
comp=Z,80nm,1.5s,mb5.4
PMR Palmer 81.29 11 *e*P **P 02 41 36.4 -0.6**
comp=Z,80nm,1.5s,mb5.4
WRAK Wrangell Islan 81.31 21 PFAKE 02 41 50.0 +13
WRAK LR LR
comp=Z,820nm,20.0s,MS5.1
DAU Daniels Canyon 81.31 43 *e*P **P 02 41 37.9 +0.3**
BNM Barren Site 81.37 50 *e*P **P 02 41 38.8 +0.7**
H12A Diamond D Ranc 81.38 38 ⇑P **P 02 41 37.5 -0.3**
baz=82,SNR=9.5
C09A Chrisman Ranch 81.42 34 ⇓P **P 02 41 37.7 -0.3**
baz=82
TXAR Lajitas Array 81.44 56 P **P 02 41 38.5 -0.1**
comp=Z,6.7nm,1.1s,mb4.5,baz=224,slow=7.0,SNR=14
TXAR LR LR 03 11 42.3
comp=Z,838nm,18.5s,MS5.1,baz=215,slow=31
LPM Los Pinos Moun 81.44 50 *e*P **P 02 41 38.9 +0.4**
I13A Wildhorse Cree 81.45 39 ⇓P **P 02 41 38.2 0.0**
baz=82,SNR=8.7
TTA Tatalina 81.49 8 *e*P **P 02 41 38.6 +0.6**
D10A Wagner Farm, O 81.50 35 ⇓P **P 02 41 37.6 -0.8**
baz=82,SNR=8.4
MVCO Mesa Verde 81.52 47 *e*P **P 02 41 40.0 +1.2**
DIV Divide 81.54 13 *e*P **P 02 41 38.1 -0.2**
comp=Z,48nm,1.1s,mb5.3
DIV LR LR
comp=Z,4μm,19.0s,MS5.8
A08A Turner Farm, O 81.63 32 ⇑P **P 02 41 38.5 -0.5**
baz=82,SNR=16
SML Sawmill 81.64 11 *e*P **P 02 41 38.2 -0.6**
H13A Challis 81.74 38 ⇓P **P 02 41 39.6 -0.1**
baz=82,SNR=13
HWUT Hardware Ranch 81.75 42 *e*P **P 02 41 39.5 -0.3**
comp=Z,35nm,1.8s,mb5.0
HWUT LR LR
comp=Z,2μm,19.0s,MS5.5
PMSA Palmer Station 81.81 156 PFAKE 02 41 50.0 +10
PMSA LR LR
comp=Z,2μm,19.0s,MS5.4
F12A Elk City 81.85 37 P **P 02 41 39.6 -0.7**
baz=82,SNR=44
ANMO Albuquerque 81.87 49 *e*P **P 02 41 41.1 +0.4**
ANMO pmax pmax
comp=Z,14nm,1.2s
ANMO MLR MLR
comp=Z,1μm,19.0s
ANMO Albuquerque 81.87 49 *e*P **P 02 41 41.0 +0.4**
comp=Z,14nm,1.2s,mb4.8
ANMO LR LR
comp=Z,1μm,19.0s,MS5.3
B09A Rice 81.87 33 ⇓P **P 02 41 40.1 -0.3**
baz=82
PV01 Paradox Valley 81.93 46 *e*P **P 02 41 41.1 +0.2**
A09A Danville 81.99 33 ⇑P **P 02 41 40.5 -0.5**
baz=82,SNR=6.5
D11A Klaveano Farm, 82.01 35 ⇓P **P 02 41 40.0 -1.1**
baz=82,SNR=11
NJ2 Nanjing 82.03 307 *e*P **P 02 41 42.5 +0.9**
NJ2 AP pP 02 41 52.5 +0.1
NJ2 XP sP 02 41 57.3 +0.9
NJ2 S S 02 51 52.0 -1.8
NJ2 SKS 02 51 55.5
NJ2 XS sS 02 52 07.0 -4.7
NJ2 AMB AMB
comp=Z,30nm,0.6s,mb5.4
NJ2 AMB AMB
comp=Z,550nm,10.4s
NJ2 LR LR
comp=N,1μm,26.2s,MS5.2
NJ2 LR LR
comp=E,660nm,24.8s,MS5.2
NJ2 LR LR
comp=Z,750nm,23.2s,MS5.0
G13A Cobalt 82.06 38 ⇓P **P 02 41 41.0 -0.4**
baz=82,SNR=12
GDL2 Guadalupe Moun 82.17 53 *e*P **P 02 41 43.4 +1.1**
NEW Newport 82.32 34 *e*P **P 02 41 41.8 -0.9**
NEW *e**PP pP 02 41 52.5 -1.0
NEW pmax pmax
comp=Z,17nm,1.4s
NEW MLR MLR
comp=Z,3μm,19.0s
NEW Newport 82.32 34 *e*P **P 02 41 41.8 -0.9**
comp=Z,17nm,1.4s,mb4.8
NEW *e*pP pP 02 41 52.5 -1.1
NEW LR LR
comp=Z,3μm,19.0s,MS5.6
F13A Darby 82.40 37 ⇑P **P 02 41 42.2 -1.0**
baz=83
MA2 Magadan 82.56 342 *c i*P **P 02 41 43.2 -0.5**
MA2 pmax pmax
comp=Z,81nm,2.7s,mb5.3
MA2 Magadan 82.56 342 *e*P **P 02 41 43.6 -0.1**
comp=Z,35nm,1.4s,mb5.2
MA2 LR LR
comp=Z,1μm,20.0s,MS5.2
AHID Auburn Hatcher 82.66 41 PFAKE 02 42 00.0 +15
AHID LR LR
comp=Z,1μm,19.0s,MS5.4
MCMT McKenzie Canyo 82.72 38 *e*P **P 02 41 44.6 -0.2**
GZH Guangzhou 82.77 297 P **P 02 41 46.5 +0.9**
GZH S S 02 52 09.5 +7.9
GZH AMB AMB
comp=Z,719nm,7.9s
GZH LR LR
comp=N,257nm,18.2s,MS4.8
GZH LR LR
comp=E,302nm,17.0s,MS4.8
SKAG Skagway 82.77 18 *e*P **P 02 41 45.4 +0.6**
comp=E,88nm,1.7s,mb5.5
B11A Sandpoint 82.82 34 P **P 02 41 44.8 -0.6**
baz=83,SNR=16
E13A Victor 82.85 37 ⇑P **P 02 41 44.6 -0.9**
baz=83,SNR=13
D13A Huson 83.08 36 ⇑P **P 02 41 45.4 -1.3**
baz=83,SNR=25
G15A Dillon 83.12 38 ⇑P **P 02 41 46.6 -0.4**
baz=83,SNR=16
REDW Red Top Meadow 83.13 40 *e*P **P 02 41 47.1 +0.1**
comp=E,51nm,1.4s,mb5.4
TNA Tin City 83.13 2 PFAKE 02 42 00.0 +13
TNA LR LR
comp=Z,744nm,20.0s,MS5.1
A11A Hall Mountain, 83.14 34 ⇑P **P 02 41 46.6 -0.4**
baz=83,SNR=11
DLMT Dillon 83.16 38 *e*P **P 02 41 47.4 +0.2**
comp=Z,36nm,1.3s,mb5.2
DLMT *e*pP pP 02 41 57.6 -0.4
MSO Missoula 83.21 36 *e*P **P 02 41 46.9 -0.5**
comp=Z,29nm,1.6s,mb5.1
MSO *e*pP pP 02 41 57.2 -1.0
MSO LR LR
comp=Z,1μm,20.0s,MS5.3
DL2 Dalian 83.22 314 ⇑ *i*P **P 02 41 48.8 +1.2**
DL2 S S 02 52 11.0 +5.4
DL2 AMB AMB
comp=Z,30nm,0.9s,mb5.3
DL2 AMB AMB
comp=Z,270nm,4.7s
DL2 LR LR
comp=N,220nm,14.9s,MS4.9
DL2 LR LR
comp=E,340nm,15.6s,MS4.9
DL2 LR LR
comp=Z,230nm,17.2s,MS4.6
E14A Clinton 83.23 37 ⇑P **P 02 41 46.6 -0.9**
baz=84,SNR=9.3
SNOW Snow King Moun 83.24 40 *e*P **P 02 41 48.4 +0.8**
comp=Z,35nm,1.2s,mb5.3
CN2 Changchun 83.24 320 *e*P **P 02 41 48.8 +1.2**
CN2 *e*XP sP 02 42 03.0 +0.6
CN2 *e*S S 02 52 05.0 -0.6
CN2 AMB AMB
comp=Z,30nm,1.4s,mb5.1
CN2 AMB AMB
comp=Z,200nm,5.0s
CN2 LR LR
comp=N,520nm,19.0s,MS5.0
CN2 LR LR
comp=E,390nm,19.0s,MS5.0
CN2 LR LR
comp=Z,530nm,20.0s,MS4.9
BSMT Bassoo Peak 83.33 35 *e*P **P 02 41 47.4 -0.5**
C13A Hot Springs 83.35 35 ⇑P **P 02 41 47.4 -0.7**
baz=84,SNR=13
IMW Indian Meadow 83.36 40 *e*P **P 02 41 47.5 -0.7**
comp=Z,40nm,1.3s,mb5.3
LOHW Long Hollow 83.42 40 *e*P **P 02 41 48.5 0.0**
comp=Z,41nm,1.4s,mb5.3
LRM Limekiln Ridge 83.50 38 *e*P **P 02 41 48.9 0.0**
SMCO Snowmass 83.53 46 *e*P **P 02 41 49.4 +0.2**
comp=Z,35nm,1.1s,mb5.4
QLMT Earthquake Lak 83.56 39 *e*P **P 02 41 49.6 +0.4**
D14A Greenough 83.60 36 P **P 02 41 48.5 -0.9**
baz=84,SNR=17
FLWY Flagg Ranch 83.61 40 *e*P **P 02 41 50.8 +1.3**
comp=Z,56nm,1.3s,mb5.5
BW06 Boulder Array 83.63 41 *e*P **P 02 41 49.1 -0.5**
comp=Z,25nm,1.3s,mb5.2
BW06 LR LR
comp=Z,1μm,19.0s,MS5.4
CHMT Chamberlain Mo 83.65 36 *e*P **P 02 41 49.0 -0.7**
DLBC Dease Lake 83.67 21 *e*P **P 02 41 49.8 +0.4**
DLBC *e*pP pP 02 42 00.3 0.0
YFT Old Faithful 83.72 39 *e*P **P 02 41 51.4 +1.4**
YFT *e*pP pP 02 42 01.7 +0.8
E15A Deer Lodge 83.73 37 ⇓P **P 02 41 49.2 -0.8**
baz=84,SNR=11
YMR Madison River 83.76 39 *e*P **P 02 41 51.3 +1.0**
comp=Z,178nm,1.9s,mb5.9
YMR LR LR
comp=Z,1μm,19.0s,MS5.3
B13A Whitefish 83.81 35 ⇑P **P 02 41 49.6 -0.8**
baz=84,SNR=5.7
SDCO Great Sand Dun 83.86 47 *e*P **P 02 41 51.0 +0.1**
comp=Z,17nm,1.3s,mb5.0
SDCO LR LR
comp=Z,1μm,20.0s,MS5.2
BOZ Bozeman (W) 83.89 38 *e*P **P 02 41 50.8 -0.1**
BOZ pmax pmax
comp=Z,54nm,1.6s,mb5.4
BOZ MLR MLR
comp=Z,2μm,19.0s,MS5.4
BOZ Bozeman (W) 83.89 38 *e*P **P 02 41 50.8 -0.1**
comp=Z,54nm,1.6s,mb5.4
BOZ LR LR
comp=Z,2μm,19.0s,MS5.4
BOZ Bozeman (W) 83.89 38 ⇑P **P 02 41 50.3 -0.6**
baz=84,SNR=31
LKWY Lake 84.04 40 *e*P **P 02 41 53.0 +1.3**
LKWY *e**PP pP 02 42 02.0 -0.6
LKWY pmax pmax
comp=Z,22nm,1.1s,mb5.2
LKWY Lake 84.04 40 *e*P **P 02 41 53.0 +1.3**
comp=Z,22nm,1.1s,mb5.2
LKWY *e*pP pP 02 42 02.0 -0.5
D15A Lincoln 84.14 37 ⇓P **P 02 41 51.2 -0.9**
baz=84,SNR=18
MYKOM Kota Tinggi 84.21 274 ⇑P **P 02 41 55.2 +1.9**
QIZ Qiongzhong 84.31 292 P **P 02 41 54.5 +0.9**
QIZ AP pP 02 42 06.0 +1.5
QIZ S S 02 52 17.0 -0.4
QIZ XS sS 02 52 31.5 -3.8
QIZ SS SS 02 57 50.0 +2.0
QIZ AMB AMB
comp=Z,396nm,8.7s
QIZ LR LR
comp=E,442nm,20.1s
QIZ LR LR
comp=Z,555nm,20.2s,MS4.9
QIZ Qiongzhong 84.31 292 PFAKE 02 42 00.0 +6.4
QIZ LR LR
comp=Z,598nm,20.0s,MS5.0
HRY Holter Researc 84.35 37 *e*P **P 02 41 53.0 -0.2**
WALA Waterton Lakes 84.50 34 *e*P **P 02 41 53.0 -0.9**
comp=Z,59nm,1.6s,mb5.5
COLA College 84.55 10 *e*P **P 02 41 53.1 -0.7**
COLA pmax pmax
comp=Z,84nm,1.2s,mb5.8
COLA MLR MLR
comp=Z,762nm,20.0s,MS5.1
COLA College 84.55 10 *e*P **P 02 41 53.1 -0.7**
comp=Z,84nm,1.2s,mb5.8
COLA LR LR
comp=Z,762nm,20.0s,MS5.1
RWWY Rawlins 84.59 43 *e*P **P 02 41 54.5 0.0**
ISCO Idaho Springs 84.75 45 *e*P **P 02 41 56.2 +0.8**
ISCO pmax pmax
comp=Z,43nm,1.9s,mb5.2
ISCO MLR MLR
comp=Z,1μm,19.0s,MS5.3
ISCO Idaho Springs 84.75 45 *e*P **P 02 41 56.2 +0.8**
comp=Z,43nm,1.9s,mb5.2
ISCO LR LR
comp=Z,1μm,19.0s,MS5.3
KGM Kluang 84.78 274 ⇑P **P 02 41 58.3 +2.1**
IMA2 Indian Mountai 84.79 8 *e*P **P 02 41 54.8 -0.2**
WHN Wuhan 84.88 304 *e*P **P 02 41 56.3 0.0**
WHN S S 02 52 27.0 +4.4
WHN LR LR
comp=Z,736nm,20.5s,MS5.1
SEY Seymchan 84.92 345 ⇑ *i*P **P 02 41 55.5 -0.2**
JCT Junction City 84.97 56 PFAKE 02 42 10.0 +13
JCT LR LR
comp=Z,740nm,19.0s,MS5.1
RLMT Red Lodge 85.02 40 *e*P **P 02 41 57.4 +0.8**
comp=Z,27nm,1.3s,mb5.2
RLMT LR LR
comp=Z,970nm,19.0s,MS5.2
GCMT Greycliff 85.13 39 *e*P **P 02 41 58.2 +1.1**
AMTX Amarillo 85.35 51 *e*P **P 02 41 58.8 +0.3**
comp=Z,29nm,1.2s,mb5.3
AMTX *e*pP pP 02 42 09.3 -0.2
AMTX LR LR
comp=Z,2μm,19.0s,MS5.5
KVTX Kingsville 85.36 59 PFAKE 02 42 10.0 +11
KVTX LR LR
comp=Z,956nm,21.0s,MS5.2
DAWY Dawson 85.54 14 *e*P **P 02 41 58.6 -0.2**
PHWY Pilot Hill 85.56 44 *e*P **P 02 42 00.2 +0.8**
PHWY *e*pP pP 02 42 09.5 -0.8
EGAK Eagle 85.76 13 *e*P **P 02 41 59.3 -0.6**
comp=Z,41nm,1.2s,mb5.5
EGAK LR LR
comp=Z,1μm,19.0s,MS5.4
MAW Mawson 85.76 199 P **P 02 41 59.9 -0.2**
MAW pmax pmax
comp=Z,5.0nm,1.0s
MAW MLR MLR
comp=Z,2μm,18.3s
MAW Mawson 85.76 199 *e*P **P 02 41 59.9 -0.1**
comp=Z,58nm,1.8s,mb5.5
MAW LR LR
comp=Z,3μm,19.0s,MS5.7
MAW Mawson 85.76 199 P **P 02 41 59.9 -0.2**
comp=Z,5.1nm,1.0s,mb4.7,baz=117,slow=8.8,SNR=7.8
MAW LR LR 03 20 11.5
comp=Z,2μm,18.3s,MS5.6,baz=277,slow=36
KTGM Kuala Trenggan 85.98 277 ⇑P **P 02 42 05.5 +3.4**
EGMT Eagleton 86.25 37 *e*P **P 02 42 02.1 -0.5**
comp=Z,46nm,1.6s,mb5.5
EGMT *e*pP pP 02 42 12.1 -1.4
EGMT LR LR
comp=Z,2μm,20.0s,MS5.5
EGMT Eagleton 86.25 37 ⇓P **P 02 42 02.3 -0.3**
baz=86,SNR=7.6
COCO West Island 86.70 258 PFAKE 02 42 20.0 +14
COCO LR LR
comp=Z,1μm,19.0s,MS5.3
BILL Bilibino 86.90 352 *e*P **P 02 42 05.0 -0.4**
BILL pmax pmax
comp=Z,51nm,1.3s,mb5.6
BILL MLR MLR
comp=Z,2μm,19.0s,MS5.5
BILL Bilibino 86.90 352 *e*P **P 02 42 05.0 -0.4**
comp=Z,51nm,1.3s,mb5.6
BILL LR LR
comp=Z,2μm,19.0s,MS5.5
EDM Edmonton 87.18 31 *e*P **P 02 42 07.7 +0.6**
WMOK Wichita Mounta 87.46 52 *e*P **P 02 42 08.4 -0.5**
WMOK pmax pmax
comp=Z,13nm,1.5s,mb4.9
WMOK MLR MLR
comp=Z,1μm,20.0s,MS5.2
WMOK Wichita Mounta 87.46 52 *e*P **P 02 42 08.3 -0.6**
comp=Z,14nm,1.5s,mb5.0
WMOK LR LR
comp=Z,1μm,20.0s,MS5.2
BJT Baijiatuau 87.49 313 *e*P **P 02 42 09.5 +0.6**
BJT pmax pmax
comp=Z,216nm,1.8s
BJT MLR MLR
comp=Z,652nm,20.0s
BJT Baijiatuau 87.49 313 *e*P **P 02 42 09.5 +0.6**
comp=Z,216nm,1.8s,mb6.1
BJT LR LR
comp=Z,652nm,20.0s,MS5.0
BJI Beijing 87.49 313 P **P 02 42 09.8 +0.9**
BJI AP pP 02 42 19.5 -0.3
BJI XP sP 02 42 23.0 -0.8
BJI S S 02 52 41.5 -6.2
BJI AMB AMB
comp=Z,50nm,2.1s,mb5.4
BJI AMB AMB
comp=Z,1μm,4.2s
BJI LR LR
comp=N,265nm,16.8s,MS4.9
BJI LR LR
comp=E,430nm,21.5s,MS4.9
BJI LR LR
comp=Z,391nm,24.3s,MS4.7
PLCA Paso Flores 87.52 132 *e*P **P 02 42 10.8 +1.6**
PLCA pmax pmax
comp=Z,66nm,2.0s
PLCA MLR MLR
comp=Z,2μm,19.0s
PLCA Paso Flores 87.52 132 *e*P **P 02 42 10.8 +1.6**
comp=Z,66nm,2.0s,mb5.5
PLCA LR LR
comp=Z,2μm,19.0s,MS5.4
PLCA Paso Flores 87.52 132 P **P 02 42 09.4 +0.2**
comp=Z,8.4nm,1.0s,mb4.9,baz=235,slow=4.2,SNR=11
PLCA LR LR 03 14 04.5
comp=Z,1μm,18.2s,MS5.4,baz=219,slow=31
LAO LASA Array 87.65 39 PFAKE 02 42 20.0 +11
LAO LR LR
comp=Z,841nm,19.0s,MS5.2
IPM Ipoh 87.72 275 ⇑P **P 02 42 11.1 +0.5**
RSSD Black Hills 87.80 42 PFAKE 02 42 20.0 +10
RSSD LR LR
comp=Z,299nm,20.0s,MS4.7
HKT Hockley 87.93 58 *e*P **P 02 42 11.8 +0.5**
HKT pmax pmax
comp=Z,78nm,1.8s,mb5.6
HKT MLR MLR
comp=Z,1μm,19.0s,MS5.3
HKT Hockley 87.93 58 *e*P **P 02 42 11.8 +0.6**
comp=Z,78nm,1.8s,mb5.6
HKT LR LR
comp=Z,1μm,19.0s,MS5.3
KULM Kulim 88.32 276 *e*P **P 02 42 13.0 -0.5**
KULM Kulim 88.32 276 ⇑P **P 02 42 14.8 +1.3**
CBKS Cedar Bluff 88.41 48 PFAKE 02 42 20.0 +6.7
CBKS LR LR
comp=Z,1μm,20.0s,MS5.3
TIY Taiyuan 89.19 310 ⇑ *i*P **P 02 42 18.3 +1.3**
TIY S S 02 52 51.8 -12
TIY XS sS 02 53 22.3 +0.2
TIY LR LR
comp=N,340nm,12.8s,MS5.3
TIY LR LR
comp=E,836nm,17.3s,MS5.3
TIY LR LR
comp=Z,923nm,17.8s,MS5.2
HIA Hailar 89.40 323 PFAKE 02 42 30.0 +12
HIA LR LR
comp=Z,706nm,20.0s,MS5.1
NATX Nacogdoches 89.53 56 *e*P **P 02 42 20.3 +1.5**
NATX LR LR
comp=Z,1μm,20.0s,MS5.3
GYA Guiyang 89.64 298 P **P 02 42 21.0 +1.6**
GYA AP pP 02 42 32.3 +1.9
GYA XP sP 02 42 35.5 +1.2
GYA PP PP 02 45 54.5 +2.7
GYA SKS 02 52 45.8
GYA S S 02 53 06.5 -2.1
GYA SS SS 02 59 06.3 +0.4
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,380nm,8.9s
GYA LR LR
comp=N,510nm,19.2s,MS5.1
GYA LR LR
comp=E,450nm,20.7s,MS5.1
GYA LR LR
comp=Z,420nm,19.2s,MS4.9
DGMT Dagmar 89.70 38 *e*P **P 02 42 20.2 +1.1**
comp=Z,34nm,1.3s,mb5.5
DGMT LR LR
comp=Z,1μm,20.0s,MS5.3
TGUH Tegucigalpa,Un 90.06 75 PFAKE 02 42 30.0 +8.4
TGUH LR LR
comp=Z,952nm,20.0s,MS5.2
INK Inuvik 90.40 14 *e*P **P 02 42 21.5 -0.4**
SYO Syowa Base 90.42 191 ⇑ *e*P **P 02 42 20.2 -2.1**
XAN Xi'an 90.46 306 P **P 02 42 23.3 +0.2**
XAN AP pP 02 42 34.5 +0.5
XAN SKS 02 52 54.3
XAN S S 02 53 16.8 +0.9
XAN SS SS 02 59 18.0 +0.6
XAN AMB AMB
comp=Z,25nm,2.1s,mb5.2
XAN AMB AMB
comp=Z,321nm,6.6s
XAN LR LR
comp=N,159nm,17.0s,MS4.8
XAN LR LR
comp=E,285nm,18.6s,MS4.8
XAN LR LR
comp=Z,406nm,20.3s,MS4.8
VNA3 Neumayer Olymp 90.48 175 *e*P **P 02 42 22.3 -0.2**
VNA3 *e* 02 42 24.2
VNA3 *e* pP 02 42 31.0 -2.5
VNA3 *e* pP 02 42 34.6 +1.1
VNA3 *e* 02 42 38.4
VNA3 *e* 02 42 47.0
NRGR Nerungri 90.54 331 *e*P **P 02 42 24.0 +1.2**
NRGR S SKSac 02 52 54.1 +2.7
NRGR smax
comp=N,61nm,0.7s
CLNS Chul'man 90.55 331 *e*P **P 02 42 21.7 -1.2**
CLNS pmax pmax
comp=Z,20nm,1.0s,mb5.4
CLNS pmax pmax
comp=N,15nm,1.3s
CLNS pmax pmax
comp=E,11nm,1.0s
EFI East Falkland 90.64 146 PFAKE 02 42 40.0 +16
EFI LR LR
comp=Z,1μm,19.0s,MS5.4
KSU1 Kansas State U 90.76 49 PFAKE 02 42 40.0 +16
KSU1 LR LR
comp=Z,2μm,19.0s,MS5.5
VNA2 Neumayer--Watz 90.98 175 *e*P **P 02 42 25.0 +0.1**
VNA2 *e* 02 42 26.9
VNA2 *e* pP 02 42 33.0 -2.8
VNA2 *e* pP 02 42 36.5 +0.7
VNA2 *e* 02 42 40.7
VNA2 *e* 02 42 48.6
HHC Hu-ho-hao-te 91.03 313 ⇑P **P 02 42 26.3 +0.8**
HHC AP pP 02 42 36.8 +0.3
HHC XP sP 02 42 40.8 +0.4
HHC PP PP 02 46 04.8 +2.3
HHC SKS 02 52 56.0
HHC S S 02 53 21.0 +0.2
HHC XS sS 02 53 36.5 -2.5
HHC SS SS 02 59 27.3 +1.9
HHC AMB AMB
comp=Z,36nm,1.2s,mb5.6
HHC AMB AMB
comp=Z,359nm,8.7s
HHC LR LR
comp=N,378nm,14.1s,MS5.1
HHC LR LR
comp=E,415nm,16.9s,MS5.1
HHC LR LR
comp=Z,538nm,17.5s,MS5.0
JTS JuntasAbangare 91.06 80 *e*P **P 02 42 24.6 -1.7**
JTS *e**PP pP 02 42 37.1 -0.1
JTS pmax pmax

comp=Z,74nm,1.3s
JTS MLR MLR
comp=Z,2μm,19.0s
JTS JuntasAbangare 91.06 80 *e*P **P 02 42 24.6 -1.7**
comp=Z,74nm,1.3s,mb5.9
JTS *ep*P pP 02 42 37.1 -0.1
JTS LR LR
comp=Z,2μm,19.0s,MS5.5
JTS JuntasAbangare 91.06 80 P **P 02 42 25.5 -0.8**
comp=Z,26nm,1.1s,mb5.5,baz=302,slow=4.1,SNR=10
TEIG Tepich 91.07 69 PFAKE 02 42 40.0 +14
TEIG LR LR
comp=Z,1μm,19.0s,MS5.3
VNA1 Neumayer--Stat 91.18 175 *e*P **P 02 42 26.2 +0.4**
VNA1 *e* 02 42 27.9
VNA1 *e* pP 02 42 34.1 -2.6
VNA1 *e* pP 02 42 37.5 +0.8
VNA1 *e* 02 42 41.2
VNA1 *e* 02 42 48.3
MIAR Mount Ida 91.37 54 *e*P **P 02 42 27.5 +0.2**
MIAR MLR MLR
comp=Z,810nm,20.0s,MS5.2
YAK Yakutsk 91.48 337 *e*P **P 02 42 27.5 +0.4**
YAK pmax pmax
comp=Z,13nm,1.2s,mb5.1
YAK pmax pmax
comp=N,5.0nm,1.1s
YAK pmax pmax
comp=E,5.0nm,0.9s
YAK Yakutsk 91.48 337 *i* P **P 02 42 27.1 0.0**
YAK LR LR
comp=Z,313nm,19.0s,MS4.8
LCO Las Campanas 91.65 121 PFAKE 02 42 40.0 +11
LCO LR LR
comp=Z,842nm,19.0s,MS5.2
NNA Nana 91.96 103 PFAKE 02 42 40.0 +9.5
NNA LR LR
comp=Z,807nm,19.0s,MS5.2
YKA Yellowknife Ar 92.01 23 P **P 02 42 29.0 -0.5**
YKA pmax pmax
comp=Z,6.0nm,1.1s
YKA Yellowknife Ar 92.01 23 P **P 02 42 29.0 -0.5**
comp=Z,6.4nm,1.1s,mb4.9,baz=234,slow=4.0,SNR=37
YKW3 Yellowknife Ar 92.05 23 *e*P **P 02 42 28.9 -0.8**
NANT Nan 92.40 289 P **P 02 42 33.9 +1.5**
ECSD EROS,Sioux Fal 92.51 45 *e*P **P 02 42 31.8 -0.5**
comp=Z,14nm,1.4s,mb5.2
ECSD LR LR
comp=Z,604nm,19.0s,MS5.1
KMI Kunming 92.55 295 P **P 02 42 35.5 +2.5**
KMI AP pP 02 42 46.0 +2.1
KMI XP sP 02 42 49.3 +1.5
KMI PP PP 02 46 14.0 -0.9
KMI S S 02 53 38.0 +2.8
KMI XS sS 02 53 49.5 -3.9
KMI SS SS 02 59 51.0 +3.1
KMI AMB AMB
comp=Z,27nm,1.8s,mb5.4
KMI AMB AMB
comp=Z,368nm,4.7s
KMI LR LR
comp=N,235nm,20.0s,MS4.8
KMI LR LR
comp=E,290nm,21.1s,MS4.8
KMI LR LR
comp=Z,546nm,32.2s
CFAA Coronel Fontan 92.66 124 P **P 02 42 33.0 -0.5**
CFAA LR LR 03 13 55.0
CFAA Coronel Fontan 92.66 124 P **P 02 42 33.0 -0.5**
comp=Z,1.7nm,0.9s,mb4.5,baz=238,slow=2.8,SNR=12
CFAA LR LR 03 13 55.0
comp=Z,55nm,21.0s,MS4.0,baz=207,slow=29
VBMS Vicksburg 93.00 57 PFAKE 02 42 50.0 +15
VBMS LR LR
comp=Z,769nm,19.0s,MS5.2
CD2 Chengdu 93.52 301 P **P 02 42 38.3 +1.0**
CD2 AP pP 02 42 48.8 +0.6
CD2 XP sP 02 42 53.0 +0.8
CD2 PP PP 02 46 26.0 +3.7
CD2 SKS 02 53 08.5
CD2 S S 02 53 47.5 +4.0
CD2 AMB AMB
comp=Z,20nm,1.7s,mb5.3
CD2 AMB AMB
comp=Z,270nm,9.6s
CD2 LR LR
comp=N,300nm,19.2s,MS5.2
CD2 LR LR
comp=E,700nm,19.2s,MS5.2
CD2 LR LR
comp=Z,550nm,20.4s,MS5.0
FFC Flin Flon 93.73 33 P **P 02 42 38.0 +0.3**
comp=Z,58nm,1.6s,mb5.8,SNR=5.1
FFC Flin Flon 93.73 33 *e*P **P 02 42 38.4 +0.7**
FFC *e**PP pP 02 42 47.4 -1.2
FFC pmax pmax
comp=Z,31nm,1.6s,mb5.5
FFC MLR MLR
comp=Z,2μm,20.0s,MS5.5
FFC Flin Flon 93.73 33 *e*P **P 02 42 38.4 +0.7**
comp=Z,31nm,1.6s,mb5.5
FFC *ep*P pP 02 42 47.4 -1.2
FFC LR LR
comp=Z,2μm,20.0s,MS5.5
CHG Chiang Mai 93.99 288 ⇑P **P 02 42 40.9 +1.2**
comp=Z,36nm,1.0s,mb5.8
CHTO Chiang Mai 93.99 288 *e*P **P 02 42 41.4 +1.7**
CHTO pmax pmax
comp=Z,11nm,0.9s,mb5.3
CHTO MLR MLR
comp=Z,656nm,20.0s,MS5.1
CHTO Chiang Mai 93.99 288 *e*P **P 02 42 41.4 +1.7**
comp=Z,11nm,0.9s,mb5.3
CHTO LR LR
comp=Z,656nm,20.0s,MS5.1
SCIA State Center 94.19 47 PFAKE 02 42 50.0 +10
SCIA LR LR
comp=Z,1μm,19.0s,MS5.4
CCM Cathedral Cave 94.33 52 PFAKE 02 42 50.0 +9.2
CCM LR LR
comp=Z,1μm,19.0s,MS5.4
TRQA Tornquist 94.67 132 *e*P **P 02 42 43.6 +1.0**
comp=Z,7.3nm,1.0s,mb5.1
TRQA LR LR
comp=Z,1μm,19.0s,MS5.4
AGMN Agassiz Refuge 94.69 41 *e*P **P 02 42 41.8 -0.4**
AGMN *ep*P pP 02 42 50.9 -2.3
AGMN LR LR
comp=Z,1μm,19.0s,MS5.3
FVM French Village 94.92 52 *e*P **P 02 42 44.5 +1.0**
FVM pmax pmax
comp=Z,29nm,1.4s,mb5.5
FVM French Village 94.92 52 *e*P **P 02 42 44.5 +0.9**
comp=Z,28nm,1.4s,mb5.5
LZH Lanzhou 95.07 306 *e*P **P 02 42 45.8 +1.5**
LZH AP pP 02 42 57.5 +2.3
LZH SKS 02 53 20.0
LZH AMB AMB
comp=Z,54nm,1.6s,mb5.7
LZH AMB AMB
comp=Z,200nm,4.0s
LZH LR LR
comp=E,2μm,17.6s
LZH LR LR
comp=Z,2μm,18.8s,MS5.6
ULM Lac du Bonnet 95.39 39 *e*P **P 02 42 44.9 -0.5**
comp=Z,30nm,1.6s,mb5.5
ULM *ep*P pP 02 42 54.3 -2.0
ULM LR LR
comp=Z,2μm,20.0s,MS5.7
ULM Lac du Bonnet 95.39 39 P **P 02 42 44.0 -1.3**
comp=Z,6.3nm,1.2s,mb4.9,baz=262,slow=5.0,SNR=8.0
ULM LR LR 03 21 52.2
comp=Z,2μm,18.4s,MS5.6,baz=100,slow=33
BRAL Brewton 95.43 59 PFAKE 02 43 00.0 +14
BRAL LR LR
comp=Z,825nm,20.0s,MS5.2
LVC Limon Verde 95.48 116 *e*P **P 02 42 49.2 +2.6**
comp=Z,9.9nm,1.2s,mb5.1
LVC LR LR
comp=Z,1μm,20.0s,MS5.4
PLAL Pickwick Lake 95.79 55 PFAKE 02 43 00.0 +12
PLAL LR LR
comp=Z,1μm,19.0s,MS5.4
HDIL Hopedale 96.55 50 PFAKE 02 43 00.0 +9.1
HDIL LR LR
comp=Z,2μm,20.0s,MS5.5
ULN Ulaanbaatar 96.56 318 *e*P **P 02 42 51.3 +0.5**
ULN MLR MLR
comp=Z,533nm,19.0s,MS5.0
JFWS Jewell Farm 96.59 47 PFAKE 02 43 00.0 +9.0
JFWS LR LR
comp=Z,1μm,20.0s,MS5.4
EYMN Ely 97.32 42 PFAKE 02 43 10.0 +16
EYMN LR LR
comp=Z,2μm,19.0s,MS5.6
TIXI Tiksi 97.41 344 *e*P **P 02 42 53.9 -0.2**
TIXI *e*S SKSac 02 53 28.0 -0.3
TIXI *e* S 02 54 17.9 +2.5
TIXI *e*SS SS 03 00 48.7 -6.2
TIXI pmax pmax
comp=Z,10.0nm,1.5s,mb5.0
TIXI Tiksi 97.41 344⇓ *e*P **P 02 42 53.8 -0.3**
TIXI LR LR
comp=Z,605nm,20.0s,MS5.1
COWI Conover 98.30 44 *e*P **P 02 42 59.3 +0.7**
COWI LR LR
comp=Z,860nm,20.0s,MS5.2
LPAZ La Paz 98.47 110 *e*P **P 02 43 02.8 +2.6**
LPAZ pmax pmax
comp=Z,3.0nm,1.3s
LPAZ MLR MLR
comp=Z,774nm,19.0s
LPAZ La Paz 98.47 110 *e*P **P 02 43 02.8 +2.6**
comp=Z,3.5nm,1.3s,mb4.7
LPAZ LR LR
comp=Z,774nm,19.0s,MS5.2
LPAZ La Paz 98.47 110 LR LR 03 19 01.5
comp=Z,730nm,18.5s,MS5.2,baz=318,slow=30
GOGA Godfrey 99.02 58 PFAKE 02 43 10.0 +7.8
GOGA LR LR
comp=Z,668nm,20.0s,MS5.1
GTA Gaotai 99.08 308 *e*P **P 02 43 02.8 +0.4**
GTA AP pP 02 43 14.5 +1.2
GTA XP sP 02 43 17.5 +0.2
GTA PP PP 02 47 07.0 +1.8
GTA SKS 02 53 37.0
GTA S S 02 54 25.5 -5.6
GTA XS sS 02 54 45.8 -3.6
GTA SS SS 03 01 19.5 -0.5
GTA AMB AMB
comp=Z,5.0nm,2.1s,mb4.7
GTA AMB AMB
comp=Z,152nm,4.6s
GTA LR LR
comp=N,214nm,18.3s,MS5.0
GTA LR LR
comp=E,462nm,20.5s,MS5.0
GTA LR LR
comp=Z,626nm,18.6s,MS5.1
FCC Fort Churchill 99.28 31 *e*P **P 02 43 02.5 -0.2**
FCC pmax pmax
comp=Z,9.0nm,1.4s,mb5.1
FCC Fort Churchill 99.28 31 *e*P **P 02 43 02.5 -0.3**
comp=Z,9.4nm,1.4s,mb5.1
DWPF Disney 99.33 64 PFAKE 02 43 20.0 +16
DWPF LR LR
comp=Z,778nm,20.0s,MS5.2
TZTN Tazewell 99.76 55 PFAKE 02 43 20.0 +15
TZTN LR LR
comp=Z,967nm,19.0s,MS5.3
TLY Talaya 99.82 321 PFAKE 02 43 20.0 +15
TLY LR LR
comp=Z,689nm,19.0s,MS5.2
GLMI Grayling 101.03 46 PFAKE 02 43 20.0 +9.2
GLMI LR LR
comp=Z,1μm,20.0s,MS5.5
AAM Ann Arbor 101.10 49 PFAKE 02 43 20.0 +8.9
AAM LR LR
comp=Z,2μm,20.0s,MS5.5
ACSO Alum Creek Sta 101.10 51 PFAKE 02 43 20.0 +8.9
ACSO LR LR
comp=Z,957nm,22.0s,MS5.3
NHSC New Hope 101.61 59 PFAKE 02 43 30.0 +17
NHSC LR LR
comp=Z,967nm,19.0s,MS5.3
BLA Blacksburg 102.36 55 PFAKE 02 43 30.0 +13
BLA LR LR
comp=Z,850nm,20.0s,MS5.3
MCWV Mont Chateau 103.33 52 PFAKE 02 43 30.0 +9.0
MCWV LR LR
comp=Z,1μm,20.0s,MS5.3
CPUP Villa Florida 103.54 124 PFAKE 02 43 30.0 +8.0
CPUP LR LR
comp=Z,277nm,20.0s,MS4.8
LSA Lhasa 103.69 297 PFAKE 02 43 30.0 +7.3
LSA LR LR
comp=Z,243nm,21.0s,MS4.7
ERPA Erie 103.72 50 PFAKE 02 43 30.0 +7.2
ERPA LR LR
comp=Z,2μm,20.0s,MS5.6
CNNC Cliffs of the 103.93 57 PFAKE 02 43 40.0 +16
CNNC LR LR
comp=Z,1μm,20.0s,MS5.4
SDV Santo Domingo 104.18 85 PFAKE 02 43 40.0 +15
SDV LR LR
comp=Z,187nm,19.0s,MS4.6
CBN Corbin 104.93 54 PFAKE 02 43 40.0 +12
CBN LR LR
comp=Z,1μm,19.0s,MS5.5
SSPA Standing Stone 104.99 52 PFAKE 02 47 50.0 +6.6
SSPA LR LR
comp=Z,1μm,20.0s,MS5.4
SDDR Presa de Saban 106.14 75 PFAKE 02 48 00.0 +14
SDDR LR LR
comp=Z,652nm,19.0s,MS5.2
BINY Binghamton 106.66 50 PFAKE 02 48 00.0 +14
BINY LR LR
comp=Z,2μm,19.0s,MS5.6
PALK Pallekele 107.85 272 PFAKE 02 48 00.0 +11
PALK LR LR
comp=Z,575nm,20.0s,MS5.1
LONY Lake Ozonia 108.02 48 PFAKE 02 48 00.0 +11
LONY LR LR
comp=Z,1μm,21.0s,MS5.5
NCB Newcomb 108.19 49 PFAKE 02 48 00.0 +11
NCB LR LR
comp=Z,1μm,19.0s,MS5.5
WMQ Urumqi 108.84 311 *e*PDIF Pdif 02 43 45.0 -0.5
WMQ PP PP 02 48 20.0 +2.2
WMQ S Sdif 02 55 47.0 -5.1
WMQ SS SS 03 03 32.0 -1.8
WMQ PP PP
comp=Z,35nm,8.0s
WMQ LR LR
comp=N,324nm,20.0s,MS5.1
WMQ LR LR
comp=E,345nm,20.0s,MS5.1
WMQ LR LR
comp=Z,298nm,20.0s,MS4.8
LBNH Lisbon 109.87 49 PFAKE 02 48 00.0 +7.7
LBNH LR LR
comp=Z,1μm,20.0s,MS5.5
HRV Adam Dziewonsk 109.96 50 PFAKE 02 48 00.0 +7.4
HRV LR LR
comp=Z,2μm,19.0s,MS5.7
WES Weston 110.12 51 PFAKE 02 48 00.0 +7.1
WES LR LR
comp=Z,2μm,21.0s,MS5.6
SJG San Juan 110.69 77 PFAKE 02 48 10.0 +15
SJG LR LR
comp=Z,872nm,19.0s,MS5.3
PKME Peaks-Kenny Pk 111.82 48 PFAKE 02 48 10.0 +14
PKME LR LR
comp=Z,1μm,20.0s,MS5.5
MK31 Makanchi Array 112.87 314 *e*PKIKP PKiKP 02 47 57.9 0.0
MKAR Makanchi Array 112.87 314 *i* PKIKP PKiKP 02 47 58.1 +0.2
MKAR pmax pmax
comp=Z,2.0nm,0.7s
MKAR Makanchi Array 112.87 314 PKiKP PKiKP 02 47 58.1 +0.2
comp=Z,1.5nm,0.7s,baz=63,slow=1.4,SNR=18
SCHQ Schefferville 113.50 37 PFAKE 02 48 10.0 +11
SCHQ LR LR
comp=Z,2μm,20.0s,MS5.7
BBSR BB Station 114.33 62 PFAKE 02 48 10.0 +8.8
BBSR LR LR
comp=Z,457nm,20.0s,MS5.1
KURK Kurchatov 115.27 318 *e*PKIKP PKPdf 02 48 02.3 -0.1
KURK MLR MLR
comp=Z,599nm,20.0s,MS5.2
BBGH Gun Hill 115.77 84 PFAKE 02 48 20.0 +16
BBGH LR LR
comp=Z,1μm,19.0s,MS5.6
BDFB Brasilia 116.27 118 PFAKE 02 48 20.0 +15
BDFB LR LR
comp=Z,969nm,19.0s,MS5.4
TKM2 Tokmak 2 117.60 310 *e*PKIKP PKPdf 02 48 07.2 0.0
TKM2 MLR MLR
comp=Z,310nm,19.0s,MS5.0
FRU Bishkek 118.32 310 *e*PKIKP PKPdf 02 48 08.5 -0.1
UCH Uchtor 118.42 309 *e*PKPdf PKPdf 02 48 10.4 +1.7
UCH *ep*PKPdf pPKPdf 02 48 20.1 0.0
UCH LR LR
comp=Z,356nm,21.0s,MS5.0
SFJD Kangerlussuaq 118.56 22 PFAKE 02 48 20.0 +12
SFJD LR LR
comp=Z,1μm,20.0s,MS5.5
KBS Kingsbay 118.74 359 *e*SS SS 03 05 47.7 +5.3
KBS AMS AMS 03 42 00.7
comp=Z,259nm,19.5s,MS4.9
KBS Kingsbay 118.74 359 PFAKE 02 48 20.0 +12
KBS LR LR
comp=Z,575nm,19.0s,MS5.2
EKS2 Erkin-Say 118.95 309 *e*PKPdf PKPdf 02 48 10.4 +0.6
EKS2 LR LR
comp=Z,302nm,20.0s,MS4.9
AML Almayashu 119.03 309 *e*PKPdf PKPdf 02 48 10.5 +0.6
BVAR Borovoye Array 120.07 321 PKIKP PKPdf 02 48 11.6 0.0
BVAR pmax pmax
comp=Z,6.0nm,1.0s
BVAR Borovoye Array 120.07 321 PKP PKPdf 02 48 11.6 0.0
comp=Z,5.8nm,1.0s,baz=82,slow=3.1,SNR=17
BRVK Borovoye 120.13 322⇓ *e*PKP PKPdf 02 48 11.1 -0.6
BRVK *e*PKPdf PKPdf 02 48 11.3 -0.4
BRVK LR LR
comp=Z,511nm,20.0s,MS5.2
KBL Kabul 122.84 300 *e*PKPdf PKPdf 02 48 17.7 +0.2
ARU Arti 125.62 328 *i* PKIKP PKPdf 02 48 23.8 +1.7
ARU 02 50 10.8
ARU 02 55 24.2
ARU SP SP 03 00 06.1 -4.7
ARU SS SS 03 07 05.1 -5.9
ARU Arti 125.62 328 *e*PKPdf PKPdf 02 48 22.1 0.0
ARU ⇑*e*PKP PKPdf 02 48 23.6 +1.5
ARU LR LR
comp=Z,457nm,20.0s,MS5.1
JMIC Jan Mayen 125.94 6 AMS AMS 03 45 54.3
comp=Z,413nm,14.5s,MS5.2
ABPO Ambohimpanom 126.32 229 PFAKE 02 48 40.0 +15
ABPO LR LR
comp=Z,878nm,19.0s,MS5.5
KEV Kevo 126.59 352 *ep* 02 48 04.5
comp=Z,0.7nm,0.3s
KEV Kevo 126.59 352 *e*PKHKP 02 48 04.5
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 126.59 352 PFAKE 02 48 40.0 +16
KEV LR LR
comp=Z,924nm,21.0s,MS5.4
LVZ Lovozero 126.90 347 PFAKE 02 48 40.0 +16
LVZ LR LR
comp=Z,684nm,21.0s,MS5.3
ARCES ARCESS Array B 127.00 352 PKIKP PKPdf 02 48 24.2 -0.2
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES ARCESS Array B 127.00 352 PKP PKPdf 02 48 24.2 -0.2
comp=Z,4.5nm,0.8s,baz=11,slow=1.2,SNR=19
MSEY Mahe Island 127.42 250 PFAKE 02 48 40.0 +13
MSEY LR LR
comp=Z,437nm,21.0s,MS5.1
TRO Tromso 127.62 355 *e*PP PP 02 50 16.9 -10
TRO *e*SS SS 03 07 34.8 0.0
TRO AMS AMS 03 42 32.2
comp=Z,215nm,19.5s,MS4.8
AKTK Aktyubinsk 128.17 321 PKP PKPdf 02 48 27.1 -0.1
AKTO Aktyubinsk 128.17 321 PKIKP PKPdf 02 48 27.1 -0.1
AKTO pmax pmax
comp=Z,3.0nm,1.0s
AKTO Aktyubinsk 128.17 321 PKP PKPdf 02 48 27.1 -0.1
comp=Z,3.2nm,1.0s,baz=58,slow=5.2,SNR=12
SUR Sutherland 128.48 195 PFAKE 02 48 40.0 +12
SUR LR LR
comp=Z,1μm,19.0s,MS5.6
BORG Borgarnes 129.26 15 PFAKE 02 48 40.0 +11
BORG LR LR
comp=Z,1μm,19.0s,MS5.5
BOSA Boshof 130.72 201 PKIKP PKPdf 02 48 34.3 +1.5
BOSA pmax pmax
comp=Z,3.0nm,1.1s
BOSA Boshof 130.72 201 PKP PKPdf 02 48 34.3 +1.5
comp=Z,3.4nm,1.1s,baz=205,slow=8.8,SNR=3.1
JOF Joensuu 131.87 345 *ep* PKPdf 02 48 34.5 +0.6
comp=Z,0.9nm,0.4s
JOF Joensuu 131.87 345 *e*PKIKP PKPdf 02 48 34.5 +0.6
JOF pmax pmax
comp=Z,1.0nm,0.4s
LBTB Lobatse 133.87 203 PFAKE 02 48 50.0 +11
LBTB LR LR
comp=Z,731nm,19.0s,MS5.4
FINES FINESS Array B 134.35 347 PKIKP PKPdf 02 48 39.1 +0.6
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 134.35 347 PKP PKPdf 02 48 39.1 +0.6
comp=Z,1.4nm,0.5s,baz=48,slow=2.8,SNR=9.4
MOS Moscow 135.61 336 *e*PKIKP PKPdf 02 48 49.0 +7.9
OBN Obninsk 136.48 336 *i* PKIKP PKPdf 02 48 42.7 0.0
OBN *e* 02 55 52.5
OBN pmax pmax
comp=Z,14nm,1.1s
OBN Obninsk 136.48 336 *i* PKP PKPdf 02 48 42.8 +0.1
OBN LR LR
comp=Z,672nm,19.0s,MS5.4
NOA NORSAR Array B 136.66 357 PKIKP PKPdf 02 48 42.9 0.0
NOA pmax pmax
comp=Z,2.0nm,1.0s
NOA NORSAR Array B 136.66 357 PKP PKPdf 02 48 42.9 0.0
NOA NORSAR Array B 136.66 357 PKP PKPdf 02 48 42.9 0.0
comp=Z,2.2nm,1.0s,baz=13,slow=4.0,SNR=3.8
BER Bergen 137.40 1 *e*SS SS 03 09 33.0 -0.4
BER AMS AMS 03 51 16.0
comp=Z,602nm,17.2s,MS5.4
MAK Makhachkala 137.67 315 *e*PKIKP PKPdf 02 48 42.7 -2.6
MAK *i* 02 51 27.2
MAK *e* 02 55 52.9
MAK *e*PS PS 03 01 57.5 -2.9
MAK *e*SS SS 03 09 30.6 -8.1
MAK pmax pmax
comp=Z,31nm,0.4s
MAK smax
comp=N,213nm,0.4s
MAK smax
comp=E,182nm,0.3s
KONO Kongsberg 138.12 358 *e*SS SS 03 09 48.8 +6.8
KONO AMS AMS 03 52 44.0
comp=Z,317nm,17.9s,MS5.1
KONO Kongsberg 138.12 358 PFAKE 02 49 00.0 +14
KONO LR LR
comp=Z,492nm,21.0s,MS5.2
VORD Divnogorie 138.18 330 *e*PKIKP PKPdf 02 48 44.9 -1.1
VORD pmax pmax
comp=Z,3.0nm,0.4s
VORD pmax pmax
comp=N,6.0nm,0.6s
VORD pmax pmax
comp=E,10.0nm,0.7s
DGRG David-gareji 139.73 314 P 02 48 30.6
DGRG S SKPbc 02 52 31.5 +9.1
MTA Mtatsminda 140.02 315 P PKPdf 02 48 50.3 +0.6
MTA S SKPbc 02 52 28.2 +5.1
KIV Kislovodsk 140.35 319 *i* PKIKP PKPdf 02 48 46.7 -3.5
KIV *i* 02 51 52.4
KIV pmax pmax
comp=Z,26nm,1.8s
KIV Kislovodsk 140.35 319 *i* PKP PKPdf 02 48 50.0 -0.2
KIV LR LR
comp=Z,384nm,19.0s,MS5.2
ONI Oni 140.52 317 P PKPdf 02 48 48.6 -1.9
ONI S SKPbc 02 52 33.9 +9.4
GNI Garni 140.69 312 *e*PKPdf PKPdf 02 48 51.1 +0.2
GNI ⇑*e*PKP PKPdf 02 48 51.9 +1.0
GNI LR LR
comp=Z,333nm,22.0s,MS5.0
GNI Garni 140.69 312 PKP PKPdf 02 48 51.9 +1.0
comp=Z,2.8nm,0.3s,baz=236,slow=3.6,SNR=4.6
LSZ Lusaka 141.21 213 *e*PKIKP PKPdf 02 48 53.0 +0.4
LSZ MLR MLR

comp=Z,795nm,20.0s,MS5.5
MUD Monsted U'grnd 141.33 358 *i* P PKPdf 02 49 09.1 +18
MUD *e* 02 52 26.3
ESK Eskdalemuir 141.66 10 PFAKE 02 49 00.0 +7.8
ESK LR LR
comp=Z,846nm,19.0s,MS5.5
SUW Suwalki 141.75 345 *e*PKP PKPdf 02 48 49.7 -2.6
SUW Suwalki 141.75 345 *e*PKP PKPdf 02 48 49.7 -2.7
TSUM Tsumeb 141.89 196 PFAKE 02 49 10.0 +16
TSUM LR LR
comp=Z,834nm,20.0s,MS5.5
COP Copenhagen 141.92 355 *i* P PKPdf 02 48 51.6 -1.0
COP *i* 02 52 36.8
BSD Bornholm Skovb 142.24 353 *e*PKIKP PKPdf 02 49 00.9 +7.7
BSD pmax pmax
comp=Z,16nm,1.0s
BSD Bornholm Skovb 142.24 353 *i* P PKPdf 02 49 00.9 +7.7
comp=Z,16nm,1.0s
BSD *i* 02 52 30.2
SOC Sochi 142.38 320 *i* PKPdf 02 48 56.5 +2.7
SOC *e* 02 51 57.8
SOC *e* 02 56 02.5
SOC *e*SS SS 03 10 29.7 -3.9
SOC pmax pmax
comp=Z,25nm,1.3s
AKASG Malin Array Be 142.71 337 PKIKP PKPdf 02 48 53.4 -0.8
AKASG pmax pmax
comp=Z,2.0nm,0.7s
AKASG Malin Array Be 142.71 337 PKP PKPdf 02 48 53.4 -0.8
comp=Z,1.9nm,0.7s,baz=40,slow=4.1,SNR=8.5
AKBB Malin Array Si 142.71 337 *e*PKIKP PKPdf 02 48 53.3 -0.9
KIEV Kiev 142.72 337 PFAKE 02 49 10.0 +16
KIEV LR LR
comp=Z,845nm,21.0s,MS5.5
ANN Anapa 143.03 323 *e*PKHKP 02 48 52.1
ANN *i* 02 48 58.3
ANN *e* 02 52 02.9
ANN *e* 02 56 00.8
ANN *e*SS SS 03 10 41.1 +0.3
ANN pmax pmax
comp=Z,304nm,7.1s
BHD Baghdad 143.28 302 *e*x x 02 48 48.0
MSL Mosul 143.35 307 *e*x x 02 48 54.0
BSEG Bad Segeberg 143.80 357 *e*PP PP 02 52 13.3 +4.9
SIM Simferopol' 144.76 326 *ce*PKIKP PKPdf 02 48 57.3 -0.7
SIM 02 52 16.1
SIM pmax pmax
comp=Z,86nm,7.6s
RUE Ruedersdorf 144.96 353 *e*PKPdf PKPdf 02 48 59.3 +1.2
KMBO Kilima Mbogo 144.97 241 PKHKP 02 48 59.3
KMBO pmax pmax
comp=Z,13nm,0.9s
KMBO Kilima Mbogo 144.97 241 *e*PKPdf PKPdf 02 48 59.8 +0.4
KMBO LR LR
comp=Z,571nm,19.0s,MS5.4
KMBO Kilima Mbogo 144.97 241 PKP PKPdf 02 48 59.2 -0.1
comp=Z,13nm,0.9s,baz=86,slow=4.2,SNR=27
CMLA Cha da Macela 145.10 48 PFAKE 02 49 10.0 +12
CMLA LR LR
comp=Z,877nm,19.0s,MS5.5
LVV L'vov 145.25 341 *e*PKIKP PKPdf 02 48 58.5 -0.2
IBBN Ibbenburen 145.51 359 *e*PP PP 02 52 25.6 +7.0
KWP Kalwaria 145.82 342 *e*PKP PKPdf 02 49 00.4 +0.8
KWP Kalwaria 145.82 342 ⇑*i*P PKPdf 02 49 00.9 +1.3
KIS Kishinev 145.82 333 *e*PKP PKPdf 02 49 00.0 +0.3
KIS LRM 03 54 00.0
comp=Z,600nm,20.0s
WTSB Winterswijk 145.85 0 ⇑*e*PKP PKPdf 02 48 59.7 +0.1
comp=Z,139nm,2.2s
CLZ Clausthal 145.89 356 *e*PKPbc PKPbc 02 49 00.7 +0.4
MALT Malatya 145.91 313 *e*PKIKP PKPdf 02 49 02.1 +1.9
MALT Malatya 145.91 313 ⇓*i*P PKPbc 02 49 02.8 +2.0
OJC Ojcow 146.06 345 *e*PKPdf PKPdf 02 49 01.1 +1.1
OJC *ep*PKPdf pPKPdf 02 49 10.7 -0.6
IAS Iasi 146.19 335 PKIKP PKPdf 02 49 01.3 +0.9
KSP Ksiaz 146.19 350 *e*PKP PKPdf 02 49 01.9 +1.6
KSP Ksiaz 146.19 350 ⇑*e*PKIKP PKPdf 02 49 01.6 +1.4
KSP *e* 02 49 12.3
KSP Ksiaz 146.19 350 ⇑*e*PKP PKPdf 02 49 01.6 +1.4
KSP *ep*PKP pPKPdf 02 49 12.3 +0.8
KSP *e*SS SS 03 11 19.0 +3.3
CLL Collm 146.20 353 *i* PKIKP PKPdf 02 49 01.1 +0.9
CLL *i* 02 49 03.1
CLL *e* 02 49 12.0
CLL pmax pmax
comp=Z,68nm,1.0s
CLL MLR MLR
comp=Z,800nm,18.8s,MS5.5
CLL Collm 146.20 353 *i* PKP PKPdf 02 49 01.1 +0.9
CLL *i* 02 49 03.1
CLL *ep*PKP pPKPdf 02 49 12.0 +0.5
CLL LR LR
comp=Z,800nm,18.8s,MS5.5
CLL Collm 146.20 353 *e*PKPbc PKPbc 02 49 01.3 0.0
CLL Collm 146.20 353 *i* PKPbc PKPbc 02 49 01.1 -0.2
comp=Z,68nm,1.0s
CLL ⇑*i*PKiKP PKiKP 02 49 03.1 -1.4
comp=Z,257nm,1.4s
CLL *ep*PKPdf pPKPdf 02 49 12.0 +0.5
CLL *e*PKSbc 02 52 44.0
CLL *e*PSKS 03 02 42.0
CLL *e*SS SS 03 11 06.0 -10
CLL *e*SSS 03 16 47.0
CLL Lm 03 57 00.0
comp=N,400nm,18.5s
CLL Lm 03 57 00.0
comp=E,500nm,19.3s
CLL Lm 03 57 00.0
comp=Z,800nm,18.8s
BUG Bochum–Univer 146.38 360 *e*PKPbc PKPbc 02 49 01.8 0.0
STHS Stebnicka Huta 146.43 343 *e*PKP PKPdf 02 49 02.5 +1.8
STHS *e* 02 49 04.4
STHS *e* 02 49 29.5
BRG Berggiesshubel 146.51 352 *i* PKIKP PKPdf 02 49 01.1 +0.3
BRG *i* 02 49 04.3
BRG *e* 02 49 12.9
BRG pmax pmax
comp=Z,40nm,1.3s
BRG pmax pmax
comp=Z,151nm,1.5s
BRG pmax pmax
comp=Z,142nm,1.9s
BRG Berggiesshubel 146.51 352 *e*PKPbc PKPbc 02 49 02.5 +0.3
BRG Berggiesshubel 146.51 352 *i* PKP PKPdf 02 49 01.1 +0.3
comp=Z,67nm,1.3s
BRG *i* 02 49 04.3
comp=Z,252nm,1.5s
BRG *e* 02 49 12.9
comp=Z,237nm,1.9s
UPC Upice 146.56 350 *e*PKP PKPdf 02 49 02.3 +1.4
KOLS Kolonicke sedl 146.57 342 *e*PKP PKPdf 02 49 02.1 +1.2
DPC Dobruska-Polom 146.66 349 *e*PKP PKPbc 02 49 03.3 +0.6
DPC AMS AMS 03 53 50.0
comp=Z,800nm,25.4s
NIE Niedzica 146.67 344 *e*PKPdf PKPbc 02 49 03.3 +0.6
BURAR Bucovina Array 146.75 338 PKP2 PKPab 02 49 03.7 -0.5
BURAR Bucovina Array 146.75 338 ⇑*i*P PKPbc 02 49 03.4 +0.4
PVCC Panska Ves 146.77 351 *e*PKP PKPbc 02 49 03.4 +0.4
PVCC AMS AMS 03 58 00.0
comp=Z,700nm,19.2s
OKC Ostrava-Krasne 146.79 347 *e*PKP PKPdf 02 49 03.2 +1.9
OKC AMS AMS 03 54 00.0
comp=Z,600nm,22.8s
CRVS Cervenica-Dubn 146.84 343 *e*PKP PKPdf 02 49 02.0 +0.6
UZH Uzhgorod 146.84 342 *di*PKP2 PKPab 02 49 03.4 -1.1
UZH *e* 02 52 31.0
UZH *e* 02 56 05.0
UBBA Unterbreizbach 146.93 357 *e*PKPbc PKPbc 02 49 03.3 -0.1
UCC Uccle 146.95 3 PKPab PKPab 02 49 03.2 -1.7
MORC Moravsky Berou 146.98 348 *e*PKPbc PKPbc 02 49 03.2 -0.4
MORC Moravsky Berou 146.98 348 ⇑*i*P PKPdf 02 49 02.6 +1.0
MOX Moxa 146.99 355 *e*PKP PKPbc 02 49 03.8 +0.2
comp=Z,252nm,2.0s
MOX
comp=Z,600nm,19.0s
MOX Moxa 146.99 355 *e*PKP2 PKPab 02 49 03.8 -1.3
MOX pmax pmax
comp=Z,252nm,2.0s
MOX MLR MLR
comp=Z,600nm,19.0s,MS5.4
MOX Moxa 146.99 355 *e*PKPbc PKPbc 02 49 03.7 +0.1
MOX *e*PP PP 02 52 27.2 -0.2
BEBN Eben Emael 147.00 2 PKPab PKPab 02 49 03.7 -1.4

MENF Mencas 147.02 6 PKP PKPdf 02 48 59.4 -2.2
HGN Heimansgroeve 147.04 1 ⇑*e*PKP PKPdf 02 49 03.6 +1.9
comp=Z,103nm,2.3s
HGN Heimansgroeve 147.04 1 *e*PP PP 02 52 17.4 -10
MEM Membach 147.20 1 PKP PKPdf 02 49 00.7 -1.3
MEM PKPab PKPab 02 49 04.8 -1.1
MEM PKiKP PKiKP 02 49 06.2 -0.3
MEM APKPbc 02 49 14.8
TRPA Tarpa 147.21 341 ⇑*i*P PKPbc 02 49 04.1 -0.2
PRA Prague 147.23 351 PKP PKPbc 02 49 05.0 +0.7
PRU Pruhonice 147.30 351 *e*PKP PKPbc 02 49 04.9 +0.4
PRU AMS AMS 03 58 40.0
comp=Z,800nm,19.2s
NKC Novy Kostel 147.32 354 *e*PKP PKPbc 02 49 05.3 +0.8
NKC AMS AMS 04 00 10.0
comp=Z,600nm,17.3s
BCLA Clavier 147.37 2 PKPab PKPab 02 49 05.2 -1.3
BCLA APKPab 02 49 16.2
KECS Kecovo 147.49 343 *e*PKP PKPbc 02 49 05.7 +0.6
KECS *e* 02 49 16.5
MANZ Manzenberg 147.60 354 *e*PKPbc PKPbc 02 49 05.9 +0.6
VRI Vrincioaia 147.60 334 PKP2 PKPab 02 49 06.4 -1.2
VRI Vrincioaia 147.60 334 ⇓*i*P PKPbc 02 49 06.3 +0.8
VRAC Vranov 147.61 348 PKP2 PKPab 02 49 04.7 -2.8
VRAC pmax pmax
comp=Z,10.0nm,0.9s
VRAC Vranov 147.61 348 P PKPbc 02 49 06.1 +0.7
VRAC Vranov 147.61 348 PKPbc PKPbc 02 49 04.7 -0.7
comp=Z,9.7nm,0.9s,baz=43,slow=0.7,SNR=25
VRAC Vranov 147.61 348 ⇑*i*P PKPbc 02 49 05.9 +0.5
PLOR Plostina 147.65 334 PKP2 PKPab 02 49 08.3 +0.5
DOU Dourbes 147.66 3 PKP PKPdf 02 49 02.2 -0.5
DOU PKPbc PKPbc 02 49 05.8 +0.3
DOU PKPab PKPab 02 49 07.5 -0.2
ROTZ Rotzenmuhle 147.80 354 *e*PKPbc PKPbc 02 49 06.3 +0.4
ROTZ *e*PP PP 02 52 30.2 -1.9
TREC Trest 147.82 350 *e*PKP PKPdf 02 49 04.3 +1.3
TREC AMS AMS 04 00 00.0
comp=Z,800nm,20.6s
VYHS Vyhne 147.90 345 *e*PKPbc PKPdf 02 49 04.8 +1.6
KOLL Kolacno 147.92 346 *e*PKP PKPdf 02 49 05.3 +2.1
KOLL *e* 02 49 07.4
ABH Alteburg 147.94 360 PKP PKPdf 02 49 05.3 +2.1
TIRR Tirgusor 147.96 331 PKP2 PKPbc 02 49 06.1 -0.4
TIRR Tirgusor 147.96 331 ⇑*i*P PKPbc 02 49 06.3 -0.2
GRA1 Grafenberg Arr 147.97 355 *e*PKPbc PKPbc 02 49 07.2 +0.9
GRA1 LR LR
comp=Z,700nm,18.0s,MS5.5
GRF Grafenberg Arr 147.97 355 *e*PKPbc PKPbc 02 49 07.2 +0.9
GRF *e*L 04 05 52.2
comp=Z,696nm,18.0s
GRFO Grafenberg 147.97 355 *e*PKPbc PKPbc 02 49 05.7 -0.6
GRFO *e*PKPab PKPab 02 49 08.7 -0.3
GRFO LR LR
comp=Z,430nm,20.0s,MS5.2
HARR Harsova 148.00 332 PKP2 PKPbc 02 49 06.9 +0.3
RUP Ruppelstein 148.12 0 PKIKP PKPdf 02 49 05.5 +2.0
WLF Walferdange 148.15 1 *e*PKPbc PKPbc 02 49 07.3 +0.5
WLF *e*PKPab PKPab 02 49 09.8 +0.1
WLF Walferdange 148.15 1 PKPbc PKPbc 02 49 06.9 +0.1
WLF PKPab PKPab 02 49 09.8 +0.1
WLF APKPbc 02 49 15.8
WLF Walferdange 148.15 1 *e*PKPbc PKPbc 02 49 07.7 +0.9
PSZ Piszkesteto 148.16 344 *e*PKIKP PKPbc 02 49 06.0 -0.9
PSZ Piszkesteto 148.16 344 ⇓*e*PKP PKPbc 02 49 07.1 +0.2
PSZ Piszkesteto 148.16 344 ⇑*i*P PKPbc 02 49 07.1 +0.2
FURI Furi 148.18 258 *i* P PKPbc 02 49 10.6 +2.6
TOD Tromm 148.19 358 PKIKP PKPdf 02 49 04.8 +1.2
MLR Muntele Rosu 148.23 335 PKIKP PKPbc 02 49 06.0 -1.1
MLR Muntele Rosu 148.23 335 PKPbc PKPbc 02 49 07.0 -0.2
comp=Z,16nm,1.1s,baz=98,slow=0.4,SNR=15
MLR Muntele Rosu 148.23 335 ⇓*i*P PKPbc 02 49 08.1 +1.0
KHC Kasperske Hory 148.27 352 *e*PKIKP PKPdf 02 49 05.3 +1.5
KHC *e* 02 49 08.0
KHC MLR MLR
comp=Z,700nm,18.6s,MS5.5
KHC Kasperske Hory 148.27 352 *e*PKP PKPdf 02 49 05.3 +1.5
KHC *ex* x 02 49 08.0
KHC *ex* x 02 49 37.0
KHC AMS AMS 04 01 40.0
comp=Z,700nm,18.6s
DRGR 148.33 340 PKIKP PKPdf 02 49 05.9 +2.0
DRGR 148.33 340 ⇑*i*P PKPbc 02 49 08.5 +1.1
WET Wettzell 148.34 353 *e*PKPdf PKPdf 02 49 05.8 +1.9
MODS Modra-Piesok 148.37 347 *e*PKP PKPbc 02 49 08.1 +0.7
FLN La Foliniere 148.44 10 *e*PKIKP PKPdf 02 49 04.0 -0.1
PENC Penc 148.44 344 ⇓*e*P PKPdf 02 49 07.0 +2.9
GEC2 GERESS Array S 148.53 352 *e*PKPdf PKPdf 02 49 05.8 +1.6
GERES GERESS Array B 148.53 352 PKP2 PKPbc 02 49 08.7 +0.9
GERES pmax pmax
comp=Z,5.0nm,0.7s
GERES GERESS Array B 148.53 352 PKPbc PKPbc 02 49 08.7 +0.9
comp=Z,4.8nm,0.7s,baz=329,slow=2.3,SNR=40
ZST Bratislava 148.57 347 *e*PKP PKPdf 02 49 05.2 +0.9
ZST *e* 02 49 08.9
ZST LR LR
comp=Z,400nm,18.4s,MS5.2
ZST Bratislava 148.57 347 *e*PKP PKPdf 02 49 05.2 +0.9
ZST *e* 02 49 08.9
VOIR 148.63 336 PKIKP PKPdf 02 49 05.5 +1.0
VOIR 148.63 336 ⇓*i*P PKPbc 02 49 09.1 +0.9
PSN Preselentsi 148.66 330 P PKPbc 02 49 10.3 +2.0
LDF La Druitiere 148.66 9 *e*PKIKP PKPdf 02 49 04.9 +0.5
comp=Z,63nm,1.4s
QUIF Quistinic 148.74 13 *e*PKIKP PKPdf 02 49 04.6 0.0
comp=Z,40nm,1.2s
GRR Gorron 148.74 10 *e*PKIKP PKPdf 02 49 05.0 +0.4
comp=Z,32nm,1.3s
ANTO Ankara 148.75 320 PKIKP PKPdf 02 49 07.7 +2.8
ANTO Ankara 148.75 320 ⇑*i*P PKPbc 02 49 08.9 +0.2
BUD Budapest 148.79 344 ⇑*e*PKP2 PKPbc 02 49 08.8 +0.3
BUD Budapest 148.79 344 ⇑*e*PKP PKPbc 02 49 08.8 +0.3
LANF Langenberg 148.84 359 PKP PKPdf 02 49 06.3 +1.6
STU Stuttgart 149.01 357 *e*PKPbc PKPbc 02 49 11.0 +1.9
PKSG 149.04 345 ⇓*e*P PKPbc 02 49 09.7 +0.5
SOP Sopron 149.17 348 ⇓*e*PKP PKPbc 02 49 11.2 +1.7
PRD Provadia 149.39 330 P PKPdf 02 49 07.4 +1.6
CDF Champ du Feu 149.41 360 *e*PKIKP PKPdf 02 49 06.1 +0.5
MOA Molln 149.42 351 ⇑*i*P PKPdf 02 49 05.4 -0.3
comp=Z,40nm,1.4s,SNR=7.9
FUR Furstenfeldbru 149.48 355 *e*PKPdf PKPdf 02 49 07.3 +1.5
FUR *e*PKPbc PKPbc 02 49 11.3 +1.1
BFO Black Forest 149.48 359 *e*PKPdf PKPdf 02 49 07.4 +1.6
BFO *e*PKPbc PKPbc 02 49 10.5 +0.3
BFO *e*PP PP 02 52 43.3 +1.4
GZR Gura Zlata 149.52 338 PKP2 PKPbc 02 49 13.0 +2.6
THEF They Montfort 149.58 2 PKP PKPdf 02 49 05.1 -0.8
ASF Jabal al Asfar 149.61 304 PKP2 PKPbc 02 49 11.8 +0.7
ASF pmax pmax
comp=Z,4.0nm,1.0s
ASF Jabal al Asfar 149.61 304 PKPbc PKPbc 02 49 11.8 +0.7
comp=Z,4.2nm,1.0s,baz=272,slow=1.3,SNR=5.9
ECH Echery 149.61 0 PKP PKPdf 02 49 05.5 -0.5
BZS Buzias 149.72 340 PKIKP PKPbc 02 49 08.7 -2.2
BZS Buzias 149.72 340 ⇑*i*P PKPbc 02 49 11.0 +0.1
ARSA Arzberg 149.79 349 ⇑*i*P PKPdf 02 49 05.3 -0.9
comp=Z,29nm,1.5s,SNR=7.2
HAU Haudompre 149.81 1 *e*PKIKP PKPdf 02 49 06.9 +0.6
BHL Bhannes 149.89 308 *e*P PKPbc 02 49 12.2 +0.4
FELD Feldberg im Sc 149.94 359 PKP PKPdf 02 49 08.3 +1.8
ZIMR 149.95 333 PKP2 PKPbc 02 49 12.5 +0.9
MOF Molkenrain 149.97 0 PKP PKPdf 02 49 07.0 +0.4
HINF Hinteralfeld 150.01 0 *e*PKIKP PKPdf 02 49 07.3 +0.7
SZH Strazhica 150.02 332 P PKPdf 02 49 07.2 +0.4
PKSM Moragy 150.07 344 PKHKP PKPbc 02 49 07.5 -4.2
PKSM Moragy 150.07 344 ⇑*i*P PKPbc 02 49 11.7 0.0
MOTA Moosalm 150.31 355 ⇓*i*P PKPdf 02 49 08.6 +1.5
comp=Z,12nm,0.8s,SNR=16
HYF Humbligny 150.32 6 *e*PKIKP PKPdf 02 49 07.8 +0.7
WTTA Wattenberg 150.34 354 ⇑*i*P PKPdf 02 49 08.2 +1.1
comp=Z,74nm,1.4s,SNR=12
WTTA Wattenberg 150.34 354 ⇑*i*P PKPdf 02 49 08.2 +1.1
BBS Basel-Blauen 150.36 360 PKHKP 02 49 09.2
LOR Lormes 150.43 5 *e*PKIKP PKPdf 02 49 07.7 +0.4
comp=Z,62nm,1.4s
SOKA Soboth 150.43 349 ⇓*i*P PKPdf 02 49 05.2 -2.1
comp=Z,46nm,1.2s
PERS Pernice 150.46 349 *i* PKPdf PKPdf 02 49 07.2 -0.2
PERS *e*PKPbc PKPbc 02 49 13.0 +0.4
DAVA Damuels 150.46 356 ⇑*i*P PKPdf 02 49 09.1 +1.7
comp=Z,66nm,1.3s,SNR=16
MFF Saint Martin d 150.59 10 *e*PKIKP PKPdf 02 49 07.4 -0.2

comp=Z,39nm,1.4s
SSF Saint Saulge 150.61 5 *e*PKIKP PKPdf 02 49 08.1 +0.5
comp=Z,81nm,1.6s
FETA Feichten 150.66 355 ⇑*i*P PKPdf 02 49 09.9 +2.3
comp=Z,67nm,1.3s,SNR=9.8
OBKA Obir 150.68 350 ⇑*i*P PKPdf 02 49 08.6 +0.9
comp=Z,22nm,1.6s,SNR=7.6
SEST Monte Rota 150.78 353 PKP PKPbc 02 49 13.4 0.0
AVF Avril sur Loir 150.86 5 *e*PKIKP PKPdf 02 49 08.2 +0.2
comp=Z,16nm,1.3s
FVI Forni Avoltri 150.86 352 PKIKP PKPdf 02 49 08.8 +0.8
DAVOX Davos/Dischmat 150.96 356 PKPbc PKPbc 02 49 15.0 +1.1
comp=Z,11nm,0.7s,baz=339,slow=3.6,SNR=17
PTCC Patocco-Chiusa 150.97 351 PKP PKPdf 02 49 07.3 -0.9
BGF Bois d'Agland 151.04 6 *e*PKIKP PKPdf 02 49 08.6 +0.3
comp=Z,42nm,1.2s
SMF Signal de Mont 151.05 5 *e*PKIKP PKPdf 02 49 08.9 +0.6
comp=Z,71nm,1.7s
CSS Prodhromos 151.11 312 *e*PKPbc PKPbc 02 49 14.9 +0.3
GMNA Gemona 151.12 351 PKP PKPdf 02 49 09.0 +0.6
LJU Ljubljana 151.13 349 *i* PKPdf PKPdf 02 49 08.9 +0.5
LJU *i* PKPbc PKPbc 02 49 14.8 +0.6
CABF La Chapelle 151.20 2 *e*PKIKP PKPdf 02 49 09.6 +1.1
BRMO Bormio 151.23 355 PKP PKPdf 02 49 09.2 +0.7
TCF Toulx Ste Croi 151.24 7 *e*PKIKP PKPdf 02 49 09.2 +0.6
VOY Vojsko 151.25 350 *e*PKPdf PKPdf 02 49 09.2 +0.6
VOY *e*PKPbc PKPbc 02 49 15.3 +0.7
TUE Stuetta 151.30 357 PKP PKPdf 02 49 11.2 +2.5
JAVS Javornik 151.36 350 *i* PKPdf PKPdf 02 49 09.2 +0.4
JAVS *i* PKPbc PKPbc 02 49 15.0 +0.2
BOJS Bojanci 151.52 348 *i* PKPdf PKPdf 02 49 09.1 +0.1
BOJS *e*PKPbc PKPbc 02 49 15.2 0.0
CTI Castel Tesino 151.54 353 PKIKP PKPdf 02 49 09.3 +0.3
AGO Saint Agoulin 151.57 6 PKP PKPdf 02 49 12.3 +3.2
PLDF La Plantade 151.70 5 PKP PKPdf 02 49 10.4 +1.1
VTS Vitosha 151.73 335 PKIKP PKPdf 02 49 10.4 +1.0
VTS Vitosha 151.73 335 P PKPdf 02 49 10.9 +1.5
RZN Rozhen 151.82 331 P PKPdf 02 49 09.5 -0.1
PYM Petit Puy Mans 151.86 6 PKP PKPdf 02 49 10.9 +1.4
RJF Les Rejaudoux 152.12 9 *e*PKIKP PKPdf 02 49 10.2 +0.3
LPL La Plagne 152.31 1 *e*PKIKP PKPdf 02 49 10.8 +0.6
LPG La Plagne 152.33 1 *e*PKIKP PKPdf 02 49 11.0 +0.8
MMB Musomiste 152.34 333 P PKPdf 02 49 09.5 -0.9
KKB Krupnik 152.39 334 P PKPdf 02 49 09.5 -0.9
LBL Lubilhac 152.40 6 PKP PKPdf 02 49 11.6 +1.3
NVLJ Novalja 152.50 348 P PKPdf 02 49 10.3 -0.3
NVLJ Novalja 152.50 348 *i* P PKPdf 02 49 10.3 -0.3
CAF Calviac 152.56 8 *e*PKIKP PKPdf 02 49 10.8 +0.2
comp=Z,58nm,1.5s
BNI Bardonecchia 152.77 1 *e*PKIKP PKPdf 02 49 12.0 +1.1
ORIF Oris-en-Rattie 152.89 2 *e*PKIKP PKPdf 02 49 11.7 +0.6
VIVF Saint-Julien-l 152.89 4 *e*PKIKP PKPdf 02 49 11.0 -0.1
BOB Bobbio (Coli) 153.00 356 PKP PKPab 02 49 29.8 0.0
MBDF Montbardon 153.10 1 *e*PKIKP PKPdf 02 49 11.9 +0.5
STON Ston 153.41 343 P PKPdf 02 49 10.4 -1.5
STON Ston 153.41 343 *i* P PKPdf 02 49 10.4 -1.5
FNVD Fontana Vidola 153.45 354 PKP PKPdf 02 49 13.1 +1.2
LASF Ste Croix 153.60 5 *e*PKIKP PKPdf 02 49 12.5 +0.4
comp=Z,68nm,1.5s
SFI Santa Sofia 153.63 352 PKIKP PKPdf 02 49 12.5 +0.3
FSSB Fossombrone 153.71 351 PKP PKPdf 02 49 13.5 +1.2
SBF Sospel 153.96 360 *e*PKIKP PKPdf 02 49 12.5 -0.2
comp=Z,74nm,1.2s
SNTG Esanatoglia 154.11 350 PKP PKPdf 02 49 13.3 +0.4
EPF Esparros 154.13 12 *e*PKIKP PKPdf 02 49 13.1 +0.2
comp=Z,28nm,1.2s
MTLF Montolieu 154.14 8 *e*PKIKP PKPdf 02 49 12.5 -0.4
comp=Z,76nm,1.8s
FRF La Foret Royal 154.26 1 *e*PKIKP PKPdf 02 49 13.1 0.0
NRCA Norcia 154.49 350 PKP PKPdf 02 49 12.7 -0.7
AQU L'Aquila 154.91 349 *e*PKIKP PKPdf 02 49 13.9 -0.1
MNS Montasola 155.00 350 PKIKP PKPdf 02 49 13.3 -0.9
INTR Introdacqua 155.15 348 PKP PKPdf 02 49 13.0 -1.4
RNI2 Rionero Sannit 155.39 347 PKP PKPdf 02 49 11.8 -2.9
EVO Evora 155.39 30 *e*PKIKP PKPdf 02 49 14.8 0.0
comp=Z,64nm,1.5s
SANT Santorini 155.41 323 *e*PKPbc PKPdf 02 49 23.2 +8.3
SDI San Donato 155.46 348 PKIKP PKPdf 02 49 14.4 -0.4
PAB San Pablo 156.07 22 PFAKE 02 49 30.0 +14
PAB LR LR
comp=Z,477nm,21.0s,MS5.3
ESDC Sonseca Array 156.10 22 PKPab PKPab 02 49 41.9 -1.2
comp=Z,2.0nm,1.0s,baz=333,slow=2.9,SNR=5.7
ESLA Sonseca Array 156.10 22 PFAKE 02 49 30.0 +14
ESLA LR LR
comp=Z,3μm,19.0s,MS6.2
TIP Timpagrande 157.08 341 *e*PKPdf PKPdf 02 49 17.4 +0.3
TIP *e*PKPab PKPab 02 49 49.2 +1.8
LIC Lamto 163.46 132 ⇑*i*PKP2 PKPab 02 50 15.8 -0.1
comp=Z,82nm,1.6s
LIC *e*MLR MLR
comp=Z,945nm,19.0s
DBIC Dimbokro 163.89 132 PFAKE 02 49 40.0 +15
DBIC LR LR
comp=Z,862nm,19.0s
TOA0 Torodi Ar. Sit 172.99 130 *e*PKPdf PKPdf 02 49 31.5 +0.3
TOA0 *e*PKPab PKPab 02 50 58.2 +0.1
TORD Torodi Ar. Bea 172.99 130 PKP PKPdf 02 49 30.1 -1.1
comp=Z,6.3nm,1.1s,baz=334,slow=1.3,SNR=17
TORD PKPab PKPab 02 50 57.8 -0.3
comp=Z,14nm,1.1s,baz=258,slow=3.3,SNR=15
TORD PP PP 02 54 51.1 +1.9
comp=Z,1.9nm,1.1s,baz=230,slow=3.1,SNR=3.8

ISCJB ***26*** *02:35:39.0±0.5, 36.79N±002×36.54E±004, h10km±4km, Error ellipse: s-maj=4.9km s-min=3.3km az=18.8*
CSEM ***26*** *02:35:38.6±0.1, 36.76N×3657E, h8km, Mc1.2, Error ellipse: s-maj=3.3km s-min=2.6km az=115.0*
ISK ***26*** *02:35:38.8, 3680N×3658E, h5km, MD2.9*
DDA ***26*** *02:35:41.2, 3701N×3654E, h19km, Md2.9*
NSSC ***26*** *02:35:41.0, 3668N×3661E, h11km*
ISC 26 02:35:39.3±0.4, 3678N±002×3655E±004, h10km±4km, n21, σ0:91/36, 7D, Jordan - Syria region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DRWC	**Darouich**	**0.18**	**150**	⇓P	**Pg**	**02 35 43.4**	**+0.3**
DRWC				⇓S	**Sg**	**02 35 45.9**	**+0.2**
DRWC	**Darouich**	**0.18**	**150**	⇓*i*P	**Pg**	**02 35 43.4**	**+0.3**
GAZ	**Gaziantep**	**0.66**	**53**	*e*PG	**Pg**	**02 35 51.2**	**-0.8**
GAZ				*e*SG	**Sg**	**02 36 00.8**	**+0.2**
CEYT	**Ceyhan**	**0.69**	**290**	*e*PG	**Pg**	**02 35 52.6**	**+0.2**
HTY	**Hatay**	**0.73**	**207**	*e*PG	**Pg**	**02 35 54.4**	**+1.0**
HTY				*e*SG	**Sg**	**02 36 04.7**	**+1.7**
BTCH	**Batrach**	**0.74**	**186**	⇑P	**Pg**	**02 35 53.7**	**+0.2**
BTCH				⇑S	**Sg**	**02 36 02.5**	**-0.8**
BTCH	**Batrach**	**0.74**	**186**	⇑*i*P	**Pg**	**02 35 53.7**	**+0.1**
KMRS	**Kahramanmaras**	**0.78**	**21**	*e*PG	**Pg**	**02 35 53.8**	**-0.4**
ANDN	**Andirin**	**0.82**	**348**	*i* P	**Pg**	**02 35 52.1**	**-2.9**
ANDN				*i* S	**Sg**	**02 36 04.5**	**-1.2**
KOZT	**Kozan**	**0.91**	**321**	*e*PG	**Pg**	**02 35 56.5**	**-0.3**
KOZT				*e*SG	**Sg**	**02 36 09.8**	**+1.2**
GZT	**Gaziantep**	**0.99**	**54**	*i* P	**Pg**	**02 35 56.7**	**-1.6**
GZT				*i* S	**Sg**	**02 36 12.8**	**+1.5**
ARNB	**Al Arnab**	**1.03**	**207**	⇑P	**Pg**	**02 35 59.0**	**0.0**
ARNB				⇑S	**Sg**	**02 36 12.4**	**0.0**
SLNF	**Slenfeh**	**1.21**	**193**	⇑P	**Pn**	**02 36 02.1**	**-0.1**
SLNF				⇑S	**Sb**	**02 36 17.5**	**-0.4**
SLNF	**Slenfeh**	**1.21**	**193**	⇑*i*P	**Pn**	**02 36 02.1**	**-0.1**
SLNF				⇑*i*S	**Sb**	**02 36 17.5**	**-0.4**
SLMH	**Al Salmeh**	**1.24**	**116**	⇓P	**Pn**	**02 36 02.5**	**-0.2**
SLMH				⇓S	**Sb**	**02 36 18.0**	**-0.9**
SLMH	**Al Salmeh**	**1.24**	**116**	⇓*i*P	**Pn**	**02 36 02.5**	**-0.2**
SLMH				⇓*i*S	**Sb**	**02 36 18.0**	**-0.9**
WRDH	**Warideh**	**1.27**	**185**	⇑P	**Pn**	**02 36 02.8**	**-0.3**
WRDH				⇑S	**Sb**	**02 36 18.6**	**-1.1**
WRDH	**Warideh**	**1.27**	**185**	⇑*i*P	**Pn**	**02 36 02.8**	**-0.3**
WRDH				⇑*i*S	**Sb**	**02 36 18.6**	**-1.1**
ATAB	**Bozova**	**1.56**	**63**	*i* P	**Pn**	**02 36 07.0**	**0.0**
ATAB				*i* S	**Sn**	**02 36 28.4**	**+1.2**
URFA	**Urfa**	**1.93**	**69**	*e*PN	**Pn**	**02 36 13.2**	**+1.1**
MALT	**Malatya**	**2.14**	**44**	*e*PN	**Pn**	**02 36 15.9**	**+0.9**

IDC ***26*** *02:41:27.2±1.7, 7.17S×156.51E, h0km, mb4.1/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.1/4, Error ellipse: s-maj=52.7km s-min=36.1km az=103.0*
NEIC ***26*** *02:41:28.6±1.2, 7.23S×156.56E, h10km, mb4.3/2, Error ellipse: s-maj=30.7km s-min=18.8km az=106.0*
ISCJB ***26*** *02:41:31.2±1.5, 7.3S±02×156.5E±02, h33km, mb4.2/7,*

Error ellipse: s-maj=34.4km s-min=21.4km az=15.2

ISC 26 02:41:33.2±1.5,73S±02×1565E±02,h35km,n13,σ0°90/12, mb4.2/7,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
KAKA	Kakadu	24.25	255	eP	P	02 46 48.2	+1.0
	23nm,0.6s,mb4.8						
KAKA	Kakadu	24.25	255	eP	P	02 46 47.7	+0.5
	20nm,0.6s,mb4.7						
WRAB	Tennant Creek	24.86	237	eP	P	02 46 51.1	-1.6
	8.2nm,1.1s,mb4.2						
WB2	Warramunga Arr	24.86	237	eP	P	02 46 53.7	+1.0
WB2	Warramunga Arr	24.86	237	eP	P	02 46 53.3	+0.6
WRA	Warramunga Arr	24.88	237	P	P	02 46 52.9	+0.1
	5.9nm,1.1s,mb4.0,baz=63,slow=9.6,SNR=11						
ASAR	Alice Springs	27.10	231	P	P	02 47 12.5	-0.5
	0.9nm,0.8s,mb3.3,baz=66,slow=7.9,SNR=6.0						
STKA	Stephens Creek	28.14	208	P	P	02 47 21.8	-0.3
CHTO	Chiang Mai	62.32	296	eP	P	02 51 53.7	+1.2
	2.1nm,0.9s,mb4.3						
QSPA	South Pole Qui	82.72	180	P	P	02 53 53.7	+0.9
	2.6nm,1.1s,mb4.2,baz=164,slow=1.9,SNR=8.7						
MK31	Makanchi Array	84.56	318	eP	P	02 54 01.4	-1.4
MKAR	Makanchi Array	84.56	318	P	P	02 54 02.8	-0.1
	2.3nm,0.8s,mb4.3,baz=100,slow=5.9,SNR=20						
TORD	Torodi Ar. Bea	154.49	285	PKPbc	PKPbc	03 01 30.1	-1.1
	1.3nm,1.0s,baz=100,slow=2.8,SNR=4.3						

*NEIC **26** 02:41:39.9±0.3,690S×15594E,h10km,mb4.8/19,Error ellipse: s-maj=8.6km s-min=6.5km az=113.0*
*MOS **26** 02:41:43.2±0.8,686S×15569E,h33km,mb4.9/11,Error ellipse: s-maj=12.4km s-min=10.3km az=85.8*
*IDC **26** 02:41:44.2±0.7,702S×15591E,h38km±4km,mb4.1/13, mb1 4.2/14,mb1mx4.2/17,mbtmp4.1/14,ML4.2/1,Error ellipse: s-maj=27.4km s-min=14.4km az=90.0*
*ISCJB **26** 02:41:46.5±1.8,700S±007×15577E±006,h68km±17km, mb4.5/33,Error ellipse: s-maj=12.0km s-min=9.5km az=161.4*

ISC 26 02:41:48.5±1.5,702S±007×15577E±006,h72km±15km, h42km±2.7km:pP-P,n101,σ0°67/78,mb4.5/33,1C, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
HNR	Honiara	4.78	120	P	Pn	02 42 57.5	-0.6
HNR						02 43 52.8	
HNR				pmax	pmax		
	comp=Z,11nm,0.3s						
HNR				smax			
	comp=N,26nm,0.3s						
HNR	Honiara	4.78	120	ePn	Pn	02 42 50.9	-7.2
HNR				Sn	Sn	02 43 52.8	+0.6
HNR	Honiara	4.78	120	Pn	Pn	02 42 57.5	-0.6
	comp=N,11nm,0.3s,baz=233,slow=2.0,SNR=2.4						
HNR				Sn	Sn	02 43 52.8	+0.6
	comp=N,26nm,0.3s,baz=272,slow=7.3,SNR=3.9						
COEN	Coen	14.17	240	ePn	Pn	02 45 05.8	+0.1
CTA	Charters Tower	15.94	214	eP	Pn	02 45 31.5	+3.1
	comp=N,19nm,0.9s						
CTA	Charters Tower	15.94	214	Pn	Pn	02 45 28.4	-0.1
CTA				eP		02 45 31.5	
CTA	Charters Tower	15.94	214	Pn	Pn	02 45 28.4	-0.1
	comp=N,0.7nm,0.3s,baz=35,slow=14,SNR=7.5						
CTAO	Charters Tower	15.94	214	eP	Pn	02 45 27.4	-1.0
CTAO				pmax	pmax		
	comp=Z,42nm,1.1s						
CTAO	Charters Tower	15.94	214	eP	Pn	02 45 27.4	-1.1
	comp=Z,42nm,1.1s						
KAKA	Kakadu	23.66	254	eP	P	02 46 53.3	-0.3
	comp=Z,16nm,0.5s,mb4.6						
WRAB	Tennant Creek	24.42	236	eP	P	02 47 01.0	+0.5
WRAB				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.4						
WRAB	Tennant Creek	24.42	236	eP	P	02 47 01.0	+0.5
	comp=Z,16nm,0.8s,mb4.4						
WB2	Warramunga Arr	24.43	236	eP	P	02 47 01.2	+0.6
WRA	Warramunga Arr	24.44	236	P	P	02 47 01.2	+0.5
WRA						02 50 38.1	
WRA	Warramunga Arr	24.44	236	P	P	02 47 01.2	+0.5
WRA				PcP	PcP	02 50 38.1	-0.1
WRA	Warramunga Arr	24.44	236	P	P	02 47 01.2	+0.5
	comp=Z,4.8nm,0.9s,mb3.8,baz=60,slow=9.4,SNR=12						
WRA				PcP	PcP	02 50 38.1	-0.1
	comp=Z,1.8nm,0.9s,baz=62,slow=3.0,SNR=4.6						
ASAR	Alice Springs	26.74	229	P	P	02 47 20.8	-0.6
ASAR						02 50 42.2	
ASAR	Alice Springs	26.74	229	P	P	02 47 20.8	-0.6
ASAR				PcP	PcP	02 50 42.2	-1.1
ASAR				ScP	ScP	02 54 20.4	+3.0
ASAR	Alice Springs	26.74	229	P	P	02 47 20.8	-0.6
	comp=Z,1.0nm,0.3s,mb3.8,baz=59,slow=9.8,SNR=20						
ASAR				PcP	PcP	02 50 42.2	-1.1
	comp=Z,1.3nm,1.0s,baz=36,slow=3.4,SNR=4.8						
ASAR				ScP	ScP	02 54 20.4	+3.0
	comp=Z,0.6nm,0.8s,baz=35,slow=3.5,SNR=5.2						
STKA	Stephens Creek	28.05	206	eP	P	02 47 33.1	0.0
	comp=Z,4.0nm,0.5s,mb4.2						
STKA	Stephens Creek	28.05	206	eP	P	02 47 32.9	-0.2
STKA	Stephens Creek	28.05	206	P	P	02 47 32.5	-0.6
	comp=Z,3.1nm,0.7s,mb3.9,baz=10,slow=14,SNR=5.8						
FITZ	Fitzroy Crossi	31.35	247	eP	P	02 48 02.2	-0.3
	comp=Z,24nm,0.7s,mb5.0						
FITZ	Fitzroy Crossi	31.35	247	eP	P	02 48 02.3	-0.2
	comp=Z,22nm,0.6s,mb5.1						
FITZ				e		02 48 12.7	
FORT	Forrest	35.10	224	eP	P	02 48 34.8	-0.2
	comp=Z,14nm,0.6s,mb5.0						
URZ	Urewera	36.62	151	P	P	02 48 49.0	+1.1
	comp=Z,9.7nm,1.0s,mb4.7,baz=119,slow=10,SNR=2.9						
MBWA	Marble Bar	37.55	244	eP	P	02 48 55.2	-0.9
	comp=Z,7.3nm,0.6s,mb4.7						
RPZ	Rata Peaks	38.94	162	P	P	02 49 06.9	-0.4
	comp=Z,18nm,1.0s,mb4.9,baz=328,slow=2.3,SNR=3.8						
KKM	Kota Kinabalu	41.54	287	eP	P	02 49 25.5	-3.9
KLBR	Kellerberrin	43.06	230	eP	P	02 49 40.7	-0.7
	comp=Z,14nm,0.6s,mb4.8						
MJAR	Matsushiro Arr	46.35	340	P	P	02 50 06.6	-0.9
	comp=Z,0.5nm,0.3s,mb3.7,baz=155,slow=8.1,SNR=3.3						
MAJO	Matsushiro	46.35	340	eP	P	02 50 06.7	-0.8
MAJO				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.3						
MAJO	Matsushiro	46.35	340	eP	P	02 50 06.7	-0.8
	comp=Z,4.1nm,0.6s,mb4.3						
KSRS	Korea Array	51.32	332	P	P	02 50 45.5	0.0
KSRS				*PP	pP	02 50 57.6	-6.1
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.3						
KSRS	Korea Array	51.32	332	P	P	02 50 45.5	0.0
	comp=Z,0.3nm,0.3s,mb3.8,baz=276,slow=25,SNR=4.4						
KSRS				pP	pP	02 50 57.5	-6.1
	comp=Z,2.0nm,0.7s,baz=145,slow=6.8,SNR=3.8						
KULM	Kulim	56.34	281	eP	P	02 51 22.2	-0.5
CHG	Chiang Mai	61.60	296	⇑P	pP	02 52 11.5	-6.1
	comp=Z,39nm,1.1s						
CHTO	Chiang Mai	61.60	296	eP	P	02 51 59.2	+0.3
CHTO				pmax	pmax		
	comp=Z,33nm,1.3s,mb5.2						
CHTO	Chiang Mai	61.60	296	eP	P	02 51 59.1	+0.2
	comp=Z,32nm,1.3s,mb5.2						
ULN	Ulaanbaatar	69.43	327	eP	P	02 52 49.6	+0.7
ULN				e		02 53 01.5	
ULN				pmax	pmax		
	comp=Z,8.0nm,1.1s,mb4.5						
ULN	Ulaanbaatar	69.43	327	eP	P	02 52 49.6	+0.7
	comp=Z,7.5nm,1.1s,mb4.4						
ULN				e		02 53 01.5	
SONM	Songino Array	69.77	327	P	P	02 52 52.1	+1.2
	comp=Z,4.4nm,0.9s,mb4.3,baz=117,slow=5.3,SNR=9.2						
SONM				pP	pP	02 53 02.9	-7.1
	comp=Z,6.0nm,0.9s,baz=129,slow=6.0,SNR=7.0						
VNDA	Vanda	70.54	179	eP	P	02 52 55.3	0.0
VNDA				pmax	pmax		
	comp=Z,17nm,1.9s						
VNDA	Vanda	70.54	179	eP	P	02 52 55.3	0.0
	comp=Z,17nm,1.9s,mb4.5						
VNDA	Vanda	70.54	179	P	P	02 52 54.4	-0.9
	comp=Z,1.6nm,0.9s,mb3.9,baz=350,slow=7.2,SNR=5.8						
ZAK	Zakamensk	72.92	328	*i* P	P	02 53 10.2	+0.3
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.3s,mb4.1						
BILL	Bilibino	75.25	4	eP	P	02 53 23.4	+0.3
BILL				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.3						
BILL	Bilibino	75.25	4	eP	P	02 53 23.0	-0.1
	comp=Z,14nm,1.1s,mb4.6						
JIRN	Jiri	75.45	301	eP	P	02 53 26.0	+0.8
GUN	Gumba	75.78	301	eP	P	02 53 27.8	+0.7
	comp=Z,21nm,0.8s,mb4.9						
PKI	Pulchoki	76.09	301	eP	P	02 53 29.3	+0.5
KKN	Kakani	76.26	301	eP	P	02 53 30.2	+0.4
DMN	Daman	76.36	301	eP	P	02 53 31.3	+0.9
	comp=Z,12nm,0.6s,mb4.8						
GKN	Gorkha	76.87	301	eP	P	02 53 33.6	+0.4
KOLN	Koldanda	77.69	300	eP	P	02 53 38.3	+0.5
	comp=Z,6.7nm,0.5s,mb4.7						
DANN	Dangsing	77.70	301	eP	P	02 53 38.0	+0.1
HYB	Hyderabad	80.00	289	eP	P	02 54 00.0	+9.3
COLA	College	82.82	21	eP	P	02 54 03.4	-1.2
COLA				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
COLA	College	82.82	21	eP	P	02 54 03.4	-1.2
	comp=Z,4.0nm,0.9s,mb4.2						
QSPA	South Pole Qui	82.96	180	eP	P	02 54 04.6	-0.6
	comp=Z,13nm,1.0s,mb4.7						
QSPA	South Pole Qui	82.96	180	P	P	02 54 05.0	-0.1
	comp=Z,5.3nm,0.8s,mb4.4,baz=360,slow=2.6,SNR=12						
MK31	Makanchi Array	83.93	319	eP	P	02 54 11.2	+0.6
MKAR	Makanchi Array	83.93	319	P	P	02 54 11.4	+0.8
MKAR	Makanchi Array	83.93	319	P	P	02 54 11.4	+0.8
	comp=Z,3.2nm,0.6s,mb4.3,baz=102,slow=6.0,SNR=25						
KAD	Karad	84.09	288	*i* P	P	02 54 11.8	-0.3
MAW	Mawson	84.67	203	eP	P	02 54 14.4	+0.3
MAW				*e*		02 54 27.1	
MAW				pmax	pmax		
	comp=Z,16nm,0.5s						
MAW	Mawson	84.67	203	eP	P	02 54 14.4	+0.3
	comp=Z,16nm,0.5s,mb5.2						
MAW				*e*		02 54 27.1	
MAW	Mawson	84.67	203	P	P	02 54 14.6	+0.6
	comp=Z,2.0nm,0.3s,mb4.5,baz=164,slow=6.2,SNR=12						
UCH	Uchtor	88.23	313	eP	P	02 54 32.8	+0.9
	comp=Z,2.4nm,0.8s,mb4.3						
EKS2	Erkin-Say	88.85	313	eP	P	02 54 34.9	+0.1
	comp=Z,1.5nm,0.8s,mb4.1						
INK	Inuvik	89.47	21	eP	P	02 54 36.6	-0.6
KBL	Kabul	91.24	304	eP	P	02 54 45.0	-1.2
KBL				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.7						
KBL	Kabul	91.24	304	eP	P	02 54 45.0	-1.2
	comp=Z,3.2nm,0.5s,mb4.7						
BVAR	Borovoye Array	92.77	323	P	P	02 54 51.8	-1.0
	comp=Z,1.8nm,0.7s,mb4.5,baz=98,slow=7.6,SNR=10						
BVAR				pP	pP	02 55 05.1	-7.5
	comp=Z,1.1nm,0.6s,baz=106,slow=4.8,SNR=4.7						
BRVK	Borovoye	92.84	323	eP	P	02 54 52.2	-0.9
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.7						
BRVK	Borovoye	92.84	323	eP	P	02 54 52.2	-1.0
	comp=Z,3.2nm,0.8s,mb4.7						
YKA	Yellowknife Ar	96.00	28	P	P	02 55 06.9	-0.5
	comp=Z,0.4nm,0.8s,mb3.9,baz=269,slow=4.2,SNR=5.1						
ARCES	ARCESS Array B	109.83	343	PKPdf	PKiKP	03 00 10.0	-0.8
ARCES	ARCESS Array B	109.83	343	PKiKP	PKiKP	03 00 10.0	-0.8
	comp=Z,1.2nm,0.7s,baz=83,slow=2.8,SNR=6.1						
FINES	FINESS Array B	114.27	336	PKP	PKiKP	03 00 18.4	-1.1
	comp=Z,1.7nm,0.9s,baz=90,slow=3.8,SNR=5.1						
AKASG	Malin Array Be	118.00	325	PKP	PKPdf	03 00 25.7	-1.3
	comp=Z,1.4nm,0.6s,baz=58,slow=2.3,SNR=7.9						
AKASG				pPKP	pPKPdf	03 00 38.2	-9.3
	comp=Z,0.7nm,0.4s,baz=52,slow=2.0,SNR=5.0						
HFS	Hagfors	119.80	339	PKP	PKPdf	03 00 29.4	-0.8
	comp=Z,0.8nm,0.5s,baz=242,slow=3.1,SNR=5.4						
NOA	NORSAR Array B	119.97	341	PKP	PKPdf	03 00 30.0	-0.5
	comp=Z,1.1nm,0.7s,baz=47,slow=2.0,SNR=4.0						
BOSA	Boshof	120.60	231	PKP	PKPdf	03 00 33.7	+1.0
	comp=Z,1.5nm,0.8s,baz=34,slow=3.6,SNR=2.8						
LBTB	Lobatse	122.00	235	ePKIKP	PKPdf	03 00 35.8	+0.3
MORC	Moravsky Berou	124.91	328	ePKIKP	PKPdf	03 00 40.4	+0.1
BRG	Berggiesshubel	126.03	331	ePKIKP	PKPdf	03 00 42.3	-0.1
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
BRG				pmax	pmax		
	comp=Z,2.0nm,0.9s						
CLL	Collm	126.19	332	*i* PKPdf	PKPdf	03 00 42.7	0.0
	comp=Z,4.0nm,0.9s						
CLL				*ex*	x	03 00 56.0	
GERES	GERESS Array B	127.47	329	PKP	PKPdf	03 00 45.5	+0.2
	comp=Z,1.8nm,0.8s,baz=60,slow=2.3,SNR=17						
GERES				pPKP	pPKPdf	03 00 57.8	-8.0
	comp=Z,1.0nm,0.6s,baz=71,slow=2.1,SNR=6.8						
BOJS	Bojanci	128.68	325	*i* Pdiff	PKPdf	03 00 47.9	+0.2
VISS	Visnje	128.74	326	ePdiff	PKPdf	03 00 47.7	-0.1
LJU	Ljubljana	128.77	326	*i* Pdiff	PKPdf	03 00 48.3	+0.5
EKA	Eskdalemuir Ar	128.96	345	PKP	PKPdf	03 00 48.1	+0.3
	comp=Z,0.6nm,0.6s,baz=40,slow=2.8,SNR=4.1						
DAVOX	Davos/Dischmat	130.76	329	PKP	PKPdf	03 00 52.8	+1.2
	comp=Z,2.1nm,0.7s,baz=98,slow=15,SNR=3.6						
BNI	Bardonecchia	133.57	330	ePKIKP	PKPdf	03 00 57.4	+0.5
BDFB	Brasilia	147.42	134	PKPbc	PKPbc	03 01 24.2	-1.0
	comp=Z,4.1nm,0.9s,baz=170,slow=22,SNR=6.3						
TOA0	Torodi Ar. Sit	153.77	285	ePKPbc	PKPbc	03 01 39.9	-0.6
TORD	Torodi Ar. Bea	153.77	285	PKPbc	PKPbc	03 01 39.8	-0.6
TORD				pPKPbc	pPKPbc	03 01 52.1	-8.8
TORD	Torodi Ar. Bea	153.77	285	PKPbc	PKPbc	03 01 39.8	-0.6
	comp=Z,3.1nm,1.0s,baz=85,slow=2.4,SNR=10.0						
TORD				pPKPbc	pPKPbc	03 01 52.1	-8.8
	comp=Z,2.2nm,0.9s,baz=87,slow=1.9,SNR=5.3						
DBIC	Dimbokro	160.76	270	PKP2	PKPab	03 02 21.7	-2.1
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.7s						
DBIC	Dimbokro	160.76	270	PKPab	PKPab	03 02 21.6	-2.1
	comp=Z,4.2nm,0.7s,baz=84,slow=2.9,SNR=4.7						

*ISCJB **26** 02:44:45.4±0.2,3593S±004×10306W±006,h10km, mb4.9/110,MS5.0/20,Error ellipse: s-maj=7.3km s-min=5.1km az=150.7*
*IDC **26** 02:44:45.3±0.4,3594S×10319W,h0km,mb4.8/26, mb1 4.9/27,mb1mx4.9/29,mbtmp4.8/27,ML4.6/1,MS4.9/14, Ms1 4.9/14,ms1mx4.6/25,Error ellipse: s-maj=12.6km s-min=11.8km az=120.0*
*MOS **26** 02:44:45.5±1.1,3588S×10312W,h10km,mb5.2/40,Error ellipse: s-maj=15.2km s-min=7.7km az=87.4*
*GCMT **26** 02:44:46.9±0.1,3596S×10311W,h20km,MW5.5/97, Moment Tensor Solution. s82,c140; s97,c182; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.01±.03; $M_{\theta\theta}$-0.52±.03; $M_{\phi\phi}$0.52±.03; $M_{r\theta}$0.12±.06; $M_{\theta\phi}$-1.98±.03; $M_{\phi r}$-0.09±.06; Best double couple: $M_0$2.05400×10^{17} NP1:ϕ_s187.00000°,δ86.00000°, λ2.00000°. NP2:θ_s97.00000°,δ88.00000°,λ176.00000°. Principal axes: T 2.0630, Plg4.0000°, Azm52.0000°; N -0.0180, Plg86.0000°, Azm249.0000°; P -2.0450, Plg1.0000°, Azm142.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **26** 02:44:46.9±0.2,3593S×10310W,h10km,mb5.1/96 Error ellipse: s-maj=6.3km s-min=5.0km az=69.0*
*BJI **26** 02:44:47.3,3603S×10301W,h10km,mB5.2,Ms5.4, Msz5.2*

ISC 26 02:44:50.9±3.8,3594S±004×10304W±006,h34km±26km, n547,σ0°68/455,mb5.0/109,MS5.0/20,91C-101D, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase Op	ID ISC	Time h m s	Res ISC
RPN	Rapa Nui	10.29	327	Pn	Pn	02 47 14.7	-1.5
	4.8nm,0.3s,baz=138,slow=4.9,SNR=8.3						
RPN				T		02 57 27.5	
	190nm,0.3s,baz=206,slow=6.6,SNR=6.2						
PLCA	Paso Flores	25.84	111	eP	P	02 50 19.5	+0.4
PLCA				pmax	pmax		
	comp=Z,39nm,1.3s						
PLCA	Paso Flores	25.84	111	eP	P	02 50 19.5	+0.4
	comp=Z,39nm,1.3s,mb4.8						
PLCA	Paso Flores	25.84	111	P	P	02 50 20.2	+1.1
	comp=Z,20nm,0.9s,mb4.6,baz=272,slow=7.5,SNR=22						
PLCA				LR	LR	02 57 55.1	
	comp=Z,1μm,19.6s,MS4.4,baz=264,slow=30						
LMEL	Las Melosas	26.94	95	eP	P	02 50 31.9	+2.7
FCH	Farellones	27.00	94	eP	P	02 50 29.9	+0.2
LCO	Las Campanas	28.05	85	eP	P	02 50 39.0	-0.1
	comp=Z,34nm,1.1s,mb4.9						
CFAA	Coronel Fontan	29.15	92	P	P	02 50 49.7	+0.8
CFAA	Coronel Fontan	29.15	92	P	P	02 50 49.7	+0.9
	comp=Z,0.6nm,0.9s,baz=247,slow=8.2,SNR=8.9						
USHA	Ushuaia	30.34	139	P	P	02 51 00.2	+1.1
	comp=Z,36nm,0.9s,mb5.1,baz=270,slow=8.0,SNR=8.2						
USHA				LR	LR	03 00 08.6	
	comp=Z,4μm,21.3s,MS5.0,baz=306,slow=30						
LVC	Limon Verde	32.42	75	eP	P	02 51 19.1	+1.3
	comp=Z,40nm,1.1s,mb5.2						
TRQA	Tornquist	32.67	106	eP	P	02 51 20.2	+0.3
	comp=Z,14nm,1.2s,mb4.8						
NNA	Nana	33.58	51	eP	P	02 51 25.1	-2.9
	comp=Z,28nm,1.0s,mb5.2						
NNA	Nana	33.58	51	P	P	02 51 27.1	-0.9
	comp=Z,24nm,1.0s,mb5.1,baz=222,slow=9.8,SNR=8.0						
NNA				LR	LR	03 01 37.3	
	comp=Z,4μm,19.5s,MS5.1,baz=310,slow=30						
ARE	Arequipa	34.09	64	eP	P	02 51 33.0	+0.6
EFI	East Falkland	35.44	131	eP	P	02 51 44.8	+1.1
EFI				pmax	pmax		
	comp=Z,69nm,1.0s,mb5.5						
EFI	East Falkland	35.44	131	eP	P	02 51 44.8	+1.2
	comp=Z,69nm,1.0s,mb5.5						
ATAH	Atahualpa	36.59	44	P	P	02 51 54.4	+0.5
	comp=Z,19nm,0.8s,mb5.0,baz=195,slow=3.8,SNR=10						
ATAH				LR	LR	03 03 05.3	
	comp=Z,2μm,20.4s,MS4.8,baz=227,slow=30						
LPAZ	La Paz	36.68	67	eP	P	02 51 56.3	+1.7
LPAZ				pmax	pmax		
	comp=Z,44nm,1.1s						
LPAZ	La Paz	36.68	67	eP	P	02 51 56.3	+1.7
	comp=Z,44nm,1.1s,mb5.2						
LPAZ	La Paz	36.68	67	P	P	02 51 56.4	+1.7
	comp=Z,32nm,1.0s,mb5.1,baz=236,slow=7.0,SNR=57						
LPAZ				LR	LR	03 04 17.5	
	comp=Z,548nm,20.6s,MS4.3,baz=47,slow=32						
PMSA	Palmer Station	37.03	153	P	P	02 51 55.3	-1.8
	comp=Z,30nm,1.0s,mb5.1,baz=339,slow=8.6,SNR=3.3						
PMSA				LR	LR	03 03 03.8	
	comp=Z,4μm,19.7s,MS5.2,baz=1.9,slow=30						
CPUP	Villa Florida	39.97	89	eP	P	02 52 21.5	-0.8
CPUP				pmax	pmax		
	comp=Z,24nm,1.0s						
CPUP	Villa Florida	39.97	89	eP	P	02 52 21.5	-0.8
	comp=Z,24nm,1.0s,mb4.9						
CPUP	Villa Florida	39.97	89	P	P	02 52 22.0	-0.3
	comp=Z,5.7nm,0.9s,mb4.3,baz=224,slow=7.3,SNR=4.7						
CPUP				LR	LR	03 05 39.4	
	comp=Z,566nm,18.9s,MS4.4,baz=230,slow=31						
SIV	San Ignacio	42.24	73	P	P	02 52 40.9	-0.1
	comp=Z,12nm,0.9s,mb4.5,baz=236,slow=8.0,SNR=54						
PPT	Papeete	44.95	281	P	P	02 53 02.4	-0.4
	comp=Z,83nm,0.3s,mb6.0,baz=108,slow=10,SNR=13						
ROSC	El Rosal	48.69	40	eP	P	02 53 32.8	+0.7
ROSC	El Rosal	48.69	40	P	P	02 53 33.2	+1.1
	comp=Z,30nm,1.0s,mb5.3,baz=293,slow=20,SNR=17						
ROSC				LR	LR	03 10 35.1	
	comp=Z,1μm,19.7s,MS4.9,baz=201,slow=32						
JTS	JuntasAbangare	49.05	24	eP	P	02 53 34.6	-0.1
JTS				pmax	pmax		
	comp=Z,18nm,1.0s						
JTS	JuntasAbangare	49.05	24	eP	P	02 53 34.6	-0.1
	comp=Z,18nm,1.0s,mb5.0						
JTS	JuntasAbangare	49.05	24	P	P	02 53 34.4	-0.3
	comp=Z,5.6nm,0.8s,mb4.6,baz=338,slow=5.4,SNR=3.0						
BDFB	Brasilia	52.79	82	P	P	02 54 02.5	-0.5
	comp=Z,4.0nm,0.8s,mb4.4,baz=224,slow=12,SNR=11						
SDV	Santo Domingo	54.03	41	eP	P	02 54 09.2	-2.9
	comp=Z,14nm,0.8s,mb5.0						
SDV	Santo Domingo	54.03	41	P	P	02 54 09.8	-2.2
	comp=Z,15nm,0.8s,mb5.0,baz=309,slow=2.0,SNR=36						
QSPA	South Pole Qui	54.27	180	eP	P	02 54 14.2	+1.3
	comp=Z,25nm,0.8s,mb5.2						
QSPA	South Pole Qui	54.27	180	P	P	02 54 14.4	+1.4
	comp=Z,18nm,0.8s,mb5.1,baz=130,slow=1.9,SNR=21						
SBA	Scott Base	55.22	195	eP	P	02 54 20.6	+0.7
SBA				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.8						
SBA	Scott Base	55.22	195	eP	P	02 54 20.6	+0.7
	comp=Z,9.6nm,0.9s,mb4.8						
VNDA	Vanda	56.32	195	eP	P	02 54 28.4	+0.6
VNDA				pmax	pmax		
	comp=Z,14nm,1.4s						
VNDA	Vanda	56.32	195	eP	P	02 54 28.4	+0.6
	comp=Z,14nm,1.4s,mb4.8						
VNDA	Vanda	56.32	195	P	P	02 54 28.4	+0.6
	comp=Z,6.7nm,1.1s,mb4.6,baz=108,slow=6.7,SNR=6.0						
VNDA				LR	LR	03 13 04.6	
	comp=Z,838nm,20.1s,MS4.8,baz=99,slow=30						
VNA3	Neumayer Olymp	57.49	157	eP	P	02 54 36.5	+0.4
VNA3				*e*		02 54 40.3	
VNA3				*e*		02 54 42.8	
VNA3				*e*		02 54 54.3	
VNA3				*e*		02 55 03.3	
VNA3				*e*		02 55 13.5	
VNA1	Neumayer--Stat	58.10	157	eP	P	02 54 41.3	+0.9
VNA1				*e*		02 54 44.6	
VNA1				*e*		02 54 46.8	
VN

baz=70
Z16A Peralta Trail, 69.37 352 P P 02 55 55.0 0.0
baz=70,SNR=5.1
BAR Barrett 69.45 348 eP P 02 55 55.6 +0.1
comp=Z,34nm,1.6s,mb5.0
GLA Glamis 69.51 349 eP P 02 55 55.9 0.0
GLA pmax pmax
comp=Z,35nm,1.7s,mb5.0
GLA Glamis 69.51 349 eP P 02 55 55.9 0.0
comp=Z,35nm,1.7s,mb5.0
GLA Glamis 69.51 349 ⇓P P 02 55 55.9 -0.1
baz=70
MONP Monument Peak 69.61 348 ⇓P P 02 55 56.5 0.0
baz=70
Y17A Roosevelt 69.66 353 P P 02 55 56.9 +0.1
baz=70,SNR=11
Y18A Canyon Day Jun 69.66 354 ⇑P P 02 55 56.8 0.0
baz=70
Y19A Nutrioso 69.78 354 P P 02 55 58.1 +0.6
baz=70,SNR=16
BNM Barren Site 69.81 357 eP P 02 55 56.8 -0.9
LENM Lemitar 69.84 357 eP P 02 55 56.3 -1.6
Y16A Circle Bar Ran 69.91 353 ⇑P P 02 55 58.7 +0.4
baz=70,SNR=12
Y15A Casa Rosa Ranc 70.07 352 ⇓P P 02 55 59.4 +0.1
baz=70
SCI San Clemente I 70.08 346 ⇓P P 02 55 59.0 -0.4
baz=70
LAZ Ladron 70.08 356 eP P 02 55 58.2 -1.2
Y13A Salome 70.12 350 ⇑P P 02 55 59.6 0.0
baz=70
Y14A Wickenburg 70.14 351 P P 02 55 59.6 -0.1
baz=70,SNR=15
Y12C Blythe 70.16 350 P P 02 56 00.0 +0.2
baz=70,SNR=9.1
BC3 Big Chuckw Mtn 70.20 349 ⇑P P 02 56 00.3 +0.2
baz=70
X19A St. Johns 70.25 355 ⇑P P 02 56 00.8 +0.4
baz=70
PFO Pinyon Flat Ob 70.32 348 eP P 02 56 00.3 -0.5
PFO pmax pmax
comp=Z,10.0nm,1.2s,mb4.6
PFO Pinyon Flat Ob 70.32 348 eP P 02 56 00.3 -0.5
comp=Z,10nm,1.2s,mb4.6
PFO Pinyon Flat Ob 70.32 348 P P 02 56 01.6 +0.8
comp=Z,6.3nm,1.0s,mb4.5,baz=160,slow=8.0,SNR=4.9
PFO Pinyon Flat Ob 70.32 348 ⇓P P 02 56 01.1 +0.3
baz=71
X18A Snowflake 70.40 354 ⇓P P 02 56 01.6 +0.3
baz=71,SNR=23
WMOK Wichita Mounta 70.43 4 eP P 02 56 02.0 +0.5
comp=Z,5.3nm,0.9s,mb4.5
X16A Lo Mia Camp, P 70.43 353 P P 02 56 01.8 +0.3
baz=71,SNR=15
MURC Murrieta 70.44 347 ⇑P P 02 56 01.6 +0.1
baz=71
AMTX Amarillo 70.47 1 eP P 02 56 01.2 -0.5
comp=Z,45nm,1.1s,mb5.3
SNCC San Nicolas Is 70.54 345 ⇑P P 02 56 02.8 +0.6
baz=71
X15A Humboldt 70.59 352 P P 02 56 02.6 +0.2
baz=71,SNR=21
ANMO Albuquerque 70.60 357 eP P 02 56 02.7 +0.2
ANMO pmax pmax
comp=Z,23nm,1.5s
ANMO Albuquerque 70.60 357 eP P 02 56 02.7 +0.2
comp=Z,23nm,1.5s,mb4.9
ANMO Albuquerque 70.60 357 P P 02 56 02.8 +0.2
comp=Z,2.5nm,0.8s,mb4.2,baz=159,slow=0.1,SNR=11
BELC Belle Mtn. 70.62 349 ⇓P P 02 56 02.7 0.0
baz=71
PDMCI Parker Dam,Lak 70.64 350 ⇓P P 02 56 02.9 +0.1
baz=71
X14A Yava 70.65 351 P P 02 56 03.0 +0.1
baz=71,SNR=9.7
IRM Iron Mountain 70.65 349 ⇓P P 02 56 02.8 -0.1
baz=71
MIAR Mount Ida 70.68 8 eP P 02 56 02.2 -0.8
MIAR pmax pmax
comp=Z,16nm,1.3s,mb4.8
MIAR Mount Ida 70.68 8 eP P 02 56 02.2 -0.8
comp=Z,16nm,1.3s,mb4.8
X13A Yucca 70.89 351 ⇑P P 02 56 04.3 0.0
baz=71
W19A Sanders 70.93 354 ⇓P P 02 56 04.4 -0.2
baz=71
UALR University of 71.06 9 eP P 02 56 03.6 -1.7
comp=Z,13nm,1.0s,mb4.8
W16A Flagstaff 71.11 353 ⇓P P 02 56 06.3 +0.7
baz=71,SNR=8.3
BFSC Mount Baldy St 71.14 347 ⇑P P 02 56 05.9 0.0
baz=71
BLG Laguna Peak 71.28 346 ⇓P P 02 56 06.8 +0.2
baz=72
GMRC Granite Mounta 71.33 349 P P 02 56 07.3 +0.3
baz=72,SNR=7.6
GOGA Godfrey 71.38 17 eP P 02 56 06.4 -0.9
GOGA pmax pmax
comp=Z,16nm,1.1s,mb4.9
GOGA Godfrey 71.38 17 eP P 02 56 06.4 -0.9
comp=Z,16nm,1.1s,mb4.8
W13A Hualapai Mount 71.39 351 ⇑P P 02 56 07.5 +0.2
baz=72
W14A Seligman 71.40 351 ⇓P P 02 56 07.5 +0.1
baz=72,SNR=17
WUAZ Wupatki 71.51 353 eP P 02 56 07.9 -0.2
comp=Z,17nm,1.2s,mb4.8
WUAZ Wupatki 71.51 353 ⇑P P 02 56 08.4 +0.4
baz=72
LDFC Landfair 71.55 350 eP P 02 56 09.4 +1.1
EDW2 Edwards Air Fo 71.82 347 ⇑P P 02 56 09.8 -0.2
baz=72
V14A Boquillas Ranc 71.82 351 P P 02 56 10.3 +0.4
baz=72,SNR=15
V15A Kaibab Nationa 71.90 352 P P 02 56 11.0 +0.6
baz=72,SNR=8.4
PLAL Pickwick Lake 71.92 13 eP P 02 56 08.5 -2.0
comp=Z,13nm,0.9s,mb4.9
TUQ Turquoise Mtn. 72.02 349 ⇓P P 02 56 11.6 +0.5
baz=72,SNR=16
GSC Goldstone 72.03 348 eP P 02 56 11.3 +0.1
GSC pmax pmax
comp=Z,12nm,1.0s,mb4.8
GSC Goldstone 72.03 348 eP P 02 56 11.3 +0.2
comp=Z,12nm,1.0s,mb4.8
GSC Goldstone 72.03 348 P P 02 56 11.3 +0.2
baz=72,SNR=12
V12A Nelson 72.14 350 ⇑P P 02 56 11.7 -0.1
baz=72
V13A Grand Canyon W 72.15 351 ⇓P P 02 56 12.0 +0.2
baz=72,SNR=9.2
PKM Peak Mountain 72.19 346 ⇓P P 02 56 12.6 +0.5
baz=72,SNR=9.8
V11A Goodsprings 72.34 349 ⇓P P 02 56 13.4 +0.4
baz=73
LRMC Laurel Mountai 72.35 347 ⇓P P 02 56 13.3 +0.3
baz=73
SHOC Shoshone 72.53 349 ⇑P P 02 56 14.2 +0.1
baz=73
SWET Sewanee 72.56 15 eP P 02 56 13.1 -1.3
U14A Mt Trumbull 72.61 351 P P 02 56 14.6 0.0
baz=73,SNR=16
U12A Valley of Fire 72.79 350 ⇓P P 02 56 15.8 +0.1
baz=73
MPMC Manual Prospec 72.89 348 ⇑P P 02 56 16.6 +0.4
baz=73,SNR=18
U11A Corn Creek 72.91 350 ⇑P P 02 56 16.7 +0.3
baz=73
SHPR Sheep Range 72.95 350 eP P 02 56 17.0 +0.3
MVCO Mesa Verde 72.96 355 ⇓P P 02 56 17.1 +0.5
baz=73
T16A Glen Canyon Da 72.98 353 ⇓P P 02 56 17.5 +0.7
baz=73
U10A Ash Meadows, A 73.05 349 P P 02 56 17.8 +0.6
baz=73,SNR=14
CPCT Cooper Cave 73.09 16 eP P 02 56 16.3 -1.1
T15A Red Dirt Ranch 73.11 352 ⇓P P 02 56 18.0 +0.4
baz=73
FURC Furnace Creek, 73.18 348 ⇓P P 02 56 18.1 +0.1
baz=74
T14A Hurricane 73.23 352 ⇓P P 02 56 18.3 0.0
baz=74
PARMO Parma 73.28 11 eP P 02 56 17.8 -0.8
T13A Saint George 73.29 351 P P 02 56 18.9 +0.3
baz=74,SNR=14
PKD Parkfield 73.35 345 P P 02 56 19.2 +0.2
baz=74,SNR=12
SDCO Great Sand Dun 73.35 358 eP P 02 56 19.1 +0.1
comp=Z,13nm,0.9s,mb4.9
CWC Cottonwood Cre 73.36 347 ⇓P P 02 56 19.5 +0.4
baz=74
RCTC Rector, Farmer 73.44 346 ⇓P P 02 56 19.8 +0.3
baz=74
TKL Tuckaleechee C 73.46 16 eP P 02 56 18.1 -1.5
TPNV Topopah Spring 73.55 349 eP P 02 56 19.2 -1.0
TPNV pmax pmax
comp=Z,17nm,1.1s,mb4.9
TPNV Topopah Spring 73.55 349 eP P 02 56 19.2 -0.9
comp=Z,17nm,1.1s,mb4.9
TPNV Topopah Spring 73.55 349 ⇓P P 02 56 20.7 +0.5
baz=74
T11A Corn Creek, Al 73.68 350 ⇑P P 02 56 21.0 +0.1
baz=74,SNR=14
CCUT Cedar City 73.75 351 eP P 02 56 21.3 0.0
HELL Mitchell Peak 73.76 347 ⇓P P 02 56 21.0 -0.4
baz=74,SNR=21
GRAC Grapevine Rang 73.78 348 P P 02 56 21.7 +0.2
baz=74,SNR=11
U04C Hernandez Rese 73.80 345 ⇑P P 02 56 22.7 +1.1
baz=74,SNR=18
S13A Holt Ranch, En 73.84 351 P P 02 56 22.1 +0.3
baz=74,SNR=22
PV01 Paradox Valley 73.88 355 eP P 02 56 21.9 -0.1
S14A Cedar City 73.93 352 ⇓P P 02 56 23.0 +0.7
baz=74
ARUT Antelope Range 73.99 351 eP P 02 56 15.6 -7.1
S12A Delamar Landin 73.99 350 ⇓P P 02 56 23.4 +0.6
baz=74,SNR=11
PV10 Paradox Valley 74.15 355 eP P 02 56 23.0 -0.6
T06C Millerton Lake 74.21 346 ⇓P P 02 56 23.3 -0.7
baz=74,SNR=10
MTUM Tungsten Hills 74.33 347 eP P 02 56 24.9 +0.2
TZTN Tazewell 74.36 16 eP P 02 56 24.5 -0.4
comp=Z,23nm,1.1s,mb5.0
S08C White Mtn Res 74.41 348 P P 02 56 25.8 +0.7
baz=75,SNR=27
CCM Cathedral Cave 74.43 10 eP P 02 56 24.8 -0.5
comp=Z,25nm,1.0s,mb5.1
CBKS Cedar Bluff 74.44 3 eP P 02 56 25.3 0.0
CBKS pmax pmax
comp=Z,28nm,1.1s,mb5.1
CBKS Cedar Bluff 74.44 3 eP P 02 56 25.3 0.0
comp=Z,28nm,1.1s,mb5.1
S09A Goldfield 74.47 348 ⇓P P 02 56 25.6 +0.2
baz=75,SNR=27
FVM French Village 74.47 10 eP P 02 56 24.9 -0.7
comp=Z,15nm,0.9s,mb4.9
PACP Pacheco Peak 74.53 345 ⇓P P 02 56 25.7 -0.2
baz=75
S10A Tonopah Range, 74.56 349 ⇓P P 02 56 25.9 -0.1
baz=75,SNR=13
MSU Marysvale 74.56 353 eP P 02 56 26.5 +0.5
S05C Merced 74.66 346 ⇓P P 02 56 26.9 +0.3
baz=75,SNR=9.9
R12A Pony Springs, 74.67 351 ⇑P P 02 56 27.4 +0.7
baz=75
TPH Tonopah 74.81 348 eP P 02 56 28.3 +0.8
TPH pmax pmax
comp=Z,22nm,1.0s,mb5.0
TPH Tonopah 74.81 348 eP P 02 56 28.3 +0.9
comp=Z,22nm,1.0s,mb5.0
R11A Troy Canyon, C 74.82 350 P P 02 56 27.8 +0.3
baz=75,SNR=21
SMCO Snowmass 74.83 357 eP P 02 56 28.4 +0.8
comp=Z,21nm,1.0s,mb5.0
USIN University of 74.90 13 eP P 02 56 27.4 -0.6
KSU1 Kansas State U 74.90 5 eP P 02 56 29.1 +1.1
comp=Z,16nm,1.0s,mb4.9
R09A Tonopah 74.94 349 P P 02 56 28.6 +0.4
baz=75,SNR=20
SRU San Rafael 75.00 354 eP P 02 56 28.3 -0.2
SRU pmax pmax
comp=Z,14nm,0.9s,mb4.9
SRU San Rafael 75.00 354 eP P 02 56 28.3 -0.2
comp=Z,14nm,0.9s,mb4.9
R07C Lee Vining 75.14 347 ⇓P P 02 56 30.2 +0.9
baz=75,SNR=10
Q13A Wheeler Ranch, 75.21 351 P P 02 56 30.4 +0.6
baz=76,SNR=23
TMUT Trail Mountain 75.24 353 eP P 02 56 30.7 +0.8
Q11A Duckwater 75.32 350 ⇑P P 02 56 30.7 +0.3
baz=76,SNR=16
NVAR Mina Array Bea 75.33 348 P P 02 56 30.9 +0.5
comp=Z,19nm,1.0s,mb5.0,baz=182,slow=8.8,SNR=54
CMB Columbia Colle 75.34 346 eP P 02 56 30.9 +0.4
CMB pmax pmax
comp=Z,18nm,1.0s,mb5.0
CMB Columbia Colle 75.34 346 eP P 02 56 30.9 +0.4
comp=Z,18nm,1.0s,mb5.0
CMB Columbia Colle 75.34 346 ⇑P P 02 56 30.8 +0.2
baz=76,SNR=12
Q12A Willow Creek R 75.40 351 ⇓P P 02 56 30.8 -0.1
baz=76
ISCO Idaho Springs 75.40 358 eP P 02 56 31.0 +0.2
ISCO pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
ISCO Idaho Springs 75.40 358 eP P 02 56 31.0 +0.1
comp=Z,8.1nm,1.0s,mb4.6
Q10A Clear Creek Ra 75.41 349 ⇑P P 02 56 31.1 +0.2
baz=76,SNR=9.9
WAKR Walker 75.61 347 eP P 02 56 32.7 +0.6
Q08A Gabbs 75.69 348 P P 02 56 32.8 +0.3
baz=76,SNR=22
P13A Bates Ranch, G 75.70 351 ⇑P P 02 56 32.8 +0.2
baz=76,SNR=23
P12A McGill 75.83 351 ⇓P P 02 56 33.4 +0.1
baz=76
R05C Kirkwood Meado 75.92 346 P P 02 56 34.6 +0.8
baz=76,SNR=22
NLU North Lily Min 75.98 353 eP P 02 56 34.8 +0.7
MPU Maple Canyon 76.00 353 eP P 02 56 34.0 -0.2
comp=Z,9.5nm,0.9s,mb4.7
LAVA Lava Cap Winer 76.10 346 ⇓P P 02 56 35.2 +0.3
baz=76
P10A Eureka 76.20 349 ⇑P P 02 56 36.4 +1.0
baz=76
MAW Mawson 76.22 174 eP P 02 56 34.9 -0.5
MAW pmax pmax
comp=Z,8.0nm,0.8s
MAW Mawson 76.22 174 eP P 02 56 34.9 -0.5
comp=Z,7.5nm,0.8s,mb4.7
MAW Mawson 76.22 174 P P 02 56 34.7 -0.6
comp=Z,7.9nm,0.8s,mb4.7,baz=202,slow=5.9,SNR=8.0
DUG Dugway 76.29 352 eP P 02 56 36.3 +0.4
DUG pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
DUG Dugway 76.29 352 eP P 02 56 36.3 +0.4
comp=Z,7.7nm,0.8s,mb4.7
DUG Dugway 76.29 352 ⇑P P 02 56 36.2 +0.3
baz=77
DAU Daniels Canyon 76.35 354 eP P 02 56 36.6 +0.3
JLU Jordanelle 76.56 353 eP P 02 56 37.8 +0.4
O11A Cowboy Ranch, 76.58 350 ⇑P P 02 56 37.4 -0.1
baz=77
O12A Currie 76.60 351 ⇓P P 02 56 37.4 -0.2
baz=77
P05C Yuba Gap, Truc 76.61 346 ⇑P P 02 56 37.7 0.0
baz=77
PAHR Pah Rah Range 76.77 347 eP P 02 56 39.3 +0.7
comp=Z,25nm,1.3s,mb5.0
SUTB Sutter Butte 76.77 345 ⇓P P 02 56 38.6 0.0
baz=77
OHCM Honcut 76.81 345 eP P 02 56 39.1 +0.2
O09A Fish Creek Ran 76.85 349 ⇓P P 02 56 38.9 -0.1
baz=77,SNR=7.7
URVA University of 76.87 21 eP P 02 56 37.8 -1.4
PHWY Pilot Hill 76.90 358 eP P 02 56 40.1 +0.8
N15A Stansbury Isla 76.95 353 ⇓P P 02 56 39.4 -0.3
baz=77,SNR=7.2
N14A Grayback Hills 76.98 352 ⇑P P 02 56 39.7 -0.1
baz=77,SNR=20
ORV Oroville 77.03 345 ⇑P P 02 56 39.8 -0.3
baz=77
BGU Big Grassy Mou 77.04 352 eP P 02 56 39.4 -0.8
BMN Battle Mountai 77.11 349 eP P 02 56 40.8 +0.3
BMN pmax pmax
comp=Z,24nm,1.1s,mb5.0
BMN Battle Mountai 77.11 349 eP P 02 56 40.8 +0.2
comp=Z,24nm,1.1s,mb5.0
O07A Toulon 77.12 348 P P 02 56 41.2 +0.6
baz=77,SNR=29
HDIL Hopedale 77.16 11 eP P 02 56 40.0 -0.8
N12A Clover Valley, 77.21 351 P P 02 56 41.2 +0.2
baz=78,SNR=19
O06A Flanigan 77.29 347 ⇓P P 02 56 42.2 +0.6
baz=78,SNR=7.6
O05C Quincy 77.30 346 ⇓P P 02 56 42.3 +0.7
baz=78
RWWY Rawlins 77.35 357 eP P 02 56 42.1 +0.3
comp=Z,16nm,1.0s,mb4.9
SPUT South Promonto 77.36 353 eP P 02 56 40.2 -1.7
M15A Larsen Ranch, 77.51 353 ⇑P P 02 56 42.2 -0.6
baz=78,SNR=25
N08A GE Springer Mi 77.60 348 ⇓P P 02 56 43.0 -0.2
baz=78,SNR=15
M13A Montello 77.60 351 ⇑P P 02 56 42.7 -0.5
baz=78
M14A Sheep Mountain 77.65 352 ⇓P P 02 56 42.9 -0.6
baz=78,SNR=14
O04C Chester 77.68 346 ⇑P P 02 56 44.2 +0.4
baz=78
N07B Gerlach 77.74 348 P P 02 56 44.5 +0.5
baz=78,SNR=14
M12A Wells 77.75 351 ⇑P P 02 56 43.8 -0.3
baz=78
HVU Hansel Valley 77.86 353 eP P 02 56 43.7 -1.0
HVU pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
HVU Hansel Valley 77.86 353 eP P 02 56 43.7 -1.0
comp=Z,5.4nm,0.9s,mb4.5
N06A Buffalo Meadow 77.86 347 P P 02 56 45.1 +0.4
baz=78,SNR=25
M11A Holland Ranch, 77.88 350 ⇑P P 02 56 45.1 +0.3
baz=78
O02C Red Bluff 77.90 345 ⇓P P 02 56 45.1 +0.2
baz=78
SCIA State Center 77.99 7 eP P 02 56 48.4 +3.0
ACSO Alum Creek Sta 78.01 16 eP P 02 56 47.3 +1.8
comp=Z,18nm,0.7s,mb5.1
M10A I.L. Ranch, Tu 78.08 350 ⇓P P 02 56 45.4 -0.5
baz=78
M09A Marrel Ranch, 78.11 349 ⇓P P 02 56 46.1 -0.1
baz=78
WDC Whiskeytown Da 78.23 345 eP P 02 56 46.4 -0.4
WDC pmax pmax
comp=Z,33nm,1.2s,mb5.1
WDC Whiskeytown Da 78.23 345 eP P 02 56 46.4 -0.4
comp=Z,33nm,1.2s,mb5.1
WDC Whiskeytown Da 78.23 345 P P 02 56 46.5 -0.3
baz=78,SNR=16
LBCM Butte Creek Ri 78.23 346 P P 02 56 46.4 -0.4
HATC Hat Creek Radi 78.24 346 ⇑P P 02 56 46.2 -0.6
baz=78
M08A Happy Creek Ra 78.29 348 ⇑P P 02 56 47.6 +0.5
baz=79,SNR=5.5
L13A Double Diamond 78.29 352 ⇑P P 02 56 46.9 -0.2
baz=79
M07A Soldier Meadow 78.36 348 ⇑P P 02 56 47.5 0.0
baz=79
M06C Likely Place G 78.42 347 ⇓P P 02 56 47.6 -0.2
baz=79,SNR=5.5
L12A House Creek Ra 78.48 351 ⇑P P 02 56 47.8 -0.3
baz=79
BW06 Boulder Array 78.56 355 eP P 02 56 47.8 -0.8
comp=Z,24nm,0.9s,mb5.1
LTIM Timbered Crate 78.59 346 P P 02 56 48.1 -0.6
L11A Cat Creek Ranc 78.60 350 ⇓P P 02 56 48.8 +0.1
baz=79,SNR=18
L10A Juniper Basin 78.61 350 ⇑P P 02 56 48.4 -0.4
baz=79
N02C Big Bar 78.63 344 ⇓P P 02 56 48.8 -0.2
baz=79
K14A Jones Ranch, D 78.66 352 ⇓P P 02 56 48.7 -0.4
baz=79
M05C Lookout 78.70 346 ⇓P P 02 56 49.5 +0.1
baz=79
L09A Wilkinson Ranc 78.73 349 ⇑P P 02 56 49.7 +0.2
baz=79
KHMM Horse Mountain 78.77 344 eP P 02 56 49.0 -0.7
SDMD Soldier's Deli 78.78 20 eP P 02 56 50.1 +0.3
comp=Z,15nm,0.9s,mb4.9
M03C McCloud 78.81 345 ⇓P P 02 56 49.6 -0.4
baz=79
K13A Stover Farm, H 78.86 352 ⇓P P 02 56 50.5 +0.3
baz=79,SNR=12
K12A Draper Farm, C 78.95 351 ⇑P P 02 56 50.7 +0.1
baz=79
L07A Adell 79.01 348 ⇓P P 02 56 51.9 +0.9
baz=79,SNR=19
L08A Fields 79.01 348 ⇓P P 02 56 51.3 +0.3
baz=79
LASM Arnica Sink 79.01 346 P P 02 56 50.8 -0.3
MOD Modoc 79.06 347 eP P 02 56 51.6 +0.3
comp=Z,29nm,1.2s,mb5.1
MOD Modoc 79.06 347 ⇑P P 02 56 51.6 +0.3
baz=79,SNR=17
M02C Callahan 79.08 345 ⇑P P 02 56 50.8 -0.6
baz=79,SNR=6.1
K11A Parker Ranch, 79.23 350 ⇓P P 02 56 51.7 -0.5
baz=80,SNR=11
M04C Macdoel 79.24 346 ⇓P P 02 56 52.7 +0.4
baz=80,SNR=6.3
REDW Red Top Meadow 79.25 354 eP P 02 56 51.8 -0.4
comp=Z,30nm,1.3s,mb5.1
L05A Lakeview 79.30 347 ⇑P P 02 56 52.7 +0.1
baz=80,SNR=17
SNOW Snow King Moun 79.34 354 eP P 02 56 53.0 +0.2
comp=Z,25nm,1.0s,mb5.1
JFWS Jewell Farm 79.34 10 eP P 02 56 52.4 -0.4
JFWS pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
JFWS Jewell Farm 79.34 10 eP P 02 56 52.4 -0.4
comp=Z,9.0nm,0.8s,mb4.8
K10A MacKenzie Ranc 79.35 350 ⇓P P 02 56 52.5 -0.4
baz=80,SNR=12
YBH Yreka Blue Hor 79.37 345 eP P 02 56 52.7 -0.3
YBH pmax pmax
comp=Z,7.0nm,0.9s
YBH Yreka Blue Hor 79.37 345 eP P 02 56 52.7 -0.3
comp=Z,7.0nm,0.9s,mb4.6
YBH Yreka Blue Hor 79.37 345 P P 02 56 52.6 -0.4
comp=Z,4.1nm,0.8s,mb4.4,baz=95,slow=3.2,SNR=12
YBH Yreka Blue Hor 79.37 345 ⇑P P 02 56 52.6 -0.4
baz=80,SNR=7.7
TPAW Teton Pass 79.38 354 eP P 02 56 53.2 +0.2
comp=Z,31nm,1.1s,mb5.2
K09A Rome 79.41 349 ⇑P P 02 56 52.4 -0.8
baz=80,SNR=12
MVL Millersville 79.46 21 eP P 02 56 53.5 0.0
comp=Z,14nm,0.8s,mb4.9
LOHW Long Hollow 79.47 354 eP P 02 56 53.4 -0.1
comp=Z,13nm,1.0s,mb4.8
DCID1 Drake Creek 79.50 354 eP P 02 56 53.9 +0.2
ECSD EROS,Sioux Fal 79.51 5 eP P 02 56 53.7 0.0
comp=Z,31nm,1.1s,mb5.2
K08A Mann Creek Ran 79.56 348 ⇓P P 02 56 54.1 +0.1
baz=80
J12A Stokes Ranch, 79.58 351 ⇑P P 02 56 54.1 0.0
baz=80,SNR=12
J13A Cove Ranch, Pi 79.61 352 ⇓P P 02 56 54.6 +0.3
baz=80,SNR=15
L04A Klamath Falls 79.63 346 ⇓P P 02 56 54.7 +0.3
baz=80,SNR=5.9
SSPA Standing Stone 79.63 19 eP P 02 56 55.0 +0.5
comp=Z,22nm,1.2s,mb5.0
K07A Rock Creek Ran 79.64 348 ⇑P P 02 56 55.2 +0.7
baz=80,SNR=22
KTRM Thompson Ridge 79.68 345 P P 02 56 54.9 +0.2
IMW Indian Meadow 79.78 354 eP P 02 56 54.1 -1.1
comp=Z,12nm,0.8s,mb4.9
M01C Crescent City 79.78 344 ⇑P P 02 56 55.3 0.0
baz=80
HLID Hailey 79.80 352 eP P 02 56 55.5 +0.2
comp=Z,40nm,1.4s,mb5.2
HLID Hailey 79.80 352 P P 02 56 55.6 +0.3
baz=80,SNR=40
MFID Camas Ranch 79.83 351 ⇑P P 02 56 55.2 -0.3
baz=80
AAM Ann Arbor 79.86 14 eP P 02 56 55.1 -0.5
K06A Valley Falls 79.92 347 ⇓P P 02 56 56.3 +0.3
baz=80,SNR=22
FLWY Flagg Ranch 79.95 354 eP P 02 56 56.1 0.0
comp=Z,15nm,0.8s,mb5.0
K05A Summer Lake 79.97 347 ⇓P P 02 56 56.9 +0.6
baz=80,SNR=13
ALLY Alegheny Colle 80.01 17 eP P 02 56 55.4 -1.1
comp=Z,23nm,0.8s,mb5.2
J09A Fry Pan Ranch, 80.04 349 ⇓P P 02 56 56.4 -0.2
baz=80,SNR=15
I13A Wildhorse Cree 80.11 352 ⇓P P 02 56 57.0 0.0
baz=80,SNR=7.6
J08A Circle Bar Ran 80.17 349 ⇓P P 02 56 57.7 +0.4
baz=80,SNR=17

HUMO	Hull Mountain	80.26	345	eP		P	02 56 58.2 +0.4
	comp=Z,15nm,1.1s,mb4.8						
HUMO	Hull Mountain	80.26	345	⇑P		P	02 56 58.1 +0.3
	baz=80						
J07A	Hines	80.32	348	⇑P		P	02 56 58.4 +0.3
	baz=81						
LKWY	Lake	80.41	355	eP		P	02 56 59.8 +1.3
LKWY					pmax	pmax	
	comp=Z,8.0nm,0.9s,mb4.7						
LKWY	Lake	80.41	355	eP		P	02 56 59.8 +1.3
	comp=Z,7.6nm,0.9s,mb4.6						
K02A	Glendale	80.53	345	⇑P		P	02 56 59.4 +0.2
	baz=81						
J05A	Fort Rock	80.57	347	⇑P		P	02 56 59.8 +0.3
	baz=81,SNR=34						
I08A	Drewsey	80.72	349	⇓P		P	02 57 00.7 +0.4
	baz=81						
QLMT	Earthquake Lak	80.75	354	eP		P	02 57 01.4 +1.0
H13A	Challis	80.77	352	⇓P		P	02 57 00.7 +0.2
	baz=81						
H12A	Diamond D Ranc	80.83	351	⇑P		P	02 57 00.6 -0.2
	baz=81,SNR=5.3						
MCMT	McKenzie Canyo	80.88	353	P		P	02 57 01.6 +0.5
RLMT	Red Lodge	80.88	356	eP		P	02 57 01.4 +0.4
	comp=Z,16nm,1.1s,mb4.9						
I06A	Prineville	81.03	348	⇑P		P	02 57 02.0 +0.2
	baz=81,SNR=14						
I07A	Izee	81.04	348	P		P	02 57 02.3 +0.3
	baz=81,SNR=26						
PAL	Palisades	81.11	22	eP		P	02 57 01.2 -1.2
PAL					pmax	pmax	
	comp=Z,15nm,0.8s,mb5.0						
PAL	Palisades	81.11	22	eP		P	02 57 01.1 -1.2
	comp=Z,15nm,0.8s,mb5.0						
J02A	Umpqua	81.12	345	⇑P		P	02 57 02.0 -0.4
	baz=81						
H11A	Donnelly	81.12	351	⇑P		P	02 57 02.1 -0.3
	baz=81						
G15A	Dillon	81.18	353	⇑P		P	02 57 02.4 -0.2
	baz=82						
G13A	Cobalt	81.29	352	⇑P		P	02 57 03.2 0.0
	baz=82,SNR=6.5						
I04A	Tendick Farm,	81.29	346	⇑P		P	02 57 02.4 -0.9
	baz=82						
H09A	Durkee	81.32	349	⇓P		P	02 57 03.7 +0.3
	baz=82						
HBO	Huckleberry Mo	81.32	346	P		P	02 57 07.7 +4.2
H08A	Prairie City	81.33	349	⇑P		P	02 57 03.9 +0.4
	baz=82						
DLMT	Dillon	81.39	353	eP		P	02 57 04.0 +0.3
	comp=Z,4.3nm,0.9s,mb4.4						
BMO	Blue Mountains	81.45	350	eP		P	02 57 04.0 -0.1
	comp=Z,10nm,1.4s,mb4.6						
H07A	Lands Inn, Kim	81.55	348	⇓P		P	02 57 04.6 0.0
	baz=82						
GCMT	Greycliff	81.57	355	eP		P	02 57 06.1 +1.4
BOZ	Bozeman (W)	81.58	354	eP		P	02 57 04.9 +0.1
BOZ					pmax	pmax	
	comp=Z,6.0nm,0.8s,mb4.6						
BOZ	Bozeman (W)	81.58	354	eP		P	02 57 04.9 +0.2
	comp=Z,5.9nm,0.8s,mb4.6						
BOZ	Bozeman (W)	81.58	354	⇓P		P	02 57 04.9 +0.1
	baz=82						
BINY	Binghamton	81.61	20	eP		P	02 57 05.6 +0.6
	comp=Z,13nm,0.9s,mb4.9						
VIPM	Ingram Point	81.65	347	P		P	02 57 05.2 +0.1
H06A	Lindquist Farm	81.81	348	⇓P		P	02 57 06.2 +0.2
	baz=82,SNR=5.1						
LRM	Limekiln Ridge	81.83	353	eP		P	02 57 07.1 +1.0
G11A	Walters Elk Ra	81.84	351	⇑P		P	02 57 05.7 -0.5
	baz=82,SNR=10						
F15A	Butte	81.85	353	⇑P		P	02 57 06.1 -0.1
	baz=82						
G10A	Bishop Farm, J	81.85	350	⇓P		P	02 57 06.6 +0.4
	baz=82,SNR=9.8						
F14A	Wisdom	81.91	353	⇑P		P	02 57 07.1 +0.6
	baz=82						
G09A	Cove	81.94	350	⇓P		P	02 57 06.5 -0.1
	baz=82						
F13A	Darby	81.99	352	⇑P		P	02 57 06.5 -0.4
	baz=82						
F12A	Elk City	82.06	351	⇑P		P	02 57 07.1 -0.2
	baz=82,SNR=12						
G08A	Pilot Rock	82.13	349	⇑P		P	02 57 08.2 +0.6
	baz=82,SNR=8.3						
MPOR	Mary's Peak	82.20	345	P		P	02 57 11.2 +3.1
CNB	Canberra Magne	82.21	232	eP		P	02 57 07.3 -1.3
	comp=Z,41nm,1.6s,mb5.1						
LAO	LASA Array	82.30	358	eP		P	02 57 08.9 +0.4
	comp=Z,33nm,1.0s,mb5.2						
F11A	Grangeville	82.31	351	⇓P		P	02 57 08.5 -0.1
	baz=83,SNR=6.4						
H03A	Soap Creek Ran	82.31	346	⇑P		P	02 57 09.1 +0.4
	baz=83						
E15A	Deer Lodge	82.44	353	⇑P		P	02 57 09.3 +0.1
	baz=83,SNR=5.2						
G05A	Wamic	82.48	347	⇑P		P	02 57 09.0 -0.5
	baz=83						
E14A	Clinton	82.52	353	⇓P		P	02 57 09.5 -0.1
	baz=83						
F10A	Beach Ranch, E	82.54	350	⇓P		P	02 57 09.4 -0.4
	baz=83						
COWI	Conover	82.62	10	eP		P	02 57 10.4 +0.2
	comp=Z,14nm,0.7s,mb5.1						
HRY	Holter Researc	82.65	354	eP		P	02 57 11.2 +0.9
G04A	Mulino	82.66	346	⇑P		P	02 57 09.7 -0.8
	baz=83						
QUA2	Belchertown	82.75	22	eP		P	02 57 09.7 -1.3
	comp=Z,16nm,0.8s,mb5.1						
E11A	Bogner Ranch,	82.77	351	⇑P		P	02 57 10.9 -0.1
	baz=83,SNR=13						
CHMT	Chamberlain Mo	82.99	353	eP		P	02 57 12.8 +0.7
D15A	Lincoln	83.04	353	⇓P		P	02 57 12.9 +0.5
	baz=83,SNR=11						
D14A	Greenough	83.18	353	⇓P		P	02 57 13.3 +0.2
	baz=84,SNR=10						
TOO	Toolangi	83.18	228	eP		P	02 57 12.2 -1.5
	comp=Z,340nm,0.6s						
TOO	Toolangi	83.18	228	eP		P	02 57 12.2 -1.5
TOO					pmax	pmax	
	comp=Z,340nm,0.6s						
D13A	Huson	83.29	352	⇓P		P	02 57 13.6 -0.1
	baz=84,SNR=5.0						
HAWA	Hanford	83.29	349	eP		P	02 57 14.3 +0.6
	comp=Z,28nm,1.2s,mb5.2						
F04A	Amboy	83.35	347	⇓P		P	02 57 14.1 +0.1
	baz=84,SNR=7.6						
SNIWA	Snively Ranch	83.38	349	P		P	02 57 17.3 +3.2
D11A	Klaveano Farm,	83.47	351	⇑P		P	02 57 14.4 -0.2
	baz=84,SNR=12						
TDL	Tradedollar La	83.72	347	P		P	02 57 16.4 +0.5
NCB	Newcomb	83.74	20	eP		P	02 57 14.1 -1.9
	comp=Z,21nm,0.8s,mb5.3						
ARMA	Armidale	83.74	237	eP		P	02 57 15.8 -0.9
D09A	Jones Farm, Ri	83.76	350	⇑P		P	02 57 16.2 +0.1
	baz=84,SNR=5.1						
EGMT	Eagleton	83.80	355	eP		P	02 57 16.7 +0.5
	comp=Z,11nm,1.0s,mb5.0						
EGMT	Eagleton	83.80	355	⇑P		P	02 57 16.5 +0.3
	baz=84						
E05A	Randle	83.83	347	⇑P		P	02 57 16.0 -0.5
	baz=84						
D08A	Wollman Farm,	83.84	349	⇓P		P	02 57 16.1 -0.3
	baz=84						
C13A	Hot Springs	83.88	352	⇓P		P	02 57 16.3 -0.4
	baz=84,SNR=7.2						
C14A	Swan Lake	83.88	353	⇓P		P	02 57 17.2 +0.5
	baz=84						
LON	Longmire	84.03	347	eP		P	02 57 16.9 -0.5
LON					pmax	pmax	
	comp=Z,13nm,1.1s,mb5.0						
LON	Longmire	84.03	347	eP		P	02 57 16.9 -0.5
	comp=Z,13nm,1.1s,mb5.0						
DGMT	Dagmar	84.04	359	eP		P	02 57 18.2 +0.7
FFD	Franklin Falls	84.04	22	eP		P	02 57 17.0 -0.6
	comp=Z,31nm,0.8s,mb5.5						
BSMT	Bassoo Peak	84.08	352	eP		P	02 57 18.2 +0.5
AGMN	Agassiz Refuge	84.11	5	eP		P	02 57 17.8 0.0
	comp=Z,13nm,0.9s,mb5.1						
EYMN	Ely	84.15	8	eP		P	02 57 17.5 -0.5
	comp=Z,19nm,1.1s,mb5.1						
E03A	Lebam	84.16	346	⇑P		P	02 57 18.1 -0.1
	baz=84,SNR=7.6						
LONY	Lake Ozonia	84.23	20	eP		P	02 57 17.3 -1.3
	comp=Z,24nm,0.9s,mb5.3						
TWW	Teanaway	84.24	348	P		P	02 57 19.3 +0.8
D05A	Enumclaw	84.48	347	⇓P		P	02 57 19.6 -0.1
	baz=85,SNR=7.7						
WTV	Waterville	84.63	349	P		P	02 57 20.2 -0.3
C07A	Waterville	84.64	349	⇓P		P	02 57 20.7 +0.2
	baz=85						
LBNH	Lisbon	84.66	22	eP		P	02 57 20.9 +0.3
	comp=Z,11nm,0.9s,mb5.0						
FRNY	Flat Rock	84.71	21	eP		P	02 57 19.1 -1.8
	comp=Z,12nm,1.0s,mb5.0						
NEW	Newport	84.77	351	eP		P	02 57 21.2 +0.1
NEW					pmax	pmax	
	comp=Z,22nm,1.3s						
NEW	Newport	84.77	351	eP		P	02 57 21.2 0.0
	comp=Z,22nm,1.3s,mb5.1						
NEW	Newport	84.77	351	P		P	02 57 20.9 -0.2
	comp=Z,7.4nm,0.9s,mb4.8,baz=152,slow=3.7,SNR=11						
B11A	Sandpoint	84.84	351	⇓P		P	02 57 21.1 -0.4
	baz=85						
C05A	Tolt Reservoir	84.92	347	⇑P		P	02 57 21.3 -0.7
	baz=85						
GNW	Green Mountain	85.00	347	eP		P	02 57 25.7 +3.4
B09A	Rice	85.06	350	P		P	02 57 22.9 +0.3
	baz=85,SNR=22						
A13A	Flathead Natio	85.10	352	⇓P		P	02 57 23.6 +0.8
	baz=85						
WALA	Waterton Lakes	85.17	353	eP		P	02 57 24.1 +0.9
	comp=Z,12nm,0.9s,mb5.0						
A11A	Hall Mountain,	85.35	351	⇑P		P	02 57 23.8 -0.2
	baz=86						
OSD	Olympics--Snow	85.41	346	P		P	02 57 24.8 +0.4
B05A	Bryant	85.54	347	⇓P		P	02 57 25.0 0.0
	baz=86						
A09A	Danville	85.67	350	⇑P		P	02 57 25.8 +0.1
	baz=86,SNR=6.0						
A08A	Turner Farm, O	85.75	349	⇑P		P	02 57 25.9 -0.2
	baz=86,SNR=5.8						
A07A	Ashnola River,	86.01	349	⇑P		P	02 57 27.3 0.0
	baz=86,SNR=6.1						
ULM	Lac du Bonnet	86.05	5	eP		P	02 57 26.6 -0.9
	comp=Z,16nm,1.0s,mb5.2						
ULM	Lac du Bonnet	86.05	5	P		P	02 57 26.5 -1.0
	comp=Z,10nm,0.9s,mb5.1,baz=208,slow=4.0,SNR=13						
STKA	Stephens Creek	89.35	230	eP		P	02 57 42.3 -1.8
	comp=Z,2.1nm,0.8s,mb4.5						
STKA	Stephens Creek	89.35	230	P		P	02 57 41.8 -2.3
	comp=Z,2.4nm,0.7s,mb4.6,baz=94,slow=5.1,SNR=7.5						
STKA					LR	LR	03 31 40.4
	comp=Z,1μm,18.1s,MS5.3,baz=106,slow=32						
HNR	Honiara	90.15	258		LR	LR	03 28 24.7
	comp=Z,514nm,20.1s,MS5.0,baz=181,slow=29						
FFC	Flin Flon	90.30	1	eP		P	02 57 47.6 -0.1
FFC					pmax	pmax	
	comp=Z,6.0nm,1.1s,mb4.8						
FFC	Flin Flon	90.30	1	eP		P	02 57 47.6 0.0
	comp=Z,6.0nm,1.1s,mb4.8						
CTA	Charters Tower	94.03	242		LR	LR	03 29 51.4
	comp=Z,545nm,20.9s,MS5.0,baz=48,slow=29						
FCC	Fort Churchill	94.64	5	eP		P	02 58 06.5 -1.1
FCC					pmax	pmax	
	comp=Z,4.0nm,1.1s,mb4.8						
FCC	Fort Churchill	94.64	5	eP		P	02 58 06.5 -1.2
	comp=Z,3.9nm,1.1s,mb4.8						
SCHQ	Schefferville	95.61	20		LR	LR	03 35 56.6
	comp=Z,1μm,18.9s,MS5.4,baz=219,slow=32						
DLBC	Dease Lake	96.70	346	eP		P	02 58 15.3 -1.7
YKA	Yellowknife Ar	98.53	355	P		P	02 58 23.9 -1.2
YKA					PKKP	PKKPbc	03 15 00.2 +3.7
YKA	Yellowknife Ar	98.53	355	P		P	02 58 23.9 -1.2
	comp=Z,0.7nm,0.8s,mb4.3,baz=164,slow=4.9,SNR=10						
YKA					PKKP	PKKPbc	03 15 00.2 +3.7
	comp=Z,0.2nm,0.8s,baz=336,slow=3.4,SNR=4.7						
BOSA	Boshof	99.42	136		LR	LR	03 38 29.3
	comp=Z,454nm,19.0s,MS5.0,baz=189,slow=32						
ASAR	Alice Springs	99.94	231		P	Pdif	02 58 30.0 -2.3
	comp=Z,0.9nm,0.6s,baz=144,slow=5.5,SNR=16						
ASAR					PKKP	PKKPbc	03 14 57.1 +6.5
	comp=Z,0.6nm,0.8s,baz=39,slow=0.5,SNR=5.6						
COEN	Coen	100.24	245	eP		Pdif	02 58 35.6 +2.0
WRA	Warramunga Arr	102.33	234		P	Pdif	02 58 40.9 -2.0
	comp=Z,0.8nm,0.7s,baz=134,slow=4.3,SNR=5.9						
WRA					PKKP	PKKPbc	03 14 50.3 +6.6
	comp=Z,0.7nm,0.9s,baz=320,slow=3.4,SNR=4.6						
SJPF	Ste Jean	121.30	57	eP	KIKP	PKPdf	03 03 37.7 -2.4
	comp=Z,23nm,1.0s						
ETSF	Etsaut	121.68	57	eP	KIKP	PKPdf	03 03 38.5 -2.3
EPF	Esparros	122.34	58	eP	KIKP	PKPdf	03 03 39.5 -2.6
	comp=Z,9.4nm,0.9s						
FLN	La Foliniere	123.70	51	eP	KIKP	PKPdf	03 03 42.2 -2.3
	comp=Z,16nm,0.9s						
FLN					eMLR	MLR	
	comp=Z,984nm,18.5s,MS5.2						
EKA	Eskdalemuir Ar	123.99	43		PKP	PKPdf	03 03 43.6 -1.2
	comp=Z,1.9nm,0.9s,baz=278,slow=2.7,SNR=3.9						
TCF	Toulx Ste Croi	124.68	54	eP	KIKP	PKPdf	03 03 44.2 -2.2
	comp=Z,4.5nm,0.8s						
AVF	Avril sur Loir	125.58	54	eP	KIKP	PKPdf	03 03 46.0 -2.2
	comp=Z,3.8nm,0.7s						
SSF	Saint Saulge	125.76	54	eP	KIKP	PKPdf	03 03 46.5 -2.0
	comp=Z,11nm,1.1s						
SMF	Signal de Mont	125.86	54	eP	KIKP	PKPdf	03 03 46.7 -2.0
	comp=Z,8.5nm,0.8s						
LOR	Lormes	126.05	54	eP	KIKP	PKPdf	03 03 46.7 -2.3
LOR					eMLR	MLR	
	comp=Z,1μm,18.8s,MS5.3						
BAIF	Baives	127.00	50	eP	KIKP	PKPdf	03 03 48.7 -2.1
	comp=Z,9.0nm,1.0s						
MBDF	Montbardon	127.29	57	eP	KIKP	PKPdf	03 03 49.4 -2.1
	comp=Z,3.4nm,0.6s						
BNI	Bardonecchia	127.32	57	eP	KIKP	PKPdf	03 03 51.5 0.0
LPL	La Plagne	127.48	56	eP	KIKP	PKPdf	03 03 49.6 -2.2
LPG	La Plagne	127.49	57	eP	KIKP	PKPdf	03 03 49.7 -2.1
SEY	Seymchan	127.81	326	⇑i	PKIKP	PKPdf	03 03 50.0 -1.9
GRA1	Grafenberg Arr	131.37	52	eP	KP	PKPdf	03 04 01.5 +2.4
GRA1	Grafenberg Arr	131.37	52	eP	KP	Pdif	03 00 46.6 -5.4
GRF	Grafenberg Arr	131.37	52	eP	KP	PKPdf	03 04 01.5 +2.4
GRF	Grafenberg Arr	131.37	52	eP	KPdf	PKPdf	03 04 01.5 +2.4
GRF	Grafenberg Arr	131.37	52	eP	KP	Pdif	03 00 46.6 -5.4
JAVS	Javornik	132.56	58	i	Pdiff	Pdif	03 00 47.7 -10
JAVS				i	PKPdf	PKPdf	03 04 05.2 +3.7
JAVS				e			03 04 13.8
CLL	Collm	132.73	50	eP	KP	PKPdf	03 04 01.0 -0.6
CLL				i			03 04 10.6
CLL	Collm	132.73	50	eP	KPdf	PKPdf	03 04 01.0 -0.6
CLL				i	x	x	03 04 10.6
	comp=Z,6.0nm,1.0s						
CLL				eP	P	PP	03 06 24.0 -3.1
CLL				eP	SS		03 24 39.0
CLL				eS	SS		03 29 08.0
CLL				eS	SSS		03 32 42.0
GERES	GERESS Array B	132.83	54		PKhKP		03 03 51.6
	comp=Z,0.4nm,0.8s,baz=224,slow=9.6,SNR=2.9						
GERES					PKP	PKPdf	03 04 01.4 -0.4
	comp=Z,1.3nm,0.8s,baz=238,slow=1.3,SNR=11						
BRG	Berggieshubel	133.26	51	e		PKPdf	03 04 03.9 +1.3
	comp=Z,3.2nm,0.9s						
BRG				e			03 11 20.0
BRG				e			03 16 48.0
BRG				e			03 24 26.0
PERS	Pernice	133.42	57	i	PKPdf	PKPdf	03 04 06.0 +3.0
MODS	Modra-Piesok	135.12	55	eP	KP	PKPdf	03 04 08.6 +2.4
MORC	Moravsky Berou	135.44	53	eP	KIKP	PKPdf	03 04 08.0 +1.3
TIXI	Tiksi	135.47	339	i	PKIKP	PKPdf	03 04 05.7 -0.5
VYHS	Vyhne	136.16	55	eP	KP	PKPdf	03 04 09.3 +1.2
VYHS				e			03 07 40.6
KECS	Kecovo	137.26	55	eP	KP	PKPdf	03 04 10.3 +0.1
KWP	Kalwaria	138.78	53	eP	KIKP	PKPdf	03 04 13.7 +0.8
FINES	FINESS Array B	139.33	35		PKP	PKPdf	03 04 12.8 -0.8
	comp=Z,0.8nm,0.5s,baz=276,slow=1.5,SNR=5.3						
KSRS	Korea Array	139.52	288		PKP	PKPdf	03 04 13.5 -1.2
	comp=Z,1.6nm,0.6s,baz=104,slow=2.4,SNR=6.2						
CN2	Changchun	142.42	297	eP	KP	PKPdf	03 04 23.0 +3.3
KIEV	Kiev	142.93	51	eP	KIKP	PKPdf	03 04 20.3 -0.1
AKASG	Malin Array Be	142.94	51		PKP	PKPdf	03 04 14.5 -5.9
AKASG					PKP	PKPdf	03 04 20.5 +0.1
AKASG	Malin Array Be	142.94	51		PKhKP		03 04 14.5
	comp=Z,0.2nm,0.3s,baz=272,slow=3.6,SNR=4.3						
AKASG					PKP	PKPdf	03 04 20.5 +0.1
	comp=Z,1.5nm,0.6s,baz=266,slow=2.9,SNR=4.6						
AKBB	Malin Array Si	142.94	51	eP	KIKP	PKPdf	03 04 20.5 +0.1
TMCR	Tamitsa	143.31	27	eP	KHKP		03 04 15.8
CSS	Prodhromos	144.66	78	eP	KPdf	PKPdf	03 04 23.1 -0.9
ANTO	Ankara	145.19	70	eP	KIKP	PKPdf	03 04 24.9 +0.2
NJ2	Nanjing	145.25	276	eP	KP	PKPdf	03 04 23.5 -1.5
HIA	Hailar	146.27	307	eP	KPdf	PKPdf	03 04 25.9 -0.3
HIA				eP	KPbc	PKPbc	03 04 27.3 -0.1
OBN	Obninsk	146.44	42	i	PKP2	PKPab	03 04 26.9 -1.8
OBN				e			03 07 46.7
OBN					pmax	pmax	
	comp=Z,56nm,1.1s						
OBN	Obninsk	146.44	42	eP	KPbc	PKPbc	03 04 26.8 -0.9
MOS	Moscow	146.81	41	eP	KP2	PKPab	03 04 29.0 -1.1
BOD	Bodaibo	147.17	324	eP	KP2	PKPdf	03 04 28.4 +1.0
BOD					pmax	pmax	
	comp=Z,21nm,1.4s						
WHN	Wuhan	148.40	271	eP	KP	PKPdf	03 04 32.0 +1.6
ANN	Anapa	148.87	61	i	PKP2	PKPbc	03 04 35.2 +0.6
ANN				e			03 11 36.9
ANN					pmax	pmax	
	comp=Z,87nm,1.7s						
BJI	Beijing	149.00	290		PKP	PKPdf	03 04 31.5 +0.5
BJI					SS	SS	03 27 21.5 +5.1
BJI					LR	LR	
	comp=N,188nm,13.4s,MS5.3						
BJI					LR	LR	
	comp=E,263nm,14.9s,MS5.3						
BJI					LR	LR	
	comp=Z,334nm,29.3s						
VRSR	Storozhevoye	149.06	49	i	PKP2	PKPbc	03 04 33.0 -1.9
VRSR					pmax	pmax	
	comp=Z,7.0nm,0.9s						
VRSR					pmax	pmax	
	comp=N,3.0nm,0.8s						
VRSR					pmax	pmax	
	comp=E,5.0nm,0.7s						
VORD	Divnogorie	149.19	49	eP	KP2	PKPbc	03 04 34.6 -0.6
VORD					pmax	pmax	
	comp=Z,10.0nm,1.1s						
VORD					pmax	pmax	
	comp=N,20nm,0.8s						
VORD					pmax	pmax	
	comp=E,20nm,0.9s						
MALT	Malatya	149.33	74	eP	KIKP	PKPdf	03 04 32.0 +0.4
MALT				e			03 04 36.6
SOC	Sochi	150.56	63	eP	KIKP	PKPbc	03 04 38.6 -0.2
SOC				i			03 04 42.2
SOC				e			03 04 45.8
SOC					pmax	pmax	
	comp=Z,23nm,0.7s						
VRHR	Novokhopersk	150.57	48	i	PKIKP	PKPbc	03 04 37.5 -1.1
VRHR					pmax	pmax	
	comp=Z,10.0nm,0.4s						
VRHR					pmax	pmax	
	comp=N,20nm,0.7s						
VRHR					pmax	pmax	
	comp=E,10.0nm,0.9s						
PALK	Pallekele	151.26	188	eP	KPab	PKPab	03 04 47.7 -1.6
KIV	Kislovodsk	152.68	62	i	PKIKP	PKPdf	03 04 41.3 +4.7
KIV					pmax	pmax	
	comp=Z,18nm,1.3s						
SOKR	Solikamsk	152.96	23	⇑i	PKIKP	PKPbc	03 04 46.1 +2.3
SOKR					pmax	pmax	
	comp=Z,10.0nm,0.8s						
GYA	Guiyang	152.98	258		PKP	PKPdf	03 04 38.5 +0.9
GYA					PKP2	PKPab	03 05 00.0 +3.7
GYA					PKS		03 08 11.3
GYA					PP	PP	03 08 34.0 +4.1
GYA					SKS	SKSdf	03 11 42.8 +0.6
GYA					SKKS	SKKSac	03 15 20.8 +3.3
GYA					SS	SS	03 28 04.5 +3.9
GYA					PP	PP	
	comp=Z,160nm,8.9s						
GYA					LR	LR	
	comp=N,310nm,22.2s,MS5.2						
GYA					LR	LR	
	comp=E,250nm,23.7s,MS5.2						
GYA					LR	LR	
	comp=Z,320nm,24.2s,MS5.0						
ULN	Ulaanbaatar	154.80	308	i	PKIKP	PKPbc	03 04 46.0 -2.1
ULN	Ulaanbaatar	154.80	308	eP	KPbc	PKPbc	03 04 46.3 -1.8
ULN				eP	KPab	PKPab	03 05 02.1 -1.3
SONM	Songino Array	155.23	308		PKPab	PKPab	03 05 02.2 -3.0
	comp=Z,5.2nm,0.8s,baz=76,slow=2.7,SNR=5.9						
KMI	Kunming	155.39	251		PKP	PKPdf	03 04 41.3 +0.3
KMI					APKP		03 04 44.8
KMI					XPKP		03 04 47.0
ARU	Arti	156.01	26	i	PKIKP	PKPdf	03 04 42.1 +1.3
ARU	Arti	156.01	26	eP	KPdf	PKPdf	03 04 42.2 +1.4
ARU				eP	KPab	PKPab	03 05 07.7 -0.6
ZAK	Zakamensk	156.15	315	eP	KP2	PKPab	03 05 08.3 -0.7
ZAK					pmax	pmax	
	comp=Z,5.0nm,1.3s						
CD2	Chengdu	157.12	265	eP	KP	PKPdf	03 04 42.5 -0.6
CD2					APKP		03 04 46.5
CD2					XPKP		03 04 50.3
CD2					PKP2	PKPab	03 05 15.5 +1.6
CD2					PP	PP	03 08 54.5 +1.5
CD2					SKS	SKSdf	03 11 43.0 -3.6
CD2					SKKS	SKKSac	03 15 38.5 -1.0
CD2					SS	SS	03 28 42.5 -3.0
CD2					PP	PP	
	comp=Z,120nm,10.8s						
CD2					LR	LR	
	comp=N,280nm,26.4s						
CD2					LR	LR	
	comp=Z,210nm,24.2s,MS4.9						
LZH	Lanzhou	158.28	278	eP	KP	PKPdf	03 04 41.8 -2.6
LZH					APKP		03 04 44.5
LZH					XPKP		03 04 47.5
LZH					PP	PP	03 09 00.0 +0.6
LZH					SKKS	SKKSac	03 15 44.0 -1.4
LZH					SS	SS	03 28 55.0 -2.9
LZH					PP	PP	
	comp=Z,90nm,7.9s						
LZH					LR	LR	
	comp=E,236nm,17.1s						
LZH					LR	LR	
	comp=Z,321nm,18.8s,MS5.2						
AKTK	Aktyubinsk	160.06	38		PKP	PKPdf	03 04 46.0 0.0
AKTO	Aktyubinsk	160.06	38		PKP	PKPdf	03 04 46.0 0.0
	comp=Z,2.2nm,0.9s,baz=349,slow=2.3,SNR=6.7						

AOPR	Arecibo Observ	2.23 102⇑	*e*P	Pn	02 46 48.1	+0.8
AOPR			*e*S	Sn	02 47 16.5	+1.1
CELP	Cerrillos	2.46 108⇑	*e*P	Pn	02 46 49.8	-0.5
CELP			*e*S	Sn	02 47 20.9	+0.2
CBYP	Canovanas	3.08 100⇑	*e*P	Pn	02 46 58.6	+0.4
CBYP			*e*S	Sn	02 47 34.9	+0.1
HUMP	Col San Antoni	3.11 102⇑	*e*P	Pn	02 46 58.6	0.0
HUMP			*e*S	Sn	02 47 35.8	+0.1
MTP	Monte Pirata	3.40 102⇑	*e*P	Pn	02 47 01.7	-0.7
MTP			*e*S	Sn	02 47 42.7	+0.4

ISCJB ***26*** *03:32:43.7±1.6, 19.1S±0.1×17585W±0.10, h176km±15km, mb4.2/18, Error ellipse: s-maj=19.6km s-min=10.2km az=139.9*
IDC ***26*** *03:32:44.5±2.1, 19.19S×17577W, h170km±20km, mb4.1/9, mb1 4.3/11, mb1mx4.1/18, mbtmp4.1/11, Error ellipse: s-maj=24.4km s-min=11.3km az=144.0*
NEIC ***26*** *03:32:46.1±1.0, 19.14S×17583W, h186km±10km, mb4.2/12, Error ellipse: s-maj=11.6km s-min=5.9km az=143.0*

ISC 26 03:32:44.8±1.4, 1913S±010×17582W±010, h173km±13km, n33, σ0°70/32, mb4.2/18, 1D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.48**	**37**	P	**Pn**	**03 34 19.7**	**+1.6**
	14nm,0.3s,baz=197,slow=11,SNR=15						
AFI				S	**Sn**	**03 35 30.2**	**-1.4**
	39nm,0.3s,baz=42,slow=20,SNR=8.9						
URZ	**Urewera**	**20.03**	**196**	P	**P**	**03 37 03.9**	**-0.4**
	3.6nm,0.3s,baz=278,slow=5.4,SNR=12						
CTA	**Charters Tower**	**35.69**	**262**	*e*P	**P**	**03 39 27.4**	**+0.6**
	26nm,0.8s,mb4.9						
CTA	**Charters Tower**	**35.69**	**262**	P	**P**	**03 39 27.8**	**+1.0**
	30nm,0.8s,mb5.0,baz=95,slow=9.8,SNR=24						
CTAO	**Charters Tower**	**35.69**	**262**	*e*P	**P**	**03 39 27.6**	**+0.8**
	30nm,0.8s,mb5.0						
COEN	**Coen**	**39.58**	**271**	*e*P	**P**	**03 39 59.8**	**+0.4**
	3.2nm,0.7s,mb4.1						
STKA	**Stephens Creek**	**40.23**	**243**	P	**P**	**03 40 05.0**	**+0.3**
STKA	**Stephens Creek**	**40.23**	**243**	P	**P**	**03 40 05.0**	**+0.3**
	4.8nm,0.8s,mb4.2,baz=80,slow=8.4,SNR=5.9						
WB2	**Warramunga Arr**	**46.83**	**260**	*e*P	**P**	**03 40 56.8**	**-0.7**
WB2	**Warramunga Arr**	**46.83**	**260**	*e*P	**P**	**03 40 56.8**	**-0.7**
WRA	**Warramunga Arr**	**46.84**	**260**	P	**P**	**03 40 57.1**	**-0.5**
	6.2nm,0.6s,mb4.4,baz=97,slow=8.7,SNR=75						
ASAR	**Alice Springs**	**46.84**	**255**	P	**P**	**03 40 57.5**	**-0.2**
	40nm,0.7s,mb5.2,baz=89,slow=8.3,SNR=279						
ASAR				S	**S**	**03 47 28.2**	**-6.9**
	0.7nm,0.8s,baz=88,slow=17,SNR=5.7						
KAKA	**Kakadu**	**50.02**	**269**	*e*P	**P**	**03 41 21.6**	**-0.4**
	42nm,1.8s,mb4.8						
FITZ	**Fitzroy Crossi**	**55.26**	**261**	*e*P	**P**	**03 42 00.9**	**+0.5**
	5.1nm,0.7s,mb4.4						
FITZ	**Fitzroy Crossi**	**55.26**	**261**	P	**P**	**03 42 00.8**	**+0.4**
	2.3nm,0.7s,mb4.0,baz=120,slow=6.4,SNR=11						
VNDA	**Vanda**	**59.45**	**186**	*e*P	**P**	**03 42 29.5**	**+0.7**
	1.9nm,1.0s,mb3.9						
MJAR	**Matsushiro Arr**	**70.36**	**322**	P	**P**	**03 43 40.3**	**+0.4**
	2.5nm,0.7s,mb4.1,baz=155,slow=5.8,SNR=7.7						
QSPA	**South Pole Qui**	**70.93**	**180**	*e*P	**P**	**03 43 42.8**	**+0.1**
	4.2nm,0.9s,mb4.2						
NVAR	**Mina Array Bea**	**78.63**	**43**	P	**P**	**03 44 28.1**	**+0.6**
	2.0nm,0.8s,mb3.8,baz=223,slow=9.6,SNR=12						
HLID	**Hailey**	**83.96**	**40**	*e*P	**P**	**03 44 56.0**	**+0.6**
	2.2nm,0.9s,mb3.9						
MNTX	**Cornudas Mount**	**84.29**	**54**	*e*P	**P**	**03 44 58.0**	**+0.7**
	5.2nm,0.9s,mb4.3						
TXAR	**Lajitas Array**	**84.59**	**57**	P	**P**	**03 44 59.8**	**+0.8**
	1.8nm,0.9s,mb3.8,baz=213,slow=6.7,SNR=16						
ANMO	**Albuquerque**	**84.95**	**51**	*e*P	**P**	**03 45 01.2**	**+0.6**
	3.7nm,1.4s,mb3.9						
COLA	**College**	**86.45**	**12**	*e*P	**P**	**03 45 06.5**	**-0.8**
	3.5nm,0.8s,mb4.1						
BW06	**Boulder Array**	**86.57**	**42**	*e*P	**P**	**03 45 08.3**	**-0.1**
BOZ	**Bozeman (W)**	**86.76**	**39**	*e*P	**P**	**03 45 08.9**	**-0.3**
	1.0nm,1.1s,mb3.6						
VNA2	**Neumayer--Watz**	**89.82**	**176**	*e*	**P**	**03 45 22.5**	**-0.9**
	baz=177,slow=3.3						
VNA2				*e*		03 45 24.2	
VNA1	**Neumayer--Stat**	**90.03**	**176**	*e*	**P**	**03 45 23.5**	**-0.9**
VNA1				*e*		03 45 25.3	
INK	**Inuvik**	**92.43**	**15**	*e*P	**P**	**03 45 34.5**	**-0.8**
YKA	**Yellowknife Ar**	**94.42**	**24**	P	**P**	**03 45 43.9**	**-0.7**
	0.6nm,0.9s,mb3.7,baz=238,slow=4.2,SNR=6.2						
CLL	**Collm**	**147.15**	**350**	⇓*i*PKPbc	PKPbc	03 52 07.1	-0.1
	comp=Z,4.0nm,0.8s						
GERES	**GERESS Array B**	**149.38**	**348**	PKPbc	PKPbc	03 52 12.8	-0.3
	comp=Z,0.9nm,0.9s,baz=29,slow=3.0,SNR=5.9						
TORD	**Torodi Ar. Bea**	**173.59**	**158**	PKPab	PKPab	03 54 02.9	-1.4
	comp=Z,0.7nm,0.8s,baz=233,slow=3.2,SNR=5.8						

IDC 26 03:35:58.1±4.0, 2342S×17984E, h505km±35km, mb3.3/6, mb1 3.5/6, mb1mx3.2/15, mbtmp3.3/6, Error ellipse: s-maj=105.5km s-min=30.6km az=163.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**31.33**	**270**	P	P	03 41 37.9	+1.2
	6.3nm,0.5s,baz=93,slow=11,SNR=13						
STKA	**Stephens Creek**	**34.76**	**247**	P	P	03 42 05.0	-0.7
	0.8nm,0.4s,baz=77,slow=13,SNR=2.8						
ASAR	**Alice Springs**	**41.97**	**260**	P	P	03 43 04.0	-0.5
	1.7nm,0.5s,baz=97,slow=7.2,SNR=7.9						
ASAR				ScP	ScP	03 47 50.1	-0.2
	0.8nm,0.9s,baz=100,slow=5.2,SNR=5.9						
WB2	**Warramunga Arr**	**42.28**	**266**	*e*P	P	03 43 06.2	-0.7
WRA	**Warramunga Arr**	**42.29**	**266**	P	P	03 43 06.4	-0.7
	3.3nm,0.3s,baz=96,slow=8.4,SNR=40						
FITZ	**Fitzroy Crossi**	**50.72**	**265**	P	P	03 44 11.2	+0.1
	1.1nm,0.4s,baz=113,slow=9.9,SNR=6.8						
TXAR	**Lajitas Array**	**90.31**	**58**	P	P	03 48 05.1	+0.2
	0.1nm,0.6s,baz=225,slow=5.1,SNR=3.5						

STR ***26*** *03:39:55.3±0.6, 5103N×1674E, h2km, Ml4.1, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
LDG ***26*** *03:39:57.4±0.2, 5155N×1613E, h1km, Ml4.2/7, Error ellipse: s-maj=4.2km s-min=2.7km az=179.0, Suspected Mining induced.*
IPEC ***26*** *03:39:57.8±0.3, 5159N×1624E, h0km, ML3.5/4, Error ellipse: s-maj=1.9km s-min=1.5km az=44.0*
ISCJB ***26*** *03:39:58.2±0.2, 5143N±001×1611E±002, h0km, mb3.9/6, Error ellipse: s-maj=2.0km s-min=1.4km az=10.8*
MOS ***26*** *03:39:58.2±0.8, 5157N×1613E, h9km, mb4.1/5, Error ellipse: s-maj=5.8km s-min=3.4km az=83.4*
NEIC ***26*** *03:39:59.8±0.2, 5154N×1612E, h5km, mb4.4/1, ML3.8(FUR), ML3.7(SZGRF), ML3.5(BRA), Error ellipse: s-maj=3.3km s-min=2.8km az=177.0*
CSEM ***26*** *03:39:59.1±0.1, 5154N×1618E, h1km, ML4.2/20, Error ellipse: s-maj=1.0km s-min=1.0km az=34.0*
BGR ***26*** *03:39:59.4±0.4, 5153N×1617E, h1km, ML3.7/15, Error ellipse: s-maj=4.4km s-min=2.2km az=23.0*
IDC ***26*** *03:40:00.2±0.5, 5143N×1606E, h0km, mb3.8/5, mb1 3.8/12, mb1mx3.7/26, mbtmp3.7/12, ML3.5/7, Error ellipse: s-maj=10.7km s-min=5.5km az=100.0*
WAR ***26*** *03:40:00.7, 5148N×1611E, ML3.4, Mining Induced*
PRU ***26*** *03:40:01.0, 5145N×1610E, h0km*
VIE ***26*** *03:40:02.9±0.6, 5126N×1603E, h0km, mb3.2/10, ML3.3/13, Error ellipse: s-maj=3.8km s-min=3.5km az=78.0 70 km WNW of Wroclaw Suspected Mining induced.*

ISC 26 03:39:59.3±0.2, 5151N±001×1614E±002, h0km, n224, σ1§06/377, mb3.9/6, 17C-12D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**03 40 12.5**	**+0.3**
KSP				*e*Sg	**Sg**	**03 40 21.4**	**+0.5**
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**03 40 12.6**	**+0.4**
KSP				*e*Sg	**Sg**	**03 40 21.6**	**+0.7**
KSP	**Ksiaz**	**0.67**	**172**	*e*P	**Pg**	**03 40 12.5**	**+0.3**
KSP				*i*		03 40 21.4	
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**03 40 12.5**	**+0.3**
KSP				*i* Sg	**Sg**	**03 40 21.4**	**+0.5**
KSP				*e*		03 40 24.8	
KSP	**Ksiaz**	**0.67**	**172**	*e*Pg	**Pg**	**03 40 12.2**	**0.0**
KSP				*i* Sg	**Sg**	**03 40 21.4**	**+0.5**
UPC	**Upice**	**1.00**	**185**	*e*Pg	**Pg**	**03 40 18.5**	**0.0**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg	**Pg**	**03 40 21.4**	**-0.2**
DPC				*e*Sg	**Sg**	**03 40 36.6**	**-0.1**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*P	**Pg**	**03 40 21.3**	**-0.3**
DPC				*e*		03 40 36.1	
DPC				smax			
	comp=N,408nm,1.0s						
DPC				MLR	MLR		
	comp=Z,700nm,4.5s						
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg	**Pg**	**03 40 21.3**	**-0.3**
DPC				*e*Sg	**Sg**	**03 40 36.1**	**-0.6**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*Pg	**Pg**	**03 40 21.2**	**-0.4**
DPC				Sg	**Sg**	**03 40 36.6**	**-0.1**
DPC	**Dobruska-Polom**	**1.17**	**174**	*e*PG	**Pg**	**03 40 21.3**	**-0.3**
DPC				*e*SG	**Sg**	**03 40 36.1**	**-0.6**
	comp=Z,408nm,1.0s						
DPC				AMS	AMS	03 40 40.0	
	comp=Z,700nm,4.5s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*P	**Pn**	**03 40 25.9**	**-0.1**
PVCC				*e*		03 40 44.8	
PVCC				smax			
	comp=N,575nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pn	**Pn**	**03 40 25.5**	**-0.5**
PVCC	**Panska Ves**	**1.39**	**226**	*e*Pg	**Pn**	**03 40 25.9**	**-0.1**
PVCC				*e*Sg	**Sg**	**03 40 44.8**	**+0.7**
	comp=N,575nm,0.2s						
PVCC	**Panska Ves**	**1.39**	**226**	*e*PG	**Pn**	**03 40 25.9**	**-0.1**
PVCC				*e*SG	**Sg**	**03 40 44.8**	**+0.7**
	comp=Z,575nm,0.2s						
BRG	**Berggiesshubel**	**1.52**	**246**	*e*Pn	**Pn**	**03 40 26.9**	**-0.8**
BRG				*e*Sg	**Sg**	**03 40 49.0**	**+0.9**
BRG	**Berggiesshubel**	**1.52**	**246**	P	**Pn**	**03 40 26.9**	**-0.8**
BRG						03 40 48.9	
BRG				smax			
	comp=N,275nm,0.4s						
BRG	**Berggiesshubel**	**1.52**	**246**	Pg	**Pg**	**03 40 29.1**	**+0.7**
BRG				Sg	**Sg**	**03 40 49.0**	**+0.9**
BRG	**Berggiesshubel**	**1.52**	**246**	PN	**Pn**	**03 40 26.9**	**-0.8**
BRG				PG	**Pg**	**03 40 29.1**	**+0.7**
BRG				SG	**Sg**	**03 40 48.9**	**+0.8**
	comp=N,459nm,0.4s						
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**03 40 29.9**	**-1.0**
RUE				*e*Pg	**Pg**	**03 40 33.8**	**+0.9**
RUE				*e*Sg	**Sg**	**03 40 57.8**	**+2.2**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pn	**Pn**	**03 40 30.0**	**-0.9**
RUE	**Ruedersdorf**	**1.75**	**305**	*e*Pg	**Pg**	**03 40 33.8**	**+0.9**
PRA	**Prague**	**1.80**	**218**	PG	**Pg**	**03 40 31.0**	**-2.8**
PRA				SG	**Sg**	**03 40 54.0**	**-3.1**
PRU	**Pruhonice**	**1.83**	**214**	*e*P	**Pn**	**03 40 31.6**	**-0.3**
PRU				*e*		03 40 57.1	
PRU				smax			
	comp=N,233nm,0.6s						
PRU				MLR	MLR		
	comp=Z,700nm,3.9s						
PRU	**Pruhonice**	**1.83**	**214**	*e*Pn	**Pn**	**03 40 31.6**	**-0.3**
PRU				*e*Pg	**Pg**	**03 40 33.4**	**-0.9**
PRU				*e*Sg	**Sg**	**03 40 57.1**	**-0.9**
PRU	**Pruhonice**	**1.83**	**214**	*e*Pg	**Pg**	**03 40 33.4**	**-0.9**
PRU				*e*Sg	**Sg**	**03 40 57.1**	**-0.9**
	comp=Z,233nm,0.6s						
PRU	**Pruhonice**	**1.83**	**214**	*e*PN	**Pn**	**03 40 31.6**	**-0.3**
PRU				*e*PG	**Pg**	**03 40 33.4**	**-0.9**
PRU				*e*SG	**Sg**	**03 40 57.1**	**-0.9**
	comp=Z,233nm,0.6s						
PRU				AMS	AMS	03 41 10.0	
	comp=Z,700nm,3.9s						
FBE	**Freiberg**	**1.85**	**253**	*e*Pn	**Pn**	**03 40 32.2**	**0.0**
FBE				*e*Sg	**Sg**	**03 40 59.4**	**+0.8**
GKP	**Gorka Klasztor**	**1.89**	**20**	*e*Pn	**Pn**	**03 40 34.4**	**+1.6**
GKP				*e*Pg	**Pg**	**03 40 42.1**	**+6.6**
GKP	**Gorka Klasztor**	**1.89**	**20**	*e*Pn	**Pn**	**03 40 34.4**	**+1.6**
GKP				*e*Pg	**Pg**	**03 40 42.1**	**+6.6**
RAC	**Raciborz**	**1.93**	**137**	*e*Pn	**Pn**	**03 40 32.6**	**-0.8**
RAC				*e*Pg	**Pg**	**03 40 36.5**	**+0.2**
RAC				*e*Sg	**Sg**	**03 41 02.8**	**+1.4**
RAC	**Raciborz**	**1.93**	**137**	*e*Pn	**Pn**	**03 40 32.6**	**-0.8**
RAC				*e*Pg	**Pg**	**03 40 36.4**	**+0.1**
RAC				*e*Sg	**Sg**	**03 41 02.8**	**+1.4**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**03 40 33.5**	**-0.1**
MORC				*e*Sg	**Sg**	**03 41 01.4**	**-0.5**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**03 40 33.2**	**-0.4**
MORC				*e*Sg	**Sg**	**03 41 01.0**	**-0.9**
MORC	**Moravsky Berou**	**1.95**	**152**	⇑*i*P	**Pn**	**03 40 33.5**	**-0.1**
MORC	**Moravsky Berou**	**1.95**	**152**	*e*Pn	**Pn**	**03 40 33.0**	**-0.6**
MORC				*e*Sg	**Sg**	**03 41 01.0**	**-0.9**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**03 40 33.3**	**-0.6**
CLL				*e*Sg	**Sg**	**03 41 03.0**	**+0.4**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**03 40 33.0**	**-0.9**
CLL				*e*Pg	**Pg**	**03 40 37.0**	**-0.1**
CLL				*i* Sg	**Sg**	**03 41 02.1**	**-0.6**
CLL	**Collm**	**1.97**	**265**	*e*Pn	**Pn**	**03 40 33.0**	**-0.9**
CLL				*e*Pg	**Pg**	**03 40 37.0**	**-0.1**
CLL				*i* x	x	03 40 40.8	
CLL				*i* x	x	03 40 51.6	
CLL				*i* Sg	**Sg**	**03 41 02.1**	**-0.6**
	comp=Z,211nm,0.6s						
CLL	**Collm**	**1.97**	**265**	*e*Pg	**Pg**	**03 40 37.0**	**-0.1**
CLL				Sg	**Sg**	**03 41 03.0**	**+0.3**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*Pn	**Pn**	**03 40 35.0**	**-0.7**
OKC				*e*Sg	**Sg**	**03 41 05.9**	**-1.0**
OKC	**Ostrava-Krasne**	**2.10**	**142**	Pn	**Pn**	**03 40 35.0**	**-0.7**
OKC				Sg	**Sg**	**03 41 05.9**	**-1.0**
OKC	**Ostrava-Krasne**	**2.10**	**142**	*e*SG	**Sg**	**03 41 05.8**	**-1.1**
	comp=Z,221nm,0.6s						
OKC				AMS	AMS	03 41 20.0	
	comp=Z,500nm,4.0s						
VRAC	**Vranov**	**2.22**	**172**	P	**Pn**	**03 40 37.6**	**+0.3**
VRAC	**Vranov**	**2.22**	**172**	Pg	**Pg**	**03 40 38.9**	**-3.0**
	comp=Z,6.2nm,0.3s,baz=341,slow=14,SNR=21						
VRAC				Lg		03 41 09.5	
	comp=Z,18nm,0.3s,baz=90,slow=20,SNR=13						
VRAC	**Vranov**	**2.22**	**172**	⇑*i*P	**Pn**	**03 40 38.5**	**+1.2**
VRAC	**Vranov**	**2.22**	**172**	*e*Pn	**Pn**	**03 40 37.0**	**-0.3**
VRAC				*e*Sg	**Sg**	**03 41 09.6**	**-1.0**
	comp=Z,287nm,0.9s						
TREC	**Trest**	**2.25**	**191**	*e*PN	**Pn**	**03 40 37.9**	**+0.1**
TREC				*e*PG	**Pg**	**03 40 41.8**	**-0.7**
KRUC	**Moravsky**	**2.45**	**176**	*e*Pn	**Pn**	**03 40 40.0**	**-0.5**
KRUC				*e*Sg	**Sg**	**03 41 17.2**	**-0.9**
	comp=Z,197nm,0.8s						
WERD	**Werda**	**2.64**	**248**	*e*Pn	**Pn**	**03 40 43.4**	**+0.2**
WERD				*e*Sg	**Sg**	**03 41 23.4**	**-0.8**
OJC	**Ojcow**	**2.65**	**118**	*e*Pn	**Pn**	**03 40 42.0**	**-1.3**
OJC				*e*Pg	**Pg**	**03 40 50.7**	**+0.6**
OJC				*e*Sn	**Sn**	**03 41 12.7**	**-3.4**
OJC				*e*Sg	**Sg**	**03 41 25.8**	**+1.3**
OJC	**Ojcow**	**2.65**	**118**	*e*P	**Pn**	**03 40 42.0**	**-1.3**
OJC				*e*		03 41 12.7	
NKC	**Novy Kostel**	**2.66**	**243**	*e*P	**Pn**	**03 40 43.6**	**+0.2**
NKC				*e*		03 41 25.2	
NKC				smax			
	comp=N,256nm,0.4s						
NKC				MLR	MLR		
	comp=Z,400nm,5.1s						
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pn	**Pn**	**03 40 43.6**	**+0.2**
NKC				*e*Pg	**Pg**	**03 40 50.0**	**-0.3**
NKC				*e*Sg	**Sg**	**03 41 25.2**	**+0.4**
NKC	**Novy Kostel**	**2.66**	**243**	*e*Pg	**Pg**	**03 40 50.0**	**-0.3**
NKC				*e*Sg	**Sg**	**03 41 25.2**	**+0.4**
	comp=Z,256nm,0.4s						
NKC	**Novy Kostel**	**2.66**	**243**	*e*PN	**Pn**	**03 40 43.6**	**+0.2**
NKC				*e*PG	**Pg**	**03 40 50.0**	**-0.3**
NKC				*e*SG	**Sg**	**03 41 25.2**	**+0.4**
	comp=Z,256nm,0.4s						
NKC				AMS	AMS	03 41 40.0	
	comp=Z,400nm,5.1s						
JAVC	**Velka Javorina**	**2.83**	**159**	*e*Pn	**Pn**	**03 40 46.7**	**+1.0**
JAVC				*e*Sg	**Sg**	**03 41 28.8**	**-1.3**
	comp=Z,234nm,0.9s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*Pn	**Pn**	**03 40 46.3**	**-0.2**
KHC				*e*Pg	**Pg**	**03 40 52.8**	**-1.9**
KHC				*e*Sn	**Sn**	**03 41 21.0**	**-1.0**
KHC				*e*Sg	**Sg**	**03 41 31.1**	**-1.0**
KHC	**Kasperske Hory**	**2.89**	**216**	*e*Pg	**Pg**	**03 40 52.8**	**-1.9**
KHC				*e*Sn	**Sn**	**03 41 21.0**	**-1.0**
KHC				*e*Sg	**Sg**	**03 41 31.1**	**-1.0**
	comp=Z,118nm,0.7s						
KHC	**Kasperske Hory**	**2.89**	**216**	*e*PN	**Pn**	**03 40 46.3**	**-0.2**
KHC				*e*PG	**Pg**	**03 40 52.8**	**-1.9**
KHC				*e*SN	**Sn**	**03 41 21.0**	**-1.0**
KHC				*e*SG	**Sg**	**03 41 31.1**	**-1.0**
	comp=Z,118nm,0.7s						
KHC				AMS	AMS	03 41 40.0	
	comp=Z,300nm,4.4s						
MANZ	**Manzenberg**	**2.98**	**241**	*e*Pn	**Pn**	**03 40 48.2**	**+0.5**
MANZ				*e*Sg	**Sg**	**03 41 34.4**	**-0.6**
MOX	**Moxa**	**2.98**	**255**	*e*Pn	**Pn**	**03 40 47.9**	**+0.1**
MOX				*e*Sg	**Sg**	**03 41 35.3**	**+0.3**
MOX	**Moxa**	**2.98**	**255**	*e*PN	**Pn**	**03 40 47.7**	**-0.1**
MOX				*e*PG	**Pg**	**03 40 56.2**	**-0.2**
MOX				*i* SG	**Sg**	**03 41 36.1**	**+1.1**
MOX	**Moxa**	**2.98**	**255**	*e*Pg	**Pg**	**03 40 56.2**	**-0.2**
MOX				Sg	**Sg**	**03 41 35.3**	**+0.3**
ROTZ	**Rotzenmuhle**	**3.05**	**237**	*e*Pn	**Pn**	**03 40 49.1**	**+0.4**
ROTZ				*e*Sg	**Sg**	**03 41 35.7**	**-1.6**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**03 40 49.4**	**+0.1**
GEC2				*e*Sg	**Sg**	**03 41 38.9**	**+0.3**
GEC2	**GERESS Array S**	**3.09**	**211**	*e*Pn	**Pn**	**03 40 49.4**	**+0.1**
GEC2				*e*Sg	**Sg**	**03 41 38.9**	**+0.3**
GERES	**GERESS Array B**	**3.09**	**211**	P	**Pn**	**03 40 49.4**	**+0.1**
GERES						03 41 20.2	
GERES				pmax	pmax		
	comp=Z,5.0nm,0.3s						
GERES				pmax	pmax		
	comp=Z,12nm,0.3s						
GERES				smax			
	comp=N,7.0nm,0.3s						
GERES	**GERESS Array B**	**3.09**	**211**	Pn	**Pn**	**03 40 49.4**	**+0.1**
	comp=N,5.0nm,0.3s,baz=30,slow=12,SNR=115						
GERES				Pg	**Pg**	**03 40 56.1**	**-2.5**
	comp=N,12nm,0.3s,baz=32,slow=15,SNR=67						
GERES				Sn	**Sn**	**03 41 20.2**	**-6.7**
	comp=N,6.9nm,0.3s,baz=52,slow=24,SNR=7.1						
GERES				Lg		03 41 35.6	
	comp=N,16nm,0.3s,baz=37,slow=28,SNR=9.3						
GERES	**GERESS Array B**	**3.09**	**211**	Pg	**Pg**	**03 40 56.1**	**-2.4**
LIKS	**Likavka**	**3.11**	**141**	*e*P	**Pn**	**03 40 51.8**	**+2.2**
LIKS				pmax	pmax		
	comp=N,199nm,0.6s						
LIKS	**Likavka**	**3.11**	**141**	*e*PN	**Pn**	**03 40 51.8**	**+2.2**
LIKS				*e*PG	**Pg**	**03 40 59.9**	**+1.0**
LIKS				*e*SG	**Sg**	**03 41 40.4**	**+1.2**
WET	**Wettzell**	**3.16**	**223**	*e*Pn	**Pn**	**03 40 50.1**	**-0.1**
WET				*e*Sg	**Sg**	**03 41 39.7**	**-0.9**
WET	**Wettzell**	**3.16**	**223**	*e*Pn	**Pn**	**03 40 50.1**	**-0.1**
WET				*e*Sg	**Sg**	**03 41 39.7**	**-1.0**
WET	**Wettzell**	**3.16**	**223**	Pn	**Pn**	**03 40 50.1**	**-0.1**
WET				Sg	**Sg**	**03 41 39.7**	**-1.0**
MODS	**Modra-Piesok**	**3.22**	**166**	*e*PN	**Pn**	**03 40 51.8**	**+0.7**
MODS				*e*PG	**Pg**	**03 41 00.5**	**-0.5**
MODS				*e*SG	**Sg**	**03 41 41.9**	**-0.9**
KOLL	**Kolacno**	**3.27**	**153**	*e*PN	**Pn**	**03 40 52.7**	**+0.9**
KOLL				*e*PG	**Pg**	**03 41 02.0**	**-0.1**
KOLL				*e*SG	**Sg**	**03 41 43.9**	**-0.6**
ZST	**Bratislava**	**3.37**	**169**	*e*P	**Pn**	**03 40 53.5**	**+0.3**
ZST				pmax	pmax		
	comp=N,50nm,0.5s						
ZST	**Bratislava**	**3.37**	**169**	*e*PN	**Pn**	**03 40 53.5**	**+0.3**
ZST				*e*PG	**Pg**	**03 41 02.1**	**-1.8**
ZST				*e*SG	**Sg**	**03 41 46.3**	**-1.3**
NIE	**Niedzica**	**3.39**	**126**	*e*Pn	**Pn**	**03 40 54.1**	**+0.7**
NIE				*e*Pg	**Pg**	**03 41 04.0**	**-0.2**
NIE				*e*Sg	**Sg**	**03 41 48.8**	**+0.7**
VYHS	**Vyhne**	**3.48**	**149**	*e*PN	**Pn**	**03 40 54.7**	**0.0**
VYHS				*e*PG	**Pg**	**03 41 05.4**	**-0.6**
RGN	**Rugen**	**3.49**	**332**	*e*Pn	**Pn**	**03 40 53.6**	**-1.1**
RGN	**Rugen**	**3.49**	**332**	*e*Pn	**Pn**	**03 40 53.6**	**-1.1**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**03 40 57.2**	**+0.9**
CLZ				*e*Sg	**Sg**	**03 41 53.7**	**-1.3**
CLZ	**Clausthal**	**3.60**	**278**	*e*Pn	**Pn**	**03 40 57.2**	**+0.8**
CLZ				*e*Sg	**Sg**	**03 41 53.7**	**-1.3**
GRA1	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**03 40 57.2**	**+0.6**
GRA1				*e*Sg	**Sg**	**03 41 55.5**	**-0.1**
GRA1	**Grafenberg Arr**	**3.62**	**242**	Pn	**Pn**	**03 40 57.2**	**+0.6**
GRA1				Sg	**Sg**	**03 41 55.5**	**-0.1**
GRF	**Grafenberg Arr**	**3.62**	**242**	*e*Pn	**Pn**	**03 40 57.2**	**+0.6**
GRF				*e*Sg	**Sg**	**03 41 55.5**	**-0.1**
GRFO	**Grafenberg**	**3.62**	**242**	*e*Pn	**Pn**	**03 40 56.8**	**+0.2**
GRFO	

TOD S Sn 03 42 20.2 +5.1
KOGS Kog 5.07 179 *i* Pn Pn 03 41 17.3 +0.9
KOGS *i* Sg Sg 03 42 43.3 +1.3
OBKA Obir 5.11 192⇓*i*Pn Pn 03 41 17.1 +0.1
SNR=6.0
OBKA ⇓*i*Sg Sg 03 42 43.5 +0.1
comp=E,62nm,0.8s
OBKA Obir 5.11 192 Pn Pn 03 41 17.1 0.0
OBKA Sg Sg 03 42 43.5 +0.1
comp=E,62nm,0.8s
WATA Walderalm 5.13 217⇑*i*Pn Pn 03 41 18.4 +1.1
WATA *i* Sg Sg 03 42 44.9 +1.0
WATA Walderalm 5.13 217 Pn Pn 03 41 18.4 +1.1
comp=E,9.0nm,7.0s
WATA Sg Sg 03 42 44.9 +1.0
comp=E,41nm,0.8s
WTTA Wattenberg 5.17 216 *i* Pn Pn 03 41 19.3 +1.5
SNR=10
WTTA ⇑*i*Sg Sg 03 42 45.3 +0.2
comp=E,58nm,0.6s
WTTA Wattenberg 5.17 216 *i* Pn Pn 03 41 19.3 +1.5
WTTA *i* Sg Sg 03 42 45.3 +0.2
WTTA Wattenberg 5.17 216 Pn Pn 03 41 19.3 +1.5
comp=E,10.0nm,1.0s
WTTA Sg Sg 03 42 45.3 +0.2
comp=E,58nm,0.6s
LVV L'vov 5.30 106 *e*P Pn 03 41 18.7 -0.9
LVV *e*S Sn 03 42 20.9 -0.4
MOTA Moosalm 5.30 220⇓*i*Pn Pn 03 41 19.9 +0.2
MOTA *i* Sg Sg 03 42 50.1 +0.5
MOTA Moosalm 5.30 220 Pn Pn 03 41 19.9 +0.2
comp=E,14nm,5.0s
MOTA Sg Sg 03 42 50.1 +0.5
comp=E,99nm,1.0s
ABTA Abfaltersbach 5.33 208⇑*i*Pn Pn 03 41 20.6 +0.6
SNR=10
TRPA Tarpa 5.35 127⇑*i*P Pn 03 41 19.9 -0.4
SQTA Sankt Quirin 5.36 219⇑*i*Pn Pn 03 41 20.5 0.0
SNR=16
FVI Forni Avoltri 5.39 205 Pn Pg 03 41 32.9 -10
SEST Monte Rota 5.41 210 Pn Pn 03 41 22.6 +1.4
comp=E,21nm,0.8s
PTCC Patocco-Chiusa 5.43 201 Pn Pn 03 41 22.2 +0.8
PKSM Moragy 5.55 162⇓*i*P Pn 03 41 23.9 +0.8
PKSM Moragy 5.55 162⇓*e*P Pn 03 41 24.0 +0.9
ABH Alteburg 5.70 257 P Pn 03 41 24.4 -0.7
JAVS Javornik 5.78 195 *e*Pn Pg 03 41 49.5 -0.6
JAVS *i* Sg Sg 03 43 04.4 -0.6
RHK3 Tenkes 5.79 165⇓*e*P Pn 03 41 27.5 +1.0
WTSB Winterswijk 5.82 278 *e*P Pn 03 41 27.3 +0.5
comp=E,11nm,1.0s
WTSB Winterswijk 5.82 278 *e*S Sg 03 43 12.0 +5.8
LANF Langenberg 5.91 248 P Pn 03 41 26.1 -2.0
LANF S Sn 03 42 42.5 +6.0
BFO Black Forest 5.96 241 *e*P Pn 03 41 28.0 -0.7
BFO pmax pmax
comp=Z,9.0nm,1.3s
BFO Black Forest 5.96 241 *e*Pn Pn 03 41 28.0 -0.8
comp=Z,9.3nm,1.3s
BFO *e*Sg Sg 03 43 10.3 -0.4
BFO Black Forest 5.96 241 *e*P Pn 03 41 28.0 -0.7
comp=Z,9.0nm,1.3s
BFO *e*Sg Sg 03 43 10.3 -0.4
BOJS Bojanci 6.04 186 *i* Pn Pn 03 41 30.6 +0.8
RUP Ruppelstein 6.06 256 P Pn 03 41 29.4 -0.6
CTI Castel Tesino 6.22 210 P Pn 03 41 33.6 +1.4
CTI pmax pmax
comp=Z,21nm,0.6s
CTI Castel Tesino 6.22 210 Pn Pn 03 41 33.6 +1.4
comp=Z,21nm,0.6s
DAVOX Davos/Dischmat 6.26 223 Pn Pn 03 41 33.4 +0.5
comp=Z,0.9nm,0.3s,baz=34,slow=12,SNR=8.9
DAVOX Lg 03 43 17.3
comp=Z,1.4nm,0.3s,baz=352,slow=19,SNR=4.1
DRGR 6.39 135⇓*i*P Pn 03 41 34.9 +0.3
DRGR 6.39 135 P Pn 03 41 35.0 +0.4
MUD Monsted U'grnd 6.43 323 *i* P Pn 03 41 39.3 +4.1
MUD *e*S Pg 03 42 07.7 +5.2
MUD
comp=Z,530nm,18.0s
HGN Heimansgroeve 6.47 267 *e*P Pn 03 41 35.1 -0.6
HGN Heimansgroeve 6.47 267 *e*S Sg 03 43 26.7 -0.2
CDF Champ du Feu 6.50 245 *e*P Pn 03 41 36.2 0.0
CDF *e*Sg Sg 03 43 21.7 -6.3
comp=Z,88nm,0.8s
CDF Champ du Feu 6.50 245 *e*Pn Pn 03 41 31.5 -4.7
CDF *e*P 03 41 36.2
CDF *e*Sg Sg 03 43 21.7 -6.3
CDF Champ du Feu 6.50 245 *e*P Pn 03 41 36.2 0.0
CDF *e*Sg Sg 03 43 21.7 -6.3
comp=Z,44nm,0.8s
MABI Malga Bissina 6.60 216 Pn Pn 03 41 39.1 +1.6
comp=Z,77nm,3.0s
WLF Walferdange 6.62 258 *e*Pn Pn 03 41 38.4 +0.6
WLF *e*Sg Sg 03 43 34.2 +2.4
ECH Echery 6.67 244 P Pn 03 41 36.3 -2.2
MOF Molkenrain 6.89 241 P Pn 03 41 38.2 -3.3
HINF Hinteralfeld 7.07 242 *e*Pg Pg 03 42 08.0 -6.6
HINF *e*Sg Sg 03 43 39.9 -6.2
comp=Z,96nm,1.1s
HINF Hinteralfeld 7.07 242 *e*P Pn 03 41 44.1 +0.2
HINF *e*Pg Pg 03 42 08.0 -6.6
HINF *e*Sg Sg 03 43 39.9 -6.2
HINF Hinteralfeld 7.07 242 *e*Pg Pg 03 42 08.0 -6.6
HINF *e*Sg Sg 03 43 39.9 -6.2
comp=Z,48nm,1.1s
BURAR Bucovina Array 7.07 120⇑*i*P Pn 03 41 44.7 +0.7
HAU Haudompre 7.25 245 *e*Sg Sg 03 43 44.6 -7.2
comp=Z,84nm,1.0s
HAU Haudompre 7.25 245 *e*Sg Sg 03 43 44.6 -7.2
comp=Z,42nm,1.0s
HAU *e*Sg Sg 03 43 44.6 -7.2
comp=Z,42nm,1.0s
RFYF Reffroy 7.44 251 *e*Pn Pn 03 41 44.9 -4.2
baz=73
RFYF *e*Sg Sg 03 43 50.8 -7.4
comp=Z,104nm,1.2s
RFYF Reffroy 7.44 251 *e*Pn Pn 03 41 44.9 -4.2
RFYF *e*Sg Sg 03 43 50.8 -7.4
comp=Z,52nm,1.2s
MEZF Maizieres J'vi 7.75 251 *e*P Pn 03 41 54.3 +1.0
baz=68
MEZF *e*Sg Sg 03 44 00.4 -7.6
comp=Z,82nm,1.1s
MEZF Maizieres J'vi 7.75 251 *e*P Pn 03 41 54.3 +1.0
MEZF *e*Sg Sg 03 44 00.4 -7.6
comp=Z,41nm,1.1s
KIEV Kiev 8.27 91 *e*P Pn 03 41 59.6 -0.8
KIEV pmax pmax
comp=Z,11nm,0.6s
KIEV Kiev 8.27 91 *e*Pn Pn 03 41 59.6 -0.8
comp=Z,11nm,0.6s
KIEV *e*Pg Pg 03 42 36.4 -1.2
KIEV *e*Sg Sg 03 44 25.5 +0.8
KIEV Kiev 8.27 91 *e*P Pn 03 41 59.6 -0.8
comp=Z,11nm,0.6s
AKASG Malin Array Be 8.28 90 P Pn 03 41 59.2 -1.3
AKASG pmax pmax
comp=Z,3.0nm,0.3s
AKASG Malin Array Be 8.28 90 Pn Pn 03 41 59.2 -1.3
AKASG Malin Array Be 8.28 90 Pn Pn 03 41 59.2 -1.3
comp=Z,2.7nm,0.3s,baz=280,slow=12,SNR=14
AKBB Malin Array Si 8.28 90 *e*Pn Pn 03 42 01.3 +0.8
AKBB *e*Pg Pg 03 42 36.6 -1.2
AKBB Malin Array Si 8.28 90 *e*P Pn 03 42 01.3 +0.8
PCP Pian Castagno 8.62 219 P Pn 03 42 05.7 +0.4
PCP pmax pmax
comp=Z,11nm,0.6s
PCP Pian Castagno 8.62 219 Pn Pn 03 42 05.7 +0.4
comp=Z,11nm,0.6s
LPG La Plagne 8.66 230 *e*P Pn 03 42 06.8 +1.1
LPG *e*Sg Sg 03 44 30.4 -6.7
comp=Z,50nm,1.2s
LPG La Plagne 8.66 230 *e*P Pn 03 42 06.8 +1.1
LPG *e*Sg Sg 03 44 30.4 -6.7
comp=Z,25nm,1.2s
HFS Hagfors 8.76 352 P Pn 03 42 06.5 -0.5
HFS 03 43 42.0
HFS smax
comp=N,1.0nm,0.3s
HFS Hagfors 8.76 352 Pn Pn 03 42 06.5 -0.5
comp=N,0.4nm,0.3s,baz=166,slow=13,SNR=13
HFS Sn Sn 03 43 42.0 -4.3
comp=N,0.5nm,0.3s,baz=173,slow=25,SNR=3.8
FIN Finale Ligure 9.04 219 Pn Pn 03 42 12.2 +1.3
MBDF Montbardon 9.23 226 *e*P Pn 03 42 15.5 +2.0
VSU Vasula 9.25 37 *i* P Pn 03 42 14.9 +1.2
IMI Imperia 9.41 219 Pn Pn 03 42 12.3 -3.8
SMF Signal de Mont 9.42 244 *e*Sg Sx 03 44 51.9
comp=N,54nm,1.2s
SMF Signal de Mont 9.42 244 *e*Sg Sx 03 44 51.9
comp=N,27nm,1.2s
SBF Sospel 9.63 221 *e*P Pn 03 42 21.0 +1.9
NB2 NORSAR Subarra 9.94 346 Pn Pn 03 42 20.6 -2.6
comp=Z,1.0nm,0.7s,baz=162,slow=14
NOA NORSAR Array B 9.94 346 Pn Pn 03 42 21.4 -1.7
comp=Z,0.4nm,0.3s,baz=163,slow=12,SNR=5.0
NOA Sn Sn 03 44 10.4 -4.9
comp=Z,0.2nm,0.3s,baz=159,slow=18,SNR=2.6
FINES FINESS Array B 11.36 25 P Pn 03 42 40.6 -2.0
FINES 03 44 44.0
FINES smax
comp=N,1.0nm,0.3s
FINES FINESS Array B 11.36 25 Pn Pn 03 42 40.6 -2.0
comp=N,0.3nm,0.3s,baz=202,slow=11,SNR=19
FINES Sn Sn 03 44 44.0 -6.0
comp=N,0.7nm,0.3s,baz=214,slow=19,SNR=8.1
EKA Eskdalemuir Ar 12.12 296 Pn Pn 03 42 49.9 -3.2
comp=N,0.4nm,0.3s,baz=99,slow=14,SNR=7.7
OBN Obninsk 12.73 66⇓*e*P Pn 03 42 58.3 -3.1
OBN *e*SS 03 45 33.2
OBN pmax pmax
comp=Z,20nm,1.5s
ANN Anapa 15.69 107 *e*P Pn 03 43 34.0 -7.4
ANN pmax pmax
comp=Z,44nm,1.1s
ARCES ARCESS Array B 18.62 10 P Pn 03 44 15.0 -3.2
ARCES pmax pmax
comp=Z,1.0nm,0.3s
ARCES ARCESS Array B 18.62 10 Pn Pn 03 44 15.0 -3.1
ARCES ARCESS Array B 18.62 10 Pn Pn 03 44 15.0 -3.1
comp=Z,0.8nm,0.3s,baz=191,slow=12,SNR=19
ARU Arti 25.12 62*d* *i*P P 03 45 23.2 -2.3
ARU *e*S S 03 49 47.0 -4.0
ARU pmax pmax
comp=Z,8.0nm,1.0s,mb4.4
ARU Arti 25.12 62 *e*P P 03 45 23.2 -2.3
comp=Z,7.5nm,0.9s,mb4.4
ARU Arti 25.12 62 *e*P P 03 45 23.2 -2.3
comp=Z,7.4nm,0.9s,mb4.4
ARU *e*S S 03 49 47.0 -4.0
AKTK Aktyubinsk 26.14 76 P P 03 45 35.2 +0.4
AKTK Aktyubinsk 26.14 76 P P 03 45 35.2 +0.4
AKTO Aktyubinsk 26.14 76 P P 03 45 35.2 +0.4
AKTO pmax pmax
comp=Z,2.0nm,0.6s,mb3.9
AKTO Aktyubinsk 26.14 76 P P 03 45 35.2 +0.4
comp=Z,1.8nm,0.6s,mb3.9,baz=295,slow=13,SNR=7.1
BVAR Borovoye Array 32.58 66 P P 03 46 33.8 +1.9
BVAR pmax pmax
comp=Z,1.0nm,0.6s
BVAR Borovoye Array 32.58 66 P P 03 46 33.8 +1.9
comp=Z,1.0nm,0.6s,mb4.0,baz=285,slow=7.5,SNR=6.7
TORD Torodi Ar. Bea 40.00 202 P P 03 47 36.2 +0.5
comp=Z,2.3nm,1.1s,mb3.7,baz=11,slow=9.2,SNR=7.2
MKAR Makanchi Array 42.20 69 P P 03 47 54.7 +1.2
MKAR pmax pmax
comp=Z,1.0nm,1.1s
MKAR Makanchi Array 42.20 69 P P 03 47 54.7 +1.1
comp=Z,1.0nm,1.1s,mb3.5,baz=297,slow=5.3,SNR=5.2
YKA Yellowknife Ar 59.87 336 P P 03 50 07.2 +1.1
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 59.87 336 P P 03 50 07.2 +1.1
comp=Z,1.0nm,0.7s,mb4.0,baz=30,slow=6.7,SNR=15

IDC ***26*** *03:53:41.6±3.5, 7.17S×15631E, h0km, mb4.0/5, mb1 4.1/5, mb1mx3.8/14, mbtmp4.0/5, MS3.7/2, Ms1 3.7/2, ms1mx3.1/20, Error ellipse: s-maj=114.8km s-min=32.0km az=118.0*
NEIC 26 03:53:40.8±2.2, 750S×15684E, h10km, mb4.2/2, Error ellipse: s-maj=74.9km s-min=14.5km az=119.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	16.18	218	LR	LR	04 02 37.4	
	comp=Z,214nm,18.2s,baz=52,slow=33						
WRAB	Tennant Creek	25.06	238	*e*P	P	03 59 06.1	+0.6
	2.8nm,0.6s						
WB2	Warramunga Arr	25.07	238	*e*P	P	03 59 05.6	0.0
WRA	Warramunga Arr	25.07	238	P	P	03 59 06.3	+0.6
	2.6nm,0.6s,baz=61,slow=9.5,SNR=20						
ASAR	Alice Springs	27.25	231	P	P	03 59 25.3	0.0
	0.3nm,0.6s,baz=61,slow=9.6,SNR=3.7						
FITZ	Fitzroy Crossi	32.15	248	P	P	04 00 07.9	-0.9
	1.2nm,0.7s,baz=96,slow=10,SNR=4.5						
RPZ	Rata Peaks	38.16	163	LR	LR	04 12 51.2	
	comp=Z,148nm,19.8s,baz=184,slow=30						
MK31	Makanchi Array	84.99	318	*e*P	P	04 06 16.7	+0.2
MK31				*e*pP	pP	04 06 29.4	+10
MKAR	Makanchi Array	84.99	318	P	P	04 06 16.9	+0.4
	2.2nm,0.7s,baz=100,slow=6.4,SNR=22						
MKAR				pP	pP	04 06 30.5	+11
	1.8nm,0.7s,baz=101,slow=6.1,SNR=13						
ZALV	Zalesovo Beam	85.62	326	P	P	04 06 19.1	-0.3
	1.0nm,0.3s,baz=110,slow=4.7,SNR=2.3						
ZALV				pP	pP	04 06 32.5	+10
	1.8nm,0.3s,baz=175,slow=5.4,SNR=2.7						
TKM2	Tokmak 2	88.69	313	*e*P	P	04 06 35.2	+0.6
	1.0nm,0.5s						
TORD	Torodi Ar. Bea	154.93	285	PKPbc	PKPbc	04 13 43.8	+0.1
	0.3nm,0.6s,baz=77,slow=2.2,SNR=4.8						

ISCJB ***26*** *04:17:24.1±0.9, 37.18N±003×2034E±007, h10km, Error ellipse: s-maj=7.6km s-min=4.8km az=171.5*
ATH ***26*** *04:17:26.5, 3730N×2037E, h13km±3km, MD3.5/4*
NEIC ***26*** *04:17:26.5, 3730N×2037E, h13km, MD3.5(ATH), After ATH.*
THE ***26*** *04:17:26.4, 3725N×2038E, h3km, ML3.7*
CSEM ***26*** *04:17:26.5, 3730N×2037E, h13km, MD3.5/4, After ATH*
HLW ***26*** *04:18:21.0, 3406N×2316E, h33km, Mb2.7*
ISC 26 04:17:25.2±1.5, 3723N±004×2033E±008, h2km±9km, n18, σ0§98/23, 1C-3D, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KFL	Anninata	0.95	22	*e*Pg	Pg	04 17 43.0	-0.4
VLS	Valsamata	0.97	12	*e*Pg	Pg	04 17 43.6	-0.2
VLS				*e*Sg	Sg	04 17 57.4	+1.1
VLS	Valsamata	0.97	12	*e*Pg	Pg	04 17 43.5	-0.3
VLS				*e*Sb	Sb	04 17 56.9	-1.0
PYL	PYLOS	1.18	106	*e*Sg	Sg	04 18 04.5	+1.5
RLS	Riolos of Patr	1.23	47	*e*PN	Pn	04 17 48.1	-1.2
RLS				*e*SB	Sb	04 18 04.2	-1.1
ITM	Ithomi	1.28	92	*e*PB	Pb	04 17 50.0	+0.1
SELA	Sela	1.62	49	*e*Pg	Pg	04 17 55.6	-0.7
SELA				*e*Sg	Sg	04 18 17.7	+0.4
VLX	Vlachokerasia	1.64	84	*e*Pg	Pg	04 17 55.1	-1.5
VLX				*e*Sg	Sg	04 18 17.6	-0.3
EVR	Evrytania	2.05	34	*e*PN	Pn	04 18 02.3	+1.6
VLI	Veliai	2.15	103	*e*PN	Pn	04 18 04.4	+2.4
LKR	Lokris	2.54	55	*e*Pn	Pn	04 18 07.4	0.0
LKR	Lokris	2.54	55	*e*Pb	Pn	04 18 07.8	+0.3
MEV	Metsovon	2.65	15	*e*Pn	Pn	04 18 10.2	+1.4
THL	Klokotos Trika	2.68	29	*e*PB	Pn	04 18 09.8	+0.5
HMAT	Matruh	8.30	136⇓	*e*P	Pn	04 19 26.3	-0.2
SWA2		9.05	150⇑	*e*P	Pn	04 19 36.6	-0.2
SWA1		9.13	149⇓	*e*P	Pn	04 19 37.2	-0.8
HFRF	Wahat Farafira	12.11	144⇓	*e*P	Pn	04 20 18.2	-0.5

BJI ***26*** *04:20:51.2, 777S×12067E, h589km, mB4.8, mb4.9*
MOS ***26*** *04:20:55.9±0.9, 7.00S×12031E, h571km, mb4.6/22, Error ellipse: s-maj=15.0km s-min=7.6km az=113.6*
ISCJB ***26*** *04:20:57.8±0.3, 7.13S±004×12038E±005, h603km±4km, mb4.7/72, Error ellipse: s-maj=8.1km s-min=4.5km az=151.9*
NEIC ***26*** *04:20:58.3±0.3, 7.11S×12034E, h589km±4km, mb4.6/26, Error ellipse: s-maj=7.2km s-min=3.9km az=58.0*
IDC ***26*** *04:20:58.6±0.4, 7.10S×12036E, h590km±4km, mb3.9/19, mb1 3.9/23, mb1mx3.9/26, mbtmp3.9/23, Error ellipse: s-maj=13.8km s-min=6.7km az=62.0*
ISC 26 04:20:58.4±0.3, 714S±004×12037E±005, h591km±3km, h595km±5.4km: pP-P, n244, σ0§89/219, mb4.7/70, 16C-21D, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	2.20	344	P	P	04 22 13.4	+0.6
KAPI				S	S	04 23 13.7	+0.6
KAPI	Kappang	2.20	344	P	P	04 22 12.6	-0.2
	SNR=16						
KAPI	Kappang	2.20	344	P	P	04 22 12.6	-0.2
	SNR=16						
KAPI	Kappang	2.20	344	P	P	04 22 12.6	-0.2
	SNR=16						
KAPI	Kappang	2.20	344	P	P	04 22 12.6	-0.2
	SNR=16						
KAPI	Kappang	2.20	344	P	P	04 22 12.6	-0.2
	SNR=16						
KAPI	Kappang	2.20	344	P	P	04 22 13.4	+0.6
	18nm,0.3s,baz=177,slow=3.8,SNR=147						
KAPI				S	S	04 23 13.7	+0.6
	1.8nm,0.3s,baz=216,slow=22,SNR=35						
KDI	Kendari	3.87	35	P	P	04 22 23.2	+0.8
	190nm,1.0s						
BATI	Kupang	4.46	133	P	P	04 22 26.6	+0.1
	173nm,0.3s,baz=325,slow=7.0,SNR=54						
BATI				S	S	04 23 36.5	-1.9
	37nm,0.3s,baz=340,slow=14,SNR=10						
PCI	Palu	6.22	355	P	P	04 22 41.3	+0.3
	284nm,1.1s						
KRKI	Karangkates	7.91	262	P	P	04 22 57.2	+0.6
	192nm,0.3s						
TSM	Tawau	11.63	348⇓	P	P	04 23 33.9	+0.5
FITZ	Fitzroy Crossi	12.04	155⇑	*i*P	P	04 23 37.4	-0.1
	30nm,0.8s						
FITZ				*e*S	S	04 25 44.8	-3.5
FITZ	Fitzroy Crossi	12.04	155	P	P	04 23 37.4	-0.1
	1.3nm,0.3s,baz=345,slow=8.7,SNR=50						
FITZ				S	S	04 25 46.5	-1.7
	0.3nm,0.3s,baz=68,slow=22,SNR=8.8						
BTM	Bintulu	12.59	324⇑	P	P	04 23 44.2	+1.1
LEM	Lembang	12.66	271	P	P	04 23 45.2	+1.3
	75nm,0.9s						
SDKM	Sandakan	13.09	346⇑	P	P	04 23 48.6	+0.4
KAKA	Kakadu	13.11	116⇓	*i*P	P	04 23 47.4	-1.0
	31nm,0.5s						
KSM	Kuching	13.19	310	*e*P	P	04 23 49.3	0.0
KSM	Kuching	13.19	310⇑	P	P	04 23 49.9	+0.7
TPI	Tanjungpandan	13.40	288	P	P	04 23 50.6	-0.7
	74nm,0.9s						
KKM	Kota Kinabalu	13.74	342	*e*P	P	04 23 54.0	-0.8
KKM				*e*S	S	04 26 16.3	-3.5
KKM	Kota Kinabalu	13.74	342⇑	P	P	04 23 54.6	-0.2
MBWA	Marble Bar	13.95	182	*e*P	P	04 23 56.2	-0.5
	27nm,0.4s						
KDM	Kudat	14.40	346⇓	P	P	04 24 01.2	-0.3
WRA	Warramunga Arr	18.59	135	P	P	04 24 40.4	+0.6
	0.7nm,0.3s,baz=315,slow=10,SNR=76						
WRAB	Tennant Creek	18.59	135	*e*P	P	04 24 40.1	+0.3
WRAB				pmax	pmax		
	comp=Z,15nm,0.8s						
WRAB	Tennant Creek	18.59	135	*e*P	P	04 24 40.1	+0.3
	comp=Z,15nm,0.8s						
WB2	Warramunga Arr	18.60	135⇑	*i*P	P	04 24 40.3	+0.4
MYKOM	Kota Tinggi	18.72	298⇓	P	P	04 24 40.9	-0.2
ASAR	Alice Springs	20.95	143	P	P	04 25 01.6	+0.5
ASAR				S	S	04 28 17.5	+0.7
ASAR						04 28 42.9	
ASAR	Alice Springs	20.95	143	P	P	04 25 01.6	+0.5
	comp=Z,2.6nm,0.3s,baz=321,slow=8.3,SNR=80						
ASAR				S	S	04 28 17.5	+0.7
	comp=Z,2.6nm,1.1s,baz=306,slow=13,SNR=4.3						
ASAR				PcP	PcP	04 28 42.9	+0.1
	comp=Z,1.9nm,0.8s,baz=345,slow=1.6,SNR=6.6						
ASAR				ScP	ScP	04 31 24.6	+0.2
	comp=Z,2.3nm,0.7s,baz=333,slow=2.1,SNR=17						
KTGM	Kuala Trenggan	21.20	305⇑	P	P	04 25 04.3	+0.9
FRIM	Kepong	21.36	298⇑	P	P	04 25 04.2	-0.8
IPM	Ipoh	22.50	300⇓	P	P	04 25 15.3	+0.2
KULM	Kulim	23.23	302	*e*P	P	04 25 20.8	-0.9
KULM	Kulim	23.23	302⇑	P	P	04 25 21.4	-0.3
PSI	Prapat	23.57	294	P	P	04 25 24.4	-0.3
	comp=Z,68nm,0.8s,mb5.3,baz=120,slow=8.6,SNR=66						
TSI	Tuntungan	24.20	295	P	P	04 25 29.8	-0.4
	comp=Z,236nm,1.0s						
KLBR	Kellerberrin	24.45	185⇑	*i*P	P	04 25 31.9	-0.2
	comp=Z,25nm,1.0s,mb4.8						
FORT	Forrest	24.59	164	*e*P	P	04 25 33.8	+0.4
	comp=Z,16nm,1.0s,mb4.6						
NWAO	Narrogin (SRO)	25.82	186	P	P	04 25 44.6	+0.4
	comp=Z,17nm,0.6s,mb4.9,baz=4.1,slow=8.2,SNR=13						
BSI	Banda Aceh	28.00	296	P	P	04 26 01.0	-2.5
	comp=Z,46nm,1.0s,mb5.1						
STKA	Stephens Creek	31.58	144⇑	*i*P	P	04 26 35.0	+0.9
	comp=Z,6.4nm,0.8s,mb4.3						
STKA	Stephens Creek	31.58	144	P	P	04 26 35.1	+1.0
	comp=Z,6.2nm,0.4s,mb4.6,baz=317,slow=8.6,SNR=14						
STKA				ScP	ScP	04 31 55.8	-0.2
	comp=Z,4.1nm,0.8s,baz=295,slow=8.2,SNR=5.5						
NANT	Nan	32.26	323⇓	P	P	04 26 40.7	+0.7
	comp=Z,140nm,0.9s,mb5.6						
CHG	Chiang Mai	33.34	321⇓	P	P	04 26 49.4	+0.3
	comp=Z,56nm,0.8s,mb5.2						
CHTO	Chiang Mai	33.34	321	*e*P	P	04 26 49.4	+0.3
CHTO				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
CHTO	Chiang Mai	33.34	321	*e*P	P	04 26 49.4	+0.3
	comp=Z,20nm,0.6s,mb4.9						
CHTO	Chiang Mai	33.34	321	P	P	04 26 49.7	+0.6
	SNR=9.6						
CHTO	Chiang Mai	33.34	321	P	P	04 26 49.7	+0.6
	SNR=9.6						
CHTO	Chiang Mai	33.34	321	P	P	04 26 49.7	+0.6
	SNR=9.6						
CHTO	Chiang Mai	33.34	321	P	P	04 26 49.7	+0.6
	SNR=9.6						
CHTO	Chiang Mai	33.34	321	P	P	04 26 49.7	+0.6
	SNR=9.6						
GYA	Guiyang	35.95	339⇓	*i*P	P	04 27 11.3	+0.6
GYA				PP	PP	04 28 55.3	+1.3
GYA				PCP	PcP	04 29 22.3	+1.5
GYA				XP	sP	04 29 57.8	+1.1
GYA				S	S	04 32 13.0	+4.8
GYA				XS	sS	04 35 11.0	+0.8
GYA				AMB	AMB		
	comp=Z,40nm,0.6s,mb5.1						
GYA				AMB	AMB		
	comp=Z,120nm,6.1s						
KMI	Kunming	36.38	332	P	P	04 27 16.0	+1.8
KMI				XP	sP	04 29 59.5	-0.9
KMI				S	S	04 32 21.3	+6.7
KMI				XS	sS	04 35 17.8	+0.9
KMI				AMB	AMB		
	comp=Z,39nm,1.0s,mb4.9						
KMI				AMB	AMB		
	comp=Z,70nm,4.5s						
NJ2	Nanjing	39.00	358	*e*P	P	04 27 35.5	+0.1
NJ2				AP		04 29 15.0	
NJ2				XP	sP	04 30 22.0	-0.9
NJ2				S	S	04 32 50.5	-2.5
NJ2				XS	sS	04 35 58.5	+0.8
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,240nm,4.8s						
HNR	Honiara	39.21	96	P	P	04 27 37.5	+0.1
	comp=Z,209nm,0.9s,mb5.7,baz=270,slow=13,SNR=4.0						
CD2	Chengdu	41.05	338	*e*P	P	04 27 51.8	+0.1
CD2				AP	pP	04 29 33.8	+0.1
CD2				PP	PP	04 29 43.0	+0.7
CD2				S	S	04 33 24.0	+1.3
CD2				SS	SS	04 36 47.3	-1.8
CD2				AMB	AMB		
	comp=Z,120nm,0.8s,mb5.5						
CD2				AMB	AMB		
	comp=Z,160nm,4.8s						
PALK	Pallekele	42.08	289	*e*P	P	04 27 59.1	-1.1
	comp=Z,9.8nm,0.6s,mb4.5						
XAN	Xi'an	42.37	346	P	P	04 28 01.0	-1.0
XAN				AMB	AMB		
	comp=Z,40nm,0.8s,mb5.0						
XAN				AMB	AMB		
	comp=Z,71nm,9.5s						
SHL	Shillong	42.71	321	*e*P	P	04 28 04.0	-0.9
KSRS	Korea Array	44.92	9	P	P	04 28 22.0	+0.3
KSRS						04 29 51.0	
KSRS				pmax	pmax		

comp=Z,3.0nm,0.7s,mb3.9
KSRS pmax pmax
comp=Z,3.0nm,0.7s,mb3.9
KSRS Korea Array 44.92 9 P **P 04 28 22.0 +0.3**
comp=Z,2.9nm,0.7s,mb3.9,baz=191,slow=7.9,SNR=10
KSRS PcP PcP 04 29 51.0 +0.9
comp=Z,3.3nm,0.7s,baz=182,slow=3.3,SNR=10
LZH Lanzhou 45.72 341 *e*P **P 04 28 28.5 +0.7**
LZH PCP PcP 04 29 54.5 +1.5
LZH PP PP 04 30 26.0 +1.3
LZH *e*S **S 04 34 31.5 +2.7**
LZH XS sS 04 37 38.0 -2.1
LZH SS SS 04 38 04.0 0.0
LZH AMB AMB
comp=Z,51nm,1.0s,mb5.0
LZH AMB AMB
comp=Z,208nm,4.0s
LSA Lhasa 46.16 324 P **P 04 28 29.5 -1.7**
LSA AMB AMB
comp=Z,100nm,0.7s,mb5.5
MJAR Matsushiro Arr 46.56 20 P **P 04 28 33.7 -0.4**
comp=Z,2.5nm,0.7s,mb3.9,baz=194,slow=7.8,SNR=6.2
MJAR PcP PcP 04 29 56.7 +0.7
comp=Z,0.6nm,0.3s,baz=197,slow=3.7,SNR=4.0
BJT Baijiatuau 47.08 356 *e*P **P 04 28 37.6 -0.4**
BJT pmax pmax
comp=Z,48nm,1.2s
BJT Baijiatuau 47.08 356 *e*P **P 04 28 37.6 -0.3**
comp=Z,48nm,1.2s,mb4.9
BJI Beijing 47.10 356 P **P 04 28 36.0 -2.1**
BJI S **S 04 34 47.0 -0.8**
BJI AMB AMB
comp=Z,29nm,0.7s,mb4.9
BJI AMB AMB
comp=Z,150nm,4.8s
JIRN Jiri 47.85 318⇓ *i*P **P 04 28 44.1 +0.2**
comp=Z,109nm,0.7s,mb5.5
GUN Gumba 48.22 318⇓ *i*P **P 04 28 46.6 -0.1**
comp=Z,151nm,0.7s,mb5.6
GUN Gumba 48.22 318⇓ *i*P **P 04 28 46.9 +0.2**
comp=Z,181nm,0.7s,mb5.7
PKI Pulchoki 48.31 317⇓ *i*P **P 04 28 47.0 -0.4**
comp=Z,64nm,0.5s,mb5.4
PKIN Phulchoki 48.32 317⇓ *i*P **P 04 28 46.9 -0.6**
comp=Z,53nm,0.5s,mb5.3
HHC Hu-ho-hao-te 48.44 351 *e*P **P 04 28 50.0 +2.0**
HHC PCP PcP 04 30 03.5 +0.8
HHC AP pP 04 30 39.3 +3.9
HHC PP PP 04 30 53.0 +3.8
HHC XP sP 04 31 44.0 +3.7
HHC SCP ScP 04 33 01.0 -0.7
HHC S **S 04 35 08.5 +2.4**
HHC SCS ScS 04 37 35.5 -1.5
HHC XS sS 04 38 23.5 +3.3
HHC SS SS 04 38 52.3 +5.6
HHC AMB AMB
comp=Z,18nm,1.2s,mb4.5
HHC AMB AMB
comp=Z,176nm,6.1s
KKN Kakani 48.54 317⇓ *i*P **P 04 28 48.7 -0.4**
comp=Z,135nm,1.1s,mb5.3
DMN Daman 48.54 317⇓ *i*P **P 04 28 48.8 -0.3**
comp=Z,117nm,1.0s,mb5.3
GKN Gorkha 49.11 317⇓ *i*P **P 04 28 52.9 -0.4**
comp=Z,31nm,0.9s,mb4.7
KOLN Koldanda 49.67 316⇓ *i*P **P 04 28 57.0 -0.4**
comp=Z,88nm,0.6s,mb5.3
DANN Dangsing 49.93 317⇓ *i*P **P 04 28 59.1 -0.2**
comp=Z,310nm,0.6s
GTA Gaotai 50.08 339⇓P **P 04 29 01.3 +1.2**
GTA PCP PcP 04 30 10.3 +1.5
GTA AP pP 04 30 49.0 +0.4
GTA PP PP 04 31 08.0 +4.1
GTA S **S 04 35 30.0 +1.6**
GTA XS sS 04 38 46.5 +2.3
GTA SS SS 04 39 15.0 +2.3
GTA AMB AMB
comp=Z,39nm,0.8s,mb4.9
GTA AMB AMB
comp=Z,149nm,4.2s
CN2 Changchun 50.91 5 *e*P **P 04 29 08.8 +2.7**
MDJ Mudanjiang 52.18 8 P **P 04 29 15.0 -0.2**
MDJ AMB AMB
comp=Z,12nm,0.8s,mb4.3
MDJ AMB AMB
comp=Z,208nm,3.8s
ULN Ulaanbaatar 56.02 349 *e*P **P 04 29 42.0 0.0**
ULN pmax pmax
comp=Z,9.0nm,0.5s,mb4.3
ULN Ulaanbaatar 56.02 349 *e*P **P 04 29 42.0 0.0**
comp=Z,9.3nm,0.5s,mb4.3
ULN Ulaanbaatar 56.02 349 P **P 04 29 42.8 +0.8**
SNR=5.7
ULN Ulaanbaatar 56.02 349 P **P 04 29 42.8 +0.8**
SNR=5.7
ULN Ulaanbaatar 56.02 349 P **P 04 29 42.8 +0.8**
SNR=5.7
SONM Songino Array 56.11 349 P **P 04 29 43.1 +0.4**
comp=Z,17nm,0.6s,mb4.5,baz=166,slow=7.8,SNR=28
HABR Khabarovsk 56.86 12 *e*P **P 04 29 46.4 -1.4**
HABR *e* 04 30 33.5
HABR *e* 04 32 01.3
HABR *e*S **S 04 36 55.5 -1.7**
HABR *e* 04 38 40.2
HABR *e* 04 40 57.3
RPZ Rata Peaks 57.25 138 P **P 04 29 51.8 +1.2**
RPZ Rata Peaks 57.25 138 P **P 04 29 51.8 +1.2**
comp=Z,8.1nm,0.5s,mb4.2,baz=284,slow=4.2,SNR=3.0
THN Thein Dam 57.92 315 *e*P **P 04 29 52.1 -3.3**
WMQ Urumqi 58.71 333⇑ *i*P **P 04 30 01.0 +0.6**
WMQ AP pP 04 31 57.0 +2.8
WMQ PP PP 04 32 23.0 +2.9
WMQ S **S 04 37 21.0 +0.2**
WMQ SS SS 04 41 31.0 +3.0
WMQ AMB AMB
comp=Z,28nm,1.0s,mb4.3
WMQ AMB AMB
comp=Z,56nm,5.0s
ZAK Zakamensk 59.18 347 *e*P **P 04 30 01.9 -1.5**
ZAK *e* 04 30 44.4
ZAK pmax pmax
comp=Z,8.0nm,0.9s
ZAK pmax pmax
comp=Z,3.0nm,1.0s
TLY Talaya 60.33 348 *e*P **P 04 30 11.2 +0.3**
TLY pmax pmax
comp=Z,14nm,1.0s,mb4.2
TLY Talaya 60.33 348 *e*P **P 04 30 10.8 -0.1**
comp=Z,12nm,0.8s,mb4.2
MOY Mondy 60.90 346 *e*P **P 04 30 15.0 +0.3**
KSH Kashi 61.95 322 *i*P **P 04 30 22.5 +0.6**
KSH *e*PCP PcP 04 30 58.0 +2.4
KSH *e*PP PP 04 32 47.0 -1.6
KSH *e*SCS ScS 04 39 16.0 +0.6
KSH AMB AMB
comp=Z,227nm,1.4s,mb5.2
MK31 Makanchi Array 63.45 332 *e*P **P 04 30 31.5 +0.2**
MKAR Makanchi Array 63.45 332 P **P 04 30 31.6 +0.3**
comp=Z,52nm,0.6s,mb5.0,baz=140,slow=7.4,SNR=446
ULHL Ulahol 63.50 325 P **P 04 30 32.1 +0.3**
SNR=10
KBL Kabul 63.76 314 *e*P **P 04 30 33.2 -0.3**
KBL pmax pmax
comp=Z,53nm,0.7s,mb5.0
KBL Kabul 63.76 314 *e*P **P 04 30 33.2 -0.3**
comp=Z,53nm,0.7s,mb5.0
KZA Kyzart 63.97 324 P **P 04 30 35.7 +1.0**
SNR=26
TKM2 Tokmak 2 64.30 325 *e*P **P 04 30 36.7 -0.1**
TKM2 pmax pmax
comp=Z,18nm,0.7s,mb4.5
TKM2 Tokmak 2 64.30 325 *e*P **P 04 30 36.7 -0.1**
comp=Z,18nm,0.7s,mb4.5
TKM2 Tokmak 2 64.30 325 P **P 04 30 37.1 +0.4**
SNR=23
UCH Uchtor 64.49 324 *e*P **P 04 30 38.6 +0.5**
comp=Z,511nm,0.6s
UCH Uchtor 64.49 324 P **P 04 30 38.5 +0.4**
SNR=16
KBK Karagaybulak 64.51 324 P **P 04 30 38.8 +0.7**
SNR=19
AAK Ala-Archa 64.75 324 P **P 04 30 40.4 +0.7**
SNR=29
AML Almayashu 64.92 323 *e*P **P 04 30 41.3 +0.6**
comp=Z,56nm,0.8s,mb5.0
AML Almayashu 64.92 323 P **P 04 30 41.5 +0.8**
SNR=44
BOD Bodaibo 64.95 356 *e*P **P 04 30 40.3 -0.2**
BOD pmax pmax
comp=Z,11nm,0.9s,mb4.3
USP Ospenovka 65.14 325 P **P 04 30 41.8 -0.3**
SNR=18
EKS2 Erkin-Say 65.19 324 *e*P **P 04 30 42.9 +0.5**
comp=Z,31nm,1.0s,mb4.7
EKS2 Erkin-Say 65.19 324 P **P 04 30 43.1 +0.7**
SNR=24
KK31 Karatay Array 67.39 323 *i*P **P 04 30 55.0 -1.0**
KK31 pmax pmax
comp=Z,10.0nm,0.5s,mb4.5
ZAL Zalesovo 67.81 338 P **P 04 30 57.5 -0.8**
ZAL S S 04 39 06.8 -3.6
ZAA0 Zalesovo Array 67.81 338 *e*P **P 04 30 57.5 -0.8**
ZALV Zalesovo Beam 67.81 338 P **P 04 30 57.5 -0.8**
ZALV S S 04 39 06.8 -3.6
ZALV Zalesovo Beam 67.81 338 P **P 04 30 57.5 -0.8**
comp=Z,36nm,0.4s,mb5.1,baz=137,slow=4.7,SNR=148
ZALV S S 04 39 06.8 -3.6
comp=Z,0.6nm,0.4s,baz=146,slow=11,SNR=4.8
KURK Kurchatov 67.96 333 *e*P **P 04 30 59.0 -0.2**
KURK pmax pmax
comp=Z,46nm,0.8s,mb5.0
KURK Kurchatov 67.96 333 *e*P **P 04 30 59.0 -0.2**
comp=Z,46nm,0.8s,mb5.0
KURK Kurchatov 67.96 333 P **P 04 30 59.2 0.0**
SNR=18
KURK Kurchatov 67.96 333 P **P 04 30 59.2 0.0**
SNR=18
KURK Kurchatov 67.96 333 P **P 04 30 59.2 0.0**
SNR=18
KURK Kurchatov 67.96 333 P **P 04 30 59.2 0.0**
SNR=18
BIDO Bidbid 67.97 299 P **P 04 30 59.9 0.0**
SNR=6.8
BIDO Bidbid 67.97 299 P **P 04 30 59.9 0.0**
SNR=6.8
BIDO Bidbid 67.97 299 P **P 04 30 59.9 0.0**
SNR=6.8
BIDO Bidbid 67.97 299 P **P 04 30 59.9 0.0**
SNR=6.8
BIDO Bidbid 67.97 299 P **P 04 30 59.9 0.0**
SNR=6.8
HOQ Hoqain 68.69 299 P **P 04 31 04.4 +0.1**
SNR=7.6
HOQ Hoqain 68.69 299 P **P 04 31 04.4 +0.1**
SNR=7.6
HOQ Hoqain 68.69 299 P **P 04 31 04.4 +0.1**
SNR=7.6
HOQ Hoqain 68.69 299 P **P 04 31 04.4 +0.1**
SNR=7.6
HOQ Hoqain 68.69 299 P **P 04 31 04.4 +0.1**
SNR=7.6
NVS Novosibirsk 69.09 338 *e*P **P 04 31 04.7 -1.3**
NVS pmax pmax
comp=Z,41nm,1.4s,mb4.7
NVS pmax pmax
comp=N,23nm,1.3s
NVS pmax pmax
comp=E,15nm,1.3s
HATD Hatta, Dubai 70.10 300 P **P 04 31 13.0 +0.3**
SNR=5.2
HATD Hatta, Dubai 70.10 300 P **P 04 31 13.0 +0.3**
SNR=5.2
HATD Hatta, Dubai 70.10 300 P **P 04 31 13.0 +0.3**
SNR=5.2
HATD Hatta, Dubai 70.10 300 P **P 04 31 13.0 +0.3**
SNR=5.2
HATD Hatta, Dubai 70.10 300 P **P 04 31 13.0 +0.3**
SNR=5.2
ASHO Ashiyiah 70.12 299 P **P 04 31 12.2 -0.6**
SNR=6.2
ASHO Ashiyiah 70.12 299 P **P 04 31 12.2 -0.6**
SNR=6.2
ASHO Ashiyiah 70.12 299 P **P 04 31 12.2 -0.6**
SNR=6.2
ASHO Ashiyiah 70.12 299 P **P 04 31 12.2 -0.6**
SNR=6.2
ASHO Ashiyiah 70.12 299 P **P 04 31 12.2 -0.6**
SNR=6.2
MA2 Magadan 70.77 16⇑ *e*P **P 04 31 16.9 +1.1**
MA2 pmax pmax
comp=Z,30nm,1.5s,mb4.6
OPO Ambohidratompo 71.86 253 P **P 04 31 23.3 +0.2**
comp=Z,3.0nm,0.7s,mb4.0,baz=114,slow=6.1,SNR=8.2
BRVK Borovoye 73.39 331 *e*P **P 04 31 30.5 -0.6**
BRVK pmax pmax
comp=Z,8.0nm,0.6s,mb4.4
BRVK Borovoye 73.39 331 *e*P **P 04 31 30.5 -0.6**
comp=Z,7.8nm,0.6s,mb4.4
BRVK Borovoye 73.39 331 P **P 04 31 30.9 -0.2**
SNR=7.0
BRVK Borovoye 73.39 331 P **P 04 31 30.9 -0.2**
SNR=7.0
VNDA Vanda 73.60 171 P **P 04 31 33.2 +1.3**
VNDA pmax pmax
comp=Z,1.0nm,0.6s
VNDA Vanda 73.60 171 *e*P **P 04 31 32.4 +0.5**
comp=Z,0.9nm,0.6s
VNDA Vanda 73.60 171 P **P 04 31 33.2 +1.3**
comp=Z,0.9nm,0.6s,baz=315,slow=6.8,SNR=6.9
ZRNK Zerenda 73.95 331 *i*P **P 04 31 33.7 -0.5**
ZRNK pmax pmax
comp=Z,20nm,0.6s,mb4.8
SEY Seymchan 74.03 15⇓ *e*P **P 04 31 35.3 +0.8**
SMY Shemya 74.99 31 *e*P **P 04 31 40.1 0.0**
SMY pmax pmax
comp=Z,64nm,0.7s,mb5.3
SMY Shemya 74.99 31 *e*P **P 04 31 40.1 0.0**
comp=Z,64nm,0.7s,mb5.3
RDF Al-Radifah 78.61 301 *e*P **P 04 32 00.1 -0.3**
RDF AMb AMB 04 32 01.1
comp=Z,79nm,0.6s,mb5.2
TIXI Tiksi 78.83 3*d i*P **P 04 31 59.9 -0.7**
TIXI pmax pmax
comp=Z,20nm,1.0s,mb4.4
TIXI Tiksi 78.83 3 *e*P **P 04 31 59.7 -0.9**
comp=Z,18nm,0.9s,mb4.4
NAY Al-Naaiem 78.95 302 *e*P **P 04 32 01.6 -0.5**
NAY AMb AMB 04 32 02.8
comp=Z,36nm,0.6s,mb4.9
MIB Mutribah 79.01 302 *e*P **P 04 32 02.2 -0.3**
MIB AMb AMB 04 32 03.8
comp=Z,69nm,1.0s,mb5.0
ATD Arta Tunnel 79.31 283 P **P 04 32 05.4 +1.1**
comp=Z,9.0nm,0.9s,mb4.1,baz=206,slow=20,SNR=4.0
SYO Syowa Base 80.07 201⇑ *e*P **P 04 32 06.4 -0.8**
SYO Syowa Base 80.07 201⇑ *e*PcP PcP 04 32 10.1 -2.2
SVE Sverdlovsk 80.11 331 *e*P **P 04 32 06.5 -1.1**
SVE pmax pmax
comp=Z,13nm,0.8s,mb4.3
ARU Arti 80.92 330*c i*P **P 04 32 09.9 -1.9**
ARU *e* 04 35 24.8
ARU *e*PPP 04 37 17.3
ARU *e*S S 04 41 30.6 -1.9
ARU pmax pmax
comp=Z,17nm,1.2s,mb4.3
ARU Arti 80.92 330 *e*P **P 04 32 10.7 -1.1**
comp=Z,18nm,1.2s,mb4.4
BILL Bilibino 81.64 16 *e*P **P 04 32 15.3 +0.1**
BILL pmax pmax
comp=Z,1.0nm,0.8s
QSPA South Pole Qui 82.84 180 *e*P **P 04 32 21.9 +0.7**
comp=Z,1.2nm,0.6s,mb3.6
QSPA South Pole Qui 82.84 180 P **P 04 32 21.8 +0.7**
comp=Z,0.7nm,0.5s,baz=348,slow=2.1,SNR=9.1
KMBO Kilima Mbogo 83.03 270 *i*P **P 04 32 24.7 +1.2**
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO Kilima Mbogo 83.03 270 *e*P **P 04 32 24.2 +0.7**
comp=Z,4.9nm,1.0s,mb4.0
KMBO Kilima Mbogo 83.03 270 P **P 04 32 24.4 +0.9**
comp=Z,3.8nm,0.9s,mb3.9,baz=25,slow=10,SNR=6.6
DGRG David-gareji 83.59 313 P **P 04 32 27.1 +1.5**
GNI Garni 83.72 312 *i*P **P 04 32 27.2 +0.9**
GNI pmax pmax
comp=Z,10.0nm,0.9s
MTA Mtatsminda 84.07 313 P **P 04 32 28.7 +0.7**
TBLG Delisi 84.12 313 *e*P **P 04 32 29.4 +1.2**
TBLG Delisi 84.12 313 P **P 04 32 29.4 +1.2**
ONI Oni 85.26 314 P **P 04 32 34.3 +0.5**
MALT Malatya 88.10 309 *e*P **P 04 32 47.6 +0.4**
MALT pmax pmax
comp=Z,6.0nm,0.9s,mb4.3
MALT Malatya 88.10 309 *e*P **P 04 32 47.6 +0.4**
comp=Z,6.0nm,0.9s,mb4.3
VRHR Novokhopersk 88.50 322 *e*P **P 04 32 47.8 -0.9**
VRHR pmax pmax
comp=Z,10.0nm,0.8s,mb4.6
VRHR pmax pmax
comp=N,10.0nm,0.4s
VRHR pmax pmax
comp=E,40nm,1.4s
VRSR Storozhevoye 90.02 322 *e*P **P 04 32 54.2 -1.6**
VRSR pmax pmax
comp=Z,2.0nm,0.7s,mb4.1
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,2.0nm,0.8s
LSZ Lusaka 90.24 255 *e*P **P 04 32 57.6 0.0**
LSZ pmax pmax
comp=Z,6.0nm,1.0s,mb4.4
LSZ Lusaka 90.24 255 *e*P **P 04 32 57.6 0.0**
comp=Z,6.4nm,1.0s,mb4.4
BOSA Boshof 91.09 241 *e*P **P 04 33 01.3 0.0**
BOSA pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
BOSA Boshof 91.09 241 *e*P **P 04 33 01.3 0.0**
comp=Z,2.9nm,0.7s,mb4.3
BOSA Boshof 91.09 241 P **P 04 33 01.3 0.0**
comp=Z,2.4nm,0.7s,mb4.2,baz=183,slow=3.8,SNR=6.2
OBN Obninsk 92.27 325 *e*P **P 04 33 05.0 -1.1**
OBN *e* 04 36 56.3
OBN pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
IMA2 Indian Mountai 94.82 24 *e*P **P 04 33 17.9 +0.4**
JOF Joensuu 95.87 333 *e*p **P 04 33 19.2 -3.1**
comp=Z,2.1nm,0.8s,mb4.4
AKASG Malin Array Be 96.20 320 *i*P **P 04 33 22.5 -1.5**
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 96.20 320 P **P 04 33 22.1 -1.9**
AKASG PP PP 04 37 27.0 -0.5
AKASG Malin Array Be 96.20 320 P **P 04 33 22.1 -1.9**
comp=Z,1.3nm,0.6s,mb4.3,baz=84,slow=4.2,SNR=10
AKASG PP PP 04 37 27.0 -0.5
comp=Z,0.2nm,0.2s,baz=76,slow=7.2,SNR=5.3
MLR Muntele Rosu 98.14 315 P Pdif 04 33 32.4 -0.3
comp=Z,1.5nm,0.6s,baz=127,slow=4.4,SNR=3.9
FINES FINESS Array B 98.28 331 *i*P Pdif 04 33 31.8 -1.5
FINES pmax pmax
comp=Z,2.0nm,0.7s
FINES FINESS Array B 98.28 331 P Pdif 04 33 31.9 -1.4
FINES FINESS Array B 98.28 331 P Pdif 04 33 31.9 -1.4
comp=Z,1.5nm,0.7s,baz=72,slow=6.2,SNR=5.6
GERES GERESS Array B 106.31 319 PKiKP PKiKP 04 38 16.8 +0.2
comp=Z,0.2nm,0.5s,baz=101,slow=2.0,SNR=3.8
YKA Yellowknife Ar 111.95 24 PKiKP PKiKP 04 38 26.4 -0.4
YKA Yellowknife Ar 111.95 24 PKiKP PKiKP 04 38 26.4 -0.4
comp=Z,0.7nm,0.6s,baz=313,slow=1.8,SNR=14
NVAR Mina Array Bea 118.79 50 PKP PKPdf 04 38 41.7 +1.0
comp=Z,0.6nm,0.6s,baz=265,slow=1.3,SNR=5.1
TOA0 Torodi Ar. Sit 119.46 281 *e*PKPdf PKPdf 04 38 41.9 -0.7
TORD Torodi Ar. Bea 119.46 281 PKP PKPdf 04 38 42.1 -0.6
comp=Z,2.6nm,0.7s,baz=86,slow=1.7,SNR=32
TORD SKP 04 41 22.8
comp=Z,1.2nm,0.8s,baz=75,slow=1.9,SNR=6.6
HLID Hailey 120.05 43 *e*PKPdf PKPdf 04 38 44.3 +1.3
BOZ Bozeman (W) 121.10 40 *e*PKiKP PKPdf 04 38 45.7 +0.8
FFC Flin Flon 121.74 27 *e*PKiKP PKPdf 04 38 45.7 -0.2
FCC Fort Churchill 122.13 20 *e*PKiKP PKPdf 04 38 46.1 -0.4
DUG Dugway 122.34 47 *e*PKiKP PKPdf 04 38 48.6 +1.1
TPAW Teton Pass 122.42 42 *e*PKPdf PKPdf 04 38 48.2 +0.7
SNOW Snow King Moun 122.56 42 *e*PKPdf PKPdf 04 38 48.9 +1.1
LOHW Long Hollow 122.60 42 *e*PKPdf PKPdf 04 38 49.0 +1.1
BW06 Boulder Array 123.64 43 *e*PKPdf PKPdf 04 38 50.0 +0.1
LAO LASA Array 123.99 37 *e*PKPdf PKPdf 04 38 51.6 +1.2
DBIC Dimbokro 125.65 273 *e*PKiKP PKPdf 04 38 54.2 -0.4
DBIC Dimbokro 125.65 273 PKP PKPdf 04 38 53.6 -1.0
comp=Z,6.1nm,1.0s,baz=79,slow=1.6,SNR=3.8
ULM Lac du Bonnet 127.48 29 *e*PKPdf PKPdf 04 38 57.1 +0.1
MNTX Cornudas Mount 130.90 54 *e*PKPdf PKPdf 04 39 05.7 +1.6
SCHQ Schefferville 132.09 6 PKP PKPdf 04 39 05.7 +0.1
SCHQ Schefferville 132.09 6 PKP PKPdf 04 39 05.7 +0.1
comp=Z,1.9nm,0.6s,baz=8.3,slow=3.7,SNR=4.5
TXAR Lajitas Array 133.09 56 PKP PKPdf 04 39 10.1 +1.8
comp=Z,0.5nm,0.8s,baz=201,slow=1.9,SNR=5.9
TXAR SKPbc SKPbc 04 41 42.0 +0.3
comp=Z,0.6nm,0.9s,baz=242,slow=2.7,SNR=5.2
JCT Junction City 135.80 53 *e*PKiKP PKPdf 04 39 13.3 0.0
CFAA Coronel Fontan 140.60 168 PKhKP 04 39 17.1
comp=Z,0.3nm,0.8s,baz=159,slow=0.3,SNR=5.2
CFAA PKP PKPdf 04 39 22.9 +0.9
comp=Z,0.2nm,0.7s,baz=201,slow=2.3,SNR=6.3
CFAA SKPbc SKPbc 04 42 04.1 +0.4
baz=144,slow=3.2
SSPA Standing Stone 142.87 23 *e*PKPdf PKPdf 04 39 23.8 -2.0
TZTN Tazewu 143.49 33 *e*PKPdf PKPdf 04 39 25.8 -1.3
LUPA Lehigh Univers 143.84 20 *e*PKPdf PKPdf 04 39 26.5 -1.0
TKL Tuckaleechee C 144.01 35 *e*PKiKP PKPdf 04 39 27.7 -0.2
MVL Millersville 144.01 22 *e*PKPdf PKPdf 04 39 27.2 -0.6
CPNY Central Park 144.13 19 *e*PKPdf PKPdf 04 39 28.1 +0.2
ELN Prospectdale 144.41 30 *e*PKPdf PKPdf 04 39 28.4 -0.1
URVA University of 145.62 26 *e*PKPbc PKPbc 04 39 32.5 +0.2
CPUP Villa Florida 146.65 184 *e*PKP2 PKPab 04 39 35.9 -2.3
CPUP Villa Florida 146.65 184 PKPbc PKPbc 04 39 35.8 +0.4
comp=Z,3.2nm,0.8s,baz=62,slow=1.4,SNR=5.9
LVC Limon Verde 149.06 163 *e*PKPbc PKPbc 04 39 42.9 +1.3
LPAZ La Paz 155.25 160 PKP PKPdf 04 39 47.4 +1.5
comp=Z,1.5nm,1.1s,baz=165,slow=0.7,SNR=4.4
LPAZ PKPab PKPab 04 40 16.6 +2.1
comp=Z,0.4nm,0.5s,baz=196,slow=4.0,SNR=5.0
SIV San Ignacio 156.97 176 PKP PKPdf 04 39 48.9 +0.7
comp=Z,0.9nm,1.0s,baz=235,slow=1.3,SNR=3.8
SIV PKPab PKPab 04 40 23.1 +1.2
comp=Z,0.6nm,0.8s,baz=181,slow=4.6,SNR=3.0

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*ISCJB **26** 04:23:25.6±1.1,3352N±008×1409E±01,h70km±14km, mb3.8/2, Error ellipse: s-maj=18.0km s-min=12.0km az=160.2*
*JMA **26** 04:23:26.2±0.1,3356N×14090E,h60km,M3.1*
*IDC **26** 04:23:28.1±8.7,3361N×14101E,h78km±111km,mb3.4/2, mb1 3.5/3,mb1mx3.2/19,mbtmp3.2/3,ML2.9/1, Error ellipse: s-maj=103.0km s-min=66.0km az=49.0*
ISC 26 04:23:26.4±1.3,3350N±008×1410E±01,h52km±18km,n11, σ0**58/15,mb3.8/2,Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**1.03**	**248**	P	**Pn**	**04 23 44.5**	**0.0**
BSO1	**Boso 1**	**1.15**	**1**	P	**Pn**	**04 23 45.9**	**-0.3**
BSO3	**Boso 3**	**1.35**	**344**	P	**Pn**	**04 23 48.4**	**-0.5**
BSO3				S	**Sn**	**04 24 06.4**	**+0.7**
BSO4	**Boso 4**	**1.57**	**341**	P	**Pn**	**04 23 51.4**	**-0.5**
JKO	**Kozu shima**	**1.66**	**295**	P	**Pn**	**04 23 52.9**	**-0.2**
JIZS	**Izushimoda**	**2.11**	**306**	P	**Pn**	**04 23 59.3**	**+0.1**
JOD2	**Odawara 2**	**2.34**	**319**	P	**Pn**	**04 24 02.1**	**-0.3**
JOD2				S	**Sn**	**04 24 28.4**	**-1.5**
JYN	**Shimob**	**2.82**	**316**	P	**Pn**	**04 24 09.9**	**+1.0**
JYN				S	**Sn**	**04 24 41.9**	**+0.3**
MJAR	**Matsushiro Arr**	**3.78**	**324**	P	**Pn**	**04 24 22.9**	**+0.8**
	1.0nm,0.3s,baz=145,slow=12,SNR=5.8						
MJAR				S	**Sn**	**04 25 05.5**	**+0.3**
	0.4nm,0.3s,baz=140,slow=25,SNR=3.4						
WRA	**Warramunga Arr**	**53.51**	**188**	P	**P**	**04 32 41.4**	**-0.2**
	0.8nm,0.4s,mb4.0,baz=6.4,slow=7.6,SNR=14						
ASAR	**Alice Springs**	**57.24**	**188**	P	**P**	**04 33 08.4**	**+0.1**
	0.2nm,0.4s,mb3.5,baz=5.5,slow=7.0,SNR=4.1						

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*IDC **26** 04:26:31.7±2.7,4194S×7425W,h0km,mb3.9/3,mb1 3.8/5, mb1mx3.6/18,mbtmp3.7/5,ML3.7/2,MS2.9/2,Ms1 2.9/2, ms1mx2.8/23, Error ellipse: s-maj=53.2km s-min=34.8km az=106.0*
*NEIC **26** 04:26:33.5±1.6,4196S×7409W,h10km,mb4.3/4, Error ellipse: s-maj=25.9km s-min=18.3km az=86.0*
ISC 26 04:26:31.9±4.3,4181S±010×745W±02,h7km±29km,n11, σ1**27/14,mb4.1/3,Off coast of southern Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**3.14**	**71**	Pn	**Pn**	**04 27 21.4**	**-0.4**
PLCA				Sn	**Sn**	**04 28 00.8**	**+1.3**
PLCA				LR	LR	04 28 42.7	

PLCA	**Paso Flores**	**3.14**	**71**	Pn		**Pn**	**04 27 21.4**	**-0.4**
	6.8nm,0.3s,baz=245,slow=12,SNR=74							
PLCA				Sn		**Sn**	**04 28 00.8**	**+1.3**
	5.9nm,0.3s,baz=349,slow=18,SNR=3.1							
PLCA				LR		LR	04 28 42.7	
	comp=Z,356nm,19.3s,baz=187,slow=43							
TRQA	**Tornquist**	**10.30**	**73**	*e*P		**Pn**	**04 28 56.8**	**-3.2**
	7.4nm,1.0s							
CFAA	**Coronel Fontan**	**11.34**	**28**	Pn		**Pn**	**04 29 16.2**	**+1.8**
	0.1nm,0.3s,baz=198,slow=14,SNR=5.7							
CFAA				Sn		**Sn**	**04 31 19.9**	**-1.4**
	baz=16,slow=16,SNR=1.8							
CFAA				LR		LR	04 33 55.9	
	comp=Z,26nm,18.0s,baz=187,slow=39							
LVC	**Limon Verde**	**19.70**	**15**	*e*P		**Pn**	**04 31 03.0**	**-0.3**
	3.7nm,0.7s							
CPUP	**Villa Florida**	**20.92**	**48**	*e*P		**P**	**04 31 15.0**	**0.0**
	4.7nm,0.5s							
CPUP	**Villa Florida**	**20.92**	**48**	P		**P**	**04 31 13.6**	**-1.4**
	0.9nm,0.6s,baz=223,slow=11,SNR=4.6							
SIV	**San Ignacio**	**28.20**	**28**	P		**P**	**04 32 27.1**	**+1.9**
	1.1nm,0.7s,mb3.6,baz=202,slow=5.4,SNR=4.3							
BOSA	**Boshof**	**78.14**	**118**	*e*P		**P**	**04 38 31.7**	**-0.2**
	4.1nm,0.7s,mb4.5							
BOSA	**Boshof**	**78.14**	**118**	P		**P**	**04 38 32.1**	**+0.2**
	3.3nm,0.7s,mb4.4,baz=224,slow=4.7,SNR=5.6							
LBTB	**Lobatse**	**80.75**	**115**	*e*P		**P**	**04 38 45.6**	**-0.6**
	2.9nm,0.7s,mb4.3							

*NEIC **26** 04:34:11.0, 1602N×9864W, h17km, MD4.2(MEX), After MEX.*

MEX 26 04:34:10.3±1.2, 1597N×9862W, h18km±10km, MD4.2, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.63**	**48**	*i* P	Pb	04 34 20.5	-2.4
PNIG				*i* S	Sg	04 34 28.0	-3.3
ACX	**Acapulco**	**1.53**	**306**	*i* P	Pn	04 34 32.8	-3.9
ACX				*i* S	Sn	04 34 53.5	-2.7
ACX	**Acapulco**	**1.53**	**306**	*i* P	Pn	04 34 32.8	-3.9
ACX				*i* S	Sn	04 34 50.5	-5.7
CAIG	**El Cayaco**	**1.91**	**304**	*i* P	Pn	04 34 45.0	+3.0
CAIG	**El Cayaco**	**1.91**	**304**	*i* P	Pn	04 34 40.8	-1.1
CAIG				*i* S	Sn	04 35 01.4	-4.1
UTMO	**Huajuapan**	**2.01**	**23**	*i* P	Pn	04 34 41.6	-1.7
UTMO				*i* S	Sn	04 35 03.9	-4.1
VHO	**Vista Hermosa**	**2.12**	**59**	*i* P	Pn	04 34 41.8	-3.0
VHO				*i* S	Sn	04 35 13.1	+2.4
VHO	**Vista Hermosa**	**2.12**	**59**	*i* P	Pn	04 34 41.8	-3.0
VHO				*i* S	Sn	04 35 08.4	-2.2
OXX	**Oaxaca**	**2.13**	**58**	*i* P	Pn	04 34 43.5	-1.5
OXX				*i* S	Sn	04 35 08.0	-2.9
MEIG	**Mezcala**	**2.17**	**334**	*i* P	Pn	04 34 42.5	-3.0
HUIG	**Huatulco**	**2.43**	**94**	*i* P	Pn	04 34 47.4	-1.7
HUIG				*i* S	Sn	04 35 11.5	-6.8
HUIG	**Huatulco**	**2.43**	**94**	*i* P	Pn	04 34 47.4	-1.7
HUIG				*i* S	Sn	04 35 12.4	-5.8
PLIG	**Platanillo**	**2.55**	**341**	*e*P	Pn	04 34 52.5	+1.8
PLIG				*i* S	Sn	04 35 23.6	+2.2
PLIG	**Platanillo**	**2.55**	**341**	*e*P	Pn	04 34 47.7	-3.1
PLIG				*i* S	Sn	04 35 20.1	-1.3
YAIG	**Yautepec**	**2.91**	**352**	*i* P	Pn	04 34 58.8	+3.1
YAIG	**Yautepec**	**2.91**	**352**	*i* P	Pn	04 34 55.8	+0.1
YAIG				*i* S	Sn	04 35 27.3	-2.9
PPM	**Popocatepetl**	**3.08**	**360**	*i* P	Pn	04 35 02.5	+4.4
PPM	**Popocatepetl**	**3.08**	**360**	*e*P	Pn	04 34 58.6	+0.6
PPM				*e*P		04 35 00.0	
SZVM	**Salazar**	**3.41**	**348**	*e*P	Pn	04 34 57.9	-4.7
SZVM				*i* S	Sn	04 35 38.6	-4.0
IIO	**Organos**	**3.60**	**358**	*i* P	Pn	04 35 11.3	+6.0
CMIG	**Matias Romero**	**3.75**	**72**	*i* P	Pn	04 35 04.5	-2.8
LVIG	**Laguna Verde**	**4.28**	**29**	*i* P	Pn	04 35 30.8	+16
LVIG				*i* S	Sn	04 36 10.7	+6.6
LVIG	**Laguna Verde**	**4.28**	**29**	*i* S	Sn	04 36 05.3	+1.2
DEIG	**Demacu**	**4.33**	**355**	*i* P	Pn	04 35 16.4	+1.2
DEIG				*i* S	Sn	04 36 02.2	-3.0
MOIG	**Morelia**	**4.42**	**327**	*i* S	Sn	04 36 11.4	+3.7
MOIG	**Morelia**	**4.42**	**327**	*i* S	Sn	04 36 07.2	-0.4
MMIG	**Aquila**	**5.07**	**298**	*i* P	Pn	04 35 23.8	-1.6
CCIG	**Comitan**	**6.24**	**86**	*i* S	Sn	04 36 57.0	+4.6
CCIG	**Comitan**	**6.24**	**86**	*i* S	Sn	04 36 53.5	+1.1

IDC 26 04:36:54.6±1.9, 101N×12626E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=165.0km s-min=25.9km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.27**	**160**	P	P	04 41 53.5	0.0
	2.5nm,0.5s,baz=338,slow=11,SNR=42						
ASAR	**Alice Springs**	**25.62**	**164**	P	P	04 42 26.3	+0.4
	0.5nm,0.4s,baz=340,slow=9.3,SNR=10						
STKA	**Stephens Creek**	**35.79**	**157**	P	P	04 43 55.4	-0.3
	2.4nm,0.9s,baz=333,slow=11,SNR=4.6						
MKAR	**Makanchi Array**	**59.53**	**326**	P	P	04 46 59.9	+0.1
	0.3nm,0.4s,baz=120,slow=8.6,SNR=3.6						

IDC 26 04:49:09.7±8.6, 1136S×16543E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/14, mbtmp3.8/3, Error ellipse: s-maj=257.2km s-min=55.8km az=124.0, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**31.09**	**250**	P	P	04 55 30.4	+0.5
	0.5nm,0.7s,baz=81,slow=9.1,SNR=3.4						
ASAR	**Alice Springs**	**32.38**	**244**	P	P	04 55 41.0	-0.2
	1.0nm,0.7s,baz=70,slow=9.7,SNR=16						
MKAR	**Makanchi Array**	**93.54**	**317**	P	P	05 02 27.6	0.0
	0.4nm,0.5s,baz=98,slow=6.4,SNR=4.0						

*NEIC **26** 04:56:05.4, 1638N×9933W, h16km, MD3.9(MEX), After MEX.*

MEX 26 04:56:05.5±1.5, 1638N×9933W, h16km±17km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.74**	**311**	*i* P	Pg	04 56 16.5	-3.5
ACX				*i* S	Sg	04 56 25.7	-4.2
CAIG	**El Cayaco**	**1.12**	**307**	*i* P	Pb	04 56 23.4	-3.1
CAIG				*i* S	Sb	04 56 36.7	-4.1
PNIG	**Pinotepa**	**1.16**	**89**	*i* P	Pn	04 56 23.8	-3.2
PNIG				*i* S	Sb	04 56 36.4	-5.5
MEIG	**Mezcala**	**1.56**	**350**	*i* P	Pn	04 56 28.9	-3.7
MEIG				*i* S	Sn	04 56 48.3	-4.2
UTMO	**Huajuapan**	**2.05**	**45**	*e*P	Pn	04 56 36.8	-2.5
UTMO				*i* S	Sn	04 57 00.0	-4.7
ZIIG	**Zihuatanejo**	**2.38**	**301**	*i* P	Pn	04 56 37.1	-6.7
VHO	**Vista Hermosa**	**2.58**	**74**	*i* P	Pn	04 56 48.6	+1.9
VHO				*i* S	Sn	04 57 19.5	+1.7
VHO	**Vista Hermosa**	**2.58**	**74**	*i* P	Pn	04 56 47.4	+0.8
VHO				*i* S	Sn	04 57 14.5	-3.2
PPM	**Popocatepetl**	**2.75**	**14**	*i* P	Pn	04 56 48.6	-0.4
PPM				*e*P		04 56 51.0	
MZVM		**2.79**	**2**	*i* P	Pn	04 56 47.8	-1.8
IIO	**Organos**	**3.25**	**10**	*e*P	Pn	04 56 59.4	+3.6

*ISCJB **26** 05:45:36.9±0.2, 4600N±001×757E±002, h10km±2km, Error ellipse: s-maj=2.6km s-min=2.0km az=173.5*
*CSEM **26** 05:45:37.6±0.1, 4595N×767E, h8km, ML2.5/9, Error ellipse: s-maj=1.3km s-min=1.0km az=96.0*
*ROM **26** 05:45:37.2±0.2, 4602N×761E, h10km±3km, Md2.3/10, Ml1.8/3, Error ellipse: s-maj=4.1km s-min=1.8km az=142.0*
*NEIC **26** 05:45:37.2, 4602N×761E, h10km, ML2.6(LDG), ML2.1(STR), ML1.8(ROM), After ROM.*
*GEN **26** 05:45:37.7, 4601N×761E, h7km, ML2.0*
*LDG **26** 05:45:38.3±0.1, 4596N×766E, h2km, Md2.6/2, Ml2.6/17, Error ellipse: s-maj=1.7km s-min=1.1km az=122.0*
*ZUR **26** 05:45:38.2, 4601N×763E, h2km±3km, ML1.7/12*
*STR **26** 05:45:39.8±0.9, 4606N×768E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*

ISC 26 05:45:37.8±0.2, 4598N±001×762E±002, h13km±2km, n79, σ0§82/157, 2C-5D, Northern Italy

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DIX	**Grande Dixence**	**0.18**	**305**	⇑ *i*Pg	**Pg**	**05 45 41.3**	**-0.5**
	1μm,0.2s						
DIX				*i* Sg	**Sg**	**05 45 43.5**	**-1.2**
	1μm,0.2s						
MMK	**Mattmark**	**0.25**	**73**	⇓ *i*Pg	**Pg**	**05 45 42.8**	**-0.3**
	192nm,0.2s						
MMK	**Mattmark**	**0.25**	**73**	Pg	**Pg**	**05 45 42.8**	**-0.3**
MMK				Sg	**Sg**	**05 45 46.3**	**-0.4**
LKBD2	**Leukerbad 2**	**0.40**	**3**	*e*Pg	**Pg**	**05 45 45.2**	**-0.5**
	85nm,0.3s						
LKBD	**Leukerbad**	**0.41**	**1**	*i* Pg	**Pg**	**05 45 45.5**	**-0.4**
	45nm,0.4s						
ORX	**Oropa**	**0.43**	**143**	Pg	**Pg**	**05 45 46.9**	**+0.6**
ORX				S	**Sg**	**05 45 52.7**	**+0.7**
ORO	**Oropa**	**0.43**	**144**	Pg	**Pg**	**05 45 47.1**	**+0.8**
MRGE	**Morge**	**0.44**	**242**	Pg	**Pg**	**05 45 46.6**	**+0.1**
	64nm,0.3s						
SENIN	**Lac Senin/Sane**	**0.44**	**330**	⇓ *i*Pg	**Pg**	**05 45 46.2**	**-0.4**
	94nm,0.5s						
GRYON	**Gryon**	**0.45**	**308**	*i* Pg	**Pg**	**05 45 46.4**	**-0.2**
	27nm,0.4s						
TRAV		**0.47**	**169**	Pg	**Pg**	**05 45 47.4**	**+0.3**
TRAV				Sg	**Sg**	**05 45 54.3**	**+0.9**
	48nm,0.1s						
SALAN	**Lac Salanfe**	**0.48**	**291**	⇓ *i*Pg	**Pg**	**05 45 47.3**	**+0.1**
	27nm,0.3s						
EMV	**Vieux Emosson**	**0.51**	**280**	⇑ *i*Pg	**Pg**	**05 45 47.9**	**+0.2**
	94nm,0.2s						
EMV	**Vieux Emosson**	**0.51**	**280**	Pg	**Pg**	**05 45 47.9**	**+0.2**
EMV				Sg	**Sg**	**05 45 54.5**	**0.0**
LSD	**Ceresole Reale**	**0.61**	**212**	P	**Pg**	**05 45 50.0**	**+0.3**
LSD				S	**Sg**	**05 45 58.7**	**+0.9**
WIMIS	**Wimmis**	**0.69**	**0**	⇓ *i*Pg	**Pg**	**05 45 50.8**	**-0.3**
	54nm,0.4s						
LPL	**La Plagne**	**0.77**	**234**	*e*Pg	**Pg**	**05 45 52.6**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 46 03.5**	**+0.6**
	9.8nm,0.3s,SNR=1.0						
LPL				*e*Sn	**Sn**	**05 46 07.0**	**+1.2**
	SNR=1.0						
LPL	**La Plagne**	**0.77**	**234**	*e*Pg	**Pg**	**05 45 52.6**	**-0.1**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**05 46 03.5**	**+0.6**
	4.9nm,0.3s,SNR=1.0						
LPL				*e*Sn	**Sn**	**05 46 07.0**	**+1.2**
	SNR=1.0						
LPG	**La Plagne**	**0.77**	**232**	*e*Pg	**Pg**	**05 45 52.8**	**+0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**05 46 03.6**	**+0.7**
	14nm,0.2s,SNR=1.0						
LPG	**La Plagne**	**0.77**	**232**	*e*Pg	**Pg**	**05 45 52.8**	**+0.1**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**05 46 03.6**	**+0.7**
	6.9nm,0.2s,SNR=1.0						
VAI	**Varese**	**0.81**	**97**	Pg	**Pg**	**05 45 53.7**	**+0.3**
VAI				Sg	**Sg**	**05 46 04.6**	**+0.5**
RSP	**Reno Superiore**	**0.86**	**197**	Pg	**Pg**	**05 45 54.6**	**+0.1**
	23nm,0.4s						
MUGIO	**Muggio**	**0.99**	**93**	*i* Pn	**Pn**	**05 45 56.8**	**-0.6**
	76nm,0.3s						
BNALP	**Bannalp**	**1.05**	**32**	⇓ *i*P	**Pb**	**05 45 57.5**	**-0.3**
	54nm,0.6s						
GIMEL	**St. Georges /**	**1.09**	**301**	*i* Pn	**Pn**	**05 45 59.6**	**+0.9**
	85nm,0.3s						
RRL	**Cesana Torines**	**1.21**	**209**	P	**Pn**	**05 46 00.6**	**+0.3**
RRL				S	**Sb**	**05 46 16.1**	**+0.1**
CABF	**La Chapelle**	**1.24**	**301**	*e*Pg	**Pg**	**05 46 02.0**	**+0.5**
CABF	**La Chapelle**	**1.24**	**301**	*e*P	**Pn**	**05 46 03.3**	**+2.6**
CABF				*e*Sg	**Sg**	**05 46 18.8**	**+1.2**
	11nm,0.2s,SNR=1.0						
CABF	**La Chapelle**	**1.24**	**301**	*e*Pn	**Pn**	**05 46 01.4**	**+0.7**
CABF				*e*Pg	**Pg**	**05 46 02.0**	**+0.5**
CABF				*e*P		05 46 03.3	
CABF				*e*Sg	**Sg**	**05 46 18.8**	**+1.2**
CABF	**La Chapelle**	**1.24**	**301**	*e*Pg	**Pg**	**05 46 02.0**	**+0.5**
CABF	**La Chapelle**	**1.24**	**301**	*e*P	**Pn**	**05 46 03.3**	**+2.6**
CABF				*e*Sg	**Sg**	**05 46 18.8**	**+1.2**
	5.4nm,0.2s,SNR=1.0						
MBDF	**Montbardon**	**1.39**	**206**	*e*Pg	**Pg**	**05 46 04.6**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**05 46 22.4**	**0.0**
	7.9nm,0.3s,SNR=1.0						
MBDF	**Montbardon**	**1.39**	**206**	*e*Pn	**Pn**	**05 46 03.4**	**+0.6**
MBDF				*e*Pg	**Pg**	**05 46 04.6**	**+0.2**
MBDF				*e*Sg	**Sg**	**05 46 22.4**	**0.0**
MBDF	**Montbardon**	**1.39**	**206**	*e*Pg	**Pg**	**05 46 04.6**	**+0.2**
	SNR=1.0						
MBDF				*e*Sg	**Sg**	**05 46 22.4**	**0.0**
	4.0nm,0.3s,SNR=1.0						
LOMF	**Lomont**	**1.48**	**339**	Pg	**Pg**	**05 46 06.1**	**0.0**
LOMF				Sg	**Sg**	**05 46 26.5**	**+1.2**
BBS	**Basel-Blauen**	**1.49**	**357**	Pg	**Pg**	**05 46 07.2**	**+0.8**
BBS				Sg	**Sg**	**05 46 26.7**	**+1.0**
PZZ	**Prazzo**	**1.52**	**194**	P	**Pn**	**05 46 04.2**	**-0.4**
PZZ				S	**Sn**	**05 46 22.1**	**-1.5**
PCP	**Pian Castagno**	**1.58**	**155**	P	**Pn**	**05 46 05.8**	**+0.4**
PCP				S	**Sn**	**05 46 24.5**	**-1.2**
ORIF	**Oris-en-Rattie**	**1.62**	**230**	*e*Pg	**Pg**	**05 46 08.7**	**-0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 46 30.5**	**+0.7**
	8.1nm,0.4s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**1.62**	**230**	*e*Pg	**Pg**	**05 46 08.7**	**-0.1**
	SNR=1.0						
ORIF				*e*Sg	**Sg**	**05 46 30.5**	**+0.7**
	4.1nm,0.4s,SNR=1.0						
ENR	**Entracque**	**1.76**	**185**	P	**Pn**	**05 46 07.9**	**0.0**
ENR				S	**Sn**	**05 46 28.4**	**-1.7**
FIN	**Finale Ligure**	**1.82**	**166**	P	**Pn**	**05 46 07.8**	**-0.9**
FIN				S	**Sn**	**05 46 28.3**	**-3.3**
MOF	**Molkenrain**	**1.90**	**350**	Pg	**Pg**	**05 46 14.0**	**-0.3**
MOF				Sg	**Sg**	**05 46 39.0**	**0.0**
HINF	**Hinteralfeld**	**1.91**	**344**	*e*Pg	**Pg**	**05 46 14.2**	**-0.2**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 46 33.9**	**0.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 46 39.0**	**-0.3**
	12nm,0.3s						
HINF	**Hinteralfeld**	**1.91**	**344**	*e*Pn	**Pn**	**05 46 10.6**	**+0.6**
HINF				*e*Pg	**Pg**	**05 46 14.2**	**-0.2**
HINF				*e*Sn	**Sn**	**05 46 33.9**	**0.0**
HINF				*e*Sg	**Sg**	**05 46 39.0**	**-0.3**
HINF	**Hinteralfeld**	**1.91**	**344**	*e*Pg	**Pg**	**05 46 14.2**	**-0.2**
	SNR=1.0						
HINF				*e*Sn	**Sn**	**05 46 33.9**	**0.0**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**05 46 39.0**	**-0.3**
	5.8nm,0.3s						
FELD	**Feldberg im Sc**	**1.92**	**8**	Pg	**Pg**	**05 46 14.2**	**-0.3**
FELD				Sg	**Sg**	**05 46 39.3**	**-0.1**
HAU	**Haudompre**	**2.21**	**337**	*e*Pg	**Pg**	**05 46 20.0**	**-0.1**
HAU				*e*Sg	**Sg**	**05 46 48.2**	**-0.5**
	7.9nm,0.2s						
HAU	**Haudompre**	**2.21**	**337**	*e*Pg	**Pg**	**05 46 20.0**	**-0.1**
HAU				*e*Sg	**Sg**	**05 46 48.2**	**-0.5**
	4.0nm,0.2s						
VIVF	**Saint-Julien-l**	**2.36**	**243**	*e*Pg	**Pg**	**05 46 22.6**	**-0.3**
VIVF				*e*Sg	**Sg**	**05 46 53.2**	**-0.3**
	4.9nm,0.3s,SNR=1.0						
VIVF	**Saint-Julien-l**	**2.36**	**243**	*e*Pg	**Pg**	**05 46 22.6**	**-0.3**
VIVF				*e*Sg	**Sg**	**05 46 53.2**	**-0.3**
	2.5nm,0.3s,SNR=1.0						
CDF	**Champ du Feu**	**2.45**	**355**	*e*Pg	**Pg**	**05 46 23.8**	**-0.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**05 46 56.3**	**0.0**
	5.5nm,0.3s						
CDF	**Champ du Feu**	**2.45**	**355**	*e*Pn	**Pn**	**05 46 18.0**	**+0.7**
CDF				*e*Pg	**Pg**	**05 46 23.8**	**-0.8**
CDF				*e*Sg	**Sg**	**05 46 56.3**	**0.0**
CDF	**Champ du Feu**	**2.45**	**355**	*e*Pg	**Pg**	**05 46 23.8**	**-0.8**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**05 46 56.3**	**0.0**
	2.8nm,0.3s						
SMRF	**Simiane la Rot**	**2.47**	**217**	*e*Pg	**Pg**	**05 46 23.4**	**-1.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**05 46 57.2**	**+0.1**
	7.0nm,0.9s,SNR=1.0						
SMRF	**Simiane la Rot**	**2.47**	**217**	*e*Pn	**Pn**	**05 46 17.2**	**-0.5**
SMRF				*e*Pg	**Pg**	**05 46 23.4**	**-1.7**
SMRF				*e*Sg	**Sg**	**05 46 57.2**	**+0.1**
SMRF	**Simiane la Rot**	**2.47**	**217**	*e*Pg	**Pg**	**05 46 23.4**	**-1.7**
	SNR=1.0						
SMRF				*e*Sg	**Sg**	**05 46 57.2**	**+0.1**
	3.5nm,0.9s,SNR=1.0						
FRF	**La Foret Royal**	**2.51**	**196**	*e*Pg	**Pg**	**05 46 24.7**	**-1.2**
	SNR=1.0						
SMF	**Signal de Mont**	**2.70**	**286**	*e*Pg	**Pg**	**05 46 29.5**	**0.0**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 46 52.0**	**-1.4**
SMF				*e*Sg	**Sg**	**05 47 04.1**	**-0.4**
	4.8nm,0.2s,SNR=1.0						
SMF	**Signal de Mont**	**2.70**	**286**	*e*P	**Pn**	**05 46 23.8**	**+3.0**
SMF				*e*Pg	**Pg**	**05 46 29.5**	**0.0**
SMF				*e*Sn	**Sn**	**05 46 52.0**	**-1.4**
SMF				*e*Sg	**Sg**	**05 47 04.1**	**-0.4**
SMF	**Signal de Mont**	**2.70**	**286**	*e*Pg	**Pg**	**05 46 29.5**	**0.0**
	SNR=1.0						
SMF				*e*Sn	**Sn**	**05 46 52.0**	**-1.4**
SMF				*e*Sg	**Sg**	**05 47 04.1**	**-0.4**
	2.4nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**2.84**	**323**	*e*Sg	**Sg**	**05 47 08.6**	**-0.4**
	8.3nm,0.4s						
SFTF	**Sexfontaines**	**2.84**	**323**	*e*Sg	**Sg**	**05 47 08.6**	**-0.4**
	4.2nm,0.4s						
LOR	**Lormes**	**2.89**	**298**	*e*Pg	**Pg**	**05 46 32.5**	**-0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**05 46 58.2**	**+0.1**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**05 47 11.3**	**+0.6**
	2.0nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.89**	**298**	*e*P	**Pn**	**05 46 26.8**	**+3.3**
LOR				*e*Pg	**Pg**	**05 46 32.5**	**-0.7**
LOR				*e*Sn	**Sn**	**05 46 58.2**	**+0.1**
LOR				*e*Sg	**Sg**	**05 47 11.3**	**+0.6**
LOR	**Lormes**	**2.89**	**298**	*e*Pg	**Pg**	**05 46 32.5**	**-0.7**
	SNR=1.0						
LOR				*e*Sn	**Sn**	**05 46 58.2**	**+0.1**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**05 47 11.3**	**+0.6**
	1.0nm,0.2s,SNR=1.0						
RFYF	**Reffroy**	**3.03**	**332**	*e*P	**Pn**	**05 46 28.6**	**+3.3**
	baz=155						
RFYF				*e*Sn	**Sn**	**05 47 00.6**	**-0.8**
	12nm,0.3s						
RFYF	**Reffroy**	**3.03**	**332**	*e*Pn	**Pn**	**05 46 25.7**	**+0.4**
RFYF				*e*P		05 46 28.6	
RFYF				*e*Sn	**Sn**	**05 47 00.6**	**-0.8**
RFYF	**Reffroy**	**3.03**	**332**	*e*P	**Pn**	**05 46 28.6**	**+3.3**
RFYF				*e*Sn	**Sn**	**05 47 00.6**	**-0.8**
	5.8nm,0.3s						
SSF	**Saint Saulge**	**3.04**	**292**	*e*P	**Pn**	**05 46 28.8**	**+3.3**
SSF				*e*Sg	**Sg**	**05 47 14.7**	**-0.6**
	3.5nm,0.3s						
SSF	**Saint Saulge**	**3.04**	**292**	*e*Pn	**Pn**	**05 46 25.9**	**+0.4**
SSF				*e*P		05 46 28.8	
SSF				*e*Sg	**Sg**	**05 47 14.7**	**-0.6**
SSF	**Saint Saulge**	**3.04**	**292**	*e*P	**Pn**	**05 46 28.8**	**+3.3**
SSF				*e*Sg	**Sg**	**05 47 14.7**	**-0.6**
	1.8nm,0.3s						
AVF	**Avril sur Loir**	**3.06**	**287**	*e*Pg	**Pg**	**05 46 35.4**	**-1.0**
AVF				*e*Sg	**Sg**	**05 47 14.8**	**-1.3**
	2.3nm,0.3s,SNR=1.0						
AVF	**Avril sur Loir**	**3.06**	**287**	*e*Pn	**Pn**	**05 46 26.5**	**+0.7**
AVF				*e*Pg	**Pg**	**05 46 35.4**	**-1.0**
AVF				*e*Sg	**Sg**	**05 47 14.8**	**-1.3**
AVF	**Avril sur Loir**	**3.06**	**287**	*e*Pg	**Pg**	**05 46 35.4**	**-1.0**
AVF				*e*Sg	**Sg**	**05 47 14.8**	**-1.3**
	1.1nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.36**	**282**	*e*Pn	**Pn**	**05 46 30.7**	**+0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**05 47 25.8**	**+0.2**
	6.5nm,0.3s,SNR=1.0						
BGF	**Bois d'Agland**	**3.36**	**282**	*e*Pn	**Pn**	**05 46 30.7**	**+0.8**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**05 47 25.8**	**+0.2**
	3.2nm,0.3s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.77**	**277**	*e*P	**Pn**	**05 46 39.1**	**+3.5**
	SNR=1.0						
CAF	**Calviac**	**4.05**	**257**	*e*Pn	**Pn**	**05 46 40.0**	**+0.7**
CAF				*e*Pg	**Pg**	**05 46 53.2**	**-2.1**

*NEIC **26** 05:47:32.2, 1720N×10032W, h48km, MD3.6(MEX), After MEX.*

MEX 26 05:47:33.4±1.1, 1733N×10035W, h11km±15km, MD3.6, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAIG	**El Cayaco**	**0.29**	**165**	*i* P	Pg	05 47 38.7	-0.5
CAIG				*i* S	Sg	05 47 43.4	+0.3
ACX	**Acapulco**	**0.61**	**138**	*i* P	Pg	05 47 42.9	-2.5
ACX				*i* S	Sg	05 47 50.6	-2.8
MEIG	**Mezcala**	**0.92**	**49**	*i* P	Pg	05 47 47.7	-3.3
MEIG				*i* S	Sg	05 48 00.8	-2.2
ZIIG	**Zihuatanejo**	**1.10**	**285**	*e*P	Pb	05 47 51.0	-3.5
ZIIG				*i* S	Sb	05 48 05.7	-3.2
MZVM		**2.14**	**30**	*i* P	Pn	05 48 02.6	-6.4
MZVM				*i* S	Sn	05 48 32.3	-3.3

ISC 26 06:03:28.7±0.3, 4550N±001×1531E±002, h4km±2km, n161, σ1§11/278, 43C-22D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	**Bojanci**	**0.04**	**282**	⇑*i*Pg	**Pg**	**06 03 29.7**	**0.0**
BOJS				*i* Sg	**Sg**	**06 03 30.8**	**+0.3**
BOJS	**Bojanci**	**0.04**	**282**	⇑*i*Pg	**Pg**	**06 03 29.7**	**0.0**
BOJS				*i* Sg	**Sg**	**06 03 30.8**	**+0.3**
BOJS	comp=Z,24μm,0.1s						
BOJS	**Bojanci**	**0.04**	**282**	Pg	**Pg**	**06 03 29.7**	**0.0**
BOJS				*i* Sg	**Sg**	**06 03 30.8**	**+0.3**
BOJS	comp=Z,24μm,0.1s						
CRES	**Cresnjev**	**0.35**	**17**	*i* Pg	**Pg**	**06 03 34.7**	**-0.6**
CRES				*e*Sg	**Sg**	**06 03 40.6**	**+0.8**
CRES	**Cresnjev**	**0.35**	**17**	⇓*i*Pg	**Pg**	**06 03 34.7**	**-0.6**
CRES	comp=Z,1μm,0.3s						
CRES	**Cresnjev**	**0.35**	**17**	⇓*i*Pg	**Pg**	**06 03 34.7**	**-0.6**
CRES	comp=Z,1μm,0.3s						
GCIS	**Gornji Cirnik**	**0.43**	**31**	*i* Pg	**Pg**	**06 03 36.7**	**-0.3**
GCIS				*i* Sg	**Sg**	**06 03 44.2**	**+1.6**
GCIS	**Gornji Cirnik**	**0.43**	**31**	*i* Pg	**Pg**	**06 03 36.7**	**-0.3**
GCIS				*i* Sg	**Sg**	**06 03 44.2**	**+1.6**
GCIS	comp=Z,452nm,0.2s						
GCIS	**Gornji Cirnik**	**0.43**	**31**	*i* Pg	**Pg**	**06 03 36.7**	**-0.3**
GCIS				*i* Sg	**Sg**	**06 03 44.2**	**+1.6**
GCIS	comp=Z,452nm,0.2s						
VISS	**Visnje**	**0.45**	**313**	⇑*i*Pg	**Pg**	**06 03 37.4**	**0.0**
VISS				*i* Sg	**Sg**	**06 03 43.8**	**+0.6**
VISS	**Visnje**	**0.45**	**313**	⇑*i*Pg	**Pg**	**06 03 37.4**	**0.0**
VISS				*i* Sg	**Sg**	**06 03 43.8**	**+0.6**
VISS	comp=Z,941nm,0.3s						
VISS	**Visnje**	**0.45**	**313**	⇑*i*Pg	**Pg**	**06 03 37.4**	**0.0**
VISS				*i* Sg	**Sg**	**06 03 43.8**	**+0.6**
VISS	comp=Z,941nm,0.3s						
LEGS	**Legarje**	**0.45**	**1**	⇓*i*Pg	**Pg**	**06 03 36.8**	**-0.5**
LEGS				*i* Sg	**Sg**	**06 03 44.1**	**+0.8**
CESS	**Cesta pri Krsk**	**0.49**	**12**	*i* Pg	**Pg**	**06 03 37.9**	**-0.2**
CESS				*i* Sg	**Sg**	**06 03 45.9**	**+1.5**
CESS	**Cesta pri Krsk**	**0.49**	**12**	*i* Pg	**Pg**	**06 03 37.9**	**-0.2**
CESS				*i* Sg	**Sg**	**06 03 45.9**	**+1.5**
CESS	comp=Z,337nm,0.1s						
CESS	**Cesta pri Krsk**	**0.49**	**12**	*i* Pg	**Pg**	**06 03 37.9**	**-0.2**
CESS				*i* Sg	**Sg**	**06 03 45.9**	**+1.5**
CESS	comp=Z,337nm,0.1s						
GOLS	**Golise**	**0.56**	**23**	⇓*i*Pg	**Pg**	**06 03 39.5**	**+0.1**
GOLS				*i* Sg	**Sg**	**06 03 48.5**	**+1.8**
GOLS	**Golise**	**0.56**	**23**	⇓*i*Pg	**Pg**	**06 03 39.5**	**+0.1**
GOLS				*i* Sg	**Sg**	**06 03 48.5**	**+1.8**
GOLS	comp=Z,428nm,0.3s						
GOLS	**Golise**	**0.56**	**23**	⇓*i*Pg	**Pg**	**06 03 39.5**	**+0.1**
GOLS				*i* Sg	**Sg**	**06 03 48.5**	**+1.8**
GOLS	comp=Z,428nm,0.3s						
PDKS	**Podkum**	**0.61**	**339**	*i* Pg	**Pg**	**06 03 40.1**	**-0.2**
PDKS				*i* Sg	**Sg**	**06 03 48.7**	**+0.5**
DOBS	**Dobrina**	**0.66**	**9**	*i* Pg	**Pg**	**06 03 40.6**	**-0.8**
CEY	**Cerknica**	**0.67**	**292**	*i* Pg	**Pg**	**06 03 41.2**	**-0.2**
CEY				*e*Sg	**Sg**	**06 03 51.4**	**+1.3**
CEY	**Cerknica**	**0.67**	**292**	⇑*i*Pg	**Pg**	**06 03 41.2**	**-0.3**
CEY	comp=Z,348nm,0.2s						
CEY	**Cerknica**	**0.67**	**292**	⇑*i*Pg	**Pg**	**06 03 41.2**	**-0.2**
CEY	comp=Z,348nm,0.2s						
VNDS	**Vrh nad Dolski**	**0.74**	**325**	⇑*i*Pg	**Pg**	**06 03 43.0**	**+0.1**
SISC	**Sisak**	**0.75**	**92**	*e*Pg	**Pg**	**06 03 41.4**	**-1.6**
SISC				Sg	**Sg**	**06 03 53.0**	**+0.3**
LJU	**Ljubljana**	**0.78**	**315**	⇑*i*Pg	**Pg**	**06 03 43.5**	**0.0**
LJU				*i* Sg	**Sg**	**06 03 53.4**	**-0.2**
LJU	**Ljubljana**	**0.78**	**315**	*i* Pg	**Pg**	**06 03 43.4**	**-0.1**
LJU				*e*Sg	**Sg**	**06 03 53.3**	**-0.3**
LJU	**Ljubljana**	**0.78**	**315**	⇑*i*Pg	**Pg**	**06 03 43.5**	**0.0**
LJU				*i* Sg	**Sg**	**06 03 53.4**	**-0.2**
LJU	comp=Z,407nm,0.2s						
LJU	**Ljubljana**	**0.78**	**315**	⇑*i*Pg	**Pg**	**06 03 43.5**	**0.0**
LJU				*i* Sg	**Sg**	**06 03 53.4**	**-0.2**
LJU	comp=Z,407nm,0.2s						
SKDS	**Skadanscina**	**0.91**	**274**	*i* Pg	**Pg**	**06 03 44.7**	**-1.4**
SKDS				*i* Sg	**Sg**	**06 03 58.3**	**+0.3**
ZAVS	**Zavodnje**	**0.96**	**348**	*i* Pg	**Pg**	**06 03 47.0**	**0.0**
ZAVS				*i* Sg	**Sg**	**06 04 00.9**	**+1.4**
JAVS	**Javornik**	**0.96**	**295**	*e*Pg	**Pg**	**06 03 46.4**	**-0.7**
JAVS				*i* Sg	**Sg**	**06 04 01.0**	**+1.4**
JAVS	**Javornik**	**0.96**	**295**	*e*Pg	**Pg**	**06 03 46.4**	**-0.7**
JAVS				*i* Sg	**Sg**	**06 04 01.0**	**+1.4**
JAVS	comp=Z,158nm,0.2s						
JAVS	**Javornik**	**0.96**	**295**	*e*Pg	**Pg**	**06 03 46.4**	**-0.7**
JAVS				*i* Sg	**Sg**	**06 04 01.0**	**+1.5**
JAVS	comp=Z,158nm,0.2s						
GROS	**Grobnik**	**0.97**	**8**	*i* Pg	**Pg**	**06 03 46.9**	**-0.4**
GROS				*e*Sg	**Sg**	**06 04 02.4**	**+2.4**
NVLJ	**Novalja**	**0.98**	**199**	*e*Pg	**Pg**	**06 03 46.1**	**-1.4**
NVLJ				Sg	**Sg**	**06 04 01.1**	**+0.9**
NVLJ	**Novalja**	**0.98**	**199**	*e*Pg	**Pg**	**06 03 46.1**	**-1.4**
NVLJ				Sg	**Sg**	**06 04 01.0**	**+0.8**
VOY	**Vojsko**	**1.13**	**299**	*e*Pg	**Pg**	**06 03 49.4**	**-0.9**
VOY				*e*Sg	**Sg**	**06 04 05.4**	**+0.5**
OBKA	**Obir**	**1.15**	**333**	*e*Pg	**Pg**	**06 03 50.6**	**0.0**
OBKA	SNR=297						
OBKA	comp=Z,728nm,0.3s			⇑*i*Sg	**Sg**	**06 04 05.5**	**0.0**
PERS	**Pernice**	**1.15**	**353**	*i* Pg	**Pg**	**06 03 50.2**	**-0.4**
PERS				*i* Sg	**Sg**	**06 04 05.6**	**+0.1**
PERS	**Pernice**	**1.15**	**353**	*i* Pg	**Pg**	**06 03 50.2**	**-0.4**
PERS				*i* Sg	**Sg**	**06 04 05.6**	**+0.1**
PERS	comp=Z,600nm,0.5s						
PERS	**Pernice**	**1.15**	**353**	*i* Pg	**Pg**	**06 03 50.2**	**-0.5**
PERS				*i* Sg	**Sg**	**06 04 05.6**	**0.0**
PERS	comp=Z,600nm,0.5s						
KOGS	**Kog**	**1.16**	**34**	⇑*i*Pg	**Pg**	**06 03 51.1**	**+0.3**
KOGS				*e*Sg	**Sg**	**06 04 08.6**	**+2.8**
BISS	**Bistriski jare**	**1.16**	**354**	*i* Pg	**Pg**	**06 03 51.7**	**+0.8**
BISS				*i* Sg	**Sg**	**06 04 06.1**	**+0.2**
BISS	comp=Z,122nm,0.1s						
BISS	**Bistriski jare**	**1.16**	**354**	*i* Pg	**Pg**	**06 03 51.7**	**+0.8**
BISS				*i* Sg	**Sg**	**06 04 06.1**	**+0.2**
BISS	comp=Z,122nm,0.1s						
SOKA	**Soboth**	**1.20**	**351**	⇓*i*Pg	**Pg**	**06 03 51.7**	**0.0**
SOKA				⇓*i*Sg	**Sg**	**06 04 06.9**	**-0.3**
SOKA	comp=Z,159nm,0.4s						
GORS	**Gorjuse**	**1.23**	**312**	*i* Pg	**Pg**	**06 03 51.6**	**-0.7**
GORS				*i* Sg	**Sg**	**06 04 08.9**	**+0.6**
GORS	**Gorjuse**	**1.23**	**312**	*i* Pg	**Pg**	**06 03 51.6**	**-0.7**
GORS				*i* Sg	**Sg**	**06 04 08.9**	**+0.6**
GORS	comp=Z,403nm,0.3s						
GORS	**Gorjuse**	**1.23**	**312**	*i* Pg	**Pg**	**06 03 51.6**	**-0.7**
GORS				*i* Sg	**Sg**	**06 04 08.9**	**+0.6**
GORS	comp=Z,403nm,0.3s						
DRE	**Drenchia**	**1.35**	**301**	⇑*i*Pg	**Pg**	**06 03 53.5**	**-1.0**
DRE				*i* Sg	**Sg**	**06 04 14.2**	**+2.2**
ROBS	**Robic**	**1.47**	**301**	*i* Pg	**Pg**	**06 03 55.3**	**-1.4**
ROBS				*e*Sg	**Sg**	**06 04 15.7**	**0.0**
ROBS	**Robic**	**1.47**	**301**	*i* Pg	**Pg**	**06 03 55.3**	**-1.4**
ROBS				*e*Sg	**Sg**	**06 04 15.7**	**0.0**
ROBS	comp=Z,121nm,0.2s						
ROBS	**Robic**	**1.47**	**301**	*i* Pg	**Pg**	**06 03 55.3**	**-1.4**
ROBS				*e*Sg	**Sg**	**06 04 15.7**	**0.0**
ROBS	comp=Z,121nm,0.2s						
COLI	**Coloredo**	**1.50**	**296**	⇓*e*Pg	**Pg**	**06 03 56.6**	**-0.7**
COLI				*e*Sg	**Sg**	**06 04 18.6**	**+1.9**
LSR	**Lussari**	**1.58**	**309**	⇑*e*Pg	**Pg**	**06 03 57.4**	**-1.6**
LSR				*e*Sg	**Sg**	**06 04 20.1**	**+0.6**
LSR	**Lussari**	**1.58**	**309**	*e*Pg	**Pg**	**06 03 57.3**	**-1.7**
LSR				*e*Sg	**Sg**	**06 04 20.1**	**+0.6**
TLI	**Talmassons**	**1.61**	**286**	⇑*i*Pg	**Pg**	**06 03 58.5**	**-1.0**
BAD	**Bernadia**	**1.62**	**298**	⇓*i*Pg	**Pg**	**06 03 58.3**	**-1.5**
BAD				*i* Sg	**Sg**	**06 04 22.5**	**+1.7**
MYKA	**Terra Mystica**	**1.62**	**315**	⇑*i*Pg	**Pg**	**06 03 58.3**	**-1.5**
MYKA				⇑*i*Sg	**Sg**	**06 04 20.7**	**-0.1**
MYKA	comp=Z,158nm,0.4s						
PTCC	**Patocco-Chiusa**	**1.64**	**304**	Pn	**Pn**	**06 03 57.9**	**-0.3**
GMNA	**Gemona**	**1.65**	**299**	Pn	**Pn**	**06 03 59.7**	**+1.4**
BUA	**Buia**	**1.69**	**296**	⇓*i*Pg	**Pg**	**06 04 00.1**	**-1.0**
BUA				*i* Sg	**Sg**	**06 04 24.4**	**+1.4**
BOO	**Bordano**	**1.75**	**299**	⇓*i*Pn	**Pn**	**06 04 00.6**	**+0.8**
ARSA	**Arzberg**	**1.76**	**5**	⇑*e*Pn	**Pn**	**06 03 59.0**	**-0.9**
ARSA	SNR=26						
ARSA				⇑*i*Pg	**Pg**	**06 04 02.1**	**-0.3**
ARSA	**Arzberg**	**1.76**	**5**	⇑*e*Pn	**Pn**	**06 03 59.0**	**-0.9**
ARSA	SNR=26						
ARSA				⇑*i*Pg	**Pg**	**06 04 02.1**	**-0.3**
ARSA				⇑*i*Sn	**Sn**	**06 04 22.4**	**-0.3**
ARSA				⇑*i*Sg	**Sg**	**06 04 27.1**	**+1.9**
ARSA	comp=Z,43nm,0.5s						
ARSA	**Arzberg**	**1.76**	**5**	⇑*e*Pn	**Pn**	**06 03 59.0**	**-0.9**
ARSA				⇑*i*Pg	**Pg**	**06 04 02.1**	**-0.3**
ARSA				*i* Sn	**Sn**	**06 04 22.4**	**-0.3**
ARSA				*i* Sg	**Sg**	**06 04 27.1**	**+1.9**
ARSA	**Arzberg**	**1.76**	**5**	*i* Pn	**Pn**	**06 04 00.2**	**+0.3**
ARSA				*e*Sg	**Sg**	**06 04 22.3**	**-2.9**
ARSA	**Arzberg**	**1.76**	**5**	*e*Pn	**Pn**	**06 03 59.8**	**-0.1**
MPRI	**Monte Prat**	**1.79**	**296**	⇑*i*Pn	**Pn**	**06 04 01.2**	**+0.9**
MPRI				*i* Sn	**Sn**	**06 04 28.2**	**+4.9**
PLRO	**Paularo**	**1.84**	**306**	⇑*i*Pn	**Pn**	**06 04 01.1**	**+0.1**
PLRO				*i* Sn	**Sn**	**06 04 30.0**	**+5.3**
ZOU	**Zoufplan**	**1.94**	**304**	⇓*e*Pn	**Pn**	**06 04 03.2**	**+0.8**
ZOU				*e*Sn	**Sn**	**06 04 31.5**	**+4.2**
MLNI	**Malnisio**	**2.00**	**290**	⇑*i*Pn	**Pn**	**06 04 03.7**	**+0.5**
MLNI				*i* Sn	**Sn**	**06 04 32.6**	**+4.1**
CAE	**Caneva**	**2.08**	**285**	⇓*i*Pn	**Pn**	**06 04 04.9**	**+0.7**
CAE				*i* Sn	**Sn**	**06 04 34.1**	**+3.6**
FVI	**Forni Avoltri**	**2.08**	**303**	Pn	**Pn**	**06 04 05.0**	**+0.8**
KBA	**Koelnbreinsper**	**2.09**	**320**	⇑*i*Pg	**Pg**	**06 04 06.6**	**-2.1**
KBA	**Koelnbreinsper**	**2.09**	**320**	⇑*e*Pn	**Pn**	**06 04 02.7**	**-1.7**
KBA	SNR=22						
KBA				⇑*i*Pg	**Pg**	**06 04 06.6**	**-2.1**
KBA				⇑*i*Sn	**Sn**	**06 04 29.2**	**-1.6**
KBA				⇓*i*Sg	**Sg**	**06 04 34.9**	**-0.8**
KBA	comp=Z,85nm,0.6s						
KBA	**Koelnbreinsper**	**2.09**	**320**	*e*Pn	**Pn**	**06 04 04.6**	**+0.2**
RHK3	**Tenkes**	**2.10**	**78**	*e*Pn	**Pn**	**06 04 04.4**	**-0.1**
CSMI	**Casera Mimoias**	**2.11**	**300**	⇓*i*Pn	**Pn**	**06 04 06.0**	**+1.2**
CSMI				*i* Sn	**Sn**	**06 04 36.1**	**+4.7**
CSO	**Casso**	**2.23**	**292**	⇑*i*Pn	**Pn**	**06 04 06.3**	**+0.1**
CSO				*i* Sn	**Sn**	**06 04 36.9**	**+2.7**
AOI	**Ancona**	**2.30**	**213**	Pn	**Pn**	**06 04 07.5**	**+0.3**
ABTA	**Abfaltersbach**	**2.31**	**304**	⇑*e*Pg	**Pg**	**06 04 08.3**	**-4.7**
ABTA	SNR=38						
ABTA				⇑*i*Sg	**Sg**	**06 04 42.3**	**-0.7**
ABTA	comp=Z,102nm,0.7s						
SOP	**Sopron**	**2.35**	**21**	⇓*e*Pn	**Pn**	**06 04 09.0**	**+1.0**
SOP				*e*SB	**Sb**	**06 04 46.0**	**+5.1**
AFL	**Alpe Faloria**	**2.42**	**296**	⇓*i*Pn	**Pn**	**06 04 10.0**	**+1.1**
PKSM	**Moragy**	**2.44**	**72**	*e*Pn	**Pn**	**06 04 08.1**	**-1.0**
PKSM				*e*Sn	**Sn**	**06 04 35.5**	**-3.8**
MOA	**Molln**	**2.46**	**343**	⇑*e*Pn	**Pn**	**06 04 09.3**	**-0.2**
MOA	SNR=14						
MOA				⇑*i*Sn	**Sn**	**06 04 39.2**	**-0.8**
MOA	**Molln**	**2.46**	**343**	*e*Pn	**Pn**	**06 04 10.2**	**+0.7**
MOA	**Molln**	**2.46**	**343**	Pn	**Pn**	**06 04 09.3**	**-0.2**
MOA	comp=Z,14nm,2.0s						
MOA				Sn	**Sn**	**06 04 39.2**	**-0.8**
FSSB	**Fossombrone**	**2.56**	**226**	Pn	**Pn**	**06 04 12.0**	**+1.2**
CTI	**Castel Tesino**	**2.62**	**283**	Pn	**Pn**	**06 04 11.8**	**+0.1**
BGLD	**Berchtesgaden**	**2.68**	**325**	⇑*i*Pn	**Pn**	**06 04 13.7**	**+1.2**
PIEI	**Pieia**	**2.79**	**226**	Pn	**Pn**	**06 04 13.8**	**-0.2**
SNTG	**Esanatoglia**	**2.81**	**218**	Pn	**Pn**	**06 04 14.0**	**-0.3**
SCE	**Schlegeis**	**2.94**	**303**	⇓*i*Pn	**Pn**	**06 04 17.9**	**+1.9**
SFI	**Santa Sofia**	**2.94**	**238**	Pn	**Pn**	**06 04 16.8**	**+0.7**
ZST	**Bratislava**	**2.97**	**24**	*e*PN	**Pn**	**06 04 17.0**	**+0.5**
ZST				*e*SG	**Sg**	**06 05 04.2**	**+0.3**
APPI	**Appiano**	**3.01**	**291**	Pn	**Pn**	**06 04 17.9**	**+0.8**
CRE	**Caprese Michel**	**3.05**	**233**	Pn	**Pn**	**06 04 19.0**	**+1.4**
NRCA	**Norcia**	**3.10**	**211**	Pn	**Pn**	**06 04 17.6**	**-0.6**
WTTA	**Wattenberg**	**3.10**	**306**	⇓*i*Pn	**Pn**	**06 04 19.9**	**+1.6**
WTTA	SNR=14						
WTTA				⇓*i*Sg	**Sg**	**06 05 07.3**	**-0.8**
WTTA	comp=Z,72nm,0.6s						
WTTA	**Wattenberg**	**3.10**	**306**	*e*Pn	**Pn**	**06 04 19.8**	**+1.5**
WTTA	**Wattenberg**	**3.10**	**306**	Pn	**Pn**	**06 04 19.9**	**+1.6**
WTTA	comp=Z,13nm,6.0s						
WTTA				Sg	**Sg**	**06 05 07.3**	**-0.8**
WTTA	comp=Z,72nm,0.6s						
STON	**Ston**	**3.14**	**146**	*e*Pn	**Pn**	**06 04 19.9**	**+1.1**
STON				Sn	**Sn**	**06 04 59.1**	**+2.5**
STON	**Ston**	**3.14**	**146**	*e*Pn	**Pn**	**06 04 19.9**	**+1.1**
STON				Sn	**Sn**	**06 04 59.1**	**+2.5**
WATA	**Walderalm**	**3.17**	**307**	⇑*i*Pn	**Pn**	**06 04 20.5**	**+1.2**
MODS	**Modra-Piesok**	**3.18**	**24**	*e*PN	**Pn**	**06 04 18.9**	**-0.5**
MODS				*e*PG	**Pg**	**06 04 27.5**	**-2.0**
MODS				*e*SG	**Sg**	**06 05 10.2**	**-0.5**
FGSL	**Fruska Gora**	**3.19**	**94**	*e*Pn	**Pn**	**06 04 21.1**	**+1.6**
FGSL				*e*Sg	**Sg**	**06 05 10.4**	**-0.7**
MABI	**Malga Bissina**	**3.40**	**281**	Pn	**Pn**	**06 04 24.0**	**+1.6**
MOTA	**Moosalm**	**3.45**	**304**	⇑*i*Pn	**Pn**	**06 04 24.2**	**+1.2**
FETA	SNR=17 **Feichten**	**3.53**	**297**	*i* Pn	**Pn**	**06 04 26.3**	**+2.1**
FETA	SNR=16						
GEC2	**GERESS Array S**	**3.53**	**342**	*e*Pn	**Pn**	**06 04 24.5**	**+0.4**
GEC2				*e*Sn	**Sn**	**06 05 05.6**	**-0.6**
DIVS	**Divibare**	**3.61**	**111**	*e*Pn	**Pn**	**06 04 26.6**	**+1.3**
DIVS				*e*Sg	**Sg**	**06 05 23.8**	**-0.8**
KRUC	**Moravsky**	**3.64**	**11**	*e*Pn	**Pn**	**06 04 25.2**	**-0.5**
KRUC				*e*Sn	**Sn**	**06 05 06.4**	**-2.7**
KRUC				*e*Sg	**Sg**	**06 05 27.5**	**+1.9**
RETA	**Reutte**	**3.72**	**304**	⇑*i*Pn	**Pn**	**06 04 28.3**	**+1.5**
RETA	SNR=8.7						
JAVC	**Velka Javorina**	**3.73**	**25**	*e*Pn	**Pn**	**06 04 27.7**	**+0.8**
KOLL	**Kolacno**	**3.74**	**33**	*e*PN	**Pn**	**06 04 27.7**	**+0.7**
KOLL				*e*SN	**Sn**	**06 05 07.5**	**-4.0**
TREC	**Trest**	**3.80**	**2**	*e*Pn	**Pn**	**06 04 28.5**	**+0.6**
KHC	**Kasperske Hory**	**3.82**	**343**	*e*PN	**Pn**	**06 04 28.4**	**+0.2**
KHC				*e*PG	**Pg**	**06 04 41.0**	**-0.9**
KHC				*e*SN	**Sn**	**06 05 12.4**	**-1.2**
KHC				*e*SG	**Sg**	**06 05 30.4**	**-1.0**
KHC	comp=Z,20nm,0.8s						
VVLD	**Villa Vallelon**	**3.83**	**199**	Pn	**Pn**	**06 04 27.4**	**-0.8**
VYHS	**Vyhne**	**3.85**	**38**	*e*PN	**Pn**	**06 04 29.1**	**+0.5**
VYHS				*e*SN	**Sn**	**06 05 10.8**	**-3.4**
VRAC	**Vranov**	**3.91**	**12**	*e*Pn	**Pn**	**06 04 29.1**	**-0.3**
PSZ	**Piszkesteto**	**3.98**	**51**	⇓*e*PB	**Pb**	**06 04 43.7**	**+4.5**
WET	**Wettzell**	**4.01**	**336**	*e*Pn	**Pn**	**06 04 30.9**	**+0.2**
DAVA	**Damuels**	**4.16**	**297**	⇑*i*Pn	**Pn**	**06 04 34.8**	**+1.9**
DAVA	SNR=6.0						
DAVA	**Damuels**	**4.16**	**297**	*e*Pn	**Pn**	**06 04 34.7**	**+1.8**
PRU	**Pruhonice**	**4.53**	**354**	*e*Pn	**Pn**	**06 04 37.5**	**-0.4**
PRU				*e*Sn	**Sn**	**06 05 28.1**	**-2.8**
MORC	**Moravsky Berou**	**4.54**	**19**	*e*Pn	**Pn**	**06 04 37.9**	**-0.2**
VAI	**Varese**	**4.60**	**277**	Pn	**Pn**	**06 04 39.2**	**+0.3**
DPC	**Dobruska-Polom**	**4.91**	**8**	*e*Sg	**Sg**	**06 06 07.2**	**+1.1**
PVCC	comp=Z,6.7nm,0.6s **Panska Ves**	**5.06**	**355**	*e*Pn	**Pn**	**06 04 45.9**	**+0.7**
NKC	**Novy Kostel**	**5.12**	**339**	*e*Sg	**Sg**	**06 06 11.6**	**-1.3**
WERN	comp=Z,25nm,0.9s **Wernitzgruen**	**5.18**	**339**	*e*Pn	**Pn**	**06 04 48.2**	**+1.3**
PGF	**Pioggiola**	**5.42**	**239**	*e*Pn	**Pn**	**06 04 49.2**	**-1.0**
BRG	**Berggiesshubel**	**5.46**	**351**	Pn	**Pn**	**06 04 50.1**	**-0.6**
BRG				Pg	**Pg**	**06 05 10.7**	**-2.5**
BRG				Sn	**Sn**	**06 05 51.3**	**-2.5**
BRG				Sg	**Sg**	**06 06 22.6**	**-1.2**
BRG	**Berggiesshubel**	**5.46**	**351**	PN	**Pn**	**06 04 50.1**	**-0.6**
BRG				PG	**Pg**	**06 05 10.7**	**-2.5**
BRG				SN	**Sn**	**06 05 51.3**	**-2.5**
BRG				SG	**Sg**	**06 06 22.6**	**-1.2**
BRG	comp=Z,7.5nm,0.8s						
MOX	**Moxa**	**5.72**	**336**	*e*PG	**Pn**	**06 04 53.9**	**-0.3**
MOX				*e*SN	**Sn**	**06 05 56.7**	**-3.5**
MOX				*e*SG	**Sg**	**06 06 32.0**	**-0.1**
MOX	**Moxa**	**5.72**	**336**	*e*Pn	**Pn**	**06 04 54.1**	**-0.1**
CLL	**Collm**	**6.02**	**346**	*e*Sn	**Sn**	**06 06 03.0**	**-4.6**
CLL				*e*Sg	**Sg**	**06 06 40.0**	**-1.7**
CLL	comp=Z,27nm,1.1s						
LPG	**La Plagne**	**6.02**	**273**	*e*Pn	**Pn**	**06 04 57.5**	**-0.9**
LPG				*e*Sn	**Sn**	**06 06 02.4**	**-5.2**
LPG	comp=Z,12nm,0.6s						
LPG	**La Plagne**	**6.02**	**273**	*e*Pn	**Pn**	**06 04 57.5**	**-0.9**
LPG				*e*Sn	**Sn**	**06 06 02.4**	**-5.2**
LPG	comp=Z,6.0nm,0.6s						
LPL	**La Plagne**	**6.03**	**273**	*e*P	**Pn**	**06 05 01.7**	**+3.2**
LPL				*e*Sn	**Sn**	**06 06 02.3**	**-5.7**
LPL	comp=Z,15nm,0.7s						
LPL	**La Plagne**	**6.03**	**273**	*e*Pn	**Pn**	**06 04 57.5**	**-1.0**
LPL				*e*Sn	**Sn**	**06 06 02.3**	**-5.7**
LPL	**La Plagne**	**6.03**	**273**	*e*P	**Pn**	**06 05 01.7**	**+3.2**
LPL				*e*Sn	**Sn**	**06 06 02.3**	**-5.7**
MBDF	**Montbardon**	**6.09**	**266**	*e*Pn	**Pn**	**06 04 58.7**	**-0.7**
MBDF				*e*Sn	**Sn**	**06 06 04.1**	**-5.4**
MBDF	**Montbardon**	**6.09**	**266**	*e*Pn	**Pn**	**06 04 58.7**	**-0.7**
MBDF				*e*Sn	**Sn**	**06 06 04.1**	**-5.4**
CDF	**Champ du Feu**	**6.23**	**301**	*e*Pn	**Pn**	**06 05 00.0**	**-1.2**
HINF	**Hinteralfeld**	**6.27**	**295**	*e*Pn	**Pn**	**06 05 00.7**	**-1.1**
HINF				*e*Sn	**Sn**	**06 06 07.5**	**-6.3**
HINF	**Hinteralfeld**	**6.27**	**295**	*e*Pn	**Pn**	**06 05 00.7**	**-1.1**
HINF				*e*Sn	**Sn**	**06 06 07.5**	**-6.3**
FRF	**La Foret Royal**	**6.49**	**256**	*e*Pn	**Pn**	**06 05 04.5**	**-0.3**
CABF	**La Chapelle**	**6.52**	**283**	*e*Pn	**Pn**	**06 05 04.1**	**-1.1**
HAU	**Haudompre**	**6.65**	**295**	*e*Pn	**Pn**	**06 05 06.7**	**-0.3**
HAU				*e*Sn	**Sn**	**06 06 16.0**	**-7.2**
HAU	comp=Z,12nm,0.5s						
HAU	**Haudompre**	**6.65**	**295**	*e*Pn	**Pn**	**06 05 06.7**	**-0.3**
HAU				*e*Sn	**Sn**	**06 06 16.0**	**-7.2**
HAU	comp=Z,5.9nm,0.5s						
LMR	**La Mourre**	**6.66**	**254**	*e*Pn	**Pn**	**06 05 05.4**	**-1.8**
ORIF	**Oris-en-Rattie**	**6.69**	**268**	*e*Pn	**Pn**	**06 05 06.4**	**-1.2**
ORIF				*e*Sn	**Sn**	**06 06 18.6**	**-5.6**
ORIF	comp=Z,7.6nm,0.4s						
ORIF	**Oris-en-Rattie**	**6.69**	**268**	*e*Pn	**Pn**	**06 05 06.4**	**-1.2**
ORIF				*e*Sn	**Sn**	**06 06 18.6**	**-5.6**
ORIF	comp=Z,3.8nm,0.4s						
SFTF	**Sexfontaines**	**7.55**	**295**	*e*Pn	**Pn**	**06 05 17.1**	**-2.2**
VIVF	**Saint-Julien-l**	**7.55**	**269**	*e*Pn	**Pn**	**06 05 18.2**	**-1.1**
LOR	**Lormes**	**8.12**	**287**	*e*Pn	**Pn**	**06 05 25.9**	**-1.2**
LASF	**Ste Croix**	**8.27**	**264**	*e*Pn	**Pn**	**06 05 28.2**	**-1.1**
AVF	**Avril sur Loir**	**8.41**	**283**	*e*Pn	**Pn**	**06 05 29.8**	**-1.3**

MOS ***26*** *06:07:20.4±1.2, 926S×11790E, h45km, mb5.1/13, Error ellipse: s-maj=16.3km s-min=8.7km az=115.0*
BJI ***26*** *06:07:21.6, 940S×11780E, h57km, mB5.1, mb4.9, Ms4.5, Msz4.3*
ISCJB ***26*** *06:07:21.8±0.2, 937S±003×11784E±003, h58km, mb4.8/60, MS4.1/18, Error ellipse: s-maj=5.7km s-min=3.7km az=40.3*
GCMT ***26*** *06:07:23.7±0.4, 967S×11775E, h63km±4km, MW5.0/52, Moment Tensor Solution. s24,c25; s52,c70; Duration: 0 Moment tensor: Scale 10¹⁶Nm; Mrr-1.35±.19; Mθθ-1.53±.17; Mφφ2.88±.18; Mrθ1.00±.12; Mθφ-2.03±.14; Mφr1.74±.18; Best double couple: M0 3.77

FORT	**Forest**	**23.30**	**157**	*e*P	**P**	**06 12 27.6 +1.1**
	comp=Z,10nm,0.4s,mb4.6					
NWAO	**Narrogin (SRO)**	**23.40**	**181**	P	**P**	**06 12 27.1 -0.3**
NWAO				*PP		06 12 40.3
NWAO				S	**S**	**06 16 33.5 -2.4**
NWAO				pmax	pmax	
	comp=Z,17nm,0.7s					
NWAO				pmax	pmax	
	comp=Z,50nm,0.4s					
NWAO				smax		
	comp=N,6.0nm,0.4s					
NWAO				MLR	MLR	
	comp=Z,358nm,21.2s					
NWAO	**Narrogin (SRO)**	**23.40**	**181**	*e*P	**P**	**06 12 26.7 -0.6**
	comp=Z,46nm,0.9s,mb4.9					
NWAO				*e*pP		06 12 40.0
NWAO				*e*S	**S**	**06 16 35.0 -1.0**
NWAO	**Narrogin (SRO)**	**23.40**	**181**	P	**P**	**06 12 27.1 -0.3**
	comp=Z,17nm,0.7s,mb4.6,baz=356,slow=10.0,SNR=12					
NWAO				pP		06 12 40.3
	comp=Z,50nm,0.4s,baz=7.2,slow=11,SNR=11					
NWAO				S	**S**	**06 16 33.5 -2.4**
	comp=Z,5.9nm,0.4s,baz=292,slow=19,SNR=4.0					
NWAO				LR	LR	06 21 27.7
	comp=Z,358nm,21.1s,MS3.8,baz=154,slow=36					
COEN	**Coen**	**25.24**	**103**	*e*P	**P**	**06 12 44.5 +0.2**
	comp=Z,24nm,0.8s,mb4.8					
QIZ	**Qiongzhong**	**29.34**	**344**	P	**P**	**06 13 18.3 -2.7**
QIZ				S	**S**	**06 18 06.0 -4.4**
QIZ				XS	sS	06 18 29.8 -5.8
QIZ				AMB	AMB	
	comp=Z,7.0nm,2.2s,mb4.0					
QIZ				LR	LR	
	comp=E,200nm,19.7s					
QIZ				LR	LR	
	comp=Z,234nm,37.2s					
CTA	**Charters Tower**	**29.43**	**114**	P	**P**	**06 13 21.0 -0.9**
	comp=Z,11nm,0.9s,mb4.6,baz=281,slow=11,SNR=3.9					
STKA	**Stephens Creek**	**31.39**	**139**	*e*P	**P**	**06 13 39.9 +0.8**
	comp=Z,8.8nm,0.4s,mb4.9					
STKA	**Stephens Creek**	**31.39**	**139**	P	**P**	**06 13 40.1 +1.0**
	comp=Z,10nm,0.4s,mb5.0,baz=311,slow=8.8,SNR=35					
GYA	**Guiyang**	**37.27**	**343**	P	**P**	**06 14 31.5 +1.6**
GYA				AP	pP	06 14 47.3 +2.3
GYA				XP	sP	06 14 54.5 +2.6
GYA				PP	PP	06 16 02.3 +6.3
GYA				S	**S**	**06 20 15.0 +1.9**
GYA				SCP	ScP	06 20 32.8 +2.1
GYA				AMB	AMB	
	comp=Z,10.0nm,0.8s,mb4.7					
GYA				AMB	AMB	
	comp=Z,130nm,4.2s					
GYA				LR	LR	
	comp=N,400nm,17.8s,MS4.5					
GYA				LR	LR	
	comp=E,480nm,16.5s,MS4.5					
GYA				LR	LR	
	comp=Z,490nm,18.4s,MS4.3					
KMI	**Kunming**	**37.34**	**337**	P	**P**	**06 14 33.0 +2.5**
KMI				AP	pP	06 14 47.0 +1.4
KMI				XP	sP	06 14 53.5 +0.9
KMI				PP	PP	06 16 03.3 +6.5
KMI				S	**S**	**06 20 19.5 +5.3**
KMI				XS	sS	06 20 43.0 +3.2
KMI				AMB	AMB	
	comp=Z,10.0nm,1.4s,mb4.5					
KMI				AMB	AMB	
	comp=Z,50nm,5.2s					
KMI				LR	LR	
	comp=N,112nm,26.1s,MS3.8					
KMI				LR	LR	
	comp=E,157nm,23.0s,MS3.8					
KMI				LR	LR	
	comp=Z,232nm,32.2s					
TOO	**Toolangi**	**37.53**	**143**	*e*P	**P**	**06 14 34.4 +2.3**
	comp=Z,262nm,0.6s					
TOO	**Toolangi**	**37.53**	**143**	*e*P	**P**	**06 14 34.4 +2.3**
TOO				pmax	pmax	
	comp=Z,262nm,0.6s					
ARMA	**Armidale**	**37.81**	**128**	P	**P**	**06 14 35.4 +0.9**
	comp=Z,0.4nm,1.0s					
CNB	**Canberra Magne**	**38.63**	**137**	*e*P	**P**	**06 14 43.1 +1.8**
	comp=Z,38nm,1.4s,mb4.9					
NJ2	**Nanjing**	**41.25**	**1**	*e*P	**P**	**06 15 06.0 +3.0**
NJ2				AP	pP	06 15 18.5 +0.3
NJ2				XP	sP	06 15 24.0 -1.2
NJ2				PP	PP	06 16 45.5 +6.2
NJ2				AMB	AMB	
	comp=Z,30nm,0.6s,mb5.1					
NJ2				AMB	AMB	
	comp=Z,150nm,5.1s					
NJ2				LR	LR	
	comp=N,340nm,24.2s,MS4.2					
NJ2				LR	LR	
	comp=E,220nm,22.1s,MS4.2					
NJ2				LR	LR	
	comp=Z,220nm,21.8s,MS4.0					
HNR	**Honiara**	**41.55**	**94**	LR	LR	06 32 00.0
	comp=Z,241nm,18.4s,MS4.1,baz=179,slow=36					
CD2	**Chengdu**	**42.30**	**342**	*e*P	**P**	**06 15 12.0 +0.3**
CD2				AP	pP	06 15 27.3 +0.4
CD2				XP	sP	06 15 34.5 +0.6
CD2				PP	PP	06 16 54.3 +3.5
CD2				AMB	AMB	
	comp=Z,20nm,0.8s,mb4.8					
CD2				AMB	AMB	
	comp=Z,40nm,5.2s					
CD2				LR	LR	
	comp=N,160nm,8.0s					
CD2				LR	LR	
	comp=Z,110nm,13.2s,MS3.9					
SHL	**Shillong**	**42.97**	**325**	*e*P	**P**	**06 15 16.0 -1.1**
XAN	**Xi'an**	**44.04**	**349**	P	**P**	**06 15 25.5 -0.1**
XAN				AP	pP	06 15 40.5 -0.4
XAN				PP	PP	06 17 09.5 +0.2
XAN				AMB	AMB	
	comp=Z,4.0nm,0.7s,mb4.3					
XAN				AMB	AMB	
	comp=Z,34nm,4.8s					
XAN				LR	LR	
	comp=N,77nm,25.1s,MS3.7					
XAN				LR	LR	
	comp=E,74nm,22.7s,MS3.7					
XAN				LR	LR	
	comp=Z,201nm,25.1s,MS3.9					
LSA	**Lhasa**	**46.60**	**328**	P	**P**	**06 15 45.5 -0.5**
LZH	**Lanzhou**	**47.14**	**345**	*e*P	**P**	**06 15 50.0 0.0**
LZH				AP	pP	06 16 07.5 +2.0
LZH				XP	sP	06 16 12.0 -0.4
LZH				PP	PP	06 17 41.3 -0.2
LZH				AMB	AMB	
	comp=Z,15nm,1.0s,mb4.9					
LZH				AMB	AMB	
	comp=Z,80nm,4.5s					
LZH				LR	LR	
	comp=E,1μm,17.1s					
LZH				LR	LR	
	comp=Z,1μm,18.8s,MS5.0					
KSRS	**Korea Array**	**47.58**	**11**	P	**P**	**06 15 54.2 +0.7**
KSRS				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.6					
KSRS	**Korea Array**	**47.58**	**11**	P	**P**	**06 15 54.1 +0.7**
	comp=Z,6.0nm,0.9s,mb4.6,baz=188,slow=7.1,SNR=15					
JIRN	**Jiri**	**47.92**	**321**	⇓*i*P	**P**	**06 15 55.6 -0.7**
	comp=Z,27nm,0.7s,mb5.4					
GUN	**Gumba**	**49.29**	**321**	⇓*i*P	**P**	**06 15 58.2 -0.9**
	comp=Z,25nm,0.8s,mb5.3					
PKI	**Pulchoki**	**48.34**	**320**	⇓*i*P	**P**	**06 15 58.0 -1.5**
	comp=Z,15nm,0.8s,mb5.1					
DMN	**Daman**	**48.56**	**320**	⇓*i*P	**P**	**06 16 00.0 -1.2**
	comp=Z,22nm,0.7s,mb5.3					
KKN	**Kakani**	**48.58**	**321**	⇓*i*P	**P**	**06 16 00.0 -1.3**
	comp=Z,20nm,0.7s,mb5.3					
GKN	**Gorkha**	**49.13**	**320**	⇓*i*P	**P**	**06 16 04.1 -1.5**
	comp=Z,8.0nm,0.9s,mb4.8					
BJI	**Beijing**	**49.23**	**358**	P	**P**	**06 16 08.0 +1.9**
BJI				AMB	AMB	
	comp=Z,9.0nm,0.8s,mb4.8					
MJAR	**Matsushiro Arr**	**49.58**	**22**	P	**P**	**06 16 07.8 -1.1**
	comp=Z,5.9nm,0.8s,mb4.7,baz=192,slow=6.6,SNR=15					
KOLN	**Koldanda**	**49.63**	**319**	*e*P	**P**	**06 16 07.8 -1.6**
	comp=Z,25nm,0.7s,mb5.3					
DANN	**Dangsing**	**49.93**	**320**	⇓*i*P	**P**	**06 16 10.2 -1.4**
	comp=Z,21nm,0.5s,mb5.5					
HHC	**Hu-ho-hao-te**	**50.35**	**354**	*e*P	**P**	**06 16 17.5 +2.9**
HHC				AP	pP	06 16 33.0 +2.8
HHC				XP	sP	06 16 40.0 +2.9
HHC				PCP	PcP	06 17 34.8 +2.3
HHC				PP	PP	06 18 16.3 +5.6
HHC				AMB	AMB	
	comp=Z,35nm,1.0s,mb5.3					
HHC				AMB	AMB	
	comp=Z,143nm,5.2s					
HHC				LR	LR	
	comp=N,437nm,15.4s,MS4.9					
HHC				LR	LR	
	comp=E,908nm,16.0s,MS4.9					
HHC				LR	LR	
	comp=Z,368nm,20.6s,MS4.4					
GTA	**Gaotai**	**51.38**	**342**	*e*P	**P**	**06 16 23.5 +1.1**
GTA				AP	pP	06 16 39.3 +1.3
GTA				XP	sP	06 16 45.8 +0.9
GTA				PCP	PcP	06 17 38.0 +1.7
GTA				PP	PP	06 18 21.3 +1.2
GTA				AMB	AMB	
	comp=Z,5.0nm,1.4s,mb4.2					
GTA				AMB	AMB	
	comp=Z,96nm,4.9s					
GTA				LR	LR	
	comp=N,100nm,20.2s,MS4.1					
GTA				LR	LR	
	comp=E,125nm,17.9s,MS4.1					
GTA				LR	LR	
	comp=Z,154nm,23.2s					
CN2	**Changchun**	**53.42**	**7**	*e*P	**P**	**06 16 41.3 +3.9**
CN2				*e*AP	pP	06 16 57.0 +3.8
CN2				AMB	AMB	
	comp=Z,10.0nm,0.6s,mb4.9					
MDJ	**Mudanjiang**	**54.83**	**10**	P	**P**	**06 16 47.8 +0.2**
MDJ				AMB	AMB	
	comp=Z,19nm,1.1s,mb5.0					
MDJ				AMB	AMB	
	comp=Z,407nm,4.2s					
MDJ	**Mudanjiang**	**54.83**	**10**	*e*P	**P**	**06 16 47.4 -0.2**
	comp=Z,12nm,0.8s,mb5.0					
MDJ				*e*pP	pP	06 17 03.1 -0.4
RPZ	**Rata Peaks**	**57.31**	**136**	P	**P**	**06 17 07.1 +1.6**
	comp=Z,15nm,0.9s,mb5.0,baz=94,slow=6.0,SNR=4.0					
SONM	**Songino Array**	**57.89**	**351**	P	**P**	**06 17 08.9 -0.5**
	comp=Z,5.7nm,0.7s,mb4.7,baz=165,slow=7.5,SNR=7.5					
HABR	**Khabarovsk**	**59.62**	**13**	*e*P	**P**	**06 17 18.1 -3.3**
HABR				*e*		06 18 05.3
HABR				*e*S	**S**	**06 25 23.7 -3.4**
HABR				*e*		06 25 50.3
HABR				*e*		06 29 20.1
WMQ	**Urumqi**	**59.63**	**335**	*e*P	**P**	**06 17 23.0 +1.5**
WMQ				AP	pP	06 17 39.0 +1.5
WMQ				XP	sP	06 17 46.0 +1.7
WMQ				PP	PP	06 19 37.0 +3.1
WMQ				AMB	AMB	
	comp=Z,25nm,1.0s,mb5.2					
WMQ				AMB	AMB	
	comp=Z,41nm,5.0s					
WMQ				LR	LR	
	comp=N,214nm,16.0s,MS4.5					
WMQ				LR	LR	
	comp=E,219nm,16.0s,MS4.5					
WMQ				LR	LR	
	comp=Z,175nm,16.0s,MS4.3					
ZAK	**Zakamensk**	**60.88**	**349**	*e*P	**P**	**06 17 29.5 -0.5**
ZAK				pmax	pmax	
	comp=Z,2.0nm,1.5s,mb4.0					
TLY	**Talaya**	**62.07**	**350**	⇑*i*P	**P**	**06 17 38.0 +0.1**
TLY				pmax	pmax	
	comp=Z,1.0nm,1.7s,mb3.7					
MK31	**Makanchi Array**	**64.30**	**334**	*e*P	**P**	**06 17 52.3 -0.5**
MKAR	**Makanchi Array**	**64.30**	**334**	P	**P**	**06 17 51.9 -0.9**
MKAR				*PP	pP	06 18 08.1 -0.9
MKAR	**Makanchi Array**	**64.30**	**334**	P	**P**	**06 17 51.9 -0.9**
	comp=Z,2.0nm,0.5s,mb4.4,baz=139,slow=7.6,SNR=29					
MKAR				pP	pP	06 18 08.1 -1.0
	comp=Z,8.6nm,0.8s,baz=148,slow=6.9,SNR=14					
MKAR				LR	LR	06 48 14.5
	comp=Z,58nm,20.4s,MS3.8,baz=138,slow=38					
TKM2	**Tokmak 2**	**64.75**	**327**	*e*P	**P**	**06 17 55.4 -0.5**
TKM2				*e*PP	pP	06 18 10.9 -1.2
TKM2				pmax	pmax	
	comp=Z,2.0nm,0.6s,mb4.3					
TKM2	**Tokmak 2**	**64.75**	**327**	*e*P	**P**	**06 17 55.4 -0.5**
	comp=Z,2.3nm,0.6s,mb4.4					
TKM2				*e*pP	pP	06 18 10.9 -1.2
AML	**Almayashu**	**65.27**	**325**	*e*P	**P**	**06 17 59.0 -0.2**
	comp=Z,14nm,1.0s,mb5.0					
AML				*e*pP	pP	06 18 15.2 -0.3
EKS2	**Erkin-Say**	**65.58**	**326**	*e*P	**P**	**06 18 01.3 +0.1**
	comp=Z,14nm,1.0s,mb5.0					
EKS2				*e*pP	pP	06 18 16.9 -0.6
BOD	**Bodaibo**	**67.08**	**358**	*e*P	**P**	**06 18 09.1 -1.4**
BOD				pmax	pmax	
	comp=Z,6.0nm,1.0s,mb4.6					
MAW	**Mawson**	**68.44**	**200**	*e*P	**P**	**06 18 20.0 +1.0**
MAW				pmax	pmax	
	comp=Z,31nm,1.5s					
MAW	**Mawson**	**68.44**	**200**	*e*P	**P**	**06 18 20.0 +1.0**
	comp=Z,31nm,1.5s,mb5.1					
MAW	**Mawson**	**68.44**	**200**	P	**P**	**06 18 19.8 +0.8**
	comp=Z,4.4nm,0.8s,mb4.6,baz=61,slow=8.3,SNR=9.2					
OPO	**Ambohidratompo**	**68.77**	**254**	P	**P**	**06 18 21.9 -0.1**
	comp=Z,1.8nm,0.7s,mb4.1,baz=83,slow=8.1,SNR=2.4					
OPO				sP	sP	06 18 41.9 -3.1
	comp=Z,5.0nm,0.7s,baz=88,slow=7.8,SNR=4.8					
KURK	**Kurchatov**	**68.86**	**334**	*e*P	**P**	**06 18 20.7 -1.1**
KURK				*e*PP	pP	06 18 37.1 -1.1
KURK				pmax	pmax	
	comp=Z,11nm,0.9s,mb4.8					
KURK	**Kurchatov**	**68.86**	**334**	*e*P	**P**	**06 18 20.7 -1.1**
	comp=Z,11nm,0.9s,mb4.8					
KURK				*e*pP	pP	06 18 37.1 -1.1
AFI	**Afiamalu**	**68.90**	**101**	LR	LR	06 45 11.6
	comp=Z,85nm,21.3s,MS4.0,baz=308,slow=33					
ZAL	**Zalesovo**	**69.02**	**340**	P	**P**	**06 18 21.0 -1.7**
ZAL				*PP	pP	06 18 37.0 -2.1
ZAA0	**Zalesovo Array**	**69.02**	**340**	*e*P	**P**	**06 18 21.4 -1.3**
ZAA0				*e*pP	pP	06 18 37.3 -1.8
ZALV	**Zalesovo Beam**	**69.02**	**340**	P	**P**	**06 18 21.0 -1.7**
ZALV				pP	pP	06 18 37.0 -2.1
ZALV	**Zalesovo Beam**	**69.02**	**340**	P	**P**	**06 18 21.0 -1.7**
	comp=Z,2.7nm,0.5s,mb4.5,baz=141,slow=5.9,SNR=12					
ZALV				pP	pP	06 18 37.0 -2.1
	comp=Z,12nm,0.6s,baz=146,slow=4.9,SNR=15					
NVS	**Novosibirsk**	**70.29**	**340**	*e*P	pP	06 18 44.0 -2.9
NVS				pmax	pmax	
	comp=Z,22nm,1.3s,mb4.9					
NVS				pmax	pmax	
	comp=N,27nm,1.5s					
VNDA	**Vanda**	**71.76**	**171**	P	**P**	**06 18 39.5 +0.3**
	comp=N,1.5nm,0.8s,mb4.0,baz=290,slow=6.8,SNR=5.9					
YAK	**Yakutsk**	**71.83**	**6**	⇑*e*P	**P**	**06 18 39.3 -0.4**
YAK				pmax	pmax	
	comp=Z,12nm,0.6s,mb5.0					
BVAR	**Borovoye Array**	**74.12**	**332**	LR	LR	06 55 43.7
	comp=Z,68nm,19.1s,MS4.0,baz=330,slow=39					
BRVK	**Borovoye**	**74.19**	**332**	*e*P	**P**	**06 18 53.1 -0.7**
BRVK				*e*	pP	06 19 09.2 -1.2
BRVK				pmax	pmax	
	comp=Z,16nm,1.1s,mb4.9					
BRVK	**Borovoye**	**74.19**	**332**	*e*P	**P**	**06 18 53.1 -0.7**
	comp=Z,16nm,1.1s,mb4.8					
BRVK				*e*	pP	06 19 09.2 -1.2
SEY	**Seymchan**	**76.88**	**15**	⇑*e*P	**P**	**06 19 09.5 +0.5**
SYO	**Syowa Base**	**77.04**	**201**	⇑*e*P	**P**	**06 19 09.6 -0.4**
SYO	**Syowa Base**	**77.04**	**201**	⇑*e*X	PcP	06 19 18.0 -2.7
RDF	**Al-Radifah**	**77.65**	**302**	*e*P	**P**	**06 19 11.6 -2.5**
RDF				AMb	AMB	06 19 30.4
	comp=Z,21nm,0.6s,mb5.3					
UMR	**Umm Al-Rimmam**	**77.70**	**303**	*e*P	**P**	**06 19 13.0 -1.4**
UMR				AMb	AMB	06 19 31.0
	comp=Z,0.7nm,0.6s,mb3.8					
NAY	**Al-Naaiem**	**78.00**	**303**	*e*P	**P**	**06 19 14.8 -1.3**
NAY				AMb	AMB	06 19 33.0
	comp=Z,12nm,0.6s,mb5.0					
KMBO	**Kilima Mbogo**	**80.50**	**270**	*i* P	**P**	**06 19 30.8 +0.7**
KMBO				pmax	pmax	
	comp=Z,2.0nm,0.8s					
KMBO	**Kilima Mbogo**	**80.50**	**270**	P	**P**	**06 19 30.9 +0.8**
	comp=Z,2.0nm,0.8s,mb4.1,baz=50,slow=16,SNR=4.6					
KMBO				LR	LR	06 48 53.3
	comp=Z,130nm,20.2s,MS4.3,baz=100,slow=31					
QSPA	**South Pole Qui**	**80.58**	**180**	*e*P	**P**	**06 19 30.4 +1.2**
	comp=Z,12nm,1.0s,mb4.8					
TIXI	**Tiksi**	**81.23**	**4**	*d i*P	**P**	**06 19 31.3 -1.4**
TIXI				pmax	pmax	
	comp=Z,16nm,1.7s,mb4.7					
TIXI	**Tiksi**	**81.23**	**4**	*e*P	**P**	**06 19 31.7 -1.0**
	comp=Z,10.0nm,0.9s,mb4.8					
TIXI				*e*pP	pP	06 19 48.6 -0.8
ARU	**Arti**	**81.66**	**331**	*d i*P	**P**	**06 19 34.4 -0.8**
ARU				*e*PP	pP	06 19 49.9 -2.1
ARU				*e*		06 22 41.8
ARU				*e*PPP		06 24 28.9
ARU				*e*S	S	06 29 43.1 +0.2
ARU				pmax	pmax	
	comp=Z,6.0nm,1.7s,mb4.2					
ARU	**Arti**	**81.66**	**331**	*e*P	**P**	**06 19 34.9 -0.3**
	comp=Z,20nm,1.6s,mb4.8					
ARU				*e*pP	pP	06 19 50.5 -1.4
LSZ	**Lusaka**	**87.20**	**255**	*e*P	**P**	**06 20 05.9 +1.7**
LSZ				*e*PP	pP	06 20 18.0 -3.1
LSZ				pmax	pmax	
	comp=Z,11nm,0.8s,mb5.1					
LSZ	**Lusaka**	**87.20**	**255**	*e*P	**P**	**06 20 05.9 +1.7**
	comp=Z,11nm,0.8s,mb5.1					
LSZ				*e*pP	pP	06 20 18.0 -3.1
MALT	**Malatya**	**87.56**	**309**	*e*P	**P**	**06 20 06.1 +0.7**
MALT				*e*PP	pP	06 20 22.7 +0.4
MALT				pmax	pmax	
	comp=Z,12nm,0.9s,mb5.1					
MALT	**Malatya**	**87.56**	**309**	*e*P	**P**	**06 20 06.1 +0.7**
	comp=Z,12nm,0.9s,mb5.1					
MALT				*e*pP	pP	06 20 22.7 +0.4
BOSA	**Boshof**	**87.77**	**242**	LR	LR	06 49 42.6
	comp=Z,97nm,20.2s,MS4.2,baz=139,slow=29					
ANN	**Anapa**	**89.81**	**315**	*e*P	**P**	**06 20 11.0 -4.9**
ANN				pmax	pmax	
	comp=Z,29nm,1.1s,mb5.5					
SNAA	**Sanae**	**90.28**	**196**	⇑*e*P	**P**	**06 20 18.5 +0.9**
VNA2	**Neumayer--Watz**	**91.92**	**196**	*e*P	**P**	**06 20 26.9 +1.7**
	baz=104,slow=2.8					
VNA2				*e*		06 20 29.4
VNA2				*e*		06 20 32.6
VNA2				*e*	pP	06 20 45.7 +3.5
VNA2				*e*		06 20 49.3
VNA2				*e*		06 20 57.9
MOS	**Moscow**	**92.23**	**326**	*e*P	pP	06 20 41.7 -2.2
OBN	**Obninsk**	**92.68**	**325**	⇑*e*P	**P**	**06 20 30.1 +1.1**
OBN				*e*PP	pP	06 20 45.3 -0.6
OBN				pmax	pmax	
	comp=Z,6.0nm,0.5s,mb5.3					
FINES	**FINESS Array B**	**99.03**	**331**	LR	LR	07 14 04.8
	comp=Z,50nm,20.8s,MS4.0,baz=51,slow=40					
COLA	**College**	**100.31**	**26**	⇑*e*P	Pdif	06 21 04.3 +0.7
YKA	**Yellowknife Ar**	**115.05**	**24**	PKP	PKiKP	06 25 58.3 +0.6
	comp=Z,0.5nm,0.5s,baz=302,slow=2.0,SNR=11					
YKA				pPKP		06 26 15.3
	comp=Z,0.9nm,0.5s,baz=308,slow=1.9,SNR=9.7					
TORD	**Torodi Ar. Bea**	**117.37**	**280**	PKP	PKPdf	06 26 03.6 +0.1
	comp=Z,0.3nm,0.8s,baz=56,slow=1.3,SNR=4.7					
TORD				pPKP	pPKPdf	06 26 21.2 +0.1
	comp=Z,1.6nm,0.8s,baz=65,slow=1.8,SNR=7.4					
HOOD	**Mount Hood Mea**	**117.97**	**43**	*e*PKPdf	PKPdf	06 25 59.4 -4.4
NVAR	**Mina Array Bea**	**122.19**	**50**	PKP	PKPdf	06 26 14.0 +1.8
	comp=Z,0.8nm,0.7s,baz=234,slow=2.9,SNR=3.6					
NVAR				pPKP	pPKPdf	06 26 30.1 +0.3
	comp=Z,0.7nm,0.7s,baz=264,slow=0.9,SNR=2.1					
HLID	**Hailey**	**123.44**	**44**	*e*PKPdf	PKPdf	06 26 15.1 +0.7
EGMT	**Eagleton**	**124.58**	**37**	*e*PKPdf	PKPdf	06 26 16.8 +0.4
DUG	**Dugway**	**125.74**	**47**	*e*PKIKP	PKPdf	06 26 20.7 +1.8
MSU	**Marysvale**	**126.77**	**49**	*e*PKIKP	PKPdf	06 26 23.0 +2.1
PV01	**Paradox Valley**	**129.55**	**48**	*e*PKPdf	PKPdf	06 26 28.6 +2.3
MNTX	**Cornudas Mount**	**134.29**	**55**	*e*SKPbc	SKPbc	06 30 00.9 +0.8
WMOK	**Wichita Mounta**	**138.13**	**47**	*e*SKPbc	SKPbc	06 30 12.9 +1.2
CPUP	**Villa Florida**	**144.15**	**187**	PKP	PKPdf	06 26 52.8 -0.8
	comp=Z,4.6nm,0.9s,baz=108,slow=3.5,SNR=5.8					
ACSO	**Alum Creek Sta**	**144.18**	**28**	*e*PKPdf	PKPdf	06 26 51.2 -1.9
ACCN	**Adirondack Com**	**144.72**	**15**	*e*PKPdf	PKPdf	06 26 53.3 -0.7
OXF	**Oxford**	**144.72**	**41**	*e*PKIKP	PKPdf	06 26 53.4 -0.8
OXF				*e*		06 27 11.5
VBMS	**Vicksburg**	**145.34**	**45**	*e*PKPdf	PKPdf	06 26 57.0 +1.6
SSPA	**Standing Stone**	**145.93**	**22**	*e*PKPdf	PKPdf	06 26 56.4 +0.3
MCWV	**Mont Chateau**	**146.02**	**25**	*e*PKPdf	PKPdf	06 26 57.9 +1.6
QUA2	**Belchertown**	**146.07**	**14**	*e*PKPdf	PKPab	06 26 59.5 +1.7
SWET	**Sewanee**	**146.40**	**37**	*e*PKPdf	PKPdf	06 26 57.9 +0.7
BRYW	**Bryant College**	**146.60**	**13**	*e*PKPdf	PKPab	06 27 02.5 +2.6
PAL	**Palisades**	**146.88**	**16**	*e*PKPdf	PKPbc	06 27 00.5 +0.9
TKL	**Tuckaleechee C**	**147.31**	**34**	*e*PKP2	PKPdf	06 26 58.6 0.0
LVC	**Limon Verde**	**147.49**	**168**	*e*PKPbc	PKPbc	06 27 03.3 +1.4
ELN	**Prospectdale**	**147.63**	**28**	*e*PKPdf	PKPdf	06 26 59.9 +0.8
BDFB	**Brasília**	**151.41**	**210**	PKIKP	PKPbc	06 27 12.6 +0.8
BDFB						06 27 21.4
BDFB				pmax	pmax	
	comp=Z,1.0nm,0.5s					
BDFB				pmax	pmax	
	comp=Z,1.0nm,0.6s					
BDFB	**Brasília**	**151.41**	**210**	PKPbc	PKPbc	06 27 12.6 +0.8
	comp=Z,1.0nm,0.5s,baz=193,slow=2.4,SNR=4.4					
BDFB				PKPab	PKPab	06 27 21.4 +1.4
	comp=Z,1.3nm,0.6s,baz=180,slow=4.2,SNR=8.4					
LPAZ	**La Paz**	**153.79**	**167**	PKIKP	PKPbc	06 27 19.1 +2.0
LPAZ						06 27 31.2
LPAZ				pmax	pmax	
	comp=Z,2.0nm,1.0s					
LPAZ				pmax	pmax	
	comp=Z,3.0nm,1.0s					
LPAZ	**La Paz**	**153.79**	**167**	PKPbc	PKPbc	06 27 19.1 +2.0
	comp=Z,1.9nm,1.0s,baz=78,slow=4.6,SNR=5.6					
LPAZ				PKPab	PKPab	06 27 31.2 +1.3
	comp=Z,3.2nm,1.0s,baz=166,slow=2.6,SNR=6.6					

DDA ***26*** *06:10:39.2,3661N*$_{\pm}$*2654E,h2km*$_{\pm}$*2km,Md3.2*
ISCJB ***26*** *06:10:40.4*$_{\pm}$*0.5,3662N*$_{\pm}$*002*$_{\times}$*2658E*$_{\pm}$*002,h7km*$_{\pm}$*4km,*
Error ellipse: s-maj=3.6km s-min=2.8km az=148.3
ISK ***26*** *06:10:40.8,3666N*$_{\times}$*2668E,h5km,MD3.3*
ATH ***26*** *06:10:41.0,3668N*$_{\times}$*2662E,h27km*$_{\pm}$*3km,MD3.6/7*
NEIC ***26*** *06:10:41.0,3668N*$_{\times}$*2662E,h27km,MD3.6(ATH),After ATH.*
CSEM ***26*** *06:10:42.0*$_{\pm}$*0.1,3663N*$_{\times}$*2662E,h15km,MD3.6,Error ellipse: s-maj=1.8km s-min=1.4km az=140.0*
HLW ***26*** *06:10:43.1,3663N*$_{\times}$*2689E,h33km,Mb3.3*
THE ***26*** *06:10:44.6,3668N*$_{\times}$*2653E,h27km,ML3.6*
ISC 26 06:10:40.9$_{\pm}$**0.5,3661N**$_{\pm}$**002**$_{\times}$**2658E**$_{\pm}$**002,h5**$_{\p

BLCB	**Balcova**	**1.81**	**11**	*e*Pn	**Pn**	**06 11 13.5**	**+0.8**
CHOS	**Chios island**	**1.82**	**347**	*e*Pb	**Pb**	**06 11 11.7**	**-3.0**
CHOS				*e*Sb	**Sb**	**06 11 33.7**	**-4.1**
KDAG	**Bornova**	**1.87**	**17**	*i* P	**Pn**	**06 11 14.9**	**+1.3**
KDAG				*i* S	**Sn**	**06 11 41.7**	**+4.2**
XRY	**Khrisi**	**1.88**	**203**	*e*PB	**Pb**	**06 11 15.0**	**-0.6**
FETY	**Fethiye**	**2.01**	**89**	*e*PN	**Pn**	**06 11 16.1**	**+0.6**
SIVA	**Sivas**	**2.15**	**223**	*e*Pn	**Pn**	**06 11 18.7**	**+1.4**
DENT	**Denizli**	**2.27**	**59**	*e*PN	**Pn**	**06 11 19.9**	**+1.0**
MANT	**Manisa**	**2.45**	**39**	*i* P	**Pn**	**06 11 27.1**	**+5.7**
MANT				*i* S	**Sn**	**06 11 57.6**	**+5.9**
AKHS	**Akhisar**	**2.47**	**23**	*i* P	**Pn**	**06 11 26.8**	**+5.1**
AKHS				*i* S	**Sn**	**06 11 59.8**	**+7.7**
AKS	**Akhisar**	**2.47**	**23**	*e*PN	**Pn**	**06 11 22.6**	**+1.0**
KARN	**Karanos**	**2.48**	**242**	*e*Pn	**Pn**	**06 11 23.1**	**+1.3**
KULA	**Kula-Manisa**	**2.52**	**40**	*e*PN	**Pn**	**06 11 23.7**	**+1.3**
PRK	**Paraskevi**	**2.64**	**355**	*e*Pn	**Pn**	**06 11 23.7**	**-0.5**
ELL	**Elmali**	**2.68**	**86**	*e*PN	**Pn**	**06 11 25.5**	**+0.9**
DID	**Didima**	**2.82**	**289**	*e*Pn	**Pn**	**06 11 26.4**	**-0.2**
DID				*e*Sn	**Sn**	**06 11 58.1**	**-2.9**
KHL	**Karahalli**	**2.90**	**53**	*e*PN	**Pn**	**06 11 28.7**	**+1.1**
VLI	**Veliai**	**2.93**	**273**	*e*PN	**Pn**	**06 11 27.8**	**-0.3**
BALB	**Balikesir**	**3.19**	**18**	*e*PN	**Pn**	**06 11 34.0**	**+2.3**
TKTP	**Tekketepe**	**3.30**	**63**	*i* P	**Pg**	**06 11 42.6**	**-1.6**
TKTP				*i* S	**Sg**	**06 12 33.2**	**+6.2**
LKR	**Lokris**	**3.50**	**307**	*e*Pn	**Pn**	**06 11 35.6**	**-0.3**
HMAT	**Matruh**	**5.52**	**175⇓**	*e*P	**Pn**	**06 12 03.4**	**-0.3**
HMAT				S	**Sn**	**06 13 02.1**	**-5.4**
SWA1		**7.36**	**186⇓**	*e*P	**Pn**	**06 12 29.6**	**+0.6**
SWA1				S	**Sn**	**06 13 47.4**	**-5.5**
SWA2		**7.41**	**188⇓**	*e*P	**Pn**	**06 12 30.2**	**+0.6**
AMAG	**Maghara**	**8.12**	**135⇓**	*e*P	**Pn**	**06 12 37.2**	**-2.1**
HFRF	**Wahat Farafira**	**9.55**	**171⇑**	*e*P	**Pn**	**06 12 59.1**	**+0.2**

BJI ***26*** *06:11:14.9, 875S×150.11E, h114km, mB5.2, mb5.2*
ISCJB ***26*** *06:11:17.3±1.1, 865S±004×14971E±005, h110km±10km, mb5.1/75, Error ellipse: s-maj=8.5km s-min=6.9km az=171.7*
IDC ***26*** *06:11:19.6±0.5, 865S×14969E, h117km±4km, mb4.8/18, mb1 4.9/20, mb1mx4.4.9/21, mbtmp4.8/20, MS3.9/5, Ms1 3.9/5, ms1mx3.5/16, Error ellipse: s-maj=10.1km s-min=9.1km az=123.0*
NEIC ***26*** *06:11:19.4±0.2, 860S×14969E, mb5.1/33, Error ellipse: s-maj=6.0km s-min=4.4km az=93.0*
GCMT ***26*** *06:11:19.4±0.2, 867S×14974E, h130km±2km, MW5.1/82, Moment Tensor Solution. s44,c56; s82,c131; Duration: 0 Moment tensor: Scale 10^16Nm; M_{rr}1.46±.19; $M_{\theta\theta}$-3.18±.21; $M_{\phi\phi}$1.73±.22; $M_{r\theta}$-4.66±.12; $M_{\theta\phi}$0.20±.22; $M_{\phi r}$-2.80±.14; Best double couple: M_o6.09000×10^16 NP1:ϕ_s130.00000°, δ23.00000°, λ159.00000°. NP2: ϕ_s240.00000°, δ82.00000°, λ69.00000°. Principal axes: T 5.8870, Plg49.0000°, Azm127.0000°; N 0.4170, Plg21.0000°, Azm243.0000°; P -6.2930, Plg34.0000°, Azm348.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
MOS ***26*** *06:11:20.1±0.9, 856S×14963E, h133km, mb4.9/18 Error ellipse: s-maj=10.2km s-min=7.4km az=86.5*

ISC 26 06:11:20.8±1.0, 866S±004×14973E±005, h127km±9km, h116km±.8km:pP-P, n175, σ0§88/167, mb5.1/75, 10C-18D, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**10.12**	**95**	*e*P	**Pn**	**06 13 44.6**	**+1.8**
HNR				pmax	pmax		
comp=Z,370nm,1.2s							
HNR	**Honiara**	**10.12**	**95**	*e*Pn	**Pn**	**06 13 44.6**	**+1.7**
comp=Z,370nm,1.2s							
HNR	**Honiara**	**10.12**	**95**	P	**Pn**	**06 13 43.8**	**+0.9**
comp=Z,15nm,0.3s,baz=192,slow=1.2,SNR=7.7							
HNR				LR	LR	06 16 09.6	
comp=Z,430nm,19.6s,baz=183,slow=28							
CTA	**Charters Tower**	**11.85**	**196**	*e*P	**Pn**	**06 14 08.0**	**+2.2**
comp=Z,25nm,0.6s							
CTA	**Charters Tower**	**11.85**	**196**	*e*P	**Pn**	**06 14 08.0**	**+2.2**
CTA				pmax	pmax		
comp=Z,25nm,0.6s							
CTA	**Charters Tower**	**11.85**	**196**	P	**Pn**	**06 14 08.0**	**+2.2**
comp=Z,1.5nm,0.3s,baz=22,slow=15,SNR=17							
CTAO	**Charters Tower**	**11.85**	**196**	*e*P	**Pn**	**06 14 08.0**	**+2.2**
CTAO				pmax	pmax		
comp=Z,30nm,0.7s							
CTAO	**Charters Tower**	**11.85**	**196**	*e*Pn	**Pn**	**06 14 08.0**	**+2.2**
comp=Z,30nm,0.7s							
EIDS	**Eidsvold**	**16.67**	**176**	*e*Pn	**Pn**	**06 15 06.9**	**0.0**
comp=Z,38nm,0.7s							
KAKA	**Kakadu**	**17.46**	**255**	*e*P	**Pn**	**06 15 16.1**	**-0.5**
comp=Z,91nm,0.6s							
WRAB	**Tennant Creek**	**18.63**	**231**	P	**P**	**06 15 29.2**	**+0.5**
comp=Z,726nm,0.6s,SNR=9.0							
WRAB	**Tennant Creek**	**18.63**	**231⇑**	*i* P	**P**	**06 15 29.2**	**+0.5**
WB2	**Warramunga Arr**	**18.64**	**231**	*e*P	**P**	**06 15 29.0**	**+0.3**
WB2				*e*S	**S**	**06 19 05.1**	**+11**
WRA	**Warramunga Arr**	**18.64**	**231**	P	**P**	**06 15 28.9**	**+0.1**
WRA				S	**S**	**06 18 55.8**	**+1.1**
WRA	**Warramunga Arr**	**18.64**	**231**	P	**P**	**06 15 28.9**	**+0.1**
comp=Z,13nm,0.3s,baz=56,slow=9.9,SNR=25							
WRA				S	**S**	**06 18 55.8**	**+1.1**
baz=51,slow=20,SNR=5.2							
WRA				PcP	PcP	06 19 52.5	+0.2
comp=Z,0.3nm,0.3s,baz=53,slow=2.1,SNR=4.9							
WRA				ScP	ScP	06 23 18.6	+2.3
comp=Z,0.1nm,0.3s,baz=54,slow=1.8,SNR=8.2							
ASAR	**Alice Springs**	**21.27**	**224**	P	**P**	**06 15 57.4**	**+0.3**
ASAR				S	**S**	**06 19 46.6**	**+0.3**
ASAR	**Alice Springs**	**21.27**	**224**	P	**P**	**06 15 57.4**	**+0.3**
comp=Z,70nm,0.5s,mb5.2,baz=57,slow=8.8,SNR=105							
ASAR				S	**S**	**06 19 46.5**	**+0.2**
comp=Z,14nm,0.9s,baz=39,slow=22,SNR=8.1							
ASAR				ScP	ScP	06 23 24.8	+2.3
comp=Z,2.0nm,0.8s,baz=81,slow=2.5,SNR=5.0							
ARMA	**Armidale**	**21.73**	**176**	*e*P	**P**	**06 16 01.3**	**-0.6**
GUMO	**Guam**	**22.62**	**348**	*e*P	**P**	**06 16 09.1**	**-2.2**
GUMO				pmax	pmax		
comp=Z,648nm,1.6s,mb5.7							
GUMO	**Guam**	**22.62**	**348**	*e*P	**P**	**06 16 09.1**	**-2.2**
comp=Z,648nm,1.6s,mb5.7							
STKA	**Stephens Creek**	**24.31**	**197⇑**	*i* P	**P**	**06 16 25.6**	**-1.0**
comp=Z,49nm,0.8s,mb4.9							
STKA	**Stephens Creek**	**24.31**	**197**	P	**P**	**06 16 25.8**	**-0.8**
comp=Z,86nm,0.9s,mb5.1,baz=11,slow=8.5,SNR=26							
FITZ	**Fitzroy Crossi**	**25.22**	**246**	*e*P	**P**	**06 16 34.6**	**-0.4**
comp=Z,145nm,0.6s,mb5.6							
FITZ	**Fitzroy Crossi**	**25.22**	**246**	P	**P**	**06 16 34.7**	**-0.2**
comp=Z,75nm,0.6s,mb5.3,baz=73,slow=8.8,SNR=40							
FITZ				LR	LR	06 26 54.6	
comp=Z,190nm,19.3s,baz=241,slow=37							
BATI	**Kupang**	**25.76**	**264**	P	**P**	**06 16 40.6**	**+0.7**
comp=Z,64nm,0.6s,mb5.2,baz=110,slow=3.4,SNR=5.8							
BATI				LR	LR	06 28 38.4	
comp=Z,341nm,18.2s,baz=105,slow=40							
TOO	**Toolangi**	**29.04**	**187**	*e*P	**P**	**06 17 08.9**	**0.0**
comp=Z,225nm,1.0s,mb5.8							
TOO	**Toolangi**	**29.04**	**187**	*e*P	**P**	**06 17 08.9**	**0.0**
TOO				pmax	pmax		
comp=Z,225nm,1.0s,mb5.8							
FORT	**Forrest**	**29.89**	**220**	*e*P	**P**	**06 17 16.0**	**-0.6**
comp=Z,90nm,0.8s,mb5.5							
FORT				*e*pP	pP	06 17 45.6	+1.6
MBWA	**Marble Bar**	**31.47**	**243**	*e*P	**P**	**06 17 30.1**	**-0.5**
comp=Z,25nm,0.8s,mb5.0							
KLBR	**Kellerberrin**	**37.47**	**228**	*e*P	**P**	**06 18 20.9**	**-1.2**
comp=Z,55nm,0.9s,mb5.5							
AFI	**Afiamalu**	**38.08**	**101**	*e*P	**P**	**06 18 27.8**	**+0.4**
comp=Z,73nm,1.1s,mb5.5							
AFI	**Afiamalu**	**38.08**	**101**	P	**P**	**06 18 27.9**	**+0.5**
comp=Z,62nm,0.9s,mb5.4,baz=250,slow=3.9,SNR=10.0							
URZ	**Urewera**	**38.43**	**144**	P	**P**	**06 18 29.6**	**-0.4**
comp=Z,5.4nm,0.6s,mb4.5,baz=111,slow=5.7,SNR=3.7							
URZ				pP	pP	06 18 58.1	-0.2
comp=Z,6.2nm,0.7s,baz=260,slow=6.1,SNR=2.8							
URZ				PcP	PcP	06 20 38.8	-2.1
comp=Z,16nm,0.9s,baz=340,slow=4.0,SNR=6.2							
NWAO	**Narrogin (SRO)**	**38.53**	**226**	P	**P**	**06 18 30.3**	**-0.7**
comp=Z,23nm,0.7s,mb5.1,baz=84,slow=7.2,SNR=2.8							
NWAO				LR	LR	06 34 41.5	
comp=Z,364nm,19.9s,baz=282,slow=36							
MUN	**Mundaring**	**38.80**	**229**	*e*P	**P**	**06 18 33.3**	**0.0**
RPZ	**Rata Peaks**	**39.57**	**156**	P	**P**	**06 18 39.3**	**-0.2**
comp=Z,32nm,0.6s,mb5.3,baz=282,slow=2.3,SNR=16							
KSM	**Kuching**	**40.56**	**282**	*e*P	**P**	**06 18 47.4**	**-0.7**
KSM				*e*pP	pP	06 19 12.6	-3.9
KSM				*e*sP	sP	06 19 24.8	-6.1
NACB	**Ninganchiao**	**42.65**	**321**	*e*P	**P**	**06 19 04.8**	**-0.2**
NACB				*e*pP	pP	06 19 31.1	-2.5
YHNB	**Yeheng**	**43.15**	**321**	*e*P	**P**	**06 19 09.3**	**+0.4**
YHNB				*e*pP	pP	06 19 35.1	-2.6
TATO	**Taipei**	**43.30**	**321**	*e*P	**P**	**06 19 10.7**	**+0.5**
comp=Z,237nm,1.0s,mb5.9							
TATO				*e*pP	pP	06 19 36.2	-2.7
QZH	**Quanzhou**	**45.12**	**319⇑**	*i* P	**P**	**06 19 25.0**	**+0.3**
QZH				AMB	AMB		
comp=Z,80nm,0.8s,mb5.5							
MJAR	**Matsushiro Arr**	**46.24**	**347**	P	**P**	**06 19 33.2**	**-0.1**
comp=Z,19nm,0.8s,mb4.9,baz=168,slow=7.7,SNR=30							
MAJO	**Matsushiro**	**46.24**	**347**	*e*P	**P**	**06 19 33.0**	**-0.3**
MAJO				*e**PP	pP	06 19 59.5	-2.9
MAJO				pmax	pmax		
comp=Z,33nm,0.7s,mb5.2							
MAJO	**Matsushiro**	**46.24**	**347**	*e*P	**P**	**06 19 33.0**	**-0.3**
comp=Z,33nm,0.7s,mb5.2							
MAJO				*e*pP	pP	06 19 59.5	-2.8
MAT	**Matsushiro**	**46.24**	**347**	P	**P**	**06 19 31.6**	**-1.7**
MAT				*e*S	**S**	**06 26 11.0**	**+0.6**
QIZ	**Qiongzhong**	**47.99**	**305**	P	**P**	**06 19 47.8**	**+0.6**
QIZ				AP	pP	06 20 14.0	-2.4
QIZ				S	**S**	**06 26 38.5**	**+2.8**
QIZ				AMB	AMB		
comp=Z,49nm,0.9s,mb5.3							
QIZ	**Qiongzhong**	**47.99**	**305**	*e*P	**P**	**06 19 47.4**	**+0.2**
comp=Z,36nm,0.7s,mb5.3							
QIZ				*e*pP	pP	06 20 13.9	-2.4
SSE	**Sheshan**	**48.07**	**327**	P	**P**	**06 19 47.8**	**+0.3**
SSE				AP	pP	06 20 15.5	-1.3
SSE				S	**S**	**06 26 37.0**	**+0.5**
SSE				XS	sS	06 27 26.0	-1.0
SSE				AMB	AMB		
comp=Z,71nm,0.8s,mb5.5							
SSE				LR	LR		
comp=N,113nm,16.8s							
SSE				LR	LR		
comp=E,185nm,16.7s							
SSE				LR	LR		
comp=Z,192nm,19.0s							
NJ2	**Nanjing**	**50.08**	**325**	*e*P	**P**	**06 20 03.5**	**+0.6**
NJ2				AP	pP	06 20 28.5	-3.9
NJ2				XP	sP	06 20 42.0	-4.5
NJ2				PCP	PcP	06 21 21.5	+0.7
NJ2				S	**S**	**06 27 05.0**	**+0.3**
NJ2				XS	sS	06 27 52.0	-3.5
NJ2				AMB	AMB		
comp=Z,80nm,0.9s,mb5.7							
NJ2				AMB	AMB		
comp=Z,190nm,6.0s							
NJ2				LR	LR		
comp=N,480nm,25.2s							
NJ2				LR	LR		
comp=E,270nm,20.7s							
NJ2				LR	LR		
comp=Z,270nm,20.2s							
RAR	**Rarotonga**	**50.16**	**110**	P	**P**	**06 20 04.1**	**+0.4**
comp=Z,8.8nm,0.6s,mb4.8,baz=246,slow=7.9,SNR=7.5							
KSRS	**Korea Array**	**50.21**	**337**	P	**P**	**06 20 04.0**	**+0.2**
comp=Z,23nm,0.8s,mb5.2,baz=153,slow=8.2,SNR=57							
KSRS				pP	pP	06 20 31.1	-2.0
comp=Z,12nm,0.9s,baz=157,slow=9.1,SNR=4.5							
KS15	**Wonju Array Si**	**50.21**	**337**	*e*P	**P**	**06 20 03.6**	**-0.1**
KULM	**Kulim**	**50.86**	**284**	*e*P	**P**	**06 20 08.9**	**-0.2**
KULM				*e*pP	pP	06 20 35.8	-2.8
WHN	**Wuhan**	**51.69**	**320**	⇓P	**P**	**06 20 15.5**	**+0.5**
PSI	**Prapat**	**51.91**	**280**	P	**P**	**06 20 16.1**	**-0.9**
comp=Z,17nm,0.8s,mb5.1,baz=118,slow=4.0,SNR=16							
GYA	**Guiyang**	**54.46**	**311**	P	**P**	**06 20 38.5**	**+3.2**
GYA				AP	pP	06 21 05.8	+0.6
GYA				XP	sP	06 21 19.5	+0.3
GYA				PCP	PcP	06 21 40.0	+2.6
GYA				PP	PP	06 22 43.0	+4.0
GYA				SCP	ScP	06 25 26.5	+2.4
GYA				PCS	PcS	06 25 38.0	+0.8
GYA				S	**S**	**06 28 06.3**	**+1.7**
GYA				XS	sS	06 28 54.8	-1.3
GYA				SCS	ScS	06 30 12.3	-0.1
GYA				SS	SS	06 31 50.5	+1.5
GYA				AMB	AMB		
comp=Z,20nm,1.1s,mb5.1							
GYA				AMB	AMB		
comp=Z,210nm,6.7s							
GYA				LR	LR		
comp=N,670nm,19.6s							
GYA				LR	LR		
comp=E,540nm,18.4s							
GYA				LR	LR		
comp=Z,510nm,19.5s							
NST	**Nakhon Sawan**	**54.75**	**296**	P	**P**	**06 20 33.2**	**-4.4**
NANT	**Nan**	**55.51**	**300**	⇑P	**P**	**06 20 43.0**	**0.0**
comp=Z,138nm,1.0s,mb5.9							
CN2	**Changchun**	**56.67**	**339**	*e*P	**P**	**06 20 53.5**	**+2.7**
CN2				*e*AP	pP	06 21 20.3	-0.6
CN2				*e*S	**S**	**06 28 35.0**	**+1.7**
CN2				AMB	AMB		
comp=Z,10.0nm,0.6s,mb5.0							
CN2				AMB	AMB		
comp=Z,200nm,4.0s							
KMI	**Kunming**	**56.75**	**308**	P	**P**	**06 20 53.0**	**+1.2**
KMI				AP	pP	06 21 20.5	-1.4
KMI				AMB	AMB		
comp=Z,39nm,0.9s,mb5.4							
CHG	**Chiang Mai**	**57.03**	**299**	⇓P	pP	06 21 22.3	-1.7
comp=Z,24nm,0.7s							
CHTO	**Chiang Mai**	**57.03**	**299**	*e*P	**P**	**06 20 54.1**	**+0.3**
CHTO				*e**PP	pP	06 21 22.4	-1.6
CHTO				pmax	pmax		
comp=Z,9.0nm,0.8s,mb4.8							
CHTO	**Chiang Mai**	**57.03**	**299**	*e*P	**P**	**06 20 54.1**	**+0.3**
comp=Z,9.3nm,0.8s,mb4.9							
CHTO				*e*pP	pP	06 21 22.4	-1.5
XAN	**Xi'an**	**57.44**	**320**	P	**P**	**06 20 55.8**	**-0.7**
XAN				AP	pP	06 21 22.3	-4.3
XAN				AMB	AMB		
comp=Z,27nm,1.0s,mb5.2							
BJI	**Beijing**	**57.53**	**330**	P	**P**	**06 20 56.8**	**-0.2**
BJI				S	**S**	**06 28 42.8**	**-2.0**
BJI				AMB	AMB		
comp=Z,12nm,1.3s,mb4.8							
BJI				AMB	AMB		
comp=Z,122nm,3.7s							
BJI				LR	LR		
comp=N,195nm,4.8s							
BJI				LR	LR		
comp=E,254nm,5.1s							
HABR	**Khabarovsk**	**58.34**	**349**	*e*P	**P**	**06 20 59.9**	**-2.5**
HABR				*e*		06 21 49.6	
HABR				*e*S	**S**	**06 28 54.1**	**-0.8**
HABR				*e*		06 30 39.7	
HABR				*e*		06 32 50.2	
CD2	**Chengdu**	**59.05**	**314⇓**	*i* P	**P**	**06 21 07.8**	**+0.1**
CD2				AP	pP	06 21 34.0	-4.1
CD2				XP	sP	06 21 47.3	-4.7
CD2				PP	PP	06 23 21.3	+1.5
CD2				S	**S**	**06 29 03.8**	**-1.1**
CD2				XS	sS	06 29 50.5	-6.7
CD2				SS	SS	06 33 01.0	-0.3
CD2				AMB	AMB		
comp=Z,90nm,0.7s,mb5.9							
CD2				AMB	AMB		
comp=Z,150nm,5.2s							
CD2				LR	LR		
comp=N,170nm,19.2s							
CD2				LR	LR		
comp=Z,160nm,16.8s							
KLR	**Kul'dur**	**59.76**	**346**	*i* P	**P**	**06 21 08.8**	**-3.4**
KLR				pmax	pmax		
comp=Z,48nm,0.8s,mb5.6							
HHC	**Hu-ho-hao-te**	**60.51**	**327**	*e*P	**P**	**06 21 20.5**	**+3.0**
HHC				AP	pP	06 21 48.0	+0.1
HHC				XP	sP	06 22 00.3	-1.5
HHC				PCP	PcP	06 22 04.5	+3.6
HHC				PP	PP	06 23 37.0	+4.5
HHC				SCP	ScP	06 25 54.0	+3.5
HHC				S	**S**	**06 29 26.3**	**+3.1**
HHC				XS	sS	06 30 13.8	-1.8
HHC				SCS	ScS	06 30 57.8	+1.7
HHC				SS	SS	06 33 27.5	+3.8
HHC				AMB	AMB		
comp=Z,28nm,1.1s,mb5.2							
HHC				AMB	AMB		
comp=Z,187nm,4.9s							
HHC				LR	LR		
comp=N,437nm,15.5s							
HHC				LR	LR		
comp=E,1μm,16.5s							
HHC				LR	LR		
comp=Z,304nm,16.7s							
LZH	**Lanzhou**	**61.98**	**319**	⇓P	**P**	**06 21 28.0**	**+0.5**
LZH				AP	pP	06 21 56.3	-1.8
LZH				XP	sP	06 22 09.3	-2.6
LZH				PP	PP	06 23 48.0	+2.5
LZH				*e*S	**S**	**06 29 43.0**	**+1.0**
LZH				XS	sS	06 30 33.0	-1.6
LZH				SS	SS	06 33 49.0	+2.1
LZH				AMB	AMB		
comp=Z,96nm,1.3s,mb5.7							
LZH				AMB	AMB		
comp=Z,260nm,4.0s							
HIA	**Hailar**	**63.38**	**339**	*e*P	**P**	**06 21 36.4**	**-0.1**
HIA				*e**PP	pP	06 22 04.9	-2.3
HIA				pmax	pmax		
comp=Z,21nm,0.8s							
HIA	**Hailar**	**63.38**	**339**	*e*P	**P**	**06 21 36.4**	**-0.1**
comp=Z,21nm,0.8s,mb5.1							
HIA				*e*pP	pP	06 22 04.9	-2.3
CASY	**Casey**	**63.47**	**197**	*e*P	**P**	**06 21 36.2**	**-0.6**
comp=Z,16nm,0.7s,mb5.0							
SMY	**Shemya**	**64.59**	**16**	*e*P	**P**	**06 21 44.5**	**+0.2**
SMY				*e**PP	pP	06 22 13.2	-2.0
SMY				pmax	pmax		
comp=Z,18nm,0.8s,mb5.0							
SMY	**Shemya**	**64.59**	**16**	*e*P	**P**	**06 21 44.5**	**+0.1**
comp=Z,18nm,0.8s,mb5.0							
SMY				*e*pP	pP	06 22 13.2	-1.9
SHL	**Shillong**	**65.73**	**303⇓**	*i* P	**P**	**06 21 52.5**	**+0.2**
GTA	**Gaotai**	**66.50**	**320**	⇓P	**P**	**06 21 57.8**	**+0.9**
GTA				AP	pP	06 22 25.5	-2.4
GTA				XP	sP	06 22 38.0	-3.6
GTA				PP	PP	06 24 27.5	+2.4
GTA				S	S	06 30 39.0	+1.4
GTA				XS	sS	06 31 27.8	-3.1
GTA				SS	SS	06 35 01.8	+4.5
GTA				AMB	AMB		
comp=Z,22nm,0.8s,mb5.0							
GTA				AMB	AMB		
comp=Z,105nm,6.1s							
GTA				LR	LR		
comp=N,80nm,12.2s							
GTA				LR	LR		
comp=E,88nm,16.4s							
GTA				LR	LR		
comp=Z,70nm,16.7s							
ULN	**Ulaanbaatar**	**67.73**	**330**	*e*P	**P**	**06 22 05.0**	**+0.5**
ULN				*e**PP	pP	06 22 33.5	-2.1
ULN				pmax	pmax		
comp=Z,21nm,1.4s,mb4.8							
ULN	**Ulaanbaatar**	**67.73**	**330**	*e*P	**P**	**06 22 05.0**	**+0.5**
comp=Z,21nm,1.4s,mb4.8							
ULN				*e*pP	pP	06 22 33.5	-2.0
LSA	**Lhasa**	**67.99**	**307**	P	**P**	**06 22 07.5**	**+1.0**
LSA				AMB	AMB		
comp=Z,30nm,0.8s,mb5.2							
MA2	**Magadan**	**68.01**	**1**	*c i* P	**P**	**06 22 05.8**	**-0.2**
MA2	**Magadan**	**68.01**	**1**	*e*P	**P**	**06 22 06.2**	**+0.2**
MA2				*e*pP	pP	06 22 34.8	-2.3
SONM	**Songino Array**	**68.03**	**330**	P	**P**	**06 22 07.2**	**+0.8**
comp=Z,6.3nm,0.8s,mb4.5,baz=126,slow=4.5,SNR=8.2							
SONM				pP	pP	06 22 35.4	-2.1
comp=Z,26nm,1.0s,baz=130,slow=5.4,SNR=13							
VNDA	**Vanda**	**69.13**	**177**	*e*P	**P**	**06 22 12.9**	**+0.1**
VNDA				pmax	pmax		
comp=Z,20nm,0.9s							
VNDA	**Vanda**	**69.13**	**177**	*e*P	**P**	**06 22 12.9**	**+0.1**
comp=Z,20nm,0.9s,mb5.0							
VNDA	**Vanda**	**69.13**	**177**	P	**P**	**06 22 12.9**	**+0.1**
comp=Z,18nm,0.9s,mb4.9,baz=329,slow=6.7,SNR=56							
MIR	**Mirnyy**	**69.26**	**201⇓**	*i* P	**P**	**06 22 14.0**	**+0.3**
MIR				pmax	pmax		
comp=Z,200nm,1.2s,mb5.8							
SBA	**Scott Base**	**69.73**	**176**	*e*P	**P**	**06 22 17.7**	**+1.2**
SBA				pmax	pmax		
comp=Z,12nm,1.0s,mb4.7							
SBA	**Scott Base**	**69.73**	**176**	*e*P	**P**	**06 22 17.7**	**+1.2**
comp=Z,12nm,1.0s,mb4.7							
JIRN	**Jiri**	**71.23**	**303⇓**	*i* P	**P**	**06 22 26.6**	**+0.1**
comp=Z,14nm,0.6s,mb5.0							
ZAK	**Zakamensk**	**71.26**	**331⇑**	*i* P	**P**	**06 22 25.7**	**-0.4**
ZAK				*e*	pP	06 22 54.3	-3.2
ZAK				pmax	pmax		
comp=Z,12nm,1.2s,mb4.6							
ZAK				pmax	pmax		
comp=Z,19nm,1.0s,mb4.9							
SEY	**Seymchan**	**71.40**	**1⇓**	*e*P	**P**	**06 22 26.7**	**0.0**
GUN	**Gumba**	**71.58**	**303⇓**	*i* P	**P**	**06 22 28.6**	**0.0**
comp=Z,46nm,0.9s,mb5.3							
PKI	**Pulchoki**	**71.85**	**303⇓**	*i* P	**P**	**06 22 29.8**	**-0.4**
comp=Z,15nm,0.7s,mb5.0							
TLY	**Talaya**	**71.94**	**332**	*e*P	**P**	**06 22 30.4**	**+0.2**
TLY				*e*S	S	06 31 43.8	+2.8
TLY				*e*SS	SS	06 36 23.8	+3.2
TLY				pmax	pmax		
comp=Z,11nm,1.0s,mb4.6							
TLY	**Talaya**	**71.94**	**332**	*e*P	**P**	**06 22 30.4**	**+0.2**
KKN	**Kakani**	**72.03**	**303⇓**	*i* P	**P**	**06 22 30.9**	**-0.4**
comp=Z,11nm,0.5s,mb5.0							
DMN	**Daman**	**72.11**	**303⇓**	*i* P	**P**	**06 22 31.6**	**-0.2**
comp=Z,54nm,1.0s,mb5.3							
YAK	**Yakutsk**	**72.18**	**350⇑**	*e*P	**P**	**06 22 31.2**	**-0.2**
YAK				*e**PP	pP	06 23 00

comp=Z,2.5nm,0.6s,baz=108,slow=7.8,SNR=2.3
MKAR PKKPbc PKKPbc 06 41 57.4 -2.2
comp=Z,0.9nm,0.8s,baz=304,slow=2.2,SNR=7.4
TIXI Tiksi 81.32 353 *e*P **P 06 23 21.1 -1.5**
TIXI pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
TIXI Tiksi 81.32 353 *e*P **P 06 23 21.0 -1.6**
comp=Z,6.1nm,0.8s,mb4.5
QSPA South Pole Qui 81.33 180 *e*P **P 06 23 22.8 +0.2**
comp=Z,65nm,0.9s,mb5.5
QSPA *e*pP pP 06 23 55.5 +0.8
SVW2 Sparrevohn 81.55 24 *e*P **P 06 23 24.8 +0.8**
TTA Tatalina 82.45 22 *e*P **P 06 23 28.8 +0.2**
ZAA0 Zalesovo Array 82.69 327 *e*P **P 06 23 28.6 -1.4**
ZAA0 *e*pP pP 06 23 58.4 -3.8
ZALV Zalesovo Beam 82.69 327 P **P 06 23 28.9 -1.2**
ZALV pP pP 06 23 58.7 -3.5
ZALV LR LR 07 01 50.4
ZALV Zalesovo Beam 82.69 327 P **P 06 23 28.9 -1.2**
comp=Z,11nm,0.7s,mb4.8,baz=109,slow=5.5,SNR=31
ZALV pP pP 06 23 58.7 -3.5
comp=Z,3.8nm,0.7s,baz=98,slow=7.6,SNR=2.2
ZALV LR LR 07 01 50.4
comp=Z,30nm,18.0s,baz=48,slow=37
ZAL Zalesovo 82.70 327 P **P 06 23 28.9 -1.2**
ZAL *PP pP 06 23 58.7 -3.6
ULHL Ulahol 83.77 314 P **P 06 23 36.1 +0.3**
SNR=7.6
NVS Novosibirsk 83.91 328 *e*P **P 06 23 35.1 -1.2**
NVS pmax pmax
comp=Z,41nm,1.4s,mb5.1
NVS pmax pmax
comp=N,18nm,1.5s
KZA Kyzart 84.43 314 P **P 06 23 40.4 +1.1**
SNR=39
TKM2 Tokmak 2 84.43 315 *e*P **P 06 23 39.1 -0.1**
TKM2 *e**PP pP 06 24 08.8 -2.7
TKM2 pmax pmax
comp=Z,7.0nm,0.7s,mb4.6
TKM2 Tokmak 2 84.43 315 *e*P **P 06 23 39.1 -0.1**
comp=Z,7.1nm,0.7s,mb4.6
TKM2 *e*pP pP 06 24 08.8 -2.7
TKM2 Tokmak 2 84.43 315 P **P 06 23 39.3 +0.1**
SNR=14
KURK Kurchatov 84.95 323 *e*P **P 06 23 41.3 -0.3**
KURK pmax pmax
comp=Z,27nm,1.2s,mb5.0
KURK Kurchatov 84.95 323 *e*P **P 06 23 41.3 -0.3**
comp=Z,27nm,1.2s,mb5.1
KURK *e*pP pP 06 24 10.1 -3.8
UCH Uchtor 84.99 314 *e*P **P 06 23 42.6 +0.5**
comp=Z,12nm,0.8s,mb4.9
UCH *e*pP pP 06 24 12.3 -2.1
UCH *e*sP sP 06 24 22.5 -5.3
UCH Uchtor 84.99 314 P **P 06 23 42.8 +0.7**
SNR=14
CHMS Chumysh 85.04 315 P **P 06 23 42.0 -0.2**
SNR=6.1
IMA2 Indian Mountai 85.09 20 *e*P **P 06 23 42.0 +0.1**
AAK Ala-Archa 85.12 314 P **P 06 23 41.0 -1.7**
comp=Z,120nm,0.7s,mb5.9,SNR=8.4
AAK Ala-Archa 85.12 314 P **P 06 23 42.9 +0.2**
SNR=11
USP Ospenovka 85.30 315 P **P 06 23 43.4 -0.1**
SNR=17
AML Almayashu 85.55 314 *e*P **P 06 23 45.1 +0.2**
comp=Z,15nm,0.8s,mb5.0
AML Almayashu 85.55 314 P **P 06 23 45.0 +0.2**
SNR=14
EKS2 Erkin-Say 85.64 314 *e*P **P 06 23 45.4 +0.1**
comp=Z,20nm,1.1s,mb5.0
EKS2 *e*pP pP 06 24 15.1 -2.5
EKS2 Erkin-Say 85.64 314 P **P 06 23 45.4 +0.2**
SNR=14
COLA College 86.54 22⇑ *e*P **P 06 23 48.0 -1.2**
SYO Syowa Base 89.04 200⇓ *i*P **P 06 23 59.2 -1.9**
SYO Syowa Base 89.04 200⇑ *e*PcP PcP 06 24 02.6 +0.1
EGAK Eagle 89.08 24 *e*P **P 06 24 02.1 +0.8**
comp=Z,5.8nm,0.9s,mb4.6
DAWY Dawson 89.53 25 *e*P **P 06 24 04.1 +0.7**
DAWY *e*pP pP 06 24 34.9 -1.1
INK Inuvik 93.13 21 *e*P **P 06 24 19.9 0.0**
comp=Z,137nm,1.3s,mb6.1
NVAR Mina Array Bea 96.84 52 P **P 06 24 39.0 +1.4**
comp=Z,3.6nm,1.0s,mb4.7,baz=247,slow=6.9,SNR=14
ARU Arti 97.79 326*c i*P **P 06 24 42.8 +1.4**
ARU *e* 06 28 42.1
ARU *e*S SKSac 06 35 09.7 +2.7
ARU *e*SS SS 06 42 41.8 +1.8
ARU pmax pmax
comp=Z,6.0nm,1.7s,mb4.8
VNA2 Neumayer--Watz 99.11 187 *e*Pdiff **P 06 24 46.6 -0.6**
baz=146,slow=2.4
VNA2 *e* 06 24 52.1
VNA2 *e* 06 25 00.0
YKA Yellowknife Ar 100.24 28 P Pdif 06 24 51.9 -0.6
YKA PKKPbc PKKPbc 06 41 07.6 -4.2
YKA Yellowknife Ar 100.24 28 P Pdif 06 24 51.9 -0.6
comp=Z,0.2nm,0.7s,baz=269,slow=4.5,SNR=3.4
YKA PKKPbc PKKPbc 06 41 07.6 -4.2
comp=Z,0.9nm,0.7s,baz=87,slow=3.0,SNR=18
MOS Moscow 109.50 326 *e*P Pdif 06 25 24.4 -9.3
ULM Lac du Bonnet 112.14 39 PKiKP PKiKP 06 29 45.3 +4.1
comp=Z,4.2nm,0.7s,baz=293,slow=6.4,SNR=7.4
BOSA Boshof 114.89 233 PKP PKiKP 06 29 46.5 -0.8
comp=Z,1.5nm,0.7s,baz=284,slow=4.2,SNR=3.0
AKASG Malin Array Be 115.76 323 PKP PKPdf 06 29 46.8 -1.4
comp=Z,0.2nm,0.3s,baz=56,slow=2.3,SNR=3.1
AKASG PP PP 06 30 53.8 +0.9
comp=Z,0.2nm,0.3s,baz=62,slow=5.5,SNR=4.9
AKASG PKKPbc PKKPbc 06 40 20.3 -2.1
comp=Z,1.8nm,0.7s,baz=260,slow=4.2,SNR=11
PLCA Paso Flores 118.43 146 PKP PKPdf 06 29 53.6 -0.1
comp=Z,3.2nm,0.7s,baz=213,slow=5.8,SNR=8.4
NOA NORSAR Array B 119.41 338 PKP PKPdf 06 29 53.8 -1.1
comp=Z,1.3nm,0.9s,baz=53,slow=2.1,SNR=2.9
CLL Collm 124.63 328 *e*PKiKP PKPdf 06 30 04.0 -1.2
CLL pmax pmax
comp=Z,5.0nm,1.1s
CLL Collm 124.63 328 *e*PKiKP PKiKP 06 30 04.0 -1.6
comp=Z,5.0nm,1.1s
CLL *e*PP PP 06 32 12.0 +19
CLL *e*SKSP 06 41 32.0
CLL *e*PPS 06 43 17.0
KHC Kasperske Hory 125.53 326 *e*PKPDF PKPdf 06 30 07.0 0.0
GERES GERESS Array B 125.61 326 PKP PKPdf 06 30 06.7 -0.5
comp=Z,1.0nm,0.5s,baz=90,slow=1.3,SNR=11
GRA1 Grafenberg Arr 126.49 328 *e*PKP PKPdf 06 30 09.1 +0.2
GRF Grafenberg Arr 126.49 328 *e*PKP PKPdf 06 30 09.1 +0.2
LPAZ La Paz 135.07 123 PKiKP PKPdf 06 30 27.2 +1.1
LPAZ La Paz 135.07 123 PKhKP 06 30 19.6
comp=Z,1.3nm,0.9s,baz=164,slow=4.8,SNR=3.9
LPAZ PKP PKPdf 06 30 27.2 +1.1
comp=Z,3.9nm,0.9s,baz=57,slow=1.1,SNR=9.9
ROSC El Rosal 136.10 92 PKP PKPdf 06 30 28.9 +0.8
comp=Z,3.7nm,0.5s,baz=216,slow=3.0,SNR=3.8
CPUP Villa Florida 136.41 144 PKP PKPdf 06 30 28.6 +0.3
comp=Z,6.7nm,0.9s,baz=355,slow=1.0,SNR=10
TORD Torodi Ar. Bea 148.31 281 PKP PKPdf 06 30 48.7 -0.9
comp=Z,8.8nm,0.8s,baz=109,slow=2.8,SNR=7.6
TORD PKPbc PKPbc 06 30 52.9 -0.3
comp=Z,9.1nm,0.8s,baz=60,slow=2.4,SNR=33
TORD pPKPbc pPKPbc 06 31 23.6 -3.3
comp=Z,12nm,0.9s,baz=64,slow=2.5,SNR=5.7
BDFB Brasilia 150.14 144 PKP PKPdf 06 30 51.8 -0.7
comp=Z,26nm,0.9s,baz=169,slow=5.9,SNR=14
BDFB PKPbc PKPbc 06 30 57.3 -0.4
comp=Z,26nm,0.9s,baz=356,slow=0.7,SNR=42
BDFB PKPab PKPab 06 31 03.7 -0.2
comp=Z,20nm,0.9s,baz=236,slow=3.6,SNR=12
DBIC Dimbokro 154.74 267 PKPbc PKPbc 06 31 07.7 -0.4
comp=Z,5.2nm,0.9s,baz=91,slow=2.3,SNR=4.0
DBIC PKPab PKPab 06 31 23.1 -0.4
comp=Z,6.2nm,0.8s,baz=118,slow=6.5,SNR=5.4

MAN 26 06:12:56,1913N×12116E,h53km,mb4.1,ML2.9,MS2.6,
Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**1.22**	**136**	*e*P	Pn	06 13 18.6	+1.9
SGCP				*e*S	Sn	06 13 34.9	+2.7
CVP	**Callao Caves**	**1.55**	**156**	*e*P	Pn	06 13 23.6	+2.3
CVP				*e*S	Sn	06 13 43.0	+2.8
CAUP	**Cauayan**	**2.26**	**164**	*e*P	Pn	06 13 25.8	-5.2
PALP	**Palanan**	**2.38**	**149**	*e*P	Pn	06 13 35.5	+2.9
PALP				*e*S	Sn	06 14 07.1	+6.5

IDC 26 06:21:08.6±4.4,440S×14629E,h0km,mb3.7/3,mb1 3.9/4,
mb1mx3.7/14,mbtmp3.7/4,ML3.5/1,MS3.5/2,Ms1 3.5/2,
ms1mx3.1/20,Error ellipse: s-maj=139.2km
s-min=32.4km az=104.0,Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.35**	**216**	P	Pn	06 25 36.3	-0.5
	0.2nm,0.3s,baz=39,slow=11,SNR=8.3						
WRA				LR	LR	06 32 43.2	
	comp=Z,89nm,19.1s,baz=20,slow=36						
ASAR	**Alice Springs**	**22.58**	**211**	P	P	06 26 11.9	+1.3
	1.0nm,0.8s,baz=48,slow=7.7,SNR=5.1						
FITZ	**Fitzroy Crossi**	**24.36**	**234**	P	P	06 26 27.2	-1.4
	5.2nm,0.8s,baz=51,slow=10.0,SNR=5.1						
STKA	**Stephens Creek**	**27.68**	**189**	LR	LR	06 38 22.4	
	comp=Z,181nm,20.9s,baz=27,slow=37						
MKAR	**Makanchi Array**	**75.83**	**320**	P	P	06 32 57.3	+0.6
	0.5nm,0.7s,baz=98,slow=6.0,SNR=4.7						
TORD	**Torodi Ar. Bea**	**143.99**	**286**	PKP	PKPdf	06 40 45.5	-1.7
	0.6nm,0.9s,baz=56,slow=2.6,SNR=3.1						

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*IDC **26** 06:34:49.8±1.6,2796S×71.11W,h0km,mb3.8/1,mb1 3.6/2,*
mb1mx3.4/15,mbtmp3.6/2,ML3.4/1,Error ellipse:
s-maj=100.2km s-min=50.9km az=113.0
*ISCJB **26** 06:34:54.7±1.3,2784S×005×712W±02,h46km±17km,*
Error ellipse: s-maj=23.6km s-min=6.3km az=16.2
*GUC **26** 06:34:56.1±0.8,2791S×7100W,h39km±5km,MD4.3,*
ML4.2
*NEIC **26** 06:34:56.1,2791S×7100W,h39km,MD4.3(GUC),After*
GUC.
ISC 26 06:34:56.3±1.1,2786S×005×711W±01,h38km±18km,n17,
s0°78/23,3C-5D,Near coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.76**	**160**⇓	*i*P	**Pn**	**06 35 10.1**	**-0.5**
VACH				*i* S	**Sn**	**06 35 19.8**	**-1.1**
VACH	**Vallenar**	**0.76**	**160**⇓	*i*P	**Pn**	**06 35 10.1**	**-0.5**
VACH				*i* S	**Sn**	**06 35 19.8**	**-1.1**
VACH				AML	AML	06 35 21.3	
	comp=N,19μm,0.4s						
CPCH	**Copiapo**	**0.80**	**52**⇓	*i*P	**Pn**	**06 35 11.2**	**+0.1**
CPCH				*i* S	**Sn**	**06 35 22.3**	**+0.5**
CPCH	**Copiapo**	**0.80**	**52**⇓	*i*P	**Pn**	**06 35 11.2**	**+0.1**
CPCH				*i* S	**Sn**	**06 35 22.3**	**+0.5**
CPCH				AML	AML	06 35 24.1	
	comp=N,30μm,0.1s						
LCO	**Las Campanas**	**1.19**	**165**⇓	*i*Pn	**Pn**	**06 35 16.3**	**-0.2**
LCO				*e*Sn	**Sn**	**06 35 31.0**	**-0.4**
LSCH	**La Serena**	**2.05**	**185**	*e*P	**Pn**	**06 35 27.9**	**-0.4**
LSCH				*i* S	**Sn**	**06 35 53.1**	**+0.5**
TLL	**Tololo Astrono**	**2.31**	**175**⇑	*i*P	**Pn**	**06 35 32.9**	**+1.0**
TLL				*i* S	**Sn**	**06 36 00.6**	**+1.5**
TLL	**Tololo Astrono**	**2.31**	**175**⇑	*i*P	**Pn**	**06 35 32.9**	**+1.0**
TLL				*i* S	**Sn**	**06 36 00.6**	**+1.5**
TLL				AML	AML	06 36 13.4	
	comp=E,1μm,0.5s						
OVCH	**Ovalle**	**2.74**	**183**	*i* P	**Pn**	**06 35 37.9**	**+0.1**
CMCH	**Combarbala**	**3.30**	**179**⇑	*i*P	**Pn**	**06 35 44.4**	**-1.2**
CMCH				*i* S	**Sn**	**06 36 22.6**	**-0.9**
FCH	**Farellones**	**5.49**	**173**	*e*P	**Pn**	**06 36 16.8**	**+1.3**
LMEL	**Las Melosas**	**6.01**	**173**	*e*P	**Pn**	**06 36 23.5**	**+0.7**
LPAZ	**La Paz**	**11.83**	**14**	Pn	**Pn**	**06 37 41.8**	**-0.7**
	comp=E,0.1nm,0.3s,baz=180,slow=9.1,SNR=4.1						
TORD	**Torodi Ar. Bea**	**81.33**	**70**	P	**P**	**06 47 09.2**	**-0.2**
	comp=E,0.7nm,0.8s,baz=250,slow=4.0,SNR=3.6						
TORD				pP	pP	06 47 20.5	-0.5
	comp=E,1.2nm,0.6s,baz=271,slow=5.3,SNR=8.9						
WRA	**Warramunga Arr**	**126.50**	**210**	PKP	PKPdf	06 53 55.1	-0.9
	comp=E,0.2nm,0.6s,baz=161,slow=1.8,SNR=5.0						
ZALV	**Zalesovo Beam**	**148.50**	**28**	PKPbc	PKPbc	06 54 38.4	-0.2
	comp=E,1.2nm,0.4s,baz=318,slow=2.0,SNR=4.1						
MKAR	**Makanchi Array**	**151.82**	**41**	PKPbc	PKPbc	06 54 45.9	-0.9
	comp=E,0.3nm,0.5s,baz=352,slow=2.9,SNR=3.4						

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*ISCJB **26** 06:36:54.0±0.3,2194N×006×14302E±004,h25km,*
mb4.7/68,MS3.6/3,Error ellipse: s-maj=9.4km
s-min=5.2km az=9.5
*BJI **26** 06:36:53.6,2189N×14349E,h40km,mB5.1,mb4.9,Ms4.5,*
Msz3.9
*MOS **26** 06:36:54.7±0.8,2192N×14301E,h33km,mb5.1/22,Error*
ellipse: s-maj=12.2km s-min=7.6km az=104.6
*NEIC **26** 06:36:55.0±0.2,2188N×143.10E,mb4.9/36,Error ellipse:*
s-maj=6.9km s-min=5.5km az=168.0
*IDC **26** 06:36:56.0±8.5,2190N×143.13E,h33km±64km,mb4.3/19,*
mb1 4.4/20,mb1mx4.3/25,mbtmp4.3/20,MS3.6/3,
Ms1 3.6/3,ms1mx3.2/20,Error ellipse: s-maj=20.9km
s-min=13.5km az=95.0
ISC 26 06:36:55.8±0.3,2192N±006×14309E±004,h26km,
h26km±.7km:pP-P,n307,s0°61/304,mb4.7/68,MS3.6/3,
70C-56D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.18**	**345**	Pn	**Pn**	**06 40 26.5**	**-1.8**
	0.4nm,0.3s,baz=151,slow=10.1,SNR=8.6						
MJAR				LR	LR	06 45 58.0	
	comp=Z,329nm,18.9s,baz=160,slow=36						
KSRS	**Korea Array**	**20.29**	**323**	P	**P**	**06 41 29.8**	**+0.3**
KSRS				pmax	pmax		
	comp=Z,15nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,147nm,18.1s,MS3.4						
KSRS	**Korea Array**	**20.29**	**323**	P	**P**	**06 41 29.8**	**+0.2**
	comp=Z,15nm,0.9s,baz=136,slow=12,SNR=24						
KSRS				LR	LR	06 48 37.4	
	comp=Z,147nm,18.1s,MS3.4,baz=146,slow=34						
SNY	**Shenyang**	**25.75**	**325**	⇓P	**P**	**06 42 23.8**	**-0.4**
SNY				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
CN2	**Changchun**	**26.27**	**330**	*e*P	**P**	**06 42 30.5**	**+1.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
KAPI	**Kappang**	**35.20**	**223**	P	**P**	**06 43 47.6**	**-0.4**
	comp=Z,3.7nm,0.6s,mb4.5,baz=60,slow=8.1,SNR=2.9						
HNR	**Honiara**	**35.27**	**150**	LR	LR	06 55 26.6	
	comp=Z,63nm,19.0s,MS3.4,baz=90,slow=32						
LZH	**Lanzhou**	**36.86**	**301**	*e*P	**P**	**06 44 04.3**	**+2.3**
LZH				*e*S	**S**	**06 49 51.5**	**+6.4**
LZH				AMB	AMB		
	comp=Z,24nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,90nm,4.0s						
ULN	**Ulaanbaatar**	**38.74**	**321**	*e*P	**P**	**06 44 18.2**	**+0.4**
ULN				pmax	pmax		
	comp=Z,33nm,1.6s,mb4.8						
ULN	**Ulaanbaatar**	**38.74**	**321**	*e*P	**P**	**06 44 18.2**	**+0.5**
	comp=Z,33nm,1.6s,mb4.8						
SMY	**Shemya**	**38.87**	**30**	*e*P	**P**	**06 44 19.6**	**+0.9**
SMY				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.0						
SMY	**Shemya**	**38.87**	**30**	*e*P	**P**	**06 44 19.6**	**+0.9**
	comp=Z,37nm,1.3s,mb5.0						
SONM	**Songino Array**	**39.12**	**320**	P	**P**	**06 44 21.1**	**+0.2**
	comp=Z,6.0nm,0.7s,mb4.5,baz=118,slow=7.7,SNR=7.3						
GTA	**Gaotai**	**40.68**	**305**	P	**P**	**06 44 35.3**	**+1.3**
GTA				PP	PP	06 46 17.0	+9.1
GTA				S	**S**	**06 50 40.5**	**-2.1**
GTA				SS	SS	06 53 44.8	+1.4
GTA				AMB	AMB		
	comp=Z,8.0nm,1.2s,mb4.2						
GTA				AMB	AMB		
	comp=Z,97nm,5.3s						
GTA				LR	LR		
	comp=N,97nm,19.0s,MS4.0						
GTA				LR	LR		
	comp=E,188nm,19.8s,MS4.0						
GTA				LR	LR		
	comp=Z,111nm,16.0s,MS3.8						
YAK	**Yakutsk**	**41.14**	**350**	*e*P	**P**	**06 44 36.5**	**-0.9**
YAK				pmax	pmax		
	comp=N,9.0nm,1.0s						
YAK				pmax	pmax		
	comp=Z,32nm,1.0s,mb4.9						
YAK				pmax	pmax		
	comp=E,5.0nm,1.3s						
BOD	**Bodaibo**	**41.60**	**337**	*e*P	**P**	**06 44 39.7**	**-1.6**
BOD				pmax	pmax		
	comp=Z,7.0nm,1.5s,mb4.1						
ZAK	**Zakamensk**	**42.12**	**322**	*e*P	**P**	**06 44 45.1**	**-0.6**
ZAK				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.4						
WRA	**Warramunga Arr**	**42.47**	**192**	P	**P**	**06 44 47.9**	**-0.9**
	comp=Z,3.9nm,0.9s,mb4.0,baz=13,slow=9.2,SNR=13						
TLY	**Talaya**	**42.54**	**324**	*e*P	**P**	**06 44 50.1**	**+1.1**
TLY				pmax	pmax		
	comp=Z,11nm,1.2s,mb4.5						
FITZ	**Fitzroy Crossi**	**43.28**	**205**	P	**P**	**06 44 55.1**	**-0.3**
	comp=Z,3.5nm,0.9s,mb4.1,baz=23,slow=7.7,SNR=3.7						
MOY	**Mondy**	**43.99**	**323**	*e*P	**P**	**06 45 01.6**	**+0.8**
ASAR	**Alice Springs**	**46.18**	**192**	P	**P**	**06 45 16.4**	**-2.0**
	comp=Z,1.5nm,0.7s,mb4.0,baz=16,slow=10,SNR=19						
PSI	**Prapat**	**46.90**	**252**	P	**P**	**06 45 25.1**	**+0.8**
	comp=Z,4.6nm,0.8s,mb4.5,baz=117,slow=1.8,SNR=6.0						
BILL	**Bilibino**	**48.32**	**11**	*e*P	**P**	**06 45 35.3**	**+0.7**
BILL				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
WMQ	**Urumqi**	**50.38**	**309**	P	**P**	**06 45 51.5**	**+0.8**
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3						
TIXI	**Tiksi**	**50.42**	**354**	*e*P	**P**	**06 45 48.6**	**-2.0**
TIXI				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
ZAA0	**Zalesovo Array**	**53.99**	**322**	*e*P	**P**	**06 46 16.6**	**-0.8**
ZAA0				*e*pP	pP	06 46 24.9	-0.6
ZAA0				*e*sP	sP	06 46 29.3	+0.6
ZALV	**Zalesovo Beam**	**53.99**	**322**	P	**P**	**06 46 17.1**	**-0.3**
	comp=Z,7.7nm,0.8s,mb4.7,baz=104,slow=6.4,SNR=19						
ZAL	**Zalesovo**	**54.00**	**322**	P	**P**	**06 46 17.1**	**-0.3**
MK31	**Makanchi Array**	**54.49**	**313**	*e*P	**P**	**06 46 21.7**	**+0.6**
MK31				*e**PP	pP	06 46 29.7	+0.4
MKAR	**Makanchi Array**	**54.49**	**313**	P	**P**	**06 46 21.5**	**+0.3**
	comp=Z,2.9nm,0.6s,mb4.4,baz=93,slow=9.3,SNR=12						
KDAK	**Kodiak Island**	**58.07**	**35**	P	**P**	**06 46 44.4**	**-2.1**
	comp=Z,7.4nm,0.9s,mb4.7,baz=297,slow=4.5,SNR=4.3						
ULHL	**Ulahol**	**58.70**	**307**	P	**P**	**06 46 52.3**	**+1.2**
	SNR=7.1						
TKM2	**Tokmak 2**	**59.15**	**308**	*e*P	**P**	**06 46 55.2**	**+0.9**
TKM2				*e**PP	pP	06 47 02.2	-0.3
TKM2				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
TKM2	**Tokmak 2**	**59.15**	**308**	*e*P	**P**	**06 46 55.1**	**+0.9**
	comp=Z,10.0nm,1.0s,mb4.8						
TKM2				*e*pP	pP	06 47 02.2	-0.3
TKM2	**Tokmak 2**	**59.15**	**308**	P	**P**	**06 46 55.2**	**+1.0**
	SNR=8.0						
IMA2	**Indian Mountai**	**59.37**	**25**	*e*P	**P**	**06 46 55.5**	**+0.1**
KZA	**Kyzart**	**59.44**	**307**	P	**P**	**06 46 58.4**	**+2.1**
	SNR=11						
USP	**Ospenovka**	**59.94**	**308**	P	**P**	**06 47 00.2**	**+0.5**
	SNR=5.0						
UCH	**Uchtor**	**59.98**	**307**	*e*P	**P**	**06 47 01.5**	**+1.5**
	comp=Z,27nm,1.3s,mb5.1						
UCH				*e*pP	pP	06 47 08.9	+0.7
UCH	**Uchtor**	**59.98**	**307**	P	**P**	**06 47 01.8**	**+1.8**
	SNR=9.8						
AML	**Almayashu**	**60.59**	**307**	*e*P	**P**	**06 47 05.7**	**+1.5**
	comp=Z,9.1nm,0.9s,mb4.9						
AML				*e*pP	pP	06 47 13.4	+0.9
AML	**Almayashu**	**60.59**	**307**	P	**P**	**06 47 05.5**	**+1.3**
	SNR=5.4						
BVAR	**Borovoye Array**	**62.45**	**319**	P	**P**	**06 47 16.4**	**-0.1**
	comp=Z,14nm,0.6s,mb5.2,baz=93,slow=7.6,SNR=38						
BRVK	**Borovoye**	**62.52**	**319**	*e*P	**P**	**06 47 17.2**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,38nm,1.3s,mb5.4						
BRVK	**Borovoye**	**62.52**	**319**	*e*P	**P**	**06 47 17.2**	**+0.3**
	comp=Z,38nm,1.3s,mb5.4						
EGAK	**Eagle**	**64.33**	**27**	*e*P	**P**	**06 47 28.0**	**-0.8**
	comp=Z,3.9nm,0.8s,mb4.5						
KBL	**Kabul**	**65.16**	**299**	*e*P	**P**	**06 47 35.1**	**+0.3**
KBL				*e**PP	pP	06 47 42.3	-0.7
INK	**Inuvik**	**67.40**	**24**	P	**P**	**06 47 48.0**	**-0.5**
	comp=Z,7.2nm,0.9s,mb4.7,baz=281,slow=6.6,SNR=22						
ARU	**Arti**	**69.04**	**324**	*e*P	**P**	**06 47 58.1**	**-0.9**
ARU				*e**PP	pP	06 48 06.4	-0.9
ARU				pmax	pmax		
	comp=Z,25nm,1.4s,mb5.0						
ARU	**Arti**	**69.04**	**324**	*e*P	**P**	**06 47 58.1**	**-0.8**
	comp=Z,25nm,1.4s,mb5.0						
ARU				*e*pP	pP	06 48 06.4	-0.9
DLBC	**Dease Lake**	**69.99**	**34**	P	**P**	**06 48 05.1**	**+0.3**
	baz=301,slow=7.7						
NLWA	**Neilton Lookou**	**76.18**	**44**	*e*P	**P**	**06 48 42.1**	**+0.5**
	comp=Z,3.8nm,0.6s,mb4.5						
NLWA	**Neilton Lookou**	**76.18**	**44**	⇓P	**P**	**06 48 42.2**	**+0.6**
	baz=76						
YKA	**Yellowknife Ar**	**76.30**	**28**	P	**P**	**06 48 41.3**	**-0.7**
	comp=Z,6.3nm,0.7s,mb4.7,baz=293,slow=5.4,SNR=59						
E03A	**Lebam**	**76.64**	**45**	⇓P	**P**	**06 48 44.9**	**+0.7**
	baz=76						
GNW	**Green Mountain**	**76.81**	**44**	P	**P**	**06 48 45.5**	**+0.3**
F03A	**Seaside**	**76.83**	**46**	⇓P	**P**	**06 48 46.0**	**+0.7**
	baz=76						
RES	**Resolute Bay**	**76.88**	**13**	*e*P	**P**	**06 48 44.4**	**-0.7**
RES				pmax	pmax		
	comp=Z,431nm,0.9s						
RES	**Resolute Bay**	**76.88**	**13**	*e*P	**P**	**06 48 44.4**	**-0.7**
	comp=Z,431nm,0.9s						
G03A	**Yamhill**	**77.20**	**46**	⇑P	**P**	**06 48 47.9**	**+0.5**
	baz=77						
MPOR	**Mary's Peak**	**77.27**	**47**	P	**P**	**06 48 48.4**	**+0.6**
H03A	**Soap Creek Ran**	**77.39**	**47**	⇑P	**P**	**06 48 49.2**	**+0.7**
	baz=77						
F04A	**Amboy**	**77.58**	**45**	⇑P	**P**	**06 48 49.8**	**+0.3**
	baz=77						
TDL	**Tradedollar La**	**77.58**	**45**	P	**P**	**06 48 49.9**	**+0.4**
E05A	**Randle**	**77.81**	**45**	⇓P	**P**	**06 48 50.6**	**-0.2**
	baz=77						
A07A	**Ashnola River,**	**77.88**	**42**	⇓P	**P**	**06 48 51.3**	**+0.1**
	baz=77						
KEV	**Kevo**	**78.13**	**341**	*e*p	**P**	**06 48 51.0**	**-1.1**
	comp=Z,3.1nm,0.7s,mb4.3						
KEV	**Kevo**	**78.13**	**341**	*e*P	**P**	**06 48 51.0**	**-1.1**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
H04A	**Detroit Lake**	**78.14**	**47**	⇑P	**P**	**06 48 52.8**	**+0.1**
	baz=78,SNR=7.1						
D06A	**Cle Elum**	**78.20**	**44**	⇓P	**P**	**06 48 52.6**	**-0.4**
	baz=78						
B07A	**Winthrop**	**78.24**	**42**	⇓P	**P**	**06 48 53.1**	**-0.1**
	baz=78						
I04A	**Tendick Farm,**	**78.28**	**48**	⇑P	**P**	**06 48 53.4**	**-0.1**
	baz=78						
EBG	**Ellensburg**	**78.47**	**44**	P	**P**	**06 48 54.6**	**+0.2**
C07A	**Waterville**	**78.53**	**43**	⇓P	**P**	**06 48 54.5**	**-0.3**
	baz=78						
A08A	**Turner Farm, O**	**78.60**	**42**	⇓P	**P**	**06 48 55.0

LTIM	Timbered Crate	79.79	50	P		P	06 49 01.9	0.0
M05C	Lookout	79.97	50	⇑P		P	06 49 02.9	+0.1
	baz=79,SNR=6.0							
LBCM	Butte Creek Ri	80.01	50	P		P	06 49 02.8	-0.3
JOF	Joensuu	80.08	334	ep		P	06 48 56.7	-6.3
	comp=Z,0.6nm,0.4s,mb3.9							
K06A	Valley Falls	80.10	48	⇓P		P	06 49 03.7	+0.3
	baz=80							
VRHR	Novokhopersk	80.12	321	eP		P	06 49 02.7	-0.7
VRHR				pmax	pmax			
	comp=N,10.0nm,0.5s							
VRHR				pmax	pmax			
	comp=Z,30nm,0.5s,mb5.5							
VRHR				pmax	pmax			
	comp=E,20nm,0.6s							
I07A	Izee	80.15	46	⇓P		P	06 49 03.9	+0.1
	baz=80							
E09A	Wood Farm, Sta	80.17	44	⇓P		P	06 49 04.1	+0.3
	baz=80							
NEW	Newport	80.17	42	eP		P	06 49 03.5	-0.2
NEW				pmax	pmax			
	comp=Z,8.0nm,1.0s							
NEW	Newport	80.17	42	eP		P	06 49 03.5	-0.2
	comp=Z,7.7nm,1.0s,mb4.6							
ORV	Oroville	80.34	51	P		P	06 49 04.3	-0.5
	baz=80,SNR=9.3							
MOD	Modoc	80.38	49	⇑P		P	06 49 05.1	+0.1
	baz=80							
O04C	Chester	80.38	50	⇓P		P	06 49 05.7	+0.7
	baz=80							
A11A	Hall Mountain,	80.38	41	⇓P		P	06 49 05.9	+1.1
	baz=80							
MOS	Moscow	80.45	326	eP		P	06 49 03.6	-1.5
EDM	Edmonton	80.47	36	eP		P	06 49 04.6	-0.6
M06C	Likely Place G	80.50	49	⇑P		P	06 49 06.1	+0.5
	baz=80,SNR=5.2							
J07A	Hines	80.54	47	P		P	06 49 06.1	+0.3
	baz=80,SNR=8.7							
K07A	Rock Creek Ran	80.83	48	P		P	06 49 07.5	+0.2
	baz=80,SNR=11							
I08A	Drewsey	80.84	46	⇑P		P	06 49 07.5	0.0
	baz=80							
E10A	Myers Farm, Un	80.85	44	⇓P		P	06 49 07.4	0.0
	baz=80							
G09A	Cove	80.86	45	⇑P		P	06 49 07.7	+0.2
	baz=80							
L07A	Adell	81.00	48	P		P	06 49 08.8	+0.4
	baz=80,SNR=9.9							
BEKR	Beckwourth	81.06	51	P		P	06 49 08.5	-0.2
	baz=80,SNR=8.5							
P05C	Yuba Gap, Truc	81.08	51	⇓P		P	06 49 08.8	+0.1
	baz=80							
J08A	Circle Bar Ran	81.11	47	P		P	06 49 09.0	+0.1
	baz=81,SNR=10							
N06A	Buffalo Meadow	81.12	50	P		P	06 49 09.2	+0.3
	baz=81,SNR=6.3							
D11A	Klaveano Farm,	81.13	43	⇑P		P	06 49 08.4	-0.4
	baz=81,SNR=8.0							
LAVA	Lava Cap Winer	81.18	52	⇓P		P	06 49 09.0	-0.4
	baz=81							
G10A	Bishop Farm, J	81.29	45	⇓P		P	06 49 09.5	-0.2
	baz=81,SNR=6.8							
O06A	Flanigan	81.33	50	P		P	06 49 10.4	+0.3
	baz=81,SNR=6.8							
K08A	Mann Creek Ran	81.33	48	P		P	06 49 10.2	+0.1
	baz=81,SNR=8.2							
WVOR	Wild Horse Val	81.34	48	eP		P	06 49 10.3	+0.2
WVOR				pmax	pmax			
	comp=Z,6.0nm,1.0s,mb4.5							
WVOR	Wild Horse Val	81.34	48	eP		P	06 49 10.2	+0.1
	comp=Z,6.3nm,1.0s,mb4.5							
I09A	Lost Marbles R	81.38	46	⇑P		P	06 49 10.2	-0.1
	baz=81							
E11A	Bogner Ranch,	81.47	43	⇑P		P	06 49 10.4	-0.4
	baz=81,SNR=7.6							
VRSR	Storozhevoye	81.48	322	eP		P	06 49 09.7	-1.0
VRSR				pmax	pmax			
	comp=Z,7.0nm,1.3s,mb4.4							
VRSR				pmax	pmax			
	comp=N,2.0nm,0.6s							
VRSR				pmax	pmax			
	comp=E,4.0nm,0.7s							
J09A	Fry Pan Ranch,	81.60	47	⇓P		P	06 49 11.7	+0.2
	baz=81,SNR=8.4							
L08A	Fields	81.63	48	⇓P		P	06 49 11.8	+0.2
	baz=81,SNR=7.5							
F11A	Grangeville	81.69	44	⇑P		P	06 49 11.1	-0.8
	baz=81							
CMB	Columbia Colle	81.70	52	eP		P	06 49 11.8	-0.3
CMB				pmax	pmax			
	comp=Z,21nm,1.4s,mb4.9							
CMB	Columbia Colle	81.70	52	eP		P	06 49 11.8	-0.3
	comp=Z,21nm,1.4s,mb4.9							
CMB	Columbia Colle	81.70	52	⇓P		P	06 49 11.4	-0.7
	baz=81,SNR=7.9							
D12A	Red Ives Fores	81.74	43	⇓P		P	06 49 11.9	-0.2
	baz=81							
B13A	Whitefish	81.77	41	P		P	06 49 12.4	+0.2
	baz=81,SNR=7.3							
H10A	Noah's Angus R	81.80	45	P		P	06 49 11.9	-0.6
	baz=81,SNR=8.5							
G11A	Walters Elk Ra	81.80	44	P		P	06 49 11.8	-0.6
	baz=81,SNR=6.5							
WALA	Waterton Lakes	81.83	40	eP		P	06 49 12.2	-0.4
	comp=Z,10nm,1.2s,mb4.6							
K09A	Rome	81.86	47	⇑P		P	06 49 12.6	-0.2
	baz=81,SNR=6.3							
C13A	Hot Springs	81.98	42	P		P	06 49 13.3	-0.1
	baz=81,SNR=12							
L09A	Wilkinson Ranc	82.16	48	⇓P		P	06 49 14.8	+0.3
	baz=82							
KIV	Kislovodsk	82.21	314	eP		P	06 49 13.7	-1.0
KIV				pmax	pmax			
	comp=Z,15nm,0.9s,mb4.9							
KIV	Kislovodsk	82.21	314	eP		P	06 49 14.8	+0.1
	comp=Z,5.1nm,0.6s,mb4.6							
KIV				epP	pP		06 49 22.8	-0.4
H11A	Donnelly	82.24	45	P		P	06 49 14.2	-0.6
	baz=82,SNR=7.3							
D13A	Huson	82.29	42	⇑P		P	06 49 14.1	-0.9
	baz=82							
F12A	Elk City	82.32	44	⇑P		P	06 49 15.0	-0.2
	baz=82							
K10A	MacKenzie Ranc	82.42	47	P		P	06 49 16.0	+0.2
	baz=82,SNR=9.9							
C14A	Swan Lake	82.45	42	⇑P		P	06 49 15.3	-0.5
	baz=82							
T06C	Millerton Lake	82.57	53	P		P	06 49 16.6	-0.1
	baz=82,SNR=10.0							
N09A	Rock Creek Ran	82.71	49	⇓P		P	06 49 17.8	+0.5
	baz=82							
MFID	Camas Ranch	82.87	46	P		P	06 49 18.2	+0.1
	baz=82,SNR=8.0							
F13A	Darby	82.90	43	⇑P		P	06 49 17.5	-0.7
	baz=82							
FINES	FINESS Array B	82.95	334	P		P	06 49 15.9	-2.2
	comp=Z,1.1nm,0.5s,mb4.1,baz=74,slow=6.1,SNR=7.0							
L10A	Juniper Basin	82.96	48	⇓P		P	06 49 18.8	+0.2
	baz=82							
K11A	Parker Ranch,	82.99	47	P		P	06 49 19.1	+0.3
	baz=82,SNR=7.0							
H12A	Diamond D Ranc	83.06	45	⇓P		P	06 49 19.1	0.0
	baz=82							
NVAR	Mina Array Bea	83.07	51	P		P	06 49 19.4	+0.2
	comp=Z,5.1nm,0.8s,mb4.6,baz=260,slow=5.8,SNR=34							
Q08A	Gabbs	83.18	51	⇑P		P	06 49 19.4	-0.4
	baz=83							
O09A	Fish Creek Ran	83.20	50	⇑P		P	06 49 20.3	+0.4
	baz=83							
HELL	Mitchell Peak	83.20	53	⇓P		P	06 49 19.2	-0.8
	baz=83							
G13A	Cobalt	83.25	44	P		P	06 49 19.6	-0.5
	baz=83,SNR=11							
MTUM	Tungsten Hills	83.29	53	eP		P	06 49 20.0	-0.5
L11A	Cat Creek Ranc	83.42	47	⇑P		P	06 49 21.0	+0.1
	baz=83							
J12A	Stokes Ranch,	83.42	46	⇑P		P	06 49 21.0	0.0
	baz=83							
H13A	Challis	83.45	45	P		P	06 49 21.4	+0.3
	baz=83,SNR=11							
S08C	White Mtn Res	83.53	52	⇑P		P	06 49 22.1	+0.5
	baz=83,SNR=7.0							
M11A	Holland Ranch,	83.68	48	⇑P		P	06 49 23.0	+0.6
	baz=83							
E15A	Deer Lodge	83.70	42	P		P	06 49 22.1	-0.2
	baz=83,SNR=9.2							
HLID	Hailey	83.75	46	eP		P	06 49 22.4	-0.2
	comp=Z,3.0nm,1.2s,mb4.3							
HLID	Hailey	83.75	46	⇑P		P	06 49 22.6	-0.1
	baz=83							
I13A	Wildhorse Cree	83.81	45	P		P	06 49 23.5	+0.6
	baz=83,SNR=5.7							
K12A	Draper Farm, C	83.81	47	⇑P		P	06 49 22.7	-0.2
	baz=83,SNR=5.5							
L12A	House Creek Ra	83.93	47	P		P	06 49 24.1	+0.5
	baz=83,SNR=6.8							
J13A	Cove Ranch, Pi	83.98	46	⇑P		P	06 49 24.2	+0.4
	baz=83,SNR=6.3							
R09A	Tonopah	84.04	51	⇑P		P	06 49 24.4	+0.2
	baz=84,SNR=12							
F15A	Butte	84.04	43	⇑P		P	06 49 24.3	+0.2
	baz=84							
HRY	Holter Researc	84.08	42	eP		P	06 49 24.1	-0.2
S09A	Goldfield	84.13	52	⇑P		P	06 49 24.4	-0.4
	baz=84,SNR=7.3							
DLMT	Dillon	84.18	43	eP		P	06 49 25.0	+0.2
	comp=Z,7.6nm,1.1s,mb4.7							
MCMT	McKenzie Canyo	84.25	44	eP		P	06 49 25.1	-0.1
M12A	Wells	84.29	48	⇓P		P	06 49 25.8	+0.3
	baz=84,SNR=6.7							
Q10A	Clear Creek Ra	84.29	51	⇑P		P	06 49 25.4	-0.2
	baz=84							
O11A	Cowboy Ranch,	84.30	49	⇑P		P	06 49 25.5	-0.1
	baz=84							
GRAC	Grapevine Rang	84.31	53	⇑P		P	06 49 25.6	-0.1
	baz=84							
G15A	Dillon	84.34	44	⇑P		P	06 49 25.3	-0.3
	baz=84,SNR=5.6							
K13A	Stover Farm, H	84.35	46	⇓P		P	06 49 26.2	+0.5
	baz=84,SNR=5.2							
N12A	Clover Valley,	84.44	48	⇑P		P	06 49 26.4	+0.2
	baz=84							
P11A	Circle Ranch,	84.46	50	⇑P		P	06 49 26.7	+0.3
	baz=84							
S10A	Tonopah Range,	84.51	51	⇓P		P	06 49 25.9	-0.8
	baz=84,SNR=9.0							
R10A	Warm Springs	84.58	51	⇑P		P	06 49 27.3	+0.4
	baz=84							
MPMC	Manual Prospec	84.58	53	P		P	06 49 26.9	-0.1
	baz=84,SNR=13							
LRMC	Laurel Mountai	84.66	54	⇓P		P	06 49 27.0	-0.4
	baz=84							
EDW2	Edwards Air Fo	84.67	55	⇑P		P	06 49 27.4	-0.1
	baz=84							
BOZ	Bozeman (W)	84.67	43	eP		P	06 49 27.0	-0.3
BOZ				pmax	pmax			
	comp=Z,1.0nm,0.7s,mb4.0							
BOZ	Bozeman (W)	84.67	43	eP		P	06 49 27.0	-0.3
	comp=Z,1.5nm,0.7s,mb4.2							
BOZ	Bozeman (W)	84.67	43	P		P	06 49 27.2	-0.1
	baz=84,SNR=7.2							
L13A	Double Diamond	84.68	47	P		P	06 49 28.2	+0.9
	baz=84,SNR=6.7							
EGMT	Eagleton	84.77	40	eP		P	06 49 27.2	-0.5
	comp=Z,15nm,1.5s,mb4.9							
EGMT	Eagleton	84.77	40	⇓P		P	06 49 27.6	-0.1
	baz=84							
Q11A	Duckwater	84.82	50	⇑P		P	06 49 27.8	-0.4
	baz=84,SNR=7.8							
M13A	Montello	84.83	47	P		P	06 49 28.3	+0.1
	baz=84,SNR=10.0							
O12A	Currie	84.88	49	P		P	06 49 28.4	0.0
	baz=84,SNR=6.8							
FURC	Furnace Creek,	84.89	53	⇑P		P	06 49 28.4	-0.2
	baz=84							
K14A	Jones Ranch, D	85.00	46	⇑P		P	06 49 29.6	+0.6
	baz=84,SNR=8.1							
R11A	Troy Canyon, C	85.07	51	P		P	06 49 29.8	+0.3
	baz=84,SNR=8.6							
P12A	McGill	85.09	49	⇑P		P	06 49 29.7	+0.2
	baz=84							
TPNV	Topopah Spring	85.15	52	eP		P	06 49 29.6	-0.3
TPNV				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb4.9							
TPNV	Topopah Spring	85.15	52	eP		P	06 49 29.6	-0.3
	comp=Z,9.6nm,1.0s,mb4.9							
TPNV	Topopah Spring	85.15	52	P		P	06 49 29.8	-0.1
	baz=85,SNR=9.5							
QLMT	Earthquake Lak	85.16	43	eP		P	06 49 30.5	+0.7
S11A	Rachel	85.24	51	⇑P		P	06 49 30.3	0.0
	baz=85							
U10A	Ash Meadows, A	85.30	53	P		P	06 49 30.9	+0.2
	baz=85,SNR=7.8							
Q12A	Willow Creek R	85.33	50	⇓P		P	06 49 30.8	+0.1
	baz=85,SNR=6.0							
M14A	Sheep Mountain	85.33	47	P		P	06 49 30.9	+0.2
	baz=85,SNR=16							
GSC	Goldstone	85.40	54	⇓P		P	06 49 30.8	-0.3
	baz=85,SNR=5.4							
YMR	Madison River	85.53	43	eP		P	06 49 32.6	+1.0
	comp=Z,15nm,0.9s,mb5.2							
SHOC	Shoshone	85.55	53	⇓P		P	06 49 31.4	-0.5
	baz=85							
N14A	Grayback Hills	85.72	48	P		P	06 49 32.5	-0.1
	baz=85,SNR=9.2							
P13A	Bates Ranch, G	85.73	49	P		P	06 49 32.7	0.0
	baz=85,SNR=10							
R12A	Pony Springs,	85.78	50	P		P	06 49 33.2	+0.2
	baz=85,SNR=6.8							
T11A	Corn Creek, Al	85.78	52	⇑P		P	06 49 33.0	-0.1
	baz=85,SNR=6.9							
BGU	Big Grassy Mou	85.79	48	eP		P	06 49 32.1	-0.9
GCMT	Greycliff	85.84	42	eP		P	06 49 33.3	+0.2
IMW	Indian Meadow	85.89	44	eP		P	06 49 32.8	-0.6
	comp=Z,7.0nm,0.8s,mb4.9							
Q13A	Wheeler Ranch,	85.94	50	⇑P		P	06 49 33.7	-0.1
	baz=85,SNR=7.1							
HEC	Hector,Ludlow	85.94	54	⇓P		P	06 49 33.5	-0.3
	baz=85							
M15A	Larsen Ranch,	85.96	47	⇓P		P	06 49 33.9	+0.1
	baz=85,SNR=6.1							
FLWY	Flagg Ranch	85.96	44	eP		P	06 49 34.6	+0.8
	comp=Z,66nm,0.9s,mb5.9							
TUQ	Turquoise Mtn.	86.00	53	⇓P		P	06 49 34.2	+0.1
	baz=86							
SPUT	South Promonto	86.02	47	eP		P	06 49 34.0	-0.1
N15A	Stansbury Isla	86.16	47	P		P	06 49 34.6	-0.2
	baz=86,SNR=9.3							
REDW	Red Top Meadow	86.18	45	eP		P	06 49 35.2	+0.3
	comp=Z,6.0nm,1.2s,mb4.7							
LOHW	Long Hollow	86.23	44	eP		P	06 49 35.3	+0.2
	comp=Z,2.4nm,0.9s,mb4.4							
DUG	Dugway	86.25	48	eP		P	06 49 35.1	-0.2
DUG				pmax	pmax			
	comp=Z,10.0nm,1.0s,mb5.0							
DUG	Dugway	86.25	48	eP		P	06 49 35.1	-0.2
	comp=Z,9.9nm,1.0s,mb5.0							
DUG	Dugway	86.25	48	⇑P		P	06 49 35.1	-0.2
	baz=86,SNR=17							
PFO	Pinyon Flat Ob	86.34	55	eP		P	06 49 35.1	-0.7
PFO				pmax	pmax			
	comp=Z,15nm,1.4s,mb5.0							
PFO	Pinyon Flat Ob	86.34	55	eP		P	06 49 35.1	-0.7
	comp=Z,15nm,1.4s,mb5.0							
PFO	Pinyon Flat Ob	86.34	55	⇓P		P	06 49 35.4	-0.4
	baz=86,SNR=7.0							
RLMT	Red Lodge	86.40	43	eP		P	06 49 36.1	+0.2
	comp=Z,6.4nm,0.8s,mb4.9							
GMRC	Granite Mounta	86.47	54	⇑P		P	06 49 36.3	-0.2
	baz=86							
HWUT	Hardware Ranch	86.49	46	eP		P	06 49 36.2	-0.2
	comp=Z,12nm,1.1s,mb5.0							
BELC	Belle Mtn.	86.53	55	⇑P		P	06 49 36.2	-0.6
	baz=86							
S13A	Holt Ranch, En	86.63	51	P		P	06 49 37.4	+0.2
	baz=86,SNR=8.2							
MONP	Monument Peak	86.66	56	⇓P		P	06 49 36.9	-0.5
	baz=86,SNR=6.5							
V12A	Nelson	86.68	53	⇑P		P	06 49 37.3	-0.1
	baz=86,SNR=8.6							
T13A	Saint George	86.83	51	⇑P		P	06 49 38.7	+0.5
	baz=86,SNR=9.6							
ARUT	Antelope Range	86.84	51	eP		P	06 49 38.2	0.0
FCC	Fort Churchill	86.88	26	eP		P	06 49 36.8	-1.2
FCC				pmax	pmax			
	comp=Z,18nm,1.2s,mb5.2							
FCC	Fort Churchill	86.88	26	eP		P	06 49 36.8	-1.2
	comp=Z,18nm,1.2s,mb5.2							
DVTC	Desert V Tower	86.99	56	⇑P		P	06 49 39.0	-0.1
	baz=86							
CCUT	Cedar City	87.00	51	eP		P	06 49 39.1	+0.1
JLU	Jordanelle	87.01	47	eP		P	06 49 38.9	-0.1
S14A	Cedar City	87.05	50	⇓P		P	06 49 39.3	0.0
	baz=86							
BC3	Big Chuckw Mtn	87.08	55	⇓P		P	06 49 39.1	-0.3
	baz=86,SNR=7.0							
IRM	Iron Mountain	87.11	54	⇓P		P	06 49 39.5	-0.1
	baz=87							
SWSC	Sam W. Stewart	87.11	56	⇑P		P	06 49 38.7	-0.9
	baz=87							
DAU	Daniels Canyon	87.23	47	eP		P	06 49 40.1	0.0
V13A	Grand Canyon W	87.27	52	⇓P		P	06 49 40.5	+0.2
	baz=87,SNR=6.6							
AKASG	Malin Array Be	87.28	324	P		P	06 49 37.9	-2.2
	comp=Z,2.3nm,0.7s,mb4.5,baz=51,slow=4.8,SNR=11							
AKASG				PP	PP		06 53 04.7	+0.9
	comp=Z,0.4nm,0.4s,baz=57,slow=3.5,SNR=4.2							
T14A	Hurricane	87.41	51	⇑P		P	06 49 41.0	0.0
	baz=87,SNR=8.4							
LAO	LASA Array	87.52	40	eP		P	06 49 41.4	+0.1
	comp=Z,22nm,1.1s,mb5.3							
U14A	Mt Trumbull	87.61	52	⇑P		P	06 49 41.9	-0.1
	baz=87,SNR=8.3							
W13A	Hualapai Mount	87.66	53	⇓P		P	06 49 42.2	-0.1
	baz=87,SNR=5.2							
Y12C	Blythe	87.75	55	⇑P		P	06 49 42.5	-0.2
	baz=87							
PDMCI	Parker Dam,Lak	87.81	54	⇑P		P	06 49 43.0	+0.1
	baz=87							
GLA	Glamis	87.81	55	eP		P	06 49 42.7	-0.3
GLA				pmax	pmax			
	comp=Z,11nm,1.0s,mb5.0							
GLA	Glamis	87.81	55	eP		P	06 49 42.7	-0.3
	comp=Z,11nm,1.0s,mb5.0							
GLA	Glamis	87.81	55	P		P	06 49 42.9	-0.1
	baz=87,SNR=7.5							
X13A	Yucca	87.91	54	P		P	06 49 43.1	-0.3
	baz=87,SNR=7.5							
T15A	Red Dirt Ranch	87.93	51	⇓P		P	06 49 43.7	+0.2
	baz=87							
V14A	Boquillas Ranc	88.01	52	P		P	06 49 44.2	+0.4
	baz=88,SNR=9.9							
W14A	Seligman	88.20	53	⇓P		P	06 49 45.3	+0.5
	baz=88,SNR=7.8							
Y13A	Salome	88.25	54	P		P	06 49 45.3	+0.2
	baz=88,SNR=5.2							
SRU	San Rafael	88.32	48	eP		P	06 49 44.7	-0.6
SRU				pmax	pmax			
	comp=Z,4.0nm,0.7s,mb4.8							
SRU	San Rafael	88.32	48	eP		P	06 49 44.7	-0.6
	comp=Z,4.0nm,0.7s,mb4.8							
V15A	Kaibab Nationa	88.61	52	⇓P		P	06 49 47.4	+0.6
	baz=88,SNR=7.1							
X14A	Yava	88.67	53	⇓P		P	06 49 47.2	+0.2
	baz=88,SNR=8.2							
NB2	NORSAR Subarra	88.71	339	P		P	06 49 43.8	-2.9
	comp=Z,3.7nm,1.2s,mb4.6,baz=45,slow=4.8							
NOA	NORSAR Array B	88.71	339	P		P	06 49 44.2	-2.5
	comp=Z,1.5nm,0.9s,mb4.3,baz=45,slow=4.7,SNR=3.1							
X15A	Humboldt	89.15	53	⇑P		P	06 49 49.7	+0.4
	baz=89,SNR=11							
Y15A	Casa Rosa Ranc	89.31	54	P		P	06 49 50.2	+0.1
	baz=89,SNR=9.5							
WUAZ	Wupatki	89.33	52	⇓P		P	06 49 50.7	+0.5
	baz=89							
W16A	Flagstaff	89.40	52	⇑P		P	06 49 50.9	+0.5
	baz=89							
PV10	Paradox Valley	89.69	48	eP		P	06 49 52.0	+0.3
X16A	Lo Mia Camp, P	89.77	53	⇑P		P	06 49 52.8	+0.6
	baz=89							
Y16A	Circle Bar Ran	89.98	53	⇓P		P	06 49 53.6	+0.4
	baz=89,SNR=5.2							
PV01	Paradox Valley	90.12	48	eP		P	06 49 53.1	-0.7
SMCO	Snowmass	90.72	47	eP		P	06 49 56.6	+0.1
	comp=Z,5.2nm,0.8s,mb4.9							
X18A	Snowflake	90.81	52	⇑P		P	06 49 57.3	+0.2
	baz=90							
Y18A	Canyon Day Jun	91.10	53	⇑P		P	06 49 58.9	+0.5
	baz=90							
ULM	Lac du Bonnet	91.31	33	P		P	06 49 57.8	-1.2
	comp=Z,1.4nm,0.6s,mb4.5,baz=314,slow=6.1,SNR=4.0							
ISCO	Idaho Springs	91.33	46	eP		P	06 49 59.9	+0.5
ISCO				pmax	pmax			
	comp=Z,5.0nm,1.2s,mb4.7							
ISCO	Idaho Springs	91.33	46	eP		P	06 49 59.9	+0.5
	comp=Z,4.9nm,1.2s,mb4.7							
X19A	St. Johns	91.34	52	⇑P		P	06 50 00.2	+0.6
	baz=91							
217A	Green Valley	91.42	55	⇓P		P	06 50 00.5	+0.5
	baz=91,SNR=5.5							
118A	Homack Ranch,	91.67	54	⇑P		P	06 50 01.4	+0.3
	baz=91							
ANMO	Albuquerque	93.14	50	eP		P	06 50 07.7	-0.2
ANMO				pmax	pmax			
	comp=Z,2.0nm,1.1s							
ANMO	Albuquerque	93.14	50	eP		P	06 50 07.7	-0.1
	comp=Z,2.5nm,1.1s,mb4.6							
TORD	Torodi Ar. Bea	128.54	309	PKP		PKPdf	06 55 59.3	-1.9
	comp=Z,0.5nm,0.9s,baz=48,slow=2.1,SNR=3.8							
PLCA	Paso Flores	145.96	131	PKPbc		PKPbc	06 56 31.6	-1.6
PLCA	Paso Flores	145.96	131	PKPbc		PKPbc	06 56 31.6	-1.6
	comp=Z,1.7nm,0.6s,baz=339,slow=2.1,SNR=6.5							
LPAZ	La Paz	150.00	85	PKPbc		PKPbc	06 56 44.4	-0.3
	comp=Z,2.8nm,1.0s,baz=350,slow=4.2,SNR=3.6							
LPAZ				PKPab		PKPab	06 56 51.0	+0.6
	comp=Z,5.7nm,0.9s,baz=295,slow=3.2,SNR=18							

MOS ***26*** *06:36:54.8±0.8, 5026N×15479E, h133km, mb4.2/21, Error ellipse: s-maj=11.8km s-min=6.6km az=67.8*
KRSC ***26*** *06:36:54.3±0.8, 4968N×156.15E, h117km±17km, ML4.6*
IDC ***26*** *06:36:54.6±6.2, 5026N×15478E, h117km±55km, mb3.9/19, mb1 4.0/19, mb1mx3.9/23, mbtmp3.9/19, MS3.8/1, Ms1 3.8/1, ms1mx2.8/23, Error ellipse: s-maj=16.4km s-min=12.4km az=154.0*
ISCJB ***26*** *06:36:56.1±0.5, 5024N±005×15487E±004, h142km±3km, mb4.4/72, Error ellipse: s-maj=8.8km s-min=3.8km az=162.4*
*B

BDR Baidarnaya 7.36 29 P **Pn 06 38 44.2 +1.9**
SRKR Sorokina 7.42 28 *e*P **Pn 06 38 45.0 +1.9**
KBTR Krutoberegovo 7.63 36 *e*P **Pn 06 38 44.2 -1.8**
KBTR *i* S **Sn 06 40 07.2 -3.6**
YSS Yuzh-Sakhalins 8.65 252 *d i* PN **Pn 06 38 57.1 -2.6**
MA2 Magadan 9.58 348 *e*PN **Pn 06 39 14.3 +2.3**
MA2 pmax pmax
comp=N,7.0nm,0.6s
MA2 pmax pmax
comp=Z,10.0nm,0.6s
ERM Erimo 11.55 229 *e*PN **Pn 06 39 38.9 +0.6**
SEY Seymchan 12.73 355⇑ *e*PN **Pn 06 39 56.2 +2.6**
HABR Khabarovsk 12.99 270 *e*PN **Pn 06 39 54.8 -2.2**
HABR *e* 06 42 17.6
KLR Kul'dur 14.92 275 *e*P **Pn 06 40 24.0 +2.6**
MDJ Mudanjiang 17.92 261 P **Pn 06 41 01.3 +3.3**
MDJ XP sP 06 41 43.8 +5.6
MDJ AMB AMB
comp=Z,15nm,0.9s
MDJ AMB AMB
comp=Z,162nm,3.7s
YAK Yakutsk 18.12 320⇑ *e*P **P 06 41 00.8 +2.1**
BILL Bilibino 18.68 14 *e*P **P 06 41 05.0 +0.2**
BILL pmax pmax
comp=Z,25nm,0.3s
BILL Bilibino 18.68 14 *e*Pn **Pn 06 41 05.0 -1.8**
comp=Z,25nm,0.3s
CN2 Changchun 20.93 263 *e*P **P 06 41 30.5 +1.2**
CN2 *e*AP 06 41 56.8
CN2 AMB AMB
comp=Z,10.0nm,0.6s
HIA Hailar 22.53 281 *d i* P **P 06 41 45.0 -1.0**
TIXI Tiksi 24.43 340 *e*P **P 06 42 01.9 -1.1**
TIXI pmax pmax
comp=Z,7.0nm,1.5s,mb4.0
TIXI Tiksi 24.43 340 *e*P **P 06 42 01.9 -1.1**
TIXI *e*pP 06 42 36.2
TNA Tin City 24.50 37 P **P 06 42 04.4 +0.8**
comp=Z,18nm,0.8s,mb4.7
BJI Beijing 28.79 264 P **P 06 42 42.5 +0.1**
BJI S **S 06 47 19.0 -2.8**
BJI AMB AMB
comp=Z,2.0nm,0.4s,mb4.2
BJI AMB AMB
comp=Z,303nm,10.5s
BJI LR LR
comp=N,192nm,4.9s
BJI LR LR
comp=E,292nm,4.4s
BJI LR LR
comp=Z,166nm,24.5s
TTA Tatalina 29.07 45 *e*P **P 06 42 44.1 -0.5**
IMA2 Indian Mountai 30.31 39 *e*P **P 06 42 54.7 -0.8**
ULN Ulaanbaatar 30.94 284 *c i* P **P 06 43 01.2 -0.1**
KDAK Kodiak Island 31.08 56 P **P 06 42 59.6 -2.8**
comp=Z,6.3nm,0.8s,mb4.4,baz=312,slow=9.8,SNR=9.0
HHC Hu-ho-hao-te 31.31 269 *e*P **P 06 43 06.5 +1.9**
HHC AP pP 06 43 37.0 +2.9
HHC XP sP 06 43 53.3 +3.4
HHC PP PP 06 44 15.5 -2.3
HHC PCP PcP 06 45 58.5 +3.3
HHC S **S 06 48 02.0 +0.9**
HHC XS sS 06 48 54.0 +1.2
HHC SS SS 06 49 58.3 -22
HHC SCS ScS 06 53 23.0 +0.2
HHC AMB AMB
comp=Z,29nm,1.0s,mb5.0
HHC AMB AMB
comp=Z,185nm,5.0s
HHC LR LR
comp=N,296nm,15.9s
HHC LR LR
comp=E,881nm,17.4s
HHC LR LR
comp=Z,270nm,14.9s
NJ2 Nanjing 32.20 249 *e*P **P 06 43 14.5 +2.0**
NJ2 AMB AMB
comp=Z,40nm,0.8s,mb5.2
ZAK Zakamensk 32.33 290 *e*P **P 06 43 13.5 +0.1**
ZAK pmax pmax
comp=Z,2.0nm,1.0s,mb3.8
COLA College 32.70 42 *e*P **P 06 43 15.6 -0.9**
COLA pmax pmax
comp=Z,6.0nm,0.6s,mb4.5
COLA College 32.70 42 *e*P **P 06 43 15.6 -0.9**
comp=Z,5.8nm,0.6s,mb4.5
EGAK Eagle 35.56 41 *e*P **P 06 43 39.9 -1.2**
comp=Z,10nm,0.9s,mb4.5
INK Inuvik 38.08 35 P **P 06 44 02.2 -0.2**
INK 06 46 13.8
INK pmax pmax
comp=Z,4.0nm,0.4s
INK pmax pmax
comp=Z,2.0nm,0.6s
INK Inuvik 38.08 35 *e*P **P 06 44 02.2 -0.2**
comp=Z,148nm,0.5s,mb5.9
INK *e*PcP PcP 06 46 13.4 -1.0
INK Inuvik 38.08 35 P **P 06 44 02.2 -0.1**
comp=Z,4.1nm,0.4s,mb4.4,baz=294,slow=6.8,SNR=66
INK PcP PcP 06 46 13.8 -0.5
comp=Z,1.5nm,0.6s,baz=289,slow=1.6,SNR=4.3
SKAG Skagway 39.44 49 *e*P **P 06 44 13.7 -0.1**
GTA Gaotai 39.62 276 *e*P **P 06 44 15.8 +0.3**
GTA AMB AMB
comp=Z,5.0nm,0.8s,mb4.2
ZALV Zalesovo Beam 41.52 303 P **P 06 44 30.8 -0.1**
comp=Z,3.1nm,0.3s,mb4.4,baz=62,slow=7.4,SNR=8.5
ZAL Zalesovo 41.54 303 P **P 06 44 30.8 -0.3**
NVS Novosibirsk 41.99 305 *e*P **P 06 44 34.8 0.0**
NVS *e* 06 46 19.7
NVS pmax pmax
comp=Z,18nm,1.8s,mb4.4
CD2 Chengdu 42.37 263 *e*P **P 06 44 39.0 +0.9**
CD2 AP pP 06 45 10.5 +1.6
CD2 XP sP 06 45 26.5 +2.1
CD2 PP PP 06 46 21.8 +2.9
CD2 S **S 06 50 48.0 -0.9**
CD2 SS SS 06 53 54.5 -8.4
CD2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.5
CD2 AMB AMB
comp=Z,20nm,5.2s
DLBC Dease Lake 42.37 49 P **P 06 44 38.9 +1.1**
baz=320,slow=9.5
GYA Guiyang 43.63 255 P **P 06 44 49.3 +0.9**
GYA AP pP 06 45 21.5 +2.3
GYA XP sP 06 45 37.8 +3.1
GYA PP PP 06 46 34.3 +1.8
GYA SCP ScP 06 50 11.5 -0.1
GYA PCS PcS 06 50 26.8 +0.5
GYA S **S 06 51 06.8 -0.7**
GYA SCS ScS 06 54 31.0 -2.1
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
WMQ Urumqi 44.76 289 *e*P **P 06 44 58.0 +0.9**
WMQ XP sP 06 45 46.0 +2.4
WMQ AMB AMB
comp=Z,35nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,45nm,5.0s
WMQ LR LR
comp=N,68nm,15.0s
WMQ LR LR
comp=E,85nm,15.0s
WMQ LR LR
comp=Z,64nm,14.0s
MKAR Makanchi Array 46.37 295 P **P 06 45 09.1 -0.6**
MKAR 06 46 41.8
MKAR pmax pmax
comp=Z,4.0nm,0.7s
MKAR pmax pmax
comp=Z,1.0nm,0.3s
MKAR Makanchi Array 46.37 295 P **P 06 45 09.1 -0.6**
comp=Z,4.2nm,0.7s,mb4.2,baz=62,slow=10,SNR=18
MKAR PcP PcP 06 46 41.8 -0.6
comp=Z,0.5nm,0.3s,baz=71,slow=4.2,SNR=5.7
KURK Kurchatov 46.39 302⇑ *i* P **P 06 45 09.8 0.0**
KURK *i* *PP pP 06 45 43.2 +2.2
KURK Kurchatov 46.39 302 *e*P **P 06 45 09.7 -0.1**
comp=Z,14nm,0.7s,mb4.7
KURK *e*PcP PcP 06 46 40.6 -1.7
KMI Kunming 47.04 258 P **P 06 45 15.8 +0.6**
KMI AP pP 06 45 50.0 +3.5
KMI XP sP 06 46 06.3 +4.4

KMI PP PP 06 47 06.0 -1.0
KMI S **S 06 51 54.5 -2.0**
KMI SS SS 06 55 19.3 -5.6
KMI AMB AMB
comp=Z,13nm,1.0s,mb4.5
KMI AMB AMB
comp=Z,44nm,4.0s
KMI LR LR
comp=N,66nm,12.1s
KMI LR LR
comp=E,74nm,13.7s
KMI LR LR
comp=Z,63nm,12.1s
RES Resolute Bay 47.12 20 *e*P **P 06 45 14.5 -0.6**
comp=Z,60nm,0.6s,mb5.4
YKW3 Yellowknife Ar 47.40 39 *e*P **P 06 45 16.9 -0.6**
YKA Yellowknife Ar 47.44 39 P **P 06 45 17.4 -0.4**
YKA 06 46 45.5
YKA pmax pmax
comp=Z,5.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 47.44 39 P **P 06 45 17.4 -0.3**
YKA PcP PcP 06 46 45.5 -0.3
YKA Yellowknife Ar 47.44 39 P **P 06 45 17.4 -0.3**
comp=Z,5.2nm,0.6s,mb4.4,baz=298,slow=7.0,SNR=65
YKA PcP PcP 06 46 45.5 -0.3
comp=Z,1.1nm,0.7s,baz=308,slow=3.6,SNR=10
BVAR Borovoye Array 49.52 308 P **P 06 45 33.3 -0.5**
BVAR pmax pmax
comp=Z,1.0nm,0.3s
BVAR Borovoye Array 49.52 308 P **P 06 45 33.3 -0.5**
comp=Z,1.4nm,0.3s,mb4.1,baz=50,slow=8.3,SNR=9.4
A07A Ashnola River, 51.99 56 ⇑P **P 06 45 51.9 -0.4**
baz=52
A08A Turner Farm, O 52.63 56 ⇓P **P 06 45 56.7 -0.5**
baz=52
F04A Amboy 52.72 60 ⇑P **P 06 45 57.4 -0.4**
baz=52
B08A Colville Reser 52.96 56 ⇑P **P 06 45 59.0 -0.5**
baz=53
A09A Danville 52.98 55 P **P 06 45 59.4 -0.3**
baz=53,SNR=12
EDM Edmonton 53.09 49 *e*P **P 06 46 00.0 -0.4**
ARU Arti 53.18 316 *c i* P **P 06 46 00.3 -0.7**
ARU *e* 06 48 04.7
ARU *e*PPP 06 49 09.2
ARU *e*S **S 06 53 21.0 +0.3**
ARU *e*SS SS 06 56 59.6 -1.7
ARU pmax pmax
comp=Z,3.0nm,1.1s,mb3.9
C08A Higginbotham F 53.45 57 ⇓P **P 06 46 02.7 -0.4**
baz=53
CHTO Chiang Mai 54.06 256 *e*P **P 06 46 08.0 +0.1**
HUMO Hull Mountain 54.45 64 ⇑P **P 06 46 11.0 +0.5**
baz=54
B11A Sandpoint 54.48 55 ⇑P **P 06 46 10.5 -0.1**
baz=54
J04A Umpqua Nationa 54.55 63 ⇓P **P 06 46 11.8 +0.6**
baz=54
D10A Wagner Farm, O 54.85 57 ⇓P **P 06 46 12.8 -0.5**
baz=55
ARCES ARCESS Array B 54.87 341 P **P 06 46 11.9 -1.2**
ARCES pmax pmax
comp=Z,3.0nm,1.0s
ARCES MLR MLR
comp=Z,75nm,18.2s
ARCES ARCESS Array B 54.87 341 P **P 06 46 11.9 -1.2**
ARCES LR LR 07 14 33.5
ARCES ARCESS Array B 54.87 341 P **P 06 46 11.9 -1.2**
comp=Z,2.8nm,1.0s,mb4.0,baz=45,slow=7.7,SNR=11
ARCES LR LR 07 14 33.5
comp=Z,75nm,18.1s,baz=254,slow=41
J05A Fort Rock 55.02 62 ⇑P **P 06 46 15.4 +0.9**
baz=55,SNR=6.1
A13A Flathead Natio 55.19 53 ⇑P **P 06 46 15.7 0.0**
baz=55
D11A Klaveano Farm, 55.36 56 ⇓P **P 06 46 16.2 -0.7**
baz=55
I07A Izee 55.49 61 ⇓P **P 06 46 18.3 +0.4**
baz=55
B13A Whitefish 55.51 54 ⇓P **P 06 46 18.1 +0.2**
baz=55,SNR=5.5
K05A Summer Lake 55.56 63 ⇓P **P 06 46 19.3 +0.9**
baz=55,SNR=5.8
M03C McCloud 55.78 65 ⇓P **P 06 46 19.2 -0.8**
baz=56
E11A Bogner Ranch, 55.86 57 ⇑P **P 06 46 19.9 -0.6**
baz=56
K06A Valley Falls 55.88 62 ⇑P **P 06 46 21.6 +0.8**
baz=56,SNR=9.4
C13A Hot Springs 55.89 55 ⇓P **P 06 46 20.7 0.0**
baz=56
G10A Bishop Farm, J 56.04 58 ⇓P **P 06 46 21.8 -0.1**
baz=56,SNR=5.1
I08A Drewsey 56.12 60 ⇓P **P 06 46 22.9 +0.5**
baz=56,SNR=5.2
H09A Durkee 56.14 59 ⇓P **P 06 46 22.7 +0.2**
baz=56
BMO Blue Mountains 56.22 59 *e*P **P 06 46 23.4 +0.3**
comp=Z,1.7nm,0.7s,mb4.0
C14A Swan Lake 56.27 54 ⇑P **P 06 46 23.2 -0.2**
baz=56
D13A Huson 56.32 55 ⇓P **P 06 46 23.2 -0.6**
baz=56
K07A Rock Creek Ran 56.52 62 ⇑P **P 06 46 25.5 +0.2**
baz=56
J08A Circle Bar Ran 56.53 61 ⇑P **P 06 46 25.6 +0.3**
baz=56
H10A Noah's Angus R 56.70 59 ⇑P **P 06 46 26.4 0.0**
baz=56
F12A Elk City 56.76 57 ⇓P **P 06 46 26.9 0.0**
baz=56,SNR=9.9
MSO Missoula 56.77 55 *e*P **P 06 46 26.7 -0.2**
comp=Z,3.5nm,1.3s,mb4.0
D14A Greenough 56.83 55 P **P 06 46 27.1 -0.3**
baz=56,SNR=20
E13A Victor 56.88 56 ⇑P **P 06 46 28.0 +0.2**
baz=57
K08A Mann Creek Ran 56.92 61 ⇓P **P 06 46 28.9 +0.8**
baz=57,SNR=5.4
J09A Fry Pan Ranch, 56.94 60 ⇑P **P 06 46 28.7 +0.6**
baz=57,SNR=7.0
H11A Donnelly 57.02 58 ⇓P **P 06 46 28.7 0.0**
baz=57,SNR=14
WVOR Wild Horse Val 57.03 62 *e*P **P 06 46 29.5 +0.6**
WVOR *e**PP pP 06 47 00.9 -0.3
WVOR pmax pmax
comp=Z,4.0nm,0.9s,mb4.2
WVOR Wild Horse Val 57.03 62 *e*P **P 06 46 29.5 +0.6**
comp=Z,3.6nm,0.9s,mb4.2
WVOR *e*pP pP 06 47 00.8 -0.4
CHMT Chamberlain Mo 57.07 55 *e*P **P 06 46 28.8 -0.2**
F13A Darby 57.23 56 ⇑P **P 06 46 29.9 -0.3**
baz=57
E14A Clinton 57.27 55 ⇓P **P 06 46 30.5 0.0**
baz=57,SNR=10
FFC Flin Flon 57.33 42 *e*P **P 06 46 30.2 -0.5**
FFC *e* 06 47 23.2
FFC pmax pmax
comp=Z,8.0nm,0.8s,mb4.6
FFC Flin Flon 57.33 42 *e*P **P 06 46 30.2 -0.5**
comp=Z,7.8nm,0.8s,mb4.6
FFC *e*PcP PcP 06 47 23.2 0.0
D15A Lincoln 57.37 54 ⇓P **P 06 46 31.1 -0.1**
baz=57,SNR=5.9
M07A Soldier Meadow 57.41 63 ⇑P **P 06 46 32.2 +0.7**
baz=57,SNR=5.2
I11A Placerville 57.57 59 ⇓P **P 06 46 32.4 -0.1**
baz=57
FCC Fort Churchill 57.70 35 *e*P **P 06 46 32.4 -0.9**
FCC pmax pmax
comp=Z,8.0nm,0.4s,mb4.9
FCC Fort Churchill 57.70 35 *e*P **P 06 46 32.4 -0.8**
comp=Z,7.7nm,0.4s,mb4.9
E15A Deer Lodge 57.71 55 ⇑P **P 06 46 33.6 0.0**
baz=57,SNR=6.1
G13A Cobalt 57.73 57 ⇑P **P 06 46 33.7 -0.1**
baz=57,SNR=6.9
HRY Holter Researc 57.95 54 *e*P **P 06 46 35.5 +0.3**
MFID Camas Ranch 57.96 59 ⇓P **P 06 46 35.6 +0.2**
baz=58
H13A Challis 58.07 57 ⇑P **P 06 46 35.9 -0.2**
baz=58,SNR=12
EGMT Eagleton 58.15 52 *e*P **P 06 46 36.5 -0.1**
comp=Z,8.9nm,1.3s,mb4.4
F15A Butte 58.17 55 ⇓P **P 06 46 37.0 +0.2**

baz=58,SNR=6.7
LRM Limekiln Ridge 58.21 55 *e*P **P 06 46 38.0 +1.0**
K11A Parker Ranch, 58.27 60 ⇓P **P 06 46 37.9 +0.4**
baz=58
DLMT Dillon 58.43 56 *e*P **P 06 46 39.4 +0.8**
comp=Z,4.3nm,0.8s,mb4.3
J12A Stokes Ranch, 58.47 59 ⇑P **P 06 46 39.5 +0.6**
baz=58,SNR=9.4
I13A Wildhorse Cree 58.57 58 ⇑P **P 06 46 40.0 +0.5**
baz=58,SNR=19
G15A Dillon 58.62 56 P **P 06 46 40.1 +0.2**
baz=58,SNR=5.6
HLID Hailey 58.64 58 *e*P **P 06 46 39.6 -0.4**
comp=Z,1.2nm,0.5s,mb4.0
HLID Hailey 58.64 58 ⇓P **P 06 46 40.7 +0.7**
baz=58,SNR=6.0
MCMT McKenzie Canyo 58.65 56 *e*P **P 06 46 40.2 +0.1**
JOF Joensuu 58.65 333 *e*p **P 06 46 39.8 0.0**
comp=Z,0.5nm,0.3s,mb3.8
JOF Joensuu 58.65 333 *e*P **P 06 46 39.8 0.0**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.1
BOZ Bozeman (W) 58.75 55 *e*P **P 06 46 41.4 +0.6**
BOZ pmax pmax
comp=Z,6.0nm,0.6s,mb4.6
BOZ Bozeman (W) 58.75 55 *e*P **P 06 46 41.4 +0.6**
comp=Z,6.0nm,0.6s,mb4.6
BOZ Bozeman (W) 58.75 55 ⇓P **P 06 46 41.4 +0.6**
baz=58
L11A Cat Creek Ranc 58.82 60 P **P 06 46 42.1 +0.8**
baz=58,SNR=6.5
J13A Cove Ranch, Pi 58.88 58 P **P 06 46 42.3 +0.6**
baz=59,SNR=7.8
K12A Draper Farm, C 58.98 59 ⇓P **P 06 46 43.2 +0.7**
baz=59
L12A House Creek Ra 59.25 60 ⇓P **P 06 46 44.4 +0.1**
baz=59
QLMT Earthquake Lak 59.40 56 *e*P **P 06 46 45.9 +0.6**
GCMT Greycliff 59.68 54 *e*P **P 06 46 47.7 +0.5**
YMR Madison River 59.76 55 *e*P **P 06 46 48.6 +0.9**
comp=Z,5.2nm,0.5s,mb4.6
NVAR Mina Array Bea 59.86 65 P **P 06 46 48.6 +0.1**
comp=Z,1.4nm,0.7s,mb3.9,baz=287,slow=6.8,SNR=9.4
YFT Old Faithful 59.97 56 *e*P **P 06 46 50.6 +1.4**
K14A Jones Ranch, D 59.99 59 P **P 06 46 50.4 +1.0**
baz=60,SNR=6.0
M13A Montello 60.25 60 ⇓P **P 06 46 51.7 +0.6**
baz=60
IMW Indian Meadow 60.29 56 *e*P **P 06 46 51.5 +0.1**
comp=Z,14nm,1.6s,mb4.5
FLWY Flagg Ranch 60.29 56 *e*P **P 06 46 52.7 +1.3**
comp=Z,2.5nm,0.6s,mb4.2
RLMT Red Lodge 60.34 54 *e*P **P 06 46 52.6 +0.9**
comp=Z,3.7nm,0.5s,mb4.5
TPAW Teton Pass 60.56 56 *e*P **P 06 46 54.8 +1.6**
comp=Z,7.3nm,0.7s,mb4.6
DGMT Dagmar 60.59 49 *e*P **P 06 46 53.5 +0.2**
HELL Mitchell Peak 60.62 67 ⇓P **P 06 46 53.2 -0.5**
baz=60
LOHW Long Hollow 60.66 56 *e*P **P 06 46 54.5 +0.7**
comp=Z,7.7nm,1.3s,mb4.4
SNOW Snow King Moun 60.68 56 *e*P **P 06 46 54.9 +0.9**
comp=Z,5.4nm,0.8s,mb4.4
REDW Red Top Meadow 60.70 57 *e*P **P 06 46 54.8 +0.6**
comp=Z,6.5nm,1.0s,mb4.4
R09A Tonopah 60.70 64 ⇑P **P 06 46 53.7 -0.6**
baz=60
LAO LASA Array 60.82 51 *e*P **P 06 46 55.2 +0.3**
comp=Z,15nm,0.8s,mb4.9
M15A Larsen Ranch, 61.13 59 ⇑P **P 06 46 57.5 +0.4**
baz=61,SNR=7.4
VES Vestal, Richgr 61.16 68 ⇑P **P 06 46 56.9 -0.4**
baz=61
FINES FINESS Array B 61.31 335 P **P 06 46 56.3 -1.6**
FINES 06 47 37.6
FINES pmax pmax
comp=Z,1.0nm,0.3s
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 61.31 335 P **P 06 46 56.3 -1.6**
comp=Z,0.7nm,0.3s,mb4.0,baz=16,slow=8.1,SNR=16
FINES PcP PcP 06 47 37.6 -1.4
comp=Z,0.5nm,0.5s,baz=54,slow=4.9,SNR=4.5
N15A Stansbury Isla 61.48 60 ⇑P **P 06 47 00.1 +0.6**
baz=61,SNR=5.1
HWUT Hardware Ranch 61.51 58 *e*P **P 06 47 00.0 +0.3**
comp=Z,6.9nm,1.0s,mb4.4
DUG Dugway 61.79 60 *e*P **P 06 47 02.0 +0.5**
BW06 Boulder Array 61.80 56 *e*P **P 06 47 01.9 +0.3**
comp=Z,9.1nm,1.0s,mb4.6
Q13A Wheeler Ranch, 61.96 62 ⇓P **P 06 47 02.8 +0.1**
baz=62
FURC Furnace Creek, 62.03 66 ⇑P **P 06 47 03.2 0.0**
baz=62
NLU North Lily Min 62.37 60 *e*P **P 06 47 06.0 +0.6**
T11A Corn Creek, Al 62.46 64 ⇓P **P 06 47 06.2 +0.2**
baz=62
GSC Goldstone 62.87 67 ⇓P **P 06 47 08.6 -0.2**
baz=63
OBN Obninsk 63.02 325⇑ *e*P **P 06 47 10.5 +1.1**
OBN *e* pP 06 47 44.9 +2.5
OBN *e**SP sP 06 47 59.2 +1.8
OBN *e*SS SS 06 59 37.1 +1.6
OBN pmax pmax
comp=Z,11nm,0.7s,mb4.8
ULM Lac du Bonnet 63.13 43 P **P 06 47 07.7 -2.6**
comp=Z,1.0nm,0.4s,mb4.0,baz=311,slow=11,SNR=3.4
TUQ Turquoise Mtn. 63.30 66 ⇑P **P 06 47 11.7 +0.1**
baz=63
SRU San Rafael 63.81 60 *e*P **P 06 47 15.2 +0.2**
SRU pmax pmax
comp=Z,5.0nm,0.8s,mb4.4
SRU San Rafael 63.81 60 *e*P **P 06 47 15.2 +0.3**
comp=Z,5.0nm,0.8s,mb4.4
GMRC Granite Mounta 63.91 66 ⇑P **P 06 47 15.6 -0.1**
baz=64
V13A Grand Canyon W 64.14 65 ⇓P **P 06 47 17.1 0.0**
baz=64
IRM Iron Mountain 64.64 67 ⇑P **P 06 47 19.8 -0.6**
baz=64
V15A Kaibab Nationa 65.20 63 ⇓P **P 06 47 24.5 +0.5**
baz=65
NB2 NORSAR Subarra 65.22 341 P **P 06 47 23.1 -0.6**
comp=Z,1.0nm,0.6s,mb3.8,baz=30,slow=6.5
NOA NORSAR Array B 65.22 341 P **P 06 47 22.2 -1.5**
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA NORSAR Array B 65.22 341 P **P 06 47 22.2 -1.5**
comp=Z,0.5nm,0.6s,mb3.5,baz=23,slow=6.3,SNR=3.1
PV01 Paradox Valley 65.58 59 *e*P **P 06 47 26.1 -0.3**
SMCO Snowmass 65.71 58 *e*P **P 06 47 27.6 +0.4**
comp=Z,4.5nm,0.8s,mb4.3
ISCO Idaho Springs 66.00 56 *e*P **P 06 47 29.3 +0.2**
BATI Kupang 66.09 214 P **P 06 47 29.2 -0.6**
comp=Z,8.9nm,0.3s,mb5.1,baz=45,slow=7.1,SNR=2.1
X15A Humboldt 66.11 64 ⇑P **P 06 47 30.6 +0.8**
baz=66
X16A Lo Mia Camp, P 66.62 64 ⇓P **P 06 47 33.6 +0.5**
baz=66
PSI Prapat 66.63 244 P **P 06 47 33.6 +0.2**
PSI pmax pmax
comp=Z,2.0nm,0.5s,mb4.2
PSI Prapat 66.63 244 P **P 06 47 33.6 +0.2**
comp=Z,1.7nm,0.5s,mb4.1,baz=37,slow=13,SNR=3.4
EYMN Ely 66.76 42 *e*P **P 06 47 33.0 -0.8**
comp=Z,5.3nm,0.8s,mb4.4
SDCO Great Sand Dun 67.54 58 *e*P **P 06 47 38.6 -0.3**
comp=Z,30nm,3.0s
ECSD EROS,Sioux Fal 67.65 48 *e*P **P 06 47 38.7 -0.7**
comp=Z,8.8nm,0.4s,mb4.8
ANMO Albuquerque 69.06 60⇑ *e*P **P 06 47 49.0 +0.6**
AKASG Malin Array Be 69.21 326 P **P 06 47 48.1 -0.9**
AKASG pmax pmax
comp=Z,1.0nm,0.4s
AKASG Malin Array Be 69.21 326 P **P 06 47 48.0 -1.0**
comp=Z,0.6nm,0.4s,mb3.7,baz=32,slow=6.2,SNR=5.4
SCHQ Schefferville 69.61 24 *e*P **P 06 47 50.5 -0.9**
comp=Z,6.9nm,0.3s,mb4.9
SCHQ Schefferville 69.61 24 P **P 06 47 50.6 -0.8**
comp=Z,7.6nm,0.3s,mb4.9,baz=341,slow=5.8,SNR=68
SCIA State Center 70.66 47 *e*P **P 06 47 57.6 -0.4**
comp=Z,39nm,0.5s,mb5.4
SCIA *e*PcP PcP 06 48 16.6 -1.5
WRA Warramunga Arr 72.23 200 P **P 06 48 06.2 -1.3**
WRA 06 48 23.1
WRA *PP pP 06 48 39.2 -2.1
WRA pmax pmax

comp=Z,1.0nm,0.9s
WRA Warramunga Arr 72.23 200 P **P 06 48 06.2 -1.3**
comp=Z,0.4nm,0.5s,mb3.4,baz=18,slow=6.2,SNR=7.6
WRA PcP PcP 06 48 23.1 -1.8
comp=Z,0.4nm,0.5s,baz=14,slow=4.9,SNR=6.9
WRA pP pP 06 48 39.2 -2.2
comp=Z,0.9nm,0.9s,baz=11,slow=6.1,SNR=3.7
WMOK Wichita Mounta 73.39 56 *e*P **P 06 48 13.8 -0.6**
WMOK pmax pmax
comp=Z,5.0nm,0.6s,mb4.4
WMOK Wichita Mounta 73.39 56 *e*P **P 06 48 13.8 -0.7**
comp=Z,4.6nm,0.6s,mb4.4
CCM Cathedral Cave 74.61 48 *e*P **P 06 48 19.9 -1.6**
CCM pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
CCM Cathedral Cave 74.61 48 *e*P **P 06 48 19.9 -1.6**
comp=Z,3.2nm,0.6s,mb4.1
FVM French Village 75.06 48 *e*P **P 06 48 22.6 -1.4**
GERES GERESS Array B 75.74 335 P **P 06 48 27.5 -0.2**
comp=Z,0.4nm,0.4s,mb3.4,baz=26,slow=7.4,SNR=5.4
SIUC Southern Illin 75.85 47 *e*P **P 06 48 27.8 -0.7**
comp=Z,12nm,1.0s,mb4.5
ASAR Alice Springs 75.93 200 P **P 06 48 27.9 -1.0**
ASAR *PP pP 06 49 01.2 -1.8
ASAR pmax pmax
comp=Z,1.0nm,0.7s
ASAR Alice Springs 75.93 200 P **P 06 48 27.9 -1.0**
comp=Z,0.7nm,0.7s,mb3.4,baz=13,slow=5.1,SNR=6.8
ASAR pP 06 49 01.2 -1.8
comp=Z,0.3nm,0.5s,baz=14,slow=5.3,SNR=2.5
MIAR Mount Ida 76.24 52 *e*P **P 06 48 30.1 -0.7**
MIAR pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
MIAR Mount Ida 76.24 52 *e*P **P 06 48 30.1 -0.7**
comp=Z,5.7nm,0.6s,mb4.4
ALLY Alegheny Colle 76.59 39 *e*P **P 06 48 32.2 -0.5**
comp=Z,12nm,0.8s,mb4.6
MIB Mutribah 77.75 302 *e*P **P 06 48 38.4 -0.9**
MIB AMb AMB 06 48 40.4
comp=Z,18nm,0.6s,mb4.9
NAY Al-Naaiem 78.23 302 *e*P **P 06 48 41.5 -0.5**
NAY AMb AMB 06 48 43.1
comp=Z,8.3nm,0.9s,mb4.3
RDF Al-Radifah 78.31 301 *e*P **P 06 48 42.7 +0.2**
RDF AMb AMB 06 48 43.8
comp=Z,20nm,0.7s,mb4.9
CPCT Cooper Cave 79.88 45 *e*P **P 06 48 50.0 -0.9**
ESDC Sonseca Array 88.48 344 P **P 06 49 33.2 -1.0**
ESDC Sonseca Array 88.48 344 P **P 06 49 33.2 -1.0**
comp=Z,0.6nm,0.5s,mb3.7,baz=3,3,slow=4.5,SNR=3.7
KEST Kesra 89.06 333 P **P 06 49 36.8 -0.2**
comp=Z,1.5nm,0.6s,mb4.1,baz=331,slow=7.2,SNR=3.7
TORD Torodi Ar. Bea 112.56 331 PKiKP PKiKP 06 55 16.7 -1.1
comp=Z,0.3nm,0.6s,baz=29,slow=1.9,SNR=3.7
LPAZ La Paz 131.67 61 PKP PKPdf 06 55 54.7 +0.5
comp=Z,0.3nm,0.5s,baz=324,slow=2.8,SNR=3.6
CPUP Villa Florida 145.68 58 PKP2 PKPab 06 56 19.0 -1.6
CPUP pmax pmax
comp=Z,2.0nm,0.4s
CPUP Villa Florida 145.68 58 PKPbc PKPbc 06 56 19.0 -1.1
comp=Z,1.7nm,0.4s,baz=303,slow=2.1,SNR=11

*ISCJB **26** 06:43:41.6±0.9, 3688N±005×2177E±007, h7km±4km, Error ellipse: s-maj=9.4km s-min=7.7km az=153.3*
*ATH **26** 06:43:42.8, 3692N×2176E, h7km, MD3.3/4*
*NEIC **26** 06:43:43.6, 3700N×2194E, h25km, MD3.3(ATH), After ATH.*
*CSEM **26** 06:43:43.6, 3700N×2194E, h25km, MD3.3/4, After ATH*
ISC 26 06:43:41.5±1.3, 3687N±006×2173E±009, h6km±5km, n9, σ0.74/15, Southern Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PYL	**PYLOS**	**0.03**	**23**	*e*P	**Pg**	**06 43 43.0**	**+0.2**
PYL				*e*S	**Sg**	**06 43 43.5**	**-0.2**
ITM	**Ithomi**	**0.35**	**27**	*e*PG	**Pg**	**06 43 48.0**	**-0.3**
ITM				*e*SG	**Sg**	**06 43 53.0**	**+0.1**
ITM	**Ithomi**	**0.35**	**27**	*e*Pb	**Pg**	**06 43 48.2**	**-0.1**
ITM				Sb	**Sg**	**06 43 53.6**	**+0.7**
VLX	**Vlachokerasia**	**0.72**	**46**	*e*P	**Pg**	**06 43 54.8**	**-0.7**
VLX				*e*S	**Sg**	**06 44 04.8**	**0.0**
VLI	**Veliai**	**0.98**	**98**	*e*PG	**Pg**	**06 44 01.0**	**+0.6**
VLI	**Veliai**	**0.98**	**98**	*e*Pn	**Pn**	**06 43 59.8**	**-2.0**
RLS	**Riolos of Patr**	**1.20**	**350**	*e*PG	**Pg**	**06 44 04.3**	**-0.3**
RLS				*e*SB	**Sb**	**06 44 21.0**	**+0.5**
RLS	**Riolos of Patr**	**1.20**	**350**	*e*Pn	**Pg**	**06 44 04.3**	**-0.3**
RLS				Sn	**Sn**	**06 44 21.6**	**+0.1**
KYTH	**Kithira**	**1.21**	**119**	*e*PB	**Pb**	**06 44 06.0**	**+1.3**

*NEIC **26** 06:50:01.1, 1575N×9830W, h37km, After MEX.*
MEX 26 06:50:01.1±0.9, 1577N×9841W, h31km±41km, MD4.1, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.67**	**24**	*i* P	Pb	06 50 12.6	-1.8
PNIG				*i* S	Sb	06 50 20.8	-2.6
ACX	**Acapulco**	**1.81**	**307**	*i* P	Pn	06 50 27.4	-2.7
ACX				*i* S	Sn	06 50 48.0	-4.1
VHO	**Vista Hermosa**	**2.06**	**51**	*i* P	Pn	06 50 35.4	+1.7
VHO				*i* S	Sn	06 51 00.5	+2.3
VHO	**Vista Hermosa**	**2.06**	**51**	*i* P	Pn	06 50 29.3	-4.3
VHO				*i* S	Sn	06 50 57.8	-0.4
OXX	**Oaxaca**	**2.07**	**51**	*e*P	Pn	06 50 34.0	+0.2
UTMO	**Huajuapan**	**2.12**	**16**	*i* P	Pn	06 50 32.7	-1.8
UTMO				*i* S	Sn	06 50 59.1	-0.8
CAIG	**El Cayaco**	**2.19**	**306**	*i* P	Pn	06 50 36.0	+0.6
CAIG				*i* S	Sn	06 50 57.7	-3.7
CAIG	**El Cayaco**	**2.19**	**306**	*i* P	Pn	06 50 36.0	+0.6
CAIG				*i* S	Sn	06 50 60.0	-1.5
MEIG	**Mezcala**	**2.44**	**332**	*i* P	Pn	06 50 35.9	-2.8
MEIG				*i* S	Sn	06 51 05.5	-2.0
PLIG	**Platanillo**	**2.81**	**338**	*i* P	Pn	06 50 46.0	+2.1
PLIG				*i* S	Sn	06 51 14.9	-1.7
PLIG	**Platanillo**	**2.81**	**338**	*i* P	Pn	06 50 43.9	+0.1
PLIG				*i* S	Sn	06 51 14.9	-1.7
TPIG	**Tehuac#an**	**2.81**	**21**	*i* P	Pn	06 50 40.8	-3.1
TPIG				*i* S	Sn	06 51 14.3	-2.6
PPM	**Popocatepetl**	**3.28**	**356**	*i* P	Pn	06 50 53.7	+3.3
PPM				*i* S	Sn	06 51 31.4	+3.0
PPM	**Popocatepetl**	**3.28**	**356**	*i* P	Pn	06 50 52.7	+2.3
PPM				*e*P		06 50 53.0	
PPM				*i* S	Sn	06 51 31.4	+3.0
ZIIG	**Zihuatanejo**	**3.45**	**302**	*i* S	Sn	06 51 29.9	-2.7
MZVM		**3.49**	**347**	*e*P	Pn	06 50 55.1	+1.9
MZVM				*i* S	Sn	06 51 33.6	+0.2
CMIG	**Matias Romero**	**3.63**	**68**	*i* P	Pn	06 50 57.1	+2.0
CMIG				*i* S	Sn	06 51 31.2	-5.7
SZVM	**Salazar**	**3.65**	**345**	*i* P	Pn	06 50 57.6	+2.1
SZVM				*i* S	Sn	06 51 38.0	+0.5
IIO	**Organos**	**3.81**	**356**	*i* P	Pn	06 50 51.4	-6.3
IIO				*i* S	Sn	06 51 47.0	+5.6
PTVM	**Pico Tres Padr**	**3.86**	**350**	*i* S	Sn	06 51 37.8	-4.8

*IDC **26** 06:52:05.8±0.6, 2186N×143.11E, h0km, mb4.4/15, mb1 4.5/16, mb1mx4.5/20, mbtmp4.4/16, ML3.8/1, MS3.7/7, Ms1 3.7/7, ms1mx3.4/24, Error ellipse: s-maj=23.7km s-min=15.2km az=80.0*
*ISCJB **26** 06:52:08.7±0.2, 2183N±004×14306E±003, h23km, mb4.7/89, MS3.9/16, Error ellipse: s-maj=6.4km s-min=4.0km az=11.5*
*MOS **26** 06:52:08.5±0.9, 2188N×14302E, h23km, mb5.0/39, Error ellipse: s-maj=10.7km s-min=6.5km az=100.1*
*BJI **26** 06:52:08.2, 2187N×143.12E, h20km, mB5.0, mb4.8, Ms4.6, Msz4.0*
*NEIC **26** 06:52:09.9±0.2, 2182N×143.12E, mb4.8/49, Error ellipse: s-maj=5.1km s-min=4.9km az=162.0*
ISC 26 06:52:10.6±0.2, 2184N±004×14312E±003, h24km, h24km±3km: pP-P, n401, σ0.64/404, mb4.7/89, MS3.9/16, 97C-83D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.27**	**345**	Pn	**Pn**	**06 55 41.9**	**-2.6**
	0.4nm,0.3s,baz=154,slow=9.9,SNR=5.5						
MAT	**Matsushiro**	**15.27**	**345**	P	**Pn**	**06 55 44.1**	**-0.4**
MAT				*e*S	**Sn**	**06 58 42.2**	**+9.3**
KSRS	**Korea Array**	**20.37**	**323**	P	**P**	**06 56 44.5**	**-0.9**
KSRS				pmax	pmax		
	comp=Z,13nm,0.9s						
KSRS				MLR	MLR		
	comp=Z,174nm,18.1s,MS3.5						
KSRS	**Korea Array**	**20.37**	**323**	P	**P**	**06 56 44.5**	**-1.0**
	comp=Z,13nm,0.9s,baz=139,slow=12,SNR=4.2						
KSRS				LR	LR	07 03 53.4	
	comp=Z,174nm,18.1s,MS3.5,baz=148,slow=35						
KS15	**Wonju Array Si**	**20.38**	**323**	*e*Pn	**P**	**06 56 50.3**	**+4.7**
QZH	**Quanzhou**	**22.72**	**283⇑**	*i*P	**P**	**06 57 05.5**	**-5.3**
YSS	**Yuzh-Sakhalins**	**25.06**	**359⇑**	*e*P	**P**	**06 57 32.9**	**0.0**
YSS				pmax	pmax		
	comp=Z,45nm,1.3s,mb4.8						
DL2	**Dalian**	**25.07**	**318**	P	**P**	**06 57 34.8**	**+1.7**
DL2				AMB	AMB		
	comp=Z,20nm,0.9s,mb4.7						
MDJ	**Mudanjiang**	**25.31**	**337**	P	**P**	**06 57 35.5**	**+0.2**
MDJ				AP	pP	06 57 41.0	-1.4
MDJ				XP	sP	06 57 44.0	-1.3
MDJ				AMB	AMB		
	comp=Z,19nm,1.4s,mb4.4						
MDJ				AMB	AMB		
	comp=Z,129nm,4.3s						
MDJ				AMB	AMB		
	comp=Z,53nm,0.8s,mb5.1						
MDJ				AMB	AMB		
	comp=Z,49nm,4.3s						
MDJ	**Mudanjiang**	**25.31**	**337**	*e*P	**P**	**06 57 34.6**	**-0.7**
	comp=Z,17nm,1.0s,mb4.5						
CN2	**Changchun**	**26.36**	**330**	*e*P	**P**	**06 57 46.5**	**+1.7**
CN2				*e*XP	sP	06 57 57.0	+2.2
CN2				*e*S	**S**	**07 02 16.3**	**-0.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
HABR	**Khabarovsk**	**27.35**	**348**	*e*P	**P**	**06 57 52.1**	**-1.6**
HABR				*e*		06 58 05.1	
HABR				*e*		06 58 35.8	
HABR				*e*S	**S**	**07 02 30.5**	**-1.6**
HABR				*e*		07 03 40.8	
HABR				*e*		07 08 37.1	
KLR	**Kul'dur**	**28.79**	**344**	*e*P	**P**	**06 58 02.8**	**-3.7**
BJI	**Beijing**	**29.21**	**315**	P	**P**	**06 58 10.8**	**+0.4**
BJI				S	**S**	**07 03 03.5**	**+1.9**
BJI				AMB	AMB		
	comp=Z,6.0nm,0.6s,mb4.5						
BJI				AMB	AMB		
	comp=Z,188nm,4.3s						
BJI				LR	LR		
	comp=N,192nm,15.5s,MS4.1						
BJI				LR	LR		
	comp=E,292nm,15.8s,MS4.1						
BJI				LR	LR		
	comp=Z,284nm,29.1s						
HHC	**Hu-ho-hao-te**	**32.70**	**313**	*e*P	**P**	**06 58 42.5**	**+1.4**
HHC				AP	pP	06 58 50.0	+1.7
HHC				XP	sP	06 58 53.5	+2.3
HHC				PP	PP	06 59 55.8	+0.7
HHC				PCP	PcP	07 01 22.3	-4.2
HHC				S	**S**	**07 04 04.0**	**+7.9**
HHC				SCS	ScS	07 09 07.3	-1.4
HHC				AMB	AMB		
	comp=Z,22nm,1.0s,mb5.0						
HHC				AMB	AMB		
	comp=Z,184nm,6.7s						
HHC				LR	LR		
	comp=N,397nm,12.9s						
HHC				LR	LR		
	comp=E,1μm,18.8s						
HHC				LR	LR		
	comp=Z,240nm,17.8s,MS3.9						
PET	**Petropavlovsk**	**33.34**	**17**	*i* P	**P**	**06 58 45.9**	**-0.6**
GYA	**Guiyang**	**33.51**	**285**	P	**P**	**06 58 49.5**	**+1.1**
GYA				AP	pP	06 58 56.8	+1.2
GYA				XP	sP	06 58 59.8	+1.3
GYA				PP	PP	07 00 02.8	-1.6
GYA				PCP	PcP	07 01 30.5	+1.5
GYA				S	**S**	**07 04 10.0**	**+0.9**
GYA				SCP	ScP	07 05 13.0	+0.8
GYA				SCS	ScS	07 09 12.3	-1.1
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,5.2s						
GYA				LR	LR		
	comp=N,570nm,18.6s,MS4.4						
GYA				LR	LR		
	comp=E,440nm,17.4s,MS4.4						
GYA				LR	LR		
	comp=Z,510nm,18.5s,MS4.3						
CD2	**Chengdu**	**36.25**	**293**	*e*P	**P**	**06 59 12.3**	**+0.3**
CD2				AP	pP	06 59 19.5	+0.3
CD2				XP	sP	06 59 23.3	+1.1
CD2				PP	PP	07 00 35.3	+0.7
CD2				S	**S**	**07 04 50.3**	**-0.9**
CD2				XS	sS	07 05 02.5	-0.6
CD2				SS	SS	07 07 14.5	-15
CD2				AMB	AMB		
	comp=Z,10.0nm,1.4s,mb4.5						
CD2				AMB	AMB		
	comp=Z,80nm,5.9s						
CD2				LR	LR		
	comp=N,180nm,12.0s,MS4.4						
CD2				LR	LR		
	comp=E,400nm,16.8s,MS4.4						
CD2				LR	LR		
	comp=Z,280nm,16.8s,MS4.1						
LZH	**Lanzhou**	**36.93**	**301**	*e*P	**P**	**06 59 19.0**	**+1.3**
LZH				AP	pP	06 59 26.0	+1.1
LZH				XP	sP	06 59 29.0	+1.2
LZH				PP	PP	07 00 45.5	+3.5
LZH				*e*S	**S**	**07 05 03.0**	**+1.6**
LZH				XS	sS	07 05 13.0	-0.3
LZH				SS	SS	07 07 32.0	-11
LZH				AMB	AMB		
	comp=Z,27nm,1.4s,mb4.9						
LZH				AMB	AMB		
	comp=Z,108nm,4.1s						
LZH				LR	LR		
	comp=E,1μm,12.5s						
LZH				LR	LR		
	comp=Z,1μm,13.2s,MS4.9						
KMI	**Kunming**	**37.09**	**283**	P	**P**	**06 59 20.8**	**+1.6**
KMI				AP	pP	06 59 26.0	-0.4
KMI				XP	sP	06 59 28.0	-1.4
KMI				PP	PP	07 00 48.5	+4.6
KMI				S	**S**	**07 05 07.0**	**+2.9**
KMI				XS	sS	07 05 17.0	+1.0
KMI				SS	SS	07 07 34.3	-13
KMI				AMB	AMB		
	comp=Z,10.0nm,1.2s,mb4.5						
KMI				LR	LR		
	comp=N,95nm,15.8s,MS3.9						
KMI				LR	LR		
	comp=E,125nm,19.1s,MS3.9						
KMI				LR	LR		
	comp=Z,131nm,20.8s,MS3.7						
KSM	**Kuching**	**37.81**	**242**	*e*P	**P**	**06 59 24.6**	**-0.7**
ULN	**Ulaanbaatar**	**38.82**	**321**	*e*P	**P**	**06 59 33.7**	**+0.2**
ULN				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.7						
ULN	**Ulaanbaatar**	**38.82**	**321**	*e*P	**P**	**06 59 33.7**	**+0.2**
	comp=Z,23nm,1.4s,mb4.7						
SONM	**Songino Array**	**39.20**	**320**	P	**P**	**06 59 36.8**	**+0.1**
	comp=Z,5.9nm,0.8s,mb4.4,baz=142,slow=12,SNR=7.1						
GTA	**Gaotai**	**40.75**	**305**	*e*P	**P**	**06 59 50.5**	**+0.8**
GTA				AP	pP	06 59 57.5	+0.6
GTA				XP	sP	07 00 00.8	+0.9
GTA				S	**S**	**07 05 59.0**	**+0.1**
GTA				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.3						
GTA				AMB	AMB		
	comp=Z,45nm,4.2s						
GTA				LR	LR		
	comp=N,74nm,14.5s,MS4.0						
GTA				LR	LR		
	comp=E,149nm,15.6s,MS4.0						
GTA				LR	LR		
	comp=Z,88nm,14.1s,MS3.8						
YAK	**Yakutsk**	**41.22**	**350⇓**	*e*P	**P**	**06 59 52.2**	**-1.0**
YAK				pmax	pmax		
	comp=Z,26nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**41.44**	**274**	*e*P	**P**	**06 59 56.3**	**+0.7**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.4						
CHTO	**Chiang Mai**	**41.44**	**274**	*e*P	**P**	**06 59 56.3**	**+0.7**
	comp=Z,9.8nm,1.0s,mb4.4						
SEY	**Seymchan**	**41.55**	**6⇑**	*e*P	**P**	**06 59 55.6**	**-0.3**
CTAO	**Charters Tower**	**41.78**	**176**	*e*P	**P**	**06 59 57.3**	**-0.9**
CTAO				pmax	pmax		
	comp=Z,21nm,1.2s,mb4.6						
CTAO	**Charters Tower**	**41.78**	**176**	*e*P	**P**	**06 59 57.3**	**-0.9**
	comp=Z,21nm,1.2s,mb4.6						
ZAK	**Zakamensk**	**42.20**	**322**	*e*P	**P**	**07 00 01.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.4						
WRAB	**Tennant Creek**	**42.39**	**192**	*e*P	**P**	**07 00 02.6**	**-0.6**
WRAB				*e**PP	pP	07 00 08.8	-1.7
WRAB				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.7						
WRAB	**Tennant Creek**	**42.39**	**192**	*e*P	**P**	**07 00 02.6**	**-0.6**
	comp=Z,2.2nm,1.1s,mb3.7						
WRAB				*e*pP	pP	07 00 08.8	-1.7
WB2	**Warramunga Arr**	**42.40**	**192**	*e*P	**P**	**07 00 02.8**	**-0.5**
WB2				*e*pP	pP	07 00 09.2	-1.4
WB2				*e*sP	sP	07 00 13.8	+0.3
WRA	**Warramunga Arr**	**42.40**	**192**	*i* P	**P**	**07 00 02.7**	**-0.6**
WRA				pmax	pmax		
	comp=Z,6.0nm,1.0s						
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**	**07 00 02.8**	**-0.5**
	comp=Z,5.9nm,1.0s,mb4.2,baz=14,slow=9.1,SNR=16						
IRK	**Irkutsk**	**42.56**	**325**	*e*P	**P**	**07 00 04.1**	**-0.2**
IRK				pmax	pmax		
	comp=Z,38nm,1.0s,mb5.1						
TLY	**Talaya**	**42.62**	**324**	*e*P	**P**	**07 00 05.1**	**+0.3**
TLY				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.5						
TLY				MLR	MLR		
	comp=Z,82nm,19.0s,MS3.6						
TLY	**Talaya**	**42.62**	**324**	*e*P	**P**	**07 00 05.2**	**+0.4**
	comp=Z,16nm,1.3s,mb4.6						
TLY				*e*pP	pP	07 00 12.9	+0.9
MOY	**Mondy**	**44.07**	**323**	*e*P	**P**	**07 00 16.4**	**-0.1**
MOY				pmax	pmax		
	comp=Z,19nm,1.6s,mb4.6						
ASAR	**Alice Springs**	**46.11**	**192**	P	**P**	**07 00 31.9**	**-1.0**
	comp=Z,1.8nm,0.7s,mb4.1,baz=15,slow=8.8,SNR=29						
PSI	**Prapat**	**46.90**	**252**	LR	LR	07 16 53.6	
	comp=Z,106nm,20.4s,MS3.8,baz=273,slow=32						
BILL	**Bilibino**	**48.40**	**11**	*d* *i* P	**P**	**07 00 50.0**	**-0.3**
BILL				pmax	pmax		
	comp=Z,12nm,1.3s,mb4.8						
BILL	**Bilibino**	**48.40**	**11**	*e*P	**P**	**07 00 50.0**	**-0.2**
	comp=Z,3.0nm,0.6s,mb4.5						
MBWA	**Marble Bar**	**48.45**	**210**	P	**P**	**07 00 50.4**	**-0.9**
	comp=Z,14nm,1.3s,mb4.8						
WMQ	**Urumqi**	**50.45**	**309**	P	**P**	**07 01 07.0**	**+0.7**
WMQ				XP	sP	07 01 18.0	+1.4
WMQ				PP	PP	07 03 04.0	+2.0
WMQ				S	**S**	**07 08 18.0**	**-0.6**
WMQ				SS	SS	07 11 49.0	-3.5
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s,mb5.3						
WMQ				AMB	AMB		
	comp=Z,51nm,4.0s						
WMQ				LR	LR		
	comp=N,68nm,15.0s,MS4.0						
WMQ				LR	LR		
	comp=E,75nm,15.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,79nm,15.0s,MS3.9						
TIXI	**Tiksi**	**50.51**	**354**	*e*P	**P**	**07 01 04.8**	**-1.5**
TIXI				pmax	pmax		
	comp=Z,7.0nm,1.3s,mb4.4						
TIXI	**Tiksi**	**50.51**	**354**	*e*P	**P**	**07 01 04.9**	**-1.5**
ARMA	**Armidale**	**52.59**	**171**	*e*P	**P**	**07 01 22.9**	**+0.5**
STKA	**Stephens Creek**	**53.43**	**182**	P	**P**	**07 01 27.1**	**-1.5**
	comp=Z,5.0nm,0.9s,mb4.4						
STKA				*e*pP	pP	07 01 34.4	-1.6
STKA	**Stephens Creek**	**53.43**	**182**	P	**P**	**07 01 27.4**	**-1.1**
	comp=Z,3.6nm,0.8s,mb4.3,baz=7.4,slow=8.0,SNR=5.0						
ZAA0	**Zalesovo Array**	**54.07**	**322**	*e*P	**P**	**07 01 32.3**	**-0.7**
ZAA0				*e*pP	pP	07 01 39.6	-0.9
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	**P**	**07 01 32.2**	**-0.8**
	comp=Z,6.5nm,0.7s,mb4.7,baz=97,slow=7.6,SNR=18						
ZALV				LR	LR	07 25 04.1	
	comp=Z,43nm,19.5s,MS3.5,baz=16,slow=37						
ZAL	**Zalesovo**	**54.08**	**322**	P	**P**	**07 01 32.2**	**-0.9**
MK31	**Makanchi Array**	**54.56**	**313**	*e*P	**P**	**07 01 37.0**	**+0.2**
MK31				*e**PP	pP	07 01 44.0	-0.2
MKAR	**Makanchi Array**	**54.56**	**313**	*i* P	**P**	**07 01 36.7**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.6s						
MKAR	**Makanchi Array**	**54.56**	**313**	P	**P**	**07 01 36.8**	**0.0**
	comp=Z,2.8nm,0.6s,mb4.5,baz=92,slow=8.6,SNR=17						
MKAR				LR	LR	07 27 22.3	
	comp=Z,40nm,18.4s,MS3.5,baz=336,slow=39						
NVS	**Novosibirsk**	**55.16**	**322**	*e*P	**P**	**07 01 39.9**	**-1.1**
NVS				pmax	pmax		
	comp=Z,32nm,1.7s,mb5.1						
NVS				pmax	pmax		
	comp=E,28nm,1.5s						
KURK	**Kurchatov**	**57.34**	**317**	*e*P	**P**	**07 01 55.9**	**-0.7**
KURK				pmax	pmax		
	comp=Z,15nm,1.0s,mb5.0						
KURK	**Kurchatov**	**57.34**	**317**	*e*P	**P**	**07 01 55.9**	**-0.7**
	comp=Z,16nm,1.0s,mb5.0						
TTA	**Tatalina**	**57.60**	**28**	*e*P	**P**	**07 01 58.2**	**0.0**
ULHL	**Ulahol**	**58.76**	**307**	P	**P**	**07 02 07.6**	**+0.9**
	SNR=12						
TKM2	**Tokmak 2**	**59.22**	**308**	*e*P	**P**	**07 02 10.5**	**+0.7**
TKM2				*e**PP	pP	07 02 17.6	+0.2
TKM2				pmax	pmax		
	comp=Z,12nm,1.1s,mb4.8						
TKM2	**Tokmak 2**	**59.22**	**308**	*e*P	**P**	**07 02 10.5**	**+0.7**
	comp=Z,12nm,1.1s,mb4.8						
TKM2				*e*pP	pP	07 02 17.6	+0.2
TKM2	**Tokmak 2**	**59.22**	**308**	P	**P**	**07 02 10.6**	**+0.7**
	SNR=8.9						
IMA2	**Indian Mountai**	**59.43**	**25**	*e*P	**P**	**07 02 10.9**	**0.0**
KZA	**Kyzart**	**59.51**	**307**	P	**P**	**07 02 13.6**	**+1.7**
	SNR=17						
USP	**Ospenovka**	**60.00**	**308**	P	**P**	**07 02 15.4**	**+0.1**
	SNR=8.1						
UCH	**Uchtor**	**60.05**	**307**	*e*P	**P**	**07 02 17.0**	**+1.4**
	comp=Z,33nm,1.4s,mb5.2						
UCH				*e*pP	pP	07 02 24.7	+1.6
UCH				*e*sP	sP	07 02 28.9	+2.9
UCH	**Uchtor**	**60.05**	**307**	P	**P**	**07 02 17.2**	**+1.6**
	SNR=14						
EKS2	**Erkin-Say**	**60.57**	**308**	*e*P	**P**	**07 02 19.9**	**+0.7**
	comp=Z,8.3nm,1.2s,mb4.7						
EKS2				*e*pP	pP	07 02 27.2	+0.5
AML	**Almayashu**	**60.66**	**307**	*e*P	**P**	**07 02 20.9**	**+1.1**
	comp=Z,9.6nm,1.0s,mb4.9						
AML				*e*pP	pP	07 02 28.6	+1.3
AML	**Almayashu**	**60.66**	**307**	P	**P**	**07 02 21.2**	**+1.4**
	SNR=6.8						
COLA	**College**	**61.55**	**27**	*c* *i* P	**P**	**07 02 24.7**	**-0.7**
BRVK	**Borovoye**	**62.59**	**319**	*e*P	**P**	**07 02 32.1**	**-0.5**
BRVK				*e**PP	pP	07 02 40.0	-0.2
BRVK				pmax	pmax		
	comp=Z,59nm,1.5s,mb5.5						
BRVK	**Borovoye**	**62.59**	**319**	*e*P	**P**	**07 02 32.1**	**-0.6**
	comp=Z,59nm,1.5s,mb5.5						
BRVK				*e*pP	pP	07 02 40.0	-0.2
EGAK	**Eagle**	**64.38**	**27**	*e*P	**P**	**07 02 43.8**	**-0.5**
	comp=Z,3.5nm,0.9s,mb4.4						
KBL	**Kabul**	**65.22**	**299**

ARU *e*S S 07 12 16.5 -2.0
ARU *e*SS SS 07 16 39.0 -5.4
ARU pmax pmax
comp=Z,32nm,1.7s,mb5.0
ARU Arti 69.12 324 *e*P **P 07 03 13.8 -0.8**
comp=Z,5.5nm,0.7s,mb4.6
ARU *e*pP pP 07 03 21.6 -0.6
DLBC Dease Lake 70.04 34 *e*P **P 07 03 21.1 +0.8**
YKW3 Yellowknife Ar 76.33 28 *e*P **P 07 03 56.5 -0.8**
YKA Yellowknife Ar 76.36 28 P **P 07 03 56.5 -0.9**
YKA LR LR 07 34 55.7
YKA Yellowknife Ar 76.36 28 P **P 07 03 56.5 -0.9**
comp=Z,4.8nm,0.7s,mb4.5,baz=293,slow=5.4,SNR=68
YKA LR LR 07 34 55.7
comp=Z,44nm,20.7s,MS3.8,baz=210,slow=34
PPT Papeete 76.64 115 LR LR 07 34 33.0
comp=Z,125nm,18.1s,MS4.3,baz=318,slow=33
GNW Green Mountain 76.84 44 *e*P **P 07 04 00.5 0.0**
comp=Z,8.9nm,1.0s,mb4.7
RES Resolute Bay 76.95 13 *e*P **P 07 04 00.4 -0.3**
RES pmax pmax
comp=Z,518nm,0.9s
RES Resolute Bay 76.95 13 *e*P **P 07 04 00.4 -0.3**
comp=Z,518nm,0.9s
H03A Soap Creek Ran 77.43 47 ⇓P **P 07 04 04.8 +0.9**
baz=77
D05A Enumclaw 77.50 44 ⇑P **P 07 04 04.9 +0.7**
baz=77
F04A Amboy 77.62 45 ⇑P **P 07 04 05.4 +0.5**
baz=78
J02A Umpqua 77.64 48 ⇓P **P 07 04 05.7 +0.6**
baz=78
I03A Eugene 77.66 48 ⇓P **P 07 04 06.0 +0.8**
baz=78
A07A Ashnola River, 77.92 42 ⇑P **P 07 04 06.8 +0.3**
baz=78
H04A Detroit Lake 78.17 47 ⇓P **P 07 04 08.1 +0.1**
baz=78,SNR=7.2
KTRM Thompson Ridge 78.25 50 P **P 07 04 12.4 +4.0**
B07A Winthrop 78.28 42 ⇑P **P 07 04 08.7 +0.2**
baz=78
I04A Tendick Farm, 78.31 47 ⇓P **P 07 04 08.7 -0.1**
baz=78
HUMO Hull Mountain 78.32 49 ⇑P **P 07 04 08.6 -0.3**
baz=78
E06A Yakima 78.36 45 ⇑P **P 07 04 09.4 +0.4**
baz=78
A08A Turner Farm, O 78.64 42 ⇓P **P 07 04 10.6 +0.2**
baz=78
J04A Umpqua Nationa 78.70 48 ⇑P **P 07 04 11.5 +0.6**
baz=79
YBH Yreka Blue Hor 78.77 50 *e*P **P 07 04 11.7 +0.3**
YBH pmax pmax
comp=Z,4.0nm,0.9s
YBH Yreka Blue Hor 78.77 50 *e*P **P 07 04 11.7 +0.3**
comp=Z,4.1nm,0.9s,mb4.4
YBH Yreka Blue Hor 78.77 50 ⇓P **P 07 04 11.8 +0.4**
baz=79
ARCES ARCESS Array B 78.77 341 P **P 07 04 09.9 -1.0**
comp=Z,5.9nm,0.9s,mb4.5,baz=71,slow=9.1,SNR=6.5
M02C Callahan 78.78 50 ⇓P **P 07 04 12.0 +0.5**
baz=79
B08A Colville Reser 78.80 42 P **P 07 04 11.3 -0.1**
baz=79,SNR=5.1
H05A Madras 78.83 46 ⇓P **P 07 04 11.7 +0.1**
baz=79
A09A Danville 79.05 42 P **P 07 04 13.1 +0.3**
baz=79,SNR=5.3
LHEM Herd Peak 79.16 50 P **P 07 04 12.8 -0.6**
K04A Chilquin 79.17 48 ⇓P **P 07 04 14.2 +0.6**
baz=79
C08A Higginbotham F 79.18 43 ⇑P **P 07 04 13.4 -0.1**
baz=79
J05A Fort Rock 79.28 48 ⇑P **P 07 04 14.5 +0.3**
baz=79,SNR=9.9
VIPM Ingram Point 79.29 46 P **P 07 04 14.3 +0.2**
M03C McCloud 79.34 50 ⇑P **P 07 04 15.0 +0.5**
baz=79
H06A Lindquist Farm 79.40 46 ⇑P **P 07 04 14.5 -0.2**
baz=79,SNR=5.9
B09A Rice 79.52 42 ⇑P **P 07 04 15.4 +0.1**
baz=79,SNR=5.4
LASM Arnica Sink 79.62 49 P **P 07 04 15.5 -0.5**
C09A Chrisman Ranch 79.67 43 ⇑P **P 07 04 16.1 0.0**
baz=80
A10A Northport 79.68 41 ⇑P **P 07 04 16.5 +0.3**
baz=80
K05A Summer Lake 79.71 48 P **P 07 04 16.9 +0.5**
baz=80,SNR=7.5
I06A Prineville 79.76 47 P **P 07 04 17.1 +0.4**
baz=80,SNR=8.0
LTIM Timbered Crate 79.82 50 P **P 07 04 16.1 -1.0**
D09A Jones Farm, Ri 79.91 43 ⇑P **P 07 04 17.2 -0.3**
baz=80
MNRC McLaughlin Nat 79.92 52 ⇑P **P 07 04 18.2 +0.5**
baz=80
HATC Hat Creek Radi 79.97 50 ⇓P **P 07 04 17.5 -0.5**
baz=80
L05A Lakeview 79.99 49 ⇓P **P 07 04 18.0 0.0**
baz=80
M05C Lookout 80.00 50 ⇑P **P 07 04 18.3 +0.2**
baz=80
LBCM Butte Creek Ri 80.04 50 P **P 07 04 18.0 -0.3**
K06A Valley Falls 80.13 48 ⇑P **P 07 04 18.7 0.0**
baz=80,SNR=5.0
JOF Joensuu 80.17 334 *e*p **P 07 04 17.9 -0.6**
comp=Z,0.7nm,0.4s,mb3.9
I07A Izee 80.19 46 ⇓P **P 07 04 19.2 +0.1**
baz=80
NEW Newport 80.22 42 *e*P **P 07 04 18.9 -0.2**
NEW pmax pmax
comp=Z,7.0nm,0.9s
NEW Newport 80.22 42 *e*P **P 07 04 18.9 -0.2**
comp=Z,7.0nm,0.9s,mb4.6
SUTB Sutter Butte 80.28 52 ⇑P **P 07 04 19.3 -0.3**
baz=80
ORV Oroville 80.37 51 P **P 07 04 19.7 -0.4**
baz=80,SNR=7.0
O04C Chester 80.41 50 ⇑P **P 07 04 20.7 +0.4**
baz=80,SNR=10
MOD Modoc 80.41 49 *e*P **P 07 04 20.2 -0.1**
comp=Z,8.0nm,1.1s,mb4.6
MOD Modoc 80.41 49 ⇑P **P 07 04 20.4 +0.1**
baz=80
A11A Hall Mountain, 80.42 41 ⇑P **P 07 04 20.9 +0.7**
baz=80
OHCM Honcut 80.46 52 *e*P **P 07 04 19.8 -0.8**
EDM Edmonton 80.52 36 *e*P **P 07 04 20.6 0.0**
M06C Likely Place G 80.53 49 ⇑P **P 07 04 21.5 +0.5**
baz=80,SNR=5.3
ELFS Eagle Lake Fie 80.56 50 ⇑P **P 07 04 21.8 +0.7**
baz=80
D10A Wagner Farm, O 80.57 43 ⇑P **P 07 04 21.0 -0.1**
baz=80
J07A Hines 80.57 47 P **P 07 04 21.9 +0.8**
baz=80,SNR=10
H08A Prairie City 80.59 46 ⇓P **P 07 04 21.3 +0.1**
baz=80
B11A Sandpoint 80.62 42 ⇑P **P 07 04 21.6 +0.4**
baz=80
K07A Rock Creek Ran 80.86 48 P **P 07 04 22.8 +0.2**
baz=81,SNR=10.0
I08A Drewsey 80.88 46 ⇓P **P 07 04 23.0 +0.2**
baz=81
G09A Cove 80.90 45 ⇓P **P 07 04 23.1 +0.2**
baz=81
F10A Beach Ranch, E 81.00 44 ⇑P **P 07 04 23.4 +0.1**
baz=81
L07A Adell 81.04 48 ⇑P **P 07 04 24.3 +0.7**
baz=81,SNR=9.7
B12A Libby 81.08 41 ⇓P **P 07 04 24.5 +0.8**
baz=81
BEKR Beckwourth 81.09 51 ⇓P **P 07 04 23.9 -0.1**
baz=81,SNR=12
P05C Yuba Gap, Truc 81.11 51 ⇓P **P 07 04 24.4 +0.3**
baz=81
J08A Circle Bar Ran 81.14 47 ⇓P **P 07 04 24.1 0.0**
baz=81,SNR=11
N06A Buffalo Meadow 81.15 50 ⇑P **P 07 04 24.6 +0.3**
baz=81
D11A Klaveano Farm, 81.17 43 ⇓P **P 07 04 24.0 -0.2**
baz=81,SNR=8.5
LAVA Lava Cap Winer 81.21 52 ⇓P **P 07 04 24.6 -0.1**
baz=81
G10A Bishop Farm, J 81.33 45 P **P 07 04 24.9 -0.2**
baz=81,SNR=8.1
OBN Obninsk 81.34 326 ⇑*i*P **P 07 04 23.6 -1.4**

OBN *e* pP 07 04 31.4 -1.3
OBN *e*SS SS 07 19 48.8 -0.8
OBN pmax pmax
comp=Z,26nm,1.7s,mb4.9
O06A Flanigan 81.36 50 ⇓P **P 07 04 25.6 +0.2**
baz=81
K08A Mann Creek Ran 81.37 48 ⇑P **P 07 04 25.7 +0.3**
baz=81,SNR=7.8
BMO Blue Mountains 81.37 45 *e*P **P 07 04 24.8 -0.6**
comp=Z,11nm,1.4s,mb4.6
WVOR Wild Horse Val 81.37 48 *e*P **P 07 04 24.9 -0.5**
WVOR pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
WVOR Wild Horse Val 81.37 48 *e*P **P 07 04 24.9 -0.5**
comp=Z,7.0nm,1.1s,mb4.5
M07A Soldier Meadow 81.38 49 ⇑P **P 07 04 25.7 +0.2**
baz=81,SNR=5.7
I09A Lost Marbles R 81.41 46 ⇓P **P 07 04 25.8 +0.3**
baz=81
PACP Pacheco Peak 81.42 54 ⇓P **P 07 04 26.3 +0.5**
baz=81
E11A Bogner Ranch, 81.51 43 ⇑P **P 07 04 25.3 -0.8**
baz=81,SNR=7.5
VRSR Storozhevoye 81.56 322 *e*P **P 07 04 24.0 -2.2**
VRSR pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
VRSR pmax pmax
comp=N,3.0nm,1.4s
VRSR pmax pmax
comp=E,7.0nm,2.2s
A13A Flathead Natio 81.62 41 ⇑P **P 07 04 27.2 +0.7**
baz=82
J09A Fry Pan Ranch, 81.64 47 ⇑P **P 07 04 26.7 -0.1**
baz=82,SNR=9.5
L08A Fields 81.66 48 ⇑P **P 07 04 26.9 0.0**
baz=82,SNR=7.9
CMB Columbia Colle 81.72 52 *e*P **P 07 04 27.1 -0.3**
CMB pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
CMB Columbia Colle 81.72 52 *e*P **P 07 04 27.1 -0.3**
comp=Z,5.0nm,0.8s,mb4.5
CMB Columbia Colle 81.72 52 ⇑P **P 07 04 27.2 -0.1**
baz=82,SNR=6.8
D12A Red Ives Fores 81.78 43 ⇑P **P 07 04 27.4 -0.1**
baz=82
B13A Whitefish 81.81 41 P **P 07 04 28.0 +0.4**
baz=82,SNR=8.8
BSMT Bassoo Peak 81.82 42 *e*P **P 07 04 27.7 0.0**
H10A Noah's Angus R 81.84 45 ⇑P **P 07 04 27.5 -0.3**
baz=82,SNR=6.0
G11A Walters Elk Ra 81.84 44 ⇑P **P 07 04 27.0 -0.9**
baz=82,SNR=8.1
PAHR Pah Rah Range 81.85 51 *e*P **P 07 04 28.0 0.0**
comp=Z,14nm,1.2s,mb4.8
WALA Waterton Lakes 81.87 40 *e*P **P 07 04 28.2 +0.3**
comp=Z,9.7nm,1.1s,mb4.7
K09A Rome 81.90 47 ⇓P **P 07 04 28.2 0.0**
baz=82,SNR=7.4
C13A Hot Springs 82.02 42 ⇓P **P 07 04 28.5 -0.2**
baz=82,SNR=12
H11A Donnelly 82.28 45 ⇓P **P 07 04 29.6 -0.5**
baz=82,SNR=7.7
KIV Kislovodsk 82.29 314 *e*P **P 07 04 29.7 -0.5**
KIV *e* pP 07 04 36.5 -1.5
KIV pmax pmax
comp=Z,30nm,1.6s,mb5.0
GNI Garni 82.32 310 *c i*P **P 07 04 31.0 +0.6**
D13A Huson 82.33 42 ⇓P **P 07 04 29.7 -0.7**
baz=82
F12A Elk City 82.36 44 ⇑P **P 07 04 30.2 -0.3**
baz=82
K10A MacKenzie Ranc 82.45 47 P **P 07 04 31.1 0.0**
baz=82,SNR=10
C14A Swan Lake 82.50 42 ⇓P **P 07 04 31.0 -0.2**
baz=82
T06C Millerton Lake 82.60 53 ⇑P **P 07 04 31.8 -0.2**
baz=82,SNR=11
I11A Placerville 82.62 46 ⇑P **P 07 04 31.5 -0.5**
baz=82
R07C Lee Vining 82.69 52 ⇓P **P 07 04 33.1 +0.7**
baz=82
N09A Rock Creek Ran 82.74 49 ⇑P **P 07 04 33.0 +0.3**
baz=83
MFID Camas Ranch 82.91 46 P **P 07 04 33.4 0.0**
baz=83,SNR=9.7
D14A Greenough 82.93 42 ⇑P **P 07 04 32.6 -0.9**
baz=83
F13A Darby 82.94 43 ⇑P **P 07 04 32.7 -0.8**
baz=83
K11A Parker Ranch, 83.02 47 P **P 07 04 34.1 +0.1**
baz=83,SNR=9.5
FINES FINESS Array B 83.03 334 *i* P **P 07 04 32.2 -1.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 83.03 334 P **P 07 04 31.5 -2.2**
FINES FINESS Array B 83.03 334 P **P 07 04 31.5 -2.2**
comp=Z,0.9nm,0.5s,mb4.1,baz=66,slow=5.1,SNR=14
NVAR Mina Array Bea 83.10 51 P **P 07 04 34.7 +0.1**
NVAR Mina Array Bea 83.10 51 P **P 07 04 34.7 +0.1**
comp=Z,5.0nm,0.8s,mb4.6,baz=259,slow=6.1,SNR=31
RCTC Rector, Farmer 83.21 54 ⇑P **P 07 04 34.7 -0.4**
baz=83
Q08A Gabbs 83.21 51 ⇓P **P 07 04 35.1 0.0**
baz=83
HELL Mitchell Peak 83.23 53 P **P 07 04 34.6 -0.7**
baz=83,SNR=7.1
O09A Fish Creek Ran 83.23 50 ⇓P **P 07 04 35.3 +0.1**
baz=83
R08A Mina 83.28 51 ⇑P **P 07 04 35.9 +0.4**
baz=83
G13A Cobalt 83.28 44 ⇓P **P 07 04 34.8 -0.6**
baz=83,SNR=9.9
PKM Peak Mountain 83.30 55 ⇑P **P 07 04 36.1 +0.5**
baz=83
MTUM Tungsten Hills 83.32 53 *e*P **P 07 04 36.0 +0.3**
MTUM *e*pP pP 07 04 42.7 -0.7
L11A Cat Creek Ranc 83.45 47 ⇑P **P 07 04 36.6 +0.3**
baz=83
J12A Stokes Ranch, 83.46 46 ⇑P **P 07 04 36.2 -0.1**
baz=83
H13A Challis 83.48 45 ⇑P **P 07 04 36.4 0.0**
baz=83,SNR=6.9
VES Vestal, Richgr 83.50 54 ⇓P **P 07 04 36.4 -0.2**
baz=83
S08C White Mtn Res 83.55 52 ⇑P **P 07 04 36.8 0.0**
baz=83,SNR=9.6
M11A Holland Ranch, 83.72 48 ⇑P **P 07 04 38.3 +0.7**
baz=84
E15A Deer Lodge 83.74 42 ⇓P **P 07 04 37.2 -0.4**
baz=84,SNR=7.8
HLID Hailey 83.79 46 *e*P **P 07 04 38.0 0.0**
HLID Hailey 83.79 46 ⇓P **P 07 04 37.9 -0.1**
baz=84
K12A Draper Farm, C 83.84 47 P **P 07 04 38.6 +0.4**
baz=84,SNR=5.0
I13A Wildhorse Cree 83.84 45 ⇓P **P 07 04 38.7 +0.4**
baz=84,SNR=5.2
L12A House Creek Ra 83.96 47 ⇓P **P 07 04 39.5 +0.6**
baz=84
UMR Umm Al-Rimmam 83.96 299 *e*P **P 07 04 41.2 +2.0**
UMR AMb AMB 07 04 48.4
comp=Z,0.6nm,0.6s,mb3.9
J13A Cove Ranch, Pi 84.02 46 ⇓P **P 07 04 39.1 0.0**
baz=84,SNR=6.3
R09A Tonopah 84.07 51 P **P 07 04 39.4 -0.1**
baz=84,SNR=12
F15A Butte 84.08 43 P **P 07 04 39.3 -0.1**
baz=84,SNR=9.8
LRM Limekiln Ridge 84.12 43 *e*P **P 07 04 39.8 +0.2**
HRY Holter Researc 84.13 42 *e*P **P 07 04 39.5 -0.1**
S09A Goldfield 84.16 52 ⇓P **P 07 04 39.7 -0.3**
baz=84,SNR=8.0
DLMT Dillon 84.22 43 *e*P **P 07 04 40.5 +0.3**
comp=Z,9.8nm,1.3s,mb4.8
MCMT McKenzie Canyo 84.29 44 *e*P **P 07 04 39.8 -0.7**
Q10A Clear Creek Ra 84.32 51 ⇑P **P 07 04 40.3 -0.5**
baz=84
M12A Wells 84.33 48 ⇓P **P 07 04 41.1 +0.4**
baz=84,SNR=6.5
RDF Al-Radifah 84.33 299 *e*P **P 07 04 39.8 -1.2**
RDF AMb AMB 07 04 42.9
comp=Z,26nm,1.2s,mb5.2
O11A Cowboy Ranch, 84.33 49 ⇑P **P 07 04 40.6 -0.2**
baz=84
GRAC Grapevine Rang 84.33 53 ⇑P **P 07 04 41.1 +0.2**
baz=84
G15A Dillon 84.38 44 ⇓P **P 07 04 40.8 -0.2**
baz=84,SNR=5.9
K13A Stover Farm, H 84.39 46 ⇓P **P 07 04 41.2 +0.2**
baz=84,SNR=6.1
SOC Sochi 84.41 315 *e*P **P 07 04 41.9 +0.8**
SOC *e*PP pP 07 04 48.9 0.0
SOC *e*SP sP 07 04 51.5 -0.2
SOC pmax pmax
comp=Z,10.0nm,0.9s,mb5.0
NAY Al-Naaiem 84.46 299 *e*P **P 07 04 40.1 -1.6**
NAY AMb AMB 07 04 43.4
comp=Z,24nm,1.2s,mb5.2
N12A Clover Valley, 84.47 48 ⇑P **P 07 04 41.3 -0.2**
baz=84
S10A Tonopah Range, 84.54 51 ⇓P **P 07 04 42.1 +0.2**
baz=84,SNR=9.8
R10A Warm Springs 84.61 51 ⇑P **P 07 04 42.5 +0.3**
baz=84
MPMC Manual Prospec 84.61 53 ⇑P **P 07 04 42.1 -0.2**
baz=84,SNR=12
LRMC Laurel Mountai 84.69 54 ⇓P **P 07 04 42.8 0.0**
baz=84
EDW2 Edwards Air Fo 84.69 55 P **P 07 04 42.6 -0.1**
baz=84,SNR=6.0
L13A Double Diamond 84.71 47 P **P 07 04 43.6 +0.9**
baz=84,SNR=5.7
BOZ Bozeman (W) 84.71 43 *e*P **P 07 04 42.4 -0.2**
BOZ *e*PP pP 07 04 49.7 -0.7
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.4
BOZ Bozeman (W) 84.71 43 *e*P **P 07 04 42.4 -0.2**
comp=Z,2.6nm,0.9s,mb4.4
BOZ *e*pP pP 07 04 49.7 -0.7
BOZ Bozeman (W) 84.71 43 P **P 07 04 42.6 -0.1**
baz=84,SNR=6.9
EGMT Eagleton 84.81 40 *e*P **P 07 04 42.6 -0.4**
comp=Z,11nm,1.2s,mb4.9
EGMT Eagleton 84.81 40 ⇑P **P 07 04 42.9 -0.2**
baz=85
Q11A Duckwater 84.85 50 ⇑P **P 07 04 43.5 0.0**
baz=85,SNR=7.4
M13A Montello 84.86 48 ⇑P **P 07 04 43.2 -0.3**
baz=85,SNR=8.4
O12A Currie 84.91 49 P **P 07 04 43.8 0.0**
baz=85,SNR=7.0
FURC Furnace Creek, 84.92 53 ⇑P **P 07 04 43.9 0.0**
baz=85,SNR=9.6
K14A Jones Ranch, D 85.04 46 ⇑P **P 07 04 44.7 +0.3**
baz=85,SNR=11
R11A Troy Canyon, C 85.10 51 P **P 07 04 44.8 0.0**
baz=85,SNR=12
TPNV Topopah Spring 85.18 52 *e*P **P 07 04 44.8 -0.4**
TPNV *e*PP pP 07 04 52.0 -1.0
TPNV pmax pmax
comp=Z,10.0nm,1.0s,mb4.9
TPNV Topopah Spring 85.18 52 *e*P **P 07 04 44.8 -0.4**
comp=Z,9.8nm,1.0s,mb4.9
TPNV *e*pP pP 07 04 52.0 -1.0
TPNV Topopah Spring 85.18 52 ⇓P **P 07 04 45.1 -0.1**
baz=85,SNR=12
BFSC Mount Baldy St 85.19 55 ⇓P **P 07 04 44.6 -0.7**
baz=85
QLMT Earthquake Lak 85.20 43 *e*P **P 07 04 45.6 +0.5**
S11A Rachel 85.27 51 P **P 07 04 45.4 -0.2**
baz=85,SNR=5.2
U10A Ash Meadows, A 85.33 53 ⇓P **P 07 04 45.9 0.0**
baz=85,SNR=9.0
Q12A Willow Creek R 85.36 50 ⇓P **P 07 04 45.7 -0.3**
baz=85
M14A Sheep Mountain 85.36 47 P **P 07 04 46.1 +0.2**
baz=85,SNR=14
ANN Anapa 85.36 317 *e*P **P 07 04 40.6 -5.3**
ANN pmax pmax
comp=Z,19nm,1.1s,mb5.1
GSC Goldstone 85.42 54 *e*P **P 07 04 46.0 -0.4**
GSC pmax pmax
comp=Z,14nm,1.4s,mb4.9
GSC Goldstone 85.42 54 *e*P **P 07 04 46.0 -0.4**
comp=Z,14nm,1.4s,mb4.9
GSC Goldstone 85.42 54 ⇓P **P 07 04 46.3 -0.1**
baz=85,SNR=5.5
YMR Madison River 85.57 43 *e*P **P 07 04 47.6 +0.6**
comp=Z,21nm,1.1s,mb5.3
YMR *e*pP pP 07 04 54.6 -0.1
SHOC Shoshone 85.58 53 P **P 07 04 46.9 -0.3**
baz=85,SNR=6.0
HVU Hansel Valley 85.63 47 *e*P **P 07 04 47.9 +0.6**
FFC Flin Flon 85.74 32 *e*P **P 07 04 47.2 -0.4**
FFC *e*PP pP 07 04 54.3 -1.1
YFT Old Faithful 85.75 44 *e*P **P 07 04 50.0 +2.2**
N14A Grayback Hills 85.75 48 P **P 07 04 47.9 0.0**
baz=86,SNR=13
P13A Bates Ranch, G 85.76 49 ⇑P **P 07 04 47.8 -0.2**
baz=86,SNR=16
MURC Murrieta 85.80 56 ⇓P **P 07 04 47.9 -0.4**
baz=86
R12A Pony Springs, 85.81 50 ⇑P **P 07 04 48.3 0.0**
baz=86,SNR=7.7
T11A Corn Creek, Al 85.81 52 ⇓P **P 07 04 48.0 -0.3**
baz=86,SNR=6.3
BGU Big Grassy Mou 85.83 48 *e*P **P 07 04 47.9 -0.4**
BGU *e*pP pP 07 04 55.2 -0.9
GCMT Greycliff 85.88 42 *e*P **P 07 04 48.7 +0.3**
IMW Indian Meadow 85.92 44 *e*P **P 07 04 48.2 -0.5**
comp=Z,9.2nm,0.9s,mb5.0
Q13A Wheeler Ranch, 85.97 50 ⇓P **P 07 04 48.9 -0.1**
baz=86,SNR=6.9
LKWY Lake 85.97 43 *e*P **P 07 04 50.8 +1.9**
LKWY pmax pmax
comp=Z,10.0nm,1.1s,mb5.0
LKWY Lake 85.97 43 *e*P **P 07 04 50.8 +1.8**
comp=Z,9.6nm,1.1s,mb4.9
M15A Larsen Ranch, 85.99 47 ⇓P **P 07 04 49.2 +0.1**
baz=86,SNR=7.0
FLWY Flagg Ranch 86.00 44 *e*P **P 07 04 50.3 +1.2**
comp=Z,21nm,1.3s,mb5.2
FLWY *e*pP pP 07 04 56.8 -0.1
SPUT South Promonto 86.06 47 *e*P **P 07 04 49.3 -0.1**
SPUT *e*pP pP 07 04 56.9 -0.4
109C Camp Elliot, M 86.15 56 ⇓P **P 07 04 49.6 -0.4**
baz=86
SHPR Sheep Range 86.16 52 *e*P **P 07 04 49.9 -0.1**
N15A Stansbury Isla 86.19 47 ⇑P **P 07 04 49.9 -0.2**
baz=86,SNR=8.1
REDW Red Top Meadow 86.22 45 *e*P **P 07 04 50.8 +0.6**
V11A Goodsprings 86.23 53 ⇓P **P 07 04 50.1 -0.3**
baz=86
LOHW Long Hollow 86.27 44 *e*P **P 07 04 50.8 +0.4**
comp=Z,8.2nm,1.3s,mb4.8
DUG Dugway 86.29 48 *e*P **P 07 04 50.4 -0.2**
DUG pmax pmax
comp=Z,24nm,1.4s,mb5.2
DUG Dugway 86.29 48 *e*P **P 07 04 50.4 -0.2**
comp=Z,24nm,1.4s,mb5.2
DUG Dugway 86.29 48 ⇓P **P 07 04 50.3 -0.3**
baz=86
PFO Pinyon Flat Ob 86.36 55 *e*P **P 07 04 50.8 -0.3**
PFO pmax pmax
comp=Z,10.0nm,1.0s,mb5.0
PFO Pinyon Flat Ob 86.36 55 *e*P **P 07 04 50.8 -0.3**
comp=Z,10nm,1.0s,mb5.0
PFO Pinyon Flat Ob 86.36 55 ⇓P **P 07 04 50.8 -0.3**
baz=86,SNR=7.5
RLMT Red Lodge 86.44 43 *e*P **P 07 04 51.9 +0.7**
RLMT *e*pP pP 07 04 58.7 -0.3
GMRC Granite Mounta 86.49 54 ⇓P **P 07 04 51.7 0.0**
baz=86,SNR=7.0
HWUT Hardware Ranch 86.53 46 *e*P **P 07 04 51.6 -0.1**
comp=Z,16nm,1.2s,mb5.1
HWUT *e*pP pP 07 04 58.7 -0.9
BELC Belle Mtn. 86.55 55 ⇓P **P 07 04 51.6 -0.5**
baz=86
BAR Barrett 86.57 56 *e*P **P 07 04 51.1 -1.1**
comp=Z,7.9nm,1.4s,mb4.8
U12A Valley of Fire 86.64 52 ⇑P **P 07 04 52.7 +0.2**
baz=86
S13A Holt Ranch, En 86.66 51 ⇑P **P 07 04 52.8 +0.4**
baz=86,SNR=8.5
MONP Monument Peak 86.68 56 ⇓P **P 07 04 52.3 -0.3**
baz=86,SNR=7.3
V12A Nelson 86.71 53 ⇑P **P 07 04 52.7 -0.1**
baz=87,SNR=10
LDFC Landfair 86.78 54 *e*P **P 07 04 52.5 -0.6**
CTU Camp Tracy 86.80 47 *e*P **P 07 04 53.2 +0.1**
T13A Saint George 86.86 51 ⇓P **P 07 04 53.6 +0.1**
baz=87,SNR=9.8
ARUT Antelope Range 86.87 51 *e*P **P 07 04 53.7 +0.2**

ARUT				e*PP	pP	07 05 00.9	-0.4
NLU	**North Lily Min**	**86.90**	**48**	*e*P	**P**	**07 04 53.6**	**0.0**
FCC	**Fort Churchill**	**86.94**	**26**	*e*P	**P**	**07 04 52.5**	**-0.9**
FCC				e*PP	pP	07 04 59.0	-2.2
FCC				pmax	pmax		
	comp=Z,23nm,1.2s,mb5.3						
FCC	**Fort Churchill**	**86.94**	**26**	*e*P	**P**	**07 04 52.5**	**-0.9**
	comp=Z,22nm,1.2s,mb5.3						
FCC				epP	pP	07 04 59.0	-2.2
CCUT	**Cedar City**	**87.03**	**51**	*e*P	**P**	**07 04 54.7**	**+0.4**
CCUT				epP	pP	07 05 01.4	-0.7
JLU	**Jordanelle**	**87.05**	**47**	*e*P	**P**	**07 04 54.3**	**0.0**
JLU				epP	pP	07 05 01.5	-0.6
BC3	**Big Chuckw Mtn**	**87.11**	**55**	⇓P	**P**	**07 04 54.4**	**-0.3**
	baz=87,SNR=7.7						
IRM	**Iron Mountain**	**87.13**	**54**	⇓P	**P**	**07 04 54.4**	**-0.4**
	baz=87,SNR=5.2						
SWSC	**Sam W. Stewart**	**87.14**	**56**	⇑P	**P**	**07 04 54.3**	**-0.6**
	baz=87						
MPU	**Maple Canyon**	**87.18**	**48**	*e*P	**P**	**07 04 54.3**	**-0.7**
	comp=Z,4.0nm,0.8s,mb4.7						
DAU	**Daniels Canyon**	**87.26**	**47**	*e*P	**P**	**07 04 55.4**	**0.0**
DAU				e*PP	pP	07 05 02.3	-0.9
V13A	**Grand Canyon W**	**87.30**	**52**	⇓P	**P**	**07 04 55.7**	**+0.1**
	baz=87,SNR=7.3						
AKASG	**Malin Array Be**	**87.36**	**324**	P	**P**	**07 04 53.2**	**-2.4**
AKASG	**Malin Array Be**	**87.36**	**324**	P	**P**	**07 04 53.2**	**-2.4**
	comp=Z,1.5nm,0.6s,mb4.4,baz=48,slow=5.2,SNR=14						
T14A	**Hurricane**	**87.44**	**51**	⇓P	**P**	**07 04 56.4**	**+0.1**
	baz=87,SNR=10						
MSU	**Marysvale**	**87.46**	**49**	*e*P	**P**	**07 04 56.5**	**+0.2**
MSU				e*PP	pP	07 05 03.6	-0.6
LAO	**LASA Array**	**87.56**	**40**	*e*P	**P**	**07 04 56.9**	**+0.3**
U14A	**Mt Trumbull**	**87.64**	**52**	⇓P	**P**	**07 04 57.7**	**+0.4**
	baz=88,SNR=7.1						
W13A	**Hualapai Mount**	**87.69**	**53**	⇑P	**P**	**07 04 57.6**	**+0.1**
	baz=88,SNR=5.2						
Y12C	**Blythe**	**87.77**	**55**	⇓P	**P**	**07 04 58.0**	**+0.1**
	baz=88						
PDMCI	**Parker Dam,Lak**	**87.83**	**54**	⇑P	**P**	**07 04 58.2**	**0.0**
	baz=88						
GLA	**Glamis**	**87.83**	**55**	*e*P	**P**	**07 04 58.2**	**0.0**
GLA				e*PP	pP	07 05 05.5	-0.6
GLA				pmax	pmax		
	comp=Z,11nm,1.0s,mb5.0						
GLA	**Glamis**	**87.83**	**55**	*e*P	**P**	**07 04 58.2**	**-0.1**
	comp=Z,11nm,1.0s,mb5.0						
GLA				epP	pP	07 05 05.5	-0.6
GLA	**Glamis**	**87.83**	**55**	⇑P	**P**	**07 04 58.2**	**-0.1**
	baz=88,SNR=5.4						
X13A	**Yucca**	**87.94**	**54**	⇓P	**P**	**07 04 58.5**	**-0.2**
	baz=88,SNR=7.0						
T15A	**Red Dirt Ranch**	**87.96**	**51**	⇑P	**P**	**07 04 58.6**	**-0.2**
	baz=88,SNR=5.5						
V14A	**Boquillas Ranc**	**88.03**	**52**	⇑P	**P**	**07 04 59.1**	**0.0**
	baz=88,SNR=12						
W14A	**Seligman**	**88.23**	**53**	⇑P	**P**	**07 05 00.3**	**+0.2**
	baz=88,SNR=9.2						
112A	**Yuma**	**88.24**	**56**	⇓P	**P**	**07 05 00.4**	**+0.2**
	baz=88						
Y13A	**Salome**	**88.27**	**54**	⇑P	**P**	**07 05 00.7**	**+0.3**
	baz=88						
SRU	**San Rafael**	**88.35**	**48**	*e*P	**P**	**07 05 00.2**	**-0.4**
SRU				e*PP	pP	07 05 07.5	-0.9
SRU				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.5						
SRU	**San Rafael**	**88.35**	**48**	*e*P	**P**	**07 05 00.2**	**-0.4**
	comp=Z,2.5nm,0.7s,mb4.5						
SRU				epP	pP	07 05 07.5	-0.9
T16A	**Glen Canyon Da**	**88.61**	**51**	⇑P	**P**	**07 05 01.4**	**-0.5**
	baz=88						
V15A	**Kaibab Nationa**	**88.64**	**52**	⇑P	**P**	**07 05 02.4**	**+0.4**
	baz=88,SNR=7.5						
X14A	**Yava**	**88.69**	**53**	⇓P	**P**	**07 05 02.6**	**+0.3**
	baz=88,SNR=9.3						
NOA	**NORSAR Array B**	**88.80**	**339**	P	**P**	**07 04 59.6**	**-2.6**
	comp=Z,1.9nm,0.9s,mb4.4,baz=52,slow=4.3,SNR=3.6						
Y14A	**Wickenburg**	**88.84**	**54**	⇑P	**P**	**07 05 03.1**	**+0.1**
	baz=89						
X15A	**Humboldt**	**89.17**	**53**	⇓P	**P**	**07 05 05.2**	**+0.7**
	baz=89,SNR=11						
Y15A	**Casa Rosa Ranc**	**89.33**	**54**	⇑P	**P**	**07 05 05.7**	**+0.4**
	baz=89,SNR=10						
WUAZ	**Wupatki**	**89.35**	**52**	*e*P	**P**	**07 05 05.9**	**+0.6**
	comp=Z,8.1nm,1.1s,mb5.0						
WUAZ	**Wupatki**	**89.35**	**52**	⇑P	**P**	**07 05 05.8**	**+0.4**
	baz=89						
W16A	**Flagstaff**	**89.43**	**52**	⇓P	**P**	**07 05 06.3**	**+0.5**
	baz=89,SNR=6.3						
PV10	**Paradox Valley**	**89.72**	**48**	*e*P	**P**	**07 05 07.0**	**0.0**
PV10				epP	pP	07 05 14.5	-0.4
X16A	**Lo Mia Camp, P**	**89.79**	**53**	⇑P	**P**	**07 05 08.1**	**+0.7**
	baz=90						
115A	**Sonoran Desert**	**89.96**	**55**	⇓P	**P**	**07 05 08.4**	**+0.2**
	baz=90						
Y16A	**Circle Bar Ran**	**90.00**	**53**	⇓P	**P**	**07 05 09.0**	**+0.6**
	baz=90,SNR=5.4						
PV01	**Paradox Valley**	**90.16**	**48**	*e*P	**P**	**07 05 08.4**	**-0.6**
PV01				epP	pP	07 05 14.9	-2.0
Z16A	**Peralta Trail,**	**90.28**	**54**	⇑P	**P**	**07 05 10.0**	**+0.3**
	baz=90						
X17A	**Forest Lakes**	**90.30**	**53**	P	**P**	**07 05 10.7**	**+0.9**
	baz=90						
116A	**Eloy**	**90.42**	**55**	⇑P	**P**	**07 05 10.9**	**+0.5**
	baz=90						
Y17A	**Roosevelt**	**90.56**	**53**	⇓P	**P**	**07 05 11.3**	**+0.2**
	baz=90						
SMCO	**Snowmass**	**90.76**	**47**	*e*P	**P**	**07 05 12.2**	**+0.3**
	comp=Z,8.3nm,0.9s,mb5.1						
SMCO				epP	pP	07 05 18.9	-0.8
X18A	**Snowflake**	**90.84**	**52**	⇓P	**P**	**07 05 12.6**	**+0.3**
	baz=91						
216A	**Three Points,**	**90.85**	**55**	⇓P	**P**	**07 05 12.7**	**+0.3**
	baz=91						
Y18A	**Canyon Day Jun**	**91.12**	**53**	⇑P	**P**	**07 05 14.3**	**+0.6**
	baz=91						
TUC	**Tucson**	**91.23**	**54**	*e*P	**P**	**07 05 14.0**	**-0.2**
ULM	**Lac du Bonnet**	**91.36**	**33**	P	**P**	**07 05 12.6**	**-1.8**
	comp=Z,2.1nm,0.9s,mb4.4,baz=230,slow=6.6,SNR=3.8						
ISCO	**Idaho Springs**	**91.36**	**46**	*e*P	**P**	**07 05 15.0**	**+0.3**
ISCO				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.8						
ISCO	**Idaho Springs**	**91.36**	**46**	*e*P	**P**	**07 05 15.0**	**+0.3**
	comp=Z,5.6nm,1.1s,mb4.8						
X19A	**St. Johns**	**91.37**	**52**	⇓P	**P**	**07 05 15.4**	**+0.6**
	baz=91						
217A	**Green Valley**	**91.44**	**55**	P	**P**	**07 05 15.7**	**+0.5**
	baz=91,SNR=6.7						
Y19A	**Nutrioso**	**91.62**	**52**	⇑P	**P**	**07 05 16.7**	**+0.8**
	baz=92						
118A	**Homack Ranch,**	**91.69**	**54**	⇓P	**P**	**07 05 16.8**	**+0.4**
	baz=92						
318A	**Bisbee**	**92.22**	**55**	⇑P	**P**	**07 05 19.4**	**+0.6**
	baz=92						
SDCO	**Great Sand Dun**	**92.47**	**48**	*e*P	**P**	**07 05 19.7**	**-0.1**
ANMO	**Albuquerque**	**93.17**	**50**	*e*P	**P**	**07 05 23.4**	**+0.3**
ANMO				pmax	pmax		
	comp=Z,5.0nm,1.3s						
ANMO	**Albuquerque**	**93.17**	**50**	*e*P	**P**	**07 05 23.4**	**+0.2**
	comp=Z,5.0nm,1.3s,mb4.8						
MNTX	**Cornudas Mount**	**95.56**	**53**	*e*P	**P**	**07 05 34.5**	**+0.3**
KHC	**Kasperske Hory**	**96.30**	**329**	⇑*e*P	**P**	**07 05 35.8**	**-1.3**
GERES	**GERESS Array B**	**96.44**	**329**	LR	LR	07 52 14.1	
	comp=Z,36nm,19.0s,MS3.9,baz=283,slow=37						
TORD	**Torodi Ar. Bea**	**128.61**	**309**	PKP	PKPdf	07 11 15.0	-1.5
	comp=Z,0.4nm,0.8s,baz=37,slow=1.8,SNR=3.7						
PLCA	**Paso Flores**	**145.89**	**131**	PKP2	PKPab	07 11 46.8	-1.8
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
PLCA	**Paso Flores**	**145.89**	**131**	PKPbc	PKPbc	07 11 46.8	-1.3
	comp=Z,1.9nm,0.8s,baz=206,slow=5.7,SNR=4.9						
LPAZ	**La Paz**	**149.98**	**85**	*e*PKIKP	PKPdf	07 11 54.8	-0.1
LPAZ				*e*		07 12 00.0	
LPAZ				*e*		07 12 06.1	
LPAZ	**La Paz**	**149.98**	**85**	PKPbc	PKPbc	07 11 59.5	-0.2
	comp=Z,5.2nm,1.1s,baz=6.0,slow=2.7,SNR=10						
LPAZ				PKPab	PKPab	07 12 06.4	+0.9
	comp=Z,5.7nm,0.9s,baz=304,slow=3.0,SNR=17						

MAN 26 07:05:41,652N×12601E,h47km,mb4.4,ML3.3,MS3.2, 1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.49**	**30**	⇓*e*P	Pn	07 05 53.6	+1.7
MATI				*e*S	Sn	07 06 03.2	+3.4
KCP	**Kidapawan**	**1.03**	**298**	*e*P	Pn	07 05 59.7	+0.6
KCP				*i* S	Sn	07 06 13.9	+1.4
BUKP	**Musuan**	**1.64**	**325**	*e*P	Pn	07 06 08.4	+0.9
BUKP				*e*S	Sn	07 06 28.6	+1.1

*NEIC **26** 07:10:40.0,3889N×2629E,h10km,MD3.3(ISK), ML3.4(ATH),After ATH.*
*ISCJB **26** 07:10:41.5±1.1,3873N±009×261E±0.1,h10km,Error ellipse: s-maj=16.7km s-min=7.8km az=139.9*
*CSEM **26** 07:11:15.1,3622N×2625E,h10km,MD3.1/3,After ATH*
*ATH **26** 07:11:15.1,3622N×2625E,h10km,MD3.1/3*
ISC 26 07:10:42.7±1.1,3874N±010×261E±01,h10km,n9, σ1°37/10,Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BTOK	**Tokmak**	**1.84**	**56**	*i* P	**Sn**	**07 11 36.2**	**-1.4**
GDZ	**Gediz**	**2.69**	**81**	*i* P	**Pn**	**07 11 26.7**	**+0.7**
GDZ				*i* S	**Pg**	**07 11 36.0**	**+1.7**
KARP	**Karpathos**	**3.30**	**164**	*e*PB	**Pn**	**07 11 34.0**	**-0.5**
NPS	**Neapolis**	**3.49**	**186**	*e*PB	**Pn**	**07 11 35.0**	**-2.0**
LAST	**Lasithi**	**3.60**	**188**	P	**Pn**	**07 11 41.1**	**+2.5**
ZKR	**Zakros**	**3.62**	**178**	P	**Pn**	**07 11 34.5**	**-4.3**
ESKT	**Eskisehir**	**3.80**	**77**	*i* P	**Pn**	**07 11 37.0**	**-4.3**
XRY	**Khrisi**	**3.87**	**185**	*e*PB	**Pn**	**07 11 42.0**	**-0.2**
VLS	**Valsamata**	**4.34**	**264**	P	**Pn**	**07 11 49.1**	**+0.4**

*ISCJB **26** 07:13:57.5±0.9,1069N±006×6239W±003,h85km±10km, Error ellipse: s-maj=10.7km s-min=5.4km az=11.4*
*FUNV **26** 07:13:58.3,1079N×6221W,h49km,MW2.6*
*TRN **26** 07:13:59.1,1140N×6193W,h12km,MD3.0*
ISC 26 07:13:58.6±0.9,1070N±006×6238W±003,h77km±10km, n12,σ0°96/22,1C-2D,Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.62**	**91**	*e*P	**Pn**	**07 14 13.4**	**+0.2**
TCE				*e*S	**Sn**	**07 14 23.9**	**-0.1**
GUNV	**Guanoco**	**0.77**	**226**	⇓*i*P	**Pn**	**07 14 15.8**	**+1.0**
GUNV				*e*S	**Sn**	**07 14 28.3**	**+1.5**
CRUV	**Carupano**	**0.84**	**268**	⇓*i*P	**Pn**	**07 14 15.5**	**-0.1**
CRUV				*e*S	**Sn**	**07 14 27.6**	**-0.7**
TRN	**Trinidad (W)**	**0.96**	**93**	*e*P	**Pn**	**07 14 17.4**	**+0.3**
TRN				*e*S	**Sn**	**07 14 29.6**	**-1.3**
ITEV	**Isla Los Testi**	**0.98**	**311**	*e*P	**Pn**	**07 14 16.7**	**-0.6**
ITEV				*i* S	**Sn**	**07 14 29.9**	**-1.3**
TPP	**Pointe-a-Pierr**	**0.99**	**113**	*e*S	**Sn**	**07 14 37.9**	**+6.5**
TBH	**Brigand Hill**	**1.31**	**99**	*e*P	**Pn**	**07 14 22.1**	**+0.7**
TBH				*e*S	**Sn**	**07 14 40.2**	**+1.7**
RIOV	**Rio Grande**	**2.68**	**168**	*e*P	**Pn**	**07 14 39.5**	**-0.1**
RIOV				*e*S	**Sn**	**07 15 08.9**	**-2.1**
CUPV	**Cœpira**	**3.41**	**259**	*e*P	**Pn**	**07 14 50.3**	**+0.8**
CUPV				*e*S	**Sn**	**07 15 29.3**	**+0.4**
BIRV	**Birongo**	**3.83**	**267**	*e*P	**Pn**	**07 14 56.6**	**+1.4**
BIRV				*e*S	**Sn**	**07 15 38.6**	**-0.5**
LUEV	**Luepa**	**4.92**	**169**	⇑*i*P	**Pn**	**07 15 08.9**	**-1.1**
LUEV				*e*S	**Sn**	**07 16 00.4**	**-5.2**
BAUV	**El Baul**	**5.84**	**253**	*e*P	**Pn**	**07 15 22.4**	**-0.3**

*IDC **26** 07:24:16.6±0.6,2179N×14324E,h0km,mb4.1/12, mb1 4.2/12,mb1mx4.1/20,mbtmp4.1/12,MS3.0/2, Ms1 3.0/2,ms1mx2.8/22,Error ellipse: s-maj=24.8km s-min=16.5km az=86.0*
*ISCJB **26** 07:24:20.1±0.5,2178N±008×1431E±0.1,h33km,mb4.2/24, MS3.2/3,Error ellipse: s-maj=13.8km s-min=11.1km az=156.5*
*MOS **26** 07:24:20.1±0.8,2181N×14307E,h33km,mb4.5/8,Error ellipse: s-maj=18.8km s-min=9.4km az=107.1*
*BJI **26** 07:24:26.3,2180N×14300E,h73km,mB5.2,mb4.5,Ms4.6, Msz4.1*
*NEIC **26** 07:24:29.4±6.8,2175N×14304E,h103km±61km,mb4.3/5, Error ellipse: s-maj=17.8km s-min=9.1km az=76.0*
ISC 26 07:24:25.9±5.6,2179N±008×1431E±01,h70km±51km,n41, σ0°66/38,mb4.1/24,9C-1D,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.40**	**323**	P	**P**	**07 28 58.0**	**+0.9**
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KSRS				MLR	MLR		
	comp=Z,44nm,21.0s						
KSRS	**Korea Array**	**20.40**	**323**	P	**P**	**07 28 58.0**	**+0.9**
	comp=Z,2.4nm,0.8s,baz=140,slow=8.8,SNR=9.2						
KSRS				LR	LR	07 35 43.1	
	comp=Z,44nm,21.0s,baz=293,slow=34						
YSS	**Yuzh-Sakhalins**	**25.10**	**359**	⇑*e*P	**P**	**07 29 42.5**	**-1.5**
YSS				pmax	pmax		
	comp=Z,118nm,2.5s,mb4.9						
ULN	**Ulaanbaatar**	**38.85**	**321**	⇑*e*P	**P**	**07 31 44.3**	**+0.2**
SONM	**Songino Array**	**39.22**	**320**	P	**P**	**07 31 47.4**	**+0.2**
	comp=Z,2.4nm,0.6s,mb4.2,baz=125,slow=7.2,SNR=2.9						
GTA	**Gaotai**	**40.76**	**306**	*e*P	**P**	**07 32 01.3**	**+1.2**
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.1						
GTA				LR	LR		
	comp=N,108nm,14.1s						
GTA				LR	LR		
	comp=E,152nm,14.8s						
GTA				LR	LR		
	comp=Z,62nm,16.0s						
YAK	**Yakutsk**	**41.26**	**350**	⇓*e*P	**P**	**07 32 04.5**	**+0.6**
YAK				pmax	pmax		
	comp=Z,16nm,0.5s,mb5.1						
SEY	**Seymchan**	**41.60**	**6**	⇑*e*P	**P**	**07 32 06.6**	**0.0**
ZAK	**Zakamensk**	**42.23**	**322**	*e*P	**P**	**07 32 11.8**	**-0.2**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.0						
WRA	**Warramunga Arr**	**42.36**	**192**	P	**P**	**07 32 12.9**	**-0.4**
	comp=Z,3.5nm,1.0s,mb4.0,baz=144,slow=8.8,SNR=11						
TLY	**Talaya**	**42.65**	**324**	⇑*e*P	**P**	**07 32 15.5**	**+0.2**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.3s,mb3.4						
ASAR	**Alice Springs**	**46.06**	**192**	P	**P**	**07 32 42.8**	**-0.1**
	comp=Z,1.1nm,0.6s,mb3.8,baz=19,slow=9.9,SNR=22						
BILL	**Bilibino**	**48.44**	**11**	⇑*e*P	**P**	**07 33 00.5**	**-0.3**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.3s,mb4.2						
TIXI	**Tiksi**	**50.55**	**354**	⇑*e*P	**P**	**07 33 15.8**	**-1.0**
TIXI				pmax	pmax		
	comp=Z,6.0nm,2.5s,mb4.2						
STKA	**Stephens Creek**	**53.38**	**182**	P	**P**	**07 33 38.1**	**-0.3**
	comp=Z,1.4nm,0.7s,mb4.1,baz=348,slow=5.3,SNR=4.1						
ZALV	**Zalesovo Beam**	**54.09**	**322**	P	**P**	**07 33 43.0**	**-0.3**
	comp=Z,0.9nm,0.3s,mb4.3,baz=104,slow=6.3,SNR=5.8						
ZALV				LR	LR	07 57 22.2	
	comp=Z,16nm,20.1s,baz=19,slow=37						
ZAL	**Zalesovo**	**54.10**	**322**	P	**P**	**07 33 43.1**	**-0.3**
MK31	**Makanchi Array**	**54.58**	**313**	*e*P	**P**	**07 33 47.1**	**+0.1**
MKAR	**Makanchi Array**	**54.58**	**313**	P	**P**	**07 33 47.3**	**+0.3**
	comp=Z,1.1nm,0.7s,mb4.0,baz=91,slow=9.3,SNR=11						
KURK	**Kurchatov**	**57.36**	**317**	⇑*e*P	**P**	**07 34 06.5**	**-0.3**
TKM2	**Tokmak 2**	**59.23**	**308**	*e*P	**P**	**07 34 21.1**	**+1.1**
TKM2				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb4.3						
TKM2	**Tokmak 2**	**59.23**	**308**	*e*P	**P**	**07 34 21.1**	**+1.1**
	comp=Z,3.0nm,1.0s,mb4.3						
BRVK	**Borovoye**	**62.62**	**320**	*e*P	**P**	**07 34 41.8**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
BRVK	**Borovoye**	**62.62**	**320**	*e*P	**P**	**07 34 41.8**	**-0.9**
	comp=Z,2.6nm,0.8s,mb4.2						
INK	**Inuvik**	**67.51**	**24**	P	**P**	**07 35 13.7**	**-0.5**
	comp=Z,1.6nm,0.9s,mb3.9,baz=253,slow=4.9,SNR=7.6						
ARU	**Arti**	**69.15**	**324**	*c i*P	**P**	**07 35 23.6**	**-1.0**
ARU				*e*		07 37 53.7	
ARU				*e*PPP		07 39 38.2	
ARU				*e*S	S	07 44 31.5	+6.8
ARU				*e*SS	SS	07 48 57.0	+5.4
ARU				pmax	pmax		
	comp=Z,5.0nm,1.2s,mb4.2						
YKA	**Yellowknife Ar**	**76.40**	**28**	P	**P**	**07 36 07.4**	**0.0**
	comp=Z,1.9nm,0.7s,mb3.9,baz=292,slow=5.9,SNR=27						
YBH	**Yreka Blue Hor**	**78.81**	**50**	P	**P**	**07 36 21.3**	**0.0**
	comp=Z,2.5nm,1.0s,mb4.0,baz=260,slow=6.1						
FINES	**FINESS Array B**	**83.07**	**334**	P	**P**	**07 36 43.0**	**-0.5**
	comp=Z,1.0nm,0.8s,mb3.7,baz=68,slow=4.9,SNR=3.6						
NVAR	**Mina Array Bea**	**83.14**	**51**	P	**P**	**07 36 45.6**	**+1.2**
	comp=Z,1.3nm,0.7s,mb3.9,baz=263,slow=6.2,SNR=12						
FFC	**Flin Flon**	**85.78**	**32**	*e*P	**P**	**07 36 57.2**	**-0.2**
FFC				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
FFC	**Flin Flon**	**85.78**	**32**	*e*P	**P**	**07 36 57.2**	**-0.3**
	comp=Z,3.0nm,0.8s,mb4.3						
DUG	**Dugway**	**86.32**	**48**	*e*P	**P**	**07 37 01.3**	**+0.9**
DUG				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.0						
DUG	**Dugway**	**86.32**	**48**	*e*P	**P**	**07 37 01.3**	**+0.9**
	comp=Z,1.1nm,0.5s,mb4.0						
RLMT	**Red Lodge**	**86.48**	**43**	*e*P	**P**	**07 37 02.4**	**+1.4**
	comp=Z,1.7nm,0.6s,mb4.2						
DAU	**Daniels Canyon**	**87.30**	**47**	*e*P	**P**	**07 37 05.1**	**-0.1**
MSU	**Marysvale**	**87.50**	**49**	P	**P**	**07 37 06.1**	**0.0**
ANMO	**Albuquerque**	**93.21**	**50**	⇑*e*P	**P**	**07 37 28.2**	**-4.7**
PLCA	**Paso Flores**	**145.87**	**131**	PKPbc	PKPbc	07 43 57.5	0.0
	comp=Z,1.4nm,0.7s,baz=306,slow=3.6,SNR=5.2						
LPAZ	**La Paz**	**150.00**	**85**	PKPbc	PKPbc	07 44 09.4	+0.3
	comp=Z,2.3nm,1.2s,baz=326,slow=3.2,SNR=5.3						
CFAA	**Coronel Fontan**	**150.43**	**116**	PKPbc	PKPbc	07 44 08.7	-1.1
	comp=Z,0.1nm,0.6s,baz=207,slow=8.2,SNR=4.3						

*ISCJB **26** 07:44:06.7±0.6,2436S±004×6708W±007,h173km±7km, mb3.6/6,Error ellipse: s-maj=10.7km s-min=6.7km az=177.8*
*NEIC **26** 07:44:07.4±0.6,2432S×6702W,h170km±6km,mb4.3/3, Error ellipse: s-maj=10.4km s-min=8.1km az=87.0*
*IDC **26** 07:44:07.5±1.8,2422S×6698W,h170km±16km,mb3.5/5, mb1 3.6/9,mb1mx3.5/18,mbtmp3.4/9,Error ellipse: s-maj=21.7km s-min=14.3km az=83.0*
*GUC **26** 07:44:09.5±0.9,2431S×6750W,h200km,ML4.6*
ISC 26 07:44:07.8±0.6,2436S±004×6707W±007,h166km±7km, n30,σ0°99/36,mb3.6/6,5C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.42**	**315**	*e*Pn	**Pn**	**07 44 49.7**	**+0.9**
LVC				*e*Sn	**Sn**	**07 45 21.1**	**+0.7**
CEN1	**Los Morros**	**3.02**	**288**	⇑*i*P	**Pn**	**07 44 57.0**	**+1.0**
CEN1				*i* S	**Sn**	**07 45 33.3**	**0.0**
CEN1				AML	AML	07 45 37.0	
	comp=E,1μm,0.7s						
CPN1	**Cerro Paranal**	**3.04**	**264**	⇑*i*P	**Pn**	**07 44 57.3**	**+0.9**
CPN1				*i* S	**Sn**	**07 45 33.7**	**-0.3**
CPN1				AML	AML	07 45 40.2	
	comp=E,847nm,0.4s						
ANCH	**Antofagasta**	**3.12**	**282**	⇑*i*P	**Pn**	**07 44 57.9**	**+0.6**
ANCH				*i* S	**Sn**	**07 45 34.0**	**-1.8**
ANCH	**Antofagasta**	**3.12**	**282**	⇑*i*P	**Pn**	**07 44 57.9**	**+0.6**
ANCH				*i* S	**Sn**	**07 45 34.0**	**-1.8**
ANCH				AML	AML	07 45 37.5	
	comp=N,1μm,0.6s						
CPCH	**Copiapo**	**4.20**	**224**	⇓*i*P	**Pn**	**07 45 10.7**	**-0.3**
CPCH				*i* S	**Sn**	**07 45 59.8**	**-0.5**
VACH	**Vallenar**	**5.34**	**217**	⇑*i*P	**Pn**	**07 45 26.0**	**+0.1**
VACH				*i* S	**Sn**	**07 46 26.0**	**-1.2**
LCO	**Las Campanas**	**5.66**	**214**	*e*Pn	**Pn**	**07 45 29.8**	**-0.3**
	comp=N,11nm,0.3s						
LCO				*e*Sn	**Sn**	**07 46 23.8**	**-11**
CFAA	**Coronel Fontan**	**7.29**	**188**	P	**Pn**	**07 45 52.4**	**+0.7**
CFAA				S	**Sn**	**07 47 09.8**	**-3.7**
CFAA	**Coronel Fontan**	**7.29**	**188**	P	**Pn**	**07 45 52.4**	**+0.7**
	comp=N,0.1nm,0.3s,baz=4.2,slow=11,SNR=23						
CFAA				S	**Sn**	**07 47 09.8**	**-3.7**
	comp=N,0.2nm,0.3s,baz=229,slow=20,SNR=7.0						
LPAZ	**La Paz**	**8.09**	**353**	P	**Pn**	**07 46 01.9**	**-0.4**
	comp=N,2.6nm,0.3s,baz=160,slow=8.7,SNR=79						
LPAZ				S	**Sn**	**07 47 28.9**	**-3.9**
	comp=N,0.4nm,0.3s,baz=155,slow=25,SNR=4.5						
CPUP	**Villa Florida**	**9.03**	**105**	P	**Pn**	**07 46 14.4**	**-0.3**
	comp=N,0.2nm,0.3s,baz=251,slow=11,SNR=5.4						
PLCA	**Paso Flores**	**16.59**	**189**	P	**Pn**	**07 47 52.4**	**+1.7**
	comp=N,0.1nm,0.3s,baz=9.0,slow=14,SNR=3.3						
BDFB	**Brasilia**	**19.88**	**68**	*e*P	**P**	**07 48 25.3**	**-1.1**
	comp=N,13nm,0.9s						
BDFB	**Brasilia**	**19.88**	**68**	P	**P**	**07 48 25.6**	**-0.7**
	comp=N,0.4nm,0.3s,baz=230,slow=15,SNR=17						
VNA1	**Neumayer--Stat**	**57.04**	**160**	*e*	**P**	**07 53 37.2**	**+1.3**
VNA1				*e*		07 53 41.5	
VNA2	**Neumayer--Watz**	**57.41**	**160**	*e*	**P**	**07 53 39.5**	**+1.1**
	baz=287,slow=7.1						
VNA2				*e*		07 53 43.8	
SNAA	**Sanae**	**59.04**	**161**	P	**P**	**07 53

RCTC	Rector, Farmer	1.25	208	⇓P	Pn	08 04 36.0 -0.6
	baz=1.3					
RCTC				⇓S	Sb	08 04 52.4 -0.5
	baz=1.3					
R06C	Coleville	1.33	326	⇑P	Pn	08 04 37.9 +0.2
	baz=1.3,SNR=88					
R06C				⇑S	Sb	08 04 55.8 +0.6
	baz=1.3					
R09A	Tonopah	1.40	54	⇑P	Pn	08 04 39.5 +0.8
	baz=1.4,SNR=178					
R09A				⇑S	Sg	08 04 58.9 +0.6
	baz=1.4					
S05C	Merced	1.45	268	⇓P	Pn	08 04 39.4 0.0
	baz=1.4,SNR=336					
S05C				⇑S	Sn	08 04 58.2 -0.2
	baz=1.4					
Q08A	Gabbs	1.51	17	⇓P	Pn	08 04 41.0 +0.8
	baz=1.5,SNR=50					
Q08A				⇓S	Sn	08 05 01.3 +1.4
	baz=1.5					
Q07A	Schurz	1.54	351	⇓P	Pn	08 04 41.4 +0.9
	baz=1.5,SNR=28					
MPMC	Manual Prospec	1.58	149	⇑P	Pn	08 04 41.6 +0.5
	baz=1.6,SNR=154					
MPMC				⇓S	Sg	08 05 03.2 -0.8
	baz=1.6					
S10A	Tonopah Range,	1.60	71	⇓P	Pn	08 04 42.0 +0.6
	baz=1.6,SNR=222					
CMB	Columbia Colle	1.61	293	*e*Pn	Pn	08 04 41.9 +0.4
CMB				*e*Sg	Sn	08 05 02.8 +0.4
CMB	Columbia Colle	1.61	293	⇑P	Pn	08 04 41.9 +0.4
	baz=1.6,SNR=234					
CMB				⇑S	Sn	08 05 02.8 +0.4
	baz=1.6					
FURC	Furnace Creek,	1.63	125	⇑P	Pn	08 04 42.3 +0.5
	baz=1.6,SNR=33					
VES	Vestal, Richgr	1.64	196	⇑P	Pn	08 04 42.5 +0.5
	baz=1.6,SNR=326					
VES				⇑S	Sg	08 05 04.7 -1.1
	baz=1.6					
U05C	Westside ANR,	1.68	231	⇓P	Pn	08 04 43.1 +0.6
	baz=1.7,SNR=14					
Q09A	Carvers	1.76	36	⇓Pn	Pn	08 04 44.5 +0.9
	baz=1.8,SNR=18					
R05C	Kirkwood Meado	1.78	317	⇑P	Pn	08 04 45.0 +1.1
	baz=1.8,SNR=76					
T05C	Eagle Field, D	1.81	254	⇓Pb	Pb	08 04 46.0 -0.2
	baz=1.8,SNR=71					
T05C				⇓Sb	Sg	08 05 10.7 -0.5
	baz=1.8					
TPNV	Topopah Spring	1.87	104	*e*Pn	Pn	08 04 45.9 +0.9
TPNV				*e*Sg	Sg	08 05 14.5 +1.4
TPNV	Topopah Spring	1.87	104	⇓Pn	Pn	08 04 45.8 +0.7
	baz=1.9,SNR=233					
V05C	Boulder Hill,	1.91	216	⇑Pb	Pb	08 04 47.9 -0.1
	baz=1.9,SNR=23					
V05C				⇓Sb	Sg	08 05 13.7 -0.8
	baz=1.9					
R10A	Warm Springs	1.95	63	⇑Pb	Pb	08 04 49.4 +0.7
	baz=2.0,SNR=140					
R10A				⇑Sg	Sg	08 05 17.5 +1.7
	baz=2.0					
U10A	Ash Meadows, A	2.01	119	⇑Pn	Pn	08 04 48.0 +0.9
	baz=2.0,SNR=30					
LRMC	Laurel Mountai	2.05	161	⇓Pb	Pb	08 04 50.7 +0.3
	baz=2.1,SNR=9.9					
LRMC				⇓Sb	Sg	08 05 18.0 -0.8
	baz=2.1					
R04C	Big Horse Ranc	2.10	294	⇓Pn	Pn	08 04 48.6 +0.4
	baz=2.1,SNR=126					
U04C	Hernandez Rese	2.10	241	⇓Pb	Pb	08 04 50.9 -0.4
	baz=2.1,SNR=158					
WCN	Washoe City	2.12	333	⇑Pn	Pn	08 04 49.3 +0.8
	baz=2.1,SNR=115					
WCN				⇓Sb	Sg	08 05 20.5 -0.7
	baz=2.1					
P07A	Fallon	2.14	352	⇑Pb	Pb	08 04 51.9 0.0
	baz=2.1					
P07A				⇑Sg	Sg	08 05 23.5 +1.7
	baz=2.1					
Q10A	Clear Creek Ra	2.18	49	⇓Pb	Pb	08 04 52.6 0.0
	baz=2.2,SNR=56					
PKD	Parkfield	2.20	229	⇓Pn	Pn	08 04 50.1 +0.5
	baz=2.2,SNR=27					
PKD				⇑Sn	Sn	08 05 18.6 +1.8
	baz=2.2					
LAVA	Lava Cap Winer	2.21	308	⇑Pb	Pb	08 04 53.0 -0.1
	baz=2.2,SNR=27					
LAVA				⇓Sb	Sb	08 05 22.0 +1.6
	baz=2.2					
S11A	Rachel	2.21	83	⇑Pg	Pg	08 04 54.8 -0.6
	baz=2.2,SNR=7.9					
S11A				⇓Sg	Sg	08 05 25.4 +1.4
	baz=2.2					
PTRM	Twissleman Ran	2.23	218	*e*Pn	Pn	08 04 51.8 +1.7
PTRM				*e*Sn	Sn	08 05 16.4 -1.3
S04C	Ingram Canyon,	2.24	273	⇓Pn	Pn	08 04 50.4 +0.1
	baz=2.2,SNR=248					
S04C				⇓Sb	Sg	08 05 23.4 -1.8
	baz=2.2					
PACP	Pacheco Peak	2.25	260	⇓Pn	Pn	08 04 51.3 +0.9
	baz=2.2,SNR=12					
P08A	Dixie Valley	2.30	8	⇓Pg	Pg	08 04 56.4 -0.7
	baz=2.3,SNR=9.9					
ARVC	Arvin	2.30	187	⇑Pb	Pb	08 04 54.3 -0.3
	baz=2.3					
ARVC				⇑Sb	Sg	08 05 25.2 -1.8
	baz=2.3					
SHOC	Shoshone	2.35	130	⇑Pg	Pg	08 04 57.7 -0.4
	baz=2.4					
PAHR	Pah Rah Range	2.38	344	*e*Pn	Pn	08 04 53.1 +0.9
PAHR				*e*Sg	Sg	08 05 30.1 +0.4
P09A	Austin	2.39	26	⇓Pb	Pb	08 04 56.4 +0.3
	baz=2.4,SNR=21					
P09A				⇑Sb	Sg	08 05 29.3 -0.5
	baz=2.4					
SMMC	Simmler	2.42	210	⇓Pb	Pb	08 04 56.5 -0.3
	baz=2.4,SNR=23					
SMMC				⇓Sn	Sg	08 05 24.5 -6.4
	baz=2.4					
SAO	San Andreas Ge	2.44	255	Pn	Pn	08 04 49.8 -3.1
SAO				*e*Sg	Sg	08 05 28.0 -3.3
R11A	Troy Canyon, C	2.49	67	⇓Pb	Pb	08 04 58.7 +0.7
	baz=2.5,SNR=18					
R11A				⇓Sb	Sg	08 05 32.3 -0.9
	baz=2.5					
P05C	Yuba Gap, Truc	2.50	319	⇑Pb	Pb	08 04 58.2 +0.1
	baz=2.5,SNR=17					
GSC	Goldstone	2.52	146	*e*Pn	Pn	08 04 54.7 +0.6
GSC	Goldstone	2.52	146	⇓Pg	Pg	08 05 00.5 -0.9
	baz=2.5					
EDW2	Edwards Air Fo	2.57	170	⇓Pb	Pb	08 04 59.4 +0.2
	baz=2.6					
WENL	Wente Brothers	2.59	275	⇑Pb	Pb	08 04 58.3 -1.3
	baz=2.6					
V03C	Hunter Liggett	2.60	238	⇑Pn	Pn	08 04 56.6 +1.5
	baz=2.6					
V04C	Ramage Ranch,	2.60	228	⇑Pn	Pn	08 04 55.6 +0.4
	baz=2.6,SNR=39					
V04C				⇑Sn	Sn	08 05 28.6 +1.8
	baz=2.6					
T11A	Corn Creek, Al	2.63	93	⇓Pn	Pn	08 04 56.3 +0.8
	baz=2.6,SNR=11					
Q11A	Duckwater	2.67	57	⇓Pn	Pn	08 04 57.2 +1.1
	baz=2.7,SNR=17					
Q11A				⇓Sb	Sg	08 05 38.1 -0.6
	baz=2.7					
Q04C	Lincoln	2.67	303	⇓Pb	Pb	08 05 00.6 -0.4
	baz=2.7,SNR=29					
Q04C				⇑Sb	Sb	08 05 35.8 +2.1
	baz=2.7					
BDM	Black Diamond	2.71	282	⇑Pb	Pb	08 05 01.3 -0.4
	baz=2.7					
P10A	Eureka	2.72	36	⇑Pb	Pb	08 05 02.3 +0.5
	baz=2.7					
P10A				⇑Sb	Sg	08 05 39.5 -1.1
	baz=2.7					
PKM	Peak Mountain	2.73	203	⇑Pb	Pb	08 05 02.1 +0.1
	baz=2.7					
PKM				⇑Sn	Sn	08 05 32.1 +2.1
	baz=2.7					
O07A	Toulon	2.75	354	⇑Pb	Pb	08 05 02.5 +0.1
	baz=2.8					
O07A				⇓Sb	Sg	08 05 40.2 -1.3
	baz=2.8					
OSI	Osito Adit	2.80	184	⇑Pb	Pb	08 05 03.4 +0.1
	baz=2.8					
OSI				⇓Sb	Sb	08 05 40.3 +2.7
	baz=2.8					
BEKR	Beckwourth	2.84	330	⇑Pn	Pn	08 04 59.8 +1.3
	baz=2.8,SNR=5.5					
BEKR				⇓Pg	Pg	08 05 06.3 -1.3
	baz=2.8					
TUQ	Turquoise Mtn.	2.88	133	⇑Pg	Pg	08 05 07.3 -0.8
	baz=2.9,SNR=7.8					
S12A	Delamar Landin	2.92	85	⇑Pn	Pn	08 05 00.5 +1.0
	baz=2.9					
BNLO	Ben Lomond (Sa	2.94	266	⇓Pn	Pn	08 05 01.0 +1.3
	baz=2.9,SNR=9.2					
O09A	Fish Creek Ran	2.94	20	⇓Pn	Pn	08 05 00.7 +1.0
	baz=2.9,SNR=8.2					
O09A				⇓Sb	Sg	08 05 45.1 -2.3
	baz=2.9					
JRSC	Jasper Ridge	2.97	271	⇑Pn	Pn	08 05 01.5 +1.2
	baz=3.0,SNR=12					
OHCM	Honcut	3.02	310	*e*Pn	Pn	08 05 01.1 +0.1
OHCM				*e*Sg	Sg	08 05 46.9 -3.2
Q03C	Winters	3.02	295	⇑Pb	Pb	08 05 06.8 -0.1
	baz=3.0					
Q03C				⇑Sb	Sb	08 05 45.8 +1.9
	baz=3.0					
ORV	Oroville	3.17	313	⇓Sb	Sb	08 05 50.3 +2.1
	baz=3.2					
BMN	Battle Mountai	3.17	18	Pn	Pn	08 05 03.0 -0.1
BMN				*e*Sg	Sg	08 05 52.8 -2.2
Q12A	Willow Creek R	3.32	60	⇑Sb	Sg	08 05 56.3 -3.4
	baz=3.3					
NSHM	Saint Helena R	3.42	290	*e*Pn	Pg	08 05 11.4 -7.1
NSHM				*e*Sn	Sg	08 05 53.2 -10
MNRC	McLaughlin Nat	3.43	296	⇑Pb	Pb	08 05 12.9 -1.0
	baz=3.4,SNR=17					
P12A	McGill	3.49	53	⇑Sb	Sb	08 06 02.0 +4.5
	baz=3.5					
O04C	Chester	3.53	326	⇓Pb	Pb	08 05 15.8 +0.2
	baz=3.5					
W12A	Cal Nev Ari	3.62	125	⇑Pg	Pg	08 05 21.7 -0.7
	baz=3.6					
T13A	Saint George	3.70	95	⇓Pn	Pn	08 05 10.9 +0.6
	baz=3.7					
S13A	Holt Ranch, En	3.70	86	⇑Pn	Pn	08 05 11.3 +1.0
	baz=3.7					
S13A				⇓Pg	Pg	08 05 22.9 -1.1
	baz=3.7					
Q13A	Wheeler Ranch,	3.86	65	⇑Pg	Pg	08 05 25.7 -1.3
	baz=3.9					
Q13A				⇓Sb	Sg	08 06 14.6 -2.3
	baz=3.9					
BELC	Belle Mtn.	3.98	148	⇓Pn	Pn	08 05 15.2 +1.1
	baz=4.0,SNR=5.0					
M07A	Soldier Meadow	4.00	353	⇓Pg	Pg	08 05 28.6 -1.1
	baz=4.0,SNR=8.4					
N11A	Elko Archery C	4.02	32	⇑Sb	Sb	08 06 19.7 +7.1
	baz=4.0					
ARUT	Antelope Range	4.04	83	Pn	Pn	08 05 15.9 +0.9
ARUT				*e*Sg	Sg	08 06 22.9 -0.1
P13A	Bates Ranch, G	4.07	59	⇑Pg	Pg	08 05 30.2 -0.9
	baz=4.1					
P13A				⇓Sb	Sb	08 06 20.5 +6.3
	baz=4.1					
O12A	Currie	4.09	45	⇑Sb	Sb	08 06 20.5 +5.9
	baz=4.1					
CCUT	Cedar City	4.10	87	Pn	Pn	08 05 16.9 +1.1
CCUT				*e*Sg	Sg	08 06 22.6 -2.1
PFO	Pinyon Flat Ob	4.15	156	*e*Pn	Pn	08 05 17.9 +1.4
N12A	Clover Valley,	4.36	37	⇓Pn	Pn	08 05 20.6 +1.2
	baz=4.4					
N12A				⇓Sb	Sg	08 06 29.6 -3.6
	baz=4.4					
MOD	Modoc	4.69	343	*e*P	Pg	08 05 40.2 -2.6
MOD	Modoc	4.69	343	⇓Pg	Pg	08 05 42.0 -0.8
	baz=4.7					
WVOR	Wild Horse Val	5.01	359	*e*P	Pg	08 05 44.7 -4.3
WVOR				*e*Sg	Sg	08 06 51.9 -2.1
MVU	Marysvale	5.09	76	*e*Pn	Pn	08 05 28.7 -0.7
	4.9nm,0.5s					
MSU	Marysvale	5.12	76	Pn	Pg	08 05 44.9 -6.3
MSU				*e*Sg	Sg	08 06 56.7 -0.8
DUG	Dugway	5.24	56	*e*Pn	Pg	08 05 51.5 -2.0
DUG				*e*Sg	Sg	08 06 58.0 -3.4
BGU	Big Grassy Mou	5.51	49	Pn	Pg	08 05 56.2 -2.4

IDC 26 08:26:24.3±0.9,2186N×14320E,h0km,mb3.9/7,mb1 4.1/7,mb1mx3.9/17,mbtmp3.9/7,MS2.9/1,Ms1 2.9/1,ms1mx2.6/25,Error ellipse: s-maj=43.9km s-min=23.0km az=98.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.39	323	P	P	08 31 06.9	+4.2
	1.3nm,0.6s,baz=140,slow=9.4,SNR=5.3						
KSRS				LR	LR	08 38 02.4	
	comp=Z,37nm,20.2s,baz=159,slow=34						
WRA	Warramunga Arr	42.44	192	P	P	08 34 21.1	+0.1
	1.4nm,1.0s,baz=11,slow=8.7,SNR=3.8						
ASAR	Alice Springs	46.15	192	P	P	08 34 50.5	-0.1
	0.3nm,0.5s,baz=17,slow=11,SNR=9.5						
MKAR	Makanchi Array	54.60	313	P	P	08 35 55.0	+0.5
	0.5nm,0.6s,baz=88,slow=9.7,SNR=4.4						
YKA	Yellowknife Ar	76.31	28	P	P	08 38 15.0	+0.2
	1.4nm,0.8s,baz=292,slow=5.9,SNR=13						
ARCES	ARCESS Array B	78.77	341	P	P	08 38 29.6	+1.2
	2.8nm,0.8s,baz=49,slow=9.7,SNR=2.8						
NVAR	Mina Array Bea	83.03	51	P	P	08 38 52.1	+0.3
	0.7nm,0.7s,baz=238,slow=5.2,SNR=4.4						
FINES	FINESS Array B	83.04	334	P	P	08 38 49.8	-1.6
	0.6nm,0.7s,baz=94,slow=6.3,SNR=4.8						

IDC 26 08:35:42.8±0.8,2216N×14313E,h0km,mb3.9/6,mb1 4.2/6,mb1mx4.0/16,mbtmp3.9/6,MS3.5/5,Ms1 3.5/5,ms1mx3.0/26,Error ellipse: s-maj=33.1km s-min=23.5km az=95.0,Volcano Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	Matsushiro Arr	14.95	344	LR	LR	08 44 40.2	
	comp=Z,82nm,18.1s,baz=140,slow=36						
KSRS	Korea Array	20.11	323	P	P	08 40 25.9	+7.8
	3.4nm,0.7s,baz=145,slow=11,SNR=14						
KSRS				LR	LR	08 46 57.5	
	comp=Z,38nm,19.3s,baz=140,slow=34						
WRA	Warramunga Arr	42.72	192	P	P	08 43 40.6	-1.1
	0.9nm,0.9s,baz=6.4,slow=9.0,SNR=5.0						
ASAR	Alice Springs	46.43	192	P	P	08 44 12.8	+1.5
	0.5nm,0.8s,baz=18,slow=8.4,SNR=5.5						
ZALV	Zalesovo Beam	53.82	321	P	P	08 45 07.6	+0.5
	2.0nm,0.6s,baz=91,slow=6.5,SNR=5.0						
MKAR	Makanchi Array	54.35	312	P	P	08 45 10.5	-0.6
	0.9nm,0.6s,baz=94,slow=8.5,SNR=6.0						
YKA	Yellowknife Ar	76.07	28	P	P	08 47 32.3	+0.4
	1.8nm,0.8s,baz=292,slow=5.6,SNR=21						
PPT	Papeete	76.78	115	LR	LR	09 14 58.4	
	comp=Z,97nm,20.4s,baz=360,slow=31						
FINES	FINESS Array B	82.74	334	LR	LR	09 24 21.7	
	comp=Z,36nm,18.9s,baz=38,slow=35						
NVAR	Mina Array Bea	82.90	52	P	P	08 48 10.2	+0.7
	1.7nm,0.8s,baz=257,slow=6.7,SNR=11						
VRAC	Vranov	94.45	328	LR	LR	09 34 46.1	
	comp=Z,21nm,18.2s,baz=308,slow=38						
LPAZ	La Paz	149.95	84	PKPbc	PKPbc	08 55 35.3	-0.6
	0.5nm,0.8s,baz=320,slow=7.9,SNR=2.7						
LPAZ				PKPab	PKPab	08 55 41.7	+0.1
	1.0nm,0.7s,baz=294,slow=3.1,SNR=6.0						

IDC 26 08:41:36.5±2.9,2183N×14316E,h0km,mb3.4/3,mb1 3.7/3,mb1mx3.4/18,mbtmp3.4/3,Error ellipse: s-maj=399.5km s-min=28.5km az=109.0,Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	42.40	192	P	P	08 49 32.9	0.0
	0.5nm,0.8s,baz=11,slow=8.2,SNR=2.8						
ASAR	Alice Springs	46.11	192	P	P	08 50 02.4	-0.1
	0.2nm,0.8s,baz=16,slow=11,SNR=3.6						
YKA	Yellowknife Ar	76.35	28	P	P	08 53 27.3	+0.1
	0.3nm,0.6s,baz=292,slow=5.9,SNR=6.6						

IDC 26 08:55:41.1±2.2,303S×12785E,h0km,mb3.7/2,mb1 4.0/3,mb1mx3.6/16,mbtmp3.8/3,ML3.7/1,Error ellipse: s-maj=168.3km s-min=27.6km az=67.0,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	17.96	160	P	Pn	08 59 52.4	0.0
	0.2nm,0.3s,baz=338,slow=12,SNR=20						
ASAR	Alice Springs	21.33	165	P	P	09 00 29.6	-0.2
	4.2nm,0.7s,baz=345,slow=11,SNR=39						
MKAR	Makanchi Array	63.75	327	P	P	09 06 15.1	+0.3
	0.3nm,0.6s,baz=124,slow=7.2,SNR=3.8						

*TEH **26** 09:07:00.3,3920N×4444E,h4km,ML3.9*
*NSSP **26** 09:08:19.4,3900N×4448E,h5km,ML3.4*
*ISK **26** 09:08:22.6,3908N×4444E,h5km,ML3.5*
*ISCJB **26** 09:08:24.0±0.3,3907N±002×4451E±002,h10km,Error ellipse: s-maj=2.7km s-min=2.3km az=173.5*
*DDA **26** 09:08:23.7,3897N×4440E,h5km±5km,Md3.6*
*CSEM **26** 09:08:24.0±0.2,3908N×4445E,h16km,ML3.4,Error ellipse: s-maj=4.8km s-min=3.3km az=153.0*
*THR **26** 09:08:25.7±0.3,3915N×4456E,h14km±5km,ML3.4*
ISC 26 09:08:23.8±0.4,3905N±002×4454E±002,h1km±4km,n51,σ1§40/72,4D,Iran-Armenia-Azerbaijan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAKU	Maku	0.33	19	*e*Pg	Pg	09 08 30.9	+0.9
MAKU				AML	AML	09 08 38.0	
	comp=N,5μm,0.1s						
CLDR	Caldiran	0.50	281	PG	Pg	09 08 31.6	-1.7
CLDR				*e*SG	Sg	09 08 39.0	-0.7
DYDN	Diyadin	0.83	307	*i* P	Pg	09 08 38.2	-1.5
DYDN				*i* S	Sg	09 08 51.1	+0.7
IMRD	Marand	0.96	110	*e*	Sg	09 09 06.1	+11
	comp=Z,70μm,0.2s						
VANB	Van	1.01	244	*e*PG	Pg	09 08 42.1	-1.0
VANB				*e*SG	Sg	09 08 56.0	-0.1
TVAN	Van	1.03	240	*i* P	Pg	09 08 42.5	-1.0
TVAN				*i* S	Sg	09 08 53.4	-3.4
VANT	Van	1.08	237	*e*PN	Pn	09 08 45.4	-0.6
GNI	Garni	1.11	8	*e*PN	Pn	09 08 45.0	-1.5
GNI	Garni	1.11	8	⇓P	Pg	09 08 45.2	+0.1
GNI				S	Sg	09 09 01.8	+2.3
ISHB	Shabestar	1.13	132	*e*	Pg	09 08 48.6	+3.1
	comp=Z,25μm,0.2s						
KDR	Kadzharan	1.22	85	⇓P	Pg	09 08 44.2	-2.8
KDR				S	Sg	09 09 03.9	+1.1
AGRB	Hanur-Agry	1.31	294	*e*PN	Pn	09 08 46.8	-2.4
MGRZ	Megri	1.33	96	⇓P	Pn	09 08 45.3	-4.1
MGRZ				S	Sg	09 09 05.9	-0.6
XTNZ	Xhotanan	1.45	80	⇓P	Pn	09 08 47.9	-3.1
XTNZ				S	Sb	09 09 08.5	-1.9
GRS	Goris	1.46	71	P	Pn	09 08 52.0	+0.8
GRS				S	Sg	09 09 15.0	+4.3
ITBZ	Tabriz	1.50	122	*e*	Pg	09 08 58.0	+5.6
	comp=Z,6μm,0.1s						
HKR	Hakkari	1.60	204	*e*PN	Pn	09 08 52.8	-0.2
HNAZ	Hnaberd	1.61	349	P	Pn	09 08 54.4	+1.1
HAKT	HAKKARI	1.62	204	*i* P	Pn	09 08 52.2	-1.3
HAKT				*i* S	Sn	09 09 15.5	+0.5
DIGO	Kars	1.64	327	*i* P	Pg	09 08 54.8	-0.4
DIGO				*i* S	Sg	09 09 20.5	+4.1
IAZR	Azarshahr	1.77	140	*e*Sg	Sg	09 09 23.0	+2.3
IAZR				*e*		09 09 04.4	
	comp=Z,16μm,0.3s						
KAMZ	Kamo	1.83	346	P	Pn	09 08 57.4	+1.0
KARS	Kars	1.92	325	*e*PN	Pn	09 08 56.6	-1.0
CUKT	Cukurca	1.94	203	*e*PN	Pn	09 08 58.1	+0.3
IHRS	Heris	2.09	110	*e*	Pg	09 09 09.2	+5.5
	comp=Z,8μm,0.2s						
SIRT	Sirnak	2.26	228	*e*PN	Pn	09 09 02.8	+0.5
HOMI	Horasan	2.27	297	*i* P	Pg	09 09 04.8	-2.4
HOMI				*i* S	Sg	09 09 39.8	+3.1
IBST	Bostanabad	2.28	125	*e*Pn	Pn	09 09 02.7	+0.2
IBST				*e*		09 09 12.2	
	comp=Z,2μm,0.3s						
IBST				*e*Sg	Sg	09 09 37.3	+0.2
DGRG	David-gareji	2.48	15	P	Pg	09 09 10.2	-1.2
DGRG				S	Sg	09 09 48.2	+4.6
AKH	Akhalkalaki	2.50	342	P	Pg	09 09 10.5	-1.0
AKH				S	Sg	09 09 49.1	+5.2
BTMT	Batman	2.54	251	*e*PN	Pn	09 09 08.2	+2.1
ERZM	Erzurum	2.60	290	*i* P	Pn	09 09 10.7	+3.7
EZM	Erzurum	2.61	290	*e*PN	Pn	09 09 06.1	-0.9
GRMI	Germi	2.62	94	*e*Pn	Pn	09 09 09.7	+2.5
GRMI				*e*Sg	Sg	09 09 47.7	-0.3
GRMI				AML	AML	09 09 52.8	
	comp=N,176nm,0.5s						
GRMI				AML	AML	09 09 58.6	
	comp=E,222nm,0.5s						
GRMI	Germi	2.62	94	*e*Pn	Pb	09 09 09.7	-1.8
	SNR=52						
GRMI				*e*Sg	Sg	09 09 47.7	-0.3
	SNR=90						
BNGL	BINGOL	2.65	269	*i* P	Pb	09 09 10.6	-1.3
BNGL				*i* S	Sg	09 09 51.5	+2.8
MTA	Mtatsminda	2.65	4	P	Pb	09 09 09.7	-2.3
MTA				S	Sg	09 09 50.0	+1.0
MSL	Mosul	2.98	203	*ex*	x	09 09 09.0	
MSL				*ex*	x	09 09 18.5	
MSL				*ex*	x	09 09 46.0	
MSL				*ex*	x	09 09 55.0	
MSL				*ex*	x	09 09 59.0	
BINT	Bingol	3.17	268	*e*PN	Pn	09 09 13.6	-1.1
KOPT	Kop Dagi	3.28	289	*i* P	Pb	09 09 24.1	+1.4
KOPT				*e*S	Sg	09 10 04.0	-5.0
MARD	Mardin	3.43	241	*i* P	Pn	09 09 19.1	+0.8
MARD				*i* S	Sn	09 10 01.7	+2.1
ONI	Oni	3.63	347	P	Pg	09 09 32.2	-1.0
ONI				S	Sg	09 10 21.9	+1.7
EZC	Erzincan	3.73	282	*e*PN	Pn	09 09 27.8	+5.4
PTK	Pertek	4.02	269	*e*PN	Pn	09 09 26.0	-0.4
GUMT	Gumushane	4.15	291	*e*PN	Pn	09 09 28.4	+0.2
SVRC	Sivrice-ELAZID	4.15	262	*e*PN	Pn	09 09 28.0	-0.2
SNGE	Sanandaj	4.54	150	*e*Pn	Pn	09 09 37.4	+3.9
URFA	Urfa	4.78	252	*e*PN	Pn	09 09 37.8	+1.0
MALT	Malatya	4.84	263	*e*PN	Pn	09 09 38.9	+1.2
GZT	Gaziantep	5.75	255	*i* P	Pg	09 10 11.6	-2.3
GZT				*i* S	Sg	09 11 48.6	+20
BHD	Baghdad	5.77	181	*ex*	x	09 09 50.0	
BHD				*ex*	x	09 10 54.0	
BHD				*ex*	x	09 11 31.0	

*NEIC **26** 09:25:39.8±0.8,197N×12781E,h10km,mb4.3/5,Error ellipse: s-maj=18.2km s-min=10.7km az=53.0*
*IDC **26** 09:25:53.8±7.8,157N×127.14E,h128km±70km,mb3.7/5,mb1 3.9/7,mb1mx3.6/17,mbtmp3.7/7,Error ellipse: s-maj=59.0km s-min=17.8km az=59.0*
*ISCJB **26** 09:25:56.5±3.3,15N±01×127.1E±0.1,

VNDA	Vanda	81.13	173	P		P		09 37 55.3	+0.9
	0.6nm,0.6s,mb3.4,baz=313,slow=6.4,SNR=9.7								

*CSEM **26** 09:28:02.6±0.1, 3645N×27.17E, h15km, MD3.2, Error ellipse: s-maj=2.7km s-min=1.9km az=116.0*
*ATH **26** 09:28:02.0, 3649N×27.14E, h26km±1km, MD3.2/7*
*NEIC **26** 09:28:02.0, 3649N×27.14E, h26km, MD3.2(ATH), After ATH.*
*ISK **26** 09:28:02.0, 3639N×27.21E, h8km, MD3.0*
*ISCJB **26** 09:28:03.0±0.8, 3643N±003×27.14E±005, h18km±8km, Error ellipse: s-maj=6.6km s-min=5.6km az=162.0*

ISC 26 09:28:02.9±0.8, 3643N±003×2715E±005, h15km±5km, n23, σ0°91/31, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NISR	Nisiros	0.18	355	ePB	Pg	09 28 07.0	-0.3
DAT	Datca	0.46	49	ePG	Pg	09 28 11.0	-1.0
DAT				eSG	Sg	09 28 18.1	-0.2
BODT	Bodrum	0.65	12	ePG	Pg	09 28 15.7	+0.1
BODT				eSG	Sg	09 28 25.3	+1.2
BDRM	Kayabasi	0.68	20	i P	Sg	09 28 15.8	-0.4
BDRM				i S	Sg	09 28 26.2	+1.1
ARG	Arkhangelos	0.82	105	ePN	Pn	09 28 18.4	-1.5
KARP	Karpathos	0.88	179	ePN	Pn	09 28 20.8	0.0
KARP				eSN	Sn	09 28 33.3	+0.1
MLSB	Milas	1.00	30	ePG	Pg	09 28 21.7	-0.6
YER	Yerkesik	1.15	52	ePN	Pn	09 28 23.8	-0.7
DALT	Dalyan (Mudla)	1.25	74	ePN	Pn	09 28 25.7	-0.1
SMG	Samos	1.30	349	ePN	Pn	09 28 26.1	-0.5
SMG				eSN	Sn	09 28 42.7	-1.0
SANT	Santorini	1.36	268	ePn	Pn	09 28 28.3	+0.9
SANT				eSn	Sn	09 28 48.9	+3.7
SANT	Santorini	1.36	268	ePn	Pn	09 28 28.3	+0.9
APE	Apeiranthos	1.45	297	ePN	Pn	09 28 28.3	-0.3
APE				eSN	Sn	09 28 46.9	-0.4
FETY	Fethiye	1.57	82	ePN	Pn	09 28 30.5	+0.2
NPS	Neapolis	1.71	227	ePN	Pn	09 28 32.4	+0.3
BLCB	Balcova	1.96	358	ePN	Pn	09 28 36.6	+1.1
KDAG	Bornova	1.97	3	eP	Pn	09 28 41.2	+5.4
URLA	Izmir	1.98	347	eP	Pn	09 28 33.5	-2.4
URLA	Izmir	1.98	347	eP	Pn	09 28 33.5	-2.4
URLA				eS	Sn	09 29 00.7	+0.3
AKAS	Kas	1.99	95	i P	Pn	09 28 38.9	+2.8
ELL	Elmali	2.24	81	ePN	Pn	09 28 40.1	+0.6
KULA	Kula-Manisa	2.40	30	ePN	Pn	09 28 42.8	+1.1
VLI	Veliai	3.40	276	ePN	Pn	09 28 55.3	-0.2

IDC 26 09:34:44.7±0.8, 2186N×14311E, h0km, mb3.9/8, mb1 4.1/8, mb1mx3.9/17, mbtmp3.9/8, MS4.1/1, Ms1 4.0/1, ms1mx2.8/27, Error ellipse: s-maj=32.9km s-min=20.6km az=92.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.35	323	P	P	09 39 28.9	+6.3
	2.8nm,0.7s,baz=147,slow=9.3,SNR=12						
WRA	Warramunga Arr	42.42	192	P	P	09 42 41.2	-0.1
	1.5nm,0.9s,baz=12,slow=8.9,SNR=5.4						
ASAR	Alice Springs	46.13	192	P	P	09 43 10.2	-0.7
	0.8nm,0.8s,baz=1.8,slow=7.8,SNR=5.8						
STKA	Stephens Creek	53.45	182	P	P	09 44 07.5	+1.0
	0.6nm,0.4s,baz=318,slow=15,SNR=2.7						
STKA				LR	LR	10 03 49.1	
	comp=Z,167nm,20.7s,baz=206,slow=33						
ZALV	Zalesovo Beam	54.04	322	P	P	09 44 11.1	+0.4
	1.4nm,0.4s,baz=113,slow=6.9,SNR=2.4						
MKAR	Makanchi Array	54.54	313	P	P	09 44 15.1	+0.6
	0.8nm,0.7s,baz=92,slow=8.9,SNR=8.0						
YKA	Yellowknife Ar	76.35	28	P	P	09 46 35.3	-0.1
	1.1nm,0.6s,baz=293,slow=5.5,SNR=20						
FINES	FINESS Array B	83.01	334	P	P	09 47 10.3	-1.3
	1.2nm,0.9s,baz=71,slow=6.5,SNR=3.5						
NVAR	Mina Array Bea	83.10	51	P	P	09 47 13.5	+1.0
	1.1nm,0.7s,baz=257,slow=6.1,SNR=7.4						
LPAZ	La Paz	149.99	85	PKPbc	PKPbc	09 54 37.1	-0.8
	1.7nm,1.2s,baz=213,slow=2.0,SNR=3.3						
LPAZ				PKPab	PKPab	09 54 45.0	+1.3
	1.2nm,0.8s,baz=198,slow=1.4,SNR=4.5						

*CSEM **26** 09:37:56.2, 3957N×3520E, h11km, MD2.6, After ISK*
*ISK **26** 09:37:56.2, 3957N×3520E, h11km, MD2.6*
*ISCJB **26** 09:37:57.0±0.8, 3960N±008×3523E±009, h10km±9km, Error ellipse: s-maj=16.3km s-min=8.4km az=39.7*

ISC 26 09:37:57.4±0.9, 3962N±006×3526E±008, h12km±7km, n6, σ1°20/8, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOZ	Yozgat	0.05	67	PG	Pg	09 37 59.8	+0.1
YOZ				eSG	Sg	09 38 01.5	+0.1
CDAG	Cicekdag	0.68	271	⇑iP	Pg	09 38 09.6	-1.0
CORM	Corum	0.74	319	ePG	Pg	09 38 11.1	-0.6
CORM				eSG	Sg	09 38 22.0	+0.6
BNN	Bunyan	0.89	149	ePG	Pg	09 38 13.4	-1.1
AVNT	Avonos	0.90	201	i P	Pg	09 38 16.3	+1.6
SVSK	Karacayir	1.37	77	ePN	Pn	09 38 22.7	+0.4

IDC 26 09:42:48.4±4.1, 1594S×16781E, h151km±32km, mb3.7/6, mb1 3.9/6, mb1mx3.6/14, mbtmp3.7/6, MS3.0/2, Ms1 3.0/2, ms1mx2.7/18, Error ellipse: s-maj=33.0km s-min=21.4km az=61.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	10.03	309	LR	LR	09 47 36.4	
	comp=Z,39nm,19.0s,baz=180,slow=29						
CTA	Charters Tower	20.91	255	P	P	09 47 22.1	+3.0
	2.9nm,0.5s,baz=97,slow=13,SNR=5.0						
RPZ	Rata Peaks	27.82	175	P	P	09 48 23.8	+0.3
	10nm,0.7s,baz=358,slow=4.1,SNR=3.3						
STKA	Stephens Creek	28.64	232	eP	P	09 48 31.5	+0.6
	4.2nm,0.9s						
STKA	Stephens Creek	28.64	232	P	P	09 48 31.6	+0.7
	6.2nm,0.8s,baz=60,slow=7.6,SNR=8.2						
WRA	Warramunga Arr	32.06	258	P	P	09 49 00.5	-0.7
	0.3nm,0.3s,baz=91,slow=8.7,SNR=16						
WRA				PcP	PcP	09 51 47.5	+0.2
	0.3nm,0.6s,baz=87,slow=4.0,SNR=4.0						
ASAR	Alice Springs	32.76	251	P	P	09 49 07.3	+0.1
	1.6nm,0.5s,baz=78,slow=8.9,SNR=44						
ASAR				PcP	PcP	09 51 48.4	-0.7
	0.3nm,0.6s,baz=101,slow=1.9,SNR=6.2						
ASAR				ScP	ScP	09 55 18.9	-0.3
	1.1nm,1.1s,baz=104,slow=4.0,SNR=4.1						
MJAR	Matsushiro Arr	59.21	332	P	P	09 52 33.6	-0.1
	1.2nm,0.9s,baz=167,slow=8.4,SNR=5.2						
VNDA	Vanda	61.67	181	P	P	09 52 49.6	-0.2
	1.0nm,0.7s,baz=14,slow=4.9,SNR=9.4						
ZALV	Zalesovo Beam	98.67	324	LR	LR	10 37 33.4	
	comp=Z,12nm,20.2s,baz=47,slow=33						

*ISCJB **26** 09:49:48.9±1.2, 179S±0.1×1784W±0.1, h509km±17km, mb3.8/7, Error ellipse: s-maj=24.2km s-min=15.2km az=137.9*
*NEIC **26** 09:49:50.4±1.2, 1789S×17834W, h517km±19km, Error ellipse: s-maj=28.9km s-min=14.1km az=138.0*
*IDC **26** 09:49:50.5±1.5, 1793S×17831W, h521km±20km, mb3.4/8, mb1 3.6/9, mb1mx3.5/15, mbtmp3.4/9, Error ellipse: s-maj=23.7km s-min=12.2km az=137.0*

ISC 26 09:49:49.6±1.2, 179S±01×1783W±01, h506km±17km, n29, σ0°87/15, mb3.8/7, 1C-3D, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.41	59	P	P	09 51 41.8	+1.6
	2.3nm,0.3s,baz=134,slow=21,SNR=6.8						
AFI				S	S	09 53 09.5	-1.2
	1.4nm,0.3s,baz=197,slow=19,SNR=3.8						
URZ	Urewera	20.69	190	P	P	09 53 53.7	-0.2
	9.3nm,0.5s,baz=336,slow=5.2,SNR=13						
STKA	Stephens Creek	38.74	241	P	P	09 56 30.9	+1.0
	1.2nm,0.4s,mb3.7,baz=273,slow=4.1,SNR=4.1						
WB2	Warramunga Arr	44.74	260	eP	P	09 57 16.8	-0.8
WRA	Warramunga Arr	44.75	259	P	P	09 57 16.7	-0.9
	1.6nm,0.7s,mb3.6,baz=95,slow=6.8,SNR=47						
ASAR	Alice Springs	44.91	254	P	P	09 57 19.1	+0.3
	12nm,0.6s,mb4.5,baz=88,slow=8.3,SNR=218						
ASAR				S	S	10 03 15.7	-3.9
	1.4nm,1.0s,baz=88,slow=16,SNR=6.3						
MJAR	Matsushiro Arr	67.96	323	P	P	09 59 57.3	-0.3
	4.9nm,0.7s,mb4.2,baz=153,slow=6.2,SNR=16						
KSRS	Korea Array	74.77	318	P	P	10 00 38.3	+0.8
	0.9nm,0.6s,mb3.5,baz=136,slow=6.2,SNR=4.1						
NVAR	Mina Array Bea	79.33	44	P	P	10 01 03.6	+1.2
	0.9nm,0.7s,mb3.4,baz=225,slow=9.0,SNR=6.3						
VNA3	Neumayer Olymp	90.75	176	e	P	10 01 57.6	-0.1
VNA3				e		10 02 00.1	
VNA2	Neumayer--Watz	91.19	177	e	P	10 01 59.6	-0.1
VNA2				e		10 02 02.4	
YKA	Yellowknife Ar	94.27	25	P	P	10 02 12.9	-0.9
YKA	Yellowknife Ar	94.27	25	P	P	10 02 12.9	-0.9
	0.6nm,0.8s,mb3.7,baz=249,slow=4.3,SNR=8.6						
MKAR	Makanchi Array	109.21	314	PKiKP	PKiKP	10 07 19.5	-2.1
	0.3nm,0.5s,baz=48,slow=2.1,SNR=3.8						
ARCES	ARCESS Array B	126.32	350	PKP	PKPdf	10 07 50.6	-3.1
	7.0nm,1.2s,baz=347,slow=3.7,SNR=3.7						
FINES	FINESS Array B	133.21	344	PKP	PKPdf	10 08 06.2	-0.8
	2.0nm,1.0s,baz=20,slow=6.1,SNR=3.9						
BURAR	Bucovina Array	144.66	332	⇓iP	PKPdf	10 08 28.9	+0.7
CLL	Collm	145.47	347	⇓iPKPbc	PKPbc	10 08 30.2	-0.5
	comp=Z,10.0nm,0.9s						
UPC	Upice	145.51	344	ePKP	PKPbc	10 08 30.9	+0.1
DPC	Dobruska-Polom	145.57	343	ePKP	PKPbc	10 08 31.1	+0.1
BRG	Berggiesshubel	145.68	346	i P	PKPbc	10 08 31.2	0.0
	comp=Z,9.7nm,1.3s						
PVCC	Panska Ves	145.85	345	ePKP	PKPbc	10 08 31.6	-0.2
KECS	Kecovo	145.88	338	ePKP	PKPbc	10 08 31.7	-0.2
PRU	Pruhonice	146.36	345	ePKP	PKPbc	10 08 32.9	-0.3
DRGR		146.38	334	⇓iP	PKPbc	10 08 33.3	-0.1
VYHS	Vyhne	146.45	339	ePKP	PKPbc	10 08 33.5	0.0
KHC	Kasperske Hory	147.39	345	ePKP	PKPbc	10 08 35.8	-0.2
KHC				ex	x	10 08 39.5	
GERES	GERESS Array B	147.63	345	PKPbc	PKPbc	10 08 36.5	-0.1
	comp=Z,2.5nm,0.5s,baz=22,slow=3.1,SNR=28						
BZS	Buzias	147.77	333	⇑iP	PKPbc	10 08 36.4	-0.7

*NEIC **26** 09:52:38.2, 4081N×2050E, h0km, ML2.8(PDG), After PDG.*
*PDG **26** 09:52:38.2±0.2, 4081N×2050E, h0km±11km, ML2.8/8, Error ellipse: s-maj=2.2km s-min=2.8km az=0.0*
*SKO **26** 09:52:38.5, 4089N×2047E, h15km, ML2.1*
*ISCJB **26** 09:52:40.9±0.4, 4097N±002×2054E±003, h3km, Error ellipse: s-maj=3.3km s-min=2.4km az=139.0*
*BEO **26** 09:52:41.6±0.9, 4086N×2063E, h2km±2km, ML2.2/7*
*THE **26** 09:52:41.5, 4106N×2055E, h3km, ML3.0*
*CSEM **26** 09:52:41.8±0.1, 4099N×2064E, h0km, ML3.0, Error ellipse: s-maj=2.7km s-min=1.9km az=111.0*

ISC 26 09:52:41.2±0.5, 4095N±002×2053E±003, h0km±4km, n35, σ1°27/66, 4C-3D, Greece-Albania border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	Ohrid	0.26	51	ePg	Pg	09 52 45.0	-1.3
OHR				eSg	Sg	09 52 49.8	+0.2
OHR	Ohrid	0.26	51	i Pg	Pg	09 52 45.1	-1.1
OHR				eSg	Sg	09 52 49.9	+0.3
OHR	Ohrid	0.26	51	ePg	Pg	09 52 45.2	-1.1
OHR				eSg	Sg	09 52 49.9	+0.3
OHR				eLg		09 52 50.0	
	comp=E,287nm,0.4s						
OHR	Ohrid	0.26	51	ePg	Pg	09 52 45.1	-1.1
OHR				eSg	Sg	09 52 49.8	+0.2
KBN	Korca	0.38	149	ePg	Pg	09 52 48.5	0.0
KBN				i Sg	Sg	09 52 56.1	+2.7
BIA	Bitola	0.60	83	ePg	Pg	09 52 51.7	-1.1
BIA				eSg	Sg	09 53 01.1	+0.4
BIA	Bitola	0.60	83	i Pg	Pg	09 52 51.4	-1.4
BIA				eSg	Sg	09 53 01.3	+0.6
BIA	Bitola	0.60	83	ePg	Pg	09 52 51.5	-1.4
BIA				eSg	Sg	09 53 01.5	+0.9
TIR	Tirane	0.64	309	ePg	Pg	09 52 52.1	-1.4
TIR				eSg	Sg	09 53 02.3	+0.5
KRUS	Krusevo	0.69	52	ePg	Pg	09 52 53.5	-0.9
KRUS				eSg	Sg	09 53 04.5	+1.2
KRUS	Krusevo	0.69	52	ePg	Pg	09 52 53.5	-0.9
KRUS				eSg	Sg	09 53 04.4	+1.1
SKO	Skopje	1.23	33	ePg	Pg	09 53 04.3	-0.5
SKO				eSg	Sg	09 53 21.3	+0.6
SKO	Skopje	1.23	33	i Pg	Pg	09 53 05.2	+0.4
SKO				eSg	Sg	09 53 21.1	+0.3
SKO	Skopje	1.23	33	ePg	Pg	09 53 03.8	-1.0
SKO	Skopje	1.23	33	ePg	Pg	09 53 03.8	-1.0
SKO				eSg	Sg	09 53 21.3	+0.5
MEV	Metsovon	1.28	155	ePg	Pg	09 53 07.2	+1.4
ULC	Ulcinj	1.40	317	⇑iPg	Pg	09 53 05.7	-2.3
ULC				eSg	Sg	09 53 28.9	+2.8
GRG	Griva	1.42	89	ePg	Pg	09 53 07.2	-1.2
IGT	Igoumenitsa	1.42	186	ePg	Pg	09 53 09.2	+0.7
IGT				eSg	Sg	09 53 31.4	+4.5
VAY	Valandovo	1.59	76	ePg	Pg	09 53 08.9	-2.7
VAY				eSg	Sg	09 53 30.8	-1.4
VAY	Valandovo	1.59	76	ePn	Pn	09 53 08.8	-1.7
VAY				eSg	Sg	09 53 29.0	-3.2
PVY	Plav	1.70	346	ePn	Pn	09 53 11.7	-0.4
PVY				eSn	Sg	09 53 38.4	+2.6
TTG	Podgorica	1.76	328	⇑iPn	Pn	09 53 11.9	-1.0
TTG				eSn	Sg	09 53 39.0	+1.3
THL	Klokotos Trika	1.79	140	ePb	Pn	09 53 13.8	+0.4
THL				eSb	Sg	09 53 40.2	+1.5
KNT	Kendrikon	1.80	82	ePb	Pn	09 53 12.3	-1.2
BUM	Brajici-Budva	1.82	318	⇓iPn	Pn	09 53 13.1	-0.7
BUM				eSn	Sg	09 53 40.9	+1.1
IVA	Berane	1.98	346	⇓iPn	Pn	09 53 15.8	-0.2
IVA				eSn	Sg	09 53 45.5	+0.7
BARS	Barje	2.10	27	i Pn	Pn	09 53 20.7	-0.8
BARS				eSn	Sn	09 53 45.8	+1.4
HCY	Herceg Novi	2.13	315	⇑iPn	Pn	09 53 16.4	-1.7
HCY				eSn	Sg	09 53 48.5	-1.3
BRY	Bratogost	2.45	323	⇑iPn	Pn	09 53 21.8	-0.6
BRY				eSn	Sg	09 53 56.6	-3.3
PLE	Pljevlja	2.52	341	⇓iPn	Pn	09 53 23.8	+0.3
PLE				eSn	Sg	09 53 58.5	-3.9
UPM	Unac-Piva	2.56	332	ePn	Pn	09 53 24.0	+0.1
UPM				eSn	Sg	09 53 59.0	-4.3
VTS	Vitosha	2.59	50	ePn	Pn	09 53 24.2	-0.2
VTS				eSn	Sn	09 53 56.5	0.0
ZAPS	Zavoj	2.80	33	ePn	Pn	09 53 28.0	+0.7
ZAPS				eSg	Sg	09 54 12.9	+1.7
DIVS	Divibare	3.17	353	i Pn	Pn	09 53 33.4	+1.0
DIVS				eSn	Sn	09 54 12.9	+2.0

*VIE **26** 09:54:27.2±0.5, 4544N×1534E, h8km, mb1.9/1, ML2.5/1, Error ellipse: s-maj=3.3km s-min=1.8km az=150.0*
*ISCJB **26** 09:54:28.1±0.6, 4547N±003×1529E±005, h10km, Error ellipse: s-maj=4.9km s-min=3.5km az=23.7*
*CSEM **26** 09:54:28.2±0.3, 4545N×1529E, h5km±3km, ML1.5, Error ellipse: s-maj=4.2km s-min=3.1km az=124.0*
*LJU **26** 09:54:28.4, 4548N×1529E, h7km, ML1.6*

ISC 26 09:54:28.7±0.7, 4547N±003×1530E±005, h10km, n22, σ0°81/39, 5C-1D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOJS	Bojanci	0.05	314	⇑iPg	Pg	09 54 29.7	-1.0
BOJS				i Sg	Sg	09 54 30.8	-1.4
BOJS							
	comp=Z,1μm,0.1s						
BOJS	Bojanci	0.05	314	⇑iPg	Pg	09 54 29.7	-1.0
BOJS				i Sg	Sg	09 54 30.8	-1.4
	comp=Z,1μm,0.1s						
CRES	Cresnjev	0.37	17	i Pg	Pg	09 54 34.8	-1.3
CRES				i Sg	Sg	09 54 40.9	-0.2
CRES							
	comp=Z,20nm,0.2s						
CRES	Cresnjev	0.37	17	i Pg	Pg	09 54 34.8	-1.3
CRES				i Sg	Sg	09 54 40.9	-0.2
	comp=Z,20nm,0.2s						
GCIS	Gornji Cirnik	0.46	30	i Pg	Pg	09 54 37.3	-0.4
GCIS				i Sg	Sg	09 54 44.2	+0.4
GCIS							
	comp=Z,12nm,0.1s						
GCIS	Gornji Cirnik	0.46	30	i Pg	Pg	09 54 37.3	-0.4
GCIS				i Sg	Sg	09 54 44.2	+0.4
	comp=Z,12nm,0.1s						
VISS	Visnje	0.47	316	i Pg	Pg	09 54 37.5	-0.4
VISS				i Sg	Sg	09 54 43.9	-0.1
VISS							
	comp=Z,10.0nm,0.1s						
VISS	Visnje	0.47	316	i Pg	Pg	09 54 37.5	-0.3
VISS				i Sg	Sg	09 54 43.9	-0.1
	comp=Z,10.0nm,0.1s						
LEGS	Legarje	0.48	1	i Pg	Pg	09 54 37.9	-0.2
LEGS				i Sg	Sg	09 54 44.1	-0.3
GOLS	Golise	0.59	22	i Sg	Sg	09 54 48.4	+0.5
GOLS							
	comp=Z,10.0nm,0.1s						
GOLS	Golise	0.59	22	i Sg	Sg	09 54 48.4	+0.6
	comp=Z,10.0nm,0.1s						
PDKS	Podkum	0.63	340	i Pg	Pg	09 54 40.9	-0.1
PDKS				eSg	Sg	09 54 48.2	-1.0
VNDS	Vrh nad Dolski	0.76	327	i Pg	Pg	09 54 42.7	-0.7
NVLJ	Novalja	0.96	199	ePg	Pg	09 54 47.5	+0.4
NVLJ				Sg	Sg	09 55 00.8	+1.2
NVLJ	Novalja	0.96	199	ePg	Pg	09 54 47.5	+0.4
NVLJ				Sg	Sg	09 55 00.7	+1.2
ZAVS	Zavodnje	0.98	349	i Sg	Sg	09 55 01.0	+0.5
VOY	Vojsko	1.14	300	ePg	Pg	09 54 50.3	-0.3
VOY				eSg	Sg	09 55 06.1	+0.8
OBKA	Obir	1.17	333	⇓iPg	Pg	09 54 50.7	-0.4
OBKA				⇑i Sg	Sg	09 55 07.4	+1.1
	comp=Z,20nm,0.3s						
KOGS	Kog	1.18	34	i Sg	Sg	09 55 08.2	+1.4
SOKA	Soboth	1.22	351	⇑iPg	Pg	09 54 51.7	-0.6
SOKA				⇑i Sg	Sg	09 55 09.4	+1.3
	comp=Z,3.7nm,0.3s						
GORS	Gorjuse	1.25	313	i Pg	Pg	09 54 52.0	-0.7
GORS				i Sg	Sg	09 55 10.3	+1.4
GORS							
	comp=Z,12nm,0.3s						
GORS	Gorjuse	1.25	313	i Pg	Pg	09 54 52.0	-0.7
GORS				i Sg	Sg	09 55 10.3	+1.4

*DDA **26** 09:58:46.3, 4105N×4024E, h7km±3km, Md2.9*
*CSEM **26** 09:58:47.4±0.2, 4102N×4027E, h10km, MD2.9, Error ellipse: s-maj=7.9km s-min=3.2km az=170.0*
*ISK **26** 09:58:47.5, 4097N×4026E, h6km, MD2.7*

ISC 26 09:58:48.1±0.7, 4104N±007×4024E±004, h9km±6km, n12, σ0°87/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KTUT	Trabzon	0.36	262	ePG	Pg	09 58 56.0	+0.8
KTUT				eSG	Sg	09 59 01.1	+1.0
MACK	Trabzon	0.37	255	eP	Pg	09 58 51.1	-4.3
MACK				eS	Sg	09 58 59.0	-1.3
PZAR	Pazar-Rize	0.52	74	ePG	Pg	09 58 58.4	+0.3
PZAR				eSG	Sg	09 59 06.1	+1.2
GUMT	Gumushane	0.82	225	ePG	Pg	09 59 02.3	-1.6
BCA	Borcka	1.12	68	ePN	Pn	09 59 09.1	-0.8
BCA				eSN	Sn	09 59 25.3	-0.1
BCA	Borcka	1.12	68	eSn	Sn	09 59 25.3	-0.1
ESPY	Espiye-Giresun	1.15	264	ePN	Pn	09 59 10.1	-0.3
ARTV	Artvin	1.28	83	i P	Pn	09 59 11.0	-1.2
ARTV				i S	Sb	09 59 28.4	-0.6
EZC	Erzincan	1.33	194	ePN	Pn	09 59 13.9	+1.0
EZM	Erzurum	1.42	143	ePN	Pn	09 59 14.1	0.0
ERZM	Erzurum	1.42	143	eP	Pn	09 59 13.7	-0.4
ERZM				eS	Sn	09 59 33.7	+0.8
GRSN	GIRESUNGRSN	1.50	266	i P	Pn	09 59 15.1	-0.1
GRSN				i S	Sn	09 59 35.8	+1.0

IDC 26 10:04:24.1±3.3, 1910S×17824W, h0km, mb4.0/3, mb1 4.3/4, mb1mx3.9/14, mbtmp4.1/4, ML4.3/1, Error ellipse: s-maj=74.7km s-min=36.9km az=91.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	19.52	191	P	Pn	10 08 52.9	-1.2
	1.0nm,0.3s,baz=313,slow=6.1,SNR=7.1						
WRA	Warramunga Arr	44.59	261	P	P	10 12 38.3	0.0
	0.8nm,0.3s,baz=96,slow=7.7,SNR=62						
ASAR	Alice Springs	44.64	255	P	P	10 12 38.5	-0.1
	2.0nm,0.7s,baz=96,slow=7.5,SNR=31						
MJAR	Matsushiro Arr	68.95	324	P	P	10 15 31.0	-0.1
	0.9nm,0.5s,baz=147,slow=6.9,SNR=5.2						

IDC 26 10:18:59.9±3.9, 495S×14773E, h0km, mb3.5/2, mb1 3.8/3, mb1mx3.5/14, mbtmp3.6/3, ML3.9/1, Error ellipse: s-maj=116.7km s-min=45.9km az=110.0, Bismarck Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WB2	Warramunga Arr	19.79	220	eP	Pn	10 23 31.5	-2.0
WRA	Warramunga Arr	19.80	220	P	Pn	10 23 32.0	-1.5
	0.3nm,0.3s,baz=42,slow=12,SNR=9.7						
ASAR	Alice Springs	22.89	214	P	P	10 24 04.9	-0.5
	0.5nm,0.4s,baz=54,slow=9.2,SNR=14						
FITZ	Fitzroy Crossi	25.24	237	P	P	10 24 28.2	+0.3
	1.4nm,0.6s,baz=55,slow=11,SNR=6.9						
TORD	Torodi Ar. Bea	145.52	286	PKPbc	PKPbc	10 38 40.6	-0.7
	0.1nm,0.4s,baz=70,slow=3.2,SNR=3.7						

*ISCJB **26** 10:28:08.5±1.0, 2733N±008×88.12E±008, h10km, mb3.6/2, Error ellipse: s-maj=11.4km s-min=9.4km az=158.5*
*NDI **26** 10:28:09.3±2.5, 2755N×8810E, h10km, ML3.3*
*IDC **26** 10:28:13.9±6.1, 2825N×9044E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.3/22, mbtmp3.3/3, Error ellipse: s-maj=429.5km s-min=34.0km az=63.0*

ISC 26 10:28:09.9±1.0, 2733N±008×8809E±007, h10km, n7, σ1°25/9, mb3.6/2, Sikkim

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SLGI	Shiliguri	0.69	155	ex	Pg	10 28 20.8	-2.5
SHL	Shillong	3.83	116	eP	Pn	10 29 09.0	0.0
SHL				eS	Sn	10 29 54.5	+0.5
BOK	Bokaro	4.04	210	eP	Pn	10 29 13.3	+1.5
BOK				eS	Sn

TLL	**Tololo Astrono**	**1.66 321**	*e*P	Pn	10 39 45.8 +1.1
TLL			*i* S	Sn	10 40 09.4 +1.1
TLL	**Tololo Astrono**	**1.66 321**	*e*P	Pn	10 39 45.8 +1.1
TLL			*i* S	Sn	10 40 09.4 +1.1
TLL			AML	AML	10 40 13.5
	comp=N,95nm,0.7s				
PEL	**Peldehue**	**1.90 208** ⇑	*i* P	Pn	10 39 47.8 +0.4
PEL			*i* S	Sn	10 40 13.7 +0.4
PEL			AML	AML	10 40 15.2
	comp=E,229nm,0.6s				
FCH	**Farellones**	**1.94 197** ⇓	*i* P	Pn	10 39 49.1 +1.2
FCH			*i* S	Sn	10 40 16.0 +1.9
FCH			AML	AML	10 40 21.1
	comp=E,153nm,0.3s				
CLCH	**Cerro Calan**	**2.07 202** ⇑	*i* P	Pn	10 39 50.0 +0.6
CLCH			*i* S	Sn	10 40 17.8 +0.9
CLCH			AML	AML	10 40 19.8
	comp=E,161nm,0.4s				
PCH	**Pirque**	**2.27 199** ⇓	*i* P	Pn	10 39 52.8 +0.9
PCH			*i* S	Sn	10 40 22.9 +1.7
LMEL	**Las Melosas**	**2.42 192** ⇓	*i* P	Pn	10 39 54.3 +0.7
LMEL			*i* S	Sn	10 40 25.7 +1.2
LMEL	**Las Melosas**	**2.42 192** ⇓	*i* P	Pn	10 39 54.3 +0.7
LMEL			*i* S	Sn	10 40 25.7 +1.2
LMEL			AML	AML	10 40 33.3
	comp=N,111nm,0.2s				
TACH	**Talagante**	**2.45 207**	*e*P	Pn	10 39 54.3 +0.3
TACH			*i* S	Sn	10 40 25.6 +0.6
CHCH	**Chadas Angostu**	**2.61 199**	*e*P	Pn	10 39 56.7 +0.7
CHCH			*e*S	Sn	10 40 29.1 +0.5
CACH	**El Canelo**	**2.77 197** ⇑	*i* P	Pn	10 39 59.0 +1.0
CACH			*i* S	Sn	10 40 33.5 +1.4
LNV	**Longovilo**	**2.90 211** ⇑	*i* P	Pn	10 39 59.3 -0.4
LNV			*i* S	Sn	10 40 33.9 -1.4
CICH	**Cipreses**	**2.92 193** ⇑	*i* P	Pn	10 40 00.9 +1.0
SFDO	**San Fernando**	**3.35 200**	*e*P	Pn	10 40 05.3 -0.1
SFDO			*i* S	Sn	10 40 45.4 0.0

MAN 26 10:39:23, 1763N×12149E, h37km, mb3.8, ML2.5, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CVP	**Callao Caves**	**0.32**	**78**	*e*P	Pn	10 39 32.7	+1.4
APYP	**Conner**	**0.33**	**314**	*e*P	Pn	10 39 33.9	+2.4
APYP				*e*S	Sn	10 39 41.3	+4.1
ABRA	**Dolores**	**0.74**	**271**	*e*P	Pn	10 39 38.8	+1.8
ABRA				*e*S	Sn	10 39 49.7	+2.6
CAUP	**Cauayan**	**0.76**	**155**	*e*P	Pn	10 39 38.9	+1.7
CAUP				*e*S	Sn	10 39 51.2	+3.9
PALP	**Palanan**	**1.06**	**122**	*e*P	Pn	10 39 43.3	+2.0
PALP				*e*S	Sn	10 39 59.5	+4.7

DDA ***26*** *10:42:04.1, 3825N×3820E, h7km±3km, Md3.0*
CSEM ***26*** *10:42:08.6±0.1, 3781N×3826E, h5km, MD2.9, Error ellipse: s-maj=2.0km s-min=1.5km az=129.0*
ISCJB ***26*** *10:42:09.1±0.7, 3782N±004×3826E±006, h5km±9km, Error ellipse: s-maj=7.7km s-min=6.3km az=15.7*
ISK ***26*** *10:42:09.3, 3783N×3829E, h8km, MD2.9*
ISC 26 10:42:09.5±0.7, 3782N±004×3825E±006, h7km±8km, n11, σ0§69/19, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATAB	**Bozova**	**0.35**	**174**	*i* P	**Pg**	**10 42 16.3**	**-0.1**
ATAB				*i* S	**Sg**	**10 42 30.9**	**+10**
MALT	**Malatya**	**0.51**	**16**	PG	**Pg**	**10 42 19.4**	**0.0**
MALT				*e*SG	**Sg**	**10 42 26.8**	**+0.7**
URFA	**Urfa**	**0.59**	**130**	*e*PG	**Pg**	**10 42 20.4**	**-0.5**
URFA				*e*SG	**Sg**	**10 42 29.5**	**+0.8**
GZT	**Gaziantep**	**0.71**	**230**	*i* P	**Pg**	**10 42 23.2**	**0.0**
GZT				*e*S	**Sg**	**10 42 38.3**	**+5.8**
SVRC	**Sivrice-ELAZID**	**1.00**	**56**	*e*PG	**Pg**	**10 42 28.3**	**-0.5**
GAZ	**Gaziantep**	**1.05**	**232**	*e*PN	**Pn**	**10 42 30.6**	**0.0**
GAZ				*e*SN	**Sn**	**10 42 45.9**	**+0.5**
KMRS	**Kahramanmaras**	**1.11**	**254**	*e*PN	**Pn**	**10 42 31.7**	**+0.3**
PTK	**Pertek**	**1.40**	**40**	*e*PN	**Pn**	**10 42 35.5**	**+0.1**
ANDN	**Andirin**	**1.53**	**261**	*i* P	**Pn**	**10 42 34.4**	**-2.8**
ANDN				*e*S	**Sn**	**10 42 57.8**	**+0.5**
ANDN	**Andirin**	**1.53**	**261**	*i* P	**Pn**	**10 42 34.3**	**-2.9**
ANDN				*e*S	**Sn**	**10 42 57.8**	**+0.6**
MARD	**Mardin**	**2.08**	**103**	*i* P	**Pn**	**10 42 44.4**	**-0.3**
MARD				*i* S	**Sn**	**10 43 18.1**	**+7.3**

IDC 26 10:54:44.2±4.7, 2164N×9593E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/21, mbtmp3.3/3, Error ellipse: s-maj=411.7km s-min=29.3km az=59.0, Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
IMP	**Imphal**	**3.63**	**330**	*e*P	Pn	10 56 20.0	+38
IMP				*e*S	Sn	10 56 45.0	+20
MKAR	**Makanchi Array**	**27.43**	**339**	P	P	11 00 31.7	+0.1
	0.3nm,0.6s,baz=141,slow=11,SNR=4.2						
WRA	**Warramunga Arr**	**55.84**	**135**	P	P	11 04 23.5	-0.2
	0.2nm,0.5s,baz=321,slow=7.5,SNR=6.5						
ASAR	**Alice Springs**	**58.26**	**138**	P	P	11 04 41.0	+0.2
	0.1nm,0.5s,baz=323,slow=7.5,SNR=4.5						

NEIC ***26*** *11:19:57.4, 4502S×16757E, h88km, ML3.8(WEL), After WEL.*
WEL 26 11:19:57.3±0.3, 4502S×16758E, h89km±2km, ML3.8/11, Error ellipse: s-maj=2.3km s-min=1.8km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSZ	**Milford Sound**	**0.43**	**36**	P	Pn	11 20 11.2	-0.1
MSZ				S	Sn	11 20 22.1	+0.4
MSZ	**Milford Sound**	**0.43**	**36**	PN	Pn	11 20 11.2	-0.2
MSZ				SN	Sn	11 20 22.1	+0.4
MLZ	**Mavora Lakes**	**0.53**	**128**	P	Pn	11 20 11.5	-0.6
MLZ				S	Sn	11 20 22.5	-0.7
MLZ	**Mavora Lakes**	**0.53**	**128**	PN	Pn	11 20 11.5	-0.6
MLZ				SN	Sn	11 20 22.5	-0.7
DCZ	**Deep Cove**	**0.55**	**213**	P	Pn	11 20 11.7	-0.6
DCZ				S	Sn	11 20 23.2	-0.2
DCZ	**Deep Cove**	**0.55**	**213**	PN	Pn	11 20 11.7	-0.6
DCZ				SN	Sn	11 20 23.2	-0.2
WHZ	**Wether Hill Ro**	**0.91**	**164**	P	Pn	11 20 15.9	0.0
WHZ				S	Sn	11 20 29.8	0.0
WHZ	**Wether Hill Ro**	**0.91**	**164**	PN	Pn	11 20 15.9	+0.1
WHZ				SN	Sn	11 20 29.8	0.0
EAZ	**Earnscleugh**	**1.24**	**100**	P	Pn	11 20 19.9	+0.2
EAZ				S	Sn	11 20 35.9	-0.7
EAZ	**Earnscleugh**	**1.24**	**100**	PN	Pn	11 20 19.9	+0.1
EAZ				SN	Sn	11 20 35.9	-0.7
JCZ	**Jackson Bay**	**1.27**	**42**	PN	Pn	11 20 19.9	-0.1
PYZ	**Puysegur Point**	**1.31**	**208**	PN	Pn	11 20 22.1	+1.6
TUZ	**Tuapeka**	**1.72**	**124**	P	Pn	11 20 25.8	0.0
TUZ				S	Sn	11 20 45.8	-1.6
TUZ	**Tuapeka**	**1.72**	**124**	PN	Pn	11 20 25.8	+0.1
TUZ				SN	Sn	11 20 45.8	-1.7
APZ	**The Paps**	**1.84**	**171**	PN	Pn	11 20 27.6	+0.3
APZ				SN	Sn	11 20 49.8	-0.3
SYZ	**Scrubby Hill**	**1.87**	**145**	PN	Pn	11 20 27.8	+0.1
LBZ	**Lake Benmore**	**1.96**	**72**	PN	Pn	11 20 27.8	-1.1
FOZ	**Fox Glacier**	**2.10**	**47**	P	Pn	11 20 30.6	-0.1
FOZ	**Fox Glacier**	**2.10**	**47**	PN	Pn	11 20 30.6	-0.1
ODZ	**Otahua Downs**	**2.17**	**92**	PN	Pn	11 20 30.9	-0.8
HHSZ	**Highcliff Hill**	**2.29**	**113**	PN	Pn	11 20 33.5	+0.2
RPZ	**Rata Peaks**	**2.81**	**64**	P	Pn	11 20 38.3	-1.9
RPZ	**Rata Peaks**	**2.81**	**64**	PN	Pn	11 20 38.3	-1.9
RPZ				SN	Sn	11 21 10.2	-3.1
WVZ	**Waitaha Valley**	**2.99**	**51**	PN	Pn	11 20 41.0	-1.6
MQZ	**McQueen's Vall**	**3.87**	**72**	P	Pn	11 20 52.2	-2.3
MQZ	**McQueen's Vall**	**3.87**	**72**	PN	Pn	11 20 52.2	-2.3
LTZ	**Lake Taylor**	**4.06**	**58**	P	Pn	11 20 54.4	-2.7
LTZ	**Lake Taylor**	**4.06**	**58**	PN	Pn	11 20 54.4	-2.7
DSZ	**Denniston Nort**	**4.49**	**45**	P	Pn	11 21 00.9	-2.0
DSZ	**Denniston Nort**	**4.49**	**45**	PN	Pn	11 21 00.9	-2.0
THZ	**Tophouse**	**5.06**	**52**	P	Pn	11 21 08.2	-2.5
THZ	**Tophouse**	**5.06**	**52**	PN	Pn	11 21 08.2	-2.5
QRZ	**Quartz Range**	**5.55**	**43**	P	Pn	11 21 16.2	-1.1
QRZ	**Quartz Range**	**5.55**	**43**	PN	Pn	11 21 16.2	-1.1

CSEM ***26*** *11:25:45.8, 4038N×2181E, h29km, MD3.4/3, After ATH*
ATH 26 11:25:45.8, 4038N×2181E, h29km, MD3.4/3, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZN	**Kozani**	**0.08**	**202**	*e*PB	Pb	11 25 51.1	+0.3
KZN				*e*SB	Sb	11 25 55.0	+0.7
THL	**Klokotos Trika**	**0.83**	**169**	*e*PN	Pn	11 26 02.2	+0.7
THL				*e*SN	Sn	11 26 14.0	+1.3
KRUS	**Krusevo**	**1.08**	**337**	*e*Pg	Pn	11 26 05.5	+0.6
PLG	**Polygyros**	**1.25**	**90**	*e*PN	Pn	11 26 08.7	+1.4

SGS ***26*** *11:30:17.3, 3022N×3625E, h15km*
GII ***26*** *11:30:17.7±1.2, 2992N×3623E, h0km, ML2.3/3*
HLW ***26*** *11:30:18.4, 2955N×3672E, h18km, Mb3.0*
CSEM ***26*** *11:30:20.7±0.4, 2959N×3622E, h2km, ML3.0, Error ellipse: s-maj=10.3km s-min=5.6km az=71.0*
ISC 26 11:30:16.5±1.2, 2990N±005×3639E±006, h0km, n15, σ0§84/22, 1C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	**Mount Harif**	**1.19**	**277**	Pg	**Pg**	**11 30 39.0**	**-0.3**
HRFI				Sg	**Sg**	**11 30 55.0**	**+0.5**
EIL	**Elat**	**1.27**	**260**	Pg	**Pg**	**11 30 40.7**	**-0.3**
EIL				Sg	**Sg**	**11 30 58.7**	**+1.2**
PRNI	**Paran**	**1.28**	**291**	Pg	**Pg**	**11 30 40.8**	**-0.3**
PRNI				Sg	**Sg**	**11 30 58.7**	**+0.9**
MBH	**Mount Berech**	**1.29**	**265**	Pg	**Pg**	**11 30 41.0**	**-0.2**
MBH				Sg	**Sg**	**11 30 58.0**	**+0.1**
HQLS		**1.31**	**243**	P	**Pg**	**11 30 40.1**	**-1.5**
HQLS		**1.31**	**243**	P	**Pg**	**11 30 40.1**	**-1.5**
HQLS				S	**Sg**	**11 30 57.4**	**-1.1**
JLOS		**1.41**	**214**	S	**Sg**	**11 31 03.1**	**+1.4**
JLOS		**1.41**	**214**	P	**Pn**	**11 30 43.6**	**+0.3**
KRMI	**Paran Flat**	**1.46**	**279**	Pn	**Pn**	**11 30 43.9**	**-0.3**
KRMI				Sn	**Sg**	**11 31 03.1**	**-0.4**
HBST	**Basata**	**1.60**	**245**	P	**Pn**	**11 30 46.8**	**+0.8**
DSI	**Dead Sea**	**1.88**	**333**	Pn	**Pn**	**11 30 51.0**	**+1.2**
HNKL	**Nakhl**	**2.10**	**271**	⇓P	**Pg**	**11 30 55.4**	**-1.3**
RSHS		**2.12**	**222**	P	**Pn**	**11 30 52.9**	**-0.4**
HKAT	**Jabal Katrina**	**2.51**	**237**	P	**Pn**	**11 30 58.6**	**+0.1**
AMAG	**Maghara**	**2.85**	**286**	⇑P	**Pg**	**11 31 07.5**	**-3.7**
AMAG				S	**Sg**	**11 31 43.0**	**-5.2**

ISCJB ***26*** *11:34:24.8±0.6, 43N±02×3241W±009, h10km, mb3.9/14, MS3.9/17, Error ellipse: s-maj=21.8km s-min=12.8km az=177.3*
IDC ***26*** *11:34:24.9±0.9, 427N×3250W, h0km, mb4.0/12, mb1 4.1/12, mb1mx3.9/23, mbtmp4.0/12, MS3.9/18, Ms1 3.9/18, ms1mx3.7/26, Error ellipse: s-maj=29.0km s-min=18.8km az=173.0*
NEIC ***26*** *11:34:26.5±0.5, 426N×3246W, h10km, mb4.1/2, Error ellipse: s-maj=16.1km s-min=9.6km az=177.0*
ISC 26 11:34:26.7±0.6, 43N±01×3245W±009, h10km, n31, σ0§67/20, mb3.9/14, MS3.9/17, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	**Babate**	**18.78**	**56**	LR	LR	11 44 14.9	
	comp=Z,413nm,20.9s,baz=232,slow=31						
BDFB	**Brasilia**	**25.07**	**218**	LR	LR	11 48 33.6	
	comp=Z,192nm,20.6s,MS3.6,baz=213,slow=34						
DBIC	**Dimbokro**	**27.57**	**84**	P	**P**	**11 40 13.9**	**-0.4**
	4.2nm,1.0s,mb4.0,baz=243,slow=4.5,SNR=2.4						
DBIC				LR	LR	11 49 04.8	
	comp=Z,305nm,18.4s,MS3.9,baz=263,slow=32						
SIV	**San Ignacio**	**34.74**	**234**	P	**P**	**11 41 17.0**	**-0.3**
	0.8nm,0.8s,mb3.7,baz=106,slow=15,SNR=3.8						
TORD	**Torodi Ar. Bea**	**34.85**	**73**	P	**P**	**11 41 18.1**	**-0.3**
	3.7nm,1.0s,mb4.3,baz=262,slow=9.0,SNR=9.0						
TORD				LR	LR	11 53 42.5	
	comp=Z,406nm,19.8s,MS4.2,baz=260,slow=33						
SDV	**Santo Domingo**	**38.19**	**279**	P	**P**	**11 41 46.6**	**-0.3**
	1.6nm,0.5s,mb4.0,baz=214,slow=3.8,SNR=5.2						
CPUP	**Villa Florida**	**38.80**	**217**	LR	LR	11 57 08.2	
	comp=Z,283nm,18.4s,MS4.1,baz=31,slow=35						
LPAZ	**La Paz**	**40.76**	**239**	LR	LR	11 58 05.8	
	comp=Z,216nm,21.1s,MS4.0,baz=281,slow=35						
ROSC	**El Rosal**	**41.75**	**273**	LR	LR	12 00 18.0	
	comp=Z,267nm,18.6s,MS4.2,baz=13,slow=37						
ESDC	**Sonseca Array**	**43.66**	**32**	LR	LR	11 57 54.3	
	comp=Z,54nm,19.8s,MS3.5,baz=205,slow=32						
ATAH	**Atahualpa**	**47.20**	**256**	LR	LR	12 03 21.0	
	comp=Z,350nm,19.1s,MS4.3,baz=166,slow=37						
CFAA	**Coronel Fontan**	**49.32**	**221**	LR	LR	12 04 29.0	
	comp=Z,22nm,18.3s,MS3.2,baz=51,slow=37						
PLCA	**Paso Flores**	**56.74**	**214**	LR	LR	12 08 44.0	
	comp=Z,131nm,20.6s,MS4.0,baz=62,slow=36						
SCHQ	**Schefferville**	**57.56**	**337**	P	**P**	**11 44 15.6**	**-0.8**
SCHQ				LR	LR	12 04 33.1	
SCHQ	**Schefferville**	**57.56**	**337**	P	**P**	**11 44 15.6**	**-0.8**
	2.0nm,0.6s,mb4.3,baz=231,slow=2.9,SNR=4.6						
SCHQ				LR	LR	12 04 33.1	
	comp=Z,43nm,21.9s,MS3.5,baz=248,slow=31						
GERES	**GERESS Array B**	**59.22**	**34**	P	**P**	**11 44 28.5**	**+0.4**
	0.6nm,0.7s,mb3.8,baz=266,slow=4.0,SNR=5.9						
GERES				LR	LR	12 07 22.6	
	comp=Z,51nm,18.8s,MS3.7,baz=105,slow=33						
BOSA	**Boshof**	**64.32**	**124**	P	**P**	**11 45 03.0**	**+0.1**
	5.2nm,0.9s,mb4.6,baz=314,slow=5.9,SNR=3.3						
BOSA				LR	LR	12 07 33.7	
	comp=Z,173nm,19.1s,MS4.3,baz=296,slow=31						
NOA	**NORSAR Array B**	**65.44**	**22**	P	**P**	**11 45 08.3**	**-1.2**
	1.0nm,0.8s,mb3.9,baz=232,slow=6.4,SNR=3.5						
NOA				LR	LR	12 12 06.8	
	comp=Z,40nm,18.1s,MS3.7,baz=245,slow=35						
AKASG	**Malin Array Be**	**69.03**	**37**	P	**P**	**11 45 34.0**	**+1.5**
	0.1nm,0.3s,mb3.3,baz=247,slow=7.8,SNR=6.6						
KMBO	**Kilima Mbogo**	**69.85**	**93**	LR	LR	12 13 40.2	
	comp=Z,130nm,19.1s,MS4.2,baz=93,slow=34						
FINES	**FINESS Array B**	**71.65**	**26**	P	**P**	**11 45 48.5**	**+0.2**
	1.0nm,0.8s,mb3.8,baz=251,slow=4.3,SNR=3.4						
ISCO	**Idaho Springs**	**74.36**	**310**	*e*P	**P**	**11 46 05.7**	**+0.8**
	0.8nm,0.6s,mb3.8						
ARCES	**ARCESS Array B**	**75.22**	**18**	LR	LR	12 13 07.5	
	comp=Z,53nm,21.8s,MS3.8,baz=239,slow=31						
PV10	**Paradox Valley**	**76.86**	**308**	*e*P	**P**	**11 46 19.7**	**+0.5**
HWUT	**Hardware Ranch**	**79.05**	**311**	*e*P	**P**	**11 46 31.1**	**-0.2**
	1.8nm,0.6s,mb4.2						
MSU	**Marysvale**	**79.32**	**308**	*e*P	**P**	**11 46 33.6**	**+0.7**
MSU				*e*PcP	PcP	11 46 41.0	-0.1
ARUT	**Antelope Range**	**80.28**	**307**	*e*P	**P**	**11 46 38.7**	**+0.5**
ARUT				*e*PcP	PcP	11 46 45.7	+0.4
EDM	**Edmonton**	**81.15**	**323**	*e*P	**P**	**11 46 42.0**	**-0.4**
EDM				*e*PcP	PcP	11 46 48.9	+0.2
YKA	**Yellowknife Ar**	**82.61**	**332**	P	**P**	**11 46 48.8**	**-1.1**
YKA				LR	LR	12 19 57.4	
YKA	**Yellowknife Ar**	**82.61**	**332**	P	**P**	**11 46 48.8**	**-1.1**
	0.4nm,0.7s,mb3.5,baz=91,slow=5.0,SNR=8.7						
YKA				LR	LR	12 19 57.4	
	comp=Z,24nm,18.4s,MS3.6,baz=160,slow=33						
NVAR	**Mina Array Bea**	**84.13**	**308**	P	**P**	**11 46 58.6**	**+0.3**
	0.4nm,0.6s,mb3.8,baz=129,slow=5.9,SNR=4.2						

ATH ***26*** *11:38:02.9, 3787N×2040E, h23km±2km, MD3.6/6*
NEIC ***26*** *11:38:02.9, 3787N×2040E, h23km, MD3.6(ATH), After ATH.*
THE ***26*** *11:38:02.4, 3783N×2024E, h3km, ML3.3*
ISCJB ***26*** *11:38:04.7±1.9, 3792N±009×204E±0.1, h26km±14km, Error ellipse: s-maj=18.1km s-min=12.1km az=138.6*
CSEM ***26*** *11:38:04.8±0.2, 3791N×2045E, h20km, MD3.6, Error ellipse: s-maj=5.7km s-min=2.6km az=64.0*
ISC 26 11:38:05.3±1.7, 3795N±010×205E±01, h21km±10km, n11, σ1§05/19, Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.24**	**21**	*e*Pg	**Pb**	**11 38 10.8**	**-0.4**
VLS				*e*Sg	**Sb**	**11 38 17.2**	**+2.0**
VLS	**Valsamata**	**0.24**	**21**	*e*PB	**Pb**	**11 38 11.1**	**-0.2**
VLS				*e*SB	**Sb**	**11 38 16.1**	**+0.8**
VLS	**Valsamata**	**0.24**	**21**	*e*Pb	**Pb**	**11 38 11.1**	**-0.2**
VLS				Sb	**Sb**	**11 38 16.1**	**+0.8**
VLS				*e*Sg	**Sb**	**11 38 17.2**	**+1.9**
KFL	**Anninata**	**0.29**	**57**	*e*Pg	**Pb**	**11 38 11.5**	**-0.5**
LKD	**Levkas**	**0.77**	**10**	*e*Pg	**Pb**	**11 38 20.0**	**0.0**
LKD				*e*Sg	**Sb**	**11 38 34.7**	**+4.6**
RLS	**Riolos of Patr**	**0.79**	**82**	*e*PN	**Pn**	**11 38 19.6**	**-1.6**
RLS				*e*SN	**Sn**	**11 38 32.2**	**-0.1**
SELA	**Sela**	**1.16**	**73**	*e*Pg	**Pn**	**11 38 28.6**	**+2.3**
SELA				*e*Sg	**Sb**	**11 38 48.7**	**+7.3**
ITM	**Ithomi**	**1.38**	**123**	*e*PN	**Pn**	**11 38 29.3**	**0.0**
ITM				*e*SN	**Sn**	**11 38 47.7**	**+0.7**
KEK	**Kerkira**	**1.84**	**343**	*e*PN	**Pn**	**11 38 36.0**	**+0.4**
THL	**Klokotos Trika**	**2.01**	**36**	*e*PB	**Pb**	**11 38 39.3**	**-1.9**
VLI	**Veliai**	**2.31**	**121**	*e*PN	**Pn**	**11 38 41.9**	**-0.2**

IDC ***26*** *12:19:20.6±1.8, 904S×12398E, h93km±19km, mb4.0/4, mb1 3.9/8, mb1mx3.6/18, mbtmp3.8/8, Error ellipse: s-maj=35.4km s-min=16.6km az=59.0*
ISCJB ***26*** *12:19:21.1±0.8, 924S±010×1238E±0.1, h120km±9km, mb4.0/4, Error ellipse: s-maj=21.7km s-min=9.1km az=136.9*
NEIC ***26*** *12:19:21.6±1.1, 921S×12374E, h102km±13km, mb4.0/1, Error ellipse: s-maj=23.4km s-min=9.4km az=51.0*
ISC 26 12:19:21.8±0.9, 917S±010×12381E±009, h106km±10km, n16, σ0§92/24, mb4.0/4, Timor region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**1.04**	**188**	P	**Pn**	**12 19 43.3**	**+0.1**
	347nm,0.3s,baz=15,slow=2.9,SNR=343						
BATI				S	**Sn**	**12 19 59.8**	**+0.5**
	229nm,0.3s,baz=339,slow=21,SNR=11						
KAPI	**Kappang**	**5.76**	**315**	P	**Pn**	**12 20 44.3**	**-0.7**
	1.2nm,0.3s,baz=181,slow=17,SNR=7.4						
FITZ	**Fitzroy Crossi**	**9.06**	**169**	*e*P	**Pn**	**12 21 27.9**	**-1.8**
	12nm,0.3s						
FITZ				*e*S	**Sn**	**12 23 02.0**	**-7.9**
FITZ	**Fitzroy Crossi**	**9.06**	**169**	*e*Pn	**Pn**	**12 21 28.4**	**-1.4**
FITZ	**Fitzroy Crossi**	**9.06**	**169**	P	**Pn**	**12 21 27.8**	**-1.9**
	2.8nm,0.3s,baz=4.3,slow=13,SNR=91						
FITZ				S	**Sn**	**12 23 02.9**	**-7.0**
	4.9nm,0.3s,baz=138,slow=16,SNR=17						
KAKA	**Kakadu**	**9.18**	**113**	*e*P	**Pn**	**12 21 33.2**	**+1.8**
	7.2nm,0.3s						
KAKA				*e*S	**Sn**	**12 23 08.3**	**-4.7**
KAKA	**Kakadu**	**9.18**	**113**	*e*Pn	**Pn**	**12 21 33.1**	**+1.6**
KAKA				*e*Sn	**Sn**	**12 23 13.0**	**0.0**
WRA	**Warramunga Arr**	**14.78**	**138**	P	**Pn**	**12 22 44.4**	**-1.2**
	0.5nm,0.3s,baz=312,slow=15,SNR=30						
WRA				S	**Sn**	**12 25 20.3**	**-8.4**
	1.6nm,0.3s,baz=312,slow=24,SNR=10						
WRAB	**Tennant Creek**	**14.78**	**138**	*e*Pn	**Pn**	**12 22 45.0**	**-0.5**
	6.0nm,0.6s						
WB2	**Warramunga Arr**	**14.79**	**138**	*e*P	**Pn**	**12 22 45.3**	**-0.4**
WB2				*e*S	**Sn**	**12 25 17.1**	**-12**
ASAR	**Alice Springs**	**17.35**	**147**	P	**Pn**	**12 23 18.9**	**+1.4**
	0.6nm,0.3s,baz=322,slow=12,SNR=56						
ASAR				S	**S**	**12 26 22.0**	**-9.1**
	0.7nm,0.3s,baz=318,slow=24,SNR=11						
CTA	**Charters Tower**	**24.25**	**119**	P	**P**	**12 24 28.6**	**-0.6**
	9.1nm,1.1s,mb4.0,baz=264,slow=10,SNR=1.9						
NWAO	**Narrogin (SRO)**	**24.41**	**193**	P	**P**	**12 24 31.2**	**+0.8**
	6.6nm,0.8s,mb4.0,baz=91,slow=18,SNR=5.1						
MK31	**Makanchi Array**	**66.86**	**330**	*e*P	**P**	**12 30 03.3**	**+0.9**
MKAR	**Makanchi Array**	**66.86**	**330**	P	**P**	**12 30 02.7**	**+0.3**
	1.3nm,0.5s,mb4.0,baz=129,slow=7.7,SNR=19						
ZALV	**Zalesovo Beam**	**70.97**	**337**	P	**P**	**12 30 27.2**	**-0.5**
	1.6nm,0.6s,mb4.1,baz=136,slow=4.9,SNR=7.3						

IDC 26 12:37:07.7±10.0, 150S×12865E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.5/16, mbtmp3.7/4, ML3.7/1, Error ellipse: s-maj=162.9km s-min=86.5km az=138.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.16**	**163**	P	Pn	12 41 33.1	-0.4
	0.3nm,0.3s,baz=341,slow=12,SNR=24						
ASAR	**Alice Springs**	**22.61**	**167**	P	P	12 42 10.2	0.0
	0.4nm,0.4s,baz=346,slow=12,SNR=13						
CTA	**Charters Tower**	**25.25**	**138**	P	P	12 42 34.5	-1.1
	5.3nm,1.1s,baz=306,slow=8.7,SNR=3.1						
STKA	**Stephens Creek**	**32.59**	**159**	P	P	12 43 41.7	+0.7
	0.7nm,0.4s,baz=323,slow=10,SNR=2.2						

BEO ***26*** *12:37:20.6±0.6, 4252N×1878E, ML2.8/4*
CSEM ***26*** *12:37:21.7±0.2, 4266N×1878E, h23km±1km, ML2.6, Error ellipse: s-maj=3.3km s-min=3.1km az=76.0*
ISCJB ***26*** *12:37:22.6±0.4, 4266N±002×1876E±003, h19km±4km, Error ellipse: s-maj=4.2km s-min=3.7km az=24.0*
NEIC ***26*** *12:37:22.0, 4266N×1879E, h20km, ML2.6(PDG), After PDG.*
PDG ***26*** *12:37:22.0±0.1, 4266N×1879E, h20km, MD2.6/6, ML2.6/8, Error ellipse: s-maj=0.1km s-min=0.3km az=0.0*
ISC 26 12:37:22.9±0.4, 4266N±002×1878E±003, h12km±3km, n27, σ1§10/47, 5C-9D, Northwestern Balkan Peninsula

| Code | Station Name | Δ° | AZ

MW4.2(NIED), Error ellipse: s-maj=15.6km s-min=12.5km az=212.0
*JMA **26** 12:47:12.9±0.1, 23.39N×123.77E, h48km±2km, M4.3*
ISC 26 12:47:12.9±1.1,2340N±005×12377E±004,h29km±7km, n41,σ0:99/51,mb4.0/16,MS3.3/2,1D,Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.65**	**3**	P	**Pb**	**12 47 26.1**	**+0.2**
HATJ				S	**Sb**	**12 47 35.7**	**+1.0**
JKRS	**Kuro-shima**	**0.86**	**15**	P	**Pn**	**12 47 29.0**	**-0.1**
JKRS				S	**Sb**	**12 47 41.2**	**+0.7**
IRIF	**Iriomote-Funau**	**0.93**	**358**	P	**Pn**	**12 47 30.1**	**+0.1**
IRIF				S	**Sn**	**12 47 42.3**	**0.0**
JIJ	**Ishigaki jima**	**1.02**	**20**	P	**Pn**	**12 47 31.1**	**-0.1**
JIJ				S	**Sn**	**12 47 44.1**	**-0.4**
YOJ	**Yonaguni jima**	**1.26**	**327**	P	**Pn**	**12 47 34.6**	**0.0**
YOJ				S	**Sn**	**12 47 49.8**	**-0.7**
JTJ	**Tarama**	**1.50**	**35**	P	**Pn**	**12 47 38.2**	**+0.3**
JTJ				S	**Sn**	**12 47 57.1**	**+0.6**
JMJ	**Miyako jima 2**	**1.98**	**44**	P	**Pn**	**12 47 44.9**	**+0.4**
JMJ				*e*S	**Sn**	**12 48 09.1**	**+0.8**
JOGS	**Gusukube**	**2.02**	**48**	P	**Pn**	**12 47 45.2**	**+0.2**
JOGS				S	**Sn**	**12 48 10.1**	**+0.9**
NACB	**Ninganchiao**	**2.13**	**292**	*e*Pn	**Pn**	**12 47 44.8**	**-1.8**
YHNB	**Yeheng**	**2.52**	**300**	*e*Pn	**Pn**	**12 47 51.9**	**0.0**
YHNB				*e*Sn	**Sn**	**12 48 20.0**	**-1.7**
TATO	**Taipei**	**2.60**	**307**	*e*Pn	**Pn**	**12 47 53.2**	**+0.2**
JKE	**Kume jima 2**	**4.00**	**43**	P	**Pn**	**12 48 11.0**	**-1.2**
JAGN	**Aguni-jima**	**4.47**	**44**	P	**Pn**	**12 48 17.8**	**-0.9**
JAGN				*e*S	**Sn**	**12 49 08.8**	**-1.0**
QZH	**Quanzhou**	**4.97**	**289**	⇓*i*P	**Pn**	**12 48 24.5**	**-1.0**
QZH				Smax			
	comp=N,180nm,0.5s						
QZH				Smax			
	comp=E,140nm,0.6s						
JIH	**Iheya**	**5.25**	**46**	P	**Pn**	**12 48 28.1**	**-1.3**
JOW	**Kunigami**	**5.33**	**49**	P	**Pn**	**12 48 28.7**	**-1.7**
JTK	**Tokunoshima**	**6.40**	**46**	P	**Pn**	**12 48 43.2**	**-2.0**
JMZ	**Minamidaito 2**	**7.20**	**69**	P	**Pn**	**12 48 53.2**	**-3.0**
JMZ				*e*S	**Sn**	**12 50 07.0**	**-10**
KSRS	**Korea Array**	**14.46**	**13**	Pn	**Pn**	**12 50 36.4**	**+0.9**
	comp=E,0.6nm,0.3s,baz=196,slow=11,SNR=13						
KSRS				LR	LR	12 56 47.8	
	comp=E,126nm,18.1s,baz=0.1,slow=40						
GYA	**Guiyang**	**15.81**	**285**	P	**Pn**	**12 50 55.0**	**+1.5**
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
MJAR	**Matsushiro Arr**	**18.08**	**40**	P	**Pn**	**12 51 22.3**	**+0.4**
	comp=Z,0.5nm,0.3s,baz=227,slow=9.4,SNR=13						
MJAR				LR	LR	12 57 30.6	
	comp=Z,40nm,18.8s,baz=225,slow=34						
SONM	**Songino Array**	**28.05**	**335**	P	**P**	**12 53 02.3**	**+0.8**
	comp=Z,1.1nm,0.6s,mb3.6,baz=141,slow=9.6,SNR=3.5						
PET	**Petropavlovsk**	**39.65**	**33**	*e*P	**P**	**12 54 42.6**	**+0.7**
	comp=Z,34nm,1.1s,mb5.0						
MK31	**Makanchi Array**	**40.55**	**316**	*e*P	**P**	**12 54 47.3**	**-2.1**
MKAR	**Makanchi Array**	**40.55**	**316**	P	**P**	**12 54 50.1**	**+0.6**
	comp=Z,1.3nm,0.5s,mb3.8,baz=100,slow=11,SNR=16						
ZALV	**Zalesovo Beam**	**42.19**	**326**	P	**P**	**12 55 02.9**	**0.0**
ZALV				LR	LR	13 12 11.4	
ZALV	**Zalesovo Beam**	**42.19**	**326**	P	**P**	**12 55 02.9**	**0.0**
	comp=Z,1.6nm,0.6s,mb3.8,baz=105,slow=6.4,SNR=6.1						
ZALV				LR	LR	13 12 11.4	
	comp=Z,25nm,21.6s,MS3.1,baz=109,slow=36						
TKM2	**Tokmak 2**	**44.11**	**308**	*e*P	**P**	**12 55 20.4**	**+1.9**
	comp=Z,6.3nm,0.8s,mb4.4						
KURK	**Kurchatov**	**44.21**	**320**	*e*P	**P**	**12 55 17.5**	**-1.7**
	comp=Z,1.3nm,0.6s,mb3.8						
WRA	**Warramunga Arr**	**44.30**	**166**	P	**P**	**12 55 20.5**	**+0.3**
	comp=Z,1.2nm,0.9s,mb3.6,baz=348,slow=8.9,SNR=4.3						
UCH	**Uchtor**	**44.78**	**307**	*e*P	**P**	**12 55 25.7**	**+1.8**
	comp=Z,6.7nm,1.0s,mb4.4						
ASAR	**Alice Springs**	**47.81**	**167**	P	**P**	**12 55 48.4**	**+0.5**
	comp=Z,0.2nm,0.6s,mb3.3,baz=239,slow=36,SNR=2.9						
BVAR	**Borovoye Array**	**49.78**	**321**	P	**P**	**12 56 03.2**	**+0.6**
	comp=Z,1.2nm,0.6s,mb4.1,baz=107,slow=9.4,SNR=7.6						
AKTK	**Aktyubinsk**	**56.98**	**316**	P	**P**	**12 56 56.0**	**+0.3**
AKTO	**Aktyubinsk**	**56.98**	**316**	P	**P**	**12 56 56.0**	**+0.4**
	comp=Z,1.9nm,0.9s,mb4.1,baz=76,slow=13,SNR=2.6						
FINES	**FINESS Array B**	**73.31**	**330**	P	**P**	**12 58 42.7**	**+1.3**
	comp=Z,0.8nm,0.7s,mb3.8,baz=51,slow=6.1,SNR=4.8						
AKASG	**Malin Array Be**	**75.02**	**319**	P	**P**	**12 58 51.1**	**-0.5**
	comp=Z,1.0nm,0.6s,mb3.9,baz=58,slow=6.2,SNR=6.1						
NB2	**NORSAR Subarra**	**80.01**	**333**	P	**P**	**12 59 20.0**	**+0.8**
	comp=Z,1.0nm,0.8s,mb3.8,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**80.01**	**333**	LR	LR	13 37 45.8	
	comp=Z,25nm,20.4s,MS3.5,baz=275,slow=38						
YKA	**Yellowknife Ar**	**82.76**	**23**	P	**P**	**12 59 34.3**	**+0.6**
	comp=Z,0.5nm,0.6s,mb3.7,baz=306,slow=4.9,SNR=10						
GERES	**GERESS Array B**	**84.94**	**321**	P	**P**	**12 59 45.1**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.9,baz=77,slow=5.9,SNR=4.3						

*IDC **26** 13:00:23.5±3.0, 47.43N×152.47E, h0km, mb3.5/4, mb1 3.7/5, mb1mx3.4/20, mbtmp3.5/5, ML3.5/1, Error ellipse: s-maj=79.4km s-min=40.9km az=149.0*
*ISCJB **26** 13:00:27.8±4.6, 47.2N±04.4×152.6E±05, h54km±49km, mb3.6/4, Error ellipse: s-maj=72.8km s-min=39.8km az=143.2*
*MOS **26** 13:00:28.0±0.6, 47.30N×152.50E, h56km, mb4.1/1, Error ellipse: s-maj=56.4km s-min=27.4km az=60.4*
ISC 26 13:00:29.9±4.3,47.2N±04.4×152.6E±05,h58km±51km,n7, σ0:52/8,mb3.6/4,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.81**	**241**	*e*PN	**Pn**	**13 01 26.0**	**0.0**
KUR				*e*S	**Sn**	**13 02 16.0**	**+6.6**
KUR				pmax	pmax		
	comp=Z,80nm,0.6s						
KUR				smax			
	comp=N,340nm,0.8s						
KUR				smax			
	comp=E,220nm,0.8s						
MJAR	**Matsushiro Arr**	**15.06**	**230**	Pn	**Pn**	**13 03 59.0**	**0.0**
	comp=E,0.2nm,0.3s,baz=45,slow=8.4,SNR=5.7						
YKA	**Yellowknife Ar**	**50.80**	**37**	P	**P**	**13 09 23.8**	**0.0**
	comp=E,0.2nm,0.6s,mb3.2,baz=300,slow=7.1,SNR=3.5						
FINES	**FINESS Array B**	**63.50**	**334**	P	**P**	**13 10 52.7**	**-0.7**
	comp=E,0.3nm,0.5s,mb3.7,baz=50,slow=7.5,SNR=4.8						
NOA	**NORSAR Array B**	**67.71**	**341**	P	**P**	**13 11 21.1**	**+0.6**
	comp=E,0.4nm,0.6s,mb3.6,baz=27,slow=6.0,SNR=2.4						
AKASG	**Malin Array Be**	**70.99**	**326**	P	**P**	**13 11 41.1**	**+0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**70.99**	**326**	P	**P**	**13 11 41.1**	**+0.2**
	comp=Z,0.5nm,0.3s,mb3.9,baz=34,slow=6.1,SNR=3.5						

IDC 26 13:27:10.4±17.0,1996N×14408E,h160km±139km, mb3.4/8,mb1 3.5/8,mb1mx3.3/18,mbtmp3.4/8,Error ellipse: s-maj=100.6km s-min=38.6km az=8.0,Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**22.41**	**324**	P	P	13 31 55.2	-0.4
	1.2nm,0.6s,baz=148,slow=8.9,SNR=5.5						
ZALV	**Zalesovo Beam**	**56.09**	**322**	P	P	13 36 31.8	-0.8
	0.6nm,0.4s,baz=120,slow=6.1,SNR=3.1						
MKAR	**Makanchi Array**	**56.49**	**313**	P	P	13 36 37.1	+1.5
	0.8nm,0.6s,baz=94,slow=8.9,SNR=3.9						
BVAR	**Borovoye Array**	**64.53**	**320**	P	P	13 37 30.8	+0.8
	1.4nm,0.5s,baz=94,slow=7.6,SNR=7.8						
YKA	**Yellowknife Ar**	**77.60**	**28**	P	P	13 38 48.5	0.0
	0.2nm,0.4s,baz=291,slow=5.5,SNR=4.6						
ARCES	**ARCESS Array B**	**80.83**	**342**	P	P	13 39 04.1	-1.8
	1.4nm,0.8s,baz=69,slow=6.9,SNR=4.2						
JOF	**Joensuu**	**82.24**	**335**	*e*p	P	13 39 13.4	0.0
	0.5nm,0.3s						
NVAR	**Mina Array Bea**	**83.57**	**52**	P	P	13 39 22.6	+1.9
	0.5nm,0.7s,baz=263,slow=5.1,SNR=4.6						
FINES	**FINESS Array B**	**85.10**	**335**	P	P	13 39 27.8	-0.2
	0.6nm,0.5s,baz=78,slow=4.4,SNR=8.5						
LPAZ	**La Paz**	**149.20**	**88**	PKPbc	PKPbc	13 46 40.0	-0.7
	0.5nm,0.6s,baz=288,slow=3.2,SNR=3.7						

*BJI **26** 13:27:27.1, 7.10S×156.47E, h6km, mb5.0, mB5.0, Ms4.9, Msz4.7*
*NEIC **26** 13:27:28.7±0.3, 7.17S×156.46E, h10km, mb4.9/18, Error ellipse: s-maj=10.4km s-min=6.1km az=112.0*
*MOS **26** 13:27:34.4±0.7, 7.16S×156.32E, h60km, mb4.9/15, Error ellipse: s-maj=15.1km s-min=10.7km az=117.4*
*ISCJB **26** 13:27:35.4±1.9, 7.25S±007×156.38E±007, h72km±19km, mb4.7/47, Error ellipse: s-maj=12.8km s-min=9.7km az=135.6*
*IDC **26** 13:27:35.8±0.7, 7.20S×156.39E, h62km±6km, mb4.4/13, mb1 4.5/14, mb1mx4.4/16, mbtmp4.4/14, MS3.8/15, Ms1 3.8/15, ms1mx3.7/21, Error ellipse: s-maj=13.7km s-min=11.1km az=54.0*
ISC 26 13:27:37.5±1.7,727S±007×15641E±007,h76km±17km, h64km±2.1km:pP-P,n101,σ0:72/97,mb4.7/47,9C-1D, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.11**	**122**	P	**Pn**	**13 28 38.5**	**+0.6**
HNR				S	**Sn**	**13 29 25.0**	**+0.2**
HNR				pmax	pmax		
	comp=Z,25nm,0.3s						
HNR				smax			
	comp=N,41nm,0.3s						
HNR	**Honiara**	**4.11**	**122**	*e*Pn	**Pn**	**13 28 37.9**	**0.0**
HNR	**Honiara**	**4.11**	**122**	P	**Pn**	**13 28 38.5**	**+0.6**
	comp=N,25nm,0.3s,baz=255,slow=5.4,SNR=9.8						
HNR				S	**Sn**	**13 29 25.0**	**+0.2**
	comp=N,41nm,0.3s,baz=271,slow=22,SNR=6.5						
CTA	**Charters Tower**	**16.10**	**217**	P	**Pn**	**13 31 25.1**	**+5.7**
	comp=N,0.3nm,0.3s,baz=39,slow=18,SNR=4.4						
CTA				LR	LR	13 36 28.0	
	comp=N,424nm,21.8s,baz=48,slow=33						
ARMA	**Armidale**	**23.46**	**190**	*e*P	**P**	**13 32 40.7**	**+0.5**
KAKA	**Kakadu**	**24.21**	**255**	*e*P	**P**	**13 32 46.9**	**-0.3**
	comp=N,107nm,0.6s,mb5.3						
WRAB	**Tennant Creek**	**24.82**	**237**	*e*P	**P**	**13 32 52.8**	**0.0**
WRAB				pmax	pmax		
	comp=Z,122nm,1.5s,mb5.1						
WRAB	**Tennant Creek**	**24.82**	**237**	*e*P	**P**	**13 32 52.8**	**0.0**
	comp=Z,122nm,1.5s,mb5.1						
WB2	**Warramunga Arr**	**24.82**	**237**	*e*P	**P**	**13 32 52.7**	**-0.1**
WRA	**Warramunga Arr**	**24.83**	**237**	P	**P**	**13 32 52.9**	**0.0**
WRA						13 36 27.8	
WRA	**Warramunga Arr**	**24.83**	**237**	P	**P**	**13 32 52.9**	**0.0**
	comp=Z,29nm,0.6s,mb4.9,baz=63,slow=9.4,SNR=197						
WRA				PcP	PcP	13 36 27.8	+0.3
	comp=Z,2.3nm,0.7s,baz=60,slow=2.7,SNR=6.6						
WRA				ScP	ScP	13 40 00.8	+0.9
	comp=Z,2.1nm,1.1s,baz=60,slow=3.0,SNR=4.8						
WRA				LR	LR	13 42 31.1	
	comp=Z,246nm,19.2s,baz=70,slow=36						
ASAR	**Alice Springs**	**27.06**	**230**	P	**P**	**13 33 12.3**	**-0.7**
ASAR						13 36 32.6	
ASAR				S	**S**	**13 37 48.9**	**+3.3**
ASAR	**Alice Springs**	**27.06**	**230**	P	**P**	**13 33 12.2**	**-0.7**
	comp=Z,7.3nm,0.6s,mb4.4,baz=59,slow=9.8,SNR=145						
ASAR				PcP	PcP	13 36 32.5	0.0
	comp=Z,1.7nm,0.7s,baz=58,slow=3.2,SNR=6.2						
ASAR				S	**S**	**13 37 48.9**	**+3.3**
	comp=Z,0.4nm,0.8s,baz=64,slow=7.6,SNR=3.0						
ASAR				ScP	ScP	13 40 06.8	+0.5
	comp=Z,0.3nm,0.6s,baz=61,slow=2.4,SNR=4.6						
STKA	**Stephens Creek**	**28.11**	**207**	*e*P	**P**	**13 33 22.0**	**-0.3**
	comp=Z,2.7nm,0.5s,mb4.0						
STKA	**Stephens Creek**	**28.11**	**207**	P	**P**	**13 33 22.2**	**0.0**
	comp=Z,3.9nm,0.5s,mb4.2,baz=31,slow=13,SNR=14						
STKA				PcP	PcP	13 36 34.6	-0.4
	comp=Z,4.0nm,0.8s,baz=120,slow=4.1,SNR=4.3						
STKA				LR	LR	13 43 58.6	
	comp=Z,350nm,20.3s,baz=25,slow=35						
FITZ	**Fitzroy Crossi**	**31.83**	**247**	*e*P	**P**	**13 33 54.5**	**-0.9**
	comp=Z,7.5nm,0.5s,mb4.7						
FITZ	**Fitzroy Crossi**	**31.83**	**247**	P	**P**	**13 33 54.6**	**-0.7**
	comp=Z,5.3nm,0.7s,mb4.4,baz=84,slow=13,SNR=19						
FITZ				LR	LR	13 46 10.9	
	comp=Z,178nm,21.6s,baz=75,slow=35						
AFI	**Afiamalu**	**31.94**	**105**	LR	LR	13 44 15.8	
	comp=Z,197nm,21.1s,baz=302,slow=31						
BATI	**Kupang**	**32.49**	**262**	LR	LR	13 48 20.5	
	comp=Z,473nm,19.1s,baz=121,slow=38						
FORT	**Forrest**	**35.37**	**225**	⇑*i*P	**P**	**13 34 25.5**	**-0.4**
	comp=Z,28nm,0.6s,mb5.3						
URZ	**Urewera**	**36.09**	**152**	LR	LR	13 46 05.9	
	comp=Z,230nm,21.4s,baz=291,slow=31						
MBWA	**Marble Bar**	**38.02**	**245**	*e*P	**P**	**13 34 47.5**	**-1.1**
	comp=Z,121nm,2.4s,mb5.3						
KKM	**Kota Kinabalu**	**42.22**	**287**	*e*P	**P**	**13 35 22.8**	**-0.7**
KLBR	**Kellerberrin**	**43.39**	**231**	⇑*i*P	**P**	**13 35 31.9**	**-0.8**
	comp=Z,11nm,0.4s,mb4.9						
KSM	**Kuching**	**46.80**	**279**	*e*P	**P**	**13 35 59.3**	**-0.8**
MJAR	**Matsushiro Arr**	**46.80**	**340**	P	**P**	**13 35 58.8**	**-0.8**
	comp=Z,0.8nm,0.6s,mb3.6,baz=71,slow=1.2,SNR=4.4						
KSRS	**Korea Array**	**51.84**	**331**	P	**P**	**13 36 38.2**	**+0.2**
	comp=Z,2.3nm,0.6s,mb4.4,baz=146,slow=6.9,SNR=13						
KSRS				LR	LR	13 55 33.9	
	comp=Z,52nm,21.6s,baz=285,slow=32						
PPT	**Papeete**	**53.58**	**106**	LR	LR	13 55 08.6	
	comp=Z,91nm,18.1s,baz=298,slow=31						
CN2	**Changchun**	**58.04**	**334**	*e*P	**P**	**13 37 23.5**	**+0.9**
CN2				*e*XP	sP	13 37 30.5	-20
CN2				*e*S	**S**	**13 45 21.8**	**+4.2**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.0						
GYA	**Guiyang**	**58.73**	**307**	P	**P**	**13 37 29.5**	**+1.7**
GYA				PCP	PcP	13 38 19.3	+2.4
GYA				PP	PP	13 39 41.3	+2.7
GYA				SCP	ScP	13 42 18.5	+7.7
GYA				S	**S**	**13 45 32.3**	**+5.1**
GYA				SCS	ScS	13 47 15.5	+4.5
GYA				SS	SS	13 49 26.0	+4.3
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
GYA				AMB	AMB		
	comp=Z,110nm,5.7s						
GYA				LR	LR		
	comp=N,470nm,20.6s						
GYA				LR	LR		
	comp=E,490nm,19.4s						
GYA				LR	LR		
	comp=Z,540nm,19.5s						
BJI	**Beijing**	**59.94**	**325**	P	**P**	**13 37 36.0**	**+0.2**
BJI				S	**S**	**13 45 48.0**	**+5.7**
BJI				AMB	AMB		
	comp=Z,3.0nm,0.6s,mb4.5						
BJI				AMB	AMB		
	comp=Z,128nm,3.9s						
BJI				LR	LR		
	comp=N,229nm,11.5s						
BJI				LR	LR		
	comp=E,224nm,12.6s						
NST	**Nakhon Sawan**	**60.21**	**293**	P	**P**	**13 37 38.5**	**+0.4**
NANT	**Nan**	**60.71**	**296**	⇑P	**P**	**13 37 42.0**	**+0.5**
KMI	**Kunming**	**61.33**	**304**	P	**P**	**13 37 47.3**	**+1.7**
KMI				AP	pP	13 37 50.8	-14
KMI				XP	sP	13 37 52.3	-21
KMI				PP	PP	13 40 01.5	-0.1
KMI				S	**S**	**13 46 05.8**	**+5.2**
KMI				XS	sS	13 46 12.3	-22
KMI				AMB	AMB		
	comp=Z,17nm,0.7s,mb5.2						
KMI				LR	LR		
	comp=N,96nm,10.1s						
KMI				LR	LR		
	comp=E,70nm,13.3s						
KMI				LR	LR		
	comp=Z,62nm,12.6s						
CM31	**Chiang Mai Arr**	**62.17**	**295**	*e*P	**P**	**13 37 51.4**	**+0.1**
	comp=Z,29nm,0.9s,mb5.3						
CHG	**Chiang Mai**	**62.28**	**296**	⇑P	**P**	**13 37 52.3**	**+0.2**
	comp=Z,42nm,1.0s,mb5.4						
CHTO	**Chiang Mai**	**62.28**	**296**	*e*P	**P**	**13 37 51.7**	**-0.4**
CHTO				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.1						
CHTO	**Chiang Mai**	**62.28**	**296**	*e*P	**P**	**13 37 51.7**	**-0.4**
	comp=Z,21nm,1.1s,mb5.1						
HHC	**Hu-ho-hao-te**	**63.15**	**323**	*e*P	**P**	**13 37 58.8**	**+1.4**
HHC				AP	pP	13 38 03.0	-14
HHC				XP	sP	13 38 06.0	-20
HHC				PCP	PcP	13 38 36.0	+1.7
HHC				PP	PP	13 40 21.8	+4.5
HHC				SCP	ScP	13 42 36.3	+6.3
HHC				S	**S**	**13 46 29.5**	**+6.7**
HHC				XS	sS	13 46 38.5	-18
HHC				SCS	ScS	13 47 47.5	+4.0
HHC				AMB	AMB		
	comp=Z,27nm,1.1s,mb5.1						
HHC				AMB	AMB		
	comp=Z,238nm,5.3s						
HHC				LR	LR		
	comp=N,418nm,15.8s						
HHC				LR	LR		
	comp=E,465nm,18.4s						
HHC				LR	LR		
	comp=Z,540nm,16.4s						
LZH	**Lanzhou**	**65.49**	**315**	*e*P	**P**	**13 38 12.5**	**-0.4**
LZH				AP	pP	13 38 15.5	-17
LZH				XP	sP	13 38 17.5	-24
LZH				AMB	AMB		
	comp=Z,18nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,77nm,4.1s						
GTA	**Gaotai**	**69.90**	**316**	*e*P	**P**	**13 38 42.0**	**+1.5**
GTA				AP	pP	13 38 46.0	-15
GTA				XP	sP	13 38 49.3	-20
GTA				PP	PP	13 41 20.0	+3.8
GTA				AMB	AMB		
	comp=Z,9.0nm,1.4s,mb4.4						
GTA				AMB	AMB		
	comp=Z,76nm,4.9s						
GTA				LR	LR		
	comp=N,68nm,13.3s						
GTA				LR	LR		
	comp=E,81nm,14.5s						
GTA				LR	LR		
	comp=Z,61nm,17.1s						
ULN	**Ulaanbaatar**	**69.99**	**327**	*e*P	**P**	**13 38 41.7**	**+0.8**
ULN				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**69.99**	**327**	*e*P	**P**	**13 38 41.7**	**+0.8**
	comp=Z,3.5nm,0.8s,mb4.2						
SEY	**Seymchan**	**70.06**	**358**	⇑*e*P	**P**	**13 38 40.5**	**-0.5**
VNDA	**Vanda**	**70.27**	**179**	*e*P	**P**	**13 38 42.7**	**+0.5**
VNDA				pmax	pmax		
	comp=Z,24nm,1.9s						
VNDA	**Vanda**	**70.27**	**179**	*e*P	**P**	**13 38 42.6**	**+0.5**
	comp=Z,24nm,1.9s,mb4.7						
VNDA	**Vanda**	**70.27**	**179**	P	**P**	**13 38 42.6**	**+0.4**
	comp=Z,2.6nm,0.8s,mb4.1,baz=342,slow=6.1,SNR=16						
VNDA				LR	LR	14 02 32.8	
	comp=Z,88nm,18.8s,baz=172,slow=30						
SONM	**Songino Array**	**70.33**	**327**	P	**P**	**13 38 43.0**	**0.0**
	comp=Z,6.1nm,0.8s,mb4.5,baz=127,slow=5.2,SNR=25						
SONM				pP	pP	13 38 59.0	-3.9
	comp=Z,3.5nm,1.0s,baz=114,slow=3.7,SNR=3.6						
SBA	**Scott Base**	**70.76**	**178**	*e*P	**P**	**13 38 46.1**	**+1.0**
SBA				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.3						
SBA	**Scott Base**	**70.76**	**178**	*e*P	**P**	**13 38 46.1**	**+1.0**
	comp=Z,5.2nm,1.1s,mb4.3						
YAK	**Yakutsk**	**72.13**	**347**	⇑*e*P	**P**	**13 38 53.1**	**-0.4**
YAK				pmax	pmax		
	comp=Z,10.0nm,0.9s,mb4.7						
LSA	**Lhasa**	**72.58**	**304**	P	**P**	**13 38 58.5**	**+1.6**
BOD	**Bodaibo**	**73.39**	**338**	*e*P	**P**	**13 39 00.7**	**-0.4**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.2						
ZAK	**Zakamensk**	**73.47**	**328**	*e*P	**P**	**13 39 01.3**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.1s,mb4.2						
TLY	**Talaya**	**74.01**	**329**	⇓*i*P	**P**	**13 39 04.7**	**-0.1**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.5						
TLY	**Talaya**	**74.01**	**329**	*e*P	**P**	**13 39 04.8**	**0.0**
	comp=Z,7.5nm,1.0s,mb4.4						
BILL	**Bilibino**	**75.45**	**4**	⇑*e*P	**P**	**13 39 12.7**	**-0.1**
BILL				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.2						
BILL	**Bilibino**	**75.45**	**4**	*e*P	**P**	**13 39 12.9**	**+0.1**
	comp=Z,410nm,3.6s						
JIRN	**Jiri**	**76.12**	**301**	*e*P	**P**	**13 39 18.1**	**+0.5**
	comp=Z,23nm,0.5s,mb5.1						
GUN	**Gumba**	**76.46**	**301**	*e*P	**P**	**13 39 20.1**	**+0.7**
	comp=Z,60nm,0.8s,mb5.4						
PKI	**Pulchoki**	**76.77**	**300**	*e*P	**P**	**13 39 21.5**	**+0.3**
PKIN	**Phulchoki**	**76.78**	**300**	*e*P	**P**	**13 39 21.3**	**0.0**
KKN	**Kakani**	**76.94**	**301**	*e*P	**P**	**13 39 22.6**	**+0.5**
DMN	**Daman**	**77.04**	**300**	*e*P	**P**	**13 39 23.3**	**+0.6**
	comp=Z,37nm,0.6s,mb5.3						
GKN	**Gorkha**	**77.54**	**301**	*e*P	**P**	**13 39 25.7**	**+0.2**
	comp=Z,28nm,1.0s,mb5.0						
KOLN	**Koldanda**	**78.37**	**300**	*e*P	**P**	**13 39 30.1**	**0.0**
	comp=Z,40nm,0.7s,mb5.2						
DANN	**Dangsing**	**78.38**	**301**	*e*P	**P**	**13 39 29.9**	**-0.3**
	comp=Z,36nm,0.7s,mb5.2						
WMQ	**Urumqi**	**79.98**	**317**	*e*P	**P**	**13 39 39.0**	**+0.5**
WMQ				XP	sP	13 39 46.0	-21
WMQ				PP	PP	13 42 42.0	+0.6
WMQ				AMB	AMB		
	comp=Z,35nm,1.2s,mb5.1						
WMQ				AMB	AMB		
	comp=Z,64nm,6.0s						
WMQ				LR	LR		
	comp=N,35nm,16.0s						
WMQ				LR	LR		
	comp=E,37nm,16.0s						
WMQ				LR	LR		
	comp=Z,42nm,16.0s						
TIXI	**Tiksi**	**80.83**	**351**	⇑*e*P	**P**	**13 39 41.9**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb4.1						
TIXI	**Tiksi**	**80.83**	**351**	*e*P	**P**	**13 39 41.8**	**-0.7**
	comp=Z,5.5nm,1.3s,mb4.2						
COLA	**College**	**82.83**	**21**	*e*P	**P**	**13 39 52.1**	**-

LSZ Lusaka 124.02 246 *e*PKIKP PKPdf 13 46 28.6 +0.5
CLL Collm 126.71 332 *e*PKPdf PKPdf 13 46 32.0 -0.2
comp=Z,4.0nm,1.2s
KHC Kasperske Hory 127.88 330⇑*i*PKIKP PKPdf 13 46 34.9 +0.4
GERES GERESS Array B 128.00 329 PKP PKPdf 13 46 34.8 0.0
comp=Z,1.3nm,0.8s,baz=70,slow=1.6,SNR=6.3
BDFB Brasilia 146.78 133 PKPbc PKPbc 13 47 11.9 0.0
comp=Z,6.1nm,1.0s,baz=130,slow=3.1,SNR=7.4
TORD Torodi Ar. Bea 154.45 285 PKP PKPdf 13 47 21.1 -0.8
TORD PKPbc PKPbc 13 47 29.1 -1.2
TORD PKPab PKPab 13 47 44.4 -0.5
TORD Torodi Ar. Bea 154.45 285 PKP PKPdf 13 47 21.1 -0.8
comp=Z,1.1nm,0.8s,baz=35,slow=1.8,SNR=4.7
TORD PKPbc PKPbc 13 47 29.1 -1.2
comp=Z,5.3nm,0.8s,baz=65,slow=2.0,SNR=21
TORD PKPab PKPab 13 47 44.4 -0.5
comp=Z,4.9nm,1.0s,baz=81,slow=3.8,SNR=10
DBIC Dimbokro 161.39 269 PKPab PKPab 13 48 14.9 -0.2
comp=Z,8.5nm,0.9s,baz=126,slow=4.8,SNR=5.8

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*IDC **26** 13:30:35.2±8.5,3614N×7108E,h109km±75km,mb3.4/9, mb1 3.5/11,mb1mx3.3/23,mbtmp3.4/11,ML3.7/2,Error ellipse: s-maj=36.8km s-min=22.5km az=22.0*
*ISCJB **26** 13:30:39.2±1.2,3640N±006×71.1E±0.1,h158km±13km, mb3.4/8,Error ellipse: s-maj=17.6km s-min=5.6km az=151.2*
*NNC **26** 13:30:42.1±12.0,3671N×7056E,h124km±140km,mb3.2, mpv4.5,Error ellipse: s-maj=95.8km s-min=58.2km az=12.0*
ISC 26 13:30:40.3±1.2,3640N±006×712E±01,h154km±13km,n34, σ1§10/38,mb3.4/8,7C-5D,Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DLH	**Dalhousie**	**5.53**	**133**	*e*P	**Sn**	**13 33 05.0**	**+1.4**
AML	**Almayashu**	**6.05**	**18**	P	**Pn**	**13 32 07.3**	**-0.3**
	SNR=39						
UCH	**Uchtor**	**6.37**	**23**	P	**Pn**	**13 32 11.9**	**0.0**
	SNR=17						
KZA	**Kyzart**	**6.50**	**28**	P	**Pn**	**13 32 18.0**	**+4.4**
	SNR=5.5						
KK31	**Karatay Array**	**6.71**	**356**	⇓P	**Pn**	**13 32 15.4**	**-1.0**
	16nm,0.5s,baz=179,slow=13						
KK31				⇑S	**Sn**	**13 33 26.2**	**-5.7**
	3.9nm,0.3s,baz=183,slow=24						
AAK	**Ala-Archa**	**6.74**	**21**	P	**Pn**	**13 32 19.0**	**+2.3**
	SNR=8.1						
KBK	**Karagaybulak**	**6.90**	**24**	P	**Pn**	**13 32 21.5**	**+2.6**
	SNR=10.0						
TKM2	**Tokmak 2**	**7.36**	**26**	⇑P	**Pn**	**13 32 26.7**	**+1.7**
	16nm,0.6s						
TKM2				⇓S	**Sn**	**13 33 45.5**	**-1.7**
	4.3nm,0.7s						
TKM2	**Tokmak 2**	**7.36**	**26**	P	**Pn**	**13 32 26.8**	**+1.8**
	SNR=33						
DANN	**Dangsing**	**13.32**	**123**	*e*P	**Pn**	**13 33 41.6**	**-1.9**
	8.8nm,0.4s						
KOLN	**Koldanda**	**13.60**	**126**	*e*P	**Pn**	**13 33 45.9**	**-1.1**
	8.4nm,0.4s						
GKN	**Gorkha**	**14.14**	**122**	*e*P	**Pn**	**13 33 53.0**	**-0.8**
	5.1nm,0.7s						
PKIN	**Phulchoki**	**14.93**	**122**	*e*P	**Pn**	**13 34 03.7**	**+0.1**
	8.9nm,0.4s						
PKI	**Pulchoki**	**14.94**	**122**	*e*P	**Pn**	**13 34 03.6**	**-0.2**
	13nm,0.5s						
GUN	**Gumba**	**15.05**	**120**	*e*P	**Pn**	**13 34 04.8**	**-0.4**
	9.1nm,0.5s						
KURBB	**Kurchatov Arra**	**15.18**	**18**	⇓P	**Pn**	**13 34 05.4**	**-1.1**
	0.5nm,1.0s						
AB31	**Akbulak array**	**15.24**	**331**	⇑P	**Pn**	**13 34 07.2**	**-0.1**
	0.9nm,0.3s,baz=151,slow=12,SNR=68						
AB31				⇑S	**Sn**	**13 36 45.6**	**-11**
	1.6nm,0.6s,baz=156,slow=26,SNR=9.1						
KURK	**Kurchatov**	**15.29**	**18**	⇑P	**Pn**	**13 34 08.2**	**+0.4**
JIRN	**Jiri**	**15.42**	**120**	*e*P	**Pn**	**13 34 10.6**	**+0.8**
	18nm,0.4s						
VOSK	**Vostochnaya**	**16.32**	**360**	⇓P	**Pn**	**13 34 19.2**	**-1.3**
	4.8nm,1.9s						
ZRNK	**Zerenda**	**16.62**	**355**	⇑P	**Pn**	**13 34 22.2**	**-1.9**
	3.7nm,1.2s						
BVAR	**Borovoye Array**	**16.63**	**358**	P	**Pn**	**13 34 25.0**	**+0.7**
	0.4nm,0.3s,baz=173,slow=13,SNR=6.0						
AKTO	**Aktyubinsk**	**16.93**	**330**	⇑P	**Pn**	**13 34 27.4**	**-0.5**
	0.1nm,0.7s						
AKTO				⇓S	**S**	**13 37 29.4**	**-6.5**
AKTO	**Aktyubinsk**	**16.93**	**330**	P	**Pn**	**13 34 26.9**	**-1.0**
	0.2nm,0.3s,baz=131,slow=10,SNR=13						
ZALV	**Zalesovo Beam**	**19.95**	**24**	P	**P**	**13 35 00.9**	**+0.8**
	3.9nm,0.5s,baz=222,slow=12,SNR=5.8						
AKASG	**Malin Array Be**	**33.11**	**309**	P	**P**	**13 37 02.0**	**+0.6**
	0.1nm,0.3s,mb3.0,baz=81,slow=7.2,SNR=3.2						
FINES	**FINESS Array B**	**37.64**	**326**	P	**P**	**13 37 40.9**	**+1.0**
	1.6nm,0.8s,mb3.7,baz=143,slow=16,SNR=4.3						
ARCES	**ARCESS Array B**	**41.29**	**338**	P	**P**	**13 38 11.1**	**+1.1**
	1.6nm,0.7s,mb3.8,baz=98,slow=7.5,SNR=6.6						
NB2	**NORSAR Subarra**	**44.54**	**323**	P	**P**	**13 38 36.8**	**+0.5**
	comp=Z,1.7nm,0.7s,mb3.8,baz=98,slow=7.9						
NOA	**NORSAR Array B**	**44.54**	**323**	P	**P**	**13 38 36.8**	**+0.6**
	comp=Z,1.1nm,0.6s,mb3.6,baz=98,slow=7.9,SNR=4.9						
TORD	**Torodi Ar. Bea**	**65.85**	**269**	P	**P**	**13 41 08.3**	**-1.3**
	comp=Z,0.2nm,0.4s,mb3.3,baz=36,slow=4.8,SNR=4.9						
YKA	**Yellowknife Ar**	**81.34**	**3**	P	**P**	**13 42 40.3**	**+1.1**
	comp=Z,0.3nm,0.4s,mb3.2,baz=349,slow=5.4,SNR=11						
WRA	**Warramunga Arr**	**81.82**	**122**	P	**P**	**13 42 42.0**	**-0.3**
	comp=Z,0.3nm,0.5s,mb3.2,baz=324,slow=4.9,SNR=10						
ASAR	**Alice Springs**	**84.09**	**125**	P	**P**	**13 42 53.9**	**0.0**
	comp=Z,1.0nm,1.1s,mb3.5,baz=309,slow=5.4,SNR=4.1						

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*ISCJB **26** 13:40:20.3±0.2,4832N×001×655E±001,h2km±2km,Error ellipse: s-maj=1.9km s-min=1.6km az=157.2*
*ZUR **26** 13:40:21.9,4836N×651E,h7km,ML3.1/20*
*NEIC **26** 13:40:22.1±0.2,4835N×661E,h10km,ML3.7(LDG), ML3.5(SZGRF),Error ellipse: s-maj=3.0km s-min=2.4km az=164.0*
*STR **26** 13:40:22.3±0.2,4834N×665E,h10km,Ml3.5,Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*CSEM **26** 13:40:22.8±0.1,4831N×671E,h10km,ML3.7/35,Error ellipse: s-maj=1.1km s-min=0.8km az=154.0*
*LEDBW **26** 13:40:23.6±0.2,4833N×001×6665E±0009,h9km±2km, ML3.5,Error ellipse: s-maj=4.8km s-min=3.2km az=4.0*
*BGR **26** 13:40:23.4±0.3,4835N×672E,h10km,ML3.4/5,Error ellipse: s-maj=3.3km s-min=3.3km az=89.0*
*LDG **26** 13:40:23.3±0.1,4831N×667E,h12km,Md3.5/7,Ml3.7/34, Error ellipse: s-maj=1.2km s-min=1.1km az=168.0*
*PRU **26** 13:40:23.6,4840N×679E,h0km*
ISC 26 13:40:22.1±0.2,48317N±0010×661E±001,h11km±1km, n270,σ1§25/498,13C-47D,France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.36**	**209**	*e*Pg	**Pg**	**13 40 31.2**	**+2.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**13 40 36.3**	**+2.4**
	1μm,0.2s						
HAU	**Haudompre**	**0.36**	**209**	*e*Pg	**Pg**	**13 40 31.2**	**+2.1**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**13 40 36.3**	**+2.4**
	574nm,0.2s						
ECH	**Echery**	**0.38**	**105**	⇑*i*P*	**Pg**	**13 40 30.5**	**+1.0**
ECH				*i* S*	**Sg**	**13 40 35.2**	**+0.5**
ECH	**Echery**	**0.38**	**105**	⇑*i*Pg	**Pg**	**13 40 30.5**	**+1.0**
ECH				*i* Sg	**Sg**	**13 40 35.2**	**+0.5**
ECH	**Echery**	**0.38**	**105**	Pg	**Pg**	**13 40 30.4**	**+0.8**
ECH				Sg	**Sg**	**13 40 34.9**	**+0.2**
THEF	**They Montfort**	**0.42**	**258**	Pg	**Pg**	**13 40 32.2**	**+1.8**
THEF				Sg	**Sg**	**13 40 38.1**	**+2.1**
THEF	**They Montfort**	**0.42**	**258**	⇑*i*Pg	**Pg**	**13 40 32.3**	**+1.9**
CDF	**Champ du Feu**	**0.46**	**78**	*e*Pg	**Pg**	**13 40 31.5**	**+0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**13 40 37.1**	**+0.1**
	1μm,0.2s						
CDF	**Champ du Feu**	**0.46**	**78**	*e*Pg	**Pg**	**13 40 31.5**	**+0.5**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**13 40 37.1**	**+0.1**
	542nm,0.2s						
HINF	**Hinteralfeld**	**0.53**	**162**	*e*Pg	**Pg**	**13 40 33.7**	**+1.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**13 40 40.5**	**+1.3**
	922nm,0.2s						
HINF				*e*Sn	**Sg**	**13 40 43.3**	**+4.1**
HINF	**Hinteralfeld**	**0.53**	**162**	*e*Pg	**Pg**	**13 40 33.7**	**+1.4**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**13 40 40.5**	**+1.3**
	461nm,0.2s						
HINF				*e*Sn	**Sg**	**13 40 43.3**	**+4.1**
MOF	**Molkenrain**	**0.58**	**143**	⇓*i*P*	**Pb**	**13 40 34.7**	**+0.4**
MOF				PmP		13 40 36.0	
MOF	**Molkenrain**	**0.58**	**143**	Pg	**Pg**	**13 40 34.7**	**+1.3**
MOF				Sg	**Sg**	**13 40 42.6**	**+1.6**
MOF	**Molkenrain**	**0.58**	**143**	PmP		13 40 36.0	
BREM	**Bremgarten**	**0.80**	**120**	Pg	**Pg**	**13 40 38.7**	**+1.3**
STR	**Strasbourg**	**0.82**	**70**	*e*Pg	**Pg**	**13 40 38.8**	**+1.0**
	SNR=8.3						
STR	**Strasbourg**	**0.82**	**70**	Pg	**Pg**	**13 40 38.5**	**+0.7**
STR				Sg	**Sg**	**13 40 48.0**	**-0.4**
RFYF	**Reffroy**	**0.82**	**293**	*e*Pn	**Pn**	**13 40 39.9**	**+0.4**
	baz=118						
RFYF				*e*Sg	**Sg**	**13 40 50.3**	**+1.8**
RFYF				*e*Sn	**Sn**	**13 40 51.7**	**+0.1**
	758nm,0.2s						
RFYF	**Reffroy**	**0.82**	**293**	*e*Pg	**Pg**	**13 40 39.4**	**+1.6**
RFYF				*e*Pn	**Pn**	**13 40 39.9**	**+0.4**
RFYF				*e*Sg	**Sg**	**13 40 50.3**	**+1.8**
RFYF				*e*Sn	**Sn**	**13 40 51.7**	**+0.1**
RFYF	**Reffroy**	**0.82**	**293**	*e*Pn	**Pn**	**13 40 39.9**	**+0.4**
RFYF				*e*Sg	**Sg**	**13 40 50.3**	**+1.8**
RFYF				*e*Sn	**Sn**	**13 40 51.7**	**+0.1**
	379nm,0.2s						
STAU	**Staufen im Bre**	**0.88**	**120**	P	**Pg**	**13 40 40.0**	**+1.1**
FBB	**Freiburg im Br**	**0.89**	**110**	Pg	**Pg**	**13 40 40.2**	**+1.0**
FBB	**Freiburg im Br**	**0.89**	**110**	P	**Pg**	**13 40 40.0**	**+0.8**
FBB	**Freiburg im Br**	**0.89**	**110**	Px	**Pg**	**13 40 40.2**	**+1.0**
EFR	**Efringen**	**0.92**	**135**	Px	Px	13 40 31.3	
OFBG	**Offenburg**	**0.92**	**81**	Px	**Pg**	**13 40 40.4**	**+0.6**
OFBG	**Offenburg**	**0.92**	**81**	Pn	**Pn**	**13 40 40.0**	**-1.0**
KIZ	**Kirchzarten**	**0.95**	**112**	⇓*i*Pn	**Pn**	**13 40 40.4**	**-0.9**
KIZ				Pg	**Pg**	**13 40 41.0**	**+0.7**
KIZ				Sg	**Sg**	**13 40 53.4**	**+0.8**
KIZ	**Kirchzarten**	**0.95**	**112**	P	**Pg**	**13 40 41.0**	**+0.7**
ENDD	**Endenburg**	**0.97**	**128**	⇓*e*Pn	**Pn**	**13 40 41.0**	**-0.6**
ENDD	**Endenburg**	**0.97**	**128**	P	**Pg**	**13 40 41.5**	**+0.9**
LOMF	**Lomont**	**0.98**	**171**	Pg	**Pg**	**13 40 42.4**	**+1.5**
LOMF				Sg	**Sg**	**13 40 54.3**	**+0.7**
LOMF	**Lomont**	**0.98**	**171**	⇑*i*Pn	**Pn**	**13 40 42.5**	**+0.7**
WEIL	**Weil am Rhein**	**0.98**	**137**	Px	**Pg**	**13 40 42.2**	**+1.2**
LOES	**Loerrach-Stett**	**1.01**	**135**	P	**Pg**	**13 40 42.4**	**+1.0**
BOURR	**Bourrignon**	**1.01**	**155**	⇓*i*Pn	**Pn**	**13 40 42.3**	**+0.1**
	3μm,0.6s						
BOURR				*e*Sn	**Sn**	**13 40 56.4**	**-0.1**
	3μm,0.6s						
FELD	**Feldberg im Sc**	**1.03**	**115**	⇓*i*Pn	**Pn**	**13 40 41.8**	**-0.7**
FELD	**Feldberg im Sc**	**1.03**	**115**	P	**Pg**	**13 40 42.6**	**+0.7**
FELD	**Feldberg im Sc**	**1.03**	**115**	⇓*i*Pn	**Pn**	**13 40 41.8**	**-0.7**
FELD	**Feldberg im Sc**	**1.03**	**115**	Pg	**Pg**	**13 40 41.7**	**-0.2**
FELD				Sg	**Sg**	**13 40 55.3**	**-0.1**
LANF	**Langenberg**	**1.03**	**50**	Pg	**Pg**	**13 40 41.6**	**-0.4**
LANF				Sg	**Sg**	**13 40 55.6**	**+0.2**
LANF	**Langenberg**	**1.03**	**50**	⇓*i*Pn	**Pn**	**13 40 41.7**	**-0.8**
BBS	**Basel-Blauen**	**1.05**	**144**	⇓*i*Pn	**Pn**	**13 40 42.5**	**-0.1**
BBS				⇑*i*Pg	**Pg**	**13 40 43.3**	**+1.1**
BBS	**Basel-Blauen**	**1.05**	**144**	⇑*i*P	**Pg**	**13 40 43.3**	**+1.1**
BBS	**Basel-Blauen**	**1.05**	**144**	Pg	**Pg**	**13 40 43.1**	**+0.9**
BBS				Sg	**Sg**	**13 40 55.7**	**-0.1**
MEZF	**Maizieres J'vi**	**1.05**	**281**	*e*Pn	**Pn**	**13 40 43.6**	**+0.8**
	baz=103,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.05**	**281**	*e*Pg	**Pg**	**13 40 43.9**	**+1.6**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**13 40 57.8**	**+1.8**
	275nm,0.2s,SNR=1.0						
MEZF	**Maizieres J'vi**	**1.05**	**281**	*e*Pn	**Pn**	**13 40 43.6**	**+0.8**
MEZF				*e*Pg	**Pg**	**13 40 43.9**	**+1.6**
MEZF				*e*Sg	**Sg**	**13 40 57.8**	**+1.8**
MEZF	**Maizieres J'vi**	**1.05**	**281**	*e*Pg	**Pg**	**13 40 43.9**	**+1.6**
	SNR=1.0						
MEZF				*e*Sg	**Sg**	**13 40 57.8**	**+1.8**
	138nm,0.2s,SNR=1.0						
SFTF	**Sexfontaines**	**1.05**	**264**	*e*Pg	**Pg**	**13 40 44.0**	**+1.7**
	baz=83						
SFTF				*e*Sg	**Sg**	**13 40 58.0**	**+2.0**
	394nm,0.2s						
SFTF	**Sexfontaines**	**1.05**	**264**	*e*Pn	**Pn**	**13 40 43.5**	**+0.7**
SFTF				*e*Pg	**Pg**	**13 40 44.0**	**+1.7**
SFTF				*e*Sg	**Sg**	**13 40 58.0**	**+2.0**
SFTF	**Sexfontaines**	**1.05**	**264**	*e*Pg	**Pg**	**13 40 44.0**	**+1.7**
SFTF				*e*Sg	**Sg**	**13 40 58.0**	**+2.0**
	197nm,0.2s						
WYH	**Wyhlen**	**1.06**	**136**	P	**Pb**	**13 40 43.0**	**+0.6**
BFO	**Black Forest**	**1.15**	**89**	*e*Pg	**Pg**	**13 40 43.2**	**-0.9**
	SNR=128						
BFO				*e*Sg	**Sg**	**13 40 57.0**	**-2.0**
	SNR=20						
BFO	**Black Forest**	**1.15**	**89**	*e*Pg	**Pg**	**13 40 44.5**	**+0.4**
BFO				*e*Sg	**Sg**	**13 40 58.6**	**-0.4**
BALST	**Balsthal**	**1.23**	**143**	⇓*i*Pn	**Pn**	**13 40 45.1**	**0.0**
	705nm,0.1s						
SULZ	**Cheisacher**	**1.28**	**127**	⇓*i*Pn	**Pn**	**13 40 45.7**	**-0.2**
	905nm,0.4s						
SLE	**Schleitheim**	**1.38**	**113**	*e*Sn	**Pn**	**13 40 47.9**	**+0.6**
	2μm,0.3s						
SLE	**Schleitheim**	**1.38**	**113**	⇓*i*Pn	**Sn**	**13 41 06.4**	**+0.9**
	2μm,0.3s						
SLE	**Schleitheim**	**1.38**	**113**	⇓*i*P	**Pn**	**13 40 46.7**	**-0.6**
WLF	**Walferdange**	**1.38**	**348**	*e*Pg	**Pg**	**13 40 49.4**	**+0.9**
	SNR=20						
WLF				*e*Sg	**Sg**	**13 41 06.7**	**+0.2**
	SNR=7.6						
WLF	**Walferdange**	**1.38**	**348**	P	**Pn**	**13 40 49.4**	**+2.1**
WLF				S	**Sn**	**13 41 07.3**	**+1.8**
	comp=Z,140nm,0.0s						
BRANT	**Les Verrieres**	**1.38**	**184**	*e*P	**Pn**	**13 40 47.9**	**+0.6**
BRANT	**Les Verrieres**	**1.38**	**184**	*e*Pn	**Pn**	**13 40 46.7**	**-0.6**
	comp=Z,1μm,0.6s						
KTD	**Kalmit**	**1.40**	**44**	P	**Pn**	**13 40 48.5**	**+0.9**
KTD	**Kalmit**	**1.40**	**44**	Pg	**Pg**	**13 40 48.5**	**-0.4**
KTD				Sg	**Sg**	**13 41 07.2**	**+0.1**
RUP	**Ruppelstein**	**1.42**	**12**	*e*Pn	**Pn**	**13 40 48.1**	**+0.3**
	SNR=21						
RUP				Pg	**Pg**	**13 40 49.6**	**+0.3**
RUP	**Ruppelstein**	**1.42**	**12**	P	**Pg**	**13 40 49.6**	**+0.3**
RUP	**Ruppelstein**	**1.42**	**12**	Pg	**Pg**	**13 40 49.3**	**0.0**
RUP				Sg	**Sg**	**13 41 06.9**	**-0.7**
SPAK	**Spaichingen-Ko**	**1.47**	**98**	*e*Pn	**Pn**	**13 40 48.1**	**-0.4**
SPAK				⇓*i*Pg	**Pg**	**13 40 51.0**	**+0.7**
SPAK	**Spaichingen-Ko**	**1.47**	**98**	⇓*i*P	**Pg**	**13 40 51.0**	**+0.7**
SPAK	**Spaichingen-Ko**	**1.47**	**98**	Pg	**Pg**	**13 40 50.8**	**+0.5**
SPAK				Sg	**Sg**	**13 41 08.6**	**-0.8**
LBG	**Lerchenberg**	**1.50**	**76**	⇓*i*Pn	**Pn**	**13 40 48.0**	**-0.8**
LBG				⇓*i*Pg	**Pg**	**13 40 51.0**	**+0.3**
LBG				Sn	**Sn**	**13 41 06.0**	**-2.3**
LBG				Sg	**Sg**	**13 41 09.6**	**-0.6**
LBG	**Lerchenberg**	**1.50**	**76**	⇓*i*Pn	**Pn**	**13 40 48.0**	**-0.8**
LBG				Sn	**Sn**	**13 41 06.0**	**-2.3**
LBG	**Lerchenberg**	**1.50**	**76**	⇓*i*P	**Pg**	**13 40 51.0**	**+0.3**
LBG				S	**Sg**	**13 41 09.6**	**-0.6**
TRULL	**Truellikon**	**1.54**	**115**	⇑*i*Pn	**Pn**	**13 40 50.1**	**+0.6**
	comp=Z,719nm,0.2s						
MSS	**Messtetten**	**1.58**	**94**	⇓*e*Pn	**Pn**	**13 40 49.5**	**-0.5**
MSS	**Messtetten**	**1.58**	**94**	P	**Pn**	**13 40 52.9**	**+2.9**
BHBD	**Braunhartsberg**	**1.60**	**92**	⇓*i*Pn	**Pn**	**13 40 49.8**	**-0.6**
BHBD	**Braunhartsberg**	**1.60**	**92**	*e*P	**Pn**	**13 40 53.2**	**+2.9**
MSG	**Moessingen**	**1.62**	**86**	P	**Pn**	**13 40 53.4**	**+2.8**
ZUR	**Degenried**	**1.63**	**125**	⇑*i*Pn	**Pn**	**13 40 52.1**	**+1.4**
	comp=Z,1μm,0.2s						
TUBL	**Tuebingen-Lenn**	**1.66**	**82**	⇓*e*Pg	**Pg**	**13 40 55.5**	**+1.6**
ABH	**Alteburg**	**1.68**	**21**	Pn	**Pn**	**13 40 51.6**	**+0.1**
ABH				⇓*i*Pg	**Pg**	**13 40 54.0**	**-0.3**
ABH	**Alteburg**	**1.68**	**21**	⇓*i*P	**Pg**	**13 40 54.0**	**-0.3**
ABH	**Alteburg**	**1.68**	**21**	Pg	**Pg**	**13 40 53.9**	**-0.4**
ABH				Sg	**Sg**	**13 41 15.4**	**-0.8**
GUT	**Gutenstein**	**1.69**	**97**	⇓*i*Pn	**Pn**	**13 40 51.1**	**-0.4**
GUT				⇓*i*Pg	**Pg**	**13 40 55.0**	**+0.4**
GUT				Sg	**Sg**	**13 41 16.3**	**-0.3**
GUT	**Gutenstein**	**1.69**	**97**	⇓*i*P	**Pg**	**13 40 55.0**	**+0.4**
SISB	**Singen-Schiene**	**1.70**	**111**	Pn	**Pn**	**13 40 51.9**	**+0.2**
SISB				Pg	**Pg**	**13 40 55.6**	**+0.9**
SISB	**Singen-Schiene**	**1.70**	**111**	Px	**Pn**	**13 40 51.9**	**+0.2**
SISB	**Singen-Schiene**	**1.70**	**111**	P	**Pg**	**13 40 55.6**	**+0.9**
CABF	**La Chapelle**	**1.74**	**192**	*e*Pg	**Pg**	**13 40 56.5**	**+1.0**
CABF				*e*Sn	**Sn**	**13 41 12.7**	**-1.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**13 41 18.5**	**+0.4**
	comp=Z,264nm,0.4s						
CABF	**La Chapelle**	**1.74**	**192**	*e*Pn	**Pn**	**13 40 52.8**	**+0.5**
CABF				*e*Pg	**Pg**	**13 40 56.5**	**+1.0**
CABF				*e*Sn	**Sn**	**13 41 12.7**	**-1.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**13 41 18.5**	**+0.4**
	comp=Z,132nm,0.4s						
HEI	**Heidelberg (Ko**	**1.77**	**51**	Px	**Pg**	**13 40 56.4**	**+0.4**
STU	**Stuttgart**	**1.78**	**74**	*e*Pn	**Pn**	**13 40 51.8**	**-0.9**
STU				*e*Pg	**Pg**	**13 40 56.2**	**0.0**
STU				*e*Sg	**Sg**	**13 41 18.4**	**-0.8**
STU	**Stuttgart**	**1.78**	**74**	*e*Pg	**Pg**	**13 40 56.2**	**+0.1**
STU				*e*Sg	**Sg**	**13 41 18.4**	**-0.8**
GIMEL	**St. Georges /**	**1.80**	**188**	⇑*i*Pn	**Pn**	**13 40 53.7**	**+0.7**
	comp=Z,924nm,0.2s						
SWS	**Schriesheim-Wi**	**1.81**	**49**	Pn	**Pn**	**13 40 51.5**	**-1.7**
SWS				⇑*i*Pg	**Pg**	**13 40 56.7**	**0.0**
SWS	**Schriesheim-Wi**	**1.81**	**49**	⇑*i*P	**Pg**	**13 40 56.7**	**0.0**
BUCH	**Bad Urach**	**1.83**	**85**	⇓*i*Pn	**Pn**	**13 40 52.9**	**-0.6**
BUCH				Pg	**Pg**	**13 40 57.5**	**+0.3**
BUCH				Sg	**Sg**	**13 41 19.8**	**-1.2**
BUCH	**Bad Urach**	**1.83**	**85**	P	**Pg**	**13 40 57.5**	**+0.3**
HASLI	**Hasliberg/Brie**	**1.88**	**146**	⇓*i*Pn	**Pn**	**13 40 54.8**	**+0.7**
	comp=Z,571nm,0.4s						
BNALP	**Bannalp**	**1.90**	**139**	⇓*i*Pn	**Pn**	**13 40 55.2**	**+0.8**
	comp=Z,187nm,0.5s						
MUO	**Muotathal**	**1.93**	**134**	*e*Pn	**Pn**	**13 40 55.9**	**+1.2**
	comp=Z,513nm,0.7s						
TOD	**Tromm**	**1.94**	**47**	Pn	**Pn**	**13 40 52.9**	**-2.0**
TOD				*e*Pg	**Pg**	**13 40 58.9**	**-0.3**
	SNR=7.9						
TOD	**Tromm**	**1.94**	**47**	Pn	**Pn**	**13 40 52.8**	**-2.1**
TOD				Sg	**Sg**	**13 41 23.8**	**-0.5**
SENIN	**Lac Senin/Sane**	**2.01**	**166**	⇓*i*Pn	**Pn**	**13 40 57.0**	**+1.1**
	comp=Z,232nm,0.8s						
LKBD	**Leukerbad**	**2.05**	**160**	*e*Pn	**Pn**	**13 40 57.5**	**+1.0**
	comp=Z,112nm,0.6s						
LKBD2	**Leukerbad 2**	**2.07**	**160**	⇑*i*Pn	**Pn**	**13 40 58.0**	**+1.3**
	comp=Z,36nm,0.1s						
GIVF	**Givet**	**2.14**	**327**	*e*Pg	**Pg**	**13 41 03.0**	**0.0**
GIVF				*e*Sn	**Sn**	**13 41 22.7**	**-1.5**
GIVF				*e*Sg	**Sg**	**13 41 31.5**	**+0.8**
	comp=Z,86nm,0.3s						
GIVF	**Givet**	**2.14**	**327**	*e*P	**Pn**	**13 40 59.3**	**+1.6**
GIVF				*e*Pg	**Pg**	**13 41 03.0**	**0.0**
GIVF				*e*Sn	**Sn**	**13 41 22.7**	**-1.5**
GIVF				*e*Sg	**Sg**	**13 41 31.5**	**+0.8**
GIVF	**Givet**	**2.14**	**327**	*e*Pg	**Pg**	**13 41 03.0**	**0.0**
GIVF				*e*Sn	**Sn**	**13 41 22.7**	**-1.5**
GIVF				*e*Sg	**Sg**	**13 41 31.5**	**+0.8**
	comp=Z,43nm,0.3s						
SALAN	**Lac Salanfe**	**2.19**	**173**	⇑*i*Pn	**Pn**	**13 40 59.3**	**+0.9**
	comp=Z,80nm,0.4s						
LLS	**Linth-Limmern**	**2.19**	**131**	*e*P	**Pn**	**13 40 59.7**	**+1.3**
LLS	**Linth-Limmern**	**2.19**	**131**	*e*Pn	**Pn**	**13 40 59.5**	**+1.1**
	comp=Z,98nm,0.3s						
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	⇓*i*P	**Pn**	**13 40 59.5**	**+1.0**
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	⇓*i*Pn	**Pn**	**13 40 59.7**	**+1.2**
	comp=Z,275nm,0.4s						
DOU	**Dourbes**	**2.22**	**324**	P	**Pn**	**13 41 02.1**	**+3.3**
DOU				S	**Sn**	**13 41 33.9**	**+7.7**
	comp=Z,26nm,0.0s						
DOU	**Dourbes**	**2.22**	**324**	P	**Pn**	**13 41 02.0**	**+3.2**
DOU				S	**Sn**	**13 41 33.9**	**+7.7**
SIND	**Sindeldorf**	**2.23**	**61**	Pn	**Pn**	**13 40 57.9**	**-1.

LPG			*e*Pg	**Pg**	**13 41 15.9**	**-0.2**
LPG			*e*Sn	**Sn**	**13 41 39.5**	**-1.6**
LPG			*e*Sg	**Sg**	**13 41 52.0**	**-0.7**
LPG	**La Plagne**	**2.82 178**	*e*Pg	**Pg**	**13 41 15.9**	**-0.2**
	SNR=1.0					
LPG			*e*Sn	**Sn**	**13 41 39.5**	**-1.6**
	SNR=1.0					
LPG			*e*Sg	**Sg**	**13 41 52.0**	**-0.7**
	comp=Z,19nm,0.3s,SNR=1.0					
VAI	**Varese**	**2.86 148**	Pn	**Pn**	**13 41 09.3**	**+1.7**
HYF	**Humbligny**	**2.87 250**	*e*Pg	**Pg**	**13 41 17.7**	**+0.6**
HYF			*e*Sg	**Sg**	**13 41 54.8**	**+0.5**
HYF	**Humbligny**	**2.87 250**	*e*Pn	**Pn**	**13 41 08.2**	**+0.4**
HYF			*e*Pg	**Pg**	**13 41 17.7**	**+0.6**
HYF			*e*Sg	**Sg**	**13 41 54.8**	**+0.5**
HYF	**Humbligny**	**2.87 250**	*e*Pg	**Pg**	**13 41 17.7**	**+0.6**
HYF			*e*Sg	**Sg**	**13 41 54.8**	**+0.5**
UCC	**Uccle**	**2.88 330**	E		13 41 19.9	
LSD	**Ceresole Reale**	**2.88 172**	P	**Pn**	**13 41 08.6**	**+0.6**
TRAV		**2.91 164**	P	**Pn**	**13 41 10.2**	**+1.9**
TRAV		**2.91 164**	Pn	**Pn**	**13 41 11.5**	**+3.2**
TRAV			S	**Sn**	**13 41 40.6**	**-2.7**
RETA	**Reutte**	**2.92 105**⇓	*i*Pn	**Pn**	**13 41 09.8**	**+1.4**
	SNR=18					
RETA	**Reutte**	**2.92 105**⇓	*e*Pn	**Pn**	**13 41 09.8**	**+1.4**
	SNR=18					
RETA		⇓	*i*Sn	**Sn**	**13 41 51.3**	**+7.9**
FETA	**Feichten**	**3.07 113**⇓	*i*Pn	**Pn**	**13 41 12.2**	**+1.7**
FETA		⇓	*i*Sn	**Sn**	**13 41 55.0**	**+7.7**
BGF	**Bois d'Agland**	**3.10 237**	*e*Pg	**Pg**	**13 41 22.1**	**+0.7**
BGF			*e*Sn	**Sn**	**13 41 46.0**	**-2.0**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**13 42 01.5**	**-0.1**
	comp=Z,187nm,0.4s,SNR=1.0					
BGF	**Bois d'Agland**	**3.10 237**	*e*Pn	**Pn**	**13 41 10.3**	**-0.6**
BGF			*e*Pg	**Pg**	**13 41 22.1**	**+0.7**
BGF			*e*Sn	**Sn**	**13 41 46.0**	**-2.0**
BGF			*e*Sg	**Sg**	**13 42 01.5**	**-0.1**
BGF	**Bois d'Agland**	**3.10 237**	*e*Pg	**Pg**	**13 41 22.1**	**+0.7**
BGF			*e*Sn	**Sn**	**13 41 46.0**	**-2.0**
	SNR=1.0					
BGF			*e*Sg	**Sg**	**13 42 01.5**	**-0.1**
	comp=Z,93nm,0.4s,SNR=1.0					
FUR	**Furstenfeldbru**	**3.12 91**	*e*Pg	**Pg**	**13 41 21.9**	**0.0**
	SNR=2.4					
FUR			*e*Sg	**Sg**	**13 42 01.3**	**-1.1**
MOTA	**Moosalm**	**3.18 106**⇑	*i*Pn	**Pn**	**13 41 13.1**	**+1.1**
	SNR=22					
MOTA	**Moosalm**	**3.18 106**	*i*Sn	**Sn**	**13 41 56.6**	**+6.7**
MOTA	**Moosalm**	**3.18 106**	Pn	**Pn**	**13 41 13.1**	**+1.1**
	comp=Z,21nm,9.0s					
RSP	**Reno Superiore**	**3.20 172**	P	**Pn**	**13 41 14.1**	**+1.8**
AGO	**Saint Agoulin**	**3.28 228**	Pn	**Pn**	**13 41 12.6**	**-0.8**
GRA1	**Grafenberg Arr**	**3.33 64**	*e*Pg	**Pg**	**13 41 24.2**	**-1.7**
GRA1			*e*Sg	**Sg**	**13 42 06.1**	**-3.0**
GRF	**Grafenberg Arr**	**3.33 64**	*e*Pg	**Pg**	**13 41 24.5**	**-1.4**
	SNR=5.9					
GRF			*e*Sg	**Sg**	**13 42 06.3**	**-2.8**
	SNR=4.9					
GRF	**Grafenberg Arr**	**3.33 64**	*e*Pg	**Pg**	**13 41 24.2**	**-1.7**
GRF			*e*Sg	**Sg**	**13 42 06.1**	**-3.0**
UBBA	**Unterbreizbach**	**3.34 40**	*e*Pg	**Pg**	**13 41 25.9**	**-0.1**
	SNR=9.7					
UBBA			*e*Sg	**Sg**	**13 42 06.8**	**-2.4**
	SNR=6.2					
RRL	**Cesana Torines**	**3.40 178**	P	**Pn**	**13 41 17.2**	**+2.2**
ORIF	**Oris-en-Rattie**	**3.44 189**	*e*Pg	**Pg**	**13 41 26.6**	**-1.3**
ORIF			*e*Sg	**Sg**	**13 42 09.5**	**-2.9**
	comp=Z,34nm,0.3s,SNR=1.0					
ORIF	**Oris-en-Rattie**	**3.44 189**	*e*Pn	**Pn**	**13 41 15.3**	**-0.2**
ORIF			*e*Pg	**Pg**	**13 41 26.6**	**-1.3**
ORIF			*e*Sg	**Sg**	**13 42 09.5**	**-2.9**
ORIF	**Oris-en-Rattie**	**3.44 189**	*e*Pg	**Pg**	**13 41 26.6**	**-1.3**
ORIF			*e*Sg	**Sg**	**13 42 09.5**	**-2.9**
	comp=Z,17nm,0.3s,SNR=1.0					
WATA	**Walderalm**	**3.49 105**⇑	*i*Pn	**Pn**	**13 41 17.4**	**+1.1**
WTTA	**Wattenberg**	**3.55 105**⇓	*i*Pn	**Pn**	**13 41 18.2**	**+1.2**
PYM	**Petit Puy Mans**	**3.56 225**	Pn	**Pn**	**13 41 15.5**	**-1.7**
PYM			Sg	**Sg**	**13 42 18.6**	**+2.4**
MBDF	**Montbardon**	**3.59 178**	*e*Pg	**Pg**	**13 41 30.3**	**-0.6**
MBDF			*e*Sg	**Sg**	**13 42 16.3**	**-1.1**
	comp=Z,22nm,0.6s					
MBDF	**Montbardon**	**3.59 178**	*e*Pn	**Pn**	**13 41 17.0**	**-0.7**
MBDF			*e*Pg	**Pg**	**13 41 30.3**	**-0.6**
MBDF			*e*Sg	**Sg**	**13 42 16.3**	**-1.1**
MBDF	**Montbardon**	**3.59 178**	*e*Pg	**Pg**	**13 41 30.3**	**-0.6**
MBDF			*e*Sg	**Sg**	**13 42 16.3**	**-1.1**
	comp=Z,11nm,0.6s					
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pg	**Pg**	**13 41 30.9**	**-0.4**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**13 41 58.1**	**-2.6**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**13 42 16.5**	**-1.6**
	comp=Z,40nm,0.3s,SNR=1.0					
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pn	**Pn**	**13 41 17.7**	**-0.3**
TCF			*e*Pg	**Pg**	**13 41 30.9**	**-0.4**
TCF			*e*Sn	**Sn**	**13 41 58.1**	**-2.6**
TCF			*e*Sg	**Sg**	**13 42 16.5**	**-1.6**
TCF	**Toulx Ste Croi**	**3.62 237**	*e*Pg	**Pg**	**13 41 30.9**	**-0.4**
	SNR=1.0					
TCF			*e*Sn	**Sn**	**13 41 58.1**	**-2.6**
	SNR=1.0					
TCF			*e*Sg	**Sg**	**13 42 16.5**	**-1.6**
	comp=Z,20nm,0.3s,SNR=1.0					
WTSB	**Winterswijk**	**3.66 2**	*e*P	**Pn**	**13 41 21.5**	**+3.0**
WTSB	**Winterswijk**	**3.66 2**	*e*S	**Sg**	**13 42 15.9**	**-3.5**
VIVF	**Saint-Julien-I**	**3.71 202**	*e*Pg	**Pg**	**13 41 32.1**	**-1.0**
VIVF			*e*Sn	**Sn**	**13 41 59.7**	**-3.3**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**13 42 19.8**	**-1.3**
	comp=Z,32nm,0.2s,SNR=1.0					
VIVF	**Saint-Julien-I**	**3.71 202**	*e*Pn	**Pn**	**13 41 18.4**	**-0.9**
VIVF			*e*Pg	**Pg**	**13 41 32.1**	**-1.0**
VIVF			*e*Sn	**Sn**	**13 41 59.7**	**-3.3**
VIVF			*e*Sg	**Sg**	**13 42 19.8**	**-1.3**
VIVF	**Saint-Julien-I**	**3.71 202**	*e*Pg	**Pg**	**13 41 32.1**	**-1.0**
VIVF			*e*Sn	**Sn**	**13 41 59.7**	**-3.3**
	SNR=1.0					
VIVF			*e*Sg	**Sg**	**13 42 19.8**	**-1.3**
	comp=Z,16nm,0.2s,SNR=1.0					
PZZ	**Prazzo**	**3.83 175**	P	**Pn**	**13 41 21.4**	**+0.5**
LBL	**Lubilhac**	**3.85 218**	Pn	**Pn**	**13 41 20.2**	**-1.1**
PCP	**Pian Castagno**	**4.01 160**	P	**Pn**	**13 41 23.7**	**+0.3**
MOX	**Moxa**	**4.01 53**	*e*Pn	**Pn**	**13 41 23.1**	**-0.3**
MOX			*e*Pg	**Pg**	**13 41 36.1**	**-2.7**
	SNR=9.2					
MOX			*e*Sg	**Sg**	**13 42 28.0**	**-2.8**
MOX	**Moxa**	**4.01 53**	*e*PN	**Pn**	**13 41 23.1**	**-0.3**
MOX			*e*PG	**Pg**	**13 41 36.3**	**-2.5**
MOX			*e*SG	**Sg**	**13 42 28.0**	**-2.8**
MOX	**Moxa**	**4.01 53**	*e*Pn	**Pn**	**13 41 23.1**	**-0.3**
MOX			*e*Pg	**Pg**	**13 41 36.3**	**-2.5**
MOX			*e*Sg	**Sg**	**13 42 28.0**	**-2.8**
ROB	**Roburent**	**4.12 167**	P	**Pn**	**13 41 27.1**	**+2.2**
NKC	**Novy Kostel**	**4.28 61**	*e*Sg	**Sg**	**13 42 35.3**	**-4.0**
	comp=Z,60nm,0.6s					
CLZ	**Clausthal**	**4.28 33**	*e*Sg	**Sg**	**13 42 39.4**	**0.0**
	SNR=3.1					
ABTA	**Abfaltersbach**	**4.30 109**	*i* Pn	**Pn**	**13 41 30.0**	**+2.6**
	SNR=10					
SMRF	**Simiane la Rot**	**4.40 190**	*e*Pg	**Pg**	**13 41 44.7**	**-1.6**
	SNR=1.0					
SMRF			*e*Sg	**Sg**	**13 42 39.8**	**-3.5**
	comp=Z,8.7nm,0.4s,SNR=1.0					
SMRF	**Simiane la Rot**	**4.40 190**	*e*Pn	**Pn**	**13 41 28.8**	**0.0**
SMRF			*e*Pg	**Pg**	**13 41 44.7**	**-1.6**
SMRF			*e*Sg	**Sg**	**13 42 39.8**	**-3.5**
SMRF	**Simiane la Rot**	**4.40 190**	*e*Pg	**Pg**	**13 41 44.7**	**-1.6**
	SNR=1.0					
SMRF			*e*Sg	**Sg**	**13 42 39.8**	**-3.5**
	comp=Z,4.3nm,0.4s,SNR=1.0					
LDF	**La Druitiere**	**4.49 276**	*e*Pg	**Pg**	**13 41 46.5**	**-1.5**
	SNR=1.0					
LDF			*e*Sn	**Sn**	**13 42 18.1**	**-4.0**
	SNR=1.0					
LDF			*e*Sg	**Sg**	**13 42 44.3**	**-1.8**
	comp=Z,50nm,0.4s,SNR=1.0					
LDF	**La Druitiere**	**4.49 276**	*e*Pn	**Pn**	**13 41 30.3**	**+0.3**
LDF			*e*Pg	**Pg**	**13 41 46.5**	**-1.5**
LDF			*e*Sn	**Sn**	**13 42 18.1**	**-4.0**
LDF			*e*Sg	**Sg**	**13 42 44.3**	**-1.8**
LDF	**La Druitiere**	**4.49 276**	*e*Pg	**Pg**	**13 41 46.5**	**-1.5**
	SNR=1.0					
LDF			*e*Sn	**Sn**	**13 42 18.1**	**-4.0**
	SNR=1.0					
LDF			*e*Sg	**Sg**	**13 42 44.3**	**-1.8**
	comp=Z,25nm,0.4s,SNR=1.0					
SBF	**Sospel**	**4.49 172**	*e*Pn	**Pn**	**13 41 27.2**	**-2.8**
SBF			*e*Sn	**Sn**	**13 42 20.1**	**-2.2**
	comp=Z,15nm,0.3s					
SBF	**Sospel**	**4.49 172**	*e*Pn	**Pn**	**13 41 27.2**	**-2.8**
SBF			*e*Sn	**Sn**	**13 42 20.1**	**-2.2**
	comp=Z,7.6nm,0.3s					
NEGI	**Negi**	**4.54 170**	P	**Pn**	**13 41 31.0**	**+0.4**
RJF	**Les Rejaudoux**	**4.62 231**	*e*Pg	**Pg**	**13 41 49.5**	**-0.9**
RJF			*e*Sg	**Sg**	**13 42 48.5**	**-1.7**
	comp=Z,26nm,0.4s					
RJF	**Les Rejaudoux**	**4.62 231**	*e*Pn	**Pn**	**13 41 31.0**	**-0.7**
RJF			*e*Pg	**Pg**	**13 41 49.5**	**-0.9**
RJF			*e*Sg	**Sg**	**13 42 48.5**	**-1.7**
RJF	**Les Rejaudoux**	**4.62 231**	*e*Pg	**Pg**	**13 41 49.5**	**-0.9**
RJF			*e*Sg	**Sg**	**13 42 48.5**	**-1.7**
	comp=Z,13nm,0.4s					
CAF	**Calviac**	**4.62 224**	*e*Pg	**Pg**	**13 41 48.4**	**-2.0**
	SNR=1.0					
CAF			*e*Sn	**Sn**	**13 42 21.6**	**-3.7**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**13 42 48.2**	**-2.0**
	comp=Z,14nm,0.2s,SNR=1.0					
CAF	**Calviac**	**4.62 224**	*e*Pn	**Pn**	**13 41 31.2**	**-0.5**
CAF			*e*Pg	**Pg**	**13 41 48.4**	**-2.0**
CAF			*e*Sn	**Sn**	**13 42 21.6**	**-3.7**
CAF			*e*Sg	**Sg**	**13 42 48.2**	**-2.0**
CAF	**Calviac**	**4.62 224**	*e*Pg	**Pg**	**13 41 48.4**	**-2.0**
	SNR=1.0					
CAF			*e*Sn	**Sn**	**13 42 21.6**	**-3.7**
	SNR=1.0					
CAF			*e*Sg	**Sg**	**13 42 48.2**	**-2.0**
	comp=Z,6.9nm,0.2s,SNR=1.0					
LASF	**Ste Croix**	**4.65 205**	*e*Pg	**Pg**	**13 41 48.5**	**-2.6**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**13 42 48.3**	**-3.0**
	comp=Z,39nm,0.6s,SNR=1.0					
LASF	**Ste Croix**	**4.65 205**	*e*Pn	**Pn**	**13 41 31.4**	**-0.8**
LASF			*e*Pg	**Pg**	**13 41 48.5**	**-2.6**
LASF			*e*Sg	**Sg**	**13 42 48.3**	**-3.0**
LASF	**Ste Croix**	**4.65 205**	*e*Pg	**Pg**	**13 41 48.5**	**-2.6**
	SNR=1.0					
LASF			*e*Sg	**Sg**	**13 42 48.3**	**-3.0**
	comp=Z,20nm,0.6s,SNR=1.0					
KHC	**Kasperske Hory**	**4.69 77**	*e*PN	**Pn**	**13 41 32.7**	**0.0**
KHC			*e*PG	**Pg**	**13 41 50.0**	**-1.7**
KHC			*e*SN	**Sn**	**13 42 23.9**	**-3.1**
KHC			*e*SG	**Sg**	**13 42 49.4**	**-3.0**
	comp=Z,25nm,0.7s					
KBA	**Koelnbreinsper**	**4.71 103**⇓	*i*Pn	**Pn**	**13 41 34.7**	**+1.7**
KBA		⇑	*i*Sg	**Sg**	**13 42 51.9**	**-1.4**
	comp=Z,12nm,0.5s					
FLN	**La Foliniere**	**4.73 278**	*e*Pn	**Pn**	**13 41 33.8**	**+0.5**
	baz=103,SNR=1.0					
FLN	**La Foliniere**	**4.73 278**	*e*Pg	**Pg**	**13 41 52.5**	**-0.1**
	baz=100,SNR=1.0					
FLN			*e*Sn	**Sn**	**13 42 23.3**	**-4.8**
	baz=100,SNR=1.0					
FLN			*e*Sg	**Sg**	**13 42 52.1**	**-1.8**
	comp=Z,49nm,0.5s					
FLN	**La Foliniere**	**4.73 278**	*e*Pn	**Pn**	**13 41 33.8**	**+0.5**
FLN			*e*Pg	**Pg**	**13 41 52.5**	**-0.1**
FLN			*e*Sn	**Sn**	**13 42 23.3**	**-4.8**
FLN			*e*Sg	**Sg**	**13 42 52.1**	**-1.8**
FLN	**La Foliniere**	**4.73 278**	*e*Pg	**Pg**	**13 41 52.5**	**-0.1**
	SNR=1.0					
FLN			*e*Sn	**Sn**	**13 42 23.3**	**-4.8**
	SNR=1.0					
FLN			*e*Sg	**Sg**	**13 42 52.1**	**-1.8**
	comp=Z,25nm,0.5s					
GEC2	**GERESS Array S**	**4.74 81**	*e*Pn	**Pn**	**13 41 33.7**	**+0.3**
	SNR=2.1					
GEC2			*e*Pg	**Pg**	**13 41 50.9**	**-1.8**
	SNR=1.5					
GEC2			*e*Sn	**Sn**	**13 42 22.9**	**-5.4**
	SNR=13					
GEC2			*e*Sg	**Sg**	**13 42 49.7**	**-4.4**
	SNR=3.6					
FRF	**La Foret Royal**	**4.76 180**	*e*Pg	**Pg**	**13 41 51.5**	**-1.6**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**13 42 25.1**	**-3.7**
	comp=Z,4.5nm,0.2s,SNR=1.0					
FRF	**La Foret Royal**	**4.76 180**	*e*Pn	**Pn**	**13 41 34.0**	**+0.3**
FRF			*e*Pg	**Pg**	**13 41 51.5**	**-1.6**
FRF			*e*Sn	**Sn**	**13 42 25.1**	**-3.7**
FRF	**La Foret Royal**	**4.76 180**	*e*Pg	**Pg**	**13 41 51.5**	**-1.6**
	SNR=1.0					
FRF			*e*Sn	**Sn**	**13 42 25.1**	**-3.7**
	comp=Z,2.2nm,0.2s,SNR=1.0					
MFF	**Saint Martin d**	**4.89 252**	*e*Pg	**Pg**	**13 41 54.5**	**-1.2**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**13 42 28.6**	**-3.5**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**13 42 57.7**	**-1.3**
	comp=Z,20nm,0.3s,SNR=1.0					
MFF	**Saint Martin d**	**4.89 252**	*e*Pn	**Pn**	**13 41 35.2**	**-0.3**
MFF			*e*Pg	**Pg**	**13 41 54.5**	**-1.2**
MFF			*e*Sn	**Sn**	**13 42 28.6**	**-3.5**
MFF			*e*Sg	**Sg**	**13 42 57.7**	**-1.3**
MFF	**Saint Martin d**	**4.89 252**	*e*Pg	**Pg**	**13 41 54.5**	**-1.2**
	SNR=1.0					
MFF			*e*Sn	**Sn**	**13 42 28.6**	**-3.5**
	SNR=1.0					
MFF			*e*Sg	**Sg**	**13 42 57.7**	**-1.3**
	comp=Z,9.8nm,0.3s,SNR=1.0					
GRR	**Gorron**	**4.98 274**	*e*Pn	**Pn**	**13 41 37.1**	**+0.4**
LMR	**La Mourre**	**4.99 181**	*e*Pn	**Pn**	**13 41 36.3**	**-0.5**
LMR			*e*Sn	**Sn**	**13 42 30.2**	**-4.2**
	comp=Z,2.9nm,0.2s,SNR=1.0					
LMR	**La Mourre**	**4.99 181**	*e*Pn	**Pn**	**13 41 36.3**	**-0.5**
LMR			*e*Sn	**Sn**	**13 42 30.2**	**-4.2**
	comp=Z,1.5nm,0.2s,SNR=1.0					
CLL	**Collm**	**5.11 52**	*e*Pg	**Pg**	**13 41 57.6**	**-2.2**
	SNR=3.8					
CLL			*e*Sg	**Sg**	**13 43 02.4**	**-3.5**
	SNR=4.4					
CLL	**Collm**	**5.11 52**	*i* Pg	**Pg**	**13 41 57.5**	**-2.3**
CLL			*e*Sg	**Sg**	**13 43 03.0**	**-2.9**
	comp=Z,17nm,0.7s					
MOA	**Molln**	**5.15 92**⇓	*i*Pn	**Pn**	**13 41 39.8**	**+0.7**
LFF	**La Frestale**	**5.27 232**	*e*Sg	**Sg**	**13 43 09.6**	**-1.5**
	comp=Z,77nm,0.6s					
LFF	**La Frestale**	**5.27 232**	*e*Sg	**Sg**	**13 43 09.6**	**-1.5**
	comp=Z,38nm,0.6s					
BRG	**Berggiesshubel**	**5.41 59**	*e*Pg	**Pg**	**13 42 03.2**	**-2.4**
	SNR=2.6					
BRG			*e*Sg	**Sg**	**13 43 13.0**	**-2.6**
	SNR=4.8					
BRG	**Berggiesshubel**	**5.41 59**	Pg	**Pg**	**13 42 02.9**	**-2.7**
BRG	**Berggiesshubel**	**5.41 59**	PN	**Pn**	**13 41 34.4**	**-8.2**
	comp=Z,1.2nm,0.7s					
BRG			PG	**Pg**	**13 42 02.9**	**-2.7**
BRG			SG	**Sg**	**13 43 12.0**	**-3.7**
	comp=Z,16nm,0.5s					
PRU	**Pruhonice**	**5.47 69**	*e*Pn	**Pn**	**13 41 42.3**	**-1.1**
	comp=Z,16nm,0.7s					
PRU			*e*Sg	**Sg**	**13 43 12.4**	**-5.1**
	comp=Z,16nm,0.7s					
PVCC	**Panska Ves**	**5.65 64**	*e*Sg	**Sg**	**13 43 18.8**	**-4.4**
	comp=Z,29nm,0.6s					
MTLF	**Montolieu**	**5.84 213**	*e*Pg	**Pg**	**13 42 12.0**	**-1.9**
	SNR=1.0					
MTLF			*e*Sg	**Sg**	**13 43 27.8**	**-1.8**
	comp=Z,13nm,0.6s,SNR=1.0					
MTLF	**Montolieu**	**5.84 213**	*e*Pg	**Pg**	**13 42 12.0**	**-1.9**
	SNR=1.0					
MTLF			*e*Sg	**Sg**	**13 43 27.8**	**-1.8**
	comp=Z,6.6nm,0.6s,SNR=1.0					
SGMF	**Saint Gilles**	**6.12 273**	*e*Pn	**Pn**	**13 41 52.4**	**0.0**
	SNR=1.0					
SGMF			*e*Sn	**Sn**	**13 42 55.7**	**-6.6**
	comp=Z,5.8nm,0.2s,SNR=1.0					
SGMF	**Saint Gilles**	**6.12 273**	*e*Pn	**Pn**	**13 41 52.4**	**0.0**
	SNR=1.0					
SGMF			*e*Sn	**Sn**	**13 42 55.7**	**-6.6**
	comp=Z,2.9nm,0.2s,SNR=1.0					
UPC	**Upice**	**6.52 67**	*e*Sg	**Sg**	**13 43 45.5**	**-5.6**
KRUC	**Moravsky**	**6.52 80**	*e*Pn	**Pn**	**13 41 57.7**	**-0.2**
QUIF	**Quistinic**	**6.56 270**	*e*Pn	**Pn**	**13 41 58.6**	**+0.2**
	SNR=1.0					
QUIF			*e*Sn	**Sn**	**13 43 06.1**	**-7.0**
	comp=Z,14nm,0.5s					
ROSF	**Rostrenen**	**6.59 274**	*e*Pn	**Pn**	**13 41 59.4**	**+0.6**
ROSF			*e*Sn	**Sn**	**13 43 08.2**	**-5.7**
	comp=Z,8.1nm,0.4s,SNR=1.0					
ROSF	**Rostrenen**	**6.59 274**	*e*Pn	**Pn**	**13 41 59.4**	**+0.6**
ROSF			*e*Sn	**Sn**	**13 43 08.2**	**-5.7**
	comp=Z,4.1nm,0.4s,SNR=1.0					
DPC	**Dobruska-Polom**	**6.67 69**	*e*Sg	**Sg**	**13 43 50.1**	**-5.8**
	comp=Z,14nm,0.9s					
EPF	**Esparros**	**6.87 222**	*e*Sg	**Sg**	**13 44 00.4**	**-2.1**
	comp=Z,6.9nm,0.4s					
EPF	**Esparros**	**6.87 222**	*e*Sg	**Sg**	**13 44 00.4**	**-2.1**
	comp=Z,3.5nm,0.4s					
ZST	**Bratislava**	**7.01 87**	*e*SG	**Sg**	**13 44 06.5**	**-0.4**
MODS	**Modra-Piesok**	**7.11 86**	*e*SG	**Sg**	**13 44 07.4**	**-2.8**
OKC	**Ostrava-Krasne**	**7.73 74**	*e*Sg	Sx	13 44 25.6	
VYHS	**Vyhne**	**8.14 84**	*e*PN	**Pn**	**13 42 19.6**	**-0.5**
VYHS			*e*SG	Sx	13 44 37.5	
STHS	**Stebnicka Huta**	**9.71 78**	*e*SG	Sx	13 45 26.8	

NDI ***26*** *13:43:23.2±3.7,3478N×8232E,h10km,mb4.8, mb4.7(NEIC)*
IDC ***26*** *13:43:26.6±0.6,3407N×8187E,h0km,mb4.1/17, mb1 4.2/19,mb1mx4.2/24,mbtmp4.1/19,ML3.7/1,MS3.4/10, Ms1 3.4/10,ms1mx3.3/24,Error ellipse: s-maj=19.0km s-min=14.5km az=35.0*
LDG ***26*** *13:43:27.4±0.1,3407N×8157E,h10km,Mb4.7/18,Ms3.5/4, Error ellipse: s-maj=9.4km s-min=4.4km az=58.0*
NEIC ***26*** *13:43:28.6±0.3,3404N×8193E,h10km,mb4.7/27,Error ellipse: s-maj=7.6km s-min=6.0km az=54.0*
MOS ***26*** *13:43:30.3±1.2,3416N×8200E,h33km,mb4.6/36,Error ellipse: s-maj=11.0km s-min=5.0km az=121.9*
ISCJB ***26*** *13:43:31.8±0.5,3425N±002×8199E±003,h45km±5km, mb4.4/49,MS3.5/13,Error ellipse: s-maj=4.7km s-min=3.5km az=141.7*
BJI ***26*** *13:43:31.3,3443N×8232E,h10km,mB4.7,mb4.3,ML3.8, Ms4.1,Msz4.0*
SZGRF ***26*** *13:43:33.5,3446N×8240E,h33km,mb4.5,Xizang*
ISC 26 13:43:34.4±0.4,3427N±002×8199E±003,h50km±4km, n197,σ1§19/213,mb4.4/49,MS3.5/13,9C-9D,Xizang

Code	Station Name	Δ°	AZ°	Phase	ID Op	Time h m s	Res ISC
KLP	**Kalpa**	**4.17**	**230**	*e*P	**Pn**	**13 44 36.0**	**+0.6**
KLP					AMb	13 44 50.6	
	comp=Z,122nm,0.9s						
KLP				*e*S	**Sn**	**13 45 26.2**	**+3.4**
JOSI	**Joshimath**	**4.24**	**210**	*e*P	**Pn**	**13 44 38.9**	**+2.5**
JOSI				*e*S	**Sn**	**13 45 30.6**	**+6.1**
PTH	**Pithoragarh**	**4.94**	**198**	*e*P	**Pn**	**13 44 46.0**	**0.0**
PTH				*ex*	x	13 46 10.0	
LGTI	**Lohaghat**	**5.03**	**198**	*e*P	**Pn**	**13 44 49.0**	**+1.8**
SDNR	**Sundarnagar**	**5.05**	**238**	*e*P	**Pn**	**13 44 45.5**	**-2.0**
SDNR				*e*S	**Sn**	**13 45 47.0**	**+2.5**
SMLA	**Simla**	**5.13**	**234**	*e*P	**Pn**	**13 44 47.2**	**-1.4**
SMLA				AMb	AMB	13 44 48.8	
	comp=Z,22nm,0.5s						
SMLA				*e*S	**Sn**	**13 45 47.4**	**+0.8**
DDI	**Dehra Dun**	**5.16**	**221**	*e*P	**Pn**	**13 44 49.0**	**0.0**
DDI				*e*S	**Sn**	**13 45 50.0**	**+2.8**
BHK	**Bhakra**	**5.49**	**240**	*ex*	x	13 45 01.6	
THN	**Thein Dam**	**5.56**	**253**	*e*P	**Pn**	**13 44 51.2**	**-3.3**
THN				*ex*	**Sn**	**13 46 02.5**	**+5.3**
DANN	**Dangsing**	**6.09**	**165**	*e*Pn	**Pn**	**13 45 00.5**	**-1.3**
DANN				*e*Sn	**Sn**	**13 46 10.7**	**+0.5**
	comp=Z,284nm,0.9s						
KOLN	**Koldanda**	**6.62**	**168**	*e*Pn	**Pn**	**13 45 07.4**	**-1.7**
KOLN				*e*Sn	**Sn**	**13 46 23.4**	**+0.2**
	comp=Z,218nm,0.5s						
GKN	**Gorkha**	**6.64**	**159**	*e*Pn	**Pn**	**13 45 08.2**	**-1.2**
GKN				*e*Sn	**Sn**	**13 46 24.9**	**+1.1**
NDI	**New Delhi**	**6.90**	**218**	*e*P	**Pn**	**13 45 11.4**	**-1.5**
NDI				AMb	AMB	13 45 14.4	
	comp=Z,44nm,0.8s						
NDI				*e*S	**Sn**	**13 46 31.0**	**+0.9**
KKN	**Kakani**	**7.04**	**156**	*e*Pn	**Pn**	**13 45 14.9**	**0.0**
KKN				*e*Sn	**Sn**	**13 46 34.2**	**+0.6**
	comp=Z,276nm,0.8s						
AYAN	**Aya Nagar**	**7.11**	**217**	*e*P	**Pn**	**13 45 14.4**	**-1.4**
DMN	**Daman**	**7.15**	**157**	*e*Pn	**Pn**	**13 45 16.2**	**-0.2**
DMN				*e*Sn	**Sn**	**13 46 37.6**	**+1.3**
	comp=Z,211nm,0.8s						
GUN	**Gumba**	**7.16**	**151**	*e*Pn	**Pn**	**13 45 16.2**	**-0.3**
GUN				*e*Sn	**Sn**	**13 46 37.9**	**+1.5**
	comp=Z,226nm,0.7s						
PKI	**Pulchoki**	**7.29**	**155**	*e*Pn	**Pn**

Code	Station Name	Δ°	AZ°	Op	ISC	Time	Res
GTA				LR	LR		
	comp=Z,768nm,12.9s						
KURK	**Kurchatov**	**16.62**	**352**	*e*P	**Pn**	**13 47 24.3**	**+0.6**
KURK				pmax	pmax		
	comp=Z,18nm,1.0s						
KURK	**Kurchatov**	**16.62**	**352**	*e*P	**Pn**	**13 47 24.3**	**+0.5**
	comp=Z,18nm,1.0s						
HYB	**Hyderabad**	**17.06**	**191**	*e*P	**Pn**	**13 47 25.0**	**-4.4**
HYB	**Hyderabad**	**17.06**	**191**	⇑*i*P	**Pn**	**13 47 25.0**	**-4.4**
POO	**Poona**	**17.28**	**207**	*e*x	**Pn**	**13 47 27.7**	**-4.4**
KAD	**Karad**	**18.28**	**204**	*e*P	**Pn**	**13 47 42.2**	**-2.2**
KAD				AMb	AMB	13 47 48.4	
	comp=Z,24nm,1.0s						
CD2	**Chengdu**	**18.64**	**94**	*e*P	**Pn**	**13 47 46.8**	**-1.9**
CD2				AP	pP	13 47 50.3	-9.0
CD2				XP	sP	13 47 53.8	-12
CD2				PP		13 48 02.5	
CD2				SS		13 51 35.3	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s						
CD2				AMB	AMB		
	comp=Z,20nm,3.6s						
CD2				LR	LR		
	comp=N,430nm,10.8s						
CD2				LR	LR		
	comp=E,530nm,9.6s						
CD2				LR	LR		
	comp=Z,760nm,10.8s						
ZAL	**Zalesovo**	**19.76**	**5**	P	**Pn**	**13 48 00.4**	**-1.5**
ZALV	**Zalesovo Beam**	**19.78**	**5**	P	**Pn**	**13 48 00.4**	**-1.7**
	baz=202,slow=7.4,SNR=1.6						
ZALV				LR	LR	13 56 43.3	
	comp=Z,90nm,18.6s,baz=230,slow=40						
KMI	**Kunming**	**20.17**	**111**	P	**P**	**13 48 04.5**	**-0.1**
KMI				AP		13 48 09.5	
KMI				XP	sP	13 48 12.0	-10
KMI				PP		13 48 24.0	
KMI				S	**S**	**13 51 47.5**	**-0.9**
KMI				XS	sS	13 51 57.8	-9.0
KMI				SS		13 52 18.0	
KMI				AMB	AMB		
	comp=Z,19nm,0.9s						
KMI				LR	LR		
	comp=N,143nm,12.7s,MS3.6						
KMI				LR	LR		
	comp=E,113nm,11.6s,MS3.6						
KMI				LR	LR		
	comp=Z,174nm,16.1s,MS3.5						
BVAR	**Borovoye Array**	**20.50**	**340**	P	**P**	**13 48 07.7**	**-0.3**
BVAR				pmax	pmax		
	comp=Z,10.0nm,0.7s						
BVAR				MLR	MLR		
	comp=Z,35nm,18.7s						
BVAR	**Borovoye Array**	**20.50**	**340**	P	**P**	**13 48 07.7**	**-0.3**
	comp=Z,9.7nm,0.7s,baz=150,slow=10,SNR=24						
BVAR				LR	LR	13 56 03.9	
	comp=Z,35nm,18.6s,MS2.8,baz=338,slow=37						
BRVK	**Borovoye**	**20.56**	**340**	*e*P	**P**	**13 48 08.6**	**0.0**
BRVK				pmax	pmax		
	comp=Z,28nm,1.0s						
BRVK	**Borovoye**	**20.56**	**340**	*e*P	**P**	**13 48 08.6**	**-0.1**
	comp=Z,28nm,1.0s						
NVS	**Novosibirsk**	**20.59**	**2**	*e*P	**P**	**13 48 08.4**	**-0.6**
NVS				pmax	pmax		
	comp=Z,9.0nm,1.3s						
NVS				pmax	pmax		
	comp=N,11nm,1.6s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.1s						
CHTO	**Chiang Mai**	**21.56**	**131**	*e*P	**P**	**13 48 18.0**	**-1.7**
CHTO				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
CHTO	**Chiang Mai**	**21.56**	**131**	*e*P	**P**	**13 48 18.0**	**-1.7**
	comp=Z,5.2nm,0.5s,mb4.2						
XAN	**Xi'an**	**22.27**	**83**	P	**P**	**13 48 26.5**	**-0.7**
XAN				AP		13 48 33.3	
XAN				S	**S**	**13 52 22.0**	**-7.4**
XAN				AMB	AMB		
	comp=Z,2.0nm,0.6s,mb3.7						
XAN				LR	LR		
	comp=N,129nm,11.8s,MS3.9						
XAN				LR	LR		
	comp=E,217nm,12.9s,MS3.9						
XAN				LR	LR		
	comp=Z,277nm,11.2s,MS3.9						
ZAK	**Zakamensk**	**22.39**	**38**	*e*P	**P**	**13 48 30.3**	**+2.0**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
SONM	**Songino Array**	**22.73**	**46**	P	**P**	**13 48 32.8**	**+0.8**
SONM						13 52 22.7	
SONM				pmax	pmax		
	comp=Z,2.0nm,0.9s						
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**22.73**	**46**	P	**P**	**13 48 32.8**	**+0.9**
	comp=Z,2.4nm,0.9s,mb3.6,baz=236,slow=11,SNR=8.7						
SONM				PcP	PcP	13 52 22.7	+0.4
	comp=Z,1.2nm,0.7s,baz=260,slow=2.7,SNR=4.6						
ULN	**Ulaanbaatar**	**23.14**	**47**	*e*P	**P**	**13 48 39.3**	**+3.0**
ULN				pmax	pmax		
	comp=Z,3.0nm,1.0s,mb3.7						
ULN	**Ulaanbaatar**	**23.14**	**47**	*e*P	**P**	**13 48 39.3**	**+3.1**
	comp=Z,3.1nm,1.0s,mb3.7						
AKTK	**Aktyubinsk**	**23.82**	**320**	P	**P**	**13 48 41.6**	**-1.0**
AKTK				LR	LR	14 00 25.6	
AKTO	**Aktyubinsk**	**23.82**	**320**	P	**P**	**13 48 41.6**	**-1.0**
AKTO				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb3.9						
AKTO				MLR	MLR		
	comp=Z,19nm,19.9s,MS2.6						
AKTO	**Aktyubinsk**	**23.82**	**320**	P	**P**	**13 48 41.6**	**-1.0**
	comp=Z,5.3nm,1.1s,mb3.9,baz=115,slow=9.7,SNR=6.8						
AKTO				LR	LR	14 00 25.6	
	comp=Z,19nm,19.9s,MS2.6,baz=302,slow=43						
HHC	**Hu-ho-hao-te**	**24.27**	**66**	*e*P	**P**	**13 48 47.8**	**+1.0**
HHC				AP		13 48 52.0	
HHC				XP	sP	13 48 54.8	-11
HHC				PP		13 49 23.5	
HHC				PCP	PcP	13 52 28.0	+2.2
HHC				S	**S**	**13 53 05.0**	**+2.8**
HHC				XS	sS	13 53 11.0	-13
HHC				AMB	AMB		
	comp=Z,12nm,1.1s,mb4.2						
HHC				AMB	AMB		
	comp=Z,123nm,4.9s						
HHC				LR	LR		
	comp=N,254nm,13.5s,MS4.0						
HHC				LR	LR		
	comp=E,261nm,12.8s,MS4.0						
HHC				LR	LR		
	comp=Z,293nm,13.5s,MS3.9						
ARU	**Arti**	**27.36**	**331**	d *i*P	**P**	**13 49 11.8**	**-2.7**
ARU				*e*		13 50 05.4	
ARU				*e*S	**S**	**13 53 41.8**	**-8.9**
ARU				pmax	pmax		
	comp=Z,9.0nm,2.5s,mb3.9						
GNI	**Garni**	**30.09**	**292**	⇑*e*P	**P**	**13 49 41.4**	**+2.4**
GNI				pmax	pmax		
	comp=Z,10.0nm,1.3s						
GNI	**Garni**	**30.09**	**292**	LR	LR	14 03 30.3	
	comp=Z,59nm,20.9s,MS3.2,baz=151,slow=40						
KIV	**Kislovodsk**	**31.74**	**300**	*e*P	**P**	**13 49 55.3**	**+1.8**
KIV				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.5						
ANN	**Anapa**	**35.54**	**301**	*e*P	**P**	**13 50 29.0**	**+2.5**
ANN				pmax	pmax		
	comp=Z,15nm,1.4s,mb4.7						
KSRS	**Korea Array**	**37.08**	**72**	P	**P**	**13 50 40.1**	**+0.4**
	comp=Z,0.7nm,0.9s,mb3.5,baz=284,slow=8.3,SNR=4.1						
KSRS				LR	LR	14 07 34.2	
	comp=Z,213nm,18.6s,MS4.0,baz=287,slow=39						
OBN	**Obninsk**	**37.56**	**318**	⇑*e*P	**P**	**13 50 41.8**	**-1.8**
OBN				*e*	pP	13 50 53.4	-3.2
OBN				*e*		13 52 56.0	
OBN				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
AKASG	**Malin Array Be**	**41.31**	**310**	*i* P	**P**	**13 51 14.3**	**-0.6**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**41.31**	**310**	P	**P**	**13 51 13.9**	**-0.9**
	comp=Z,0.8nm,0.4s,mb3.8,baz=88,slow=6.6,SNR=4.1						
VRI	**Vrincioaia**	**43.06**	**303**	⇑*i*P	**P**	**13 51 31.0**	**+1.8**
PLOR	**Plostina**	**43.11**	**303**	⇓*i*P	**P**	**13 51 31.6**	**+2.0**
MLR	**Muntele Rosu**	**43.64**	**302**	⇑*i*P	**P**	**13 51 35.9**	**+2.0**
BURAR	**Bucovina Array**	**43.97**	**305**	⇓P	**P**	**13 51 37.6**	**+1.1**
BURAR	**Bucovina Array**	**43.97**	**305**	⇓*i*P	**P**	**13 51 37.5**	**+1.0**
ZIMR		**44.26**	**300**	⇓*i*P	**P**	**13 51 41.2**	**+2.3**
VOIR		**44.27**	**302**	⇓*i*P	**P**	**13 51 40.5**	**+1.6**
FINES	**FINESS Array B**	**44.40**	**325**	P	**P**	**13 51 39.7**	**0.0**
FINES						13 53 23.3	
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES				pmax	pmax		
	comp=Z,2.0nm,1.0s						
FINES	**FINESS Array B**	**44.40**	**325**	P	**P**	**13 51 39.7**	**0.0**
FINES				PcP	PcP	13 53 23.3	+0.6
FINES	**FINESS Array B**	**44.40**	**325**	P	**P**	**13 51 39.7**	**0.0**
	comp=Z,1.1nm,0.4s,mb4.0,baz=110,slow=9.8,SNR=14						
FINES				PcP	PcP	13 53 23.3	+0.6
	comp=Z,1.8nm,1.0s,baz=98,slow=5.8,SNR=2.8						
MJAR	**Matsushiro Arr**	**45.32**	**70**	P	**P**	**13 51 47.6**	**+0.2**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MJAR				MLR	MLR		
	comp=Z,66nm,20.0s						
MJAR	**Matsushiro Arr**	**45.32**	**70**	P	**P**	**13 51 47.6**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.8,baz=282,slow=10,SNR=3.8						
MJAR				LR	LR	14 13 23.0	
	comp=Z,66nm,20.0s,MS3.6,baz=40,slow=40						
DRGR		**45.74**	**304**	⇓*i*P	**P**	**13 51 51.5**	**+0.9**
VTS	**Vitosha**	**45.98**	**299**	⇓*i*P	**P**	**13 51 54.0**	**+1.4**
STHS	**Stebnicka Huta**	**46.47**	**308**	*e*P	**P**	**13 51 56.1**	**-0.2**
STHS				pmax	pmax		
	comp=Z,3.0nm,0.7s,mb4.3						
STHS	**Stebnicka Huta**	**46.47**	**308**	*e*P	**P**	**13 51 56.1**	**-0.2**
	comp=Z,2.5nm,0.7s,mb4.2						
STHS	**Stebnicka Huta**	**46.47**	**308**	*e*P	**P**	**13 51 56.1**	**-0.2**
STHS				*e*		17 58 58.8	
BZS	**Buzias**	**46.64**	**303**	⇓*i*P	**P**	**13 51 58.3**	**+0.6**
ARCES	**ARCESS Array B**	**46.73**	**336**	P	**P**	**13 51 58.5**	**+0.5**
ARCES						13 53 31.1	
ARCES				pmax	pmax		
	comp=Z,4.0nm,0.9s						
ARCES				pmax	pmax		
	comp=Z,5.0nm,1.0s						
ARCES	**ARCESS Array B**	**46.73**	**336**	P	**P**	**13 51 58.5**	**+0.5**
ARCES				PcP	PcP	13 53 31.1	+0.4
ARCES	**ARCESS Array B**	**46.73**	**336**	P	**P**	**13 51 58.5**	**+0.5**
	comp=Z,4.0nm,0.9s,mb4.4,baz=95,slow=6.7,SNR=8.8						
ARCES				PcP	PcP	13 53 31.1	+0.4
	comp=Z,4.5nm,1.0s,baz=133,slow=3.8,SNR=3.7						
KECS	**Kecovo**	**47.06**	**307**	*e*P	**P**	**13 51 58.3**	**-2.6**
KECS				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.0						
KECS	**Kecovo**	**47.06**	**307**	*e*P	**P**	**13 51 58.3**	**-2.6**
	comp=Z,2.0nm,1.0s,mb4.0						
VYHS	**Vyhne**	**48.15**	**307**	*e*P	**P**	**13 52 09.6**	**+0.3**
PKSM	**Moragy**	**48.61**	**304**	⇑*i*P	**P**	**13 52 13.1**	**+0.2**
MORC	**Moravsky Berou**	**48.83**	**309**	*e*P	**P**	**13 52 14.7**	**+0.1**
MORC				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.5						
MORC	**Moravsky Berou**	**48.83**	**309**	*e*P	**P**	**13 52 14.7**	**+0.1**
	comp=Z,5.2nm,1.1s,mb4.5						
MORC	**Moravsky Berou**	**48.83**	**309**	⇑*i*P	**P**	**13 52 13.9**	**-0.7**
VRAC	**Vranov**	**49.51**	**309**	⇑*i*P	**P**	**13 52 19.7**	**0.0**
DPC	**Dobruska-Polom**	**49.54**	**310**	*e*P	**P**	**13 52 21.0**	**+1.0**
UPC	**Upice**	**49.72**	**310**	*e*P	**P**	**13 52 21.8**	**+0.5**
PRU	**Pruhonice**	**50.72**	**310**	*e*P	**P**	**13 52 29.0**	**0.0**
BRG	**Berggiesshubel**	**50.97**	**311**	*i* P	**P**	**13 52 31.2**	**+0.4**
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s,mb4.3						
BRG	**Berggiesshubel**	**50.97**	**311**	*i* P	**P**	**13 52 31.2**	**+0.4**
	comp=Z,7.2nm,0.9s,mb4.6						
GEC2	**GERESS Array S**	**51.46**	**308**	*e*P	**P**	**13 52 34.7**	**+0.2**
GERES	**GERESS Array B**	**51.46**	**308**	P	**P**	**13 52 34.7**	**+0.2**
GERES				pmax	pmax		
	comp=Z,3.0nm,0.7s						
GERES	**GERESS Array B**	**51.46**	**308**	P	**P**	**13 52 34.7**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.3,baz=76,slow=5.9,SNR=30						
KHC	**Kasperske Hory**	**51.48**	**309**	*e*P	**P**	**13 52 35.4**	**+0.7**
NB2	**NORSAR Subarra**	**51.52**	**324**	P	**P**	**13 52 34.6**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.9,baz=87,slow=7.4						
NOA	**NORSAR Array B**	**51.52**	**324**	P	**P**	**13 52 35.0**	**+0.3**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,44nm,20.7s						
NOA	**NORSAR Array B**	**51.52**	**324**	P	**P**	**13 52 35.0**	**+0.3**
	comp=Z,1.9nm,0.8s,mb4.1,baz=87,slow=7.5,SNR=6.9						
NOA				LR	LR	14 14 57.8	
	comp=Z,44nm,20.7s,MS3.5,baz=340,slow=37						
GRA1	**Grafenberg Arr**	**52.89**	**310**	*e*P	**P**	**13 52 46.4**	**+1.3**
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**52.89**	**310**	*e*P	**P**	**13 52 46.4**	**+1.3**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**52.89**	**310**	*e*P	**P**	**13 52 46.4**	**+1.3**
GRF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
GRF	**Grafenberg Arr**	**52.89**	**310**	*e*P	**P**	**13 52 46.4**	**+1.3**
	comp=Z,6.0nm,1.0s,mb4.5						
CDF	**Champ du Feu**	**55.71**	**309**	*e*P	**P**	**13 53 05.7**	**+0.1**
HINF	**Hinteralfeld**	**56.14**	**308**	*e*P	**P**	**13 53 08.5**	**-0.2**
	comp=Z,12nm,0.7s,mb4.8						
HINF	**Hinteralfeld**	**56.14**	**308**	*e*P	**P**	**13 53 08.5**	**-0.2**
HINF				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
HINF	**Hinteralfeld**	**56.14**	**308**	*e*P	**P**	**13 53 08.5**	**-0.2**
	comp=Z,6.2nm,0.7s,mb4.8						
HAU	**Haudompre**	**56.42**	**309**	*e*P	**P**	**13 53 10.3**	**-0.4**
HAU				*e*MLR	MLR		
	comp=Z,154nm,22.8s,MS3.7						
HAU	**Haudompre**	**56.42**	**309**	*e*P	**P**	**13 53 10.3**	**-0.4**
HAU				LR	LR		
	comp=Z,150nm,22.8s,MS4.0						
BILL	**Bilibino**	**56.61**	**27**	⇑*e*P	**P**	**13 53 02.8**	**-8.9**
BILL				pmax	pmax		
	comp=Z,9.0nm,2.7s,mb4.3						
LPG	**La Plagne**	**56.85**	**306**	*e*P	**P**	**13 53 14.3**	**+0.5**
	comp=Z,30nm,0.9s,mb5.0						
LPG	**La Plagne**	**56.85**	**306**	*e*P	**P**	**13 53 14.3**	**+0.5**
LPG				pmax	pmax		
	comp=Z,15nm,0.9s,mb5.0						
LPG	**La Plagne**	**56.85**	**306**	*e*P	**P**	**13 53 14.3**	**+0.5**
	comp=Z,15nm,0.9s,mb5.0						
LPL	**La Plagne**	**56.86**	**306**	*e*P	**P**	**13 53 14.3**	**+0.4**
	comp=Z,37nm,0.8s,mb5.2						
LPL	**La Plagne**	**56.86**	**306**	*e*P	**P**	**13 53 14.3**	**+0.4**
LPL				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
LPL	**La Plagne**	**56.86**	**306**	*e*P	**P**	**13 53 14.3**	**+0.4**
	comp=Z,18nm,0.8s,mb5.2						
CABF	**La Chapelle**	**56.97**	**307**	*e*P	**P**	**13 53 14.5**	**-0.1**
	comp=Z,7.6nm,0.7s,mb4.6						
CABF	**La Chapelle**	**56.97**	**307**	*e*P	**P**	**13 53 14.5**	**-0.1**
CABF				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
CABF	**La Chapelle**	**56.97**	**307**	*e*P	**P**	**13 53 14.5**	**-0.1**
	comp=Z,3.8nm,0.6s,mb4.6						
MBDF	**Montbardon**	**57.07**	**305**	*e*P	**P**	**13 53 14.7**	**-0.6**
	comp=Z,17nm,0.9s,mb4.8						
MBDF	**Montbardon**	**57.07**	**305**	*e*P	**P**	**13 53 14.7**	**-0.6**
MBDF				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb4.8						
MBDF	**Montbardon**	**57.07**	**305**	*e*P	**P**	**13 53 14.7**	**-0.6**
	comp=Z,8.5nm,0.9s,mb4.8						
MEZF	**Maizieres J'vi**	**57.11**	**310**	*e*P	**P**	**13 53 15.8**	**+0.2**
	comp=Z,21nm,0.8s,mb4.9						
MEZF	**Maizieres J'vi**	**57.11**	**310**	*e*P	**P**	**13 53 15.8**	**+0.2**
	comp=Z,21nm,0.8s,mb5.2						
ORIF	**Oris-en-Rattie**	**57.61**	**305**	*e*P	**P**	**13 53 18.7**	**-0.5**
ORIF				*e*MLR	MLR		
	comp=Z,63nm,21.0s,MS3.4						
SMF	**Signal de Mont**	**58.44**	**308**	*e*P	**P**	**13 53 24.5**	**-0.5**
	comp=Z,24nm,0.9s,mb4.9						
SMF	**Signal de Mont**	**58.44**	**308**	*e*P	**P**	**13 53 24.5**	**-0.5**
SMF				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.9						
SMF	**Signal de Mont**	**58.44**	**308**	*e*P	**P**	**13 53 24.5**	**-0.5**
	comp=Z,12nm,0.9s,mb4.9						
VIVF	**Saint-Julien-l**	**58.45**	**305**	*e*P	**P**	**13 53 24.9**	**-0.1**
	comp=Z,21nm,1.1s,mb4.8						
VIVF	**Saint-Julien-l**	**58.45**	**305**	*e*P	**P**	**13 53 24.9**	**-0.1**
VIVF				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
VIVF	**Saint-Julien-l**	**58.45**	**305**	*e*P	**P**	**13 53 24.9**	**-0.1**
	comp=Z,10nm,1.1s,mb4.8						
SSF	**Saint Saulge**	**58.53**	**308**	*e*P	**P**	**13 53 25.1**	**-0.5**
	comp=Z,13nm,0.8s,mb4.7						
SSF	**Saint Saulge**	**58.53**	**308**	*e*P	**P**	**13 53 25.1**	**-0.5**
SSF				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
SSF	**Saint Saulge**	**58.53**	**308**	*e*P	**P**	**13 53 25.1**	**-0.5**
	comp=Z,6.6nm,0.8s,mb4.7						
AVF	**Avril sur Loir**	**58.72**	**308**	*e*P	**P**	**13 53 26.3**	**-0.6**
	comp=Z,9.7nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**58.72**	**308**	*e*P	**P**	**13 53 26.3**	**-0.6**
AVF				pmax	pmax		
	comp=Z,5.0nm,0.8s,mb4.6						
AVF	**Avril sur Loir**	**58.72**	**308**	*e*P	**P**	**13 53 26.3**	**-0.6**
	comp=Z,4.8nm,0.8s,mb4.6						
LASF	**Ste Croix**	**59.26**	**305**	*e*P	**P**	**13 53 30.6**	**0.0**
	comp=Z,13nm,1.0s,mb4.6						
TCF	**Toulx Ste Croi**	**59.62**	**308**	*e*P	**P**	**13 53 33.1**	**0.0**
	comp=Z,13nm,0.9s,mb4.7						
TCF	**Toulx Ste Croi**	**59.62**	**308**	*e*P	**P**	**13 53 33.1**	**0.0**
TCF				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.6						
TCF	**Toulx Ste Croi**	**59.62**	**308**	*e*P	**P**	**13 53 33.1**	**0.0**
	comp=Z,6.4nm,0.9s,mb4.7						
CAF	**Calviac**	**60.18**	**306**	*e*P	**P**	**13 53 37.0**	**0.0**
	comp=Z,11nm,1.0s,mb4.6						
CAF	**Calviac**	**60.18**	**306**	*e*P	**P**	**13 53 37.0**	**0.0**
CAF				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.6						
CAF	**Calviac**	**60.18**	**306**	*e*P	**P**	**13 53 37.0**	**0.0**
	comp=Z,5.7nm,1.0s,mb4.6						
LDF	**La Druitiere**	**60.36**	**311**	*e*P	**P**	**13 53 37.4**	**-0.8**
	comp=Z,12nm,0.8s,mb4.7						
LDF	**La Druitiere**	**60.36**	**311**	*e*P	**P**	**13 53 37.4**	**-0.8**
LDF				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.7						
LDF	**La Druitiere**	**60.36**	**311**	*e*P	**P**	**13 53 37.4**	**-0.8**
	comp=Z,6.1nm,0.8s,mb4.7						
ESDC	**Sonseca Array**	**66.33**	**303**	P	**P**	**13 54 17.3**	**-0.5**
	comp=Z,0.4nm,0.5s,mb3.7,baz=118,slow=1.4,SNR=4.1						
WRA	**Warramunga Arr**	**73.39**	**129**	P	**P**	**13 55 00.7**	**-0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA	**Warramunga Arr**	**73.39**	**129**	P	**P**	**13 55 00.7**	**-0.6**
	comp=Z,1.4nm,0.8s,mb3.9,baz=327,slow=5.7,SNR=16						
WRAB	**Tennant Creek**	**73.39**	**129**	*e*P	**P**	**13 55 00.1**	**-1.2**
WRAB				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.5						
WRAB	**Tennant Creek**	**73.39**	**129**	*e*P	**P**	**13 55 00.1**	**-1.1**
	comp=Z,5.7nm,0.9s,mb4.5						
COLA	**College**	**73.81**	**20**	*e*P	**P**	**13 55 05.1**	**+1.9**
COLA				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
COLA	**College**	**73.81**	**20**	*e*P	**P**	**13 55 05.1**	**+1.9**
	comp=Z,6.5nm,1.1s,mb4.5						
TOA0	**Torodi Ar. Sit**	**74.78**	**276**	*e*P	**P**	**13 55 08.5**	**-1.1**
TORD	**Torodi Ar. Bea**	**74.78**	**276**	P	**P**	**13 55 08.7**	**-0.9**
	comp=Z,4.4nm,0.6s,mb4.6,baz=46,slow=4.9,SNR=44						
TORD				LR	LR	14 31 41.5	
	comp=Z,61nm,18.4s,MS3.9,baz=155,slow=39						
ASAR	**Alice Springs**	**75.83**	**132**	P	**P**	**13 55 14.9**	**-0.5**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**75.83**	**132**	P	**P**	**13 55 14.8**	**-0.5**
	comp=Z,0.9nm,0.7s,mb3.8,baz=316,slow=5.7,SNR=11						
BOSA	**Boshof**	**82.39**	**228**	*e*P	**P**	**13 55 49.5**	**-1.6**
	comp=Z,4.4nm,0.4s,mb4.7						
BOSA	**Boshof**	**82.39**	**228**	P	**P**	**13 55 49.7**	**-1.5**
	comp=Z,5.5nm,0.6s,mb4.7,baz=35,slow=3.7,SNR=18						
BOSA				LR	LR	14 28 27.0	
	comp=Z,54nm,20.4s,MS3.9,baz=326,slow=33						
YKA	**Yellowknife Ar**	**82.65**	**8**	P	**P**	**13 55 51.7**	**-0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**82.65**	**8**	P	**P**	**13 55 51.7**	**-0.4**
	comp=Z,1.1nm,0.7s,mb4.0,baz=342,slow=5.2,SNR=17						
DBIC	**Dimbokro**	**83.69**	**274**	P	**P**	**13 55 57.4**	**-0.9**
DBIC				pmax	pmax		
	comp=Z,9.0nm,0.9s						
DBIC	**Dimbokro**	**83.69**	**274**	*e*P	**P**	**13 55 57.4**	**-0.9**
	comp=Z,17nm,1.1s,mb5.1						
DBIC	**Dimbokro**	**83.69**	**274**	P	**P**	**13 55 57.4**	**-0.9**
	comp=Z,9.0nm,0.9s,mb4.9,baz=16,slow=7.7,SNR=8.4						
KIC	**Kosan Boka**	**83.77**	**273**	*e*P	**P**	**13 55 58.0**	**-0.7**
	comp=Z,34nm,0.7s,mb5.6						
TIC	**Toumodi**	**83.84**	**274**	*e*P	**P**	**13 55 56.9**	**-2.2**
	comp=Z,94nm,1.2s						
LIC	**Lamto**	**84.08**	**273**	*e*P	**P**	**13 55 58.8**	**-1.5**
	comp=Z,14nm,0.9s,mb4.8						
LIC	**Lamto**	**84.08**	**273**	*e*P	**P**	**13 55 59.3**	**-1.0**
	comp=Z,87nm,2.0s,mb5.5						
QSPA	**South Pole Qui**	**124.06**	**180**	*e*PKPdf	PKPdf	14 02 24.6	-1.2
CPUP	**Villa Florida**	**144.19**	**272**	PKIKP	PKPdf	14 03 01.6	-3.3
CPUP				pmax	pmax		
	comp=Z,3.0nm,0.6s						
CPUP	**Villa Florida**	**144.19**	**272**	PKP	PKPdf	14 03 01.6	-3.3
	comp=Z,2.6nm,0.6s,baz=58,slow=5.1,SNR=9.0						
LPAZ	**La Paz**	**147.77**	**296**	PKIKP	PKPdf	14 03 12.0	+0.8
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.9s						
LPAZ	**La Paz**	**147.77**	**296**	*e*PKPdf	PKPdf	14 03 11.8	+0.6
LPAZ	**La Paz**	**147.77**	**296**	PKPbc	PKPbc	14 03 12.0	-2.1
	comp=Z,1.6nm,0.9s,baz=27,slow=4.5,SNR=4.0						
LVC	**Limon Verde**	**152.00**	**287**	*e*PKPdf	PKPdf	14 03 18.9	+1.1
LVC				*e*PKPbc	PKPbc	14 03 24.4	+0.1

ISCJB ***26*** *14:05:02.9±1.2, 38.04N±0.05×30.05E±0.09, h10km, Error ellipse: s-maj=9.7km s-min=6.8km az=173.8*

CSEM ***26*** *14:05:03.2±0.2, 38.02N×30.16E, h8km, MD2.7, Error ellipse: s-maj=6.2km s-min=3.1km az=83.0*

ISK ***26*** *14:05:03.2, 38.03N×30.13E, h7km, MD2.7*

ISC 26 14:05:03.4±1.2**, 38.02N**±0.05×**30.05E**±0.09**, h10**km**, n6, σ0.78**/9**, Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TKTP	**Tekketepe**	**0.21**	**86**	*i* P	**Pg**	**14 05 07.6**	**-0.3**
TKTP				*i* S	**Sg**	**14 05 12.2**	**+1.4**
ISP	**Isparta**	**0.41**	**116**	*e*PG	**Pg**	**14 05 10.7**	**-0.7**
ISP				*e*SG	**Sg**	**14 05 16.9**	**+0.1**
SHUT	**Suhut-Afyon**	**0.66**	**37**	*e*PG	**Pg**	**14 05 15.5**	**-0.7**
SHUT				*e*SG	**Sg**	**14 05 24.7**	**-0.2**
BCK	**Bucak**	**0.71**	**143**	*e*PG	**Pg**	**14 05 16.0**	**-1.1**
ALT	**Altintas**	**1.03**	**3**	*e*PG	**Pg**	**14 05 23.7**	**+0.4**
ELL	**Elmali**	**1.28**	**185**	*e*PN	**Pn**	**14 05 28.4**	**+1.1**

ISCJB ***26*** *14:12:11.8±0.4, 38.96N±0.02×22.10E±0.03, h3km±6km, Error ellipse: s-maj=4.1km s-min=3.8km az=44.4*

CSEM ***26*** *14:12:12.8±0.1, 38.94N×22.10E, h5km, ML2.9, Error ellipse: s-maj=1.6km s-min=1.5km az=6.0*

ATH ***26*** *14:12:12.1, 38.97N×22.09E, h14km±2km, MD3.5/10*

NEIC ***26*** *14:12:12.2, 38.96N×22.09E, h13km, MD3.5(ATH), After ATH.*

THE ***26*** *14:12:12.4, 38.98N×22.09E, h3km, ML2.9*

ISC 26 14:12:12.5±0.4**, 38.96N**±0.02×**22.11E**±0.03**, h11**km±4km**, n23, σ0.98**/33**, Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AGG	**Agios Georgios**	**0.19**	**70**	*e*Pg	**Pg**	**14 12 16.5**	**0.0**
AGG				*e*Sg	**Sg**	**14 12 20.4**	**+1.2**
EVR	**Evrytania**	**0.23**	**260**	*e*PG	**Pg**	**14 12 16.9**	**-0.4**
EVR				*e*SG	**Sg**	**14 12 21.0**	**+0.4**
THL	**Klokotos Trika**	**0.61**	**353**	*e*Pg	**Pg**	**14 12 22.4**	**-1.9**
THL	**Klokotos Trika**	**0.61**	**353**	*e*Pb	**Pb**	**14 12 23.0**	**-2.2**
SELA	**Sela**	**0.70**	**194**	*e*Pg	**Pg**	**14 12 25.7**	**-0.3**
LKR	**Lokris**	**0.76**	**113**	*e*PB	**Pb**	**14 12 27.1**	**-0.7**
XOR	**Xorichti**	**0.94**	**64**	*e*Pg	**Pg**	**14 12 30.3**	**-0.3**
RLS	**Riolos of Patr**	**1.03**	**209**	*e*PG	**Pg**	**14 12 31.5**	**-0.8**
MEV	**Metsovon**	**1.07**	**321**	*e*Pg	**Pg**	**14 12 31.4**	**-1.6**
MEV				*e*Sg	**Sg**	**14 12 47.2**	**+0.2**
LTK	**Loutraki**	**1.15**	**144**	*e*Pg	**Pg**	**14 12 34.5**	**-0.2**
LTK				*e*Sg	**Sg**	**14 12 51.1**	**+1.5**
LKD	**Levkas**	**1.16**	**258**	*e*Pg	**Pg**	**14 12 34.5**	**-0.3**
LIT	**Litokhoron**	**1.18**	**14**	*e*Pg	**Pg**	**14 12 35.0**	**-0.1**
LIT				*e*Sg	**Sg**	**14 12 51.5**	**+1.0**
JAN	**Janina**	**1.20**	**306**	*e*PB	**Pb**	**14 12 34.5**	**-0.7**
JAN				*e*SB	**Sb**	**14 12 50.4**	**-0.3**
KZN	**Kozani**	**1.37**	**349**	*e*PG	**Pn**	**14 12 37.0**	**-0.6**
KZN				*e*SB	**Sb**	**14 12 57.1**	**+1.4**
KZN	**Kozani**	**1.37**	**349**	*e*Pb	**Pb**	**14 12 39.2**	**+1.1**
KZN				Sb	**Sb**	**14 12 57.1**	**+1.4**
VLS	**Valsamata**	**1.42**	**237**	*e*Pg	**Pn**	**14 12 38.2**	**0.0**
VLS				*e*Sg	**Sg**	**14 12 59.8**	**+1.7**
VLS	**Valsamata**	**1.42**	**237**	*e*Pg	**Pn**	**14 12 38.2**	**0.0**
VLS	**Valsamata**	**1.42**	**237**	*e*Pb	**Pb**	**14 12 39.0**	**0.0**

IGT	**Igoumenitsa**	**1.49**	**293**	*e*Pg	**Pn**	**14 12 39.6 +0.4**
IGT				*e*Sg	**Sg**	**14 13 01.0 +0.5**
DID	**Didima**	**1.70**	**148**	*e*Pb	**Pb**	**14 12 42.7 -1.1**
ITM	**Ithomi**	**1.78**	**185**	*e*PG	**Pg**	**14 12 45.4 -1.2**
KEK	**Kerkira**	**1.94**	**294**	*e*PN	**Pn**	**14 12 47.0 +1.6**
VLI	**Veliai**	**2.33**	**163**	*e*PB	**Pn**	**14 12 51.9 +1.1**

IDC 26 14:12:20.4±2.1, 2378S×6706W, h209km±21km, mb3.4/1, mb1 3.2/6, mb1mx3.1/18, mbtmp3.1/6, Error ellipse: s-maj=25.0km s-min=17.9km az=97.0, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.52**	**352**	P	Pn	14 14 09.4	+1.9
	0.7nm,0.3s,baz=142,slow=8.0,SNR=13						
LPAZ				S	Sn	14 15 33.4	+0.5
	0.1nm,0.3s,baz=118,slow=23,SNR=1.5						
CPUP	**Villa Florida**	**9.19**	**108**	P	Pn	14 14 30.6	+1.5
	0.5nm,0.3s,baz=274,slow=7.1,SNR=3.9						
SIV	**San Ignacio**	**9.57**	**37**	P	Pn	14 14 33.0	-1.1
	0.3nm,0.3s,baz=218,slow=15,SNR=6.3						
SIV				S	Sn	14 16 21.1	-0.5
	baz=217,slow=21,SNR=2.0						
PLCA	**Paso Flores**	**17.16**	**189**	P	P	14 16 05.7	-0.6
	0.3nm,0.3s,baz=353,slow=12,SNR=7.9						
BDFB	**Brasilia**	**19.66**	**69**	P	P	14 16 33.9	+0.2
	0.5nm,0.3s,baz=229,slow=16,SNR=7.3						
TORD	**Torodi Ar. Bea**	**76.54**	**69**	P	P	14 23 47.6	-0.4
	0.5nm,0.4s,baz=253,slow=5.6,SNR=7.1						
MKAR	**Makanchi Array**	**146.39**	**39**	PKPbc	PKPbc	14 31 36.8	+0.2
	0.3nm,0.6s,baz=285,slow=3.1,SNR=4.1						

IDC 26 14:33:14.8±1.4, 3858N×11024E, h0km, mb3.6/3, mb1 3.8/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=71.9km s-min=21.1km az=61.0, Western Nei Mongol

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**9.67**	**344**	Pn	Pn	14 35 36.6	+1.4
	0.1nm,0.3s,baz=184,slow=12,SNR=4.3						
SONM				Sn	Sn	14 37 21.9	-2.5
	0.1nm,0.3s,baz=155,slow=25,SNR=2.3						
SONM				Lg		14 38 20.1	
	0.2nm,0.3s,baz=167,slow=28,SNR=3.0						
MKAR	**Makanchi Array**	**22.04**	**301**	P	P	14 38 10.9	+0.1
	0.7nm,0.7s,baz=97,slow=12,SNR=6.8						
WRA	**Warramunga Arr**	**62.44**	**154**	P	P	14 43 39.9	+0.1
	1.4nm,0.9s,baz=349,slow=6.4,SNR=7.7						
ASAR	**Alice Springs**	**65.77**	**156**	P	P	14 44 01.4	-0.1
	0.8nm,0.8s,baz=353,slow=6.6,SNR=7.4						

IDC 26 15:04:30.5±10.0, 155N×12610E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.6/16, mbtmp3.8/4, ML3.5/1, Error ellipse: s-maj=161.1km s-min=104.9km az=145.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.53**	**181**	*e*P	Pn	15 09 01.0	+0.1
	3.2nm,1.0s						
FITZ	**Fitzroy Crossi**	**19.53**	**181**	P	Pn	15 09 00.1	-0.7
	0.1nm,0.3s,baz=28,slow=14,SNR=4.4						
WRA	**Warramunga Arr**	**22.83**	**160**	P	P	15 09 34.6	-0.7
	1.6nm,0.5s,baz=338,slow=11,SNR=41						
WB2	**Warramunga Arr**	**22.84**	**160**	*e*P	P	15 09 35.2	-0.2
ASAR	**Alice Springs**	**26.18**	**164**	P	P	15 10 07.5	+0.6
	0.6nm,0.4s,baz=345,slow=10,SNR=22						
STKA	**Stephens Creek**	**36.34**	**157**	P	P	15 11 36.1	-0.2
	0.8nm,0.5s,baz=323,slow=13,SNR=3.9						

WEL 26 15:06:03.6±0.4, 4124S×17261E, h197km±3km, ML3.6/15, Error ellipse: s-maj=2.8km s-min=2.5km az=90.0, South Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
QRZ	**Quartz Range**	**0.41**	**351**	PN	Pn	15 06 29.9	-0.2
THZ	**Tophouse**	**0.57**	**157**	PN	Pn	15 06 30.9	+0.4
THZ				SN	Sn	15 06 50.8	-0.7
NNZ	**Nelson**	**0.58**	**88**	PN	Pn	15 06 30.4	-0.2
NNZ				SN	Sn	15 06 51.0	-0.4
DSZ	**Denniston Nort**	**0.79**	**230**	PN	Pn	15 06 31.3	-0.3
DSZ				SN	Sn	15 06 51.8	-1.7
TUWZ	**Tuamarina**	**1.02**	**101**	PN	Pn	15 06 33.3	+0.2
BSWZ	**Blackbirch Sta**	**1.06**	**117**	PN	Pn	15 06 33.7	+0.4
DUWZ	**D'Urville Isla**	**1.08**	**67**	PN	Pn	15 06 33.4	-0.1
TCW	**Tory Channel**	**1.26**	**89**	PN	Pn	15 06 34.9	0.0
TCW				SN	Sn	15 06 58.1	-1.0
KHZ	**Kahutara**	**1.37**	**150**	PN	Pn	15 06 35.9	+0.1
LTZ	**Lake Taylor**	**1.56**	**189**	PN	Pn	15 06 37.6	+0.1
LTZ				SN	Sn	15 07 02.2	-1.8
MRW	**Makara Radio**	**1.58**	**90**	PN	Pn	15 06 37.3	-0.3
SNZO	**South Karori**	**1.58**	**93**	PN	Pn	15 06 37.3	-0.4
WEL	**Wellington**	**1.63**	**92**	PN	Pn	15 06 37.8	-0.3
BHW	**Baring Head**	**1.71**	**96**	PN	Pn	15 06 38.5	-0.4
KIW	**Kapiti Island**	**1.78**	**79**	PN	Pn	15 06 39.2	-0.4
CAW	**Cannon Point**	**1.86**	**87**	PN	Pn	15 06 39.9	-0.4
MSWZ	**Moikau Station**	**2.00**	**96**	PN	Pn	15 06 41.3	-0.4
PLWZ	**Palliser**	**2.02**	**100**	PN	Pn	15 06 41.5	-0.4
MTW	**Mount Morrison**	**2.18**	**89**	PN	Pn	15 06 43.2	-0.5
MTW				SN	Sn	15 07 12.9	-2.1
HOWZ	**Holdsworth Sta**	**2.22**	**82**	PN	Pn	15 06 43.7	-0.5
WVZ	**Waitaha Valley**	**2.31**	**217**	PN	Pn	15 06 43.9	-1.1
WVZ				SN	Sn	15 07 14.1	-3.4
MRZ	**Mangatainoka R**	**2.32**	**77**	PN	Pn	15 06 44.4	-0.9
MQZ	**McQueen's Vall**	**2.47**	**179**	PN	Pn	15 06 45.6	-1.2
VRZ	**Vera Road**	**2.67**	**39**	PN	Pn	15 06 44.4	-4.9
WPHZ	**Waipukurau**	**3.14**	**69**	PN	Pn	15 06 54.0	-0.7

NIED ***26*** *15:06:00, 3770N×14140E, h95km, Mw4.0 Best double couple: M0 1.15000×10^15 NP1:ϕs128.00000°, δ67.00000°, λ-88.00000°. NP2:ϕs304.00000°, δ23.00000°, λ-94.00000°.*

BJI ***26*** *15:06:38.3, 3765N×14105E, h71km, mB5.1, mb4.2*

ISCJB ***26*** *15:06:39.5±0.6, 3767N±005×14143E±007, h96km±3km, mb3.9/13, Error ellipse: s-maj=10.9km s-min=5.7km az=31.4*

JMA ***26*** *15:06:41.0, 3769N×14136E, h88km±1km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs310.00000°, δ22.00000°, λ-113.00000°. NP2: ϕs155.00000°, δ70.00000°, λ-81.00000°. Principal axes: T Plg25.0000°, Azm238.0000°; N Plg8.0000°, Azm332.0000°; P Plg64.0000°, Azm79.0000°;*

JMA Felt I J1.

MOS ***26*** *15:06:41.5±0.8, 3765N×14120E, h120km, mb4.0/10 Error ellipse: s-maj=18.7km s-min=16.0km az=77.7*

NEIC ***26*** *15:06:41.1, 3769N×14136E, h88km, mb4.3/2, After JMA.*

NEIC Recorded [1 JMA] in Fukushima, Ibaraki, Iwate, Miyagi and Tochigi Prefectures.

IDC ***26*** *15:06:43.8±2.9, 3767N×141.14E, h119km±26km, mb3.5/9, mb1 3.7/11, mb1mx3.6/20, mbtmp3.5/11, MS2.5/1, Ms1 2.5/1, ms1mx2.2/29, Error ellipse: s-maj=25.0km s-min=16.6km az=77.0*

ISC 26 15:06:40.8±0.6, 3769N±004×14142E±007, h90km±4km, n46, σ0 976/61, mb3.9/13, 3C-9D, Near east coast of eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JMM	**Marumori**	**0.52**	**290**	⇓P	**Pn**	**15 06 55.6**	**-0.1**
JMM				S	**Sn**	**15 07 06.1**	**-0.7**
JFK	**Kawauchi**	**0.54**	**234**	⇓P	**Pn**	**15 06 55.7**	**-0.1**
JFK				S	**Sn**	**15 07 06.3**	**-0.7**
JIO	**Ouri**	**0.77**	**356**	⇑P	**Pn**	**15 06 58.3**	**+0.3**
JIO				S	**Sn**	**15 07 10.6**	**-0.2**
JFT	**Otama**	**0.87**	**259**	⇓P	**Pn**	**15 06 58.9**	**-0.1**
JFT				S	**Sn**	**15 07 12.1**	**-0.6**
JOU	**Okura**	**0.90**	**319**	⇓P	**Pn**	**15 06 59.2**	**-0.1**
JOU				*e*S	**Sn**	**15 07 12.8**	**-0.4**
JYS	**Shiratake**	**1.19**	**297**	⇓P	**Pn**	**15 07 02.7**	**0.0**
JYS				S	**Sn**	**15 07 19.5**	**+0.3**
JMK	**Ichinoseki**	**1.27**	**353**	⇑P	**Pn**	**15 07 03.9**	**+0.2**
JMK				S	**Sn**	**15 07 20.8**	**-0.1**
JFY	**Yanaizu**	**1.39**	**259**	⇓P	**Pn**	**15 07 04.9**	**-0.2**
JFY				S	**Sn**	**15 07 22.9**	**-0.6**
JYK	**Kaneyama**	**1.48**	**326**	⇓P	**Pn**	**15 07 06.4**	**+0.1**
JYK				S	**Sn**	**15 07 25.6**	**0.0**
JYA	**Atsumi**	**1.62**	**305**	⇓P	**Pn**	**15 07 08.1**	**+0.1**
JYA				*e*S	**Sn**	**15 07 29.0**	**+0.4**
JNS	**Sasagawa**	**1.67**	**275**	⇓P	**Pn**	**15 07 08.8**	**+0.2**
JNS				*e*S	**Sn**	**15 07 29.9**	**+0.1**
JOM	**Ohasama**	**1.79**	**357**	⇑P	**Pn**	**15 07 10.5**	**+0.3**
JOM				*e*S	**Sn**	**15 07 32.7**	**+0.2**
JAW	**Awa shima**	**1.87**	**295**	P	**Pn**	**15 07 11.5**	**+0.2**
MJAR	**Matsushiro Arr**	**2.81**	**247**	P	**Pn**	**15 07 24.0**	**+0.3**
MJAR				S	**Sn**	**15 07 46.3**	**-10**
MJAR				pmax	pmax		
	comp=Z,25nm,0.3s						
MJAR				smax			
	comp=N,20nm,0.3s						
MJAR	**Matsushiro Arr**	**2.81**	**247**	P	**Pn**	**15 07 24.0**	**+0.3**
	comp=N,24nm,0.3s,baz=55,slow=10.0,SNR=576						
MJAR				S	**Sn**	**15 07 46.3**	**-10**
	comp=N,20nm,0.3s,baz=76,slow=16,SNR=16						
MAJO	**Matsushiro**	**2.81**	**247**	*e*Pn	**Pn**	**15 07 24.0**	**+0.3**
MAJO				*e*Sn	**Sn**	**15 07 46.6**	**-10**
MAT	**Matsushiro**	**2.81**	**247**	P	**Pn**	**15 07 24.3**	**+0.6**
MAT				S	**Sn**	**15 07 58.7**	**+2.0**
KSRS	**Korea Array**	**10.71**	**273**	P	**Pn**	**15 09 12.8**	**+1.7**
	comp=N,0.2nm,0.3s,baz=84,slow=13,SNR=15						
KSRS				LR	LR	15 12 25.0	
	comp=N,25nm,18.6s,baz=70,slow=32						
SONM	**Songino Array**	**27.43**	**303**	P	**P**	**15 12 17.6**	**-0.3**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	**Songino Array**	**27.43**	**303**	P	**P**	**15 12 17.6**	**-0.2**
	comp=Z,1.1nm,0.7s,mb3.5,baz=94,slow=8.5,SNR=7.4						
GYA	**Guiyang**	**31.34**	**259**	P	**P**	**15 12 51.8**	**-0.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.7						
GYA				AMB	AMB		
	comp=Z,380nm,6.3s						
BILL	**Bilibino**	**33.40**	**17**	*e*P	**P**	**15 13 10.8**	**+0.5**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.3s,mb3.8						
MK31	**Makanchi Array**	**43.78**	**302**	*e*P	**P**	**15 14 35.9**	**-1.4**
MKAR	**Makanchi Array**	**43.78**	**302**	P	**P**	**15 14 35.0**	**-2.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MKAR	**Makanchi Array**	**43.78**	**302**	P	**P**	**15 14 35.0**	**-2.3**
	comp=Z,0.9nm,0.7s,mb3.6,baz=89,slow=9.3,SNR=10						
KURK	**Kurchatov**	**45.53**	**308**	*e*P	**P**	**15 14 50.6**	**-0.6**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.6s,mb4.2						
KURK	**Kurchatov**	**45.53**	**308**	*e*P	**P**	**15 14 50.6**	**-0.6**
	comp=Z,2.6nm,0.6s,mb4.1						
TKM2	**Tokmak 2**	**49.32**	**298**	*e*P	**P**	**15 15 22.8**	**+2.1**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
TKM2	**Tokmak 2**	**49.32**	**298**	*e*P	**P**	**15 15 22.8**	**+2.1**
	comp=Z,1.9nm,0.4s,mb4.4						
INK	**Inuvik**	**53.81**	**27**	*e*P	**P**	**15 15 54.5**	**+0.8**
	comp=Z,70nm,0.7s						
WRA	**Warramunga Arr**	**57.70**	**188**	P	**P**	**15 16 21.7**	**-0.3**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
WRA	**Warramunga Arr**	**57.70**	**188**	P	**P**	**15 16 21.7**	**-0.3**
	comp=Z,0.6nm,0.4s,mb4.0,baz=5.1,slow=6.9,SNR=23						
ASAR	**Alice Springs**	**61.43**	**188**	P	**P**	**15 16 47.2**	**-0.4**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**61.43**	**188**	P	**P**	**15 16 47.1**	**-0.4**
	comp=Z,0.5nm,0.7s,mb3.6,baz=13,slow=5.2,SNR=6.3						
YKA	**Yellowknife Ar**	**63.24**	**30**	P	**P**	**15 16 59.7**	**+0.4**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
YKA	**Yellowknife Ar**	**63.24**	**30**	P	**P**	**15 16 59.7**	**+0.5**
YKA	**Yellowknife Ar**	**63.24**	**30**	P	**P**	**15 16 59.7**	**+0.5**
	comp=Z,0.6nm,0.7s,mb3.6,baz=304,slow=7.0,SNR=10						
FINES	**FINESS Array B**	**68.24**	**332**	P	**P**	**15 17 30.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
FINES	**FINESS Array B**	**68.24**	**332**	P	**P**	**15 17 30.5**	**-0.9**
	comp=Z,2.0nm,0.7s,mb4.1,baz=36,slow=9.5,SNR=9.0						
NB2	**NORSAR Subarra**	**73.59**	**337**	P	**P**	**15 18 03.6**	**-0.1**
	comp=Z,1.8nm,0.8s,mb3.9,baz=40,slow=6.2						
NOA	**NORSAR Array B**	**73.59**	**337**	P	**P**	**15 18 03.8**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**73.59**	**337**	P	**P**	**15 18 03.8**	**+0.1**
	comp=Z,1.1nm,0.7s,mb3.7,baz=38,slow=5.8,SNR=5.2						
AKASG	**Malin Array Be**	**73.78**	**322**	P	**P**	**15 18 03.8**	**-1.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**73.78**	**322**	P	**P**	**15 18 03.8**	**-1.3**
	comp=Z,0.9nm,0.4s,mb3.9,baz=46,slow=6.1,SNR=9.2						
NVAR	**Mina Array Bea**	**74.60**	**53**	P	**P**	**15 18 11.4**	**+1.3**
	comp=Z,0.3nm,0.6s,mb3.2,baz=290,slow=5.8,SNR=5.7						
LPAZ	**La Paz**	**146.36**	**59**	PKPbc	PKPbc	15 26 12.2	+0.6
	comp=Z,0.8nm,0.6s,baz=348,slow=5.3,SNR=4.7						

NIED ***26*** *15:14:00, 4250N×14190E, h140km, Mw4.0 Best double couple: M0 1.28000×10^15 NP1:ϕs237.00000°, δ69.00000°, λ-117.00000°. NP2:ϕs112.00000°, δ33.00000°, λ-41.00000°.*

MOS ***26*** *15:14:20.3±1.1, 4247N±003×14198E±004, h140km, mb3.9/16, Error ellipse: s-maj=15.9km s-min=9.2km az=105.2*

ISCJB ***26*** *15:14:20.2±0.3, 4247N±003×14198E±004, h133km±2km, mb4.0/23, Error ellipse: s-maj=5.7km s-min=4.0km az=32.2*

JMA ***26*** *15:14:21.3±0.1, 4251N×14189E, h132km±2km, M4.0 Broadband fault plane solution: P waves. NP1: ϕs114.00000°, δ31.00000°, λ-34.00000°. NP2: ϕs234.00000°, δ73.00000°, λ-117.00000°. Principal axes: T Plg24.0000°, Azm344.0000°; N Plg25.0000°, Azm242.0000°; P Plg54.0000°, Azm111.0000°;*

JMA Felt I J1.

BJI ***26*** *15:14:21.4, 4250N×14190E, h129km, mB4.6, mb4.7*

NEIC ***26*** *15:14:21.5±0.6, 4249N×14194E, h130km±7km, mb4.5/7, MW4.0(NIED), Error ellipse: s-maj=11.2km s-min=7.8km az=105.0*

NEIC Recorded [1 JMA] in south-central and southwestern Hokkaido. Also recorded [1 JMA] in Aomori Prefecture, Honshu.

IDC ***26*** *15:14:23.1±3.4, 4241N×14193E, h146km±32km, mb3.6/15, mb1 3.7/16, mb1mx3.7/22, mbtmp3.6/16, Error ellipse: s-maj=17.7km s-min=13.3km az=75.0*

ISC 26 15:14:21.3±0.3, 4247N±003×14197E±004, h128km±2km, n77, σ0 978/97, mb4.1/23, 7C-10D, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JBT2	**Biratori 2**	**0.42**	**43**	⇓P	**Pn**	**15 14 40.3**	**+0.7**
JBT2				*e*S	**Sn**	**15 14 54.5**	**+0.9**
JEW	**Eniwo**	**0.54**	**314**	⇓P	**Pn**	**15 14 40.3**	**0.0**
JEW				*e*S	**Sn**	**15 14 54.7**	**0.0**
JNBK	**Urakawa-nobuka**	**0.61**	**108**	⇑P	**Pn**	**15 14 41.6**	**+0.9**
JNBK				*e*S	**Sn**	**15 14 56.9**	**+1.5**
JNB	**Noboribetsu**	**0.69**	**270**	⇓P	**Pn**	**15 14 41.0**	**-0.3**
JNB				*e*S	**Sn**	**15 14 55.8**	**-0.7**
JFR	**Furan**	**0.83**	**33**	⇓P	**Pn**	**15 14 42.3**	**-0.1**
JFR				*e*S	**Sn**	**15 14 58.7**	**+0.2**
JKB	**Kayabe**	**0.91**	**231**	⇓P	**Pn**	**15 14 43.0**	**-0.1**
JKB				*e*S	**Sn**	**15 14 58.8**	**-0.8**
ERM	**Erimo**	**0.99**	**117**	*e*PN	**Pn**	**15 14 44.7**	**+0.8**
JCH	**Churui**	**1.04**	**81**	⇑P	**Pn**	**15 14 44.7**	**+0.4**
JCH				*e*S	**Sn**	**15 15 01.6**	**-0.2**
JOT	**Ohata**	**1.29**	**213**	⇑P	**Pn**	**15 14 47.0**	**+0.1**
JOT				*e*S	**Sn**	**15 15 06.0**	**-0.3**
JHR	**Hokuryu**	**1.29**	**352**	⇓P	**Pn**	**15 14 47.4**	**+0.5**
JHR				*e*S	**Sn**	**15 15 06.6**	**+0.3**
JSK	**Shakotan**	**1.41**	**309**	⇓P	**Pn**	**15 14 48.4**	**+0.2**
JSK				*e*S	**Sn**	**15 15 09.0**	**+0.3**
JKK2	**Kamakawa 2**	**1.52**	**22**	⇑P	**Pn**	**15 14 49.6**	**+0.2**
JKK2				*e*S	**Sn**	**15 15 10.3**	**-0.5**
JAR	**Ashorobuto**	**1.56**	**57**	⇓P	**Pn**	**15 14 49.8**	**-0.1**
JAR				*e*S	**Sn**	**15 15 10.6**	**-1.0**
JOSM	**Okushiri--Mats**	**1.89**	**259**	⇓P	**Pn**	**15 14 54.0**	**+0.2**
JYG	**Yagishiri**	**2.00**	**349**	P	**Pn**	**15 14 55.6**	**+0.5**
JYG				*e*S	**Sn**	**15 15 20.8**	**-0.2**
JTKR	**Abashiri--Toko**	**2.06**	**43**	⇓P	**Pn**	**15 14 56.4**	**+0.5**
JTKR				*e*S	**Sn**	**15 15 22.7**	**+0.3**
JAK	**Akkeshi**	**2.08**	**74**	⇑P	**Pn**	**15 14 55.6**	**-0.4**
JAK				*e*S	**Sn**	**15 15 21.0**	**-1.6**
JANG	**Nango**	**2.12**	**190**	⇑P	**Pn**	**15 14 55.8**	**-0.8**
JANG				*e*S	**Sn**	**15 15 21.6**	**-2.0**
YSS	**Yuzh-Sakhalins**	**4.52**	**7**	⇑/PN	**Pn**	**15 15 28.0**	**+0.2**
YSS				*e*S	**Sn**	**15 16 17.4**	**-2.2**
YSS				pmax	pmax		
	comp=N,110nm,0.7s						
YSS				pmax	pmax		
	comp=Z,140nm,0.7s						
YSS	**Yuzh-Sakhalins**	**4.52**	**7**	*e*Pn	**Pn**	**15 15 28.3**	**+0.5**
MAJO	**Matsushiro**	**6.59**	**207**	*e*PN	**Pn**	**15 15 55.9**	**+0.1**
MAJO				pmax	pmax		
	comp=Z,30nm,0.5s						
MAJO	**Matsushiro**	**6.59**	**207**	*e*Pn	**Pn**	**15 15 55.9**	**+0.1**
	comp=Z,30nm,0.5s						
MAT	**Matsushiro**	**6.59**	**207**	P	**Pn**	**15 15 55.6**	**-0.2**
MAT				*e*S	**Sn**	**15 17 10.3**	**+0.7**
MJAR	**Matsushiro Arr**	**6.59**	**207**	PN	**Pn**	**15 15 56.2**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**6.59**	**207**	P	**Pn**	**15 15 56.1**	**+0.4**
	comp=Z,5.3nm,0.3s,baz=28,slow=12,SNR=76						
HIA	**Hailar**	**16.88**	**301**	*e*P	**Pn**	**15 18 08.5**	**-1.1**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.8s						
HIA	**Hailar**	**16.88**	**301**	*e*P	**Pn**	**15 18 08.5**	**-1.1**
	comp=Z,6.7nm,0.8s						
YAK	**Yakutsk**	**20.92**	**344**	*e*P	**P**	**15 18 50.3**	**-3.0**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s						
YAK				pmax	pmax		
	comp=N,7.0nm,1.1s						
YAK	**Yakutsk**	**20.92**	**344**	*e*P	**P**	**15 18 50.4**	**-2.9**
	comp=N,24nm,0.6s						
HHC	**Hu-ho-hao-te**	**22.72**	**276**	*e*P	**P**	**15 19 11.3**	**-1.0**
HHC				AP		15 19 37.5	
HHC				PP		15 19 47.0	
HHC				XP	sP	15 19 52.0	-0.2
HHC				S	**S**	**15 23 05.5**	**-5.5**
HHC				SS		15 23 58.8	
HHC				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.2						
HHC				AMB	AMB		
	comp=Z,99nm,5.3s						
HHC				LR	LR		
	comp=N,194nm,12.9s						
HHC				LR	LR		
	comp=E,442nm,15.3s						
HHC				LR	LR		
	comp=Z,108nm,13.9s						
NACB	**Ninganchiao**	**24.85**	**229**	*e*P	**P**	**15 19 31.8**	**0.0**
SONM	**Songino Array**	**25.50**	**294**	P	**P**	**15 19 38.9**	**+1.3**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.5s						
SONM	**Songino Array**	**25.50**	**294**	P	**P**	**15 19 38.9**	**+1.4**
	comp=Z,1.7nm,0.5s,mb3.7,baz=68,slow=8.6,SNR=11						
ZAK	**Zakamensk**	**27.56**	**300**	*e*P	**P**	**15 19 57.8**	**+1.8**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.9s,mb3.3						
CD2	**Chengdu**	**32.49**	**262**	*e*P	**P**	**15 20 40.0**	**+0.4**
CD2				AP	pP	15 21 09.5	+2.2
CD2				XP	sP	15 21 25.0	+3.0
CD2				PP	PP	15 21 52.5	-2.9
CD2				S	**S**	**15 25 43.8**	**-1.3**
CD2				XS	sS	15 26 36.0	+2.5
CD2				SS	SS	15 27 48.3	-22
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,100nm,9.6s						
CD2				LR	LR		
	comp=Z,60nm,14.3s						
KMI	**Kunming**	**36.53**	**254**	P	**P**	**15 21 15.3**	**+0.8**
KMI				AMB	AMB		
	comp=Z,5.0nm,0.5s,mb4.7						
ZALV	**Zalesovo Beam**	**38.76**	**308**	P	**P**	**15 21 33.4**	**+0.5**
	comp=Z,3.7nm,0.3s,mb4.7,baz=89,slow=8.3,SNR=9.1						
ZAL	**Zalesovo**	**38.77**	**307**	P	**P**	**15 21 33.4**	**+0.4**
MK31	**Makanchi Array**	**41.81**	**297**	*e*P	**P**	**15 21 58.3**	**+0.2**
MKAR	**Makanchi Array**	**41.81**	**297**	P	**P**	**15 21 58.1**	**0.0**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR	**Makanchi Array**	**41.81**	**297**	P	**P**	**15 21 58.1**	**+0.1**
	comp=Z,0.7nm,0.5s,mb3.7,baz=84,slow=9.3,SNR=9.7						
KURK	**Kurchatov**	**43.09**	**304**	*e*P	**P**	**15 22 08.2**	**-0.2**
KURK				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**43.09**	**304**	*e*P	**P**	**15 22 08.2**	**-0.2**
	comp=Z,5.1nm,0.6s,mb4.4						
BVAR	**Borovoye Array**	**47.37**	**309**	P	**P**	**15 22 42.8**	**+0.7**
BVAR				pmax	pmax		
	comp=Z,6.0nm,0.3s						
BVAR	**Borovoye Array**	**47.37**	**309**	P	**P**	**15 22 42.8**	**+0.7**
	comp=Z,5.8nm,0.3s,mb4.7,baz=76,slow=9.1,SNR=54						
BRVK	**Borovoye**	**47.42**	**309**	*e*P	**P**	**15 22 41.8**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,4.0nm,0.4s,mb4.5						
BRVK	**Borovoye**	**47.42**	**309**	*e*P	**P**	**15 22 41.8**	**-0.7**
	comp=Z,4.0nm,0.4s,mb4.5						
TKM2	**Tokmak 2**	**47.60**	**294**	*e*P	**P**	**15 22 44.9**	**+0.8**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**47.60**	**294**	*e*P	**P**	**15 22 44.9**	**+0.9**
	comp=Z,3.3nm,0.5s,mb4.4						
INK	**Inuvik**	**49.40**	**29**	P	**P**	**15 22 57.1**	**-0.3**
INK				pmax	pmax		
	comp=Z,1.0nm,0.3s						
INK	**Inuvik**	**49.40**	**29**	*e*P

GERES **GERESS Array B 78.33 328** P **P** **15 26 06.3 -0.8**
comp=Z,0.2nm,0.4s,mb3.2,baz=329,slow=3.4,SNR=2.5

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*ISCJB **26** 15:33:55.5±0.2, 4835N±001×664E±002, h10km, Error ellipse: s-maj=2.1km s-min=2.0km az=28.4*
*CSEM **26** 15:33:57.5±0.0, 4834N×668E, h12km, ML2.8/7, Error ellipse: s-maj=0.8km s-min=0.7km az=163.0*
*NEIC **26** 15:33:57.7, 4832N×666E, h10km, ML2.8(LDG), ML2.4(STR), ML2.1(SZGRF), After LDG.*
*STR **26** 15:33:57.1±0.1, 4835N×669E, h10km, Ml2.4, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*BGR **26** 15:33:57.7±0.3, 4835N×670E, h10km, ML2.0/3, Error ellipse: s-maj=4.4km s-min=3.3km az=66.0*
*LDG **26** 15:33:57.7±0.1, 4832N×666E, h10km, Md2.9/5, Ml2.8/8, Error ellipse: s-maj=1.0km s-min=0.9km az=151.0*
ISC 26 15:33:56.7±0.2, 4834N±001×665E±002, h18km±3km, n66, σ0§68/118, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECH	**Echery**	**0.36**	**109**	*e*Pg	**Pg**	**15 34 04.7**	**+0.5**
	SNR=14						
ECH	**Echery**	**0.36**	**109**	Pg	**Pg**	**15 34 04.6**	**+0.3**
ECH				Sg	**Sg**	15 34 09.2	-0.2
HAU	**Haudompre**	**0.39**	**211**	*e*Pg	**Pg**	**15 34 05.4**	**+0.7**
HAU				*e*Sg	**Sg**	**15 34 10.5**	**+0.4**
	44nm,0.2s						
HAU	**Haudompre**	**0.39**	**211**	*e*Pg	**Pg**	**15 34 05.4**	**+0.7**
HAU				*e*Sg	**Sg**	**15 34 10.5**	**+0.4**
	22nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**15 34 05.7**	**+0.3**
CDF				*e*Sg	**Sg**	**15 34 11.4**	**+0.1**
	105nm,0.2s						
CDF	**Champ du Feu**	**0.43**	**79**	*e*Pg	**Pg**	**15 34 05.7**	**+0.3**
CDF				*e*Sg	**Sg**	**15 34 11.4**	**+0.1**
	53nm,0.2s						
THEF	**They Montfort**	**0.45**	**256**	*e*Pg	**Pg**	**15 34 06.5**	**+0.6**
	SNR=9.6						
THEF	**They Montfort**	**0.45**	**256**	Pg	**Pg**	**15 34 06.4**	**+0.5**
THEF				Sg	**Sg**	**15 34 12.8**	**+0.7**
HINF	**Hinteralfeld**	**0.54**	**165**	*e*Pg	**Pg**	**15 34 07.9**	**+0.5**
HINF				*e*Sg	**Sg**	**15 34 14.8**	**+0.2**
	97nm,0.2s						
HINF				*e*Sn	**Sg**	**15 34 17.6**	**+3.0**
HINF	**Hinteralfeld**	**0.54**	**165**	*e*Pg	**Pg**	**15 34 07.9**	**+0.5**
HINF				*e*Sg	**Sg**	**15 34 14.8**	**+0.2**
	49nm,0.2s						
HINF				*e*Sn	**Sg**	**15 34 17.6**	**+3.0**
MOF	**Molkenrain**	**0.58**	**146**	*e*Pg	**Pg**	**15 34 08.9**	**+0.6**
	SNR=16						
MOF	**Molkenrain**	**0.58**	**146**	Pg	**Pg**	**15 34 08.7**	**+0.4**
MOF				Sg	**Sg**	**15 34 15.8**	**-0.3**
RFYF	**Reffroy**	**0.83**	**291**	*e*Pg	**Pg**	**15 34 13.7**	**+0.8**
	baz=105						
RFYF	**Reffroy**	**0.83**	**291**	*e*Pn	**Pn**	**15 34 14.2**	**+0.8**
RFYF				*e*Sn	**Sn**	**15 34 26.0**	**+0.8**
	92nm,0.2s,baz=110						
RFYF	**Reffroy**	**0.83**	**291**	*e*Pg	**Pg**	**15 34 13.7**	**+0.8**
RFYF				*e*Pn	**Pn**	**15 34 14.2**	**+0.8**
RFYF				*e*Sn	**Sn**	**15 34 26.0**	**+0.8**
RFYF	**Reffroy**	**0.83**	**291**	*e*Pn	**Pn**	**15 34 14.2**	**+0.8**
RFYF				*e*Sn	**Sn**	**15 34 26.0**	**+0.8**
	46nm,0.2s						
LOMF	**Lomont**	**0.99**	**173**	*e*Pg	**Pg**	**15 34 16.6**	**+0.6**
	SNR=7.9						
LOMF	**Lomont**	**0.99**	**173**	Pg	**Pg**	**15 34 16.5**	**+0.6**
LOMF				Sg	**Sg**	**15 34 29.9**	**+0.9**
LANF	**Langenberg**	**1.00**	**50**	*e*Pg	**Pg**	**15 34 15.9**	**-0.3**
	SNR=13						
LANF	**Langenberg**	**1.00**	**50**	Pg	**Pg**	**15 34 15.8**	**-0.3**
LANF				Sg	**Sg**	**15 34 28.6**	**-0.7**
FELD	**Feldberg im Sc**	**1.02**	**116**	*e*Pg	**Pg**	**15 34 16.3**	**-0.1**
	SNR=4.9						
FELD	**Feldberg im Sc**	**1.02**	**116**	Pg	**Pg**	**15 34 16.7**	**+0.3**
FELD				Sg	**Sg**	**15 34 29.8**	**0.0**
BBS	**Basel-Blauen**	**1.05**	**146**	*e*Pg	**Pg**	**15 34 17.4**	**+0.4**
	SNR=5.5						
BBS	**Basel-Blauen**	**1.05**	**146**	Pg	**Pg**	**15 34 16.8**	**-0.2**
BBS				Sg	**Sg**	**15 34 31.3**	**+0.6**
MEZF	**Maizieres J'vi**	**1.07**	**280**	*e*Pg	**Pg**	**15 34 18.1**	**+0.6**
SFTF	**Sexfontaines**	**1.08**	**264**	*e*Pg	**Pg**	**15 34 18.3**	**+0.7**
	baz=96						
SFTF				*e*Sg	**Sg**	**15 34 32.4**	**+0.6**
	32nm,0.2s,baz=81						
SFTF	**Sexfontaines**	**1.08**	**264**	*e*Pg	**Pg**	**15 34 18.3**	**+0.7**
SFTF				*e*Sg	**Sg**	**15 34 32.4**	**+0.6**
	16nm,0.2s						
BFO	**Black Forest**	**1.12**	**90**	*e*Pg	**Pg**	**15 34 18.9**	**+0.5**
	SNR=8.8						
BFO				*e*Sg	**Sg**	**15 34 31.2**	**-1.9**
	SNR=16						
BFO	**Black Forest**	**1.12**	**90**	*e*Pg	**Pg**	**15 34 18.7**	**+0.3**
BFO				*e*Sg	**Sg**	**15 34 31.3**	**-1.8**
KTD	**Kalmit**	**1.37**	**43**	*e*Pg	**Pg**	**15 34 23.7**	**+0.7**
	SNR=4.7						
KTD	**Kalmit**	**1.37**	**43**	Pg	**Pg**	**15 34 23.1**	**0.0**
KTD				Sg	**Sg**	**15 34 41.4**	**+0.5**
WLF	**Walferdange**	**1.37**	**346**	*e*Pg	**Pg**	**15 34 23.7**	**+0.6**
	SNR=1.8						
WLF				*e*Sg	**Sg**	**15 34 40.9**	**-0.1**
	SNR=5.6						
WLF	**Walferdange**	**1.37**	**346**	P	**Pg**	**15 34 23.7**	**+0.6**
WLF				S	**Sg**	**15 34 41.2**	**+0.3**
	comp=N,18nm,0.0s						
RUP	**Ruppelstein**	**1.39**	**11**	*e*Pg	**Pg**	**15 34 23.5**	**0.0**
	SNR=2.9						
RUP	**Ruppelstein**	**1.39**	**11**	Pg	**Pg**	**15 34 23.7**	**+0.2**
RUP				Sg	**Sg**	**15 34 41.5**	**-0.2**
SPAK	**Spaichingen-Ko**	**1.45**	**98**	Pg	**Pg**	**15 34 24.9**	**+0.3**
SPAK				Sg	**Sg**	**15 34 43.3**	**-0.2**
ABH	**Alteburg**	**1.66**	**21**	*e*Pg	**Pg**	**15 34 28.2**	**-0.3**
	SNR=1.6						
STU	**Stuttgart**	**1.75**	**75**	*e*Sg	**Sg**	**15 34 52.9**	**-0.1**
CABF	**La Chapelle**	**1.77**	**193**	*e*Pg	**Pg**	**15 34 30.8**	**+0.2**
CABF				*e*Sg	**Sg**	**15 34 52.8**	**-0.8**
	comp=N,12nm,0.2s						
CABF	**La Chapelle**	**1.77**	**193**	*e*Pn	**Pn**	**15 34 27.0**	**+0.7**
CABF				*e*Pg	**Pg**	**15 34 30.8**	**+0.2**
CABF				*e*Sg	**Sg**	**15 34 52.8**	**-0.8**
CABF	**La Chapelle**	**1.77**	**193**	*e*Pg	**Pg**	**15 34 30.8**	**+0.2**
CABF				*e*Sg	**Sg**	**15 34 52.8**	**-0.8**
	comp=N,5.9nm,0.2s						
TOD	**Tromm**	**1.91**	**47**	*e*Pg	**Pg**	**15 34 33.4**	**+0.1**
	SNR=3.8						
TOD	**Tromm**	**1.91**	**47**	Pg	**Pg**	**15 34 33.2**	**-0.1**
TOD				Sg	**Sg**	**15 34 58.4**	**+0.3**
GIVF	**Givet**	**2.13**	**327**	*e*Pg	**Pg**	**15 34 37.5**	**-0.1**
GIVF				*e*Sg	**Sg**	**15 35 05.7**	**+0.4**
	comp=N,6.6nm,0.3s						
GIVF	**Givet**	**2.13**	**327**	*e*Pg	**Pg**	**15 34 37.5**	**-0.1**
GIVF				*e*Sg	**Sg**	**15 35 05.7**	**+0.4**
	comp=N,3.3nm,0.3s						
DOU	**Dourbes**	**2.22**	**323**	P	**Pg**	**15 34 39.0**	**-0.2**
DOU				S	**Sg**	**15 35 06.6**	**-1.3**
	comp=E,2.4nm,0.0s						
MEM	**Membach**	**2.31**	**350**	P	**Pg**	**15 34 40.5**	**-0.5**
BAIF	**Baives**	**2.35**	**318**	*e*Pg	**Pg**	**15 34 41.7**	**-0.1**
BAIF				*e*Sg	**Sg**	**15 35 11.8**	**-0.5**
	comp=E,2.4nm,0.2s						
BAIF	**Baives**	**2.35**	**318**	*e*Pg	**Pg**	**15 34 41.7**	**-0.1**
BAIF				*e*Sg	**Sg**	**15 35 11.8**	**-0.5**
	comp=E,1.2nm,0.2s						
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**15 34 43.8**	**-0.3**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pn	**Pn**	**15 34 36.2**	**+0.2**
SSF				*e*Pg	**Pg**	**15 34 43.8**	**-0.3**
SSF	**Saint Saulge**	**2.47**	**240**	*e*Pg	**Pg**	**15 34 43.8**	**-0.3**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**15 34 45.2**	**-0.2**
SMF				*e*Sg	**Sg**	**15 35 16.6**	**-1.8**
	comp=E,12nm,0.3s						
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pn	**Pn**	**15 34 36.7**	**-0.3**
SMF				*e*Pg	**Pg**	**15 34 45.2**	**-0.2**
SMF				*e*Sg	**Sg**	**15 35 16.6**	**-1.8**
SMF	**Signal de Mont**	**2.54**	**229**	*e*Pg	**Pg**	**15 34 45.2**	**-0.2**
SMF				*e*Sg	**Sg**	**15 35 16.6**	**-1.8**
	comp=E,5.8nm,0.3s						
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**15 34 47.9**	**-0.8**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pn	**Pn**	**15 34 39.4**	**+0.1**
AVF				*e*Pg	**Pg**	**15 34 47.9**	**-0.8**
AVF	**Avril sur Loir**	**2.71**	**236**	*e*Pg	**Pg**	**15 34 47.9**	**-0.8**
LPG	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**15 34 50.1**	**-1.0**
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pg	**Pg**	**15 34 56.3**	**-0.4**
BGF				*e*Sg	**Sg**	**15 35 35.7**	**-1.5**
	comp=E,14nm,0.4s						
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pn	**Pn**	**15 34 44.6**	**-0.4**
BGF				*e*Pg	**Pg**	**15 34 56.3**	**-0.4**
BGF				*e*Sg	**Sg**	**15 35 35.7**	**-1.5**
BGF	**Bois d'Agland**	**3.13**	**237**	*e*Pg	**Pg**	**15 34 56.3**	**-0.4**
BGF				*e*Sg	**Sg**	**15 35 35.7**	**-1.5**
	comp=E,6.8nm,0.4s						
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pg	**Pg**	**15 35 01.1**	**-1.8**
ORIF				*e*Sg	**Sg**	**15 35 43.8**	**-3.9**
	comp=E,2.4nm,0.2s						
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pn	**Pn**	**15 34 49.5**	**0.0**
ORIF				*e*Pg	**Pg**	**15 35 01.1**	**-1.8**
ORIF				*e*Sg	**Sg**	**15 35 43.8**	**-3.9**
ORIF	**Oris-en-Rattie**	**3.46**	**189**	*e*Pg	**Pg**	**15 35 01.1**	**-1.8**
ORIF				*e*Sg	**Sg**	**15 35 43.8**	**-3.9**
	comp=E,1.2nm,0.2s						
GEC2	**GERESS Array S**	**4.71**	**81**	*e*Sn	**Sn**	**15 36 00.8**	**0.0**
	SNR=3.4						

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*NEIC **26** 15:34:20.9, 1675N×9636W, h64km, MD3.9(MEX), After MEX.*
MEX 26 15:34:21.6±0.7, 1675N×9635W, h56km±11km, MD3.9, Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OXX	**Oaxaca**	**0.49**	**313**	*i* P	Pn	15 34 31.5	-1.7
OXX				*i* S	Sn	15 34 40.5	-1.0
VHO	**Vista Hermosa**	**0.49**	**311**	*i* P	Pn	15 34 31.6	-1.5
VHO				*i* S	Sn	15 34 40.2	-1.3
HUIG	**Huatulco**	**1.00**	**167**	*i* P	Pn	15 34 37.9	-1.7
HUIG				*i* S	Sn	15 34 50.9	-1.8
CMIG	**Matias Romero**	**1.44**	**76**	*i* P	Pn	15 34 43.8	-1.7
CMIG				*i* S	Sn	15 35 01.7	-1.6
CMIG	**Matias Romero**	**1.44**	**76**	*i* P	Pn	15 34 43.7	-1.7
CMIG				*i* S	Sn	15 35 01.7	-1.6
UTMO	**Huajuapan**	**1.76**	**308**	*i* P	Pn	15 34 49.7	0.0
UTMO				*i* S	Sn	15 35 08.7	-2.3

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*ISCJB **26** 15:59:59.7±0.5, 1067N×003×6247W×003, h81km±6km, Error ellipse: s-maj=5.9km s-min=3.8km az=156.4*
*FUNV **26** 16:00:00.6, 1074N×6235W, h74km, MW3.5*
*TRN **26** 16:00:02.0, 1072N×6242W, h66km, MD3.1*
*NEIC **26** 16:00:02.0, 1072N×6242W, h66km, MD3.1(TRN), After TRN.*
ISC 26 16:00:00.7±0.5, 1069N±003×6246W±003, h74km±7km, n26, σ0§87/48, 4C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.23**	**99**	⇑*i* P	**Pn**	**16 00 11.6**	**-0.4**
GUIV				*e*S	**Sn**	**16 00 19.5**	**-0.8**
TCE	**Chacachacare**	**0.69**	**89**	*e*P	**Pn**	**16 00 16.2**	**+0.3**
TCE				*e*S	**Sn**	**16 00 26.9**	**-0.2**
GUNV	**Guanoco**	**0.71**	**223**	⇑*i* P	**Pn**	**16 00 17.3**	**+1.2**
GUNV				*e*S	**Sn**	**16 00 29.3**	**+1.9**
CRUV	**Carupano**	**0.77**	**269**	⇓*i* P	**Pn**	**16 00 16.9**	**+0.2**
CRUV				*e*S	**Sn**	**16 00 28.5**	**0.0**
ITEV	**Isla Los Testi**	**0.94**	**315**	⇓*e* P	**Pn**	**16 00 18.6**	**-0.1**
ITEV				*e*S	**Sn**	**16 00 31.6**	**-0.5**
TRN	**Trinidad (W)**	**1.04**	**92**	*e*P	**Pn**	**16 00 20.1**	**+0.2**
TRN				*e*S	**Sn**	**16 00 32.7**	**-1.5**
TPP	**Pointe-a-Pierr**	**1.05**	**110**	*e*P	**Pn**	**16 00 21.8**	**+1.7**
TPP				*e*S	**Sn**	**16 00 35.0**	**+0.4**
TPP	**Pointe-a-Pierr**	**1.05**	**110**	*e*P	**Pn**	**16 00 25.7**	**+5.6**
TPP				*e*S	**Sn**	**16 00 35.0**	**+0.4**
TPP				*e*S	**Sn**	**16 00 36.1**	**+1.4**
TBH	**Brigand Hill**	**1.38**	**98**	*e*P	**Pn**	**16 00 25.0**	**+0.7**
TBH				*e*S	**Sn**	**16 00 39.5**	**-2.5**
TBH				*e*S	**Sn**	**16 00 42.9**	**+0.9**
GRW	**Mount Saint Ca**	**1.66**	**28**	*e*P	**Pn**	**16 00 28.1**	**+0.2**
GRW				*e*S	**Sn**	**16 00 43.0**	**-5.6**
GRW				*e*S	**Sn**	**16 00 45.0**	**-3.5**
TPR	**Prospect**	**1.72**	**73**	*e*P	**Pn**	**16 00 29.1**	**+0.4**
TPR				*e*S	**Sn**	**16 00 49.2**	**-0.9**
TPR	**Prospect**	**1.72**	**73**	*e*P	**Pn**	**16 00 30.9**	**+2.1**
TPR				*e*S	**Sn**	**16 00 49.2**	**-0.9**
GRHS	**Sauteurs**	**1.73**	**28**	*e*P	**Pn**	**16 00 29.7**	**+0.9**
GRHS				*e*S	**Sn**	**16 00 49.1**	**-1.0**
GRSS	**Sisters**	**1.80**	**27**	*e*P	**Pn**	**16 00 30.3**	**+0.4**
GRSS				*e*S	**Sn**	**16 00 51.8**	**-0.2**
GRIC	**Isle de Caille**	**1.81**	**28**	*e*P	**Pn**	**16 00 30.3**	**+0.4**
GRIC				*e*S	**Sn**	**16 00 52.0**	**0.0**
GRCU	**Cariacou**	**2.03**	**29**	*e*P	**Pn**	**16 00 33.4**	**+0.5**
GRCU				*e*S	**Sn**	**16 00 57.6**	**+0.3**
PCRV	**Puerto La Cruz**	**2.20**	**257**	*e*P	**Pn**	**16 00 35.9**	**+0.7**
IBAV	**Isla La Blanqu**	**2.37**	**299**	⇑*i* P	**Pn**	**16 00 37.7**	**+0.2**
RIOV	**Rio Grande**	**2.68**	**166**	*e*P	**Pn**	**16 00 41.6**	**-0.1**
GURV	**El Guri**	**2.97**	**192**	⇑*e*P	**Pn**	**16 00 45.1**	**-0.5**
CUPV	**Cepira**	**3.34**	**260**	*e*P	**Pn**	**16 00 51.7**	**+1.1**
CUPV				*e*S	**Sn**	**16 01 28.6**	**-0.5**
BIRV	**Birongo**	**3.75**	**267**	*e*P	**Pn**	**16 00 57.1**	**+0.9**
BIRV				*e*S	**Sn**	**16 01 37.9**	**-1.5**
MERV	**Las Mercedes**	**4.04**	**250**	*e*P	**Pn**	**16 01 00.6**	**+0.4**
MERV				*e*S	**Sn**	**16 01 45.3**	**-1.0**
LUEV	**Luepa**	**4.91**	**168**	*e*P	**Pn**	**16 01 10.5**	**-1.6**
CAOV	**Caicara del Or**	**5.07**	**229**	*e*P	**Pn**	**16 01 13.4**	**-0.8**
BAUV	**El Baul**	**5.77**	**253**	*e*P	**Pn**	**16 01 23.0**	**-0.8**

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*IDC **26** 16:45:48.1±1.0, 3657N×7375E, h0km, mb3.6/8, mb1 3.9/12, mb1mx3.7/24, mbtmp3.8/12, ML4.0/3, Error ellipse: s-maj=24.3km s-min=20.8km az=52.0*
*MOS **26** 16:45:51.8±1.8, 3676N×7352E, h33km, mb4.1/7, Error ellipse: s-maj=18.1km s-min=7.8km az=85.4*
*ISCJB **26** 16:45:57.6±0.6, 3684N±003×74.13E±008, h98km±8km, mb3.7/13, Error ellipse: s-maj=10.5km s-min=3.7km az=164.5*
*BJI **26** 16:45:58.7, 3710N×7413E, h15km, ML3.6*
*NEIC **26** 16:45:59.2±2.8, 3694N×7385E, h84km±22km, mb3.9/2, Error ellipse: s-maj=28.4km s-min=15.8km az=205.0*
*NNC **26** 16:46:04.6±7.5, 3775N×7327E, h0km, mb4.2, mpv4.1, Error ellipse: s-maj=59.2km s-min=50.0km az=10.0*
ISC 26 16:45:58.6±0.5, 3681N±003×7410E±008, h97km±7km, n73, σ1§48/90, mb3.7/13, 8C-6D, Northwestern Kashmir

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**3.08**	**28**	*e*P	**Pn**	**16 46 48.3**	**+3.1**
KSH				S	**Sn**	**16 47 17.0**	**-4.2**
KSH				Smax			
	comp=N,1μm,0.2s						
KSH				Smax			
	comp=E,1μm,0.2s						
DLH	**Dalhousie**	**4.53**	**160**	*e*P	**Pn**	**16 47 10.0**	**+5.1**
DLH				*ex*	**Sn**	**16 48 05.0**	**+8.6**
THN	**Thein Dam**	**4.57**	**163**	*e*P	**Pn**	**16 47 08.6**	**+3.2**
THN				*e*S	**Sn**	**16 47 59.9**	**+2.6**
AML	**Almayashu**	**5.32**	**357**	*e*Pn	**Pn**	**16 47 15.1**	**-0.4**
	comp=E,73nm,0.5s						
AML				*e*Sn	**Sn**	**16 48 10.1**	**-5.4**
AML	**Almayashu**	**5.32**	**357**	P	**Pn**	**16 47 15.6**	**+0.1**
	SNR=93						
KZA	**Kyzart**	**5.33**	**9**	P	**Pn**	**16 47 16.6**	**+0.9**
	SNR=277						
UCH	**Uchtor**	**5.42**	**3**	*e*Pn	**Pn**	**16 47 17.3**	**+0.5**
	comp=E,64nm,0.5s						
UCH	**Uchtor**	**5.42**	**3**	P	**Pn**	**16 47 17.7**	**+0.9**
	SNR=72						
ULHL	**Ulahol**	**5.67**	**16**	P	**Pn**	**16 47 22.1**	**+1.8**
	SNR=51						
SDNR	**Sundarnagar**	**5.81**	**155**	*e*P	**Pn**	**16 47 24.5**	**+2.2**
SDNR				*e*S	**Sn**	**16 48 26.5**	**-1.0**
AAK	**Ala-Archa**	**5.82**	**3**	P	**Pn**	**16 47 23.1**	**+0.8**
	SNR=30						
EKS2	**Erkin-Say**	**5.85**	**358**	*e*Pn	**Pn**	**16 47 22.6**	**0.0**
	comp=E,60nm,0.4s						
EKS2	**Erkin-Say**	**5.85**	**358**	P	**Pn**	**16 47 23.0**	**+0.4**
	SNR=62						
KBK	**Karagaybulak**	**5.87**	**6**	P	**Pn**	**16 47 24.0**	**+1.0**
	SNR=44						
CHMS	**Chumysh**	**6.20**	**4**	P	**Pn**	**16 47 28.0**	**+0.5**
	SNR=20						
TKM2	**Tokmak 2**	**6.21**	**10**	⇑*e*Pn	**Pn**	**16 47 28.4**	**+0.8**
	comp=E,8.8nm,0.2s						
TKM2				⇓Sn	**Sn**	**16 48 33.4**	**-3.6**
	comp=E,21nm,0.5s						
TKM2	**Tokmak 2**	**6.21**	**10**	*e*PN	**Pn**	**16 47 28.2**	**+0.6**
TKM2				pmax	pmax		
	comp=Z,29nm,0.4s						
TKM2	**Tokmak 2**	**6.21**	**10**	*e*Pn	**Pn**	**16 47 28.2**	**+0.6**
	comp=Z,29nm,0.4s						
TKM2	**Tokmak 2**	**6.21**	**10**	P	**Pn**	**16 47 28.6**	**+1.0**
	SNR=48						
KLP	**Kalpa**	**6.29**	**146**	*e*P	**Pn**	**16 47 32.1**	**+3.3**
KLP				*e*S	**Sn**	**16 48 38.1**	**-1.1**
KLP				AML	AML	16 48 48.4	
	comp=N,205nm,0.2s						
KLP				AML	AML	16 48 48.8	
	comp=E,223nm,0.3s						
USP	**Ospenovka**	**6.45**	**3**	P	**Pn**	**16 47 31.4**	**+0.4**
	SNR=11						
KK31	**Karatay Array**	**6.86**	**337**	⇑Pn	**Pn**	**16 47 34.2**	**-2.2**
	comp=E,7.1nm,0.4s,baz=147,slow=14						
KK31				⇓Sn	**Sn**	**16 48 44.4**	**-8.5**
	comp=E,23nm,0.5s,baz=148,slow=24						
DDI	**Dehra Dun**	**7.27**	**152**	*e*P	**Pn**	**16 47 45.0**	**+2.9**
DDI				*ex*	**Sn**	**16 49 08.0**	**+5.0**
JOSI	**Joshimath**	**7.72**	**142**	*e*P	**Pn**	**16 47 50.5**	**+2.2**
JOSI				*e*S	**Sn**	**16 49 12.6**	**-1.5**
JOSI				AML	AML	16 49 21.2	
	comp=N,245nm,0.5s						
JOSI				AML	AML	16 49 21.4	
	comp=E,206nm,0.4s						
NDI	**New Delhi**	**8.52**	**161**	*e*P	**Pn**	**16 48 04.0**	**+4.8**
NDI				*e*S	**Sn**	**16 49 31.0**	**-2.6**
KUDL	**Kundal**	**8.88**	**166**	*e*P	**Pn**	**16 48 05.3**	**+1.4**
KUDL				*e*S	**Sn**	**16 49 41.4**	**-0.9**
KUDL				AML	AML	16 49 47.3	
	comp=E,4.7nm,0.3s						
KUDL				AML	AML	16 49 47.8	
	comp=N,23nm,0.2s						
SONA	**Sohna**	**8.90**	**163**	*e*P	**Pn**	**16 48 07.2**	**+2.9**
SONA				*e*S	**Sn**	**16 49 40.6**	**-2.3**
SONA				AML	AML	16 49 46.0	
	comp=E,76nm,0.3s						
SONA				AML	AML	16 49 46.2	
	comp=N,41nm,0.4s						
MK31	**Makanchi Array**	**11.69**	**29**	*e*P	**Pn**	**16 48 42.5**	**+0.5**
MKAR	**Makanchi Array**	**11.69**	**29**	Pn	**Pn**	**16 48 42.7**	**+0.7**
	comp=N,0.2nm,0.3s,baz=202,slow=12,SNR=19						
DANN	**Dangsing**	**11.72**	**133**	*e*P	**Pn**	**16 48 42.4**	**-0.2**
	comp=N,19nm,0.4s						
DANN				*e*S	**Sn**	**16 50 45.5**	**-6.0**
KOLN	**Koldanda**	**12.07**	**136**	*e*P	**Pn**	**16 48 47.2**	**-0.1**
	comp=N,8.3nm,0.4s						
GKN	**Gorkha**	**12.50**	**132**	*e*P	**Pn**	**16 48 52.2**	**-0.7**
	comp=N,4.4nm,0.2s						
KKN	**Kakani**	**13.04**	**130**	*e*P	**Pn**	**16 48 59.0**	**-1.1**
	comp=N,3.9nm,0.2s						
KKN				*e*S	**Sn**	**16 51 17.5**	**-6.0**
DMN	**Daman**	**13.07**	**131**	*e*P	**Pn**	**16 48 59.4**	**-1.1**
	comp=N,16nm,0.5s						
DMN				*e*S	**Sn**	**16 51 18.5**	**-5.7**
GUN	**Gumba**	**13.33**	**128**	*e*P	**Pn**	**16 49 02.9**	**-1.0**
	comp=N,16nm,0.7s						
JIRN	**Jiri**	**13.70**	**128**	*e*P	**Pn**	**16 49 07.8**	**-0.9**
	comp=N,12nm,0.3s						
KURK	**Kurchatov**	**14.27**	**12**	⇓Pn	**Pn**	**16 49 20.7**	**+4.8**
KURK	**Kurchatov**	**14.27**	**12**	*e*P	**Pn**	**16 49 13.3**	**-2.6**
KURK				pmax	pmax		
	comp=Z,17nm,1.0s						
KURK	**Kurchatov**	**14.27**	**12**	*e*Pn	**Pn**	**16 49 13.3**	**-2.6**
	comp=Z,17nm,1.0s						
VOSK	**Vostochnaya**	**16.06**	**353**	⇓Pn	**Pn**	**16 49 35.6**	**-2.9**
	comp=Z,4.8nm,1.0s						
AB31	**Akbulak array**	**16.14**	**325**	Pn	**Pn**	**16 49 35.1**	**-4.4**
	comp=Z,1.9nm,0.5s,baz=136,slow=13,SNR=32						
AB31				⇓Sn	Sn	16 52 16.0	-22
	comp=Z,2.3nm,0.5s,baz=147,slow=23,SNR=10						
BVA0	**Borovoye Array**	**16.42**	**352**	⇑Pn	**Pn**	**16 49 39.5**	**-3.4**
	comp=Z,0.3nm,0.5s,baz=153,slow=12,SNR=32						
BVAR	**Borovoye Array**	**16.42**	**352**	P	**Pn**	**16 49 40.4**	**-2.5**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR	**Borovoye Array**	**16.42**	**352**	Pn	**Pn**	**16 49 40.4**	**-2.5**
	comp=Z,1.4nm,0.3s,baz=146,slow=10,SNR=26						
BRVK	**Borovoye**	**16.46**	**352**	*e*P	**Pn**	**16 49 41.2**	**-2.3**
BRVK				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BRVK	**Borovoye**	**16.46**	**352**	*e*Pn	**Pn**	**16 49 41.2**	**-2.2**
	comp=Z,3.2nm,0.8s						
ZRNK	**Zerenda**	**16.53**	**349**	⇑Pn	**Pn**	**16 49 41.9**	**-2.4**
	comp=Z,5.6nm,0.7s						
AKTK	**Aktyubinsk**	**17.86**	**325**	P	**Pn**	**16 49 59.3**	**-1.2**
AKTO	**Aktyubinsk**	**17.86**	**325**	⇓Pn	**Pn**	**16

CHOS				*e*Sg	**Sg**	**16 46 35.4**	**-0.4**
PRK	**Paraskevi**	**0.88**	**341**	*e*Pg	**Pg**	**16 46 36.5**	**-1.0**
PRK				*e*Sg	**Sg**	**16 46 48.8**	**-0.2**
AYVA	**Ayvalik**	**0.89**	**3**	*i* P	**Pb**	**16 46 37.5**	**-0.1**
AYVA				*i* S	**Sb**	**16 46 49.7**	**+0.5**
AKHS	**Akhisar**	**1.03**	**63**	*i* P	**Pb**	**16 46 39.0**	**-0.9**
AKHS				*i* S	**Sb**	**16 46 53.2**	**0.0**
BOZC	**Bozcaada**	**1.50**	**342**	*i* P	**Pn**	**16 46 46.5**	**-0.1**
BOZC				*i* S	**Sn**	**16 47 07.3**	**+1.5**

NIED ***26*** *16:51:00, 39.00N×143.40E, h26km, Mw4.1 Best double couple: M0.1.78000×10^15 NP1:φ0±21.00000°, δ61.00000°, λ92.00000°. NP2:φ0±197.00000°, δ29.00000°, λ86.00000°.*
JMA ***26*** *16:51:39.8±0.1, 3903N×14338E, h9km±2km, M4.2*
BJI ***26*** *16:51:40.9, 3961N×143.14E, h10km, mB4.8, mb4.4, Ms3.9, Msz3.7*
NEIC ***26*** *16:51:41.6±0.6, 39.14N×143.30E, h10km, mb4.5/10, MW4.1(NIED), Error ellipse: s-maj=13.2km s-min=8.4km az=121.0*
ISCJB ***26*** *16:51:41.1±1.5, 3906N±005×14343E±005, h24km±10km, mb4.2/28, MS3.6/6, Error ellipse: s-maj=8.6km s-min=6.5km az=154.6*
MOS ***26*** *16:51:44.9±0.8, 39.10N×143.18E, h52km, mb4.3/13, Error ellipse: s-maj=14.3km s-min=10.1km az=108.9*
IDC ***26*** *16:51:48.4±4.5, 3900N×143.14E, h64km±38km, mb3.6/12, mb1 3.7/14, mb1mx3.6/22, mbtmp3.6/14, ML3.3/2, MS3.5/6, Ms1 3.5/6, ms1mx3.2/25, Error ellipse: s-maj=33.2km s-min=17.1km az=75.0*

ISC 26 16:51:41.1±2.0, 3911N±005×14334E±005, h8km±12km, n66, σ0.95/71, mb4.2/28, MS3.6/6, 1D, Off east coast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**1.27**	**292**	P	**Pn**	**16 52 04.2**	**-0.9**
MIYJ				*e*S	**Sb**	**16 52 22.1**	**+0.4**
OFUJ	**Ofunato**	**1.30**	**269**	P	**Pn**	**16 52 04.2**	**-1.4**
OFUJ				*e*S	**Sb**	**16 52 21.8**	**-0.9**
JTH	**Tanohata**	**1.41**	**306**	P	**Pn**	**16 52 06.6**	**-0.5**
JTH				*e*S	**Sb**	**16 52 26.2**	**+0.4**
JOM	**Ohasama**	**1.63**	**284**	P	**Pn**	**16 52 09.8**	**-0.3**
JOM				*e*S	**Sn**	**16 52 32.3**	**+1.0**
JMK	**Ichinoseki**	**1.66**	**265**	P	**Pn**	**16 52 09.7**	**-0.8**
JIO	**Ouri**	**1.69**	**248**	P	**Pn**	**16 52 09.8**	**-1.1**
JANG	**Nango**	**1.89**	**312**	P	**Pn**	**16 52 13.4**	**-0.3**
JOU	**Okura**	**2.22**	**251**	P	**Pn**	**16 52 17.9**	**-0.3**
JOU				*e*S	**Sn**	**16 52 47.0**	**+1.1**
JYK	**Kaneyama**	**2.33**	**266**	P	**Pn**	**16 52 19.8**	**+0.1**
JMM	**Marumori**	**2.35**	**239**	P	**Pn**	**16 52 18.9**	**-1.2**
JTM	**Tenmabayashi**	**2.42**	**315**	P	**Pn**	**16 52 23.5**	**+2.5**
MAJO	**Matsushiro**	**4.80**	**239**	*e*P	**Pn**	**16 52 55.2**	**+1.4**
MAT	**Matsushiro**	**4.80**	**239**	P	**Pn**	**16 52 55.3**	**+1.5**
MAT				*e*S	**Sn**	**16 53 50.0**	**+0.4**
MJAR	**Matsushiro Arr**	**4.80**	**239**	P	**Pn**	**16 52 55.3**	**+1.6**
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
MJAR				MLR	MLR		
	comp=Z,474nm,18.6s						
MJAR	**Matsushiro Arr**	**4.80**	**239**	P	**Pn**	**16 52 55.3**	**+1.6**
	comp=Z,2.4nm,0.3s,baz=47,slow=10,SNR=96						
MJAR				LR	LR	16 54 59.4	
	comp=Z,474nm,18.6s,baz=55,slow=42						
KSRS	**Korea Array**	**12.23**	**267**	P	**Pn**	**16 54 38.4**	**+2.8**
	comp=Z,0.1nm,0.3s,baz=80,slow=14,SNR=3.5						
KSRS				LR	LR	16 58 57.7	
	comp=Z,151nm,18.5s,baz=137,slow=36						
MA2	**Magadan**	**21.02**	**11**	*e*P	**P**	**16 56 25.8**	**+0.8**
MA2				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.2						
MA2	**Magadan**	**21.02**	**11**	*e*P	**P**	**16 56 25.8**	**+0.9**
	comp=Z,14nm,1.0s,mb4.2						
HHC	**Hu-ho-hao-te**	**24.35**	**284**	*e*P	**P**	**16 56 58.5**	**-0.8**
HHC				AP		16 57 03.0	
HHC				XP	sP	16 57 05.5	+2.9
HHC				PP		16 57 32.8	
HHC				S	**S**	**17 01 14.5**	**-4.3**
HHC				XS	sS	17 01 19.5	-3.1
HHC				SS		17 02 04.0	
HHC				AMB	AMB		
	comp=Z,13nm,1.1s,mb4.3						
HHC				AMB	AMB		
	comp=Z,137nm,4.4s						
HHC				LR	LR		
	comp=N,144nm,15.5s,MS4.0						
HHC				LR	LR		
	comp=E,354nm,17.1s,MS4.0						
HHC				LR	LR		
	comp=Z,191nm,15.5s,MS3.7						
YAK	**Yakutsk**	**24.43**	**344**	P	**P**	**16 56 58.6**	**-1.3**
YAK				pmax	pmax		
	comp=Z,19nm,1.0s,mb4.5						
YAK	**Yakutsk**	**24.43**	**344**	P	**P**	**16 56 58.6**	**-1.3**
	comp=Z,19nm,1.0s,mb4.5						
BOD	**Bodaibo**	**26.66**	**324**	*e*P	**P**	**16 57 17.9**	**-2.3**
BOD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**27.53**	**300**	*e*P	**P**	**16 57 27.6**	**-0.5**
ULN				*e*		16 57 39.2	
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.0						
ULN	**Ulaanbaatar**	**27.53**	**300**	*e*P	**P**	**16 57 27.6**	**-0.5**
	comp=Z,3.1nm,0.8s,mb4.0						
ULN				*e*		16 57 39.2	
SONM	**Songino Array**	**27.97**	**300**	P	**P**	**16 57 32.5**	**+0.5**
SONM				pmax	pmax		
	comp=Z,2.0nm,0.7s						
SONM				MLR	MLR		
	comp=Z,126nm,18.4s						
SONM	**Songino Array**	**27.97**	**300**	P	**P**	**16 57 32.5**	**+0.4**
	comp=Z,2.0nm,0.7s,mb3.9,baz=82,slow=8.1,SNR=18						
SONM				LR	LR	17 09 12.2	
	comp=Z,126nm,18.4s,MS3.5,baz=67,slow=37						
TLY	**Talaya**	**30.19**	**308**	P	**P**	**16 57 51.9**	**+0.2**
TLY				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.0						
TLY	**Talaya**	**30.19**	**308**	P	**P**	**16 57 51.9**	**+0.2**
	comp=Z,1.5nm,0.6s,mb3.9						
BILL	**Bilibino**	**31.61**	**16**	*e*P	**P**	**16 58 05.6**	**+1.6**
BILL				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.9						
GTA	**Gaotai**	**33.46**	**285**	*e*P	**P**	**16 58 22.0**	**+1.4**
GTA				AP	pP	16 58 26.0	+3.1
GTA				XP	sP	16 58 29.0	+5.2
GTA				AMB	AMB		
	comp=Z,4.0nm,1.0s,mb4.3						
KMI	**Kunming**	**36.80**	**260**	P	**P**	**16 58 49.5**	**0.0**
KMI				AP	pP	16 58 53.5	+1.7
KMI				XP	sP	16 58 55.0	+2.2
KMI				PP	PP	17 00 14.8	+1.6
KMI				S	**S**	**17 04 33.0**	**-0.9**
KMI				SS	SS	17 06 56.0	-19
KMI				AMB	AMB		
	comp=Z,12nm,0.9s,mb4.7						
KMI				AMB	AMB		
	comp=Z,75nm,3.9s						
KMI				LR	LR		
	comp=N,77nm,17.2s,MS3.8						
KMI				LR	LR		
	comp=E,97nm,17.2s,MS3.8						
KMI				LR	LR		
	comp=Z,130nm,15.2s,MS3.8						
ZALV	**Zalesovo Beam**	**41.68**	**311**	P	**P**	**16 59 29.3**	**-0.7**
	comp=Z,2.2nm,0.4s,mb4.1,baz=87,slow=7.1,SNR=4.3						
ZAL	**Zalesovo**	**41.69**	**311**	P	**P**	**16 59 29.3**	**-0.7**
MK31	**Makanchi Array**	**44.34**	**301**	*e*P	**P**	**16 59 50.9**	**-0.7**
MK31				*e*		17 00 00.8	
MKAR	**Makanchi Array**	**44.34**	**301**	P	**P**	**16 59 51.5**	**-0.1**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MKAR	**Makanchi Array**	**44.34**	**301**	P	**P**	**16 59 51.5**	**-0.1**
	comp=Z,2.7nm,0.8s,mb4.0,baz=84,slow=9.1,SNR=28						
KURK	**Kurchatov**	**45.88**	**307**	*e*P	**P**	**17 00 02.9**	**-0.9**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.6						
KURK	**Kurchatov**	**45.88**	**307**	*e*P	**P**	**17 00 02.9**	**-0.9**
	comp=Z,6.4nm,0.8s,mb4.6						
TKM2	**Tokmak 2**	**50.00**	**297**	*e*P	**P**	**17 00 36.2**	**+0.4**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5						
TKM2	**Tokmak 2**	**50.00**	**297**	*e*P	**P**	**17 00 36.1**	**+0.3**
	comp=Z,3.8nm,0.8s,mb4.5						
BVAR	**Borovoye Array**	**50.32**	**311**	P	**P**	**17 00 37.9**	**-0.2**
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
BVAR	**Borovoye Array**	**50.32**	**311**	P	**P**	**17 00 37.9**	**-0.1**
	comp=Z,1.1nm,0.6s,mb4.0,baz=78,slow=9.4,SNR=8.3						
AML	**Almayashu**	**51.60**	**297**	*e*P	**P**	**17 00 48.3**	**+0.4**
	comp=Z,2.8nm,0.6s,mb4.4						
INK	**Inuvik**	**51.85**	**28**	*e*P	**P**	**17 00 50.5**	**+1.2**
	comp=Z,26nm,0.6s,mb5.3						
ARU	**Arti**	**55.83**	**318**	P	**P**	**17 01 17.9**	**-0.7**
ARU	**Arti**	**55.83**	**318**	P	**P**	**17 01 17.9**	**-0.7**
KBL	**Kabul**	**58.10**	**291**	*e*P	**P**	**17 01 34.4**	**-0.7**
	comp=Z,6.8nm,0.8s,mb4.7						
AKTK	**Aktyubinsk**	**58.43**	**312**	P	**P**	**17 01 36.9**	**-0.2**
AKTO	**Aktyubinsk**	**58.43**	**312**	P	**P**	**17 01 36.9**	**-0.2**
	comp=Z,0.4nm,0.2s,mb4.0,baz=59,slow=10,SNR=6.3						
WRAB	**Tennant Creek**	**59.33**	**190**	P	pP	17 01 48.9	+2.9
WRAB				pmax	pmax		
	comp=Z,24nm,1.6s,mb5.0						
WRAB	**Tennant Creek**	**59.33**	**190**	P	pP	17 01 48.9	+2.9
	comp=Z,24nm,1.6s						
WRA	**Warramunga Arr**	**59.34**	**190**	P	**P**	**17 01 42.5**	**-1.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
WRA	**Warramunga Arr**	**59.34**	**190**	P	**P**	**17 01 42.5**	**-1.2**
	comp=Z,0.6nm,0.6s,mb3.8,baz=6.9,slow=6.8,SNR=12						
YKA	**Yellowknife Ar**	**61.25**	**31**	P	**P**	**17 01 57.6**	**+1.3**
	comp=Z,0.1nm,0.6s,mb3.2,baz=285,slow=5.7,SNR=3.3						
ARCES	**ARCESS Array B**	**62.59**	**339**	LR	LR	17 34 27.6	
	comp=Z,31nm,21.1s,MS3.5,baz=88,slow=41						
ASAR	**Alice Springs**	**63.07**	**190**	P	**P**	**17 02 08.5**	**-0.4**
	comp=Z,0.4nm,0.7s,mb3.7,baz=16,slow=5.8,SNR=8.9						
FINES	**FINESS Array B**	**67.69**	**333**	P	**P**	**17 02 38.6**	**+0.2**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
FINES	**FINESS Array B**	**67.69**	**333**	P	**P**	**17 02 38.6**	**+0.2**
	comp=Z,1.1nm,0.7s,mb4.0,baz=64,slow=8.7,SNR=5.0						
NB2	**NORSAR Subarra**	**72.85**	**338**	P	**P**	**17 03 10.2**	**+0.1**
	comp=Z,0.1nm,0.7s,baz=47,slow=6.2						
NOA	**NORSAR Array B**	**72.85**	**338**	P	**P**	**17 03 10.0**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,21nm,19.2s						
NOA	**NORSAR Array B**	**72.85**	**338**	P	**P**	**17 03 10.0**	**0.0**
NOA				LR	LR	17 39 00.9	
NOA	**NORSAR Array B**	**72.85**	**338**	P	**P**	**17 03 10.0**	**0.0**
	comp=Z,1.1nm,0.7s,mb3.9,baz=39,slow=5.9,SNR=5.1						
NOA				LR	LR	17 39 00.9	
	comp=Z,21nm,19.2s,MS3.4,baz=305,slow=39						
AKASG	**Malin Array Be**	**73.58**	**323**	P	**P**	**17 03 14.2**	**-0.3**
	comp=Z,0.2nm,0.4s,mb3.4,baz=46,slow=5.6,SNR=8.9						
CLL	**Collm**	**80.04**	**331**	⇓*i* P	**P**	**17 03 51.4**	**+0.4**
	comp=Z,4.0nm,0.9s,mb4.3						
GERES	**GERESS Array B**	**81.73**	**329**	P	**P**	**17 04 00.6**	**+0.5**
GERES				LR	LR	17 43 26.8	
GERES	**GERESS Array B**	**81.73**	**329**	P	**P**	**17 04 00.6**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.5,baz=7.1,slow=3.2,SNR=3.7						
GERES				LR	LR	17 43 26.8	
	comp=Z,27nm,18.7s,MS3.6,baz=292,slow=38						

NEIC ***26*** *16:54:40.0±1.5, 3280S×17876W, h10km, mb4.7/2, Error ellipse: s-maj=33.6km s-min=10.5km az=91.0*
IDC ***26*** *16:54:42.3±6.8, 3181S×17927W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.7/12, mbtmp3.8/2, Error ellipse: s-maj=291.3km s-min=55.2km az=159.0*

ISC 26 16:54:42.3±3.1, 3289S±007×1792W±03, h4km±24km, n20, σ0.57/24, mb4.2/4, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.09**	**203**	P	**Pn**	**16 56 00.3**	**+1.0**
MXZ				S	**Sn**	**16 56 58.3**	**-0.2**
MXZ	**Matakaoa Point**	**5.09**	**203**	*e*PN	**Pn**	**16 56 00.1**	**+0.7**
MXZ				SN	**Sn**	**16 56 58.3**	**-0.2**
PUZ	**Puketiti**	**5.57**	**201**	P	**Pn**	**16 56 06.2**	**+0.3**
PUZ				S	**Sn**	**16 57 09.6**	**-0.8**
PUZ	**Puketiti**	**5.57**	**201**	*e*PN	**Pn**	**16 56 05.6**	**-0.4**
PUZ				SN	**Sn**	**16 57 09.6**	**-0.9**
MWZ	**Matawai**	**6.05**	**205**	P	**Pn**	**16 56 12.5**	**0.0**
MWZ				S	**Sn**	**16 57 23.9**	**+1.7**
MWZ	**Matawai**	**6.05**	**205**	*e*PN	**Pn**	**16 56 12.3**	**-0.2**
MWZ				*e*SN	**Sn**	**16 57 22.7**	**+0.5**
URZ	**Urewera**	**6.14**	**208**	P	**Pn**	**16 56 14.3**	**+0.5**
URZ	**Urewera**	**6.14**	**208**	*e*PN	**Pn**	**16 56 13.5**	**-0.2**
OUZ	**Omahuta**	**6.40**	**247**	P	**Pn**	**16 56 24.4**	**+7.0**
OUZ	**Omahuta**	**6.40**	**247**	*e*PN	**Pn**	**16 56 24.3**	**+6.9**
KNZ	**Kokohu**	**6.62**	**201**	P	**Pn**	**16 56 20.5**	**+0.1**
KNZ	**Kokohu**	**6.62**	**201**	*e*PN	**Pn**	**16 56 20.2**	**-0.2**
PXZ	**Pawanui**	**7.80**	**203**	*e*PN	**Pn**	**16 56 35.7**	**-0.8**
STKA	**Stephens Creek**	**32.98**	**261**	P	**P**	**17 01 25.8**	**+7.5**
	41nm,1.7s,mb5.1						
ASAR	**Alice Springs**	**42.01**	**270**	P	**P**	**17 02 35.0**	**+0.2**
	1.3nm,0.8s,mb3.6,baz=113,slow=8.0,SNR=16						
WRAB	**Tennant Creek**	**43.22**	**275**	P	**P**	**17 02 44.9**	**+0.2**
WRA	**Warramunga Arr**	**43.22**	**275**	P	**P**	**17 02 44.3**	**-0.5**
	1.1nm,0.7s,mb3.7,baz=115,slow=7.9,SNR=15						
QSPA	**South Pole Qui**	**57.23**	**180**	*e*P	**P**	**17 04 30.4**	**+0.2**
	2.6nm,0.8s,mb4.3						
FINES	**FINESS Array B**	**147.08**	**338**	PKPbc	PKPbc	17 14 22.5	-3.2
FINES	**FINESS Array B**	**147.08**	**338**	PKPbc	PKPbc	17 14 22.5	-3.2
	0.8nm,0.6s,baz=46,slow=4.0,SNR=8.3						

RSPR 26 17:13:30.9, 1950N×6928W, h15km±31km, MD3.5/5, MD3.5/5, 5C, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.72**	**188**	⇑*e*P	Pg	17 13 43.6	-1.3
DR12				*e*S	Sg	17 13 53.1	-1.2
DR08	**Loma La Naviza**	**0.89**	**233**	⇑*e*P	Pb	17 13 45.3	-2.7
DR08				*e*S	Sb	17 13 56.9	-2.7
SDDR	**Presa de Saban**	**1.97**	**255**	⇑*e*P	Pn	17 14 01.4	-2.3
SDDR	**Presa de Saban**	**1.97**	**255**	*e*S	Sn	17 14 24.6	-3.6
AGPR	**Aguadilla, PR**	**2.29**	**116**	*e*S	Sn	17 14 33.5	-2.7
LSP	**Las Mesas**	**2.46**	**122**	*e*S	Sn	17 14 38.2	-2.0
CRPR	**Cabo Rojo, PR**	**2.53**	**126**	*e*S	Sn	17 14 38.1	-4.0
CRPR	**Cabo Rojo, PR**	**2.53**	**126**	⇑*e*P	Pn	17 14 09.5	-2.0
LRS	**Lares**	**2.60**	**117**	*e*S	Sn	17 14 39.5	-4.2
AOPR	**Arecibo Observ**	**2.65**	**115**	*e*S	Sn	17 14 41.2	-3.7
CELP	**Cerrillos**	**2.92**	**119**	*e*S	Sn	17 14 47.5	-4.2
MTP	**Monte Pirata**	**3.79**	**111**	⇑*e*P	Pn	17 14 26.1	-2.7
MTP	**Monte Pirata**	**3.79**	**111**	*e*S	Sn	17 15 08.6	-4.6

IDC 26 17:14:33.6±8.6, 700S×13045E, h99km±91km, mb3.4/1, mb1 3.4/5, mb1mx3.2/15, mbtmp3.3/5, ML3.7/4, Error ellipse: s-maj=74.4km s-min=28.4km az=30.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**7.43**	**244**	P	Pn	17 16 20.4	+1.0
	2.8nm,0.3s,baz=96,slow=7.8,SNR=6.3						
BATI				S	Sn	17 17 42.6	+0.4
	1.7nm,0.3s,baz=123,slow=18,SNR=2.8						
FITZ	**Fitzroy Crossi**	**11.99**	**203**	P	Pn	17 17 20.4	-0.8
	0.6nm,0.3s,baz=32,slow=14,SNR=25						
FITZ				S	Sn	17 19 24.6	-8.5
	0.3nm,0.3s,baz=132,slow=15,SNR=5.0						
WRA	**Warramunga Arr**	**13.41**	**164**	P	Pn	17 17 38.3	-1.6
	0.2nm,0.3s,baz=346,slow=14,SNR=14						
WRA				S	Sn	17 20 02.0	-5.5
	0.3nm,0.3s,baz=345,slow=19,SNR=8.5						
ASAR	**Alice Springs**	**16.90**	**169**	P	Pn	17 18 26.0	+1.9
	0.2nm,0.3s,baz=346,slow=10,SNR=16						
ASAR				S	S	17 21 25.5	-10
	0.1nm,0.3s,baz=356,slow=28,SNR=4.2						
MKAR	**Makanchi Array**	**68.47**	**327**	P	P	17 25 25.1	+0.1
	0.4nm,0.5s,baz=121,slow=7.8,SNR=9.5						

MEX 26 17:28:43.3±0.6, 1833N×9480W, h12km±54km, MD4.0, Bay of Campeche

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**1.23**	**184**	*i* P	Pn	17 29 03.0	-3.4
CMIG				*i* S	Sb	17 29 17.6	-4.8
OXX	**Oaxaca**	**2.21**	**236**	*i* P	Pn	17 29 17.0	-2.9
OXX				*i* S	Sn	17 29 44.0	-3.2
VHO	**Vista Hermosa**	**2.23**	**236**	*i* P	Pn	17 29 16.8	-3.3
VHO				*i* S	Sn	17 29 43.7	-3.8
UTMO	**Huajuapan**	**2.90**	**261**	*i* P	Pn	17 29 28.5	-0.8
UTMO				*i* S	Sn	17 29 59.9	-4.3

IDC ***26*** *17:39:24.9±0.9, 2325S×17027E, h0km, mb4.1/7, mb1 4.2/7, mb1mx4.1/12, mbtmp4.1/7, MS3.5/7, Ms1 3.5/7, ms1mx3.3/24, Error ellipse: s-maj=29.9km s-min=26.1km az=75.0*
ISCJB ***26*** *17:39:28.8±0.8, 233S±01×1702E±01, h33km, mb4.3/14, MS3.5/5, Error ellipse: s-maj=22.2km s-min=16.2km az=34.3*
NEIC ***26*** *17:39:30.6±0.7, 2331S×170.18E, h35km, mb4.6/9, Error ellipse: s-maj=19.4km s-min=18.0km az=207.0*

ISC 26 17:39:30.7±0.8, 233S±01×1702E±01, h35km, n44, σ1.9/06/19, mb4.3/14, MS3.5/5, 1C-1D, Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**16.04**	**160**	LR	LR	17 47 20.3	
	comp=Z,136nm,21.4s,baz=97,slow=30						
HNR	**Honiara**	**16.93**	**323**	LR	LR	17 48 36.9	
	comp=Z,78nm,18.9s,baz=173,slow=33						
RPZ	**Rata Peaks**	**20.37**	**178**	LR	LR	17 50 37.9	
	comp=Z,205nm,19.9s,MS3.5,baz=191,slow=33						
CTA	**Charters Tower**	**22.48**	**274**	LR	LR	17 52 05.0	
	comp=Z,75nm,22.0s,MS3.1,baz=309,slow=34						
STKA	**Stephens Creek**	**26.70**	**245**	P	**P**	**17 45 08.5**	**+1.9**
	2.8nm,0.7s,mb3.9						
RAR	**Rarotonga**	**27.84**	**92**	LR	LR	17 53 28.1	
	comp=Z,102nm,20.4s,MS3.4,baz=255,slow=30						
ASAR	**Alice Springs**	**33.24**	**262**	P	**P**	**17 46 05.0**	**+0.3**
	1.8nm,0.6s,mb4.2,baz=97,slow=9.3,SNR=24						
WB2	**Warramunga Arr**	**33.45**	**269**	*e*P	**P**	**17 46 05.9**	**-0.6**
WRAB	**Tennant Creek**	**33.45**	**269**	P	**P**	**17 46 03.5**	**-3.1**
	13nm,1.4s,mb4.7						
WRA	**Warramunga Arr**	**33.46**	**269**	P	**P**	**17 46 05.7**	**-0.9**
	1.4nm,0.8s,mb4.0,baz=99,slow=8.0,SNR=13						
FITZ	**Fitzroy Crossi**	**41.89**	**269**	*e*P	**P**	**17 47 18.5**	**+0.6**
	10nm,0.7s,mb4.6						
FITZ	**Fitzroy Crossi**	**41.89**	**269**	*e*P	**P**	**17 47 18.3**	**+0.5**
	17nm,0.9s,mb4.7						
MBWA	**Marble Bar**	**46.58**	**262**	*e*P	**P**	**17 47 55.1**	**-0.4**
	6.4nm,0.6s,mb4.7						
VNDA	**Vanda**	**54.42**	**182**	P	**P**	**17 48 53.6**	**-0.2**
	0.7nm,1.0s,mb3.6,baz=4.5,slow=6.9,SNR=3.3						
VNDA				LR	LR	18 06 32.9	
	comp=Z,91nm,20.1s,MS3.8,baz=101,slow=30						
SBA	**Scott Base**	**54.63**	**181**	*e*P	**P**	**17 48 56.6**	**+1.2**
	4.1nm,1.0s,mb4.4						
CASY	**Casey**	**56.80**	**205**	*e*P	**P**	**17 49 08.3**	**-2.8**
	7.5nm,1.2s,mb4.6						
QSPA	**South Pole Qui**	**66.77**	**180**	*e*P	**P**	**17 50 18.1**	**+0.1**
	12nm,1.1s,mb4.8						
QSPA	**South Pole Qui**	**66.77**	**180**	P	**P**	**17 50 18.4**	**+0.4**
	5.9nm,0.8s,mb4.7,baz=58,slow=3.7,SNR=24						
MAW	**Mawson**	**75.03**	**202**	P	**P**	**17 51 08.6**	**+0.3**
	3.9nm,0.8s,mb4.4						
MAW	**Mawson**	**75.03**	**202**	P	**P**	**17 51 08.7**	**+0.4**
	1.7nm,0.7s,mb4.1,baz=135,slow=2.9,SNR=3.5						
CHTO	**Chiang Mai**	**81.16**	**295**	P	**P**	**17 51 44.2**	**+1.2**
	5.8nm,0.8s,mb4.6						
VNA2	**Neumayer--Watz**	**86.02**	**181**	*e*	**P**	**17 52 06.3**	**-0.8**
	baz=192,slow=3.1						
VNA2				*e*		17 52 08.9	
VNA2				*e*	pP	17 52 16.0	-2.2
VNA2				*e*		17 52 21.2	
VNA2				*e*		17 52 26.9	
LPIG	**La Paz**	**90.37**	**64**	LR	LR	18 25 21.2	
	comp=Z,36nm,20.1s,MS3.8,baz=231,slow=30						
NVAR	**Mina Array Bea**	**90.82**	**48**	P	**P**	**17 52 29.9**	**-0.5**
	0.7nm,0.7s,mb4.1,baz=221,slow=10,SNR=6.2						
SONM	**Songino Array**	**90.99**	**323**	P	**P**	**17 52 31.5**	**+0.6**
	1.1nm,1.0s,mb4.1,baz=96,slow=3.0,SNR=4.3						
ARCES	**ARCESS Array B**	**129.21**	**345**	PKP	PKPdf	17 58 33.8	-0.6
	2.6nm,1.0s,baz=66,slow=3.0,SNR=5.6						
STHS	**Stebnicka Huta**	**144.32**	**325**	*e*	PKPdf	17 59 08.5	+5.7
STHS	**Stebnicka Huta**	**144.32**	**325**	*e*PKP	PKPdf	17 59 08.5	+5.7
DRGR		**144.94**	**320**	⇓*i* P	PKPdf	17 59 03.9	-0.1
KECS	**Kecovo**	**145.27**	**324**	*e*PKP	PKPdf	17 59 04.3	-0.2
KECS				*e*		17 59 14.0	
OKC	**Ostrava-Krasne**	**145.65**	**327**	*e*PKP	PKPdf	17 59 06.2	+1.1
OKC				*ep*PKP	pPKPdf	17 59 14.9	-1.7
VYHS	**Vyhne**	**146.15**	**325**	*e*PKP	PKPdf	17 59 07.3	+1.3
VYHS				*e*		17 59 16.8	
DPC	**Dobruska-Polom**	**146.19**	**330**	*e*PKP	PKPdf	17 59 07.2	+1.2
DPC				*ep*PKP	pPKPdf	17 59 15.8	-1.7
UPC	**Upice**	**146.22**	**330**	*e*PKP	PKPdf	17 59 07.2	+1.2
UPC				*ep*PKP	pPKPdf	17 59 15.1	-2.4
PVCC	**Panska Ves**	**146.86**	**331**	*e*PKP	PKPbc	17 59 09.4	+0.4
BRG	**Berggiesshubel**	**146.88**	**332**	*e*P	PKPbc	17 59 09.3	+0.

BKZ				S	Sn	18 15 02.8	+0.6
BKZ	**Black Stump Fm**	**0.94**	**260**	PN	**Pn**	**18 14 50.5**	**+0.4**
BKZ				SN	**Sn**	**18 15 02.8**	**+0.6**
PUZ	**Puketiti**	**1.04**	**26**	P	**Pn**	**18 14 52.1**	**+0.6**
PUZ	**Puketiti**	**1.04**	**26**	PN	**Pn**	**18 14 52.1**	**+0.6**
PXZ	**Pawanui**	**1.20**	**212**	PN	**Pn**	**18 14 54.4**	**+0.7**
TAZ	**Tarawera**	**1.20**	**310**	PN	**Pn**	**18 14 55.4**	**+1.7**
HRRZ	**Handcock Road**	**1.26**	**299**	PN	**Pn**	**18 14 54.0**	**-0.4**
MARZ	**Manawahe**	**1.29**	**322**	P	**Pn**	**18 14 55.2**	**+0.2**
MARZ	**Manawahe**	**1.29**	**322**	PN	**Pn**	**18 14 55.2**	**+0.3**
OMRZ	**Omania**	**1.37**	**311**	PN	**Pn**	**18 14 55.4**	**-0.6**
WPHZ	**Waipukurau**	**1.42**	**222**	PN	**Pn**	**18 14 57.5**	**+0.8**
OPRZ	**Ohinepanea**	**1.46**	**322**	PN	**Pn**	**18 14 56.6**	**-0.7**
MXZ	**Matakaoa Point**	**1.53**	**19**	P	**Pn**	**18 14 58.8**	**+0.6**
MXZ	**Matakaoa Point**	**1.53**	**19**	PN	**Pn**	**18 14 58.8**	**+0.7**
MOVZ	**Moawhango**	**1.55**	**255**	*e*PN	**Pn**	**18 14 59.2**	**+0.8**
NGZ	**Ngauruhoe**	**1.63**	**264**	*e*PN	**Pn**	**18 14 59.8**	**+0.2**
WPVZ	**Whakapapa**	**1.67**	**263**	P	**Pn**	**18 14 52.1**	**-8.0**
WPVZ	**Whakapapa**	**1.67**	**263**	PN	**Pn**	**18 14 52.1**	**-8.1**
FWVZ	**Far West T-bar**	**1.67**	**261**	*e*P	**Pn**	**18 15 02.1**	**+1.9**
FWVZ	**Far West T-bar**	**1.67**	**261**	*e*PN	**Pn**	**18 15 02.1**	**+1.9**
TSZ	**Takapari Road**	**1.69**	**231**	PN	**Pn**	**18 15 00.5**	**+0.1**
VRZ	**Vera Road**	**2.28**	**266**	*e*P	**Pn**	**18 15 09.3**	**+0.8**
VRZ	**Vera Road**	**2.28**	**266**	*e*PN	**Pn**	**18 15 09.3**	**+0.9**
MRZ	**Mangatainoka R**	**2.31**	**224**	*e*P	**Pn**	**18 15 08.2**	**-0.7**
MRZ	**Mangatainoka R**	**2.31**	**224**	*e*PN	**Pn**	**18 15 08.2**	**-0.7**
HOWZ	**Holdsworth Sta**	**2.51**	**221**	*e*PN	**Pn**	**18 15 10.9**	**-0.8**
SNZO	**South Karori**	**3.23**	**224**	*e*Pn	**Pn**	**18 15 20.1**	**-1.6**
NNZ	**Nelson**	**3.96**	**235**	P	**Pn**	**18 15 30.6**	**-1.1**
NNZ	**Nelson**	**3.96**	**235**	PN	**Pn**	**18 15 30.6**	**-1.1**
THZ	**Tophouse**	**4.57**	**231**	P	**Pn**	**18 15 39.2**	**-0.7**
THZ	**Tophouse**	**4.57**	**231**	PN	**Pn**	**18 15 39.2**	**-0.7**
MQZ	**McQueen's Vall**	**6.03**	**217**	P	**Pn**	**18 15 57.5**	**-2.4**
MQZ	**McQueen's Vall**	**6.03**	**217**	PN	**Pn**	**18 15 57.5**	**-2.4**
AFI	**Afiamalu**	**26.68**	**23**	P	**P**	**18 20 07.7**	**-1.1**
41nm,1.3s,mb4.8							
ASAR	**Alice Springs**	**40.00**	**279**	P	**P**	**18 22 04.9**	**+0.5**
3.0nm,0.3s,mb4.5,baz=119,slow=7.4,SNR=88							
WB2	**Warramunga Arr**	**41.78**	**284**	*e*P	**P**	**18 22 19.1**	**0.0**
WRAB	**Tennant Creek**	**41.79**	**284**	P	**P**	**18 22 19.2**	**0.0**
2.9nm,1.0s,mb3.9							
WRA	**Warramunga Arr**	**41.79**	**284**	P	**P**	**18 22 18.9**	**-0.3**
0.6nm,0.6s,mb3.4,baz=124,slow=7.6,SNR=21							
CASY	**Casey**	**45.91**	**211**	P	**P**	**18 22 51.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**49.50**	**280**	*e*P	**P**	**18 23 20.2**	**0.0**
2.1nm,0.6s,mb4.3							
QSPA	**South Pole Qui**	**51.12**	**180**	P	**P**	**18 23 34.0**	**+2.5**
4.5nm,1.2s,mb4.3							
ARCES	**ARCESS Array B**	**146.02**	**343**	PKPbc	PKPbc	18 34 08.5	+0.7
2.2nm,0.7s,baz=35,slow=3.6,SNR=9.2							
FINES	**FINESS Array B**	**151.54**	**331**	PKPbc	PKPbc	18 34 22.8	+0.6
0.7nm,0.8s,baz=45,slow=4.1,SNR=2.9							
FINES				PKPab	PKPab	18 34 30.0	-0.9
0.5nm,0.7s,baz=53,slow=5.4,SNR=4.7							
TORD	**Torodi Ar. Bea**	**153.99**	**189**	PKPab	PKPab	18 34 45.0	+2.6
0.7nm,0.9s,baz=161,slow=4.2,SNR=3.2							

BJI ***26*** *19:13:25.6, 042S×6668E, h10km, mB4.9, mb4.8, Ms4.6, Msz4.3*

SZGRF ***26*** *19:13:27.9, 088S×6744E, h33km, mb4.5, Carlsberg Ridge*

ISCJB ***26*** *19:13:33.4±0.3, 054N±005×67.16E±003, h10km, mb4.7/87, MS4.3/39, Error ellipse: s-maj=6.7km s-min=4.9km az=176.5*

IDC ***26*** *19:13:33.7±0.6, 057N×67.15E, h0km, mb4.3/19, mb1 4.4/19, mb1mx4.2/24, mbtmp4.3/19, MS4.3/24, Ms1 4.3/24, ms1mx4.2/29, Error ellipse: s-maj=17.3km s-min=15.4km az=9.0*

MOS ***26*** *19:13:33.6±1.2, 063N×67.17E, h9km, mb4.8/39, MS4.2/14, Error ellipse: s-maj=9.1km s-min=5.5km az=107.7*

NEIC ***26*** *19:13:35.0±0.3, 051N×67.17E, h10km, mb4.7/42, Error ellipse: s-maj=7.4km s-min=6.2km az=191.0*

GCMT ***26*** *19:13:35.0±0.2, 039N×6707E, h16km±1km, MW5.1/95, Moment Tensor Solution. s55,c79; s95,c159; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.38±.12; $M_{\theta\theta}$-4.87±.12; $M_{\phi\phi}$5.25±.12; $M_{r\theta}$-0.50±.30; $M_{\theta\phi}$-2.45±.11; $M_{\phi r}$1.52±.31; Best double couple: $M_0$5.81800×10^{16} NP1:ϕ_s33.00000°, δ79.00000°, λ8.00000°. NP2: ϕ_s301.00000°, δ82.00000°, λ169.00000°. Principal axes: T 6.1980, Plg14.0000°, Azm257.0000°; N -0.7570, Plg76.0000°, Azm85.0000°; P -5.4370, Plg2.0000°, Azm347.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

ISC 26 19:13:35.5±0.3, 051N±005×6716E±003, h10km, (h18km±1.5km:pP-P), n234, σ1≥12/231, mb4.7/87, MS4.3/39, 17C-6D, Carlsberg Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DGAR	**Diego Garcia**	**9.48**	**146**	*e*Pn	**Pn**	**19 15 51.6**	**-0.6**
MSEY	**Mahe Island**	**12.76**	**246**	*e*Pn	**Pn**	**19 16 35.4**	**-1.7**
30nm,1.1s							
MSEY				*e*Sn	**Sn**	**19 18 43.5**	**-16**
MSEY	**Mahe Island**	**12.76**	**246**	P	**Pn**	**19 16 39.2**	**+2.1**
SNR=5.3							
MSEY	**Mahe Island**	**12.76**	**246**	Pn	**Pn**	**19 16 39.2**	**+2.1**
SNR=5.3							
MSEY	**Mahe Island**	**12.76**	**246**	P	**Pn**	**19 16 39.2**	**+2.1**
SNR=5.3							
PALK	**Pallekele**	**15.08**	**63**	*e*Pn	**Pn**	**19 17 06.7**	**-2.1**
607nm,0.4s							
PALK				*e*Sn	**Sn**	**19 20 01.4**	**+5.3**
PALK	**Pallekele**	**15.08**	**63**	P	**Pn**	**19 17 07.7**	**-1.1**
SNR=22							
PALK	**Pallekele**	**15.08**	**63**	Pn	**Pn**	**19 17 07.7**	**-1.1**
SNR=22							
PALK	**Pallekele**	**15.08**	**63**	P	**Pn**	**19 17 07.7**	**-1.1**
SNR=22							
HYB	**Hyderabad**	**20.19**	**33**	*e*P	**P**	**19 18 11.0**	**+0.5**
HYB				*e*S	**S**	**19 22 00.0**	**+2.7**
HYB				pmax	pmax		
comp=Z,40nm,1.0s							
HYB	**Hyderabad**	**20.19**	**33**	*e*P	**P**	**19 18 11.0**	**+0.5**
comp=Z,40nm,1.0s							
HYB				*e*S	**S**	**19 22 00.0**	**+2.7**
HYB	**Hyderabad**	**20.19**	**33**	*i* P	**P**	**19 18 11.0**	**+0.5**
comp=Z,40nm,1.0s							
HYB				*e*S	**S**	**19 22 00.0**	**+2.7**
HOQ	**Hoqain**	**24.84**	**338**	P	**P**	**19 19 00.1**	**+1.9**
SNR=5.7							
HOQ	**Hoqain**	**24.84**	**338**	P	**P**	**19 19 00.1**	**+1.9**
SNR=5.7							
HOQ	**Hoqain**	**24.84**	**338**	P	**P**	**19 19 00.1**	**+1.9**
SNR=5.7							
HOQ	**Hoqain**	**24.84**	**338**	P	**P**	**19 19 00.1**	**+1.9**
SNR=5.7							
HATD	**Hatta, Dubai**	**26.42**	**337**	P	**P**	**19 19 17.4**	**+4.9**
SNR=5.2							
HATD	**Hatta, Dubai**	**26.42**	**337**	P	**P**	**19 19 17.4**	**+4.9**
SNR=5.2							
HATD	**Hatta, Dubai**	**26.42**	**337**	P	**P**	**19 19 17.4**	**+4.9**
SNR=5.2							
HATD	**Hatta, Dubai**	**26.42**	**337**	P	**P**	**19 19 17.4**	**+4.9**
SNR=5.2							
ATD	**Arta Tunnel**	**26.51**	**295**	LR	LR	19 28 01.3	
comp=Z,338nm,18.1s,MS3.9,baz=120,slow=33							
KMBO	**Kilima Mbogo**	**29.95**	**267**	P	**P**	**19 19 45.1**	**+0.8**
KMBO				pmax	pmax		
comp=Z,6.0nm,1.2s							
KMBO	**Kilima Mbogo**	**29.95**	**267**	P	**P**	**19 19 45.1**	**+0.9**
comp=Z,6.0nm,1.2s,mb4.2							
KMBO	**Kilima Mbogo**	**29.95**	**267**	LR	LR	19 31 10.2	
comp=Z,707nm,18.0s,MS4.3,baz=278,slow=35							
KOLN	**Koldanda**	**31.35**	**29**	*e*P	**P**	**19 19 57.3**	**+0.9**
comp=Z,21nm,0.8s,mb5.0							
PSI	**Prapat**	**31.83**	**86**	P	**P**	**19 20 02.4**	**+1.5**
comp=Z,8.2nm,0.8s,mb4.6,baz=272,slow=5.9,SNR=9.3							
DANN	**Dangsing**	**31.91**	**28**	*e*P	**P**	**19 20 02.0**	**+0.6**
comp=Z,34nm,0.9s,mb5.2							
DMN	**Daman**	**31.97**	**31**	*e*P	**P**	**19 20 02.7**	**+0.8**
comp=Z,48nm,0.9s,mb5.3							
GKN	**Gorkha**	**32.05**	**30**	*e*P	**P**	**19 20 03.6**	**+1.0**
comp=Z,31nm,1.0s,mb5.1							
PKI	**Pulchoki**	**32.10**	**32**	*e*P	**P**	**19 20 03.7**	**+0.7**
comp=Z,12nm,0.6s,mb4.9							
KKN	**Kakani**	**32.21**	**31**	*e*P	**P**	**19 20 04.7**	**+0.8**
comp=Z,47nm,0.9s,mb5.3							
JIRN	**Jiri**	**32.58**	**32**	*e*P	**P**	**19 20 07.8**	**+0.6**
comp=Z,70nm,1.4s,mb5.4							
GUN	**Gumba**	**32.62**	**32**	*e*P	**P**	**19 20 08.2**	**+0.7**
comp=Z,83nm,0.9s,mb5.7							
KULM	**Kulim**	**33.77**	**81**	*e*P	**P**	**19 20 17.8**	**-0.1**
KBL	**Kabul**	**33.90**	**3**	*e*P	**P**	**19 20 19.5**	**+0.9**
KBL				pmax	pmax		
comp=Z,38nm,1.7s,mb5.0							
KBL	**Kabul**	**33.90**	**3**	*e*P	**P**	**19 20 19.5**	**+0.9**
comp=Z,38nm,1.7s,mb5.0							
RDF	**Al-Radifah**	**33.90**	**328**	*e*P	**P**	**19 20 17.7**	**-1.1**
RDF				AMb	AMB	19 20 22.0	
comp=Z,6.9nm,0.7s,mb4.7							
NAY	**Al-Naaiem**	**34.32**	**328**	*e*P	**P**	**19 20 20.3**	**-2.0**
NAY				AMb	AMB	19 20 25.1	
comp=Z,5.3nm,1.3s,mb4.3							
SHL	**Shillong**	**34.49**	**42**	*e*P	**P**	**19 20 24.5**	**+0.6**
RST	**Umm Al-Ruwaisa**	**34.65**	**328**	*e*P	**P**	**19 20 23.4**	**-1.8**
MIB	**Mutribah**	**34.71**	**329**	*e*P	**P**	**19 20 24.5**	**-1.3**
MIB				AMb	AMB	19 20 29.2	
comp=Z,14nm,0.7s,mb5.0							
CHTO	**Chiang Mai**	**36.10**	**58**	*e*P	**P**	**19 20 38.5**	**+0.7**
CHTO				pmax	pmax		
comp=Z,42nm,1.0s,mb5.3							
CHTO	**Chiang Mai**	**36.10**	**58**	*e*P	**P**	**19 20 38.5**	**+0.6**
comp=Z,42nm,1.0s,mb5.3							
CHTO	**Chiang Mai**	**36.10**	**58**	P	**P**	**19 20 39.1**	**+1.3**
SNR=23							
CHTO	**Chiang Mai**	**36.10**	**58**	P	**P**	**19 20 39.1**	**+1.3**
SNR=23							
CHTO	**Chiang Mai**	**36.10**	**58**	P	**P**	**19 20 39.1**	**+1.3**
SNR=23							
CHTO	**Chiang Mai**	**36.10**	**58**	P	**P**	**19 20 39.1**	**+1.3**
SNR=23							
LSA	**Lhasa**	**36.94**	**36**	P	**P**	**19 20 45.8**	**+0.9**
LSA				PP	PP	19 22 14.0	+4.9
LSA				PCP	PcP	19 22 59.3	-7.0
LSA				S	**S**	**19 26 32.5**	**+2.4**
LSA				SCS	ScS	19 30 52.0	-8.8
LSA				AMB	AMB		
comp=Z,20nm,0.7s,mb5.1							
LSA				LR	LR		
comp=E,760nm,15.4s							
LSA				LR	LR		
comp=Z,860nm,16.5s,MS4.6							
LSZ	**Lusaka**	**41.59**	**246**	P	**P**	**19 21 23.7**	**-0.2**
LSZ				pmax	pmax		
comp=Z,4.0nm,1.0s,mb4.0							
LSZ				MLR	MLR		
comp=Z,1μm,19.9s,MS4.7							
LSZ	**Lusaka**	**41.59**	**246**	*e*P	**P**	**19 21 22.6**	**-1.3**
comp=Z,8.8nm,1.0s,mb4.3							
LSZ	**Lusaka**	**41.59**	**246**	P	**P**	**19 21 23.7**	**-0.3**
comp=Z,4.2nm,1.0s,mb4.0,baz=112,slow=5.3,SNR=4.8							
LSZ				LR	LR	19 36 23.9	
comp=Z,1μm,19.9s,MS4.7,baz=142,slow=33							
AML	**Almayashu**	**41.84**	**7**	P	**P**	**19 21 25.1**	**-0.6**
comp=Z,6.2nm,1.1s,mb4.2							
UCH	**Uchtor**	**42.05**	**8**	*e*P	**P**	**19 21 28.0**	**+0.7**
comp=Z,24nm,1.2s,mb4.7							
KMI	**Kunming**	**42.18**	**52**	P	**P**	**19 21 30.0**	**+1.3**
KMI				AP	pP	19 21 35.5	+3.7
KMI				XP	sP	19 21 38.0	+4.9
KMI				PP	PP	19 23 12.0	+5.5
KMI				S	**S**	**19 27 47.3**	**-1.7**
KMI				AMB	AMB		
comp=Z,16nm,1.2s,mb4.5							
KMI				AMB	AMB		
comp=Z,95nm,4.6s							
KMI				LR	LR		
comp=N,251nm,13.5s,MS4.4							
KMI				LR	LR		
comp=E,264nm,16.0s,MS4.4							
KMI				LR	LR		
comp=Z,295nm,20.2s,MS4.2							
EKS2	**Erkin-Say**	**42.38**	**7**	*e*P	**P**	**19 21 30.7**	**+0.8**
comp=Z,30nm,1.3s,mb4.8							
FRU	**Bishkek**	**42.66**	**8**	*e*P	**P**	**19 21 32.5**	**+0.2**
FRU				pmax	pmax		
comp=Z,50nm,1.9s,mb4.9							
TKM2	**Tokmak 2**	**42.89**	**9**	*e*P	**P**	**19 21 33.3**	**-0.9**
TKM2				pmax	pmax		
comp=Z,12nm,1.3s,mb4.5							
TKM2	**Tokmak 2**	**42.89**	**9**	*e*P	**P**	**19 21 33.3**	**-0.9**
comp=Z,12nm,1.3s,mb4.5							
KSM	**Kuching**	**43.15**	**88**	*e*P	**P**	**19 21 34.0**	**-2.8**
GNI	**Garni**	**44.42**	**335**	*e*P	**P**	**19 21 46.7**	**+0.2**
GNI				pmax	pmax		
comp=Z,108nm,1.9s							
GNI	**Garni**	**44.42**	**335**	*e*P	**P**	**19 21 46.7**	**+0.2**
comp=Z,108nm,1.9s,mb5.2							
GNI	**Garni**	**44.42**	**335**	P	**P**	**19 21 47.9**	**+1.4**
SNR=9.2							
GNI	**Garni**	**44.42**	**335**	P	**P**	**19 21 47.9**	**+1.4**
SNR=9.2							
GNI	**Garni**	**44.42**	**335**	P	**P**	**19 21 47.9**	**+1.4**
SNR=9.2							
GNI	**Garni**	**44.42**	**335**	P	**P**	**19 21 47.9**	**+1.4**
SNR=9.2							
QIZ	**Qiongzhong**	**45.71**	**64**	P	**P**	**19 21 56.8**	**-0.3**
QIZ				S	**S**	**19 28 37.5**	**-3.1**
QIZ				XS	sS	19 28 53.5	+7.7
QIZ				AMB	AMB		
comp=Z,12nm,0.9s,mb4.8							
QIZ				LR	LR		
comp=E,365nm,25.0s							
QIZ				LR	LR		
comp=Z,441nm,26.4s,MS4.3							
QIZ	**Qiongzhong**	**45.71**	**64**	*e*P	**P**	**19 21 57.1**	**-0.1**
comp=Z,39nm,1.4s,mb5.1							
GYA	**Guiyang**	**45.92**	**53**	⇑*i*P	**P**	**19 21 58.5**	**-0.2**
GYA				AMB	AMB		
comp=Z,30nm,0.9s,mb5.2							
GYA				AMB	AMB		
comp=Z,110nm,5.1s							
MALT	**Malatya**	**45.95**	**328**	*e*P	**P**	**19 22 00.6**	**+1.9**
MALT				pmax	pmax		
comp=Z,7.0nm,1.0s,mb4.5							
MALT	**Malatya**	**45.95**	**328**	*e*P	**P**	**19 22 00.6**	**+1.9**
comp=Z,7.1nm,1.0s,mb4.5							
CD2	**Chengdu**	**46.01**	**45**	*e*P	**P**	**19 21 59.8**	**+0.5**
CD2				AP	pP	19 22 04.3	+1.8
CD2				XP	sP	19 22 07.0	+3.3
CD2				PP	PP	19 23 47.8	+0.5
CD2				S	**S**	**19 28 43.5**	**-1.1**
CD2				AMB	AMB		
comp=Z,20nm,1.2s,mb4.9							
CD2				AMB	AMB		
comp=Z,40nm,4.8s							
CD2				LR	LR		
comp=E,400nm,18.0s							
CD2				LR	LR		
comp=Z,390nm,25.2s							
WMQ	**Urumqi**	**46.85**	**20**	*e*P	**P**	**19 22 07.5**	**+1.8**
LBTB	**Lobatse**	**47.54**	**235**	P	**P**	**19 22 12.2**	**+0.8**
LBTB				pmax	pmax		
comp=Z,3.0nm,1.0s,mb4.3							
LBTB				MLR	MLR		
comp=Z,309nm,18.2s,MS4.3							
LBTB	**Lobatse**	**47.54**	**235**	P	**P**	**19 22 11.7**	**+0.3**
comp=Z,8.6nm,1.2s,mb4.7							
LBTB	**Lobatse**	**47.54**	**235**	P	**P**	**19 22 12.2**	**+0.8**
comp=Z,3.0nm,1.0s,mb4.3,baz=300,slow=23,SNR=2.5							
LBTB				LR	LR	19 40 12.9	
comp=Z,309nm,18.2s,MS4.3,baz=77,slow=34							
MK31	**Makanchi Array**	**47.96**	**14**	*e*P	**P**	**19 22 12.7**	**-1.5**
MKAR	**Makanchi Array**	**47.96**	**14**	P	**P**	**19 22 13.1**	**-1.2**
comp=Z,2.6nm,0.8s,mb4.3,baz=188,slow=7.4,SNR=9.1							
MKAR				LR	LR	19 43 36.4	
comp=Z,199nm,19.5s,MS4.1,baz=201,slow=38							
KIV	**Kislovodsk**	**48.44**	**336**	*e*P	**P**	**19 22 19.7**	**+1.7**
KIV				*i*		19 24 15.0	
KIV				*i* S	**S**	**19 29 25.3**	**+6.5**
KIV				pmax	pmax		
comp=Z,9.0nm,1.4s,mb4.6							
KIV				MLR	MLR		
comp=Z,200nm,17.0s,MS4.2							
KIV	**Kislovodsk**	**48.44**	**336**	P	**P**	**19 22 17.9**	**-0.1**
GTA	**Gaotai**	**48.86**	**34**	*e*P	**P**	**19 22 21.5**	**+0.1**
GTA				AP	pP	19 22 26.5	+1.9
GTA				XP	sP	19 22 30.0	+4.2
GTA				PP	PP	19 24 17.8	+3.0
GTA				S	**S**	**19 29 30.8**	**+5.8**
GTA				XS	sS	19 29 40.3	+10
GTA				SS	SS	19 33 02.5	+6.7
GTA				AMB	AMB		
comp=Z,5.0nm,1.0s,mb4.5							
GTA				AMB	AMB		
comp=Z,71nm,4.2s							
GTA				LR	LR		
comp=N,390nm,16.0s,MS4.6							
GTA				LR	LR		
comp=E,310nm,16.4s,MS4.6							
GTA				LR	LR		
comp=Z,399nm,16.3s,MS4.5							
LZH	**Lanzhou**	**49.10**	**40**	*e*P	**P**	**19 22 26.3**	**+3.0**
LZH				AP	pP	19 22 30.5	+4.1
LZH				XP	sP	19 22 33.5	+5.9
LZH				AMB	AMB		
comp=Z,24nm,1.4s,mb5.0							
LZH				AMB	AMB		
comp=Z,80nm,4.0s							
KKM	**Kota Kinabalu**	**49.26**	**83**	*e*P	**P**	**19 22 24.4**	**-0.5**
SOC	**Sochi**	**49.38**	**334**	*e*P	**P**	**19 22 17.6**	**-7.7**
SOC				*e*S	**S**	**19 29 22.4**	**-10**
SOC				*e*SS	SS	19 32 57.8	-6.3
SOC				MLR	MLR		
comp=Z,257nm,18.0s,MS4.3							
BOSA	**Boshof**	**49.45**	**231**	P	**P**	**19 22 24.7**	**-1.4**
BOSA				pmax	pmax		
comp=Z,4.0nm,0.9s,mb4.5							
BOSA				MLR	MLR		
comp=Z,396nm,20.6s,MS4.4							
BOSA	**Boshof**	**49.45**	**231**	*e*P	**P**	**19 22 23.8**	**-2.3**
comp=Z,13nm,1.2s,mb4.8							
BOSA	**Boshof**	**49.45**	**231**	P	**P**	**19 22 24.7**	**-1.4**
comp=Z,3.7nm,0.9s,mb4.4,baz=42,slow=3.9,SNR=3.5							
BOSA				LR	LR	19 39 43.6	
comp=Z,396nm,20.6s,MS4.4,baz=69,slow=32							
KURK	**Kurchatov**	**50.96**	**9**	*e*P	**P**	**19 22 36.3**	**-0.8**
KURK				*e*		19 22 42.9	
KURK				pmax	pmax		
comp=Z,16nm,1.1s,mb4.9							
KURK	**Kurchatov**	**50.96**	**9**	*e*P	**P**	**19 22 36.3**	**-0.8**
comp=Z,16nm,1.1s,mb4.9							
KURK				*e*		19 22 42.9	
KURK	**Kurchatov**	**50.96**	**9**	P	**P**	**19 22 36.9**	**-0.2**
SNR=8.8							
KURK	**Kurchatov**	**50.96**	**9**	P	**P**	**19 22 36.9**	**-0.2**
SNR=8.8							
KURK	**Kurchatov**	**50.96**	**9**	P	**P**	**19 22 36.9**	**-0.2**
SNR=8.8							
ANN	**Anapa**	**51.36**	**333**	*e*P	**P**	**19 22 40.7**	**+0.5**
ANN				*e*S	**S**	**19 29 59.9**	**+0.3**
ANN				pmax	pmax		
comp=Z,16nm,1.3s,mb4.8							
ANN				MLR	MLR		
comp=Z,256nm,16.0s,MS4.3							
XAN	**Xi'an**	**51.37**	**45**	P	**P**	**19 22 39.0**	**-1.5**
XAN				AP	pP	19 22 46.3	+2.6
XAN				S	**S**	**19 29 55.8**	**-4.3**
XAN				AMB	AMB		
comp=Z,27nm,1.0s,mb5.1							
XAN				AMB	AMB		
comp=Z,67nm,4.1s							
XAN				LR	LR		
comp=N,73nm,15.3s,MS4.1							
XAN				LR	LR		
comp=E,140nm,16.8s,MS4.1							
XAN				LR	LR		
comp=Z,210nm,19.7s,MS4.2							
TSUM	**Tsumeb**	**52.42**	**245**	*e*P	**P**	**19 22 49.5**	**+0.9**
comp=Z,7.2nm,1.3s,mb4.4							
TSUM	**Tsumeb**	**52.42**	**245**	LR	LR	19 42 29.5	
comp=Z,770nm,21.2s,MS4.7,baz=74,slow=33							
BRVK	**Borovoye**	**52.43**	**2**	*e*P	**P**	**19 22 46.8**	**-1.2**
BRVK				pmax	pmax		
comp=Z,5.0nm,0.9s,mb4.4							
BRVK	**Borovoye**	**52.43**	**2**	*e*P	**P**	**19 22 46.8**	**-1.3**
comp=Z,4.9nm,0.9s,mb4.4							
KAPI	**Kappang**	**52.81**	**97**	LR	LR	19 43 28.2	
comp=Z,221nm,18.4s,MS4.2,baz=280,slow=34							
ZAL	**Zalesovo**	**55.20**	**13**	P	**P**	**19 23 07.4**	**-1.0**
ZAA0	**Zalesovo Array**	**55.22**	**13**	*e*P	**P**	**19 23 06.5**	**-1.9**
ZALV	**Zalesovo Beam**	**55.22**	**13**	P	**P**	**19 23 07.4**	**-1.1**
comp=Z,4.7nm,0.8s,mb4.6,baz=206,slow=7.3,SNR=18							
ZALV				LR	LR	19 47 37.3	
comp=Z,150nm,19.0s,MS4.1,baz=317,slow=37							
QZH	**Quanzhou**	**55.27**	**60**	P	**P**	**19 23 08.0**	**-1.4**
QZH				S	**S**	**19 30 50.5**	**-3.0**
QZH				LR	LR		
comp=N,660nm,15.4s,MS4.9							
QZH				LR	LR		
comp=E,620nm,17.8s,MS4.9							
QZH				LR	LR		
comp=Z,470nm,29.2s							
VORD	**Divnogorie**	**55.54**	**339**	*e*P	**P**	**19 23 11.3**	**+0.5**
VORD				pmax	pmax		
comp=Z,10.0nm,1.0s,mb4.8							
VORD				pmax	pmax		
comp=N,10.0nm,0.8s							
VORD				pmax	pmax		
comp=E,10.0nm,0.8s							
VORD				MLR	MLR		
comp=Z,280nm,24.0s,MS4.3							
VORD				MLR	MLR		
comp=N,340nm,22.0s,MS4.4							
VORD				MLR	MLR		
comp=E,190nm,26.0s,MS4.4							
TIRR	**Tirgusor**	**55.62**	**327**	⇑*i*P	**P**	**19 23 10.8**	**-0.7**
NVS	**Novosibirsk**	**55.73**	**11**	⇑*i*P	**P**	**19 23 10.9**	**-1.2**
NVS				pmax	pmax		
comp=Z,14nm,1.2s,mb4.9							
NVS				pmax	pmax		
comp=N,25nm,2.0s							
NVS				pmax	pmax		
comp=E,8.0nm,2.0s							
HARR	**Harsova**	**56.03**	**327**	⇓*i*P	**P**	**19 23 16.1**	**+1.6**
ARU	**Arti**	**56.17**	**354**	*c i*P	**P**	**19 23 13.8**	**-1.5**
ARU				*e*		19 24 07.5	
ARU			

BURAR **Bucovina Array 59.35 328** ⇑P **P** **19 23 39.5 +1.7**
BJT Baijiatuau 59.37 42 P **P** **19 23 37.4 -0.7**
SSE Sheshan 59.44 54 P **P** **19 23 39.0 +0.2**
SSE XP sP 19 23 52.3 +9.1
SSE PP PP 19 25 49.8 -0.3
SSE S **S** **19 31 44.3 -3.9**
SSE AMB AMB
comp=Z,22nm,0.9s,mb5.2
SSE AMB AMB
comp=Z,36nm,4.6s
SSE LR LR
comp=N,85nm,13.3s,MS4.3
SSE LR LR
comp=E,118nm,13.3s,MS4.3
SSE LR LR
comp=Z,140nm,15.5s,MS4.2
AKASG **Malin Array Be 59.44 333** P **P** **19 23 36.0 -2.3**
comp=Z,2.6nm,0.8s,mb4.3,baz=130,slow=5.9,SNR=11
SOKR Solikamsk 59.45 354⇑ *i*P **P** **19 23 37.9 -0.3**
SOKR pmax pmax
comp=Z,10.0nm,1.1s,mb4.8
TLY Talaya 59.50 25 *e*P **P** **19 23 40.2 +1.5**
TLY *e*PPP 19 27 15.7
TLY *e*S **S** **19 31 52.0 +3.8**
TLY *e* 19 33 25.0
TLY pmax pmax
comp=Z,10.0nm,1.4s,mb4.7
TLY MLR MLR
comp=Z,144nm,17.0s,MS4.2
OBN Obninsk 59.88 340⇓ *i*P **P** **19 23 40.3 -1.0**
OBN *e* 19 23 47.3
OBN *e* 19 24 24.2
OBN *e*S **S** **19 31 49.5 -3.5**
OBN *e*SS SS 19 35 46.2 -3.2
OBN pmax pmax
comp=Z,12nm,0.9s,mb4.9
OBN MLR MLR
comp=Z,100nm,19.0s,MS4.0
OBN Obninsk 59.88 340 P **P** **19 23 39.4 -1.9**
comp=Z,9.5nm,0.5s,mb5.1
MOS Moscow 60.04 341 *e*P **P** **19 23 40.8 -1.6**
MOS pmax pmax
comp=Z,62nm,1.5s,mb5.4
BZS Buzias 60.14 325⇑ *i*P **P** **19 23 42.1 -1.2**
FITZ Fitzroy Crossi 60.36 111 LR LR 19 44 11.8
comp=Z,187nm,21.5s,MS4.2,baz=121,slow=30
UZH Uzhgorod 61.52 328 *e*P **P** **19 23 52.4 -0.2**
KOLS Kolonicke sedl 61.71 328 *e*P **P** **19 23 54.1 +0.2**
CRVS Cervenica-Dubn 62.13 328 *e*P **P** **19 23 56.9 +0.2**
PKSM Moragy 62.20 324⇑ *i*P **P** **19 23 58.2 +0.9**
STHS Stebnicka Huta 62.54 328 *e*P **P** **19 24 00.3 +0.8**
STHS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
STHS Stebnicka Huta 62.54 328 *e*P **P** **19 24 00.3 +0.8**
comp=Z,1.9nm,0.9s,mb4.2
VYHS Vyhne 63.33 326 *e*P **P** **19 24 04.7 0.0**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.4
VYHS Vyhne 63.33 326 *e*P **P** **19 24 04.7 0.0**
comp=Z,3.3nm,1.0s,mb4.4
KOLL Kolacno 63.61 326 *e*P **P** **19 24 07.2 +0.6**
MODS Modra-Piesok 64.14 325 *e*P **P** **19 24 10.0 -0.1**
OKC Ostrava-Krasne 64.44 327 AMS AMS 19 52 20.0
comp=Z,300nm,18.8s
TREC Trest 65.62 326 *e*P **P** **19 24 19.9 +0.2**
DPC Dobruska-Polom 65.71 327 *e*P **P** **19 24 20.2 -0.1**
DPC AMS AMS 19 54 00.0
comp=Z,100nm,14.9s
VSU Vasula 65.94 338 *d i*P **P** **19 24 20.5 -1.1**
UPC Upice 65.96 327 *e*P **P** **19 24 20.1 -1.8**
TORD Torodi Ar. Bea 66.02 284 P **P** **19 24 22.6 -0.3**
comp=Z,1.0nm,1.0s,mb3.8,baz=103,slow=3.1,SNR=3.2
TORD LR LR 19 54 20.7
comp=Z,260nm,18.1s,MS4.5,baz=100,slow=37
HIA Hailar 66.12 35 P **P** **19 24 23.6 +0.6**
HIA pmax pmax
comp=Z,33nm,1.3s
HIA Hailar 66.12 35 P **P** **19 24 23.6 +0.6**
comp=Z,33nm,1.3s,mb5.2
GERES **GERESS Array B 66.42 325** LR LR 19 53 03.2
comp=Z,69nm,19.3s,MS3.9,baz=122,slow=36
PRU Pruhonice 66.50 326 *e*P **P** **19 24 24.8 -0.6**
PRU AMS AMS 19 54 00.0
comp=Z,100nm,19.8s
KHC Kasperske Hory 66.63 325 *e*P **P** **19 24 25.3 -0.9**
KHC AMS AMS 19 48 50.0
comp=Z,200nm,27.1s
KSRS Korea Array 66.79 49 P **P** **19 24 26.5 -1.0**
KSRS pmax pmax
comp=Z,2.0nm,0.9s,mb4.2
KSRS MLR MLR
comp=Z,135nm,20.5s,MS4.2
KSRS Korea Array 66.79 49 P **P** **19 24 26.5 -1.0**
comp=Z,2.2nm,0.9s,mb4.2,baz=254,slow=7.1,SNR=7.5
KSRS LR LR 19 54 04.3
comp=Z,135nm,20.5s,MS4.2,baz=88,slow=36
BRG Berggiesshubel 67.28 327 *e*P **P** **19 24 37.1 +6.8**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.2
BRG Berggiesshubel 67.28 327 *e*P **P** **19 24 37.1 +6.8**
comp=Z,4.5nm,1.1s,mb4.4
NKC Novy Kostel 67.80 326 *e*P **P** **19 24 34.4 +0.8**
DAVA Damuels 68.01 322⇓ *i*P **P** **19 24 34.8 -0.2**
comp=Z,14nm,0.8s,mb5.0
CLL Collm 68.01 327 *i* P **P** **19 24 34.2 -0.7**
CLL *i* 19 24 42.3
CLL pmax pmax
comp=Z,12nm,1.2s,mb4.8
CLL Collm 68.01 327 *i* P **P** **19 24 34.2 -0.7**
comp=Z,12nm,1.2s,mb4.8
CLL *i* 19 24 42.3
CLL Collm 68.01 327 *i* P **P** **19 24 34.2 -0.7**
comp=Z,12nm,1.2s,mb4.8
CLL *i* (sP) sP 19 24 42.3 +2.9
CLL *e*(S) S 19 33 28.0 -6.1
MAW Mawson 68.04 182 LR LR 19 46 32.5
comp=Z,133nm,21.0s,MS4.1,baz=253,slow=29
GRA1 Grafenberg Arr 68.25 325 *e*P **P** **19 24 34.4 -2.1**
comp=Z,5.0nm,1.4s,mb4.3
GRF Grafenberg Arr 68.25 325 *e*P **P** **19 24 34.4 -2.1**
GRF pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
GRF Grafenberg Arr 68.25 325 *e*P **P** **19 24 34.4 -2.1**
GRF pmax pmax
comp=Z,5.0nm,1.4s,mb4.3
GRF Grafenberg Arr 68.25 325 *e*P **P** **19 24 34.4 -2.1**
comp=Z,5.0nm,1.4s,mb4.3
GRFO Grafenberg 68.25 325 P **P** **19 24 33.2 -3.3**
GRFO pmax pmax
comp=Z,8.0nm,1.0s,mb4.7
GRFO Grafenberg 68.25 325 P **P** **19 24 33.2 -3.2**
comp=Z,7.8nm,1.0s,mb4.7
FINES FINESS Array B 68.29 340 *i* P **P** **19 24 35.0 -1.4**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 68.29 340 P **P** **19 24 34.8 -1.7**
comp=Z,2.6nm,0.9s,mb4.3,baz=126,slow=7.1,SNR=7.0
FINES LR LR 19 57 33.5
comp=Z,117nm,18.6s,MS4.1,baz=331,slow=39
WRA Warramunga Arr 68.78 112 P **P** **19 24 40.4 0.0**
comp=Z,7.0nm,1.1s,mb4.5,baz=292,slow=5.7,SNR=20
WRAB Tennant Creek 68.79 112 *e*P **P** **19 24 40.8 +0.4**
WRAB pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
WRAB Tennant Creek 68.79 112 *e*P **P** **19 24 40.8 +0.3**
comp=Z,9.0nm,0.8s,mb4.8
WB2 Warramunga Arr 68.80 112 *e*P **P** **19 24 40.8 +0.3**
ASAR Alice Springs 68.99 116 P **P** **19 24 40.8 -0.8**
comp=Z,4.8nm,1.2s,mb4.3,baz=285,slow=5.7,SNR=16
LPG La Plagne 69.29 319 *e*P **P** **19 24 44.2 +1.2**
comp=Z,18nm,1.2s,mb4.5
LPG La Plagne 69.29 319 *e*P **P** **19 24 44.2 +1.2**
LPG pmax pmax
comp=Z,9.0nm,1.2s,mb4.6
LPG La Plagne 69.29 319 *e*P **P** **19 24 44.2 +1.2**
comp=Z,8.9nm,1.2s,mb4.6
LPL La Plagne 69.31 319 *e*P **P** **19 24 44.2 +1.0**
BFO Black Forest 69.39 322 *e*P **P** **19 24 41.4 -2.2**
BFO pmax pmax
comp=Z,17nm,1.4s,mb4.8
BFO Black Forest 69.39 322 *e*P **P** **19 24 41.4 -2.1**
comp=Z,17nm,1.4s,mb4.8
CDF Champ du Feu 70.07 322 *e*P **P** **19 24 48.1 +0.3**
comp=Z,17nm,1.1s,mb4.6
CDF Champ du Feu 70.07 322 *e*P **P** **19 24 48.1 +0.3**
CDF pmax pmax
comp=Z,8.0nm,1.1s,mb4.6
CDF Champ du Feu 70.07 322 *e*P **P** **19 24 48.1 +0.3**
comp=Z,8.4nm,1.1s,mb4.6
CABF La Chapelle 70.13 320 *e*P **P** **19 24 49.2 +1.0**
SMF Signal de Mont 71.59 320 *e*P **P** **19 24 57.2 +0.1**
comp=Z,23nm,1.2s,mb4.7
SMF Signal de Mont 71.59 320 *e*P **P** **19 24 57.2 +0.1**
SMF pmax pmax
comp=Z,12nm,1.2s,mb4.7
SMF Signal de Mont 71.59 320 *e*P **P** **19 24 57.2 +0.1**
comp=Z,12nm,1.2s,mb4.7
LOR Lormes 71.79 320 *e*P **P** **19 24 58.6 +0.3**
comp=Z,6.3nm,0.8s,mb4.3
LOR *e*MLR MLR
comp=Z,78nm,23.0s,MS3.6
LOR Lormes 71.79 320 *e*P **P** **19 24 58.6 +0.3**
LOR pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
LOR MLR MLR
comp=Z,80nm,23.0s,MS3.9
LOR Lormes 71.79 320 *e*P **P** **19 24 58.6 +0.3**
comp=Z,3.2nm,0.8s,mb4.3
LOR LR LR
comp=Z,80nm,23.0s,MS3.9
SSF Saint Saulge 71.95 320 *e*P **P** **19 24 59.5 +0.3**
comp=Z,10nm,0.8s,mb4.5
SSF Saint Saulge 71.95 320 *e*P **P** **19 24 59.5 +0.3**
SSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
SSF Saint Saulge 71.95 320 *e*P **P** **19 24 59.5 +0.3**
comp=Z,5.2nm,0.8s,mb4.5
DBIC Dimbokro 72.08 277 LR LR 19 56 41.1
comp=Z,129nm,18.2s,MS4.2,baz=68,slow=36
BGF Bois d'Agland 72.21 319 *e*P **P** **19 25 01.5 +0.7**
comp=Z,23nm,1.0s,mb4.8
BGF Bois d'Agland 72.21 319 *e*P **P** **19 25 01.5 +0.7**
BGF pmax pmax
comp=Z,12nm,1.0s,mb4.8
BGF Bois d'Agland 72.21 319 *e*P **P** **19 25 01.5 +0.7**
comp=Z,12nm,1.0s,mb4.8
BAIF Baives 72.55 323 *e*P **P** **19 25 02.7 0.0**
comp=Z,17nm,1.2s,mb4.5
BAIF Baives 72.55 323 *e*P **P** **19 25 02.7 0.0**
BAIF pmax pmax
comp=Z,8.0nm,1.2s,mb4.5
BAIF Baives 72.55 323 *e*P **P** **19 25 02.7 0.0**
comp=Z,8.3nm,1.2s,mb4.5
KLR Kul'dur 73.26 38 *e*P **P** **19 25 02.2 -4.8**
NB2 NORSAR Subarra 73.72 335 P **P** **19 25 09.0 -0.4**
comp=Z,1.5nm,0.8s,mb4.0,baz=146,slow=9.3
NOA NORSAR Array B 73.72 335 P **P** **19 25 10.2 +0.8**
comp=Z,1.5nm,0.8s,mb4.0,baz=114,slow=6.4,SNR=4.7
NOA LR LR 19 58 38.3
comp=Z,103nm,20.8s,MS4.1,baz=130,slow=37
ARCES **ARCESS Array B 74.27 346** P **P** **19 25 13.7 +1.1**
ARCES LR LR 19 58 38.8
ARCES ARCESS Array B 74.27 346 P **P** **19 25 13.7 +1.2**
comp=Z,3.6nm,0.8s,mb4.3,baz=131,slow=5.0,SNR=5.6
ARCES LR LR 19 58 38.8
comp=Z,129nm,18.1s,MS4.3,baz=326,slow=36
MJAR Matsushiro Arr 74.53 52 P **P** **19 25 14.7 0.0**
comp=Z,2.5nm,1.0s,mb4.1,baz=260,slow=6.1,SNR=6.4
MJAR LR LR 20 01 01.7
comp=Z,245nm,19.3s,MS4.5,baz=255,slow=38
ESDC Sonseca Array 75.21 311 P **P** **19 25 20.0 +1.4**
comp=Z,2.6nm,0.9s,mb4.2,baz=91,slow=5.1,SNR=8.6
STKA Stephens Creek 77.08 123 *e*P **P** **19 25 29.2 -0.2**
comp=Z,3.7nm,0.9s,mb4.3
STKA Stephens Creek 77.08 123 P **P** **19 25 29.2 -0.2**
comp=Z,5.2nm,1.1s,mb4.4,baz=286,slow=7.4,SNR=4.0
STKA LR LR 19 57 00.3
comp=Z,363nm,21.2s,MS4.7,baz=30,slow=34
YSS Yuzh-Sakhalins 79.81 42⇑ *e*P **P** **19 25 43.0 -1.1**
YSS pmax pmax
comp=Z,59nm,1.7s,mb5.2
YSS Yuzh-Sakhalins 79.81 42 P **P** **19 25 42.5 -1.6**
comp=Z,26nm,1.0s,mb5.1
CTA Charters Tower 79.93 110 LR LR 19 57 22.5
comp=Z,236nm,20.5s,MS4.5,baz=147,slow=33
TIXI Tiksi 80.88 16 *e*P **P** **19 25 48.1 -1.3**
TIXI *e*S S 19 35 56.0 -1.6
TIXI pmax pmax
comp=Z,14nm,1.6s,mb4.6
TIXI Tiksi 80.88 16 *e*P **P** **19 25 47.8 -1.6**
comp=Z,16nm,1.4s,mb4.8
SEY Seymchan 87.36 27⇑ *e*P **P** **19 26 22.9 +0.3**
QSPA South Pole Qui 90.50 180 *e*P **P** **19 26 37.4 +0.3**
comp=Z,2.7nm,0.8s,mb4.6
VNDA Vanda 91.52 167 P **P** **19 26 44.0 +2.1**
comp=Z,0.5nm,0.8s,mb3.9,baz=297,slow=2.3,SNR=3.1
HNR Honiara 92.83 99 LR LR 20 05 02.1
comp=Z,102nm,20.4s,MS4.3,baz=1.4,slow=33
BILL Bilibino 92.94 22⇑ *e*P **P** **19 26 49.7 +1.1**
BILL pmax pmax
comp=Z,6.0nm,1.9s,mb4.7
YKA Yellowknife Ar 117.14 1 PKP PKPdf 19 32 20.1 -0.5
comp=Z,0.2nm,0.7s,baz=347,slow=2.0,SNR=3.4
WUAZ Wupatki 144.13 358 *e*PKPdf PKPdf 19 33 10.8 -1.3
ANMO Albuquerque 144.22 351 *e*PKIKP PKPdf 19 33 10.6 -1.7
LAZ Ladron 144.86 352 *e*PKPdf PKPdf 19 33 13.8 +0.3
LPM Los Pinos Moun 144.87 351 *e*PKPdf PKPdf 19 33 10.7 -2.8
BNM Barren Site 145.03 351 *e*PKPdf PKPdf 19 33 14.4 +0.7
PFO Pinyon Flat Ob 145.89 5 *e*PKP2 PKPab 19 33 16.4 +0.2
JCT Junction City 146.78 339 *e*PKP2 PKPab 19 33 17.0 -2.7
MNTX Cornudas Mount 147.19 348 *e*PKPdf PKPdf 19 33 17.4 -0.1
TUC Tucson 147.30 357 *e*PKP2 PKPab 19 33 20.3 -1.3
TGUH Tegucigalpa,Un 150.84 301 *e*PKPbc PKPbc 19 33 32.3 +2.9

IGIL ***26*** *19:20:08.5, 3685N×14.11W, h10km, ML3.6*
NEIC ***26*** *19:20:09.9, 3706N×1398W, h0km, MG4.5(MDD), After MDD.*
MDD ***26*** *19:20:11.3±1.8, 3698N×1409W, h27km±32km, mb4.5/8, Error ellipse: s-maj=28.6km s-min=10.1km az=87.0, PRXIMO*
CNRM ***26*** *19:20:11.8, 3709N×1377W, h31km, MD3.8*
LDG ***26*** *19:20:12.6±0.4, 3705N×1395W, h10km, Ml3.9/4, Error ellipse: s-maj=7.3km s-min=6.0km az=52.0*
CSEM ***26*** *19:20:16.1±0.2, 3737N×1322W, h10km, MD3.8, Error ellipse: s-maj=3.9km s-min=2.8km az=65.0*

ISC 26 19:20:17.8±0.8, 3739N±004×1334W±005, h10km, n74, σ1$04/143, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**3.74**	**90**	P	**Pn**	**19 21 14.6**	**-0.9**
MORF				S	**Sn**	**19 21 59.8**	**+0.3**
ALMR	**Almeirim**	**4.14**	**63**	*e*P	**Pn**	**19 21 21.9**	**+0.9**
ALMR				*e*S	**Sn**	**19 22 12.2**	**+2.7**
ALMR				*e*S	**Sn**	**19 22 12.2**	**+2.7**
ALMR				AML	AML	19 22 17.0	
	comp=N,168nm,0.6s						
ALMR	**Almeirim**	**4.14**	**63**	P	**Pn**	**19 21 21.9**	**+0.9**
ALMR				S	**Sn**	**19 22 12.2**	**+2.7**
EVO	**Evora**	**4.36**	**73**	*e*Pn	**Pn**	**19 21 22.6**	**-1.5**
EVO				*e*Sn	**Sn**	**19 22 13.7**	**-1.2**
	comp=N,88nm,0.4s						
EGRO	**El Granado**	**4.66**	**86**	P	**Pn**	**19 21 27.1**	**-1.1**
	comp=N,1.3nm,0.1s,SNR=23						
EGRO				S	**Sn**	**19 22 21.7**	**-0.6**
	comp=N,12nm,0.3s,SNR=7.6						
EGRO	**El Granado**	**4.66**	**86**	P	**Pn**	**19 21 27.1**	**-1.1**
	comp=N,1.3nm,0.1s,SNR=23						
EGRO				S	**Sn**	**19 22 21.7**	**-0.6**
	comp=N,12nm,0.3s,SNR=7.6						
EBAD	**Badajoz**	**5.17**	**73**	P	**Pn**	**19 21 35.0**	**-0.2**
	comp=N,0.1nm,0.1s,SNR=42						
EBAD				S	**Sn**	**19 22 35.5**	**+0.5**
	comp=N,10nm,0.4s,SNR=8.7						
EBAD	**Badajoz**	**5.17**	**73**	P	**Pn**	**19 21 35.0**	**-0.2**
	comp=N,0.1nm,0.1s,SNR=42						
EBAD				S	**Sn**	**19 22 35.5**	**+0.5**
	comp=N,10nm,0.4s,SNR=8.7						
EMIN	**Mina Concepcio**	**5.31**	**84**	P	**Pn**	**19 21 35.9**	**-1.2**
	comp=N,1.0nm,0.1s,SNR=35						
EMIN				S	**Sn**	**19 22 39.8**	**+1.5**
	comp=N,6.4nm,0.4s,SNR=6.0						
EMIN	**Mina Concepcio**	**5.31**	**84**	P	**Pn**	**19 21 35.9**	**-1.2**
	comp=N,1.0nm,0.1s,SNR=35						
EMIN				S	**Sn**	**19 22 39.8**	**+1.5**
	comp=N,6.4nm,0.4s,SNR=6.0						
ESPR	**Espera**	**6.00**	**93**	P	**Pn**	**19 21 45.8**	**-0.8**
ESPR				S	**Sn**	**19 22 57.5**	**+2.1**
ESPR	**Espera**	**6.00**	**93**	P	**Pn**	**19 21 45.8**	**-0.8**
	comp=N,6.8nm,0.2s,SNR=27						
ESPR				S	**Sn**	**19 22 55.0**	**-0.3**
	comp=N,7.7nm,0.3s,SNR=5.1						
ESPR	**Espera**	**6.00**	**93**	P	**Pn**	**19 21 45.8**	**-0.8**
	comp=N,6.8nm,0.2s,SNR=27						
ESPR				S	**Sn**	**19 22 57.5**	**+2.2**
	comp=N,7.7nm,0.3s,SNR=5.1						
ELOB	**Lobios**	**6.05**	**41**	P	**Pn**	**19 21 47.7**	**+0.4**
	comp=N,0.1nm,0.0s,SNR=18						
ELOB				S	**Sn**	**19 22 57.0**	**+0.5**
	comp=N,8.8nm,0.3s,SNR=10						
ELOB	**Lobios**	**6.05**	**41**	P	**Pn**	**19 21 47.7**	**+0.4**
	comp=N,0.1nm,0.0s,SNR=18						
ELOB				S	**Sn**	**19 22 57.0**	**+0.5**
	comp=N,8.8nm,0.3s,SNR=10						
ECAB	**El Cabril**	**6.32**	**81**	P	**Pn**	**19 21 50.8**	**-0.1**
	comp=N,13nm,0.7s,SNR=29						
ECAB				S	**Sn**	**19 23 02.1**	**-1.0**
	comp=N,7.2nm,0.3s,SNR=5.6						
ECAB	**El Cabril**	**6.32**	**81**	P	**Pn**	**19 21 50.8**	**-0.1**
	comp=N,13nm,0.7s,SNR=29						
ECAB				S	**Sn**	**19 23 02.1**	**-1.0**
	comp=N,7.2nm,0.3s,SNR=5.6						
EJIF	**Jimena Fronter**	**6.37**	**96**	P	**Pn**	**19 21 51.0**	**-0.7**
	comp=N,0.9nm,0.2s,SNR=7.9						
JHA	**Jbel Lahdid**	**6.48**	**149**	*i* P	**Pn**	**19 21 43.5**	**-10**
JHA				*i* S	**Sn**	**19 22 52.0**	**-15**
EMAZ	**Mazaricos**	**6.48**	**30**	P	**Pn**	**19 21 52.8**	**-0.4**
	comp=N,0.3nm,0.1s,SNR=13						
EMAZ				S	**Sn**	**19 23 05.3**	**-1.8**
	comp=N,7.7nm,0.3s,SNR=8.1						
EMAZ	**Mazaricos**	**6.48**	**30**	P	**Pn**	**19 21 52.8**	**-0.4**
	comp=N,0.3nm,0.1s,SNR=13						
EMAZ				S	**Sn**	**19 23 05.3**	**-1.9**
	comp=N,7.7nm,0.3s,SNR=8.1						
STS	**Santiago**	**6.61**	**32**	P	**Pn**	**19 21 55.3**	**+0.4**
STS				S	**Sn**	**19 23 08.2**	**-1.9**
STS	**Santiago**	**6.61**	**32**	P	**Pn**	**19 21 55.3**	**+0.4**
	comp=N,3.7nm,0.1s,SNR=7.9						
STS				S	**Sn**	**19 23 09.1**	**-1.0**
	comp=N,2.7nm,0.1s,SNR=7.9						
STS	**Santiago**	**6.61**	**32**	P	**Pn**	**19 21 55.3**	**+0.4**
	comp=N,3.7nm,0.1s,SNR=7.9						
STS				S	**Sn**	**19 23 08.2**	**-2.0**
	comp=N,2.7nm,0.1s,SNR=7.9						
ECAL	**Calabor**	**6.83**	**46**	P	**Pn**	**19 21 58.2**	**+0.3**
	comp=N,2.8nm,0.2s,SNR=22						
ECAL				S	**Sn**	**19 23 15.1**	**-0.5**
	comp=N,14nm,0.3s,SNR=8.5						
ECAL	**Calabor**	**6.83**	**46**	P	**Pn**	**19 21 58.2**	**+0.3**
	comp=N,2.8nm,0.2s,SNR=22						
ECAL				S	**Sn**	**19 23 15.1**	**-0.6**
	comp=N,14nm,0.3s,SNR=8.5						
ERUA	**La Rua**	**6.91**	**42**	P	**Pn**	**19 21 59.5**	**+0.6**
	comp=N,1.9nm,0.1s,SNR=7.9						
ERUA				S	**Sn**	**19 23 18.6**	**+1.1**
	comp=N,6.0nm,0.4s,SNR=7.9						
ERUA	**La Rua**	**6.91**	**42**	P	**Pn**	**19 21 59.5**	**+0.5**
	comp=N,1.9nm,0.1s,SNR=7.9						
ERUA				S	**Sn**	**19 23 18.6**	**+1.0**
	comp=N,6.0nm,0.4s,SNR=7.9						
EMIJ	**Mijas**	**6.91**	**94**	P	**Pn**	**19 21 59.0**	**0.0**
EMIJ				S	**Sn**	**19 23 19.1**	**+1.5**
EMIJ	**Mijas**	**6.91**	**94**	P	**Pn**	**19 21 59.0**	**0.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**19 23 16.8**	**-0.8**
	comp=N,0.5nm,0.3s,SNR=7.9						
EMIJ	**Mijas**	**6.91**	**94**	P	**Pn**	**19 21 59.0**	**0.0**
	comp=N,0.3nm,0.1s,SNR=7.9						
EMIJ				S	**Sn**	**19 23 19.1**	**+1.5**
	comp=N,0.5nm,0.3s,SNR=7.9						
CIA	**Chichaoua**	**6.93**	**146**	*i* P	**Pn**	**19 21 51.0**	**-8.3**
CIA				*i* S	**Sn**	**19 23 04.5**	**-14**
EADA	**Adamuz**	**6.98**	**81**	P	**Pn**	**19 21 59.3**	**-0.7**
	comp=N,4.2nm,0.2s,SNR=41						
EADA				S	**Sn**	**19 23 18.6**	**-0.9**
	comp=N,3.8nm,0.3s						
EADA	**Adamuz**	**6.98**	**81**	P	**Pn**	**19 21 59.3**	**-0.8**
	comp=N,4.2nm,0.2s,SNR=41						
EADA				S	**Sn**	**19 23 18.6**	**-0.9**
	comp=N,3.8nm,0.3s						
ELUQ	**Luque**	**7.22**	**86**	P	**Pn**	**19 22 02.8**	**-0.5**
	comp=N,0.7nm,0.1s,SNR=7.9						
ELUQ				S	**Sn**	**19 23 26.4**	**+1.2**
	comp=N,0.9nm,0.1s,SNR=7.9						
ELOJ	**Sierra Loja**	**7.33**	**89**	P	**Pn**	**19 22 04.8**	**-0.1**
	comp=N,0.3nm,0.2s,SNR=7.9						
ELOJ				S	**Sn**	**19 23 28.4**	**+0.3**
	comp=N,0.2nm,0.6s,SNR=7.9						
PAB	**San Pablo**	**7.38**	**70**	*e*Pn	**Pn**	**19 22 04.8**	**-0.7**
PAB				*e*Sn	**Sn**	**19 23 26.9**	**-2.3**
PAB	**San Pablo**	**7.38**	**70**	*e*Pn	**Pn**	**19 22 04.8**	**-0.6**
EPON	**Pontenova**	**7.58**	**37**	P	**Pn**	**19 22 08.3**	**0.0**
	comp=N,0.4nm,0.1s,SNR=7.1						
EPON				S	**Sn**	**19 23 31.8**	**-2.5**
	comp=N,3.6nm,0.3s,SNR=53						
EPON	**Pontenova**	**7.58**	**37**	P	**Pn**	**19 22 08.3**	**0.0**
	comp=N,0.4nm,0.1s,SNR=7.1						
EPON				S	**Sn**	**19 23 31.8**	**-2.5**
	comp=N,3.6nm,0.3s,SNR=53						
EBAN	**Banos Encina**	**7.61**	**81**	P	**Pn**	**19 22 07.6**	**-1.0**
	comp=N,2.8nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**19 23 31.2**	**-3.6**
	comp=N,0.6nm,0.3s,SNR=7.9						
EBAN	**Banos Encina**	**7.61**	**81**	P	**Pn**	**19 22 07.6**	**-1.0**
	comp=N,2.8nm,0.2s,SNR=7.9						
EBAN				S	**Sn**	**19 23 31.2**	**-3.6**
	comp=N,0.6nm,0.3s,SNR=7.9						
OUK	**Oukaimeden**	**7.64**	**142**	*i* P	**Pn**	**19 22 01.0**	**-8.1**
OUK				*i* S	**Sn**	**19 23 21.0**	**-15**
ESDC	**Sonseca Array**	**7.70**	**70**	P	**Pn**	**19 22 10.1**	**+0.2**
	comp=N,11nm,0.1s,baz=254,slow=13,SNR=80						
ESDC				S	**Sn**	**19 23 37.3**	**+0.3**
	comp=N,2.1nm,0.3s,baz=254,slow=23,SNR=12						
ESDC	**Sonseca Array**	**7.70**	**70**	P	**Pn**	**19 22 10.1**	**+0.3**
	comp=N,11nm,0.1s,SNR=80						
ESDC				S	**Sn**	**19 23 37.3**	**+0.3**
	comp=N,2.1nm,0.3s,SNR=12						
GUD	**Guadarrama**	**7.85**	**63**	P	**Pn**	**19 22 12.7**	**+0.7**
GUD				S	**Sn**	**19 23 42.3**	**+1.4**
GUD	**Guadarrama**	**7.85**	**63**	P	**Pn**	**19 22 12.7**	**+0.7**
	comp=N,1.8nm,0.2s,SNR=11						
GUD				S	**Sn**	**19 23 42.3**	**+1.4**
	comp=N,2.8nm,0.3s,SNR=5.4						
EQUE	**Quentar**	**7.89**	**88**	P	**Pn**	**19 22 13.4**	**+0.9**
	comp=N,0.0nm,0.1s,SNR=9.4						
EQUE				S	**Sn**	**19 23 42.8**	**+1.0**
	comp=N,0.5nm,0.2s,SNR=7.9						
EQES	**Quesada**	**8.16**	**84**	P	**Pn**	**19 22 15.8**	**-0.5**
	comp=N,0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**19 23 48.2**	**-0.3**
	comp=N,2.5nm,0.4s,SNR=5.9						
EQES	**Quesada**	**8.16**	**84**	P	**Pn**	**19 22 15.8**	**-0.4**
	comp=N,0.5nm,0.2s,SNR=7.9						
EQES				S	**Sn**	**19 23 48.2**	**-0.3**
	comp=N,2.5nm,0.4s,SNR=5.9						
EARI	**Arriondas**	**8.57**	**44**	P	**Pn**	**19 22 22.5**	**+0.7**
	comp=N,0.0nm,0.1s,SNR=7.7						
EARI				S	**Sn**	**19 23 59.4**	**+1.0**
	comp=N,0.6nm,0.7s,SNR=5.0						
EARI	**Arriondas**	**8.57**	**44**	P	**Pn**	**19 22 22.5**	**+0.7**
	SNR=7.7						
EARI				S	**Sn**	**19 23 59.4**	**+1.0**
	comp=N,0.6nm,0.7s,SNR=5.0						
EVIA	**Vianos**	**8.64**	**78**	P	**Pn**	**19 22 22.2**	**-0.7**
	comp=N,0.2nm,0.2s,SNR=7.9						
EVIA				S	**Sn**	**19 24 00.6**	**+0.3**
	comp=N,0.6nm,0.2s,SNR=7.9						
ETOB	**Tobarra**	**9.39**	**79**	P	**Pn**	**19 22 32.4**	**-0.7**
	comp=N,0.9nm,0.1s,SNR=7.4						
ETOB				S	**Sn**	**19 24 18.2**	**-0.5**
	comp=N,0.3nm,0.2s,SNR=5.0						
ETOB	**Tobarra**	**9.39**	**79**	P	**Pn**	**19 22 32.4**	**-0.7**
ETOB				S	**Sn**	**19 24 18.2**	**-0.5**
ELAN	**Lanestosa**	**9.55**	**49**	P	**Pn**	**19 22 36.0**	**+0.7**
	comp=N,0.1nm,0.1s,SNR=7.9						
ELAN				S	**Sn**	**19 24 23.3**	**+0.6**
	comp=N,0.2nm,0.1s,SNR=7.9						
ELAN	**Lanestosa**	**9.55**	**49**	P	**Pn**	**19 22 36.0**	**+0.7**
ELAN

EALK	**Alkurruntz**	**10.75**	**53**	P	**Pn**	**19 22 53.0**	**+1.4**
	comp=N,0.3nm,0.2s,SNR=7.9						
EALK				S	**Sn**	**19 24 49.5**	**-2.4**
	comp=N,0.0nm,0.1s,SNR=7.9						
SJPF	**Ste Jean**	**10.88**	**55**	*e*Pn	**Pn**	**19 22 54.3**	**+0.9**
SJPF				*e*Sn	**Sn**	**19 24 53.4**	**-1.8**
	comp=N,3.0nm,0.4s						
SJPF	**Ste Jean**	**10.88**	**55**	Pn	**Pn**	**19 22 54.3**	**+0.9**
SJPF				Sn	**Sn**	**19 24 53.4**	**-1.8**
	comp=N,1.5nm,0.4s						
ERTA	**Horta de San J**	**11.20**	**67**	P	**Pn**	**19 22 57.6**	**-0.2**
	comp=N,0.3nm,0.1s,SNR=7.9						
ERTA				S	**Sn**	**19 25 02.0**	**-0.9**
	comp=N,1.2nm,0.3s,SNR=7.9						
ERTA	**Horta de San J**	**11.20**	**67**	P	**Pn**	**19 22 57.6**	**-0.2**
	comp=N,0.3nm,0.1s						
ERTA				S	**Sn**	**19 25 02.0**	**-1.0**
ETSF	**Etsaut**	**11.22**	**57**	*e*Pn	**Pn**	**19 22 59.3**	**+1.2**
ETSF				*e*Sn	**Sn**	**19 25 02.5**	**-1.0**
	comp=N,1.2nm,0.3s						
ETSF	**Etsaut**	**11.22**	**57**	Pn	**Pn**	**19 22 59.3**	**+1.2**
ETSF				Sn	**Sn**	**19 25 02.5**	**-1.0**
	comp=N,0.6nm,0.3s						
EBIE	**Bielsa**	**11.61**	**59**	P	**Pn**	**19 23 05.0**	**+1.6**
	comp=N,2.0nm,0.2s,SNR=13						
EBIE				S	**Sn**	**19 25 14.4**	**+1.4**
	comp=N,7.7nm,0.9s,SNR=4.8						
EBIE	**Bielsa**	**11.61**	**59**	P	**Pn**	**19 23 05.1**	**+1.7**
	comp=N,2.0nm,0.2s						
EBIE				S	**Sn**	**19 25 14.4**	**+1.4**
EPOB	**Poblet**	**11.84**	**66**	P	**Pn**	**19 23 06.1**	**-0.5**
	comp=N,0.6nm,1.8s						
EPOB	**Poblet**	**11.84**	**66**	P	**Pn**	**19 23 06.1**	**-0.5**
	comp=N,0.6nm,1.8s						
EPF	**Esparros**	**11.88**	**57**	*e*Pn	**Pn**	**19 23 08.7**	**+1.6**
EPF				*e*Sn	**Sn**	**19 25 18.3**	**-1.3**
	comp=N,2.9nm,0.3s						
EPF	**Esparros**	**11.88**	**57**	Pn	**Pn**	**19 23 08.7**	**+1.6**
EPF				Sn	**Sn**	**19 25 18.3**	**-1.3**
	comp=N,1.4nm,0.3s						
LFF	**La Frestale**	**13.01**	**50**	*e*Pn	**Pn**	**19 23 23.0**	**+0.5**
RJF	**Les Rejaudoux**	**13.66**	**50**	*e*Pn	**Pn**	**19 23 31.4**	**-0.1**

IDC 26 19:23:53.9±6.0, 372N×7725W, h61km±58km, mb3.7/2, mb1 3.9/4, mb1mx3.4/20, mbtmp3.7/4, ML2.6/2, MS2.7/4, Ms1 2.8/4, ms1mx2.6/30, Error ellipse: s-maj=43.2km s-min=41.1km az=29.0, Near west coast of Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ROSC	**El Rosal**	**3.12**	**69**	P	Pn	19 24 39.9	-0.9
	4.3nm,0.3s,baz=106,slow=22,SNR=5.6						
ROSC				S	Sn	19 25 19.1	+2.1
	3.4nm,0.3s,baz=261,slow=24,SNR=7.1						
SDV	**Santo Domingo**	**8.34**	**52**	P	Pn	19 25 50.7	-1.6
	0.5nm,0.3s,baz=217,slow=10,SNR=3.9						
SDV				S	Sn	19 27 25.1	0.0
	0.9nm,0.3s,baz=290,slow=18,SNR=2.9						
SDV				LR	LR	19 29 32.6	
	comp=Z,55nm,18.4s,baz=14,slow=41						
JTS	**JuntasAbangare**	**10.05**	**311**	LR	LR	19 29 20.5	
	comp=Z,37nm,21.5s,baz=64,slow=32						
TEIG	**Tepich**	**19.61**	**328**	LR	LR	19 35 46.7	
	comp=Z,35nm,20.8s,baz=286,slow=36						
LPAZ	**La Paz**	**21.83**	**156**	LR	LR	19 36 35.3	
	comp=Z,23nm,21.9s,baz=20,slow=35						
NVAR	**Mina Array Bea**	**50.88**	**318**	P	P	19 32 50.7	+1.9
	1.0nm,0.7s,baz=132,slow=7.1,SNR=7.4						
YKA	**Yellowknife Ar**	**64.82**	**342**	P	P	19 34 25.3	-0.8
	1.5nm,0.7s,baz=133,slow=6.3,SNR=33						
YKA				pP	pP	19 34 39.0	-3.5
	0.8nm,0.7s,baz=132,slow=6.5,SNR=7.2						
ASAR	**Alice Springs**	**143.97**	**234**	PKP	PKPdf	19 43 20.9	-2.5
	0.6nm,0.5s,baz=118,slow=3.9,SNR=9.7						
WRA	**Warramunga Arr**	**145.24**	**240**	PKPbc	PKPbc	19 43 25.2	-0.2
	0.7nm,0.6s,baz=111,slow=3.2,SNR=6.7						

*IDC **26** 19:31:12.9±0.9, 3266S×17866W, h0km, mb4.3/7, mb1 4.4/8, mb1mx4.2/16, mbtmp4.3/8, ML4.1/1, MS3.2/2, Ms1 3.2/2, ms1mx2.9/21, Error ellipse: s-maj=28.0km s-min=23.7km az=49.0*

*NEIC **26** 19:31:17.4±2.7, 3290S×17855W, h36km±23km, mb4.6/6, Error ellipse: s-maj=26.8km s-min=13.5km az=203.0*

ISC 26 19:31:17.4±2.6, 3287S±005×1789W±02, h18km±19km, n43, σ0973/41, mb4.4/10, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**5.21**	**205**	P	**Pn**	**19 32 34.1**	**-0.3**
MXZ				S	**Sn**	**19 33 35.1**	**+1.2**
MXZ	**Matakaoa Point**	**5.21**	**205**	*e*PN	**Pn**	**19 32 33.2**	**-1.1**
MXZ				SN	**Sn**	**19 33 34.8**	**+0.9**
PUZ	**Puketiti**	**5.68**	**203**	P	**Pn**	**19 32 40.5**	**-0.4**
PUZ				S	**Sn**	**19 33 45.0**	**-0.7**
PUZ	**Puketiti**	**5.68**	**203**	*e*PN	**Pn**	**19 32 40.2**	**-0.7**
PUZ				SN	**Sn**	**19 33 45.0**	**-0.7**
MWZ	**Matawai**	**6.18**	**207**	P	**Pn**	**19 32 48.0**	**+0.3**
MWZ				S	**Sn**	**19 33 57.3**	**-0.5**
MWZ	**Matawai**	**6.18**	**207**	PN	**Pn**	**19 32 47.4**	**-0.3**
MWZ				SN	**Sn**	**19 33 57.3**	**-0.6**
MARZ	**Manawahe**	**6.25**	**214**	P	**Pn**	**19 32 50.0**	**+1.4**
MARZ	**Manawahe**	**6.25**	**214**	PN	**Pn**	**19 32 50.0**	**+1.3**
URZ	**Urewera**	**6.28**	**210**	P	**Pn**	**19 32 48.8**	**-0.3**
URZ	**Urewera**	**6.28**	**210**	Pn	**Pn**	**19 32 49.0**	**0.0**
	4.2nm,0.3s,baz=174,slow=1.8,SNR=13						
URZ				Sn	**Sn**	**19 34 02.6**	**+2.3**
	7.6nm,0.3s,baz=98,slow=22,SNR=6.9						
URZ				LR	LR	19 34 39.1	
	comp=Z,100nm,18.7s,baz=36,slow=31						
URZ	**Urewera**	**6.28**	**210**	PN	**Pn**	**19 32 48.4**	**-0.7**
URZ				SN	**Sn**	**19 34 00.6**	**+0.2**
KNZ	**Kokohu**	**6.73**	**203**	P	**Pn**	**19 32 55.0**	**-0.3**
KNZ	**Kokohu**	**6.73**	**203**	PN	**Pn**	**19 32 54.9**	**-0.4**
BKZ	**Black Stump Fm**	**7.30**	**209**	P	**Pn**	**19 33 03.7**	**+0.6**
BKZ				S	**Sn**	**19 34 24.8**	**-0.7**
BKZ	**Black Stump Fm**	**7.30**	**209**	PN	**Pn**	**19 33 03.7**	**+0.6**
BKZ				SN	**Sn**	**19 34 24.8**	**-0.7**
STKA	**Stephens Creek**	**33.23**	**261**	P	**P**	**19 37 53.4**	**0.0**
	2.1nm,0.8s,mb4.1,baz=113,slow=13,SNR=2.8						
CTA	**Charters Tower**	**33.51**	**284**	*e*P	**P**	**19 37 58.0**	**+2.0**
	4.4nm,0.5s,mb4.6						
CTA	**Charters Tower**	**33.51**	**284**	P	**P**	**19 37 56.9**	**+0.9**
	4.8nm,0.5s,mb4.7,baz=110,slow=11,SNR=11						
CTAO	**Charters Tower**	**33.51**	**284**	*e*P	**P**	**19 37 56.7**	**+0.7**
	41nm,1.4s,mb5.2						
ASAR	**Alice Springs**	**42.26**	**270**	P	**P**	**19 39 10.2**	**+0.4**
	7.5nm,0.8s,mb4.4,baz=110,slow=7.2,SNR=80						
WB2	**Warramunga Arr**	**43.46**	**275**	*e*P	**P**	**19 39 19.4**	**-0.2**
WRAB	**Tennant Creek**	**43.46**	**275**	*e*P	**P**	**19 39 18.9**	**-0.7**
	5.6nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**43.47**	**275**	P	**P**	**19 39 19.7**	**0.0**
	6.7nm,0.6s,mb4.6,baz=113,slow=8.0,SNR=117						
KAKA	**Kakadu**	**48.64**	**283**	*e*P	**P**	**19 40 00.0**	**-0.5**
	9.8nm,0.9s,mb4.8						
FITZ	**Fitzroy Crossi**	**51.62**	**272**	*e*P	**P**	**19 40 22.7**	**-0.3**
	4.1nm,0.9s,mb4.4						
FITZ	**Fitzroy Crossi**	**51.62**	**272**	P	**P**	**19 40 22.6**	**-0.5**
	2.1nm,0.8s,mb4.1,baz=171,slow=8.9,SNR=12						
CASY	**Casey**	**52.60**	**209**	*e*P	**P**	**19 40 28.9**	**-0.8**
	6.1nm,1.0s,mb4.5						
QSPA	**South Pole Qui**	**57.25**	**180**	P	**P**	**19 41 04.2**	**+1.0**
QSPA	**South Pole Qui**	**57.25**	**180**	P	**P**	**19 41 04.2**	**+1.0**
	1.5nm,0.8s,mb4.0,baz=21,slow=3.0,SNR=11						
MAW	**Mawson**	**69.73**	**201**	P	**P**	**19 42 26.0**	**+0.2**
MAW	**Mawson**	**69.73**	**201**	P	**P**	**19 42 25.7**	**-0.1**
	0.7nm,0.4s,mb3.9,baz=140,slow=5.3,SNR=5.4						
MKAR	**Makanchi Array**	**118.73**	**309**	PKP	PKPdf	19 50 01.4	-2.6
MKAR	**Makanchi Array**	**118.73**	**309**	PKP	PKPdf	19 50 01.4	-2.6
	0.3nm,0.5s,baz=177,slow=1.1,SNR=4.5						
ZALV	**Zalesovo Beam**	**119.33**	**318**	PKP	PKPdf	19 50 02.3	-2.6
	0.6nm,0.5s,baz=130,slow=2.8,SNR=4.4						
ARCES	**ARCESS Array B**	**140.81**	**347**	PKhKP		19 50 38.1	
	1.2nm,0.7s,baz=68,slow=1.6,SNR=8.8						
JOF	**Joensuu**	**144.39**	**337**	*e*p	PKPdf	19 50 48.3	-3.3
	1.1nm,0.3s						
FIA1	**FINESS Array S**	**147.16**	**338**	*e*PKPbc	PKPbc	19 50 56.3	-2.3
FIA1				*e*		19 51 10.5	
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	PKPbc	19 50 56.7	-1.9
FINES	**FINESS Array B**	**147.16**	**338**	PKPbc	PKPbc	19 50 56.7	-1.9
	8.4nm,0.4s,baz=45,slow=4.3,SNR=220						
NB2	**NORSAR Subarra**	**151.05**	**350**	PKP	PKPdf	19 51 06.0	+3.4
	comp=Z,2.6nm,0.6s,baz=18,slow=2.6						
NOA	**NORSAR Array B**	**151.05**	**350**	PKPbc	PKPbc	19 51 06.8	-1.7
	comp=Z,3.1nm,0.7s,baz=14,slow=4.1,SNR=16						
AKASG	**Malin Array Be**	**152.71**	**319**	PKPbc	PKPbc	19 51 10.6	-2.0
	comp=Z,1.0nm,0.5s,baz=64,slow=2.3,SNR=67						
TORD	**Torodi Ar. Bea**	**160.37**	**182**	PKPab	PKPab	19 51 56.4	-0.6
	comp=Z,1.4nm,0.6s,baz=171,slow=3.7,SNR=14						

*ISCJB **26** 19:40:18.3±1.2, 202S±03×1762W±02, h300km, mb3.7/6, Error ellipse: s-maj=40.9km s-min=23.9km az=166.5*

*NEIC **26** 19:40:19.6±0.8, 2022S×176.16W, h300km, mb4.0/2, Error ellipse: s-maj=32.9km s-min=17.4km az=162.0*

*IDC **26** 19:40:19.7±13.0, 2022S×176.12W, h300km±126km, mb3.4/5, mb1 3.6/5, mb1mx3.3/15, mbtmp3.4/5, Error ellipse: s-maj=39.9km s-min=34.1km az=70.0*

ISC 26 19:40:19.8±1.2, 202S±03×1762W±02, h300km, n11, σ0971/9, mb3.7/6, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.20**	**264**	P	**P**	**19 46 47.2**	**+0.9**
CTA	**Charters Tower**	**35.20**	**264**	P	**P**	**19 46 47.2**	**+0.9**
	4.0nm,0.6s,mb4.2,baz=95,slow=10,SNR=11						
CTAO	**Charters Tower**	**35.20**	**264**	*e*P	**P**	**19 46 46.9**	**+0.6**
	5.2nm,0.6s,mb4.2						
ASAR	**Alice Springs**	**46.23**	**256**	P	**P**	**19 48 16.6**	**+0.8**
	1.9nm,0.6s,mb3.6,baz=97,slow=8.0,SNR=38						
WRAB	**Tennant Creek**	**46.30**	**261**	*e*P	**P**	**19 48 15.1**	**-1.3**
	3.5nm,0.8s,mb3.7						
WRA	**Warramunga Arr**	**46.31**	**261**	P	**P**	**19 48 16.2**	**-0.3**
	1.0nm,0.3s,mb3.7,baz=94,slow=7.2,SNR=86						
QSPA	**South Pole Qui**	**69.88**	**180**	P	**P**	**19 50 58.0**	**0.0**
	1.8nm,1.0s,mb3.8,baz=30,slow=4.5,SNR=6.2						
NVAR	**Mina Array Bea**	**79.65**	**43**	P	**P**	**19 51 54.3**	**+0.1**
NVAR	**Mina Array Bea**	**79.65**	**43**	P	**P**	**19 51 54.3**	**+0.1**
	0.3nm,0.6s,mb3.2,baz=218,slow=8.7,SNR=4.4						
MKAR	**Makanchi Array**	**112.20**	**313**	PKiKP	PKiKP	19 58 20.1	+0.4
	0.2nm,0.7s,baz=215,slow=0.2,SNR=2.2						
GERES	**GERESS Array B**	**150.32**	**347**	PKPbc	PKPbc	19 59 35.4	-0.1
	0.6nm,0.8s,baz=29,slow=2.2,SNR=5.9						

*IDC **26** 19:58:31.8±0.9, 496S×132.18E, h0km, mb4.2/7, mb1 4.3/9, mb1mx4.1/14, mbtmp4.3/9, ML4.6/2, Error ellipse: s-maj=41.9km s-min=17.6km az=77.0*

*ISCJB **26** 19:58:34.6±0.5, 521S±004×13204E±008, h33km, mb4.4/23, Error ellipse: s-maj=11.2km s-min=5.0km az=167.7*

*NEIC **26** 19:58:37.1±0.6, 5.15S×132.05E, h35km, mb4.3/12, Error ellipse: s-maj=20.1km s-min=7.6km az=74.0*

ISC 26 19:58:36.7±0.5, 517S±004×13209E±008, h35km, n45, σ1915/51, mb4.4/23, Aru Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**7.51**	**177**	*e*P	**Pn**	**20 00 26.1**	**+2.4**
	54nm,0.4s						
KAKA				*e*Sn	**Sn**	**20 01 46.5**	**-1.2**
KAKA				*e*S	**Sn**	**20 01 47.6**	**-0.1**
BATI	**Kupang**	**9.74**	**239**	Pn	**Pn**	**20 00 57.8**	**+3.4**
	6.2nm,0.3s,baz=120,slow=4.1,SNR=22						
BATI				Sn	**Sn**	**20 02 43.0**	**+0.3**
	5.3nm,0.3s,baz=136,slow=17,SNR=3.8						
FITZ	**Fitzroy Crossi**	**14.32**	**206**	*e*P	**Pn**	**20 01 55.0**	**-2.1**
	30nm,0.9s						
FITZ				*e*S	**Sn**	**20 04 24.0**	**-11**
FITZ	**Fitzroy Crossi**	**14.32**	**206**	Pn	**Pn**	**20 01 55.0**	**-2.0**
	3.7nm,0.3s,baz=34,slow=14,SNR=99						
FITZ				Sn	**Sn**	**20 04 22.2**	**-13**
	0.7nm,0.3s,baz=66,slow=19,SNR=4.8						
WRAB	**Tennant Creek**	**14.84**	**172**	*e*Pn	**Pn**	**20 02 02.4**	**-1.7**
	11nm,0.6s						
WRAB				*e*Sn	**Sn**	**20 04 39.0**	**-8.4**
WRA	**Warramunga Arr**	**14.85**	**172**	Pn	**Pn**	**20 02 02.1**	**-2.2**
	2.6nm,0.3s,baz=360,slow=13,SNR=88						
WRA				Sn	**Sn**	**20 04 38.1**	**-10**
	3.3nm,0.3s,baz=352,slow=23,SNR=9.1						
WB2	**Warramunga Arr**	**14.85**	**172**	*e*P	**Pn**	**20 02 01.3**	**-3.0**
WB2				*e*S	**Sn**	**20 04 38.2**	**-9.5**
WB2	**Warramunga Arr**	**14.85**	**172**	*e*P	**Pn**	**20 02 01.3**	**-3.0**
WB2				*e*Sn	**Sn**	**20 04 37.6**	**-10**
ASAR	**Alice Springs**	**18.48**	**175**	P	**Pn**	**20 02 50.1**	**+0.1**
	1.3nm,0.3s,baz=354,slow=13,SNR=81						
ASAR				S	**S**	**20 06 03.8**	**-15**
	0.3nm,0.3s,baz=355,slow=27,SNR=6.9						
KKM	**Kota Kinabalu**	**19.37**	**305**	*e*P	**Pn**	**20 03 00.6**	**-0.4**
MBWA	**Marble Bar**	**19.92**	**216**	*e*P	**Pn**	**20 03 07.3**	**0.0**
	9.3nm,0.5s						
KSM	**Kuching**	**22.74**	**286**	*e*P	**P**	**20 03 36.1**	**+0.1**
FORT	**Forrest**	**25.76**	**188**	*e*P	**P**	**20 04 06.2**	**+2.0**
	17nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**28.03**	**163**	*e*P	**P**	**20 04 26.6**	**+2.0**
	4.0nm,1.2s,mb3.9						
STKA	**Stephens Creek**	**28.03**	**163**	*e*P	**P**	**20 04 25.9**	**+1.2**
	17nm,1.5s,mb4.5						
STKA	**Stephens Creek**	**28.03**	**163**	P	**P**	**20 04 26.4**	**+1.8**
	1.9nm,0.8s,mb3.8,baz=348,slow=10,SNR=5.4						
KLBR	**Kellerberrin**	**29.53**	**205**	*e*P	**P**	**20 04 39.6**	**+1.6**
	85nm,1.5s,mb5.2						
NWAO	**Narrogin (SRO)**	**30.90**	**205**	P	**P**	**20 04 51.6**	**+1.5**
	6.0nm,0.8s,mb4.5,baz=60,slow=12,SNR=4.4						
KULM	**Kulim**	**33.07**	**288**	*e*P	**P**	**20 05 08.4**	**-1.0**
CHTO	**Chiang Mai**	**40.43**	**307**	*e*P	**P**	**20 06 11.4**	**-0.5**
	0.9nm,0.8s,mb3.5						
JIRN	**Jiri**	**55.01**	**309**	*e*P	**P**	**20 08 04.5**	**-0.5**
	9.4nm,0.9s,mb4.8						
GUN	**Gumba**	**55.37**	**309**	*e*P	**P**	**20 08 07.2**	**-0.4**
	16nm,0.9s,mb5.1						
KKN	**Kakani**	**55.78**	**309**	*e*P	**P**	**20 08 10.3**	**-0.2**
	7.1nm,0.8s,mb4.8						
DMN	**Daman**	**55.83**	**308**	*e*P	**P**	**20 08 10.8**	**-0.1**
	17nm,1.0s,mb5.0						
GKN	**Gorkha**	**56.38**	**309**	*e*P	**P**	**20 08 14.2**	**-0.6**
	1.6nm,0.4s,mb4.4						
KOLN	**Koldanda**	**57.08**	**308**	*e*P	**P**	**20 08 19.9**	**+0.1**
	14nm,0.8s,mb5.0						
ULN	**Ulaanbaatar**	**57.21**	**340**	*e*P	**P**	**20 08 20.3**	**0.0**
	3.1nm,1.0s,mb4.3						
DANN	**Dangsing**	**57.22**	**308**	*e*P	**P**	**20 08 19.5**	**-1.3**
	15nm,1.1s,mb5.0						
MK31	**Makanchi Array**	**67.87**	**325**	*e*P	**P**	**20 09 31.8**	**+0.3**
MKAR	**Makanchi Array**	**67.87**	**325**	P	**P**	**20 09 32.0**	**+0.5**
	1.7nm,0.3s,mb4.5,baz=112,slow=8.3,SNR=57						
TKM2	**Tokmak 2**	**69.93**	**319**	*e*P	**P**	**20 09 44.9**	**+0.5**
	3.0nm,0.9s,mb4.2						
UCH	**Uchtor**	**70.32**	**318**	*e*P	**P**	**20 09 48.6**	**+1.8**
	3.2nm,0.9s,mb4.2						
ZALV	**Zalesovo Beam**	**70.89**	**333**	P	**P**	**20 09 48.6**	**-1.4**
	1.4nm,0.8s,mb4.0,baz=97,slow=4.5,SNR=7.5						
EKS2	**Erkin-Say**	**71.00**	**318**	*e*P	**P**	**20 09 51.2**	**+0.2**
	3.8nm,1.1s,mb4.2						
KURK	**Kurchatov**	**72.07**	**328**	*e*P	**P**	**20 09 57.0**	**-0.2**
	4.1nm,1.1s,mb4.3						
VNDA	**Vanda**	**74.02**	**174**	P	**P**	**20 10 09.5**	**+1.2**
VNDA	**Vanda**	**74.02**	**174**	P	**P**	**20 10 09.7**	**+1.3**
	0.4nm,0.5s,mb3.6,baz=310,slow=7.1,SNR=5.2						
MAW	**Mawson**	**77.41**	**202**	P	**P**	**20 10 28.3**	**+0.4**
	1.8nm,0.6s,mb4.2						
MAW	**Mawson**	**77.41**	**202**	P	**P**	**20 10 29.9**	**+2.0**
	1.6nm,0.6s,mb4.1,baz=98,slow=4.2,SNR=7.0						
BVAR	**Borovoye Array**	**77.65**	**327**	P	**P**	**20 10 29.2**	**-0.2**
	2.0nm,0.8s,mb4.1,baz=94,slow=4.9,SNR=9.9						
QSPA	**South Pole Qui**	**84.80**	**180**	*e*P	**P**	**20 11 08.1**	**+1.1**
	1.3nm,0.6s,mb4.2						
TORD	**Torodi Ar. Bea**	**130.47**	**283**	PKP	PKPdf	20 17 45.6	+0.9
	0.4nm,0.7s,baz=71,slow=2.4,SNR=4.7						
CPUP	**Villa Florida**	**147.39**	**164**	PKPbc	PKPbc	20 18 19.2	+1.6
CPUP	**Villa Florida**	**147.39**	**164**	PKPbc	PKPbc	20 18 19.2	+1.6
	1.4nm,0.5s,baz=5.2,slow=1.3,SNR=5.5						
LPAZ	**La Paz**	**150.77**	**137**	PKPbc	PKPbc	20 18 28.9	+2.5
	0.9nm,0.5s,baz=188,slow=4.7,SNR=6.3						

*NEIC **26** 20:05:21.5, 3600N×2918E, h35km, MD3.1(ATH), After ATH.*

ATH 26 20:05:21.5, 3600N×2918E, h35km±5km, MD3.1/4, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSL	**Kastellorizon**	**0.36**	**65**	*e*PB	Pn	20 05 30.5	+0.3
AKAS	**Kas**	**0.42**	**56**	*i* P	Pn	20 05 32.2	+1.2
AKAS				*i* S	Sn	20 05 39.8	+2.3
ARG	**Arkhangelos**	**0.88**	**284**	*e*PN	Pn	20 05 38.7	+1.3
KARP	**Karpathos**	**1.70**	**255**	*e*PB	Pn	20 05 51.1	+2.4
KARP				*e*SN	Sn	20 06 11.7	+2.5
SMG	**Samos**	**2.54**	**313**	*e*PN	Pn	20 06 02.4	+2.2

MAN 26 20:17:42, 1790N×12046E, h7km, mb3.9, ML2.7, MS2.4, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ABRA	**Dolores**	**0.35**	**136**	*e*P	Pg	20 17 50.1	+1.3
ABRA				*e*S	Sg	20 17 59.1	+5.8
APYP	**Conner**	**0.75**	**93**	*e*P	Pg	20 17 56.4	0.0
APYP				*e*S	Sg	20 18 10.5	+4.4
CVP	**Callao Caves**	**1.31**	**98**	*e*P	Pn	20 18 06.1	-0.6
CAUP	**Cauayan**	**1.61**	**126**	*e*P	Pn	20 18 11.5	+0.7
PALP	**Palanan**	**2.05**	**114**	*e*P	Pn	20 18 17.9	+1.0
PALP				*e*S	Sn	20 18 48.4	+5.6
BALP	**Baler**	**2.40**	**153**	*e*P	Pn	20 18 20.7	-1.0

*NEIC **26** 20:20:52.4±0.5, 4845N×15537E, h10km, mb4.4/7, Error ellipse: s-maj=15.3km s-min=9.4km az=127.0*

*BJI **26** 20:20:53.3, 4791N×15483E, h10km, mB4.5, mb4.3, Ms3.9, Msz3.7*

*ISCJB **26** 20:20:54.3±2.0, 4859N±006×1554E±01, h33km±14km, mb4.2/34, MS3.5/4, Error ellipse: s-maj=14.3km s-min=6.6km az=38.4*

*MOS **26** 20:20:54.8±1.2, 4858N×15546E, h37km, mb4.2/17, Error ellipse: s-maj=15.1km s-min=8.5km az=88.9*

*IDC **26** 20:20:58.8±6.0, 4846N×15531E, h58km±54km, mb3.6/17, mb1 3.7/18, mb1mx3.7/24, mbtmp3.6/18, ML3.3/1, MS3.3/1, Ms1 3.3/1, ms1mx2.7/23, Error ellipse: s-maj=21.2km s-min=16.4km az=121.0*

ISC 26 20:20:56.2±2.1, 4862N±006×1554E±01, h31km±15km, n65, σ1902/68, mb4.2/34, MS3.5/4, 3C-2D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SKR	**Severo-Kuril's**	**2.12**	**13**	*e*PN	**Pn**	**20 21 28.9**	**-0.6**
SKR				*e*S	**Sn**	**20 21 54.4**	**-0.3**
SKR				pmax	pmax		
	comp=N,90nm,0.4s						
SKR				pmax	pmax		
	comp=Z,210nm,0.4s						
SKR				pmax	pmax		
	comp=E,90nm,0.3s						
SKR				smax			
	comp=E,330nm,0.6s						
SKR				smax			
	comp=N,190nm,0.5s						
PET	**Petropavlovsk**	**4.87**	**24**	*e*Pn	**Pn**	**20 22 07.3**	**0.0**
PET				*e*Sn	**Sn**	**20 23 01.0**	**-1.6**
YSS	**Yuzh-Sakhalins**	**8.67**	**264**	*e*PN	**Pn**	**20 23 02.9**	**+3.5**
ERM	**Erimo**	**10.84**	**237**	*e*PN	**Pn**	**20 23 31.0**	**+1.8**
MAJO	**Matsushiro**	**17.43**	**233**	P	**Pn**	**20 24 51.6**	**-5.3**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s						
MAJO	**Matsushiro**	**17.43**	**233**	Pn	**Pn**	**20 24 51.6**	**-5.4**
	comp=Z,6.4nm,0.9s						
MJAR	**Matsushiro Arr**	**17.43**	**233**	P	**Pn**	**20 24 56.0**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=27,slow=12,SNR=4.7						
YAK	**Yakutsk**	**19.67**	**323**	*c i*P	**Pn**	**20 25 23.1**	**-0.8**
YAK				pmax	pmax		
	comp=Z,4.0nm,0.5s						
BILL	**Bilibino**	**20.23**	**12**	*e*P	**P**	**20 25 28.5**	**+0.1**
BILL				pmax	pmax		
	comp=Z,8.0nm,2.5s						
KSRS	**Korea Array**	**22.84**	**251**	P	**P**	**20 25 56.4**	**-0.2**
	comp=Z,1.8nm,0.5s,mb3.8,baz=50,slow=9.8,SNR=10						
TIXI	**Tiksi**	**26.15**	**341**	*e*P	**P**	**20 26 25.4**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb3.8						
TIXI	**Tiksi**	**26.15**	**341**	*e*P	**P**	**20 26 26.1**	**-1.1**
	comp=Z,1.8nm,0.6s,mb3.8						
HHC	**Hu-ho-hao-te**	**31.72**	**272**	*e*P	**P**	**20 27 16.5**	**-0.5**
HHC				AP	pP	20 27 20.8	-5.2
HHC				XP	sP	20 27 23.5	-6.2
HHC				PP	PP	20 28 21.3	-7.5
HHC				PCP	PcP	20 30 09.5	+1.5
HHC				S	**S**	**20 32 25.8**	**

NVAR	**Mina Array Bea**	**60.23**	**65**	P	**P**	**20 31 01.4**	**+0.2**
	comp=Z,0.3nm,0.7s,mb3.5,baz=296,slow=8.7,SNR=2.6						
JOF	**Joensuu**	**60.33**	**334**	*e*p	**P**	**20 31 01.2**	**-0.3**
	comp=Z,0.5nm,0.3s,mb4.0						
JOF	**Joensuu**	**60.33**	**334**	*e*P	**P**	**20 31 01.2**	**-0.3**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s,mb4.3						
FINES	**FINESS Array B**	**62.99**	**335**	P	**P**	**20 31 19.1**	**-0.4**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**62.99**	**335**	P	**P**	**20 31 19.1**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.9,baz=35,slow=6.9,SNR=11						
ULM	**Lac du Bonnet**	**64.11**	**43**	P	**P**	**20 31 29.1**	**+2.1**
	comp=Z,3.2nm,0.9s,mb4.3,baz=275,slow=11,SNR=3.2						
NOA	**NORSAR Array B**	**66.94**	**342**	P	**P**	**20 31 45.4**	**+0.3**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA	**NORSAR Array B**	**66.94**	**342**	P	**P**	**20 31 45.4**	**+0.3**
	comp=Z,0.7nm,0.8s,mb3.8,baz=0.4,slow=4.5,SNR=3.3						
WRA	**Warramunga Arr**	**70.79**	**201**	P	**P**	**20 32 08.1**	**-1.4**
	comp=Z,0.3nm,0.6s,mb3.4,baz=16,slow=5.7,SNR=4.6						
AKASG	**Malin Array Be**	**70.83**	**327**	P	**P**	**20 32 09.2**	**-0.3**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**70.83**	**327**	P	**P**	**20 32 09.2**	**-0.2**
	comp=Z,1.2nm,0.5s,mb4.1,baz=33,slow=6.0,SNR=11						
ASAR	**Alice Springs**	**74.48**	**200**	P	**P**	**20 32 30.6**	**-0.7**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
ASAR	**Alice Springs**	**74.48**	**200**	P	**P**	**20 32 30.6**	**-0.8**
	comp=Z,0.5nm,0.6s,mb3.6,baz=8.2,slow=6.0,SNR=6.7						
EKA	**Eskdalemuir Ar**	**74.87**	**347**	P	**P**	**20 32 33.7**	**+0.4**
EKA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
EKA	**Eskdalemuir Ar**	**74.87**	**347**	P	**P**	**20 32 33.6**	**+0.3**
	comp=Z,0.8nm,0.4s,mb4.0,baz=16,slow=4.8,SNR=11						
CLL	**Collm**	**75.38**	**337**	||*i*P	**P**	**20 32 37.2**	**+0.9**
	comp=Z,5.0nm,1.2s,mb4.3						
MORC	**Moravsky Berou**	**75.48**	**333**	*e*P	**P**	**20 32 38.4**	**+1.5**
MORC				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.2						
MORC	**Moravsky Berou**	**75.48**	**333**	*e*P	**P**	**20 32 38.4**	**+1.4**
	comp=Z,2.9nm,0.9s,mb4.2						
MLR	**Muntele Rosu**	**76.39**	**326**	P	**P**	**20 32 44.0**	**+1.8**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MLR	**Muntele Rosu**	**76.39**	**326**	P	**P**	**20 32 44.0**	**+1.7**
	comp=Z,2.1nm,0.5s,mb4.3,baz=293,slow=6.8,SNR=5.1						
MALT	**Malatya**	**76.98**	**314**	*e*P	**P**	**20 32 47.7**	**+2.0**
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.3						
MALT	**Malatya**	**76.98**	**314**	*e*P	**P**	**20 32 47.7**	**+2.0**
	comp=Z,3.1nm,0.8s,mb4.3						
GERES	**GERESS Array B**	**77.42**	**335**	P	**P**	**20 32 49.4**	**+1.4**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
GERES	**GERESS Array B**	**77.42**	**335**	P	**P**	**20 32 49.4**	**+1.4**
	comp=Z,0.5nm,0.5s,mb3.7,baz=28,slow=6.0,SNR=8.1						
STKA	**Stephens Creek**	**81.08**	**192**	*e*P	**P**	**20 33 06.2**	**-1.7**
	comp=Z,3.9nm,0.9s,mb4.3						
VNDA	**Vanda**	**125.93**	**178**	PKP	PKPdf	20 39 50.1	-3.2
	comp=Z,0.4nm,0.6s,baz=319,slow=3.6,SNR=6.5						

MAN 26 20:27:10, 594N×12507E, h12km, mb4.1, ML2.9, MS2.6, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**1.55**	**50**	*e*P	Pn	20 27 36.8	-0.6
MATI				*e*S	Sn	20 27 58.7	+1.3
BUKP	**Musuan**	**1.92**	**360**	*e*P	Pn	20 27 42.8	+0.2

*ISCJB **26** 20:37:04.3±0.8, 209N±0.1×1750W±0.1, h10km, mb3.9/8, Error ellipse: s-maj=22.7km s-min=17.1km az=136.3*
*IDC **26** 20:37:05.1±1.1, 2067N×1749.3W, h0km, mb3.8/5, mb1 4.1/5, mb1mx3.8/18, mbtmp3.8/5, Error ellipse: s-maj=65.3km s-min=22.7km az=138.0*
*NEIC **26** 20:37:06.3±0.7, 2081N×1749.3W, h10km, mb4.2/3, Error ellipse: s-maj=20.9km s-min=15.7km az=140.0*

ISC 26 20:37:06.6±0.8, 208N±01×1750W±01, h10km, n11, σ0§94/11, mb3.9/8, Hawaiian Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIDW	**Midway**	**7.68**	**344**	Pn	**Pn**	**20 38 58.0**	**-0.4**
MIDW				*e*Sn	**Sn**	**20 40 18.3**	**-7.2**
NVAR	**Mina Array Bea**	**51.49**	**57**	P	**P**	**20 46 13.7**	**+1.2**
	1.5nm,0.7s,mb4.0,baz=241,slow=10,SNR=15						
TPNV	**Topopah Spring**	**53.07**	**59**	*e*P	**P**	**20 46 24.4**	**+0.2**
	3.3nm,0.9s,mb4.3						
NEW	**Newport**	**53.44**	**45**	P	**P**	**20 46 24.6**	**-2.1**
	2.6nm,0.9s,mb4.2						
HWUT	**Hardware Ranch**	**56.77**	**53**	*e*P	**P**	**20 46 50.3**	**-0.6**
	2.8nm,0.9s,mb4.3						
YKA	**Yellowknife Ar**	**58.14**	**28**	P	**P**	**20 47 00.4**	**+0.2**
	0.5nm,0.8s,mb3.6,baz=261,slow=7.2,SNR=6.1						
PV01	**Paradox Valley**	**59.15**	**57**	*e*P	**P**	**20 47 08.1**	**+0.4**
WRA	**Warramunga Arr**	**64.05**	**234**	P	**P**	**20 47 40.4**	**-0.6**
	1.0nm,0.8s,mb3.9,baz=49,slow=7.4,SNR=2.6						
ASAR	**Alice Springs**	**66.60**	**231**	P	**P**	**20 47 57.4**	**-0.1**
	0.3nm,0.5s,mb3.6,baz=56,slow=6.2,SNR=6.0						
ZALV	**Zalesovo Beam**	**79.23**	**324**	P	**P**	**20 49 13.4**	**+1.6**
	0.4nm,0.5s,mb3.6,baz=40,slow=6.8,SNR=3.9						
TORD	**Torodi Ar. Bea**	**146.08**	**6**	PKPbc	PKPbc	20 56 47.3	-0.4
	0.6nm,0.6s,baz=340,slow=3.0,SNR=5.3						

MAN 26 20:38:04, 1105N×12468E, h34km, mb3.5, ML2.2, MS1.7, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.07**	**267**	*e*P	Pb	20 38 10.6	+0.9
PLP	**Palo**	**0.32**	**70**	*e*P	Pb	20 38 13.7	+1.6
CNP	**Cataraman**	**1.45**	**360**	*e*P	Pn	20 38 28.2	+0.4

WEL 26 20:38:29.8±0.3, 3898S×17766E, h36km±3km, ML3.5/6, Error ellipse: s-maj=3.6km s-min=1.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KNZ	**Kokohu**	**0.04**	**160**	PN	Pn	20 38 35.3	-0.5
KNZ				SN	Sn	20 38 40.3	+0.4
MWZ	**Matawai**	**0.65**	**351**	PN	Pn	20 38 41.4	-1.0
MWZ				SN	Sn	20 38 51.0	-0.5
URZ	**Urewera**	**0.84**	**329**	PN	Pn	20 38 43.8	-1.3
URZ				SN	Sn	20 38 54.7	-1.4
BKZ	**Black Stump Fm**	**0.92**	**258**	PN	Pn	20 38 45.8	-0.4
BKZ				SN	Sn	20 38 58.8	+0.5
PUZ	**Puketiti**	**1.02**	**28**	PN	Pn	20 38 47.6	0.0
TAZ	**Tarawera**	**1.17**	**309**	PN	Pn	20 38 50.3	+0.7
PXZ	**Pawanui**	**1.22**	**210**	PN	Pn	20 38 49.9	-0.4
WPHZ	**Waipukurau**	**1.43**	**221**	PN	Pn	20 38 52.7	-0.5
MOVZ	**Moawhango**	**1.54**	**253**	PN	Pn	20 38 55.4	+0.7
TSZ	**Takapari Road**	**1.70**	**230**	PN	Pn	20 38 55.8	-1.0
MTVZ	**Mangateitei**	**1.75**	**256**	PN	Pn	20 38 58.5	+1.0
PKVZ	**Pokaka**	**1.82**	**259**	PN	Pn	20 39 01.4	+2.8
MRZ	**Mangatainoka R**	**2.32**	**223**	PN	Pn	20 39 03.8	-1.6
HOWZ	**Holdsworth Sta**	**2.52**	**220**	PN	Pn	20 39 06.5	-1.8
MTW	**Mount Morrison**	**2.73**	**217**	PN	Pn	20 39 08.8	-2.3
KIW	**Kapiti Island**	**2.83**	**227**	PN	Pn	20 39 10.6	-1.8
CAW	**Cannon Point**	**2.91**	**222**	PN	Pn	20 39 11.2	-2.3
TUWZ	**Tuamarina**	**3.75**	**228**	PN	Pn	20 39 22.2	-2.9

MEX 26 20:42:27.6±0.6, 1496N×9248W, h20km±142km, MD4.1, Near coast of Chiapas

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**1.35**	**14**	*i*P	Pn	20 42 48.5	-2.8
CCIG				*i*S	Sn	20 43 04.4	-4.3
SCX	**San Cristobal**	**1.77**	**355**	*i*P	Pn	20 42 54.0	-3.1
SCX				*i*S	Sn	20 43 17.0	-2.0
VHO	**Vista Hermosa**	**4.60**	**298**	*i*P	Pn	20 43 35.0	-1.0
VHO				*i*S	Sn	20 44 26.6	-2.3
UTMO	**Huajuapan**	**5.85**	**300**	*i*P	Pn	20 43 49.8	-3.4
UTMO				*i*S	Sn	20 44 55.8	-4.0

IDC 26 20:55:27.1±2.6, 372S×13087E, h0km, mb3.9/3, mb1 4.0/4, mb1mx3.7/13, mbtmp3.9/4, ML3.8/1, Error ellipse: s-maj=223.7km s-min=25.9km az=69.0, Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**16.48**	**168**	Pn	Pn	20 59 19.4	-0.4
	0.4nm,0.3s,baz=350,slow=12,SNR=33						
WRA				Sn	Sn	21 02 09.2	-14
	0.2nm,0.3s,baz=358,slow=22,SNR=5.8						
ASAR	**Alice Springs**	**20.05**	**172**	P	P	21 00 01.8	-0.2
	1.7nm,0.3s,baz=351,slow=11,SNR=64						
STKA	**Stephens Creek**	**29.77**	**161**	P	P	21 01 35.9	+0.3
	4.4nm,1.1s,baz=355,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**66.00**	**326**	P	P	21 06 15.5	+0.1
	0.3nm,0.4s,baz=111,slow=8.1,SNR=4.9						

NEIC 26 21:02:49.0, 5634N×16739W, h7km, ML3.5(AEIC), After AEIC., Pribilof Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPIA	**Saint Paul Isl**	**1.78**	**299**	P	Pn	21 03 19.9	-0.2
SPIA				S	Sn	21 03 44.3	+1.3
AKGG	**Akutan Green G**	**2.29**	**159**	P	Pn	21 03 27.8	+0.6
AKLV	**Akutan Long Va**	**2.33**	**159**	P	Pn	21 03 28.3	+0.6
AKUT	**Akutan**	**2.40**	**157**	*e*P	Pn	21 03 35.3	+6.7
UNV	**Unalaska Valle**	**2.55**	**168**	*e*Pn	Pn	21 03 32.8	+2.1
UNV				P		21 03 32.9	
NIKO	**Nikolski**	**3.48**	**195**	*e*Pn	Pn	21 03 45.0	+1.5
SDPT	**Sand Point**	**4.03**	**101**	*e*Pn	Pn	21 03 50.1	-0.9
CHGN	**Chignik**	**5.00**	**87**	*e*P	Pn	21 04 05.4	+1.1
ADK	**Adak**	**7.05**	**235**	P	Pn	21 04 34.4	+1.9
AMKA	**Amchitka**	**9.30**	**243**	*e*Pn	Pn	21 05 04.5	+1.2

*ISCJB **26** 21:04:23.7±2.1, 1007S±007×786W±02, h46km±17km, mb3.9/5, Error ellipse: s-maj=32.2km s-min=8.5km az=163.0*
*NEIC **26** 21:04:26.2±2.5, 1016S×7854W, h56km±23km, mb3.9/4, Error ellipse: s-maj=27.8km s-min=13.9km az=83.0*
*IDC **26** 21:04:26.0±4.8, 1006S×7843W, h55km±52km, mb3.5/4, mb1 3.7/6, mb1mx3.5/20, mbtmp3.5/6, ML3.8/2, MS2.8/2, Ms1 2.8/2, ms1mx2.4/18, Error ellipse: s-maj=71.8km s-min=30.3km az=37.0*

ISC 26 21:04:27.8±1.6, 1016S±009×785W±02, h67km±15km, n18, σ0§92/20, mb3.7/5, Near coast of Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NNA	**Nana**	**2.42**	**139**	*e*Pn	**Pn**	**21 05 02.6**	**-2.4**
NNA				P		21 05 03.3	
NNA				*e*Sn	**Sn**	**21 05 33.3**	**-0.2**
NNA				S	**Sn**	**21 05 33.8**	**+0.3**
NNA	**Nana**	**2.42**	**139**	P	**Pn**	**21 05 03.3**	**-1.7**
	25nm,0.3s,baz=321,slow=11,SNR=69						
NNA				S	**Sn**	**21 05 33.8**	**+0.3**
	98nm,0.3s,baz=307,slow=21,SNR=7.0						
ATAH	**Atahualpa**	**3.13**	**1**	P	**Pn**	**21 05 15.3**	**+0.5**
	28nm,0.3s,baz=184,slow=3.7,SNR=104						
ATAH				S	**Sn**	**21 05 45.4**	**-5.8**
	15nm,0.3s,baz=158,slow=23,SNR=6.4						
LPAZ	**La Paz**	**11.76**	**122**	Pn	**Pn**	**21 07 13.6**	**+0.9**
	0.9nm,0.7s						
LPAZ				LR	LR	21 12 10.6	
LPAZ	**La Paz**	**11.76**	**122**	P	**Pn**	**21 07 16.6**	**+3.9**
	0.2nm,0.3s,baz=21,slow=0.9,SNR=4.5						
LPAZ				LR	LR	21 12 10.6	
	comp=Z,22nm,20.3s,baz=278,slow=39						
LVC	**Limon Verde**	**15.39**	**145**	P	**Pn**	**21 08 05.5**	**+4.5**
	4.4nm,0.6s						
ROSC	**El Rosal**	**15.47**	**16**	LR	LR	21 14 54.8	
	comp=Z,76nm,19.6s,baz=330,slow=41						
SIV	**San Ignacio**	**17.90**	**111**	P	**Pn**	**21 08 32.5**	**+0.3**
	0.1nm,0.3s,baz=264,slow=11,SNR=6.6						
LCO	**Las Campanas**	**20.12**	**160**	P	**P**	**21 08 57.2**	**+1.0**
	9.3nm,1.1s						
SDV	**Santo Domingo**	**20.46**	**23**	P	**P**	**21 08 59.5**	**-0.5**
	3.9nm,0.9s						
SDDR	**Presa de Saban**	**29.80**	**14**	P	**P**	**21 10 29.7**	**+1.3**
NVAR	**Mina Array Bea**	**60.97**	**325**	P	**P**	**21 14 34.5**	**+0.4**
	0.5nm,0.6s,mb3.7,baz=119,slow=10,SNR=3.5						
NVAR				pP	pP	21 14 46.4	-5.4
	0.9nm,0.8s,baz=142,slow=5.6,SNR=3.5						
YKA	**Yellowknife Ar**	**77.64**	**344**	P	**P**	**21 16 15.2**	**-1.3**
YKA	**Yellowknife Ar**	**77.64**	**344**	P	**P**	**21 16 15.2**	**-1.3**
	0.3nm,0.5s,mb3.3,baz=139,slow=5.9,SNR=7.3						
QSPA	**South Pole Qui**	**79.96**	**180**	*e*P	**P**	**21 16 29.5**	**+0.4**
	1.8nm,0.6s,mb4.1						
TORD	**Torodi Ar. Bea**	**82.85**	**75**	P	**P**	**21 16 44.9**	**-0.7**
	1.1nm,1.1s,mb3.6,baz=258,slow=5.6,SNR=6.6						
INK	**Inuvik**	**87.31**	**342**	P	**P**	**21 17 06.2**	**-0.5**
	1.5nm,1.0s,mb3.9,baz=161,slow=11,SNR=3.7						
WRA	**Warramunga Arr**	**135.99**	**227**	PKP	PKPdf	21 23 41.2	-0.9
	0.2nm,0.5s,baz=118,slow=2.1,SNR=5.9						

*ATH **26** 21:05:06.2, 3828N×2020E, h35km±3km, MD3.2/4*
*ISCJB **26** 21:05:07.9±0.7, 3853N±003×2052E±008, h10km±6km, Error ellipse: s-maj=9.9km s-min=4.4km az=177.1*
*CSEM **26** 21:05:07.9±0.2, 3853N×2043E, h2km, ML2.6, Error ellipse: s-maj=6.6km s-min=3.3km az=78.0*
*THE **26** 21:05:08.4, 3853N×2049E, h3km, ML2.6*

ISC 26 21:05:08.2±1.0, 3852N±003×2046E±008, h5km±10km, n10, σ1§12/18, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.24**	**39**	*e*Pg	**Pg**	**21 05 12.1**	**-0.7**
LKD				*e*Sg	**Sg**	**21 05 15.8**	**-0.2**
VLS	**Valsamata**	**0.36**	**164**	*e*Pg	**Pg**	**21 05 15.0**	**-0.1**
VLS				*e*Sg	**Sg**	**21 05 21.3**	**+1.5**
VLS	**Valsamata**	**0.36**	**164**	*e*PB	**Pg**	**21 05 15.0**	**-0.1**
VLS				*e*SB	**Sg**	**21 05 21.4**	**+1.6**
KFL	**Anninata**	**0.48**	**148**	*e*Pg	**Pg**	**21 05 17.2**	**-0.3**
KFL				*e*Sg	**Sg**	**21 05 24.0**	**+0.2**
RLS	**Riolos of Patr**	**0.92**	**120**	*e*PN	**Pn**	**21 05 25.6**	**-2.1**
IGT	**Igoumenitsa**	**1.01**	**354**	*e*Pg	**Pg**	**21 05 27.1**	**-0.6**
IGT				*e*Sg	**Sg**	**21 05 42.9**	**+2.0**
KEK	**Kerkira**	**1.30**	**337**	*e*PN	**Pn**	**21 05 32.2**	**-0.7**
AGG	**Agios Georgios**	**1.54**	**71**	*e*Pg	**Pg**	**21 05 35.9**	**-1.9**
AGG				*e*Sg	**Sg**	**21 05 58.3**	**+0.5**
AGG	**Agios Georgios**	**1.54**	**71**	*e*Pg	**Pg**	**21 05 35.8**	**-2.0**
AGG				*e*Sg	**Sg**	**21 05 58.3**	**+0.5**
THL	**Klokotos Trika**	**1.60**	**49**	*e*PN	**Pn**	**21 05 37.8**	**+0.8**
THL				*e*SN	**Sn**	**21 06 02.0**	**+4.0**

IDC 26 21:11:48.0±1.9, 052N×12651E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/15, mbtmp3.3/3, Error ellipse: s-maj=168.4km s-min=24.0km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**21.74**	**160**	P	P	21 16 40.4	-0.8
	0.4nm,0.5s,baz=338,slow=10,SNR=9.2						
ASAR	**Alice Springs**	**25.10**	**164**	P	P	21 17 15.3	+0.8
	0.3nm,0.5s,baz=344,slow=12,SNR=8.5						
MKAR	**Makanchi Array**	**60.06**	**326**	P	P	21 21 56.9	0.0
	0.5nm,0.4s,baz=120,slow=7.8,SNR=15						

RSPR 26 21:25:10.9, 1955N×6992W, h15km±31km, MD3.6/6, MD3.6/6, 4C-1D, Dominican Republic region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR08	**Loma La Naviza**	**0.60**	**190**	*e*P	Pg	21 25 20.5	-2.2
DR12	**Loma Pena Alta**	**0.91**	**146**	*e*P	Pb	21 25 25.4	-3.1
DR12				*e*S	Sb	21 25 38.5	-1.9
SDDR	**Presa de Saban**	**1.41**	**247**	*e*P	Pn	21 25 33.6	-2.5
SDDR	**Presa de Saban**	**1.41**	**247**	*e*S	Sn	21 25 51.4	-3.1
LSP	**Las Mesas**	**3.01**	**117**	*e*S	Sn	21 26 31.6	-2.3
AOPR	**Arecibo Observ**	**3.23**	**111**	*e*S	Sn	21 26 36.7	-2.5
CELP	**Cerrillos**	**3.49**	**114**	*e*P	Pn	21 26 03.3	-1.4
CELP				*e*S	Sn	21 26 43.3	-2.4
CBYP	**Canovanas**	**4.05**	**108**	*e*S	Sn	21 26 57.0	-2.5
MTP	**Monte Pirata**	**4.38**	**109**	*e*P	Pn	21 26 14.3	-2.7
MTP	**Monte Pirata**	**4.38**	**109**	*e*S	Sn	21 27 06.3	-1.4

*NEIC **26** 21:36:15.8, 1631N×9826W, h5km, MD3.9(MEX), After MEX.*

MEX 26 21:36:15.7±1.4, 1631N×9828W, h5km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PNIG	**Pinotepa**	**0.17**	**60**	*i*P	Pg	21 36 18.1	-1.0
PNIG				*i*S	Sg	21 36 20.8	-0.7
UTMO	**Huajuapan**	**1.58**	**17**	*i*P	Pn	21 36 40.7	-3.7
UTMO				*i*S	Sn	21 37 01.0	-4.3
ACX	**Acapulco**	**1.66**	**290**	*i*P	Pn	21 36 58.9	+13
ACX				*i*S	Sn	21 37 06.4	-0.9
ACX	**Acapulco**	**1.66**	**290**	*i*S	Sn	21 37 06.4	-0.9
VHO	**Vista Hermosa**	**1.67**	**63**	*i*P	Pn	21 36 42.4	-3.2
VHO				*i*S	Sn	21 37 03.2	-4.2
OXX	**Oaxaca**	**1.68**	**62**	*i*P	Pn	21 36 42.5	-3.3
OXX				*i*S	Sn	21 37 04.5	-3.3
CAIG	**El Cayaco**	**2.04**	**292**	*i*P	Pn	21 36 43.5	-7.2
CAIG				*i*S	Sn	21 37 13.8	-2.8
CAIG	**El Cayaco**	**2.04**	**292**	*i*P	Pn	21 36 46.4	-4.3
CAIG				*i*S	Sn	21 37 13.8	-2.8
MEIG	**Mezcala**	**2.06**	**322**	*i*P	Pn	21 36 50.0	-0.9
HUIG	**Huatulco**	**2.16**	**104**	*i*P	Pn	21 36 53.4	+1.0
HUIG				*i*S	Sn	21 37 15.0	-4.5
HUIG	**Huatulco**	**2.16**	**104**	*i*P	Pn	21 36 52.7	+0.3
HUIG				*i*S	Sn	21 37 15.0	-4.5
PPM	**Popocatepetl**	**2.77**	**353**	*i*P	Pn	21 37 01.2	+0.5
PPM				*i*S	Sn	21 37 34.6	+0.1
PPM	**Popocatepetl**	**2.77**	**353**	*e*P	Pn	21 37 01.0	+0.3
PPM				*i*P		21 37 01.2	
PPM				*i*S	Sn	21 37 34.6	+0.1
CMIG	**Matias Romero**	**3.35**	**76**	*i*P	Pn	21 37 14.2	+5.5
CMIG				*i*S	Sn	21 37 43.3	-5.6
CMIG	**Matias Romero**	**3.35**	**76**	*i*P	Pn	21 37 10.0	+1.2
CMIG				*i*S	Sn	21 37 43.3	-5.6

*NIED **26** 21:52:00, 4740N×15290E, h38km, Mw3.9 Best double couple: M0 7.77000×10^14 NP1:φ±308.00000°, δ90.00000°, λ31.00000°. NP2:φ±218.00000°, δ59.00000°, λ180.00000°.*
*ISCJB **26** 21:52:24.3±0.9, 4702N±007×1528E±01, h78km±8km, mb3.8/15, Error ellipse: s-maj=16.3km s-min=6.0km az=135.3*
*MOS **26** 21:52:26.8±1.5, 4716N×15279E, h96km, mb3.8/8, Error ellipse: s-maj=14.7km s-min=8.1km az=79.3*
*NEIC **26** 21:52:30.9±1.4, 4724N×15264E, h118km±13km, mb4.1/6, Error ellipse: s-maj=14.4km s-min=8.3km az=128.0*
*IDC **26** 21:52:30.9±5.6, 4717N×15249E, h117km±50km, mb3.4/11, mb1 3.6/12, mb1mx3.5/20, mbtmp3.4/12, MS3.0/2, Ms1 3.0/2, ms1mx2.6/17, Error ellipse: s-maj=20.5km s-min=17.6km az=105.0*

ISC 26 21:52:26.2±0.7, 4707N±007×1528E±01, h76km±6km, n72, σ1§23/71, mb3.8/15, 6C-3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.90**	**244**	*e*PN	**Pn**	**21 53 24.0**	**+0.3**
KUR				*e*S	**Sn**	**21 54 10.0**	**+1.7**
KUR				pmax	pmax		
	comp=Z,130nm,0.7s						
KUR				smax			
	comp=N,540nm,0.8s						
KUR				smax			
	comp=E,250nm,0.8s						
SKR	**Severo-Kuril's**	**4.22**	**30**	*e*PN	**Pn**	**21 53 27.9**	**-0.1**
SKR				*e*S	**Sn**	**21 54 14.5**	**-1.4**
SKR				pmax	pmax		
	comp=Z,50nm,0.4s						
SKR				pmax	pmax		
	comp=N,60nm,0.3s						
SKR				smax			
	comp=N,120nm,0.4s						
SKR				smax			
	comp=E,210nm,0.4s						
NEM2	**Nemuro 2**	**6.22**	**236**	P	**Pn**	**21 53 53.3**	**-2.1**
NEM2				*e*S	**Sn**	**21 55 01.3**	**-3.7**
JRA	**Rausu**	**6.25**	**243**	P	**Pn**	**21 53 56.6**	**+0.8**
JNK	**Nakash**	**6.69**	**242**	P	**Pn**	**21 54 01.5**	**-0.2**
JNK				*e*S	**Sn**	**21 55 15.7**	**-0.7**
YSS	**Yuzh-Sakhalins**	**6.88**	**273**	*e*PN	**Pn**	**21 54 06.5**	**+2.1**
YSS	**Yuzh-Sakhalins**	**6.88**	**273**	*e*Pn	**Pn**	**21 54 06.1**	**+1.7**
JTKR	**Abashiri--Toko**	**6.99**	**247**	P	**Pn**	**21 54 06.9**	**+1.1**
PET	**Petropavlovsk**	**7.04**	**30**	*e*PN	**Pn**	**21 54 15.7**	**+9.3**
JAK	**Akkeshi**	**7.05**	**238**	P	**Pn**	**21 54 04.3**	**-2.4**
JMP	**Maruseppu**	**7.32**	**249**	P	**Pn**	**21 54 11.7**	**+1.4**
JAR	**Ashorobuto**	**7.42**	**243**	P	**Pn**	**21 54 11.5**	**-0.3**
JAR				*e*S	**Sn**	**21 55 33.7**	**-0.7**
JOB	**Onbets**	**7.61**	**240**	P	**Pn**	**21 54 13.7**	**-0.6**
JKK2	**Kamakawa 2**	**7.77**	**249**	P	**Pn**	**21 54 18.2**	**+1.7**
JCH	**Churui**	**8.06**	**240**	P	**Pn**	**21 54 18.8**	**-1.7**
JCH				*e*S	**Sn**	**21 55 44.5**	**-5.5**
ERM	**Erimo**	**8.55**	**237**	*e*PN	**Pn**	**21 54 29.3**	**+2.1**
JNBK	**Urakawa-nobuka**	**8.62**	**240**	P	**Pn**	**21 54 25.7**	**-2.4**
JYM2	**Yakumo 2**	**10.16**	**245**	P	**Pn**	**21 54 47.4**	**-1.8**
JTM	**Tenmabayashi**	**10.54**	**238**	P	**Pn**	**21 54 49.7**	**-4.6**
MA2	**Magadan**	**12.59**	**355**	*e*PN	**Pn**	**21 55 23.3**	**+1.3**
MA2				pmax	pmax		
	comp=Z,20nm,0.6s						
MA2	**Magadan**	**12.59**	**355**	*e*Pn	**Pn**	**21 55 23.0**	**+1.1**
	comp=Z,14nm,0.5s						
MAJO	**Matsushiro**	**15.12**	**231**	*e*P	**Pn**	**21 55 59.7**	**+4.3**
MAJO				pmax	p

RES	Resolute Bay	50.59	19	eP	P	22 01 15.9	-0.6
	comp=Z,57nm,0.9s						
YKA	Yellowknife Ar	50.79	37	P	P	22 01 19.1	+1.0
YKA						22 02 33.7	
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	50.79	37	P	P	22 01 19.1	+1.0
YKA				PcP	PcP	22 02 33.7	-0.2
YKA	Yellowknife Ar	50.79	37	P	P	22 01 19.1	+1.0
	comp=Z,0.5nm,0.6s,mb3.7,baz=296,slow=6.9,SNR=7.0						
YKA				PcP	PcP	22 02 33.7	-0.2
	comp=Z,0.2nm,0.4s,baz=301,slow=3.7,SNR=4.4						
JOF	Joensuu	60.96	333	ep	P	22 02 30.8	+0.1
	comp=Z,0.3nm,0.3s,mb3.8						
NVAR	Mina Array Bea	62.46	62	P	P	22 02 42.8	+1.6
	comp=Z,0.8nm,0.7s,mb3.9,baz=285,slow=7.0,SNR=8.5						
FINES	FINESS Array B	63.66	335	P	P	22 02 47.6	-1.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
FINES	FINESS Array B	63.66	335	P	P	22 02 47.6	-1.2
	comp=Z,1.2nm,0.3s,mb4.2,baz=39,slow=6.8,SNR=42						
NB2	NORSAR Subarra	67.86	341	P	P	22 03 15.5	-0.3
	comp=Z,0.6nm,0.5s,mb3.7,baz=25,slow=6.5						
NOA	NORSAR Array B	67.86	341	P	P	22 03 15.4	-0.4
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	NORSAR Array B	67.86	341	P	P	22 03 15.4	-0.4
	comp=Z,1.2nm,0.7s,mb3.9,baz=26,slow=6.1,SNR=6.1						
WRA	Warramunga Arr	68.75	199	iP	P	22 03 23.0	+1.2
WRA	Warramunga Arr	68.75	199	P	P	22 03 21.6	-0.2
	comp=Z,0.4nm,0.8s,mb3.3,baz=15,slow=6.5,SNR=5.8						
AKASG	Malin Array Be	71.17	326	P	P	22 03 35.5	-0.8
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKASG	Malin Array Be	71.17	326	P	P	22 03 35.5	-0.9
	comp=Z,0.8nm,0.3s,mb4.1,baz=32,slow=6.1,SNR=8.7						
ASAR	Alice Springs	72.45	198	P	P	22 03 44.4	+0.2
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	Alice Springs	72.45	198	P	P	22 03 44.4	+0.2
	comp=Z,1.0nm,0.8s,mb3.7,baz=22,slow=6.3,SNR=6.7						
BURAR	Bucovina Array	75.21	326	‖iP	P	22 04 00.4	+0.2
CLL	Collm	76.09	335	iP	P	22 04 05.1	0.0
MLR	Muntele Rosu	76.69	325	‖iP	P	22 04 09.7	+1.1
KHC	Kasperske Hory	77.86	334	‖eP	P	22 04 15.9	+0.8
GERES	GERESS Array B	78.08	334	P	P	22 04 15.2	-1.2
	comp=Z,0.2nm,0.4s,baz=35,slow=4.9,SNR=3.7						
TORD	Torodi Ar. Bea	114.72	329	PKP	PKiKP	22 10 56.5	-1.5
	comp=Z,0.1nm,0.3s,baz=9.4,slow=1.7,SNR=11						
PLCA	Paso Flores	148.43	95	PKP2	PKPbc	22 12 03.4	0.0
PLCA				pmax	pmax		
	comp=Z,2.0nm,0.9s						
PLCA	Paso Flores	148.43	95	PKPbc	PKPbc	22 12 03.4	0.0
	comp=Z,1.6nm,0.9s,baz=258,slow=5.2,SNR=2.8						
CPUP	Villa Florida	148.48	60	PKP2	PKPbc	22 12 04.6	+0.7
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP	Villa Florida	148.48	60	PKPbc	PKPbc	22 12 04.6	+0.6
CPUP	Villa Florida	148.48	60	PKPbc	PKPbc	22 12 04.6	+0.6
	comp=Z,0.8nm,0.5s,baz=1.7,slow=9.2,SNR=3.8						

*IDC **26** 22:02:28.9±1.6, 22.13N×120.76E, h0km, mb3.6/6, mb1 3.7/6, mb1mx3.5/19, mbtmp3.6/6, Error ellipse: s-maj=165.8km s-min=20.9km az=65.0*
*ISCJB **26** 22:02:34.9±1.6, 2202N±008×12061E±008, h58km±16km, mb3.5/7, Error ellipse: s-maj=12.9km s-min=11.8km az=27.2*
*JMA **26** 22:02:34.9±0.5, 2192N×12080E, h144km, M2.9*
*NEIC **26** 22:02:34.7±0.5, 2196N×12033E, h35km, mb3.7/1, Error ellipse: s-maj=18.3km s-min=9.0km az=82.0*

ISC 26 22:02:35.8±1.7, 2201N±008×12056E±009, h49km±18km, n17, σ0§66/24, mb3.5/7, Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YHNB	Yeheng	2.75	16	ePn	Pn	22 03 17.2	-0.3
YHNB				eSn	Sn	22 03 50.1	+0.6
TATO	Taipei	3.07	16	Pn	Pn	22 03 23.2	+1.3
YOJ	Yonaguni jima	3.32	42	P	Pn	22 03 25.9	+0.6
YOJ				eS	Sn	22 04 03.8	+0.3
HATJ	Hateruma jima	3.62	55	P	Pn	22 03 28.8	-0.5
HATJ				eS	Sn	22 04 09.7	-1.0
IRIF	Iriomote-Funau	3.72	51	P	Pn	22 03 30.6	-0.2
IRIF				eS	Sn	22 04 13.9	+0.5
JKRS	Kuro-shima	3.87	54	P	Pn	22 03 32.4	-0.4
JKRS				eS	Sn	22 04 18.2	+1.2
JIJ	Ishigaki jima	4.04	54	P	Pn	22 03 34.7	-0.5
JIJ				S	Sn	22 04 21.2	-0.1
JTJ	Tarama	4.62	55	P	Pn	22 03 41.8	-1.3
JTJ				eS	Sn	22 04 35.0	-0.4
SONM	Songino Array	28.17	340	P	P	22 08 22.9	-0.6
	0.7nm,0.8s,mb3.4,baz=156,slow=11,SNR=3.3						
MK31	Makanchi Array	39.53	318	eP	P	22 10 01.5	-0.3
MKAR	Makanchi Array	39.53	318	P	P	22 10 01.8	-0.1
MKAR	Makanchi Array	39.53	318	P	P	22 10 01.8	0.0
	0.8nm,0.7s,mb3.6,baz=114,slow=10,SNR=7.1						
ZALV	Zalesovo Beam	41.78	329	P	P	22 10 19.7	-0.5
	0.6nm,0.4s,mb3.6,baz=102,slow=6.1,SNR=3.3						
WRAB	Tennant Creek	43.81	161	eP	P	22 10 38.2	+1.2
	0.8nm,0.6s,mb3.6						
WRA	Warramunga Arr	43.81	161	P	P	22 10 37.0	-0.1
	0.4nm,0.8s,mb3.2,baz=343,slow=9.0,SNR=3.4						
ASAR	Alice Springs	47.22	163	P	P	22 11 04.3	+0.4
	0.2nm,0.5s,mb3.3,baz=344,slow=7.1,SNR=4.7						
FINES	FINESS Array B	73.03	330	P	P	22 14 00.3	0.0
	1.5nm,0.9s,mb3.9,baz=142,slow=7.0,SNR=3.8						

*IDC **26** 22:06:21.9±3.7, 1278N×12490E, h0km, mb3.3/3, mb1 3.5/3, mb1mx3.3/18, mbtmp3.3/3, Error ellipse: s-maj=291.7km s-min=29.4km az=64.0*
*ISCJB **26** 22:06:22.9±2.5, 1305N±007×12551E±009, h26km±16km, mb3.4/3, Error ellipse: s-maj=15.1km s-min=10.3km az=150.8*
*MAN **26** 22:06:24, 1302N×12536E, h21km, mb4.3, ML3.1, MS2.9*

ISC 26 22:06:22.6±2.0, 1304N±007×12547E±008, h12km±9km, n8, σ0§80/12, mb3.4/3, Philippine Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	Cataman	0.94	236	eP	Pg	22 06 40.0	-0.8
CNP				eS	Sg	22 06 53.5	+0.5
PVCP	Virac	1.39	294	eP	Pn	22 06 46.4	-1.5
PVCP				eS	Sn	22 07 06.7	+0.4
PLP	Palo	1.92	194	eP	Pn	22 06 56.3	+1.1
PLP				eS	Sn	22 07 18.5	-0.8
RCP	Roxas	3.04	241	eP	Pn	22 07 11.5	+0.9
RCP				eS	Sn	22 07 46.5	-0.4
OTRP	Odiongan	3.43	259	eP	Pn	22 07 16.5	+0.5
WRA	Warramunga Arr	33.92	165	P	P	22 13 05.0	-0.8
	0.3nm,0.8s,mb3.2,baz=343,slow=8.9,SNR=2.9						
ASAR	Alice Springs	37.40	167	P	P	22 13 36.4	+0.7
	0.2nm,0.4s,mb3.3,baz=347,slow=7.5,SNR=7.1						
MKAR	Makanchi Array	49.37	322	P	P	22 15 12.2	+0.1
	0.3nm,0.6s,mb3.5,baz=111,slow=7.9,SNR=3.7						

*IDC **26** 22:36:50.3±1.8, 3352S×17994E, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.2/15, mbtmp4.5/5, ML4.1/1, Error ellipse: s-maj=46.6km s-min=27.1km az=51.0*
*NEIC **26** 22:36:55.0±0.9, 3355S×17976E, h25km, mb4.4/4, Error ellipse: s-maj=21.6km s-min=13.7km az=69.0*

ISC 26 22:36:58.0±5.1, 3337S±02×1796E±03, h40km±37km, n16, σ0§51/13, mb4.3/6, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	4.98	203	Pn	Pn	22 38 10.2	0.0
	6.0nm,0.3s,baz=58,slow=4.7,SNR=35						
URZ				Sn	Sn	22 39 06.3	-0.1
	2.7nm,0.3s,baz=124,slow=22,SNR=3.0						
ASAR	Alice Springs	41.03	272	P	P	22 44 38.0	+0.5
	4.9nm,0.7s,mb4.2,baz=114,slow=7.5,SNR=37						
WB2	Warramunga Arr	42.31	277	eP	P	22 44 47.9	-0.2
WRAB	Tennant Creek	42.32	277	eP	P	22 44 48.0	-0.1
	5.8nm,0.7s,mb4.3						
WRA	Warramunga Arr	42.32	277	P	P	22 44 47.7	-0.4
	5.7nm,0.7s,mb4.3,baz=119,slow=7.5,SNR=34						
SBA	Scott Base	44.61	184	eP	P	22 45 06.6	+0.7
	0.7nm,0.6s,mb3.7						
FITZ	Fitzroy Crossi	50.42	274	eP	P	22 45 52.1	+0.3
	4.4nm,0.9s,mb4.5						
FITZ	Fitzroy Crossi	50.42	274	P	P	22 45 52.2	+0.5
	1.7nm,0.8s,mb4.2,baz=131,slow=9.3,SNR=4.5						
QSPA	South Pole Qui	56.42	180	eP	P	22 46 35.4	+0.4
	7.6nm,0.7s,mb4.8						
QSPA	South Pole Qui	56.42	180	P	P	22 46 35.7	+0.8
	9.1nm,0.9s,mb4.8,baz=22,slow=4.6,SNR=39						
VNA2	Neumayer--Watz	75.55	178	e	P	22 48 36.8	-1.1
	baz=174,slow=5.0						
VNA2				e		22 48 39.9	
VNA2				e		22 48 44.9	
VNA2				e	pP	22 48 50.2	+0.3
VNA1	Neumayer--Stat	75.80	177	e	P	22 48 39.2	-0.1
VNA1				e		22 48 42.4	
VNA1				e		22 48 47.2	
VNA1				e	pP	22 48 52.8	+1.5
ARCES	ARCESS Array B	141.32	346	PKP	PKPdf	22 56 23.0	-0.4
	5.1nm,1.0s,baz=44,slow=3.7,SNR=4.0						
FINES	FINESS Array B	147.44	337	PKPbc	PKPbc	22 56 34.5	-2.3
FINES	FINESS Array B	147.44	337	PKPbc	PKPbc	22 56 34.5	-2.3
	0.7nm,0.7s,baz=1.4,slow=7.6,SNR=3.7						
TORD	Torodi Ar. Bea	159.45	186	PKPab	PKPab	22 57 27.7	-2.8
	1.0nm,1.0s,baz=162,slow=6.8,SNR=2.7						

*ISCJB **26** 22:45:35.5±0.4, 3621S±007×1002W±0.1, h10km, mb4.3/29, MS3.8/12, Error ellipse: s-maj=13.0km s-min=9.8km az=165.2*
*IDC **26** 22:45:35.8±0.9, 3614S×10033W, h0km, mb4.4/10, mb1 4.6/10, mb1mx4.4/17, mbtmp4.4/10, MS3.9/11, Ms1 3.9/11, ms1mx3.7/17, Error ellipse: s-maj=25.8km s-min=18.1km az=119.0*
*NEIC **26** 22:45:37.4±0.4, 3618S×100.15W, h10km, mb4.5/21, Error ellipse: s-maj=13.0km s-min=10.1km az=57.0*

ISC 26 22:45:37.6±0.4, 3618S±007×1002W±01, h10km, n45, σ1§05/39, mb4.3/29, MS3.8/12, Southeast of Easter Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	23.57	110	P	P	22 50 49.8	+1.3
	7.5nm,0.8s,mb4.2,baz=265,slow=9.4,SNR=13						
PLCA				LR	LR	22 57 53.6	
	comp=Z,211nm,18.7s,MS3.6,baz=272,slow=31						
LCO	Las Campanas	25.77	82	eP	P	22 51 07.6	-0.9
	41nm,1.3s,mb4.8						
CFAA	Coronel Fontan	26.82	90	P	P	22 51 18.9	+0.9
	0.5nm,0.7s,mb3.2,baz=238,slow=9.4,SNR=3.9						
CFAA				LR	LR	22 59 24.7	
	comp=Z,13nm,21.1s,MS2.5,baz=260,slow=31						
USHA	Ushuaia	28.65	141	LR	LR	23 00 33.2	
	comp=Z,477nm,19.9s,MS4.1,baz=284,slow=31						
LVC	Limon Verde	30.25	72	eP	P	22 51 48.6	-0.1
	9.3nm,0.9s,mb4.5						
TRQA	Tornquist	30.36	105	P	P	22 51 47.4	-2.2
	3.0nm,0.8s,mb4.1						
LPAZ	La Paz	34.66	64	eP	P	22 52 29.0	+1.6
	8.4nm,0.9s,mb4.7						
LPAZ	La Paz	34.66	64	P	P	22 52 29.4	+1.9
	8.7nm,1.0s,mb4.6,baz=223,slow=5.2,SNR=29						
ATAH	Atahualpa	35.22	40	P	P	22 52 32.9	+0.7
	8.5nm,0.7s,mb4.8,baz=136,slow=7.0,SNR=6.7						
ATAH				LR	LR	23 02 28.2	
	comp=Z,156nm,18.6s,MS3.8,baz=192,slow=29						
CPUP	Villa Florida	37.65	87	LR	LR	23 05 42.5	
	comp=Z,104nm,19.4s,MS3.6,baz=339,slow=32						
SIV	San Ignacio	40.11	70	P	P	22 53 13.5	-0.1
	2.7nm,0.6s,mb4.2,baz=239,slow=8.9,SNR=14						
ROSC	El Rosal	47.46	36	LR	LR	23 10 22.2	
	comp=Z,114nm,18.3s,MS3.9,baz=85,slow=31						
BDFB	Brasilia	50.52	80	P	P	22 54 36.1	-0.1
	1.1nm,0.7s,mb3.9,baz=167,slow=11,SNR=3.8						
BDFB				LR	LR	23 13 46.4	
	comp=Z,55nm,19.2s,MS3.6,baz=70,slow=33						
SDV	Santo Domingo	52.74	38	eP	P	22 54 49.6	-3.2
	3.6nm,0.8s,mb4.3						
QSPA	South Pole Qui	54.03	180	eP	P	22 55 01.8	+0.4
	11nm,0.7s,mb4.9						
QSPA	South Pole Qui	54.03	180	P	P	22 55 02.3	+0.9
	9.2nm,0.8s,mb4.8,baz=133,slow=3.6,SNR=44						
SBA	Scott Base	55.58	195	eP	P	22 55 12.8	0.0
	9.6nm,1.2s,mb4.7						
VNDA	Vanda	56.68	195	eP	P	22 55 20.3	-0.3
	6.9nm,1.4s,mb4.5						
VNDA	Vanda	56.68	195	P	P	22 55 20.9	+0.2
	1.5nm,0.9s,mb4.0,baz=108,slow=7.7,SNR=7.4						
VNDA				LR	LR	23 13 35.4	
	comp=Z,111nm,21.4s,MS3.9,baz=95,slow=30						
VNA1	Neumayer--Stat	56.96	157	e	P	22 55 22.8	+0.2
VNA1				e		22 55 29.9	
VNA1				e		22 55 43.8	
VNA1				e		22 55 52.2	
VNA2	Neumayer--Watz	57.16	157	e	P	22 55 24.0	-0.1
	baz=224,slow=9.3						
VNA2				e		22 55 31.1	
VNA2				e		22 55 45.1	
VNA2				e		22 55 53.7	
VNA2				e		22 56 17.7	
TEIG	Tepich	57.22	13	P	P	22 55 24.3	-0.7
	2.2nm,0.4s,mb4.5						
AFI	Afiamalu	67.16	269	LR	LR	23 15 50.6	
	comp=Z,64nm,21.6s,MS3.8,baz=104,slow=27						
MNTX	Cornudas Mount	67.70	355	eP	P	22 56 33.1	-1.8
	2.9nm,0.9s,mb4.3						
TUC	Tucson	68.86	350	eP	P	22 56 43.7	+1.6
	1.8nm,0.9s,mb4.0						
AMTX	Amarillo	70.72	359	eP	P	22 56 51.6	-1.9
	13nm,1.1s,mb4.8						
ANMO	Albuquerque	71.01	355	eP	P	22 56 55.3	0.0
	2.8nm,1.2s,mb4.1						
SDCO	Great Sand Dun	73.72	356	eP	P	22 57 11.6	+0.1
	1.9nm,1.0s,mb4.0						
CCM	Cathedral Cave	74.33	7	eP	P	22 57 14.1	-0.9
	4.0nm,0.6s,mb4.5						
PV01	Paradox Valley	74.36	353	eP	P	22 57 17.6	+2.4
CCUT	Cedar City	74.38	349	eP	P	22 57 15.8	+0.5
CASY	Casey	75.16	192	eP	P	22 57 15.8	-3.9
	0.5nm,0.3s,mb3.9						
SRU	San Rafael	75.53	352	eP	P	22 57 22.5	+0.6
	2.1nm,0.9s,mb4.1						
MAW	Mawson	75.74	173	P	P	22 57 22.4	-0.5
	7.6nm,0.9s,mb4.7,baz=212,slow=6.2,SNR=13						
MAW				LR	LR	23 29 18.5	
	comp=Z,92nm,19.7s,MS4.1,baz=54,slow=35						
NVAR	Mina Array Bea	76.11	345	P	P	22 57 25.0	-0.3
NVAR	Mina Array Bea	76.11	345	P	P	22 57 25.0	-0.2
	3.3nm,1.0s,mb4.2,baz=178,slow=6.0,SNR=17						
DAU	Daniels Canyon	76.90	351	eP	P	22 57 30.1	+0.4
TPAW	Teton Pass	79.90	352	eP	P	22 57 47.6	+1.4
	6.4nm,1.1s,mb4.5						
HLID	Hailey	80.42	350	eP	P	22 57 48.9	-0.1
	7.8nm,1.1s,mb4.5						
RLMT	Red Lodge	81.35	353	eP	P	22 57 54.3	+0.4
	5.1nm,1.1s,mb4.4						
BOZ	Bozeman (W)	82.11	352	eP	P	22 57 57.8	-0.2
	0.8nm,0.8s,mb3.7						
STKA	Stephens Creek	90.96	229	LR	LR	23 30 35.4	
	comp=Z,129nm,19.3s,MS4.4,baz=68,slow=30						
SCHQ	Schefferville	95.07	19	LR	LR	23 36 01.0	
	comp=Z,52nm,20.0s,MS4.0,baz=42,slow=32						
YKA	Yellowknife Ar	99.02	353	P	P	22 59 16.2	-1.6
YKA	Yellowknife Ar	99.02	353	P	P	22 59 16.2	-1.6
	0.2nm,0.6s,mb3.9,baz=160,slow=4.7,SNR=6.0						

*CSEM **26** 22:54:30.0±0.0, 4067N×5199E, h40km, mb4.7/19, ML4.4/4, Ms3.1, Error ellipse: s-maj=1.7km s-min=1.2km az=84.0*
*MOS **26** 22:54:30.4±1.0, 4080N×5201E, h33km, mb4.8/35, Error ellipse: s-maj=6.0km s-min=3.4km az=134.9*
*BJI **26** 22:54:30.8, 4089N×5215E, h26km, mB4.8, mb4.7, Ms4.1, Msz4.1*
*SZGRF **26** 22:54:30.7, 4050N×5150E, h33km, mb4.7, Caspian Sea*
*ISCJB **26** 22:54:31.1±0.2, 4060N±003×5201E±002, h48km, mb4.5/103, MS3.5/28, Error ellipse: s-maj=3.8km s-min=2.3km az=0.1*
*NEIC **26** 22:54:31.6±0.7, 4060N×5209E, h37km±7km, mb4.5/32, Error ellipse: s-maj=8.0km s-min=3.7km az=170.0*
*THR **26** 22:54:32.6±0.6, 4030N×5175E, h15km, ML4.8*
*IDC **26** 22:54:32.3±0.7, 4059N×5208E, h47km±4km, mb4.1/22, mb1 4.3/30, mb1mx4.2/34, mbtmp4.2/30, MS3.5/22, Ms1 3.5/22, ms1mx3.4/36, Error ellipse: s-maj=15.6km s-min=8.2km az=165.0*
*NNC **26** 22:54:38.1±3.3, 4119N×5340E, h0km, mb4.3, Error ellipse: s-maj=27.7km s-min=25.5km az=171.0*

ISC 26 22:54:33.0±0.2, 4061N±003×5203E±002, h50km, h50km±1.4km: pP-P, n339, σ1§10/385, mb4.5/103, MS3.5/28, 39C-26D, Turkmenistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRMI	Germi	3.66	242	ePn	Pn	22 55 26.1	-0.9
GRMI				AML	AML	22 56 07.9	
	comp=E,3μm,0.2s						
GRMI				AML	AML	22 56 09.0	
	comp=N,5μm,0.3s						
MAK	Makhachkala	4.12	306	iP	Pn	22 55 35.0	+1.7
MAK				eS	Sn	22 56 22.1	+2.0
MAK				pmax	pmax		
	comp=Z,422nm,0.8s						
MAK				smax			
	comp=N,2μm,0.8s						
MAK				MLR	MLR		
	comp=Z,162nm,7.0s						
MRVT	Maraveh tapeh	4.32	132	ePn	Pn	22 55 39.5	+3.4
MRVT				AML	AML	22 56 30.2	
	comp=E,244nm,0.2s						
CHTH	Charan	4.75	189	ePn	Pn	22 55 41.2	-0.8
CHTH				AML	AML	22 56 36.9	
	comp=N,785nm,0.5s						
THKV	Tehran--Karaj	4.77	191	ePn	Pn	22 55 41.6	-0.8
THKV				AML	AML	22 56 35.8	
	comp=N,2μm,0.5s						
DAMV	Damavand	4.97	181	ePn	Pn	22 55 45.0	-0.1
DAMV				AML	AML	22 56 40.1	
	comp=E,1μm,0.5s						
DAMV				AML	AML	22 56 42.1	
	comp=N,2μm,0.8s						
DGRG	David-gareji	5.10	282	P	Pn	22 55 47.9	+1.1
DGRG				S	Sn	22 56 45.5	+1.2
VAN	Vannovskaya	5.42	117	eP	Pn	22 55 51.0	-0.2
VAN				eS	Sn	22 56 50.0	-2.2
MTA	Mtatsminda	5.57	284	P	Pn	22 55 53.4	+0.2
MTA				S	Sn	22 56 55.2	-0.7
GNI	Garni	5.58	268	P	Pn	22 55 54.9	+1.5
GNI				S	Sn	22 56 57.5	+1.3
GNI				pmax	pmax		
	comp=Z,8.0nm,0.3s						
GNI				smax			
	comp=N,16nm,0.3s						
GNI				MLR	MLR		
	comp=Z,92nm,20.7s						
GNI	Garni	5.58	268	ePn	Pn	22 55 54.9	+1.5
GNI	Garni	5.58	268	P	Pn	22 55 54.9	+1.5
	comp=Z,8.3nm,0.3s,baz=332,slow=1.6,SNR=26						
GNI				S	Sn	22 56 57.5	+1.3
	comp=Z,16nm,0.3s,baz=25,slow=5.0,SNR=3.7						
GNI				LR	LR	22 58 47.8	
	comp=Z,92nm,20.7s,baz=90,slow=45						
TBLG	Delisi	5.61	284	eP	Pn	22 55 53.9	+0.1
TBLG				eS	Sn	22 56 55.5	-1.4
TBLG	Delisi	5.61	284	P	Pn	22 55 53.9	+0.1
TBLG				S	Sn	22 56 55.6	-1.4
MAKU	Maku	5.78	260	ePn	Pn	22 55 56.7	+0.6
MAKU				AML	AML	22 57 17.6	
	comp=N,96nm,0.5s						
GHVR	GHOM	6.15	186	ePn	Pn	22 56 00.9	-0.3
GHVR				AML	AML	22 57 25.2	
	comp=E,201nm,0.7s						
ASAO	Ashtian	6.26	195	ePn	Pn	22 56 02.1	-0.6
KIV	Kislovodsk	7.69	299	‖iP	Pn	22 56 21.6	-0.7
KIV				iS	Sn	22 57 45.3	-2.6
KIV				pmax	pmax		
	comp=Z,16nm,0.6s						
KIV				MLR	MLR		
	comp=Z,100nm,19.0s						
KIV	Kislovodsk	7.69	299	ePn	Pn	22 56 21.6	-0.7
NASN	Na'in	7.82	175	ePn	Pn	22 56 23.7	-0.5
GOF	Gofitskoye	7.96	307	‖iP	Pn	22 56 34.7	+8.7
GOF				iS	Sn	22 57 59.5	+4.9
GOF				pmax	pmax		
	comp=Z,123nm,0.9s						
GOF				smax			
	comp=N,537nm,0.9s						
GOF				smax			
	comp=E,245nm,1.1s						
SOC	Sochi	9.62	292	eP	Pn	22 56 45.1	-3.6
SOC				eS	Sn	22 58 40.6	+5.3
SOC				pmax	pmax		
	comp=Z,25nm,1.1s						
AB31	Akbulak array	10.30	30	Pn	Pn	22 56 55.1	-2.9
	comp=Z,1.2nm,0.2s,baz=206,slow=13,SNR=151						
AB31				Sn	Sn	22 58 40.4	-12
	comp=Z,24nm,0.3s,baz=221,slow=16,SNR=12						
AKTK	Aktyubinsk	10.68	21	P	Pn	22 57 00.9	-2.3
AKTK				S	Sn	22 58 54.2	-7.0
AKTK				LR	LR	23 02 29.9	
AKTO	Aktyubinsk	10.68	21	P	Pn	22 57 00.9	-2.3
AKTO				S	Sn	22 58 54.2	-7.0
AKTO				pmax	pmax		
	comp=Z,5.0nm,0.3s						
AKTO				smax			
	comp=N,34nm,0.3s						
AKTO				MLR	MLR		
	comp=Z,405nm,19.2s						
AKTO	Aktyubinsk	10.68	21	P	Pn	22 57 00.9	-2.3
	comp=Z,4.5nm,0.3s,baz=208,slow=13,SNR=81						
AKTO				S	Sn	22 58 54.2	-7.0
	comp=Z,34nm,0.3s,baz=206,slow=22,SNR=16						
AKTO				LR	LR	23 02 29.9	
	comp=Z,405nm,19.1s,baz=229,slow=45						
AKTO	Aktyubinsk	10.68	21	Pn	Pn	22 57 00.9	-2.3
	comp=Z,0.8nm,1.2s						
AKTO				Sn	Sn	22 58 54.1	-7.1
	comp=Z,2.6nm,0.7s						
MALT	Malatya	10.76	262	eP	Pn	22 56 59.3	-5.1
MALT				pmax	pmax		
	comp=Z,3.0nm,0.8s						
MALT	Malatya	10.76	262	ePn	Pn	22 56 59.3	-5.1
	comp=Z,3.0nm,0.8s						
MIB	Mutribah	11.44	201	eP	Pn	22 57 11.7	-2.0
MIB				AML	AML	22 59 10.2	
	comp=Z,4.6nm,0.6s						
ANN	Anapa	11.52	296	eP	Pn	22 57 18.8	+4.1
ANN				eS	Sn	22 59 33.8	+12
ANN				pmax	pmax		
	comp=Z,13nm,1.2s						
RST	Umm Al-Ruwaisa	11.82	202	eP	Pn	22 57 17.2	-1.7
NAY	Al-Naaiem	11.99	201	eP	Pn	22 57 19.3

comp=N,5.5nm,0.7s,baz=269,slow=15,SNR=48
KK31 ⇑Sn **Sn** **23 00 12.4 -10**
comp=N,3.8nm,0.5s,baz=268,slow=24
VOR Voronezh 14.21 326 *e*P **Pn** **22 57 48.0 -3.3**
VOR pmax pmax
comp=Z,100nm,1.6s
ASF Jabal al Asfar 14.79 240 P **Pn** **22 57 58.1 -1.0**
comp=Z,0.2nm,0.3s,baz=263,slow=4.9,SNR=10
MMAI Mount Meron Ar 15.31 246 P **Pn** **22 58 06.5 +0.8**
comp=Z,1.0nm,0.3s,baz=68,slow=11,SNR=9.1
MMAI LR LR 23 05 10.0
comp=Z,60nm,18.2s,baz=305,slow=42
CSS Prodhromos 15.81 255 *e*Pn **Pn** **22 58 11.8 -0.4**
comp=Z,10nm,0.9s
AML Almayashu 16.34 78 P **Pn** **22 58 22.8 +4.0**
SNR=6.2
EKS2 Erkin-Say 16.39 76 *e*Pn **Pn** **22 58 18.1 -1.3**
comp=Z,31nm,1.2s
EKS2 *e*Sn **Sn** **23 01 20.6 +0.3**
EKS2 Erkin-Say 16.39 76 P **Pn** **22 58 18.9 -0.6**
SNR=17
ARU Arti 16.40 13*c i*P **Pn** **22 58 14.6 -4.9**
ARU *e*S **S** **23 01 14.6 -16**
ARU pmax pmax
comp=Z,20nm,1.0s
ARU MLR MLR
comp=Z,309nm,15.0s
ARU Arti 16.40 13 *e*Pn **Pn** **22 58 15.0 -4.5**
ZRNK Zerenda 16.90 37 ⇑Pn **Pn** **22 58 21.6 -4.2**
comp=Z,16nm,0.9s
ZRNK ⇓Sn **Sn** **23 01 17.6 -15**
comp=Z,57nm,1.1s
AAK Ala-Archa 16.92 76 P **Pn** **22 58 29.7 +3.6**
SNR=9.4
UCH Uchtor 16.94 77 P **Pn** **22 58 26.0 -0.4**
SNR=7.1
FRU Bishkek 17.01 75 *e*P **Pn** **22 58 28.0 +0.8**
FRU *e*S **S** **23 01 39.0 -4.0**
FRU pmax pmax
comp=Z,110nm,2.0s
CHMS Chumysh 17.11 75 P **Pn** **22 58 30.2 +1.8**
SNR=7.1
SVE Sverdlovsk 17.17 16⇓*e*P **Pn** **22 58 25.4 -3.7**
SVE *e*S S 23 01 24.6 -22
SVE pmax pmax
comp=Z,37nm,1.2s
SVE MLR MLR
comp=Z,464nm,17.0s
KZA Kyzart 17.50 78 P **Pn** **22 58 36.2 +2.9**
SNR=9.9
BRVK Borovoye 17.57 39 *e*P **Pn** **22 58 31.3 -2.8**
BVA0 Borovoye Array 17.60 39 ⇑Pn **Pn** **22 58 32.7 -1.8**
comp=Z,5.4nm,0.8s,baz=301,slow=34,SNR=109
BVA0 ⇑Sn **Sn** **23 01 33.7 -16**
comp=Z,3.8nm,0.9s,baz=234,slow=25,SNR=11
BVAR Borovoye Array 17.60 39 P **Pn** **22 58 31.9 -2.6**
BVAR S **S** **23 01 34.4 -21**
BVAR pmax pmax
comp=Z,3.0nm,0.3s
BVAR smax
comp=N,2.0nm,0.3s
BVAR MLR MLR
comp=Z,462nm,18.8s
BVAR Borovoye Array 17.60 39 P **Pn** **22 58 31.9 -2.6**
BVAR S **S** **23 01 34.4 -21**
BVAR LR LR 23 06 34.9
comp=Z,2.2nm,0.3s,baz=238,slow=26,SNR=5.7
BVAR LR LR 23 06 34.9
comp=Z,462nm,18.8s,baz=240,slow=41
EIL Elat 17.69 237 P **Pn** **22 58 37.2 +1.5**
EIL LR LR 23 06 29.4
EIL Elat 17.69 237 P **Pn** **22 58 37.2 +1.5**
comp=Z,0.8nm,0.3s,baz=30,slow=8.2,SNR=7.6
EIL LR LR 23 06 29.4
comp=Z,87nm,18.9s,baz=278,slow=40
VOSK Vostochnaya 17.71 41 ⇑Pn **Pn** **22 58 34.7 -1.1**
comp=Z,23nm,1.2s
VOSK ⇓Sn **Sn** **23 01 36.0 -16**
comp=Z,48nm,1.7s
TKM2 Tokmak 2 17.73 75 ⇑Pn **Pn** **22 58 34.6 -1.5**
comp=Z,57nm,1.7s
TKM2 ⇑Sn **Sn** **23 01 37.5 -15**
comp=Z,20nm,1.3s
TKM2 Tokmak 2 17.73 75 *e*P **Pn** **22 58 34.3 -1.8**
TKM2 pmax pmax
comp=Z,52nm,1.4s
TKM2 Tokmak 2 17.73 75 *e*Pn **Pn** **22 58 34.3 -1.8**
comp=Z,52nm,1.4s
TKM2 Tokmak 2 17.73 75 P **Pn** **22 58 36.3 +0.2**
SNR=20
TIRR Tirgusor 17.80 290 ⇓*i*P **Pn** **22 58 35.5 -1.5**
MOS Moscow 17.87 333 *e*P **Pn** **22 58 34.7 -3.0**
MOS *e*S **S** **23 01 44.2 -16**
MOS pmax pmax
comp=Z,200nm,1.8s
MOS pmax pmax
comp=Z,107nm,1.5s
KIS Kishinev 17.89 299 *e*P **Pn** **22 58 35.0 -3.1**
KIS *e*S **S** **23 02 06.0 +5.0**
HARR Harsova 18.17 291 P **Pn** **22 58 40.4 -1.0**
HARR Harsova 18.17 291 ⇓*i*P **Pn** **22 58 40.3 -1.1**
IAS Iasi 18.77 299 P **Pn** **22 58 46.8 -1.9**
AKASG Malin Array Be 18.79 310 P **Pn** **22 58 46.8 -2.1**
AKASG S **S** **23 02 14.8 -4.2**
AKASG pmax pmax
comp=Z,13nm,0.3s
AKASG Malin Array Be 18.79 310 P **Pn** **22 58 46.8 -2.2**
comp=Z,13nm,0.3s,baz=112,slow=11,SNR=126
AKASG S **S** **23 02 14.8 -4.3**
baz=115,slow=23,SNR=6.2
AKBB Malin Array Si 18.79 310 *e*P **Pn** **22 58 45.9 -3.0**
KIEV Kiev 18.80 310 *e*P **Pn** **22 58 45.9 -3.1**
KIEV pmax pmax
comp=Z,58nm,0.6s
KIEV Kiev 18.80 310 *e*Pn **Pn** **22 58 45.9 -3.1**
comp=Z,58nm,0.6s
BRD Bordesti 18.88 293 ⇓*i*P **Pn** **22 58 50.7 +0.6**
VRI Vrincioaia 19.13 294 P **Pn** **22 58 52.5 -0.5**
VRI Vrincioaia 19.13 294 ⇓*i*P **Pn** **22 58 52.3 -0.7**
PLOR Plostina 19.18 294 ⇑*i*P **Pn** **22 58 53.0 -0.6**
SOKR Solikamsk 19.21 7 ⇑*i*P **Pn** **22 58 50.9 -3.0**
SOKR S **S** **23 02 14.2 -13**
SOKR pmax pmax
comp=Z,30nm,0.9s
SOKR MLR MLR
comp=Z,240nm,17.0s
MLR Muntele Rosu 19.64 293 P **Pn** **22 58 57.5 -1.5**
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR MLR
comp=Z,97nm,19.8s
MLR Muntele Rosu 19.64 293 P **Pn** **22 58 59.0 0.0**
MLR Muntele Rosu 19.64 293 P **Pn** **22 58 57.5 -1.5**
comp=Z,1.4nm,0.3s,baz=148,slow=1.4,SNR=28
MLR LR LR 23 08 41.4
comp=Z,96nm,19.8s,baz=103,slow=43
MLR Muntele Rosu 19.64 293 ⇑*i*P **Pn** **22 59 00.0 +1.0**
ZIMR 19.98 288 P **Pn** **22 59 01.8 -1.3**
ZIMR 19.98 288 ⇓*i*P **Pn** **22 59 02.2 -0.9**
KARP Karpathos 20.19 263 *e*P **P** **22 59 03.4 0.0**
VOIR 20.26 293 P **P** **22 59 05.1 +1.0**
VOIR 20.26 293 ⇓*i*P **P** **22 59 04.9 +0.8**
BURAR Bucovina Array 20.42 299 ⇑*i*P **P** **22 59 05.5 -0.3**
APE Apeiranthos 20.91 269 ⇓*i*P **P** **22 59 11.2 0.0**
KURBB Kurchatov Arra 20.97 53 ⇓Pn **P** **22 59 12.0 +0.3**
comp=Z,6.4nm,1.2s
KURBB ⇑Sn **S** **23 02 57.5 -4.8**
comp=Z,2.1nm,0.8s
KURK Kurchatov 21.05 52 ⇑Pn **P** **22 59 12.9 +0.3**
KURK ⇓Sn **S** **23 02 52.5 -11**
comp=Z,13nm,1.1s
KURK Kurchatov 21.05 52 *e*P **P** **22 59 13.2 +0.6**
KURK pmax pmax
comp=Z,29nm,1.0s,mb4.6
KURK Kurchatov 21.05 52 *e*Pn **P** **22 59 13.2 +0.6**
comp=Z,29nm,1.0s,mb4.6
NPS Neapolis 21.47 264 *e*P **P** **22 59 19.1 +1.9**
XRY Khrisi 21.55 263 *e*P **P** **22 59 20.5 +2.4**
VTS Vitosha 21.60 285 ⇑*i*P **P** **22 59 18.7 +0.2**
LVV L'vov 21.66 305 *e*P **P** **22 59 18.7 -0.4**
LVV *e*S **S** **23 03 10.1 -5.8**
LVV MLR MLR
comp=Z,20nm,14.0s
GZR Gura Zlata 21.86 292 P **P** **22 59 21.1 -0.2**
GZR Gura Zlata 21.86 292 ⇑*i*P **P** **22 59 20.2 -1.0**
DRGR 22.00 296 P **P** **22 59 23.2 +0.5**
DRGR 22.00 296 ⇑*i*P **P** **22 59 22.9 +0.2**
IDI Anoyia 22.00 265 P **P** **22 59 22.2 -0.8**
comp=Z,8.7nm,0.5s,mb4.5,baz=63,slow=9.3,SNR=20
IDI S **S** **23 03 26.9 +4.1**
comp=Z,4.2nm,0.7s,baz=113,slow=22,SNR=3.5
KWP Kalwaria 22.45 304 *e*P **P** **22 59 27.5 0.0**
KWP Kalwaria 22.45 304 *e*P **P** **22 59 27.5 0.0**
KWP Kalwaria 22.45 304 ⇑*i*P **P** **22 59 27.3 -0.2**
VAM Vamos 22.48 266 *e*P **P** **22 59 30.0 +2.0**
UZH Uzhgorod 22.52 301 *e*P **P** **22 59 29.0 +0.7**
UZH *e* 22 59 36.6
UZH *i* 22 59 46.0
KOLS Kolonicke sedl 22.59 302 *e*P **P** **22 59 30.7 +1.7**
KOLS *e*pP 22 59 34.5
MK31 Makanchi Array 22.65 64 ⇑Pn **P** **22 59 29.4 -0.3**
comp=Z,21nm,1.1s,mb4.5
MK31 ⇑Sn **S** **23 03 39.2 +5.0**
comp=Z,9.6nm,1.2s,baz=256,slow=22,SNR=4.2
MK31 Makanchi Array 22.65 64 *e*P **P** **22 59 30.1 +0.4**
MK31 Makanchi Array 22.65 64 Pn **P** **22 59 29.4 -0.2**
comp=Z,21nm,1.1s,mb4.5
MK31 Sn **S** **23 03 39.2 +4.9**
comp=Z,9.6nm,1.2s,SNR=4.2
MKAR Makanchi Array 22.65 64 P **P** **22 59 30.0 +0.4**
MKAR *PP 22 59 41.2
MKAR pmax pmax
comp=Z,14nm,1.0s
MKAR pmax pmax
comp=Z,17nm,1.0s
MKAR MLR MLR
comp=Z,104nm,19.4s
MKAR Makanchi Array 22.65 64 P **P** **22 59 30.0 +0.4**
MKAR pP 22 59 41.1
MKAR S **S** **23 03 47.9 +14**
MKAR LR LR 23 09 16.4
MKAR Makanchi Array 22.65 64 P **P** **22 59 30.0 +0.4**
comp=Z,14nm,1.0s,mb4.4,baz=262,slow=7.1,SNR=57
MKAR pP 22 59 41.1
comp=Z,17nm,1.0s,baz=256,slow=10,SNR=10
MKAR S **S** **23 03 47.9 +14**
comp=Z,1.8nm,0.9s,baz=256,slow=31,SNR=4.2
MKAR LR LR 23 09 16.4
comp=Z,104nm,19.4s,MS3.3,baz=87,slow=39
BZS Buzias 22.68 293 P **P** **22 59 29.9 -0.1**
BZS Buzias 22.68 293 ⇓*i*P **P** **22 59 29.2 -0.8**
GVD Gavdhos 22.79 264 *e*P **P** **22 59 36.2 +5.0**
comp=Z,18nm,0.7s,mb4.6
GVD Gavdhos 22.79 264 *e*P **P** **22 59 36.5 +5.3**
THL Klokotos Trika 22.94 277 *e*P **P** **22 59 32.2 -0.6**
CRVS Cervenica-Dubn 23.11 301 *e*P **P** **22 59 33.9 -0.6**
STHS Stebnicka Huta 23.34 302 *e*P **P** **22 59 35.3 -1.5**
STHS *e* 22 59 43.4
STHS pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
STHS Stebnicka Huta 23.34 302 *e*P **P** **22 59 35.3 -1.5**
comp=Z,7.2nm,0.8s,mb4.2
STHS *e* 22 59 43.4
SUW Suwalki 23.51 314 *e*P **P** **22 59 37.0 -1.3**
SUW *e* 22 59 38.3
ITM Ithomi 23.62 271 *e*P **P** **22 59 34.9 -4.6**
KECS Kecovo 23.69 300 *e*P **P** **22 59 39.6 -0.4**
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
KECS Kecovo 23.69 300 *e*P **P** **22 59 39.6 -0.4**
comp=Z,3.2nm,0.8s,mb3.8
KECS Kecovo 23.69 300 *e*P **P** **22 59 39.5 -0.5**
NIE Niedzica 23.94 302 *e*P **P** **22 59 43.6 +1.4**
NIE *e*pP 22 59 50.7
PSZ Piszkesteto 24.01 298 *e*P **P** **22 59 42.0 -1.0**
PSZ pmax pmax
comp=Z,54nm,1.8s,mb4.7
PSZ Piszkesteto 24.01 298 *e*P **P** **22 59 42.0 -1.0**
comp=Z,54nm,1.8s,mb4.7
PSZ Piszkesteto 24.01 298 ⇑*i*P **P** **22 59 44.7 +1.7**
VSU Vasula 24.02 327*c i*P **P** **22 59 41.9 -1.0**
VLS Valsamata 24.35 275 *e*P **P** **22 59 45.7 -0.4**
OJC Ojcow 24.41 304 *e*P **P** **22 59 46.7 +0.2**
OJC *e*pP 22 59 54.0
KEK Kerkira 24.58 278 *e*P **P** **22 59 48.2 0.0**
PKSM Moragy 24.77 294 ⇑*i*P **P** **22 59 51.8 +1.9**
VYHS Vyhne 24.78 300 *e*P **P** **22 59 50.6 +0.7**
VYHS pmax pmax
comp=Z,21nm,2.1s,mb4.3
VYHS Vyhne 24.78 300 *e*P **P** **22 59 50.6 +0.7**
comp=Z,21nm,2.1s,mb4.3
TMCR Tamitsa 24.97 345 ⇑*i*P **P** **22 59 51.9 +0.4**
TMCR pmax pmax
comp=Z,92nm,1.0s,mb5.3
KOLL Kolacno 25.07 300 *e*P **P** **22 59 53.2 +0.6**
NVS Novosibirsk 25.10 45 ⇑*i*P **P** **22 59 52.7 -0.1**
NVS pmax pmax
comp=N,24nm,1.4s
NVS pmax pmax
comp=E,17nm,1.4s
NVS pmax pmax
comp=Z,32nm,1.4s,mb4.7
OKC Ostrava-Krasne 25.39 303 *e*P **P** **22 59 55.8 +0.3**
JOF Joensuu 25.52 338 *e*p **P** **22 59 56.1 -0.4**
comp=Z,4.7nm,0.3s,mb4.5
JOF Joensuu 25.52 338 *e*p pP 23 00 09.9 +0.7
comp=Z,5.7nm,0.3s
JOF Joensuu 25.52 338 *e*P **P** **22 59 56.1 -0.4**
JOF pmax pmax
comp=Z,5.0nm,0.3s,mb4.5
ZAL Zalesovo 25.66 48 P **P** **22 59 58.4 +0.6**
ZAL *PP pP 23 00 10.8 +0.2
ZAA0 Zalesovo Array 25.67 48 *e*P **P** **22 59 58.3 +0.4**
ZALV Zalesovo Beam 25.67 48 P **P** **22 59 58.4 +0.4**
ZALV pP pP 23 00 10.8 +0.1
ZALV S S 23 04 49.2 +26
ZALV LR LR 23 11 32.3
ZALV Zalesovo Beam 25.67 48 P **P** **22 59 58.4 +0.4**
comp=Z,14nm,0.9s,mb4.5,baz=262,slow=9.9,SNR=21
ZALV pP pP 23 00 10.8 +0.1
comp=Z,8.4nm,0.7s,baz=263,slow=10,SNR=6.6
ZALV S S 23 04 49.2 +26
comp=Z,0.5nm,0.3s,baz=253,slow=15,SNR=3.1
ZALV LR LR 23 11 32.3
comp=Z,134nm,19.8s,MS3.5,baz=252,slow=40
MODS Modra-Piesok 25.80 299 *e*P **P** **23 00 00.2 +1.0**
ZST Bratislava 25.90 299 *e*P **P** **23 00 01.0 +0.9**
ZST pmax pmax
comp=Z,15nm,1.0s,mb4.5
ZST Bratislava 25.90 299 *e*P **P** **23 00 01.0 +0.9**
comp=Z,15nm,1.0s,mb4.5
FIA1 FINESS Array S 26.16 332 *e*P **P** **23 00 01.4 -0.8**
FIA1 *e*S **S** **23 04 30.7 +0.4**
FINES FINESS Array B 26.16 332 P **P** **23 00 01.9 -0.4**
FINES *PP pP 23 00 15.8 +0.8
FINES pmax pmax
comp=Z,5.0nm,0.4s
FINES pmax pmax
comp=Z,8.0nm,0.5s
FINES MLR MLR
comp=Z,129nm,20.0s
FINES FINESS Array B 26.16 332 P **P** **23 00 01.9 -0.4**
FINES pP pP 23 00 15.8 +0.8
FINES S S 23 04 51.8 +21
FINES LR LR 23 11 46.6
FINES FINESS Array B 26.16 332 P **P** **23 00 01.9 -0.4**
comp=Z,4.5nm,0.4s,mb4.3,baz=129,slow=10,SNR=42
FINES pP pP 23 00 15.8 +0.8
comp=Z,7.6nm,0.5s,baz=134,slow=12,SNR=11
FINES S S 23 04 51.8 +21
comp=Z,2.9nm,0.8s,baz=122,slow=18,SNR=3.6
FINES LR LR 23 11 46.6
comp=Z,129nm,20.0s,MS3.5,baz=320,slow=40
VRAC Vranov 26.33 301 P **P** **23 00 05.4 +1.4**
VRAC pmax pmax
comp=Z,3.0nm,0.7s
VRAC MLR MLR
comp=Z,95nm,20.6s
VRAC Vranov 26.33 301 P **P** **23 00 05.4 +1.4**
comp=Z,2.9nm,0.7s,mb3.9,baz=96,slow=8.9,SNR=4.3
VRAC LR LR 23 12 00.7
comp=Z,95nm,20.6s,MS3.3,baz=99,slow=40
WMQ Urumqi 26.49 71 P **P** **23 00 07.0 +1.6**
WMQ PP 23 00 53.0
WMQ S **S** **23 04 34.0 -1.8**
WMQ SS 23 05 47.0
WMQ AMB AMB
comp=Z,31nm,1.0s,mb4.8
WMQ LR LR
comp=N,78nm,10.0s,MS3.7
WMQ LR LR
comp=E,75nm,10.0s,MS3.7
WMQ LR LR
comp=Z,79nm,10.0s,MS3.6
DPC Dobruska-Polom 26.63 303 *e*P **P** **23 00 07.7 +1.1**
DPC *e*pP pP 23 00 19.8 +0.4
KSP Ksiaz 26.72 305 *e*P **P** **23 00 08.1 +0.7**
UPC Upice 26.85 304 *e*P **P** **23 00 09.6 +1.0**
UPC *e*pP pP 23 00 22.1 +0.7
ARSA Arzberg 26.93 297 ⇑*i*P **P** **23 00 10.1 +0.7**
comp=Z,5.1nm,0.6s,mb4.2
SOKA Soboth 27.27 295 ⇑*i*P **P** **23 00 13.1 +0.7**
comp=Z,10.0nm,0.7s,mb4.5
PRU Pruhonice 27.73 302 *e*P **P** **23 00 16.4 -0.1**
PRU *e*pP pP 23 00 29.6 +0.3
PVCC Panska Ves 27.77 304 *e*P **P** **23 00 17.7 +0.9**
MOA Molln 27.79 298 ⇑*i*P **P** **23 00 17.3 +0.2**
comp=Z,3.1nm,0.6s,mb4.1
GEC2 GERESS Array S 28.20 300 *e*P **P** **23 00 20.3 -0.4**
GEC2 pmax pmax
comp=Z,8.0nm,1.1s,mb4.3
GEC2 GERESS Array S 28.20 300 *e*P **P** **23 00 20.3 -0.4**
comp=Z,8.0nm,1.1s,mb4.3
GERES GERESS Array B 28.20 300 P **P** **23 00 21.0 +0.3**
GERES pmax pmax
comp=Z,2.0nm,0.5s
GERES MLR MLR
comp=Z,77nm,21.1s
GERES GERESS Array B 28.20 300 P **P** **23 00 21.0 +0.3**
comp=Z,2.2nm,0.5s,mb4.0,baz=91,slow=8.5,SNR=38
GERES LR LR 23 13 09.0
comp=Z,77nm,21.1s,MS3.3,baz=105,slow=40
BRG Berggiesshubel 28.20 304 ⇑*i*P **P** **23 00 21.6 +0.9**
BRG *PP pP 23 00 34.2 +0.7
BRG pmax pmax
comp=Z,9.0nm,1.0s,mb4.3
BRG pmax pmax
comp=Z,6.0nm,1.1s,mb4.1
BRG Berggiesshubel 28.20 304 *e*P **P** **23 00 21.5 +0.8**
comp=Z,15nm,1.0s,mb4.6
BRG Berggiesshubel 28.20 304 ⇑*i*P **P** **23 00 21.6 +0.9**
comp=Z,15nm,1.0s,mb4.6
BRG pP pP 23 00 34.2 +0.7
comp=Z,9.7nm,1.1s
KHC Kasperske Hory 28.29 300 *e*P **P** **23 00 21.0 -0.5**
KHC *ex* x 23 00 41.7
KHC AMS AMS 23 12 20.0
comp=Z,100nm,23.6s
KBA Koelnbreinsper 28.42 296 ⇑*i*P **P** **23 00 23.5 +0.9**
comp=Z,5.9nm,0.6s,mb4.4
KBA Koelnbreinsper 28.42 296 ⇑*i*P **P** **23 00 23.6 +0.9**
KBA pmax pmax
comp=Z,6.0nm,0.6s,mb4.4
RUE Ruedersdorf 28.52 308 *e*P **P** **23 00 23.6 +0.1**
comp=Z,21nm,0.7s,mb5.0
FBE Freiberg 28.57 304 *e*P **P** **23 00 25.3 +1.3**
comp=Z,38nm,1.7s,mb4.8
CLL Collm 28.84 305 ⇓*i*P **P** **23 00 27.1 +0.8**
CLL *e* pP 23 00 39.0 -0.2
CLL pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CLL Collm 28.84 305 ⇓*i*P **P** **23 00 27.1 +0.8**
comp=Z,10.0nm,1.0s,mb4.5
CLL *e* pP 23 00 39.0 -0.2
CLL Collm 28.84 305 *e*P **P** **23 00 26.9 +0.6**
comp=Z,10.0nm,1.0s,mb4.5
CLL Collm 28.84 305 ⇓*i*P **P** **23 00 27.1 +0.8**
comp=Z,10.0nm,1.0s,mb4.5
CLL *e*(pP) pP 23 00 39.0 -0.2
CLL *ex* x 23 01 09.0
NKC Novy Kostel 29.09 303 *e*P **P** **23 00 29.5 +0.9**
NKC *e*pP pP 23 00 42.0 +0.6
WERN Wernitzgruen 29.14 303 *e*P **P** **23 00 30.4 +1.3**
comp=Z,12nm,1.2s,mb4.5
GUNZ Gunzen 29.17 303 *e*P **P** **23 00 30.1 +0.7**
comp=Z,6.0nm,1.2s,mb4.2
WERD Werda 29.20 303 *e*P **P** **23 00 30.3 +0.8**
comp=Z,7.0nm,0.9s,mb4.4
MANZ Manzenberg 29.29 302 *e*P **P** **23 00 31.8 +1.4**
comp=Z,6.0nm,1.3s,mb4.2
WTTA Wattenberg 29.58 297 ⇓*i*P **P** **23 00 33.0 0.0**
comp=Z,8.6nm,0.5s,mb4.7
WTTA Wattenberg 29.58 297 ⇓*i*P **P** **23 00 33.0 0.0**
WTTA pmax pmax
comp=Z,9.0nm,0.5s,mb4.8
MOX Moxa 29.65 303 *e*P **P** **23 00 33.0 -0.6**
comp=Z,17nm,0.9s,mb4.8
MOX *e* pP 23 00 47.1 +0.7
MOX Moxa 29.65 303 *e*P **P** **23 00 33.0 -0.6**
MOX *e* pP 23 00 47.1 +0.7
MOX pmax pmax
comp=Z,17nm,0.9s,mb4.8
MOX Moxa 29.65 303 *e*P **P** **23 00 34.3 +0.7**
comp=Z,18nm,0.9s,mb4.8
FUR Furstenfeldbru 29.80 298 *e*P **P** **23 00 35.1 +0.2**
FUR pmax pmax
comp=Z,32nm,1.5s,mb4.8
FUR Furstenfeldbru 29.80 298 *e*P **P** **23 00 35.1 +0.2**
comp=Z,32nm,1.5s,mb4.8
GRA1 Grafenberg Arr 29.85 302 *e*P **P** **23 00 36.2 +0.8**
comp=Z,8.0nm,1.2s,mb4.3
GRF Grafenberg Arr 29.85 302 *e*P **P** **23 00 36.2 +0.8**
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
GRF Grafenberg Arr 29.85 302 *e*P **P** **23 00 36.2 +0.8**
GRF pmax pmax
comp=Z,8.0nm,1.2s,mb4.3
GRF Grafenberg Arr 29.85 302 *e*P **P** **23 00 36.2 +0.8**
comp=Z,8.0nm,1.2s,mb4.3
MOTA Moosalm 29.94 297 ⇓*i*P **P** **23 00 35.8 -0.3**
comp=Z,5.6nm,1.1s,mb4.2
MOTA Moosalm 29.94 297 ⇓*i*P **P** **23 00 35.9 -0.2**
MOTA pmax pmax
comp=Z,6.0nm,1.1s,mb4.2
ATD Arta Tunnel 30.08 198 LR LR 23 15 03.2
comp=Z,47nm,18.6s,MS3.2,baz=9.0,slow=41
FETA Feichten 30.21 296 ⇑*i*P **P** **23 00 38.2 -0.3**
comp=Z,7.0nm,1.1s,mb4.3
CLZ Clausthal 30.52 306 *e*P **P** **23 00 41.9 +0.6**
CLZ pmax pmax
comp=Z,14nm,0.9s,mb4.8
CLZ Clausthal 30.52 306 *e*P **P** **23 00 41.9 +0.6**
comp=Z,14nm,0.9s,mb4.8
HFS Hagfors 30.66 322 P **P** **23 00 42.0 -0.3**
HFS *PP pP 23 00 54.4 -0.8
HFS pmax pmax
comp=Z,5.0nm,0.5s
HFS pmax pmax
comp=Z,5.0nm,0.5s
HFS MLR MLR
comp=Z,99nm,18.7s
HFS Hagfors 30.66 322 P **P** **23 00 42.0 -0.3**
comp=Z,5.1nm,0.5s,mb4.6,baz=111,slow=10.0,SNR=72
HFS pP pP 23 00 54.4 -0.8
comp=Z,5.1nm,0.5s,baz=115,slow=8.6,SNR=6.9
HFS LR LR 23 14 11.9
comp=Z,99nm,18.7s,MS3.5,baz=95,slow=38
UBBA Unterbreizbach 30.68 304 *e*P **P** **23 00 43.4 +0.7**
comp=Z,4.0nm,0.9s,mb4.2
NRDL Niedersach Rie 30.75 307 *e*P **P** **23 00 44.3 +1.1**
comp=Z,9.0nm,1.4s,mb4.4
DAVA Damuels 30.77 297 ⇑*i*P **P** **23 00 43.1 -0.4**
comp=Z,9.6nm,1.0s,mb4.6
BSEG Bad Segeberg 30.80 310 *e*P **P** **23 00 44.5 +0.8**
BSEG pmax pmax
comp=Z,26nm,0.8s,mb5.1
BSEG Bad Segeberg 30.80 310 *e*P **P** **23 00 44.5 +0.8**
comp=Z,26nm,0.8s,mb5.1
DAVOX Davos/Dischmat 30.80 296 P **P** **23 00 44.0 +0.2**
comp=Z,2.2nm,0.3s,mb4.4,baz=101,slow=11,SNR=8.6
DAVOX LR LR 23 14 59.2
comp=Z,53nm,21.4s,MS3.2,baz=82,slow=40
STU Stuttgart 31.18 300 *e*P **P** **23 00 47.4 +0.3**
comp=Z,16nm,0.9s,mb4.8
KEV Kevo 32.01 344 *e*p **P** **23 00 54.6 +0.5**
comp=Z,0.8nm,0.4s,mb3.9
KEV Kevo 32.01 344 *e*p pP 23 01 07.3 +0.3
comp=Z,1.2nm,0.3s
KEV Kevo 32.01 344 *e*P **P** **23 00 54.6 +0.5**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.0
NB2 NORSAR Subarra 32.13 323 P **P** **23 00 54.3 -1.0**

comp=Z,18nm,1.2s,mb4.8,baz=114,slow=8.6
NOA NORSAR Array B 32.13 323 P **P** **23 00 54.7 -0.6**
NOA *PP pP 23 01 06.6 -1.6
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA pmax pmax
comp=Z,4.0nm,0.7s
NOA MLR MLR
comp=Z,99nm,20.1s
NOA NORSAR Array B 32.13 323 P **P** **23 00 54.6 -0.6**
comp=Z,5.5nm,0.8s,mb4.4,baz=114,slow=8.5,SNR=16
NOA pP pP 23 01 06.5 -1.6
comp=Z,4.0nm,0.7s,baz=113,slow=8.3,SNR=11
NOA LR LR 23 15 17.7
comp=Z,99nm,20.1s,MS3.5,baz=100,slow=39
ARCES ARCESS Array B 32.16 343 P **P** **23 00 55.8 +0.3**
ARCES *PP pP 23 01 06.9 -1.5
ARCES pmax pmax
comp=Z,2.0nm,0.7s
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES MLR MLR
comp=Z,117nm,19.2s
ARCES ARCESS Array B 32.16 343 P **P** **23 00 55.8 +0.3**
comp=Z,1.9nm,0.7s,mb4.0,baz=142,slow=11,SNR=38
ARCES pP pP 23 01 06.9 -1.4
comp=Z,1.2nm,0.7s,baz=142,slow=10.0,SNR=1.5
ARCES LR LR 23 15 43.3
comp=Z,117nm,19.2s,MS3.6,baz=92,slow=40
IBBN Ibbenburen 32.17 306 *eP* **P** **23 00 56.9 +1.2**
comp=Z,22nm,1.0s,mb4.9
BUG Bochum--Univer 32.43 305 *eP* **P** **23 00 59.1 +1.1**
comp=Z,10.0nm,0.9s,mb4.7
KONO Kongsberg 32.44 320 *eP* **P** **23 00 58.4 +0.4**
KONO pmax pmax
comp=Z,7.0nm,0.9s,mb4.5
KONO Kongsberg 32.44 320 *eP* **P** **23 00 58.4 +0.4**
comp=Z,7.2nm,0.9s,mb4.5
CDF Champ du Feu 32.46 299 *eP* **P** **23 00 57.9 -0.5**
comp=Z,8.2nm,0.8s,mb4.3
CDF Champ du Feu 32.46 299 *eP* **P** **23 00 57.9 -0.5**
comp=Z,4.1nm,0.8s,mb4.3
LPG La Plagne 33.10 294 *eP* **P** **23 01 04.2 +0.2**
HAU Haudompre 33.11 298 *eP* **P** **23 01 03.8 -0.2**
comp=Z,25nm,0.8s,mb4.9
HAU *e*MLR MLR
comp=Z,48nm,19.5s,MS2.9
HAU Haudompre 33.11 298 *eP* **P** **23 01 03.8 -0.2**
comp=Z,13nm,0.8s,mb4.9
LPL La Plagne 33.11 294 *eP* **P** **23 01 04.2 +0.1**
comp=Z,4.1nm,0.4s,mb4.4
LPL La Plagne 33.11 294 *eP* **P** **23 01 04.2 +0.1**
comp=Z,2.0nm,0.4s,mb4.4
WLF Walferdange 33.15 301 P **P** **23 01 04.6 +0.3**
comp=Z,16nm,2.3s,mb4.5
WLF Walferdange 33.15 301 *eP* **P** **23 01 04.7 +0.4**
comp=Z,20nm,1.5s,mb4.8
MEM Membach 33.22 303 P **P** **23 01 06.6 +1.6**
comp=Z,6.9nm,1.3s,mb4.4
MEM AP pP 23 01 19.1 +1.2
CABF La Chapelle 33.42 296 *eP* **P** **23 01 06.6 -0.1**
comp=Z,13nm,0.7s,mb4.7
CABF La Chapelle 33.42 296 *eP* **P** **23 01 06.6 -0.1**
comp=Z,6.4nm,0.7s,mb4.7
FRF La Foret Royal 33.49 290 *eP* **P** **23 01 07.4 0.0**
comp=Z,9.6nm,0.7s,mb4.5
FRF La Foret Royal 33.49 290 *eP* **P** **23 01 07.4 0.0**
comp=Z,4.8nm,0.7s,mb4.5
LMR La Mourre 33.63 290 *eP* **P** **23 01 08.4 -0.2**
KEST Kesra 33.66 276 P **P** **23 01 10.3 +1.4**
comp=Z,1.1nm,1.0s,mb3.8,baz=228,slow=15,SNR=4.7
ORIF Oris-en-Rattie 33.80 293 *eP* **P** **23 01 10.3 +0.3**
ORIF *e*MLR MLR
comp=Z,72nm,22.0s,MS3.0
GIVF Givet 33.99 302 *eP* **P** **23 01 12.7 +1.1**
comp=Z,21nm,0.9s,mb4.7
GIVF Givet 33.99 302 *eP* **P** **23 01 12.7 +1.1**
comp=Z,10nm,0.9s,mb4.7
DOU Dourbes 34.14 302 P **P** **23 01 15.0 +2.0**
comp=Z,9.8nm,2.3s,mb4.3
BAIF Baives 34.39 302 *eP* **P** **23 01 15.2 +0.1**
comp=Z,23nm,1.0s,mb4.8
BAIF Baives 34.39 302 *eP* **P** **23 01 15.2 +0.1**
comp=Z,11nm,1.0s,mb4.8
LOR Lormes 34.86 297 *eP* **P** **23 01 18.9 -0.3**
comp=Z,10nm,0.8s
LOR *e*MLR MLR
comp=Z,33nm,22.5s
LOR Lormes 34.86 297 *eP* **P** **23 01 18.9 -0.3**
comp=Z,5.1nm,0.8s,mb4.5
SMF Signal de Mont 34.95 296 *eP* **P** **23 01 19.9 -0.1**
comp=Z,12nm,0.8s,mb4.6
SMF Signal de Mont 34.95 296 *eP* **P** **23 01 19.9 -0.1**
comp=Z,6.2nm,0.8s,mb4.6
SSF Saint Saulge 35.12 297 *eP* **P** **23 01 21.2 -0.2**
AVF Avril sur Loir 35.26 297 *eP* **P** **23 01 22.4 -0.3**
comp=Z,22nm,0.9s,mb4.8
AVF Avril sur Loir 35.26 297 *eP* **P** **23 01 22.4 -0.3**
comp=Z,11nm,0.9s,mb4.8
LASF Ste Croix 35.37 292 *eP* **P** **23 01 23.3 -0.3**
comp=Z,19nm,1.1s,mb4.7
LASF Ste Croix 35.37 292 *eP* **P** **23 01 23.3 -0.3**
comp=Z,9.4nm,1.1s,mb4.7
BGF Bois d'Agland 35.64 296 *eP* **P** **23 01 25.6 -0.3**
TCF Toulx Ste Croi 36.12 296 *eP* **P** **23 01 29.9 -0.1**
comp=Z,13nm,0.9s,mb4.5
TCF Toulx Ste Croi 36.12 296 *eP* **P** **23 01 29.9 -0.1**
comp=Z,6.3nm,0.9s,mb4.5
GTA Gaotai 36.27 76 ⇑P **P** **23 01 32.5 +1.1**
GTA PP PP 23 02 58.5 +4.0
GTA S **S** **23 07 10.0 +1.6**
GTA AMB AMB
comp=Z,5.0nm,0.9s,mb4.4
GTA AMB AMB
comp=Z,53nm,4.6s
GTA LR LR
comp=N,65nm,15.6s,MS3.7
GTA LR LR
comp=E,63nm,13.7s,MS3.7
GTA LR LR
comp=Z,75nm,14.8s,MS3.6
CAF Calviac 36.46 294 *eP* **P** **23 01 32.6 -0.4**
ZAK Zakamensk 36.57 57 *eP* **P** **23 01 34.1 +0.3**
ZAK *e* pP 23 01 47.1 +0.3
ZAK pmax pmax
comp=Z,3.0nm,1.2s,mb4.0
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.2
TLY Talaya 36.71 55⇓*iP* **P** **23 01 37.4 +2.4**
TLY pmax pmax
comp=Z,1.0nm,1.7s,mb3.4
RJF Les Rejaudoux 36.77 295 *eP* **P** **23 01 35.4 -0.2**
RJF *e*MLR MLR
comp=Z,48nm,20.0s,MS3.0
LDF La Druitiere 37.34 300 *eP* **P** **23 01 39.8 -0.6**
LFF La Frestale 37.38 294 *eP* **P** **23 01 40.2 -0.6**
comp=Z,32nm,0.8s,mb4.9
LFF La Frestale 37.38 294 *eP* **P** **23 01 40.2 -0.6**
comp=Z,16nm,0.8s,mb4.9
FLN La Foliniere 37.56 301 *eP* **P** **23 01 41.8 -0.4**
comp=Z,16nm,0.8s,mb4.5
FLN *e*MLR MLR
comp=Z,78nm,22.8s,MS3.1
FLN La Foliniere 37.56 301 *eP* **P** **23 01 41.8 -0.4**
comp=Z,8.1nm,0.8s,mb4.5
MFF Saint Martin d 37.67 297 *eP* **P** **23 01 42.5 -0.7**
comp=Z,15nm,0.9s,mb4.4
MFF Saint Martin d 37.67 297 *eP* **P** **23 01 42.5 -0.7**
comp=Z,7.7nm,0.9s,mb4.4
GRR Gorron 37.86 300 *eP* **P** **23 01 44.1 -0.6**
EKA Eskdalemuir Ar 38.70 311 P **P** **23 01 51.6 -0.1**
EKA *PP pP 23 02 04.0 -0.8
EKA pmax pmax
comp=Z,11nm,0.5s
EKA pmax pmax
comp=Z,3.0nm,0.5s
EKA Eskdalemuir Ar 38.70 311 P **P** **23 01 51.5 -0.1**
comp=Z,11nm,0.5s,mb4.9,baz=96,slow=8.6,SNR=124
EKA pP pP 23 02 04.0 -0.8
comp=Z,3.1nm,0.5s,baz=97,slow=8.4,SNR=4.7
ESK Eskdalemuir 38.72 311 *eP* **P** **23 01 51.1 -0.8**
ESK pmax pmax
comp=Z,26nm,1.1s,mb4.9
ESK Eskdalemuir 38.72 311 *eP* **P** **23 01 51.0 -0.9**
comp=Z,26nm,1.1s,mb4.9
SONM Songino Array 38.93 61 P **P** **23 01 53.8 +0.1**
SONM *PP pP 23 02 06.3 -0.6
SONM 23 04 01.7
SONM 23 07 45.1
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=Z,1.0nm,0.9s
SONM pmax pmax
comp=Z,1.0nm,0.8s
SONM pmax pmax
comp=N,1.0nm,0.9s
SONM MLR MLR
comp=Z,81nm,21.7s
SONM Songino Array 38.93 61 P **P** **23 01 53.8 +0.1**
comp=Z,0.8nm,0.8s,mb3.5,baz=254,slow=10,SNR=6.3
SONM pP pP 23 02 06.3 -0.6
comp=Z,1.4nm,0.8s,baz=287,slow=10,SNR=7.2
SONM PcP PcP 23 04 01.7 -1.8
comp=Z,0.6nm,0.8s,baz=302,slow=3.8,SNR=3.7
SONM ScP ScP 23 07 45.1 -2.4
comp=Z,0.9nm,0.9s,baz=275,slow=4.5,SNR=4.0
SONM LR LR 23 19 14.9
comp=Z,81nm,21.6s,MS3.5,baz=248,slow=38
SGMF Saint Gilles 39.00 300 *eP* **P** **23 01 53.9 -0.4**
comp=Z,29nm,0.8s,mb4.8
SGMF Saint Gilles 39.00 300 *eP* **P** **23 01 53.9 -0.4**
comp=Z,15nm,0.8s,mb4.8
ULN Ulaanbaatar 39.36 60 *eP* **P** **23 01 58.2 +0.9**
ULN pmax pmax
comp=Z,12nm,1.1s,mb4.5
ULN Ulaanbaatar 39.36 60 *eP* **P** **23 01 58.2 +0.9**
comp=Z,12nm,1.1s,mb4.5
ROSF Rostrenen 39.45 300 *eP* **P** **23 01 57.6 -0.5**
comp=Z,48nm,0.9s,mb4.9
ROSF Rostrenen 39.45 300 *eP* **P** **23 01 57.6 -0.5**
comp=Z,24nm,0.9s,mb4.9
QUIF Quistinic 39.46 300 *eP* **P** **23 01 57.6 -0.6**
SPITS Spitsbergen Ar 40.36 349 P **P** **23 02 05.4 +0.1**
SPITS *PP pP 23 02 18.6 +0.2
SPITS pmax pmax
comp=Z,15nm,0.8s
SPITS pmax pmax
comp=Z,4.0nm,0.6s
SPITS MLR MLR
comp=Z,65nm,20.8s
SPITS Spitsbergen Ar 40.36 349 P **P** **23 02 05.4 +0.1**
comp=Z,15nm,0.8s,mb4.8,baz=318,slow=11,SNR=12
SPITS pP pP 23 02 18.6 +0.2
comp=Z,3.9nm,0.6s,baz=319,slow=12,SNR=2.6
SPITS LR LR 23 21 43.2
comp=Z,65nm,20.8s,MS3.5,baz=290,slow=40
SPB4 Spitsbergen Ar 40.36 349 *eP* **P** **23 02 07.0 +1.7**
LZH Lanzhou 40.41 79 *eP* **P** **23 02 07.5 +1.3**
LZH AMB AMB
comp=Z,18nm,1.0s,mb4.8
LZH AMB AMB
comp=Z,60nm,4.6s
ESDC Sonseca Array 42.19 288 P **P** **23 02 19.8 -1.0**
comp=Z,0.4nm,0.4s,mb3.4,baz=60,slow=8.3,SNR=7.9
ESDC pP pP 23 02 33.4 -0.5
comp=Z,3.9nm,0.9s,baz=60,slow=7.5,SNR=8.6
BOD Bodaibo 42.34 45 *eP* **P** **23 02 21.4 -0.4**
BOD *e* pP 23 02 33.4 -1.6
BOD pmax pmax
comp=Z,11nm,1.0s,mb4.4
BOD pmax pmax
comp=Z,13nm,0.9s,mb4.6
CD2 Chengdu 42.55 86⇑*iP* **P** **23 02 25.3 +1.5**
CD2 PP PP 23 04 07.5 +4.4
CD2 S **S** **23 08 43.3 +0.5**
CD2 SS SS 23 11 48.5 -5.3
CD2 AMB AMB
comp=Z,10.0nm,0.9s,mb4.5
CD2 AMB AMB
comp=Z,30nm,5.2s
CD2 LR LR
comp=N,120nm,14.4s
CD2 LR LR
comp=Z,60nm,13.2s,MS3.7
KMBO Kilima Mbogo 43.67 202 LR LR 23 22 01.2
comp=Z,56nm,18.6s,MS3.5,baz=99,slow=38
HHC Hu-ho-hao-te 44.34 69 *eP* **P** **23 02 39.8 +1.7**
HHC PP PP 23 04 25.0 +3.0
HHC SCP ScP 23 08 10.3 +1.1
HHC S **S** **23 09 08.8 +0.1**
HHC SS SS 23 12 19.0 -9.3
HHC SCS ScS 23 12 30.0 -1.7
HHC AMB AMB
comp=Z,17nm,1.1s,mb4.7
HHC AMB AMB
comp=Z,80nm,5.4s
HHC LR LR
comp=N,334nm,16.1s,MS4.7
HHC LR LR
comp=E,594nm,14.7s,MS4.7
HHC LR LR
comp=Z,136nm,17.9s,MS3.9
KMI Kunming 44.70 94 P **P** **23 02 42.8 +1.6**
KMI S **S** **23 09 17.5 +3.2**
KMI AMB AMB
comp=Z,8.0nm,0.6s,mb4.7
KMI LR LR
comp=N,204nm,13.7s,MS4.4
KMI LR LR
comp=E,208nm,13.1s,MS4.4
KMI LR LR
comp=Z,206nm,15.3s,MS4.2
XAN Xi'an 45.05 79 P **P** **23 02 44.0 +0.2**
XAN AMB AMB
comp=Z,6.0nm,1.4s,mb4.2
CM31 Chiang Mai Arr 45.76 105 *eP* **P** **23 02 47.1 -2.5**
DAG Danmarks Havn 46.45 343⇑*iP* **P** **23 02 55.0 +0.7**
DAG pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
DAG Danmarks Havn 46.45 343⇑*iP* **P** **23 02 55.0 +0.7**
comp=Z,2.8nm,0.5s,mb4.5
GYA Guiyang 46.98 90 *eP* **P** **23 03 02.8 +3.7**
GYA PCP PcP 23 04 35.3 +4.4
GYA PP PP 23 04 53.5 +3.5
GYA SCP ScP 23 08 22.8 +2.4
GYA PCS PcS 23 08 29.3 +3.2
GYA S **S** **23 09 49.5 +2.5**
GYA SCS ScS 23 12 49.8 +0.6
GYA SS SS 23 13 10.3 -3.8
GYA AMB AMB
comp=Z,10.0nm,0.9s,mb4.8
GYA AMB AMB
comp=Z,90nm,5.6s
GYA LR LR
comp=N,490nm,19.2s,MS4.6
GYA LR LR
comp=E,460nm,18.8s,MS4.6
GYA LR LR
comp=Z,580nm,18.6s,MS4.6
BJI Beijing 47.91 69 P **P** **23 03 07.5 +1.3**
BJI AMB AMB
comp=Z,4.0nm,0.8s,mb4.5
BJI AMB AMB
comp=Z,103nm,4.4s
TIXI Tiksi 47.94 25 *eP* **P** **23 03 05.9 -0.1**
TIXI pmax pmax
comp=Z,16nm,1.5s,mb4.8
TIXI Tiksi 47.94 25 *eP* **P** **23 03 06.3 +0.4**
comp=Z,8.6nm,1.0s,mb4.7
YAK Yakutsk 49.57 37*diP* **P** **23 03 18.3 -0.3**
YAK pmax pmax
comp=Z,11nm,0.8s,mb4.9
TORD Torodi Ar. Bea 51.69 253 P **P** **23 03 34.0 -1.1**
comp=Z,1.0nm,0.5s,mb4.0,baz=31,slow=7.6,SNR=32
CN2 Changchun 52.81 61 *eP* **P** **23 03 45.8 +2.7**
CN2 *eS* **S** **23 11 07.0 -0.9**
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.9
NJ2 Nanjing 53.36 77 *eP* **P** **23 03 51.8 +4.5**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
KSRS Korea Array 57.30 67 P **P** **23 04 14.6 -1.1**
comp=Z,1.5nm,0.5s,mb4.3,baz=287,slow=7.2,SNR=6.7
KSRS LR LR 23 30 57.6
comp=Z,25nm,19.2s,MS3.3,baz=135,slow=38
SEY Seymchan 59.07 32⇑*eP* **P** **23 04 28.7 +1.1**
LSZ Lusaka 59.85 207 LR LR 23 30 01.2
comp=Z,69nm,20.3s,MS3.8,baz=278,slow=36
MA2 Magadan 60.05 35*diP* **P** **23 04 35.0 +0.6**
DBIC Dimbokro 60.79 252 P **P** **23 04 38.0 -2.1**
DBIC pmax pmax
comp=Z,2.0nm,0.6s
DBIC Dimbokro 60.79 252 P **P** **23 04 38.0 -2.1**
comp=Z,2.2nm,0.6s,mb4.5,baz=24,slow=6.9,SNR=6.8
KIC Kosan Boka 60.92 252 *eP* **P** **23 04 40.3 -0.6**
comp=Z,79nm,1.1s
TIC Toumodi 60.93 252 *eP* **P** **23 04 39.0 -2.0**
comp=Z,97nm,1.2s
BILL Bilibino 61.11 23*diP* **P** **23 04 41.7 +0.3**
BILL pmax pmax
comp=Z,15nm,1.3s,mb5.0
BILL MLR MLR
comp=Z,200nm,19.0s,MS4.3
BILL Bilibino 61.11 23 *eP* **P** **23 04 42.0 +0.5**
comp=Z,3.4nm,0.3s,mb5.0
LIC Lamto 61.22 252 *eP* **P** **23 04 42.0 -1.0**
comp=Z,31nm,0.8s,mb5.2
LIC *e*MLR MLR
comp=Z,82nm,21.5s,MS3.5
LIC Lamto 61.22 252 *eP* **P** **23 04 42.0 -1.0**
comp=Z,48nm,0.8s,mb5.7
INK Inuvik 71.33 2 *eP* **P** **23 05 46.8 -0.1**
SCHQ Schefferville 71.56 328 P **P** **23 05 47.9 -0.6**
comp=Z,5.0nm,0.9s,mb4.5,baz=48,slow=15,SNR=4.1
IMA2 Indian Mountai 71.81 11 *eP* **P** **23 05 50.1 +0.3**
BOSA Boshof 73.22 204 P **P** **23 05 58.6 +0.1**
BOSA pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
BOSA MLR MLR
comp=Z,56nm,19.3s,MS3.9
BOSA Boshof 73.22 204 P **P** **23 05 58.5 0.0**
comp=Z,6.3nm,0.8s,mb4.6,baz=45,slow=6.8,SNR=8.9
BOSA LR LR 23 39 17.7
comp=Z,56nm,19.3s,MS3.9,baz=232,slow=37
EGAK Eagle 74.44 6 *eP* **P** **23 06 05.8 +0.5**
DAWY Dawson 75.28 5 *eP* **P** **23 06 09.9 -0.3**
YKA Yellowknife Ar 76.68 354 P **P** **23 06 17.7 -0.5**
YKA *PP pP 23 06 30.0 -2.5
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.8s
YKA Yellowknife Ar 76.68 354 P **P** **23 06 17.7 -0.5**
YKA pP pP 23 06 30.0 -2.5
YKA Yellowknife Ar 76.68 354 P **P** **23 06 17.7 -0.5**
comp=Z,0.5nm,0.6s,mb3.6,baz=6.3,slow=6.3,SNR=10
YKA pP pP 23 06 30.0 -2.5
comp=Z,1.0nm,0.8s,baz=9.7,slow=5.6,SNR=6.9
PMR Palmer 76.71 10 *eP* **P** **23 06 18.7 +0.3**
PMR pmax pmax
comp=Z,11nm,1.1s,mb4.7
PMR Palmer 76.71 10 *eP* **P** **23 06 18.7 +0.3**
comp=Z,11nm,1.1s,mb4.7
FCC Fort Churchill 77.06 343 *eP* **P** **23 06 20.9 +0.5**
ULM Lac du Bonnet 85.23 340 P **P** **23 07 04.3 +0.3**
comp=Z,4.8nm,1.0s,mb4.6,baz=63,slow=6.1,SNR=3.5
CBN Corbin 88.93 322 *eP* **P** **23 07 22.8 +0.7**

*CSEM **26** 23:02:09.8±0.1, 39.13N×2943E, h5km, MD3.2, Error ellipse: s-maj=1.5km s-min=1.2km az=9.0*
*ISK **26** 23:02:09.9, 39.12N×2942E, h6km, MD3.3*
*ISCJB **26** 23:02:10.4±0.4, 39.13N±003×29.44E±003, h8km±4km, Error ellipse: s-maj=4.9km s-min=3.5km az=174.3*
*DDA **26** 23:02:10.1, 39.18N×2941E, h7km±2km, Md3.2*
ISC 26 23:02:10.6±0.4, 3915N±003×2943E±003, h4km±4km, n32, σ0.975/45, 1C, Turkey

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
GDZ	**Gediz**	**0.08**	**146**	*i* P		**Pg**	**23 02 12.7**	**+0.5**
GDZ				*i* S		**Sg**	**23 02 14.6**	**+1.2**
ALT	**Altintas**	**0.54**	**100**	PG		**Pg**	**23 02 20.9**	**-0.1**
ALT				*e*SG		**Sg**	**23 02 28.0**	**-0.1**
DST	**Dursunbey**	**0.77**	**306**	PG		**Pg**	**23 02 25.4**	**+0.1**
DST				*e*SG		**Sg**	**23 02 36.8**	**+1.6**
KULA	**Kula-Manisa**	**0.87**	**223**	PG		**Pg**	**23 02 26.8**	**-0.6**
KULA				*e*SG		**Sg**	**23 02 38.1**	**-0.5**
MANT	**Manisa**	**0.95**	**226**	*i* P		**Pg**	**23 02 27.9**	**-0.9**
MANT				*i* S		**Sg**	**23 02 39.6**	**-1.4**
SHUT	**Suhut-Afyon**	**1.06**	**124**	*e*PG		**Pg**	**23 02 30.3**	**-0.6**
SHUT				*e*SG		**Sg**	**23 02 45.4**	**+0.6**
ESKT	**Eskisehir**	**1.16**	**71**	*i* P		**Pg**	**23 02 31.7**	**-1.2**
ESKT				*i* S		**Sg**	**23 02 45.6**	**-2.4**
ESKT	**Eskisehir**	**1.16**	**71**	*e*Pn		**Pn**	**23 02 32.5**	**-1.1**
SEYT	**Eskypehyr**	**1.16**	**71**	*i* P		**Pg**	**23 02 31.7**	**-1.2**
IZI	**Iznik**	**1.18**	**2**	*e*PN		**Pn**	**23 02 33.5**	**-0.3**
BTOK	**Tokmak**	**1.24**	**300**	*i* P		**Pg**	**23 02 34.0**	**-0.3**
BTOK				*e*S		**Sg**	**23 02 50.3**	**-0.1**
BTOK	**Tokmak**	**1.24**	**300**	*i* P		**Pg**	**23 02 34.0**	**-0.3**
BTOK				*e*S		**Sg**	**23 02 50.3**	**-0.1**
AKHS	**Akhisar**	**1.28**	**258**	*i* P		**Pg**	**23 02 34.8**	**-0.4**
AKHS				*i* S		**Sg**	**23 02 52.5**	**+0.6**
AKS	**Akhisar**	**1.29**	**258**	*e*PN		**Pn**	**23 02 35.1**	**-0.1**
AKS				*e*SN		**Sn**	**23 02 52.9**	**0.0**
BALB	**Balikesir**	**1.29**	**293**	*e*PN		**Pn**	**23 02 35.4**	**0.0**
GEMT	**Gemlik**	**1.29**	**352**	*e*PN		**Pn**	**23 02 35.5**	**+0.1**
ADVT	**Abdulvahap**	**1.30**	**11**	*e*PN		**Pn**	**23 02 35.6**	**+0.1**
TKTP	**Tekketepe**	**1.31**	**147**	*i* P		**Pn**	**23 02 35.9**	**+0.2**
TKTP				*i* S		**Sg**	**23 02 54.8**	**+2.0**
TKTP	**Tekketepe**	**1.31**	**147**	*i* P		**Pn**	**23 02 35.8**	**+0.2**
TKTP				*i* S		**Sg**	**23 02 54.8**	**+2.0**
GPA	**Golpazari**	**1.32**	**31**	*e*PN		**Pn**	**23 02 35.4**	**-0.4**
KCT	**Karacabey**	**1.38**	**324**	*e*PN		**Pn**	**23 02 36.8**	**+0.2**
YLV	**Yalova**	**1.41**	**358**	*e*PN		**Pn**	**23 02 36.9**	**-0.1**
GULT	**Gulveren**	**1.53**	**33**	*e*PN		**Pn**	**23 02 39.1**	**+0.5**
BNT	**Bandirma**	**1.67**	**316**	*e*PN		**Pn**	**23 02 40.1**	**-0.5**
HRT	**Hereke**	**1.68**	**6**	*e*PN		**Pn**	**23 02 41.5**	**+0.8**
EDC	**Edincik**	**1.69**	**315**	*e*PN		**Pn**	**23 02 40.9**	**0.0**
ISK	**Istanbul-Kandi**	**1.93**	**352**	*e*PN		**Pn**	**23 02 44.5**	**+0.4**
KIZT	**Kizilcal**	**1.93**	**97**	*e*PN		**Pn**	**23 02 44.6**	**+0.5**
BLCB	**Balcova**	**2.02**	**248**	*e*PN		**Pn**	**23 02 45.2**	**-0.1**
KLYT	**Kilyos**	**2.12**	**352**	*e*PN		**Pn**	**23 02 47.8**	**+1.1**
CTT	**Catalca**	**2.13**	**339**	*e*PN		**Pn**	**23 02 47.3**	**+0.4**
TIRR	**Tirgusor**	**5.35**	**352**⇑	*i* P		**Pn**	**23 03 31.1**	**-0.1**

*IDC **26** 23:04:43.1±2.0, 485S×133.64E, h0km, mb3.9/5, mb1 3.8/8, mb1mx3.7/14, mbtmp3.7/8, ML3.3/3, Error ellipse: s-maj=101.6km s-min=23.4km az=87.0*
*ISCJB **26** 23:04:46.1±0.8, 497S±006×133.3E±02, h33km, mb3.8/5, Error ellipse: s-maj=26.8km s-min=8.7km az=3.8*
*NEIC **26** 23:04:46.8±1.0, 488S×133.79E, h30km, Error ellipse: s-maj=44.1km s-min=10.0km az=84.0*
ISC 26 23:04:48.3±0.8, 497S±006×1334E±02, h35km, n11, σ0.99/14, mb3.8/5, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase Op	ID	ISC	Time h m s	Res ISC
WRAB	**Tennant Creek**	**14.90**	**177**	*e*Pn		**Pn**	**23 08 16.7**	**+0.2**
	1.3nm,0.6s							
WRA	**Warramunga Arr**	**14.91**	**177**	Pn		**Pn**	**23 08 15.5**	**-1.1**
WRA				Sn		**Sn**	**23 10 51.7**	**-9.0**
WRA	**Warramunga Arr**	**14.91**	**177**	Pn		**Pn**	**23 08 15.5**	**-1.1**
	0.1nm,0.3s,baz=353,slow=12,SNR=4.6							
WRA				Sn		**Sn**	**23 10 51.7**	**-9.0**
	0.1nm,0.3s,baz=0.8,slow=23,SNR=4.0							
FITZ	**Fitzroy Crossi**	**15.10**	**210**	Pn		**Pn**	**23 08 21.9**	**+2.8**
	0.2nm,0.3s,baz=50,slow=17,SNR=7.1							
FITZ				Sn		**Sn**	**23 11 04.4**	**-0.9**
	0.4nm,0.3s,baz=200,slow=15,SNR=9.9							
ASAR	**Alice Springs**	**18.60**	**179**	P		**Pn**	**23 09 03.7**	**+0.6**
	0.2nm,0.3s,baz=5.3,slow=11,SNR=23							
KSRS	**Korea Array**	**42.51**	**354**	P		**P**	**23 12 39.8**	**-0.5**
	0.4nm,0.3s,mb3.6,baz=158,slow=7.9,SNR=3.4							
SONM	**Songino Array**	**57.69**	**339**	P		**P**	**23 14 36.0**	**+0.8**
	0.4nm,0.5s,mb3.7,baz=148,slow=5.8,SNR=4.4							
MK31	**Makanchi Array**	**68.45**	**325**	*e*P		**P**	**23 15 45.3**	**-1.4**
MKAR	**Makanchi Array**	**68.45**	**325**	P		**P**	**23 15 47.6**	**+0.8**
	1.1nm,0.7s,mb4.0,baz=114,slow=7.8,SNR=10							
ZALV	**Zalesovo Beam**	**71.32**	**332**	P		**P**	**23 16 03.8**	**-0.4**
	0.9nm,0.4s,mb4.0,baz=86,slow=4.5,SNR=2.6							
BVAR	**Borovoye Array**	**78.20**	**327**	P		**P**	**23 16 44.3**	**+0.2**
	0.3nm,0.4s,mb3.6,baz=145,slow=5.3,SNR=3.0							

*ISCJB **26** 23:07:26.0±1.1, 04N±01×985E±02, h33km, mb3.9/10, Error ellipse: s-maj=39.4km s-min=12.0km az=153.5*
*NEIC **26** 23:07:26.1±1.1, 031N×9823E, h30km, mb3.9/1, Error ellipse: s-maj=36.7km s-min=10.1km az=67.0*
*IDC **26** 23:07:31.5±5.2, 062N×9879E, h58km±42km, mb3.7/9, mb1 3.8/9, mb1mx3.5/21, mbtmp3.7/9, Error ellipse: s-maj=66.1km s-min=14.8km az=57.0*

ISC 26 23:07:28.5±1.1,05N±02×986E±03,h35km,n12,σ0°76/11, mb3.9/10,Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSI	Prapat	2.32	8	P	Pn	23 08 04.4	+0.1
	0.8nm,0.3s,baz=15,slow=6.9,SNR=3.5						
FITZ	Fitzroy Crossi	32.38	126	P	P	23 13 55.3	+0.2
	1.8nm,0.9s,mb3.9,baz=233,slow=7.8,SNR=4.0						
WRA	Warramunga Arr	40.48	122	P	P	23 15 04.6	+0.5
	1.9nm,0.7s,mb3.9,baz=300,slow=9.0,SNR=8.9						
WRAB	Tennant Creek	40.48	122	eP	P	23 15 04.2	0.0
	1.3nm,0.6s,mb3.8						
ASAR	Alice Springs	41.86	127	P	P	23 15 15.6	+0.1
	1.4nm,0.8s,mb3.6,baz=300,slow=8.1,SNR=11						
SONM	Songino Array	47.65	7	P	P	23 16 01.0	-0.1
	0.1nm,0.4s,mb3.2,baz=166,slow=7.4,SNR=2.4						
MKAR	Makanchi Array	48.27	345	P	P	23 16 04.2	-1.8
	0.9nm,0.7s,mb3.9,baz=170,slow=8.6,SNR=6.0						
STKA	Stephens Creek	51.85	132	P	P	23 16 32.6	-0.9
	4.0nm,0.6s,mb4.5,baz=326,slow=6.4,SNR=7.2						
ZALV	Zalesovo Beam	54.49	350	P	P	23 16 52.9	+0.4
	0.7nm,0.3s,mb4.0,baz=172,slow=6.5,SNR=4.0						
FINES	FINESS Array B	81.27	332	P	P	23 19 40.9	+0.1
	0.4nm,0.4s,mb3.7,baz=115,slow=5.9,SNR=8.3						
ARCES	ARCESS Array B	83.67	340	P	P	23 19 54.6	+1.5
	4.1nm,1.1s,mb4.5,baz=96,slow=4.9,SNR=4.8						
CPUP	Villa Florida	145.39	220	PKPbc	PKPbc	23 27 04.2	+0.7
	1.4nm,0.6s,baz=148,slow=0.8,SNR=3.7						

IDC 26 23:23:06.0±3.0,120S×10044E,h0km,mb3.6/4,mb1 3.8/4, mb1mx3.5/19,mbtmp3.6/4,Error ellipse: s-maj=187.4km s-min=24.4km az=50.0,Southern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	38.03	122	P	P	23 30 25.9	-0.4
	0.2nm,0.8s,baz=304,slow=9.0,SNR=4.8						
ASAR	Alice Springs	39.38	127	P	P	23 30 38.1	+0.5
	0.3nm,0.6s,baz=304,slow=8.4,SNR=5.1						
MKAR	Makanchi Array	50.38	344	P	P	23 32 06.0	+1.1
	0.5nm,0.5s,baz=162,slow=8.7,SNR=9.2						
FINES	FINESS Array B	83.61	332	P	P	23 35 35.0	-1.1
	1.3nm,1.0s,baz=118,slow=8.3,SNR=2.6						

*ISK **26** 23:27:01.2,4009N×4066E,h5km,MD3.2*
*ISCJB **26** 23:27:02.7±0.6,4014N±004×4068E±004,h5km±6km, Error ellipse: s-maj=7.4km s-min=4.4km az=22.1*
*CSEM **26** 23:27:02.5±0.1,4006N×4059E,h8km,MD3.1,Error ellipse: s-maj=3.1km s-min=2.1km az=22.0*
*DDA **26** 23:27:02.8,4012N×4069E,h7km±6km,Md3.1*

ISC 26 23:27:03.3±0.6,4013N±004×4067E±004,h9km±5km,n14, σ0°99/21,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KOPT	Kop Dagi	0.17	231	iP	Pg	23 27 06.0	-0.9
KOPT				iS	Sg	23 27 10.5	+1.1
EZM	Erzurum	0.57	112	PG	Pg	23 27 13.5	-0.9
EZM				eSG	Sg	23 27 22.5	+0.5
ERZM	Erzurum	0.58	112	iP	Pg	23 27 13.4	-1.1
ERZM				iS	Sg	23 27 22.4	+0.4
EZC	Erzincan	0.76	240	ePG	Pg	23 27 22.3	+4.4
GUMT	Gumushane	0.97	291	PG	Pg	23 27 21.1	-0.8
GUMT				eSG	Sg	23 27 35.7	+1.1
KTUT	Trabzon	1.10	322	ePN	Pn	23 27 23.9	-1.0
KTUT				eSN	Sn	23 27 40.4	+0.1
BNGL	BINGOL	1.23	162	iP	Pn	23 27 24.9	-1.8
BNGL				iS	Sb	23 27 44.5	+1.9
BINT	Bingol	1.26	186	ePN	Pn	23 27 25.7	-1.3
ARTV	Artvin	1.43	42	iP	Pn	23 27 30.5	+1.1
ARTV				iS	Sn	23 27 55.4	+7.1
BCA	Borcka	1.50	28	ePN	Pn	23 27 30.6	+0.1
PTK	Pertek	1.58	219	ePN	Pn	23 27 31.0	-0.5
ESPY	Espiye-Giresun	1.68	299	ePN	Pn	23 27 33.5	+0.7
AGRB	Hanur-Agry	1.87	106	ePN	Pn	23 27 36.5	+1.1
BTMT	Batman	2.03	162	ePN	Pn	23 27 37.9	+0.2

*IDC **26** 23:27:38.1±1.0,1645N×9403E,h0km,mb3.9/11, mb1 4.0/11,mb1mx3.8/24,mbtmp3.9/11,Error ellipse: s-maj=48.7km s-min=18.1km az=55.0*
*ISCJB **26** 23:27:41.0±2.6,1651N±007×9406E±005,h33km±19km, mb4.0/18,Error ellipse: s-maj=12.8km s-min=7.7km az=16.1*
*BJI **26** 23:27:40.6,1647N×9401E,h28km,mB4.5,mb4.0,Ms3.9, Msz3.5*
*NEIC **26** 23:27:43.0±0.7,1643N×9412E,h35km,mb4.1/1,Error ellipse: s-maj=16.1km s-min=10.8km az=212.0*

ISC 26 23:27:41.8±2.5,1644N±007×9405E±005,h27km±18km, n33,σ0°87/35,mb4.0/18,1C,Near south coast of Myanmar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CM31	Chiang Mai Arr	5.08	66	ePn	Pn	23 28 55.9	-0.2
	9.6nm,0.4s						
CHG	Chiang Mai	5.23	62	⇑P	Pn	23 28 58.2	0.0
	58nm,0.6s						
CHTO	Chiang Mai	5.23	62	ePn	Pn	23 28 58.0	-0.1
	24nm,0.9s						
CHTO				eSn	Sn	23 29 57.4	-0.2
NST	Nakhon Sawan	5.89	97	P	Pn	23 29 02.0	-5.3
NANT	Nan	6.76	69	P	Pn	23 29 22.1	+2.9
	158nm,1.0s						
SHL	Shillong	9.31	348	eP	Pn	23 29 49.0	-5.2
SHL				eS	Sn	23 31 38.0	0.0
JIRN	Jiri	13.33	328	eP	Pn	23 30 49.8	+0.6
	6.3nm,0.2s						
LSA	Lhasa	13.47	349	P	Pn	23 30 51.0	-0.1
PKI	Pulchoki	13.67	326	eP	Pn	23 30 54.2	+0.3
	6.7nm,0.2s						
GUN	Gumba	13.69	328	eP	Pn	23 30 54.3	+0.1
	3.3nm,0.2s						
DMN	Daman	13.87	325	eP	Pn	23 30 56.0	-0.5
	38nm,0.8s						
GKN	Gorkha	14.43	325	eP	Pn	23 31 04.4	+0.2
	3.0nm,0.2s						
KOLN	Koldanda	14.86	321	eP	Pn	23 31 10.1	0.0
	24nm,0.7s						
DANN	Dangsing	15.19	323	eP	Pn	23 31 14.0	-0.5
	29nm,0.9s						
LZH	Lanzhou	21.43	22	eP	P	23 32 27.0	-0.6
LZH				AP		23 32 33.5	
LZH				XP	sP	23 32 36.8	-1.8
LZH				AMB	AMB		
	comp=Z,31nm,1.5s,mb4.4						
LZH				AMB	AMB		
	comp=Z,156nm,5.0s						
XAN	Xi'an	22.05	35	P	P	23 32 32.8	-1.5
XAN				AP		23 32 41.5	
XAN				AMB	AMB		
	comp=Z,7.0nm,0.9s,mb4.1						
GTA	Gaotai	23.44	11	eP	P	23 32 48.8	-0.2
GTA				AP		23 32 54.5	
GTA				XP	sP	23 32 57.5	-2.5
GTA				AMB	AMB		
	comp=Z,5.0nm,1.1s,mb3.9						
MKAR	Makanchi Array	31.81	345	P	P	23 34 04.6	+0.7
	comp=Z,1.3nm,0.7s,mb3.9,baz=154,slow=10,SNR=10.0						
SONM	Songino Array	32.92	15	P	P	23 34 14.4	+0.7
	comp=Z,1.4nm,0.8s,mb3.9,baz=202,slow=8.8,SNR=6.9						
ZALV	Zalesovo Beam	38.12	351	P	P	23 34 58.5	+0.3
	comp=Z,1.7nm,0.6s,mb4.0,baz=169,slow=9.1,SNR=6.5						
BVAR	Borovoye Array	40.97	338	P	P	23 35 21.6	-0.5
	comp=Z,1.1nm,1.0s,mb3.5,baz=128,slow=9.6,SNR=5.0						
RDF	Al-Radifah	44.41	295	eP	P	23 35 49.7	-0.7
RDF				AMb	AMB	23 35 52.2	
	comp=Z,7.7nm,0.5s,mb4.7						
AKTK	Aktyubinsk	44.57	328	P	P	23 35 51.4	+0.1
AKTO	Aktyubinsk	44.57	328	P	P	23 35 51.4	+0.1
	comp=Z,2.7nm,0.7s,mb4.2,baz=127,slow=7.9,SNR=14						
MIB	Mutribah	44.69	296	eP	P	23 35 47.0	-5.5
MIB				AMb	AMB	23 35 56.4	
	comp=Z,7.5nm,1.0s,mb4.5						
NAY	Al-Naaiem	44.71	295	eP	P	23 35 50.6	-2.1
NAY				AMb	AMB	23 35 55.6	
	comp=Z,5.5nm,1.0s,mb4.3						
WRA	Warramunga Arr	53.60	131	P	P	23 37 00.8	0.0
	comp=Z,0.6nm,0.4s,mb3.9,baz=311,slow=7.5,SNR=20						
WRAB	Tennant Creek	53.61	131	P	P	23 36 58.5	-2.4
	comp=Z,1.4nm,0.7s,mb4.0						
ASAR	Alice Springs	55.72	135	P	P	23 37 18.0	+1.9
	comp=Z,0.4nm,0.9s,mb3.5,baz=298,slow=6.2,SNR=3.8						
MLR	Muntele Rosu	63.16	313	P	P	23 38 08.5	+1.3
	comp=Z,2.0nm,0.9s,mb4.2,baz=136,slow=4.7,SNR=4.7						
FINES	FINESS Array B	65.20	331	P	P	23 38 21.0	+0.7
	comp=Z,1.0nm,1.0s,mb3.8,baz=90,slow=6.9,SNR=3.0						
ARCES	ARCESS Array B	67.25	339	P	P	23 38 33.7	+0.3
	comp=Z,1.4nm,0.8s,mb4.0,baz=120,slow=8.4,SNR=3.7						
GERES	GERESS Array B	71.50	317	P	P	23 39 00.4	+0.4
	comp=Z,0.7nm,0.8s,mb3.6,baz=99,slow=5.8,SNR=7.0						

*NNC **26** 23:48:59.0±3.0,3938N×7448E,h0km,mb4.0,mpv4.5, Error ellipse: s-maj=26.3km s-min=15.2km az=4.0*
*IDC **26** 23:49:00.5±0.7,3940N×7479E,h0km,mb4.0/19, mb1 4.1/23,mb1mx4.1/30,mbtmp4.0/23,ML3.8/4,MS2.9/2, Ms1 2.9/2,ms1mx2.6/27,Error ellipse: s-maj=15.7km s-min=13.2km az=6.0*
*ISCJB **26** 23:49:00.5±1.1,3932N±003×7476E±005,h13km±7km, mb4.0/25,Error ellipse: s-maj=6.6km s-min=4.0km az=158.1*
*NEIC **26** 23:49:01.9±1.0,3935N×7476E,h10km,mb4.1/2,Error ellipse: s-maj=17.0km s-min=9.1km az=158.0*
*BJI **26** 23:49:03.3,3956N×7475E,h21km,mB4.1,mb4.4,ML3.8, Ms3.6,Msz3.5*
*MOS **26** 23:49:03.9±1.1,3944N×7474E,h33km,mb4.2/15,Error ellipse: s-maj=13.5km s-min=7.4km az=90.9*

ISC 26 23:49:01.3±1.3,3936N±003×7473E±005,h5km±8km,n93, σ1°29/108,mb4.0/25,14C-10D,Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	Kashi	0.97	80	PG	Pg	23 49 19.3	-0.7
KSH				SG	Sg	23 49 32.8	+0.2
KSH				Smax			
	comp=N,17μm,0.6s						
KSH				Smax			
	comp=E,22μm,0.8s						
UCH	Uchtor	2.87	357	⇓iPn	Pn	23 49 49.3	+1.7
UCH				eS	Sn	23 50 24.7	+2.3
AAK	Ala-Archa	3.27	357	P	Pn	23 49 54.9	+1.7
	SNR=180						
FRU	Bishkek	3.47	359	⇓iPN	Pn	23 49 58.0	+2.1
FRU				iS	Sn	23 50 42.5	+5.2
FRU				smax			
	comp=N,980nm,1.9s						
TKM2	Tokmak 2	3.62	10	⇓Pn	Pn	23 49 59.6	+1.7
	comp=N,207nm,0.4s						
TKM2				⇑Sn	Sn	23 50 43.1	+2.2
	comp=N,229nm,0.6s						
TKM2	Tokmak 2	3.62	10	⇓iPn	Pn	23 49 59.4	+1.5
TKM2				eSn	Sn	23 50 41.9	+1.0
AAA	Alma-Ata	4.25	22	iPN	Pn	23 50 13.7	+7.2
AAA				iS	Sn	23 51 06.1	+10
KK31	Karatay Array	4.91	321	Pn	Pn	23 50 16.5	+0.9
	comp=N,9.1nm,0.3s,baz=127,slow=12,SNR=393						
KK31				⇑Sn	Sn	23 51 12.9	+0.1
	comp=N,24nm,0.5s,baz=136,slow=20,SNR=4.2						
KK31				⇑Lg		23 51 31.3	
	comp=N,29nm,0.5s,baz=121,slow=29,SNR=3.9						
DLH	Dalhousie	6.88	171	eP	Pn	23 50 50.0	+7.3
DLH				ex	x	23 51 13.0	
THN	Thein Dam	6.96	173	eP	Pn	23 50 49.3	+5.5
THN				ex	x	23 52 12.3	
KLP	Kalpa	8.32	159	eP	Pn	23 51 10.3	+7.8
KLP				eS	Sn	23 52 35.9	-0.9
KLP				AML	AML	23 52 51.0	
	comp=E,112nm,0.4s						
KLP				AML	AML	23 52 55.1	
	comp=N,94nm,1.3s						
SMLA	Simla	8.45	166	eP	Pn	23 51 10.2	+5.9
SMLA				ex	x	23 52 45.6	
MK31	Makanchi Array	9.26	34	Pn	Pn	23 51 15.4	+0.1
	comp=N,4.2nm,1.1s,baz=210,slow=12,SNR=18						
MK31				⇓Lg		23 53 52.2	
	comp=N,4.9nm,0.7s						
MK31	Makanchi Array	9.26	34	ePn	Pn	23 51 15.4	+0.1
MKAR	Makanchi Array	9.26	34	Pn	Pn	23 51 15.6	+0.3
	comp=N,0.3nm,0.3s,baz=212,slow=12,SNR=18						
MKAR				Lg		23 53 53.2	
	comp=N,0.4nm,0.3s,baz=217,slow=26,SNR=3.8						
MKAR				LR	LR	23 54 10.5	
	comp=N,31nm,18.0s,baz=209,slow=34						
DDI	Dehra Dun	9.42	162	eP	Pn	23 51 24.0	+6.4
DDI				ex	x	23 53 13.0	
JOSI	Joshimath	9.63	154	eP	Pn	23 51 25.8	+5.3
JOSI				eS	Sn	23 53 08.0	-1.1
JOSI				AML	AML	23 53 23.9	
	comp=N,132nm,0.5s						
JOSI				AML	AML	23 53 27.0	
	comp=E,158nm,0.8s						
WMQ	Urumqi	10.68	61	eP	Pn	23 51 37.0	+2.2
WMQ				AMB	AMB		
	comp=Z,31nm,1.0s						
NDI	New Delhi	10.85	168	ex	Pn	23 51 32.0	-5.2
NDI				ex	Sn	23 53 45.0	+6.1
SONA	Sohna	11.25	169	eP	Pn	23 51 45.6	+2.9
SONA				eS	Sn	23 53 43.6	-5.2
KUDL	Kundal	11.28	172	eP	Pn	23 51 47.2	+4.1
KUDL				eS	Sn	23 53 43.4	-6.2
KHET	Khetri	11.29	175	eP	Pn	23 51 46.6	+3.3
KHET				eS	Sn	23 53 42.4	-7.4
KURBB	Kurchatov Arra	11.57	12	⇑Pn	Pn	23 51 43.0	-4.0
	comp=Z,0.3nm,0.7s						
KURBB				⇑Lg		23 55 06.0	
	comp=Z,5.8nm,0.9s						
KURK	Kurchatov	11.68	12	⇓Pn	Pn	23 51 45.1	-3.3
KURK				⇑Lg		23 55 13.0	
	comp=Z,72nm,1.5s						
DANN	Dangsing	13.29	143	eP	Pn	23 52 10.0	-0.6
	comp=Z,18nm,0.3s						
VOSK	Vostochnaya	13.61	350	⇓Pn	Pn	23 52 09.6	-5.2
	comp=Z,4.1nm,0.9s						
VOSK				⇑Lg		23 56 08.2	
	comp=Z,38nm,1.3s						
BVA0	Borovoye Array	13.99	349	⇑Pn	Pn	23 52 19.0	-0.9
	comp=Z,0.8nm,0.8s,baz=166,slow=13,SNR=14						
BVA0				⇓Lg		23 56 20.9	
	comp=Z,3.9nm,1.8s,baz=155,slow=27,SNR=5.9						
BVAR	Borovoye Array	13.99	349	Pn	Pn	23 52 16.3	-3.6
	comp=Z,0.2nm,0.3s,baz=156,slow=16,SNR=6.1						
BVAR				Lg		23 56 16.1	
	comp=Z,0.2nm,0.3s,baz=146,slow=29,SNR=6.3						
BVAR				LR	LR	23 57 49.2	
	comp=Z,111nm,19.0s,baz=57,slow=38						
GKN	Gorkha	14.00	141	eP	Pn	23 52 18.3	-1.9
	comp=Z,3.3nm,0.3s						
BRVK	Borovoye	14.04	349	eP	Pn	23 52 22.0	+1.4
BRVK				pmax	pmax		
	comp=Z,9.0nm,0.9s						
BRVK	Borovoye	14.04	349	ePn	Pn	23 52 22.0	+1.4
	comp=Z,9.1nm,0.9s						
ZRNK	Zerenda	14.15	346	⇓Pn	Pn	23 52 19.6	-2.6
	comp=Z,3.7nm,0.8s						
ZRNK				⇑Lg		23 56 24.9	
	comp=Z,31nm,1.6s						
AB31	Akbulak array	14.46	318	⇑Pn	Pn	23 52 24.5	-1.9
	comp=Z,4.2nm,0.5s,baz=131,slow=12,SNR=109						
AB31				⇑Sn	Sn	23 55 03.9	-3.2
	comp=Z,1.9nm,0.7s,baz=123,slow=25,SNR=3.8						
KKN	Kakani	14.49	140	eP	Pn	23 52 25.7	-1.3
	comp=Z,18nm,0.5s						
DMN	Daman	14.56	141	eP	Pn	23 52 26.3	-1.5
	comp=Z,9.9nm,0.3s						
GUN	Gumba	14.70	138	eP	Pn	23 52 28.8	-1.0
	comp=Z,22nm,0.4s						
PKI	Pulchoki	14.74	140	eP	Pn	23 52 28.8	-1.5
	comp=Z,22nm,0.6s						
JIRN	Jiri	15.07	137	eP	Pn	23 52 33.7	-1.1
	comp=Z,37nm,0.4s						
ZAL	Zalesovo	16.11	22	P	Pn	23 52 46.3	-1.9
ZALV	Zalesovo Beam	16.12	22	Pn	Pn	23 52 46.3	-2.2
	comp=Z,1.5nm,0.3s,baz=287,slow=40,SNR=4.8						
AKTK	Aktyubinsk	16.17	319	Pn	Pn	23 52 47.7	-1.4
AKTO	Aktyubinsk	16.17	319	⇑Pn	Pn	23 52 46.1	-3.0
	comp=Z,0.1nm,0.6s						
AKTO	Aktyubinsk	16.17	319	P	Pn	23 52 47.7	-1.4
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	16.17	319	Pn	Pn	23 52 47.7	-1.4
	comp=Z,0.6nm,0.3s,baz=134,slow=13,SNR=14						
NVS	Novosibirsk	16.51	18	eP	Pn	23 52 53.8	+0.4
NVS				eS	Sn	23 55 54.8	-2.0
NVS				pmax	pmax		
	comp=N,8.0nm,1.7s						
NVS				pmax	pmax		
	comp=Z,9.0nm,1.7s						
NVS				pmax	pmax		
	comp=E,3.0nm,1.1s						
NVS				smax			
	comp=N,10.0nm,1.9s						
NVS				smax			
	comp=E,6.0nm,1.7s						
LSA	Lhasa	16.59	121	P	Pn	23 52 57.8	+3.3
GTA	Gaotai	19.38	82	eP	Pn	23 53 29.5	+0.7
GTA				AP	pP	23 53 34.3	+5.0
GTA				XP	sP	23 53 36.8	+6.8
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s						
ARU	Arti	20.14	333	eP	P	23 53 36.3	+0.4
ARU				e		23 53 48.0	
ARU				eSS		23 57 19.4	
ARU	Arti	20.14	333	eP	P	23 53 34.6	-1.3
	comp=Z,5.3nm,0.8s						
ZAK	Zakamensk	22.90	52	eP	P	23 54 05.8	+0.2
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.5						
GNI	Garni	23.02	282	P	P	23 54 06.7	-0.4
GNI				pmax	pmax		
	comp=Z,2.0nm,0.3s						
GNI	Garni	23.02	282	eP	P	23 54 06.6	-0.4
	comp=Z,8.6nm,0.8s,mb4.2						
GNI	Garni	23.02	282	P	P	23 54 06.7	-0.3
	comp=Z,1.8nm,0.3s,mb4.0,baz=130,slow=12,SNR=2.7						
LZH	Lanzhou	23.21	89	eP	P	23 54 11.5	+2.4
LZH				AP		23 54 16.8	
LZH				XP	sP	23 54 19.0	+7.7
LZH				AMB	AMB		
	comp=Z,18nm,1.4s,mb4.3						
KIV	Kislovodsk	24.29	291	eP	P	23 54 24.1	+4.8
KIV				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.0						
SONM	Songino Array	24.31	59	P	P	23 54 19.5	0.0
	comp=Z,0.3nm,0.4s,mb3.1,baz=243,slow=9.7,SNR=2.9						
CD2	Chengdu	25.11	101	eP	P	23 54 27.0	+0.1
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
AKASG	Malin Array Be	33.59	305	P	P	23 55 41.7	-0.4
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	Malin Array Be	33.59	305	P	P	23 55 41.7	-0.5
	comp=Z,0.9nm,0.5s,mb4.0,baz=79,slow=7.3,SNR=6.0						
JOF	Joensuu	34.98	327	ep	P	23 55 54.5	+0.5
	comp=Z,0.3nm,0.3s,mb3.7						
MLR	Muntele Rosu	36.07	296	P	P	23 56 05.6	+2.0
MLR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MLR	Muntele Rosu	36.07	296	P	P	23 56 05.6	+2.0
	comp=Z,1.3nm,0.5s,mb4.1,baz=137,slow=7.9,SNR=2.6						
MLR	Muntele Rosu	36.07	296	⇓iP	P	23 56 10.0	+6.4
FINES	FINESS Array B	36.87	323	P	P	23 56 09.7	-0.5
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	FINESS Array B	36.87	323	P	P	23 56 09.7	-0.5
	comp=Z,0.7nm,0.4s,mb3.9,baz=112,slow=10,SNR=20						
IDI	Anoyia	39.44	280	P	P	23 56 32.5	+0.2
	comp=Z,3.1nm,0.9s,mb4.0,baz=25,slow=1.5,SNR=9.8						
ARCES	ARCESS Array B	39.70	335	P	P	23 56 32.8	-1.2
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	ARCESS Array B	39.70	335	P	P	23 56 32.8	-1.2
	comp=Z,1.1nm,0.7s,mb3.7,baz=104,slow=8.9,SNR=9.7						
PKSM	Moragy	40.99	299	⇑iP	P	23 56 46.5	+1.6
HFS	Hagfors	42.72	320	P	P	23 56 59.4	+0.6
HFS				pmax	pmax		
	comp=Z,2.0nm,0.5s						
HFS	Hagfors	42.72	320	P	P	23 56 59.4	+0.6
	comp=Z,2.0nm,0.5s,mb4.1,baz=97,slow=12,SNR=17						
GERES	GERESS Array B	43.76	303	P	P	23 57 08.8	+1.4
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	43.76	303	P	P	23 57 08.8	+1.4
	comp=Z,0.9nm,0.7s,mb3.6,baz=63,slow=7.9,SNR=13						
NB2	NORSAR Subarra	43.94	321	P	P	23 57 08.5	-0.2
	comp=Z,1.2nm,0.5s,mb3.9,baz=91,slow=8.6						
NOA	NORSAR Array B	43.94	321	P	P	23 57 08.5	-0.2
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	NORSAR Array B	43.94	321	P	P	23 57 08.4	-0.3
	comp=Z,1.1nm,0.5s,mb3.8,baz=90,slow=8.0,SNR=7.6						
DAVOX	Davos/Dischmat	46.74	301	P	P	23 57 31.7	+0.6
	comp=Z,3.7nm,0.5s,mb4.5,baz=91,slow=8.6,SNR=15						
MJAR	Matsushiro Arr	49.21	72	P	P	23 57 50.0	-0.4
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MJAR	Matsushiro Arr	49.21	72	P	P	23 57 50.0	-0.4
	comp=Z,0.8nm,0.5s,mb4.0,baz=289,slow=9.4,SNR=3.5						
EKA	Eskdalemuir Ar	52.32	315	P	P	23 58 14.2	+0.7
EKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
EKA	Eskdalemuir Ar	52.32	315	P	P	23 58 14.2	+0.7
	comp=Z,1.1nm,0.6s,mb3.9,baz=88,slow=10,SNR=6.1						
BILL	Bilibino	54.73	27	eP	P	23 58 31.1	0.0
BILL				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
ESDC	Sonseca Array	58.74	298	P	P	23 59 00.2	+0.2
	comp=Z,0.6nm,0.6s,mb3.8,baz=54,slow=7.1,SNR=6.3						
TORD	Torodi Ar. Bea	68.71	270	P	P	00 00 05.9	-0.2
	comp=Z,1.2nm,0.4s,mb4.1,baz=47,slow=5.7,SNR=44						
YKA	Yellowknife Ar	78.21	4	P	P	00 01 00.8	-0.5
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	Yellowknife Ar	78.21	4	P	P	00 01 00.8	-0.5
	comp=Z,0.8nm,0.6s,mb3.8,baz=349,slow=5.6,SNR=13						
WRA	Warramunga Arr	81.09	125	P	P	00 01 18.0	+0.5
WRA				pmax	pmax		
	comp=Z,4.0nm,0.5s						
WRA	Warramunga Arr	81.09	125	P	P	00 01 18.0	+0.4
	comp=Z,3.6nm,0.5s,mb4.5,baz=319,slow=4.3,SNR=96						
WB2	Warramunga Arr	81.10	125	⇑iP	P	00 01 18.0	+0.4
BOSA	Boshof	81.84	222	P	P	00 01 21.4	+0.1
BOSA				pmax	pmax		
	comp=Z,4.0nm,1.1

SZGRF ***27*** *00:00:27.7, 47.50N×149.50E, h33km, mb4.9, Northwest of Kuril Islands, Russia*
SKHL ***27*** *00:01:32.0±2.2, 49.15N×147.94E, h581km±27km, mb6.0/1, msh5.2/6*
BJI ***27*** *00:01:34.6, 49.23N×147.40E, h566km, mB4.8, mb4.6*
MOS ***27*** *00:01:35.2±0.7, 49.30N×147.45E, h574km, mb4.3/71, Error ellipse: s-maj=9.5km s-min=4.5km az=104.1*
ISCJB ***27*** *00:01:35.2±0.2, 49.31N±003×147.39E±003, h568km±3km, mb4.3/153, Error ellipse: s-maj=4.6km s-min=2.7km az=176.1*
NEIC ***27*** *00:01:36.0±0.3, 49.30N×147.39E, h569km±4km, mb4.2/78, Error ellipse: s-maj=5.0km s-min=2.7km az=176.0*
IDC ***27*** *00:01:36.1±1.1, 49.27N×147.49E, h576km±12km, mb3.7/23, mb1 3.8/25, mb1mx3.8/28, mbtmp3.7/25, Error ellipse: s-maj=10.1km s-min=9.2km az=142.0*
ISC 27 00:01:35.7±0.2,**49.34N**±003×**147.33E**±003,**h558**km±3km, **h547**km±2.3km;**pP-P,n614,**σ0§**68**/643,**mb4.3**/153, **129C-109D,Sea of Okhotsk**

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
TYV	**Tymovskoe**	**3.38**	**299**	*eP*			**P**	**00 02 55.5**	**+2.0**
TYV					AMB		AMB	00 02 57.4	
	145nm,0.8s								
TYV					AMB		AMB	00 02 57.4	
	262nm,0.8s								
TYV					AMB		AMB	00 02 57.4	
	557nm,0.8s								
TYV				*e*S			**S**	**00 04 02.0**	**+4.7**
TYV				A				00 04 03.0	
	136nm,1.0s								
TYV				A				00 04 03.0	
	128nm,1.0s								
UGL	**Uglegorsk**	**3.46**	**268**⇑	*i*P			**P**	**00 02 57.2**	**+3.0**
UGL				*i* S			**S**	**00 04 02.0**	**+3.6**
UGL				pmax		pmax			
	comp=N,550nm,1.0s								
UGL				pmax		pmax			
	comp=E,1μm,1.0s								
UGL				pmax		pmax			
	comp=Z,2μm,1.0s								
UGL				pmax		pmax			
	comp=Z,1μm,0.8s								
UGL				pmax		pmax			
	comp=N,380nm,0.6s								
UGL				pmax		pmax			
	comp=E,440nm,0.6s								
UGL				smax					
	comp=N,800nm,2.0s								
UGL				smax					
	comp=E,900nm,2.0s								
UGL				smax					
	comp=N,160nm,0.8s								
UGL				smax					
	comp=E,340nm,1.0s								
UGL	**Uglegorsk**	**3.46**	**268**⇑	*i*P			**P**	**00 02 57.2**	**+3.0**
UGL				⇑*i*P				00 02 57.2	
UGL				AMB		AMB		00 02 58.0	
	comp=E,2μm,1.0s								
UGL				AMB		AMB		00 02 58.0	
	comp=E,550nm,1.0s								
UGL				AMB		AMB		00 02 58.0	
	comp=E,1μm,1.0s								
UGL				AMB		AMB		00 02 58.0	
	comp=E,380nm,0.6s								
UGL				AMB		AMB		00 02 58.0	
	comp=E,440nm,0.6s								
UGL				AMB		AMB		00 02 58.0	
	comp=E,1μm,0.8s								
UGL				*i* S			**S**	**00 04 02.0**	**+3.6**
UGL				*e*S			**S**	**00 04 03.0**	**+4.6**
UGL				A				00 04 04.0	
	comp=E,800nm,2.0s								
UGL				A				00 04 04.0	
	comp=E,900nm,2.0s								
UGL				A				00 04 04.0	
	comp=E,340nm,1.0s								
UGL				A				00 04 04.0	
	comp=E,160nm,0.8s								
YSS	**Yuzh-Sakhalins**	**3.88**	**234**α	*i*P			**P**	**00 02 59.1**	**+1.9**
YSS				*e*S			**S**	**00 04 05.0**	**+1.3**
YSS				pmax		pmax			
	comp=Z,540nm,0.8s								
YSS				smax					
	comp=N,290nm,1.0s								
YSS				smax					
	comp=E,390nm,1.0s								
YSS				smax					
	comp=N,1μm,4.0s								
YSS				smax					
	comp=E,2μm,4.0s								
YSS	**Yuzh-Sakhalins**	**3.88**	**234**	*e*P			**P**	**00 02 59.6**	**+2.4**
YSS	**Yuzh-Sakhalins**	**3.88**	**234**⇑	*i*P			**P**	**00 02 59.1**	**+1.9**
YSS				⇑*i*P				00 02 59.1	
YSS				AMB		AMB		00 02 59.1	
	comp=E,540nm,0.8s								
YSS				*e*S			**S**	**00 04 05.0**	**+1.3**
YSS				A				00 04 07.1	
	comp=E,290nm,1.0s								
YSS				A				00 04 07.1	
	comp=E,390nm,1.0s								
YSS				A				00 04 08.0	
	comp=E,1μm,4.0s								
YSS				A				00 04 08.0	
	comp=E,2μm,4.0s								
KUR	**Kuril'sk**	**4.12**	**175**⇓	*i*P			**P**	**00 02 58.0**	**-1.0**
KUR				*e*S			**S**	**00 04 06.0**	**-1.0**
KUR				pmax		pmax			
	comp=Z,480nm,0.9s								
KUR				smax					
	comp=N,410nm,0.9s								
KUR				smax					
	comp=E,280nm,0.9s								
KUR	**Kuril'sk**	**4.12**	**175**⇓	*i*P			**P**	**00 02 58.0**	**-1.0**
KUR				AMB		AMB		00 02 59.0	
	comp=E,483nm,0.9s								
KUR				*e*S			**S**	**00 04 06.0**	**-1.0**
KUR				A				00 04 06.9	
	comp=E,412nm,0.9s								
KUR				A				00 04 06.9	
	comp=E,284nm,0.9s								
OKH	**Okha**	**5.04**	**329**	*e*P			**P**	**00 03 10.4**	**+4.4**
OKH				*i* S			**S**	**00 04 26.4**	**+6.3**
OKH				smax					
	comp=N,2μm,7.0s								
OKH				smax					
	comp=E,2μm,4.0s								
OKH	**Okha**	**5.04**	**329**	*e*P			**P**	**00 03 10.4**	**+4.4**
OKH				*e*P				00 03 11.0	
OKH				AMB		AMB		00 03 11.4	
	comp=E,200nm,0.7s								
OKH				⇓*i*S			**S**	**00 04 26.4**	**+6.3**
OKH				*e*S			**S**	**00 04 27.1**	**+7.0**
OKH				A				00 04 27.4	
	comp=E,200nm,1.0s								
OKH				A				00 04 28.0	
	comp=E,2μm,4.0s								
OKH				A				00 04 28.0	
	comp=E,2μm,7.0s								
YUK	**Yuzh-Kuril'sk**	**5.40**	**191**	*e*rx			rx	00 03 52.6	
YUK				*e*S			**S**	**00 04 20.3**	**-5.6**
YUK				A				00 04 30.2	
	comp=E,3μm,1.2s								
YUK				A				00 04 30.2	
	comp=E,1μm,0.6s								
YUK				A				00 04 33.5	
	comp=E,800nm,0.5s								
YUK				A				00 04 33.5	
	comp=E,600nm,0.5s								
JWK2	**Keihoku**	**5.46**	**225**	P			**P**	**00 03 11.2**	**+1.3**
JWK2				*e*S			**S**	**00 04 29.0**	**+2.1**
NKL	**Nikolayevsk**	**5.66**	**315**	*i* P			**P**	**00 03 11.0**	**-0.3**
NKL				AMB		AMB		00 03 11.7	
	comp=E,20nm,0.7s								
NKL				*i* S			**S**	**00 04 30.4**	**+0.5**
NKL				A				00 04 31.8	
	comp=E,70nm,1.0s								
NKL				A				00 04 31.8	
	comp=E,170nm,1.0s								
NKL				A				00 04 32.0	
	comp=E,800nm,3.5s								
JMP	**Maruseppu**	**5.99**	**209**	P			**P**	**00 03 13.5**	**-1.1**
JMP				*e*S			**S**	**00 04 33.8**	**-1.7**
ASAJ	**Asahikawa**	**6.15**	**214**	P			**P**	**00 03 16.3**	**+0.2**
ASAJ				S			**S**	**00 04 37.1**	**-1.1**
JEW	**Eniwo**	**7.68**	**214**	P			**P**	**00 03 30.4**	**-0.1**
JEW				S			**S**	**00 04 59.2**	**-5.3**
JEM	**Erimo**	**7.88**	**203**	P			**P**	**00 03 31.5**	**-1.0**
JEM				*e*S			**S**	**00 05 02.1**	**-6.1**
ERM	**Erimo**	**7.88**	**203**	P			**P**	**00 03 31.7**	**-0.8**
	comp=E,514nm,0.4s,SNR=20								
ERM	**Erimo**	**7.88**	**203**⇑	*i*P			**P**	**00 03 31.3**	**-1.2**
PET	**Petropavlovsk**	**8.01**	**58**	*e*P			**P**	**00 03 33.5**	**0.0**
HABR	**Khabarovsk**	**8.14**	**269**⇑	*i*P			**P**	**00 03 37.5**	**+2.6**
HABR				*e*S			**S**	**00 05 17.8**	**+5.1**
HABR				pmax		pmax			
	comp=Z,118nm,0.6s								
JSH	**Shimam**	**8.40**	**220**	P			**P**	**00 03 36.2**	**-1.3**
JSH				*e*S			**S**	**00 05 13.3**	**-4.2**
JOT	**Ohata**	**9.10**	**211**	P			**P**	**00 03 43.0**	**-1.6**
JOT				S			**S**	**00 05 22.4**	**-8.0**
JTM	**Tenmabayashi**	**9.63**	**210**	P			**P**	**00 03 48.6**	**-1.3**
JTM				S			**S**	**00 05 32.7**	**-7.5**
KLR	**Kul'dur**	**10.19**	**275**⇓	*i*P			**P**	**00 03 53.8**	**-1.6**
KLR				*e*S			**S**	**00 05 50.0**	**-0.4**
KLR				pmax		pmax			
	comp=E,100nm,1.8s								
KLR				pmax		pmax			
	comp=Z,100nm,1.8s								
MA2	**Magadan**	**10.45**	**10**	*d i*P			**P**	**00 03 58.8**	**+0.9**
MA2				pmax		pmax			
	comp=Z,60nm,0.6s								
MA2	**Magadan**	**10.45**	**10**	*e*P			**P**	**00 03 57.7**	**-0.2**
JOM	**Ohasama**	**10.76**	**206**	P			**P**	**00 04 01.1**	**-0.4**
JOM				S			**S**	**00 05 57.6**	**-3.8**
JYA	**Atsumi**	**12.05**	**210**	P			**P**	**00 04 14.9**	**+0.1**
JYA				*e*S			**S**	**00 06 13.7**	**-12**
JMM	**Marumori**	**12.40**	**205**	*e*S			**S**	**00 06 36.0**	**+3.8**
MDJ	**Mudanjiang**	**13.00**	**255**	*e*P			**P**	**00 04 22.9**	**-1.5**
	comp=Z,30nm,0.7s								
ZEA	**Zeya**	**13.24**	**297**	*e*P			**P**	**00 04 27.2**	**+0.5**
ZEA				AMB		AMB		00 04 28.1	
	comp=Z,10.0nm,0.7s								
ZEA				*e*S			**S**	**00 06 46.0**	**-1.5**
ZEA				A				00 06 48.0	
	comp=Z,300nm,4.0s								
SEY	**Seymchan**	**13.91**	**10**⇓	*i*P			**P**	**00 04 34.0**	**+0.6**
JYT	**Yasato**	**14.10**	**204**	P			**P**	**00 04 34.5**	**-1.3**
MAJO	**Matsushiro**	**14.41**	**211**	*e*P			**P**	**00 04 38.6**	**-0.4**
MAT	**Matsushiro**	**14.41**	**211**	P			**P**	**00 04 38.4**	**-0.6**
MAT				S			**S**	**00 07 11.0**	**+1.0**
MJAR	**Matsushiro Arr**	**14.41**	**211**	P			**P**	**00 04 38.8**	**-0.3**
	comp=Z,6.1nm,0.3s,baz=20,slow=9.6,SNR=133								
MJAR						ScP	ScP	00 11 48.4	-4.3
	comp=Z,0.2nm,0.3s,baz=87,slow=1.4,SNR=8.2								
JRY	**Ryogami san**	**14.67**	**208**	P			**P**	**00 04 41.0**	**-0.7**
JRY				*e*S			**S**	**00 07 16.3**	**+1.5**
JOD2	**Odawara 2**	**15.32**	**206**	P			**P**	**00 04 46.5**	**-1.8**
CLNS	**Chul'man**	**15.38**	**308**	*e*P			**P**	**00 04 48.7**	**+0.2**
CLNS				*e*S			**S**	**00 07 32.9**	**+6.4**
CLNS				pmax		pmax			
	comp=Z,86nm,0.8s								
CLNS				pmax		pmax			
	comp=N,60nm,1.7s								
CLNS				pmax		pmax			
	comp=E,42nm,0.9s								
CLNS				smax					
	comp=E,50nm,1.5s								
CLNS				smax					
	comp=Z,3.0nm,0.6s								
CLNS				smax					
	comp=N,40nm,1.0s								
CN2	**Changchun**	**16.01**	**258**	*e*P			**P**	**00 04 53.0**	**-1.8**
CN2				*e*S			**S**	**00 07 32.0**	**-5.4**
CN2				AMB		AMB			
	comp=Z,10.0nm,1.0s								
CN2				AMB		AMB			
	comp=Z,200nm,4.0s								
YAK	**Yakutsk**	**16.07**	**329**	*d i*P			**P**	**00 04 54.7**	**-0.3**
YAK				*e*S			**S**	**00 07 37.1**	**-0.7**
YAK				pmax		pmax			
	comp=Z,209nm,0.8s								
YAK				pmax		pmax			
	comp=N,53nm,1.7s								
YAK				pmax		pmax			
	comp=E,34nm,0.8s								
YAK				smax					
	comp=N,92nm,2.1s								
YAK				smax					
	comp=E,97nm,2.7s								
YAK	**Yakutsk**	**16.07**	**329**	*e*P			**P**	**00 04 54.8**	**-0.2**
JSG	**Sagara**	**16.13**	**208**	P			**P**	**00 04 56.8**	**+0.7**
JWT	**Wachi**	**16.56**	**216**	P			**P**	**00 04 59.7**	**-0.2**
SMY	**Shemya**	**17.13**	**68**	*e*P			**P**	**00 05 04.4**	**-0.5**
SMY				pmax		pmax			
	comp=Z,71nm,0.8s								
SMY	**Shemya**	**17.13**	**68**	*e*P			**P**	**00 05 04.4**	**-0.5**
	comp=Z,71nm,0.8s								
KSRS	**Korea Array**	**18.38**	**237**	P			**P**	**00 05 17.8**	**+1.3**
	comp=Z,0.9nm,0.3s,baz=40,slow=10,SNR=21								
KSRS						ScP	ScP	00 11 57.7	-2.9
	comp=Z,0.3nm,0.3s,baz=8.9,slow=2.9,SNR=5.8								
KS15	**Wonju Array Si**	**18.41**	**237**	*e*P			**P**	**00 05 18.8**	**+1.9**
AMKA	**Amchitka**	**20.41**	**72**	*e*P			**P**	**00 05 33.5**	**-1.3**
BILL	**Bilibino**	**21.00**	**20**	*d i*P			**P**	**00 05 39.3**	**-0.5**
BILL				*e*S			**S**	**00 08 57.0**	**-0.1**
BILL				pmax		pmax			
	comp=Z,6.0nm,0.6s,mb4.4								
BILL	**Bilibino**	**21.00**	**20**	*e*P			**P**	**00 05 39.5**	**-0.4**
	comp=Z,7.2nm,0.6s,mb4.5								
BOD	**Bodaibo**	**21.34**	**306**	*e*P			**P**	**00 05 42.0**	**-1.0**
BOD				pmax		pmax			
	comp=Z,7.0nm,1.6s,mb4.0								
BJI	**Beijing**	**23.88**	**259**	P			**P**	**00 06 02.0**	**-3.9**
BJI				XP		sP		00 08 35.5	-0.7
BJI				AMB		AMB			
	comp=Z,4.0nm,1.2s,mb3.9								
TIXI	**Tiksi**	**23.94**	**346**	*e*P			**P**	**00 06 05.7**	**-0.3**
TIXI				pmax		pmax			
	comp=Z,16nm,0.6s,mb4.8								
TIXI	**Tiksi**	**23.94**	**346**	*e*P			**P**	**00 06 05.8**	**-0.2**
	comp=Z,19nm,0.5s,mb5.0								
ULN	**Ulaanbaatar**	**26.46**	**282**	*d i*P			**P**	**00 06 29.4**	**+0.8**
SONM	**Songino Array**	**26.89**	**283**	P			**P**	**00 06 32.5**	**+0.1**
SONM				pmax		pmax			
	comp=Z,2.0nm,0.8s								
SONM				pmax		pmax			
	comp=N,6.0nm,0.7s								
SONM	**Songino Array**	**26.89**	**283**	P			**P**	**00 06 32.5**	**+0.1**
	comp=N,1.7nm,0.8s,mb3.7,baz=59,slow=7.8,SNR=8.3								
SONM						ScP	ScP	00 12 20.0	-3.0
	comp=N,5.7nm,0.7s,baz=69,slow=2.3,SNR=22								
NJ2	**Nanjing**	**27.41**	**242**	*e*P			**P**	**00 06 40.3**	**+3.2**
NJ2				XP		sP		00 09 12.0	-0.1
NJ2				PCP		PcP		00 09 42.5	+5.3
NJ2				S			**S**	**00 10 43.5**	**+4.8**
NJ2				AMB		AMB			
	comp=Z,20nm,0.6s,mb4.9								
NJ2				AMB		AMB			
	comp=Z,180nm,4.8s								
TLY	**Talaya**	**27.58**	**292**⇑	*i*P			**P**	**00 06 39.8**	**+1.5**
TLY				pmax		pmax			
	comp=Z,1.0nm,1.0s,mb3.4								
ZAK	**Zakamensk**	**28.11**	**289**	*e*P			**P**	**00 06 44.4**	**+1.4**
ZAK				pmax		pmax			
	comp=Z,3.0nm,1.0s,mb3.9								
TTA	**Tatalina**	**33.17**	**44**	*e*P			**P**	**00 07 25.5**	**-0.6**
SVW2	**Sparrevohn**	**33.51**	**48**	*e*P			**P**	**00 07 29.2**	**+0.3**
IMA2	**Indian Mountai**	**34.09**	**39**	*e*P			**P**	**00 07 33.5**	**-0.3**
LZH	**Lanzhou**	**34.11**	**264**	*e*P			**P**	**00 07 32.8**	**-1.6**
LZH				XP		sP		00 10 11.5	-0.4
LZH				*e*S			**S**	**00 12 22.0**	**+0.8**
LZH				XS		sS		00 15 12.3	-2.2
LZH				AMB		AMB			
	comp=Z,13nm,1.0s,mb4.4								
LZH				AMB		AMB			
	comp=Z,90nm,4.2s								
GTA	**Gaotai**	**34.87**	**272**	*e*P			**P**	**00 07 42.5**	**+1.9**
GTA				AP				00 09 20.5	
GTA				XP		sP		00 10 18.5	0.0
GTA				SCP		ScP		00 12 47.3	-2.7
GTA				PCS		PcS		00 13 40.8	-4.3
GTA				SCS		ScS		00 16 57.8	+2.5
GTA				AMB		AMB			
	comp=Z,7.0nm,0.9s,mb4.2								
KDAK	**Kodiak Island**	**35.56**	**53**	P			**P**	**00 07 45.0**	**-1.2**
	comp=Z,125nm,0.6s,mb5.6,SNR=9.8								
KDAK	**Kodiak Island**	**35.56**	**53**	P			**P**	**00 07 44.9**	**-1.3**
	comp=Z,10nm,0.5s,mb4.6,baz=289,slow=5.9,SNR=28								
SLKM	**Skilak Lake**	**36.19**	**48**	*e*P			**P**	**00 07 50.2**	**-1.1**
PMR	**Palmer**	**36.52**	**46**	*e*P			**P**	**00 07 53.3**	**-0.6**
COLA	**College**	**36.60**	**40**	*c i*P			**P**	**00 07 54.1**	**-0.5**
CD2	**Chengdu**	**37.45**	**257**	*e*P			**P**	**00 08 02.8**	**+0.8**
CD2				AP				00 09 41.3	
CD2				PP		PP		00 09 46.0	+0.2
CD2				XP		sP		00 10 44.3	+3.4
CD2				S			**S**	**00 13 15.3**	**+4.2**
CD2				XS		sS		00 16 09.3	+2.4
CD2				SS		SS		00 16 20.5	-8.7
CD2				AMB		AMB			
	comp=Z,10.0nm,0.8s,mb4.4								
CD2				AMB		AMB			
	comp=Z,90nm,5.9s								
ZALV	**Zalesovo Beam**	**37.95**	**301**	P			**P**	**00 08 05.6**	**-0.2**
ZALV				PcP		PcP		00 10 06.1	-0.6
ZALV	**Zalesovo Beam**	**37.95**	**301**	P			**P**	**00 08 05.6**	**-0.2**
	comp=Z,17nm,0.4s,mb4.9,baz=66,slow=6.7,SNR=21								
ZALV				PcP		PcP		00 10 06.1	-0.6
	comp=Z,1.2nm,0.3s,baz=90,slow=3.0,SNR=3.6								
ZAL	**Zalesovo**	**37.97**	**301**	P			**P**	**00 08 05.6**	**-0.3**
ZAL								00 10 06.1	
DIV	**Divide**	**38.19**	**46**	*e*P			**P**	**00 08 07.3**	**-0.3**
	comp=Z,8.3nm,0.6s,mb4.4								
GYA	**Guiyang**	**38.74**	**249**	P			**P**	**00 08 13.5**	**+0.9**
GYA				AP				00 09 52.8	
GYA				PP		PP		00 09 59.5	+0.2
GYA				PCP		PcP		00 10 11.3	+1.6
GYA				XP		sP		00 10 55.8	+3.7
GYA				SCP		ScP		00 13 06.3	+1.5
GYA				S			**S**	**00 13 32.8**	**+2.6**
GYA				PCS		PcS		00 14 01.0	+0.7
GYA				SCS		ScS		00 17 17.8	-0.1
GYA				AMB		AMB			
	comp=Z,20nm,1.0s,mb4.6								
GYA				AMB		AMB			
	comp=Z,120nm,4.9s								
EGAK	**Eagle**	**39.44**	**40**	*e*P			**P**	**00 08 17.0**	**-0.6**
WMQ	**Urumqi**	**40.43**	**286**	*e*P			**P**	**00 08 29.0**	**+3.1**
WMQ				AP		pP		00 10 06.0	+2.7
WMQ				XP		sP		00 11 06.0	-0.3
WMQ				S			**S**	**00 14 00.0**	**+5.6**
WMQ				SCS		ScS		00 17 32.0	+4.4
WMQ				AMB		AMB			
	comp=Z,31nm,1.0s,mb4.8								
WMQ				AMB		AMB			
	comp=Z,52nm,4.0s								
INK	**Inuvik**	**41.59**	**33**	P			**P**	**00 08 34.1**	**-0.5**
INK				pmax		pmax			
	comp=Z,2.0nm,0.4s								
INK				pmax		pmax			
	comp=N,1.0nm,0.7s								
INK	**Inuvik**	**41.59**	**33**	*e*P			**P**	**00 08 34.3**	**-0.3**
	comp=N,285nm,1.5s,mb5.6								
INK	**Inuvik**	**41.59**	**33**	P			**P**	**00 08 34.1**	**-0.6**
	comp=N,2.3nm,0.4s,mb4.0,baz=300,slow=6.9,SNR=22								
INK						ScP	ScP	00 13 12.7	-2.7
	comp=N,0.9nm,0.7s,baz=318,slow=5.6,SNR=4.0								
KMI	**Kunming**	**42.13**	**252**	P			**P**	**00 08 41.0**	**+1.4**
KMI				AMB		AMB			
	comp=Z,7.0nm,0.5s,mb4.5								
MK31	**Makanchi Array**	**42.34**	**292**	*i* P			**P**	**00 08 41.4**	**+0.5**
MK31				pmax		pmax			
	comp=Z,12nm,0.4s,mb4.8								
MK31	**Makanchi Array**	**42.34**	**292**⇓	*i*P			**P**	**00 08 41.3**	**+0.5**
MKAR	**Makanchi Array**	**42.34**	**292**	P			**P**	**00 08 41.5**	**+0.6**
MKAR						pP		00 10 20.3	+0.8
MKAR				pmax		pmax			
	comp=Z,18nm,0.7s								
MKAR				pmax		pmax			
	comp=Z,2.0nm,0.7s								
MKAR				pmax		pmax			
	comp=N,1.0nm,0.4s								
MKAR	**Makanchi Array**	**42.34**	**292**	P			**P**	**00 08 41.5**	**+0.6**
	comp=N,18nm,0.7s,mb4.7,baz=68,slow=7.9,SNR=165								
MKAR				PcP		PcP		00 10 20.3	-0.9
	comp=N,1.7nm,0.7s,baz=50,slow=4.5,SNR=4.1								
MKAR				ScP		ScP		00 13 15.8	-3.0
	comp=N,0.9nm,0.4s,baz=62,slow=5.1,SNR=11								
KURK	**Kurchatov**	**42.71**	**299**	P			**P**	**00 08 44.8**	**+1.1**
	comp=N,404nm,0.6s,SNR=31								
KURK	**Kurchatov**	**42.71**	**299**	*e*P			**P**	**00 08 44.0**	**+0.3**
BVAR	**Borovoye Array**	**46.21**	**305**	P			**P**	**00 09 11.1**	**+0.5**
BVAR								00 10 33.7	
BVAR				pmax		pmax			
	comp=Z,16nm,0.5s								
BVAR				pmax		pmax			
	comp=Z,1.0nm,0.3s								
BVAR	**Borovoye Array**	**46.21**	**305**	P			**P**	**00 09 11.1**	**+0.5**
	comp=Z,16nm,0.5s,mb4.8,baz=50,slow=7.9,SNR=127								
BVAR				PcP		PcP		00 10 33.7	-0.8
	comp=Z,1.4nm,0.3s,baz=77,slow=4.2,SNR=5.7								
BRVK	**Borovoye**	**46.25**	**305**	P			**P**	**00 09 11.8**	**+0.9**
	comp=Z,307nm,0.6s,SNR=15								
BRVK	**Borovoye**	**46.25**	**305**	*e*P			**P**	**00 09 11.4**	**+0.6**
TKM2	**Tokmak 2**	**48.41**	**291**	*e*P			**P**	**00 09 28.2**	**+1.0**
TKM2				*e*				00 10 42.4	
TKM2				pmax		pmax			
	comp=Z,5.0nm,0.8s,mb4.1								
TKM2	**Tokmak 2**	**48.41**	**291**	*e*P			**P**	**00 09 28.1**	**+0.9**
	comp=Z,5.3nm,0.8s,mb4.1								
TKM2				*e*PcP		PcP		00 10 42.4	-0.4
AAK	**Ala-Archa**	**49.24**	**291**	P			**P**	**00 09 33.5**	**+0.1**
	comp=Z,111nm,0.6s,mb5.6,SNR=7.6								
SVE	**Sverdlovsk**	**49.27**	**314**⇑	*e*P			**P**	**00 09 33.8**	**+0.5**
SVE				*e*				00 11 45.5	
SVE				pmax		pmax			
	comp=Z,42nm,0.7s,mb5.1								
SPITS	**Spitsbergen Ar**	**49.33**	**348**	P			**P**	**00 09 33.1**	**-0.4**
SPITS				pmax		pmax			
	comp=Z,3.0nm,0.5s								
SPITS	**Spitsbergen Ar**	**49.33**	**348**	P			**P**	**00 09 33.1**	**-0.4**
	comp=Z,2.5nm,0.5s,mb4.0,baz=44,slow=9.7,SNR=18								
RES	**Resolute Bay**	**49.59**	**18**	*e*P			**P**	**00 09 34.9**	**-0.6**
EKS2	**Erkin-Say**	**49.66**	**292**	*e*P			**P**	**00 09 37.2**	**+0.8**
	comp=Z,12nm,0.7s,mb4.4								
EKS2				*e*PcP		PcP		00 10 47.4	0.0
AML	**Almayashu**	**50.02**	**291**	*e*P			**P**	**00 09 40.4**	**+1.3**
	comp=Z,9.3nm,1.1s,mb4.1								
AML				*e*PcP		PcP		00 10 48.2	-0.5
ARU	**Arti**	**50.45**	**314**	*d i*P			**P**	**00 09 42.0**	**0.0**
ARU				*e*				00 10 47.7	
ARU				*e**PP		pP		00 11 25.4	-0.5
ARU				*e*				00 11 43.4	
ARU				*e*S			**S**	**00 16 15.7**	**+1.6**
ARU				*e*SS		SS		00 19 59.2	+2.1
ARU				pmax		pmax			
	com

comp=Z,7.2nm,0.7s,mb4.1
DANN Dangsing 52.13 271 eP P 00 09 56.1 +1.5
comp=Z,49nm,0.5s,mb5.1
KOLN Koldanda 52.62 270 eP P 00 09 59.2 +1.1
comp=Z,22nm,0.6s,mb4.7
APA Apatity 53.37 334⇓iP P 00 10 03.0 +0.2
APA pmax pmax
comp=Z,14nm,0.6s,mb4.5
KEV Kevo 53.55 338 ep P 00 10 03.3 -0.7
comp=Z,3.6nm,0.4s,mb4.0
KEV Kevo 53.55 338 eP P 00 10 03.3 -0.7
KEV pmax pmax
comp=Z,4.0nm,0.4s,mb4.1
DAG Danmarks Havn 53.85 356⇑iP P 00 10 05.4 -0.7
DAG pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
DAG Danmarks Havn 53.85 356⇑iP P 00 10 05.4 -0.7
comp=Z,3.4nm,0.7s,mb3.8
ARCES ARCESS Array B 54.08 338 P P 00 10 07.1 -0.6
ARCES pmax pmax
comp=Z,5.0nm,0.4s
ARCES pmax pmax
comp=N,2.0nm,0.9s
ARCES ARCESS Array B 54.08 338 P P 00 10 07.1 -0.6
comp=N,4.9nm,0.4s,mb4.2,baz=39,slow=8.8,SNR=46
ARCES ScP ScP 00 14 05.0 -3.2
comp=N,2.4nm,0.9s,baz=40,slow=6.4,SNR=4.1
AKTK Aktyubinsk 54.09 308 P P 00 10 08.1 0.0
AKTO Aktyubinsk 54.09 308 P P 00 10 08.1 0.0
AKTO pmax pmax
comp=Z,6.0nm,0.6s,mb4.1
AKTO Aktyubinsk 54.09 308 P P 00 10 08.1 0.0
comp=Z,5.8nm,0.6s,mb4.1,baz=70,slow=8.7,SNR=26
TMCR Tamitsa 54.18 329 eP P 00 10 07.1 -1.4
TMCR pmax pmax
comp=Z,47nm,0.8s,mb4.9
NLWA Neilton Lookou 55.65 55 ⇑P P 00 10 19.4 +0.4
baz=55,SNR=5.6
HDW Hoodsport 55.92 55 P P 00 10 21.4 +0.4
CMW Cultus Mountai 55.95 54 P P 00 10 21.2 +0.1
JCW Jim Creek 56.19 54 P P 00 10 22.7 0.0
E03A Lebam 56.33 56 ⇓P P 00 10 24.2 +0.5
baz=56,SNR=5.4
A07A Ashnola River, 56.46 52 ⇓P P 00 10 24.3 -0.3
baz=56
BMW Boistfort Moun 56.56 56 P P 00 10 25.3 0.0
LMW Ladd Mountain 56.94 55 P P 00 10 28.4 +0.4
B07A Winthrop 56.97 52 ⇑P P 00 10 27.9 -0.2
baz=57
NLW Nelson Butte 57.09 53 P P 00 10 29.0 0.0
A08A Turner Farm, O 57.09 52 ⇑P P 00 10 28.8 -0.2
baz=57
FMW Mount Fremont 57.11 55 P P 00 10 29.2 +0.2
FL2 Flat Top 2 57.21 56 P P 00 10 29.9 +0.1
JOF Joensuu 57.24 331 ep P 00 10 29.1 -0.6
comp=Z,11nm,0.4s,mb4.4
JOF Joensuu 57.24 331 eP P 00 10 29.1 -0.6
JOF pmax pmax
comp=Z,11nm,0.4s,mb4.4
F04A Amboy 57.33 56 ⇑P P 00 10 30.8 +0.1
baz=57
D06A Cle Elum 57.38 54 ⇑P P 00 10 31.0 +0.1
baz=57
A09A Danville 57.43 51 ⇓P P 00 10 31.0 -0.3
baz=57,SNR=7.2
C07A Waterville 57.48 53 ⇓P P 00 10 31.2 -0.4
baz=57
KBL Kabul 57.55 287 eP P 00 10 31.8 -0.6
comp=Z,16nm,0.9s,mb4.2
EBG Ellensburg 57.71 54 P P 00 10 33.2 +0.1
G04A Mulino 57.76 57 ⇑P P 00 10 33.9 +0.4
baz=57
GT2 Goat Mountain 57.91 57 P P 00 10 35.1 +0.6
SSOR Sweet Springs 57.99 57 P P 00 10 35.7 +0.6
TDH Tom, Dick, Har 58.08 56 P P 00 10 36.1 +0.4
I03A Eugene 58.10 58 ⇑P P 00 10 36.9 +1.0
baz=58
H04A Detroit Lake 58.25 57 ⇓P P 00 10 37.4 +0.5
baz=58,SNR=5.5
F06A Goldendale 58.32 55 ⇓P P 00 10 37.4 +0.1
baz=58
J02A Umpqua 58.33 59 ⇑P P 00 10 38.2 +0.9
baz=58
C09A Chrisman Ranch 58.34 52 ⇑P P 00 10 37.0 -0.4
baz=58
G05A Wamic 58.37 56 ⇑P P 00 10 38.3 +0.6
baz=58
BROR Big Rock Looko 58.37 58 P P 00 10 38.0 +0.3
A11A Hall Mountain, 58.57 50 ⇓P P 00 10 39.1 +0.2
baz=58,SNR=5.1
IRO Indian Ridge 58.65 58 P P 00 10 39.1 -0.5
J03A Ideyld Park 58.66 59 ⇓P P 00 10 40.6 +0.9
baz=58,SNR=5.0
F07A Phinny Hill Vi 58.70 55 ⇓P P 00 10 40.4 +0.6
baz=58
I04A Tendick Farm, 58.70 58 ⇓P P 00 10 40.1 +0.3
baz=58,SNR=9.9
H05A Madras 58.80 57 ⇑P P 00 10 40.9 +0.3
baz=58,SNR=6.3
B11A Sandpoint 58.90 51 ⇓P P 00 10 41.4 +0.2
baz=59
L02A Cave Junction 59.09 60 ⇑P P 00 10 43.2 +0.6
baz=59
I05A Bend 59.09 57 ⇑P P 00 10 43.3 +0.8
baz=59
HUMO Hull Mountain 59.16 59 eP P 00 10 43.2 +0.2
comp=Z,6.2nm,0.9s,mb3.8
HUMO Hull Mountain 59.16 59 ⇓P P 00 10 43.7 +0.7
baz=59
J04A Umpqua Nationa 59.23 58 ⇑P P 00 10 44.3 +0.9
baz=59,SNR=5.7
H06A Lindquist Farm 59.23 56 ⇑P P 00 10 43.6 +0.2
baz=59,SNR=5.4
E09A Wood Farm, Sta 59.24 53 ⇑P P 00 10 43.5 +0.1
baz=59
G07A Ruggs Ranch, H 59.24 55 ⇑P P 00 10 43.8 +0.3
baz=59
D10A Wagner Farm, O 59.34 52 ⇓P P 00 10 43.4 -0.7
baz=59
KTRM Thompson Ridge 59.38 60 P P 00 10 45.2 +0.7
A13A Flathead Natio 59.56 49 ⇑P P 00 10 45.4 -0.1
baz=59
J05A Fort Rock 59.68 58 P P 00 10 47.4 +0.9
baz=59,SNR=18
H07A Lands Inn, Kim 59.74 56 ⇑P P 00 10 46.9 +0.1
baz=59
E10A Myers Farm, Un 59.80 53 ⇓P P 00 10 47.0 -0.2
baz=60
D11A Klaveano Farm, 59.83 52 P P 00 10 46.7 -0.7
baz=60,SNR=5.1
K04A Chilquin 59.84 59 ⇓P P 00 10 47.8 +0.2
baz=60
PUL Pulkovo 59.87 329 eP P 00 10 47.7 +0.3
PUL pmax pmax
comp=Z,63nm,0.7s,mb5.0
YBH Yreka Blue Hor 59.87 60 eP P 00 10 47.6 -0.1
YBH pmax pmax
comp=Z,8.0nm,1.0s
YBH Yreka Blue Hor 59.87 60 eP P 00 10 47.6 -0.1
comp=Z,8.5nm,1.0s,mb4.0
YBH Yreka Blue Hor 59.87 60 ⇓P P 00 10 48.3 +0.6
baz=60,SNR=9.1
B13A Whitefish 59.90 50 ⇓P P 00 10 47.7 -0.1
baz=60
FIA1 FINESS Array S 59.98 332⇓iP P 00 10 47.7 -0.4
FINES FINESS Array B 59.98 332 P P 00 10 47.7 -0.4
FINES pmax pmax
comp=Z,19nm,0.6s
FINES FINESS Array B 59.98 332 P P 00 10 47.7 -0.4
FINES FINESS Array B 59.98 332 P P 00 10 47.7 -0.4
comp=Z,19nm,0.6s,mb4.6,baz=38,slow=8.2,SNR=249
M02C Callahan 60.01 60 ⇑P P 00 10 49.0 +0.4
baz=60,SNR=5.0
L04A Klamath Falls 60.04 59 ⇑P P 00 10 49.3 +0.5
baz=60
F10A Beach Ranch, E 60.08 53 ⇓P P 00 10 49.6 +0.6
baz=60
I07A Izee 60.11 56 P P 00 10 49.7 +0.4
baz=60,SNR=8.5
N02C Big Bar 60.13 61 ⇑P P 00 10 50.0 +0.5
baz=60
LHEM Herd Peak 60.22 60 P P 00 10 50.6 +0.6
K05A Summer Lake 60.24 58 P P 00 10 51.1 +1.0
baz=60,SNR=12
G09A Cove 60.24 54 ⇑P P 00 10 50.4 +0.3
baz=60
C13A Hot Springs 60.31 50 ⇑P P 00 10 50.5 0.0
baz=60
E11A Bogner Ranch, 60.35 52 ⇑P P 00 10 50.4 -0.5
baz=60
K06A Valley Falls 60.54 58 ⇓P P 00 10 52.7 +0.6
baz=60,SNR=15
G10A Bishop Farm, J 60.58 54 ⇓P P 00 10 52.2 -0.2
baz=60
LASM Arnica Sink 60.60 59 P P 00 10 53.1 +0.5
C14A Swan Lake 60.66 50 ⇑P P 00 10 52.9 0.0
baz=60
J07A Hines 60.68 57 P P 00 10 54.0 +0.9
baz=60,SNR=8.8
F11A Grangeville 60.69 53 ⇓P P 00 10 52.9 -0.2
baz=60
H09A Durkee 60.71 55 ⇑P P 00 10 53.7 +0.5
baz=60
L05A Lakeview 60.72 59 P P 00 10 54.1 +0.8
baz=60,SNR=11
WDC Whiskeytown Da 60.72 61 ⇑P P 00 10 53.6 +0.2
baz=60
I08A Drewsey 60.73 56 P P 00 10 54.0 +0.6
baz=60,SNR=9.5
D13A Huson 60.76 51 P P 00 10 53.2 -0.3
baz=60,SNR=6.6
BMO Blue Mountains 60.78 54 eP P 00 10 53.5 -0.2
comp=Z,7.8nm,1.2s,mb3.9
O02C Red Bluff 60.85 61 ⇑P P 00 10 54.6 +0.4
baz=60
LTIM Timbered Crate 60.93 60 P P 00 10 55.2 +0.4
G11A Walters Elk Ra 60.96 53 P P 00 10 54.7 -0.1
baz=61,SNR=14
M05C Lookout 61.00 59 ⇑P P 00 10 55.6 +0.4
baz=61
P01C Double 8 Ranch 61.00 62 ⇑P P 00 10 55.3 0.0
baz=61
MOD Modoc 61.11 58 eP P 00 10 55.9 0.0
comp=Z,4.8nm,0.6s,mb4.0
MOD Modoc 61.11 58 ⇓P P 00 10 56.0 +0.1
baz=61,SNR=9.0
I09A Lost Marbles R 61.13 55 ⇑P P 00 10 56.2 +0.2
baz=61
J08A Circle Bar Ran 61.15 56 ⇑P P 00 10 56.9 +0.8
baz=61
K07A Rock Creek Ran 61.17 57 ⇓P P 00 10 56.8 +0.5
baz=61,SNR=22
HATC Hat Creek Radi 61.18 60 ⇓P P 00 10 57.0 +0.6
baz=61
MSO Missoula 61.20 51 eP P 00 10 54.7 -1.7
comp=Z,1.5nm,0.6s,mb3.5
LBCM Butte Creek Ri 61.23 60 P P 00 10 57.0 +0.3
GASB Alder Springs 61.24 62 ⇓P P 00 10 57.5 +0.8
baz=61
D14A Greenough 61.25 50 P P 00 10 56.4 -0.3
baz=61,SNR=7.8
F12A Elk City 61.25 52 ⇓P P 00 10 57.0 +0.2
baz=61,SNR=11
H10A Noah's Angus R 61.25 54 P P 00 10 56.6 -0.1
baz=61,SNR=16
J09A Fry Pan Ranch, 61.54 56 P P 00 10 59.1 +0.4
baz=61,SNR=9.9
I10A Payette 61.56 55 ⇓P P 00 10 59.4 +0.6
baz=61
K08A Mann Creek Ran 61.56 57 ⇑P P 00 10 59.3 +0.4
baz=61,SNR=7.8
H11A Donnelly 61.56 54 ⇑P P 00 10 58.6 -0.2
baz=61,SNR=5.1
L07A Adell 61.57 58 P P 00 10 59.5 +0.6
baz=61,SNR=17
WVOR Wild Horse Val 61.67 57 eP P 00 10 59.3 -0.3
WVOR pmax pmax
comp=Z,10.0nm,1.0s,mb4.2
WVOR Wild Horse Val 61.67 57 eP P 00 10 59.3 -0.3
comp=Z,9.9nm,1.0s,mb4.2
E14A Clinton 61.71 51 ⇑P P 00 10 59.6 -0.1
baz=61,SNR=6.1
O04C Chester 61.72 60 P P 00 11 00.5 +0.6
baz=61,SNR=5.1
D15A Lincoln 61.77 50 P P 00 11 00.1 0.0
baz=61,SNR=5.3
ABKT Ailbek 61.96 296 P P 00 11 02.0 +0.5
comp=Z,71nm,0.5s,mb5.3,SNR=6.6
K09A Rome 61.99 56 ⇑P P 00 11 01.7 +0.1
baz=62,SNR=5.8
L08A Fields 62.00 57 ⇑P P 00 11 01.7 0.0
baz=62
ORV Oroville 62.00 61 ⇑P P 00 11 00.9 -0.8
baz=62,SNR=5.0
O05C Quincy 62.06 60 ⇑P P 00 11 02.1 0.0
baz=62
VSU Vasula 62.07 329diP P 00 11 01.4 -0.4
M07A Soldier Meadow 62.08 58 ⇑P P 00 11 02.8 +0.6
baz=62,SNR=31
I11A Placerville 62.13 54 ⇑P P 00 11 02.4 0.0
baz=62
E15A Deer Lodge 62.13 50 ⇑P P 00 11 02.4 0.0
baz=62
N06A Buffalo Meadow 62.14 59 ⇑P P 00 11 02.8 +0.2
baz=62,SNR=13
G13A Cobalt 62.23 52 ⇑P P 00 11 02.5 -0.6
baz=62
H12A Diamond D Ranc 62.27 53 ⇑P P 00 11 03.2 -0.2
baz=62,SNR=10
K10A MacKenzie Ranc 62.41 56 ⇓P P 00 11 04.6 +0.3
baz=62,SNR=11
BEKR Beckwourth 62.44 60 P P 00 11 04.6 0.0
baz=62,SNR=6.2
EGMT Eagleton 62.45 48 eP P 00 11 03.9 -0.6
comp=Z,11nm,1.0s,mb4.2
EGMT Eagleton 62.45 48 ⇑P P 00 11 04.2 -0.3
baz=62
M08A Happy Creek Ra 62.48 58 ⇓P P 00 11 05.1 +0.3
baz=62,SNR=6.4
L09A Wilkinson Ranc 62.49 57 ⇓P P 00 11 05.3 +0.4
baz=62
G14A Jackson 62.52 52 ⇓P P 00 11 05.0 0.0
baz=62
MFID Camas Ranch 62.53 55 ⇑P P 00 11 04.9 -0.3
baz=62
O06A Flanigan 62.54 60 ⇑P P 00 11 05.2 -0.1
baz=62,SNR=11
H13A Challis 62.58 53 ⇓P P 00 11 05.4 0.0
baz=62
N07B Gerlach 62.60 59 ⇓P P 00 11 05.7 +0.1
baz=62,SNR=7.8
F15A Butte 62.61 51 ⇓P P 00 11 05.6 0.0
baz=62,SNR=8.6
VRSR Storozhevoye 62.62 318diP P 00 11 05.2 -0.3
VRSR pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
VRSR pmax pmax
comp=N,3.0nm,0.7s
VRSR pmax pmax
comp=E,2.0nm,0.6s
P05C Yuba Gap, Truc 62.68 61 ⇓P P 00 11 06.0 -0.1
baz=62
VORD Divnogorie 62.75 317 eP P 00 11 06.1 -0.3
VORD pmax pmax
comp=Z,10.0nm,0.6s,mb4.4
VORD pmax pmax
comp=N,4.0nm,0.5s
VORD pmax pmax
comp=E,10.0nm,0.9s
K11A Parker Ranch, 62.86 55 ⇓P P 00 11 07.1 -0.2
baz=62
DLMT Dillon 62.88 51 eP P 00 11 07.4 0.0
comp=E,12nm,0.8s,mb4.4
LAVA Lava Cap Winer 62.98 61 P P 00 11 07.8 -0.3
baz=63,SNR=7.6
M09A Marrel Ranch, 63.01 57 ⇓P P 00 11 07.7 -0.5
baz=63
N08A GE Springer Mi 63.07 58 ⇓P P 00 11 08.9 +0.2
baz=63,SNR=12
G15A Dillon 63.08 51 ⇑P P 00 11 08.7 +0.2
baz=63,SNR=24
O07A Toulon 63.08 59 ⇓P P 00 11 08.9 +0.2
baz=63,SNR=9.5
I13A Wildhorse Cree 63.09 53 P P 00 11 09.1 +0.3
baz=63,SNR=20
L10A Juniper Basin 63.10 56 P P 00 11 09.2 +0.4
baz=63,SNR=9.4
PAHR Pah Rah Range 63.10 60 eP P 00 11 08.4 -0.5
comp=E,16nm,1.0s,mb4.4
BOZ Bozeman (W) 63.18 50 eP P 00 11 09.1 -0.1
BOZ pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
BOZ Bozeman (W) 63.18 50 eP P 00 11 09.1 -0.2
comp=Z,2.8nm,0.7s,mb3.8
BOZ Bozeman (W) 63.18 50 ⇓P P 00 11 09.5 +0.3
baz=63
HLID Hailey 63.18 54 eP P 00 11 08.7 -0.6
comp=Z,1.8nm,0.8s,mb3.5
HLID Hailey 63.18 54 ⇑P P 00 11 09.3 0.0
baz=63
N09A Rock Creek Ran 63.36 58 ⇑P P 00 11 11.0 +0.5
baz=63
R05C Kirkwood Meado 63.39 61 ⇓P P 00 11 10.5 -0.2
baz=63,SNR=7.9
J13A Cove Ranch, Pi 63.42 54 ⇓P P 00 11 11.0 +0.2
baz=63,SNR=5.9
L11A Cat Creek Ranc 63.43 56 ⇑P P 00 11 11.3 +0.4
baz=63,SNR=7.8
M10A I.L. Ranch, Tu 63.44 57 P P 00 11 11.7 +0.7
baz=63,SNR=7.5
K12A Draper Farm, C 63.56 55 ⇓P P 00 11 12.1 +0.4
baz=63
CMB Columbia Colle 63.67 62 eP P 00 11 11.8 -0.7
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
CMB Columbia Colle 63.67 62 eP P 00 11 11.8 -0.7
comp=Z,9.6nm,1.1s,mb4.1
CMB Columbia Colle 63.67 62 ⇑P P 00 11 12.5 0.0
baz=63,SNR=7.0
L12A House Creek Ra 63.84 55 ⇑P P 00 11 14.1 +0.6
baz=64
R06C Coleville 63.87 61 P P 00 11 14.2 +0.4
baz=64,SNR=5.9
M11A Holland Ranch, 63.91 56 P P 00 11 14.8 +0.8
baz=64,SNR=5.2
O09A Fish Creek Ran 64.01 58 ⇑P P 00 11 15.0 +0.4
baz=64
S06C San Francisco 64.08 61 ⇓P P 00 11 14.7 -0.5
baz=64,SNR=8.0
M12A Wells 64.40 56 ⇑P P 00 11 17.1 +0.1
baz=64,SNR=5.4
R07C Lee Vining 64.40 61 ⇑P P 00 11 17.8 +0.7
baz=64,SNR=6.8
L13A Double Diamond 64.45 55 ⇑P P 00 11 18.5 +1.1
baz=64
NB2 NORSAR Subarra 64.45 338 P P 00 11 16.6 -0.4
comp=Z,13nm,0.6s,mb4.5,baz=28,slow=6.5
NOA NORSAR Array B 64.45 338 P P 00 11 16.5 -0.5
NOA pmax pmax
comp=Z,15nm,0.7s
NOA NORSAR Array B 64.45 338 P P 00 11 16.4 -0.6
comp=Z,15nm,0.7s,mb4.5,baz=29,slow=6.5,SNR=56
Q08A Gabbs 64.50 60 P P 00 11 17.9 +0.2
baz=64,SNR=6.8
K14A Jones Ranch, D 64.54 54 ⇑P P 00 11 18.8 +0.9
baz=64
V03C Hunter Liggett 64.56 64 ⇑P P 00 11 18.1 -0.1
baz=64
U04C Hernandez Rese 64.59 63 ⇓P P 00 11 18.9 +0.6
baz=64
NVAR Mina Array Bea 64.59 60 P P 00 11 18.1 -0.2
comp=Z,8.2nm,0.7s,mb4.3,baz=287,slow=5.9,SNR=76
NAO01 NORSAR Array S 64.70 338 eP P 00 11 17.8 -0.8
comp=Z,9.7nm,0.7s,mb4.3
N12A Clover Valley, 64.72 56 P P 00 11 19.8 +0.7
baz=64,SNR=8.0
IMW Indian Meadow 64.75 51 eP P 00 11 18.8 -0.5
comp=Z,3.6nm,0.7s,mb3.9
KCC Kaiser Creek 64.77 62 P P 00 11 19.4 -0.1
baz=64,SNR=5.1
P10A Eureka 64.80 58 P P 00 11 20.1 +0.5
baz=64,SNR=5.4
M13A Montello 64.84 55 P P 00 11 20.2 +0.3
baz=64,SNR=5.5
O11A Cowboy Ranch, 64.89 57 ⇓P P 00 11 20.7 +0.5
baz=65
TPAW Teton Pass 65.04 52 eP P 00 11 21.6 +0.6
comp=Z,6.4nm,0.8s,mb4.1
LOHW Long Hollow 65.13 52 eP P 00 11 21.5 -0.1
comp=Z,7.0nm,1.1s,mb4.0
N13A Wendover, West 65.17 56 ⇑P P 00 11 22.5 +0.5
baz=65
REDW Red Top Meadow 65.18 52 eP P 00 11 22.2 +0.3
comp=Z,14nm,1.4s,mb4.2
M14A Sheep Mountain 65.18 55 P P 00 11 22.3 +0.3
baz=65,SNR=5.5
GOF Gofitskoye 65.22 311⇓iP P 00 11 31.5 +9.3
GOF pmax pmax
comp=Z,70nm,0.7s,mb5.2
O12A Currie 65.29 57 ⇓P P 00 11 22.9 +0.2
baz=65,SNR=7.2
S08C White Mtn Res 65.31 61 ⇑P P 00 11 23.2 +0.4
baz=65,SNR=6.2
Q10A Clear Creek Ra 65.39 59 P P 00 11 23.4 +0.1
baz=65,SNR=8.1
HELL Mitchell Peak 65.39 62 P P 00 11 22.7 -0.7
baz=65,SNR=14
R09A Tonopah 65.42 60 ⇓P P 00 11 23.1 -0.4
baz=65,SNR=9.5
M15A Larsen Ranch, 65.69 54 ⇑P P 00 11 25.2 0.0
baz=65,SNR=14
S09A Goldfield 65.69 60 P P 00 11 25.3 0.0
baz=65,SNR=9.0
N14A Grayback Hills 65.72 55 ⇓P P 00 11 25.5 +0.1
baz=65,SNR=8.5
BGU Big Grassy Mou 65.76 55 eP P 00 11 25.5 -0.1
P12A McGill 65.76 57 ⇑P P 00 11 26.0 +0.4
baz=65
Q11A Duckwater 65.79 58 ⇑P P 00 11 25.6 -0.2
baz=66
S10A Tonopah Range, 65.91 59 ⇑P P 00 11 26.4 -0.2
baz=66,SNR=7.8
HWUT Hardware Ranch 66.05 54 eP P 00 11 27.8 +0.4
comp=Z,7.8nm,0.9s,mb4.2
N15A Stansbury Isla 66.05 55 ⇓P P 00 11 27.7 +0.3
baz=66
Q12A Willow Creek R 66.11 58 ⇓P P 00 11 28.2 +0.4
baz=66
GRAC Grapevine Rang 66.11 61 P P 00 11 28.4 +0.6
baz=66,SNR=6.1
PKM Peak Mountain 66.17 64 ⇑P P 00 11 28.5 +0.3
baz=66
R11A Troy Canyon, C 66.17 59 P P 00 11 28.1 -0.1
baz=66,SNR=6.0
KIV Kislovodsk 66.19 310 P P 00 11 29.8 +1.6
comp=Z,192nm,0.7s,mb5.7,SNR=6.0
KIV Kislovodsk 66.19 310 eP P 00 11 28.5 +0.3
KIV pmax pmax
comp=Z,20nm,0.7s,mb4.8
KIV Kislovodsk 66.19 310 ⇓P P 00 11 29.0 +0.7
KIV Kislovodsk 66.19 310⇓iP P 00 11 29.0 +0.8
P13A Bates Ranch, G 66.26 57 ⇑P P 00 11 28.7 -0.1
baz=66
DUG Dugway 66.39 55 eP P 00 11 29.3 -0.2
DUG pmax pmax
comp=Z,16nm,1.2s,mb4.4
DUG Dugway 66.39 55 eP P 00 11 29.3 -0.3
comp=Z,16nm,1.2s,mb4.4
DUG Dugway 66.39 55 ⇓P P 00 11 29.8 +0.2
baz=66
Q13A Wheeler Ranch, 66.61 57 ⇑P P 00 11 31.3 +0.4
baz=66,SNR=5.7
MPMC Manual Prospec 66.70 61 ⇓P P 00 11 31.3 -0.3
baz=66,SNR=6.1
R12A Pony Springs, 66.73 58 ⇑P P 00 11 31.5 -0.2
baz=66
FURC Furnace Creek, 66.78 61 ⇑P P 00 11 31.9 -0.1
baz=66,SNR=14
TPNV Topopah Spring 66.79 60⇑iP P 00 11 31.8 -0.3
TPNV pmax pmax
comp=Z,13nm,0.6s,mb4.6
TPNV Topopah Spring 66.79 60⇑iP P 00 11 31.8 -0.3
comp=Z,13nm,0.6s,mb4.6
TPNV Topopah Spring 66.79 60 ⇑P P 00 11 32.1 0.0
baz=66
NLU North Lily Min 66.96 55 eP P 00 11 32.9 -0.1
S12A Delamar Landin 67.11 59 P P 00 11 34.5 +0.5
baz=67,SNR=6.3
U10A Ash Meadows, A 67.12 60 ⇑P P 00 11 34.3 +0.3
baz=67
MPU Maple Canyon 67.15 55 eP P 00 11 34.3 0.0
comp=Z,3.2nm,0.6s,mb4.0
T11A Corn Creek, Al 67.16 59 ⇑P P 00 11 34.2 -0.2
baz=67,SNR=13
AKASG Malin Array Be 67.19 323 P P 00 11 33.6 -0.6
AKASG pmax pmax
comp=Z,12nm,0.4s
AKASG Malin Array Be 67.19 323 P P 00 11 33.6 -0.7
comp=Z,12nm,0.4s,mb4.8,baz=37,slow=6.3,SNR=102
AKBB Malin Array Si 67.19 323⇓iP P 00 11 33.5 -0.7
KIEV Kiev 67.20 323⇓iP P 00 11 33.4 -0.9
KIEV pmax pmax
comp=Z,19nm,0.6s,mb4.8

KIEV Kiev 67.20 323⇓iP P 00 11 33.4 -0.9
comp=Z,19nm,0.6s,mb4.8
EDW2 Edwards Air Fo 67.25 63 ⇑P P 00 11 34.6 -0.4
baz=67
GSC Goldstone 67.63 62 ⇑P P 00 11 36.8 -0.4
baz=67,SNR=5.5
T12A Moapa 67.81 59 ⇓P P 00 11 38.5 +0.2
baz=68
GNI Garni 67.89 306⇑eP P 00 11 40.1 +1.4
GNI pmax pmax
comp=Z,13nm,1.3s
GNI Garni 67.89 306 P P 00 11 40.3 +1.6
comp=Z,1.8nm,0.3s,mb4.1,baz=65,slow=6.9,SNR=5.4
BFSC Mount Baldy St 67.89 63 ⇑P P 00 11 38.5 -0.3
baz=68
TMUT Trail Mountain 67.90 55 eP P 00 11 38.1 -0.7
S14A Cedar City 67.93 58 ⇑P P 00 11 39.2 +0.2
baz=68
MSU Marysvale 67.94 56 eP P 00 11 39.3 +0.2
CCUT Cedar City 67.98 58 eP P 00 11 38.9 -0.4
V11A Goodsprings 68.04 60 ⇑P P 00 11 39.9 +0.1
baz=68
TUQ Turquoise Mtn. 68.05 61 P P 00 11 39.7 0.0
baz=68,SNR=8.4
T13A Saint George 68.05 59 P P 00 11 40.1 +0.3
baz=68,SNR=8.8
ANN Anapa 68.12 314 eP P 00 11 39.9 -0.2
ANN pmax pmax
comp=Z,22nm,1.0s,mb4.6
HEC Hector,Ludlow 68.24 62 P P 00 11 40.7 -0.2
baz=68,SNR=11
SRU San Rafael 68.40 55 eP P 00 11 41.1 -0.7
SRU pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
SRU San Rafael 68.40 55 eP P 00 11 41.1 -0.7
comp=Z,7.8nm,0.8s,mb4.3
V12A Nelson 68.45 60 ⇓P P 00 11 42.4 +0.2
baz=68
W12A Cal Nev Ari 68.74 60 ⇓P P 00 11 43.7 -0.3
baz=68
V13A Grand Canyon W 68.85 59 ⇓P P 00 11 44.5 -0.2
baz=68,SNR=6.1
U14A Mt Trumbull 68.89 59 ⇑P P 00 11 45.0 +0.1
baz=69,SNR=7.3
T15A Red Dirt Ranch 68.90 58 ⇓P P 00 11 45.0 +0.1
baz=69,SNR=10
BELC Belle Mtn. 69.03 62 ⇑P P 00 11 45.2 -0.5
baz=69
IRM Iron Mountain 69.40 61 ⇑P P 00 11 47.7 -0.2
baz=69,SNR=6.9
W13A Hualapai Mount 69.45 60 P P 00 11 48.2 0.0
baz=69,SNR=5.7
V14A Boquillas Ranc 69.50 59 ⇓P P 00 11 48.7 +0.2
baz=69,SNR=8.5
SIM Simferopol' 69.55 316 P P 00 11 47.6 -1.0
SIM pmax pmax
comp=Z,8.0nm,0.8s,mb4.3
MONP Monument Peak 69.58 63 ⇓P P 00 11 48.4 -0.7
baz=69
BC3 Big Chuckw Mtn 69.59 62 ⇓P P 00 11 48.4 -0.7
baz=69
PV10 Paradox Valley 69.73 55 eP P 00 11 49.8 -0.1
W14A Seligman 69.82 59 P P 00 11 50.8 +0.4
baz=70,SNR=6.8
X13A Yucca 69.84 60 P P 00 11 50.4 -0.2
baz=70,SNR=6.5
V15A Kaibab Nationa 69.89 58 P P 00 11 51.4 +0.6
baz=70,SNR=6.4
LVV L'vov 69.90 325 eP P 00 11 50.9 +0.3
WRAB Tennant Creek 69.92 193⇑eP P 00 11 49.6 -1.4
WRA Warramunga Arr 69.93 193 iP P 00 11 50.0 -1.1
WRA pmax pmax
comp=Z,3.0nm,0.5s
WRA Warramunga Arr 69.93 193 P P 00 11 49.2 -1.9
comp=Z,3.1nm,0.5s,mb4.1,baz=8.3,slow=6.4,SNR=97
DVTC Desert V Tower 69.93 63 ⇑P P 00 11 50.9 -0.2
baz=70
Y12C Blythe 70.06 61 P P 00 11 51.7 -0.1
baz=70,SNR=6.1
PV01 Paradox Valley 70.15 54 eP P 00 11 51.9 -0.4
GLA Glamis 70.39 62 ⇑P P 00 11 53.4 -0.4
baz=70,SNR=5.1
Y13A Salome 70.41 61 ⇓P P 00 11 53.7 -0.3
baz=70
X14A Yava 70.47 60 P P 00 11 54.7 +0.4
baz=70,SNR=5.0
KWP Kalwaria 70.55 325⇑iP P 00 11 54.9 +0.4
Y14A Wickenburg 70.79 60 ⇓P P 00 11 56.1 -0.1
baz=70,SNR=6.2
X15A Humboldt 70.82 59 P P 00 11 56.9 +0.5
baz=70,SNR=5.2
MVCO Mesa Verde 70.87 55 eP P 00 11 56.4 -0.2
comp=Z,8.0nm,0.8s,mb4.3
MVCO Mesa Verde 70.87 55 ⇓P P 00 11 56.5 -0.1
baz=70
BSEG Bad Segeberg 70.91 335 eP P 00 11 56.3 -0.2
BSEG pmax pmax
comp=Z,10.0nm,1.0s,mb4.3
BSEG Bad Segeberg 70.91 335 eP P 00 11 56.3 -0.2
comp=Z,10.0nm,1.0s,mb4.3
OJC Ojcow 71.11 327 eP P 00 11 57.4 -0.4
RUE Ruedersdorf 71.17 332 eP P 00 11 57.9 -0.2
comp=Z,17nm,0.6s,mb4.8
BURAR Bucovina Array 71.24 323⇑iP P 00 11 58.5 0.0
STHS Stebnicka Huta 71.27 326 eP P 00 11 59.4 +0.7
STHS pmax pmax
comp=Z,6.0nm,0.7s,mb4.2
STHS Stebnicka Huta 71.27 326 eP P 00 11 59.4 +0.7
comp=Z,5.9nm,0.7s,mb4.2
KOLS Kolonicke sedl 71.29 325 eP P 00 11 58.7 -0.1
KOLS e 07 56 54.8
X16A Lo Mia Camp, P 71.32 59 P P 00 11 60.0 +0.7
baz=71,SNR=5.8
NIE Niedzica 71.60 327 eP P 00 12 01.2 +0.6
CRVS Cervenica-Dubn 71.61 326 eP P 00 12 00.8 +0.1
Y16A Circle Bar Ran 71.69 59 ⇓P P 00 12 02.0 +0.5
baz=71
KSP Ksiaz 71.78 330 eP P 00 12 01.4 -0.3
W19A Sanders 71.94 57 ⇓P P 00 12 03.5 +0.6
baz=72
OKC Ostrava-Krasne 72.01 328⇓eP P 00 12 02.4 -0.6
VRI Vrincioaia 72.04 321⇑iP P 00 12 04.1 +0.9
SDCO Great Sand Dun 72.06 53 eP P 00 12 01.8 -1.8
comp=Z,1.0nm,0.7s,mb3.4
X18A Snowflake 72.07 58 ⇓P P 00 12 03.7 +0.1
baz=72
Z16A Peralta Trail, 72.12 60 ⇓P P 00 12 04.0 +0.1
baz=72
115A Sonoran Desert 72.14 61 ⇑P P 00 12 04.1 0.0
baz=72
UPC Upice 72.16 330⇓eP P 00 12 03.5 -0.4
Y17A Roosevelt 72.19 59 ⇓P P 00 12 04.3 0.0
baz=72
DPC Dobruska-Polom 72.19 329⇓iP P 00 12 04.3 +0.2
SCHQ Schefferville 72.31 20 P P 00 12 03.4 -1.3
comp=Z,2.6nm,0.8s,mb3.7,baz=18,slow=19,SNR=3.0
KECS Kecovo 72.32 326 eP P 00 12 04.6 -0.2
KECS pmax pmax
comp=Z,3.0nm,0.8s,mb3.8
KECS Kecovo 72.32 326 eP P 00 12 04.6 -0.2
comp=Z,3.1nm,0.8s,mb3.8
CLL Collm 72.43 332⇓iP P 00 12 04.8 -0.6
CLL pmax pmax
comp=Z,23nm,0.5s,mb4.9
CLL Collm 72.43 332 eP P 00 12 04.8 -0.6
comp=Z,23nm,0.5s,mb4.9
CLL Collm 72.43 332⇓iP P 00 12 04.8 -0.6
comp=Z,23nm,0.5s,mb4.9
TIRR Tirgusor 72.46 319⇓iP P 00 12 05.5 -0.2
HARR Harsova 72.48 319⇓iP P 00 12 06.0 +0.2
X19A St. Johns 72.51 57 ⇑P P 00 12 06.2 0.0
baz=72,SNR=8.4
BRG Berggiesshubel 72.51 331 iP P 00 12 05.5 -0.4
BRG pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
BRG Berggiesshubel 72.51 331 iP P 00 12 05.5 -0.4
comp=Z,2.9nm,0.7s,mb3.8
BRG Berggiesshubel 72.51 331 eP P 00 12 05.3 -0.6
comp=Z,5.0nm,0.7s,mb4.0
MALT Malatya 72.53 309⇓iP P 00 12 07.2 +1.0
116A Eloy 72.54 60 ⇑P P 00 12 06.2 -0.2
baz=72
Y18A Canyon Day Jun 72.58 58 ⇑P P 00 12 07.1 +0.5
baz=72
PVCC Panska Ves 72.61 331⇓eP P 00 12 06.3 -0.2
FBE Freiberg 72.66 332 eP P 00 12 06.6 -0.1
comp=Z,14nm,0.9s,mb4.4

MLR Muntele Rosu 72.67 321⇓iP P 00 12 07.5 +0.6
CLZ Clausthal 72.75 334 eP P 00 12 07.0 -0.2
CLZ pmax pmax
comp=Z,12nm,0.7s,mb4.4
CLZ Clausthal 72.75 334 eP P 00 12 07.0 -0.2
comp=Z,12nm,0.7s,mb4.4
EKA Eskdalemuir Ar 72.81 343 P P 00 12 06.7 -0.8
EKA pmax pmax
comp=Z,5.0nm,0.8s
EKA Eskdalemuir Ar 72.81 343 P P 00 12 06.7 -0.9
comp=Z,5.2nm,0.8s,mb4.0,baz=17,slow=4.9,SNR=19
DRGR 72.89 324⇓iP P 00 12 08.2 +0.1
VYHS Vyhne 72.91 327 eP P 00 12 08.4 +0.2
VYHS pmax pmax
comp=Z,5.0nm,0.6s,mb4.1
VYHS Vyhne 72.91 327 eP P 00 12 08.4 +0.2
comp=Z,4.8nm,0.6s,mb4.1
KOLL Kolacno 72.99 327 eP P 00 12 09.1 +0.4
PSZ Piszkesteto 73.01 326 ⇑P P 00 12 09.7 +0.9
PSZ Piszkesteto 73.01 326⇑iP P 00 12 09.6 +0.8
IBBN Ibbenburen 73.07 335 eP P 00 12 08.7 -0.3
comp=Z,13nm,1.0s,mb4.3
117A Oracle 73.08 60 ⇑P P 00 12 09.1 -0.3
baz=73
VOIR 73.08 322⇑iP P 00 12 09.9 +0.7
216A Three Points, 73.09 61 ⇑P P 00 12 09.3 -0.2
baz=73
PRU Pruhonice 73.09 330 eP P 00 12 09.1 -0.1
WERD Werda 73.40 332 eP P 00 12 10.3 -0.6
comp=Z,7.0nm,0.8s,mb4.1
MOX Moxa 73.43 332 eP P 00 12 10.9 -0.3
comp=Z,12nm,1.3s,mb4.2
118A Homack Ranch, 73.46 59 P P 00 12 11.8 +0.1
baz=73,SNR=11
GUNZ Gunzen 73.46 332 eP P 00 12 11.2 -0.1
comp=Z,8.0nm,0.7s,mb4.3
WERN Wernitzgruen 73.52 332 eP P 00 12 11.5 -0.1
comp=Z,10.0nm,0.6s,mb4.4
NKC Novy Kostel 73.54 332⇓eP P 00 12 11.4 -0.4
MODS Modra-Piesok 73.56 328 eP P 00 12 12.6 +0.7
217A Green Valley 73.62 60 ⇓P P 00 12 12.7 +0.1
baz=73,SNR=5.2
ASAR Alice Springs 73.65 193 P P 00 12 11.9 -0.7
ASAR pmax pmax
comp=Z,5.0nm,0.7s
ASAR Alice Springs 73.65 193 P P 00 12 11.9 -0.7
comp=Z,5.3nm,0.7s,mb4.1,baz=2.4,slow=5.2,SNR=70
ANMO Albuquerque 73.66 55 eP P 00 12 12.1 -0.6
ANMO pmax pmax
comp=Z,2.0nm,0.7s
ANMO Albuquerque 73.66 55 eP P 00 12 12.1 -0.6
comp=Z,1.7nm,0.7s,mb3.6
119A Ashpeak Ranch, 73.74 59 ⇓P P 00 12 13.2 0.0
baz=73
UBBA Unterbreizbach 73.76 333 eP P 00 12 12.5 -0.5
comp=Z,4.0nm,0.9s,mb3.9
ZST Bratislava 73.77 328 eP P 00 12 14.2 +1.1
ZST pmax pmax
comp=Z,8.0nm,1.0s,mb4.1
ZST Bratislava 73.77 328 eP P 00 12 14.2 +1.1
comp=Z,8.1nm,1.0s,mb4.1
MANZ Manzenberg 73.86 332 eP P 00 12 13.2 -0.4
comp=Z,9.0nm,1.3s,mb4.0
218A Dragoon 73.91 60 ⇑P P 00 12 14.4 +0.2
baz=74
BUG Bochum--Univer 73.98 335 eP P 00 12 13.7 -0.5
comp=Z,6.0nm,0.7s,mb4.1
MIB Mutribah 74.02 297 eP P 00 12 14.6 -0.2
MIB AMb AMB 00 12 15.6
comp=Z,55nm,0.5s,mb5.2
GZR Gura Zlata 74.02 323 ⇑P P 00 12 14.7 +0.1
GZR Gura Zlata 74.02 323⇑iP P 00 12 14.6 0.0
ROTZ Rotzenmuhle 74.03 332 eP P 00 12 14.5 0.0
comp=Z,8.0nm,1.0s,mb4.1
KHC Kasperske Hory 74.15 330⇓iP P 00 12 15.3 +0.1
219A White Tail Can 74.33 59 ⇑P P 00 12 16.6 0.0
baz=74,SNR=8.4
318A Bisbee 74.34 60 ⇓P P 00 12 16.5 -0.2
baz=74,SNR=6.0
GEC2 GERESS Array S 74.36 330 eP P 00 12 16.2 -0.2
GEC2 pmax pmax
comp=Z,7.0nm,0.6s,mb4.3
GEC2 GERESS Array S 74.36 330 eP P 00 12 16.2 -0.2
comp=Z,7.0nm,0.6s,mb4.3
GERES GERESS Array B 74.36 330 P P 00 12 16.2 -0.2
GERES pmax pmax
comp=Z,5.0nm,0.6s
GERES GERESS Array B 74.36 330 P P 00 12 16.2 -0.2
comp=Z,5.1nm,0.6s,mb4.2,baz=36,slow=5.5,SNR=74
WET Wettzell 74.36 331 eP P 00 12 16.6 +0.2
WET pmax pmax
comp=Z,13nm,1.1s,mb4.3
WET Wettzell 74.36 331 eP P 00 12 16.6 +0.2
comp=Z,13nm,1.1s,mb4.3
GRA1 Grafenberg Arr 74.39 332 eP P 00 12 16.8 +0.2
comp=Z,21nm,0.8s,mb4.6
GRF Grafenberg Arr 74.39 332 eP P 00 12 16.8 +0.2
GRF pmax pmax
comp=Z,21nm,0.8s,mb4.6
GRF Grafenberg Arr 74.39 332 eP P 00 12 16.8 +0.2
GRF pmax pmax
comp=Z,21nm,0.8s,mb4.6
GRF Grafenberg Arr 74.39 332 eP P 00 12 16.8 +0.2
comp=Z,21nm,0.8s,mb4.6
RST Umm Al-Ruwaisa 74.44 297 eP P 00 12 16.6 -0.6
RST AMb AMB 00 12 18.1
comp=Z,1.5nm,0.8s,mb3.5
NAY Al-Naaiem 74.48 297 eP P 00 12 17.1 -0.4
NAY AMb AMB 00 12 18.6
comp=Z,17nm,0.8s,mb4.5
RDF Al-Radifah 74.54 296 eP P 00 12 17.8 -0.1
RDF AMb AMB 00 12 18.7
comp=Z,49nm,0.6s,mb5.1
319A Douglas 74.79 60 ⇓P P 00 12 19.1 -0.1
baz=74,SNR=6.2
PKSM Moragy 74.91 326⇓iP P 00 12 18.7 -0.9
BEBN Eben Emael 74.99 336 P P 00 12 19.7 -0.2
MOA Molln 75.04 329⇑iP P 00 12 19.9 -0.3
comp=Z,6.6nm,0.8s,mb4.1
MOA Molln 75.04 329⇑iP P 00 12 19.9 -0.3
comp=Z,6.6nm,0.8s,mb4.1
MEM Membach 75.07 336 P P 00 12 20.1 -0.3
comp=Z,9.2nm,1.1s,mb4.1
BCLA Clavier 75.43 336 P P 00 12 22.1 -0.3
comp=Z,17nm,2.7s,mb4.0
FUR Furstenfeldbru 75.73 331 eP P 00 12 23.9 -0.2
FUR pmax pmax
comp=Z,12nm,0.9s,mb4.3
FUR Furstenfeldbru 75.73 331 eP P 00 12 23.9 -0.2
comp=Z,12nm,0.9s,mb4.3
STU Stuttgart 75.82 333 eP P 00 12 24.4 -0.2
comp=Z,9.0nm,0.7s,mb4.3
GIVF Givet 75.85 336 eP P 00 12 23.6 -1.1
DOU Dourbes 75.92 336 P P 00 12 24.6 -0.5
comp=Z,6.7nm,2.1s,mb3.7
KBA Koelnbreinsper 76.02 330⇑iP P 00 12 26.2 +0.6
comp=Z,24nm,0.9s,mb4.6
KBA Koelnbreinsper 76.02 330⇑iP P 00 12 26.3 +0.6
KBA pmax pmax
comp=Z,24nm,0.9s,mb4.6
BAIF Baives 76.05 337 eP P 00 12 24.8 -1.0
comp=Z,4.7nm,0.6s,mb3.8
BAIF Baives 76.05 337 eP P 00 12 24.8 -1.0
BAIF pmax pmax
comp=Z,2.0nm,0.6s,mb3.7
BAIF Baives 76.05 337 eP P 00 12 24.8 -1.0
comp=Z,2.3nm,0.6s,mb3.8
VTS Vitosha 76.17 321⇑iP P 00 12 26.9 +0.3
WATA Walderalm 76.36 331⇑iP P 00 12 27.6 0.0
comp=Z,12nm,1.1s,mb4.2
WATA Walderalm 76.36 331⇑iP P 00 12 27.6 0.0
WATA pmax pmax
comp=Z,12nm,1.1s,mb4.2
WTTA Wattenberg 76.41 331⇑iP P 00 12 28.1 +0.3
comp=Z,14nm,0.5s,mb4.7
WTTA Wattenberg 76.41 331⇑iP P 00 12 28.1 +0.3
WTTA pmax pmax
comp=Z,14nm,0.5s,mb4.7
BFO Black Forest 76.48 333 eP P 00 12 27.7 -0.5
BFO pmax pmax
comp=Z,7.0nm,1.1s,mb4.0
BFO Black Forest 76.48 333 eP P 00 12 27.7 -0.5
comp=Z,7.0nm,1.1s,mb4.0
MOTA Moosalm 76.51 331⇑iP P 00 12 28.4 0.0
comp=Z,12nm,1.0s,mb4.2
CDF Champ du Feu 76.71 334 eP P 00 12 28.6 -0.8

comp=Z,20nm,0.9s,mb4.2
CDF Champ du Feu 76.71 334 eP P 00 12 28.6 -0.8
CDF pmax pmax
comp=Z,10.0nm,0.9s,mb4.2
CDF Champ du Feu 76.71 334 eP P 00 12 28.6 -0.8
comp=Z,9.9nm,0.9s,mb4.2
MNTX Cornudas Mount 76.71 57 eP P 00 12 28.9 -0.8
comp=Z,3.4nm,1.0s,mb3.7
HAU Haudompre 77.34 334 eP P 00 12 31.8 -1.1
comp=Z,9.3nm,0.7s,mb4.0
HAU Haudompre 77.34 334 eP P 00 12 31.8 -1.1
HAU pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
HAU Haudompre 77.34 334 eP P 00 12 31.8 -1.1
comp=Z,4.7nm,0.7s,mb4.0
HINF Hinteralfeld 77.37 334 eP P 00 12 31.8 -1.2
comp=Z,6.5nm,0.7s,mb3.8
HINF Hinteralfeld 77.37 334 eP P 00 12 31.8 -1.2
HINF pmax pmax
comp=Z,3.0nm,0.7s,mb3.8
HINF Hinteralfeld 77.37 334 eP P 00 12 31.8 -1.2
comp=Z,3.3nm,0.7s,mb3.9
ASF Jabal al Asfar 78.05 306 P P 00 12 37.1 +0.1
ASF pmax pmax
comp=Z,2.0nm,0.6s
ASF Jabal al Asfar 78.05 306 P P 00 12 37.1 +0.1
comp=Z,1.5nm,0.6s,mb3.5,baz=290,slow=2.2,SNR=4.3
FLN La Foliniere 78.42 339 eP P 00 12 37.7 -1.0
comp=Z,19nm,0.8s,mb4.2
FLN La Foliniere 78.42 339 eP P 00 12 37.7 -1.0
FLN pmax pmax
comp=Z,10.0nm,0.8s,mb4.2
FLN La Foliniere 78.42 339 eP P 00 12 37.7 -1.0
comp=Z,9.7nm,0.8s,mb4.2
LDF La Druitiere 78.49 339 eP P 00 12 37.9 -1.1
comp=Z,6.7nm,0.6s,mb3.9
LDF La Druitiere 78.49 339 eP P 00 12 37.9 -1.1
LDF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
LDF La Druitiere 78.49 339 eP P 00 12 37.9 -1.1
comp=Z,3.3nm,0.6s,mb3.8
CABF La Chapelle 78.68 334 eP P 00 12 39.3 -0.8
comp=Z,5.9nm,0.7s,mb3.7
CABF La Chapelle 78.68 334 eP P 00 12 39.3 -0.8
CABF pmax pmax
comp=Z,3.0nm,0.7s,mb3.7
CABF La Chapelle 78.68 334 eP P 00 12 39.3 -0.8
comp=Z,3.0nm,0.7s,mb3.7
LOR Lormes 78.70 336 eP P 00 12 39.2 -1.0
comp=Z,23nm,0.9s,mb4.2
LOR Lormes 78.70 336 eP P 00 12 39.2 -1.0
LOR pmax pmax
comp=Z,11nm,0.9s,mb4.2
LOR Lormes 78.70 336 eP P 00 12 39.2 -1.0
comp=Z,11nm,0.9s,mb4.2
GRR Gorron 78.86 339 eP P 00 12 40.3 -0.7
comp=Z,18nm,0.6s,mb4.2
GRR Gorron 78.86 339 eP P 00 12 40.3 -0.7
GRR pmax pmax
comp=Z,9.0nm,0.6s,mb4.3
GRR Gorron 78.86 339 eP P 00 12 40.3 -0.7
comp=Z,9.0nm,0.6s,mb4.3
SSF Saint Saulge 78.99 336 eP P 00 12 40.8 -0.9
comp=Z,8.8nm,0.7s,mb3.9
SSF Saint Saulge 78.99 336 eP P 00 12 40.8 -0.9
SSF pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
SSF Saint Saulge 78.99 336 eP P 00 12 40.8 -0.9
comp=Z,4.4nm,0.7s,mb3.9
AVF Avril sur Loir 79.28 336 eP P 00 12 42.4 -0.9
comp=Z,13nm,0.8s,mb4.0
AVF Avril sur Loir 79.28 336 eP P 00 12 42.4 -0.9
AVF pmax pmax
comp=Z,7.0nm,0.8s,mb4.0
AVF Avril sur Loir 79.28 336 eP P 00 12 42.4 -0.9
comp=Z,6.6nm,0.8s,mb4.0
SMF Signal de Mont 79.28 335 eP P 00 12 42.4 -0.9
comp=Z,19nm,0.8s,mb4.2
SMF Signal de Mont 79.28 335 eP P 00 12 42.4 -0.9
SMF pmax pmax
comp=Z,9.0nm,0.8s,mb4.2
SMF Signal de Mont 79.28 335 eP P 00 12 42.4 -0.9
comp=Z,9.4nm,0.8s,mb4.2
SGMF Saint Gilles 79.37 340 eP P 00 12 43.1 -0.6
comp=Z,28nm,0.9s,mb4.3
SGMF Saint Gilles 79.37 340 eP P 00 12 43.1 -0.6
SGMF pmax pmax
comp=Z,14nm,0.9s,mb4.3
SGMF Saint Gilles 79.37 340 eP P 00 12 43.1 -0.6
comp=Z,14nm,0.9s,mb4.3
ROSF Rostrenen 79.45 341 eP P 00 12 43.6 -0.5
comp=Z,5.4nm,0.5s,mb3.8
ROSF Rostrenen 79.45 341 eP P 00 12 43.6 -0.5
ROSF pmax pmax
comp=Z,3.0nm,0.5s,mb3.9
ROSF Rostrenen 79.45 341 eP P 00 12 43.6 -0.5
comp=Z,2.7nm,0.5s,mb3.8
LPL La Plagne 79.49 333 eP P 00 12 44.2 -0.2
LPG La Plagne 79.50 333 eP P 00 12 43.8 -0.7
comp=Z,7.1nm,0.7s,mb3.8
LPG La Plagne 79.50 333 eP P 00 12 43.8 -0.7
LPG pmax pmax
comp=Z,4.0nm,0.7s,mb3.9
LPG La Plagne 79.50 333 eP P 00 12 43.8 -0.7
comp=Z,3.5nm,0.7s,mb3.8
BGF Bois d'Agland 79.63 336 eP P 00 12 44.8 -0.3
comp=Z,5.4nm,0.6s,mb3.8
BGF Bois d'Agland 79.63 336 eP P 00 12 44.8 -0.3
BGF pmax pmax
comp=Z,3.0nm,0.6s,mb3.8
BGF Bois d'Agland 79.63 336 eP P 00 12 44.8 -0.3
comp=Z,2.7nm,0.6s,mb3.8
TCF Toulx Ste Croi 80.05 336 eP P 00 12 46.7 -0.6
comp=Z,18nm,1.0s,mb4.0
TCF Toulx Ste Croi 80.05 336 eP P 00 12 46.7 -0.6
TCF pmax pmax
comp=Z,9.0nm,1.0s,mb4.0
TCF Toulx Ste Croi 80.05 336 eP P 00 12 46.7 -0.6
comp=Z,8.8nm,1.0s,mb4.0
ORIF Oris-en-Rattie 80.28 333 eP P 00 12 48.2 -0.4
comp=Z,8.1nm,0.6s,mb3.9
ORIF Oris-en-Rattie 80.28 333 eP P 00 12 48.2 -0.4
ORIF pmax pmax
comp=Z,4.0nm,0.6s,mb3.9
ORIF Oris-en-Rattie 80.28 333 eP P 00 12 48.2 -0.4
comp=Z,4.1nm,0.6s,mb3.9
MFF Saint Martin d 80.36 338 eP P 00 12 48.4 -0.5
comp=Z,17nm,0.8s,mb4.1
MFF Saint Martin d 80.36 338 eP P 00 12 48.4 -0.5
MFF pmax pmax
comp=Z,8.0nm,0.8s,mb4.1
MFF Saint Martin d 80.36 338 eP P 00 12 48.4 -0.5
comp=Z,8.4nm,0.8s,mb4.1
STKA Stephens Creek 81.01 185 P P 00 12 50.3 -2.0
comp=Z,2.3nm,0.8s,mb3.7,baz=314,slow=19,SNR=2.8
SMRF Simiane la Rot 81.23 333 eP P 00 12 51.7 -1.8
CAF Calviac 81.35 336 eP P 00 12 54.0 -0.1
comp=Z,11nm,0.7s,mb4.1
CAF Calviac 81.35 336 eP P 00 12 54.0 -0.1
CAF pmax pmax
comp=Z,5.0nm,0.7s,mb4.0
CAF Calviac 81.35 336 eP P 00 12 54.0 -0.1
comp=Z,5.4nm,0.7s,mb4.1
LFF La Frestale 81.68 337 eP P 00 12 55.6 -0.2
comp=Z,14nm,0.8s,mb4.2
LFF La Frestale 81.68 337 eP P 00 12 55.6 -0.2
LFF pmax pmax
comp=Z,7.0nm,0.8s,mb4.1
LFF La Frestale 81.68 337 eP P 00 12 55.6 -0.2
comp=Z,7.3nm,0.8s,mb4.2
MTLF Montolieu 82.77 335 eP P 00 13 01.1 -0.2
EPF Esparros 83.57 336 eP P 00 13 04.6 -0.7
comp=Z,11nm,0.9s,mb4.1
EPF Esparros 83.57 336 eP P 00 13 04.6 -0.7
EPF pmax pmax
comp=Z,6.0nm,0.9s,mb4.1
EPF Esparros 83.57 336 eP P 00 13 04.6 -0.7
comp=Z,5.6nm,0.9s,mb4.1
ETSF Etsaut 83.92 337 eP P 00 13 07.2 +0.1
comp=Z,10nm,0.6s,mb4.3
ETSF Etsaut 83.92 337 eP P 00 13 07.2 +0.1
ETSF pmax pmax
comp=Z,5.0nm,0.6s,mb4.2
ETSF Etsaut 83.92 337 eP P 00 13 07.2 +0.1
comp=Z,5.1nm,0.6s,mb4.2
KEST Kesra 87.46 327 P P 00 13 22.9 -1.2
comp=Z,2.3nm,1.0s,mb3.8,baz=318,slow=5.4,SNR=4.5

TORD	**Torodi Ar. Bea**	**110.80**	**324**	PKiKP	PKiKP	00 19 03.7	-2.0
	comp=Z,0.5nm,0.9s,baz=24,slow=2.2,SNR=3.3						
TORD				PP	PP	00 19 46.8	-6.3
	comp=Z,0.6nm,0.7s,baz=8.4,slow=8.4,SNR=4.8						
TORD				PKKPbc	PKKPbc	00 30 01.6	-2.0
	comp=Z,0.3nm,1.0s,baz=206,slow=2.4,SNR=5.2						
VNDA	**Vanda**	**126.91**	**176**	PKP	PKPdf	00 19 33.3	-1.5
	comp=Z,0.4nm,0.6s,baz=326,slow=5.0,SNR=6.2						
LPAZ	**La Paz**	**136.26**	**54**	SKPbc	SKPbc	00 22 31.8	-2.2
	comp=Z,1.2nm,0.8s,baz=333,slow=2.4,SNR=4.0						
CFAA	**Coronel Fontan**	**148.04**	**70**	PKPbc	PKPbc	00 20 16.1	-2.4
	comp=Z,0.4nm,0.6s,baz=325,slow=2.7,SNR=8.2						
CPUP	**Villa Florida**	**150.13**	**49**	PKIKP	PKPbc	00 20 21.7	-1.9
CPUP				pmax	pmax		
	comp=Z,2.0nm,0.6s						
CPUP	**Villa Florida**	**150.13**	**49**	PKPbc	PKPbc	00 20 21.7	-1.9
	comp=Z,2.3nm,0.6s,baz=293,slow=0.8,SNR=5.9						
PLCA	**Paso Flores**	**152.13**	**87**	PKIKP	PKPbc	00 20 26.1	-1.6
PLCA				pmax	pmax		
	comp=Z,3.0nm,0.6s						
PLCA	**Paso Flores**	**152.13**	**87**	PKPbc	PKPbc	00 20 26.1	-1.6
	comp=Z,3.2nm,0.6s,baz=269,slow=1.2,SNR=14						

*ISCJB **27** 00:41:45.0±0.8, 156N±01×92.19W±005, h224km±5km, mb3.6/5, Error ellipse: s-maj=18.4km s-min=7.3km az=3.9*
*IDC **27** 00:41:47.2±4.7, 1567N×9181W, h234km±42km, mb3.3/5, mb1 3.6/6, mb1mx3.3/23, mbtmp3.4/6, Error ellipse: s-maj=48.1km s-min=16.9km az=52.0*
*MEX **27** 00:41:48.8±1.0, 1552N×9231W, h211km±16km, MD4.3*
*NEIC **27** 00:41:48.2, 1554N×9230W, h215km, mb4.3/1, MD4.3(MEX), After MEX.*

ISC 27 00:41:45.4±0.8, 156N±01×9222W±005, h223km±5km, n23, σ1°40/34, mb3.6/5, Mexico-Guatemala border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**0.67**	**7**	*i* P	**Pn**	**00 42 16.6**	**+0.8**
CCIG				*i* S	**S**	**00 42 39.9**	**+0.1**
SCX	**San Cristobal**	**1.19**	**341**	*i* P	**Pn**	**00 42 21.0**	**+2.2**
SCX				*i* S	**S**	**00 42 42.0**	**-3.0**
SCX	**San Cristobal**	**1.19**	**341**	*i* P	**Pn**	**00 42 21.0**	**+2.2**
SCX				*i* S	**S**	**00 42 44.5**	**-0.5**
CMIG	**Matias Romero**	**2.95**	**300**	*i* P	**Pn**	**00 42 36.5**	**+0.8**
CMIG				*i* S	**S**	**00 43 13.9**	**-1.4**
CMIG	**Matias Romero**	**2.95**	**300**	*i* P	**Pn**	**00 42 36.6**	**+0.9**
CMIG				*i* S	**S**	**00 43 13.9**	**-1.4**
HUIG	**Huatulco**	**3.75**	**273**	*i* P	**Pn**	**00 42 45.4**	**+0.4**
HUIG				*i* S	**S**	**00 43 30.0**	**-2.0**
HUIG	**Huatulco**	**3.75**	**273**	*i* P	**Pn**	**00 42 45.6**	**+0.6**
HUIG				*i* S	**S**	**00 43 30.0**	**-2.0**
OXX	**Oaxaca**	**4.56**	**289**	*i* P	**Pn**	**00 42 58.0**	**+3.1**
OXX				*i* S	**S**	**00 43 49.5**	**-0.5**
VHO	**Vista Hermosa**	**4.57**	**289**	*i* P	**Pn**	**00 42 57.8**	**+2.8**
VHO				*i* S	**S**	**00 43 49.7**	**-0.4**
UTMO	**Huajuapan**	**5.79**	**293**	*i* P	**Pn**	**00 43 12.1**	**+1.8**
UTMO				*i* S	**S**	**00 44 16.1**	**-1.7**
TEIG	**Tepich**	**5.93**	**39**	P	**Pn**	**00 43 09.7**	**-2.4**
	19nm,0.3s,baz=237,slow=1.8,SNR=87						
TEIG	**Tepich**	**5.93**	**39**	*i* P	**Pn**	**00 43 09.7**	**-2.4**
PPM	**Popocatepetl**	**7.02**	**300**	*i* P	**Pn**	**00 43 30.1**	**+4.1**
PPM				*i* S	**S**	**00 44 46.5**	**+0.2**
CAIG	**El Cayaco**	**7.86**	**282**	*i* P	**Pn**	**00 43 38.8**	**+2.0**
CAIG				*i* S	**S**	**00 45 05.2**	**-0.8**
AMTX	**Amarillo**	**20.99**	**338**	*e*P	**P**	**00 46 12.1**	**+0.5**
	5.2nm,0.6s						
TKL	**Tuckaleechee C**	**21.35**	**19**	*e*P	**P**	**00 46 15.3**	**0.0**
TKL	**Tuckaleechee C**	**21.35**	**19**	P	**P**	**00 46 15.2**	**-0.1**
	3.1nm,0.5s,mb4.1,baz=189,slow=8.8,SNR=6.2						
SDV	**Santo Domingo**	**22.12**	**105**	P	**P**	**00 46 21.5**	**-1.3**
	1.2nm,0.2s,mb4.0,baz=301,slow=5.9,SNR=2.5						
NVAR	**Mina Array Bea**	**32.30**	**320**	P	**P**	**00 47 57.4**	**+4.0**
	0.8nm,0.7s,mb3.3,baz=138,slow=9.5,SNR=5.9						
SIV	**San Ignacio**	**43.95**	**134**	P	**P**	**00 49 28.9**	**-1.7**
	0.5nm,0.4s,mb3.2,baz=300,slow=14,SNR=5.1						
YKA	**Yellowknife Ar**	**49.42**	**347**	P	**P**	**00 50 12.5**	**+0.2**
YKA	**Yellowknife Ar**	**49.42**	**347**	P	**P**	**00 50 12.5**	**+0.2**
	1.3nm,0.6s,mb3.5,baz=149,slow=7.4,SNR=33						
WRA	**Warramunga Arr**	**135.56**	**257**	PKP	PKPdf	01 00 40.9	+1.2
	0.4nm,0.9s,baz=91,slow=2.6,SNR=5.5						

BJI 27 00:49:54.3, 4526N×12467E, h14km, ML3.5, 1C, Northeastern China

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CN2	**Changchun**	**1.56**	**159**	*e*PG	Pg	00 50 23.3	-1.0
CN2				*e*SG	Sg	00 50 45.0	+0.5
CN2				Smax			
	comp=N,670nm,0.6s						
CN2				Smax			
	comp=E,940nm,0.6s						
SNY	**Shenyang**	**3.52**	**193**	⇑PG	Pg	00 50 55.5	-6.2
SNY				SG	Sg	00 51 45.5	-1.9
SNY				Smax			
	comp=N,72nm,0.4s						
SNY				Smax			
	comp=E,49nm,0.4s						

*NIED **27** 01:00:00, 24.10N×122.60E, h29km, Mw3.9 Best double couple: M0:6.88000×10^14 NP1:φ1=71.00000°, δ78.00000°, λ75.00000°. NP2:φ2=305.00000°, δ19.00000°, λ142.00000°.*
*ISCJB **27** 01:00:02.2±0.8, 2408N±009×12263E±004, h51km±7km, mb3.6/6, Error ellipse: s-maj=14.3km s-min=6.5km az=4.3*
*JMA **27** 01:00:02.1±0.2, 2406N×12262E, h37km±4km, M3.8*
*NEIC **27** 01:00:02.4±1.1, 2406N×12268E, h35km, MG3.9(JMA), Error ellipse: s-maj=34.0km s-min=14.6km az=52.0*
*IDC **27** 01:00:06.1±6.3, 2406N×12249E, h71km±60km, mb3.4/6, mb1 3.6/7, mb1mx3.4/19, mbtmp3.4/7, ML3.9/1, MS2.7/1, Ms1 2.7/1, ms1mx2.4/16, Error ellipse: s-maj=48.7km s-min=17.0km az=70.0*

ISC 27 01:00:02.9±0.8, 2409N±009×12261E±005, h41km±10km, n23, σ0°80/31, mb3.6/6, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**0.52**	**44**	P	**Pn**	**01 00 13.2**	**-0.7**
YOJ				*e*S	**Sn**	**01 00 20.9**	**-0.8**
NACB	**Ninganchiao**	**0.93**	**275**	*e*P	**Pn**	**01 00 19.4**	**-0.1**
IRIF	**Iriomote-Funau**	**1.05**	**76**	P	**Pn**	**01 00 20.6**	**-0.5**
IRIF				*e*S	**Sn**	**01 00 35.3**	**+0.7**
HATJ	**Hateruma jima**	**1.09**	**92**	P	**Pn**	**01 00 21.2**	**-0.5**
HATJ				*e*S	**Sn**	**01 00 35.1**	**-0.5**
JKRS	**Kuro-shima**	**1.28**	**83**	P	**Pn**	**01 00 24.4**	**+0.1**
JKRS				*e*S	**Sn**	**01 00 41.0**	**+0.7**
TATO	**Taipei**	**1.35**	**311**	*e*P	**Pn**	**01 00 27.1**	**+1.8**
TATO				*e*S	**Sn**	**01 00 46.4**	**+4.4**
JIJ	**Ishigaki jima**	**1.42**	**79**	P	**Pn**	**01 00 25.8**	**-0.5**
JIJ				*e*S	**Sn**	**01 00 43.6**	**-0.2**
JTJ	**Tarama**	**1.98**	**74**	P	**Pn**	**01 00 34.2**	**+0.3**
JTJ				*e*S	**Sn**	**01 00 58.2**	**+0.6**
JMJ	**Miyako jima 2**	**2.55**	**73**	*e*S	**Sn**	**01 01 12.3**	**+0.8**
JOGS	**Gusukube**	**2.63**	**75**	P	**Pn**	**01 00 43.9**	**+1.0**
JOGS				*e*S	**Sn**	**01 01 14.4**	**+0.8**
JKE	**Kume jima 2**	**4.39**	**59**	P	**Pn**	**01 01 07.1**	**+0.1**
JAGN	**Aguni-jima**	**4.87**	**58**	P	**Pn**	**01 01 13.7**	**+0.1**
JOW	**Kunigami**	**5.80**	**61**	P	**Pn**	**01 01 26.3**	**-0.1**
JTK	**Tokunoshima**	**6.79**	**56**	P	**Pn**	**01 01 38.4**	**-1.6**
JAM	**Amami Oshima**	**7.61**	**54**	P	**Pn**	**01 01 49.3**	**-1.9**
KSRS	**Korea Array**	**14.07**	**18**	P	**Pn**	**01 03 23.5**	**+3.8**
	0.6nm,0.3s,baz=196,slow=12,SNR=12						
KSRS				LR	LR	01 09 28.7	
	comp=Z,34nm,19.7s,baz=195,slow=40						
SONM	**Songino Array**	**26.98**	**335**	P	**P**	**01 05 41.3**	**+0.7**
	0.9nm,0.5s,mb3.5,baz=147,slow=8.2,SNR=2.2						
MKAR	**Makanchi Array**	**39.32**	**315**	P	**P**	**01 07 27.0**	**-0.9**
MKAR				PcP	PcP	01 09 36.2	+0.3
MKAR	**Makanchi Array**	**39.32**	**315**	P	**P**	**01 07 27.0**	**-0.9**
	0.5nm,0.6s,mb3.5,baz=97,slow=9.8,SNR=9.0						
MKAR				PcP	PcP	01 09 36.2	+0.3
	0.4nm,0.7s,baz=83,slow=3.5,SNR=3.6						
WRA	**Warramunga Arr**	**45.23**	**164**	P	**P**	**01 08 15.8**	**-0.4**
	1.2nm,0.6s,mb3.9,baz=21,slow=9.7,SNR=12						
ASAR	**Alice Springs**	**48.72**	**166**	P	**P**	**01 08 44.0**	**+0.6**
	0.3nm,0.5s,mb3.6,baz=349,slow=8.8,SNR=9.0						
FINES	**FINESS Array B**	**72.18**	**330**	P	**P**	**01 11 23.1**	**-0.1**
	0.2nm,0.3s,mb3.5,baz=64,slow=4.8,SNR=9.6						
YKA	**Yellowknife Ar**	**82.55**	**23**	P	**P**	**01 12 20.8**	**-0.3**
	0.6nm,0.8s,mb3.7,baz=316,slow=4.7,SNR=7.2						

MAN 27 01:05:15, 1049N×12525E, h9km, mb3.7, ML2.5, MS2.0, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MSLP	**Maasin**	**0.52**	**227**	*e*P	Pg	01 05 26.0	+0.9
MSLP				*e*S	Sg	01 05 33.9	+1.9
PLP	**Palo**	**0.72**	**339**	*e*P	Pg	01 05 29.6	+0.7
PLP				*e*S	Sg	01 05 39.5	+1.2
OCLP	**Ormoc**	**0.84**	**312**	*e*P	Pg	01 05 30.1	-1.1
TBP	**Tagbilaran**	**1.58**	**240**	*e*P	Pn	01 05 42.9	-0.3

*ISCJB **27** 01:30:49.5±1.0, 4147N±002×7283E±004, h15km±8km, mb4.0/16, MS3.0/5, Error ellipse: s-maj=4.5km s-min=3.6km az=0.6*
*IDC **27** 01:30:49.6±0.9, 4138N×7302E, h0km, mb3.7/8, mb1 4.0/12, mb1mx3.8/25, mbtmp3.9/12, ML4.2/4, MS3.0/7, Ms1 3.0/7, ms1mx2.8/27, Error ellipse: s-maj=17.4km s-min=13.4km az=22.0*
*MOS **27** 01:30:53.7±1.2, 4166N×7288E, h33km, mb4.3/6, Error ellipse: s-maj=11.7km s-min=7.5km az=76.4*
*KNET **27** 01:30:54.7±0.6, 4176N×7314E, h17km±3km, ml4.3, Error ellipse: s-maj=4.4km s-min=3.7km az=108.0*
*NEIC **27** 01:30:55.9±0.6, 4169N×7304E, h35km, mb4.2/5, Error ellipse: s-maj=11.6km s-min=7.8km az=152.0*
*NNC **27** 01:30:56.4±0.9, 4196N×7302E, h6km±5km, mb4.7, mpv4.5, Error ellipse: s-maj=8.9km s-min=3.3km az=1.0*
*BJI **27** 01:31:06.5, 4136N×7392E, h32km, mB5.0, mb4.6, ML4.1, Ms3.7, Msz3.9*

ISC 27 01:30:51.0±0.9, 4153N±002×7295E±003, h6km±6km, n98, σ1°38/136, mb4.0/16, MS3.0/5, 25C-20D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AML	**Almayashu**	**0.82**	**42**	⇑*i*P	**Pg**	**01 31 05.9**	**-0.9**
AML				*e*S	**Sg**	**01 31 13.8**	**-3.6**
AML	**Almayashu**	**0.82**	**42**	P	**Pg**	**01 31 05.9**	**-0.8**
	2μm,0.1s,SNR=2188						
AML				⇓S	**Sg**	**01 31 15.1**	**-2.3**
	23μm,0.5s						
EKS2	**Erkin-Say**	**1.29**	**28**	*e*P	**Pn**	**01 31 14.1**	**-1.5**
EKS2				*e*S	**Sb**	**01 31 28.0**	**-4.5**
EKS2	**Erkin-Say**	**1.29**	**28**	⇑P	**Pn**	**01 31 14.2**	**-1.3**
	272nm,0.1s						
EKS2				⇑S	**Sb**	**01 31 28.1**	**-4.3**
	2μm,0.2s						
UCH	**Uchtor**	**1.36**	**59**	⇑*i*P	**Pn**	**01 31 15.8**	**-0.6**
UCH				*e*S	**Sb**	**01 31 32.1**	**-2.4**
UCH	**Uchtor**	**1.36**	**59**	⇑P	**Pn**	**01 31 15.9**	**-0.6**
	1μm,0.2s						
UCH				⇓S	**Sb**	**01 31 32.8**	**-1.7**
	2μm,0.3s						
AAK	**Ala-Archa**	**1.59**	**46**	⇑P	**Pn**	**01 31 19.7**	**0.0**
	750nm,0.2s,SNR=695						
AAK				⇓S	**Sn**	**01 31 38.9**	**-1.7**
	1μm,0.3s						
FRU	**Bishkek**	**1.80**	**43**	⇑*i*PN	**Pn**	**01 31 23.6**	**+1.1**
FRU				*i* S	**Sn**	**01 31 45.7**	**+0.1**
FRU				pmax	pmax		
	comp=Z,4μm,1.6s						
FRU				pmax	pmax		
	comp=Z,1μm,1.5s						
FRU				smax			
	comp=E,7μm,3.0s						
FRU				smax			
	comp=E,3μm,2.0s						
KZA	**Kyzart**	**1.81**	**71**	⇑P	**Pn**	**01 31 24.1**	**+1.6**
	comp=E,2μm,0.3s						
KZA				⇑S	**Sn**	**01 31 46.9**	**+1.2**
	comp=E,4μm,0.6s						
KBK	**Karagaybulak**	**1.87**	**52**	⇑P	**Pn**	**01 31 25.0**	**+1.6**
	comp=E,1μm,0.2s						
CHMS	**Chumysh**	**1.99**	**42**	⇑P	**Pn**	**01 31 26.7**	**+1.6**
	comp=E,2μm,0.3s						
CHMS				⇓S	**Sn**	**01 31 50.8**	**+0.6**
	comp=E,3μm,0.4s						
USP	**Ospenovka**	**2.08**	**33**	⇑P	**Pn**	**01 31 28.2**	**+1.8**
	comp=E,1μm,0.3s						
USP				⇓S	**Sn**	**01 31 53.3**	**+0.7**
	comp=E,5μm,0.3s						
KK31	**Karatay Array**	**2.40**	**312**	⇓Pn	**Pn**	**01 31 33.4**	**+2.7**
	comp=E,10nm,0.3s,baz=123,slow=12,SNR=6430						
KK31				⇓Pg	**Pg**	**01 31 35.8**	**-1.1**
	comp=E,164nm,0.2s,baz=128,slow=17						
KK31				⇑Lg		01 32 07.5	
	comp=E,687nm,0.3s,baz=122,slow=29						
TKM2	**Tokmak 2**	**2.41**	**54**	⇑Pn	**Pn**	**01 31 33.1**	**+2.2**
	comp=E,843nm,0.4s						
TKM2				⇓Lg		01 32 03.8	
	comp=E,3μm,0.6s						
TKM2	**Tokmak 2**	**2.41**	**54**	*e*Pn	**Pn**	**01 31 32.8**	**+1.9**
TKM2				*e*Sn	**Sn**	**01 32 04.5**	**+3.8**
TKM2	**Tokmak 2**	**2.41**	**54**	⇑P	**Pn**	**01 31 33.2**	**+2.3**
	comp=E,2μm,0.4s						
ULHL	**Ulahol**	**2.56**	**73**	⇓P	**Pn**	**01 31 35.3**	**+2.3**
	comp=E,237nm,0.2s						
KSH	**Kashi**	**3.06**	**130**	*e*P	**Pn**	**01 31 44.8**	**+5.0**
KSH				SG	**Sg**	**01 32 26.0**	**-3.1**
KSH				Smax			
	comp=N,4μm,0.8s						
KSH				Smax			
	comp=E,7μm,0.8s						
AAA	**Alma-Ata**	**3.44**	**58**	*e*PN	**Pn**	**01 31 52.5**	**+7.5**
AAA				*e*S	Sg	01 32 51.7	+10
KBL	**Kabul**	**7.62**	**205**	*e*Pn	**Pn**	**01 32 48.7**	**+6.1**
	comp=E,32nm,0.6s						
KBL				*e*Sn	**Sn**	**01 34 15.0**	**+5.8**
CEP	**Cherat**	**7.73**	**186**	⇑P	**Pn**	**01 32 48.0**	**+3.9**
CHCP	**Chirah Chowk**	**7.86**	**178**	P	**Pn**	**01 32 50.2**	**+4.4**
MK31	**Makanchi Array**	**8.53**	**49**	Pn	**Pn**	**01 32 56.6**	**+1.7**
	comp=E,12nm,0.5s,baz=234,slow=13,SNR=212						
MK31				⇑Sn	**Sn**	**01 34 30.4**	**-0.9**
	comp=E,36nm,0.8s						
MK31				⇑Lg		01 35 16.1	
	comp=E,45nm,0.6s						
MK31	**Makanchi Array**	**8.53**	**49**	*e*Pn	**Pn**	**01 32 56.6**	**+1.7**
MK31				*e*Sn	**Sn**	**01 34 32.9**	**+1.5**
MKAR	**Makanchi Array**	**8.53**	**49**	P	**Pn**	**01 32 56.7**	**+1.8**
MKAR						01 34 36.4	
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR				smax			
	comp=N,2.0nm,0.3s						
MKAR				MLR	MLR		
	comp=Z,119nm,21.3s						
MKAR	**Makanchi Array**	**8.53**	**49**	Pn	**Pn**	**01 32 56.7**	**+1.8**
	comp=Z,0.9nm,0.3s,baz=234,slow=14,SNR=43						
MKAR				Sn	**Sn**	**01 34 36.4**	**+5.0**
	comp=Z,1.5nm,0.3s,baz=250,slow=17,SNR=2.4						
MKAR				Lg		01 35 11.7	
	comp=Z,4.0nm,0.3s,baz=234,slow=28,SNR=5.3						
MKAR				LR	LR	01 36 24.5	
	comp=Z,119nm,21.2s,baz=247,slow=39						
THW	**Thamme Wali**	**8.77**	**187**	P	**Pn**	**01 33 01.3**	**+3.0**
DLH	**Dalhousie**	**9.29**	**164**	*e*P	**Pn**	**01 33 07.0**	**+1.7**
DLH				*e*x	**Sn**	**01 34 52.0**	**+1.9**
THN	**Thein Dam**	**9.34**	**165**	*e*P	**Pn**	**01 33 07.1**	**+1.0**
THN				*e*x	**Sn**	**01 34 48.2**	**-3.2**
KURK	**Kurchatov**	**9.99**	**21**	*e*P	**Pn**	**01 33 15.1**	**+0.1**
KURK				pmax	pmax		
	comp=Z,6.0nm,0.6s						
KURK	**Kurchatov**	**9.99**	**21**	*e*Pn	**Pn**	**01 33 15.1**	**+0.1**
	comp=Z,6.3nm,0.6s						
KURK				*e*Sn	**Sn**	**01 34 53.6**	**-14**
KLP	**Kalpa**	**10.84**	**155**	*e*P	**Pn**	**01 33 26.5**	**-0.2**
KLP				*e*S	**Sn**	**01 35 17.9**	**-10**
KLP				AML	AML	01 35 39.2	
	comp=N,88nm,0.5s						
KLP				AML	AML	01 35 40.1	
	comp=E,110nm,0.6s						
WMQ	**Urumqi**	**11.10**	**73**	*e*P	**Pn**	**01 33 36.5**	**+6.4**
WMQ				AMB	AMB		
	comp=Z,32nm,1.0s						
VOSK	**Vostochnaya**	**11.28**	**354**	⇑Pn	**Pn**	**01 33 32.1**	**-0.5**
	comp=Z,7.8nm,0.4s						
VOSK				⇓Lg		01 36 41.1	
	comp=Z,107nm,0.8s						
BVA0	**Borovoye Array**	**11.63**	**352**	Pn	**Pn**	**01 33 36.9**	**-0.5**
	comp=Z,1.2nm,0.5s,baz=156,slow=12,SNR=41						
BVA0				⇓Sn	**Sn**	**01 35 43.6**	**-3.9**
	comp=Z,2.5nm,0.6s						
BVA0				⇑Lg		01 36 52.7	
	comp=Z,16nm,0.8s						
BVAR	**Borovoye Array**	**11.63**	**352**	P	**Pn**	**01 33 36.7**	**-0.7**
BVAR						01 35 42.3	
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
BVAR				smax			
	comp=N,4.0nm,0.3s						
BVAR				MLR	MLR		
	comp=Z,41nm,21.3s						
BVAR	**Borovoye Array**	**11.63**	**352**	Pn	**Pn**	**01 33 36.7**	**-0.7**
	comp=Z,4.7nm,0.3s,baz=153,slow=11,SNR=16						
BVAR				Sn	**Sn**	**01 35 42.3**	**-5.1**
	comp=Z,3.6nm,0.3s,baz=169,slow=24,SNR=6.3						
BVAR				Lg		01 36 55.0	
	comp=Z,4.6nm,0.3s,baz=259,slow=0.1,SNR=6.8						
BVAR				LR	LR	01 38 29.0	
	comp=Z,41nm,21.3s,baz=292,slow=39						
BRVK	**Borovoye**	**11.68**	**352**	*e*P	**Pn**	**01 33 37.3**	**-0.7**
BRVK				pmax	pmax		
	comp=Z,21nm,0.7s						
BRVK	**Borovoye**	**11.68**	**352**	*e*Pn	**Pn**	**01 33 37.3**	**-0.7**
	comp=Z,21nm,0.7s						
ZRNK	**Zerenda**	**11.74**	**348**	⇑Pn	**Pn**	**01 33 37.6**	**-1.2**
	comp=Z,7.4nm,0.5s						
ZRNK				⇓Sn	**Sn**	**01 35 46.1**	**-3.9**
	comp=Z,12nm,0.5s						
ZRNK				⇓Lg		01 36 56.5	
	comp=Z,86nm,0.8s						
DDI	**Dehra Dun**	**11.92**	**158**	*e*P	**Pn**	**01 33 41.5**	**+0.1**
DDI				*e*x	x	01 35 47.0	
AB31	**Akbulak array**	**11.96**	**315**	⇓Pn	**Pn**	**01 33 42.0**	**+0.1**
	comp=Z,3.6nm,0.3s,baz=122,slow=12,SNR=270						
AB31				⇓Sn	**Sn**	**01 35 56.2**	**+0.7**
	comp=Z,23nm,0.8s						
AB31				⇓Lg		01 37 07.9	
	comp=Z,38nm,0.9s						
JOSI	**Joshimath**	**12.18**	**152**	*e*P	**Pn**	**01 33 45.6**	**+0.6**
JOSI				*e*S	**Sn**	**01 35 48.4**	**-13**
JOSI				AML	AML	01 36 04.9	
	comp=N,151nm,0.7s						
JOSI				AML	AML	01 36 05.4	
	comp=E,156nm,0.8s						
NDI	**New Delhi**	**13.28**	**163**	*e*P	**Pn**	**01 34 01.0**	**+1.0**
KHET	**Khetri**	**13.62**	**169**	*e*P	**Pn**	**01 34 02.9**	**-1.8**
KHET				*e*x	x	01 36 29.0	
AKTK	**Aktyubinsk**	**13.66**	**316**	Pn	**Pn**	**01 34 06.3**	**+1.2**
AKTK				Sn	**Sn**	**01 36 35.5**	**-1.5**
AKTK				Lg		01 38 08.4	
AKTO	**Aktyubinsk**	**13.66**	**316**	⇓Pn	**Pn**	**01 34 05.4**	**+0.3**
AKTO				⇑Sn	**Sn**	**01 36 36.4**	**-0.6**
	comp=E,0.4nm,0.9s						
AKTO				⇓Lg		01 38 02.0	
	comp=E,0.6nm,0.9s						
AKTO	**Aktyubinsk**	**13.66**	**316**	Pn	**Pn**	**01 34 06.3**	**+1.2**
	comp=E,0.7nm,0.3s,baz=127,slow=14,SNR=19						
AKTO				Sn	**Sn**	**01 36 35.5**	**-1.5**
	comp=E,1.1nm,0.3s,baz=357,slow=22,SNR=3.1						
AKTO				Lg		01 38 08.4	
	comp=E,0.2nm,0.3s,baz=185,slow=23,SNR=2.8						
KUDL	**Kundal**	**13.66**	**167**	*e*P	**Pn**	**01 34 02.9**	**-2.4**
KUDL				*e*x	x	01 36 29.3	
SONA	**Sohna**	**13.67**	**164**	*e*P	**Pn**	**01 34 04.2**	**-1.1**
SONA				*e*x	**Sn**	**01 36 32.2**	**-5.3**
ZAL	**Zalesovo**	**14.73**	**29**	P	**Pn**	**01 34 20.2**	**+0.6**
ZAL						01 36 52.8	
ZAA0	**Zalesovo Array**	**14.74**	**29**	*e*P	**Pn**	**01 34 19.2**	**-0.7**
ZALV	**Zalesovo Beam**	**14.74**	**29**	Pn	**Pn**	**01 34 20.2**	**+0.4**
	comp=E,1.1nm,0.3s,baz=221,slow=13,SNR=15						
ZALV				Sn	**Sn**	**01 36 52.8**	**-11**
	comp=E,0.3nm,0.3s,baz=231,slow=13,SNR=4.1						
ZALV				Lg		01 38 36.4	
	comp=E,0.5nm,0.3s,baz=209,slow=27,SNR=3.5						
ZALV				LR	LR	01 40 09.6	
	comp=E,52nm,20.1s,baz=221,slow=38						
NVS	**Novosibirsk**	**14.96**	**24**	⇓*i*P	**Pn**	**01 34 29.5**	**+6.7**
NVS				*e*S	**Sn**	**01 37 00.9**	**-7.7**
NVS				pmax	pmax		
	comp=N,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=E,2.0nm,0.5s						
NVS				pmax	pmax		
	comp=Z,3.0nm,0.5s						
NVS				smax			
	comp=N,25nm,1.0s						
NVS				smax			
	comp=E,34nm,1.0s						
DANN	**Dangsing**	**15.84**	**143**	*e*P	**Pn**	**01 34 32.1**	**-2.3**
	comp=E,9.4nm,0.4s						
DANN				*e*S	**Sn**	**01 37 19.7**	**-11**
KOLN	**Koldanda**	**16.26**	**144**	*e*P	**Pn**	**01 34 38.0**	**-2.0**
	comp=E,11nm,0.6s						
KOLN				*e*S	**Sn**	**01 37 31.0**	**-10**
GKN	**Gorkha**	**16.54**	**141**	*e*P	**Pn**	**01 34 39.8**	**-3.7**
	comp=E,2.3nm,0.4s						
KKN	**Kakani**	**17.02**	**140**	*e*P	**Pn**	**01 34 46.3**	**-3.3**
	comp=E,12nm,0.6s						
DMN	**Daman**	**17.09**	**141**	*e*P	**Pn**	**01 34 47.4**	**-3.0**
	comp=E,4.7nm,0.5s						
GUN	**Gumba**	**17.22**	**138**	*e*P	**Pn**	**01 34 49.9**	**-2.2**
PKI	**Pulchoki**	**17.27**	**140**	*e*P	**Pn**	**01 34 49.5**	**-3.2**
	comp=E,7.0nm,0.5s						
JIRN	**Jiri**	**17.58**	**138**	*e*P	**Pn**	**01 34 54.3**	**-2.3**
	comp=E,10nm,0.4s						
ARU	**Arti**	**17.59**	**333**

NOA	**NORSAR Array B**	**41.41**	**320**	P	**P**	**01 38 37.2**	**-0.5**
	comp=Z,1.1nm,0.9s,mb3.5,baz=109,slow=3.3,SNR=3.6						
GERES	**GERESS Array B**	**41.46**	**301**	**P**	**P**	**01 38 39.0**	**+0.8**
	comp=Z,0.3nm,0.5s,mb3.2,baz=66,slow=7.0,SNR=5.8						
GERES				LR	LR	01 56 49.0	
	comp=Z,31nm,18.0s,MS3.2,baz=107,slow=38						
KSRS	**Korea Array**	**42.02**	**77**	LR	LR	01 58 00.8	
	comp=Z,21nm,20.5s,MS3.0,baz=315,slow=39						
TORD	**Torodi Ar. Bea**	**67.40**	**268**	P	**P**	**01 41 48.2**	**+0.8**
TORD	**Torodi Ar. Bea**	**67.40**	**268**	P	**P**	**01 41 48.2**	**+0.8**
	comp=Z,0.8nm,0.7s,mb3.9,baz=48,slow=5.1,SNR=11						
ADK	**Adak**	**69.13**	**38**	*e*P	**P**	**01 41 59.0**	**+1.4**
	comp=Z,16nm,0.4s,mb5.3						
YKA	**Yellowknife Ar**	**76.15**	**4⇑**	*e*P	**P**	**01 42 39.7**	**+0.4**
YKA	**Yellowknife Ar**	**76.15**	**4**	P	**P**	**01 42 38.7**	**-0.5**
YKA	**Yellowknife Ar**	**76.15**	**4**	P	**P**	**01 42 38.7**	**-0.5**
	comp=Z,0.4nm,0.6s,mb3.5,baz=352,slow=6.0,SNR=7.5						
WRA	**Warramunga Arr**	**83.44**	**124**	P	**P**	**01 43 18.3**	**-1.1**
	comp=Z,0.3nm,0.7s,mb3.4,baz=320,slow=4.0,SNR=3.9						
ASAR	**Alice Springs**	**85.95**	**127**	P	**P**	**01 43 31.0**	**-0.9**
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR	**Alice Springs**	**85.95**	**127**	P	**P**	**01 43 30.9**	**-1.0**
	comp=Z,0.6nm,0.7s,mb3.9,baz=308,slow=4.6,SNR=7.0						

*ISCJB **27** 01:50:24.5±0.3, 4833N±001×655E±002, h1^{km}±3^{km}, Error ellipse: s-maj=2.4km s-min=2.1km az=160.0*
*CSEM **27** 01:50:27.1±0.0, 4834N×667E, h15^{km}, ML2.7/16, Error ellipse: s-maj=0.9km s-min=0.7km az=164.0*
*NEIC **27** 01:50:27.4, 4833N×665E, h10^{km}, ML2.7(LDG), ML2.5(STR), After LDG.*
*STR **27** 01:50:27.0±0.2, 4835N×668E, h10^{km}, Ml2.5, Error ellipse: s-maj=0.0km s-min=0.0km az=0.0*
*LDG **27** 01:50:27.4±0.1, 4833N×665E, h10^{km}, Md2.9/7, Ml2.7/18, Error ellipse: s-maj=1.3km s-min=1.2km az=161.0*
*BGR **27** 01:50:28.2±1.1, 4838N×671E, h10^{km}, ML2.4, Error ellipse: s-maj=14.5km s-min=4.4km az=31.0*
*ZUR **27** 01:50:29.8, 4808N×656E, h0^{km}, ML2.3/6*

ISC 27 01:50:26.2±0.2, 4833N±001×661E±002, h11^{km}±3^{km}, n95, σ1§04/180, 8C-8D, France

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HAU	**Haudompre**	**0.37**	**208**	*e*Pg	**Pg**	**01 50 35.1**	**+1.6**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**01 50 40.3**	**+1.8**
	67nm,0.2s,SNR=1.0						
HAU	**Haudompre**	**0.37**	**208**	*e*Pg	**Pg**	**01 50 35.1**	**+1.6**
	SNR=1.0						
HAU				*e*Sg	**Sg**	**01 50 40.3**	**+1.8**
	34nm,0.2s,SNR=1.0						
ECH	**Echery**	**0.39**	**107**	Pg	**Pg**	**01 50 34.4**	**+0.6**
ECH				Sg	**Sg**	**01 50 39.0**	**0.0**
THEF	**They Montfort**	**0.43**	**256**	Pg	**Pg**	**01 50 36.1**	**+1.5**
THEF				Sg	**Sg**	**01 50 43.1**	**+2.8**
CDF	**Champ du Feu**	**0.45**	**79**	*e*Pg	**Pg**	**01 50 35.4**	**+0.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**01 50 41.0**	**-0.1**
	111nm,0.2s						
CDF	**Champ du Feu**	**0.45**	**79**	*e*Pg	**Pg**	**01 50 35.4**	**+0.3**
	SNR=1.0						
CDF				*e*Sg	**Sg**	**01 50 41.0**	**-0.1**
	56nm,0.2s						
HINF	**Hinterlalfeld**	**0.54**	**162**	*e*Pg	**Pg**	**01 50 37.6**	**+0.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**01 50 44.5**	**+0.6**
	119nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**01 50 47.4**	**+3.5**
HINF	**Hinterlalfeld**	**0.54**	**162**	*e*Pg	**Pg**	**01 50 37.6**	**+0.9**
	SNR=1.0						
HINF				*e*Sg	**Sg**	**01 50 44.5**	**+0.6**
	60nm,0.2s,SNR=1.0						
HINF				*e*Sn	**Sg**	**01 50 47.4**	**+3.5**
MOF	**Molkenrain**	**0.60**	**144**	Pg	**Pg**	**01 50 38.4**	**+0.6**
MOF				Sg	**Sg**	**01 50 47.2**	**+1.6**
RFYF	**Reffroy**	**0.81**	**292**	*e*Pn	**Pn**	**01 50 43.9**	**+0.3**
RFYF				*e*Sg	**Sg**	**01 50 54.3**	**+1.8**
RFYF				*e*Sn	**Sn**	**01 50 55.6**	**0.0**
	149nm,0.2s,baz=116						
RFYF	**Reffroy**	**0.81**	**292**	*e*Pn	**Pn**	**01 50 43.9**	**+0.3**
RFYF				*e*Sg	**Sg**	**01 50 54.3**	**+1.8**
RFYF				*e*Sn	**Sn**	**01 50 55.6**	**0.0**
	75nm,0.2s						
LOMF	**Lomont**	**0.99**	**171**	Pg	**Pg**	**01 50 46.3**	**+1.0**
LOMF				Sg	**Sg**	**01 50 59.7**	**+1.5**
LANF	**Langenberg**	**1.03**	**50**	Pg	**Pg**	**01 50 45.5**	**-0.5**
LANF				Sg	**Sg**	**01 51 00.1**	**+0.8**
BOURR	**Bourrignon**	**1.03**	**156**	⇓*i*P*P		01 50 46.9	
	299nm,0.2s						
BOURR				*e*SmS		01 51 00.5	
	299nm,0.2s						
FELD	**Feldberg im Sc**	**1.04**	**115**	Pg	**Pg**	**01 50 46.6**	**+0.4**
FELD				Sg	**Sg**	**01 50 59.6**	**-0.2**
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pn	**Pn**	**01 50 47.5**	**+0.6**
	baz=91						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pg	**Pg**	**01 50 48.0**	**+1.5**
SFTF				*e*Sg	**Sg**	**01 51 01.9**	**+1.6**
	47nm,0.2s,baz=86						
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pn	**Pn**	**01 50 47.5**	**+0.6**
SFTF				*e*Pg	**Pg**	**01 50 48.0**	**+1.5**
SFTF				*e*Sg	**Sg**	**01 51 01.9**	**+1.6**
SFTF	**Sexfontaines**	**1.06**	**264**	*e*Pg	**Pg**	**01 50 48.0**	**+1.5**
SFTF				*e*Sg	**Sg**	**01 51 01.9**	**+1.6**
	24nm,0.2s						
BBS	**Basel-Blauen**	**1.06**	**145**	Pg	**Pg**	**01 50 47.0**	**+0.4**
BBS				Sg	**Sg**	**01 51 01.1**	**+0.8**
BFO	**Black Forest**	**1.15**	**89**	*e*Pg	**Pg**	**01 50 47.9**	**-0.4**
BFO				*e*Sg	**Sg**	**01 51 02.4**	**-0.9**
SULZ	**Cheisacher**	**1.29**	**128**	*e*Pn	**Pn**	**01 50 50.8**	**+0.6**
	112nm,0.4s						
WLF	**Walferdange**	**1.37**	**348**	*e*Pg	**Pg**	**01 50 53.1**	**+0.7**
WLF				*e*Sg	**Sg**	**01 51 10.6**	**+0.3**
KTD	**Kalmit**	**1.39**	**44**	Pg	**Pg**	**01 50 53.0**	**+0.1**
KTD				Sg	**Sg**	**01 51 11.1**	**+0.2**
RUP	**Ruppelstein**	**1.40**	**12**	Pg	**Pg**	**01 50 53.5**	**+0.3**
RUP				Sg	**Sg**	**01 51 11.1**	**-0.3**
SPAK	**Spaichingen-Ko**	**1.48**	**98**	Pg	**Pg**	**01 50 54.8**	**+0.3**
SPAK				Sg	**Sg**	**01 51 13.2**	**-0.4**
FLACH	**Flaach**	**1.52**	**119**	⇑*i*Pn	**Pn**	**01 50 55.9**	**+2.6**
	103nm,0.2s						
TRULL	**Truellikon**	**1.55**	**115**	⇓*i*Pn	**Pn**	**01 50 56.5**	**+2.8**
	84nm,0.2s						
ZUR	**Degenried**	**1.64**	**125**	⇑*i*P	**Pn**	**01 50 58.1**	**+3.1**
ZUR	**Degenried**	**1.64**	**125**	⇑*i*Pn	**Pn**	**01 50 57.7**	**+2.7**
	173nm,0.3s						
CABF	**La Chapelle**	**1.76**	**192**	*e*Pg	**Pg**	**01 51 00.7**	**+0.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**01 51 22.6**	**-0.1**
	32nm,0.5s,SNR=1.0						
CABF	**La Chapelle**	**1.76**	**192**	*e*Pn	**Pn**	**01 50 56.7**	**+0.1**
CABF				*e*Pg	**Pg**	**01 51 00.7**	**+0.8**
CABF				*e*Sg	**Sg**	**01 51 22.6**	**-0.1**
CABF	**La Chapelle**	**1.76**	**192**	*e*Pg	**Pg**	**01 51 00.7**	**+0.8**
	SNR=1.0						
CABF				*e*Sg	**Sg**	**01 51 22.6**	**-0.1**
	16nm,0.5s,SNR=1.0						
STU	**Stuttgart**	**1.77**	**75**	*e*Pg	**Pg**	**01 51 00.1**	**-0.1**
STU				*e*Sg	**Sg**	**01 51 21.9**	**-1.4**
WEIN	**Weingarten**	**1.79**	**116**	*i*Pn	**Pn**	**01 51 00.9**	**+3.9**
	56nm,0.2s						
GIMEL	**St. Georges /**	**1.81**	**187**	⇓*i*P	**Pn**	**01 50 57.7**	**+0.4**
GIMEL	**St. Georges /**	**1.81**	**187**	⇓*i*Pn	**Pn**	**01 50 58.1**	**+0.8**
	103nm,0.2s						
BNALP	**Bannalp**	**1.91**	**139**	⇓*i*P	**Pn**	**01 50 03.4**	**+4.7**
BNALP	**Bannalp**	**1.91**	**139**	⇓*i*P*P		01 51 03.4	
	36nm,0.3s						
TOD	**Tromm**	**1.93**	**48**	Pg	**Pg**	**01 51 02.7**	**-0.5**
TOD				Sg	**Sg**	**01 51 28.0**	**-0.2**
AIGLE	**Aigle**	**2.00**	**173**	*i*P	**Pn**	**01 51 05.4**	**+5.4**
AIGLE	**Aigle**	**2.00**	**173**	*i*PmP		01 51 03.5	
	49nm,1.0s						
GIVF	**Givet**	**2.12**	**327**	*e*Pg	**Pg**	**01 51 06.8**	**-0.1**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**01 51 34.8**	**+0.4**
	5.2nm,0.2s,SNR=1.0						
GIVF	**Givet**	**2.12**	**327**	*e*P	**Pn**	**01 51 02.8**	**+1.2**
GIVF				*e*Pg	**Pg**	**01 51 06.8**	**-0.1**
GIVF				*e*Sg	**Sg**	**01 51 34.8**	**+0.4**
GIVF	**Givet**	**2.12**	**327**	*e*Pg	**Pg**	**01 51 06.8**	**-0.1**
	SNR=1.0						
GIVF				*e*Sg	**Sg**	**01 51 34.8**	**+0.4**
	2.6nm,0.2s,SNR=1.0						
LOR	**Lormes**	**2.14**	**241**	*e*Pn	**Pn**	**01 51 01.4**	**-0.4**
	baz=61,SNR=1.0						
LOR	**Lormes**	**2.14**	**241**	*e*Pg	**Pg**	**01 51 06.4**	**-0.8**
	baz=63,SNR=1.0						
LOR				*e*Sg	**Sg**	**01 51 35.4**	**+0.5**
	13nm,0.2s,baz=64,SNR=1.0						
LOR	**Lormes**	**2.14**	**241**	*e*Pn	**Pn**	**01 51 01.4**	**-0.4**
LOR				*e*Pg	**Pg**	**01 51 06.4**	**-0.8**
LOR				*e*Sg	**Sg**	**01 51 35.4**	**+0.5**
LOR	**Lormes**	**2.14**	**241**	*e*Pg	**Pg**	**01 51 06.4**	**-0.8**
	SNR=1.0						
LOR				*e*Sg	**Sg**	**01 51 35.4**	**+0.5**
	6.3nm,0.2s,SNR=1.0						
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	*e*Pn	**Pn**	**01 51 05.4**	**+2.7**
	42nm,0.6s						
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	*e*P	**Pn**	**01 51 03.5**	**+0.8**
LIENZ	**Kamor/St.Gall**	**2.20**	**117**	*e*Pn	**Pn**	**01 51 05.4**	**+2.7**
	42nm,0.6s						
DOU	**Dourbes**	**2.21**	**324**	P	**Pn**	**01 51 08.6**	**+5.9**
BCLA	**Clavier**	**2.26**	**338**	P	**Pn**	**01 51 09.8**	**+6.4**
MEM	**Membach**	**2.31**	**350**	P	**Pn**	**01 51 09.7**	**+5.5**
BAIF	**Baives**	**2.34**	**319**	*e*Pg	**Pg**	**01 51 11.4**	**+0.4**
BAIF				*e*Sn	**Sn**	**01 51 32.5**	**-0.7**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**01 51 40.0**	**-1.3**
	4.6nm,0.4s,SNR=1.0						
BAIF	**Baives**	**2.34**	**319**	*e*Pn	**Pn**	**01 51 05.4**	**+0.9**
BAIF				*e*Pg	**Pg**	**01 51 11.4**	**+0.4**
BAIF				*e*Sn	**Sn**	**01 51 32.5**	**-0.7**
BAIF				*e*Sg	**Sg**	**01 51 40.0**	**-1.3**
BAIF	**Baives**	**2.34**	**319**	*e*Pg	**Pg**	**01 51 11.4**	**+0.4**
BAIF				*e*Sn	**Sn**	**01 51 32.5**	**-0.7**
	SNR=1.0						
BAIF				*e*Sg	**Sg**	**01 51 40.0**	**-1.3**
	2.3nm,0.4s,SNR=1.0						
DAVA	**Damuels**	**2.44**	**114**	⇑*i*Pn	**Pn**	**01 51 06.3**	**+0.3**
DAVA				⇑*i*Sg	**Sg**	**01 51 43.2**	**-1.4**
	8.1nm,0.3s						
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pg	**Pg**	**01 51 13.5**	**+0.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**01 51 45.0**	**+0.1**
	7.2nm,0.3s,SNR=1.0						
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pn	**Pn**	**01 51 05.9**	**-0.2**
SSF				*e*Pg	**Pg**	**01 51 13.5**	**+0.3**
SSF				*e*Sg	**Sg**	**01 51 45.0**	**+0.1**
SSF	**Saint Saulge**	**2.45**	**240**	*e*Pg	**Pg**	**01 51 13.5**	**+0.3**
	SNR=1.0						
SSF				*e*Sg	**Sg**	**01 51 45.0**	**+0.1**
	3.6nm,0.3s,SNR=1.0						
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg	**Pg**	**01 51 15.0**	**+0.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**01 51 46.4**	**-0.8**
	8.1nm,0.2s						
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pn	**Pn**	**01 51 06.2**	**-0.9**
SMF				*e*Pg	**Pg**	**01 51 15.0**	**+0.4**
SMF				*e*Sg	**Sg**	**01 51 46.4**	**-0.8**
SMF	**Signal de Mont**	**2.52**	**229**	*e*Pg	**Pg**	**01 51 15.0**	**+0.4**
	SNR=1.0						
SMF				*e*Sg	**Sg**	**01 51 46.4**	**-0.8**
	4.1nm,0.2s						
AVF	**Avril sur Loir**	**2.69**	**236**	*e*Pg	**Pg**	**01 51 17.6**	**-0.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**01 51 51.1**	**-1.5**
	2.7nm,0.2s,SNR=1.0						
AVF	**Avril sur Loir**	**2.69**	**236**	*e*Pn	**Pn**	**01 51 09.0**	**-0.4**
AVF				*e*Pg	**Pg**	**01 51 17.6**	**-0.1**
AVF				*e*Sg	**Sg**	**01 51 51.1**	**-1.5**
AVF	**Avril sur Loir**	**2.69**	**236**	*e*Pg	**Pg**	**01 51 17.6**	**-0.1**
	SNR=1.0						
AVF				*e*Sg	**Sg**	**01 51 51.1**	**-1.5**
	1.4nm,0.2s,SNR=1.0						
LPL	**La Plagne**	**2.82**	**178**	*e*Pg	**Pg**	**01 51 19.9**	**-0.3**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**01 51 55.4**	**-1.3**
	3.1nm,0.3s						
LPL	**La Plagne**	**2.82**	**178**	*e*Pg	**Pg**	**01 51 19.9**	**-0.3**
	SNR=1.0						
LPL				*e*Sg	**Sg**	**01 51 55.4**	**-1.3**
	1.5nm,0.3s						
LPG	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**01 51 19.9**	**-0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**01 51 56.0**	**-1.3**
	3.4nm,0.4s,SNR=1.0						
LPG	**La Plagne**	**2.84**	**178**	*e*Pg	**Pg**	**01 51 19.9**	**-0.7**
	SNR=1.0						
LPG				*e*Sg	**Sg**	**01 51 56.0**	**-1.3**
	1.7nm,0.4s,SNR=1.0						
HYF	**Humbligny**	**2.88**	**250**	*e*Pg	**Pg**	**01 51 21.8**	**+0.4**
HYF				*e*Sg	**Sg**	**01 51 58.7**	**+0.1**
BGF	**Bois d'Agland**	**3.11**	**237**	*e*Pg	**Pg**	**01 51 25.9**	**+0.1**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**01 52 05.1**	**-0.9**
	17nm,0.4s,SNR=1.0						
BGF	**Bois d'Agland**	**3.11**	**237**	*e*Pn	**Pn**	**01 51 14.3**	**-0.8**
BGF				*e*Pg	**Pg**	**01 51 25.9**	**+0.1**
BGF				*e*Sg	**Sg**	**01 52 05.1**	**-0.9**
BGF	**Bois d'Agland**	**3.11**	**237**	*e*Pg	**Pg**	**01 51 25.9**	**+0.1**
	SNR=1.0						
BGF				*e*Sg	**Sg**	**01 52 05.1**	**-0.9**
	8.6nm,0.4s,SNR=1.0						
FUR	**Furstenfeldbru**	**3.12**	**91**	*e*Sg	**Sg**	**01 52 05.2**	**-1.4**
MOTA	**Moosalm**	**3.19**	**106**	⇓*i*Pn	**Pn**	**01 51 17.1**	**+0.9**
MOTA				⇑*i*Pg	**Pg**	**01 51 27.0**	**-0.3**
MOTA	**Moosalm**	**3.19**	**106**	⇓*i*Pn	**Pn**	**01 51 17.1**	**+0.9**
MOTA				⇑*i*Pg	**Pg**	**01 51 27.0**	**-0.3**
MOTA				⇑*i*Sg	**Sg**	**01 52 07.3**	**-1.2**
	4.0nm,0.3s						
MOTA	**Moosalm**	**3.19**	**106**	Pg	**Pg**	**01 51 27.0**	**-0.2**
MOTA				Sg	**Sg**	**01 52 07.3**	**-1.2**
	4.0nm,0.3s						
GRF	**Grafenberg Arr**	**3.33**	**64**	*e*Pg	**Pg**	**01 51 28.3**	**-1.7**
GRF				*e*Sg	**Sg**	**01 52 11.2**	**-1.9**
ORIF	**Oris-en-Rattie**	**3.45**	**189**	*e*Pn	**Pn**	**01 51 19.2**	**-0.6**
ORIF				*e*Sg	**Sg**	**01 52 13.9**	**-3.1**
	4.9nm,0.5s,SNR=1.0						
ORIF	**Oris-en-Rattie**	**3.45**	**189**	*e*Pn	**Pn**	**01 51 19.2**	**-0.6**
ORIF				*e*Sg	**Sg**	**01 52 13.9**	**-3.1**
	2.5nm,0.5s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.62**	**237**	*e*Pg	**Pg**	**01 51 34.9**	**-0.7**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**01 52 20.2**	**-2.3**
	1.9nm,0.2s,SNR=1.0						
TCF	**Toulx Ste Croi**	**3.62**	**237**	*e*Pn	**Pn**	**01 51 21.5**	**-0.7**
TCF				*e*Pg	**Pg**	**01 51 34.9**	**-0.7**
TCF				*e*Sg	**Sg**	**01 52 20.2**	**-2.3**
TCF	**Toulx Ste Croi**	**3.62**	**237**	*e*Pg	**Pg**	**01 51 34.9**	**-0.7**
	SNR=1.0						
TCF				*e*Sg	**Sg**	**01 52 20.2**	**-2.3**
	0.9nm,0.2s,SNR=1.0						
LDF	**La Druitiere**	**4.49**	**276**	*e*Sg	**Sg**	**01 52 48.3**	**-1.9**
	2.8nm,0.3s						
LDF	**La Druitiere**	**4.49**	**276**	*e*Sg	**Sg**	**01 52 48.3**	**-1.9**
	1.4nm,0.3s						
RJF	**Les Rejaudoux**	**4.62**	**231**	*e*Pg	**Pg**	**01 51 53.4**	**-1.3**
RJF				*e*Sg	**Sg**	**01 52 52.2**	**-2.4**
	1.2nm,0.3s						
RJF	**Les Rejaudoux**	**4.62**	**231**	*e*Pn	**Pn**	**01 51 34.9**	**-1.1**
RJF				*e*Pg	**Pg**	**01 51 53.4**	**-1.3**
RJF				*e*Sg	**Sg**	**01 52 52.2**	**-2.4**
RJF	**Les Rejaudoux**	**4.62**	**231**	*e*Pg	**Pg**	**01 51 53.4**	**-1.3**
RJF				*e*Sg	**Sg**	**01 52 52.2**	**-2.4**
	0.6nm,0.3s						
FRF	**La Foret Royal**	**4.77**	**180**	*e*Pn	**Pn**	**01 51 38.2**	**+0.2**
MFF	**Saint Martin d**	**4.90**	**252**	*e*Pn	**Pn**	**01 51 39.0**	**-0.7**
MFF				*e*Sg	**Sg**	**01 53 01.7**	**-1.6**
	0.9nm,0.2s						
MFF	**Saint Martin d**	**4.90**	**252**	*e*Pn	**Pn**	**01 51 39.0**	**-0.7**
MFF				*e*Sg	**Sg**	**01 53 01.7**	**-1.6**
	0.4nm,0.2s						
GRR	**Gorron**	**4.98**	**273**	*e*Pn	**Pn**	**01 51 41.1**	**+0.3**
	SNR=1.0						

MAN 27 01:58:02, 1108N×12505E, h1^{km}, mb3.8, ML2.6, MS2.2, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLP	**Palo**	**0.11**	**318**	*e*P	Pg	01 58 04.6	+0.5
PLP				*e*S	Sg	01 58 13.1	+7.6
OCLP	**Ormoc**	**0.44**	**266**	*e*P	Pg	01 58 01.7	-8.7
OCLP				*e*S	Sg	01 58 08.3	-7.8
MSLP	**Maasin**	**0.96**	**191**	*e*P	Pg	01 58 22.2	+1.7
MSLP				*e*S	Sg	01 58 39.0	+6.0
CNP	**Cataman**	**1.47**	**345**	*e*P	Pn	01 58 30.0	+0.4

*CSEM **27** 02:14:26.5, 3560N×2354E, h5^{km}, MD3.5/6, After ATH*
*NEIC **27** 02:14:26.5, 3560N×2354E, h5^{km}, MD3.5(ATH), After ATH.*

ATH 27 02:14:26.5, 3560N×2354E, h5^{km}±3^{km}, MD3.4/6, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VAM	**Vamos**	**0.57**	**110**	*e*PB	Pg	02 14 38.0	+0.5
VAM				*e*SB	Sg	02 14 46.9	+2.0
KYTH	**Kithira**	**0.79**	**329**	*e*PG	Pg	02 14 41.5	-0.2
GVD	**Gavdhos**	**0.88**	**149**	*e*PB	Pb	02 14 43.5	-0.8
VLI	**Veliai**	**1.22**	**337**	*e*PG	Pg	02 14 49.5	-0.4
NPS	**Neapolis**	**1.73**	**101**	*e*PG	Pg	02 14 58.2	-1.4
ITM	**Ithomi**	**2.04**	**321**	*e*PG	Pg	02 15 05.2	-0.5

IDC 27 02:14:33.1±1.3, 1422S×16769E, h0^{km}, mb3.7/4, mb1 3.9/4, mb1mx3.7/13, mbtmp3.7/4, Error ellipse: s-maj=44.9km s-min=32.4km az=136.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.63**	**229**	P	P	02 20 41.3	+0.9
	1.5nm,0.4s,baz=68,slow=12,SNR=7.7						
WRA	**Warramunga Arr**	**32.35**	**255**	P	P	02 21 04.2	-0.3
	0.2nm,0.5s,baz=86,slow=9.3,SNR=4.0						
ASAR	**Alice Springs**	**33.24**	**248**	P	P	02 21 11.8	-0.4
	0.6nm,0.7s,baz=78,slow=9.0,SNR=11						
VNDA	**Vanda**	**63.38**	**181**	P	P	02 25 03.6	-0.3
	0.4nm,0.7s,baz=25,slow=3.2,SNR=6.7						
ARCES	**ARCESS Array B**	**119.86**	**346**	PKP	PKPdf	02 33 24.8	-0.1
	2.1nm,0.8s,baz=72,slow=1.6,SNR=8.9						
FINES	**FINESS Array B**	**125.40**	**339**	PKP	PKPdf	02 33 35.4	-0.3
	0.5nm,0.8s,baz=130,slow=7.7,SNR=3.4						
KEST	**Kesra**	**151.07**	**322**	PKPbc	PKPbc	02 34 28.6	0.0
	0.9nm,0.7s,baz=333,slow=4.5,SNR=4.6						

*ISCJB **27** 02:31:14.1±0.6, 2395S±004×6668W±006, h196^{km}±7^{km}, mb3.9/10, Error ellipse: s-maj=9.7km s-min=6.4km az=6.0*
*NEIC **27** 02:31:15.1±0.6, 2389S×6663W, h192^{km}±7^{km}, mb4.1/11, Error ellipse: s-maj=10.8km s-min=8.5km az=96.0*
*IDC **27** 02:31:15.9±1.9, 2374S×6657W, h197^{km}±18^{km}, mb3.7/4, mb1 3.7/9, mb1mx3.5/19, mbtmp3.6/9, Error ellipse: s-maj=21.1km s-min=14.0km az=92.0*
*GUC **27** 02:31:16.7±0.8, 2398S×6700W, h200^{km}, ML4.6*

ISC 27 02:31:15.0±0.5, 2393S±004×6666W±006, h187^{km}±7km, n34, σ1§26/40, mb4.0/10, 3C-1D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.45**	**302**	*e*Pn	**Pn**	**02 31 59.4**	**+1.8**
LVC				*e*Sn	**Sn**	**02 32 31.9**	**+1.3**
CEN1	**Los Morros**	**3.29**	**279**	⇓*i*P	**Pn**	**02 32 09.4**	**+1.9**
CEN1				*i*S	**Sn**	**02 32 48.8**	**+0.3**
CEN1				AML	AML	02 32 51.1	
	comp=N,553nm,0.6s						
ANCH	**Antofagasta**	**3.44**	**273**	⇑*i*P	**Pn**	**02 32 09.9**	**+0.5**
ANCH				*i*S	**Sn**	**02 32 50.0**	**-1.8**
ANCH	**Antofagasta**	**3.44**	**273**	⇑*i*P	**Pn**	**02 32 09.9**	**+0.5**
ANCH				*i*S	**Sn**	**02 32 50.0**	**-1.8**
ANCH				AML	AML	02 32 52.7	
	comp=N,1μm,0.4s						
CPN1	**Cerro Paranal**	**3.48**	**258**	⇑*i*P	**Pn**	**02 32 10.6**	**+0.7**
CPN1				*i*S	**Sn**	**02 32 51.7**	**-1.1**
CPN1				AML	AML	02 32 53.6	
	comp=E,695nm,0.5s						
CPCH	**Copiapo**	**4.77**	**224**	*i*P	**Pn**	**02 32 26.0**	**-0.1**
CPCH				*i*S	**Sn**	**02 33 20.4**	**-1.6**
LCO	**Las Campanas**	**6.22**	**215**	*e*Pn	**Pn**	**02 32 44.1**	**-0.9**
	comp=E,25nm,0.3s						
LCO				*e*Sn	**Sn**	**02 33 52.8**	**-3.1**
LPAZ	**La Paz**	**7.73**	**349**	*e*Pn	**Pn**	**02 33 05.4**	**+0.6**
	comp=E,4.9nm,0.5s						
LPAZ				*e*Sn	**Sn**	**02 34 31.1**	**-0.7**
LPAZ	**La Paz**	**7.73**	**349**	P	**Pn**	**02 33 05.0**	**+0.2**
	comp=E,2.0nm,0.3s,baz=179,slow=8.5,SNR=64						
LPAZ				S

GVD				eSg	Sg	02 47 42.1	-1.4
VLI	**Velíai**	**1.16**	**309**	ePB	Pb	02 47 26.9	-0.7
SANT	**Santorini**	**1.19**	**71**	ePg	Pg	02 47 29.1	-0.1
SANT				eSg	Sg	02 47 44.4	-0.5
SANT	**Santorini**	**1.19**	**71**	P	Pn	02 47 29.4	+1.5
SANT				eSg	Sg	02 47 44.3	-0.5
THR1	**Thera Island**	**1.19**	**71**	ePg	Pg	02 47 29.4	+0.2
LAST	**Lasithi**	**1.43**	**125**	ePg	Pg	02 47 31.9	-1.8
LAST				eSg	Sg	02 47 49.3	-2.9
NPS	**Neapolis**	**1.46**	**120**	ePB	Pb	02 47 31.9	-0.9
NPS				eSN	Sn	02 47 50.6	+0.3
APE	**Apeiranthos**	**1.60**	**47**	ePb	Pb	02 47 34.3	-0.8
APE				eSb	Sb	02 47 53.8	-1.2
APE	**Apeiranthos**	**1.60**	**47**	ePn	Pn	02 47 34.8	+1.3
APE				eSb	Sb	02 47 53.8	-1.2
DID	**Didima**	**1.65**	**337**	ePb	Pb	02 47 34.2	-1.7
DID				eSb	Sb	02 47 54.1	-2.2
XRY	**Khrisi**	**1.74**	**129**	ePN	Pn	02 47 37.5	+2.1
NAIG	**Nisos Aigina**	**1.82**	**346**	ePB	Pb	02 47 37.0	-1.8
VLX	**Vlachokerasia**	**1.92**	**316**	ePb	Pb	02 47 38.8	-1.9
ZKR	**Zakros**	**1.97**	**116**	ePn	Pn	02 47 39.9	+1.3
ATH	**Athens Observa**	**1.99**	**352**	ePN	Pn	02 47 39.0	+0.1
PTL	**Penteli**	**2.06**	**356**	ePN	Pn	02 47 40.2	+0.4
ITM	**Ithomi**	**2.08**	**305**	ePB	Pb	02 47 42.2	-1.1
LTK	**Loutraki**	**2.20**	**337**	ePn	Pn	02 47 43.1	+1.3
KARP	**Karpathos**	**2.56**	**99**	ePN	Pn	02 47 47.8	+1.1
KARP				eSN	Sn	02 48 18.3	+0.8
LKR	**Lokris**	**2.78**	**343**	ePn	Pn	02 47 50.5	+0.7
LKR				eSn	Sn	02 48 22.6	-0.2
SMG	**Samos**	**2.81**	**52**	ePn	Pn	02 47 51.2	+1.1
SELA	**Sela**	**2.86**	**323**	ePn	Pn	02 47 52.2	+1.5
SELA	**Sela**	**2.86**	**323**	ePn	Pn	02 47 52.2	+1.4
RLS	**Riolos of Patr**	**2.92**	**316**	ePB	Pb	02 47 54.2	-3.4
AOS	**Alonnisos**	**3.17**	**358**	ePn	Pn	02 47 56.0	+0.9
ARG	**Arkhangelos**	**3.30**	**85**	ePN	Pn	02 47 59.3	+2.4
ARG				eSN	Sn	02 48 36.8	+1.1
AGG	**Agios Georgios**	**3.32**	**336**	ePn	Pn	02 47 58.5	+1.4
AGG				eSn	Sn	02 48 35.8	-0.3
NEO	**Neokhori**	**3.37**	**349**	ePN	Pn	02 47 58.8	+1.0
EVR	**Evrytania**	**3.42**	**329**	ePN	Pn	02 48 00.0	+1.5
VLS	**Valsamata**	**3.52**	**309**	ePn	Pn	02 48 00.4	+0.5
VLS				eSn	Sn	02 48 40.0	-1.2
VLS	**Valsamata**	**3.52**	**309**	P	Pn	02 48 01.3	+1.3
VLS				eSn	Sn	02 48 40.0	-1.2
LKD	**Levkas**	**3.83**	**316**	eSn	Sn	02 48 48.0	-0.8
THL	**Klokotos Trika**	**3.91**	**336**	ePN	Pn	02 48 05.9	+0.6
OUR	**Ouranopolis**	**4.33**	**359**	ePn	Pn	02 48 11.9	+0.9
PLG	**Polygyros**	**4.40**	**354**	ePN	Pn	02 48 12.8	+0.9
JAN	**Janina**	**4.45**	**326**	ePN	Pn	02 48 15.0	+2.3
KEK	**Kerkira**	**5.01**	**319**	P	Pn	02 48 21.1	+0.7
HMAT	**Matruh**	**5.51**	**152**	P	Pn	02 48 26.1	-1.1
HMAT				S	Sn	02 49 25.0	-5.1
TIP	**Timpagrande**	**6.61**	**301**	P	Pn	02 48 43.1	+0.8
SWA2		**6.84**	**170**	⇑P	Pn	02 48 44.8	-0.7
SWA1		**6.86**	**168**	P	Pn	02 48 45.5	-0.3
SWA1				S	Sn	02 49 57.5	-5.8
SG1	**Sgolgore (BA)**	**7.54**	**312**	ePn	Pn	02 48 55.0	-0.1
AWBH		**8.68**	**150**	P	Pn	02 49 09.5	-1.3
GLL	**Jalalah**	**9.08**	**133**	⇑P	Pn	02 49 14.2	-2.0
GLL	**Jalalah**	**9.08**	**133**	P	Pn	02 49 14.2	-2.0
AMAG	**Maghara**	**9.33**	**122**	⇑P	Pn	02 49 17.3	-2.4
HFRF	**Wahat Farafira**	**9.54**	**156**	P	Pn	02 49 22.1	-0.4
HFRF	**Wahat Farafira**	**9.54**	**156**	P	Pn	02 49 22.1	-0.4
HNKL	**Nakhl**	**10.29**	**123**	P	Pn	02 49 30.9	-2.0
HKAT	**Jabal Katrina**	**11.23**	**129**	P	Pn	02 49 43.6	-2.1
HDK1	**Dakhla**	**11.38**	**155**	⇑P	Pn	02 49 47.0	-0.8
HDK1	**Dakhla**	**11.38**	**155**	P	Pn	02 49 47.0	-0.8
GTR	**Jabal at Tayr**	**11.85**	**150**	P	Pn	02 49 53.0	-1.2
GERES	**GERESS Array B**	**14.93**	**333**	Pn	Pn	02 50 40.4	+4.4
	0.1nm,0.3s,baz=144,slow=12,SNR=4.0						
TORD	**Torodi Ar. Bea**	**30.37**	**227**	P	P	02 53 15.2	-1.9
	0.5nm,0.5s,mb3.5,baz=28,slow=9.2,SNR=18						
MKAR	**Makanchi Array**	**44.07**	**57**	P	P	02 55 11.3	-1.6
MKAR	**Makanchi Array**	**44.07**	**57**	P	P	02 55 11.3	-1.6
	0.8nm,0.5s,mb3.8,baz=274,slow=7.6,SNR=15						

*ISCJB **27** 03:02:54.6±1.0, 2894N±004×36.18E±009, h10km, Error ellipse: s-maj=10.8km s-min=5.3km az=6.5*
*CSEM **27** 03:02:56.3±0.2, 2895N×3619E, h25km, ML4.0, Error ellipse: s-maj=4.5km s-min=1.6km az=118.0*
*HLW **27** 03:02:56.2, 2893N×3634E, h20km, Mb3.7*
*GII **27** 03:02:57.3±0.8, 2908N×3599E, h3km±4km, ML3.3/3*

ISC 27 03:02:55.3±1.4, 2897N±004×3609E±008, h2km±7km, n26, σ0§86/31, 6C-1D, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GLFJ		**1.09**	**300**	eP	Pg	03 03 16.9	+0.7
	SNR=55						
HBST	**Basata**	**1.22**	**282**	⇑P	Pg	03 03 20.0	+1.4
EIL	**Elat**	**1.22**	**305**	Pg	Pg	03 03 18.4	-0.2
EIL				Sg	Sg	03 03 33.2	-1.2
HDHB	**Dhahab**	**1.31**	**260**	P	Pg	03 03 21.1	+0.6
HRFI	**Mount Harif**	**1.41**	**319**	Pg	Pg	03 03 21.6	-0.6
HRFI				Sg	Sg	03 03 39.0	-1.5
KRMI	**Paran Flat**	**1.65**	**314**	Pn	Pn	03 03 25.0	-0.3
PRNI	**Paran**	**1.67**	**326**	Pn	Pn	03 03 25.3	-0.3
PRNI				Sn	Sn	03 03 47.8	+0.1
PRNI	**Paran**	**1.67**	**326**	Pn	Pn	03 03 25.4	-0.2
RMNI	**Mount Ramon**	**1.99**	**325**	Pn	Pn	03 03 30.1	+0.1
SHRM		**2.03**	**239**	P	Pn	03 03 31.4	+0.9
HNKL	**Nakhl**	**2.08**	**298**	⇓P	Pn	03 03 31.4	+0.3
HNKL				S	Sn	03 03 57.7	+0.1
TR1		**2.11**	**244**	⇑P	Pn	03 03 32.5	+0.8
TR2		**2.16**	**255**	⇑P	Pn	03 03 32.8	+0.5
RTMI	**Retamim**	**2.41**	**330**	Pn	Pn	03 03 35.7	0.0
HRDS	**Abu Rudays**	**2.46**	**265**	P	Pn	03 03 37.4	+0.9
YTIR	**Yattir**	**2.53**	**341**	Pn	Pn	03 03 37.2	-0.2
DSI	**Dead Sea**	**2.67**	**347**	Pn	Pn	03 03 39.3	0.0
HHRG	**Al Ghardaqah**	**2.83**	**233**	P	Pn	03 03 41.9	+0.4
HHRG				S	Sn	03 04 14.1	-2.1
ZNM		**2.84**	**279**	P	Pn	03 03 42.5	+0.8
GRB	**Gharib**	**2.99**	**257**	⇑P	Pn	03 03 44.5	+0.8
AMAG	**Maghara**	**3.01**	**304**	⇑P	Pn	03 03 44.2	+0.2
HSFG		**3.06**	**219**	⇑P	Pn	03 03 44.7	0.0
HMDT	**Nahal Hemdat**	**3.31**	**352**	Pn	Pn	03 03 48.6	+0.5
SLTI	**Sal'it**	**3.39**	**345**	Pn	Pn	03 03 49.4	+0.2
HADB		**3.83**	**200**	P	Pn	03 03 53.5	-1.9
EMRS	**Mersa Alam**	**4.09**	**196**	P	Pn	03 03 56.7	-2.2

*CSEM **27** 03:21:26.6±1.1, 3726N×2460W, h5km, ML3.1, Error ellipse: s-maj=8.3km s-min=3.9km az=85.0, After PDA*

PDA 27 03:21:26.6±1.1, 3726N×2460W, h5km, MD3.7, ML3.1, Error ellipse: s-maj=8.3km s-min=3.9km az=85.0, Azores Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PSMN	**Pico do Norte,**	**0.45**	**236**	eP	Pg	03 21 34.2	-1.1
PSMN				eS	Sg	03 21 40.6	-0.6
CMLA	**Cha da Macela**	**0.89**	**305**	eP	Pg	03 21 41.2	-2.5
CMLA				eS	Sg	03 21 52.1	-3.2
CMLA				A		03 21 55.8	
	144nm,0.5s						
CMLA	**Cha da Macela**	**0.89**	**305**	eP	Pg	03 21 41.2	-2.5
CMLA				eS	Sg	03 21 52.1	-3.2
PDA	**Ponta Delgada**	**0.98**	**300**	eS	Sg	03 21 53.5	-4.5
PSCM	**Serra do Cume**	**2.46**	**307**	eP	Pn	03 22 02.6	-4.7
PSCM				eS	Sn	03 22 29.6	-8.1
PSCM				A		03 22 33.2	
	64nm,0.3s						
PSCM	**Serra do Cume**	**2.46**	**307**	eP	Pn	03 22 02.6	-4.7
PSCM				eS	Sn	03 22 29.6	-8.1
PMAN	**Manadas**	**3.08**	**297**	eP	Pn	03 22 11.5	-4.4
PMAN				eS	Sn	03 22 44.7	-8.4
PMAN				A		03 22 50.9	
	10nm,0.2s						
PMAN	**Manadas**	**3.08**	**297**	eP	Pn	03 22 11.5	-4.4
PMAN				eS	Sn	03 22 44.7	-8.4
ROSA	**Rosais**	**3.23**	**298**	eP	Pn	03 22 13.8	-4.1
ROSA				eS	Sn	03 22 48.4	-8.3
PICO	**Pico**	**3.27**	**293**	eP	Pn	03 22 15.0	-3.5
PICO				eS	Sn	03 22 50.8	-7.0
HOR	**Horta**	**3.43**	**293**	eP	Pn	03 22 16.3	-4.4
CALA	**Caldeira**	**3.50**	**293**	eP	Pn	03 22 17.6	-4.1
CALA				eS	Sn	03 22 55.4	-8.1
PCED	**Cedros**	**3.52**	**294**	eS	Sn	03 22 55.2	-8.7
PCED				A		03 22 57.4	
	12nm,0.3s						

*IDC **27** 03:26:36.4±1.1, 1.17N×12658E, h0km, mb4.1/5, mb1 4.2/7, mb1mx3.9/17, mbtmp4.1/7, ML3.8/2, Error ellipse: s-maj=51.6km s-min=17.6km az=70.0*
*NEIC **27** 03:26:38.1±0.5, 1.15N×12659E, h10km, mb4.1/6, Error ellipse: s-maj=16.9km s-min=7.6km az=70.0*
*ISCJB **27** 03:26:39.6±0.7, 1.11N±009×1264E±02, h33km, mb4.1/9, Error ellipse: s-maj=23.6km s-min=11.0km az=160.4*

ISC 27 03:26:41.9±0.7, 109N±009×1265E±02, h35km, n16, σ0§67/16, mb4.1/9, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**9.08**	**228**	Pn	Pn	03 28 51.1	+0.6
	1.7nm,0.3s,baz=182,slow=10.0,SNR=5.7						
FITZ	**Fitzroy Crossi**	**19.09**	**183**	eP	Pn	03 31 00.5	-2.2
	6.7nm,2.0s						
FITZ	**Fitzroy Crossi**	**19.09**	**183**	P	Pn	03 31 00.8	-1.9
	0.1nm,0.3s,baz=20,slow=14,SNR=6.1						
WRAB	**Tennant Creek**	**22.26**	**160**	eP	P	03 31 36.0	+0.1
	10nm,1.0s,mb4.2						
WRA	**Warramunga Arr**	**22.27**	**160**	P	P	03 31 35.9	-0.1
	3.5nm,0.6s,mb4.0,baz=338,slow=11,SNR=52						
WB2	**Warramunga Arr**	**22.27**	**160**	eP	P	03 31 36.1	+0.1
ASAR	**Alice Springs**	**25.64**	**164**	P	P	03 32 08.2	-0.1
	1.9nm,0.4s,mb4.0,baz=347,slow=11,SNR=32						
FORT	**Forrest**	**31.73**	**177**	eP	P	03 33 02.6	+0.1
	2.4nm,0.8s,mb4.1						
STKA	**Stephens Creek**	**35.77**	**158**	eP	P	03 33 38.2	+0.5
	1.7nm,0.6s,mb4.2						
STKA	**Stephens Creek**	**35.77**	**158**	P	P	03 33 38.2	+0.5
	1.9nm,0.6s,mb4.2,baz=332,slow=13,SNR=3.0						
MK31	**Makanchi Array**	**59.60**	**326**	eP	P	03 36 42.3	+0.1
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	03 36 42.0	-0.3
MKAR	**Makanchi Array**	**59.60**	**326**	P	P	03 36 42.0	-0.3
	1.5nm,0.5s,mb4.2,baz=124,slow=8.3,SNR=18						
ZALV	**Zalesovo Beam**	**62.84**	**334**	P	P	03 37 03.5	-0.5
	0.9nm,0.3s,mb4.4,baz=139,slow=7.3,SNR=2.5						
KURK	**Kurchatov**	**63.85**	**328**	eP	P	03 37 10.8	0.0
	3.7nm,0.6s,mb4.6						
VNDA	**Vanda**	**80.85**	**173**	eP	P	03 38 52.9	+1.2
	0.5nm,0.7s,mb3.5						

*IDC **27** 03:29:26.8±1.4, 5351N×16772W, h0km, mb3.9/6, mb1 4.1/7, mb1mx3.7/23, mbtmp3.9/7, ML4.1/1, MS3.3/5, Ms1 3.2/5, ms1mx2.9/38, Error ellipse: s-maj=40.4km s-min=26.6km az=149.0*
*NEIC **27** 03:29:33.3, 5300N×167.18W, h33km, mb4.2/4, ML4.2(PMR), ML4.1(AEIC), After AEIC.*
*ISCJB **27** 03:29:34.7±0.7, 533N±0.1×1675W±0.1, h72km±5km, mb4.0/8, Error ellipse: s-maj=25.7km s-min=5.7km az=149.6*

ISC 27 03:29:35.5±0.9, 532N±01×1673W±01, h62km±8km, n35, σ1§22/38, mb4.0/8, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UNV	**Unalaska Valle**	**0.84**	**36**	P	Pn	03 29 50.0	-1.5
UNV				S	Sn	03 30 02.6	-0.8
NIKO	**Nikolski**	**0.94**	**259**	P	Pn	03 29 51.8	-0.9
NIKO				S	Sn	03 30 05.3	-0.2
AKLV	**Akutan Long Va**	**1.29**	**39**	P	Pn	03 29 57.0	-0.3
AKLV				S	Sn	03 30 14.8	+1.1
AKGG	**Akutan Green G**	**1.30**	**37**	P	Pn	03 29 57.6	+0.1
AKUT	**Akutan**	**1.34**	**43**	P	Pn	03 29 57.5	-0.5
AKUT				S	Sn	03 30 15.0	+0.1
AKA	**Akutan**	**1.34**	**43**	P	Pn	03 29 57.6	-0.4
AKA				S	Sn	03 30 15.3	+0.3
FALS	**False Pass**	**2.87**	**52**	P	Pn	03 30 18.5	-0.1
SDPT	**Sand Point**	**4.58**	**59**	eP	Pn	03 30 41.3	-0.7
ADK	**Adak**	**5.85**	**261**	P	Pn	03 31 01.1	+1.6
AMKA	**Amchitka**	**8.39**	**263**	P	Pn	03 31 35.2	+1.0
KDAK	**Kodiak Island**	**9.56**	**55**	Pn	Pn	03 31 47.1	-3.0
	1.7nm,0.3s,baz=230,slow=6.4,SNR=16						
KDAK				Sn	Sn	03 33 29.9	-5.9
	0.1nm,0.3s,baz=154,slow=12,SNR=2.4						
SVW2	**Sparrevohn**	**10.18**	**34**	ePn	Pn	03 31 58.9	+0.3
TTA	**Tatalina**	**11.46**	**27**	ePn	Pn	03 32 17.5	+1.6
	11nm,1.0s						
SLKM	**Skilak Lake**	**11.88**	**45**	ePn	Pn	03 32 22.4	+0.7
IMA2	**Indian Mountai**	**14.61**	**22**	ePn	Pn	03 33 01.9	+3.5
COLA	**College**	**15.34**	**33**	eP	Pn	03 33 10.4	+2.6
EGAK	**Eagle**	**17.64**	**39**	eP	Pn	03 33 37.1	+0.6
	2.6nm,0.6s						
DAWY	**Dawson**	**18.01**	**42**	eP	Pn	03 33 40.1	-0.9
SKAG	**Skagway**	**18.70**	**58**	eP	Pn	03 33 50.4	+1.0
	10.0nm,0.6s						
DLBC	**Dease Lake**	**21.41**	**61**	eP	P	03 34 19.7	+1.9
INK	**Inuvik**	**22.00**	**34**	eP	P	03 34 21.0	-2.9
	163nm,0.7s,mb5.6						
INK	**Inuvik**	**22.00**	**34**	P	P	03 34 21.0	-2.9
	4.4nm,0.6s,mb4.1,baz=243,slow=11,SNR=25						
INK				LR	LR	03 43 57.1	
	comp=Z,74nm,19.7s,baz=249,slow=40						
YKA	**Yellowknife Ar**	**28.78**	**50**	P	P	03 35 25.3	-1.5
YKA				LR	LR	03 47 23.0	
YKA	**Yellowknife Ar**	**28.78**	**50**	P	P	03 35 25.3	-1.5
	0.7nm,0.7s,mb3.5,baz=278,slow=8.7,SNR=9.6						
YKA				LR	LR	03 47 23.0	
	comp=Z,20nm,18.2s,baz=215,slow=37						
EGMT	**Eagleton**	**36.05**	**74**	eP	P	03 36 31.2	+0.7
	2.5nm,0.9s,mb4.1						
NVAR	**Mina Array Bea**	**36.46**	**94**	P	P	03 36 36.7	+2.6
NVAR	**Mina Array Bea**	**36.46**	**94**	P	P	03 36 36.7	+2.6
	0.3nm,0.6s,mb3.4,baz=343,slow=8.8,SNR=3.2						
FCC	**Fort Churchill**	**39.48**	**52**	eP	P	03 36 59.1	-0.2
	7.8nm,0.8s,mb4.5						
ULM	**Lac du Bonnet**	**42.69**	**64**	LR	LR	03 54 31.5	
	comp=Z,31nm,19.3s,baz=331,slow=35						
SCHQ	**Schefferville**	**54.00**	**45**	P	P	03 38 50.7	-1.9
SCHQ	**Schefferville**	**54.00**	**45**	P	P	03 38 50.7	-1.9
	3.9nm,0.9s,mb4.3,baz=315,slow=12,SNR=3.3						
MKAR	**Makanchi Array**	**64.14**	**314**	LR	LR	04 06 33.0	
	comp=Z,29nm,21.2s,baz=0.7,slow=35						
FINES	**FINESS Array B**	**65.24**	**353**	P	P	03 40 08.2	-1.5
	1.0nm,0.9s,mb3.8,baz=27,slow=9.0,SNR=3.7						
SDV	**Santo Domingo**	**86.96**	**79**	LR	LR	04 22 19.1	
	comp=Z,29nm,19.4s,baz=78,slow=36						
WRA	**Warramunga Arr**	**88.47**	**233**	P	P	03 42 20.1	-0.6
	0.4nm,0.9s,mb3.7,baz=35,slow=6.1,SNR=5.0						

MAN 27 03:30:47, 1127N×12426E, h22km, mb3.5, ML2.2, MS1.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.40**	**122**	eP	Pb	03 30 57.3	+1.8
OCLP				eS	Sb	03 31 05.2	+3.9
MSLP	**Maasin**	**1.27**	**152**	eP	Pn	03 31 09.9	+0.4
MSLP				eS	Sn	03 31 28.2	+2.3
RCP	**Roxas**	**1.51**	**281**	⇑eP	Pn	03 31 13.8	+1.0
RCP				eS	Sn	03 31 32.2	+0.3
GUIM	**Jordan**	**1.76**	**249**	eP	Pn	03 31 15.4	-0.8
GUIM				eS	Sn	03 31 35.9	-2.1

*NIED **27** 04:05:00, 2170N×12080E, h11km, Mw4.1 Best double couple: M0=1.78000×10^15 NP1:φs=348.00000°, δ78.00000°, λ-66.00000°. NP2:φs=103.00000°, δ27.00000°, λ-152.00000°.*
*IDC **27** 04:05:21.4±0.7, 2185N×12040E, h0km, mb4.1/10, mb1 4.2/11, mb1mx4.1/21, mbtmp4.0/11, ML3.7/1, MS3.5/3, Ms1 3.6/3, ms1mx3.1/25, Error ellipse: s-maj=30.0km s-min=16.0km az=76.0*
*NEIC **27** 04:05:23.4±4.7, 2186N×12048E, h13km±30km, mb4.1/4, Error ellipse: s-maj=13.8km s-min=8.7km az=73.0*
NEIC Recorded [1 TAP] in P'ing-tung County.
*ISCJB **27** 04:05:24.6±1.9, 2187N±005×12055E±004, h33km±14km, mb4.1/16, MS3.6/2, Error ellipse: s-maj=9.8km s-min=5.4km az=147.5*
*JMA **27** 04:05:26.2±0.3, 2172N×12077E, h68km, M4.5*
*BJI **27** 04:05:32.1, 2248N×11973E, h12km, mB4.8, mb3.9, ML3.3, Ms4.0, Msz3.8*

ISC 27 04:05:25.4±1.9, 2190N±005×12050E±004, h26km±14km, n36, σ0§81/44, mb4.1/16, MS3.6/2, Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NACB	**Ninganchiao**	**2.48**	**24**	ePn	Pn	04 06 03.0	-1.1
NACB				eSn	Sn	04 06 33.5	-0.1
YHNB	**Yeheng**	**2.88**	**16**	ePn	Pn	04 06 08.8	-0.7
YHNB				eSn	Sn	04 06 44.4	+1.0
TATO	**Taipei**	**3.20**	**16**	ePn	Pn	04 06 15.5	+1.5
YOJ	**Yonaguni jima**	**3.44**	**42**	P	Pn	04 06 18.6	+1.2
YOJ				eS	Sn	04 06 57.8	+0.5
QZH	**Quanzhou**	**3.51**	**330**	P	Pn	04 06 16.0	-2.2
QZH				S	Sn	04 06 53.5	-5.4
QZH				Smax			
	comp=N,160nm,0.4s						
QZH				Smax			
	comp=E,160nm,0.4s						
HATJ	**Hateruma jima**	**3.73**	**54**	P	Pn	04 06 21.4	+0.1
HATJ				eS	Sn	04 07 03.7	-0.6
IRIF	**Iriomote-Funau**	**3.84**	**50**	P	Pn	04 06 23.1	+0.3
IRIF				eS	Sn	04 07 07.1	+0.1
JKRS	**Kuro-shima**	**3.98**	**53**	P	Pn	04 06 25.3	+0.5
JKRS				eS	Sn	04 07 09.9	-0.7
JIJ	**Ishigaki jima**	**4.15**	**53**	P	Pn	04 06 27.3	+0.1
JIJ				eS	Sn	04 07 13.6	-1.3
JTJ	**Tarama**	**4.73**	**54**	P	Pn	04 06 35.3	+0.2
JTJ				eS	Sn	04 07 28.0	-1.1
JOGS	**Gusukube**	**5.33**	**57**	P	Pn	04 06 44.3	+0.9
JOGS				eS	Sn	04 07 43.9	-0.1
GYA	**Guiyang**	**13.42**	**293**	P	Pn	04 08 32.8	-1.5
GYA				S	Sn	04 10 58.5	-4.1
GYA				AMB	AMB		
	comp=Z,10.0nm,1.0s						
GYA				AMB	AMB		
	comp=Z,150nm,7.5s						
GYA				LR	LR		
	comp=N,480nm,12.9s						
GYA				LR	LR		
	comp=E,420nm,14.0s						
GYA				LR	LR		
	comp=Z,450nm,13.8s						
KSRS	**Korea Array**	**16.78**	**21**	Pn	Pn	04 09 18.9	+0.2
	comp=Z,0.2nm,0.3s,baz=208,slow=15,SNR=4.4						
KSRS				LR	LR	04 17 08.4	
	comp=Z,150nm,18.7s,baz=43,slow=42						
MJAR	**Matsushiro Arr**	**21.20**	**43**	P	P	04 10 09.4	+0.3
	comp=Z,2.4nm,0.6s,mb3.7,baz=229,slow=9.4,SNR=9.4						
GTA	**Gaotai**	**24.83**	**319**	eP	P	04 10 47.0	+1.4
GTA				AMB	AMB		
	comp=Z,6.0nm,1.2s,mb4.0						
KAPI	**Kappang**	**26.75**	**182**	P	P	04 11 02.5	-0.6
	comp=Z,4.9nm,0.8s,mb4.1,baz=289,slow=2.1,SNR=3.5						
SONM	**Songino Array**	**28.26**	**340**	P	P	04 11 16.6	+0.2
	comp=Z,0.7nm,0.5s,mb3.5,baz=146,slow=10,SNR=2.0						
PSI	**Prapat**	**28.28**	**231**	LR	LR	04 22 04.8	
	comp=Z,80nm,18.1s,MS3.4,baz=248,slow=36						
MK31	**Makanchi Array**	**39.58**	**318**	eP	P	04 12 54.3	-0.1
MKAR	**Makanchi Array**	**39.58**	**318**	P	P	04 12 54.7	+0.2
MKAR				pP	pP	04 13 03.9	+1.6
MKAR	**Makanchi Array**	**39.58**	**318**	P	P	04 12 54.7	+0.2
	comp=Z,1.6nm,0.8s,mb3.8,baz=110,slow=10,SNR=11						
MKAR				pP	pP	04 13 03.9	+1.6
	comp=Z,1.2nm,0.5s,baz=105,slow=10,SNR=10						
ZALV	**Zalesovo Beam**	**41.85**	**329**	P	P	04 13 13.0	-0.1
	comp=Z,1.1nm,0.3s,mb4.0,baz=118,slow=8.6,SNR=5.3						
TKM2	**Tokmak 2**	**42.71**	**310**	eP	P	04 13 20.1	-0.2
	comp=Z,1.4nm,0.6s,mb3.9						
UCH	**Uchtor**	**43.32**	**309**	eP	P	04 13 26.1	+0.9
	comp=Z,0.9nm,0.4s,mb3.9						
WRA	**Warramunga Arr**	**43.72**	**161**	P	P	04 13 28.4	-0.2
	comp=Z,3.9nm,0.8s,mb4.2,baz=343,slow=9.0,SNR=23						
WRA				pP	pP	04 13 38.4	+1.9
	comp=Z,1.9nm,0.7s,baz=345,slow=9.0,SNR=5.1						
ASAR	**Alice Springs**	**47.13**	**163**	P	P	04 13 55.9	+0.3
	comp=Z,1.1nm,0.4s,mb4.2,baz=344,slow=6.8,SNR=28						
MALT	**Malatya**	**70.75**	**304**	eP	P	04 16 40.9	+1.4
	comp=Z,3.5nm,1.1s,mb4.2						
INK	**Inuvik**	**75.57**	**22**	eP	P	04 17 07.2	-0.2
	comp=Z,86nm,1.2s,mb5.5						
NOA	**NORSAR Array B**	**79.95**	**332**	LR	LR	04 56 18.6	
	comp=Z,38nm,18.3s,MS3.8,baz=40,slow=38						
NAO01	**NORSAR Array S**	**80.18**	**332**	eP	P	04 17 33.5	+0.3
	comp=Z,11nm,1.1s,mb4.7						
CLL	**Collm**	**83.50**	**323**	eP	P	04 17 50.0	-0.9
KMBO	**Kilima Mbogo**	**84.15**	**266**	P	P	04 17 53.9	-1.0
KMBO	**Kilima Mbogo**	**84.15**	**266**	P	P	04 17 53.9	-1.0
	comp=Z,3.6nm,1.0s,mb4.5,baz=79,slow=10,SNR=2.1						
GERES	**GERESS Array B**	**84.20**	**321**	P	P	04 17 55.0	+0.4
	comp=Z,0.9nm,0.8s,mb4.0,baz=84,slow=4.7,SNR=12						
YKA	**Yellowknife Ar**	**85.31**	**22**	P	P	04 18 00.4	+0.6
	comp=

ISC 27 04:40:20.3±2.7,5724N±006×12307E±009,h10km±20km, n25,σ1°02/22,mb3.6/7,MS3.1/5,6C,Southeastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CLNS	**Chul'man**	**1.08**	**111**	*e*P	**Pb**	**04 40 41.0**	**+0.1**
CLNS				*e*		04 40 55.5	
CLNS	comp=N,58nm,0.2s			pmax	pmax		
CLNS	comp=E,85nm,0.2s			pmax	pmax		
CLNS	comp=Z,180nm,0.2s			pmax	pmax		
CLNS	comp=Z,464nm,0.3s			smax			
CLNS	comp=N,530nm,0.2s			smax			
CLNS	comp=E,1μm,0.2s			smax			
NRGR	**Nerungri**	**1.08**	**122**	*e*P	**Pb**	**04 40 41.3**	**+0.3**
NRGR				S	**Sb**	**04 40 56.3**	**+1.2**
NRGR	comp=N,6μm,0.5s			smax			
YAK	**Yakutsk**	**5.86**	**32**	*e*P	**Pn**	**04 41 48.5**	**+1.5**
YAK				*e*		04 42 54.4	
YAK	comp=Z,10.0nm,0.9s			pmax	pmax		
YAK	comp=N,5.0nm,1.1s			pmax	pmax		
YAK	comp=E,5.0nm,1.5s			pmax	pmax		
YAK	comp=N,12nm,0.9s			pmax	pmax		
YAK	comp=Z,39nm,0.9s			pmax	pmax		
YAK	comp=E,16nm,1.2s			pmax	pmax		
YAK	comp=N,57nm,1.1s			smax			
YAK	comp=Z,29nm,1.0s			smax			
YAK	comp=E,30nm,0.7s			smax			
YAK	comp=N,524nm,0.8s			smax			
YAK	comp=Z,230nm,0.9s			smax			
YAK	comp=E,588nm,1.0s			smax			
YAK	comp=Z,122nm,8.0s			MLR	MLR		
HIA	**Hailar**	**8.23**	**195**	*e*P	**Pn**	**04 42 18.0**	**-1.5**
KLR	**Kul'dur**	**9.55**	**143**	*e*P	**Pn**	**04 42 36.2**	**-1.5**
KLR				*e*		04 44 18.5	
KLR	comp=Z,500nm,7.0s			MLR	MLR		
HABR	**Khabarovsk**	**11.37**	**135**	*e*P	**Pn**	**04 43 02.5**	**0.0**
HABR				*e*		04 45 11.6	
TLY	**Talaya**	**12.57**	**252**	⇑*e*P	**Pn**	**04 43 20.8**	**+1.8**
TLY	comp=Z,3.0nm,0.7s			pmax	pmax		
ULN	**Ulaanbaatar**	**13.49**	**233**	⇑*e*P	**Pn**	**04 43 32.6**	**+1.1**
SONM	**Songino Array**	**13.80**	**234**	Lg		04 47 33.1	
	comp=Z,1.0nm,0.3s,baz=32,slow=30,SNR=12						
MA2	**Magadan**	**14.66**	**69**	⇑*e*P	**Pn**	**04 43 46.8**	**-0.6**
MA2	comp=Z,7.0nm,1.0s			pmax	pmax		
TIXI	**Tiksi**	**14.67**	**7**	*e*P	**Pn**	**04 43 43.0**	**-4.5**
TIXI	comp=Z,3.0nm,0.8s			pmax	pmax		
SEY	**Seymchan**	**15.60**	**56**	⇑*e*P	**Pn**	**04 43 58.6**	**-1.2**
KSRS	**Korea Array**	**20.05**	**169**	LR	LR	04 53 35.1	
	comp=Z,36nm,19.0s,MS2.7,baz=340,slow=37						
ZALV	**Zalesovo Beam**	**21.67**	**278**	P	**P**	**04 45 10.5**	**-0.1**
	comp=Z,0.8nm,0.3s,mb3.6,baz=69,slow=7.9,SNR=2.1						
ZAL	**Zalesovo**	**21.68**	**278**	P	**P**	**04 45 10.5**	**-0.3**
ZAL	comp=Z,1.0nm,0.3s			pmax	pmax		
BILL	**Bilibino**	**22.07**	**43**	⇑*e*P	**P**	**04 45 15.8**	**+0.9**
BILL	comp=Z,3.0nm,0.8s,mb3.8			pmax	pmax		
MKAR	**Makanchi Array**	**26.79**	**265**	P	**P**	**04 46 04.5**	**+4.5**
	comp=Z,0.3nm,0.6s,mb3.0,baz=60,slow=9.9,SNR=4.0						
MKAR				LR	LR	04 56 30.9	
	comp=Z,28nm,21.4s,MS2.8,baz=32,slow=37						
ARU	**Arti**	**34.12**	**297**	*c i*P	**P**	**04 47 04.2**	**-0.5**
ARU				*e*		04 48 15.8	
ARU				*e*S	**S**	**04 52 31.6**	**+1.4**
ARU				*e*SS	SS	04 54 39.5	-18
ARU	comp=Z,11nm,2.5s,mb4.3			pmax	pmax		
FINES	**FINESS Array B**	**45.23**	**318**	P	**P**	**04 48 37.1**	**+0.1**
FINES	comp=Z,1.0nm,0.5s			pmax	pmax		
FINES	**FINESS Array B**	**45.23**	**318**	P	**P**	**04 48 37.0**	**0.0**
	comp=Z,0.6nm,0.5s,mb3.7,baz=50,slow=9.2,SNR=9.9						
NOA	**NORSAR Array B**	**50.61**	**324**	P	**P**	**04 49 17.1**	**-1.5**
	comp=Z,0.4nm,0.7s,mb3.5,baz=40,slow=6.2,SNR=3.2						
AKASG	**Malin Array Be**	**51.35**	**306**	P	**P**	**04 49 23.9**	**-0.4**
	comp=Z,0.2nm,0.2s,mb3.6,baz=38,slow=8.3,SNR=3.2						
MLR	**Muntele Rosu**	**56.69**	**303**	LR	LR	05 17 34.4	
	comp=Z,35nm,20.5s,MS3.5,baz=204,slow=40						
DAVOX	**Davos/Dischmat**	**62.45**	**315**	LR	LR	05 23 10.1	
	comp=Z,21nm,18.3s,MS3.4,baz=70,slow=42						
EIL	**Elat**	**64.60**	**286**	LR	LR	05 19 42.6	
	comp=Z,24nm,19.1s,MS3.4,baz=271,slow=37						

*IDC **27** 05:04:56.8±1.6,286S×130.12E,h0km,mb4.1/3,mb1 4.2/6, mb1mx4.0/17,mbtmp4.1/6,ML3.7/3,MS3.2/1,Ms1 3.2/1, ms1mx2.7/21,Error ellipse: s-maj=50.4km s-min=23.1km az=66.0*

*NEIC **27** 05:04:58.9±11.0,305S×12965E,h8km±72km,mb4.1/4, Error ellipse: s-maj=32.5km s-min=23.8km az=58.0*

*ISCJB **27** 05:04:59.8±3.9,30S±02×1300E±02,h33km±35km, mb4.0/4,Error ellipse: s-maj=40.2km s-min=15.4km az=44.4*

ISC 27 05:05:04.7±2.6,31S±02×1299E±02,h53km±24km,n15, σ1°34/15,mb4.0/4,Seram

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**9.36**	**221**	LR	LR	05 11 20.9	
	comp=Z,124nm,18.6s,baz=147,slow=40						
KAKA	**Kakadu**	**9.87**	**165**	*e*P	**Pn**	**05 07 23.5**	**-0.5**
	8.7nm,0.8s						
KAPI	**Kappang**	**10.26**	**259**	Pn	**Pn**	**05 07 30.6**	**+1.3**
	0.6nm,0.3s,baz=94,slow=14,SNR=3.0						
FITZ	**Fitzroy Crossi**	**15.46**	**195**	*e*P	**Pn**	**05 08 43.1**	**+3.6**
	5.0nm,1.0s						
FITZ	**Fitzroy Crossi**	**15.46**	**195**	Pn	**Pn**	**05 08 38.9**	**-0.6**
FITZ				*e*P		05 08 43.1	
FITZ	**Fitzroy Crossi**	**15.46**	**195**	Pn	**Pn**	**05 08 38.9**	**-0.6**
	0.1nm,0.3s,baz=20,slow=15,SNR=3.1						
COEN	**Coen**	**17.00**	**130**	*e*P	**Pn**	**05 09 00.8**	**+1.9**
	9.4nm,1.1s						
COEN				*e*		05 09 08.8	
WRA	**Warramunga Arr**	**17.29**	**166**	P	**Pn**	**05 09 00.7**	**-1.8**
	0.7nm,0.3s,baz=346,slow=9.6,SNR=22						
WRA				S	**S**	**05 12 05.0**	**-16**
	0.1nm,0.3s,baz=344,slow=25,SNR=3.0						
WB2	**Warramunga Arr**	**17.29**	**166**	*e*P	**Pn**	**05 09 00.0**	**-2.5**
ASAR	**Alice Springs**	**20.80**	**170**	P	**P**	**05 09 42.8**	**+1.1**
	25nm,0.7s,baz=352,slow=10,SNR=235						
STKA	**Stephens Creek**	**30.67**	**160**	*e*P	**P**	**05 11 15.6**	**+1.3**
	5.7nm,1.9s,mb4.1						
STKA	**Stephens Creek**	**30.67**	**160**	P	**P**	**05 11 14.9**	**+0.6**
	3.1nm,0.9s,mb4.1,baz=356,slow=10,SNR=5.5						
MKAR	**Makanchi Array**	**64.93**	**326**	P	**P**	**05 15 37.7**	**-1.1**
	0.3nm,0.6s,mb3.5,baz=126,slow=7.3,SNR=3.3						
KURK	**Kurchatov**	**69.16**	**328**	*e*P	**P**	**05 16 04.7**	**-0.8**
	3.0nm,0.9s,mb4.2						
VNDA	**Vanda**	**76.30**	**173**	*e*P	**P**	**05 16 48.6**	**+1.2**
	2.1nm,1.2s,mb3.9						

*IDC **27** 05:11:45.6±1.2,3813N×2082E,h0km,mb3.6/7, mb1 3.6/10,mb1mx3.5/25,mbtmp3.5/10,ML3.2/3,Error ellipse: s-maj=24.7km s-min=19.1km az=89.0*

*ATH **27** 05:11:46.2,3795N×2086E,h7km±2km,MD3.8/11*

*NEIC **27** 05:11:46.2,3795N×2086E,h7km,MD3.8(ATH),After ATH.*

*THE **27** 05:11:46.1,3784N×2073E,h3km,ML4.1*

*ISCJB **27** 05:11:46.9±0.7,3798N±003×2085E±003,h8km±4km, mb3.5/7,Error ellipse: s-maj=5.6km s-min=3.8km az=28.9*

*CSEM **27** 05:11:47.3±0.2,3794N×2082E,h2km,MD3.8,Error ellipse: s-maj=4.8km s-min=1.9km az=38.0*

*BEO **27** 05:12:28.5,4035N×2019E*

ISC 27 05:11:47.7±0.8,3799N±003×2088E±003,h6km±4km,n56, σ1°37/71,mb3.5/7,1C-1D,Ionian Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.30**	**310**	*e*Pg	**Pg**	**05 11 52.3**	**-1.2**
VLS				*e*Sg	**Sg**	**05 11 58.7**	**+1.3**
VLS	**Valsamata**	**0.30**	**310**	⇓*i*Pb	**Pg**	**05 11 52.5**	**-1.0**
VLS				*e*Sb	**Sg**	**05 11 58.0**	**+0.6**
RLS	**Riolos of Patr**	**0.47**	**81**	*e*PB	**Pg**	**05 11 55.1**	**-1.7**
RLS				*e*SB	**Sg**	**05 12 03.1**	**+0.2**
ITM	**Ithomi**	**1.16**	**134**	⇑*i*PG	**Pn**	**05 12 07.2**	**-3.2**
EVR	**Evrytania**	**1.18**	**38**	*e*PG	**Pg**	**05 12 08.9**	**-1.5**
EVR				*e*SB	**Sg**	**05 12 26.3**	**+0.6**
PYL	**PYLOS**	**1.29**	**147**	*e*Pg	**Pn**	**05 12 09.3**	**-2.8**
AGG	**Agios Georgios**	**1.54**	**47**	*e*Pb	**Pb**	**05 12 16.8**	**+0.2**
AGG				*e*Sb	**Sg**	**05 12 41.4**	**+4.2**
IGT	**Igoumenitsa**	**1.60**	**345**	*e*Pb	**Pn**	**05 12 16.2**	**-0.4**
IGT				*e*Sb	**Sg**	**05 12 40.5**	**+1.3**
LTK	**Loutraki**	**1.65**	**88**	*e*Pb	**Pb**	**05 12 18.3**	**-0.2**
JAN	**Janina**	**1.67**	**359**	*e*PN	**Pn**	**05 12 18.5**	**+1.1**
LKR	**Lokris**	**1.80**	**68**	*e*Pb	**Pn**	**05 12 19.4**	**+0.3**
LKR				*e*Sb	**Sg**	**05 12 45.6**	**+0.2**
LKR	**Lokris**	**1.80**	**68**	*e*Pn	**Pn**	**05 12 20.0**	**+0.8**
THL	**Klokotos Trika**	**1.81**	**29**	*e*Pn	**Pn**	**05 12 20.0**	**+0.7**
THL				*e*Sn	**Sg**	**05 12 46.5**	**+0.6**
THL	**Klokotos Trika**	**1.81**	**29**	*e*PN	**Pn**	**05 12 20.3**	**+0.9**
MEV	**Metsovon**	**1.82**	**9**	*e*Pb	**Pg**	**05 12 20.7**	**-1.8**
KEK	**Kerkira**	**1.92**	**334**	*e*PN	**Pn**	**05 12 21.0**	**+0.1**
DID	**Didima**	**1.93**	**104**	*e*Pn	**Pn**	**05 12 21.6**	**+0.6**
DID				*e*Sn	**Sg**	**05 12 47.7**	**-2.0**
VLI	**Veliai**	**2.07**	**127**	*e*PG	**Pn**	**05 12 24.8**	**+1.9**
NAIG	**Nisos Aigina**	**2.08**	**95**	*e*PN	**Pn**	**05 12 24.0**	**+1.0**
ATH	**Athens Observa**	**2.24**	**89**	*e*PN	**Pn**	**05 12 26.0**	**+0.7**
NEO	**Neokhori**	**2.26**	**54**	P	**Pn**	**05 12 28.0**	**+2.4**
XOR	**Xorichti**	**2.28**	**52**	*e*Pn	**Pn**	**05 12 26.4**	**+0.6**
KYTH	**Kithira**	**2.42**	**134**	*e*PN	**Pn**	**05 12 29.5**	**+1.7**
LIT	**Litokhoron**	**2.46**	**30**	*e*Pn	**Pn**	**05 12 30.4**	**+2.1**
AOS	**Alonnisos**	**2.63**	**62**	*e*Pn	**Pn**	**05 12 31.4**	**+0.7**
FNA	**Florina**	**2.82**	**8**	*e*Pn	**Pn**	**05 12 33.7**	**+0.5**
BIA	**Bitola**	**3.05**	**6**	*e*Pn	**Pn**	**05 12 36.5**	**+0.1**
PLG	**Polygyros**	**3.11**	**39**	*e*PN	**Pn**	**05 12 38.3**	**+1.1**
OHR	**Ohrid**	**3.12**	**359**	*e*Pn	**Pn**	**05 12 37.7**	**+0.3**
KRUS	**Krusevo**	**3.39**	**5**	*e*Pn	**Pn**	**05 12 41.5**	**+0.4**
KRUS	**Krusevo**	**3.39**	**5**	*e*Pn	**Pn**	**05 12 41.4**	**+0.3**
VAY	**Valandovo**	**3.58**	**21**	*e*Pn	**Pn**	**05 12 42.6**	**-1.0**
VAY	**Valandovo**	**3.58**	**21**	*e*Pn	**Pn**	**05 12 42.6**	**-1.1**
APE	**Apeiranthos**	**3.81**	**102**	*e*PN	**Pn**	**05 12 47.3**	**+0.4**
NVR	**Nevrokopi**	**4.07**	**33**	*e*PN	**Pn**	**05 12 51.8**	**+1.3**
IDI	**Anoyia**	**4.20**	**129**	Pn	**Pn**	**05 12 54.3**	**+2.0**
	0.4nm,0.3s,baz=325,slow=12,SNR=3.8						
IDI				Sn	**Sn**	**05 13 36.9**	**-4.7**
	1.0nm,0.3s,baz=298,slow=16,SNR=5.4						
IDI	**Anoyia**	**4.20**	**129**	Pn	**Pn**	**05 12 54.2**	**+2.0**
IDI				Sn	**Sn**	**05 13 36.9**	**-4.7**
BARS	**Barje**	**4.88**	**8**	*e*Pn	**Pn**	**05 12 59.2**	**-2.3**
BARS				*e*Sg	**Sn**	**05 13 58.2**	**-0.1**
SGO	**Sicignano**	**5.03**	**302**	Pn	**Pn**	**05 13 06.2**	**+2.6**
SGO				Sn	**Sn**	**05 14 06.0**	**+4.0**
CSSN	**Cassano Irpino**	**5.37**	**304**	Pn	**Pn**	**05 13 09.6**	**+1.4**
	8.2nm,0.5s						
FG5	**Orsara di Pugl**	**5.44**	**309**	Pn	**Pn**	**05 13 09.9**	**+0.7**
	20nm,0.6s						
ZAPS	**Zavoj**	**5.45**	**14**	*e*Pn	**Pn**	**05 13 10.6**	**+1.2**
RGNG	**Rignano Grg**	**5.49**	**314**	Pn	**Pn**	**05 13 09.3**	**-0.7**
RGNG				Sn	**Sn**	**05 14 13.7**	**+0.3**
SGG	**Gregorio Mates**	**6.05**	**306**	Pn	**Pn**	**05 13 19.6**	**+1.9**
	15nm,0.7s						
DIVS	**Divibare**	**6.14**	**354**	*e*Pn	**Pn**	**05 13 17.7**	**-1.2**
DIVS				*e*Sg	**Sn**	**05 14 27.1**	**-2.3**
MLR	**Muntele Rosu**	**8.40**	**25**	Pn	**Pn**	**05 13 49.2**	**-0.7**
	0.1nm,0.3s,baz=219,slow=6.5,SNR=1.7						
GERES	**GERESS Array B**	**12.04**	**337**	Pn	**Pn**	**05 14 37.8**	**-1.8**
	0.2nm,0.3s,baz=159,slow=13,SNR=8.1						
HFS	**Hagfors**	**22.64**	**351**	P	**P**	**05 16 46.0**	**-3.1**
	0.7nm,0.4s,mb3.4,baz=152,slow=9.9,SNR=4.7						
FINES	**FINESS Array B**	**23.71**	**6**	P	**P**	**05 16 57.7**	**-2.4**
	0.4nm,0.5s,mb3.1,baz=167,slow=12,SNR=5.8						
EKA	**Eskdalemuir Ar**	**23.75**	**325**	P	**P**	**05 16 57.9**	**-2.7**
	1.7nm,0.8s,mb3.5,baz=132,slow=8.8,SNR=5.3						
EKA	**Eskdalemuir Ar**	**23.75**	**325**	P	**P**	**05 16 57.8**	**-2.8**
NB2	**NORSAR Subarra**	**23.86**	**348**	P	**P**	**05 16 57.1**	**-4.4**
	comp=Z,4.1nm,1.4s,mb3.7,baz=155,slow=9.3						
NOA	**NORSAR Array B**	**23.86**	**348**	P	**P**	**05 17 00.1**	**-1.4**
	comp=Z,0.9nm,0.8s,mb3.3,baz=157,slow=9.0,SNR=4.2						
TORD	**Torodi Ar. Bea**	**30.06**	**220**	P	**P**	**05 17 57.2**	**-0.5**
	comp=Z,0.5nm,1.0s,mb3.2,baz=38,slow=10,SNR=3.3						
ARCES	**ARCESS Array B**	**31.71**	**3**	P	**P**	**05 18 09.1**	**-2.6**
	comp=Z,1.6nm,0.8s,mb3.9,baz=180,slow=9.9,SNR=3.3						
MKAR	**Makanchi Array**	**45.16**	**58**	P	**P**	**05 20 02.6**	**-2.4**
	comp=Z,0.5nm,0.5s,mb3.6,baz=272,slow=8.1,SNR=12						

JMA 27 05:15:42.6±0.3,2199N×12163E,h0km,M3.8,Taiwan region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**2.77**	**27**	P	Pn	05 16 29.3	+1.1
YOJ				*e*S	Sn	05 17 04.6	+2.2
HATJ	**Hateruma jima**	**2.87**	**44**	P	Pn	05 16 30.9	+1.3
HATJ				*e*S	Sn	05 17 06.7	+1.8
IRIF	**Iriomote-Funau**	**3.03**	**39**	P	Pn	05 16 33.3	+1.5
IRIF				*e*S	Sn	05 17 09.7	+0.9
JKRS	**Kuro-shima**	**3.13**	**44**	P	Pn	05 16 34.7	+1.5
JKRS				*e*S	Sn	05 17 12.6	+1.3
JIJ	**Ishigaki jima**	**3.31**	**44**	P	Pn	05 16 36.9	+1.3
JIJ				*e*S	Sn	05 17 16.5	+0.9
JTJ	**Tarama**	**3.87**	**46**	P	Pn	05 16 45.2	+1.9
JTJ				*e*S	Sn	05 17 31.7	+2.3

*IDC **27** 05:17:46.4±0.7,1588S×7061W,h0km,mb4.2/9, mb1 4.3/14,mb1mx4.2/23,mbtmp4.2/14,ML4.0/4,MS3.9/15, Ms1 3.9/15,ms1mx3.7/27,Error ellipse: s-maj=20.9km s-min=15.2km az=35.0*

*ISCJB **27** 05:17:47.1±0.3,1592S±005×7063W±004,h10km, mb4.3/33,MS4.0/12,Error ellipse: s-maj=6.6km s-min=5.7km az=17.7*

*NEIC **27** 05:17:48.6±0.3,1598S×7060W,h10km,mb4.5/27, ML4.3(LIM),Error ellipse: s-maj=10.4km s-min=7.2km az=36.0*

NEIC Felt [II] at Puno.

ISC 27 05:17:48.9±0.3,1599S±004×7065W±004,h10km,n73, σ1°29/57,mb4.3/33,MS4.0/12,1C,Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**0.94**	**239**	⇑*i*P	**Pg**	**05 18 05.5**	**-1.5**
ARE				*i* S	**Sg**	**05 18 19.0**	**-0.2**
LPAZ	**La Paz**	**2.44**	**97**	*e*Pn	**Pn**	**05 18 29.8**	**+0.9**
LPAZ	**La Paz**	**2.44**	**97**	Pn	**Pn**	**05 18 29.9**	**+1.0**
	48nm,0.3s,baz=278,slow=14,SNR=781						
LPAZ				Sn	**Sn**	**05 18 59.8**	**+1.1**
	12nm,0.3s,baz=18,slow=18,SNR=2.9						
LPAZ				LR	LR	05 19 02.0	
	comp=Z,220nm,18.8s,baz=283,slow=31						
LVC	**Limon Verde**	**6.79**	**166**	*e*Pn	**Pn**	**05 19 29.4**	**+0.6**
	82nm,1.1s						
NNA	**Nana**	**7.21**	**303**	*e*Pn	**Pn**	**05 19 37.7**	**+3.3**
	83nm,1.0s						
NNA	**Nana**	**7.21**	**303**	Pn	**Pn**	**05 19 33.9**	**-0.5**
	0.7nm,0.3s,baz=145,slow=14,SNR=2.3						
SIV	**San Ignacio**	**9.21**	**91**	Pn	**Pn**	**05 20 00.6**	**-1.3**
	2.7nm,0.3s,baz=278,slow=12,SNR=75						
SIV				Lg		05 22 35.3	
	1.4nm,0.3s,baz=18,slow=20,SNR=2.2						
ATAH	**Atahualpa**	**11.71**	**319**	LR	LR	05 25 51.6	
	comp=Z,2μm,21.5s,baz=273,slow=42						
CFAA	**Coronel Fontan**	**15.70**	**172**	Pn	**Pn**	**05 21 30.9**	**+0.6**
	0.0nm,0.3s,baz=341,slow=12,SNR=18						
CFAA				LR	LR	05 26 56.1	
	comp=Z,21nm,19.3s,baz=156,slow=35						
CPUP	**Villa Florida**	**16.12**	**132**	Pn	**Pn**	**05 21 34.7**	**-1.0**
CPUP				LR	LR	05 28 40.2	
CPUP	**Villa Florida**	**16.12**	**132**	Pn	**Pn**	**05 21 34.7**	**-1.0**
	0.1nm,0.3s,baz=286,slow=12,SNR=2.9						
CPUP				LR	LR	05 28 40.2	
	comp=Z,466nm,19.4s,baz=299,slow=40						
BDFB	**Brasilia**	**21.78**	**92**	P	**P**	**05 22 39.9**	**-1.3**
	3.3nm,0.9s,mb3.8,baz=250,slow=17,SNR=10						
TRQA	**Tornquist**	**23.28**	**162**	*e*P	**P**	**05 23 01.8**	**+5.0**
	5.5nm,0.8s,mb4.0						
PLCA	**Paso Flores**	**24.66**	**180**	P	**P**	**05 23 09.9**	**+0.2**
	9.1nm,1.0s,mb4.3,baz=357,slow=12,SNR=10						
PLCA				LR	LR	05 32 56.0	
	comp=Z,187nm,20.2s,MS3.6,baz=165,slow=37						
SDV	**Santo Domingo**	**24.71**	**0**	*e*P	**P**	**05 23 09.4**	**-1.1**
	16nm,1.2s,mb4.4						
SDV	**Santo Domingo**	**24.71**	**0**	P	**P**	**05 23 09.1**	**-1.3**
	5.4nm,0.8s,mb4.2,baz=203,slow=15,SNR=7.5						
JTS	**JuntasAbangare**	**29.70**	**331**	LR	LR	05 36 43.0	
	comp=Z,245nm,18.2s,MS3.9,baz=335,slow=38						
SIUC	**Southern Illin**	**56.20**	**342**	*e*P	**P**	**05 27 27.2**	**-1.9**
	15nm,0.6s,mb5.2						
FVM	**French Village**	**56.81**	**341**	*e*P	**P**	**05 27 32.1**	**-1.3**
	7.7nm,0.7s,mb4.8						
CCM	**Cathedral Cave**	**57.13**	**341**	*e*P	**P**	**05 27 34.4**	**-1.3**
	4.5nm,1.0s,mb4.5						
MNTX	**Cornudas Mount**	**57.95**	**325**	*e*P	**P**	**05 27 40.7**	**-1.0**
	4.0nm,1.0s,mb4.4						
KSU1	**Kansas State U**	**59.94**	**337**	*e*P	**P**	**05 27 54.0**	**-1.3**
CBKS	**Cedar Bluff**	**60.94**	**334**	*e*P	**P**	**05 28 01.6**	**-0.5**
	9.2nm,0.8s,mb5.0						
ANMO	**Albuquerque**	**61.01**	**327**	*e*P	**P**	**05 28 02.0**	**-0.7**
	2.3nm,1.0s,mb4.3						
TUC	**Tucson**	**61.50**	**322**	*e*P	**P**	**05 28 08.7**	**+2.6**
	1.7nm,0.9s,mb4.2						
SDCO	**Great Sand Dun**	**62.69**	**329**	*e*P	**P**	**05 28 14.3**	**+0.4**
	4.9nm,0.9s,mb4.6						
MVCO	**Mesa Verde**	**63.80**	**327**	*e*P	**P**	**05 28 21.3**	**0.0**
	7.7nm,1.3s,mb4.6						
WUAZ	**Wupatki**	**64.13**	**324**	*e*P	**P**	**05 28 25.0**	**+1.4**
	6.8nm,1.1s,mb4.6						
ISCO	**Idaho Springs**	**64.36**	**331**	*e*P	**P**	**05 28 25.1**	**+0.2**
	4.4nm,1.1s,mb4.4						
SMCO	**Snowmass**	**64.52**	**329**	*e*P	**P**	**05 28 26.6**	**+0.5**
	4.9nm,0.9s,mb4.5						
PV01	**Paradox Valley**	**64.53**	**328**	*e*P	**P**	**05 28 25.5**	**-0.6**
MSU	**Marysvale**	**66.72**	**326**	*e*P	**P**	**05 28 41.5**	**+1.2**
ARUT	**Antelope Range**	**66.91**	**324**	*e*P	**P**	**05 28 42.9**	**+1.4**
TPNV	**Topopah Spring**	**67.96**	**322**	*e*P	**P**	**05 28 49.1**	**+1.0**
	5.6nm,1.1s,mb4.5						
DUG	**Dugway**	**68.27**	**326**	*e*P	**P**	**05 28 50.4**	**+0.4**
	4.9nm,1.1s,mb4.5						
BW06	**Boulder Array**	**68.53**	**330**	*e*P	**P**	**05 28 52.7**	**+1.1**
	3.2nm,1.1s,mb4.2						
HWUT	**Hardware Ranch**	**68.65**	**328**	*e*P	**P**	**05 28 55.2**	**+2.9**
	1.9nm,0.8s,mb4.1						
DBIC	**Dimbokro**	**68.89**	**76**	LR	LR	05 55 35.4	
	comp=Z,82nm,18.4s,MS4.0,baz=219,slow=33						
ULM	**Lac du Bonnet**	**69.59**	**343**	*e*P	**P**	**05 28 56.1**	**-1.8**
	3.9nm,0.7s,mb4.5						
ULM	**Lac du Bonnet**	**69.59**	**343**	P	**P**	**05 28 56.0**	**-2.0**
	4.3nm,0.8s,mb4.5,baz=152,slow=9.8,SNR=3.8						
ULM				LR	LR	06 01 34.3	
	comp=Z,68nm,18.0s,MS3.9,baz=258,slow=38						
LOHW	**Long Hollow**	**69.67**	**330**	*e*P	**P**	**05 28 57.6**	**-1.1**
	3.8nm,1.1s,mb4.2						
IMW	**Indian Meadow**	**70.05**	**330**	*e*P	**P**	**05 29 00.3**	**-0.7**
	3.3nm,0.8s,mb4.3						
FLWY	**Flagg Ranch**	**70.07**	**330**	*e*P	**P**	**05 29 02.6**	**+1.5**
	6.8nm,0.9s,mb4.6						
NVAR	**Mina Array Bea**	**70.16**	**322**	P	**P**	**05 29 00.9**	**-0.9**
	0.2nm,0.5s,mb3.4,baz=134,slow=6.4,SNR=2.6						
HLID	**Hailey**	**71.52**	**328**	*e*P	**P**	**05 29 11.1**	**+1.2**
	2.4nm,0.9s,mb4.1						
BOZ	**Bozeman (W)**	**71.68**	**331**	*e*P	**P**	**05 29 13.0**	**+2.1**
	2.4nm,1.0s,mb4.1						
BMO	**Blue Mountains**	**73.91**	**327**	*e*P	**P**	**05 29 27.0**	**+2.9**
	3.5nm,1.1s,mb4.2						
PPT	**Papeete**	**75.03**	**256**	LR	LR	05 54 33.6	
	comp=Z,145nm,20.8s,MS4.3,baz=178,slow=29						
TOA0	**Torodi Ar. Sit**	**77.16**	**72**	*e*P	**P**	**05 29 43.2**	**-0.2**
TORD	**Torodi Ar. Bea**	**77.16**	**72**	P	**P**	**05 29 41.4**	**-2.0**
	2.2nm,1.0s,mb4.0,baz=250,slow=5.0,SNR=7.4						
TORD				LR	LR	06 03 10.6	
	comp=Z,54nm,18.4s,MS3.9,baz=260,slow=35						
EDM	**Edmonton**	**78.09**	**335**	*e*P	**P**	**05 29 46.2**	**-1.6**
VNDA	**Vanda**	**81.97**	**190**	*e*P	**P**	**05 30 11.3**	**+2.7**
	2.2nm,0.9s,mb4.1						
VNDA	**Vanda**	**81.97**	**190**	P	**P**	**05 30 08.9**	**+0.4**
	1.1nm,0.8s,mb3.8,baz=141,slow=3.2,SNR=6.6						
VNDA				LR	LR	06 03 15.5	
	comp=Z,90nm,19.4s,MS4.1,baz=23,slow=33						
TSUM	**Tsumeb**	**83.25**	**108**	*e*P	**P**	**05 30 17.4**	**+1.1**
	4.1nm,1.0s,mb4.4						
YKA	**Yellowknife Ar**	**85.46**	**341**	P	**P**	**05 30 25.1**	**-1.4**
YKA				LR	LR	06 10 55.8	
YKA	**Yellowknife Ar**	**85.46**	**341**	P	**P**	**05 30 25.1**	**-1.4**

IREN Reynihlio 5.05 191 P **Pn 05 40 54.2 -0.8**
ISVA Svartarkot 5.38 192 P **Pn 05 40 59.0 -0.5**
ISVA S **Sn 05 42 02.3 +0.9**
IADA Aoalbol 5.61 185 P **Pn 05 41 01.5 -1.2**
IGLU Glumsstadir 5.64 183 P **Pn 05 41 01.9 -1.2**
IHVA Hvannstoosfjol 5.68 186 P **Pn 05 41 02.5 -1.2**
IBRU Bruarjokull 5.82 187 P **Pn 05 41 04.3 -1.3**
IVSH V-Sauoahnukur 5.83 185 P **Pn 05 41 04.6 -1.1**
DAG Danmarks Havn 6.32 351 ||*i*P **Pn 05 41 07.9 -4.6**
2.6nm,0.3s
BORG Borgarnes 6.41 207 Pn **Pn 05 41 18.0 +4.3**
2.3nm,0.3s,baz=25,slow=6.8,SNR=13
SPITS Spitsbergen Ar 11.08 33 Pn **Pn 05 42 16.2 -1.3**
baz=223,slow=14,SNR=31
ARCES ARCESS Array B 13.51 75 Pn **Pn 05 42 52.4 +1.6**
0.1nm,0.3s,baz=316,slow=7.6,SNR=3.1
ARCES LR LR 05 46 55.4
comp=Z,49nm,19.6s,baz=74,slow=32
NOA NORSAR Array B 14.09 120 LR LR 05 47 39.2
comp=Z,29nm,21.1s,baz=315,slow=34
HFS Hagfors 15.55 118 Pn **Pn 05 43 18.0 -0.3**
HFS LR LR 05 48 23.2
HFS Hagfors 15.55 118 Pn **Pn 05 43 18.0 -0.3**
0.1nm,0.3s,baz=324,slow=7.1,SNR=2.1
HFS LR LR 05 48 23.2
comp=Z,61nm,18.3s,baz=339,slow=34
FINES FINESS Array B 18.46 99 P **Pn 05 43 55.8 +0.9**
FINES LR LR 05 50 12.6
FINES FINESS Array B 18.46 99 P **Pn 05 43 55.8 +0.9**
0.1nm,0.3s,baz=324,slow=9.4,SNR=6.7
FINES LR LR 05 50 12.6
comp=Z,34nm,18.4s,baz=42,slow=34
RES Resolute Bay 22.57 317 *e*P **P 05 44 39.9 +0.6**
50nm,0.9s,mb5.0
RES Resolute Bay 22.57 317 *e*P **P 05 44 39.9 +0.7**
WLF Walferdange 23.12 144 *e*P **P 05 44 48.1 +2.9**
1.7nm,0.7s,mb3.6
GERES GERESS Array B 25.55 134 P **P 05 45 10.6 +2.7**
0.2nm,0.6s,mb2.9,baz=339,slow=10,SNR=2.9
GERES LR LR 05 54 07.2
comp=Z,24nm,20.2s,MS2.7,baz=280,slow=34
VRAC Vranov 25.85 129 LR LR 05 55 47.2
comp=Z,22nm,20.5s,MS2.7,baz=90,slow=37
DAVOX Davos/Dischmat 26.63 141 LR LR 05 55 38.4
comp=Z,35nm,18.3s,MS3.0,baz=87,slow=36
AKASG Malin Array Be 28.24 112 P **P 05 45 32.5 +0.5**
0.5nm,0.7s,mb3.3,baz=325,slow=9.8,SNR=3.1
YKA Yellowknife Ar 36.15 309 P **P 05 46 40.7 -0.4**
YKA Yellowknife Ar 36.15 309 P **P 05 46 40.7 -0.4**
0.4nm,0.9s,mb3.4,baz=26,slow=8.2,SNR=3.0
YKA Yellowknife Ar 36.15 309 P **P 05 46 40.7 -0.4**
TORD Torodi Ar. Bea 58.28 161 P **P 05 49 34.5 +0.7**
0.8nm,0.9s,mb3.8,baz=356,slow=7.0,SNR=5.3

IDC 27 05:39:44.1±2.2,539S×15035E,h0km,mb3.6/3,mb1 3.9/3, mb1mx3.6/14,mbtmp3.7/3,MS3.1/1,Ms1 3.1/1, ms1mx2.6/18,Error ellipse: s-maj=92.3km s-min=38.9km az=126.0,New Britain region
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CTA Charters Tower 15.14 195 LR LR 05 48 25.0
comp=Z,67nm,19.9s,baz=229,slow=34
WRA Warramunga Arr 21.25 226 P P 05 44 32.3 +0.2
1.0nm,0.4s,baz=50,slow=10,SNR=21
WRA PcP PcP 05 48 36.7 -0.8
0.3nm,0.4s,baz=37,slow=2.1,SNR=5.6
ASAR Alice Springs 24.10 219 P P 05 45 01.1 -0.5
1.2nm,0.7s,baz=56,slow=8.6,SNR=15
FITZ Fitzroy Crossi 27.24 240 P P 05 45 30.0 -0.1
0.5nm,0.3s,baz=73,slow=13,SNR=6.2
TORD Torodi Ar. Bea 148.14 286 PKPbc PKPbc 05 59 33.1 +0.1
2.4nm,0.7s,baz=74,slow=2.6,SNR=26

*NEIC **27** 05:50:50.0±1.2,818S×10858E,h58km±11km,mb4.4/14, Error ellipse: s-maj=10.3km s-min=8.3km az=225.0*
NEIC Felt [III] at Cilacap.
*ISCJB **27** 05:50:53.2±0.6,808S±008×10877E±005,h102km±6km, mb4.2/20,Error ellipse: s-maj=13.9km s-min=6.4km az=28.1*
*IDC **27** 05:50:54.3±5.0,807S×10882E,h92km±44km,mb3.9/10, mb1 4.0/12,mb1mx3.8/21,mbtmp3.9/12,MS3.2/4, Ms1 3.2/4,ms1mx3.0/25,Error ellipse: s-maj=30.0km s-min=13.9km az=70.0*
ISC 27 05:50:54.1±0.6,812S±007×10876E±005,h93km±6km,n65, σ1§06/48,mb4.2/20,1D,Jawa
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
BJII Banjamegara 1.23 50 P **Pn 05 51 16.6 -0.1**
0.0nm,0.0s
JCJI Jatiwangi 1.69 343 P **Pn 05 51 20.4 -2.1**
0.0nm,0.0s
LEM Lembang 1.71 319 P **Pn 05 51 23.0 +0.3**
0.0nm,0.0s
SKJI Sukabumi 2.45 297 P **Pn 05 51 31.4 -0.9**
0.0nm,0.0s
DBJI Dramaga 2.53 308 P **Pn 05 51 33.2 -0.2**
0.0nm,0.0s
CBJI Citeko 2.54 312 P **Pn 05 51 30.2 -3.3**
0.0nm,0.0s
SJI Sawahan 3.01 83 P **Pn 05 51 39.8 0.0**
0.0nm,0.0s
KRKI Karangkates 3.66 91 P **Pn 05 51 48.7 +0.1**
0.0nm,0.0s
XMIS Christmas Isla 3.86 232 *e*Pn **Pn 05 51 43.8 -7.6**
XMIS *e*Sn **Sn 05 52 20.8 -15**
TPI Tanjungpandan 5.44 348 ||*e*P **Pn 05 52 15.0 +2.2**
LWLI Liwa 5.59 303 P **Pn 05 52 23.0 +8.1**
0.0nm,0.0s
NBBI Negara 5.81 93 P **Pn 05 52 09.7 -8.1**
0.0nm,0.0s
KHKI Kahang-Kahang 6.79 93 P **Pn 05 52 34.1 +2.9**
0.0nm,0.0s
MTNI Mataram 7.35 95 P **Pn 05 52 37.9 -1.0**
0.0nm,0.0s
KSI Kapahiang 7.57 306 P **Pn 05 52 42.9 +1.1**
0.0nm,0.0s
KRJI Kerinci 9.41 309 P **Pn 05 53 09.4 +2.4**
0.0nm,0.0s
KAPI Kappang 11.35 75 P **Pn 05 53 34.4 +1.1**
1.0nm,0.3s,baz=246,slow=20,SNR=3.8
KAPI LR LR 05 57 40.9
comp=Z,92nm,21.9s,baz=187,slow=36
PSI Prapat 14.62 318 LR LR 06 01 04.9
comp=Z,77nm,18.3s,baz=298,slow=42
BATI Kupang 14.86 99 P **Pn 05 54 16.8 -2.8**
4.5nm,0.3s,baz=108,slow=2.3,SNR=4.1
MBWA Marble Bar 16.74 142 *e*P **Pn 05 54 38.6 -4.4**
4.5nm,0.6s
FITZ Fitzroy Crossi 19.19 123 *e*P **Pn 05 55 12.0 -0.5**
6.8nm,0.6s
FITZ Fitzroy Crossi 19.19 123 P **Pn 05 55 10.9 -1.6**
0.3nm,0.3s,baz=294,slow=7.8,SNR=5.9
FITZ LR LR 06 01 42.4
comp=Z,61nm,18.8s,baz=114,slow=34
AAI Ambon 19.83 78 P **Pn 05 55 22.6 +2.5**
104nm,1.0s
KAKA Kakadu 23.73 103 *e*P **P 05 55 57.4 -0.6**
8.6nm,0.6s,mb4.3
NWAO Narrogin (SRO) 25.91 164 LR LR 06 05 13.8
comp=Z,131nm,19.0s,baz=174,slow=33
WRA Warramunga Arr 27.41 118 P **P 05 56 31.6 +0.3**
4.1nm,0.7s,mb4.1,baz=289,slow=12,SNR=34
WRA PcP PcP 05 59 48.2 +0.2
0.8nm,0.5s,baz=306,slow=2.0,SNR=8.8
WRAB Tennant Creek 27.42 118 *e*P **P 05 56 31.7 +0.4**
10nm,1.0s,mb4.3
WB2 Warramunga Arr 27.42 118 *e*P **P 05 56 31.9 +0.6**
ASAR Alice Springs 28.62 126 P **P 05 56 41.9 -0.1**
2.1nm,0.6s,mb3.9,baz=302,slow=8.8,SNR=22
ASAR PcP PcP 05 59 51.4 +0.4
1.1nm,0.6s,baz=304,slow=1.9,SNR=10.0
COEN Coen 34.25 103 *e*P **P 05 57 31.5 0.0**
5.1nm,0.8s,mb4.4
CTA Charters Tower 38.17 112 P **P 05 58 03.8 -1.0**
4.8nm,0.8s,mb4.4,baz=273,slow=9.0,SNR=3.6
CTAO Charters Tower 38.17 112 *e*P **P 05 58 06.0 +1.2**
6.3nm,0.8s,mb4.5
STKA Stephens Creek 38.60 132 *e*P **P 05 58 08.5 +0.2**
6.8nm,0.9s,mb4.5
STKA Stephens Creek 38.60 132 P **P 05 58 08.4 +0.1**
6.1nm,0.6s,mb4.6,baz=309,slow=9.0,SNR=10
MJAR Matsushiro Arr 52.33 30 P **P 05 59 54.6 -1.9**
0.5nm,0.5s,mb3.8,baz=194,slow=8.2,SNR=4.5
SONM Songino Array 55.75 358 P **P 06 00 22.1 +0.9**
0.7nm,0.4s,mb4.0,baz=179,slow=8.8,SNR=2.5
SONM PcP PcP 06 01 19.7 +0.5
1.2nm,0.6s,baz=197,slow=4.5,SNR=3.3
CASY Casey 58.08 179 *e*P **P 06 00 36.8 -0.6**
3.1nm,0.9s,mb4.3
TKM2 Tokmak 2 59.09 332 *e*P **P 06 00 45.0 +0.3**
1.8nm,0.5s,mb4.4
MK31 Makanchi Array 59.53 339 *e*P **P 06 00 47.3 -0.4**
MKAR Makanchi Array 59.53 339 P **P 06 00 47.1 -0.6**
0.9nm,0.5s,mb4.1,baz=141,slow=8.0,SNR=6.9
EKS2 Erkin-Say 59.76 331 *e*P **P 06 00 49.0 -0.3**
1.4nm,0.6s,mb4.2
YSS Yuzh-Sakhalins 62.61 26 *e*P **P 06 01 08.2 -0.3**
9.2nm,0.5s,mb5.0
MAW Mawson 66.81 197 P **P 06 01 35.8 +0.2**
3.7nm,0.6s,mb4.4,baz=69,slow=7.8,SNR=11
BVAR Borovoye Array 69.08 336 P **P 06 01 49.9 0.0**
0.4nm,0.3s,mb3.7,baz=125,slow=9.5,SNR=3.2
BRVK Borovoye 69.14 336 *e*P **P 06 01 49.9 -0.4**
3.6nm,0.8s,mb4.2
VNDA Vanda 74.56 170 P **P 06 02 22.4 +0.1**
1.9nm,0.9s,mb3.8,baz=305,slow=5.6,SNR=12
TIXI Tiksi 80.71 6 *e*P **P 06 02 56.0 -0.6**
3.5nm,0.8s,mb4.2
QSPA South Pole Qui 81.88 180 *e*P **P 06 03 03.0 +0.3**
2.9nm,0.7s,mb4.2
VNA2 Neumayer--Watz 90.63 197 *e* **P 06 03 47.1 +1.3**
VNA2 *e* 06 03 49.5
YKA Yellowknife Ar 117.29 21 PKP PKPdf 06 09 28.5 +0.2
0.3nm,0.7s,baz=340,slow=2.1,SNR=5.9
NVAR Mina Array Bea 128.07 47 PKP PKPdf 06 09 51.3 +1.6
0.3nm,0.7s,baz=235,slow=3.2,SNR=3.6
DUG Dugway 131.12 42 *e*PKPdf PKPdf 06 09 57.8 +2.3
CPUP Villa Florida 143.19 201 *e*PKPdf PKPdf 06 10 16.2 -2.0
CPUP PKP PKPdf 06 10 16.2 -2.0
CPUP Villa Florida 143.19 201 PKP PKPdf 06 10 16.2 -2.0
0.3nm,0.4s,baz=354,slow=1.5,SNR=3.8
CCM Cathedral Cave 145.15 28 *e*PKPbc PKPbc 06 10 21.1 +0.2
JCT Junction City 145.24 46 *e*PKPbc PKPbc 06 10 22.7 +1.2
ERPA Erie 145.27 11 *e*PKPbc PKPbc 06 10 21.6 +0.4
BINY Binghamton 145.80 6 *e*PKPbc PKPbc 06 10 23.2 +0.3
MIAR Mount Ida 146.64 35 *e*PKPbc PKPbc 06 10 26.4 +0.8
BDFB Brasilia 147.03 224 PKPbc PKPbc 06 10 28.0 +0.9
1.6nm,0.6s,baz=162,slow=12,SNR=7.8
PLAL Pickwick Lake 149.12 28 *e*PKPbc PKPbc 06 10 31.3 -0.9
LVC Limon Verde 149.37 184 *e*PKPbc PKPbc 06 10 34.6 +1.5
SWET Sewanee 149.85 24 *e*PKPbc PKPbc 06 10 33.5 -0.5
LPAZ La Paz 155.56 187 *e*PKPab PKPab 06 11 05.3 +1.4
LPAZ La Paz 155.56 187 PKPab PKPab 06 11 05.9 +2.0
1.5nm,0.7s,baz=198,slow=4.1,SNR=5.8

PRE 27 06:12:33.3±1.0,2637S×2753E,h2km,ML1.1,South Africa
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
KLOF Kloof 0.08 79 *e*P Pg 06 12 36.6 +1.8
KLOF *e*S Sg 06 12 37.7 +1.8
KLOF AML AML 06 12 40.5
comp=Z,301nm,0.1s
PRYS Parys 0.58 195 *e*P Pg 06 12 44.9 +0.5
PRYS *e*S Sg 06 12 52.2 +0.3
PRYS AML AML 06 12 57.2
comp=Z,11nm,0.6s
ERPM east rand prop 0.65 79 *e*P Pg 06 12 46.2 +0.4
ERPM *e*S Sg 06 12 54.7 +0.3
ERPM AML AML 06 12 55.3
comp=Z,9.8nm,0.2s
KSR Koster 0.76 312 *e*P Pg 06 12 47.5 -0.4
KSR *e*S Sg 06 12 58.7 +0.9
KSR AML AML 06 13 09.9
comp=Z,11nm,0.2s
SEK Senekal 1.95 177 *e*P Pn 06 13 08.3 +0.9
SEK *e*S Sn 06 13 33.1 +0.5
SEK AML AML 06 13 35.4
comp=Z,7.9nm,0.8s
SWZ Schweizer 2.12 247 *e*P Pn 06 13 12.4 +2.6
SWZ *e*S Sn 06 13 38.7 +1.9
SWZ AML AML 06 13 43.5
comp=Z,7.7nm,0.5s

*ISCJB **27** 06:26:16.2±0.4,3532S±008×7867E±009,h10km, mb4.5/26,MS4.2/20,Error ellipse: s-maj=12.3km s-min=10.1km az=173.4*
*MOS **27** 06:26:16.0±0.8,3529S×7868E,h10km,mb4.8/6,Error ellipse: s-maj=19.3km s-min=16.7km az=101.4*
*IDC **27** 06:26:16.2±0.6,3521S×7864E,h0km,mb4.4/15, mb1 4.5/15,mb1mx4.4/21,mbtmp4.4/15,MS4.2/19, Ms1 4.2/19,ms1mx4.2/22,Error ellipse: s-maj=20.0km s-min=15.1km az=179.0*
*GCMT **27** 06:26:17.6±0.2,3518S×7864E,h19km±1km,MW5.0/77, Moment Tensor Solution. s37,c45; s77,c112; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.73±.15; $M_{\theta\theta}$-4.09±.14; $M_{\phi\phi}$4.82±.15; $M_{r\theta}$0.51±.30; $M_{\theta\phi}$-0.40±.12; $M_{\phi r}$0.36±.28; Best double couple: $M_0$4.52400×10^{16} NP1:ϕ_s313.00000°,δ81.00000°,λ-176.00000°. NP2: ϕ_s222.00000°,δ86.00000°,λ-9.00000°. Principal axes: T 4.8580, Plg3.0000°, Azm268.0000°; N -0.6670, Plg81.0000°, Azm19.0000°; P -4.1890, Plg9.0000°, Azm177.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **27** 06:26:17.6±0.3,3519S×7864E,h10km,mb4.6/4 Error ellipse: s-maj=9.5km s-min=7.2km az=182.0*
*BJI **27** 06:26:17.6,3520S×7860E,h10km,mB5.1,mb4.7,Ms4.5, Msz4.0*
ISC 27 06:26:18.0±0.4,3528S±009×7865E±009,h10km,n51, σ0§87/41,mb4.5/26,MS4.2/20,1D,Mid-Indian Ridge
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
NWAO Narrogin (SRO) 31.90 97 LR LR 06 42 16.9
comp=Z,1μm,21.1s,MS4.5,baz=278,slow=30
MAW Mawson 33.61 191 P **P 06 32 58.2 +0.1**
1.8nm,0.6s,mb4.2,baz=356,slow=6.8,SNR=4.3
MAW LR LR 06 43 51.8
comp=Z,480nm,19.3s,MS4.2,baz=26,slow=31
FITZ Fitzroy Crossi 44.90 80 *e*P **P 06 34 33.5 +0.6**
7.1nm,1.2s,mb4.4
FITZ Fitzroy Crossi 44.90 80 P **P 06 34 32.9 0.0**
4.2nm,1.1s,mb4.2,baz=202,slow=14,SNR=5.1
FITZ LR LR 06 51 47.4
comp=Z,296nm,18.2s,MS4.2,baz=258,slow=34
BOSA Boshof 45.34 263 P **P 06 34 36.1 -0.3**
6.4nm,0.8s,mb4.5,baz=140,slow=6.3,SNR=9.2
BOSA LR LR 06 49 15.2
comp=Z,634nm,21.7s,MS4.5,baz=115,slow=30
LBTB Lobatse 46.53 268 P **P 06 34 45.5 -0.2**
12nm,0.9s,mb4.8,baz=149,slow=5.8,SNR=13
SUR Sutherland 47.55 256 P **P 06 34 53.7 +0.1**
18nm,0.8s,mb5.1,baz=254,slow=12,SNR=14
BATI Kupang 47.89 70 LR LR 06 50 12.4
comp=Z,378nm,21.2s,MS4.3,baz=250,slow=30
KAPI Kappang 48.39 61 LR LR 06 53 04.5
comp=Z,143nm,18.6s,MS4.0,baz=177,slow=33
ASAR Alice Springs 48.92 92 P **P 06 35 04.2 -0.1**
1.9nm,0.8s,mb4.2,baz=239,slow=6.5,SNR=15
LSZ Lusaka 49.22 281 *e*P **P 06 35 06.5 -0.2**
LSZ pmax pmax
comp=Z,5.0nm,0.7s,mb4.7
LSZ Lusaka 49.22 281 *e*P **P 06 35 06.5 -0.2**
comp=Z,5.1nm,0.7s,mb4.7.
WRA Warramunga Arr 51.04 88 P **P 06 35 20.7 +0.2**
comp=Z,10nm,1.1s,mb4.7,baz=242,slow=7.2,SNR=21
WRA LR LR 06 55 04.2
comp=Z,355nm,18.8s,MS4.4,baz=280,slow=34
WB2 Warramunga Arr 51.05 88 *e*P **P 06 35 20.0 -0.5**
WRAB Tennant Creek 51.05 88 *e*P **P 06 35 19.4 -1.2**
KMBO Kilima Mbogo 51.33 302 P **P 06 35 23.1 +0.4**
comp=Z,2.3nm,0.9s,mb4.1,baz=100,slow=11,SNR=4.2
KMBO LR LR 06 54 01.1
comp=Z,127nm,18.7s,MS4.0,baz=165,slow=32
STKA Stephens Creek 51.77 105 P **P 06 35 25.3 -0.5**
comp=Z,5.6nm,1.0s,mb4.4,baz=274,slow=3.6,SNR=4.2
STKA LR LR 06 54 06.7
comp=Z,414nm,19.2s,MS4.5,baz=209,slow=32
VNDA Vanda 54.39 165 P **P 06 35 44.8 +0.3**
comp=Z,3.2nm,1.0s,mb4.2,baz=269,slow=9.0,SNR=12
VNDA LR LR 06 57 01.7
comp=Z,250nm,18.1s,MS4.3,baz=272,slow=34

QSPA South Pole Qui 54.87 180 P **P 06 35 48.6 +0.6**
comp=Z,12nm,1.0s,mb4.9,baz=276,slow=2.8,SNR=23
QIZ Qiongzhong 61.59 34 *e*P **P 06 36 38.0 +2.3**
QIZ XP sP 06 36 49.8 +10
QIZ S **S 06 45 02.0 +4.2**
QIZ LR LR
comp=N,152nm,22.1s,MS4.2
QIZ LR LR
comp=E,150nm,24.7s,MS4.2
QIZ LR LR
comp=Z,140nm,32.5s
GYA Guiyang 66.88 27 P **P 06 37 17.0 +6.8**
GYA AMB AMB
comp=Z,10.0nm,1.0s,mb4.8
KBL Kabul 70.04 352 *e*P **P 06 37 28.2 -1.6**
KBL pmax pmax
comp=Z,3.0nm,0.5s,mb4.5
KBL Kabul 70.04 352 *e*P **P 06 37 28.2 -1.6**
comp=Z,3.0nm,0.5s,mb4.5
WHN Wuhan 73.59 32 *e*P **P 06 37 55.0 +3.7**
XAN Xi'an 74.55 26 P **P 06 37 56.3 -0.5**
XAN AP pP 06 38 04.5 +4.4
XAN AMB AMB
comp=Z,3.0nm,0.8s,mb4.3
LZH Lanzhou 74.78 21 *e*P **P 06 38 04.5 +6.4**
LZH AMB AMB
comp=Z,16nm,1.2s,mb4.8
LZH AMB AMB
comp=Z,82nm,4.0s
PMSA Palmer Station 76.08 196 LR LR 07 10 14.5
comp=Z,174nm,18.4s,MS4.4,baz=159,slow=35
GTA Gaotai 76.85 17 *e*P **P 06 38 12.0 +2.2**
GTA AP pP 06 38 16.5 +3.4
GTA XP sP 06 38 19.0 +4.7
GTA AMB AMB
comp=Z,2.0nm,0.6s,mb4.2
NJ2 Nanjing 76.88 34 *e*P **P 06 38 10.3 +0.1**
NJ2 AMB AMB
comp=Z,20nm,0.8s,mb5.1
GNI Garni 81.31 334 *e*P **P 06 38 34.2 0.0**
GNI pmax pmax
comp=Z,5.0nm,1.7s
MKAR Makanchi Array 81.77 3 *i*P **P 06 38 37.5 +1.0**
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR Makanchi Array 81.77 3 P **P 06 38 35.0 -1.5**
MKAR LR LR 07 12 28.9
MKAR Makanchi Array 81.77 3 P **P 06 38 35.0 -1.5**
comp=Z,0.8nm,0.8s,mb3.7,baz=182,slow=8.5,SNR=5.5
MKAR LR LR 07 12 28.9
comp=Z,92nm,20.9s,MS4.1,baz=176,slow=34
KIV Kislovodsk 85.38 335 *e*P **P 06 38 55.0 -0.1**
KIV *e* 06 49 18.9
KIV pmax pmax
comp=Z,3.0nm,0.5s,mb4.7
KSRS Korea Array 85.61 37 LR LR 07 15 29.1
comp=Z,42nm,18.4s,MS3.9,baz=230,slow=34
KURK Kurchatov 85.63 360 *e*P **P 06 38 55.4 -0.7**
KURK pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
KURK Kurchatov 85.63 360 *e*P **P 06 38 55.4 -0.8**
comp=Z,4.9nm,1.0s,mb4.7
SONM Songino Array 86.39 18 P **P 06 38 59.2 -0.8**
comp=Z,0.8nm,0.7s,mb4.1,baz=204,slow=3.2,SNR=2.9
SONM LR LR 07 16 54.7
comp=Z,108nm,19.4s,MS4.3,baz=66,slow=35
ULN Ulaanbaatar 86.59 19 *e*P **P 06 39 00.6 -0.4**
TORD Torodi Ar. Bea 87.14 288 P **P 06 39 04.1 -0.4**
TORD LR LR 07 15 06.9
TORD Torodi Ar. Bea 87.14 288 P **P 06 39 04.1 -0.4**
comp=Z,2.1nm,1.0s,mb4.3,baz=98,slow=4.2,SNR=5.1
TORD LR LR 07 15 06.9
comp=Z,423nm,21.3s,MS4.8,baz=125,slow=34
ZAK Zakamensk 88.03 15 *e*P **P 06 39 11.6 +3.7**
ZAK pmax pmax
comp=Z,1.0nm,1.6s,mb3.8
DBIC Dimbokro 88.54 279 LR LR 07 14 16.5
comp=Z,271nm,20.1s,MS4.7,baz=108,slow=32
ZALV Zalesovo Beam 89.03 4 LR LR 07 16 10.6
comp=Z,51nm,21.3s,MS3.9,baz=158,slow=34
MJAR Matsushiro Arr 90.40 44 LR LR 07 18 57.7
comp=Z,72nm,18.6s,MS4.1,baz=195,slow=35
HIA Hailar 91.75 26 *e*P **P 06 39 25.2 -0.1**
ARU Arti 92.94 349 *d*P **P 06 39 32.7 +1.4**
ARU *e* 06 43 16.7
ARU *e*PPP 06 45 22.0
ARU *e*S SKSac 06 50 03.5 -0.5
ARU *e*SS SS 06 56 48.6 -2.4
ARU pmax pmax
comp=Z,6.0nm,1.5s,mb4.8
KEST Kesra 95.69 310 LR LR 07 21 44.3
comp=Z,23nm,18.8s,MS3.7,baz=282,slow=35
PLCA Paso Flores 99.22 203 P **P 06 40 00.0 +0.1**
comp=Z,2.2nm,0.9s,mb4.7,baz=180,slow=4.0,SNR=3.2
SCHQ Schefferville 149.21 320 PKPbc PKPbc 06 46 06.3 +0.3
comp=Z,2.1nm,0.7s,baz=93,slow=1.9,SNR=2.3
YKA Yellowknife Ar 151.53 13 PKPbc PKPbc 06 46 11.2 -0.1
comp=Z,1.4nm,1.0s,baz=323,slow=3.0,SNR=10
YKA PKPab PKPab 06 46 19.5 -0.4
comp=Z,2.7nm,0.9s,baz=340,slow=2.8,SNR=15

IDC 27 06:43:07.2±1.1,3272N×8995E,h0km,mb3.6/4,mb1 3.8/5, mb1mx3.5/21,mbtmp3.5/5,ML2.9/1,Error ellipse: s-maj=60.7km s-min=27.3km az=55.0,Xizang
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
MKAR Makanchi Array 15.23 340 Pn Pn 06 46 41.6 -1.7
0.1nm,0.3s,baz=156,slow=14,SNR=5.4
WRA Warramunga Arr 67.40 135 P P 06 54 04.3 -0.2
0.3nm,0.6s,baz=324,slow=6.2,SNR=7.2
ASAR Alice Springs 70.02 137 P P 06 54 21.4 +0.6
0.6nm,0.6s,baz=330,slow=6.2,SNR=9.9
TORD Torodi Ar. Bea 81.57 280 P P 06 55 27.1 -0.1
0.6nm,0.8s,baz=50,slow=3.6,SNR=4.2
YKA Yellowknife Ar 83.08 11 P P 06 55 34.0 -0.3
0.2nm,0.7s,baz=330,slow=5.7,SNR=4.1

*FUNV **27** 06:49:52.9,670N×7200W,h0km,MW4.4*
*ISCJB **27** 06:49:56.0±0.6,681N±004×7181W±003,h59km±6km, mb4.1/12,Error ellipse: s-maj=6.4km s-min=5.1km az=24.6*
*NEIC **27** 06:49:56.9±0.8,683N×7186W,h49km±8km,mb4.1/5, Error ellipse: s-maj=9.0km s-min=7.8km az=179.0*
*IDC **27** 06:49:56.6±1.6,683N×7193W,h46km±16km,mb3.8/8, mb1 4.1/13,mb1mx3.9/26,mbtmp4.1/13,ML4.3/3,MS2.8/5, Ms1 2.9/5,ms1mx2.7/29,Error ellipse: s-maj=16.1km s-min=14.4km az=96.0*
ISC 27 06:49:56.6±0.6,676N±004×7188W±003,h43km±7km,n57, σ1§11/63,mb4.1/12,1C-4D,Northern Colombia
Code Station Name Δ° AZ° Phase ID Time Res
Op ISC h m s ISC
CAPV Capacho 1.18 339 ||*e*P **Pn 06 50 15.8 -0.9**
CAPV *e*S **Sn 06 50 32.1 +0.4**
SOCV Socops 1.83 34 *e*P **Pn 06 50 26.4 +0.8**
SOCV *e*S **Sn 06 50 51.2 +3.7**
VIGV El Vigia 2.13 14 *e*P **Pn 06 50 30.4 +0.6**
VIGV *e*S **Sn 06 50 58.3 +3.2**
ELOV Elorza 2.40 84 *e*P **Pn 06 50 34.4 +1.0**
ELOV *e*S **Sn 06 51 05.3 +3.7**
SDV Santo Domingo 2.45 30 P **Pn 06 50 34.8 +0.6**
134nm,0.3s,baz=192,slow=7.8,SNR=835
SDV S **Sn 06 51 05.5 +2.6**
430nm,0.3s,baz=96,slow=21,SNR=15
ROSC El Rosal 3.08 232 P **Pn 06 50 44.2 +1.4**
21nm,0.3s,baz=97,slow=13,SNR=306
ROSC S **Sn 06 51 24.2 +5.8**
41nm,0.3s,baz=91,slow=22,SNR=3.7
SANV Sanarito 3.58 40 *e*P **Pn 06 50 50.0 +0.3**
SANV *e*S **Sn 06 51 32.9 +2.1**
QARV Quebrada Arrib 3.68 21 ||*i*P **Pn 06 50 51.5 +0.5**
QARV *e*S **Sn 06 51 34.6 +1.3**
CURV Curarigua 3.75 30 *e*P **Pn 06 50 52.5 +0.5**
VIRV Villa del Rosa 3.76 352 *e*P **Pn 06 50 50.8 -1.4**
VIRV *e*S **Sn 06 51 34.4 -0.7**
TEPV Terepaima 4.15 40 *e*P **Pn 06 50 58.0 +0.5**
DABV Dabajuro 4.32 16 *e*P **Pn 06 50 59.6 -0.3**
SIQV Siquisique 4.38 28 *e*P **Pn 06 51 01.2 +0.6**
BAUV El Baul 4.38 60 *e*P **Pn 06 51 00.2 -0.5**
PAYV Puerto Ayacuch 4.41 107 *e*P **Pn 06 51 01.0 -0.1**
PAYV *e*S **Sn 06 51 51.5 +0.3**

JACV Jacura 5.25 35 *e*P **Pn 06 51 13.4 +0.7**
TURV Turiamo 5.43 47 *e*P **Pn 06 51 14.8 -0.3**
CAOV Caicara del Or 5.55 84⇓*e*P **Pn 06 51 16.6 -0.1**
MERV Las Mercedes 6.06 66 *e*P **Pn 06 51 23.2 -0.5**
FUNV FUNVISIS 6.23 53 *e*P **Pn 06 51 26.1 +0.1**
BIRV Birongo 6.67 56 *e*P **Pn 06 51 31.7 -0.4**
CUPV Cepira 6.86 61⇓*i*P **Pn 06 51 34.4 -0.4**
PRGV PARIAGUAN 7.44 74⇓*e*P **Pn 06 51 42.0 -0.7**
PCRV Puerto La Cruz 7.93 64 *e*P **Pn 06 51 49.2 -0.3**
PCRV Puerto La Cruz 7.93 64 P **Pn 06 51 48.6 -0.9**
9.9nm,0.3s,baz=228,slow=6.6,SNR=41
PCRV S **Sn 06 53 19.9 +2.0**
6.4nm,0.3s,baz=198,slow=20,SNR=3.0
PCRV LR LR 06 54 28.1
comp=Z,36nm,21.6s,baz=357,slow=34
BCIP Isla Barro Col 8.23 287 *e*Pn **Pn 06 51 52.9 -0.7**
26nm,0.8s
GURV El Guri 8.79 83 *e*P **Pn 06 52 00.1 -1.1**
IBAV Isla La Blanqu 8.79 55 *e*P **Pn 06 51 59.9 -1.3**
GUNV Guanoco 9.47 68 *e*P **Pn 06 52 09.3 -1.2**
RIOV Rio Grande 10.07 82 *e*P **Pn 06 52 17.0 -1.8**
LUEV Luepa 10.40 94 *e*P **Pn 06 52 21.6 -1.6**
GRGR Grenville 11.41 61 *e*Pn **Pn 06 52 36.4 -0.8**
SDDR Presa de Saban 12.17 3 *e*Pn **Pn 06 52 47.2 -0.2**
20nm,0.7s
SJG San Juan 12.60 26 P **Pn 06 52 51.0 -2.3**
5.3nm,0.3s,baz=210,slow=12,SNR=23
SJG LR LR 06 58 33.0
comp=Z,82nm,18.1s,baz=72,slow=41
MTP Monte Pirata 12.85 28 *e*Pn **Pn 06 52 54.5 -2.2**
JTS JuntasAbangare 13.39 286 LR LR 06 58 37.3
comp=Z,80nm,19.1s,baz=111,slow=39
ATAH Atahualpa 15.13 206 P **Pn 06 53 29.4 +1.8**
0.3nm,0.3s,baz=77,slow=12,SNR=2.6
TGUH Tegucigalpa,Un 16.78 297 *e*Pn **Pn 06 53 50.3 +1.7**
24nm,1.0s
TEIG Tepich 20.79 312 P **P 06 54 33.0 -1.3**
8.4nm,0.7s,baz=130,slow=16,SNR=7.7
LPAZ La Paz 23.20 171 P **P 06 55 01.2 +1.3**
3.9nm,0.5s,mb4.1,baz=357,slow=11,SNR=20
SIV San Ignacio 25.01 155 P **P 06 55 16.4 -0.3**
2.3nm,0.7s,mb3.8,baz=334,slow=8.3,SNR=18
BDFB Brasilia 32.47 133 P **P 06 56 23.8 +0.6**
1.0nm,0.7s,mb3.7,baz=282,slow=20,SNR=3.3
CFAA Coronel Fontan 38.30 175 LR LR 07 12 51.4
comp=Z,6.4nm,20.0s,baz=143,slow=36
MNTX Cornudas Mount 39.91 313 *e*Pn **P 06 57 26.5 -0.2**
2.3nm,0.7s,mb4.0
LAZ Ladron 42.58 315 *e*P **P 06 57 49.0 +0.4**
SDCO Great Sand Dun 43.38 320 *e*P **P 06 57 54.7 -0.2**
1.1nm,0.9s,mb3.6
ISCO Idaho Springs 44.70 323 *e*P **P 06 58 06.4 +1.0**
1.8nm,0.9s,mb3.9
WUAZ Wupatki 46.14 314 *e*P **P 06 58 17.8 +0.8**
3.0nm,0.9s,mb4.2
ULM Lac du Bonnet 47.77 339 P **P 06 58 27.1 -2.4**
1.4nm,0.6s,mb4.2,baz=132,slow=4.7,SNR=2.8
YMR Madison River 50.80 325 *e*P **P 06 58 50.1 -2.6**
16nm,0.4s,mb5.3
YKA Yellowknife Ar 63.75 339 P **P 07 00 23.5 -0.2**
0.9nm,0.5s,mb4.1,baz=126,slow=6.8,SNR=40
DBIC Dimbokro 66.51 86 P **P 07 00 42.5 -0.1**
4.4nm,0.8s,mb4.6,baz=222,slow=9.3,SNR=5.5
TORD Torodi Ar. Bea 72.55 78 P **P 07 01 20.4 +0.6**
0.5nm,0.5s,mb3.7,baz=283,slow=6.8,SNR=12
NOA NORSAR Array B 80.78 29 LR LR 07 32 26.9
comp=Z,8.0nm,19.2s,baz=275,slow=32
VNA2 Neumayer--Watz 88.27 163 *e* **P 07 02 43.8 +0.8**
baz=310,slow=5.5
VNA2 *e* 07 02 46.4
VNA2 *e* 07 02 49.4
VNA2 *e* 07 02 51.4
VNA2 *e* pP 07 02 55.2 -0.9
ASAR Alice Springs 150.06 233 PKPbc PKPbc 07 09 42.6 -0.8
0.5nm,0.5s,baz=121,slow=3.2,SNR=7.8
WRA Warramunga Arr 151.38 240 PKPbc PKPbc 07 09 45.9 -0.7
1.6nm,0.8s,baz=107,slow=2.4,SNR=13

IDC 27 06:55:18.4±1.8,2350S×11566W,h0km,mb3.7/3, mb1 4.1/3,mb1mx3.8/15,mbtmp3.7/3,MS3.9/6,Ms1 3.9/6, ms1mx3.5/22,Error ellipse: s-maj=109.5km s-min=33.1km az=57.0,Southern East Pacific Rise

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PPT	**Papeete**	**32.26**	**274**	LR	LR	07 11 16.8	
comp=Z,159nm,21.5s,baz=112,slow=30							
ATAH	**Atahualpa**	**39.35**	**71**	LR	LR	07 14 43.9	
comp=Z,105nm,21.6s,baz=64,slow=30							
RAR	**Rarotonga**	**40.75**	**264**	LR	LR	07 14 51.8	
comp=Z,259nm,20.4s,baz=64,slow=29							
PLCA	**Paso Flores**	**41.40**	**126**	P	P	07 03 06.5	0.0
1.1nm,0.8s,baz=297,slow=6.8,SNR=4.4							
LPAZ	**La Paz**	**45.10**	**90**	LR	LR	07 17 40.8	
comp=Z,122nm,19.9s,baz=336,slow=30							
CPUP	**Villa Florida**	**52.59**	**106**	LR	LR	07 21 58.8	
comp=Z,150nm,21.9s,baz=199,slow=30							
NVAR	**Mina Array Bea**	**61.65**	**358**	P	P	07 05 38.5	+0.6
1.4nm,0.9s,baz=190,slow=8.6,SNR=7.2							
VNDA	**Vanda**	**65.60**	**194**	LR	LR	07 31 14.4	
comp=Z,95nm,18.1s,baz=231,slow=33							
YKA	**Yellowknife Ar**	**85.69**	**0**	P	P	07 07 58.1	-0.5
0.7nm,0.8s,baz=173,slow=5.5,SNR=6.2							
AKASG	**Malin Array Be**	**141.58**	**36**	PKP	PKPdf	07 14 50.8	-0.6
0.8nm,0.7s,baz=289,slow=3.0,SNR=4.8							
KMBO	**Kilima Mbogo**	**144.04**	**129**	PKP	PKPdf	07 14 57.2	+0.3
2.1nm,0.6s,baz=187,slow=23,SNR=4.6							
ZALV	**Zalesovo Beam**	**145.91**	**338**	PKPbc	PKPbc	07 14 59.0	-0.4
0.6nm,0.3s,baz=25,slow=3.8,SNR=2.2							
MKAR	**Makanchi Array**	**152.64**	**333**	PKPbc	PKPbc	07 15 16.5	-0.3
0.6nm,0.6s,baz=36,slow=0.9,SNR=6.4							

*ISCJB **27** 07:00:07.4±0.8,2371S×004×679W±0.1,h102km±15km, mb4.3/2,Error ellipse: s-maj=17.0km s-min=6.4km az=13.7*
*IDC **27** 07:00:08.7±2.1,2365S×6773W,h94km±19km,mb4.1/3, mb1 4.0/7,mb1mx3.6/18,mbtmp4.0/7,Error ellipse: s-maj=41.9km s-min=15.7km az=108.0*
*GUC **27** 07:00:11.2±0.8,2363S×6837W,h130km,ML3.9*
*NEIC **27** 07:00:11.2,2363S×6837W,h130km,MG3.9(GUC),After GUC.*
ISC 27 07:00:08.8±0.7,2368S±004×6793W±009,h100km±13km, n17,σ0°96/24,mb4.3/2,3C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.39**	**320**	*e*Pn	**Pn**	**07 00 34.6**	**+0.9**
LVC				*e*Sn	**Sn**	**07 00 52.6**	**0.0**
CEN1	**Los Morros**	**2.10**	**277**	⇓*i*P	**Pn**	**07 00 43.7**	**+1.0**
CEN1				*i* S	**Sn**	**07 01 08.2**	**-0.3**
CEN1				AML	AML	07 01 14.8	
comp=E,650nm,0.6s							
ANCH	**Antofagasta**	**2.27**	**269**	⇑*i*P	**Pn**	**07 00 44.7**	**-0.2**
ANCH				*i* S	**Sn**	**07 01 09.4**	**-3.1**
ANCH	**Antofagasta**	**2.27**	**269**	⇑*i*P	**Pn**	**07 00 44.7**	**-0.2**
ANCH				*i* S	**Sn**	**07 01 09.4**	**-3.1**
ANCH				AML	AML	07 01 15.6	
comp=N,994nm,0.5s							
CPN1	**Cerro Paranal**	**2.44**	**247**	⇑*i*P	**Pn**	**07 00 47.8**	**+0.7**
CPN1				*i* S	**Sn**	**07 01 15.7**	**-0.9**
CPN1				AML	AML	07 01 23.2	
comp=N,1μm,0.6s							
CPCH	**Copiapo**	**4.26**	**210**	*e*P	**Pn**	**07 01 11.9**	**+0.4**
CPCH				*i* S	**Sn**	**07 02 00.4**	**+0.2**
VACH	**Vallenar**	**5.50**	**207**	*i* S	**Sn**	**07 02 29.2**	**-0.9**
LPAZ	**La Paz**	**7.36**	**359**	*e*Pn	**Pn**	**07 01 53.7**	**+0.1**
comp=N,13nm,0.4s							
LPAZ	**La Paz**	**7.36**	**359**	P	**Pn**	**07 01 54.0**	**+0.4**
comp=N,4.9nm,0.3s,baz=189,slow=5.9,SNR=145							
CFAA	**Coronel Fontan**	**7.90**	**182**	P	**Pn**	**07 02 02.6**	**+1.7**
comp=N,1.8nm,0.3s,baz=359,slow=13,SNR=128							
CFAA				S	**Sn**	**07 03 27.4**	**-1.1**
comp=N,0.2nm,0.3s,baz=270,slow=19,SNR=2.8							
SIV	**San Ignacio**	**10.01**	**41**	P	**Pn**	**07 02 28.6**	**-1.1**
comp=N,3.2nm,0.3s,baz=239,slow=11,SNR=30							
SIV				S	**Sn**	**07 04 13.5**	**-6.5**
comp=N,0.7nm,0.3s,baz=156,slow=20,SNR=3.7							
PLCA	**Paso Flores**	**17.14**	**187**	P	**Pn**	**07 04 03.8**	**+1.8**
comp=N,0.2nm,0.3s,baz=14,slow=14,SNR=5.6							
BDFB	**Brasilia**	**20.38**	**71**	P	**P**	**07 04 36.3**	**-1.4**
comp=N,9.3nm,0.8s,baz=236,slow=18,SNR=26							
DBIC	**Dimbokro**	**68.52**	**72**	P	**P**	**07 11 00.8**	**-0.1**
comp=N,4.2nm,0.9s,mb4.3,baz=239,slow=5.9,SNR=6.4							
TOA0	**Torodi Ar. Sit**	**77.25**	**69**	*e*P	**P**	**07 11 52.7**	**+0.1**
TORD	**Torodi Ar. Bea**	**77.25**	**69**	P	**P**	**07 11 52.5**	**0.0**
comp=N,5.9nm,0.7s,mb4.4,baz=259,slow=5.7,SNR=45							
MKAR	**Makanchi Array**	**146.82**	**39**	PKPbc	PKPbc	07 19 37.5	-1.7
comp=N,0.9nm,0.7s,baz=321,slow=3.7,SNR=7.8							

*NEIC **27** 07:38:57.6±0.5,970S×15509E,h10km,mb4.6/4,Error ellipse: s-maj=19.3km s-min=10.9km az=130.0*
*ISCJB **27** 07:39:00.1±0.6,97S±0.1×1550E±0.1,h33km,mb4.1/13, MS3.6/7,Error ellipse: s-maj=24.4km s-min=13.2km az=38.1*
*IDC **27** 07:39:07.4±11.0,972S×15488E,h81km±94km,mb3.7/10, mb1 3.9/10,mb1mx3.9/14,mbtmp3.7/10,MS3.7/9, Ms1 3.7/9,ms1mx3.4/21,Error ellipse: s-maj=42.7km s-min=26.0km az=77.0*
ISC 27 07:39:01.9±0.6,97S±0.1×1550E±0.1,h35km,n26,σ0°71/17, mb4.1/13,MS3.6/7,D'Entrecasteaux Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.87**	**87**	LR	LR	07 41 38.4	
comp=Z,483nm,21.0s,baz=359,slow=30							
CTA	**Charters Tower**	**13.35**	**218**	LR	LR	07 46 34.3	
comp=Z,196nm,19.2s,baz=43,slow=34							
WB2	**Warramunga Arr**	**22.40**	**241**	*e*P	**P**	**07 43 57.3**	**-0.2**
WRA	**Warramunga Arr**	**22.41**	**241**	P	**P**	**07 43 57.5**	**-0.1**
3.0nm,0.7s,mb3.9,baz=66,slow=9.7,SNR=28							
WRA				PcP	PcP	07 47 51.6	-0.2
0.8nm,0.9s,baz=59,slow=2.2,SNR=6.5							
WRA				LR	LR	07 52 23.8	
comp=Z,161nm,19.7s,MS3.5,baz=185,slow=36							
ASAR	**Alice Springs**	**24.48**	**233**	P	**P**	**07 44 18.2**	**+0.3**
5.8nm,0.9s,mb4.0,baz=64,slow=9.2,SNR=31							
STKA	**Stephens Creek**	**25.34**	**207**	*e*P	**P**	**07 44 24.5**	**-1.0**
5.4nm,0.8s,mb4.1							
STKA	**Stephens Creek**	**25.34**	**207**	P	**P**	**07 44 26.4**	**+0.9**
7.2nm,0.8s,mb4.2,baz=16,slow=12,SNR=10.0							
STKA				LR	LR	07 54 04.3	
comp=Z,167nm,18.2s,MS3.6,baz=25,slow=36							
FITZ	**Fitzroy Crossi**	**29.68**	**250**	P	**P**	**07 45 04.9**	**+0.3**
1.5nm,0.9s,mb3.7,baz=58,slow=13,SNR=3.5							
FITZ				LR	LR	07 56 29.9	
comp=Z,94nm,21.8s,MS3.4,baz=77,slow=35							
BATI	**Kupang**	**30.88**	**266**	LR	LR	07 56 32.9	
comp=Z,201nm,21.1s,MS3.8,baz=111,slow=34							
AFI	**Afiamalu**	**32.75**	**101**	LR	LR	07 55 55.2	
comp=Z,93nm,19.2s,MS3.5,baz=262,slow=31							
NWAO	**Narrogin (SRO)**	**41.77**	**231**	LR	LR	08 03 42.3	
comp=Z,133nm,21.1s,MS3.8,baz=25,slow=35							
PPT	**Papeete**	**54.25**	**105**	LR	LR	08 07 40.8	
comp=Z,116nm,18.2s,MS4.0,baz=357,slow=32							
VNDA	**Vanda**	**67.89**	**178**	P	**P**	**07 49 56.2**	**-0.2**
VNDA	**Vanda**	**67.89**	**178**	P	**P**	**07 49 56.2**	**-0.2**
0.3nm,0.8s,mb3.4,baz=341,slow=9.0,SNR=4.4							
SONM	**Songino Array**	**71.62**	**328**	P	**P**	**07 50 19.7**	**0.0**
0.8nm,0.6s,mb3.8,baz=130,slow=5.0,SNR=4.2							
QSPA	**South Pole Qui**	**80.29**	**180**	*e*P	**P**	**07 51 08.6**	**-0.2**
5.0nm,0.7s,mb4.5							
MAW	**Mawson**	**81.93**	**203**	P	**P**	**07 51 17.5**	**-0.1**
2.4nm,0.6s,mb4.3,baz=97,slow=8.2,SNR=5.1							
MKAR	**Makanchi Array**	**85.44**	**319**	P	**P**	**07 51 36.1**	**+0.2**
0.2nm,0.3s,mb3.7,baz=86,slow=5.9,SNR=3.6							
COLA	**College**	**85.58**	**21**	*e*P	**P**	**07 51 33.9**	**-2.3**
4.9nm,0.9s,mb4.7							
EGAK	**Eagle**	**87.99**	**23**	*e*P	**P**	**07 51 48.3**	**+0.4**
4.6nm,0.9s,mb4.7							
NVAR	**Mina Array Bea**	**93.37**	**52**	P	**P**	**07 52 14.8**	**+1.2**
0.8nm,1.0s,mb4.1,baz=232,slow=7.5,SNR=5.6							
YKA	**Yellowknife Ar**	**98.70**	**28**	P	**P**	**07 52 37.5**	**+0.2**
YKA	**Yellowknife Ar**	**98.70**	**28**	P	**P**	**07 52 37.5**	**+0.3**
0.2nm,0.6s,mb3.8,baz=272,slow=4.6,SNR=3.9							
GERES	**GERESS Array B**	**129.35**	**328**	PKP	PKPdf	07 58 06.8	0.0
0.3nm,0.6s,baz=45,slow=5.8,SNR=4.5							
BDFB	**Brasilia**	**146.02**	**138**	PKPbc	PKPbc	07 58 38.5	-0.6
1.7nm,0.7s,baz=252,slow=3.2,SNR=11							
TORD	**Torodi Ar. Bea**	**153.64**	**280**	PKPbc	PKPbc	07 58 56.4	-1.7
1.2nm,0.9s,baz=85,slow=1.3,SNR=4.5							

*IDC **27** 07:50:24.9±0.8,298N×128.14E,h0km,mb3.9/8,mb1 4.1/8, mb1mx3.9/17,mbtmp3.9/8,MS3.7/2,Ms1 3.6/2, ms1mx3.0/19,Error ellipse: s-maj=58.3km s-min=15.3km az=81.0*
*ISCJB **27** 07:50:34.4±4.8,30N±0.1×128.1E±0.4,h97km±48km, mb3.9/9,Error ellipse: s-maj=61.6km s-min=15.6km az=173.8*
*NEIC **27** 07:50:36.0±4.1,295N×128.14E,h96km±40km,mb4.1/3, Error ellipse: s-maj=45.0km s-min=14.6km az=83.0*
ISC 27 07:50:35.4±4.5,30N±0.1×1281E±0.4,h89km±45km,n13, σ0°72/12,mb3.9/9,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**16.14**	**165**	*e*P	**Pn**	**07 54 18.3**	**+1.2**
4.8nm,0.5s							
FITZ	**Fitzroy Crossi**	**21.07**	**187**	P	**P**	**07 55 11.1**	**-1.4**
0.6nm,0.5s,mb3.2,baz=19,slow=15,SNR=3.8							
WRAB	**Tennant Creek**	**23.55**	**165**	*e*P	**P**	**07 55 37.6**	**-0.2**
2.9nm,0.4s,mb4.0							
WRA	**Warramunga Arr**	**23.56**	**165**	P	**P**	**07 55 37.3**	**-0.6**
3.9nm,0.7s,mb3.9,baz=345,slow=11,SNR=117							
WB2	**Warramunga Arr**	**23.56**	**165**	*e*P	**P**	**07 55 37.8**	**-0.1**
ASAR	**Alice Springs**	**27.05**	**168**	P	**P**	**07 56 09.5**	**0.0**
0.9nm,0.5s,mb3.6,baz=355,slow=8.0,SNR=23							
KSRS	**Korea Array**	**34.33**	**360**	P	**P**	**07 57 13.4**	**-0.1**
0.5nm,0.3s,mb3.9,baz=181,slow=8.2,SNR=3.8							
MJAR	**Matsushiro Arr**	**34.69**	**14**	P	**P**	**07 57 15.9**	**-0.7**
0.4nm,0.3s,mb3.7,baz=194,slow=9.8,SNR=3.7							
STKA	**Stephens Creek**	**36.93**	**161**	*e*P	**P**	**07 57 35.5**	**-0.3**
3.7nm,0.3s,mb4.8							
STKA	**Stephens Creek**	**36.93**	**161**	P	**P**	**07 57 36.2**	**+0.4**
4.9nm,0.3s,mb4.9,baz=342,slow=7.1,SNR=34							
STKA				LR	LR	08 12 57.2	
comp=Z,88nm,18.2s,baz=26,slow=37							
MKAR	**Makanchi Array**	**58.99**	**325**	P	**P**	**08 00 26.4**	**+0.7**
1.4nm,0.7s,mb4.1,baz=127,slow=7.7,SNR=14							
VNDA	**Vanda**	**82.49**	**173**	P	**P**	**08 02 48.5**	**+1.0**
0.4nm,0.5s,mb3.5,baz=313,slow=7.6,SNR=7.5							
FINES	**FINESS Array B**	**93.17**	**332**	LR	LR	08 48 03.6	
comp=Z,31nm,19.3s,baz=22,slow=37							

*ISCJB **27** 07:55:57.4±0.2,376N±003×7560W±003,h16km,mb4.6/63, MS4.1/13,Error ellipse: s-maj=4.7km s-min=4.4km az=33.2*
*BJI **27** 07:55:58.6,370N×7560W,h15km,mB5.1,Ms5.2,Msz4.6*
*NEIC **27** 07:55:58.7±0.2,371N×7562W,mb4.7/51,ML4.9(RSNC), Error ellipse: s-maj=5.4km s-min=4.6km az=212.0*
NEIC Felt at Armenia and in Risaralda, Tolima and Valle del Cauca.
*IDC **27** 07:56:03.6±1.6,374N×7555W,h62km±14km,mb4.0/16, mb1 4.2/21,mb1mx4.2/25,mbtmp4.2/21,MS3.7/14, Ms1 3.7/14,ms1mx3.5/28,Error ellipse: s-maj=14.0km s-min=11.3km az=99.0*
ISC 27 07:55:59.5±0.2,379N±003×7553W±003,h17km, h17km±1.2km:pP-P,n423,σ0°79/397,mb4.6/63,MS4.1/13, 100C-82D,Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRAC	**Prado**	**0.64**	**99**	⇓*i*P	**Pg**	**07 56 13.8**	**+1.8**
PRAC				*e*S	**Sg**	**07 56 24.6**	**+4.1**
TOLC	**Tolima**	**0.81**	**13**	*e*P	**Pb**	**07 56 13.8**	**-1.5**
TOLC				*e*S	**Sb**	**07 56 25.4**	**-0.5**
ROSC	**El Rosal**	**1.60**	**48**	⇑*e*Pn	**Pn**	**07 56 30.1**	**+3.1**
ROSC				*e*Sn	**Sn**	**07 56 51.1**	**+3.9**
ROSC	**El Rosal**	**1.60**	**48**	P	**Pn**	**07 56 30.2**	**+3.2**
226nm,0.3s,baz=263,slow=5.7,SNR=310							
ROSC				S	**Sn**	**07 56 51.3**	**+4.2**
1μm,0.3s,baz=119,slow=21,SNR=15							
MALC	**Bahia Malaga**	**1.81**	**277**	⇓*i*P	**Pn**	**07 56 29.6**	**-0.4**
MALC				*e*S	**Sn**	**07 56 53.3**	**+0.8**
FLOC	**Florencia**	**2.26**	**183**	⇑*i*P	**Pn**	**07 56 36.4**	**+0.2**
FLOC				*e*S	**Sn**	**07 57 07.0**	**+3.3**
BARC	**Barichara**	**3.68**	**39**	*e*P	**Pn**	**07 56 58.9**	**+3.3**
OCAC	**Ocana**	**4.94**	**26**	*e*P	**Pn**	**07 57 15.3**	**+2.5**
BCIP	**Isla Barro Col**	**6.84**	**322**	*e*Pn	**Pn**	**07 57 38.5**	**-0.7**
SDV	**Santo Domingo**	**7.02**	**44**	*e*Pn	**Pn**	**07 57 44.7**	**+3.1**
SDV	**Santo Domingo**	**7.02**	**44**	P	**Pn**	**07 57 44.3**	**+2.8**
5.5nm,0.3s,baz=223,slow=7.1,SNR=83							
SDV				S	**Sn**	**07 59 08.2**	**+7.1**
6.7nm,0.3s,baz=245,slow=19,SNR=2.9							
SDV				LR	LR	08 00 59.5	
comp=Z,762nm,18.5s,baz=87,slow=42							
URSC	**Urasca**	**10.15**	**307**	*e*P	**Pn**	**07 58 26.9**	**+2.3**
LCR2	**La Lucha 2**	**10.28**	**306**	*e*P	**Pn**	**07 58 28.5**	**+2.2**
PRS1	**Puriscal**	**10.67**	**306**	*e*P	**Pn**	**07 58 31.4**	**-0.2**
ATAH	**Atahualpa**	**11.10**	**195**	P	**Pn**	**07 58 40.3**	**+2.8**
1.6nm,0.3s,baz=10,slow=7.5,SNR=17							
JTS	**JuntasAbangare**	**11.36**	**305**	P	**Pn**	**07 58 43.9**	**+2.7**
0.3nm,0.3s,baz=72,slow=9.6,SNR=3.3							
JTS				LR	LR	08 03 08.8	
comp=Z,553nm,18.1s,baz=132,slow=37							
PCRV	**Puerto La Cruz**	**12.53**	**59**	P	**Pn**	**07 59 00.4**	**+3.2**
1.6nm,0.3s,baz=221,slow=5.5,SNR=8.1							
PCRV				LR	LR	08 04 40.1	
comp=Z,688nm,21.3s,baz=38,slow=41							
TGUH	**Tegucigalpa,Un**	**15.44**	**312**	*e*Pn	**Pn**	**07 59 36.9**	**+0.3**
SDDR	**Presa de Saban**	**15.66**	**15**	*e*Pn	**Pn**	**07 59 42.6**	**+3.2**
46nm,0.6s							
AOPR	**Arecibo Observ**	**16.82**	**30**	*e*Pn	**Pn**	**07 59 56.6**	**+2.2**
SJG	**San Juan**	**16.94**	**32**	*e*Pn	**Pn**	**07 59 55.7**	**-0.1**
17nm,0.8s							
SJG	**San Juan**	**16.94**	**32**	P	**Pn**	**07 59 57.1**	**+1.3**
0.9nm,0.3s,baz=232,slow=12,SNR=8.3							
CPD	**Cerro la Pandu**	**17.00**	**33**	*e*Pn	**Pn**	**07 59 57.5**	**+0.9**
HUMP	**Col San Antoni**	**17.12**	**33**	*e*Pn	**Pn**	**08 00 00.5**	**+2.3**
CBYP	**Canovanas**	**17.23**	**33**	*e*P	**Pn**	**08 00 02.2**	**+2.7**
ARE	**Arequipa**	**20.52**	**169**	*e*P	**P**	**08 00 39.0**	**+2.0**
TEIG	**Tepich**	**20.52**	**324**	P	**P**	**08 00 37.0**	**-0.1**
8.0nm,0.9s,baz=151,slow=13,SNR=3.9							
LPAZ	**La Paz**	**21.25**	**160**	*e*P	**P**	**08 00 43.6**	**-1.3**
9.5nm,0.7s,mb4.2							
LPAZ	**La Paz**	**21.25**	**160**	P	**P**	**08 00 44.2**	**-0.7**
7.5nm,0.8s,baz=336,slow=11,SNR=40							
LPAZ				LR	LR	08 10 13.5	
comp=Z,38nm,20.1s,baz=157,slow=40							
SIV	**San Ignacio**	**24.31**	**144**	P	**P**	**08 01 16.3**	**0.0**
30nm,0.8s,mb4.8,baz=326,slow=10,SNR=118							
LVC	**Limon Verde**	**27.03**	**166**	*e*P	**P**	**08 01 42.0**	**+1.1**
23nm,0.8s,mb4.8							
CPCT	**Cooper Cave**	**32.58**	**346**	*e*P	**P**	**08 02 30.6**	**+0.5**
PLAL	**Pickwick Lake**	**33.15**	**341**	*e*P	**P**	**08 02 34.7**	**-0.3**
12nm,1.2s,mb4.7							
PLAL				*e*PcP	PcP	08 05 16.4	-1.5
BDFB	**Brasilia**	**33.38**	**126**	P	**P**	**08 02 37.2**	**-0.1**
1.9nm,0.8s,mb4.1,baz=278,slow=18,SNR=7.0							
BDFB				LR	LR	08 16 49.7	
comp=Z,109nm,19.8s,MS3.6,baz=284,slow=37							
CPUP	**Villa Florida**	**34.74**	**151**	LR	LR	08 17 58.2	
comp=Z,258nm,18.1s,MS4.0,baz=318,slow=38							
MIAR	**Mount Ida**	**34.89**	**333**	*e*P	**P**	**08 02 48.9**	**-1.3**
4.8nm,0.8s,mb4.5							
JCT	**Junction City**	**35.07**	**322**	*e*P	**P**	**08 02 51.4**	**-0.4**
11nm,1.4s,mb4.6							
PARMO	**Parma**	**35.23**	**340**	*e*P	**P**	**08 02 52.8**	**-0.2**
USIN	**University of**	**35.78**	**343**	*e*P	**P**	**08 02 58.1**	**+0.4**
24nm,0.6s,mb5.3							
CFAA	**Coronel Fontan**	**35.88**	**169**	LR	LR	08 19 49.8	
comp=Z,14nm,18.5s,baz=168,slow=40							
SIUC	**Southern Illin**	**36.01**	**341**	*e*P	**P**	**08 02 59.6**	**-0.1**
13nm,0.8s,mb4.9							
BLO	**Bloomington**	**36.61**	**346**	*e*P	**P**	**08 03 05.1**	**+0.3**
15nm,0.6s,mb5.0							
FVM	**French Village**	**36.66**	**340**	*e*P	**P**	**08 03 03.7**	**-1.5**
13nm,0.7s,mb4.9							
FVM				*e*pP	pP	08 03 08.2	-2.4
ACSO	**Alum Creek Sta**	**36.90**	**350**	*e*P	**P**	**08 03 13.7**	**+6.5**
17nm,1.3s,mb4.7							
CCM	**Cathedral Cave**	**37.00**	**339**	*e*P	**P**	**08 03 06.6**	**-1.6**
8.8nm,0.7s,mb4.7							
CCM				*e*pP	pP	08 03 10.5	-3.1
CCM				*e*PcP	PcP	08 05 27.4	-1.6
CCM				*e*pPcP		08 05 32.6	
WMOK	**Wichita Mounta**	**37.60**	**328**	*e*P	**P**	**08 03 11.7**	**-1.6**
10.0nm,0.9s,mb4.5							
WMOK				*e*pP	pP	08 03 15.9	-2.8
WMOK				*e*PcP	PcP	08 05 30.1	-0.9
WMOK				*i* ScP	ScP	08 09 17.9	+0.1
ALLY	**Alegheny Colle**	**37.92**	**354**	*e*P	**P**	**08 03 17.0**	**+1.1**
10.0nm,0.6s,mb4.7							
HDIL	**Hopedale**	**38.65**	**343**	*e*P	**P**	**08 03 20.8**	**-1.3**
9.6nm,0.6s,mb4.7							
AMTX	**Amarillo**	**39.31**	**325**	*e*P	**P**	**08 03 26.8**	**-0.9**
11nm,0.7s,mb4.7							
MNTX	**Cornudas Mount**	**39.46**	**318**	*e*P	**P**	**08 03 28.4**	**-0.6**
9.5nm,1.0s,mb4.5							
MNTX				*e*PcP	PcP	08 05 35.3	-1.6
KSU1	**Kansas State U**	**40.03**	**334**	*e*P	**P**	**08 03 32.2**	**-1.

U18A	Rough Rock, Ch baz=45	45.30 320	⇓P	P	08 04 16.6 +0.1
SMCO	Snowmass 5.0nm,0.8s,mb4.4	45.33 325	eP	P	08 04 17.6 +0.9
Y15A	Casa Rosa Ranc baz=46,SNR=5.8	45.52 316	⇓P	P	08 04 18.7 +0.4
PV01	Paradox Valley	45.57 323	eP	P	08 04 19.1 +0.5
WUAZ	Wupatki 17nm,0.9s,mb5.0	45.74 318	eP	P	08 04 20.2 +0.2
WUAZ			ePcP	PcP	08 05 57.1 -0.6
WUAZ	Wupatki baz=46	45.74 318	⇓P	P	08 04 20.5 +0.5
X15A	Humboldt baz=46,SNR=24	45.75 316	⇑P	P	08 04 20.6 +0.6
U16A	Tuba City baz=46	45.95 319	⇑P	P	08 04 22.0 +0.4
Y14A	Wickenburg baz=46,SNR=6.2	45.98 315	P	P	08 04 22.1 +0.2
PHWY	Pilot Hill	45.99 328	eP	P	08 04 22.3 +0.4
PV10	Paradox Valley	46.01 323	eP	P	08 04 22.2 +0.2
W15A	Williams baz=46	46.15 317	⇓P	P	08 04 24.0 +0.8
X14A	Yava baz=46,SNR=8.5	46.19 316	⇑P	P	08 04 24.0 +0.5
V15A	Kaibab Nationa baz=46,SNR=23	46.45 318	⇓P	P	08 04 26.6 +0.9
Y13A	Salome baz=46	46.50 315	⇑P	P	08 04 26.4 +0.4
T16A	Glen Canyon Da baz=47,SNR=12	46.69 320	P	P	08 04 28.1 +0.7
W14A	Seligman baz=47,SNR=7.6	46.73 317	P	P	08 04 28.5 +0.7
GLA	Glamis 11nm,1.3s,mb4.6	46.83 313	eP	P	08 04 29.1 +0.4
U15A	North Rim baz=47	46.88 319	⇓P	P	08 04 29.8 +0.8
X13A	Yucca baz=47	46.91 316	⇓P	P	08 04 29.7 +0.5
Y12C	Blythe baz=47,SNR=5.4	46.96 314	P	P	08 04 30.2 +0.6
PDMCI	Parker Dam,Lak baz=47	46.97 315	⇓P	P	08 04 30.1 +0.4
V14A	Boquillas Ranc baz=47,SNR=5.4	46.98 317	⇓P	P	08 04 30.6 +0.9
RWWY	Rawlins 14nm,0.9s,mb4.9	47.19 328	eP	P	08 04 31.9 +0.6
W13A	Hualapai Mount baz=47	47.22 316	⇑P	P	08 04 32.4 +0.8
T15A	Red Dirt Ranch baz=47,SNR=14	47.28 319	P	P	08 04 32.8 +0.7
SRU	San Rafael	47.37 323	eP	P	08 04 32.8 +0.1
U14A	Mt Trumbull baz=48	47.46 318	⇑P	P	08 04 34.2 +0.7
BC3	Big Chuckw Mtn baz=48	47.58 314	⇑P	P	08 04 34.8 +0.4
IRM	Iron Mountain baz=48,SNR=11	47.62 314	⇑P	P	08 04 35.2 +0.5
AGMN	Agassiz Refuge 7.7nm,0.8s,mb4.8	47.65 342	eP	P	08 04 33.8 -0.9
S15A	Panguitch baz=48	47.65 320	⇑P	P	08 04 35.6 +0.7
V13A	Grand Canyon W baz=48	47.69 317	⇑P	P	08 04 35.7 +0.4
T14A	Hurricane baz=48	47.76 319	⇑P	P	08 04 36.6 +0.8
TMUT	Trail Mountain	47.90 322	eP	P	08 04 37.6 +0.8
MONP	Monument Peak baz=48	47.92 312	⇑P	P	08 04 37.4 +0.3
W12A	Cal Nev Ari baz=48	48.01 316	⇑P	P	08 04 38.3 +0.6
MSU	Marysvale	48.02 321	eP	P	08 04 38.3 +0.5
LDFC	Landfair	48.06 315	eP	P	08 04 39.4 +1.2
BELC	Belle Mtn. baz=48,SNR=11	48.15 314	⇑P	P	08 04 38.8 -0.1
S14A	Cedar City baz=48,SNR=5.2	48.22 320	⇓P	P	08 04 39.5 +0.2
V12A	Nelson baz=48,SNR=8.8	48.22 316	P	P	08 04 39.4 0.0
CCUT	Cedar City	48.22 319	eP	P	08 04 39.7 +0.3
CCUT			ePcP	PcP	08 06 06.7 +0.3
T13A	Saint George baz=48,SNR=9.0	48.28 318	P	P	08 04 40.5 +0.6
PFO	Pinyon Flat Ob baz=48	48.29 313	⇑P	P	08 04 39.8 -0.2
GMRC	Granite Mounta baz=48,SNR=5.0	48.30 315	⇑P	P	08 04 40.2 +0.3
ARUT	Antelope Range	48.41 319	eP	P	08 04 41.2 +0.4
Q15A	Fillmore baz=48	48.44 321	⇑P	P	08 04 41.6 +0.5
S13A	Holt Ranch, En baz=49,SNR=40	48.56 319	P	P	08 04 43.0 +1.0
MPU	Maple Canyon	48.61 323	eP	P	08 04 42.3 0.0
DAU	Daniels Canyon	48.63 324	eP	P	08 04 43.2 +0.7
T12A	Moapa baz=49	48.66 317	⇑P	P	08 04 43.4 +0.6
V11A	Goodsprings baz=49,SNR=7.8	48.68 316	P	P	08 04 43.4 +0.5
HEC	Hector,Ludlow baz=49,SNR=6.2	48.80 314	⇑P	P	08 04 44.1 +0.2
MURC	Murrieta baz=49	48.83 313	⇓P	P	08 04 44.4 +0.3
NLU	North Lily Min	48.84 323	eP	P	08 04 44.9 +0.9
SHPR	Sheep Range	48.84 317	eP	P	08 04 44.7 +0.5
JLU	Jordanelle	48.86 324	eP	P	08 04 44.2 -0.1
JLU			epP	pP	08 04 49.3 -0.5
CTU	Camp Tracy	49.10 324	eP	P	08 04 46.4 +0.3
BW06	Boulder Array 6.4nm,0.9s,mb4.7	49.20 327	eP	P	08 04 46.4 -0.4
S12A	Delamar Landin baz=49	49.23 318	⇑P	P	08 04 47.7 +0.6
T11A	Corn Creek, Al baz=49,SNR=5.1	49.28 318	⇑P	P	08 04 47.7 +0.2
SHOC	Shoshone baz=49,SNR=5.5	49.30 316	⇑P	P	08 04 48.0 +0.3
GSC	Goldstone 9.2nm,0.8s,mb4.9	49.37 315	eP	P	08 04 48.4 +0.2
GSC	Goldstone baz=49,SNR=10	49.37 315	P	P	08 04 48.5 +0.3
ULM	Lac du Bonnet 6.1nm,0.7s,mb4.7,baz=163,slow=7.1,SNR=7.2	49.38 343	P	P	08 04 46.6 -1.4
DUG	Dugway	49.43 322	eP	P	08 04 48.9 +0.3
DUG	Dugway baz=50	49.43 322	⇓P	P	08 04 48.9 +0.3
Q13A	Wheeler Ranch, baz=50,SNR=15	49.45 320	⇓P	P	08 04 49.1 +0.3
BFSC	Mount Baldy St baz=50	49.47 313	⇑P	P	08 04 49.1 +0.1
R12A	Pony Springs, baz=50,SNR=12	49.47 319	P	P	08 04 49.6 +0.7
HWUT	Hardware Ranch 7.9nm,0.8s,mb4.8	49.57 325	eP	P	08 04 49.4 -0.2
U10A	Ash Meadows, A baz=50	49.60 316	⇑P	P	08 04 50.1 +0.2
CIS	Catalina Islan baz=50,SNR=5.1	49.63 312	⇑P	P	08 04 50.0 -0.2
P13A	Bates Ranch, G baz=50,SNR=14	49.74 321	⇑P	P	08 04 51.3 +0.4
TPNV	Topopah Spring 6.8nm,0.9s,mb4.7	49.82 317	eP	P	08 04 52.0 +0.3
TPNV	Topopah Spring baz=50	49.82 317	⇓P	P	08 04 51.9 +0.2
M15A	Larsen Ranch, baz=50,SNR=18	49.99 324	⇓P	P	08 04 52.3 -0.6
FURC	Furnace Creek, baz=50,SNR=6.5	49.99 316	⇑P	P	08 04 53.2 +0.3
BGU	Big Grassy Mou	50.01 323	eP	P	08 04 52.7 -0.3
EDW2	Edwards Air Fo baz=50,SNR=5.4	50.01 314	⇓P	P	08 04 53.0 -0.1
Q12A	Willow Creek R baz=50	50.02 320	⇓P	P	08 04 53.1 0.0
N14A	Grayback Hills baz=50,SNR=28	50.05 323	⇓P	P	08 04 53.0 -0.4
O13A	Hicks Ranch, I baz=50,SNR=9.6	50.11 322	⇑P	P	08 04 54.2 +0.5
R11A	Troy Canyon, C baz=50,SNR=6.3	50.12 319	⇑P	P	08 04 54.1 +0.1
MPMC	Manual Prospec baz=50,SNR=6.2	50.23 315	P	P	08 04 54.3 -0.5
REDW	Red Top Meadow	50.30 327	eP	P	08 04 55.0 -0.2
P12A	McGill baz=50	50.31 320	⇑P	P	08 04 55.4 0.0
SNOW	Snow King Moun	50.32 327	eP	P	08 04 55.5 +0.2
LAO	LASA Array 5.9nm,0.8s,mb4.7	50.33 333	eP	P	08 04 54.5 -0.8
LOHW	Long Hollow 13nm,0.9s,mb5.0	50.34 327	eP	P	08 04 55.4 0.0
HVU	Hansel Valley	50.38 324	eP	P	08 04 55.9 +0.1
TPAW	Teton Pass	50.44 327	eP	P	08 04 56.3 +0.1
Q11A	Duckwater baz=50,SNR=7.5	50.44 319	⇑P	P	08 04 56.2 -0.1
M14A	Sheep Mountain baz=51,SNR=22	50.55 323	P	P	08 04 56.6 -0.5
S10A	Tonopah Range, baz=51,SNR=21	50.57 318	⇑P	P	08 04 57.9 +0.6
RLMT	Red Lodge 6.4nm,0.8s,mb4.6	50.66 329	eP	P	08 04 57.3 -0.6
O12A	Currie baz=51,SNR=14	50.67 321	⇑P	P	08 04 58.1 +0.1
N13A	Wendover, West baz=51,SNR=5.6	50.67 322	⇓P	P	08 04 58.2 +0.1
FLWY	Flagg Ranch 7.8nm,0.9s,mb4.6	50.70 328	eP	P	08 04 57.8 -0.3
IMW	Indian Meadow	50.70 327	eP	P	08 04 57.1 -1.1
DGMT	Dagmar	50.82 336	eP	P	08 04 59.1 +0.1
CWC	Cottonwood Cre baz=51	50.83 315	⇓P	P	08 04 59.4 +0.1
LKWY	Lake	50.87 328	eP	P	08 05 01.2 +1.8
S09A	Goldfield baz=51,SNR=13	50.89 317	⇑P	P	08 04 60.0 +0.2
Q10A	Clear Creek Ra baz=51,SNR=8.0	50.92 319	P	P	08 05 00.4 +0.5
M13A	Montello baz=51	50.95 323	⇑P	P	08 05 00.0 -0.1
R09A	Tonopah baz=51,SNR=17	51.05 318	P	P	08 05 01.2 +0.3
TPH	Tonopah 12nm,0.9s,mb4.8	51.07 318	eP	P	08 05 02.1 +1.1
K14A	Jones Ranch, D baz=51,SNR=19	51.09 325	⇓P	P	08 05 00.6 -0.6
O11A	Cowboy Ranch, baz=51,SNR=10	51.16 321	P	P	08 05 02.0 +0.3
N12A	Clover Valley, baz=51	51.19 322	⇓P	P	08 05 01.9 0.0
YMR	Madison River 11nm,0.7s,mb4.9	51.23 328	eP	P	08 05 02.7 +0.5
VES	Vestal, Richgr baz=51,SNR=7.8	51.25 314	⇓P	P	08 05 03.0 +0.5
L13A	Double Diamond baz=51	51.26 324	⇓P	P	08 05 02.0 -0.4
SCHQ	Schefferville 5.1nm,1.0s,mb4.4,baz=203,slow=13,SNR=1.7	51.37 6	P	P	08 05 02.1 -0.9
P10A	Eureka baz=52	51.39 320	⇑P	P	08 05 03.9 +0.5
S08C	White Mtn Res baz=52,SNR=16	51.42 316	⇓P	P	08 05 04.3 +0.6
M12A	Wells baz=52,SNR=8.3	51.44 322	⇓P	P	08 05 03.4 -0.4
RCTC	Rector, Farmer baz=52	51.59 315	⇑P	P	08 05 05.1 +0.1
HELL	Mitchell Peak baz=52,SNR=15	51.61 315	⇓P	P	08 05 04.9 -0.2
MTUM	Tungsten Hills	51.62 316	eP	P	08 05 05.8 +0.5
K13A	Stover Farm, H baz=52,SNR=5.8	51.68 324	⇓P	P	08 05 04.7 -0.8
O10A	Cortez Mining, baz=52,SNR=9.4	51.79 320	⇑P	P	08 05 06.5 +0.1
P09A	Austin baz=52	51.80 319	⇓P	P	08 05 07.0 +0.5
R08A	Mina baz=52,SNR=12	51.81 317	⇓P	P	08 05 06.7 +0.1
L12A	House Creek Ra baz=52,SNR=6.4	51.93 323	⇑P	P	08 05 07.3 -0.1
Q08A	Gabbs baz=52,SNR=15	51.95 318	⇓P	P	08 05 07.8 +0.2
NVAR	Mina Array Bea 15nm,0.8s,mb5.0,baz=136,slow=7.4,SNR=117	51.98 317	P	P	08 05 08.2 +0.3
NVAR			PcP	PcP	08 06 19.4 -0.8
	2.2nm,0.6s,baz=144,slow=5.0,SNR=9.5				
K12A	Draper Farm, C baz=52,SNR=6.7	52.15 324	⇓P	P	08 05 09.1 0.0
O09A	Fish Creek Ran baz=52,SNR=43	52.16 320	P	P	08 05 09.4 +0.3
J13A	Cove Ranch, Pi baz=52,SNR=21	52.19 325	⇑P	P	08 05 09.1 -0.2
BOZ	Bozeman (W) 11nm,1.0s,mb4.7	52.24 328	eP	P	08 05 09.3 -0.3
BOZ	Bozeman (W) baz=52	52.24 328	⇓P	P	08 05 09.6 -0.1
R07C	Lee Vining baz=52,SNR=6.8	52.31 317	⇓P	P	08 05 11.2 +0.8
BMN	Battle Mountai	52.32 320	eP	P	08 05 10.6 +0.2
G15A	Dillon baz=52	52.38 328	⇓P	P	08 05 11.1 +0.4
L11A	Cat Creek Ranc baz=52,SNR=15	52.39 323	⇓P	P	08 05 10.8 0.0
HLID	Hailey	52.43 325	eP	P	08 05 11.0 -0.1
HLID	Hailey baz=52,SNR=20	52.43 325	⇓P	P	08 05 11.3 +0.2
I13A	Wildhorse Cree baz=53,SNR=18	52.48 325	⇑P	P	08 05 11.7 +0.3
Q07A	Schurz baz=53,SNR=5.8	52.58 318	⇓P	P	08 05 12.9 +0.5
J12A	Stokes Ranch, baz=53,SNR=12	52.64 324	⇓P	P	08 05 12.2 -0.4
N09A	Rock Creek Ran baz=53,SNR=7.7	52.74 320	⇑P	P	08 05 13.2 -0.4
S06C	San Francisco baz=53	52.77 316	⇑P	P	08 05 13.5 -0.2
L10A	Juniper Basin baz=53,SNR=21	52.77 322	P	P	08 05 13.5 -0.2
WAKR	Walker	52.79 317	eP	P	08 05 14.7 +0.8
F15A	Butte baz=53,SNR=10	52.82 328	⇓P	P	08 05 14.0 0.0
K11A	Parker Ranch, baz=53,SNR=20	52.91 323	P	P	08 05 14.7 0.0
EGMT	Eagleton 7.1nm,0.9s,mb4.6	52.95 332	eP	P	08 05 14.1 -0.8
EGMT			ePcP	PcP	08 06 21.9 -1.8
EGMT	Eagleton baz=53	52.95 332	⇓P	P	08 05 14.6 -0.2
G14A	Jackson baz=53	52.95 327	⇑P	P	08 05 15.0 0.0
H13A	Challis baz=53	52.96 326	⇑P	P	08 05 14.9 -0.1
N08A	GE Springer Mi baz=53	53.10 320	⇓P	P	08 05 15.4 -0.7
MFID	Camas Ranch baz=53,SNR=12	53.16 324	P	P	08 05 16.7 +0.1
CMB	Columbia Colle	53.21 316	eP	P	08 05 17.0 -0.1
CMB	Columbia Colle baz=53	53.21 316	⇑P	P	08 05 16.9 -0.1
O07A	Toulon baz=53,SNR=10	53.25 319	⇓P	P	08 05 17.0 -0.3
F14A	Wisdom baz=53,SNR=8.1	53.27 328	⇑P	P	08 05 17.2 -0.1
G13A	Cobalt baz=53,SNR=9.7	53.28 326	P	P	08 05 16.8 -0.6
E15A	Deer Lodge baz=53,SNR=12	53.28 329	P	P	08 05 17.0 -0.4
H12A	Diamond D Ranc baz=53,SNR=27	53.29 326	⇑P	P	08 05 17.1 -0.3
R05C	Kirkwood Meado baz=53	53.32 317	⇑P	P	08 05 17.7 -0.1
PAHR	Pah Rah Range 11nm,0.8s,mb4.8	53.35 318	eP	P	08 05 17.6 -0.4
K10A	MacKenzie Ranc baz=54,SNR=24	53.41 323	P	P	08 05 18.4 0.0
L09A	Wilkinson Ranc baz=54,SNR=17	53.48 322	⇓P	P	08 05 18.8 -0.1
I11A	Placerville baz=54,SNR=24	53.53 324	⇑P	P	08 05 18.6 -0.7
M08A	Happy Creek Ra baz=54,SNR=11	53.61 321	⇑P	P	08 05 19.4 -0.4
D15A	Lincoln baz=54,SNR=5.7	53.63 329	⇑P	P	08 05 19.8 -0.1
N07B	Gerlach baz=54	53.63 320	⇑P	P	08 05 20.1 0.0
R04C	Big Horse Ranc baz=54,SNR=6.2	53.70 316	⇑P	P	08 05 20.6 0.0
E14A	Clinton baz=54	53.72 328	⇓P	P	08 05 20.4 -0.2
F13A	Darby baz=54	53.77 327	⇑P	P	08 05 20.6 -0.3
O06A	Flanigan baz=54,SNR=12	53.88 319	⇑P	P	08 05 21.8 0.0
K09A	Rome baz=54,SNR=57	53.89 322	P	P	08 05 22.1 +0.2
P05C	Yuba Gap, Truc baz=54,SNR=6.8	53.97 317	P	P	08 05 23.0 +0.4
L08A	Fields baz=54,SNR=12	53.99 321	⇑P	P	08 05 22.6 -0.1
H11A	Donnelly baz=54,SNR=11	54.04 325	P	P	08 05 22.2 -0.8
M07A	Soldier Meadow baz=54,SNR=9.7	54.08 320	P	P	08 05 22.6 -0.7
E13A	Victor baz=54,SNR=7.8	54.11 328	⇓P	P	08 05 23.1 -0.3
I10A	Payette baz=54,SNR=7.5	54.13 324	⇓P	P	08 05 23.3 -0.3
D14A	Greenough baz=54	54.16 329	⇑P	P	08 05 23.3 -0.5
N06A	Buffalo Meadow baz=54	54.18 319	⇓P	P	08 05 23.3 -0.7
MSO	Missoula	54.23 328	eP	P	08 05 24.0 -0.2
F12A	Elk City baz=54,SNR=20	54.25 327	⇑P	P	08 05 24.3 -0.2
J09A	Fry Pan Ranch, baz=54,SNR=26	54.27 323	P	P	08 05 24.4 -0.3
WVOR	Wild Horse Val 31nm,1.0s,mb5.2	54.30 321	eP	P	08 05 24.4 -0.5
K08A	Mann Creek Ran baz=54,SNR=29	54.37 322	P	P	08 05 25.3 -0.1
H10A	Noah's Angus R baz=54,SNR=6.8	54.39 325	⇓P	P	08 05 24.3 -1.2
O05C	Quincy baz=55	54.50 318	⇑P	P	08 05 26.8 +0.3
L07A	Adell baz=55,SNR=20	54.52 321	P	P	08 05 26.4 -0.2
G11A	Walters Elk Ra baz=55,SNR=16	54.60 326	P	P	08 05 26.0 -1.0
I09A	Lost Marbles R baz=55,SNR=12	54.62 323	⇑P	P	08 05 26.6 -0.6
D13A	Huson baz=55,SNR=6.5	54.67 328	⇑P	P	08 05 27.2 -0.2
ORV	Oroville baz=55,SNR=11	54.70 317	⇑P	P	08 05 27.7 -0.2
J08A	Circle Bar Ran baz=55,SNR=17	54.71 322	⇓P	P	08 05 27.5 -0.4
SUTB	Sutter Butte baz=55	54.74 317	⇓P	P	08 05 27.5 -0.7
O04C	Chester baz=55,SNR=8.0	54.79 318	⇑P	P	08 05 28.1 -0.4
K07A	Rock Creek Ran baz=55,SNR=9.6	54.82 321	⇓P	P	08 05 28.2 -0.5
F11A	Grangeville baz=55,SNR=20	54.83 326	P	P	08 05 27.6 -1.1
BMO	Blue Mountains	54.87 325	eP	P	08 05 27.8 -1.2
H09A	Durkee baz=55	54.97 324	⇓P	P	08 05 29.1 -0.6
G10A	Bishop Farm, J baz=55,SNR=15	55.02 325	P	P	08 05 29.4 -0.7
C13A	Hot Springs baz=55,SNR=9.2	55.10 329	⇓P	P	08 05 30.4 -0.3
D12A	Red Ives Fores baz=55	55.11 328	⇑P	P	08 05 30.0 -0.7
FFC	Flin Flon	55.13 342	eP	P	08 05 28.6 -2.0
E11A	Bogner Ranch, baz=55,SNR=10	55.15 327	⇓P	P	08 05 30.0 -0.9
LBCM	Butte Creek Ri	55.22 319	P	P	08 05 31.3 -0.3
J07A	Hines baz=55,SNR=12	55.23 322	⇑P	P	08 05 31.1 -0.5
BSMT	Bassoo Peak	55.32 329	eP	P	08 05 32.5 +0.3
M05C	Lookout baz=55	55.34 319	⇑P	P	08 05 32.1 -0.4
H08A	Prairie City baz=56	55.48 324	⇓P	P	08 05 32.8 -0.6
LTIM	Timbered Crate	55.48 319	P	P	08 05 33.3 -0.2
F10A	Beach Ranch, E baz=56,SNR=11	55.48 326	⇑P	P	08 05 32.8 -0.5
B13A	Whitefish baz=56,SNR=6.1	55.50 329	⇓P	P	08 05 33.1 -0.3
K06A	Valley Falls baz=56,SNR=5.4	55.51 321	⇑P	P	08 05 33.1 -0.5
D11A	Klaveano Farm, baz=56,SNR=18	55.64 327	⇓P	P	08 05 33.7 -0.8
F09A	S2 Ranch, Elgi baz=56,SNR=13	55.71 325	⇑P	P	08 05 34.9 -0.1
I07A	Izee baz=56,SNR=6.5	55.73 323	⇑P	P	08 05 34.7 -0.6
LASM	Arnica Sink	55.74 319	P	P	08 05 35.1 -0.2
M03C	McCloud baz=56	55.94 319	⇑P	P	08 05 35.9 -0.9
M04C	Macdoel baz=56,SNR=9.5	56.01 319	⇑P	P	08 05 37.0 -0.2
H07A	Lands Inn, Kim baz=56	56.05 323	⇓P	P	08 05 36.8 -0.7
G08A	Pilot Rock baz=56,SNR=22	56.08 324	⇑P	P	08 05 37.6 -0.1
I06A	Prineville baz=56,SNR=11	56.09 322	⇓P	P	08 05 37.7 -0.1
HOG	Hogback Mounta	56.15 320	P	P	08 05 38.0 -0.2
D10A	Wagner Farm, O baz=56,SNR=8.8	56.15 327	⇓P	P	08 05 37.0 -1.1
LHEM	Herd Peak	56.18 319	P	P	08 05 38.0 -0.5
L04A	Klamath Falls baz=56,SNR=5.9	56.23 320	⇓P	P	08 05 38.6 -0.3
F08A	Pendleton baz=56	56.26 325	⇑P	P	08 05 37.5 -1.4
E09A	Wood Farm, Sta baz=56,SNR=8.1	56.31 326	⇑P	P	08 05 38.9 -0.4
J05A	Fort Rock baz=56,SNR=11	56.38 321	⇓P	P	08 05 39.9 0.0
N02C	Big Bar baz=57,SNR=5.5	56.52 318	⇑P	P	08 05 39.6 -1.3
YBH	Yreka Blue Hor 4.1nm,0.8s,mb4.5	56.55 319	eP	P	08 05 39.3 -1.9
YBH	Yreka Blue Hor baz=57,SNR=5.0	56.55 319	⇓P	P	08 05 39.4 -1.7
H06A	Lindquist Farm baz=57,SNR=6.0	56.59 323	⇑P	P	08 05 41.5 +0.1
C10A	Spilker Farm, baz=57	56.63 327	⇑P	P	08 05 41.3 -0.3
VIPM	Ingram Point	56.64 323	P	P	08 05 42.0 +0.3
FCC	Fort Churchill 12nm,1.1s,mb4.8	56.70 349	eP	P	08 05 40.6 -1.3
D09A	Jones Farm, Ri baz=57	56.73 326	⇓P	P	08 05 41.7 -0.6
NEW	Newport 6.6nm,1.1s,mb4.6	56.80 328	eP	P	08 05 41.8 -1.0
KHMM	Horse Mountain	56.83 318	eP	P	08 05 43.3 +0.2
A11A	Hall Mountain, baz=57,SNR=6.7	56.84 329	⇑P	P	08 05 42.7 -0.3
I05A	Bend baz=57,SNR=7.9	56.85 322	⇓P	P	08 05 43.4 +0.2
J04A	Umpqua Nationa baz=57,SNR=6.2	56.90 321	⇑P	P	08 05 43.6 0.0
VTHM	Trough	56.96 323	P	P	08 05 44.7 +0.7
F07A	Phinny Hill Vi baz=57	56.98 324	⇓P	P	08 05 44.2 +0.1
PRW	Prosser	57.02 325	P	P	08 05 43.4 -0.9
G06A	Carlson Farm, baz=57,SNR=5.9	57.04 323	⇓P	P	08 05 44.9 +0.4
D08A	Wollman Farm, baz=57,SNR=6.8	57.06 326	⇓P	P	08 05 44.3 -0.4
OD2	Odessa Site #2	57.14 326	P	P	08 05 44.8 -0.4
DPW	Davenport	57.15 327	P	P	08 05 45.2 0.0
HBO	Huckleberry Mo	57.34 321	P	P	08 05 46.4 -0.3
B09A	Rice baz=58,SNR=8.5	57.45 328	⇑P	P	08 05 46.8 -0.5
EPH	Ephrata	57.61 326	P	P	08 05 48.7 +0.2
HOOD	Mount Hood Mea	57.69 323	eP	P	08 05 52.8 +3.6
TDH	Tom, Dick, Har	57.76 323	P	P	08 05 50.1 +0.5
KBO	Bosley Butte	57.77 319	eP	P	08 05 50.7 +0.9
EBG	Ellensburg	57.91 325	P	P	08 05 51.1 +0.5
E06A	Yakima baz=58	57.95 325	⇑P	P	08 05 51.3 +0.4
WTV	Waterville	58.01 326	P	P	08 05 51.0 -0.3
VLMM	Larch Mountain	58.04 323	P	P	08 05 55.6 +4.1
B08A	Colville Reser baz=58,SNR=18	58.05 327	P	P	08 05 51.0 -0.6
C07A	Waterville baz=58,SNR=5.1	58.06 326	⇓P	P	08 05 51.4 -0.3
EDM	Edmonton	58.23 334	eP	P	08 05 51.6 -1.2
RNO	Roman Nose	58.27 321	P	P	08 05 53.4 +0.2
A08A	Turner Farm, O baz=58,SNR=6.9	58.36 328	⇑P	P	08 05 53.2 -0.6
H03A	Soap Creek Ran baz=58	58.36 322	⇓P	P	08 05 53.7 -0.2
B07A	Winthrop baz=59	58.53 327	⇑P	P	08 05 54.5 -0.4
USHA	Ushuaia comp=Z,142nm,20.1s,MS4.1,baz=94,slow=35	58.71 175	LR	LR	08 30 15.7
D05A	Enumclaw baz=59,SNR=5.2	58.88 325	⇓P	P	08 05 57.0 -0.4
C05A	Tolt Reservoir baz=59	58.98 325	⇑P	P	08 05 58.1 0.0
A07A	Ashnola River, baz=59,SNR=7.2	59.01 327	⇑P	P	08 05 58.4 +0.1
BBTS	Babate comp=Z,81nm,18.2s,MS3.9,baz=140,slow=34	59.07 75	LR	LR	08 29 58.5
B06A	Marblemount baz=59	59.32 326	⇑P	P	08 06 00.1 -0.3

GNW	**Green Mountain**	59.56	325	*e*P	P	08 06 01.4	-0.7
C04A	**Brinnon**	59.72	325	⇓P	P	08 06 02.9	-0.4
	baz=60						
NLWA	**Neilton Lookou**	60.08	324	*e*P	P	08 06 05.4	-0.2
	17nm,1.0s,mb5.0						
OSD	**Olympics--Snow**	60.20	325	P	P	08 06 07.4	+0.9
YKA	**Yellowknife Ar**	65.30	341	P	P	08 06 38.0	-2.2
YKA				LR	LR	08 35 37.0	
YKA	**Yellowknife Ar**	65.30	341	P	P	08 06 38.0	-2.2
	3.6nm,0.7s,mb4.5,baz=135,slow=6.1,SNR=94						
YKA				LR	LR	08 35 37.0	
	comp=Z,43nm,21.0s,MS3.6,baz=275,slow=36						
DLBC	**Dease Lake**	68.86	333	*e*P	P	08 07 02.8	-0.1
DBIC	**Dimbokro**	70.39	84	P	P	08 07 11.3	-1.9
DBIC				LR	LR	08 36 53.5	
DBIC	**Dimbokro**	70.39	84	P	P	08 07 11.3	-1.9
	5.0nm,0.7s,mb4.5,baz=248,slow=6.2,SNR=5.8						
DBIC				LR	LR	08 36 53.5	
	comp=Z,66nm,19.3s,MS3.9,baz=237,slow=35						
ESDC	**Sonseca Array**	73.42	50	P	P	08 07 29.2	-1.8
	0.4nm,0.6s,mb3.5,baz=261,slow=5.0,SNR=2.9						
INK	**Inuvik**	75.07	341	*e*P	P	08 07 38.5	-1.5
DAWY	**Dawson**	75.39	336	*e*P	P	08 07 40.7	-1.2
EGAK	**Eagle**	76.36	336	*e*P	P	08 07 46.7	-0.8
	11nm,0.8s,mb4.8						
TOA0	**Torodi Ar. Sit**	76.72	77	*e*P	P	08 07 48.0	-2.5
TOA0				*e*pP	pP	08 07 54.1	-2.1
TORD	**Torodi Ar. Bea**	76.72	77	P	P	08 07 48.1	-2.4
	0.9nm,0.6s,mb3.9,baz=285,slow=6.1,SNR=12						
COLA	**College**	79.12	336	*e*P	P	08 08 01.7	-1.1
	5.3nm,0.8s,mb4.5						
IMA2	**Indian Mountai**	81.75	336	*e*P	P	08 08 15.6	-1.3
SVW2	**Sparrevohn**	81.89	331	*e*P	P	08 08 15.6	-2.1
NB2	**NORSAR Subarra**	85.13	29	P	P	08 08 34.2	-0.2
	comp=Z,1.3nm,0.7s,mb4.2,baz=269,slow=5.1						
NOA	**NORSAR Array B**	85.13	29	P	P	08 08 34.2	-0.2
	comp=Z,0.7nm,0.7s,mb3.9,baz=273,slow=4.9,SNR=4.4						
NOA				LR	LR	08 44 43.0	
	comp=Z,20nm,19.7s,MS3.5,baz=5.0,slow=34						
CLL	**Collm**	86.15	39	*e*(P)	P	08 08 42.0	+2.3
VNA1	**Neumayer--Stat**	86.18	162	*e*P	P	08 08 38.2	-1.2
VNA1				*e*		08 08 40.4	
VNA1				*e*	pP	08 08 43.6	-1.6
VNA1				*e*		08 08 45.5	
VNA1				*e*		08 08 52.4	
VNA1				*e*		08 08 57.8	
VNA2	**Neumayer--Watz**	86.55	162	*e*P	P	08 08 40.7	-0.5
VNA2				*e*		08 08 43.2	
VNA2				*e*	pP	08 08 45.2	-1.9
VNA2				*e*	pP	08 08 47.7	+0.6
VNA2				*e*		08 08 54.4	
VNA2				*e*		08 09 00.9	
KHC	**Kasperske Hory**	86.58	41	*e*P	P	08 08 41.0	-0.9
KHC				*e*	pP	08 08 47.5	-0.2
GERES	**GERESS Array B**	86.67	41	P	P	08 08 42.2	-0.2
GERES				LR	LR	08 45 17.1	
GERES	**GERESS Array B**	86.67	41	P	P	08 08 42.2	-0.1
	comp=Z,1.0nm,0.7s,mb4.2,baz=260,slow=3.7,SNR=8.6						
GERES				LR	LR	08 45 17.1	
	comp=Z,38nm,19.3s,MS3.8,baz=96,slow=34						
ARCES	**ARCESS Array B**	90.33	20	P	P	08 08 58.3	-0.9
	comp=Z,1.2nm,0.7s,mb4.3,baz=318,slow=3.4,SNR=4.4						
FINES	**FINESS Array B**	92.23	28	P	P	08 09 06.5	-1.8
	comp=Z,1.4nm,0.8s,mb4.4,baz=345,slow=6.5,SNR=4.8						
QSPA	**South Pole Qui**	93.82	180	*e*P	P	08 09 14.6	-0.6
	comp=Z,8.2nm,0.9s,mb5.2						
ZALV	**Zalesovo Beam**	120.17	13	PKP	PKPdf	08 14 47.6	-1.8
	comp=Z,1.6nm,0.3s,baz=344,slow=4.8,SNR=2.6						
MKAR	**Makanchi Array**	125.95	19	PKP	PKPdf	08 14 58.5	-2.3
	comp=Z,1.3nm,0.8s,baz=336,slow=2.7,SNR=7.9						
UCH	**Uchtor**	126.74	28	*e*PKPdf	PKPdf	08 15 02.6	+0.2
SONM	**Songino Array**	128.56	358	PKP	PKPdf	08 15 03.8	-2.0
	comp=Z,1.2nm,0.8s,baz=291,slow=1.3,SNR=5.6						
CN2	**Changchun**	129.00	341	*e*PKP	PKPdf	08 15 08.8	+2.1
MJAR	**Matsushiro Arr**	129.00	325	PKP	PKPdf	08 15 05.1	-1.8
	comp=Z,4.3nm,0.8s,baz=77,slow=2.2,SNR=13						
MAT	**Matsushiro**	129.00	325	PKP	PKPdf	08 15 05.5	-1.4
WMQ	**Urumqi**	130.26	16	*e*PKP	PKPdf	08 15 10.0	+0.9
KSRS	**Korea Array**	133.53	334	PKP	PKPdf	08 15 14.6	-0.9
	comp=Z,3.6nm,0.7s,baz=3.3,slow=1.9,SNR=15						
HHC	**Hu-ho-hao-te**	135.10	352	*e*PKP	PKPdf	08 15 17.8	-0.5
HHC				PP	PP	08 17 54.8	+2.7
HHC				PKS		08 18 50.0	
HHC				SKS	SKSdf	08 22 23.3	-5.6
HHC				SKKS	SKKSac	08 24 41.3	-6.8
HHC				SS	SS	08 35 43.5	-1.4
HHC				PP	PP		
	comp=Z,84nm,5.5s						
HHC				LR	LR		
	comp=N,216nm,22.0s,MS5.0						
HHC				LR	LR		
	comp=E,263nm,21.4s,MS5.0						
HHC				LR	LR		
	comp=Z,241nm,22.6s,MS4.9						
STKA	**Stephens Creek**	135.35	227	PKP	PKPdf	08 15 18.1	-1.0
	comp=Z,2.5nm,0.7s,baz=153,slow=2.3,SNR=4.8						
LZH	**Lanzhou**	140.33	1	*e*PKP	PKPdf	08 15 27.0	-1.1
LZH				XPKP		08 15 33.5	
LZH				LR	LR		
	comp=E,35nm,19.0s						
LZH				LR	LR		
	comp=Z,59nm,20.5s,MS4.3						
DANN	**Dangsing**	142.34	31	*e*P	PKPdf	08 15 31.6	-0.4
	comp=Z,15nm,0.8s						
KOLN	**Koldanda**	142.73	31	*e*P	PKPdf	08 15 31.6	-1.1
	comp=Z,2.3nm,0.4s						
GKN	**Gorkha**	143.06	30	*e*P	PKPdf	08 15 32.2	-1.0
KKN	**Kakani**	143.56	29	*e*P	PKPdf	08 15 30.5	-3.6
DMN	**Daman**	143.62	30	*e*P	PKPdf	08 15 30.7	-3.5
	comp=Z,16nm,0.7s						
GUN	**Gumba**	143.75	28	*e*P	PKPdf	08 15 31.6	-2.9
	comp=Z,34nm,0.7s						
PKIN	**Phulchoki**	143.79	29	*e*P	PKPdf	08 15 31.0	-3.5
	comp=Z,14nm,0.7s						
PKI	**Pulchoki**	143.80	29	*e*P	PKPdf	08 15 30.9	-3.7
JIRN	**Jiri**	144.10	28	*e*P	PKPdf	08 15 32.2	-2.9
WHN	**Wuhan**	144.58	345	*e*PKP	PKPdf	08 15 33.5	-2.3
ASAR	**Alice Springs**	145.39	232	PKPbc	PKPbc	08 15 34.8	-2.5
	comp=Z,4.8nm,0.8s,baz=120,slow=3.5,SNR=37						
CD2	**Chengdu**	145.49	1	*e*PKP	PKPdf	08 15 35.8	-1.6
CD2				APKP		08 15 40.8	
CD2				XPKP		08 15 45.3	
CD2				PP	PP	08 18 59.8	+4.1
CD2				PKS		08 19 10.0	
CD2				SKS	SKSdf	08 22 39.5	-6.6
CD2				SKKS	SKKSac	08 25 44.5	-4.6
CD2				SS	SS	08 37 45.8	-0.6
CD2				PP	PP		
	comp=Z,120nm,10.2s						
CD2				LR	LR		
	comp=N,130nm,18.0s						
CD2				LR	LR		
	comp=Z,70nm,16.8s,MS4.5						
WB2	**Warramunga Arr**	146.74	239	*e*P	PKPdf	08 15 39.2	-0.6
WRAB	**Tennant Creek**	146.75	239	*e*PKPdf	PKPdf	08 15 38.8	-1.0
WRA	**Warramunga Arr**	146.75	239	PKPbc	PKPbc	08 15 38.4	-3.1
	comp=Z,4.4nm,0.8s,baz=108,slow=2.5,SNR=28						
GYA	**Guiyang**	149.85	356	*e*PKP	PKPdf	08 15 43.3	-1.4
GYA				PKP2	PKPab	08 15 55.8	+1.0
GYA				PKS		08 19 17.0	
GYA				PP	PP	08 19 25.3	+3.9
GYA				SKS	SKSdf	08 22 48.3	-4.1
GYA				SKKS	SKKSac	08 26 11.8	-1.8
GYA				SS	SS	08 38 37.5	+1.8
GYA				PP	PP		
	comp=Z,110nm,7.9s						
GYA				LR	LR		
	comp=N,190nm,22.2s,MS5.0						
GYA				LR	LR		
	comp=E,160nm,23.8s,MS5.0						
GYA				LR	LR		
	comp=Z,280nm,24.6s,MS5.0						
KMI	**Kunming**	151.21	3	PKP	PKPdf	08 15 44.0	-2.9

*CSEM **27** 08:03:28.9±0.1,4040N×2182E,h39km±1km,MD3.2,Error ellipse: s-maj=4.9km s-min=3.3km az=78.0*
*SKO **27** 08:03:30.0,4031N×2180E,h8km*
*ATH **27** 08:03:29.4,4025N×2163E,h31km,MD3.2/3*
*ISCJB **27** 08:03:30.2±0.9,4028N±007×2182E±010,h32km±5km, Error ellipse: s-maj=13.7km s-min=10.2km az=143.4*
ISC 27 08:03:30.4±0.9,4027N±007×218E±01,h31km±5km,n9,
σ1§30/15,Greece

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
KZN	**Kozani**	0.05	322	*e*PB	Pb	08 03 35.4	-0.3
KZN				*e*SB	Sb	08 03 39.7	+0.4
THL	**Klokotos Trika**	0.72	167	*e*PN	Pn	08 03 44.4	+0.1
OHR	**Ohrid**	1.14	318	*e*Pg	Pn	08 03 48.5	-1.6
OHR				*e*Sg	Sn	08 04 05.6	+0.9
OHR	**Ohrid**	1.14	318	*e*Pg	Pn	08 03 48.5	-1.6
OHR				*e*Sg	Sn	08 04 05.5	+0.9
KRUS	**Krusevo**	1.18	339	*e*Pg	Pn	08 03 49.5	-1.2
KRUS				*e*Sg	Sn	08 04 08.0	+2.4
KRUS	**Krusevo**	1.18	339	*e*Pg	Pn	08 03 49.4	-1.2
VAY	**Valandovo**	1.20	29	*e*Pg	Pn	08 03 49.5	-1.5
VAY				*e*Sg	Sn	08 04 05.7	-0.4
VAY	**Valandovo**	1.20	29	*e*Pg	Pn	08 03 49.4	-1.5
VAY				*e*Sg	Sn	08 04 05.7	-0.4
PLG	**Polygyros**	1.25	85	*e*PN	Pn	08 03 54.2	+2.5

*CSEM **27** 08:17:47.4±0.3,3844N×3014E,h15km,MD2.7,Error ellipse: s-maj=6.9km s-min=6.0km az=73.0*
*ISK **27** 08:17:47.7,3846N×3012E,h6km,MD2.6*
*ISCJB **27** 08:17:48.6±0.7,3848N±003×3010E±006,h6km,Error ellipse: s-maj=6.5km s-min=4.8km az=163.0*
*DDA **27** 08:17:48.5,3848N×3018E,h7km±2km,Md2.7*
ISC 27 08:17:49.1±0.7,3848N±004×3014E±006,h14km±7km,n7,
σ0§83/13,Turkey

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SHUT	**Suhut-Afyon**	0.33	77	*e*PG	Pg	08 17 55.0	-0.9
TKTP	**Tekketepe**	0.46	162	*i* P	Pg	08 17 57.3	-0.9
TKTP				*i* S	Sg	08 18 06.1	+1.6
ALT	**Altintas**	0.57	358	*e*PG	Pg	08 17 59.5	-0.9
ALT				*e*SG	Sg	08 18 07.9	-0.2
GDZ	**Gediz**	0.80	320	*i* P	Pg	08 18 04.9	+0.3
GDZ				*i* S	Sg	08 18 15.9	+0.9
KULA	**Kula-Manisa**	1.16	272	*e*PN	Pn	08 18 10.1	-0.7
KULA				*e*SN	Sn	08 18 26.2	-0.2
ESKT	**Eskisehir**	1.18	28	*i* P	Pn	08 18 11.1	0.0
ESKT				*i* S	Sb	08 18 27.3	+1.0
SEYT	**Eskypehyr**	1.18	28	*i* P	Pn	08 18 11.1	0.0
SEYT				*i* S	Sb	08 18 27.3	+1.0

*PGC **27** 08:36:44.5±1.4,5618N×13465W,h1km,ML3.0/6,105km southeast of Sitka, Ak Southeastern Alaska*
NEIC 27 08:36:44.9,5632N×13506W,h65km,ML2.7(AEIC),1D,
After AEIC.,Southeastern Alaska

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
SIT	**Sitka**	0.75	349	P	Pn	08 36 59.4	-0.6
SIT				S	Sn	08 37 10.8	-0.3
CRAG	**Craig**	1.39	127	P	Pn	08 37 07.5	-0.6
CRAG				S	Sn	08 37 24.8	-0.8
WRAK	**Wrangell Islan**	1.52	85	P	Pn	08 37 09.4	-0.5
WRAK				S	Sn	08 37 27.8	-0.8
NDB	**Naden**	2.67	152	Pn	Pn	08 37 24.6	-0.8
NDB				Sn	Sn	08 37 54.6	-2.0
SKAG	**Skagway**	3.15	358	P	Pn	08 37 30.1	-1.9
RUBB	**Prince Rupert**	3.40	124	Pn	Pn	08 37 33.7	-1.7
RUBB				Sn	Sn	08 38 10.6	-3.9
VIB	**Van Inlet**	3.40	154	Pn	Pn	08 37 34.7	-0.8
VIB				Sn	Sn	08 38 12.0	-2.6
DLBC	**Dease Lake**	3.46	50	P	Pn	08 37 35.2	-0.9
DLBC	**Dease Lake**	3.46	50	⇓Pn	Pn	08 37 38.3	+2.1
DLBC				⇑Sg	Sn	08 38 29.8	+14
DIB	**Dawson Inlet,**	3.47	153	Pn	Pn	08 37 36.1	-0.2
DIB				Sn	Sn	08 38 14.2	-1.9
MOBC	**Moresby Island**	3.65	149	Pn	Pn	08 37 38.3	-0.6
MOBC				Sn	Sn	08 38 18.2	-2.5

MAN 27 08:42:39,834N×12335E,h1km,mb4.1,ML2.9,MS2.6,1C,
Mindanao

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
DCPH	**Dipolog City**	0.24	1	⇑*i*P	Pg	08 42 47.9	+4.2
PAGZ	**Pagadian**	0.49	176	*e*P	Pg	08 42 48.8	+0.4
PAGZ				*e*S	Sg	08 42 55.5	+0.8
TBP	**Tagbilaran**	1.44	21	*e*P	Pn	08 43 05.8	-0.4
TBP				*e*S	Sg	08 43 24.8	-0.5
BUKP	**Musuan**	1.76	105	*e*P	Pn	08 43 10.6	0.0
BUKP				*e*S	Sn	08 43 35.3	+1.7
MSLP	**Maasin**	2.33	40	*e*P	Pn	08 43 20.1	+1.7
MSLP				*e*S	Sn	08 43 48.4	+0.7
GUIM	**Jordan**	2.39	342	*e*P	Pn	08 43 17.0	-2.3
OTRP	**Odiongan**	4.21	342	*e*P	Pn	08 43 46.7	+2.3

IDC 27 09:21:02.5±2.2,1952S×7087W,h0km,mb3.9/2,
mb1 4.1/4,mb1mx3.7/17,mbtmp3.9/4,ML3.9/2,Error
ellipse: s-maj=60.8km s-min=37.2km az=155.0,Near
coast of northern Chile

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
LPAZ	**La Paz**	4.14	40	Pn	Pn	09 22 06.4	-0.5
	2.5nm,0.3s,baz=220,slow=11,SNR=96						
LPAZ				Pg	Pg	09 22 20.0	-1.8
	1.8nm,0.3s,baz=222,slow=14,SNR=16						
SIV	**San Ignacio**	9.97	71	Pn	Pn	09 23 25.3	-1.8
	1.6nm,0.3s,baz=254,slow=15,SNR=28						
TORD	**Torodi Ar. Bea**	78.45	72	P	P	09 33 06.4	+0.7
	0.3nm,0.4s,baz=255,slow=5.4,SNR=6.5						
YKA	**Yellowknife Ar**	88.72	341	P	P	09 33 57.1	-0.3
	0.7nm,0.5s,baz=135,slow=4.6,SNR=24						

*NNC **27** 09:22:38.9±0.9,4717N×8010E,h7km±7km,mb4.0,mpv3.9, Error ellipse: s-maj=4.9km s-min=2.4km az=23.0*
*NEIC **27** 09:22:40.0±0.6,4710N×8014E,h10km,Error ellipse: s-maj=9.4km s-min=7.9km az=156.0*
*ISCJB **27** 09:22:40.0±1.7,4716N±004×8005E±004,h27km±16km, mb3.5/3,Error ellipse: s-maj=6.7km s-min=4.7km az=20.2*
*IDC **27** 09:22:40.5±0.9,4717N×8027E,h0km,mb3.8/2,mb1 3.8/6, mb1mx3.6/23,mbtmp3.8/6,ML3.8/4,Error ellipse: s-maj=18.7km s-min=9.0km az=21.0*
*BJI **27** 09:22:41.9,4698N×8079E,h10km,ML3.8,Ms3.7*
*MOS **27** 09:22:41.3±1.5,4718N×7999E,h33km,mb4.0/1,Error ellipse: s-maj=12.4km s-min=8.9km az=97.1*
ISC 27 09:22:39.1±1.3,4714N±004×8012E±004,h3km±9km,n44,
σ1§15/58,mb3.5/3,13C-11D,Eastern Kazakhstan

Code	Station Name	Δ°	AZ°	Phase	ID	Time	Res
				Op	ISC	h m s	ISC
MK31	**Makanchi Array**	1.53	102	⇑P	Pn	09 23 07.0	-0.3
	108nm,0.3s,baz=270,slow=14,SNR=2416						
MK31				⇓S	Sn	09 23 27.1	-0.6
	691nm,0.4s,baz=287,slow=27						
MK31	**Makanchi Array**	1.53	102	*e*Pn	Pn	09 23 07.2	-0.1
MKAR	**Makanchi Array**	1.53	102	Pg	Pg	09 23 07.0	-1.3
	187nm,0.3s,baz=284,slow=12,SNR=782						
MKAR				Lg		09 23 26.1	
	307nm,0.3s,baz=282,slow=28,SNR=56						
KURBB	**Kurchatov Arra**	3.64	344	⇓Pn	Pn	09 23 36.0	-0.3
	7.0nm,0.4s						
KURBB				⇑Lg		09 24 34.4	
	94nm,0.6s						
KURK	**Kurchatov**	3.71	345	⇑Pn	Pn	09 23 37.4	+0.1
KURK				⇓Lg		09 24 34.2	
	381nm,0.5s						
KURK	**Kurchatov**	3.71	345	*e*PN	Pn	09 23 38.2	+0.9
KURK	**Kurchatov**	3.71	345	*e*Pn	Pn	09 23 38.1	+0.8
TKM2	**Tokmak 2**	5.29	219	⇑Pn	Pn	09 23 57.5	-1.5
	12nm,0.4s						
TKM2				⇑Pg	Pg	09 24 14.7	-5.8
	16nm,0.4s						
TKM2				⇑Lg		09 25 25.4	
	118nm,0.8s						
TKM2	**Tokmak 2**	5.29	219	*e*PN	Pn	09 23 58.7	-0.3
TKM2				pmax	pmax		
	comp=Z,29nm,0.5s						
TKM2	**Tokmak 2**	5.29	219	*e*Pn	Pn	09 23 58.7	-0.3
	comp=Z,29nm,0.5s						
WMQ	**Urumqi**	6.28	119	*e*PG	Pn	09 24 19.8	+7.3
WMQ				S	Sn	09 25 24.3	-0.4
WMQ				Smax			
	comp=N,87nm,0.7s						
WMQ				Smax			
	comp=E,84nm,0.6s						
UCH	**Uchtor**	6.33	221	*e*Pn	Pn	09 24 13.7	+0.4
	comp=E,12nm,0.5s						
EKS2	**Erkin-Say**	6.35	227	*e*Pn	Pn	09 24 13.9	+0.4
	comp=E,17nm,0.7s						
AML	**Almayashu**	6.78	225	*e*Pn	Pn	09 24 21.1	+1.6
	comp=E,16nm,0.7s						
ZAL	**Zalesovo**	7.43	22	P	Pn	09 24 29.7	+1.4
ZAL						09 25 52.1	
ZAA0	**Zalesovo Array**	7.45	22	*e*Pn	Pn	09 24 29.7	+1.2
ZALV	**Zalesovo Beam**	7.45	22	Pn	Pn	09 24 29.7	+1.2
	comp=E,7.8nm,0.3s,baz=212,slow=15,SNR=11						
ZALV				Sn	Sn	09 25 52.1	-1.3
	comp=E,12nm,0.3s,baz=211,slow=26,SNR=9.9						
ZALV				Lg		09 26 33.8	
	comp=E,2.7nm,0.3s,baz=197,slow=28,SNR=3.8						
KK31	**Karatay Array**	7.90	243	Pn	Pn	09 24 32.9	-1.9
	comp=E,1.3nm,0.3s,baz=58,slow=12,SNR=57						
KK31				⇓Lg		09 26 48.2	
	comp=E,33nm,0.5s						
KK31	**Karatay Array**	7.90	243	Pn	Pn	09 24 32.9	-1.9
KK31				Lg		09 26 48.2	
NVS	**Novosibirsk**	7.96	13	*e*P	Pn	09 24 38.5	+2.9
NVS				*e*		09 26 06.9	
VOSK	**Vostochnaya**	8.12	317	⇑Pn	Pn	09 24 37.6	-0.2
	comp=E,4.3nm,0.7s						
VOSK				⇑Sn	Sn	09 26 09.1	-0.9
	comp=E,7.9nm,0.4s						
VOSK				⇓Lg		09 26 57.3	
	comp=E,81nm,1.1s						
VOSK	**Vostochnaya**	8.12	317	P	Pn	09 24 37.6	-0.2
VOSK						09 26 09.1	
VOSK	**Vostochnaya**	8.12	317	Pn	Pn	09 24 37.6	-0.2
VOSK				Sn	Sn	09 26 09.1	-0.9
VOSK				Lg		09 26 57.3	
BVA0	**Borovoye Array**	8.59	317	⇓Pn	Pn	09 24 43.2	-1.0
	comp=E,0.3nm,0.4s,baz=126,slow=13,SNR=10.0						
BVA0				⇑Sn	Sn	09 26 21.9	+0.4
	comp=E,1.5nm,0.7s						
BVA0				⇓Lg		09 27 10.8	
	comp=E,6.1nm,0.7s,baz=132,slow=23,SNR=6.9						
BVAR	**Borovoye Array**	8.59	317	P	Pn	09 24 44.3	+0.1
BVAR						09 26 15.0	
BVAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
BVAR				smax			
	comp=N,2.0nm,0.3s						
BVAR	**Borovoye Array**	8.59	317	Pn	Pn	09 24 44.3	+0.1
	comp=N,0.5nm,0.3s,baz=123,slow=12,SNR=8.3						
BVAR				Sn	Sn	09 26 15.0	-6.5
	comp=N,1.7nm,0.3s,baz=118,slow=19,SNR=3.5						
BVAR				Lg		09 27 09.2	
	comp=N,5.1nm,0.3s,baz=143,slow=20,SNR=4.9						
ZRNK	**Zerenda**	9.21	313	⇓Pn	Pn	09 24 51.5	-1.3
ZRNK				⇑Sn	Sn	09 26 35.7	-1.1
	comp=N,14nm,0.6s						
ZRNK				⇓Lg		09 27 31.0	
	comp=N,63nm,1.0s						
ZRNK	**Zerenda**	9.21	313	P	Pn	09 24 51.5	-1.2
ZRNK						09 26 35.7	
ZRNK	**Zerenda**	9.21	313	Pn	Pn	09 24 51.5	-1.3
ZRNK				Sn	Sn	09 26 35.7	-1.1
ZRNK				Lg		09 27 10.8	
AB31	**Akbulak array**	13.62	286	⇓Pn	Pn	09 25 52.7	-0.3
	comp=N,0.7nm,0.5s,baz=101,slow=8.2,SNR=13						
AB31				⇑Sn	Sn	09 28 25.1	+0.4
	comp=N,1.8nm,0.5s						
AB31				⇑Lg		09 29 49.6	
	comp=N,4.3nm,0.7s,baz=92,slow=28,SNR=4.1						
AKTK	**Aktyubinsk**	14.92	291	Pn	Pn	09 26 10.3	-0.4
AKTK				Sn	Sn	09 28 49.3	-7.2
AKTK				Lg		09 30 29.5	
AKTO	**Aktyubinsk**	14.92	291	⇓Pn	Pn	09 26 10.7	-0.1
	comp=N,0.1nm,0.8s						
AKTO				⇑Sn	Sn	09 28 56.9	+0.4
	comp=N,0.1nm,1.1s						
AKTO	**Aktyubinsk**	14.92	291	P	Pn	09 26 10.4	-0.4
AKTO						09 28 49.3	
AKTO	**Aktyubinsk**	14.92	291	Pn	Pn	09 26 10.3	-0.4
	comp=N,0.3nm,0.3s,baz=95,slow=13,SNR=5.7						
AKTO				Sn	Sn	09 28 49.3	-7.2
	comp=N,0.2nm,0.3s,baz=280,slow=18,SNR=2.1						
AKTO				Lg		09 30 29.5	
	comp=N,0.1nm,0.3s,baz=167,slow=16,SNR=6.5						
ARU	**Arti**	16.19	313	*e*P	Pn	09 26 28.6	+1.2
ARU				pmax	pmax		
	comp=Z,12nm,1.3s						
SONM	**Songino Array**	17.75	78	P	Pn	09 26 47.6	+0.5
	comp=Z,0.2nm,0.3s,baz=284,slow=12,SNR=5.2						
HIA	**Hailar**	26.29	71	*e*P	P	09 28 17.1	+1.5
TIXI	**Tiksi**	33.32	26	*e*P	P	09 29 14.7	-2.9
NB2	**NORSAR Subarra**	40.72	316	P	P	09 30 25.2	+4.6
	comp=Z,0.7nm,0.6s,mb3.5,baz=78,slow=8.6						
NOA	**NORSAR Array B**	40.72	316	P	P	09 30 23.6	+3.0
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	**NORSAR Array B**	40.72	316	P	P	09 30 23.6	+3.0
	comp=Z,0.8nm,0.6s,mb3.5,baz=78,slow=8.1,SNR=5.0						
SEY	**Seymchan**	41.85	41	*e*P	P	09 30 24.9	-5.0
YKA	**Yellowknife Ar**	70.09	7	P	P	09 33 50.4	-1.6
	comp=Z,0.1nm,0.4s,mb3.1,baz=347,slow=6.5,SNR=6.3						
TORD	**Torodi Ar. Bea**	72.62	271	P	P	09 34 10.4	+2.3
	comp=Z,0.4nm,0.3s,mb3.8,baz=38,slow=5.0,SNR=14						

IDC 27 09:27:51.7±20.0,1859S×6817W,h204km±100km,
mb3.0/2,mb1 3.1/4,mb1mx3.0/17,mbtmp3.0/4,Error
ellipse: s-maj=363.8km s-min=33.1km az=19.0,
Chile-Bolivia border region

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*NEIC **27** 10:06:51.6, 4559N×2649E, h148km, MD4.2(BUC), After BUC.*
*IDC **27** 10:06:51.6±1.1, 4581N×2642E, h144km±6km, mb3.3/1, mb1 2.8/5, mb1mx2.7/21, mbtmp2.7/5, Error ellipse: s-maj=23.5km s-min=12.5km az=107.0*
*SOF **27** 10:06:52.4, 4544N×2640E, h8km, MD2.9*
ISC 27 10:06:51.3±0.4, 4565N±003×2652E±004, h153km±3km, n59, σ0°76/89, 20C-8D, Romania

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLOR	**Plostina**	**0.22**	**24**	⇑*iP*	**Pn**	**10 07 11.7**	**-0.3**
PLOR				*i* S	**Sn**	**10 07 28.2**	**+0.4**
VRI	**Vrincioaia**	**0.26**	**34**	P	**Pn**	**10 07 12.1**	**0.0**
VRI	**Vrincioaia**	**0.26**	**34**	⇑*iP*	**Pn**	**10 07 12.0**	**-0.1**
VRI				*i* S	**Sn**	**10 07 27.3**	**-0.7**
VRI	**Vrincioaia**	**0.26**	**34**	⇑*iP*	**Pn**	**10 07 12.0**	**-0.1**
VRI				*i* S	**Sn**	**10 07 28.2**	**+0.2**
BRD	**Bordesti**	**0.37**	**105**	⇑*iP*	**Pn**	**10 07 13.6**	**+1.2**
ODB	**Odobesti**	**0.39**	**71**	⇓*iP*	**Pn**	**10 07 13.5**	**+1.0**
ODB				*i* S	**Sn**	**10 07 30.3**	**+1.6**
MLR	**Muntele Rosu**	**0.44**	**249**	P	**Pn**	**10 07 13.3**	**+0.6**
MLR				S	**Sn**	**10 07 29.2**	**+0.2**
MLR				pmax	pmax		
	comp=Z,91nm,0.3s						
MLR				smax			
	comp=N,459nm,0.3s						
MLR	**Muntele Rosu**	**0.44**	**249**	P	**Pn**	**10 07 12.6**	**-0.1**
MLR	**Muntele Rosu**	**0.44**	**249**	P	**Pn**	**10 07 13.3**	**+0.6**
	comp=N,91nm,0.3s,baz=45,slow=1.4,SNR=473						
MLR				S	**Sn**	**10 07 29.2**	**+0.2**
	comp=N,459nm,0.3s,baz=234,slow=19,SNR=74						
MLR	**Muntele Rosu**	**0.44**	**249**	⇑*iP*	**Pn**	**10 07 12.6**	**-0.1**
MLR				*i* S	**Sn**	**10 07 28.9**	**-0.1**
MLR	**Muntele Rosu**	**0.44**	**249**	S	**Sn**	**10 07 28.9**	**-0.1**
PETR		**0.50**	**81**	⇑*iP*	**Pn**	**10 07 13.6**	**+0.6**
PETR				*i* S	**Sn**	**10 07 30.0**	**+0.5**
ISR	**Istrita**	**0.53**	**178**	⇓*iP*	**Pn**	**10 07 13.7**	**+0.5**
GHRR		**0.74**	**56**	⇑*iP*	**Pn**	**10 07 14.9**	**+0.5**
GHRR				*i* S	**Sn**	**10 07 32.4**	**+0.4**
FULR		**0.77**	**184**	⇑*iP*	**Pn**	**10 07 14.9**	**+0.3**
FULR				*i* S	**Sn**	**10 07 32.8**	**+0.5**
TUDR		**0.81**	**94**	⇑*iP*	**Pn**	**10 07 14.7**	**-0.1**
TUDR				*i* S	**Sn**	**10 07 32.7**	**-0.1**
VARR		**0.96**	**76**	⇑*iP*	**Pn**	**10 07 16.4**	**+0.4**
VARR				*i* S	**Sn**	**10 07 34.5**	**-0.4**
VOIR		**1.06**	**259**	⇑P	**Pn**	**10 07 16.2**	**-0.6**
VOIR				S	**Sn**	**10 07 34.8**	**-1.5**
VOIR		**1.06**	**259**	P	**Pn**	**10 07 16.4**	**-0.4**
VOIR		**1.06**	**259**	⇑*iP*	**Pn**	**10 07 16.2**	**-0.6**
VOIR				*i* S	**Sn**	**10 07 36.0**	**-0.3**
CFR	**Carcaliu**	**1.23**	**112**	⇑*iP*	**Pn**	**10 07 18.4**	**0.0**
CFR				*i* S	**Sn**	**10 07 38.1**	**-1.0**
BERR	**Berezeni**	**1.34**	**57**	⇑*iP*	**Pn**	**10 07 20.0**	**+0.6**
BERR				*i* S	**Sn**	**10 07 40.6**	**-0.4**
BUC1	**Bucharest**	**1.35**	**195**	⇑P	**Pn**	**10 07 19.6**	**0.0**
BUC1				S	**Sn**	**10 07 40.4**	**-0.8**
BUC1	**Bucharest**	**1.35**	**195**	⇓*iP*	**Pn**	**10 07 19.6**	**0.0**
BUC1				*i* S	**Sn**	**10 07 40.4**	**-0.8**
HARR	**Harsova**	**1.38**	**133**	P	**Pn**	**10 07 20.2**	**+0.3**
HARR	**Harsova**	**1.38**	**133**	⇓*iP*	**Pn**	**10 07 20.1**	**+0.2**
HARR				*i* S	**Sn**	**10 07 40.5**	**-1.3**
HARR	**Harsova**	**1.38**	**133**	P	**Pn**	**10 07 20.2**	**+0.3**
HARR				S	**Sn**	**10 07 40.2**	**-1.6**
IAS	**Iasi**	**1.70**	**25**	⇑*iP*	**Pn**	**10 07 23.3**	**+0.1**
IAS				*i* S	**Sn**	**10 07 46.5**	**-1.3**
TIRR	**Tirgusor**	**1.79**	**131**	P	**Pn**	**10 07 24.6**	**+0.4**
TIRR	**Tirgusor**	**1.79**	**131**	⇓*iP*	**Pn**	**10 07 24.5**	**+0.2**
TIRR				*i* S	**Sn**	**10 07 48.3**	**-1.2**
KIS	**Kishinev**	**2.08**	**49**	⇑*iP*	**Pn**	**10 07 27.0**	**-0.5**
KIS				*i* S	**Sn**	**10 07 53.5**	**-2.0**
KIS				pmax	pmax		
	comp=Z,350nm,0.5s						
KIS				smax			
	comp=N,1μm,0.5s						
KIS				smax			
	comp=E,1μm,0.5s						
KIS				smax			
	comp=N,2μm,0.5s						
KIS				smax			
	comp=E,2μm,0.4s						
KIS	**Kishinev**	**2.08**	**49**	⇑*iP*	**Pn**	**10 07 27.0**	**-0.5**
	comp=E,350nm,0.5s						
KIS				*i* S	**Sn**	**10 07 53.5**	**-2.0**
	comp=E,1μm,0.5s						
BURAR	**Bucovina Array**	**2.16**	**336**	⇓*iP*	**Pn**	**10 07 29.9**	**+1.5**
BURAR				*i* S	**Sn**	**10 07 58.7**	**+1.6**
PSN	**Preselentsi**	**2.30**	**148**	P	**Pn**	**10 07 30.8**	**+0.7**
CRAR	**CRAIOVA**	**2.34**	**237**	*i* S	**Sn**	**10 07 59.6**	**-1.3**
SZH	**Strazhica**	**2.42**	**190**	P	**Pn**	**10 07 31.2**	**-0.4**
PRD	**Provadia**	**2.53**	**165**	P	**Pn**	**10 07 33.8**	**+0.9**
PVL	**Pavlikeni**	**2.58**	**200**	P	**Pn**	**10 07 34.6**	**+1.1**
GZR	**Gura Zlata**	**2.65**	**266**	⇑*iP*	**Pn**	**10 07 34.2**	**-0.1**
GZR				*i* S	**Sn**	**10 08 08.0**	**+0.5**
GZR	**Gura Zlata**	**2.65**	**266**	P	**Pn**	**10 07 34.0**	**-0.3**
DRGR		**2.88**	**295**	⇑P	**Pn**	**10 07 36.7**	**-0.5**
DRGR		**2.88**	**295**	P	**Pn**	**10 07 36.5**	**-0.7**
DRGR		**2.88**	**295**	⇓*iP*	**Pn**	**10 07 36.4**	**-0.8**
DRGR		**2.88**	**295**	P	**Pn**	**10 07 36.5**	**-0.7**
JMB	**Yambol**	**3.18**	**179**	P	**Pn**	**10 07 40.7**	**-0.4**
BZS	**Buzias**	**3.44**	**271**	⇓*iP*	**Pn**	**10 07 43.6**	**-0.7**
RZN	**Rozhen**	**4.17**	**199**	P	**Pn**	**10 07 53.8**	**-0.1**
KOLS	**Kolonicke sedl**	**4.38**	**320**	*e*P	**Pn**	**10 07 56.4**	**0.0**
CRVS	**Cervenica-Dubn**	**4.74**	**315**	*e*P	**Pn**	**10 08 01.6**	**+0.4**
CRVS	**Cervenica-Dubn**	**4.74**	**315**	*e*Pn	**Pn**	**10 08 01.7**	**+0.5**
KECS	**Kecovo**	**5.00**	**307**	*e*P	**Pn**	**10 08 04.6**	**-0.1**
SEV	**Sevastopol'**	**5.18**	**100**	*e*P	**Pn**	**10 08 06.8**	**-0.2**
SEV				*e*S	**Sn**	**10 09 06.6**	**+0.4**
AKASG	**Malin Array Be**	**5.37**	**19**	P	**Pn**	**10 08 08.7**	**-0.8**
AKASG				S	**Sn**	**10 09 06.3**	**-4.3**
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.3s						
AKASG				smax			
	comp=N,2.0nm,0.3s						
AKASG	**Malin Array Be**	**5.37**	**19**	P	**Pn**	**10 08 08.7**	**-0.8**
	comp=N,1.6nm,0.3s,baz=205,slow=12,SNR=8.4						
AKASG				S	**Sn**	**10 09 06.3**	**-4.3**
	comp=N,2.1nm,0.3s,baz=204,slow=21,SNR=8.6						
SUDU	**Sudak**	**6.03**	**94**	*e*P	**Pn**	**10 08 18.9**	**+0.5**
SUDU				*e*S	**Sn**	**10 09 26.8**	**+0.3**
GERES	**GERESS Array B**	**9.29**	**295**	P	**Pn**	**10 09 00.3**	**-1.3**
	comp=N,0.0nm,0.3s,baz=104,slow=15,SNR=4.9						
FINES	**FINESS Array B**	**15.83**	**359**	P	**Pn**	**10 10 25.3**	**-0.1**
	comp=N,0.1nm,0.3s,baz=179,slow=13,SNR=3.3						
NOA	**NORSAR Array B**	**17.84**	**335**	P	**Pn**	**10 10 48.8**	**-0.9**
	comp=N,0.1nm,0.3s,baz=147,slow=11,SNR=3.1						
TORD	**Torodi Ar. Bea**	**38.63**	**221**	P	**P**	**10 14 00.8**	**+1.1**
	comp=N,0.5nm,0.4s,baz=32,slow=9.2,SNR=14						

IDC 27 10:14:59.9±1.7, 161N×12608E, h0km, mb3.7/4, mb1 3.9/4, mb1mx3.6/15, mbtmp3.7/4, Error ellipse: s-maj=163.0km s-min=22.5km az=64.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.90**	**160**	P	P	10 20 05.6	+0.2
	0.8nm,0.3s,baz=338,slow=11,SNR=32						
ASAR	**Alice Springs**	**26.25**	**164**	P	P	10 20 37.3	+0.4
	0.3nm,0.3s,baz=342,slow=7.4,SNR=18						
STKA	**Stephens Creek**	**36.41**	**157**	P	P	10 22 05.6	-0.6
	1.6nm,0.6s,baz=329,slow=11,SNR=5.9						
MKAR	**Makanchi Array**	**58.93**	**326**	P	P	10 25 01.1	+0.1
	0.5nm,0.4s,baz=126,slow=7.3,SNR=9.2						

IDC 27 10:18:19.2±8.6, 236N×12716E, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/15, mbtmp3.8/3, Error ellipse: s-maj=167.7km s-min=132.9km az=78.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.26**	**163**	P	P	10 23 28.1	-0.5
	1.2nm,0.3s,baz=342,slow=11,SNR=23						
ASAR	**Alice Springs**	**26.69**	**166**	P	P	10 24 00.3	+0.1
	0.3nm,0.5s,baz=347,slow=11,SNR=11						
STKA	**Stephens Creek**	**36.71**	**159**	P	P	10 25 28.4	+0.3
	1.1nm,0.4s,baz=341,slow=13,SNR=6.8						

*NEIC **27** 10:20:16.7, 3750S×17672E, h169km, MG3.7(WEL), After WEL.*
WEL 27 10:20:16.4±0.3, 3747S×17667E, h168km±2km, ML3.7/11, Error ellipse: s-maj=4.5km s-min=3.4km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.87**	**156**	P	Pn	10 20 42.0	+0.2
URZ	**Urewera**	**0.87**	**156**	PN	Pn	10 20 42.0	+0.2
URZ				SN	Sn	10 21 01.7	+0.3
MWZ	**Matawai**	**1.10**	**142**	P	Pn	10 20 43.9	+0.3
MWZ				S	Sn	10 21 04.7	0.0
MWZ	**Matawai**	**1.10**	**142**	PN	Pn	10 20 43.9	+0.2
MWZ				SN	Sn	10 21 04.7	+0.1
MXZ	**Matakaoa Point**	**1.31**	**95**	P	Pn	10 20 45.4	0.0
MXZ	**Matakaoa Point**	**1.31**	**95**	PN	Pn	10 20 45.4	0.0
PUZ	**Puketiti**	**1.40**	**116**	P	Pn	10 20 46.4	+0.1
PUZ	**Puketiti**	**1.40**	**116**	PN	Pn	10 20 46.4	+0.1
BKZ	**Black Stump Fm**	**1.70**	**185**	P	Pn	10 20 49.4	+0.1
BKZ				S	Sn	10 21 14.1	-0.8
BKZ	**Black Stump Fm**	**1.70**	**185**	PN	Pn	10 20 49.4	+0.1
BKZ				SN	Sn	10 21 14.1	-0.8
KNZ	**Kokohu**	**1.74**	**153**	P	Pn	10 20 50.1	+0.3
KNZ	**Kokohu**	**1.74**	**153**	PN	Pn	10 20 50.1	+0.4
WTVZ	**West Tongariro**	**1.85**	**207**	P	Pn	10 20 52.4	+1.5
WTVZ	**West Tongariro**	**1.85**	**207**	PN	Pn	10 20 52.4	+1.5
OTVZ	**Oturere**	**1.87**	**205**	PN	Pn	10 20 52.6	+1.4
NGZ	**Ngauruhoe**	**1.90**	**206**	P	Pn	10 20 53.0	+1.5
NGZ	**Ngauruhoe**	**1.90**	**206**	PN	Pn	10 20 53.0	+1.5
TUVZ	**Tukino**	**1.97**	**204**	P	Pn	10 20 53.2	+1.0
TUVZ	**Tukino**	**1.97**	**204**	PN	Pn	10 20 53.2	+1.1
FWVZ	**Far West T-bar**	**1.99**	**206**	P	Pn	10 20 53.7	+1.3
FWVZ	**Far West T-bar**	**1.99**	**206**	PN	Pn	10 20 53.7	+1.3
TRVZ	**Turoa**	**2.03**	**205**	PN	Pn	10 20 54.0	+1.1
WNVZ	**Wahianoa**	**2.04**	**204**	P	Pn	10 20 53.8	+0.8
WNVZ	**Wahianoa**	**2.04**	**204**	PN	Pn	10 20 53.8	+0.8
MOVZ	**Moawhango**	**2.07**	**200**	P	Pn	10 20 53.4	+0.1
MOVZ	**Moawhango**	**2.07**	**200**	PN	Pn	10 20 53.4	+0.1
PKVZ	**Pokaka**	**2.10**	**209**	PN	Pn	10 20 54.7	+1.0
MTVZ	**Mangateitei**	**2.13**	**206**	PN	Pn	10 20 55.1	+1.0
PXZ	**Pawanui**	**2.57**	**177**	PN	Pn	10 20 59.0	-0.1
WPHZ	**Waipukurau**	**2.60**	**184**	PN	Pn	10 20 59.0	-0.5
WAZ	**Wanganui**	**2.64**	**209**	P	Pn	10 21 00.2	+0.2
WAZ	**Wanganui**	**2.64**	**209**	PN	Pn	10 21 00.2	+0.2
TSZ	**Takapari Road**	**2.65**	**192**	P	Pn	10 20 59.6	-0.5
TSZ	**Takapari Road**	**2.65**	**192**	PN	Pn	10 20 59.6	-0.5
MRZ	**Mangatainoka R**	**3.30**	**194**	P	Pn	10 21 06.6	-1.5
MRZ	**Mangatainoka R**	**3.30**	**194**	PN	Pn	10 21 06.6	-1.5
HOWZ	**Holdsworth Sta**	**3.54**	**194**	PN	Pn	10 21 09.5	-1.7
KIW	**Kapiti Island**	**3.66**	**201**	P	Pn	10 21 10.6	-2.0
KIW	**Kapiti Island**	**3.66**	**201**	PN	Pn	10 21 10.6	-2.0
CAW	**Cannon Point**	**3.84**	**198**	P	Pn	10 21 12.8	-2.2
CAW	**Cannon Point**	**3.84**	**198**	PN	Pn	10 21 12.8	-2.2
MRW	**Makara Radio**	**4.05**	**201**	P	Pn	10 21 15.3	-2.4
MRW	**Makara Radio**	**4.05**	**201**	PN	Pn	10 21 15.3	-2.4
WEL	**Wellington**	**4.09**	**200**	PN	Pn	10 21 15.9	-2.3
MSWZ	**Moikau Station**	**4.09**	**195**	PN	Pn	10 21 15.8	-2.4
SNZO	**South Karori**	**4.13**	**201**	P	Pn	10 21 15.9	-2.8
SNZO	**South Karori**	**4.13**	**201**	PN	Pn	10 21 15.9	-2.8
TCW	**Tory Channel**	**4.17**	**206**	P	Pn	10 21 17.0	-2.3
TCW	**Tory Channel**	**4.17**	**206**	PN	Pn	10 21 17.0	-2.2
PLWZ	**Palliser**	**4.24**	**194**	PN	Pn	10 21 17.4	-2.8
TUWZ	**Tuamarina**	**4.49**	**207**	PN	Pn	10 21 20.5	-2.8
NNZ	**Nelson**	**4.53**	**213**	P	Pn	10 21 21.3	-2.6
NNZ	**Nelson**	**4.53**	**213**	PN	Pn	10 21 21.3	-2.6
BSWZ	**Blackbirch Sta**	**4.76**	**206**	P	Pn	10 21 24.3	-2.5
BSWZ	**Blackbirch Sta**	**4.76**	**206**	PN	Pn	10 21 24.3	-2.6
THZ	**Tophouse**	**5.18**	**213**	P	Pn	10 21 30.1	-2.3
THZ	**Tophouse**	**5.18**	**213**	PN	Pn	10 21 30.1	-2.2
KHZ	**Kahutara**	**5.50**	**205**	P	Pn	10 21 33.5	-3.0
KHZ	**Kahutara**	**5.50**	**205**	PN	Pn	10 21 33.5	-3.0
LTZ	**Lake Taylor**	**6.29**	**211**	P	Pn	10 21 43.7	-3.2
LTZ	**Lake Taylor**	**6.29**	**211**	PN	Pn	10 21 43.7	-3.2

*IDC **27** 10:23:11.9±1.6, 2742S×6737W, h122km±14km, mb3.7/4, mb1 3.5/9, mb1mx3.4/20, mbtmp3.5/9, Error ellipse: s-maj=28.1km s-min=11.9km az=108.0*
*ISCJB **27** 10:23:12.1±0.6, 2748S±003×6738W±007, h145km±12km, mb3.8/4, Error ellipse: s-maj=10.9km s-min=4.2km az=1.9*
*GUC **27** 10:23:12.6±0.7, 2751S×6741W, h150km, ML5.2*
*NEIC **27** 10:23:12.6, 2751S×6741W, h150km, MG5.2(GUC), After GUC.*
*BJI **27** 10:23:12.6, 2750S×6740W, h150km, mB4.9*
ISC 27 10:23:13.0±0.5, 2748S±003×6734W±007, h134km±12km, n34, σ0°91/42, mb3.8/4, 5C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**2.69**	**272**	⇑*iP*	**Pn**	**10 23 56.3**	**+0.6**
CPCH				*i* S	**Sn**	**10 24 28.4**	**-0.2**
CPCH	**Copiapo**	**2.69**	**272**	⇑*iP*	**Pn**	**10 23 56.3**	**+0.6**
CPCH				*i* S	**Sn**	**10 24 28.4**	**-0.2**
CPCH				AML	AML	10 24 31.1	
	comp=E,7μm,0.1s						
VACH	**Vallenar**	**3.22**	**249**	⇑*iP*	**Pn**	**10 24 02.5**	**-0.1**
VACH				*i* S	**Sn**	**10 24 40.4**	**-0.4**
VACH	**Vallenar**	**3.22**	**249**	⇑*iP*	**Pn**	**10 24 02.5**	**-0.1**
VACH				*i* S	**Sn**	**10 24 40.4**	**-0.4**
VACH				AML	AML	10 24 42.6	
	comp=N,3μm,0.2s						
LCO	**Las Campanas**	**3.34**	**242**	*e*Pn	**Pn**	**10 24 04.7**	**+0.5**
LCO				*e*Sn	**Sn**	**10 24 43.3**	**-0.4**
CPN1	**Cerro Paranal**	**3.96**	**315**	*e*P	**Pn**	**10 24 13.4**	**+1.0**
CPN1				*i* S	**Sn**	**10 24 59.7**	**+1.3**
TLL	**Tololo Astrono**	**4.05**	**228**	⇑*iP*	**Pn**	**10 24 14.0**	**+0.4**
TLL				*i* S	**Sn**	**10 25 01.8**	**+1.3**
CFAA	**Coronel Fontan**	**4.19**	**191**	P	**Pn**	**10 24 16.3**	**+1.0**
	comp=N,1.4nm,0.3s,baz=356,slow=12,SNR=113						
CFAA				S	**Sn**	**10 25 03.4**	**-0.3**
	comp=N,12nm,0.3s,baz=259,slow=19,SNR=45						
LSCH	**La Serena**	**4.20**	**234**	⇓*iP*	**Pn**	**10 24 14.8**	**-0.7**
LSCH				*i* S	**Sn**	**10 25 02.5**	**-1.5**
ANCH	**Antofagasta**	**4.69**	**323**	⇓*iP*	**Pn**	**10 24 22.4**	**+0.3**
ANCH				*i* S	**Sn**	**10 25 15.8**	**0.0**
CEN1	**Los Morros**	**4.83**	**327**	*e*P	**Pn**	**10 24 23.5**	**-0.4**
CEN1				*i* S	**Sn**	**10 25 16.8**	**-2.2**
CMCH	**Combarbala**	**4.88**	**220**	*e*P	**Pn**	**10 24 23.7**	**-0.8**
CMCH				*i* S	**Sn**	**10 25 18.9**	**-1.2**
LVC	**Limon Verde**	**5.05**	**343**	*e*Pn	**Pn**	**10 24 28.4**	**+1.5**
LVC				*e*Sn	**Sn**	**10 25 25.0**	**+0.6**
FCH	**Farellones**	**6.36**	**203**	*e*P	**Pn**	**10 24 45.9**	**+1.4**
CLCH	**Cerro Calan**	**6.51**	**204**	*e*P	**Pn**	**10 24 47.1**	**+0.7**
CLCH				*i* S	**Sn**	**10 25 58.3**	**-1.1**
LMEL	**Las Melosas**	**6.81**	**201**	*e*P	**Pn**	**10 24 51.2**	**+0.7**
CPUP	**Villa Florida**	**9.01**	**85**	*e*Pn	**Pn**	**10 25 19.2**	**-0.8**
CPUP	**Villa Florida**	**9.01**	**85**	P	**Pn**	**10 25 19.7**	**-0.3**
	comp=N,0.6nm,0.3s,baz=239,slow=12,SNR=4.8						
LPAZ	**La Paz**	**11.16**	**356**	*e*Pn	**Pn**	**10 25 48.0**	**-0.8**
LPAZ	**La Paz**	**11.16**	**356**	P	**Pn**	**10 25 48.2**	**-0.6**
	comp=N,0.5nm,0.3s,baz=141,slow=7.1,SNR=10						
LPAZ				S	**Sn**	**10 27 48.4**	**-3.6**
	comp=N,0.0nm,0.3s,baz=174,slow=10,SNR=2.7						
TRQA	**Tornquist**	**11.47**	**158**	*e*Pn	**Pn**	**10 25 52.1**	**-0.6**
SIV	**San Ignacio**	**12.82**	**28**	P	**Pn**	**10 26 09.9**	**-0.6**
	comp=N,0.2nm,0.3s,baz=219,slow=12,SNR=10						
PLCA	**Paso Flores**	**13.48**	**191**	P	**Pn**	**10 26 19.8**	**+0.9**
	comp=N,0.0nm,0.3s,baz=4.8,slow=12,SNR=2.1						
BDFB	**Brasilia**	**21.45**	**61**	P	**P**	**10 27 49.7**	**-1.0**
	comp=N,0.9nm,0.4s,mb3.5,baz=260,slow=22,SNR=5.8						
SNAA	**Sanae**	**56.19**	**160**	P	**P**	**10 32 39.3**	**+0.8**
	comp=N,0.4nm,0.5s,mb3.5,baz=286,slow=4.7,SNR=13						
DBIC	**Dimbokro**	**69.22**	**70**	P	**P**	**10 34 05.2**	**-0.6**
	comp=N,1.5nm,0.4s,mb4.1,baz=191,slow=9.1,SNR=6.6						
TORD	**Torodi Ar. Bea**	**78.11**	**68**	P	**P**	**10 34 58.2**	**+0.5**
	comp=N,4.6nm,0.7s,mb4.2,baz=266,slow=5.9,SNR=44						
ASAR	**Alice Springs**	**125.18**	**204**	PKP	PKPdf	10 41 57.1	-1.2
	comp=N,0.2nm,0.4s,baz=126,slow=1.8,SNR=7.1						
WRA	**Warramunga Arr**	**128.40**	**206**	PKP	PKPdf	10 42 04.4	-0.2
	comp=N,0.2nm,0.3s,baz=154,slow=2.0,SNR=16						
ZALV	**Zalesovo Beam**	**146.57**	**30**	PKP	PKPdf	10 42 35.3	-1.3
	comp=N,1.6nm,0.4s,baz=292,slow=4.5,SNR=2.5						
ZALV				PKPbc	PKPbc	10 42 38.8	+0.5
	comp=N,1.6nm,0.4s,baz=306,slow=5.2,SNR=5.6						
MKAR	**Makanchi Array**	**149.33**	**43**	PKPbc	PKPbc	10 42 47.0	+1.2
	comp=N,0.7nm,0.6s,baz=292,slow=3.3,SNR=7.4						
KMI	**Kunming**	**170.79**	**103**	PKP	PKPdf	10 43 03.0	-2.7
KMI				APKP		10 43 42.8	
KMI				XPKP		10 43 57.8	
KMI				PP	PP	10 48 17.3	+1.6
KMI				SS	SS	11 09 04.3	-4.3
KMI				PP	PP		
	comp=Z,61nm,6.0s						
KMI				LR	LR		
	comp=N,67nm,12.9s						
KMI				LR	LR		
	comp=E,70nm,12.9s						
KMI				LR	LR		
	comp=Z,52nm,20.6s						
CD2	**Chengdu**	**171.50**	**64**	*e*PKP	PKPdf	10 43 01.0	-4.9
CD2				APKP		10 43 45.3	
CD2				XPKP		10 44 02.5	
CD2				PP	PP	10 48 15.0	-4.0
CD2				SKS	SKSdf	10 49 46.8	-10
CD2				SKKS	SKKSac	10 54 43.5	-9.4
CD2				PP	PP		
	comp=Z,100nm,10.8s						
CD2				LR	LR		
	comp=N,90nm,15.5s						
CD2				LR	LR		
	comp=Z,70nm,15.6s						
NJ2	**Nanjing**	**172.95**	**312**	*e*PKP	PKPdf	10 43 02.5	-4.0

*IDC **27** 10:45:19.4±1.2, 3609N×267E, h0km, mb3.3/4, mb1 3.5/8, mb1mx3.4/25, mbtmp3.4/8, ML3.5/4, MS2.9/1, Ms1 2.9/1, ms1mx2.0/22, Error ellipse: s-maj=26.4km s-min=17.9km az=154.0*
*ISCJB **27** 10:45:20.1±0.3, 3622N±003×271E±002, h10km, mb3.2/4, Error ellipse: s-maj=4.1km s-min=2.8km az=7.9*
*CRAAG **27** 10:45:21.0, 36.15N×274E, Ml4.1*
*MDD **27** 10:45:21.7±0.7, 3608N×271E, h6km±6km, mb4.1/14, Error ellipse: s-maj=7.3km s-min=4.8km az=154.0, PRXIMO*
*LDG **27** 10:45:21.7±0.3, 3598N×274E, h10km, Ml3.4/4, Error ellipse: s-maj=6.4km s-min=4.3km az=157.0*
*CSEM **27** 10:45:21.1±0.2, 3608N×277E, h15km, ML3.4/12, Error ellipse: s-maj=3.8km s-min=2.8km az=171.0*
*NEIC **27** 10:45:22.5, 36.16N×260E, h0km, MG4.0(MDD), After MDD.*
*CNRM **27** 10:45:31.6, 3588N×252W, h30km, MD4.4*
ISC 27 10:45:22.0±0.6, 3613N±003×267E±003, h19km±4km, n87, σ1°23/121, mb3.2/4, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.24**	**72**	P	**Pg**	**10 45 25.6**	**-2.0**
ABA	**Alger-Bouzarea**	**0.73**	**23**	P	**Pg**	**10 45 36.3**	**-0.1**
ABMS	**Boumerdes**	**0.90**	**46**	P	**Pg**	**10 45 39.0**	**-0.6**
EBNR	**Beni Rached**	**0.94**	**280**	P	**Pg**	**10 45 39.2**	**-1.1**
ECHA	**Ech Chlef**	**1.06**	**272**	P	**Pb**	**10 45 42.1**	**+0.4**
ECHF	**Ech Chlef**	**1.08**	**272**	P	**Pb**	**10 45 42.1**	**+0.1**
EANR	**'Ain N'Sour**	**1.29**	**263**	P	**Pn**	**10 45 44.4**	**-0.5**
ETRT	**Tiaret**	**1.34**	**237**	P	**Pn**	**10 45 46.8**	**+1.2**
OKGL	**Djebel Kef Gue**	**1.65**	**267**	P	**Pn**	**10 45 51.0**	**+1.1**
OJGS	**Djebel Guires**	**1.68**	**249**	P	**Pn**	**10 45 49.0**	**-1.4**
SET	**Setif**	**2.21**	**87**	P	**Pn**	**10 45 57.0**	**-0.6**
CKHR	**Kef el Ahmar**	**2.30**	**92**	P	**Pn**	**10 46 00.0**	**+1.1**
ODJA	**Bouhanifia**	**2.43**	**252**	P	**Pn**	**10 46 05.0**	**+4.3**
DFRA	**Djebel Bou Aff**	**2.62**	**80**	P	**Pn**	**10 46 02.0**	**-1.3**
USTO	**Oran**	**2.65**	**262**	P	**Sn**	**10 46 23.0**	**-12**
CMER	**Merouana**	**2.67**	**100**	P	**Pg**	**10 46 13.0**	**-0.2**
CTEI	**Djebel Teioual**	**3.02**	**90**	P	**Pg**	**10 46 18.0**	**-2.0**
EIBI	**Ibiza**	**3.08**	**340**	Pn	**Pn**	**10 46 10.4**	**+0.8**
	14nm,0.4s,SNR=22						
EIBI				Sn	**Sn**	**10 46 45.1**	**-0.8**
	96nm,0.4s,SNR=7.9						
EIBI	**Ibiza**	**3.08**	**340**	Pn	**Pn**	**10 46 10.4**	**+0.8**
	14nm,0.4s,SNR=22						
EIBI				Sn	**Sn**	**10 46

EJON	**La Jonquera**	**6.31**	**1**	Pn	**Pn**	**10 46 57.0**	**+3.0**
	3.3nm,0.3s,SNR=7.9						
EJON	**La Jonquera**	**6.31**	**1**	Pn	**Pn**	**10 46 57.0**	**+3.0**
	3.3nm,0.3s,SNR=7.9						
ESDC	**Sonseca Array**	**6.33**	**306**	Pn	**Pn**	**10 46 55.6**	**+1.4**
	1.0nm,0.3s,baz=120,slow=13,SNR=18						
ESDC	**Sonseca Array**	**6.33**	**306**	Pn	**Pn**	**10 46 54.3**	**+0.1**
	SNR=7.9						
ESDC	**Sonseca Array**	**6.33**	**306**	Pn	**Pn**	**10 46 54.3**	**+0.1**
	SNR=7.9						
MDT	**Midelt**	**6.86**	**243**	Pn	**Pn**	**10 47 02.8**	**+1.2**
	0.3nm,0.3s,baz=74,slow=15,SNR=9.0						
MDT				Lg		10 48 54.4	
	1.2nm,0.3s,baz=64,slow=18,SNR=4.1						
MIF	**Mishlifen**	**7.05**	**250**	P	**Pn**	**10 47 09.0**	**+4.9**
MIF				S	**Sn**	**10 48 23.0**	**-0.7**
CZD	**Col de Zad**	**7.07**	**246**	P	**Pn**	**10 47 10.0**	**+5.5**
CZD				S	**Sn**	**10 48 24.0**	**-0.3**
ZFT	**Errachidia**	**7.12**	**237**	P	**Pn**	**10 47 09.0**	**+3.9**
ZFT				S	**Sn**	**10 48 23.0**	**-2.4**
EPF	**Esparros**	**7.12**	**346**	*e*Pn	**Pn**	**10 47 06.8**	**+1.7**
EPF				*e*Sn	**Sn**	**10 48 23.5**	**-2.0**
	6.7nm,0.7s						
EPF	**Esparros**	**7.12**	**346**	*e*Pn	**Pn**	**10 47 06.8**	**+1.7**
EPF				*e*Sn	**Sn**	**10 48 23.5**	**-2.0**
	3.3nm,0.7s						
MTLF	**Montolieu**	**7.21**	**357**	*e*Pn	**Pn**	**10 47 06.9**	**+0.6**
SJPF	**Ste Jean**	**7.60**	**338**	*e*Pn	**Pn**	**10 47 12.6**	**+1.0**
EMIN	**Mina Concepcio**	**7.66**	**285**	Pn	**Pn**	**10 47 11.4**	**-1.1**
	0.3nm,0.1s,SNR=7.9						
EMIN	**Mina Concepcio**	**7.66**	**285**	Pn	**Pn**	**10 47 11.4**	**-1.1**
LMR	**La Mourre**	**7.78**	**21**	*e*Pn	**Pn**	**10 47 15.1**	**+1.0**
LMR				*e*Sn	**Sn**	**10 48 36.8**	**-4.8**
	2.4nm,0.3s						
LMR	**La Mourre**	**7.78**	**21**	*e*Pn	**Pn**	**10 47 15.1**	**+1.0**
LMR				*e*Sn	**Sn**	**10 48 36.8**	**-4.8**
	1.2nm,0.3s						
LASF	**Ste Croix**	**7.99**	**6**	*e*Pn	**Pn**	**10 47 15.9**	**-1.1**
FRF	**La Foret Royal**	**8.03**	**21**	*e*Pn	**Pn**	**10 47 18.2**	**+0.7**
FRF				*e*Sn	**Sn**	**10 48 44.7**	**-3.0**
	7.1nm,0.4s						
FRF	**La Foret Royal**	**8.03**	**21**	Pn	**Pn**	**10 47 18.2**	**+0.7**
FRF				Sn	**Sn**	**10 48 44.7**	**-3.0**
	3.6nm,0.4s						
SMRF	**Simiane la Rot**	**8.15**	**15**	*e*Pn	**Pn**	**10 47 20.1**	**+0.9**
SMRF				*e*Sn	**Sn**	**10 48 48.0**	**-2.7**
	1.5nm,0.5s						
SMRF	**Simiane la Rot**	**8.15**	**15**	Pn	**Pn**	**10 47 20.1**	**+0.9**
SMRF				Sn	**Sn**	**10 48 48.0**	**-2.7**
	1.5nm,0.5s						
CAF	**Calviac**	**8.80**	**357**	*e*Pn	**Pn**	**10 47 28.2**	**+0.1**
ORIF	**Oris-en-Rattie**	**9.11**	**15**	*e*Pn	**Pn**	**10 47 32.4**	**0.0**
ECAL	**Calabor**	**9.34**	**311**	Pn	**Pn**	**10 47 36.7**	**+1.2**
ECAL	**Calabor**	**9.34**	**311**	Pn	**Pn**	**10 47 36.7**	**+1.2**
EARI	**Arriondas**	**9.39**	**322**	Pn	**Pn**	**10 47 39.8**	**+3.6**
EARI	**Arriondas**	**9.39**	**322**	Pn	**Pn**	**10 47 39.8**	**+3.6**
VAE	**Valguarnera**	**9.51**	**78**	LR	LR	10 51 56.2	
	comp=Z,68nm,20.2s,baz=126,slow=42						
LPG	**La Plagne**	**9.86**	**17**	*e*Pn	**Pn**	**10 47 43.0**	**+0.4**
LPL	**La Plagne**	**9.87**	**17**	*e*Pn	**Pn**	**10 47 42.5**	**-0.2**
CABF	**La Chapelle**	**10.78**	**13**	*e*Pn	**Pn**	**10 47 56.9**	**+1.7**
QUIF	**Quistinic**	**12.55**	**342**	*e*Pn	**Pn**	**10 48 19.8**	**+0.4**
GERES	**GERESS Array B**	**15.07**	**29**	Pn	**Pn**	**10 48 55.4**	**+1.8**
	0.1nm,0.3s,baz=227,slow=17,SNR=3.8						
TORD	**Torodi Ar. Bea**	**22.90**	**182**	P	**P**	**10 50 24.4**	**-0.2**
	0.9nm,0.9s,mb3.2,baz=352,slow=9.0,SNR=4.4						
AKASG	**Malin Array Be**	**24.00**	**44**	P	**P**	**10 50 34.2**	**-1.0**
	0.2nm,0.4s,mb2.9,baz=241,slow=10,SNR=2.7						
MKAR	**Makanchi Array**	**58.21**	**53**	P	**P**	**10 55 16.0**	**+1.2**
	0.3nm,0.7s,mb3.5,baz=286,slow=8.4,SNR=3.3						
YKA	**Yellowknife Ar**	**69.66**	**334**	P	**P**	**10 56 29.8**	**+0.1**
	0.3nm,0.8s,mb3.3,baz=59,slow=5.9,SNR=4.7						

*CSEM **27** 11:01:27.2, 3611N×308E, h0km, ML3.5, After ALG*

CRAAG 27 11:01:27.2, 3611N×308E, Ml3.5, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	**Djebel Mahouad**	**0.14**	**313**	P	Pg	11 01 29.3	-0.5
ABA	**Alger-Bouzarea**	**0.69**	**357**	P	Pg	11 01 42.2	+1.7
ABMS	**Boumerdes**	**0.72**	**27**	P	Pg	11 01 44.5	+3.5
EBNR	**Beni Rached**	**1.26**	**279**	P	Pg	11 01 43.0	-8.4
EANR	**'Ain N'Sour**	**1.61**	**265**	P	Pn	11 01 50.0	-6.9
ETRT	**Tiaret**	**1.61**	**244**	P	Pn	11 01 52.4	-4.5

*ISCJB **27** 11:20:05.7±0.5, 1056N±003×6262W±003, h96km±7km, Error ellipse: s-maj=6.1km s-min=3.9km az=143.7*
*TRN **27** 11:20:08.9, 1066N×6249W, h86km, MD3.7*
*NEIC **27** 11:20:08.9, 1066N×6249W, h86km, MD3.7(TRN), After TRN.*
*FUNV **27** 11:20:08.3, 1055N×6262W, h93km, MW3.4*

ISC 27 11:20:06.4±0.5, 1058N±003×6260W±003, h94km±8km, n28, σ1§21/45, 5C-2D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUNV	**Guanoco**	**0.53**	**219**	⇑*i*P	**Pn**	**11 20 24.1**	**+2.3**
GUNV				*e*S	**Sn**	**11 20 34.2**	**+1.0**
CRUV	**Carupano**	**0.63**	**279**	*e*P	**Pn**	**11 20 23.7**	**+1.1**
TCE	**Chacachacare**	**0.84**	**82**	*e*P	**Pn**	**11 20 25.9**	**+1.2**
TCE				*e*S	**Sn**	**11 20 37.5**	**-0.8**
ITEV	**Isla Los Testi**	**0.93**	**326**	⇓*i*P	**Pn**	**11 20 26.3**	**+0.7**
TPP	**Pointe-a-Pierr**	**1.16**	**103**	*e*P	**Sn**	**11 20 44.1**	**-0.5**
TRN	**Trinidad (W)**	**1.18**	**86**	⇓*i*P	**Pn**	**11 20 29.5**	**+1.0**
TRN				*e*S	**Sn**	**11 20 44.0**	**-1.1**
TBH	**Brigand Hill**	**1.51**	**93**	*e*P	**Pn**	**11 20 33.8**	**+1.3**
TBH				*e*S	**Sn**	**11 20 51.2**	**-1.1**
ORIV	**Oritupano**	**1.69**	**208**	⇑*i*P	**Pn**	**11 20 36.6**	**+1.8**
ORIV				*e*S	**Sn**	**11 20 55.9**	**-0.5**
GRW	**Mount Saint Ca**	**1.83**	**30**	*e*P	**Pn**	**11 20 37.5**	**+0.9**
GRW				*e*S	**Sn**	**11 20 56.8**	**-2.6**
GRHS	**Sauteurs**	**1.89**	**30**	*e*P	**Pn**	**11 20 38.1**	**+0.7**
GRHS				*e*S	**Sn**	**11 20 59.8**	**-1.1**
TPR	**Prospect**	**1.89**	**71**	*e*P	**Pn**	**11 20 37.8**	**+0.4**
TPR				*e*S	**Sn**	**11 20 00.5**	**-0.5**
GRSS	**Sisters**	**1.97**	**29**	*e*P	**Pn**	**11 20 39.2**	**+0.9**
GRSS				*e*S	**Sn**	**11 21 02.6**	**-0.1**
GRIC	**Isle de Caille**	**1.97**	**30**	*e*P	**Pn**	**11 20 39.0**	**+0.6**
GRIC				*e*S	**Sn**	**11 21 01.7**	**-1.1**
PCRV	**Puerto La Cruz**	**2.04**	**259**	⇑*i*P	**Pn**	**11 20 40.4**	**+1.1**
PCRV				*e*S	**Sn**	**11 21 02.1**	**-2.2**
IBAV	**Isla La Blanqu**	**2.30**	**303**	*e*P	**Pn**	**11 20 43.9**	**+1.2**
RIOV	**Rio Grande**	**2.61**	**163**	*e*P	**Pn**	**11 20 47.7**	**+0.8**
PRGV	**PARIAGUAN**	**2.70**	**228**	*e*P	**Pn**	**11 20 49.0**	**+0.9**
GURV	**El Guri**	**2.84**	**190**	⇑*i*P	**Pn**	**11 20 50.5**	**+0.6**
GURV				*e*S	**Sn**	**11 21 21.7**	**-1.6**
CUPV	**Cœpira**	**3.18**	**261**	⇑*i*P	**Pn**	**11 20 55.6**	**+1.2**
CUPV				*e*S	**Sn**	**11 21 29.5**	**-1.9**
SLB	**Belfond**	**3.58**	**25**	*e*P	**Pn**	**11 21 00.9**	**+1.1**
SLB				*e*S	**Sn**	**11 21 38.0**	**-3.0**
BIRV	**Birongo**	**3.61**	**269**	*e*P	**Pn**	**11 21 01.3**	**+1.1**
BIRV				*e*S	**Sn**	**11 21 39.8**	**-2.0**
MERV	**Las Mercedes**	**3.87**	**250**	*e*P	**Pn**	**11 21 04.0**	**+0.2**
MERV				*e*S	**Sn**	**11 21 45.4**	**-2.8**
LUEV	**Luepa**	**4.84**	**166**	*e*P	**Pn**	**11 21 16.3**	**-0.6**
LUEV				*e*S	**Sn**	**11 22 08.5**	**-3.2**
CAOV	**Caicara del Or**	**4.89**	**229**	*e*P	**Pn**	**11 21 17.4**	**-0.2**
TURV	**Turiamo**	**5.15**	**269**	*e*P	**Pn**	**11 21 21.3**	**+0.1**
BAUV	**El Baul**	**5.60**	**254**	*e*P	**Pn**	**11 21 26.8**	**-0.5**
TEPV	**Terepaima**	**6.51**	**265**	*e*P	**Pn**	**11 21 39.2**	**-0.5**
SOCV	**Socops**	**8.45**	**255**	*e*P	**Pn**	**11 22 05.3**	**-0.9**

IDC 27 12:03:16.0±3.5, 5446N×8680E, h0km, mb1 2.7/1, mb1mx2.7/21, mbtmp2.7/1, ML2.8/1, Error ellipse: s-maj=29.1km s-min=3.1km az=67.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**1.27**	**247**	Pg	Pg	12 03 38.9	-1.4
	1.0nm,0.3s,baz=62,slow=17,SNR=8.6						
ZALV				Lg		12 03 57.3	
	1.2nm,0.3s,baz=64,slow=27,SNR=8.0						
MKAR	**Makanchi Array**	**8.19**	**202**	Pn	Pn	12 05 17.6	+1.5
	0.1nm,0.3s,baz=28,slow=14,SNR=4.8						
MKAR				Sn	Sn	12 06 48.8	-0.4
	0.0nm,0.3s,baz=29,slow=23,SNR=5.9						
MKAR				Lg		12 07 38.6	
	0.0nm,0.3s,baz=18,slow=39,SNR=4.4						

MAN 27 12:10:22, 612N×12678E, h1km, mb4.7, ML3.6, MS3.6, 2C, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.97**	**328**	*e*P	Pg	12 10 41.4	+0.8
MATI				*e*S	Sg	12 10 56.9	+3.6
GSPH	**General Santos**	**1.82**	**269**	*e*P	Pn	12 10 51.3	-3.2
GSPH				*e*S	Sn	12 11 12.4	-5.9
KCP	**Kidapawan**	**1.90**	**298**	⇑*e*P	Pn	12 10 54.2	-1.4
KCP				*e*S	Sn	12 11 07.1	-13
BUKP	**Musuan**	**2.44**	**316**	*e*P	Pn	12 11 03.1	+0.1
BUKP				*e*S	Sn	12 11 35.1	+1.6
PAGZ	**Pagadian**	**3.79**	**297**	*e*P	Pn	12 11 21.4	-0.1
SCPH	**Surigao**	**3.85**	**341**	⇑*e*P	Pn	12 11 24.3	+1.8

IDC 27 12:29:48.4±3.0, 3459N×8269E, h0km, mb3.3/4, mb1 3.6/5, mb1mx3.3/22, mbtmp3.3/5, ML3.3/1, Error ellipse: s-maj=158.4km s-min=25.7km az=66.0, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKAR	**Makanchi Array**	**12.20**	**359**	Pn	Pn	12 32 44.5	+1.2
	0.2nm,0.3s,baz=185,slow=14,SNR=3.2						
BVAR	**Borovoye Array**	**20.41**	**338**	P	P	12 34 26.7	-0.1
	0.8nm,0.7s,baz=134,slow=13,SNR=5.8						
WRA	**Warramunga Arr**	**73.14**	**130**	P	P	12 41 21.3	+0.4
	0.5nm,1.1s,baz=326,slow=5.6,SNR=4.7						
ASAR	**Alice Springs**	**75.62**	**132**	P	P	12 41 35.2	0.0
	0.3nm,0.9s,baz=325,slow=6.4,SNR=4.4						
YKA	**Yellowknife Ar**	**82.26**	**8**	P	P	12 42 11.0	-0.2
	0.2nm,0.5s,baz=340,slow=5.4,SNR=4.6						

*ISCJB **27** 12:37:19.0±5.5, 7.1S±0.1×15568E±008, h6km±34km, mb4.2/11, Error ellipse: s-maj=18.7km s-min=10.4km az=26.7*
*IDC **27** 12:37:19.1±0.8, 723S×15572E, h0km, mb4.3/10, mb1 4.3/11, mb1mx4.2/16, mbtmp4.3/11, ML4.3/1, Error ellipse: s-maj=23.6km s-min=20.6km az=109.0*

ISC 27 12:37:20.4±6.5, 72S±01×15565E±007, h5km±41km, n16, σ0§80/15, mb4.2/11, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.82**	**118**	Pn	**Pn**	**12 38 33.5**	**-0.2**
	14nm,0.3s,baz=224,slow=1.8,SNR=5.8						
HNR				Sn	**Sn**	**12 39 30.6**	**+0.6**
	18nm,0.3s,baz=101,slow=19,SNR=6.1						
KAKA	**Kakadu**	**23.51**	**255**	*e*P	**P**	**12 42 32.4**	**+0.6**
	5.4nm,0.4s,mb4.3						
WB2	**Warramunga Arr**	**24.26**	**236**	*e*P	**P**	**12 42 39.0**	**+0.3**
WRA	**Warramunga Arr**	**24.27**	**236**	P	**P**	**12 42 38.9**	**+0.1**
	2.3nm,0.6s,mb3.8,baz=62,slow=9.7,SNR=30						
ASAR	**Alice Springs**	**26.57**	**229**	P	**P**	**12 42 58.8**	**-0.9**
	0.4nm,0.6s,mb3.1,baz=58,slow=10,SNR=19						
FITZ	**Fitzroy Crossi**	**31.19**	**247**	*e*P	**P**	**12 43 40.8**	**-0.1**
	4.4nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**31.19**	**247**	P	**P**	**12 43 40.8**	**0.0**
	2.5nm,0.8s,mb4.1,baz=109,slow=5.6,SNR=12						
MJAR	**Matsushiro Arr**	**46.44**	**341**	P	**P**	**12 45 49.1**	**+0.8**
	1.0nm,0.5s,mb4.0,baz=118,slow=2.4,SNR=6.3						
KSRS	**Korea Array**	**51.38**	**332**	P	**P**	**12 46 26.5**	**+0.3**
	1.7nm,0.7s,mb4.1,baz=143,slow=7.3,SNR=6.3						
SONM	**Songino Array**	**69.81**	**327**	P	**P**	**12 48 33.6**	**+1.6**
	2.9nm,0.6s,mb4.4,baz=129,slow=5.9,SNR=30						
MKAR	**Makanchi Array**	**83.95**	**319**	P	**P**	**12 49 52.1**	**+0.4**
	7.7nm,0.7s,mb5.0,baz=101,slow=5.9,SNR=53						
ZALV	**Zalesovo Beam**	**84.67**	**326**	P	**P**	**12 49 54.3**	**-0.9**
	3.1nm,0.4s,mb4.8,baz=108,slow=5.3,SNR=16						
BVAR	**Borovoye Array**	**92.81**	**323**	P	**P**	**12 50 33.0**	**-1.1**
	2.3nm,0.6s,mb4.8,baz=104,slow=4.3,SNR=14						
YKA	**Yellowknife Ar**	**96.17**	**28**	P	**P**	**12 50 47.7**	**-1.5**
	0.2nm,0.7s,mb3.6,baz=262,slow=4.4,SNR=3.2						
BDFB	**Brasilia**	**147.41**	**134**	PKPbc	PKPbc	12 57 04.1	-2.4
	1.2nm,0.7s,baz=170,slow=26,SNR=3.6						
TORD	**Torodi Ar. Bea**	**153.69**	**285**	PKPbc	PKPbc	12 57 20.5	-1.2
	0.2nm,0.3s,baz=68,slow=1.9,SNR=9.3						
TORD				PKPab	PKPab	12 57 33.5	-0.8
	0.4nm,0.7s,baz=76,slow=4.3,SNR=4.6						

*ISCJB **27** 12:43:11.3±0.8, 3591N±003×997W±006, h10km, Error ellipse: s-maj=7.2km s-min=4.4km az=13.7*
*MDD **27** 12:43:12.8±1.3, 3594N×1043W, h40km±59km, mbLg2.6/14, Error ellipse: s-maj=15.9km s-min=8.1km az=95.0, PRXIMO*
*CSEM **27** 12:43:12.0±0.4, 3590N×1009W, h30km, ML2.5, Error ellipse: s-maj=9.1km s-min=4.7km az=106.0*
*CNRM **27** 12:43:13.8, 3582N×1041W, h30km, MD3.7*
*NEIC **27** 12:43:13.1, 3617N×1022W, h0km, MN2.5(MDD), After MDD.*

ISC 27 12:43:12.9±0.8, 3594N±003×1002W±006, h10km, n45, σ1§22/84, Azores-Cape St. Vincent Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MORF	**Marmelete**	**1.75**	**38**	P	**Pn**	**12 43 43.6**	**+0.3**
MORF				S	**Sn**	**12 44 05.0**	**-0.6**
EGRO	**El Granado**	**2.58**	**51**	P	**Pn**	**12 43 55.4**	**+0.6**
	5.9nm,0.2s,SNR=34						
EGRO				S	**Sn**	**12 44 25.9**	**-0.2**
	12nm,0.3s,SNR=8.5						
EGRO	**El Granado**	**2.58**	**51**	P	**Pn**	**12 43 55.4**	**+0.7**
	5.9nm,0.2s,SNR=34						
EGRO				S	**Sn**	**12 44 25.9**	**-0.3**
	12nm,0.3s,SNR=8.5						
EMIN	**Mina Concepcio**	**3.24**	**55**	P	**Pn**	**12 44 04.3**	**+0.5**
	3.7nm,0.3s,SNR=74						
EMIN				S	**Sn**	**12 44 41.8**	**-0.7**
	4.4nm,0.2s,SNR=8.1						
EMIN	**Mina Concepcio**	**3.24**	**55**	P	**Pn**	**12 44 04.3**	**+0.5**
	3.7nm,0.3s,SNR=74						
EMIN				S	**Sn**	**12 44 41.8**	**-0.7**
	4.4nm,0.2s,SNR=8.1						
ESPR	**Espera**	**3.48**	**73**	P	**Pn**	**12 44 08.6**	**+1.5**
	14nm,0.3s,SNR=28						
ESPR				S	**Sn**	**12 44 49.0**	**+0.7**
	6.6nm,0.3s,SNR=5.2						
ESPR	**Espera**	**3.48**	**73**	P	**Pn**	**12 44 08.6**	**+1.5**
	14nm,0.3s,SNR=28						
ESPR				S	**Sn**	**12 44 49.0**	**+0.7**
	6.6nm,0.3s,SNR=5.2						
EBAD	**Badajoz**	**3.69**	**40**	P	**Pn**	**12 44 09.5**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**12 44 51.4**	**-2.1**
	0.3nm,0.0s,SNR=7.9						
EBAD	**Badajoz**	**3.69**	**40**	P	**Pn**	**12 44 09.5**	**-0.4**
	0.9nm,0.1s,SNR=7.9						
EBAD				S	**Sn**	**12 44 51.3**	**-2.2**
	0.3nm,0.0s,SNR=7.9						
EJIF	**Jimena Fronter**	**3.71**	**81**	P	**Pn**	**12 44 12.4**	**+2.2**
	1.3nm,0.1s,SNR=7.9						
EJIF				S	**Sn**	**12 44 53.3**	**-0.8**
	1.3nm,0.2s,SNR=7.9						
JHA	**Jbel Lahdid**	**4.22**	**173**	*i* P	**Pn**	**12 44 15.0**	**-2.2**
JHA				*i* S	**Sn**	**12 44 59.0**	**-7.5**
ECAB	**El Cabril**	**4.25**	**59**	P	**Pn**	**12 44 18.4**	**+0.8**
ECAB				S	**Sn**	**12 45 05.4**	**-1.9**
ECAB	**El Cabril**	**4.25**	**59**	P	**Pn**	**12 44 18.4**	**+0.8**
	7.3nm,0.3s,SNR=37						
ECAB				S	**Sn**	**12 45 05.4**	**-1.9**
	5.5nm,0.3s						
ECAB	**El Cabril**	**4.25**	**59**	P	**Pn**	**12 44 18.4**	**+0.7**
	7.3nm,0.3s,SNR=37						
ECAB				S	**Sn**	**12 45 05.4**	**-1.9**
	5.5nm,0.3s						
EMIJ	**Mijas**	**4.28**	**80**	P	**Pn**	**12 44 19.4**	**+1.3**
	1.3nm,0.4s,SNR=7.9						
EMIJ				S	**Sn**	**12 45 09.6**	**+1.5**
	2.5nm,0.2s,SNR=7.9						
CIA	**Chichaoua**	**4.49**	**166**	*i* P	**Pn**	**12 44 19.0**	**-1.9**
CIA				*i* S	**Sn**	**12 45 06.5**	**-6.7**
MIF	**Mishlifen**	**4.68**	**121**	*i* P	**Pn**	**12 44 25.0**	**+1.4**
MIF				*i* S	**Sn**	**12 45 17.0**	**-1.0**
ELOJ	**Sierra Loja**	**4.87**	**74**	P	**Pn**	**12 44 27.8**	**+1.6**
	1.9nm,0.3s,SNR=4.0						
ELOJ				S	**Sn**	**12 45 23.9**	**+1.2**
	2.1nm,0.3s,SNR=7.9						
EADA	**Adamuz**	**4.89**	**61**	P	**Pn**	**12 44 27.2**	**+0.8**
	4.2nm,0.3s,SNR=61						
EADA				S	**Sn**	**12 45 21.4**	**-1.6**
	3.1nm,0.4s						
EADA	**Adamuz**	**4.89**	**61**	P	**Pn**	**12 44 27.2**	**+0.8**
	4.2nm,0.3s,SNR=61						
EADA				S	**Sn**	**12 45 21.4**	**-1.6**
	3.1nm,0.4s						
ELUQ	**Luque**	**4.89**	**69**	P	**Pn**	**12 44 27.7**	**+1.3**
	2.6nm,0.2s,SNR=7.9						
ELUQ				S	**Sn**	**12 45 24.1**	**+1.0**
	1.2nm,0.2s,SNR=7.9						
CZD	**Col de Zad**	**5.03**	**124**	*i* P	**Pn**	**12 44 29.0**	**+0.7**
CZD				*i* S	**Sn**	**12 45 25.0**	**-1.5**
OUK	**Oukaimeden**	**5.05**	**159**	*i* P	**Pn**	**12 44 27.0**	**-1.6**
OUK				*e*S	**Sn**	**12 45 21.0**	**-6.0**
EBAN	**Banos Encina**	**5.46**	**64**	P	**Pn**	**12 44 34.7**	**+0.5**
EBAN				S	**Sn**	**12 45 33.4**	**-3.6**
EBAN	**Banos Encina**	**5.46**	**64**	P	**Pn**	**12 44 34.7**	**+0.5**
	4.2nm,0.2s,SNR=7.8						
EBAN				S	**Sn**	**12 45 34.8**	**-2.2**
	2.4nm,0.3s						
EQES	**Quesada**	**5.87**	**69**	P	**Pn**	**12 44 40.7**	**+0.8**
	1.4nm,0.4s,SNR=7.8						
EQES				S	**Sn**	**12 45 46.8**	**-0.5**
	0.1nm,0.1s						
EQES	**Quesada**	**5.87**	**69**	P	**Pn**	**12 44 40.7**	**+0.8**
	1.4nm,0.4s,SNR=7.8						
EQES				S	**Sn**	**12 45 46.8**	**-0.4**
	0.1nm,0.1s						
ESDC	**Sonseca Array**	**6.07**	**50**	P	**Pn**	**12 44 42.9**	**+0.3**
	1.6nm,0.2s,baz=237,slow=13,SNR=70						
ESDC				S	**Sn**	**12 45 49.7**	**-2.4**
	3.7nm,0.5s,baz=240,slow=23,SNR=39						
ESDC	**Sonseca Array**	**6.07**	**50**	P	**Pn**	**12 44 42.9**	**+0.3**
	1.6nm,0.2s,SNR=70						
ZFT	**Errachidia**	**6.11**	**128**	*i* P	**Pn**	**12 44 44.0**	**+0.8**
ZFT				*i* S	**Sn**	**12 45 53.0**	**-0.1**
ELOB	**Lobios**	**6.11**	**14**	P	**Pn**	**12 44 39.9**	**-3.3**
ELOB				S	**Sn**	**12 45 43.6**	**-10**
ELOB	**Lobios**	**6.11**	**14**	P	**Pn**	**12 44 39.9**	**-3.3**
	3.2nm,0.4s,SNR=4.0						
ELOB				S	**Sn**	**12 45 45.4**	**-7.7**
	5.8nm,0.7s,SNR=8.1						
ECAL	**Calabor**	**6.51**	**22**	S	**Sn**	**12 45 57.7**	**-5.3**
	0.3nm,0.1s,SNR=7.9						
EVIA	**Vianos**	**6.57**	**64**	P	**Pn**	**12 44 49.7**	**+0.3**
	2.9nm,0.5s,SNR=4.0						
EVIA				S	**Sn**	**12 45 59.1**	**-5.3**
	1.7nm,0.4s						
GUD	**Guadarrama**	**6.58**	**43**	P	**Pn**	**12 44 49.7**	**0.0**
	2.6nm,0.4s,SNR=6.1						
GUD				S	**Sn**	**12 45 58.9**	**-5.7**
	1.8nm,0.5s						
ERUA	**La Rua**	**6.82**	**18**	P	**Pn**	**12 44 53.3**	**+0.4**
ERUA				S	**Sn**	**12 46 02.7**	**-7.9**
ERUA	**La Rua**	**6.82**	**18**	P	**Pn**	**12 44 53.3**	**+0.4**
	2.9nm,0.1s,SNR=4.0						
ERUA				S	**Sn**	**12 46 05.3**	**-5.3**
	1.9nm,0.1s,SNR=7.9						
EMAZ	**Mazaricos**	**7.05**	**6**	S	**Sn**	**12 46 06.0**	**-10**
	0.1nm,0.0s,SNR=6.1						
ETOB	**Tobarra**	**7.27**	**66**	P	**Pn**	**12 44 59.4**	**+0.3**
	1.8nm,0.4s,SNR=11						
ETOB				S	**Sn**	**12 46 18.2**	**-3.5**
	0.0nm,0.0s,SNR=6.4						
ETOB	**Tobarra**	**7.27**	**66**	P	**Pn**	**12 44 59.5**	**+0.4**
EPON	**Pontenova**	**7.70**	**16**	S	**Sn**	**12 46 23.9**	**-8.3**
	0.4nm,0.1s,SNR=7.9						
EARI	**Arriondas**	**8.23**	**25**	S	**Sn**	**12 46 39.9**	**-5.4**
	SNR=4.0						
EBEN	**Beniarda**	**8.28**	**68**	P	**Pn**	**12 45 12.8**	**-0.1**
EBEN				S	**Sn**	**12 46 42.4**	**-4.0**
EMOS	**Mosqueruela**	**8.72**	**57**	P	**Pn**	**12 45 21.1**	**+2.1**
EMOS				S	**Sn**	**12 46 57.2**	**-0.1**
EMOS	**Mosqueruela**	**8.72**	**57**	P	**Pn**	**12 45 21.1**	**+2.1**
EMOS				S	**Sn**	**12 46 57.2**	**-0.1**

*ISCJB **27** 12:55:37.6±0.6, 42.16N±003×1507E±003, h2km±5km, Error ellipse: s-maj=5.1km s-min=3.0km az=21.5*
*CSEM **27** 12:55:37.4±0.1, 42.14N×1507E, h12km, ML3.5/8, Error ellipse: s-maj=1.8km s-min=1.1km az=36.0*
*ROM **27** 12:55:38.0±0.2, 42.11N×1506E, h5km, Md2.7/39, Ml2.6/29, Error ellipse: s-maj=2.0km s-min=1.4km az=24.0*
*NEIC **27** 12:55:38.0, 42.11N×1506E, h5km, ML2.6

SNAL	**S. Angelo Dei**	**1.23 175**	Pg	**Pn**	**12 55 59.4**	**-2.3**
AQU	**L'Aquila**	**1.25 280**	Pn	**Pn**	**12 56 00.7**	**-1.3**
AQU	**L'Aquila**	**1.25 280**	Pn	**Pn**	**12 56 00.6**	**-1.4**
VULT	**Monte Vulture**	**1.27 161**	Pg	**Pn**	**12 56 01.6**	**-0.5**
	189nm,0.3s					
CAMP	**Campotosto**	**1.29 288**	Pg	**Pn**	**12 56 02.2**	**-0.3**
	14nm,0.5s					
CSSN	**Cassano Irpino**	**1.29 182**	Pg	**Pn**	**12 56 02.3**	**-0.2**
	22nm,0.3s					
MCRV	**Calabrutti - M**	**1.37 177**	Pg	**Pn**	**12 56 03.4**	**-0.2**
	122nm,0.4s					
MRVN	**Minervino Murg**	**1.38 142**	Pg	**Pn**	**12 56 02.7**	**-1.0**
	58nm,0.5s					
MRLC	**Muro Lucano**	**1.43 167**	Pg	**Pn**	**12 56 03.6**	**-0.8**
FIAM	**Fiamignano**	**1.46 275**	Pg	**Pn**	**12 56 06.1**	**+1.3**
	90nm,0.9s					
CERT	**Cerreto**	**1.57 263**	Pg	**Pn**	**12 56 07.9**	**+1.6**
LNSS	**Leonessa**	**1.57 287**	Pg	**Pn**	**12 56 07.5**	**+1.2**
	111nm,0.6s					
NRCA	**Norcia**	**1.60 296**	Pg	**Pn**	**12 56 07.5**	**+0.8**
SGO	**Sicignano**	**1.60 174**	Pg	**Pn**	**12 56 07.3**	**+0.5**
	23nm,0.4s					
BAI	**Bari**	**1.71 127**	*e*Pg	**Pn**	**12 56 08.9**	**+0.6**
SG1	**Sgolgore (BA)**	**1.78 137**	*e*Pg	**Pn**	**12 56 08.9**	**-0.4**
CESI	**CESI - Serrava**	**1.81 299**	Pg	**Pn**	**12 56 11.4**	**+1.7**
	22nm,0.4s					
MIGL	**Miglionico**	**1.86 146**	Pg	**Pn**	**12 56 09.7**	**-0.6**
	483nm,1.3s					
FSSB	**Fossombrone**	**2.28 313**	Pg	**Pn**	**12 56 16.8**	**+0.7**

IDC 27 13:20:02.2±2.7, 2384S×6675W, h212km±29km, mb3.4/1, mb1 3.3/4, mb1mx3.1/16, mbtmp3.3/4, Error ellipse: s-maj=31.5km s-min=22.8km az=104.0, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**7.63**	**350**	P	Pn	13 21 50.9	+0.2
	1.3nm,0.3s,baz=174,slow=7.7,SNR=37						
LPAZ				S	S	13 23 18.9	+1.7
	0.0nm,0.3s,baz=263,slow=20,SNR=3.2						
PLCA	**Paso Flores**	**17.14**	**190**	P	P	13 23 47.9	+0.1
	0.1nm,0.3s,baz=23,slow=15,SNR=3.1						
BDFB	**Brasilia**	**19.41**	**69**	P	P	13 24 13.1	+0.5
	0.4nm,0.3s,baz=255,slow=17,SNR=9.6						
TORD	**Torodi Ar. Bea**	**76.30**	**69**	P	P	13 31 27.5	-0.6
	0.7nm,0.5s,baz=243,slow=5.1,SNR=12						
MKAR	**Makanchi Array**	**146.26**	**40**	PKPbc	PKPbc	13 39 17.9	+0.3
	0.9nm,0.7s,baz=311,slow=2.9,SNR=4.3						

GUC 27 13:22:40.0±0.7, 3411S×7002W, h8km±4km, MD3.5, ML2.3, 7C-2D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LMEL	**Las Melosas**	**0.30**	**330**	⇓*i*P	Pg	13 22 46.0	0.0
LMEL				*i* S	Sg	13 22 50.5	+0.6
LMEL				AML	AML	13 22 53.0	
	comp=N,860nm,0.6s						
CICH	**Cipreses**	**0.39**	**237**	⇑*i*P	Pg	13 22 47.7	+0.1
CICH				*i* S	Sg	13 22 53.3	+0.4
CACH	**El Canelo**	**0.48**	**269**	⇑*i*P	Pg	13 22 49.1	-0.2
CACH				*i* S	Sg	13 22 55.8	+0.2
SJCH	**San Jose de Ma**	**0.54**	**329**	⇓*i*P	Pg	13 22 50.4	-0.1
SJCH				*i* S	Sg	13 22 58.2	+0.7
SJCH				AML	AML	13 22 59.4	
	comp=N,279nm,0.2s						
CHCH	**Chadas Angostu**	**0.55**	**288**	⇑*i*P	Pg	13 22 50.7	0.0
CHCH				*i* S	Sg	13 22 58.0	+0.1
PCH	**Pirque**	**0.64**	**320**	⇑*i*P	Pg	13 22 52.2	-0.1
PCH				*i* S	Sg	13 23 00.9	+0.4
FCH	**Farellones**	**0.81**	**344**	*e*P	Pg	13 22 55.4	-0.2
FCH				*i* S	Sg	13 23 06.9	+0.8
FCH				AML	AML	13 23 07.7	
	comp=N,222nm,0.3s						
CLCH	**Cerro Calan**	**0.83**	**329**	⇑*i*P	Pg	13 22 55.7	-0.3
CLCH				*i* S	Sg	13 23 07.5	+0.8
CLCH				AML	AML	13 23 10.6	
	comp=E,236nm,0.5s						
TACH	**Talagante**	**0.89**	**300**	*e*P	Pg	13 22 56.4	-0.6
TACH				*i* S	Sg	13 23 08.5	-0.1
SFDO	**San Fernando**	**0.96**	**238**	⇑*i*P	Pg	13 22 57.8	-0.7
SFDO				*i* S	Sg	13 23 10.9	-0.1
PEL	**Peldehue**	**1.11**	**330**	*e*P	Pg	13 23 00.3	-1.0
PEL				*i* S	Sg	13 23 15.9	+0.1
PEL				AML	AML	13 23 16.8	
	comp=E,161nm,0.3s						
LNV	**Longovilo**	**1.16**	**277**	⇑*i*P	Pb	13 23 01.2	-1.1

*CSEM **27** 13:35:50.8±0.7, 3829N×2032E, h2km, MD3.5, Error ellipse: s-maj=14.5km s-min=6.2km az=56.0*
*ATH **27** 13:35:50.6, 3828N×2042E, h16km±1km, MD3.5/5*
*NEIC **27** 13:35:50.3, 3827N×2039E, h16km, MD3.5(ATH), ML3.7(THE), After ATH.*
*ISCJB **27** 13:35:51.0±1.0, 3826N±004×2036E±007, h10km, Error ellipse: s-maj=8.9km s-min=4.2km az=142.5*
*THE **27** 13:35:52.1, 3837N×2029E, h2km, ML3.7*

ISC 27 13:35:51.5±0.9, 3827N±004×2038E±007, h10km, n21, σ1º03/33, Greece

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.19**	**119**	*e*PB	**Pg**	**13 35 55.1**	**-0.5**
VLS				*e*SB	**Sg**	**13 35 58.5**	**+0.2**
RLS	**Riolos of Patr**	**0.89**	**104**	*e*PB	**Pg**	**13 36 06.5**	**-2.1**
RLS				*e*SN	**Sg**	**13 36 19.7**	**-0.4**
IGT	**Igoumenitsa**	**1.26**	**359**	*e*Pg	**Pn**	**13 36 13.7**	**-1.4**
IGT				*e*Sg	**Sn**	**13 36 31.0**	**-1.1**
EVR	**Evrytania**	**1.29**	**60**	*e*PN	**Pn**	**13 36 14.4**	**-1.2**
EVR				*e*SN	**Sn**	**13 36 32.0**	**-1.0**
EVR	**Evrytania**	**1.29**	**60**	*e*Pb	**Pn**	**13 36 13.0**	**-2.6**
EVR				*e*Sn	**Sn**	**13 36 32.8**	**-0.2**
JAN	**Janina**	**1.43**	**15**	*e*PN	**Pn**	**13 36 16.6**	**-0.9**
JAN				*e*SN	**Sn**	**13 36 36.1**	**-0.3**
JAN	**Janina**	**1.43**	**15**	*e*Pn	**Pn**	**13 36 16.6**	**-0.9**
JAN				*e*Sn	**Sn**	**13 36 37.1**	**+0.7**
KEK	**Kerkira**	**1.51**	**343**	*e*PN	**Pn**	**13 36 18.9**	**+0.4**
KEK				*e*SN	**Sn**	**13 36 40.2**	**+2.0**
KEK	**Kerkira**	**1.51**	**343**	*e*Pn	**Pn**	**13 36 19.4**	**+0.9**
ITM	**Ithomi**	**1.64**	**131**	*e*PN	**Pn**	**13 36 21.0**	**+0.6**
ITM				*e*SN	**Sn**	**13 36 42.4**	**+0.8**
MEV	**Metsovon**	**1.65**	**23**	*e*Pg	**Pn**	**13 36 20.6**	**+0.1**
MEV	**Metsovon**	**1.65**	**23**	*e*Pg	**Pn**	**13 36 20.6**	**+0.1**
AGG	**Agios Georgios**	**1.71**	**63**	*e*Pb	**Pb**	**13 36 22.3**	**-0.6**
AGG				*e*Sb	**Sb**	**13 36 45.5**	**+1.1**
THL	**Klokotos Trika**	**1.82**	**44**	*e*Pb	**Pn**	**13 36 22.9**	**+0.1**
THL	**Klokotos Trika**	**1.82**	**44**	*e*PN	**Pn**	**13 36 22.7**	**-0.1**
THL				*e*SN	**Sn**	**13 36 46.2**	**+0.3**
LKR	**Lokris**	**2.10**	**79**	*e*Pn	**Pn**	**13 36 28.0**	**+1.4**
LKR				*e*Sn	**Sn**	**13 36 56.5**	**+3.8**
LKR	**Lokris**	**2.10**	**79**	*e*PN	**Pn**	**13 36 27.7**	**+1.1**
LIT	**Litokhoron**	**2.46**	**41**	*e*Pn	**Pn**	**13 36 31.9**	**+0.4**
XOR	**Xorichti**	**2.46**	**63**	*e*Pn	**Pn**	**13 36 33.2**	**+1.6**
KRUS	**Krusevo**	**3.17**	**12**	*e*Pn	**Pn**	**13 36 40.8**	**-0.5**
KRUS	**Krusevo**	**3.17**	**12**	*e*Pn	**Pn**	**13 36 40.7**	**-0.6**

*NEIC **27** 13:40:50.8, 3463S×7231W, h28km, ML2.9(GUC), After GUC.*

GUC 27 13:40:50.8±0.6, 3463S×7231W, h28km±2km, MD3.7, ML2.9, 4C-3D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**113**	⇓*i*P	Pn	13 41 08.0	-0.4
NICH				*i* S	Sn	13 41 21.0	-0.1
LNV	**Longovilo**	**1.01**	**48**	⇓*i*P	Pn	13 41 08.7	-0.3
LNV				*i* S	Sn	13 41 22.1	-0.1
SFDO	**San Fernando**	**1.07**	**89**	⇑*i*P	Pn	13 41 09.7	-0.2
SFDO				*i* S	Sn	13 41 23.9	+0.1
TACH	**Talagante**	**1.50**	**50**	⇑*i*P	Pn	13 41 16.2	+0.4
TACH				*i* S	Sn	13 41 35.9	+1.4
CACH	**El Canelo**	**1.51**	**70**	⇑*i*P	Pn	13 41 17.5	+1.7
CACH				*i* S	Sn	13 41 37.4	+2.8
CHCH	**Chadas Angostu**	**1.54**	**64**	⇓*i*P	Pn	13 41 17.3	+1.0
CHCH				*i* S	Sn	13 41 37.8	+2.4
CICH	**Cipreses**	**1.59**	**79**	⇑*i*P	Pn	13 41 18.6	+1.6
CICH				*i* S	Sn	13 41 39.4	+2.7
PCH	**Pirque**	**1.80**	**56**	*e*P	Pn	13 41 21.5	+1.6
PCH				*i* S	Sn	13 41 44.9	+3.1
LMEL	**Las Melosas**	**1.92**	**66**	*e*P	Pn	13 41 23.2	+1.7
LMEL				*i* S	Sn	13 41 47.6	+3.0
LMEL	**Las Melosas**	**1.92**	**66**	*e*P	Pn	13 41 23.2	+1.7
LMEL				*i* S	Sn	13 41 47.6	+3.0
LMEL				AML	AML	13 41 52.2	
	comp=N,224nm,0.3s						
CLCH	**Cerro Calan**	**1.92**	**51**	*e*P	Pn	13 41 23.2	+1.6
CLCH				*i* S	Sn	13 41 47.8	+3.0
CLCH				AML	AML	13 41 56.1	
	comp=N,146nm,0.5s						
FCH	**Farellones**	**2.13**	**53**	*e*P	Pn	13 41 26.5	+2.1
FCH				AML	AML	13 42 01.8	
	comp=N,112nm,0.2s						

CASC 27 13:52:38.9±1.9, 854N×8299W, h0km±6km, MD4.0, 3C, Panama-Costa Rica border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DVD	**David**	**0.54**	**101**	*e*P	Pg	13 52 50.1	+0.9
BAR1		**0.77**	**335**	⇑*e*P	Pg	13 52 53.1	-0.5
BAR1				*e*S	Sg	13 53 06.7	+3.1
CNI	**Changuinola**	**0.98**	**28**	*i* P	Pg	13 52 58.7	+0.9
BUS	**Buena Vista**	**1.26**	**323**	*e*P	Pg	13 53 03.6	+0.5
BUS				*e*S	Sg	13 53 22.0	+2.5
URSC	**Urasca**	**1.50**	**329**	⇑*i*P	Pn	13 53 06.9	-0.2
URSC				*e*S	Sg	13 53 28.6	+1.3
LCR2	**La Lucha 2**	**1.56**	**320**	*e*P	Pn	13 53 07.2	-0.7
LCR2				*e*S	Sn	13 53 29.9	+1.2
PRS1	**Puriscal**	**1.94**	**318**	*e*P	Pn	13 53 12.2	-0.8
PRS1				*e*S	Sn	13 53 39.0	+0.9
CGA2	**Cerro Gallo 2**	**2.07**	**315**	*e*P	Pn	13 53 16.4	+1.5
CGA2				*e*S	Sn	13 53 43.9	+2.6
PTP	**Ponta Puerca**	**19.43**	**59**	⇑*i*P	Px	13 52 46.6	

*NEIC **27** 14:03:51.4, 3463S×7231W, h23km, ML2.9(GUC), After GUC.*

GUC 27 14:03:51.4±0.6, 3463S×7231W, h23km±4km, MD3.7, ML2.9, 3C-5D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.96**	**113**	⇓*i*P	Pb	14 04 08.5	-0.8
NICH				*i* S	Sb	14 04 21.6	-0.1
LNV	**Longovilo**	**1.01**	**48**	⇓*i*P	Pn	14 04 09.2	-0.9
LNV				*i* S	Sb	14 04 22.6	-0.3
SFDO	**San Fernando**	**1.07**	**89**	⇑*i*P	Pn	14 04 10.2	-0.7
SFDO				*i* S	Sb	14 04 24.5	-0.3
TACH	**Talagante**	**1.50**	**50**	⇑*i*P	Pn	14 04 16.6	-0.3
TACH				*i* S	Sn	14 04 36.9	+1.1
CACH	**El Canelo**	**1.50**	**70**	*e*P	Pn	14 04 18.0	+1.0
CACH				*i* S	Sn	14 04 37.9	+2.0
CHCH	**Chadas Angostu**	**1.54**	**63**	⇓*i*P	Pn	14 04 17.9	+0.4
CHCH				*i* S	Sn	14 04 37.8	+1.1
CICH	**Cipreses**	**1.59**	**79**	⇑*i*P	Pn	14 04 19.2	+1.0
CICH				*i* S	Sn	14 04 39.9	+1.9
PCH	**Pirque**	**1.80**	**56**	*e*P	Pn	14 04 22.4	+1.3
PCH				*i* S	Sn	14 04 45.3	+2.1
LMEL	**Las Melosas**	**1.91**	**66**	⇓*i*P	Pn	14 04 23.9	+1.4
LMEL				*i* S	Sn	14 04 48.7	+2.7
LMEL	**Las Melosas**	**1.91**	**66**	⇓*i*P	Pn	14 04 23.9	+1.4
LMEL				*i* S	Sn	14 04 48.7	+2.7
LMEL				AML	AML	14 04 54.3	
	comp=E,193nm,0.3s						
CLCH	**Cerro Calan**	**1.92**	**51**	*e*P	Pn	14 04 24.4	+1.7
CLCH				*i* S	Sn	14 04 48.5	+2.4
CLCH				AML	AML	14 04 56.6	
	comp=N,133nm,0.7s						
PEL	**Peldehue**	**2.01**	**43**	*e*P	Pn	14 04 25.6	+1.7
PEL				AML	AML	14 04 55.8	
	comp=N,180nm,0.5s						
FCH	**Farellones**	**2.12**	**53**	*e*P	Pn	14 04 27.2	+1.7
FCH				*i* S	Sn	14 04 55.0	+3.9
FCH				AML	AML	14 05 02.5	
	comp=N,101nm,0.2s						

IDC 27 14:05:50.9±3.7, 655S×15483E, h0km, mb3.5/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.5/3, Error ellipse: s-maj=108.7km s-min=37.3km az=116.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.94**	**234**	P	P	14 11 08.2	+1.2
	1.5nm,0.8s,baz=60,slow=9.8,SNR=14						
ASAR	**Alice Springs**	**26.35**	**228**	P	P	14 11 27.9	-0.9
	0.2nm,0.9s,baz=57,slow=10,SNR=4.4						
MKAR	**Makanchi Array**	**82.96**	**319**	P	P	14 18 17.8	-0.1
	0.8nm,0.8s,baz=104,slow=7.1,SNR=5.5						

*MOS **27** 14:49:11.3±0.7, 3651N×7108E, h206km, mb4.4/16, Error ellipse: s-maj=13.9km s-min=6.5km az=84.6*
*ISCJB **27** 14:49:12.5±0.4, 3659N±002×7108E±004, h213km±4km, mb4.2/32, Error ellipse: s-maj=5.8km s-min=3.4km az=161.9*
*IDC **27** 14:49:14.0±0.8, 3648N×7099E, h219km±7km, mb3.9/12, mb1 4.0/16, mb1mx3.8/25, mbtmp3.9/16, Error ellipse: s-maj=12.6km s-min=10.4km az=31.0*
*NEIC **27** 14:49:14.2±0.4, 3657N×7118E, mb4.4/15, Error ellipse: s-maj=9.0km s-min=7.6km az=109.0*
*BJI **27** 14:49:15.4, 3683N×71.11E, h222km, mB4.8, mb4.5*
*NNC **27** 14:49:19.2±2.5, 37.11N×71.13E, h216km±21km, mb3.2, mpv4.5, Error ellipse: s-maj=22.3km s-min=12.8km az=9.0*

ISC 27 14:49:13.5±0.4, 3654N±002×7107E±004, h211km±4km, h222km±2.4km: pP-P, n135, σ0º99/151, mb4.2/32, 13C-6D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**2.80**	**166**	⇓P	**Pn**	**14 50 03.0**	**+1.6**
CHCP	**Chirah Chowk**	**3.39**	**147**	⇓P	**Pn**	**14 50 10.2**	**+1.8**
THW	**Thamme Wali**	**3.78**	**171**	P	**Pn**	**14 50 14.6**	**+1.6**
SRNI	**Srinagar**	**3.93**	**127**	*e*P	**Pn**	**14 50 17.0**	**+2.1**
SRNI				*ex*		14 51 03.5	
KSH	**Kashi**	**4.88**	**51**	⇓*i*P	**Pn**	**14 50 27.3**	**+0.7**
KSH				S		14 51 23.0	
KSH				Smax			
	comp=N,2μm,0.6s						
KSH				Smax			
	comp=E,3μm,0.3s						
THN	**Thein Dam**	**5.61**	**136**	*e*P	**Pn**	**14 50 35.8**	**-0.2**
THN				*ex*		14 51 39.1	
DLH	**Dalhousie**	**5.68**	**133**	*e*P	**Pn**	**14 50 38.0**	**+1.2**
DLH				*ex*		14 51 45.0	
AML	**Almayashu**	**5.94**	**19**	*e*Pn	**Pn**	**14 50 39.6**	**-0.5**
	comp=E,159nm,0.5s						
AML				*e*S		14 51 44.1	
UCH	**Uchtor**	**6.27**	**24**	*e*Pn	**Pn**	**14 50 44.2**	**-0.1**
	comp=E,65nm,0.5s						
UCH				*e*S		14 51 50.6	
EKS2	**Erkin-Say**	**6.46**	**18**	*e*Pn	**Pn**	**14 50 46.1**	**-0.6**
	comp=E,17nm,0.5s						
EKS2				*e*S		14 51 55.0	
KK31	**Karatay Array**	**6.57**	**356**	⇓P	**Pn**	**14 50 46.9**	**-1.1**
	comp=E,11nm,0.2s,baz=173,slow=12						
KK31				⇑S		14 51 56.6	
	comp=E,58nm,0.3s,baz=187,slow=22						
KK31	**Karatay Array**	**6.57**	**356**	*e*PN	**Pn**	**14 50 46.9**	**-1.2**
KK31				pmax	pmax		
	comp=Z,33nm,0.2s						
BHK	**Bhakra**	**6.77**	**137**	*e*P	**Pn**	**14 50 52.2**	**+1.3**
BHK				*ex*		14 51 53.3	
SDNR	**Sundarnagar**	**7.02**	**134**	*e*P	**Pn**	**14 50 52.5**	**-1.6**
SDNR				*e*S		14 52 06.5	
TKM2	**Tokmak 2**	**7.26**	**27**	⇑P	**Pn**	**14 50 56.5**	**-0.6**
	comp=Z,34nm,0.8s						
TKM2				⇑S		14 52 14.2	
	comp=Z,35nm,0.9s						
TKM2	**Tokmak 2**	**7.26**	**27**	*e*PN	**Pn**	**14 50 56.4**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,30nm,0.5s						
TKM2	**Tokmak 2**	**7.26**	**27**	*e*Pn	**Pn**	**14 50 56.4**	**-0.7**
	comp=Z,30nm,0.5s						
KLP	**Kalpa**	**7.77**	**128**	*e*P	**Pn**	**14 51 02.6**	**-1.3**
KLP				*ex*		14 52 19.4	
DDI	**Dehra Dun**	**8.51**	**135**	*i* P	**Pn**	**14 51 12.0**	**-1.4**
DDI				*ex*		14 52 28.5	
JOSI	**Joshimath**	**9.26**	**128**	*e*P	**Pn**	**14 51 24.1**	**+1.0**
JOSI				AMb	AMB	14 51 25.8	
	comp=Z,828nm,0.8s						
JOSI				*e*S		14 53 00.2	
KHET	**Khetri**	**9.34**	**153**	*e*P	**Pn**	**14 51 23.2**	**-0.9**
KHET				AMb	AMB	14 51 24.1	
	comp=Z,22nm,0.4s						
KHET				*e*S		14 53 00.6	
NDI	**New Delhi**	**9.39**	**145**	*e*P	**Pn**	**14 51 24.7**	**-0.1**
NDI				*e*S		14 53 03.0	
AYAN	**Aya Nagar**	**9.52**	**146**	*e*P	**Pn**	**14 51 26.5**	**+0.1**
AYAN				AMb	AMB	14 51 27.5	
	comp=Z,78nm,0.6s						
AYAN				*e*S		14 53 05.3	
KUDL	**Kundal**	**9.54**	**150**	*e*P	**Pn**	**14 51 25.4**	**-1.3**
KUDL				AMb	AMB	14 51 26.8	
	comp=Z,77nm,0.9s						
KUDL				*e*S		14 53 06.7	
ASOR	**Ausora**	**9.60**	**142**	*e*P	**Pn**	**14 51 27.4**	**0.0**
SONA	**Sohna**	**9.70**	**147**	*e*P	**Pn**	**14 51 27.8**	**-0.9**
SONA				AMb	AMB	14 51 30.5	
	comp=Z,64nm,0.8s						
SONA				*e*S		14 53 09.2	
PTH	**Pithoragarh**	**10.36**	**130**	*e*P	**Pn**	**14 51 36.8**	**-0.5**
PTH				*ex*		14 53 32.9	
AJM	**Ajmer**	**10.48**	**162**	*e*P	**Pn**	**14 51 38.3**	**-0.5**
AJM				AMb	AMB	14 51 39.1	
	comp=Z,26nm,0.6s						
AJM				*e*S	**S**	**14 53 27.9**	**-8.3**
MK31	**Makanchi Array**	**13.22**	**36**	⇑P	**Pn**	**14 52 12.3**	**-0.9**
	comp=Z,13nm,0.8s,baz=212,slow=14,SNR=80						
MK31	**Makanchi Array**	**13.22**	**36**	*e*P	**Pn**	**14 52 12.2**	**-1.0**
MK31				pmax	pmax		
	comp=Z,6.0nm,0.4s						
MK31	**Makanchi Array**	**13.22**	**36**	*e*Pn	**Pn**	**14 52 11.9**	**-1.3**
MKAR	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**14 52 12.7**	**-0.5**
MKAR				S	**S**	**14 54 41.9**	**+1.5**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MKAR	**Makanchi Array**	**13.22**	**36**	P	**Pn**	**14 52 12.7**	**-0.5**
	comp=Z,0.9nm,0.3s,baz=208,slow=11,SNR=38						
MKAR				S	**S**	**14 54 41.9**	**+1.5**
	baz=0.0,slow=40,SNR=2.3						
DANN	**Dangsing**	**13.46**	**124**	*e*P	**Pn**	**14 52 15.3**	**-1.1**
	comp=Z,43nm,0.2s						
KOLN	**Koldanda**	**13.74**	**126**	*e*P	**Pn**	**14 52 19.3**	**-0.5**
	comp=Z,42nm,0.3s						
GKN	**Gorkha**	**14.28**	**123**	*e*P	**Pn**	**14 52 26.5**	**+0.1**
BHPL	**Bhopal**	**14.35**	**156**	*e*P	**Pn**	**14 52 26.2**	**-1.2**
BHPL				*ex*	**S**	**14 54 57.4**	**-9.3**
WMQ	**Urumqi**	**14.63**	**55**	P	**Pn**	**14 52 30.5**	**0.0**
WMQ				XP		14 53 26.5	
WMQ				S	**S**	**14 55 02.5**	**-10**
WMQ				PCP	PcP	14 57 32.5	+4.7
WMQ				AMB	AMB		
	comp=Z,35nm,0.8s						
DMN	**Daman**	**14.85**	**123**	*e*P	**Pn**	**14 52 33.9**	**+0.5**
	comp=Z,152nm,0.6s						
KKN	**Kakani**	**14.85**	**122**	*e*P	**Pn**	**14 52 33.3**	**-0.1**
	comp=Z,120nm,0.6s						
KURBB	**Kurchatov Arra**	**15.06**	**19**	⇑P	**Pn**	**14 52 33.9**	**-1.9**
	comp=Z,2.5nm,0.9s						
PKIN	**Phulchoki**	**15.07**	**122**	*e*P	**Pn**	**14 52 36.7**	**+0.7**
AB31	**Akbulak array**	**15.07**	**331**	⇑P	**Pn**	**14 52 33.9**	**-2.0**
	comp=Z,5.1nm,0.5s,baz=138,slow=14,SNR=96						
PKI	**Pulchoki**	**15.08**	**122**	*e*P	**Pn**	**14 52 36.1**	**-0.1**
	comp=Z,70nm,0.3s						
KURK	**Kurchatov**	**15.17**	**19**	⇑P	**Pn**	**14 52 36.0**	**-1.1**
KURK	**Kurchatov**	**15.17**	**19**	⇑*e*P	**Pn**	**14 52 35.7**	**-1.4**
KURK	**Kurchatov**	**15.17**	**19**	*e*Pn	**Pn**	**14 52 35.1**	**-2.0**
	comp=Z,5.8nm,0.6s						
GUN	**Gumba**	**15.19**	**120**	*e*P	**Pn**	**14 52 37.7**	**+0.2**
	comp=Z,91nm,0.5s						
JIRN	**Jiri**	**15.56**	**120**	*e*P	**Pn**	**14 52 42.6**	**+0.6**
	comp=Z,264nm,0.5s						
VOSK	**Vostochnaya**	**16.18**	**360**	⇑P	**P**	**14 52 47.9**	**-0.5**
	comp=Z,6.4nm,0.6s						
ZRNK	**Zerenda**	**16.47**	**356**	⇑P	**P**	**14 52 52.2**	**+0.6**
	comp=Z,14nm,1.0s						
ZRNK	**Zerenda**	**16.47**	**356**	*e*P	**P**	**14 52 51.5**	**-0.1**
ZRNK				pmax	pmax		
	comp=Z,14nm,1.0s						
BVA0	**Borovoye Array**	**16.49**	**359**	P	**P**	**14 52 52.3**	**+0.5**
	comp=Z,1.7nm,0.8s,baz=174,slow=13,SNR=55						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**P**	**14 52 51.9**	**+0.1**
BVAR				S	**S**	**14 55 53.6**	**+0.4**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.3s						
BVAR	**Borovoye Array**	**16.49**	**359**	P	**P**	**14 52 51.9**	**+0.1**
	comp=Z,3.3nm,0.3s,baz=157,slow=9.6,SNR=39						
BVAR				S	**S**	**14 55 53.6**	**+0.4**
	comp=Z,0.2nm,0.3s,baz=171,slow=20,SNR=3.5						
BRVK	**Borovoye**	**16.52**	**358**	*e*P	**P**	**14 52 52.8**	**+0.6**
BRVK				pmax	pmax		
	comp=Z,8.0nm,0.6s						
BRVK	**Borovoye**	**16.52**	**358**	*e*Pn	**Pn**	**14 52 52.8**	**-0.5**
	comp=Z,8.1nm,0.6s						
AKL	**Akola**	**16.61**	**160**	*e*S	**S**	**14 55 55.4**	**-0.9**
AKTK	**Aktyubinsk**	**16.77**	**330**	P	**P**	**14 52 55.7**	**+0.8**
AKTK				S	**S**	**14 55 58.0**	**-0.9**
AKTO	**Aktyubinsk**	**16.77**	**330**	⇑P	**P**	**14 52 55.1**	**+0.2**
	comp=Z,0.2nm,0.7s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P	**P**	**14 52 55.7**	**+0.8**
AKTO				S	**S**	**14 55 58.1**	**-0.9**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	**Aktyubinsk**	**16.77**	**330**	P

comp=Z,5.0nm,0.6s,mb4.2
KIV MLR MLR
comp=Z,15nm,14.0s
ZAK Zakamensk 26.92 49 *e*P **P 14 54 35.7 +0.8**
ZAK pmax pmax
comp=Z,2.0nm,1.4s,mb3.5
ZAK pmax pmax
comp=Z,3.0nm,1.3s,mb3.8
TLY Talaya 27.57 46 *e*P **P 14 54 40.6 -0.1**
TLY pmax pmax
comp=Z,2.0nm,2.5s,mb3.3
CD2 Chengdu 27.68 92 *e*P **P 14 54 44.5 +2.6**
CD2 AP pP 14 55 28.8 +4.5
CD2 PP PP 14 55 44.0 -4.8
CD2 XP sP 14 55 54.8 +6.0
CD2 S **S 14 59 06.5 -1.7**
CD2 XS sS 15 00 25.3 +1.1
CD2 SS SS 15 00 46.5 -28
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CD2 AMB AMB
comp=Z,20nm,4.2s
SONM Songino Array 28.27 55 P **P 14 54 47.8 +0.9**
comp=Z,3.2nm,0.8s,mb4.0,baz=267,slow=9.5,SNR=26
SONM pP pP 14 55 32.8 +3.4
comp=Z,1.3nm,0.9s,baz=265,slow=8.4,SNR=3.6
KMI Kunming 29.35 104 P **P 14 54 58.3 +1.5**
KMI AMB AMB
comp=Z,6.0nm,0.5s,mb4.5
OBN Obninsk 29.94 319 *e*P **P 14 55 02.5 +0.9**
OBN pmax pmax
comp=Z,6.0nm,1.3s,mb4.1
XAN Xi'an 30.87 83 P **P 14 55 11.8 +1.8**
XAN AMB AMB
comp=Z,7.0nm,0.7s,mb4.4
HHC Hu-ho-hao-te 31.70 70 *e*P **P 14 55 19.3 +2.1**
HHC AP pP 14 56 04.8 +4.7
HHC PP PP 14 56 32.5 -0.7
HHC PCP PcP 14 58 07.5 +4.0
HHC S **S 15 00 08.5 -2.3**
HHC XS sS 15 01 29.0 +1.7
HHC SS SS 15 02 14.0 -13
HHC SCS ScS 15 05 24.0 -1.0
HHC AMB AMB
comp=Z,21nm,1.1s,mb4.6
HHC AMB AMB
comp=Z,115nm,4.8s
HHC LR LR
comp=N,197nm,12.9s
HHC LR LR
comp=E,218nm,15.5s
HHC LR LR
comp=Z,150nm,15.3s
AKASG Malin Array Be 32.96 309 P **P 14 55 28.2 +0.1**
AKASG *PP pP 14 56 13.5 +2.3
AKASG 14 58 06.0
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG pmax pmax
comp=Z,1.0nm,0.6s
AKASG Malin Array Be 32.96 309 P **P 14 55 28.2 +0.1**
comp=Z,1.0nm,0.6s,mb3.5,baz=80,slow=6.9,SNR=5.2
AKASG pP pP 14 56 13.5 +2.3
comp=Z,0.9nm,0.6s,baz=84,slow=7.3,SNR=2.7
AKASG PcP PcP 14 58 06.0 -0.8
comp=Z,0.8nm,0.6s,baz=87,slow=2.9,SNR=4.9
JOF Joensuu 35.86 330 *e*p **P 14 55 53.1 +0.4**
comp=Z,3.6nm,0.3s,mb4.4
JOF Joensuu 35.86 330 *e*P **P 14 55 53.1 +0.4**
JOF pmax pmax
comp=Z,4.0nm,0.3s,mb4.4
HIA Hailar 37.22 54 *e*P **P 14 56 04.9 +0.5**
FINES FINESS Array B 37.48 326 P **P 14 56 06.6 +0.2**
FINES pmax pmax
comp=Z,5.0nm,0.7s
FINES FINESS Array B 37.48 326 P **P 14 56 06.6 +0.1**
FINES FINESS Array B 37.48 326 P **P 14 56 06.6 +0.2**
comp=Z,4.7nm,0.7s,mb4.1,baz=115,slow=9.8,SNR=27
NJ2 Nanjing 39.41 82 *e*P **P 14 56 26.5 +3.6**
NJ2 AMB AMB
comp=Z,20nm,1.0s,mb4.6
KEV Kevo 40.78 338 *e*p **P 14 56 34.1 +0.5**
comp=Z,0.9nm,0.3s,mb3.7
KEV Kevo 40.78 338 *e*P **P 14 56 34.1 +0.5**
KEV pmax pmax
comp=Z,1.0nm,0.3s,mb3.7
ARCES ARCESS Array B 41.13 338 P **P 14 56 37.4 +1.0**
ARCES pmax pmax
comp=Z,8.0nm,0.7s
ARCES ARCESS Array B 41.13 338 P **P 14 56 37.4 +0.9**
comp=Z,8.1nm,0.7s,mb4.3,baz=114,slow=9.0,SNR=46
YAK Yakutsk 43.90 35 *e*P **P 14 56 58.7 -0.1**
YAK pmax pmax
comp=Z,15nm,0.8s,mb4.4
YAK Yakutsk 43.90 35 *e*P **P 14 56 58.0 -0.8**
comp=Z,20nm,0.7s,mb4.5
NB2 NORSAR Subarra 44.38 323 P **P 14 57 02.2 -0.4**
comp=Z,6.1nm,0.7s,mb4.0,baz=96,slow=7.9
NOA NORSAR Array B 44.38 323 P **P 14 57 02.3 -0.3**
NOA *PP pP 14 57 50.1 +2.2
NOA pmax pmax
comp=Z,5.0nm,0.7s
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 44.38 323 P **P 14 57 02.2 -0.4**
comp=Z,4.6nm,0.7s,mb3.9,baz=96,slow=7.8,SNR=25
NOA pP pP 14 57 50.1 +2.3
comp=Z,1.5nm,0.8s,baz=97,slow=8.1,SNR=3.1
KSRS Korea Array 44.81 71 P **P 14 57 07.8 +1.4**
comp=Z,0.6nm,0.6s,baz=272,slow=5.5,SNR=3.5
TIXI Tiksi 45.72 22 *e*P **P 14 57 12.8 -0.2**
TIXI pmax pmax
comp=Z,11nm,0.6s,mb4.4
TIXI Tiksi 45.72 22 *e*P **P 14 57 12.8 -0.2**
comp=Z,11nm,0.6s,mb4.4
SPB4 Spitsbergen Ar 47.47 347 *e*P **P 14 57 28.3 +1.8**
SEY Seymchan 54.35 34 *e*P **P 14 58 18.3 +0.4**
BILL Bilibino 58.55 26 *e*P **P 14 58 48.0 +0.6**
BILL pmax pmax
comp=Z,9.0nm,1.2s,mb4.3
BILL Bilibino 58.55 26 *e*P **P 14 58 48.1 +0.7**
comp=Z,7.7nm,0.8s,mb4.4
TORD Torodi Ar. Bea 65.78 269 P **P 14 59 34.6 -1.6**
comp=Z,1.4nm,0.4s,mb4.0,baz=51,slow=6.2,SNR=28
TORD pP pP 15 00 24.7 -0.3
comp=Z,0.5nm,0.7s,baz=44,slow=6.5,SNR=1.7
BATI Kupang 67.84 122 P **P 14 59 49.5 +0.5**
comp=Z,17nm,0.9s,mb4.7,baz=284,slow=4.2,SNR=4.2
IMA2 Indian Mountai 72.06 18 *e*P **P 15 00 13.8 -0.2**
INK Inuvik 73.86 9 *e*P **P 15 00 25.0 +0.5**
comp=Z,201nm,0.5s
COLA College 74.42 16 *e*P **P 15 00 28.0 +0.2**
COLA pmax pmax
comp=Z,11nm,0.8s,mb4.5
COLA College 74.42 16 *e*P **P 15 00 28.0 +0.2**
comp=Z,10nm,0.8s,mb4.5
FITZ Fitzroy Crossi 74.87 127 *e*P **P 15 00 30.8 -0.3**
comp=Z,4.6nm,0.9s,mb4.1
FITZ Fitzroy Crossi 74.87 127 P **P 15 00 31.1 +0.1**
comp=Z,2.4nm,0.7s,mb4.0,baz=343,slow=4.5,SNR=9.1
EGAK Eagle 75.89 14 *e*P **P 15 00 36.0 -0.2**
comp=Z,2.0nm,0.8s,mb3.8
DAWY Dawson 76.87 13 *e*P **P 15 00 41.4 -0.3**
BOSA Boshof 77.81 220 P **P 15 00 47.2 -0.2**
BOSA pmax pmax
comp=Z,7.0nm,1.0s,mb4.2
BOSA Boshof 77.81 220 P **P 15 00 47.2 -0.2**
comp=Z,6.6nm,1.0s,mb4.2,baz=199,slow=1.7,SNR=4.8
YKA Yellowknife Ar 81.20 3 P **P 15 01 05.3 +0.1**
YKA *PP pP 15 01 56.9 +0.8
YKA pmax pmax
comp=Z,4.0nm,0.8s
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA Yellowknife Ar 81.20 3 P **P 15 01 05.3 +0.1**
comp=Z,3.5nm,0.8s,mb4.1,baz=348,slow=5.3,SNR=23
YKA pP pP 15 01 56.9 +0.8
comp=Z,0.9nm,0.7s,baz=349,slow=5.2,SNR=3.9
WRA Warramunga Arr 81.96 122 P **P 15 01 09.2 -0.6**
WRA pmax pmax
comp=Z,5.0nm,0.8s
WRA Warramunga Arr 81.96 122 P **P 15 01 09.2 -0.6**
comp=Z,4.9nm,0.8s,mb4.2,baz=324,slow=5.1,SNR=37
WRAB Tennant Creek 81.97 122 *e*P **P 15 01 09.4 -0.4**
WB2 Warramunga Arr 81.97 122 *e*P **P 15 01 08.9 -1.0**
ASAR Alice Springs 84.23 125 P **P 15 01 20.6 -0.7**
ASAR pmax pmax
comp=Z,5.0nm,0.8s
ASAR Alice Springs 84.23 125 P **P 15 01 20.6 -0.8**
comp=Z,4.8nm,0.8s,mb4.3,baz=310,slow=4.9,SNR=71

*IDC **27** 15:02:43.8±4.1,2363N×9537E,h0km,mb3.4/3,mb1 3.6/3, mb1mx3.2/21,mbtmp3.4/3,Error ellipse: s-maj=382.5km s-min=26.0km az=60.0*
*ISCJB **27** 15:02:51.9±2.1,233N±02×944E±01,h99km±22km, mb3.4/3,Error ellipse: s-maj=35.4km s-min=17.8km az=15.8*
ISC 27 15:02:53.7±2.1,233N±02×944E±01,h96km±24km,n12, σ1§08/13,mb3.4/3,Myanmar-India border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
IMP	**Imphal**	**1.53**	**343**	*e*P	**Sn**		**15 03 40.0**	**-0.2**
SHL	**Shillong**	**3.23**	**315**	*e*PN	**Pn**		**15 03 44.5**	**+2.1**
SHL				*e*SN	**Sn**		**15 04 18.4**	**-1.7**
JIRN	**Jiri**	**8.61**	**302**	*e*P	**Pn**		**15 04 56.6**	**+1.1**
	10nm,0.3s							
GUN	**Gumba**	**8.97**	**302**	*e*P	**Pn**		**15 05 00.1**	**-0.3**
	14nm,0.3s							
PKI	**Pulchoki**	**9.19**	**299**	*e*P	**Pn**		**15 05 04.5**	**+1.1**
	4.2nm,0.2s							
KKN	**Kakani**	**9.39**	**300**	*e*P	**Pn**		**15 05 06.7**	**+0.6**
	6.2nm,0.2s							
GKN	**Gorkha**	**9.99**	**300**	*e*P	**Pn**		**15 05 13.5**	**-0.8**
	1.8nm,0.3s							
KOLN	**Koldanda**	**10.74**	**297**	*e*P	**Pn**		**15 05 24.5**	**0.0**
	4.4nm,0.2s							
DANN	**Dangsing**	**10.84**	**300**	*e*P	**Pn**		**15 05 24.3**	**-1.5**
	2.7nm,0.2s							
MKAR	**Makanchi Array**	**25.39**	**340**	P	**P**		**15 08 12.8**	**+0.9**
	0.6nm,0.5s,mb3.3,baz=142,slow=12,SNR=12							
WRA	**Warramunga Arr**	**57.99**	**135**	P	**P**		**15 12 35.2**	**-1.4**
	0.2nm,0.5s,mb3.4,baz=321,slow=7.4,SNR=4.8							
ASAR	**Alice Springs**	**60.42**	**138**	P	**P**		**15 12 53.5**	**+0.3**
	0.2nm,0.5s,mb3.4,baz=321,slow=7.1,SNR=10							

*ISCJB **27** 15:29:06.1±2.7,341S±008×1305E±01,h67km±28km, mb3.7/2,Error ellipse: s-maj=24.9km s-min=12.3km az=163.4*
*IDC **27** 15:29:08.0±4.5,341S×13037E,h57km±40km,mb3.9/3, mb1 4.1/5,mb1mx3.6/16,mbtmp3.9/5,ML3.6/2,Error ellipse: s-maj=74.3km s-min=15.2km az=75.0*
*NEIC **27** 15:29:08.0±3.7,343S×13031E,h58km±36km,mb3.7/2, Error ellipse: s-maj=36.8km s-min=18.0km az=51.0*
ISC 27 15:29:06.8±2.3,344S±009×1305E±01,h49km±22km,n16, σ1§51/25,mb3.9/2,Seram

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.42**	**168**	*e*P	**Pn**		**15 31 21.2**	**+1.3**
	6.2nm,0.4s							
KAKA				*e*S	**Sn**		**15 33 03.2**	**-1.3**
KAKA	**Kakadu**	**9.42**	**168**	*e*Pn	**Pn**		**15 31 21.2**	**+1.3**
KAKA				*e*Sn	**Sn**		**15 33 02.8**	**-1.7**
FITZ	**Fitzroy Crossi**	**15.32**	**198**	*e*P	**Pn**		**15 32 39.9**	**0.0**
	2.2nm,0.6s							
FITZ				*e*S	**Sn**		**15 35 28.1**	**-0.6**
FITZ	**Fitzroy Crossi**	**15.32**	**198**	P	**Pn**		**15 32 41.3**	**+1.4**
	0.1nm,0.3s,baz=17,slow=11,SNR=3.5							
FITZ				S	**Sn**		**15 35 31.0**	**+2.3**
	0.1nm,0.3s,baz=285,slow=19,SNR=2.8							
WRAB	**Tennant Creek**	**16.83**	**167**	*e*P	**Pn**		**15 32 60.0**	**+0.9**
	5.7nm,0.6s							
WRA	**Warramunga Arr**	**16.84**	**167**	P	**Pn**		**15 32 59.8**	**+0.7**
WRA				S	**Sn**		**15 36 02.2**	**-3.2**
WRA	**Warramunga Arr**	**16.84**	**167**	P	**Pn**		**15 32 59.8**	**+0.7**
	0.5nm,0.3s,baz=350,slow=11,SNR=18							
WRA				S	**Sn**		**15 36 02.2**	**-3.2**
	0.3nm,0.3s,baz=333,slow=23,SNR=7.0							
WB2	**Warramunga Arr**	**16.84**	**167**	*e*P	**Pn**		**15 32 58.0**	**-1.2**
WB2				*e*S	**Sn**		**15 35 58.5**	**-6.9**
WB2	**Warramunga Arr**	**16.84**	**167**	*e*Pn	**Pn**		**15 32 56.9**	**-2.3**
WB2				*e*S	**Sn**		**15 35 58.5**	**-6.9**
ASAR	**Alice Springs**	**20.38**	**171**	P	**P**		**15 33 42.4**	**+2.8**
	19nm,0.7s,baz=350,slow=11,SNR=338							
ASAR				S	**S**		**15 37 26.8**	**+1.4**
	0.6nm,0.8s,baz=1.3,slow=26,SNR=4.8							
MBWA	**Marble Bar**	**20.48**	**210**	P	**P**		**15 33 38.6**	**-2.0**
	0.5nm,0.5s							
KSM	**Kuching**	**20.73**	**283**	*e*P	**P**		**15 33 44.2**	**+0.8**
STKA	**Stephens Creek**	**30.16**	**161**	*e*P	**P**		**15 35 14.1**	**+1.8**
STKA	**Stephens Creek**	**30.16**	**161**	P	**P**		**15 35 14.2**	**+2.0**
	3.5nm,1.0s,mb4.0,baz=340,slow=12,SNR=3.9							
MK31	**Makanchi Array**	**65.54**	**326**	*e*P	**P**		**15 39 43.6**	**-1.5**
MKAR	**Makanchi Array**	**65.54**	**326**	P	**P**		**15 39 44.5**	**-0.7**
	0.4nm,0.5s,mb3.7,baz=111,slow=9.3,SNR=7.7							

*ISCJB **27** 15:40:41.1±0.7,2165S±007×678W±0.1,h116km±12km, Error ellipse: s-maj=20.6km s-min=9.0km az=19.4*
*NEIC **27** 15:40:42.0±0.7,2165S×6791W,h113km±11km,Error ellipse: s-maj=25.1km s-min=10.9km az=108.0*
*IDC **27** 15:40:41.4±2.4,2165S×6791W,h102km±21km,mb4.0/1, mb1 3.6/3,mb1mx3.4/15,mbtmp3.6/3,MS3.3/1,Ms1 3.3/1, ms1mx2.3/26,Error ellipse: s-maj=33.7km s-min=19.7km az=93.0*
ISC 27 15:40:42.3±0.7,2167S±007×679W±01,h112km±12km,n10, σ0§47/12,Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.36**	**226**	*e*Pn	**Pn**		**15 41 08.1**	**+0.5**
LVC				*e*Sn	**Sn**		**15 41 27.0**	**+0.2**
LPAZ	**La Paz**	**5.36**	**357**	P	**Pn**		**15 41 59.4**	**-0.7**
LPAZ				S	**Sn**		**15 43 00.5**	**0.0**
LPAZ	**La Paz**	**5.36**	**357**	P	**Pn**		**15 41 59.4**	**-0.7**
	1.2nm,0.3s,baz=160,slow=6.5,SNR=29							
LPAZ				S	**Sn**		**15 43 00.5**	**0.0**
	0.2nm,0.3s,baz=251,slow=17,SNR=1.6							
SIV	**San Ignacio**	**8.55**	**50**	P	**Pn**		**15 42 43.8**	**+0.5**
	0.7nm,0.3s,baz=242,slow=14,SNR=27							
SIV				S	**Sn**		**15 44 18.0**	**0.0**
	0.2nm,0.3s,baz=132,slow=24,SNR=7.4							
CFAA	**Coronel Fontan**	**9.90**	**182**	P	**Pn**		**15 43 00.7**	**-0.9**
	0.0nm,0.3s,baz=356,slow=13,SNR=2.7							
PCRV	**Puerto La Cruz**	**31.80**	**6**	LR	LR		15 59 41.8	
	comp=Z,48nm,18.7s,slow=36							
TOA0	**Torodi Ar. Sit**	**76.49**	**70**	*e*P	**P**		**15 52 20.6**	**+0.1**
TORD	**Torodi Ar. Bea**	**76.49**	**70**	P	**P**		**15 52 20.8**	**+0.3**
TORD	**Torodi Ar. Bea**	**76.49**	**70**	P	**P**		**15 52 20.8**	**+0.3**
	2.1nm,0.6s,baz=255,slow=5.3,SNR=17							
MKAR	**Makanchi Array**	**145.19**	**37**	PKPbc	PKPbc		16 00 06.3	-0.2
	1.4nm,0.8s,baz=327,slow=3.3,SNR=8.9							

*ISCJB **27** 15:51:58.2±0.5,3521N±003×12860E±003,h4km±5km, Error ellipse: s-maj=4.5km s-min=3.8km az=159.6*
*KMA **27** 15:51:58.5,3523N×12857E,ML2.1*
*JMA **27** 15:51:58.1±0.2,3525N×12868E,h0km,M2.9*
ISC 27 15:51:58.5±0.5,3520N±003×12859E±003,h5km±5km,n22, σ0§39/30,South Korea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
KSTOY	**TONGYEONG**	**0.38**	**200**	P	**Pg**		**15 52 06.0**	**+0.3**
KSTOY				S	**Sg**		**15 52 11.2**	**+0.5**
KSBUS	**Busan**	**0.43**	**84**	P	**Pg**		**15 52 06.9**	**+0.2**
KSBUS				S	**Sg**		**15 52 12.4**	**+0.1**
KSJIN	**Jinju**	**0.46**	**265**	P	**Pg**		**15 52 07.7**	**+0.4**
KSJIN				S	**Sg**		**15 52 13.9**	**+0.5**
KSDAG	**Daegu**	**0.62**	**24**	P	**Pg**		**15 52 10.2**	**-0.1**
KSDAG				S	**Sg**		**15 52 18.4**	**0.0**
KSULS	**Ulsan**	**0.69**	**59**	P	**Pg**		**15 52 11.8**	**+0.1**
KSULS				S	**Sg**		**15 52 20.8**	**+0.1**
JTU	**Tsushima**	**0.95**	**135**	P	**Pg**		**15 52 16.3**	**-0.4**
JTU				S	**Sg**		**15 52 28.9**	**-0.1**
KSCPR	**CHUPUNGNYEONG**	**1.13**	**334**	P	**Pg**		**15 52 19.7**	**-0.5**
KSPHA	**Pohang**	**1.17**	**32**	P	**Pg**		**15 52 20.4**	**-0.6**
KSKWJ	**Gwangju**	**1.31**	**269**	P	**Pn**		**15 52 23.1**	**-0.4**
KSKWJ				S	**Sg**		**15 52 39.9**	**-0.7**
KSCHO	**Jeonju**	**1.32**	**298**	P	**Pn**		**15 52 23.3**	**-0.3**
KSAND	**Andong**	**1.37**	**4**	P	**Pn**		**15 52 23.6**	**-0.6**
KSJEU	**Jeongeup**	**1.39**	**283**	P	**Pn**		**15 52 24.6**	**+0.1**
KSYOD	**Yeongdeok**	**1.45**	**27**	P	**Pn**		**15 52 25.6**	**+0.2**
KSULJ	**Uljin**	**1.64**	**24**	P	**Pn**		**15 52 28.3**	**+0.3**
JII	**Iki**	**1.69**	**146**	P	**Pn**		**15 52 28.9**	**+0.2**
JII				S	**Sb**		**15 52 51.2**	**-0.5**
KSGUS	**GUNSAN**	**1.69**	**300**	P	**Pn**		**15 52 29.6**	**+0.8**
KSCHJ	**Chungju**	**1.74**	**343**	P	**Pn**		**15 52 30.0**	**+0.6**
KSWAN	**Wando**	**1.75**	**243**	P	**Pb**		**15 52 30.8**	**-0.4**
KSHAN	**Haenam**	**1.78**	**250**	P	**Pb**		**15 52 31.0**	**-0.5**
KSCEA	**Cheonan**	**1.94**	**327**	P	**Pn**		**15 52 32.3**	**+0.1**
KSWJU	**Wonju**	**2.24**	**349**	P	**Pn**		**15 52 36.5**	**+0.2**
KSSES	**Seosan**	**2.35**	**313**	P	**Pn**		**15 52 37.9**	**+0.2**

IDC 27 15:59:51.4±2.4,5220N×3156W,h0km,mb3.6/3, mb1 3.8/3,mb1mx3.4/25,mbtmp3.7/3,Error ellipse: s-maj=81.6km s-min=34.8km az=58.0,Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
ESDC	**Sonseca Array**	**22.76**	**112**	P	P		16 04 54.3	-0.7
	2.2nm,0.8s,baz=309,slow=9.4,SNR=7.2							
TORD	**Torodi Ar. Bea**	**47.20**	**133**	P	P		16 08 26.3	+0.6
	0.2nm,0.4s,baz=335,slow=7.9,SNR=6.4							
MKAR	**Makanchi Array**	**66.32**	**43**	P	P		16 10 41.7	+0.4
	0.2nm,0.4s,baz=324,slow=5.0,SNR=5.1							
WRA	**Warramunga Arr**	**145.97**	**24**	PKPbc	PKPbc		16 19 32.2	-0.6
	0.9nm,1.0s,baz=341,slow=2.5,SNR=4.7							
ASAR	**Alice Springs**	**149.41**	**27**	PKPbc	PKPbc		16 19 41.2	-0.9
	0.3nm,0.5s,baz=349,slow=1.9,SNR=8.6							

IDC 27 16:03:01.7±9.2,704S×12914E,h70km±87km,mb3.3/2, mb1 3.4/5,mb1mx3.2/14,mbtmp3.3/5,ML3.5/4,Error ellipse: s-maj=101.7km s-min=26.9km az=49.0,Banda Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
BATI	**Kupang**	**6.26**	**239**	P	Pn		16 04 32.1	+0.5
	8.2nm,0.3s,baz=62,slow=3.0,SNR=35							
BATI				S	Sn		16 05 32.8	-8.9
	3.3nm,0.3s,baz=97,slow=8.1,SNR=3.7							
FITZ	**Fitzroy Crossi**	**11.52**	**197**	P	Pn		16 05 41.4	-2.0
	0.2nm,0.3s,baz=15,slow=12,SNR=10							
FITZ				S	Sn		16 07 33.4	-17
	0.2nm,0.3s,baz=162,slow=20,SNR=3.7							
WRA	**Warramunga Arr**	**13.79**	**159**	P	Pn		16 06 14.8	+0.8
	0.1nm,0.3s,baz=343,slow=13,SNR=12							
WRA				S	Sn		16 08 36.4	-9.1
	0.3nm,0.3s,baz=333,slow=21,SNR=11							
ASAR	**Alice Springs**	**17.16**	**165**	P	Pn		16 06 58.3	+1.4
	0.2nm,0.3s,baz=344,slow=12,SNR=25							
ASAR				S	S		16 10 00.9	-12
	0.1nm,0.3s,baz=346,slow=24,SNR=4.2							
STKA	**Stephens Creek**	**27.31**	**156**	P	P		16 08 39.9	-0.1
	1.2nm,0.7s,baz=315,slow=10.0,SNR=2.9							
MKAR	**Makanchi Array**	**67.79**	**327**	P	P		16 13 52.3	+0.1
	0.2nm,0.7s,baz=122,slow=8.2,SNR=3.0							

IDC 27 16:13:53.1±1.9,592S×7343W,h0km,mb3.6/1,mb1 3.7/2, mb1mx3.4/19,mbtmp3.4/2,ML3.4/1,Error ellipse: s-maj=292.6km s-min=40.1km az=67.0,Peru-Brazil border region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**11.54**	**154**	Pn	Pn		16 16 39.4	+0.1
	0.1nm,0.3s,baz=311,slow=10.0,SNR=4.1							
LPAZ				Sn	Sn		16 18 45.6	-3.3
	0.1nm,0.3s,baz=344,slow=18,SNR=1.7							
YKA	**Yellowknife Ar**	**75.12**	**342**	P	P		16 25 36.7	-0.1
	0.3nm,0.4s,baz=140,slow=6.4,SNR=4.6							
ASAR	**Alice Springs**	**140.29**	**221**	PKP	PKPdf		16 33 24.3	-0.7
	0.2nm,0.8s,baz=147,slow=2.1,SNR=4.2							
WRA	**Warramunga Arr**	**142.49**	**226**	PKP	PKPdf		16 33 30.3	+1.3
	0.9nm,1.2s,baz=121,slow=2.1,SNR=5.7							

*NEIC **27** 16:42:21.4,3601S×17783E,h236km,MG3.9(WEL),After WEL.*
WEL 27 16:42:21.4±0.4,3601S×17783E,h236km±5km,ML3.9/10, Error ellipse: s-maj=8.1km s-min=6.0km az=90.0,Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**1.60**	**166**	P	Pn		16 42 59.2	+0.1
MXZ	**Matakaoa Point**	**1.60**	**166**	PN	Pn		16 42 59.2	+0.1
PUZ	**Puketiti**	**2.09**	**171**	P	Pn		16 43 03.7	+0.3
PUZ				S	S		16 43 35.1	-1.5
PUZ	**Puketiti**	**2.09**	**171**	PN	Pn		16 43 03.7	+0.3
PUZ				SN	S		16 43 35.1	-1.5
URZ	**Urewera**	**2.32**	**194**	P	Pn		16 43 06.1	+0.4
URZ	**Urewera**	**2.32**	**194**	PN	Pn		16 43 06.1	+0.4
URZ				SN	S		16 43 40.4	-0.4
MWZ	**Matawai**	**2.33**	**186**	P	Pn		16 43 06.3	+0.4
MWZ				S	S		16 43 41.7	+0.7
MWZ	**Matawai**	**2.33**	**186**	PN	Pn		16 43 06.3	+0.4
MWZ				SN	S		16 43 41.7	+0.7
KNZ	**Kokohu**	**3.01**	**182**	P	Pn		16 43 13.0	0.0
KNZ	**Kokohu**	**3.01**	**182**	PN	Pn		16 43 13.0	-0.1
BKZ	**Black Stump Fm**	**3.33**	**198**	P	Pn		16 43 16.3	-0.3
BKZ	**Black Stump Fm**	**3.33**	**198**	PN	Pn		16 43 16.3	-0.3
WNVZ	**Wahianoa**	**3.76**	**208**	*e*PN	Pn		16 43 21.4	-0.2
PXZ	**Pawanui**	**4.09**	**191**	PN	Pn		16 43 24.6	-0.9
WPHZ	**Waipukurau**	**4.20**	**195**	PN	Pn		16 43 25.9	-0.9
TSZ	**Takapari Road**	**4.31**	**200**	P	Pn		16 43 26.9	-1.2
TSZ	**Takapari Road**	**4.31**	**200**	PN	Pn		16 43 26.9	-1.2
MRZ	**Mangatainoka R**	**4.97**	**200**	P	Pn		16 43 34.3	-2.0
MRZ	**Mangatainoka R**	**4.97**	**200**	PN	Pn		16 43 34.3	-2.0
TIWZ	**Tintock**	**5.00**	**197**	PN	Pn		16 43 35.0	-1.6
HOWZ	**Holdsworth Sta**	**5.21**	**200**	PN	Pn		16 43 37.1	-2.1
KIW	**Kapiti Island**	**5.36**	**204**	P	Pn		16 43 39.1	-2.0
KIW	**Kapiti Island**	**5.36**	**204**	PN	Pn		16 43 39.1	-2.0
CAW	**Cannon Point**	**5.53**	**202**	P	Pn		16 43 40.6	-2.6
CAW	**Cannon Point**	**5.53**	**202**	PN	Pn		16 43 40.6	-2.7
TCW	**Tory Channel**	**5.89**	**207**	P	Pn		16 43 45.5	-2.3
TCW	**Tory Channel**	**5.89**	**207**	PN	Pn		16 43 45.5	-2.3
KHZ	**Kahutara**	**7.21**	**206**	*e*PN	Pn		16 44 02.0	-2.5

IDC 27 16:43:31.5±60.0,1855S×17546E,h0km,mb3.8/3, mb1 4.0/3,mb1mx3.6/12,mbtmp3.8/3,Error ellipse: s-maj=1043.0km s-min=129.3km az=77.0,Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**33.24**	**240**	P	P		16 50 10.8	+0.2
	1.1nm,0.9s,baz=90,slow=14,SNR=3.2							
WRA	**Warramunga Arr**	**38.78**	**261**	P	P		16 50 57.8	-0.3
	0.6nm,0.7s,baz=96,slow=7.4,SNR=20							
ASAR	**Alice Springs**	**39.00**	**255**	P	P		16 51 00.0	+0.1
	1.5nm,0.6s,baz=86,slow=9.6,SNR=42							

IDC 27 17:38:34.8±10.0,778S×15681E,h0km,mb3.7/6, mb1 3.8/6,mb1mx3.7/13,mbtmp3.7/6,Error ellipse: s-maj=314.2km s-min=27.2km az=112.0,Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.90**	**239**	P	P		17 44 00.7	+1.1
	0.4nm,0.6s,baz=60,slow=9.2,SNR=5.1							
ASAR	**Alice Springs**	**27.05**	**232**	P	P		17 44 17.8	-1.3
	0.1nm,0.6s,baz=53,slow=10,SNR=3.4							
MJAR	**Matsushiro Arr**	**47.42**	**340**	P	P		17 47 09.2	-2.0
	0.7n

Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.33**	**264**	P	P	18 02 57.3	+0.5
	4.4nm,0.6s,baz=60,slow=14,SNR=3.4						
CTAO	**Charters Tower**	**33.33**	**264**	P	P	18 02 57.4	+0.6
STKA	**Stephens Creek**	**37.75**	**244**	P	P	18 03 33.3	-0.2
	1.8nm,0.9s,baz=77,slow=14,SNR=3.3						
ASAR	**Alice Springs**	**44.40**	**256**	P	P	18 04 26.3	-0.1
	1.9nm,0.5s,baz=94,slow=7.6,SNR=72						
ASAR				PcP	PcP	18 05 59.2	+0.1
	0.3nm,0.6s,baz=106,slow=3.9,SNR=4.8						
WB2	**Warramunga Arr**	**44.44**	**262**	*e*P	P	18 04 26.6	-0.2
WRAB	**Tennant Creek**	**44.44**	**262**	*e*P	P	18 04 26.3	-0.5
WRA	**Warramunga Arr**	**44.45**	**262**	P	P	18 04 26.5	-0.3
	1.0nm,0.5s,baz=98,slow=7.9,SNR=48						
SBA	**Scott Base**	**58.17**	**184**	*e*P	P	18 06 06.3	+1.0
AKASG	**Malin Array Be**	**142.64**	**331**	PKP	PKPdf	18 15 34.6	-1.1
	0.9nm,0.4s,baz=48,slow=4.4,SNR=9.7						
GERES	**GERESS Array B**	**149.84**	**344**	PKPbc	PKPbc	18 15 53.1	0.0
	0.3nm,0.6s,baz=45,slow=1.5,SNR=2.9						

*ISCJB **27** 18:05:06.6±0.4, 4380N±003×10522W±005, h0km, mb3.9/2, Error ellipse: s-maj=5.2km s-min=4.3km az=28.8*
*IDC **27** 18:05:07.5±2.3, 4362N×10529W, h0km, mb3.8/2, mb1 3.8/5, mb1mx3.5/24, mbtmp3.6/5, ML2.9/2, Error ellipse: s-maj=74.0km s-min=14.1km az=143.0*
*NEIC **27** 18:05:08.6±0.3, 4379N×10523W, h0km, ML3.3, Error ellipse: s-maj=4.9km s-min=3.6km az=138.0, Suspected Mining explosion.*
NEIC 60 km [35 miles] SSE of Gillette.

ISC 27 18:05:08.7±0.4, 4381N±003×10524W±004, h0km, n57, σ0°74/65, mb3.9/2, 11C-5D, Wyoming

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RSSD	**Black Hills**	**0.93**	**70**	*e*Pg	**Pg**	**18 05 27.1**	**+0.7**
PHWY	**Pilot Hill**	**2.51**	**184**	*e*Pn	**Pn**	**18 05 50.3**	**-0.4**
RWWY	**Rawlins**	**2.56**	**215**	*e*Pn	**Pn**	**18 05 52.2**	**+0.8**
RWWY				*e*Sn	**Sn**	**18 06 23.3**	**0.0**
LAO	**LASA Array**	**2.96**	**347**	*e*Pn	**Pn**	**18 05 57.2**	**+0.4**
RLMT	**Red Lodge**	**3.17**	**296**	*e*Pn	**Pn**	**18 06 00.1**	**+0.4**
BW06	**Boulder Array**	**3.32**	**253**	*e*Pn	**Pn**	**18 06 01.6**	**-0.2**
LKWY	**Lake**	**3.79**	**283**	Pn	**Pn**	**18 06 07.8**	**-0.4**
LOHW	**Long Hollow**	**3.89**	**269**	*e*Pn	**Pn**	**18 06 11.0**	**+1.4**
FLWY	**Flagg Ranch**	**3.95**	**276**	*e*Pn	**Pn**	**18 06 10.8**	**+0.4**
FLWY				*e*Pg	**Pg**	**18 06 20.9**	**-3.4**
FLWY				*e*Sg	**Sg**	**18 07 14.3**	**-1.2**
ISCO	**Idaho Springs**	**4.01**	**184**	*e*Pn	**Pn**	**18 06 10.8**	**-0.6**
SNOW	**Snow King Moun**	**4.01**	**267**	*e*Pn	**Pn**	**18 06 13.1**	**+1.8**
YFT	**Old Faithful**	**4.08**	**281**	*e*Pg	**Pb**	**18 06 22.1**	**+0.8**
REDW	**Red Top Meadow**	**4.10**	**266**	*e*Pn	**Pn**	**18 06 13.5**	**+1.0**
IMW	**Indian Meadow**	**4.12**	**273**	*e*Pn	**Pn**	**18 06 11.8**	**-1.0**
TPAW	**Teton Pass**	**4.15**	**268**	*e*Pn	**Pn**	**18 06 13.7**	**+0.4**
AHID	**Auburn Hatcher**	**4.40**	**258**	*e*Pn	**Pn**	**18 06 17.1**	**+0.5**
DGMT	**Dagmar**	**4.72**	**9**	*e*Pn	**Pn**	**18 06 22.8**	**+1.8**
DGMT				*e*Pg	**Pg**	**18 06 33.6**	**-5.5**
SMCO	**Snowmass**	**4.80**	**196**	*e*Pn	**Pn**	**18 06 21.7**	**-0.5**
SMCO				*e*Pg	**Pg**	**18 06 34.0**	**-6.8**
BOZ	**Bozeman (W)**	**4.91**	**294**	*e*Pn	**Pn**	**18 06 22.6**	**-1.1**
BOZ				*e*Sg	**Sb**	**18 07 34.8**	**-0.1**
BOZ	**Bozeman (W)**	**4.91**	**294**	⇑P	**Pn**	**18 06 22.9**	**-0.7**
	baz=4.9						
BOZ				⇑Sb	**Sb**	**18 07 38.9**	**+4.0**
	baz=4.9						
HWUT	**Hardware Ranch**	**5.15**	**247**	*e*Pn	**Pn**	**18 06 26.6**	**-0.4**
	9.5nm,0.4s						
EGMT	**Eagleton**	**5.26**	**325**	*e*Pn	**Pn**	**18 06 28.4**	**0.0**
	28nm,0.4s						
EGMT	**Eagleton**	**5.26**	**325**	⇑P	**Pn**	**18 06 28.6**	**+0.2**
	baz=5.2						
DLMT	**Dillon**	**5.48**	**289**	*e*Pn	**Pn**	**18 06 32.1**	**+0.7**
	5.6nm,0.5s						
F15A	**Butte**	**5.54**	**294**	⇓P	**Pn**	**18 06 31.9**	**-0.4**
	baz=5.5						
DAU	**Daniels Canyon**	**5.61**	**235**	*e*Pn	**Pn**	**18 06 33.3**	**0.0**
CTU	**Camp Tracy**	**5.74**	**239**	*e*Pn	**Pn**	**18 06 34.3**	**-0.8**
	7.5nm,0.4s						
M15A	**Larsen Ranch,**	**5.81**	**249**	⇑P	**Pn**	**18 06 36.3**	**+0.3**
	baz=5.8						
M15A				⇓Sb	**Sb**	**18 08 05.4**	**+4.6**
	baz=5.8						
E15A	**Deer Lodge**	**5.85**	**299**	⇑P	**Pn**	**18 06 36.3**	**-0.3**
	baz=5.8,SNR=38						
HVU	**Hansel Valley**	**5.90**	**252**	*e*Pn	**Pn**	**18 06 37.4**	**+0.1**
	4.4nm,0.4s						
K14A	**Jones Ranch, D**	**5.94**	**260**	⇑P	**Pn**	**18 06 38.4**	**+0.7**
	baz=5.9						
D15A	**Lincoln**	**6.06**	**305**	⇓P	**Pn**	**18 06 39.3**	**-0.1**
	baz=6.0,SNR=11						
MPU	**Maple Canyon**	**6.09**	**234**	*e*P	**Pn**	**18 06 39.6**	**-0.2**
	8.8nm,0.7s						
F14A	**Wisdom**	**6.12**	**292**	⇓P	**Pn**	**18 06 39.7**	**-0.5**
	baz=6.1						
PV10	**Paradox Valley**	**6.14**	**209**	*e*Pn	**Pn**	**18 06 41.4**	**+0.9**
SRU	**San Rafael**	**6.14**	**222**	*e*Pn	**Pn**	**18 06 39.3**	**-1.3**
	10nm,0.4s						
PV01	**Paradox Valley**	**6.20**	**205**	*e*Pn	**Pn**	**18 06 41.6**	**+0.3**
ECSD	**EROS,Sioux Fal**	**6.25**	**88**	*e*Pn	**Pn**	**18 06 42.1**	**+0.1**
	8.1nm,0.3s						
TMUT	**Trail Mountain**	**6.35**	**227**	*e*Pn	**Pn**	**18 06 43.8**	**+0.3**
E14A	**Clinton**	**6.39**	**297**	⇑P	**Pn**	**18 06 44.0**	**0.0**
	baz=6.4,SNR=10.0						
M14A	**Sheep Mountain**	**6.40**	**252**	⇑P	**Pn**	**18 06 44.4**	**+0.2**
	baz=6.4						
BGU	**Big Grassy Mou**	**6.45**	**246**	P	**Pn**	**18 06 44.2**	**-0.5**
D14A	**Greenough**	**6.67**	**302**	⇑P	**Pn**	**18 06 47.4**	**-0.4**
	baz=6.6,SNR=26						
DUG	**Dugway**	**6.69**	**240**	*e*Pn	**Pn**	**18 06 46.9**	**-1.2**
	3.4nm,0.4s						
DUG	**Dugway**	**6.69**	**240**	⇑P	**Pn**	**18 06 47.6**	**-0.6**
	baz=6.7						
F13A	**Darby**	**6.76**	**290**	⇓P	**Pn**	**18 06 48.7**	**-0.4**
	baz=6.7						
MSU	**Marysvale**	**7.44**	**227**	*e*Pn	**Pn**	**18 06 58.2**	**-0.2**
C13A	**Hot Springs**	**7.59**	**304**	⇑P	**Pn**	**18 07 00.7**	**+0.4**
	baz=7.5						
AGMN	**Agassiz Refuge**	**7.92**	**52**	*e*Pn	**Pn**	**18 07 04.1**	**-0.9**
	13nm,0.4s						
ULM	**Lac du Bonnet**	**9.08**	**41**	Pn	**Pn**	**18 07 19.9**	**-0.9**
	1.4nm,0.3s,baz=225,slow=12,SNR=14						
ULM				Pg	**Pg**	**18 07 53.6**	**-8.8**
	1.2nm,0.3s,baz=228,slow=14,SNR=6.5						
ULM				Lg		18 09 53.4	
	0.5nm,0.3s,baz=131,slow=20,SNR=4.4						
NEW	**Newport**	**9.38**	**302**	Lg		18 09 56.6	
	0.2nm,0.3s,baz=61,slow=19,SNR=2.2						
WUAZ	**Wupatki**	**9.53**	**212**	Pn	**Pn**	**18 07 27.9**	**+0.8**
	4.7nm,0.5s						
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**18 07 50.9**	**+0.7**
NVAR	**Mina Array Bea**	**11.22**	**246**	Pn	**Pn**	**18 07 50.9**	**+0.7**
	0.2nm,0.3s,baz=61,slow=12,SNR=4.1						
YKA	**Yellowknife Ar**	**19.50**	**347**	P	**Pn**	**18 09 38.3**	**+0.1**
	0.1nm,0.3s,baz=162,slow=12,SNR=7.8						
ARCES	**ARCESS Array B**	**61.35**	**18**	P	**P**	**18 15 24.6**	**-1.0**
	1.6nm,0.8s,mb4.2,baz=334,slow=8.1,SNR=3.8						
MKAR	**Makanchi Array**	**89.54**	**355**	P	**P**	**18 18 06.9**	**-0.7**
	0.4nm,0.9s,mb3.6,baz=20,slow=6.0,SNR=2.5						

*NEIC **27** 18:12:34.8±1.8, 2007S×17452W, h7km±10km, mb5.8/116, MS5.1/176, MW5.6, Error ellipse: s-maj=5.0km s-min=2.8km az=126.0, Moment Tensor Solution. s37 Moment tensor: Scale 10^{17}Nm; M_{rr}2.60; $M_{\theta\theta}$-2.09; $M_{\phi\phi}$-0.51; $M_{r\theta}$-0.44; $M_{\theta\phi}$1.52; $M_{\phi r}$-1.22; Best double couple: $M_0$3.10000×10^{17} NP1:ϕ_s279.00000°, δ47.00000°, λ56.00000°. NP2:ϕ_s144.00000°, δ53.00000°, λ122.00000°. Principal axes: T 3.1900, Plg65.0000°, Azm116.0000°; N -0.1700, Plg25.0000°, Azm304.0000°; P -3.0200, Plg3.0000°, Azm212.0000°;*
NEIC Felt at Nuku'alofa and Pangai.
*GCMT **27** 18:12:34.8±0.1, 2000S×17403W, h42km, MW5.5/105, Moment Tensor Solution. s105,c192; s99,c207; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}1.94±.03; $M_{\theta\theta}$-1.31±.02; $M_{\phi\phi}$-0.62±.03; $M_{r\theta}$0.08±.03; $M_{\theta\phi}$1.46±.02; $M_{\phi r}$-0.76±.03; Best double couple: $M_0$2.35700×10^{17} NP1:ϕ_s290.00000°, δ41.00000°, λ62.00000°. NP2:ϕ_s145.00000°, δ54.00000°, λ112.00000°. Principal axes: T 2.1830, Plg71.0000°, Azm109.0000°; N 0.3570, Plg18.0000°, Azm312.0000°; P -2.5310,*

Plg7.0000°, Azm220.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
*BJI **27** 18:12:34.9, 1970S×17421W, h13km, mB5.6, mb5.6, Ms5.1, Msz4.9*
*BGS **27** 18:12:35.7±6.0, 2007S×17452W, h10km, mb5.8(NEIC)*
*MOS **27** 18:12:38.6±1.0, 1988S×17447W, h33km, mb5.8/67, MS5.0/68, Error ellipse: s-maj=10.0km s-min=7.0km az=69.3*
*SZGRF **27** 18:12:38.6, 2131S×17389W, h51km, mb5.1, Tonga Islands*
*ISCJB **27** 18:12:39.4±0.1, 2016S±003×17454W±003, h50km, mb5.7/150, MS5.0/215, Error ellipse: s-maj=5.3km s-min=2.6km az=42.9*
*IDC **27** 18:12:40.5±0.4, 2008S×17467W, h47km±3km, mb5.3/21, mb1 5.3/22, mb1mx5.3/22, mbtmp5.2/22, MS4.9/15, Ms1 4.9/15, ms1mx4.7/20, Error ellipse: s-maj=14.9km s-min=9.7km az=153.0*

ISC 27 18:12:41.3±0.1, 2015S±003×17453W±003, h52km, h52km±.7km: pP-P, n1304, σ0°69/753, mb5.7/150, MS5.0/215, 209C-155D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.74**	**23**	P	**Pn**	**18 14 10.7**	**-7.0**
AFI				S	**Sn**	**18 15 18.2**	**-15**
AFI				pmax	pmax		
	comp=Z,57nm,0.3s						
AFI				smax			
	comp=N,255nm,0.3s						
AFI	**Afiamalu**	**6.74**	**23**	*e*Pn	**Pn**	**18 14 10.5**	**-7.2**
	comp=N,592nm,0.5s						
AFI				*e*Sn	**Sn**	**18 15 17.1**	**-16**
AFI	**Afiamalu**	**6.74**	**23**	P	**Pn**	**18 14 10.7**	**-7.0**
	comp=N,57nm,0.3s,baz=30,slow=3.6,SNR=60						
AFI				S	**Sn**	**18 15 18.2**	**-15**
	comp=N,255nm,0.3s,baz=118,slow=23,SNR=6.7						
FUNA	**Funafuti**	**13.05**	**331**	Pn	**Pn**	**18 15 39.9**	**-4.2**
	comp=N,770nm,1.7s						
RAR	**Rarotonga**	**13.85**	**97**	P	**Pn**	**18 15 45.6**	**-9.4**
	comp=N,30nm,0.3s,baz=257,slow=7.4,SNR=65						
RAR				S	Sn	18 18 05.7	-22
	comp=N,29nm,0.3s,baz=13,slow=21,SNR=7.3						
RAR				LR	LR	18 19 43.8	
	comp=N,6μm,21.2s,baz=270,slow=30						
OUZ	**Omahuta**	**18.30**	**212**	P	**Pn**	**18 16 53.0**	**+1.6**
OUZ	**Omahuta**	**18.30**	**212**	P*	**Pn**	**18 16 53.0**	**+1.6**
MXZ	**Matakaoa Point**	**18.44**	**198**	*e*P*	**Pn**	**18 16 53.8**	**+0.8**
MKAZ	**Moumakai**	**19.14**	**206**	P	**Pn**	**18 17 01.9**	**+0.4**
MKAZ	**Moumakai**	**19.14**	**206**	P*	**Pn**	**18 17 01.9**	**+0.4**
MWZ	**Matawai**	**19.39**	**199**	*e*P	**Pn**	**18 17 01.2**	**-3.2**
MWZ	**Matawai**	**19.39**	**199**	*e*P*	**Pn**	**18 17 01.2**	**-3.2**
URZ	**Urewera**	**19.45**	**200**	*e*P	**Pn**	**18 17 01.4**	**-3.7**
URZ	**Urewera**	**19.45**	**200**	P	**Pn**	**18 17 03.1**	**-2.1**
	comp=N,40nm,0.3s,baz=16,slow=5.5,SNR=44						
URZ				S	**S**	**18 20 34.0**	**-6.6**
	comp=N,9.0nm,0.3s,baz=188,slow=21,SNR=6.6						
URZ	**Urewera**	**19.45**	**200**	*e*P*	**Pn**	**18 17 01.4**	**-3.7**
BKZ	**Black Stump Fm**	**20.47**	**200**	*e*P	**P**	**18 17 12.8**	**-1.9**
BKZ	**Black Stump Fm**	**20.47**	**200**	*e*P*	**P**	**18 17 12.8**	**-1.8**
HIZ	**Hauiti**	**20.48**	**204**	P	**P**	**18 17 16.5**	**+1.8**
HIZ	**Hauiti**	**20.48**	**204**	P*	**P**	**18 17 16.5**	**+1.8**
VRZ	**Vera Road**	**21.05**	**204**	P	**P**	**18 17 20.6**	**-0.3**
VRZ	**Vera Road**	**21.05**	**204**	P*	**P**	**18 17 20.6**	**-0.3**
MRZ	**Mangatainoka R**	**22.12**	**200**	P	**P**	**18 17 30.0**	**-2.3**
MRZ	**Mangatainoka R**	**22.12**	**200**	P*	**P**	**18 17 30.0**	**-2.4**
CAW	**Cannon Point**	**22.69**	**201**	P	**P**	**18 17 36.6**	**-1.8**
CAW	**Cannon Point**	**22.69**	**201**	P*	**P**	**18 17 36.7**	**-1.7**
CAW	**Cannon Point**	**22.69**	**201**	P*	**P**	**18 17 36.6**	**-1.8**
SNZO	**South Karori**	**23.00**	**201**	*e*P	**P**	**18 17 39.6**	**-1.9**
	comp=N,644nm,1.1s,mb6.0						
SNZO				LR	LR		
	comp=Z,4μm,20.0s,MS4.8						
TUWZ	**Tuamarina**	**23.37**	**202**	P*	**P**	**18 17 42.4**	**-2.9**
QRZ	**Quartz Range**	**23.38**	**205**	P	**P**	**18 17 43.1**	**-2.3**
QRZ	**Quartz Range**	**23.38**	**205**	P*	**P**	**18 17 43.1**	**-2.4**
NNZ	**Nelson**	**23.39**	**203**	P	**P**	**18 17 42.5**	**-3.0**
NNZ	**Nelson**	**23.39**	**203**	P*	**P**	**18 17 42.5**	**-3.0**
PPT	**Papeete**	**23.75**	**88**	P	**P**	**18 17 46.4**	**-2.6**
PPT				pmax	pmax		
	comp=Z,208nm,1.0s						
PPT				MLR	MLR		
	comp=Z,4μm,21.9s						
PPT	**Papeete**	**23.75**	**88**	*e*P	**P**	**18 17 44.7**	**-4.3**
PPT	**Papeete**	**23.75**	**88**	P	**P**	**18 17 46.4**	**-2.6**
	comp=Z,208nm,1.0s,mb5.5,baz=213,slow=3.8,SNR=14						
PPT				LR	LR	18 24 15.8	
	comp=Z,4μm,21.9s,MS4.8,baz=257,slow=29						
THZ	**Tophouse**	**24.04**	**204**	P	**P**	**18 17 50.4**	**-1.0**
THZ	**Tophouse**	**24.04**	**204**	P*	**P**	**18 17 50.4**	**-1.0**
KHZ	**Kahutara**	**24.38**	**202**	P	**P**	**18 17 53.9**	**-0.6**
KHZ	**Kahutara**	**24.38**	**202**	P*	**P**	**18 17 53.9**	**-0.6**
LTZ	**Lake Taylor**	**25.15**	**203**	P	**P**	**18 18 00.8**	**-0.8**
LTZ	**Lake Taylor**	**25.15**	**203**	P*	**P**	**18 18 00.8**	**-0.7**
WVZ	**Waitaha Valley**	**26.00**	**205**	P	**P**	**18 18 08.4**	**-0.8**
WVZ	**Waitaha Valley**	**26.00**	**205**	P*	**P**	**18 18 08.4**	**-0.8**
RPZ	**Rata Peaks**	**26.41**	**204**	P	**P**	**18 18 12.8**	**-0.2**
	comp=Z,186nm,0.8s,mb5.7,baz=45,slow=2.9,SNR=16						
RPZ	**Rata Peaks**	**26.41**	**204**	P*	**P**	**18 18 12.5**	**-0.4**
FOZ	**Fox Glacier**	**26.83**	**206**	P	**P**	**18 18 15.9**	**-0.8**
FOZ	**Fox Glacier**	**26.83**	**206**	P*	**P**	**18 18 15.9**	**-0.7**
HNR	**Honiara**	**26.84**	**290**	P	**P**	**18 18 17.1**	**0.0**
HNR				pmax	pmax		
	comp=Z,96nm,0.8s,mb5.4						
HNR	**Honiara**	**26.84**	**290**	P	**P**	**18 18 17.1**	**0.0**
	comp=Z,96nm,0.8s,mb5.4,baz=99,slow=4.6,SNR=3.5						
LBZ	**Lake Benmore**	**27.31**	**204**	*e*P	**P**	**18 18 20.0**	**-1.0**
LBZ	**Lake Benmore**	**27.31**	**204**	*e*P*	**P**	**18 18 20.0**	**-1.0**
JCZ	**Jackson Bay**	**27.63**	**207**	P	**P**	**18 18 23.7**	**-0.2**
JCZ	**Jackson Bay**	**27.63**	**207**	P*	**P**	**18 18 23.7**	**-0.2**
ODZ	**Otahua Downs**	**27.70**	**203**	P	**P**	**18 18 25.4**	**+0.9**
ODZ	**Otahua Downs**	**27.70**	**203**	P*	**P**	**18 18 25.4**	**+0.9**
WKZ	**Wanaka**	**28.14**	**205**	*e*P	**P**	**18 18 27.3**	**-1.1**
WKZ	**Wanaka**	**28.14**	**205**	*e*P*	**P**	**18 18 27.3**	**-1.1**
MSZ	**Milford Sound**	**28.46**	**207**	*e*P*	**P**	**18 18 32.5**	**+1.2**
TUZ	**Tuapeka**	**28.85**	**203**	P	**P**	**18 18 36.1**	**+1.4**
TUZ	**Tuapeka**	**28.85**	**203**	P*	**P**	**18 18 36.1**	**+1.4**
MLZ	**Mavora Lakes**	**28.91**	**206**	*e*P	**P**	**18 18 35.6**	**+0.3**
MLZ	**Mavora Lakes**	**28.91**	**206**	*e*P*	**P**	**18 18 35.6**	**+0.3**
WHZ	**Wether Hill Ro**	**29.45**	**205**	P	**P**	**18 18 40.1**	**+0.1**
WHZ	**Wether Hill Ro**	**29.45**	**205**	P*	**P**	**18 18 40.1**	**+0.1**
SYZ	**Scrubby Hill**	**29.52**	**203**	P*	**P**	**18 18 41.8**	**+1.1**
EIDS	**Eidsvold**	**32.08**	**254**	*e*P	**P**	**18 19 03.0**	**-0.5**
	comp=Z,22nm,1.1s,mb4.9						
ARMA	**Armidale**	**32.15**	**245**	*e*P	**P**	**18 19 05.0**	**+0.9**
CNB	**Canberra Magne**	**35.13**	**237**	*e*P	**P**	**18 19 29.9**	**0.0**
	comp=Z,108nm,1.0s,mb5.7						
CNB				*e*PCP	PcP	18 22 16.8	+16
CTA	**Charters Tower**	**36.77**	**263**	*e*P	**P**	**18 19 44.4**	**+0.3**
	comp=Z,41nm,0.4s,mb5.6						
CTA				*e*PCP	PcP	18 22 21.5	+16
CTA				*e*S	**S**	**18 25 32.2**	**+7.6**
CTA	**Charters Tower**	**36.77**	**263**	*e*P	**P**	**18 19 44.4**	**+0.3**
CTA				*e*S	**S**	**18 25 32.2**	**+7.6**
CTA				pmax	pmax		
	comp=Z,41nm,0.4s						
CTA	**Charters Tower**	**36.77**	**263**	P	**P**	**18 19 44.5**	**+0.5**
	comp=Z,47nm,0.5s,mb5.6,baz=94,slow=10,SNR=95						
CTA				pP	pP	18 19 58.3	+0.7
	comp=Z,55nm,0.5s,baz=95,slow=9.8,SNR=9.2						
CTA				LR	LR	18 33 04.1	
	comp=Z,4μm,20.9s,MS5.2,baz=95,slow=33						
CTAO	**Charters Tower**	**36.77**	**263**	*e*P	**P**	**18 19 44.5**	**+0.4**
CTAO				pmax	pmax		
	comp=Z,56nm,0.6s,mb5.6						
CTAO				MLR	MLR		
	comp=Z,4μm,21.0s,MS5.2						
CTAO	**Charters Tower**	**36.77**	**263**	*e*P	**P**	**18 19 44.5**	**+0.5**
	comp=Z,56nm,0.6s,mb5.6						
CTAO				LR	LR		
	comp=Z,4μm,21.0s,MS5.2						
TOO	**Toolangi**	**38.74**	**235**	*e*P	**P**	**18 20 00.2**	**-0.4**
	comp=Z,675nm,0.6s						
TAU	**Tasmania Unive**	**39.18**	**226**	P	**P**	**18 20 05.5**	**+1.3**
	comp=Z,262nm,0.7s,mb6.1,SNR=17						
TAU	**Tasmania Unive**	**39.18**	**226**	*e*P	**P**	**18 20 04.6**	**+0.4**
TAU				pmax	pmax		
	comp=Z,56nm,1.0s,mb5.2						
TAU				MLR	MLR		
	comp=Z,3μm,19.0s,MS5.2						
TAU	**Tasmania Unive**	**39.18**	**226**	*e*P	**P**	**18 20 04.6**	**+0.4**
	comp=Z,56nm,1.0s,mb5.2						
TAU				LR	LR		
	comp=Z,3μm,19.0s,MS5.2						
STKA	**Stephens Creek**	**40.87**	**244**	*e*P	**P**	**18 20 17.9**	**-0.5**
	comp=Z,38nm,0.6s,mb5.2						
STKA				*e*PCP	PcP	18 22 34.6	+16
STKA				*e*S	**S**	**18 26 19.8**	**-6.4**
STKA	**Stephens Creek**	**40.87**	**244**	P	**P**	**18 20 18.0**	**-0.3**
	comp=Z,43nm,0.9s,mb5.1,baz=85,slow=8.5,SNR=57						
STKA				LR	LR	18 35 21.6	
	comp=Z,3μm,19.9s,MS5.2,baz=76,slow=33						
POHA	**Pohakuloa**	**43.81**	**26**	*e*P	**P**	**18 20 40.8**	**-1.5**
	comp=Z,276nm,1.2s,mb5.9						
POHA				LR	LR		
	comp=Z,2μm,22.0s,MS4.9						
KIP	**Kipapa**	**44.36**	**22**	*e*P	**P**	**18 20 45.7**	**-0.9**
KIP				pmax	pmax		
	comp=Z,322nm,1.0s,mb6.0						
KIP	**Kipapa**	**44.36**	**22**	*e*P	**P**	**18 20 45.7**	**-0.9**
	comp=Z,322nm,1.0s,mb6.0						
ASAR	**Alice Springs**	**47.77**	**256**	P	**P**	**18 21 12.7**	**-0.9**
ASAR						18 22 43.0	
ASAR				S	**S**	**18 28 01.8**	**-4.8**
ASAR				pmax	pmax		
	comp=Z,29nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,13nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,56nm,0.8s						
ASAR				smax			
	comp=N,4.0nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
ASAR	**Alice Springs**	**47.77**	**256**	P	**P**	**18 21 12.7**	**-0.9**
ASAR				PcP	PcP	18 22 43.0	+1.0
ASAR				pPcP		18 22 55.8	
ASAR				S	**S**	**18 28 01.8**	**-4.8**
ASAR	**Alice Springs**	**47.77**	**256**	P	**P**	**18 21 12.7**	**-0.9**
	comp=Z,29nm,0.8s,mb5.4,baz=104,slow=7.6,SNR=113						
ASAR				PcP	PcP	18 22 43.0	+1.0
	comp=Z,13nm,0.7s,baz=115,slow=3.4,SNR=5.1						
ASAR				pPcP		18 22 55.8	
	comp=Z,56nm,0.8s,baz=103,slow=3.7,SNR=14						
ASAR				S	**S**	**18 28 01.8**	**-4.8**
	comp=Z,3.5nm,0.8s,baz=95,slow=16,SNR=5.9						
ASAR				P4KPbc		18 58 57.9	
	comp=Z,0.6nm,0.9s,baz=88,slow=4.6,SNR=4.3						
WB2	**Warramunga Arr**	**47.86**	**261**	*e*P	**P**	**18 21 13.4**	**-1.0**
WB2				*e*PCP	PcP	18 22 57.9	+15
WB2				*e*S	**S**	**18 28 01.6**	**-6.4**
WRAB	**Tennant Creek**	**47.87**	**261**	P	**P**	**18 21 14.0**	**-0.4**
	comp=Z,336nm,1.2s,mb6.2,SNR=20						
WRAB	**Tennant Creek**	**47.87**	**261**	*e*P	**P**	**18 21 13.0**	**-1.4**
	comp=Z,56nm,0.9s,mb5.6						
WRAB				LR	LR		
	comp=Z,3μm,20.0s,MS5.3						
WRA	**Warramunga Arr**	**47.87**	**261**	P	**P**	**18 21 13.2**	**-1.2**
WRA						18 22 43.8	
WRA				S	**S**	**18 28 03.3**	**-4.9**
WRA				pmax	pmax		
	comp=Z,61nm,1.2s						
WRA				pmax	pmax		
	comp=Z,15nm,0.9s						
WRA				pmax	pmax		
	comp=Z,47nm,0.8s						
WRA				smax			
	comp=N,2.0nm,0.8s						
WRA				MLR	MLR		
	comp=Z,2μm,20.3s						
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	**Warramunga Arr**	**47.87**	**261**	P	**P**	**18 21 13.2**	**-1.2**
	comp=Z,61nm,1.2s,mb5.5,baz=97,slow=7.2,SNR=98						
WRA				PcP	PcP	18 22 43.8	+1.3
	comp=Z,14nm,0.9s,baz=97,slow=3.7,SNR=2.5						
WRA				pPcP		18 22 56.0	
	comp=Z,47nm,0.8s,baz=92,slow=3.8,SNR=12						
WRA				S	**S**	**18 28 03.3**	**-4.8**
	comp=Z,2.0nm,0.8s,baz=95,slow=14,SNR=5.0						
WRA				LR	LR	18 40 08.3	
	comp=Z,2μm,20.3s,MS5.1,baz=90,slow=34						
WRA				P4KPbc		18 58 57.3	
	comp=Z,0.6nm,0.9s,baz=98,slow=4.4,SNR=4.5						
MIDW	**Midway**	**48.16**	**357**	PFAKE		18 21 30.0	+14
MIDW				L

MJAR LR LR 18 52 05.7
comp=Z,554nm,21.0s,MS4.8,baz=145,slow=33
MAJO Matsushiro 71.91 322 *eP* **P 18 23 58.5 -0.6**
MAJO pmax pmax
comp=Z,33nm,0.6s,mb5.4
MAJO MLR MLR
comp=Z,708nm,20.0s,MS4.9
MAJO Matsushiro 71.91 322 *eP* **P 18 23 58.5 -0.5**
comp=Z,33nm,0.6s,mb5.5
MAJO LR LR
comp=Z,708nm,20.0s,MS4.9
MAT Matsushiro 71.91 322 P **P 18 23 58.8 -0.3**
MAT S S 18 33 17.0 +0.7
PALP Palanan 72.09 296 *eP* **P 18 24 00.9 +0.4**
LUBP Lubang 72.43 292 *eP* **P 18 24 00.3 -2.3**
BATP Bataraza 72.49 287 *eP* **P 18 24 02.6 -0.4**
MIR Mirnyy 72.68 205 ⇑*iP* **P 18 24 05.0 +1.7**
MIR *i* pP 18 24 21.0 +3.0
MIR pmax pmax
comp=Z,200nm,1.0s,mb6.0
KKM Kota Kinabalu 72.83 283 *eP* **P 18 24 04.9 -0.2**
KKM Kota Kinabalu 72.83 283 ⇓P **P 18 24 05.9 +0.8**
ERM Erimo 73.18 328 *eP* **P 18 24 07.4 +0.9**
ERM MLR MLR
comp=Z,864nm,20.0s,MS5.0
SMY Shemya 73.24 353 *eP* **P 18 24 04.9 -1.7**
SMY pmax pmax
comp=Z,72nm,1.0s,mb5.6
SMY Shemya 73.24 353 *eP* **P 18 24 05.1 -1.5**
comp=Z,79nm,0.9s,mb5.6
UNV Unalaska Valle 74.01 5 *eP* **P 18 24 08.8 -2.2**
comp=Z,60nm,0.9s,mb5.5
UNV LR LR
comp=Z,1μm,19.0s,MS5.3
SNCC San Nicolas Is 74.65 45 PFAKE 18 24 30.0 +15
SNCC LR LR
comp=Z,981nm,19.0s,MS5.1
SNCC San Nicolas Is 74.65 45 ⇓P **P 18 24 15.2 -0.2**
baz=75,SNR=5.8
BSC Santa Cruz Isl 75.03 45 ⇓P **P 18 24 17.4 -0.1**
baz=75,SNR=14
SCI San Clemente I 75.15 46 ⇓P **P 18 24 18.0 -0.2**
baz=75,SNR=7.4
FARB Farallon Islan 75.22 40 ⇓P **P 18 24 18.5 0.0**
baz=75
V04C Ramage Ranch, 75.23 43 ⇓P **P 18 24 18.8 +0.2**
baz=75,SNR=13
V03C Hunter Liggett 75.24 42 ⇑P **P 18 24 18.9 +0.2**
baz=75,SNR=8.8
SBC Santa Barbara 75.25 44 ⇑P **P 18 24 18.8 +0.1**
baz=75
BNLO Ben Lomond (Sa 75.36 41 ⇑P **P 18 24 19.2 -0.1**
baz=76,SNR=6.2
PKM Peak Mountain 75.45 44 P **P 18 24 20.3 +0.4**
baz=76,SNR=18
BLG Laguna Peak 75.48 45 ⇑P **P 18 24 19.5 -0.6**
baz=76
JRSC Jasper Ridge 75.49 41 ⇑P **P 18 24 18.9 -1.2**
baz=76,SNR=5.1
CIS Catalina Islan 75.50 46 ⇓P **P 18 24 19.6 -0.6**
baz=76
SAO San Andreas Ge 75.57 42 *eP* **P 18 24 20.0 -0.5**
SAO pmax pmax
comp=Z,104nm,0.9s,mb5.8
SAO MLR MLR
comp=Z,705nm,20.0s,MS5.0
SAO San Andreas Ge 75.57 42 *eP* **P 18 24 20.0 -0.5**
comp=Z,104nm,0.9s,mb5.8
SAO LR LR
comp=Z,705nm,20.0s,MS5.0
MCCM Marconi Confer 75.58 40 PFAKE 18 24 30.0 +9.5
MCCM LR LR
comp=Z,945nm,21.0s,MS5.1
MCCM Marconi Confer 75.58 40 ⇓P **P 18 24 20.3 -0.2**
baz=76
SMMC Simmler 75.59 43 ⇓P **P 18 24 21.0 +0.3**
baz=76,SNR=15
PKD Parkfield 75.63 43 P **P 18 24 20.8 -0.1**
baz=76,SNR=22
U04C Hernandez Rese 75.74 42 P **P 18 24 22.2 +0.7**
baz=76,SNR=47
FMP Fort Macarthur 75.75 46 ⇓P **P 18 24 21.4 -0.2**
baz=76
PACP Pacheco Peak 75.83 41 ⇑P **P 18 24 22.5 +0.5**
baz=76,SNR=46
WENL Wente Brothers 75.93 41 ⇓P **P 18 24 22.8 +0.2**
baz=76,SNR=9.1
CVS Carmenet Viney 75.96 40 ⇑P **P 18 24 22.4 -0.4**
baz=76,SNR=8.5
NSHM Saint Helena R 75.99 40 *eP* **P 18 24 22.3 -0.5**
V05C Boulder Hill, 75.99 43 ⇑P **P 18 24 23.7 +0.7**
baz=76,SNR=8.6
OSI Osito Adit 76.00 45 ⇑P **P 18 24 22.6 -0.4**
baz=76,SNR=5.3
HOPS Hopland 76.02 39 *eP* **P 18 24 22.9 -0.2**
comp=Z,144nm,1.2s,mb5.8
HOPS *e* pP 18 24 36.8 -1.1
HOPS LR LR
comp=Z,1μm,22.0s,MS5.2
HOPS Hopland 76.02 39 ⇓P **P 18 24 23.1 0.0**
baz=76,SNR=8.2
DECC Green Verdugo 76.05 45 ⇑P **P 18 24 22.9 -0.4**
baz=76,SNR=6.1
BDM Black Diamond 76.07 40 ⇑P **P 18 24 23.3 -0.1**
baz=76,SNR=6.0
109C Camp Elliot, M 76.08 47 ⇓P **P 18 24 23.1 -0.4**
baz=76,SNR=6.0
S04C Ingram Canyon, 76.11 41 ⇓P **P 18 24 23.8 +0.2**
baz=76,SNR=48
T05C Eagle Field, D 76.14 42 ⇑P **P 18 24 24.3 +0.5**
baz=76
U05C Westside ANR, 76.14 43 ⇓P **P 18 24 24.0 +0.2**
baz=76
SDPT Sand Point 76.14 8 *eP* **P 18 24 22.1 -1.2**
comp=Z,194nm,1.3s,mb5.9
KCPM Cahto Peak 76.17 38 *eP* **P 18 24 24.1 +0.2**
P01C Double 8 Ranch 76.17 38 ⇓P **P 18 24 24.0 +0.1**
baz=76,SNR=6.0
NACB Ninganchiao 76.21 302 *eP* **P 18 24 24.1 -0.3**
ARVC Arvin 76.24 44 ⇓P **P 18 24 24.0 -0.4**
baz=76,SNR=12
KIPM Iron Peak 76.31 38 *eP* **P 18 24 24.5 -0.1**
MNRC McLaughlin Nat 76.32 39 ⇓P **P 18 24 25.0 +0.3**
baz=76,SNR=43
O01C Eel River Cons 76.34 38 ⇓P **P 18 24 25.2 +0.4**
baz=76,SNR=10
Q03C Winters 76.42 40 ⇑P **P 18 24 26.0 +0.8**
baz=77,SNR=9.5
MURC Murrieta 76.43 46 ⇓P **P 18 24 25.3 -0.2**
baz=77,SNR=9.9
LPIG La Paz 76.45 58 P **P 18 24 25.0 -0.7**
comp=Z,8.5nm,0.3s,mb5.2,baz=165,slow=5.1,SNR=3.9
LPIG pP pP 18 24 39.7 -1.0
comp=Z,32nm,0.9s,baz=334,slow=3.1,SNR=2.5
BFSC Mount Baldy St 76.49 46 ⇓P **P 18 24 25.3 -0.5**
baz=77,SNR=17
PET Petropavlovsk 76.49 344 *eP* **P 18 24 25.0 -0.3**
PET *e* 18 27 12.8
PET *eS* S 18 34 05.9 -1.0
PET pmax pmax
comp=Z,200nm,20.6s
PET pmax pmax
comp=Z,200nm,5.0s
PET Petropavlovsk 76.49 344 PFAKE 18 24 40.0 +15
PET LR LR
comp=Z,645nm,19.0s,MS5.0
VES Vestal, Richgr 76.51 43 P **P 18 24 25.6 -0.3**
baz=77,SNR=37
MONP Monument Peak 76.55 47 P **P 18 24 26.3 +0.1**
baz=77,SNR=70
KSM Kuching 76.60 277 *eP* **P 18 24 26.7 -0.2**
KSM Kuching 76.60 277 ⇑P **P 18 24 28.4 +1.5**
YHNB Yeheng 76.63 303 *eP* **P 18 24 26.8 0.0**
S05C Merced 76.64 42 ⇓P **P 18 24 26.3 -0.3**
baz=77,SNR=28
DVTC Desert V Tower 76.64 48 P **P 18 24 26.8 +0.1**
baz=77,SNR=41
EDW2 Edwards Air Fo 76.65 45 ⇓P **P 18 24 26.5 -0.2**
baz=77,SNR=124
GASB Alder Springs 76.66 39 ⇑P **P 18 24 27.4 +0.8**
baz=77,SNR=26
RCTC Rector, Farmer 76.69 43 ⇑P **P 18 24 26.1 -0.8**
baz=77,SNR=9.2
TATO Taipei 76.69 303 PFAKE 18 24 40.0 +13
TATO LR LR
comp=Z,444nm,22.0s,MS4.7
T06C Millerton Lake 76.81 42 P **P 18 24 27.3 -0.3**
baz=77,SNR=61
R04C Big Horse Ranc 76.83 41 ⇑P **P 18 24 27.0 -0.6**
baz=77
Q04C Lincoln 76.93 40 ⇑P **P 18 24 27.9 -0.2**
baz=77
SUTB Sutter Butte 76.93 39 ⇑P **P 18 24 27.5 -0.7**
baz=77,SNR=13
PFO Pinyon Flat Ob 76.94 47 P **P 18 24 28.5 +0.1**
comp=Z,333nm,1.2s,mb6.1,SNR=32
PFO Pinyon Flat Ob 76.94 47 P **P 18 24 27.8 -0.6**
PFO *PP pP 18 24 42.8 -0.5
PFO pmax pmax
comp=Z,43nm,1.0s,mb5.3
PFO pmax pmax
comp=Z,32nm,0.9s,mb5.2
PFO Pinyon Flat Ob 76.94 47 *eP* **P 18 24 27.8 -0.6**
comp=Z,75nm,1.1s,mb5.5
PFO LR LR
comp=Z,939nm,22.0s,MS5.1
PFO Pinyon Flat Ob 76.94 47 P **P 18 24 27.8 -0.6**
comp=Z,43nm,1.0s,mb5.3,baz=254,slow=3.9,SNR=58
PFO pP pP 18 24 42.8 -0.5
comp=Z,32nm,0.9s,baz=221,slow=5.0,SNR=10
PFO Pinyon Flat Ob 76.94 47 P **P 18 24 28.2 -0.1**
baz=77,SNR=44
O02C Red Bluff 76.95 38 P **P 18 24 28.9 +0.6**
baz=77,SNR=40
SWSC Sam W. Stewart 77.01 48 ⇓P **P 18 24 28.4 -0.4**
baz=77,SNR=24
CMB Columbia Colle 77.03 41 *eP* **P 18 24 28.3 -0.5**
CMB pmax pmax
comp=Z,90nm,1.0s,mb5.7
CMB MLR MLR
comp=Z,704nm,22.0s,MS4.9
CMB Columbia Colle 77.03 41 *eP* **P 18 24 28.3 -0.4**
comp=Z,90nm,1.0s,mb5.7
CMB LR LR
comp=Z,704nm,22.0s,MS4.9
CMB Columbia Colle 77.03 41 ⇑P **P 18 24 28.4 -0.3**
baz=77,SNR=76
HELL Mitchell Peak 77.05 43 ⇓P **P 18 24 28.4 -0.5**
baz=77,SNR=67
N02C Big Bar 77.08 37 ⇑P **P 18 24 29.0 0.0**
baz=77,SNR=17
YSS Yuzh-Sakhalins 77.09 332 *oeP* **P 18 24 29.0 +0.1**
YSS *e* 18 24 36.5
YSS *e* pP 18 24 41.9 -1.9
YSS *eS* S 18 34 16.0 +2.3
YSS *ePS* 18 34 39.0
YSS *ePPS* 18 35 07.0
YSS pmax pmax
comp=Z,120nm,1.0s,mb5.8
YSS pmax pmax
comp=N,50nm,1.2s
YSS pmax pmax
comp=E,70nm,1.2s
YSS MLR MLR
comp=Z,500nm,18.0s,MS4.9
YSS MLR MLR
comp=N,300nm,17.0s,MS4.8
YSS MLR MLR
comp=E,300nm,18.0s,MS4.8
YSS Yuzh-Sakhalins 77.09 332 *eP* **P 18 24 28.9 0.0**
comp=E,92nm,0.9s,mb5.7
YSS LR LR
comp=Z,268nm,19.0s,MS4.6
OHCM Honcut 77.18 39 *eP* **P 18 24 28.8 -0.8**
LRMC Laurel Mountai 77.20 44 ⇓P **P 18 24 29.9 +0.1**
baz=77,SNR=14
KRMB Red Mountain 77.20 37 *eP* **P 18 24 30.0 +0.4**
KCC Kaiser Creek 77.25 42 ⇑P **P 18 24 30.0 0.0**
baz=77,SNR=53
LAVA Lava Cap Winer 77.26 40 ⇓P **P 18 24 29.7 -0.4**
baz=77,SNR=24
S06C San Francisco 77.27 41 ⇓P **P 18 24 29.9 -0.2**
baz=77,SNR=25
O03C Acorn Hollow, 77.28 39 ⇓P **P 18 24 29.8 -0.3**
baz=77,SNR=8.8
M01C Crescent City 77.30 36 ⇓P **P 18 24 30.1 -0.1**
baz=78,SNR=6.0
RRX Edison Barstow 77.31 45 ⇑P **P 18 24 30.1 -0.3**
baz=77
ORV Oroville 77.31 39 ⇑P **P 18 24 29.8 -0.5**
baz=78,SNR=21
CHGN Chignik 77.36 9 *eP* **P 18 24 28.7 -1.5**
WDC Whiskeytown Da 77.36 38 *eP* **P 18 24 30.3 -0.3**
comp=Z,88nm,1.0s,mb5.7
WDC LR LR
comp=Z,1μm,22.0s,MS5.2
WDC Whiskeytown Da 77.36 38 ⇑P **P 18 24 30.5 -0.1**
baz=78,SNR=33
BELC Belle Mtn. 77.47 47 ⇑P **P 18 24 31.5 +0.1**
baz=78,SNR=68
CWC Cottonwood Cre 77.51 43 ⇑P **P 18 24 31.5 0.0**
baz=78,SNR=8.7
TPI Tanjungpandan 77.62 272 ‖*eP* **P 18 24 33.0 +0.3**
112A Yuma 77.64 48 ⇑P **P 18 24 32.5 +0.2**
baz=78,SNR=18
R05C Kirkwood Meado 77.64 41 ⇓P **P 18 24 32.1 0.0**
baz=78,SNR=36
BC3 Big Chuckw Mtn 77.65 47 P **P 18 24 32.6 +0.2**
baz=78,SNR=48
MPMC Manual Prospec 77.67 44 P **P 18 24 32.7 +0.3**
baz=78,SNR=165
GSC Goldstone 77.68 45 *eP* **P 18 24 32.1 -0.4**
GSC pmax pmax
comp=Z,88nm,1.1s,mb5.6
GSC MLR MLR
comp=Z,896nm,21.0s,MS5.1
GSC Goldstone 77.68 45 *eP* **P 18 24 32.1 -0.3**
comp=Z,88nm,1.1s,mb5.6
GSC LR LR
comp=Z,896nm,21.0s,MS5.1
GSC Goldstone 77.68 45 ⇑P **P 18 24 32.3 -0.1**
baz=78,SNR=30
P05C Yuba Gap, Truc 77.69 40 ⇓P **P 18 24 32.4 0.0**
baz=78,SNR=33
M02C Callahan 77.71 37 ⇑P **P 18 24 33.0 +0.5**
baz=78,SNR=20
HEC Hector,Ludlow 77.72 46 ⇑P **P 18 24 32.5 -0.3**
baz=78,SNR=92
DAC Darwin (Calif) 77.73 44 PFAKE 18 24 40.0 +7.3
DAC LR LR
comp=Z,917nm,22.0s,MS5.1
MLAC Mammoth Lakes 77.75 42 P **P 18 24 33.3 +0.6**
baz=78,SNR=14
GLA Glamis 77.75 48 *eP* **P 18 24 32.7 -0.2**
GLA pmax pmax
comp=Z,178nm,1.4s,mb5.8
GLA MLR MLR
comp=Z,582nm,20.0s,MS4.9
GLA Glamis 77.75 48 *eP* **P 18 24 32.7 -0.2**
comp=Z,178nm,1.4s,mb5.8
GLA LR LR
comp=Z,582nm,20.0s,MS4.9
GLA Glamis 77.75 48 P **P 18 24 33.2 +0.3**
baz=78,SNR=37
MTUM Tungsten Hills 77.75 43 *eP* **P 18 24 33.2 +0.4**
TIN Tinemaha 77.79 43 ⇓P **P 18 24 33.3 +0.3**
baz=78,SNR=12
L02A Cave Junction 77.80 36 ⇓P **P 18 24 33.3 +0.3**
baz=78,SNR=7.9
R07C Lee Vining 77.89 42 P **P 18 24 34.0 +0.4**
baz=78,SNR=75
R06C Coleville 77.91 41 ⇑P **P 18 24 34.0 +0.3**
baz=78,SNR=47
O05C Quincy 77.92 39 ⇑P **P 18 24 33.7 0.0**
baz=78,SNR=22
YBH Yreka Blue Hor 78.02 37 P **P 18 24 34.5 +0.3**
YBH *PP pP 18 24 48.4 -0.7
YBH pmax pmax
comp=Z,73nm,0.9s
YBH pmax pmax
comp=Z,53nm,1.0s
YBH Yreka Blue Hor 78.02 37 *eP* **P 18 24 34.4 +0.2**
comp=Z,94nm,1.0s,mb5.7
YBH LR LR
comp=Z,1μm,22.0s,MS5.2
YBH Yreka Blue Hor 78.02 37 P **P 18 24 34.5 +0.3**
comp=Z,73nm,0.9s,mb5.6,baz=182,slow=1.8,SNR=90
YBH pP pP 18 24 48.4 -0.7
comp=Z,53nm,1.0s,baz=227,slow=4.4,SNR=9.1
YBH Yreka Blue Hor 78.02 37 ⇓P **P 18 24 34.6 +0.4**
baz=78,SNR=44
O04C Chester 78.04 39 ⇓P **P 18 24 34.4 0.0**
baz=78,SNR=11
M03C McCloud 78.05 38 ⇓P **P 18 24 34.5 +0.1**
baz=78,SNR=25
S08C White Mtn Res 78.09 43 ⇑P **P 18 24 35.4 +0.8**
baz=78,SNR=152
HATC Hat Creek Radi 78.14 38 ⇓P **P 18 24 35.0 +0.1**
baz=78,SNR=20
IRM Iron Mountain 78.14 47 P **P 18 24 35.3 +0.2**
baz=78,SNR=96
GMRC Granite Mounta 78.15 46 P **P 18 24 35.1 0.0**
baz=78,SNR=42
BEKR Beckwourth 78.19 40 ⇑P **P 18 24 35.2 0.0**
baz=78,SNR=35
WCN Washoe City 78.20 40 ⇑P **P 18 24 35.5 +0.3**
baz=78,SNR=31
K02A Glendale 78.27 36 ⇑P **P 18 24 35.7 +0.2**
baz=78,SNR=9.4
GRAC Grapevine Rang 78.30 43 ⇑P **P 18 24 36.4 +0.5**
baz=78,SNR=21
FURC Furnace Creek, 78.32 44 P **P 18 24 35.9 -0.1**
baz=78,SNR=26
113A Mohawk Valley, 78.34 49 ⇓P **P 18 24 36.1 -0.1**
baz=78,SNR=69
TUQ Turquoise Mtn. 78.34 45 ⇑P **P 18 24 36.2 0.0**
baz=78,SNR=11
Y12C Blythe 78.35 47 ⇑P **P 18 24 36.3 +0.1**
baz=78,SNR=29
P06A Stead Airport, 78.35 40 ⇑P **P 18 24 36.5 +0.4**
baz=78
SHOC Shoshone 78.38 45 ⇑P **P 18 24 36.2 -0.1**
baz=78,SNR=9.5
ELFS Eagle Lake Fie 78.44 39 ⇑P **P 18 24 36.8 +0.3**
baz=79
HUMO Hull Mountain 78.45 36 *eP* **P 18 24 36.7 +0.2**
comp=Z,70nm,1.0s,mb5.5
HUMO LR LR
comp=Z,1μm,22.0s,MS5.3
HUMO Hull Mountain 78.45 36 ⇓P **P 18 24 37.1 +0.5**
baz=79,SNR=26
M04C Macdoel 78.54 37 ⇓P **P 18 24 37.2 +0.1**
baz=79,SNR=18
NVAR Mina Array Bea 78.56 42 P **P 18 24 37.5 +0.2**
NVAR pP pP 18 24 52.5 +0.3
NVAR PKKPbc PKKPbc 18 43 35.9 +1.2
NVAR P'P' 18 51 38.3
NVAR Mina Array Bea 78.56 42 P **P 18 24 37.5 +0.2**
comp=Z,122nm,0.9s,mb5.8,baz=222,slow=9.9,SNR=567
NVAR pP pP 18 24 52.5 +0.3
comp=Z,107nm,0.9s,baz=222,slow=8.7,SNR=14
NVAR PKKPbc PKKPbc 18 43 35.9 +1.2
comp=Z,0.7nm,0.8s,baz=173,slow=1.2,SNR=4.3
NVAR PKPPKP 18 51 38.3
comp=Z,0.4nm,0.6s,baz=222,slow=1.2,SNR=5.2
J02A Umpqua 78.62 35 ⇑P **P 18 24 37.7 +0.3**
baz=79,SNR=9.0
R08A Mina 78.64 42 ⇑P **P 18 24 37.9 +0.2**
baz=79,SNR=14
U10A Ash Meadows, A 78.64 44 P **P 18 24 38.1 +0.3**
baz=79,SNR=26
M05C Lookout 78.67 38 ⇑P **P 18 24 37.9 +0.1**
baz=79,SNR=30
PAHR Pah Rah Range 78.68 40 *eP* **P 18 24 37.6 -0.3**
comp=Z,109nm,1.1s,mb5.7
O06A Flanigan 78.69 40 P **P 18 24 37.9 0.0**
baz=79,SNR=78
L04A Klamath Falls 78.77 37 ⇓P **P 18 24 38.4 +0.1**
baz=79,SNR=16
KSRS Korea Array 78.82 317 P **P 18 24 39.5 +0.8**
comp=Z,31nm,0.9s,mb5.2,baz=136,slow=6.1,SNR=73
KSRS pP pP 18 24 51.0 -2.7
comp=Z,42nm,1.0s,baz=130,slow=5.8,SNR=14
KSRS LR LR 18 57 54.4
comp=Z,401nm,19.6s,MS4.8,baz=123,slow=34
S09A Goldfield 78.83 43 P **P 18 24 38.6 -0.1**
baz=79,SNR=94
NEE2 Needles Airpor 78.85 47 ⇓P **P 18 24 39.1 +0.1**
baz=79
Y13A Salome 78.86 48 P **P 18 24 39.5 +0.4**
baz=79,SNR=48
P07A Fallon 78.88 41 ⇓P **P 18 24 39.3 +0.4**
baz=79,SNR=7.4
V11A Goodsprings 78.90 45 ⇓P **P 18 24 39.3 +0.1**
baz=79,SNR=7.2
I02A Mapleton 78.91 35 ⇓P **P 18 24 39.3 +0.2**
baz=79,SNR=5.6
PDMCI Parker Dam,Lak 78.92 47 ⇓P **P 18 24 39.5 +0.1**
baz=79,SNR=10
HOG Hogback Mounta 78.92 37 P **P 18 24 39.5 +0.3**
J03A Ideyld Park 78.95 36 ⇑P **P 18 24 39.5 +0.2**
baz=79,SNR=11
M06C Likely Place G 78.96 38 ⇓P **P 18 24 39.6 +0.2**
baz=79,SNR=37
QZH Quanzhou 78.97 302 P **P 18 24 41.0 +1.2**
QZH S S 18 34 40.3 +5.4
QZH AMB AMB
comp=Z,80nm,0.8s,mb5.7
W12A Cal Nev Ari 78.98 46 ⇓P **P 18 24 40.0 +0.3**
baz=79,SNR=9.8
HSO Harness Mounta 78.99 35 P **P 18 24 39.6 +0.1**
TPNV Topopah Spring 79.00 44 *eP* **P 18 24 39.6 -0.1**
TPNV pmax pmax
comp=Z,108nm,0.9s,mb5.8
TPNV MLR MLR
comp=Z,969nm,22.0s,MS5.1
TPNV Topopah Spring 79.00 44 *eP* **P 18 24 39.6 -0.2**
comp=Z,108nm,0.9s,mb5.8
TPNV LR LR
comp=Z,969nm,22.0s,MS5.1
TPNV Topopah Spring 79.00 44 ⇓P **P 18 24 40.1 +0.4**
baz=79,SNR=114
TPH Tonopah 79.03 43 *eP* **P 18 24 39.9 0.0**
TPH pmax pmax
comp=Z,145nm,0.9s,mb5.9
TPH MLR MLR
comp=Z,592nm,22.0s,MS4.9
TPH Tonopah 79.03 43 *eP* **P 18 24 39.9 0.0**
comp=Z,145nm,0.9s,mb5.9
TPH LR LR
comp=Z,592nm,22.0s,MS4.9
N06A Buffalo Meadow 79.05 39 ⇓P **P 18 24 39.8 -0.1**
baz=79,SNR=69
Q08A Gabbs 79.06 42 P **P 18 24 40.0 0.0**
baz=79,SNR=94
K04A Chilquin 79.14 37 ⇓P **P 18 24 40.5 +0.2**
baz=79
R09A Tonopah 79.23 43 ⇑P **P 18 24 41.0 +0.1**
baz=79,SNR=22
V12A Nelson 79.23 46 ⇑P **P 18 24 41.2 +0.2**
baz=79,SNR=35
Z14A Wintersburg 79.24 49 ⇑P **P 18 24 41.4 +0.3**
baz=79,SNR=31
O07A Toulon 79.26 40 P **P 18 24 41.2 +0.1**
baz=79,SNR=141
U11A Corn Creek 79.27 45 ⇓P **P 18 24 41.7 +0.5**
baz=79,SNR=22
L05A Lakeview 79.29 38 ⇓P **P 18 24 41.6 +0.5**
baz=79,SNR=31
X13A Yucca 79.29 47 ⇓P **P 18 24 41.6 +0.2**
baz=79,SNR=71
J04A Umpqua Nationa 79.34 36 ⇓P **P 18 24 41.8 +0.4**
baz=80,SNR=25
S10A Tonopah Range, 79.34 43 P **P 18 24 41.8 +0.2**
baz=80,SNR=98
115A Sonoran Desert 79.39 49 ⇑P **P 18 24 41.9 -0.1**
baz=80,SNR=13
MPOR Mary's Peak 79.39 34 P **P 18 24 42.1 +0.4**
P08A Dixie Valley 79.47 41 ⇑P **P 18 24 42.7 +0.5**
baz=80,SNR=11
MOD Modoc 79.50 38 *eP* **P 18 24 41.8 -0.5**
comp=Z,116nm,1.0s,mb5.8
MOD LR LR
comp=Z,1μm,21.0s,MS5.2
MOD Modoc 79.50 38 P **P 18 24 42.2 -0.2**
baz=80,SNR=42
Y14A Wickenburg 79.51 48 ⇓P **P 18 24 42.8 +0.2**
baz=80,SNR=84
Q09A Carvers 79.51 42 ⇑P **P 18 24 42.7 +0.2**
baz=80,SNR=13
W13A Hualapai Mount 79.53 47 P **P 18 24 43.1 +0.5**
baz=80,SNR=52
I04A Tendick Farm, 79.54 36 ⇑P **P 18 24 42.0 -0.5**
baz=80,SNR=13
216A Three Points, 79.58 50 ⇑P **P 18 24 43.5 +0.5**
baz=80,SNR=40
COR Corvallis 79.58 35 PFAKE 18 24 50.0 +7.3
COR LR LR
comp=Z,2μm,21.0s,MS5.4
N07B Gerlach 79.59 40 ⇓P **P 18 24 42.8 0.0**
baz=80,SNR=8.0
HBO Huckleberry Mo 79.62 36 P **P 18 24 42.8 -0.1**

H03A	Soap Creek Ran	79.64	34	⇑P		P	18 24 43.1 +0.1
	baz=80,SNR=8.7						
INCN	Inchon	79.67	316	eP		P	18 24 44.4 +1.0
	comp=Z,126nm,1.3s,mb5.7						
INCN				LR		LR	
	comp=Z,522nm,21.0s,MS4.8						
K05A	Summer Lake	79.69	37	⇓P		P	18 24 43.8 +0.5
	baz=80,SNR=77						
116A	Eloy	79.69	50	P		P	18 24 43.9 +0.2
	baz=80,SNR=28						
S11A	Rachel	79.73	44	⇓P		P	18 24 43.7 +0.1
	baz=80,SNR=14						
R10A	Warm Springs	79.75	43	P		P	18 24 44.4 +0.7
	baz=80,SNR=128						
Z15A	Gila River Ind	79.75	49	⇑P		P	18 24 44.0 +0.1
	baz=80,SNR=11						
KDAK	Kodiak Island	79.77	12	P		P	18 24 43.0 -0.4
	comp=Z,431nm,0.8s,mb6.4,SNR=12						
KDAK	Kodiak Island	79.77	12	eP		P	18 24 42.8 -0.6
	comp=Z,321nm,1.8s,mb6.0						
KDAK				LR		LR	
	comp=Z,266nm,21.0s,MS4.6						
O08A	Rochester Mine	79.78	40	⇓P		P	18 24 44.2 +0.3
	baz=80						
U12A	Valley of Fire	79.83	45	⇑P		P	18 24 44.8 +0.5
	baz=80,SNR=51						
T11A	Corn Creek, Al	79.84	44	P		P	18 24 44.9 +0.6
	baz=80,SNR=134						
M07A	Soldier Meadow	79.84	39	⇑P		P	18 24 44.4 +0.2
	baz=80,SNR=48						
J05A	Fort Rock	79.85	36	P		P	18 24 44.7 +0.5
	baz=80,SNR=100						
X14A	Yava	79.87	48	P		P	18 24 45.0 +0.5
	baz=80,SNR=62						
T12A	Moapa	79.88	45	⇓P		P	18 24 44.7 +0.1
	baz=80,SNR=7.4						
V13A	Grand Canyon W	79.88	46	⇓P		P	18 24 44.6 +0.1
	baz=80,SNR=64						
217A	Green Valley	79.92	51	P		P	18 24 45.3 +0.4
	baz=80,SNR=99						
P09A	Austin	79.96	41	⇓P		P	18 24 45.0 +0.1
	baz=80						
Y15A	Casa Rosa Ranc	79.98	48	⇑P		P	18 24 45.6 +0.4
	baz=80,SNR=33						
SSE	Sheshan	80.00	308	P		P	18 24 46.0 +0.7
SSE				S		S	18 34 47.8 +2.3
SSE				SCS		ScS	18 35 09.0 +3.0
SSE				AMB		AMB	
	comp=Z,29nm,0.8s,mb5.3						
SSE				LR		LR	
	comp=N,125nm,32.8s,MS4.3						
SSE				LR		LR	
	comp=E,222nm,33.4s,MS4.3						
SSE				LR		LR	
	comp=Z,303nm,31.6s,MS4.4						
Q10A	Clear Creek Ra	80.00	42	⇓P		P	18 24 45.1 0.0
	baz=80,SNR=19						
G03A	Yamhill	80.08	34	P		P	18 24 45.6 +0.2
	baz=80,SNR=8.7						
N08A	GE Springer Mi	80.09	40	⇑P		P	18 24 45.5 -0.1
	baz=80,SNR=75						
K06A	Valley Falls	80.10	37	⇓P		P	18 24 45.7 +0.1
	baz=80,SNR=69						
L07A	Adell	80.14	38	⇑P		P	18 24 46.2 +0.4
	baz=80,SNR=26						
W14A	Seligman	80.14	47	⇓P		P	18 24 46.7 +0.8
	baz=80,SNR=93						
SSOR	Sweet Springs	80.21	35	P		P	18 24 45.7 -0.4
TUC	Tucson	80.22	50	eP		P	18 24 46.8 +0.3
TUC				e		pP	18 25 00.4 -1.1
TUC				pmax		pmax	
	comp=Z,76nm,0.9s,mb5.6						
TUC				MLR		MLR	
	comp=Z,695nm,22.0s,MS5.0						
TUC	Tucson	80.22	50	eP		P	18 24 46.8 +0.3
	comp=Z,76nm,0.9s,mb5.6						
TUC				e		pP	18 25 00.4 -1.1
TUC				LR		LR	
	comp=Z,695nm,22.0s,MS5.0						
R11A	Troy Canyon, C	80.24	43	P		P	18 24 46.4 0.0
	baz=80,SNR=73						
H04A	Detroit Lake	80.24	35	⇓P		P	18 24 45.8 -0.5
	baz=80,SNR=13						
S12A	Delamar Landin	80.29	44	P		P	18 24 47.6 +0.8
	baz=80,SNR=66						
O09A	Fish Creek Ran	80.30	41	⇓P		P	18 24 46.7 0.0
	baz=80,SNR=61						
Z16A	Peralta Trail,	80.30	49	P		P	18 24 47.4 +0.5
	baz=80,SNR=66						
X15A	Humboldt	80.34	48	P		P	18 24 47.7 +0.6
	baz=80,SNR=100						
F03A	Seaside	80.34	33	⇓P		P	18 24 47.1 +0.3
	baz=80						
M08A	Happy Creek Ra	80.35	39	⇑P		P	18 24 47.2 +0.2
	baz=80,SNR=60						
318A	Bisbee	80.36	52	P		P	18 24 47.7 +0.5
	baz=80,SNR=58						
V14A	Boquillas Ranc	80.36	47	P		P	18 24 47.9 +0.7
	baz=80,SNR=157						
117A	Oracle	80.39	50	P		P	18 24 48.0 +0.6
	baz=80,SNR=65						
I05A	Bend	80.40	36	⇑P		P	18 24 47.3 +0.2
	baz=81,SNR=10						
P10A	Eureka	80.42	42	⇑P		P	18 24 47.4 0.0
	baz=81,SNR=27						
G04A	Mulino	80.43	34	⇑P		P	18 24 47.0 -0.3
	baz=81,SNR=15						
BMN	Battle Mountai	80.44	41	eP		P	18 24 47.3 -0.1
BMN				pmax		pmax	
	comp=Z,92nm,1.0s,mb5.7						
BMN				MLR		MLR	
	comp=Z,874nm,22.0s,MS5.1						
BMN	Battle Mountai	80.44	41	eP		P	18 24 47.3 -0.1
	comp=Z,92nm,1.0s,mb5.7						
BMN				LR		LR	
	comp=Z,874nm,22.0s,MS5.1						
Q11A	Duckwater	80.48	43	⇓P		P	18 24 48.0 +0.2
	baz=81,SNR=94						
N09A	Rock Creek Ran	80.50	40	⇓P		P	18 24 48.0 +0.2
	baz=81						
Y16A	Circle Bar Ran	80.55	49	⇓P		P	18 24 48.8 +0.6
	baz=81,SNR=44						
T13A	Saint George	80.58	45	P		P	18 24 48.9 +0.6
	baz=81,SNR=85						
218A	Dragoon	80.59	51	⇓P		P	18 24 49.1 +0.6
	baz=81,SNR=56						
K07A	Rock Creek Ran	80.61	38	⇓P		P	18 24 48.5 +0.2
	baz=81,SNR=92						
W15A	Williams	80.69	47	P		P	18 24 49.9 +1.0
	baz=81,SNR=20						
H05A	Madras	80.74	35	⇑P		P	18 24 48.7 -0.2
	baz=81,SNR=9.9						
U14A	Mt Trumbull	80.74	46	P		P	18 24 49.9 +0.8
	baz=81,SNR=111						
E03A	Lebam	80.76	33	⇑P		P	18 24 48.9 -0.1
	baz=81,SNR=11						
O10A	Cortez Mining,	80.80	41	⇓P		P	18 24 49.5 +0.2
	baz=81,SNR=17						
WVOR	Wild Horse Val	80.80	38	eP		P	18 24 48.9 -0.4
WVOR				e		pP	18 25 03.6 -0.7
WVOR				pmax		pmax	
	comp=Z,111nm,1.0s,mb5.8						
WVOR				MLR		MLR	
	comp=Z,1μm,21.0s,MS5.2						
WVOR	Wild Horse Val	80.80	38	eP		P	18 24 48.9 -0.4
	comp=Z,111nm,1.0s,mb5.8						
WVOR				e		pP	18 25 03.6 -0.7
WVOR				LR		LR	
	comp=Z,1μm,21.0s,MS5.2						
L08A	Fields	80.83	39	⇓P		P	18 24 49.6 +0.2
	baz=81,SNR=80						
P11A	Circle Ranch,	80.83	42	⇑P		P	18 24 49.7 +0.1
	baz=81,SNR=9.5						
319A	Douglas	80.85	52	⇑P		P	18 24 50.5 +0.6
	baz=81,SNR=29						
I06A	Prineville	80.85	36	⇓P		P	18 24 50.0 +0.5
	baz=81,SNR=8.5						
X16A	Lo Mia Camp, P	80.86	48	⇓P		P	18 24 50.6 +0.8
	baz=81,SNR=41						
R12A	Pony Springs,	80.86	44	⇑P		P	18 24 50.3 +0.5
	baz=81,SNR=40						
M09A	Marrel Ranch,	80.89	40	⇓P		P	18 24 50.2 +0.3
	baz=81,SNR=32						
Y17A	Roosevelt	80.90	49	⇑P		P	18 24 50.4 +0.3
	baz=81,SNR=28						
S13A	Holt Ranch, En	80.93	45	P		P	18 24 50.8 +0.6
	baz=81,SNR=60						
F04A	Amboy	80.94	34	⇑P		P	18 24 49.6 -0.3
	baz=81,SNR=12						
Z17A	San Carlos Hig	80.96	50	P		P	18 24 51.1 +0.7
	baz=81,SNR=23						
118A	Homack Ranch,	80.98	50	P		P	18 24 51.2 +0.7
	baz=81,SNR=83						
J07A	Hines	81.00	37	⇑P		P	18 24 50.4 0.0
	baz=81,SNR=40						
D03A	Wilnkah Elem.	81.04	32	⇓P		P	18 24 50.9 +0.5
	baz=81						
N10A	Dunphy	81.04	41	⇓P		P	18 24 51.0 +0.3
	baz=81,SNR=7.5						
K08A	Mann Creek Ran	81.07	38	P		P	18 24 51.1 +0.3
	baz=81,SNR=96						
G05A	Wamic	81.07	35	⇓P		P	18 24 50.6 -0.1
	baz=81,SNR=9.3						
V15A	Kaibab Nationa	81.10	47	P		P	18 24 52.0 +0.9
	baz=81,SNR=92						
Q12A	Willow Creek R	81.12	43	⇓P		P	18 24 51.2 +0.1
	baz=81,SNR=36						
L09A	Wilkinson Ranc	81.12	39	⇑P		P	18 24 51.1 +0.1
	baz=81,SNR=38						
W16A	Flagstaff	81.15	48	⇓P		P	18 24 52.1 +0.7
	baz=81,SNR=34						
T14A	Hurricane	81.16	45	⇑P		P	18 24 51.8 +0.5
	baz=81,SNR=67						
Z18A	Geronimo	81.16	50	⇑P		P	18 24 52.0 +0.5
	baz=81						
NLWA	Neilton Lookou	81.17	32	eP		P	18 24 51.2 0.0
	comp=Z,63nm,1.0s,mb5.5						
NLWA				LR		LR	
	comp=Z,1μm,21.0s,MS5.2						
NLWA	Neilton Lookou	81.17	32	⇑P		P	18 24 51.4 +0.2
	baz=81,SNR=8.5						
219A	White Tail Can	81.18	51	P		P	18 24 52.1 +0.5
	baz=81,SNR=68						
C03A	Quillayute Air	81.21	31	⇓P		P	18 24 51.2 -0.2
	baz=81						
E04A	Onalaska	81.22	33	⇓P		P	18 24 51.4 -0.1
	baz=81						
O11A	Cowboy Ranch,	81.23	42	⇑P		P	18 24 51.8 +0.2
	baz=81,SNR=61						
CCUT	Cedar City	81.24	45	eP		P	18 24 52.5 +0.7
CCUT				e		pP	18 25 06.8 0.0
OOW	Octopus West	81.25	32	P		P	18 24 52.3 +0.7
H06A	Lindquist Farm	81.28	36	⇓P		P	18 24 51.6 -0.2
	baz=81,SNR=75						
P12A	McGill	81.32	42	⇓P		P	18 24 52.2 +0.1
	baz=82,SNR=21						
ARUT	Antelope Range	81.32	45	eP		P	18 24 52.3 +0.1
ARUT				e		pP	18 25 07.4 +0.2
I07A	Izee	81.33	37	⇓P		P	18 24 52.2 +0.1
	baz=82,SNR=72						
U15A	North Rim	81.34	46	⇓P		P	18 24 53.3 +1.0
	baz=82						
F05A	White Salmon	81.41	34	⇓P		P	18 24 52.3 -0.2
	baz=82,SNR=14						
G06A	Carlson Farm,	81.44	35	⇓P		P	18 24 52.3 -0.4
	baz=82,SNR=22						
J08A	Circle Bar Ran	81.47	38	P		P	18 24 52.8 0.0
	baz=82,SNR=58						
S14A	Cedar City	81.48	45	⇑P		P	18 24 53.7 +0.6
	baz=82,SNR=21						
WUAZ	Wupatki	81.48	47	eP		P	18 24 53.4 +0.3
	comp=Z,75nm,0.9s,mb5.6						
WUAZ				e		pP	18 25 08.6 +0.5
WUAZ				LR		LR	
	comp=Z,651nm,22.0s,MS4.9						
WUAZ	Wupatki	81.48	47	P		P	18 24 53.8 +0.6
	baz=82,SNR=52						
K09A	Rome	81.50	39	P		P	18 24 53.2 +0.2
	baz=82,SNR=57						
M10A	I.L. Ranch, Tu	81.50	40	P		P	18 24 53.5 +0.4
	baz=82,SNR=86						
OBC	Olympics--Boni	81.51	32	P		P	18 24 53.3 +0.3
Y18A	Canyon Day Jun	81.52	49	⇓P		P	18 24 54.2 +0.8
	baz=82,SNR=108						
D04A	Dobbs Creek Ra	81.52	33	⇓P		P	18 24 53.8 +0.8
	baz=82						
119A	Ashpeak Ranch,	81.53	51	⇓P		P	18 24 54.2 +0.7
	baz=82,SNR=40						
OSD	Olympics--Snow	81.55	32	P		P	18 24 53.5 +0.3
N11A	Elko Archery C	81.58	41	⇑P		P	18 24 53.7 +0.3
	baz=82						
Q13A	Wheeler Ranch,	81.59	43	⇑P		P	18 24 53.5 -0.1
	baz=82,SNR=17						
T15A	Red Dirt Ranch	81.60	46	P		P	18 24 54.5 +0.8
	baz=82,SNR=158						
H07A	Lands Inn, Kim	81.62	36	⇑P		P	18 24 53.5 -0.1
	baz=82						
E05A	Randle	81.70	34	⇑P		P	18 24 53.7 -0.3
	baz=82,SNR=44						
F06A	Goldendale	81.70	35	⇓P		P	18 24 53.7 -0.3
	baz=82,SNR=9.2						
W17A	Winslow	81.71	48	⇑P		P	18 24 55.2 +0.8
	baz=82,SNR=17						
I08A	Drewsey	81.75	37	⇓P		P	18 24 54.2 -0.1
	baz=82,SNR=43						
HABR	Khabarovsk	81.79	329	⇑P		P	18 24 54.8 +0.4
HABR				e		pP	18 25 07.7 -1.7
HABR				e			18 27 59.9
HABR				e			18 29 49.5
HABR				eS		S	18 35 05.5 +2.1
HABR				e			18 40 21.8
HABR				e			18 43 49.4
HABR				pmax		pmax	
	comp=Z,197nm,1.5s,mb5.8						
LON	Longmire	81.80	34	P		P	18 24 54.0 -0.5
B04A	Port Angeles	81.81	32	⇑P		P	18 24 54.8 +0.2
	baz=82						
GNW	Green Mountain	81.81	32	P		P	18 24 54.4 -0.1
Z19A	T-Link Ranch,	81.82	50	⇑P		P	18 24 55.7 +0.8
	baz=82,SNR=25						
C04A	Brinnon	81.84	32	⇓P		P	18 24 55.0 +0.3
	baz=82						
L10A	Juniper Basin	81.87	40	⇓P		P	18 24 55.1 +0.1
	baz=82,SNR=32						
J09A	Fry Pan Ranch,	81.88	38	⇓P		P	18 24 55.0 0.0
	baz=82,SNR=56						
O12A	Currie	81.88	42	P		P	18 24 55.2 +0.1
	baz=82,SNR=33						
P13A	Bates Ranch, G	81.88	43	P		P	18 24 55.3 +0.2
	baz=82,SNR=38						
R14A	James Farms, M	81.88	44	⇑P		P	18 24 55.7 +0.6
	baz=82,SNR=6.5						
M11A	Holland Ranch,	81.90	40	⇑P		P	18 24 55.5 +0.3
	baz=82,SNR=45						
X18A	Snowflake	81.97	49	P		P	18 24 56.4 +0.7
	baz=82,SNR=32						
S15A	Panguitch	81.97	45	⇑P		P	18 24 57.1 +1.5
	baz=82						
G07A	Ruggs Ranch, H	81.98	36	⇑P		P	18 24 55.3 -0.3
	baz=82,SNR=49						
U16A	Tuba City	81.98	47	⇓P		P	18 24 56.5 +0.8
	baz=82						
D05A	Enumclaw	81.99	33	⇑P		P	18 24 55.8 +0.3
	baz=82,SNR=23						
N12A	Clover Valley,	82.03	41	P		P	18 24 55.9 0.0
	baz=82,SNR=50						
K10A	MacKenzie Ranc	82.05	39	P		P	18 24 56.0 +0.1
	baz=82,SNR=81						
H08A	Prairie City	82.07	37	⇓P		P	18 24 55.7 -0.3
	baz=82,SNR=32						
E06A	Yakima	82.10	34	P		P	18 24 56.0 0.0
	baz=82,SNR=27						
MDJ	Mudanjiang	82.14	323	P		P	18 24 57.5 +1.1
MDJ				AP		pP	18 25 00.8 -11
MDJ				S		S	18 35 14.3 +7.1
MDJ				XS		sS	18 35 19.5 -13
MDJ				AMB		AMB	
	comp=Z,67nm,1.0s,mb5.5						
MDJ				AMB		AMB	
	comp=Z,184nm,4.3s						
MDJ				LR		LR	
	comp=N,319nm,20.6s,MS4.9						
MDJ				LR		LR	
	comp=E,465nm,20.0s,MS4.9						
MDJ				LR		LR	
	comp=Z,785nm,20.0s,MS5.1						
MDJ	Mudanjiang	82.14	323	eP		P	18 24 57.3 +1.0
	comp=Z,70nm,1.0s,mb5.5						
MDJ				e		pP	18 25 09.7 -1.7
MDJ				LR		LR	
	comp=Z,863nm,21.0s,MS5.1						
Y19A	Nutrioso	82.17	50	⇓P		P	18 24 57.8 +1.1
	baz=82,SNR=114						
T16A	Glen Canyon Da	82.17	46	⇑P		P	18 24 57.6 +0.8
	baz=82,SNR=14						
NJ2	Nanjing	82.19	308	eP		P	18 24 57.8 +0.8
NJ2				AP		pP	18 25 02.5 -9.5
NJ2				XP		sP	18 25 05.5 -12
NJ2				S		S	18 35 00.5 -7.8
NJ2				AMB		AMB	
	comp=Z,90nm,1.2s,mb5.6						
NJ2				AMB		AMB	
	comp=Z,330nm,10.7s						
NJ2				LR		LR	
	comp=N,1μm,23.4s,MS5.4						
NJ2				LR		LR	
	comp=E,2μm,24.6s,MS5.4						
NJ2				LR		LR	
	comp=Z,2μm,24.7s,MS5.3						
PGC	Sidney	82.23	31	eP		P	18 24 56.1 -0.6
	comp=Z,173nm,1.0s,mb5.9						
PGC				e		pP	18 25 11.6 -0.2
F07A	Phinny Hill Vi	82.24	35	P		P	18 24 56.8 0.0
	baz=82,SNR=17						
I09A	Lost Marbles R	82.26	38	⇑P		P	18 24 56.7 -0.4
	baz=82,SNR=14						
O13A	Hicks Ranch, I	82.28	42	⇓P		P	18 24 57.7 +0.5
	baz=82						
NAC	Naches	82.30	34	P		P	18 24 57.1 0.0
L11A	Cat Creek Ranc	82.35	40	P		P	18 24 57.8 +0.2
	baz=82,SNR=40						
X19A	St. Johns	82.38	49	⇓P		P	18 24 58.7 +0.9
	baz=82,SNR=73						
G08A	Pilot Rock	82.39	36	P		P	18 24 57.7 0.0
	baz=82,SNR=135						
SVW2	Sparrevohn	82.39	9	eP		P	18 24 56.1 -1.2
GZH	Guangzhou	82.41	298	P		P	18 24 58.5 +0.2
GZH				S		S	18 35 16.8 +5.9
GZH				LR		LR	
	comp=N,174nm,23.4s,MS4.6						
GZH				LR		LR	
	comp=E,232nm,21.9s,MS4.6						
GZH				LR		LR	
	comp=Z,474nm,28.4s						
W18A	Petrified Fore	82.42	48	⇓P		P	18 24 58.6 +0.6
	baz=82,SNR=9.6						
M12A	Wells	82.43	41	P		P	18 24 58.1 +0.2
	baz=83,SNR=40						
C05A	Tolt Reservoir	82.48	33	P		P	18 24 58.0 0.0
	baz=83,SNR=37						
MXC	Moxie City	82.48	34	P		P	18 24 58.1 0.0
J10A	Berg Farm, Mel	82.50	38	⇑P		P	18 24 58.0 -0.2
	baz=83,SNR=9.9						
MVU	Marysvale	82.52	44	PFAKE			18 25 10.0 +11
MVU				LR		LR	
	comp=Z,820nm,21.0s,MS5.1						
TWW	Teanaway	82.54	34	P		P	18 24 59.1 +0.8
K11A	Parker Ranch,	82.54	39	P		P	18 24 58.6 +0.1
	baz=83,SNR=67						
N13A	Wendover, West	82.55	42	P		P	18 24 58.8 +0.2
	baz=83,SNR=19						
MSU	Marysvale	82.55	44	eP		P	18 24 59.5 +0.9
MSU				e		pP	18 25 13.9 +0.2
D06A	Cle Elum	82.59	34	⇓P		P	18 24 58.6 -0.1
	baz=83,SNR=22						
V18A	Ganado	82.59	48	⇑P		P	18 24 59.8 +0.9
	baz=83						
BBB	Bella Bella	82.59	27	P		P	18 24 58.1 -0.4
	comp=Z,71nm,1.2s,mb5.6,baz=234,slow=7.7,SNR=9.0						
A04A	Legoe Bay, Lum	82.64	32	⇑P		P	18 24 59.0 +0.2
	baz=83,SNR=9.4						
B05A	Bryant	82.65	32	⇓P		P	18 24 58.8 -0.1
	baz=83,SNR=21						
W19A	Sanders	82.66	49	⇓P		P	18 25 00.1 +0.8
	baz=83,SNR=6.3						
Q15A	Fillmore	82.68	44	⇓P		P	18 24 59.9 +0.6
	baz=83						
TBM	Table Mountain	82.70	34	P		P	18 24 59.3 +0.1
E07A	Sunnyside	82.70	35	⇓P		P	18 24 59.3 +0.1
	baz=83,SNR=14						
H09A	Durkee	82.73	37	⇓P		P	18 24 59.3 -0.1
	baz=83,SNR=7.8						
MYKOM	Kota Tinggi	82.75	275	⇑P		P	18 25 01.8 +1.5
SLKM	Skilak Lake	82.75	12	eP		P	18 24 58.5 -0.7
HAWA	Hanford	82.77	35	eP		P	18 24 59.4 -0.2
	comp=Z,125nm,1.0s,mb5.9						
HAWA				LR		LR	
	comp=Z,2μm,22.0s,MS5.4						
L12A	House Creek Ra	82.79	40	P		P	18 25 00.1 +0.3
	baz=83,SNR=45						
F08A	Pendleton	82.81	36	⇓P		P	18 24 59.6 -0.2
	baz=83,SNR=22						
M13A	Montello	82.86	41	P		P	18 25 00.2 0.0
	baz=83,SNR=64						
I10A	Payette	82.87	38	⇓P		P	18 25 00.4 +0.3
	baz=83,SNR=30						
MAW	Mawson	82.97	199	eP		P	18 25 01.9 +1.5
	comp=Z,22nm,0.7s,mb5.3						
MAW	Mawson	82.97	199	P		P	18 25 01.9 +1.5
MAW				pmax		pmax	
	comp=Z,18nm,0.7s						
MAW				MLR		MLR	
	comp=Z,684nm,18.4s						
MAW	Mawson	82.97	199	P		P	18 25 01.9 +1.5
	comp=Z,18nm,0.7s,mb5.2,baz=128,slow=7.1,SNR=39						
MAW				LR		LR	19 03 09.1
	comp=Z,684nm,18.4s,MS5.0,baz=119,slow=36						
U18A	Rough Rock, Ch	83.00	47	⇑P		P	18 25 01.8 +0.8
	baz=83						
C06A	Tall Timber Ra	83.03	33	⇓P		P	18 25 00.3 -0.6
	baz=83						
G09A	Cove	83.04	37	⇑P		P	18 25 00.8 -0.2
	baz=83						
MFID	Camas Ranch	83.04	39	P		P	18 25 00.9 -0.2
	baz=83,SNR=79						
D07A	Quincy	83.04	34	P		P	18 25 00.8 -0.2
	baz=83,SNR=26						
BMO	Blue Mountains	83.04	37	eP		P	18 25 00.4 -0.7
	comp=Z,72nm,1.1s,mb5.6						
BMO				LR		LR	
	comp=Z,1μm,22.0s,MS5.2						
DUG	Dugway	83.06	43	PFAKE			18 25 10.0 +8.8
DUG				LR		LR	
	comp=Z,518nm,22.0s,MS4.9						
DUG	Dugway	83.06	43	⇑P		P	18 25 01.2 -0.1
	baz=83						
P15A	Leamington	83.06	44	⇑P		P	18 25 01.7 +0.4
	baz=83						
E08A	Dider Farm, El	83.08	35	⇓P		P	18 25 01.0 -0.2
	baz=83,SNR=34						
CRAG	Craig	83.12	22	eP		P	18 25 01.3 +0.1
	comp=Z,73nm,1.1s,mb5.6						
B06A	Marblemount	83.12	32	⇑P		P	18 25 00.8 -0.6
	baz=83,SNR=5.8						
A05A	Maple Falls	83.14	32	⇓P		P	18 25 00.9 -0.5
	baz=83						
K12A	Draper Farm, C	83.14	40	⇓P		P	18 25 01.5 -0.1
	baz=83,SNR=20						
N14A	Grayback Hills	83.18	42	⇓P		P	18 25 01.5 -0.4
	baz=83,SNR=8.1						
H10A	Noah's Angus R	83.20	38	P		P	18 25 01.5 -0.4
	baz=83,SNR=135						
V19A	Window Rock	83.21	48	⇑P		P	18 25 03.1 +1.0
	baz=83						
F09A	S2 Ranch, Elgi	83.23	36	⇓P		P	18 25 01.8 -0.1
	baz=83,SNR=22						
WRD	Warden	83.23	35	P		P	18 25 02.3 +0.3
I11A	Placerville	83.26	38	⇑P		P	18 25 02.1 0.0
	baz=83,SNR=7.4						
C07A	Waterville	83.31	34	⇑P		P	18 25 01.9 -0.5
	baz=84,SNR=44						
BGU	Big Grassy Mou	83.32	42	eP		P	18 25 02.1 -0.5
KGM	Kluang	83.32	275	⇓P		P	18 25 05.0 +1.7
J12A	Stokes Ranch,	83.38	39	P		P	18 25 02.9 +0.1
	baz=84,SNR=63						
NLU	North Lily Min	83.40	43	eP		P	18 25 02.7 -0.3
L13A	Double Diamond	83.41	41

SIT pmax pmax
comp=Z,93nm,1.3s,mb5.8
SIT Sitka 83.63 20 *e*P **P 18 25 03.4 -0.3**
comp=Z,93nm,1.3s,mb5.8
K13A Stover Farm, H 83.64 40 ⇓P **P 18 25 04.5 +0.3**
baz=84,SNR=34
H11A Donnelly 83.69 38 P **P 18 25 04.2 -0.1**
baz=84,SNR=117
QIZ Qiongzhong 83.70 293 P **P 18 25 05.5 +0.5**
QIZ PP PP 18 28 16.5 -2.2
QIZ S S 18 35 26.0 +1.8
QIZ AMB AMB
comp=Z,15nm,1.9s,mb4.8
QIZ LR LR
comp=E,225nm,18.9s
QIZ LR LR
comp=Z,306nm,28.3s
QIZ Qiongzhong 83.70 293 PFAKE 18 25 20.0 +15
QIZ LR LR
comp=Z,261nm,19.0s,MS4.6
MPU Maple Canyon 83.72 43 *e*P **P 18 25 04.5 -0.1**
comp=Z,60nm,1.0s,mb5.7
MPU LR LR
comp=Z,1μm,21.0s,MS5.3
DL2 Dalian 83.74 315 P **P 18 25 05.5 +0.7**
DL2 S S 18 35 29.5 +5.8
DL2 AMB AMB
comp=Z,40nm,1.3s,mb5.4
DL2 AMB AMB
comp=Z,160nm,4.9s
DL2 LR LR
comp=N,190nm,15.3s,MS4.7
DL2 LR LR
comp=E,160nm,16.0s,MS4.7
DL2 LR LR
comp=Z,220nm,18.0s,MS4.6
NOQ North Oquirrh 83.75 43 *e*P **P 18 25 04.7 -0.1**
comp=Z,310nm,1.8s,mb6.1
F10A Beach Ranch, E 83.77 36 ⇑P **P 18 25 04.3 -0.5**
baz=84
B07A Winthrop 83.78 33 ⇑P **P 18 25 04.4 -0.3**
baz=84,SNR=38
OD2 Odessa Site #2 83.83 34 P **P 18 25 05.0 -0.1**
D09A Jones Farm, Ri 83.84 35 ⇑P **P 18 25 04.8 -0.3**
baz=84,SNR=44
SPUT South Promonto 83.90 42 *e*P **P 18 25 05.2 -0.3**
C08A Higginbotham F 83.90 34 ⇓P **P 18 25 05.1 -0.3**
baz=84,SNR=28
Y22C IRIS PASSCAL I 83.91 51 ⇑P **P 18 25 06.9 +1.2**
baz=84,SNR=6.5
LAZ Ladron 83.91 50 *e*P **P 18 25 06.5 +0.8**
LAZ *e* pP 18 25 21.9 +1.0
MNTX Cornudas Mount 83.91 53 *e*P **P 18 25 05.6 -0.2**
comp=Z,96nm,1.1s,mb5.8
MNTX *e* pP 18 25 21.0 +0.1
MNTX LR LR
comp=Z,554nm,22.0s,MS4.9
LENM Lemitar 83.92 50 *e*P **P 18 25 06.1 +0.3**
LENM *e* pP 18 25 20.9 +0.1
KLR Kul'dur 83.92 328 *e*P **P 18 25 02.1 -3.4**
KLR pmax pmax
comp=E,28nm,1.6s
KLR pmax pmax
comp=Z,57nm,1.6s,mb5.5
HVU Hansel Valley 83.96 41 *e*P **P 18 25 05.6 -0.2**
HVU *e* pP 18 25 20.7 -0.2
HVU pmax pmax
comp=Z,49nm,0.8s,mb5.7
HVU Hansel Valley 83.96 41 *e*P **P 18 25 05.5 -0.3**
comp=Z,49nm,0.8s,mb5.7
HVU *e* pP 18 25 20.6 -0.2
SRU San Rafael 83.96 45 *e*P **P 18 25 06.2 +0.3**
SRU pmax pmax
comp=Z,161nm,1.2s,mb6.0
SRU San Rafael 83.96 45 *e*P **P 18 25 06.2 +0.3**
comp=Z,161nm,1.2s,mb6.0
G11A Walters Elk Ra 83.96 37 P **P 18 25 05.5 -0.3**
baz=84,SNR=153
HLID Hailey 83.96 39 *e*P **P 18 25 06.0 +0.2**
comp=Z,127nm,1.0s,mb6.0
HLID *e* pP 18 25 21.0 +0.1
HLID LR LR
comp=Z,785nm,22.0s,MS5.0
HLID Hailey 83.96 39 P **P 18 25 06.3 +0.5**
baz=84,SNR=248
PMR Palmer 83.96 12 P **P 18 25 03.4 -2.0**
PMR pmax pmax
comp=Z,120nm,1.3s,mb5.9
PMR Palmer 83.96 12 *e*P **P 18 25 04.5 -0.9**
comp=Z,130nm,1.2s,mb5.9
M15A Larsen Ranch, 83.99 42 ⇓P **P 18 25 05.8 -0.2**
baz=84,SNR=42
CTU Camp Tracy 84.01 43 *e*P **P 18 25 05.9 -0.2**
comp=Z,81nm,1.0s,mb5.8
J13A Cove Ranch, Pi 84.01 40 P **P 18 25 06.5 +0.4**
baz=84,SNR=178
A07A Ashnola River, 84.02 32 P **P 18 25 05.9 0.0**
baz=84,SNR=32
CN2 Changchun 84.05 321 *e*P **P 18 25 07.0 +0.8**
CN2 *e*S S 18 35 32.0 +5.4
CN2 AMB AMB
comp=Z,50nm,1.2s,mb5.5
CN2 AMB AMB
comp=Z,500nm,10.0s
CN2 LR LR
comp=N,190nm,22.0s,MS4.7
CN2 LR LR
comp=E,290nm,22.0s,MS4.7
CN2 LR LR
comp=Z,370nm,23.0s,MS4.7
SNY Shenyang 84.07 318 ⇑P **P 18 25 07.0 +0.6**
SNY S S 18 35 28.5 +1.6
SNY AMB AMB
comp=Z,200nm,3.9s
SNY LR LR
comp=N,264nm,17.7s,MS4.9
SNY LR LR
comp=E,326nm,18.9s,MS4.9
SNY LR LR
comp=Z,352nm,20.7s,MS4.7
TTA Tatalina 84.08 8 *e*P **P 18 25 05.9 0.0**
TTA *e* pP 18 25 20.4 -0.6
TTA pmax pmax
comp=Z,280nm,1.6s,mb6.1
TTA Tatalina 84.08 8 *e*P **P 18 25 05.2 -0.7**
B08A Colville Reser 84.11 33 ⇓P **P 18 25 05.7 -0.8**
baz=84,SNR=54
WRAK Wrangell Islan 84.14 22 *e*P **P 18 25 06.5 +0.2**
comp=Z,88nm,1.1s,mb5.8
WRAK LR LR
comp=Z,557nm,20.0s,MS4.9
K14A Jones Ranch, D 84.14 41 P **P 18 25 06.8 +0.1**
baz=84,SNR=73
E10A Myers Farm, Un 84.14 36 ⇑P **P 18 25 06.0 -0.7**
baz=84,SNR=40
JLU Jordanelle 84.15 43 *e*P **P 18 25 06.7 -0.1**
BNM Barren Site 84.16 51 *e*P **P 18 25 07.5 +0.5**
BNM *e* pP 18 25 22.6 +0.5
DAU Daniels Canyon 84.17 43 *e*P **P 18 25 07.0 0.0**
LPM Los Pinos Moun 84.23 50 *e*P **P 18 25 07.7 +0.3**
LPM *e* pP 18 25 22.8 +0.3
DIV Divide 84.24 14 *e*P **P 18 25 06.2 -0.6**
comp=Z,140nm,0.9s,mb6.1
DIV LR LR
comp=Z,3μm,22.0s,MS5.6
H12A Diamond D Ranc 84.27 38 P **P 18 25 07.2 -0.1**
baz=84,SNR=139
F11A Grangeville 84.31 37 ⇓P **P 18 25 06.0 -1.5**
baz=84,SNR=66
SML Sawmill 84.32 12 *e*P **P 18 25 06.5 -0.7**
C09A Chrisman Ranch 84.32 34 ⇓P **P 18 25 06.5 -1.0**
baz=84,SNR=18
I13A Wildhorse Cree 84.34 39 P **P 18 25 08.0 +0.3**
baz=84,SNR=126
MVCO Mesa Verde 84.34 47 *e*P **P 18 25 08.0 0.0**
comp=Z,102nm,1.3s,mb5.8
MVCO LR LR
comp=Z,707nm,21.0s,MS5.0
MVCO Mesa Verde 84.34 47 P **P 18 25 08.3 +0.4**
baz=84,SNR=23
MA2 Magadan 84.36 343 *e*P **P 18 25 06.5 -0.9**
MA2 *e*S S 18 35 28.7 -0.3
MA2 *e*SS SS 18 40 54.8 -5.7
MA2 *e*SSS 18 44 25.8
MA2 pmax pmax
comp=Z,60nm,1.5s,mb5.5
MA2 MLR MLR
comp=E,200μm,17.7s
MA2 Magadan 84.36 343 *e*P **P 18 25 06.4 -1.0**
comp=E,46nm,1.1s,mb5.5
MA2 *e* pP 18 25 18.4 -4.1
MA2 LR LR
comp=Z,527nm,21.0s,MS4.9
D10A Wagner Farm, O 84.40 35 ⇑P **P 18 25 07.2 -0.7**
baz=84,SNR=56
A08A Turner Farm, O 84.52 33 P **P 18 25 08.4 -0.1**
baz=85,SNR=59
E11A Bogner Ranch, 84.56 36 P **P 18 25 07.3 -1.5**
baz=85,SNR=44
PV10 Paradox Valley 84.57 46 *e*P **P 18 25 08.9 -0.1**
HWUT Hardware Ranch 84.62 42 *e*P **P 18 25 08.5 -0.7**
comp=Z,51nm,0.9s,mb5.7
HWUT LR LR
comp=Z,647nm,22.0s,MS5.0
COCO West Island 84.62 259 PFAKE 18 25 20.0 +10
COCO LR LR
comp=Z,1μm,20.0s,MS5.3
H13A Challis 84.63 39 P **P 18 25 09.2 0.0**
baz=85,SNR=105
ANMO Albuquerque 84.67 50 *e*P **P 18 25 10.0 +0.4**
ANMO *e* pP 18 25 25.3 +0.6
ANMO pmax pmax
comp=Z,3.0nm,0.7s
ANMO MLR MLR
comp=Z,772nm,22.0s
ANMO Albuquerque 84.67 50 *e*P **P 18 25 10.0 +0.4**
comp=Z,3.5nm,0.7s,mb4.6
ANMO *e* pP 18 25 25.3 +0.6
ANMO LR LR
comp=Z,772nm,22.0s,MS5.0
F12A Elk City 84.75 37 P **P 18 25 09.4 -0.3**
baz=85,SNR=286
PV01 Paradox Valley 84.76 46 *e*P **P 18 25 09.8 -0.2**
PV01 *e* pP 18 25 24.3 -0.8
B09A Rice 84.77 34 ⇓P **P 18 25 09.2 -0.6**
baz=85,SNR=42
C10A Spilker Farm, 84.85 35 ⇓P **P 18 25 09.6 -0.6**
baz=85,SNR=5.2
A09A Danville 84.89 33 P **P 18 25 10.2 -0.1**
baz=85,SNR=54
D11A Klaveano Farm, 84.91 36 P **P 18 25 09.5 -1.0**
baz=85,SNR=59
G13A Cobalt 84.95 38 P **P 18 25 10.5 -0.2**
baz=85,SNR=75
B10A Chitwood Farm, 85.18 34 ⇓P **P 18 25 11.4 -0.4**
baz=85
NEW Newport 85.22 34 *e*P **P 18 25 11.0 -1.0**
NEW pmax pmax
comp=Z,34nm,1.0s
NEW MLR MLR
comp=Z,2μm,22.0s
NEW Newport 85.22 34 *e*P **P 18 25 11.0 -1.0**
comp=Z,34nm,1.0s,mb5.4
NEW LR LR
comp=Z,2μm,22.0s,MS5.4
F13A Darby 85.29 38 ⇑P **P 18 25 12.0 -0.5**
baz=85
A10A Northport 85.42 34 ⇑P **P 18 25 12.7 -0.4**
baz=86,SNR=7.4
D12A Red Ives Fores 85.45 36 ⇑P **P 18 25 12.4 -0.8**
baz=86
TIA Tai'an 85.47 311 ⇑P **P 18 25 14.3 +0.7**
TIA AMB AMB
comp=Z,55nm,1.1s,mb5.6
G14A Jackson 85.48 38 ⇑P **P 18 25 13.4 0.0**
baz=86,SNR=10.0
AHID Auburn Hatcher 85.54 41 *e*P **P 18 25 13.4 -0.3**
comp=Z,112nm,1.1s,mb6.0
AHID LR LR
comp=Z,641nm,22.0s,MS5.0
SKAG Skagway 85.56 19 *e*P **P 18 25 13.9 +0.5**
comp=Z,264nm,1.3s,mb6.3
TNA Tin City 85.59 3 PFAKE 18 25 20.0 +6.5
TNA LR LR
comp=Z,270nm,22.0s,MS4.6
E13A Victor 85.75 37 ⇓P **P 18 25 13.8 -0.9**
baz=86,SNR=51
F14A Wisdom 85.86 38 P **P 18 25 14.9 -0.3**
baz=86,SNR=34
DCID1 Drake Creek 85.93 41 *e*P **P 18 25 16.6 +0.9**
D13A Huson 85.97 36 P **P 18 25 14.7 -1.1**
baz=86,SNR=78
G15A Dillon 86.01 39 P **P 18 25 16.1 +0.1**
baz=86,SNR=107
REDW Red Top Meadow 86.01 41 *e*P **P 18 25 15.8 -0.3**
comp=Z,133nm,1.3s,mb6.0
TPAW Teton Pass 86.02 41 *e*P **P 18 25 16.3 +0.2**
comp=Z,72nm,1.0s,mb5.9
A11A Hall Mountain, 86.04 34 P **P 18 25 16.3 +0.2**
baz=86,SNR=32
DLMT Dillon 86.06 39 *e*P **P 18 25 16.0 -0.3**
comp=Z,106nm,1.0s,mb6.0
DLMT *e* pP 18 25 31.4 0.0
MSO Missoula 86.11 37 *e*P **P 18 25 15.1 -1.4**
comp=Z,20nm,1.1s,mb5.3
MSO LR LR
comp=Z,1μm,22.0s,MS5.3
SNOW Snow King Moun 86.12 41 *e*P **P 18 25 16.6 0.0**
comp=Z,102nm,1.0s,mb6.0
E14A Clinton 86.13 37 ⇑P **P 18 25 16.2 -0.4**
baz=86,SNR=40
IMW Indian Meadow 86.24 40 *e*P **P 18 25 16.1 -1.1**
comp=Z,73nm,1.0s,mb5.9
IMW *e* pP 18 25 31.2 -1.1
C13A Hot Springs 86.25 36 P **P 18 25 16.1 -1.0**
baz=86,SNR=19
LOHW Long Hollow 86.30 41 *e*P **P 18 25 16.6 -0.9**
comp=Z,61nm,1.3s,mb5.7
MENT Mentasta 86.30 14 *e*P **P 18 25 17.0 0.0**
IPM Ipoh 86.32 276 ⇑P **P 18 25 19.9 +1.6**
SMCO Snowmass 86.37 46 *e*P **P 18 25 17.8 -0.1**
comp=Z,61nm,0.8s,mb5.9
F15A Butte 86.38 38 ⇑P **P 18 25 17.4 -0.5**
baz=86,SNR=24
A12A Yaak River Ran 86.40 34 ⇑P **P 18 25 17.8 -0.1**
baz=86,SNR=5.8
DLBC Dease Lake 86.49 22 *e*P **P 18 25 18.1 0.0**
DLBC Dease Lake 86.49 22 P **P 18 25 18.2 +0.1**
baz=223,slow=5.0
FLWY Flagg Ranch 86.49 40 *e*P **P 18 25 18.3 -0.1**
comp=Z,122nm,1.0s,mb6.1
D14A Greenough 86.50 37 ⇓P **P 18 25 17.3 -1.1**
baz=87,SNR=33
BW06 Boulder Array 86.50 42 PFAKE 18 25 30.0 +11
BW06 LR LR
comp=Z,492nm,20.0s,MS4.9
YFT Old Faithful 86.60 40 *e*P **P 18 25 20.0 +1.0**
E15A Deer Lodge 86.62 38 ⇓P **P 18 25 18.5 -0.5**
baz=87,SNR=26
YMR Madison River 86.64 40 *e*P **P 18 25 20.1 +1.0**
comp=Z,104nm,1.4s,mb5.9
YMR LR LR
comp=Z,306nm,19.0s,MS4.7
SDCO Great Sand Dun 86.69 48 *e*P **P 18 25 19.4 -0.1**
comp=Z,21nm,1.0s,mb5.3
SDCO *e* pP 18 25 34.4 -0.3
SDCO LR LR
comp=Z,486nm,20.0s,MS4.9
B13A Whitefish 86.71 35 ⇓P **P 18 25 18.5 -0.9**
baz=87,SNR=21
C14A Swan Lake 86.75 36 ⇑P **P 18 25 18.3 -1.3**
baz=87
BOZ Bozeman (W) 86.78 39 *e*P **P 18 25 19.4 -0.4**
BOZ *e* pP 18 25 34.7 -0.2
BOZ pmax pmax
comp=Z,67nm,1.2s,mb5.8
BOZ MLR MLR
comp=Z,844nm,21.0s,MS5.1
BOZ Bozeman (W) 86.78 39 *e*P **P 18 25 19.4 -0.4**
comp=Z,67nm,1.2s,mb5.8
BOZ *e* pP 18 25 34.7 -0.2
BOZ LR LR
comp=Z,844nm,21.0s,MS5.1
BOZ Bozeman (W) 86.78 39 ⇑P **P 18 25 19.5 -0.3**
baz=87
SEY Seymchan 86.81 346⇑*e*P **P 18 25 19.0 -0.5**
SEY Seymchan 86.81 346⇑*e*P **P 18 25 19.1 -0.4**
KULM Kulim 86.96 277 *e*P **P 18 25 22.8 +1.3**
D15A Lincoln 87.03 37 P **P 18 25 20.8 -0.2**
baz=87,SNR=26
A13A Flathead Natio 87.06 35 ⇓P **P 18 25 20.7 -0.4**
baz=87
PLCA Paso Flores 87.13 132 P **P 18 25 22.1 +0.3**
PLCA *PP pP 18 25 36.6 -0.3
PLCA pmax pmax
comp=Z,29nm,1.0s
PLCA pmax pmax
comp=Z,24nm,1.0s
PLCA MLR MLR
comp=Z,470nm,19.9s
PLCA Paso Flores 87.13 132 *e*P **P 18 25 22.0 +0.1**
comp=Z,65nm,1.3s,mb5.7
PLCA *e* pP 18 25 37.7 +0.8
PLCA LR LR
comp=Z,630nm,20.0s,MS5.0
PLCA Paso Flores 87.13 132 P **P 18 25 22.1 +0.3**
comp=Z,29nm,1.0s,mb5.5,baz=255,slow=4.1,SNR=27
PLCA pP pP 18 25 36.6 -0.4
comp=Z,24nm,1.0s,baz=244,slow=5.8,SNR=10
PLCA LR LR 18 55 21.7
comp=Z,470nm,19.9s,MS4.9,baz=199,slow=29
COLA College 87.20 11 *e*P **P 18 25 20.6 -0.8**
COLA pmax pmax
comp=Z,207nm,1.0s,mb6.3
COLA MLR MLR
comp=Z,887nm,22.0s,MS5.1
COLA College 87.20 11 *e*P **P 18 25 20.6 -0.8**
comp=Z,207nm,1.0s,mb6.3
COLA LR LR
comp=Z,887nm,22.0s,MS5.1
IMA2 Indian Mountai 87.39 8 *e*P **P 18 25 22.0 -0.3**
WALA Waterton Lakes 87.40 35 *e*P **P 18 25 22.2 -0.5**
comp=Z,70nm,1.2s,mb5.8
RWWY Rawlins 87.45 44 *e*P **P 18 25 22.4 -0.7**
comp=Z,86nm,0.9s,mb6.0
RWWY *e* pP 18 25 37.7 -0.6
ISCO Idaho Springs 87.59 46 *e*P **P 18 25 23.8 -0.1**
ISCO *e* pP 18 25 39.0 0.0
ISCO pmax pmax
comp=Z,17nm,0.8s,mb5.3
ISCO MLR MLR
comp=Z,490nm,22.0s,MS4.9
ISCO Idaho Springs 87.59 46 *e*P **P 18 25 23.8 -0.1**
comp=Z,17nm,0.8s,mb5.3
ISCO *e* pP 18 25 39.0 0.0
ISCO LR LR
comp=Z,490nm,22.0s,MS4.9
JCT Junction City 87.66 56 *e*P **P 18 25 23.1 -1.3**
JCT pmax pmax
comp=Z,39nm,1.0s,mb5.6
JCT MLR MLR
comp=Z,829nm,22.0s,MS5.1
JCT Junction City 87.66 56 *e*P **P 18 25 23.1 -1.4**
comp=Z,39nm,1.0s,mb5.6
JCT LR LR
comp=Z,829nm,22.0s,MS5.1
PSI Prapat 87.71 274⇑*e*P **P 18 25 24.7 -0.4**
SYO Syowa Base 87.76 192⇓*i*P **P 18 25 23.3 -1.0**
SYO Syowa Base 87.76 192⇓*i*PcP PcP 18 25 25.0 -1.1
RLMT Red Lodge 87.91 40 *e*P **P 18 25 24.7 -0.6**
comp=Z,32nm,1.4s,mb5.3
RLMT LR LR
comp=Z,649nm,22.0s,MS5.0
BJT Baijiatuau 87.95 314 *e*P **P 18 25 25.8 +0.2**
BJT pmax pmax
comp=Z,265nm,1.8s
BJT MLR MLR
comp=Z,466nm,20.0s
BJT Baijiatuau 87.95 314 *e*P **P 18 25 25.8 +0.2**
comp=Z,265nm,1.8s,mb6.2
BJT LR LR
comp=Z,466nm,20.0s,MS4.9
BJI Beijing 87.96 314 P **P 18 25 26.3 +0.7**
BJI PP PP 18 28 53.8 +1.0
BJI SKS 18 35 49.0
BJI S S 18 36 12.0 +7.0
BJI AMB AMB
comp=Z,57nm,1.7s,mb5.5
BJI LR LR
comp=N,280nm,25.4s,MS4.7
BJI LR LR
comp=E,221nm,26.6s,MS4.7
BJI LR LR
comp=Z,337nm,26.6s,MS4.6
AMTX Amarillo 88.12 52 *e*P **P 18 25 26.0 -0.6**
comp=Z,71nm,0.9s,mb5.9
AMTX *e* pP 18 25 41.3 -0.4
AMTX LR LR
comp=Z,691nm,21.0s,MS5.0
DAWY Dawson 88.26 15 *e*P **P 18 25 26.8 +0.3**
PHWY Pilot Hill 88.41 45 *e*P **P 18 25 26.8 -0.9**
PHWY *e* pP 18 25 42.3 -0.6
EGAK Eagle 88.46 14 *e*P **P 18 25 27.2 -0.2**
comp=Z,125nm,1.1s,mb6.0
EGAK LR LR
comp=Z,802nm,22.0s,MS5.1
VNA2 Neumayer--Watz 88.72 176 *e*P **P 18 25 30.0 +1.2**
VNA2 *e* 18 25 31.9
VNA2 *e* 18 25 37.4
VNA2 *e* pP 18 25 45.2 +1.2
VNA2 *e* 18 30 31.3
VNA2 *e* 18 30 42.7
VNA1 Neumayer--Stat 88.93 175 *e*P **P 18 25 31.0 +1.2**
VNA1 *e* 18 25 33.1
VNA1 *e* 18 25 38.7
VNA1 *e* pP 18 25 46.4 +1.4
VNA1 *e* 18 30 30.5
VNA1 *e* 18 30 44.1
BILL Bilibino 89.06 353⇑*i*P **P 18 25 29.5 -0.6**
BILL *i* pP 18 25 44.5 -0.8
BILL *e*S S 18 36 18.2 +4.1
BILL pmax pmax
comp=Z,28nm,1.2s,mb5.5
BILL Bilibino 89.06 353 *e*P **P 18 25 28.7 -1.4**
comp=Z,28nm,1.0s,mb5.5
BILL LR LR
comp=Z,817nm,22.0s,MS5.1
EGMT Eagleton 89.14 37 *e*P **P 18 25 30.4 -0.5**
comp=Z,33nm,1.1s,mb5.6
EGMT LR LR
comp=Z,1μm,22.0s,MS5.4
EGMT Eagleton 89.14 37 ⇑P **P 18 25 30.7 -0.3**
baz=89
GYA Guiyang 89.33 298⇑*i*P **P 18 25 33.5 +1.1**
GYA PP PP 18 29 06.8 +2.7
GYA SKS 18 36 02.3
GYA S S 18 36 22.3 +3.8
GYA SS SS 18 42 20.5 +5.9
GYA AMB AMB
comp=Z,40nm,1.0s,mb5.7
GYA AMB AMB
comp=Z,2μm,6.8s
GYA LR LR
comp=N,2μm,20.2s,MS5.6
GYA LR LR
comp=E,1μm,21.8s,MS5.6
GYA LR LR
comp=Z,2μm,20.6s,MS5.6
TIY Taiyuan 89.50 311 P **P 18 25 34.0 +1.1**
TIY S S 18 36 24.8 +5.2
TIY LR LR
comp=N,365nm,15.2s,MS5.1
TIY LR LR
comp=E,356nm,13.9s,MS5.1
TIY LR LR
comp=Z,664nm,21.4s
EFI East Falkland 89.59 146 *e*P **P 18 25 33.5 +0.3**
EFI *e* pP 18 25 48.2 -0.2
EFI pmax pmax
comp=Z,140nm,1.1s,mb6.2
EFI MLR MLR
comp=Z,925nm,19.0s,MS5.2
EFI East Falkland 89.59 146 *e*P **P 18 25 33.5 +0.3**
comp=Z,140nm,1.1s,mb6.2
EFI *e* pP 18 25 48.2 -0.2
EFI LR LR
comp=Z,925nm,19.0s,MS5.2
EDM Edmonton 90.07 32 *e*P **P 18 25 34.7 -0.5**
LMEL Las Melosas 90.21 126 *e*P **P 18 25 34.6 -2.0**
WMOK Wichita Mounta 90.22 53 *e*P **P 18 25 33.8 -2.6**
WMOK pmax pmax
comp=Z,19nm,1.1s,mb5.3
WMOK MLR MLR
comp=Z,515nm,21.0s,MS4.9
WMOK Wichita Mounta 90.22 53 *e*P **P 18 25 33.8 -2.6**
comp=Z,20nm,1.1s,mb5.3
WMOK LR LR
comp=Z,515nm,21.0s,MS4.9
FCH Farellones 90.36 126⇑*e*P **P 18 25 37.8 +0.6**

LAO LASA Array 90.53 40 *e*P P 18 25 37.6 0.0
comp=Z,53nm,0.8s,mb5.9
LAO *e* pP 18 25 53.1 +0.3
LAO LR LR
comp=Z,863nm,21.0s,MS5.2
XAN Xi'an 90.53 306 P P 18 25 39.0 +1.1
XAN AP pP 18 25 50.0 -3.1
XAN SKS 18 36 04.0
XAN S S 18 36 30.0 +0.7
XAN AMB AMB
comp=Z,78nm,1.3s,mb5.9
XAN AMB AMB
comp=Z,111nm,3.9s
XAN LR LR
comp=N,103nm,20.0s,MS4.6
XAN LR LR
comp=E,242nm,24.9s,MS4.6
XAN LR LR
comp=Z,274nm,25.4s,MS4.6
HKT Hockley 90.59 58 *e*P P 18 25 37.4 -0.8
HKT pmax pmax
comp=Z,80nm,1.6s,mb5.8
HKT MLR MLR
comp=Z,520nm,20.0s,MS5.0
HKT Hockley 90.59 58 *e*P P 18 25 37.4 -0.9
comp=Z,80nm,1.6s,mb5.8
HKT LR LR
comp=Z,520nm,20.0s,MS5.0
RSSD Black Hills 90.67 43 PFAKE 18 25 50.0 +12
RSSD LR LR
comp=Z,155nm,19.0s,MS4.5
NST Nakhon Sawan 91.05 286 P P 18 25 42.2 +1.5
CBKS Cedar Bluff 91.22 49 PFAKE 18 25 50.0 +9.1
CBKS LR LR
comp=Z,707nm,21.0s,MS5.1
HHC Hu-ho-hao-te 91.46 313 *e*P P 18 25 42.8 +0.8
HHC AP pP 18 25 47.5 -10
HHC XP sP 18 25 49.8 -13
HHC PP PP 18 29 23.5 +2.8
HHC SKS 18 36 13.5
HHC S S 18 36 42.0 +4.5
HHC XS sS 18 36 47.0 -16
HHC SS SS 18 42 50.5 +5.5
HHC AMB AMB
comp=Z,106nm,1.4s,mb6.0
HHC AMB AMB
comp=Z,219nm,5.2s
HHC LR LR
comp=N,326nm,20.4s,MS4.9
HHC LR LR
comp=E,391nm,22.0s,MS4.9
HHC LR LR
comp=Z,602nm,21.0s,MS5.0
NANT Nan 91.64 289 ⇑P P 18 25 44.0 +0.7
comp=Z,350nm,0.9s,mb6.7
LCO Las Campanas 91.80 122 *e*P P 18 25 44.5 +0.5
comp=Z,169nm,1.4s,mb6.2
LCO LR LR
comp=Z,797nm,21.0s,MS5.1
CLNS Chul'man 91.86 331 *d i*P P 18 25 44.7 +1.3
CLNS *e**PP pP 18 25 53.4 -5.2
CLNS *e*S S 18 36 40.8 +0.5
CLNS pmax pmax
comp=Z,52nm,1.6s,mb5.6
CLNS pmax pmax
comp=N,36nm,1.5s
CLNS pmax pmax
comp=E,12nm,1.0s
CLNS pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
CLNS smax
comp=N,75nm,13.4s
CLNS smax
comp=E,69nm,12.5s
CLNS MLR MLR
comp=Z,300nm,18.0s,MS4.8
CLNS MLR MLR
comp=N,200nm,15.0s,MS4.8
CLNS MLR MLR
comp=E,200nm,18.0s,MS4.8
KMI Kunming 92.11 296 P P 18 25 47.5 +2.1
KMI AP pP 18 25 49.5 -11
KMI SKS 18 36 19.3
KMI S S 18 36 47.5 +3.5
KMI SS SS 18 43 00.3 +5.4
KMI AMB AMB
comp=Z,50nm,0.9s,mb5.8
KMI LR LR
comp=N,161nm,20.4s,MS4.8
KMI LR LR
comp=E,339nm,21.4s,MS4.8
KMI LR LR
comp=Z,564nm,24.1s,MS4.9
NATX Nacogdoches 92.21 57 *e*P P 18 25 45.2 -0.5
comp=Z,14nm,0.6s,mb5.5
NATX LR LR
comp=Z,723nm,21.0s,MS5.1
TGUH Tegucigalpa,Un 92.23 76 *e*P P 18 25 45.8 -0.4
comp=Z,84nm,1.1s,mb6.0
TGUH LR LR
comp=Z,691nm,21.0s,MS5.1
BTO Baotou 92.42 312 *e*P P 18 25 47.5 +1.0
DGMT Dagmar 92.59 39 *e*P P 18 25 47.0 0.0
comp=Z,292nm,1.2s,mb6.6
DGMT *e* pP 18 26 02.1 -0.1
DGMT LR LR
comp=Z,1μm,22.0s,MS5.4
NNA Nana 93.00 104 PFAKE 18 26 00.0 +10
NNA LR LR
comp=Z,579nm,20.0s,MS5.0
YAK Yakutsk 93.03 337 *e*P P 18 25 47.4 -1.3
YAK *e* 18 29 26.8
YAK *e*PPP 18 31 29.1
YAK *e*S SKSac 18 36 18.3 +0.4
YAK *e* 18 36 53.7
YAK *e*SS SS 18 43 08.0 +1.4
YAK *e*SSS 18 46 45.9
YAK pmax pmax
comp=Z,31nm,0.9s,mb5.7
YAK pmax pmax
comp=N,10.0nm,1.3s
YAK pmax pmax
comp=E,12nm,1.4s
YAK pmax pmax
comp=Z,160nm,4.6s
YAK pmax pmax
comp=N,35nm,1.9s
YAK pmax pmax
comp=E,56nm,2.7s
YAK smax
comp=N,76nm,3.7s
YAK smax
comp=E,23nm,1.9s
YAK Yakutsk 93.03 337 *e*P P 18 25 47.3 -1.4
comp=E,8.8nm,0.8s,mb5.2
YAK LR LR
comp=Z,369nm,21.0s,MS4.8
CM31 Chiang Mai Arr 93.08 288 PFAKE 18 26 00.0 +10
CM31 LR LR
comp=Z,272nm,20.0s,MS4.7
JTS JuntasAbangare 93.09 80 P P 18 25 49.8 -0.4
comp=Z,764nm,0.9s,mb7.1,SNR=13
JTS JuntasAbangare 93.09 80 *e*P P 18 25 49.0 -1.2
JTS pmax pmax
comp=Z,129nm,0.9s
JTS MLR MLR
comp=Z,932nm,22.0s
JTS JuntasAbangare 93.09 80 *e*P P 18 25 49.0 -1.1
comp=Z,129nm,0.9s,mb6.4
JTS LR LR
comp=Z,932nm,22.0s,MS5.2
INK Inuvik 93.11 14 P P 18 25 47.8 -1.2
INK *PP pP 18 26 01.3 -2.9
INK pmax pmax
comp=Z,53nm,1.0s
INK pmax pmax
comp=Z,78nm,1.2s
INK Inuvik 93.11 14 *e*P P 18 25 48.2 -0.7
comp=Z,3μm,1.1s
INK *e* pP 18 26 01.3 -2.9
INK Inuvik 93.11 14 P P 18 25 47.8 -1.2
comp=Z,53nm,1.0s,mb5.9,baz=217,slow=5.3,SNR=125
INK pP pP 18 26 01.2 -2.9
comp=Z,78nm,1.2s,baz=170,slow=3.3,SNR=12
CHG Chiang Mai 93.20 289 ⇑P P 18 25 52.0 +1.4
comp=Z,40nm,1.1s,mb5.8
CHTO Chiang Mai 93.20 289 *e*P P 18 25 51.6 +1.0
CHTO pmax pmax
comp=Z,40nm,1.1s,mb5.8
CHTO MLR MLR
comp=Z,329nm,21.0s,MS4.8
CHTO Chiang Mai 93.20 289 *e*P P 18 25 51.6 +1.1
comp=Z,40nm,1.1s,mb5.8
CHTO LR LR
comp=Z,329nm,21.0s,MS4.8
CHTO Chiang Mai 93.20 289 P P 18 25 52.4 +1.9
SNR=14
CD2 Chengdu 93.36 302 P P 18 25 52.3 +1.3
CD2 AP pP 18 25 56.0 -10
CD2 XP sP 18 25 59.3 -13
CD2 PP PP 18 29 40.5 +4.6
CD2 SKS 18 36 27.5
CD2 S S 18 37 00.8 +5.9
CD2 SS SS 18 43 17.5 +4.8
CD2 AMB AMB
comp=Z,20nm,1.2s,mb5.4
CD2 AMB AMB
comp=Z,80nm,5.9s
CD2 LR LR
comp=N,220nm,17.2s,MS4.9
CD2 LR LR
comp=E,310nm,20.8s,MS4.9
CD2 LR LR
comp=Z,380nm,19.6s,MS4.9
TEIG Tepich 93.44 70 P P 18 25 51.2 -0.5
TEIG pP pP 18 26 05.6 -1.2
TEIG LR LR
comp=Z,764nm,22.0s,MS5.1
TEIG Tepich 93.44 70 P P 18 25 51.2 -0.5
comp=Z,33nm,0.9s,mb5.8,baz=266,slow=9.8,SNR=8.2
TEIG pP pP 18 26 05.6 -1.2
comp=Z,23nm,1.0s,baz=270,slow=6.9,SNR=4.1
KSU1 Kansas State U 93.56 50 *e*P P 18 25 51.1 -0.6
comp=Z,79nm,0.8s,mb6.2
KSU1 *e* pP 18 26 06.2 -0.7
KSU1 LR LR
comp=Z,671nm,21.0s,MS5.1
MIAR Mount Ida 94.09 55 P P 18 25 53.8 -0.5
MIAR *e* pP 18 26 08.4 -1.1
MIAR pmax pmax
comp=Z,33nm,1.2s,mb5.6
MIAR Mount Ida 94.09 55 P P 18 25 52.1 -2.2
comp=Z,3.6nm,0.8s,mb4.8
MIAR LR LR
comp=Z,534nm,22.0s,MS5.0
TRQA Tornquist 94.26 133 PFAKE 18 26 10.0 +15
TRQA LR LR
comp=Z,491nm,20.0s,MS5.0
YKA Yellowknife Ar 94.86 24 P P 18 25 56.7 -0.4
YKA *PP pP 18 26 09.1 -3.2
YKA 18 29 44.1
YKA pmax pmax
comp=Z,23nm,0.9s
YKA pmax pmax
comp=Z,17nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA MLR MLR
comp=Z,309nm,21.5s
YKA Yellowknife Ar 94.86 24 P P 18 25 56.7 -0.4
YKA pP pP 18 26 09.1 -3.2
YKA PP PP 18 29 44.1 -2.7
YKA PKKPbc PKKPbc 18 42 52.6 -3.3
YKA LR LR 19 01 05.8
YKA Yellowknife Ar 94.86 24 P P 18 25 56.7 -0.4
comp=Z,23nm,0.9s,mb5.6,baz=236,slow=4.1,SNR=154
YKA pP pP 18 26 09.1 -3.2
comp=Z,17nm,0.9s,baz=239,slow=4.7,SNR=12
YKA PP PP 18 29 44.1 -2.7
comp=Z,1.1nm,0.9s,baz=241,slow=7.0,SNR=4.2
YKA PKKPbc PKKPbc 18 42 52.6 -3.3
comp=Z,1.4nm,0.9s,baz=46,slow=2.7,SNR=7.8
YKA LR LR 19 01 05.8
comp=Z,309nm,21.4s,MS4.7,baz=205,slow=31
LZH Lanzhou 95.16 306 *e*P P 18 26 00.8 +1.6
LZH AP pP 18 26 04.8 -10
LZH XP sP 18 26 07.5 -13
LZH PP PP 18 29 52.0 +2.2
LZH SKS 18 36 33.0
LZH *e*S S 18 37 12.0 +1.6
LZH SS SS 18 43 43.0 +4.9
LZH AMB AMB
comp=Z,72nm,1.5s,mb5.9
LZH AMB AMB
comp=Z,170nm,4.0s
LZH LR LR
comp=E,698nm,16.0s
LZH LR LR
comp=Z,833nm,17.8s,MS5.2
ECSD EROS,Sioux Fal 95.35 45 *e*P P 18 25 58.8 -1.1
comp=Z,135nm,1.1s,mb6.3
ECSD *e* pP 18 26 14.3 -0.7
ECSD LR LR
comp=Z,549nm,22.0s,MS5.0
VBMS Vicksburg 95.66 58 PFAKE 18 26 10.0 +8.5
VBMS LR LR
comp=Z,543nm,20.0s,MS5.0
LVC Limon Verde 95.90 117 *e*P P 18 26 04.7 +1.7
comp=Z,133nm,2.0s,mb6.0
LVC LR LR
comp=Z,1μm,21.0s,MS5.3
FFC Flin Flon 96.63 34 P P 18 26 04.5 -0.9
FFC *e* pP 18 26 21.2 +0.6
FFC pmax pmax
comp=Z,73nm,2.0s,mb5.8
FFC Flin Flon 96.63 34 *e*P P 18 26 04.1 -1.3
comp=Z,73nm,2.0s,mb5.8
FFC LR LR
comp=Z,1μm,22.0s,MS5.3
CCM Cathedral Cave 97.09 52 *e*P P 18 26 06.6 -1.3
CCM *e* pP 18 26 21.7 -1.4
CCM pmax pmax
comp=Z,7.0nm,0.8s,mb5.1
CCM MLR MLR
comp=Z,479nm,22.0s,MS4.9
CCM Cathedral Cave 97.09 52 *e*P P 18 26 06.6 -1.3
comp=Z,6.6nm,0.8s,mb5.1
CCM *e* pP 18 26 21.7 -1.4
CCM LR LR
comp=Z,479nm,22.0s,MS4.9
ULN Ulaanbaatar 97.25 318 *e*P P 18 26 06.8 -1.5
ULN MLR MLR
comp=Z,261nm,20.0s,MS4.7
OXF Oxford 97.30 56 PFAKE 18 26 20.0 +11
OXF LR LR
comp=Z,1μm,22.0s,MS5.3
AGMN Agassiz Refuge 97.56 41 *e*P P 18 26 08.3 -1.5
comp=Z,54nm,0.9s,mb6.1
SONM Songino Array 97.65 318 P P 18 26 09.9 -0.2
SONM pmax pmax
comp=Z,3.0nm,1.0s
SONM pmax pmax
comp=Z,1.0nm,1.0s
SONM Songino Array 97.65 318 P P 18 26 09.9 -0.3
comp=Z,3.0nm,1.0s,mb4.8,baz=99,slow=2.3,SNR=16
SONM PKPPKP 18 51 04.6
comp=Z,0.6nm,1.0s,baz=300,slow=1.2,SNR=4.5
FVM French Village 97.68 52 *e*P P 18 26 09.3 -1.2
FVM *e* pP 18 26 25.6 -0.2
FVM pmax pmax
comp=Z,26nm,0.9s,mb5.8
FVM French Village 97.68 52 *e*P P 18 26 09.3 -1.2
comp=Z,26nm,0.9s,mb5.8
FVM *e* pP 18 26 25.6 -0.2
BRAL Brewton 98.05 60 PFAKE 18 26 20.0 +7.6
BRAL LR LR
comp=Z,531nm,21.0s,MS5.0
ULM Lac du Bonnet 98.27 39 *e*P P 18 26 10.6 -2.3
comp=Z,82nm,1.8s,mb6.0
ULM LR LR
comp=Z,2μm,22.0s,MS5.5
ULM Lac du Bonnet 98.27 39 P P 18 26 10.9 -2.0
comp=Z,7.7nm,0.7s,mb5.4,baz=248,slow=4.8,SNR=16
ULM pP pP 18 26 25.1 -3.0
comp=Z,7.3nm,0.8s,baz=262,slow=5.5,SNR=6.0
ULM LR LR 19 03 31.2
comp=Z,1μm,21.8s,MS5.4,baz=232,slow=31
PLAL Pickwick Lake 98.50 56 PFAKE 18 26 30.0 +16
PLAL LR LR
comp=Z,848nm,22.0s,MS5.2
LPAZ La Paz 99.17 111 P P 18 26 18.7 +0.9
LPAZ 18 30 19.5
LPAZ pmax pmax
comp=Z,4.0nm,1.0s
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ MLR MLR
comp=Z,271nm,20.9s
LPAZ La Paz 99.17 111 *e*P P 18 26 18.3 +0.5
comp=Z,5.5nm,0.9s,mb5.1
LPAZ LR LR
comp=Z,568nm,21.0s,MS5.0
LPAZ La Paz 99.17 111 P P 18 26 18.7 +1.0
comp=Z,4.0nm,1.0s,mb4.9,baz=255,slow=2.9,SNR=12
LPAZ PP PP 18 30 19.5 -1.2
comp=Z,0.6nm,0.7s,baz=245,slow=5.4,SNR=3.6
LPAZ LR LR 19 01 11.4
comp=Z,271nm,20.9s,MS4.7,baz=260,slow=29
TIXI Tiksi 99.27 344 *e*P P 18 26 16.2 -0.7
TIXI pmax pmax
comp=Z,11nm,1.1s,mb5.3
TIXI MLR MLR
comp=Z,355nm,20.0s,MS4.9
TIXI Tiksi 99.27 344 *e*P P 18 26 16.2 -0.6
comp=Z,11nm,1.1s,mb5.3
TIXI LR LR
comp=Z,355nm,20.0s,MS4.9
GTA Gaotai 99.29 308 *e*P P 18 26 18.5 +0.8
GTA AP pP 18 26 22.8 -10
GTA XP sP 18 26 25.5 -13
GTA SKS 18 36 56.5
GTA S S 18 37 51.3 +5.8
GTA XS sS 18 37 59.3 -12
GTA AMB AMB
comp=Z,5.0nm,1.4s,mb4.8
GTA AMB AMB
comp=Z,82nm,4.2s
GTA LR LR
comp=N,145nm,22.0s,MS4.6
GTA LR LR
comp=E,198nm,25.1s,MS4.6
GTA LR LR
comp=Z,420nm,26.6s,MS4.8
HDIL Hopedale 99.34 50 PFAKE 18 26 30.0 +12
HDIL LR LR
comp=Z,810nm,22.0s,MS5.2
JFWS Jewell Farm 99.41 48 *e*P P 18 26 16.9 -1.3
JFWS pmax pmax
comp=Z,47nm,0.7s,mb6.1
JFWS MLR MLR
comp=Z,790nm,22.0s,MS5.2
JFWS Jewell Farm 99.41 48 *e*P P 18 26 16.9 -1.3
comp=Z,47nm,0.7s,mb6.1
JFWS LR LR
comp=Z,790nm,22.0s,MS5.2
EYMN Ely 100.19 43 PFAKE 18 26 30.0 +8.4
EYMN LR LR
comp=Z,442nm,19.0s,MS5.0
ZAK Zakamensk 100.45 320 *e*P Pdif 18 26 22.2 -0.5
ZAK pmax pmax
comp=Z,3.0nm,1.4s
TLY Talaya 100.65 321 *e*P Pdif 18 26 22.0 -1.6
TLY pmax pmax
comp=Z,3.0nm,0.8s
TLY Talaya 100.65 321 *e*P Pdif 18 26 22.1 -1.5
TLY LR LR
comp=Z,567nm,22.0s,MS5.0
COWI Conover 101.15 45 *e*P Pdif 18 26 25.4 -0.4
comp=Z,26nm,1.3s
COWI *e* 18 26 40.9
COWI LR LR
comp=Z,345nm,22.0s,MS4.8
ROSC El Rosal 101.22 89 PP PP 18 30 34.4 -2.2
comp=Z,2.2nm,0.4s,baz=95,slow=23,SNR=4.7
GOGA Godfrey 101.67 59 PFAKE 18 26 40.0 +12
GOGA LR LR
comp=Z,536nm,19.0s,MS5.1
DWPF Disney 101.85 64 PFAKE 18 26 40.0 +11
DWPF LR LR
comp=Z,484nm,22.0s,MS5.0
FCC Fort Churchill 102.18 32 *e*P Pdif 18 26 28.8 -1.6
FCC pmax pmax
comp=Z,17nm,1.3s
FCC Fort Churchill 102.18 32 *e*Pdif Pdif 18 26 28.8 -1.6
comp=Z,17nm,1.3s
TZTN Tazewell 102.47 56 PFAKE 18 26 40.0 +8.3
TZTN LR LR
comp=Z,749nm,22.0s,MS5.2
LSA Lhasa 103.32 297 PFAKE 18 26 50.0 +14
LSA LR LR
comp=Z,218nm,21.0s,MS4.7
ACSO Alum Creek Sta 103.87 52 PFAKE 18 26 50.0 +12
ACSO LR LR
comp=Z,501nm,22.0s,MS5.0
AAM Ann Arbor 103.90 50 PFAKE 18 26 50.0 +12
AAM LR LR
comp=Z,587nm,20.0s,MS5.1
NHSC New Hope 104.24 60 PFAKE 18 26 50.0 +10
NHSC LR LR
comp=Z,466nm,20.0s,MS5.0
BLA Blacksburg 105.07 56 PFAKE 18 31 10.0 +12
BLA LR LR
comp=Z,659nm,21.0s,MS5.2
SDV Santo Domingo 105.99 86 *e*PKiKP PKiKP 18 30 59.1 -1.2
SDV LR LR
comp=Z,121nm,20.0s,MS4.4
MCWV Mont Chateau 106.08 53 PFAKE 18 31 10.0 +10
MCWV LR LR
comp=Z,1μm,22.0s,MS5.4
PALK Pallekele 106.30 272 PFAKE 18 31 10.0 +9.1
PALK LR LR
comp=Z,648nm,19.0s,MS5.2
ERPA Erie 106.51 51 PFAKE 18 31 10.0 +10
ERPA LR LR
comp=Z,702nm,21.0s,MS5.2
CNNC Cliffs of the 106.60 58 PFAKE 18 31 10.0 +9.1
CNNC LR LR
comp=Z,865nm,19.0s,MS5.3
JIRN Jiri 107.01 294 *e*P PKiKP 18 31 01.8 -0.1
GUN Gumba 107.34 294 *e*P PKiKP 18 31 02.3 -0.2
CBN Corbin 107.64 55 PFAKE 18 31 10.0 +7.3
CBN LR LR
comp=Z,755nm,19.0s,MS5.3
PKI Pulchoki 107.66 293 *e*P PKiKP 18 31 02.8 -0.3
SSPA Standing Stone 107.75 53 PFAKE 18 31 10.0 +7.2
SSPA LR LR
comp=Z,419nm,21.0s,MS5.0
KKN Kakani 107.82 294 *e*P PKiKP 18 31 02.9 -0.5
DMN Daman 107.93 293 *e*P PKiKP 18 31 03.5 -0.1
SDDR Presa de Saban 108.32 76 PFAKE 18 31 20.0 +15
SDDR LR LR
comp=Z,974nm,22.0s,MS5.3
DGAR Diego Garcia 108.69 254 PFAKE 18 31 20.0 +15
DGAR LR LR
comp=Z,1μm,20.0s,MS5.5
WMQ Urumqi 109.16 311 *e*PDIF Pdif 18 27 03.0 +1.5
WMQ PP PP 18 31 39.0 +4.2
WMQ SS SS 18 46 55.0 +3.6
WMQ PP PP
comp=Z,35nm,10.0s
WMQ LR LR
comp=N,215nm,18.0s,MS4.9
WMQ LR LR
comp=E,201nm,18.0s,MS4.9
WMQ LR LR
comp=Z,210nm,18.0s,MS4.8
DANN Dangsing 109.26 294 *e*P PKiKP 18 31 05.9 -0.1
comp=Z,17nm,0.8s
KOLN Koldanda 109.27 293 *e*P PKiKP 18 31 05.3 -0.8
comp=Z,7.4nm,0.6s
BINY Binghamton 109.44 51 PFAKE 18 31 20.0 +14
BINY LR LR
comp=Z,873nm,22.0s,MS5.3
LONY Lake Ozonia 110.83 49 PFAKE 18 31 20.0 +12
LONY LR LR
comp=Z,499nm,21.0s,MS5.1
NCB Newcomb 111.00 50 PFAKE 18 31 20.0 +11
NCB LR LR
comp=Z,433nm,21.0s,MS5.0
ZAA0 Zalesovo Array 112.26 321 *e*PKiKP PKiKP 18 31 09.5 -1.4
ZAA0 *e* 18 31 22.6
ZALV Zalesovo Beam 112.26 321 PKiKP PKiKP 18 31 09.9 -1.0
comp=Z,6.4nm,0.6s,baz=140,slow=0.9,SNR=35
ZALV pPKiKP 18 31 22.4
comp=Z,4.5nm,0.6s,baz=138,slow=1.1,SNR=7.9
ZALV PP PP 18 31 58.5 +1.7

comp=Z,3.4nm,0.9s,baz=108,slow=3.3,SNR=3.9
ZALV PKKPbc PKKPbc 18 42 01.2 -2.0
comp=Z,0.6nm,0.5s,baz=278,slow=4.3,SNR=4.3
ZAL Zalesovo 112.27 321 PKIKP PKiKP 18 31 09.9 -1.0
ZAL 18 31 58.5
LBNH Lisbon 112.67 49 PFAKE 18 31 20.0 +8.0
LBNH LR LR
comp=Z,438nm,22.0s,MS5.0
SJG San Juan 112.80 78 PFAKE 18 31 20.0 +7.0
SJG LR LR
comp=Z,496nm,21.0s,MS5.1
WES Weston 112.89 52 PFAKE 18 31 20.0 +7.5
WES LR LR
comp=Z,849nm,21.0s,MS5.3
CPD Cerro la Pandu 113.00 78 PKIKP PKiKP 18 31 11.6 -1.8
NVS Novosibirsk 113.24 322 *e*PKIKP PKiKP 18 31 11.1 -1.6
NVS *e* 18 37 55.0
NVS pmax pmax
comp=Z,17nm,1.2s
NVS pmax pmax
comp=N,5.0nm,1.3s
NVS pmax pmax
comp=E,9.0nm,1.4s
MK31 Makanchi Array 113.33 313 P Pdif 18 27 21.3 +1.3
MK31 *e* 18 31 12.6
MK31 Makanchi Array 113.33 313 *e*PKiKP PKiKP 18 31 12.1 -1.1
MKAR Makanchi Array 113.33 313 P Pdif 18 27 19.3 -0.7
MKAR *i* 18 31 12.3
MKAR pmax pmax
comp=Z,1.0nm,0.9s
MKAR pmax pmax
comp=Z,7.0nm,0.8s
MKAR pmax pmax
comp=Z,3.0nm,0.8s
MKAR Makanchi Array 113.33 313 Pdiff Pdif 18 27 19.3 -0.7
comp=Z,0.7nm,0.9s,baz=75,slow=5.1,SNR=3.9
MKAR PKiKP PKiKP 18 31 12.2 -0.9
comp=Z,7.3nm,0.8s,baz=64,slow=2.3,SNR=44
MKAR pPKiKP 18 31 25.5
comp=Z,7.0nm,0.7s,baz=71,slow=1.4,SNR=11
MKAR PKKPbc PKKPbc 18 41 58.7 -0.8
comp=Z,2.8nm,0.8s,baz=276,slow=3.4,SNR=17
DDI Dehra Dun 114.53 295 *e*P PKiKP 18 31 15.5 -0.5
PKME Peaks-Kenny Pk 114.64 49 PFAKE 18 31 30.0 +14
PKME LR LR
comp=Z,754nm,21.0s,MS5.3
KURK Kurchatov 115.94 317 *e*PKIKP PKPdf 18 31 16.9 -1.2
KURK *e* 18 31 30.0
KURK MLR MLR
comp=Z,344nm,20.0s,MS5.0
SCHQ Schefferville 116.39 38 PFAKE 18 31 30.0 +11
SCHQ LR LR
comp=Z,903nm,22.0s,MS5.3
BDFB Brasilia 116.54 120 PKIKP PKPdf 18 31 18.7 -1.6
BDFB 18 31 34.0
BDFB pmax pmax
comp=Z,2.0nm,0.5s
BDFB pmax pmax
comp=Z,1.0nm,0.5s
BDFB pmax pmax
comp=Z,2.0nm,0.8s
BDFB Brasilia 116.54 120 PKP PKPdf 18 31 18.7 -1.6
BDFB pPKP pPKPdf 18 31 34.0 -2.0
BDFB PKKPbc PKKPbc 18 41 46.5 -1.1
BDFB LR LR
comp=Z,615nm,22.0s,MS5.2
BDFB Brasilia 116.54 120 PKP PKPdf 18 31 18.7 -1.6
comp=Z,1.5nm,0.5s,baz=58,slow=25,SNR=6.4
BDFB pPKP pPKPdf 18 31 34.0 -2.0
comp=Z,1.2nm,0.5s,baz=163,slow=17,SNR=2.6
BDFB PKKPbc PKKPbc 18 41 46.5 -1.1
comp=Z,1.5nm,0.8s,baz=218,slow=23,SNR=4.2
BBSR BB Station 116.89 63 PFAKE 18 31 30.0 +10
BBSR LR LR
comp=Z,236nm,22.0s,MS4.8
TKM2 Tokmak 2 117.84 309 *e*PKIKP PKPdf 18 31 21.3 -0.7
TKM2 *e* 18 31 33.4
TKM2 MLR MLR
comp=Z,237nm,21.0s,MS4.8
FRU Bishkek 118.56 308 *e*PKIKP PKPdf 18 31 23.0 -0.4
FRU *i* 18 31 37.5
UCH Uchtor 118.61 308 *e*PKPdf PKPdf 18 31 23.7 +0.2
UCH LR LR
comp=Z,231nm,22.0s,MS4.8
EKS2 Erkin-Say 119.17 308 *e*PKPdf PKPdf 18 31 24.2 -0.3
EKS2 LR LR
comp=Z,288nm,22.0s,MS4.9
AML Almayashu 119.22 308 *e*PKPdf PKPdf 18 31 24.8 +0.1
AML *e* 18 31 37.9
BRVK Borovoye 120.95 320 *e*PKIKP PKPdf 18 31 26.9 -0.7
BRVK MLR MLR
comp=Z,382nm,20.0s,MS5.0
BRVK Borovoye 120.95 320 P PKPdf 18 31 27.4 -0.3
SNR=12
KBS Kingsbay 121.09 359⇑ *e*PKIKP PKPdf 18 31 27.6 +0.3
KBS MLR MLR
comp=Z,305nm,21.0s,MS4.9
SFJD Kangerlussuaq 121.39 22 PFAKE 18 31 40.0 +12
SFJD LR LR
comp=Z,456nm,22.0s,MS5.1
SPB4 Spitsbergen Ar 121.69 357 *e*PKPdf PKPdf 18 31 27.9 -0.6
DAG Danmarks Havn 122.05 6⇑ *i*PKIKP PKPdf 18 31 28.1 -1.1
DAG *i* 18 31 43.0
DAG pmax pmax
comp=Z,8.0nm,0.7s
DAG Danmarks Havn 122.05 6⇑ *i*P PKPdf 18 31 28.1 -1.1
comp=Z,8.2nm,0.7s
DAG *i* 18 31 43.0
KBL Kabul 122.58 299 *e*PKPdf PKPdf 18 31 31.6 +0.3
KBL *e* 18 31 45.9
ABPO Ambohimpanom 123.52 229 PFAKE 18 31 50.0 +16
ABPO LR LR
comp=Z,602nm,19.0s,MS5.3
MSEY Mahe Island 125.04 249 PFAKE 18 31 50.0 +13
MSEY LR LR
comp=Z,285nm,19.0s,MS5.0
SVE Sverdlovsk 125.53 326⇓ *i*PKIKP PKPdf 18 31 35.9 -0.4
SVE *e* 18 50 19.2
SVE pmax pmax
comp=Z,48nm,1.0s
SUR Sutherland 125.74 196 PFAKE 18 31 50.0 +12
SUR LR LR
comp=Z,1μm,22.0s,MS5.6
SOKR Solikamsk 126.42 330*d* *i*PKIKP PKPdf 18 31 37.8 -0.1
SOKR pmax pmax
comp=Z,50nm,0.9s
SOKR MLR MLR
comp=Z,380nm,20.0s,MS5.1
ARU Arti 126.74 326 *i*PKIKP PKPdf 18 31 38.2 -0.4
ARU 18 33 31.5
ARU 18 38 39.6
ARU MLR MLR
comp=Z,526nm,21.0s,MS5.2
ARU Arti 126.74 326 *e*PKPdf PKPdf 18 31 37.9 -0.7
ARU LR LR
comp=Z,506nm,20.0s,MS5.2
BOSA Boshof 127.89 202 *e*PKIKP PKPdf 18 31 42.8 +1.0
BOSA MLR MLR
comp=Z,756nm,20.0s,MS5.4
BOSA Boshof 127.89 202 PKP PKPdf 18 31 43.0 +1.2
comp=Z,19nm,0.9s,baz=173,slow=2.0,SNR=21
JMIC Jan Mayen 128.49 6 AMS AMS 19 21 39.5
comp=Z,223nm,19.3s,MS4.9
KEV Kevo 128.70 351 *e*p PKPdf 18 31 40.8 -1.2
comp=Z,1.1nm,0.4s
KEV Kevo 128.70 351 *e*p PKPdf 18 31 41.1 -0.9
comp=Z,14nm,0.7s
KEV Kevo 128.70 351 *e*PKIKP PKPdf 18 31 40.8 -1.2
KEV pmax pmax
comp=Z,1.0nm,0.4s
KEV Kevo 128.70 351 *e*P PKPdf 18 31 41.1 -0.9
LVZ Lovozero 128.86 346 PFAKE 18 31 50.0 +7.6
LVZ LR LR
comp=Z,435nm,20.0s,MS5.1
ARCES ARCESS Array B 129.12 351 PKIKP PKPdf 18 31 42.5 -0.3
ARCES pmax pmax
comp=Z,28nm,0.7s
ARCES ARCESS Array B 129.12 351 PKP PKPdf 18 31 42.5 -0.3
comp=Z,28nm,0.7s,baz=16,slow=1.1,SNR=80
APA Apatity 129.40 347⇓ *i*PKIKP PKPdf 18 31 43.6 +0.2
APA *i* 18 31 57.8
APA pmax pmax
comp=Z,54nm,1.2s
APA MLR MLR
comp=N,500nm,20.0s

TRO Tromso 129.84 354 *e*PP PP 18 33 47.5 -8.3
TRO AMS AMS 19 20 33.1
comp=Z,117nm,21.9s,MS4.5
LBTB Lobatse 131.03 204 PFAKE 18 32 00.0 +12
LBTB LR LR
comp=Z,346nm,21.0s,MS5.0
JMDO Jabal Madar 131.10 283 P pPKPdf 18 32 03.9 +0.2
SNR=5.7
BIDO Bidbid 131.22 284 P pPKPdf 18 32 04.4 +0.5
SNR=5.1
HOQ Hoqain 131.98 284 P pPKPdf 18 32 04.1 -1.2
SNR=5.5
BORG Borgarnes 132.00 15 PFAKE 18 32 00.0 +12
BORG LR LR
comp=Z,604nm,19.0s,MS5.3
HATD Hatta, Dubai 133.17 286 P pPKPdf 18 32 05.1 -2.5
SNR=6.6
JOF Joensuu 133.75 344 *e*p PKPdf 18 31 52.1 +0.4
comp=Z,2.2nm,0.4s
JOF Joensuu 133.75 344 *e*p PKPdf 18 31 50.6 -1.1
comp=Z,19nm,0.8s
JOF Joensuu 133.75 344 *e*PKIKP PKPdf 18 31 50.6 -1.1
JOF pmax pmax
comp=Z,19nm,0.8s
FIA1 FINESS Array S 136.29 346 *e*PKPdf PKPdf 18 31 56.0 -0.5
FINES FINESS Array B 136.29 346 *i*PKHKP 18 31 44.8
FINES 18 31 56.3
FINES pmax pmax
comp=Z,1.0nm,0.6s
FINES pmax pmax
comp=Z,15nm,0.8s
FINES FINESS Array B 136.29 346 PKhKP 18 31 44.8
comp=Z,1.3nm,0.6s,baz=113,slow=2.5,SNR=6.8
FINES PKP PKPdf 18 31 56.2 -0.3
comp=Z,15nm,0.8s,baz=77,slow=2.5,SNR=29
OBN Obninsk 137.94 334⇓ *i*PKIKP PKPdf 18 32 00.0 +0.2
OBN *i* 18 32 15.6
OBN *e* 18 34 47.9
OBN pmax pmax
comp=Z,34nm,1.0s
OBN Obninsk 137.94 334 *e*PKP PKPdf 18 32 00.1 +0.3
OBN LR LR
comp=Z,344nm,20.0s,MS5.1
VRHR Novokhopersk 138.09 326 *e*PKIKP PKPdf 18 31 59.0 -1.2
VRHR pmax pmax
comp=Z,10.0nm,1.0s
VRHR pmax pmax
comp=N,20nm,0.8s
VRHR pmax pmax
comp=E,10.0nm,0.5s
MAK Makhachkala 138.14 313 *e*PKIKP PKPdf 18 31 56.3 -4.2
MAK *e* 18 34 49.3
MAK pmax pmax
comp=Z,144nm,1.1s
LSZ Lusaka 138.31 214 PFAKE 18 32 10.0 +8.3
LSZ LR LR
comp=Z,503nm,21.0s,MS5.2
VSU Vasula 138.72 343 *i*PKIKP PKPdf 18 32 00.3 -0.8
VSU Vasula 138.72 343 *e*PKP PKPdf 18 32 00.4 -0.7
VOR Voronezh 138.95 328 PKIKP PKPdf 18 32 03.0 +1.3
VOR pmax pmax
comp=Z,100nm,1.5s
NB2 NORSAR Subarra138.95 356 PKP 18 31 51.7
comp=Z,8.4nm,0.9s,baz=17,slow=2.6
NB2 NORSAR Subarra138.95 356 PKP 18 31 51.7
baz=17,slow=2.6
NOA NORSAR Array B138.95 356 *i*PKHKP 18 31 52.3
NOA 18 32 01.1
NOA 18 32 16.1
NOA pmax pmax
comp=Z,1.0nm,0.6s
NOA pmax pmax
comp=Z,8.0nm,0.9s
NOA pmax pmax
comp=Z,11nm,0.8s
NOA NORSAR Array B138.95 356 PKhKP 18 31 52.2
comp=Z,1.3nm,0.6s,baz=16,slow=4.4,SNR=7.7
NOA PKP PKPdf 18 32 01.1 -0.3
comp=Z,7.5nm,0.9s,baz=14,slow=4.0,SNR=10.0
NOA pPKP pPKPdf 18 32 16.1 -1.1
comp=Z,11nm,0.8s,baz=13,slow=4.0,SNR=9.2
TSUM Tsumeb 139.13 198 PKPpre 18 31 57.2
TSUM LR LR
comp=Z,511nm,19.0s,MS5.3
NAO01 NORSAR Array S 139.16 356 *e*PKPpre 18 31 53.7
VRSR Storozhevoye 139.27 328 *e*PKIKP PKPdf 18 32 01.6 -0.7
VRSR pmax pmax
comp=Z,6.0nm,1.2s
VRSR pmax pmax
comp=N,2.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,0.8s
LRW Lerwick 139.78 5 *e*P PKPdf 18 32 01.5 -1.5
BER Bergen 139.81 0 *e*PP PP 18 34 51.0 -7.8
BER AMS AMS 19 30 22.0
comp=Z,192nm,21.6s,MS4.8
KONO Kongsberg 140.43 357 *e*PKPdf PKPdf 18 32 00.5 -3.7
KONO AMS AMS 19 31 27.1
comp=Z,179nm,24.8s,MS4.7
KONO Kongsberg 140.43 357 *e*PKPpre 18 32 00.5
KONO ⇑*e*PKP PKPdf 18 32 04.2 0.0
KONO LR LR
comp=Z,311nm,22.0s,MS5.0
UMR Umm Al-Rimmam140.72 292 *e*P PKPdf 18 32 00.1 -5.5
UMR AMb AMB 18 32 24.9
comp=Z,174nm,1.0s
RDF Al-Radifah 140.90 291 *e*P PKPdf 18 31 59.8 -6.2
RDF AMb AMB 18 32 24.7
comp=Z,147nm,1.1s
KIV Kislovodsk 141.01 316 *e*PKIKP PKPdf 18 32 02.3 -3.4
KIV *e* 18 35 03.5
KIV *e*SS SS 18 53 29.3 -1.6
KIV pmax pmax
comp=Z,10.0nm,0.9s
KIV Kislovodsk 141.01 316 PKPdf PKPdf 18 32 01.8 -3.9
KIV ⇑*e*PKP PKPdf 18 32 05.4 -0.3
KIV LR LR
comp=Z,296nm,20.0s,MS5.0
GNI Garni 141.03 310 *e*PKIKP PKPdf 18 32 06.1 +0.2
GNI MLR MLR
comp=Z,254nm,21.0s
MIB Mutribah 141.03 293 *e*P PKPdf 18 31 59.6 -6.6
MIB AMb AMB 18 32 22.6
comp=Z,110nm,0.8s
NAY Al-Naaiem 141.15 292 *e*P PKPdf 18 31 59.9 -6.6
NAY AMb AMB 18 32 25.5
comp=Z,64nm,1.1s
RST Umm Al-Ruwaisa 141.35 292 *e*P PKPdf 18 32 01.3 -5.5
RST AMb AMB 18 32 25.7
comp=Z,5.5nm,0.9s
CLDR Caldiran 141.95 308 *e*P PKPdf 18 32 00.1 -7.4
KMBO Kilima Mbogo 142.36 240 *e*PKIKP PKPdf 18 32 09.4 +0.3
KMBO MLR MLR
comp=Z,372nm,20.0s
KMBO Kilima Mbogo 142.36 240 PKhKP 18 32 06.6
comp=Z,14nm,0.9s,baz=134,slow=1.0,SNR=12
AGRB Hanur-Agry 142.49 309 *e*P PKPdf 18 32 04.8 -3.7
CUKT Cukurca 142.76 305 *e*P PKPdf 18 32 05.5 -3.6
BHD Baghdad 143.08 299 *ex* x 18 32 12.0
SOC Sochi 143.09 317 *i*PKIKP PKPdf 18 32 11.4 +1.9
SOC *e* 18 35 14.9
SOC *e*PPP 18 38 25.9
SOC *e*SSS 18 59 20.8
SOC pmax pmax
comp=Z,15nm,0.7s
SOC MLR MLR
comp=Z,335nm,20.0s,MS5.1
EAB Aberfoyle 143.27 9 *e*P PKPdf 18 32 05.9 -3.5
EBH Black Hill 143.34 8⇑ *e*P PKPdf 18 32 05.6 -3.9
MSL Mosul 143.42 304 *ex* x 18 32 08.0
EZM Erzurum 143.54 311 *e*P PKPdf 18 32 08.6 -1.8
SUW Suwalki 143.58 342 *e*PKP PKPdf 18 32 06.9 -3.1
SUW *e*PKiKP PKiKP 18 32 12.8 -0.6
SUW *e* 18 32 22.6
SUW Suwalki 143.58 342 *e*PKP PKPdf 18 32 06.9 -3.1
SUW *e*PKPdf PKPdf 18 32 12.8 +2.8
SUW *e* 18 32 22.6
MUD Monsted U'grnd 143.64 357 *i*PKIKP PKPdf 18 32 07.6 -2.4
MUD pmax pmax
comp=Z,37nm,1.1s
MUD Monsted U'grnd 143.64 357 *i*P PKPdf 18 32 07.5 -2.5
MUD Monsted U'grnd 143.64 357 *i*P PKPdf 18 32 07.6 -2.4
comp=Z,37nm,1.1s
MUD Monsted U'grnd 143.64 357 *i*P pPKPdf 18 32 22.3 -3.4
comp=Z,56nm,1.2s

EAU Auchinoon 143.73 8 *e*P PKPdf 18 32 07.3 -2.9
EBL Broad Law 143.86 8 *e*P PKPdf 18 32 07.5 -2.9
GMK Mull of Kintyr 143.88 11⇑ *e*P PKPdf 18 32 07.8 -2.6
ANN Anapa 143.90 320 *i*PKIKP PKPdf 18 32 08.2 -2.6
ANN *e* 18 32 21.5
ANN pmax pmax
comp=Z,78nm,1.2s
ANN MLR MLR
comp=Z,243nm,24.0s,MS4.9
GCL Cushendall 144.04 11⇑ *e*P PKPdf 18 32 08.1 -2.6
BTMT Batman 144.06 308 *e*P PKPdf 18 32 10.1 -1.2
COP Copenhagen 144.13 353 *e*PKIKP PKPdf 18 32 08.1 -2.8
COP pmax pmax
comp=Z,26nm,0.8s
COP Copenhagen 144.13 353 *i*P PKPdf 18 32 08.1 -2.8
comp=Z,26nm,0.8s
AKASG Malin Array Be 144.21 334 PKIKP PKPdf 18 32 08.4 -2.8
AKASG 18 32 22.0
AKASG pmax pmax
comp=Z,28nm,0.7s
AKASG pmax pmax
comp=Z,43nm,0.7s
AKASG Malin Array Be 144.21 334 PKP PKPdf 18 32 08.4 -2.8
comp=Z,28nm,0.7s,baz=38,slow=4.2,SNR=150
AKASG pPKP pPKPdf 18 32 21.9 -5.0
comp=Z,43nm,0.7s,baz=40,slow=4.2,SNR=20
KIEV Kiev 144.22 334 *e*PKIKP PKPdf 18 32 08.3 -2.9
KIEV *e* 18 32 23.0
KIEV MLR MLR
comp=Z,434nm,20.0s,MS5.2
XSO Sourhope Farm 144.24 8 *e*P PKPdf 18 32 08.2 -2.9
ESK Eskdalemuir 144.28 8 *e*P PKPdf 18 32 08.1 -3.1
ESK Eskdalemuir 144.28 8 PFAKE 18 32 20.0 +8.8
ESK LR LR
comp=Z,467nm,19.0s,MS5.3
BSD Bornholm Skovb 144.37 351⇑ *i*PKIKP PKPdf 18 32 08.8 -2.5
BSD pmax pmax
comp=Z,35nm,0.9s
BSD Bornholm Skovb 144.37 351⇑ *i*P PKPdf 18 32 08.8 -2.5
comp=Z,35nm,0.9s
BSD Bornholm Skovb 144.37 351 *i*P pPKPdf 18 32 23.8 -3.3
comp=Z,32nm,0.8s
ECK Cauldkaine Hill 144.43 8 *e*P PKPdf 18 32 08.6 -2.8
GAL1 Galloway 144.49 10⇑ *e*P PKPdf 18 32 09.1 -2.4
BINT Bingol 144.55 309 *e*P PKPdf 18 32 12.2 +0.1
GCD Castle Douglas 144.61 9⇑ *e*P PKPdf 18 32 09.7 -2.1
GUMT Gumushane 144.65 312 *e*P PKPdf 18 32 11.1 -1.1
EZC Erzincan 144.70 311 *e*P PKPdf 18 32 13.4 +1.0
XAL Allendale 144.86 8⇑ *e*P PKPdf 18 32 10.4 -1.8
GMM Mts of Mourne 144.87 12⇑ *e*P PKPdf 18 32 10.7 -1.6
DMUB Kingscourt 145.00 13⇑ *i*P PKPdf 18 32 11.6 -0.8
DIY Diyarbakir 145.10 308 *e*P PKPbc 18 32 13.8 +1.1
CALA Caldeira 145.28 51 *e*PKP PKPdf 18 32 14.0 +0.6
PTK Pertek 145.34 310 *e*P PKPbc 18 32 13.8 +0.4
HOR Horta 145.35 51 *e*PKP PKPdf 18 32 13.7 +0.1
PICO Pico 145.51 51 *e*PKP PKPdf 18 32 13.7 -0.1
ROSA Rosais 145.56 50 *e*PKP PKPdf 18 32 14.1 +0.2
SVRC Sivrice-ELAZID 145.60 309 *e*P PKPdf 18 32 16.0 +2.0
DLF Lyons Farm 145.64 13⇑ *i*P PKPdf 18 32 13.9 +0.3
GKP Gorka Klasztor 145.72 347 *e*PKP PKPdf 18 32 13.9 +0.2
GKP *e*PKiKP PKiKP 18 32 16.6 -1.2
GKP *e* 18 32 28.1
GKP Gorka Klasztor 145.72 347 *e*PKP PKPdf 18 32 13.9 +0.2
GKP *e*PKPdf PKPdf 18 32 16.6 +2.9
GKP *e* 18 32 28.0
DSB Dublin 145.72 13 *e*PKP PKPdf 18 32 13.8 +0.1
WAR Warsaw 145.75 343 *e*PKP PKPdf 18 32 13.4 -0.4
WAR *e*PKiKP PKiKP 18 32 15.2 -2.7
WAR *e* 18 32 29.4
WAR Warsaw 145.75 343 *i*PKP2 PKPab 18 32 15.2 +0.5
WAR Warsaw 145.75 343 *e*PKP PKPdf 18 32 13.4 -0.4
WAR *e*PKPdf PKPdf 18 32 15.2 +1.4
WAR *e* 18 32 29.4
SIM Simferopol' 145.75 323*c* *i*PKP2 PKPab 18 32 15.0 +0.1
SIM pmax pmax
comp=Z,129nm,0.8s
SIM MLR MLR
comp=Z,300nm,18.4s,MS5.1
HPK Haverah Park 145.81 7⇑ *e*P PKPdf 18 32 14.3 +0.5
ASCN Ascension 145.95 143 *e*PKPdf PKPdf 18 32 15.0 -0.3
DESE Dese 145.96 260 *e*P PKPbc 18 32 17.6 +1.5
FURI Furi 146.03 256 *e*P PKPdf 18 32 13.6 -1.9
BSEG Bad Segeberg 146.07 355 *e*PKPbc PKPbc 18 32 15.5 +0.3
LHO Holmfirth 146.19 8⇑ *i*P PKPdf 18 32 15.3 +0.8
MALT Malatya 146.26 310 *e*P PKPbc 18 32 17.9 +1.6
MALT Malatya 146.26 310 *e*PKPdf PKPdf 18 32 15.7 +0.6
MALT *e* 18 32 30.6
MALT Malatya 146.26 310⇑ *i*P PKPbc 18 32 17.5 +1.2
URFA Urfa 146.30 308 *e*P PKPdf 18 32 16.0 +0.8
KBI1 Birley Grange 146.52 8⇑ *e*P PKPdf 18 32 15.8 +0.7
SVSK Karacayir 146.59 313 *e*P PKPdf 18 32 16.7 +1.1
SBD1 Bryn Du 146.61 10⇑ *i*P PKPdf 18 32 16.6 +1.4
KVT Kavak 146.69 316 *e*P PKPdf 18 32 17.1 +1.3
KWE Weaver Farm 146.71 8⇑ *e*P PKPdf 18 32 16.9 +1.5
DIKM Dikmen 146.91 317 *e*P PKPdf 18 32 16.6 +0.5
LVV L'vov 146.91 338⇑ *i*PKP2 PKPab 18 32 17.1 -2.1
LVV MLR MLR
comp=N,300nm,24.0s,MS5.2
LVV MLR MLR
comp=Z,400nm,24.0s,MS5.1
LVV MLR MLR
comp=E,300nm,23.0s,MS5.2
CWF Charnwood Fore 147.05 8⇑ *e*P PKPdf 18 32 17.3 +1.4
RUE Ruedersdorf 147.09 351 *e*PKPdf PKPdf 18 32 16.9 +0.9
KIS Kishinev 147.15 330 *e*PKHKP 18 32 14.0
KIS MLR MLR
comp=Z,400nm,22.0s,MS5.2
KIS MLR MLR
comp=Z,400nm,22.0s
BYBT Boyabat 147.32 317 *e*P PKPbc 18 32 20.2 +0.9
HTR Trewern Hill 147.41 10⇑ *e*P PKPdf 18 32 18.1 +1.5
AEU East Anglia Un 147.43 5 *e*P PKPdf 18 32 18.1 +1.5
NRDL Niedersach Rie 147.52 355 *e*PKPbc PKPbc 18 32 19.5 +0.1
KWP Kalwaria 147.53 339 *e*PKP PKPbc 18 32 19.6 0.0
KWP *e*PKiKP PKiKP 18 32 22.3 +0.7
KWP *e* 18 32 33.1
KWP Kalwaria 147.53 339 *e*PKP PKPbc 18 32 19.5 0.0
KWP *e*PKPdf PKiKP 18 32 22.3 +0.7
KWP *e* 18 32 33.1
MCH1 Michaelchurch 147.53 10⇑ *i*P PKPdf 18 32 18.6 +1.8
BZK Bozkurt 147.54 318 *e*P PKPbc 18 32 20.6 +0.8
KMRS Kahramanmaras 147.69 309 *e*P PKPdf 18 32 17.2 -0.3
SSW Stow on the Wo 147.73 8⇑ *e*P PKPdf 18 32 19.8 +2.7
IBBN Ibbenburen 147.86 357 *e*PKPdf PKPdf 18 32 17.6 +0.3
IBBN *e*PKPbc PKPbc 18 32 20.6 +0.3
IBBN *e*pPKPbc pPKPbc 18 32 35.6 -0.3
YOZ Yozgat 147.87 314 *e*P PKPbc 18 32 21.5 +0.8
BNN Bunyan 147.87 312 *e*P PKPbc 18 32 21.4 +0.6
CMLA Cha da Macela 147.90 50 PFAKE 18 32 30.0 +12
CMLA LR LR
comp=Z,854nm,20.0s,MS5.5
OJC Ojcow 147.91 343 *e*PKIKP PKPdf 18 32 17.5 0.0
OJC *e*PKP PKPbc 18 32 20.6 +0.1
OJC *e* 18 32 35.1
OJC Ojcow 147.91 343 *i*PKIKP PKPdf 18 32 17.5 0.0
OJC Ojcow 147.91 343 *e*PKPdf PKPdf 18 32 17.5 0.0
OJC *e*PKP PKPbc 18 32 20.6 +0.1
OJC *i* 18 32 35.1
HGH Gray Hill 147.91 10⇑ *e*P PKPbc 18 32 20.0 -0.5
TOS Tosya 148.02 317 *e*P PKPbc 18 32 21.8 +0.7
CORM Corum 148.07 315 *e*P PKPdf 18 32 17.9 -0.2
SKP1 Kophill 148.11 7⇑ *e*P PKPdf 18 32 20.0 +2.3
CLZ Clausthal 148.14 354 *e*PKPdf PKPdf 18 32 18.1 +0.3
CLZ *e*pPKPbc pPKPbc 18 32 36.8 +0.1
STHS Stebnicka Huta 148.19 340 *e*PKP PKPbc 18 32 22.0 +0.7
KSP Ksiaz 148.20 347 *e*PKP PKPdf 18 32 18.5 +0.6
KSP *e*PKiKP PKiKP 18 32 21.9 -1.0
KSP *e* 18 32 36.5
KSP Ksiaz 148.20 347 *e*PKP PKPdf 18 32 18.4 +0.5
KSP *i*PKPdf PKPbc 18 32 21.8 +0.5
KSP *e*pPKP pPKPdf 18 32 36.1 +2.4
KSP *e*SS SS 18 54 58.0 +6.5
WTSB Winterswijk 148.23 358⇑ *e*PKP PKPbc 18 32 21.2 -0.1
comp=Z,207nm,0.8s
WTSB Winterswijk 148.23 358 *ex* x 18 32 36.1
comp=Z,192nm,1.0s
HTL Hartland 148.23 12 *e*P PKPbc 18 32 20.9 -0.5
BURAR Bucovina Array 148.26 334 PKP2 PKPbc 18 32 22.7 +1.2
BURAR Bucovina Array 148.26 334⇓ *i*P PKPbc 18 32 22.2 +0.7
KOLS Kolonicke sedl 148.27 339 *e*PKIKP PKPdf 18 32 18.3 +0.2
KOLS *e* 18 32 22.0
KOLS Kolonicke sedl 148.27 339 *e*PKP PKPdf 18 32 18.2 +0.1

KOLS e 18 32 22.0
HEX Exmoor 148.29 11⇑ eP PKPbc 18 32 21.2 -0.3
CLL Collm 148.35 351⇑ ePKIKP PKPdf 18 32 18.0 -0.2
CLL i 18 32 21.9
CLL pmax pmax
comp=Z,36nm,1.4s
CLL pmax pmax
comp=Z,194nm,1.1s
CLL Collm 148.35 351 ePKP PKPdf 18 32 18.0 -0.2
CLL ⇑iPKP PKPbc 18 32 21.9 +0.3
CLL iPKP pPKPdf 18 32 37.0 +3.1
CLL LR LR
comp=Z,300nm,21.7s,MS5.0
CLL Collm 148.35 351 ePKPdf PKPdf 18 32 18.0 -0.2
CLL iPKPbc PKPbc 18 32 21.9 +0.3
comp=Z,195nm,1.1s
CLL ePKPab PKPab 18 32 26.8 +2.0
CLL epPKPbc pPKPbc 18 32 37.0 -0.3
CLL ePP PP 18 35 47.9 -2.0
CLL ePSKS 18 46 00.8
CLL e(SS) 18 54 53.6
CLL e(SSSS) 19 04 27.8
CLL Collm 148.35 351 ePKPdf PKPdf 18 32 18.0 -0.2
comp=Z,36nm,1.4s
CLL ⇑iPKPbc PKPbc 18 32 21.9 +0.3
comp=Z,194nm,1.1s
CLL e(PKPab) PKPab 18 32 27.0 +2.2
comp=Z,44nm,0.8s
CLL ePP PP 18 35 49.0 -0.9
CLL ePSKS 18 46 00.0
CLL ePPS 18 48 41.0
CLL eSS SS 18 54 54.0 +0.9
CLL ex x 18 56 30.0
CLL eSSS 19 00 48.0
CLL eSSSS 19 04 29.0
CLL LmV 19 41 00.0
comp=Z,300nm,21.7s
CLL Collm 148.35 351⇑ i(PKP) pPKPbc 18 32 37.0 -0.3
comp=Z,204nm,1.0s
CLL ix x 18 32 38.6
comp=Z,178nm,0.9s
SWK Warminster 148.47 9⇑ eP PKPdf 18 32 21.2 +2.9
NIE Niedzica 148.48 341 ePKP PKPbc 18 32 22.7 +0.7
NIE e 18 32 36.5
NIE Niedzica 148.48 341 ePKP PKPbc 18 32 22.7 +0.7
NIE e 18 32 36.5
KOZT Kozan 148.48 310 eP PKPab 18 32 25.3 -0.6
CANT Cankiri 148.51 317 eP PKPbc 18 32 23.2 +0.8
UZH Uzhgorod 148.52 338 ePKP2 PKPbc 18 32 22.2 0.0
CRVS Cervenica-Dubn 148.57 340 ePKIKP PKPdf 18 32 18.7 +0.1
CRVS e 18 32 22.7
CRVS Cervenica-Dubn 148.57 340 ePKP PKPdf 18 32 18.7 +0.1
CRVS e 18 32 22.7
UPC Upice 148.58 347 ePKP PKPdf 18 32 18.9 +0.3
UPC epPKP PKPbc 18 32 22.8 +0.5
BRG Berggiesshubel 148.62 350 iPKIKP PKPdf 18 32 18.7 +0.1
BRG i 18 32 22.6
BRG pmax pmax
comp=Z,26nm,1.4s
BRG pmax pmax
comp=Z,72nm,1.1s
BRG pmax pmax
comp=Z,82nm,1.1s
BRG Berggiesshubel 148.62 350 ePKPdf PKPdf 18 32 18.8 +0.2
BRG ePKPbc PKPbc 18 32 22.7 +0.3
BRG Berggiesshubel 148.62 350 iPKP PKPdf 18 32 18.7 0.0
comp=Z,44nm,1.4s
BRG i 18 32 22.6
comp=Z,120nm,1.1s
BRG e 18 32 35.9
comp=Z,136nm,1.1s
BRG e 18 55 20.0
DPC Dobruska-Polom 148.66 347 ePKIKP PKPdf 18 32 18.7 0.0
DPC e 18 32 23.0
DPC MLR MLR
comp=Z,500nm,30.7s,MS5.1
DPC Dobruska-Polom 148.66 347 ePKP PKPdf 18 32 18.7 0.0
DPC epPKP PKPbc 18 32 23.0 +0.5
DPC ex x 18 32 38.0
DPC AMS AMS 19 31 20.0
comp=Z,500nm,30.7s
OKC Ostrava-Krasne 148.70 344 ePKIKP PKPdf 18 32 19.3 +0.5
OKC e 18 32 22.8
OKC MLR MLR
comp=Z,400nm,25.8s,MS5.1
OKC Ostrava-Krasne 148.70 344 ePKP PKPdf 18 32 19.3 +0.5
OKC e 18 32 22.8
OKC e 18 32 37.5
OKC Ostrava-Krasne 148.70 344 ePKP PKPdf 18 32 19.3 +0.5
OKC epPKP PKPbc 18 32 22.8 +0.2
OKC ex x 18 32 37.5
OKC AMS AMS 19 34 00.0
comp=Z,400nm,25.8s
CEYT Ceyhan 148.73 309 eP PKPbc 18 32 24.0 +0.9
BUG Bochum--Univer 148.74 358 ePKPdf PKPdf 18 32 19.0 +0.2
BUG ePKPbc PKPbc 18 32 22.6 0.0
BUG epPKPbc pPKPbc 18 32 37.6 -0.7
SAFT Safranbolu 148.76 318 eP PKPbc 18 32 23.1 0.0
CSA1 St Austell 148.76 13⇑ iP PKPbc 18 32 22.2 -0.5
PVCC Panska Ves 148.84 349 ePKIKP PKPdf 18 32 19.2 +0.2
PVCC e 18 32 23.9
PVCC MLR MLR
comp=Z,400nm,25.0s,MS5.1
PVCC Panska Ves 148.84 349 ePKP PKPdf 18 32 19.2 +0.2
PVCC epPKP PKPbc 18 32 23.9 +1.0
PVCC ex x 18 32 38.0
PVCC AMS AMS 19 34 20.0
comp=Z,400nm,25.0s
CCA1 Carnmenellis 148.85 13⇑ eP PKPbc 18 32 22.2 -0.7
VRI Vrincioaia 148.96 331 PKP2 PKPbc 18 32 23.7 +0.3
VRI Vrincioaia 148.96 331⇑ iP PKPbc 18 32 22.7 -0.7
PLOR Plostina 149.01 331 PKP2 PKPbc 18 32 23.8 +0.3
NIG Nigde 149.07 312 eP PKPbc 18 32 24.0 +0.1
KARA Karaisali 149.13 310 eP PKPbc 18 32 24.6 +0.5
TIRR Tirgusor 149.16 327 PKP2 PKPbc 18 32 24.0 +0.1
MOX Moxa 149.18 352 ePKP PKPdf 18 32 19.7 +0.2
MOX e 18 32 24.0
comp=Z,168nm,1.5s
MOX e 18 32 39.0
MOX
comp=Z,200nm,22.0s
MOX Moxa 149.18 352 ePKIKP PKPdf 18 32 19.7 +0.2
MOX e 18 32 24.0
MOX pmax pmax
comp=Z,168nm,1.5s
MOX MLR MLR
comp=Z,200nm,22.0s,MS4.9
MOX Moxa 149.18 352 ePKPdf PKPdf 18 32 19.6 +0.1
MOX ePKPbc PKPbc 18 32 24.0 +0.2
UBBA Unterbreizbach 149.19 354 ePKPdf PKPdf 18 32 19.3 -0.2
UBBA ePKPbc PKPbc 18 32 23.5 -0.3
UBBA epPKPbc pPKPbc 18 32 38.7 -0.7
HARR Harsova 149.24 328⇑ iP PKPbc 18 32 24.7 +0.6
KECS Kecovo 149.25 340 ePKIKP PKPdf 18 32 19.9 +0.2
KECS i 18 32 24.4
KECS e 18 32 29.0
KECS Kecovo 149.25 340 ePKP PKPdf 18 32 19.9 +0.2
KECS i 18 32 24.4
KECS e 18 32 29.0
KECS e 18 32 39.5
PRA Prague 149.31 349 PKP PKPbc 18 32 24.0 -0.1
PRA ex x 18 32 40.0
PRU Pruhonice 149.36 348 ePKIKP PKPdf 18 32 19.9 +0.1
PRU e 18 32 24.5
PRU MLR MLR
comp=Z,400nm,22.3s,MS5.2
PRU Pruhonice 149.36 348 ePKP PKPdf 18 32 19.9 +0.1
PRU epPKP PKPbc 18 32 24.5 +0.2
PRU ex x 18 32 39.2
PRU AMS AMS 19 38 40.0
comp=Z,400nm,22.3s
UCC Uccle 149.40 1 PKP PKPdf 18 32 19.2 -0.7
UCC PKPbc PKPbc 18 32 24.3 0.0
UCC E 18 32 39.5
BEBN Eben Emael 149.42 360 PKPbc PKPbc 18 32 24.3 -0.1
BEBN E 18 32 37.8
ANTO Ankara 149.44 316 ePKIKP PKPdf 18 32 19.6 -0.7
ANTO e 18 32 25.2
ANTO MLR MLR
comp=Z,237nm,21.0s,MS5.0
ANTO Ankara 149.44 316 P PKPdf 18 32 20.5 +0.2
SNR=44
ANTO Ankara 149.44 316 PKPdf PKPdf 18 32 20.3 0.0
ANTO PKPdf PKPbc 18 32 25.4 +0.6
ANTO epPKPbc pPKPbc 18 32 40.0 -0.4
ANTO Ankara 149.44 316⇑ iP PKPbc 18 32 25.3 +0.5
LOD Lodumlu 149.44 316 eP PKPbc 18 32 24.0 -0.8
HGN Heimansgroeve 149.45 359⇑ ePKP PKPbc 18 32 24.4 0.0
comp=Z,132nm,2.3s
HGN Heimansgroeve 149.45 359 ex x 18 32 38.5
NKC Novy Kostel 149.47 351 ePKP PKPdf 18 32 20.4 +0.4
NKC e 18 32 24.8
NKC Novy Kostel 149.47 351 ePKP PKPdf 18 32 20.4 +0.4
NKC epPKP PKPbc 18 32 24.8 +0.3
NKC AMS AMS 19 38 00.0
comp=Z,400nm,15.3s
KDZE Karadeniz Ereo 149.49 319 eP PKPdf 18 32 23.0 +2.6
MENF Mencas 149.54 4 PKP PKPbc 18 32 24.4 -0.3
MEM Membach 149.60 359 PKP PKPdf 18 32 19.5 -0.7
MEM PKPbc PKPbc 18 32 24.5 -0.3
MEM E 18 32 36.8
MEM E 18 32 40.1
MEM E 18 32 58.7
MLR Muntele Rosu 149.60 331 PKHKP PKPdf 18 32 20.3 -0.1
MLR Muntele Rosu 149.60 331⇑ iP PKPdf 18 32 19.5 -0.9
MERS Mersin 149.68 310 eP PKPbc 18 32 25.7 +0.2
VYHS Vyhne 149.74 342 ePKP PKPdf 18 32 20.4 -0.1
VYHS i 18 32 25.9
VYHS e 18 32 40.9
MANZ Manzenberg 149.76 351 ePKPdf PKPdf 18 32 20.6 +0.1
MANZ ePKPbc PKPbc 18 32 25.7 +0.5
MANZ epPKPbc pPKPbc 18 32 40.9 0.0
KOLL Kolacno 149.78 343 ePKP PKPdf 18 32 21.4 +0.8
KOLL e 18 32 26.1
KOLL e 18 32 40.9
BCLA Clavier 149.79 0 PKPbc PKPbc 18 32 25.1 -0.2
BCLA PKPab PKPab 18 32 30.4 -0.4
BCLA E 18 32 40.3
PSN Preselentsi 149.82 326 P PKPbc 18 32 26.0 +0.4
TREC Trest 149.84 347 ePKP PKPdf 18 32 20.7 +0.1
TREC epPKP PKPbc 18 32 25.5 +0.1
TREC AMS AMS 19 40 10.0
comp=Z,400nm,16.4s
DRGR 149.92 336 ⇑PKIKP PKPdf 18 32 20.5 -0.3
DRGR 18 32 26.0
DRGR 149.92 336⇑ iP PKPdf 18 32 20.5 -0.3
PSZ Piszkesteto 149.94 340 PKPdf PKPdf 18 32 20.1 -0.8
PSZ P 18 32 25.7
PSZ ePKPbc PKPbc 18 32 25.8 +0.1
PSZ ⇑eP 18 32 26.1
PSZ Piszkesteto 149.94 340⇑ epPKP PKPbc 18 32 26.1 +0.4
PSZ Piszkesteto 149.94 340⇑ iP PKPdf 18 32 20.4 -0.4
BHL Bhannes 149.95 303 eP PKPbc 18 32 26.9 +0.6
RCY Rachaya 149.96 302 eP PKPbc 18 32 27.2 +0.9
ROTZ Rotzenmuhle 149.96 351 ePKPdf PKPdf 18 32 20.9 +0.1
ROTZ ePKPbc PKPbc 18 32 26.0 +0.3
VOIR 150.05 332 ⇓P PKPdf 18 32 21.4 +0.4
VOIR P 18 32 26.7
VOIR 150.05 332⇓ iP PKPdf 18 32 21.5 +0.4
GIVF Givet 150.11 1 ePKIKP PKPdf 18 32 21.0 0.0
DOU Dourbes 150.11 1 PKPbc PKPbc 18 32 26.3 +0.2
BAIF Baives 150.14 2 ePKIKP PKPdf 18 32 21.1 0.0
GRA1 Grafenberg Arr 150.17 352 ePKPdf PKPdf 18 32 21.3 +0.2
GRA1 ePKPbc PKPbc 18 32 26.6 +0.4
GRA1 epPKPbc pPKPbc 18 32 42.0 +0.1
GRA1 LR LR
comp=Z,300nm,21.9s,MS5.0
GRF Grafenberg Arr 150.17 352 ePKPdf PKPdf 18 32 21.3 +0.2
GRF ePKPbc PKPbc 18 32 26.6 +0.4
GRF epPKPbc pPKPbc 18 32 42.0 +0.1
GRF eL 19 42 49.1
comp=Z,334nm,21.9s
GRFO Grafenberg 150.17 352 ePKIKP PKPdf 18 32 20.3 -0.8
GRFO e 18 32 26.3
GRFO e 18 32 32.3
GRFO MLR MLR
comp=Z,408nm,21.0s,MS5.2
MODS Modra-Piesok 150.27 344 ePKIKP PKPdf 18 32 22.1 +0.8
MODS e 18 32 27.5
MODS Modra-Piesok 150.27 344 ePKP PKPdf 18 32 22.1 +0.8
MODS e 18 32 27.5
MODS e 18 32 42.2
MODS Modra-Piesok 150.27 344 ePKP PKPdf 18 32 22.0 +0.7
MODS e 18 32 27.5
MODS e 18 32 42.2
ABH Alteburg 150.29 357 PKP PKPbc 18 32 26.7 +0.2
KHC Kasperske Hory 150.36 349 ePKIKP PKPdf 18 32 21.8 +0.3
KHC e 18 32 27.3
KHC MLR MLR
comp=Z,500nm,16.3s,MS5.4
KHC Kasperske Hory 150.36 349 ePKP PKPdf 18 32 21.8 +0.3
KHC epPKP PKPbc 18 32 27.3 +0.6
KHC ex x 18 32 42.2
KHC AMS AMS 19 39 50.0
comp=Z,500nm,16.3s
BUC1 Bucharest 150.42 329 PKIKP PKPbc 18 32 26.9 -0.1
WET Wettzell 150.47 350 ePKPdf PKPdf 18 32 21.6 0.0
WET ePKPbc PKPbc 18 32 27.1 +0.1
WET epPKPbc pPKPbc 18 32 42.4 -0.2
ZST Bratislava 150.48 344 ePKP PKPbc 18 32 27.9 +0.9
ZST e 18 32 42.7
ZST LR LR
comp=Z,100nm,20.2s,MS4.6
ZST Bratislava 150.48 344 ePKP PKPbc 18 32 27.9 +0.9
ZST e 18 32 42.7
RUP Ruppelstein 150.49 358 PKIKP PKPbc 18 32 27.5 +0.5
TOD Tromm 150.49 356 PKIKP PKPbc 18 32 27.1 +0.1
EREN Erenkoy 150.50 307 eP PKPbc 18 32 27.5 0.0
WLF Walferdange 150.55 359 ePKIKP PKPbc 18 32 27.4 +0.3
WLF Walferdange 150.55 359 PKP PKPdf 18 32 22.3 +0.6
WLF PKPbc PKPbc 18 32 27.9 +0.7
WLF E 18 32 43.2
WLF Walferdange 150.55 359 APKPab 18 32 36.4
WLF Walferdange 150.55 359 ePKPdf PKPdf 18 32 22.3 +0.6
WLF ePKPbc PKPbc 18 32 27.8 +0.7
KIZT Kizilcal 150.56 315 eP PKPbc 18 32 27.5 -0.1
PRD Provadia 150.56 326 P PKPbc 18 32 27.9 +0.5
BUD Budapest 150.59 341⇑ ePKIKP PKPbc 18 32 27.6 +0.3
BUD Budapest 150.59 341⇑ epPKP PKPbc 18 32 27.6 +0.3
GEC2 GERESS Array S 150.62 349 ePKPdf PKPdf 18 32 21.8 -0.1
GEC2 ePKPbc PKPbc 18 32 27.6 +0.3
GERES GERESS Array B 150.62 349 PKIKP PKPdf 18 32 21.8 -0.1
GERES 18 32 27.4
GERES pmax pmax
comp=Z,4.0nm,0.9s
GERES pmax pmax
comp=Z,60nm,1.0s
GERES pmax pmax
comp=Z,55nm,0.9s
GERES GERESS Array B 150.62 349 PKP PKPdf 18 32 21.8 -0.1
comp=Z,4.3nm,0.9s,baz=66,slow=1.6,SNR=26
GERES PKPbc PKPbc 18 32 27.4 +0.1
comp=Z,60nm,0.9s,baz=45,slow=2.1,SNR=161
GERES pPKPbc pPKPbc 18 32 40.7 -2.3
comp=Z,55nm,0.9s,baz=18,slow=1.5,SNR=14
KONT Konya--Tatoy 150.71 313 eP PKPbc 18 32 27.5 -0.5
PHNC Paralimni 150.81 306 P PKPbc 18 32 28.3 +0.1
comp=Z,5.1nm,0.9s
KTD Kalmit 150.82 356 PKIKP PKPbc 18 32 28.0 +0.2
HRT Hereke 150.85 320 eP PKPbc 18 32 28.1 -0.1
PKSG 150.86 342⇑ eP PKPbc 18 32 28.0 0.0
ESKT Eskisehir 150.88 317 eP PKPbc 18 32 28.1 -0.1
KLYT Kilyos 150.96 322 eP PKPdf 18 32 21.9 -0.7
ROSF Rostrenen 151.01 12 ePKIKP PKPdf 18 32 21.8 -0.7
ADVT Abdulvahap 151.05 320 eP PKPbc 18 32 28.3 -0.3
GZR Gura Zlata 151.05 334 PKIKP PKPbc 18 32 28.5 0.0
FLN La Foliniere 151.06 8 ePKIKP PKPdf 18 32 22.3 -0.2
comp=Z,140nm,1.2s
FLN eMLR MLR
comp=Z,556nm,22.0s,MS5.0
FLN La Foliniere 151.06 8 ePKPdf PKPdf 18 32 22.3 -0.2
FLN LR LR
comp=Z,560nm,22.0s,MS5.3
ISK Istanbul-Kandi 151.06 321 eP PKPdf 18 32 22.4 -0.4
LFK Lefkose 151.07 307 eP PKPbc 18 32 29.1 +0.2
HDMB Hadim 151.10 311 eP PKPbc 18 32 28.4 -0.5
SOP Sopron 151.10 344⇑ ePKIKP PKPbc 18 32 29.0 +0.5
SOP Sopron 151.10 344⇑ epPKP PKPbc 18 32 29.0 +0.5
LANF Langenberg 151.18 357 PKP PKPbc 18 32 28.9 +0.3
YLV Yalova 151.19 320 eP PKPdf 18 32 22.3 -0.7
SGMF Saint Gilles 151.22 11 ePKIKP PKPdf 18 32 22.3 -0.5
ZIMR 151.26 329 PKIKP PKPbc 18 32 29.4 +0.4
IZI Iznik 151.27 320 eP PKPbc 18 32 28.9 -0.3
SZH Strazhica 151.27 328 P PKPbc 18 32 28.9 -0.1
LDF La Druitiere 151.27 8 ePKIKP PKPdf 18 32 22.7 -0.2
comp=Z,65nm,1.1s
STU Stuttgart 151.29 355 ePKPdf PKPdf 18 32 23.2 +0.3
STU ePKPbc PKPbc 18 32 28.7 -0.2
STU epPKPbc pPKPbc 18 32 44.4 -0.2
BZS Buzias 151.32 336 ⇑PKIKP PKPdf 18 32 22.5 -0.6
BZS 18 32 29.1
BZS Buzias 151.32 336⇑ iP PKPdf 18 32 22.5 -0.6
CSS Prodhromos 151.35 307 P PKPbc 18 32 29.5 0.0
comp=Z,2.7nm,0.9s
CSS Prodhromos 151.35 307 ePKPbc PKPbc 18 32 29.2 -0.3
CSS e 18 32 44.3
MAMC Mammari 151.35 307 P PKPbc 18 32 29.7 +0.2
GRR Gorron 151.37 9 ePKIKP PKPdf 18 32 22.8 -0.2
comp=Z,128nm,1.4s
GEMT Gemlik 151.38 320 eP PKPdf 18 32 22.9 -0.4
CTT Catalca 151.38 322 eP PKPbc 18 32 29.2 -0.2
MOA Molln 151.46 348⇑ iP PKPdf 18 32 22.2 -1.0
comp=Z,9.5nm,1.5s,SNR=17
CRAR CRAIOVA 151.47 332 PKIKP PKPbc 18 32 30.7 +1.2
JMB Yambol 151.51 326 P PKPbc 18 32 29.9 +0.3
STR Strasbourg 151.57 357 PKP PKPbc 18 32 30.1 +0.5
PVL Pavlikeni 151.60 329 P PKPbc 18 32 30.4 +0.6
SHUT Suhut-Afyon 151.61 316 eP PKPdf 18 32 24.0 +0.3
LEF Lefka 151.62 307 eP PKPdf 18 32 25.0 +1.1
ALT Altintas 151.62 317 eP PKPbc 18 32 30.2 +0.2
FUR Furstenfeldbru 151.66 352 ePKPdf PKPdf 18 32 23.9 +0.4
FUR ePKPbc PKPbc 18 32 30.1 +0.3
MEZF Maizieres J'vi 151.71 1 ePKIKP PKPdf 18 32 23.9 +0.3
comp=Z,98nm,1.3s
ARSA Arzberg 151.75 345⇑ iP PKPdf 18 32 20.4 -3.2
comp=Z,5.8nm,1.0s,SNR=9.0
CDF Champ du Feu 151.77 357 ePKIKP PKPdf 18 32 23.3 -0.3
SZAC Souni-Zanaja 151.77 307 P PKPbc 18 32 30.6 +0.1
BFO Black Forest 151.79 356 ePKPbc PKPbc 18 32 30.2 +0.1
BFO epPKPbc pPKPbc 18 32 45.2 -0.6
ALFC Alevga 151.82 308 P PKPbc 18 32 30.1 -0.5
comp=Z,2.8nm,0.6s
PKSM Moragy 151.85 340 PKIKP PKPdf 18 32 23.9 +0.1
PKSM e 18 32 30.1
PKSM Moragy 151.85 340⇓ iP PKPdf 18 32 23.0 -0.8
EDRB Edirne 151.85 325 eP PKPbc 18 32 30.2 -0.2
ECH Echery 151.97 358 PKP PKPbc 18 32 30.4 -0.1
SPAK Spaichingen-Ko 151.99 355 PKP PKPbc 18 32 30.4 -0.1
THEF They Montfort 151.99 359 PKP PKPbc 18 32 30.8 +0.3
ISP Isparta 152.02 314 eP PKPbc 18 32 30.7 -0.3
ISP Isparta 152.02 314 ePKIKP PKPbc 18 32 30.2 -0.8
PPCY Paphos 152.12 307 P PKPbc 18 32 30.5 -0.8
BCK Bucak 152.17 314 eP PKPbc 18 32 30.8 -0.6
BNT Bandirma 152.18 321 eP PKPbc 18 32 30.8 -0.4
HAU Haudompre 152.20 359 ePKIKP PKPdf 18 32 24.2 -0.1
HAU eMLR MLR
comp=Z,420nm,23.0s,MS4.9
HAU Haudompre 152.20 359 ePKPdf PKPdf 18 32 24.2 -0.1
HAU LR LR
comp=Z,420nm,23.0s,MS5.2
MRMT Marmara Adasi 152.21 322 eP PKPbc 18 32 31.0 -0.3
RHK3 Tenkes 152.26 341⇑ eP PKPbc 18 32 31.1 -0.1
FELD Feldberg im Sc 152.26 356 PKP PKPbc 18 32 31.0 -0.2
MFT Murefte 152.27 323 eP PKPbc 18 32 31.3 -0.1
MOF Molkenrain 152.33 358 PKP PKPbc 18 32 31.2 -0.1
DIM Dimitrovgrad 152.35 327 P PKPbc 18 32 31.7 +0.1
HINF Hinteralfeld 152.38 358 ePKIKP PKPdf 18 32 23.9 -0.7
KBA Koelnbreinsper 152.38 348⇑ iP PKPdf 18 32 23.6 -1.0
comp=Z,25nm,1.4s,SNR=6.2
RETA Reutte 152.39 352⇑ iP PKPdf 18 32 25.9 +1.3
comp=Z,10.0nm,1.1s,SNR=10
RETA Reutte 152.39 352⇑ iPKPdf PKPdf 18 32 25.9 +1.3
comp=Z,10.0nm,1.1s,SNR=10
RKY Sarkoy-Tekirda 152.40 323 eP PKPbc 18 32 30.8 -0.9
PERS Pernice 152.43 346 iPKPbc PKPbc 18 32 31.0 -0.6
WATA Walderalm 152.43 351⇓ iP PKPdf 18 32 24.6 -0.1
comp=Z,16nm,1.3s,SNR=15
MOTA Moosalm 152.49 352⇑ iP PKPdf 18 32 24.2 -0.6
comp=Z,21nm,1.3s,SNR=18
WTTA Wattenberg 152.49 351⇑ iP PKPdf 18 32 24.5 -0.2
comp=Z,19nm,1.3s,SNR=27
SQTA Sankt Quirin 152.59 351⇓ iP PKPdf 18 32 25.1 +0.2
comp=Z,28nm,1.5s,SNR=13
BALB Balikesir 152.66 320 eP PKPbc 18 32 32.3 0.0
OBKA Obir 152.68 346⇑ iP PKPdf 18 32 25.4 +0.4
comp=Z,25nm,1.6s,SNR=5.1
OBKA Obir 152.68 346⇑ iPKPdf PKPdf 18 32 25.4 +0.4
comp=Z,25nm,1.6s,SNR=5.1
DAVA Damuels 152.69 353⇑ iP PKPdf 18 32 26.5 +1.4
comp=Z,9.4nm,1.2s,SNR=21
DAVA Damuels 152.69 353⇑ iPKPdf PKPdf 18 32 26.5 +1.4
comp=Z,9.4nm,1.2s,SNR=21
BBS Basel-Blauen 152.70 357 PKIKP PKPbc 18 32 32.1 -0.1
LPK Lapseki 152.84 323 eP PKPbc 18 32 32.1 -0.6
LOMF Lomont 152.84 358 PKP PKPbc 18 32 32.7 +0.2
ABTA Abfaltersbach 152.85 349⇓ iP PKPdf 18 32 24.4 -0.9
comp=Z,29nm,1.2s,SNR=9.2
FETA Feichten 152.85 352⇑ iP PKPdf 18 32 25.2 -0.1
comp=Z,15nm,1.2s,SNR=12
KULA Kula-Manisa 152.86 317 eP PKPbc 18 32 31.1 -1.7
SEST Monte Rota 152.90 350 PKP PKPbc 18 32 32.4 -0.2
LOR Lorms 152.92 2 ePKIKP PKPdf 18 32 25.4 0.0
comp=Z,56nm,1.1s
LOR eMLR MLR
comp=Z,722nm,21.8s,MS5.2
LOR Lormes 152.92 2 ePKPdf PKPdf 18 32 25.4 0.0
LOR LR LR
comp=Z,720nm,21.8s,MS5.5
FVI Forni Avoltri 152.95 349 PKIKP PKPbc 18 32 31.8 -0.9
RDO Rodhopi 152.99 325 eP PKPdf 18 32 25.0 -0.7
PTCC Patocco-Chiusa 153.03 348 PKP PKPdf 18 32 23.5 -2.1
DENT Denizli 153.05 316 eP PKPab 18 32 46.3 +1.5
VTS Vitosha 153.09 330 PKIKP PKPbc 18 32 32.7 -0.5
VTS Vitosha 153.09 330⇓ iP PKPbc 18 32 33.1 -0.1
VTS Vitosha 153.09 330 eP PKPbc 18 32 32.1 -1.1
SSF Saint Saulge 153.11 3 ePKIKP PKPdf 18 32 25.7 0.0
comp=Z,67nm,1.3s
LJU Ljubljana 153.12 346 ePKIKP PKPdf 18 32 25.3 -0.4
LJU e 18 32 33.0
LJU Ljubljana 153.12 346 ePKPdf PKPdf 18 32 25.3 -0.5
LJU ePKPbc PKPbc 18 32 33.0 -0.1
LJU i 18 32 47.8
GMNA Gemona 153.17 348 PKP PKPbc 18 32 32.7 -0.5
MFF Saint Martin d 153.22 9 ePKIKP PKPdf 18 32 25.7 -0.1
VOY Vojsko 153.27 347 ePKPdf PKPdf 18 32 25.2 -0.7
VOY ePKPbc PKPbc 18 32 32.8 -0.7
VOY e 18 32 42.7
VOY e 18 33 06.8
AVF Avril sur Loir 153.37 3 ePKIKP PKPdf 18 32 25.5 -0.6
comp=Z,73nm,1.4s
CEY Cerknica 153.43 346 iPKPbc PKPbc 18 32 33.6 -0.2
CEY i 18 32 40.8
CEY e 18 32 45.4
CEY i 18 32 48.5
CEY e 18 33 00.1
BOJS Bojanci 153.46 344 ePKPdf PKPdf 18 32 26.4 +0.2
BOJS ePKPbc PKPbc 18 32 34.1 +0.2
BOJS i 18 32 41.2
BOJS i 18 32 49.1
EZN Ezine 153.46 322 eP PKPbc 18 32 32.3 -1.8
SMF Signal de Mont 153.54 3 ePKIKP PKPdf 18 32 26.0 -0.3
comp=Z,54nm,1.2s
TUE Stuetta 153.55 354 PKP PKPbc 18 32 34.5 +0.4
BGF Bois d'Agland 153.57 4 ePKIKP PKPdf 18 32 26.2 -0.2
CABF La Chapelle 153.60 359 ePKIKP PKPdf 18 32 26.9 +0.5
comp=Z,92nm,1.2s
MMB Musomiste 153.60 328 P PKPbc 18 32 34.0 -0.3
FETY Fethiye 153.63 314 eP PKPbc 18 32 32.0 -2.5
CTI Castel Tesino 153.68 350 PKIKP PKPbc 18 32 34.1 -0.2
KKB Krupnik 153.71 329 eP PKPbc 18 32 37.0 +2.4
TCF Toulx Ste Croi 153.79 5 ePKIKP PKPdf 18 32 26.5 -0.2
comp=Z,29nm,1.1s
DALT Dalyan (Mudla) 153.86 314 eP PKPab 18 32 48.4 +0.1
PRK Paraskevi 153.87 321 eP PKPab 18 32 47.0 -1.2
AGO Saint Agoulin 154.09 4 PKP PKPbc 18 32 35.2 0.0
MLSB Milas 154.13 316 eP PKPbc 18 32 34.4 -1.2
EMAZ Mazaricos 154.23 25 PKP PKPdf 18 32 29.2 +1.8
PYM Petit Puy Mans 154.39 4 PKP PKPbc 18 32 36.1 +0.2
STS Santiago 154.45 24 PKIKP PKPdf 18 32 27.9 +0.2
SMG Samos 154.49 318 eP PKPab 18 32 50.0 -0.9
ARG Arkhangelos 154.50 314 eP PKPab 18 32 51.0 0.0
BODT Bodrum 154.57 316 eP PKPdf 18 32 24.5 -3.6
EPON Pontenova 154.58 22 PKP PKPdf 18 32 29.1 +1.2
DAT Datca 154.59 315 eP PKPdf 18 32 31.0 +2.9
PLG Polygyros 154.65 327 eP PKPab 18 32 50.0 -1.5

LPL	La Plagne	154.68	358	ePKIKP	PKPdf	18 32 28.1	+0.2
LPG	La Plagne	154.70	358	ePKIKP	PKPdf	18 32 28.1	+0.1
	comp=Z,25nm,1.1s						
RJF	Les Rejaudoux	154.70	7	ePKIKP	PKPdf	18 32 27.8	-0.2
RJF				eMLR	MLR		
	comp=Z,680nm,23.0s,MS5.1						
RJF	Les Rejaudoux	154.70	7	ePKPdf	PKPdf	18 32 27.8	-0.2
RJF				LR	LR		
	comp=Z,680nm,23.0s,MS5.4						
LFF	La Frestale	154.97	8	ePKIKP	PKPdf	18 32 27.7	-0.7
CAF	Calviac	155.13	6	ePKIKP	PKPdf	18 32 27.5	-1.1
	comp=Z,43nm,1.4s						
BNI	Bardonecchia	155.15	358	ePKIKP	PKPdf	18 32 38.2	+10
EARI	Arriondas	155.24	19	PKP	PKPdf	18 32 30.3	+1.5
ORIF	Oris-en-Rattie	155.30	359	ePKIKP	PKPdf	18 32 28.8	0.0
ORIF				eMLR	MLR		
	comp=Z,414nm,23.0s,MS4.9						
ERUA	La Rua	155.40	23	PKIKP	PKPdf	18 32 30.3	+1.3
ELOB	Lobios	155.50	25	PKP	PKPdf	18 32 30.9	+1.8
SEI	Scarperia	155.66	350	PKP	PKPdf	18 32 29.1	-0.2
APE	Apeiranthos	155.71	318	eP	PKPab	18 32 53.0	-3.1
VMG	Vicchio	155.72	349	PKP	PKPdf	18 32 30.9	+1.5
ECAL	Calabor	155.94	23	PKP	PKPdf	18 32 30.2	+0.4
LASF	Ste Croix	156.10	3	ePKIKP	PKPdf	18 32 29.7	-0.2
SMRF	Simiane la Rot	156.24	360	ePKIKP	PKPdf	18 32 29.8	-0.3
FRF	La Foret Royal	156.64	358	ePKIKP	PKPdf	18 32 30.2	-0.4
NPS	Neapolis	156.73	314	eP	PKPab	18 33 00.5	-0.1
EPF	Esparros	156.78	10	ePKIKP	PKPdf	18 32 30.4	-0.4
	comp=Z,84nm,1.3s						
XRY	Khrisi	156.89	314	eP	PKPab	18 32 53.0	-8.3
MTE	Manteigas	156.95	26	ePKPdf	PKPdf	18 32 30.7	-0.4
EBIE	Bielsa	157.09	10	PKP	PKPdf	18 32 32.6	+1.4
VAM	Vamos	157.57	317	eP	PKPab	18 33 05.0	+0.8
ESAC	San Caprasio	157.91	12	PKP	PKPdf	18 32 33.9	+1.6
GUD	Guadarrama	157.98	20	PKIKP	PKPdf	18 32 33.7	+1.3
EMIR	Miracle	158.05	8	PKP	PKPdf	18 32 36.0	+3.5
EVO	Evora	158.28	30	ePKIKP	PKPdf	18 32 33.2	+0.3
	comp=Z,69nm,1.2s						
EVO				eMLR	MLR		
	comp=Z,272nm,21.5s,MS4.8						
EPOB	Poblet	158.54	9	PKP	PKPdf	18 32 36.6	+3.5
EBAD	Badajoz	158.55	28	PKP	PKPdf	18 32 33.9	+0.8
ERTA	Horta de San J	158.80	11	PKP	PKPdf	18 32 33.6	+0.2
PAB	San Pablo	158.90	21	ePKIKP	PKPdf	18 32 34.1	+0.5
PAB				MLR	MLR		
	comp=Z,405nm,19.0s,MS5.3						
ESDC	Sonseca Array	158.92	21	PKP	PKPdf	18 32 33.8	+0.3
ESDC	Sonseca Array	158.92	21	PKP	PKPdf	18 32 33.0	-0.6
	comp=Z,5.8nm,1.0s,baz=343,slow=2.8,SNR=17						
ESDC				pPKP	pPKPdf	18 32 48.5	-0.9
	comp=Z,5.5nm,0.9s,baz=353,slow=2.7,SNR=7.8						
ESDC				PKPab	PKPab	18 33 09.6	-0.2
	comp=Z,14nm,0.9s,baz=328,slow=4.0,SNR=13						
ESDC				pPKPab	pPKPab	18 33 24.6	-0.4
	comp=Z,15nm,1.0s,baz=334,slow=4.0,SNR=6.4						
ESLA	Sonseca Array	158.92	21	PFAKE		18 32 40.0	+6.4
ESLA				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
EMOS	Mosqueruela	159.22	13	PKP	PKPdf	18 32 34.0	+0.1
EGRO	El Granado	159.33	30	PKP	PKPdf	18 32 33.0	-1.1
EMIN	Mina Concepcio	159.51	28	PKP	PKPdf	18 32 35.6	+1.2
ECAB	El Cabril	159.79	26	PKP	PKPdf	18 32 35.8	+1.2
EADA	Adamuz	160.04	24	PKP	PKPdf	18 32 34.8	-0.2
EVIA	Vianos	160.33	19	PKIKP	PKPdf	18 32 36.5	+1.3
EBAN	Banos Encina	160.34	22	PKIKP	PKPdf	18 32 36.2	+1.0
CFTV	Fuerteventura	160.39	61	PKP	PKPdf	18 32 31.4	-4.2
ETOB	Tobarra	160.59	17	PKP	PKPdf	18 32 36.8	+1.3
ESPR	Espera	160.62	28	PKP	PKPdf	18 32 36.4	+0.8
ELUQ	Luque	160.69	24	PKIKP	PKPdf	18 32 36.6	+0.9
EQES	Queseda	160.91	21	PKP	PKPdf	18 32 36.5	+0.6
EHUE	Huescar	161.05	20	PKIKP	PKPdf	18 32 36.1	+0.1
ELOJ	Sierra Loja	161.10	24	PKIKP	PKPdf	18 32 36.8	+0.7
EJIF	Jimena Fronter	161.14	28	PKIKP	PKPdf	18 32 36.7	+0.5
ECOG	Cogollos-Vega	161.20	23	PKIKP	PKPdf	18 32 36.1	-0.1
ERON	Agron	161.34	24	PKP	PKPdf	18 32 35.4	-1.0
EMIJ	Mijas	161.35	27	PKP	PKPdf	18 32 37.4	+1.0
LIC	Lamto	162.81	142	⇑iPKIKP	PKPdf	18 32 37.6	-1.0
	comp=Z,87nm,1.1s						
LIC				eMLR	MLR		
	comp=Z,532nm,19.8s						
LIC	Lamto	162.81	142	ePKIKP	PKPdf	18 32 37.7	-0.9
	comp=Z,122nm,1.2s						
LIC	Lamto	162.81	142	⇑iPKPdf	PKPdf	18 32 37.6	-1.0
LIC				LR	LR		
	comp=Z,270nm,19.8s						
KIC	Kosan Boka	163.08	143	ePKIKP	PKPdf	18 32 37.9	-0.9
	comp=Z,183nm,1.1s						
TIC	Toumodi	163.15	141	ePKIKP	PKPdf	18 32 38.2	-0.7
	comp=Z,207nm,1.2s						
DBIC	Dimbokro	163.27	142	PKIKP	PKPdf	18 32 38.3	-0.7
DBIC						18 33 28.4	
DBIC				pmax	pmax		
	comp=Z,18nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,21nm,1.0s						
DBIC				pmax	pmax		
	comp=Z,17nm,0.9s						
DBIC	Dimbokro	163.27	142	PKP	PKPdf	18 32 38.3	-0.7
DBIC				PKPab	PKPab	18 33 28.4	-1.1
DBIC				pPKPab	pPKPab	18 33 41.8	-3.0
DBIC				LR	LR		
	comp=Z,436nm,19.0s						
DBIC	Dimbokro	163.27	142	PKP	PKPdf	18 32 38.3	-0.7
	comp=Z,18nm,1.0s,baz=346,slow=4.2,SNR=8.0						
DBIC				PKPab	PKPab	18 33 28.4	-1.1
	comp=Z,21nm,1.0s,baz=195,slow=4.9,SNR=6.1						
DBIC				pPKPab	pPKPab	18 33 41.8	-3.0
	comp=Z,17nm,0.9s,baz=207,slow=5.3,SNR=4.3						
TORD	Torodi Ar. Bea	172.15	152	PKP	PKPdf	18 32 43.8	-1.4
	comp=Z,111nm,0.9s,baz=318,slow=1.1,SNR=38						
TORD				pPKP	pPKPdf	18 32 58.5	-2.5
	comp=Z,7.2nm,0.8s,baz=280,slow=1.4,SNR=9.2						
TORD				PKPab	PKPab	18 34 08.7	+0.1
	comp=Z,23nm,1.0s,baz=209,slow=4.1,SNR=19						
TORD				pPKPab	pPKPab	18 34 22.4	-1.4
	comp=Z,11nm,0.8s,baz=193,slow=3.6,SNR=5.8						
TORD				PP	PP	18 37 58.4	-0.3
	comp=Z,5.0nm,1.0s,baz=189,slow=2.6,SNR=4.8						

MAN 27 18:23:17, 1687N×11975E, h8km, mb4.3, ML3.1, MS2.9, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	Bolinao	0.51	162	eP	Pg	18 23 29.0	+2.1
BOLP				eS	Sg	18 23 36.6	+3.1
BCPH	Baguio City Da	0.93	121	⇑iP	Pg	18 23 34.5	-0.5
BCPH				i S	Sg	18 23 45.6	-1.4
SCZP	Santa Cruz	1.09	172	eP	Pg	18 23 37.2	-0.8
ABRA	Dolores	1.21	50	eP	Pb	18 23 40.0	-0.2
ABRA				eS	Sb	18 23 58.0	+2.2
APYP	Conner	1.74	55	eP	Pn	18 23 48.5	+1.0
APYP				eS	Sn	18 24 10.8	+0.9
CAUP	Cauayan	1.99	87	eP	Pn	18 23 53.8	+2.8
BALP	Baler	2.08	122	eP	Pn	18 23 53.9	+1.7
BALP				eS	Sn	18 24 20.1	+1.7

IDC 27 18:32:00.1±6.1, 1758S×17355W, h0km, mb4.3/3, mb1 4.5/4, mb1mx4.0/15, mbtmp4.4/4, ML2.7/1, Error ellipse: s-maj=215.7km s-min=32.3km az=131.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	4.03	25	Pn	Pn	18 33 03.3	+0.3
	28nm,0.3s,baz=14,slow=5.8,SNR=20						
AFI				Sn	Sn	18 33 36.2	-15
	26nm,0.3s,baz=183,slow=23,SNR=6.5						
STKA	Stephens Creek	42.86	242	P	P	18 40 00.9	+0.6
	1.8nm,0.5s,baz=62,slow=11,SNR=7.4						
WRA	Warramunga Arr	49.24	259	P	P	18 40 50.2	-0.6
	1.2nm,0.4s,baz=98,slow=6.5,SNR=65						
ASAR	Alice Springs	49.33	254	P	P	18 40 51.4	-0.1
	6.4nm,0.7s,baz=89,slow=7.5,SNR=98						

MAN 27 18:41:54, 1848N×12059E, h36km, mb3.8, ML2.5, MS2.1, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PIP	Pasuquin	0.16	171	i P	Pn	18 42 02.1	+1.5
ABRA	Dolores	0.84	172	eP	Pn	18 42 11.7	+2.4
APYP	Conner	0.87	135	eP	Pn	18 42 11.2	+1.4

IDC 27 19:21:22.3±2.3, 2001S×17457W, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/16, mbtmp3.8/6, ML2.0/1, Error ellipse: s-maj=80.4km s-min=23.9km az=144.0
ISCJB 27 19:21:35.1±3.6, 187S±02×1752W±02, h95km±37km, mb3.6/5, Error ellipse: s-maj=44.1km s-min=22.0km az=146.7
NEIC 27 19:21:36.9±2.7, 1876S×17528W, h93km±29km, Error ellipse: s-maj=36.4km s-min=19.4km az=157.0
ISC 27 19:21:36.9±3.2, 187S±02×1753W±02, h93km±33km, n10, σ0§82/12, mb3.6/5, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	5.81	36	Pn	Pn	19 23 01.6	+1.0
AFI				Sn	Sn	19 24 04.3	-1.5
AFI	Afiamalu	5.81	36	Pn	Pn	19 23 01.4	+0.9
	1.7nm,0.3s,baz=158,slow=19,SNR=2.7						
AFI				Sn	Sn	19 24 05.3	-0.4
	4.9nm,0.3s,baz=342,slow=20,SNR=4.2						
CTA	Charters Tower	36.27	261	P	P	19 28 32.5	+1.0
	2.7nm,0.6s,mb4.3,baz=77,slow=14,SNR=2.6						
WB2	Warramunga Arr	47.41	260	P	P	19 30 02.4	+0.2
WRA	Warramunga Arr	47.43	260	P	P	19 30 01.4	-0.9
	0.4nm,0.8s,mb3.2,baz=96,slow=7.4,SNR=20						
ASAR	Alice Springs	47.46	255	P	P	19 30 01.8	-0.7
ASAR	Alice Springs	47.46	255	P	P	19 30 01.8	-0.7
	0.3nm,0.6s,mb3.2,baz=98,slow=7.6,SNR=6.4						
SBA	Scott Base	59.86	184	eP	P	19 31 31.8	-0.4
MJAR	Matsushiro Arr	70.33	322	P	P	19 32 46.7	+6.2
	0.9nm,0.5s,mb3.9,baz=158,slow=6.6,SNR=5.6						
NVAR	Mina Array Bea	77.95	42	P	P	19 33 25.6	+0.8
	0.5nm,0.6s,mb3.4,baz=218,slow=5.7,SNR=5.2						

MAN 27 19:40:18, 887N×12654E, h75km, mb4.4, ML3.2, MS3.1, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCPH	Surigao	1.38	311	eP	Pn	19 40 42.8	+1.2
BUKP	Musuan	1.76	236	eP	Pn	19 40 48.2	+1.6
MSLP	Maasin	2.08	307	eP	Pn	19 40 52.0	+1.2
PAGZ	Pagadian	3.28	252	eP	Pn	19 41 09.0	+1.9
CNP	Cataman	4.06	333	eP	Pn	19 41 20.4	+2.7

SOF 27 19:43:01.6, 4086N×2729E, h1km, MD2.8
CSEM 27 19:43:02.4±0.0, 4074N×2735E, h10km, MD3.3, Error ellipse: s-maj=1.4km s-min=0.9km az=11.0
ISCJB 27 19:43:02.8±0.3, 4080N±002×2733E±003, h8km±3km, Error ellipse: s-maj=4.0km s-min=3.2km az=151.9
DDA 27 19:43:02.1, 4092N×2715E, h2km, Md3.0
NEIC 27 19:43:02.0, 4073N×2737E, h7km, ML3.3(ISK), After ISK.
ISK 27 19:43:02.7, 4073N×2737E, h7km, MD3.3, ML3.4
ATH 27 19:43:04.4, 4101N×2742E, h45km, MD3.6/3
SKO 27 19:43:08.5, 4087N×2709E, h0km
ISC 27 19:43:03.2±0.3, 4079N±002×2730E±002, h9km±2km, n52, σ1§05/70, 3C-3D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MFT	Murefte	0.01	254	PG	Pg	19 43 05.3	+0.6
SART	Tekirdag	0.14	222	i P	Pg	19 43 06.7	+0.5
SART				i S	Sg	19 43 09.7	+1.4
RKY	Sarkoy-Tekirda	0.14	222	PG	Pg	19 43 06.7	+0.5
RKY				eSG	Sg	19 43 09.2	+0.9
TKR	Tekirdag	0.27	42	PG	Pg	19 43 09.3	+0.7
TKR				eSG	Sg	19 43 13.8	+1.6
CRLT	Corlu	0.47	44	ePG	Pg	19 43 13.0	+0.6
CRLT				eSG	Sg	19 43 20.0	+1.3
LPK	Lapseki	0.59	225	ePG	Pg	19 43 14.8	+0.2
EDC	Edincik	0.62	136	ePG	Pg	19 43 13.8	-1.3
BNT	Bandirma	0.64	132	ePG	Pg	19 43 14.1	-1.5
ENEZ	Enez	0.87	267	ePG	Pg	19 43 20.5	+0.5
CTT	Catalca	0.93	67	ePG	Pg	19 43 20.7	-0.8
ELBA	Catalca	0.93	67	i P	Pg	19 43 20.8	-0.2
ELBA				i S	Sg	19 43 35.1	+2.0
KCT	Karacabey	0.96	123	ePG	Pg	19 43 19.8	-1.8
EDRB	Edirne	1.14	339	ePN	Pn	19 43 25.5	+0.1
EZN	Ezine	1.22	218	ePN	Pn	19 43 25.5	-1.0
GADA	Gvkgeada	1.23	241	ePN	Pn	19 43 26.2	-0.3
BALB	Balikesir	1.23	159	ePN	Pn	19 43 25.1	-1.6
BOZC	Bozcaada	1.34	226	i P	Pn	19 43 27.9	-0.3
BOZC				i S	Sb	19 43 47.1	+1.2
ISK	Istanbul-Kandi	1.36	78	ePN	Pn	19 43 27.3	-1.2
RDO	Rodhopi	1.38	285	eP	Pn	19 43 28.6	-0.1
RDO				eS	Sb	19 43 47.4	+0.4
KLYT	Kilyos	1.40	70	ePN	Pn	19 43 28.5	-0.4
GEMT	Gemlik	1.48	103	ePN	Pn	19 43 29.4	-0.7
AYVA	Ayvalik	1.55	198	i P	Pn	19 43 31.9	+0.9
AYVA				i S	Sn	19 43 53.2	+1.9
DST	Dursunbey	1.56	139	ePN	Pn	19 43 30.8	-0.4
YLV	Yalova	1.59	97	ePN	Pn	19 43 31.2	-0.4
IZI	Iznik	1.72	105	ePN	Pn	19 43 33.6	+0.3
PRK	Paraskevi	1.73	207	eP	Pn	19 43 37.2	+3.7
PRK				eS	Sn	19 44 00.0	+4.3
JMB	Yambol	1.76	342	P	Pn	19 43 37.0	+3.1
HRT	Hereke	1.80	88	ePN	Pn	19 43 33.6	-0.8
DIM	Dimitrovgrad	1.83	314	P	Pn	19 43 34.7	-0.2
DIM				Pg	Pg	19 43 37.5	-0.8
ADVT	Abdulvahap	1.89	100	ePN	Pn	19 43 35.4	-0.3
AKHS	Akhisar	1.95	168	i P	Pn	19 43 40.3	+3.8
AKHS				i S	Sn	19 44 05.4	+4.3
AKS	Akhisar	1.95	168	ePN	Pn	19 43 36.8	+0.3
RZN	Rozhen	2.15	296	P	Pn	19 43 39.9	+0.7
RZN				Pg	Pg	19 43 43.4	-0.9
PLD	Plovdiv	2.35	305	eP	Pn	19 43 47.5	+5.5
PRD	Provadia	2.41	2	P	Pn	19 43 47.7	+4.9
KULA	Kula-Manisa	2.50	155	ePN	Pn	19 43 43.5	-0.7
NVR	Nevrokopi	2.66	283	eP	Pn	19 43 46.9	+0.7
SZH	Strazhica	2.67	338	P	Pn	19 43 47.0	+0.5
SZH				Pg	Pg	19 43 53.0	-1.5
ALT	Altintas	2.77	128	ePN	Pn	19 43 47.4	-0.4
MMB	Musomiste	2.81	288	P	Pn	19 43 49.0	+0.7
MMB				ePg	Pg	19 43 56.0	-1.1
PVL	Pavlikeni	2.83	330	P	Pn	19 43 49.0	+0.4
PVL				Pg	Pg	19 43 57.0	-0.5
ESKT	Eskisehir	3.00	114	ePN	Pn	19 43 50.6	-0.4
SHUT	Suhut-Afyon	3.36	131	ePN	Pn	19 43 56.5	+0.6
VTS	Vitosha	3.55	302	⇓iP	Pg	19 44 09.1	-2.2
VTS	Vitosha	3.55	302	P	Pn	19 44 00.0	+1.5
VTS				Pg	Pg	19 44 10.0	-1.3
VAY	Valandovo	3.62	280	ePn	Pn	19 44 03.7	+4.3
VAY				eSg	Sg	19 44 57.6	-1.7
TIRR	Tirgusor	3.76	12	⇓iP	Pn	19 44 01.0	-0.4
TIRR	Tirgusor	3.76	12	⇓iP	Pn	19 44 01.0	-0.3
STIP	Stip	3.96	285	ePn	Pn	19 44 08.3	+4.2
STIP				eSg	Sg	19 45 08.2	-2.2
MLR	Muntele Rosu	4.80	349	⇑iP	Pn	19 44 17.9	+2.2
BZS	Buzias	6.36	321	⇑iP	Pn	19 44 36.6	-0.5
BZS	Buzias	6.36	321	⇑iP	Pn	19 44 36.6	-0.5

ISCJB 27 19:55:07.5±0.7, 524N±0.1×315W±0.1, h10km, mb4.0/15, Error ellipse: s-maj=15.4km s-min=12.7km az=179.3
IDC 27 19:55:07.8±0.8, 5238N×3146W, h0km, mb3.9/13, mb1 4.0/14, mb1mx3.9/27, mbtmp3.9/14, ML3.8/1, Error ellipse: s-maj=22.7km s-min=18.5km az=170.0
NEIC 27 19:55:09.3±0.4, 5233N×3148W, h10km, mb4.5/2, Error ellipse: s-maj=11.5km s-min=9.2km az=180.0
CSEM 27 19:55:09.3, 5233N×3148W, h10km, mb4.5/2, After NEIC
ISC 27 19:55:09.5±0.7, 524N±01×315W±01, h10km, n28, σ0§70/23, mb4.0/15, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	Eskdalemuir Ar	16.92	69	Pn	Pn	19 59 07.2	+1.2
	0.2nm,0.3s,baz=266,slow=11,SNR=5.9						
ESDC	Sonseca Array	22.77	113	P	P	20 00 11.7	-0.1
	2.3nm,0.8s,mb3.7,baz=311,slow=8.6,SNR=9.4						
NOA	NORSAR Array B	24.58	52	P	P	20 00 28.6	-0.6
	1.6nm,0.9s,mb3.5,baz=260,slow=8.2,SNR=3.0						
HFS	Hagfors	25.82	55	P	P	20 00 40.6	+0.1
	1.6nm,0.8s,mb3.6,baz=298,slow=9.3,SNR=3.1						
GERES	GERESS Array B	28.53	79	P	P	20 01 04.4	-0.5
	0.9nm,0.9s,mb3.5,baz=289,slow=8.3,SNR=5.1						
ARCES	ARCESS Array B	31.03	35	P	P	20 01 27.1	+0.3
	2.1nm,0.9s,mb4.0,baz=254,slow=8.7,SNR=6.8						
ARCES	ARCESS Array B	31.03	35	P	P	20 01 27.1	+0.2
FINES	FINESS Array B	31.70	50	P	P	20 01 33.1	+0.3
	1.4nm,0.8s,mb3.9,baz=294,slow=10,SNR=6.6						
AKASG	Malin Array Be	36.83	68	P	P	20 02 16.9	-0.5
	1.4nm,0.8s,mb3.9,baz=299,slow=8.6,SNR=7.0						
YKA	Yellowknife Ar	42.82	317	P	P	20 03 06.3	-0.6
YKA				PcP	PcP	20 04 57.4	-0.4
YKA	Yellowknife Ar	42.82	317	P	P	20 03 06.3	-0.6
	2.4nm,1.1s,mb3.9,baz=65,slow=8.2,SNR=11						
YKA				PcP	PcP	20 04 57.4	-0.4
	0.4nm,0.5s,baz=51,slow=3.7,SNR=4.2						
YKA	Yellowknife Ar	42.82	317	P	P	20 03 06.3	-0.7
YKA	Yellowknife Ar	42.82	317	PcP	PcP	20 04 57.4	-0.5
TOA0	Torodi Ar. Sit	47.26	133	eP	P	20 03 42.9	+0.1
TOA0	Torodi Ar. Sit	47.26	133	eP	P	20 03 42.9	+0.1
TORD	Torodi Ar. Bea	47.26	133	P	P	20 03 42.6	-0.2
	2.8nm,0.9s,mb4.2,baz=337,slow=8.1,SNR=12						
HWUT	Hardware Ranch	53.02	292	eP	P	20 04 25.9	-0.4
	5.9nm,1.0s,mb4.5						
HWUT	Hardware Ranch	53.02	292	eP	P	20 04 25.9	-0.3
	5.9nm,1.0s,mb4.5						
TIXI	Tiksi	55.52	7	eP	P	20 04 45.8	+1.8
	5.7nm,0.9s,mb4.6						
TIXI	Tiksi	55.52	7	eP	P	20 04 45.8	+1.8
	5.7nm,0.9s,mb4.6						
ROSC	El Rosal	59.04	232	P	P	20 05 10.4	+0.8
	3.4nm,0.5s,mb4.6,baz=103,slow=21,SNR=5.1						
ZALV	Zalesovo Beam	61.55	37	P	P	20 05 25.3	-1.0
	0.3nm,0.3s,mb3.9,baz=312,slow=11,SNR=2.7						
MKAR	Makanchi Array	66.17	43	P	P	20 05 56.0	-0.8
	0.9nm,0.7s,mb3.9,baz=348,slow=4.7,SNR=8.7						
SONM	Songino Array	73.91	28	P	P	20 06 44.6	+0.3
	0.7nm,0.9s,mb3.6,baz=340,slow=13,SNR=6.1						
WRA	Warramunga Arr	145.81	24	PKPbc	PKPbc	20 14 48.6	-0.1
	4.3nm,1.0s,baz=343,slow=2.9,SNR=20						
WB2	Warramunga Arr	145.82	24	ePKP	PKPdf	20 14 48.8	+0.5
WB2	Warramunga Arr	145.82	24	ePKP	PKPdf	20 14 48.8	+0.6
ASAR	Alice Springs	149.25	27	PKPbc	PKPbc	20 14 57.7	-0.4
	1.2nm,0.7s,baz=348,slow=2.2,SNR=15						

IDC 27 20:10:20.0±1.8, 626S×10262E, h0km, mb3.8/10, mb1 3.9/10, mb1mx3.8/20, mbtmp3.8/10, Error ellipse: s-maj=65.5km s-min=16.9km az=52.0, Southwest of Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	21.19	102	P	P	20 15 09.3	+2.0
	8.7nm,0.4s,baz=221,slow=5.7,SNR=4.9						
FITZ	Fitzroy Crossi	25.35	120	P	P	20 15 49.7	+0.7
	1.4nm,0.9s,baz=331,slow=10,SNR=3.3						
WRA	Warramunga Arr	33.67	117	P	P	20 17 01.9	-1.0
	0.6nm,0.8s,baz=286,slow=11,SNR=4.4						
ASAR	Alice Springs	34.70	123	P	P	20 17 11.3	-0.5
	0.8nm,0.9s,baz=295,slow=7.0,SNR=5.8						
STKA	Stephens Creek	44.40	130	P	P	20 18 32.5	-0.2
	2.3nm,0.8s,baz=298,slow=16,SNR=3.9						
KSRS	Korea Array	49.49	27	P	P	20 19 11.1	-1.2
	0.8nm,0.6s,baz=216,slow=8.0,SNR=4.0						
SONM	Songino Array	53.97	3	P	P	20 19 45.8	+0.3
	0.7nm,0.8s,baz=177,slow=7.9,SNR=8.3						
MKAR	Makanchi Array	55.82	343	P	P	20 19 59.4	+0.4
	0.4nm,0.6s,baz=152,slow=8.0,SNR=5.3						
ZALV	Zalesovo Beam	61.83	348	P	P	20 20 40.5	-0.2
	0.3nm,0.4s,baz=194,slow=5.3,SNR=3.0						
FINES	FINESS Array B	89.07	332	P	P	20 23 17.4	+0.5
	0.9nm,1.0s,baz=131,slow=5.8,SNR=3.3						

NEIC 27 20:14:53.2, 1683N×10172W, h19km, MD4.1(MEX), After MEX.
MEX 27 20:14:53.2±1.2, 1683N×10173W, h17km±26km, MD4.1, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.81	18	i P	Pb	20 15 05.7	-3.2
ZIIG				i S	Sb	20 15 16.5	-3.0
CAIG	El Cayaco	1.41	81	i P	Pn	20 15 14.5	-3.6
CAIG				i S	Sn	20 15 31.0	-5.3
ACX	Acapulco	1.73	89	i P	Pn	20 15 19.4	-3.2
ACX				i S	Sn	20 15 39.4	-4.9
MMIG	Aquila	2.12	313	i S	Sn	20 15 48.6	-5.3
MEIG	Mezcala	2.29	61	i P	Pn	20 15 28.0	-2.2
MEIG				i S	Sn	20 15 51.5	-6.5
PLIG	Platanillo	2.63	53	i P	Pn	20 15 32.8	-2.1
PLIG				i S	Sn	20 15 54.8	-12
PLIG	Platanillo	2.63	53	i P	Pn	20 15 32.8	-2.1
PLIG				i S	Sn	20 16 00.9	-5.5
MOIG	Morelia	2.88	10	i P	Pn	20 15 27.8	-11
MOIG				i S	Sn	20 16 02.0	-11
MOIG				i S	Sn	20 16 09.4	-3.2
MOIG	Morelia	2.88	10	i P	Pn	20 15 36.8	-1.5
MOIG				i S	Sn

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**1.37**	**154⇑**	*e*P	Pn	20 25 54.1	-3.1
DR12				*e*S	Sn	20 26 11.7	-3.2
STDO	**Santo Domingo**	**1.58**	**177⇑**	*e*P	Pn	20 25 57.8	-2.3
STDO				*e*S	Sn	20 26 16.4	-3.5
SDDR	**Presa de Saban**	**1.60**	**229⇑**	*e*P	Pn	20 25 57.8	-2.6
SDDR				*e*S	Sn	20 26 16.9	-3.5
LSP	**Las Mesas**	**3.32**	**123⇑**	*e*P	Pn	20 26 20.9	-3.2
LSP				*e*S	Sn	20 26 59.9	-3.1
CRPR	**Cabo Rojo, PR**	**3.40**	**126⇑**	*e*P	Pn	20 26 24.2	-1.0
CRPR				*e*S	Sn	20 27 01.8	-3.2
HUMP	**Col San Antoni**	**4.36**	**115**	*e*S	Sn	20 27 26.8	-1.7
MTP	**Monte Pirata**	**4.63**	**114⇑**	*e*P	Pn	20 26 40.6	-1.5
MTP				*e*S	Sn	20 27 33.1	-2.2

*IDC **27** 20:32:33.4±2.0, 22.16S×17397W, h0km, mb4.2/6, mb1 4.4/6, mb1mx4.2/15, mbtmp4. 1/6, MS3.9/1, Ms1 3.9/1, ms1mx2.9/24, Error ellipse: s-maj=94.8km s-min=24.3km az=154.0*
*ISCJB **27** 20:32:34.7±1.0, 215S±02×1743W±02, h10km, mb4.2/6, Error ellipse: s-maj=32.1km s-min=15.8km az=43.4*

ISC 27 20:32:34.5±0.8, 217S±01×1738W±01, h10km, n13, σ1§75/9, mb4.2/6, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**8.03**	**14**	Pn	**Pn**	**20 34 30.1**	**-1.1**
	1.6nm,0.3s,baz=201,slow=23,SNR=2.3						
AFI				Sn	Sx	20 35 46.4	
	1.6nm,0.3s,baz=32,slow=13,SNR=2.4						
RAR	**Rarotonga**	**13.09**	**90**	Pn	**Pn**	**20 35 37.6**	**-2.9**
	8.2nm,0.3s,baz=259,slow=10,SNR=47						
RAR				Sn	Sx	20 37 47.4	
	1.1nm,0.3s,baz=78,slow=14,SNR=1.9						
CTA	**Charters Tower**	**37.26**	**265**	P	**P**	**20 39 46.2**	**-0.5**
	4.2nm,0.8s,mb4.3,baz=104,slow=12,SNR=4.1						
ASAR	**Alice Springs**	**48.05**	**257**	P	**P**	**20 41 13.1**	**-1.1**
	3.9nm,0.9s,mb4.4,baz=102,slow=7.3,SNR=15						
WRA	**Warrarmunga Arr**	**48.30**	**262**	P	**P**	**20 41 14.5**	**-1.8**
	5.2nm,1.0s,mb4.5,baz=93,slow=8.2,SNR=38						
WRA				LR	LR	20 59 29.2	
	comp=Z,122nm,18.9s,baz=130,slow=34						
MJAR	**Matsushiro Arr**	**73.56**	**321**	P	**P**	**20 44 09.7**	**+2.0**
	1.6nm,0.7s,mb4.0,baz=143,slow=5.0,SNR=4.5						
NVAR	**Mina Array Bea**	**79.31**	**41**	P	**P**	**20 44 43.6**	**+3.3**
	0.7nm,0.8s,mb3.6,baz=210,slow=10,SNR=4.3						
VNA2	**Neumayer--Watz**	**87.10**	**176**	*e*	**P**	**20 45 22.1**	**+2.0**
	baz=167,slow=5.5						
VNA2				*e*	pP	20 45 25.5	+2.1
VNA2				*e*		20 45 36.4	
YKA	**Yellowknife Ar**	**96.04**	**24**	P	**P**	**20 46 03.3**	**+1.8**
	0.4nm,0.7s,mb4.0,baz=242,slow=4.8,SNR=3.3						
MKAR	**Makanchi Array**	**114.89**	**313**	PKP	PKiKP	20 51 16.2	+0.8
	0.2nm,0.5s,baz=0.0,slow=3.2,SNR=3.1						
BVAR	**Borovoye Array**	**122.54**	**320**	PKP	PKPdf	20 51 31.2	+1.3
	0.4nm,0.4s,baz=96,slow=2.7,SNR=4.8						
AKASG	**Malin Array Be**	**145.92**	**334**	PKPbc	PKPbc	20 52 15.1	+1.1
	0.9nm,0.5s,baz=41,slow=3.8,SNR=9.0						
GERES	**GERESS Array B**	**152.30**	**349**	PKPbc	PKPbc	20 52 32.4	+2.0
	0.7nm,0.8s,baz=48,slow=2.0,SNR=5.8						

*TEH **27** 20:43:54.0, 3030N×5765E, h34km, ML3.7*
*IDC **27** 20:44:14.9±2.9, 3007N×5759E, h0km, mb3.5/5, mb1 3.5/5, mb1mx3.3/24, mbtmp3.5/5, Error ellipse: s-maj=85.3km s-min=29.0km az=144.0*
*ISCJB **27** 20:44:16.4±0.6, 3009N±007×5755E±004, h10km, mb3.5/4, Error ellipse: s-maj=9.5km s-min=4.6km az=0.1*
*CSEM **27** 20:44:16.6±0.1, 3005N×5750E, h10km, ML3.3, Error ellipse: s-maj=4.4km s-min=2.2km az=178.0*
*THR **27** 20:44:17.1±0.4, 3002N×5749E, h16km±5km, ML3.3*

ISC 27 20:44:16.5±1.9, 3010N±009×5757E±006, h1km±14km, n21, σ1§23/28, mb3.6/4, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KRBR	**Kerman**	**0.71**	**261**	*e*Pg	**Pg**	**20 44 29.6**	**-0.5**
KRBR				*e*Sg	**Sg**	**20 44 38.8**	**-0.5**
KRBR				AML	AML	20 44 40.6	
	comp=N,2μm,0.2s						
KRBR	**Kerman**	**0.71**	**261**	*e*Pg	**Pg**	**20 44 29.5**	**-0.6**
	SNR=93						
KRBR				*e*Sg	**Sg**	**20 44 38.8**	**-0.5**
	comp=N,2μm,0.2s,SNR=93						
IBAF	**Bafgh**	**2.27**	**311**	*e*Pn	**Pn**	**20 44 55.9**	**+0.7**
IBAF				*e*		20 44 58.6	
	comp=Z,8μm,0.1s						
IKOO	**Kooshah**	**2.62**	**28**	*e*Pn	**Pn**	**20 44 58.8**	**-1.1**
ZHSF	**Zahedan**	**2.83**	**99**	*e*Pn	**Pn**	**20 45 04.7**	**+1.9**
ZHSF				Sn	**Sn**	**20 45 39.1**	**+1.6**
ZHSF				AML	AML	20 45 51.6	
	comp=N,91nm,0.5s						
ZHSF				AML	AML	20 45 56.9	
	comp=E,103nm,0.6s						
ZHSF	**Zahedan**	**2.83**	**99**	*e*Pn	**Pn**	**20 45 04.7**	**+1.9**
	SNR=52						
ZHSF				Sn	**Sn**	**20 45 39.1**	**+1.6**
	SNR=52						
IMEH	**Mehriz**	**2.85**	**298**	*e*Pn	**Pn**	**20 45 03.7**	**+0.6**
IMEH				*e*		20 45 48.5	
	comp=Z,2μm,0.2s						
ITEG	**Tejag**	**2.96**	**20**	*e*Pn	**Pn**	**20 45 03.3**	**-1.3**
IDAH	**Dahanechah**	**3.28**	**36**	*e*Pn	**Pn**	**20 45 10.6**	**+1.6**
ICHK	**Chekchek**	**3.45**	**309**	*e*Pn	**Pn**	**20 45 12.2**	**+0.9**
ICHK				*e*		20 45 22.8	
	comp=Z,2μm,0.2s						
IPAR	**Pars**	**3.93**	**267**	*e*Pn	**Pg**	**20 45 28.6**	**-3.2**
IPAR				*e*	**Sg**	**20 46 37.5**	**+15**
	comp=Z,588nm,0.4s						
ISRV	**Sarvestan**	**3.94**	**261**	*e*Pn	**Pn**	**20 45 23.2**	**+5.1**
ISRV				*e*		20 46 41.5	
	comp=Z,1μm,0.5s						
GHIR	**Ghir-Karzin**	**4.40**	**247**	*e*Pn	**Pn**	**20 45 24.2**	**-0.1**
NASN	**Na'in**	**4.88**	**305**	*e*Pn	**Pn**	**20 45 32.2**	**+1.2**
NASN				AML	AML	20 47 00.5	
	comp=N,22nm,0.6s						
NASN				AML	AML	20 47 01.9	
	comp=E,17nm,0.6s						
IZEF	**Zefreh**	**5.27**	**303**	*e*Pn	**Pn**	**20 45 37.3**	**+0.9**
IZEF				*e*	**Sg**	**20 47 12.4**	**+6.7**
	comp=Z,211nm,0.3s						
IKLH	**Kolahrood**	**6.03**	**304**	*e*Pn	**Pb**	**20 46 04.0**	**+1.7**
IKLH				*e*	**Sg**	**20 47 45.6**	**+16**
	comp=Z,206nm,0.4s						
AKTO	**Aktyubinsk**	**20.31**	**1**	P	**P**	**20 48 52.9**	**-0.9**
	comp=Z,0.6nm,0.4s,baz=202,slow=12,SNR=3.4						
BVAR	**Borovoye Array**	**24.75**	**19**	P	**P**	**20 49 38.3**	**-1.1**
	comp=Z,0.8nm,0.6s,mb3.6,baz=188,slow=7.3,SNR=7.1						
MKAR	**Makanchi Array**	**25.39**	**42**	P	**P**	**20 49 44.5**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.5,baz=237,slow=8.2,SNR=4.4						
ZALV	**Zalesovo Beam**	**30.92**	**32**	P	**P**	**20 50 32.9**	**-1.7**
	comp=Z,0.6nm,0.6s,mb3.7,baz=239,slow=11,SNR=3.6						
TORD	**Torodi Ar. Bea**	**54.10**	**265**	P	**P**	**20 53 41.9**	**-1.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=65,slow=7.7,SNR=4.3						

IDC 27 20:45:17.7±1.3, 437S×14610E, h0km, mb3.8/6, mb1 3.9/8, mb1mx3.8/16, mbtmp3.8/8, ML3.4/2, MS3.4/5, Ms1 3.4/5, ms1mx3.2/19, Error ellipse: s-maj=47.4km s-min=19.8km az=101.0, Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**14.64**	**111**	LR	LR	20 53 35.0	
	comp=Z,90nm,18.5s,baz=181,slow=34						
CTA	**Charters Tower**	**15.63**	**179**	Pn	Pn	20 49 01.1	+1.6
	0.2nm,0.3s,baz=355,slow=11,SNR=2.6						
CTA				LR	LR	20 54 29.3	
	comp=Z,114nm,21.9s,baz=255,slow=35						
WRA	**Warramunga Arr**	**19.26**	**216**	P	Pn	20 49 43.9	-1.0
	0.1nm,0.3s,baz=39,slow=11,SNR=9.4						
ASAR	**Alice Springs**	**22.51**	**210**	P	P	20 50 20.4	+1.3
	1.3nm,0.9s,baz=40,slow=10,SNR=9.8						
FITZ	**Fitzroy Crossi**	**24.23**	**234**	P	P	20 50 36.0	-0.5
	2.6nm,0.6s,baz=53,slow=6.5,SNR=17						
STKA	**Stephens Creek**	**27.69**	**188**	LR	LR	21 03 57.4	
	comp=Z,134nm,18.4s,baz=24,slow=40						
NWAO	**Narrogin (SRO)**	**39.16**	**220**	LR	LR	21 09 34.8	
	comp=Z,158nm,21.8s,baz=194,slow=37						
MJAR	**Matsushiro Arr**	**41.36**	**350**	P	P	20 53 06.7	+1.2
	2.6nm,1.1s,baz=160,slow=12,SNR=3.0						
KSRS	**Korea Array**	**44.91**	**339**	LR	LR	21 12 48.8	
	comp=Z,19nm,18.4s,baz=110,slow=37						
MKAR	**Makanchi Array**	**75.67**	**320**	P	P	20 57 05.6	+0.6
	2.0nm,0.9s,baz=91,slow=8.5,SNR=5.9						
ZALV	**Zalesovo Beam**	**77.16**	**328**	P	P	20 57 12.7	-0.5
	0.2nm,0.3s,baz=104,slow=4.6,SNR=2.4						
BVAR	**Borovoye Array**	**84.93**	**324**	P	P	20 57 54.0	-0.7
	0.4nm,0.7s,baz=107,slow=9.2,SNR=2.6						
TORD	**Torodi Ar. Bea**	**143.79**	**286**	PKP	PKPdf	21 04 54.6	-1.5
	0.8nm,0.9s,baz=64,slow=3.5,SNR=4.2						
SIV	**San Ignacio**	**146.36**	**128**	PKPbc	PKPbc	21 05 00.3	-1.3
	0.7nm,0.7s,baz=216,slow=9.9,SNR=3.6						

*NNC **27** 20:48:14.4±6.2, 3365N×6524E, h1km±66km, mb3.7, Error ellipse: s-maj=65.2km s-min=32.9km az=167.0*
*IDC **27** 20:49:02.1±2.5, 3639N×6818E, h0km, mb3.7/6, mb1 3.8/8, mb1mx3.6/23, mbtmp3.7/8, ML3.2/2, MS2.6/1, Ms1 2.6/1, ms1mx2.2/26, Error ellipse: s-maj=50.0km s-min=25.2km az=155.0*
*MOS **27** 20:49:05.6±1.7, 3654N×6817E, h33km, mb4.0/5, Error ellipse: s-maj=28.5km s-min=13.5km az=91.2*
*ISCJB **27** 20:49:08.8±1.6, 3675N±006×6836E±0.1, h57km±17km, mb3.7/6, Error ellipse: s-maj=17.4km s-min=8.3km az=152.9*

ISC 27 20:49:04.6±1.8, 3665N±004×6808E±009, h7km±11km, n32, σ1§05/35, mb3.7/6, 5C, Hindu Kush region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	**Cherat**	**4.21**	**131**	P	**Pn**	**20 50 11.8**	**+2.5**
CEP				S	**Sb**	**20 51 11.0**	**+0.8**
THW	**Thamme Wali**	**4.89**	**141**	P	**Pg**	**20 50 37.1**	**-1.1**
CHCP	**Chirah Chowk**	**5.19**	**124**	P	**Pn**	**20 50 26.3**	**+3.6**
SARP	**Sargodha**	**6.05**	**140**	P	**Pb**	**20 50 51.0**	**+0.5**
KK31	**Karatay Array**	**6.71**	**15**	⇑P	**Pn**	**20 50 44.5**	**+0.8**
	0.7nm,0.3s,baz=208,slow=16,SNR=76						
KK31				⇑S	**Sg**	**20 52 40.6**	**+0.5**
	17nm,0.8s,baz=193,slow=29						
TKM2	**Tokmak 2**	**8.53**	**40**	⇑P	**Pn**	**20 51 09.4**	**+0.9**
	4.9nm,1.0s						
TKM2				⇑S	**Sn**	**20 53 30.2**	**+45**
	13nm,1.4s						
MK31	**Makanchi Array**	**14.65**	**42**	⇑P	**Pn**	**20 52 31.0**	**-1.2**
	3.0nm,0.9s,baz=234,slow=14,SNR=9.6						
MKAR	**Makanchi Array**	**14.65**	**42**	Pn	**Pn**	**20 52 31.0**	**-1.2**
	0.1nm,0.3s,baz=232,slow=13,SNR=8.8						
AKTO	**Aktyubinsk**	**15.57**	**335**	Pn	**Pn**	**20 52 43.8**	**-0.7**
	0.1nm,0.3s,baz=144,slow=9.7,SNR=5.3						
DANN	**Dangsing**	**15.59**	**118**	*e*P	**Pn**	**20 52 46.3**	**+1.4**
KOLN	**Koldanda**	**15.82**	**120**	*e*P	**Pn**	**20 52 46.9**	**-1.0**
GKN	**Gorkha**	**16.42**	**117**	*e*P	**Pn**	**20 52 55.8**	**+0.2**
BVAR	**Borovoye Array**	**16.46**	**5**	Pn	**Pn**	**20 52 58.0**	**+2.1**
	0.2nm,0.3s,baz=170,slow=11,SNR=8.6						
BVAR				LR	LR	21 00 24.4	
	comp=Z,21nm,18.7s,baz=126,slow=41						
DMN	**Daman**	**16.99**	**117**	*e*P	**Pn**	**20 53 02.1**	**-0.7**
KKN	**Kakani**	**17.00**	**116**	*e*P	**Pn**	**20 53 03.0**	**0.0**
PKI	**Pulchoki**	**17.23**	**117**	*e*P	**Pn**	**20 53 05.3**	**-0.5**
GUN	**Gumba**	**17.37**	**115**	*e*P	**Pn**	**20 53 07.5**	**-0.1**
JIRN	**Jiri**	**17.74**	**115**	*e*P	**Pn**	**20 53 11.4**	**-0.8**
ARU	**Arti**	**20.80**	**345**	P	**P**	**20 53 49.9**	**+3.6**
ZALV	**Zalesovo Beam**	**20.84**	**29**	P	**P**	**20 53 46.4**	**-0.3**
	1.7nm,0.6s,baz=225,slow=11,SNR=9.6						
NVS	**Novosibirsk**	**20.96**	**25**	*e*P	**P**	**20 53 46.4**	**-1.6**
ZAK	**Zakamensk**	**28.68**	**50**	*e*P	**P**	**20 55 00.8**	**-1.3**
ZAK				*e*		20 55 58.0	
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.7s,mb3.3						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
AKASG	**Malin Array Be**	**31.03**	**309**	P	**P**	**20 55 23.0**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**31.03**	**309**	P	**P**	**20 55 23.0**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.6,baz=87,slow=7.3,SNR=5.8						
FINES	**FINESS Array B**	**36.06**	**327**	P	**P**	**20 56 07.2**	**+0.7**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.9s						
FINES	**FINESS Array B**	**36.06**	**327**	P	**P**	**20 56 07.2**	**+0.8**
	comp=Z,1.3nm,0.9s,mb3.9,baz=132,slow=10,SNR=3.0						
NB2	**NORSAR Subarra**	**42.85**	**323**	P	**P**	**20 57 02.9**	**-0.2**
	comp=Z,1.1nm,0.6s,mb3.8,baz=100,slow=8.6						
NOA	**NORSAR Array B**	**42.85**	**323**	P	**P**	**20 57 03.2**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA	**NORSAR Array B**	**42.85**	**323**	P	**P**	**20 57 03.2**	**+0.1**
	comp=Z,1.0nm,0.7s,mb3.7,baz=99,slow=8.1,SNR=5.6						
TORD	**Torodi Ar. Bea**	**63.38**	**267**	P	**P**	**20 59 34.1**	**-0.9**
	comp=Z,0.5nm,0.9s,mb3.7,baz=45,slow=7.0,SNR=3.0						
YKA	**Yellowknife Ar**	**81.18**	**1**	P	**P**	**21 01 21.2**	**+0.6**
YKA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
YKA	**Yellowknife Ar**	**81.18**	**1**	P	**P**	**21 01 21.2**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.8,baz=351,slow=5.4,SNR=8.5						

IDC 27 20:51:58.5±4.2, 4032S×7173W, h34km±28km, mb3.9/7, mb1 3.9/8, mb1mx3.8/13, mbtmp3.9/8, ML3.5/1, MS4.0/5, Ms1 4.0/5, ms1mx3.6/18, Error ellipse: s-maj=40.6km s-min=17.1km az=94.0, Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	**Paso Flores**	**0.99**	**115**	Pg	Pn	20 52 16.7	+0.7
	105nm,0.3s,baz=278,slow=16,SNR=1227						
PLCA				Lg		20 52 32.1	
	83nm,0.3s,baz=262,slow=19,SNR=8.8						
CFAA	**Coronel Fontan**	**9.14**	**19**	Pn	Pn	20 54 09.1	+1.1
	0.5nm,0.3s,baz=201,slow=11,SNR=42						
CFAA				LR	LR	20 57 38.5	
	comp=Z,39nm,20.1s,baz=194,slow=37						
USHA	**Ushuaia**	**14.69**	**172**	LR	LR	21 01 23.5	
	comp=Z,374nm,19.6s,baz=135,slow=38						
CPUP	**Villa Florida**	**18.39**	**45**	P	Pn	20 56 19.0	+8.2
	1.0nm,0.3s,baz=219,slow=7.2,SNR=6.8						
CPUP				LR	LR	21 04 27.7	
	comp=Z,489nm,20.0s,baz=204,slow=41						
LPAZ	**La Paz**	**24.15**	**8**	P	P	20 57 12.8	+1.3
	5.8nm,1.0s,baz=167,slow=6.9,SNR=16						
PMSA	**Palmer Station**	**24.90**	**172**	LR	LR	21 06 38.2	
	comp=Z,368nm,18.7s,baz=72,slow=35						
SIV	**San Ignacio**	**25.95**	**24**	P	P	20 57 27.5	-0.4
	5.6nm,1.0s,baz=214,slow=9.4,SNR=18						
BDFB	**Brasilia**	**32.10**	**47**	P	P	20 58 22.4	-0.1
	0.8nm,0.5s,baz=212,slow=17,SNR=3.4						
BDFB				LR	LR	21 13 00.4	
	comp=Z,216nm,21.1s,baz=206,slow=39						
VNDA	**Vanda**	**57.97**	**192**	P	P	21 01 47.6	+0.5
	0.7nm,0.8s,baz=135,slow=0.8,SNR=4.7						
MAW	**Mawson**	**67.07**	**163**	P	P	21 02 48.0	+0.1
	2.0nm,0.9s,baz=186,slow=9.2,SNR=2.8						
BOSA	**Boshof**	**76.98**	**116**	P	P	21 03 51.4	+3.5
	4.7nm,1.0s,baz=212,slow=9.5,SNR=3.0						
DBIC	**Dimbokro**	**77.06**	**70**	P	P	21 03 49.0	+0.6
	3.8nm,0.8s,baz=189,slow=7.8,SNR=4.8						
DBIC				LR	LR	21 32 52.9	
	comp=Z,110nm,20.0s,baz=167,slow=32						
TORD	**Torodi Ar. Bea**	**86.17**	**69**	P	P	21 04 35.7	-0.8
	1.7nm,1.3s,baz=197,slow=4.5,SNR=2.5						
WRA	**Warramunga Arr**	**115.32**	**207**	PKP	PKPdf	21 10 35.1	-1.8
	0.1nm,0.8s,baz=171,slow=1.2,SNR=3.3						
ZALV	**Zalesovo Beam**	**159.15**	**41**	PKP	PKPdf	21 11 52.5	+0.2
	0.3nm,0.5s,baz=298,slow=3.1,SNR=3.8						
MKAR	**Makanchi Array**	**160.14**	**62**	PKP	PKPdf	21 11 54.9	+1.2
	0.4nm,0.9s,baz=163,slow=1.5,SNR=3.5						

*IDC **27** 21:03:59.2±0.9, 1989S×17467W, h0km, mb3.9/8, mb1 4.1/10, mb1mx4.0/18, mbtmp4.0/10, ML3.3/2, Error ellipse: s-maj=31.4km s-min=19.2km az=134.0*
*ISCJB **27** 21:04:01.4±0.8, 199S±01×1746W±0.1, h33km, mb4.0/10, Error ellipse: s-maj=22.1km s-min=13.0km az=30.7*
*NEIC **27** 21:04:02.7±0.5, 1987S×17460W, h25km, mb4.5/3, Error ellipse: s-maj=16.9km s-min=10.0km az=126.0*

ISC 27 21:04:03.9±0.8, 199S±01×1746W±01, h35km, n19, σ1§10/16, mb4.0/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.53**	**25**	Pn	**Pn**	**21 05 35.6**	**-1.9**
	5.3nm,0.3s,baz=104,slow=22,SNR=7.1						
AFI				Sn	**Sn**	**21 06 41.6**	**-9.0**
	3.5nm,0.3s,baz=206,slow=23,SNR=2.6						
RAR	**Rarotonga**	**13.94**	**98**	Pn	**Pn**	**21 07 10.8**	**-8.2**
	3.4nm,0.3s,baz=180,slow=3.5,SNR=8.2						
URZ	**Urewera**	**19.67**	**200**	P	**Pn**	**21 08 29.2**	**-2.2**
	0.7nm,0.3s,baz=329,slow=9.7,SNR=4.2						
CTA	**Charters Tower**	**36.74**	**263**	P	**P**	**21 11 09.0**	**+0.8**
	2.1nm,0.5s,mb4.2,baz=82,slow=10,SNR=8.8						
CTAO	**Charters Tower**	**36.74**	**263**	*e*P	**P**	**21 11 08.6**	**+0.4**
	4.4nm,0.5s,mb4.5						
STKA	**Stephens Creek**	**40.94**	**244**	*e*P	**P**	**21 11 43.2**	**0.0**
STKA	**Stephens Creek**	**40.94**	**244**	P	**P**	**21 11 42.5**	**-0.7**
	1.5nm,0.6s,mb3.8,baz=64,slow=5.9,SNR=5.2						
ASAR	**Alice Springs**	**47.78**	**256**	P	**P**	**21 12 37.5**	**-0.5**
	1.3nm,0.8s,mb4.0,baz=93,slow=8.1,SNR=15						
ASAR				PcP	PcP	21 14 07.2	+0.5
	0.5nm,0.5s,baz=103,slow=3.8,SNR=4.4						
WRAB	**Tennant Creek**	**47.85**	**261**	*e*P	**P**	**21 12 38.8**	**+0.2**
	3.0nm,0.9s,mb4.3						
WRA	**Warramunga Arr**	**47.86**	**261**	P	**P**	**21 12 37.7**	**-1.0**
	0.8nm,0.5s,mb4.0,baz=97,slow=7.5,SNR=46						
WRA				PcP	PcP	21 14 06.6	-0.5
	0.5nm,0.8s,baz=96,slow=3.5,SNR=3.2						
FITZ	**Fitzroy Crossi**	**56.29**	**261**	P	**P**	**21 13 42.0**	**+0.6**
	0.6nm,0.7s,mb3.7,baz=80,slow=6.1,SNR=3.9						
VNDA	**Vanda**	**58.82**	**186**	P	**P**	**21 13 59.4**	**+1.1**
	0.8nm,0.7s,mb3.8,baz=13,slow=6.6,SNR=6.3						
QSPA	**South Pole Qui**	**70.18**	**180**	*e*P	**P**	**21 15 13.0**	**+0.5**
	3.5nm,0.9s,mb4.3						
MJAR	**Matsushiro Arr**	**71.67**	**322**	P	**P**	**21 15 23.2**	**+1.1**
	0.9nm,0.6s,mb3.9,baz=155,slow=6.4,SNR=4.9						
NVAR	**Mina Array Bea**	**78.41**	**42**	P	**P**	**21 16 02.5**	**+1.5**
	0.6nm,0.8s,mb3.6,baz=238,slow=9.5,SNR=3.1						
ARCES	**ARCESS Array B**	**128.86**	**351**	PKP	PKPdf	21 23 08.0	+1.0
ARCES	**ARCESS Array B**	**128.86**	**351**	PKP	PKPdf	21 23 08.0	+1.0
	1.3nm,0.8s,baz=38,slow=4.9,SNR=4.1						
AKASG	**Malin Array Be**	**143.95**	**334**	PKhKP		21 23 32.6	
	0.2nm,0.3s,baz=40,slow=4.6,SNR=6.0						
GERES	**GERESS Array B**	**150.35**	**349**	PKPbc	PKPbc	21 23 52.5	+1.1
	0.6nm,0.7s,baz=352,slow=2.7,SNR=5.9						

*IDC **27** 21:09:42.1±0.9, 1421S×16753E, h0km, mb4.4/8, mb1 4.5/8, mb1mx4.2/15, mbtmp4.4/8, MS3.6/1, Ms1 3.5/1, ms1mx2.7/18, Error ellipse: s-maj=32.8km s-min=24.1km az=130.0*
*LDG **27** 21:09:43.8±0.8, 1390S×17046E, h10km, Error ellipse: s-maj=134.5km s-min=6.0km az=108.0*
*ISCJB **27** 21:09:45.4±1.7, 143S±02×1675E±02, h33km, mb4.4/9, Error ellipse: s-maj=35.1km s-min=30.5km az=35.5*

ISC 27 21:09:47.1±1.7, 142S±02×1675E±02, h35km, n36, σ0§59/11, mb4.4/9, 1C, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**29.54**	**229⇑**	*i*P	**P**	**21 15 49.8**	**+1.3**
	10nm,0.4s,mb4.9						
STKA	**Stephens Creek**	**29.54**	**229**	P	**P**	**21 15 49.9**	**+1.4**
	14nm,0.5s,mb5.0,baz=46,slow=8.4,SNR=45						
STKA				LR	LR	21 28 03.6	
	comp=Z,103nm,18.1s,baz=25,slow=37						
WRA	**Warramunga Arr**	**32.20**	**255**	P	**P**	**21 16 11.7**	**-0.4**
	0.5nm,0.4s,mb3.7,baz=78,slow=6.0,SNR=16						
ASAR	**Alice Springs**	**33.10**	**248**	P	**P**	**21 16 19.8**	**-0.2**
	1.9nm,0.3s,mb4.4,baz=73,slow=9.7,SNR=44						
FORT	**Forrest**	**39.79**	**239**	*e*P	**P**	**21 17 17.0**	**0.0**
	16nm,0.5s,mb5.0						
FITZ	**Fitzroy Crossi**	**40.36**	**259**	*e*P	**P**	**21 17 22.1**	**+0.2**
	3.0nm,0.6s,mb4.2						
FITZ	**Fitzroy Crossi**	**40.36**	**259**	P	**P**	**21 17 22.2**	**+0.3**
	1.7nm,0.8s,mb3.8,baz=49,slow=5.4,SNR=7.3						
NWAO	**Narrogin (SRO)**	**49.25**	**239**	P	**P**	**21 18 31.5**	**-1.0**
	20nm,1.1s,mb5.1,baz=88,slow=9.9,SNR=6.9						
VNDA	**Vanda**	**63.42**	**181**	P	**P**	**21 20 12.8**	**0.0**
	2.2nm,0.7s,mb4.4,baz=2.9,slow=6.8,SNR=27						
MAW	**Mawson**	**82.49**	**202**	P	**P**	**21 22 05.5**	**-0.3**
	2.6nm,0.9s,mb4.2,baz=104,slow=8.6,SNR=5.7						
MKAR	**Makanchi Array**	**96.97**	**316**	P	**P**	**21 23 15.4**	**+0.3**
	0.3nm,0.6s,mb3.9,baz=85,slow=3.0,SNR=2.9						
KEV	**Kevo**	**119.25**	**345**	*e*p	PKPdf	21 28 32.4

CAW	Cannon Point	1.67	94	PN	Pn	21 10 47.3	-0.3
LTZ	Lake Taylor	1.81	194	P	Pn	21 10 48.7	-0.2
LTZ	Lake Taylor	1.81	194	PN	Pn	21 10 48.7	-0.2
MSWZ	Moikau Station	1.85	103	P	Pn	21 10 48.9	-0.4
MSWZ	Moikau Station	1.85	103	PN	Pn	21 10 48.9	-0.4
PLWZ	Palliser	1.89	108	PN	Pn	21 10 49.3	-0.3
NWEZ	Newall Road	1.91	24	P	Pn	21 10 49.2	-0.8
NWEZ	Newall Road	1.91	24	PN	Pn	21 10 49.2	-0.8
PAWZ	Paruwai Farm	1.97	101	ePN	Pn	21 10 46.1	-4.4
HOWZ	Holdsworth Sta	2.02	87	PN	Pn	21 10 50.6	-0.4
PKE	Pukeiti	2.02	26	PN	Pn	21 10 50.1	-1.1
MRZ	Mangatainoka R	2.10	81	P	Pn	21 10 51.2	-0.7
MRZ	Mangatainoka R	2.10	81	PN	Pn	21 10 51.2	-0.7
TRWZ	Traveller	2.17	101	PN	Pn	21 10 52.5	-0.1
TIWZ	Tintock	2.31	85	PN	Pn	21 10 53.7	-0.4
TSZ	Takapari Road	2.56	69	P	Pn	21 10 56.0	-0.8
TSZ	Takapari Road	2.56	69	PN	Pn	21 10 56.0	-0.9
WVZ	Waitaha Valley	2.59	217	P	Pn	21 10 56.0	-1.1
WVZ	Waitaha Valley	2.59	217	PN	Pn	21 10 56.0	-1.1
MQZ	McQueen's Vall	2.68	183	P	Pn	21 10 56.7	-1.5
MQZ	McQueen's Vall	2.68	183	PN	Pn	21 10 56.7	-1.5
WNVZ	Wahianoa	2.70	52	P	Pn	21 10 57.3	-1.2
WNVZ	Wahianoa	2.70	52	PN	Pn	21 10 57.3	-1.2
FWVZ	Far West T-bar	2.72	50	P	Pn	21 10 57.6	-1.1
FWVZ	Far West T-bar	2.72	50	PN	Pn	21 10 57.6	-1.1
WPVZ	Whakapapa	2.75	49	P	Pn	21 10 57.5	-1.5
WPVZ	Whakapapa	2.75	49	PN	Pn	21 10 57.5	-1.6
WTVZ	West Tongariro	2.83	49	P	Pn	21 10 58.4	-1.6
WTVZ	West Tongariro	2.83	49	PN	Pn	21 10 58.4	-1.6
KRVZ	Karewarewa	2.88	49	PN	Pn	21 10 59.0	-1.6
WPHZ	Waipukurau	2.90	72	PN	Pn	21 11 00.4	-0.2
HIZ	Hauiti	2.94	32	P	Pn	21 10 59.3	-2.0
HIZ	Hauiti	2.94	32	PN	Pn	21 10 59.3	-2.0
RPZ	Rata Peaks	3.00	206	P	Pn	21 11 00.9	-1.0
RPZ	Rata Peaks	3.00	206	PN	Pn	21 11 00.9	-1.0
BKZ	Black Stump Fm	3.35	58	P	Pn	21 11 04.5	-1.6
BKZ	Black Stump Fm	3.35	58	PN	Pn	21 11 04.5	-1.6
FOZ	Fox Glacier	3.46	222	P	Pn	21 11 04.5	-2.8
FOZ	Fox Glacier	3.46	222	PN	Pn	21 11 04.5	-2.8
LBZ	Lake Benmore	3.89	209	P	Pn	21 11 10.9	-1.7
LBZ	Lake Benmore	3.89	209	PN	Pn	21 11 10.9	-1.7
JCZ	Jackson Bay	4.29	223	P	Pn	21 11 15.6	-2.0
JCZ	Jackson Bay	4.29	223	PN	Pn	21 11 15.6	-2.0
ODZ	Otahua Downs	4.33	201	P	Pn	21 11 17.1	-1.0
ODZ	Otahua Downs	4.33	201	PN	Pn	21 11 17.1	-1.0
WHZ	Wether Hill Ro	6.04	215	P	Pn	21 11 37.2	-2.6
WHZ	Wether Hill Ro	6.04	215	PN	Pn	21 11 37.2	-2.6

*ISCJB **27** 21:53:36.6±1.0, 3339N±003×7235E±005, h12km±6km, mb3.5/7, Error ellipse: s-maj=8.3km s-min=3.8km az=145.7*
*IDC **27** 21:53:37.8±1.2, 3355N×7250E, h0km, mb3.5/7, mb1 3.7/10, mb1mx3.6/24, mbtmp3.6/10, ML3.6/3, Error ellipse: s-maj=40.0km s-min=20.3km az=54.0*
*NDI **27** 21:53:38.3±1.9, 3356N×7218E, h10km, ML3.3*
*NNC **27** 21:53:39.7±6.9, 3326N×7201E, h32km±66km, mb3.4, Error ellipse: s-maj=75.4km s-min=34.8km az=103.0*
*NEIC **27** 21:53:39.4±1.0, 3346N×7255E, h10km, Error ellipse: s-maj=16.8km s-min=15.9km az=130.0*
*MOS **27** 21:53:40.8±0.7, 3356N×7234E, h33km, mb4.2/3, Error ellipse: s-maj=30.4km s-min=12.7km az=94.2*

ISC 27 21:53:38.4±0.8, 3341N±003×7231E±005, h10km±5km, n50, σ1§45/60, mb3.5/7, 4C-5D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	0.53	321	⇑P	Pg	21 53 50.7	+2.0
THW	Thamme Wali	0.78	218	P	Pg	21 54 00.3	+6.8
CHCP	Chirah Chowk	0.83	73	⇑P	Pg	21 53 53.6	-0.9
SARP	Sargodha	1.52	168	P	Pn	21 54 10.8	+5.1
DRP	Derazinda	2.44	227	P	Pg	21 54 25.0	-0.2
KBL	Kabul	2.94	293	ePn	Pg	21 54 31.0	-3.8
THN	Thein Dam	3.03	108	eP	Pn	21 54 28.2	+1.8
THN				ex	Sg	21 55 10.6	-5.1
DLH	Dalhousie	3.19	105	eP	Pn	21 54 31.0	+2.3
DLH				ex	Sg	21 55 26.0	+5.0
BHK	Bhakra	4.00	119	ex	Pg	21 54 52.0	-3.1
SDNR	Sundarnagar	4.38	115	eP	Pn	21 54 46.0	+1.0
SDNR				ex	Sg	21 56 01.0	+2.0
KLP	Kalpa	5.36	109	eP	Pn	21 54 60.0	+1.5
KLP				eS	Sn	21 56 01.3	+1.1
KLP				AML	AML	21 56 48.0	
	comp=N,111nm,0.4s						
KLP				AML	AML	21 56 48.8	
	comp=E,134nm,0.8s						
DDI	Dehra Dun	5.78	121	ex	Pg	21 55 26.5	-2.6
DDI				ex	x	21 56 54.0	
KHET	Khetri	6.11	150	eP	Pn	21 55 11.5	+2.6
KHET				eS	Sn	21 56 18.3	-0.5
KHET				AML	AML	21 57 03.6	
	comp=N,15nm,0.3s						
KHET				AML	AML	21 57 04.1	
	comp=E,30nm,0.4s						
NDI	New Delhi	6.32	137	eS	Sn	21 56 24.0	+0.1
KUDL	Kundal	6.36	145	eP	Pn	21 55 14.8	+2.5
KUDL				eS	Sn	21 56 23.9	-1.2
KUDL				AML	AML	21 57 09.1	
	comp=N,17nm,0.4s						
SONA	Sohna	6.58	140	eP	Pn	21 55 17.5	+2.2
SONA				eS	Sn	21 56 28.8	-1.6
SONA				AML	AML	21 57 18.1	
	comp=N,16nm,0.3s						
SONA				AML	AML	21 57 18.2	
	comp=E,28nm,0.4s						
AML	Almayashu	8.77	7	ePn	Pn	21 55 47.4	+2.1
	comp=E,10nm,0.4s						
AML				eSn	Sn	21 57 15.8	-8.4
UCH	Uchtor	8.97	11	ePn	Pn	21 55 49.3	+1.3
	comp=E,4.6nm,0.5s						
KK31	Karatay Array	9.78	352	⇑P	Pn	21 55 60.0	+0.9
	comp=E,1.3nm,0.3s,baz=177,slow=14,SNR=22						
KK31				⇓S	Sn	21 57 50.4	+1.6
	comp=E,3.0nm,0.8s						
TKM2	Tokmak 2	9.84	14	⇓P	Pn	21 56 01.7	+1.9
	comp=E,1.3nm,0.5s						
TKM2				⇓S	Sn	21 57 54.8	+4.4
	comp=E,4.3nm,1.0s						
TKM2	Tokmak 2	9.84	14	eP	Pn	21 56 01.6	+1.7
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.4s						
TKM2	Tokmak 2	9.84	14	ePn	Pn	21 56 01.6	+1.7
	comp=Z,2.2nm,0.4s						
DANN	Dangsing	11.05	114	eP	Pn	21 56 16.5	-0.1
	comp=Z,6.6nm,0.3s						
KOLN	Koldanda	11.23	117	eP	Pn	21 56 17.8	-1.3
	comp=Z,1.9nm,0.2s						
GKN	Gorkha	11.90	114	eP	Pn	21 56 27.3	-0.8
	comp=Z,6.0nm,0.3s						
DMN	Daman	12.45	114	eP	Pn	21 56 34.6	-1.2
	comp=Z,7.2nm,0.4s						
KKN	Kakani	12.49	113	eP	Pn	21 56 34.4	-1.9
	comp=Z,7.0nm,0.5s						
PKI	Pulchoki	12.70	114	eP	Pn	21 56 37.8	-1.4
	comp=Z,6.3nm,0.3s						
GUN	Gumba	12.90	112	eP	Pn	21 56 40.4	-1.5
	comp=Z,9.9nm,0.4s						
JIRN	Jiri	13.26	112	eP	Pn	21 56 45.1	-1.7
	comp=Z,20nm,0.5s						
MKAR	Makanchi Array	15.37	27	Pn	Pn	21 57 14.0	-1.4
	comp=Z,0.0nm,0.3s,baz=207,slow=17,SNR=2.7						
VOSK	Vostochnaya	19.32	358	⇓P	Pn	21 58 04.7	+0.1
	comp=Z,1.1nm,0.6s						
BVA0	Borovoye Array	19.65	357	⇑P	Pn	21 58 06.5	-2.1
	comp=Z,0.3nm,1.0s,baz=162,slow=10.0,SNR=11						
BVAR	Borovoye Array	19.65	357	P	Pn	21 58 06.9	-1.7
	comp=Z,0.4nm,0.3s,baz=166,slow=9.1,SNR=13						
ZRNK	Zerenda	19.67	354	⇓P	Pn	21 58 07.3	-1.5
	comp=Z,2.7nm,0.7s						
AKTK	Aktyubinsk	20.00	333	P	Pn	21 58 11.8	-0.9
AKTO	Aktyubinsk	20.00	333	P	Pn	21 58 11.8	-0.9
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.3s						
AKTO	Aktyubinsk	20.00	333	P	Pn	21 58 11.8	-0.9
	comp=Z,0.6nm,0.3s,baz=124,slow=8.6,SNR=11						
ZAL	Zalesovo	22.35	20	P	P	21 58 35.1	-1.2
ZALV	Zalesovo Beam	22.37	20	P	P	21 58 35.0	-1.4
	comp=Z,0.5nm,0.3s,mb3.4,baz=217,slow=7.2,SNR=6.0						
AKASG	Malin Array Be	35.76	312	P	P	22 00 38.8	+1.4
	comp=Z,0.1nm,0.2s,mb3.3,baz=81,slow=7.4,SNR=4.1						
FINES	FINESS Array B	40.65	328	P	P	22 01 18.6	+0.2
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	FINESS Array B	40.65	328	P	P	22 01 18.6	+0.2
	comp=Z,0.8nm,0.6s,mb3.5,baz=114,slow=7.8,SNR=4.3						
ARCES	ARCESS Array B	44.40	339	P	P	22 01 49.3	+0.5
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	ARCESS Array B	44.40	339	P	P	22 01 49.3	+0.5
	comp=Z,3.0nm,0.8s,mb4.0,baz=116,slow=8.1,SNR=5.4						
NB2	NORSAR Subarra	47.50	325	P	P	22 02 13.6	+0.2
	comp=Z,0.4nm,0.5s,mb3.7,baz=101,slow=7.9						
NOA	NORSAR Array B	47.50	325	P	P	22 02 13.5	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,1.0s						
NOA	NORSAR Array B	47.50	325	P	P	22 02 13.5	+0.1
	comp=Z,1.3nm,1.0s,mb3.9,baz=100,slow=8.1,SNR=3.3						
WRA	Warramunga Arr	79.44	122	P	P	22 05 46.2	+1.0
	comp=Z,0.3nm,0.6s,mb3.4,baz=323,slow=5.1,SNR=5.0						
ASAR	Alice Springs	81.60	125	P	P	22 05 57.4	+0.7
	comp=Z,0.2nm,0.5s,mb3.3,baz=313,slow=5.0,SNR=2.7						

IDC 27 22:13:16.5±3.9, 130N×9902E, h0km, mb3.5/4, mb1 3.6/4, mb1mx3.4/20, mbtmp3.5/4, Error ellipse: s-maj=156.7km s-min=26.5km az=57.0, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	40.55	123	P	P	22 20 57.7	-0.2
	0.3nm,0.3s,baz=307,slow=9.1,SNR=12						
SONM	Songino Array	46.80	7	P	P	22 21 49.1	+1.3
	0.2nm,0.4s,baz=198,slow=7.6,SNR=2.2						
MKAR	Makanchi Array	47.61	344	P	P	22 21 53.4	-0.8
	0.2nm,0.4s,baz=165,slow=8.9,SNR=4.2						
ZALV	Zalesovo Beam	53.77	350	P	P	22 22 40.1	-0.4
	0.8nm,0.4s,baz=166,slow=7.9,SNR=5.8						

*TIF **27** 22:30:07.3, 41.18N×4401E, h11km±4km*
*ISCJB **27** 22:30:08.1±1.2, 4120N±006×4397E±005, h11km, Error ellipse: s-maj=8.1km s-min=5.3km az=9.2*
*MOS **27** 22:30:08.2±2.7, 4125N×4478E, h10km, mb3.8/1, Error ellipse: s-maj=99.9km s-min=16.3km az=99.7*
*CSEM **27** 22:30:08.2, 4125N×4478E, h10km, mb3.8, Error ellipse: s-maj=99.9km s-min=16.3km az=97.0, After OBN*

ISC 27 22:30:08.0±1.4, 4116N±006×4397E±005, h5km±10km, n11, σ0§92/21, Turkey-Georgia-Armenia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AKH	Akhalkalaki	0.44	305	P	Pg	22 30 16.8	+0.4
AKH				S	Sg	22 30 22.6	+0.4
TBLG	Delisi	0.81	45	ePg	Pg	22 30 23.1	-0.5
TBLG	Delisi	0.81	45	P	Pg	22 30 23.2	-0.5
TBLG				S	Sg	22 30 33.9	-0.3
MTA	Mtatsminda	0.82	49	P	Pg	22 30 23.1	-0.6
MTA				S	Sg	22 30 33.8	-0.5
GOR	Gori	0.83	7	P	Pg	22 30 23.4	-0.6
GOR				S	Sg	22 30 34.9	+0.2
DGRG	David-gareji	1.10	74	P	Pg	22 30 29.4	+0.4
DGRG				S	Sg	22 30 45.7	+2.4
ONI	Oni	1.47	345	P	Pg	22 30 36.2	0.0
ONI				S	Sn	22 30 54.9	+0.1
ZEI	Tsey	1.61	358	ePn	Pg	22 30 40.2	+1.3
ZEI				eSg	Sg	22 31 04.7	+4.9
LACR	Lac	1.68	8	i Pg	Pg	22 30 39.4	-0.9
LACR				eSg	Sg	22 31 03.2	+1.1
KORR	Kora	1.93	2	i Pn	Pg	22 30 44.2	-0.7
KORR				i Sg	Sg	22 31 11.0	+1.1
ARNR	Ardon	2.04	6	ePn	Pg	22 30 45.0	-2.1
ARNR				eSg	Sg	22 31 12.8	-0.8

IDC 27 22:37:05.9±5.9, 1871S×17650W, h0km, mb3.8/2, mb1 4.1/2, mb1mx3.6/14, mbtmp3.8/2, Error ellipse: s-maj=298.1km s-min=53.0km az=148.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	46.27	260	P	P	22 45 33.5	-0.1
	0.7nm,0.7s,baz=95,slow=7.6,SNR=25						
ASAR	Alice Springs	46.33	255	P	P	22 45 33.9	0.0
	1.2nm,0.6s,baz=100,slow=7.4,SNR=15						
GERES	GERESS Array B	148.83	347	PKPbc	PKPbc	22 56 55.0	-0.4
	0.4nm,0.7s,baz=20,slow=3.1,SNR=3.8						

*IDC **27** 23:16:58.4±1.7, 665N×12695E, h0km, mb3.5/5, mb1 3.6/5, mb1mx3.5/19, mbtmp3.5/5, Error ellipse: s-maj=116.8km s-min=20.3km az=71.0*
*ISCJB **27** 23:17:11.0±0.9, 660N±008×1270E±0.1, h132km±8km, mb3.6/9, Error ellipse: s-maj=20.7km s-min=12.5km az=159.4*
*MAN **27** 23:17:10, 662N×12709E, h115km, mb4.7, ML3.6, MS3.6*
*NEIC **27** 23:17:12.4±1.5, 665N×12699E, h125km±14km, mb4.2/4, Error ellipse: s-maj=21.8km s-min=12.1km az=72.0*

ISC 27 23:17:12.1±1.0, 659N±008×1270E±01, h123km±9km, n21, σ1§06/21, mb3.7/9, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	Mati	0.81	296	eP	Pn	23 17 32.8	+0.2
DAV	Davao City (W)	1.48	289	eP	Pn	23 17 40.1	+0.7
KCP	Kidapawan	1.93	282	eP	Pn	23 17 44.1	-0.7
GSPH	General Santos	2.09	256	eP	Pn	23 17 43.6	-3.2
BUKP	Musuan	2.30	304	eP	Pn	23 17 50.4	+0.9
PAGZ	Pagadian	3.79	289	eP	Pn	23 18 09.0	+0.1
GUMO	Guam	18.92	67	P	P	23 21 22.6	-0.8
FITZ	Fitzroy Crossi	24.57	183	P	P	23 22 20.3	-0.4
	1.2nm,1.0s,mb3.3,baz=18,slow=15,SNR=3.3						
WRAB	Tennant Creek	27.34	165	eP	P	23 22 48.9	+3.3
	1.1nm,0.7s,mb3.5						
WRA	Warramunga Arr	27.34	165	P	P	23 22 45.0	-0.6
	0.3nm,0.4s,mb3.2,baz=344,slow=10,SNR=5.1						
MBWA	Marble Bar	28.48	194	P	P	23 22 54.8	-1.0
ASAR	Alice Springs	30.82	168	P	P	23 23 18.4	+1.9
ASAR	Alice Springs	30.82	168	P	P	23 23 18.4	+1.9
	0.2nm,0.3s,mb3.3,baz=337,slow=7.2,SNR=4.1						
HIA	Hailar	42.97	353	P	P	23 24 57.6	-1.2
	2.7nm,0.3s,mb4.5						
MKAR	Makanchi Array	55.38	324	P	P	23 26 35.5	+2.1
	0.4nm,0.5s,mb3.7,baz=122,slow=6.8,SNR=4.8						
ZALV	Zalesovo Beam	58.18	332	P	P	23 26 52.3	-0.7
	0.4nm,0.5s,mb3.7,baz=133,slow=8.5,SNR=2.8						
UCH	Uchtor	58.28	316	eP	P	23 26 53.5	-0.4
	3.2nm,0.7s,mb4.5						
EKS2	Erkin-Say	58.95	316	P	P	23 26 58.5	0.0
KURK	Kurchatov	59.49	327	eP	P	23 27 01.5	-0.6
	1.0nm,0.7s,mb4.0						
ARU	Arti	72.68	327	P	P	23 28 26.7	+0.4
DLBC	Dease Lake	91.17	31	eP	P	23 30 03.9	+0.9

*CSEM **27** 23:19:52.5, 3606N×272E, h0km, ML3.7, After ALG*

CRAAG 27 23:19:52.5, 3606N×272E, Ml3.7, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EMHD	Djebel Mahouad	0.23	54	P	Pg	23 19 59.0	+2.0
ADJB	Djebel Djouab	0.59	80	P	Pg	23 20 05.8	+2.0
ABA	Alger-Bouzarea	0.78	19	P	Pg	23 20 09.9	+2.4
ABMS	Boumerdes	0.92	42	P	Pg	23 20 12.6	+2.4
EBNR	Beni Rached	0.99	284	P	Pg	23 20 16.0	+4.6
ECHA	Ech Chlef	1.10	275	P	Pg	23 20 17.5	+4.0
EANR	'Ain N'Sour	1.32	266	P	Pg	23 20 19.0	+1.3
ETRT	Tiaret	1.33	240	P	Pg	23 20 20.0	+1.9

IDC 27 23:48:13.3±9.9, 060S×12718E, h143km±96km, mb3.1/3, mb1 3.4/4, mb1mx3.1/16, mbtmp3.2/4, Error ellipse: s-maj=77.7km s-min=22.7km az=51.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.62	239	P	Pn	23 50 16.1	+1.0
	0.7nm,0.3s,baz=131,slow=15,SNR=10						
KAPI				S	Sn	23 51 50.4	-0.6
	0.3nm,0.3s,baz=330,slow=16,SNR=3.1						
WRA	Warramunga Arr	20.46	160	P	P	23 52 38.7	-1.1
	0.5nm,0.4s,baz=339,slow=11,SNR=6.9						
ASAR	Alice Springs	23.84	165	P	P	23 53 14.3	+0.9
	0.7nm,0.3s,baz=342,slow=10.0,SNR=8.3						
MKAR	Makanchi Array	61.37	326	P	P	23 58 13.9	-0.1
	0.3nm,0.3s,baz=113,slow=8.2,SNR=4.8						

*ATH **27** 23:51:33.1, 3707N×2863E, h50km±10km, MD3.7/4*
*NEIC **27** 23:51:35.0, 3702N×2829E, h10km, MD3.7(ATH), MD3.1(ISK), After ISK.*
*ISK **27** 23:51:35.8, 3702N×2829E, h7km, MD3.1*
*CSEM **27** 23:51:35.6±0.1, 3699N×2827E, h10km, MD3.1, Error ellipse: s-maj=2.5km s-min=2.2km az=29.0*
*ISCJB **27** 23:51:36.1±0.5, 3700N±003×2829E±003, h7km±4km, Error ellipse: s-maj=4.6km s-min=4.5km az=164.3*
*DDA **27** 23:51:37.2, 3695N×2832E, h5km, Md3.1*

ISC 27 23:51:36.6±0.4, 3701N±003×2829E±003, h9km±4km, n21, σ0§96/29, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YER	Yerkesik	0.12	357	ePG	Pg	23 51 38.2	-1.2
YER				eSG	Sg	23 51 41.4	0.0
DALT	Dalyan (Mudla)	0.37	131	ePG	Pg	23 51 43.4	-0.5
DALT				eSG	Sg	23 51 49.8	+1.0
MLSB	Milas	0.50	305	ePG	Pg	23 51 45.8	-0.5
DAT	Datca	0.64	244	ePG	Pg	23 51 48.5	-0.4
DAT				eSG	Sg	23 51 57.7	+0.5
BDRM	Kayabasi	0.68	275	i P	Pg	23 51 49.9	+0.2
BDRM				i S	Sg	23 52 00.1	+1.5
FETY	Fethiye	0.74	120	ePG	Pg	23 51 50.7	-0.2
BODT	Bodrum	0.79	274	ePG	Pg	23 51 51.9	+0.2
ARG	Arkhangelos	0.81	189	eP	Pg	23 51 51.1	-1.0
ARG				eS	Sg	23 52 04.3	+1.7
DENT	Denizli	0.95	38	ePG	Pg	23 51 54.1	-0.7
SMG	Samos	1.35	301	eP	Pn	23 51 59.8	-1.8
SMG				eS	Sb	23 52 19.1	-0.4
MANT	Manisa	1.49	8	i P	Pn	23 52 04.1	+0.5
MANT				i S	Sn	23 52 24.5	+1.3
KULA	Kula-Manisa	1.53	11	ePN	Pn	23 52 04.1	0.0
KDAG	Bornova	1.61	330	i P	Pn	23 52 07.1	+1.9
KDAG				i S	Sn	23 52 32.6	+6.6
BLCB	Balcova	1.69	325	ePN	Pn	23 52 06.6	+0.2
KARP	Karpathos	1.72	212	eP	Pn	23 52 04.8	-2.0
BCK	Bucak	1.89	76	ePN	Pn	23 52 09.0	0.0
AKHS	Akhisar	1.90	349	i P	Pn	23 52 13.1	+3.9
AKS	Akhisar	1.90	349	ePN	Pn	23 52 09.0	-0.2
SHUT	Suhut-Afyon	2.36	49	ePN	Pn	23 52 16.4	+0.8
DST	Dursunbey	2.60	6	ePN	Pn	23 52 18.5	-0.4
NPS	Neapolis	2.78	232	eP	Pn	23 52 20.3	-1.0

*ISCJB **27** 23:58:40.2±0.6, 307S±007×236E±0.1, h10km, mb3.9/10, Error ellipse: s-maj=16.5km s-min=10.1km az=175.5*
*IDC **27** 23:58:40.5±0.8, 307S×2357E, h0km, mb4.0/9, mb1 4.1/12, mb1mx3.9/25, mbtmp4.0/12, ML2.4/2, MS2.9/2, Ms1 2.9/2, ms1mx2.6/27, Error ellipse: s-maj=24.5km s-min=14.8km az=85.0*
*NEIC **27** 23:58:42.0±0.4, 307S×2353E, h10km, mb4.1/1, Error ellipse: s-maj=12.3km s-min=7.6km az=85.0*

ISC 27 23:58:42.2±0.6, 307S±007×235E±01, h10km, n14, σ0§55/16, mb3.9/10, Zaire

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSZ	Lusaka	12.97	160	Pn	Pn	00 01 46.5	-0.2
	0.7nm,0.3s,baz=355,slow=9.7,SNR=19						
LSZ				Sn	Sn	00 04 02.2	-9.0
	1.1nm,0.3s,baz=16,slow=22,SNR=2.5						
LSZ				Lg		00 05 29.7	
	1.2nm,0.3s,baz=291,slow=19,SNR=3.4						
LSZ				LR	LR	00 07 13.3	
	comp=Z,98nm,18.2s,baz=153,slow=40						
KMBO	Kilima Mbogo	13.85	82	Pn	Pn	00 01 58.6	-0.1
	0.2nm,0.3s,baz=239,slow=18,SNR=5.0						
KMBO				Lg		00 05 57.6	
	0.6nm,0.3s,baz=179,slow=20,SNR=7.7						
KMBO				LR	LR	00 06 57.6	
	comp=Z,28nm,18.6s,baz=327,slow=36						
TSUM	Tsumeb	17.06	199	Pn	Pn	00 02 40.3	-0.6
	0.3nm,0.3s,baz=5.2,slow=14,SNR=14						
TSUM				Sn	Sn	00 05 40.1	-11
	1.3nm,0.3s,baz=119,slow=23,SNR=6.8						
TSUM				Lg		00 07 40.9	
	0.5nm,0.3s,baz=323,slow=3.9,SNR=5.5						
LBTB	Lobatse	21.91	175	P	P	00 03 36.5	+0.8
	5.5nm,0.5s,mb4.3,baz=1.2,slow=11,SNR=21						
BOSA	Boshof	25.46	176	eP	P	00 04 10.8	+0.4
	2.9nm,0.7s,mb3.9						
BOSA	Boshof	25.46	176	P	P	00 04 10.4	0.0
	2.3nm,0.6s,mb3.9,baz=346,slow=7.4,SNR=8.4						
TORD	Torodi Ar. Bea	27.01	307	P	P	00 04 24.4	-0.3
	1.2nm,0.4s,mb3.8,baz=127,slow=9.1,SNR=45						
IDI	Anoyia	38.17	2	P	P	00 06 01.7	-0.2
	7.5nm,1.1s,mb4.3,baz=169,slow=5.2,SNR=4.6						
ESDC	Sonseca Array	49.47	332	P	P	00 07 33.1	+0.4
	0.6nm,0.8s,mb3.7,baz=350,slow=33,SNR=3.2						
GERES	GERESS Array B	52.40	352	P	P	00 07 54.2	-0.5
	0.3nm,0.6s,mb3.4,baz=177,slow=6.9,SNR=3.1						
NOA	NORSAR Array B	64.63	353	P	P	00 09 24.3	+4.5
	1.2nm,0.8s,mb4.0,baz=169,slow=6.4,SNR=2.7						
MKAR	Makanchi Array	71.50	38	P	P	00 10 03.2	0.0
	0.4nm,0.5s,mb3.6,baz=253,slow=6.8,SNR=8.1						
ARCES	ARCESS Array B	72.47	1	P	P	00 10 09.7	+1.2
	5.5nm,1.1s,mb4.4,baz=191,slow=8.3,SNR=4.1						
ZALV	Zalesovo Beam	76.07	32	P	P	00 10 29.2	-0.7
	0.8nm,0.4s,mb4.0,baz=247,slow=5.8,SNR=6.6						

*ISCJB **28** 00:27:35.9±0.4, 2799N±004×1392E±0.1, h513km

comp=Z,4.3nm,0.8s,mb4.0
TIXI Tiksi 44.05 355⇑ *e*P **P 00 34 58.4 -0.1**
TIXI pmax pmax
comp=Z,3.0nm,0.9s,mb3.8
TIXI Tiksi 44.05 355 *e*P **P 00 34 57.2 -1.3**
comp=Z,1.6nm,0.3s,mb4.0
TIXI *e*PP PP 00 36 47.8 -3.3
ZALV Zalesovo Beam 47.08 319 P **P 00 35 22.2 +0.2**
ZALV Zalesovo Beam 47.08 319 P **P 00 35 22.2 +0.2**
comp=Z,1.5nm,0.3s,mb3.9,baz=100,slow=6.9,SNR=11
ZAL Zalesovo 47.09 319 P **P 00 35 22.2 +0.1**
FITZ Fitzroy Crossi 47.71 198⇓ *i*P **P 00 35 27.3 +0.1**
comp=Z,4.7nm,0.5s,mb4.3
FITZ Fitzroy Crossi 47.71 198 P **P 00 35 27.5 +0.3**
comp=Z,2.8nm,0.5s,mb4.1,baz=19,slow=9.0,SNR=26
MK31 Makanchi Array 47.87 309 *i*P **P 00 35 28.7 +0.6**
MK31 pmax pmax
comp=Z,1.0nm,0.4s,mb3.7
MKAR Makanchi Array 47.87 309 P **P 00 35 28.8 +0.7**
MKAR pmax pmax
comp=Z,2.0nm,0.4s
MKAR Makanchi Array 47.87 309 P **P 00 35 28.8 +0.7**
comp=Z,1.5nm,0.4s,mb3.8,baz=88,slow=11,SNR=15
WRAB Tennant Creek 47.91 186 *e*P **P 00 35 28.2 -0.4**
WRAB pmax pmax
comp=Z,3.0nm,0.4s,mb4.2
WRAB Tennant Creek 47.91 186 *e*P **P 00 35 28.1 -0.5**
comp=Z,2.7nm,0.4s,mb4.1
WB2 Warramunga Arr 47.92 186⇓ *i*P **P 00 35 28.3 -0.4**
WRA Warramunga Arr 47.92 186 P **P 00 35 28.4 -0.3**
WRA 00 36 48.0
WRA pmax pmax
comp=Z,4.0nm,0.3s
WRA pmax pmax
comp=Z,1.0nm,0.6s
WRA pmax pmax
comp=N,1.0nm,0.6s
WRA Warramunga Arr 47.92 186 P **P 00 35 28.4 -0.3**
comp=N,4.1nm,0.3s,mb4.4,baz=2.1,slow=7.8,SNR=150
WRA PcP PcP 00 36 48.0 +0.6
comp=N,0.5nm,0.6s,baz=357,slow=4.0,SNR=3.7
WRA ScP ScP 00 39 51.5 -1.4
comp=N,0.5nm,0.6s,baz=355,slow=4.3,SNR=5.1
KURK Kurchatov 50.47 314 *e*P **P 00 35 47.1 -0.2**
KURK pmax pmax
comp=Z,5.0nm,0.5s,mb4.2
KURK Kurchatov 50.47 314 *e*P **P 00 35 47.1 -0.1**
comp=Z,4.8nm,0.5s,mb4.2
ASAR Alice Springs 51.65 186 P **P 00 35 55.8 -0.3**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 51.65 186 P **P 00 35 55.8 -0.3**
comp=Z,2.6nm,0.6s,mb3.8,baz=16,slow=11,SNR=56
MBWA Marble Bar 52.41 203 *e*P **P 00 36 01.4 -0.2**
comp=Z,7.8nm,0.6s,mb4.2
KDAK Kodiak Island 55.20 37 P **P 00 36 21.1 +0.2**
comp=Z,5.0nm,1.0s,mb3.7,baz=238,slow=10,SNR=5.0
BRVK Borovoye 55.66 317 *e*P **P 00 36 23.4 -0.8**
BRVK pmax pmax
comp=Z,3.0nm,0.4s,mb3.9
BRVK Borovoye 55.66 317 *e*P **P 00 36 23.4 -0.8**
comp=Z,2.8nm,0.4s,mb3.9
KK31 Karatay Array 56.42 305 *i*P **P 00 36 30.5 +0.8**
KK31 pmax pmax
comp=Z,2.0nm,0.3s,mb3.8
ZRNK Zerenda 56.43 317 *i*P **P 00 36 29.8 +0.2**
ZRNK pmax pmax
comp=Z,3.0nm,0.2s,mb4.2
FORT Forrest 59.44 191 *e*P **P 00 36 50.2 0.0**
comp=Z,14nm,0.5s,mb4.5
STKA Stephens Creek 59.61 178 *e*P **P 00 36 51.3 0.0**
comp=Z,2.9nm,0.8s,mb3.7
STKA Stephens Creek 59.61 178 P **P 00 36 51.5 +0.1**
comp=Z,3.2nm,0.7s,mb3.8,baz=318,slow=9.5,SNR=6.8
ARU Arti 62.09 322 *e*i P **P 00 37 07.5 +0.1**
ARU *e*S S 00 45 15.9 +23
ARU pmax pmax
comp=Z,7.0nm,1.0s,mb4.0
INK Inuvik 63.27 25 P **P 00 37 14.4 -0.5**
INK pmax pmax
comp=Z,1.0nm,0.3s
INK Inuvik 63.27 25 *e*P **P 00 37 14.3 -0.6**
comp=Z,37nm,0.4s,mb5.2
INK Inuvik 63.27 25 P **P 00 37 14.3 -0.5**
comp=Z,1.1nm,0.3s,mb3.7,baz=288,slow=7.1,SNR=9.5
AKTO Aktyubinsk 63.55 315 *i*P **P 00 37 16.5 -0.4**
AKTO pmax pmax
comp=Z,1.0nm,2.2s,mb2.9
ARCES ARCESS Array B 71.80 340 P **P 00 38 07.9 +0.8**
ARCES pmax pmax
comp=Z,3.0nm,0.6s
ARCES ARCESS Array B 71.80 340 P **P 00 38 07.8 +0.7**
comp=Z,2.8nm,0.6s,mb3.9,baz=65,slow=7.8,SNR=20
YKA Yellowknife Ar 72.56 28 P **P 00 38 11.6 0.0**
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 72.56 28 P **P 00 38 11.6 0.0**
comp=Z,0.8nm,0.5s,mb3.4,baz=294,slow=5.5,SNR=8.7
JOF Joensuu 73.09 333 *e*p **P 00 38 14.2 -0.5**
comp=Z,2.1nm,0.4s,mb3.9
JOF Joensuu 73.09 333 *e*P **P 00 38 14.2 -0.5**
JOF pmax pmax
comp=Z,2.0nm,0.4s,mb3.9
FINES FINESS Array B 75.95 333 P **P 00 38 30.7 -0.1**
FINES pmax pmax
comp=Z,3.0nm,0.3s
FINES FINESS Array B 75.95 333 P **P 00 38 30.7 -0.1**
comp=Z,3.2nm,0.3s,mb4.2,baz=69,slow=5.0,SNR=73
ANN Anapa 78.50 315 *e*P **P 00 38 40.2 -4.9**
ANN *e*S S 00 48 07.5 +8.0
ANN pmax pmax
comp=Z,8.0nm,0.7s,mb4.2
AKASG Malin Array Be 80.32 323 *i*P **P 00 38 54.0 -0.5**
AKASG Malin Array Be 80.32 323 P **P 00 38 53.7 -0.8**
AKASG Malin Array Be 80.32 323 P **P 00 38 53.7 -0.8**
comp=Z,0.4nm,0.4s,mb3.1,baz=52,slow=5.6,SNR=4.5
NB2 NORSAR Subarra 81.77 337 P **P 00 39 00.6 -1.2**
comp=Z,1.5nm,0.6s,mb3.6,baz=46,slow=5.1
NOA NORSAR Array B 81.77 337 P **P 00 39 01.2 -0.6**
NOA pmax pmax
comp=Z,2.0nm,0.6s
NOA NORSAR Array B 81.77 337 P **P 00 39 01.1 -0.7**
comp=Z,2.2nm,0.6s,mb3.8,baz=46,slow=5.0,SNR=8.4
NVAR Mina Array Bea 81.97 51 P **P 00 39 04.5 +1.2**
comp=Z,0.3nm,0.5s,mb3.0,baz=291,slow=6.4,SNR=3.5
ANMO Albuquerque 91.85 49⇑ *e*P **P 00 39 50.8 +0.2**
MGG Marie-Galante 131.99 27 *e*P PKPdf 00 45 57.0 +4.0

*IDC **28** 00:56:50.7±5.8, 695S×127.16E, h402km±71km, mb3.2/1, mb1 2.8/4, mb1mx2.6/14, mbtmp2.6/4, Error ellipse: s-maj=82.3km s-min=74.8km az=72.0*
ISC 28 00:56:51.3±3.7, 70S±03×1270E±04, h422km±57km, n5, σ0§36/7, mb3.4/1, Banda Sea

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BATI	**Kupang**	**4.61**	**226**	P		**P**		**00 58 10.8**	**+0.3**
	15nm,0.3s,baz=14,slow=4.2,SNR=10.0								
BATI				S		**S**		**00 59 14.6**	**-0.3**
	3.6nm,0.3s,baz=331,slow=19,SNR=3.1								
FITZ	**Fitzroy Crossi**	**11.15**	**187**	P		**P**		**00 59 21.5**	**+0.4**
	0.1nm,0.3s,baz=9.7,slow=15,SNR=2.9								
WRA	**Warramunga Arr**	**14.73**	**152**	P		**P**		**01 00 00.0**	**-0.2**
	0.2nm,0.3s,baz=329,slow=11,SNR=13								
WRA				S		**S**		**01 02 36.6**	**+0.1**
	0.1nm,0.3s,baz=332,slow=20,SNR=4.8								
ASAR	**Alice Springs**	**17.88**	**159**	P		**P**		**01 00 33.8**	**+0.1**
	0.2nm,0.3s,baz=349,slow=15,SNR=7.1								
STKA	**Stephens Creek**	**28.28**	**153**	P		**P**		**01 02 08.2**	**-0.3**
	1.0nm,0.5s,mb3.4,baz=332,slow=11,SNR=3.1								

*ISCJB **28** 01:25:17.2±0.7, 2288S±005×6688W±009, h205km±9km, mb3.7/7, Error ellipse: s-maj=14.0km s-min=7.4km az=11.5*
*IDC **28** 01:25:18.4±1.6, 2273S×6687W, h198km±15km, mb3.6/6, mb1 3.6/11, mb1mx3.5/20, mbtmp3.5/11, Error ellipse: s-maj=20.9km s-min=13.3km az=83.0*
*GUC **28** 01:25:20.7±0.7, 2321S×67.18W, h210km, ML4.9*
*NEIC **28** 01:25:20.7, 2321S×67.18W, h210km, mb4.2/4, After GUC.*
ISC 28 01:25:18.3±0.7, 2284S±006×6688W±009, h199km±9km, n28, σ1§36/35, mb3.7/7, 3C-2D, Jujuy Province

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**1.89**	**277⇓**	*i*Pn		**Pn**		**01 25 57.1**	**+1.5**
LVC				*e*S		**Sn**		**01 26 25.4**	**+0.9**
CEN1	**Los Morros**	**3.10**	**259⇓**	*i*P		**Pn**		**01 26 11.9**	**+2.8**
CEN1				*i* S		**Sn**		**01 26 50.4**	**+1.6**
CEN1				AML		AML		01 26 52.0	
	comp=N,974nm,0.6s								
ANCH	**Antofagasta**	**3.35**	**255⇑**	*i*P		**Pn**		**01 26 13.0**	**+0.9**
ANCH				*i* S		**Sn**		**01 26 52.3**	**-1.9**
ANCH	**Antofagasta**	**3.35**	**255⇑**	*i*P		**Pn**		**01 26 13.0**	**+0.9**
ANCH				*i* S		**Sn**		**01 26 52.3**	**-1.9**
ANCH				AML		AML		01 26 55.3	
	comp=N,2μm,0.1s								
CPN1	**Cerro Paranal**	**3.69**	**240**	*e*P		**Pn**		**01 26 16.5**	**+0.3**
CPN1				*i* S		**Sn**		**01 26 59.0**	**-2.5**
CPN1				AML		AML		01 27 01.6	
	comp=E,2μm,0.2s								
CPCH	**Copiapo**	**5.49**	**214**	*e*P		**Pn**		**01 26 36.2**	**-2.7**
CPCH				*i* S		**Sn**		**01 27 36.0**	**-6.6**
LPAZ	**La Paz**	**6.62**	**350⇑**	*e*Pn		**Pn**		**01 26 54.4**	**+0.7**
	comp=E,8.1nm,0.4s								
LPAZ				*e*S		**Sn**		**01 28 07.7**	**-1.6**
LPAZ	**La Paz**	**6.62**	**350**	P		**Pn**		**01 26 54.6**	**+0.8**
	comp=E,3.7nm,0.3s,baz=162,slow=6.5,SNR=143								
LPAZ				S		**Sn**		**01 28 07.6**	**-1.7**
	baz=251,slow=18,SNR=3.0								
SIV	**San Ignacio**	**8.74**	**40**	P		**Pn**		**01 27 19.9**	**-1.5**
	comp=E,11nm,0.3s,baz=220,slow=12,SNR=214								
SIV				S		**Sn**		**01 28 53.6**	**-5.9**
	comp=E,0.9nm,0.3s,baz=307,slow=23,SNR=3.1								
CFAA	**Coronel Fontan**	**8.81**	**188**	P		**Pn**		**01 27 22.5**	**+0.4**
CFAA				S		**Sn**		**01 28 56.2**	**-4.8**
CFAA	**Coronel Fontan**	**8.81**	**188**	P		**Pn**		**01 27 22.5**	**+0.4**
	comp=E,0.4nm,0.3s,baz=0.5,slow=14,SNR=24								
CFAA				S		**Sn**		**01 28 56.2**	**-4.8**
	comp=E,0.6nm,0.3s,baz=232,slow=16,SNR=9.5								
CPUP	**Villa Florida**	**9.36**	**114**	*e*Pn		**Pn**		**01 27 37.8**	**+8.5**
	comp=E,15nm,1.4s								
PLCA	**Paso Flores**	**18.11**	**189**	P		**P**		**01 29 17.0**	**+1.7**
	comp=E,0.1nm,0.3s,baz=0.0,slow=12,SNR=3.3								
BDFB	**Brasilia**	**19.19**	**71**	*e*P		**P**		**01 29 27.2**	**0.0**
	comp=E,2.1nm,0.6s								
BDFB	**Brasilia**	**19.19**	**71**	P		**P**		**01 29 28.0**	**+0.8**
	comp=E,0.2nm,0.3s,baz=222,slow=18,SNR=7.5								
SDV	**Santo Domingo**	**31.75**	**353**	*e*P		**P**		**01 31 28.7**	**+4.9**
	comp=E,1.9nm,0.3s,mb4.1								
SNAA	**Sanae**	**60.40**	**161**	P		**P**		**01 35 07.7**	**+1.5**
	comp=E,0.6nm,0.9s,mb3.2,baz=262,slow=7.6,SNR=5.4								
TXAR	**Lajitas Array**	**62.81**	**324**	P		**P**		**01 35 23.1**	**+0.2**
	comp=E,0.2nm,0.6s,mb2.9,baz=144,slow=8.7,SNR=3.7								
TORD	**Torodi Ar. Bea**	**76.05**	**69**	P		**P**		**01 36 43.7**	**-0.6**
TORD	**Torodi Ar. Bea**	**76.05**	**69**	P		**P**		**01 36 43.7**	**-0.6**
	comp=E,1.5nm,0.4s,mb4.0,baz=257,slow=5.7,SNR=113								
ULM	**Lac du Bonnet**	**77.17**	**341**	P		**P**		**01 36 48.3**	**-1.5**
	comp=E,2.1nm,0.5s,mb4.0,baz=141,slow=6.6,SNR=4.1								
BOSA	**Boshof**	**81.16**	**117**	P		**P**		**01 37 12.5**	**+0.4**
	comp=E,1.1nm,0.4s,mb3.8,baz=272,slow=4.4,SNR=6.3								
YKA	**Yellowknife Ar**	**93.08**	**340**	P		**P**		**01 38 08.7**	**-0.2**
YKA	**Yellowknife Ar**	**93.08**	**340**	P		**P**		**01 38 08.7**	**-0.2**
	comp=E,0.5nm,0.5s,mb3.9,baz=132,slow=4.5,SNR=8.4								
WRA	**Warramunga Arr**	**132.70**	**208**	PKP		PKPdf		01 44 10.5	+0.3
	comp=E,0.6nm,0.5s,baz=158,slow=1.8,SNR=12								
ZALV	**Zalesovo Beam**	**142.32**	**27**	PKhKP				01 44 23.6	
	comp=E,0.7nm,0.5s,baz=323,slow=6.3,SNR=3.6								
MKAR	**Makanchi Array**	**145.56**	**39**	PKPbc		PKPbc		01 44 33.6	+0.4
	comp=E,1.4nm,0.5s,baz=334,slow=2.9,SNR=13								
SONM	**Songino Array**	**154.49**	**11**	PKPab		PKPab		01 45 09.4	-0.9
	comp=E,0.4nm,0.6s,baz=338,slow=5.0,SNR=4.1								

*ISCJB **28** 01:26:07.2±0.6, 6727S±006×1119E±02, h10km, mb4.1/6, MS3.8/6, Error ellipse: s-maj=13.9km s-min=7.0km az=160.7*
*IDC **28** 01:26:07.8±1.4, 6743S×11224E, h0km, mb4.2/4, mb1 4.5/6, mb1mx4.2/13, mbtmp4.3/6, ML4.0/1, MS3.8/8, Ms1 3.8/8, ms1mx3.6/16, Error ellipse: s-maj=45.1km s-min=27.4km az=129.0*
*NEIC **28** 01:26:08.4±0.6, 6728S×11195E, h5km, mb4.3/4, Error ellipse: s-maj=18.8km s-min=11.7km az=77.0*
ISC 28 01:26:09.8±0.7, 6718S±006×1116E±03, h10km, n25, σ0§64/17, mb4.1/6, MS3.8/6, 1D, Antarctica

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CASY	**Casey**	**0.99**	**335⇓**	*i*P		**Pg**		**01 26 28.8**	**-0.1**
CASY				*e*S		**Sg**		**01 26 41.9**	**+0.1**
VNDA	**Vanda**	**17.65**	**146**	*e*Pn		**Pn**		**01 30 10.3**	**-4.9**
	15nm,0.7s								
VNDA				*e*Sn		Sx		01 33 11.9	
VNDA				*e*Lg				01 35 18.9	
VNDA	**Vanda**	**17.65**	**146**	P		**Pn**		**01 30 09.9**	**-5.4**
	1.0nm,0.3s,baz=283,slow=12,SNR=77								
VNDA				S		Sx		01 33 13.2	
	0.4nm,0.3s,baz=304,slow=12,SNR=3.8								
VNDA				LR		LR		01 37 26.8	
	comp=Z,544nm,18.6s,baz=285,slow=39								
MAW	**Mawson**	**18.35**	**246**	P		**Pn**		**01 30 23.0**	**-0.9**
	4.0nm,0.6s								
MAW	**Mawson**	**18.35**	**246**	P		**Pn**		**01 30 22.8**	**-1.1**
	0.5nm,0.3s,baz=112,slow=14,SNR=6.9								
MAW				S		Sx		01 33 33.7	
	0.4nm,0.3s,baz=25,slow=14,SNR=2.6								
MAW				LR		LR		01 36 36.2	
	comp=Z,232nm,18.8s,baz=3.5,slow=34								
SBA	**Scott Base**	**18.73**	**147**	*e*P		**Pn**		**01 30 23.9**	**-4.5**
	38nm,1.3s								
SBA				*e*S		Sx		01 33 43.0	
QSPA	**South Pole Qui**	**22.90**	**180**	*e*P		**P**		**01 31 13.6**	**+0.6**
	19nm,0.7s,mb4.6								
QSPA				*e*S		**S**		**01 35 16.0**	**-6.4**
QSPA	**South Pole Qui**	**22.90**	**180**	P		**P**		**01 31 13.3**	**+0.2**
	15nm,1.0s,mb4.4,baz=323,slow=4.5,SNR=14								
QSPA				S		**S**		**01 35 14.4**	**-8.1**
	5.1nm,0.7s,baz=0.0,slow=1.0,SNR=2.5								
QSPA				LR		LR		01 40 52.9	
	comp=Z,178nm,19.2s,MS3.5,baz=142,slow=39								
SNAA	**Sanae**	**34.67**	**210**	P		**P**		**01 33 00.0**	**+1.3**
SNAA				LR		LR		01 47 38.3	
SNAA	**Sanae**	**34.67**	**210**	P		**P**		**01 33 00.0**	**+1.3**
	0.5nm,0.7s,mb3.6,baz=166,slow=14,SNR=9.5								
SNAA				LR		LR		01 47 38.3	
	comp=Z,105nm,22.0s,MS3.5,baz=154,slow=37								
STKA	**Stephens Creek**	**39.54**	**42**	P		**P**		**01 33 40.2**	**-0.2**
	2.0nm,0.6s,mb4.1,baz=168,slow=6.9,SNR=4.8								
STKA				LR		LR		01 47 17.1	
	comp=Z,150nm,19.2s,MS3.8,baz=206,slow=32								
ASAR	**Alice Springs**	**45.71**	**29**	P		**P**		**01 34 30.8**	**+0.2**
	2.6nm,0.6s,mb4.3,baz=197,slow=7.0,SNR=36								
URZ	**Urewera**	**45.98**	**85**	LR		LR		01 51 30.3	
	comp=Z,128nm,18.2s,MS3.9,baz=238,slow=33								
WRA	**Warramunga Arr**	**49.42**	**29**	P		**P**		**01 34 59.0**	**-0.5**
	1.8nm,0.7s,mb4.2,baz=195,slow=6.8,SNR=13								
FITZ	**Fitzroy Crossi**	**49.89**	**18**	P		**P**		**01 35 03.7**	**+0.5**
	1.0nm,0.7s,mb4.0,baz=195,slow=11,SNR=4.2								
BOSA	**Boshof**	**62.56**	**261**	LR		LR		01 59 30.1	
	comp=Z,120nm,18.1s,MS4.1,baz=328,slow=32								
BDFB	**Brasilia**	**96.06**	**200**	LR		LR		02 20 51.4	
	comp=Z,33nm,19.1s,MS3.8,baz=320,slow=34								
ISCO	**Idaho Springs**	**145.74**	**124**	PKPdf		PKPdf		01 45 46.1	-1.3
ISCO				*e*PKPbc		PKPbc		01 45 50.7	+2.9
HLID	**Hailey**	**146.03**	**111**	*e*PKPdf		PKPbc		01 45 51.8	+3.2
BMO	**Blue Mountains**	**146.07**	**106**	PKPdf		PKPdf		01 45 47.3	-0.5
CCM	**Cathedral Cave**	**148.11**	**145**	*e*PKPbc		PKPbc		01 45 56.6	+2.0
ARCES	**ARCESS Array B**	**148.49**	**318**	PKPbc		PKPbc		01 45 56.5	+1.8
ARCES	**ARCESS Array B**	**148.49**	**318**	PKPbc		PKPbc		01 45 56.5	+1.8
	1.0nm,0.8s,baz=116,slow=2.1,SNR=3.3								
DAWY	**Dawson**	**152.00**	**62**	*e*PKPbc		PKPbc		01 46 04.4	+1.2
ECSD	**EROS,Sioux Fal**	**152.07**	**133**	*e*PKPbc		PKPbc		01 46 01.8	-2.3

*CSEM **28** 01:58:31.5±0.1, 3937N×2789E, h2km, MD2.8, Error ellipse: s-maj=2.0km s-min=1.4km az=100.0*
*ISK **28** 01:58:31.5, 3937N×2792E, h5km, MD2.8*
*ISCJB **28** 01:58:32.6±0.5, 3939N±003×2790E±004, h2km, Error ellipse: s-maj=4.6km s-min=3.5km az=22.2*
*DDA **28** 01:58:32.4, 3939N×2789E, h7km±3km, Md2.7*
ISC 28 01:58:33.1±0.5, 3939N±003×2790E±004, h7km±7km, n12, σ0§81/19, Turkey

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
BALB	**Balikesir**	**0.25**	**356**	*e*PG		**Pg**		**01 58 38.2**	**+0.2**
BTOK	**Tokmak**	**0.38**	**15**	*i* P		**Pg**		**01 58 40.0**	**-0.6**
BTOK				*i* S		**Sg**		**01 58 45.5**	**-0.1**
AKS	**Akhisar**	**0.52**	**188**	*e*PG		**Pg**		**01 58 42.1**	**-1.0**
AKS				*e*SG		**Sg**		**01 58 50.5**	**+0.7**
AKHS	**Akhisar**	**0.52**	**188**	*i* P		**Pg**		**01 58 42.0**	**-1.1**
AKHS				*i* S		**Sg**		**01 58 50.5**	**+0.7**
DST	**Dursunbey**	**0.60**	**69**	*e*PG		**Pg**		**01 58 43.9**	**-0.7**
DST				*e*SG		**Sg**		**01 58 53.1**	**+0.7**
KCT	**Karacabey**	**0.94**	**22**	*e*PG		**Pg**		**01 58 51.0**	**-0.1**
AYVA	**Ayvalik**	**0.94**	**265**	*i* P		**Pg**		**01 58 50.8**	**-0.4**
AYVA				*i* S		**Sg**		**01 59 05.6**	**+2.1**
KULA	**Kula-Manisa**	**1.06**	**146**	*e*PG		**Pg**		**01 58 52.6**	**-0.8**
KULA				*e*SG		**Sg**		**01 59 07.7**	**+0.6**
BLCB	**Balcova**	**1.21**	**214**	*e*PN		**Pn**		**01 58 55.0**	**-1.5**
GDZ	**Gediz**	**1.26**	**103**	*i* P		**Pn**		**01 58 57.0**	**-0.2**
GDZ				*i* S		**Sb**		**01 59 14.4**	**+0.8**
GEMT	**Gemlik**	**1.44**	**43**	*e*PN		**Pn**		**01 58 60.0**	**+0.4**
IZI	**Iznik**	**1.53**	**52**	*e*PN		**Pn**		**01 59 01.4**	**+0.5**

*NEIC **28** 01:59:43.1, 1676N×94.13W, h130km, MD4.0(MEX), After MEX.*
MEX 28 01:59:43.1±0.9, 1676N×9413W, h130km±11km, MD4.0, Oaxaca

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
CMIG	**Matias Romero**	**0.80**	**294**	*i* P		Pn		02 00 03.4	-0.9
CMIG				*i* S		Sn		02 00 18.2	-2.1
CCIG	**Comitan**	**1.97**	**104**	*i* P		Pn		02 00 15.5	-1.2
CCIG				*i* S		Sn		02 00 40.6	-1.8
HUIG	**Huatulco**	**2.15**	**243**	*i* P		Pn		02 00 17.0	-1.9
HUIG				*i* S		Sn		02 00 45.3	-1.0
OXX	**Oaxaca**	**2.51**	**278**	*i* P		Pn		02 00 22.5	-0.9
OXX				*i* S		Sn		02 00 53.0	-1.4
VHO	**Vista Hermosa**	**2.52**	**277**	*i* P		Pn		02 00 22.7	-0.8
VHO				*i* S		Sn		02 00 52.7	-1.9
UTMO	**Huajuapan**	**3.67**	**287**	*i* P		Pn		02 00 36.0	-2.5
UTMO				*i* S		Sn		02 01 16.6	-4.8
PPM	**Popocatepetl**	**4.86**	**299**	*i* S		Sn		02 01 51.0	+1.2

*ISCJB **28** 02:32:57.7±0.9, 1901S±008×6936W±010, h102km±11km, mb3.9/5, Error ellipse: s-maj=17.0km s-min=10.4km az=147.7*
*NEIC **28** 02:32:59.9±1.0, 1908S×6931W, h110km±11km, mb4.1/1, Error ellipse: s-maj=17.8km s-min=12.0km az=84.0*
*IDC **28** 02:33:03.0±2.2, 1907S×6897W, h133km±19km, mb3.7/5, mb1 3.8/8, mb1mx3.6/19, mbtmp3.6/8, Error ellipse: s-maj=29.3km s-min=19.4km az=104.0*
ISC 28 02:32:58.9±0.8, 1901S±007×6936W±010, h101km±10km, n17, σ1§12/18, mb3.9/5, 1C, Northern Chile

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**2.95**	**24⇑**	*i*Pn		**Pn**		**02 33 49.0**	**+4.9**
LPAZ	**La Paz**	**2.95**	**24**	P		**Pn**		**02 33 49.1**	**+5.0**
	4.8nm,0.3s,baz=212,slow=7.9,SNR=212								
ARE	**Arequipa**	**3.24**	**321**	*e*P		**Pn**		**02 33 49.0**	**+1.0**
ARE				*e*S		**Sn**		**02 34 25.0**	**-0.8**
LVC	**Limon Verde**	**3.61**	**173**	*e*Pn		**Pn**		**02 33 52.9**	**0.0**
LVC				*e*Sn		**Sn**		**02 34 21.0**	**-14**
SIV	**San Ignacio**	**8.46**	**71**	P		**Pn**		**02 34 58.4**	**-0.3**
	3.6nm,0.3s,baz=261,slow=11,SNR=60								
CPUP	**Villa Florida**	**13.28**	**125**	P		**Pn**		**02 36 03.7**	**+0.3**
CPUP	**Villa Florida**	**13.28**	**125**	P		**Pn**		**02 36 03.7**	**+0.3**
	0.5nm,0.3s,baz=288,slow=12,SNR=4.1								
TRQA	**Tornquist**	**20.05**	**163**	*e*P		**P**		**02 37 22.7**	**-1.2**
	6.1nm,0.7s								
BDFB	**Brasilia**	**20.65**	**84**	P		**P**		**02 37 33.6**	**+2.9**
	4.4nm,0.4s,baz=253,slow=16,SNR=31								
PLCA	**Paso Flores**	**21.68**	**182**	P		**P**		**02 37 41.3**	**-0.1**
	6.4nm,0.9s,mb4.0,baz=2.4,slow=9.8,SNR=7.7								
DBIC	**Dimbokro**	**68.46**	**75**	P		**P**		**02 43 48.4**	**-2.3**
	8.3nm,1.1s,mb4.5,baz=192,slow=9.3,SNR=2.9								
TOA0	**Torodi Ar. Sit**	**76.94**	**71**	*e*P		**P**		**02 44 41.6**	**+0.8**
TORD	**Torodi Ar. Bea**	**76.94**	**71**	P		**P**		**02 44 39.5**	**-1.3**
	0.7nm,0.4s,mb3.8,baz=229,slow=6.2,SNR=39								
VNDA	**Vanda**	**79.22**	**190**	P		**P**		**02 44 53.6**	**+1.2**
	0.2nm,0.6s,mb3.1,baz=117,slow=6.8,SNR=3.7								
YKA	**Yellowknife Ar**	**88.70**	**341**	P		**P**		**02 45 41.0**	**+0.5**
YKA	**Yellowknife Ar**	**88.70**	**341**	P		**P**		**02 45 41.0**	**+0.6**
	1.1nm,0.6s,mb4.1,baz=132,slow=4.6,SNR=11								
SONM	**Songino Array**	**151.04**	**6**	PKPbc		PKPbc		02 52 41.2	+1.2
	0.9nm,0.6s,baz=316,slow=2.3,SNR=5.5								

IDC 28 02:33:28.6±5.4, 1827S×17474W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.7/14, mbtmp4.0/2, Error ellipse: s-maj=284.6km s-min=48.2km az=147.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**48.00**	**259**	P		P		02 42 09.5	-0.1
	0.9nm,0.4s,baz=97,slow=7.4,SNR=46								
ASAR	**Alice Springs**	**48.06**	**254**	P		P		02 42 10.2	+0.1
	1.6nm,0.7s,baz=89,slow=7.9,SNR=20								
GERES	**GERESS Array B**	**148.74**	**349**	PKPbc		PKPbc		02 53 17.4	-0.4
	0.4nm,0.7s,baz=14,slow=2.0,SNR=3.0								

IDC 28 02:43:26.2±27.0, 2338S×17442W, h0km, mb4.0/4, mb1 4.2/4, mb1mx3.9/14, mbtmp4.0/4, Error ellipse: s-maj=502.3km s-min=148.9km az=79.0, Tonga Islands region

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

OVCH	**Ovalle**	**3.86 185**	AML	AML	02 50 43.8	
	comp=N,1μm,0.7s					
LVC	**Limon Verde**	**4.46 23**	*e*Pn	**Pn**	**02 49 46.7**	**+1.3**
LVC			Sn	**Sn**	**02 50 35.2**	**-0.8**
CFAA	**Coronel Fontan**	**5.33 156**	P	**Pn**	**02 49 59.4**	**+2.1**
CFAA			S	**Sn**	**02 50 55.7**	**-1.7**
CFAA	**Coronel Fontan**	**5.33 156**	P	**Pn**	**02 49 59.4**	**+2.1**
	comp=N,1.0nm,0.3s,baz=336,slow=13,SNR=100					
CFAA			S	**Sn**	**02 50 55.7**	**-1.7**
	comp=N,0.8nm,0.3s,baz=346,slow=17,SNR=3.3					
LPAZ	**La Paz**	**10.70 14**	P	**Pn**	**02 51 11.4**	**+0.5**
	comp=N,3.1nm,0.3s,baz=206,slow=6.8,SNR=121					
SIV	**San Ignacio**	**14.01 42**	P	**Pn**	**02 51 51.2**	**-4.8**
	comp=N,2.2nm,0.3s,baz=241,slow=8.5,SNR=48					
TXAR	**Lajitas Array**	**64.05 328**	pP	pP	02 59 26.3	+2.8
	comp=N,0.2nm,0.5s,baz=140,slow=5.7,SNR=3.8					
TORD	**Torodi Ar. Bea**	**80.74 70**	P	**P**	**03 00 48.5**	**+0.2**
	comp=N,0.7nm,1.1s,baz=223,slow=4.1,SNR=9.6					
TORD			pP	pP	03 01 05.0	+1.2
	comp=N,1.7nm,0.7s,baz=259,slow=4.6,SNR=9.7					
WRA	**Warramunga Arr**	**127.58 210**	PKP	PKPdf	03 07 39.0	-1.0
	comp=N,0.3nm,0.8s,baz=165,slow=1.2,SNR=3.4					
MKAR	**Makanchi Array**	**150.82 40**	pPKPab	pPKPab	03 08 51.1	+1.5
	comp=N,0.6nm,0.6s,baz=318,slow=3.4,SNR=3.7					

*MOS **28** 02:54:13.3±2.2,5640N×11607E,h16km,mb4.1/3,Error ellipse: s-maj=13.7km s-min=9.2km az=55.1*

BYKL 28 02:54:13.6±0.3,5639N×11605E,h22km±15km,3C-3D, East of Lake Baykal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SVKR	**Severomuysk**	**1.42 260**		*e*Pg	Pn	02 54 38.8	+0.8
SVKR				Pmax		02 54 39.6	
	926nm,0.3s						
SVKR				*i* Sg	Sn	02 54 57.7	+1.8
SVKR				Smax		02 55 03.7	
	3μm,0.5s						
SVK	**Severo-Muysk**	**1.43 263**		*e*PN	Pn	02 54 38.7	+0.6
SVK				*e*		02 54 56.6	
SVK				pmax	pmax		
	comp=Z,1μm,1.1s						
SVK				smax			
	comp=N,3μm,0.7s						
UKT	**Uakit**	**1.64 237**		*e*PN	Pn	02 54 42.6	+1.6
UKT				*e*		02 55 03.7	
UKT				pmax	pmax		
	comp=Z,435nm,0.5s						
UKT				smax			
	comp=N,900nm,0.5s						
UKT	**Uakit**	**1.64 237**		*e*Pn	Pn	02 54 42.1	+1.1
UKT			⇑	*i*Pg	Pn	02 54 42.9	+1.9
UKT				Pmax		02 54 43.7	
	comp=N,462nm,0.7s						
UKT				*i* Sg	Sn	02 55 04.0	+2.7
UKT				Smax		02 55 04.6	
	comp=N,1μm,0.5s						
BOD	**Bodaibo**	**1.82 323**	⇑	*e*PN	Pn	02 54 45.2	+1.7
BOD				*i*		02 54 45.8	
BOD				*e*		02 55 09.2	
BOD				pmax	pmax		
	comp=Z,632nm,0.6s						
BOD				smax			
	comp=N,1μm,0.5s						
BOD	**Bodaibo**	**1.82 323**		*e*Pg	Pn	02 54 45.4	+1.9
BOD			⇓	*i*		02 54 46.4	
BOD				max		02 54 46.9	
	comp=N,634nm,0.6s						
BOD				*i* Sg	Sn	02 55 09.5	+3.7
BOD				Smax		02 55 10.8	
	comp=N,1μm,0.4s						
KHNR	**Khani**	**2.23 75**		*e*Pg	Pn	02 54 53.9	+4.7
KHNR				*e*Sg	Sn	02 55 23.0	+6.9
YOA	**Uoyan**	**2.43 266**		*e*PN	Pn	02 54 58.0	+6.1
YOA				*i*		02 55 29.9	
YOA				pmax	pmax		
	comp=Z,233nm,0.3s						
YOA				smax			
	comp=E,2μm,0.6s						
YOA	**Uoyan**	**2.43 266**		*e*Pg	Pn	02 54 57.5	+5.6
YOA				Pmax		02 54 59.2	
	comp=E,184nm,0.5s						
YOA				*e*Sg	Sn	02 55 29.3	+8.5
YOA				Smax		02 55 34.3	
	comp=E,1μm,0.7s						
KMO	**Kumora**	**2.76 261**		*e*PN	Pn	02 55 02.2	+5.8
KMO				*e*S	Sn	02 55 30.3	+1.2
KMO	**Kumora**	**2.76 261**	⇓⇓	*i*Pn	Pn	02 54 57.7	+1.3
KMO				*i*Pg	Pn	02 55 02.6	+6.2
KMO				Pmax		02 55 03.1	
	comp=E,140nm,0.6s						
KMO				*i* Sg	Sn	02 55 39.0	+10
KMO				Smax		02 55 41.3	
	comp=E,880nm,0.8s						
TUP	**Tupik**	**2.97 130**		*e*PN	Pn	02 55 00.4	+1.1
TUP				*e*		02 55 06.1	
TUP				*e*S	Sn	02 55 36.6	+2.3
TUP				*e*		02 55 45.4	
TUP				pmax	pmax		
	comp=Z,69nm,0.5s						
TUP				smax			
	comp=E,629nm,0.9s						
TUP	**Tupik**	**2.97 130**		*e*Pn	Pn	02 55 00.5	+1.2
TUP				*e*Pg	Pn	02 55 06.1	+6.8
TUP				Pmax		02 55 13.2	
	comp=E,86nm,0.8s						
TUP				*i* Sg	Sn	02 55 45.7	+11
TUP				Smax		02 55 59.0	
	comp=E,686nm,0.9s						
YLYR	**Ulyunkhan**	**3.16 243**		*e*PN	Pn	02 55 03.4	+1.5
YLYR				*e*		02 55 11.2	
YLYR				*e*S	Sn	02 55 39.7	+0.8
YLYR				*e*		02 55 50.3	
YLYR				pmax	pmax		
	comp=Z,82nm,0.7s						
YLYR				smax			
	comp=N,342nm,0.9s						
YLYR	**Ulyunkhan**	**3.16 243**	⇓⇓	*i*Pn	Pn	02 55 03.3	+1.4
YLYR				*e*Pg	Pn	02 55 08.7	+6.8
YLYR				Pmax		02 55 14.0	
	comp=N,84nm,1.1s						
YLYR				*e*Sn	Sn	02 55 39.5	+0.6
YLYR				*i* Sg	Sn	02 55 51.1	+12
YLYR				Smax		02 56 06.9	
	comp=N,338nm,0.9s						
NIZ	**Nizh Angarsk**	**3.70 263**		*e*PN	Pn	02 55 21.7	+12
NIZ				*e*		02 56 08.3	
NIZ				pmax	pmax		
	comp=Z,119nm,0.9s						
NIZ				smax			
	comp=N,219nm,0.8s						
NIZ	**Nizh Angarsk**	**3.70 263**		*e*Pn	Pn	02 55 10.9	+1.6
NIZ				*e*Pg	Pn	02 55 19.0	+10
NIZ				*e*		02 55 21.7	
NIZ				max		02 55 22.7	
	comp=N,118nm,0.8s						
NIZ				*e*Sg	Sn	02 56 08.5	+16
NIZ				Smax		02 56 10.8	
	comp=N,167nm,0.4s						
SYVR	**Suvo**	**4.43 234**		*e*PN	Pn	02 55 20.4	+1.0
SYVR				*e*		02 55 33.3	
SYVR				*e*		02 56 31.0	
SYVR				pmax	pmax		
	comp=Z,54nm,1.1s						
SYVR				smax			
	comp=N,377nm,0.8s						
SYVR	**Suvo**	**4.43 234**		*e*Pn	Pn	02 55 20.1	+0.7
SYVR				*e*Pg	Pn	02 55 32.6	+13
SYVR				Pmax		02 55 34.4	
	comp=N,46nm,1.2s						
SYVR				*e*		02 55 39.5	
SYVR				*e*Sg	Sn	02 56 30.2	+20
SYVR				Smax		02 56 37.3	
	comp=N,374nm,1.7s						
CIT	**Chita**	**4.62 200**		*e*Sg	Sn	02 56 35.8	+21
CIT				Smax		02 56 41.3	
	comp=N,785nm,0.6s						
NRGR	**Nerungri**	**4.81 83**		*e*PN	Pn	02 55 39.4	+15
CLNS	**Chul'man**	**4.91 81**		*e*PN	Pn	02 55 40.8	+15
CLNS				*e*		02 56 43.8	
CLNS				pmax	pmax		
	comp=Z,7.0nm,0.4s						
CLNS				pmax	pmax		
	comp=N,3.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,11nm,0.5s						
CLNS				pmax	pmax		
	comp=Z,19nm,0.6s						
CLNS				pmax	pmax		
	comp=N,4.0nm,0.3s						
CLNS				pmax	pmax		
	comp=E,7.0nm,0.4s						
CLNS				smax			
	comp=N,53nm,0.4s						
CLNS				smax			
	comp=E,61nm,0.4s						
CLNS				smax			
	comp=Z,34nm,0.4s						
CLNS				MLR	MLR		
	comp=Z,60nm,10.0s						
CLNS	**Chul'man**	**4.91 81**		*e*Pg	Pn	02 55 40.6	+15
CLNS				*e*Sg	Sn	02 56 45.4	+23
TNDR	**Tynda**	**5.05 101**		*e*Pg	Pn	02 55 44.1	+16
TNDR				*e*Sg	Sn	02 56 50.5	+25
MXMB	**Maximikha**	**5.26 236**		*e*Pn	Pn	02 55 31.4	+0.7
MXMB				*e*		02 55 50.1	
MXMB				max		02 55 51.6	
	comp=Z,24nm,0.8s						
MXMB				*e*Sg	Sn	02 56 55.5	+25
MXMB				Smax		02 57 09.7	
	comp=Z,482nm,0.9s						
OGRR	**Ongureny**	**5.59 244**		*e*PN	Pn	02 55 36.2	+0.9
OGRR				*e*		02 55 53.3	
OGRR				*e*		02 57 06.8	
OGRR				pmax	pmax		
	comp=Z,2.0nm,0.1s						
OGRR				smax			
	comp=N,91nm,1.5s						
OGRR	**Ongureny**	**5.59 244**		*e*Pn	Pn	02 55 36.2	+0.9
OGRR				*e*Pg	Pn	02 55 54.3	+19
OGRR				Pmax		02 55 58.0	
	comp=N,28nm,1.1s						
OGRR				*e*Sg	Sn	02 57 06.9	+28
OGRR				Smax		02 57 20.0	
	comp=N,91nm,1.4s						
ZRHB	**Zarechye**	**6.45 237**		*e*Sg	Sn	02 57 34.8	+35
ZRHB				Smax		02 57 54.4	
	comp=N,369nm,1.1s						
UUDB	**Ulan-Yde**	**6.69 231**		*e*Sg	Sn	02 57 40.7	+35
UUDB				Smax		02 57 46.4	
	comp=N,228nm,1.3s						
TRG	**Tyrgan**	**6.71 241**		*e*Sg	Sn	02 57 40.5	+34
TRG				Smax		02 57 49.9	
	comp=N,44nm,1.3s						
KPC	**Khapcheranga**	**7.05 200**		*e*PG	Pn	02 56 21.7	+26
KPC	**Khapcheranga**	**7.05 200**		*e*Pn	Pn	02 55 55.0	-0.4
KPC				*e*Pg	Pn	02 56 19.4	+24
KPC				Pmax		02 56 22.8	
	comp=N,4.0nm,0.9s						
KPC				*e*		02 57 31.6	
KPC				*e*Sg	Sn	02 57 51.4	+37
KPC				Smax		02 58 03.2	
	comp=N,161nm,1.6s						
HRMR	**Khuramsha**	**7.17 232**		*e*Sg	Sn	02 57 56.6	+39
HRMR				Smax		02 58 08.7	
	comp=N,637nm,1.3s						
HIA	**Hailar**	**7.48 161**		*e*Sg	Sn	02 58 06.1	+41
LSTR	**Listvyanka**	**7.99 240**		*e*Sg	Sn	02 58 19.6	+42
LSTR				Smax		02 58 22.7	
	comp=N,11nm,0.2s						
TLY	**Talaya**	**8.69 242**		*e*PG	Pn	02 56 51.5	+34
TLY				*e*		02 58 43.0	
TLY				pmax	pmax		
	comp=Z,3.0nm,0.6s						
TLY				smax			
	comp=N,42nm,1.6s						
TLY	**Talaya**	**8.69 242**		*e*Sg	Sn	02 58 42.6	+48
TLY				Smax		02 58 51.2	
	comp=N,18nm,1.0s						
YAK	**Yakutsk**	**8.98 45**		*e*PN	Pn	02 56 22.4	+0.6
ZAK	**Zakamensk**	**9.71 237**		*e*Sg	Sn	02 59 14.1	+54
ZAK				Smax		02 59 46.9	
	comp=N,40nm,1.4s						
MOY	**Mondy**	**10.04 248**		*e*Sg	Sn	02 59 24.0	+56
MOY				Smax		02 59 37.6	
	comp=N,54nm,1.5s						
ULN	**Ulaanbaatar**	**10.16 217**		*e*P	Pn	02 56 46.8	+8.8
ULN	**Ulaanbaatar**	**10.16 217**		*e*Sg	Sn	02 59 29.6	+58
ORL	**Orlik**	**10.21 255**		*e*Sn	Sn	02 58 41.3	+9.1
ORL				*e*Sg	Sn	02 59 30.4	+58
ORL				Smax		02 59 37.2	
	comp=N,45nm,1.4s						
TIXI	**Tiksi**	**16.25 15**		*e*P	Pn	02 57 59.0	-1.0
TIXI				pmax	pmax		
	comp=Z,2.0nm,0.8s						
KURK	**Kurchatov**	**22.74 271**		*e*P	P	02 59 15.3	+1.5
BRVK	**Borovoye**	**26.26 282**		*e*P	P	02 59 49.8	+3.0
BRVK				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ARU	**Arti**	**31.01 295**		*e*P	P	03 00 32.1	+3.1
ARU				pmax	pmax		
	comp=Z,1.0nm,1.0s						
KIV	**Kislovodsk**	**46.38 287**		*e*P	P	03 02 40.8	+2.9
KIV				pmax	pmax		
	comp=Z,6.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,17nm,18.0s						

*IDC **28** 03:29:50.6±1.6,2784N×8770E,h0km,mb3.8/5,mb1 3.9/6, mb1mx3.5/22,mbtmp3.7/6,ML3.2/1,MS2.7/1,Ms1 2.7/1, ms1mx2.3/21,Error ellipse: s-maj=65.3km s-min=20.4km az=67.0*

*ISCJB **28** 03:29:52.7±1.2,278N±0.1×875E±02,h33km,mb3.8/5, Error ellipse: s-maj=25.2km s-min=14.5km az=143.2*

*NEIC **28** 03:29:55.5±1.0,2783N×8751E,h35km,Error ellipse: s-maj=23.1km s-min=15.6km az=61.0*

ISC 28 03:29:55.3±1.2,278N±01×876E±02,h35km,n8,σ1§23/8, mb3.8/5,Nepal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GTK	**Gangtok**	**1.03 115**		*e*P	**Pn**	**03 30 11.0**	**-2.2**
LSA	**Lhasa**	**3.69 58**		*e*Pn	**Pn**	**03 30 51.0**	**+1.3**
MKAR	**Makanchi Array**	**19.43 349**		P	**Pn**	**03 34 16.9**	**-2.9**
	0.1nm,0.3s,baz=167,slow=8.7,SNR=2.9						
SONM	**Songino Array**	**24.83 31**		P	**P**	**03 35 13.7**	**-0.3**
	1.5nm,0.6s,mb3.7,baz=217,slow=9.4,SNR=10						
ZALV	**Zalesovo Beam**	**26.23 356**		P	**P**	**03 35 27.0**	**+0.4**
	0.4nm,0.3s,mb3.4,baz=181,slow=9.9,SNR=4.1						
ARCES	**ARCESS Array B**	**54.55 338**		P	**P**	**03 39 20.2**	**+0.8**
	2.5nm,0.9s,mb4.2,baz=90,slow=8.1,SNR=2.4						
WRA	**Warramunga Arr**	**65.56 131**		P	**P**	**03 40 36.0**	**+0.4**
	0.6nm,0.4s,mb4.0,baz=326,slow=6.6,SNR=23						
ASAR	**Alice Springs**	**67.92 134**		P	**P**	**03 40 51.3**	**+0.8**
	0.3nm,0.5s,mb3.6,baz=320,slow=6.1,SNR=6.0						

*NIED **28** 03:39:00,31.10N×13140E,h44km,Mw4.1 Best double couple: M0:1.81000×10^15 NP1:φ1=118.00000°,δ84.00000°, λ10.00000°. NP2:φ2=27.00000°,δ80.00000°,λ174.00000°.*

*BJI **28** 03:39:44.5,3082N×13184E,h49km,mB4.6,mb4.2,Ms4.0*

*NEIC **28** 03:39:48.9,31.15N×13137E,h30km,mb4.6/2, MW4.1(NIED),After JMA.*

NEIC Recorded [2 JMA] in Kagoshima Prefecture.

*MOS **28** 03:39:48.9±1.1,31.16N×13121E,h61km,mb4.3/9,Error ellipse: s-maj=19.0km s-min=9.7km az=105.3*

*JMA **28** 03:39:48.9±0.1,31.14N×13136E,h30km±1km,M4.1*

JMA Felt II J1.

*ISCJB **28** 03:39:48.0±0.6,31.14N±004×13138E±006,h51km±3km, mb4.1/22,MS3.7/6,Error ellipse: s-maj=9.3km s-min=5.7km az=19.8*

*IDC **28** 03:39:49.0±0.8,3125N×13125E,h41km±8km,mb3.8/12, mb1 3.9/12,mb1mx3.8/21,mbtmp3.8/12,MS3.7/6, Ms1 3.7/6,ms1mx3.3/22,Error ellipse: s-maj=26.6km s-min=16.4km az=79.0*

ISC 28 03:39:49.0±0.6,3115N±004×13135E±007,h43km±4km, h42km±.9km:pP-P,n56,σ1§10/63,mb4.1/22,MS3.7/6,7C-4D, Kyushu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JTSR	**Tashiro 2**	**0.37 273**		⇓P	**Pn**	**03 39 57.2**	**-1.1**
JTSR				*e*S	**Sn**	**03 40 03.5**	**-1.3**
JNAR	**Kushima--Naru**	**0.38 349**		⇓P	**Pn**	**03 39 57.4**	**-1.0**
JNAR				S	**Sn**	**03 40 03.3**	**-1.8**
JTN	**Tanegashima 3**	**0.59 213**	⇓	P	**Pn**	**03 40 00.7**	**-0.3**
JTN				S	**Sn**	**03 40 09.7**	**+0.1**
JTZ	**Takazaki**	**0.78 343**	⇑	P	**Pn**	**03 40 03.5**	**-0.1**
JSU	**Suzuyama**	**0.85 295**	⇓	P	**Pn**	**03 40 04.3**	**-0.2**
JSU				S	**Sn**	**03 40 16.8**	**+1.0**
JTSN	**Tsuno**	**1.10 7**	⇑	P	**Pn**	**03 40 07.7**	**-0.2**
JTSN				S	**Sn**	**03 40 23.9**	**+1.9**
JZO	**Okuchi**	**1.18 327**	⇑	P	**Pn**	**03 40 09.5**	**+0.5**
JZO				S	**Sn**	**03 40 25.5**	**+1.6**
JKC	**Kuchinoerabu**	**1.21 236**		P	**Pn**	**03 40 09.6**	**+0.2**
JKC				S	**Sn**	**03 40 26.2**	**+1.6**
KSRS	**Korea Array**	**6.90 337**		P	**Pn**	**03 41 29.8**	**+2.2**
	0.7nm,0.3s,baz=172,slow=14,SNR=9.9						
KSRS				LR	LR	03 44 24.5	
	comp=Z,362nm,19.4s,baz=21,slow=41						
MJAR	**Matsushiro Arr**	**7.84 45**		P	**Pn**	**03 41 43.8**	**+3.4**
	0.4nm,0.3s,baz=244,slow=14,SNR=3.5						
BJI	**Beijing**	**15.19 310**		P	**Pn**	**03 43 24.0**	**+3.6**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s						
BJI				LR	LR		
	comp=N,143nm,15.0s						
BJI				LR	LR		
	comp=E,249nm,14.4s						
KLR	**Kul'dur**	**18.06 1**		*e*P	**Pn**	**03 43 53.2**	**-3.3**
HIA	**Hailar**	**20.11 337**		*e*P	**P**	**03 44 18.7**	**-0.2**
LZH	**Lanzhou**	**23.40 290**		*e*P	**P**	**03 44 53.5**	**-0.6**
LZH				AMB	AMB		
	comp=Z,17nm,1.1s,mb4.4						
LZH				AMB	AMB		
	comp=Z,78nm,5.1s						
CD2	**Chengdu**	**23.63 277**		P	**P**	**03 44 56.8**	**+0.5**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.3						
ULN	**Ulaanbaatar**	**24.95 319**	⇑	*e*P	**P**	**03 45 07.6**	**-0.5**
SONM	**Songino Array**	**25.30 318**		P	**P**	**03 45 11.3**	**0.0**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.3s						
SONM				MLR	MLR		
	comp=Z,196nm,18.5s						
SONM	**Songino Array**	**25.30 318**		P	**P**	**03 45 11.3**	**0.0**
	comp=Z,0.9nm,0.3s,mb3.8,baz=132,slow=8.2,SNR=10						
SONM				LR	LR	03 56 24.7	
	comp=Z,196nm,18.5s,MS3.6,baz=129,slow=40						
GTA	**Gaotai**	**26.93 297**		*e*P	**P**	**03 45 27.3**	**+1.1**
GTA				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.0						
SEY	**Seymchan**	**34.53 17**		*e*P	**P**	**03 46 33.0**	**+0.1**
ZALV	**Zalesovo Beam**	**40.20 318**		LR	LR	04 05 18.7	
	comp=Z,70nm,19.1s,MS3.5,baz=62,slow=38						
MKAR	**Makanchi Array**	**40.54 307**		P	**P**	**03 47 24.1**	**+0.2**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
MKAR				MLR	MLR		
	comp=Z,83nm,18.6s						
MKAR	**Makanchi Array**	**40.54 307**		P	**P**	**03 47 24.1**	**+0.2**
	comp=Z,0.5nm,0.5s,mb3.5,baz=86,slow=11,SNR=6.0						
MKAR				LR	LR	04 05 43.9	
	comp=Z,83nm,18.6s,MS3.6,baz=172,slow=38						
TIXI	**Tiksi**	**40.58 359**	⇑	*e*P	**P**	**03 47 23.7**	**-0.2**
TIXI				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.4						
BILL	**Bilibino**	**42.15 19**		P	**P**	**03 47 38.0**	**+1.2**
BILL				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.8						
KURK	**Kurchatov**	**43.34 313**		*e*P	**P**	**03 47 45.2**	**-1.4**
TKM2	**Tokmak 2**	**45.28 301**		*e*P	**P**	**03 48 03.3**	**+1.0**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.4						
TKM2	**Tokmak 2**	**45.28 301**		*e*P	**P**	**03 48 03.2**	**+0.9**
	comp=Z,3.0nm,0.5s,mb4.4						
BVAR	**Borovoye Array**	**48.58 315**		P	**P**	**03 48 27.8**	**-0.1**
BVAR				pmax	pmax		
	comp=Z,5.0nm,0.5s						
BVAR	**Borovoye Array**	**48.58 315**		P	**P**	**03 48 27.8**	**-0.2**
	comp=Z,5.3nm,0.5s,mb4.8,baz=97,slow=9.4,SNR=45						
WRAB	**Tennant Creek**	**50.87 176**		*e*P	**P**	**03 48 44.8**	**-0.8**
WRA	**Warramunga Arr**	**50.88 176**		P	**P**	**03 48 45.9**	**+0.2**
WRA				*PP	pP	03 48 57.7	-0.1
WRA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	**Warramunga Arr**	**50.88 176**		P	**P**	**03 48 45.9**	**+0.2**
	comp=Z,0.6nm,0.8s,mb3.6,baz=353,slow=8.0,SNR=6.6						
WRA				pP	pP	03 48 57.7	-0.1
	comp=Z,1.5nm,0.8s,baz=351,slow=8.4,SNR=10						
ASAR	**Alice Springs**	**54.56 177**		P	**P**	**03 49 14.8**	**+2.0**
ASAR				*PP	pP	03 49 26.2	+1.1
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.5s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ASAR	**Alice Springs**	**54.56 177**		P	**P**	**03 49 14.8**	**+2.0**
	comp=Z,0.5nm,0.5s,mb3.8,baz=9.5,slow=13,SNR=6.9						
ASAR				pP	pP	03 49 26.2	+1.1
	comp=Z,1.3nm,0.8s,baz=1.1,slow=6.8,SNR=9.1						
ARU	**Arti**	**55.33 320**	*c*	*i*P	**P**	**03 49 16.2**	**-1.9**
ARU				*e*		03 51 16.4	
ARU				*e*PPP		03 52 31.1	
ARU				*e*S	**S**	**03 56 56.3**	**-2.6**
ARU				*e*SS	SS	04 00 39.9	-3.4
ARU				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.8						
KDAK	**Kodiak Island**	**56.96 38**		P	**P**	**03 49 30.3**	**+0.6**
	comp=Z,1.9nm,0.6s,mb4.3,baz=329,slow=7.6,SNR=4.0						
KDAK				pP	pP	03 49 41.9	-0.1
	comp=Z,10nm,1.2s,baz=342,slow=6.4,SNR=2.4						
KEV	**Kevo**	**65.89 338**		*e*p	**P**	**03 50 27.3**	**-2.5**
	comp=Z,6.8nm,0.8s,mb4.7						
KEV	**Kevo**	**65.89 338**		*e*P	**P**	**03 50 27.3**	**-2.5**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.8s,mb4.7						
ARCES	**ARCESS Array B**	**66.45 338**		P	**P**	**03 50 32.9**	**-0.6**
	comp=Z,1.5nm,0.6s,mb4.2,baz=56,slow=7.4,SNR=12						
ARCES				LR	LR	04 25 16.1	
	comp=Z,56nm,19.3s,MS3.8,baz=272,slow=41						
JOF	**Joensuu**	**67.09 331**		*e*p	**P**	**03 50 37.1**	**-0.5**
	comp=Z,1.4nm,0.5s,mb4.2						
JOF	**Joensuu**	**67.09 331**		*e*P	**P**	**03 50 37.1**	**-0.5**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.5s,mb4.1						
KIV	**Kislovodsk**	**68.26 309**		*e*P	**P**	**03 50 45.9**	**+0.6**
KIV				pmax	pmax		
	comp=Z,12nm,1.0s,mb4.9						
KIV				MLR	MLR		
	comp=Z,29nm,20.0s,MS3.5						
FINES	**FINESS Array B**	**69.95 330**		*i* P	**P**	**03 50 54.5**	**-0.9**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**69.95 330**		P	**P**	**03 50 54.0**	**-1.4**
	comp=Z,1.1nm,0.4s,mb4.2,baz=72,slow=6.1,SNR=16						
FINES				LR	LR	04 25 13.5	
	comp=Z,69nm,18.1s,MS4.0,baz=347,slow=39						
RES	**Resolute Bay**	**70.20 12**		*e*P	**P**	**03 50 57.6**	**+0.8**
YKA	**Yellowknife Ar**	**72.92 26**	⇑	*e*P	**P**	**03 51 14.3**	**+1.0**
YKA	**Yellowknife Ar**	**72.92 26**		P	**P**	**03 51 13.2**	**-0.1**
YKA	**Yellowknife Ar**	**72.92 26**		P	**P**	**03 51 13.2**	**-0.1**
	comp=Z,0.4nm,0.6s,mb3.5,baz=301,slow=6.0,SNR=4.4						
AKASG	**Malin Array Be**	**73.58 320**		*i* P	**P**	**03 51 16.6**	**-0.8**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**73.58 320**		P	**P**	**03 51 15.8**	**-1.6**
	comp=Z,1.2nm,0.5s,mb4.1,baz=56,slow=6.2,SNR=10						
NB2	**NORSAR Subarra**	**76.11 334**		P	**P**	**03 51

WNVZ	Wahianoa	0.72	191	PN	Pn	04 07 04.7	+0.4
BKZ	Black Stump Fm	0.79	134	PN	Pn	04 07 05.0	+0.3
BKZ				SN	Sn	04 07 22.3	-0.3
MOVZ	Moawhango	0.79	181	PN	Pn	04 07 04.7	-0.1
MTVZ	Mangateitei	0.80	197	PN	Pn	04 07 05.1	+0.2
URZ	Urewera	1.11	72	PN	Pn	04 07 07.1	-0.3
WAZ	Wanganui	1.29	208	PN	Pn	04 07 08.7	-0.3
MWZ	Matawai	1.41	79	PN	Pn	04 07 10.3	+0.1
TSZ	Takapari Road	1.45	174	PN	Pn	04 07 10.4	-0.2
WPHZ	Waipukurau	1.54	160	PN	Pn	04 07 11.5	0.0
KNZ	Kokohu	1.54	106	PN	Pn	04 07 12.0	+0.4
PXZ	Pawanui	1.65	149	PN	Pn	04 07 12.7	0.0
MRZ	Mangatainoka R	2.05	184	PN	Pn	04 07 15.9	-1.3
TIWZ	Tintock	2.16	178	PN	Pn	04 07 17.4	-1.1
MXZ	Matakaoa Point	2.26	63	PN	Pn	04 07 19.6	-0.1
HOWZ	Holdsworth Sta	2.29	185	PN	Pn	04 07 18.4	-1.7
KIW	Kapiti Island	2.34	196	PN	Pn	04 07 18.8	-1.9
CAW	Cannon Point	2.54	192	PN	Pn	04 07 21.3	-1.9
MTW	Mount Morrison	2.55	185	PN	Pn	04 07 21.0	-2.1
MRW	Makara Radio	2.73	197	PN	Pn	04 07 23.2	-2.2
MSWZ	Moikau Station	2.82	188	PN	Pn	04 07 24.1	-2.5
TCW	Tory Channel	2.83	203	PN	Pn	04 07 24.4	-2.4
PLWZ	Palliser	2.98	187	PN	Pn	04 07 25.8	-2.7
QRZ	Quartz Range	3.33	228	PN	Pn	04 07 29.2	-3.9

*MOS **28** 04:11:22.7±2.8, 3917N×2475E, h10km, mb4.5/1, Error ellipse: s-maj=19.0km s-min=7.2km az=88.1*
*ISCJB **28** 04:11:25.2±0.5, 3930N±002×2546E±002, h0km±3km, Error ellipse: s-maj=2.6km s-min=2.3km az=23.9*
*ISK **28** 04:11:26.5, 3934N×2554E, h5km, ML3.7*
*DDA **28** 04:11:26.7, 3938N×2553E, h33km±1km, Md3.4*
*ATH **28** 04:11:26.6, 3931N×2555E, h34km±5km, MD3.8/16*
*NEIC **28** 04:11:27.2, 3926N×2550E, h6km, ML4.0(THE), ML3.8(ISK), After THE.*
*THE **28** 04:11:27.2, 3926N×2550E, h6km, ML4.0*
*CSEM **28** 04:11:28.7±0.0, 3930N×2553E, h40km, MD3.8, Error ellipse: s-maj=1.3km s-min=1.0km az=7.0*
*SKO **28** 04:11:31.1, 3899N×2467E, h13km*

ISC 28 04:11:26.3±0.5, 3930N±002×2546E±002, h1km±3km, n134, s0§91/166, 6C-7D, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.63	94	*e*Pg	Pg	04 11 38.7	+0.3
PRK				*e*Sg	Sg	04 11 47.1	+0.5
PRK	Paraskevi	0.63	94	*e*PN	Pg	04 11 38.7	+0.3
PRK				*e*SN	Sg	04 11 47.4	+0.8
LOS	Limnos	0.70	336	*e*Pg	Pg	04 11 41.1	+1.4
BOZC	Bozcaada	0.71	40	*i* P	Pg	04 11 39.3	-0.6
BOZC				*i* S	Sg	04 11 48.8	-0.3
EZN	Ezine	0.85	52	PG	Pg	04 11 41.9	-0.7
EZN				*e*SG	Sg	04 11 53.3	-0.4
GADA	Gvkgeada	0.95	21	PG	Pg	04 11 44.1	-0.5
GADA				*e*SG	Sg	04 11 56.4	-0.6
AYVA	Ayvalik	0.96	89	*i* P	Pg	04 11 44.3	-0.3
AYVA				*i* S	Sg	04 11 57.4	+0.4
CHOS	Chios island	1.02	153	*e*Pg	Pg	04 11 46.3	+0.5
CHOS				*e*Sg	Sg	04 11 59.5	+0.4
AOS	Alonnisos	1.23	265	*e*Pg	Pn	04 11 50.4	-0.2
AOS	Alonnisos	1.23	265	*e*Pg	Pn	04 11 50.3	-0.3
LPK	Lapseki	1.47	43	PN	Pn	04 11 52.9	-0.9
PAIG	Palioúri	1.51	295	*e*Pg	Pn	04 11 53.7	-0.7
PAIG				*e*Sg	Sg	04 12 16.5	+1.7
ENEZ	Enez	1.53	20	*e*PN	Pn	04 11 54.0	-0.7
ENEZ				*e*SN	Sn	04 12 14.8	-0.5
BLCB	Balcova	1.54	126	*e*PN	Pn	04 11 54.8	+0.1
BLCB	Balcova	1.54	126	*e*Pg	Pn	04 11 54.2	-0.5
BLCB				*e*Sg	Sg	04 12 13.8	-1.8
BLCB	Balcova	1.54	126	*e*Pn	Pn	04 11 54.8	+0.1
BLCB				*e*Sg	Sg	04 12 13.8	-1.8
OUR	Ouranopolis	1.54	313	*e*Pg	Pn	04 11 54.6	-0.2
ALN	Alexandroupoli	1.66	16	*e*Pb	Pn	04 11 55.2	-1.2
ALN				*e*Sb	Sb	04 12 18.9	-0.1
KDAG	Bornova	1.67	122	*i* P	Pn	04 11 56.5	-0.1
KDAG				*i* S	Sn	04 12 21.8	+3.2
NEO	Neokhori	1.73	271	*e*PN	Pn	04 11 56.6	-0.9
NEO				*e*SN	Sn	04 12 20.2	0.0
XOR	Xorichti	1.76	273	*e*Pb	Pn	04 11 57.4	-0.4
PTL	Penteli	1.76	226	*e*PN	Pn	04 11 57.1	-0.8
RDO	Rodhopi	1.85	2	*e*PN	Pn	04 11 57.8	-1.2
AKS	Akhisar	1.88	102	*e*PN	Pn	04 11 58.7	-0.7
AKHS	Akhisar	1.88	102	*i* P	Pn	04 11 58.4	-1.0
AKHS				*i* S	Sn	04 12 25.4	+1.6
PLG	Polygyros	1.89	305	*e*Pb	Pn	04 12 00.1	+0.6
PLG				*e*Sb	Sb	04 12 24.8	-0.7
PLG	Polygyros	1.89	305	*e*PB	Pn	04 12 00.0	+0.4
ATH	Athens Observa	1.90	226	*e*PN	Pn	04 11 59.2	-0.5
BALB	Balikesir	1.91	79	*e*PN	Pn	04 11 59.6	-0.2
RKY	Sarkoy-Tekirda	1.92	43	*e*PN	Pn	04 11 59.0	-1.0
SART	Tekirdag	1.92	43	*i* P	Pn	04 11 58.8	-1.2
SART				*i* S	Sn	04 12 22.2	-2.6
SMG	Samos	1.92	145	*e*PB	Pn	04 11 59.3	-0.7
LKR	Lokris	2.02	252	*e*Pn	Pn	04 12 01.5	+0.1
LKR				*e*Sn	Sn	04 12 27.6	+0.3
LKR	Lokris	2.02	252	*e*PN	Pn	04 12 01.6	+0.2
MFT	Murefte	2.04	43	*e*PN	Pn	04 12 01.1	-0.6
BTOK	Tokmak	2.04	76	*i* P	Pn	04 12 00.4	-1.3
BTOK				*i* S	Sn	04 12 25.1	-2.8
BTOK	Tokmak	2.04	76	*i* P	Pn	04 12 00.4	-1.3
BTOK				*i* S	Sn	04 12 25.0	-2.8
MRMT	Marmara Adasi	2.10	51	*e*PN	Pn	04 12 02.9	+0.5
EDC	Edincik	2.13	60	*e*PN	Pn	04 12 03.0	+0.2
BNT	Bandirma	2.17	60	*e*PN	Pn	04 12 02.3	-1.2
NAIG	Nisos Aigina	2.18	226	*e*PN	Pn	04 12 03.5	-0.1
SOH	Sokhos	2.22	314	*e*Pn	Pn	04 12 04.8	+0.7
SOH				*e*Sn	Sn	04 12 32.8	+0.6
APE	Apeiranthos	2.23	178	*e*Pn	Pn	04 12 02.9	-1.3
APE				*e*Sn	Sn	04 12 31.4	-0.9
APE	Apeiranthos	2.23	178	*e*PN	Pn	04 12 02.7	-1.5
APE	Apeiranthos	2.23	178	⇑*i*P	Pn	04 12 03.2	-1.0
HORT	Hortiatis	2.23	306	*e*Pn	Pn	04 12 04.5	+0.3
SRS	Serrai	2.31	322	*e*Pn	Pn	04 12 05.2	-0.2
TKR	Tekirdag	2.32	43	*e*PN	Pn	04 12 06.2	+0.6
LTK	Loutraki	2.33	238	*e*Pn	Pn	04 12 05.2	-0.4
LTK				*e*Sn	Sn	04 12 34.3	-0.5
THE	Thessaloniki	2.33	306	*e*Pn	Pn	04 12 06.4	+0.7
KDZ	Kurdzhali	2.35	359	*i* P	Pn	04 12 04.0	-1.9
NVR	Nevrokopi	2.39	330	*e*PN	Pn	04 12 05.6	-0.8
LIT	Litokhoron	2.43	290	*e*Pn	Pn	04 12 07.4	+0.4
KCT	Karacabey	2.43	66	*e*PN	Pn	04 12 06.9	-0.2
AGG	Agios Georgios	2.45	265	*e*Pn	Pn	04 12 06.8	-0.4
AGG	Agios Georgios	2.45	265	*e*Pn	Pn	04 12 06.8	-0.5
RZN	Rozhen	2.45	347	*i* P	Pn	04 12 07.1	-0.3
DST	Dursunbey	2.47	82	*e*PN	Pn	04 12 06.9	-0.7
DID	Didima	2.50	225	*e*Pn	Pn	04 12 07.6	-0.4
DID				*e*Sn	Sn	04 12 38.3	-0.8
CRLT	Corlu	2.53	43	*e*PN	Pn	04 12 09.1	+0.7
KULA	Kula-Manisa	2.62	106	*e*PN	Pn	04 12 09.9	+0.3
MMB	Musomiste	2.64	331	*i* P	Pn	04 12 09.0	-1.0
THL	Klokotos Trika	2.68	277	*e*Pn	Pn	04 12 10.5	+0.1
THL	Klokotos Trika	2.68	277	*e*PN	Pn	04 12 10.7	+0.2
KNT	Kendrikon	2.70	314	*e*Pn	Pn	04 12 12.0	+1.2
BDRM	Kayabasi	2.72	144	*i* P	Pn	04 12 10.4	-0.6
BDRM				*i* S	Sg	04 12 54.4	+0.6
EDRB	Edirne	2.73	21	*e*PN	Pn	04 12 12.1	+1.0
PLD	Plovdiv	2.86	349	*e*Pn	Pn	04 12 12.9	-0.1
PLD	Plovdiv	2.86	349	*i* P	Pn	04 12 15.3	+2.3
EVR	Evrytania	2.86	264	*e*PN	Pn	04 12 13.7	+0.7
CTT	Catalca	2.93	50	*e*PN	Pn	04 12 13.9	0.0
VAY	Valandovo	2.99	313	*e*Pn	Pn	04 12 15.8	+1.0
VAY	Valandovo	2.99	313	*e*Pn	Pn	04 12 16.5	+1.7
VAY				*e*Sg	Sg	04 13 02.7	+0.2
VAY	Valandovo	2.99	313	*e*Pn	Pn	04 12 15.8	+1.0
VAY				*e*Sg	Sg	04 13 02.6	+0.2
KZN	Kozani	3.01	291	P	Pn	04 12 20.4	+5.3
GEMT	Gemlik	3.09	67	*e*PN	Pn	04 12 16.9	+0.8
YER	Yerkesik	3.10	133	*e*PN	Pn	04 12 17.3	+1.0
GDZ	Gediz	3.13	93	*i* P	Pn	04 12 16.3	-0.4
GDZ				*i* S	Sg	04 13 01.8	-5.1
KKB	Krupnik	3.14	326	*i* P	Pn	04 12 20.0	+3.2
DENT	Denizli	3.20	118	*e*PN	Pn	04 12 18.2	+0.5
VLI	Velial	3.25	218	*e*PN	Pn	04 12 17.6	-0.8
IZI	Iznik	3.26	70	*e*PN	Pn	04 12 19.0	+0.6
YLV	Yalova	3.27	66	*e*PN	Pn	04 12 19.2	+0.7
ISK	Istanbul-Kandi	3.28	56	*e*PN	Pn	04 12 18.6	-0.1
RLS	Riolos of Patr	3.36	250	P	Pn	04 12 25.7	+5.9
KLYT	Kilyos	3.37	53	*e*PN	Pn	04 12 20.1	+0.1
STIP	Stip	3.46	315	*e*Pn	Pn	04 12 22.7	+1.5
STIP				*e*Sg	Sg	04 13 14.8	-2.5
STIP	Stip	3.46	315	*e*PN	Pn	04 12 22.6	+1.4
STIP				*e*Sg	Sg	04 13 14.8	-2.5
DALT	Dalyan (Mudla)	3.56	134	*e*PN	Pn	04 12 23.3	+0.8
KYTH	Kithira	3.57	213	*e*PN	Pn	04 12 22.5	-0.2
HRT	Hereke	3.57	63	*e*PN	Pn	04 12 23.6	+0.9
JAN	Janina	3.58	277	P	Pn	04 12 28.3	+5.4
ALT	Altintas	3.62	92	*e*PN	Pn	04 12 22.9	-0.5
VTS	Vitosha	3.71	333	*e*Pn	Pg	04 12 36.8	-0.5
VTS	Vitosha	3.71	333	⇑*i*P	Pg	04 12 36.8	-0.5
VTS	Vitosha	3.71	333	*i* P	Pn	04 12 26.0	+1.4
VTS	Vitosha	3.71	333	P	Pn	04 12 26.4	+1.8
FETY	Fethiye	3.91	132	*e*PN	Pn	04 12 29.4	+2.0
PVL	Pavlikeni	3.92	359	*i* P	Pn	04 12 26.5	-1.0
KARP	Karpathos	3.98	160	*e*PN	Pn	04 12 27.3	-1.1
TKTP	Tekketepe	4.01	107	*i* P	Pn	04 12 28.8	+0.1
TKTP				*i* S	Sg	04 13 27.4	-7.6
NPS	Neapolis	4.03	178	P	Pn	04 12 28.9	-0.1
SHUT	Suhut-Afyon	4.04	99	*e*PN	Pn	04 12 29.8	+0.6
GULT	Gulveren	4.05	72	*e*PN	Pn	04 12 30.7	+1.3
ESKT	Eskisehir	4.18	85	*e*PN	Pn	04 12 31.5	+0.4
ISP	Isparta	4.22	109	*e*PN	Pn	04 12 32.9	+1.3
ISP	Isparta	4.22	109	*e*P	Pn	04 12 31.7	+0.1
BARS	Barje	4.46	323	*e*Pn	Pn	04 12 35.3	+0.3
ZAPS	Zavoj	4.51	333	*e*Pn	Pn	04 12 36.7	+1.1
KIZT	Kizilcal	5.01	93	*e*PN	Pn	04 12 44.2	+1.6
HARR	Harsova	5.69	18	⇑*i*P	Pn	04 12 51.9	0.0
VOIR		6.14	357	P	Pn	04 12 58.1	0.0
VOIR		6.14	357	⇓*i*P	Pn	04 12 58.2	+0.2
VOIR		6.14	357	P	Pn	04 12 58.1	+0.1
MLR	Muntele Rosu	6.20	3	⇓*i*P	Pn	04 12 59.7	+0.9
MLR	Muntele Rosu	6.20	3	P	Pn	04 12 59.8	+1.0
DIVS	Divibare	6.30	321	*e*Pn	Pn	04 13 00.1	-0.1
GZR	Gura Zlata	6.41	343	⇑*i*P	Pn	04 13 01.3	-0.4
GZR	Gura Zlata	6.41	343	P	Pn	04 13 01.5	-0.2
PLOR	Plostina	6.61	7	⇓*i*P	Pn	04 13 05.8	+1.4
VRI	Vrincioaia	6.63	8	⇓P	Pn	04 13 05.5	+0.8
VRI	Vrincioaia	6.63	8	P	Pn	04 13 06.2	+1.5
VRI	Vrincioaia	6.63	8	⇓*i*P	Pn	04 13 05.4	+0.7
VRI	Vrincioaia	6.63	8	P	Pn	04 13 06.2	+1.5
BZS	Buzias	6.92	337	*e*Pn	Pn	04 13 07.7	-1.1
BZS	Buzias	6.92	337	⇑*i*P	Pn	04 13 08.4	-0.4
DRGR		7.75	346	⇑*i*P	Pn	04 13 12.1	-8.1
BURAR	Bucovina Array	8.32	359	⇓*i*P	Pn	04 13 29.0	+1.1
AKASG	Malin Array Be	11.71	12	*i* P	Pn	04 14 20.8	+6.5
GNI	Garni	14.87	81	*e*P	Pn	04 14 59.5	+2.0
GNI				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GNI	Garni	14.87	81	*e*P	Pn	04 14 59.5	+2.0
	comp=Z,3.0nm,1.0s						
OBN	Obninsk	17.49	22	*e*P	Pn	04 15 37.2	+6.0
OBN				pmax	pmax		
	comp=Z,3.0nm,1.0s						
VSU	Vasula	19.20	2	*e*P	Pn	04 15 57.6	+5.5
ARU	Arti	27.68	41	*d*P	P	04 17 19.5	+4.1
ARU				*e*		04 18 02.9	
ARU				*e*		04 20 38.0	
ARU				*e*S	S	04 22 03.0	+4.9
ARU				pmax	pmax		
	comp=Z,12nm,2.5s						

*IDC **28** 04:14:26.2±0.7, 861S×1574E, h0km, mb4.1/11, mb1 4.3/12, mb1mx4.2/16, mbtmp4.1/12, ML4.4/1, MS3.7/8, Ms1 3.7/8, ms1mx3.6/15, Error ellipse: s-maj=24.6km s-min=17.6km az=108.0*
*ISCJB **28** 04:14:29.7±0.4, 863S±007×15750E±005, h33km, mb4.3/20, MS3.8/7, Error ellipse: s-maj=10.0km s-min=7.0km az=4.4*
*NEIC **28** 04:14:30.9±0.6, 865S×1576E, h35km, mb4.3/9, Error ellipse: s-maj=16.0km s-min=11.0km az=134.0*
*BJI **28** 04:14:31.8, 797S×15757E, h7km, mB5.1, mb4.4*

ISC 28 04:14:31.6±0.5, 863S±007×15751E±006, h35km, n36, s1§00/33, mb4.3/20, MS3.8/7, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.54	109	*e*Pn	Pn	04 15 05.0	-5.4
HNR				*e*S	Sn	04 15 38.0	-2.0
HNR	Honiara	2.54	109	Pn	Pn	04 15 05.1	-5.2
	82nm,0.3s,baz=199,slow=2.0,SNR=9.2						
HNR				Sn	Sn	04 15 41.7	+1.7
	494nm,0.3s,baz=87,slow=19,SNR=16						
CTA	Charters Tower	15.76	222	*e*P	Pn	04 18 10.8	-0.2
	11nm,1.1s						
CTA	Charters Tower	15.76	222	Pn	Pn	04 18 10.3	-0.7
	0.9nm,0.3s,baz=61,slow=13,SNR=9.3						
CTA				LR	LR	04 23 09.4	
	comp=Z,206nm,21.9s,baz=42,slow=33						
CTAO	Charters Tower	15.76	222	*e*Pn	Pn	04 18 10.8	-0.3
	18nm,1.0s						
EIDS	Eidsvold	17.74	199	*e*Pn	Pn	04 18 35.8	-0.1
	16nm,1.2s						
ARMA	Armidale	22.37	193	*e*P	P	04 19 31.9	+5.2
ARMA	Armidale	22.37	193	*e*P	P	04 19 26.8	0.0
	0.3nm,0.8s						
KAKA	Kakadu	24.96	258	*e*P	P	04 19 56.2	+4.1
	9.6nm,0.9s,mb4.3						
WRAB	Tennant Creek	25.06	241	*e*P	P	04 19 52.0	-0.9
	18nm,1.3s,mb4.4						
WB2	Warramunga Arr	25.06	241	*e*P	P	04 19 52.9	-0.1
WB2	Warramunga Arr	25.06	241	*e*P	P	04 19 52.9	-0.1
WRA	Warramunga Arr	25.07	241	P	P	04 19 52.8	-0.3
	5.3nm,0.7s,mb4.2,baz=67,slow=9.5,SNR=62						
WRA				PcP	PcP	04 23 27.0	-0.2
	0.3nm,0.4s,baz=65,slow=2.7,SNR=5.9						
WRA				LR	LR	04 28 51.5	
	comp=Z,213nm,20.4s,MS3.6,baz=70,slow=35						
ASAR	Alice Springs	27.09	234	P	P	04 20 09.7	-1.6
	1.3nm,0.9s,mb3.4,baz=63,slow=10,SNR=8.7						
STKA	Stephens Creek	27.46	210	*e*P	P	04 20 15.5	+1.0
	8.3nm,0.8s,mb4.3						
STKA	Stephens Creek	27.46	210	P	P	04 20 13.4	-1.0
	5.1nm,0.8s,mb4.1,baz=33,slow=14,SNR=10						
STKA				LR	LR	04 30 27.0	
	comp=Z,161nm,19.9s,MS3.6,baz=24,slow=35						
AFI	Afiamalu	30.56	103	LR	LR	04 30 33.5	
	comp=Z,202nm,18.5s,MS3.8,baz=198,slow=32						
FITZ	Fitzroy Crossi	32.36	250	*e*P	P	04 20 59.9	+1.9
	6.3nm,1.5s,mb4.2						
URZ	Urewera	34.39	152	P	P	04 21 17.0	+1.5
	15nm,1.1s,mb4.8,baz=333,slow=15,SNR=2.5						
PPT	Papeete	52.16	105	LR	LR	04 39 30.9	
	comp=Z,177nm,21.7s,MS4.1,baz=333,slow=29						
KSRS	Korea Array	53.55	331	P	P	04 23 49.5	+0.4
	0.7nm,0.4s,mb4.0,baz=154,slow=10,SNR=3.2						
KSRS				LR	LR	04 45 21.4	
	comp=Z,60nm,19.8s,MS3.6,baz=124,slow=35						
XAN	Xi'an	62.60	315	P	P	04 24 58.3	+5.7
XAN				AP	pP	04 25 03.8	+0.5
XAN				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.6						
KMI	Kunming	62.99	304	P	P	04 25 01.5	+6.2
KMI				AMB	AMB		
	comp=Z,14nm,0.9s,mb5.1						
LZH	Lanzhou	67.22	315	*e*P	P	04 25 29.3	+6.7
LZH				AP	pP	04 25 33.8	+0.4
LZH				XP	sP	04 25 37.0	-0.4
LZH				AMB	AMB		
	comp=Z,16nm,1.4s,mb4.9						
VNDA	Vanda	68.90	179	P	P	04 25 33.0	+0.6
	comp=Z,0.8nm,0.7s,mb3.8,baz=346,slow=6.3,SNR=3.9						
GTA	Gaotai	71.63	316	*e*P	P	04 25 50.3	+0.6
GTA				AMB	AMB		
	comp=Z,2.0nm,1.6s,mb3.8						
SONM	Songino Array	72.05	327	P	P	04 25 53.4	+1.3
	comp=Z,1.0nm,0.8s,mb3.8,baz=130,slow=4.4,SNR=4.3						
KDAK	Kodiak Island	77.57	25	P	P	04 26 23.4	-0.4
	comp=Z,4.4nm,0.9s,mb4.4,baz=203,slow=13,SNR=3.4						
PMR	Palmer	81.30	23	*e*P	P	04 26 43.4	-0.6
	comp=Z,4.3nm,1.1s,mb4.3						
COLA	College	83.71	21	*e*P	P	04 26 54.8	-1.7
	comp=Z,5.8nm,0.8s,mb4.8						
MKAR	Makanchi Array	86.27	318	P	P	04 27 09.2	-0.6
	comp=Z,0.3nm,0.5s,mb3.8,baz=243,slow=30,SNR=2.8						
MKAR				LR	LR	05 04 57.2	
	comp=Z,23nm,18.1s,MS3.6,baz=354,slow=35						
NVAR	Mina Array Bea	90.78	51	P	P	04 27 32.0	+0.6
	comp=Z,1.9nm,0.9s,mb4.4,baz=237,slow=8.4,SNR=8.1						
YKA	Yellowknife Ar	96.61	28	P	P	04 27 57.8	+0.2
	comp=Z,0.4nm,0.8s,mb3.9,baz=247,slow=11,SNR=4.4						
YKA				LR	LR	05 07 39.8	
	comp=Z,45nm,18.8s,MS4.0,baz=210,slow=33						
BDFB	Brasilia	145.06	134	PKPbc	PKPbc	04 34 04.1	-1.7
	comp=Z,3.9nm,1.0s,baz=228,slow=1.1,SNR=7.6						
TORD	Torodi Ar. Bea	155.84	283	PKPab	PKPab	04 34 48.5	-1.4
TORD	Torodi Ar. Bea	155.84	283	PKPbc	PKPdf	04 34 33.9	+11
	comp=Z,1.1nm,1.0s,baz=60,slow=2.6,SNR=4.2						
TORD				PKPab	PKPab	04 34 48.5	-1.4
	comp=Z,0.3nm,0.8s,baz=81,slow=3.6,SNR=5.2						

MAN 28 04:38:40, 1186N×12522E, h20km, mb4.4, ML3.2, MS3.1, 1C, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BESP	Borongan	0.34	141	*e*P	Pb	04 38 48.4	+1.1
BESP				*e*S	Sb	04 38 54.3	+2.1
PLP	Palo	0.73	199	*e*P	Pb	04 38 54.4	+0.3
PLP				*e*S	Sb	04 39 06.8	+3.1
CNP	Catarman	0.84	320	*e*P	Pb	04 38 55.8	-0.2
CNP				*e*S	Sb	04 39 08.8	+1.9
MSLP	Maasin	1.76	192	*e*P	Pn	04 39 10.3	+1.0
PVCP	Virac	2.01	329	*e*P	Pn	04 39 14.9	+2.1
SCPH	Surigao	2.09	173	⇑*e*P	Pn	04 39 13.0	-0.9
RCP	Roxas	2.44	263	*e*P	Pn	04 39 13.4	-5.4

IDC 28 05:01:27.0±2.8, 1062S×11650E, h0km, mb3.7/3, mb1 3.6/5, mb1mx3.5/16, mbtmp3.6/5, ML3.1/2, Error ellipse: s-maj=168.7km s-min=21.8km az=48.0, South of Sumbawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	11.56	131	Pn	Pn	05 04 11.7	-1.7
	0.1nm,0.3s,baz=315,slow=8.6,SNR=2.9						
FITZ				Sn	Sn	05 06 07.3	-16
	0.3nm,0.3s,baz=204,slow=24,SNR=7.0						
WRA	Warramunga Arr	19.53	120	P	Pn	05 05 57.6	+0.3
	0.0nm,0.3s,baz=297,slow=11,SNR=3.5						
WRA				S	Sn	05 09 23.2	-14
	0.1nm,0.3s,baz=87,slow=18,SNR=5.1						
ASAR	Alice Springs	21.06	130	P	P	05 06 12.4	-0.4
	0.3nm,0.6s,baz=300,slow=10,SNR=5.9						
MKAR	Makanchi Array	64.81	335	P	P	05 12 08.2	+0.6
	0.8nm,0.5s,baz=154,slow=8.2,SNR=7.8						
ZALV	Zalesovo Beam	69.70	341	P	P	05 12 37.9	-0.5
	1.5nm,0.6s,baz=149,slow=4.8,SNR=6.9						

*ISCJB **28** 05:26:25.4±0.7, 218N±01×1432E±02, h33km, mb4.0/8, MS2.9/2, Error ellipse: s-maj=23.9km s-min=16.3km az=164.7*
*NEIC **28** 05:26:27.2±0.7, 2184N×14324E, h35km, Error ellipse: s-maj=24.0km s-min=17.4km az=84.0*
*IDC **28** 05:26:36.7±12.0, 2177N×14299E, h118km±112km, mb3.5/8, mb1 3.7/8, mb1mx3.5/19, mbtmp3.5/8, MS2.9/2, Ms1 2.9/2, ms1mx2.7/22, Error ellipse: s-maj=43.4km s-min=16.9km az=82.0*

ISC 28 05:26:27.4±0.7, 218N±01×1433E±02, h35km, n13, s1§15/12, mb4.0/8, MS2.9/2, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.49	323	P	P	05 31 04.3	+2.1
	4.0nm,1.0s,baz=141,slow=13,SNR=8.4						
KSRS				LR	LR	05 38 28.7	
	comp=Z,21nm,19.4s,MS2.5,baz=194,slow=35						
SONM	Songino Array	39.32	320	P	P	05 33 52.8	-0.2
	2.1nm,0.8s,mb3.9,baz=112,slow=7.0,SNR=10						
WRA	Warramunga Arr	42.39	193	P	P	05 34 18.4	-0.2
	1.5nm,1.0s,mb3.6,baz=9.6,slow=8.9,SNR=11						
ASAR	Alice Springs	46.10	192	P	P	05 34 48.8	+0.6
	0.4nm,0.8s,mb3.4,baz=12,slow=9.9,SNR=3.9						
ZAA0	Zalesovo Array	54.19	322	*e*P	P	05 35 48.0	-1.2
ZALV	Zalesovo Beam	54.19	322	P	P	05 35 48.0	-1.2
	1.3nm,0.6s,mb4.1,baz

CAF				*e*Sn	**Sn**	**05 30 35.1**	**-3.4**
LFF	**La Frestale**	**8.16**	**188**	*e*Pn	**Pn**	**05 29 08.0**	**-0.2**

*ISCJB **28** 05:35:25.5±0.6, 1074N×003×6234W±003, h89km±8km, Error ellipse: s-maj=6.1km s-min=4.5km az=147.5*
*TRN **28** 05:35:26.4, 1078N×6237W, h78km, MD3.1*
*NEIC **28** 05:35:26.4, 1078N×6237W, h78km, MD3.1(TRN), After TRN.*
*FUNV **28** 05:35:27.3, 1077N×6225W, h68km, MW3.0*

ISC 28 05:35:26.5±0.6, 1075N±003×6233W±003, h82km±8km, n22, σ0°78/36, 1C-4D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.57**	**96**	*e*P	**Pn**	**05 35 41.7**	**+0.6**
TCE				*e*S	**Sn**	**05 35 51.7**	**-0.2**
GUNV	**Guanoco**	**0.84**	**226**	*e*P	**Pn**	**05 35 44.5**	**+0.6**
GUNV				*e*S	**Sn**	**05 35 57.4**	**+0.6**
CRUV	**Carupano**	**0.89**	**265**	⇑*i*P	**Pn**	**05 35 44.8**	**+0.4**
CRUV				*e*S	**Sn**	**05 35 57.6**	**-0.2**
TRN	**Trinidad (W)**	**0.92**	**97**	⇓*e*P	**Pn**	**05 35 45.2**	**+0.5**
TRN				*e*S	**Sn**	**05 35 57.6**	**-0.7**
ITEV	**Isla Los Testi**	**0.99**	**307**	⇓*i*P	**Pn**	**05 35 45.5**	**-0.1**
ITEV				*e*S	**Sn**	**05 35 59.2**	**-0.6**
TBH	**Brigand Hill**	**1.27**	**102**	*e*P	**Pn**	**05 35 49.8**	**+0.8**
TBH				*e*S	**Sn**	**05 36 07.0**	**+1.0**
GRW	**Mount Saint Ca**	**1.54**	**25**	*e*P	**Pn**	**05 35 52.7**	**+0.2**
GRW				*e*S	**Sn**	**05 36 11.9**	**-0.3**
TPR	**Prospect**	**1.59**	**74**	*e*P	**Pn**	**05 35 52.7**	**-0.4**
TPR				*e*S	**Sn**	**05 36 13.3**	**+0.2**
GRIC	**Isle de Caille**	**1.69**	**26**	*e*P	**Pn**	**05 35 54.6**	**+0.2**
GRIC				*e*S	**Sn**	**05 36 15.1**	**-0.4**
GRSS	**Sisters**	**1.69**	**25**	*e*P	**Pn**	**05 35 53.0**	**-1.4**
GRSS				*e*P		05 35 54.1	
GRSS				*e*S	**Sn**	**05 36 14.5**	**-1.0**
GRSS	**Sisters**	**1.69**	**25**	*e*P	**Pn**	**05 35 54.1**	**-0.3**
GRSS				*e*S	**Sn**	**05 36 14.5**	**-1.0**
ORIV	**Oritupano**	**1.98**	**212**	*e*P	**Pn**	**05 35 58.7**	**+0.5**
PCRV	**Puerto La Cruz**	**2.34**	**256**	*e*P	**Pn**	**05 36 04.2**	**+1.2**
IBAV	**Isla La Blanqu**	**2.44**	**296**	⇓*i*P	**Pn**	**05 36 04.5**	**+0.1**
RIOV	**Rio Grande**	**2.72**	**169**	*e*P	**Pn**	**05 36 08.3**	**+0.2**
PRGV	**PARIAGUAN**	**3.02**	**229**	*e*S	**Sn**	**05 36 45.9**	**-1.6**
GURV	**El Guri**	**3.07**	**194**	*e*P	**Pn**	**05 36 12.4**	**-0.4**
GURV				*e*S	**Sn**	**05 36 46.1**	**-2.4**
CUPV	**Cœpira**	**3.47**	**259**	*e*P	**Pn**	**05 36 19.3**	**+1.0**
LUEV	**Luepa**	**4.96**	**170**	⇓*i*P	**Pn**	**05 36 37.6**	**-1.0**
CAOV	**Caicara del Or**	**5.21**	**229**	*e*P	**Pn**	**05 36 42.8**	**+0.8**
CAOV				*e*S	**Sn**	**05 37 36.9**	**-3.9**
TURV	**Turiamo**	**5.42**	**267**	*e*P	**Pn**	**05 36 45.2**	**+0.3**
BAUV	**El Baul**	**5.91**	**253**	*e*P	**Pn**	**05 36 51.8**	**+0.3**
BAUV				*e*S	**Sn**	**05 37 53.8**	**-4.0**

*IDC **28** 05:56:17.6±1.9, 1347N×1448E, h0km, mb4.1/11, mb1 4.1/11, mb1mx4.0/19, mbtmp4.0/11, Error ellipse: s-maj=93.9km s-min=17.2km az=83.0*
*ISCJB **28** 05:56:43.7±1.5, 131N±0.1×1437E±05, h220km±25km, mb3.6/11, Error ellipse: s-maj=77.9km s-min=17.2km az=176.2*
*NEIC **28** 05:56:44.7±1.6, 1311N×1437E, h214km±39km, Error ellipse: s-maj=110.7km s-min=12.1km az=81.0*

ISC 28 05:56:45.3±1.0, 132N±01×1440E±05, h227km±20km, n13, σ0°30/14, mb3.6/11, South of Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**0.97**	**63**	*e*Pn	**Pn**	**05 57 17.3**	**-0.5**
GUMO				*e*Sn	**S**	**05 57 43.4**	**+0.3**
WRA	**Warramunga Arr**	**34.22**	**196**	P	**P**	**06 03 09.7**	**-0.1**
	1.2nm,0.5s,mb3.6,baz=17,slow=9.4,SNR=21						
ASAR	**Alice Springs**	**37.89**	**195**	P	**P**	**06 03 40.6**	**-0.2**
	0.4nm,0.6s,mb3.1,baz=19,slow=12,SNR=7.7						
STKA	**Stephens Creek**	**44.83**	**183**	P	**P**	**06 04 37.4**	**+0.4**
	0.7nm,0.4s,mb3.4,baz=102,slow=20,SNR=2.7						
SONM	**Songino Array**	**46.59**	**326**	P	**P**	**06 04 50.6**	**+0.1**
	0.6nm,0.4s,mb3.3,baz=133,slow=6.3,SNR=4.3						
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**06 06 36.4**	**+0.3**
MKAR	**Makanchi Array**	**61.20**	**316**	P	**P**	**06 06 36.4**	**+0.3**
	1.1nm,0.5s,mb3.7,baz=89,slow=8.0,SNR=5.4						
ZALV	**Zalesovo Beam**	**61.47**	**325**	P	**P**	**06 06 37.7**	**-0.2**
	0.9nm,0.5s,mb3.6,baz=109,slow=6.3,SNR=3.3						
BVAR	**Borovoye Array**	**69.73**	**322**	P	**P**	**06 07 31.0**	**+0.4**
	2.6nm,0.4s,mb4.3,baz=104,slow=9.0,SNR=18						
ARCES	**ARCESS Array B**	**87.23**	**342**	P	**P**	**06 09 06.0**	**+0.3**
	3.2nm,1.1s,mb4.0,baz=74,slow=8.9,SNR=4.1						
FINES	**FINESS Array B**	**91.19**	**335**	P	**P**	**06 09 24.0**	**-0.3**
	0.4nm,0.3s,mb3.8,baz=61,slow=4.8,SNR=6.4						
AKASG	**Malin Array Be**	**94.87**	**325**	P	**P**	**06 09 41.1**	**-0.4**
	0.2nm,0.4s,mb3.6,baz=103,slow=3.8,SNR=2.3						
NOA	**NORSAR Array B**	**97.14**	**339**	P	**P**	**06 09 51.5**	**-0.1**
	0.3nm,0.6s,mb3.7,baz=36,slow=4.5,SNR=2.4						

*IDC **28** 06:05:58.9±6.6, 3613N×7120E, h173km±60km, mb3.1/9, mb1 3.3/12, mb1mx3.2/24, mbtmp3.2/12, Error ellipse: s-maj=33.2km s-min=18.2km az=24.0*
*NEIC **28** 06:06:00.6±4.9, 3604N×7145E, h206km±22km, Error ellipse: s-maj=62.2km s-min=17.3km az=173.0*
*ISCJB **28** 06:06:03.7±0.7, 3653N±004×7124E±009, h219km±8km, mb3.1/8, Error ellipse: s-maj=12.8km s-min=4.0km az=159.9*
*NNC **28** 06:06:16.5±9.7, 3747N×7184E, h248km±75km, mb2.7, mpv4.5, Error ellipse: s-maj=89.4km s-min=52.1km az=16.0*

ISC 28 06:06:04.9±0.7, 3654N±004×7132E±010, h211km±8km, n44, σ0°98/48, mb3.1/8, 6C-3D, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	**Thein Dam**	**5.47**	**137**	*e*P	**Pn**	**06 07 25.5**	**-0.1**
THN				*ex*		06 08 29.5	
DLH	**Dalhousie**	**5.53**	**135**	*e*P	**Pn**	**06 07 28.0**	**+1.7**
DLH				*ex*		06 08 32.0	
AML	**Almayashu**	**5.88**	**18**	*e*Pn	**Pn**	**06 07 32.2**	**+1.6**
	325nm,0.5s						
AML				*e*Sn		06 08 37.7	
UCH	**Uchtor**	**6.20**	**23**	*e*Pn	**Pn**	**06 07 36.6**	**+1.9**
	141nm,0.6s						
UCH				*e*Sn		06 08 44.8	
EKS2	**Erkin-Say**	**6.41**	**16**	*e*Pn	**Pn**	**06 07 38.8**	**+1.4**
	38nm,0.8s						
EKS2				*e*Sn		06 08 48.3	
KK31	**Karatay Array**	**6.59**	**355**	P	**Pn**	**06 07 40.6**	**+0.9**
	21nm,0.7s,baz=174,slow=12,SNR=180						
KK31				⇑S		06 08 51.6	
	32nm,0.5s,baz=175,slow=25,SNR=5.8						
SDNR	**Sundarnagar**	**6.87**	**135**	*e*P	**Pn**	**06 07 42.5**	**-1.1**
SDNR				*ex*		06 08 57.5	
TKM2	**Tokmak 2**	**7.18**	**26**	⇑P	**Pn**	**06 07 48.9**	**+1.5**
	58nm,0.8s						
TKM2				⇑S		06 08 55.5	
	1.3nm,0.3s						
TKM2	**Tokmak 2**	**7.18**	**26**	*e*Pn	**Pn**	**06 07 48.9**	**+1.5**
	60nm,0.5s						
KLP	**Kalpa**	**7.62**	**129**	*e*P	**Pn**	**06 07 53.1**	**-0.1**
KLP				*e*S		06 09 04.0	
KLP				AML	AML	06 09 28.4	
	comp=E,180nm,0.6s						
KLP				AML	AML	06 09 29.0	
	comp=N,123nm,0.6s						
DDI	**Dehra Dun**	**8.37**	**136**	*e*P	**Pn**	**06 08 02.5**	**-0.5**
JOSI	**Joshimath**	**9.10**	**129**	*e*P	**Pn**	**06 08 12.9**	**+0.5**
JOSI				*ex*		06 09 40.9	
JOSI				AML	AML	06 10 02.1	
	comp=E,69nm,0.3s						
JOSI				AML	AML	06 10 02.3	
	comp=N,41nm,0.3s						
KHET	**Khetri**	**9.25**	**155**	*e*P	**Pn**	**06 08 12.6**	**-1.8**
KHET				*ex*		06 09 49.2	
KHET				AML	AML	06 09 53.2	
	comp=E,12nm,0.3s						
KHET				AML	AML	06 09 54.0	
	comp=N,15nm,0.3s						
NDI	**New Delhi**	**9.28**	**146**	*e*P	**Pn**	**06 08 14.0**	**-0.7**
KUDL	**Kundal**	**9.44**	**151**	*e*P	**Pn**	**06 08 15.7**	**-1.1**
KUDL				*e*S		06 09 43.9	
KUDL				AML	AML	06 09 58.7	
	comp=N,11nm,0.4s						
SONA	**Sohna**	**9.59**	**148**	*e*P	**Pn**	**06 08 18.1**	**-0.7**
SONA				*ex*	x	06 09 41.2	
SONA				AML	AML	06 10 03.5	
	comp=E,18nm,0.4s						
SONA				AML	AML	06 10 03.5	
	comp=N,11nm,0.2s						
MK31	**Makanchi Array**	**13.11**	**35**	⇓P	**Pn**	**06 09 03.5**	**+0.2**
	comp=N,0.7nm,0.3s,baz=208,slow=43,SNR=22						
MK31	**Makanchi Array**	**13.11**	**35**	*e*Pn	**Pn**	**06 09 03.6**	**+0.3**
MKAR	**Makanchi Array**	**13.11**	**35**	P	**Pn**	**06 09 02.5**	**-0.7**
	comp=N,0.7nm,0.3s,baz=222,slow=14,SNR=11						
DANN	**Dangsing**	**13.30**	**124**	*e*P	**Pn**	**06 09 05.9**	**+0.2**
	comp=N,32nm,0.3s						
KOLN	**Koldanda**	**13.58**	**127**	*e*P	**Pn**	**06 09 09.2**	**0.0**
	comp=N,16nm,0.3s						
GKN	**Gorkha**	**14.11**	**123**	*e*P	**Pn**	**06 09 16.0**	**+0.2**
	comp=N,9.8nm,0.4s						
DMN	**Daman**	**14.68**	**123**	*e*P	**Pn**	**06 09 23.0**	**+0.2**
	comp=N,37nm,0.5s						
KKN	**Kakani**	**14.68**	**122**	*e*P	**Pn**	**06 09 23.0**	**+0.2**
	comp=N,50nm,0.5s						
PKIN	**Phulchoki**	**14.90**	**123**	*e*P	**Pn**	**06 09 26.2**	**+0.8**
	comp=N,30nm,0.3s						
PKI	**Pulchoki**	**14.91**	**123**	*e*P	**Pn**	**06 09 25.7**	**+0.1**
	comp=N,32nm,0.2s						
KURBB	**Kurchatov Arra**	**15.01**	**18**	⇑P	**Pn**	**06 09 25.8**	**-0.7**
	comp=N,0.3nm,0.6s						
GUN	**Gumba**	**15.02**	**121**	*e*P	**Pn**	**06 09 27.6**	**+0.7**
	comp=N,40nm,0.4s						
AB31	**Akbulak array**	**15.18**	**330**	⇑P	**Pn**	**06 09 27.6**	**-1.0**
	comp=N,1.5nm,0.4s,baz=148,slow=12,SNR=43						
AB31				⇓S	**S**	**06 12 09.5**	**-7.1**
	comp=N,0.9nm,0.5s,baz=0.0,slow=0.1,SNR=5.7						
JIRN	**Jiri**	**15.39**	**121**	*e*P	**Pn**	**06 09 32.2**	**+0.8**
	comp=N,32nm,0.3s						
BVAR	**Borovoye Array**	**16.50**	**358**	P	**P**	**06 09 45.2**	**+1.9**
	comp=N,0.4nm,0.3s,baz=170,slow=16,SNR=5.6						
AKTK	**Aktyubinsk**	**16.88**	**330**	P	**P**	**06 09 48.0**	**+0.5**
AKTK				S	**S**	**06 12 53.0**	**+0.5**
AKTO	**Aktyubinsk**	**16.88**	**330**	⇓P	**P**	**06 09 48.3**	**+0.8**
	comp=N,0.2nm,0.8s						
AKTO				⇑S	**S**	**06 12 53.6**	**+1.1**
	comp=N,0.1nm,0.9s						
AKTO	**Aktyubinsk**	**16.88**	**330**	P	**P**	**06 09 48.0**	**+0.5**
	comp=N,1.8nm,0.3s,baz=136,slow=9.7,SNR=19						
AKTO				S	**S**	**06 12 53.0**	**+0.5**
	comp=N,0.2nm,0.3s,baz=173,slow=22,SNR=3.4						
ZALV	**Zalesovo Beam**	**19.78**	**24**	P	**P**	**06 10 19.3**	**+0.4**
	comp=N,1.5nm,0.5s,baz=221,slow=13,SNR=7.2						
AKASG	**Malin Array Be**	**33.12**	**309**	P	**P**	**06 12 20.7**	**-0.2**
	comp=N,0.1nm,0.3s,mb2.8,baz=84,slow=6.9,SNR=4.4						
FINES	**FINESS Array B**	**37.60**	**326**	P	**P**	**06 12 59.1**	**+0.2**
	comp=N,0.4nm,0.6s,mb3.1,baz=124,slow=12,SNR=4.9						
ARCES	**ARCESS Array B**	**41.21**	**337**	P	**P**	**06 13 29.2**	**+0.7**
	comp=N,2.6nm,0.9s,mb3.7,baz=83,slow=7.4,SNR=3.2						
NB2	**NORSAR Subarra**	**44.51**	**323**	P	**P**	**06 13 54.5**	**-0.6**
	comp=Z,0.3nm,0.4s,mb3.0,baz=99,slow=7.9						
NOA	**NORSAR Array B**	**44.51**	**323**	P	**P**	**06 13 54.5**	**-0.6**
	comp=Z,0.3nm,0.5s,mb2.9,baz=100,slow=7.9,SNR=2.7						
TORD	**Torodi Ar. Bea**	**65.97**	**269**	P	**P**	**06 16 25.6**	**-3.3**
	comp=Z,0.4nm,0.5s,mb3.3,baz=46,slow=6.1,SNR=8.5						
YKA	**Yellowknife Ar**	**81.20**	**3**	P	**P**	**06 17 56.4**	**-0.2**
	comp=Z,0.2nm,0.6s,mb2.9,baz=348,slow=5.3,SNR=2.7						
WRA	**Warramunga Arr**	**81.79**	**122**	P	**P**	**06 17 58.2**	**-2.2**
	comp=Z,0.2nm,0.3s,mb3.2,baz=324,slow=4.9,SNR=10						
ASAR	**Alice Springs**	**84.06**	**125**	P	**P**	**06 18 10.0**	**-2.0**
	comp=Z,0.4nm,0.9s,mb3.1,baz=310,slow=4.7,SNR=4.5						

*NEIC **28** 06:36:03.1, 1854N×6864W, h122km, MD3.7(RSPR), After RSPR.*

RSPR 28 06:36:03.1, 1854N×6864W, h122km±2km, MD3.7/7, MD3.7/7, 10C, Mona Passage

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DR12	**Loma Pena Alta**	**0.74**	**289**	⇑*e*P	Pn	06 36 22.3	-0.7
DR12				*e*S	Sn	06 36 37.9	-0.1
AGPR	**Aguadilla, PR**	**1.45**	**93**	⇑*e*P	Pn	06 36 30.4	+0.3
AGPR				*e*S	Sn	06 36 51.3	+0.6
LSP	**Las Mesas**	**1.52**	**104**	*e*S	Sn	06 36 52.5	+0.5
CRPR	**Cabo Rojo, PR**	**1.55**	**110**	⇑*e*P	Pn	06 36 30.6	-0.6
CRPR				*e*S	Sn	06 36 52.9	+0.3
LRS	**Lares**	**1.72**	**98**	⇑*e*P	Pn	06 36 33.1	-0.2
LRS				*e*S	Sn	06 36 55.6	-0.7
AOPR	**Arecibo Observ**	**1.80**	**96**	⇑*e*P	Pn	06 36 34.2	0.0
AOPR				*e*S	Sn	06 36 57.8	-0.2
CELP	**Cerrillos**	**2.01**	**103**	⇑*e*P	Pn	06 36 36.6	-0.2
CELP				*e*S	Sn	06 37 02.6	0.0
CPD	**Cerro la Pandu**	**2.64**	**101**	⇑*e*P	Pn	06 36 44.8	+0.1
CPD				*e*S	Sn	06 37 16.8	0.0
CBYP	**Canovanas**	**2.66**	**95**	⇑*e*P	Pn	06 36 44.5	-0.5
CBYP				*e*S	Sn	06 37 17.4	+0.1
HUMP	**Col San Antoni**	**2.68**	**98**	⇑*e*P	Pn	06 36 45.4	+0.1
MTP	**Monte Pirata**	**2.97**	**98**	⇑*e*P	Pn	06 36 49.6	+0.6

*IDC **28** 06:38:03.0±1.3, 3256S×17797W, h0km, mb4.5/4, mb1 4.6/5, mb1mx4.2/15, mbtmp4.5/5, ML3.7/1, MS3.8/4, Ms1 3.7/4, ms1mx3.3/24, Error ellipse: s-maj=40.1km s-min=31.1km az=164.0*
*NEIC **28** 06:38:06.3±1.0, 3295S×17779W, mb4.6/4, Error ellipse: s-maj=25.2km s-min=15.1km az=121.0*

ISC 28 06:38:10.4±2.6, 327S±01×1783W±04, h35km, n24, σ0°84/14, mb4.5/6, MS3.8/4, 1C, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**6.70**	**212**	Pn	**Pn**	**06 39 45.0**	**-1.3**
	1.4nm,0.3s,baz=188,slow=0.4,SNR=13						
URZ				Sn	**Sn**	**06 41 02.0**	**+0.6**
	11nm,0.3s,baz=157,slow=19,SNR=17						
RPZ	**Rata Peaks**	**13.82**	**214**	Pn	**Pn**	**06 41 18.1**	**-5.5**
	0.3nm,0.3s,baz=36,slow=14,SNR=2.9						
RPZ				Sn	**Sn**	**06 43 46.2**	**-10**
	0.7nm,0.3s,baz=334,slow=20,SNR=5.5						
STKA	**Stephens Creek**	**33.76**	**260**	P	**P**	**06 44 50.1**	**+1.4**
	2.5nm,0.9s,mb4.2,baz=80,slow=7.2,SNR=3.1						
STKA				LR	LR	06 56 25.0	
	comp=Z,92nm,19.1s,MS3.5,baz=200,slow=32						
CTA	**Charters Tower**	**33.95**	**283**	*e*P	**P**	**06 44 51.7**	**+1.1**
	4.0nm,0.5s,mb4.6						
CTA	**Charters Tower**	**33.95**	**283**	P	**P**	**06 44 51.2**	**+0.6**
	5.4nm,0.5s,mb4.7,baz=113,slow=9.6,SNR=9.5						
CTA				LR	LR	06 57 45.1	
	comp=Z,107nm,18.2s,MS3.6,baz=230,slow=34						
CTAO	**Charters Tower**	**33.95**	**283**	*e*P	**P**	**06 44 51.6**	**+1.0**
	6.1nm,0.6s,mb4.7						
CTAO				*e*pP	pP	06 44 58.8	-1.8
ASAR	**Alice Springs**	**42.76**	**270**	P	**P**	**06 46 04.5**	**-0.1**
	5.0nm,0.7s,mb4.4,baz=110,slow=7.8,SNR=55						
WB2	**Warramunga Arr**	**43.94**	**275**	⇑*i*P	**P**	**06 46 13.5**	**-0.6**
WRAB	**Tennant Creek**	**43.95**	**275**	*e*P	**P**	**06 46 13.7**	**-0.5**
	5.1nm,0.4s,mb4.6						
WRAB				*e*pP	pP	06 46 24.9	+0.4
WRA	**Warramunga Arr**	**43.95**	**275**	P	**P**	**06 46 13.8**	**-0.5**
	9.9nm,0.5s,mb4.8,baz=114,slow=7.9,SNR=272						
FITZ	**Fitzroy Crossi**	**52.11**	**272**	*e*P	**P**	**06 47 16.7**	**-0.6**
	3.0nm,0.8s,mb4.3						
FITZ	**Fitzroy Crossi**	**52.11**	**272**	LR	LR	07 10 08.4	
	comp=Z,115nm,18.9s,MS3.9,baz=319,slow=37						
CASY	**Casey**	**53.01**	**209**	*e*P	**P**	**06 47 24.3**	**+1.0**
QSPA	**South Pole Qui**	**57.45**	**180**	*e*P	pP	06 48 02.3	-3.4
MAW	**Mawson**	**70.09**	**201**	LR	LR	07 17 58.5	
	comp=Z,98nm,18.8s,MS4.1,baz=153,slow=34						
VNA2	**Neumayer--Watz**	**76.50**	**177**	*e*	pP	06 50 06.3	-0.9
VNA2				*e*		06 50 07.9	
VNA2				*e*		06 50 10.6	
VNA2				*e*		06 50 13.3	
VNA2				*e*		06 50 15.9	
VNA2				*e*		06 50 21.0	
VNA1	**Neumayer--Stat**	**76.73**	**177**	*e*	pP	06 50 08.2	-0.3
VNA1				*e*		06 50 10.0	
VNA1				*e*		06 50 12.7	
VNA1				*e*		06 50 14.8	
VNA1				*e*		06 50 17.9	
VNA1				*e*		06 50 23.7	
JOF	**Joensuu**	**144.41**	**337**	*e*p	PKPdf	06 57 38.1	-3.9
	2.1nm,0.5s						
FIA1	**FINESS Array S**	**147.16**	**339**	*e*PKPbc	PKPbc	06 57 46.8	-2.2
FIA1				*ep*PKPbc	pPKPbc	06 57 59.2	-1.2
FINES	**FINESS Array B**	**147.16**	**339**	PKPbc	PKPbc	06 57 46.8	-2.2
	8.8nm,0.7s,baz=93,slow=3.8,SNR=29						
NB2	**NORSAR Subarra**	**150.94**	**350**	PKP	PKPdf	06 57 58.0	+5.2
	comp=Z,9.7nm,1.7s,baz=17,slow=2.6						
NOA	**NORSAR Array B**	**150.94**	**350**	PKPbc	PKPbc	06 57 56.4	-2.2
	comp=Z,0.9nm,0.7s,baz=15,slow=4.2,SNR=4.2						
AKASG	**Malin Array Be**	**152.89**	**320**	PKPbc	PKPbc	06 58 01.1	-2.3
	comp=Z,0.7nm,0.5s,baz=52,slow=2.7,SNR=3.9						
TORD	**Torodi Ar. Bea**	**160.57**	**180**	PKPab	PKPab	06 58 47.3	-1.0
	comp=Z,0.7nm,0.9s,baz=179,slow=5.8,SNR=3.1						

IDC 28 06:54:22.6±6.3, 2810S×17816W, h0km, mb4.0/2, mb1 4.3/2, mb1mx3.8/12, mbtmp4.0/2, Error ellipse: s-maj=237.0km s-min=102.0km az=162.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**43.14**	**265**	P	P	07 02 24.4	-0.6
	0.9nm,0.6s,baz=98,slow=7.3,SNR=11						
WRA	**Warramunga Arr**	**43.92**	**270**	P	P	07 02 31.8	+0.4
	2.0nm,0.5s,baz=110,slow=7.6,SNR=40						
FINES	**FINESS Array B**	**142.94**	**341**	PKP	PKPdf	07 13 57.5	0.0
	0.8nm,0.5s,baz=63,slow=3.4,SNR=4.1						

*NEIC **28** 07:12:52.6, 1669N×9945W, h10km, MD3.9(MEX), After MEX.*

MEX 28 07:12:52.6±1.6, 1669N×9945W, h10km, MD3.9, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**0.48**	**292**	*i*P	Pg	07 13 00.3	-1.7
ACX				*i*S	Sg	07 13 07.2	-1.3
CAIG	**El Cayaco**	**0.86**	**295**	*i*P	Pg	07 13 08.2	-1.1
CAIG				*i*S	Sg	07 13 19.5	-1.0
MEIG	**Mezcala**	**1.24**	**352**	*i*P	Pn	07 13 12.4	-3.7
MEIG				*i*S	Sb	07 13 27.5	-4.8
UTMO	**Huajuapan**	**1.94**	**54**	*i*P	Pn	07 13 21.9	-3.7
UTMO				*i*S	Sn	07 13 46.4	-3.6
PPM	**Popocatepetl**	**2.49**	**18**	*i*P	Pn	07 13 37.1	+3.9
PPM				*i*S	Sn	07 14 08.7	+4.9
PPM	**Popocatepetl**	**2.49**	**18**	*i*P	Pn	07 13 31.3	-1.9
PPM				*i*S	Sn	07 14 01.8	-1.9
MZVM		**2.50**	**5**	*i*P	Pn	07 13 29.9	-3.4
VHO	**Vista Hermosa**	**2.62**	**81**	*i*P	Pn	07 13 37.8	+2.7
VHO				*i*S	Sn	07 14 03.9	-3.1
VHO	**Vista Hermosa**	**2.62**	**81**	*i*P	Pn	07 13 32.5	-2.6
VHO				*i*S	Sn	07 14 03.9	-3.1
PTVM	**Pico Tres Padr**	**2.91**	**6**	*e*P	Pn	07 13 41.0	+2.0
IIO	**Organos**	**2.97**	**13**	*i*P	Pn	07 13 27.1	-13
IIO	**Organos**	**2.97**	**13**	*i*P	Pn	07 13 35.2	-4.6

*ISCJB **28** 07:43:54.7±0.4, 2614S±007×7094E±009, h10km, mb4.4/28, MS4.3/15, Error ellipse: s-maj=12.2km s-min=10.4km az=8.3*
*IDC **28** 07:43:54.4±0.5, 2604S×7092E, h0km, mb4.2/16, mb1 4.3/16, mb1mx4.2/25, mbtmp4.2/16, MS4.3/14, Ms1 4.2/14, ms1mx4.1/20, Error ellipse: s-maj=17.3km s-min=15.2km az=64.0*
*NEIC **28** 07:43:56.3±0.4, 2609S×7090E, h10km, mb4.8/9, Error ellipse: s-maj=13.0km s-min=11.4km az=78.0*
*GCMT **28** 07:43:56.3±0.3, 2605S×7075E, h13km±1km, MW5.0/79, Moment Tensor Solution. s25,c29; s79,c111; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-4.08±.25; $M_{\theta\theta}$1.94±.15; $M_{\phi\phi}$2.14±.16; $M_{r\theta}$-1.11±.36; $M_{\theta\phi}$-1.86±.10; $M_{r\phi}$2.02±.45; Best double couple: $M_0$4.60700×10^{16} NP1:φs310.00000°, δ31.00000°, λ-102.00000°. NP2: φs144.00000°, δ60.00000°, λ-83.00000°. Principal axes: T 4.4880, Plg15.0000°, Azm229.0000°; N 0.2370, Plg6.0000°, Azm320.0000°; P -4.7260, Plg74.0000°, Azm71.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **28** 07:43:56.2, 26.10S×70.16E, h28km, mB5.0, mb4.6, Ms4.7, Msz4.4*

ISC 28 07:43:56.7±0.4, 2614S±007×7088E±009, h10km, n48, σ1°15/36, mb4.4/28, MS4.3/15, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPO	**Ambohidratompo**	**23.14**	**284**	P	**P**	**07 49 03.7**	**+0.4**
	3.8nm,0.8s,mb3.9,baz=129,slow=14,SNR=3.1						
BOSA	**Boshof**	**40.40**	**256**	P	**P**	**07 51 34.6**	**-0.5**
	2.4nm,0.8s,mb4.0,baz=106,slow=6.6,SNR=4.1						
BOSA				LR	LR	08 05 14.0	
	comp=Z,894nm,19.8s,MS4.6,baz=105,slow=32						
KMBO	**Kilima Mbogo**	**40.80**	**302**	P	**P**	**07 51 39.7**	**+1.1**
	2.7nm,0.8s,mb3.9,baz=55,slow=7.4,SNR=4.0						
LSZ	**Lusaka**	**41.20**	**277**	*e*P	**P**	**07 51 42.5**	**+0.7**
LSZ	**Lusaka**	**41.20**	**277**	P	**P**	**07 51 42.7**	**+0.9**
	1.4nm,0.4s,mb3.9,baz=173,slow=11

TORD LR LR 08 29 43.9
comp=Z,119nm,19.1s,MS4.2,baz=130,slow=35
DBIC Dimbokro 80.24 282 LR LR 08 31 05.5
comp=Z,181nm,18.5s,MS4.5,baz=102,slow=35
SONM Songino Array 80.26 23 P **P 07 56 06.9 -0.5**
comp=Z,4.7nm,0.9s,mb4.4,baz=221,slow=2.7,SNR=19
SONM LR LR 08 27 45.1
comp=Z,145nm,19.6s,MS4.3,baz=170,slow=33
ULN Ulaanbaatar 80.52 24 *e*P **P 07 56 10.7 +2.0**
comp=Z,7.2nm,1.1s,mb4.5
ZAA0 Zalesovo Array 80.66 8 P **P 07 56 08.1 -1.2**
ZALV Zalesovo Beam 80.66 8 P **P 07 56 07.8 -1.5**
comp=Z,7.9nm,0.8s,mb4.7,baz=195,slow=4.1,SNR=23
ZALV LR LR 08 31 52.7
comp=Z,58nm,19.7s,MS3.9,baz=37,slow=36
KSRS Korea Array 82.89 42 LR LR 08 31 15.5
comp=Z,210nm,19.5s,MS4.5,baz=223,slow=34
AKASG Malin Array Be 84.89 335 P **P 07 56 28.7 -2.7**
comp=Z,1.5nm,0.7s,mb4.2,baz=145,slow=4.4,SNR=6.6
MJAR Matsushiro Arr 88.89 48 LR LR 08 36 18.5
comp=Z,168nm,19.2s,MS4.5,baz=250,slow=35
FINES FINESS Array B 94.46 340 LR LR 08 40 27.6
comp=Z,87nm,18.3s,MS4.3,baz=356,slow=36
NOA NORSAR Array B 99.31 335 LR LR 08 39 35.1
comp=Z,40nm,21.9s,MS3.9,baz=80,slow=34
YKA Yellowknife Ar 143.46 4 PKP PKPdf 08 03 30.1 -0.7
comp=Z,0.6nm,0.7s,baz=331,slow=3.3,SNR=5.5
FCC Fort Churchill 145.72 346 *e*PKPbc PKPbc 08 03 34.0 -1.3
NCB Newcomb 146.66 311 *e*PKPbc PKPbc 08 03 37.9 -0.7
FFC Flin Flon 150.96 351 *e*PKPdf PKPdf 08 03 41.2 -2.4
FFC *e*PKPbc PKPbc 08 03 47.7 -1.6
FFC *e*PKPab PKPab 08 03 54.9 -1.7
EDM Edmonton 152.76 6 *e*PKPdf PKPdf 08 03 47.1 +0.7
EDM *e*PKPbc PKPbc 08 03 53.2 -0.2
EDM *e*PKPab PKPab 08 04 01.1 -3.2

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*IDC **28** 08:09:29.8±0.9, 2413N×12362E, h0km, mb3.8/8, mb1 4.0/8, mb1mx3.8/18, mbtmp3.8/8, MS3.0/1, Ms1 3.0/1, ms1mx2.7/33, Error ellipse: s-maj=60.3km s-min=19.8km az=67.0*
*ISCJB **28** 08:09:34.4±0.7, 2396N±008×12360E±005, h42km±6km, mb3.7/8, Error ellipse: s-maj=13.8km s-min=6.9km az=179.9*
*NEIC **28** 08:09:34.7, 2396N×12358E, h33km, MG4.1(JMA), After JMA.*
NEIC Recorded [1 JMA] on Iriomote-jima.
*JMA **28** 08:09:34.7±0.2, 2396N×12358E, h33km±2km, M4.1*
JMA Felt I J1.

ISC 28 08:09:34.8±0.8, 2396N±007×12357E±004, h30km±5km, n21, σ0.98/27, mb3.7/8, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.23**	**66**	P	**Pb**	**08 09 41.2**	**-0.2**
HATJ				S	**Sb**	**08 09 46.2**	**+0.3**
IRIF	**Iriomote-Funau**	**0.40**	**21**	P	**Pb**	**08 09 43.4**	**-0.3**
IRIF				S	**Sb**	**08 09 49.7**	**-0.1**
JKRS	**Kuro-shima**	**0.49**	**55**	P	**Pb**	**08 09 44.8**	**-0.2**
JKRS				S	**Sb**	**08 09 52.0**	**0.0**
JIJ	**Ishigaki jima**	**0.66**	**52**	P	**Pb**	**08 09 47.0**	**-0.9**
JIJ				S	**Sb**	**08 09 55.8**	**-0.9**
YOJ	**Yonaguni jima**	**0.71**	**314**	P	**Pb**	**08 09 48.5**	**-0.3**
YOJ				S	**Sb**	**08 09 59.5**	**+1.2**
JTJ	**Tarama**	**1.23**	**57**	P	**Pn**	**08 09 56.6**	**+0.6**
JTJ				S	**Sn**	**08 10 13.4**	**+1.7**
NACB	**Ninganchiao**	**1.82**	**277**	*e*Pn	**Pn**	**08 10 03.5**	**-0.5**
JOGS	**Gusukube**	**1.85**	**64**	P	**Pn**	**08 10 08.1**	**+3.6**
JOGS				*e*S	**Sn**	**08 10 32.1**	**+5.1**
YHNB	**Yeheng**	**2.12**	**290**	*e*Pn	**Pn**	**08 10 09.5**	**+1.2**
TATO	**Taipei**	**2.15**	**298**	*e*Pn	**Pn**	**08 10 09.7**	**+1.1**
JKE	**Kume jima 2**	**3.75**	**50**	P	**Pn**	**08 10 31.6**	**+1.0**
KSRS	**Korea Array**	**13.96**	**15**	LR	LR	08 18 54.2	
	comp=Z,59nm,18.4s,baz=195,slow=41						
MKAR	**Makanchi Array**	**40.02**	**315**	P	**P**	**08 17 06.5**	**-0.4**
	1.2nm,0.7s,mb3.7,baz=104,slow=10,SNR=7.2						
ZALV	**Zalesovo Beam**	**41.63**	**326**	P	**P**	**08 17 17.7**	**-2.4**
	1.0nm,0.5s,mb3.7,baz=106,slow=8.9,SNR=4.3						
WRA	**Warramunga Arr**	**44.88**	**166**	P	**P**	**08 17 46.5**	**-0.2**
	1.1nm,0.7s,mb3.8,baz=346,slow=8.9,SNR=9.3						
ASAR	**Alice Springs**	**48.39**	**167**	P	**P**	**08 18 15.8**	**+1.6**
	0.4nm,0.6s,mb3.6,baz=355,slow=15,SNR=6.9						
FINES	**FINESS Array B**	**72.73**	**330**	P	**P**	**08 20 58.7**	**-1.1**
	0.6nm,0.6s,mb3.7,baz=47,slow=4.7,SNR=3.5						
NB2	**NORSAR Subarra**	**79.43**	**333**	P	**P**	**08 21 36.6**	**-1.3**
	comp=Z,0.9nm,0.5s,mb4.0,baz=54,slow=5.9						
NOA	**NORSAR Array B**	**79.43**	**333**	P	**P**	**08 21 36.7**	**-1.2**
	comp=Z,1.1nm,0.7s,mb3.9,baz=58,slow=5.7,SNR=5.8						
YKA	**Yellowknife Ar**	**82.32**	**23**	P	**P**	**08 21 52.6**	**-0.7**
	comp=Z,0.3nm,0.5s,mb3.5,baz=305,slow=5.0,SNR=3.9						
GERES	**GERESS Array B**	**84.39**	**321**	P	**P**	**08 22 03.8**	**-0.4**
	comp=Z,0.2nm,0.4s,mb3.6,baz=60,slow=6.5,SNR=4.3						

IDC 28 08:18:59.9±1.0, 2607S×7090E, h0km, mb3.9/7, mb1 4.0/7, mb1mx3.8/21, mbtmp3.9/7, MS3.7/2, Ms1 3.6/2, ms1mx3.0/35, Error ellipse: s-maj=37.9km s-min=23.6km az=95.0, Indian Ocean Triple Junction

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOSA	**Boshof**	**40.44**	**256**	LR	LR	08 41 46.8	
	comp=Z,86nm,18.1s,baz=255,slow=34						
MAW	**Mawson**	**41.84**	**185**	LR	LR	08 39 31.4	
	comp=Z,98nm,20.4s,baz=41,slow=29						
ASAR	**Alice Springs**	**56.71**	**102**	P	P	08 28 45.5	-0.1
	0.9nm,0.8s,baz=250,slow=6.6,SNR=11						
WRA	**Warramunga Arr**	**58.23**	**98**	P	P	08 28 56.7	+0.3
	0.9nm,0.7s,baz=252,slow=7.3,SNR=4.6						
SNAA	**Sanae**	**60.38**	**200**	P	P	08 29 10.8	+0.4
	0.3nm,0.8s,baz=139,slow=11,SNR=3.1						
VNDA	**Vanda**	**64.95**	**166**	P	P	08 29 40.5	-0.4
	1.3nm,0.8s,baz=268,slow=8.0,SNR=7.7						
MKAR	**Makanchi Array**	**73.25**	**8**	P	P	08 30 32.7	+0.2
	1.6nm,0.7s,baz=191,slow=5.9,SNR=7.8						
SONM	**Songino Array**	**80.19**	**23**	P	P	08 31 12.4	+0.7
	0.8nm,0.8s,baz=184,slow=5.8,SNR=4.7						
ZALV	**Zalesovo Beam**	**80.59**	**8**	P	P	08 31 13.4	-0.4
	2.1nm,0.7s,baz=177,slow=3.7,SNR=4.1						

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*NIED **28** 08:23:00, 2400N×12360E, h35km, Mw4.0 Best double couple: Mo1.06000×10^15 NP1:φs56.00000°, δ74.00000°, λ86.00000°. NP2:φs250.00000°, δ17.00000°, λ104.00000°.*
*IDC **28** 08:23:05.2±1.1, 2410N×12362E, h0km, mb3.6/5, mb1 3.8/5, mb1mx3.6/18, mbtmp3.6/5, Error ellipse: s-maj=63.6km s-min=23.1km az=71.0*
*ISCJB **28** 08:23:08.8±1.0, 2387N±007×12355E±004, h26km±6km, mb3.6/5, Error ellipse: s-maj=11.8km s-min=5.4km az=178.0*
*JMA **28** 08:23:10.0±0.2, 2397N×12358E, h32km±2km, M4.0*
*NEIC **28** 08:23:10.0, 2397N×12358E, h32km, MG4.0(JMA), After JMA.*

ISC 28 08:23:09.7±1.0, 2392N±007×12354E±003, h21km±6km, n18, σ1.20/27, mb3.6/5, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.28**	**60**	P	**Pb**	**08 23 16.4**	**+0.3**
HATJ				S	**Sb**	**08 23 21.2**	**+0.8**
IRIF	**Iriomote-Funau**	**0.45**	**22**	P	**Pb**	**08 23 18.5**	**-0.4**
IRIF				S	**Sb**	**08 23 24.7**	**-0.5**
JKRS	**Kuro-shima**	**0.53**	**53**	P	**Pb**	**08 23 20.0**	**-0.3**
JKRS				S	**Sb**	**08 23 27.3**	**-0.3**
JIJ	**Ishigaki jima**	**0.70**	**51**	P	**Pb**	**08 23 22.2**	**-1.1**
JIJ				S	**Sb**	**08 23 30.9**	**-1.7**
YOJ	**Yonaguni jima**	**0.73**	**318**	P	**Pb**	**08 23 23.7**	**0.0**
YOJ				S	**Sb**	**08 23 34.6**	**+1.4**
JTJ	**Tarama**	**1.28**	**55**	P	**Pn**	**08 23 48.3**	**-0.4**
JTJ				S	**Sn**	**08 23 48.4**	**-0.4**
NACB	**Ninganchiao**	**1.80**	**279**	*e*Pn	**Pn**	**08 23 38.9**	**-0.6**
JMJ	**Miyako jima 2**	**1.83**	**60**	P	**Pn**	**08 23 42.7**	**+2.9**
JMJ				*e*S	**Sn**	**08 24 04.5**	**+2.1**
JOGS	**Gusukube**	**1.90**	**63**	P	**Pn**	**08 23 43.5**	**+2.7**
JOGS				S	**Sn**	**08 24 07.1**	**+3.1**
YHNB	**Yeheng**	**2.12**	**291**	*e*Pn	**Pn**	**08 23 44.6**	**+0.8**
TATO	**Taipei**	**2.15**	**300**	*e*Pn	**Pn**	**08 23 45.0**	**+0.7**
TATO				*e*Sn	**Sn**	**08 24 10.7**	**+0.4**
JKE	**Kume jima 2**	**3.79**	**50**	P	**Pn**	**08 24 06.8**	**-0.1**
MKAR	**Makanchi Array**	**40.04**	**315**	P	**P**	**08 30 41.6**	**-1.5**
	1.2nm,0.8s,mb3.6,baz=108,slow=9.3,SNR=4.3						
WRA	**Warramunga Arr**	**44.84**	**166**	P	**P**	**08 31 21.8**	**-0.6**
	0.5nm,0.6s,mb3.5,baz=346,slow=8.7,SNR=8.8						
ASAR	**Alice Springs**	**48.36**	**167**	P	**P**	**08 31 50.9**	**+1.0**
	0.5nm,0.9s,mb3.6,baz=357,slow=14,SNR=6.7						
NB2	**NORSAR Subarra**	**79.46**	**333**	P	**P**	**08 35 11.9**	**-2.3**
	comp=Z,0.6nm,0.5s,mb3.8,baz=55,slow=5.6						
NOA	**NORSAR Array B**	**79.46**	**333**	P	**P**	**08 35 11.9**	**-2.2**
	comp=Z,1.0nm,0.7s,mb3.9,baz=57,slow=5.6,SNR=4.1						
YKA	**Yellowknife Ar**	**82.37**	**23**	P	**P**	**08 35 28.1**	**-1.6**
	comp=Z,0.4nm,0.7s,mb3.5,baz=299,slow=5.8,SNR=3.0						

IDC 28 08:36:21.8±1.9, 5245N×3141W, h0km, mb3.6/2, mb1 3.8/2, mb1mx3.3/26, mbtmp3.6/2, MS3.1/1, Ms1 3.1/1, ms1mx2.5/32, Error ellipse: s-maj=159.1km s-min=32.4km az=46.0, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YKA	**Yellowknife Ar**	**42.77**	**317**	P	P	08 44 20.1	-0.3
	0.9nm,0.9s,baz=61,slow=8.9,SNR=6.0						
TORD	**Torodi Ar. Bea**	**47.30**	**134**	P	P	08 44 56.7	-0.3
	0.8nm,0.9s,baz=326,slow=8.1,SNR=4.1						
AKTO	**Aktyubinsk**	**52.28**	**54**	LR	LR	09 06 29.9	
	comp=Z,20nm,18.9s,baz=158,slow=35						
WRA	**Warramunga Arr**	**145.71**	**24**	PKPbc	PKPbc	08 56 02.1	-0.4
	1.4nm,1.0s,baz=338,slow=4.6,SNR=6.6						

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*IDC **28** 08:43:34.8±1.0, 947S×11923E, h0km, mb4.0/5, mb1 4.0/8, mb1mx3.9/17, mbtmp4.0/8, ML3.6/2, MS3.5/3, Ms1 3.4/3, ms1mx2.8/27, Error ellipse: s-maj=48.2km s-min=15.8km az=70.0*
*ISCJB **28** 08:43:35.9±2.2, 9445±006×1190E±01, h21km±15km, mb4.0/5, MS3.8/2, Error ellipse: s-maj=19.8km s-min=7.8km az=158.8*
*NEIC **28** 08:43:36.3±0.9, 9465×11904E, h10km, Error ellipse: s-maj=29.5km s-min=11.2km az=66.0*

ISC 28 08:43:37.9±2.4, 9455±006×1191E±01, h20km±17km, n14, σ1.18/17, mb4.0/5, MS3.8/2, Sumba region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**4.46**	**8**	Pn	**Pn**	**08 44 42.9**	**-1.5**
	2.2nm,0.3s,baz=200,slow=9.4,SNR=6.8						
KAPI				Sn	**Sn**	**08 45 35.7**	**0.0**
	13nm,0.3s,baz=136,slow=21,SNR=23						
BATI	**Kupang**	**4.55**	**100**	Pg	**Pb**	**08 44 57.4**	**+0.2**
	12nm,0.3s,baz=297,slow=7.7,SNR=6.0						
BATI				Lg		08 45 59.6	
	5.5nm,0.3s,baz=221,slow=19,SNR=4.1						
FITZ	**Fitzroy Crossi**	**10.68**	**144**	*e*P	**Pn**	**08 46 10.2**	**+0.3**
	3.6nm,0.6s						
FITZ				*e*S	**Sn**	**08 48 10.9**	**+2.0**
FITZ	**Fitzroy Crossi**	**10.68**	**144**	Pn	**Pn**	**08 46 09.7**	**-0.2**
	0.4nm,0.3s,baz=328,slow=10,SNR=9.0						
FITZ				Sn	**Sn**	**08 48 08.1**	**-0.9**
	0.3nm,0.3s,baz=190,slow=20,SNR=4.3						
FITZ				LR	LR	08 50 57.0	
	comp=Z,42nm,19.9s,baz=147,slow=42						
WRA	**Warramunga Arr**	**18.03**	**127**	P	**Pn**	**08 47 48.8**	**+1.4**
	0.2nm,0.3s,baz=304,slow=14,SNR=8.7						
WRA				S	**Sn**	**08 51 07.6**	**-0.6**
	0.1nm,0.3s,baz=306,slow=20,SNR=3.6						
WB2	**Warramunga Arr**	**18.04**	**127**	*e*P	**Pn**	**08 47 49.2**	**+1.6**
ASAR	**Alice Springs**	**19.99**	**137**	P	**Pn**	**08 48 09.7**	**-1.4**
	0.3nm,0.3s,baz=308,slow=10,SNR=35						
NWAO	**Narrogin (SRO)**	**23.43**	**184**	P	**P**	**08 48 45.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**23.43**	**184**	P	**P**	**08 48 45.7**	**-0.3**
	4.6nm,0.4s,mb4.2,baz=356,slow=13,SNR=5.6						
STKA	**Stephens Creek**	**30.54**	**140**	P	**P**	**08 49 47.6**	**-2.5**
	1.9nm,0.5s,mb4.2,baz=321,slow=6.1,SNR=7.3						
STKA				LR	LR	09 03 58.9	
	comp=Z,90nm,18.3s,MS3.5,baz=199,slow=40						
SONM	**Songino Array**	**58.14**	**350**	P	**P**	**08 53 32.0**	**+2.0**
	0.4nm,0.4s,mb3.8,baz=178,slow=7.2,SNR=2.6						
URZ	**Urewera**	**59.19**	**129**	LR	LR	09 19 58.6	
	comp=Z,159nm,19.1s,MS4.2,baz=130,slow=37						
MKAR	**Makanchi Array**	**64.91**	**333**	P	**P**	**08 54 15.8**	**-0.1**
	0.5nm,0.6s,mb3.7,baz=133,slow=7.1,SNR=3.9						
ZALV	**Zalesovo Beam**	**69.50**	**339**	P	**P**	**08 54 45.0**	**+0.2**
	0.8nm,0.5s,mb4.0,baz=134,slow=4.3,SNR=4.8						

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*JMA **28** 08:46:06.9±0.1, 2966N×14086E, h193km, M3.9*
*ISCJB **28** 08:46:07.5±0.5, 2979N±005×1409E±02, h147km±6km, mb3.6/9, Error ellipse: s-maj=24.9km s-min=4.8km az=163.7*
*IDC **28** 08:46:09.5±3.4, 2968N×14025E, h140km±28km, mb3.5/8, mb1 3.7/9, mb1mx3.5/17, mbtmp3.5/9, Error ellipse: s-maj=46.2km s-min=20.5km az=80.0*

ISC 28 08:46:08.6±0.5, 2978N±005×1408E±02, h141km±6km, n25, σ1.05/34, mb3.6/9, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CBIJ	**Chichi jima**	**2.92**	**156**	P	**Pn**	**08 46 54.1**	**-0.6**
CBIJ				S	**Sn**	**08 47 29.7**	**-0.5**
JHHJ	**Haha-jima-NKT**	**3.35**	**159**	P	**Pn**	**08 46 59.7**	**-0.5**
JHHJ				S	**Sn**	**08 47 40.0**	**0.0**
JHJ2	**Mitsune**	**3.44**	**346**	P	**Pn**	**08 47 03.3**	**+2.1**
JHJ2				*e*S	**Sn**	**08 47 42.5**	**+0.5**
BSO1	**Boso 1**	**4.86**	**1**	P	**Pn**	**08 47 21.7**	**+1.7**
BSO1				S	**Sn**	**08 48 14.3**	**-1.4**
JOD2	**Odawara 2**	**5.67**	**345**	P	**Pn**	**08 47 32.0**	**+1.3**
JOD2				S	**Sn**	**08 48 34.9**	**+0.1**
JWZ	**Kozaga**	**5.75**	**312**	P	**Pn**	**08 47 31.9**	**0.0**
JIE	**Ise**	**5.78**	**324**	P	**Pn**	**08 47 33.2**	**+0.9**
JRY	**Ryogami san**	**6.43**	**346**	P	**Pn**	**08 47 41.8**	**+0.8**
JRY				S	**Sn**	**08 48 51.1**	**-2.1**
JAG	**Ashikaga**	**6.73**	**350**	P	**Pn**	**08 47 44.2**	**-0.8**
JAG				S	**Sn**	**08 48 55.2**	**-5.2**
MJAR	**Matsushiro Arr**	**7.10**	**343**	P	**Pn**	**08 47 50.5**	**+0.6**
	1.4nm,0.3s,baz=157,slow=10,SNR=14						
MJAR				S	**Sn**	**08 49 08.0**	**-1.2**
	0.8nm,0.3s,baz=129,slow=17,SNR=6.9						
MAT	**Matsushiro**	**7.10**	**343**	P	**Pn**	**08 47 50.6**	**+0.7**
MAT				S	**Sn**	**08 49 07.2**	**-2.0**
MAT	**Matsushiro**	**7.10**	**343**	P	**Pn**	**08 47 51.1**	**+1.2**
MAT				S	**Sn**	**08 49 04.0**	**-5.2**
JMK	**Ichinoseki**	**9.16**	**2**	P	**Pn**	**08 48 17.2**	**-0.3**
SONM	**Songino Array**	**31.98**	**314**	P	**P**	**08 52 19.9**	**-1.3**
	0.5nm,0.6s,mb3.4,baz=94,slow=13,SNR=3.7						
ZALV	**Zalesovo Beam**	**46.70**	**318**	PcP	PcP	08 55 54.4	+0.2
	0.8nm,0.3s,baz=103,slow=2.0,SNR=4.0						
WRA	**Warramunga Arr**	**49.82**	**188**	P	**P**	**08 54 47.0**	**-0.3**
	0.5nm,0.5s,mb3.4,baz=5.4,slow=7.7,SNR=7.9						
ARCES	**ARCESS Array B**	**70.63**	**340**	P	**P**	**08 57 09.8**	**+1.5**
ARCES	**ARCESS Array B**	**70.63**	**340**	P	**P**	**08 57 09.8**	**+1.5**
	1.3nm,0.5s,mb3.9,baz=79,slow=8.8,SNR=11						
JOF	**Joensuu**	**72.16**	**333**	*ep*	**P**	**08 57 16.6**	**-1.0**
	3.0nm,0.5s,mb4.3						
FINES	**FINESS Array B**	**75.03**	**333**	P	**P**	**08 57 34.8**	**+0.5**
	1.3nm,0.5s,mb3.8,baz=60,slow=5.9,SNR=12						
AKASG	**Malin Array Be**	**79.77**	**323**	P	**P**	**08 58 00.5**	**-0.4**
	0.5nm,0.4s,mb3.5,baz=52,slow=5.0,SNR=4.3						
NB2	**NORSAR Subarra**	**80.69**	**338**	P	**P**	**08 58 06.3**	**+0.6**
	comp=Z,0.7nm,0.5s,mb3.5,baz=45,slow=4.8						
NOA	**NORSAR Array B**	**80.69**	**338**	P	**P**	**08 58 04.4**	**-1.2**
	comp=Z,0.8nm,0.9s,mb3.4,baz=45,slow=6.0,SNR=3.7						
GERES	**GERESS Array B**	**88.61**	**328**	P	**P**	**08 58 45.3**	**-0.3**
	comp=Z,0.5nm,0.6s,mb3.6,baz=38,slow=5.0,SNR=5.0						
TXAR	**Lajitas Array**	**94.93**	**52**	P	**P**	**08 59 18.4**	**+3.1**
	comp=Z,0.1nm,0.5s,mb3.3,baz=324,slow=2.5,SNR=3.0						

IDC 28 09:01:12.2±7.7, 6725S×11370E, h0km, mb4.0/3, mb1 4.1/4, mb1mx3.7/17, mbtmp4.0/4, ML3.5/1, Error ellipse: s-maj=147.5km s-min=118.3km az=30.0, Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**16.24**	**135**	Pn	Pn	09 05 03.3	+1.4
	0.1nm,0.3s,baz=330,slow=14,SNR=3.7						
WRA	**Warramunga Arr**	**23.96**	**125**	P	P	09 06 27.6	-0.8
	1.0nm,0.3s,baz=299,slow=12,SNR=62						
ASAR	**Alice Springs**	**25.71**	**133**	P	P	09 06 45.8	+1.4
	2.1nm,0.4s,baz=308,slow=9.1,SNR=37						
STKA	**Stephens Creek**	**36.11**	**138**	P	P	09 08 15.1	-0.9
	1.4nm,0.4s,baz=315,slow=5.7,SNR=2.8						

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*ISCJB **28** 09:09:09.8±0.5, 5032N±003×19.18E±003, h0km, Error ellipse: s-maj=4.9km s-min=2.4km az=19.8*
*MOS **28** 09:09:09.8±1.5, 5048N×1933E, h10km, mb3.7/1, Error ellipse: s-maj=10.5km s-min=7.2km az=97.4*
*CSEM **28** 09:09:10.6±0.1, 5037N×1924E, h2km, ML3.3/6, Error ellipse: s-maj=2.9km s-min=1.2km az=11.0*
*IPEC **28** 09:09:10.6±0.3, 5024N×1927E, h0km, ML2.5/2, Error ellipse: s-maj=2.2km s-min=1.4km az=41.0*
*NEIC **28** 09:09:11.6±0.7, 5033N×1915E, h5km, MG2.9(WAR), Error ellipse: s-maj=12.3km s-min=4.8km az=18.0*
*WAR **28** 09:09:11.1, 5027N×1926E, ML2.9, Mining Induced*
*IDC **28** 09:09:15.1±0.9, 5059N×1850E, h0km, mb1 3.3/4, mb1mx3.2/20, mbtmp3.2/4, ML3.0/4, Error ellipse: s-maj=23.4km s-min=8.6km az=140.0*

ISC 28 09:09:10.6±0.4, 5032N±003×1919E±003, h0km, n48, σ1.32/83, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OJC	**Ojcow**	**0.40**	**104**	*i* Pg	**Pg**	**09 09 18.0**	**-0.3**
OJC				*i* Sg	**Sg**	**09 09 23.4**	**-0.1**
OJC	**Ojcow**	**0.40**	**104**	*i* Pg	**Pg**	**09 09 18.0**	**-0.3**
OJC				*e*Sg	**Sg**	**09 09 23.4**	**-0.1**
OKC	**Ostrava-Krasne**	**0.83**	**235**	*e*P	**Pg**	**09 09 27.0**	**+0.6**
OKC				*e*		09 09 38.2	
OKC				smax			
	comp=N,84nm,0.9s						
OKC	**Ostrava-Krasne**	**0.83**	**235**	*e*Pg	**Pg**	**09 09 26.9**	**+0.5**
OKC				*e*Sg	**Sg**	**09 09 38.2**	**+1.1**
	comp=N,84nm,0.9s						
OKC	**Ostrava-Krasne**	**0.83**	**235**	*e*PG	**Pg**	**09 09 27.0**	**+0.6**
OKC				*e*SG	**Sg**	**09 09 38.2**	**+1.1**
	comp=Z,84nm,0.9s						
NIE	**Niedzica**	**1.16**	**141**	*e*Pg	**Pg**	**09 09 33.0**	**+0.3**
NIE				*e*Sg	**Sg**	**09 09 48.6**	**+0.9**
MORC	**Moravsky Berou**	**1.19**	**244**	*e*Pg	**Pg**	**09 09 32.9**	**-0.5**
MORC				*e*Sg	**Sg**	**09 09 50.2**	**+1.4**
MORC	**Moravsky Berou**	**1.19**	**244**	*e*Pg	**Pg**	**09 09 32.9**	**-0.5**
MORC				*e*Sg	**Sg**	**09 09 49.5**	**+0.6**
	comp=Z,83nm,0.4s						
STHS	**Stebnicka Huta**	**1.60**	**123**	*e*P	**Pn**	**09 09 41.0**	**+0.9**
STHS				*e*		09 10 04.9	
STHS				pmax	pmax		
	comp=N,75nm,0.6s						
STHS	**Stebnicka Huta**	**1.60**	**123**	*e*PN	**Pn**	**09 09 41.0**	**+0.9**
STHS				*e*SN	**Sg**	**09 10 04.9**	**+2.8**
KOLL	**Kolacno**	**1.81**	**197**	*e*PN	**Pg**	**09 09 45.1**	**-0.2**
KOLL				*e*SN	**Sn**	**09 10 07.1**	**+0.4**
DPC	**Dobruska-Polom**	**1.84**	**272**	*e*P	**Pn**	**09 09 43.4**	**0.0**
DPC				*e*		09 10 08.5	
DPC				smax			
	comp=N,49nm,0.5s						
DPC	**Dobruska-Polom**	**1.84**	**272**	*e*Pg	**Pn**	**09 09 43.4**	**0.0**
DPC				*e*Sg	**Sn**	**09 10 09.3**	**+2.0**
DPC	**Dobruska-Polom**	**1.84**	**272**	*e*PG	**Pn**	**09 09 43.4**	**0.0**
DPC				*e*SG	**Sn**	**09 10 08.5**	**+1.2**
	comp=Z,49nm,0.5s						
VYHS	**Vyhne**	**1.84**	**187**	*e*P	**Pn**	**09 09 42.3**	**-1.1**
VYHS				*e*		09 10 05.4	
VYHS				pmax	pmax		
	comp=N,23nm,0.4s						
VYHS	**Vyhne**	**1.84**	**187**	*e*PN	**Pn**	**09 09 42.3**	**-1.1**
VYHS				*e*SN	**Sn**	**09 10 05.4**	**-1.9**
VYHS	**Vyhne**	**1.84**	**187**	*e*Pn	**Pn**	**09 09 42.3**	**-1.1**
VYHS				*e*Sn	**Sn**	**09 10 05.4**	**-1.9**
VYHS				*e*Sg	**Sg**	**09 10 05.5**	**-4.2**
KSP	**Ksiaz**	**1.92**	**287**	*e*Pn	**Pn**	**09 09 45.0**	**+0.5**
KSP				*e*Pg	**Pg**	**09 09 49.0**	**+1.6**
KSP				*e*Sn	**Sn**	**09 10 13.7**	**+4.4**
KSP				*e*Sg	**Sg**	**09 10 18.6**	**+6.3**
KSP	**Ksiaz**	**1.92**	**287**	*e*Pn	**Pn**	**09 09 45.1**	**+0.6**
KSP				*e*Pg	**Pg**	**09 09 47.8**	**+0.4**
KSP				*e*Sg	**Sg**	**09 10 12.9**	**+0.6**
KSP	**Ksiaz**	**1.92**	**287**	*e*Pg	**Pg**	**09 09 47.8**	**+0.4**
KSP				*e*Sg	**Sg**	**09 10 12.9**	**+0.6**
VRAC	**Vranov**	**1.96**	**240**	Pn	**Pn**	**09 09 44.9**	**-0.2**
	comp=N,4.7nm,0.3s,baz=60,slow=14,SNR=6.4						
VRAC				Lg		09 10 12.7	
	comp=N,6.7nm,0.3s,baz=164,slow=20,SNR=12						
VRAC	**Vranov**	**1.96**	**240**	Pn	**Pn**	**09 09 44.8**	**-0.3**
VRAC				*e*Sg	**Sg**	**09 10 11.5**	**-2.1**
	comp=N,26nm,0.3s						
KECS	**Kecovo**	**2.02**	**155**	*e*P	**Pg**	**09 09 48.1**	**-1.2**
KECS				*e*		09 10 13.6	
KECS				pmax	pmax		
	comp=N,20nm,0.8s						
KECS	**Kecovo**	**2.02**	**155**	*e*PN	**Pg**	**09 09 48.1**	**-1.2**
KECS				*e*SN	**Sg**	**09 10 13.6**	**-1.9**
UPC	**Upice**	**2.04**	**277**	*e*Pg	**Pn**	**09 09 46.7**	**+0.5**
UPC				*e*Sg	**Sn**	**09 10 14.6**	**+2.3**
CRVS

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**32.80**	**267**	P	P	09 16 43.4	-0.7
	0.6nm,0.6s,baz=98,slow=8.0,SNR=6.9						
QSPA	**South Pole Qui**	**68.30**	**180**	LR	LR	09 47 46.3	
	comp=Z,72nm,18.7s,baz=64,slow=33						
NVAR	**Mina Array Bea**	**90.34**	**48**	P	P	09 23 12.0	+0.1
	1.4nm,0.7s,baz=225,slow=8.9,SNR=12						
BRG	**Berggiesshubel**	**145.19**	**333**	*e*PKPbc	PKPbc	09 29 47.8	-0.1
BRG				*ep*PKPbc		09 31 31.5	
BRG	**Berggiesshubel**	**145.19**	**333**	*i* P	PKPbc	09 29 47.6	-0.2
	4.3nm,0.8s						
CLL	**Collm**	**145.26**	**334**	*e*PKPbc	PKPbc	09 29 47.6	-0.5
CLL				*ep*PKPbc		09 31 30.7	
CLL	**Collm**	**145.26**	**334**	*i* P	PKPbc	09 29 47.5	-0.6
	comp=Z,5.0nm,0.8s						
NRDL	**Niedersach Rie**	**145.43**	**338**	*e*PKPbc	PKPbc	09 29 47.9	-0.7
NRDL				*ep*PKPbc		09 31 28.9	
CLZ	**Clausthal**	**145.87**	**337**	*e*PKPbc	PKPbc	09 29 50.5	+0.5
CLZ				*ep*PKPbc		09 31 31.0	
EKA	**Eskdalemuir Ar**	**146.03**	**352**	PKPbc	PKPbc	09 29 49.1	-1.2
	comp=Z,3.5nm,0.4s,baz=354,slow=2.7,SNR=21						
IBBN	**Ibbenburen**	**146.39**	**340**	*e*PKPbc	PKPbc	09 29 51.3	-0.2
IBBN				*ep*PKPbc		09 31 30.6	
KHC	**Kasperske Hory**	**146.63**	**331**	*e*P	PKPdf	09 29 52.0	+1.2
ROTZ	**Rotzenmuhle**	**146.76**	**333**	*ep*PKPbc		09 31 34.8	
GEC2	**GERESS Array S**	**146.78**	**330**	*e*PKPbc	PKPbc	09 29 52.9	+0.1
GERES	**GERESS Array B**	**146.78**	**330**	PKPbc	PKPbc	09 29 52.9	+0.1
	comp=Z,2.1nm,0.7s,baz=46,slow=3.9,SNR=13						
GRF	**Grafenberg Arr**	**147.23**	**334**	*e*PKPbc	PKPbc	09 29 54.4	+0.4
WLF	**Walferdange**	**149.17**	**339**	*e*PKPbc	PKPbc	09 30 00.1	+1.0
WLF				*ep*PKPbc		09 31 38.8	
DAVOX	**Davos/Dischmat**	**150.04**	**331**	PKPbc	PKPbc	09 30 01.5	+0.1
	comp=Z,2.3nm,0.5s,baz=101,slow=5.2,SNR=3.9						

NEIC ***28*** *09:12:51.6±3.7, 1739S×17891W, h506km±41km, mb4.5/8, Error ellipse: s-maj=21.5km s-min=18.4km az=174.0*
ISCJB ***28*** *09:12:57.7±2.5, 172S±02×1793W±01, h585km±32km, mb4.2/16, Error ellipse: s-maj=33.3km s-min=15.0km az=151.1*
IDC ***28*** *09:12:59.1±2.4, 1730S×17924W, h582km±28km, mb3.5/11, mb1 3.7/11, mb1mx3.6/17, mbtmp3.5/11, Error ellipse: s-maj=31.8km s-min=12.2km az=153.0*
ISC 28 09:12:58.9±2.5, 173S±02×1792W±01, h586km±31km, n32, σ0§62/25, mb4.2/16, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**21.15**	**188**	P	P	**09 16 57.7**	**-5.7**
	3.9nm,0.7s,mb4.1,baz=148,slow=19,SNR=3.5						
ARMA	**Armidale**	**29.60**	**238**	*e*P	P	**09 18 18.3**	**+0.3**
CTA	**Charters Tower**	**32.80**	**260**	*e*P	P	**09 18 45.2**	**-0.2**
	5.5nm,0.8s,mb4.2						
CTA	**Charters Tower**	**32.80**	**260**	P	P	**09 18 45.1**	**-0.2**
	6.9nm,0.7s,mb4.4,baz=97,slow=14,SNR=4.1						
CNB	**Canberra Magne**	**33.21**	**231**	*e*P	P	**09 18 48.7**	**+0.1**
	14nm,0.6s,mb4.8						
TOO	**Toolangi**	**36.98**	**230**	*e*P	P	**09 19 19.8**	**0.0**
	114nm,0.9s,mb5.4						
STKA	**Stephens Creek**	**38.27**	**240**	*e*P	P	**09 19 30.7**	**+0.3**
	9.8nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**38.27**	**240**	P	P	**09 19 30.6**	**+0.2**
	12nm,0.9s,mb4.4,baz=81,slow=9.5,SNR=11						
WB2	**Warramunga Arr**	**43.98**	**259**	*e*P	P	**09 20 14.8**	**-0.9**
WRA	**Warramunga Arr**	**43.99**	**259**	P	P	**09 20 15.1**	**-0.7**
	1.4nm,0.3s,mb4.0,baz=88,slow=8.0,SNR=42						
WRA				PcP	PcP	09 21 48.6	+0.3
	1.3nm,0.8s,baz=92,slow=3.5,SNR=5.9						
WRA				S	S	**09 26 06.2**	**-0.1**
	0.6nm,0.8s,baz=96,slow=13,SNR=3.7						
ASAR	**Alice Springs**	**44.23**	**254**	P	P	**09 20 17.2**	**-0.3**
	29nm,0.6s,mb5.0,baz=88,slow=8.1,SNR=206						
ASAR				PcP	PcP	09 21 49.9	+0.8
	1.4nm,0.7s,baz=103,slow=3.9,SNR=5.6						
ASAR				S	S	**09 26 09.6**	**+0.1**
	1.2nm,0.8s,baz=86,slow=17,SNR=5.1						
KAKA	**Kakadu**	**46.83**	**269**	*e*P	P	**09 20 37.7**	**+0.3**
	12nm,0.4s,mb4.8						
FORT	**Forrest**	**49.59**	**244**	*e*P	P	**09 20 57.1**	**-0.5**
	24nm,0.8s,mb4.7						
FITZ	**Fitzroy Crossi**	**52.38**	**260**	*e*P	P	**09 21 18.8**	**+0.8**
	6.4nm,0.7s,mb4.1						
FITZ	**Fitzroy Crossi**	**52.38**	**260**	P	P	**09 21 18.8**	**+0.8**
	2.4nm,0.5s,mb3.8,baz=148,slow=7.5,SNR=13						
KLBR	**Kellerberrin**	**58.42**	**243**	*e*P	P	**09 21 59.1**	**-0.6**
	12nm,0.6s,mb4.2						
NWAO	**Narrogin (SRO)**	**58.83**	**242**	P	P	**09 22 04.3**	**+1.9**
	23nm,1.1s,mb4.2,baz=120,slow=8.1,SNR=3.1						
MJAR	**Matsushiro Arr**	**66.95**	**324**	P	P	**09 22 54.7**	**+0.5**
MJAR	**Matsushiro Arr**	**66.95**	**324**	P	P	**09 22 54.7**	**+0.5**
	2.5nm,0.7s,mb3.8,baz=158,slow=6.2,SNR=5.9						
NVAR	**Mina Array Bea**	**79.51**	**44**	P	P	**09 24 06.0**	**+0.2**
	0.5nm,0.7s,baz=224,slow=9.7,SNR=4.3						
MAW	**Mawson**	**84.19**	**200**	P	P	**09 24 28.6**	**-0.4**
	1.7nm,0.5s,mb3.8,baz=137,slow=8.7,SNR=6.4						
TXAR	**Lajitas Array**	**86.31**	**58**	P	P	**09 24 40.2**	**+0.3**
	0.6nm,0.8s,mb3.3,baz=218,slow=5.3,SNR=8.8						
YKA	**Yellowknife Ar**	**94.08**	**25**	P	P	**09 25 14.3**	**-0.8**
	0.2nm,0.7s,mb3.4,baz=247,slow=4.2,SNR=4.0						
UPC	**Upice**	**144.67**	**343**	*e*PKP	PKPdf	09 31 30.7	+1.2
CLL	**Collm**	**144.68**	**347**	*i* PKPdf	PKPdf	09 31 30.4	+0.9
	comp=Z,11nm,1.0s						
CLL				LmV		09 13 00.0	
	comp=Z,100nm,20.1s						
DPC	**Dobruska-Polom**	**144.72**	**343**	*e*PKP	PKPdf	09 31 31.4	+1.8
BRG	**Berggiesshubel**	**144.87**	**345**	*e*P	PKPdf	09 31 30.5	+0.7
	comp=Z,5.8nm,0.8s						
PVCC	**Panska Ves**	**145.03**	**345**	*e*PKP	PKPbc	09 31 32.6	+1.6
PRU	**Pruhonice**	**145.54**	**344**	*e*PKP	PKPbc	09 31 33.3	+0.8
KHC	**Kasperske Hory**	**146.57**	**345**	*e*PKP	PKPbc	09 31 34.5	-0.9
GERES	**GERESS Array B**	**146.81**	**344**	PKPbc	PKPbc	09 31 37.0	+1.0
	comp=Z,1.5nm,0.6s,baz=24,slow=3.4,SNR=7.8						
DAVOX	**Davos/Dischmat**	**149.63**	**348**	PKPbc	PKPbc	09 31 44.3	+1.1
	comp=Z,6.0nm,0.6s,baz=147,slow=2.6,SNR=7.5						

MOS ***28*** *09:14:54.7±0.8, 2186N×142.99E, h33km, mb5.4/45, Error ellipse: s-maj=10.0km s-min=5.9km az=95.8*
ISCJB ***28*** *09:14:55.4±1.0, 2183N±004×14307E±003, h37km±8km, mb5.0/118, MS4.2/37, Error ellipse: s-maj=6.1km s-min=4.8km az=8.9*
BJI ***28*** *09:14:56.3, 2185N×143.42E, h66km, mB5.0, mb4.9, Ms4.5, Msz4.2*
IDC ***28*** *09:14:57.3±4.7, 2188N×143.10E, h47km±45km, mb4.4/24, mb1 4.5/25, mb1mx4.4/29, mbtmp4.4/25, ML3.6/1, MS4.1/17, Ms1 4.1/17, ms1mx4.0/30, Error ellipse: s-maj=19.8km s-min=11.2km az=86.0*
NEIC ***28*** *09:15:00.1±1.4, 2184N×143.05E, h66km±12km, mb5.2/59, Error ellipse: s-maj=6.0km s-min=4.3km az=109.0*
GCMT ***28*** *09:15:00.1±0.2, 2175N×143.17E, h12km, MW5.0/87, Moment Tension Solution. s30,c41; s87,c136; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.78±.08; $M_{\theta\theta}$0.79±.07; $M_{\phi\phi}$2.99±.08; $M_{r\theta}$-1.26±.36; $M_{\theta\phi}$-1.36±.06; $M_{\phi r}$0.81±.29; Best double couple: $M_0$3.99500×10^{16} NP1:φ=344.00000°, δ36.00000°, λ-73.00000°. NP2: φ=144.00000°, δ55.00000°, λ-102.00000°. Principal axes: T 3.8560, Plg10.0000°, Azm242.0000°; N 0.2810, Plg10.0000°, Azm151.0000°; P -4.1330, Plg76.0000°, Azm16.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
ISC 28 09:15:00.2±0.9, 2182N±004×14309E±003, h65km±8km, h64km±2.0km: pP-P, n274, σ0§93/281, mb4.9/118, 6C-8D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.27**	**345**	P	Pn	**09 18 27.0**	**-4.8**
	0.2nm,0.3s,baz=153,slow=8.5,SNR=6.0						
MJAR				LR	LR	09 23 58.8	
	comp=Z,933nm,19.7s,baz=165,slow=36						
MAJO	**Matsushiro**	**15.27**	**345**	*e*P	Pn	**09 18 33.7**	**+1.9**
MAT	**Matsushiro**	**15.27**	**345**	P	Pn	**09 18 31.3**	**-0.5**
ERM	**Erimo**	**20.13**	**0**	*e*P	P	**09 19 29.6**	**+0.8**
ERM				pmax	pmax		
	comp=Z,25nm,0.9s						
ERM	**Erimo**	**20.13**	**0**	*e*P	P	**09 19 29.6**	**+0.8**
	comp=Z,25nm,0.9s						
YHNB	**Yeheng**	**20.15**	**282**	*e*P	P	**09 19 29.6**	**+0.4**
	comp=Z,40nm,1.1s						
KSRS	**Korea Array**	**20.36**	**323**	P	P	**09 19 30.5**	**-0.9**
	comp=Z,19nm,1.0s,baz=144,slow=8.4,SNR=4.3						
KSRS				LR	LR	09 26 28.8	
	comp=Z,500nm,19.6s,baz=136,slow=34						
KS15	**Wonju Array Si**	**20.38**	**323**	*e*Pn	P	**09 19 35.0**	**+3.5**
SSE	**Sheshan**	**21.64**	**300**	P	P	**09 19 42.5**	**-2.7**
SSE				S	S	**09 23 43.5**	**+2.3**
SSE				XS	sS	09 24 00.3	-3.9
SSE				AMB	AMB		
	comp=Z,26nm,0.7s,mb4.7						
SSE				AMB	AMB		
	comp=Z,109nm,5.5s						
SSE				LR	LR		
	comp=N,231nm,14.3s						
SSE				LR	LR		
	comp=E,194nm,14.3s						
SSE				LR	LR		
	comp=Z,280nm,14.7s						
QZH	**Quanzhou**	**22.69**	**283⇑**	*i* P	P	**09 19 56.8**	**+0.4**
QZH				AMB	AMB		
	comp=Z,80nm,1.0s,mb5.0						
QZH				LR	LR		
	comp=Z,930nm,17.0s						
NJ2	**Nanjing**	**23.84**	**300**	*e*P	P	**09 20 08.0**	**+0.6**
NJ2				AP		09 20 22.5	
NJ2				XP	sP	09 20 29.5	-1.2
NJ2				PP		09 20 43.0	
NJ2				S	S	**09 24 17.0**	**-1.7**
NJ2				XS	sS	09 24 40.0	-5.3
NJ2				AMB	AMB		
	comp=Z,30nm,0.8s,mb4.7						
NJ2				AMB	AMB		
	comp=Z,410nm,5.9s						
NJ2				LR	LR		
	comp=N,1μm,16.4s						
NJ2				LR	LR		
	comp=E,1μm,17.4s						
NJ2				LR	LR		
	comp=Z,1μm,15.0s						
DL2	**Dalian**	**25.06**	**318**	*i* P	P	**09 20 16.5**	**-1.9**
DL2				XP	sP	09 20 37.0	-4.7
DL2				S	S	**09 24 35.0**	**-3.1**
DL2				AMB	AMB		
	comp=Z,40nm,1.3s,mb4.7						
DL2				AMB	AMB		
	comp=Z,170nm,3.9s						
DL2				LR	LR		
	comp=N,190nm,16.9s						
DL2				LR	LR		
	comp=E,170nm,15.7s						
DL2				LR	LR		
	comp=Z,160nm,17.3s						
YSS	**Yuzh-Sakhalins**	**25.07**	**359**	*e*P	P	**09 20 17.0**	**-1.4**
YSS				*e*	pP	09 20 32.0	-2.0
YSS				*e*		09 21 08.0	
YSS				*e*S	S	**09 24 36.0**	**-2.1**
YSS				*e*SSS		09 25 56.0	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.7						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**25.07**	**359**	*e*P	P	**09 20 18.3**	**-0.1**
	comp=Z,29nm,1.0s,mb4.5						
MDJ	**Mudanjiang**	**25.31**	**337**	P	P	**09 20 19.0**	**-1.6**
MDJ				AP	pP	09 20 33.3	-3.0
MDJ				XP	sP	09 20 41.0	-3.0
MDJ				PCP	PcP	09 23 51.0	-1.0
MDJ				S	S	**09 24 39.8**	**-2.2**
MDJ				XS	sS	09 25 05.3	-3.5
MDJ				SCP	ScP	09 27 24.8	-0.9
MDJ				SCS	ScS	09 31 13.8	-0.5
MDJ				AMB	AMB		
	comp=Z,18nm,1.3s,mb4.3						
MDJ				AMB	AMB		
	comp=Z,139nm,6.0s						
MDJ				LR	LR		
	comp=N,187nm,17.8s						
MDJ				LR	LR		
	comp=E,330nm,18.9s						
MDJ				LR	LR		
	comp=Z,359nm,18.4s						
MDJ	**Mudanjiang**	**25.31**	**337**	*e*P	P	**09 20 20.6**	**0.0**
	comp=Z,272nm,1.1s,mb4.6						
SNY	**Shenyang**	**25.83**	**325**	⇑P	P	**09 20 25.3**	**0.0**
SNY				S	S	**09 24 44.5**	**-5.6**
SNY				AMB	AMB		
	comp=Z,165nm,4.0s						
SNY				LR	LR		
	comp=N,391nm,11.8s						
SNY				LR	LR		
	comp=E,321nm,23.0s						
SNY				LR	LR		
	comp=Z,481nm,20.6s						
CN2	**Changchun**	**26.36**	**330**	*e*P	P	**09 20 32.8**	**+2.8**
CN2				*e*AP	pP	09 20 47.3	+1.6
CN2				*e*S	S	**09 24 59.8**	**+1.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CN2				LR	LR		
	comp=N,3μm,19.0s						
CN2				LR	LR		
	comp=Z,360nm,20.0s						
WHN	**Wuhan**	**27.16**	**295**	*e*P	P	**09 20 39.3**	**+1.9**
HABR	**Khabarovsk**	**27.36**	**348**	*e*P	P	**09 20 39.1**	**+0.1**
HABR				*e*	pP	09 20 54.4	-0.3
HABR				*e*		09 21 26.2	
HABR				*e*		09 23 54.6	
HABR				*e*S	S	**09 25 16.3**	**+2.1**
HABR				*e*		09 26 32.2	
HABR				*e*		09 31 20.2	
HABR				pmax	pmax		
	comp=Z,143nm,1.6s,mb5.2						
KLR	**Kul'dur**	**28.80**	**344**	*e*P	P	**09 20 47.6**	**-4.2**
KLR				pmax	pmax		
	comp=E,43nm,1.4s						
KLR				pmax	pmax		
	comp=Z,62nm,1.4s,mb5.0						
BJI	**Beijing**	**29.20**	**315**	P	P	**09 20 52.0**	**-3.5**
BJI				AP	pP	09 21 10.5	-0.8
BJI				XP	sP	09 21 18.0	-1.0
BJI				S	S	**09 25 46.3**	**+2.9**
BJI				XS	sS	09 26 10.5	+0.1
BJI				AMB	AMB		
	comp=Z,8.0nm,2.0s,mb4.0						
BJI				LR	LR		
	comp=N,286nm,12.2s						
BJI				LR	LR		
	comp=E,200nm,16.2s						
BJI				LR	LR		
	comp=Z,316nm,23.0s						
TIY	**Taiyuan**	**30.79**	**308**	P	P	**09 21 10.5**	**+0.9**
TIY				S	S	**09 26 10.5**	**+2.1**
TIY				LR	LR		
	comp=N,369nm,12.1s						
TIY				LR	LR		
	comp=E,359nm,11.8s						
TIY				LR	LR		
	comp=Z,272nm,11.3s						
QIZ	**Qiongzhong**	**31.25**	**271**	P	P	**09 21 14.5**	**+0.6**
QIZ				AP	pP	09 21 28.0	-1.7
QIZ				XP	sP	09 21 36.0	-1.4
QIZ				PP	PP	09 22 25.5	+0.1
QIZ				S	S	**09 26 15.8**	**-0.1**
QIZ				LR	LR		
	comp=N,210nm,20.1s						
QIZ				LR	LR		
	comp=E,352nm,21.5s						
QIZ				LR	LR		
	comp=Z,499nm,31.3s						
HHC	**Hu-ho-hao-te**	**32.69**	**313**	*e*P	P	**09 21 27.3**	**+1.1**
HHC				AP	pP	09 21 42.3	+0.2
HHC				XP	sP	09 21 49.5	-0.3
HHC				PP	PP	09 22 38.8	-2.3
HHC				PCP	PcP	09 24 12.0	+1.3
HHC				S	S	**09 26 39.3**	**+1.4**
HHC				XS	sS	09 27 03.0	-2.0
HHC				SCP	ScP	09 27 49.8	+0.7
HHC				SS	SS	09 28 36.3	-24
HHC				AMB	AMB		
	comp=Z,41nm,1.1s,mb5.2						
HHC				AMB	AMB		
	comp=Z,129nm,5.5s						
HHC				LR	LR		
	comp=N,380nm,12.7s						
HHC				LR	LR		
	comp=E,809nm,12.7s						
HHC				LR	LR		
	comp=Z,566nm,13.2s						
PET	**Petropavlovsk**	**33.36**	**17**	*e*P	P	**09 21 31.1**	**-0.8**
PET				*e*S	S	**09 26 49.1**	**+1.2**
PET				MLR	MLR		
	comp=Z,100nm,17.0s						
GYA	**Guiyang**	**33.49**	**285⇑**	*i*P	P	**09 21 34.8**	**+1.4**
GYA				AP	pP	09 21 51.8	+2.5
GYA				XP	sP	09 21 59.3	+2.3
GYA				PP	PP	09 22 48.3	-1.9
GYA				PCP	PcP	09 24 14.3	+1.1
GYA				S	S	**09 26 49.8**	**-0.9**
GYA				XS	sS	09 27 19.0	+1.2
GYA				SCP	ScP	09 27 51.8	-0.4
GYA				PCS	PcS	09 27 59.5	+0.4
GYA				SS	SS	09 28 56.8	-21
GYA				SCS	ScS	09 31 51.0	-2.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb4.9						
GYA				AMB	AMB		
	comp=Z,130nm,5.2s						
GYA				LR	LR		
	comp=N,690nm,19.2s						
GYA				LR	LR		
	comp=E,460nm,18.8s						
GYA				LR	LR		
	comp=Z,580nm,18.6s						
KAPI	**Kappang**	**35.13**	**223**	P	P	**09 21 46.8**	**-0.9**
	comp=Z,8.5nm,0.3s,mb5.0,baz=170,slow=13,SNR=4.4						
KAPI				LR	LR	09 34 49.2	
	comp=Z,168nm,21.5s,baz=112,slow=34						
HNR	**Honiara**	**35.19**	**150**	LR	LR	09 34 53.0	
	comp=Z,250nm,19.3s,baz=0.4,slow=34						
COEN	**Coen**	**35.56**	**180**	*e*P	P	**09 21 51.5**	**+0.2**
	comp=Z,6.9nm,0.9s,mb4.6						
CD2	**Chengdu**	**36.23**	**293**	P	P	**09 21 57.5**	**+0.5**
CD2				AP	pP	09 22 14.3	+1.2
CD2				XP	sP	09 22 21.0	+0.3
CD2				PP	PP	09 23 24.8	+4.3
CD2				PCP	PcP	09 24 22.3	+1.2
CD2				S	S	**09 27 35.8**	**+3.0**
CD2				XS	sS	09 27 59.0	-1.1
CD2				SS	SS	09 30 07.8	-5.3
CD2				SCS	ScS	09 32 05.5	-2.6
CD2				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
CD2				AMB	AMB		
	comp=Z,140nm,4.5s						
CD2				LR	LR		
	comp=N,770nm,15.5s						
CD2				LR	LR		
	comp=E,500nm,14.4s						
CD2				LR	LR		
	comp=Z,780nm,17.8s						
LZH	**Lanzhou**	**36.91**	**301**	⇑P	P	**09 22 02.5**	**-0.2**
LZH				AP	pP	09 22 19.5	+0.7
LZH				XP	sP	09 22 30.5	+4.1
LZH				PP	PP	09 23 30.8	+3.0
LZH				AMB	AMB		
	comp=Z,23nm,1.3s,mb5.0						
LZH				AMB	AMB		
	comp=Z,104nm,5.2s						
LZH				LR	LR		
	comp=N,512nm,14.1s						
LZH				LR	LR		
	comp=Z,736nm,17.8s						
KMI	**Kunming**	**37.06**	**283**	P	P	**09 22 06.0**	**+1.8**
KMI				AP	pP	09 22 22.0	+1.7
KMI				XP	sP	09 22 31.3	+3.4
KMI				PP	PP	09 23 33.3	+3.6
KMI				PCP	PcP	09 24 25.5	+1.8
KMI				S	S	**09 27 45.8**	**+0.2**
KMI				SCP	ScP	09 28 04.5	-0.7
KMI				PCS	PcS	09 28 12.0	-0.1
KMI				XS	sS	09 28 14.0	+1.0
KMI				SS	SS	09 30 18.5	-12
KMI				SCS	ScS	09 32 12.3	-0.6
KMI				AMB	AMB		
	comp=Z,14nm,1.2s,mb4.8						
KMI				LR	LR		
	comp=N,213nm,20.0s						
KMI				LR	LR		
	comp=E,220nm,17.9s						
KMI				LR	LR		
	comp=Z,311nm,22.7s						
MA2	**Magadan**	**38.11**	**6d**	*i*P	P	**09 22 11.9**	**-0.6**
MA2				pmax	pmax		
	comp=Z,37nm,1.6s,mb5.0						
MA2	**Magadan**	**38.11**	**6**	*e*P	P	**09 22 12.5**	**0.0**
	comp=Z,166nm,2.3s,mb5.5						
SONM	**Songino Array**	**39.19**	**320**	P	P	**09 22 21.5**	**-0.2**
	comp=Z,8.9nm,0.9s,mb4.6,baz=122,slow=8.3,SNR=35						
SONM				LR	LR	09 38 32.0	
	comp=Z,311nm,18.7s,baz=350,slow=36						
GTA	**Gaotai**	**40.73**	**306**	*e*P	P	**09 22 35.0**	**+0.4**
GTA				AP	pP	09 22 50.5	-0.4
GTA				XP	sP	09 22 58.0	-0.5
GTA				PP	PP	09 24 13.8	+4.3
GTA				PCP	PcP	09 24 35.5	+0.5
GTA				S	S	**09 28 40.3**	**-0.1**
GTA				XS	sS	09 29 06.5	-1.6
GTA				SS	SS	09 31 37.5	-5.7
GTA				AMB	AMB		
	comp=Z,23nm,1.7s,mb4.7						
GTA				AMB	AMB		
	comp=Z,176nm,6.8s						
GTA				LR	LR		
	comp=N,236nm,16.7s						
GTA				LR	LR		
	comp=E,214nm,21.7s						
GTA				LR	LR		
	comp=Z,224nm,23.6s						
NST	**Nakhon Sawan**	**41.04**	**269**	P	P	**09 22 39.2**	**+1.8**
YAK	**Yakutsk**	**41.23**	**350**	*e*P	P	**09 22 37.3**	**-1.1**
YAK				pmax	pmax		
	comp=Z,56nm,1.1s,mb5.3						
CHG	**Chiang Mai**	**41.41**	**274**	⇑P	P	**09 22 42.0**	**+1.6**
	comp=Z,17nm,1.0s,mb4.8						
CHTO	**Chiang Mai**	**41.41**	**274**	*e*P	P	**09 22 42.1**	**+1.7**
SEY	**Seymchan**	**41.57**	**6**	*e*P	P	**09 22 40.7**	**-0.4**
CTA	**Charters Tower**	**41.77**	**176**	*e*P	P	**09 22 43.7**	**+0.5**
	comp=Z,23nm,1.1s,mb4.8						
CTA	**Charters Tower**	**41.77**	**176**	*e*P	P	**09 22 43.7**	**+0.5**
CTA				pmax	pmax		
	comp=Z,23nm,1.1s						
CTA	**Charters Tower**	**41.77**	**176**	P	P	**09 22 42.8**	**-0.4**
	comp=Z,17nm,1.0s,mb4.8,baz=0.0,slow=8.3,SNR=5.5						
CTAO	**Charters Tower**	**41.77**	**176**	*e*P	P	**09 22 43.3**	**+0.1**
CTAO				pmax	pmax		
	comp=Z,55nm,1.2s,mb5.2						
CTAO	**Charters Tower**	**41.77**	**176**	*e*P	P	**09 22 43.3**	**+0.1**
	comp=Z,55nm,1.2s,mb5.2						
ZAK	**Zakamensk**	**42.19**	**322**	*e*P	P	**09 22 46.4**	**0.0**
ZAK				pmax	pmax		
	comp=Z,23nm,1.4s,mb4.7						
WRAB	**Tennant Creek**	**42.37**	**192**	P	P	**09 22 47.0**	**-1.1**
	comp=Z,150nm,1.2s,mb5.6,SNR=7.1						
WRAB	**Tennant Creek**	**42.37**	**192**	*e*P	P	**09 22 47.5**	**-0.6**
WRAB				pmax	pmax		
	comp=Z,39nm,1.2s,mb5.0						
WRAB	**Tennant Creek**	**42.37**	**192**	*e*P	P	**09 22 47.5**	**-0.7**
	comp=Z,39nm,1.2s,mb5.0						
WB2	**Warramunga Arr**	**42.38**	**192**	*e*P	P	**09 22 47.4**	**-0.8**
WB2	**Warramunga Arr**	**42.38**	**192**	*e*P	P	**09 22 47.5**	**-0.7**
WRA	**Warramunga Arr**	**42.38**	**192**	*i* P	P	**09 22 47.0**	**-1.2**
WRA				pmax	pmax		
	comp=Z,15nm,1.1s						
WRA	**Warramunga Arr**	**42.38**	**192**	P	P	**09 22 47.0**	**-1.3**
	comp=Z,15nm,1.1s,mb4.7,baz=13,slow=8.9,SNR=33						
WRA				LR	LR	09 39 04.0	
	comp=Z,223nm,21.4s,baz=315,slow=34						
IRK	**Irkutsk**	**42.56**	**325**	*e*P	P	**09 22 49.3**	**0.0**
IRK				*e*		09 29 16.6	
IRK	

comp=Z,11nm,1.0s,mb4.5
FITZ Fitzroy Crossi 43.20 205 *e*P **P 09 22 56.0 +1.1**
FITZ Fitzroy Crossi 43.20 205 P **P 09 22 54.6 -0.3**
comp=Z,6.1nm,0.9s,mb4.3,baz=17,slow=14,SNR=3.1
FITZ LR LR 09 39 38.4
comp=Z,113nm,19.4s,baz=188,slow=34
MOY Mondy 44.06 323 *e*P **P 09 23 01.8 +0.3**
MOY pmax pmax
comp=Z,46nm,2.0s,mb4.9
ASAR Alice Springs 46.09 192 P **P 09 23 16.7 -1.1**
comp=Z,3.4nm,0.7s,mb4.2,baz=16,slow=8.3,SNR=26
SHL Shillong 46.81 285 *e*P **P 09 23 26.0 +2.4**
PSI Prapat 46.87 252 P **P 09 23 24.1 -0.1**
PSI LR LR 09 40 53.6
PSI Prapat 46.87 252 P **P 09 23 24.1 -0.1**
comp=Z,2.9nm,0.3s,mb4.4,baz=310,slow=1.4,SNR=7.4
PSI LR LR 09 40 53.6
comp=Z,139nm,19.6s,baz=98,slow=33
BILL Bilibino 48.41 11 *d*/P **P 09 23 34.8 -0.6**
BILL pmax pmax
comp=Z,34nm,1.6s,mb4.9
BILL Bilibino 48.41 11 *e*P **P 09 23 35.2 -0.2**
comp=Z,6.2nm,0.6s,mb4.6
MBWA Marble Bar 48.43 210 *e*P **P 09 23 34.4 -1.6**
AKUT Akutan 50.06 37 *e*P **P 09 23 47.9 -0.3**
WMQ Urumqi 50.44 309 P **P 09 23 52.0 +0.8**
WMQ AP pP 09 24 08.0 +0.1
WMQ XP sP 09 24 15.0 -0.4
WMQ PP PP 09 25 49.0 +1.8
WMQ S **S 09 30 59.0 -0.9**
WMQ SS SS 09 34 31.0 -3.3
WMQ AMB AMB
comp=Z,57nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,105nm,5.0s
WMQ LR LR
comp=N,121nm,14.0s
WMQ LR LR
comp=E,203nm,14.0s
WMQ LR LR
comp=Z,204nm,14.0s
TIXI Tiksi 50.52 354⇑ *e*P **P 09 23 50.3 -1.0**
TIXI pmax pmax
comp=Z,19nm,2.3s,mb4.7
TIXI Tiksi 50.52 354 *e*P **P 09 23 50.0 -1.3**
ARMA Armidale 52.58 171 *e*P **P 09 24 07.6 +0.4**
SDPT Sand Point 53.36 36 *e*P **P 09 24 11.4 -1.3**
comp=Z,70nm,1.0s,mb5.6
STKA Stephens Creek 53.41 182 *e*P **P 09 24 12.5 -0.8**
comp=Z,7.8nm,1.0s,mb4.7
STKA Stephens Creek 53.41 182 *e*P **P 09 24 12.7 -0.6**
STKA Stephens Creek 53.41 182 P **P 09 24 12.4 -0.9**
comp=Z,7.8nm,0.9s,mb4.7,baz=3.8,slow=7.4,SNR=9.9
ZAA0 Zalesovo Array 54.06 322 *e*P **P 09 24 17.0 -0.8**
ZALV Zalesovo Beam 54.06 322 P **P 09 24 16.9 -0.9**
comp=Z,14nm,1.0s,mb4.9,baz=100,slow=6.5,SNR=25
ZALV LR LR 09 47 48.8
comp=Z,126nm,19.6s,baz=208,slow=36
ZAL Zalesovo 54.07 322 P **P 09 24 17.0 -0.9**
MK31 Makanchi Array 54.55 313 *i* P **P 09 24 21.0 -0.6**
MK31 pmax pmax
comp=Z,11nm,1.0s,mb4.8
MK31 Makanchi Array 54.55 313 *e*P **P 09 24 21.7 +0.1**
MKAR Makanchi Array 54.55 313 *i* P **P 09 24 21.6 0.0**
MKAR pmax pmax
comp=Z,2.0nm,0.6s
MKAR Makanchi Array 54.55 313 P **P 09 24 21.3 -0.3**
comp=Z,2.0nm,0.6s,mb4.3,baz=90,slow=9.7,SNR=15
MKAR LR LR 09 48 07.0
comp=Z,118nm,19.7s,baz=104,slow=36
CHGN Chignik 54.72 36 *e*P **P 09 24 21.0 -1.6**
NVS Novosibirsk 55.15 322⇓ *i*P **P 09 24 24.0 -1.8**
NVS pmax pmax
comp=N,14nm,1.6s
NVS pmax pmax
comp=Z,54nm,1.6s,mb5.3
NVS pmax pmax
comp=E,42nm,1.5s
AFI Afiamalu 56.75 125 LR LR 09 42 33.8
comp=E,192nm,22.0s,baz=245,slow=29
CNB Canberra Magne 57.13 174 *e*P **P 09 24 40.4 +0.4**
comp=E,28nm,1.2s,mb5.2
KURK Kurchatov 57.33 317 P **P 09 24 40.5 -0.8**
comp=E,124nm,1.2s,mb5.8,SNR=6.1
KURK Kurchatov 57.33 317 *d*/P **P 09 24 40.6 -0.7**
KURK Kurchatov 57.33 317 *e*P **P 09 24 40.6 -0.7**
comp=E,37nm,1.2s,mb5.3
SVW2 Sparrevohn 57.34 30 *e*P **P 09 24 40.9 -0.3**
TTA Tatalina 57.63 28 *e*P **P 09 24 43.0 -0.2**
KDAK Kodiak Island 58.15 35 P **P 09 24 45.8 -1.1**
comp=E,7.3nm,0.9s,mb4.7,baz=319,slow=10,SNR=4.2
KDAK LR LR 09 46 08.6
comp=E,494nm,21.8s,baz=248,slow=32
TOO Toolangi 59.12 178 *e*P **P 09 24 54.3 +0.5**
comp=E,194nm,1.1s,mb6.0
TOO Toolangi 59.12 178 *e*P **P 09 24 54.3 +0.5**
TOO pmax pmax
comp=Z,194nm,1.1s,mb6.0
TKM2 Tokmak 2 59.20 308 *e*P **P 09 24 55.5 +1.0**
TKM2 pmax pmax
comp=Z,20nm,1.2s,mb5.0
TKM2 Tokmak 2 59.20 308 *e*P **P 09 24 55.5 +0.9**
comp=Z,20nm,1.2s,mb5.0
TKM2 Tokmak 2 59.20 308 P **P 09 24 55.3 +0.7**
SNR=8.4
IMA2 Indian Mountai 59.45 25 *e*P **P 09 24 56.4 +0.5**
KZA Kyzart 59.49 307 P **P 09 24 58.5 +1.9**
SNR=25
KBK Karagaybulak 59.69 308 P **P 09 24 58.7 +0.8**
SNR=5.8
CHMS Chumysh 59.82 308 P **P 09 24 59.8 +1.0**
SNR=6.3
FRU Bishkek 59.92 308 *e*P **P 09 25 00.0 +0.5**
FRU pmax pmax
comp=Z,70nm,2.0s,mb5.3
USP Ospenovka 59.99 308 P **P 09 25 00.7 +0.8**
SNR=7.9
UCH Uchtor 60.03 307 *e*P **P 09 25 01.6 +1.4**
comp=Z,55nm,1.4s,mb5.4
UCH Uchtor 60.03 307 P **P 09 25 01.8 +1.5**
SNR=20
PMR Palmer 60.48 31 *e*P **P 09 25 01.5 -1.5**
PMR pmax pmax
comp=Z,23nm,1.0s,mb5.2
PMR Palmer 60.48 31 *e*P **P 09 25 01.5 -1.5**
comp=Z,23nm,1.0s,mb5.2
EKS2 Erkin-Say 60.55 308 *e*P **P 09 25 04.6 +0.8**
comp=Z,21nm,1.4s,mb5.0
EKS2 Erkin-Say 60.55 308 P **P 09 25 04.8 +1.0**
SNR=6.1
AML Almayashu 60.65 307 *e*P **P 09 25 06.2 +1.7**
comp=Z,23nm,1.3s,mb5.0
AML Almayashu 60.65 307 P **P 09 25 06.0 +1.5**
SNR=10
SML Sawmill 60.89 30 *e*P **P 09 25 05.1 -0.7**
COLA College 61.58 27 *e*P **P 09 25 11.0 +0.7**
COLA pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
COLA College 61.58 27 *e*P **P 09 25 11.0 +0.7**
comp=Z,10nm,1.2s,mb4.7
BVAR Borovoye Array 62.52 319 P **P 09 25 16.6 -0.2**
comp=Z,8.9nm,0.6s,mb4.9,baz=91,slow=7.7,SNR=42
BRVK Borovoye 62.59 319 P **P 09 25 17.3 0.0**
comp=Z,168nm,1.2s,mb5.8,SNR=7.2
BRVK Borovoye 62.59 319 *e*P **P 09 25 17.2 -0.1**
KK31 Karatay Array 62.91 308 *i* P **P 09 25 19.2 -0.5**
KK31 pmax pmax
comp=Z,38nm,1.2s,mb5.2
EGAK Eagle 64.41 27 *e*P **P 09 25 28.5 -0.6**
DAWY Dawson 65.15 28 *e*P **P 09 25 33.6 -0.4**
KBL Kabul 65.20 299 *e*P **P 09 25 34.5 -0.4**
comp=Z,24nm,1.3s,mb4.9
INK Inuvik 67.49 24 *e*P **P 09 25 48.1 -0.8**
comp=Z,693nm,1.1s,mb6.4
INK Inuvik 67.49 24 P **P 09 25 48.1 -0.7**
comp=Z,16nm,1.0s,mb4.8,baz=280,slow=5.8,SNR=30
INK LR LR 09 54 03.6
comp=Z,128nm,21.2s,baz=85,slow=35
SVE Sverdlovsk 67.93 324 *e*P **P 09 25 51.4 -0.4**
SVE pmax pmax
comp=Z,39nm,1.2s,mb5.1
ARU Arti 69.11 324 *d*/P **P 09 25 58.2 -1.0**
ARU *e* 09 28 29.8
ARU *e*PPP 09 30 11.5
ARU *e*S S 09 34 59.1 -0.4
ARU *e*SS SS 09 39 24.1 -2.1
ARU pmax pmax
comp=Z,57nm,1.7s,mb5.1
ARU Arti 69.11 324 *e*P **P 09 25 58.4 -0.8**
comp=Z,56nm,1.4s,mb5.2
SOKR Solikamsk 69.60 327⇑ *i*P **P 09 26 02.1 0.0**
SOKR pmax pmax
comp=Z,20nm,0.9s,mb5.0
DLBC Dease Lake 70.07 34 *e*P **P 09 26 05.9 +0.8**
RPZ Rata Peaks 70.09 159 LR LR 09 53 26.4
comp=Z,113nm,21.7s,baz=148,slow=33
AKTK Aktyubinsk 70.42 317 P **P 09 26 05.7 -1.6**
AKTO Aktyubinsk 70.42 317 P **P 09 26 05.7 -1.6**
comp=Z,2.0nm,0.8s,mb4.0,baz=75,slow=8.1,SNR=7.9
ALE Alert 75.16 3 P **P 09 26 34.3 -0.6**
comp=Z,72nm,1.1s,mb5.3,SNR=6.2
YKW3 Yellowknife Ar 76.36 28 *e*P **P 09 26 41.0 -1.0**
YKA Yellowknife Ar 76.39 28 *i* P **P 09 26 41.2 -1.0**
YKA pmax pmax
comp=Z,11nm,0.9s
YKA Yellowknife Ar 76.39 28 P **P 09 26 40.5 -1.7**
YKA Yellowknife Ar 76.39 28 P **P 09 26 40.5 -1.7**
comp=Z,11nm,0.9s,mb4.6,baz=292,slow=5.5,SNR=63
PPT Papeete 76.66 115 LR LR 09 54 17.5
comp=Z,252nm,18.8s,baz=337,slow=31
GNW Green Mountain 76.87 44 *e*P **P 09 26 46.1 +0.9**
comp=Z,22nm,1.0s,mb4.8
RES Resolute Bay 76.97 13 *e*P **P 09 26 44.9 -0.4**
CMW Cultus Mountai 77.06 43 P **P 09 26 46.8 +0.5**
MBW Mount Baker 77.08 43 P **P 09 26 46.6 +0.2**
APA Apatity 77.22 338⇓ *e*P **P 09 26 46.0 -0.8**
APA *i* 09 26 58.2
APA pmax pmax
comp=Z,29nm,1.2s,mb4.9
JCW Jim Creek 77.25 43 P **P 09 26 47.7 +0.4**
FL2 Flat Top 2 77.61 45 P **P 09 26 50.3 +0.9**
SSOR Sweet Springs 77.96 46 P **P 09 26 51.8 +0.4**
HUMO Hull Mountain 78.35 49 *e*P **P 09 26 54.4 +0.9**
HOOD Mount Hood Mea 78.35 46 *e*P **P 09 26 55.0 +1.4**
ARCES ARCESS Array B 78.78 341 P **P 09 26 53.9 -1.5**
comp=Z,9.1nm,1.0s,mb4.5,baz=16,slow=6.3,SNR=8.0
YBH Yreka Blue Hor 78.80 50 *e*P **P 09 26 57.0 +0.9**
YBH pmax pmax
comp=Z,24nm,1.1s
YBH Yreka Blue Hor 78.80 50 *e*P **P 09 26 57.0 +0.9**
comp=Z,24nm,1.1s,mb4.9
MXC Moxie City 78.83 44 P **P 09 26 56.1 -0.1**
LHEM Herd Peak 79.19 50 P **P 09 26 58.8 +0.6**
WDC Whiskeytown Da 79.30 51 *e*P **P 09 26 59.9 +1.1**
VIPM Ingram Point 79.32 46 P **P 09 26 59.0 +0.2**
HAWA Hanford 79.39 44 *e*P **P 09 26 59.6 +0.5**
LASM Arnica Sink 79.65 49 P **P 09 27 01.3 +0.6**
LTIM Timbered Crate 79.85 50 P **P 09 27 02.2 +0.4**
LBCM Butte Creek Ri 80.07 50 P **P 09 27 03.1 +0.1**
VRHR Novokhopersk 80.19 321 *e*P **P 09 27 02.6 -0.8**
VRHR pmax pmax
comp=Z,10.0nm,0.6s,mb4.8
VRHR pmax pmax
comp=N,10.0nm,0.5s
VRHR pmax pmax
comp=E,10.0nm,0.5s
NEW Newport 80.25 42 *e*P **P 09 27 03.6 -0.2**
NEW pmax pmax
comp=Z,20nm,1.1s
NEW Newport 80.25 42 *e*P **P 09 27 03.6 -0.2**
comp=Z,20nm,1.1s,mb4.8
MOD Modoc 80.44 49 *e*P **P 09 27 05.3 +0.3**
OHCM Honcut 80.49 52 *e*P **P 09 27 05.3 +0.1**
EDM Edmonton 80.54 36 *e*P **P 09 27 05.3 0.0**
DAG Danmarks Havn 81.00 356⇓ *i*P **P 09 27 06.3 -1.0**
DAG pmax pmax
comp=Z,6.0nm,1.1s,mb4.3
DAG Danmarks Havn 81.00 356⇓ *i*P **P 09 27 06.3 -1.0**
comp=Z,6.3nm,1.1s,mb4.4
OBN Obninsk 81.33 326⇑ *e*P **P 09 27 08.9 -0.5**
OBN *e* 09 27 16.6
OBN *e* pP 09 27 22.9 -4.5
OBN pmax pmax
comp=Z,40nm,1.4s,mb5.1
OBN MLR MLR
comp=Z,200nm,15.0s
BMO Blue Mountains 81.40 45 *e*P **P 09 27 10.0 0.0**
WVOR Wild Horse Val 81.40 48 *e*P **P 09 27 10.0 -0.1**
WVOR pmax pmax
comp=Z,66nm,1.9s,mb5.1
WVOR Wild Horse Val 81.40 48 *e*P **P 09 27 10.0 -0.1**
comp=Z,66nm,1.9s,mb5.1
VRSR Storozhevoye 81.55 322 *e*P **P 09 27 09.9 -0.8**
VRSR pmax pmax
comp=Z,10.0nm,1.2s,mb4.5
VRSR pmax pmax
comp=N,2.0nm,0.7s
VRSR pmax pmax
comp=E,7.0nm,1.0s
VORD Divnogorie 81.60 322 *e*P **P 09 27 10.4 -0.5**
VORD pmax pmax
comp=Z,40nm,1.3s,mb5.1
VORD pmax pmax
comp=N,20nm,0.6s
VORD pmax pmax
comp=E,60nm,0.9s
CMB Columbia Colle 81.75 52 *e*P **P 09 27 11.8 -0.2**
CMB pmax pmax
comp=Z,34nm,1.2s,mb5.0
CMB Columbia Colle 81.75 52 *e*P **P 09 27 11.8 -0.2**
comp=Z,34nm,1.2s,mb5.0
PAHR Pah Rah Range 81.88 51 *e*P **P 09 27 13.1 +0.4**
comp=Z,22nm,1.2s,mb4.9
WALA Waterton Lakes 81.90 40 *e*P **P 09 27 13.4 +0.9**
comp=Z,27nm,1.1s,mb5.0
KIV Kislovodsk 82.28 314 *e*P **P 09 27 14.5 -0.1**
KIV pmax pmax
comp=Z,27nm,1.1s,mb5.0
KIV MLR MLR
comp=Z,87nm,20.0s
WAKR Walker 82.28 52 *e*P **P 09 27 15.2 +0.4**
GNI Garni 82.30 310 *e*P **P 09 27 14.4 -0.5**
GNI pmax pmax
comp=Z,26nm,1.4s
FINES FINESS Array B 83.03 334 *i* P **P 09 27 17.2 -1.0**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 83.03 334 P **P 09 27 16.2 -1.9**
comp=Z,1.0nm,0.5s,mb3.9,baz=88,slow=4.8,SNR=10
NVAR Mina Array Bea 83.13 51 P **P 09 27 19.2 0.0**
NVAR Mina Array Bea 83.13 51 P **P 09 27 19.2 0.0**
comp=Z,9.6nm,0.9s,mb4.7,baz=258,slow=6.3,SNR=53
MTUM Tungsten Hills 83.35 53 *e*P **P 09 27 20.8 +0.5**
HLID Hailey 83.82 46 *e*P **P 09 27 22.8 +0.2**
comp=Z,19nm,1.6s,mb4.7
TPH Tonopah 84.05 51 *e*P **P 09 27 24.3 +0.4**
TPH pmax pmax
comp=Z,13nm,1.2s,mb4.6
TPH Tonopah 84.05 51 *e*P **P 09 27 24.3 +0.4**
comp=Z,13nm,1.2s,mb4.6
MIB Mutribah 84.16 300 *e*P **P 09 27 24.2 -0.4**
MIB AMb AMB 09 27 26.9
comp=Z,65nm,1.1s,mb5.4
DLMT Dillon 84.25 43 *e*P **P 09 27 24.8 0.0**
comp=Z,35nm,1.4s,mb5.0
RDF Al-Radifah 84.31 299 *e*P **P 09 27 23.9 -1.5**
RDF AMb AMB 09 27 28.7
comp=Z,38nm,2.0s,mb4.9
SOC Sochi 84.39 315 *e*P **P 09 27 21.0 -4.5**
SOC *e* 09 30 33.9
VSU Vasula 84.40 332 *e*P **P 09 27 23.7 -1.5**
NAY Al-Naaiem 84.44 299 *e*P **P 09 27 24.7 -1.3**
NAY pmax pmax
comp=Z,43nm,1.3s,mb5.1
BOZ Bozeman (W) 84.74 43 *e*P **P 09 27 27.6 +0.4**
BOZ pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
BOZ Bozeman (W) 84.74 43 *e*P **P 09 27 27.6 +0.4**
comp=Z,7.8nm,1.0s,mb4.6
EGMT Eagleton 84.84 40 *e*P **P 09 27 27.9 +0.2**
MWC Mount Wilson 84.92 55 *e*P **P 09 27 28.5 +0.1**
MWC pmax pmax
comp=Z,27nm,1.5s,mb5.0
MWC Mount Wilson 84.92 55 *e*P **P 09 27 28.5 +0.1**
comp=Z,27nm,1.5s,mb5.0
TPNV Topopah Spring 85.21 52 *e*P **P 09 27 29.9 +0.1**
TPNV pmax pmax
comp=Z,25nm,1.1s,mb5.1
TPNV Topopah Spring 85.21 52 *e*P **P 09 27 29.9 +0.1**
comp=Z,25nm,1.1s,mb5.0
GSC Goldstone 85.45 54 *e*P **P 09 27 31.0 0.0**
GSC pmax pmax
comp=Z,33nm,1.4s,mb5.1
GSC Goldstone 85.45 54 *e*P **P 09 27 31.0 0.0**
comp=Z,33nm,1.4s,mb5.1
YMR Madison River 85.59 43 *e*P **P 09 27 32.6 +1.1**
comp=Z,51nm,1.2s,mb5.3
HVU Hansel Valley 85.66 47 *e*P **P 09 27 32.6 +0.7**
HVU pmax pmax
comp=Z,17nm,1.1s,mb4.9
HVU Hansel Valley 85.66 47 *e*P **P 09 27 32.6 +0.7**
comp=Z,17nm,1.1s,mb4.9
FFC Flin Flon 85.77 32 P **P 09 27 32.8 +0.6**
comp=Z,256nm,1.1s,mb6.1,SNR=24
FFC Flin Flon 85.77 32 *e*P **P 09 27 32.1 -0.1**
FFC pmax pmax
comp=Z,72nm,1.2s,mb5.5
FFC Flin Flon 85.77 32 *e*P **P 09 27 32.1 0.0**
comp=Z,72nm,1.2s,mb5.5
YFT Old Faithful 85.77 44 *e*P **P 09 27 35.1 +2.6**
BGU Big Grassy Mou 85.85 48 *e*P **P 09 27 32.8 -0.1**
DCID1 Drake Creek 85.93 45 *e*P **P 09 27 33.5 +0.3**
IMW Indian Meadow 85.95 44 *e*P **P 09 27 33.1 -0.2**
comp=Z,22nm,1.0s,mb5.0
TPAW Teton Pass 86.13 45 *e*P **P 09 27 35.1 +0.9**
comp=Z,23nm,1.2s,mb5.0
SHPR Sheep Range 86.19 52 *e*P **P 09 27 34.9 +0.3**
REDW Red Top Meadow 86.25 45 *e*P **P 09 27 35.4 +0.6**
comp=Z,44nm,1.7s,mb5.1
SNOW Snow King Moun 86.27 44 *e*P **P 09 27 35.9 +1.0**
LOHW Long Hollow 86.30 44 *e*P **P 09 27 35.7 +0.6**
DUG Dugway 86.32 48 *e*P **P 09 27 35.1 -0.1**
DUG pmax pmax
comp=Z,40nm,1.3s,mb5.2
DUG Dugway 86.32 48 *e*P **P 09 27 35.1 -0.1**
comp=Z,40nm,1.3s,mb5.2
PFO Pinyon Flat Ob 86.39 55 P **P 09 27 35.7 0.0**
comp=Z,92nm,1.1s,mb5.6,SNR=11
PFO Pinyon Flat Ob 86.39 55 *e*P **P 09 27 35.7 0.0**
PFO pmax pmax
comp=Z,25nm,1.2s,mb5.0
PFO Pinyon Flat Ob 86.39 55 *e*P **P 09 27 35.7 0.0**
comp=Z,25nm,1.2s,mb5.0
RLMT Red Lodge 86.47 43 *e*P **P 09 27 36.4 +0.6**
comp=Z,25nm,1.0s,mb5.1
HWUT Hardware Ranch 86.55 46 *e*P **P 09 27 36.4 +0.1**
comp=Z,37nm,1.3s,mb5.2
BAR Barrett 86.60 56 *e*P **P 09 27 36.5 -0.2**
comp=Z,23nm,1.4s,mb4.9
LDFC Landfair 86.81 54 *e*P **P 09 27 38.1 +0.4**
CTU Camp Tracy 86.83 47 *e*P **P 09 27 38.0 +0.3**
NLU North Lily Min 86.93 48 *e*P **P 09 27 38.1 -0.1**
FCC Fort Churchill 86.97 26 *e*P **P 09 27 37.3 -0.7**
FCC pmax pmax
comp=Z,34nm,1.1s,mb5.2
FCC Fort Churchill 86.97 26 *e*P **P 09 27 37.2 -0.7**
comp=Z,34nm,1.1s,mb5.2
CCUT Cedar City 87.06 51 *e*P **P 09 27 39.5 +0.7**
JLU Jordanelle 87.08 47 *e*P **P 09 27 39.2 +0.3**
MPU Maple Canyon 87.21 48 *e*P **P 09 27 39.9 +0.4**
DAU Daniels Canyon 87.29 47 *e*P **P 09 27 40.6 +0.7**
AKASG Malin Array Be 87.36 324 *i* P **P 09 27 38.2 -1.8**
AKASG pmax pmax
comp=Z,3.0nm,0.9s
AKASG Malin Array Be 87.36 324 P **P 09 27 37.8 -2.2**
comp=Z,3.2nm,0.8s,mb4.3,baz=46,slow=4.8,SNR=23
MSU Marysvale 87.49 49 *e*P **P 09 27 41.3 +0.4**
MALT Malatya 87.53 310 *e*P **P 09 27 41.3 +0.2**
GLA Glamis 87.86 55 *e*P **P 09 27 43.0 +0.2**
GLA pmax pmax
comp=Z,24nm,1.0s,mb5.2
GLA Glamis 87.86 55 *e*P **P 09 27 43.0 +0.2**
comp=Z,24nm,1.0s,mb5.2
DGMT Dagmar 87.87 38 *e*P **P 09 27 42.2 -0.4**
comp=Z,8.0nm,0.9s,mb4.8
SRU San Rafael 88.38 48 *e*P **P 09 27 44.9 -0.2**
SRU pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
SRU San Rafael 88.38 48 *e*P **P 09 27 44.9 -0.3**
comp=Z,9.1nm,1.0s,mb4.8
HFS Hagfors 88.58 337 P **P 09 27 43.4 -2.2**
comp=Z,1.7nm,0.8s,mb4.2,baz=74,slow=11,SNR=4.4
NB2 NORSAR Subarra 88.80 339 P **P 09 27 44.2 -2.4**
comp=Z,1.1nm,0.8s,mb3.9,baz=47,slow=4.6
NOA NORSAR Array B 88.80 339 P **P 09 27 44.3 -2.3**
comp=Z,2.1nm,0.9s,mb4.2,baz=52,slow=4.3,SNR=4.5
WUAZ Wupatki 89.39 52 *e*P **P 09 27 50.0 0.0**
comp=Z,39nm,1.5s,mb5.2
PV10 Paradox Valley 89.75 48 *e*P **P 09 27 51.9 +0.3**
PV01 Paradox Valley 90.19 48 *e*P **P 09 27 53.5 -0.2**
MVCO Mesa Verde 90.67 49 *e*P **P 09 27 56.1 +0.1**
comp=Z,22nm,1.4s,mb5.1
PHWY Pilot Hill 90.75 45 *e*P **P 09 27 56.6 +0.5**
SMCO Snowmass 90.79 47 *e*P **P 09 27 57.3 +0.9**
comp=Z,18nm,1.0s,mb5.2
TUC Tucson 91.26 54 *e*P **P 09 27 59.3 +0.6**
TUC pmax pmax
comp=Z,20nm,1.5s,mb5.0
TUC Tucson 91.26 54 *e*P **P 09 27 59.3 +0.5**
comp=Z,20nm,1.5s,mb5.0
ULM Lac du Bonnet 91.39 33 P **P 09 27 57.1 -1.8**
comp=Z,4.6nm,1.0s,mb4.6,baz=289,slow=4.9,SNR=6.4
ISCO Idaho Springs 91.39 46 *e*P **P 09 27 59.7 +0.5**
ISCO pmax pmax
comp=Z,47nm,1.8s,mb5.3
ISCO Idaho Springs 91.39 46 *e*P **P 09 27 59.7 +0.5**
comp=Z,47nm,1.8s,mb5.3
SDCO Great Sand Dun 92.50 48 *e*P **P 09 28 04.8 +0.4**
comp=Z,14nm,1.5s,mb5.0
AGMN Agassiz Refuge 92.57 35 *e*P **P 09 28 03.7 -0.8**
comp=Z,21nm,1.4s,mb5.3
ANMO Albuquerque 93.20 50 *e*P **P 09 28 08.0 +0.3**
ANMO pmax pmax
comp=Z,15nm,1.6s
ANMO Albuquerque 93.20 50 *e*P **P 09 28 08.0 +0.3**
comp=Z,16nm,1.6s,mb5.1
GERES GERESS Array B 96.44 329 LR LR 10 14 49.1
comp=Z,115nm,19.8s,baz=206,slow=37
TXAR Lajitas Array 98.05 54 P **P 09 28 29.6 -0.3**
comp=Z,0.7nm,0.8s,mb4.2,baz=288,slow=1.2,SNR=9.1
TXAR LR LR 10 14 50.2
comp=Z,99nm,18.0s,baz=10.0,slow=37
TORD Torodi Ar. Bea 128.60 309 PKP PKPdf 09 33 59.6 -1.1
comp=Z,1.6nm,1.1s,baz=41,slow=0.9,SNR=4.5
PLCA Paso Flores 145.30 131 PKPbc PKPbc 09 34 31.9 -0.4
comp=Z,3.6nm,0.9s,baz=219,slow=2.8,SNR=4.6
LCO Las Campanas 148.73 110 *e*PKPdf PKPdf 09 34 37.6 +0.9
LCO *e*PKPbc PKPbc 09 34 40.7 +0.1
LCO *e*PKPab PKPab 09 34 44.7 +0.2
LPAZ La Paz 150.01 85 *e*PKIKP PKPdf 09 34 39.5 +0.4
LPAZ 09 34 39.5
LPAZ 09 34 45.0
LPAZ *e* 09 34 51.1
LPAZ La Paz 150.01 85 *e*PKPdf PKPdf 09 34 39.5 +0.4
LPAZ PKP PKPdf 09 34 39.5 +0.4
LPAZ *e*PKPbc PKPbc 09 34 44.8 +0.7
LPAZ PKPbc PKPbc 09 34 45.0 +0.9
LPAZ *e*PKPab PKPab 09 34 51.1 +1.1
LPAZ La Paz 150.01 85 PKP PKPdf 09 34 39.5 +0.4
comp=Z,11nm,1.1s,baz=270,slow=1.0,SNR=14
LPAZ PKPbc PKPbc 09 34 45.0 +0.9
comp=Z,12nm,1.1s,baz=355,slow=4.8,SNR=21
LVC Limon Verde 150.39 98 *e*PKPbc PKPbc 09 34 45.2 +0.4

IDC 28 09:21:43.3±1.3, 2186N×14316E, h0km, mb3.7/7, mb1 3.9/7, mb1mx3.7/20, mbtmp3.7/7, Error ellipse: s-maj=50.7km s-min=21.5km az=80.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SONM	**Songino Array**	**39.20**	**320**	P	P	09 29 12.9	-0.1
	0.6nm,0.6s,baz=126,slow=5.6,SNR=3.7						
WRA	**Warramunga Arr**	**42.44**	**192**	P	P	09 29 40.0	+0.1
	1.3nm,1.1s,baz=9.6,slow=8.3,SNR=4.1						
ASAR	**Alice Springs**	**46.14**	**192**	P	P	09 30 09.3	-0.3
	0.4nm,0.7s,baz=12,slow=9.8,SNR=5.4						
ZALV	**Zalesovo Beam**	**54.07**	**322**	P	P	09 31 09.1	-0.4
	0.7nm,0.6s,baz=93,slow=5.8,SNR=3.4						
MKAR	**Makanchi Array**	**54.57**	**313**	P	P	09 31 13.5	+0.2
	0.4nm,0.5s,baz=110,slow=8.3,SNR=2.7						
BVAR	**Borovoye Array**	**62.53**	**319**	P	P	09 32 09.1	+0.3
	1.6nm,0.6s,baz=75,slow=7.8,SNR=4.8						
YKA	**Yellowknife Ar**	**76.32**	**28**	P	P	09 33 33.9	+0.1
	0.6nm,0.6s,baz=299,slow=6.0,SNR=4.2						

*ISCJB **28** 09:22:01.5±9.9, 523N±02×317W±02, h12km±64km, mb3.9/9, MS3.0/6, Error ellipse: s-maj=28.1km s-min=15.2km az=7.0*
*IDC **28** 09:22:01.6±0.9, 5231N×3166W, h0km, mb3.9/10, mb1 4.0/11, mb1mx3.8/29, mbtmp3.9/11, ML3.8/1, MS3.1/6, Ms1 3.1/6, ms1mx2.7/36, Error ellipse: s-maj=30.2km s-min=17.5km az=11.0*
*NEIC **28** 09:22:03.0±0.5, 5229N×3166W, h10km, Error ellipse: s-maj=16.1km s-min=8.3km az=189.0*
ISC 28 09:22:02.4±9.4, 523N±02×317W±01, h4km±60km, n20, σ0§41/13, mb3.9/9, MS3.0/6, Northern Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
EKA	**Eskdalemuir Ar**	**17.04**	**68**	P	**Pn**	**09 26 01.4**	**+0.2**
	0.2nm,0.3s,baz=264,slow=10,SNR=8.8						
SCHQ	**Schefferville**	**20.91**	**291**	P	**P**	**09 26 45.4**	**0.0**
	3.6nm,0.8s,baz=68,slow=16,SNR=3.6						
ESDC	**Sonseca Array**	**22.86**	**113**	P	**P**	**09 27 06.6**	**+0.2**
	0.3nm,0.3s,mb3.2,baz=306,slow=9.5,SNR=5.7						
ESDC				LR	LR	09 34 59.9	
	comp=Z,64nm,18.6s,MS3.1,baz=340,slow=34						
NOA	**NORSAR Array B**	**24.70**	**52**	LR	LR	09 36 03.4	
	comp=Z,32nm,19.4s,MS2.8,baz=275,slow=34						
HFS	**Hagfors**	**25.93**	**55**	LR	LR	09 36 22.5	
	comp=Z,44nm,18.1s,MS3.0,baz=42,slow=33						
DAVOX	**Davos/Dischmat**	**27.22**	**85**	LR	LR	09 37 22.3	
	comp=Z,29nm,18.0s,MS2.9,baz=81,slow=34						
GERES	**GERESS Array B**	**28.65**	**79**	LR	LR	09 38 01.9	
	comp=Z,36nm,18.8s,MS3.0,baz=98,slow=34						
FINES	**FINESS Array B**	**31.82**	**50**	LR	LR	09 38 41.9	
	comp=Z,40nm,21.7s,MS3.1,baz=0.4,slow=31						
AKASG	**Malin Array Be**	**36.95**	**68**	P	**P**	**09 29 10.9**	**-1.1**
	0.8nm,0.5s,mb3.9,baz=298,slow=8.6,SNR=7.2						
YKA	**Yellowknife Ar**	**42.77**	**317**	P	**P**	**09 30 00.2**	**-0.1**
YKA				PcP	PcP	09 31 50.9	-0.7
YKA	**Yellowknife Ar**	**42.77**	**317**	P	**P**	**09 30 00.2**	**-0.1**
	1.8nm,0.9s,mb3.8,baz=64,slow=8.3,SNR=9.5						
YKA				PcP	PcP	09 31 50.8	-0.7
	0.8nm,0.8s,baz=68,slow=3.7,SNR=6.3						
TORD	**Torodi Ar. Bea**	**47.32**	**133**	P	**P**	**09 30 37.0**	**+0.1**
	2.8nm,1.0s,mb4.2,baz=333,slow=7.9,SNR=10						
AKTK	**Aktyubinsk**	**52.48**	**54**	P	**P**	**09 31 15.7**	**-0.2**
AKTO	**Aktyubinsk**	**52.48**	**54**	P	**P**	**09 31 15.7**	**-0.2**
	1.4nm,0.6s,mb4.0,baz=294,slow=6.0,SNR=5.3						
BVAR	**Borovoye Array**	**56.52**	**45**	P	**P**	**09 31 45.5**	**+0.4**
	3.3nm,0.7s,mb4.5,baz=298,slow=6.4,SNR=12						
TXAR	**Lajitas Array**	**56.61**	**276**	P	**P**	**09 31 46.0**	**-0.1**
	0.3nm,0.7s,mb3.5,baz=61,slow=8.7,SNR=5.5						
MKAR	**Makanchi Array**	**66.28**	**43**	P	**P**	**09 32 51.6**	**+0.3**
	1.4nm,0.9s,mb4.0,baz=348,slow=5.4,SNR=5.4						
SONM	**Songino Array**	**74.00**	**28**	P	**P**	**09 33 39.1**	**+0.5**
	0.7nm,0.7s,mb3.7,baz=343,slow=4.6,SNR=3.6						
WRA	**Warramunga Arr**	**145.90**	**24**	PKPbc	PKPbc	09 41 42.8	0.0
	3.1nm,0.9s,baz=340,slow=3.8,SNR=6.5						
ASAR	**Alice Springs**	**149.34**	**27**	PKPbc	PKPbc	09 41 51.5	-0.6
	2.3nm,1.1s,baz=337,slow=3.3,SNR=4.5						

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*IDC **28** 09:27:40.4±0.6, 2188N×14308E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.3/22, mbtmp4.1/16, ML3.4/1, MS3.8/3, Ms1 3.8/3, ms1mx3.4/36, Error ellipse: s-maj=24.5km s-min=15.2km az=78.0*
*ISCJB **28** 09:27:43.9±4.0, 2184N±006×1430E±01, h32km±28km, mb4.4/33, MS4.0/6, Error ellipse: s-maj=16.0km s-min=10.2km az=168.5*
*BJI **28** 09:27:43.0, 2197N×14346E, h31km, mB4.9, mb4.6, Ms4.5, Msz4.3*
*NEIC **28** 09:27:43.9±0.4, 2187N×14315E, h20km, mb4.6/9, Error ellipse: s-maj=14.3km s-min=9.4km az=72.0*
*MOS **28** 09:27:44.3±1.2, 2184N×14290E, h33km, mb4.8/11, Error ellipse: s-maj=19.7km s-min=7.9km az=108.1*
ISC 28 09:27:44.5±5.7, 2184N±006×1431E±01, h23km±39km, h19km±1.3km: pP-P, n60, σ1§08/56, mb4.4/33, MS4.0/6, 3C, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.26**	**345**	Pn	**Pn**	**09 31 15.7**	**-2.7**
	0.1nm,0.3s,baz=153,slow=16,SNR=3.2						
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**09 32 18.2**	**-1.2**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s						
KSRS	**Korea Array**	**20.36**	**323**	P	**P**	**09 32 18.1**	**-1.2**
	comp=Z,0.8nm,0.7s,baz=134,slow=12,SNR=2.9						
QZH	**Quanzhou**	**22.71**	**283**	⇑*i*P	**P**	**09 32 47.0**	**+2.3**
QZH				AMB	AMB		
	comp=Z,60nm,0.8s,mb5.1						
NJ2	**Nanjing**	**23.85**	**300**	*e*P	**P**	**09 32 55.8**	**-0.3**
NJ2				PP		09 33 33.3	
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,350nm,9.1s						
NJ2				LR	LR		
	comp=N,610nm,15.0s,MS4.4						
NJ2				LR	LR		
	comp=E,680nm,14.6s,MS4.4						
NJ2				LR	LR		
	comp=Z,680nm,14.6s,MS4.2						
YSS	**Yuzh-Sakhalins**	**25.06**	**359**	*i*P	**P**	**09 33 09.6**	**+2.6**
YSS				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.4						
HABR	**Khabarovsk**	**27.35**	**348**	*e*P	**P**	**09 33 27.2**	**-0.4**
HABR				*e*		09 34 17.1	
HABR				*e*		09 36 41.6	
HABR				*e*S	**S**	**09 38 02.0**	**-4.1**
HABR				*e*		09 39 24.0	
HABR				*e*		09 44 08.7	
KLR	**Kul'dur**	**28.79**	**344**	*e*P	**P**	**09 33 37.2**	**-3.3**
KAPI	**Kappang**	**35.15**	**223**	LR	LR	09 46 55.0	
	comp=Z,148nm,21.6s,MS3.7,baz=112,slow=33						
LZH	**Lanzhou**	**36.92**	**301**	*e*P	**P**	**09 34 52.5**	**+0.9**
LZH				AP	pP	09 34 58.0	-0.7
LZH				XP	sP	09 35 01.8	+0.3
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,107nm,5.1s						
BATI	**Kupang**	**37.13**	**213**	LR	LR	09 48 40.2	
	comp=Z,197nm,19.3s,MS3.9,baz=219,slow=34						
ULN	**Ulaanbaatar**	**38.81**	**321**	*e*P	**P**	**09 35 07.9**	**+0.4**
ULN				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
ULN	**Ulaanbaatar**	**38.81**	**321**	*e*P	**P**	**09 35 07.9**	**+0.4**
	comp=Z,2.7nm,0.8s,mb4.0						
SONM	**Songino Array**	**39.19**	**320**	P	**P**	**09 35 10.7**	**+0.1**
	comp=Z,3.5nm,0.9s,mb4.1,baz=120,slow=6.0,SNR=16						
GTA	**Gaotai**	**40.74**	**306**	*e*P	**P**	**09 35 24.5**	**+0.9**
GTA				AP	pP	09 35 29.3	-1.4
GTA				AMB	AMB		
	comp=Z,5.0nm,1.6s,mb3.9						
YAK	**Yakutsk**	**41.22**	**350**	*i*P	**P**	**09 35 27.4**	**+0.2**
YAK				pmax	pmax		
	comp=Z,17nm,1.0s,mb4.6						
SEY	**Seymchan**	**41.55**	**6**	*i*P	**P**	**09 35 31.5**	**+1.6**
ZAK	**Zakamensk**	**42.19**	**322**	*e*P	**P**	**09 35 35.0**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,6.0nm,1.3s,mb4.1						
WRAB	**Tennant Creek**	**42.39**	**192**	*e*P	**P**	**09 35 36.1**	**-1.1**
WB2	**Warramunga Arr**	**42.40**	**192**	*e*P	**P**	**09 35 37.1**	**-0.2**
WRA	**Warramunga Arr**	**42.40**	**192**	P	**P**	**09 35 37.3**	**0.0**
	comp=Z,4.8nm,1.0s,mb4.1,baz=12,slow=8.6,SNR=16						
TLY	**Talaya**	**42.61**	**324**	*i*P	**P**	**09 35 38.2**	**-0.6**
FITZ	**Fitzroy Crossi**	**43.22**	**205**	LR	LR	09 50 39.4	
	comp=Z,112nm,21.6s,MS3.7,baz=192,slow=32						
ASAR	**Alice Springs**	**46.11**	**192**	P	**P**	**09 36 06.9**	**-0.1**
	comp=Z,1.9nm,0.6s,mb4.2,baz=16,slow=9.5,SNR=41						
BILL	**Bilibino**	**48.40**	**11**	⇓*e*P	**P**	**09 36 24.5**	**+0.2**
BILL				*e*	pP	09 36 30.8	-0.7
BILL				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.3						
BILL				MLR	MLR		
	comp=Z,100nm,18.0s,MS3.8						
TIXI	**Tiksi**	**50.50**	**354**	*i*P	**P**	**09 36 41.1**	**+0.8**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9						
STKA	**Stephens Creek**	**53.43**	**182**	*e*P	**P**	**09 37 02.5**	**-0.1**
	comp=Z,7.3nm,1.8s,mb4.3						
STKA	**Stephens Creek**	**53.43**	**182**	P	**P**	**09 37 02.0**	**-0.6**
	comp=Z,4.0nm,1.0s,mb4.3,baz=345,slow=14,SNR=6.5						
ZAA0	**Zalesovo Array**	**54.06**	**322**	*e*P	**P**	**09 37 06.6**	**-0.4**
ZALV	**Zalesovo Beam**	**54.06**	**322**	P	**P**	**09 37 06.5**	**-0.5**
	comp=Z,3.9nm,0.7s,mb4.5,baz=103,slow=7.2,SNR=16						
ZAL	**Zalesovo**	**54.07**	**322**	P	**P**	**09 37 06.5**	**-0.6**
MK31	**Makanchi Array**	**54.55**	**313**	*e*P	**P**	**09 37 11.6**	**+0.8**
MKAR	**Makanchi Array**	**54.55**	**313**	P	**P**	**09 37 11.0**	**+0.3**
	comp=Z,1.8nm,0.6s,mb4.3,baz=91,slow=9.4,SNR=15						
NVS	**Novosibirsk**	**55.15**	**322**	*e*P	**P**	**09 37 13.9**	**-1.0**
NVS				pmax	pmax		
	comp=Z,27nm,2.0s,mb4.9						
NVS				pmax	pmax		
	comp=E,19nm,1.6s						
KURK	**Kurchatov**	**57.33**	**317**	*e*P	**P**	**09 37 30.4**	**-0.1**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.8						
KURK	**Kurchatov**	**57.33**	**317**	*e*P	**P**	**09 37 30.4**	**-0.1**
	comp=Z,9.5nm,1.1s,mb4.7						
TKM2	**Tokmak 2**	**59.21**	**308**	*e*P	**P**	**09 37 45.6**	**+1.8**
TKM2				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.6						
TKM2	**Tokmak 2**	**59.21**	**308**	*e*P	**P**	**09 37 45.6**	**+1.8**
	comp=Z,7.4nm,1.2s,mb4.6						
UCH	**Uchtor**	**60.04**	**307**	*e*P	**P**	**09 37 51.5**	**+2.0**
	comp=Z,2.7nm,0.7s,mb4.4						
AML	**Almayashu**	**60.65**	**307**	*e*P	**P**	**09 37 55.3**	**+1.6**
	comp=Z,3.3nm,0.8s,mb4.5						
BRVK	**Borovoye**	**62.59**	**319**	*e*P	**P**	**09 38 06.9**	**+0.3**
BRVK				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.8						
BRVK	**Borovoye**	**62.59**	**319**	*e*P	**P**	**09 38 06.8**	**+0.2**
	comp=Z,5.3nm,0.7s,mb4.8						
INK	**Inuvik**	**67.47**	**24**	P	**P**	**09 38 37.7**	**-0.4**
	comp=Z,2.7nm,0.8s,mb4.3,baz=306,slow=5.7,SNR=7.9						
ARU	**Arti**	**69.11**	**324**	*c i*P	**P**	**09 38 47.1**	**-1.5**
ARU				*e*		09 39 09.0	
ARU				*e*		09 41 17.7	
ARU				*e*S	Sx	09 47 45.1	
ARU				pmax	pmax		
	comp=Z,16nm,1.7s,mb4.7						
AKTK	**Aktyubinsk**	**70.42**	**317**	P	**P**	**09 38 55.5**	**-1.2**
AKTO	**Aktyubinsk**	**70.42**	**317**	P	**P**	**09 38 55.5**	**-1.2**
	comp=Z,1.8nm,0.6s,mb4.2,baz=100,slow=6.8,SNR=6.7						
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**09 39 30.9**	**-0.6**
YKA	**Yellowknife Ar**	**76.36**	**28**	P	**P**	**09 39 30.9**	**-0.6**
	comp=Z,1.9nm,0.6s,mb4.2,baz=293,slow=5.5,SNR=13						
ARCES	**ARCESS Array B**	**78.77**	**341**	P	**P**	**09 39 43.5**	**-1.4**
	comp=Z,2.8nm,0.7s,mb4.3,baz=62,slow=8.6,SNR=4.0						
OBN	**Obninsk**	**81.33**	**326**	P	**P**	**09 40 00.0**	**+1.0**
OBN				*e*		09 40 11.1	
OBN				MLR	MLR		
	comp=Z,100nm,15.0s,MS4.3						
FINES	**FINESS Array B**	**83.03**	**334**	P	**P**	**09 40 06.8**	**-0.9**
	comp=Z,1.0nm,0.8s,mb3.9,baz=163,slow=2.0,SNR=3.9						
NVAR	**Mina Array Bea**	**83.11**	**51**	P	**P**	**09 40 09.1**	**+0.4**
	comp=Z,1.6nm,0.7s,mb4.1,baz=264,slow=5.6,SNR=9.8						
FFC	**Flin Flon**	**85.74**	**32**	*e*P	**P**	**09 40 21.5**	**-0.1**
FFC				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb5.0						
FFC	**Flin Flon**	**85.74**	**32**	*e*P	**P**	**09 40 21.5**	**-0.1**
	comp=Z,8.5nm,0.9s,mb5.0						
RLMT	**Red Lodge**	**86.44**	**43**	*e*P	**P**	**09 40 26.4**	**+1.1**
	comp=Z,4.0nm,0.8s,mb4.7						
AKASG	**Malin Array Be**	**87.36**	**324**	P	**P**	**09 40 27.1**	**-2.5**
	comp=Z,1.1nm,0.6s,mb4.3,baz=56,slow=4.7,SNR=5.5						
PV10	**Paradox Valley**	**89.72**	**48**	*e*P	**P**	**09 40 41.4**	**+0.3**
TXAR	**Lajitas Array**	**98.03**	**54**	P	**P**	**09 41 20.7**	**+1.3**
	comp=Z,0.2nm,0.7s,mb3.8,baz=309,slow=5.7,SNR=2.8						
PLCA	**Paso Flores**	**145.90**	**131**	PKPbc	PKPbc	09 47 21.2	-1.0
	comp=Z,1.1nm,0.6s,baz=170,slow=17,SNR=4.1						
LPAZ	**La Paz**	**149.99**	**85**	PKPbc	PKPbc	09 47 34.1	+0.3
	comp=Z,2.0nm,1.1s,baz=340,slow=3.0,SNR=6.4						

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*ISCJB **28** 09:31:17.5±2.2, 2166N±006×14298E±006, h8km±14km, mb4.6/53, MS4.2/27, Error ellipse: s-maj=11.5km s-min=8.5km az=27.6*
*IDC **28** 09:31:17.1±0.6, 2172N×14318E, h0km, mb4.2/15, mb1 4.3/16, mb1mx4.3/22, mbtmp4.2/16, ML3.8/1, MS4.1/18, Ms1 4.1/18, ms1mx3.9/35, Error ellipse: s-maj=25.3km s-min=15.4km az=80.0*
*BJI **28** 09:31:19.0, 2183N×14325E, h24km, mB5.2, mb4.8, Ms4.5, Msz4.2*
*GCMT **28** 09:31:20.9±0.2, 2183N×143.15E, h12km, MW4.9/87, Moment Tensor Solution. s26,c33; s87,c121; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-3.11±.07; $M_{\theta\theta}$1.22±.06; $M_{\phi\phi}$1.89±.07; $M_{r\theta}$0.16±.28; $M_{\theta\phi}$-1.46±.05; $M_{\phi r}$0.42±.27; Best double couple: $M_0$3.11400×10^{16} NP1:φ_s315.00000°, δ43.00000°, λ-100.00000°. NP2: φ_s148.00000°, δ48.00000°, λ-81.00000°. Principal axes: T 3.0610, Plg2.0000°, Azm232.0000°; N 0.1050, Plg7.0000°, Azm322.0000°; P -3.1660, Plg83.0000°, Azm125.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **28** 09:31:20.9±0.4, 2170N×14305E, h20km, mb4.9/25 Error ellipse: s-maj=10.5km s-min=8.9km az=207.0*
*MOS **28** 09:31:21.3±1.1, 2166N×14292E, h33km, mb5.1/22, Error ellipse: s-maj=14.0km s-min=7.6km az=103.7*
ISC 28 09:31:23.6±1.7, 2168N±006×14303E±006, h37km±15km, n133, σ1§14/124, mb4.6/53, MS4.2/27, 1C-3D, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MJAR	**Matsushiro Arr**	**15.39**	**345**	Pn	**Pn**	**09 34 53.3**	**-4.7**
	0.4nm,0.3s,baz=159,slow=11,SNR=5.3						
MAJO	**Matsushiro**	**15.40**	**345**	*e*P	**Pn**	**09 35 01.9**	**+3.9**
MAJO				pmax	pmax		
	comp=Z,14nm,0.8s						
MAJO	**Matsushiro**	**15.40**	**345**	*e*Pn	**Pn**	**09 35 01.9**	**+3.9**
	comp=Z,14nm,0.8s						
MAT	**Matsushiro**	**15.40**	**345**	P	**Pn**	**09 34 56.6**	**-1.4**
YHNB	**Yeheng**	**20.12**	**283**	*e*P	**P**	**09 35 52.7**	**-1.7**
	comp=Z,54nm,1.3s						
ERM	**Erimo**	**20.28**	**0**	*e*P	**P**	**09 35 57.1**	**+1.2**
ERM				pmax	pmax		
	comp=Z,58nm,1.2s						
ERM	**Erimo**	**20.28**	**0**	*e*P	**P**	**09 35 57.1**	**+1.2**
	comp=Z,58nm,1.2s						
KSRS	**Korea Array**	**20.45**	**324**	P	**P**	**09 35 58.2**	**+0.4**
KSRS				pmax	pmax		
	comp=Z,4.0nm,0.7s						
KSRS				MLR	MLR		
	comp=Z,275nm,20.2s,MS3.6						
KSRS	**Korea Array**	**20.45**	**324**	P	**P**	**09 35 58.1**	**+0.4**
	comp=Z,3.7nm,0.7s,baz=139,slow=9.7,SNR=5.0						
KSRS				LR	LR	09 42 21.0	
	comp=Z,274nm,20.2s,MS3.6,baz=140,slow=32						
KS15	**Wonju Array Si**	**20.46**	**323**	*e*P	**P**	**09 36 04.4**	**+6.5**
QZH	**Quanzhou**	**22.67**	**283**	⇑*i*P	**P**	**09 36 24.3**	**+2.6**
QZH				AMB	AMB		
	comp=Z,50nm,0.9s,mb4.9						
QZH				LR	LR		
	comp=Z,910nm,19.1s,MS4.2						
NJ2	**Nanjing**	**23.86**	**301**	*e*P	**P**	**09 36 31.5**	**-2.1**
NJ2				PP		09 37 06.3	
NJ2				S	**S**	**09 40 37.5**	**-10**
NJ2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,500nm,7.5s						
NJ2				LR	LR		
	comp=N,820nm,12.1s,MS4.5						
NJ2				LR	LR		
	comp=E,580nm,14.2s,MS4.5						
NJ2				LR	LR		
	comp=Z,580nm,14.2s,MS4.2						
DL2	**Dalian**	**25.12**	**318**	*i*P	**P**	**09 36 44.5**	**-0.5**
DL2				S	**S**	**09 41 06.3**	**-1.0**
DL2				AMB	AMB		
	comp=Z,30nm,1.0s,mb4.8						
DL2				AMB	AMB		
	comp=Z,120nm,5.3s						
DL2				LR	LR		
	comp=N,170nm,14.1s,MS3.8						
DL2				LR	LR		
	comp=E,140nm,15.2s,MS3.8						
DL2				LR	LR		
	comp=Z,210nm,11.8s,MS3.9						
YSS	**Yuzh-Sakhalins**	**25.22**	**360**	*e*P	**P**	**09 36 48.0**	**+2.3**
YSS				*e*		09 37 27.0	
YSS				*e*		09 37 30.0	
YSS				*e*S	**S**	**09 41 08.0**	**-0.6**
YSS				pmax	pmax		
	comp=Z,30nm,1.0s,mb4.8						
YSS				MLR	MLR		
	comp=Z,500nm,20.0s,MS4.0						
YSS	**Yuzh-Sakhalins**	**25.22**	**360**	*e*P	**P**	**09 36 49.7**	**+4.0**
	comp=Z,34nm,1.2s,mb4.8						
MDJ	**Mudanjiang**	**25.43**	**337**	*e*P	**P**	**09 36 47.0**	**-0.6**
	comp=Z,9.7nm,0.8s,mb4.4						
SNY	**Shenyang**	**25.91**	**325**	⇑P	**P**	**09 36 51.0**	**-1.1**
SNY				AMB	AMB		
	comp=Z,15nm,1.8s,mb4.2						
HABR	**Khabarovsk**	**27.49**	**348**	⇓*e*P	**P**	**09 37 08.3**	**+2.1**
HABR				*e*		09 37 23.9	
HABR				*e*		09 37 56.7	
HABR				*e*		09 40 22.7	
HABR				*e*S	**S**	**09 41 45.8**	**+1.4**
HABR				*e*		09 43 02.9	
HABR				*e*		09 47 49.7	
HABR				pmax	pmax		
	comp=Z,137nm,1.4s,mb5.3						
BJI	**Beijing**	**29.26**	**315**	P	**P**	**09 37 24.8**	**+2.7**
BJI				AMB	AMB		
	comp=Z,7.0nm,1.3s,mb4.2						
BJI				LR	LR		
	comp=N,206nm,17.1s,MS4.1						
BJI				LR	LR		
	comp=E,280nm,13.2s,MS4.1						
TIY	**Taiyuan**	**30.83**	**308**	P	**P**	**09 37 32.8**	**-3.3**
TIY				LR	LR		
	comp=N,262nm,7.2s						
TIY				LR	LR		
	comp=E,279nm,8.2s						
TIY				LR	LR		
	comp=Z,418nm,13.6s,MS4.3						
QIZ	**Qiongzhong**	**31.19**	**271**	P	**P**	**09 37 36.3**	**-3.1**
QIZ				S	**S**	**09 42 37.5**	**-5.7**
QIZ				LR	LR		
	comp=E,336nm,21.2s						
QIZ				LR	LR		
	comp=Z,478nm,20.9s,MS4.1						
GYA	**Guiyang**	**33.47**	**285**	P	**P**	**09 38 01.3**	**+2.0**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8						
HNR	**Honiara**	**35.09**	**150**	LR	LR	09 51 11.2	
	comp=Z,231nm,18.2s,MS4.0,baz=4.5,slow=34						
LZH	**Lanzhou**	**36.93**	**302**	*e*P	**P**	**09 38 29.0**	**0.0**
LZH				PP	PP	09 39 56.5	+2.9
LZH				AMB	AMB		
	comp=Z,19nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,48nm,5.3s						
LZH				LR	LR		
	comp=N,463nm,13.8s						
LZH				LR	LR		
	comp=Z,706nm,17.9s,MS4.5						
CLNS	**Chul'man**	**37.57**	**344**	*e*P	**P**	**09 38 33.9**	**-0.2**
CLNS				pmax	pmax		
	comp=Z,14nm,1.0s,mb4.7						
CLNS				pmax	pmax		
	comp=N,9.0nm,0.8s						
CLNS				pmax	pmax		
	comp=E,7.0nm,1.0s						
SONM	**Songino Array**	**39.26**	**321**	P	**P**	**09 38 48.7**	**+0.2**
SONM				LR	LR	09 54 49.1	
SONM	**Songino Array**	**39.26**	**321**	P	**P**	**09 38 48.7**	**+0.2**
	comp=E,2.4nm,0.5s,mb4.2,baz=126,slow=6.8,SNR=16						
SONM				LR	LR	09 54 49.1	
	comp=E,203nm,19.8s,MS4.0,baz=94,slow=36						
GTA	**Gaotai**	**40.77**	**306**	*e*P	**P**	**09 39 02.0**	**+0.9**
GTA				AP	pP	09 39 06.8	-5.0
GTA				XP	sP	09 39 09.5	-6.8
GTA				SCS	ScS	09 49 01.8	-1.6
GTA				AMB	AMB		
	comp=Z,275nm,5.7s						
GTA				LR	LR		
	comp=N,138nm,17.9s,MS4.2						
GTA				LR	LR		
	comp=E,213nm,16.0s,MS4.2						
GTA				LR	LR		
	comp=Z,206nm,17.9s,MS4.0						
CHTO	**Chiang Mai**	**41.36**	**274**	*e*P	**P**	**09 39 12.5**	**+6.3**
YAK	**Yakutsk**	**41.37**	**351**	*e*P	**P**	**09 39 04.8**	**-0.9**
YAK				pmax	pmax		
	comp=Z,28nm,1.0s,mb4.8						
CTA	**Charters Tower**	**41.63**	**175**	LR	LR	09 53 55.6	
	comp=Z,182nm,20.6s,MS3.9,baz=44,slow=33						
SEY	**Seymchan**	**41.72**	**6**	*i*P	**P**	**09 39 08.2**	**-0.4**
WRA	**Warramunga Arr**	**42.23**	**192**	P	**P**	**09 39 13.1**	**-0.1**
	comp=Z,11nm,1.3s,mb4.3,baz=11,slow=8.4,SNR=11						
WRA				LR	LR	09 55 06.6	
	comp=Z,308nm,21.4s,MS4.2,baz=340,slow=34						
ZAK	**Zakamensk**	**42.27**	**323**	⇓*i*P	**P**	**09 39 13.0**	**-0.3**
ZAK				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.4						
IRK	**Irkutsk**	**42.64**	**325**	*e*P	**P**	**09 39 16.5**	**+0.3**
IRK				pmax	pmax		
	comp=Z,45nm,2.5s,mb4.8						
TLY	**Talaya**	**42.70**	**324**	*e*P	**P**	**09 39 15.8**	**-0.9**
TLY	**Talaya**	**42.70**	**324**	*e*P	**P**	**09 39 17.4**	**+0.7**
MOY	**Mondy**	**44.15**	**323**	*e*P	**P**	**09 39 28.6**	**+0.2**
MOY				pmax	pmax		
	comp=Z,39nm,1.7s,mb4.9						
ASAR	**Alice Springs**	**45.94**	**192**	P	**P**	**09 39 42.3**	**-0.5**
	comp=Z,1.6nm,0.6s,mb4.1,baz=17,slow=9.5,SNR=20						
BILL	**Bilibino**	**48.57**	**11**	P	**P**	**09 40 02.0**	**-0.9**
BILL				*e*		09 40 09.1	
BILL	**Bilibino**	**48.57**	**11**	*e*P	**P**	**09 40 02.2**	**-0.7**
	comp=Z,16nm,1.3s,mb4.9						
WMQ	**Urumqi**	**50.48**	**309**	P	**P**	**09 40 18.8**	**+1.0**
TIXI	**Tiksi**	**50.66**	**354**	*e*P	**P**	**09 40 15.7**	**-3.0**
TIXI				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.5						
TIXI	**Tiksi**	**50.66**	**354**	*e*P	**P**	**09 40 21.5**	**+2.8**
STKA	**Stephens Creek**	**53.27**	**182**	*e*P	**P**	**09 40 39.4**	**+0.8**
	comp=Z,2.5nm,0.6s,mb4.3						
STKA	**Stephens Creek**	**53.27**	**182**	P

ARU pmax pmax
comp=Z,28nm,2.5s,mb4.8
ARU Arti 69.20 324 *e*P **P 09 42 25.5 -0.7**
comp=Z,23nm,1.2s,mb5.0
YKW3 Yellowknife Ar 76.51 28 *e*P **P 09 43 08.6 -0.8**
YKA Yellowknife Ar 76.54 28 P **P 09 43 08.5 -1.2**
YKA LR LR 10 14 41.0
YKA Yellowknife Ar 76.54 28 P **P 09 43 08.5 -1.2**
comp=Z,1.6nm,0.5s,mb4.2,baz=291,slow=5.9,SNR=18
YKA LR LR 10 14 41.0
comp=Z,174nm,20.9s,MS4.3,baz=225,slow=34
PPT Papeete 76.65 115 LR LR 10 10 55.6
comp=Z,210nm,20.2s,MS4.4,baz=333,slow=31
RES Resolute Bay 77.13 13 *e*P **P 09 43 12.5 -0.3**
RES pmax pmax
comp=Z,387nm,1.0s
RES Resolute Bay 77.13 13 *e*P **P 09 43 12.5 -0.3**
comp=Z,387nm,1.0s
ARCES ARCESS Array B 78.90 341 P **P 09 43 23.1 +0.4**
comp=Z,2.4nm,0.7s,mb4.2,baz=65,slow=6.8,SNR=7.2
ARCES LR LR 10 22 09.7
comp=Z,153nm,19.9s,MS4.3,baz=284,slow=39
JOF Joensuu 80.27 334 *e*p **P 09 43 20.4 -10**
comp=Z,4.5nm,0.7s,mb4.5
NEW Newport 80.39 42 *e*P **P 09 43 30.9 -0.3**
NEW pmax pmax
comp=Z,9.0nm,1.4s
NEW Newport 80.39 42 *e*P **P 09 43 30.9 -0.3**
comp=Z,9.2nm,1.4s,mb4.5
EDM Edmonton 80.70 36 *e*P **P 09 43 35.7 +3.0**
OBN Obninsk 81.42 326 P **P 09 43 43.0 +6.5**
VRSR Storozhevoye 81.63 322 *e*P **P 09 43 36.0 -1.7**
VRSR pmax pmax
comp=Z,4.0nm,1.5s,mb4.1
VRSR pmax pmax
comp=N,1.0nm,0.6s
VRSR pmax pmax
comp=E,2.0nm,0.9s
CMB Columbia Colle 81.89 52 *e*P **P 09 43 39.3 -0.1**
KIV Kislovodsk 82.33 314 *e*P **P 09 43 42.4 +0.8**
KIV pmax pmax
comp=Z,14nm,1.1s,mb4.8
FINES FINESS Array B 83.14 334 *i*P **P 09 43 45.5 +0.1**
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 83.14 334 P **P 09 43 44.7 -0.7**
comp=Z,0.6nm,0.4s,mb4.0,baz=72,slow=6.2,SNR=5.9
NVAR Mina Array Bea 83.27 51 P **P 09 43 45.7 -0.8**
NVAR Mina Array Bea 83.27 51 P **P 09 43 45.7 -0.8**
comp=Z,1.4nm,0.7s,mb4.1,baz=268,slow=5.4,SNR=11
HLID Hailey 83.97 46 *e*P **P 09 43 52.2 +2.2**
comp=Z,8.1nm,1.5s,mb4.6
DLMT Dillon 84.40 43 *e*P **P 09 43 55.6 +3.4**
comp=Z,17nm,1.6s,mb4.9
BOZ Bozeman (W) 84.89 43 *e*P **P 09 43 56.9 +2.3**
BOZ pmax pmax
comp=Z,20nm,2.0s,mb4.9
BOZ Bozeman (W) 84.89 43 *e*P **P 09 43 56.9 +2.2**
comp=Z,20nm,2.0s,mb4.9
EGMT Eagleton 84.99 40 *e*P **P 09 43 58.5 +3.5**
TPNV Topopah Spring 85.35 52 *e*P **P 09 43 57.5 +0.4**
TPNV pmax pmax
comp=Z,4.0nm,0.8s,mb4.6
TPNV Topopah Spring 85.35 52 *e*P **P 09 43 57.5 +0.4**
comp=Z,3.9nm,0.8s,mb4.6
GSC Goldstone 85.59 54 *e*P **P 09 43 57.7 -0.6**
GSC pmax pmax
comp=Z,25nm,1.8s,mb5.1
GSC Goldstone 85.59 54 *e*P **P 09 43 57.7 -0.6**
comp=Z,25nm,1.8s,mb5.1
FFC Flin Flon 85.92 32 *e*P **P 09 43 59.3 -0.3**
FFC pmax pmax
comp=Z,18nm,1.1s,mb5.2
FFC Flin Flon 85.92 32 *e*P **P 09 43 59.3 -0.3**
comp=Z,18nm,1.1s,mb5.2
IMW Indian Meadow 86.10 44 *e*P **P 09 44 00.8 0.0**
comp=Z,5.7nm,0.9s,mb4.8
SHPR Sheep Range 86.33 52 *e*P **P 09 44 02.3 +0.3**
DUG Dugway 86.46 48 *e*P **P 09 44 02.5 0.0**
DUG pmax pmax
comp=Z,18nm,1.5s,mb5.1
DUG Dugway 86.46 48 *e*P **P 09 44 02.5 -0.1**
comp=Z,18nm,1.5s,mb5.1
RLMT Red Lodge 86.61 43 *e*P **P 09 44 03.8 +0.6**
HWUT Hardware Ranch 86.70 46 *e*P **P 09 44 03.7 0.0**
JLU Jordanelle 87.22 47 *e*P **P 09 44 06.8 +0.5**
AKASG Malin Array Be 87.44 324 *i*P **P 09 44 04.5 -2.6**
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 87.44 324 P **P 09 44 04.9 -2.2**
comp=Z,0.6nm,0.5s,mb4.1,baz=46,slow=4.9,SNR=5.9
MSU Marysvale 87.63 49 *e*P **P 09 44 08.6 +0.3**
GLA Glamis 88.00 55 *e*P **P 09 44 10.2 +0.1**
GLA pmax pmax
comp=Z,5.0nm,0.8s,mb4.8
GLA Glamis 88.00 55 *e*P **P 09 44 10.2 +0.1**
comp=Z,5.4nm,0.8s,mb4.8
SRU San Rafael 88.52 48 *e*P **P 09 44 12.3 -0.2**
HFS Hagfors 88.69 337 P **P 09 44 10.5 -2.3**
comp=Z,1.7nm,0.7s,mb4.5,baz=106,slow=5.1,SNR=4.0
NOA NORSAR Array B 88.91 339 LR LR 10 26 58.1
comp=Z,66nm,21.8s,MS4.0,baz=65,slow=38
PV10 Paradox Valley 89.89 48 *e*P **P 09 44 19.4 +0.4**
PV01 Paradox Valley 90.33 48 *e*P **P 09 44 20.6 -0.3**
ULM Lac du Bonnet 91.54 33 LR LR 10 21 35.6
comp=Z,151nm,20.7s,MS4.4,baz=317,slow=33
MMAI Mount Meron Ar 92.15 307 LR LR 10 31 55.9
comp=Z,51nm,18.6s,MS4.0,baz=55,slow=40
SDCO Great Sand Dun 92.64 48 *e*P **P 09 44 30.4 -1.3**
ANMO Albuquerque 93.34 50 *i*P **P 09 44 37.5 +2.5**
ANMO Albuquerque 93.34 50 *e*P **P 09 44 41.6 +6.6**
comp=Z,11nm,1.9s,mb5.0
EIL Elat 94.03 304 LR LR 10 31 04.8
comp=Z,72nm,18.1s,MS4.2,baz=104,slow=38
MORC Moravsky Berou 94.04 328 *e*P **P 09 44 31.0 -6.9**
MORC pmax pmax
comp=Z,3.0nm,0.6s,mb4.9
MORC Moravsky Berou 94.04 328 *e*P **P 09 44 30.9 -6.9**
comp=Z,3.3nm,0.6s,mb4.9
TXAR Lajitas Array 98.18 54 P **P 09 44 56.6 -0.5**
comp=Z,0.2nm,0.7s,mb3.7,baz=300,slow=2.0,SNR=3.0
TXAR LR LR 10 27 19.9
comp=Z,88nm,18.8s,MS4.3,baz=210,slow=34
VNDA Vanda 99.61 176 LR LR 10 27 30.1
comp=Z,94nm,20.4s,MS4.3,baz=359,slow=34
SCHQ Schefferville 99.62 17 LR LR 10 28 57.3
comp=Z,121nm,19.4s,MS4.4,baz=266,slow=35
TORD Torodi Ar. Bea 128.64 309 PKP PKPdf 09 50 26.5 -1.1
comp=Z,0.4nm,0.9s,baz=38,slow=2.6,SNR=3.3
PLCA Paso Flores 145.85 132 PKPbc PKPbc 09 50 58.1 -0.9
comp=Z,1.8nm,0.8s,baz=312,slow=6.2,SNR=4.6
LPAZ La Paz 150.09 85 *e*PKPdf PKPdf 09 51 04.8 -1.2
LPAZ PKPbc PKPbc 09 51 10.2 -0.9
LPAZ *e*PKPbc PKPbc 09 51 11.5 +0.4
LPAZ *e*PKPab PKPab 09 51 14.9 -2.1
LPAZ La Paz 150.09 85 PKPbc PKPbc 09 51 10.2 -0.9
comp=Z,1.6nm,0.7s,baz=9.2,slow=3.8,SNR=4.5

*NEIC **28** 09:46:26.3, 28.10S×71.25W, h5km, ML3.6(GUC), After GUC.*

GUC 28 09:46:26.3±0.8, 2810S×7125W, h5km, ML3.6, 2C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
VACH	**Vallenar**	**0.64**	**138**	‖*i*P		Pg	09 46 40.7	+2.1
VACH				*i*S		Sg	09 46 50.4	+3.5
VACH	**Vallenar**	**0.64**	**138**	‖*i*P		Pg	09 46 40.7	+2.1
VACH				*i*S		Sg	09 46 50.4	+3.5
VACH					AML	AML	09 46 55.5	
	comp=E,3μm,0.1s							
LCO	**Las Campanas**	**1.03**	**152**	*e*Pg		Pg	09 46 46.8	+0.8
LCO				*e*Sg		Sg	09 46 58.4	-1.0
CPCH	**Copiapo**	**1.08**	**47**	*e*P		Pg	09 46 46.1	-1.0
CPCH				*i*S		Sg	09 47 02.2	+1.0
CPCH	**Copiapo**	**1.08**	**47**	*e*P		Pg	09 46 46.1	-1.0
CPCH				*i*S		Sg	09 47 02.2	+1.0
CPCH					AML	AML	09 47 07.2	
	comp=E,8μm,0.1s							
LSCH	**La Serena**	**1.80**	**180**	*e*P		Pn	09 47 00.5	+2.5
LSCH				*i*S		Sn	09 47 21.9	+0.7
TLL	**Tololo Astrono**	**2.10**	**169**	‖*e*P		Pn	09 47 03.0	+0.9
TLL				*i*S		Sn	09 47 31.1	+2.6
TLL	**Tololo Astrono**	**2.10**	**169**	‖*e*P		Pn	09 47 03.0	+0.9
TLL				*i*S		Sn	09 47 31.1	+2.6
TLL					AML	AML	09 47 38.6	
	comp=E,301nm,0.5s							
CMCH	**Combarbala**	**3.07**	**176**	*e*P		Pn	09 47 14.6	-0.8
CMCH				*i*S		Sn	09 47 51.7	-0.9
FCH	**Farellones**	**5.27**	**171**	*e*P		Pn	09 47 52.3	+6.6
FCH				*i*S		Sn	09 48 54.0	+7.1

IDC 28 09:49:04.9±2.5, 5788S×2548W, h0km, mb3.9/4, mb1 4.0/4, mb1mx3.8/17, mbtmp3.9/4, MS3.7/2, Ms1 3.7/2, ms1mx3.1/21, Error ellipse: s-maj=86.9km s-min=33.3km az=11.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
MAW	**Mawson**	**38.12**	**142**		LR	LR	10 10 10.2	
	comp=Z,108nm,19.9s,baz=259,slow=33							
CPUP	**Villa Florida**	**38.72**	**311**		P	P	09 56 30.3	-0.2
	0.4nm,0.4s,baz=145,slow=12,SNR=3.2							
SIV	**San Ignacio**	**49.51**	**313**		P	P	09 57 56.9	-0.2
	1.0nm,0.5s,baz=182,slow=7.8,SNR=9.3							
LPAZ	**La Paz**	**52.19**	**305**		P	P	09 58 18.2	+0.9
	0.6nm,0.5s,baz=162,slow=6.4,SNR=4.7							
TORD	**Torodi Ar. Bea**	**74.22**	**28**		P	P	10 00 43.5	+0.1
	1.9nm,0.6s,baz=200,slow=6.5,SNR=22							
KEST	**Kesra**	**97.74**	**28**		LR	LR	10 41 04.1	
	comp=Z,37nm,19.8s,baz=245,slow=32							
SONM	**Songino Array**	**149.87**	**88**		PKPbc	PKPbc	10 08 55.6	-0.2
	0.5nm,0.6s,baz=244,slow=2.4,SNR=4.4							

IDC 28 10:24:05.6±1.7, 726S×15617E, h0km, mb3.8/3, mb1 3.9/4, mb1mx3.7/14, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=39.3km s-min=35.1km az=179.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**4.31**	**120**		Pn	Pn	10 25 11.7	-0.8
	7.0nm,0.3s,baz=270,slow=6.1,SNR=4.8							
WRA	**Warramunga Arr**	**24.64**	**237**		P	P	10 29 28.6	+0.6
	1.3nm,0.7s,baz=61,slow=9.6,SNR=11							
WRA					pP		10 29 39.1	
	0.6nm,0.3s,baz=62,slow=9.0,SNR=13							
ASAR	**Alice Springs**	**26.89**	**230**		P	P	10 29 48.0	-0.4
	0.4nm,0.9s,baz=59,slow=9.2,SNR=3.1							
ASAR					pP		10 29 59.0	
	0.4nm,0.3s,baz=60,slow=9.4,SNR=24							
MKAR	**Makanchi Array**	**84.38**	**318**		P	P	10 36 40.1	+0.3
	2.9nm,0.6s,baz=101,slow=6.1,SNR=15							

*JMA **28** 10:54:00.5±0.1, 2396N×12358E, h32km±1km, M4.4*
JMA Felt I J1.
*NIED **28** 10:54:00, 2400N×12360E, h29km, Mw4.3 Best double couple: M₀3.21000×10^15 NP1:φ=57.00000°, δ71.00000°, λ83.00000°. NP2:φ=258.00000°, δ21.00000°, λ110.00000°.*
*BJI **28** 10:54:00.5, 2407N×12357E, h41km, mB4.3, mb4.3, ML3.7, Ms3.8, Msz3.6*
*ISCJB **28** 10:54:00.3±0.5, 2403N±006×12362E±004, h48km±3km, mb4.1/15, MS3.7/7, Error ellipse: s-maj=10.4km s-min=5.4km az=171.2*
*NEIC **28** 10:54:01.4±2.9, 2408N×12363E, h45km±24km, mb4.0/1, Error ellipse: s-maj=38.4km s-min=12.3km az=65.0*
NEIC Recorded [1 JMA] on Iriomote-jima and Ishigaki-jima.
*IDC **28** 10:54:06.5±5.9, 2399N×12338E, h91km±56km, mb3.7/10, mb1 3.8/11, mb1mx3.8/19, mbtmp3.7/11, ML3.0/1, MS3.7/8, Ms1 3.7/8, ms1mx3.4/25, Error ellipse: s-maj=46.5km s-min=14.9km az=68.0*
*MOS **28** 10:54:06.2±1.3, 2397N×12337E, h104km, mb4.3/4, Error ellipse: s-maj=24.8km s-min=10.4km az=107.1*

ISC 28 10:54:01.4±0.5, 2404N±006×12361E±004, h41km±4km, n46, σ1§22/54, mb4.1/15, MS3.7/7, 2C, Southwestern Ryukyu Islands

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HATJ	**Hateruma jima**	**0.18**	**85**		P	**Pn**	**10 54 07.0**	**-1.5**
HATJ					S	**Sn**	**10 54 11.9**	**-1.6**
IRIF	**Iriomote-Funau**	**0.31**	**21**		P	**Pn**	**10 54 09.3**	**-0.5**
IRIF					S	**Sn**	**10 54 15.5**	**-0.2**
JKRS	**Kuro-shima**	**0.41**	**62**		P	**Pn**	**10 54 10.6**	**-0.4**
JKRS					S	**Sn**	**10 54 18.0**	**+0.3**
JIJ	**Ishigaki jima**	**0.58**	**57**		P	**Pn**	**10 54 12.8**	**-0.4**
JIJ				*e*S		**Sn**	**10 54 21.6**	**0.0**
YOJ	**Yonaguni jima**	**0.69**	**307**		P	**Pn**	**10 54 14.4**	**-0.2**
YOJ				*e*S		**Sn**	**10 54 23.9**	**-0.3**
JTJ	**Tarama**	**1.16**	**59**		P	**Pn**	**10 54 22.3**	**+1.2**
JTJ				*e*S		**Sn**	**10 54 38.6**	**+2.8**
JMJ	**Miyako jima 2**	**1.72**	**63**		P	**Pn**	**10 54 31.4**	**+2.7**
JOGS	**Gusukube**	**1.79**	**66**		P	**Pn**	**10 54 31.1**	**+1.4**
NACB	**Ninganchiao**	**1.85**	**274**		*e*Pn	**Pn**	**10 54 29.6**	**-0.9**
YHNB	**Yeheng**	**2.13**	**287**		*e*Pn	**Pn**	**10 54 35.3**	**+0.8**
TATO	**Taipei**	**2.15**	**296**		*e*Pn	**Pn**	**10 54 35.5**	**+0.9**
JKE	**Kume jima 2**	**3.67**	**51**		P	**Pn**	**10 54 55.7**	**+0.1**
JAGN	**Aguni-jima**	**4.15**	**52**		P	**Pn**	**10 55 03.3**	**+1.1**
QZH	**Quanzhou**	**4.66**	**282**		P	**Pn**	**10 55 08.5**	**-0.7**
QZH					Smax			
	comp=N,100nm,1.0s							
QZH					Smax			
	comp=E,110nm,0.8s							
QZH					LR	LR		
	comp=N,1μm,14.4s							
QZH					LR	LR		
	comp=E,2μm,18.8s							
QZH					LR	LR		
	comp=Z,990nm,14.7s							
JOW	**Kunigami**	**5.05**	**56**		P	**Pn**	**10 55 13.6**	**-1.0**
JTK	**Tokunoshima**	**6.08**	**51**		P	**Pn**	**10 55 27.5**	**-1.3**
NJ2	**Nanjing**	**9.02**	**333**		*e*P	**Pn**	**10 56 12.0**	**+3.0**
NJ2					AMB	AMB		
	comp=Z,40nm,0.7s							
QIZ	**Qiongzhong**	**13.74**	**251**		P	**Pn**	**10 57 15.8**	**+2.1**
QIZ					S	**Sn**	**10 59 47.3**	**+2.2**
QIZ					LR	LR		
	comp=N,168nm,21.5s							
QIZ					LR	LR		
	comp=Z,137nm,14.8s							
KSRS	**Korea Array**	**13.87**	**14**		P	**Pn**	**10 57 21.7**	**+6.4**
	comp=Z,0.1nm,0.3s,baz=197,slow=14,SNR=6.5							
KSRS					LR	LR	11 03 11.6	
	comp=Z,132nm,18.9s,baz=190,slow=39							
LZH	**Lanzhou**	**20.85**	**310**		*e*P	**P**	**10 58 42.5**	**+2.8**
LZH					AP		10 58 47.3	
LZH					AMB	AMB		
	comp=Z,16nm,1.0s							
LZH					AMB	AMB		
	comp=Z,86nm,5.1s							
HABR	**Khabarovsk**	**26.01**	**18**		*e*P	**P**	**10 59 31.3**	**+0.9**
HABR					*e*		11 00 04.1	
HABR					*e*		11 00 20.7	
HABR					*e*		11 02 55.0	
HABR					*e*S	**S**	**11 03 53.0**	**-5.3**
HABR					*e*		11 10 11.2	
ULN	**Ulaanbaatar**	**27.18**	**335**		*i*P	**P**	**10 59 42.4**	**+1.5**
SONM	**Songino Array**	**27.41**	**334**		P	**P**	**10 59 42.2**	**-0.8**
	comp=Z,0.8nm,0.7s,mb3.3,baz=144,slow=8.9,SNR=5.1							
SONM					LR	LR	11 11 34.8	
	comp=Z,146nm,21.1s,MS3.5,baz=175,slow=38							
MK31	**Makanchi Array**	**39.99**	**315**		*e*P	**P**	**11 01 31.7**	**-0.3**
MKAR	**Makanchi Array**	**39.99**	**315**		P	**P**	**11 01 32.0**	**0.0**
	comp=Z,2.4nm,0.7s,mb4.0,baz=104,slow=10,SNR=16							
MKAR					LR	LR	11 19 11.3	
	comp=Z,40nm,20.6s,MS3.2,baz=178,slow=38							
ZALV	**Zalesovo Beam**	**41.58**	**326**		P	**P**	**11 01 43.0**	**-2.0**
	comp=Z,2.4nm,0.7s,mb4.0,baz=107,slow=8.2,SNR=6.8							
ZALV					LR	LR	11 20 19.1	
	comp=Z,89nm,19.3s,MS3.6,baz=159,slow=38							
ZAL	**Zalesovo**	**41.59**	**326**		P	**P**	**11 01 43.1**	**-2.0**
KURK	**Kurchatov**	**43.63**	**319**		*e*P	**P**	**11 02 01.2**	**-0.5**
KURK					pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0							
KURK	**Kurchatov**	**43.63**	**319**		*e*P	**P**	**11 02 01.2**	**-0.5**
	comp=Z,3.1nm,0.9s,mb4.0							
WRA	**Warramunga Arr**	**44.95**	**166**		P	**P**	**11 02 12.3**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=347,slow=9.0,SNR=15							
TIXI	**Tiksi**	**47.73**	**2**	‖*e*P		**P**	**11 02 33.0**	**-0.8**
TIXI					pmax	pmax		
	comp=Z,3.0nm,1.2s,mb4.2							
ASAR	**Alice Springs**	**48.47**	**167**		P	**P**	**11 02 39.9**	**-0.1**
	comp=Z,0.6nm,0.5s,mb3.9,baz=356,slow=15,SNR=14							
CTA	**Charters Tower**	**49.10**	**151**		LR	LR	11 20 31.2	
	comp=Z,92nm,20.7s,MS3.8,baz=234,slow=32							
ARU	**Arti**	**56.56**	**323**	*c*i*P*		**P**	**11 03 38.7**	**-0.9**
ARU				*e*			11 05 44.1	
ARU				*e*S		**S**	**11 11 18.4**	**-10**
ARU				*e*SS		SS	11 15 06.7	-9.0
ARU				pmax		pmax		
	comp=Z,6.0nm,1.0s,mb4.6							
COLA	**College**	**67.90**	**27**	*i*P		**P**	**11 04 56.9**	**+1.5**
ANN	**Anapa**	**70.86**	**311**	*e*P		**P**	**11 05 11.7**	**-2.4**
ANN				pmax		pmax		
	comp=Z,39nm,1.4s,mb5.1							
MALT	**Malatya**	**71.91**	**304**	*e*P		**P**	**11 05 22.0**	**+1.5**
MALT				pmax		pmax		
	comp=Z,4.0nm,0.6s,mb4.5							
MALT	**Malatya**	**71.91**	**304**	*e*P		**P**	**11 05 22.0**	**+1.5**
	comp=Z,4.2nm,0.6s,mb4.5							
FINES	**FINESS Array B**	**72.68**	**330**	*i*P		**P**	**11 05 26.0**	**+1.3**
FINES				pmax		pmax		
	comp=Z,1.0nm,0.6s							
FINES	**FINESS Array B**	**72.68**	**330**	P		**P**	**11 05 23.7**	**-1.0**
	comp=Z,0.6nm,0.6s,mb3.7,baz=58,slow=7.5,SNR=5.4							
FINES				LR		LR	11 40 47.7	
	comp=Z,79nm,19.8s,MS4.0,baz=174,slow=39							
AKASG	**Malin Array Be**	**74.44**	**319**	P		**P**	**11 05 34.2**	**-1.0**
AKASG	**Malin Array Be**	**74.44**	**319**	P		**P**	**11 05 34.2**	**-1.0**
	comp=Z,0.9nm,0.5s,mb3.9,baz=59,slow=6.1,SNR=8.9							
NB2	**NORSAR Subarra**	**79.38**	**333**	P		**P**	**11 06 02.3**	**-0.5**
	comp=Z,1.8nm,0.8s,mb4.0,baz=59,slow=5.6							
NOA	**NORSAR Array B**	**79.38**	**333**	P		**P**	**11 06 02.7**	**-0.1**
	comp=Z,2.0nm,0.7s,mb4.2,baz=58,slow=5.6,SNR=8.6							
NOA				LR		LR	11 44 56.0	
	comp=Z,87nm,18.3s,MS4.1,baz=60,slow=38							
YKA	**Yellowknife Ar**	**82.23**	**23**	P		**P**	**11 06 17.7**	**-0.3**
	comp=Z,0.7nm,0.7s,mb3.7,baz=308,slow=5.3,SNR=5.1							
GERES	**GERESS Array B**	**84.35**	**321**	P		**P**	**11 06 28.1**	**-1.1**
	comp=Z,0.8nm,0.7s,mb4.0,baz=216,slow=1.1,SNR=6.5							
GERES				LR		LR	11 48 19.9	
	comp=Z,35nm,21.3s,MS3.7,baz=308,slow=39							

IDC 28 10:58:26.4±2.2, 637S×15395E, h0km, mb3.8/4, mb1 3.9/4, mb1mx3.7/14, mbtmp3.8/4, Error ellipse: s-maj=82.2km s-min=32.1km az=122.0, New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**23.34**	**233**		P	P	11 03 37.0	+0.5
	0.8nm,0.4s,baz=58,slow=10,SNR=21							
WRA					PcP	PcP	11 07 23.3	-0.7
	0.2nm,0.4s,baz=53,slow=2.7,SNR=7.5							
ASAR	**Alice Springs**	**25.83**	**226**		P	P	11 03 59.9	+0.3
	0.4nm,0.4s,baz=57,slow=9.2,SNR=9.5							
FITZ	**Fitzroy Crossi**	**29.97**	**245**		P	P	11 04 36.3	-0.5
	0.8nm,0.6s,baz=62,slow=14,SNR=4.2							
MKAR	**Makanchi Array**	**82.25**	**319**		P	P	11 10 50.9	+1.3
	0.9nm,0.5s,baz=90,slow=8.3,SNR=6.5							
TORD	**Torodi Ar. Bea**	**151.86**	**286**		PKPbc	PKPbc	11 18 23.3	-1.0
	0.4nm,0.3s,baz=88,slow=2.0,SNR=10							

*NEIC **28** 11:08:17.8, 1352N×9145W, h40km, MD4.4(MEX), After MEX.*

MEX 28 11:08:19.0±0.6, 1364N×9157W, h10km±412km, MD4.4, Near coast of Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CCIG	**Comitan**	**2.69**	**348**	*e*P		Pn	11 08 59.1	-3.2
CCIG				*i*S		Sn	11 09 31.3	-3.6
SCX	**San Cristobal**	**3.25**	**342**	*i*P		Pn	11 09 09.5	-0.5
SCX				*i*S		Sn	11 09 49.0	+0.2
SCX	**San Cristobal**	**3.25**	**342**	*i*P		Pn	11 09 09.5	-0.5
SCX				*i*S		Sn	11 09 45.0	-3.8
CMIG	**Matias Romero**	**4.69**	**317**	*i*P		Pn	11 09 27.4	-2.5
CMIG				*i*S		Sn	11 10 21.9	-2.6
OXX	**Oaxaca**	**6.04**	**305**	*e*P		Pn	11 09 53.0	+4.6
VHO	**Vista Hermosa**	**6.04**	**305**	*i*P		Pn	11 09 45.5	-2.9
VHO				*i*S		Sn	11 10 54.3	-3.4
UTMO	**Huajuapan**	**7.31**	**306**	*i*P		Pn	11 10 04.1	-1.8
UTMO				*i*S		Sn	11 11 27.2	-1.7
PPM	**Popocatepetl**	**8.66**	**309**	*i*P		Pn	11 10 28.1	+3.7
PPM				*i*S		Sn	11 11 56.5	-5.7
PPM	**Popocatepetl**	**8.66**	**309**	*i*P		Pn	11 10 25.6	+1.1
PPM				*i*S		Sn	11 11 59.9	-2.3

*HLW **28** 11:10:48.9, 3249N×3408E, h33km, Mb3.7*
*GII **28** 11:11:07.8±0.0, 3073N×3368E, h0km, ML2.9/4*
*ISCJB **28** 11:11:09.7±0.8, 3071N±004×3376E±004, h5km±5km, Error ellipse: s-maj=6.8km s-min=5.7km az=146.2*

ISC 28 11:11:09.6±0.7, 3070N±004×3375E±004, h0km, n16, σ1§19/24, 1C-2D, Egypt

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AMAG	**Maghara**	**0.47**	**263**	‖*e*P		**Pg**	**11 11 19.8**	**+1.3**
KZIT	**Kziot**	**0.60**	**70**		Pg	**Pg**	**11 11 20.8**	**-0.2**
KZIT					Sg	**Sg**	**11 11 30.8**	**+2.0**
HNKL	**Nakhl**	**0.80**	**165**	‖*e*P		**Pg**	**11 11 27.9**	**+3.0**
HNKL					S	**Sg**	11 11 56.3	+21
RMNI	**Mount Ramon**	**0.88**	**97**		Sg	**Sg**	**11 11 46.4**	**+8.5**
KRMI	**Paran Flat**	**1.03**	**124**		Pg	**Pg**	**11 11 29.8**	**+0.5**
KRMI					Sg	**Sg**	**11 11 43.6**	**+1.0**
PRNI	**Paran**	**1.14**	**107**		Pg	**Pg**	**11 11 31.4**	**-0.1**
PRNI					Sg	**Sg**	**11 11 46.7**	**+0.4**
SUZ		**1.17**	**223**	‖*e*P		**Pg**	**11 11 32.1**	**+0.2**
ZFRI	**Zfri**	**1.24**	**96**		Sn	**Sn**	**11 11 49.2**	**-2.4**
HRFI	**Mount Harif**	**1.30**	**120**		Pn	**Pn**	**11 11 33.6**	**-1.4**
HRFI					Sn	**Sn**	**11 11 52.7**	**-0.3**
MBH	**Mount Berech**	**1.36**	**132**		Pn	**Pn**	**11 11 34.9**	**-0.9**
MBH					Sn	**Sn**	**11 11 54.6**	**+0.1**
EIL	**Elat**	**1.47**	**134**		Pn	**Pn**	**11 11 36.2**	**-1.1**
EIL					Sn	**Sn**	**11 11 58.4**	**+1.2**
MZDA	**Masada**	**1.52**	**66**		Pn	**Pn**	**11 11 35.1**	**-2.8**
MZDA					Sn	**Sn**	**11 11 55.0**	**-3.4**
DSI	**Dead Sea**	**1.65**	**58**		Pn	**Pn**	**11 11 39.9**	**+0.1**
DSI					Sn	**Sn**	**11 12 02.6**	**+0.9**
SLTI	**Sal'it**	**1.89**	**35**		Sn	**Sn**	**11 12 08.2**	**+0.5**
HDHB	**Dhahab**	**2.11**	**159**		P	**Pn**	**11 11 45.2**	**-1.0**
HKAT	**Jabal Katrina**	**2.18**	**174**		P	**Pn**	**11 11 46.9**	**-0.3**

*NEIC **28** 12:14:23.8, 19.13N×6647W, h21km, MD2.6(RSPR), After RSPR.*

RSPR 28 12:14:23.8, 1913N×6647W, h21km±20km, MD2.6/3, MD2.6/3, 23C-4D, Puerto Rico region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
AOPR	**Arecibo Observ**	**0.82**	**199**	‖*e*P		Pb	12 14 37.4	-2.0
AOPR	**Arecibo Observ**	**0.82**	**199**	*

HUMP	**Col San Antoni**	**1.14 149**⇑	*e*P	Pn	12 14 41.6	-3.0
HUMP	**Col San Antoni**	**1.14 149**	*e*S	Sb	12 14 56.4	-2.9
HUMP	**Col San Antoni**	**1.14 149**⇓	*e*P	Pn	12 14 41.0	-3.6
HUMP	**Col San Antoni**	**1.14 149**	*e*S	Sb	12 14 56.0	-3.3
HUMP	**Col San Antoni**	**1.14 149**⇓	*e*P	Pn	12 14 41.0	-3.6
HUMP			*e*S	Sb	12 14 56.0	-3.3
CPD	**Cerro la Pandu**	**1.21 154**⇑	*e*P	Pn	12 14 42.9	-2.6
CPD			*e*S	Sb	12 14 58.0	-3.1
ICM	**Isla Caja Muer**	**1.23 182**⇑	*e*P	Pn	12 14 43.4	-2.4
ICM	**Isla Caja Muer**	**1.23 182**	*e*S	Sn	12 14 58.7	-3.0
ICM	**Isla Caja Muer**	**1.23 182**⇑	*e*P	Pn	12 14 43.3	-2.5
ICM	**Isla Caja Muer**	**1.23 182**	*e*S	Sn	12 14 58.7	-3.0
ICM	**Isla Caja Muer**	**1.23 182**⇑	*e*P	Pn	12 14 43.3	-2.5
ICM			*e*S	Sn	12 14 58.7	-3.0
CRPR	**Cabo Rojo, PR**	**1.27 209**⇑	*e*P	Pn	12 14 43.7	-2.6
CRPR	**Cabo Rojo, PR**	**1.27 209**	*e*S	Sn	12 14 59.1	-3.6
CRPR	**Cabo Rojo, PR**	**1.27 209**⇑	*e*P	Pn	12 14 43.6	-2.7
CRPR	**Cabo Rojo, PR**	**1.27 209**	*e*S	Sn	12 14 58.9	-3.8
CRPR	**Cabo Rojo, PR**	**1.27 209**⇑	*e*P	Pn	12 14 43.6	-2.7
CRPR			*e*S	Sn	12 14 58.9	-3.8
MTP	**Monte Pirata**	**1.34 139**⇑	*e*P	Pn	12 14 44.8	-2.6
MTP	**Monte Pirata**	**1.34 139**	*e*S	Sn	12 15 00.8	-3.8
MTP	**Monte Pirata**	**1.34 139**⇑	*e*P	Pn	12 14 44.6	-2.8
MTP	**Monte Pirata**	**1.34 139**	*e*S	Sn	12 15 00.4	-4.2
MTP	**Monte Pirata**	**1.34 139**⇑	*e*P	Pn	12 14 44.6	-2.8
MTP			*e*S	Sn	12 15 00.4	-4.2

WEL 28 12:42:56.6±0.3, 3814S×17613E, h158km±3km, ML3.6/19, Error ellipse: s-maj=2.1km s-min=1.8km az=0.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**0.78**	**99**	PN	Pn	12 43 20.3	-0.1
URZ				SN	Sn	12 43 38.8	+0.2
BKZ	**Black Stump Fm**	**1.07**	**165**	PN	Pn	12 43 22.8	+0.2
BKZ				SN	Sn	12 43 42.7	+0.1
HIZ	**Hauiti**	**1.07**	**249**	PN	Pn	12 43 22.5	-0.1
TWVZ	**Taurewa**	**1.08**	**210**	PN	Pn	12 43 23.0	+0.3
MWZ	**Matawai**	**1.12**	**101**	PN	Pn	12 43 23.3	+0.2
MWZ				SN	Sn	12 43 43.7	+0.4
WPVZ	**Whakapapa**	**1.16**	**203**	PN	Pn	12 43 23.9	+0.5
TUVZ	**Tukino**	**1.19**	**198**	PN	Pn	12 43 24.2	+0.5
FWVZ	**Far West T-bar**	**1.21**	**202**	PN	Pn	12 43 24.6	+0.8
WNVZ	**Wahianoa**	**1.26**	**199**	PN	Pn	12 43 24.7	+0.4
MOVZ	**Moawhango**	**1.30**	**193**	PN	Pn	12 43 24.5	-0.2
MTVZ	**Mangateitei**	**1.35**	**202**	PN	Pn	12 43 25.4	+0.2
KNZ	**Kokohu**	**1.50**	**127**	PN	Pn	12 43 27.1	+0.4
MXZ	**Matakaoa Point**	**1.82**	**72**	PN	Pn	12 43 30.3	+0.2
WAZ	**Wanganui**	**1.85**	**208**	PN	Pn	12 43 30.3	-0.1
TSZ	**Takapari Road**	**1.93**	**184**	PN	Pn	12 43 30.6	-0.7
WPHZ	**Waipukurau**	**1.94**	**173**	PN	Pn	12 43 31.1	-0.4
PXZ	**Pawanui**	**1.98**	**163**	PN	Pn	12 43 31.6	-0.3
MRZ	**Mangatainoka R**	**2.56**	**189**	PN	Pn	12 43 37.0	-1.8
TIWZ	**Tintock**	**2.65**	**184**	PN	Pn	12 43 38.2	-1.5
HOWZ	**Holdsworth Sta**	**2.80**	**190**	PN	Pn	12 43 39.5	-2.1
KIW	**Kapiti Island**	**2.88**	**199**	PN	Pn	12 43 40.5	-2.2
MTW	**Mount Morrison**	**3.06**	**189**	PN	Pn	12 43 42.4	-2.5
CAW	**Cannon Point**	**3.08**	**195**	PN	Pn	12 43 42.8	-2.4
DUWZ	**D'Urville Isla**	**3.16**	**215**	PN	Pn	12 43 43.8	-2.4
TRWZ	**Traveller**	**3.28**	**186**	PN	Pn	12 43 45.2	-2.4
MRW	**Makara Radio**	**3.28**	**199**	PN	Pn	12 43 45.0	-2.7
PAWZ	**Paruwai Farm**	**3.29**	**189**	PN	Pn	12 43 44.7	-3.1
WEL	**Wellington**	**3.32**	**198**	PN	Pn	12 43 45.6	-2.6
MSWZ	**Moikau Station**	**3.34**	**191**	PN	Pn	12 43 45.7	-2.8
SNZO	**South Karori**	**3.35**	**199**	PN	Pn	12 43 45.7	-2.9
TCW	**Tory Channel**	**3.39**	**204**	PN	Pn	12 43 46.3	-2.8
PLWZ	**Palliser**	**3.50**	**191**	PN	Pn	12 43 47.4	-3.1
TUWZ	**Tuamarina**	**3.70**	**206**	PN	Pn	12 43 50.2	-2.9
NNZ	**Nelson**	**3.74**	**214**	PN	Pn	12 43 50.3	-3.2
QRZ	**Quartz Range**	**3.87**	**225**	PN	Pn	12 43 51.5	-3.8
THZ	**Tophouse**	**4.39**	**213**	PN	Pn	12 43 59.0	-3.0
KHZ	**Kahutara**	**4.71**	**204**	PN	Pn	12 44 02.6	-3.6
LTZ	**Lake Taylor**	**5.50**	**211**	PN	Pn	12 44 12.2	-4.4

*IDC **28** 12:51:47.5±0.8, 1858S×17281W, h0km, mb4.5/10, mb1 4.8/10, mb1mx4.5/17, mbtmp4.5/10, MS3.9/16, Ms1 3.9/16, ms1mx3.8/25, Error ellipse: s-maj=32.4km s-min=18.5km az=146.0*

*NEIC **28** 12:51:49.2±0.2, 1825S×17299W, h10km, mb4.8/18, Error ellipse: s-maj=10.8km s-min=5.2km az=140.0*

*BJI **28** 12:51:49.5, 1801S×17266W, h16km, mB5.2, mb5.2, Ms5.1, Msz4.6*

*SZGRF **28** 12:51:50.7, 18.19S×17197W, h10km, Tonga Islands region*

*ISCJB **28** 12:51:51.0±4.1, 1845S±009×17296W±008, h32km±28km, mb4.8/37, MS4.2/20, Error ellipse: s-maj=17.0km s-min=9.3km az=146.9*

*MOS **28** 12:51:53.5±2.8, 18.16S×173.12W, h33km, mb5.1/11, Error ellipse: s-maj=15.4km s-min=11.4km az=66.1*

ISC 28 12:51:49.0±8.2, 1838S±009×17292W±008, h8km±50km, n128, σ0§98/74, mb4.8/37, MS4.2/20, 4C-2D, Tonga Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.57**	**14**	P	**Pn**	**12 52 55.7**	**-2.8**
AFI						12 53 45.0	
AFI				pmax	pmax		
	comp=Z,9.0nm,0.3s						
AFI				smax			
	comp=N,220nm,0.3s						
AFI				MLR	MLR		
	comp=Z,420nm,20.7s						
AFI	**Afiamalu**	**4.57**	**14**	*e*Pn	**Pn**	**12 52 56.0**	**-2.6**
AFI	**Afiamalu**	**4.57**	**14**	Pn	**Pn**	**12 52 55.7**	**-2.8**
	comp=Z,8.9nm,0.3s,baz=69,slow=10,SNR=16						
AFI				Sn	**Sn**	**12 53 45.0**	**-7.0**
	comp=Z,220nm,0.3s,baz=18,slow=23,SNR=14						
AFI				LR	LR	12 54 07.2	
	comp=Z,420nm,20.6s,baz=162,slow=29						
RAR	**Rarotonga**	**12.70**	**105**	Pn	**Pn**	**12 54 41.9**	**-8.1**
	comp=Z,6.4nm,0.3s,baz=271,slow=7.4,SNR=18						
RAR				Sn	**Sn**	**12 56 49.4**	**-22**
	comp=Z,4.8nm,0.3s,baz=75,slow=17,SNR=3.8						
RAR				LR	LR	12 58 42.3	
	comp=Z,587nm,18.5s,baz=232,slow=33						
URZ	**Urewera**	**21.64**	**202**	P	**P**	**12 56 41.5**	**+1.7**
	comp=Z,14nm,0.4s,mb4.8,baz=306,slow=3.8,SNR=27						
URZ				S	**S**	**13 00 26.3**	**-13**
	comp=Z,11nm,0.9s,baz=163,slow=16,SNR=4.9						
PPT	**Papeete**	**22.22**	**92**	LR	LR	13 02 48.3	
	comp=Z,468nm,20.9s,MS3.9,baz=264,slow=30						
HNR	**Honiara**	**27.76**	**285**	LR	LR	13 07 20.6	
	comp=Z,318nm,18.8s,MS3.9,baz=178,slow=33						
RPZ	**Rata Peaks**	**28.65**	**205**	P	**P**	**12 57 50.9**	**+4.8**
	comp=Z,18nm,0.4s,mb5.1,baz=26,slow=1.9,SNR=27						
ARMA	**Armidale**	**34.30**	**243**	*e*P	**P**	**12 58 35.8**	**-0.2**
CTA	**Charters Tower**	**38.52**	**261**	*e*P	**P**	**12 59 11.4**	**-0.8**
	comp=Z,19nm,0.6s,mb5.0						
CTA	**Charters Tower**	**38.52**	**261**	P	**P**	**12 59 11.5**	**-0.7**
CTA				pmax	pmax		
	comp=Z,19nm,0.5s						
CTA	**Charters Tower**	**38.52**	**261**	P	**P**	**12 59 11.5**	**-0.7**
	comp=Z,19nm,0.5s,mb5.0,baz=90,slow=9.4,SNR=30						
CTAO	**Charters Tower**	**38.52**	**261**	*e*P	**P**	**12 59 11.7**	**-0.5**
CTAO				pmax	pmax		
	comp=Z,18nm,0.6s,mb5.0						
CTAO	**Charters Tower**	**38.52**	**261**	*e*P	**P**	**12 59 11.7**	**-0.5**
	comp=Z,18nm,0.6s,mb5.0						
STKA	**Stephens Creek**	**43.02**	**243**	*e*P	**P**	**12 59 49.0**	**-0.2**
	comp=Z,5.0nm,0.4s,mb4.6						
STKA	**Stephens Creek**	**43.02**	**243**	P	**P**	**12 59 48.8**	**-0.4**
	comp=Z,15nm,1.2s,mb4.6,baz=74,slow=6.9,SNR=6.4						
STKA				LR	LR	13 16 11.0	
	comp=Z,159nm,21.4s,MS3.9,baz=27,slow=34						
WB2	**Warramunga Arr**	**49.66**	**259**	*e*P	**P**	**13 00 40.6**	**-1.1**
WRAB	**Tennant Creek**	**49.66**	**259**	*e*P	**P**	**13 00 40.6**	**-1.1**
WRAB				pmax	pmax		
	comp=Z,18nm,0.8s,mb5.2						
WRAB	**Tennant Creek**	**49.66**	**259**	*e*P	**P**	**13 00 40.6**	**-1.0**
	comp=Z,18nm,0.8s,mb5.2						
WRA	**Warramunga Arr**	**49.67**	**259**	P	**P**	**13 00 40.9**	**-0.9**
	comp=Z,16nm,0.8s,mb5.1,baz=93,slow=7.4,SNR=113						
WRA				PcP	PcP	13 02 03.4	+0.3
	comp=Z,2.4nm,0.9s,baz=99,slow=4.2,SNR=3.4						
ASAR	**Alice Springs**	**49.69**	**254**	P	**P**	**13 00 41.4**	**-0.5**
	comp=Z,30nm,0.8s,mb5.4,baz=91,slow=8.2,SNR=209						
ASAR				PcP	PcP	13 02 03.6	+0.5
	comp=Z,2.1nm,0.7s,baz=100,slow=4.2,SNR=4.9						
ASAR				S	**S**	**13 07 46.4**	**-4.7**
	comp=Z,0.8nm,0.8s,baz=95,slow=15,SNR=5.6						
KAKA	**Kakadu**	**52.78**	**268**	*e*P	**P**	**13 01 04.6**	**-0.6**
	comp=Z,15nm,0.6s,mb5.1						
FITZ	**Fitzroy Crossi**	**58.09**	**260**	*e*P	**P**	**13 01 43.0**	**-0.4**
	comp=Z,5.4nm,1.4s,mb4.4						
SBA	**Scott Base**	**60.34**	**185**	*e*P	**P**	**13 01 59.3**	**+1.3**
	comp=Z,0.4nm,0.5s,mb3.7						
VNDA	**Vanda**	**60.48**	**186**	P	**P**	**13 01 58.6**	**-0.4**
	comp=Z,0.5nm,0.6s,mb3.7,baz=7.7,slow=3.0,SNR=4.6						
VNDA				LR	LR	13 22 32.2	
	comp=Z,59nm,20.6s,MS3.7,baz=325,slow=31						
MBWA	**Marble Bar**	**63.01**	**255**	*e*P	**P**	**13 02 16.9**	**-0.1**
	comp=Z,2.9nm,0.7s,mb4.5						
MJAR	**Matsushiro Arr**	**71.50**	**320**	P	**P**	**13 03 11.6**	**+1.2**
	comp=Z,7.2nm,1.0s,mb4.6,baz=161,slow=6.7,SNR=13						
MJAR				LR	LR	13 29 10.1	
	comp=Z,162nm,20.8s,MS4.3,baz=90,slow=31						
MAJO	**Matsushiro**	**71.50**	**320**	*e*P	**P**	**13 03 08.9**	**-1.5**
MAJO				pmax	pmax		
	comp=Z,8.0nm,0.9s,mb4.7						
MAJO	**Matsushiro**	**71.50**	**320**	*e*P	**P**	**13 03 08.9**	**-1.5**
	comp=Z,8.3nm,0.9s,mb4.7						
MAT	**Matsushiro**	**71.50**	**320**	P	**P**	**13 03 12.3**	**+1.9**
LPIG	**La Paz**	**74.22**	**57**	LR	LR	13 29 19.8	
	comp=Z,90nm,21.9s,MS4.0,baz=62,slow=30						
NVAR	**Mina Array Bea**	**76.24**	**41**	P	**P**	**13 03 38.0**	**-0.2**
	comp=Z,1.8nm,0.8s,mb4.0,baz=224,slow=11,SNR=13						
YSS	**Yuzh-Sakhalins**	**76.28**	**330**	*e*P	**P**	**13 03 39.7**	**+1.5**
YSS				pmax	pmax		
	comp=Z,23nm,1.6s,mb4.9						
KSM	**Kuching**	**77.92**	**276**	*e*P	**P**	**13 03 49.0**	**+0.8**
KSRS	**Korea Array**	**78.59**	**316**	P	**P**	**13 03 54.0**	**+2.7**
	comp=Z,5.3nm,0.9s,mb4.5,baz=127,slow=6.1,SNR=17						
KSRS				LR	LR	13 31 45.5	
	comp=Z,72nm,21.5s,MS4.0,baz=276,slow=30						
SSE	**Sheshan**	**80.11**	**307**	P	**P**	**13 04 01.3**	**+1.5**
SSE				AMB	AMB		
	comp=Z,29nm,0.8s,mb5.3						
SSE				AMB	AMB		
	comp=Z,93nm,3.6s						
SSE				LR	LR		
	comp=N,42nm,27.0s,MS3.9						
SSE				LR	LR		
	comp=E,66nm,27.6s,MS3.9						
SSE				LR	LR		
	comp=Z,93nm,27.6s,MS4.0						
MSU	**Marysvale**	**80.22**	**44**	*e*P	**P**	**13 04 00.6**	**+0.4**
DUG	**Dugway**	**80.73**	**42**	*e*P	**P**	**13 04 02.9**	**0.0**
MNTX	**Cornudas Mount**	**81.64**	**53**	*e*P	**P**	**13 04 07.4**	**-0.5**
	comp=Z,13nm,2.0s,mb4.5						
TXAR	**Lajitas Array**	**81.89**	**56**	P	**P**	**13 04 09.3**	**-0.1**
	comp=Z,1.6nm,1.1s,mb3.9,baz=224,slow=5.2,SNR=7.5						
NJ2	**Nanjing**	**82.32**	**307**	*e*P	**P**	**13 04 10.8**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.4						
ANMO	**Albuquerque**	**82.36**	**49**	*e*P	**P**	**13 04 11.8**	**+0.1**
ANMO				pmax	pmax		
	comp=Z,1.0nm,1.0s						
ANMO	**Albuquerque**	**82.36**	**49**	*e*P	**P**	**13 04 11.8**	**+0.1**
	comp=Z,1.3nm,1.0s,mb3.8						
PV01	**Paradox Valley**	**82.44**	**46**	*e*P	**P**	**13 04 12.0**	**-0.1**
MA2	**Magadan**	**83.12**	**342**	*e*P	**P**	**13 04 13.7**	**-1.3**
MA2				pmax	pmax		
	comp=Z,5.0nm,0.9s,mb4.5						
MA2	**Magadan**	**83.12**	**342**	*e*P	**P**	**13 04 13.7**	**-1.3**
	comp=Z,5.4nm,0.9s,mb4.6						
CN2	**Changchun**	**83.65**	**320**	*e*P	**P**	**13 04 18.0**	**-0.1**
CN2				*e*XP	sP	13 04 25.0	+3.4
CN2				*e*S	S	13 14 38.3	-2.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb5.1						
REDW	**Red Top Meadow**	**83.68**	**40**	*e*P	**P**	**13 04 18.3**	**0.0**
	comp=Z,7.7nm,1.1s,mb4.8						
IMW	**Indian Meadow**	**83.92**	**40**	*e*P	**P**	**13 04 19.1**	**-0.4**
	comp=Z,5.2nm,1.0s,mb4.6						
SMCO	**Snowmass**	**84.05**	**46**	*e*P	**P**	**13 04 20.5**	**+0.2**
	comp=Z,11nm,1.0s,mb5.0						
BW06	**Boulder Array**	**84.17**	**41**	*e*P	**P**	**13 04 20.6**	**-0.2**
	comp=Z,3.7nm,1.0s,mb4.5						
SDCO	**Great Sand Dun**	**84.37**	**47**	*e*P	**P**	**13 04 22.0**	**0.0**
BOZ	**Bozeman (W)**	**84.45**	**38**	*e*P	**P**	**13 04 22.2**	**0.0**
MAW	**Mawson**	**85.14**	**199**	LR	LR	13 40 55.0	
	comp=Z,127nm,19.2s,MS4.3,baz=68,slow=35						
COLA	**College**	**85.19**	**10**	*e*P	**P**	**13 04 25.2**	**-0.2**
COLA				pmax	pmax		
	comp=Z,13nm,0.9s,mb5.1						
COLA	**College**	**85.19**	**10**	*e*P	**P**	**13 04 25.2**	**-0.2**
	comp=Z,13nm,0.9s,mb5.1						
SEY	**Seychan**	**85.49**	**345**	*c i*P	**P**	**13 04 27.9**	**+0.9**
DAWY	**Dawson**	**86.18**	**14**	*e*P	**P**	**13 04 31.0**	**+0.6**
EGAK	**Eagle**	**86.39**	**13**	*e*P	**P**	**13 04 32.0**	**+0.6**
PLCA	**Paso Flores**	**87.19**	**132**	LR	LR	13 35 13.8	
	comp=Z,156nm,18.1s,MS4.5,baz=182,slow=30						
BILL	**Bilibino**	**87.50**	**352**	*c i*P	**P**	**13 04 37.1**	**+0.3**
BILL				pmax	pmax		
	comp=Z,9.0nm,0.9s,mb5.0						
BILL	**Bilibino**	**87.50**	**352**	*e*P	**P**	**13 04 36.8**	**+0.1**
	comp=Z,10.0nm,0.9s,mb5.0						
RSSD	**Black Hills**	**88.34**	**42**	*e*P	**P**	**13 04 38.1**	**-3.2**
RSSD				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.5						
RSSD	**Black Hills**	**88.34**	**42**	*e*P	**P**	**13 04 38.1**	**-3.2**
	comp=Z,21nm,0.6s,mb5.5						
GYA	**Guiyang**	**89.83**	**298**⇓	*i*P	**P**	**13 04 52.0**	**+3.2**
GYA				PP	PP	13 08 23.5	+2.0
GYA				SKS		13 15 17.5	
GYA				S	S	13 15 38.8	-2.8
GYA				SS	SS	13 21 39.3	0.0
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.4						
GYA				AMB	AMB		
	comp=Z,90nm,6.4s						
GYA				LR	LR		
	comp=N,490nm,22.2s,MS5.0						
GYA				LR	LR		
	comp=E,460nm,23.8s,MS5.0						
GYA				LR	LR		
	comp=Z,480nm,22.6s,MS4.9						
VNA2	**Neumayer--Watz**	**90.37**	**175**	*e*P	**P**	**13 04 49.9**	**-0.6**
INK	**Inuvik**	**91.03**	**14**	*e*P	**P**	**13 04 52.9**	**-0.5**
INK				pmax	pmax		
	comp=Z,129nm,1.0s						
INK	**Inuvik**	**91.03**	**14**	*e*P	**P**	**13 04 52.9**	**-0.5**
	comp=Z,129nm,1.0s						
HHC	**Hu-ho-hao-te**	**91.37**	**313**	*e*P	**P**	**13 04 56.0**	**+0.4**
HHC				AP	pP	13 05 00.8	+2.6
HHC				XP	sP	13 05 03.0	+3.9
HHC				PP	PP	13 08 36.5	+3.1
HHC				SKS		13 15 26.5	
HHC				S	S	13 15 53.3	-1.8
HHC				XS	sS	13 16 01.0	+1.6
HHC				SS	SS	13 22 03.0	+2.0
HHC				AMB	AMB		
	comp=Z,26nm,1.0s,mb5.5						
HHC				AMB	AMB		
	comp=Z,164nm,5.1s						
HHC				LR	LR		
	comp=N,232nm,20.4s,MS4.7						
HHC				LR	LR		
	comp=E,188nm,20.6s,MS4.7						
HHC				LR	LR		
	comp=Z,126nm,18.2s,MS4.4						
ATAH	**Atahualpa**	**92.09**	**98**	LR	LR	13 38 09.8	
	comp=Z,107nm,18.4s,MS4.3,baz=323,slow=30						
CFAA	**Coronel Fontan**	**92.41**	**124**	LR	LR	13 36 40.2	
	comp=Z,15nm,18.6s,MS3.5,baz=82,slow=29						
YKA	**Yellowknife Ar**	**92.63**	**23**	P	**P**	**13 05 00.3**	**-0.5**
YKA				LR	LR	13 40 23.6	
YKA	**Yellowknife Ar**	**92.63**	**23**	P	**P**	**13 05 00.3**	**-0.5**
	comp=Z,0.4nm,0.8s,mb3.9,baz=236,slow=5.5,SNR=4.3						
YKA				LR	LR	13 40 23.6	
	comp=Z,31nm,20.0s,MS3.8,baz=285,slow=31						
KMI	**Kunming**	**92.71**	**295**	P	**P**	**13 05 04.0**	**+1.8**
KMI				S	S	13 16 06.5	-1.4
KMI				AMB	AMB		
	comp=Z,8.0nm,1.1s,mb5.1						
KMI				LR	LR		
	comp=Z,80nm,28.7s,MS4.0						
ECSD	**EROS,Sioux Fal**	**93.03**	**45**	*e*P	**P**	**13 05 02.6**	**-0.6**
CD2	**Chengdu**	**93.74**	**301**	*e*P	**P**	**13 05 06.8**	**0.0**
CD2				AP	pP	13 05 11.8	+2.4
CD2				XP	sP	13 05 14.0	+3.7
CD2				PP	PP	13 08 55.3	+3.0
CD2				SKS		13 15 39.3	
CD2				S	S	13 16 13.0	-3.7
CD2				SS	SS	13 22 35.8	+0.4
CD2				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb5.2						
CD2				AMB	AMB		
	comp=Z,20nm,9.2s						
CD2				LR	LR		
	comp=N,240nm,12.0s,MS5.0						
CD2				LR	LR		
	comp=E,200nm,14.4s,MS5.0						
CD2				LR	LR		
	comp=Z,110nm,13.2s,MS4.5						
LZH	**Lanzhou**	**95.34**	**306**	*e*P	**P**	**13 05 12.0**	**-2.0**
LZH				*e*PP	PP	13 09 04.5	-0.2
LZH				AMB	AMB		
	comp=Z,17nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,53nm,8.3s						
LZH				LR	LR		
	comp=N,273nm,18.0s						
LZH				LR	LR		
	comp=Z,395nm,19.7s,MS4.9						
SONM	**Songino Array**	**97.35**	**318**	LR	LR	13 44 03.9	
	comp=Z,60nm,21.9s,MS4.0,baz=74,slow=32						
LPAZ	**La Paz**	**98.37**	**110**	LR	LR	13 39 27.2	
	comp=Z,139nm,21.1s,MS4.4,baz=67,slow=29						
ARU	**Arti**	**126.09**	**327**	*e*PKIKP	PKPdf	13 10 51.6	0.0
ARU	**Arti**	**126.09**	**327**	*e*PKPdf	PKPdf	13 10 51.6	0.0
AKASG	**Malin Array Be**	**143.24**	**336**	PKHKP		13 11 19.1	
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**143.24**	**336**	PKhKP		13 11 19.1	
	comp=Z,0.5nm,0.5s,baz=38,slow=2.3,SNR=7.7						
ANN	**Anapa**	**143.46**	**323**	*i* PKIKP	PKPdf	13 11 23.0	-1.3
ANN				pmax	pmax		
	comp=Z,42nm,1.5s						
KMBO	**Kilima Mbogo**	**144.56**	**240**	PKIKP	PKPdf	13 11 26.1	-1.1
KMBO				pmax	pmax		
	comp=Z,9.0nm,1.0s						
KMBO	**Kilima Mbogo**	**144.56**	**240**	PKP	PKPdf	13 11 26.1	-1.1
	comp=Z,9.4nm,0.9s,baz=72,slow=2.8,SNR=14						
SIM	**Simferopol'**	**145.21**	**326**	*e*PKIKP	PKPdf	13 11 28.2	+0.8
SIM				*e*		13 11 35.4	
RUE	**Ruedersdorf**	**145.56**	**353**	*e*PKPbc	PKPbc	13 11 28.2	+0.4
LVV	**L'vov**	**145.80**	**340**	*e*PKP2	PKPab	13 11 28.5	-0.6
NRDL	**Niedersach Rie**	**145.87**	**357**	*e*PKPbc	PKPbc	13 11 28.5	-0.3
IBBN	**Ibbenburen**	**146.13**	**359**	*e*PKPbc	PKPbc	13 11 29.7	+0.1
MALT	**Malatya**	**146.25**	**313**	*e*PKP2	PKPab	13 11 30.7	-0.4
KWP	**Kalwaria**	**146.38**	**342**	*e*PKP	PKPbc	13 11 31.6	+1.2
CLZ	**Clausthal**	**146.50**	**356**	*e*PKPbc	PKPbc	13 11 31.5	+0.8
OJC	**Ojcow**	**146.64**	**345**	*e*PKP	PKPbc	13 11 32.2	+1.0
KSP	**Ksiaz**	**146.78**	**349**	*e*PKP	PKPbc	13 11 32.9	+1.3
CLL	**Collm**	**146.81**	**353**⇑	*i*PKP2	PKPab	13 11 32.0	-0.8
CLL				pmax	pmax		
	comp=Z,14nm,1.0s						
CLL	**Collm**	**146.81**	**353**	*e*PKPbc	PKPbc	13 11 31.9	+0.3
CLL	**Collm**	**146.81**	**353**⇑	*i*PKPbc	PKPbc	13 11 32.0	+0.4
	comp=Z,14nm,1.0s						
CLL				*i* (pPKiKP)		13 11 40.3	
STHS	**Stebnicka Huta**	**146.99**	**343**	*e*PKP	PKPbc	13 11 34.0	+1.8
BRG	**Berggiesshubel**	**147.12**	**352**	*i* PKP2	PKPbc	13 11 33.1	+0.6
BRG				pmax	pmax		
	comp=Z,5.0nm,1.1s						
BRG	**Berggiesshubel**	**147.12**	**352**	*e*PKPbc	PKPbc	13 11 33.0	+0.5
BRG	**Berggiesshubel**	**147.12**	**352**	*i* PKP	PKPbc	13 11 33.1	+0.6
	comp=Z,9.0nm,1.1s						
KOLS	**Kolonicke sedl**	**147.13**	**341**	*e*PKP	PKPdf	13 11 31.0	+0.5
FBE	**Freiberg**	**147.15**	**353**	*e*PKPbc	PKPbc	13 11 33.5	+0.9
UZH	**Uzhgorod**	**147.39**	**341**	*d i*PKP2	PKPbc	13 11 33.6	+0.2
CRVS	**Cervenica-Dubn**	**147.40**	**342**	*e*PKP	PKPbc	13 11 34.0	+0.6
MOX	**Moxa**	**147.60**	**355**	*e*PKPbc	PKPbc	13 11 34.5	+0.6
WERD	**Werda**	**147.73**	**354**	*e*PKPbc	PKPbc	13 11 34.6	+0.4
GUNZ	**Gunzen**	**147.81**	**354**	*e*PKPbc	PKPbc	13 11 35.2	+0.8
GUNZ				*e*PKPab	PKPab	13 11 37.8	+1.0
WERN	**Wernitzgruen**	**147.88**	**354**	*e*PKPab	PKPab	13 11 38.0	+0.9
KECS	**Kecovo**	**148.05**	**343**	*e*PKP	PKPdf	13 11 33.7	+1.7
MANZ	**Manzenberg**	**148.21**	**354**	*e*PKPbc	PKPbc	13 11 36.3	+0

LCBS	**La Ceiba**	**2.20 302**⇓	*e*P	x	13 13 51.5		
LCBS			*e*P	x	13 13 51.6		
LCBS			*e*S	x	13 14 18.0		
LFRS	**El Faro**	**2.25 301**⇓	*e*P	x	13 13 52.4		
LFRS			*e*P	x	13 13 52.4		
LFRS			*e*S	x	13 14 19.5		
BOQS	**Boqueron**	**2.49 300**	*e*P	x	13 13 56.3		
BOQS			*e*P	x	13 13 56.3		
BOQS			*e*S	x	13 14 25.7		
LIM1	**Limonal**	**2.50 135**	*i* P	**Pn**	**13 13 56.7**	**-0.4**	
VCR	**Vista de Mar**	**2.73 149**⇑	*e*P	**Pn**	**13 13 59.7**	**-0.3**	
VCR			*e*S	**Sn**	**13 14 29.2**	**-3.3**	
SNJE	**San Jose**	**2.83 300**	*e*P	x	13 14 00.9		
SNJE			*e*P	x	13 14 01.1		
SNJE			*e*S	x	13 14 34.5		
SBLS	**San Blas**	**2.83 299**	*e*P	x	13 14 01.2		
MTO2	**Montecristo 2**	**2.94 311**	*e*P	x	13 14 02.2		
JTS	**JuntasAbangare**	**3.00 136**	P	**Pn**	**13 14 02.5**	**-1.2**	
JTS			S	**Sn**	**13 14 36.2**	**-2.8**	
JTS	**JuntasAbangare**	**3.00 136**	P	**Pn**	**13 14 02.5**	**-1.1**	
	comp=N,17nm,0.3s,baz=312,slow=8.6,SNR=34						
JTS			S	**Sn**	**13 14 36.2**	**-2.8**	
	comp=N,29nm,0.3s,baz=265,slow=21,SNR=9.9						
RBDL	**Robledal**	**3.03 303**	*e*P	x	13 14 03.0		
RBDL			*e*P	x	13 14 03.1		
JCR	**Jicaral**	**3.24 143**⇑	*e*P	**Pn**	**13 14 07.2**	**+0.4**	
JCR			*e*S	**Sn**	**13 14 42.4**	**-2.2**	
CGA2	**Cerro Gallo 2**	**3.53 133**	*e*P	**Pn**	**13 14 11.7**	**+1.0**	
CGA2			*e*S	**Sn**	**13 14 51.7**	**-0.1**	
PRS1	**Puriscal**	**3.67 132**	*e*P	**Pn**	**13 14 14.3**	**+1.8**	
PRS1			*e*S	**Sn**	**13 14 56.2**	**+1.3**	
LCR2	**La Lucha 2**	**4.05 132**⇓	*e*P	**Pn**	**13 14 18.2**	**+0.5**	
LCR2			*e*S	**Sn**	**13 15 05.3**	**+1.1**	
BAR1		**4.89 131**⇑	*e*P	**Pn**	**13 14 30.7**	**+1.7**	
BAR1			*e*S	**Sn**	**13 15 25.8**	**+1.3**	
TEIG	**Tepich**	**7.80 352**	P	**Pn**	**13 15 10.2**	**+1.8**	
	comp=N,0.5nm,0.3s,baz=343,slow=23,SNR=3.1						
CHI2		**15.30 119**⇓	*e*P	Px	13 13 31.7		
LAPE	**La Pedrera**	**16.02 106**	*i* P	Px	13 13 54.3		
SDV	**Santo Domingo**	**16.54 101**	LR	LR	13 23 39.2		
	comp=N,14nm,20.9s,baz=220,slow=38						
TXAR	**Lajitas Array**	**22.80 320**	P	**P**	**13 18 11.1**	**-0.3**	
	comp=N,1.3nm,0.5s,mb3.5,baz=138,slow=10,SNR=26						
TXAR			pP		13 18 35.3		
	comp=N,0.8nm,0.8s,baz=136,slow=10,SNR=3.5						
TKL	**Tuckaleechee C**	**23.27 7**	P	**P**	**13 18 16.2**	**+0.5**	
	comp=N,3.1nm,0.6s,mb3.8,baz=174,slow=9.5,SNR=8.0						
WMOK	**Wichita Mounta**	**24.58 336**	*e*P	**P**	**13 18 28.1**	**+0.5**	
	comp=N,1.8nm,0.6s,mb3.7						
NVAR	**Mina Array Bea**	**37.93 319**	P	**P**	**13 20 26.0**	**+1.3**	
	comp=N,0.2nm,0.4s,mb3.3,baz=156,slow=6.9,SNR=3.4						
ULM	**Lac du Bonnet**	**38.35 351**	P	**P**	**13 20 25.5**	**-2.5**	
	comp=N,1.5nm,0.5s,mb4.1,baz=173,slow=9.4,SNR=4.1						
SCHQ	**Schefferville**	**45.15 16**	P	**P**	**13 21 21.9**	**-1.3**	
	comp=N,1.4nm,0.4s,mb4.0,baz=218,slow=6.1,SNR=6.4						
CPUP	**Villa Florida**	**48.21 143**	LR	LR	13 43 12.3		
	comp=N,97nm,19.5s,baz=190,slow=37						
YKA	**Yellowknife Ar**	**53.69 345**	P	**P**	**13 22 25.8**	**-2.2**	
YKA	**Yellowknife Ar**	**53.69 345**	P	**P**	**13 22 25.8**	**-2.2**	
	comp=N,0.6nm,0.5s,mb3.9,baz=146,slow=7.2,SNR=7.2						
JMIC	**Jan Mayen**	**74.56 19**	LR	LR	14 01 14.2		
	comp=N,46nm,18.8s,baz=267,slow=39						
ASAR	**Alice Springs**	**139.62 248**	PKhKP		13 32 24.9		
	comp=N,0.2nm,0.8s,baz=102,slow=3.8,SNR=2.9						
ASAR			PKP	PKPdf	13 32 30.4	-3.0	
	comp=N,0.5nm,0.8s,baz=84,slow=1.4,SNR=8.2						
WRA	**Warramunga Arr**	**139.63 254**	PKhKP		13 32 26.9		
	comp=N,0.3nm,0.7s,baz=90,slow=3.3,SNR=3.8						
WRA			PKP	PKPdf	13 32 31.3	-2.3	
	comp=N,0.7nm,0.6s,baz=91,slow=2.5,SNR=13						

ISCJB ***28*** *13:29:11.9±0.6, 158S±02×7024W±007, h231km±8km, mb3.3/4, Error ellipse: s-maj=24.9km s-min=11.1km az=8.3*
NEIC ***28*** *13:29:12.8±0.7, 1576S×70.18W, h229km±10km, mb4.0/2, Error ellipse: s-maj=23.4km s-min=12.5km az=201.0*
IDC ***28*** *13:29:14.1±1.1, 1512S×6986W, h215km±24km, mb3.1/3, mb1 3.3/6, mb1mx3.2/21, mbtmp3.1/6, Error ellipse: s-maj=103.4km s-min=18.3km az=22.0*
ISC 28 13:29:12.9±0.6, 158S±01×7023W±007, h226km±8km, n12, σ1§00/13, mb3.3/4, 1C, Southern Peru

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARE	**Arequipa**	**1.40 240**	⇑	*i* P	**Pn**	**13 29 47.3**	**-0.8**
ARE				*i* S	**S**	**13 30 14.6**	**-1.0**
LPAZ	**La Paz**	**2.08 105**		P	**Pn**	**13 29 56.0**	**+1.8**
	16nm,0.3s,baz=302,slow=8.3,SNR=371						
LPAZ				S	**S**	**13 30 26.6**	**+0.1**
	6.4nm,0.3s,baz=326,slow=13,SNR=36						
LVC	**Limon Verde**	**6.92 170**		*e*Pn	**Pn**	**13 30 53.4**	**+1.1**
	12nm,0.4s						
NNA	**Nana**	**7.44 300**		P	**Pn**	**13 31 00.3**	**+1.2**
	2.1nm,0.3s,baz=148,slow=9.5,SNR=3.7						
SIV	**San Ignacio**	**8.81 93**		P	**Pn**	**13 31 15.4**	**-1.2**
	0.1nm,0.3s,baz=291,slow=12,SNR=4.1						
TXAR	**Lajitas Array**	**55.26 324**		P	**P**	**13 38 22.8**	**-0.2**
TXAR	**Lajitas Array**	**55.26 324**		P	**P**	**13 38 22.8**	**-0.2**
	0.2nm,0.6s,mb2.8,baz=153,slow=8.4,SNR=3.8						
SDCO	**Great Sand Dun**	**62.71 329**		*e*P	**P**	**13 39 14.5**	**+0.6**
	2.2nm,1.3s,mb3.6						
TORD	**Torodi Ar. Bea**	**76.70 72**		P	**P**	**13 40 38.4**	**-1.3**
	0.4nm,0.5s,mb3.3,baz=264,slow=7.2,SNR=5.7						
YKA	**Yellowknife Ar**	**85.39 341**		P	**P**	**13 41 24.3**	**0.0**
YKA	**Yellowknife Ar**	**85.39 341**		P	**P**	**13 41 24.3**	**0.0**
	0.6nm,0.5s,mb3.6,baz=134,slow=5.0,SNR=7.8						
SONM	**Songino Array**	**147.91**	**4**	PKPbc	PKPbc	13 48 32.5	+1.1
	1.0nm,0.6s,baz=336,slow=3.3,SNR=7.3						

IDC 28 13:39:31.1±5.0, 1907S×17550W, h0km, mb4.2/3, mb1 4.4/3, mb1mx3.8/14, mbtmp4.2/3, Error ellipse: s-maj=162.2km s-min=99.0km az=157.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	**Stephens Creek**	**40.53 243**		P	P	13 47 12.0	-0.1
	1.7nm,0.7s,baz=90,slow=8.1,SNR=5.3						
WB2	**Warramunga Arr**	**47.13 260**		*e*P	P	13 48 05.4	0.0
WRA	**Warramunga Arr**	**47.14 260**		P	P	13 48 05.4	-0.1
	1.2nm,0.4s,baz=98,slow=8.0,SNR=58						
ASAR	**Alice Springs**	**47.15 255**		P	P	13 48 05.5	0.0
	4.9nm,0.7s,baz=90,slow=8.4,SNR=98						
ASAR				PcP	PcP	13 49 37.1	-0.2
	0.3nm,0.6s,baz=98,slow=3.4,SNR=4.4						

TEH ***28*** *14:11:10.3, 3000N×5147E, h33km, ML4.0*
CSEM ***28*** *14:12:04.5±0.1, 3028N×5177E, h10km, Ms4.0, Error ellipse: s-maj=2.2km s-min=1.8km az=106.0*
ISCJB ***28*** *14:12:05.5±0.9, 3027N±003×5192E±003, h11km±6km, mb4.0/14, MS3.3/9, Error ellipse: s-maj=4.4km s-min=4.2km az=8.8*
NEIC ***28*** *14:12:05.4±0.5, 3023N×5175E, h10km, mb4.5/1, MN4.0(TEH), Error ellipse: s-maj=8.7km s-min=7.1km az=209.0*
IDC ***28*** *14:12:05.9±1.7, 3047N×5161E, h0km, mb3.9/12, mb1 4.0/13, mb1mx3.9/25, mbtmp3.9/13, ML3.9/1, MS3.3/10, Ms1 3.3/10, ms1mx3.1/39, Error ellipse: s-maj=38.6km s-min=18.7km az=149.0*
MOS ***28*** *14:12:06.8±2.1, 3014N×5173E, h33km, mb4.1/7, Error ellipse: s-maj=15.8km s-min=11.0km az=112.6*
THR ***28*** *14:12:06.4±0.3, 3032N×5194E, h15km, ML3.8*
ISC 28 14:12:07.4±0.9, 3029N±003×5192E±003, h12km±6km, n94, σ1§33/102, mb4.0/14, MS3.3/9, 1C-1D, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**0.83 141**		Pg	**Pg**	**14 12 22.2**	**-1.2**
SHI				Sg	**Sg**	**14 12 36.0**	**+1.7**
SHI	**Shiraz**	**0.83 141**		*e*Pg	**Pg**	**14 12 22.2**	**-1.2**
SHI				*e*Sg	**Sg**	**14 12 36.1**	**+1.8**
SHI				*e*		14 12 41.2	
	comp=Z,82μm,0.1s						
SHI	**Shiraz**	**0.83 141**		*e*Pg	**Pg**	**14 12 22.2**	**-1.2**
SHI				*e*Sg	**Sg**	**14 12 36.1**	**+1.8**
IPAR	**Pars**	**1.08 114**		Pn	**Pn**	**14 12 24.1**	**-4.1**
IPAR				Sg	**Sg**	**14 12 48.0**	**+5.8**
IPAR	**Pars**	**1.08 114**		*e*Pn	**Pn**	**14 12 24.1**	**-4.1**
IPAR				*e*Sg	**Sg**	**14 12 48.0**	**+5.8**
IPAR				*e*		14 12 51.6	
	comp=Z,24μm,0.4s						
ISRV	**Sarvestan**	**1.38 131**		*e*Pn	**Pn**	**14 12 29.7**	**-2.7**
ISRV				*e*Sn	**Sn**	**14 12 48.6**	**-1.9**
IGAR	**Gharneh**	**2.11 3**		*e*Pn	**Pn**	**14 12 41.7**	**-0.7**
IGAR				*e*		14 13 21.9	
	comp=Z,11μm,0.4s						
GHIR	**Ghir-Karzin**	**2.21 155**		*e*Pn	**Pn**	**14 12 44.9**	**+1.1**
GHIR				AML	AML	14 13 30.8	
	comp=E,909nm,0.4s						
GHIR				AML	AML	14 13 35.3	
	comp=N,568nm,0.4s						
ISAD	**Sadrabad**	**2.22 43**		Pn	**Pn**	**14 12 45.4**	**+1.5**
ISAD				Sn	**Sn**	**14 13 15.3**	**+4.1**
ISAD	**Sadrabad**	**2.22 43**		*e*Pn	**Pn**	**14 12 45.5**	**+1.6**
ISAD				*e*Sn	**Sn**	**14 13 15.4**	**+4.2**
IPIR	**Pirpir**	**2.54 340**		*e*Pn	**Pn**	**14 12 48.9**	**+0.6**
IPIR				*e*		14 13 47.9	
	comp=Z,5μm,0.3s						
IMEH	**Mehriz**	**2.56 64**		*e*Pn	**Pn**	**14 12 49.9**	**+1.2**
IMEH				*e*		14 13 40.8	
	comp=Z,4μm,0.4s						
NASN	**Na'in**	**2.61 17**		*e*Pn	**Pn**	**14 12 50.0**	**+0.7**
IZEF	**Zefreh**	**2.62 8**		*e*	**Pg**	**14 12 57.5**	**0.0**
	comp=Z,3μm,0.3s						
ICHK	**Chekchek**	**2.89 47**		*e*Pn	**Pn**	**14 12 54.0**	**+0.9**
ICHK				*e*		14 13 35.2	
	comp=Z,2μm,0.2s						
IKLH	**Kolahroud**	**3.03 355**		*e*Pn	**Pn**	**14 12 55.7**	**+0.6**
IKLH				*e*		14 14 11.0	
	comp=Z,4μm,0.6s						
IBAF	**Bafgh**	**3.39 67**		*e*Pn	**Pn**	**14 13 00.9**	**+0.9**
IBAF				*e*		14 13 23.2	
	comp=Z,2μm,0.2s						
IBAF				*e*Sn	**Sn**	**14 13 42.5**	**+2.3**
UMR	**Umm Al-Rimmam**	**3.72 260**		*e*P	**Pn**	**14 13 05.2**	**+0.6**
UMR				*e*S	**Sn**	**14 13 51.0**	**+2.7**
UMR				AML	AML	14 13 52.0	
	comp=Z,174nm,0.4s						
MIB	**Mutribah**	**4.00 264**		*e*P	**Pn**	**14 13 08.9**	**+0.6**
MIB				*e*S	**Sn**	**14 13 58.2**	**+3.0**
MIB				AML	AML	14 14 02.4	
	comp=Z,149nm,0.7s						
RDF	**Al-Radifah**	**4.04 251**		*e*P	**Pn**	**14 13 09.8**	**+0.8**
RDF				*e*S	**Sn**	**14 13 58.0**	**+1.8**
RDF				AML	AML	14 13 58.8	
	comp=Z,139nm,0.4s						
NAY	**Al-Naaiem**	**4.20 257**		*e*P	**Pn**	**14 13 11.9**	**+0.9**
NAY				*e*S	**Sn**	**14 14 02.4**	**+2.4**
NAY				AML	AML	14 14 05.1	
	comp=Z,37nm,0.5s						
KRBR	**Kerman**	**4.21 93**		*e*Pn	**Pn**	**14 13 12.2**	**+1.0**
KRBR				AML	AML	14 14 33.5	
	comp=N,97nm,1.0s						
ASAO	**Ashtian**	**4.53 340**		*e*Pn	**Pn**	**14 13 16.7**	**+1.0**
ASAO				AML	AML	14 14 52.7	
	comp=E,54nm,0.7s						
BOQSS		**4.95 208**		P	**Pn**	**14 13 20.3**	**-1.1**
IDMV	**Damavand**	**5.27 1**		*e*Pn	**Pn**	**14 13 24.4**	**-1.4**
IDMV				*e*		14 15 19.5	
	comp=Z,1μm,0.5s						
IRAZ	**Razeghan**	**5.36 342**		*e*Pn	**Pn**	**14 13 23.6**	**-3.5**
IRAZ				*e*		14 15 14.2	
	comp=Z,2μm,0.6s						
IRAZ	**Razeghan**	**5.36 342**		Pn	**Pn**	**14 13 23.5**	**-3.6**
IKOM	**Komasi**	**5.38 317**		*e*	**Sn**	**14 14 38.5**	**+9.4**
	comp=Z,1μm,0.2s						
IFIR	**Firoozkooh**	**5.38 7**		Pn	**Pn**	**14 13 27.4**	**+0.1**
IFIR	**Firoozkooh**	**5.38 7**		*e*Pn	**Pn**	**14 13 27.5**	**+0.2**
IFIR				*e*		14 13 57.2	
	comp=Z,246nm,0.2s						
IANJ	**Anjilo**	**5.43 18**		*e*Pn	**Pn**	**14 13 27.6**	**-0.4**
IANJ				*e*		14 15 32.5	
	comp=Z,2μm,0.9s						
IAFJ	**Afjeh**	**5.55 358**		Pn	**Pn**	**14 13 27.7**	**-2.0**
IAFJ	**Afjeh**	**5.55 358**		*e*Pn	**Pn**	**14 13 27.8**	**-1.9**
IAFJ				*e*		14 15 20.0	
	comp=Z,1μm,0.5s						
SLWS		**5.59 192**		P	**Pn**	**14 13 29.8**	**-0.5**
ISHM	**Shahmirzad**	**5.62 12**		*e*Pn	**Pn**	**14 13 30.1**	**-0.5**
ISHM				*e*		14 15 24.7	
	comp=Z,708nm,0.5s						
CHTH	**Charan**	**5.64 353**		*e*Pn	**Pn**	**14 13 31.6**	**+0.7**
IALA	**Alasht**	**5.82 7**		*e*	**Pn**	**14 13 41.1**	**+7.7**
	comp=Z,674nm,0.2s						
BANOM	**Banah**	**5.83 137**		P	**Pn**	**14 13 32.5**	**-1.0**
	SNR=26						
IVIS	**Veis**	**6.01 316**		*e*	**Sn**	**14 14 50.0**	**+5.2**
	comp=Z,396nm,0.2s						
IGHG	**Ghaleghazi**	**6.06 313**		Pn	**Pn**	**14 13 34.3**	**-2.4**
IGHG	**Ghaleghazi**	**6.06 313**		*e*Pn	**Pn**	**14 13 34.4**	**-2.2**
IGHG				*e*		14 15 50.0	
	comp=Z,2μm,0.6s						
ILIN	**Lien**	**6.22 319**		Pn	**Pn**	**14 13 31.9**	**-7.0**
ILIN	**Lien**	**6.22 319**		*e*Pn	**Pn**	**14 13 32.0**	**-6.9**
ILIN				*e*		14 15 00.0	
	comp=Z,540nm,0.3s						
BTHS		**6.30 189**		P	**Pn**	**14 13 39.5**	**-0.5**
ASUD	**Al Ashush, Dub**	**6.41 151**		P	**Pn**	**14 13 42.4**	**+0.9**
	SNR=11						
HATD	**Hatta, Dubai**	**6.61 145**		P	**Pn**	**14 13 44.9**	**+0.6**
	SNR=6.9						
ASHO	**Ashiyiah**	**6.69 146**		P	**Pn**	**14 13 45.6**	**+0.2**
	SNR=11						
BHD	**Baghdad**	**7.07 297**		*ex*	x	14 14 11.0	
BHD				*ex*	x	14 15 53.0	
HRDDS		**7.66 197**		P	**Pn**	**14 13 57.8**	**-0.9**
LYLS		**9.23 208**		P	**Pn**	**14 14 19.5**	**-0.8**
ASF	**Jabal al Asfar**	**12.99 282**		Pn	**Pn**	**14 15 06.7**	**-5.0**
	comp=Z,0.7nm,0.3s,baz=189,slow=0.7,SNR=5.4						
ASF				Sn	**Sn**	**14 17 23.8**	**-12**
	baz=348,slow=15,SNR=2.5						
ASF				Lg		14 19 12.5	
	comp=Z,0.2nm,0.3s,baz=9.0,slow=21,SNR=1.7						
MMAI	**Mount Meron Ar**	**14.33 285**		Pn	**Pn**	**14 15 29.4**	**-0.5**
	baz=95,slow=16,SNR=3.0						
MMAI				Sn	**Sn**	**14 18 28.4**	**+20**
	comp=Z,1.4nm,0.3s,baz=266,slow=22,SNR=3.1						
MMAI				Lg		14 20 10.4	
	baz=266,slow=40,SNR=2.0						
EIL	**Elat**	**14.72 272**		Sn	**Sn**	**14 18 10.9**	**-7.4**
	comp=Z,0.2nm,0.3s,baz=359,slow=12,SNR=1.9						
EIL				Lg		14 20 16.9	
	comp=Z,0.2nm,0.3s,baz=280,slow=20,SNR=2.2						
EIL				LR	LR	14 21 32.5	
	comp=Z,67nm,20.0s,baz=282,slow=39						
KIV	**Kislovodsk**	**15.48 334**		*e*P	**Pn**	**14 15 48.2**	**+2.8**
KIV				pmax	pmax		
	comp=Z,16nm,1.2s						
ATD	**Arta Tunnel**	**20.48 206**		LR	LR	14 25 46.4	
	comp=Z,75nm,18.2s,MS3.1,baz=249,slow=40						
AKTK	**Aktyubinsk**	**20.64 11**		P	**P**	**14 16 44.9**	**-1.6**
AKTK				LR	LR	14 26 00.0	
AKTK	**Aktyubinsk**	**20.64 11**		P	**P**	**14 16 44.9**	**-1.6**
AKTO	**Aktyubinsk**	**20.64 11**		P	**P**	**14 16 44.9**	**-1.6**
AKTO				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKTO				MLR	MLR		
	comp=Z,52nm,21.0s,MS2.9						
AKTO	**Aktyubinsk**	**20.64 11**		P	**P**	**14 16 44.9**	**-1.6**
	comp=Z,1.4nm,0.7s,baz=195,slow=13,SNR=4.7						
AKTO				LR	LR	14 26 00.0	
	comp=Z,52nm,21.0s,MS2.9,baz=297,slow=41						
IDI	**Anoyia**	**23.23 290**		P	**P**	**14 17 14.4**	**+0.1**
	comp=Z,11nm,0.8s,mb4.3,baz=37,slow=10,SNR=4.2						
MLR	**Muntele Rosu**	**25.35 314**		P	**P**	**14 17 36.2**	**+2.2**
MLR				pmax	pmax		
	comp=Z,9.0nm,0.9s						
MLR				MLR	MLR		
	comp=Z,82nm,18.0s						
MLR	**Muntele Rosu**	**25.35 314**		P	**P**	**14 17 36.2**	**+2.2**
	comp=Z,9.2nm,0.9s,mb4.3,baz=38,slow=3.9,SNR=7.6						
MLR				LR	LR	14 29 52.1	
	comp=Z,82nm,18.0s,MS3.3,baz=260,slow=43						
MLR	**Muntele Rosu**	**25.35 314**	⇓	*i* P	**P**	**14 17 35.9**	**+1.9**
VOIR		**25.89 313**	⇑	*i* P	**P**	**14 17 42.5**	**+3.6**
BVAR	**Borovoye Array**	**26.42 25**		P	**P**	**14 17 44.1**	**+0.5**
BVAR				pmax	pmax		
	comp=Z,3.0nm,0.8s						
BVAR	**Borovoye Array**	**26.42 25**		P	**P**	**14 17 44.1**	**+0.4**
	comp=Z,2.8nm,0.8s,mb3.9,baz=216,slow=7.3,SNR=17						
AKASG	**Malin Array Be**	**26.52 327**		P	**P**	**14 17 42.8**	**-1.7**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**26.52 327**		P	**P**	**14 17 42.8**	**-1.8**
	comp=Z,0.7nm,0.5s,mb3.5,baz=136,slow=8.7,SNR=5.8						
MK31	**Makanchi Array**	**28.67 46**		*e*P	**P**	**14 18 02.8**	**-1.1**
MKAR	**Makanchi Array**	**28.67 46**		P	**P**	**14 18 05.2**	**+1.3**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
MKAR	**Makanchi Array**	**28.67 46**		P	**P**	**14 18 05.2**	**+1.3**
	comp=Z,1.0nm,0.8s,mb3.6,baz=239,slow=7.4,SNR=5.5						
ZAL	**Zalesovo**	**33.46 36**		P	**P**	**14 18 47.4**	**+1.4**
ZALV	**Zalesovo Beam**	**33.48 36**		P	**P**	**14 18 47.4**	**+1.2**
	comp=Z,1.3nm,0.5s,mb4.1,baz=247,slow=9.0,SNR=6.2						
GERES	**GERESS Array B**	**34.34 314**		P	**P**	**14 18 52.7**	**-1.0**
	comp=Z,0.2nm,0.3s,mb3.5,baz=132,slow=4.4,SNR=3.4						
FINES	**FINESS Array B**	**35.49 339**		P	**P**	**14 19 01.5**	**-1.9**
FINES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
FINES	**FINESS Array B**	**35.49 339**		P	**P**	**14 19 01.4**	**-2.0**
	comp=Z,1.7nm,0.6s,mb4.1,baz=144,slow=7.1,SNR=7.2						
DAVOX	**Davos/Dischmat**	**36.29 309**		LR	LR	14 34 24.1	
	comp=Z,72nm,18.6s,MS3.5,baz=267,slow=37						
HFS	**Hagfors**	**39.23 331**		LR	LR	14 37 37.3	
	comp=Z,36nm,19.4s,MS3.2,baz=124,slow=39						
NOA	**NORSAR Array B**	**40.75 331**		P	**P**	**14 19 44.6**	**-3.2**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.8s						
NOA				MLR	MLR		
	comp=Z,19nm,18.8s						
NOA	**NORSAR Array B**	**40.75 331**		P	**P**	**14 19 44.6**	**-3.2**
	comp=Z,1.2nm,0.8s,mb3.6,baz=118,slow=7.7,SNR=3.3						
NOA				LR	LR	14 39 55.0	
	comp=Z,19nm,18.8s,MS3.0,baz=180,slow=41						
ARCES	**ARCESS Array B**	**42.07 346**		P	**P**	**14 19 57.9**	**-0.6**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**42.07 346**		P	**P**	**14 19 57.9**	**-0.6**
	comp=Z,1.4nm,0.8s,mb3.6,baz=161,slow=7.7,SNR=4.1						
CHTO	**Chiang Mai**	**44.00 94**		*e*P	**P**	**14 20 14.7**	**-0.1**
CHTO				pmax	pmax		
	comp=Z,10.0nm,1.1s,mb4.5						
CHTO	**Chiang Mai**	**44.00 94**		*e*P	**P**	**14 20 14.7**	**-0.1**
	comp=Z,9.9nm,1.1s,mb4.5						
SONM	**Songino Array**	**44.81 51**		LR	LR	14 40 28.0	
	comp=Z,47nm,18.5s,MS3.5,baz=67,slow=38						
TOA0	**Torodi Ar. Sit**	**49.27 261**		*e*P	**P**	**14 20 54.7**	**-1.4**
TOA0	**Torodi Ar. Sit**	**49.27 261**		*e*P	**P**	**14 20 54.7**	**-1.5**
TORD	**Torodi Ar. Bea**	**49.27 261**		P	**P**	**14 20 54.4**	**-1.7**
TORD	**Torodi Ar. Bea**	**49.27 261**		P	**P**	**14 20 54.4**	**-1.7**
	comp=Z,3.5nm,0.9s,mb4.4,baz=56,slow=7.1,SNR=14						
DBIC	**Dimbokro**	**58.08 258**		P	**P**	**14 22 00.4**	**-0.4**
DBIC				pmax	pmax		
	comp=Z,5.0nm,1.0s						
DBIC	**Dimbokro**	**58.08 258**		P	**P**	**14 22 00.4**	**-0.4**
	comp=Z,5.2nm,1.0s,mb4.5,baz=189,slow=2.0,SNR=6.0						
KSRS	**Korea Array**	**61.94 61**		LR	LR	14 52 28.5	
	comp=Z,18nm,18.5s,MS3.3,baz=275,slow=39						
YKA	**Yellowknife Ar**	**86.91 354**		P	**P**	**14 24 49.6**	**-2.0**
	comp=Z,0.3nm,0.6s,mb3.7,baz=80,slow=36,SNR=3.7						
ULM	**Lac du Bonnet**	**94.88 340**		LR	LR	15 12 55.1	
	comp=Z,59nm,18.2s,MS4.1,baz=179,slow=39						

ISCJB ***28*** *14:32:32.0±2.4, 108S±01×1662E±01, h212km±22km, mb3.9/10, Error ellipse: s-maj=21.7km s-min=18.8km az=36.0*
NEIC ***28*** *14:32:32.8±1.6, 1067S×166.18E, h207km±14km, mb4.2/1, Error ellipse: s-maj=13.1km s-min=11.2km az=122.0*
IDC ***28*** *14:32:32.9±3.6, 1069S×166.16E, h208km±33km, mb3.7/9, mb1 3.9/10, mb1mx3.6/18, mbtmp3.8/10, Error ellipse: s-maj=21.0km s-min=19.1km az=36.0*
ISC 28 14:32:32.8±2.4, 107S±01×1662E±01, h206km±22km, n22, σ0§52/19, mb3.9/10, Santa Cruz Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**6.26 281**		P	**Pn**	**14 34 03.5**	**0.0**
HNR	**Honiara**	**6.26 281**		P	**Pn**	**14 34 03.5**	**0.0**
	4.6nm,0.3s,baz=114,slow=1.5,SNR=4.1						
CTA	**Charters Tower**	**21.35 242**		*e*P	pP	14 37 35.3	-3.5
	6.5nm,1.0s						
CTAO	**Charters Tower**	**21.35 242**		*e*P	**P**	**14 37 04.7**	**+0.6**
URZ	**Urewera**	**29.17 162**		P	**P**	**14 38 14.8**	**0.0**
	4.3nm,0.6s,mb4.3,baz=315,slow=11,SNR=6.6						
STKA	**Stephens Creek**	**31.00 223**		P	**P**	**14 38 31.8**	**+0.6**
	1.5nm,0.8s,mb3.7,baz=277,slow=22,SNR=3.0						
WRAB	**Tennant Creek**	**32.00 249**		*e*P	**P**	**14 38 40.1**	**+0.1**
WRAB

2.0nm,0.7s,mb4.1,baz=171,slow=13,SNR=2.5
LSZ LR LR 15 24 19.1
comp=Z,110nm,19.7s,MS3.6,baz=346,slow=31
QSPA South Pole Qui 37.71 180 *eP* **P 15 12 18.0 -0.2**
3.8nm,0.6s,mb4.3
QSPA South Pole Qui 37.71 180 P **P 15 12 17.6 -0.6**
5.5nm,1.1s,mb4.2,baz=258,slow=6.7,SNR=9.0
VNDA Vanda 47.13 168 P **P 15 13 34.6 -0.3**
1.0nm,0.7s,mb3.9,baz=239,slow=6.3,SNR=5.5
VNDA LR LR 15 32 16.4
comp=Z,91nm,18.7s,MS3.8,baz=213,slow=35
PLCA Paso Flores 63.50 237 LR LR 15 40 09.6
comp=Z,44nm,21.2s,MS3.6,baz=3.0,slow=33
DBIC Dimbokro 65.21 324 LR LR 15 37 43.7
comp=Z,51nm,18.6s,MS3.8,baz=337,slow=30
CPUP Villa Florida 66.75 257 LR LR 15 39 11.6
comp=Z,45nm,19.0s,MS3.7,baz=300,slow=31
BDFB Brasilia 69.18 271 P **P 15 16 10.3 +0.3**
0.8nm,0.4s,mb4.0,baz=156,slow=17,SNR=3.3
TORD Torodi Ar. Bea 69.19 333 P **P 15 16 09.1 -0.8**
TORD Torodi Ar. Bea 69.19 333 P **P 15 16 09.1 -0.8**
2.2nm,0.8s,mb4.1,baz=172,slow=7.1,SNR=9.9
ASAR Alice Springs 80.71 117 P **P 15 17 16.1 -0.5**
1.1nm,0.8s,mb3.9,baz=208,slow=4.5,SNR=14
WRA Warramunga Arr 83.94 115 P **P 15 17 32.7 -0.8**
1.0nm,1.0s,mb3.9,baz=210,slow=4.1,SNR=7.0
URZ Urewera 85.71 156 LR LR 15 53 09.4
comp=Z,86nm,20.2s,MS4.1,baz=60,slow=34
NVAR Mina Array Bea 152.72 252 PKPbc PKPbc 15 24 59.1 -0.4
0.4nm,0.6s,baz=165,slow=3.7,SNR=3.3

IDC 28 15:42:47.7±3.6,1086S×16819E,h0km,mb3.8/3, mb1 3.9/4,mb1mx3.7/15,mbtmp3.9/4,ML4.1/1,MS3.5/6, Ms1 3.4/6,ms1mx3.1/22,Error ellipse: s-maj=83.1km s-min=52.1km az=129.0,Santa Cruz Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.24**	**279**	Pn	Pn	15 44 48.2	-0.4
	2.4nm,0.3s,baz=80,slow=11,SNR=5.9						
HNR				LR	LR	15 47 23.7	
	comp=Z,175nm,21.6s,baz=182,slow=34						
CTA	**Charters Tower**	**23.02**	**244**	LR	LR	15 55 25.5	
	comp=Z,114nm,20.2s,baz=214,slow=33						
STKA	**Stephens Creek**	**32.26**	**226**	LR	LR	15 59 48.1	
	comp=Z,108nm,20.9s,baz=25,slow=32						
WRA	**Warramunga Arr**	**33.80**	**250**	P	P	15 49 31.7	-0.1
	0.5nm,0.8s,baz=82,slow=9.1,SNR=6.1						
WRA				LR	LR	16 03 03.9	
	comp=Z,45nm,18.1s,baz=315,slow=36						
ASAR	**Alice Springs**	**35.03**	**244**	P	P	15 49 42.6	+0.3
	0.8nm,0.8s,baz=74,slow=9.5,SNR=10						
TXAR	**Lajitas Array**	**93.64**	**61**	LR	LR	16 27 43.1	
	comp=Z,39nm,21.6s,baz=180,slow=29						
YKA	**Yellowknife Ar**	**93.72**	**27**	LR	LR	16 34 28.5	
	comp=Z,19nm,19.6s,baz=190,slow=33						
MKAR	**Makanchi Array**	**95.04**	**317**	P	P	15 56 12.4	-0.1
	0.4nm,0.8s,baz=93,slow=5.8,SNR=3.5						

IDC 28 15:53:37.2±5.0,105S×2416W,h0km,mb3.8/2,mb1 3.8/2, mb1mx3.4/22,mbtmp3.9/2,MS3.2/4,Ms1 3.2/4, ms1mx2.8/40,Error ellipse: s-maj=312.7km s-min=44.0km az=141.0,Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBIC	**Dimbokro**	**20.74**	**68**	P	P	15 58 20.2	+0.6
	4.7nm,0.9s,baz=236,slow=15,SNR=2.8						
DBIC				LR	LR	16 04 01.3	
	comp=Z,38nm,18.0s,baz=131,slow=30						
BDFB	**Brasilia**	**27.64**	**237**	LR	LR	16 08 02.2	
	comp=Z,26nm,18.6s,baz=190,slow=31						
TORD	**Torodi Ar. Bea**	**29.27**	**60**	P	P	15 59 41.0	-0.3
	1.3nm,0.9s,baz=253,slow=7.4,SNR=4.9						
CPUP	**Villa Florida**	**40.61**	**229**	LR	LR	16 16 58.6	
	comp=Z,42nm,19.3s,baz=278,slow=34						
MLR	**Muntele Rosu**	**64.02**	**37**	LR	LR	16 34 52.0	
	comp=Z,32nm,18.2s,baz=60,slow=39						
ASAR	**Alice Springs**	**147.47**	**140**	PKP	PKPdf	16 13 22.2	+0.7
	0.6nm,0.9s,baz=209,slow=2.0,SNR=7.8						
WRA	**Warramunga Arr**	**150.34**	**136**	PKPbc	PKPbc	16 13 30.5	-0.9
	0.4nm,0.9s,baz=221,slow=1.6,SNR=3.1						

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*ISCJB **28** 16:26:17.9±0.6,4208S±009×851E±02,h10km,mb4.3/14, MS4.1/15,Error ellipse: s-maj=20.0km s-min=12.6km az=5.0*
*IDC **28** 16:26:17.3±1.1,4201S×8497E,h0km,mb4.2/8,mb1 4.4/8, mb1mx4.1/17,mbtmp4.2/8,MS4.1/15,Ms1 4.1/15, ms1mx3.9/21,Error ellipse: s-maj=34.1km s-min=21.1km az=122.0*
*NEIC **28** 16:26:19.1±0.5,4204S×8503E,h10km,mb4.6/5,Error ellipse: s-maj=16.1km s-min=10.6km az=105.0*
*GCMT **28** 16:26:19.1±0.4,4198S×8495E,h22km±1km,MW5.0/64, Moment Tensor Solution. s17,c18; s64,c93; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}0.19±.17; $M_{\theta\theta}$3.00±.13; $M_{\phi\phi}$-3.18±.17; $M_{r\theta}$-1.47±.24; $M_{r\phi}$0.01±.10; $M_{\theta\phi}$0.64±.21; Best double couple: $M_0$3.47400×10^{16} NP1:ϕ_s223.00000°,δ65.00000°,λ171.00000°. NP2: ϕ_s316.00000°,δ82.00000°,λ25.00000°. Principal axes: T 3.6370, Plg23.0000°, Azm182.0000°; N -0.3170, Plg64.0000°, Azm333.0000°; P -3.3120, Plg12.0000°, Azm87.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **28** 16:26:24.3,4134S×8512E,h32km,mb4.3*
ISC 28 16:26:19.7±0.6,4207S±009×851E±02,h10km,n31, σ0§65/20,mb4.3/14,MS4.1/15,Southeast Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NWAO	**Narrogin (SRO)**	**26.94**	**81**	LR	LR	16 40 38.7	
	comp=Z,335nm,20.4s,MS3.9,baz=235,slow=32						
CASY	**Casey**	**28.05**	**158**	*eP*	**P**	**16 32 11.3**	**+0.6**
	14nm,1.4s,mb4.4						
MAW	**Mawson**	**28.28**	**198**	LR	LR	16 40 42.2	
	comp=Z,348nm,20.7s,MS3.9,baz=51,slow=31						
ASAR	**Alice Springs**	**44.25**	**81**	P	**P**	**16 34 29.3**	**-0.1**
	2.3nm,0.8s,mb4.0,baz=228,slow=6.5,SNR=18						
STKA	**Stephens Creek**	**45.52**	**96**	P	**P**	**16 34 39.0**	**-0.4**
	4.9nm,1.0s,mb4.4,baz=312,slow=12,SNR=3.2						
STKA				LR	LR	16 49 43.9	
	comp=Z,284nm,20.6s,MS4.2,baz=106,slow=31						
VNDA	**Vanda**	**46.47**	**163**	*eP*	**P**	**16 34 46.6**	**+0.3**
	2.4nm,0.6s,mb4.3						
VNDA				LR	LR	16 52 17.4	
VNDA	**Vanda**	**46.47**	**163**	P	**P**	**16 34 46.9**	**+0.6**
	2.1nm,0.5s,mb4.3,baz=276,slow=8.0,SNR=42						
VNDA				LR	LR	16 52 17.4	
	comp=Z,270nm,20.3s,MS4.2,baz=275,slow=34						
WRA	**Warramunga Arr**	**46.86**	**78**	P	**P**	**16 34 49.6**	**-0.4**
	5.8nm,1.1s,mb4.4,baz=231,slow=7.1,SNR=16						
WRA				LR	LR	16 52 02.0	
	comp=Z,164nm,19.7s,MS4.0,baz=305,slow=33						
WB2	**Warramunga Arr**	**46.86**	**78**	P	**P**	**16 34 49.7**	**-0.3**
WRAB	**Tennant Creek**	**46.87**	**78**	*eP*	**P**	**16 34 49.8**	**-0.3**
SBA	**Scott Base**	**47.52**	**163**	*eP*	**P**	**16 34 55.7**	**+1.2**
	6.0nm,1.1s,mb4.5						
QSPA	**South Pole Qui**	**48.09**	**180**	*eP*	**P**	**16 34 58.3**	**-0.5**
	11nm,0.5s,mb5.1						
QSPA	**South Pole Qui**	**48.09**	**180**	P	**P**	**16 34 59.1**	**+0.3**
	16nm,0.9s,mb5.0,baz=305,slow=2.4,SNR=49						
BOSA	**Boshof**	**49.70**	**265**	LR	LR	16 51 45.6	
	comp=Z,323nm,18.3s,MS4.4,baz=141,slow=31						
SNAA	**Sanae**	**50.09**	**204**	P	**P**	**16 35 12.5**	**-1.7**
	2.5nm,0.9s,mb4.2,baz=124,slow=9.5,SNR=18						
CTA	**Charters Tower**	**55.55**	**87**	LR	LR	16 55 35.5	
	comp=Z,120nm,20.5s,MS4.0,baz=243,slow=32						
LSA	**Lhasa**	**71.63**	**6**	*eP*	**P**	**16 37 41.8**	**+0.7**
	6.9nm,1.1s,mb4.5						
XAN	**Xi'an**	**78.83**	**20**	P	**P**	**16 38 22.5**	**0.0**
XAN				AMB	AMB		
	comp=Z,3.0nm,0.9s,mb4.2						
LZH	**Lanzhou**	**79.64**	**15**	*eP*	**P**	**16 38 27.3**	**+0.4**
LZH				AP	pP	16 38 32.5	+2.3
LZH				AMB	AMB		
	comp=Z,19nm,1.5s,mb4.8						
USHA	**Ushuaia**	**80.87**	**195**	LR	LR	17 10 21.9	
	comp=Z,223nm,19.5s,MS4.5,baz=307,slow=33						
GTA	**Gaotai**	**82.19**	**11**	*eP*	**P**	**16 38 41.3**	**+0.9**
GTA				AP	pP	16 38 45.8	+2.1
GTA				AMB	AMB		
	comp=Z,5.0nm,1.4s,mb4.2						
MKAR	**Makanchi Array**	**88.51**	**358**	P	**P**	**16 39 11.3**	**-0.5**
MKAR				LR	LR	17 16 12.4	
MKAR	**Makanchi Array**	**88.51**	**358**	P	**P**	**16 39 11.3**	**-0.5**
	comp=Z,0.6nm,0.9s,mb3.9,baz=181,slow=5.8,SNR=3.5						
MKAR				LR	LR	17 16 12.4	
	comp=Z,91nm,20.8s,MS4.2,baz=189,slow=34						
SONM	**Songino Array**	**91.48**	**14**	P	**P**	**16 39 25.1**	**-0.5**
	comp=Z,0.2nm,0.3s,mb3.9,baz=207,slow=1.7,SNR=4.0						
SONM				LR	LR	17 22 16.4	
	comp=Z,60nm,18.1s,MS4.1,baz=80,slow=37						
ULN	**Ulaanbaatar**	**91.63**	**15**	*eP*	**P**	**16 39 26.4**	**+0.1**
RAR	**Rarotonga**	**93.14**	**122**	LR	LR	17 13 15.1	
	comp=Z,23nm,18.6s,MS3.7,baz=210,slow=30						
TORD	**Torodi Ar. Bea**	**93.89**	**284**	LR	LR	17 18 18.3	
	comp=Z,85nm,20.8s,MS4.2,baz=175,slow=33						
DBIC	**Dimbokro**	**94.40**	**275**	LR	LR	17 17 19.0	
	comp=Z,126nm,20.2s,MS4.4,baz=99,slow=32						
PLCA	**Paso Flores**	**94.69**	**198**	LR	LR	17 21 54.5	
	comp=Z,112nm,19.5s,MS4.3,baz=267,slow=35						
ZALV	**Zalesovo Beam**	**95.64**	**360**	LR	LR	17 20 19.5	
	comp=Z,40nm,19.8s,MS3.9,baz=144,slow=34						
TXAR	**Lajitas Array**	**165.44**	**148**	PKP	PKPdf	16 46 23.5	-0.9
	comp=Z,0.2nm,0.6s,baz=201,slow=6.7,SNR=3.9						

MEX 28 16:27:29.4±0.4,1918N×10451W,h42km±15km,MD4.0, Near coast of Jalisco

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CJM	**Chamela**	**0.59**	**302**	*i* P	Pn	16 27 39.8	-1.6
CJM				*i* S	Sn	16 27 48.1	-1.9
MMIG	**Aquila**	**1.42**	**129**	*i* P	Pn	16 27 51.1	-1.6
MMIG				*i* S	Sn	16 28 08.2	-2.0
ANIG	**Ahuacatlan**	**1.86**	**360**	*i* P	Pn	16 27 57.6	-1.2
ANIG				*i* S	Sn	16 28 19.9	-1.2
SFJM	**Santa Fe**	**1.90**	**47**	*i* P	Pn	16 27 57.5	-1.8
SFJM				*i* S	Sn	16 28 20.0	-2.0
UTMO	**Huajuapan**	**6.51**	**101**	*i* P	Pn	16 29 05.6	+2.9

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*ISCJB **28** 16:29:25.3±0.7,5460N±005×192E±0.1,h0km,Error ellipse: s-maj=11.0km s-min=7.4km az=3.2*
*IDC **28** 16:29:29.6±0.7,5455N×1924E,h0km,mb1 3.4/8, mb1mx3.3/26,mbtmp3.3/8,ML3.2/8,Error ellipse: s-maj=11.9km s-min=7.5km az=90.0*
*HEL **28** 16:29:32.8±3.0,5442N×2117E,h0km,Explosion*
ISC 28 16:29:28.0±0.7,5458N±005×192E±01,h0km,n17, σ1§01/21,Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTSE	**Matsula**	**4.87**	**30**	*eP*	**Pn**	**16 30 42.8**	**+0.4**
VRAC	**Vranov**	**5.51**	**198**	Pn	**Pn**	**16 30 52.7**	**+1.4**
	0.5nm,0.3s,baz=77,slow=14,SNR=2.2						
HFS	**Hagfors**	**6.30**	**334**	Pn	**Pn**	**16 31 02.1**	**+0.1**
	0.7nm,0.3s,baz=144,slow=14,SNR=25						
HFS				Sn	**Sn**	**16 32 13.3**	**-1.4**
	0.8nm,0.3s,baz=160,slow=30,SNR=4.2						
HFS				Lg		16 32 49.3	
	1.8nm,0.3s,baz=152,slow=31,SNR=6.8						
MEF	**Metsahovi**	**6.32**	**24**	*eP*	**Pn**	**16 31 03.2**	**+0.9**
RAF	**Rauma**	**6.61**	**11**	*eP*	**Pn**	**16 31 07.3**	**+1.0**
GERES	**GERESS Array B**	**6.67**	**213**	Pn	**Pn**	**16 31 06.0**	**-1.1**
	0.1nm,0.3s,baz=128,slow=30,SNR=2.4						
GERES				Pg	**Pg**	**16 31 27.0**	**-8.7**
	0.2nm,0.3s,baz=357,slow=16,SNR=4.8						
PVF	**Pernaja**	**6.98**	**28**	*eP*	**Pn**	**16 31 11.3**	**-0.1**
AKASG	**Malin Array Be**	**7.25**	**118**	Pn	**Pn**	**16 31 14.0**	**-1.1**
	1.5nm,0.3s,baz=308,slow=12,SNR=12						
VJF	**Virojoki**	**7.48**	**34**	*eP*	**Pn**	**16 31 15.8**	**-2.5**
NOA	**NORSAR Array B**	**7.74**	**330**	Pn	**Pn**	**16 31 22.0**	**+0.3**
	0.4nm,0.3s,baz=148,slow=13,SNR=3.1						
FIA0	**FINESS Array S**	**7.80**	**25**	*eP*	**Pn**	**16 31 22.3**	**-0.2**
FINES	**FINESS Array B**	**7.80**	**25**	Pn	**Pn**	**16 31 22.3**	**-0.2**
	0.6nm,0.3s,baz=203,slow=12,SNR=29						
FINES				Pg	**Pg**	**16 31 41.2**	**-16**
	0.3nm,0.3s,baz=209,slow=12,SNR=4.0						
FINES				Sn	**Sn**	**16 32 46.6**	**-4.7**
	0.6nm,0.3s,baz=211,slow=18,SNR=3.1						
KEF	**Keuruu**	**8.18**	**19**	*eP*	**Pn**	**16 31 28.6**	**+0.9**
VAF	**Ylistaro**	**8.68**	**11**	*eP*	**Pn**	**16 31 35.3**	**+0.6**
SUF	**Sumiainen**	**8.93**	**21**	*eP*	**Pn**	**16 31 38.1**	**0.0**
EKA	**Eskdalemuir Ar**	**12.84**	**282**	Pn	**Pn**	**16 32 35.7**	**+4.1**
	0.0nm,0.3s,baz=92,slow=13,SNR=2.4						
ARCES	**ARCESS Array B**	**15.29**	**8**	Pn	**Pn**	**16 33 00.6**	**-4.2**
	0.2nm,0.3s,baz=186,slow=15,SNR=8.7						

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*IDC **28** 17:08:51.6±2.7,1648N×8883E,h0km,mb3.6/5,mb1 3.8/5, mb1mx3.6/21,mbtmp3.6/5,Error ellipse: s-maj=109.6km s-min=21.7km az=69.0*
*ISCJB **28** 17:08:52.7±2.0,165N±03×885E±05,h33km,mb3.6/5, Error ellipse: s-maj=74.9km s-min=12.1km az=151.8*
ISC 28 17:08:55.8±1.9,165N±03×886E±05,h35km,n11,σ0§98/11, mb3.6/5,Bay of Bengal

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JIRN	**Jiri**	**11.30**	**349**	*eP*	**Pn**	**17 11 32.8**	**-2.0**
PKI	**Pulchoki**	**11.38**	**346**	*eP*	**Pn**	**17 11 35.6**	**-0.3**
DMN	**Daman**	**11.49**	**344**	*eP*	**Pn**	**17 11 37.0**	**-0.4**
	6.2nm,0.4s						
KKN	**Kakani**	**11.62**	**345**	*eP*	**Pn**	**17 11 39.0**	**-0.2**
GKN	**Gorkha**	**11.99**	**343**	*eP*	**Pn**	**17 11 43.8**	**-0.5**
	2.1nm,0.3s						
KOLN	**Koldanda**	**12.10**	**338**	*eP*	**Pn**	**17 11 46.8**	**+1.0**
	5.5nm,0.3s						
MKAR	**Makanchi Array**	**30.63**	**352**	P	**P**	**17 15 08.7**	**+2.0**
	0.4nm,0.6s,mb3.4,baz=173,slow=10,SNR=5.3						
SONM	**Songino Array**	**34.50**	**21**	P	**P**	**17 15 41.3**	**+0.8**
	0.2nm,0.4s,mb3.4,baz=210,slow=9.4,SNR=3.4						
ZALV	**Zalesovo Beam**	**37.46**	**356**	P	**P**	**17 16 06.3**	**+0.6**
	0.5nm,0.7s,mb3.5,baz=184,slow=7.9,SNR=2.6						
WRA	**Warramunga Arr**	**57.74**	**127**	P	**P**	**17 18 42.7**	**-0.8**
	1.1nm,0.9s,mb3.9,baz=312,slow=7.4,SNR=5.3						
WRA				PcP	PcP	17 19 36.5	+0.3
	0.5nm,1.1s,baz=317,slow=3.3,SNR=5.7						
ASAR	**Alice Springs**	**59.63**	**131**	P	**P**	**17 18 56.6**	**-0.1**
	0.7nm,0.5s,mb4.0,baz=309,slow=6.8,SNR=20						

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*THR **28** 17:11:03.8±0.3,2710N×5463E,h44km±2km,ML3.3*
*ISCJB **28** 17:11:04.5±1.2,2745N±007×5465E±005,h7km±11km, Error ellipse: s-maj=12.6km s-min=5.5km az=22.8*
*CSEM **28** 17:11:04.2±0.1,2745N×5470E,h2km,ML3.3,Error ellipse: s-maj=3.1km s-min=1.8km az=31.0*
*OMAN **28** 17:11:23.9,2622N×5540E,h2km*
ISC 28 17:11:05.8±1.2,2742N±007×5468E±005,h6km±11km,n13, σ0§76/16,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNDS	**Bandar-Abbas**	**1.33**	**90**	*e*Pg	**Pn**	**17 11 29.8**	**-1.1**
BNDS				*e*Sg	**Sg**	**17 11 48.8**	**+0.2**
GHIR	**Ghir-Karzin**	**1.73**	**300**	*e*Pg	**Pg**	**17 11 37.7**	**-1.3**
GHIR				*e*Sg	**Sg**	**17 12 02.3**	**+1.0**
GHIR				AML	AML	17 12 11.4	
	comp=E,254nm,0.4s						
GHIR				AML	AML	17 12 12.2	
	comp=N,252nm,0.4s						
GHIR	**Ghir-Karzin**	**1.73**	**300**	*e*Pg	**Pg**	**17 11 37.7**	**-1.2**
	SNR=99						
GHIR				*e*Sg	**Sg**	**17 12 02.3**	**+1.0**
	SNR=99						
BANOM	**Banah**	**2.08**	**135**	P	**Pn**	**17 11 40.4**	**-0.8**
	SNR=20						
ASUD	**Al Ashush, Dub**	**2.84**	**168**	P	**Pn**	**17 11 53.1**	**+1.4**
	SNR=5.4						
HATD	**Hatta, Dubai**	**2.90**	**153**	P	**Pn**	**17 11 52.9**	**+0.4**
ASHO	**Ashiyiah**	**2.99**	**155**	P	**Pn**	**17 11 53.8**	**0.0**
	SNR=21						
KRBR	**Kerman**	**3.14**	**35**	*e*Pn	**Pn**	**17 11 56.5**	**+0.6**
KRBR				AML	AML	17 12 55.0	
	comp=N,50nm,0.7s						
NASN	**Na'in**	**5.60**	**344**	*e*Pn	**Pn**	**17 12 30.3**	**+0.7**
RDF	**Al-Radifah**	**6.47**	**285**	*e*P	**Pn**	**17 12 41.8**	**+0.2**
RDF				AML	AML	17 13 57.0	
	comp=Z,11nm,0.4s						
UMR	**Umm Al-Rimmam**	**6.48**	**291**	*e*P	**Pn**	**17 12 41.4**	**-0.4**
UMR				AML	AML	17 13 55.5	
	comp=Z,8.2nm,0.3s						
NAY	**Al-Naaiem**	**6.80**	**287**	*e*P	**Pn**	**17 12 45.9**	**-0.3**
NAY				AML	AML	17 14 01.4	
	comp=Z,3.2nm,0.4s						
MIB	**Mutribah**	**6.87**	**292**	*e*P	**Pn**	**17 12 46.5**	**-0.7**
MIB				AML	AML	17 14 05.9	
	comp=Z,9.4nm,0.4s						

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*DDA **28** 17:44:55.8,3857N×44.18E,h8km±2km,Md3.3*
*CSEM **28** 17:44:56.4±0.1,3855N×4368E,h2km,MD3.3,Error ellipse: s-maj=2.6km s-min=1.6km az=114.0*
*ISK **28** 17:44:56.6,3856N×4366E,h5km,MD3.3,ML3.3*
*ISCJB **28** 17:44:57.1±0.7,3856N±003×4374E±005,h0km±5km, Error ellipse: s-maj=7.1km s-min=4.0km az=17.1*
ISC 28 17:44:58.4±0.6,3854N±003×4378E±005,h8km±4km,n26, σ1§29/36,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TVAN	**Van**	**0.29**	**268**	*i* P	**Pg**	**17 45 01.4**	**-2.8**
TVAN				*i* S	**Sg**	**17 45 16.7**	**+8.6**
VANB	**Van**	**0.31**	**280**	*e*PG	**Pg**	**17 45 01.6**	**-2.9**
VANT	**Van**	**0.32**	**253**	*e*PG	**Pg**	**17 45 04.5**	**-0.2**
VANT				*e*SG	**Sg**	**17 45 11.1**	**+2.2**
CLDR	**Caldiran**	**0.61**	**10**	*e*PG	**Pg**	**17 45 09.5**	**-0.7**
CLDR				*e*SG	**Sg**	**17 45 19.7**	**+1.5**
HKR	**Hakkari**	**0.96**	**182**	*e*PG	**Pg**	**17 45 16.6**	**-0.2**
HAKT	**HAKKARI**	**0.98**	**183**	*i* P	**Pg**	**17 45 16.0**	**-1.2**
HAKT				*i* S	**Sg**	**17 45 31.9**	**+2.0**
DYDN	**Diyadin**	**1.01**	**356**	*i* P	**Pg**	**17 45 15.9**	**-1.8**
AGRB	**Hanur-Agry**	**1.20**	**330**	*e*PN	**Pn**	**17 45 18.6**	**-3.0**
AGRB				*e*SN	**Sn**	**17 45 36.3**	**-1.8**
CUKT	**Cukurca**	**1.30**	**186**	*e*PN	**Pn**	**17 45 22.4**	**-0.4**
SIRT	**Sirnak**	**1.48**	**226**	*e*PN	**Pn**	**17 45 25.1**	**-0.2**
GNI	**Garni**	**1.77**	**25**	*e*PN	**Pn**	**17 45 30.7**	**+1.3**
BTMT	**Batman**	**1.83**	**260**	*e*PN	**Pn**	**17 45 30.7**	**+0.5**
DIGO	**Kars**	**1.90**	**351**	*i* P	**Pn**	**17 45 32.2**	**+1.1**
HOMI	**Horasan**	**2.09**	**317**	*i* P	**Pn**	**17 45 34.3**	**+0.5**
HOMI				*i* S	**Sg**	**17 46 06.1**	**+0.5**
KARS	**Kars**	**2.14**	**346**	*e*PN	**Pn**	**17 45 34.5**	**+0.2**
ERZM	**Erzurum**	**2.32**	**307**	*i* P	**Pn**	**17 45 37.8**	**+0.9**
EZM	**Erzurum**	**2.32**	**307**	*e*PN	**Pn**	**17 45 36.1**	**-0.8**
MARD	**Mardin**	**2.67**	**244**	*i* P	**Pn**	**17 45 41.1**	**-0.6**
MARD				*i* S	**Sn**	**17 46 14.6**	**+0.4**
DGRG	**David-gareji**	**3.15**	**22**	P	**Pg**	**17 45 56.2**	**-2.6**
DGRG				S	**Sg**	**17 46 46.6**	**+6.9**
MTA	**Mtatsminda**	**3.25**	**14**	P	**Pg**	**17 45 58.8**	**-1.8**
MTA				S	**Sg**	**17 46 44.5**	**+1.9**
TBLG	**Delisi**	**3.27**	**13**	P	**Pg**	**17 46 00.4**	**-0.6**
TBLG				S	**Sg**	**17 46 45.7**	**+2.2**
PTK	**Pertek**	**3.45**	**277**	*e*PN	**Pn**	**17 45 52.0**	**-0.4**
SVRC	**Sivrice-ELAZID**	**3.52**	**269**	*e*PN	**Pn**	**17 45 53.1**	**-0.2**
URFA	**Urfa**	**4.07**	**256**	*e*PN	**Pn**	**17 46 01.6**	**+0.6**
MALT	**Malatya**	**4.21**	**269**	*e*PN	**Pn**	**17 46 03.6**	**+0.8**
GZT	**Gaziantep**	**5.05**	**258**	*i* P	**Pg**	**17 46 35.7**	**+0.5**

NNC 28 18:05:08.7±7.7,4993N×8858E,h0km,mb3.9,mpv3.5, 7C-2D,Error ellipse: s-maj=58.5km s-min=40.4km az=74.0,Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**5.23**	**236**	Pn	Pn	18 06 30.2	+2.1
	3.6nm,0.5s,baz=59,slow=12,SNR=92						
MK31				⇑Pg	Pg	18 06 39.4	-10
	9.8nm,0.5s,baz=58,slow=13,SNR=19						
MK31				⇑Sn	Sn	18 07 37.3	+8.1
	19nm,0.8s,baz=58,slow=27						
MK31				⇑Lg		18 07 55.5	
	5.1nm,0.6s						
KURK	**Kurchatov**	**6.43**	**281**	⇓Pn	Pn	18 06 45.7	+1.2
KURK				⇓Sn	Sn	18 07 57.2	-1.4
	2.6nm,0.5s						
KURK				⇑Lg		18 08 32.7	
	12nm,0.6s						
KURBB	**Kurchatov Arra**	**6.48**	**280**	⇑Pn	Pn	18 06 51.2	+5.9
	0.6nm,0.7s						
KURBB				⇑Sn	Sn	18 07 57.6	-2.2
	1.7nm,0.6s,baz=85,slow=25						
KURBB				⇑Lg		18 08 26.7	
	5.0nm,0.6s,baz=88,slow=32						

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*TIF **28** 18:10:41.3,4256N×4349E,h11km±1km*
*CSEM **28** 18:10:41.7±0.3,4253N×4339E,h2km,mb3.8,Error ellipse: s-maj=6.6km s-min=3.8km az=113.0*
*ISCJB **28** 18:10:42.4±0.5,4256N±002×4347E±004,h11km,Error ellipse: s-maj=4.3km s-min=2.6km az=178.8*
*MOS **28** 18:10:43.4±1.5,4258N×4360E,h10km,mb3.8/1,Error ellipse: s-maj=20.1km s-min=7.8km az=71.4*
ISC 28 18:10:42.4±0.6,4253N±002×4342E±005,h3km±5km,n19, σ1§10/38,1D,Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ONI	**Oni**	**0.06**	**23**	P	**Pg**	**18 10 44.0**	**+0.3**
ONI				S	**Sg**	**18 10 45.6**	**+1.0**
DIGR	**Digorskoe uzhe**	**0.39**	**18**	*i* Pg	**Pg**	**18 10 48.9**	**-1.1**
DIGR				*i* Sg	**Sg**	**18 10 54.5**	**-0.6**
ZEI	**Tsey**	**0.43**	**55**	*i* Pg	**Pg**	**18 10 49.7**	**-1.0**
ZEI				*i* Sg	**Sg**	**18 10 55.8**	**-0.5**
LACR	**Lac**	**0.71**	**65**	*i* Pg	**Pg**	**18 10 54.5**	**-1.6**
LACR				*i* Sg	**Sg**	**18 11 04.1**	**-1.3**
KORR

LZG	Guadaloupe-1	0.61 101	‖ i P	Pn	18 24 54.6	+0.1
HMG	Houelmont	0.72 112	e P	Pn	18 24 55.5	+0.3
SCG	Saint Claude	0.72 108	‖ e P	Pn	18 24 55.4	+0.3
BCG	Bois Riant Cap	0.77 103	e P	Pn	18 24 55.7	+0.3
DOG	Dongo Capester	0.78 107	‖ e P	Pn	18 24 55.9	+0.4
TBG	Guadaloupe-3	0.83 119	‖ e P	Pn	18 24 55.8	0.0
MGG	Marie-Galante	1.09 108	⇑ i P	Pn	18 24 57.6	0.0
SKI	Saint Kitts	1.12 343	e P	Pn	18 24 58.4	+0.5
SKI			e S	Sn	18 25 20.3	+0.1
SFG	Saint Francois	1.15 90	e P	Pn	18 24 57.6	-0.5
DEG	La Desirade	1.28 87	‖ e P	Pn	18 24 58.2	-1.0
DEG			e S	Sn	18 25 16.1	-6.3
SEUS	St. Eustatius	1.35 336	⇑ e P	Pn	18 24 58.5	-1.2
SEUS	St. Eustatius	1.35 336	e S	Sn	18 25 24.3	+0.7
SABA	Saba	1.58 329	‖ i P	Pn	18 25 02.4	+0.5
SABA	Saba	1.58 329	e S	Sn	18 25 27.4	0.0
SABS	Saba	1.58 329	‖ i P	Pn	18 25 02.4	+0.5
SABS			e S	Sn	18 25 27.4	0.0
SABT	Saba	1.58 329	‖ i P	Pn	18 25 02.4	+0.5
SABT			e S	Sn	18 25 27.4	0.0
SMRT	St. Maarten	1.90 340	e S	Sn	18 25 30.8	-2.4
SMRT	St. Maarten	1.90 340	‖ e P	Pn	18 25 04.7	-0.4
STMA	St. Maarten, A	1.90 339	e P	Pn	18 25 06.9	+1.8
STMA			e S	Sn	18 25 33.2	-0.1
FDF	Fort de France	1.93 141	⇑ e P	Pn	18 25 05.0	-0.5
FDF			e S	Sn	18 25 36.9	+3.1
BIM	Bigot	2.15 143	⇑ i P	Pn	18 25 07.6	-0.3
MVM	Montagne Vaucl	2.23 139	e P	Pn	18 25 08.5	-0.3
SLW	Petit Monier	2.63 147	e P	Pn	18 25 12.4	-1.0
CDVI	St. Croix	2.71 304	⇑ i P	Pn	18 25 14.7	+0.4
SLB	Belfond	2.75 151	e P	Pn	18 25 15.4	+0.6
SLB			e S	Sn	18 25 54.0	+3.6
TBVI	Tortola	3.02 316	‖ i P	Pn	18 25 17.7	-0.3
TBVI			e S	Sn	18 25 54.7	-1.5
ABV	Anegada	3.08 323	⇑ e P	Pn	18 25 18.4	-0.3
ABV			e S	Sn	18 25 55.9	-1.5
STVI	Saint Thomas	3.21 311	⇑ i P	Pn	18 25 20.3	0.0
STVI			e S	Sn	18 25 59.7	-0.6
MTP	Monte Pirata	3.53 302	⇑ i P	Pn	18 25 24.1	-0.1
MTP			e S	Sn	18 26 06.5	-0.8
HUMP	Col San Antoni	3.80 300	⇑ i P	Pn	18 25 27.9	+0.3
HUMP			e S	Sn	18 26 13.0	-0.4
CBYP	Canovanas	3.87 302	⇑ e P	Pn	18 25 29.0	+0.6
CBYP			e S	Sn	18 26 14.8	-0.2
SJG	San Juan	4.03 298	⇑ e P	Pn	18 25 30.8	+0.2
SJG			e S	Sn	18 26 19.9	+1.1
SJG	San Juan	4.03 298	⇑ e P	Pn	18 25 30.1	-0.5
SJG	San Juan	4.03 298	e S	Sn	18 26 18.3	-0.5
SJG	San Juan	4.03 298	⇑ e P	Pn	18 25 30.1	-0.5
SJG			e S	Sn	18 26 18.3	-0.5
SJG	San Juan	4.03 298	P	Pn	18 25 31.0	+0.4
	21nm,0.3s,baz=103,slow=10,SNR=36					
SJG			S	Sn	18 26 21.1	+2.3
	28nm,0.3s,baz=331,slow=18,SNR=13					
SJG			LR	LR	18 26 42.4	
	comp=Z,98nm,18.1s,baz=99,slow=33					
SJG	San Juan	4.03 298	⇑ e P	Pn	18 25 30.8	+0.2
SJG			e S	Sn	18 26 18.3	-0.5
GRGR	Grenville	4.16 170	e Pn	Pn	18 25 32.2	-0.1
ICM	Isla Caja Muer	4.27 293	⇑ i P	Pn	18 25 33.7	+0.1
CELP	Cerrillos	4.39 295	‖ e P	Pn	18 25 35.5	+0.4
OBIP	Obispado Ponce	4.40 294	‖ e P	Pn	18 25 35.4	+0.1
GBPR	Guanica, Bosqu	4.62 292	‖ i P	Pn	18 25 38.9	+0.8
AOPR	Arecibo Observ	4.65 297	⇑ i P	Pn	18 25 39.3	+0.8
AOPR			e S	Sn	18 26 32.9	-0.1
LRS	Lares	4.71 296	⇑ i P	Pn	18 25 40.0	+0.8
LRS			e S	Sn	18 26 34.6	+0.3
CRPR	Cabo Rojo, PR	4.83 292	⇑ i P	Pn	18 25 41.1	+0.3
LSP	Las Mesas	4.87 294	‖ e P	Pn	18 25 41.9	+0.5
LSP			e S	Sn	18 26 38.6	+0.5
AGPR	Aguadilla, PR	5.01 297	⇑ e P	Pn	18 25 43.1	0.0
DR12	Loma Pena Alta	7.12 292	‖ e P	Pn	18 26 10.6	-0.1
DR12			e S	Sn	18 27 35.5	+4.3
SDDR	Presa de Saban	8.90 289	‖ e P	Pn	18 26 33.7	-0.4
SDDR	Presa de Saban	8.90 289	e Pn	Pn	18 26 34.0	-0.1
SDV	Santo Domingo	10.88 229	P	Pn	18 26 59.7	-0.3
	0.5nm,0.3s,baz=156,slow=15,SNR=4.2					
ROSC	El Rosal	16.30 227	e P	Pn	18 28 09.7	+1.8
ROSC	El Rosal	16.30 227	P	Pn	18 28 07.4	-0.5
	2.6nm,0.3s,baz=94,slow=22,SNR=5.0					
TEIG	Tepich	24.88 283	P	P	18 29 35.3	+0.1
	2.7nm,0.4s,mb4.2,baz=80,slow=11,SNR=3.2					
URVA	University of	25.09 331	e P	P	18 29 37.8	+0.9
SIV	San Ignacio	32.07 178	P	P	18 30 38.0	-0.8
	10nm,0.5s,mb4.8,baz=11,slow=8.9,SNR=90					
BDFB	Brasilia	34.73 155	P	P	18 31 01.0	-0.9
	0.9nm,0.4s,mb3.8,baz=41,slow=22,SNR=3.3					
SCHQ	Schefferville	38.65 356	P	P	18 31 35.9	+1.3
	2.4nm,0.5s,mb4.1,baz=169,slow=3.5,SNR=6.3					
TXAR	Lajitas Array	40.01 296	P	P	18 31 46.3	+0.1
	0.3nm,0.5s,mb3.2,baz=112,slow=8.7,SNR=7.2					
TXAR			PcP	PcP	18 33 47.9	+0.2
	0.3nm,0.6s,baz=122,slow=6.3,SNR=5.8					
MNTX	Cornudas Mount	41.89 299	e P	P	18 32 01.9	+0.3
	1.1nm,0.5s,mb3.7					
CPUP	Villa Florida	42.62 173	e P	P	18 32 05.5	-1.9
CPUP	Villa Florida	42.62 173	P	P	18 32 05.0	-2.4
	1.8nm,0.4s,mb4.1,baz=336,slow=8.1,SNR=10					
BNM	Barren Site	43.43 303	e P	P	18 32 15.1	+1.2
NVAR	Mina Array Bea	53.48 306	P	P	18 33 29.5	-1.1
	0.4nm,0.7s,mb3.2,baz=245,slow=20,SNR=2.6					
MDT	Midelt	54.46 61	P	P	18 33 39.2	+1.4
	3.7nm,0.9s,mb4.1,baz=264,slow=12,SNR=4.6					
DBIC	Dimbokro	57.03 93	P	P	18 33 56.0	-0.4
DBIC	Dimbokro	57.03 93	P	P	18 33 56.0	-0.4
	1.9nm,0.6s,mb4.1,baz=250,slow=2.7,SNR=5.9					
PLCA	Paso Flores	57.20 187	P	P	18 33 55.6	-1.4
	2.7nm,0.7s,mb4.2,baz=356,slow=4.8,SNR=6.8					
YKA	Yellowknife Ar	58.69 335	P	P	18 34 06.7	-0.3
YKA			pP	pP	18 34 48.5	-0.4
YKA	Yellowknife Ar	58.69 335	P	P	18 34 06.7	-0.3
	0.6nm,0.4s,mb3.8,baz=107,slow=7.4,SNR=6.8					
YKA			pP	pP	18 34 48.5	-0.4
	1.1nm,0.8s,baz=109,slow=7.5,SNR=4.7					
TORD	Torodi Ar. Bea	61.85 84	P	P	18 34 29.3	-0.1
TORD	Torodi Ar. Bea	61.85 84	P	P	18 34 29.3	-0.1
	0.7nm,0.4s,mb3.8,baz=290,slow=7.6,SNR=15					
KEST	Kesra	66.01 58	P	P	18 34 56.6	+0.4
	1.3nm,0.7s,mb3.9,baz=110,slow=8.4,SNR=4.7					
GERES	GERESS Array B	68.82 43	P	P	18 35 12.9	-0.7
	0.4nm,0.5s,mb3.4,baz=270,slow=5.3,SNR=5.9					
ARCES	ARCESS Array B	74.17 21	P	P	18 35 45.5	+0.3
	1.5nm,0.8s,mb3.8,baz=276,slow=6.0,SNR=4.4					
FINES	FINESS Array B	75.15 30	P	P	18 35 51.0	+0.1
	0.6nm,0.4s,mb3.5,baz=264,slow=3.8,SNR=5.0					
STKA	Stephens Creek	153.23 230	PKP	PKPdf	18 43 57.6	-0.5
	3.5nm,1.0s,baz=23,slow=14,SNR=3.2					
ASAR	Alice Springs	163.01 242	PKP	PKPdf	18 44 08.9	-1.2
	0.2nm,0.8s,baz=97,slow=1.3,SNR=6.4					
ASAR			PKPab	PKPab	18 44 59.9	-1.0
	0.7nm,0.7s,baz=117,slow=4.0,SNR=5.6					
WRA	Warramunga Arr	163.68 255	PKP	PKPdf	18 44 09.5	-1.4
	0.4nm,1.0s,baz=108,slow=0.9,SNR=5.5					
WRA			PKPab	PKPab	18 45 03.7	-0.2
	0.6nm,1.1s,baz=101,slow=4.5,SNR=4.9					

*NEIC **28** 18:32:24.2, 1762N×1030.7W, h16km, MD3.9(MEX), After MEX.*
NEIC md 3.9 [UNM].

MEX 28 18:32:23.7±0.6, 1759N×10311W, h16km±82km, MD3.9, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	Aquila	0.73	342	i P	Pg	18 32 35.7	-2.3
MMIG				i S	Sg	18 32 44.6	-3.1
ZIIG	Zihuatanejo	1.57	89	i P	Pn	18 32 47.4	-3.6
ZIIG				i S	Sn	18 33 04.3	-6.7
ZIIG	Zihuatanejo	1.57	89	i P	Pn	18 32 47.4	-3.6
ZIIG				i S	Sn	18 33 05.5	-5.5
SFJM	Santa Fe	2.88	1	e P	Pn	18 33 02.0	-7.1
SFJM				i S	Sn	18 33 35.0	-8.5
PLIG	Platanillo	3.53	76	i P	Pn	18 33 13.1	-4.9
PLIG				i S	Sn	18 33 57.2	-2.1
PLIG	Platanillo	3.53	76	i P	Pn	18 33 16.1	-1.9
PLIG				i S	Sn	18 33 56.5	-2.8
PPM	Popocatepetl	4.51	70	i P	Pn	18 33 37.9	+6.5
PPM				i S	Sn	18 34 24.9	+1.4
UTMO	Huajuapan	5.07	86	i P	Pn	18 33 38.4	-0.7
UTMO				i S	Sn	18 34 38.1	+0.8

IDC 28 18:43:09.4±4.9, 842S×15778E, h0km, mb4.0/3, mb1 4.2/4, mb1mx3.7/14, mbtmp4.1/4, ML4.3/1, MS3.3/5, Ms1 3.3/5, ms1mx3.1/16, Error ellipse: s-maj=111.9km s-min=28.8km az=4.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.37	115	Pn	Pn	18 43 49.6	+0.1
	76nm,0.3s,baz=259,slow=3.2,SNR=33						
HNR				Sn	Sn	18 44 24.2	+5.0
	155nm,0.3s,baz=262,slow=17,SNR=3.7						
HNR				LR	LR	18 44 47.1	
	comp=Z,418nm,21.2s,baz=180,slow=41						
CTA	Charters Tower	16.09	223	LR	LR	18 52 05.0	
	comp=Z,106nm,20.6s,baz=279,slow=33						
WB2	Warramunga Arr	25.40	241	e P	P	18 48 39.2	+0.4
WRA	Warramunga Arr	25.41	241	P	P	18 48 39.4	+0.5
	2.7nm,0.7s,baz=67,slow=9.1,SNR=20						
ASAR	Alice Springs	27.43	234	P	P	18 48 57.1	0.0
	1.2nm,0.9s,baz=64,slow=9.9,SNR=6.2						
STKA	Stephens Creek	27.77	211	e P	P	18 49 03.7	+3.6
	4.1nm,0.9s						
STKA	Stephens Creek	27.77	211	P	P	18 48 59.6	-0.5
	2.4nm,0.7s,baz=18,slow=6.4,SNR=1.6						
STKA				LR	LR	18 59 41.2	
	comp=Z,95nm,20.0s,baz=25,slow=36						
FITZ	Fitzroy Crossi	32.68	250	e P	P	18 49 47.9	+4.2
	4.2nm,1.1s						
BATI	Kupang	33.71	264	LR	LR	19 04 38.5	
	comp=Z,107nm,18.1s,baz=126,slow=38						
KSRS	Korea Array	53.50	330	LR	LR	19 11 07.4	
	comp=Z,18nm,20.5s,baz=170,slow=31						

IDC 28 19:15:31.4±1.2, 065N×2458W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.6/22, mbtmp3.9/3, MS3.4/4, Ms1 3.4/4, ms1mx3.0/26, Error ellipse: s-maj=65.1km s-min=33.7km az=168.0, Central Mid-Atlantic Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BBTS	Babate	16.04	29	LR	LR	19 24 07.7	
	comp=Z,65nm,20.8s,baz=115,slow=32						
LIC	Lamto	20.28	74	e P	P	19 20 09.1	+0.2
	36nm,1.0s						
TIC	Toumodi	20.40	73	e P	P	19 20 08.9	-1.3
	22nm,0.7s						
DBIC	Dimbokro	20.57	73	P	P	19 20 12.2	+0.2
	11nm,1.1s,baz=225,slow=12,SNR=5.9						
KIC	Kosan Boka	20.59	74	e P	P	19 20 11.5	-0.8
	37nm,1.1s						
BDFB	Brasilia	28.25	234	LR	LR	19 32 03.0	
	comp=Z,49nm,18.1s,baz=40,slow=35						
TORD	Torodi Ar. Bea	28.84	63	P	P	19 21 31.6	-0.1
	1.5nm,1.0s,baz=230,slow=6.8,SNR=3.2						
CPUP	Villa Florida	41.43	227	LR	LR	19 39 22.8	
	comp=Z,50nm,21.2s,baz=251,slow=35						
PLCA	Paso Flores	58.61	220	LR	LR	19 51 21.3	
	comp=Z,87nm,20.7s,baz=182,slow=37						
TXAR	Lajitas Array	80.17	300	P	P	19 27 44.4	+0.3
	0.3nm,0.8s,baz=119,slow=5.2,SNR=3.5						
ASAR	Alice Springs	149.03	139	PKP	PKPdf	19 35 15.8	-2.5
	0.4nm,0.7s,baz=208,slow=2.5,SNR=6.9						
ASAR				PKPbc	PKPbc	19 35 23.2	+0.8
	0.8nm,0.8s,baz=209,slow=2.4,SNR=10						
WRA	Warramunga Arr	151.83	134	PKPbc	PKPbc	19 35 28.8	-0.4
	0.8nm,1.0s,baz=241,slow=2.8,SNR=3.2						

KRSC 28 19:37:18.0±1.3, 5038N×15662E, h129km±99km, ML3.8, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIPR	Malaya Ipel'ka	1.90	3	i P	Pn	19 37 51.9	+1.3
RUS	Russkaya	2.37	29	i P	Pn	19 37 58.6	+2.1
RUS				i S	Sn	19 38 28.4	+2.4
SDLR	Sedlovina	3.22	25	i P	Pn	19 38 10.3	+2.9
NLC	Nalytchevo	3.27	30	e P	Pn	19 38 09.4	+1.4
NLC				i S	Sn	19 38 46.8	+0.2
GNL	Ganaly	3.42	13	e P	Pn	19 38 11.9	+2.0
SPN	Mys Shipunski	3.45	37	e P	Pn	19 38 12.7	+2.4
SPN				i S	Sn	19 38 51.9	+1.1
MKZ	Mys Kozlova	5.22	35	e P	Pn	19 38 35.3	+1.4
MKZ				e S	Sn	19 39 31.4	-1.6
KBTR	Krutoberegovo	6.92	30	e P	Pn	19 38 57.6	+0.9

WEL 28 20:29:21.4±0.2, 4087S×17585E, h30km±1km, ML3.7/7, Error ellipse: s-maj=1.7km s-min=0.8km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TIWZ	Tintock	0.10	18	P*	Pb	20 29 26.7	-0.1
TIWZ				S*	Sb	20 29 30.7	+0.3
MRZ	Mangatainoka R	0.29	316	P*	Pb	20 29 28.8	0.0
MRZ				LR*	Sb	20 29 34.0	+0.3
MTW	Mount Morrison	0.39	222	P*	Pb	20 29 29.9	-0.2
MTW				S*	Sb	20 29 37.1	+1.0

*ISCJB **28** 20:36:09.6±0.3, 1845N±002×10000W±002, h67km±3km, mb3.9/21, Error ellipse: s-maj=4.1km s-min=3.8km az=35.7*
*IDC **28** 20:36:11.9±0.9, 1877N×9963W, h66km±7km, mb3.7/13, mb1 3.9/13, mb1mx3.8/21, mbtmp3.7/13, MS3.2/7, Ms1 3.1/7, ms1mx2.9/28, Error ellipse: s-maj=29.3km s-min=14.3km az=60.0*
*MEX **28** 20:36:12.0±1.7, 1848N×10005W, h55km±14km, MD4.5*
*NEIC **28** 20:36:12.0, 1848N×10005W, h55km, mb4.1/14, MD4.5(MEX), After MEX.*
NEIC Felt at Apaxtla.

ISC 28 20:36:10.5±0.3, 1847N±002×10001W±002, h61km±3km, h70km±2.3km: pP-P, n69, σ1927/91, mb4.0/21, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLIG	Platanillo	0.49	98	i P	Pn	20 36 22.4	-0.1
PLIG				i S	Sn	20 36 30.7	-0.4
MEIG	Mezcala	0.65	145	i P	Pn	20 36 25.0	+0.7
MEIG				i S	Sn	20 36 35.3	+1.0
YAIG	Yautepec	0.98	66	i P	Pn	20 36 27.9	-0.4
YAIG				i S	Sn	20 36 40.4	-1.1
MZVM		1.03	46	i P	Pn	20 36 29.2	+0.2
SZVM	Salazar	1.04	35	i P	Pn	20 36 29.2	+0.1
SZVM				i S	Sn	20 36 42.9	0.0
UNM	Universidad Na	1.17	42	i P	Pn	20 36 30.9	+0.1
UNM				i P		20 36 31.5	
UNM				i S	Sn	20 36 46.0	+0.1
UNM				i S	Sn	20 36 46.6	+0.7
UNM	Universidad Na	1.17	42	i P	Pn	20 36 30.9	+0.1
UNM				i P		20 36 31.5	
UNM				i S	Sn	20 36 46.0	+0.1
UNM				i S	Sn	20 36 46.6	+0.7
PTVM	Pico Tres Padr	1.41	37	i P	Pn	20 36 32.9	-1.1
PTVM				i S	Sn	20 36 51.0	-0.6
CAIG	El Cayaco	1.43	190	i P	Pn	20 36 34.7	+0.4
CAIG				i S	Sn	20 36 50.1	-2.1
PPM	Popocatepetl	1.44	65	i P	Pn	20 36 34.0	-0.4
PPM				i P		20 36 35.2	
PPM				i S	Sn	20 36 53.8	+1.4
ACX	Acapulco	1.59	177	i P	Pn	20 36 35.5	-1.0
ACX				i S	Sn	20 36 51.9	-4.2
ACX	Acapulco	1.59	177	i P	Pn	20 36 35.5	-1.0
ACX				i S	Sn	20 36 52.5	-3.6
ZIIG	Zihuatanejo	1.63	239	i P	Pn	20 36 37.1	+0.2
ZIIG				i S	Sn	20 36 54.2	-2.7
MOIG	Morelia	1.64	317	i P	Pn	20 36 38.0	+0.8
MOIG				i S	Sn	20 36 57.1	-0.2
IIO	Organos	1.66	47	i P	Pn	20 36 37.6	+0.3
IIO				i S	Sn	20 36 54.5	-3.1
DEIG	Demacu	2.04	27	i P	Pn	20 36 41.9	-0.7
DEIG				i S	Sn	20 37 05.5	-1.5
UTMO	Huajuapan	2.19	106	i P	Pn	20 36 45.6	+1.0
UTMO				i S	Sn	20 37 10.2	-0.4
PNIG	Pinotepa	2.73	139	i P	Pn	20 36 51.6	-0.4
PNIG				i S	Sn	20 37 22.6	-1.4
MMIG	Aquila	3.17	267	i P	Pn	20 36 58.3	+0.3
MMIG				i S	Sn	20 37 33.8	-0.8
VHO	Vista Hermosa	3.42	113	i P	Pn	20 37 03.9	+2.5
OXX	Oaxaca	3.42	113	i P	Pn	20 37 03.0	+1.6
OXX				i S	Sn	20 37 37.5	-3.3
OXX	Oaxaca	3.42	113	i P	Pn	20 37 03.0	+1.6
OXX				i S	Sn	20 37 42.0	+1.2
SFJM	Santa Fe	3.49	306	i P	Pn	20 37 01.5	-0.9
LVIG	Laguna Verde	3.62	69	i P	Pn	20 37 04.7	+0.5
LVIG				i S	Sn	20 37 46.2	+0.6
HUIG	Huatulco	4.59	125	i P	Pn	20 37 19.8	+2.3
HUIG				i S	Sn	20 38 07.8	-1.8
ANIG	Ahuacatlan	4.97	302	i P	Pn	20 37 24.8	+2.2
LNIG	Linares	6.42	4	e P	Pn	20 37 40.5	-2.0
SCX	San Cristobal	7.24	103	i P	Pn	20 37 54.5	+0.7
CCIG	Comitan	7.83	105	i P	Pn	20 38 03.6	+1.9
LPIG	La Paz	11.12	302	LR	LR	20 42 57.1	
	comp=Z,201nm,20.2s,baz=81,slow=36						
TEIG	Tepich	11.21	79	P	Pn	20 38 48.5	+0.4
	0.3nm,0.3s,baz=50,slow=2.8,SNR=2.0						
TXAR	Lajitas Array	11.32	344	P	Pn	20 38 51.6	+2.1
	0.1nm,0.3s,baz=164,slow=14,SNR=15						
TXAR				LR	LR	20 43 38.0	
	comp=Z,91nm,21.1s,baz=180,slow=40						
MNTX	Cornudas Mount	14.04	341	e P	Pn	20 39 27.0	+0.6
	3.8nm,0.9s						
BNM	Barren Site	16.70	341	e P	Pn	20 40 02.4	+1.9
TUC	Tucson	16.86	327	e P	Pn	20 40 04.2	+1.7
	7.2nm,0.9s						
MIAR	Mount Ida	17.01	18	e P	Pn	20 40 02.6	-1.7
	5.7nm,0.8s						
ANMO	Albuquerque	17.39	342	P	Pn	20 40 10.9	+1.8
	0.1nm,0.3s,baz=193,slow=0.1,SNR=8.0						
ANMO				LR	LR	20 47 17.7	
	comp=Z,81nm,20.6s,baz=278,slow=39						
PLAL	Pickwick Lake	19.57	30	e P	Pn	20 40 30.7	-4.6
	13nm,0.8s						
GLA	Glamis	19.69	320	e P	Pn	20 40 36.4	-0.3
	9.2nm,0.8s						
WUAZ	Wupatki	19.75	332	e P	Pn	20 40 37.7	+0.3
	19nm,0.9s						
MVCO	Mesa Verde	20.11	340	e P	P	20 40 43.3	+4.0
	8.0nm,0.9s						
CCM	Cathedral Cave	20.97	20	e P	P	20 40 47.5	-1.1
	5.9nm,0.7s						
PFO	Pinyon Flat Ob	21.07	319	P	P	20 40 51.5	+1.8
PFO				LR	LR	20 49 18.4	
PFO	Pinyon Flat Ob	21.07	319	P	P	20 40 51.5	+1.8
	4.2nm,1.0s,mb3.7,baz=146,slow=4.8,SNR=4.2						
PFO				LR	LR	20 49 18.4	
	comp=Z,33nm,21.0s,baz=136,slow=37						
TKL	Tuckaleechee C	22.36	37	P	P	20 41 01.2	-2.3
TKL	Tuckaleechee C	22.36	37	P	P	20 41 01.2	-2.3
	1.9nm,0.4s,mb3.9,baz=187,slow=11,SNR=5.5						
SRU	San Rafael	22.51	338	e P	P	20 41 04.1	-0.9
	2.0nm,0.6s,mb3.7						
MSU	Marysvale	22.61	335	e P	P	20 41 06.8	+0.7
MVU	Marysvale	22.62	334	e P	P	20 41 06.0	-0.2
	4.2nm,1.1s,mb3.8						
DUG	Dugway	24.31	336	e P	P	20 41 22.4	+0.1
	5.9nm,0.8s,mb4.1						
HWUT	Hardware Ranch	25.09	339	e P	P	20 41 31.1	+1.7
	6.1nm,0.9s,mb4.1						
ECSD	EROS,Sioux Fal	25.35	6	e P	P	20 41 30.1	-1.6
	15nm,1.1s,mb4.4						
NVAR	Mina Array Bea	25.49	325	P	P	20 41 34.5	+1.4
	3.7nm,0.7s,mb4.0,baz=148,slow=11,SNR=21						
NVAR				pP	pP	20 41 51.6	+3.7
	2.9nm,0.9s,baz=150,slow=11,SNR=5.2						
AHID	Auburn Hatcher	25.99	341	e P	P	20 41 37.6	+0.1
	7.7nm,0.7s,mb4.3						
SDDR	Presa de Saban	27.20	84	e P	P	20 41 49.6	+0.9
	12nm,0.9s,mb4.4						
SDV	Santo Domingo	30.05	105	P	P	20 42 15.8	+1.7
	1.5nm,0.4s,mb4.0,baz=330,slow=6.8,SNR=4.4						
SDV				LR	LR	20 55 18.1	
	comp=Z,46nm,20.5s,baz=348,slow=38						
ULM	Lac du Bonnet	31.88	5	P	P	20 42 26.9	-2.9
	1.3nm,0.6s,mb4.0,baz=270,slow=20,SNR=2.8						
ULM				LR	LR	20 57 54.3	
	comp=Z,36nm,18.4s,baz=176,slow=41						
SCHQ	Schefferville	44.24	27	P	P	20 44 10.6	-3.1
	1.0nm,0.4s,mb3.9,baz=232,slow=12,SNR=6.7						
YKA	Yellowknife Ar	45.15	351	P	P	20 44 18.3	-2.4
YKA				pP	pP	20 44 35.1	-1.3
YKA				LR	LR	21 05 47.5	
YKA	Yellowknife Ar	45.15	351	P	P	20 44 18.3	-2.4
	0.2nm,0.4s,mb3.3,baz=158,slow=7.6,SNR=5.2						
YKA				pP	pP	20 44 35.1	-1.3
	0.9nm,0.8s,baz=159,slow=7.4,SNR=6.2						
YKA				LR	LR	21 05 47.5	
	comp=Z,29nm,19.5s,baz=160,slow=40						
LPAZ	La Paz	46.66	136	P	P	20 44 35.3	+2.0
	1.3nm,0.8s,mb3.9,baz=340,slow=9.7,SNR=5.9						
LPAZ				pP	pP	20 44 52.0	+3.0
	0.8nm,0.6s,baz=187,slow=1.2,SNR=2.7						
CPUP	Villa Florida	60.84	136	P	P	20 46 17.0	+0.3
CPUP	Villa Florida	60.84	136	P	P	20 46 17.0	+0.3
	1.1nm,0.6s,mb4.2,baz=253,slow=5.7,SNR=3.6						
BDFB	Brasilia	61.40	120	P	P	20 46 20.0	-0.8
	1.3nm,0.8s,mb4.1,baz=235,slow=10,SNR=5.6						
ESDC	Sonseca Array	82.94	51	P	P	20 48 27.6	-1.5
	0.4nm,0.6s,mb3.6,baz=292,slow=4.0,SNR=3.6						
NOA	NORSAR Array B

2.7nm,0.3s,baz=340,slow=7.1,SNR=7.3
PSI Prapat 1.54 259||*e*P Pn 21 04 08.4 +0.8
KAPI Kappang 20.91 113 P P 21 08 17.6 -5.6
3.2nm,0.3s,baz=270,slow=16,SNR=3.0
WRA Warramunga Arr 40.40 126 P P 21 11 19.0 -0.1
0.3nm,0.5s,baz=302,slow=9.2,SNR=4.6
MKAR Makanchi Array 46.30 343 P P 21 12 05.7 -0.7
0.7nm,0.5s,baz=162,slow=7.7,SNR=10
ZALV Zalesovo Beam 52.30 348 P P 21 12 52.8 +0.7
0.7nm,0.4s,baz=169,slow=8.9,SNR=4.7

*MOS **28** 22:17:43.8±0.7,3538N×13548E,h362km,mb3.7/6,Error ellipse: s-maj=21.3km s-min=12.7km az=91.1*
*ISCJB **28** 22:17:44.3±0.7,3539N±0.10×13564E±009,h366km±6km, mb3.5/11,Error ellipse: s-maj=15.7km s-min=11.8km az=0.2*
*NEIC **28** 22:17:45.4±0.5,3539N×13556E,h362km±5km,mb4.3/3, Error ellipse: s-maj=9.6km s-min=8.5km az=192.0*
*IDC **28** 22:17:45.6±1.3,3542N×13557E,h362km±13km,mb3.0/10, mb1 3.2/12,mb1mx3.1/23,mbtmp3.0/12,Error ellipse: s-maj=20.5km s-min=13.4km az=77.0*
ISC 28 22:17:45.3±0.7,3540N±010×**13562E**±009,**h359**km±6km, **n35**,σ0°**64**/35,**mb3.5**/11,**2C**,**Western Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MAJO	**Matsushiro**	**2.39**	**61**	*e*P	**Pn**	**22 18 40.4**	**+0.2**
MAJO				*e*S	**S**	**22 19 23.2**	**-1.2**
MJAR	**Matsushiro Arr**	**2.39**	**61**	P	**Pn**	**22 18 40.6**	**+0.4**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**2.39**	**61**	P	**Pn**	**22 18 40.6**	**+0.4**
	comp=Z,1.0nm,0.3s,baz=258,slow=7.1,SNR=9.1						
KSRS	**Korea Array**	**6.53**	**291**	P	**Pn**	**22 19 23.4**	**+1.0**
	comp=Z,0.8nm,0.3s,baz=107,slow=13,SNR=17						
INCN	**Inchon**	**7.53**	**289**	Pn	**Pn**	**22 19 34.0**	**-0.1**
MDJ	**Mudanjiang**	**10.29**	**335**	*e*Pn	**Pn**	**22 20 07.1**	**+0.6**
YSS	**Yuzh-Sakhalins**	**12.72**	**23**	*e*P	**P**	**22 20 34.7**	**+0.4**
HIA	**Hailar**	**18.10**	**325**	*e*P	**P**	**22 21 32.5**	**-0.2**
HIA				pmax	pmax		
	comp=Z,7.0nm,0.5s						
HIA	**Hailar**	**18.10**	**325**	*e*P	**P**	**22 21 32.5**	**-0.1**
	comp=Z,6.8nm,0.5s						
PET	**Petropavlovsk**	**23.97**	**36**	*e*P	**P**	**22 22 29.0**	**+0.6**
ULN	**Ulaanbaatar**	**24.56**	**309**	P	**P**	**22 22 33.2**	**-0.6**
BILL	**Bilibino**	**36.99**	**19**α	*i*P	**P**	**22 24 22.9**	**+1.6**
BILL				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.0						
BILL	**Bilibino**	**36.99**	**19**	*e*P	**P**	**22 24 21.8**	**+0.4**
	comp=Z,3.0nm,0.3s,mb4.0						
ZALV	**Zalesovo Beam**	**39.61**	**314**	P	**P**	**22 24 43.0**	**-0.1**
	comp=Z,0.5nm,0.3s,mb3.1,baz=111,slow=7.9,SNR=2.2						
ZALV				PcP	PcP	22 26 41.5	-0.4
	comp=Z,1.4nm,0.6s,baz=130,slow=3.2,SNR=6.2						
ZAL	**Zalesovo**	**39.62**	**314**	P	**P**	**22 24 43.0**	**-0.2**
ZAL						22 26 41.5	
MKAR	**Makanchi Array**	**41.04**	**303**	P	**P**	**22 24 54.9**	**+0.1**
MKAR						22 26 47.5	
MKAR				pmax	pmax		
	comp=Z,1.0nm,1.0s						
MKAR	**Makanchi Array**	**41.04**	**303**	P	**P**	**22 24 54.9**	**+0.1**
MKAR				PcP	PcP	22 26 47.5	+0.8
MKAR	**Makanchi Array**	**41.04**	**303**	P	**P**	**22 24 54.9**	**+0.1**
	comp=Z,0.3nm,0.6s,mb2.7,baz=86,slow=9.5,SNR=4.8						
MKAR				PcP	PcP	22 26 47.5	+0.8
	comp=Z,0.6nm,1.0s,baz=118,slow=2.5,SNR=3.4						
WRA	**Warramunga Arr**	**55.05**	**181**	P	**P**	**22 26 41.2**	**+0.1**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
WRA	**Warramunga Arr**	**55.05**	**181**	P	**P**	**22 26 41.2**	**+0.1**
	comp=Z,1.2nm,0.5s,mb3.5,baz=358,slow=7.6,SNR=14						
EGAK	**Eagle**	**55.78**	**31**	P	**P**	**22 26 45.2**	**-0.5**
INK	**Inuvik**	**57.94**	**26**	P	**P**	**22 27 01.1**	**+0.4**
INK				pmax	pmax		
	comp=Z,1.0nm,0.4s						
INK	**Inuvik**	**57.94**	**26**	*e*P	**P**	**22 27 01.1**	**+0.4**
	comp=Z,32nm,0.4s,mb5.0						
INK	**Inuvik**	**57.94**	**26**	P	**P**	**22 27 01.1**	**+0.4**
	comp=Z,0.9nm,0.4s,mb3.5,baz=297,slow=4.5,SNR=5.9						
ASAR	**Alice Springs**	**58.77**	**182**	P	**P**	**22 27 07.2**	**+0.3**
	comp=Z,0.7nm,0.7s,mb3.2,baz=360,slow=3.5,SNR=6.4						
ARCES	**ARCESS Array B**	**63.83**	**338**	P	**P**	**22 27 39.4**	**-0.5**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ARCES	**ARCESS Array B**	**63.83**	**338**	P	**P**	**22 27 39.4**	**-0.4**
ARCES	**ARCESS Array B**	**63.83**	**338**	P	**P**	**22 27 39.4**	**-0.4**
	comp=Z,1.4nm,0.7s,mb3.7,baz=66,slow=6.8,SNR=5.8						
YKA	**Yellowknife Ar**	**67.52**	**28**	P	**P**	**22 28 03.8**	**+0.5**
	comp=Z,0.3nm,0.5s,mb3.3,baz=297,slow=6.0,SNR=4.5						
FINES	**FINESS Array B**	**68.01**	**331**	P	**P**	**22 28 05.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
FINES	**FINESS Array B**	**68.01**	**331**	P	**P**	**22 28 05.8**	**-0.6**
	comp=Z,1.0nm,0.8s,mb3.6,baz=1.7,slow=6.5,SNR=5.5						
AKASG	**Malin Array Be**	**72.63**	**320**	P	**P**	**22 28 32.5**	**-1.9**
	comp=Z,0.2nm,0.3s,mb3.3,baz=52,slow=6.4,SNR=4.3						
NOA	**NORSAR Array B**	**73.79**	**335**	P	**P**	**22 28 40.7**	**-0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**73.79**	**335**	P	**P**	**22 28 40.7**	**-0.1**
	comp=Z,0.5nm,0.5s,mb3.5,baz=45,slow=5.6,SNR=2.7						
TORD	**Torodi Ar. Bea**	**114.94**	**309**	PKP	PKPdf	22 35 43.5	-0.9
	comp=Z,0.2nm,0.5s,baz=57,slow=0.9,SNR=4.4						

*MOS **28** 22:24:25.6±1.1,4395N×15408E,h100km,mb3.9/5,Error ellipse: s-maj=61.0km s-min=24.0km az=117.1*
*IDC **28** 22:24:29.8±9.2,4626N×15313E,h0km,mb3.9/6, mb1 4.0/6,mb1mx3.7/20,mbtmp3.9/6,MS3.1/2,Ms1 3.2/2, ms1mx2.7/27,Error ellipse: s-maj=215.1km s-min=40.4km az=135.0*
ISC 28 22:24:35.7±4.9,458N±04×**1535E**±04,**h68**km±35km,**n13**, σ0°**39**/13,**mb3.9**/5,**1D**,**East of Kuril Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**4.02**	**263**	||*i*P	**Pn**	**22 25 34.5**	**-0.1**
KUR				*e*S	**Sn**	**22 26 20.6**	**+0.2**
KUR				pmax	pmax		
	comp=Z,180nm,0.5s						
KUR				smax			
	comp=N,150nm,0.8s						
KUR				smax			
	comp=E,160nm,0.8s						
KSRS	**Korea Array**	**20.82**	**255**	P	**P**	**22 29 11.4**	**0.0**
	comp=E,1.5nm,0.7s,baz=58,slow=12,SNR=4.7						
ZALV	**Zalesovo Beam**	**43.38**	**307**	LR	LR	22 51 30.8	
	comp=E,32nm,21.0s,baz=360,slow=38						
MKAR	**Makanchi Array**	**47.61**	**298**	P	**P**	**22 33 03.9**	**-0.6**
MKAR				pmax	pmax		
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**47.61**	**298**	P	**P**	**22 33 03.9**	**-0.6**
	comp=Z,0.5nm,0.6s,mb3.5,baz=66,slow=6.8,SNR=7.6						
ARCES	**ARCESS Array B**	**58.80**	**341**	P	**P**	**22 34 25.9**	**-0.4**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.9s						
ARCES	**ARCESS Array B**	**58.80**	**341**	P	**P**	**22 34 25.9**	**-0.4**
	comp=Z,3.2nm,0.9s,mb4.4,baz=22,slow=9.7,SNR=4.0						
FINES	**FINESS Array B**	**64.98**	**335**	P	**P**	**22 35 07.7**	**-0.1**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**64.98**	**335**	P	**P**	**22 35 07.7**	**-0.1**
	comp=Z,1.0nm,0.6s,mb3.8,baz=38,slow=5.7,SNR=11						
NOA	**NORSAR Array B**	**69.18**	**341**	P	**P**	**22 35 35.2**	**+0.8**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
NOA				MLR	MLR		
	comp=Z,12nm,20.6s						
NOA	**NORSAR Array B**	**69.18**	**341**	P	**P**	**22 35 35.1**	**+0.8**
	comp=Z,0.9nm,0.7s,mb3.7,baz=29,slow=6.6,SNR=3.4						
NOA				LR	LR	23 10 19.8	
	comp=Z,12nm,20.6s,baz=260,slow=40						
AKASG	**Malin Array Be**	**72.46**	**327**	P	**P**	**22 35 54.7**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.46**	**327**	P	**P**	**22 35 54.7**	**+0.2**
	comp=Z,1.2nm,0.5s,mb4.0,baz=33,slow=6.1,SNR=10.0						

*NIED **28** 22:36:00,3960N×14210E,h53km,Mw3.9 Best double couple: M0=8.47000×10^14 NP1:φs=22.00000°,δ67.00000°, λ93.00000°. NP2:φs=194.00000°,δ23.00000°,λ83.00000°.*

*ISCJB **28** 22:36:08.1±0.6,3964N±003×14217E±008,h56km±3km, mb4.2/18,Error ellipse: s-maj=10.2km s-min=4.9km az=18.1*
*MOS **28** 22:36:09.4±1.1,3967N×14219E,h67km,mb4.2/11,Error ellipse: s-maj=15.1km s-min=9.1km az=79.8*
*JMA **28** 22:36:09.5±0.1,3964N×14210E,h48km±1km,M4.0 Broadband fault plane solution: P waves. NP1: φs=168.00000°,δ26.00000°,λ56.00000°. NP2:φs=25.00000°, δ69.00000°,λ105.00000°. Principal axes: T Plg63.0000°, Azm319.0000°; N Plg14.0000°, Azm199.0000°; P Plg22.0000°, Azm103.0000°;*
JMA Felt III J1.
*NEIC **28** 22:36:11.1±1.0,3959N×14218E,h73km±9km,mb4.1/2 Error ellipse: s-maj=16.6km s-min=8.5km az=111.0*
*IDC **28** 22:36:14.0±3.8,3959N×14201E,h93km±32km,mb3.6/11, mb1 3.8/13,mb1mx3.7/22,mbtmp3.7/13,MS2.6/2, Ms1 2.6/2,ms1mx2.4/25,Error ellipse: s-maj=32.6km s-min=18.3km az=78.0*
ISC 28 22:36:09.3±0.5,3965N±003×**14214E**±007,**h49**km±3km, **n59**,σ0°**92**/71,**mb4.2**/18,**1C-9D**,**Near east coast of eastern Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MIYJ	**Miyakonagasawa**	**0.26**	**254**	||P	**Pn**	**22 36 17.8**	**-0.1**
MIYJ				S	**Sn**	**22 36 23.6**	**-0.4**
JTH	**Tanohata**	**0.36**	**324**	||P	**Pn**	**22 36 19.0**	**+0.1**
JTH				S	**Sn**	**22 36 25.6**	**-0.1**
OFUJ	**Ofunato**	**0.67**	**213**	⇑P	**Pn**	**22 36 22.3**	**-0.3**
OFUJ				*e*S	**Sn**	**22 36 31.2**	**-1.0**
JOM	**Ohasama**	**0.68**	**255**	||P	**Pn**	**22 36 22.7**	**0.0**
JOM				S	**Sn**	**22 36 32.1**	**-0.2**
JKZ	**Kuzumaki**	**0.71**	**299**	||P	**Pn**	**22 36 23.2**	**+0.1**
JKZ				S	**Sn**	**22 36 32.8**	**-0.3**
JANG	**Nango**	**0.87**	**327**	||P	**Pn**	**22 36 25.1**	**-0.1**
JANG				S	**Sn**	**22 36 36.4**	**-0.4**
JMK	**Ichinoseki**	**1.00**	**226**	||P	**Pn**	**22 36 26.7**	**-0.2**
JMK				S	**Sn**	**22 36 39.1**	**-0.8**
JAH	**Hinai**	**1.28**	**296**	||P	**Pn**	**22 36 30.9**	**+0.2**
JIO	**Ouri**	**1.34**	**208**	||P	**Pn**	**22 36 31.2**	**-0.4**
JIO				S	**Sn**	**22 36 47.1**	**-1.1**
JTM	**Tenmabayashi**	**1.40**	**325**	||P	**Pn**	**22 36 32.6**	**+0.2**
ERM	**Erimo**	**2.49**	**18**	*e*Pn	**Pn**	**22 36 48.8**	**+1.5**
ERM				*e*Sn	**Sn**	**22 37 22.6**	**+6.2**
MAJO	**Matsushiro**	**4.39**	**226**	*e*Pn	**Pn**	**22 37 15.0**	**+1.7**
MAJO				Sn	**Sn**	**22 38 05.3**	**+2.2**
MAT	**Matsushiro**	**4.39**	**226**	P	**Pn**	**22 37 16.1**	**+2.8**
MAT				S	**Sn**	**22 38 11.3**	**+8.2**
MJAR	**Matsushiro Arr**	**4.39**	**226**	*e*P	**Pn**	**22 37 16.4**	**+3.1**
MJAR				pmax	pmax		
	comp=Z,5.0nm,0.3s						
MJAR	**Matsushiro Arr**	**4.39**	**226**	P	**Pn**	**22 37 16.1**	**+2.8**
	comp=Z,4.6nm,0.3s,baz=33,slow=13,SNR=72						
MJAR				LR	LR	22 39 02.3	
	comp=Z,92nm,20.1s,baz=70,slow=40						
YUK	**Yuzh-Kuril'sk**	**5.19**	**31**	*e*P	**Pn**	**22 37 25.4**	**+1.1**
YUK				*i*S	**Sn**	**22 38 21.0**	**-1.8**
YUK				pmax	pmax		
	comp=Z,170nm,0.5s						
YUK				smax			
	comp=N,380nm,0.6s						
YUK				smax			
	comp=E,250nm,0.6s						
YUK				smax			
	comp=N,2μm,2.0s						
YUK				smax			
	comp=E,2μm,2.0s						
KSRS	**Korea Array**	**11.35**	**263**	*e*P	**Pn**	**22 38 53.6**	**+4.9**
KSRS	**Korea Array**	**11.35**	**263**	P	**Pn**	**22 38 53.1**	**+4.4**
	comp=E,1.2nm,0.3s,baz=70,slow=14,SNR=11						
KSRS				LR	LR	22 43 14.4	
	comp=E,24nm,18.1s,baz=130,slow=37						
MA2	**Magadan**	**20.68**	**12**	*e*P	**P**	**22 40 46.0**	**+1.1**
MA2				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MA2	**Magadan**	**20.68**	**12**	*e*P	**P**	**22 40 46.0**	**+1.1**
	comp=Z,4.5nm,0.8s						
SEY	**Seymchan**	**24.12**	**11**	*e*P	**P**	**22 41 20.9**	**+0.8**
SONM	**Songino Array**	**26.90**	**300**	*e*P	**P**	**22 41 48.1**	**+2.6**
SONM				pmax	pmax		
	comp=Z,1.0nm,0.6s						
SONM	**Songino Array**	**26.90**	**300**	P	**P**	**22 41 46.1**	**+0.6**
	comp=Z,0.7nm,0.6s,mb3.4,baz=71,slow=8.7,SNR=3.9						
ZAK	**Zakamensk**	**29.18**	**305**	*e*P	**P**	**22 42 03.0**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,1.0nm,1.1s,mb3.5						
BILL	**Bilibino**	**31.36**	**17**	*i*P	**P**	**22 42 24.9**	**0.0**
TIXI	**Tiksi**	**32.77**	**352**	*i*P	**P**	**22 42 36.4**	**-0.8**
ZALV	**Zalesovo Beam**	**40.62**	**310**	P	**P**	**22 43 43.9**	**-0.3**
	comp=Z,2.8nm,0.4s,mb4.2,baz=87,slow=8.6,SNR=16						
ZALV				PcP	PcP	22 45 45.1	-0.1
	comp=Z,1.0nm,0.3s,baz=106,slow=4.0,SNR=5.0						
ZAL	**Zalesovo**	**40.64**	**310**	P	**P**	**22 43 43.9**	**-0.3**
ZAL						22 45 45.1	
MK31	**Makanchi Array**	**43.27**	**300**	*e*P	**P**	**22 44 05.8**	**0.0**
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**22 44 05.6**	**-0.2**
MKAR						22 45 53.9	
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.6s						
MKAR	**Makanchi Array**	**43.27**	**300**	P	**P**	**22 44 05.6**	**-0.2**
	comp=Z,1.8nm,0.6s,mb4.0,baz=84,slow=9.6,SNR=25						
MKAR				PcP	PcP	22 45 53.9	-0.2
	comp=Z,0.2nm,0.5s,baz=57,slow=5.3,SNR=2.7						
KURK	**Kurchatov**	**44.81**	**306**	*e*P	**P**	**22 44 17.4**	**-0.7**
KURK				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.4						
KURK	**Kurchatov**	**44.81**	**306**	*e*P	**P**	**22 44 17.4**	**-0.7**
	comp=Z,3.6nm,0.6s,mb4.4						
JIRN	**Jiri**	**47.40**	**273**	*e*P	**P**	**22 44 38.9**	**+0.1**
	comp=Z,6.0nm,0.3s,mb4.9						
GUN	**Gumba**	**47.51**	**274**	*e*P	**P**	**22 44 40.1**	**+0.4**
	comp=Z,11nm,0.6s,mb5.1						
KKN	**Kakani**	**48.03**	**274**	*e*P	**P**	**22 44 43.7**	**0.0**
	comp=Z,8.4nm,0.5s,mb5.0						
DMN	**Daman**	**48.26**	**274**	*e*P	**P**	**22 44 45.7**	**+0.3**
	comp=Z,1.3nm,0.3s,mb4.4						
GKN	**Gorkha**	**48.43**	**275**	*e*P	**P**	**22 44 46.9**	**+0.2**
DANN	**Dangsing**	**48.93**	**275**	*e*P	**P**	**22 44 51.1**	**+0.5**
	comp=Z,23nm,0.5s						
BRVK	**Borovoye**	**49.32**	**311**	P	**P**	**22 44 53.2**	**0.0**
KOLN	**Koldanda**	**49.34**	**275**	*e*P	**P**	**22 44 54.0**	**+0.3**
	comp=Z,2.3nm,0.3s,mb4.6						
INK	**Inuvik**	**51.81**	**28**	P	**P**	**22 45 13.2**	**+1.4**
INK				pmax	pmax		
	comp=Z,2.0nm,0.5s						
INK	**Inuvik**	**51.81**	**28**	P	**P**	**22 45 13.2**	**+1.5**
	comp=Z,1.5nm,0.5s,mb4.2,baz=307,slow=6.8,SNR=5.9						
FITZ	**Fitzroy Crossi**	**59.48**	**198**	P	**P**	**22 46 03.8**	**-3.5**
WRA	**Warramunga Arr**	**59.72**	**189**	P	**P**	**22 46 07.8**	**-1.1**
	comp=Z,0.4nm,0.6s,mb3.6,baz=7.8,slow=7.7,SNR=4.7						
ARCES	**ARCESS Array B**	**61.76**	**339**	P	**P**	**22 46 21.3**	**-0.9**
ARCES				pmax	pmax		
	comp=Z,1.0nm,0.8s						
ARCES	**ARCESS Array B**	**61.76**	**339**	P	**P**	**22 46 21.3**	**-0.9**
	comp=Z,1.1nm,0.8s,mb4.0,baz=63,slow=8.7,SNR=5.4						
ASAR	**Alice Springs**	**63.45**	**188**	P	**P**	**22 46 33.6**	**-0.3**
	comp=Z,0.2nm,0.3s,mb3.7,baz=14,slow=15,SNR=4.6						
FINES	**FINESS Array B**	**66.78**	**332**	*i*P	**P**	**22 46 55.2**	**0.0**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.6s						
FINES	**FINESS Array B**	**66.78**	**332**	P	**P**	**22 46 55.0**	**-0.2**
	comp=Z,1.4nm,0.6s,mb4.2,baz=41,slow=9.7,SNR=12						
NB2	**NORSAR Subarra**	**72.00**	**337**	P	**P**	**22 47 27.5**	**0.0**
	comp=Z,0.8nm,0.4s,mb4.0,baz=36,slow=6.5						
NOA	**NORSAR Array B**	**72.00**	**337**	*e*P	**P**	**22 47 27.6**	**+0.1**
NOA				pmax	pmax		
	comp=Z,1.0nm,0.5s						
NOA	**NORSAR Array B**	**72.00**	**337**	P	**P**	**22 47 26.7**	**-0.8**
NOA	**NORSAR Array B**	**72.00**	**337**	P	**P**	**22 47 26.7**	**-0.8**
	comp=Z,0.8nm,0.5s,mb3.9,baz=37,slow=6.0,SNR=4.6						
AKASG	**Malin Array Be**	**72.59**	**322**	P	**P**	**22 47 31.0**	**-0.1**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.5s						
AKASG	**Malin Array Be**	**72.59**	**322**	P	**P**	**22 47 30.5**	**-0.6**
AKASG	**Malin Array Be**	**72.59**	**322**	P	**P**	**22 47 30.5**	**-0.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=44,slow=6.1,SNR=9.9						
GERES	**GERESS Array B**	**80.79**	**328**	P	**P**	**22 48 16.7**	**-0.8**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	**GERESS Array B**	**80.79**	**328**	P	**P**	**22 48 16.7**	**-0.8**
	comp=Z,0.6nm,0.7s,mb3.6,baz=29,slow=6.7,SNR=4.4						

*NEIC **28** 22:37:10.7,3494S×7108W,h106km,MD3.5(GUC),After GUC.*
GUC 28 22:37:10.7±0.5,**3494S**×**7108W**,**h106**km±2km,**MD3.5**, **ML3.1**,**6C-4D**,**Near coast of central Chile**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NICH	**Los Niches**	**0.14**	**242**	*e*P	**Pn**	**22 37 25.0**	**-0.4**
NICH				*i*S	**Sn**	**22 37 36.2**	**-0.1**
SFDO	**San Fernando**	**0.33**	**10**	||*i*P	**Pn**	**22 37 25.9**	**-0.1**
SFDO				*i*S	**Sn**	**22 37 37.5**	**0.0**
CICH	**Cipreses**	**0.82**	**42**	||*i*P	**Pn**	**22 37 29.9**	**+0.2**
CICH				*i*S	**Sn**	**22 37 44.7**	**+0.7**
CACH	**El Canelo**	**0.91**	**26**	⇑*i*P	**Pn**	**22 37 30.9**	**+0.3**
CACH				*i*S	**Sn**	**22 37 46.5**	**+1.0**
LNV	**Longovilo**	**1.02**	**344**	⇑*i*P	**Pn**	**22 37 32.0**	**+0.3**
LNV				*i*S	**Sn**	**22 37 48.0**	**+0.5**
CHCH	**Chadas Angostu**	**1.06**	**20**	⇑*i*P	**Pn**	**22 37 32.3**	**+0.1**
CHCH				*i*S	**Sn**	**22 37 48.7**	**+0.3**
TACH	**Talagante**	**1.29**	**5**	||*i*P	**Pn**	**22 37 34.8**	**+0.1**
TACH				*i*S	**Sn**	**22 37 53.0**	**+0.1**
LMEL	**Las Melosas**	**1.31**	**34**	⇑*i*P	**Pn**	**22 37 35.6**	**+0.6**
LMEL				*i*S	**Sn**	**22 37 54.6**	**+1.3**
LMEL	**Las Melosas**	**1.31**	**34**	⇑*i*P	**Pn**	**22 37 35.6**	**+0.6**
LMEL				*i*S	**Sn**	**22 37 54.6**	**+1.3**
LMEL				AML	AML	22 37 58.3	
	comp=N,523nm,0.1s						
PCH	**Pirque**	**1.40**	**20**	⇑*i*P	**Pn**	**22 37 36.6**	**+0.6**
PCH				*i*S	**Sn**	**22 37 55.9**	**+0.7**
PEL	**Peldehue**	**1.82**	**11**	||*i*P	**Pn**	**22 37 41.6**	**+0.4**
PEL				*i*S	**Sn**	**22 38 04.8**	**+0.4**
PEL				AML	AML	22 38 07.9	
	comp=N,399nm,0.4s						
COCH	**Cobquecura**	**1.83**	**229**	*e*P	**Pn**	**22 37 41.6**	**+0.3**
COCH				S	**Sn**	**22 38 02.4**	**-2.3**
COCH	**Cobquecura**	**1.83**	**229**	*e*P	**Pn**	**22 37 41.6**	**+0.3**
COCH				*i*S	**Sn**	**22 38 02.4**	**-2.3**
COCH				AML	AML	22 38 05.4	
	comp=N,62nm,0.5s						

*ISCJB **28** 23:19:34.2±0.5,1107N±002×6153W±003,h77km±5km, Error ellipse: s-maj=5.6km s-min=3.3km az=25.1*
*FUNV **28** 23:19:35.9,1105N×6138W,h35km,MW3.5*
*TRN **28** 23:19:36.5,1116N×6148W,h27km,MD3.5*
*NEIC **28** 23:19:36.5,1116N×6148W,h26km,MD3.5(TRN),After TRN.*
ISC 28 23:19:35.6±0.5,**1109N**±002×**6153W**±003,**h64**km±7km,**n33**, σ1°**07**/62,**3C-2D**,**Windward Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.45**	**209**	*e*P	**Pn**	**23 19 47.9**	**+0.4**
TCE				*e*S	**Sn**	**23 19 55.7**	**-0.4**
TRN	**Trinidad (W)**	**0.46**	**164**	*e*P	**Pn**	**23 19 47.5**	**-0.1**
TRN				*e*S	**Sn**	**23 19 55.0**	**-1.2**
TPR	**Prospect**	**0.75**	**82**	*e*P	**Pn**	**23 19 50.2**	**-0.5**
TPR				*e*S	**Sn**	**23 20 00.3**	**-1.6**
TBH	**Brigand Hill**	**0.76**	**143**	*e*P	**Pn**	**23 19 51.1**	**+0.2**
TBH				*e*S	**Sn**	**23 20 03.0**	**+1.0**
TPP	**Pointe-a-Pierr**	**0.77**	**174**	*e*P	**Pn**	**23 19 53.5**	**+2.4**
TPP				*e*S	**Sn**	**23 20 04.5**	**+2.2**
GUIV	**Guiria**	**0.81**	**237**	⇑*e*P	**Pn**	**23 19 51.6**	**+0.2**
GUIV				*e*S	**Sn**	**23 20 03.6**	**+0.5**
GRGR	**Grenville**	**1.04**	**353**	*e*P	**Pn**	**23 19 54.1**	**-0.4**
GRGR				*e*S	**Sn**	**23 20 05.1**	**-3.3**
GRW	**Mount Saint Ca**	**1.07**	**353**	*e*P	**Pn**	**23 19 55.4**	**+0.6**
GRW				*e*S	**Sn**	**23 20 06.8**	**-2.3**
GRHS	**Sauteurs**	**1.13**	**355**	*e*P	**Pn**	**23 19 55.2**	**-0.4**
GRHS				*e*S	**Sn**	**23 20 09.8**	**-0.7**
GRIC	**Isle de Caille**	**1.19**	**358**	*e*P	**Pn**	**23 19 56.0**	**-0.4**
GRIC				*e*S	**Sn**	**23 20 11.5**	**-0.3**
GRSS	**Sisters**	**1.21**	**356**	*e*P	**Pn**	**23 19 56.4**	**-0.1**
GRSS				*e*S	**Sn**	**23 20 12.6**	**+0.4**
ITEV	**Isla Los Testi**	**1.59**	**280**	*e*P	**Pn**	**23 20 02.7**	**+1.1**
ITEV				*e*S	**Sn**	**23 20 22.9**	**+1.5**
GUNV	**Guanoco**	**1.66**	**237**	*e*P	**Pn**	**23 20 03.4**	**+0.7**
GUNV				*e*S	**Sn**	**23 20 23.5**	**+0.4**
CRUV	**Carupano**	**1.72**	**256**	⇑*e*P	**Pn**	**23 20 03.6**	**+0.1**
CRUV				*e*S	**Sn**	**23 20 24.8**	**+0.3**
SVV	**Soufriere Volc**	**2.24**	**8**	*e*P	**Pn**	**23 20 11.8**	**+1.3**
SVV				*e*S	**Sn**	**23 20 37.9**	**+0.9**
ORIV	**Oritupano**	**2.73**	**223**	*e*P	**Pn**	**23 20 17.7**	**+0.6**
SLB	**Belfond**	**2.77**	**10**	*e*P	**Pn**	**23 20 19.1**	**+1.5**
SLB				*e*S	**Sn**	**23 20 49.0**	**-0.8**
SLB	**Belfond**	**2.77**	**10**	*e*P	**Pn**	**23 20 19.1**	**+1.5**
SLB				*e*S	**Sn**	**23 20 52.2**	**+2.4**
RIOV	**Rio Grande**	**3.01**	**185**	*e*P	**Pn**	**23 20 20.4**	**-0.7**
RIOV				*e*S	**

CCIG	Comitan	1.08	9	*i* P	Pn	23 43 57.8	-1.3
CCIG				*i* S	Sn	23 44 19.9	-1.8
HUIG	Huatulco	3.71	279	*i* P	Pn	23 44 26.6	-1.2
HUIG				*i* S	Sn	23 45 10.8	-2.1
OXX	Oaxaca	4.64	294	*i* P	Pn	23 44 39.5	0.0
OXX				*i* S	Sn	23 45 33.0	-1.0
VHO	Vista Hermosa	4.64	294	*i* P	Pn	23 44 39.4	-0.1
VHO				*i* S	Sn	23 45 32.2	-1.9
TPIG	Tehuac#an	5.80	304	*i* P	Pn	23 44 53.0	-1.5
TPIG				*i* S	Sn	23 45 57.5	-3.6
UTMO	Huajuapan	5.88	297	*i* P	Pn	23 44 54.4	-1.1
UTMO				*i* S	Sn	23 45 59.5	-3.5
PPM	Popocatepetl	7.16	303	*i* P	Pn	23 45 12.5	+0.3
PPM				*i* S	Sn	23 46 30.2	-2.9

*NEIC **28** 23:58:16.8, 3703S×17777E, h126km, MG3.9(WEL), After WEL.*

WEL 28 23:58:16.6±0.5, 3702S×17778E, h128km±4km, ML3.9/6, Error ellipse: s-maj=2.4km s-min=2.2km az=0.0, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	0.69	142	P	Pn	23 58 36.6	-0.1
MXZ	Matakaoa Point	0.69	142	PN	Pn	23 58 36.6	0.0
MYRZ	Mayor Island	1.25	258	PN	Pn	23 58 41.9	+0.1
MWZ	Matawai	1.33	188	P	Pn	23 58 42.8	+0.2
MWZ	Matawai	1.33	188	PN	Pn	23 58 42.8	+0.1
URZ	Urewera	1.34	203	P	Pn	23 58 42.7	-0.1
URZ	Urewera	1.34	203	PN	Pn	23 58 42.7	-0.1
KNZ	Kokohu	2.00	182	P	Pn	23 58 50.3	-0.1
KNZ	Kokohu	2.00	182	PN	Pn	23 58 50.3	-0.1
BKZ	Black Stump Fm	2.37	205	P	Pn	23 58 55.2	+0.2
BKZ	Black Stump Fm	2.37	205	PN	Pn	23 58 55.2	+0.2
KRVZ	Karewarewa	2.67	218	PN	Pn	23 59 00.7	+1.9
WTVZ	West Tongariro	2.71	219	P	Pn	23 59 00.9	+1.5
WTVZ	West Tongariro	2.71	219	PN	Pn	23 59 00.9	+1.5
NGZ	Ngauruhoe	2.75	218	P	Pn	23 59 01.4	+1.5
NGZ	Ngauruhoe	2.75	218	PN	Pn	23 59 01.4	+1.6
FWVZ	Far West T-bar	2.84	217	P	Pn	23 59 02.4	+1.4
FWVZ	Far West T-bar	2.84	217	PN	Pn	23 59 02.4	+1.5
MOVZ	Moawhango	2.87	213	PN	Pn	23 59 01.5	+0.1
PKVZ	Pokaka	2.97	219	PN	Pn	23 59 04.1	+1.4
MTVZ	Mangateitei	2.98	217	PN	Pn	23 58 59.4	-3.4
PXZ	Pawanui	3.09	193	PN	Pn	23 59 03.0	-1.3
WPHZ	Waipukurau	3.21	199	PN	Pn	23 59 04.5	-1.4
WAZ	Wanganui	3.50	218	P	Pn	23 59 10.1	+0.5
WAZ	Wanganui	3.50	218	PN	Pn	23 59 10.1	+0.4
MRZ	Mangatainoka R	4.02	205	P	Pn	23 59 14.6	-1.9
MRZ	Mangatainoka R	4.02	205	PN	Pn	23 59 14.6	-1.9
HOWZ	Holdsworth Sta	4.25	204	PN	Pn	23 59 17.3	-2.3
KIW	Kapiti Island	4.44	209	P	Pn	23 59 20.0	-2.1
KIW	Kapiti Island	4.44	209	PN	Pn	23 59 20.0	-2.0
MTW	Mount Morrison	4.50	202	P	Pn	23 59 20.2	-2.6
MTW	Mount Morrison	4.50	202	PN	Pn	23 59 20.2	-2.6
TRWZ	Traveller	4.66	200	PN	Pn	23 59 22.3	-2.8
PAWZ	Paruwai Farm	4.72	202	P	Pn	23 59 22.9	-2.9
PAWZ	Paruwai Farm	4.72	202	PN	Pn	23 59 22.9	-2.9
MSWZ	Moikau Station	4.81	203	P	Pn	23 59 24.0	-3.0
MSWZ	Moikau Station	4.81	203	PN	Pn	23 59 24.0	-2.9
PLWZ	Palliser	4.95	203	PN	Pn	23 59 25.6	-3.3
THZ	Tophouse	6.05	217	P	Pn	23 59 41.3	-2.4
THZ	Tophouse	6.05	217	PN	Pn	23 59 41.3	-2.5
KHZ	Kahutara	6.30	210	P	Pn	23 59 43.9	-3.1
KHZ	Kahutara	6.30	210	PN	Pn	23 59 43.9	-3.2
LTZ	Lake Taylor	7.14	215	P	Pn	23 59 56.2	-2.2
LTZ	Lake Taylor	7.14	215	PN	Pn	23 59 56.2	-2.2

WEL 29 00:02:47.2±1.0, 3866S×17607E, h2km, ML4.2/1, Error ellipse: s-maj=6.2km s-min=1.3km az=0.0, North Island

*ISK **29** 00:02:45.2, 3525N×2658E, h35km, ML3.9*
*IDC **29** 00:02:46.7±0.9, 3553N×27.10E, h0km, mb3.8/7, mb1 3.8/12, mb1mx3.7/25, mbtmp3.7/12, ML3.5/5, MS2.6/1, Ms1 2.6/1, ms1mx2.0/31, Error ellipse: s-maj=20.3km s-min=11.6km az=178.0*
*ISCJB **29** 00:02:48.0±0.7, 3538N±002×2703E±003, h15km±6km, mb3.7/7, Error ellipse: s-maj=4.0km s-min=3.5km az=174.5*
*CSEM **29** 00:02:47.8±0.1, 3538N×2709E, h15km, MD3.8, Error ellipse: s-maj=1.7km s-min=1.3km az=80.0*
*ATH **29** 00:02:48.0, 3552N×2703E, h21km±1km, MD3.8/7*
*NEIC **29** 00:02:48.0, 3552N×2703E, h21km, ML3.4(ATH), After ATH.*
*HLW **29** 00:02:54.7, 3521N×2726E, h33km, Mb3.5*
*GII **29** 00:02:56.2±1.8, 3488N×2757E, h6km±51km, mb4.8/4, ML4.8/4*
*DDA **29** 00:03:07.1, 3680N×2790E, h14km±3km, Md3.6*

ISC 29 00:02:48.6±0.7, 3544N±002×2696E±003, h7km±5km, n88, σ1§18/110, mb3.7/7, 7C-6D, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.20	56	*e*PB	Pg	00 02 52.1	-0.4
KARP				*e*SB	Sg	00 02 55.2	0.0
NPS	Neapolis	1.11	261	*e*PN	Pn	00 03 10.3	-0.3
NPS				*e*SN	Sn	00 03 26.5	+0.3
ARG	Arkhangelos	1.23	50	*e*PN	Pn	00 03 09.7	-2.4
ARG				*e*SN	Sn	00 03 25.6	-3.4
SANT	Santorini	1.53	308	P	Pn	00 03 19.4	+3.0
BODT	Bodrum	1.65	10	*e*PN	Pn	00 03 16.4	-1.6
BODT				*e*SN	Sn	00 03 39.5	+0.2
BDRM	Kayabasi	1.67	13	*i* P	Pn	00 03 16.4	-1.9
BDRM				*i* S	Sn	00 03 37.9	-2.1
IDI	Anoyia	1.70	266	Pn	Pn	00 03 19.6	+1.0
IDI	11nm,0.3s,baz=86,slow=14,SNR=54			Lg		00 03 44.7	
	43nm,0.3s,baz=306,slow=19,SNR=16						
DALT	Dalyan (Mudla)	1.90	45	*e*PN	Pn	00 03 21.6	+0.2
DALT				*e*SN	Sn	00 03 47.6	+2.0
MLSB	Milas	1.97	19	*e*PN	Pn	00 03 20.9	-1.4
MLSB				*e*SN	Sn	00 03 48.0	+0.7
APE	Apeiranthos	2.00	325	*e*PN	Pn	00 03 22.3	-0.4
YER	Yerkesik	2.00	32	*e*PN	Pn	00 03 22.8	0.0
YER				*e*SN	Sn	00 03 49.5	+1.3
FETY	Fethiye	2.10	55	*e*PN	Pn	00 03 24.9	+0.7
FETY				*e*SN	Sn	00 03 52.2	+1.7
VAM	Vamos	2.25	270	*e*PN	Pn	00 03 27.4	+1.1
SMG	Samos	2.27	358	*e*PB	Pb	00 03 25.3	-4.6
AKAS	Kas	2.29	69	*i* P	Pn	00 03 27.2	+0.4
AKAS				*i* S	Sn	00 03 55.5	+0.2
ELL	Elmali	2.72	60	*e*PN	Pn	00 03 33.8	+1.1
DENT	Denizli	2.85	35	*e*PN	Pn	00 03 34.2	-0.3
URLA	Izmir	2.93	354	*i* P	Pn	00 03 32.3	-3.3
BLCB	Balcova	2.94	1	*e*PN	Pn	00 03 33.7	-2.0
KDAG	Bornova	2.97	5	*i* P	Pn	00 03 35.5	-0.6
KDAG	Bornova	2.97	5	*i* P	Pn	00 03 35.5	-0.6
MANT	Manisa	3.31	22	*i* P	Pn	00 03 40.2	-0.5
ANTB	Antalya	3.33	63	*e*PN	Pn	00 03 41.3	+0.3
KULA	Kula-Manisa	3.36	23	*e*PN	Pn	00 03 40.6	-0.9
VLI	Veliai	3.50	293	*e*PN	Pn	00 03 43.9	+0.5
AKHS	Akhisar	3.50	11	*i* P	Pn	00 03 43.5	+0.1
AKS	Akhisar	3.50	11	*e*PN	Pn	00 03 42.7	-0.7
BCK	Bucak	3.56	54	*e*PN	Pn	00 03 45.5	+1.4
PTL	Penteli	3.60	317	*e*PG	Pn	00 03 48.5	+3.7
ATH	Athens Observa	3.63	315	*e*PG	Pn	00 03 49.5	+4.3
ISP	Isparta	3.73	49	*e*PN	Pn	00 03 47.6	+1.0
TKTP	Tekketepe	3.75	45	*i* P	Pn	00 03 49.1	+2.3
GDZ	Gediz	4.16	28	*i* P	Pn	00 03 52.1	-0.4
SHUT	Suhut-Afyon	4.24	42	*e*PN	Pn	00 03 54.1	+0.6
BALB	Balikesir	4.26	10	*e*PN	Pn	00 03 53.7	-0.2
HMAT	Matruh	4.33	178	⇓*e*P	Pn	00 03 55.2	+0.4
HMAT				*e*SN	Sn	00 04 39.6	-6.0
DST	Dursunbey	4.37	17	*e*PN	Pn	00 03 54.6	-0.7
ALT	Altintas	4.40	34	*e*PN	Pn	00 03 56.4	+0.6
HDMB	Hadim	4.72	70	*e*PN	Pn	00 04 01.6	+1.4
GADA	Gvkgeada	4.82	350	*e*PN	Pn	00 03 59.7	-1.8
LEF	Lefka	4.86	92	*e*PN	Pn	00 04 02.7	+0.6
ERMK	Ermenek	4.97	74	*i* P	Pn	00 04 04.5	+0.9
ESKT	Eskisehir	5.12	36	*e*PN	Pn	00 04 07.0	+1.4
KDHN	Kadinhani	5.15	52	*i* P	Pn	00 04 06.4	+0.3
KIZT	Kizilcal	5.22	47	*e*PN	Pn	00 04 08.1	+1.1
CSS	Prodhromos	5.24	93	*e*PN	Pn	00 04 08.2	+0.9
IZI	Iznik	5.28	21	*e*PN	Pn	00 04 08.1	+0.3
LFK	Lefkose	5.38	90	*e*PN	Pn	00 04 10.1	+1.0
EVR	Evrytania	5.38	312	*e*PB	Pn	00 04 13.5	+4.2
RDO	Rodhopi	5.81	349	P	Pn	00 04 15.9	+0.8
EREN	Erenkoy	5.88	87	*e*PN	Pn	00 04 18.2	+2.0
SWA1		6.25	190	⇓*e*P	Pn	00 04 22.7	+1.5
SWA1				S	Sn	00 05 26.6	-6.2
MERS	Mersin	6.28	75	*e*PN	Pn	00 04 22.9	+1.3
SWA2		6.30	192	⇓*e*P	Pn	00 04 23.5	+1.6
SWA2				S	Sn	00 05 28.0	-6.3
HNAT	Natroun	6.56	151	⇑*e*P	Pn	00 04 24.8	-0.7
KARA	Karaisali	6.78	72	*e*PN	Pn	00 04 29.8	+1.3
AMAG	Maghara	7.10	131	⇑*e*P	Pn	00 04 32.2	-0.6
AWBH		7.28	166	⇑*e*P	Pn	00 04 35.4	0.0
MMAI	Mount Meron Ar	7.40	107	Pn	Pn	00 04 35.2	-1.8
MMAI	1.3nm,0.3s,baz=309,slow=12,SNR=14			Sn	Sn	00 05 57.4	-3.7
	3.2nm,0.3s,baz=298,slow=26,SNR=10						
SUZ		7.46	137	⇓*e*P	Pn	00 04 37.2	-0.6
KSDI	Kefar Szold	7.54	105	Pn	Pn	00 04 37.6	-1.3
KSDI				Sn	Sn	00 05 59.7	-4.9
MMLI	Mount Malkishu	7.64	111	Pn	Pn	00 04 40.1	-0.2
MMLI				Sn	Sn	00 06 00.5	-6.7
KZIT	Kziot	7.70	124	Pn	Pn	00 04 39.5	-1.6
KZIT				Sn	Sn	00 06 00.5	-8.1
HNKL	Nakhl	8.07	131	⇑*e*P	Pn	00 04 46.2	0.0
HFRF	Wahat Farafira	8.34	172	⇑*e*P	Pn	00 04 50.4	+0.5
HRFI	Mount Harif	8.68	126	Pn	Pn	00 04 52.7	-1.7
HRFI				Sn	Sn	00 06 24.8	-7.8
GRB	Gharib	8.69	144	⇑P	Pn	00 04 54.3	-0.4
EIL	Elat	8.86	128	Pn	Pn	00 04 54.2	-2.8
EIL				Sn	Sn	00 06 28.0	-9.1
EIL	Elat	8.86	128	Pn	Pn	00 04 54.2	-2.8
EIL	0.8nm,0.3s,baz=332,slow=11,SNR=7.4			Sn	Sn	00 06 28.0	-9.1
	0.5nm,0.3s,baz=3.8,slow=5.0,SNR=3.6						
EIL	Elat	8.86	128	Pn	Pn	00 04 56.3	-0.8
EIL				Sn	Sn	00 06 29.1	-8.1
EIL	Elat	8.86	128	Pn	Pn	00 04 54.2	-2.8
EIL				Sn	Sn	00 06 28.0	-9.2
ASF	Jabal al Asfar	8.89	109	Pn	Pn	00 04 56.4	-1.0
ASF	0.2nm,0.3s,baz=92,slow=12,SNR=2.4			Sn	Sn	00 06 38.7	+0.9
	0.3nm,0.3s,baz=347,slow=19,SNR=3.9						
TR2		9.08	139	⇓*e*P	Pn	00 04 59.0	-1.1
HKAT	Jabal Katrina	9.12	137	⇓*e*P	Pn	00 05 00.5	-0.1
HDK1	Dakhla	10.08	167	⇑*e*P	Pn	00 05 14.5	+0.7
KEST	Kesra	14.34	276	LR	LR	00 11 43.1	
	comp=Z,23nm,18.8s,baz=193,slow=37						
STHS	Stebnicka Huta	14.59	345	*e*P	Pn	00 06 22.5	+7.2
AKASG	Malin Array Be	15.35	5	Pn	Pn	00 06 26.2	+0.7
	1.1nm,0.3s,baz=196,slow=11,SNR=9.8						
VRAC	Vranov	15.81	334	Pn	Pn	00 06 32.6	+1.0
	0.1nm,0.3s,baz=134,slow=9.3,SNR=3.7						
GERES	GERESS Array B	16.58	328	Pn	Pn	00 06 42.7	+1.2
	0.1nm,0.3s,baz=136,slow=7.8,SNR=6.0						
ESDC	Sonseca Array	24.81	289	P	P	00 08 10.6	-0.7
ESDC	Sonseca Array	24.81	289	P	P	00 08 10.6	-0.6
	1.2nm,0.7s,mb3.6,baz=82,slow=8.9,SNR=6.9						
FINES	FINESS Array B	26.03	359	P	P	00 08 19.8	-2.3
	1.3nm,0.8s,mb3.5,baz=166,slow=9.8,SNR=4.2						
HFS	Hagfors	26.17	345	P	P	00 08 21.4	-1.9
	2.6nm,1.0s,mb3.7,baz=76,slow=14,SNR=4.1						
TORD	Torodi Ar. Bea	31.81	232	P	P	00 09 14.8	+0.9
	0.6nm,0.4s,mb3.8,baz=34,slow=8.1,SNR=9.8						
MKAR	Makanchi Array	42.39	57	P	P	00 10 41.8	-1.7
	0.7nm,0.6s,mb3.5,baz=274,slow=7.3,SNR=5.0						
ZALV	Zalesovo Beam	43.75	46	P	P	00 10 52.8	-1.6
	0.7nm,0.6s,mb3.6,baz=266,slow=9.2,SNR=3.8						
SCHQ	Schefferville	63.93	320	P	P	00 13 20.2	-1.7
	2.7nm,0.7s,mb4.4,baz=78,slow=9.3,SNR=3.5						

*IDC **29** 00:12:58.5±17.0, 2006S×17554W, h0km, mb4.5/5, mb1 4.6/6, mb1mx4.1/17, mbtmp4.4/6, ML4.5/1, Error ellipse: s-maj=320.6km s-min=39.3km az=60.0*
*ISCJB **29** 00:13:09.7±2.9, 202S±02×1756W±0.1, h108km±32km, mb4.3/7, Error ellipse: s-maj=25.3km s-min=21.6km az=160.7*
*NEIC **29** 00:13:12.4±2.2, 2006S×17554W, h122km±25km, mb4.5/4, Error ellipse: s-maj=20.6km s-min=16.0km az=179.0*

ISC 29 00:13:11.0±2.3, 202S±01×1756W±0.1, h103km±27km, n16, σ1§04/16, mb4.3/7, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	7.20	31	*e*Pn	Pn	00 14 53.8	+0.2
URZ	Urewera	19.12	198	P	P	00 17 23.1	-2.7
	1.3nm,0.3s,baz=22,slow=8.9,SNR=6.1						
RPZ	Rata Peaks	26.02	202	P	P	00 18 35.1	+0.9
	4.5nm,0.5s,mb4.2,baz=11,slow=5.7,SNR=5.1						
CTA	Charters Tower	35.78	263	*e*P	P	00 20 01.9	+1.5
	7.8nm,0.6s,mb4.8						
CTA	Charters Tower	35.78	263	P	P	00 20 01.9	+1.5
	7.4nm,0.5s,mb4.9,baz=92,slow=11,SNR=11						
CTAO	Charters Tower	35.78	263	*e*P	P	00 20 01.0	+0.6
	7.1nm,0.4s,mb5.0						
STKA	Stephens Creek	39.98	244	P	P	00 20 34.8	-0.8
	3.8nm,0.8s,mb4.3,baz=100,slow=12,SNR=5.2						
ASAR	Alice Springs	46.80	256	P	P	00 21 30.2	-0.3
	4.2nm,0.7s,mb4.3,baz=91,slow=8.5,SNR=34						
WB2	Warramunga Arr	46.88	261	*e*P	P	00 21 30.4	-0.8
WRAB	Tennant Creek	46.89	261	*e*P	P	00 21 31.1	-0.1
	4.2nm,0.6s,mb4.3						
WRA	Warramunga Arr	46.90	261	P	P	00 21 30.7	-0.6
	1.6nm,0.4s,mb4.2,baz=96,slow=7.6,SNR=100						
FITZ	Fitzroy Crossi	55.32	262	P	P	00 22 35.7	+1.3
	1.7nm,0.6s,mb4.2						
SBA	Scott Base	58.37	184	P	P	00 22 56.4	+1.4
VNDA	Vanda	58.46	186	P	P	00 22 54.5	-1.1
QSPA	South Pole Qui	69.91	180	P	P	00 24 11.1	+0.8
SDCO	Great Sand Dun	87.42	48	P	P	00 25 45.9	-0.9

*ISCJB **29** 00:21:01.5±0.8, 3558N±006×2693E±006, h3km, Error ellipse: s-maj=9.6km s-min=6.9km az=152.4*
*ATH **29** 00:21:01.7, 3552N×2699E, h3km, MD3.4/6*
*NEIC **29** 00:21:01.7, 3552N×2699E, h3km, MD3.4(ATH), After ATH.*
*CSEM **29** 00:21:02.1±0.1, 3551N×2699E, h5km, MD3.4, Error ellipse: s-maj=5.3km s-min=1.1km az=154.0*
*ISK **29** 00:21:03.1, 3559N×2664E, h49km, MD3.6*

ISC 29 00:21:01.6±0.8, 3557N±009×2696E±006, h3km±12km, n12, σ0§65/13, Crete

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KARP	Karpathos	0.17	97	*e*PG	Pg	00 21 04.8	-0.1
NPS	Neapolis	1.14	255	*e*PB	Pg	00 21 23.4	0.0
ARG	Arkhangelos	1.15	55	*e*PB	Pg	00 21 23.7	0.0
XRY	Khrisi	1.24	237	*e*PB	Pg	00 21 25.0	-0.4
BODT	Bodrum	1.52	11	*e*PN	Pn	00 21 30.0	+0.3
BODT				*e*SN	Sn	00 21 48.8	-1.2
DALT	Dalyan (Mudla)	1.81	48	*e*PN	Pn	00 21 35.0	+1.2
MLSB	Milas	1.85	21	*e*PN	Pn	00 21 34.3	0.0
APE	Apeiranthos	1.89	323	*e*PN	Pg	00 21 38.2	+0.4
YER	Yerkesik	1.90	34	*e*PN	Pn	00 21 35.9	+1.0
FETY	Fethiye	2.03	58	*e*PN	Pb	00 21 39.1	0.0
SMG	Samos	2.14	357	*e*PN	Pb	00 21 41.0	0.0
ELL	Elmali	2.67	63	*e*PN	Pb	00 21 48.8	-1.2

*NNC **29** 00:27:13.1±1.7, 4148N×7512E, h0km, mb3.3, mpv3.0, Error ellipse: s-maj=14.8km s-min=8.4km az=147.0*
*KNET **29** 00:27:16.1±0.7, 4173N×7488E, h12km±3km, ml2.5, Error ellipse: s-maj=4.3km s-min=2.5km az=160.0*

ISC 29 00:27:14.6±1.6, 4160N±007×7490E±006, h3km±8km, n15, σ0§95/22, 12C-10D, Kyrgyzstan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KZA	Kyzart	0.54	29	P	Pg	00 27 24.9	-0.1
KZA	82nm,0.1s,SNR=692			⇑S	Sg	00 27 31.7	-0.4
	245nm,0.1s						
UCH	Uchtor	0.69	336	P	Pg	00 27 28.2	+0.5
UCH	134nm,0.2s,SNR=287			⇓S	Sg	00 27 37.3	+0.7
	510nm,0.2s						
AML	Almayashu	1.04	301	⇑P	Pg	00 27 35.0	+0.5
AML	33nm,0.1s,SNR=28			⇓S	Sg	00 27 49.0	+1.0
	94nm,0.2s						
KBK	Karagaybulak	1.05	2	P	Pg	00 27 34.5	-0.3
KBK	66nm,0.1s,SNR=73			⇑S	Sg	00 27 48.4	0.0
	314nm,0.2s						
AAK	Ala-Archa	1.07	344	⇓P	Pg	00 27 35.0	-0.1
AAK	55nm,0.2s,SNR=47			⇑S	Sg	00 27 48.7	-0.3
	92nm,0.2s						
EKS2	Erkin-Say	1.34	322	⇓P	Pn	00 27 40.5	+0.3
	15nm,0.2s,SNR=30						
CHMS	Chumysh	1.40	356	⇓P	Pn	00 27 40.6	-0.3
CHMS	16nm,0.1s,SNR=25			⇓S	Sb	00 27 58.5	-1.0
	35nm,0.1s						
TKM2	Tokmak 2	1.42	21	⇓P	Pn	00 27 40.5	-0.7
TKM2	6.7nm,0.2s			⇓S	Sg	00 28 00.8	+0.8
	20nm,0.3s						
TKM2	Tokmak 2	1.42	21	P	Pn	00 27 40.5	-0.6
	24nm,0.1s,SNR=96						
USP	Ospenovka	1.69	350	⇑P	Pn	00 27 45.9	+1.1
	41nm,0.2s,SNR=21						
KNDC	Almaty	2.23	43	⇑Pn	Pn	00 27 51.2	-1.1
	33nm,0.4s						
KNDC				⇑Lg		00 28 24.8	
	96nm,0.5s						
KK31	Karatay Array	3.58	296	⇑Pn	Pn	00 28 14.4	+3.6
	0.3nm,0.2s,baz=129,slow=13,SNR=3.7						
KK31				⇓Pg	Pg	00 28 21.1	-2.0
	1.2nm,0.3s,baz=125,slow=15,SNR=5.7						
KK31				⇑Sn	Sg	00 29 06.4	-3.1
	4.4nm,0.3s,baz=137,slow=23,SNR=10						
MK31	Makanchi Array	7.42	43	⇑Pn	Pn	00 29 05.1	+1.4
	0.1nm,0.3s,baz=221,slow=14,SNR=4.1						
MK31				⇑Lg		00 30 56.1	
	0.5nm,0.5s,baz=229,slow=51,SNR=4.0						
KURBB	Kurchatov Arra	9.37	14	⇑Lg		00 32 13.7	
	0.9nm,0.7s						
KURK	Kurchatov	9.47	15	⇓Lg		00 32 17.1	
	6.2nm,1.2s						

*ISCJB **29** 00:47:49.4±1.7, 168S±01×1743W±0.1, h130km±20km, mb4.0/10, Error ellipse: s-maj=28.3km s-min=16.8km az=45.0*
*IDC **29** 00:47:50.2±2.2, 1685S×17427W, h122km±24km, mb3.7/7, mb1 4.0/8, mb1mx3.8/16, mbtmp3.8/8, Error ellipse: s-maj=35.2km s-min=16.6km az=140.0*
*NEIC **29** 00:47:51.3±1.2, 1689S×17429W, h132km±13km, mb4.0/2, Error ellipse: s-maj=16.9km s-min=10.9km az=138.0*

ISC 29 00:47:50.5±1.7, 169S±01×1743W±01, h124km±20km, n13, σ0§61/14, mb4.1/10, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	3.81	40	P	Pn	00 48 48.9	+1.3
	20nm,0.3s,baz=201,slow=2.5,SNR=18						
AFI				S	Sn	00 49 30.7	-1.1
	219nm,0.3s,baz=51,slow=23,SNR=22						
URZ	Urewera	22.61	198	P	P	00 52 40.8	-0.2
	5.5nm,0.5s,mb4.1,baz=39,slow=6.5,SNR=4.9						
SNZO	South Karori	26.14	199	*e*P	P	00 53 12.8	-0.2
	45nm,0.9s,mb4.9						
STKA	Stephens Creek	42.58	241	*e*P	P	00 55 34.9	+0.6
STKA	Stephens Creek	42.58	241	P	P	00 55 34.7	+0.4
	3.0nm,0.6s,mb4.2,baz=115,slow=7.7,SNR=7.1						
WB2	Warramunga Arr	48.68	258	*e*P	P	00 56 22.2	-0.3
WRAB	Tennant Creek	48.68	258	*e*P	P	00 56 22.2	-0.3
	1.5nm,0.4s,mb4.3						
WRA	Warramunga Arr	48.69	258	P	P	00 56 22.3	-0.3
	1.8nm,0.5s,mb4.2,baz=96,slow=7.1,SNR=52						
ASAR	Alice Springs	48.86	253	P	P	00 56 23.8	0.0
	18nm,0.8s,mb5.1,baz=87,slow=8.6,SNR=154						
VNDA	Vanda	61.84	186	P	P	00 57 55.8	-0.2
	0.6nm,0.8s,mb3.7,baz=14,slow=5.1,SNR=3.6						
QSPA	South Pole Qui	73.19	180	*e*P	P	00 59 07.2	0.0
	1.5nm,0.6s,mb4.0						
NVAR	Mina Array Bea	75.98	42	P	P	00 59 25.0	+1.1
	0.2nm,0.6s,mb3.0,baz=238,slow=9.8,SNR=4.1						
TXAR	Lajitas Array	82.13	56	P	P	00 59 57.2	-0.5
	0.4nm,0.8s,mb3.3,baz=238,slow=7.2,SNR=3.9						

OTT 29 00:48:24.8±0.6, 6059N×5994W, h18km, ML3.8/8, LAlbertaRADOR Sea Seismic Zone. 270km east from Killiniq, Qc, Davis Strait

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUQ	Kuujjuuaa	5.00	244	PN	Pn	00 49 32.7	-6.0
KUQ				SN	Sn	00 50 28.7	-7.2
KUQ				Trac		00 50 30.1	
	comp=Z,5.5nm,0.3s						
FRB	Frobisher Bay	5.13	312	PN	Pn	00 49 39.8	-0.7
FRB				SN	Sn	00 50 36.4	-2.8
FRB				Trac		00 50 38.1	
	comp=Z,6.6nm,0.2s						
SCHQ	Schefferville	6.85	216	PN	Pn	00 50 04.1	-0.1
SCHQ				SN	Sn	00 51 17.6	-4.0
SCHQ				Trac		00 51 21.2	
	comp=Z,12nm,0.4s						
SFJD	K

az=178.4

MOS **29** 01:03:27.5±1.1,452S×15181E,h134km,mb5.7/43, MS5.2/16,Error ellipse: s-maj=7.5km s-min=5.5km az=92.3

GCMT **29** 01:03:27.9±0.1,471S×15196E,h137km,MW6.1/115, Moment Tensor Solution. s110,c268; s115,c409; Duration: 2s7 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.47±.01; $M_{\theta\theta}$0.03±.01; $M_{\phi\phi}$0.44±.01; $M_{r\theta}$-1.31±.01; $M_{\theta\phi}$0.96±.01; $M_{\phi r}$0.23±.01; Best double couple: $M_0$1.67900×10^{18} NP1:ϕ_s185.00000°,δ40.00000°, λ-163.00000°. NP2:ϕ_s81.00000°,δ79.00000°, λ-52.00000°. Principal axes: T 1.5150, Plg24.0000°, Azm142.0000°; N 0.3280, Plg37.0000°, Azm253.0000°; P -1.8430, Plg43.0000°, Azm28.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.

BGS **29** 01:03:27.8±2.3,486S×15184E,h133km,mb5.9(NEIC)

IDC **29** 01:03:27.4±0.3,463S×15176E,h129km±2km,mb5.2/26, mb1 5.3/28,mb1mx5.3/28,mbtmp5.2/28,MS5.1/12, Ms1 5.1/12,ms1mx4.9/20,Error ellipse: s-maj=8.7km s-min=7.7km az=108.0

NEIC **29** 01:03:27.9±0.5,459S×15184E,h132km±4km,mb5.9/90, MW6.1,Error ellipse: s-maj=4.1km s-min=3.3km az=133.0, Moment Tensor Solution. s40 Moment tensor: Scale 10^{18}Nm; M_{rr}-0.84; $M_{\theta\theta}$0.51; $M_{\phi\phi}$0.33; $M_{r\theta}$-1.25; $M_{\theta\phi}$1.14; $M_{\phi r}$0.15; Best double couple: $M_0$1.80000×10^{18} NP1: ϕ_s193.00000°,δ40.00000°,λ-153.00000°. NP2: ϕ_s81.00000°,δ73.00000°,λ-53.00000°. Principal axes: T 1.8500, Plg19.0000°, Azm145.0000°; N 0.0100, Plg35.0000°, Azm249.0000°; P -1.8500, Plg49.0000°, Azm31.0000°;

ISC 29 01:03:28.3±0.1,**460S**±002×**15186E**±002,**h134km**, **h134km**±.9km**:pP-P,n1128,σ0s77**/768,**mb5.6**/147, **154C-188D,New Britain region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	9.35	121	P	Pn	01 05 40.2	+0.2
HNR				S	Sn	01 07 26.1	+2.5
HNR				pmax	pmax		
	comp=Z,41nm,0.3s						
HNR				smax			
	comp=N,129nm,0.3s						
HNR	Honiara	9.35	121	ePn	Pn	01 05 39.8	-0.3
	comp=N,2μm,0.8s						
HNR				eSn	Sn	01 07 23.3	-0.3
HNR	Honiara	9.35	121	P	Pn	01 05 40.2	+0.2
	comp=N,41nm,0.3s,baz=182,slow=0.7,SNR=15						
HNR				S	Sn	01 07 26.1	+2.5
	comp=N,129nm,0.3s,baz=276,slow=14,SNR=3.4						
COEN	Coen	12.64	222	ePn	Pn	01 06 24.4	+0.9
	comp=N,92nm,0.6s						
COEN				eSn	Sn	01 08 39.2	-3.9
CTA	Charters Tower	16.34	199	⇑iP	Pn	01 07 10.9	+0.9
	comp=N,72nm,0.4s						
CTA				iS	S	01 10 12.9	+0.7
CTA	Charters Tower	16.34	199	⇑iP	Pn	01 07 10.9	+0.9
CTA				iS	S	01 10 12.9	+0.7
CTA				pmax	pmax		
	comp=Z,72nm,0.4s						
CTA	Charters Tower	16.34	199	P	Pn	01 07 10.4	+0.4
	comp=Z,24nm,0.3s,baz=31,slow=13,SNR=96						
CTA				LR	LR	01 12 46.9	
	comp=Z,5μm,20.6s,baz=15,slow=34						
CTAO	Charters Tower	16.34	199	eP	Pn	01 07 10.0	0.0
CTAO				pmax	pmax		
	comp=Z,560nm,1.4s						
CTAO	Charters Tower	16.34	199	eP	Pn	01 07 10.0	0.0
	comp=Z,560nm,1.4s						
GUMO	Guam	19.36	339	eP	P	01 07 45.6	+2.0
EIDS	Eidsvold	20.67	182	eP	P	01 07 57.5	-0.1
KAKA	Kakadu	20.81	246	⇑iP	P	01 07 58.9	-0.4
	comp=Z,175nm,0.3s						
KAKA				eS	S	01 11 42.3	-1.8
DZM	Mont Dzumac	22.39	142	eP	P	01 08 15.5	-0.4
WRAB	Tennant Creek	22.87	227	eP	P	01 08 20.2	-0.2
WB2	Warramunga Arr	22.88	227	⇑iP	P	01 08 20.2	-0.3
WB2				epP		01 08 46.0	
WB2				eS	S	01 12 18.4	-1.6
WB2				eSCS	ScS	01 19 18.1	-0.5
WRA	Warramunga Arr	22.89	227	P	P	01 08 20.3	-0.3
WRA				*PP		01 08 44.2	
WRA				S	S	01 12 19.5	-0.6
WRA				pmax	pmax		
	comp=Z,507nm,0.5s						
WRA				pmax	pmax		
	comp=Z,224nm,0.9s						
WRA				smax			
	comp=N,31nm,0.7s						
WRA				pmax	pmax		
	comp=N,32nm,1.0s						
WRA				MLR	MLR		
	comp=Z,3μm,19.7s						
WRA				pmax	pmax		
	comp=Z,2.0nm,0.8s						
WRA	Warramunga Arr	22.89	227	P	P	01 08 20.3	-0.3
WRA				pP		01 08 44.2	
WRA				S	S	01 12 19.5	-0.6
WRA				ScP	ScP	01 15 31.7	-0.8
WRA				LR	LR	01 17 33.4	
WRA	Warramunga Arr	22.89	227	P	P	01 08 20.3	-0.3
	comp=Z,507nm,0.5s,mb6.2,baz=50,slow=10.0,SNR=1323						
WRA				pP		01 08 44.2	
	comp=Z,224nm,0.9s,baz=50,slow=11,SNR=3.5						
WRA				S	S	01 12 19.5	-0.6
	comp=Z,31nm,0.7s,baz=52,slow=16,SNR=6.1						
WRA				ScP	ScP	01 15 31.7	-0.8
	comp=Z,32nm,1.0s,baz=52,slow=2.9,SNR=8.7						
WRA				LR	LR	01 17 33.4	
	comp=Z,3μm,19.7s,baz=40,slow=37						
WRA				PKPPKP		01 43 28.1	
	comp=Z,1.7nm,0.8s,baz=161,slow=2.0,SNR=6.1						
ASAR	Alice Springs	25.68	221	P	P	01 08 45.2	-0.7
ASAR				S	S	01 13 01.6	-3.1
ASAR				pmax	pmax		
	comp=Z,41nm,0.4s						
ASAR				smax			
	comp=N,19nm,0.7s						
ASAR				pmax	pmax		
	comp=N,15nm,0.8s						
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
ASAR	Alice Springs	25.68	221	P	P	01 08 45.1	-0.8
ASAR				S	S	01 13 01.6	-3.0
ASAR				ScP	ScP	01 15 39.9	-0.4
ASAR				e		01 41 39.1	
ASAR	Alice Springs	25.68	221	P	P	01 08 45.1	-0.8
	comp=Z,41nm,0.3s,mb5.5,baz=54,slow=9.2,SNR=258						
ASAR				S	S	01 13 01.6	-3.0
	comp=Z,19nm,0.7s,baz=40,slow=15,SNR=6.4						
ASAR				ScP	ScP	01 15 39.9	-0.4
	comp=Z,15nm,0.8s,baz=51,slow=3.0,SNR=9.1						
ASAR				P3KPbc		01 41 39.1	
	comp=Z,2.0nm,0.8s,baz=215,slow=4.6,SNR=11						
ARMA	Armidale	25.68	180	⇑iP	P	01 08 46.1	+0.2
ARMA				iS	S	01 13 02.5	-2.1
BATI	Kupang	28.50	257	P	P	01 09 10.1	-1.2
	comp=Z,37nm,0.4s,mb5.4,baz=76,slow=2.1,SNR=7.5						
DAV	Davao City (W)	28.68	294	eP	P	01 09 13.1	+0.2
STKA	Stephens Creek	28.80	198	⇑iP	P	01 09 12.4	-1.3
	comp=Z,48nm,0.6s,mb5.4						
STKA				epP	pP	01 09 40.0	-2.5
STKA				iS	S	01 13 49.8	-3.8
STKA	Stephens Creek	28.80	198	eP	P	01 09 12.8	-0.9
STKA	Stephens Creek	28.80	198	P	P	01 09 12.6	-1.1
	comp=Z,52nm,0.6s,mb5.5,baz=30,slow=12,SNR=92						
STKA				pP	pP	01 09 40.7	-1.8
	comp=Z,49nm,0.9s,baz=20,slow=11,SNR=3.8						
STKA				ScP	ScP	01 15 49.8	+0.3
	comp=Z,19nm,1.0s,baz=20,slow=3.3,SNR=3.5						
STKA				LR	LR	01 19 07.3	
	comp=Z,4μm,21.2s,baz=19,slow=33						
FITZ	Fitzroy Crossi	28.94	240	⇑iP	P	01 09 13.9	-1.2
	comp=Z,95nm,0.4s,mb5.9						
FITZ				epP	pP	01 09 42.4	-1.5
FITZ				eS	S	01 13 50.6	-5.6
FITZ	Fitzroy Crossi	28.94	240	P	P	01 09 14.7	-0.5
	comp=Z,46nm,0.4s,mb5.6,baz=59,slow=8.9,SNR=248						
FITZ				pP	pP	01 09 42.0	-2.0
	comp=Z,73nm,0.7s,baz=69,slow=10,SNR=5.3						
FITZ				LR	LR	01 22 34.6	
	comp=Z,4μm,18.6s,baz=59,slow=40						
RIV	Riverview	29.09	181	eP	P	01 09 16.4	+0.1
BUKP	Musuan	29.47	295	eP	P	01 09 20.5	+0.6
MSLP	Maasin	30.62	299	eP	P	01 09 30.4	+0.4
CNB	Canberra Magne	30.65	184	⇑iP	P	01 09 30.2	+0.2
	comp=Z,190nm,1.4s,mb5.6						
CNP	Catarman	31.93	302	eP	P	01 09 42.0	+0.5
KAPI	Kappang	32.00	268	P	P	01 09 41.5	-0.7
KAPI				ScP	ScP	01 15 59.1	-1.3
KAPI	Kappang	32.00	268	P	P	01 09 41.5	-0.7
	comp=Z,13nm,0.3s,mb5.1,baz=160,slow=8.2,SNR=7.0						
KAPI				ScP	ScP	01 15 59.1	-1.3
	comp=Z,14nm,0.9s,baz=60,slow=14,SNR=4.9						
TOO	Toolangi	33.33	189	⇑iP	P	01 09 53.4	0.0
	comp=Z,1μm,1.0s,mb6.5						
TOO	Toolangi	33.33	189	⇑iP	P	01 09 53.4	0.0
TOO				pmax	pmax		
	comp=Z,1μm,1.0s,mb6.5						
CUYO	Cuyo Island	34.32	297	eP	P	01 10 03.5	+1.1
FORT	Forrest	34.36	218	⇑iP	P	01 10 01.5	-1.0
	comp=Z,357nm,0.6s,mb6.3						
FORT				epP	pP	01 10 29.8	-1.9
MYLDM	Lahad Datu	34.70	286	⇓P	P	01 10 08.1	+2.4
SJMP	San Jose	34.94	299	eP	P	01 10 10.8	+3.2
TSM	Tawau	35.08	284	⇓P	P	01 10 11.6	+2.7
MBWA	Marble Bar	35.26	239	eP	P	01 10 09.5	-0.8
	comp=Z,440nm,1.4s,mb5.9						
MBWA	Marble Bar	35.26	239	P	pP	01 10 37.9	-1.7
	SNR=8.5						
MBWA	Marble Bar	35.26	239	P	pP	01 10 37.9	-1.7
	SNR=8.5						
PPR	Puerto Princes	35.96	293	⇓iP	P	01 10 18.2	+1.8
SDKM	Sandakan	36.08	286	⇓P	P	01 10 20.6	+3.1
AFI	Afiamalu	37.01	107	P	P	01 10 24.7	-0.6
AFI				pmax	pmax		
	comp=Z,54nm,0.8s,mb5.2						
AFI	Afiamalu	37.01	107	P	P	01 10 24.7	-0.6
	comp=Z,54nm,0.8s,mb5.2,baz=357,slow=8.8,SNR=3.8						
KKM	Kota Kinabalu	37.13	286	eP	P	01 10 26.8	+0.5
KKM				e	pP	01 10 57.1	+1.3
KKM				eScP	ScP	01 16 21.4	+2.7
KKM	Kota Kinabalu	37.13	286	⇑P	P	01 10 27.4	+1.1
TAU	Tasmania Unive	38.36	185	eP	P	01 10 36.4	+0.1
TAU				pmax	pmax		
	comp=Z,350nm,1.4s,mb5.8						
TAU	Tasmania Unive	38.36	185	eP	P	01 10 36.4	+0.1
	comp=Z,353nm,1.4s,mb5.8						
SBUM	Sibu	40.22	279	⇓P	P	01 10 55.1	+2.9
URZ	Urewera	40.64	149	P	P	01 10 55.2	0.0
	comp=Z,68nm,0.3s,mb5.7,baz=304,slow=2.5,SNR=90						
NACB	Ninganchiao	41.07	316	eP	P	01 10 59.8	+0.8
NACB				e	pP	01 11 33.7	+4.8
YHNB	Yeheng	41.54	316	eP	P	01 11 03.1	+0.3
YHNB				epP	pP	01 11 31.4	-1.4
YHNB				esP	sP	01 11 45.9	-2.1
YHNB				S	S	01 17 06.8	-1.9
TATO	Taipei	41.66	316	eP	P	01 11 06.3	+2.5
	comp=Z,1μm,2.1s,mb6.2						
TATO				epP	pP	01 11 37.0	+3.2
TATO	Taipei	41.66	316	P	P	01 11 07.0	+3.3
	SNR=6.5						
TATO	Taipei	41.66	316	P	P	01 11 07.0	+3.3
	SNR=6.5						
KLBR	Kellerberrin	41.77	226	⇑iP	P	01 11 02.8	-1.7
	comp=Z,66nm,0.5s,mb5.5						
KLBR				epP	pP	01 11 32.6	-2.0
SNZO	South Karori	41.89	154	eP	P	01 11 05.5	+0.1
KSM	Kuching	41.95	277	⇓eP	P	01 11 06.2	-0.1
KSM				epP	pP	01 11 34.7	-1.7
KSM				sP	sP	01 11 47.9	-3.8
KSM				ePP	PP	01 12 43.9	-2.2
KSM				eScP	ScP	01 16 37.2	-0.3
KSM				eS	S	01 17 12.2	-2.9
KSM	Kuching	41.95	277	⇑P	P	01 11 07.1	+0.7
RPZ	Rata Peaks	42.49	159	P	P	01 11 09.9	-0.2
	comp=Z,82nm,0.5s,mb5.6,baz=4.6,slow=3.8,SNR=77						
RPZ				LR	LR	01 27 16.0	
	comp=Z,6μm,18.8s,baz=323,slow=34						
NWAO	Narrogin (SRO)	42.87	225	P	P	01 11 11.9	-1.5
NWAO				*PP	pP	01 11 41.3	-2.3
NWAO				pmax	pmax		
	comp=Z,18nm,0.6s						
NWAO				pmax	pmax		
	comp=Z,31nm,0.7s						
NWAO	Narrogin (SRO)	42.87	225	eP	P	01 11 12.5	-0.9
	comp=Z,750nm,2.8s,mb5.8						
NWAO	Narrogin (SRO)	42.87	225	P	P	01 11 11.8	-1.6
	comp=Z,18nm,0.6s,mb4.9,baz=56,slow=7.1,SNR=22						
NWAO				pP	pP	01 11 41.3	-2.3
	comp=Z,30nm,0.7s,baz=57,slow=7.8,SNR=3.7						
MJAR	Matsushiro Arr	42.87	344	P	P	01 11 11.3	-2.0
	comp=Z,27nm,0.8s,mb5.0,baz=167,slow=8.9,SNR=34						
MJAR				ScP	ScP	01 16 38.5	-2.1
	comp=Z,4.6nm,0.9s,baz=176,slow=5.1,SNR=5.2						
MJAR				LR	LR	01 26 16.7	
	comp=Z,3μm,20.8s,baz=160,slow=32						
MAJO	Matsushiro	42.87	344	eP	P	01 11 11.5	-1.9
MAT	Matsushiro	42.87	344	P	P	01 11 11.4	-1.9
MAT				S	S	01 17 23.0	-4.9
MUN	Mundaring	43.09	226	⇑iP	P	01 11 14.1	-1.1
MUN				epP	pP	01 11 43.1	-2.3
MUN				iS	S	01 17 26.5	-4.8
QZH	Quanzhou	43.68	314	P	P	01 11 20.5	+0.5
QZH				AP	pP	01 11 50.5	+0.2
QZH				XP	sP	01 12 06.3	+0.8
QZH				S	S	01 17 38.5	-1.5
QZH				XS	sS	01 18 34.0	+1.4
QZH				SS	SS	01 21 04.0	+3.3
QZH				AMB	AMB		
	comp=Z,300nm,0.8s,mb6.0						
QZH				AMB	AMB		
	comp=Z,2μm,7.3s						
QZH				LR	LR		
	comp=N,940nm,12.1s						
QZH				LR	LR		
	comp=E,2μm,11.4s						
QZH				LR	LR		
	comp=Z,2μm,17.2s						
SSE	Sheshan	46.01	323	⇓P	P	01 11 39.5	+1.1
SSE				AP	pP	01 12 10.5	+1.5
SSE				XP	sP	01 12 23.8	-0.2
SSE				PP	PP	01 13 28.0	-1.0
SSE				S	S	01 18 14.0	+0.5
SSE				XS	sS	01 19 06.0	-0.4
SSE				SCS	ScS	01 21 19.8	-0.7
SSE				AMB	AMB		
	comp=Z,156nm,1.5s,mb5.4						
SSE				AMB	AMB		
	comp=Z,1μm,12.0s						
SSE				LR	LR		
	comp=N,2μm,22.3s						
SSE				LR	LR		
	comp=E,3μm,22.3s						
SSE				LR	LR		
	comp=Z,2μm,20.1s						
GZH	Guangzhou	46.59	308	P	P	01 11 44.8	+1.7
GZH				S	S	01 18 26.0	+3.9
GZH				AMB	AMB		
	comp=Z,1μm,8.0s						
GZH				LR	LR		
	comp=N,3μm,18.2s						
GZH				LR	LR		
	comp=E,2μm,17.6s						
GZH				LR	LR		
	comp=Z,4μm,32.4s						
ERM	Erimo	47.06	351	P	P	01 11 48.3	+1.9
	comp=Z,248nm,0.6s,mb6.0,SNR=6.7						
ERM	Erimo	47.06	351	eP	P	01 11 47.9	+1.5
ERM				pmax	pmax		
	comp=Z,20nm,0.6s,mb4.9						
ERM	Erimo	47.06	351	eP	P	01 11 47.9	+1.5
	comp=Z,20nm,0.6s,mb4.9						
KSRS	Korea Array	47.40	334	P	P	01 11 49.5	+0.4
	comp=Z,41nm,0.9s,mb5.1,baz=149,slow=8.2,SNR=50						
KSRS				pP	pP	01 12 21.8	+1.9
	comp=Z,36nm,1.1s,baz=150,slow=9.2,SNR=6.2						
KSRS				PcP	PcP	01 13 17.9	+0.3
	comp=Z,6.4nm,0.9s,baz=147,slow=3.6,SNR=4.2						
KS15	Wonju Array Si	47.41	334	eP	P	01 11 50.0	+0.8
QIZ	Qiongzhong	47.56	301	P	P	01 11 52.0	+1.3
QIZ				AP	pP	01 12 20.8	-0.6
QIZ				XP	sP	01 12 33.5	-2.9
QIZ				S	S	01 18 38.0	+2.1
QIZ				SS	SS	01 22 09.3	+3.4
QIZ				AMB	AMB		
	comp=Z,33nm,0.8s,mb5.0						
QIZ				AMB	AMB		
	comp=Z,745nm,10.7s						
QIZ				LR	LR		
	comp=N,3μm,20.9s						
QIZ				LR	LR		
	comp=Z,4μm,33.9s						
QIZ	Qiongzhong	47.56	301	⇓eP	P	01 11 52.1	+1.4
	comp=Z,57nm,1.0s,mb5.2						
QIZ				epP	pP	01 12 23.0	+1.6
QIZ				esP	sP	01 12 36.4	0.0
QIZ				ePcP	PcP	01 13 21.0	+2.4
INCN	Inchon	48.00	333	eP	P	01 11 54.7	+1.0
	comp=Z,431nm,1.0s,mb6.0						
INCN				epP	pP	01 12 27.6	+3.1
INCN	Inchon	48.00	333	P	P	01 11 55.0	+1.2
	SNR=30						
INCN	Inchon	48.00	333	P	P	01 11 55.0	+1.2
	SNR=30						
INCN	Inchon	48.00	333	P	P	01 11 55.0	+1.2
	SNR=30						
INCN	Inchon	48.00	333	P	P	01 11 55.0	+1.2
	SNR=30						
INCN	Inchon	48.00	333	P	P	01 11 55.0	+1.2
	SNR=30						
NJ2	Nanjing	48.10	322	eP	P	01 11 56.0	+1.4
NJ2				AP	pP	01 12 25.5	+0.1
NJ2				XP	sP	01 12 40.3	-0.1
NJ2				PCP	PcP	01 13 21.3	+1.0
NJ2				S	S	01 18 43.0	-0.2
NJ2				AMB	AMB		
	comp=Z,600nm,1.2s,mb6.1						
NJ2				AMB	AMB		
	comp=Z,2μm,8.0s						
NJ2				LR	LR		
	comp=N,8μm,22.1s						
NJ2				LR	LR		
	comp=E,5μm,17.7s						
NJ2				LR	LR		
	comp=Z,5μm,17.7s						
MYKOM	Kota Tinggi	48.39	276	⇓P	P	01 11 57.2	0.0
YUK	Yuzh-Kuril'sk	48.71	354	eP	P	01 11 58.7	-0.3
YUK				i		01 12 44.0	
YUK				e		01 22 16.0	
YUK				pmax	pmax		
	comp=Z,2μm,4.0s						
YUK				smax			
	comp=N,3μm,12.0s						
YUK				smax			
	comp=E,5μm,12.0s						
KGM	Kluang	48.94	277	⇓P	P	01 12 03.9	+2.5
RAR	Rarotonga	49.72	114	P	P	01 12 08.1	+0.9
RAR				pmax	pmax		
	comp=Z,68nm,0.8s						
RAR	Rarotonga	49.72	114	P	P	01 12 08.1	+0.9
	comp=Z,68nm,0.8s,mb5.3,baz=260,slow=6.6,SNR=13						
WHN	Wuhan	50.06	317	P	P	01 12 10.5	+0.9
WHN				AP	pP	01 12 39.8	-0.8
WHN				XP	sP	01 12 54.8	-0.8
WHN				S	S	01 19 09.8	-0.9
WHN				XS	sS	01 20 06.0	+1.7
WHN				AMB	AMB		
	comp=Z,2μm,5.5s						
WHN				AMB	AMB		
	comp=Z,3μm,8.8s						
WHN				LR	LR		
	comp=N,3μm,12.6s						
WHN				LR	LR		
	comp=E,3μm,12.3s						
WHN				LR	LR		
	comp=Z,5μm,15.1s						
FRIM	Kepong	50.79	278	⇑P	P	01 12 16.2	+0.8
DL2	Dalian	51.52	330	iP	P	01 12 21.0	+0.6
DL2				AP	pP	01 12 52.8	+1.2
DL2				XP	sP	01 13 05.8	-0.7
DL2				PP	PP	01 14 22.0	+2.8
DL2				S	S	01 19 30.8	+0.3
DL2				XS	sS	01 20 26.5	+2.1
DL2				AMB	AMB		
	comp=Z,140nm,0.8s,mb5.6						
DL2				AMB	AMB		
	comp=Z,740nm,7.5s						
IPM	Ipoh	51.57	279	⇓P	P	01 12 21.3	+0.1
YSS	Yuzh-Sakhalins	51.96	352	b iP	P	01 12 22.5	-0.9
YSS				e*PP	pP	01 12 54.5	-0.2
YSS				e*SP	sP	01 13 07.2	-2.3
YSS				ePPP		01 15 36.0	
YSS				eS	S	01 19 34.0	-2.2
YSS				e*SS	sS	01 20 25.0	-5.1
YSS				eSSS		01 24 54.0	
YSS				pmax	pmax		
	comp=Z,370nm,2.0s,mb5.7						
YSS				pmax	pmax		
	comp=Z,1μm,11.0s						
YSS				MLR	MLR		
	comp=N,900nm,16.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS				MLR	MLR		
	comp=Z,700nm,16.0s						
YSS	Yuzh-Sakhalins	51.96	352	eP	P	01 12 23.9	+0.5
TIA	Tai'an	52.00	324	eP	P	01 12 24.0	0.0
TIA				AMB	AMB		
	comp=Z,54nm,1.0s,mb5.1						
TIA				LR	LR		
	comp=N,835nm,8.0s						
KULM	Kulim	52.08	280	eP	P	01 12 24.1	-0.8
KULM				epP	pP	01 12 56.2	0.0
KULM				esP	sP	01 13 10.3	-0.8
KULM				ePcP	PcP	01 13 34.9	-0.4
SNY	Shenyang	52.90	334	⇓P	P	01 12 30.3	-0.2
SNY				AP	pP	01 13 01.5	-0.3
SNY				XP	sP	01 13 15.8	-0.9
SNY				AMB	AMB		
	comp=Z,25nm,2.0s,mb4.6						
SNY				AMB	AMB		
	comp=Z,1μm,6.7s						
SNY				LR	LR		
	comp=N,911nm,17.4s						
SNY				LR	LR		
	comp=E,1μm,17.4s						
SNY				LR	LR		
	comp=Z,1μm,18.0s						
MDJ	Mudanjiang	52.91	340	P	P	01 12 30.3	-0.2
MDJ				XP	sP	01 13 12.0	-4.7
MDJ				PP	PP	01 14 30.8	-0.7
MDJ				PCS	PcS	01 17 33.5	-2.9
MDJ				S	S	01 19 48.3	-0.9
MDJ				AMB	AMB		
	comp=Z,64nm,1.1s,mb5.3						
MDJ				AMB	AMB		
	comp=Z,1μm,9.2s						
MDJ				LR	LR		
	comp=N,3μm,34.3s						
MDJ				LR	LR		
	comp=E,2μm,36.2s						
MDJ				LR	LR		
	comp=Z,4μm,34.3s						
MDJ	Mudanjiang	52.91	340	⇓iP	P	01 12 30.1	-0.4
	comp=Z,399nm,1.7s,mb5.9						
MDJ				epP	pP	01 13 01.4	-0.4
MDJ				esP	sP	01 13 14.9	-1.8
MDJ				ePP	PP	01 14 30.5	-1.1
GYA	Guiyang	53.53	308	⇓iP	P	01 12 37.0	+1.6
GYA				AP	pP	01 13 09.0	+2.2
GYA				XP	sP	01 13 25.3	+3.7
GYA				PCP	PcP	01 13 43.3	+2.8
GYA				PP	PP	01 14 41.8	+4.3
GYA				SCP	ScP	01 17 27.3	+1.3
GYA				PCS	PcS	01 17 40.8	+0.9
GYA				S	S	01 20 00.0	+1.8
GYA				XS	sS	01 20 53.5	+1.0
GYA				SCS	ScS	01 22 11.3	-0.5
GYA				SS	SS	01 23 41.8	+1.1
GYA				AMB	AMB		
	comp=Z,60nm,1.0s,mb5.3						
GYA				AMB	AMB		
	comp=Z,2μm,10.8s						
GYA				LR	LR		
	comp=N,3μm,19.4s						
GYA				LR	LR		
	comp=E,2μm,20.9s						
GYA				LR	LR		
	comp=Z,2μm,20.6s						
CN2	Changchun	53.73	336	eP	P	01 12 36.5	-0.1

CN2			*e*XP	sP	01 13 22.0	-0.8
CN2			*e*S	**S**	**01 20 01.0**	**+0.6**
CN2			*e*XS	sS	01 20 51.5	-3.2
CN2			AMB	AMB		
	comp=Z,20nm,1.3s,mb4.7					
CN2			AMB	AMB		
	comp=Z,200nm,7.0s					
HABR	**Khabarovsk**	**54.86 346**	*e*P	**P**	**01 12 43.6**	**-1.0**
HABR			*e*	pP	01 13 12.3	-3.8
HABR			*e*		01 13 27.1	
HABR			*e*		01 13 41.9	
HABR			*e*		01 14 48.0	
HABR			*e*S	**S**	**01 20 13.8**	**-1.5**
HABR			*e*		01 21 07.5	
HABR			*e*		01 22 17.3	
HABR			*e*		01 24 01.0	
HABR			pmax	pmax		
	comp=Z,283nm,1.5s,mb5.8					
NST	**Nakhon Sawan**	**55.01 293**	P	**P**	**01 12 48.0**	**+1.7**
	comp=Z,75nm,0.5s,mb5.7					
BJT	**Baijiatuau**	**55.20 327**	⇓*i*P	**P**	**01 12 47.3**	**+0.1**
BJT			*e**PP	pP	01 13 17.2	-1.6
BJT			*e**SP	sP	01 13 31.9	-1.7
BJT			pmax	pmax		
	comp=Z,201nm,1.4s					
BJT	**Baijiatuau**	**55.20 327**	⇓*i*P	**P**	**01 12 47.3**	**+0.1**
	comp=Z,201nm,1.4s,mb5.7					
BJT			*e*pP	pP	01 13 17.2	-1.6
BJT			*e*sP	sP	01 13 31.9	-1.7
BJI	**Beijing**	**55.21 327**	P	**P**	**01 12 47.5**	**+0.2**
BJI			AP	pP	01 13 15.8	-3.1
BJI			XP	sP	01 13 31.8	-1.9
BJI			PP	PP	01 14 52.3	0.0
BJI			S	**S**	**01 20 18.0**	**-2.3**
BJI			XS	sS	01 21 15.0	+0.2
BJI			SS	SS	01 24 12.3	+5.6
BJI			AMB	AMB		
	comp=Z,48nm,1.9s,mb4.9					
BJI			AMB	AMB		
	comp=Z,2μm,5.5s					
BJI			LR	LR		
	comp=N,3μm,20.4s					
BJI			LR	LR		
	comp=E,2μm,16.6s					
BJI			LR	LR		
	comp=Z,2μm,27.9s					
HON	**Honolulu**	**55.47 60**	*e*P	**P**	**01 12 50.6**	**+1.1**
NANT	**Nan**	**55.48 296**	⇑P	**P**	**01 12 48.0**	**-1.6**
	comp=Z,662nm,1.0s,mb6.3					
KIP	**Kipapa**	**55.49 60**	*e*P	**P**	**01 12 49.5**	**-0.2**
TIY	**Taiyuan**	**55.79 322**	*i* P	**P**	**01 12 49.0**	**-2.5**
TIY			AP	pP	01 13 20.3	-2.8
TIY			AMB	AMB		
	comp=Z,2μm,5.8s					
TIY			LR	LR		
	comp=N,2μm,14.4s					
TIY			LR	LR		
	comp=E,2μm,11.2s					
TIY			LR	LR		
	comp=Z,4μm,19.4s					
XAN	**Xi'an**	**55.83 317**	P	**P**	**01 12 51.5**	**-0.4**
XAN			AP	pP	01 13 23.0	-0.5
XAN			XP	sP	01 13 35.0	-3.3
XAN			S	**S**	**01 20 25.0**	**-3.8**
XAN			AMB	AMB		
	comp=Z,93nm,1.0s,mb5.6					
XAN			AMB	AMB		
	comp=Z,1μm,8.7s					
XAN			LR	LR		
	comp=N,507nm,17.0s					
XAN			LR	LR		
	comp=E,1μm,17.0s					
XAN			LR	LR		
	comp=Z,1μm,19.1s					
KMI	**Kunming**	**56.10 304**	P	**P**	**01 12 56.3**	**+2.4**
KMI			AP	pP	01 13 28.5	+2.9
KMI			XP	sP	01 13 42.3	+1.9
KMI			PCP	PcP	01 13 51.5	+1.0
KMI			PP	PP	01 15 05.3	+4.8
KMI			SCP	ScP	01 17 36.5	-0.8
KMI			PCS	PcS	01 17 50.8	-0.4
KMI			S	**S**	**01 20 35.0**	**+2.4**
KMI			XS	sS	01 21 30.8	+3.5
KMI			SCS	ScS	01 22 28.3	-2.0
KMI			SS	SS	01 24 25.0	+3.8
KMI			AMB	AMB		
	comp=Z,48nm,1.5s,mb5.1					
KMI			AMB	AMB		
	comp=Z,749nm,8.7s					
KMI			LR	LR		
	comp=N,2μm,18.2s					
KMI			LR	LR		
	comp=E,1μm,20.3s					
KMI			LR	LR		
	comp=Z,3μm,39.6s					
KLR	**Kul'dur**	**56.39 344**	⇑*i*P	**P**	**01 12 51.3**	**-4.2**
KLR			*e*S	**S**	**01 20 28.5**	**-7.2**
KLR			pmax	pmax		
	comp=N,57nm,1.6s					
KLR			pmax	pmax		
	comp=E,100nm,1.6s					
KLR			pmax	pmax		
	comp=Z,400nm,1.6s,mb6.0					
KLR			pmax	pmax		
	comp=N,1μm,9.0s					
KLR			pmax	pmax		
	comp=Z,2μm,9.0s					
HKL	**Haleakala**	**56.77 62**	*e*pP	pP	01 13 28.8	-1.7
KHU	**Kahuku**	**56.84 64**	*e*P	**P**	**01 12 58.9**	**-0.4**
KHU			*e**PP	pP	01 13 31.6	+0.6
KHU			*e*		01 15 09.6	
HPO	**Honuapo**	**56.85 64**	*e*P	**P**	**01 12 59.7**	**+0.3**
CM31	**Chiang Mai Arr**	**56.94 295**	*e*P	**P**	**01 13 01.6**	**+1.6**
	comp=Z,22nm,0.6s,mb5.2					
CHG	**Chiang Mai**	**57.05 296**	⇑P	**P**	**01 13 02.4**	**+1.6**
	comp=Z,142nm,0.8s,mb5.8					
CHTO	**Chiang Mai**	**57.05 296**	*e*P	**P**	**01 13 02.4**	**+1.6**
CHTO	**Chiang Mai**	**57.05 296**	P	**P**	**01 13 02.6**	**+1.8**
	SNR=21					
CHTO	**Chiang Mai**	**57.05 296**	P	**P**	**01 13 02.6**	**+1.8**
	SNR=21					
CHTO	**Chiang Mai**	**57.05 296**	P	**P**	**01 13 02.6**	**+1.8**
	SNR=21					
CHTO	**Chiang Mai**	**57.05 296**	P	**P**	**01 13 02.6**	**+1.8**
	SNR=21					
CHTO	**Chiang Mai**	**57.05 296**	P	**P**	**01 13 02.6**	**+1.8**
	SNR=21					
CHTO	**Chiang Mai**	**57.05 296**	P	**P**	**01 13 01.6**	**+0.8**
CHTO			pP	pP	01 13 34.3	+1.8
CHTO			S	**S**	**01 20 47.7**	**+2.3**
CHTO			sS	sS	01 21 43.4	+3.2
POHA	**Pohakuloa**	**57.09 63**	*e*P	**P**	**01 13 01.0**	**0.0**
	comp=Z,345nm,0.8s,mb6.2					
POHA			*e*	pP	01 13 33.8	+1.0
PET	**Petropavlovsk**	**57.69 5**	*de*P	**P**	**01 13 04.0**	**-0.6**
PET			*e**PP	pP	01 13 34.1	-2.3
PET			*e**SP	sP	01 13 47.4	-3.8
PET			*e*		01 13 55.3	
PET			*e*		01 15 20.7	
PET			*e*S	**S**	**01 20 51.8**	**-0.8**
PET			pmax	pmax		
	comp=Z,49nm,1.0s,mb5.3					
PET			pmax	pmax		
	comp=Z,2μm,7.5s					
PET			pmax	pmax		
	comp=Z,2μm,14.2s					
PET			pmax	pmax		
	comp=Z,700nm,11.9s					
PET			pmax	pmax		
	comp=Z,600nm,13.8s					
PET			MLR	MLR		
	comp=Z,1μm,20.0s					
PET			MLR	MLR		
	comp=Z,1μm,19.0s					
PET	**Petropavlovsk**	**57.69 5**	*e*P	**P**	**01 13 02.6**	**-2.0**
CD2	**Chengdu**	**57.90 311**	P	**P**	**01 13 07.3**	**+0.8**
CD2			AP	pP	01 13 38.3	0.0
CD2			XP	sP	01 13 51.0	-2.1
CD2			PCP	PcP	01 13 57.8	+0.4
CD2			PP	PP	01 15 16.0	-0.4
CD2			S	**S**	**01 20 52.5**	**-3.6**
CD2			SCS	ScS	01 22 40.5	-2.7
CD2			AMB	AMB		
	comp=Z,230nm,0.7s,mb6.1					
CD2			AMB	AMB		
	comp=Z,1μm,11.4s					
CD2			LR	LR		
	comp=N,2μm,16.7s					
CD2			LR	LR		
	comp=N,2μm,17.4s					
CD2			LR	LR		
	comp=Z,4μm,16.8s					
HHC	**Hu-ho-hao-te**	**58.34 325**	⇓P	**P**	**01 13 09.8**	**+0.4**
HHC			AP	pP	01 13 40.0	-1.3
HHC			XP	sP	01 13 54.3	-1.7
HHC			PCP	PcP	01 13 57.8	-1.1
HHC			PP	PP	01 15 22.3	+2.2
HHC			SCP	ScP	01 17 45.5	-1.3
HHC			S	**S**	**01 21 01.8**	**+0.3**
HHC			XS	sS	01 21 54.5	-2.0
HHC			SCS	ScS	01 22 41.0	-5.0
HHC			SS	SS	01 24 56.3	+0.4
HHC			AMB	AMB		
	comp=Z,182nm,1.6s,mb5.7					
HHC			AMB	AMB		
	comp=Z,2μm,6.5s					
HHC			LR	LR		
	comp=N,4μm,17.6s					
HHC			LR	LR		
	comp=E,4μm,17.6s					
HHC			LR	LR		
	comp=Z,8μm,19.6s					
PPT	**Papeete**	**58.68 108**	*e*P	**P**	**01 13 13.6**	**+1.4**
	comp=Z,80nm,1.0s,mb5.5					
PPT			*e*S	PKiKP	01 20 24.7	+1.5
PPT			*e*LQ		01 27 38.3	
	comp=Z,13μm,29.8s					
PPT			*e*LQ		01 27 42.0	
	comp=Z,8μm,33.8s					
PPT			*e*LR	LR	01 31 34.8	
	comp=Z,2μm,24.8s					
PPT	**Papeete**	**58.68 108**	*e*P	**P**	**01 13 13.9**	**+1.7**
PPT			*e*pP	pP	01 13 41.9	-2.2
PPT	**Papeete**	**58.68 108**	P	**P**	**01 13 14.0**	**+1.9**
	comp=Z,52nm,0.7s,mb5.5,baz=114,slow=0.9,SNR=7.4					
PAE	**Paea**	**58.69 108**	*e*P	**P**	**01 13 14.4**	**+2.2**
	comp=Z,1μm,1.0s,mb6.7					
TVO	**Taravao**	**59.01 108**	*e*P	**P**	**01 13 15.5**	**+1.0**
	comp=Z,184nm,1.0s,mb5.9					
PMOR	**Pomariorio Ree**	**60.10 105**	*e*P	**P**	**01 13 22.5**	**+0.5**
	comp=Z,942nm,1.2s,mb6.5					
PMOR	**Pomariorio Ree**	**60.10 105**	*e*T		02 17 46.9	
	comp=Z,1.5nm,0.2s					
LZH	**Lanzhou**	**60.43 316**	⇓*i*P	**P**	**01 13 25.3**	**+1.4**
LZH			AP	pP	01 13 59.0	+3.1
LZH			XP	sP	01 14 11.0	+0.4
LZH			PP	PP	01 15 42.5	+3.7
LZH			SCP	ScP	01 17 55.0	-1.2
LZH			S	**S**	**01 21 29.3**	**+0.7**
LZH			XS	sS	01 22 25.0	+1.1
LZH			SCS	ScS	01 22 56.3	-5.5
LZH			SS	SS	01 25 31.3	+2.3
LZH			AMB	AMB		
	comp=Z,481nm,1.5s,mb6.1					
LZH			AMB	AMB		
	comp=Z,1μm,7.2s					
LZH			LR	LR		
	comp=E,3μm,18.0s					
LZH			LR	LR		
	comp=Z,3μm,19.2s					
HIA	**Hailar**	**60.47 336**	*e*P	**P**	**01 13 24.1**	**+0.3**
HIA			pmax	pmax		
	comp=Z,247nm,1.5s					
HIA	**Hailar**	**60.47 336**	*e*P	**P**	**01 13 24.1**	**+0.3**
	comp=Z,247nm,1.5s,mb5.8					
DRV	**Dumont d'Urvil**	**62.51 185**	P	**P**	**01 13 41.0**	**+3.8**
DRV	**Dumont d'Urvil**	**62.51 185**	PP	PP	01 16 24.0	+28
DRV			S	**S**	**01 22 02.0**	**+8.3**
DRV			L		01 29 00.0	
DRV			R		01 33 00.0	
IMP	**Imphal**	**63.39 301**	*e*P	**P**	**01 13 44.0**	**+0.2**
MA2	**Magadan**	**63.98 359**	*d i*P	**P**	**01 13 45.4**	**-1.6**
MA2			*i* *PP	pP	01 14 19.1	-0.3
MA2			*i* *SP	sP	01 14 29.9	-4.1
MA2			*e*		01 16 09.9	
MA2			*e*PPP		01 17 46.9	
MA2			*e*S	**S**	**01 22 07.7**	**-4.5**
MA2			*e*SSS		01 29 16.7	
MA2			pmax	pmax		
	comp=Z,100nm,1.6s,mb5.4					
MA2	**Magadan**	**63.98 359**	*i* P	**P**	**01 13 45.5**	**-1.5**
GTA	**Gaotai**	**64.87 318**	⇓P	**P**	**01 13 54.5**	**+1.2**
GTA			AP	pP	01 14 26.5	+0.8
GTA			XP	sP	01 14 40.5	+0.2
GTA			PP	PP	01 16 23.0	+5.3
GTA			SCP		01 18 16.5	
GTA			PCS		01 18 27.5	
GTA			S	**S**	**01 22 28.5**	**+4.5**
GTA			XS	sS	01 23 21.0	+1.0
GTA			SCS	ScS	01 23 27.8	-7.6
GTA			SS	SS	01 26 46.3	+8.1
GTA			AMB	AMB		
	comp=Z,61nm,2.1s,mb5.1					
GTA			AMB	AMB		
	comp=Z,1μm,11.8s					
GTA			LR	LR		
	comp=N,846nm,20.6s					
GTA			LR	LR		
	comp=E,936nm,19.4s					
GTA			LR	LR		
	comp=Z,1μm,17.1s					
CLNS	**Chul'man**	**65.05 344**	*e*P	**P**	**01 13 54.3**	**+0.3**
CLNS			*e*	pP	01 14 27.2	+0.7
CLNS			*e*		01 16 14.4	
CLNS			*e*S	S	01 22 32.2	+6.7
CLNS			*e*SS	SS	01 26 38.4	-1.9
CLNS			pmax	pmax		
	comp=N,112nm,1.5s					
CLNS			pmax	pmax		
	comp=Z,122nm,1.5s,mb5.5					
CLNS			pmax	pmax		
	comp=E,12nm,0.8s					
CLNS			pmax	pmax		
	comp=N,16nm,0.9s					
CLNS			pmax	pmax		
	comp=E,13nm,0.9s					
CLNS			pmax	pmax		
	comp=Z,22nm,0.9s,mb5.0					
CLNS			smax			
	comp=N,683nm,11.4s					
CLNS			smax			
	comp=Z,671nm,12.7s					
CLNS			smax			
	comp=E,159nm,10.2s					
CLNS			MLR	MLR		
	comp=Z,500nm,12.0s					
CLNS			MLR	MLR		
	comp=N,400nm,15.0s					
CLNS			MLR	MLR		
	comp=E,300nm,13.0s					
ULN	**Ulaanbaatar**	**65.33 329**	*d i*P	**P**	**01 13 56.8**	**+0.8**
ULN	**Ulaanbaatar**	**65.33 329**	*i* P	**P**	**01 13 56.8**	**+0.8**
ULN	**Ulaanbaatar**	**65.33 329**	P	**P**	**01 13 57.4**	**+1.4**
	SNR=133					
ULN	**Ulaanbaatar**	**65.33 329**	P	**P**	**01 13 57.4**	**+1.4**
	SNR=133					
ULN	**Ulaanbaatar**	**65.33 329**	P	**P**	**01 13 57.4**	**+1.4**
	SNR=133					
SHL	**Shillong**	**65.40 301**	*e*P	**P**	**01 13 57.2**	**+0.3**
SHL			AMb	AMB	01 14 01.1	
	comp=Z,145nm,1.2s,mb5.7					
SHL			*ex*	x	01 22 34.0	
SONM	**Songino Array**	**65.66 328**	P	**P**	**01 13 59.1**	**+1.0**
SONM			*PP	pP	01 14 30.5	-0.2
SONM			pmax	pmax		
	comp=Z,26nm,0.4s					
SONM			pmax	pmax		
	comp=Z,36nm,0.9s					
SONM			pmax	pmax		
	comp=Z,1.0nm,1.0s					
SONM			pmax	pmax		
	comp=Z,1.0nm,0.8s					
SONM			MLR	MLR		
	comp=Z,2μm,18.6s					
SONM	**Songino Array**	**65.66 328**	P	**P**	**01 13 59.1**	**+1.0**
SONM			pP	pP	01 14 30.5	-0.2
SONM			P'P'		01 42 28.0	
SONM			⇑*e*		01 42 40.4	
SONM			LR	LR	01 43 28.4	
SONM	**Songino Array**	**65.66 328**	P	**P**	**01 13 59.1**	**+1.0**
	comp=Z,26nm,0.4s,mb5.4,baz=137,slow=4.8,SNR=144					
SONM			pP	pP	01 14 30.5	-0.2
	comp=Z,36nm,0.9s,baz=131,slow=2.8,SNR=3.5					
SONM			PKPPKP		01 42 28.0	
	comp=Z,0.6nm,1.0s,baz=5.7,slow=1.5,SNR=4.0					
SONM			PKP2bc		01 42 40.4	
	comp=Z,0.7nm,0.8s,baz=318,slow=2.0,SNR=4.1					
SONM			LR	LR	01 43 28.4	
	comp=Z,2μm,18.6s,baz=123,slow=37					
NIKO	**Nikolski**	**66.22 25**	*e*P	**P**	**01 14 00.4**	**-1.2**
	comp=Z,290nm,1.6s,mb5.9					
NIKO			*e*PcP	PcP	01 14 31.2	+0.5
SEY	**Seymchan**	**67.34 0**	*d i*P	**P**	**01 14 07.5**	**-1.0**
SEY	**Seymchan**	**67.34 0**	*i* P	**P**	**01 14 07.5**	**-1.0**
LSA	**Lhasa**	**67.35 305**	P	**P**	**01 14 11.3**	**+2.0**
LSA	**Lhasa**	**67.35 305**	*e*P	**P**	**01 14 10.6**	**+1.3**
LSA			*e**PP	pP	01 14 44.5	+2.5
LSA			pmax	pmax		
	comp=Z,29nm,0.6s,mb5.3					
LSA	**Lhasa**	**67.35 305**	*e*P	**P**	**01 14 10.6**	**+1.3**
	comp=Z,29nm,0.6s,mb5.3					
LSA			*e*pP	pP	01 14 44.5	+2.5
TAOE	**Nuku Hiva Isla**	**67.58 98**	*e*P	**P**	**01 14 10.9**	**-0.2**
	comp=Z,13μm,1.4s					
UNV	**Unalaska Valle**	**67.83 25**	*e*P	**P**	**01 14 10.2**	**-1.6**
	comp=Z,20nm,0.5s,mb5.1					
CASY	**Casey**	**67.93 197**	⇑*i*P	**P**	**01 14 11.6**	**-0.6**
CASY			*e*pP	pP	01 14 42.5	-2.5
CASY			*i* S	S	01 22 57.9	-2.1
AKUT	**Akutan**	**68.34 25**	*e*P	**P**	**01 14 13.9**	**-1.1**
	comp=Z,73nm,1.0s,mb5.4					
AKUT			*e*PcP	PcP	01 14 39.6	+0.1
YAK	**Yakutsk**	**68.59 349**	*e*P	**P**	**01 14 15.4**	**-1.0**
YAK			*e*	pP	01 14 49.3	+0.1
YAK			*e**PP	sP	01 15 00.6	-3.1
YAK			*e*		01 16 47.5	
YAK			*e*S	S	01 23 04.7	-3.2
YAK			*e**SS	sS	01 23 48.7	-16
YAK			*e*		01 23 59.9	
YAK			pmax	pmax		
	comp=Z,93nm,1.6s,mb5.3					
YAK			pmax	pmax		
	comp=N,56nm,1.7s					
YAK			pmax	pmax		
	comp=E,27nm,1.7s					
YAK			pmax	pmax		
	comp=Z,72nm,1.6s,mb5.2					
YAK			pmax	pmax		
	comp=N,118nm,1.8s					
YAK			pmax	pmax		
	comp=E,65nm,2.0s					
YAK			smax			
	comp=E,450nm,6.5s					
YAK			smax			
	comp=N,401nm,7.6s					
YAK	**Yakutsk**	**68.59 349**	*e*P	**P**	**01 14 16.0**	**-0.4**
ZAK	**Zakamensk**	**68.83 329**	⇑*i*P	**P**	**01 14 18.4**	**+0.3**
ZAK			*e*	pP	01 14 51.7	+0.8
ZAK			pmax	pmax		
	comp=Z,96nm,1.6s,mb5.3					
ZAK			pmax	pmax		
	comp=Z,56nm,1.3s,mb5.1					
BOD	**Bodaibo**	**69.27 339**	*e*P	**P**	**01 14 19.7**	**-0.9**
BOD			pmax	pmax		
	comp=Z,56nm,1.6s,mb5.0					
TLY	**Talaya**	**69.44 330**	*d i*P	**P**	**01 14 21.8**	**0.0**
TLY			*e*	pP	01 14 54.9	+0.2
TLY			*e*		01 15 05.9	
TLY			*e*S	S	01 23 15.6	-2.6
TLY			*e*		01 23 53.8	
TLY			pmax	pmax		
	comp=Z,106nm,1.5s,mb5.3					
TLY	**Talaya**	**69.44 330**	*i* P	**P**	**01 14 22.1**	**+0.3**
TLY	**Talaya**	**69.44 330**	P	**P**	**01 14 22.5**	**+0.7**
	SNR=68					
TLY	**Talaya**	**69.44 330**	P	**P**	**01 14 22.5**	**+0.7**
	SNR=68					
TLY	**Talaya**	**69.44 330**	P	**P**	**01 14 22.5**	**+0.7**
	SNR=68					
TLY	**Talaya**	**69.44 330**	P	**P**	**01 14 22.5**	**+0.7**
	SNR=68					
TLY	**Talaya**	**69.44 330**	P	**P**	**01 14 22.5**	**+0.7**
	SNR=68					
IRK	**Irkutsk**	**69.47 331**	*e*P	**P**	**01 14 21.7**	**-0.3**
IRK			*e*	pP	01 14 57.0	+2.1
IRK			pmax	pmax		
	comp=Z,180nm,1.6s,mb5.5					
FALS	**False Pass**	**69.85 26**	*e*P	**P**	**01 14 23.2**	**-1.0**
	comp=Z,79nm,0.5s,mb5.7					
FALS			PcP	PcP	01 14 46.6	+0.7
BOK	**Bokaro**	**70.13 297**	*e*P	**P**	**01 14 26.5**	**-0.1**
MOY	**Mondy**	**70.76 329**	*e*P	**P**	**01 14 30.4**	**+0.5**
MOY			pmax	pmax		
	comp=Z,347nm,2.0s,mb5.7					
VIS	**Vishakhapatnam**	**71.11 290**	*i* P	**P**	**01 14 32.3**	**-0.4**
VIS			*ex*	x	01 15 18.5	
	comp=Z,92nm,1.5s					
VIS			*i* x	x	01 24 20.6	
SDPT	**Sand Point**	**71.45 26**	*e*P	**P**	**01 14 32.6**	**-1.4**
	comp=Z,199nm,0.9s,mb5.8					
SDPT			LR	LR		
	comp=Z,800nm,19.0s					
RKT	**Rikitea**	**72.73 113**	*e*LR	LR	01 38 04.6	
	comp=Z,2μm,34.0s					
CHGN	**Chignik**	**72.96 26**	*e*P	**P**	**01 14 41.2**	**-1.7**
VNDA	**Vanda**	**73.07 178**	P	**P**	**01 14 43.1**	**-0.1**
VNDA			*PP	pP	01 15 14.2	-2.2
VNDA			pmax	pmax		
	comp=Z,25nm,1.0s					
VNDA			pmax	pmax		
	comp=Z,14nm,0.8s					
VNDA	**Vanda**	**73.07 178**	P	**P**	**01 14 43.1**	**-0.1**
	comp=Z,25nm,1.0s,mb4.9,baz=331,slow=6.5,SNR=87					
VNDA			pP	pP	01 15 14.2	-2.3
	comp=Z,14nm,0.8s,baz=336,slow=7.0,SNR=4.5					
VNDA			LR	LR	01 44 23.4	
	comp=Z,969nm,18.0s,baz=351,slow=34					
BILL	**Bilibino**	**73.18 6**	*d i*P	**P**	**01 14 42.8**	**-1.2**
BILL			pmax	pmax		
	comp=Z,70nm,1.8s,mb5.1					
BILL	**Bilibino**	**73.18 6**	*i* P	**P**	**01 14 42.8**	**-1.2**
MDRS	**Chennai**	**73.23 285**	*ex*	x	01 14 35.9	
SBA	**Scott Base**	**73.63 177**	⇑*e*P	**P**	**01 14 47.2**	**+0.7**
SBA			*e**PP	pP	01 15 19.4	-0.3
SBA			*e*		01 17 34.9	
SBA			pmax	pmax		
	comp=Z,196nm,1.6s,mb5.6					
SBA	**Scott Base**	**73.63 177**	⇑*e*P	**P**	**01 14 47.2**	**+0.7**
	comp=Z,196nm,1.6s,mb5.6					
SBA			*e*pP	pP	01 15 19.4	-0.4
SBA			*e*PP	PP	01 17 34.9	+2.5
MIR	**Mirnyy**	**73.78 201**	⇓*i*P	**P**	**01 14 43.0**	**-4.5**
MIR			*i*	pP	01 15 20.0	-0.8
MIR			*i*		01 15 33.0	
MIR			*i* S	S	01 24 04.0	-3.6
MIR			*e*		01 24 50.0	
MIR			pmax	pmax		
	comp=Z,200nm,1.8s,mb5.5					
MIR			MLR	MLR		
	comp=Z,2μm,17.0s					
WMQ	**Urumqi**	**74.96 318**	P	**P**	**01 14 55.0**	**+0.2**
WMQ			AP	pP	01 15 27.0	-1.1
WMQ			XP	sP	01 15 40.0	-2.5
WMQ			PP	PP	01 17 47.0	+2.5
WMQ			S	S	01 24 21.0	-0.5
WMQ			SS	SS	01 29 14.0	+0.9
WMQ			AMB	AMB		
	comp=Z,124nm,1.2s,mb5.4					
WMQ			AMB	AMB		
	comp=Z,1μm,6.0s					
WMQ			LR	LR		
	comp=N,2μm,18.0s					
WMQ			LR	LR		
	comp=E,2μm,17.0s					
WMQ			LR	LR		
	comp=Z,2μm,18.0s					
KOD	**Kodaikanal**	**75.53 282**	*e*P	**P**	**01 14 59.5**	**+0.8**
HYB	**Hyderabad**	**75.54 289**	*e*P	**P**	**01 14 59.5**	**+0.8**
HYB			*e*	pP	01 15 31.5	-0.5
HYB			*e*S	S	01 24 24.0	-4.9
HYB	**Hyderabad**	**75.54 289**	*i* P	**P**	**01 14 59.5**	**+0.8**
HYB			*e*pP	pP	01 15 31.5	-0.5
HYB			*e*S	S	01 24 24.0	-4.9
HYB			*e*		01 25 24.0	

NGP Nagpur 75.73 293 eP **P 01 14 56.9 -2.8**
NGP ex x 01 25 27.5
KDAK Kodiak Island 76.42 27 eP **P 01 15 04.2 +1.3**
comp=Z,312nm,1.7s,mb5.7
PTH Pithoragarh 76.44 302 eP **P 01 15 03.8 +0.2**
SVW2 Sparrevohn 77.01 23 eP **P 01 15 05.9 -0.1**
AKL Akola 77.53 292 eP **P 01 15 08.1 -1.7**
BHPL Bhopal 77.60 295 eP **P 01 15 09.9 -0.3**
BHPL AMb AMB 01 15 13.5
comp=Z,50nm,0.7s,mb5.2
TTA Tatalina 77.93 22 eP **P 01 15 10.7 -0.4**
TTA pmax pmax
comp=Z,623nm,2.2s,mb5.8
TTA Tatalina 77.93 22 eP **P 01 15 10.7 -0.4**
comp=Z,623nm,2.2s,mb5.8
DDI Dehra Dun 78.44 302 iP **P 01 15 14.0 -0.7**
NDI New Delhi 78.82 300 eP **P 01 15 16.0 -0.8**
MK31 Makanchi Array 79.56 319 eP **P 01 15 20.8 +0.4**
MK31 e 01 15 27.8
MKAR Makanchi Array 79.56 319 P P 01 15 20.5 +0.1
MKAR *PP pP 01 15 52.4 -1.7
MKAR pmax pmax
comp=Z,12nm,0.5s
MKAR pmax pmax
comp=Z,32nm,1.0s
MKAR pmax pmax
comp=Z,1.0nm,0.7s
MKAR MLR MLR
comp=Z,963nm,19.1s
MKAR Makanchi Array 79.56 319 P P 01 15 20.4 +0.1
MKAR pP pP 01 15 52.4 -1.6
MKAR PKKPbc PKKPbc 01 34 10.3 +0.3
MKAR P'P' 01 42 15.4
MKAR LR LR 01 52 27.6
MKAR Makanchi Array 79.56 319 P P 01 15 20.4 +0.1
comp=Z,12nm,0.5s,mb4.8,baz=101,slow=6.3,SNR=62
MKAR pP pP 01 15 52.4 -1.6
comp=Z,32nm,1.0s,baz=99,slow=7.9,SNR=4.4
MKAR PKKPbc PKKPbc 01 34 10.3 +0.3
comp=Z,0.8nm,0.7s,baz=11,slow=1.8,SNR=5.6
MKAR PKPPKP 01 42 15.4
comp=Z,0.3nm,0.7s,baz=331,slow=4.5,SNR=5.0
MKAR LR LR 01 52 27.6
comp=Z,962nm,19.1s,baz=220,slow=37
KAD Karad 79.65 288 eP **P 01 15 21.2 -0.3**
PMR Palmer 79.89 25 eP **P 01 15 20.7 -1.2**
ZAA0 Zalesovo Array 80.47 327 eP **P 01 15 24.4 -0.7**
ZAA0 epP pP 01 15 57.8 -1.1
ZAA0 esP sP 01 16 13.0 -0.1
ZALV Zalesovo Beam 80.47 327 P P 01 15 24.1 -1.1
comp=Z,34nm,0.6s,mb5.2,baz=112,slow=6.1,SNR=118
ZALV pP pP 01 15 58.4 -0.5
comp=Z,28nm,0.8s,baz=108,slow=4.8,SNR=3.4
ZALV LR LR 01 48 04.3
comp=Z,1μm,20.0s,baz=111,slow=33
ZAL Zalesovo 80.47 326 P P 01 15 24.1 -1.0
ZAL *PP pP 01 15 58.4 -0.5
IMA2 Indian Mountai 80.58 20 eP **P 01 15 25.9 +0.4**
AJM Ajmer 80.65 298⇓ix **P 01 15 25.0 -1.7**
THN Thein Dam 80.83 304 eP **P 01 15 27.8 +0.3**
DIV Divide 81.10 26 eP **P 01 15 27.5 -0.8**
comp=Z,261nm,1.5s,mb5.6
DIV epP pP 01 16 01.1 -1.0
DIV esP sP 01 16 15.5 -0.9
NVS Novosibirsk 81.65 327 iP **P 01 15 30.7 -0.7**
NVS e*PP pP 01 16 07.8 +2.6
NVS e 01 18 38.2
NVS iS S 01 25 27.8 -4.7
NVS pmax pmax
comp=N,118nm,1.7s
NVS pmax pmax
comp=E,190nm,1.7s
NVS pmax pmax
comp=Z,273nm,1.7s,mb5.6
NVS pmax pmax
comp=Z,55nm,2.0s,mb4.8
NVS pmax pmax
comp=N,33nm,2.1s
NVS smax
comp=N,36nm,2.3s
NVS smax
comp=E,36nm,1.8s
COLA College 82.01 22 iP **P 01 15 31.2 -1.8**
COLA College 82.01 22 iP **P 01 15 31.2 -1.8**
KSH Kashi 82.09 311 iP **P 01 15 35.0 +1.0**
KSH AP pP 01 16 06.0 -1.9
KSH XP sP 01 16 20.0 -2.2
KSH PP PP 01 18 46.0 +2.0
KSH S S 01 25 33.5 -4.2
KSH SKS 01 25 39.0
KSH AMB AMB
comp=Z,1μm,3.2s
KSH LR LR
comp=N,2μm,13.3s
KSH LR LR
comp=E,3μm,16.2s
KSH LR LR
comp=Z,4μm,21.4s
AAA Alma-Ata 82.23 315 eP **P 01 15 35.0 +0.3**
AAA eS S 01 25 37.5 -1.5
AAA pmax pmax
comp=E,2μm,8.0s
AAA smax
comp=N,2μm,20.0s
ULHL Ulahol 82.50 313 P P 01 15 33.7 -2.4
SNR=16
MENT Mentasta 82.76 25 eP **P 01 15 36.7 -0.3**
KURK Kurchatov 83.03 322 iP **P 01 15 37.8 -0.8**
KURK Kurchatov 83.03 322 iP **P 01 15 37.8 -0.8**
KURK Kurchatov 83.03 322 P P 01 15 38.3 -0.3
SNR=66
KURK Kurchatov 83.03 322 P P 01 15 38.3 -0.3
SNR=66
KURK Kurchatov 83.03 322 P P 01 15 38.3 -0.3
SNR=66
KURK Kurchatov 83.03 322 P P 01 15 38.3 -0.3
SNR=66
TKM2 Tokmak 2 83.11 314⇓iP **P 01 15 39.6 +0.3**
TKM2 e*PP pP 01 16 12.9 -0.3
TKM2 e*SP sP 01 16 27.2 -0.2
TKM2 01 18 58.9
TKM2 pmax pmax
comp=Z,145nm,1.4s,mb5.5
TKM2 Tokmak 2 83.11 314⇓iP **P 01 15 39.6 +0.4**
comp=Z,145nm,1.4s,mb5.5
TKM2 epP pP 01 16 12.9 -0.3
TKM2 esP sP 01 16 27.2 -0.2
TKM2 PP PP 01 18 58.9 +6.6
TKM2 e 01 19 38.2
TKM2 Tokmak 2 83.11 314 P P 01 15 39.8 +0.5
SNR=39
KZA Kyzart 83.18 313 P P 01 15 41.1 +1.5
SNR=123
KBK Karagaybulak 83.52 314 P P 01 15 42.1 +0.7
SNR=24
CHMS Chumysh 83.74 314 P P 01 15 42.6 +0.2
SNR=41
UCH Uchtor 83.75 313⇓iP **P 01 15 43.7 +1.2**
comp=Z,274nm,1.6s,mb5.7
UCH epP pP 01 16 15.7 -0.8
UCH esP sP 01 16 32.3 +1.6
UCH ePP PP 01 19 02.9 +5.4
UCH Uchtor 83.75 313 P P 01 15 44.1 +1.6
SNR=77
FRU Bishkek 83.80 314 iP **P 01 15 42.0 -0.8**
FRU e 01 16 30.0
FRU e 01 26 52.0
FRU pmax pmax
comp=Z,440nm,1.8s,mb5.9
AAK Ala-Archa 83.85 314 P P 01 15 42.4 -0.6
comp=Z,317nm,1.6s,mb5.8,SNR=22
AAK Ala-Archa 83.85 314 P P 01 15 43.8 +0.8
SNR=20
USP Ospenovka 83.97 314 P P 01 15 44.1 +0.4
SNR=41
AML Almayashu 84.33 313⇓iP **P 01 15 46.8 +1.4**
comp=Z,472nm,1.5s,mb6.0
AML epP pP 01 16 20.9 +1.4
AML esP sP 01 16 30.4 -3.3
AML Almayashu 84.33 313 P P 01 15 47.0 +1.5
SNR=122
EKS2 Erkin-Say 84.37 314⇓iP **P 01 15 46.2 +0.6**
comp=Z,278nm,1.5s,mb5.8
EKS2 ePcP PcP 01 15 49.1 0.0
EKS2 epP pP 01 16 18.3 -1.4
EKS2 esP sP 01 16 31.6 -2.3
EKS2 ePP PP 01 19 05.0 +2.5
EKS2 Erkin-Say 84.37 314 P P 01 15 46.5 +0.9
SNR=92
EGAK Eagle 84.55 23⇓iP **P 01 15 45.2 -0.8**
comp=Z,320nm,1.6s,mb5.8
EGAK ePcP PcP 01 15 48.5 -0.8
EGAK epP pP 01 16 18.4 -1.6
EGAK esP sP 01 16 32.0 -2.3
EGAK ePP PP 01 19 05.5 +2.1
SIT Sitka 84.59 32 eP **P 01 15 46.1 -0.3**
SIT pmax pmax
comp=Z,155nm,1.0s,mb5.7
SIT MLR MLR
comp=Z,1μm,18.0s
SIT Sitka 84.59 32 eP **P 01 15 46.1 -0.3**
comp=Z,155nm,1.0s,mb5.7
SIT LR LR
comp=Z,1μm,18.0s
BHJ Bhuj 84.66 294 eP **P 01 15 46.5 -1.1**
BHJ AMb AMB 01 15 51.7
comp=Z,120nm,1.9s,mb5.3
DAWY Dawson 84.99 24⇓iP **P 01 15 47.8 -0.4**
DAWY ePcP PcP 01 15 51.1 -0.2
DAWY pP pP 01 16 23.5 +1.2
DAWY esP sP 01 16 34.5 -2.0
SKAG Skagway 85.30 29 eP **P 01 15 49.7 -0.2**
comp=Z,280nm,1.7s,mb5.7
SKAG LR LR
comp=Z,900nm,19.0s
CRAG Craig 85.34 33⇓eP **P 01 15 49.7 -0.5**
comp=Z,341nm,1.7s,mb5.8
CRAG ePcP PcP 01 15 53.0 0.0
QSPA South Pole Qui 85.36 180 P P 01 15 49.4 -0.5
comp=Z,43nm,0.6s,mb5.4,baz=332,slow=1.4,SNR=244
QSPA pP pP 01 16 21.2 -2.8
comp=Z,85nm,1.0s,baz=355,slow=1.8,SNR=7.6
MAW Mawson 85.39 203⇑iP **P 01 15 49.5 -0.8**
comp=Z,14nm,1.1s,mb4.6
MAW epP pP 01 16 21.8 -2.6
MAW iS S 01 25 58.1 -12
MAW Mawson 85.39 203⇑iP **P 01 15 49.5 -0.8**
MAW e*PP pP 01 16 21.8 -2.6
MAW iS S 01 25 58.1 -12
MAW pmax pmax
comp=Z,14nm,1.1s
MAW Mawson 85.39 203 P P 01 15 49.7 -0.6
comp=Z,13nm,0.6s,mb4.8,baz=99,slow=5.5,SNR=24
MAW pP pP 01 16 21.4 -3.0
comp=Z,62nm,1.0s,baz=100,slow=5.9,SNR=10
MAW LR LR 01 53 44.0
comp=Z,1μm,19.5s,baz=86,slow=35
WRAK Wrangell Islan 86.00 33⇓eP **P 01 15 53.4 -0.1**
comp=Z,554nm,1.6s,mb6.0
WRAK ePcP PcP 01 15 57.2 +1.2
KBL Kabul 86.68 305 eP **P 01 15 55.4 -1.9**
comp=Z,12nm,0.6s,mb4.9
KBL epP pP 01 16 29.8 -1.7
KK31 Karatay Array 86.81 314 iP **P 01 15 56.9 -0.8**
KK31 pmax pmax
comp=Z,55nm,1.0s,mb5.3
KK31 Karatay Array 86.81 314 iP **P 01 15 56.0 -1.7**
DLBC Dease Lake 87.69 31⇓eP **P 01 16 01.6 0.0**
DLBC ePcP PcP 01 16 04.3 +1.0
DLBC ePcP pP 01 16 35.4 -0.4
DLBC esP sP 01 16 46.4 -3.6
K01A Sixes 88.46 47⇓P **P 01 16 05.2 -0.3**
baz=88
BVAR Borovoye Array 88.52 323 P P 01 16 04.1 -1.5
BVAR *PP pP 01 16 40.0 +0.1
BVAR pmax pmax
comp=Z,41nm,0.6s
BVAR pmax pmax
comp=Z,26nm,0.8s
BVAR Borovoye Array 88.52 323 P P 01 16 04.1 -1.5
comp=Z,41nm,0.6s,mb5.5,baz=108,slow=5.9,SNR=64
BVAR pP pP 01 16 40.0 0.0
comp=Z,26nm,0.8s,baz=111,slow=5.3,SNR=5.5
JCC Jacoby Creek 88.52 49⇑P **P 01 16 06.1 +0.2**
baz=89
KBO Bosley Butte 88.56 48 eP **P 01 16 07.4 +1.3**
KBO epP pP 01 16 42.1 +1.7
KEBM Edson Butte 88.56 47 eP **P 01 16 05.7 -0.4**
M01C Crescent City 88.59 48⇑P **P 01 16 06.1 -0.1**
baz=89
BRVK Borovoye 88.59 323 P P 01 16 04.5 -1.4
BRVK pmax pmax
comp=Z,150nm,1.4s,mb5.7
BRVK Borovoye 88.59 323 iP **P 01 16 04.9 -1.0**
BRVK Borovoye 88.59 323 P P 01 16 04.8 -1.1
SNR=42
BRVK Borovoye 88.59 323 P P 01 16 04.8 -1.1
SNR=42
BRVK Borovoye 88.59 323 P P 01 16 04.8 -1.1
SNR=42
BRVK Borovoye 88.59 323 P P 01 16 04.8 -1.1
SNR=42
BRVK Borovoye 88.59 323 P P 01 16 04.8 -1.1
SNR=42
O01C Eel River Cons 88.60 50⇓P **P 01 16 06.2 -0.1**
baz=89,SNR=9.6
INK Inuvik 88.60 21⇓iP **P 01 16 04.3 -1.4**
INK e*PP pP 01 16 37.7 -2.3
INK e*SP sP 01 16 53.3 -0.9
INK Inuvik 88.60 21⇓iP **P 01 16 04.3 -1.4**
INK epP pP 01 16 37.7 -2.3
INK esP sP 01 16 53.3 -0.8
INK ePP PP 01 19 30.2 -5.7
KRMB Red Mountain 88.70 48 eP **P 01 16 07.5 +0.8**
KRMB epP pP 01 16 44.0 +2.9
KRMB esP sP 01 16 54.3 -0.9
KCPM Cahto Peak 88.72 50 eP **P 01 16 08.6 +1.7**
KIPM Iron Peak 88.81 50 eP **P 01 16 07.6 +0.2**
P01C Double 8 Ranch 88.88 50⇑P **P 01 16 08.8 +1.2**
baz=89
FARB Farallon Islan 88.94 52⇓P **P 01 16 08.2 +0.2**
baz=89
L02A Cave Junction 89.01 48⇑P **P 01 16 08.0 -0.1**
baz=89,SNR=9.6
HOPS Hopland 89.03 51 eP **P 01 16 10.1 +1.7**
comp=Z,64nm,1.3s,mb5.4
HOPS Hopland 89.03 51⇓P **P 01 16 08.6 +0.3**
baz=89
H02A Toledo 89.04 45⇓P **P 01 16 08.6 +0.3**
baz=89
N02C Big Bar 89.07 49⇓P **P 01 16 08.6 +0.1**
baz=89,SNR=20
I02A Mapleton 89.07 46⇓P **P 01 16 08.5 0.0**
baz=89,SNR=12
C03A Quillayute Air 89.08 42⇑P **P 01 16 08.8 +0.4**
baz=89
MCCM Marconi Confer 89.09 52⇓P **P 01 16 08.5 -0.1**
baz=89
K02A Glendale 89.17 47⇑P **P 01 16 08.8 -0.1**
baz=89,SNR=26
J02A Umpqua 89.18 47⇑P **P 01 16 09.0 0.0**
baz=89,SNR=19
OTR Olympics--Tyee 89.25 42 P P 01 16 09.5 +0.4
MPOR Mary's Peak 89.33 45 P P 01 16 11.1 +1.5
NSHM Saint Helena R 89.34 51 eP **P 01 16 09.3 -0.5**
GASB Alder Springs 89.38 50⇑P **P 01 16 10.5 +0.5**
baz=89,SNR=17
O02C Red Bluff 89.39 50 P P 01 16 10.6 +0.6
baz=89,SNR=56
CVS Carmenet Viney 89.44 52⇓P **P 01 16 09.7 -0.6**
baz=90
I03A Eugene 89.47 46⇓P **P 01 16 10.3 0.0**
baz=90,SNR=12
NLWA Neilton Lookou 89.47 43 eP **P 01 16 10.2 -0.1**
comp=Z,82nm,1.0s,mb5.6
NLWA Neilton Lookou 89.47 43 P P 01 16 10.4 +0.2
baz=90,SNR=21
M02C Callahan 89.47 49 P P 01 16 11.0 +0.6
baz=90,SNR=55
F03A Seaside 89.50 44⇑P **P 01 16 10.1 -0.3**
baz=90,SNR=28
D03A Wishkah Elem. 89.51 43⇓P **P 01 16 10.4 0.0**
baz=90,SNR=14
MNRC McLaughlin Nat 89.51 51⇑P **P 01 16 10.9 +0.3**
baz=90,SNR=10
JRSC Jasper Ridge 89.51 53⇓P **P 01 16 10.7 +0.1**
baz=90
COR Corvallis 89.52 45 eP **P 01 16 11.1 +0.6**
COR pmax pmax
comp=Z,416nm,1.9s,mb6.0
COR Corvallis 89.52 45 eP **P 01 16 11.1 +0.5**
comp=Z,416nm,1.9s,mb6.0
BNLO Ben Lomond (Sa 89.53 53⇓P **P 01 16 10.8 +0.1**
baz=90,SNR=5.3
HUMO Hull Mountain 89.54 47⇓eP **P 01 16 11.0 +0.4**
comp=Z,186nm,0.9s,mb6.0
HUMO e pP 01 16 49.3 +4.3
HUMO Hull Mountain 89.54 47⇓P **P 01 16 10.8 +0.1**
baz=90,SNR=88
H03A Soap Creek Ran 89.54 45⇓P **P 01 16 10.6 +0.1**
baz=90,SNR=25
E03A Lebam 89.58 43 P P 01 16 10.7 0.0
baz=90,SNR=26
WDC Whiskeytown Da 89.62 49 eP **P 01 16 11.2 +0.1**
WDC pmax pmax
comp=Z,105nm,1.3s,mb5.6
WDC Whiskeytown Da 89.62 49 eP **P 01 16 11.2 +0.1**
comp=Z,105nm,1.3s,mb5.6
WDC Whiskeytown Da 89.62 49 P P 01 16 11.2 +0.1
baz=90,SNR=18
J03A Ideyld Park 89.62 47⇓P **P 01 16 10.3 -0.7**
baz=90,SNR=28
YBH Yreka Blue Hor 89.62 48 P P 01 16 11.8 +0.8
YBH pmax pmax
comp=Z,56nm,0.6s
YBH Yreka Blue Hor 89.62 48 P P 01 16 11.8 +0.7
comp=Z,56nm,0.6s,mb5.7,baz=221,slow=1.7,SNR=54
YBH Yreka Blue Hor 89.62 48⇓P **P 01 16 11.1 +0.1**
baz=90,SNR=60
G03A Yamhill 89.62 45⇑P **P 01 16 10.4 -0.6**
baz=90
BBOR Butler Butte 89.77 47 P P 01 16 11.6 -0.2
B04A Port Angeles 89.80 42⇑P **P 01 16 11.5 -0.2**
baz=90,SNR=17
Q03C Winters 89.81 51⇓P **P 01 16 12.3 +0.2**
baz=90
BDM Black Diamond 89.86 52⇓P **P 01 16 12.2 0.0**
baz=90
PGC Sidney 89.91 41 eP **P 01 16 11.9 -0.4**
comp=Z,180nm,0.8s,mb6.0
WENL Wente Brothers 89.91 52⇓P **P 01 16 11.7 -0.8**
baz=90
O03C Acorn Hollow, 89.94 50⇓P **P 01 16 12.3 -0.3**
baz=90,SNR=14
HAST Hastings Reser 89.95 54⇓P **P 01 16 12.0 -0.7**
baz=90
M03C McCloud 90.01 49⇓P **P 01 16 12.8 -0.1**
baz=90,SNR=71
BUOR Burton Butte 90.02 48 P P 01 16 13.0 0.0
SUTB Sutter Butte 90.05 51⇓P **P 01 16 12.3 -0.9**
baz=90,SNR=26
I04A Tendick Farm, 90.07 46 P P 01 16 12.6 -0.5
baz=90,SNR=51
SAO San Andreas Ge 90.07 53 eP **P 01 16 14.3 +1.0**
SAO e*PP pP 01 16 45.8 -1.9
SAO pmax pmax
comp=Z,109nm,1.6s,mb5.5
SAO San Andreas Ge 90.07 53 eP **P 01 16 14.3 +1.1**
comp=Z,109nm,1.6s,mb5.5
SAO epP pP 01 16 45.8 -1.9
C04A Brinnon 90.12 42⇓P **P 01 16 12.8 -0.4**
baz=90,SNR=80
HBO Huckleberry Mo 90.14 46 P P 01 16 13.1 -0.3
E04A Onalaska 90.16 43⇑P **P 01 16 13.5 +0.1**
baz=90,SNR=10
D04A Dobbs Creek Ra 90.16 43⇑P **P 01 16 13.8 +0.4**
baz=90,SNR=5.3
V03C Hunter Liggett 90.17 54⇓P **P 01 16 14.0 +0.3**
baz=90,SNR=7.6
G04A Mulino 90.17 45⇑P **P 01 16 13.1 -0.4**
baz=90,SNR=8.2
GNW Green Mountain 90.20 42 P P 01 16 13.0 -0.6
PACP Pacheco Peak 90.22 53⇑P **P 01 16 13.7 -0.3**
baz=90,SNR=11
J04A Umpqua Nationa 90.23 47⇑P **P 01 16 13.8 0.0**
baz=90,SNR=124
S04C Ingram Canyon, 90.24 53⇑P **P 01 16 14.0 -0.1**
baz=90,SNR=17
VSP Spence Mountai 90.25 48 P P 01 16 13.7 -0.2
M04C Macdoel 90.27 48 P P 01 16 14.2 +0.1
baz=90,SNR=46
L04A Klamath Falls 90.28 48⇓P **P 01 16 14.1 0.0**
baz=90,SNR=57
F04A Amboy 90.29 44⇑P **P 01 16 13.5 -0.6**
baz=90,SNR=17
OHCM Honcut 90.30 51 eP **P 01 16 14.0 -0.3**
OHCM ePP PP 01 19 49.6 -0.6
ORV Oroville 90.31 51⇓P **P 01 16 13.8 -0.5**
baz=90,SNR=22
H04A Detroit Lake 90.32 45 P P 01 16 13.7 -0.5
baz=90,SNR=26
Q04C Lincoln 90.33 51⇑P **P 01 16 13.9 -0.5**
baz=90
A04A Legoe Bay, Lum 90.41 41⇓P **P 01 16 14.2 -0.4**
baz=90,SNR=35
V04C Ramage Ranch, 90.43 54⇑P **P 01 16 15.4 +0.4**
baz=90,SNR=6.7
K04A Chilquin 90.44 47⇓P **P 01 16 14.9 +0.1**
baz=90,SNR=16
HATC Hat Creek Radi 90.46 49⇓P **P 01 16 14.8 -0.2**
baz=90,SNR=23
WIFE Three Sisters- 90.52 46 P P 01 16 15.3 +0.1
U04C Hernandez Rese 90.57 54⇓P **P 01 16 16.3 +0.7**
baz=91
R04C Big Horse Ranc 90.62 52⇑P **P 01 16 15.0 -0.8**
baz=91
O04C Chester 90.70 50 P P 01 16 16.2 +0.1
baz=91,SNR=51
T05C Eagle Field, D 90.70 53⇓P **P 01 16 16.4 +0.2**
baz=91
D05A Enumclaw 90.72 43 P P 01 16 16.1 +0.1
baz=91,SNR=37
PKD Parkfield 90.72 54⇓P **P 01 16 16.2 -0.1**
baz=91,SNR=22
M05C Lookout 90.75 49 P P 01 16 16.3 0.0
baz=91,SNR=58
B05A Bryant 90.76 42 P P 01 16 16.0 -0.2
baz=91,SNR=22
O05C Quincy 90.79 50⇓P **P 01 16 16.3 -0.2**
baz=91,SNR=18
E05A Randle 90.81 44 P P 01 16 15.7 -0.8
baz=91,SNR=28
LAVA Lava Cap Winer 90.82 51 P P 01 16 16.4 -0.3
baz=91,SNR=82
A05A Maple Falls 90.85 41⇑P **P 01 16 15.7 -0.9**
baz=91,SNR=6.7
J05A Fort Rock 90.86 47 P P 01 16 17.1 +0.3
baz=91,SNR=168
I05A Bend 90.93 46⇓P **P 01 16 16.9 -0.1**
baz=91,SNR=23
F05A White Salmon 90.96 44⇑P **P 01 16 16.5 -0.7**
baz=91,SNR=20
P05C Yuba Gap, Truc 90.97 51 P P 01 16 17.6 +0.2
baz=91,SNR=47
C05A Tolt Reservoir 90.98 42 P P 01 16 16.7 -0.5
baz=91,SNR=36
G05A Wamic 90.99 45⇓P **P 01 16 17.1 -0.2**
baz=91,SNR=11
ELFS Eagle Lake Fie 91.00 50⇑P **P 01 16 17.8 +0.3**
baz=91,SNR=34
H05A Madras 91.00 45⇓P **P 01 16 16.9 -0.5**
baz=91,SNR=27
S05C Merced 91.02 53⇑P **P 01 16 17.2 -0.4**
baz=91,SNR=11
CMB Columbia Colle 91.03 52 eP **P 01 16 18.0 +0.3**
CMB Columbia Colle 91.03 52⇑P **P 01 16 17.4 -0.3**
baz=91,SNR=29
L05A Lakeview 91.05 48 P P 01 16 18.1 +0.4
baz=91,SNR=56
K05A Summer Lake 91.06 47 P P 01 16 18.2 +0.5
baz=91,SNR=121
U05C Westside ANR, 91.10 54⇓P **P 01 16 18.8 +0.8**
baz=91,SNR=6.2
SMMC Simmler 91.11 55⇓P **P 01 16 18.9 +0.8**
baz=91,SNR=12
B06A Marblemount 91.19 42⇓P **P 01 16 17.3 -0.9**
baz=91,SNR=6.2
BEKR Beckwourth 91.21 50 P P 01 16 18.4 -0.1
baz=91,SNR=103
PKM Peak Mountain 91.22 55⇓P **P 01 16 19.3 +0.6**
baz=91,SNR=31
V05C Boulder Hill, 91.23 54⇓P **P 01 16 19.2 +0.5**
baz=91
M06C Likely Place G 91.24 49 P P 01 16 18.9 +0.3
baz=91,SNR=48
A06A Chilliwack 91.25 41⇓P **P 01 16 17.7 -0.7**
baz=91
SBC Santa Barbara 91.27 56⇑P **P 01 16 18.5 -0.4**
baz=91

BSC Santa Cruz Isl 91.30 56 ⇑P P 01 16 19.1 +0.1
baz=91
R05C Kirkwood Meado 91.33 51 ⇑P P 01 16 19.3 +0.2
baz=91,SNR=38
SNCC San Nicolas Is 91.33 57 eP P 01 16 20.5 +1.3
comp=Z,112nm,0.9s,mb5.9
SNCC San Nicolas Is 91.33 57 ⇓P P 01 16 19.8 +0.5
baz=91,SNR=6.9
E06A Yakima 91.35 44 P P 01 16 18.7 -0.3
baz=91,SNR=51
F06A Goldendale 91.42 44 ⇑P P 01 16 19.0 -0.3
baz=92,SNR=18
MOD Modoc 91.43 48 P P 01 16 19.3 -0.2
MOD Modoc 91.43 48 ⇓P P 01 16 18.8 -0.7
baz=92,SNR=103
S06C San Francisco 91.44 52 ⇑P P 01 16 19.3 -0.3
baz=92,SNR=42
NAC Naches 91.47 43 P P 01 16 19.9 +0.4
G06A Carlson Farm, 91.47 45 ⇑P P 01 16 18.7 -0.9
baz=92,SNR=16
TWW Teanaway 91.48 43 P P 01 16 20.8 +1.3
T06C Millerton Lake 91.48 53 ⇓P P 01 16 19.5 -0.3
baz=92,SNR=53
D06A Cle Elum 91.50 43 ⇓P P 01 16 19.1 -0.6
baz=92,SNR=28
C06A Tall Timber Ra 91.53 42 ⇓P P 01 16 19.4 -0.4
baz=92
K06A Valley Falls 91.54 47 ⇓P P 01 16 19.8 -0.2
baz=92,SNR=93
P06A Stead Airport, 91.55 51 ⇑P P 01 16 20.5 +0.5
baz=92,SNR=11
WCN Washoe City 91.63 51 P P 01 16 20.9 +0.4
baz=92,SNR=46
H06A Lindquist Farm 91.64 45 P P 01 16 20.0 -0.4
baz=92,SNR=69
O06A Flanigan 91.64 50 P P 01 16 20.6 +0.1
baz=92,SNR=36
EBG Ellensburg 91.66 43 P P 01 16 20.1 -0.3
I06A Prineville 91.67 46 P P 01 16 20.6 +0.1
baz=92,SNR=113
TBM Table Mountain 91.67 43 P P 01 16 20.3 -0.1
N06A Buffalo Meadow 91.68 49 P P 01 16 20.7 0.0
baz=92,SNR=72
BLG Laguna Peak 91.78 56 ⇓P P 01 16 21.2 -0.1
baz=92
RCTC Rector, Farmer 91.81 54 ⇓P P 01 16 21.1 -0.3
baz=92
R06C Coleville 91.81 52 ⇓P P 01 16 21.5 +0.2
baz=92,SNR=29
KCC Kaiser Creek 91.82 53 ⇑P P 01 16 21.4 0.0
baz=92,SNR=69
VES Vestal, Richgr 91.90 54 ⇓P P 01 16 21.3 -0.5
baz=92,SNR=11
PAHR Pah Rah Range 91.95 51 eP P 01 16 22.0 +0.1
comp=Z,157nm,1.3s,mb5.9
PAHR ePP PP 01 20 02.7 -0.5
A07A Ashnola River, 91.97 41 P P 01 16 21.4 -0.3
baz=92,SNR=37
HELL Mitchell Peak 92.01 54 P P 01 16 21.9 -0.3
baz=92,SNR=52
F07A Phinny Hill Vi 92.02 44 ⇓P P 01 16 21.4 -0.7
baz=92,SNR=8.4
ARVC Arvin 92.05 55 ⇑P P 01 16 22.1 -0.4
baz=92,SNR=9.8
C07A Waterville 92.07 43 P P 01 16 21.6 -0.7
baz=92,SNR=55
R07C Lee Vining 92.09 52 ⇓P P 01 16 23.0 +0.4
baz=92,SNR=9.2
D07A Quincy 92.09 43 ⇓P P 01 16 21.7 -0.7
baz=92,SNR=35
B07A Winthrop 92.09 42 ⇓P P 01 16 21.8 -0.5
baz=92,SNR=26
OSI Osito Adit 92.10 56 ⇓P P 01 16 22.8 +0.1
baz=92
E07A Sunnyside 92.12 44 ⇑P P 01 16 22.3 -0.2
baz=92,SNR=7.9
SCI San Clemente I 92.13 57 ⇑P P 01 16 23.1 +0.1
baz=92
L07A Adell 92.15 48 P P 01 16 23.2 +0.4
baz=92,SNR=146
G07A Ruggs Ranch, H 92.16 45 P P 01 16 22.3 -0.5
baz=92,SNR=63
H07A Lands Inn, Kim 92.18 46 ⇑P P 01 16 22.7 -0.2
baz=92
I07A Izee 92.18 46 ⇓P P 01 16 22.7 -0.2
baz=92
MLAC Mammoth Lakes 92.22 53 ⇑P P 01 16 23.5 +0.3
baz=92,SNR=7.3
M07A Soldier Meadow 92.23 49 P P 01 16 23.4 +0.2
baz=92,SNR=102
K07A Rock Creek Ran 92.27 48 P P 01 16 23.3 0.0
baz=92,SNR=95
J07A Hines 92.27 47 P P 01 16 23.5 +0.1
baz=92,SNR=65
CIS Catalina Islan 92.28 57 ⇓P P 01 16 23.7 +0.1
baz=92,SNR=11
P07A Fallon 92.32 51 ⇑P P 01 16 23.4 -0.2
baz=92,SNR=5.3
HAWA Hanford 92.33 44 eP P 01 16 24.1 +0.6
comp=Z,100nm,1.0s,mb5.8
Q07A Schurz 92.34 51 ⇑P P 01 16 23.7 -0.1
baz=92,SNR=9.2
N07B Gerlach 92.34 49 P P 01 16 24.0 +0.3
baz=92,SNR=66
O07A Toulon 92.37 50 P P 01 16 23.9 +0.1
baz=92,SNR=78
FMP Fort Macarthur 92.39 57 ⇑P P 01 16 24.5 +0.4
baz=92
DECC Green Verdugo 92.40 56 ⇓P P 01 16 24.2 0.0
baz=92,SNR=9.1
MTUM Tungsten Hills 92.42 53 eP P 01 16 24.3 +0.1
B08A Colville Reser 92.61 42 P P 01 16 24.0 -0.7
baz=93,SNR=66
G08A Pilot Rock 92.66 45 P P 01 16 24.6 -0.4
baz=93,SNR=67
E08A Dider Farm, El 92.67 44 P P 01 16 24.8 -0.2
baz=93,SNR=22
TIN Tinemaha 92.67 53 ⇑P P 01 16 25.5 +0.2
baz=93,SNR=17
A08A Turner Farm, O 92.69 41 ⇑P P 01 16 24.7 -0.4
baz=93,SNR=19
NVAR Mina Array Bea 92.70 52 P P 01 16 25.6 +0.2
comp=Z,35nm,0.7s,mb5.6,baz=251,slow=6.5,SNR=123
NVAR PKKP PKKPbc 01 33 42.5 +4.5
comp=Z,0.5nm,0.5s,baz=109,slow=3.6,SNR=4.4
WVOR Wild Horse Val 92.70 48 P P 01 16 25.1 -0.2
WVOR pmax pmax
comp=Z,380nm,1.5s,mb6.3
WVOR Wild Horse Val 92.70 48 P P 01 16 25.3 -0.1
EDW2 Edwards Air Fo 92.72 55 ⇑P P 01 16 25.9 +0.3
baz=93,SNR=38
S08C White Mtn Res 92.74 53 P P 01 16 26.2 +0.6
baz=93,SNR=66
CWC Cottonwood Cre 92.75 54 ⇑P P 01 16 25.5 -0.1
baz=93,SNR=20
C08A Higginbotham F 92.76 42 P P 01 16 24.9 -0.6
baz=93,SNR=30
D08A Wollman Farm, 92.80 43 ⇑P P 01 16 24.9 -0.7
baz=93,SNR=32
H08A Prairie City 92.81 46 P P 01 16 25.3 -0.5
baz=93,SNR=51
F08A Pendleton 92.82 44 ⇓P P 01 16 25.5 -0.3
baz=93,SNR=18
M08A Happy Creek Ra 92.83 49 P P 01 16 26.3 +0.4
baz=93,SNR=70
K08A Mann Creek Ran 92.83 48 P P 01 16 25.9 0.0
baz=93,SNR=23
I08A Drewsey 92.85 46 ⇓P P 01 16 25.6 -0.3
baz=93,SNR=19
R08A Mina 92.85 52 ⇑P P 01 16 26.4 +0.3
baz=93,SNR=18
J08A Circle Bar Ran 92.88 47 P P 01 16 26.0 -0.2
baz=93,SNR=137
L08A Fields 92.90 48 P P 01 16 26.5 +0.2
baz=93,SNR=53
O08A Rochester Mine 92.93 50 ⇓P P 01 16 26.6 +0.2
baz=93
P08A Dixie Valley 92.95 51 ⇓P P 01 16 27.1 +0.6
baz=93,SNR=6.0
BFSC Mount Baldy St 92.95 56 P P 01 16 26.9 +0.2
baz=93,SNR=27
OD2 Odessa Site #2 92.96 43 P P 01 16 25.6 -0.8
N08A GE Springer Mi 92.97 50 P P 01 16 26.8 +0.1
baz=93,SNR=118
LRMC Laurel Mountai 93.00 55 ⇑P P 01 16 26.9 0.0
baz=93,SNR=12
Q08A Gabbs 93.02 51 P P 01 16 26.8 -0.1
baz=93,SNR=63

A09A Danville 93.14 41 ⇑P P 01 16 27.1 -0.1
baz=93,SNR=19
MPMC Manual Prospec 93.20 54 P P 01 16 28.2 +0.4
baz=93,SNR=97
D09A Jones Farm, Ri 93.22 43 ⇑P P 01 16 27.2 -0.4
baz=93,SNR=32
C09A Chrisman Ranch 93.28 42 ⇑P P 01 16 27.1 -0.7
baz=93,SNR=18
E09A Wood Farm, Sta 93.30 44 P P 01 16 27.6 -0.4
baz=93,SNR=44
MURC Murrieta 93.30 57 ⇑P P 01 16 28.4 +0.1
baz=93,SNR=11
109C Camp Elliot, M 93.34 57 ⇓P P 01 16 28.8 +0.4
baz=93,SNR=10
GRAC Grapevine Rang 93.35 53 ⇓P P 01 16 28.6 +0.1
baz=93,SNR=31
K09A Rome 93.39 48 P P 01 16 28.2 -0.3
baz=93,SNR=54
L09A Wilkinson Ranc 93.40 48 ⇓P P 01 16 28.8 +0.2
baz=93,SNR=20
B09A Rice 93.40 42 P P 01 16 27.9 -0.5
baz=93,SNR=32
J09A Fry Pan Ranch, 93.40 47 P P 01 16 28.4 -0.1
baz=93,SNR=68
F09A S2 Ranch, Elgi 93.42 45 ⇓P P 01 16 28.1 -0.4
baz=94,SNR=6.5
N09A Rock Creek Ran 93.44 49 ⇓P P 01 16 29.1 +0.3
baz=94,SNR=12
I09A Lost Marbles R 93.45 46 ⇑P P 01 16 28.4 -0.3
baz=94,SNR=15
S09A Goldfield 93.51 53 P P 01 16 29.4 +0.2
baz=94,SNR=270
TPH Tonopah 93.53 52 eP P 01 16 30.1 +0.9
TPH e*PP pP 01 17 03.2 -0.5
TPH e 01 20 13.1
TPH pmax pmax
comp=Z,221nm,1.5s,mb6.1
TPH Tonopah 93.53 52 eP P 01 16 30.1 +0.8
comp=Z,221nm,1.5s,mb6.1
TPH epP pP 01 17 03.2 -0.5
TPH ePP PP 01 20 13.1 -2.5
M09A Marrel Ranch, 93.53 49 ⇑P P 01 16 29.4 +0.2
baz=94,SNR=39
RRX Edison Barstow 93.53 55 ⇓P P 01 16 29.5 +0.2
baz=94,SNR=5.0
H09A Durkee 93.54 46 ⇑P P 01 16 28.8 -0.3
baz=94,SNR=21
SYO Syowa Base 93.55 200⇓eP P 01 16 26.0 -2.7
SYO Syowa Base 93.55 200⇓eP P 01 16 30.2 +1.5
BBRC Big Bear Sol-O 93.57 56 ⇓P P 01 16 29.4 -0.1
baz=94
Q09A Carvers 93.60 51 ⇓P P 01 16 29.7 +0.1
baz=94,SNR=15
BMN Battle Mountai 93.65 50 eP P 01 16 30.1 +0.4
BMN pmax pmax
comp=Z,152nm,1.4s,mb5.9
BMN Battle Mountai 93.65 50 eP P 01 16 30.1 +0.4
comp=Z,152nm,1.4s,mb5.9
R09A Tonopah 93.65 52 P P 01 16 29.9 +0.1
baz=94,SNR=43
O09A Fish Creek Ran 93.66 50 P P 01 16 30.2 +0.4
baz=94,SNR=33
P09A Austin 93.67 51 ⇑P P 01 16 30.0 +0.2
baz=94,SNR=11
GSC Goldstone 93.72 55 P P 01 16 30.2 0.0
GSC pmax pmax
comp=Z,97nm,1.2s,mb5.8
GSC Goldstone 93.72 55⇑eP P 01 16 30.0 -0.2
comp=Z,97nm,1.3s,mb5.8
GSC Goldstone 93.72 55 P P 01 16 30.3 +0.1
baz=94,SNR=42
FURC Furnace Creek, 93.73 54 P P 01 16 30.4 +0.1
baz=94,SNR=87
BMO Blue Mountains 93.80 45 eP P 01 16 31.0 +0.7
BMO pmax pmax
comp=Z,210nm,1.4s,mb6.1
BMO Blue Mountains 93.80 45 eP P 01 16 29.7 -0.6
comp=Z,213nm,1.5s,mb6.0
A10A Northport 93.82 41 ⇓P P 01 16 30.1 -0.2
baz=94,SNR=7.9
F10A Beach Ranch, E 93.91 44 ⇓P P 01 16 30.0 -0.8
baz=94,SNR=29
MONP Monument Peak 93.91 57 P P 01 16 32.1 +0.9
baz=94,SNR=37
PFO Pinyon Flat Ob 93.92 57 P P 01 16 31.4 +0.2
PFO pmax pmax
comp=Z,45nm,0.8s,mb5.7
PFO Pinyon Flat Ob 93.92 57 P P 01 16 31.4 +0.3
PFO Pinyon Flat Ob 93.92 57 P P 01 16 31.4 +0.3
comp=Z,44nm,0.8s,mb5.6,baz=270,slow=4.1,SNR=39
PFO Pinyon Flat Ob 93.92 57 ⇑P P 01 16 31.6 +0.5
baz=94,SNR=27
D10A Wagner Farm, O 93.92 43 P P 01 16 30.2 -0.6
baz=94,SNR=56
C10A Spilker Farm, 93.93 42 ⇓P P 01 16 30.2 -0.6
baz=94
G10A Bishop Farm, J 93.95 45 P P 01 16 30.5 -0.5
baz=94,SNR=106
B10A Chitwood Farm, 94.01 42 ⇑P P 01 16 31.0 -0.2
baz=94
E10A Myers Farm, Un 94.01 44 ⇑P P 01 16 30.1 -1.2
baz=94,SNR=5.2
S10A Tonopah Range, 94.01 52 P P 01 16 31.8 +0.3
baz=94,SNR=198
K10A MacKenzie Ranc 94.02 48 P P 01 16 31.1 -0.3
baz=94,SNR=81
NEW Newport 94.08 42 P P 01 16 30.8 -0.7
NEW pmax pmax
comp=Z,33nm,0.9s
NEW Newport 94.08 42 P P 01 16 30.8 -0.7
comp=Z,33nm,0.8s,mb5.5,baz=246,slow=3.3,SNR=50
HEC Hector,Ludlow 94.08 56 ⇓P P 01 16 31.7 -0.1
baz=94,SNR=31
J10A Berg Farm, Mel 94.13 47 ⇑P P 01 16 31.6 -0.3
baz=94,SNR=14
I10A Payette 94.13 46 ⇓P P 01 16 31.7 -0.1
baz=94,SNR=18
U10A Ash Meadows, A 94.16 54 ⇓P P 01 16 32.6 +0.4
baz=94,SNR=27
DVTC Desert V Tower 94.17 58 ⇑P P 01 16 33.3 +0.9
baz=94
SHOC Shoshone 94.17 54 P P 01 16 32.4 +0.1
baz=94,SNR=58
H10A Noah's Angus R 94.19 46 P P 01 16 31.3 -0.8
baz=94,SNR=80
P10A Eureka 94.19 51 ⇑P P 01 16 32.3 0.0
baz=94,SNR=13
O10A Cortez Mining, 94.19 50 P P 01 16 32.6 +0.4
baz=94,SNR=34
N10A Dunphy 94.21 50 ⇓P P 01 16 32.5 +0.2
baz=94,SNR=22
Q10A Clear Creek Ra 94.21 52 ⇑P P 01 16 32.8 +0.5
baz=94,SNR=20
M10A I.L. Ranch, Tu 94.22 49 ⇓P P 01 16 32.3 -0.1
baz=94,SNR=22
TPNV Topopah Spring 94.25 53 eP P 01 16 32.8 +0.2
TPNV pmax pmax
comp=Z,148nm,0.9s,mb6.1
TPNV Topopah Spring 94.25 53 eP P 01 16 32.8 +0.3
comp=Z,148nm,0.9s,mb6.1
TPNV Topopah Spring 94.25 53 ⇑P P 01 16 32.4 -0.2
baz=94
R10A Warm Springs 94.26 52 ⇑P P 01 16 33.0 +0.3
baz=94,SNR=14
L10A Juniper Basin 94.29 48 P P 01 16 32.6 0.0
baz=94,SNR=72
BELC Belle Mtn. 94.32 56 P P 01 16 33.5 +0.5
baz=94,SNR=35
SWSC Sam W. Stewart 94.44 57 ⇓P P 01 16 34.1 +0.6
baz=94,SNR=14
TUQ Turquoise Mtn. 94.44 55 P P 01 16 33.7 +0.2
baz=94,SNR=78
SVE Sverdlovsk 94.48 327⇓eP P 01 16 32.0 -1.2
SVE e 01 17 23.8
SVE e 01 20 20.3
SVE eSS SS 01 34 02.1 +2.7
SVE pmax pmax
comp=Z,70nm,1.6s,mb5.5
G11A Walters Elk Ra 94.56 45 P P 01 16 32.7 -1.1
baz=95,SNR=81
D11A Klaveano Farm, 94.56 43 P P 01 16 33.0 -0.8
baz=95,SNR=55
A11A Hall Mountain, 94.60 41 P P 01 16 34.3 +0.4
baz=95,SNR=80
E11A Bogner Ranch, 94.63 44 P P 01 16 32.9 -1.2
baz=95,SNR=76
GMRC Granite Mounta 94.63 56 P P 01 16 34.7 +0.3
baz=95,SNR=75

K11A Parker Ranch, 94.64 48 ⇑P P 01 16 34.2 0.0
baz=95,SNR=29
F11A Grangeville 94.65 44 P P 01 16 32.5 -1.7
baz=95,SNR=38
S11A Rachel 94.67 53 ⇓P P 01 16 34.5 -0.1
baz=95,SNR=27
H11A Donnelly 94.72 46 ⇓P P 01 16 33.8 -0.7
baz=95,SNR=41
I11A Placerville 94.73 46 P P 01 16 34.1 -0.5
baz=95,SNR=47
P11A Circle Ranch, 94.74 51 ⇓P P 01 16 35.0 +0.2
baz=95,SNR=9.2
BC3 Big Chuckw Mtn 94.76 57 ⇓P P 01 16 35.6 +0.6
baz=95,SNR=29
M11A Holland Ranch, 94.77 49 ⇓P P 01 16 35.0 +0.2
baz=95,SNR=34
Q11A Duckwater 94.79 52 P P 01 16 35.2 +0.2
baz=95,SNR=60
N11A Elko Archery C 94.80 50 ⇓P P 01 16 35.0 0.0
baz=95,SNR=7.7
MFID Camas Ranch 94.81 47 ⇓P P 01 16 34.6 -0.4
baz=95,SNR=36
L11A Cat Creek Ranc 94.83 48 ⇑P P 01 16 34.8 -0.3
baz=95,SNR=43
R11A Troy Canyon, C 94.83 52 ⇓P P 01 16 35.3 +0.1
baz=95,SNR=100
O11A Cowboy Ranch, 94.83 50 P P 01 16 35.3 +0.1
baz=95,SNR=52
V11A Goodsprings 94.86 55 P P 01 16 35.7 +0.3
baz=95,SNR=92
U11A Corn Creek 94.92 54 ⇑P P 01 16 36.1 +0.4
baz=95,SNR=17
IRM Iron Mountain 95.03 56 ⇓P P 01 16 36.4 +0.2
baz=95,SNR=35
A12A Yaak River Ran 95.07 41 ⇑P P 01 16 36.0 0.0
baz=95,SNR=9.7
T11A Corn Creek, Al 95.08 53 P P 01 16 36.6 +0.3
baz=95,SNR=84
B12A Libby 95.11 42 ⇑P P 01 16 36.4 +0.2
baz=95
D12A Red Ives Fores 95.24 43 ⇓P P 01 16 36.6 -0.2
baz=95
GLA Glamis 95.26 57 P P 01 16 38.7 +1.4
GLA pmax pmax
comp=Z,100nm,1.0s,mb6.0
GLA Glamis 95.26 57 eP P 01 16 38.7 +1.4
comp=Z,104nm,1.0s,mb6.0
GLA e pP 01 17 13.7 +1.9
GLA Glamis 95.26 57 ⇓P P 01 16 38.2 +0.9
baz=95,SNR=47
F12A Elk City 95.28 45 ⇓P P 01 16 36.1 -1.0
baz=95,SNR=38
W12A Cal Nev Ari 95.30 55 ⇓P P 01 16 37.5 +0.1
baz=95,SNR=8.9
N12A Clover Valley, 95.33 50 P P 01 16 37.4 0.0
baz=95,SNR=58
V12A Nelson 95.33 55 P P 01 16 38.1 +0.6
baz=95,SNR=48
J12A Stokes Ranch, 95.34 47 P P 01 16 37.4 0.0
baz=95,SNR=54
L12A House Creek Ra 95.37 48 ⇓P P 01 16 37.5 -0.1
baz=95,SNR=31
S12A Delamar Landin 95.39 53 ⇑P P 01 16 37.9 +0.2
baz=95,SNR=33
P12A McGill 95.39 51 P P 01 16 38.0 +0.3
baz=95,SNR=24
M12A Wells 95.43 49 P P 01 16 37.7 -0.2
baz=96,SNR=64
Q12A Willow Creek R 95.44 51 P P 01 16 38.3 +0.3
baz=96,SNR=53
112A Yuma 95.45 58 ⇑P P 01 16 38.9 +0.8
baz=96,SNR=6.7
T12A Moapa 95.47 54 ⇑P P 01 16 38.3 +0.1
baz=96,SNR=8.6
K12A Draper Farm, C 95.47 48 ⇓P P 01 16 37.6 -0.5
baz=96,SNR=26
NEE2 Needles Airpor 95.49 56 ⇑P P 01 16 38.6 +0.3
baz=96
Y12C Blythe 95.53 57 ⇓P P 01 16 38.8 +0.3
baz=96,SNR=37
O12A Currie 95.53 50 ⇑P P 01 16 38.3 0.0
baz=96,SNR=49
H12A Diamond D Ranc 95.54 46 ⇑P P 01 16 37.9 -0.4
baz=96,SNR=13
R12A Pony Springs, 95.59 52 ⇑P P 01 16 38.7 0.0
baz=96,SNR=52
U12A Valley of Fire 95.60 54 ⇑P P 01 16 39.3 +0.5
baz=96,SNR=24
ARU Arti 95.63 326 P P 01 16 36.4 -2.0
comp=Z,134nm,0.8s,mb6.3,SNR=7.3
ARU Arti 95.63 326d iP P 01 16 35.6 -2.8
ARU e*PP pP 01 17 09.5 -3.4
ARU e*SP sP 01 17 22.3 -4.7
ARU e 01 20 28.2
ARU eS SKSac 01 26 59.0 -2.8
ARU e 01 27 44.4
ARU ePS PS 01 29 23.9 +4.2
ARU pmax pmax
comp=Z,50nm,1.7s,mb5.6
ARU Arti 95.63 326 iP P 01 16 36.8 -1.6
YKA Yellowknife Ar 95.69 28 P P 01 16 37.5 -1.0
YKA Yellowknife Ar 95.69 28 P P 01 16 37.5 -1.0
comp=Z,12nm,0.8s,mb5.3,baz=271,slow=4.7,SNR=68
YKA PKiKP PKiKP 01 21 17.4 -0.1
comp=Z,1.7nm,0.7s,baz=270,slow=1.3,SNR=8.6
YKA PKKP PKKPbc 01 33 28.1 -3.0
comp=Z,0.5nm,0.5s,baz=88,slow=2.7,SNR=9.5
YKA LR LR 01 55 53.4
comp=Z,362nm,18.5s,baz=215,slow=33
C13A Hot Springs 95.77 43 P P 01 16 38.3 -1.0
baz=96,SNR=20
HLID Hailey 95.84 47 eP P 01 16 39.7 0.0
comp=Z,38nm,0.9s,mb5.7
HLID ePP PP 01 20 33.4 -0.1
HLID Hailey 95.84 47 ⇑P P 01 16 39.7 0.0
baz=96
D13A Huson 95.85 43 ⇑P P 01 16 38.3 -1.4
baz=96,SNR=16
B13A Whitefish 95.85 42 P P 01 16 39.4 -0.2
baz=96,SNR=75
PDMCI Parker Dam,Lak 95.87 56 ⇓P P 01 16 40.1 0.0
baz=96,SNR=8.2
A13A Flathead Natio 95.89 41 ⇑P P 01 16 39.9 +0.2
baz=96
F13A Darby 95.92 45 ⇓P P 01 16 39.2 -0.8
baz=96
N13A Wendover, West 95.96 50 ⇓P P 01 16 40.1 -0.2
baz=96,SNR=21
AKTK Aktyubinsk 95.97 320 P P 01 16 38.4 -1.7
AKTO Aktyubinsk 95.97 320 P P 01 16 38.4 -1.7
AKTO pmax pmax
comp=Z,10.0nm,1.1s,mb5.1
AKTO Aktyubinsk 95.97 320 P P 01 16 38.4 -1.7
comp=Z,9.6nm,1.1s,mb5.0,baz=83,slow=4.5,SNR=16
H13A Challis 95.97 46 P P 01 16 40.0 -0.3
baz=96,SNR=51
G13A Cobalt 95.99 45 ⇓P P 01 16 39.4 -0.9
baz=96,SNR=34
M13A Montello 96.00 49 ⇑P P 01 16 40.2 -0.3
baz=96,SNR=9.4
J13A Cove Ranch, Pi 96.02 47 ⇓P P 01 16 39.9 -0.6
baz=96,SNR=21
E13A Victor 96.03 44 ⇓P P 01 16 39.1 -1.4
baz=96,SNR=18
V13A Grand Canyon W 96.03 55 P P 01 16 41.3 +0.5
baz=96,SNR=124
I13A Wildhorse Cree 96.06 46 P P 01 16 40.6 0.0
baz=96,SNR=47
Q13A Wheeler Ranch, 96.07 51 ⇓P P 01 16 40.9 0.0
baz=96,SNR=38
K13A Stover Farm, H 96.07 48 ⇓P P 01 16 40.8 0.0
baz=96,SNR=8.2
P13A Bates Ranch, G 96.08 51 P P 01 16 40.9 0.0
baz=96,SNR=31
W13A Hualapai Mount 96.10 55 P P 01 16 41.6 +0.6
baz=96,SNR=88
Y13A Salome 96.11 57 ⇓P P 01 16 41.7 +0.5
baz=96,SNR=21
O13A Hicks Ranch, I 96.12 50 ⇑P P 01 16 41.3 +0.3
baz=96
T13A Saint George 96.12 53 P P 01 16 41.7 +0.6
baz=96,SNR=109
X13A Yucca 96.13 56 P P 01 16 41.7 +0.4
baz=96,SNR=60
113A Mohawk Valley, 96.14 58 ⇑P P 01 16 41.4 +0.1
baz=96,SNR=8.0
L13A Double Diamond 96.17 48 ⇑P P 01 16 41.3 +0.1

baz=96,SNR=6.8
S13A Holt Ranch, En 96.17 53 ⇓P P 01 16 41.6 +0.2
baz=96,SNR=34
MSO Missoula 96.20 44 eP P 01 16 41.3 0.0
comp=Z,6.7nm,1.0s,mb4.9
MSO ePP PP 01 20 35.5 -0.5
WALA Waterton Lakes 96.22 41 eP P 01 16 41.4 +0.1
comp=Z,112nm,1.0s,mb6.2
C14A Swan Lake 96.33 43 ⇑P P 01 16 40.3 -1.5
baz=96
D14A Greenough 96.50 43 ⇑P P 01 16 41.2 -1.4
baz=96,SNR=10
ARUT Antelope Range 96.51 53 P P 01 16 42.9 0.0
ARUT Antelope Range 96.51 53 eP P 01 16 42.7 -0.2
E14A Clinton 96.51 44 ⇑P P 01 16 41.9 -0.8
baz=96,SNR=6.4
EDM Edmonton 96.53 37 eP P 01 16 42.8 +0.2
CCUT Cedar City 96.56 53 eP P 01 16 44.7 +1.6
F14A Wisdom 96.60 45 ⇓P P 01 16 42.0 -1.1
baz=97
M14A Sheep Mountain 96.61 49 ⇑P P 01 16 43.1 -0.2
baz=97,SNR=28
U14A Mt Trumbull 96.70 54 P P 01 16 44.5 +0.8
baz=97,SNR=83
S14A Cedar City 96.72 53 ⇓P P 01 16 44.2 +0.3
baz=97,SNR=14
N14A Grayback Hills 96.73 50 ⇑P P 01 16 43.6 -0.2
baz=97,SNR=8.3
K14A Jones Ranch, D 96.74 48 ⇑P P 01 16 43.8 0.0
baz=97,SNR=21
V14A Boquillas Ranc 96.75 55 P P 01 16 44.7 +0.7
baz=97,SNR=63
W14A Seligman 96.76 55 ⇓P P 01 16 45.1 +1.0
baz=97,SNR=36
T14A Hurricane 96.78 53 P P 01 16 44.8 +0.6
baz=97,SNR=41
Y14A Wickenburg 96.80 57 ⇑P P 01 16 44.7 +0.4
baz=97,SNR=34
R14A James Farms, M 96.84 52 ⇓P P 01 16 44.5 +0.1
baz=97
Z14A Wintersburg 96.84 57 ⇑P P 01 16 45.2 +0.7
baz=97,SNR=10
BGU Big Grassy Mou 96.85 49 eP P 01 16 44.8 +0.4
X14A Yava 96.91 56 ⇓P P 01 16 45.7 +1.0
baz=97,SNR=50
DUG Dugway 97.01 50 eP P 01 16 44.9 -0.2
DUG pmax pmax
comp=Z,15nm,1.0s,mb5.3
DUG Dugway 97.01 50 eP P 01 16 44.9 -0.2
comp=Z,15nm,1.0s,mb5.3
DUG Dugway 97.01 50 ⇓P P 01 16 45.1 0.0
baz=97
HVU Hansel Valley 97.04 49 eP P 01 16 45.9 +0.7
HVU pmax pmax
comp=Z,38nm,0.9s,mb5.7
HVU Hansel Valley 97.04 49 eP P 01 16 45.9 +0.8
comp=Z,38nm,0.9s,mb5.7
E15A Deer Lodge 97.10 44 P P 01 16 44.8 -0.5
baz=97,SNR=47
DLMT Dillon 97.14 45 eP P 01 16 45.0 -0.5
comp=Z,31nm,1.3s,mb5.5
DLMT ePP PP 01 20 36.6 -6.8
D15A Lincoln 97.17 43 ⇓P P 01 16 45.2 -0.4
baz=97,SNR=20
F15A Butte 97.21 45 ⇑P P 01 16 45.4 -0.5
baz=97,SNR=14
G15A Dillon 97.22 45 ⇓P P 01 16 45.8 -0.1
baz=97,SNR=16
N15A Stansbury Isla 97.23 50 ⇓P P 01 16 46.2 +0.1
baz=97
M15A Larsen Ranch, 97.29 49 ⇓P P 01 16 45.8 -0.5
baz=97,SNR=7.7
T15A Red Dirt Ranch 97.34 53 ⇑P P 01 16 46.9 +0.3
baz=97,SNR=21
Y15A Casa Rosa Ranc 97.36 56 ⇑P P 01 16 47.5 +0.7
baz=97,SNR=18
W15A Williams 97.43 55 ⇓P P 01 16 48.2 +1.1
baz=98,SNR=30
115A Sonoran Desert 97.44 58 ⇓P P 01 16 48.1 +0.9
baz=98,SNR=11
X15A Humboldt 97.44 56 ⇑P P 01 16 47.9 +0.7
baz=98,SNR=63
Z15A Gila River Ind 97.50 57 ⇓P P 01 16 47.6 +0.2
baz=98
MSU Marysvale 97.51 52 P P 01 16 48.2 +0.8
MSU Marysvale 97.51 52 eP P 01 16 48.0 +0.6
V15A Kaibab Nationa 97.51 55 P P 01 16 48.5 +1.0
baz=98,SNR=49
NLU North Lily Min 97.58 50 eP P 01 16 47.4 -0.3
BOZ Bozeman (W) 97.82 45 eP P 01 16 48.1 -0.5
BOZ pmax pmax
comp=Z,13nm,0.7s,mb5.5
BOZ Bozeman (W) 97.82 45 eP P 01 16 48.1 -0.5
comp=Z,13nm,0.7s,mb5.5
BOZ Bozeman (W) 97.82 45 ⇑P P 01 16 48.1 -0.5
baz=98
CTU Camp Tracy 97.82 50 eP P 01 16 48.3 -0.4
comp=Z,15nm,0.8s,mb5.5
CTU e pP 01 17 22.6 -0.7
CTU ePP PP 01 20 48.9 +0.1
116A Eloy 97.88 58 ⇑P P 01 16 49.8 +0.6
baz=98,SNR=6.2
MPU Maple Canyon 97.92 50 eP P 01 16 48.6 -0.6
comp=Z,17nm,1.0s,mb5.4
HWUT Hardware Ranch 97.95 49 eP P 01 16 48.5 -0.7
comp=Z,30nm,1.1s,mb5.6
W16A Flagstaff 98.03 55 ⇓P P 01 16 50.7 +0.9
baz=98,SNR=12
T16A Glen Canyon Da 98.04 53 ⇑P P 01 16 49.4 -0.4
baz=98
JLU Jordanelle 98.05 50 eP P 01 16 50.2 +0.5
Y16A Circle Bar Ran 98.07 57 ⇑P P 01 16 50.7 +0.7
baz=98,SNR=29
216A Three Points, 98.08 58 ⇓P P 01 16 51.3 +1.2
baz=98,SNR=8.4
X16A Lo Mia Camp, P 98.10 56 ⇓P P 01 16 50.8 +0.7
baz=98
Z16A Peralta Trail, 98.11 57 ⇓P P 01 16 50.6 +0.4
baz=98
WUAZ Wupatki 98.16 55 eP P 01 16 51.1 +0.8
comp=Z,50nm,1.0s,mb5.9
WUAZ Wupatki 98.16 55 ⇓P P 01 16 50.9 +0.6
baz=98
DCID1 Drake Creek 98.19 47 eP P 01 16 50.9 +0.6
DAU Daniels Canyon 98.20 50 eP P 01 16 50.9 +0.5
TMUT Trail Mountain 98.26 51 eP P 01 16 51.0 +0.3
AHID Auburn Hatcher 98.27 48 eP P 01 16 50.4 -0.2
comp=Z,31nm,1.1s,mb5.7
YMR Madison River 98.32 46 eP P 01 16 51.7 +0.9
comp=Z,46nm,1.0s,mb5.9
IMW Indian Meadow 98.36 46 eP P 01 16 50.1 -1.0
comp=Z,81nm,1.4s,mb6.0
TPAW Teton Pass 98.36 47 eP P 01 16 52.4 +1.3
comp=Z,38nm,1.0s,mb5.8
YFT Old Faithful 98.42 46 eP P 01 16 52.6 +1.4
REDW Red Top Meadow 98.44 47 eP P 01 16 51.4 0.0
comp=Z,80nm,1.4s,mb6.0
SNOW Snow King Moun 98.50 47 eP P 01 16 53.3 +1.6
comp=Z,26nm,1.1s,mb5.6
FLWY Flagg Ranch 98.53 46 eP P 01 16 51.6 -0.2
comp=Z,137nm,1.5s,mb6.2
Y17A Roosevelt 98.60 57 ⇓P P 01 16 53.4 +1.0
baz=99,SNR=14
LOHW Long Hollow 98.61 47 eP P 01 16 51.7 -0.4
comp=Z,19nm,0.8s,mb5.6
217A Green Valley 98.62 59 ⇑P P 01 16 53.9 +1.3
baz=99,SNR=27
TUC Tucson 98.65 58 eP P 01 16 53.2 +0.6
TUC e 01 20 56.0
TUC pmax pmax
comp=Z,8.0nm,0.9s,mb5.2
TUC Tucson 98.65 58 eP P 01 16 53.2 +0.6
comp=Z,8.4nm,0.9s,mb5.2
TUC ePP PP 01 20 56.0 +0.7
117A Oracle 98.69 58 ⇓P P 01 16 54.2 +1.4
baz=99
W17A Winslow 98.70 55 ⇑P P 01 16 53.6 +0.8
baz=99
SRU San Rafael 98.79 51 eP P 01 16 52.9 -0.2
SRU pmax pmax
comp=Z,24nm,0.9s,mb5.6
SRU San Rafael 98.79 51 eP P 01 16 52.9 -0.2
comp=Z,24nm,0.9s,mb5.6
Z17A San Carlos Hig 98.91 57 ⇓P P 01 16 54.8 +1.0
baz=99
EGMT Eagleton 99.01 42 eP P 01 16 54.0 +0.1
comp=Z,22nm,0.7s,mb5.7
EGMT Eagleton 99.01 42 ⇓P P 01 16 53.5 -0.4
baz=99
Y18A Canyon Day Jun 99.27 57 ⇑P Pdif 01 16 57.0 +2.1
baz=99,SNR=19
Z18A Geronimo 99.28 57 ⇑P Pdif 01 16 56.5 +1.6
baz=99
218A Dragoon 99.28 58 ⇑P Pdif 01 16 56.8 +1.8
baz=99,SNR=12
318A Bisbee 99.33 59 ⇓P Pdif 01 16 57.4 +2.2
baz=99
X18A Snowflake 99.33 56 ⇑P Pdif 01 16 56.5 +1.3
baz=99,SNR=14
118A Homack Ranch, 99.34 58 ⇑P Pdif 01 16 57.0 +1.8
baz=99,SNR=8.8
BW06 Boulder Array 99.41 48 ePdif Pdif 01 16 54.8 -0.6
comp=Z,24nm,0.7s
W18A Petrified Fore 99.50 55 ⇓P Pdif 01 16 57.2 +1.3
baz=100,SNR=6.5
RLMT Red Lodge 99.50 45 ePdif Pdif 01 16 57.0 +1.1
comp=Z,9.1nm,0.8s
W19A Sanders 99.79 55 ⇓P Pdif 01 16 58.6 +1.5
baz=100
X19A St. Johns 99.88 56 ⇑P Pdif 01 16 59.1 +1.5
baz=100
119A Ashpeak Ranch, 99.90 58 ⇑P Pdif 01 16 59.4 +1.7
baz=100
Y19A Nutrioso 99.92 56 ⇓P Pdif 01 17 00.1 +2.3
baz=100,SNR=41
Z19A T-Link Ranch, 99.92 57 ⇓P Pdif 01 16 59.7 +2.0
baz=100
319A Douglas 99.94 59 ⇑P Pdif 01 16 59.8 +2.0
baz=100
219A White Tail Can 99.95 58 ⇑P Pdif 01 16 59.6 +1.7
baz=100,SNR=9.6
PV10 Paradox Valley 99.97 52 ePdif Pdif 01 16 59.1 +1.1
PV01 Paradox Valley 100.35 52 ePdif Pdif 01 16 59.9 +0.2
MVCO Mesa Verde 100.44 53 ePdif Pdif 01 17 01.2 +1.1
comp=Z,29nm,0.7s
MVCO Mesa Verde 100.44 53 ⇑P Pdif 01 17 00.9 +0.8
baz=100
RES Resolute Bay 100.44 14 eP Pdif 01 16 59.0 -1.1
LAO LASA Array 101.51 43 ePdif Pdif 01 17 05.3 +0.4
comp=Z,52nm,1.1s
SMCO Snowmass 101.55 51 ePdif Pdif 01 17 05.8 +0.8
comp=Z,33nm,0.9s
LAZ Ladron 101.66 56 ePdif Pdif 01 17 07.7 +2.2
Y22C IRIS PASSCAL I 101.85 56 ⇑P Pdif 01 17 08.2 +1.8
baz=102
BNM Barren Site 102.09 56 ePdif Pdif 01 17 09.7 +2.2
BNM ePP PP 01 21 20.1 -1.1
SNAA Sanae 102.10 188 PKKPbc PKKPbc 01 33 10.1 -3.2
comp=Z,0.6nm,0.8s,baz=279,slow=3.9,SNR=4.3
ANMO Albuquerque 102.19 55 P Pdif 01 17 09.4 +1.5
ANMO pmax pmax
comp=Z,5.0nm,0.9s
ANMO Albuquerque 102.19 55 P Pdif 01 17 09.4 +1.6
comp=Z,5.0nm,0.9s,baz=322,slow=0.1,SNR=18
PHWY Pilot Hill 102.55 49 ePdif Pdif 01 17 10.8 +1.3
ISCO Idaho Springs 102.55 50 P Pdif 01 17 11.7 +2.2
ISCO pmax pmax
comp=Z,22nm,1.3s
ISCO Idaho Springs 102.55 50 ePdif Pdif 01 17 11.5 +2.0
comp=Z,22nm,1.4s
DGMT Dagmar 102.67 41 ePdif Pdif 01 17 11.1 +1.1
comp=Z,51nm,1.1s
SDCO Great Sand Dun 102.80 52 ePdif Pdif 01 17 11.8 +1.2
SDCO ePP PP 01 21 25.9 -0.5
SPITS Spitsbergen Ar 102.97 351 P Pdif 01 17 09.1 -2.2
SPITS pmax pmax
comp=Z,4.0nm,0.8s
SPITS Spitsbergen Ar 102.97 351 Pdiff Pdif 01 17 09.1 -2.3
comp=Z,4.4nm,0.8s,baz=355,slow=6.2,SNR=5.8
FFC Flin Flon 103.05 35 P Pdif 01 17 12.6 +0.9
FFC pmax pmax
comp=Z,9.0nm,0.9s
FFC Flin Flon 103.05 35 ePdif Pdif 01 17 12.3 +0.6
comp=Z,9.3nm,0.8s
MNTX Cornudas Mount 103.25 59 ePdif Pdif 01 17 15.1 +2.5
comp=Z,9.2nm,1.1s
VNA2 Neumayer--Watz 103.37 187 ePdiff Pdif 01 17 12.3 -0.8
baz=148,slow=2.5
VNA2 e 01 17 19.8
VNA2 e 01 17 27.0
VNA2 e 01 17 44.9
MAK Makhachkala 103.62 313 eP Pdif 01 17 14.2 0.0
MAK i 01 21 35.3
MAK ePPP 01 23 45.0
MAK eS SKSac 01 27 45.8 +3.9
MAK e 01 28 25.5
MAK i S Sdif 01 28 48.4 -2.9
MAK eSS SS 01 36 06.8 -0.9
MAK e 01 40 09.3
MAK pmax pmax
comp=Z,218nm,1.5s
TMCR Tamitsa 104.36 336 eP Pdif 01 17 08.7 -8.8
TMCR pmax pmax
comp=Z,30nm,0.7s
TXAR Lajitas Array 104.85 61 P Pdif 01 17 23.2 +3.5
TXAR pmax pmax
comp=Z,1.0nm,0.5s
TXAR pmax pmax
comp=Z,1.0nm,0.9s
TXAR Lajitas Array 104.85 61 Pdiff Pdif 01 17 23.2 +3.5
comp=Z,1.0nm,0.5s,baz=263,slow=3.8,SNR=11
TXAR PKiKP PKiKP 01 21 35.5 +0.5
comp=Z,0.9nm,0.9s,baz=258,slow=4.5,SNR=3.6
DGRG David-gareji 105.38 312 P PP 01 21 51.0 +5.6
MTA Mtatsminda 105.78 312 P PP 01 21 49.9 +1.5
FCC Fort Churchill 106.24 30 eP Pdif 01 17 29.9 +4.0
ARCES ARCESS Array B 106.40 343 Pdiff Pdif 01 17 26.5 -0.1
comp=Z,2.6nm,0.7s,baz=20,slow=4.0,SNR=11
ARCES PKiKP PKiKP 01 21 35.8 -0.9
comp=Z,4.0nm,0.6s,baz=104,slow=1.8,SNR=20
ARCES pPKiKP 01 22 10.1
comp=Z,3.6nm,0.7s,baz=35,slow=4.4,SNR=3.9
ARCES PKKPbc PKKPbc 01 32 56.0 -4.4
comp=Z,1.5nm,0.9s,baz=206,slow=3.9,SNR=3.8
ARE0 ARCESS Array S 106.40 343 ePKiKP PKiKP 01 21 36.7 0.0
ONI Oni 106.63 313 P PP 01 21 54.5 -0.1
KIV Kislovodsk 106.95 315 eP Pdif 01 17 16.3 -13
KIV e 01 27 53.4
KIV eSP SP 01 31 01.5 -1.7
KIV ePS PS 01 31 21.1 +1.1
KIV eSS SS 01 36 48.7 -4.3
KIV pmax pmax
comp=Z,9.0nm,1.1s
BHD Baghdad 107.12 303 ex x 01 21 57.0
MOS Moscow 107.28 327 i P Pdif 01 17 30.1 -0.4
MOS e 01 21 57.2
MOS i 01 32 00.4
MOS eSS SS 01 37 05.6 +9.0
MOS pmax pmax
comp=Z,27nm,0.9s
MOS MLR MLR
comp=Z,900nm,18.0s
JOF Joensuu 107.62 336 ep Pdif 01 17 29.4 -2.6
comp=Z,12nm,0.8s
JOF Joensuu 107.62 336 ep PKiKP 01 21 40.7 +1.6
comp=Z,6.1nm,0.9s
JOF Joensuu 107.62 336 eP Pdif 01 17 29.4 -2.6
JOF pmax pmax
comp=Z,12nm,0.8s
JOF Joensuu 107.62 336 eP Pdif 01 17 29.4 -2.6
JOF eP 01 21 40.7
ULM Lac du Bonnet 107.67 39 Pdiff Pdif 01 17 32.5 +0.3
comp=Z,6.8nm,0.7s,baz=352,slow=3.2,SNR=8.1
MSL Mosul 107.82 307 ex x 01 21 29.0
OBN Obninsk 108.05 327 i P Pdif 01 17 33.4 -0.5
OBN e 01 28 00.2
OBN eSS SS 01 37 00.1 -6.9
OBN pmax pmax
comp=Z,11nm,1.2s
OBN MLR MLR
comp=Z,900nm,21.0s
TRO Tromso 108.20 344 e SP 01 31 11.2 -3.3
ECSD EROS,Sioux Fal 108.66 45 ePdif Pdif 01 17 36.9 +0.3
comp=Z,37nm,1.5s
ECSD ePKiKP PKiKP 01 21 41.4 -0.2
SOC Sochi 109.13 315 eP Pdif 01 17 35.4 -3.3
SOC e 01 22 09.4
SOC e 01 28 01.7
SOC ePS PS 01 31 42.1 0.0
SOC eSS SS 01 37 25.0 +2.6
SOC eSSS 01 41 29.5
FINES FINESS Array B 110.48 335 P Pdif 01 17 42.3 -2.4
FINES i 01 21 44.4
FINES pmax pmax
comp=Z,3.0nm,0.5s
FINES pmax pmax
comp=Z,4.0nm,0.7s
FINES FINESS Array B 110.48 335 Pdiff Pdif 01 17 42.3 -2.4
comp=Z,2.6nm,0.5s,baz=56,slow=3.9,SNR=21
FINES PKiKP PKiKP 01 21 44.4 -0.1
comp=Z,3.8nm,0.7s,baz=92,slow=5.7,SNR=11
FINES pPKiKP 01 22 18.8
comp=Z,5.2nm,0.8s,baz=108,slow=6.2,SNR=5.9
MALT Malatya 111.16 309 ePKIKP PKiKP 01 21 46.0 -0.5
MALT Malatya 111.16 309 ⇑iP PKiKP 01 21 44.1 -2.4
JMIC Jan Mayen 112.52 353 e PP 01 22 06.2 -30
COWI Conover 113.17 41 ePKiKP PKiKP 01 21 48.9 -1.2
JFWS Jewell Farm 113.37 45 ePKIKP PKiKP 01 21 49.4 -1.1
AKASG Malin Array Be 113.78 324 P Pdif 01 18 00.1 +0.7
AKASG i 01 21 49.6
AKASG pmax pmax
comp=Z,2.0nm,0.4s
AKASG Malin Array Be 113.78 324 Pdif Pdif 01 18 00.1 +0.7
AKASG PKPdf PKiKP 01 21 49.6 -1.5
AKASG Malin Array Be 113.78 324 Pdiff Pdif 01 18 00.1 +0.7
comp=Z,0.3nm,0.4s,baz=47,slow=4.5,SNR=5.6
AKASG PKiKP PKiKP 01 21 49.6 -1.5
comp=Z,2.1nm,0.4s,baz=55,slow=2.6,SNR=16
AKASG pPKiKP 01 22 24.9
comp=Z,2.4nm,0.6s,baz=60,slow=2.8,SNR=3.1
AKBB Malin Array Si 113.78 324 ePKIKP PKiKP 01 21 52.8 +1.7
KIEV Kiev 113.80 324 PKIKP PKiKP 01 21 49.5 -1.6
CCM Cathedral Cave 113.88 50 ePKIKP PKiKP 01 21 52.1 +0.4
HDIL Hopedale 114.71 47 ePKIKP PKiKP 01 21 52.5 -0.7
ANTO Ankara 115.06 312 PKPdf PKiKP 01 21 54.9 +1.0
SNR=5.5
ANTO Ankara 115.06 312 P PKiKP 01 21 54.9 +1.0
SNR=5.5
ANTO Ankara 115.06 312 ⇑iP PKiKP 01 21 54.0 +0.1
KIS Kishinev 115.47 321 e PP 01 22 36.0 -22
KIS Kishinev 115.47 321 ePS PS 01 33 15.0 +35
SUW Suwalki 115.59 329 ePKP PKPdf 01 21 55.9 +1.4
SUW Suwalki 115.59 329 ePKP PKPdf 01 21 55.8 +1.3
SFJD Kangerlussuaq 115.80 10 PKIKP PKPdf 01 21 53.2 -1.3
SFJD pmax pmax
comp=Z,10.0nm,0.7s
SFJD Kangerlussuaq 115.80 10 PKP PKPdf 01 21 53.2 -1.3
comp=Z,9.9nm,0.7s,baz=239,slow=1.4,SNR=5.2
OXF Oxford 116.14 54 ePKIKP PKPdf 01 21 56.5 +0.4
NB2 NORSAR Subarra 116.40 340 PKPdf PKPdf 01 21 54.7 -1.1
comp=Z,12nm,0.8s,baz=45,slow=1.9
NB2 NORSAR Subarra 116.40 340 PKPdf PKPdf 01 21 54.7 -1.1
baz=45,slow=1.9
NOA NORSAR Array B 116.40 340 PKIKP PKPdf 01 21 54.8 -1.0
NOA 01 22 29.8
NOA pmax pmax
comp=Z,9.0nm,0.7s
NOA pmax pmax
comp=Z,6.0nm,0.7s
NOA NORSAR Array B 116.40 340 PKP PKPdf 01 21 54.8 -1.0
comp=Z,9.0nm,0.7s,baz=47,slow=1.9,SNR=35
NOA pPKP pPKPdf 01 22 29.8 -2.0
comp=Z,6.1nm,0.7s,baz=47,slow=1.9,SNR=6.4
NAO01 NORSAR Array S 116.66 340 ePKPdf PKPdf 01 21 56.4 +0.1
BLO Bloomington 117.15 48 ePKIKP PKPdf 01 21 58.2 +0.3
VRI Vrincioaia 117.24 320 ⇑iP PKPdf 01 21 52.8 -5.1
BURAR Bucovina Array 117.46 322 ⇓iP PKPdf 01 21 58.1 -0.2
MLR Muntele Rosu 117.90 320 ⇓iP PKPdf 01 22 00.3 +1.1
KONO Kongsberg 117.96 339 PKIKP PKPdf 01 21 58.9 0.0
KWP Kalwaria 118.02 325 ePKP PKPdf 01 21 58.6 -0.7
KWP Kalwaria 118.02 325 ePKP PKPdf 01 21 58.6 -0.7
KWP Kalwaria 118.02 325 ⇓iP PKPdf 01 21 58.6 -0.7
KOLS Kolonicke sedl 118.60 325 ePKIKP PKPdf 01 22 00.2 -0.2
KOLS e 01 22 39.7
KOLS Kolonicke sedl 118.60 325 ePKP PKPdf 01 22 00.2 -0.2
KOLS e 01 22 39.7
KOLS eSS SKKSdf 01 40 03.3 +15
KOLS Kolonicke sedl 118.60 325 ePKP PKPdf 01 22 00.2 -0.2
KOLS e 01 22 39.6
KOLS eSS SKKSdf 01 40 03.3 +15
SWET Sewanee 118.73 52 ePKPdf PKPdf 01 22 00.4 -0.7
UZH Uzhgorod 118.74 324 i PKIKP PKPdf 01 21 59.8 -0.9
UZH e 01 22 39.0
UZH e 01 23 22.0
UZH i SS SS 01 39 34.0 +5.9
STHS Stebnicka Huta 118.95 325 ePKIKP PKPdf 01 22 01.0 -0.1
STHS e 01 22 35.3
STHS Stebnicka Huta 118.95 325 ePKP PKPdf 01 22 01.0 -0.1
STHS e 01 22 35.2
GKP Gorka Klasztor 118.96 331 ePKP PKPdf 01 22 01.9 +0.9
GKP Gorka Klasztor 118.96 331 ePKP PKPdf 01 22 01.9 +0.9
BOSA Boshof 118.99 234 PKIKP PKPdf 01 22 01.7 -0.1
BOSA pmax pmax
comp=Z,1.0nm,0.5s
BOSA pmax pmax
comp=Z,5.0nm,0.9s
BOSA Boshof 118.99 234 ePKPdf PKPdf 01 22 01.7 -0.1
BOSA Boshof 118.99 234 PKP PKPdf 01 22 01.7 -0.1
comp=Z,1.2nm,0.5s,baz=260,slow=21,SNR=9.7
BOSA PKKPbc PKKPbc 01 32 17.4 +0.3
comp=Z,5.3nm,0.8s,baz=292,slow=5.4,SNR=7.5
CRVS Cervenica-Dubn 119.09 325 ePKIKP PKPdf 01 22 01.6 +0.3
CRVS e 01 22 38.0
CRVS Cervenica-Dubn 119.09 325 ePKP PKPdf 01 22 01.6 +0.3
CRVS e 01 22 38.0
CRVS eSS SKKSdf 01 39 59.5 +12
OJC Ojcow 119.34 327 ePKPdf PKPdf 01 22 01.8 0.0
OJC epPKPdf pPKPdf 01 22 36.2 -1.5
OJC ePP PP 01 23 27.0 +2.7
OJC eSP PS 01 33 16.5 +1.8
OJC eSS SS 01 39 40.1 +4.4
OJC L 02 14 10.2
comp=Z,0.9nm,20.4s
DRGR 119.36 322 ⇓iP PKPdf 01 22 01.0 -0.9
ACSO Alum Creek Sta 119.39 46 ePKPdf PKPdf 01 22 02.3 +0.1
ACSO epPKPdf pPKPdf 01 22 35.4 -2.7
NIE Niedzica 119.47 326 ePKPdf PKPdf 01 22 02.5 +0.4
NIE epPKPdf pPKPdf 01 22 36.9 -1.1
CPCT Cooper Cave 119.78 52 ePKPdf PKPdf 01 22 02.8 -0.3
CPCT epPKPdf pPKPdf 01 22 36.4 -2.6
CPCT esPKPdf 01 22 53.3
LBTB Lobatse 120.10 238 ePKIKP PKPdf 01 22 04.1 +0.1
LBTB e 01 22 38.3
SADO Sadowa 120.18 40 PKP PKPdf 01 22 02.4 -1.2
baz=303,slow=5.3
TZTN Tazewell 120.20 50 ePKPdf PKPdf 01 22 03.9 0.0
TZTN epPKPdf pPKPdf 01 22 37.1 -2.7
TKL Tuckaleechee C 120.30 51 ePKIKP PKPdf 01 22 03.2 -0.9
TKL e 01 22 38.0
TKL e 01 23 28.7
TKL Tuckaleechee C 120.30 51 ePKPdf PKPdf 01 22 03.2 -0.8
TKL epPKPdf pPKPdf 01 22 38.0 -2.1
TKL ePP PP 01 23 28.7 -2.9
TKL eSKPdf SKPdf 01 25 28.1 +0.8
OKC Ostrava-Krasne 120.44 327 ePKIKP PKPdf 01 22 04.0 +0.1
OKC e 01 22 38.7
OKC e 01 23 32.6
OKC Ostrava-Krasne 120.44 327 ePKPdf PKPdf 01 22 04.0 +0.1
OKC epPKP pPKPdf 01 22 38.7 -1.2
OKC ePP PP 01 23 32.6 +0.7
OKC ex x 01 24 20.1
OKC ex x 01 34 05.2
PLCA Paso Flores 120.50 144 PKIKP PKPdf 01 22 05.5 +1.1
PLCA pmax pmax
comp=Z,3.0nm,0.7s
PLCA pmax pmax
comp=Z,2.0nm,0.7s
PLCA Paso Flores 120.50 144 PKP PKPdf 01 22 05.5 +1.2
comp=Z,2.8nm,0.7s,baz=214,slow=5.8,SNR=7.4
PLCA PKKPbc PKKPbc 01 32 12.2 +0.3
comp=Z,2.0nm,0.7s,baz=107,slow=3.3,SNR=5.3
BZS Buzias 120.58 322 ⇓iP PKPdf 01 22 04.8 +0.5
VYHS Vyhne 120.79 326 ePKIKP PKPdf 01 22 04.1 -0.5
VYHS e 01 22 36.9
VYHS e 01 23 37.1
VYHS Vyhne 120.79 326 ePKP PKPdf 01 22 04.1 -0.5
VYHS e 01 22 36.9
VYHS ePP PP 01 23 37.1 +2.8
VYHS eSS SS 01 40 01.9 +7.5
MORC Moravsky Berou 120.80 327 ePKPdf PKPdf 01 22 05.5 +0.9
MORC epPKPdf pPKPdf 01 22 39.5 -1.1
MORC Moravsky Berou 120.80 327 ⇑iP PKPdf 01 21 52.2 -12
LSZ Lusaka 120.83 249 ePKIKP PKPdf 01 22 05.7 +0.1
LSZ e 01 22 53.2

KSP	**Ksiaz**	**120.85 329**	*e*PKP	PKPdf	01 22 06.1	+1.4
KSP	**Ksiaz**	**120.85 329**	*e*PKIKP	PKPdf	01 22 05.5	+0.8
KSP			*e*		01 23 33.0	
KSP			*e*SP	SP	01 33 17.0	+5.3
KSP			*e*SS	SS	01 39 57.0	+2.0
KSP	**Ksiaz**	**120.85 329**	*e*PKP	PKPdf	01 22 05.5	+0.8
KSP			*e*PP	PP	01 23 33.0	-1.6
KSP			*e*		01 24 16.0	
KSP			*e*SP	SP	01 33 17.0	+5.3
KSP			*e*PPS		01 35 14.5	
KSP			*e*SS	SS	01 39 57.0	+2.0
VTS	**Vitosha**	**120.89 318**	⇑*i*P	PKPdf	01 22 10.9	+5.9
LRW	**Lerwick**	**120.90 345**	*e*P	PKPdf	01 22 03.5	-1.0
KOLL	**Kolacno**	**120.99 326**	*e*PKP	PKPdf	01 22 03.9	-1.1
KOLL			*e*PP	PP	01 23 37.9	+2.3
SCHQ	**Schefferville**	**121.00 25**	PKP	PKPdf	01 22 04.0	-0.9
SCHQ			PKKPbc	PKKPbc	01 32 07.7	-2.7
SCHQ	**Schefferville**	**121.00 25**	PKP	PKPdf	01 22 04.0	-0.9
	comp=Z,10nm,0.6s,baz=258,slow=0.3,SNR=13					
SCHQ			PKKPbc	PKKPbc	01 32 07.7	-2.7
	comp=Z,4.3nm,0.8s,baz=101,slow=4.3,SNR=8.4					
DPC	**Dobruska-Polom**	**121.12 328**	*e*PKIKP	PKPdf	01 22 06.2	+1.0
DPC			*e*		01 22 39.9	
DPC			*e*		01 23 36.6	
DPC	**Dobruska-Polom**	**121.12 328**	*e*PKPdf	PKPdf	01 22 06.2	+1.0
DPC			*ep*PKP	pPKPdf	01 22 39.9	-1.3
DPC			*e*PP	PP	01 23 36.6	+0.2
DPC			*ex*	x	01 24 25.2	
UPC	**Upice**	**121.19 329**	*e*PKPdf	PKPdf	01 22 06.2	+0.9
UPC			*ep*PKP	pPKPdf	01 22 40.2	-1.1
GOGA	**Godfrey**	**121.20 54**	*e*PKIKP	PKPdf	01 22 06.4	+0.5
GOGA			*e*		01 22 39.7	
GOGA			*e*		01 23 33.8	
VRAC	**Vranov**	**121.58 327**	⇑*i*P	PKPdf	01 22 04.6	-1.5
BSEG	**Bad Segeberg**	**121.72 334**	*e*PKIKP	PKPdf	01 22 06.9	+0.7
BSEG			*e*		01 22 41.2	
BSEG			*e*		01 23 42.4	
BSEG	**Bad Segeberg**	**121.72 334**	*e*PKPdf	PKPdf	01 22 06.9	+0.7
BSEG			*ep*PKPdf	pPKPdf	01 22 41.2	-1.0
BSEG			*e*PP	PP	01 23 42.4	+2.1
BSEG			*ep*PP		01 24 28.9	
MCWV	**Mont Chateau**	**121.84 45**	*e*PKPdf	PKPdf	01 22 06.2	-0.7
VAY	**Valandovo**	**121.86 317**	*e*PKP	PKPdf	01 22 04.8	-2.1
ZST	**Bratislava**	**121.92 326**	*e*PKIKP	PKPdf	01 22 07.5	+0.7
ZST			MLR	MLR		
	comp=Z,400nm,18.9s					
PVCC	**Panska Ves**	**121.92 329**	*e*PKIKP	PKPdf	01 22 06.8	+0.1
PVCC			*e*		01 22 41.3	
PVCC			*e*		01 23 43.6	
PVCC	**Panska Ves**	**121.92 329**	*e*PKPdf	PKPdf	01 22 06.8	+0.1
PVCC			*ep*PKP	pPKPdf	01 22 41.3	-1.4
PVCC			*e*PP	PP	01 23 43.6	+1.8
PVCC			*ex*	x	01 24 29.8	
STIP	**Stip**	**121.96 317**	*e*PKP	PKPdf	01 22 05.1	-2.0
BRG	**Berggiesshubel**	**122.03 330**	*e*PKIKP	PKPdf	01 22 06.7	-0.2
BRG					01 22 41.5	
BRG					01 23 44.0	
BRG			PS	PS	01 33 37.0	-1.6
BRG			SS	SS	01 40 14.0	+4.1
BRG			pmax	pmax		
	comp=Z,15nm,1.6s					
BRG			pmax	pmax		
	comp=Z,11nm,0.8s					
BRG			pmax	pmax		
	comp=Z,7.0nm,0.8s					
BRG			pmax	pmax		
	comp=Z,4.0nm,0.9s					
BRG			pmax	pmax		
	comp=Z,7.0nm,1.2s					
BRG			MLR	MLR		
	comp=Z,610nm,17.6s					
BRG			MLR	MLR		
	comp=N,440nm,19.7s					
BRG			MLR	MLR		
	comp=E,400nm,19.7s					
BRG	**Berggiesshubel**	**122.03 330**	*e*PKP	PKPdf	01 22 06.7	-0.2
BRG			*i*		01 22 09.3	
BRG			pPKP	pPKPdf	01 22 41.5	-1.4
BRG			*e*		01 22 46.6	
BRG			*e*		01 23 11.5	
BRG			PP	PP	01 23 44.0	+1.5
BRG			pPP		01 24 33.0	
BRG			PS	PS	01 33 37.0	-1.6
BRG			SS	SS	01 40 14.0	+4.1
BRG			LR	LR		
	comp=Z,610nm,17.6s					
BRG	**Berggiesshubel**	**122.03 330**	*e*PKPdf	PKPdf	01 22 08.1	+1.2
BRG			*ep*PP		01 24 31.3	
BRG			*e*		01 41 11.0	
BRG	**Berggiesshubel**	**122.03 330**	*e*PKP	PKPdf	01 22 06.7	-0.2
	comp=Z,24nm,1.6s					
BRG			*i*		01 22 09.3	
	comp=Z,18nm,0.8s					
BRG			pPKP	pPKPdf	01 22 41.5	-1.4
	comp=Z,12nm,0.8s					
BRG			*e*		01 22 46.6	
	comp=Z,7.2nm,0.9s					
BRG			*e*		01 23 11.5	
	comp=Z,12nm,1.2s					
BRG			PP	PP	01 23 44.0	+1.5
BRG			pPP		01 24 33.0	
BRG			PS	PS	01 33 37.0	-1.6
BRG			SS	SS	01 40 14.0	+4.1
BRG						
	comp=Z,1µm,17.6s					
BRG						
	comp=N,735nm,19.7s					
BRG						
	comp=E,668nm,19.7s					
PKSM	**Moragy**	**122.09 323**	⇓*i*P	PKPdf	01 22 06.4	-0.8
TREC	**Trest**	**122.18 328**	*ep*PKP	pPKPdf	01 22 41.8	-1.4
TREC			*e*PP	PP	01 23 42.3	-1.3
CLL	**Collm**	**122.22 331**	*e*P	Pdif	01 18 43.0	+6.1
CLL			*i*		01 22 06.8	
CLL			*i*		01 22 41.6	
CLL			pmax	pmax		
	comp=Z,31nm,1.6s					
CLL			MLR	MLR		
	comp=Z,900nm,21.8s					
CLL	**Collm**	**122.22 331**	*e*Pdif	Pdif	01 18 43.0	+6.1
CLL			*i* PKP	PKPdf	01 22 06.8	-0.5
CLL			*i* pPKP	pPKPdf	01 22 41.6	-1.6
CLL			*e*SKP		01 25 31.0	
CLL			LR	LR		
	comp=Z,900nm,21.8s					
CLL	**Collm**	**122.22 331**	*e*Pdiff	Pdif	01 18 39.4	+2.5
CLL			*e*PKPdf	PKPdf	01 22 06.8	-0.5
	comp=Z,21nm,0.8s					
CLL			*ep*PKPdf	pPKPdf	01 22 41.6	-1.6
CLL			*e*PP	PP	01 23 44.4	+0.6
CLL			*es*PP		01 24 33.5	
CLL			*e*PPP		01 26 20.3	
CLL			*es*PPP		01 27 08.7	
CLL			*e*PPPP		01 28 23.8	
CLL			*e*PS	PS	01 33 32.9	-7.3
CLL			*es*PS		01 34 23.5	
CLL			*e*SS	SS	01 40 15.9	+3.6
CLL			*es*SS		01 41 12.5	
CLL			*e*SSS		01 44 50.8	
CLL			*e*LR	LR	02 02 06.4	
CLL	**Collm**	**122.22 331**	*e*Pdif	Pdif	01 18 43.0	+6.1
CLL			LmV		01 09 00.0	
	comp=Z,900nm,21.8s					
CLL			*i* PKPdf	PKPdf	01 22 06.8	-0.5
	comp=Z,31nm,1.6s					
CLL			*i* (PKiKP)		01 22 09.5	
	comp=Z,21nm,0.8s					
CLL			*i* pPKPdf	pPKPdf	01 22 41.6	-1.6
	comp=Z,16nm,0.7s					
CLL			*e*PP	PP	01 23 44.0	+0.2
	comp=Z,36nm,1.6s					
CLL			*es*PP		01 24 34.0	
CLL			*e*SKPdf	SKPdf	01 25 31.0	+0.6
CLL			*es*PPP		01 27 07.0	
CLL			*e*PPPP		01 28 24.0	
CLL			*e*PS	PS	01 33 35.0	-5.2
CLL			*es*PS		01 34 19.0	
CLL			*ep*PPS		01 35 32.0	
CLL			*e*SS	SS	01 40 14.0	+1.7
CLL			*es*SS		01 41 11.0	
CLL			*e*SSS		01 44 56.0	
CLL			*e*SSSS		01 48 21.0	
CLL			*ex*	x	01 49 48.0	
CLL			*ex*	x	01 50 48.0	
PRU	**Pruhonice**	**122.26 329**	*e*PKIKP	PKPdf	01 22 07.9	+0.5
PRU			*e*		01 22 41.8	
PRU			*e*		01 23 46.9	
PRU			*e*		01 33 38.2	
PRU	**Pruhonice**	**122.26 329**	*e*PKPdf	PKPdf	01 22 07.9	+0.5
PRU			*ep*PKP	pPKPdf	01 22 41.8	-1.6
PRU			*e*PP	PP	01 23 46.9	+2.7
PRU			*ex*	x	01 24 29.8	
PRU			*e*PS	PS	01 33 38.2	-2.5
PRU			*ex*	x	01 34 17.2	
FBE	**Freiberg**	**122.29 330**	*e*PKPdf	PKPdf	01 22 08.8	+1.4
BLA	**Blacksburg**	**122.33 48**	*e*PKIKP	PKPdf	01 22 07.2	-0.8
BLA			*e*		01 22 40.8	
BLA			*e*		01 22 55.5	
SKO	**Skopje**	**122.34 318**	*e*PKP	PKPdf	01 22 05.8	-2.0
JSC	**Jenkinsville**	**122.69 52**	*e*PKIKP	PKPdf	01 22 09.2	+0.5
JSC			*e*		01 22 43.4	
KRUS	**Krusevo**	**122.74 317**	*e*PKP	PKPdf	01 22 06.6	-2.0
NRDL	**Niedersach Rie**	**122.80 333**	*e*PKPdf	PKPdf	01 22 09.5	+1.1
NRDL			*ep*PKPdf	pPKPdf	01 22 43.4	-0.9
NRDL			*e*PP	PP	01 23 49.7	+2.1
NRDL			*ep*PP		01 24 30.1	
SSPA	**Standing Stone**	**122.81 44**	*e*PKPdf	PKPdf	01 22 08.1	-0.7
SSPA			*ep*PKPdf	pPKPdf	01 22 42.4	-2.4
BIA	**Bitola**	**122.84 317**	*e*PKP	PKPdf	01 22 06.8	-2.0
ORE	**Reay**	**122.95 345**	*e*P	PKPdf	01 22 07.8	-0.7
MLA1	**Latheron**	**123.06 345**	*e*P	PKPdf	01 22 07.5	-1.2
WERD	**Werda**	**123.11 330**	*e*PKPdf	PKPdf	01 22 10.0	+1.0
LONY	**Lake Ozonia**	**123.11 38**	*e*PKPdf	PKPdf	01 22 09.6	+0.4
LONY			*ep*PKPdf	pPKPdf	01 22 42.8	-2.4
CLZ	**Clausthal**	**123.12 333**	*e*PKIKP	PKPdf	01 22 09.1	+0.1
CLZ			*e*		01 22 43.8	
CLZ			*e*		01 23 52.4	
CLZ	**Clausthal**	**123.12 333**	*e*PKPdf	PKPdf	01 22 09.1	+0.1
CLZ			*ep*PKPdf	pPKPdf	01 22 43.8	-1.1
CLZ			*e*PP	PP	01 23 52.4	+2.6
CLZ			*ep*PP		01 24 37.7	
CLZ			*e*		01 41 26.3	
GUNZ	**Gunzen**	**123.15 330**	*e*PKPdf	PKPdf	01 22 09.2	+0.1
OHR	**Ohrid**	**123.16 317**	*e*PKP	PKPdf	01 22 07.4	-2.0
NKC	**Novy Kostel**	**123.17 330**	*e*PKIKP	PKPdf	01 22 08.8	-0.4
NKC			*e*		01 23 54.7	
NKC			*e*		01 33 45.7	
NKC	**Novy Kostel**	**123.17 330**	*e*PKPdf	PKPdf	01 22 08.8	-0.4
NKC			*e*PP	PP	01 23 54.7	+4.5
NKC			*ex*	x	01 24 35.9	
NKC			*e*PS	PS	01 33 45.7	-3.0
WERN	**Wernitzgruen**	**123.17 330**	*e*PKPdf	PKPdf	01 22 10.3	+1.1
WERN			*ep*PKPdf	pPKPdf	01 22 44.0	-1.1
KHC	**Kasperske Hory**	**123.28 328**	*e*PKIKP	PKPdf	01 22 08.8	-0.6
KHC			*e*		01 22 44.0	
KHC			*e*		01 23 51.4	
KHC			*e*		01 33 46.0	
KHC	**Kasperske Hory**	**123.28 328**	*e*PKPdf	PKPdf	01 22 08.8	-0.6
KHC			*ex*	x	01 22 10.0	
KHC			*ep*PKP	pPKPdf	01 22 44.0	-1.4
KHC			*e*PP	PP	01 23 51.4	+0.4
KHC			*ex*	x	01 24 36.2	
KHC			*e*SKP		01 25 32.5	
KHC			*e*PS	PS	01 33 46.0	-3.7
MOX	**Moxa**	**123.32 331**	*e*PKP	PKPdf	01 22 08.9	-0.5
	comp=Z,24nm,1.7s					
MOX			*e*		01 23 55.0	
MOX						
	comp=Z,600nm,20.0s					
MOX	**Moxa**	**123.32 331**	*e*PKIKP	PKPdf	01 22 08.9	-0.5
MOX			*e*		01 23 55.0	
MOX			pmax	pmax		
	comp=Z,24nm,1.7s					
MOX			MLR	MLR		
	comp=Z,600nm,20.0s					
MOX	**Moxa**	**123.32 331**	*e*PKPdf	PKPdf	01 22 08.7	-0.7
MOX			*ep*PP		01 24 39.7	
MOX			*ep*PPP		01 27 17.2	
MOX			*e*		01 41 30.4	
GEC2	**GERESS Array S**	**123.39 328**	*e*PKPdf	PKPdf	01 22 09.3	-0.3
GEC2			*ep*PP		01 24 40.5	
GEC2			*e*		01 41 30.9	
GERES	**GERESS Array B**	**123.39 328**	PKIKP	PKPdf	01 22 09.2	-0.4
GERES					01 22 44.4	
GERES			pmax	pmax		
	comp=Z,14nm,0.6s					
GERES			pmax	pmax		
	comp=Z,10.0nm,0.8s					
GERES			pmax	pmax		
	comp=Z,1.0nm,0.8s					
GERES	**GERESS Array B**	**123.39 328**	PKP	PKPdf	01 22 09.2	-0.4
	comp=Z,14nm,0.6s,baz=78,slow=1.6,SNR=31					
GERES			pPKP	pPKPdf	01 22 44.4	-1.2
	comp=Z,10nm,0.8s,baz=80,slow=1.5,SNR=7.3					
GERES			PKKP	PKKPdf	01 32 32.7	-6.3
	comp=Z,0.7nm,0.8s,baz=316,slow=3.7,SNR=4.0					
BINY	**Binghamton**	**123.39 41**	*e*PKPdf	PKPdf	01 22 09.9	+0.1
MANZ	**Manzenberg**	**123.50 330**	*e*PKPdf	PKPdf	01 22 10.2	+0.4
MANZ			*ep*PKPdf	pPKPdf	01 22 44.6	-1.1
MANZ			*e*PP		01 24 40.7	
MANZ			*ep*PPP		01 27 17.5	
ROTZ	**Rotzenmuhle**	**123.59 330**	*e*PKPdf	PKPdf	01 22 09.3	-0.7
ROTZ			*ep*PP		01 24 39.9	
ROTZ			*e*		01 41 37.2	
MVH1	**Achvaich**	**123.60 345**	*e*P	PKPdf	01 22 09.4	-0.3
FRNY	**Flat Rock**	**123.61 38**	*e*PKPdf	PKPdf	01 22 09.2	-1.0
FRNY			*e*PP	PP	01 23 51.1	-2.3
WET	**Wettzell**	**123.64 329**	*e*PKPdf	PKPdf	01 22 09.4	-0.7
WET			*ep*PP		01 24 41.1	
MCD	**Coleburn Disti**	**123.65 344**	*e*P	PKPdf	01 22 09.2	-0.6
NCB	**Newcomb**	**123.66 39**	*e*PKPdf	PKPdf	01 22 09.4	-0.8
NCB			*ep*PKPdf	pPKPdf	01 22 43.8	-2.4
MME1	**Meikle Cairn**	**123.81 344**	*e*P	PKPdf	01 22 09.6	-0.5
IBBN	**Ibbenburen**	**123.96 334**	*e*PKPdf	PKPdf	01 22 10.2	-0.4
IBBN			*ep*PKPdf	pPKPdf	01 22 45.7	-0.9
IBBN			*ep*PP		01 24 42.0	
IBBN			*ep*PPP		01 27 23.9	
GOLS	**Golise**	**123.97 324**	*i* PKPdf	PKPdf	01 22 10.5	-0.3
GOLS			*i*		01 22 13.3	
GOLS			*i*		01 22 45.7	
UBBA	**Unterbreizbach**	**123.98 332**	*e*PKPdf	PKPdf	01 22 09.3	-1.4
UBBA			*e*PP	PP	01 23 57.6	+2.0
UBBA			*ep*PP		01 24 42.6	
UBBA			*e*		01 41 33.8	
SDMD	**Soldier's Deli**	**124.06 45**	*e*PKPdf	PKPdf	01 22 10.4	-0.8
MDO	**Dochfour**	**124.07 345**	*e*P	PKPdf	01 22 09.8	-0.9
GRA1	**Grafenberg Arr**	**124.13 330**	*e*PKPdf	PKPdf	01 22 10.8	-0.2
GRA1			*e*PP	PP	01 23 58.5	+1.8
GRA1			*ep*PP		01 24 44.9	
GRA1			*e*PPPP		01 27 23.5	
GRA1			*e*		01 41 41.1	
GRF	**Grafenberg Arr**	**124.13 330**	*e*PKIKP	PKPdf	01 22 10.8	-0.2
GRF			*e*		01 23 58.5	
GRF	**Grafenberg Arr**	**124.13 330**	*e*PKIKP	PKPdf	01 22 10.8	-0.2
GRF			*e*		01 23 58.5	
GRF	**Grafenberg Arr**	**124.13 330**	*e*PKPdf	PKPdf	01 22 10.8	-0.2
GRF			*e*PP	PP	01 23 58.5	+1.8
GRF			*ep*PP		01 24 44.9	
GRF			*e*PPP		01 27 23.5	
GRF			*e*		01 41 41.1	
MVL	**Millersville**	**124.14 44**	*e*PKPdf	PKPdf	01 22 10.9	-0.4
MVL			*ep*PKPdf	pPKPdf	01 22 45.2	-2.1
MVL			*es*PKPdf		01 22 58.3	
CBN	**Corbin**	**124.18 46**	*e*PKPdf	PKPdf	01 22 11.9	+0.4
CBN			*ep*PKPdf	pPKPdf	01 22 45.1	-2.4
URVA	**University of**	**124.32 47**	*e*PKPdf	PKPdf	01 22 10.9	-0.8
BOJS	**Bojanci**	**124.47 324**	*e*PKPdf	PKPdf	01 22 11.5	-0.3
BOJS			*e*		01 22 46.7	
BOJS			*e*		01 24 46.8	
BOJS			*e*		01 27 27.2	
BOJS			*e*		01 41 46.8	
LJU	**Ljubljana**	**124.59 325**	*e*PKIKP	PKPdf	01 22 11.4	-0.6
LJU			*i*		01 22 46.9	
LJU			*e*		01 23 59.8	
LJU	**Ljubljana**	**124.59 325**	*e*PKPdf	PKPdf	01 22 11.4	-0.6
LJU			*e*		01 22 13.7	
LJU			*i*		01 22 46.9	
LJU			*e*		01 23 59.8	
LJU			*e*		01 24 46.5	
LJU			*e*		01 34 36.1	
LJU			*e*		01 35 59.2	
WTSB	**Winterswijk**	**124.62 334**	*e*PKiKP	PKiKP	01 22 10.5	-1.7
	comp=Z,33nm,1.9s					
BUG	**Bochum--Univer**	**124.79 334**	*e*PKPdf	PKPdf	01 22 13.3	+1.1
BUG			*ep*PKPdf	pPKPdf	01 22 46.7	-1.5
EBH	**Black Hill**	**124.88 344**	*e*P	PKPdf	01 22 13.8	+1.5
ESY	**Stoneypath**	**124.91 343**	*e*P	PKPdf	01 22 10.6	-1.7
LBNH	**Lisbon**	**124.93 37**	*e*PKIKP	PKPdf	01 22 12.6	-0.1
LBNH			*e*		01 22 47.4	
LBNH			*e*		01 23 01.5	
HNH	**Hanover**	**125.00 38**	*e*PKPdf	PKPdf	01 22 13.2	+0.4
HNH			*ep*PKPdf	pPKPdf	01 22 47.5	-1.3
FUR	**Furstenfeldbru**	**125.08 329**	*e*PKIKP	PKPdf	01 22 13.2	+0.3
FUR			*e*		01 22 47.4	
FUR			*e*		01 24 01.4	
FUR	**Furstenfeldbru**	**125.08 329**	*e*PKPdf	PKPdf	01 22 13.2	+0.3
FUR			*ep*PKPdf	pPKPdf	01 22 47.4	-1.4
FUR			*e*PP	PP	01 24 01.4	-1.6
FUR			*ep*PPP		01 27 32.5	
EBL	**Broad Law**	**125.15 343**	*e*P	PKPdf	01 22 14.7	+1.9
EAU	**Auchinoon**	**125.21 343**	*e*P	PKPdf	01 22 13.0	+0.1
PAL	**Palisades**	**125.33 42**	*e*PKIKP	PKPdf	01 22 13.2	-0.4
PAL			*e*		01 22 47.2	
TOD	**Tromm**	**125.36 331**	PKIKP	PKPdf	01 22 12.5	-0.9
CPNY	**Central Park**	**125.40 42**	*e*PKPdf	PKPdf	01 22 12.8	-0.9
WATA	**Walderalm**	**125.44 328**	⇑*i*P	PKPdf	01 22 12.3	-1.3
	comp=Z,29nm,1.5s					
WTTA	**Wattenberg**	**125.46 328**	⇑*i*P	PKPdf	01 22 12.6	-1.0
	comp=Z,46nm,1.0s					
ESK	**Eskdalemuir**	**125.59 343**	*e*P	PKPdf	01 22 13.7	+0.1
ESK	**Eskdalemuir**	**125.59 343**	*e*PKPdf	PKPdf	01 22 14.2	+0.5
XAL	**Allendale**	**125.68 342**	*e*P	PKPdf	01 22 13.5	-0.3
MOTA	**Moosalm**	**125.69 328**	⇓*i*P	PKPdf	01 22 13.4	-0.6
	comp=Z,26nm,1.0s					
QUA2	**Belchertown**	**125.71 40**	*e*PKPdf	PKPdf	01 22 13.5	-0.8
STU	**Stuttgart**	**125.74 330**	*e*PKPdf	PKPdf	01 22 15.0	+0.9
STU			*ep*PKPdf	pPKPdf	01 22 49.2	-0.9
STU			*ep*PP		01 24 55.3	
STU			*ep*PPP		01 27 36.7	
STU			*e*		01 42 01.9	
ABH	**Alteburg**	**125.77 332**	PKP	PKPdf	01 22 13.5	-0.6
HGN	**Heimansgroeve**	**125.86 334**	*e*PKiKP	PKiKP	01 22 14.5	-0.2
	comp=Z,17nm,1.2s					
PKME	**Peaks-Kenny Pk**	**125.91 35**	*e*PKPdf	PKPdf	01 22 14.3	-0.3
PKME			*ep*PKPdf	pPKPdf	01 22 48.5	-2.0
MEM	**Membach**	**125.94 334**	PKP	PKPdf	01 22 16.5	+2.0
MEM			APKP		01 22 49.4	
HRV	**Adam Dziewonsk**	**126.09 39**	*e*PKIKP	PKPdf	01 22 15.7	+0.7
FETA	**Feichten**	**126.09 328**	⇑*i*P	PKPdf	01 22 13.8	-1.0
	comp=Z,26nm,0.9s					
RUP	**Ruppelstein**	**126.12 332**	PKIKP	PKPdf	01 22 13.5	-1.3
LANF	**Langenberg**	**126.27 331**	PKP	PKPdf	01 22 13.7	-1.4
WES	**Weston**	**126.30 39**	*e*PKIKP	PKPdf	01 22 15.1	-0.3
DAVA	**Damuels**	**126.37 329**	⇑*i*P	PKPdf	01 22 15.2	-0.1
	comp=Z,31nm,0.8s					
SPAK	**Spaichingen-Ko**	**126.39 330**	PKP	PKPdf	01 22 13.8	-1.6
BCLA	**Clavier**	**126.39 334**	PKP	PKPdf	01 22 17.0	+1.7
BCLA			APKP		01 22 50.0	
GAL1	**Galloway**	**126.42 343**	*e*P	PKPdf	01 22 15.1	-0.1
BFO	**Black Forest**	**126.46 330**	*e*PKIKP	PKPdf	01 22 15.0	-0.5
BFO			*e*		01 24 14.5	
BFO	**Black Forest**	**126.46 330**	*e*PKPdf	PKPdf	01 22 15.0	-0.5
BFO			*e*PP	PP	01 24 14.5	+2.4
BFO			*ep*PP		01 24 59.1	
BFO			*ep*PPP		01 27 42.6	
UCC	**Uccle**	**126.52 335**	PKP	PKPdf	01 22 16.1	+0.6
WLF	**Walferdange**	**126.56 333**	*e*PKIKP	PKPdf	01 22 16.7	+1.0
WLF			*e*		01 22 51.5	
WLF			*e*		01 23 04.3	
WLF	**Walferdange**	**126.56 333**	PKP	PKPdf	01 22 16.7	+1.0
WLF			APKP		01 22 51.0	
WLF	**Walferdange**	**126.56 333**	*e*PKPdf	PKPdf	01 22 16.2	+0.5
WLF			*ep*PKPdf	pPKPdf	01 22 50.6	-1.0
WLF			*e*PP	PP	01 24 16.8	+4.1
WLF			*ep*PP		01 25 00.1	
LHO	**Holmfirth**	**126.67 341**	*e*P	PKPdf	01 22 15.6	-0.2
TIP	**Timpagrande**	**126.79 317**	PKPdf	PKPdf	01 22 17.1	+0.6
GIVF	**Givet**	**126.83 334**	*e*PKIKP	PKPdf	01 22 16.2	0.0
CDF	**Champ du Feu**	**126.92 331**	*e*PKIKP	PKPdf	01 22 16.2	-0.2
FELD	**Feldberg im Sc**	**126.93 330**	PKP	PKPdf	01 22 15.1	-1.3
DOU	**Dourbes**	**126.94 334**	PKP	PKPdf	01 22 17.6	+1.2
DOU			APKP		01 22 51.7	
ECH	**Echery**	**127.11 331**	PKP	PKPdf	01 22 15.8	-1.0
KWE	**Weaver Farm**	**127.11 340**	*e*P	PKPdf	01 22 16.7	+0.1
BAIF	**Baives**	**127.13 334**	*e*PKIKP	PKPdf	01 22 16.5	-0.2
CWF	**Charnwood Fore**	**127.16 340**	*e*P	PKPdf	01 22 17.9	+1.2
LCO	**Las Campanas**	**127.21 132**	*e*PKPdf	PKPdf	01 22 18.0	+0.4
MOF	**Molkenrain**	**127.37 331**	PKP	PKPdf	01 22 16.1	-1.2
BBS	**Basel-Blauen**	**127.45 330**	PKIKP	PKPdf	01 22 16.1	-1.3
CFAA	**Coronel Fontan**	**127.53 136**	PKP	PKPdf	01 22 18.3	+0.2
CFAA			pPKP	pPKPdf	01 22 51.5	-2.6
CFAA	**Coronel Fontan**	**127.53 136**	PKP	PKPdf	01 22 18.3	+0.2
	comp=Z,1.4nm,0.8s,baz=252,slow=3.0,SNR=18					
CFAA			pPKP	pPKPdf	01 22 51.5	-2.6
	comp=Z,2.2nm,0.9s,baz=231,slow=2.5,SNR=4.8					
HINF	**Hinteralfeld**	**127.53 331**	*e*PKIKP	PKPdf	01 22 17.6	0.0
	comp=Z,73nm,1.2s					
HAU	**Haudompre**	**127.64 331**	*e*PKIKP	PKPdf	01 22 18.1	+0.3
	comp=Z,39nm,0.8s					
HAU			*e*MLR	MLR		
	comp=Z,830nm,21.2s					
HAU	**Haudompre**	**127.64 331**	*e*PKPdf	PKPdf	01 22 18.1	+0.3
HAU			LR	LR		
	comp=Z,830nm,21.3s					
THEF	**They Montfort**	**127.66 332**	PKP	PKPdf	01 22 16.5	-1.3
SBD1	**Bryn Du**	**127.67 341**	*e*P	PKPdf	01 22 18.2	+0.5
LOMF	**Lomont**	**127.87 330**	PKP	PKPdf	01 22 16.9	-1.3
MEZF	**Maizieres J'vi**	**127.90 333**	*e*PKIKP	PKPdf	01 22 18.3	0.0
	comp=Z,37nm,0.7s					
SSW	**Stow on the Wo**	**127.99 340**	*e*P	PKPdf	01 22 18.7	+0.4
SWN1	**Swindon**	**128.35 339**	*e*P	PKPdf	01 22 19.3

FRF	**La Foret Royal**	**130.53**	**327**	*e*PKIKP	PKPdf	01 22 23.3	-0.1
GRR	**Gorron**	**130.53**	**336**	*e*PKIKP	PKPdf	01 22 23.2	-0.1
AGO	**Saint Agoulin**	**130.58**	**332**	PKP	PKPdf	01 22 22.1	-1.3
VIVF	**Saint-Julien-l**	**130.68**	**329**	*e*PKIKP	PKPdf	01 22 23.4	-0.3
	comp=Z,19nm,0.8s						
SMRF	**Simiane la Rot**	**130.82**	**328**	*e*PKIKP	PKPdf	01 22 24.0	0.0
TCF	**Toulx Ste Croi**	**130.84**	**332**	*e*PKIKP	PKPdf	01 22 24.1	+0.2
	comp=Z,31nm,0.8s						
LBL	**Lubilhac**	**131.12**	**331**	PKP	PKPdf	01 22 23.2	-1.3
SGMF	**Saint Gilles**	**131.31**	**337**	*e*PKIKP	PKPdf	01 22 24.5	-0.2
	comp=Z,29nm,0.7s						
VSL	**Villasalto**	**131.47**	**321**	*e*PKPdf	PKPdf	01 22 25.7	+0.4
ROSF	**Rostrenen**	**131.51**	**338**	*e*PKIKP	PKPdf	01 22 24.8	-0.3
	comp=Z,188nm,1.6s						
LASF	**Ste Croix**	**131.64**	**329**	*e*PKIKP	PKPdf	01 22 25.5	0.0
	comp=Z,23nm,0.7s						
MFF	**Saint Martin d**	**131.65**	**334**	*e*PKIKP	PKPdf	01 22 25.3	-0.1
QUIF	**Quistinic**	**131.82**	**338**	*e*PKIKP	PKPdf	01 22 25.5	-0.2
	comp=Z,46nm,1.1s						
LVC	**Limon Verde**	**131.85**	**126**	*e*PKPdf	PKPdf	01 22 27.0	+0.4
LVC				*es*PKPdf		01 23 14.9	
RJF	**Les Rejaudoux**	**131.89**	**332**	*e*PKIKP	PKPdf	01 22 25.9	-0.1
	comp=Z,8.2nm,0.6s						
RJF				*e*MLR	MLR		
	comp=Z,926nm,20.2s						
RJF	**Les Rejaudoux**	**131.89**	**332**	*e*PKPdf	PKPdf	01 22 25.9	-0.1
RJF				LR	LR		
	comp=Z,930nm,20.3s						
CAF	**Calviac**	**131.91**	**331**	*e*PKIKP	PKPdf	01 22 26.0	0.0
ARE	**Arequipa**	**132.31**	**117**	*e*PKIKP	PKPdf	01 22 29.0	+1.5
MTLF	**Montolieu**	**133.00**	**330**	*e*PKIKP	PKPdf	01 22 27.7	-0.4
KEST	**Kesra**	**133.62**	**317**	PKP	PKPdf	01 22 29.6	+0.1
	comp=Z,2.5nm,0.6s,baz=41,slow=7.1,SNR=10						
KEST				pPKP	pPKPdf	01 23 02.4	-3.1
	comp=Z,5.0nm,0.9s,baz=331,slow=6.9,SNR=4.2						
KEST				SKPbc	SKPbc	01 25 42.3	-3.7
	comp=Z,9.3nm,0.9s,baz=7.3,slow=1.5,SNR=9.2						
ROSC	**El Rosal**	**133.97**	**88**	PKP	PKPdf	01 22 31.3	+0.5
	comp=Z,24nm,0.6s,baz=101,slow=8.1,SNR=15						
ROSC				pPKP	pPKPdf	01 23 05.3	-1.5
	comp=Z,30nm,0.7s,baz=134,slow=4.9,SNR=6.3						
ROSC				SKP		01 25 51.7	
	comp=Z,18nm,0.8s,baz=94,slow=19,SNR=6.8						
EBIE	**Bielsa**	**134.51**	**331**	PKP	PKPdf	01 22 34.0	+3.0
LPAZ	**La Paz**	**135.34**	**119**	*i* PKHKP		01 22 22.6	
LPAZ						01 22 34.4	
LPAZ						01 23 08.1	
LPAZ				pmax	pmax		
	comp=Z,2.0nm,0.8s						
LPAZ				pmax	pmax		
	comp=Z,15nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,25nm,0.8s						
LPAZ				pmax	pmax		
	comp=N,14nm,0.8s						
LPAZ	**La Paz**	**135.34**	**119**	PKP		01 22 22.6	
LPAZ				PKP	PKPdf	01 22 34.4	+1.1
LPAZ				pPKP	pPKPdf	01 23 08.1	-1.1
LPAZ				SKP		01 25 55.9	
LPAZ	**La Paz**	**135.34**	**119**	PKHKP		01 22 22.6	
	comp=N,1.8nm,0.8s,baz=222,slow=3.8,SNR=8.5						
LPAZ				PKP	PKPdf	01 22 34.4	+1.1
	comp=N,15nm,0.7s,baz=29,slow=1.2,SNR=16						
LPAZ				pPKP	pPKPdf	01 23 08.1	-1.1
	comp=N,25nm,0.8s,baz=0.9,slow=2.6,SNR=7.0						
LPAZ				SKP		01 25 55.9	
	comp=N,14nm,0.8s,baz=271,slow=1.5,SNR=8.8						
SDV	**Santo Domingo**	**137.61**	**82**	PKhKP		01 22 27.6	
	comp=N,5.9nm,0.4s,baz=298,slow=2.8,SNR=9.1						
SDV				PKP	PKPdf	01 22 38.7	+1.2
	comp=N,37nm,0.8s,baz=297,slow=2.0,SNR=15						
SDV				pPKP	pPKPdf	01 23 11.4	-2.0
	comp=N,97nm,0.9s,baz=306,slow=1.5,SNR=10						
SDV				SKP		01 26 00.0	
	comp=N,12nm,0.7s,baz=45,slow=1.9,SNR=5.7						
GUD	**Guadarrama**	**138.13**	**332**	PKIKP	PKPdf	01 22 39.7	+2.0
CPUP	**Villa Florida**	**138.23**	**139**	*i* PKHKP		01 22 27.7	
CPUP						01 22 38.8	
CPUP				pmax	pmax		
	comp=Z,1.0nm,0.5s						
CPUP				pmax	pmax		
	comp=Z,4.0nm,0.6s						
CPUP	**Villa Florida**	**138.23**	**139**	PKP		01 22 27.7	
CPUP				PKPdf	PKPdf	01 22 38.2	-0.2
CPUP				PKP	PKPdf	01 22 38.8	+0.4
CPUP	**Villa Florida**	**138.23**	**139**	PKhKP		01 22 27.7	
	comp=Z,0.9nm,0.5s,baz=188,slow=7.1,SNR=4.2						
CPUP				PKP	PKPdf	01 22 38.8	+0.4
	comp=Z,4.4nm,0.6s,baz=293,slow=1.4,SNR=12						
ETOB	**Tobarra**	**138.38**	**328**	PKP	PKPdf	01 22 38.3	0.0
ELOB	**Lobios**	**138.78**	**337**	PKP	PKPdf	01 22 36.9	-2.1
ESDC	**Sonseca Array**	**138.81**	**331**	PKP	PKPdf	01 22 32.3	-6.7
ESDC				PKP	PKPdf	01 22 38.7	-0.3
ESDC				PKP	PKPdf	01 22 39.5	+0.5
ESDC				pPKP	pPKPdf	01 23 13.9	-1.1
ESDC				PP	PP	01 25 33.2	+2.1
ESDC				SKP		01 26 01.9	
ESDC	**Sonseca Array**	**138.81**	**331**	PKhKP		01 22 32.3	
	comp=Z,0.5nm,0.6s,baz=6.6,slow=2.6,SNR=4.2						
ESDC				PKP	PKPdf	01 22 38.7	-0.3
	comp=Z,0.4nm,0.4s,baz=11,slow=3.3,SNR=4.1						
ESDC				pPKP	pPKPdf	01 23 13.9	-1.1
	comp=Z,3.0nm,0.9s,baz=24,slow=3.8,SNR=3.1						
ESDC				PP	PP	01 25 33.2	+2.1
	comp=Z,2.7nm,0.9s,baz=32,slow=6.9,SNR=7.7						
ESDC				SKP		01 26 01.9	
	baz=16,slow=3.1						
EVIA	**Vianos**	**138.88**	**329**	PKIKP	PKPdf	01 22 38.1	-1.1
EQES	**Quesada**	**139.80**	**329**	PKP	PKPdf	01 22 40.2	-0.7
MTE	**Manteigas**	**139.82**	**335**	*e*PKPdf	PKPdf	01 22 41.5	+0.7
MTE				*ep*PKPdf	pPKPdf	01 23 14.7	-2.1
EBAN	**Banos Encina**	**139.89**	**330**	PKIKP	PKPdf	01 22 44.4	+3.4
EBER	**Berja**	**140.38**	**328**	PKP	PKPdf	01 22 39.4	-2.6
SJG	**San Juan**	**140.50**	**67**	*i* PKHKP		01 22 33.8	
SJG						01 22 42.4	
SJG						01 23 16.5	
SJG						01 25 40.1	
SJG				pmax	pmax		
	comp=Z,8.0nm,0.5s						
SJG				pmax	pmax		
	comp=Z,21nm,0.5s						
SJG				pmax	pmax		
	comp=Z,58nm,0.8s						
SJG				pmax	pmax		
	comp=Z,19nm,0.9s						
SJG	**San Juan**	**140.50**	**67**	PKP		01 22 33.8	
SJG				PKP	PKPdf	01 22 42.4	-0.3
SJG				pPKP	pPKPdf	01 23 16.5	-2.1
SJG				PP	PP	01 25 40.1	-2.9
SJG	**San Juan**	**140.50**	**67**	PKhKP		01 22 33.8	
	comp=Z,7.7nm,0.5s,baz=0.4,slow=7.3,SNR=4.3						
SJG				PKP	PKPdf	01 22 42.4	-0.3
	comp=Z,21nm,0.5s,baz=308,slow=2.1,SNR=10						
SJG				pPKP	pPKPdf	01 23 16.5	-2.1
	comp=Z,58nm,0.8s,baz=82,slow=4.3,SNR=5.9						
SJG				PP	PP	01 25 40.1	-2.9
	comp=Z,19nm,0.9s,baz=12,slow=7.7,SNR=7.2						
ECAB	**El Cabril**	**140.76**	**331**	PKP	PKPdf	01 22 43.6	+1.0
MTP	**Monte Pirata**	**141.05**	**67**	*e*PKP	PKPdf	01 22 36.8	-6.9
SIV	**San Ignacio**	**141.53**	**123**	PKhKP		01 22 37.5	
	comp=Z,5.1nm,0.5s,baz=237,slow=4.6,SNR=33						
EVO	**Evora**	**141.58**	**334**	*e*PKIKP	PKPdf	01 22 44.1	0.0
	comp=Z,30nm,1.0s						
EVO				*e*MLR	MLR		
	comp=Z,666nm,22.2s						
EMIJ	**Mijas**	**141.62**	**329**	PKP	PKPdf	01 22 41.1	-3.1
ESPR	**Espera**	**141.93**	**330**	PKP	PKPdf	01 22 43.0	-1.8
EJIF	**Jimena Fronter**	**142.06**	**330**	PKHKP		01 22 40.5	
PCRV	**Puerto La Cruz**	**143.41**	**79**	PKhKP		01 22 43.6	
	comp=Z,41nm,0.7s,baz=207,slow=3.1,SNR=15						
LZG	**Guadaloupe-1**	**145.05**	**68**	*e*P	PKPbc	01 22 51.2	+0.8
HMG	**Houelmont**	**145.16**	**69**	*e*P	PKPbc	01 22 51.6	+0.8
SCG	**Saint Claude**	**145.17**	**68**	*e*P	PKPbc	01 22 51.6	+0.8
DOG	**Dongo Capester**	**145.22**	**68**	*e*P	PKPbc	01 22 51.9	+0.9
TBG	**Guadaloupe-3**	**145.25**	**69**	*e*P	PKPbc	01 22 51.7	+0.6
MGG	**Marie-Galante**	**145.53**	**68**	*e*P	PKPdf	01 22 52.5	+0.9
FDF	**Fort de France**	**145.99**	**70**	*e*P	PKPdf	01 22 53.7	+1.3
GRW	**Mount Saint Ca**	**146.03**	**75**	*e*P	PKPdf	01 22 52.3	-0.2
GRW	**Mount Saint Ca**	**146.03**	**75**	*e*	pPKPdf	01 23 24.6	-3.9
GRW	**Mount Saint Ca**	**146.03**	**75**	*e*	pPKPdf	01 23 26.4	-2.2
GRGR	**Grenville**	**146.04**	**75**	*e*PKPdf	PKPdf	01 22 52.1	-0.4
GRGR				*ep*PKPdf	pPKPdf	01 23 23.7	-4.8
BIM	**Bigot**	**146.11**	**71**	*e*P	PKPdf	01 22 54.5	+1.9
TCE	**Chacachacare**	**146.16**	**78**	*e*P	PKPdf	01 22 53.1	+0.3
TCE				*e*P	pPKPdf	01 23 25.6	-3.1
TCE	**Chacachacare**	**146.16**	**78**	*e*	pPKPdf	01 23 25.6	-3.1
SVV	**Soufriere Volc**	**146.24**	**73**	*e*P	PKPdf	01 22 53.6	+0.8
FCV	**Fort Charlotte**	**146.24**	**73**	*e*P	PKPdf	01 22 53.6	+0.8
SSV	**Crater Summit**	**146.26**	**73**	*e*P	PKPdf	01 22 53.9	+1.0
SSV				*e*P	pPKPdf	01 23 26.4	-2.4
SSV	**Crater Summit**	**146.26**	**73**	*e*	pPKPdf	01 23 26.4	-2.4
BHS	**Barnard House**	**146.33**	**73**	*e*P	PKPdf	01 22 53.3	+0.4
BHS				*e*P	pPKPdf	01 23 22.9	-6.1
BHS	**Barnard House**	**146.33**	**73**	*e*	pPKPdf	01 23 22.9	-6.1
TPP	**Pointe-a-Pierr**	**146.50**	**78**	*e*P	PKPab	01 22 57.1	+0.9
TPP				*e*P	pPKPdf	01 23 29.0	-0.3
TPP	**Pointe-a-Pierr**	**146.50**	**78**	*e*	pPKPdf	01 23 29.0	-0.3
TRN	**Trinidad (W)**	**146.51**	**78**	*e*P	PKPdf	01 22 54.4	+1.1
TRN				*e*P	pPKPdf	01 23 28.1	-1.3
TRN	**Trinidad (W)**	**146.51**	**78**	*e*	pPKPdf	01 23 28.1	-1.3
TBH	**Brigand Hill**	**146.86**	**78**	*e*P	PKPab	01 22 56.2	-1.3
TBH				*e*P	pPKPdf	01 23 31.5	+1.6
TBH	**Brigand Hill**	**146.86**	**78**	*e*	pPKPdf	01 23 31.5	+1.6
TPR	**Prospect**	**147.04**	**77**	*e*P	PKPab	01 22 56.5	-1.7
TPR				*e*P	pPKPdf	01 23 30.5	+0.3
TPR	**Prospect**	**147.04**	**77**	*e*	pPKPdf	01 23 30.5	+0.3
TOA0	**Torodi Ar. Sit**	**149.35**	**288**	*e*PKPdf	PKPdf	01 22 58.1	+0.1
TOA0				*e*PKPbc	PKPbc	01 23 01.8	-0.6
TOA0				*ep*PKPdf	pPKPdf	01 23 35.3	+1.3
TORD	**Torodi Ar. Bea**	**149.35**	**288**	PKPbc	PKPbc	01 23 01.9	-0.6
TORD				pPKPbc	pPKPbc	01 23 35.4	-2.8
TORD	**Torodi Ar. Bea**	**149.35**	**288**	PKPbc	PKPbc	01 23 01.9	-0.6
	comp=Z,20nm,0.7s,baz=33,slow=0.8,SNR=108						
TORD				pPKPbc	pPKPbc	01 23 35.4	-2.8
	comp=Z,93nm,0.8s,baz=67,slow=1.9,SNR=7.9						
CAM4	**Nova Friburgo**	**149.72**	**153**	*e*P	PKPdf	01 22 49.2	-9.2
CAM4				*i*		01 23 01.2	
CAM4				*i*		01 23 09.0	
CAM4				*i*		01 23 13.0	
CAM4				*i*		01 23 35.9	
CAM4				*i*		01 23 42.0	
CAM4				*i*		01 23 58.7	
CAM4				*i*		01 24 10.3	
BDFB	**Brasilia**	**151.87**	**136**	PKIKP	PKPdf	01 23 02.3	+0.5
BDFB						01 23 41.0	
BDFB				pmax	pmax		
	comp=Z,5.0nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,18nm,0.7s						
BDFB				pmax	pmax		
	comp=Z,26nm,0.9s						
BDFB	**Brasilia**	**151.87**	**136**	PKP	PKPdf	01 23 02.3	+0.4
	comp=Z,5.1nm,1.0s,baz=96,slow=2.1,SNR=12						
BDFB				PKPbc	PKPbc	01 23 08.4	0.0
	comp=Z,18nm,0.7s,baz=239,slow=3.5,SNR=26						
BDFB				pPKPbc	pPKPbc	01 23 41.0	-3.2
	comp=Z,26nm,0.9s,baz=182,slow=7.2,SNR=4.6						
DBIC	**Dimbokro**	**156.74**	**276**	*e*PKPdf	PKPdf	01 23 10.3	+1.6
DBIC				*e*PKPab	PKPab	01 23 38.9	0.0
DBIC	**Dimbokro**	**156.74**	**276**	PKP	PKPdf	01 23 10.1	+1.3
	comp=Z,6.1nm,1.0s,baz=50,slow=3.6,SNR=3.9						
DBIC				PKPab	PKPab	01 23 39.3	+0.5
	comp=Z,12nm,0.6s,baz=71,slow=3.6,SNR=16						
TIC	**Toumodi**	**156.90**	**276**	*e*P	PKPdf	01 23 14.3	+5.4
	comp=Z,60nm,0.7s						
LIC	**Lamto**	**156.93**	**275**	*e*PKIKP	PKPdf	01 23 07.4	-1.6
	comp=Z,77nm,1.5s						
LIC				*e*MLR	MLR		
	comp=Z,923nm,21.2s						
LIC	**Lamto**	**156.93**	**275**	*e*P	PKPdf	01 23 16.8	+7.8
	comp=Z,44nm,0.8s						
LIC	**Lamto**	**156.93**	**275**	*e*PKPdf	PKPdf	01 23 07.4	-1.6
LIC				LR	LR		
	comp=Z,460nm,21.3s						

MAN 29 01:12:43, 1579N×12115E, h10km, mb4.5, ML3.4, MS3.3, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	**Palayan**	**0.23**	**192⇑**	*e*P	Pg	01 12 49.5	+1.8
BALP	**Baler**	**0.41**	**96**	*e*P	Pg	01 12 52.7	+1.6
SCZP	**Santa Cruz**	**1.19**	**270**	*e*P	Pb	01 13 05.8	+0.2
POLP	**Polilio Island**	**1.30**	**144**	*e*P	Pn	01 13 07.5	+0.3
POLP				*e*S	Sb	01 13 25.9	+1.6
CAUP	**Cauayan**	**1.32**	**29**	*e*P	Pn	01 13 07.2	-0.4
PALP	**Palanan**	**1.77**	**44**	*e*P	Pn	01 13 13.7	+0.1
CVP	**Callao Caves**	**2.01**	**19⇑**	*i*P	Pn	01 13 17.0	0.0
CVP				*i* S	Sn	01 13 40.0	-2.3
LUBP	**Lubang**	**2.22**	**203**	*e*P	Pn	01 13 20.4	+0.5

JMA 29 01:28:04.3±0.3, 2639N×14342E, h4km, M4.1, Bonin Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHHJ	**Haha-jima-NKT**	**1.14**	**282**	P	Pg	01 28 25.9	-0.2
JHHJ				*e*S	Sg	01 28 41.2	+0.3
CBIJ	**Chichi jima**	**1.31**	**303**	P	Pn	01 28 29.0	-0.4
CBIJ				*e*S	Sg	01 28 46.4	0.0

ISCJB ***29*** *01:30:44.9±3.7, 630N±006×12340E±007, h19km±30km, mb3.8/3, Error ellipse: s-maj=12.5km s-min=10.1km az=164.5*
MAN ***29*** *01:30:47, 645N×12377E, h21km, mb5.2, ML4.2, MS4.4*
IDC ***29*** *01:31:18.6±7.8, 280N×12536E, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.6/16, mbtmp3.9/3, Error ellipse: s-maj=291.7km s-min=125.2km az=70.0*

ISC 29 01:30:44.6±3.6, 637N±006×12346E±008, h5km±24km, n10, σ0°89/14, mb3.8/3, 2C-1D, Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**1.15**	**43⇓**	*e*P	**Pn**	**01 31 04.5**	**-3.0**
CTBH				*i* S	**Sn**	**01 31 17.9**	**-5.6**
PAGZ	**Pagadian**	**1.47**	**357**	*e*P	**Pn**	**01 31 12.4**	**+0.6**
PAGZ				*e*S	**Sn**	**01 31 31.8**	**+0.3**
GSPH	**General Santos**	**1.50**	**101⇑**	*e*P	**Pn**	**01 31 12.5**	**+0.2**
GSPH				*e*S	**Sn**	**01 31 32.7**	**+0.4**
KCP	**Kidapawan**	**1.73**	**69⇑**	*e*P	**Pn**	**01 31 17.3**	**+1.8**
KCP				*i* S	**Sn**	**01 31 37.6**	**-0.4**
BUKP	**Musuan**	**2.18**	**47**	*e*P	**Pn**	**01 31 20.8**	**-0.8**
KAKA	**Kakadu**	**20.95**	**155**	*e*P	**P**	**01 35 28.5**	**-0.2**
	13nm,0.7s						
WRA	**Warramunga Arr**	**28.25**	**158**	P	**P**	**01 36 38.2**	**-0.8**
	2.5nm,0.7s,mb4.0,baz=337,slow=10.0,SNR=19						
WB2	**Warramunga Arr**	**28.26**	**158**	*e*P	**P**	**01 36 31.9**	**-7.1**
ASAR	**Alice Springs**	**31.55**	**161**	P	**P**	**01 37 08.2**	**+0.1**
	0.6nm,0.7s,mb3.5,baz=345,slow=6.6,SNR=5.6						
STKA	**Stephens Creek**	**41.78**	**157**	P	**P**	**01 38 35.6**	**+0.4**
	2.7nm,0.9s,mb3.9,baz=344,slow=12,SNR=4.6						

NEIC ***29*** *01:38:27.5, 3780S×17678E, h2km, ML3.7(WEL), After WEL.*
NEIC Felt at Whakatane.

WEL 29 01:38:27.6±0.1, 3779S×17676E, h2km, ML3.7/12, Error ellipse: s-maj=1.3km s-min=1.2km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OPRZ	**Ohinepanea**	**0.17**	**252**	P*	Pg	01 38 31.7	+0.7
OPRZ				S*	Sg	01 38 34.4	+1.2
MARZ	**Manawahe**	**0.21**	**200**	P	Pg	01 38 32.2	+0.6
MARZ				S	Sg	01 38 35.5	+1.2
MARZ	**Manawahe**	**0.21**	**200**	P*	Pg	01 38 32.2	+0.6
MARZ				SG	Sg	01 38 35.5	+1.2
LIRZ	**Lichensteins R**	**0.37**	**234**	PG	Pg	01 38 35.6	+0.9
TGRZ	**Tauranga**	**0.40**	**278**	P	Pg	01 38 36.2	+0.9
TGRZ				S	Sg	01 38 41.7	+1.1
TGRZ	**Tauranga**	**0.40**	**278**	PG	Pg	01 38 36.2	+0.9
TGRZ				SG	Sg	01 38 41.7	+1.2
MKRZ	**Makatiti**	**0.42**	**214**	P	Pg	01 38 36.8	+1.1
MKRZ	**Makatiti**	**0.42**	**214**	PG	Pg	01 38 36.8	+1.1
WIZ	**White Island**	**0.43**	**52**	P	Pg	01 38 36.5	+0.7
WIZ				S	Sg	01 38 42.4	+1.0
WIZ	**White Island**	**0.43**	**52**	PG	Pg	01 38 36.5	+0.7
WIZ				SG	Sg	01 38 42.4	+1.1
OMRZ	**Omania**	**0.44**	**224**	PG	Pg	01 38 36.8	+0.7
KARZ	**Kaharoa**	**0.47**	**241**	P	Pg	01 38 37.4	+0.8
KARZ	**Kaharoa**	**0.47**	**241**	PG	Pg	01 38 37.4	+0.8
TAZ	**Tarawera**	**0.48**	**204**	P	Pg	01 38 38.0	+1.1
TAZ	**Tarawera**	**0.48**	**204**	PG	Pg	01 38 38.0	+1.1
URZ	**Urewera**	**0.54**	**150**	P	Pg	01 38 37.6	-0.4
URZ	**Urewera**	**0.54**	**150**	PG	Pg	01 38 37.6	-0.4
UTU	**Utuhina**	**0.59**	**229**	P	Pg	01 38 40.1	+1.1
UTU	**Utuhina**	**0.59**	**229**	PG	Pg	01 38 40.1	+1.1
MYRZ	**Mayor Island**	**0.66**	**321**	P*	Pg	01 38 41.0	+0.8
HRRZ	**Handcock Road**	**0.71**	**212**	P*	Pb	01 38 42.1	-0.6
MWZ	**Matawai**	**0.81**	**132**	P	Pg	01 38 42.7	-0.5
MWZ	**Matawai**	**0.81**	**132**	P*	Pb	01 38 42.7	-1.7
TOZ	**Tahuroa Road**	**1.00**	**273**	P	Pg	01 38 46.5	-0.3
TOZ	**Tahuroa Road**	**1.00**	**273**	P*	Pb	01 38 46.5	-1.1
PUZ	**Puketiti**	**1.21**	**104**	P	Pg	01 38 50.6	-0.3
PUZ	**Puketiti**	**1.21**	**104**	P*	Pb	01 38 50.6	-0.6
MXZ	**Matakaoa Point**	**1.25**	**80**	P	Pg	01 38 50.8	-0.7
MXZ	**Matakaoa Point**	**1.25**	**80**	P*	Pb	01 38 50.8	-1.0
KUZ	**Kuaotunu**	**1.33**	**321**	P	Pg	01 38 50.4	-2.8
KUZ	**Kuaotunu**	**1.33**	**321**	P*	Pb	01 38 50.4	-2.9
BKZ	**Black Stump Fm**	**1.39**	**189**	*e*P	Pn	01 38 52.1	-1.9
BKZ	**Black Stump Fm**	**1.39**	**189**	*e*P*	Pb	01 38 52.1	-2.2
KNZ	**Kokohu**	**1.42**	**150**	P	Pn	01 38 53.9	-0.5
KNZ	**Kokohu**	**1.42**	**150**	PN	Pn	01 38 53.9	-0.6
MKAZ	**Moumakai**	**1.44**	**298**	P	Pn	01 38 52.7	-2.0
MKAZ	**Moumakai**	**1.44**	**298**	PN	Pn	01 38 52.7	-1.9
HIZ	**Hauiti**	**1.67**	**244**	P	Pn	01 38 55.8	-2.0
HIZ	**Hauiti**	**1.67**	**244**	PN	Pn	01 38 55.8	-2.1
PXZ	**Pawanui**	**2.24**	**178**	PN	Pn	01 39 04.0	-1.7
WCZ	**Waipu Caves**	**2.68**	**313**	P	Pn	01 39 09.8	-1.9
WCZ	**Waipu Caves**	**2.68**	**313**	PN	Pn	01 39 09.8	-1.9

KRSC 29 01:47:30.8±1.0, 5542N×16133E, h157km±36km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TUMR	**Tumrok**	**0.69**	**259**	P	Pn	01 47 55.0	+1.1
MKZ	**Mys Kozlova**	**0.90**	**165**	*e*P	Pn	01 47 57.0	+1.6
MKZ				*i* S	Sn	01 48 16.4	+2.3
KBTR	**Krutoberegovo**	**1.15**	**46**	*e*P	Pn	01 47 58.0	+0.6
KBTR				*i* S	Sn	01 48 17.7	-0.2
SPN	**Mys Shipunski**	**2.45**	**199**	*e*P	Pn	01 48 12.2	+0.6
SPN				*i* S	Sn	01 48 42.7	-0.3
NLC	**Nalytchevo**	**2.54**	**208**	*e*P	Pn	01 48 14.1	+1.5
NLC				*i* S	Sn	01 48 45.6	+0.7
GNL	**Ganaly**	**2.62**	**230**	*e*P	Pn	01 48 15.0	+1.3
AVH	**Avacha**	**2.64**	**216**	*e*P	Pn	01 48 15.9	+2.0

MOS ***29*** *01:50:12.7±1.0, 289S×13934E, h33km, mb4.5/8, Error ellipse: s-maj=20.0km s-min=8.7km az=102.1*
ISCJB ***29*** *01:50:15.9±1.0, 300S±004×13959E±006, h69km±10km, mb4.6/31, Error ellipse: s-maj=9.6km s-min=6.0km az=1.1*
BJI ***29*** *01:50:16.2, 256S×13953E, h57km, mb4.5*
NEIC ***29*** *01:50:18.1±1.9, 301S×13938E, h66km±16km, mb4.6/14, Error ellipse: s-maj=18.4km s-min=8.5km az=62.0*
IDC ***29*** *01:50:22.2±3.3, 306S×13937E, h107km±30km, mb4.2/9, mb1 4.4/12, mb1mx4.3/14, mbtmp4.3/12, MS3.9/2, Ms1 3.9/2, ms1mx3.4/15, Error ellipse: s-maj=18.3km s-min=10.0km az=97.0*

ISC 29 01:50:18.4±1.3, 303S±005×13950E±008, h72km±12km, n77, σ1°08/81, mb4.6/31, 1C-1D, Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAY	**Jayapura**	**1.31**	**67**	P	**Pn**	**01 50 37.7**	**-3.3**
	10μm,0.5s						
AAI	**Ambon**	**11.31**	**266**	P	**Pn**	**01 52 59.5**	**+2.3**
	144nm,0.8s						
COEN	**Coen**	**11.45**	**162**	*e*Pn	**Pn**	**01 52 59.1**	**0.0**
	11nm,0.8s						
COEN				*e*Sn	**Sn**	**01 55 04.2**	**-1.1**
KAKA	**Kakadu**	**11.89**	**216**	*e*P	**Pn**	**01 53 03.9**	**-1.2**
	357nm,0.5s						
KAKA				*e*S	**Sn**	**01 55 11.7**	**-4.3**
KAKA	**Kakadu**	**11.89**	**216**	*e*Pn	**Pn**	**01 53 04.1**	**-1.0**
KDI	**Kendari**	**16.88**	**266**	P	**Pn**	**01 54 18.0**	**+7.9**
	30nm,1.1s						
BATI	**Kupang**	**17.26**	**245**	P	**Pn**	**01 54

GKN	**Gorkha**	**61.08**	**304**	*e*P	**P**	**02 00 25.2**	**0.0**
	comp=Z,9.0nm,0.8s,mb4.8						
ZAK	**Zakamensk**	**61.61**	**335**	*e*P	**P**	**02 00 27.8**	**-0.5**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
KOLN	**Koldanda**	**61.85**	**304**	*e*P	**P**	**02 00 30.5**	**+0.1**
	comp=Z,20nm,0.8s,mb5.2						
DANN	**Dangsing**	**61.92**	**304**	*e*P	**P**	**02 00 30.8**	**-0.1**
	comp=Z,22nm,0.7s,mb5.3						
TLY	**Talaya**	**62.43**	**336**	*i* P	**P**	**02 00 34.0**	**+0.2**
CASY	**Casey**	**66.33**	**192**	*e*P	**P**	**02 00 59.4**	**+0.4**
	comp=Z,9.8nm,0.8s,mb4.7						
SEY	**Seymchan**	**66.51**	**6**	*i* P	**P**	**02 01 00.0**	**-0.2**
MK31	**Makanchi Array**	**70.53**	**322**	*e*P	**P**	**02 01 25.2**	**-0.4**
MKAR	**Makanchi Array**	**70.53**	**322**	*i* P	**P**	**02 01 25.3**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,3.0nm,0.7s						
MKAR	**Makanchi Array**	**70.53**	**322**	P	**P**	**02 01 25.4**	**-0.2**
	comp=Z,3.4nm,0.7s,mb4.3,baz=114,slow=8.1,SNR=29						
PPT	**Papeete**	**70.91**	**107**	LR	LR	02 28 57.8	
	comp=Z,177nm,18.2s,baz=314,slow=33						
ZALV	**Zalesovo Beam**	**72.61**	**330**	P	**P**	**02 01 36.4**	**-1.5**
	comp=Z,1.5nm,0.8s,mb3.9,baz=104,slow=6.3,SNR=6.3						
ZAL	**Zalesovo**	**72.61**	**330**	P	**P**	**02 01 36.4**	**-1.6**
TKM2	**Tokmak 2**	**73.32**	**316**	*e*P	**P**	**02 01 41.4**	**-1.0**
TKM2				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.1						
TKM2	**Tokmak 2**	**73.32**	**316**	*e*P	**P**	**02 01 41.4**	**-1.0**
	comp=Z,1.9nm,0.6s,mb4.1						
BILL	**Bilibino**	**73.34**	**10**	*e*P	**P**	**02 01 41.2**	**-0.8**
BILL				*e*SS	SS	02 15 49.4	+1.1
BILL				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb3.9						
UCH	**Uchtor**	**73.83**	**316**	*e*P	**P**	**02 01 46.2**	**+0.8**
	comp=Z,3.1nm,0.8s,mb4.1						
KURK	**Kurchatov**	**74.43**	**325**	*e*P	**P**	**02 01 47.4**	**-1.3**
KURK				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.1						
KURK	**Kurchatov**	**74.43**	**325**	*e*P	**P**	**02 01 47.4**	**-1.3**
	comp=Z,2.7nm,0.8s,mb4.0						
EKS2	**Erkin-Say**	**74.49**	**316**	*e*P	**P**	**02 01 48.9**	**-0.3**
	comp=Z,1.4nm,0.7s,mb3.8						
VNDA	**Vanda**	**75.39**	**175**	P	**P**	**02 01 53.8**	**0.0**
	comp=Z,2.7nm,0.7s,mb4.1,baz=318,slow=6.3,SNR=22						
SBA	**Scott Base**	**76.15**	**174**	*e*P	**P**	**02 01 59.8**	**+1.7**
BRVK	**Borovoye**	**80.10**	**325**	*e*P	**P**	**02 02 19.5**	**-0.8**
BRVK				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
BRVK	**Borovoye**	**80.10**	**325**	*e*P	**P**	**02 02 19.5**	**-0.9**
	comp=Z,6.0nm,0.9s,mb4.4						
MAW	**Mawson**	**82.12**	**202**	P	**P**	**02 02 31.1**	**+0.3**
	comp=Z,5.5nm,0.9s,mb4.4,baz=90,slow=8.1,SNR=5.2						
QSPA	**South Pole Qui**	**86.92**	**180**	*e*P	**P**	**02 02 54.6**	**-0.2**
	comp=Z,13nm,1.3s,mb4.7						
KIC	**Kosan Boka**	**144.22**	**277**	*e*PKIKP	PKPdf	02 09 44.4	-2.8
	comp=Z,55nm,1.0s						
DBIC	**Dimbokro**	**144.31**	**277**	PKP	PKPdf	02 09 44.7	-2.6
	comp=Z,6.2nm,0.5s,baz=67,slow=3.8,SNR=29						
TIC	**Toumodi**	**144.47**	**277**	*e*PKIKP	PKPdf	02 09 44.9	-2.7
	comp=Z,32nm,0.8s						
LIC	**Lamto**	**144.51**	**276**	*e*PKIKP	PKPdf	02 09 44.8	-2.9
	comp=Z,52nm,1.4s						
LPAZ	**La Paz**	**146.62**	**126**	PKPbc	PKPbc	02 09 52.8	-0.1
	comp=Z,3.2nm,0.8s,baz=254,slow=2.0,SNR=16						

MAN 29 02:12:05,644N×12376E,h19km,mb4.6,ML3.5,MS3.4, 2D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTBH	**Cotabato--PC H**	**0.92**	**32**	⇓*i*P	Pb	02 12 22.3	0.0
CTBH				*i* S	Sb	02 12 35.6	+1.5
GSPH	**General Santos**	**1.23**	**106**	⇓*e*P	Pn	02 12 30.3	+3.0
GSPH				*e*S	Sb	02 12 50.8	+7.5
PAGZ	**Pagadian**	**1.45**	**345**	*e*P	Pn	02 12 30.1	-0.2
PAGZ				*e*S	Sn	02 12 49.9	+1.2
BUKP	**Musuan**	**1.93**	**42**	*e*P	Pn	02 12 38.5	+1.7

ISCJB ***29*** *02:14:12.6±0.6,24.16S±004×6675W±006,h195km±7km, mb3.8/11, Error ellipse: s-maj=9.7km s-min=6.4km az=0.4*
NEIC ***29*** *02:14:13.3±0.5,2408S×6669W,h191km±6km,mb4.7/4, Error ellipse: s-maj=9.4km s-min=6.8km az=86.0*
IDC ***29*** *02:14:13.8±1.5,2403S×6667W,h191km±14km,mb3.7/11, mb1 3.8/18,mb1mx3.7/22,mbtmp3.7/18, Error ellipse: s-maj=15.6km s-min=10.8km az=84.0*
GUC ***29*** *02:14:15.5±1.0,24.14S×6722W,h220km,ML5.0*

ISC 29 02:14:13.5±0.5,2415S±004×6674W±006,h187km±7km, n39,σ1§10/46,mb3.8/11,3C-1D,Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.51**	**307**	⇑*i*Pn	**Pn**	**02 14 58.3**	**+1.6**
LVC				*e*Sn	**Sn**	**02 15 31.6**	**+1.3**
CEN1	**Los Morros**	**3.26**	**283**	*i* P	**Pn**	**02 15 07.3**	**+1.7**
CEN1				*i* S	**Sn**	**02 15 46.2**	**0.0**
CEN1				AML	AML	02 15 49.3	
	comp=E,1μm,0.8s						
CPN1	**Cerro Paranal**	**3.38**	**261**	*i* P	**Pn**	**02 15 07.7**	**+0.7**
CPN1				*i* S	**Sn**	**02 15 47.8**	**-1.0**
CPN1				AML	AML	02 15 48.3	
	comp=E,2μm,0.4s						
ANCH	**Antofagasta**	**3.39**	**277**	⇑*i*P	**Pn**	**02 15 08.0**	**+0.8**
ANCH				*i* S	**Sn**	**02 15 46.9**	**-2.2**
ANCH	**Antofagasta**	**3.39**	**277**	⇑*i*P	**Pn**	**02 15 08.0**	**+0.8**
ANCH				*i* S	**Sn**	**02 15 46.9**	**-2.2**
ANCH				AML	AML	02 15 49.9	
	comp=N,3μm,0.3s						
CPCH	**Copiapo**	**4.57**	**225**	⇓*i*P	**Pn**	**02 15 21.1**	**-0.9**
CPCH				*i* S	**Sn**	**02 16 13.8**	**-2.0**
LCO	**Las Campanas**	**6.00**	**215**	Pn	**Pn**	**02 15 42.4**	**+1.8**
	comp=N,56nm,0.6s						
LCO				*e*Sn	**Sn**	**02 16 39.4**	**-10**
CFAA	**Coronel Fontan**	**7.55**	**190**	P	**Pn**	**02 16 01.0**	**+0.2**
CFAA				S	**Sn**	**02 17 20.7**	**-5.2**
CFAA	**Coronel Fontan**	**7.55**	**190**	P	**Pn**	**02 16 01.0**	**+0.2**
	comp=N,0.4nm,0.3s,baz=11,slow=12,SNR=83						
CFAA				S	**Sn**	**02 17 20.7**	**-5.2**
	comp=N,0.5nm,0.3s,baz=226,slow=17,SNR=4.0						
LPAZ	**La Paz**	**7.92**	**350**	*e*Pn	**Pn**	**02 16 06.0**	**+0.1**
	comp=N,13nm,0.4s						
LPAZ				*e*Sn	**Sn**	**02 17 35.4**	**+0.4**
LPAZ	**La Paz**	**7.92**	**350**	P	**Pn**	**02 16 06.2**	**+0.4**
	comp=N,3.8nm,0.3s,baz=164,slow=8.4,SNR=74						
LPAZ				S	**Sn**	**02 17 35.7**	**+0.7**
	comp=N,1.5nm,0.3s,baz=281,slow=17,SNR=6.6						
CPUP	**Villa Florida**	**8.79**	**106**	*e*Pn	**Pn**	**02 16 17.3**	**+0.2**
	comp=N,24nm,0.6s						
CPUP	**Villa Florida**	**8.79**	**106**	P	**Pn**	**02 16 16.9**	**-0.3**
	comp=N,1.2nm,0.3s,baz=265,slow=11,SNR=12						
ARE	**Arequipa**	**8.85**	**329**	*e*P	**Pn**	**02 16 16.0**	**-1.9**
ARE				*e*S	**Sn**	**02 17 49.0**	**-8.0**
SIV	**San Ignacio**	**9.70**	**34**	P	**Pn**	**02 16 27.4**	**-1.7**
	comp=N,1.9nm,0.3s,baz=235,slow=8.7,SNR=23						
TRQA	**Tornquist**	**14.45**	**165**	*e*P	**Pn**	**02 17 28.3**	**-1.0**
	comp=N,9.0nm,0.8s						
NNA	**Nana**	**15.43**	**320**	P	**Pn**	**02 17 42.3**	**+0.7**
	comp=N,1.5nm,0.3s,baz=141,slow=10,SNR=4.1						
PLCA	**Paso Flores**	**16.85**	**190**	P	**Pn**	**02 17 58.4**	**0.0**
PLCA	**Paso Flores**	**16.85**	**190**	P	**Pn**	**02 17 58.4**	**0.0**
	comp=N,0.3nm,0.3s,baz=14,slow=13,SNR=13						
BDFB	**Brasilia**	**19.52**	**68**	P	**P**	**02 18 26.6**	**-0.1**
	comp=N,0.8nm,0.3s,baz=233,slow=17,SNR=27						
USHA	**Ushuaia**	**30.68**	**182**	P	**P**	**02 20 10.7**	**+0.4**
	comp=N,3.0nm,0.7s,mb4.1,baz=352,slow=9.6,SNR=4.0						
VNA2	**Neumayer--Watz**	**57.50**	**160**	*e*	**P**	**02 23 44.0**	**+1.4**
	baz=291,slow=7.6						
VNA2				*e*		02 23 50.7	
TXAR	**Lajitas Array**	**63.93**	**324**	P	**P**	**02 24 25.8**	**-0.8**
	comp=N,0.3nm,0.6s,mb3.3,baz=152,slow=11,SNR=6.9						
DBIC	**Dimbokro**	**67.62**	**71**	P	**P**	**02 24 49.3**	**-1.2**
	comp=N,3.1nm,1.0s,mb4.0,baz=235,slow=9.8,SNR=4.1						
VNDA	**Vanda**	**74.60**	**190**	P	**P**	**02 25 33.0**	**+1.6**
	comp=N,1.1nm,0.7s,mb3.6,baz=132,slow=5.2,SNR=8.4						
TORD	**Torodi Ar. Bea**	**76.40**	**69**	P	**P**	**02 25 41.5**	**-1.1**
	comp=N,1.2nm,0.5s,mb3.8,baz=255,slow=5.2,SNR=39						
ULM	**Lac du Bonnet**	**78.44**	**341**	P	**P**	**02 25 52.2**	**-0.9**
	comp=N,2.8nm,0.6s,mb4.1,baz=188,slow=7.0,SNR=5.2						
SCHQ	**Schefferville**	**78.65**	**360**	P	**P**	**02 25 53.7**	**-0.5**
SCHQ	**Schefferville**	**78.65**	**360**	P	**P**	**02 25 53.7**	**-0.5**
	comp=N,1.2nm,0.6s,mb3.7,baz=182,slow=6.8,SNR=5.4						
NVAR	**Mina Array Bea**	**78.80**	**321**	P	**P**	**02 25 56.0**	**+0.6**
	comp=N,0.6nm,0.7s,mb3.3,baz=182,slow=6.3,SNR=3.4						
BOSA	**Boshof**	**80.46**	**117**	P	**P**	**02 26 05.5**	**+0.8**
	comp=N,0.8nm,0.5s,mb3.6,baz=225,slow=8.6,SNR=3.9						
MAW	**Mawson**	**81.23**	**163**	P	**P**	**02 26 09.2**	**+1.1**
	comp=N,6.1nm,0.8s,mb4.3,baz=263,slow=6.9,SNR=6.9						
YKA	**Yellowknife Ar**	**94.34**	**340**	P	**P**	**02 27 10.5**	**-0.6**
YKA	**Yellowknife Ar**	**94.34**	**340**	P	**P**	**02 27 10.5**	**-0.6**
	comp=N,1.1nm,0.5s,mb4.2,baz=135,slow=4.6,SNR=22						
ASAR	**Alice Springs**	**128.42**	**204**	PKP	PKPdf	02 32 58.0	-0.5
	comp=N,1.5nm,0.7s,baz=140,slow=2.0,SNR=14						
WRA	**Warramunga Arr**	**131.61**	**207**	PKP	PKPdf	02 33 04.4	-0.2
	comp=N,1.1nm,0.5s,baz=158,slow=1.8,SNR=36						
ZALV	**Zalesovo Beam**	**143.41**	**28**	PKP	PKPdf	02 33 22.9	-2.2
	comp=N,2.8nm,0.6s,baz=285,slow=3.6,SNR=13						
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc	PKPbc	02 33 31.1	-1.3
	comp=N,5.6nm,0.7s,baz=308,slow=3.0,SNR=30						
SONM	**Songino Array**	**155.74**	**11**	PKPab	PKPab	02 34 09.4	-2.7
	comp=N,0.5nm,0.5s,baz=354,slow=1.4,SNR=3.7						

IDC 29 02:40:36.5±13.0,3170S×5981E,h0km,mb3.7/2, mb1 4.0/2,mb1mx3.4/22,mbtmp3.7/2,Error ellipse: s-maj=866.3km s-min=54.2km az=31.0,Southwest Indian Ridge

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**64.98**	**103**	P	P	02 51 18.8	+0.4
	0.6nm,0.7s,baz=241,slow=6.3,SNR=4.9						
WRA	**Warramunga Arr**	**66.97**	**100**	P	P	02 51 31.1	-0.2
	1.1nm,1.0s,baz=243,slow=5.8,SNR=6.8						
YKA	**Yellowknife Ar**	**148.99**	**355**	PKPbc	PKPbc	03 00 25.0	-0.5
	0.5nm,0.7s,baz=357,slow=3.0,SNR=5.9						

BJI ***29*** *02:54:37.4,4660N×15306E,h23km,mB4.7,mb4.8,Ms4.3, Msz4.0*
NEIC ***29*** *02:54:38.8±0.3,4668N×15275E,h10km,mb4.8/47,Error ellipse: s-maj=7.3km s-min=4.4km az=154.0*
ISCJB ***29*** *02:54:39.9±1.0,4657N±004×15286E±005,h31km±7km, mb4.8/104,MS4.0/12,Error ellipse: s-maj=8.3km s-min=3.6km az=145.4*
MOS ***29*** *02:54:40.9±1.1,4669N×15272E,h33km,mb4.8/46,Error ellipse: s-maj=8.6km s-min=5.0km az=98.0*
JMA ***29*** *02:54:40.7±0.8,4661N×153.11E,h30km,M5.2*
SZGRF ***29*** *02:54:41.0,4595N×15209E,h33km,mb4.8,East of Kuril Islands, Russia*
SKHL ***29*** *02:54:43.5±0.8,4678N×15281E,h78km±28km,mb5.0/8, Ms3.9/2*
IDC ***29*** *02:54:44.1±0.4,4670N×15261E,h48km±4km,mb4.2/22, mb1 4.4/23,mb1mx4.3/27,mbtmp4.2/23,MS4.0/5, Ms1 4.0/5,ms1mx3.5/30,Error ellipse: s-maj=13.9km s-min=11.4km az=147.0*

ISC 29 02:54:43.4±0.5,4662N±004×15282E±005,h43km±4km, h40km±6.8km:pP-P,n327,σ1§15/333,mb4.8/104,MS4.0/12, 18C-19D,Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.73**	**250**	⇓*i*PN	**Pn**	**02 55 40.0**	**+1.7**
KUR				*e*S	**Sn**	**02 56 21.7**	**+0.8**
KUR				pmax	pmax		
	comp=N,300nm,0.5s						
KUR				pmax	pmax		
	comp=E,140nm,0.5s						
KUR				pmax	pmax		
	comp=Z,400nm,0.5s						
KUR				smax			
	comp=N,2μm,0.5s						
KUR				smax			
	comp=E,1μm,0.5s						
KUR				smax			
	comp=N,5μm,1.0s						
KUR				smax			
	comp=E,3μm,1.0s						
KUR	**Kuril'sk**	**3.73**	**250**	⇓*i*P	**Pn**	**02 55 40.0**	**+1.7**
KUR				AMB	AMB	02 55 45.4	
	comp=E,304nm,0.5s						
KUR				AMB	AMB	02 55 45.4	
	comp=E,137nm,0.5s						
KUR				AMB	AMB	02 55 45.4	
	comp=E,403nm,0.5s						
KUR				*e*S	**Sn**	**02 56 21.7**	**+0.8**
KUR				A		02 56 38.6	
	comp=E,2μm,0.5s						
KUR				A		02 56 38.6	
	comp=E,1μm,0.5s						
KUR				A		02 56 40.0	
	comp=E,5μm,1.0s						
KUR				A		02 56 40.0	
	comp=E,3μm,1.0s						
SKR	**Severo-Kuril's**	**4.62**	**27**	*e*P	**Pn**	**02 55 48.8**	**-1.7**
SKR				AMB	AMB	02 55 49.5	
	comp=E,80nm,0.5s						
SKR				*e*S	**Sn**	**02 56 37.5**	**-5.3**
SKR				A		02 56 45.5	
	comp=E,150nm,0.5s						
SKR				A		02 56 45.5	
	comp=E,390nm,0.5s						
SKR				A		02 56 45.5	
	comp=E,80nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.55**	**245**	*e*P	**Pn**	**02 56 04.8**	**+1.5**
YUK				AMB	AMB	02 56 05.0	
	comp=E,190nm,0.5s						
YUK				AMB	AMB	02 56 05.0	
	comp=E,210nm,0.5s						
YUK				*i* S	**Sn**	**02 57 06.0**	**+0.3**
YUK				A		02 57 30.4	
	comp=E,2μm,0.5s						
YUK				A		02 57 30.4	
	comp=E,2μm,0.5s						
YUK				A		02 57 37.9	
	comp=E,2μm,0.8s						
YUK				A		02 57 37.9	
	comp=E,5μm,1.0s						
NEM2	**Nemuro 2**	**5.98**	**240**	P	**Pn**	**02 56 08.6**	**-0.7**
NEM2				*e*S	**Sn**	**02 57 13.7**	**-2.7**
JRA	**Rausu**	**6.06**	**247**	P	**Pn**	**02 56 12.6**	**+2.3**
JNK	**Nakash**	**6.49**	**245**	P	**Pn**	**02 56 17.8**	**+1.6**
JNK				*e*S	**Sn**	**02 57 29.7**	**+0.8**
JTKR	**Abashiri--Toko**	**6.82**	**250**	P	**Pn**	**02 56 23.1**	**+2.3**
YSS	**Yuzh-Sakhalins**	**6.92**	**276**	⇓*e*PN	**Pn**	**02 56 24.7**	**+2.5**
YSS				*e*S	**Sn**	**02 57 41.3**	**+1.7**
YSS				pmax	pmax		
	comp=E,60nm,1.0s						
YSS				pmax	pmax		
	comp=Z,70nm,1.0s						
YSS				MLR	MLR		
	comp=E,500nm,16.0s						
YSS				MLR	MLR		
	comp=Z,500nm,16.0s						
YSS	**Yuzh-Sakhalins**	**6.92**	**276**	*e*Pn	**Pn**	**02 56 21.8**	**-0.4**
YSS	**Yuzh-Sakhalins**	**6.92**	**276**	⇓*e*P	**Pn**	**02 56 24.7**	**+2.5**
YSS				AMB	AMB	02 56 28.0	
	comp=Z,70nm,1.0s						
YSS				AMB	AMB	02 56 28.0	
	comp=Z,60nm,1.0s						
YSS				*e*S	**Sn**	**02 57 41.3**	**+1.7**
YSS				*e*LR	LR	02 58 32.0	
YSS				AMS	AMS	02 58 56.0	
	comp=Z,500nm,16.0s						
YSS				AMS	AMS	02 58 56.0	
	comp=Z,500nm,16.0s						
JMP	**Maruseppu**	**7.16**	**252**	P	**Pn**	**02 56 28.0**	**+2.5**
JAR	**Ashorobuto**	**7.23**	**246**	P	**Pn**	**02 56 27.8**	**+1.4**
JAR				*e*S	**Sn**	**02 57 48.6**	**+1.5**
JOB	**Onbets**	**7.40**	**243**	P	**Pn**	**02 56 29.2**	**+0.5**
JOB				*e*S	**Sn**	**02 57 49.0**	**-2.2**
PET	**Petropavlovsk**	**7.44**	**28**	*e*PN	**Pn**	**02 56 29.2**	**0.0**
PET				MLR	MLR		
	comp=Z,300nm,19.0s						
JKK2	**Kamakawa 2**	**7.62**	**253**	P	**Pn**	**02 56 34.6**	**+2.8**
ASAJ	**Asahikawa**	**7.62**	**255**	P	**Pn**	**02 56 35.2**	**+3.4**
UGL	**Uglegorsk**	**7.65**	**293**	*e*P	**Pn**	**02 56 34.0**	**+1.9**
UGL				AMB	AMB	02 56 36.0	
	comp=Z,78nm,0.8s						
UGL				AMS	AMS	02 59 22.0	
	comp=Z,500nm,18.0s						
UGL				AMS	AMS	02 59 22.0	
	comp=Z,350nm,18.0s						
UGL				AMS	AMS	02 59 22.0	
	comp=Z,400nm,18.0s						
JWK2	**Keihoku**	**7.72**	**264**	P	**Pn**	**02 56 38.7**	**+5.5**
JCH	**Churui**	**7.84**	**243**	*e*S	**Sn**	**02 57 58.6**	**-3.7**
TYV	**Tymovskoe**	**7.95**	**306**	*e*P	**Pn**	**02 56 38.8**	**+2.6**
TYV				AMB	AMB	02 56 48.8	
	comp=Z,19nm,0.8s						
TYV				AMB	AMB	02 56 48.8	
	comp=Z,22nm,0.8s						
TYV				AMB	AMB	02 56 48.8	
	comp=Z,33nm,0.6s						
JFR	**Furan**	**8.04**	**248**	P	**Pn**	**02 56 39.5**	**+2.0**
JAB	**Ashibetsu**	**8.12**	**251**	P	**Pn**	**02 56 41.6**	**+2.9**
ERM	**Erimo**	**8.32**	**240**	*e*PN	**Pn**	**02 56 41.6**	**+0.3**
ERM				pmax	pmax		
	comp=Z,96nm,0.4s						
ERM	**Erimo**	**8.32**	**240**	*e*Pn	**Pn**	**02 56 41.6**	**+0.3**
	comp=Z,96nm,0.4s						
ERM				*e*Sn	**Sn**	**02 58 11.7**	**-2.1**
JEM	**Erimo**	**8.32**	**240**	P	**Pn**	**02 56 41.9**	**+0.6**
JBT2	**Biratori 2**	**8.38**	**247**	P	**Pn**	**02 56 42.7**	**+0.5**
JNBK	**Urakawa-nobuka**	**8.41**	**243**	P	**Pn**	**02 56 41.6**	**-0.9**
JNBK				*e*S	**Sn**	**02 58 12.9**	**-3.1**
JEW	**Eniwo**	**8.93**	**249**	P	**Pn**	**02 56 51.1**	**+1.4**
JNB	**Noboribetsu**	**9.38**	**248**	P	**Pn**	**02 56 57.2**	**+1.3**
JNB				*e*S	**Sn**	**02 58 37.1**	**-2.8**
JKB	**Kayabe**	**9.69**	**245**	P	**Pn**	**02 56 59.0**	**-1.1**
JKB				*e*S	**Sn**	**02 58 41.1**	**-6.4**
JSH	**Shimam**	**9.94**	**251**	P	**Pn**	**02 57 04.8**	**+1.3**
JOT	**Ohata**	**9.96**	**243**	P	**Pn**	**02 57 01.9**	**-2.0**
JYM2	**Yakumo 2**	**9.98**	**248**	P	**Pn**	**02 57 04.2**	**+0.1**
NKL	**Nikolayevsk**	**10.20**	**314**	*e*P	**Pn**	**02 57 04.8**	**-2.2**
NKL				AMB	AMB	02 57 07.7	
	comp=Z,15nm,1.0s						
NKL				AMB	AMB	02 57 07.7	
	comp=Z,20nm,1.0s						
NKL				AMB	AMB	02 57 07.7	
	comp=Z,30nm,1.0s						
NKL				*e*L		03 00 31.0	
NKL				AMS	AMS	03 01 20.0	
	comp=Z,700nm,18.0s						
NKL				AMS	AMS	03 01 20.0	
	comp=Z,1μm,18.0s						
JSR	**Shiriuchi**	**10.27**	**245**	P	**Pn**	**02 57 06.8**	**-1.2**
JSR				*e*S	**Sn**	**02 58 55.4**	**-6.3**
JTM	**Tenmabayashi**	**10.31**	**240**	P	**Pn**	**02 57 06.3**	**-2.3**
JTM				*e*S	**Sn**	**02 58 53.7**	**-9.0**
JANG	**Nango**	**10.31**	**237**	P	**Pn**	**02 57 05.4**	**-3.2**
JANG				*e*S	**Sn**	**02 58 52.6**	**-10**
JTH	**Tanohata**	**10.40**	**234**	P	**Pn**	**02 57 07.3**	**-2.6**
JTH				*e*S	**Sn**	**02 58 54.3**	**-11**
JOSM	**Okushiri--Mats**	**10.58**	**249**	P	**Pn**	**02 57 11.9**	**-0.3**
JAH	**Hinai**	**10.94**	**238**	P	**Pn**	**02 57 14.7**	**-2.5**
TEY	**Ternei**	**11.43**	**268**	*e*P	**Pn**	**02 57 30.0**	**+6.1**
TEY				AMB	AMB	02 57 31.0	
	comp=Z,50nm,1.0s						
JRG	**Rokugo**	**11.47**	**235**	P	**Pn**	**02 57 20.9**	**-3.5**
JYW	**Yuwa**	**11.62**	**237**	P	**Pn**	**02 57 25.0**	**-1.4**
JIO	**Ouri**	**11.74**	**230**	P	**Pn**	**02 57 25.0**	**-3.2**
HABR	**Khabarovsk**	**12.15**	**285**	PN	**Pn**	**02 57 30.8**	**-3.0**
MA2	**Magadan**	**13.04**	**355**	*e*PN	**Pn**	**02 57 46.3**	**+0.5**
MA2				pmax	pmax		
	comp=N,10.0nm,0.6s						
MA2				pmax	pmax		
	comp=Z,10.0nm,0.6s						
MA2	**Magadan**	**13.04**	**355**	*e*Pn	**Pn**	**02 57 46.9**	**+1.2**
KLR	**Kul'dur**	**14.37**	**288**	*e*P	**Pn**	**02 58 03.3**	**-0.6**
MAJO	**Matsushiro**	**14.84**	**233**	*e*P	**Pn**	**02 58 07.8**	**-2.4**
MAT	**Matsushiro**	**14.84**	**233**	P	**Pn**	**02 58 08.2**	**-2.0**
MJAR	**Matsushiro Arr**	**14.84**	**233**	P	**Pn**	**02 58 08.1**	**-2.1**
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.3s						
MJAR	**Matsushiro Arr**	**14.84**	**233**	P	**Pn**	**02 58 08.1**	**-2.1**
	comp=Z,0.6nm,0.3s,baz=29,slow=13,SNR=9.0						
SEY	**Seymchan**	**16.36**	**359**	*e*P	**Pn**	**02 58 29.7**	**+0.1**
MDJ	**Mudanjiang**	**16.37**	**271**	P	**Pn**	**02 58 30.8**	**+0.9**
MDJ				AP	pP	02 58 35.0	-7.5
MDJ				XP	sP	02 58 37.3	-11
MDJ				S	**S**	**03 01 34.8**	**-6.3**
MDJ				AMB	AMB		
	comp=Z,9.0nm,0.6s						
MDJ				AMB	AMB		
	comp=Z,55nm,4.6s						
MDJ				LR	LR		
	comp=N,114nm,22.2s						
MDJ				LR	LR		
	comp=E,115nm,16.2s						
MDJ				LR	LR		
	comp=Z,252nm,16.8s						
MDJ	**Mudanjiang**	**16.37**	**271**	*e*Pn	**Pn**	**02 58 29.2**	**-0.6**
	comp=Z,14nm,0.8s						
YAK	**Yakutsk**	**20.33**	**328**	*e*P	**P**	**02 59 15.8**	**+0.3**
YAK				*e**PP		02 59 25.3	
YAK				*e*		02 59 31.0	
YAK				*e*S	**S**	**03 02 58.2**	**-2.5**
YAK				*e*SS		03 03 20.6	
YAK				*e*		03 03 44.2	
YAK				*e*		03 10 45.7	
YAK				pmax	pmax		
	comp=N,11nm,0.9s						
YAK				pmax	pmax		
	comp=E,12nm,0.9s						
YAK				pmax	pmax		
	comp=Z,33nm,0.9s						
YAK				pmax	pmax		
	comp=Z,65nm,1.7s						
YAK				pmax	pmax		
	comp=N,70nm,2.1s						
YAK				pmax	pmax		
	comp=E,58nm,1.6s						
YAK				smax			
	comp=N,16nm,1.9s						
YAK				smax			
	comp=E,13nm,1.9s						
YAK	**Yakutsk**	**20.33**

comp=Z,1.3nm,0.6s,mb4.0,baz=61,slow=7.1,SNR=4.9
SONM PcP PcP 03 03 51.5 -0.5
comp=Z,1.0nm,0.7s,baz=43,slow=3.4,SNR=3.9
SONM LR LR 03 14 30.5
comp=Z,172nm,19.3s,MS3.7,baz=86,slow=38
ZAK Zakamensk 32.55 295 *eP* **P 03 01 03.0 -7.1**
ZAK pmax pmax
comp=Z,1.0nm,0.8s,mb3.8
TTA Tatalina 32.65 41 *eP* **P 03 01 11.7 +0.9**
WHN Wuhan 33.70 255 ⇓P **P 03 01 20.5 +0.2**
IMA2 Indian Mountai 34.03 36 *eP* **P 03 01 22.9 +0.2**
KDAK Kodiak Island 34.34 51 P **P 03 01 25.4 -0.1**
comp=Z,10nm,0.7s,mb4.9,baz=270,slow=7.9,SNR=7.9
XAN Xi'an 35.31 265 P **P 03 01 34.0 -0.1**
XAN AP pP 03 01 41.5 -4.4
XAN AMB AMB
comp=Z,12nm,0.7s,mb4.9
COLA College 36.37 38 *eP* **P 03 01 43.3 +0.5**
COLA pmax pmax
comp=Z,6.0nm,0.6s,mb4.7
COLA College 36.37 38 *eP* **P 03 01 43.3 +0.5**
comp=Z,5.6nm,0.6s,mb4.7
LZH Lanzhou 37.69 272 *eP* **P 03 01 55.0 +0.6**
LZH AP pP 03 01 59.5 -6.8
LZH XP sP 03 02 02.0 -9.4
LZH *e*PP PP 03 03 23.5 +2.6
LZH AMB AMB
comp=Z,22nm,1.3s,mb4.7
LZH AMB AMB
comp=Z,103nm,5.4s
LZH LR LR
comp=N,554nm,13.7s
LZH LR LR
comp=Z,699nm,17.6s,MS4.5
GTA Gaotai 38.80 279 *eP* **P 03 02 04.0 +0.3**
GTA AP pP 03 02 08.5 -7.0
GTA XP sP 03 02 11.8 -8.8
GTA PP PP 03 03 37.0 +4.1
GTA PCP PcP 03 04 09.5 -4.8
GTA SCP ScP 03 07 58.0 -0.7
GTA S **S 03 08 02.5 +4.4**
GTA SCS ScS 03 12 06.8 -2.8
GTA AMB AMB
comp=Z,3.0nm,0.8s,mb4.1
GTA AMB AMB
comp=Z,87nm,6.1s
GTA LR LR
comp=N,243nm,21.7s,MS4.2
GTA LR LR
comp=E,325nm,21.3s,MS4.2
GTA LR LR
comp=Z,85nm,17.1s,MS3.6
EGAK Eagle 39.23 38 *eP* **P 03 02 07.0 0.0**
DAWY Dawson 40.07 39 *eP* **P 03 02 15.0 +1.0**
CD2 Chengdu 40.67 265 P **P 03 02 19.8 +0.4**
CD2 AP pP 03 02 24.3 -6.9
CD2 XP sP 03 02 26.8 -10
CD2 PP PP 03 03 57.0 +3.5
CD2 S **S 03 08 28.5 +2.2**
CD2 SS SS 03 11 23.3 -4.3
CD2 AMB AMB
comp=Z,30nm,0.6s,mb5.1
CD2 AMB AMB
comp=Z,20nm,3.8s
CD2 LR LR
comp=N,120nm,12.0s
CD2 LR LR
comp=Z,100nm,11.2s,MS3.9
GYA Guiyang 41.49 257 P **P 03 02 27.8 +1.7**
GYA PP PP 03 04 06.5 +4.0
GYA PCP PcP 03 04 26.0 +2.9
GYA SCP ScP 03 08 14.5 +5.0
GYA S **S 03 08 42.5 +3.9**
GYA SCS ScS 03 12 29.5 +3.5
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
GYA AMB AMB
comp=Z,80nm,4.9s
GYA LR LR
comp=N,390nm,17.2s,MS4.4
GYA LR LR
comp=E,260nm,16.8s,MS4.4
GYA LR LR
comp=Z,380nm,18.6s,MS4.3
INK Inuvik 41.87 32 P **P 03 02 29.8 +1.1**
INK pmax pmax
comp=Z,5.0nm,0.8s
INK Inuvik 41.87 32 *eP* **P 03 02 29.8 +1.0**
comp=Z,271nm,1.1s,mb5.8
INK Inuvik 41.87 32 P **P 03 02 29.8 +1.1**
comp=Z,5.4nm,0.8s,mb4.2,baz=287,slow=6.8,SNR=15
ZALV Zalesovo Beam 42.53 306 P **P 03 02 32.4 -1.9**
comp=Z,3.5nm,0.4s,mb4.4,baz=63,slow=6.9,SNR=13
ZALV PcP PcP 03 04 26.1 0.0
comp=Z,3.5nm,0.6s,baz=84,slow=3.1,SNR=13
ZALV LR LR 03 21 31.7
comp=Z,181nm,18.6s,MS4.0,baz=153,slow=38
ZAL Zalesovo 42.54 306 P **P 03 02 32.4 -2.0**
ZAL 03 04 26.1
WMQ Urumqi 44.79 291 *eP* **P 03 02 54.0 +1.4**
WMQ XP sP 03 03 01.0 -8.7
WMQ PP PP 03 04 40.0 +2.5
WMQ S **S 03 09 30.0 +3.5**
WMQ SS SS 03 12 42.0 -6.0
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,45nm,4.0s
WMQ LR LR
comp=N,128nm,15.0s,MS4.1
WMQ LR LR
comp=E,121nm,15.0s,MS4.1
WMQ LR LR
comp=Z,142nm,15.0s,MS4.0
KMI Kunming 45.02 259 P **P 03 02 56.5 +1.9**
KMI AMB AMB
comp=Z,11nm,0.7s,mb4.8
MK31 Makanchi Array 46.83 297 *eP* **P 03 03 07.0 -1.6**
MKAR Makanchi Array 46.83 297 P **P 03 03 07.5 -1.1**
MKAR 03 04 40.9
MKAR pmax pmax
comp=Z,3.0nm,0.5s
MKAR pmax pmax
comp=Z,3.0nm,0.6s
MKAR MLR MLR
comp=Z,188nm,18.3s
MKAR Makanchi Array 46.83 297 P **P 03 03 07.5 -1.1**
MKAR PcP PcP 03 04 40.9 -0.1
MKAR LR LR 03 24 04.5
MKAR Makanchi Array 46.83 297 P **P 03 03 07.5 -1.1**
comp=Z,2.7nm,0.5s,mb4.5,baz=68,slow=7.5,SNR=33
MKAR PcP PcP 03 04 40.9 -0.1
comp=Z,3.0nm,0.6s,baz=58,slow=3.4,SNR=8.1
MKAR LR LR 03 24 04.6
comp=Z,188nm,18.3s,MS4.1,baz=110,slow=38
KURK Kurchatov 47.27 304 *eP* **P 03 03 09.3 -2.7**
KURK pmax pmax
comp=Z,6.0nm,0.4s,mb4.9
KURK Kurchatov 47.27 304 *eP* **P 03 03 09.3 -2.7**
comp=Z,5.8nm,0.4s,mb4.9
LSA Lhasa 50.08 273 P **P 03 03 35.5 +1.6**
LSA Lhasa 50.08 273 *eP* **P 03 03 35.6 +1.7**
LSA pmax pmax
comp=Z,30nm,0.6s,mb5.5
LSA Lhasa 50.08 273 *eP* **P 03 03 35.6 +1.7**
comp=Z,30nm,0.6s,mb5.5
BVAR Borovoye Array 50.79 309 P **P 03 03 37.3 -1.6**
BVAR 03 04 55.2
BVAR pmax pmax
comp=Z,2.0nm,0.4s
BVAR pmax pmax
comp=Z,3.0nm,0.4s
BVAR Borovoye Array 50.79 309 P **P 03 03 37.3 -1.6**
comp=Z,1.9nm,0.4s,mb4.4,baz=48,slow=7.4,SNR=7.4
BVAR PcP PcP 03 04 55.2 -0.1
comp=Z,2.6nm,0.4s,baz=70,slow=1.4,SNR=8.1
RES Resolute Bay 51.03 18 *eP* **P 03 03 38.9 -1.5**
comp=Z,47nm,0.5s,mb5.7
YKA Yellowknife Ar 51.15 37 P **P 03 03 42.0 +0.5**
YKA *PP pP 03 03 55.0 +1.3
YKA 03 04 56.7
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,2.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.6s
YKA pmax pmax
comp=Z,1.0nm,0.5s
YKA Yellowknife Ar 51.15 37 P **P 03 03 42.0 +0.5**
YKA pP pP 03 03 55.0 +1.3
YKA PcP PcP 03 04 56.7 +0.3
YKA pPcP 03 05 10.8
YKA Yellowknife Ar 51.15 37 P **P 03 03 42.0 +0.5**
comp=Z,1.2nm,0.6s,mb4.0,baz=296,slow=6.9,SNR=13
YKA pP pP 03 03 55.0 +1.3
comp=Z,1.9nm,0.7s,baz=298,slow=7.0,SNR=9.1
YKA PcP PcP 03 04 56.7 +0.3
comp=Z,1.0nm,0.6s,baz=304,slow=3.7,SNR=5.3
YKA pPcP 03 05 10.8
comp=Z,0.5nm,0.5s,baz=305,slow=3.9,SNR=4.8
CHTO Chiang Mai 51.89 257 *eP* **P 03 03 47.7 +0.1**
CHTO pmax pmax
comp=Z,11nm,0.9s,mb4.8
CHTO Chiang Mai 51.89 257 *eP* **P 03 03 47.7 +0.1**
comp=Z,11nm,0.9s,mb4.8
SHL Shillong 52.17 268 *eP* **P 03 03 49.2 -0.3**
SHL AMb AMB 03 03 50.3
comp=Z,14nm,0.5s,mb5.2
TKM2 Tokmak 2 52.88 296 *eP* **P 03 03 53.0 -1.6**
TKM2 pmax pmax
comp=Z,1.0nm,0.6s,mb3.9
TKM2 Tokmak 2 52.88 296 *eP* **P 03 03 53.0 -1.7**
comp=Z,1.5nm,0.6s,mb4.1
EKS2 Erkin-Say 54.14 297 *eP* **P 03 04 03.9 0.0**
comp=Z,4.9nm,0.9s,mb4.4
EKS2 *e*PcP PcP 03 05 08.6 +0.5
JIRN Jiri 54.76 274 *eP* **P 03 04 09.7 +1.1**
comp=Z,100nm,0.6s
GUN Gumba 54.81 275 *eP* **P 03 04 09.9 +0.9**
comp=Z,37nm,0.5s,mb5.7
ARU Arti 54.98 317 *d iP* **P 03 04 08.4 -1.3**
ARU *e* 03 05 10.3
ARU *e*S **S 03 11 48.4 +0.2**
ARU *e*SS SS 03 15 33.5 +2.0
ARU pmax pmax
comp=Z,3.0nm,0.6s,mb4.5
KKN Kakani 55.30 275 *eP* **P 03 04 13.3 +0.8**
comp=Z,93nm,0.6s
PKI Pulchoki 55.35 275 *eP* **P 03 04 13.6 +0.8**
comp=Z,37nm,0.6s,mb5.6
PKIN Phulchoki 55.36 275 *eP* **P 03 04 13.5 +0.6**
comp=Z,29nm,0.5s,mb5.6
DMN Daman 55.53 275 *eP* **P 03 04 15.3 +1.1**
comp=Z,81nm,0.7s,mb5.9
GKN Gorkha 55.61 276 *eP* **P 03 04 15.4 +0.7**
comp=Z,19nm,0.6s,mb5.3
DANN Dangsing 55.99 277 *eP* **P 03 04 18.7 +1.3**
comp=Z,103nm,0.6s
KOLN Koldanda 56.47 276 *eP* **P 03 04 21.7 +0.9**
comp=Z,61nm,0.6s,mb5.8
EDM Edmonton 56.55 46 *eP* **P 03 04 21.2 +0.2**
KEV Kevo 57.40 340 *ep* **P 03 04 24.7 -2.1**
comp=Z,1.0nm,0.4s,mb4.2
KEV Kevo 57.40 340 *eP* **P 03 04 24.7 -2.1**
KEV pmax pmax
comp=Z,1.0nm,0.4s,mb4.2
BOK Bokaro 57.45 271 *eP* **P 03 04 28.9 +1.1**
BOK AMb AMB 03 04 29.5
comp=Z,12nm,0.6s,mb5.1
ARCES ARCESS Array B 57.91 341 P **P 03 04 29.5 -0.9**
ARCES 03 05 21.5
ARCES pmax pmax
comp=Z,2.0nm,0.5s
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 57.91 341 P **P 03 04 29.5 -0.9**
comp=Z,1.7nm,0.5s,mb4.4,baz=35,slow=7.3,SNR=31
ARCES PcP PcP 03 05 21.5 -0.8
comp=Z,1.2nm,0.7s,baz=60,slow=7.2,SNR=3.8
AKTK Aktyubinsk 58.67 312 P **P 03 04 34.4 -1.5**
AKTK PcP PcP 03 05 24.8 -0.7
AKTO Aktyubinsk 58.67 312 P **P 03 04 34.4 -1.6**
AKTO 03 05 24.8
AKTO pmax pmax
comp=Z,2.0nm,0.5s,mb4.4
AKTO pmax pmax
comp=Z,2.0nm,0.8s,mb4.2
AKTO Aktyubinsk 58.67 312 P **P 03 04 34.4 -1.5**
comp=Z,1.9nm,0.5s,mb4.3,baz=89,slow=9.3,SNR=5.0
AKTO PcP PcP 03 05 24.8 -0.7
comp=Z,1.9nm,0.8s,baz=34,slow=11,SNR=3.6
JOF Joensuu 61.37 334 *ep* **P 03 04 52.6 -1.6**
comp=Z,1.0nm,0.4s,mb4.3
JOF Joensuu 61.37 334 *eP* **P 03 04 52.6 -1.6**
JOF pmax pmax
comp=Z,1.0nm,0.4s,mb4.3
KBL Kabul 61.93 292 *eP* **P 03 04 57.4 -1.2**
comp=Z,7.9nm,0.6s,mb5.0
NVAR Mina Array Bea 62.67 62 P **P 03 05 05.0 +1.5**
comp=Z,1.2nm,0.6s,mb4.2,baz=290,slow=6.7,SNR=7.7
NVAR pP pP 03 05 19.1 +3.2
comp=Z,1.0nm,0.6s,baz=305,slow=5.2,SNR=5.3
AJM Ajmer 63.40 281 *eP* **P 03 05 08.2 -0.2**
AJM AMb AMB 03 05 09.3
comp=Z,14nm,0.7s,mb5.2
BHPL Bhopal 63.64 277 *eP* **P 03 05 09.9 -0.1**
BHPL AMb AMB 03 05 11.1
comp=Z,15nm,0.6s,mb5.2
TPAW Teton Pass 63.74 54 *eP* **P 03 05 12.6 +2.2**
comp=Z,4.1nm,1.0s,mb4.4
LOHW Long Hollow 63.86 53 *eP* **P 03 05 12.1 +0.9**
comp=Z,7.0nm,1.3s,mb4.5
REDW Red Top Meadow 63.88 54 *eP* **P 03 05 13.0 +1.6**
comp=Z,9.6nm,1.3s,mb4.7
NGP Nagpur 63.92 274 *ex* x 03 05 08.0
NGP AMb AMB 03 05 08.9
comp=Z,20nm,1.0s,mb5.1
FINES FINESS Array B 64.08 335 P **P 03 05 11.1 -1.2**
FINES pmax pmax
comp=Z,8.0nm,0.4s
FINES FINESS Array B 64.08 335 P **P 03 05 11.1 -1.2**
FINES FINESS Array B 64.08 335 P **P 03 05 11.1 -1.2**
comp=Z,8.3nm,0.4s,mb5.1,baz=36,slow=7.8,SNR=114
OBN Obninsk 65.31 325 *eP* **P 03 05 17.3 -3.1**
OBN *e*PP pP 03 05 32.0 -1.0
OBN *e* 03 05 50.3
OBN *e*SS SS 03 18 10.7 -2.5
OBN pmax pmax
comp=Z,4.0nm,0.9s,mb4.5
ULM Lac du Bonnet 66.75 41 P **P 03 05 29.5 -0.3**
comp=Z,3.4nm,0.6s,mb4.6,baz=356,slow=4.3,SNR=6.9
RSSD Black Hills 67.06 50 *eP* **P 03 05 31.7 -0.2**
RSSD pmax pmax
comp=Z,1.0nm,0.6s,mb4.0
RSSD Black Hills 67.06 50 *eP* **P 03 05 31.7 -0.2**
comp=Z,1.3nm,0.6s,mb4.1
NB2 NORSAR Subarra 68.29 341 P **P 03 05 38.5 -0.8**
comp=Z,10nm,0.6s,mb5.0,baz=28,slow=6.5
NOA NORSAR Array B 68.29 341 P **P 03 05 38.8 -0.5**
NOA pmax pmax
comp=Z,10.0nm,0.5s
NOA MLR MLR
comp=Z,38nm,21.0s
NOA NORSAR Array B 68.29 341 P **P 03 05 38.8 -0.6**
comp=Z,9.9nm,0.5s,mb5.1,baz=28,slow=6.3,SNR=39
NOA LR LR 03 36 59.3
comp=Z,38nm,21.0s,MS3.6,baz=210,slow=37
WRAB Tennant Creek 68.31 199 *eP* **P 03 05 40.6 +0.8**
WRA Warramunga Arr 68.32 199 P **P 03 05 39.4 -0.5**
WRA *PP pP 03 05 54.1 +1.6
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA pmax pmax
comp=Z,2.0nm,0.7s
WRA Warramunga Arr 68.32 199 P **P 03 05 39.4 -0.5**
comp=Z,1.8nm,0.8s,mb4.2,baz=22,slow=7.0,SNR=12
WRA pP pP 03 05 54.1 +1.5
comp=Z,1.7nm,0.7s,baz=18,slow=6.8,SNR=7.7
NAO01 NORSAR Array S 68.54 341 *eP* **P 03 05 39.0 -1.9**
comp=Z,1.5nm,0.2s,mb4.6
KAD Karad 69.89 274 *eP* **P 03 05 49.9 +0.1**
KIV Kislovodsk 70.75 314 *eP* **P 03 05 55.5 +0.7**
KIV pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
ECSD EROS,Sioux Fal 71.12 46 *eP* **P 03 05 56.2 -0.9**
comp=Z,7.3nm,1.1s,mb4.5
AKASG Malin Array Be 71.55 326 P **P 03 05 58.4 -1.1**
AKASG pmax pmax
comp=Z,10.0nm,0.5s
AKASG Malin Array Be 71.55 326 P **P 03 05 58.4 -1.1**
comp=Z,10nm,0.5s,mb5.1,baz=34,slow=6.3,SNR=54
AKBB Malin Array Si 71.55 326 *eP* **P 03 05 57.5 -2.0**
KIEV Kiev 71.56 326 *eP* **P 03 05 57.1 -2.5**
KIEV pmax pmax
comp=Z,12nm,0.6s,mb5.0
KIEV Kiev 71.56 326 *eP* **P 03 05 57.0 -2.5**
comp=Z,12nm,0.6s,mb5.0
ASAR Alice Springs 72.02 198 P **P 03 06 03.6 +1.1**
ASAR pmax pmax
comp=Z,3.0nm,0.6s
ASAR Alice Springs 72.02 198 P **P 03 06 03.6 +1.1**
comp=Z,3.0nm,0.6s,mb4.4,baz=11,slow=5.4,SNR=37
KOD Kodaikanal 72.58 266 *eP* **P 03 06 06.1 -0.1**
KOD AMb AMB 03 06 39.8
comp=Z,28nm,1.8s,mb4.9
ANN Anapa 72.64 318 *eP* **P 03 06 09.5 +3.3**
ANN *e*PP pP 03 06 19.7 +0.8
ANN *e* 03 06 25.2
ANN *e* 03 08 52.6
ANN pmax pmax
comp=Z,24nm,1.0s,mb5.1
SCHQ Schefferville 73.51 23 P **P 03 06 10.6 -0.5**
SCHQ Schefferville 73.51 23 P **P 03 06 10.6 -0.5**
comp=Z,1.1nm,0.4s,mb4.2,baz=324,slow=7.9,SNR=6.0
KWP Kalwaria 74.84 329 *eP* **P 03 06 19.0 +0.1**
KWP Kalwaria 74.84 329 *eP* **P 03 06 19.0 +0.1**
KWP Kalwaria 74.84 329 ⇓*iP* **P 03 06 19.1 +0.2**
BSEG Bad Segeberg 74.88 338 *eP* **P 03 06 19.0 -0.1**
BSEG pmax pmax
comp=Z,9.0nm,1.0s,mb4.7
BSEG Bad Segeberg 74.88 338 *eP* **P 03 06 19.0 -0.1**
comp=Z,9.0nm,1.0s,mb4.7
OJC Ojcow 75.34 331 *eP* **P 03 06 21.1 -0.7**
STHS Stebnicka Huta 75.53 330 *eP* **P 03 06 23.4 +0.5**
STHS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
STHS Stebnicka Huta 75.53 330 *eP* **P 03 06 23.4 +0.5**
comp=Z,6.3nm,0.8s,mb4.6
STHS Stebnicka Huta 75.53 330 *eP* **P 03 06 23.3 +0.4**
KOLS Kolonicke sedl 75.58 329 *eP* **P 03 06 22.9 -0.3**
BURAR Bucovina Array 75.59 326 ⇑*iP* **P 03 06 23.1 -0.2**
NIE Niedzica 75.85 330 *eP* **P 03 06 25.1 +0.4**
CRVS Cervenica-Dubn 75.89 329 *eP* **P 03 06 24.3 -0.7**
OKC Ostrava-Krasne 76.22 332 *eP* **P 03 06 26.5 -0.3**
NRDL Niedersach Rie 76.24 338 *eP* **P 03 06 27.1 +0.2**
comp=Z,8.0nm,1.1s,mb4.6
UPC Upice 76.31 333 *eP* **P 03 06 27.2 -0.1**
DPC Dobruska-Polom 76.35 333 *eP* **P 03 06 27.8 +0.2**
VRI Vrincioaia 76.44 324 ⇑*iP* **P 03 06 28.6 +0.5**
MORC Moravsky Berou 76.47 332 ⇓*iP* **P 03 06 28.3 +0.1**
CLL Collm 76.50 335 ⇓*iP* **P 03 06 27.8 -0.6**
CLL pmax pmax
comp=Z,17nm,0.7s,mb5.1
CLL Collm 76.50 335 *eP* **P 03 06 27.9 -0.5**
comp=Z,17nm,0.7s,mb5.1
CLL Collm 76.50 335 ⇓*iP* **P 03 06 27.8 -0.6**
comp=Z,17nm,0.7s,mb5.1
KECS Kecovo 76.59 330 *eP* **P 03 06 28.7 -0.2**
KECS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
KECS Kecovo 76.59 330 *eP* **P 03 06 28.7 -0.2**
comp=Z,3.9nm,0.9s,mb4.3
BRG Berggiesshubel 76.62 335 *i* P **P 03 06 28.7 -0.4**
BRG pmax pmax
comp=Z,3.0nm,1.1s,mb4.1
BRG Berggiesshubel 76.62 335 *eP* **P 03 06 28.5 -0.6**
comp=Z,4.0nm,0.8s,mb4.4
BRG Berggiesshubel 76.62 335 *i* P **P 03 06 28.7 -0.4**
comp=Z,5.5nm,1.1s,mb4.4
PVCC Panska Ves 76.74 334 *eP* **P 03 06 29.3 -0.4**
CLZ Clausthal 76.76 337 *eP* **P 03 06 30.1 +0.3**
CLZ pmax pmax
comp=Z,14nm,1.2s,mb4.8
CLZ Clausthal 76.76 337 *eP* **P 03 06 30.1 +0.3**
comp=Z,14nm,1.2s,mb4.8
HARR Harsova 76.91 323 ⇑*iP* **P 03 06 31.1 +0.3**
MLR Muntele Rosu 77.06 325 P **P 03 06 31.9 +0.2**
MLR pmax pmax
comp=Z,10.0nm,0.6s
MLR Muntele Rosu 77.06 325 P **P 03 06 32.6 +0.9**
MLR Muntele Rosu 77.06 325 P **P 03 06 31.9 +0.2**
comp=Z,10nm,0.6s,mb5.0,baz=350,slow=6.1,SNR=30
MLR Muntele Rosu 77.06 325 ⇑*iP* **P 03 06 31.5 -0.2**
MALT Malatya 77.10 313 ⇑*iP* **P 03 06 33.2 +1.2**
VYHS Vyhne 77.15 331 *eP* **P 03 06 32.0 -0.1**
VYHS pmax pmax
comp=Z,4.0nm,0.9s,mb4.3
VYHS Vyhne 77.15 331 *eP* **P 03 06 32.0 -0.1**
comp=Z,3.5nm,0.9s,mb4.3
VRAC Vranov 77.18 332 P **P 03 06 32.8 +0.6**
VRAC Vranov 77.18 332 ⇓*iP* **P 03 06 32.6 +0.4**
KOLL Kolacno 77.22 331 *eP* **P 03 06 32.6 +0.1**
DRGR 77.22 327 ⇓*iP* **P 03 06 32.5 0.0**
PRU Pruhonice 77.22 334 *eP* **P 03 06 32.1 -0.4**
PSZ Piszkesteto 77.28 330 ⇑*iP* **P 03 06 33.5 +0.7**
VOIR 77.46 325 P **P 03 06 34.5 +0.6**
VOIR 77.46 325 ⇓*iP* **P 03 06 34.7 +0.8**
MOX Moxa 77.49 336 *eP* **P 03 06 34.1 +0.1**
comp=Z,10.0nm,1.1s,mb4.7
MOX Moxa 77.49 336 *eP* **P 03 06 34.1 +0.1**
MOX pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
MOX Moxa 77.49 336 *eP* **P 03 06 33.7 -0.3**
comp=Z,9.0nm,1.0s,mb4.7
TREC Trest 77.54 333 *eP* **P 03 06 34.4 +0.1**
NKC Novy Kostel 77.62 335 *eP* **P 03 06 34.5 -0.2**
TXAR Lajitas Array 77.73 60 P **P 03 06 36.4 +0.7**
TXAR *PP pP 03 06 49.4 +0.9
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,3.0nm,0.7s
TXAR Lajitas Array 77.73 60 P **P 03 06 36.4 +0.7**
TXAR pP pP 03 06 49.4 +0.9
TXAR Lajitas Array 77.73 60 P **P 03 06 36.4 +0.7**
comp=Z,1.1nm,0.7s,mb3.9,baz=304,slow=4.3,SNR=16
TXAR pP pP 03 06 49.4 +0.9
comp=Z,3.1nm,0.7s,baz=296,slow=4.1,SNR=15
MANZ Manzenberg 77.94 335 *eP* **P 03 06 36.3 -0.2**
comp=Z,7.0nm,1.0s,mb4.5
ZST Bratislava 77.98 331 *eP* **P 03 06 37.5 +0.7**
ZST pmax pmax
comp=Z,11nm,0.7s,mb4.9
ZST Bratislava 77.98 331 *eP* **P 03 06 37.5 +0.7**
comp=Z,10nm,0.7s,mb4.9
ROTZ Rotzenmuhle 78.11 335 *eP* **P 03 06 37.4 0.0**
comp=Z,10.0nm,1.1s,mb4.7
KHC Kasperske Hory 78.27 334 *eP* **P 03 06 38.3 0.0**
KHC Kasperske Hory 78.27 334 *eP* **P 03 06 38.2 -0.1**
KHC *e*pP pP 03 06 42.0 -9.2
GZR Gura Zlata 78.37 327 P **P 03 06 38.5 -0.4**
GZR Gura Zlata 78.37 327 ⇑*iP* **P 03 06 39.0 0.0**
GRA1 Grafenberg Arr 78.46 336 *eP* **P 03 06 39.4 0.0**
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 78.46 336 *eP* **P 03 06 39.4 0.0**
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 78.46 336 *eP* **P 03 06 39.4 0.0**
GRF pmax pmax
comp=Z,18nm,0.8s,mb5.0
GRF Grafenberg Arr 78.46 336 *eP* **P 03 06 39.4 0.0**
comp=Z,18nm,0.8s,mb5.0
WET Wettzell 78.47 334 *eP* **P 03 06 39.6 +0.2**
WET pmax pmax
comp=Z,11nm,1.0s,mb4.7
WET Wettzell 78.47 334 *eP* **P 03 06 39.6 +0.2**
comp=Z,11nm,1.0s,mb4.7
GEC2 GERESS Array S 78.49 334 *eP* **P 03 06 39.4 -0.1**
GEC2 pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
GEC2 GERESS Array S 78.49 334 *eP* **P 03 06 39.4 -0.1**
comp=Z,7.0nm,1.0s,mb4.5
GERES GERESS Array B 78.49 334 P **P 03 06 39.5 0.0**
GERES pmax pmax
comp=Z,3.0nm,0.5s
GERES GERESS Array B 78.49 334 P **P 03 06 39.5 -0.1**
comp=Z,2.9nm,0.5s,mb4.5,baz=30,slow=5.6,SNR=29
UMR Umm Al-Rimmam 78.53 301 *eP* **P 03 06 40.0 -0.1**
UMR AMb AMB 03 06 41.4
comp=Z,59nm,0.7s,mb5.7
MIB Mutribah 78.56 301 *eP* **P 03 06 40.3 0.0**
MIB AMb AMB 03 06 41.6
comp=Z,73nm,0.6s,mb5.8
BZS Buzias 78.62 327 P **P 03 06 40.0 -0.3**

BZS Buzias 78.62 327 ⇓*i*P **P 03 06 39.8 -0.5**
RST Umm Al-Ruwaisa 78.99 301 *e*P **P 03 06 41.9 -0.7**
RST AMb AMB 03 06 43.3
comp=Z,1.7nm,0.7s,mb4.1
MEM Membach 79.00 339 P **P 03 06 42.2 -0.1**
comp=Z,14nm,1.3s,mb4.7
NAY Al-Naaiem 79.03 301 *e*P **P 03 06 42.3 -0.5**
NAY AMb AMB 03 06 43.3
comp=Z,13nm,0.6s,mb5.1
RDF Al-Radifah 79.08 301 *e*P **P 03 06 43.2 +0.1**
RDF AMb AMB 03 06 44.8
comp=Z,30nm,0.5s,mb5.5
PKSM Moragy 79.18 330 ⇓*i*P **P 03 06 42.3 -1.1**
ARSA Arzberg 79.33 332 ⇑*i*P **P 03 06 44.5 +0.3**
comp=Z,3.9nm,0.6s,mb4.5
ARSA Arzberg 79.33 332 ⇑*i*pP **P 03 06 44.5 +0.3**
comp=Z,3.9nm,0.6s,mb4.5
BCLA Clavier 79.35 340 P **P 03 06 44.2 0.0**
comp=Z,16nm,2.2s,mb4.6
STU Stuttgart 79.86 337 *e*P **P 03 06 47.3 +0.3**
comp=Z,11nm,0.8s,mb4.8
BAIF Baives 79.94 340 *e*P **P 03 06 47.8 +0.3**
comp=Z,4.6nm,0.6s,mb4.3
BAIF Baives 79.94 340 *e*P **P 03 06 47.8 +0.3**
BAIF pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
BAIF Baives 79.94 340 *e*P **P 03 06 47.8 +0.3**
comp=Z,2.3nm,0.6s,mb4.3
PERS Pernice 80.00 332 *i*P **P 03 06 47.8 0.0**
KBA Koelnbreinsper 80.17 333 ⇑*i*P **P 03 06 49.1 +0.4**
comp=Z,16nm,0.6s,mb5.1
KBA Koelnbreinsper 80.17 333 ⇑*i*pP **P 03 06 49.1 +0.4**
comp=Z,16nm,0.6s,mb5.1
KBA Koelnbreinsper 80.17 333 ⇑*i*P **P 03 06 49.1 +0.4**
KBA pmax pmax
comp=Z,16nm,0.6s,mb5.1
ALLY Alegheny Colle 80.30 37 P **P 03 06 49.1 -0.4**
comp=Z,8.5nm,0.3s,mb5.2
WATA Walderalm 80.48 334 ⇓*i*P **P 03 06 50.5 +0.1**
comp=Z,5.2nm,0.8s,mb4.5
WATA Walderalm 80.48 334 ⇓*i*pP **P 03 06 50.5 +0.1**
comp=Z,5.2nm,0.8s,mb4.5
WATA Walderalm 80.48 334 ⇓*i*P **P 03 06 50.5 +0.1**
WATA pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
BFO Black Forest 80.50 337 *e*P **P 03 06 50.1 -0.4**
BFO pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BFO Black Forest 80.50 337 *e*P **P 03 06 50.1 -0.4**
comp=Z,8.0nm,0.9s,mb4.7
GCIS Gornji Cirnik 80.51 331 *i*P **P 03 06 50.0 -0.6**
WTTA Wattenberg 80.53 334 ⇑*i*P **P 03 06 49.6 -1.1**
comp=Z,14nm,0.5s,mb5.2
WTTA Wattenberg 80.53 334 ⇑*i*P **P 03 06 49.6 -1.0**
WTTA pmax pmax
comp=Z,14nm,0.5s,mb5.2
VTS Vitosha 80.57 325 ⇓*i*P **P 03 06 51.6 +0.7**
MOTA Moosalm 80.61 335 ⇑*i*P **P 03 06 51.4 +0.3**
comp=Z,11nm,1.0s,mb4.8
MOTA Moosalm 80.61 335 ⇑*i*pP **P 03 06 51.4 +0.3**
comp=Z,11nm,1.0s,mb4.8
MOTA Moosalm 80.61 335 ⇑*i*P **P 03 06 51.4 +0.3**
MOTA pmax pmax
comp=Z,11nm,1.0s,mb4.7
CDF Champ du Feu 80.70 338 *e*P **P 03 06 51.3 -0.3**
comp=Z,17nm,0.9s,mb4.7
CDF Champ du Feu 80.70 338 *e*P **P 03 06 51.3 -0.3**
CDF pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
CDF Champ du Feu 80.70 338 *e*P **P 03 06 51.3 -0.3**
comp=Z,8.4nm,0.9s,mb4.7
VISS Visnje 80.83 332 *i*P **P 03 06 52.0 -0.3**
MEZF Maizieres J'vi 81.19 339 *e*P **P 03 06 54.2 0.0**
HAU Haudompre 81.32 338 *e*P **P 03 06 54.5 -0.4**
comp=Z,10nm,0.8s,mb4.5
HAU Haudompre 81.32 338 *e*P **P 03 06 54.5 -0.4**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HAU Haudompre 81.32 338 *e*P **P 03 06 54.5 -0.4**
comp=Z,5.2nm,0.8s,mb4.5
PPT Papeete 82.24 126 LR LR 03 36 21.8
comp=Z,193nm,21.3s,MS4.4,baz=316,slow=30
ASF Jabal al Asfar 82.63 310 P **P 03 07 02.6 +0.6**
ASF pmax pmax
comp=Z,6.0nm,0.9s
ASF Jabal al Asfar 82.63 310 P **P 03 07 02.6 +0.6**
comp=Z,6.2nm,0.9s,mb4.7,baz=0.0,slow=1.0,SNR=13
LOR Lormes 82.63 339 *e*P **P 03 07 01.5 -0.3**
comp=Z,4.8nm,0.6s,mb4.4
LOR Lormes 82.63 339 *e*P **P 03 07 01.5 -0.3**
LOR pmax pmax
comp=Z,2.0nm,0.6s,mb4.3
LOR Lormes 82.63 339 *e*P **P 03 07 01.5 -0.3**
comp=Z,2.4nm,0.6s,mb4.4
CABF La Chapelle 82.68 338 *e*P **P 03 07 02.0 0.0**
SSF Saint Saulge 82.91 339 *e*P **P 03 07 03.6 +0.4**
SWET Sewanee 82.93 45 *e*P **P 03 07 02.7 -0.8**
ROSF Rostrenen 83.16 344 *e*P **P 03 07 05.0 +0.5**
AVF Avril sur Loir 83.20 339 *e*P **P 03 07 04.6 -0.1**
comp=Z,12nm,0.8s,mb4.7
AVF Avril sur Loir 83.20 339 *e*P **P 03 07 04.6 -0.1**
AVF pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
AVF Avril sur Loir 83.20 339 *e*P **P 03 07 04.6 -0.1**
comp=Z,6.2nm,0.8s,mb4.7
SMF Signal de Mont 83.22 339 *e*P **P 03 07 04.9 +0.1**
comp=Z,41nm,1.0s,mb5.1
SMF Signal de Mont 83.22 339 *e*P **P 03 07 04.9 +0.1**
SMF pmax pmax
comp=Z,21nm,1.0s,mb5.1
SMF Signal de Mont 83.22 339 *e*P **P 03 07 04.9 +0.1**
comp=Z,20nm,1.0s,mb5.1
LPL La Plagne 83.52 337 *e*P **P 03 07 07.0 +0.6**
comp=Z,5.0nm,0.6s,mb4.5
LPL La Plagne 83.52 337 *e*P **P 03 07 07.0 +0.6**
LPL pmax pmax
comp=Z,3.0nm,0.6s,mb4.6
LPL La Plagne 83.52 337 *e*P **P 03 07 07.0 +0.6**
comp=Z,2.5nm,0.6s,mb4.5
LPG La Plagne 83.53 337 *e*P **P 03 07 07.2 +0.8**
ORIF Oris-en-Rattie 84.30 337 *e*P **P 03 07 10.9 +0.5**
comp=Z,11nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.30 337 *e*P **P 03 07 10.9 +0.5**
ORIF pmax pmax
comp=Z,6.0nm,0.7s,mb4.8
ORIF Oris-en-Rattie 84.30 337 *e*P **P 03 07 10.9 +0.5**
comp=Z,5.6nm,0.7s,mb4.8
VIVF Saint-Julien-l 84.68 338 *e*P **P 03 07 12.7 +0.4**
comp=Z,28nm,1.1s,mb5.0
VIVF Saint-Julien-l 84.68 338 *e*P **P 03 07 12.7 +0.4**
VIVF pmax pmax
comp=Z,14nm,1.1s,mb5.0
VIVF Saint-Julien-l 84.68 338 *e*P **P 03 07 12.7 +0.4**
comp=Z,14nm,1.1s,mb5.0
TORD Torodi Ar. Bea 115.11 329 PKP PKiKP 03 13 19.1 -1.0
comp=Z,0.5nm,0.5s,baz=9.0,slow=1.8,SNR=12
DBIC Dimbokro 123.36 333 PKIKP PKPdf 03 13 34.8 -1.1
DBIC pmax pmax
comp=Z,2.0nm,0.7s
DBIC Dimbokro 123.36 333 PKP PKPdf 03 13 34.8 -1.2
comp=Z,2.2nm,0.7s,baz=307,slow=5.1,SNR=3.2
VNDA Vanda 123.99 178 PKIKP PKPdf 03 13 35.5 +0.3
VNDA pmax pmax
comp=Z,1.0nm,0.8s
VNDA Vanda 123.99 178 PKP PKPdf 03 13 35.5 +0.3
comp=Z,0.6nm,0.8s,baz=336,slow=4.9,SNR=5.8
LPAZ La Paz 134.58 62 PKIKP PKPdf 03 13 58.7 +1.6
LPAZ pmax pmax
comp=Z,1.0nm,0.7s
LPAZ La Paz 134.58 62 PKP PKPdf 03 13 58.7 +1.6
LPAZ La Paz 134.58 62 PKP PKPdf 03 13 58.7 +1.6
comp=Z,0.7nm,0.7s,baz=230,slow=9.3,SNR=3.5
BDFB Brasilia 144.57 36 PKIKP PKPdf 03 14 14.1 -1.1
BDFB pmax pmax
comp=Z,2.0nm,0.7s
BDFB Brasilia 144.57 36 PKP PKPdf 03 14 14.1 -1.2
comp=Z,2.0nm,0.7s,baz=185,slow=16,SNR=9.2
CFAA Coronel Fontan 145.21 79 PKPbc PKPbc 03 14 15.7 0.0
CFAA pPKPbc pPKPbc 03 14 30.0 +1.0
CFAA Coronel Fontan 145.21 79 PKPbc PKPbc 03 14 15.7 0.0
comp=Z,1.3nm,0.7s,baz=261,slow=4.5,SNR=24
CFAA pPKPbc pPKPbc 03 14 30.0 +1.1
comp=Z,0.9nm,0.8s,baz=318,slow=2.9,SNR=5.1
PLCA Paso Flores 148.39 95 PKP2 PKPbc 03 14 25.3 +0.8
PLCA pmax pmax
comp=Z,3.0nm,0.9s
PLCA pmax pmax
comp=Z,7.0nm,0.8s
PLCA Paso Flores 148.39 95 PKPbc PKPbc 03 14 25.2 +0.8
comp=Z,2.6nm,0.8s,baz=325,slow=7.3,SNR=5.1
PLCA pPKPbc pPKPbc 03 14 40.1 +2.2
comp=Z,6.6nm,0.8s,baz=216,slow=3.1,SNR=7.5
CPUP Villa Florida 148.71 60 PKP2 PKPbc 03 14 25.8 +0.1
CPUP pmax pmax
comp=Z,3.0nm,0.7s
CPUP pmax pmax
comp=Z,2.0nm,0.6s
CPUP Villa Florida 148.71 60 PKPbc PKPbc 03 14 25.8 0.0
comp=Z,2.6nm,0.7s,baz=212,slow=9.5,SNR=6.7
CPUP pPKPbc pPKPbc 03 14 40.4 +1.2
comp=Z,1.5nm,0.6s,baz=11,slow=4.4,SNR=3.0
SNAA Sanae 152.37 196 PKIKP PKPbc 03 14 32.8 -0.3
SNAA 03 14 47.3
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA pmax pmax
comp=Z,1.0nm,0.6s
SNAA Sanae 152.37 196 PKPbc PKPbc 03 14 32.8 -0.3
comp=Z,1.0nm,0.6s,baz=149,slow=2.8,SNR=24
SNAA pPKPbc pPKPbc 03 14 47.3 +0.8
comp=Z,0.6nm,0.6s,baz=26,slow=11,SNR=3.4
VNA2 Neumayer--Watz 153.82 195 *e*PKPdf PKPbc 03 14 36.8 +0.5
baz=105,slow=0.9
VNA2 *e* 03 14 45.1
VNA2 *e* 03 14 50.6

ATH ***29*** *03:06:50.9, 40.11N×2398E, h10km, MD3.1/3*
CSEM ***29*** *03:07:03.6±0.1, 4042N×2625E, h18km±1km, MD3.1, Error ellipse: s-maj=2.5km s-min=1.5km az=103.0*
ISK ***29*** *03:07:03.6, 4042N×2624E, h18km, MD3.1*
ISCJB ***29*** *03:07:04.2±0.5, 4044N±003×2623E±006, h21km±7km, Error ellipse: s-maj=7.7km s-min=4.5km az=10.3*
DDA ***29*** *03:07:04.6, 4036N×2634E, h7km±4km, Md2.8*
ISC 29 03:07:04.2±0.5,**4043N**±003×**2626E**±005,**h15**km±4km,**n24,**
σ0§52/29,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ENEZ	**Enez**	**0.32**	**346**	*e*PG	**Pg**	**03 07 11.0**	**+0.2**
ENEZ				*e*SG	**Sg**	**03 07 15.7**	**+0.4**
GADA	**Gvkgeada**	**0.36**	**229**	*e*PG	**Pg**	**03 07 11.7**	**0.0**
GADA				*e*SG	**Sg**	**03 07 17.0**	**+0.4**
LPK	**Lapseki**	**0.39**	**98**	*e*PG	**Pg**	**03 07 12.6**	**+0.4**
EZN	**Ezine**	**0.61**	**175**	*e*PG	**Pg**	**03 07 15.6**	**-0.6**
EZN				*e*SG	**Sg**	**03 07 24.8**	**+0.6**
BOZC	**Bozcaada**	**0.61**	**195**	*i*P	**Pg**	**03 07 15.5**	**-0.7**
BOZC				*i*S	**Sg**	**03 07 24.1**	**-0.2**
RKY	**Sarkoy-Tekirda**	**0.75**	**70**	*e*PG	**Pg**	**03 07 18.7**	**-0.1**
SART	**Tekirdag**	**0.75**	**70**	*i*P	**Pg**	**03 07 18.5**	**-0.4**
MFT	**Murefte**	**0.86**	**65**	*e*PG	**Pg**	**03 07 21.3**	**+0.4**
RDO	**Rodhopi**	**0.90**	**323**	*e*PB	**Pb**	**03 07 20.5**	**-1.0**
MRMT	**Marmara Adasi**	**1.04**	**80**	*e*PG	**Pg**	**03 07 23.4**	**-0.8**
TKR	**Tekirdag**	**1.12**	**60**	*e*PN	**Pn**	**03 07 25.5**	**+0.2**
AYVA	**Ayvalik**	**1.17**	**163**	*i*P	**Pn**	**03 07 26.8**	**+0.8**
AYVA				*i*S	**Sb**	**03 07 40.7**	**-0.3**
PRK	**Paraskevi**	**1.18**	**179**	*e*PN	**Pn**	**03 07 26.5**	**+0.3**
EDC	**Edincik**	**1.23**	**93**	*e*PN	**Pn**	**03 07 26.1**	**-0.8**
BNT	**Bandirma**	**1.27**	**93**	*e*PN	**Pn**	**03 07 26.9**	**-0.5**
CRLT	**Corlu**	**1.32**	**58**	*e*PN	**Pn**	**03 07 28.0**	**-0.1**
EDRB	**Edirne**	**1.46**	**14**	*e*PN	**Pn**	**03 07 29.9**	**-0.1**
BALB	**Balikesir**	**1.48**	**122**	*e*PN	**Pn**	**03 07 29.9**	**-0.3**
KCT	**Karacabey**	**1.61**	**95**	*e*PN	**Pn**	**03 07 31.8**	**-0.3**
CTT	**Catalca**	**1.80**	**66**	*e*PN	**Pn**	**03 07 35.1**	**+0.5**
ELBA	**Catalca**	**1.80**	**66**	*i*P	**Pn**	**03 07 34.5**	**-0.2**
KLYT	**Kilyos**	**2.27**	**68**	*e*PN	**Pn**	**03 07 41.8**	**+0.7**
YLV	**Yalova**	**2.38**	**86**	*e*PN	**Pn**	**03 07 43.8**	**+1.2**
KULA	**Kula-Manisa**	**2.67**	**135**	*e*PN	**Pn**	**03 07 47.0**	**+0.3**

IDC 29 04:01:48.4±3.4,**495S×14947E, h0km, mb3.7/3, mb1 4.0/3, mb1mx3.6/14, mbtmp3.8/3, MS3.7/2, Ms1 3.7/2, ms1mx3.0/18, Error ellipse: s-maj=107.0km s-min=45.4km az=116.0, Bismarck Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**20.95**	**223**	P	P	04 06 34.1	+1.1
	2.1nm,0.4s,baz=48,slow=11,SNR=32						
ASAR	**Alice Springs**	**23.90**	**217**	P	P	04 07 03.5	-0.5
	1.3nm,0.6s,baz=57,slow=9.0,SNR=16						
FITZ	**Fitzroy Crossi**	**26.71**	**239**	P	P	04 07 29.3	-0.3
	1.2nm,1.0s,baz=61,slow=12,SNR=5.9						
PSI	**Prapat**	**51.09**	**278**	LR	LR	04 30 42.0	
	comp=Z,179nm,21.9s,baz=1.2,slow=34						
YKA	**Yellowknife Ar**	**97.11**	**28**	LR	LR	04 53 03.9	
	comp=Z,18nm,20.9s,baz=315,slow=32						
TORD	**Torodi Ar. Bea**	**147.19**	**287**	PKPbc	PKPbc	04 21 34.1	-0.6
	0.2nm,0.4s,baz=64,slow=2.8,SNR=7.0						

IDC ***29*** *04:21:35.4±0.5, 860S×10637E, h0km, mb4.3/16, mb1 4.5/17, mb1mx4.3/25, mbtmp4.4/17, ML4.9/2, MS3.4/3, Ms1 3.4/3, ms1mx3.0/25, Error ellipse: s-maj=21.0km s-min=13.5km az=38.0*
ISCJB ***29*** *04:21:39.3±1.0, 871S±005×10637E±005, h39km±10km, mb4.6/36, MS3.3/2, Error ellipse: s-maj=9.1km s-min=7.5km az=32.8*
NEIC ***29*** *04:21:39.9±0.2, 864S×10638E, h30km, mb4.7/7, Error ellipse: s-maj=8.3km s-min=6.1km az=221.0*
MOS ***29*** *04:21:39.0±0.9, 852S×10648E, h33km, mb5.0/8, Error ellipse: s-maj=21.1km s-min=10.8km az=123.8*
BJI ***29*** *04:21:41.4, 805S×10543E, h10km, mB4.9, mb4.8*
ISC 29 04:21:41.2±0.8,**876S**±005×**10633E**±005,**h39**km±8km,**n75,**
σ0§93/63, mb4.6/36, MS3.3/2, 3C-2D, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**1.83**	**201**	*e*Pn	**Pn**	**04 22 10.3**	**+0.2**
XMIS				*e*Sn	**Sn**	**04 22 30.3**	**-1.8**
SBJI	**Serang**	**2.63**	**356**	P	**Pn**	**04 22 30.0**	**+8.8**
	992nm,0.7s						
KRKI	**Karangkates**	**6.09**	**85**	P	**Pn**	**04 23 09.6**	**+0.9**
	1µm,0.7s						
TPI	**Tanjungpandan**	**6.11**	**13**	P	**Pn**	**04 23 18.8**	**+10**
	39nm,0.9s						
KSI	**Kapahiang**	**6.29**	**324**	P	**Pn**	**04 23 11.7**	**+0.2**
	658nm,0.8s						
NBBI	**Negara**	**8.21**	**88**	P	**Pn**	**04 23 39.7**	**+1.8**
	1µm,0.7s						
KHKI	**Kahang-Kahang**	**9.19**	**88**	P	**Pn**	**04 23 50.7**	**-0.6**
	166nm,0.7s						
KAPI	**Kappang**	**13.84**	**75**	Pn	**Pn**	**04 24 53.6**	**-1.3**
KAPI				LR	LR	04 30 52.3	
KAPI	**Kappang**	**13.84**	**75**	Pn	**Pn**	**04 24 53.6**	**-1.3**
	1.0nm,0.3s,baz=257,slow=11,SNR=4.3						
KAPI				LR	LR	04 30 52.3	
	comp=Z,174nm,19.0s,baz=176,slow=40						
BATI	**Kupang**	**17.16**	**96**	P	**Pn**	**04 25 38.6**	**+0.4**
	24nm,0.3s,baz=288,slow=9.3,SNR=13						
FITZ	**Fitzroy Crossi**	**20.93**	**118**	⇓*i*P	**P**	**04 26 21.4**	**+0.7**
	26nm,0.8s						
FITZ	**Fitzroy Crossi**	**20.93**	**118**	P	**P**	**04 26 21.5**	**+0.8**
	15nm,0.7s,baz=277,slow=8.5,SNR=39						
FITZ				LR	LR	04 32 49.8	
	comp=Z,86nm,20.4s,MS3.1,baz=123,slow=32						
KAKA	**Kakadu**	**25.95**	**101**	*e*P	**P**	**04 27 09.9**	**-0.3**
	19nm,0.8s,mb4.7						
KAKA	**Kakadu**	**25.95**	**101**	*e*P	**P**	**04 27 09.6**	**-0.6**
	18nm,0.5s,mb4.9						
WRA	**Warramunga Arr**	**29.27**	**115**	P	**P**	**04 27 39.4**	**-0.5**
	3.7nm,0.8s,mb4.2,baz=287,slow=11,SNR=22						
WRAB	**Tennant Creek**	**29.28**	**115**	*i*P	**P**	**04 27 40.0**	**0.0**
WB2	**Warramunga Arr**	**29.28**	**115**	*e*P	**P**	**04 27 39.8**	**-0.2**
WB2	**Warramunga Arr**	**29.28**	**115**	*e*P	**P**	**04 27 38.8**	**-1.3**
ASAR	**Alice Springs**	**30.26**	**123**	P	**P**	**04 27 48.5**	**-0.1**
	1.3nm,0.8s,mb3.7,baz=299,slow=8.8,SNR=9.5						
SHL	**Shillong**	**36.91**	**338**	*e*P	**P**	**04 28 42.5**	**-3.8**
STKA	**Stephens Creek**	**39.99**	**130**	*e*P	**P**	**04 29 12.6**	**+0.4**
	7.1nm,1.0s,mb4.3						
STKA	**Stephens Creek**	**39.99**	**130**	P	**P**	**04 29 12.4**	**+0.2**
	4.5nm,1.0s,mb4.1,baz=302,slow=23,SNR=4.6						
CTA	**Charters Tower**	**40.17**	**111**	P	**P**	**04 29 14.2**	**+0.3**
	2.8nm,0.7s,mb4.1,baz=259,slow=11,SNR=4.0						
CTA				LR	LR	04 44 24.6	
	comp=Z,76nm,19.8s,MS3.5,baz=236,slow=34						
LSA	**Lhasa**	**40.94**	**340**	P	**P**	**04 29 21.5**	**+1.5**
LSA	**Lhasa**	**40.94**	**340**	*e*P	**P**	**04 29 20.4**	**+0.4**
LSA				pmax	pmax		
	comp=Z,13nm,0.6s,mb4.7						
LSA	**Lhasa**	**40.94**	**340**	*e*P	**P**	**04 29 20.4**	**+0.4**
	comp=Z,12nm,0.6s,mb4.7						
JIRN	**Jiri**	**41.12**	**332**	*e*P	**P**	**04 29 22.6**	**+1.0**
	comp=Z,54nm,0.7s,mb5.3						
PKI	**Pulchoki**	**41.41**	**331**	*e*P	**P**	**04 29 24.3**	**+0.4**
GUN	**Gumba**	**41.48**	**332**	*e*P	**P**	**04 29 25.5**	**+1.0**
	comp=Z,42nm,0.7s,mb5.2						
DMN	**Daman**	**41.59**	**331**	*e*P	**P**	**04 29 26.0**	**+0.6**
	comp=Z,41nm,1.0s,mb5.0						
KKN	**Kakani**	**41.66**	**331**	*e*P	**P**	**04 29 26.4**	**+0.4**
	comp=Z,48nm,1.0s,mb5.1						
GKN	**Gorkha**	**42.14**	**331**	*e*P	**P**	**04 29 30.4**	**+0.5**
	comp=Z,13nm,0.8s,mb4.6						
NJ2	**Nanjing**	**42.31**	**16**	*e*P	**P**	**04 29 34.5**	**+3.3**
NJ2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.1						
KOLN	**Koldanda**	**42.46**	**330**	*e*P	**P**	**04 29 33.2**	**+0.7**
	comp=Z,29nm,0.5s,mb5.2						
XAN	**Xi'an**	**42.64**	**3**	P	**P**	**04 29 32.8**	**-1.0**
XAN				AMB	AMB		
	comp=Z,23nm,0.7s,mb5.0						
DANN	**Dangsing**	**42.86**	**330**	*e*P	**P**	**04 29 36.4**	**+0.7**
	comp=Z,29nm,0.4s,mb5.4						
SONM	**Songino Array**	**56.35**	**0**	P	**P**	**04 31 17.4**	**-0.7**
	comp=Z,1.2nm,0.7s,mb4.1,baz=162,slow=5.3,SNR=8.3						
ULN	**Ulaanbaatar**	**56.38**	**1**	⇑*e*P	**P**	**04 31 17.7**	**-0.7**
TKM2	**Tokmak 2**	**58.57**	**334**	*e*P	**P**	**04 31 33.0**	**-0.9**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.6						
TKM2	**Tokmak 2**	**58.57**	**334**	*e*P	**P**	**04 31 33.0**	**-0.9**
	comp=Z,3.4nm,0.5s,mb4.6						
EKS2	**Erkin-Say**	**59.17**	**332**	*e*P	**P**	**04 31 37.7**	**-0.4**
	comp=Z,3.6nm,0.9s,mb4.4						
MK31	**Makanchi Array**	**59.32**	**341**	*i*P	**P**	**04 31 38.3**	**-0.7**
MK31				pmax	pmax		
	comp=Z,4.0nm,0.5s,mb4.7						
MK31	**Makanchi Array**	**59.32**	**341**	*e*P	**P**	**04 31 38.4**	**-0.6**
MKAR	**Makanchi Array**	**59.32**	**341**	P	**P**	**04 31 38.5**	**-0.5**
	comp=Z,4.2nm,0.5s,mb4.7,baz=142,slow=7.9,SNR=36						
KURK	**Kurchatov**	**63.93**	**341**	*e*P	**P**	**04 32 09.0**	**-1.0**
KURK				pmax	pmax		
	comp=Z,14nm,0.9s,mb5.0						
KURK	**Kurchatov**	**63.93**	**341**	*e*P	**P**	**04 32 09.0**	**-1.0**
	comp=Z,14nm,0.9s,mb5.0						
ZAL	**Zalesovo**	**65.06**	**346**	P	**P**	**04 32 15.6**	**-1.8**
ZALV	**Zalesovo Beam**	**65.07**	**346**	P	**P**	**04 32 15.6**	**-1.8**
	comp=Z,2.5nm,0.4s,mb4.6,baz=116,slow=3.4,SNR=5.1						
ZRNK	**Zerenda**	**69.20**	**337**	*i*P	**P**	**04 32 42.9**	**-0.7**
ZRNK				pmax	pmax		
	comp=Z,6.0nm,0.5s,mb4.8						
VNDA	**Vanda**	**74.37**	**169**	P	**P**	**04 33 15.0**	**+0.6**
	comp=Z,2.1nm,0.9s,mb4.1,baz=302,slow=5.5,SNR=12						
ARU	**Arti**	**75.92**	**335***d*	*i*P	**P**	**04 33 22.9**	**-0.6**
ARU				*e*		04 36 09.5	
ARU				*e*S	S	04 43 03.1	-0.2
ARU				*e*SS	SS	04 47 51.2	-5.4
ARU				pmax	pmax		
	comp=Z,9.0nm,1.0s,mb4.7						
LSZ	**Lusaka**	**76.36**	**256**	P	**P**	**04 33 28.6**	**+1.6**
	comp=Z,1.1nm,0.5s,mb4.0,baz=127,slow=6.1,SNR=3.6						
ASF	**Jabal al Asfar**	**77.62**	**306**	P	**P**	**04 33 34.9**	**+1.1**
	comp=Z,3.1nm,0.6s,mb4.4,baz=12,slow=4.0,SNR=6.8						
BOSA	**Boshof**	**78.05**	**243**	P	**P**	**04 33 37.7**	**+1.4**
	comp=Z,1.2nm,0.6s,mb4.0,baz=145,slow=4.2,SNR=4.2						
MMAI	**Mount Meron Ar**	**79.08**	**306**	P	**P**	**04 33 42.4**	**+0.6**
	comp=Z,2.2nm,0.5s,mb4.4,baz=98,slow=6.0,SNR=4.4						
VRHR	**Novokhopersk**	**81.44**	**325**	*e*P	**P**	**04 33 53.8**	**-0.2**
VRHR				pmax	pmax		
	comp=Z,10.0nm,0.5s,mb5.0						
VRHR				pmax	pmax		
	comp=N,30nm,0.6s						
VRHR				pmax	pmax		
	comp=E,10.0nm,0.8s						
VRSR	**Storozhevoye**	**82.88**	**324**	*e*P	**P**	**04 34 01.1**	**-0.5**
VRSR				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.3						
VRSR				pmax	pmax		
	comp=N,2.0nm,0.7s						
VRSR				pmax	pmax		
	comp=E,1.0nm,0.4s						
OBN	**Obninsk**	**85.84**	**327**	*e*P	**P**	**04 34 16.4**	**-0.1**
OBN				*e*SS	SS	04 50 24.0	-0.6
OBN				pmax	pmax		
	comp=Z,10.0nm,1.4s,mb4.8						
TSUM	**Tsumeb**	**85.99**	**251**	P	**P**	**04 34 19.5**	**+1.4**
	comp=Z,1.2nm,0.5s,mb4.4,baz=196,slow=12,SNR=6.1						
BILL	**Bilibino**	**87.36**	**19**	*e*P	**P**	**04 34 23.8**	**+0.1**
BILL				pmax	pmax		
	comp=Z,10.0nm,2.5s,mb4.6						
AKASG	**Malin Array Be**	**88.65**	**322**	P	**P**	**04 34 28.4**	**-1.8**
	comp=Z,0.4nm,0.4s,mb4.1,baz=88,slow=4.0,SNR=5.5						
MLR	**Muntele Rosu**	**89.51**	**316**	P	**P**	**04 34 34.4**	**+0.1**
	comp=Z,3.0nm,0.6s,mb4.8,baz=56,slow=0.7,SNR=6.9						
TORD	**Torodi Ar. Bea**	**106.11**	**281**	PKPdf	PKiKP	04 40 01.5	-0.6
TORD	**Torodi Ar. Bea**	**106.11**	**281**	PKiKP	PKiKP	04 40 01.5	-0.6
	comp=Z,0.3nm,0.5s,baz=69,slow=1.2,SNR=13						
YKA	**Yellowknife Ar**	**118.74**	**20**	⇑*i*PKIKP	PKPdf	04 40 23.7	-1.1
YKA	**Yellowknife Ar**	**118.74**	**20**	PKP	PKPdf	04 40 23.3	-1.5
	comp=Z,0.3nm,0.6s,baz=329,slow=1.7,SNR=9.4						
ANMO	**Albuquerque**	**140.26**	**44**	⇑*i*PKIKP	PKPdf	04 41 10.7	+4.4
BDFB	**Brasilia**	**144.87**	**226**	PKPbc	PKPdf	04 41 15.0	0.0
	comp=Z,2.8nm,0.6s,baz=114,slow=5.2,SNR=14						
TXAR	**Lajitas Array**	**145.22**	**50**	PKPbc	PKPbc	04 41 15.0	0.0
	comp=Z,2.2nm,0.8s,baz=273,slow=1.4,SNR=30						
JCT	**Junction City**	**147.41**	**45**	*e*PKP2	PKPbc	04 41 19.5	-1.9
MIAR	**Mount Ida**	**148.50**	**33**	*e*PKP2	PKPbc	04 41 23.6	-0.6
PLAL	**Pickwick Lake**	**150.76**	**25**	*e*PKPbc	PKPbc	04 41 28.4	-1.3
CPCT	**Cooper Cave**	**151.65**	**19**	*e*PKPbc	PKPbc	04 41 31.2	-0.6
TKL	**Tuckaleechee C**	**151.69**	**18**	PKPbc	PKPbc	04 41 31.6	-0.3
	comp=Z,6.3nm,0.7s,baz=187,slow=3.6,SNR=11						
TKL				PKPab	PKPab	04 41 40.0	-0.6
	comp=Z,2.3nm,0.8s,baz=9.8,slow=8.5,SNR=4.1						
SIV	**San Ignacio**	**152.42**	**207**	PKPbc	PKPbc	04 41 34.7	+0.6
	comp=Z,1.5nm,0.7s,baz=58,slow=2.9,SNR=8.0						
SIV				PKPab	PKPab	04 41 44.8	+0.7
	comp=Z,2.1nm,0

0.3nm,0.6s,mb3.1,baz=126,slow=9.3,SNR=5.8
YKA Yellowknife Ar 63.25 340 P **P 04 42 35.4 +0.1**
YKA Yellowknife Ap 63.25 340 P **P 04 42 35.4 +0.1**
0.6nm,0.5s,mb3.6,baz=134,slow=6.5,SNR=18
WRA Warramunga Arr 150.45 241 PKPbc PKPbc 04 51 56.1 -1.6
0.2nm,0.4s,baz=109,slow=2.4,SNR=7.5

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*IDC **29** 04:34:51.5±1.7, 095S×12773E, h0km, mb4.1/2, mb1 4.2/5, mb1mx3.9/17, mbtmp4.1/5, ML3.8/3, Error ellipse: s-maj=50.6km s-min=23.9km az=68.0*
*ISCJB **29** 04:34:54.4±0.8, 10S±0.1×1276E±0.1, h33km, mb4.3/4, Error ellipse: s-maj=22.9km s-min=11.7km az=152.0*
*NEIC **29** 04:34:56.2±0.8, 0.99S×12762E, h30km, mb4.5/2, Error ellipse: s-maj=21.4km s-min=10.7km az=63.0*
ISC 29 04:34:56.6±0.9, 10S±01×1277E±01, h35km, n14, σ1§21/14, mb4.3/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.82**	**243**	Pn	**Pn**	**04 37 01.2**	**-0.4**
KAPI	**Kappang**	**8.82**	**243**	Pn	**Pn**	**04 37 01.3**	**-0.4**
2.7nm,0.3s,baz=85,slow=6.8,SNR=13							
KAKA	**Kakadu**	**12.53**	**158**	*e*P	**Pn**	**04 37 52.9**	**+0.4**
8.9nm,0.8s							
FITZ	**Fitzroy Crossi**	**17.07**	**187**	*e*P	**Pn**	**04 39 00.1**	**+7.5**
4.3nm,0.9s							
FITZ	**Fitzroy Crossi**	**17.07**	**187**	P	**Pn**	**04 38 54.7**	**+2.1**
FITZ				*e*P		04 39 00.1	
FITZ	**Fitzroy Crossi**	**17.07**	**187**	P	**Pn**	**04 38 54.7**	**+2.1**
0.1nm,0.3s,baz=15,slow=12,SNR=4.1							
WRA	**Warramunga Arr**	**19.89**	**161**	P	**Pn**	**04 39 24.8**	**-2.2**
0.3nm,0.3s,baz=340,slow=11,SNR=34							
WB2	**Warramunga Arr**	**19.90**	**161**	*e*P	**Pn**	**04 39 25.5**	**-1.5**
ASAR	**Alice Springs**	**23.29**	**165**	P	**P**	**04 40 01.9**	**+0.3**
8.4nm,0.7s,mb4.3,baz=346,slow=11,SNR=62							
STKA	**Stephens Creek**	**33.38**	**158**	*e*P	**P**	**04 41 34.5**	**+2.7**
7.0nm,1.6s,mb4.3							
MK31	**Makanchi Array**	**61.99**	**326**	P	**P**	**04 45 13.2**	**-0.1**
MKAR	**Makanchi Array**	**61.99**	**326**	P	**P**	**04 45 13.3**	**+0.1**
MKAR	**Makanchi Array**	**61.99**	**326**	P	**P**	**04 45 13.3**	**+0.1**
0.4nm,0.3s,mb4.0,baz=107,slow=8.4,SNR=7.8							
KURK	**Kurchatov**	**66.24**	**328**	*e*P	**P**	**04 45 40.9**	**-0.1**
4.2nm,0.8s,mb4.5							

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*IDC **29** 04:35:39.8±1.5, 0.99S×12759E, h0km, mb4.3/3, mb1 4.3/6, mb1mx4.0/17, mbtmp4.2/6, ML4.0/3, Error ellipse: s-maj=48.9km s-min=22.6km az=65.0*
*ISCJB **29** 04:35:42.5±1.0, 10S±0.1×1275E±0.1, h33km, mb4.4/4, Error ellipse: s-maj=23.5km s-min=13.3km az=147.9*
*NEIC **29** 04:35:44.2±1.0, 0.99S×12759E, h30km, mb4.3/3, Error ellipse: s-maj=22.8km s-min=12.6km az=59.0*
ISC 29 04:35:44.8±1.0, 11S±01×1276E±01, h35km, n11, σ1§26/11, mb4.4/4, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.75**	**243**	Pn	**Pn**	**04 37 48.6**	**-0.4**
4.2nm,0.3s,baz=75,slow=4.0,SNR=9.4							
KAKA	**Kakadu**	**12.54**	**158**	*e*P	**Pn**	**04 38 41.9**	**+1.0**
7.6nm,0.6s							
FITZ	**Fitzroy Crossi**	**17.05**	**186**	*e*P	**Pn**	**04 39 43.1**	**+2.5**
3.5nm,1.3s							
FITZ	**Fitzroy Crossi**	**17.05**	**186**	P	**Pn**	**04 39 41.4**	**+0.7**
0.2nm,0.3s,baz=57,slow=10,SNR=5.2							
WRA	**Warramunga Arr**	**19.90**	**161**	P	**Pn**	**04 40 12.7**	**-2.6**
0.5nm,0.3s,baz=339,slow=11,SNR=11							
WB2	**Warramunga Arr**	**19.91**	**161**	*e*P	**Pn**	**04 40 13.7**	**-1.7**
ASAR	**Alice Springs**	**23.30**	**165**	P	**P**	**04 40 49.5**	**-0.4**
9.3nm,0.7s,mb4.3,baz=345,slow=11,SNR=15							
STKA	**Stephens Creek**	**33.39**	**158**	*e*P	**P**	**04 42 21.7**	**+1.6**
13nm,1.8s,mb4.6							
STKA	**Stephens Creek**	**33.39**	**158**	P	**P**	**04 42 21.9**	**+1.9**
2.9nm,0.6s,mb4.4,baz=321,slow=13,SNR=3.5							
MKAR	**Makanchi Array**	**61.96**	**326**	P	**P**	**04 46 01.2**	**0.0**
0.8nm,0.3s,mb4.3,baz=118,slow=7.9,SNR=8.4							
KURK	**Kurchatov**	**66.22**	**328**	*e*P	**P**	**04 46 29.1**	**0.0**
3.4nm,0.9s,mb4.4							

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*ISCJB **29** 04:49:17.9±0.5, 2787S±003×6672W±005, h164km±11km, mb3.2/3, Error ellipse: s-maj=7.9km s-min=4.8km az=4.6*
*NEIC **29** 04:49:18.1±0.5, 2792S×6654W, h151km±8km, mb4.4/2, Error ellipse: s-maj=9.1km s-min=6.8km az=123.0*
*IDC **29** 04:49:18.4±1.5, 2792S×6656W, h153km±19km, mb3.1/3, mb1 3.3/7, mb1mx3.3/19, mbtmp3.2/7, MS3.1/1, Ms1 3.1/1, ms1mx2.2/6, Error ellipse: s-maj=27.0km s-min=16.0km az=121.0*
*GUC **29** 04:49:19.9±0.8, 2784S×6680W, h151km, ML4.6*
ISC 29 04:49:18.7±0.5, 2787S±003×6668W±005, h153km±10km, n25, σ1§05/40, mb3.2/3, 8C-2D, Catamarca Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPCH	**Copiapo**	**3.29**	**278**	⇑*i*P	**Pn**	**04 50 10.4**	**+0.5**
CPCH				*i*S	**Sn**	**04 50 48.5**	**-1.1**
CPCH	**Copiapo**	**3.29**	**278**	⇑*i*P	**Pn**	**04 50 10.4**	**+0.5**
CPCH				*i*S	**Sn**	**04 50 48.5**	**-1.1**
CPCH				AML	AML	04 50 52.6	
comp=N,2μm,0.1s							
VACH	**Vallenar**	**3.66**	**258**	⇓*i*P	**Pn**	**04 50 15.7**	**+1.0**
VACH				*i*S	**Sn**	**04 50 57.3**	**-0.8**
LCO	**Las Campanas**	**3.72**	**251**	⇑*i*Pn	**Pn**	**04 50 16.6**	**+1.3**
LCO				*e*Sn	**Sn**	**04 50 60.0**	**+0.7**
CFAA	**Coronel Fontan**	**3.96**	**200**	P	**Pn**	**04 50 19.2**	**+0.7**
comp=N,12nm,0.3s,baz=19,slow=12,SNR=2086							
CFAA				S	**Sn**	**04 51 04.5**	**-0.5**
comp=N,5.9nm,0.3s,baz=223,slow=16,SNR=7.1							
TLL	**Tololo Astrono**	**4.28**	**237**	⇑*i*P	**Pn**	**04 50 23.7**	**+1.1**
TLL				*i*S	**Sn**	**04 51 13.3**	**+0.9**
TLL	**Tololo Astrono**	**4.28**	**237**	⇑*i*P	**Pn**	**04 50 23.7**	**+1.1**
TLL				*i*S	**Sn**	**04 51 13.3**	**+0.9**
TLL				AML	AML	04 51 15.8	
comp=E,277nm,0.9s							
LSCH	**La Serena**	**4.49**	**242**	⇑*i*P	**Pn**	**04 50 25.2**	**-0.2**
LSCH				*i*S	**Sn**	**04 51 15.8**	**-1.5**
LSCH	**La Serena**	**4.49**	**242**	⇑*i*P	**Pn**	**04 50 25.2**	**-0.2**
LSCH				*i*S	**Sn**	**04 51 15.8**	**-1.5**
LSCH				AML	AML	04 51 18.5	
comp=E,90nm,0.3s							
CPN1	**Cerro Paranal**	**4.64**	**313**	*e*P	**Pn**	**04 50 29.6**	**+2.1**
CPN1				*i*S	**Sn**	**04 51 21.6**	**+0.5**
CPN1				AML	AML	04 51 27.1	
comp=E,110nm,0.4s							
CMCH	**Combarbala**	**5.00**	**228**	⇓*i*P	**Pn**	**04 50 31.4**	**-0.8**
CMCH				*i*S	**Sn**	**04 51 28.1**	**-1.4**
ANCH	**Antofagasta**	**5.35**	**320**	*e*P	**Pn**	**04 50 38.1**	**+1.2**
ANCH				*i*S	**Sn**	**04 51 36.9**	**-0.9**
CEN1	**Los Morros**	**5.47**	**324**	*e*P	**Pn**	**04 50 38.8**	**+0.3**
CEN1				*i*S	**Sn**	**04 51 38.3**	**-2.4**
CEN1				AML	AML	04 51 46.1	
comp=E,46nm,0.8s							
LVC	**Limon Verde**	**5.61**	**338**	*e*Pn	**Pn**	**04 50 41.6**	**+1.3**
comp=E,7.9nm,0.4s							
LVC				*e*Sn	**Sn**	**04 51 42.5**	**-1.4**
FCH	**Farellones**	**6.27**	**209**	*e*P	**Pn**	**04 50 50.0**	**+1.0**
FCH				*i*S	**Sn**	**04 51 59.9**	**+0.2**
CLCH	**Cerro Calan**	**6.43**	**210**	⇑*i*P	**Pn**	**04 50 51.5**	**+0.3**
CLCH				*i*S	**Sn**	**04 52 02.6**	**-1.0**
CPUP	**Villa Florida**	**8.48**	**82**	*e*Pn	**Pn**	**04 51 15.6**	**-2.8**
comp=E,6.2nm,0.6s							
CPUP				*e*Sn	**Sn**	**04 52 52.9**	**+0.2**
CPUP	**Villa Florida**	**8.48**	**82**	P	**Pn**	**04 51 17.2**	**-1.2**
comp=E,0.2nm,0.3s,baz=280,slow=8.2,SNR=3.6							
LPAZ	**La Paz**	**11.60**	**353**	P	**Pn**	**04 52 00.9**	**+1.2**
comp=E,0.6nm,0.3s,baz=151,slow=12,SNR=19							
SIV	**San Ignacio**	**12.91**	**25**	P	**Pn**	**04 52 16.6**	**-0.1**
comp=E,0.3nm,0.3s,baz=210,slow=14,SNR=18							
BDFB	**Brasilia**	**21.15**	**59**	P	**P**	**04 53 50.6**	**-1.1**
comp=E,0.9nm,0.6s,mb3.3,baz=213,slow=24,SNR=5.0							
ATAH	**Atahualpa**	**23.53**	**330**	LR	LR	05 04 34.4	
comp=E,41nm,18.7s,baz=190,slow=39							
TXAR	**Lajitas Array**	**66.99**	**325**	P	**P**	**04 59 55.5**	**+0.4**
comp=E,0.1nm,0.4s,mb3.0,baz=158,slow=8.4,SNR=4.2							
TORD	**Torodi Ar. Bea**	**77.72**	**68**	P	**P**	**05 00 58.1**	**-0.9**
comp=E,0.6nm,0.5s,mb3.5,baz=268,slow=4.7,SNR=10.0							
MKAR	**Makanchi Array**	**149.22**	**44**	PKPbc	PKPbc	05 08 49.0	+0.1
comp=E,0.4nm,0.5s,baz=305,slow=2.1,SNR=3.9							

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*IDC **29** 04:55:24.9±5.3, 627S×13035E, h145km±49km, mb3.6/1, mb1 3.4/4, mb1mx3.2/13, mbtmp3.3/4, Error ellipse: s-maj=69.0km s-min=20.1km az=73.0*
*NEIC **29** 04:55:25.1±4.0, 632S×13008E, h140km±41km, Error ellipse: s-maj=43.5km s-min=30.5km az=58.0*
*ISCJB **29** 04:55:26.5±2.8, 64S±02×1302E±03, h175km±29km, Error ellipse: s-maj=50.3km s-min=19.6km az=155.3*
ISC 29 04:55:28.8±3.7, 66S±02×1303E±03, h175km±41km, n7, σ1§49/9, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.44**	**161**	*e*Pn	**Pn**	**04 57 02.3**	**+0.7**
9.6nm,0.3s							
KAKA				*e*Sn	**Sn**	**04 58 13.2**	**-1.4**
FITZ	**Fitzroy Crossi**	**12.28**	**201**	P	**Pn**	**04 58 18.0**	**0.0**
0.3nm,0.3s,baz=44,slow=13,SNR=14							
FITZ				S	Sx	05 00 29.2	
0.5nm,0.3s,baz=111,slow=22,SNR=9.4							
WRA	**Warramunga Arr**	**13.84**	**164**	P	**Pn**	**04 58 39.8**	**+2.1**
0.4nm,0.3s,baz=346,slow=11,SNR=18							
WRA				S	**Sn**	**05 01 09.5**	**-2.2**
0.8nm,0.3s,baz=338,slow=22,SNR=12							
WB2	**Warramunga Arr**	**13.85**	**164**	*e*Pn	**Pn**	**04 58 38.0**	**+0.2**
WB2				*e*Sn	Sx	05 01 05.6	
ASAR	**Alice Springs**	**17.32**	**169**	P	**Pn**	**04 59 22.1**	**+1.9**
0.2nm,0.3s,baz=344,slow=9.2,SNR=9.4							
ASAR				S	Sx	05 02 36.6	
0.2nm,0.3s,baz=312,slow=15,SNR=4.3							
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**05 06 07.3**	**-1.9**
MKAR	**Makanchi Array**	**68.03**	**327**	P	**P**	**05 06 07.3**	**-1.9**
0.6nm,0.3s,baz=114,slow=8.9,SNR=6.7							

IDC 29 05:47:33.9±3.5, 2046S×17358E, h0km, mb4.0/3, mb1 4.3/3, mb1mx4.0/13, mbtmp3.9/3, Error ellipse: s-maj=356.9km s-min=32.1km az=159.0, Vanuatu Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.85**	**255**	*e*P	Pn	05 49 22.1	+6.5
DZM				*e*S	Sn	05 50 51.7	+17
ASAR	**Alice Springs**	**36.83**	**258**	P	P	05 54 44.0	0.0
1.0nm,0.7s,baz=92,slow=8.7,SNR=10							
NVAR	**Mina Array Bea**	**86.59**	**47**	P	P	06 00 18.8	-0.4
1.3nm,0.8s,baz=221,slow=11,SNR=5.7							
TXAR	**Lajitas Array**	**93.79**	**60**	P	P	06 00 54.3	+1.0
0.7nm,1.0s,baz=224,slow=5.0,SNR=4.8							

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*IDC **29** 05:48:22.9±1.4, 1380S×16651E, h15km±7km, mb5.0/18, mb1 5.1/18, mb1mx5.1/19, mbtmp5.0/18, MS5.0/15, Ms1 5.0/15, ms1mx4.9/18, Error ellipse: s-maj=12.9km s-min=10.7km az=63.0*
*MOS **29** 05:48:24.5±1.0, 1380S×16657E, h33km, mb5.5/49, MS5.2/19, Error ellipse: s-maj=7.9km s-min=7.2km az=117.9*
*ISCJB **29** 05:48:27.5±0.1, 1386S±004×16661E±003, h64km, mb5.4/93, Error ellipse: s-maj=5.6km s-min=3.6km az=165.1*
*BJI **29** 05:48:27.8, 1347S×16683E, h59km, mB5.8, mb5.4, Ms5.2, Msz5.0*
*CRAAG **29** 05:48:28.3, 1388S×16656E, Mb5.2*
*NEIC **29** 05:48:29.2±0.1, 1383S×16662E, mb5.3/43, Error ellipse: s-maj=6.4km s-min=4.5km az=148.0*
*GCMT **29** 05:48:29.2±0.1, 1398S×16661E, h33km, MW5.7/106, Moment Tensor Solution. s106,c202; s98,c184; Duration: 1§7 Moment tensor: Scale 10^{17}Nm; M_{rr}3.70±.05; $M_{\theta\theta}$0.30±.04; $M_{\phi\phi}$-4.00±.04; $M_{r\theta}$0.80±.07; $M_{\theta\phi}$0.97±.04; $M_{\phi r}$-0.22±.06; Best double couple: $M_0$4.05300×10^{17} NP1:ϕ_s0.00000°, δ44.00000°, λ108.00000°. NP2:ϕ_s156.00000°, δ49.00000°, λ74.00000°. Principal axes: T 3.8790, Plg77.0000°, Azm0.0000°; N 0.3520, Plg12.0000°, Azm167.0000°; P -4.2280, Plg3.0000°, Azm257.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*ORF **29** 05:48:44.2, 299S×16629E, h30km, mb5.6*
ISC 29 05:48:29.2±0.1, 1388S±004×16668E±003, h65km, h65km±1.7km: pP-P, n636, σ0§87/395, mb5.3/93, 124C-93D, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.94**	**303**	P	**Pn**	**05 50 20.9**	**-1.0**
HNR						05 51 46.5	
HNR				pmax	pmax		
comp=Z,43nm,0.3s							
HNR				smax			
comp=N,20nm,0.3s							
HNR				MLR	MLR		
comp=Z,2μm,18.7s							
HNR	**Honiara**	**7.94**	**303**	*e*Pn	**Pn**	**05 50 20.8**	**-1.1**
comp=Z,1μm,0.9s							
HNR	**Honiara**	**7.94**	**303**	Pn	**Pn**	**05 50 20.9**	**-1.0**
comp=Z,43nm,0.3s,baz=239,slow=2.7,SNR=4.7							
HNR				Sn	**Sn**	**05 51 46.5**	**-3.7**
comp=Z,20nm,0.3s,baz=87,slow=18,SNR=3.6							
HNR				LR	LR	05 52 12.5	
comp=Z,2μm,18.7s,baz=170,slow=30							
FUNA	**Funafuti**	**13.38**	**68**	*e*Pn	**Pn**	**05 51 38.1**	**+1.8**
comp=Z,546nm,1.4s							
EIDS	**Eidsvold**	**18.59**	**230**	*e*P	**Pn**	**05 52 42.2**	**0.0**
CTA	**Charters Tower**	**20.48**	**250**	*e*P	**P**	**05 53 02.4**	**+0.6**
comp=Z,44nm,1.0s							
CTA				*e*S	**S**	**05 56 45.9**	**-1.7**
CTA				*e*SCP	ScP	06 00 54.8	+12
CTA	**Charters Tower**	**20.48**	**250**	P	**P**	**05 53 02.9**	**+1.1**
CTA				S	**S**	**05 56 49.4**	**+1.8**
CTA				pmax	pmax		
comp=Z,55nm,1.1s							
CTA				smax			
comp=N,6.0nm,0.8s							
CTA				pmax	pmax		
comp=N,8.0nm,1.0s							
CTA	**Charters Tower**	**20.48**	**250**	P	**P**	**05 53 02.9**	**+1.1**
comp=N,54nm,1.1s,baz=76,slow=13,SNR=16							
CTA				S	**S**	**05 56 49.4**	**+1.8**
comp=N,5.8nm,0.8s,baz=1.9,slow=5.3,SNR=2.5							
CTA				ScP	ScP	06 00 47.9	+5.2
comp=N,8.3nm,1.0s,baz=63,slow=9.3,SNR=3.9							
CTAO	**Charters Tower**	**20.48**	**250**	*e*P	**P**	**05 53 03.0**	**+1.2**
CTAO				pmax	pmax		
comp=Z,55nm,0.9s							
CTAO	**Charters Tower**	**20.48**	**250**	*e*P	**P**	**05 53 03.0**	**+1.2**
comp=Z,55nm,0.9s							
AFI	**Afiamalu**	**20.92**	**93**	*e*P	**P**	**05 53 08.2**	**+1.6**
comp=Z,209nm,1.0s							
AFI	**Afiamalu**	**20.92**	**93**	P	**P**	**05 53 10.0**	**+3.4**
comp=Z,155nm,0.9s,baz=116,slow=8.3,SNR=8.4							
AFI				LR	LR	05 59 24.0	
comp=Z,6μm,18.2s,baz=262,slow=31							
AFI				ScP	ScP	06 00 50.3	+6.5
comp=Z,83nm,0.9s,baz=16,slow=3.0,SNR=6.5							
ARMA	**Armidale**	**21.53**	**218**	*e*P	**P**	**05 53 13.9**	**+0.9**
ARMA				*e*S	**S**	**05 57 13.6**	**+5.6**
COEN	**Coen**	**22.81**	**267**	*e*P	**P**	**05 53 26.4**	**-0.4**
comp=Z,38nm,1.0s,mb4.7							
RIV	**Riverview**	**24.35**	**213**	*e*P	**P**	**05 53 42.1**	**+1.0**
URZ	**Urewera**	**25.99**	**161**	P	**P**	**05 53 57.5**	**+1.6**
comp=Z,37nm,1.0s,mb4.8,baz=0.4,slow=6.4,SNR=14							
URZ				PcP	PcP	05 57 24.4	+1.6
comp=Z,10.0nm,0.8s,baz=315,slow=4.3,SNR=2.6							
URZ				S	**S**	**05 58 29.0**	**+7.1**
comp=Z,16nm,0.9s,baz=167,slow=20,SNR=5.4							
URZ				LR	LR	06 02 49.6	
comp=Z,7μm,19.9s,baz=162,slow=33							
CNB	**Canberra Magne**	**26.44**	**213**	*e*P	**P**	**05 54 02.4**	**+2.4**
comp=Z,46nm,1.0s,mb4.9							
CNB				*e*SCP	ScP	06 01 10.0	+12
STKA	**Stephens Creek**	**29.12**	**228**	*e*P	**P**	**05 54 24.6**	**+0.6**
comp=Z,44nm,0.5s,mb5.3							
STKA				*e*PCP	PcP	05 57 30.3	-0.2
STKA				*e*S	**S**	**05 59 15.8**	**+4.4**
STKA				*e*SCP	ScP	06 01 18.4	+12
STKA	**Stephens Creek**	**29.12**	**228**	P	**P**	**05 54 22.4**	**-1.6**
comp=Z,30nm,0.7s,mb5.1,baz=39,slow=7.2,SNR=36							
STKA				PcP	PcP	05 57 30.5	0.0
comp=Z,13nm,0.8s,baz=47,slow=4.5,SNR=4.7							
STKA				ScP	ScP	06 01 10.9	+4.2
comp=Z,7.4nm,0.9s,baz=33,slow=7.5,SNR=3.1							
STKA				LR	LR	06 05 56.9	
comp=Z,13μm,19.1s,baz=53,slow=36							

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RPZ	**Rata Peaks**	**29.97**	**174**	P	**P**	**05 54 30.1**	**-1.2**
comp=Z,48nm,0.8s,mb5.2,baz=351,slow=1.9,SNR=15							
RPZ				S	**S**	**05 59 31.9**	**+7.4**
comp=Z,6.5nm,0.8s,baz=142,slow=22,SNR=3.3							
RPZ				ScP	ScP	06 01 15.6	+6.5
comp=Z,15nm,0.9s,baz=77,slow=11,SNR=3.6							
TOO	**Toolangi**	**30.21**	**215**	*e*P	**P**	**05 54 33.8**	**+0.3**
comp=Z,347nm,0.8s,mb6.0							
TOO				*e*S	**S**	**05 59 33.1**	**+4.8**
TOO				*e*SCP	ScP	06 01 21.6	+12
TOO	**Toolangi**	**30.21**	**215**	*e*P	**P**	**05 54 33.8**	**+0.3**
TOO				*e*S	**S**	**05 59 33.1**	**+4.8**
TOO				pmax	pmax		
comp=Z,347nm,0.8s,mb6.0							
WB2	**Warramunga Arr**	**31.48**	**254**	*e*P	**P**	**05 54 43.7**	**-1.2**
WB2				*e*PCP	PcP	05 57 36.6	-0.3
WB2				*e*S	**S**	**05 59 39.9**	**-8.7**
WB2				*e*SCP	ScP	06 01 26.5	+12
WRAB	**Tennant Creek**	**31.48**	**254**	P	**P**	**05 54 43.1**	**-1.8**
comp=Z,179nm,1.4s,mb5.6,SNR=5.5							
WRAB	**Tennant Creek**	**31.48**	**254**	*e*P	**P**	**05 54 44.0**	**-0.9**
WRAB				pmax	pmax		
comp=Z,82nm,1.5s,mb5.2							
WRAB	**Tennant Creek**	**31.48**	**254**	*e*P	**P**	**05 54 44.0**	**-0.9**
comp=Z,82nm,1.5s,mb5.2							
WRA	**Warramunga Arr**	**31.49**	**254**	P	**P**	**05 54 43.8**	**-1.2**
WRA						05 57 36.7	
WRA				S	**S**	**05 59 48.9**	**+0.1**
WRA				pmax	pmax		
comp=Z,8.0nm,0.8s							
WRA				pmax	pmax		
comp=Z,12nm,1.0s							
WRA				smax			
comp=N,2.0nm,0.9s							
WRA				pmax	pmax		
comp=N,9.0nm,1.0s							
WRA				pmax	pmax		
comp=Z,3.0nm,0.7s							
WRA				MLR	MLR		
comp=Z,5μm,21.7s							
WRA	**Warramunga Arr**	**31.49**	**254**	P	**P**	**05 54 43.8**	**-1.2**
WRA				PcP	PcP	05 57 36.7	-0.2
WRA				S	**S**	**05 59 48.9**	**+0.1**
WRA				ScP	ScP	06 01 17.8	+3.2
WRA	**Warramunga Arr**	**31.49**	**254**	P	**P**	**05 54 43.8**	**-1.2**
comp=Z,8.2nm,0.8s,mb4.5,baz=87,slow=9.5,SNR=94							
WRA				PcP	PcP	05 57 36.7	-0.2
comp=Z,12nm,0.9s,baz=77,slow=2.3,SNR=7.5							
WRA				S	**S**	**05 59 48.9**	**+0.1**
comp=Z,2.2nm,0.9s,baz=85,slow=15,SNR=4.6							
WRA				ScP	ScP	06 01 17.8	+3.2
comp=Z,8.8nm,1.0s,baz=78,slow=3.3,SNR=8.9							
WRA				PKiKP	PKiKP	06 05 05.1	-1.3
comp=Z,2.6nm,0.7s,baz=357,slow=0.5,SNR=32							
WRA				LR	LR	06 06 22.8	
comp=Z,5μm,21.7s,baz=85,slow=34							
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**05 54 52.1**	**-1.4**
ASAR						05 57 39.5	
ASAR				pmax	pmax		
comp=Z,21nm,0.5s							
ASAR				pmax	pmax		
comp=Z,9.0nm,1.0s							
ASAR				pmax	pmax		
comp=N,8.0nm,1.0s							
ASAR				pmax	pmax		
comp=Z,1.0nm,0.7s							
ASAR	**Alice Springs**	**32.45**	**248**	P	**P**	**05 54 52.1**	**-1.4**
comp=Z,21nm,0.5s,mb5.1,baz=74,slow=9.4,SNR=168							
ASAR				PcP	PcP	05 57 39.5	0.0
comp=Z,8.5nm,0.9s,baz=78,slow=5.0,SNR=5.1							
ASAR				S	**S**	**06 00 17.6**	**+14**
comp=Z,1.7nm,0.9s,baz=65,slow=9.0,SNR=3.3							
ASAR				ScP	ScP	06 01 20.4	+2.6
comp=Z,8.0nm,1.0s,baz=85,slow=3.3,SNR=4.8							
ASAR				PKiKP	PKiKP	06 05 05.5	-1.5
comp=Z,1.3nm,0.7s,baz=105,slow=1.3,SNR=8.0							
RAR	**Rarotonga**	**32.76**	**108**	P	**P**	**05 54 58.0**	**+1.8**
comp=Z,97nm,1.2s,mb5.5,baz=244,slow=6.9,SNR=4.9							
RAR				LR	LR	06 05 45.0	
comp=Z,5μm,19.0s,baz=270,slow=32							
KAKA	**Kakadu**	**33.32**	**268**	*e*P	**P**	**05 55 00.9**	**-0.3**
comp=Z,41nm,0.7s,mb5.4							
KAKA				*e*PCP	PcP	05 57 42.3	+0.3
KAKA				*e*SCP	ScP	06 01 33.5	+13
FORT	**Forrest**	**39.25**	**238**	*e*P	**P**	**05 55 51.4**	**-0.1**
comp=Z,80nm,0.7s,mb5.7							
FITZ	**Fitzroy Crossi**	**39.62**	**258**	*e*P	**P**	**05 55 54.3**	**-0.5**
comp=Z,17nm,0.9s,mb4.9							
FITZ				*e*pP	pP	05 56 12.9	+2.0
FITZ				*e*sP	sP	05 56 26.5	+8.0
FITZ				*e*SCP	ScP	06 01 55.6	+11
FITZ				*e*S	**S**	**06 01 59.7**	**+6.3**
FITZ				*e*SS	SS	06 05 04.0	+13
FITZ	**Fitzroy Crossi**	**39.62**	**258**	P	**P**	**05 55 54.1**	**-0.6**
comp=Z,7.2nm,0.7s,mb4.6,baz=110,slow=10.0,SNR=25							
PPT	**Papeete**	**42.20**	**101**	*e*S	**S**	**06 02 47.1**	**+15**
PPT				*e*LQ		06 06 16.3	
comp=Z,6μm,29.0s							
PPT				*e*LQ		06 06 23.4	
comp=Z,4μm,31.5s							
PPT				*e*LR	LR	06 08 20.4	
comp=Z,6μm,24.8s,baz=266							
PPT	**Papeete**	**42.20**	**101**	P	**P**	**05 56 18.1**	**+2.0**
comp=Z,8.7nm,0.6s,mb4.7,baz=30,slow=8.1,SNR=2.1							
PPT				LR	LR	06 09 11.2	
comp=Z,2μm,21.6s,baz=272,slow=30							
TVO	**Taravao**	**42.51**	**101**	*e*P	**P**	**05 56 22.9**	**+4.4**
comp=Z

KS15	**Wonju Array Si**	**62.73 326**	*e*P	**P**	**05 58 47.0**	**-0.5**
INCN	**Inchon**	**63.45 325**	*e*P	**P**	**05 58 52.3**	**0.0**
	comp=Z,19nm,0.6s,mb5.2					
VNDA	**Vanda**	**63.70 181**	*e*P	**P**	**05 58 52.8**	**-0.6**
	comp=Z,43nm,1.1s,mb5.2					
VNDA	**Vanda**	**63.70 181**	P	**P**	**05 58 52.8**	**-0.6**
	comp=Z,22nm,1.0s,mb4.9,baz=360,slow=6.7,SNR=66					
VNDA			LR	LR	06 23 55.8	
	comp=Z,744nm,20.3s,baz=33,slow=33					
VNDA			PKP2bc		06 27 54.4	
	comp=Z,1.0nm,1.0s,baz=242,slow=6.3,SNR=4.3					
GZH	**Guangzhou**	**63.82 305**	P	**P**	**05 58 56.8**	**+1.7**
GZH			S	**S**	**06 07 27.3**	**+1.7**
GZH			LR	LR		
	comp=N,347nm,19.1s					
GZH			LR	LR		
	comp=E,420nm,20.0s					
GZH			LR	LR		
	comp=Z,764nm,21.0s					
SBA	**Scott Base**	**63.98 180**	*e*P	**P**	**05 58 56.0**	**+0.7**
CASY	**Casey**	**64.10 202**	*e*P	**P**	**05 58 55.6**	**-0.5**
CASY			*e*S	**S**	**06 07 30.8**	**+3.1**
YSS	**Yuzh-Sakhalins**	**64.24 342**α	*i*P	**P**	**05 58 58.0**	**+0.7**
YSS			*e*S	**S**	**06 07 30.0**	**+0.1**
YSS			pmax	pmax		
	comp=Z,60nm,1.2s,mb5.3					
YSS			pmax	pmax		
	comp=Z,600nm,8.0s					
YSS			MLR	MLR		
	comp=N,1μm,18.0s					
YSS			MLR	MLR		
	comp=Z,1μm,18.0s					
YSS	**Yuzh-Sakhalins**	**64.24 342**	*e*P	**P**	**05 58 57.6**	**+0.3**
NJ2	**Nanjing**	**64.67 316**	*e*P	**P**	**05 59 00.0**	**-0.4**
NJ2			AP	pP	05 59 14.5	-3.2
NJ2			XP	sP	05 59 23.5	-1.5
NJ2			PCP	PcP	05 59 33.5	-0.2
NJ2			S	**S**	**06 07 32.0**	**-3.8**
NJ2			XS	sS	06 08 01.5	-3.6
NJ2			AMB	AMB		
	comp=Z,210nm,1.1s,mb5.9					
NJ2			AMB	AMB		
	comp=Z,930nm,5.6s					
NJ2			LR	LR		
	comp=N,1μm,20.7s					
NJ2			LR	LR		
	comp=E,1μm,19.2s					
NJ2			LR	LR		
	comp=Z,1μm,20.6s					
QIZ	**Qiongzhong**	**64.83 299**	P	**P**	**05 59 03.0**	**+1.3**
QIZ			AP	pP	05 59 17.3	-1.7
QIZ			XP	sP	05 59 25.0	-1.3
QIZ			PP	PP	06 01 25.0	-0.1
QIZ			S	**S**	**06 07 41.5**	**+3.4**
QIZ			XS	sS	06 08 07.5	0.0
QIZ			SS	SS	06 11 55.0	+4.1
QIZ			AMB	AMB		
	comp=Z,31nm,1.7s,mb4.9					
QIZ			AMB	AMB		
	comp=Z,393nm,7.6s					
QIZ			LR	LR		
	comp=N,187nm,20.4s					
QIZ			LR	LR		
	comp=E,477nm,20.4s					
QIZ			LR	LR		
	comp=Z,866nm,27.1s					
QIZ	**Qiongzhong**	**64.83 299**	*e*P	**P**	**05 59 02.3**	**+0.6**
	comp=Z,144nm,1.8s,mb5.5					
WHN	**Wuhan**	**66.95 312**	⇑P	**P**	**05 59 15.5**	**+0.4**
WHN			S	S	06 08 06.3	+2.7
WHN			AMB	AMB		
	comp=Z,72nm,1.1s,mb5.4					
WHN			AMB	AMB		
	comp=Z,754nm,11.4s					
WHN			LR	LR		
	comp=N,394nm,10.2s					
WHN			LR	LR		
	comp=E,1μm,18.8s					
WHN			LR	LR		
	comp=Z,1μm,20.7s					
PET	**Petropavlovsk**	**66.98 355**	*e*P	**P**	**05 59 14.9**	**+0.1**
PET			*e*S	S	06 08 04.5	+1.4
PET			*e*PS		06 08 28.1	
PET			*e*SS	SS	06 12 26.2	+3.0
PET			pmax	pmax		
	comp=Z,400nm,12.8s					
MDJ	**Mudanjiang**	**67.26 332**	P	**P**	**05 59 17.8**	**+1.0**
MDJ			AP	pP	05 59 34.0	-0.2
MDJ			XP	sP	05 59 41.0	-0.4
MDJ			PCP	PcP	05 59 44.8	+0.6
MDJ			PP	PP	06 01 45.8	-0.2
MDJ			S	S	06 08 09.5	+2.7
MDJ			XS	sS	06 08 36.3	0.0
MDJ			SCS	ScS	06 09 09.5	+0.6
MDJ			AMB	AMB		
	comp=Z,69nm,1.4s,mb5.3					
MDJ			AMB	AMB		
	comp=Z,526nm,5.9s					
MDJ			LR	LR		
	comp=N,606nm,20.8s					
MDJ			LR	LR		
	comp=E,443nm,23.8s					
MDJ			LR	LR		
	comp=Z,730nm,24.9s					
MDJ	**Mudanjiang**	**67.26 332**	*e*P	**P**	**05 59 17.4**	**+0.6**
	comp=Z,408nm,1.9s,mb5.9					
DL2	**Dalian**	**67.28 323**	⇑*i*P	**P**	**05 59 17.8**	**+0.8**
DL2			AP	pP	05 59 36.0	+1.6
DL2			S	S	06 08 10.3	+3.1
DL2			AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3					
DL2			AMB	AMB		
	comp=Z,210nm,5.1s					
DL2			LR	LR		
	comp=N,250nm,24.0s					
DL2			LR	LR		
	comp=E,600nm,23.2s					
DL2			LR	LR		
	comp=Z,600nm,23.2s					
HABR	**Khabarovsk**	**68.13 338**	⇑*i*P	**P**	**05 59 22.9**	**+0.7**
HABR			*e*		05 59 45.4	
HABR			*e*S	S	06 08 16.1	-1.0
HABR			*e*		06 08 38.2	
HABR			pmax	pmax		
	comp=Z,236nm,1.8s,mb5.7					
SNY	**Shenyang**	**68.18 327**	⇑P	**P**	**05 59 22.5**	**-0.1**
SNY			S	S	06 08 22.3	+4.4
SNY			AMB	AMB		
	comp=Z,35nm,2.1s,mb4.8					
SNY			AMB	AMB		
	comp=Z,483nm,5.6s					
SNY			LR	LR		
	comp=N,728nm,18.6s					
SNY			LR	LR		
	comp=E,351nm,24.0s					
SNY			LR	LR		
	comp=Z,778nm,21.3s					
KULM	**Kulim**	**68.22 282**	*e*P	**P**	**05 59 23.6**	**+0.1**
TIA	**Tai'an**	**68.32 319**	⇑P	**P**	**05 59 23.8**	**+0.1**
TIA			AMB	AMB		
	comp=Z,76nm,1.4s,mb5.3					
CN2	**Changchun**	**68.62 329**	⇑P	**P**	**05 59 26.0**	**+0.6**
CN2			*e*XP	sP	05 59 51.0	+0.9
CN2			*e*S	S	06 08 23.8	+0.7
CN2			AMB	AMB		
	comp=Z,80nm,1.2s,mb5.4					
CN2			AMB	AMB		
	comp=Z,500nm,5.0s					
CN2			LR	LR		
	comp=N,700nm,21.0s					
CN2			LR	LR		
	comp=E,400nm,21.0s					
CN2			LR	LR		
	comp=Z,800nm,23.0s					
PSI	**Prapat**	**69.16 278**	P	**P**	**05 59 28.4**	**-1.0**
PSI			pmax	pmax		
	comp=Z,20nm,1.0s,mb4.9					
PSI	**Prapat**	**69.16 278**	P	**P**	**05 59 28.4**	**-1.0**
	comp=Z,20nm,1.0s,mb4.9,baz=172,slow=4.8,SNR=19					
NIKO	**Nikolski**	**69.83 15**	*e*P	**P**	**05 59 31.2**	**-1.4**
	comp=Z,170nm,1.1s,mb5.8					
KLR	**Kul'dur**	**70.00 336**	⇓*i*P	**P**	**05 59 30.8**	**-2.9**
KLR			*e*S	S	06 08 39.5	+0.4
KLR			pmax	pmax		
	comp=E,90nm,2.0s					
KLR			pmax	pmax		
	comp=Z,280nm,2.0s,mb5.8					
KLR			pmax	pmax		
	comp=Z,1μm,5.5s					
GYA	**Guiyang**	**70.76 305**	⇑*i*P	**P**	**05 59 40.0**	**+1.1**
GYA			AP	pP	05 59 58.8	+2.3
GYA			PCP	PcP	06 00 01.3	+1.9
GYA			XP	sP	06 00 05.8	+2.1
GYA			PP	PP	06 02 20.0	+3.4
GYA			S	S	06 08 55.0	+6.1
GYA			XS	sS	06 09 19.8	+1.2
GYA			SKS		06 09 32.5	
GYA			SCS	ScS	06 09 35.0	-2.3
GYA			SS	SS	06 13 24.5	+2.0
GYA			AMB	AMB		
	comp=Z,50nm,1.0s,mb5.3					
GYA			AMB	AMB		
	comp=Z,580nm,7.2s					
GYA			LR	LR		
	comp=N,1μm,21.9s					
GYA			LR	LR		
	comp=E,370nm,19.8s					
GYA			LR	LR		
	comp=Z,1μm,21.3s					
MIR	**Mirnyy**	**70.87 204**α	*i*P	**P**	**05 59 39.0**	**+0.1**
MIR			pmax	pmax		
	comp=Z,400nm,1.0s,mb6.2					
MIR			pmax	pmax		
	comp=Z,1μm,2.0s,mb6.4					
BJT	**Baijiatuau**	**71.23 321**	*e*P	**P**	**05 59 41.8**	**+0.3**
BJT			pmax	pmax		
	comp=Z,229nm,1.8s					
BJT	**Baijiatuau**	**71.23 321**	*e*P	**P**	**05 59 41.8**	**+0.3**
	comp=Z,229nm,1.8s,mb5.7					
UNV	**Unalaska Valle**	**71.24 16**	*e*P	**P**	**05 59 39.6**	**-1.6**
	comp=Z,27nm,1.0s,mb5.0					
BJI	**Beijing**	**71.24 321**	P	**P**	**05 59 42.0**	**+0.5**
BJI			AP	pP	05 59 59.5	+0.4
BJI			XP	sP	06 00 06.3	0.0
BJI			PP	PP	06 02 21.3	+0.8
BJI			S	S	06 08 56.8	+2.8
BJI			XS	sS	06 09 24.8	+1.1
BJI			AMB	AMB		
	comp=Z,75nm,1.5s,mb5.3					
BJI			AMB	AMB		
	comp=Z,993nm,4.4s					
BJI			LR	LR		
	comp=N,1μm,22.8s					
BJI			LR	LR		
	comp=E,601nm,20.9s					
BJI			LR	LR		
	comp=Z,2μm,23.6s					
NST	**Nakhon Sawan**	**72.04 292**	P	**P**	**05 59 48.0**	**+1.2**
TIY	**Taiyuan**	**72.25 317**	⇑*i*P	**P**	**05 59 48.0**	**+0.4**
TIY			AP	pP	05 59 59.8	-5.4
TIY			S	S	06 08 57.0	-8.6
TIY			AMB	AMB		
	comp=Z,1μm,2.4s,mb6.4					
TIY			LR	LR		
	comp=N,999nm,17.0s					
TIY			LR	LR		
	comp=E,1μm,21.3s					
TIY			LR	LR		
	comp=Z,1μm,17.0s					
NANT	**Nan**	**72.65 295**	⇑P	**P**	**05 59 49.0**	**-1.4**
	comp=Z,115nm,0.8s,mb5.8					
XAN	**Xi'an**	**72.69 313**	P	**P**	**05 59 51.0**	**+0.7**
XAN			AP	pP	06 00 04.5	-3.5
XAN			S	S	06 09 09.8	-1.0
XAN			AMB	AMB		
	comp=Z,54nm,1.5s,mb5.2					
XAN			AMB	AMB		
	comp=Z,486nm,6.9s					
XAN			LR	LR		
	comp=N,192nm,18.3s					
XAN			LR	LR		
	comp=E,430nm,21.9s					
XAN			LR	LR		
	comp=Z,684nm,19.5s					
KMI	**Kunming**	**73.37 302**	P	**P**	**05 59 56.0**	**+1.5**
KMI			AP	pP	06 00 08.5	-3.7
KMI			XP	sP	06 00 13.0	-6.4
KMI			PP	PP	06 02 41.0	+2.0
KMI			S	S	06 09 19.0	+0.1
KMI			SKS		06 09 53.5	
KMI			SCS	ScS	06 09 57.5	-0.6
KMI			SS	SS	06 14 02.5	-0.1
KMI			AMB	AMB		
	comp=Z,90nm,1.7s,mb5.3					
KMI			AMB	AMB		
	comp=Z,649nm,3.5s					
KMI			LR	LR		
	comp=N,359nm,18.9s					
KMI			LR	LR		
	comp=E,491nm,21.5s					
KMI			LR	LR		
	comp=Z,735nm,21.5s					
CHTO	**Chiang Mai**	**74.20 294**	*e*P	**P**	**06 00 00.1**	**+0.6**
MA2	**Magadan**	**74.32 352**c	*i*P	**P**	**05 59 58.5**	**-0.8**
MA2			*e**PP	pP	06 00 20.3	+3.3
MA2			*e*S	S	06 09 25.7	-2.5
MA2			*e**SS	sS	06 10 02.4	+4.3
MA2			pmax	pmax		
	comp=Z,50nm,1.6s,mb5.0					
MA2			pmax	pmax		
	comp=N,20nm,1.4s					
MA2			MLR	MLR		
	comp=Z,500nm,18.0s					
MA2	**Magadan**	**74.32 352**	*e*P	**P**	**05 59 59.1**	**-0.2**
	comp=Z,122nm,1.9s,mb5.3					
HHC	**Hu-ho-hao-te**	**74.57 320**	⇑*i*P	**P**	**06 00 02.5**	**+1.3**
HHC			PCP	PcP	06 00 17.3	+2.0
HHC			AP	pP	06 00 19.3	+0.4
HHC			XP	sP	06 00 26.3	+0.3
HHC			PP	PP	06 02 52.0	+3.2
HHC			S	S	06 09 33.0	+1.3
HHC			XS	sS	06 10 01.5	-0.2
HHC			SS	SS	06 14 22.5	+2.3
HHC			AMB	AMB		
	comp=Z,138nm,1.3s,mb5.5					
HHC			AMB	AMB		
	comp=Z,961nm,5.8s					
HHC			LR	LR		
	comp=N,707nm,17.6s					
HHC			LR	LR		
	comp=E,779nm,19.1s					
HHC			LR	LR		
	comp=Z,2μm,18.6s					
CD2	**Chengdu**	**75.04 308**	P	**P**	**06 00 05.3**	**+1.2**
CD2			AP	pP	06 00 22.8	+1.0
CD2			XP	sP	06 00 31.3	+2.3
CD2			PP	PP	06 02 51.5	-1.5
CD2			S	S	06 09 35.0	-2.3
CD2			XS	sS	06 10 05.5	-1.8
CD2			SS	SS	06 14 27.3	-0.5
CD2			AMB	AMB		
	comp=Z,90nm,1.3s,mb5.3					
CD2			AMB	AMB		
	comp=Z,1μm,5.6s					
CD2			LR	LR		
	comp=N,410nm,14.4s					
CD2			LR	LR		
	comp=E,460nm,18.0s					
CD2			LR	LR		
	comp=Z,580nm,16.8s					
HIA	**Hailar**	**75.27 330**	*e*P	**P**	**06 00 05.2**	**+0.2**
HIA			pmax	pmax		
	comp=Z,109nm,1.3s					
HIA	**Hailar**	**75.27 330**	*e*P	**P**	**06 00 05.2**	**+0.2**
	comp=Z,109nm,1.3s,mb5.4					
BTO	**Baotou**	**75.41 319**	*e*P	**P**	**06 00 07.3**	**+1.3**
CHGN	**Chignik**	**75.75 19**	*e*P	**P**	**06 00 07.1**	**-0.5**
QSPA	**South Pole Qui**	**76.14 180**	*e*P	**P**	**06 00 09.8**	**+0.2**
LZH	**Lanzhou**	**77.32 312**	⇑P	**P**	**06 00 19.0**	**+2.0**
LZH			PP	PP	06 03 17.5	+5.3
LZH			S	S	06 10 00.3	-1.9
LZH			SKS		06 10 19.0	
LZH			SS	SS	06 15 03.5	+1.3
LZH			AMB	AMB		
	comp=Z,159nm,1.4s,mb5.6					
LZH			AMB	AMB		
	comp=Z,567nm,7.6s					
LZH			LR	LR		
	comp=N,536nm,16.1s					
LZH			LR	LR		
	comp=Z,958nm,19.3s					
SEY	**Seymchan**	**77.37 353**c	*i*P	**P**	**06 00 16.3**	**-0.3**
NRGR	**Nerungri**	**78.45 338**	*e*P	**P**	**06 00 24.7**	**+1.9**
CLNS	**Chul'man**	**78.53 338**	*e*P	**P**	**06 00 22.7**	**-0.5**
CLNS			*e*		06 00 30.1	
CLNS			*e*S	S	06 10 11.7	-2.6
CLNS			*e*		06 10 56.3	
CLNS			pmax	pmax		
	comp=Z,72nm,1.1s,mb5.4					
CLNS			pmax	pmax		
	comp=N,33nm,1.0s					
CLNS			pmax	pmax		
	comp=E,12nm,1.1s					
CLNS			pmax	pmax		
	comp=Z,8.0nm,0.7s,mb4.7					
CLNS			pmax	pmax		
	comp=N,8.0nm,0.9s					
CLNS			pmax	pmax		
	comp=E,9.0nm,0.7s					
CLNS			smax			
	comp=N,353nm,13.2s					
CLNS			smax			
	comp=Z,114nm,11.2s					
CLNS			smax			
	comp=E,379nm,12.4s					
SVW2	**Sparrevohn**	**80.51 18**	*e*P	**P**	**06 00 36.3**	**+2.4**
YAK	**Yakutsk**	**81.05 343**c	*i*P	**P**	**06 00 36.4**	**-0.3**
YAK			*e**PP	pP	06 00 47.4	-7.2
YAK			*e*S	S	06 10 40.0	-0.7
YAK			pmax	pmax		
	comp=Z,65nm,1.1s,mb5.4					
YAK			pmax	pmax		
	comp=N,20nm,1.0s					
YAK			pmax	pmax		
	comp=E,17nm,1.3s					
YAK			pmax	pmax		
	comp=Z,75nm,2.6s,mb5.1					
YAK			pmax	pmax		
	comp=N,68nm,2.8s					
YAK			pmax	pmax		
	comp=E,39nm,3.1s					
YAK			smax			
	comp=E,103nm,2.7s					
YAK			smax			
	comp=N,64nm,2.8s					
YAK			MLR	MLR		
	comp=Z,2μm,19.0s					
YAK			MLR	MLR		
	comp=N,1μm,18.0s					
YAK			MLR	MLR		
	comp=E,837nm,17.0s					
ULN	**Ulaanbaatar**	**81.11 324**	*e*P	**P**	**06 00 38.0**	**+0.6**
ULN			pmax	pmax		
	comp=Z,97nm,1.1s,mb5.5					
ULN	**Ulaanbaatar**	**81.11 324**	*e*P	**P**	**06 00 38.0**	**+0.6**
	comp=Z,97nm,1.1s,mb5.5					
SONM	**Songino Array**	**81.47 324**	P	**P**	**06 00 40.0**	**+0.7**
	comp=Z,16nm,0.8s,mb4.9,baz=129,slow=5.0,SNR=106					
SONM			LR	LR	06 34 32.8	
	comp=Z,862nm,21.8s,baz=124,slow=34					
GTA	**Gaotai**	**81.67 314**	⇑P	**P**	**06 00 42.0**	**+1.5**
GTA			AP	pP	06 00 58.5	+0.1
GTA			XP	sP	06 01 05.3	-0.3
GTA			PP	PP	06 03 52.3	+4.0
GTA			S	S	06 10 50.0	+2.0
GTA			SKS		06 10 52.8	
GTA			XS	sS	06 11 19.8	+1.4
GTA			AMB	AMB		
	comp=Z,126nm,1.3s,mb5.6					
GTA			AMB	AMB		
	comp=Z,963nm,6.8s					
GTA			LR	LR		
	comp=N,297nm,19.0s					
GTA			LR	LR		
	comp=E,481nm,19.0s					
GTA			LR	LR		
	comp=Z,384nm,19.8s					
BILL	**Bilibino**	**81.69 360**c	*i*P	**P**	**06 00 39.3**	**-0.7**
BILL			pmax	pmax		
	comp=Z,54nm,1.5s,mb5.2					
BILL	**Bilibino**	**81.69 360**	*e*P	**P**	**06 00 39.5**	**-0.4**
	comp=Z,57nm,1.2s,mb5.3					
SLKM	**Skilak Lake**	**81.73 20**	*e*P	**P**	**06 00 40.7**	**+0.3**
TTA	**Tatalina**	**81.87 16**	*e*P	**P**	**06 00 43.0**	**+2.0**
MAW	**Mawson**	**82.45 202**	*e*P	**P**	**06 00 43.8**	**-0.4**
	comp=Z,19nm,0.9s,mb4.9					
MAW			*e*SCP		06 01 05.7	
MAW	**Mawson**	**82.45 202**	*e*P	**P**	**06 00 43.8**	**-0.4**
MAW			pmax	pmax		
	comp=Z,19nm,0.9s					
MAW	**Mawson**	**82.45 202**	LR	LR	06 31 47.0	
	comp=Z,2μm,21.3s,baz=92,slow=32					
SHL	**Shillong**	**82.66 299**	⇑*i*P	**P**	**06 00 43.0**	**-3.0**
PMR	**Palmer**	**82.89 20**	*e*P	**P**	**06 00 46.7**	**+0.3**
PMR			pmax	pmax		
	comp=Z,13nm,0.7s,mb4.9					
PMR	**Palmer**	**82.89 20**	*e*P	**P**	**06 00 46.7**	**+0.3**
	comp=Z,13nm,0.7s,mb4.9					
BOD	**Bodaibo**	**83.46 335**	*e*P	**P**	**06 00 48.9**	**-0.5**
BOD			pmax	pmax		
	comp=Z,39nm,1.7s,mb5.0					
ZAK	**Zakamensk**	**84.53 325**	⇓*i*P	**P**	**06 00 54.8**	**-0.2**
ZAK			*e*		06 04 06.6	
ZAK			*e*		06 11 16.2	
ZAK			pmax	pmax		
	comp=Z,58nm,1.2s,mb5.4					
ZAK			pmax	pmax		
	comp=Z,3.0nm,1.9s					
U04C	**Hernandez Rese**	**84.58 51**	⇓P	**P**	**06 00 56.0**	**+0.4**
	baz=85					
VIB	**Van Inlet**	**84.58 32**	T		07 32 38.2	
	SNR=7.5					
PKD	**Parkfield**	**84.61 51**	⇓P	**P**	**06 00 57.1**	**+1.4**
	baz=85					
LSA	**Lhasa**	**84.62 302**	P	**P**	**06 00 56.8**	**+0.8**
LSA			S	S	06 11 23.5	+5.1
LSA			AMB	AMB		
	comp=Z,40nm,1.5s,mb5.1					
LSA			LR	LR		
	comp=E,380nm,21.6s					
LSA			LR	LR		
	comp=Z,430nm,23.7s					
LSA	**Lhasa**	**84.62 302**	*e*P	**P**	**06 00 57.5**	**+1.5**
LSA			pmax	pmax		
	comp=Z,287nm,1.9s,mb5.9					
LSA	**Lhasa**	**84.62 302**	*e*P	**P**	**06 00 57.5**	**+1.5**
	comp=Z,286nm,1.9s,mb5.9					
WDC	**Whiskeytown Da**	**84.89 46**	*e*pP	pP	06 01 14.8	-0.3
SUTB	**Sutter Butte**	**84.91 48**	⇑P	**P**	**06 00 55.9**	**-1.3**
	baz=85					
IRK	**Irkutsk**	**84.91 327**	⇑*i*P	**P**	**06 00 56.3**	**-0.6**
IRK			pmax	pmax		
	comp=Z,222nm,0.1s					
TLY	**Talaya**	**84.97 326**	P	**P**	**06 00 57.6**	**+0.4**
	comp=Z,368nm,1.2s,mb6.2,SNR=29					
TLY	**Talaya**	**84.97 326**c	*i*P	**P**	**06 00 57.1**	**-0.1**
TLY			*e*		06 04 11.4	
TLY			*e*S	S	06 11 19.3	-1.6
TLY			pmax	pmax		
	comp=Z,95nm,1.2s,mb5.6					
TLY	**Talaya**	**84.97 326**	*e*P	**P**	**06 00 57.5**	**+0.3**
IMA2	**Indian Mountai**	**84.98 15**	*e*P	**P**	**06 00 56.6**	**-0.3**
M02C	**Callahan**	**84.99 45**	⇓P	**P**	**06 00 58.5**	**+0.9**
	baz=85					
YBH	**Yreka Blue Hor**	**85.22 45**	*e*P	**P**	**06 00 58.6**	**-0.1**
YBH			*e**PP	pP	06 01 17.0	+0.2
YBH			pmax	pmax		
	comp=Z,17nm,1.1s					
YBH	**Yreka Blue Hor**	**85.22 45**	*e*P	**P**	**06 00 58.6**	**-0.1**
	comp=Z,17nm,1.1s,mb4.9					
YBH			*e*pP	pP	06 01 17.0	+0.3
YBH	**Yreka Blue Hor**	**85.22 45**	⇑P	**P**	**06 01 00.7**	**+1.9**
	baz=85					
ORV	**Oroville**	**85.23 47**	⇑P	**P**	**06 00 59.3**	**+0.5**
	baz=85					
HUMO	**Hull Mountain**	**85.40 44**	*e*pP	pP	06 01 22.2	+4.6
HUMO	**Hull Mountain**	**85.40 44**	⇓P	**P**	**06 00 58.8**	**-0.8**
	baz=86					
M03C	**McCloud**	**85.45 46**	⇓P	**P**	**06 00 59.7**	**-0.2**
	baz=86					
CMB	**Columbia Colle**	**85.48 49**	*e*P	**P**	**06 01 00.2**	**+0.1**
CMB	**Columbia Colle**	**85.48 49**	⇓P	**P**	**06 00 59.4**	**-0.6**
	baz=86					
LAVA	**Lava Cap Winer**	**85.48 48**	⇓P	**P**	**06 00 59.8**	**-0.3**
	baz=86					
T06C	**Millerton Lake**	**85.61 50**	⇑P	**P**	**06 01 00.8**	**0.0**

baz=86
COLA College 85.68 18 eP P 06 00 59.2 -1.3
COLA pmax pmax
comp=Z,20nm,0.9s,mb5.0
COLA College 85.68 18 eP P 06 00 59.2 -1.3
comp=Z,20nm,0.9s,mb5.0
HATC Hat Creek Radi 85.74 46 ⇓P P 06 01 00.8 -0.5
baz=86
P05C Yuba Gap, Truc 85.78 48 ⇓P P 06 01 02.3 +0.8
baz=86
O05C Quincy 85.80 47 ⇓P P 06 01 02.1 +0.5
baz=86
O04C Chester 85.82 47 ⇑P P 06 01 01.5 -0.2
baz=86
S06C San Francisco 85.82 50 ⇑P P 06 01 01.8 0.0
baz=86
M04C Macdoel 85.84 45 ⇓P P 06 01 02.7 +0.9
baz=86
MWC Mount Wilson 85.91 53 eP P 06 01 03.4 +1.1
HELL Mitchell Peak 86.01 51 ⇓P P 06 01 02.7 0.0
baz=86
KCC Kaiser Creek 86.02 50 ⇓P P 06 01 03.4 +0.7
baz=86
BEKR Beckwourth 86.17 48 ⇑P P 06 01 03.9 +0.4
baz=86
EDW2 Edwards Air Fo 86.19 53 ⇓P P 06 01 03.5 -0.1
baz=86
BFSC Mount Baldy St 86.23 54 ⇑P P 06 01 03.0 -0.9
baz=86
WAKR Walker 86.35 49 eP P 06 01 05.3 +0.9
WAKR epP pP 06 01 23.8 +1.3
MOY Mondy 86.41 325 eP P 06 01 04.5 +0.2
MOY pmax pmax
comp=Z,122nm,2.5s,mb5.4
BAR Barrett 86.50 55 eP P 06 01 05.8 +0.6
BAR epP pP 06 01 24.1 +0.8
E03A Lebam 86.59 40 ⇑P P 06 01 05.7 +0.4
baz=87
MTUM Tungsten Hills 86.59 50 epP pP 06 01 30.8 +7.1
H04A Detroit Lake 86.73 43 ⇑P P 06 01 05.3 -0.8
baz=87
MONP Monument Peak 86.77 55 ⇓P P 06 01 05.6 -0.9
baz=87
PAHR Pah Rah Range 86.81 48 eP P 06 01 06.5 -0.1
comp=Z,18nm,1.2s,mb4.9
PAHR epP pP 06 01 24.9 +0.2
J05A Fort Rock 86.83 44 ⇑P P 06 01 06.5 -0.1
baz=87
K05A Summer Lake 86.85 45 ⇑P P 06 01 06.6 -0.2
baz=87
N06A Buffalo Meadow 86.86 47 ⇓P P 06 01 03.8 -3.0
baz=87
MOD Modoc 86.95 46 eP P 06 01 06.2 -1.0
comp=Z,4.4nm,0.9s,mb4.4
MOD Modoc 86.95 46 ⇓P P 06 01 06.7 -0.6
baz=87
MPMC Manual Prospec 86.97 52 ⇓P P 06 01 07.3 -0.1
baz=87
PFO Pinyon Flat Ob 86.97 54 eP P 06 01 08.1 +0.6
PFO e*PP pP 06 01 26.4 +0.8
PFO Pinyon Flat Ob 86.97 54 ⇑P P 06 01 06.3 -1.3
baz=87
F04A Amboy 87.07 41 ⇑P P 06 01 07.3 -0.4
baz=87
NVAR Mina Array Bea 87.15 49 P P 06 01 08.7 +0.4
comp=Z,2.1nm,0.8s,mb4.1,baz=228,slow=7.9,SNR=10
SWSC Sam W. Stewart 87.28 55 ⇑P P 06 01 09.5 +0.4
baz=87
K06A Valley Falls 87.32 45 ⇑P P 06 01 09.8 +0.8
baz=88
O07A Toulon 87.34 48 ⇑P P 06 01 09.9 +0.7
baz=88
GRAC Grapevine Rang 87.37 51 ⇑P P 06 01 11.0 +1.6
baz=88
C04A Brinnon 87.44 40 ⇑P P 06 01 09.8 +0.3
baz=88
BELC Belle Mtn. 87.46 54 ⇑P P 06 01 09.6 -0.3
baz=88
GNW Green Mountain 87.47 40 eP P 06 01 10.2 +0.6
M07A Soldier Meadow 87.56 46 ⇑P P 06 01 08.9 -1.3
baz=88
Q08A Gabbs 87.57 49 ⇓P P 06 01 10.3 -0.1
baz=88
FURC Furnace Creek, 87.58 52 ⇑P P 06 01 09.2 -1.2
baz=88
L07A Adell 87.66 46 ⇑P P 06 01 10.4 -0.3
baz=88
EGAK Eagle 87.71 20 eP P 06 01 10.8 +0.5
S09A Goldfield 87.72 50 ⇑P P 06 01 10.9 -0.1
baz=88
I06A Prineville 87.77 44 ⇓P P 06 01 10.6 -0.5
baz=88
BC3 Big Chuckw Mtn 87.78 55 ⇑P P 06 01 11.5 +0.1
baz=88
PALK Pallekele 87.84 278 eP P 06 01 13.6 +1.4
GMRC Granite Mounta 87.97 54 ⇓P P 06 01 11.7 -0.6
baz=88
K07A Rock Creek Ran 87.97 45 ⇓P P 06 01 13.2 +1.1
baz=88
H06A Lindquist Farm 87.97 43 ⇓P P 06 01 11.6 -0.5
baz=88
A04A Legoe Bay, Lum 88.00 39 ⇓P P 06 01 11.8 -0.3
baz=88
GLA Glamis 88.09 55 eP P 06 01 13.8 +0.9
GLA pmax pmax
comp=Z,17nm,1.2s,mb5.0
GLA Glamis 88.09 55 eP P 06 01 13.8 +0.9
comp=Z,17nm,1.2s,mb4.9
GLA Glamis 88.09 55 ⇓P P 06 01 13.3 +0.4
baz=88
JIRN Jiri 88.15 299 eP P 06 01 14.2 +0.9
comp=Z,57nm,0.7s,mb5.7
J07A Hines 88.17 45 ⇓P P 06 01 13.5 +0.5
baz=88
IRM Iron Mountain 88.17 54 ⇑P P 06 01 14.1 +0.8
baz=88
B05A Bryant 88.19 39 ⇑P P 06 01 14.4 +1.4
baz=88
TPNV Topopah Spring 88.20 51 eP P 06 01 12.5 -0.8
TPNV pmax pmax
comp=Z,6.0nm,1.0s,mb4.6
TPNV Topopah Spring 88.20 51 eP P 06 01 12.4 -0.9
comp=Z,6.4nm,1.0s,mb4.6
TPNV Topopah Spring 88.20 51 ⇑P P 06 01 13.2 -0.2
baz=88
C05A Tolt Reservoir 88.22 40 ⇑P P 06 01 14.2 +1.0
baz=88
E06A Yakima 88.23 41 ⇑P P 06 01 14.2 +0.9
baz=88
S10A Tonopah Range, 88.25 50 ⇑P P 06 01 13.8 +0.2
baz=88
I07A Izee 88.29 44 P P 06 01 14.8 +1.2
baz=88,SNR=6.1
WVOR Wild Horse Val 88.30 46 eP P 06 01 13.1 -0.6
WVOR pmax pmax
comp=Z,16nm,1.3s,mb4.9
WVOR Wild Horse Val 88.30 46 eP P 06 01 13.1 -0.5
comp=Z,16nm,1.3s,mb4.9
L08A Fields 88.42 46 ⇓P P 06 01 14.6 +0.4
baz=89
H07A Lands Inn, Kim 88.43 43 ⇑P P 06 01 15.1 +0.8
baz=89
V11A Goodsprings 88.48 53 ⇑P P 06 01 14.5 -0.2
baz=89
GUN Gumba 88.48 299 eP P 06 01 15.7 +0.8
LDFC Landfair 88.49 53 eP P 06 01 15.6 +0.9
K08A Mann Creek Ran 88.51 45 ⇓P P 06 01 15.8 +1.1
baz=89
Y12C Blythe 88.55 55 ⇓P P 06 01 15.1 0.0
baz=89
O09A Fish Creek Ran 88.55 48 ⇑P P 06 01 15.6 +0.7
baz=89
D06A Cle Elum 88.56 41 ⇑P P 06 01 16.1 +1.3
baz=89
R10A Warm Springs 88.59 50 ⇑P P 06 01 15.4 +0.2
baz=89
G07A Ruggs Ranch, H 88.61 43 ⇓P P 06 01 16.3 +1.2
baz=89
J08A Circle Bar Ran 88.73 45 ⇓P P 06 01 15.1 -0.6
baz=89
PKI Pulchoki 88.79 299 eP P 06 01 16.8 +0.5
comp=Z,181nm,1.2s,mb6.0
PKIN Phulchoki 88.80 299 eP P 06 01 16.5 +0.1
V12A Nelson 88.89 53 ⇓P P 06 01 16.4 -0.2
baz=89
SHPR Sheep Range 88.89 52 eP P 06 01 17.7 +1.1
KKN Kakani 88.96 299 eP P 06 01 17.6 +0.5
comp=Z,78nm,0.9s,mb5.7
H08A Prairie City 89.00 44 ⇓P P 06 01 17.4 +0.5
baz=89
PDMCI Parker Dam,Lak 89.01 54 ⇑P P 06 01 15.9 -1.3
baz=89
K09A Rome 89.02 46 ⇓P P 06 01 14.4 -2.7
baz=89
TIXI Tiksi 89.03 349 c iP P 06 01 15.3 -1.1
TIXI pmax pmax
comp=Z,31nm,2.5s,mb4.9
TIXI Tiksi 89.03 349 eP P 06 01 15.7 -0.8
comp=Z,9.7nm,0.9s,mb4.8
DMN Daman 89.06 299 eP P 06 01 18.1 +0.5
comp=Z,278nm,1.2s,mb6.2
T11A Corn Creek, Al 89.07 51 ⇑P P 06 01 18.0 +0.5
baz=89
G08A Pilot Rock 89.08 43 ⇓P P 06 01 16.8 -0.5
baz=89
HAWA Hanford 89.10 42 eP P 06 01 18.5 +1.2
comp=Z,20nm,1.4s,mb5.0
HAWA epP pP 06 01 35.6 +0.1
Y13A Salome 89.12 55 ⇓P P 06 01 18.1 +0.4
baz=89
J09A Fry Pan Ranch, 89.22 45 P P 06 01 18.1 +0.1
baz=89,SNR=5.9
U12A Valley of Fire 89.34 52 ⇑P P 06 01 18.9 +0.1
baz=90
X13A Yucca 89.35 54 ⇑P P 06 01 18.5 -0.3
baz=90
SYO Syowa Base 89.35 197 ⇓eX P 06 01 15.0 -3.2
SYO Syowa Base 89.35 197 ⇓iPcP PcP 06 01 17.4 -2.2
E08A Dider Farm, El 89.44 42 ⇓P P 06 01 19.1 +0.2
baz=90
W13A Hualapai Mount 89.45 54 ⇑P P 06 01 18.7 -0.6
baz=90
S12A Delamar Landin 89.47 51 ⇑P P 06 01 18.8 -0.5
baz=90
B07A Winthrop 89.49 40 ⇓P P 06 01 18.7 -0.4
baz=90
A07A Ashnola River, 89.54 39 ⇓P P 06 01 18.9 -0.4
baz=90
GKN Gorkha 89.56 299 eP P 06 01 19.8 -0.2
K10A MacKenzie Ranc 89.64 46 ⇓P P 06 01 19.7 -0.3
baz=90
O11A Cowboy Ranch, 89.65 49 ⇓P P 06 01 20.4 +0.3
baz=90
Z14A Wintersburg 89.69 56 ⇑P P 06 01 20.4 0.0
baz=90
L10A Juniper Basin 89.69 46 ⇑P P 06 01 20.2 0.0
baz=90
H09A Durkee 89.73 44 ⇑P P 06 01 20.4 +0.1
baz=90
Y14A Wickenburg 89.81 55 ⇓P P 06 01 21.7 +0.7
baz=90
R12A Pony Springs, 89.87 50 ⇓P P 06 01 21.3 +0.2
baz=90
Q12A Willow Creek R 89.92 50 ⇓P P 06 01 21.2 -0.1
baz=90
B08A Colville Reser 89.94 40 ⇑P P 06 01 21.1 -0.1
baz=90
M11A Holland Ranch, 89.97 47 ⇓P P 06 01 19.4 -2.1
baz=90,SNR=6.4
P12A McGill 90.00 49 ⇑P P 06 01 22.3 +0.6
baz=90
T13A Saint George 90.00 52 ⇓P P 06 01 21.6 -0.2
baz=90
BMO Blue Mountains 90.03 44 eP P 06 01 21.0 -0.8
BMO e*PP pP 06 01 39.4 -0.5
BMO pmax pmax
comp=Z,12nm,1.3s,mb4.9
BMO Blue Mountains 90.03 44 eP P 06 01 21.0 -0.8
comp=Z,12nm,1.3s,mb4.9
BMO epP pP 06 01 39.4 -0.5
X14A Yava 90.05 55 ⇓P P 06 01 22.1 0.0
baz=90
115A Sonoran Desert 90.08 56 ⇓P P 06 01 21.9 -0.4
baz=90
W14A Seligman 90.11 54 ⇓P P 06 01 22.1 -0.3
baz=90
I10A Payette 90.12 44 ⇓P P 06 01 22.2 +0.1
baz=90
D09A Jones Farm, Ri 90.13 41 ⇑P P 06 01 21.6 -0.5
baz=90
A08A Turner Farm, O 90.19 39 ⇑P P 06 01 20.9 -1.5
baz=90
S13A Holt Ranch, En 90.21 51 ⇑P P 06 01 20.8 -1.9
baz=90
V14A Boquillas Ranc 90.22 53 ⇑P P 06 01 21.2 -1.7
baz=90
K11A Parker Ranch, 90.22 46 ⇑P P 06 01 22.0 -0.7
baz=90,SNR=6.0
L11A Cat Creek Ranc 90.23 47 P P 06 01 22.1 -0.6
baz=90,SNR=7.7
Z15A Gila River Ind 90.30 56 ⇓P P 06 01 22.6 -0.7
baz=90
G10A Bishop Farm, J 90.30 43 ⇓P P 06 01 22.4 -0.6
baz=90
H10A Noah's Angus R 90.32 44 P P 06 01 22.3 -0.8
baz=90,SNR=14
N12A Clover Valley, 90.33 48 ⇓P P 06 01 22.1 -1.1
baz=90
Y15A Casa Rosa Ranc 90.35 55 P P 06 01 23.5 0.0
baz=90,SNR=7.3
O12A Currie 90.36 49 ⇑P P 06 01 23.3 -0.1
baz=90
KOLN Koldanda 90.39 298 eP P 06 01 23.1 -0.7
comp=Z,49nm,1.2s,mb5.5
U14A Mt Trumbull 90.39 53 ⇑P P 06 01 23.0 -0.6
baz=90,SNR=12
DANN Dangsing 90.40 299 eP P 06 01 23.6 -0.3
F10A Beach Ranch, E 90.46 43 ⇓P P 06 01 23.5 -0.2
baz=91
116A Eloy 90.47 57 ⇓P P 06 01 23.7 -0.4
baz=91
Q13A Wheeler Ranch, 90.50 50 ⇑P P 06 01 24.9 +0.9
baz=91
216A Three Points, 90.51 57 ⇓P P 06 01 23.9 -0.4
baz=91
MFID Camas Ranch 90.57 45 ⇑P P 06 01 24.0 -0.3
baz=91,SNR=6.8
X15A Humboldt 90.57 55 ⇓P P 06 01 23.5 -1.0
baz=91
CCUT Cedar City 90.58 52 eP P 06 01 24.0 -0.5
M12A Wells 90.59 47 ⇓P P 06 01 23.3 -1.1
baz=91,SNR=5.7
I11A Placerville 90.64 45 ⇓P P 06 01 24.6 0.0
baz=91,SNR=5.2
T14A Hurricane 90.65 52 ⇓P P 06 01 25.6 +0.8
baz=91
P13A Bates Ranch, G 90.65 50 ⇑P P 06 01 25.0 +0.2
baz=91
L12A House Creek Ra 90.74 47 P P 06 01 24.7 -0.4
baz=91,SNR=8.6
S14A Cedar City 90.78 51 ⇑P P 06 01 25.2 -0.2
baz=91
D10A Wagner Farm, O 90.79 42 ⇓P P 06 01 25.7 +0.5
baz=91
H11A Donnelly 90.86 44 ⇑P P 06 01 25.0 -0.6
baz=91
Z16A Peralta Trail, 90.90 56 ⇑P P 06 01 24.7 -1.4
baz=91
G11A Walters Elk Ra 90.91 43 ⇓P P 06 01 25.2 -0.6
baz=91
K12A Draper Farm, C 90.97 46 ⇓P P 06 01 25.8 -0.4
baz=91
217A Green Valley 90.97 58 ⇓P P 06 01 25.7 -0.8
baz=91,SNR=7.6
V15A Kaibab Nationa 91.00 53 ⇓P P 06 01 26.9 +0.4
baz=91
Y16A Circle Bar Ran 91.01 55 ⇑P P 06 01 25.8 -0.7
baz=91,SNR=8.6
J12A Stokes Ranch, 91.03 46 ⇑P P 06 01 25.7 -0.7
baz=91
M13A Montello 91.11 48 ⇑P P 06 01 27.5 +0.6
baz=91
F11A Grangeville 91.14 43 ⇓P P 06 01 25.9 -0.9
baz=91
TUC Tucson 91.14 57 eP P 06 01 26.6 -0.6
TUC pmax pmax
comp=Z,3.0nm,0.8s,mb4.5
TUC Tucson 91.14 57 eP P 06 01 26.6 -0.6
comp=Z,2.9nm,0.8s,mb4.5
T15A Red Dirt Ranch 91.17 52 ⇑P P 06 01 26.7 -0.6
baz=91
X16A Lo Mia Camp, P 91.19 55 ⇑P P 06 01 27.0 -0.4
baz=91
117A Oracle 91.25 57 ⇑P P 06 01 28.3 +0.6
baz=91,SNR=9.5
E11A Bogner Ranch, 91.25 42 ⇑P P 06 01 25.4 -2.0
baz=91
A10A Northport 91.26 40 ⇓P P 06 01 26.9 -0.5
baz=91
D11A Klaveano Farm, 91.39 42 ⇑P P 06 01 27.5 -0.5
baz=92
Y17A Roosevelt 91.47 56 ⇓P P 06 01 28.0 -0.7
baz=92
WUAZ Wupatki 91.54 54 eP P 06 01 30.0 +1.0
comp=Z,8.2nm,0.9s,mb5.0
WUAZ Wupatki 91.54 54 ⇑P P 06 01 29.4 +0.4
baz=92
K13A Stover Farm, H 91.55 46 ⇓P P 06 01 28.5 -0.4
baz=92
318A Bisbee 91.56 58 ⇓P P 06 01 29.1 -0.1
baz=92,SNR=5.3
H12A Diamond D Ranc 91.59 44 ⇑P P 06 01 29.0 0.0
baz=92
HLID Hailey 91.60 46 ⇑P P 06 01 29.0 0.0
baz=92
218A Dragoon 91.66 58 ⇑P P 06 01 29.8 +0.2
baz=92,SNR=7.1
F12A Elk City 91.70 43 ⇓P P 06 01 28.5 -1.0
baz=92
J13A Cove Ranch, Pi 91.71 46 ⇑P P 06 01 28.9 -0.7
baz=92
WMQ Urumqi 91.72 315 P P 06 01 30.0 +0.4
WMQ AP pP 06 01 47.0 -0.8
WMQ XP sP 06 01 54.0 -0.9
WMQ PP PP 06 05 11.0 +1.7
WMQ S S 06 12 23.0 -2.2
WMQ SS SS 06 18 36.0 +1.8
WMQ AMB AMB
comp=Z,65nm,1.2s,mb5.7
WMQ AMB AMB
comp=Z,127nm,8.0s
WMQ LR LR
comp=N,615nm,20.0s
WMQ LR LR
comp=E,668nm,20.0s
WMQ LR LR
comp=Z,567nm,18.0s
M14A Sheep Mountain 91.74 48 ⇓P P 06 01 29.7 -0.1
baz=92
MSU Marysvale 91.75 51 eP P 06 01 30.3 +0.4
118A Homack Ranch, 91.90 57 ⇑P P 06 01 31.6 +0.9
baz=92,SNR=6.5
I13A Wildhorse Cree 91.91 45 ⇓P P 06 01 32.2 +1.7
baz=92
A11A Hall Mountain, 91.99 40 ⇑P P 06 01 30.9 +0.1
baz=92
H13A Challis 92.01 45 ⇑P P 06 01 30.9 0.0
baz=92
D12A Red Ives Fores 92.03 42 ⇑P P 06 01 30.4 -0.6
baz=92
319A Douglas 92.14 58 ⇓P P 06 01 31.0 -0.8
baz=92,SNR=8.9
Y18A Canyon Day Jun 92.14 56 ⇓P P 06 01 31.0 -0.8
baz=92
K14A Jones Ranch, D 92.16 47 ⇑P P 06 01 31.4 -0.2
baz=92
G13A Cobalt 92.18 44 ⇑P P 06 01 31.6 -0.1
baz=92
INK Inuvik 92.27 19 eP P 06 01 32.5 +0.9
comp=Z,303nm,2.1s,mb6.2
219A White Tail Can 92.31 58 ⇑P P 06 01 32.0 -0.7
baz=92,SNR=9.4
F13A Darby 92.32 43 ⇓P P 06 01 32.2 -0.1
baz=92
HYB Hyderabad 92.32 287 eP P 06 01 32.0 -1.0
HYB pmax pmax
comp=Z,71nm,1.2s,mb5.8
HYB Hyderabad 92.32 287 eP P 06 01 32.0 -1.0
comp=Z,71nm,1.2s,mb5.8
HYB Hyderabad 92.32 287 ⇑iP P 06 01 32.0 -1.0
comp=Z,71nm,1.2s,mb5.8
X18A Snowflake 92.40 55 ⇑P P 06 01 32.7 -0.3
baz=92
119A Ashpeak Ranch, 92.47 57 ⇓P P 06 01 33.0 -0.4
baz=93
C13A Hot Springs 92.73 42 ⇓P P 06 01 34.7 +0.6
baz=93
Y19A Nutrioso 92.81 56 ⇓P P 06 01 34.3 -0.6
baz=93,SNR=5.2
W19A Sanders 93.00 55 ⇑P P 06 01 35.7 -0.1
baz=93
DLMT Dillon 93.36 44 eP P 06 01 38.2 +1.1
comp=Z,6.8nm,1.0s,mb4.9
G15A Dillon 93.38 44 ⇓P P 06 01 37.7 +0.4
baz=94
BOZ Bozeman (W) 94.10 44 ⇑P P 06 01 41.2 +0.7
baz=94
ANMO Albuquerque 95.29 55 ⇓eP P 06 01 48.7 +2.4
ANMO Albuquerque 95.29 55 eP P 06 01 47.3 +1.0
VNA2 Neumayer--Watz 95.31 182 eP P 06 01 44.6 -1.1
baz=184,slow=5.0
VNA2 e 06 01 46.4
VNA2 e 06 01 49.6
VNA2 e 06 01 56.2
VNA2 e pP 06 02 04.3 +0.4
VNA2 e 06 02 10.4
VNA1 Neumayer--Stat 95.61 182 eP P 06 01 46.5 -0.6
VNA1 e 06 01 47.7
VNA1 e 06 01 50.8
VNA1 e 06 01 58.0
VNA1 e pP 06 02 05.5 +0.2
VNA1 e 06 02 12.4
MK31 Makanchi Array 96.19 317 eP P 06 01 50.0 -0.1
MKAR Makanchi Array 96.19 317 P P 06 01 50.1 0.0
MKAR 06 05 40.9
MKAR pmax pmax
comp=Z,34nm,1.1s
MKAR pmax pmax
comp=Z,3.0nm,1.2s
MKAR pmax pmax
comp=Z,1.0nm,0.6s
MKAR pmax pmax
comp=Z,1.0nm,0.8s
MKAR MLR MLR
comp=Z,465nm,21.8s
MKAR Makanchi Array 96.19 317 P P 06 01 50.1 0.0
MKAR PP PP 06 05 40.9 -3.2
MKAR Makanchi Array 96.19 317 P P 06 01 50.1 0.0
comp=Z,34nm,1.1s,mb5.7,baz=98,slow=6.6,SNR=144
MKAR PP PP 06 05 40.9 -3.2
comp=Z,2.9nm,1.2s,baz=84,slow=14,SNR=3.8
MKAR PKiKP PKiKP 06 06 27.6 -0.6
comp=Z,0.9nm,0.6s,baz=174,slow=1.0,SNR=5.9
MKAR PKKP PKKPbc 06 18 34.9 -3.4
comp=Z,0.8nm,0.8s,baz=318,slow=1.6,SNR=6.8
MKAR LR LR 06 44 02.3
comp=Z,465nm,21.8s,baz=95,slow=35
ZAA0 Zalesovo Array 96.37 324 eP P 06 01 49.7 -1.0
ZALV Zalesovo Beam 96.37 324 P P 06 01 49.7 -1.0
comp=Z,24nm,0.9s,mb5.6,baz=112,slow=5.0,SNR=44
ZALV LR LR 06 46 07.5
comp=Z,421nm,20.8s,baz=104,slow=36
TXAR Lajitas Array 96.38 61 P P 06 01 51.5 +0.1
TXAR 06 05 46.4
TXAR pmax pmax
comp=Z,1.0nm,0.7s
TXAR pmax pmax
comp=Z,5.0nm,1.1s
TXAR pmax pmax
comp=Z,1.0nm,0.8s
TXAR Lajitas Array 96.38 61 P P 06 01 51.5 +0.2
TXAR PP PP 06 05 46.4 +0.4
TXAR PKKPbc PKKPbc 06 18 38.2 +1.1
TXAR LR LR 06 36 41.6
TXAR Lajitas Array 96.38 61 P P 06 01 51.5 +0.2
comp=Z,0.7nm,0.7s,mb4.2,baz=224,slow=4.9,SNR=9.9
TXAR PP PP 06 05 46.4 +0.4
comp=Z,4.9nm,1.1s,baz=238,slow=7.2,SNR=14
TXAR PKKPbc PKKPbc 06 18 38.2 +1.1
comp=Z,0.5nm,0.8s,baz=107,slow=4.1,SNR=5.9
TXAR LR LR 06 36 41.6
comp=Z,1μm,21.8s,baz=85,slow=30
ZAL Zalesovo 96.38 324 P P 06 01 49.7 -1.0
YKA Yellowknife Ar 97.06 27 P P 06 01 52.1 -1.5
YKA pmax pmax
comp=Z,1.0nm,0.7s
YKA pmax pmax
comp=Z,1.0nm,0.9s
YKA MLR MLR
comp=Z,446nm,18.8s
YKA Yellowknife Ar 97.06 27 P P 06 01 52.1 -1.5

comp=Z,1.2nm,0.7s,mb4.4,baz=257,slow=4.8,SNR=15
YKA PKiKP PKiKP 06 06 31.4 +2.3
comp=Z,0.2nm,0.6s,baz=238,slow=1.3,SNR=4.2
YKA PKKPbc PKKPbc 06 18 32.9 -3.6
comp=Z,0.9nm,0.9s,baz=54,slow=2.8,SNR=7.3
YKA LR LR 06 45 12.8
comp=Z,446nm,18.8s,baz=225,slow=35
NVS Novosibirsk 97.48 325 *i* P **P 06 01 54.4 -1.3**
NVS *i* S SKSac 06 12 29.7 +2.5
NVS pmax pmax
comp=N,21nm,2.0s
NVS pmax pmax
comp=E,40nm,2.0s
NVS pmax pmax
comp=Z,62nm,2.0s,mb5.7
NVS smax
comp=N,12nm,2.4s
NVS smax
comp=E,53nm,2.1s
KURK Kurchatov 99.38 320 *e*P **P 06 02 03.7 -0.6**
KURK pmax pmax
comp=Z,13nm,1.4s,mb5.3
KURK Kurchatov 99.38 320 *e*P **P 06 02 03.7 -0.6**
comp=Z,12nm,1.4s,mb5.2
AML Almayashu 101.35 311 *e*Pdif Pdif 06 02 13.5 +0.4
BVAR Borovoye Array 104.72 322 P Pdif 06 02 27.2 -0.9
BVAR *i* 06 06 44.0
BVAR pmax pmax
comp=Z,2.0nm,0.6s
BVAR pmax pmax
comp=Z,1.0nm,0.4s
BVAR Borovoye Array 104.72 322 Pdiff Pdif 06 02 27.2 -0.9
comp=Z,2.0nm,0.6s,baz=92,slow=7.6,SNR=5.9
BVAR PKiKP PKiKP 06 06 44.0 +0.7
comp=Z,0.5nm,0.4s,baz=129,slow=2.0,SNR=3.6
ARU Arti 111.46 325 *i* PKIKP PKiKP 06 06 55.3 -0.4
ARU 06 07 34.2
ARU 06 13 28.3
ARU SP SP 06 16 55.2 -6.5
ARU PS PS 06 17 05.6 -4.6
AKTK Aktyubinsk 112.45 319 PKPdf PKiKP 06 06 58.2 +0.4
AKTK PP PP 06 07 43.1 -1.6
AKTK SKP 06 10 37.6
AKTK PKKPbc PKKPbc 06 17 55.2 +6.0
AKTO Aktyubinsk 112.45 319 *i* PKIKP PKiKP 06 06 58.2 +0.4
AKTO 06 07 43.1
AKTO pmax pmax
comp=Z,3.0nm,0.6s
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO pmax pmax
comp=N,2.0nm,0.6s
AKTO pmax pmax
comp=Z,1.0nm,0.6s
AKTO Aktyubinsk 112.45 319 PKiKP PKiKP 06 06 58.2 +0.4
comp=Z,2.5nm,0.6s,baz=82,slow=4.7,SNR=8.0
AKTO PP PP 06 07 43.1 -1.6
comp=Z,0.8nm,0.6s,baz=223,slow=9.5,SNR=4.1
AKTO SKP 06 10 37.6
comp=Z,1.5nm,0.6s,baz=89,slow=3.0,SNR=5.4
AKTO PKKPbc PKKPbc 06 17 55.2 +6.0
comp=Z,1.0nm,0.6s,baz=175,slow=2.8,SNR=5.6
KBS Kingsbay 113.81 355 *e* PP 06 07 39.6 -14
KBS *e* 06 17 32.5
KBS AMS AMS 06 51 10.7
comp=Z,335nm,19.0s
SPITS Spitsbergen Ar 114.03 354 *i* PKIKP PKiKP 06 06 59.1 -1.0
SPITS pmax pmax
comp=Z,6.0nm,0.8s
SPITS Spitsbergen Ar 114.03 354 PKiKP PKiKP 06 06 59.1 -1.0
comp=Z,5.7nm,0.8s,baz=283,slow=22,SNR=3.8
LPAZ La Paz 118.11 117 PKIKP PKPdf 06 07 10.2 +0.5
LPAZ pmax pmax
comp=Z,1.0nm,0.5s
LPAZ pmax pmax
comp=N,4.0nm,1.0s
LPAZ pmax pmax
comp=Z,1.0nm,0.8s
LPAZ La Paz 118.11 117 PKP PKPdf 06 07 10.2 +0.5
comp=Z,1.0nm,0.5s,baz=171,slow=5.5,SNR=11
LPAZ SKP 06 10 49.6
comp=Z,4.3nm,1.0s,baz=269,slow=1.5,SNR=8.0
LPAZ PKKPab PKKPab 06 17 31.1 -1.7
comp=Z,1.0nm,0.8s,baz=56,slow=8.6,SNR=4.3
APA Apatity 118.39 341 ⇑*i*PKIKP PKPdf 06 07 08.0 -0.7
APA *e* 06 18 14.0
APA pmax pmax
comp=Z,25nm,1.2s
APA MLR MLR
comp=Z,1μm,20.0s
KEV Kevo 118.76 345 *e*p PKPdf 06 07 08.1 -1.3
comp=Z,0.8nm,0.3s
KEV Kevo 118.76 345 *e*PKIKP PKPdf 06 07 08.1 -1.3
KEV pmax pmax
comp=Z,1.0nm,0.3s
KEV Kevo 118.76 345 *e*PKPdf PKPdf 06 07 08.5 -0.9
ROSC El Rosal 119.28 92 SKP 06 10 49.5
comp=Z,6.1nm,0.9s,baz=94,slow=21,SNR=4.1
ARCES ARCESS Array B 119.29 345 PKIKP PKPdf 06 07 09.5 -0.9
ARCES pmax pmax
comp=Z,8.0nm,0.6s
ARCES pmax pmax
comp=N,6.0nm,1.0s
ARCES pmax pmax
comp=Z,1.0nm,0.7s
ARCES ARCESS Array B 119.29 345 PKP PKPdf 06 07 09.5 -0.9
comp=Z,8.1nm,0.6s,baz=81,slow=2.2,SNR=106
ARCES SKP 06 10 50.9
comp=Z,5.5nm,1.0s,baz=302,slow=2.7,SNR=4.6
ARCES PKKPbc PKKPbc 06 17 22.8 -3.1
comp=Z,1.3nm,0.7s,baz=243,slow=0.5,SNR=5.1
ARE0 ARCESS Array S 119.29 345 *e*PKPdf PKPdf 06 07 09.5 -0.9
ARE0 *e*pPKPdf pPKPdf 06 07 27.2 -2.1
TRO Tromso 120.72 347 *e*PP PP 06 08 40.9 -0.7
TRO AMS AMS 07 06 37.2
comp=Z,448nm,16.1s
PAL Palisades 121.11 50 *e*PKIKP PKPdf 06 07 14.1 -0.7
CPUP Villa Florida 121.45 133 PKIKP PKPdf 06 07 15.0 -0.9
CPUP pmax pmax
comp=Z,1.0nm,0.6s
CPUP pmax pmax
comp=N,7.0nm,0.9s
CPUP Villa Florida 121.45 133 PKP PKPdf 06 07 15.0 -0.9
CPUP SKP 06 10 54.5
CPUP Villa Florida 121.45 133 PKP PKPdf 06 07 15.0 -0.9
comp=N,1.3nm,0.6s,baz=17,slow=7.0,SNR=3.1
CPUP SKP 06 10 54.5
comp=N,7.1nm,0.9s,baz=182,slow=3.8,SNR=6.5
UMR Umm Al-Rimmam 121.78 296 *e*P PKPdf 06 07 15.8 -0.6
UMR AMb AMB 06 07 20.8
comp=Z,32nm,0.6s
JOF Joensuu 121.88 338 *e*p PKPdf 06 07 13.8 -1.8
comp=Z,1.7nm,0.3s
JOF Joensuu 121.88 338 *e*PKIKP PKPdf 06 07 13.8 -1.8
JOF pmax pmax
comp=Z,2.0nm,0.3s
RDF Al-Radifah 121.94 296 *e*P PKPdf 06 07 16.9 +0.1
RDF AMb AMB 06 07 19.1
comp=Z,64nm,0.9s
QUA2 Belchertown 122.05 49 *e*PKPdf PKPdf 06 07 17.6 +1.0
NAY Al-Naaiem 122.20 296 *e*P PKPdf 06 07 16.2 -1.0
NAY AMb AMB 06 07 18.3
comp=Z,18nm,1.0s
VRHR Novokhopersk 122.46 322 *e*PKIKP PKPdf 06 07 17.1 +0.1
VRHR pmax pmax
comp=Z,20nm,1.0s
VRHR pmax pmax
comp=N,20nm,0.5s
VRHR pmax pmax
comp=E,20nm,0.9s
JMIC Jan Mayen 122.84 358 *e* PP 06 08 56.4 +0.6
JMIC AMS AMS 06 58 36.3
comp=Z,238nm,19.2s
MOS Moscow 122.86 328 *e*PKIKP PKPdf 06 07 16.6 -1.1
MOS *e* 06 08 56.0
GNI Garni 123.15 309 PKIKP PKPdf 06 07 19.0 +0.3
GNI pmax pmax
comp=Z,6.0nm,0.4s
GNI Garni 123.15 309 *e*PKPdf PKPdf 06 07 19.2 +0.5
GNI Garni 123.15 309 PKP PKPdf 06 07 19.0 +0.3
comp=Z,5.5nm,0.4s,baz=355,slow=18,SNR=7.0
BOSA Boshof 123.64 221 PKIKP PKPdf 06 07 20.1 0.0
BOSA pmax pmax
comp=Z,10.0nm,0.8s
BOSA pmax pmax
comp=N,3.0nm,1.0s

BOSA Boshof 123.64 221 PKP PKPdf 06 07 20.1 0.0
comp=N,10nm,0.8s,baz=107,slow=3.1,SNR=15
BOSA SKP 06 10 55.0
comp=N,3.4nm,1.0s,baz=258,slow=7.0,SNR=3.1
OBN Obninsk 123.68 328 ⇓*i*PKIKP PKPdf 06 07 18.9 -0.3
OBN *e* 06 14 11.7
OBN *e*SS SS 06 25 48.8 +3.7
OBN pmax pmax
comp=Z,24nm,1.1s
OBN MLR MLR
comp=Z,500nm,22.0s
SDV Santo Domingo 123.70 88 *e*PKPdf PKPdf 06 07 19.4 -1.1
KIV Kislovodsk 123.85 314 *i* PKIKP PKPdf 06 07 19.9 0.0
KIV *e* 06 09 04.4
KIV *e*PS PS 06 18 58.6 -4.0
KIV *e*SS SS 06 25 43.8 -4.3
KIV pmax pmax
comp=Z,12nm,1.1s
VRSR Storozhevoye 123.85 323 *e*PKIKP PKPdf 06 07 19.3 -0.4
VRSR pmax pmax
comp=Z,10.0nm,1.3s
VRSR pmax pmax
comp=N,1.0nm,0.4s
VRSR pmax pmax
comp=E,3.0nm,1.0s
VORD Divnogorie 123.88 323 *e*PKIKP PKPdf 06 07 19.1 -0.7
VORD pmax pmax
comp=Z,30nm,1.1s
VORD pmax pmax
comp=N,10.0nm,0.8s
VORD pmax pmax
comp=E,30nm,1.1s
FIA1 FINESS Array S 124.72 338 *e*PKPdf PKPdf 06 07 20.2 -0.9
FINES FINESS Array B 124.72 338 PKIKP PKPdf 06 07 19.5 -1.6
FINES pmax pmax
comp=Z,10.0nm,0.8s
FINES pmax pmax
comp=N,3.0nm,0.8s
FINES FINESS Array B 124.72 338 PKP PKPdf 06 07 19.5 -1.6
FINES SKP 06 10 53.7
FINES FINESS Array B 124.72 338 PKP PKPdf 06 07 19.5 -1.6
comp=N,9.5nm,0.8s,baz=84,slow=2.9,SNR=22
FINES SKP 06 10 53.7
comp=N,2.9nm,0.8s,baz=119,slow=2.4,SNR=4.6
LBTB Lobatse 125.83 225 *e*PKIKP PKPdf 06 07 24.1 -0.3
SOC Sochi 126.02 314 *i* PKIKP PKPdf 06 07 21.3 -2.8
SOC *e* 06 09 13.6
VSU Vasula 126.40 335 ⇓*i*PKIKP PKPdf 06 07 24.2 -0.2
ANN Anapa 127.21 316 *i* PKIKP PKPdf 06 07 25.7 -0.6
ANN *e* 06 09 22.1
ANN *e*PPP 06 12 05.7
ANN *e* 06 14 23.9
ANN pmax pmax
comp=Z,34nm,1.3s
ANN MLR MLR
comp=Z,631nm,20.0s
KMBO Kilima Mbogo 127.73 258 PKIKP PKPdf 06 07 28.2 -0.1
KMBO pmax pmax
comp=Z,4.0nm,0.7s
KMBO pmax pmax
comp=N,13nm,1.2s
KMBO Kilima Mbogo 127.73 258 *e*PKPdf PKPdf 06 07 27.7 -0.6
KMBO Kilima Mbogo 127.73 258 PKP PKPdf 06 07 28.2 -0.1
comp=N,4.4nm,0.7s,baz=40,slow=4.3,SNR=8.0
KMBO SKP 06 10 59.0
comp=N,13nm,1.1s,baz=82,slow=5.4,SNR=3.5
MALT Malatya 128.32 308 *e*PKPdf PKPdf 06 07 28.9 +0.2
MALT Malatya 128.32 308 ⇑*i*P PKPdf 06 07 28.9 +0.2
BORG Borgarnes 128.89 4 SKP 06 11 01.1
comp=N,11nm,1.0s,baz=0.6,slow=1.4,SNR=3.8
SJG San Juan 129.18 78 *e*PKIKP PKPdf 06 07 29.7 -1.2
NB2 NORSAR Subarra129.66 345 PKPdf PKPdf 06 07 29.9 -0.6
comp=Z,32nm,1.4s,baz=29,slow=1.9
NB2 NORSAR Subarra129.66 345 PKPdf PKPdf 06 07 29.9 -0.6
baz=29,slow=1.9
NOA NORSAR Array B129.66 345 PKIKP PKPdf 06 07 29.5 -1.0
NOA pmax pmax
comp=Z,6.0nm,0.8s
NOA pmax pmax
comp=N,11nm,0.9s
NOA NORSAR Array B129.66 345 PKP PKPdf 06 07 29.4 -1.0
comp=N,5.6nm,0.8s,baz=32,slow=2.0,SNR=13
NOA SKPbc 06 10 57.4
comp=N,11nm,0.9s,baz=32,slow=3.0,SNR=9.9
AKASG Malin Array Be 129.71 326 PKIKP PKPdf 06 07 29.5 -1.4
AKASG 06 09 41.8
AKASG pmax pmax
comp=Z,10.0nm,1.0s
AKASG pmax pmax
comp=N,6.0nm,0.9s
AKASG Malin Array Be 129.71 326 PKP PKPdf 06 07 29.5 -1.4
comp=N,9.7nm,1.0s,baz=62,slow=1.9,SNR=42
AKASG PP PP 06 09 41.8 -0.3
comp=N,0.4nm,0.6s,baz=57,slow=5.8,SNR=6.0
AKASG SKP 06 10 58.5
comp=N,6.3nm,0.8s,baz=47,slow=3.9,SNR=7.3
AKBB Malin Array Si 129.71 326 *e*PKIKP PKPdf 06 07 30.3 -0.6
KIEV Kiev 129.72 326 *e*PKIKP PKPdf 06 07 30.1 -0.8
LSZ Lusaka 129.75 236 *e*PKIKP PKPdf 06 07 32.1 +0.1
ASF Jabal al Asfar 130.79 301 PKIKP PKPdf 06 07 32.8 -0.8
ASF pmax pmax
comp=Z,3.0nm,0.8s
ASF pmax pmax
comp=N,6.0nm,0.9s
ASF Jabal al Asfar 130.79 301 PKP PKPdf 06 07 32.8 -0.7
comp=N,3.1nm,0.8s,baz=223,slow=2.6,SNR=7.6
ASF SKPbc SKPbc 06 10 57.7 +5.6
comp=N,5.5nm,0.9s,baz=134,slow=4.5,SNR=6.3
KONO Kongsberg 131.27 345 *e*PP PP 06 09 55.9 +4.3
KONO AMS AMS 07 05 00.5
comp=Z,346nm,17.1s
KONO Kongsberg 131.27 345 ⇑*i*PKIKP PKPdf 06 07 33.6 0.0
BER Bergen 131.60 348 *e*PP PP 06 09 51.4 -2.3
BER AMS AMS 07 10 13.7
comp=Z,364nm,26.6s
KIS Kishinev 131.81 322 *e*PKIKP PKPdf 06 07 35.0 0.0
KIS MLR MLR
comp=N,400nm,22.0s
KIS MLR MLR
comp=Z,900nm,22.0s
KIS MLR MLR
comp=Z,1μm,22.0s
KIS Kishinev 131.81 322 *e*PKP PKPdf 06 07 35.0 0.0
KIS *e*L 07 02 42.0
KIS LRM 07 07 34.0
comp=Z,1μm,22.0s
MMAI Mount Meron Ar 131.88 302 PKP PKPdf 06 07 35.7 +0.1
comp=Z,4.9nm,0.7s,baz=57,slow=6.2,SNR=4.6
MMAI SKPab 06 11 09.2
comp=Z,5.0nm,0.5s,baz=90,slow=5.3,SNR=9.4
ANTO Ankara 132.09 312 *e*PKIKP PKPdf 06 07 36.1 +0.3
BSD Bornholm Skovb 133.37 338 *e*PKIKP PKPdf 06 07 33.2 -4.5
BSD *i* 06 10 02.7
BSD MLR MLR
comp=Z,820nm,21.0s
BSD Bornholm Skovb 133.37 338 *i* P PKPdf 06 07 33.2 -4.5
BSD *i* 06 10 02.7
BSD
comp=Z,810nm,21.0s
KWP Kalwaria 133.77 328 *e*PKPdf PKPdf 06 07 37.4 -1.2
KWP Kalwaria 133.77 328 ⇓*i*P PKPdf 06 07 37.4 -1.2
MUD Monsted U'grnd 134.14 343 *e*PKHKP 06 07 20.3
MUD *i* 06 10 10.7
MUD MLR MLR
comp=Z,670nm,22.0s
MUD Monsted U'grnd 134.14 343 *i* P 06 07 20.3
MUD *i* PP 06 10 10.7 +0.7
MUD *i* 06 23 17.1
MUD
comp=Z,660nm,22.0s
MLR Muntele Rosu 134.29 322 PKIKP PKPdf 06 07 39.4 -0.3
MLR 06 10 16.8
MLR pmax pmax
comp=Z,8.0nm,1.0s
MLR pmax pmax
comp=Z,1.0nm,0.3s
MLR pmax pmax
comp=N,18nm,1.0s
MLR Muntele Rosu 134.29 322 ⇓P PKPdf 06 07 39.8 +0.1
MLR Muntele Rosu 134.29 322 PKP PKPdf 06 07 39.4 -0.4
comp=N,8.3nm,1.0s,baz=343,slow=3.5,SNR=8.8
MLR PP PP 06 10 16.8 +5.1
comp=N,0.7nm,0.3s,baz=345,slow=3.3,SNR=4.0
MLR SKPbc SKPbc 06 11 10.7 +6.8
comp=N,18nm,1.0s,baz=311,slow=2.7,SNR=8.9

MLR Muntele Rosu 134.29 322 ⇓*i*P PKPdf 06 07 39.8 +0.1
KOLS Kolonicke sedl 134.42 327 *e*PKP PKPdf 06 07 40.2 +0.3
UZH Uzhgorod 134.60 327 *e*PKIKP PKPdf 06 07 37.6 -2.6
UZH *i* 06 07 50.2
STHS Stebnicka Huta 134.65 329 *e*PKIKP PKPdf 06 07 41.0 +0.7
STHS Stebnicka Huta 134.65 329 *e*PKP PKPdf 06 07 40.9 +0.6
OJC Ojcow 134.84 330 *e*PKPdf PKPdf 06 07 40.0 -0.6
OJC *e*pPKPdf pPKPdf 06 08 00.0 +0.5
OJC *e*PP PP 06 10 11.9 -2.9
VOIR 134.86 322 ⇓*i*P PKPdf 06 07 42.2 +1.4
CRVS Cervenica-Dubn 134.86 328 *i* PKP PKPdf 06 07 41.1 +0.4
BDFB Brasilia 134.87 129 PKIKP PKPdf 06 07 43.6 +1.9
BDFB pmax pmax
comp=Z,2.0nm,0.7s
BDFB pmax pmax
comp=N,10.0nm,1.0s
BDFB Brasilia 134.87 129 PKP PKPdf 06 07 43.6 +1.9
comp=N,1.6nm,0.7s,baz=192,slow=24,SNR=6.7
BDFB SKPbc SKPbc 06 11 13.7 +7.1
comp=N,10nm,1.0s,baz=246,slow=4.9,SNR=3.6
NIE Niedzica 135.12 329 *e*PKPdf PKPdf 06 07 42.1 +1.0
TSUM Tsumeb 135.20 224 *e*PKPdf PKPdf 06 07 42.0 -0.2
DRGR 135.46 325 ⇑*i*P PKPdf 06 07 41.5 -0.4
OKC Ostrava-Krasne 135.89 331 *e*PKPdf PKPdf 06 07 42.6 0.0
OKC AMS AMS 07 03 30.0
comp=N,900nm,30.0s
KSP Ksiaz 136.02 333 *e*PKIKP PKPdf 06 07 42.5 -0.3
KSP *e* 06 10 22.0
KSP MLR MLR
comp=Z,2μm,21.8s
KSP Ksiaz 136.02 333 *e*PKP PKPdf 06 07 42.5 -0.3
KSP *e*PP PP 06 10 22.0 -0.2
KSP *e*PPS 06 22 40.0
KSP LR LR
comp=Z,2μm,21.8s
MORC Moravsky Berou 136.21 331 *e*PKIKP PKPdf 06 07 43.2 0.0
MORC Moravsky Berou 136.21 331 ⇑*i*P PKPdf 06 07 43.0 -0.2
GZR Gura Zlata 136.22 323 ⇑*i*P PKPdf 06 07 43.7 +0.4
PSZ Piszkesteto 136.29 328 *e*PKIKP PKPdf 06 07 43.3 -0.1
PSZ Piszkesteto 136.29 328 ⇑*i*P PKPdf 06 07 43.0 -0.4
DPC Dobruska-Polom 136.36 333 *e*PKIKP PKPdf 06 07 44.1 +0.7
DPC *e* 06 10 22.1
DPC MLR MLR
comp=Z,1μm,23.8s
DPC Dobruska-Polom 136.36 333 *e*PKPdf PKPdf 06 07 44.1 +0.7
DPC *e*PP PP 06 10 22.1 -2.2
DPC *e*SKP 06 11 15.9
DPC AMS AMS 07 07 10.0
comp=Z,1μm,23.8s
UPC Upice 136.39 333 *e*PKPdf PKPdf 06 07 41.3 -2.2
VYHS Vyhne 136.46 329 *e*PKP PKPdf 06 07 42.7 -1.0
BZS Buzias 136.76 324 ⇑*i*P PKPdf 06 07 43.6 -0.7
VRAC Vranov 136.98 331 PKIKP PKPdf 06 07 46.4 +1.8
VRAC 06 10 29.0
VRAC pmax pmax
comp=Z,2.0nm,0.3s
VRAC pmax pmax
comp=Z,2.0nm,0.4s
VRAC pmax pmax
comp=N,6.0nm,0.7s
VRAC Vranov 136.98 331 ⇑P PKPdf 06 07 46.5 +1.9
VRAC Vranov 136.98 331 PKP PKPdf 06 07 46.4 +1.8
comp=N,2.1nm,0.3s,baz=271,slow=16,SNR=3.5
VRAC PP PP 06 10 29.0 +0.7
comp=N,1.9nm,0.4s,baz=350,slow=13,SNR=5.5
VRAC SKPbc SKPbc 06 11 17.0 +4.9
comp=N,5.5nm,0.7s,baz=33,slow=9.6,SNR=3.4
VRAC Vranov 136.98 331 ⇑*i*P PKPdf 06 07 46.5 +1.9
PVCC Panska Ves 137.00 334 *e*PKPdf PKPdf 06 07 44.4 -0.2
PVCC *e*SKP 06 11 17.2
BRG Berggiesshubel 137.00 335 *e*PKIKP PKPdf 06 07 44.4 -0.2
BRG pmax pmax
comp=Z,14nm,1.5s
BRG pmax pmax
comp=Z,13nm,1.4s
BRG pmax pmax
comp=N,7.0nm,1.0s
BRG pmax pmax
comp=Z,22nm,1.1s
BRG Berggiesshubel 137.00 335 *e*PKP PKPdf 06 07 44.4 -0.2
comp=Z,22nm,1.5s
BRG pPKP pPKPdf 06 08 07.9 +4.4
comp=Z,22nm,1.4s
BRG SKP 06 11 16.9
comp=Z,12nm,1.0s
BRG *i* 06 11 23.5
comp=Z,37nm,1.1s
CLL Collm 137.05 336 *i* PKIKP PKPdf 06 07 45.8 +1.1
CLL pmax pmax
comp=Z,21nm,1.3s
CLL pmax pmax
comp=Z,22nm,1.0s
CLL MLR MLR
comp=Z,600nm,20.2s
CLL Collm 137.05 336 *i* PKP PKPdf 06 07 45.8 +1.1
CLL *i* pPKP pPKPdf 06 08 04.1 +0.6
CLL *i* SKP 06 11 16.9
CLL *i* PKS 06 11 22.9
CLL LR LR
comp=Z,600nm,20.2s
CLL Collm 137.05 336 *e*PKPdf PKPdf 06 07 46.0 +1.3
CLL *e*pPKPdf pPKPdf 06 08 03.9 +0.4
CLL *e*sPKPdf 06 08 10.4
CLL *e*PP PP 06 10 30.3 +1.8
CLL *e*(PPS) 06 22 43.6
CLL *e*(SS) 06 28 35.2
CLL Collm 137.05 336 *i* PKPdf PKPdf 06 07 44.0 -0.7
CLL *i* PKiKP PKiKP 06 07 45.8 -0.7
comp=Z,21nm,1.3s
CLL *i* pPKiKP 06 08 04.1
CLL *e*sPKPdf 06 08 10.0
CLL *e*PP PP 06 10 19.0 -10
comp=Z,9.0nm,1.0s
CLL *e*PPlp 06 10 32.0
comp=Z,200nm,23.0s
CLL *i* SKPab 06 11 16.9
comp=Z,12nm,1.1s
CLL *i* PKSdf 06 11 22.9
comp=Z,22nm,1.0s
CLL *e*x x 06 11 32.0
CLL *e*PPS 06 22 33.0
CLL *e*SKKSacre 06 23 52.0
CLL *e*SS SS 06 28 37.0 +8.6
CLL *e*sPSPS 06 29 53.0
CLL *e*sSSS 06 34 36.0
CLL Lm 07 09 00.0
comp=N,600nm,21.0s
CLL Lm 07 09 00.0
comp=E,200nm,20.2s
CLL Lm 07 09 00.0
comp=Z,600nm,20.2s
PRU Pruhonice 137.41 334 *e*PKPdf PKPdf 06 07 45.4 0.0
PRU *e*PKS 06 11 18.3
PRU AMS AMS 07 05 40.0
comp=Z,600nm,22.7s
VTS Vitosha 137.47 319 ⇓*i*P PKPdf 06 07 45.7 -0.1
TREC Trest 137.50 332 AMS AMS 07 08 10.0
comp=Z,1μm,25.6s
EKA Eskdalemuir Ar 137.89 351 *i* PKHKP 06 07 38.7
EKA pmax pmax
comp=Z,1.0nm,0.9s
EKA pmax pmax
comp=Z,3.0nm,0.9s
EKA pmax pmax
comp=N,13nm,0.9s
EKA Eskdalemuir Ar 137.89 351 PKP PKPdf 06 07 48.1 +2.0
EKA SKPbc SKPbc 06 11 23.3 +8.8
EKA Eskdalemuir Ar 137.89 351 PKhKP 06 07 38.6
comp=N,1.3nm,0.8s,baz=9.5,slow=2.5,SNR=4.0
EKA PKP PKPdf 06 07 48.1 +2.0
comp=N,2.8nm,0.9s,baz=18,slow=1.6,SNR=5.2
EKA SKPbc SKPbc 06 11 23.3 +8.8
comp=N,13nm,0.9s,baz=346,slow=2.6,SNR=12
PKSM Moragy 138.04 327 ⇑*i*P PKPdf 06 07 46.1 -0.6
NKC Novy Kostel 138.10 335 *e*PKPdf PKPdf 06 07 46.5 -0.2
MOX Moxa 138.11 336 *e*PKP PKPdf 06 07 46.2 -0.5
comp=N,20nm,1.6s
MOX
comp=Z,600nm,20.0s
MOX Moxa 138.11 336 *e*PKIKP PKPdf 06 07 46.2 -0.5
MOX pmax pmax
comp=Z,20nm,1.6s
MOX MLR MLR
comp=Z,600nm,20.0s

CONA	Conrad Observa	138.30 330	⇑ i P		PKPdf	06 07 46.4	-0.7
	comp=Z,28nm,1.5s						
CSNA	Conrad Observa	138.30 330	⇑ i P		PKPdf	06 07 46.2	-0.9
	comp=Z,21nm,1.3s						
KHC	Kasperske Hory	138.47 333	e	PKPdf	PKPdf	06 07 47.3	-0.1
KHC			e	pPKP	pPKPdf	06 08 10.5	+4.3
KHC			e	PKS		06 11 21.1	
KHC			e	SKP		06 11 25.5	
KHC				AMS	AMS	07 06 30.0	
	comp=Z,700nm,22.0s						
GEC2	GERESS Array S	138.63 333	e	PKIKP	PKPdf	06 07 47.9	+0.2
GERES	GERESS Array B	138.63 333	i	PKHKP		06 07 40.4	
GERES						06 07 47.6	
GERES				pmax	pmax		
	comp=Z,2.0nm,0.6s						
GERES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
GERES				pmax	pmax		
	comp=N,4.0nm,0.8s						
GERES	GERESS Array B	138.63 333		PKP	PKPdf	06 07 47.6	0.0
GERES				SKP		06 11 22.0	
GERES	GERESS Array B	138.63 333		PKhKP		06 07 40.4	
	comp=N,1.6nm,0.6s,baz=52,slow=2.2,SNR=5.5						
GERES				PKP	PKPdf	06 07 47.6	0.0
	comp=N,3.0nm,0.8s,baz=315,slow=0.4,SNR=11						
GERES				SKP		06 11 22.0	
	comp=N,4.2nm,0.8s,baz=48,slow=2.0,SNR=9.8						
GRA1	Grafenberg Arr	139.02 336	e	PKPdf	PKPdf	06 07 47.7	-0.7
GRA1			e	PP	PP	06 10 42.2	+1.4
GRA1			e	SKPdf	SKPdf	06 11 22.9	+5.2
GRF	Grafenberg Arr	139.02 336	e	PKIKP	PKPdf	06 07 47.7	-0.7
GRF			e			06 10 42.2	
GRF	Grafenberg Arr	139.02 336	e	PKIKP	PKPdf	06 07 47.7	-0.7
GRF			e			06 10 42.2	
GRF	Grafenberg Arr	139.02 336	e	PKPdf	PKPdf	06 07 47.7	-0.7
GRF			e	PP	PP	06 10 42.2	+1.4
GRF			e	SKPdf	SKPdf	06 11 22.9	+5.2
IDI	Anoyia	139.58 309		PKP	PKPdf	06 07 51.6	+1.7
	comp=N,16nm,1.0s,baz=22,slow=8.0,SNR=2.9						
IDI				SKPbc	SKPbc	06 11 29.3	+9.4
	comp=N,13nm,0.9s,baz=351,slow=15,SNR=4.1						
MEM	Membach	140.14 341		PKPdf	PKPdf	06 07 49.7	-0.6
ABH	Alteburg	140.24 339		PKP	PKPdf	06 07 50.1	-0.5
RUP	Ruppelstein	140.57 339		PKIKP	PKPdf	06 07 51.0	-0.2
ABTA	Abfaltersbach	140.73 332	⇑ i P		PKPdf	06 07 51.4	-0.1
	comp=N,42nm,1.6s						
WTTA	Wattenberg	140.73 333	⇑ i P		PKPdf	06 07 50.3	-1.2
	comp=N,57nm,1.8s						
GIVF	Givet	140.95 341	e	PKP1	PKPdf	06 07 51.4	-0.5
DOU	Dourbes	141.03 342		PKPdf	PKPdf	06 07 50.6	-1.4
BAIF	Baives	141.18 342	e	PKP1	PKPdf	06 07 51.9	-0.4
FETA	Feichten	141.31 334	⇑ i P		PKPdf	06 07 46.2	-6.4
	comp=N,28nm,1.1s						
ECH	Echery	141.78 338		PKP	PKPdf	06 07 49.9	-3.5
DAVOX	Davos/Dischmat	141.87 334		PKhKP		06 07 49.9	
	comp=N,4.5nm,0.5s,baz=358,slow=6.0,SNR=3.8						
DAVOX				SKPbc	SKPbc	06 11 35.7	+10
	comp=N,9.2nm,0.7s,baz=34,slow=5.0,SNR=6.0						
MOF	Molkenrain	142.09 337		PKP	PKPdf	06 07 50.8	-3.2
THEF	They Montfort	142.19 339		PKP	PKPdf	06 07 50.1	-4.0
MEZF	Maizieres J'vi	142.28 340	e	PKP1	PKPdf	06 07 54.2	-0.1
LOMF	Lomont	142.63 337		PKP	PKPdf	06 07 50.9	-4.0
NRCA	Norcia	143.24 327		PKP	PKPdf	06 07 53.3	-2.9
AQU	L'Aquila	143.41 326	⇓ i P		PKPdf	06 07 54.0	-2.5
GSCL	Gusciola	143.42 331		PKP	PKPdf	06 07 54.1	-2.3
TIP	Timpagrande	143.43 319	e	PKPdf	PKPdf	06 07 54.3	-2.3
CABF	La Chapelle	143.52 337	e	PKP1	PKPdf	06 07 56.4	-0.2
	comp=N,45nm,0.8s						
LDF	La Druitiere	143.70 345	e	PKP1	PKPdf	06 07 56.6	-0.2
	comp=N,27nm,0.8s						
GRI	Giritalco	143.85 319		PKIKP	PKPdf	06 07 55.8	-1.6
SSF	Saint Saulge	144.04 340	e	PKP1	PKPdf	06 07 55.2	-2.2
	comp=N,135nm,1.4s						
GRR	Gorron	144.07 346	e	PKP1	PKPdf	06 07 56.7	-0.8
SMF	Signal de Mont	144.30 340	e	PKP1	PKPdf	06 07 55.8	-2.1
	comp=N,157nm,1.4s						
AVF	Avril sur Loir	144.33 340	e	PKP1	PKPdf	06 07 55.8	-2.2
	comp=N,126nm,1.4s						
SOI	Samo	144.52 318		PKIKP	PKPdf	06 07 57.3	-1.3
SGMF	Saint Gilles	144.58 348	e	PKP1	PKPdf	06 07 56.4	-1.9
	comp=N,120nm,0.7s						
BNI	Bardonecchia	144.59 335	e	PKIKP	PKPdf	06 07 57.7	-0.8
ROSF	Rostrenen	144.65 348	e	PKP1	PKPdf	06 07 56.6	-1.9
	comp=N,137nm,1.0s						
BGF	Bois d'Agland	144.70 341	e	PKP1	PKPdf	06 07 57.3	-1.3
	comp=N,134nm,1.2s						
MTTG	Motta San Giov	144.79 318		PKP	PKPdf	06 07 57.9	-1.1
MBDF	Montbardon	144.81 335	e	PKP1	PKPdf	06 07 57.7	-1.2
PLDF	La Plantade	144.96 339		PKP	PKPdf	06 07 57.6	-1.5
QUIF	Quistinic	145.03 348	e	PKP1	PKPbc	06 07 57.7	-0.9
	comp=N,82nm,0.7s						
SAOF	Saorge	145.08 333		PKP	PKPdf	06 07 58.3	-1.0
AUTN	L'Aution	145.13 333		PKP	PKPdf	06 07 58.8	-0.6
TCF	Toulx Ste Croi	145.14 341	e	PKP1	PKPbc	06 07 58.8	-0.2
	comp=N,318nm,1.4s						
TOUF	Mont Tournerai	145.19 334		PKP	PKPdf	06 07 58.7	-0.8
SBF	Sospel	145.23 333	e	PKP1	PKPbc	06 07 58.8	-0.6
	comp=N,321nm,1.0s						
LUCF	Luceram	145.25 333		PKP	PKPdf	06 07 58.7	-0.9
MVIF	Mont Vial	145.33 334		PKP	PKPdf	06 07 59.3	-0.5
PYM	Petit Puy Mans	145.36 340		PKP	PKPdf	06 07 59.6	-0.2
VIVF	Saint-Julien-l	145.54 337	e	PKP1	PKPbc	06 08 00.5	+0.2
	comp=N,419nm,1.4s						
MFF	Saint Martin d	145.55 344	e	PKP1	PKPbc	06 08 00.0	-0.3
	comp=N,118nm,0.7s						
CALN	Calern	145.56 334		PKP	PKPdf	06 07 59.1	-1.1
LBL	Lubilhac	145.73 339		PKP	PKPdf	06 08 00.6	+0.2
FRF	La Foret Royal	145.81 334	e	PKP1	PKPdf	06 07 59.5	-1.1
	comp=N,310nm,1.3s						
HVZN	Vizzini	145.90 318		PKP	PKPdf	06 08 01.8	+0.8
VAE	Valguarnera	145.92 319		PKPbc	PKPbc	06 08 01.3	-0.4
	comp=N,16nm,0.4s,baz=314,slow=6.4,SNR=3.0						
SMRF	Simiane la Rot	145.92 335	e	PKP1	PKPdf	06 08 00.5	-0.3
	comp=N,312nm,1.4s						
LMR	La Mourre	146.06 334	e	PKP1	PKPdf	06 08 00.3	-0.7
	comp=N,289nm,1.2s						
RAFF	Raffo Rosso	146.10 318		PKP	PKPdf	06 07 56.5	-4.8
RJF	Les Rejaudoux	146.24 341	e	PKP1	PKPdf	06 08 00.7	-0.6
	comp=N,542nm,1.8s						
RJF			e	MLR	MLR		
	comp=Z,759nm,21.0s						
RJF	Les Rejaudoux	146.24 341	e	PKP	PKPdf	06 08 00.7	-0.6
RJF				LR	LR		
	comp=Z,760nm,21.0s						
CAF	Calviac	146.40 340	e	PKP1	PKPbc	06 08 03.0	+0.1
	comp=Z,82nm,1.1s						
LASF	Ste Croix	146.51 337	e	PKP1	PKPbc	06 08 03.4	+0.1
	comp=Z,228nm,1.2s						
LFF	La Frestale	146.81 342	e	PKP1	PKPbc	06 08 04.0	-0.1
	comp=Z,149nm,1.1s						
VSL	Villasalto	147.59 326	e	PKPbc	PKPbc	06 08 06.2	-0.2
MTLF	Montolieu	147.74 339	e	PKP1	PKPdf	06 08 05.5	+1.6
	comp=Z,180nm,1.2s						
EJON	La Jonquera	148.26 337		PKP	PKPbc	06 08 07.0	-1.1
MLS	Moulis	148.47 340		PKP	PKPbc	06 08 08.4	-0.3
EPF	Esparros	148.65 341	e	PKP1	PKPbc	06 08 09.0	-0.1
VIEF	Viey	148.89 341		PKP	PKPbc	06 08 09.6	-0.1
EBIE	Bielsa	149.03 341		PKP	PKPdf	06 08 07.3	+1.4
EALK	Alkurruntz	149.04 343		PKP	PKPbc	06 08 09.5	-0.6
ELIZ	Elizondo	149.10 343		PKP2	PKPbc	06 08 09.1	-1.2
EMIR	Miracle	149.24 338		PKP	PKPdf	06 08 08.0	+1.7
ELAN	Lanestosa	149.53 346		PKP	PKPbc	06 08 10.1	-1.2
EARI	Arriondas	149.86 348		PKP	PKPbc	06 08 11.0	-1.1
EPOB	Poblet	149.89 338		PKP	PKPbc	06 08 11.3	-0.9
ESAC	San Caprasio	150.09 340		PKP	PKPbc	06 08 12.3	-0.5
EPON	Pontenova	150.18 351		PKP	PKPbc	06 08 12.0	-0.9
KEST	Kesra	150.19 321		PKPbc	PKPbc	06 08 13.6	+0.4
	comp=Z,28nm,0.9s,baz=281,slow=1.7,SNR=31						
ERTA	Horta de San J	150.50 339		PKP	PKPdf	06 08 11.0	+2.6
CMAH	Djebel Manchou	150.72 324		P	PKPbc	06 08 13.5	-0.9
EMAZ	Mazaricos	150.79 353		PKP	PKPbc	06 08 12.6	-1.8
STS	Santiago	150.80 353		PKIKP	PKPbc	06 08 13.6	-0.8
CAEH	'Ain El Ouahch	150.92 325		P	PKPbc	06 08 17.0	+2.1
ABSA	Djebel Ababsia	150.93 324		P	PKPbc	06 08 15.0	+0.1
CKFL	Kef-Lekhel	151.27 325		P	PKPbc	06 08 16.5	+0.8
EMOS	Mosqueruela	151.31 339		PKP	PKPdf	06 08 12.7	+3.0
CASM	Ain Smara	151.50 325		P	PKPbc	06 08 16.5	+0.2
DFRA	Djebel Bou Aff	151.63 326		P	PKPbc	06 08 18.0	+1.5
CTEI	Djebel Teioual	151.69 325		P	PKPbc	06 08 17.0	+0.3
ELOB	Lobios	151.74 352		PKP	PKPbc	06 08 14.6	-2.0
SET	Setif	152.14 326		P	PKPbc	06 08 19.0	+1.3
GUD	Guadarrama	152.15 345		PKIKP	PKPdf	06 08 11.6	+0.7
ECHE	Chera	152.17 339		PKIKP	PKPbc	06 08 15.3	-2.4
CKHR	Kef el Ahmar	152.22 326		P	PKPbc	06 08 19.0	+1.1
ESDC	Sonseca Array	153.01 344		PKPbc	PKPbc	06 08 19.4	-0.1
	comp=Z,3.5nm,0.7s,baz=14,slow=5.6,SNR=5.1						
ESDC				PKPab	PKPab	06 08 27.6	-3.4
	comp=Z,3.6nm,0.7s,baz=3.5,slow=4.4,SNR=6.4						
ESLA	Sonseca Array	153.01 344	e	PKPbc	PKPbc	06 08 19.2	-0.4
MTE	Manteigas	153.10 350	e	PKPdf	PKPdf	06 08 12.1	-0.2
MTE			e	PKPbc	PKPbc	06 08 19.8	+0.1
ETOB	Tobarra	153.22 339		PKP	PKPdf	06 08 16.7	+4.1
PAB	San Pablo	153.24 344	e	PKIKP	PKPdf	06 08 12.6	+0.1
PAB			e			06 08 20.5	
EVIA	Vianos	153.54 341		PKIKP	PKPdf	06 08 16.1	+3.1
EHUE	Huescar	154.32 340		PKIKP	PKPdf	06 08 19.1	+5.0
EQES	Quesada	154.49 341		PKP	PKPdf	06 08 16.2	+1.8
EADA	Adamuz	154.59 344		PKP	PKPdf	06 08 19.4	+4.9
ECAB	El Cabril	154.90 345		PKP	PKPdf	06 08 15.1	+0.2
EVO	Evora	155.00 350	e	PKIKP	PKPdf	06 08 13.6	-1.4
	comp=Z,56nm,1.5s						
EVO			e	MLR	MLR		
	comp=Z,1μm,20.8s						
EMIN	Mina Concepcio	155.48 347		PKP	PKPdf	06 08 14.6	-1.2
ESPR	Espera	156.15 345		PKP	PKPdf	06 08 16.7	+0.1
TOA0	Torodi Ar. Sit	165.38 269	e	PKPdf	PKPdf	06 08 26.5	-0.7
TOA0			e	PKPab	PKPab	06 09 25.8	+0.3
TORD	Torodi Ar. Bea	165.38 269		PKP	PKPdf	06 08 26.2	-1.0
TORD				PKPab	PKPab	06 09 25.9	+0.5
TORD				SKP		06 12 02.8	
TORD	Torodi Ar. Bea	165.38 269		PKP	PKPdf	06 08 26.2	-1.0
	comp=Z,20nm,1.0s,baz=55,slow=1.3,SNR=51						
TORD				PKPab	PKPab	06 09 25.9	+0.5
	comp=Z,18nm,1.1s,baz=90,slow=3.6,SNR=14						
TORD				SKP		06 12 02.8	
	comp=Z,9.5nm,1.1s,baz=7.3,slow=0.7,SNR=8.8						
KIC	Kosan Boka	168.73 229	e	PKIKP	PKPdf	06 08 28.4	-1.4
	comp=Z,107nm,1.0s						
LIC	Lamto	168.84 228	e	PKIKP	PKPdf	06 08 28.0	-1.9
	comp=Z,38nm,1.0s						
LIC			e	MLR	MLR		
	comp=Z,1μm,22.8s						
LIC	Lamto	168.84 228	e	PKIKP	PKPdf	06 08 28.3	-1.6
	comp=Z,86nm,1.5s						
LIC	Lamto	168.84 228	e	PKPdf	PKPdf	06 08 28.0	-1.9
LIC				LR	LR		
	comp=Z,720nm,22.8s						
DBIC	Dimbokro	169.02 230		PKIKP	PKPdf	06 08 29.2	-0.8
DBIC				pmax	pmax		
	comp=Z,10.0nm,0.9s						
DBIC				pmax	pmax		
	comp=Z,6.0nm,0.9s						
DBIC	Dimbokro	169.02 230	e	PKPdf	PKPdf	06 08 28.8	-1.1
DBIC	Dimbokro	169.02 230		PKP	PKPdf	06 08 29.2	-0.8
	comp=Z,10nm,0.9s,baz=64,slow=1.2,SNR=11						
DBIC				PKPab	PKPab	06 09 48.9	+7.5
	comp=Z,6.3nm,0.9s,baz=160,slow=5.7,SNR=3.1						
TIC	Toumodi	169.12 229	e	PKIKP	PKPdf	06 08 28.6	-1.4
	comp=Z,207nm,1.5s						

TEH ***29*** *06:18:15.8, 2942N×5249E, h10km, ML3.7*
NEIC ***29*** *06:18:56.1, 2947N×5234E, h14km, mb3.9/1, ML4.0(THR), After THR.*
NEIC Felt at Shiraz.
CSEM ***29*** *06:18:56.4±0.1, 2944N×5251E, h20km, ML3.7, Error ellipse: s-maj=5.6km s-min=2.0km az=52.0*
IDC ***29*** *06:18:56.0±1.6, 2965N×5239E, h0km, mb4.1/15, mb1 4.2/15, mb1mx4.0/26, mbtmp4.1/15, MS3.4/1, Ms1 3.4/1, ms1mx2.9/27, Error ellipse: s-maj=35.7km s-min=17.5km az=155.0*
THR ***29*** *06:18:57.2±0.9, 2931N×5226E, h46km±15km, ML4.0*
ISCJB ***29*** *06:18:58.4±0.5, 2945N±004×5250E±003, h38km±6km, mb4.0/17, Error ellipse: s-maj=6.1km s-min=4.7km az=2.9*
MOS ***29*** *06:18:59.1±1.2, 2962N×5244E, h33km, mb4.2/11, Error ellipse: s-maj=17.3km s-min=11.5km az=97.6*

ISC 29 06:19:00.2±0.4, 2944N±003×5253E±003, h36km±6km, n75, σ0°93/81, mb4.0/17, 1C, Southern Iran

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
ISRV	Sarvestan	0.51	96	e		Sn	06 19 24.2	+5.7
	comp=Z,17μm,0.1s							
IPAR	Pars	0.60	48	⇑ e	Pg	Pn	06 19 06.8	-5.5
IPAR				e			06 19 19.8	
	comp=Z,55μm,0.1s							
GHIR	Ghir-Karzin	1.21	161	e	Pg	Pn	06 19 20.3	-0.3
GHIR	Ghir-Karzin	1.21	161	e	Pg	Pn	06 19 19.8	-0.8
GHIR				AML	AML		06 19 43.9	
	comp=E,3μm,0.5s							
GHIR				AML	AML		06 19 50.9	
	comp=N,2μm,0.6s							
GHIR	Ghir-Karzin	1.21	161	e	Pg	Pn	06 19 20.3	-0.3
IGAR	Gharneh	2.99	352	e	Pn	Pn	06 19 46.2	+1.2
IGAR				e			06 20 40.8	
	comp=Z,4μm,0.3s							
ICHK	Chekchek	3.23	29	e	Pn	Pn	06 19 48.8	+0.4
ICHK				e			06 20 45.3	
	comp=Z,3μm,0.3s							
NASN	Na'in	3.36	4	e	Pn	Pn	06 19 50.3	+0.1
NASN	Na'in	3.36	4	e	Pn	Pn	06 19 50.5	+0.4
NASN	Na'in	3.36	4	e	Pn	Pn	06 19 50.3	+0.1
IBAF	Bafgh	3.39	50	e	Pn	Pn	06 19 51.3	+0.8
IBAF				e			06 20 49.6	
	comp=Z,2μm,0.3s							
IZEF	Zefreh	3.45	357	e	Pn	Pn	06 19 50.2	-1.2
IPIR	Pirpir	3.53	337	e	Pn	Pn	06 19 51.6	-0.9
IPIR				e			06 21 04.4	
	comp=Z,4μm,0.5s							
KRBR	Kerman	3.72	81	e	Pn	Pn	06 19 57.7	+2.7
KRBR				AML	AML		06 21 14.0	
	comp=N,247nm,0.6s							
BNDS	Bandar-Abbas	3.79	121	e	Pn	Pn	06 19 56.1	0.0
IKLH	Kolahrood	3.96	348	e	Pn	Pn	06 19 57.8	-0.5
IKLH				e			06 21 27.6	
	comp=Z,2μm,0.4s							
UMR	Umm Al-Rimmam	4.20	273	e	P	Pn	06 20 01.3	-0.4
UMR				e	S	Sn	06 20 49.8	+0.2
UMR				AML	AML		06 20 52.4	
	comp=Z,82nm,0.3s							
RDF	Al-Radifah	4.39	265	e	P	Pn	06 20 04.9	+0.6
RDF				e	S	Sn	06 20 55.6	+1.5
RDF				AML	AML		06 20 58.5	
	comp=Z,66nm,0.5s							
MIB	Mutribah	4.54	276	e	P	Pn	06 20 05.7	-0.6
MIB				e	S	Sn	06 20 57.0	-0.8
MIB				AML	AML		06 20 59.7	
	comp=Z,122nm,0.6s							
NAY	Al-Naaiem	4.62	269	e	P	Pn	06 20 07.3	-0.2
NAY				e	S	Sn	06 21 00.0	+0.1
NAY				AML	AML		06 21 02.6	
	comp=Z,26nm,0.5s							
BANOM	Banah	4.84	135	P		Pn	06 20 10.4	-0.1
BANOM				S		Sn	06 21 03.0	-2.3
GHVR	GHOM	5.14	349	e	Pn	Pn	06 20 14.5	-0.1
ASUD	Al Ashush, Dub	5.40	152	P		Pn	06 20 19.1	+0.9
ASAO	Ashtian	5.52	338	e	Pn	Pn	06 20 19.4	-0.5
ASAO				AML	AML		06 21 33.5	
	comp=N,53nm,0.4s							
HATD	Hatta, Dubai	5.60	144	P		Pn	06 20 20.4	-0.6
ASHO	Ashiyiah	5.68	146	P		Pn	06 20 21.6	-0.5
DAMV	Damavand	6.20	356	e	Pn	Pn	06 20 29.0	-0.1
DAMV	Damavand	6.20	356	e	Pn	Pn	06 20 28.9	-0.2
DAMV	Damavand	6.20	356	e	Pn	Pn	06 20 29.0	-0.1
CHTH	Charan	6.56	350	e	Pn	Pn	06 20 34.2	+0.1
SNGE	Sanandaj	7.15	323	e	Pn	Pn	06 20 41.1	-1.1
SNGE	Sanandaj	7.15	323	e	Pn	Pn	06 20 41.0	-1.2
SNGE	Sanandaj	7.15	323	e	Pn	Pn	06 20 41.1	-1.1
ASF	Jabal al Asfar	13.71	285	P		Pn	06 22 13.2	+1.1
ASF							06 24 34.4	
ASF				pmax	pmax			
	comp=Z,1.0nm,0.3s							
ASF	Jabal al Asfar	13.71	285	Pn		Pn	06 22 13.2	+1.1
	comp=Z,0.6nm,0.3s,baz=315,slow=16,SNR=2.8							
ASF				Sn		Sn	06 24 34.4	-8.7
	baz=221,slow=20,SNR=2.4							
EIL	Elat	15.31	275	Pn		Pn	06 22 36.4	+2.8
	comp=Z,0.4nm,0.3s,baz=14,slow=6.3,SNR=3.4							
EIL				LR	LR		06 29 31.2	
	comp=Z,136nm,18.7s,baz=158,slow=42							
KIV	Kislovodsk	16.48	334	e	P	Pn	06 22 48.9	+0.4
KIV				pmax	pmax			
	comp=Z,15nm,1.2s							
KIV	Kislovodsk	16.48	334	e	P	Pn	06 22 48.9	+0.4
	comp=Z,15nm,1.2s							
AML	Almayashu	21.27	48	e	P	P	06 23 44.5	+1.3
	comp=Z,3.3nm,0.6s,mb3.8							
AML	Almayashu	21.27	48	e	P	P	06 23 44.5	+1.2
AKTK	Aktyubinsk	21.38	10	P		P	06 23 44.1	-0.2
AKTK	Aktyubinsk	21.38	10	P		P	06 23 44.2	-0.2
AKTO	Aktyubinsk	21.38	10	P		P	06 23 44.2	-0.2
AKTO				pmax	pmax			
	comp=Z,3.0nm,0.6s,mb3.8							
AKTO	Aktyubinsk	21.38	10	P		P	06 23 44.1	-0.2
	comp=Z,2.7nm,0.6s,mb3.8,baz=194,slow=11,SNR=9.0							
IDI	Anoyia	24.03 291		P		P	06 24 12.5	+0.8
	comp=Z,6.1nm,0.6s,mb4.2,baz=78,slow=12,SNR=4.4							
IDI	Anoyia	24.03 291		P		P	06 24 12.4	+0.7
MLR	Muntele Rosu	26.33 315		P		P	06 24 33.1	+0.6
MLR				pmax	pmax			
	comp=Z,3.0nm,0.6s							
MLR	Muntele Rosu	26.33 315		P		P	06 24 33.1	+0.6
	comp=Z,2.6nm,0.6s,mb3.9,baz=145,slow=16,SNR=5.0							
BVAR	Borovoye Array	26.98	24	P		P	06 24 38.9	+0.7
BVAR				pmax	pmax			
	comp=Z,4.0nm,0.6s							
BVAR	Borovoye Array	26.98	24	P		P	06 24 38.9	+0.6
	comp=Z,4.4nm,0.6s,mb4.2,baz=222,slow=11,SNR=17							
AKASG	Malin Array Be	27.53 327		P		P	06 24 40.7	-2.5
AKASG				pmax	pmax			
	comp=Z,1.0nm,0.4s							
AKASG	Malin Array Be	27.53 327		P		P	06 24 40.7	-2.5
	comp=Z,0.6nm,0.4s,mb3.6,baz=130,slow=8.4,SNR=8.3							
MK31	Makanchi Array	28.89	45	e	P	P	06 24 56.2	+0.8
MKAR	Makanchi Array	28.89	45	P		P	06 24 55.8	+0.4
MKAR				pmax	pmax			
	comp=Z,1.0nm,0.8s							
MKAR	Makanchi Array	28.89	45	P		P	06 24 55.8	+0.4
	comp=Z,1.2nm,0.8s,mb3.7,baz=237,slow=8.2,SNR=7.7							
ZAL	Zalesovo	33.86	35	P		P	06 25 39.1	+0.1
ZALV	Zalesovo Beam	33.87	35	P		P	06 25 39.1	0.0
	comp=Z,2.1nm,0.5s,mb4.3,baz=251,slow=9.0,SNR=12							
JOF	Joensuu	36.20 344		e	p	P	06 25 58.3	-0.8
	comp=Z,3.7nm,0.6s,mb4.5							
JOF	Joensuu	36.20 344		e	P	P	06 25 58.3	-0.8
JOF				pmax	pmax			
	comp=Z,4.0nm,0.6s,mb4.5							
FINES	FINESS Array B	36.48 339		P		P	06 26 00.1	-1.4
FINES				pmax	pmax			
	comp=Z,3.0nm,0.6s							
FINES	FINESS Array B	36.48 339		P		P	06 26 00.1	-1.3
	comp=Z,2.6nm,0.6s,mb4.3,baz=139,slow=12,SNR=10							
NB2	NORSAR Subarra	41.76 331		P		P	06 26 42.9	-2.6
	comp=Z,1.2nm,0.6s,mb3.7,baz=122,slow=8.6							
NOA	NORSAR Array B	41.76 331		P		P	06 26 43.3	-2.2
NOA				pmax	pmax			
	comp=Z,2.0nm,0.7s							
NOA	NORSAR Array B	41.76 331		P		P	06 26 43.3	-2.2
	comp=Z,1.5nm,0.7s,mb3.8,baz=121,slow=8.3,SNR=7.1							
ARCES	ARCESS Array B	43.03 346		P		P	06 26 54.7	-1.1
ARCES				pmax	pmax			
	comp=Z,1.0nm,0.5s							
ARCES	ARCESS Array B	43.03 346		P		P	06 26 54.7	-1.1
ARCES	ARCESS Array B	43.03 346		P		P	06 26 54.7	-1.1
	comp=Z,0.8nm,0.5s,mb3.7,baz=133,slow=8.5,SNR=13							
SONM	Songino Array	44.94	50	P		P	06 27 12.4	+1.0
SONM				pmax	pmax			
	comp=Z,1.0nm,0.9s							
SONM	Songino Array	44.94	50	P		P	06 27 12.4	+1.0
	comp=Z,0.6nm,0.8s,mb3.5,baz=285,slow=7.3,SNR=3.1							
TOA0	Torodi Ar. Sit	49.67 262		e	P	P	06 27 48.5	-0.2
TORD	Torodi Ar. Bea	49.67 262		P		P	06 27 48.5	-0.2
	comp=Z,3.6nm,0.5s,mb4.6,baz=56,slow=8.3,SNR=31							
DBIC	Dimbokro	58.44 259		P		P	06 28 54.0	+1.3
DBIC				pmax	pmax			
	comp=Z,2.0nm,0.6s							
DBIC	Dimbokro	58.44 259		P		P	06 28 54.0	+1.3
	comp=Z,1.7nm,0.6s,mb4.2,baz=10,slow=8.4,SNR=3.6							
SCHQ	Scheiferville	81.30 329		P		P	06 31 12.5	0.0
	comp=Z,2.4nm,0.7s,mb4.2,baz=43,slow=9.7,SNR=3.8							
YKA	Yellowknife Ar	87.81 354		P		P	06 31 45.2	0.0
	comp=Z,0.3nm,0.6s,mb3.7,baz=11,slow=5.5,SNR=6.1							

IDC ***29*** *06:22:39.4±0.9, 3135N×14242E, h0km, mb3.6/6, mb1 3.9/7, m

KGM	Kluang	7.40	93	⇓P		Pn	06 34 06.3 +1.0
KTGM	Kuala Trenggan	7.73	68	⇑P		Pn	06 34 10.1 +0.3
MYKOM	Kota Tinggi	7.95	95	⇑P		Pn	06 34 13.5 +0.7
SBUM	Sibu	16.28	90	⇓P		Pn	06 36 09.2 +3.3
BTM	Bintulu	17.15	87	⇑P		Pn	06 36 19.6 +2.6
KKM	Kota Kinabalu	20.54	79	⇑P		P	06 36 58.6 +3.0
KDM	Kudat	21.29	77	⇑P		P	06 37 04.4 +0.6
SDKM	Sandakan	21.44	81	⇑P		P	06 37 05.6 +0.2
TSM	Tawau	21.98	85	⇑P		P	06 37 12.4 +1.2
MYLDM	Lahad Datu	22.68	83	⇑P		P	06 37 19.8 +1.2
SHL	Shillong	23.28 351		eP		P	06 37 15.5 -9.3
KAPI	Kappang	24.94 107		P		P	06 37 39.3 -1.1
	10nm,0.7s,mb4.5,baz=269,slow=7.9,SNR=5.5						
JIRN	Jiri	26.71 341		eP		P	06 37 57.8 +1.5
	91nm,0.7s,mb5.4						
PKI	Pulchoki	26.90 339		eP		P	06 37 59.1 +1.1
	20nm,0.6s,mb4.8						
PKIN	Phulchoki	26.91 339		eP		P	06 37 59.0 +0.9
	11nm,0.6s,mb4.6						
DMN	Daman	27.05 339		eP		P	06 38 00.4 +1.1
	32nm,0.9s,mb4.9						
GUN	Gumba	27.05 340		eP		P	06 38 00.9 +1.6
	65nm,0.7s,mb5.3						
KKN	Kakani	27.15 339		eP		P	06 38 01.3 +1.1
	66nm,1.0s,mb5.1						
LSA	Lhasa	27.45 351		P		P	06 38 04.3 +1.4
LSA				AMB		AMB	
	comp=Z,20nm,0.8s,mb4.7						
LSA	Lhasa	27.45 351		eP		P	06 38 04.0 +1.1
LSA				pmax		pmax	
	comp=Z,13nm,0.7s,mb4.6						
LSA	Lhasa	27.45 351		eP		P	06 38 04.0 +1.2
	comp=Z,13nm,0.7s,mb4.6						
GKN	Gorkha	27.57 338		eP		P	06 38 05.2 +1.2
	comp=Z,35nm,1.0s,mb5.0						
KOLN	Koldanda	27.77 336		eP		P	06 38 07.2 +1.4
	comp=Z,31nm,0.7s,mb5.1						
DANN	Dangsing	28.22 337		eP		P	06 38 11.1 +1.3
	comp=Z,30nm,0.8s,mb5.0						
WHN	Wuhan	32.91	30	⇓P		P	06 38 50.8 -0.4
XAN	Xi'an	33.66	20	P		P	06 38 56.0 -1.7
XAN				AP		pP	06 39 04.0 -0.9
XAN				AMB		AMB	
	comp=Z,22nm,1.0s,mb5.0						
LZH	Lanzhou	34.23	11	eP		P	06 38 59.0 -3.6
LZH				AP		pP	06 39 06.5 -3.4
LZH				XP		sP	06 39 09.8 -3.0
LZH				AMB		AMB	
	comp=Z,19nm,1.1s,mb4.9						
LZH				AMB		AMB	
	comp=Z,97nm,4.8s						
FITZ	Fitzroy Crossi	35.71 126		eP		P	06 39 09.5 -6.1
	comp=Z,5.5nm,0.8s,mb4.5						
NJ2	Nanjing	36.48	34	eP		P	06 39 21.0 -1.1
NJ2				AP		pP	06 39 26.5 -2.8
NJ2				XP		sP	06 39 29.8 -2.5
NJ2				PP		PP	06 40 45.5 +0.1
NJ2				S		S	06 45 01.0 -1.8
NJ2				AMB		AMB	
	comp=Z,20nm,0.7s,mb5.2						
NJ2				AMB		AMB	
	comp=Z,160nm,5.2s						
NJ2				LR		LR	
	comp=N,790nm,19.1s,MS4.5						
NJ2				LR		LR	
	comp=E,430nm,23.5s,MS4.5						
NJ2				LR		LR	
	comp=Z,430nm,23.7s,MS4.2						
GTA	Gaotai	36.93	5	P		P	06 39 25.5 -0.2
GTA				AP		pP	06 39 31.5 -1.5
GTA				XP		sP	06 39 36.0 0.0
GTA				AMB		AMB	
	comp=Z,21nm,0.9s,mb5.0						
KAKA	Kakadu	39.27 113		eP		P	06 39 44.2 -1.7
	comp=Z,8.4nm,0.6s,mb4.7						
BJT	Baijiatuau	41.63	24	eP		P	06 40 05.0 -0.1
BJT				pmax		pmax	
	comp=Z,31nm,0.9s						
BJT	Baijiatuau	41.63	24	eP		P	06 40 05.0 0.0
	comp=Z,31nm,0.9s,mb4.9						
BJI	Beijing	41.66	24	P		P	06 40 05.5 +0.3
BJI				AP		pP	06 40 12.3 -0.3
BJI				AMB		AMB	
	comp=Z,38nm,0.9s,mb5.0						
WRA	Warramunga Arr	43.79 122		P		P	06 40 22.2 -0.6
	comp=Z,1.6nm,0.5s,mb4.0,baz=302,slow=9.0,SNR=31						
WRAB	Tennant Creek	43.80 122		⇓eP		P	06 40 22.5 -0.4
WB2	Warramunga Arr	43.80 122		eP		P	06 40 22.2 -0.8
UCH	Uchtor	43.98 337		eP		P	06 40 25.0 +1.0
	comp=Z,5.3nm,0.8s,mb4.3						
TKM2	Tokmak 2	44.16 339		eP		P	06 40 26.4 +0.9
TKM2				pmax		pmax	
	comp=Z,6.0nm,1.0s,mb4.3						
TKM2	Tokmak 2	44.16 339		eP		P	06 40 26.4 +0.9
	comp=Z,6.0nm,1.0s,mb4.3						
AML	Almayashu	44.22 336		eP		P	06 40 26.7 +0.7
	comp=Z,8.6nm,0.9s,mb4.5						
EKS2	Erkin-Say	44.63 337		eP		P	06 40 30.8 +1.6
	comp=Z,4.4nm,0.8s,mb4.3						
ASAR	Alice Springs	45.18 127		P		P	06 40 33.5 -0.4
	comp=Z,1.0nm,0.6s,mb3.9,baz=302,slow=8.1,SNR=17						
KSRS	Korea Array	45.55	36	P		P	06 40 35.3 -1.3
KSRS				pmax		pmax	
	comp=Z,4.0nm,0.8s,mb4.4						
KSRS	Korea Array	45.55	36	P		P	06 40 35.2 -1.4
	comp=Z,3.8nm,0.8s,mb4.4,baz=226,slow=9.4,SNR=10						
MK31	Makanchi Array	45.71 347		eP		P	06 40 37.7 0.0
MKAR	Makanchi Array	45.71 347		P		P	06 40 37.9 +0.1
	comp=Z,9.0nm,0.5s,mb4.9,baz=162,slow=8.1,SNR=142						
SONM	Songino Array	46.08	10	P		P	06 40 40.4 -0.2
	comp=Z,6.2nm,0.7s,mb4.7,baz=190,slow=8.1,SNR=40						
SONM				PcP		PcP	06 42 17.6 +0.9
	comp=Z,2.3nm,0.7s,baz=183,slow=2.8,SNR=5.6						
ULN	Ulaanbaatar	46.22	10	⇑eP		P	06 40 41.1 -0.7
ZAK	Zakamensk	48.13	6	eP		P	06 40 56.2 -0.4
ZAK				pmax		pmax	
	comp=Z,3.0nm,1.4s,mb4.1						
TLY	Talaya	49.45	6	⇑eP		P	06 41 07.7 +0.9
TLY				pmax		pmax	
	comp=Z,1.0nm,1.2s,mb3.7						
KURK	Kurchatov	50.24 346		eP		P	06 41 12.6 -0.1
KURK				pmax		pmax	
	comp=Z,7.0nm,0.8s,mb4.7						
KURK	Kurchatov	50.24 346		eP		P	06 41 12.6 -0.2
	comp=Z,7.5nm,0.8s,mb4.8						
ZAL	Zalesovo	52.10 352		P		P	06 41 26.6 0.0
ZALV	Zalesovo Beam	52.11 352		P		P	06 41 26.6 -0.1
	comp=Z,11nm,0.5s,mb5.0,baz=180,slow=6.4,SNR=23						
NVS	Novosibirsk	53.21 351		i P		P	06 41 34.1 -0.8
NVS				pmax		pmax	
	comp=Z,8.0nm,1.0s,mb4.6						
NVS				pmax		pmax	
	comp=N,7.0nm,1.3s						
NVS				pmax		pmax	
	comp=E,4.0nm,1.0s						
BVAR	Borovoye Array	54.63 341		P		P	06 41 44.5 -0.8
	comp=E,4.8nm,0.7s,mb4.6,baz=146,slow=9.0,SNR=22						
STKA	Stephens Creek	55.15 132		⇓iP		P	06 41 46.6 -2.9
	comp=E,6.1nm,0.4s,mb5.0						
STKA	Stephens Creek	55.15 132		P		P	06 41 46.6 -2.8
	comp=E,11nm,0.5s,mb5.1,baz=94,slow=8.9,SNR=18						
KLR	Kul'dur	55.70	28	eP		P	06 41 47.8 -5.3
AKTK	Aktyubinsk	57.51 332		P		P	06 42 05.7 -0.2
AKTO	Aktyubinsk	57.51 332		P		P	06 42 05.7 -0.2
	comp=E,2.1nm,0.5s,mb4.4,baz=141,slow=6.2,SNR=8.7						
SVE	Sverdlovsk	61.04 339		eP		P	06 42 29.0 -1.2
SVE				pmax		pmax	
	comp=Z,19nm,0.8s,mb5.3						
ARU	Arti	61.52 337		d iP		P	06 42 33.1 -0.4
ARU				eS		S	06 50 54.0 +0.5
ARU				eSS		SS	06 54 52.6 -2.3
ARU				pmax		pmax	
	comp=Z,15nm,1.2s,mb5.0						
KIV	Kislovodsk	62.51 319		eP		P	06 42 40.7 +0.3
KIV				pmax		pmax	
	comp=Z,7.0nm,0.8s,mb4.8						
YAK	Yakutsk	64.56	17	eP		P	06 42 52.2 -1.4
YAK				pmax		pmax	
	comp=Z,28nm,1.0s,mb5.2						
OBN	Obninsk	70.87 328		eP		P	06 43 31.3 -2.2
OBN				e			06 43 53.4
OBN				e			06 46 09.0
OBN				pmax		pmax	
	comp=Z,5.0nm,0.8s,mb4.5						
OBN				MLR		MLR	
	comp=Z,200nm,18.0s,MS4.4						
TIXI	Tiksi	72.16	10	eP		P	06 43 38.5 -2.5
TIXI				pmax		pmax	
	comp=Z,6.0nm,0.8s,mb4.6						
TIXI	Tiksi	72.16	10	eP		P	06 43 39.0 -2.0
	comp=Z,6.4nm,0.8s,mb4.6						
SEY	Seymchan	73.09	23	⇓eP		P	06 43 46.3 -0.4
AKASG	Malin Array Be	73.47 322		i P		P	06 43 49.7 +0.5
AKASG	Malin Array Be	73.47 322		P		P	06 43 48.3 -0.9
	comp=Z,0.3nm,0.3s,mb3.6,baz=79,slow=5.0,SNR=5.6						
FINES	FINESS Array B	78.28 333		P		P	06 44 16.1 -0.3
	comp=Z,2.2nm,0.7s,mb4.2,baz=65,slow=5.0,SNR=7.4						
ARCES	ARCESS Array B	80.91 340		P		P	06 44 30.3 -0.3
	comp=Z,1.6nm,0.6s,mb4.1,baz=90,slow=6.1,SNR=12						
GERES	GERESS Array B	83.02 319		P		P	06 44 41.9 -0.2
	comp=Z,0.3nm,0.2s,mb3.9,baz=111,slow=7.3,SNR=6.0						
WRAK	Wrangell Islan	109.50	26	ePKP		PKiKP	06 50 44.6 -2.5
TXAR	Lajitas Array	143.22	29	PKP		PKPdf	06 51 48.8 -2.8
	comp=Z,0.1nm,0.4s,baz=219,slow=0.9,SNR=4.3						

SZGRF ***29*** *06:34:25.9, 24.29S×178.59W, h33km, South of Fiji Islands*
ISCJB ***29*** *06:35:04.9±1.0, 22.18S±0.006×178.04W±0.09, h330km±11km, mb4.3/19, Error ellipse: s-maj=13.4km s-min=9.5km az=12.8*
NEIC ***29*** *06:35:05.8±1.0, 22.12S×178.01W, h327km±11km, mb4.7/10, Error ellipse: s-maj=12.8km s-min=8.5km az=136.0*
IDC ***29*** *06:35:05.3±1.8, 22.15S×178.11W, h318km±18km, mb3.8/11, mb1 4.0/13, mb1mx3.9/18, mbtmp3.8/13, Error ellipse: s-maj=16.7km s-min=12.7km az=117.0*

ISC 29 06:35:06.0±1.0, 2225S±0.006×17797W±0.09, h328km±11km, n81, σ1.9±11/39, mb4.3/19, 6C-14D, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	6.97	180	P	Pn	06 36 48.9	+1.4
	124nm,0.3s,baz=123,slow=20,SNR=7.1						
RAO				S	S	06 38 09.1	-0.7
	242nm,0.3s,baz=84,slow=22,SNR=7.4						
AFI	Afiamalu	10.17	36	P	Pn	06 37 24.4	-1.8
	9.9nm,0.3s,baz=57,slow=20,SNR=19						
AFI				S	S	06 39 09.4	-12
	16nm,0.3s,baz=54,slow=21,SNR=13						
DZM	Mont Dzumac	14.45	268	eP	P	06 38 18.1	+2.4
URZ	Urewera	16.51	194	P	P	06 38 37.4	-0.6
	3.4nm,0.3s,baz=60,slow=1.8,SNR=28						
URZ				S	S	06 41 32.7	-1.2
	4.2nm,0.3s,baz=271,slow=24,SNR=15						
RPZ	Rata Peaks	23.26	200	P	P	06 39 45.1	-0.1
	9.7nm,0.5s,mb4.3,baz=26,slow=1.6,SNR=13						
ARMA	Armidale	28.37	247	⇓iP	P	06 40 32.7	+1.7
EIDS	Eidsvold	28.46	258	eP	P	06 40 32.1	+0.3
	17nm,1.2s,mb4.2						
CNB	Canberra Magne	31.30	238	eP	P	06 40 58.3	+1.7
	27nm,0.6s,mb4.7						
CTA	Charters Tower	33.39	267	⇓iP	P	06 41 15.9	+1.1
	65nm,0.4s,mb5.2						
CTAO	Charters Tower	33.39	267	eP	P	06 41 15.6	+0.8
	19nm,0.8s,mb4.4						
TOO	Toolangi	34.92	236	⇑iP	P	06 41 28.5	+0.9
	286nm,0.8s						
ASAR	Alice Springs	44.17	258	P	P	06 42 43.5	0.0
	17nm,0.8s,mb4.2,baz=92,slow=8.2,SNR=104						
WB2	Warramunga Arr	44.41	264	⇓iP	P	06 42 44.8	-0.6
WRAB	Tennant Creek	44.41	264	eP	P	06 42 44.9	-0.6
	28nm,0.9s,mb4.4						
WRA	Warramunga Arr	44.42	264	P	P	06 42 44.9	-0.6
	9.2nm,0.2s,mb4.5,baz=96,slow=8.3,SNR=425						
KAKA	Kakadu	48.06	273	⇓iP	P	06 43 13.1	-0.7
	18nm,0.3s,mb4.8						
FORT	Forrest	48.65	248	⇓iP	P	06 43 17.2	-0.8
	88nm,0.6s,mb5.2						
FITZ	Fitzroy Crossi	52.85	264	⇓iP	P	06 43 49.1	-0.1
	22nm,0.9s,mb4.5						
VNDA	Vanda	56.18	185	P	P	06 44 14.4	+2.4
	0.9nm,0.7s,baz=7.4,slow=5.8,SNR=8.7						
KLBR	Kellerberrin	57.36	246	⇓iP	P	06 44 20.2	-0.9
	18nm,0.8s,mb4.5						
MBWA	Marble Bar	57.52	258	eP	P	06 44 21.4	-0.9
	19nm,0.6s,mb4.6						
NWAO	Narrogin (SRO)	57.63	244	P	P	06 44 22.2	-0.6
	11nm,1.0s,mb4.1,baz=98,slow=7.1,SNR=4.6						
MUN	Mundaring	58.61	245	eP	P	06 44 29.3	-0.4
CASY	Casey	62.40	206	⇓iP	P	06 44 54.6	+0.1
KAPI	Kappang	62.49	276	P	P	06 44 54.3	-1.6
	2.7nm,0.5s,mb4.1,baz=236,slow=19,SNR=4.0						
MJAR	Matsushiro Arr	71.63	324	P	P	06 45 52.2	-0.3
MJAR	Matsushiro Arr	71.63	324	P	P	06 45 52.2	-0.3
	3.3nm,0.7s,mb4.2,baz=158,slow=6.6,SNR=7.6						
MAW	Mawson	79.94	200	P	P	06 46 39.4	+0.7
	2.3nm,0.7s,mb4.0,baz=155,slow=8.8,SNR=5.9						
NVAR	Mina Array Bea	82.27	43	P	P	06 46 52.7	+1.4
NVAR	Mina Array Bea	82.27	43	P	P	06 46 52.7	+1.4
	1.4nm,0.7s,mb3.9,baz=218,slow=9.6,SNR=8.0						
SYO	Syowa Base	85.03	193	⇓eP	P	06 47 02.0	-2.8
VNA2	Neumayer--Watz	86.84	177	eP	P	06 47 13.6	0.0
	baz=188,slow=4.5						
TXAR	Lajitas Array	87.97	57	P	P	06 47 21.4	+1.8
TXAR	Lajitas Array	87.97	57	P	P	06 47 21.4	+1.8
	0.9nm,0.8s,mb3.7,baz=219,slow=7.0,SNR=12						
YKA	Yellowknife Ar	98.08	25	P	P	06 48 05.0	-0.2
YKA	Yellowknife Ar	98.08	25	P	P	06 48 05.0	-0.2
	0.2nm,0.6s,mb3.5,baz=233,slow=4.6,SNR=4.4						
MKAR	Makanchi Array	112.41	313	PKiKP	PKiKP	06 53 01.3	-1.9
	0.2nm,0.4s,baz=102,slow=3.4,SNR=4.1						
BOSA	Boshof	124.69	205	PKP	PKPdf	06 53 27.0	-0.4
BOSA	Boshof	124.69	205	PKP	PKPdf	06 53 27.0	-0.4
	1.7nm,0.7s,baz=175,slow=13,SNR=4.0						
ARCES	ARCESS Array B	130.64	349	PKP	PKPdf	06 53 36.4	-1.1
	2.0nm,0.5s,baz=345,slow=1.6,SNR=20						
LSZ	Lusaka	134.75	217	PKP	PKPdf	06 53 46.9	+0.1
	2.4nm,0.5s,baz=156,slow=4.7,SNR=4.2						
FINES	FINESS Array B	137.45	343	PKP	PKPdf	06 53 50.5	+0.2
	1.4nm,0.8s,baz=356,slow=2.7,SNR=4.3						
NOA	NORSAR Array B	140.72	353	PKP	PKPdf	06 53 56.7	+0.4
NOA	NORSAR Array B	140.72	353	PKhKP		06 53 47.4	
	1.0nm,0.8s,baz=19,slow=2.7,SNR=3.8						
NOA				PKP	PKPdf	06 53 56.7	+0.4
	1.2nm,0.7s,baz=13,slow=3.9,SNR=3.2						
AKASG	Malin Array Be	144.55	330	PKP	PKPdf	06 54 01.2	-2.3
AKASG	Malin Array Be	144.55	330	PKP	PKPdf	06 54 01.2	-2.3
	5.0nm,0.5s,baz=42,slow=4.3,SNR=45						
AKBB	Malin Array Si	144.55	330	ePKPbc	PKPdf	06 54 01.0	-2.4
KIEV	Kiev	144.56	330	ePKPbc	PKPdf	06 54 01.1	-2.3
MALT	Malatya	144.99	306	⇓P	PKPdf	06 54 05.1	+0.5
MALT	Malatya	144.99	306	⇓iP	PKPdf	06 54 05.1	+0.5
BSEG	Bad Segeberg	147.75	351	ePKPbc	PKPbc	06 54 11.9	-0.1
ANTO	Ankara	148.55	311	⇑iP	PKPbc	06 54 13.8	-0.8
CRVS	Cervenica-Dubn	149.25	335	ePKP	PKPbc	06 54 15.1	-0.9
MLR	Muntele Rosu	149.69	326	⇑iP	PKPbc	06 54 16.7	-0.5
UPC	Upice	149.74	342	ePKPbc	PKPbc	06 54 16.8	-0.3
CLZ	Clausthal	149.76	350	ePKPbc	PKPbc	06 54 17.2	+0.1
CLL	Collm	149.77	346	ePKPbc	PKPbc	06 54 17.0	-0.2
CLL	Collm	149.77	346	⇓iPKPbc	PKPbc	06 54 16.6	-0.6
	comp=Z,15nm,0.9s						
CLL				i PKPab	PKPab	06 54 22.8	-0.9
DPC	Dobruska-Polom	149.79	342	ePKPbc	PKPbc	06 54 17.1	-0.2
MORC	Moravsky Berou	149.93	340	⇓iP	PKPbc	06 54 17.4	-0.2
BRG	Berggiesshubel	149.95	345	ePKPbc	PKPbc	06 54 17.6	0.0
BRG	Berggiesshubel	149.95	345	⇑iP	PKPbc	06 54 17.2	-0.5
	comp=Z,9.7nm,0.9s						
BRG							
	comp=Z,1μm,18.4s						
BRG							
	comp=N,1μm,18.0s						
BRG							
	comp=E,501nm,18.0s						
KECS	Kecovo	149.97	335	i PKP	PKPbc	06 54 17.9	+0.1
PVCC	Panska Ves	150.12	344	ePKPbc	PKPbc	06 54 18.0	0.0
VYHS	Vyhne	150.58	337	i PKP	PKPbc	06 54 18.9	-0.3
PRU	Pruhonice	150.62	343	ePKPbc	PKPbc	06 54 18.5	-0.7
MOX	Moxa	150.68	348	ePKP	PKPbc	06 54 19.0	-0.4
MOX	Moxa	150.68	348	ePKPbc	PKPbc	06 54 19.1	-0.3
NKC	Novy Kostel	150.90	346	ePKPbc	PKPbc	06 54 19.8	-0.1
TREC	Trest	150.98	342	ePKPbc	PKPbc	06 54 19.4	-0.7
MANZ	Manzenberg	151.20	346	ePKPbc	PKPbc	06 54 20.5	-0.1
GZR	Gura Zlata	151.36	329	⇓iP	PKPbc	06 54 19.9	-1.2
ROTZ	Rotzenmuhle	151.39	346	ePKPbc	PKPbc	06 54 20.8	-0.2
KHC	Kasperske Hory	151.65	344	ePKPbc	PKPbc	06 54 21.3	-0.3
GRF	Grafenberg Arr	151.67	347	ePKPbc	PKPbc	06 54 21.4	-0.2
BZS	Buzias	151.74	330	⇑iP	PKPbc	06 54 21.1	-0.8
GEC2	GERESS Array S	151.88	344	ePKPbc	PKPbc	06 54 21.4	-0.8
GERES	GERESS Array B	151.88	344	PKPbc	PKPbc	06 54 21.6	-0.6
	comp=E,3.3nm,0.9s,baz=48,slow=2.0,SNR=11						
PKSM	Moragy	152.55	334	⇑iP	PKPbc	06 54 22.7	-1.0
DBIC	Dimbokro	163.14	156	PKP	PKPdf	06 54 29.7	-0.7
	comp=E,4.1nm,0.8s,baz=112,slow=6.2,SNR=5.5						
TORD	Torodi Ar. Bea	170.94	178	PKP	PKPdf	06 54 34.5	-1.5
	comp=E,2.2nm,0.8s,baz=320,slow=0.4,SNR=13						
TORD				PKPab	PKPab	06 55 56.9	+0.4
	comp=E,1.9nm,0.8s,baz=172,slow=3.8,SNR=9.3						

IDC 29 06:51:18.2±11.0, 2194N×14311E, h119km±105km, mb3.3/7, mb1 3.5/7, mb1mx3.4/19, mbtmp3.3/7, Error ellipse: s-maj=43.3km s-min=18.9km az=85.0, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSRS	Korea Array	20.28	323	P	P	06 55 46.1	+1.7
	2.7nm,0.6s,baz=145,slow=8.1,SNR=12						
SONM	Songino Array	39.11	320	P	P	06 58 32.9	-0.9
	1.3nm,0.6s,baz=132,slow=6.9,SNR=8.9						
WRA	Warramunga Arr	42.50	192	P	P	06 59 01.8	0.0
	0.5nm,0.7s,baz=18,slow=9.0,SNR=4.6						
ASAR	Alice Springs	46.20	192	P	P	06 59 30.9	-0.4
	0.3nm,0.6s,baz=16,slow=11,SNR=4.4						
MKAR	Makanchi Array	54.48	313	P	P	07 00 33.5	+0.1
	0.7nm,0.6s,baz=84,slow=12,SNR=10						
YKA	Yellowknife Ar	76.28	28	P	P	07 02 53.0	-0.5
	1.2nm,0.7s,baz=291,slow=5.9,SNR=14						
NVAR	Mina Array Bea	83.05	51	P	P	07 03 31.6	+0.9
	0.8nm,0.9s,baz=254,slow=4.3,SNR=4.3						
LPAZ	La Paz	149.99	85	PKPbc	PKPbc	07 10 57.5	+2.1
	0.8nm,0.8s,baz=306,slow=4.4,SNR=3.5						
LPAZ				PKPab	PKPab	07 11 01.2	-0.3
	0.8nm,0.6s,baz=254,slow=7.0,SNR=6.4						

MAN 29 07:03:22, 1542N×12131E, h6km, mb4.5, ML3.5, MS3.5, 5C-3D, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCPH	Palayan	0.25	305	⇑eP	Pg	07 03 28.1	+1.2
BALP	Baler	0.41	39	eP	Pg	07 03 30.6	+0.6
NZB	Bigte	0.59	200	⇑eP	Pg	07 03 34.5	+1.1
QVPH	Quezon City--P	0.80	197	⇑eP	Pg	07 03 38.8	+1.4
QVPH				eS	Sg	07 03 51.0	+3.1
POLP	Polilio Island	0.92	138	eP	Pg	07 03 33.0	-6.7
POLP				eS	Sg	07 03 52.5	+0.8
NBP	Mount Natib	1.09	232	⇑eP	Pg	07 03 43.2	+0.2
BCPH	Baguio City Da	1.18	324	⇑iP	Pg	07 03 44.8	+0.1
BCPH				i S	Sg	07 04 00.7	+0.7
LBPH	Los Banos	1.27	186	⇓eP	Pn	07 03 46.0	-0.3
SCZP	Santa Cruz	1.39	285	eP	Pn	07 03 50.9	+3.0
CAUP	Cauayan	1.59	18	eP	Pn	07 03 51.0	+0.2
BOLP	Bolinao	1.65	306	eP	Pn	07 03 51.6	+0.2
GQP	Guinayangan	1.87	144	⇓eP	Pn	07 03 55.1	+0.6
GQP				eS	Sn	07 04 20.0	+1.5
PALP	Palanan	1.95	33	eP	Pn	07 03 54.3	-1.4
LUBP	Lubang	1.97	212	eP	Pn	07 03 56.2	+0.3
BOAC	Boac	2.02	165	eP	Pn	07 03 56.5	-0.1
CVP	Callao Caves	2.32	12	⇓iP	Pn	07 04 01.0	+0.2
CVP				i S	Sn	07 04 31.0	+1.4
APYP	Conner	2.43	359	eP	Pn	07 04 05.3	+3.1
OTRP	Odiongan	3.12	167	eP	Pn	07 04 15.2	+3.4
PVCP	Virac	3.30	123	eP	Pn	07 04 16.1	+1.8

NIED ***29*** *07:03:00, 38.40N×141.10E, h5km, Mw3.7 Best double couple: M0=4.38000×10^14 NP1:φs=275.00000°, δ52.00000°, λ83.00000°. NP2:φs=106.00000°, δ39.00000°, λ99.00000°.*
ISCJB ***29*** *07:03:33.0±0.5, 38.40N±0.004×141.14E±0.04, h17km±4km, mb3.6/10, Error ellipse: s-maj=7.4km s-min=4.5km az=143.7*
JMA ***29*** *07:03:33.2, 38.41N×141.12E, h13km±1km, M4.0 Broadband fault plane solution: P waves. NP1: φs=97.00000°, δ36.00000°, λ82.00000°. NP2:φs=287.00000°, δ54.00000°, λ96.00000°. Principal axes: T Plg80.0000°, Azm222.0000°; N Plg5.0000°, Azm104.0000°; P Plg9.0000°, Azm13.0000°;*
JMA Felt III J1.
NEIC ***29*** *07:03:33.2, 38.41N×141.12E, h13km, mb4.2/1, After JMA.*
NEIC Recorded [3 JMA] in Miyagi and [1 JMA] in Fukushima and Iwate Prefectures.
IDC ***29*** *07:03:41.6±3.7, 38.28N×140.83E, h74km±34km, mb3.3/9, mb1 3.5/11, mb1mx3.5/21, mbtmp3.3/11, ML3.3/2, Error ellipse: s-maj=29.5km s-min=20.1km az=80.0*

ISC 29 07:03:33.3±0.5, 3842N±0.004×14111E±0.04, h8km±3km, n24, σ0.93/29, mb3.6/10, 1C-6D, Near east coast of eastern Honshu

| Code | Station Name | Δ° | AZ° | Phase ID Op | ISC | Time h m s | Res ISC |
|---|---|---|---|---

5.1nm,1.0s,mb4.0
TOO **Toolangi** 41.28 230 *e*P P 07 44 09.9 +0.4
403nm,1.3s
STKA **Stephens Creek** 42.72 240 ⇓*i*P P 07 44 21.5 +0.3
10.0nm,0.5s,mb4.5
STKA **Stephens Creek** 42.72 240 P P 07 44 21.6 +0.3
11nm,0.5s,mb4.6,baz=93,slow=9.5,SNR=36
WB2 **Warramunga Arr** 48.37 257 *e*P P 07 45 05.2 -0.4
WRAB **Tennant Creek** 48.37 257 *e*P P 07 45 05.2 -0.3
22nm,0.8s,mb4.5
WRA **Warramunga Arr** 48.38 257 P P 07 45 05.0 -0.6
14nm,0.5s,mb4.5,baz=97,slow=7.7,SNR=262
ASAR **Alice Springs** 48.67 252 P P 07 45 08.1 +0.2
133nm,0.5s,mb5.5,baz=87,slow=7.9,SNR=1900
KAKA **Kakadu** 51.01 266 *e*P P 07 45 25.7 +0.2
7.4nm,0.4s,mb4.5
FORT **Forrest** 54.06 243 *e*P P 07 45 47.6 0.0
49nm,0.6s,mb5.2
FITZ **Fitzroy Crossi** 56.74 258 *e*P P 07 46 07.4 +0.6
4.4nm,0.6s,mb4.3
FITZ **Fitzroy Crossi** 56.74 258 P P 07 46 07.9 +1.1
1.6nm,0.5s,mb3.9,baz=224,slow=2.5,SNR=10.0
VNDA **Vanda** 63.16 186 P P 07 46 50.6 +1.2
4.5nm,0.9s,mb4.1,baz=4.5,slow=6.4,SNR=26
QSPA **South Pole Qui** 74.58 180 *e*P P 07 48 00.2 +0.7
4.5nm,0.6s,mb4.3
NVAR **Mina Array Bea** 75.38 43 P P 07 48 04.8 0.0
2.1nm,1.0s,mb3.7,baz=224,slow=9.9,SNR=7.6
HLID **Hailey** 80.63 40 *e*P P 07 48 33.5 +0.1
2.3nm,1.0s,mb3.8
TXAR **Lajitas Array** 81.89 57 P P 07 48 39.9 -0.5
TXAR **Lajitas Array** 81.89 57 P P 07 48 39.9 -0.5
0.8nm,0.9s,baz=218,slow=7.9,SNR=8.2
ANMO **Albuquerque** 81.99 51 *e*P P 07 48 40.4 -0.4
2.5nm,1.1s,mb3.8
DLMT **Dillon** 82.67 39 *e*P P 07 48 43.9 -0.1
18nm,1.8s,mb4.5
SNOW **Snow King Moun** 82.87 41 *e*P P 07 48 45.0 -0.2
4.6nm,0.9s,mb4.2
MAW **Mawson** 87.25 199 P P 07 49 06.8 +0.4
7.1nm,0.7s,mb4.5,baz=105,slow=5.5,SNR=18
VNA2 **Neumayer--Watz** 93.40 176 *e* P 07 49 35.1 +0.1
VNA2 *e* 07 49 37.0
VNA2 *e* 07 49 44.5
ARCES **ARCESS Array B 124.46 351** PKP PKPdf 07 55 15.0 -2.3
1.1nm,0.6s,baz=29,slow=2.8,SNR=9.7
KWP **Kalwaria** 143.02 341 *e*PKPdf PKPdf 07 55 53.5 +1.1
KMBO **Kilima Mbogo** 144.16 245 PKP PKPdf 07 55 55.0 -0.6
2.0nm,0.6s,baz=187,slow=8.1,SNR=6.3
GERES **GERESS Array B 145.97 350** PKPbc PKPbc 07 55 57.7 -1.0
0.6nm,0.5s,baz=299,slow=5.5,SNR=4.0

*ISCJB **29** 07:42:40.1±0.7, 1076N±004×6236W±003, h91km±9km, Error ellipse: s-maj=7.1km s-min=4.5km az=178.7*
*FUNV **29** 07:42:40.7, 1082N×6218W, h66km, MW3.5*
*TRN **29** 07:42:42.3, 1082N×6232W, h73km, MD3.3*
*NEIC **29** 07:42:42.3, 1082N×6232W, h73km, MD3.3(TRN), After TRN.*
ISC 29 07:42:40.9±0.7, 1077N±004×6236W±003, h85km±9km, n18, σ0°93/35, 3C-1D, Near coast of Venezuela

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TCE	**Chacachacare**	**0.60**	**97**	*e*P	**Pn**	**07 42 56.4**	**+0.3**
TCE				*e*S	**Sn**	**07 43 06.7**	**-0.6**
GUNV	**Guanoco**	**0.83**	**224**	⇑*i*P	**Pn**	**07 42 59.5**	**+1.1**
GUNV				*e*S	**Sn**	**07 43 12.3**	**+0.8**
CRUV	**Carupano**	**0.87**	**264**	*e*P	**Pn**	**07 42 58.9**	**+0.1**
CRUV				*e*S	**Sn**	**07 43 11.8**	**-0.3**
TRN	**Trinidad (W)**	**0.95**	**97**	⇑*i*P	**Pn**	**07 43 00.1**	**+0.4**
TRN				*e*S	**Sn**	**07 43 12.1**	**-1.7**
ITEV	**Isla Los Testi**	**0.96**	**308**	⇓*i*P	**Pn**	**07 42 59.5**	**-0.3**
ITEV				*e*S	**Sn**	**07 43 13.1**	**-0.9**
TPP	**Pointe-a-Pierr**	**1.00**	**117**	*e*P	**Pn**	**07 43 01.4**	**+1.1**
TPP				*e*S	**Sn**	**07 43 17.0**	**+2.2**
TPP	**Pointe-a-Pierr**	**1.00**	**117**	*e*P	**Pn**	**07 43 01.4**	**+1.1**
TPP				*e*S	**Sn**	**07 43 17.0**	**+2.2**
TPP				*e*S	**Sn**	**07 43 18.2**	**+3.4**
TBH	**Brigand Hill**	**1.30**	**102**	*e*P	**Pn**	**07 43 04.8**	**+0.9**
TBH				*e*S	**Sn**	**07 43 21.7**	**+0.4**
GRW	**Mount Saint Ca**	**1.54**	**26**	*e*P	**Pn**	**07 43 07.1**	**0.0**
GRW				*e*S	**Sn**	**07 43 25.9**	**-0.9**
GRW	**Mount Saint Ca**	**1.54**	**26**	*e*P	**Pn**	**07 43 06.4**	**-0.6**
GRW	**Mount Saint Ca**	**1.54**	**26**	*e*P	**Pn**	**07 43 07.1**	**0.0**
GRW				*e*S	**Sn**	**07 43 25.9**	**-0.9**
TPR	**Prospect**	**1.61**	**75**	*e*P	**Pn**	**07 43 08.1**	**+0.2**
TPR				*e*S	**Sn**	**07 43 27.8**	**-0.5**
PCRV	**Puerto La Cruz**	**2.31**	**256**	*e*P	**Pn**	**07 43 18.2**	**+1.1**
PCRV				*e*S	**Sn**	**07 43 45.1**	**+0.2**
IBAV	**Isla La Blanqu**	**2.42**	**296**	⇑*i*P	**Pn**	**07 43 18.8**	**+0.3**
IBAV				*e*S	**Sn**	**07 43 47.3**	**0.0**
RIOV	**Rio Grande**	**2.73**	**169**	*e*P	**Pn**	**07 43 22.4**	**-0.4**
GURV	**El Guri**	**3.07**	**194**	*e*P	**Pn**	**07 43 26.6**	**-0.8**
GURV				*e*S	**Sn**	**07 44 01.0**	**-2.1**
CUPV	**Cœpira**	**3.45**	**258**	*e*P	**Pn**	**07 43 33.4**	**+1.0**
CUPV				*e*S	**Sn**	**07 44 12.9**	**+0.7**
CAOV	**Caicara del Or**	**5.20**	**229**	*e*P	**Pn**	**07 43 55.9**	**-0.3**
CAOV				*e*S	**Sn**	**07 44 52.5**	**-2.4**

*IDC **29** 07:57:35.5±1.1, 1384S×16684E, h0km, mb4.2/10, mb1 4.3/10, mb1mx4.1/16, mbtmp4.2/10, MS3.8/6, Ms1 3.8/6, ms1mx3.5/24, Error ellipse: s-maj=33.2km s-min=22.2km az=110.0*
*BJI **29** 07:57:38.4, 1380S×16680E, h30km, mB5.0, mb4.7*
*ISCJB **29** 07:57:40.1±6.2, 1401S±009×1667E±02, h33km±42km, mb4.3/13, MS3.8/5, Error ellipse: s-maj=29.3km s-min=12.4km az=164.3*
*NEIC **29** 07:57:40.4±0.7, 1381S×16677E, h30km, mb4.5/2, Error ellipse: s-maj=18.2km s-min=14.5km az=93.0*
ISC 29 07:57:42.0±3.1, 139S±01×1667E±02, h36km±25km, h23km±1.8km: pP-P, n25, σ0°95/19, mb4.3/13, MS3.8/5, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**7.99**	**303**	LR	LR	08 02 21.4	
	comp=Z,322nm,19.8s,baz=179,slow=36						
DZM	**Mont Dzumac**	**8.11**	**182**	*e*P	**Pn**	**07 59 37.5**	**+0.3**
DZM				*e*S	**Sn**	**08 01 07.2**	**-0.4**
CTA	**Charters Tower**	**20.49**	**250**	P	**P**	**08 02 18.0**	**+1.0**
	5.2nm,0.8s,baz=84,slow=16,SNR=3.5						
CTA				LR	LR	08 09 06.4	
	comp=Z,192nm,18.9s,MS3.5,baz=54,slow=34						
AFI	**Afiamalu**	**20.88**	**93**	LR	LR	08 09 12.0	
	comp=Z,108nm,19.8s,MS3.2,baz=126,slow=34						
STKA	**Stephens Creek**	**29.11**	**228**	P	**P**	**08 03 40.9**	**+1.4**
STKA	**Stephens Creek**	**29.11**	**228**	P	**P**	**08 03 40.9**	**+1.4**
	4.9nm,0.5s,mb4.5,baz=37,slow=7.1,SNR=19						
WRA	**Warramunga Arr**	**31.51**	**255**	P	**P**	**08 03 59.4**	**-1.4**
	0.9nm,0.7s,mb3.7,baz=86,slow=9.0,SNR=8.4						
ASAR	**Alice Springs**	**32.47**	**248**	P	**P**	**08 04 08.1**	**-1.1**
	1.7nm,0.6s,mb4.0,baz=75,slow=9.4,SNR=37						
FITZ	**Fitzroy Crossi**	**39.64**	**258**	P	**P**	**08 05 10.3**	**-0.4**
	1.1nm,0.7s,mb3.7,baz=109,slow=13,SNR=4.4						
MJAR	**Matsushiro Arr**	**56.95**	**333**	P	**P**	**08 07 22.3**	**-1.4**
	3.8nm,0.9s,mb4.4,baz=169,slow=6.5,SNR=8.2						
VNDA	**Vanda**	**63.65**	**181**	P	**P**	**08 08 08.3**	**-0.8**
VNDA	**Vanda**	**63.65**	**181**	P	**P**	**08 08 08.3**	**-0.8**
	1.4nm,1.0s,mb4.0,baz=357,slow=7.4,SNR=6.0						
SBA	**Scott Base**	**63.94**	**180**	*e*P	**P**	**08 08 11.7**	**+0.8**
	3.1nm,0.8s,mb4.4						
QSPA	**South Pole Qui**	**76.10**	**180**	*e*P	**P**	**08 09 25.4**	**0.0**
	7.0nm,1.0s,mb4.5						
LZH	**Lanzhou**	**77.38**	**312**	*e*P	**P**	**08 09 35.5**	**+2.1**
LZH				AP	pP	08 09 43.0	-1.6
LZH				XP	sP	08 09 47.5	-1.2
LZH				AMB	AMB		
	comp=Z,21nm,1.5s,mb4.8						
LZH				AMB	AMB		
	comp=Z,106nm,5.1s						
KDAK	**Kodiak Island**	**78.91**	**21**	LR	LR	08 38 46.0	
	comp=Z,110nm,20.2s,MS4.2,baz=282,slow=31						
SONM	**Songino Array**	**81.53**	**324**	P	**P**	**08 09 55.6**	**-0.2**
	comp=Z,1.9nm,0.9s,mb4.0,baz=127,slow=5.0,SNR=12						
GTA	**Gaotai**	**81.72**	**314**	*e*P	**P**	**08 09 58.3**	**+1.3**
GTA				AP	pP	08 10 05.5	-2.7
GTA				XP	sP	08 10 09.8	-2.5
GTA				AMB	AMB		
	comp=Z,8.0nm,1.4s,mb4.5						
MAW	**Mawson**	**82.42**	**202**	P	**P**	**08 10 00.2**	**0.0**
	comp=Z,3.6nm,1.0s,mb4.3,baz=198,slow=1.1,SNR=3.5						
PFO	**Pinyon Flat Ob**	**86.97**	**54**	LR	LR	08 42 24.6	
	comp=Z,115nm,20.7s,MS4.3,baz=135,slow=31						
MK31	**Makanchi Array**	**96.25**	**317**	*e*P	**P**	**08 11 05.8**	**-0.7**
MK31				*e*pP	pP	08 11 14.1	-3.8
MKAR	**Makanchi Array**	**96.25**	**317**	P	**P**	**08 11 06.4**	**-0.2**
	comp=Z,2.0nm,0.8s,mb4.6,baz=100,slow=6.3,SNR=16						
MKAR				LR	LR	08 50 42.4	
	comp=Z,37nm,21.3s,MS3.8,baz=174,slow=33						
ARCES	**ARCESS Array B 119.34 345**			PKP	PKPdf	08 16 25.4	-1.5
	comp=Z,0.3nm,0.3s,baz=82,slow=2.4,SNR=13						
KEST	**Kesra**	**150.25**	**321**	PKPbc	PKPbc	08 17 28.4	-1.3
	comp=Z,0.9nm,0.5s,baz=43,slow=6.3,SNR=3.6						
TORD	**Torodi Ar. Bea**	**165.41**	**269**	PKP	PKPdf	08 17 43.0	-0.7
	comp=Z,0.7nm,1.1s,baz=36,slow=2.7,SNR=3.8						
TORD				PKPab	PKPab	08 18 42.1	+0.2
	comp=Z,1.0nm,0.9s,baz=101,slow=2.8,SNR=3.8						

*IDC **29** 08:05:43.9±1.3, 335S×13557E, h0km, mb3.7/3, mb1 4.1/6, mb1mx3.9/14, mbtmp3.9/6, ML4.0/2, MS3.5/2, Ms1 3.5/2, ms1mx3.0/26, Error ellipse: s-maj=49.6km s-min=16.1km az=85.0*
*ISCJB **29** 08:05:46.2±0.9, 353S±006×1354E±0.1, h33km, mb3.5/2, Error ellipse: s-maj=21.3km s-min=8.3km az=5.6*
*NEIC **29** 08:05:48.9±0.8, 329S×13573E, h35km, mb4.1/3, Error ellipse: s-maj=24.6km s-min=13.1km az=80.0*
ISC 29 08:05:47.9±0.9, 354S±006×1356E±02, h35km, n16, σ1°06/20, mb3.4/2, Irian Jaya region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**9.62**	**199**	*e*P	**Pn**	**08 08 09.0**	**+5.0**
	37nm,0.4s						
KAKA	**Kakadu**	**9.62**	**199**	*e*Pn	**Pn**	**08 08 08.6**	**+4.6**
KAKA				*e*Sn	**Sn**	**08 09 52.4**	**+1.4**
WRAB	**Tennant Creek**	**16.34**	**184**	*e*Pn	**Pn**	**08 09 34.4**	**-0.2**
	13nm,0.8s						
WB2	**Warramunga Arr**	**16.34**	**184**	*e*P	**Pn**	**08 09 35.2**	**+0.4**
WB2				*e*S	**Sn**	**08 12 26.7**	**-8.5**
WRA	**Warramunga Arr**	**16.34**	**184**	Pn	**Pn**	**08 09 35.5**	**+0.7**
	0.3nm,0.3s,baz=5.0,slow=13,SNR=14						
WRA				Sn	**Sn**	**08 12 33.5**	**-1.7**
	0.4nm,0.3s,baz=8.7,slow=22,SNR=5.8						
FITZ	**Fitzroy Crossi**	**17.44**	**213**	*e*P	**Pn**	**08 09 53.2**	**+4.7**
	9.3nm,0.6s						
FITZ				*e*S	**Sn**	**08 12 56.5**	**-5.1**
FITZ	**Fitzroy Crossi**	**17.44**	**213**	P	**Pn**	**08 09 52.5**	**+4.0**
	0.4nm,0.3s,baz=40,slow=15,SNR=13						
FITZ				S	**Sn**	**08 12 59.2**	**-2.5**
	0.3nm,0.3s,baz=210,slow=18,SNR=3.3						
CTA	**Charters Tower**	**19.47**	**148**	*e*P	**Pn**	**08 10 17.7**	**+4.5**
	5.9nm,0.9s						
CTA	**Charters Tower**	**19.47**	**148**	P	**Pn**	**08 10 13.3**	**+0.1**
	0.3nm,0.3s,baz=15,slow=16,SNR=2.4						
CTA				LR	LR	08 18 43.7	
	comp=Z,124nm,19.9s,baz=237,slow=40						
CTAO	**Charters Tower**	**19.47**	**148**	P	**Pn**	**08 10 13.5**	**+0.3**
	8.3nm,0.8s						
ASAR	**Alice Springs**	**20.07**	**184**	P	**P**	**08 10 22.8**	**+4.4**
	9.0nm,0.7s,baz=9.4,slow=11,SNR=48						
ASAR				S	**S**	**08 14 09.6**	**+7.5**
	1.6nm,0.9s,baz=7.7,slow=29,SNR=3.8						
STKA	**Stephens Creek**	**28.75**	**169**	LR	LR	08 24 48.1	
	comp=Z,120nm,19.3s,baz=217,slow=40						
SONM	**Songino Array**	**57.19**	**337**	P	**P**	**08 15 30.1**	**-1.2**
	0.1nm,0.4s,mb3.2,baz=150,slow=9.6,SNR=2.8						
MK31	**Makanchi Array**	**68.56**	**324**	*e*P	**P**	**08 16 47.5**	**+0.4**
MK31				*e*pP	pP	08 16 55.6	-2.3
MKAR	**Makanchi Array**	**68.56**	**324**	P	**P**	**08 16 47.4**	**+0.3**
	0.3nm,0.3s,mb3.7,baz=108,slow=8.0,SNR=4.5						
LPAZ	**La Paz**	**149.39**	**131**	PKPbc	PKPbc	08 25 38.8	+4.5
	1.3nm,0.9s,baz=253,slow=14,SNR=4.2						

*IDC **29** 08:27:35.6±1.5, 1556S×17302W, h0km, mb4.2/4, mb1 4.3/5, mb1mx3.9/18, mbtmp4.2/5, Error ellipse: s-maj=56.1km s-min=20.4km az=131.0*
*ISCJB **29** 08:27:37.9±8.0, 155S±03×173.1W±0.3, h24km±64km, mb4.2/4, Error ellipse: s-maj=63.2km s-min=14.3km az=40.0*
ISC 29 08:27:38.0±7.9, 156S±03×1730W±03, h15km±51km, n5, σ1°10/6, mb4.2/4, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.04**	**37**	Pn	**Pn**	**08 28 11.7**	**0.0**
	58nm,0.3s,baz=146,slow=1.1,SNR=128						
AFI				Sn	**Sn**	**08 28 36.9**	**0.0**
	75nm,0.3s,baz=200,slow=21,SNR=14						
URZ	**Urewera**	**24.23**	**199**	P	**P**	**08 32 54.5**	**+0.3**
	4.8nm,0.5s,mb4.2,baz=35,slow=0.3,SNR=9.1						
STKA	**Stephens Creek**	**44.27**	**240**	P	**P**	**08 35 45.9**	**-1.3**
	5.6nm,1.0s,mb4.2,baz=86,slow=15,SNR=2.9						
WRA	**Warramunga Arr**	**50.16**	**257**	P	**P**	**08 36 34.0**	**+0.7**
	0.8nm,0.5s,mb4.0,baz=91,slow=7.0,SNR=9.3						
ASAR	**Alice Springs**	**50.41**	**252**	P	**P**	**08 36 35.5**	**+0.4**
	2.5nm,0.6s,mb4.4,baz=88,slow=7.8,SNR=38						

*ISCJB **29** 08:45:13.9±0.6, 2420S±004×6671W±006, h195km±7km, mb3.9/10, Error ellipse: s-maj=9.7km s-min=6.2km az=6.5*
*IDC **29** 08:45:13.9±1.4, 2410S×6670W, h180km±13km, mb3.7/10, mb1 3.8/17, mb1mx3.8/22, mbtmp3.7/17, Error ellipse: s-maj=15.6km s-min=10.2km az=90.0*
*NEIC **29** 08:45:14.9±0.6, 2408S×6667W, h192km±6km, MG4.9(GUC), Error ellipse: s-maj=9.1km s-min=7.1km az=86.0*
*GUC **29** 08:45:15.8±0.4, 2426S×6722W, h250km, ML4.9*
ISC 29 08:45:14.9±0.6, 2417S±004×6671W±006, h189km±6km, n39, σ1°07/41, mb3.9/10, 3C-1D, Salta Province

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**2.55**	**307**	⇑*i*Pn	**Pn**	**08 46 00.1**	**+1.3**
LVC				*e*Sn	**Sn**	**08 46 33.5**	**+0.7**
CEN1	**Los Morros**	**3.29**	**283**	⇓*i*P	**Pn**	**08 46 09.1**	**+1.5**
CEN1				*i* S	**Sn**	**08 46 49.2**	**+0.6**
CEN1				AML	AML	08 46 51.3	
	comp=E,946nm,0.7s						
CPN1	**Cerro Paranal**	**3.40**	**262**	⇑*i*P	**Pn**	**08 46 09.3**	**+0.5**
CPN1				AML	AML	08 46 50.1	
	comp=E,2μm,0.5s						
CPN1				*i* S	**Sn**	**08 46 50.1**	**-0.8**
ANCH	**Antofagasta**	**3.42**	**277**	⇑*i*P	**Pn**	**08 46 10.6**	**+1.5**
ANCH				*i* S	**Sn**	**08 46 51.2**	**-0.2**
CPCH	**Copiapo**	**4.57**	**225**	*i* P	**Pn**	**08 46 23.7**	**+0.2**
CPCH				*i* S	**Sn**	**08 47 15.3**	**-2.1**
VACH	**Vallenar**	**5.70**	**219**	*i* S	**Sn**	**08 47 40.8**	**-2.8**
CFAA	**Coronel Fontan**	**7.53**	**190**	P	**Pn**	**08 47 01.6**	**-0.3**
CFAA				S	**Sn**	**08 48 22.4**	**-4.4**
CFAA	**Coronel Fontan**	**7.53**	**190**	P	**Pn**	**08 47 01.6**	**-0.3**
	comp=E,1.4nm,0.3s,baz=2.6,slow=14,SNR=242						
CFAA				S	**Sn**	**08 48 22.4**	**-4.4**
	comp=E,3.4nm,0.3s,baz=230,slow=13,SNR=22						
LPAZ	**La Paz**	**7.96**	**350**	P	**Pn**	**08 47 07.7**	**+0.1**
LPAZ				S	**Sn**	**08 48 37.0**	**-0.1**
LPAZ	**La Paz**	**7.96**	**350**	P	**Pn**	**08 47 07.7**	**+0.1**
	comp=E,4.3nm,0.3s,baz=129,slow=4.4,SNR=134						
LPAZ				S	**Sn**	**08 48 37.0**	**-0.1**
	comp=E,1.5nm,0.3s,baz=330,slow=18,SNR=6.6						
CPUP	**Villa Florida**	**8.76**	**106**	P	**Pn**	**08 47 18.2**	**+0.2**
	comp=E,1.7nm,0.3s,baz=264,slow=12,SNR=19						
ARE	**Arequipa**	**8.89**	**329**	*e*P	**Pn**	**08 47 18.0**	**-1.8**
ARE				*e*S	**Sn**	**08 48 51.0**	**-8.3**
SIV	**San Ignacio**	**9.71**	**34**	P	**Pn**	**08 47 29.2**	**-1.3**
	comp=E,3.1nm,0.3s,baz=217,slow=12,SNR=82						
NNA	**Nana**	**15.47**	**320**	P	**Pn**	**08 48 43.1**	**-0.3**
	comp=E,1.5nm,0.3s,baz=152,slow=14,SNR=6.3						
PLCA	**Paso Flores**	**16.83**	**190**	P	**Pn**	**08 48 59.7**	**+0.2**
PLCA	**Paso Flores**	**16.83**	**190**	P	**Pn**	**08 48 59.7**	**+0.2**
	comp=E,1.0nm,0.3s,baz=9.9,slow=11,SNR=14						
BDFB	**Brasilia**	**19.50**	**68**	P	**P**	**08 49 27.9**	**+0.1**
	comp=E,1.5nm,0.3s,baz=230,slow=17,SNR=47						
USHA	**Ushuaia**	**30.65**	**182**	P	**P**	**08 51 11.8**	**+0.6**
	comp=E,4.6nm,0.7s,mb4.3,baz=321,slow=16,SNR=5.7						
TXAR	**Lajitas Array**	**63.97**	**324**	P	**P**	**08 55 26.4**	**-1.7**
	comp=E,0.2nm,0.4s,mb3.3,baz=124,slow=5.7,SNR=4.7						
QSPA	**South Pole Qui**	**66.03**	**180**	*e*P	**P**	**08 55 42.6**	**+1.9**
	comp=E,9nm,0.5s						
DBIC	**Dimbokro**	**67.60**	**71**	P	**P**	**08 55 50.6**	**-1.0**
	comp=E,1.1nm,0.4s,mb4.0,baz=163,slow=15,SNR=6.2						
VNDA	**Vanda**	**74.58**	**190**	P	**P**	**08 56 34.5**	**+1.9**
	comp=E,1.6nm,0.8s,mb3.7,baz=122,slow=2.3,SNR=10						
TORD	**Torodi Ar. Bea**	**76.38**	**69**	P	**P**	**08 56 42.6**	**-1.1**
	comp=E,1.6nm,0.4s,mb4.0,baz=259,slow=5.5,SNR=36						
ULM	**Lac du Bonnet**	**78.47**	**341**	P	**P**	**08 56 53.7**	**-0.9**
ULM	**Lac du Bonnet**	**78.47**	**341**	P	**P**	**08 56 53.7**	**-0.9**
	comp=E,1.1nm,0.5s,mb3.8,baz=178,slow=7.1,SNR=4.9						
NVAR	**Mina Array Bea**	**78.84**	**321**	P	**P**	**08 56 57.3**	**+0.4**
	comp=E,0.1nm,0.3s,baz=141,slow=5.8,SNR=2.8						
BOSA	**Boshof**	**80.42**	**117**	P	**P**	**08 57 06.3**	**+0.6**
	comp=E,0.8nm,0.3s,mb3.8,baz=219,slow=8.5,SNR=4.6						
MAW	**Mawson**	**81.19**	**163**	P	**P**	**08 57 10.2**	**+1.1**
	comp=E,4.1nm,0.5s,mb4.3,baz=221,slow=8.6,SNR=12						
MSO	**Missoula**	**82.54**	**329**	*e*P	**P**	**08 57 08.9**	**-7.3**
	comp=E,6.1nm,1.2s,mb4.2						
EDM	**Edmonton**	**87.04**	**334**	*e*P	**P**	**08 57 38.8**	**+0.3**
YKA	**Yellowknife Ar**	**94.38**	**340**	P	**P**	**08 58 11.8**	**-0.6**
	comp=E,0.7nm,0.5s,mb4.0,baz=136,slow=4.6,SNR=19						
ASAR	**Alice Springs**	**128.41**	**204**	PKP	PKPdf	09 03 59.3	-0.4
	comp=E,1.6nm,0.7s,baz=132,slow=1.9,SNR=18						
AKTK	**Aktyubinsk**	**130.22**	**44**	PKP	PKPdf	09 04 02.7	+0.5
AKTO	**Aktyubinsk**	**130.22**	**44**	PKP	PKPdf	09 04 02.7	+0.5
	comp=E,0.4nm,0.4s,baz=263,slow=8.1,SNR=1.9						
WRA	**Warramunga Arr**	**131.60**	**207**	PKP	PKPdf	09 04 05.9	+0.1
	comp=E,1.2nm,0.5s,baz=161,slow=1.7,SNR=16						
ZALV	**Zalesovo Beam**	**143.42**	**28**	PKP	PKPdf	09 04 24.3	-2.1
ZALV	**Zalesovo Beam**	**143.42**	**28**	PKP	PKPdf	09 04 24.3	-2.1
	comp=E,2.0nm,0.6s,baz=296,slow=3.9,SNR=6.3						
MK31	**Makanchi Array**	**146.48**	**40**	*e*PKPab	PKPab	09 04 32.5	-2.4
MKAR	**Makanchi Array**	**146.48**	**40**	PKPbc	PKPbc	09 04 32.6	-1.0
	comp=E,3.6nm,0.6s,baz=326,slow=2.2,SNR=30						

*ISCJB **29** 08:53:39.9±0.3, 4893N±002×12307W±003, h18km±5km, Error ellipse: s-maj=3.8km s-min=3.3km az=148.6*
*PNSN **29** 08:53:40.4, 4896N×12307W, h18km, MD2.9, Fault plane solution: NP1:ϕs65.00000°, δ65.00000°, NP2: ϕs286.00000°, δ32.00000°, Principal axes: T Plg64.0000°, Azm301.0000°; P Plg18.0000°, Azm170.0000°;*
*NEIC **29** 08:53:41.0, 4892N×12305W, h10km, MD2.7(SEA), ML2.8(PGC), After PGC.*
NEIC Felt at Tsawwassen, British Columbia.
*PGC **29** 08:53:41.0±0.4, 4892N×12305W, h12km, ML2.8/11*
PGC 10km southeast of Tsawwassen, Bc Vancouver Island Region Felt (I) near Vancouver.
ISC 29 08:53:39.8±0.3, 4894N±002×12307W±003, h17km±3km, n36, σ0°55/50, 4C-25D, Vancouver Island region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNB	**Saturna Island**	**0.18**	**202**	⇑P	**Pg**	**08 53 45.0**	**+0.7**
SNB	**Saturna Island**	**0.18**	**202**	⇑P	**Pg**	**08 53 45.0**	**+0.7**
SNB				⇓S	**Sg**	**08 53 46.9**	**-0.4**
GOBB	**Galiano Island**	**0.29**	**272**	P	**Pg**	**08 53 46.9**	**+0.8**
GOBB				⇑S	**Sg**	**08 53 50.8**	**+0.4**
MCW	**Mount Constitu**	**0.30**	**149**	⇓P	**Pg**	**08 53 46.6**	**+0.3**
PGC	**Sidney**	**0.38**	**221**	*e*Pg	**Pg**	**08 53 47.8**	**0.0**
PGC				*e*Sg	**Sg**	**08 53 53.0**	**0.0**
PGC	**Sidney**	**0.38**	**221**	⇓P	**Pg**	**08 53 47.8**	**+0.1**
PGC				⇑S	**Sg**	**08 53 53.1**	**+0.1**
HNB	**Haney**	**0.47**	**44**	⇓P	**Pg**	**08 53 49.3**	**+0.1**
HNB				⇓S	**Sg**	**08 53 55.7**	**+0.1**
BIB	**Bowen Island**	**0.49**	**342**	⇓P	**Pg**	**08 53 50.1**	**+0.3**
BIB				⇓S	**Sg**	**08 53 57.2**	**+0.8**
VGZ	**Gonzales**	**0.55**	**198**	⇓P	**Pg**	**08 53 50.4**	**-0.4**
VGZ	**Gonzales**	**0.55**	**198**	⇑P	**Pg**	**08 53 50.4**	**-0.4**
VGZ				⇓S	**Sg**	**08 53 57.5**	**-0.6**
VDB	**Vedder Mountai**	**0.64**	**82**	⇑P	**Pg**	**08 53 51.9**	**-0.6**
VDB	**Vedder Mountai**	**0.64**	**82**	⇑P	**Pg**	**08 53 51.9**	**-0.6**
VDB				⇑S	**Sg**	**08 54 00.2**	**-0.9**
NLLB	**Nanaimo Lost L**	**0.67**	**296**	⇓P	**Pg**	**08 53 52.7**	**-0.2**
NLLB				⇑S	**Sg**	**08 54 01.9**	**0.0**
WPB	**Watts Point**	**0.72**	**353**	P	**Pb**	**08 53 53.6**	**-0.4**
WPB				⇓S	**Sb**	**08 54 03.3**	**-0.3**
MBW	**Mount Baker**	**0.79**	**101**	⇑P	**Pb**	**08 53 54.8**	**-0.2**
CMW	**Cultus Mountai**	**0.81**	**129**	⇓P	**Pb**	**08 53 55.2**	**-0.3**
CMW				S	**Sb**	**08 54 06.9**	**+0.8**
SHB	**Sechelt**	**0.84**	**322**	⇓P	**Pb**	**08 53 55.6**	**-0.4**
SHB				⇓S	**Sb**	**08 54 06.8**	**-0.2**
SQM	**Sequim**	**0.86**	**179**	⇓P	**Pb**	**08 53 56.1**	**-0.2**
BLN	**Blyn Mountain**	**0.93**	**176**	⇓P	**Pb**	**08 53 56.9

CLL Collm 1.95 266 *i* Pn Pn 08 58 38.3 -1.3
CLL *i* Pg Pg 08 58 41.9 -0.8
CLL *i* x x 08 58 44.7
CLL *i* x x 08 58 45.6
CLL *i* Sg Sg 08 59 08.0 0.0
comp=Z,38nm,0.5s
CLL *i* x x 08 59 13.9
OKC Ostrava-Krasne 2.10 141 *e*Sg Sg 08 59 11.9 -0.7
VRAC Vranov 2.20 172 *e*Pn Pn 08 58 43.1 +0.1
VRAC *e*Sg Sg 08 59 15.7 -0.2
comp=Z,26nm,0.6s
TREC Trest 2.23 191 *e*PN Pn 08 58 44.6 +1.2
TREC *e*PG Pg 08 58 47.2 -0.8
KRUC Moravsky 2.43 176 *e*Pn Pn 08 58 46.3 +0.1
KRUC *e*Sg Sg 08 59 23.2 -0.2
comp=Z,18nm,0.5s
NKC Novy Kostel 2.64 243 *e*Pg Pg 08 58 54.9 -0.9
NKC *e*Sg Sg 08 59 31.5 +1.6
comp=Z,38nm,0.5s
NKC Novy Kostel 2.64 243 *e*PN Pn 08 58 49.2 +0.2
NKC *e*PG Pg 08 58 54.9 -0.9
NKC *e*SG Sg 08 59 31.5 +1.6
comp=Z,38nm,0.5s
OJC Ojcow 2.66 117 *e*Pg Pg 08 58 57.0 +0.8
OJC *e*Sg Sg 08 59 32.1 +1.4
KHC Kasperske Hory 2.86 216 *e*Pg Pg 08 58 57.5 -2.6
KHC *e*Sg Sg 08 59 35.7 -1.4
KHC Kasperske Hory 2.86 216 *e*PN Pn 08 58 52.2 +0.1
KHC *e*PG Pg 08 58 57.5 -2.6
KHC *e*SG Sg 08 59 35.7 -1.4
MOX Moxa 2.96 255 *e*PG Pg 08 59 01.1 -0.8
MOX *e*SG Sg 08 59 41.3 +1.1
VYHS Vyhne 3.47 149 *e*SG Sg 08 59 57.9 +1.1
CONA Conrad Observa 3.56 183⇑*i*Pn Pn 08 59 01.4 -0.3
CONA ⇓*i*Sg Sg 08 59 58.1 -1.6
comp=Z,12nm,0.4s
CONA Conrad Observa 3.56 183⇑*i*Pn Pn 08 59 01.4 -0.3
CONA *i* Sg Sg 08 59 58.1 -1.6
CSNA Conrad Observa 3.56 183⇓*i*Pn Pn 08 59 01.4 -0.3
CSNA ⇓*i*Sg Sg 08 59 58.1 -1.6
comp=Z,16nm,0.5s
MOA Molln 3.83 199⇑*i*Pn Pn 08 59 06.1 +0.6
MOA ⇑*i*Sg Sg 09 00 09.2 +0.9
comp=Z,8.8nm,0.3s
STHS Stebnicka Huta 3.88 120 *e*SG Sg 09 00 08.3 -1.5
KBA Koelnbreinsper 4.77 203⇑*i*Pn Pn 08 59 19.2 +0.9
KBA ⇑*i*Sg Sg 09 00 38.6 +0.3
comp=Z,5.2nm,0.5s

IDC 29 08:58:57.1±2.9, 3451N×8249E, h0km, mb3.6/4, mb1 3.8/5, mb1mx3.5/22, mbtmp3.6/5, ML3.4/1, Error ellipse: s-maj=151.5km s-min=25.9km az=66.0, Xizang

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MKAR Makanchi Array 12.28 359 Pn Pn 09 01 55.4 +2.3
0.2nm,0.3s,baz=181,slow=13,SNR=13
BVAR Borovoye Array 20.42 339 P P 09 03 36.0 +0.4
3.2nm,0.8s,baz=131,slow=10,SNR=12
WRA Warramunga Arr 73.22 129 P P 09 10 28.9 -1.2
0.4nm,0.8s,baz=326,slow=6.1,SNR=3.2
ASAR Alice Springs 75.69 132 P P 09 10 46.3 +1.9
0.2nm,0.6s,baz=310,slow=5.5,SNR=3.7
YKA Yellowknife Ar 82.36 8 P P 09 11 19.3 -1.2
0.4nm,0.7s,baz=346,slow=5.1,SNR=4.6

KRSC 29 09:15:28.9±0.8, 5333N×16056E, h39km±29km, ML3.7, Near east coast of Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SPN Mys Shipunski 0.40 234 *e*P Pn 09 15 35.8 +0.4
SPN *i* S Sn 09 15 45.2 +0.5
NLC Nalytchevo 0.75 258 *e*P Pn 09 15 43.2 +0.3
NLC *i* S Sn 09 15 53.8 +0.8
AVH Avacha 1.10 267 *i* P Pn 09 15 48.8 +1.1
AVH *i* S Sn 09 16 03.3 +1.7
PET Petropavlovsk 1.19 256 *e*P Pn 09 15 49.4 +0.4
PET *i* S Sn 09 16 04.2 +0.3
MKZ Mys Kozlova 1.41 29 *e*P Pn 09 15 51.4 -0.6
MKZ *i* S Sn 09 16 07.8 -1.5
RUS Russkaya 1.53 235 *e*P Pn 09 15 53.9 +0.2
RUS *i* S Sn 09 16 11.9 -0.4
GNL Ganaly 1.61 284 *e*P Pn 09 15 56.1 +1.4
GRL Gorelyy 1.69 244 *e*P Pn 09 15 57.3 +1.4
GRL *i* S Sn 09 16 18.3 +1.9
TUMR Tumrok 1.97 353 *e*P Pn 09 16 01.6 +1.9
TUMR *i* S Sn 09 16 24.9 +1.7
MIPR Malaya Ipel'ka 2.54 247 *e*P Pn 09 16 09.7 +2.2
KBTR Krutoberegovo 3.17 23 *e*P Pn 09 16 17.2 +1.1
KBTR *i* S Sn 09 16 52.9 +0.3

ISCJB 29 09:18:53.1±0.6, 631N±004×12357E±004, h10km, mb3.9/9, Error ellipse: s-maj=5.7km s-min=5.0km az=163.8
IDC 29 09:18:53.5±0.9, 632N×12378E, h0km, mb4.0/8, mb1 4.1/8, mb1mx3.9/19, mbtmp4.0/8, Error ellipse: s-maj=78.2km s-min=15.9km az=73.0
MAN 29 09:18:54, 637N×12371E, h17km, mb5.0, ML3.9, MS4.1
NEIC 29 09:19:00.1±6.3, 633N×12383E, h50km±66km, mb4.5/2, Error ellipse: s-maj=73.6km s-min=9.6km az=74.0
ISC 29 09:18:54.8±0.6, 636N±004×12358E±004, h10km, n18, σ1°09/24, mb3.9/9, 1C-3D, Mindanao

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
CTBH Cotabato--PC H 1.08 38⇓*i*P Pg 09 19 12.8 -2.7
CTBH *i* S Sg 09 19 26.4 -3.2
GSPH General Santos 1.39 101⇓*i*P Pg 09 19 20.7 -0.8
GSPH *e*S Sg 09 19 40.9 +1.4
PAGZ Pagadian 1.49 352 *e*P Pn 09 19 20.6 -1.1
PAGZ *e*S Sn 09 19 40.4 -0.8
KCP Kidapawan 1.63 67⇓*e*P Pg 09 19 27.5 +1.4
KCP *i* S Sg 09 19 47.6 +0.4
BUKP Musuan 2.10 44 *e*P Pn 09 19 29.1 -1.0
DAV Davao City (W) 2.10 70 *e*Pn Pn 09 19 29.9 -0.3
DCPH Dipolog City 2.22 354 *e*P Pn 09 19 31.5 -0.2
DCPH *e*S Sn 09 19 59.7 +0.5
CGP Cagayan de Oro 2.35 28⇑*e*P Pn 09 19 34.6 +1.0
CGP *e*S Sb 09 20 07.0 +0.6
KAKA Kakadu 20.89 155 *e*P P 09 23 36.8 -0.7
18nm,0.6s
FITZ Fitzroy Crossi 24.39 175 P P 09 24 13.7 +0.2
1.4nm,0.7s,mb3.5,baz=41,slow=9.3,SNR=3.8
WRA Warramunga Arr 28.20 158 P P 09 24 46.4 -1.5
3.3nm,0.7s,mb4.1,baz=337,slow=10.0,SNR=20
KSRS Korea Array 31.20 7 P P 09 25 14.6 +0.3
1.3nm,0.7s,mb3.8,baz=181,slow=10,SNR=5.1
ASAR Alice Springs 31.50 162 P P 09 25 15.8 -1.3
0.6nm,0.6s,mb3.6,baz=351,slow=16,SNR=9.8
STKA Stephens Creek 41.73 157 P P 09 26 44.5 +0.3
7.3nm,0.9s,mb4.3,baz=326,slow=11,SNR=4.9
SONM Songino Array 43.85 343 P P 09 27 02.7 +1.4
1.3nm,1.0s,mb3.6,baz=161,slow=8.6,SNR=6.5
MKAR Makanchi Array 53.62 326 P P 09 28 17.9 +1.6
0.7nm,0.8s,mb3.6,baz=122,slow=9.3,SNR=5.0
ZALV Zalesovo Beam 56.84 334 P P 09 28 39.7 +0.2
1.4nm,0.3s,mb4.1,baz=147,slow=3.4,SNR=1.8
KURK Kurchatov 57.85 328 *e*P P 09 28 47.8 +1.2
2.6nm,0.8s,mb4.3

NEIC 29 09:21:07.6, 1754N×6041W, h35km, MD4.0(RSPR), After TRN.
IDC 29 09:21:07.1±0.9, 1697N×6076W, h0km, mb3.6/5, mb1 3.8/8, mb1mx3.6/24, mbtmp3.7/8, ML4.1/3, MS2.8/2, Ms1 2.8/2, ms1mx2.6/39, Error ellipse: s-maj=21.3km s-min=17.0km az=113.0
ISCJB 29 09:21:08.1±1.3, 1700N±004×6064W±005, h20km±10km, mb3.7/5, Error ellipse: s-maj=8.9km s-min=5.0km az=144.3
TRN 29 09:21:09.8, 1695N×6073W, h35km, M4.0(FDF)
RSPR 29 09:21:10.1, 1755N×6043W, h25km±39km, MD4.0/3, MD4.0/3
ISC 29 09:21:09.9±1.6, 1694N±004×6069W±005, h18km±11km, n43, σ0°93/51, mb3.7/5, 19C-3D, Leeward Islands

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SFG Saint Francois 0.84 215 *e*P Pb 09 21 25.7 -0.2
MGG Marie-Galante 1.18 211⇓*e*P Pn 09 21 30.8 -0.7
MGG *e*S Sb 09 21 46.1 -0.6
BCG Bois Riant Cap 1.23 226 *e*P Pn 09 21 32.4 +0.1
DOG Dongo Capester 1.27 225 *e*P Pn 09 21 32.4 -0.3
LZG Guadaloupe-1 1.31 233 *e*P Pn 09 21 32.6 -0.7
SCG Saint Claude 1.31 226⇓*e*P Pn 09 21 33.4 +0.1
HMG Houelmont 1.36 226⇓*e*P Pn 09 21 34.1 +0.2
TBG Guadaloupe-3 1.42 220 *e*P Pn 09 21 34.7 -0.1
TBG *e*S Sn 09 21 53.5 +0.5
FDF Fort de France 2.24 191 *e*P Pn 09 21 45.8 -0.3
FDF *e*S Sn 09 22 12.3 -0.9
SEUS St. Eustatius 2.26 284⇑*e*P Pn 09 21 46.6 +0.3
SEUS St. Eustatius 2.26 284 *e*S Sn 09 22 14.0 +0.3
MVM Montagne Vaucl 2.38 185⇑*e*P Pn 09 21 48.2 +0.2
BIM Bigot 2.44 189 *e*P Pn 09 21 49.3 +0.5
SMRT St. Maarten 2.53 296⇑*e*P Pn 09 21 48.3 -1.7
SMRT St. Maarten 2.53 296 *e*S Sn 09 22 18.9 -1.5
SABA Saba 2.53 286⇑*e*P Pn 09 21 50.2 +0.2
SABA Saba 2.53 286 *e*S Sn 09 22 22.0 +1.6
SABS Saba 2.53 286⇑*e*P Pn 09 21 50.2 +0.2
SABS *e*S Sn 09 22 22.0 +1.5
SABT Saba 2.53 286⇑*e*P Pn 09 21 50.2 +0.2
SABT *e*S Sn 09 22 22.0 +1.5
STMA St. Maarten, A 2.55 296⇑*e*P Pn 09 21 48.3 -2.1
STMA *e*S Sn 09 22 18.9 -2.2
ABV Anegada 3.90 298 *e*S Sn 09 22 51.3 -2.9
ABV Anegada 3.90 298 *e*S Sn 09 22 51.3 -2.9
TBVI Tortola 4.02 292⇑*e*P Pn 09 22 09.6 -1.0
STVI Saint Thomas 4.30 290⇑*e*P Pn 09 22 13.7 -0.7
MTP Monte Pirata 4.78 285⇑*e*P Pn 09 22 21.0 0.0
HUMP Col San Antoni 5.06 284⇑*e*P Pn 09 22 25.4 +0.4
CBYP Canovanas 5.10 286⇑*e*P Pn 09 22 25.4 -0.1
CBYP Canovanas 5.10 286⇑*e*P Pn 09 22 25.6 +0.2
CPD Cerro la Pandu 5.10 283⇑*e*P Pn 09 22 25.6 +0.1
SJG San Juan 5.34 283 Pn Pn 09 22 29.0 +0.3
SJG Sn Sn 09 23 23.9 -5.8
SJG San Juan 5.34 283 Pn Pn 09 22 29.0 +0.3
3.6nm,0.3s,baz=308,slow=22,SNR=4.6
SJG Sn Sn 09 23 23.9 -5.8
4.2nm,0.3s,baz=311,slow=21,SNR=2.3
CELP Cerrillos 5.73 282⇑*e*P Pn 09 22 35.2 +1.1
AOPR Arecibo Observ 5.95 285⇑*e*P Pn 09 22 38.6 +1.5
CRPR Cabo Rojo, PR 6.22 281⇑*e*P Pn 09 22 40.8 0.0
LSP Las Mesas 6.22 282⇑*e*P Pn 09 22 42.8 +2.0
AGPR Aguadilla, PR 6.30 285⇑*e*P Pn 09 22 43.1 +1.1
PCRV Puerto La Cruz 7.74 210 Pn Pn 09 23 01.8 0.0
0.6nm,0.3s,baz=68,slow=11,SNR=1.9
PCRV LR LR 09 26 07.9
comp=Z,66nm,19.8s,baz=178,slow=39
SDV Santo Domingo 12.56 232 Pn Pn 09 24 07.6 -0.3
0.2nm,0.3s,baz=62,slow=10,SNR=3.6
SDV LR LR 09 29 18.1
comp=Z,51nm,19.3s,baz=80,slow=39
TXAR Lajitas Array 41.18 295 P P 09 28 52.5 -1.1
0.1nm,0.3s,mb2.9,baz=116,slow=6.9,SNR=4.5
CPUP Villa Florida 43.13 176 P P 09 29 10.2 +0.8
0.6nm,0.4s,mb3.6,baz=25,slow=13,SNR=2.7
DBIC Dimbokro 55.44 94 P P 09 30 44.2 +0.4
2.1nm,0.6s,mb4.4,baz=209,slow=10,SNR=5.1
YKA Yellowknife Ar 58.79 334 P P 09 31 06.4 -0.3
0.2nm,0.5s,mb3.4,baz=107,slow=7.7,SNR=4.8
TORD Torodi Ar. Bea 60.16 84 P P 09 31 17.7 +0.7
1.4nm,0.8s,mb4.0,baz=290,slow=6.3,SNR=7.3

MAN 29 09:26:56, 1544N×12045E, h28km, mb3.9, ML2.7, MS2.3, 1C-1D, Luzon

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
SCZP Santa Cruz 0.62 303 *e*P Pb 09 27 06.8 -1.5
SCZP Santa Cruz 0.62 303 *e*P Pb 09 27 07.7 -0.7
PCPH Palayan 0.63 79⇓*e*P Pb 09 27 12.5 +4.0
PCPH *e*S Sb 09 27 18.0 +0.9
BCPH Baguio City Da 0.95 7⇑*i*P Pn 09 27 13.3 -0.1
BCPH *i* S Sb 09 27 27.4 +1.4
BOLP Bolinao 1.07 331 *e*P Pn 09 27 15.1 -0.1
BOLP Bolinao 1.07 331 *e*P Pn 09 27 15.9 +0.8
BALP Baler 1.12 74 *e*P Pn 09 27 15.2 -0.7
BALP Baler 1.12 74 *e*P Pn 09 27 15.3 -0.6
LUBP Lubang 1.71 187 *e*P Pn 09 27 24.2 +0.4
LUBP Lubang 1.71 187 *e*P Pn 09 27 24.3 +0.4

BJI 29 09:35:59.0, 156S×12785E, h24km, mB6.2, mb6.0, Ms5.7, Msz5.6
ISCJB 29 09:36:04.0±0.1, 099S±002×12745E±002, h23km, mb6.0/164, MS5.7/237, Error ellipse: s-maj=3.5km s-min=2.6km az=167.2
GCMT 29 09:36:05.6±0.1, 101S×12750E, h12km, MW6.0/110, Moment Tensor Solution. s100,c210; s110,c396; Duration: 2s6 Moment tensor: Scale 10^18Nm; Mrr-1.29±.01; Mθθ0.36±.01; Mφφ0.92±.01; Mrθ0.25±.02; Mrφ0.87±.01; Mθφ-0.21±.03; Best double couple: M0 1.47000×10^18 NP1:φs232.00000°, δ47.00000°, λ-68.00000°. NP2:φs20.00000°, δ48.00000°, λ-112.00000°. Principal axes: T 1.5550, Plg1.0000°, Azm126.0000°; N -0.1730, Plg16.0000°, Azm36.0000°; P -1.3840, Plg74.0000°, Azm218.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.
IDC 29 09:36:05.7±1.1, 096S×12743E, h23km±6km, mb5.6/33, mb1 5.5/35, mb1mx5.5/35, mbtmp5.6/35, ML5.2/2, MS5.5/19, Ms1 5.5/19, ms1mx5.4/30 Error ellipse: s-maj=13.5km s-min=7.4km az=65.0
MOS 29 09:36:05.4±1.0, 096S×12724E, h29km, mb6.2/60, MS5.6/68, Error ellipse: s-maj=9.1km s-min=4.9km az=112.1
NEIC 29 09:36:05.6±0.1, 107S×12734E, mb6.0/55, MS5.8/185, MW6.0, Error ellipse: s-maj=5.4km s-min=4.0km az=65.0, Moment Tensor Solution. s36 Moment tensor: Scale 10^18Nm; Mrr0.00; Mθθ0.00; Mφφ0.00; Mrθ0.00; Mθφ0.00; Mφr0.00; Best double couple: M0 1.10000×10^18 NP1: φs256.00000°, δ47.00000°, λ-51.00000°. NP2:φs26.00000°, δ55.00000°, λ-125.00000°. Principal axes: T 1.1100, Plg4.0000°, Azm139.0000°; N -0.0300, Plg28.0000°, Azm47.0000°; P -1.0700, Plg62.0000°, Azm238.0000°;
NEIC Several houses damaged and power outages occurred at Labuha.
ISC 29 09:36:05.9±0.1, 102S±002×12748E±002, h24km, h24km±1.3km:pP-P, n1310, σ1°21/808, mb6.0/164, MS5.7/236, 142C-160D, Halmahera

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
KDI Kendari 5.67 239 P Pn 09 37 27.9 -0.7
2μm,1.1s
TLE Tual 6.96 131 P Pn 09 37 52.0 +5.5
635nm,1.0s
GSPH General Santos 7.50 340⇓*e*P Pn 09 37 52.4 -1.5
PCI Palu 7.65 271 P Pn 09 37 55.9 0.0
5μm,0.9s
MATI Mati 8.01 351 *e*P Pn 09 38 03.6 +2.8
DAV Davao City (W) 8.26 347 *e*Pn Pn 09 38 04.4 +0.1
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 Pn Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 P Pn 09 38 06.5 +2.2
SNR=14
DAV Davao City (W) 8.26 347 *i* P Pn 09 38 03.2 -1.1
KCP Kidapawan 8.33 343⇓*e*P Pn 09 38 13.3 +8.1
KCP *i* S Sn 09 39 48.4 +10
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 Pn Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 P Pn 09 38 10.7 +0.7
SNR=142
KAPI Kappang 8.68 243 Pn Pn 09 38 11.0 +1.0
113nm,0.3s,baz=69,slow=5.3,SNR=353
KAPI Sn Sn 09 39 46.0 -1.2
19nm,0.3s,baz=222,slow=22,SNR=4.1
KAPI LR LR 09 41 33.3
comp=Z,32μm,19.6s,baz=86,slow=38
CTBH Cotabato--PC H 8.80 339⇑*e*P Pn 09 38 11.4 -0.3
BUKP Musuan 9.17 345 *e*P Pn 09 38 16.4 -0.3
BIPH Bislig 9.21 353⇑*i*P Pn 09 38 15.7 -1.7
PAGZ Pagadian 9.72 335 *e*P Pn 09 38 23.3 -0.9
CGP Cagayan de Oro 9.82 344⇓*e*P Pn 09 38 26.8 +1.1
BATI Kupang 9.88 202 Pn Pn 09 38 26.8 +0.2
5.9nm,0.3s,baz=102,slow=1.4,SNR=24
BUTP Butuan 10.10 349 *e*P Pn 09 38 31.5 +2.0
DCPH Dipolog City 10.39 337⇓*e*P Pn 09 38 35.8 +2.3
TARAI Tarakan 10.81 294 P Pn 09 38 40.2 +0.9
1μm,0.8s
MYLDM Lahad Datu 10.88 305 ⇓P Pn 09 38 44.4 +4.1
SCPH Surigao 10.92 350⇑*e*P Pn 09 38 42.9 +2.2
TSM Tawau 10.96 299 ⇑P Pn 09 38 41.5 +0.1
WSI Waingapu 11.17 220 P Pn 09 38 47.5 +3.2
3μm,1.4s
TBP Tagbilaran 11.24 341 *e*P Pn 09 38 43.7 -1.4
MSLP Maasin 11.39 347 *e*P Pn 09 38 46.5 -0.7
LLP Lapu-Lapu 11.80 343 *e*P Pn 09 38 51.9 -0.9
SDKM Sandakan 12.22 303 ⇓P Pn 09 38 59.3 +0.6
OCLP Ormoc 12.33 347 *e*P Pn 09 39 00.8 +0.7
PLP Palo 12.36 348 *e*P Pn 09 39 00.4 -0.1
GUIM Jordan 12.56 337 *e*P Pn 09 39 02.4 -0.8
KAKA Kakadu 12.61 157 *e*P Pn 09 39 00.3 -3.6
416nm,0.6s
KAKA *e*S Sn 09 41 20.0 -3.6
KDM Kudat 13.23 307 ⇓P Pn 09 39 15.1 +2.6
KKM Kota Kinabalu 13.26 302 *e*Pn Pn 09 39 12.6 -0.3
KKM Kota Kinabalu 13.26 302 ⇓P Pn 09 39 13.6 +0.8
RCP Roxas 13.36 339⇑*e*P Pn 09 39 13.9 -0.2
CUYO Cuyo Island 13.44 332 *e*P Pn 09 39 15.0 -0.2
KALP Kalibo 13.62 338⇑*e*P Pn 09 39 20.1 +2.5
BATP Bataraza 13.72 316 *e*P Pn 09 39 17.7 -1.4
CNP Catarman 13.73 348 *e*P Pn 09 39 19.5 +0.3
PPR Puerto Princes 13.82 321⇑*i*P Pn 09 39 28.8 +8.3
KHKI Kahang-Kahang 13.89 238 P Pn 09 39 24.6 +3.1
664nm,1.2s
OTRP Odiongan 14.36 338 *e*P Pn 09 39 26.1 -1.8
ENPP El Nido 14.55 327 *e*P Pn 09 39 29.1 -1.4
KMMI Kalianget 14.75 246 P Pn 09 39 35.3 +2.2
847nm,1.3s
SJMP San Jose 14.81 335 *e*P Pn 09 39 32.7 -1.3
BUSP Coron 14.83 331 *e*P Pn 09 39 33.4 -0.8
PVCP Virac 14.89 347 *e*P Pn 09 39 34.4 -0.7
LUBP Lubang 16.32 334 *e*P Pn 09 39 52.4 -1.3
TGY Tagaytay City 16.37 337⇓*e*P Pn 09 39 59.5 +5.3
KRKI Karangkates 16.57 244 P Pn 09 39 50.5 -6.3
2μm,2.3s
FITZ Fitzroy Crossi 17.07 186⇑*i*P Pn 09 40 00.7 -2.4
1μm,1.5s
FITZ *e*S Sn 09 43 02.0 -10
FITZ Fitzroy Crossi 17.07 186 P Pn 09 40 00.7 -2.4
4.0nm,0.3s,baz=21,slow=13,SNR=35
FITZ S Sn 09 43 14.9 +2.6
0.7nm,0.3s,baz=359,slow=9.7,SNR=3.7
FITZ LR LR 09 46 55.9
comp=Z,15μm,20.1s,baz=10,slow=38
FITZ ScS ScS 09 51 59.0 -2.3
0.0nm,0.3s,baz=287,slow=23,SNR=6.7
NBP Mount Natib 17.16 336⇓*e*P Pn 09 40 04.2 0.0
KSM Kuching 17.35 278 *e*Pn Pn 09 40 04.8 -1.8
KSM Kuching 17.35 278 ⇓P Pn 09 40 06.1 -0.6
PCPH Palayan 17.65 339⇓*e*P Pn 09 40 14.2 +3.9
SCZP Santa Cruz 18.29 336 *e*P Pn 09 40 16.8 -1.4
BCPH Baguio City Da 18.59 339⇓*i*P Pn 09 40 18.4 -3.4
BCPH *i* S Sn 09 43 49.0 0.0
PALP Palanan 18.65 345⇑*i*P Pn 09 40 20.9 -1.7
CAUP Cauayan 18.71 343 *e*P Pn 09 40 21.5 -1.7
BJII Banjamegara 18.79 250 P Pn 09 40 25.4 +1.0
2μm,1.5s
BOLP Bolinao 18.84 337 *e*P Pn 09 40 21.8 -3.0
CVP Callao Caves 19.43 344 *e*P Pn 09 40 36.0 +4.1
ABRA Dolores 19.72 341 *e*P Pn 09 40 33.4 -1.9
APYP Conner 19.75 342 *e*P Pn 09 40 33.8 -1.9
TPI Tanjungpandan 19.89 265 P Pn 09 40 36.3 -1.3
2μm,1.6s
JCJI Jatiwangi 19.92 254 P Pn 09 40 38.6 +0.7
2μm,1.4s
JCJI Jatiwangi 19.92 254 P Pn 09 40 38.6 +0.7
2μm,1.4s
WRAB Tennant Creek 19.96 161⇑*e*P Pn 09 40 34.1 -4.1
WRAB pmax pmax
comp=Z,2μm,1.3s
WRAB Tennant Creek 19.96 161⇑*e*P Pn 09 40 34.1 -4.2
comp=Z,2μm,1.3s
WRA Warramunga Arr 19.96 161 P Pn 09 40 31.9 -6.4
WRA S Sn 09 44 18.5 -3.8
WRA pmax pmax
comp=Z,407nm,0.8s
WRA smax
comp=N,91nm,1.1s
WRA pmax pmax
comp=N,62nm,1.1s
WRA MLR MLR
comp=Z,19μm,18.0s
WRA Warramunga Arr 19.96 161 P Pn 09 40 31.9 -6.4
WRA S Sn 09 44 18.5 -3.7
WRA ScP ScP 09 48 29.9 +2.2
WRA LR LR 09 49 10.7
WRA Warramunga Arr 19.96 161 P Pn 09 40 31.9 -6.4
comp=Z,407nm,0.8s,baz=342,slow=11,SNR=411
WRA S Sn 09 44 18.5 -3.7
comp=Z,91nm,1.1s,baz=340,slow=20,SNR=5.4
WRA ScP ScP 09 48 29.9 +2.2
comp=Z,62nm,1.1s,baz=344,slow=3.0,SNR=10
WRA LR LR 09 49 10.7
comp=Z,19μm,18.0s,baz=340,slow=39
WRA P3KPbc 10 14 52.2
comp=Z,2.5nm,0.9s,baz=161,slow=4.1,SNR=6.3
WB2 Warramunga Arr 19.97 161⇑*i*P Pn 09 40 34.0 -4.3
WB2 *e*S Sn 09 44 03.4 -19
COEN Coen 20.15 130⇑*i*P P 09 40 38.3 -0.3
comp=Z,555nm,0.9s
COEN *e*S S 09 44 23.3 -0.7
LEM Lembang 20.63 253 P P 09 40 45.4 +1.5
comp=Z,1μm,1.1s
LEM Lembang 20.63 253 P P 09 40 45.4 +1.5
comp=Z,1μm,1.1s
CBJI Citeko 21.27 255 P P 09 40 51.8 +1.0
comp=Z,2μm,1.1s,mb6.4
MBWA Marble Bar 21.39 200 *e*P P 09 40 51.3 -0.7
comp=Z,2μm,1.4s,mb6.3
MBWA LR LR
comp=Z,9μm,21.0s,MS5.1
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1

SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
MBWA Marble Bar 21.39 200 P P 09 40 51.9 -0.1
SNR=75
SBJI Serang 21.90 256 P P 09 40 58.4 +0.9
comp=Z,3μm,2.0s,mb6.3
GUMO Guam 22.53 49 *e*P **P 09 41 04.7 +0.4**
GUMO LR LR
comp=Z,8μm,20.0s,MS5.2
ASAR Alice Springs 23.35 165 P P 09 41 10.7 -2.1
ASAR S **S 09 45 19.0 -5.1**
ASAR pmax pmax
comp=Z,543nm,0.8s
ASAR smax
comp=N,141nm,1.0s
ASAR Alice Springs 23.35 165 P P 09 41 10.7 -2.2
ASAR S **S 09 45 19.0 -5.1**
ASAR Alice Springs 23.35 165 P P 09 41 10.7 -2.2
comp=N,543nm,0.8s,mb6.0,baz=346,slow=10,SNR=1699
ASAR S **S 09 45 19.0 -5.1**
comp=N,141nm,1.0s,baz=345,slow=21,SNR=8.0
ASAR P3KPbc 10 14 38.5
comp=N,1.0nm,0.7s,baz=163,slow=4.6,SNR=8.0
XMIS Christmas Isla 23.64 246 *e*P **P 09 41 15.0 -0.7**
MYKOM Kota Tinggi 23.80 277 ⇓P **P 09 41 18.6 +1.4**
KGM Kluang 24.35 277 ⇓P **P 09 41 23.3 +1.1**
KTGM Kuala Trenggan 25.12 285 ⇓P **P 09 41 30.5 +1.2**
NACB Ninganchiao 25.69 348 *e*P **P 09 41 34.0 -0.3**
comp=N,664nm,1.3s,mb6.0
NACB *e*S **S 09 46 04.6 +3.0**
YHNB Yeheng 26.22 347 *e*P **P 09 41 39.3 +0.2**
comp=N,786nm,1.0s,mb6.2
YHNB LR LR
comp=Z,18μm,21.0s,MS5.6
CTA Charters Tower 26.38 137 *e*P **P 09 41 41.6 +1.0**
comp=Z,264nm,1.2s,mb5.6
CTA *e*S **S 09 46 16.9 +4.2**
CTA Charters Tower 26.38 137 *e*P **P 09 41 41.6 +1.0**
CTA *e*S **S 09 46 16.9 +4.2**
CTA pmax pmax
comp=Z,264nm,1.2s
CTA Charters Tower 26.38 137 P **P 09 41 41.5 +0.8**
comp=Z,321nm,1.2s,mb5.7,baz=320,slow=13,SNR=37
CTAO Charters Tower 26.38 137 *e*P **P 09 41 40.9 +0.3**
comp=Z,853nm,1.3s,mb6.1
CTAO LR LR
comp=Z,35μm,20.0s,MS5.9
QIZ Qiongzhong 26.41 320 P **P 09 41 40.8 0.0**
QIZ S **S 09 46 10.5 -2.6**
QIZ AMB AMB
comp=Z,201nm,1.8s,mb5.3
QIZ AMB AMB
comp=Z,4μm,10.9s
QIZ LR LR
comp=N,6μm,14.1s,MS5.4
QIZ LR LR
comp=E,6μm,17.2s,MS5.4
QIZ LR LR
comp=Z,17μm,32.3s
QIZ Qiongzhong 26.41 320 *e*P **P 09 41 40.4 -0.5**
comp=Z,375nm,1.3s,mb5.8
QIZ LR LR
comp=Z,7μm,20.0s,MS5.2
TATO Taipei 26.49 348 *e*P **P 09 41 41.9 +0.4**
comp=Z,995nm,1.4s,mb6.2
TATO LR LR
comp=Z,13μm,22.0s,MS5.4
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
TATO Taipei 26.49 348 P **P 09 41 44.2 +2.8**
SNR=12
HKC Hong Kong Obse 26.57 332 ⇑*i*P **P 09 41 42.0 -0.3**
QZH Quanzhou 27.21 342 ⇑*i*P **P 09 41 48.0 0.0**
QZH S **S 09 46 21.0 -4.7**
QZH AMB AMB
comp=Z,3μm,2.0s,mb6.5
QZH LR LR
comp=N,14μm,13.6s
QZH LR LR
comp=E,6μm,9.7s
QZH LR LR
comp=Z,34μm,32.6s
KULM Kulim 27.52 283 *e*P **P 09 41 51.0 0.0**
KULM Kulim 27.52 283 ⇑P **P 09 41 51.9 +0.9**
GZH Guangzhou 27.64 331 P **P 09 41 55.3 +3.5**
GZH S **S 09 46 38.5 +6.1**
GZH AMB AMB
comp=Z,531nm,1.6s,mb5.9
GZH LR LR
comp=N,8μm,23.1s,MS5.3
GZH LR LR
comp=E,5μm,21.6s,MS5.3
GZH LR LR
comp=Z,13μm,22.8s,MS5.5
SNG Songkhla 28.02 287 P **P 09 41 55.0 -0.4**
comp=Z,300nm,1.0s,mb5.9
PSI Prapat 28.80 278 P **P 09 42 01.8 -0.6**
PSI 09 45 11.5
PSI pmax pmax
comp=Z,193nm,0.9s,mb5.8
PSI pmax pmax
comp=Z,32nm,1.0s,mb5.0
PSI Prapat 28.80 278 P **P 09 42 01.8 -0.6**
comp=Z,193nm,0.9s,mb5.8,baz=104,slow=4.8,SNR=148
PSI PcP PcP 09 45 11.4 -0.7
comp=Z,32nm,1.0s,baz=91,slow=2.4,SNR=3.3
TSI Tuntungan 29.25 279 P **P 09 42 07.3 +0.9**
comp=Z,743nm,1.4s,mb6.2
TSI Tuntungan 29.25 279 ⇓*e*P **P 09 42 07.0 +0.6**
FORT Forrest 29.60 179 *e*P **P 09 42 08.8 -0.4**
comp=Z,381nm,0.7s,mb6.2
FORT *e*PCP PcP 09 45 26.3 +13
FORT *e*S **S 09 46 59.8 -3.3**
NST Nakhon Sawan 31.71 303 P **P 09 42 28.0 -0.1**
comp=Z,167nm,1.3s,mb5.7
KLBR Kellerberrin 31.76 196 *e*P **P 09 42 27.5 -0.8**
comp=Z,175nm,1.0s,mb5.8
KLBR *e*PCP PcP 09 45 19.4 -0.1
COCO West Island 32.35 249 PFAKE 09 42 40.0 +6.2
COCO LR LR
comp=Z,8μm,22.0s,MS5.3
SSE Sheshan 32.50 350 ⇓P **P 09 42 36.5 +1.7**
SSE S **S 09 47 53.5 +5.0**
SSE SCS ScS 09 53 02.8 -0.6
SSE AMB AMB
comp=Z,66nm,1.4s,mb5.3
SSE AMB AMB
comp=Z,673nm,4.1s
SSE LR LR
comp=N,1μm,23.4s,MS5.2
SSE LR LR
comp=E,6μm,23.4s,MS5.2
SSE LR LR
comp=Z,6μm,28.1s,MS5.2
MUN Mundaring 32.58 198 *e*P **P 09 42 34.8 -0.7**
MUN *e*PCP PcP 09 45 39.0 +17
MUN *e*S S 09 47 20.0 -30
BSI Banda Aceh 32.79 282 ⇓*e*P **P 09 42 37.5 -0.1**
NANT Nan 32.88 308 ⇑P **P 09 42 36.0 -2.2**
comp=Z,2μm,1.0s,mb6.9
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 39.9 -0.7**
NWAO 09 45 24.1
NWAO pmax pmax
comp=Z,52nm,0.7s
NWAO pmax pmax
comp=Z,44nm,0.9s
NWAO pmax pmax
comp=N,30nm,1.0s
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 39.9 -0.7**
NWAO PcP PcP 09 45 24.1 +0.8
NWAO ScP ScP 09 49 06.5 +0.1
NWAO LR LR
comp=Z,7μm,20.0s,MS5.3
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 40.8 +0.2**
SNR=6.5
NWAO Narrogin (SRO) 33.17 196 P **P 09 42 39.9 -0.7**
comp=Z,52nm,0.7s,mb5.6,baz=17,slow=9.0,SNR=24
NWAO PcP PcP 09 45 24.1 +0.8
comp=Z,44nm,0.9s,baz=20,slow=7.3,SNR=3.6
NWAO ScP ScP 09 49 06.5 +0.1
comp=Z,30nm,1.0s,baz=72,slow=9.7,SNR=3.1
EIDS Eidsvold 33.23 139 *e*P **P 09 42 41.4 +0.1**
comp=Z,71nm,1.2s,mb5.5
HNR Honiara 33.36 106 P **P 09 42 43.2 +0.6**
HNR LR LR
comp=Z,13μm,20.0s,MS5.6
HNR Honiara 33.36 106 P **P 09 42 43.2 +0.6**
comp=Z,133nm,0.7s,mb6.0,baz=264,slow=5.4,SNR=5.3
STKA Stephens Creek 33.46 158 *e*P **P 09 42 43.2 0.0**
comp=Z,385nm,0.9s,mb6.3
STKA *e*PCP PcP 09 45 24.8 +0.6
STKA *e*S **S 09 47 57.8 -5.6**
STKA Stephens Creek 33.46 158 P **P 09 42 43.9 +0.7**
comp=Z,325nm,0.8s,mb6.3,baz=331,slow=8.3,SNR=202
STKA S **S 09 48 04.5 +1.0**
comp=Z,23nm,1.2s,baz=84,slow=20,SNR=3.5
STKA LR LR 09 57 15.7
comp=Z,19μm,21.2s,MS5.8,baz=332,slow=38
WHN Wuhan 33.79 339 ⇓P **P 09 42 48.3 +2.2**
WHN AMB AMB
comp=Z,831nm,1.1s,mb6.6
WHN LR LR
comp=N,8μm,13.6s,MS5.7
WHN LR LR
comp=E,3μm,11.0s,MS5.7
WHN LR LR
comp=Z,18μm,18.1s
NJ2 Nanjing 33.90 347 *e*P **P 09 42 49.3 +2.3**
NJ2 AP pP 09 42 54.3 +0.1
NJ2 XP sP 09 42 57.3 +0.1
NJ2 PP PP 09 44 03.3 -0.7
NJ2 AMB AMB
comp=Z,350nm,1.1s,mb6.2
NJ2 AMB AMB
comp=Z,2μm,10.2s
NJ2 LR LR
comp=N,13μm,21.7s,MS5.8
NJ2 LR LR
comp=E,11μm,19.4s,MS5.8
NJ2 LR LR
comp=Z,11μm,19.3s,MS5.6
GYA Guiyang 33.91 325 ⇑*i*P **P 09 42 48.3 +1.1**
GYA PP PP 09 44 05.3 +1.1
GYA PCP PcP 09 45 26.5 +1.0
GYA S **S 09 48 07.0 -3.6**
GYA AMB AMB
comp=Z,310nm,1.0s,mb6.2
GYA AMB AMB
comp=Z,590nm,4.8s
GYA LR LR
comp=N,7μm,22.5s,MS5.4
GYA LR LR
comp=E,4μm,20.1s,MS5.4
GYA LR LR
comp=Z,5μm,19.8s,MS5.2
CM31 Chiang Mai Arr 34.09 306 PFAKE 09 43 00.0 +11
CM31 LR LR
comp=Z,5μm,20.0s,MS5.3
CHG Chiang Mai 34.28 307 ⇑P **P 09 42 50.8 +0.3**
comp=Z,150nm,1.6s,mb5.7
CHTO Chiang Mai 34.28 307 *e*P **P 09 42 50.7 +0.2**
CHTO *e* 09 44 06.5
CHTO *e* 09 45 27.7
CHTO pmax pmax
comp=Z,1μm,1.8s,mb6.5
CHTO MLR MLR
comp=Z,4μm,19.0s,MS5.2
CHTO Chiang Mai 34.28 307 *e*P **P 09 42 50.7 +0.2**
comp=Z,1μm,1.8s,mb6.5
CHTO *e*PP PP 09 44 06.5 -1.9
CHTO *e*PcP PcP 09 45 27.7 +1.0
CHTO LR LR
comp=Z,4μm,19.0s,MS5.2
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
CHTO Chiang Mai 34.28 307 P **P 09 42 51.2 +0.7**
SNR=151
KMI Kunming 35.35 319 P **P 09 43 01.3 +1.6**
KMI PP PP 09 44 21.3 +1.1
KMI PCP PcP 09 45 31.0 +1.3
KMI S **S 09 48 35.8 +3.0**
KMI SCP ScP 09 49 15.5 +1.3
KMI AMB AMB
comp=Z,367nm,1.5s,mb6.1
KMI AMB AMB
comp=Z,3μm,4.0s
KMI LR LR
comp=N,5μm,19.4s,MS5.5
KMI LR LR
comp=E,5μm,18.0s,MS5.5
KMI LR LR
comp=Z,11μm,25.3s
PBA Port Blair 36.74 291 *e*P x 09 43 27.3
PBA *e*x x 09 43 56.7
comp=Z,571nm,1.5s
PBA *e*S x 09 49 09.3
ARMA Armidale 37.15 144 *e*P **P 09 43 16.0 +1.0**
ARMA *e*PCP PcP 09 45 39.2 +4.2
ARMA *e*S **S 09 49 00.8 +0.6**
TIA Tai'an 38.28 346 ⇓P **P 09 43 24.5 +0.1**
TIA S **S 09 49 15.5 -1.7**
TIA AMB AMB
comp=Z,80nm,1.2s,mb5.3
TIA LR LR
comp=N,797nm,10.0s,MS5.2
TIA LR LR
comp=E,2μm,11.0s,MS5.2
KSRS Korea Array 38.29 1 P **P 09 43 24.8 +0.3**
comp=E,18nm,0.7s,mb4.9,baz=176,slow=9.6,SNR=70
KSRS PcP PcP 09 45 39.3 +1.0
comp=E,12nm,0.8s,baz=188,slow=2.6,SNR=8.2
KSRS ScP ScP 09 49 26.7 +1.8
comp=E,18nm,1.1s,baz=182,slow=3.6,SNR=14
INCN Inchon 38.32 359 *e*P **P 09 43 25.9 +1.1**
comp=E,98nm,1.0s,mb5.5
INCN LR LR
comp=Z,6μm,20.0s,MS5.4
MJAR Matsushiro Arr 38.68 14 P **P 09 43 26.7 -1.1**
MJAR 09 45 40.3
MJAR 09 49 27.4
MJAR pmax pmax
comp=Z,17nm,0.6s
MJAR pmax pmax
comp=Z,12nm,0.7s
MJAR pmax pmax
comp=N,49nm,1.1s
MJAR MLR MLR
comp=Z,11μm,18.1s
MJAR pmax pmax
comp=Z,1.0nm,0.4s
MJAR Matsushiro Arr 38.68 14 P **P 09 43 26.7 -1.1**
comp=Z,17nm,0.6s,mb4.9,baz=188,slow=8.8,SNR=55
MJAR PcP PcP 09 45 40.3 +0.7
comp=Z,12nm,0.7s,baz=183,slow=3.9,SNR=5.7
MJAR ScP ScP 09 49 27.4 +1.0
comp=Z,48nm,1.1s,baz=207,slow=4.7,SNR=26
MJAR LR LR 10 00 01.4
comp=Z,11μm,18.1s,MS5.7,baz=195,slow=37
MJAR PKPPKP 10 16 00.5
comp=Z,0.5nm,0.4s,baz=129,slow=4.0,SNR=4.5
MAJO Matsushiro 38.68 14 *e*P **P 09 43 27.2 -0.6**
MAJO pmax pmax
comp=Z,207nm,1.3s,mb5.7
MAJO MLR MLR
comp=Z,12μm,20.0s,MS5.7
MAJO Matsushiro 38.68 14 *e*P **P 09 43 27.1 -0.7**
comp=Z,207nm,1.3s,mb5.7
MAJO LR LR
comp=Z,12μm,20.0s,MS5.7
CD2 Chengdu 38.95 327 P **P 09 43 30.5 +0.3**
CD2 AP pP 09 43 38.0 +0.5
CD2 XP sP 09 43 42.5 +2.1
CD2 PP PP 09 45 02.5 +2.7
CD2 PCP PcP 09 45 41.3 +0.7
CD2 S **S 09 49 26.0 -1.5**
CD2 AMB AMB
comp=Z,750nm,1.3s,mb6.3
CD2 AMB AMB
comp=Z,4μm,5.6s
CD2 LR LR
comp=N,7μm,14.4s,MS5.9
CD2 LR LR
comp=E,11μm,15.3s,MS5.9
CD2 LR LR
comp=Z,10μm,18.6s,MS5.7
XAN Xi'an 39.00 335 P **P 09 43 30.5 0.0**
XAN AP pP 09 43 34.5 -3.3
XAN PP PP 09 45 04.0 +3.8
XAN S **S 09 49 23.5 -4.6**
XAN AMB AMB
comp=Z,313nm,1.1s,mb6.0
XAN AMB AMB
comp=Z,1μm,4.6s
XAN LR LR
comp=N,4μm,21.0s,MS5.4
XAN LR LR
comp=E,5μm,21.2s,MS5.4
XAN LR LR
comp=Z,7μm,23.5s,MS5.4
RIV Riverview 39.46 148 *e*P **P 09 43 36.5 +2.1**
CNB Canberra Magne 39.73 152 *e*P **P 09 43 37.9 +1.2**
comp=Z,78nm,0.8s,mb5.5
TOO Toolangi 39.98 158 *e*P **P 09 43 40.9 +2.3**
comp=Z,3μm,1.5s,mb6.8
TOO *e*S **S 09 49 38.0 -4.7**
TOO Toolangi 39.98 158 *e*P **P 09 43 40.9 +2.3**
TOO *e*S **S 09 49 38.0 -4.7**
TOO pmax pmax
comp=Z,3μm,1.5s,mb6.8
DL2 Dalian 40.10 353 P **P 09 43 37.3 -2.3**
DL2 PP PP 09 45 12.0 -0.1
DL2 PCP PcP 09 45 44.0 0.0
DL2 S **S 09 49 40.5 -4.0**
DL2 AMB AMB
comp=Z,90nm,0.9s,mb5.5
DL2 AMB AMB
comp=Z,670nm,8.1s
DL2 LR LR
comp=N,3μm,17.0s,MS5.5
DL2 LR LR
comp=E,5μm,16.2s,MS5.5
DL2 LR LR
comp=Z,4μm,16.9s,MS5.4
TIY Taiyuan 40.98 342 S **S 09 49 55.3 -2.4**
IMP Imphal 41.41 311 *e*P **P 09 43 49.0 -1.7**
IMP *ex* x 09 49 37.0
BJT Baijiatuau 42.14 347 *e*P **P 09 43 56.4 +0.1**
BJT pmax pmax
comp=Z,399nm,1.2s
BJT MLR MLR
comp=Z,5μm,21.0s
BJT Baijiatuau 42.14 347 *e*P **P 09 43 56.4 +0.1**
comp=Z,398nm,1.2s,mb5.9
BJT LR LR
comp=Z,5μm,21.0s,MS5.4
BJI Beijing 42.16 347 P **P 09 43 56.8 +0.3**
BJI AP pP 09 44 01.5 -2.4
BJI XP sP 09 44 03.3 -3.5
BJI AMB AMB
comp=Z,69nm,1.2s,mb5.2
BJI AMB AMB
comp=Z,2μm,4.8s
BJI LR LR
comp=N,3μm,26.2s,MS5.3
BJI LR LR
comp=E,3μm,23.9s,MS5.3
BJI LR LR
comp=Z,6μm,31.9s
SNY Shenyang 42.80 356 ⇓P **P 09 44 01.5 -0.2**
SNY AP pP 09 44 12.3 +3.2
SNY XP sP 09 44 16.5 +4.5
SNY AMB AMB
comp=Z,52nm,1.5s,mb5.0
SNY AMB AMB
comp=Z,913nm,4.1s
SNY LR LR
comp=N,4μm,22.8s,MS5.7
SNY LR LR
comp=E,11μm,21.6s,MS5.7
SNY LR LR
comp=Z,4μm,21.9s,MS5.3
LZH Lanzhou 42.99 332 ⇑P **P 09 44 05.0 +1.7**
LZH AP pP 09 44 15.0 +4.3
LZH XP sP 09 44 19.0 +5.4
LZH PCP PcP 09 45 55.0 +1.4
LZH SCP ScP 09 49 41.5 -1.9
LZH PCS PcS 09 49 46.3 +0.4
LZH S **S 09 50 29.0 +1.6**
LZH XS sS 09 50 45.0 +5.5
LZH SS SS 09 53 36.3 -3.7
LZH SCS ScS 09 54 00.3 -2.5
LZH AMB AMB
comp=Z,801nm,1.0s,mb6.4
LZH AMB AMB
comp=Z,6μm,5.8s
LZH LR LR
comp=N,5μm,11.3s
LZH LR LR
comp=Z,11μm,18.5s
SHL Shillong 43.39 310 *e*P **P 09 44 06.8 0.0**
SHL AMb AMB 09 44 11.6
comp=Z,599nm,1.5s,mb6.1
SHL *e*S **S 09 50 34.3 +0.6**
HHC Hu-ho-hao-te 44.12 343 ⇑P **P 09 44 13.0 +0.6**
HHC AP pP 09 44 17.5 -2.3
HHC XP sP 09 44 20.0 -2.7
HHC PP PP 09 45 57.3 +1.7
HHC SCP ScP 09 49 46.0 -1.9
HHC S **S 09 50 46.5 +2.6**

HHC AMB AMB
comp=Z,184nm,1.2s,mb5.7
HHC AMB AMB
comp=Z,4μm,5.7s
HHC LR LR
comp=N,9μm,15.2s,MS5.9
HHC LR LR
comp=E,8μm,17.2s,MS5.9
HHC LR LR
comp=Z,11μm,19.1s,MS5.8
BTO Baotou 44.38 341 *e*P **P 09 44 14.8 +0.3**
BTO S **S 09 50 47.8 +0.1**
CN2 Changchun 44.66 358 ⇓P **P 09 44 16.0 -0.7**
CN2 *e*XP sP 09 44 22.8 -4.2
CN2 *e*S **S 09 50 53.5 +1.9**
CN2 AMB AMB
comp=Z,600nm,6.0s
CN2 LR LR
comp=N,2μm,17.0s,MS5.5
CN2 LR LR
comp=E,5μm,17.0s,MS5.5
CN2 LR LR
comp=Z,4μm,19.0s,MS5.4
ERM Erimo 45.13 17 P **P 09 44 22.6 +2.2**
ERM pmax pmax
comp=Z,130nm,1.0s,mb5.7
ERM Erimo 45.13 17 *i* P **P 09 44 20.1 -0.3**
ERM LR LR
comp=Z,9μm,19.0s,MS5.7
TAU Tasmania Unive 45.33 159 *e*P **P 09 44 23.9 +1.9**
TAU *e* 09 46 04.8
TAU pmax pmax
comp=Z,186nm,1.4s,mb5.7
TAU MLR MLR
comp=Z,14μm,19.0s,MS5.9
TAU Tasmania Unive 45.33 159 *e*P **P 09 44 23.9 +1.9**
comp=Z,186nm,1.4s,mb5.7
TAU *e* 09 46 04.8
TAU LR LR
comp=Z,14μm,19.0s,MS5.9
MDJ Mudanjiang 45.48 2 P **P 09 44 23.0 -0.2**
MDJ AP pP 09 44 26.0 -4.6
MDJ PCP PcP 09 46 02.0 +0.1
MDJ PP PP 09 46 09.5 -0.4
MDJ SCP ScP 09 49 54.0 +0.6
MDJ PCS PcS 09 49 56.0 +0.3
MDJ S **S 09 50 59.5 -3.9**
MDJ AMB AMB
comp=Z,56nm,1.3s,mb5.2
MDJ AMB AMB
comp=Z,591nm,4.7s
MDJ LR LR
comp=N,4μm,20.1s
MDJ LR LR
comp=E,1μm,12.7s
MDJ LR LR
comp=Z,6μm,17.1s,MS5.6
MDJ Mudanjiang 45.48 2 *e*P **P 09 44 23.0 -0.2**
comp=Z,197nm,1.1s,mb5.8
MDJ LR LR
comp=Z,6μm,20.0s,MS5.5
LSA Lhasa 46.21 314 P **P 09 44 30.3 +1.1**
LSA AP pP 09 44 39.0 +2.4
LSA XP sP 09 44 44.0 +4.5
LSA PCP PcP 09 46 03.5 -1.3
LSA PP PP 09 46 21.0 +3.1
LSA SCP ScP 09 49 55.0 -1.8
LSA PCS PcS 09 49 58.5 -0.9
LSA S **S 09 51 16.5 +2.1**
LSA XS sS 09 51 33.5 +6.9
LSA SCS ScS 09 54 23.0 -0.6
LSA AMB AMB
comp=Z,600nm,0.8s,mb6.6
LSA LR LR
comp=N,4μm,36.2s,MS5.4
LSA LR LR
comp=E,6μm,35.3s,MS5.4
LSA LR LR
comp=Z,10μm,38.0s,MS5.5
LSA Lhasa 46.21 314 *e*P **P 09 44 31.6 +2.4**
LSA *e* 09 46 13.0
LSA pmax pmax
comp=Z,405nm,0.8s,mb6.4
LSA MLR MLR
comp=Z,4μm,22.0s,MS5.3
LSA Lhasa 46.21 314 *e*P **P 09 44 31.6 +2.5**
comp=Z,405nm,0.8s,mb6.4
LSA *e* 09 46 13.0
LSA LR LR
comp=Z,4μm,22.0s,MS5.3
SHBG Sahibganj 46.52 307 *e*P **P 09 44 31.5 -0.2**
VIS Vishakhapatnam 47.28 295 *i* P **P 09 44 39.7 +1.9**
VIS *e*x x 09 44 44.6
comp=Z,873nm,1.7s
VIS *i* S **S 09 51 31.2 +1.1**
BOK Bokaro 47.33 304 *e*P **P 09 44 38.4 +0.3**
BOK AMb AMB 09 44 45.2
comp=Z,558nm,1.4s,mb6.3
BOK *e*x x 09 51 22.2
PALK Pallekele 47.39 281 *e*P **P 09 44 39.3 +0.6**
comp=Z,582nm,1.7s,mb6.2
PALK *e*ScP ScP 09 50 04.6 +2.5
PALK LR LR
comp=Z,8μm,22.0s,MS5.7
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
PALK Pallekele 47.39 281 P **P 09 44 40.2 +1.5**
SNR=16
GTA Gaotai 47.56 331 ⇑P **P 09 44 40.5 +0.9**
GTA AP pP 09 44 50.0 +3.0
GTA XP sP 09 44 54.3 +4.3
GTA PCP PcP 09 46 11.0 +1.7
GTA PP PP 09 46 31.8 +0.5
GTA SCP ScP 09 50 03.5 +1.3
GTA PCS PcS 09 50 06.3 +1.6
GTA S **S 09 51 33.3 -0.2**
GTA AMB AMB
comp=Z,396nm,1.3s,mb6.3
GTA AMB AMB
comp=Z,2μm,6.1s
GTA LR LR
comp=N,5μm,20.9s,MS5.6
GTA LR LR
comp=E,5μm,22.1s,MS5.6
GTA LR LR
comp=Z,6μm,24.8s,MS5.5
YUK Yuzh-Kuril'sk 47.77 18 *e*P **P 09 44 42.0 +0.8**
YUK *e* 09 46 11.5
YUK *e*S **S 09 51 32.0 -4.3**
YUK pmax pmax
comp=N,3μm,2.0s
YUK pmax pmax
comp=Z,2μm,2.0s,mb6.9
YUK smax
comp=E,4μm,6.0s
YUK smax
comp=N,2μm,4.0s
YUK MLR MLR
comp=Z,4μm,16.0s,MS5.5
YUK MLR MLR
comp=N,3μm,18.0s,MS5.5
YUK MLR MLR
comp=E,3μm,18.0s,MS5.5
JIRN Jiri 48.84 309 *e*P **P 09 44 51.2 +1.5**
comp=E,803nm,0.7s,mb6.8
MDRS Chennai 48.89 288⇑*e*P **P 09 44 50.9 +0.6**
MDRS *e*S **S 09 51 54.9 +1.9**
GUN Gumba 49.20 309 *e*P **P 09 44 54.0 +1.5**
comp=E,2μm,0.9s
PKI Pulchoki 49.41 308 *e*P **P 09 44 55.0 +0.9**
comp=E,510nm,0.7s,mb6.6
PKIN Phulchoki 49.42 308 *e*P **P 09 44 55.0 +0.8**
KKN Kakani 49.61 309 *e*P **P 09 44 56.6 +1.0**
comp=E,454nm,0.8s,mb6.6
YSS Yuzh-Sakhalins 49.62 14*de*P **P 09 44 55.7 +0.4**
YSS *e* pP 09 45 04.0 +1.2
YSS *e*S **S 09 52 02.0 -0.3**
YSS *e*PS 09 52 20.0
YSS pmax pmax
comp=Z,110nm,1.1s,mb5.8
YSS pmax pmax
comp=Z,800nm,8.0s
YSS MLR MLR
comp=Z,3μm,18.0s,MS5.3
YSS MLR MLR
comp=N,3μm,17.0s
YSS Yuzh-Sakhalins 49.62 14⇑*e*P **P 09 44 56.7 +1.4**
YSS LR LR
comp=Z,4μm,20.0s,MS5.4
DMN Daman 49.66 308 *e*P **P 09 44 57.2 +1.2**
comp=Z,1μm,1.0s,mb6.9
HABR Khabarovsk 49.73 7⇓*i*P **P 09 44 57.1 +1.0**
HABR *e* 09 45 06.6
HABR *e* 09 45 11.2
HABR *e* 09 46 16.8
HABR *e* 09 46 52.5
HABR *e*S **S 09 52 05.0 +1.2**
HABR *e* 09 52 23.4
HABR *e* 09 54 46.7
HABR pmax pmax
comp=Z,148nm,1.3s,mb5.9
HABR MLR MLR
comp=Z,5μm,18.9s,MS5.5
BLSP Bilaspur 49.84 300 *e*P **P 09 44 56.4 -1.1**
KLR Kul'dur 50.19 4⇑*i*P **P 09 44 55.8 -3.8**
KLR *e*S **S 09 52 02.0 -8.1**
KLR *e* 09 54 42.5
KLR pmax pmax
comp=Z,270nm,1.6s,mb6.0
KLR pmax pmax
comp=N,900nm,8.5s
KLR pmax pmax
comp=Z,2μm,8.5s
KLR MLR MLR
comp=Z,4μm,16.0s,MS5.6
GKN Gorkha 50.22 309 *e*P **P 09 45 01.0 +0.8**
comp=Z,272nm,0.9s,mb6.3
HIA Hailar 50.54 353 *e*P **P 09 45 02.5 +0.3**
HIA *e* 09 46 20.9
HIA pmax pmax
comp=Z,87nm,1.0s
HIA MLR MLR
comp=Z,10μm,21.0s
HIA Hailar 50.54 353 *e*P **P 09 45 02.5 +0.3**
comp=Z,86nm,1.0s,mb5.6
HIA *e*PcP PcP 09 46 20.9 +1.0
HIA LR LR
comp=Z,10μm,21.0s,MS5.8
KOLN Koldanda 50.92 308 *e*P **P 09 45 07.1 +1.5**
comp=Z,2μm,0.8s,mb7.0
KOD Kodaikanal 51.01 284 *e*P **P 09 45 06.9 +0.5**
KOD AMb AMB 09 45 12.2
comp=Z,469nm,1.8s,mb6.1
DANN Dangsing 51.06 308 *e*Pn **P 09 45 07.9 +1.3**
TRD Trivandrum 51.23 282 *e*P **P 09 45 07.0 -1.1**
TRD *e*S **S 09 52 24.0 -1.8**
HYB Hyderabad 51.55 293 *e*P **P 09 45 10.5 +0.1**
HYB *e*S **S 09 52 24.0 -6.0**
HYB pmax pmax
comp=Z,630nm,1.0s,mb6.5
HYB Hyderabad 51.55 293 *e*P **P 09 45 10.5 +0.1**
comp=Z,630nm,1.0s,mb6.5
HYB *e*S **S 09 52 24.0 -6.0**
HYB *e* 10 07 54.0
HYB Hyderabad 51.55 293⇓*i*P **P 09 45 10.5 +0.1**
comp=Z,630nm,1.0s,mb6.5
HYB *e*PP PP 09 47 07.0 -1.0
HYB *e*PPP 09 48 02.0
HYB *e*S **S 09 52 24.0 -6.0**
HYB *e*SP 09 52 34.0
HYB *e*ScS ScS 09 54 56.0 -3.9
HYB *e* 09 56 10.0
HYB *e*PKPPKP 10 15 50.0
ULN Ulaanbaatar 51.84 343 PFAKE 09 45 20.0 +7.9
ULN LR LR
comp=Z,4μm,22.0s,MS5.4
SONM Songino Array 52.02 342 P **P 09 45 14.1 +0.8**
SONM 09 46 25.1
SONM pmax pmax
comp=Z,79nm,1.0s
SONM pmax pmax
comp=Z,27nm,0.7s
SONM pmax pmax
comp=N,20nm,0.9s
SONM Songino Array 52.02 342 P **P 09 45 14.1 +0.8**
comp=N,79nm,1.0s,mb5.6,baz=151,slow=7.4,SNR=97
SONM PcP PcP 09 46 25.1 -0.3
comp=N,27nm,0.7s,baz=158,slow=3.5,SNR=3.7
SONM ScP ScP 09 50 23.1 +2.1
comp=N,20nm,0.9s,baz=148,slow=3.6,SNR=14
NGP Nagpur 52.20 298 *e*P **P 09 45 12.3 -2.9**
NGP AMb AMB 09 45 16.9
comp=Z,368nm,1.4s,mb6.1
NGP *e*S **S 09 52 36.1 -2.8**
LATR Latur 53.64 294 *i* P **P 09 45 25.7 -0.2**
AKL Akola 53.87 297 *e*P **P 09 45 27.3 -0.2**
AKL *i* S **S 09 53 00.8 -0.8**
MNGI Mangalore 54.03 287 *i* P **P 09 45 28.3 -0.5**
MNGI AMb AMB 09 45 34.0
comp=Z,406nm,1.4s,mb6.2
CIT Chita 54.15 349 *e*P **P 09 45 30.1 +1.1**
BHPL Bhopal 54.30 300 *e*P **P 09 45 30.8 +0.1**
BHPL AMb AMB 09 45 35.5
comp=Z,436nm,1.1s,mb6.3
LGTI Lohaghat 54.31 308 *e*P **P 09 45 30.0 -0.6**
PTH Pithoragarh 54.38 308 *e*P **P 09 45 29.7 -1.4**
PTH *e*S **S 09 53 06.8 -1.4**
MNCY Minicoy 55.05 281 *i* P **P 09 45 36.0 -0.3**
DGAR Diego Garcia 55.21 262 P **P 09 45 36.8 -0.6**
DGAR *e* 09 45 47.5
DGAR pmax pmax
comp=Z,2μm,2.0s,mb6.9
DGAR Diego Garcia 55.21 262 *e*P **P 09 45 36.0 -1.4**
comp=Z,2μm,2.0s,mb6.9
DGAR LR LR
comp=Z,3μm,20.0s,MS5.3
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
DGAR Diego Garcia 55.21 262 P **P 09 45 37.3 -0.1**
SNR=5.5
ZAK Zakamensk 55.23 341 *i* P **P 09 45 37.1 +0.2**
ZAK *e* 09 46 37.8
ZAK pmax pmax
comp=Z,56nm,1.7s,mb5.3
ZAK pmax pmax
comp=Z,40nm,1.0s,mb5.4
GOA Goa 55.49 290 *e*P **P 09 45 37.0 -2.4**
GOA AMb AMB 09 45 43.7
comp=Z,559nm,2.1s,mb6.2
GOA *i* x x 09 53 12.6
POO Poona 56.16 293 *e*P **P 09 45 43.6 -0.5**
POO AMb AMB 09 45 49.0
comp=Z,338nm,1.5s,mb6.2
TLY Talaya 56.25 342*d i*P **P 09 45 45.0 +0.8**
TLY pmax pmax
comp=Z,9.0nm,0.9s,mb4.8
TLY Talaya 56.25 342 *i* P **P 09 45 45.0 +0.8**
TLY LR LR
comp=Z,4μm,22.0s,MS5.5
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
TLY Talaya 56.25 342 P **P 09 45 45.0 +0.9**
SNR=45
DDI Dehra Dun 56.40 308 *i* P **P 09 45 44.7 -1.0**
NDI New Delhi 56.42 306 *e*P **P 09 45 44.0 -1.8**
NDI *e*x x 09 53 30.0
IRK Irkutsk 56.56 343⇑*i*P **P 09 45 46.7 +0.3**
IRK *e* 09 46 00.1
IRK *e*S **S 09 53 37.0 +0.4**
IRK *e* 09 55 33.6
IRK pmax pmax
comp=Z,207nm,2.7s,mb5.7
SKR Severo-Kuril's 57.00 21 *e*P **P 09 45 43.5 -6.0**
SKR *e* 09 48 04.0
SKR *e*S **S 09 53 40.0 -2.5**
SKR *e*PS 09 54 04.0
SKR pmax pmax
comp=N,2μm,4.0s
SKR pmax pmax
comp=E,2μm,4.0s
SKR pmax pmax
comp=Z,2μm,4.0s
SKR pmax pmax
comp=N,180nm,1.0s
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR smax
comp=N,3μm,10.0s
SKR smax
comp=E,3μm,10.0s
SKR MLR MLR
comp=N,3μm,18.0s,MS5.6
SKR MLR MLR
comp=E,3μm,18.0s,MS5.6
SKR MLR MLR
comp=Z,5μm,18.0s,MS5.7
WMQ Urumqi 57.05 326⇓*i*P **P 09 45 51.5 +1.5**
WMQ XP sP 09 45 58.5 -2.0
WMQ PP PP 09 48 00.0 +3.0
WMQ AMB AMB
comp=Z,534nm,1.0s,mb6.5
WMQ AMB AMB
comp=Z,2μm,4.0s
WMQ LR LR
comp=N,13μm,16.0s,MS6.2
WMQ LR LR
comp=E,8μm,15.0s,MS6.2
WMQ LR LR
comp=Z,7μm,16.0s,MS5.9
MOY Mondy 57.08 341 *e*P **P 09 45 51.2 +1.1**
MOY *e* 09 53 42.1
MOY pmax pmax
comp=Z,543nm,2.1s,mb6.2
BOM Bombay 57.20 293 *i* P **P 09 45 51.5 0.0**
BOM *i* S **S 09 53 42.7 -3.5**
SMLA Simla 57.43 308 *e*P **P 09 45 54.2 +1.3**
RPZ Rata Peaks 57.49 144 P **P 09 45 54.0 +0.9**
comp=Z,103nm,1.1s,mb5.8,baz=335,slow=3.5,SNR=26
RPZ LR LR 10 10 57.0
comp=Z,14μm,21.3s,MS6.0,baz=302,slow=36
NRGR Nerungri 57.54 358 *e*P **P 09 45 54.0 +0.8**
CLNS Chul'man 57.72 358 *e*P **P 09 45 53.9 -0.5**
CLNS *e**PP pP 09 46 00.8 -1.2
CLNS *e* 09 46 49.4
CLNS *e*PS 09 54 12.7
CLNS pmax pmax
comp=Z,34nm,0.8s,mb5.4
CLNS pmax pmax
comp=N,27nm,1.2s
CLNS pmax pmax
comp=E,6.0nm,0.9s
CLNS pmax pmax
comp=Z,16nm,0.9s,mb5.0
CLNS pmax pmax
comp=N,28nm,1.0s
CLNS pmax pmax
comp=E,34nm,1.2s
SDNR Sundarnagar 57.73 309 *e*P **P 09 45 55.1 0.0**
SDNR *e*S **S 09 53 54.0 +1.2**
AJM Ajmer 57.76 302 *e*P **P 09 45 55.1 -0.2**
AJM AMb AMB 09 46 00.7
comp=Z,348nm,1.4s,mb6.2
SNZO South Karori 58.45 140 PFAKE 09 46 10.0 +10
SNZO LR LR
comp=Z,21μm,21.0s,MS6.2
BHV Bhavnagar 58.53 296 *e*P **P 09 46 00.0 -0.8**
URZ Urewera 58.61 135 P **P 09 46 01.3 +0.2**
comp=Z,33nm,0.4s,mb5.7,baz=18,slow=3.0,SNR=28
DLH Dalhousie 58.93 309 *e*P **P 09 46 04.0 +0.5**
THN Thein Dam 59.08 309 *e*P **P 09 46 04.2 -0.3**
THN *e*S **S 09 54 10.6 +0.2**
MCQ Macquarie Isla 59.21 159 *e*P **P 09 46 08.0 +3.1**
BOD Bodaibo 59.65 352 *e*P **P 09 46 07.9 +0.1**
BOD *e* 09 46 51.7
BOD pmax pmax
comp=Z,110nm,1.4s,mb5.7
BOD pmax pmax
comp=Z,52nm,1.4s,mb5.4
PET Petropavlovsk 59.83 21*ce*P **P 09 46 10.4 +1.2**
PET *e* 09 48 21.2
PET *e*S **S 09 54 18.8 -0.4**
PET *e*PS 09 54 40.0
PET *e*SS SS 09 58 13.4 -2.3
PET pmax pmax
comp=Z,1μm,11.3s
PET pmax pmax
comp=Z,800nm,12.1s
PET pmax pmax
comp=Z,209nm,1.3s,mb6.0
PET pmax pmax
comp=Z,900nm,10.9s
PET pmax pmax
comp=Z,600nm,10.1s
PET MLR MLR
comp=Z,4μm,20.0s,MS5.5
PET Petropavlovsk 59.83 21⇑*e*P **P 09 46 10.0 +0.8**
PET LR LR
comp=Z,4μm,20.0s,MS5.6
MIDW Midway 60.27 57 *e*P **P 09 46 16.2 +3.5**
comp=Z,232nm,1.4s,mb6.0
MIDW LR LR
comp=Z,4μm,21.0s,MS5.5
BHJ Bhuj 61.14 297 *e*P **P 09 46 19.0 +0.2**
BHJ AMb AMB 09 46 23.4
comp=Z,332nm,1.3s,mb6.3
AFI Afiamalu 61.39 105 P **P 09 46 19.4 -1.2**
comp=Z,41nm,0.9s,mb5.5,baz=291,slow=8.6,SNR=2.9
AFI LR LR 10 11 47.6
comp=Z,2μm,21.1s,MS5.3,baz=266,slow=35
MK31 Makanchi Array 61.89 326 *i* P **P 09 46 23.7 +0.4**
MK31 pmax pmax
comp=Z,308nm,0.8s,mb6.5
MKAR Makanchi Array 61.89 326 P **P 09 46 23.6 +0.3**
MKAR 09 47 04.0
MKAR S **S 09 54 46.5 +0.8**
MKAR 09 56 09.8
MKAR pmax pmax
comp=Z,103nm,0.7s
MKAR pmax pmax

comp=Z,84nm,0.7s
MKAR pmax pmax
comp=N,55nm,1.0s
MKAR smax
comp=N,8.0nm,1.0s
MKAR pmax pmax
comp=N,25nm,1.3s
MKAR MLR MLR
comp=Z,4μm,20.1s
MKAR pmax pmax
comp=Z,2.0nm,0.9s
MKAR Makanchi Array 61.89 326 P **P** **09 46 23.6 +0.3**
MKAR PcP PcP 09 47 04.0 -0.1
MKAR ScP ScP 09 51 05.9 +1.3
MKAR S **S** **09 54 46.5 +0.8**
MKAR ScS ScS 09 56 09.8 -3.9
MKAR LR LR 10 15 08.8
MKAR P'P' 10 15 21.2
MKAR Makanchi Array 61.89 326 P **P** **09 46 23.6 +0.3**
comp=Z,103nm,0.7s,mb6.1,baz=113,slow=8.1,SNR=96
MKAR PcP PcP 09 47 04.0 -0.1
comp=Z,84nm,0.7s,baz=123,slow=4.5,SNR=4.5
MKAR ScP ScP 09 51 05.9 +1.3
comp=Z,55nm,1.0s,baz=115,slow=5.5,SNR=14
MKAR S **S** **09 54 46.5 +0.8**
comp=Z,7.8nm,1.0s,baz=116,slow=8.5,SNR=6.0
MKAR ScS ScS 09 56 09.8 -3.9
comp=Z,25nm,1.2s,baz=128,slow=7.9,SNR=4.3
MKAR LR LR 10 15 08.8
comp=Z,4μm,20.1s,MS5.6,baz=244,slow=38
MKAR PKPPKP 10 15 21.2
comp=Z,1.8nm,0.9s,baz=298,slow=2.6,SNR=5.5
KSH Kashi 61.96 317 *i* P **P** **09 46 26.0 +2.0**
KSH *e*AP pP 09 46 30.0 -1.6
KSH *e*XP sP 09 46 33.3 -1.2
KSH *e*PCP PcP 09 47 06.0 +1.5
KSH *e*PP PP 09 48 44.3 +3.7
KSH *e*SCP ScP 09 51 06.0 +0.9
KSH *e*PCS PcS 09 51 07.0 -0.6
KSH AMB AMB
comp=Z,864nm,0.8s,mb6.9
KSH LR LR
comp=N,5μm,15.1s
KSH LR LR
comp=E,3μm,9.7s
KSH LR LR
comp=Z,13μm,29.5s
YAK Yakutsk 62.91 1*d* *i* P **P** **09 46 30.4 +0.5**
YAK *e**PP pP 09 46 37.1 -0.4
YAK *e* 09 47 10.6
YAK *e* 09 48 54.4
YAK *e*S **S** **09 54 55.7 -2.4**
YAK *e**SS sS 09 55 18.7 +8.1
YAK *e* 09 56 18.6
YAK *e*SS SS 09 59 03.4 -0.3
YAK pmax pmax
comp=Z,337nm,1.3s,mb6.3
YAK pmax pmax
comp=N,110nm,1.4s
YAK pmax pmax
comp=E,39nm,1.3s
YAK pmax pmax
comp=Z,322nm,3.4s
YAK pmax pmax
comp=N,255nm,2.0s
YAK pmax pmax
comp=E,172nm,3.6s
YAK smax
comp=N,1μm,3.6s
YAK smax
comp=E,898nm,4.5s
YAK MLR MLR
comp=Z,6μm,18.0s,MS5.8
YAK MLR MLR
comp=N,5μm,17.0s,MS5.8
YAK MLR MLR
comp=E,2μm,14.0s,MS5.8
YAK Yakutsk 62.91 1 *i* P **P** **09 46 30.3 +0.4**
YAK LR LR
comp=Z,6μm,19.0s,MS5.8
ULHL Ulahol 63.07 320 P **P** **09 46 32.8 +1.4**
SNR=17
MA2 Magadan 63.12 13*d* *i* P **P** **09 46 32.9 +1.6**
MA2 pmax pmax
comp=Z,207nm,1.4s,mb6.1
MA2 Magadan 63.12 13 *i* P **P** **09 46 32.9 +1.6**
MA2 LR LR
comp=Z,5μm,22.0s,MS5.6
AAA Alma-Ata 63.12 321 *e*P **P** **09 46 32.5 +0.8**
AAA *e*S **S** **09 55 03.5 +2.0**
AAA pmax pmax
comp=Z,3μm,4.0s
AAA smax
comp=E,4μm,7.0s
AAA Alma-Ata 63.12 321 *i* P **P** **09 46 32.5 +0.8**
KZA Kyzart 63.64 319 P **P** **09 46 37.1 +2.0**
SNR=44
TKM2 Tokmak 2 63.81 320 *i* P **P** **09 46 37.1 +0.8**
TKM2 pmax pmax
comp=Z,693nm,2.1s,mb6.3
TKM2 Tokmak 2 63.81 320 *i* P **P** **09 46 37.2 +0.9**
TKM2 LR LR
comp=Z,3μm,22.0s,MS5.5
TKM2 Tokmak 2 63.81 320 P **P** **09 46 37.2 +1.0**
SNR=39
KBK Karagaybulak 64.11 319 P **P** **09 46 39.8 +1.6**
SNR=19
UCH Uchtor 64.19 319 *e*P **P** **09 46 40.2 +1.5**
comp=Z,190nm,0.8s,mb6.2
UCH *e*PP PP 09 48 58.9 -1.3
UCH LR LR
comp=Z,2μm,20.0s,MS5.4
UCH Uchtor 64.19 319 P **P** **09 46 40.4 +1.6**
SNR=58
AAK Ala-Archa 64.39 319 P **P** **09 46 41.3 +1.3**
SNR=22
CHMS Chumysh 64.40 320 P **P** **09 46 40.8 +0.7**
SNR=18
FRU Bishkek 64.41 319↓ *i* P **P** **09 46 40.5 +0.3**
FRU *e* 09 55 19.0
FRU pmax pmax
comp=Z,840nm,2.5s,mb6.3
FRU MLR MLR
comp=Z,3μm,23.0s,MS5.4
USP Ospenovka 64.69 320 P **P** **09 46 42.7 +0.7**
SNR=40
AML Almayashu 64.69 318 PFAKE 09 46 50.0 +8.0
AML LR LR
comp=Z,3μm,21.0s,MS5.4
AML Almayashu 64.69 318 P **P** **09 46 44.1 +2.0**
SNR=7.3
EKS2 Erkin-Say 64.88 319 PFAKE 09 47 00.0 +17
EKS2 LR LR
comp=Z,4μm,21.0s,MS5.5
EKS2 Erkin-Say 64.88 319 P **P** **09 46 44.4 +1.2**
SNR=49
KBL Kabul 65.04 309 *e*P **P** **09 46 44.7 +0.2**
comp=Z,91nm,0.4s,mb6.2
KBL *e*PP PP 09 49 09.0 +1.2
ZALV Zalesovo Beam 65.15 334 P **P** **09 46 44.1 -0.6**
comp=Z,70nm,0.9s,mb5.7,baz=108,slow=4.8,SNR=37
ZALV S S 09 55 22.9 -3.2
comp=Z,8.7nm,0.9s,baz=129,slow=14,SNR=4.0
ZALV PKPPKP 10 15 29.7
comp=Z,1.6nm,0.3s,baz=251,slow=4.5,SNR=3.6
ZAL Zalesovo 65.15 334 P **P** **09 46 44.1 -0.7**
ZAL S S 09 55 22.9 -3.2
KURK Kurchatov 66.14 328 *i* P **P** **09 46 51.0 -0.2**
KURK MLR MLR
comp=Z,3μm,19.0s,MS5.5
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
KURK Kurchatov 66.14 328 P **P** **09 46 51.9 +0.7**
SNR=27
SMY Shemya 66.20 29 PFAKE 09 47 00.0 +8.4
SMY LR LR
comp=Z,5μm,21.0s,MS5.7
CASY Casey 66.22 187 *e*P **P** **09 46 51.5 0.0**
CASY LR LR
comp=Z,6μm,22.0s,MS5.7
NVS Novosibirsk 66.43 334↑ *i* P **P** **09 46 51.9 -1.1**
NVS *i* S S 09 55 37.8 -4.0
NVS *e* 09 56 37.0
NVS pmax pmax
comp=N,332nm,1.5s
NVS pmax pmax
comp=E,424nm,1.5s
NVS pmax pmax
comp=Z,511nm,1.5s,mb6.3
NVS smax
comp=N,565nm,2.0s
NVS smax
comp=E,490nm,1.7s
SEY Seymchan 66.48 12*d* *i* P **P** **09 46 54.9 +1.8**
KK31 Karatay Array 67.23 318 *i* P **P** **09 46 58.2 -0.1**
KK31 pmax pmax
comp=Z,252nm,1.0s,mb6.2
KK31 Karatay Array 67.23 318 *i* P **P** **09 46 58.3 0.0**
MIR Mirnyy 69.75 194↓ *i* P **P** **09 47 14.0 +0.4**
MIR *i* pP 09 47 21.5 +0.2
MIR *i* 09 47 25.0
MIR *i* 09 47 40.0
MIR *i* 09 49 54.0
MIR *i* S S 09 56 23.0 +2.0
MIR *e* 09 56 56.0
MIR *e* 09 57 12.0
MIR pmax pmax
comp=Z,700nm,2.5s,mb6.2
MIR pmax pmax
comp=Z,2μm,3.0s
MIR MLR MLR
comp=Z,6μm,18.0s,MS5.9
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
WBK Wadi Bani Khal 70.63 294 P **P** **09 47 20.5 +0.6**
SNR=30
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
JMDO Jabal Madar 71.38 294 P **P** **09 47 24.6 +0.1**
SNR=57
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
SMDO Samad 71.54 295 P **P** **09 47 25.5 0.0**
SNR=42
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BIDO Bidbid 71.55 295 P **P** **09 47 25.6 +0.1**
SNR=122
BVAR Borovoye Array 71.70 328 P **P** **09 47 25.8 0.0**
BVAR S S 09 56 42.2 -2.0
BVAR pmax pmax
comp=Z,117nm,0.9s
BVAR smax
comp=N,3.0nm,0.9s
BVAR MLR MLR
comp=Z,3μm,20.7s
BVAR Borovoye Array 71.70 328 P **P** **09 47 25.8 0.0**
comp=Z,117nm,0.9s,mb5.8,baz=127,slow=9.5,SNR=43
BVAR S S 09 56 42.2 -1.9
comp=Z,2.8nm,0.9s,baz=83,slow=12,SNR=6.5
BVAR LR LR 10 22 55.9
comp=Z,3μm,20.7s,MS5.5,baz=319,slow=39
BRVK Borovoye 71.77 328 *i* P **P** **09 47 26.4 +0.2**
BRVK MLR MLR
comp=Z,3μm,22.0s,MS5.5
BRVK Borovoye 71.77 328 *i* P **P** **09 47 26.4 +0.2**
BRVK LR LR
comp=Z,3μm,22.0s,MS5.5
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
BRVK Borovoye 71.77 328 P **P** **09 47 26.4 +0.2**
SNR=19
MSEY Mahe Island 71.98 265 *e*P **P** **09 47 28.4 +0.1**
comp=Z,80nm,1.5s,mb5.4
MSEY LR LR
comp=Z,928nm,20.0s,MS5.0
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
MSEY Mahe Island 71.98 265 P **P** **09 47 29.7 +1.4**
SNR=5.8
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
BSY Bisya 72.27 294 P **P** **09 47 29.7 -0.1**
SNR=138
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
HOQ Hoqain 72.30 295 P **P** **09 47 30.6 +0.6**
SNR=53
TIXI Tiksi 72.56 0*d* *i* P **P** **09 47 29.6 -0.9**
TIXI *i* S S 09 56 47.7 -5.7
TIXI pmax pmax
comp=Z,153nm,1.5s,mb5.7
TIXI MLR MLR
comp=Z,5μm,19.0s,MS5.8
TIXI Tiksi 72.56 0 *e*P **P** **09 47 30.1 -0.5**
comp=Z,78nm,0.8s,mb5.7
TIXI LR LR
comp=Z,5μm,20.0s,MS5.8
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
SHAO Shalim 73.09 289 P **P** **09 47 35.2 +0.4**
SNR=9.0
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
HATD Hatta, Dubai 73.55 296 P **P** **09 47 38.0 +0.6**
SNR=100
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
BANOM Banah 73.58 297 P **P** **09 47 37.7 +0.1**
SNR=57
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
ASHO Ashiyiah 73.60 296 P **P** **09 47 38.2 +0.5**
SNR=74
BILL Bilibino 73.94 14*d* *i* P **P** **09 47 38.8 +0.1**
BILL MLR MLR
comp=Z,4μm,27.0s,MS5.6
BILL Bilibino 73.94 14 *e*P **P** **09 47 39.0 +0.2**
comp=Z,88nm,1.5s,mb5.5
BILL LR LR
comp=Z,4μm,20.0s,MS5.7
ASH Ashkhabad 74.30 310 P **P** **09 47 41.0 -0.5**
ASH S S 09 57 15.0 +0.7
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16
RBK Rabkut 74.38 288 P **P** **09 47 42.1 -0.3**
SNR=16

ABKT Ailbek 74.47 310 P **P 09 47 43.9 +1.4**
comp=Z,2μm,0.9s,mb7.0,SNR=31
VAN Vannovskaya 74.48 310 ⇓*i*P **P 09 47 43.2 +0.6**
VAN S S 09 57 16.2 -0.2
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
WHFO Wadi Hawf 74.84 289 P **P 09 47 44.1 -1.0**
SNR=26
ABTO Aybut 75.23 288 P **P 09 47 47.2 -0.1**
SNR=19
ABTO Aybut 75.23 288 P **P 09 47 47.2 -0.1**
SNR=19
ABTO Aybut 75.23 288 P **P 09 47 47.2 -0.1**
SNR=19
ABTO Aybut 75.23 288 P **P 09 47 47.2 -0.1**
SNR=19
ABTO Aybut 75.23 288 P **P 09 47 47.2 -0.1**
SNR=19
ABTO Aybut 75.23 288 P **P 09 47 47.2 -0.1**
SNR=19
KIP Kipapa 75.97 68 P **P 09 47 52.2 +0.7**
KIP pmax pmax
comp=Z,77nm,1.0s,mb5.6
KIP Kipapa 75.97 68 P **P 09 47 52.2 +0.7**
comp=Z,77nm,1.0s,mb5.6
AB31 Akbulak array 76.30 321 *i*P **P 09 47 52.2 -0.6**
UNV Unalaska Valle 76.91 34 *e*P **P 09 47 57.5 +1.4**
comp=Z,421nm,1.6s,mb6.1
UNV *e*PP PP 09 50 49.9 +0.6
UNV LR LR
comp=Z,10μm,22.0s,MS6.1
AKUT Akutan 77.41 34 *e*P **P 09 47 59.9 +1.0**
comp=Z,554nm,1.3s,mb6.3
AKUT LR LR
comp=Z,3μm,21.0s,MS5.6
AKTK Aktyubinsk 77.84 322 P **P 09 48 01.4 0.0**
AKTK S S 09 57 50.6 -2.2
AKTK P'P' 10 15 07.2
AKTK LR LR 10 28 06.6
AKTO Aktyubinsk 77.84 322 P **P 09 48 01.4 0.0**
comp=Z,252nm,0.8s,mb6.2,baz=106,slow=7.0,SNR=125
AKTO S S 09 57 50.6 -2.2
comp=Z,4.6nm,0.9s,baz=318,slow=21,SNR=22
AKTO PKPPKP 10 15 07.2
comp=Z,0.7nm,0.3s,baz=62,slow=5.7,SNR=5.7
AKTO LR LR 10 28 06.6
comp=Z,1μm,18.4s,MS5.2,baz=254,slow=40
POHA Pohakuloa 78.11 70 *e*P **P 09 48 04.8 +1.2**
comp=Z,116nm,1.0s,mb5.8
POHA LR LR
comp=Z,6μm,21.0s,MS5.9
SVE Sverdlovsk 78.39 329⇑*e*P **P 09 48 04.0 -0.3**
SVE *e* pP 09 48 12.9 +0.8
SVE *e*S S 09 57 55.2 -3.2
SVE *e*SS SS 10 03 04.6 +3.0
SVE pmax pmax
comp=Z,271nm,0.9s,mb6.2
VNDA Vanda 78.65 173 P **P 09 48 05.3 0.0**
VNDA S S 09 57 59.8 -0.8
VNDA PKKPbc PKKPbc 10 07 01.3 -3.0
VNDA P'P' 10 15 06.9
VNDA LR LR 10 24 02.2
VNDA Vanda 78.65 173 P **P 09 48 05.3 0.0**
comp=Z,41nm,0.9s,mb5.3,baz=319,slow=5.9,SNR=58
VNDA S S 09 57 59.8 -0.8
comp=Z,0.8nm,0.8s,baz=231,slow=21,SNR=6.1
VNDA PKKPbc PKKPbc 10 07 01.3 -3.0
comp=Z,0.5nm,0.7s,baz=297,slow=2.3,SNR=3.7
VNDA PKPPKP 10 15 06.9
comp=Z,1.3nm,1.0s,baz=228,slow=2.9,SNR=3.6
VNDA LR LR 10 24 02.2
comp=Z,6μm,20.7s,MS5.9,baz=330,slow=36
FALS False Pass 78.94 33 *e*P **P 09 48 08.3 +0.9**
comp=Z,96nm,0.8s,mb5.8
MUKL Al Mukalla 79.07 285⇓*e*P **P 09 48 09.6 +0.6**
MUKL AMb AMB 09 48 09.8
comp=Z,27nm,0.3s,mb5.7
ARU Arti 79.34 328 P **P 09 48 09.7 +0.2**
comp=Z,1μm,0.8s,mb7.0,SNR=25
ARU Arti 79.34 328*c i*P **P 09 48 08.3 -1.2**
ARU *e* pP 09 48 14.8 -2.5
ARU *e* 09 51 06.5
ARU *e*S S 09 58 05.9 -2.7
ARU pmax pmax
comp=Z,162nm,0.7s,mb6.1
ARU MLR MLR
comp=Z,2μm,19.0s,MS5.4
ARU Arti 79.34 328 *e*P **P 09 48 08.9 -0.6**
comp=Z,180nm,0.8s,mb6.0
ARU *e*PcP PcP 09 48 16.6 -1.0
ARU *e*PP PP 09 51 09.6 0.0
ARU LR LR
comp=Z,2μm,20.0s,MS5.5
SBA Scott Base 79.55 172 *e*P **P 09 48 11.6 +1.3**
SBA pmax pmax
comp=Z,755nm,2.1s,mb6.3
SBA MLR MLR
comp=Z,4μm,21.0s,MS5.7
SBA Scott Base 79.55 172 *e*P **P 09 48 11.6 +1.2**
comp=Z,755nm,2.1s,mb6.3
SBA LR LR
comp=Z,4μm,21.0s,MS5.7
MAW Mawson 79.59 201 P **P 09 48 10.9 +0.2**
MAW pmax pmax
comp=Z,59nm,1.0s
MAW pmax pmax
comp=Z,3.0nm,0.8s
MAW Mawson 79.59 201 *e*P **P 09 48 11.1 +0.4**
comp=Z,36nm,0.7s,mb5.4
MAW LR LR
comp=Z,5μm,22.0s,MS5.8
MAW Mawson 79.59 201 P **P 09 48 10.9 +0.2**
comp=Z,59nm,0.9s,mb5.5,baz=69,slow=6.1,SNR=29
MAW PKKPbc PKKPbc 10 06 59.0 -2.9
comp=Z,3.3nm,0.8s,baz=260,slow=6.1,SNR=5.6
ABPO Ambohimpanom 80.45 251 *e*P **P 09 48 16.9 +0.5**
comp=Z,465nm,1.7s,mb6.1
ABPO LR LR
comp=Z,2μm,22.0s,MS5.4
OPO Ambohidratompo 80.47 251 P **P 09 48 16.9 +0.4**
comp=Z,105nm,0.9s,mb5.8,baz=79,slow=3.9,SNR=87
TNA Tin City 80.66 22 PFAKE 09 48 30.0 +14
TNA LR LR
comp=Z,2μm,20.0s,MS5.4
SDPT Sand Point 80.70 33 *e*P **P 09 48 18.2 +1.3**
comp=Z,188nm,0.7s,mb6.1
SDPT LR LR
comp=Z,2μm,21.0s,MS5.5
SOKR Solikamsk 81.20 331*d i*P **P 09 48 19.0 -0.5**
SOKR pmax pmax
comp=Z,390nm,1.4s,mb6.1
UMR Umm Al-Rimmam 81.60 300 *e*P **P 09 48 21.2 -1.1**
UMR AMb AMB 09 48 30.7
comp=Z,410nm,1.2s,mb6.2
RDF Al-Radifah 81.68 299 *e*P **P 09 48 22.4 -0.3**
RDF AMb AMB 09 48 31.2
comp=Z,449nm,1.2s,mb6.3
MIB Mutribah 81.95 300 *e*P **P 09 48 22.9 -1.2**
MIB AMb AMB 09 48 28.1
comp=Z,425nm,0.9s,mb6.4
NAY Al-Naaiem 81.98 300 *e*P **P 09 48 22.9 -1.4**
NAY AMb AMB 09 48 25.4
comp=Z,235nm,1.1s,mb6.0
CHGN Chignik 82.07 33 *e*P **P 09 48 24.7 +0.5**
LBOS 82.70 284 *e*P **P 09 48 29.3 +1.0**
PAE Paea 82.96 108 *e*P **P 09 48 27.3 -2.3**
comp=Z,80nm,1.1s,mb5.7
PPT Papeete 82.96 107 *e*P **P 09 48 29.3 -0.3**
comp=Z,119nm,1.6s,mb5.7
PPT Papeete 82.96 107 *e*LR LR 10 15 39.1
comp=Z,13μm,32.0s,baz=278
PPT Papeete 82.96 107 P **P 09 48 30.5 +0.9**
comp=Z,16nm,0.8s,mb5.1,baz=270,slow=1.0,SNR=3.1
PPT LR LR 10 21 45.4
comp=Z,2μm,19.8s,MS5.5,baz=268,slow=33
TVO Taravao 83.28 108 *e*P **P 09 48 31.0 -0.2**
comp=Z,250nm,1.4s,mb6.0
MAK Makhachkala 83.36 313 *e*P **P 09 48 27.5 -3.7**
MAK *i* 09 51 44.3
MAK *e*PPP 09 53 31.9
MAK *e*S S 09 58 47.8 -3.1
MAK *e*SS SS 10 04 12.3 -4.1
MAK pmax pmax
comp=Z,481nm,1.8s,mb6.2
MAK MLR MLR
comp=Z,3μm,21.0s,MS5.6
DHBB Dhamar BB 83.57 285 *e*P **P 09 48 33.8 +1.0**
DHBB AMb AMB 09 48 34.5
comp=Z,71nm,0.9s,mb5.8
PMOR Pomariorio Ree 84.54 105 *e*P **P 09 48 35.5 -2.3**
comp=Z,177nm,1.3s,mb6.0
SVW2 Sparrevohn 84.59 28 *e*P **P 09 48 38.1 +1.1**
DGRG David-gareji 84.75 312 P **P 09 48 39.3 +1.0**
DGRG S S 09 58 59.2 -5.7
TTA Tatalina 84.78 27 *e*P **P 09 48 39.5 +1.5**
TTA pmax pmax
comp=Z,304nm,1.5s,mb6.2
TTA Tatalina 84.78 27 *e*P **P 09 48 39.5 +1.6**
comp=Z,304nm,1.5s,mb6.2
BHD Baghdad 84.78 303 *ex* x 09 48 34.0
BHD *ex* x 09 48 39.0
BHD Baghdad 84.78 303 *ex* x 09 58 57.0
BHD *ex* x 09 59 09.0
ATD Arta Tunnel 84.95 282 P **P 09 48 41.0 +1.2**
comp=Z,81nm,0.2s,mb6.4,baz=253,slow=21,SNR=23
ATD PP PP 09 52 00.6 +3.8
comp=Z,30nm,0.3s,baz=241,slow=22,SNR=3.7
GNI Garni 85.10 310 *e*P **P 09 48 43.1 +3.0**
GNI Garni 85.10 310 P **P 09 48 40.3 +0.2**
GNI S S 09 59 11.6 +3.2
GNI pmax pmax
comp=Z,13nm,0.6s
GNI pmax pmax
comp=Z,7.0nm,0.5s
GNI smax
comp=N,5.0nm,0.4s
GNI MLR MLR
comp=Z,585nm,21.3s
GNI Garni 85.10 310 P **P 09 48 41.2 +1.1**
SNR=38
GNI Garni 85.10 310 P **P 09 48 41.2 +1.1**
SNR=38
GNI Garni 85.10 310 P **P 09 48 41.2 +1.1**
SNR=38
GNI Garni 85.10 310 P **P 09 48 41.2 +1.1**
SNR=38
GNI Garni 85.10 310 P **P 09 48 41.2 +1.1**
SNR=38
GNI Garni 85.10 310 P **P 09 48 41.2 +1.1**
SNR=38
GNI Garni 85.10 310 P **P 09 48 40.3 +0.3**
comp=Z,13nm,0.6s,mb5.2,baz=106,slow=5.4,SNR=9.8
GNI PP PP 09 52 05.8 +8.4
comp=Z,6.5nm,0.5s,baz=335,slow=23,SNR=3.4
GNI S S 09 59 11.6 +3.2
comp=Z,4.5nm,0.4s,baz=307,slow=7.8,SNR=8.2
GNI LR LR 10 30 57.7
comp=Z,584nm,21.3s,MS4.9,baz=265,slow=39
MTA Mtatsminda 85.21 312 P **P 09 48 41.2 +0.6**
MTA S S 09 58 59.2 -10
TBLG Delisi 85.25 312 *e*P **P 09 48 41.1 +0.3**
TBLG *e*S S 09 59 00.7 -9.2
TBLG Delisi 85.25 312 P **P 09 48 41.1 +0.3**
TBLG S S 09 59 00.7 -9.2
KDAK Kodiak Island 85.49 32 P **P 09 48 40.9 -0.7**
KDAK LR LR
comp=Z,1μm,22.0s,MS5.2
KDAK Kodiak Island 85.49 32 P **P 09 48 40.9 -0.7**
comp=Z,41nm,0.7s,mb5.7,baz=129,slow=1.9,SNR=14
CLDR Caldiran 85.64 309 *e*P **P 09 48 43.3 +0.5**
HKR Hakkari 85.65 308 *e*P **P 09 48 43.2 +0.3**
HAKT HAKKARI 85.68 308 *i*P **P 09 48 36.5 -6.5**
CUKT Cukurca 85.73 307 *e*P **P 09 48 43.0 -0.3**
DYDN Diyadin 85.85 310 *i*P **P 09 48 44.2 +0.3**
VANB Van 86.01 309 *e*P **P 09 48 44.7 0.0**
MSL Mosul 86.07 306 *ex* x 09 48 45.0
MSL *ex* x 09 48 52.0
AKH Akhalkalaki 86.16 311 P **P 09 48 46.3 +1.0**
AKH S S 09 59 10.1 -8.7
DIGO Kars 86.17 310 *i*P **P 09 48 45.3 -0.1**
ONI Oni 86.28 313 P **P 09 48 45.3 -0.6**
AGRB Hanur-Agry 86.39 310 *e*P **P 09 48 46.7 +0.2**
KARS Kars 86.39 311 *e*P **P 09 48 46.8 +0.3**
IMA2 Indian Mountai 86.40 24 *e*P **P 09 48 46.7 +0.8**
SIRT Sirnak 86.68 307 *e*P **P 09 48 49.0 +1.0**
KIV Kislovodsk 86.95 314*d i*P **P 09 48 48.9 -0.2**
KIV *e* 09 52 12.2
KIV *e* 09 59 13.4
KIV *e*SS SS 10 05 04.0 -5.3
KIV pmax pmax
comp=Z,49nm,0.7s,mb5.8
KIV pmax pmax
comp=Z,403nm,4.0s
KIV Kislovodsk 86.95 314 ⇓P **P 09 48 48.9 -0.3**
KIV LR LR
comp=Z,1μm,22.0s,MS5.3
KIV Kislovodsk 86.95 314 P **P 09 48 49.1 0.0**
SNR=41
KIV Kislovodsk 86.95 314 P **P 09 48 49.1 0.0**
SNR=41
KIV Kislovodsk 86.95 314 P **P 09 48 49.1 0.0**
SNR=41
KIV Kislovodsk 86.95 314 P **P 09 48 49.1 0.0**
SNR=41
KIV Kislovodsk 86.95 314 P **P 09 48 49.1 0.0**
SNR=41
KIV Kislovodsk 86.95 314 P **P 09 48 49.1 0.0**
SNR=41
SLKM Skilak Lake 87.08 29 *e*P **P 09 48 49.4 0.0**
HOMI Horasan 87.26 310 *i*P **P 09 48 48.5 -2.2**
BTMT Batman 87.47 308 *e*P **P 09 48 51.0 -0.8**
ERZM Erzurum 87.67 310 *i*P **P 09 48 51.8 -0.9**
EZM Erzurum 87.67 310 *e*P **P 09 48 53.5 +0.8**
PMR Palmer 87.74 28 *e*P **P 09 48 52.2 -0.3**
PMR pmax pmax
comp=Z,43nm,1.4s,mb5.5
PMR MLR MLR
comp=Z,3μm,21.0s,MS5.7
PMR Palmer 87.74 28 *e*P **P 09 48 52.2 -0.4**
comp=Z,44nm,1.4s,mb5.5
PMR LR LR
comp=Z,3μm,21.0s,MS5.7
BNGL BINGOL 87.78 309 *i*P **P 09 48 51.8 -1.4**
MARD Mardin 87.99 307 *i*P **P 09 48 48.5 -5.8**
DESE Dese 88.08 281 *e*P **P 09 48 57.3 +2.1**
VRHR Novokhopersk 88.18 321 *e*P **P 09 48 53.3 -1.6**
VRHR *e*PP pP 09 49 00.6 -2.2
VRHR *e* 09 59 15.9
VRHR *i*S S 09 59 33.5 -4.4
VRHR *e*SP 10 00 34.5
VRHR pmax pmax
comp=Z,160nm,0.8s,mb6.3
VRHR pmax pmax
comp=N,30nm,0.6s
VRHR pmax pmax
comp=E,70nm,0.7s
VRHR smax
comp=N,4μm,1.8s
VRHR smax
comp=Z,610nm,4.1s
VRHR smax
comp=E,1μm,2.0s
VRHR MLR MLR
comp=Z,2μm,22.0s,MS5.5
VRHR MLR MLR
comp=N,3μm,20.0s
VRHR MLR MLR
comp=E,4μm,34.0s
SYO Syowa Base 88.29 201⇓*e*P **P 09 48 52.6 -2.4**
DIY Diyarbakir 88.45 308 *e*P **P 09 48 52.7 -3.8**
COLA College 88.65 25⇑*e*P **P 09 48 56.2 -0.6**
COLA LR LR
comp=Z,2μm,22.0s,MS5.6
EZC Erzincan 88.85 310 *e*P **P 09 49 00.1 +1.8**
QSPA South Pole Qui 88.91 180 P **P 09 48 57.5 -0.3**
comp=Z,200nm,1.0s,mb6.4,baz=324,slow=2.0,SNR=128
QSPA PKKPbc PKKPbc 10 06 37.1 -3.1
comp=Z,4.0nm,1.2s,baz=152,slow=1.3,SNR=5.7
KTUT Trabzon 88.94 311 *e*P **P 09 48 56.8 -1.9**
FURI Furi 88.98 279 *e*P **P 09 49 02.0 +2.6**
SOC Sochi 89.08 313*d i*P **P 09 48 57.5 -1.8**
SOC *e**PP pP 09 49 06.2 -1.0
SOC *e**SP sP 09 49 11.1 +1.1
SOC *e* 09 52 27.8
SOC *e*PPP 09 54 30.9
SOC *e*S S 09 59 24.4 -22
SOC *e**SS sS 09 59 41.7 -18
SOC *e*SS SS 10 05 30.3 -10
SOC pmax pmax
comp=Z,67nm,1.1s,mb5.9
SOC pmax pmax
comp=Z,697nm,4.4s
SOC Sochi 89.08 313 *i*P **P 09 48 57.7 -1.6**
GUMT Gumushane 89.13 310 *e*P **P 09 48 59.4 -0.3**
PTK Pertek 89.15 309 *e*P **P 09 49 00.1 +0.4**
SVRC Sivrice-ELAZID 89.20 308 *e*P **P 09 48 59.4 -0.6**
DIV Divide 89.31 29 *e*P **P 09 49 00.7 +0.7**
comp=Z,141nm,1.2s,mb6.2
DIV *e*PP PP 09 52 37.5 +6.8
DIV LR LR
comp=Z,11μm,21.0s,MS6.3
ELZG Elazig 89.45 308 *i*P **P 09 48 58.4 -2.8**
URFA Urfa 89.55 307 *e*P **P 09 49 01.0 -0.7**
VORD Divnogorie 89.64 321 *e*P **P 09 49 00.2 -1.6**
VORD *e*S S 09 59 49.0 -2.6
VORD pmax pmax
comp=Z,2μm,24.2s
VORD pmax pmax
comp=N,20nm,0.9s
VORD pmax pmax
comp=E,70nm,1.1s
VORD pmax pmax
comp=Z,30nm,1.2s,mb5.5
VORD pmax pmax
comp=N,10.0nm,0.7s
VORD pmax pmax
comp=E,20nm,0.6s
VORD smax
comp=E,1μm,12.2s
VORD smax
comp=Z,280nm,11.2s
VORD smax
comp=N,1μm,10.4s
VORD MLR MLR
comp=Z,2μm,24.0s,MS5.5
VORD MLR MLR
comp=N,2μm,21.0s
VORD MLR MLR
comp=E,1μm,30.0s
VRSR Storozhevoye 89.72 321*d i*P **P 09 49 00.4 -1.7**
VRSR *e**PP pP 09 49 07.2 -2.8
VRSR *e*PPP 09 54 31.5
VRSR *e* 09 59 25.5
VRSR *e*S S 09 59 47.3 -5.0
VRSR *e*SP SP 10 00 51.4 -6.0
VRSR *e*SPP 10 01 19.7
VRSR pmax pmax
comp=Z,10.0nm,1.0s,mb5.1
VRSR pmax pmax
comp=N,2.0nm,0.8s
VRSR pmax pmax
comp=E,8.0nm,1.0s
VRSR pmax pmax
comp=Z,30nm,7.2s
VRSR pmax pmax
comp=N,20nm,13.4s
VRSR pmax pmax
comp=E,10.0nm,7.2s
VRSR smax
comp=E,550nm,5.9s
VRSR smax
comp=Z,60nm,3.2s
VRSR smax
comp=N,220nm,1.7s
VRSR MLR MLR
comp=Z,400nm,30.0s,MS4.7
VRSR MLR MLR
comp=N,450nm,24.0s
VRSR MLR MLR
comp=E,320nm,26.0s
MALT Malatya 89.89 308 *e*P **P 09 49 02.3 -0.9**
MALT Malatya 89.89 308 ⇓P **P 09 49 03.4 +0.2**
MALT Malatya 89.89 308 ⇓*i*P **P 09 49 03.4 +0.2**
KMBO Kilima Mbogo 90.21 269 P **P 09 49 05.5 +0.2**
KMBO 09 52 40.4
KMBO pmax pmax
comp=Z,63nm,1.1s
KMBO pmax pmax
comp=Z,4.0nm,0.9s
KMBO MLR MLR
comp=Z,908nm,21.7s
KMBO Kilima Mbogo 90.21 269 P **P 09 49 07.0 +1.8**
SNR=23
KMBO Kilima Mbogo 90.21 269 P **P 09 49 07.0 +1.8**
SNR=23
KMBO Kilima Mbogo 90.21 269 P **P 09 49 07.0 +1.8**
SNR=23
KMBO Kilima Mbogo 90.21 269 P **P 09 49 07.0 +1.8**
SNR=23
KMBO Kilima Mbogo 90.21 269 P **P 09 49 07.0 +1.8**
SNR=23
KMBO Kilima Mbogo 90.21 269 P **P 09 49 07.0 +1.8**
SNR=23
KMBO Kilima Mbogo 90.21 269 P **P 09 49 05.5 +0.3**
comp=Z,63nm,1.1s,mb5.9,baz=70,slow=5.6,SNR=41
KMBO PP PP 09 52 40.4 +1.1
comp=Z,3.7nm,0.9s,baz=55,slow=19,SNR=3.3
KMBO LR LR 10 28 00.0
comp=Z,908nm,21.7s,MS5.2,baz=257,slow=34
MENT Mentasta 90.35 27 *e*P **P 09 49 04.9 +0.1**
GZT Gaziantep 90.55 307 *i*P **P 09 49 03.9 -2.5**
TMCR Tamitsa 90.67 334 *e*P **P 09 49 00.5 -5.8**
TMCR pmax pmax
comp=Z,64nm,1.0s,mb5.9
ANN Anapa 90.75 315 *i*P **P 09 49 05.4 -1.7**
MOS Moscow 90.76 326 *e*P **P 09 49 04.3 -2.6**
MOS *e* 09 49 20.0
MOS *e* 09 52 40.8
MOS *e*PPP 09 54 39.7
MOS *e* 09 59 34.5
MOS *i*S S 09 59 56.8 -4.9
MOS *i*PS PS 10 01 06.1 -6.1
MOS *e*SS SS 10 06 06.8 +2.8
MOS pmax pmax
comp=Z,600nm,2.0s,mb6.6
MOS pmax pmax
comp=Z,240nm,1.6s,mb6.3
MOS MLR MLR
comp=Z,2μm,21.0s,MS5.5
MOS Moscow 90.76 326 *e*P **P 09 49 04.1 -2.8**
GAZ Gaziantep 90.83 307 *e*P **P 09 49 06.3 -1.3**
SVSK Karacayir 91.02 310 *e*P **P 09 49 08.8 +0.3**
ASF Jabal al Asfar 91.04 302 P **P 09 49 08.5 -0.2**
comp=Z,28nm,0.9s,mb5.6,baz=332,slow=0.6,SNR=41
ASF PP PP 09 52 47.1 +1.8
comp=Z,8.2nm,0.9s,baz=76,slow=4.1,SNR=11
KMRS Kahramanmaras 91.08 307 *e*P **P 09 49 07.7 -1.1**
OBN Obninsk 91.36 325*d i*P **P 09 49 08.0 -1.7**
OBN *e* pP 09 49 13.6 -4.0
OBN *e* 09 52 45.2
OBN *e* 09 59 39.8
OBN *e* 10 01 15.9
OBN *e*SS SS 10 06 14.9 +2.3
OBN pmax pmax
comp=Z,139nm,1.0s,mb6.2
OBN MLR MLR
comp=Z,2μm,21.0s,MS5.5
OBN Obninsk 91.36 325 *i*P **P 09 49 08.1 -1.6**
OBN LR LR
comp=Z,2μm,21.0s,MS5.5
EGAK Eagle 91.50 25 *e*P **P 09 49 09.6 -0.5**
comp=Z,25nm,1.0s,mb5.5
EGAK LR LR
comp=Z,2μm,20.0s,MS5.6
ANDN Andirin 91.52 307 *i*P **P 09 49 07.1 -3.7**
HTY Hatay 91.69 306 *e*P **P 09 49 06.5 -5.1**
KVT Kavak 91.75 311 *e*P **P 09 49 10.5 -1.3**
BNN Bunyan 91.91 309 *e*P **P 09 48 08.9 -3.7**
KOZT Kozan 91.93 307 *e*P **P 09 49 13.8 +1.1**
CEYT Ceyhan 92.00 307 *e*P **P 09 49 11.4 -1.7**
LVZ Lovozero 92.01 338⇑*e*P **P 09 49 10.9 -1.5**
LVZ pmax pmax
comp=Z,57nm,1.5s,mb5.7
LVZ MLR MLR

comp=Z,2µm,20.0s,MS5.5
TAOE Nuku Hiva Isla 92.19 99 *e*LR LR 10 19 35.8
comp=Z,117µm,23.5s,baz=278
DAWY Dawson 92.29 26 *e*P **P** **09 49 14.5 +0.7**
DAWY *ep*P pP 09 49 22.8 +1.1
MMAI Mount Meron Ar 92.30 303 P **P** **09 49 13.9 -0.6**
comp=Z,41nm,1.0s,mb5.7,baz=105,slow=6.5,SNR=22
MMAI PP PP 09 52 56.0 +0.7
comp=Z,1.3nm,0.3s,baz=20,slow=20,SNR=4.7
APA Apatity 92.50 337⇑*i*P **P** **09 49 12.0 -2.7**
APA *i* 09 59 42.0
APA *e*S S 10 00 14.0 -3.1
APA *i* SP SP 10 01 28.0 +0.5
APA *e*PPS 10 02 06.0
APA *e*SS SS 10 06 34.0 +5.5
APA pmax pmax
comp=Z,34nm,1.3s,mb5.6
APA pmax pmax
comp=Z,500nm,10.0s
APA MLR MLR
comp=Z,2µm,18.0s,MS5.5
KARA Karaisali 92.55 307 *e*P **P** **09 49 15.4 -0.2**
BOYT Boyabat 92.61 311 *i* P **P** **09 49 11.5 -4.3**
EIL Elat 92.70 299 P **P** **09 49 15.7 -0.8**
EIL S SKSac 09 59 51.5 +2.3
EIL Elat 92.70 299 P **P** **09 49 15.7 -0.8**
comp=Z,19nm,0.9s,mb5.5,baz=37,slow=4.1,SNR=13
EIL S SKSac 09 59 51.5 +2.3
comp=Z,8.0nm,1.0s,baz=279,slow=23,SNR=15
CTKT Corum 92.71 310 *i* P **P** **09 49 12.6 -3.7**
MERS Mersin 92.98 307 *e*P **P** **09 49 14.6 -3.0**
CDAG Cicekdag 93.05 309 *i* P **P** **09 49 10.4 -7.4**
SIM Simferopol' 93.11 315*d i*P **P** **09 49 16.7 -1.3**
SIM *e* 09 53 09.0
SIM *i* 09 59 51.0
SIM *i* S S 10 00 23.0 -0.4
SIM *e*PS PS 10 01 40.0 +1.3
SIM pmax pmax
comp=Z,61nm,0.9s,mb6.0
SIM MLR MLR
comp=Z,3µm,23.5s,MS5.7
SIM Simferopol' 93.11 315⇓*e*P **P** **09 49 16.7 -1.3**
EREN Erenkoy 93.29 305 *e*P **P** **09 49 13.0 -6.1**
JOF Joensuu 93.72 333 *ep* **P** **09 49 17.3 -3.1**
comp=Z,22nm,0.8s,mb5.6
JOF Joensuu 93.72 333 *e*P **P** **09 49 17.3 -3.1**
JOF pmax pmax
comp=Z,22nm,0.8s,mb5.6
BALT Daday 93.75 311 *i* P **P** **09 49 18.1 -2.9**
ANTO Ankara 94.26 310 *e*P **P** **09 49 17.6 -5.9**
ANTO Ankara 94.26 310 ⇓P **P** **09 49 22.1 -1.3**
ANTO LR LR
comp=Z,1µm,22.0s,MS5.3
ANTO Ankara 94.26 310⇓*i*P **P** **09 49 22.1 -1.3**
SKAG Skagway 94.54 31 *e*P **P** **09 49 25.4 +1.2**
comp=Z,56nm,1.1s,mb5.9
SKAG LR LR
comp=Z,3µm,23.0s,MS5.7
KEV Kevo 94.58 340 *e*P **P** **09 49 21.9 -2.3**
comp=Z,28nm,0.9s,mb5.7
KEV LR LR
comp=Z,4µm,22.0s,MS5.8
HDMB Hadim 94.61 307 *e*P **P** **09 49 17.9 -7.2**
SIT Sitka 94.78 33 PFAKE 09 49 40.0 +15
SIT LR LR
comp=Z,3µm,19.0s,MS5.7
ARCES ARCESS Array B 95.14 340 P **P** **09 49 25.2 -1.6**
ARCES 09 53 14.8
ARCES S SKSac 09 59 59.8 -1.0
ARCES pmax pmax
comp=Z,18nm,0.7s
ARCES pmax pmax
comp=Z,7.0nm,1.0s
ARCES smax
comp=N,3.0nm,1.2s
ARCES pmax pmax
comp=Z,2.0nm,0.9s
ARCES ARCESS Array B 95.14 340 P **P** **09 49 25.2 -1.6**
comp=Z,18nm,0.7s,mb5.6,baz=80,slow=6.5,SNR=48
ARCES PP PP 09 53 14.8 -1.6
comp=Z,6.8nm,0.9s,baz=61,slow=7.5,SNR=4.2
ARCES S SKSac 09 59 59.8 -1.0
comp=Z,3.4nm,1.2s,baz=300,slow=9.7,SNR=3.7
ARCES PKKPbc PKKPbc 10 06 20.3 -3.6
comp=Z,1.5nm,0.9s,baz=29,slow=2.8,SNR=4.7
ARCES LR LR 10 40 05.7
comp=Z,2µm,21.6s,MS5.6,baz=78,slow=40
ARE0 ARCESS Array S 95.14 340 *e*P **P** **09 49 25.2 -1.6**
ARE0 *ep*P pP 09 49 33.5 -1.2
SPITS Spitsbergen Ar 95.26 349 P **P** **09 49 25.9 -1.3**
SPITS 09 53 18.9
SPITS pmax pmax
comp=Z,10.0nm,0.6s
SPITS pmax pmax
comp=Z,9.0nm,1.0s
SPITS Spitsbergen Ar 95.26 349 P **P** **09 49 25.9 -1.3**
comp=Z,9.5nm,0.6s,mb5.4,baz=6.0,slow=8.8,SNR=27
SPITS PP PP 09 53 18.9 +1.8
comp=Z,9.3nm,1.0s,baz=258,slow=15,SNR=5.8
SPITS LR LR 10 40 59.7
comp=Z,3µm,18.8s,MS5.8,baz=45,slow=41
SPB4 Spitsbergen Ar 95.26 349 *e*P **P** **09 49 26.2 -1.0**
SPB4 *ep*P pP 09 49 34.1 -1.1
ESKT Eskisehir 95.77 309 *e*P **P** **09 49 26.8 -3.6**
KBS Kingsbay 95.78 350 *e*P **P** **09 49 28.5 -1.1**
KBS pmax pmax
comp=Z,7.0nm,0.6s,mb5.3
KBS MLR MLR
comp=Z,2µm,21.0s,MS5.6
KBS Kingsbay 95.78 350 *e*P **P** **09 49 28.5 -1.1**
comp=Z,6.5nm,0.6s,mb5.2
KBS LR LR
comp=Z,2µm,21.0s,MS5.6
BJO Bjornoya 95.82 345 AMS AMS 10 42 23.7
comp=Z,2µm,18.3s,MS5.6
AKASG Malin Array Be 96.03 321 P **P** **09 49 28.8 -2.4**
AKASG 09 53 23.1
AKASG S SKSac 10 00 04.0 -2.2
AKASG pmax pmax
comp=Z,6.0nm,0.8s
AKASG pmax pmax
comp=Z,5.0nm,0.8s
AKASG smax
comp=N,2.0nm,0.8s
AKASG MLR MLR
comp=Z,2µm,21.7s
AKASG Malin Array Be 96.03 321 P **P** **09 49 28.8 -2.4**
comp=Z,6.3nm,0.8s,mb5.1,baz=71,slow=4.1,SNR=27
AKASG PP PP 09 53 23.1 -0.7
comp=Z,4.5nm,0.8s,baz=70,slow=6.7,SNR=4.4
AKASG S SKSac 10 00 04.0 -2.2
comp=Z,2.4nm,0.8s,baz=78,slow=5.8,SNR=6.6
AKASG LR LR 10 36 01.4
comp=Z,2µm,21.7s,MS5.6,baz=70,slow=38
AKBB Malin Array Si 96.03 321 *e*P **P** **09 49 29.1 -2.1**
AKBB *e**PP pP 09 49 36.7 -2.5
KIEV Kiev 96.04 321 PFAKE 09 49 40.0 +8.7
KIEV LR LR
comp=Z,3µm,22.0s,MS5.7
SHUT Suhut-Afyon 96.06 308 *e*P **P** **09 49 27.6 -4.1**
TKTP Tekketepe 96.28 308 *i* P **P** **09 49 26.8 -5.9**
FIA1 FINESS Array S 96.35 332 *e*P **P** **09 49 30.2 -2.2**
FIA1 *ep*P pP 09 49 36.7 -3.7
FINES FINESS Array B 96.35 332 P **P** **09 49 30.3 -2.1**
FINES 09 53 29.7
FINES S SKSac 10 00 05.1 -2.3
FINES pmax pmax
comp=Z,10.0nm,0.7s
FINES pmax pmax
comp=Z,8.0nm,1.0s
FINES smax
comp=N,7.0nm,1.0s
FINES FINESS Array B 96.35 332 P **P** **09 49 30.3 -2.1**
comp=N,9.5nm,0.7s,mb5.3,baz=94,slow=7.6,SNR=21
FINES PP PP 09 53 29.6 +3.7
comp=N,7.9nm,1.0s,baz=48,slow=2.8,SNR=5.2
FINES S SKSac 10 00 05.1 -2.3
comp=N,7.1nm,1.0s,baz=354,slow=1.9,SNR=6.9
ALT Altintas 96.38 309 *e*P **P** **09 49 27.6 -5.5**
WRAK Wrangell Islan 96.48 33 P **P** **09 49 34.4 +1.3**
comp=N,17nm,0.8s,mb5.5
WRAK LR LR
comp=Z,3µm,21.0s,MS5.7
VSU Vasula 96.50 329⇑*e*P **P** **09 49 30.6 -2.6**
VSU Vasula 96.50 329⇑*e*P **P** **09 49 30.7 -2.5**

RKT Rikitea 96.54 113 *e*LR LR 10 21 47.5
comp=Z,4µm,38.0s
KIS Kishinev 96.66 317 *e*P **P** **09 49 32.0 -2.2**
KIS *e* 09 49 43.0
KIS *i* 09 53 31.0
KIS *e*PPP 09 55 30.0
KIS *i* S S 10 00 48.0 -6.2
KIS *e*PS PS 10 02 24.0 +6.3
KIS *e*PPS 10 03 00.0
KIS *e*SS SS 10 07 20.0 -8.8
KIS Kishinev 96.66 317 *e*PP PP 09 53 28.0 -0.9
comp=Z,1µm,10.0s
KIS Kishinev 96.66 317 *e*PPP 09 55 30.0
KIS *e*SKS 10 00 07.0
KIS *e*SKKS SKKSac 10 00 27.0 -8.6
KIS *i* S S 10 00 48.0 -6.2
ELL Elmali 96.69 307 *e*P **P** **09 49 33.3 -1.3**
YLV Yalova 96.83 311 *e*P **P** **09 49 28.9 -6.3**
GDZ Gediz 96.86 309 *i* P **P** **09 49 31.2 -4.1**
TIRR Tirgusor 97.20 315 P **P** **09 49 35.7 -0.9**
TIRR Tirgusor 97.20 315⇓*i*P **P** **09 49 35.4 -1.3**
TRO Tromso 97.36 340 *e*PP PP 09 53 34.6 +1.1
TRO *e*SKS 10 00 11.2
TRO Tromso 97.36 340 *e*P **P** **09 49 34.6 -2.2**
TRO *e* 09 53 36.4
DLBC Dease Lake 97.40 31 *e*P **P** **09 49 39.0 +1.7**
HARR Harsova 97.52 315 P **P** **09 49 37.6 -0.5**
HARR Harsova 97.52 315⇑*i*P **P** **09 49 37.3 -0.8**
KULA Kula-Manisa 97.55 309 *e*P **P** **09 49 32.5 -6.0**
VRI Vrincioaia 98.23 316 P **P** **09 49 40.8 -0.5**
VRI Vrincioaia 98.23 316⇑*i*P **P** **09 49 40.9 -0.4**
PLOR Plostina 98.28 316⇓*i*P **P** **09 49 40.9 -0.6**
LSZ Lusaka 98.70 254 P **P** **09 49 43.6 -0.5**
LSZ 09 53 42.6
LSZ pmax pmax
comp=Z,20nm,1.0s,mb5.6
LSZ pmax pmax
comp=Z,40nm,1.3s,mb5.8
LSZ MLR MLR
comp=Z,2µm,21.1s,MS5.6
LSZ Lusaka 98.70 254 P **P** **09 49 44.8 +0.8**
SNR=9.5
LSZ Lusaka 98.70 254 P **P** **09 49 44.8 +0.8**
SNR=9.5
LSZ Lusaka 98.70 254 P **P** **09 49 44.8 +0.8**
SNR=9.5
LSZ Lusaka 98.70 254 P **P** **09 49 44.8 +0.8**
SNR=9.5
LSZ Lusaka 98.70 254 P **P** **09 49 43.6 -0.4**
comp=Z,20nm,1.0s,mb5.6,baz=108,slow=3.7,SNR=18
LSZ PP PP 09 53 42.6 -2.7
comp=Z,40nm,1.3s,baz=88,slow=7.6,SNR=9.1
LSZ LR LR 10 32 41.7
comp=Z,2µm,21.1s,MS5.6,baz=107,slow=34
MLR Muntele Rosu 98.82 316 P **P** **09 49 42.8 -1.2**
MLR 09 53 47.6
MLR pmax pmax
comp=Z,29nm,0.9s
MLR pmax pmax
comp=Z,23nm,0.9s
MLR Muntele Rosu 98.82 316 P **P** **09 49 43.4 -0.6**
MLR Muntele Rosu 98.82 316 P **P** **09 49 42.8 -1.2**
comp=Z,29nm,0.9s,mb5.8,baz=14,slow=1.7,SNR=38
MLR PP PP 09 53 47.6 +2.1
comp=Z,23nm,0.8s,baz=112,slow=1.9,SNR=8.0
MLR LR LR 10 39 19.2
comp=Z,816nm,18.9s,MS5.2,baz=62,slow=38
MLR Muntele Rosu 98.82 316⇑*i*P **P** **09 49 43.0 -1.0**
BURAR Bucovina Array 99.02 318⇓*i*P **P** **09 49 44.3 -0.5**
SUW Suwalki 99.21 325 *e*P **P** **09 49 44.0 -1.5**
SUW Suwalki 99.21 325 *e*P **P** **09 49 44.0 -1.5**
VOIR 99.45 316⇑*i*P **P** **09 49 47.0 +0.2**
LVV L'vov 99.45 320 *e*P **P** **09 49 45.2 -1.5**
RZN Rozhen 100.21 312 *i* P PP 09 53 55.3 -0.9
BOSA Boshof 100.24 241 P Pdif 09 49 49.2 -0.8
BOSA 09 53 52.0
BOSA pmax pmax
comp=Z,6.0nm,1.0s
BOSA pmax pmax
comp=Z,8.0nm,1.1s
BOSA Boshof 100.24 241 P Pdif 09 49 49.1 -0.9
BOSA PP PP 09 53 52.0 -4.8
BOSA LR LR
comp=Z,2µm,21.0s,MS5.7
BOSA Boshof 100.24 241 P Pdif 09 49 49.1 -0.9
comp=Z,6.1nm,1.0s,baz=81,slow=7.2,SNR=6.2
BOSA PP PP 09 53 52.0 -4.8
comp=Z,8.3nm,1.1s,baz=124,slow=7.6,SNR=4.0
KWP Kalwaria 100.33 320 *e*P Pdif 09 49 50.1 -0.4
KWP Kalwaria 100.33 320 *e*P Pdif 09 49 50.1 -0.3
KWP Kalwaria 100.33 320⇓*i*P Pdif 09 49 50.5 +0.1
LBTB Lobatse 100.33 244 PFAKE 09 50 00.0 +10
LBTB LR LR
comp=Z,2µm,20.0s,MS5.6
KOLS Kolonicke sedl 100.74 320 *i* P Pdif 09 49 52.0 -0.3
KOLS *e* 09 54 12.7
KOLS *e*S Sdif 10 01 24.5 -3.8
KOLS Kolonicke sedl 100.74 320 PDIF Pdif 09 49 52.0 -0.3
KOLS Kolonicke sedl 100.74 320 *i* PKP PKiKP 09 54 12.7 -5.7
KOLS SDIF Sdif 10 01 24.5 -3.8
UZH Uzhgorod 100.78 319*e i*P Pdif 09 49 51.6 -0.9
UZH *i* 09 54 01.0
UZH *i* S Sdif 10 01 24.2 -4.5
UZH *i* PS PS 10 02 58.0 -4.1
UZH *i* SS SS 10 08 27.0 +0.6
SNAA Sanae 100.83 194 P Pdif 09 49 52.0 -0.7
SNAA 09 53 59.1
SNAA pmax pmax
comp=Z,6.0nm,1.1s
SNAA pmax pmax
comp=Z,4.0nm,1.1s
SNAA pmax pmax
comp=Z,1.0nm,0.8s
SNAA Sanae 100.83 194 P Pdif 09 49 52.0 -0.7
comp=Z,5.5nm,1.1s,baz=126,slow=5.5,SNR=20
SNAA PP PP 09 53 59.1 -0.7
comp=Z,4.3nm,1.1s,baz=144,slow=9.0,SNR=4.8
SNAA PKKPbc PKKPbc 10 06 03.4 -4.7
comp=Z,0.7nm,0.8s,baz=322,slow=3.4,SNR=6.6
DRGR 100.84 317 P Pdif 09 49 52.4 -0.3
DRGR 100.84 317⇑*i*P Pdif 09 49 52.3 -0.4
IDI Anoyia 100.87 306 P Pdif 09 49 52.3 -0.5
comp=Z,6.6nm,0.8s,baz=37,slow=5.1,SNR=3.5
IDI PP PP 09 54 03.7 +2.3
comp=Z,12nm,0.8s,baz=54,slow=5.3,SNR=4.0
MMB Musomiste 100.96 312 *i* P PP 09 54 02.4 +0.6
GZR Gura Zlata 101.04 316 P Pdif 09 49 53.7 +0.1
GZR Gura Zlata 101.04 316⇓*i*P Pdif 09 49 53.5 -0.1
VTS Vitosha 101.19 313 P Pdif 09 49 53.9 -0.4
VTS Vitosha 101.19 313⇑*i*P Pdif 09 49 53.6 -0.7
VTS Vitosha 101.19 313 P PP 09 54 04.0 +0.5
CRVS Cervenica-Dubn 101.27 320 *i* P Pdif 09 49 54.5 -0.1
CRVS *e*S Sdif 10 01 33.3 +0.5
CRVS Cervenica-Dubn 101.27 320 PDIF Pdif 09 49 54.5 -0.1
CRVS SDIF Sdif 10 01 33.3 +0.5
STHS Stebnicka Huta 101.31 320 *i* P Pdif 09 49 54.6 -0.2
STHS pmax pmax
comp=Z,6.0nm,1.0s
STHS Stebnicka Huta 101.31 320 *i* P Pdif 09 49 54.6 -0.2
comp=Z,6.1nm,1.0s
STHS Stebnicka Huta 101.31 320 PDIF Pdif 09 49 54.6 -0.2
KKB Krupnik 101.39 312 P PP 09 54 07.4 +2.3
KECS Kecovo 101.99 319 *i* P Pdif 09 49 57.9 +0.1
KECS *e* 09 54 02.1
KECS Kecovo 101.99 319 PDIF Pdif 09 49 57.9 +0.1
KECS *e*PP PP 09 54 02.1 -7.2
DAG Danmarks Havn 102.03 352⇑*i*P Pdif 09 49 56.5 -1.5
DAG pmax pmax
comp=Z,5.0nm,1.0s
DAG Danmarks Havn 102.03 352⇑*i*P Pdif 09 49 56.5 -1.5
comp=Z,5.0nm,1.0s
OJC Ojcow 102.05 321 *e*Pdiff Pdif 09 49 57.2 -0.9
OJC *e*SKSac SKKSac 10 01 12.5 -1.9
OJC L 10 41 24.0
comp=Z,1.8nm,23.1s
OJC Ojcow 102.05 321 *e*Pdif Pdif 09 49 57.4 -0.7
OJC *e*SKKSac SKKSac 10 01 12.5 -1.9
OJC LR LR
comp=Z,2µm,23.1s,MS5.5
PSZ Piszkesteto 102.50 319⇓*i*P Pdif 09 49 59.2 -0.9
VYHS Vyhne 103.06 320 *i* P Pdif 09 50 02.1 -0.5
VYHS *e* 09 54 14.0
VYHS *e*S Sdif 10 01 43.1 -4.6

VYHS pmax pmax
comp=Z,9.0nm,1.7s
VYHS Vyhne 103.06 320 *i* P Pdif 09 50 02.1 -0.5
comp=Z,9.0nm,1.7s
VYHS *e* 09 54 14.0
VYHS *e*S Sdif 10 01 43.1 -4.6
VYHS Vyhne 103.06 320 PDIF Pdif 09 50 02.1 -0.5
VYHS *e*PP PP 09 54 14.0 -3.3
VYHS SDIF Sdif 10 01 43.1 -4.6
OKC Ostrava-Krasne 103.17 321 *e*SDIF Sdif 10 01 45.0 -3.6
OKC *e*SP SP 10 03 33.3 +9.5
OKC *e*SS SS 10 09 17.5 +18
OKC AMS AMS 10 50 00.0
comp=Z,1µm,17.8s
NLWA Neilton Lookou 103.31 41 PFAKE 09 50 20.0 +16
NLWA LR LR
comp=Z,1µm,21.0s,MS5.5
KOLL Kolacno 103.32 320 *i* P Pdif 09 50 05.0 +1.3
KOLL *e* 09 54 24.5
KOLL Kolacno 103.32 320 PDIF Pdif 09 50 05.0 +1.3
KOLL Kolacno 103.32 320 *e*PKP PKiKP 09 54 24.5 +1.4
NB2 NORSAR Subarra 103.35 333 P Pdif 09 50 01.6 -2.3
comp=Z,12nm,0.8s,baz=70,slow=4.6
NOA NORSAR Array B 103.35 333 P Pdif 09 50 01.7 -2.2
NOA pmax pmax
comp=Z,8.0nm,0.8s
NOA pmax pmax
comp=Z,4.0nm,0.9s
NOA NORSAR Array B 103.35 333 Pdif Pdif 09 50 01.7 -2.2
NOA PP PP 09 54 14.5 -4.6
NOA NORSAR Array B 103.35 333 Pdiff Pdif 09 50 01.7 -2.2
comp=Z,8.3nm,0.8s,baz=69,slow=4.6,SNR=27
NOA PP PP 09 54 14.5 -4.6
comp=Z,4.2nm,0.9s,baz=66,slow=7.0,SNR=3.9
YKA Yellowknife Ar 103.48 25 PKiKP PKiKP 09 54 20.5 -2.5
comp=Z,1.6nm,0.6s,baz=305,slow=1.7,SNR=17
YKA PKKPbc PKKPbc 10 05 56.8 -3.3
comp=Z,4.6nm,0.9s,baz=107,slow=2.5,SNR=12
SUR Sutherland 103.49 236 PFAKE 09 50 20.0 +16
SUR LR LR
comp=Z,5µm,21.0s,MS6.0
MORC Moravsky Berou 103.57 321 ⇓P Pdif 09 50 04.5 -0.3
MORC Moravsky Berou 103.57 321⇓*i*P Pdif 09 50 04.4 -0.4
NAO01 NORSAR Array S 103.57 333 PFAKE 09 50 20.0 +15
NAO01 LR LR
comp=Z,4µm,22.0s,MS5.8
BSD Bornholm Skovb 103.59 327 *i* P Pdif 09 50 05.7 +0.8
BSD *i* 09 54 27.8
BSD *e* 10 03 20.0
BSD
comp=Z,930nm,17.0s
PKSM Moragy 103.71 317 P Pdif 09 50 05.0 -0.5
PKSM Moragy 103.71 317⇓*i*P Pdif 09 50 04.8 -0.7
KSP Ksiaz 104.06 322 *e*P Pdif 09 50 06.7 -0.3
KSP Ksiaz 104.06 322 *e*P Pdif 09 50 06.6 -0.4
KSP *e* 09 54 23.0
KSP *e*SP SP 10 03 28.0 -5.0
KSP MLR MLR
comp=Z,4µm,28.8s,MS5.8
KSP Ksiaz 104.06 322 *e*Pdif Pdif 09 50 06.6 -0.4
KSP *e*PP PP 09 54 23.0 -1.7
KSP *e*SP SP 10 03 28.0 -5.0
KSP *e*SSP 10 09 30.0
KSP *e*SSS 10 13 13.0
KSP LR LR
comp=Z,4µm,28.8s,MS5.8
DPC Dobruska-Polom 104.17 322 *e*SDIF Sdif 10 01 54.5 -2.5
DPC *e*SP SP 10 03 30.1 -4.2
DPC *e*SKKP 10 09 33.9
DPC AMS AMS 10 38 30.0
comp=Z,2µm,24.6s
VRAC Vranov 104.29 321 PKKPbc PKKPbc 10 05 54.9 -2.4
comp=Z,14nm,0.8s,baz=229,slow=9.3,SNR=9.1
MOL Molde 104.29 336 AMS AMS 10 45 45.7
comp=Z,3µm,21.1s,MS5.8
COR Corvallis 104.33 44 PFAKE 09 50 20.0 +12
COR LR LR
comp=Z,3µm,20.0s,MS5.8
JMIC Jan Mayen 104.62 346 *e* Pdif 09 50 07.8 -1.7
JMIC *e*SKS 10 00 44.5
JMIC Jan Mayen 104.62 346 *e*P Pdif 09 50 11.9 +2.4
KONO Kongsberg 104.64 332 *e*PP PP 09 54 27.1 -1.6
KONO Kongsberg 104.64 332 *e*P Pdif 09 50 11.4 +1.8
KONO *e* 09 54 27.4
KONO MLR MLR
comp=Z,2µm,20.0s,MS5.7
COP Copenhagen 104.74 328 *i* P PP 09 54 33.6 +4.0
COP *i* 09 55 44.6
COP *i* 10 03 33.6
COP *i* 10 09 24.5
COP
comp=Z,1µm,19.0s
E05A Randle 104.91 42 ⇑P PKiKP 09 54 26.3 +0.2
baz=105
TREC Trest 104.99 321 *e*SP SP 10 03 52.5 +10
TREC AMS AMS 10 35 30.0
comp=Z,3µm,30.4s
HUMO Hull Mountain 105.02 46 PFAKE 09 54 40.0 +14
HUMO LR LR
comp=Z,3µm,22.0s,MS5.7
HUMO Hull Mountain 105.02 46 ⇓P PKiKP 09 54 26.9 +0.5
baz=105
H04A Detroit Lake 105.08 44 ⇑P PKiKP 09 54 25.8 -0.6
baz=105
CONA Conrad Observa 105.12 320 P PKiKP 09 54 23.7 -2.7
comp=Z,11nm,1.5s
I04A Tendick Farm, 105.14 45 ⇓P PKiKP 09 54 27.1 +0.6
baz=105
A07A Ashnola River, 105.14 39 ⇑P PKiKP 09 54 25.9 -0.5
baz=105
PVCC Panska Ves 105.20 322 *e*SP SP 10 03 38.1 -6.8
PVCC AMS AMS 10 48 40.0
comp=Z,2µm,20.9s
PRU Pruhonice 105.37 322 *e*SDIF Sdif 10 02 07.3 +0.3
PRU *e*SP SP 10 03 36.5 -10
PRU *e*SS SS 10 09 34.0 +4.5
PRU AMS AMS 10 39 00.0
comp=Z,2µm,24.9s
YBH Yreka Blue Hor 105.39 47 PFAKE 09 54 40.0 +13
YBH LR LR
comp=Z,3µm,21.0s,MS5.8
E06A Yakima 105.44 42 ⇓P PKiKP 09 54 27.7 +0.6
baz=106
BRG Berggiesshubel 105.47 323 *i* P Pdif 09 50 12.7 -0.6
BRG 09 54 44.4
BRG S Sdif 10 02 10.0 +2.2
BRG SP SP 10 03 46.0 -1.7
BRG pmax pmax
comp=Z,8.0nm,1.1s
BRG pmax pmax
comp=Z,59nm,2.0s
BRG pmax pmax
comp=Z,12nm,1.6s
BRG MLR MLR
comp=Z,1µm,19.5s,MS5.4
BRG MLR MLR
comp=N,480nm,21.6s,MS5.5
BRG MLR MLR
comp=E,1µm,21.6s,MS5.5
BRG Berggiesshubel 105.47 323 *i* P Pdif 09 50 12.7 -0.6
comp=E,12nm,1.1s
BRG PP PP 09 54 44.4 +9.2
comp=E,98nm,2.0s
BRG SDIF Sdif 10 02 10.0 +2.2
BRG SP SP 10 03 46.0 -1.7
BRG PKPPKP 10 14 37.6
comp=E,19nm,1.6s
BRG
comp=Z,2µm,19.5s
BRG
comp=N,802nm,21.6s
BRG
comp=E,2µm,21.6s
J04A Umpqua Nationa 105.48 45 ⇓P PKiKP 09 54 28.6 +1.4
baz=106
HOPS Hopland 105.69 50 PFAKE 09 54 40.0 +12
HOPS LR LR
comp=Z,4µm,20.0s,MS5.9
WDC Whiskeytown Da 105.76 48 PFAKE 09 54 40.0 +12
WDC LR LR
comp=Z,4µm,21.0s,MS5.9
L04A Klamath Falls 105.88 46 ⇑P PKiKP 09 54 29.1 +1.1
baz=106
CLL Collm 105.90 324 *e*P Pdif 09 50 15.0 -0.2
CLL *e* 09 54 41.0

CLL pmax pmax
comp=Z,39nm,1.2s
CLL MLR MLR
comp=Z,2µm,19.5s,MS5.7
CLL Collm 105.90 324 *e*Pdif Pdif 09 50 15.0 -0.2
CLL *e* 09 50 19.0
CLL *e*PKP PKiKP 09 54 27.0 -0.7
CLL *e*PP PP 09 54 41.0 +2.7
CLL Collm 105.90 324 *e*Pdiff Pdif 09 50 15.0 -0.2
CLL *e*PKiKP PKiKP 09 54 27.3 -0.4
CLL *e*PP PP 09 54 39.7 +1.4
CLL *e*pPP 09 54 45.0
CLL *e*sPP 09 54 48.0
CLL *e*(PPP) 09 57 03.0
CLL *e*SKSac SKSac 10 00 54.3 +0.3
CLL *e*Sdiff Sdif 10 02 12.3 +1.0
CLL *e*PS PS 10 03 57.3 +1.5
CLL *e*PPS 10 04 53.0
CLL *e*SS SS 10 09 50.9 +14
CLL *e*SSS 10 13 45.4
CLL *e*LR LR 10 29 20.2
CLL Collm 105.90 324 *e*Pdif Pdif 09 50 15.0 -0.2
CLL *e*pPdif 09 50 19.0
CLL *e*x x 09 50 31.0
CLL *e*x x 09 53 35.0
CLL *e*PKiKP PKiKP 09 54 27.0 -0.7
CLL *e*PP PP 09 54 41.0 +2.7
comp=Z,39nm,1.2s
CLL *e*sPP 09 54 48.0
CLL *e*PPP 09 57 00.0
CLL *e*SKSac SKSac 10 00 54.0 0.0
CLL *e*Sdif Sdif 10 02 16.0 +4.7
CLL *e*PS PS 10 04 02.0 +6.2
CLL *e*PPS 10 04 48.0
CLL *e*SS SS 10 09 36.0 -0.5
CLL *e*SSS 10 13 43.0
CLL LV 10 53 00.0
comp=Z,2µm,19.5s
M03C McCloud 105.92 47 ⇑P PKiKP 09 54 29.2 +1.1
baz=106
B08A Colville Reser 106.01 40 ⇓P PKiKP 09 54 28.5 +0.4
baz=106
MCCM Marconi Confer 106.01 51 PFAKE 09 54 40.0 +12
MCCM LR LR
comp=Z,4µm,19.0s,MS5.9
J05A Fort Rock 106.09 45 ⇓P PKiKP 09 54 29.4 +1.0
baz=106
MUD Monsted U'grnd 106.14 329 *i* P PP 09 54 41.8 +1.9
MUD *i* 09 55 53.6
MUD *i* 10 04 02.9
MUD *i* 10 09 53.8
KHC Kasperske Hory 106.23 321 *e*x x 09 54 19.0
KHC *e*PP PP 09 54 48.5 +7.7
KHC *e*SDIF Sdif 10 02 12.1 -2.0
KHC *e*SP SP 10 04 02.0 +6.3
KHC *e*SS SS 10 09 46.0 +4.8
KHC AMS AMS 10 43 00.0
comp=Z,3µm,22.0s
BER Bergen 106.24 334 *e* Pdif 09 50 15.8 -0.9
BER *e*PP PP 09 54 41.2 +0.7
BER Bergen 106.24 334 *e*P Pdif 09 50 19.0 +2.2
BER *e* 09 54 46.5
GEC2 GERESS Array S 106.24 321 *e*PKPdf PKiKP 09 54 28.4 -0.1
GERES GERESS Array B 106.24 321 Pdiff Pdif 09 50 14.9 -1.8
comp=Z,1.2nm,0.7s,baz=94,slow=5.4,SNR=6.4
GERES PKiKP PKiKP 09 54 25.4 -3.0
comp=Z,2.0nm,0.6s,baz=50,slow=2.1,SNR=4.9
GERES PKKPbc PKKPbc 10 05 49.8 -1.6
comp=Z,1.5nm,0.8s,baz=267,slow=2.3,SNR=5.0
F07A Phinny Hill Vi 106.31 42 ⇓P PKiKP 09 54 29.4 +0.7
baz=106
H06A Lindquist Farm 106.35 43 ⇑P PKiKP 09 54 29.7 +1.0
baz=106
HAWA Hanford 106.44 42 *e*PKPdf PKiKP 09 54 28.8 -0.1
HAWA LR LR
comp=Z,3µm,19.0s,MS5.9
NKC Novy Kostel 106.58 323 *e*SDIF Sdif 10 02 15.3 -1.7
NKC *e*SP SP 10 04 02.0 +2.8
NKC *e*SS SS 10 10 03.1 +17
NKC AMS AMS 10 42 20.0
comp=Z,2µm,22.6s
M05C Lookout 106.62 47 ⇑P PKiKP 09 54 30.2 +0.9
baz=107
I06A Prineville 106.64 44 ⇓P PKiKP 09 54 30.4 +1.1
baz=107
D08A Wollman Farm, 106.65 41 ⇓P PKiKP 09 54 29.7 +0.4
baz=107
E08A Dider Farm, El 106.73 41 ⇑P PKiKP 09 54 29.7 +0.3
baz=107
B09A Rice 106.74 39 ⇓P PKiKP 09 54 29.8 +0.4
baz=107
ORV Oroville 106.77 49 ⇑P PKiKP 09 54 29.9 +0.2
baz=107
H07A Lands Inn, Kim 106.92 43 ⇓P PKiKP 09 54 30.8 +0.9
baz=107
MOX Moxa 106.94 323 *e*PDIFF Pdif 09 50 15.7 -4.2
MOX
comp=Z,1µm,20.0s
D09A Jones Farm, Ri 107.05 41 ⇓P PKiKP 09 54 30.5 +0.5
baz=107
MOD Modoc 107.10 46 *e*PKPdf PKiKP 09 54 31.4 +1.1
MOD LR LR
comp=Z,2µm,22.0s,MS5.7
MOD Modoc 107.10 46 ⇑P PKiKP 09 54 31.4 +1.1
baz=107
I07A Izee 107.10 44 ⇓P PKiKP 09 54 31.2 +1.1
baz=107
F08A Pendleton 107.11 42 ⇓P PKiKP 09 54 31.0 +0.9
baz=107
G08A Pilot Rock 107.14 43 ⇓P PKiKP 09 54 30.4 +0.2
baz=107
SAO San Andreas Ge 107.41 52 PFAKE 09 54 40.0 +9.0
SAO LR LR
comp=Z,4µm,19.0s,MS6.0
NEW Newport 107.44 39 PFAKE 09 54 40.0 +9.3
NEW LR LR
comp=Z,2µm,21.0s,MS5.7
P05C Yuba Gap, Truc 107.50 49 ⇑P PKiKP 09 54 31.9 +0.8
baz=108
GRA1 Grafenberg Arr 107.51 322 *e*Pdif Pdif 09 50 21.0 -1.4
GRA1 *e*PP PP 09 54 45.2 -5.0
GRA1 *e* 09 57 12.4
GRA1 *e*SP SP 10 03 58.5 -10
GRA1 LR LR
comp=Z,2µm,19.3s,MS5.8
GRF Grafenberg Arr 107.51 322 *e*P Pdif 09 50 21.0 -1.4
GRF *e* 09 54 45.2
GRF *e* 09 57 12.4
GRF *e*SP SP 10 03 58.5 -10
GRF Grafenberg Arr 107.51 322 *e*Pdiff Pdif 09 50 21.0 -1.4
GRF *e*PP PP 09 54 45.2 -5.0
GRF *e* 09 57 12.4
GRF *e*SP SP 10 03 58.5 -10
GRF *e*L 10 44 30.3
comp=Z,2µm,19.3s
GRFO Grafenberg 107.51 322 PFAKE 09 54 40.0 +9.2
GRFO LR LR
comp=Z,2µm,19.0s,MS5.7
LAVA Lava Cap Winer 107.52 50 ⇑P PKiKP 09 54 31.8 +0.6
baz=108
BEKR Beckwourth 107.55 48 ⇓P PKiKP 09 54 31.6 +0.4
baz=108
H08A Prairie City 107.55 43 ⇓P PKiKP 09 54 32.0 +0.9
baz=108
K07A Rock Creek Ran 107.65 45 ⇑P PKiKP 09 54 31.8 +0.5
baz=108
A11A Hall Mountain, 107.69 38 ⇓P PKiKP 09 54 31.8 +0.7
baz=108
F09A S2 Ranch, Elgi 107.72 42 ⇑P PKiKP 09 54 31.4 +0.1
baz=108,SNR=6.5
N06A Buffalo Meadow 107.73 47 ⇓P PKiKP 09 54 31.9 +0.5
baz=108
D10A Wagner Farm, O 107.73 40 ⇓P PKiKP 09 54 32.4 +1.1
baz=108
L07A Adell 107.76 46 ⇓P PKiKP 09 54 32.6 +1.1
baz=108
I08A Drewsey 107.79 44 ⇑P PKiKP 09 54 32.2 +0.7
baz=108
O06A Flanigan 107.88 48 ⇑P PKiKP 09 54 32.6 +0.8
baz=108
EDM Edmonton 107.89 33 *e*PKPdf PKiKP 09 54 31.6 +0.2
CMB Columbia Colle 107.96 50 PFAKE 09 54 40.0 +8.0
CMB LR LR
comp=Z,4µm,20.0s,MS5.9
E10A Myers Farm, Un 108.01 41 ⇓P PKiKP 09 54 32.4 +0.6
baz=108
J08A Circle Bar Ran 108.01 44 ⇑P PKiKP 09 54 32.8 +0.9
baz=108
U04C Hernandez Rese 108.02 52 ⇓P PKiKP 09 54 32.8 +0.7
baz=108
R05C Kirkwood Meado 108.04 50 ⇑P PKiKP 09 54 32.9 +0.8
baz=108
M07A Soldier Meadow 108.05 47 ⇓P PKiKP 09 54 32.5 +0.5
baz=108
WTTA Wattenberg 108.05 320 ⇑*i*P Pdif 09 50 28.4 +3.7
comp=Z,17nm,1.1s
WTTA Wattenberg 108.05 320 ⇑*i*Pdiff Pdif 09 50 24.8 0.0
comp=Z,17nm,1.1s
WTTA Wattenberg 108.05 320 ⇑*i*P Pdif 09 50 28.4 +3.6
WTTA pmax pmax
comp=Z,17nm,1.1s
F10A Beach Ranch, E 108.09 42 P PKiKP 09 54 33.1 +1.1
baz=108,SNR=5.6
WVOR Wild Horse Val 108.15 45 *e*PKPdf PKiKP 09 54 33.7 +1.5
WVOR LR LR
comp=Z,2µm,19.0s,MS5.8
H09A Durkee 108.20 43 ⇑P PKiKP 09 54 32.7 +0.4
baz=108
PAHR Pah Rah Range 108.32 48 *e*PKPdf PKiKP 09 54 33.2 +0.6
D11A Klaveano Farm, 108.34 40 ⇓P PKiKP 09 54 32.8 +0.4
baz=108
S06C San Francisco 108.41 50 ⇓P PKiKP 09 54 33.3 +0.5
baz=106
TSUM Tsumeb 108.41 249 PFAKE 09 54 40.0 +6.7
TSUM LR LR
comp=Z,2µm,21.0s,MS5.7
L08A Fields 108.43 46 ⇓P PKiKP 09 54 33.2 +0.5
baz=108
J09A Fry Pan Ranch, 108.52 44 ⇑P PKiKP 09 54 33.6 +0.8
baz=109
R06C Coleville 108.56 50 ⇓P PKiKP 09 54 33.3 +0.3
baz=109
O07A Toulon 108.58 48 ⇓P PKiKP 09 54 33.8 +0.7
baz=109
M08A Happy Creek Ra 108.61 46 ⇑P PKiKP 09 54 33.9 +0.8
baz=109
PTRM Twissleman Ran 108.62 53 *e*PKPdf PKiKP 09 54 35.6 +2.3
E11A Bogner Ranch, 108.65 41 ⇑P PKiKP 09 54 34.0 +1.0
baz=109
T06C Millerton Lake 108.72 51 ⇑P PKiKP 09 54 33.9 +0.5
baz=109
K09A Rome 108.73 45 ⇑P PKiKP 09 54 34.1 +0.9
baz=109
F11A Grangeville 108.83 41 ⇓P PKiKP 09 54 33.5 +0.1
baz=109,SNR=6.7
H10A Noah's Angus R 108.84 43 ⇑P PKiKP 09 54 33.6 +0.2
baz=109,SNR=7.8
A13A Flathead Natio 108.90 38 ⇓P PKiKP 09 54 34.1 +0.7
baz=109
G11A Walters Elk Ra 108.91 42 ⇓P PKiKP 09 54 33.6 +0.1
baz=109
I10A Payette 108.96 43 ⇓P PKiKP 09 54 34.5 +0.8
baz=109
L09A Wilkinson Ranc 108.96 46 ⇑P PKiKP 09 54 34.7 +1.0
baz=109
N08A GE Springer Mi 108.97 47 ⇓P PKiKP 09 54 34.4 +0.6
baz=109
D12A Red Ives Fores 108.97 40 ⇓P PKiKP 09 54 34.0 +0.4
baz=109
B13A Whitefish 109.07 39 ⇑P PKiKP 09 54 34.3 +0.5
baz=109
J10A Berg Farm, Mel 109.19 44 ⇑P PKiKP 09 54 34.9 +0.8
baz=109
C13A Hot Springs 109.25 39 ⇓P PKiKP 09 54 34.7 +0.7
baz=109
M09A Marrel Ranch, 109.29 46 ⇓P PKiKP 09 54 35.1 +0.7
baz=109
H11A Donnelly 109.31 43 P PKiKP 09 54 35.2 +0.9
baz=109,SNR=13
K10A MacKenzie Ranc 109.31 45 ⇑P PKiKP 09 54 35.5 +1.1
baz=109
HELL Mitchell Peak 109.33 51 ⇑P PKiKP 09 54 35.2 +0.6
baz=110
N09A Rock Creek Ran 109.39 47 ⇓P PKiKP 09 54 35.4 +0.8
baz=110
NVAR Mina Array Bea 109.45 49 Pdif Pdif 09 50 33.0 +2.0
NVAR PKPdf PKiKP 09 54 35.2 +0.4
NVAR PKKPbc PKKPdf 10 05 53.6 -3.1
NVAR Mina Array Bea 109.45 49 Pdiff Pdif 09 50 33.0 +2.0
comp=Z,0.6nm,0.7s,baz=257,slow=6.6,SNR=6.5
NVAR PKiKP PKiKP 09 54 35.2 +0.4
comp=Z,2.3nm,0.9s,baz=244,slow=3.2,SNR=9.1
NVAR PKKPbc PKKPdf 10 05 53.6 -3.1
comp=Z,1.3nm,0.9s,baz=119,slow=4.9,SNR=5.7
F12A Elk City 109.47 41 ⇓P PKiKP 09 54 35.8 +1.2
baz=110
D13A Huson 109.53 40 ⇓P PKiKP 09 54 35.0 +0.4
baz=110
I11A Placerville 109.59 43 ⇓P PKiKP 09 54 35.8 +0.9
baz=110
Q08A Gabbs 109.62 49 ⇑P PKiKP 09 54 36.0 +0.9
baz=110
SNCC San Nicolas Is 109.69 55 PFAKE 09 54 50.0 +15
SNCC LR LR
comp=Z,5µm,20.0s,MS6.1
BMN Battle Mountai 109.73 47 PFAKE 09 54 50.0 +15
BMN LR LR
comp=Z,3µm,21.0s,MS5.9
C14A Swan Lake 109.74 39 ⇓P PKiKP 09 54 35.4 +0.4
baz=110
BFO Black Forest 109.77 322 PFAKE 09 54 50.0 +15
BFO LR LR
comp=Z,2µm,19.0s,MS5.7
S08C White Mtn Res 109.79 50 ⇓P PKiKP 09 54 36.3 +0.9
baz=110
L10A Juniper Basin 109.80 45 ⇓P PKiKP 09 54 36.0 +0.7
baz=110,SNR=5.9
MFID Camas Ranch 109.84 44 P PKiKP 09 54 36.5 +1.2
baz=110,SNR=5.6
BLG Laguna Peak 109.88 54 ⇓P PKiKP 09 54 36.2 +0.5
baz=110
K11A Parker Ranch, 109.90 44 ⇑P PKiKP 09 54 36.0 +0.5
baz=110
M10A I.L. Ranch, Tu 109.91 46 ⇑P PKiKP 09 54 36.5 +1.0
baz=110
E13A Victor 109.93 40 ⇓P PKiKP 09 54 36.3 +0.9
baz=110,SNR=10
MSO Missoula 109.95 40 *e*PKPdf PKiKP 09 54 35.8 +0.4
MSO LR LR
comp=Z,1µm,20.0s,MS5.5
F13A Darby 110.07 41 ⇑P PKiKP 09 54 36.3 +0.6
baz=110
H12A Diamond D Ranc 110.14 42 ⇑P PKiKP 09 54 36.7 +0.8
baz=110,SNR=9.3
D14A Greenough 110.14 40 ⇑P PKiKP 09 54 36.4 +0.6
baz=110,SNR=10
Q09A Carvers 110.20 49 ⇑P PKiKP 09 54 36.8 +0.6
baz=110
L11A Cat Creek Ranc 110.28 45 P PKiKP 09 54 37.6 +1.4
baz=110,SNR=9.0
TPH Tonopah 110.37 50 PFAKE 09 54 50.0 +14
TPH LR LR
comp=Z,4µm,20.0s,MS6.0
G13A Cobalt 110.37 42 ⇑P PKiKP 09 54 37.4 +1.1
baz=110
E14A Clinton 110.39 40 P PKiKP 09 54 37.1 +0.9
baz=110,SNR=7.7
J12A Stokes Ranch, 110.40 44 ⇑P PKiKP 09 54 37.3 +0.9
baz=110,SNR=8.3
S09A Goldfield 110.46 50 ⇑P PKiKP 09 54 37.7 +1.0
baz=111
GRAC Grapevine Rang 110.53 51 ⇑P PKiKP 09 54 37.8 +1.0
baz=111
H13A Challis 110.54 42 ⇓P PKiKP 09 54 37.3 +0.7
baz=111,SNR=20
DAC Darwin (Calif) 110.54 51 PFAKE 09 54 50.0 +13
DAC LR LR
comp=Z,4µm,20.0s,MS6.0
EDW2 Edwards Air Fo 110.57 53 ⇑P PKiKP 09 54 38.0 +1.0
baz=111
LRMC Laurel Mountai 110.67 52 ⇑P PKiKP 09 54 37.9 +0.8
baz=111
MPMC Manual Prospec 110.68 52 ⇓P PKiKP 09 54 38.2 +1.1
baz=111
F14A Wisdom 110.69 41 ⇓P PKiKP 09 54 37.7 +0.8
baz=111
K12A Draper Farm, C 110.73 44 ⇑P PKiKP 09 54 37.9 +0.9
baz=111
HLID Hailey 110.77 43 *e*PKPdf PKiKP 09 54 37.5 +0.4
HLID *e*SKPdf SKPdf 09 58 09.9 -1.3
HLID LR LR
comp=Z,2µm,19.0s,MS5.8
HLID Hailey 110.77 43 ⇓P PKiKP 09 54 38.2 +1.1
baz=111,SNR=25
D15A Lincoln 110.78 39 ⇓P PKiKP 09 54 37.6 +0.6
baz=111
Q10A Clear Creek Ra 110.79 49 ⇓P PKiKP 09 54 38.3 +1.0
baz=111
L12A House Creek Ra 110.81 45 ⇑P PKiKP 09 54 38.4 +1.2
baz=111,SNR=5.7
I13A Wildhorse Cree 110.85 43 ⇑P PKiKP 09 54 38.4 +1.2
baz=111,SNR=25
S10A Tonopah Range, 110.89 50 ⇑P PKiKP 09 54 38.7 +1.2
baz=111,SNR=6.8
E15A Deer Lodge 110.94 40 ⇓P PKiKP 09 54 38.4 +1.1
baz=111
O11A Cowboy Ranch, 110.96 47 ⇑P PKiKP 09 54 38.6 +1.0
baz=111,SNR=6.0
J13A Cove Ranch, Pi 110.99 43 P PKiKP 09 54 38.9 +1.4
baz=111,SNR=25
BFSC Mount Baldy St 110.99 54 ⇑P PKiKP 09 54 38.8 +1.0
baz=111
M12A Wells 111.11 46 P PKiKP 09 54 39.2 +1.5
baz=111,SNR=6.7
N12A Clover Valley, 111.19 46 ⇓P PKiKP 09 54 39.0 +1.1
baz=111,SNR=8.0
F15A Butte 111.25 40 ⇑P PKiKP 09 54 38.8 +0.8
baz=111
K13A Stover Farm, H 111.30 44 ⇓P PKiKP 09 54 39.6 +1.5
baz=111,SNR=8.8
Q11A Duckwater 111.34 48 ⇑P PKiKP 09 54 39.4 +1.1
baz=112,SNR=6.0
DLMT Dillon 111.36 41 *e*PKPdf PKiKP 09 54 39.1 +0.9
PGF Pioggiola 111.37 316 *e*SKPdf PKiKP 09 54 36.0 -2.2
comp=Z,159nm,1.4s
GSC Goldstone 111.41 52 *e*PKIKP PKiKP 09 54 40.3 +1.7
GSC MLR MLR
comp=Z,3µm,22.0s,MS5.8
GSC Goldstone 111.41 52 ⇓P PKiKP 09 54 39.8 +1.3
baz=112
TPNV Topopah Spring 111.42 51 PFAKE 09 54 50.0 +11
TPNV LR LR
comp=Z,4µm,20.0s,MS6.0
TPNV Topopah Spring 111.42 51 ⇑P PKiKP 09 54 39.6 +1.1
baz=112
U10A Ash Meadows, A 111.49 51 ⇓P PKiKP 09 54 40.2 +1.6
baz=112
G15A Dillon 111.50 41 ⇓P PKiKP 09 54 39.5 +1.1
baz=112
MURC Murrieta 111.51 54 ⇓P PKiKP 09 54 40.0 +1.2
baz=112
R11A Troy Canyon, C 111.53 49 ⇓P PKiKP 09 54 39.9 +1.2
baz=112,SNR=6.3
L13A Double Diamond 111.58 45 ⇓P PKiKP 09 54 39.9 +1.2
baz=112,SNR=10
O12A Currie 111.59 47 ⇑P PKiKP 09 54 39.9 +1.2
baz=112,SNR=8.6
S11A Rachel 111.61 50 ⇑P PKiKP 09 54 40.3 +1.5
baz=112
M13A Montello 111.66 45 P PKiKP 09 54 40.0 +1.1
baz=112,SNR=8.7
SHOC Shoshone 111.67 52 ⇓P PKiKP 09 54 40.3 +1.3
baz=112
P12A McGill 111.71 48 ⇑P PKiKP 09 54 40.4 +1.4
baz=112
109C Camp Elliot, M 111.75 55 ⇑P PKiKP 09 54 40.2 +1.0
baz=112
N13A Wendover, West 111.79 46 ⇓P PKiKP 09 54 39.9 +0.8
baz=112
CABF La Chapelle 111.83 321 *e*PKIKP PKiKP 09 54 36.8 -2.2
comp=Z,17nm,0.9s
LPG La Plagne 111.84 319 *e*PKIKP PKiKP 09 54 36.9 -2.1
comp=Z,18nm,0.9s
LPL La Plagne 111.84 319 *e*PKIKP PKiKP 09 54 36.4 -2.7
BOZ Bozeman (W) 111.88 40 *e*PKIKP PKiKP 09 54 39.6 +0.5
BOZ MLR MLR
comp=Z,2µm,21.0s,MS5.6
BOZ Bozeman (W) 111.88 40 ⇑P PKiKP 09 54 40.1 +0.9
baz=112
K14A Jones Ranch, D 111.96 44 ⇓P PKiKP 09 54 40.6 +1.2
baz=112
PFO Pinyon Flat Ob 112.11 54 *e*PKIKP PKiKP 09 54 40.9 +1.0
PFO MLR MLR
comp=Z,4µm,20.0s,MS6.0
PFO Pinyon Flat Ob 112.11 54 PKKPbc PKKPbc 10 05 41.2 +9.1
comp=Z,6.3nm,1.0s,baz=126,slow=5.0,SNR=5.9
PFO Pinyon Flat Ob 112.11 54 ⇓P PKiKP 09 54 40.8 +0.9
baz=112
EGMT Eagleton 112.11 38 *e*PKPdf PKiKP 09 54 39.8 +0.3
EGMT *e*SKPdf SKPdf 09 58 13.4 -0.2
EGMT LR LR
comp=Z,2µm,20.0s,MS5.7
EGMT Eagleton 112.11 38 ⇑P PKiKP 09 54 40.1 +0.6
baz=112
MBDF Montbardon 112.11 319 *e*PKIKP PKiKP 09 54 36.9 -2.7
T11A Corn Creek, Al 112.12 50 ⇓P PKiKP 09 54 40.9 +1.1
baz=112,SNR=17
O13A Hicks Ranch, I 112.19 47 ⇓P PKiKP 09 54 40.7 +0.8
baz=112
M14A Sheep Mountain 112.19 45 ⇑P PKiKP 09 54 40.4 +0.6
baz=112,SNR=8.3
U11A Corn Creek 112.23 51 ⇑P PKiKP 09 54 41.5 +1.4
baz=112
R12A Pony Springs, 112.27 49 ⇓P PKiKP 09 54 42.3 +2.2
baz=112
S12A Delamar Landin 112.30 49 ⇑P PKiKP 09 54 41.9 +1.7
baz=112,SNR=6.2
MONP Monument Peak 112.31 55 ⇓P PKiKP 09 54 41.8 +1.5
baz=112,SNR=5.2
V11A Goodsprings 112.35 51 ⇓P PKiKP 09 54 41.9 +1.5
baz=112
P13A Bates Ranch, G 112.37 47 ⇑P PKiKP 09 54 41.2 +0.9
baz=112,SNR=8.4
BELC Belle Mtn. 112.38 54 ⇑P PKiKP 09 54 41.7 +1.2
baz=112,SNR=7.3
GMRC Granite Mounta 112.45 53 ⇑P PKiKP 09 54 42.1 +1.5
baz=113,SNR=8.9
HVU Hansel Valley 112.50 45 *e*PKIKP PKiKP 09 54 41.5 +1.1
BORG Borgarnes 112.52 346 PFAKE 09 54 50.0 +10
BORG LR LR
comp=Z,1µm,19.0s,MS5.5
Q13A Wheeler Ranch, 112.52 48 P PKiKP 09 54 41.6 +1.0
baz=113,SNR=5.4
N14A Grayback Hills 112.53 46 ⇑P PKiKP 09 54 41.4 +0.9
baz=113,SNR=7.6
BGU Big Grassy Mou 112.61 46 *e*PKPdf PKiKP 09 54 37.4 -3.3
ORIF Oris-en-Rattie 112.63 319 *e*PKIKP PKiKP 09 54 38.4 -2.2
comp=Z,5.4nm,0.5s
ORIF *e*MLR MLR
comp=Z,2µm,22.0s,MS5.2
YMR Madison River 112.69 41 *e*PKPdf PKiKP 09 54 42.9 +2.2
YMR LR LR
comp=Z,3µm,20.0s,MS5.9
ESK Eskdalemuir 112.78 332 PFAKE 09 54 50.0 +9.5
ESK LR LR
comp=Z,2µm,22.0s,MS5.7
SWSC Sam W. Stewart 112.81 55 ⇓P PKiKP 09 54 42.0 +0.7
baz=113
V12A Nelson 112.83 51 ⇑P PKiKP 09 54 42.7 +1.4
baz=113,SNR=11
M15A Larsen Ranch, 112.84 45 ⇑P PKiKP 09 54 41.9 +0.8
baz=113
YFT Old Faithful 112.86 41 *e*PKPdf PKiKP 09 54 42.8 +1.8
U12A Valley of Fire 112.88 51 ⇓P PKiKP 09 54 42.5 +1.2
baz=113,SNR=6.2
BC3 Big Chuckw Mtn 112.91 54 ⇑P PKiKP 09 54 42.7 +1.2
baz=113,SNR=6.6
DCID1 Drake Creek 112.95 42 *e*PKPdf PKiKP 09 54 42.8 +1.5
LOR Lormes 112.96 322 *e*PKIKP PKiKP 09 54 38.6 -2.5
LOR *e*MLR MLR
comp=Z,2µm,21.8s,MS5.4
LOR Lormes 112.96 322 *e*PKPdf PKiKP 09 54 38.6 -2.5
LOR LR LR
comp=Z,2µm,21.8s,MS5.7
N15A Stansbury Isla 112.99 45 ⇑P PKiKP 09 54 42.3 +0.9
baz=113
IMW Indian Meadow 113.00 42 *e*PKPdf PKiKP 09 54 41.8 +0.5
DUG Dugway 113.01 46 *e*PKIKP PKiKP 09 54 42.4 +0.9
DUG MLR MLR
comp=Z,2µm,20.0s,MS5.7
DUG Dugway 113.01 46 ⇓P PKiKP 09 54 42.7 +1.3
baz=113
IRM Iron Mountain 113.02 53 ⇑P PKiKP 09 54 43.0 +1.4
baz=113,SNR=5.4
FFC Flin Flon 113.04 29 *e*PKIKP PKiKP 09 54 41.6 +0.5
FFC MLR MLR
comp=Z,2µm,20.0s,MS5.7
S13A Holt Ranch, En 113.06 49 ⇓P PKiKP 09 54 43.0 +1.3
baz=113,SNR=9.1

LKWY **Lake** 113.10 41 ePKIKP PKiKP 09 54 43.9 +2.4
LKWY MLR MLR
comp=Z,1µm,19.0s,MS5.5
TPAW **Teton Pass** 113.15 42 ePKPdf PKiKP 09 54 43.0 +1.4
T13A **Saint George** 113.19 50 ⇑P PKiKP 09 54 43.2 +1.3
baz=113
KEST **Kesra** 113.20 309 PP PP 09 55 29.9 -1.9
comp=Z,13nm,1.0s,baz=146,slow=1.1,SNR=9.3
SMF **Signal de Mont** 113.23 321 ePKIKP PKiKP 09 54 39.5 -2.2
REDW **Red Top Meadow** 113.26 43 ePKPdf PKiKP 09 54 42.9 +1.1
SSF **Saint Saulge** 113.26 322 ePKIKP PKiKP 09 54 39.1 -2.6
comp=Z,31nm,1.1s
SNOW **Snow King Moun** 113.29 42 ePKPdf PKiKP 09 54 43.2 +1.4
AHID **Auburn Hatcher** 113.32 43 PFAKE 09 54 50.0 +8.0
AHID LR LR
comp=Z,2µm,19.0s,MS5.7
LOHW **Long Hollow** 113.33 42 ePKPdf PKiKP 09 54 43.1 +1.1
HWUT **Hardware Ranch** 113.42 44 ePKPdf PKiKP 09 54 42.4 +0.2
HWUT LR LR
comp=Z,3µm,21.0s,MS5.8
R14A **James Farms, M** 113.47 48 ⇑P PKiKP 09 54 43.9 +1.5
baz=114
V13A **Grand Canyon W** 113.47 51 P PKiKP 09 54 44.0 +1.6
baz=114,SNR=7.0
AVF **Avril sur Loir** 113.48 322 ePKIKP PKiKP 09 54 39.9 -2.2
S14A **Cedar City** 113.53 49 ⇓P PKiKP 09 54 43.7 +1.2
baz=114,SNR=9.7
GLA **Glamis** 113.57 54 ePKIKP PKiKP 09 54 43.7 +1.0
GLA MLR MLR
comp=Z,4µm,20.0s,MS6.0
GLA **Glamis** 113.57 54 ⇓P PKiKP 09 54 44.0 +1.2
baz=114
CTU **Camp Tracy** 113.61 45 ePKPdf PKiKP 09 54 43.7 +1.1
RLMT **Red Lodge** 113.62 40 ePKPdf PKiKP 09 54 37.2 -5.3
RLMT LR LR
comp=Z,2µm,19.0s,MS5.8
NLU **North Lily Min** 113.62 46 ePKPdf PKiKP 09 54 44.1 +1.5
Y12C **Blythe** 113.63 53 ⇓P PKiKP 09 54 43.9 +1.1
baz=114
W13A **Hualapai Mount** 113.77 52 ⇓P PKiKP 09 54 44.3 +1.3
baz=114,SNR=12
PDMCI **Parker Dam,Lak** 113.79 53 ⇑P PKiKP 09 54 43.9 +0.7
baz=114
T14A **Hurricane** 113.81 50 ⇓P PKiKP 09 54 44.6 +1.6
baz=114,SNR=6.6
PMSA **Palmer Station** 113.81 175 PFAKE 09 54 50.0 +7.7
PMSA LR LR
comp=Z,4µm,21.0s,MS6.0
JLU **Jordanelle** 113.85 45 ePKPdf PKiKP 09 54 35.1 -7.9
112A **Yuma** 113.90 55 ⇑P PKiKP 09 54 44.3 +1.0
baz=114
MPU **Maple Canyon** 113.92 46 ePKPdf PKiKP 09 54 44.5 +1.3
MPU LR LR
comp=Z,3µm,22.0s,MS5.9
U14A **Mt Trumbull** 113.93 50 ⇑P PKiKP 09 54 44.9 +1.6
baz=114,SNR=6.3
X13A **Yucca** 113.95 52 ⇑P PKiKP 09 54 44.6 +1.1
baz=114
MVU **Marysvale** 114.01 48 PFAKE 09 55 00.0 +17
MVU LR LR
comp=Z,4µm,19.0s,MS6.0
MSU **Marysvale** 114.03 48 ePKIKP PKiKP 09 54 45.0 +1.5
DAU **Daniels Canyon** 114.06 46 ePKIKP PKiKP 09 54 44.4 +1.0
SFJD **Kangerlussuaq** 114.15 359 PFAKE 09 54 50.0 +7.2
SFJD LR LR
comp=Z,1µm,20.0s,MS5.6
SFJD **Kangerlussuaq** 114.15 359 *i* P PP 09 55 36.8 -0.3
SFJD *i* 10 04 59.6
SFJD
comp=Z,1µm,22.0s
Y13A **Salome** 114.17 53 ⇓P PKiKP 09 54 45.0 +1.1
baz=114
V14A **Boquillas Ranc** 114.22 51 ⇓P PKiKP 09 54 45.2 +1.3
baz=114
LASF **Ste Croix** 114.29 319 ePKIKP PKiKP 09 54 41.2 -2.6
comp=Z,118nm,1.5s
T15A **Red Dirt Ranch** 114.36 49 ⇑P PKiKP 09 54 45.2 +1.1
baz=114,SNR=8.3
W14A **Seligman** 114.36 52 ⇓P PKiKP 09 54 45.7 +1.5
baz=114
BW06 **Boulder Array** 114.37 43 PFAKE 09 55 00.0 +16
BW06 LR LR
comp=Z,3µm,22.0s,MS5.8
TCF **Toulx Ste Croi** 114.41 322 ePKIKP PKiKP 09 54 41.7 -2.2
comp=Z,28nm,1.0s
TMUT **Trail Mountain** 114.48 47 ePKPdf PKiKP 09 54 46.1 +1.8
113A **Mohawk Valley,** 114.50 54 ⇓P PKiKP 09 54 44.9 +0.3
baz=115
X14A **Yava** 114.73 52 ⇓P PKiKP 09 54 46.0 +1.1
baz=115
Y14A **Wickenburg** 114.79 53 ⇑P PKiKP 09 54 45.8 +0.7
baz=115
LAO **LASA Array** 114.85 38 ePKPdf PKiKP 09 54 45.9 +1.1
LAO eSKPdf SKPdf 09 58 17.3 -1.7
LAO LR LR
comp=Z,2µm,22.0s,MS5.7
V15A **Kaibab Nationa** 114.89 51 ⇓P PKiKP 09 54 46.8 +1.7
baz=115,SNR=19
Z14A **Wintersburg** 115.00 53 ⇓P PKiKP 09 54 46.6 +1.1
baz=115
W15A **Williams** 115.01 51 ⇓P PKiKP 09 54 47.2 +1.8
baz=115
T16A **Glen Canyon Da** 115.03 49 ⇑P PKiKP 09 54 46.0 +0.6
baz=115
DGMT **Dagmar** 115.20 35 ePKPdf PKiKP 09 54 45.0 -0.3
DGMT LR LR
comp=Z,2µm,21.0s,MS5.7
X15A **Humboldt** 115.24 52 ⇓P PKiKP 09 54 47.5 +1.6
baz=115,SNR=8.3
RJF **Les Rejaudoux** 115.28 321 ePKIKP PKiKP 09 54 43.3 -2.3
RJF eMLR MLR
comp=Z,2µm,21.5s,MS5.4
RJF **Les Rejaudoux** 115.28 321 ePKPdf PKiKP 09 54 43.3 -2.3
RJF LR LR
comp=Z,2µm,21.5s,MS5.7
Y15A **Casa Rosa Ranc** 115.32 53 ⇑P PKiKP 09 54 47.2 +1.1
baz=115
WUAZ **Wupatki** 115.60 51 ePKPdf PKPdf 09 54 47.9 +1.3
WUAZ eSKPdf SKPdf 09 58 21.7 +0.9
WUAZ LR LR
comp=Z,3µm,19.0s,MS5.9
WUAZ **Wupatki** 115.60 51 ⇓P PKiKP 09 54 47.8 +1.3
baz=116
W16A **Flagstaff** 115.61 51 ⇓P PKiKP 09 54 47.7 +1.1
baz=116
MTLF **Montolieu** 115.68 319 ePKIKP PKPdf 09 54 44.1 -2.4
comp=Z,53nm,1.3s
MFF **Saint Martin d** 115.71 323 ePKIKP PKPdf 09 54 44.0 -2.4
comp=Z,8.3nm,0.6s
115A **Sonoran Desert** 115.77 54 ⇓P PKPdf 09 54 47.7 +0.7
baz=116
X16A **Lo Mia Camp, P** 115.89 52 P PKPdf 09 54 48.8 +1.6
baz=116,SNR=19
Y16A **Circle Bar Ran** 116.02 52 ⇑P PKPdf 09 54 48.6 +1.2
baz=116
Z16A **Peralta Trail,** 116.22 53 ⇑P PKPdf 09 54 49.0 +1.2
baz=116
116A **Eloy** 116.23 54 ⇑P PKPdf 09 54 48.9 +1.1
baz=116
W17A **Winslow** 116.25 51 ⇑P PKPdf 09 54 48.9 +1.1
baz=116
SGMF **Saint Gilles** 116.30 325 ePKIKP PKPdf 09 54 45.0 -2.5
comp=Z,16nm,0.8s
PV10 **Paradox Valley** 116.39 47 ePKPdf PKPdf 09 54 49.4 +1.4
RWWY **Rawlins** 116.40 43 ePKPdf PKPdf 09 54 48.6 +0.7
Y17A **Roosevelt** 116.58 53 ⇑P PKPdf 09 54 49.6 +1.1
baz=117,SNR=8.5
216A **Three Points,** 116.59 54 ⇓P PKPdf 09 54 49.7 +1.2
baz=117
PV01 **Paradox Valley** 116.82 47 ePKPdf PKPdf 09 54 50.0 +1.1
PV01 ePP PP 09 55 58.5 +1.4
QUIF **Quistinic** 116.83 325 ePKIKP PKPdf 09 54 46.1 -2.4
W18A **Petrified Fore** 117.00 51 ⇑P PKPdf 09 54 50.4 +1.1
baz=117
Z17A **San Carlos Hig** 117.00 53 ⇓P PKPdf 09 54 50.5 +1.2
baz=117,SNR=5.4
117A **Oracle** 117.01 54 P PKPdf 09 54 50.7 +1.3
baz=117,SNR=8.0
X18A **Snowflake** 117.02 51 ⇑P PKPdf 09 54 50.2 +0.8
baz=117
EPF **Esparros** 117.05 319 ePKIKP PKPdf 09 54 46.7 -2.4
TUC **Tucson** 117.05 54 ePKIKP PKPdf 09 54 50.5 +1.1
TUC MLR MLR
comp=Z,3µm,22.0s,MS5.8
217A **Green Valley** 117.18 55 ⇓P PKPdf 09 54 50.7 +1.0
baz=117

Y18A **Canyon Day Jun** 117.20 52 P PKPdf 09 54 51.2 +1.6
baz=117,SNR=6.6
MVCO **Mesa Verde** 117.21 48 ePKPdf PKPdf 09 54 51.0 +1.4
MVCO eSKPdf SKPdf 09 58 27.7 +3.8
MVCO **Mesa Verde** 117.21 48 ⇓P PKPdf 09 54 50.8 +1.2
baz=117
W19A **Sanders** 117.27 51 ⇓P PKPdf 09 54 51.0 +1.2
baz=117
EPOB **Poblet** 117.28 317 PKP PKPdf 09 54 47.7 -1.9
EBIE **Bielsa** 117.33 319 PKP PKPdf 09 54 49.1 -0.6
RSSD **Black Hills** 117.41 39 ePKIKP PKPdf 09 54 49.6 -0.2
RSSD MLR MLR
comp=Z,2µm,22.0s,MS5.7
Z18A **Geronimo** 117.41 53 ⇑P PKPdf 09 54 51.4 +1.3
baz=118
X19A **St. Johns** 117.57 51 ⇑P PKPdf 09 54 51.7 +1.3
baz=118
SMCO **Snowmass** 117.58 46 ePKPdf PKPdf 09 54 51.7 +1.4
118A **Homack Ranch,** 117.61 53 ⇑P PKPdf 09 54 51.7 +1.2
baz=118,SNR=8.3
218A **Dragoon** 117.75 54 ⇑P PKPdf 09 54 51.9 +1.1
baz=118
Y19A **Nutrioso** 117.75 52 ⇑P PKPdf 09 54 52.1 +1.3
baz=118
318A **Bisbee** 117.95 55 ⇑P PKPdf 09 54 52.1 +0.9
baz=118
EMHD **Djebel Mahouad** 117.96 311 P PP 09 56 04.8 -0.3
Z19A **T-Link Ranch,** 117.96 52 ⇓P PKPdf 09 54 52.2 +1.0
baz=118
SJPF **Ste Jean** 118.03 320 ePKIKP PKPdf 09 54 48.8 -2.2
119A **Ashpeak Ranch,** 118.10 53 ⇓P PKPdf 09 54 52.7 +1.3
baz=118
ISCO **Idaho Springs** 118.28 44 ePKPdf PKPdf 09 54 52.3 +0.7
ISCO eSKPdf SKPdf 09 58 27.7 +1.9
ISCO LR LR
comp=Z,3µm,19.0s,MS5.9
219A **White Tail Can** 118.38 54 P PKPdf 09 54 53.3 +1.3
baz=118,SNR=8.1
319A **Douglas** 118.55 55 P PKPdf 09 54 54.0 +1.7
baz=119,SNR=19
ULM **Lac du Bonnet** 118.71 30 PKP PKPdf 09 54 51.1 -0.9
ULM PKKPbc PKKPbc 10 05 07.2 -2.5
ULM LR LR
comp=Z,4µm,22.0s,MS6.0
ULM **Lac du Bonnet** 118.71 30 PKP PKPdf 09 54 51.1 -1.0
comp=Z,10nm,0.9s,baz=12,slow=1.7,SNR=20
ULM PKKPbc PKKPbc 10 05 07.2 -2.5
comp=Z,2.6nm,0.8s,baz=296,slow=1.6,SNR=4.1
EMOS **Mosqueruela** 118.77 317 PKP PKPdf 09 54 53.1 +0.6
EBNR **Beni Rached** 119.00 312 P PP 09 56 11.5 -0.8
SDCO **Great Sand Dun** 119.21 46 ePKPdf PKPdf 09 54 54.5 +1.1
SDCO LR LR
comp=Z,4µm,19.0s,MS6.1
LAZ **Ladron** 119.25 51 ePKPdf PKPdf 09 54 55.1 +1.4
EANR **'Ain N'Sour** 119.45 311 P PP 09 56 14.0 -1.4
ETRT **Tiaret** 119.51 311 P PP 09 56 16.0 +0.1
ANMO **Albuquerque** 119.57 50 ePKPdf PKPdf 09 54 55.2 +1.0
ANMO eSKPdf SKPdf 09 58 27.6 -0.8
ANMO LR LR
comp=Z,2µm,20.0s,MS5.8
LPM **Los Pinos Moun** 119.67 51 ePKPdf PKPdf 09 54 55.8 +1.4
BNM **Barren Site** 119.74 51 ePKPdf PKPdf 09 54 55.8 +1.2
AGMN **Agassiz Refuge** 119.92 32 ePKPdf PKPdf 09 54 53.5 -1.0
AGMN LR LR
comp=Z,2µm,19.0s,MS5.8
ETOB **Tobarra** 120.27 315 PKP PKPdf 09 54 55.2 -0.2
EVIA **Vianos** 120.94 316 PKIKP PKPdf 09 54 56.4 -0.4
GUD **Guadarrama** 121.13 318 PKIKP PKPdf 09 54 55.8 -1.3
ENIJ **Nijar** 121.47 314 PKIKP PKPdf 09 54 57.1 -0.7
ESDC **Sonseca Array** 121.47 317 PKP PKPdf 09 54 57.6 -0.1
comp=Z,0.3nm,0.3s,baz=32,slow=4.0,SNR=8.9
ESDC PP PP 09 56 23.4 -5.6
comp=Z,2.1nm,0.7s,baz=56,slow=7.6,SNR=6.0
ESDC PKKPbc PKKPbc 10 05 00.9 +1.8
comp=Z,0.3nm,0.3s,baz=269,slow=3.5,SNR=4.0
ESLA **Sonseca Array** 121.47 317 PFAKE 09 55 10.0 +12
ESLA LR LR
comp=Z,8µm,21.0s,MS6.3
MNTX **Cornudas Mount** 121.59 53 ePKPdf PKPdf 09 54 58.6 +0.4
MNTX LR LR
comp=Z,3µm,20.0s,MS5.9
EQES **Quesada** 121.72 315 PKP PKPdf 09 54 57.0 -1.3
PAB **San Pablo** 121.79 317 ePKIKP PKPdf 09 54 58.5 +0.1
PAB MLR MLR
comp=Z,1µm,19.0s,MS5.6
EBER **Berja** 121.99 314 PKP PKPdf 09 54 57.4 -1.5
EBAN **Banos Encina** 122.06 316 PKIKP PKPdf 09 54 58.9 0.0
ECSD **EROS,Sioux Fal** 122.19 37 ePKPdf PKPdf 09 54 58.6 -0.4
ECSD LR LR
comp=Z,2µm,21.0s,MS5.8
EYMN **Ely** 122.39 30 ePKPdf PKPdf 09 54 58.8 -0.4
EYMN LR LR
comp=Z,2µm,21.0s,MS5.8
ERON **Agron** 122.59 314 PKP PKPdf 09 54 57.7 -2.3
EADA **Adamuz** 122.61 316 PKP PKPdf 09 54 58.8 -1.2
ELUQ **Luque** 122.67 315 PKIKP PKPdf 09 54 58.3 -1.8
ELOJ **Sierra Loja** 122.78 315 PKIKP PKPdf 09 54 59.7 -0.6
CBKS **Cedar Bluff** 122.79 43 ePKIKP PKPdf 09 55 00.8 +0.5
CBKS MLR MLR
comp=Z,3µm,21.0s,MS5.9
USHA **Ushuaia** 122.81 169 PKP PKPdf 09 54 59.9 +0.1
comp=Z,28nm,0.9s,baz=18,slow=1.8,SNR=5.6
AMTX **Amarillo** 123.20 48 ePKPdf PKPdf 09 55 01.5 +0.3
AMTX LR LR
comp=Z,2µm,19.0s,MS5.8
ECAB **El Cabril** 123.23 316 PKP PKPdf 09 55 01.3 +0.1
TXAR **Lajitas Array** 123.80 55 PKIKP PKPdf 09 55 02.7 +0.2
TXAR pmax pmax
comp=Z,7.0nm,0.9s
TXAR pmax pmax
comp=Z,2.0nm,1.0s
TXAR **Lajitas Array** 123.80 55 PKP PKPdf 09 55 02.6 +0.1
comp=Z,6.7nm,0.8s,baz=252,slow=1.2,SNR=58
TXAR PKKPbc PKKPbc 10 04 49.6 -0.3
comp=Z,1.9nm,1.0s,baz=116,slow=5.8,SNR=7.1
EBAD **Badajoz** 123.98 318 PKP PKPdf 09 55 01.5 -1.1
EJIF **Jimena Fronter** 124.04 315 PKIKP PKPdf 09 55 01.9 -0.9
ESPR **Espera** 124.12 315 PKP PKPdf 09 55 01.1 -1.8
EMIN **Mina Concepcio** 124.25 317 PKP PKPdf 09 55 01.9 -1.2
KSU1 **Kansas State U** 124.74 41 ePKPdf PKPdf 09 55 03.8 -0.3
KSU1 LR LR
comp=Z,4µm,20.0s,MS6.0
EVO **Evora** 124.77 318 ePKIKP PKPdf 09 55 04.4 +0.3
comp=Z,94nm,1.3s
EVO eMLR MLR
comp=Z,1µm,21.2s,MS5.3
COWI **Conover** 124.83 30 ePKPdf PKPdf 09 55 03.7 -0.3
COWI LR LR
comp=Z,2µm,20.0s,MS5.8
EGRO **El Granado** 124.92 317 PKP PKPdf 09 55 04.3 -0.1
TOA0 **Torodi Ar. Sit** 125.00 285 ePKPdf PKPdf 09 55 04.5 -0.6
TOA0 ePP PP 09 56 53.1 -0.9
TORD **Torodi Ar. Bea** 125.00 285 PKP PKPdf 09 55 04.6 -0.5
comp=Z,30nm,1.0s,baz=60,slow=1.5,SNR=50
TORD PP PP 09 56 53.9 -0.1
comp=Z,9.8nm,1.1s,baz=67,slow=4.1,SNR=5.1
TORD PKKPbc 10 04 46.7
comp=Z,1.9nm,0.9s,baz=238,slow=2.0,SNR=6.7
SCHQ **Schefferville** 125.10 10 PKP PKPdf 09 55 03.9 -0.3
SCHQ LR LR
comp=Z,2µm,20.0s,MS5.8
SCHQ **Schefferville** 125.10 10 PKP PKPdf 09 55 03.9 -0.3
comp=Z,19nm,1.0s,baz=333,slow=1.7,SNR=17
WMOK **Wichita Mounta** 125.40 47 ePKIKP PKPdf 09 55 05.0 -0.4
WMOK MLR MLR
comp=Z,2µm,19.0s,MS5.8
JFWS **Jewell Farm** 126.37 34 ePKIKP PKPdf 09 55 06.2 -0.8
JFWS MLR MLR
comp=Z,2µm,22.0s,MS5.8
JCT **Junction City** 126.48 52 ePKIKP PKPdf 09 55 08.0 +0.4
JCT MLR MLR
comp=Z,3µm,21.0s,MS6.0
EFI **East Falkland** 127.29 176 PFAKE 09 55 20.0 +11
EFI LR LR
comp=Z,2µm,21.0s,MS5.8
HDIL **Hopedale** 128.44 36 ePKPdf PKPdf 09 55 11.1 +0.1
HDIL LR LR
comp=Z,2µm,20.0s,MS5.9
CCM **Cathedral Cave** 128.80 39 ePKIKP PKPdf 09 55 11.4 -0.4
CCM MLR MLR
comp=Z,3µm,20.0s,MS6.0
KVTX **Kingsville** 129.18 55 PFAKE 09 55 20.0 +7.1
KVTX LR LR
comp=Z,3µm,19.0s,MS5.9
MIAR **Mount Ida** 129.22 44 ePKIKP PKPdf 09 55 13.4 +0.7

MIAR MLR MLR
comp=Z,3µm,19.0s,MS6.0
FVM **French Village** 129.36 39 ePKIKP PKPdf 09 55 12.0 -0.9
HKT **Hockley** 129.81 51 ePKPdf PKPdf 09 55 15.5 +1.5
HKT eSKPdf SKPdf 09 58 38.2 -10
HKT LR LR
comp=Z,2µm,19.0s,MS5.9
NATX **Nacogdoches** 129.85 48 ePKPdf PKPdf 09 55 15.2 +1.2
NATX LR LR
comp=Z,4µm,19.0s,MS6.1
UALR **University of** 129.96 43 ePKPdf PKPdf 09 55 14.8 +0.7
SIUC **Southern Illin** 130.28 38 ePKPdf PKPdf 09 55 15.1 +0.4
AAM **Ann Arbor** 130.30 30 PFAKE 09 55 30.0 +15
AAM LR LR
comp=Z,2µm,21.0s,MS5.8
PARMO **Parma** 130.59 40 ePKPdf PKPdf 09 55 16.4 +1.2
BLO **Bloomington** 130.96 35 ePKIKP PKPdf 09 55 16.3 +0.4
USIN **University of** 131.07 37 ePKPdf PKPdf 09 55 17.3 +1.1
KIC **Kosan Boka** 132.05 278 ePKP2 PKPdf 09 55 08.5 -10
comp=Z,311nm,1.7s
OXF **Oxford** 132.09 42 ePKIKP PKPdf 09 55 11.6 -6.6
OXF MLR MLR
comp=Z,3µm,20.0s,MS6.0
DBIC **Dimbokro** 132.14 278 PKIKP PKPdf 09 55 18.3 -0.5
DBIC 09 57 40.7
DBIC pmax pmax
comp=Z,13nm,1.0s
DBIC pmax pmax
comp=Z,12nm,1.1s
DBIC pmax pmax
comp=N,28nm,1.0s
DBIC **Dimbokro** 132.14 278 PKP PKPdf 09 55 18.3 -0.6
DBIC PP PP 09 57 40.7 -0.3
DBIC SKPbc SKPbc 09 58 44.1 +0.2
DBIC LR LR
comp=Z,1µm,22.0s,MS5.6
DBIC **Dimbokro** 132.14 278 PKP PKPdf 09 55 18.3 -0.6
comp=Z,13nm,1.0s,baz=91,slow=2.7,SNR=9.3
DBIC PP PP 09 57 40.7 -0.3
comp=Z,12nm,1.1s,baz=126,slow=3.3,SNR=3.7
DBIC SKPbc SKPbc 09 58 44.1 +0.2
comp=Z,28nm,1.0s,baz=130,slow=20,SNR=17
ACSO **Alum Creek Sta** 132.16 32 ePKPdf PKPdf 09 55 18.1 0.0
ACSO LR LR
comp=Z,2µm,19.0s,MS5.9
ERPA **Erie** 132.21 28 ePKPdf PKPdf 09 55 18.1 -0.1
ERPA LR LR
comp=Z,3µm,20.0s,MS5.9
TIC **Toumodi** 132.31 278 ePKP2 PKPdf 09 55 09.5 -10
comp=Z,265nm,1.5s
LIC **Lamto** 132.35 277 ePKIKP PKPdf 09 55 17.2 -2.0
comp=Z,147nm,1.5s
LIC eMLR MLR
comp=Z,2µm,22.5s,MS5.3
LIC **Lamto** 132.35 277 ePKP2 PKPdf 09 55 07.8 -11
comp=Z,120nm,1.5s
LIC **Lamto** 132.35 277 ePKPdf PKPdf 09 55 17.2 -2.0
LIC LR LR
comp=Z,750nm,22.5s,MS5.3
LONY **Lake Ozonia** 132.39 21 ePKPdf PKPdf 09 55 18.0 -0.5
LONY LR LR
comp=Z,2µm,21.0s,MS5.8
FRNY **Flat Rock** 132.56 20 ePKPdf PKPdf 09 55 18.2 -0.5
VBMS **Vicksburg** 132.63 45 ePKPdf PKPdf 09 55 20.0 +0.7
VBMS LR LR
comp=Z,3µm,19.0s,MS6.0
PLAL **Pickwick Lake** 132.69 41 ePKPdf PKPdf 09 55 18.8 -0.5
PLAL LR LR
comp=Z,3µm,22.0s,MS5.9
NCB **Newcomb** 133.08 21 ePKPdf PKPdf 09 55 20.1 +0.3
NCB LR LR
comp=Z,2µm,21.0s,MS5.9
PKME **Peaks-Kenny Pk** 133.52 16 ePKPdf PKPdf 09 55 20.2 -0.3
PKME LR LR
comp=Z,3µm,22.0s,MS6.0
LBNH **Lisbon** 133.64 19 ePKIKP PKPdf 09 55 21.0 +0.2
LBNH MLR MLR
comp=Z,2µm,20.0s,MS5.9
ACCN **Adirondack Com** 133.79 21 ePKPdf PKPdf 09 55 20.9 -0.2
BINY **Binghamton** 133.90 24 ePKPdf PKPdf 09 55 21.6 +0.3
BINY LR LR
comp=Z,3µm,21.0s,MS6.0
SWET **Sewanee** 133.91 39 ePKPdf PKPdf 09 55 21.3 -0.3
HNH **Hanover** 134.00 20 ePKPdf PKPdf 09 55 21.8 +0.3
MCWV **Mont Chateau** 134.19 30 ePKPdf PKPdf 09 55 22.3 +0.4
MCWV LR LR
comp=Z,2µm,20.0s,MS5.9
SSPA **Standing Stone** 134.35 27 ePKPdf PKPdf 09 55 22.0 -0.2
SSPA LR LR
comp=Z,3µm,21.0s,MS5.9
TZTN **Tazewell** 134.47 36 ePKPdf PKPdf 09 55 17.5 -5.1
TZTN LR LR
comp=Z,3µm,20.0s,MS6.0
CPCT **Cooper Cave** 134.63 37 ePKPdf PKPdf 09 55 23.0 +0.1
CPCT *e* 09 58 53.2
QUA2 **Belchertown** 135.23 21 ePKPdf PKPdf 09 55 23.6 -0.2
QUA2 *e* 09 58 54.9
HRV **Adam Dziewonsk** 135.30 20 ePKIKP PKPdf 09 55 23.7 -0.3
HRV MLR MLR
comp=Z,2µm,21.0s,MS5.8
PLCA **Paso Flores** 135.31 160 *i* PKHKP 09 55 11.8
PLCA 09 55 24.0
PLCA pmax pmax
comp=Z,5.0nm,1.0s
PLCA pmax pmax
comp=Z,2.0nm,0.9s
PLCA pmax pmax
comp=N,17nm,1.1s
PLCA **Paso Flores** 135.31 160 PKP PKPdf 09 55 24.0 -0.1
PLCA SKPbc SKPbc 09 58 55.7 +2.0
PLCA LR LR
comp=Z,3µm,19.0s,MS6.0
PLCA **Paso Flores** 135.31 160 PKhKP 09 55 11.8
comp=Z,5.0nm,1.0s,baz=186,slow=6.2,SNR=5.4
PLCA PKP PKPdf 09 55 24.0 -0.1
comp=Z,2.3nm,0.9s,baz=169,slow=8.2,SNR=3.6
PLCA SKPbc SKPbc 09 58 55.7 +2.0
comp=Z,17nm,1.1s,baz=222,slow=8.7,SNR=6.6
WES **Weston** 135.49 20 ePKPdf PKPdf 09 55 24.8 +0.4
WES *e* 09 58 55.8
WES LR LR
comp=Z,1µm,20.0s,MS5.7
ELN **Prospectdale** 135.54 33 ePKPdf PKPdf 09 55 24.5 -0.1
MVL **Millersville** 135.56 26 ePKPdf PKPdf 09 55 24.1 -0.4
BLA **Blacksburg** 135.74 32 ePKPdf PKPdf 09 55 25.3 +0.4
BLA *e* 09 58 56.5
BLA LR LR
comp=Z,3µm,22.0s,MS5.9
BRAL **Brewton** 135.75 44 PFAKE 09 55 40.0 +15
BRAL LR LR
comp=Z,3µm,22.0s,MS6.0
CMLA **Cha da Macela** 135.80 329 PFAKE 09 55 40.0 +15
CMLA LR LR
comp=Z,1µm,22.0s,MS5.6
SDMD **Soldier's Deli** 135.81 27 ePKPdf PKPdf 09 55 25.0 0.0
BRYW **Bryant College** 135.83 20 ePKPdf PKPdf 09 55 24.8 -0.2
CBN **Corbin** 136.52 29 PFAKE 09 55 40.0 +14
CBN LR LR
comp=Z,3µm,22.0s,MS5.9
GOGA **Godfrey** 136.63 39 ePKIKP PKPdf 09 55 27.3 +0.6
GOGA MLR MLR
comp=Z,3µm,21.0s,MS6.0
COW **Cow Castle Cre** 138.34 36 ePKPdf PKPdf 09 55 31.7 +1.8
CNNC **Cliffs of the** 138.56 32 PFAKE 09 55 40.0 +10
CNNC LR LR
comp=Z,3µm,20.0s,MS6.0
NHSC **New Hope** 138.85 36 PFAKE 09 55 40.0 +9.2
NHSC LR LR
comp=Z,4µm,20.0s,MS6.1
TRQA **Tornquist** 140.14 168 ePKPdf PKPdf 09 55 25.1 -7.9
TRQA LR LR
comp=Z,3µm,21.0s,MS6.0
TEIG **Tepich** 140.18 59 ePKPdf PKPdf 09 55 27.7 -5.9
TEIG LR LR
comp=Z,2µm,21.0s,MS5.8
ASCN **Ascension** 140.93 256 PFAKE 09 55 50.0 +15
ASCN LR LR
comp=Z,2µm,22.0s,MS5.7
DWPF **Disney** 141.39 43 PKPdf PKPdf 09 55 32.1 -3.5
DWPF LR LR
comp=Z,2µm,20.0s,MS5.8
FCH **Farellones** 141.95 156 eP PKPdf 09 55 29.7 -6.7
TGUH **Tegucigalpa,Un** 143.27 68 ePKPdf PKPdf 09 55 36.6 -2.6
TGUH LR LR
comp=Z,1µm,21.0s,MS5.7

SOR	**Soroa**	**143.31**	**52**	*e*P	PKPdf	09 55 36.8	-2.3
CMCH	**Combarbala**	**143.48**	**153**	⇑*i*P	PKPdf	09 55 36.1	-3.1
LPA	**La Plata**	**143.90**	**172**	*de*PKP	PKPdf	09 55 38.0	-1.8
LPA				*e*PP	PP	09 58 54.0	+2.4
LPA							
	comp=Z,3μm,22.0s						
LPA	**La Plata**	**143.90**	**172**	*e*PKP	PKPdf	09 55 38.0	-1.8
LPA				*e*PP	PP	09 58 54.0	+2.4
LPA				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
CFAA	**Coronel Fontan**	**144.29**	**157**	PKP	PKPdf	09 55 38.8	-1.8
	comp=Z,11nm,0.9s,baz=212,slow=2.6,SNR=65						
CFAA				SKPbc	SKPbc	09 59 19.8	+1.4
	comp=Z,2.8nm,1.0s,baz=160,slow=5.6,SNR=6.2						
TLL	**Tololo Astrono**	**144.42**	**152**	⇓*i*P	PKPdf	09 55 39.7	-1.2
LCO	**Las Campanas**	**145.43**	**151**	*e*PKPdf	PKPdf	09 55 43.9	+1.2
LCO				LR	LR		
	comp=Z,2μm,22.0s,MS5.8						
BBSR	**BB Station**	**146.77**	**19**	*e*PKPbc	PKPbc	09 55 46.8	+0.2
BBSR				LR	LR		
	comp=Z,2μm,22.0s,MS6.0						
LMGC	**Las Mercedes**	**149.47**	**50**	*e*P	PKPbc	09 55 54.5	+0.4
CEN1	**Los Morros**	**150.25**	**146**	⇑*i*P	PKPdf	09 55 52.1	+1.3
MOAC	**Moa**	**150.65**	**47**	*e*P	PKPdf	09 55 52.0	+0.6
MASC	**Masc**	**151.48**	**47**	*e*P	PKPdf	09 55 52.2	-0.5
LVC	**Limon Verde**	**151.59**	**147**	*e*PKPbc	PKPbc	09 56 01.4	+2.4
LVC				LR	LR		
	comp=Z,3μm,22.0s,MS6.0						
BCIP	**Isla Barro Col**	**151.63**	**73**	*e*PKPdf	PKPdf	09 55 53.0	-0.1
BCIP				*e*PKPbc	PKPbc	09 55 59.3	-0.1
BCIP				LR	LR		
	comp=Z,3μm,19.0s,MS6.1						
CPUP	**Villa Florida**	**152.41**	**171**	PKIKP	PKPdf	09 55 53.4	-0.6
CPUP						09 56 01.2	
CPUP						09 56 11.7	
CPUP				pmax	pmax		
	comp=Z,12nm,0.9s						
CPUP				pmax	pmax		
	comp=Z,82nm,1.0s						
CPUP				pmax	pmax		
	comp=Z,67nm,0.9s						
CPUP	**Villa Florida**	**152.41**	**171**	PKP	PKPdf	09 55 53.4	-0.6
CPUP				PKPbc	PKPbc	09 56 01.1	+0.3
CPUP				PKPab	PKPab	09 56 11.7	+0.9
CPUP				LR	LR		
	comp=Z,420nm,20.0s,MS5.2						
CPUP	**Villa Florida**	**152.41**	**171**	PKP	PKPdf	09 55 53.4	-0.6
	comp=Z,12nm,0.9s,baz=145,slow=2.0,SNR=12						
CPUP				PKPbc	PKPbc	09 56 01.1	+0.3
	comp=Z,82nm,1.0s,baz=152,slow=1.4,SNR=23						
CPUP				PKPab	PKPab	09 56 11.7	+0.9
	comp=Z,67nm,0.9s,baz=165,slow=4.2,SNR=13						
NNA	**Nana**	**152.60**	**119**	*e*PKPdf	PKPdf	09 55 55.0	+0.4
NNA				*e*PKPbc	PKPbc	09 56 01.2	-0.3
NNA				LR	LR		
	comp=Z,3μm,20.0s,MS6.1						
SDDR	**Presa de Saban**	**154.36**	**45**	*e*PKPdf	PKPdf	09 55 57.6	+0.6
SDDR				*e*PKPbc	PKPbc	09 56 04.8	-0.4
SDDR				LR	LR		
	comp=Z,2μm,20.0s,MS5.9						
ARE	**Arequipa**	**154.46**	**134**	*e*P	PKPdf	09 55 58.0	+0.9
CAM4	**Nova Friburgo**	**154.82**	**202**	*e*P	PKPdf	09 55 59.0	+1.5
CAM4				*i*		09 56 06.5	
CAM4				*i*		09 56 12.7	
CAM4				*i*		09 56 23.0	
CAM4				*i*		09 56 30.9	
CAM4				*i*		09 56 41.4	
CAM4				*i*		09 56 55.1	
LPAZ	**La Paz**	**156.90**	**139**	PKIKP	PKPdf	09 56 01.7	+1.3
LPAZ						10 00 09.6	
LPAZ				pmax	pmax		
	comp=Z,29nm,1.3s						
LPAZ				pmax	pmax		
	comp=Z,10.0nm,0.7s						
LPAZ				pmax	pmax		
	comp=Z,12nm,1.3s						
LPAZ	**La Paz**	**156.90**	**139**	PKP	PKPdf	09 56 01.7	+1.3
	comp=Z,29nm,1.2s,baz=1.5,slow=0.9,SNR=48						
LPAZ				PKPab	PKPab	09 56 32.9	+2.7
	comp=Z,9.6nm,0.7s,baz=172,slow=9.7,SNR=8.0						
LPAZ				PP	PP	10 00 09.6	+1.9
	comp=Z,12nm,1.3s,baz=181,slow=4.2,SNR=3.7						
ROSC	**El Rosal**	**157.89**	**80**	PKP	PKPdf	09 56 02.6	+0.8
	comp=Z,7.2nm,0.5s,baz=85,slow=22,SNR=15						
SJG	**San Juan**	**158.37**	**37**	*e*PKIKP	PKPdf	09 55 59.7	-2.5
SJG				MLR	MLR		
	comp=Z,1μm,22.0s						
SJG	**San Juan**	**158.37**	**37**	PP	PP	10 00 16.5	+0.9
	comp=Z,6.0nm,0.3s,baz=0.8,slow=20,SNR=3.4						
CPD	**Cerro la Pandu**	**158.57**	**37**	*e*PKIKP	PKPdf	09 56 02.4	0.0
MTP	**Monte Pirata**	**158.74**	**36**	*e*PKPdf	PKPdf	09 56 02.4	-0.2
MTP				*e*PKPab	PKPab	09 56 39.0	+0.9
SDV	**Santo Domingo**	**160.35**	**66**	*e*PKPdf	PKPdf	09 56 04.7	+0.1
SDV				LR	LR		
	comp=Z,621nm,21.0s						
SIV	**San Ignacio**	**161.10**	**154**	PKP	PKPdf	09 56 06.1	+0.7
	comp=Z,26nm,1.0s,baz=220,slow=2.4,SNR=43						
SIV				PKPab	PKPab	09 56 48.0	-0.3
	comp=Z,26nm,0.9s,baz=215,slow=3.4,SNR=11						
SIV				PP	PP	10 00 34.9	+5.0
	comp=Z,6.4nm,1.1s,baz=279,slow=14,SNR=3.2						
BDFB	**Brasilia**	**162.85**	**195**	PKIKP	PKPdf	09 56 07.0	-0.1
BDFB						09 56 55.9	
BDFB						10 00 39.5	
BDFB				pmax	pmax		
	comp=Z,11nm,1.1s						
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BDFB				pmax	pmax		
	comp=Z,7.0nm,1.0s						
BDFB	**Brasilia**	**162.85**	**195**	PKP	PKPdf	09 56 07.0	-0.2
BDFB				PKPab	PKPab	09 56 55.9	+0.1
BDFB				PP	PP	10 00 39.5	+0.6
BDFB				LR	LR		
	comp=Z,2μm,22.0s						
BDFB	**Brasilia**	**162.85**	**195**	PKP	PKPdf	09 56 07.0	-0.2
	comp=Z,11nm,1.1s,baz=25,slow=1.9,SNR=14						
BDFB				PKPab	PKPab	09 56 55.9	+0.1
	comp=Z,7.3nm,1.0s,baz=181,slow=6.5,SNR=4.1						
BDFB				PP	PP	10 00 39.5	+0.6
	comp=Z,7.4nm,1.0s,baz=128,slow=2.2,SNR=5.4						
GRGR	**Grenville**	**165.72**	**39**	PFAKE		09 56 20.0	+10
GRGR				LR	LR		
	comp=Z,2μm,22.0s						
BBGH	**Gun Hill**	**166.08**	**30**	PFAKE		09 56 20.0	+10
BBGH				LR	LR		
	comp=Z,4μm,22.0s						

NNC ***29*** *09:38:01.3±6.8, 3996N×7816E, h0km, mb4.6, mpv4.7, Error ellipse: s-maj=58.2km s-min=34.8km az=151.0*
IDC ***29*** *09:38:05.4±1.2, 4023N×7799E, h0km, mb4.2/12, mb1 4.3/16, mb1mx4.2/26, mbtmp4.2/16, ML3.9/4, MS4.2/2, Ms1 4.3/2, ms1mx3.6/45, Error ellipse: s-maj=24.1km s-min=16.1km az=138.0*
ISCJB ***29*** *09:38:09.7±0.5, 40.18N±003×7807E±004, h43km±6km, mb4.3/24, MS5.0/3, Error ellipse: s-maj=5.4km s-min=4.4km az=164.5*
BJI ***29*** *09:38:09.5, 4056N×7772E, h27km, mB4.5, mb4.3, ML4.5, Msz4.2*
MOS ***29*** *09:38:11.1±1.6, 4055N×7788E, h33km, mb4.5/20, Error ellipse: s-maj=12.5km s-min=7.0km az=93.9*
NEIC ***29*** *09:38:13.1±1.1, 4055N×7784E, h36km±10km, mb4.4/3, Error ellipse: s-maj=12.0km s-min=8.5km az=145.0*
SZGRF ***29*** *09:38:38.3, 4156N×7572E, h33km, mb4.6, Kyrgyzstan*
ISC 29 09:38:11.8±0.4, 4021N±003×7805E±004, h43km±5km, n105, σ1§30/116, mb4.3/24, MS5.0/3, 18C-6D, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.74**	**247**	⇑*i*PG	**Pn**	**09 38 40.8**	**+1.3**
KSH				SG	**Sn**	**09 39 03.0**	**+2.5**
KSH				Smax			
	comp=N,14μm,0.3s						
KSH				Smax			
	comp=E,12μm,0.4s						
ULHL	**Ulahol**	**2.44**	**327**	P	**Pn**	**09 38 48.5**	**-0.6**
	SNR=1233						
KZA	**Kyzart**	**2.82**	**312**	P	**Pn**	**09 38 53.6**	**-0.6**
	SNR=2521						
KNDC	**Almaty**	**3.11**	**345**	⇓Pn	**Pn**	**09 38 57.4**	**-0.9**
	comp=E,2μm,0.7s						
KNDC				⇑Sn	**Sn**	**09 39 38.0**	**+3.9**
	comp=E,3μm,0.8s						
AAA	**Alma-Ata**	**3.17**	**345**	*e*PN	**Pn**	**09 39 01.8**	**+2.8**
AAA				*e*S	**Sn**	**09 39 40.3**	**+4.8**
AAA				pmax	pmax		
	comp=Z,2.0nm,0.5s						
AAA				smax			
	comp=E,5.0nm,0.5s						
TKM2	**Tokmak 2**	**3.27**	**327**	⇑Pn	**Pn**	**09 38 59.9**	**-0.5**
	comp=E,53nm,0.6s						
TKM2				⇑Pg	**Pn**	**09 39 04.1**	**+3.6**
	comp=E,486nm,0.8s						
TKM2				⇓Sn	**Sn**	**09 39 43.8**	**+5.7**
	comp=E,458nm,0.5s						
TKM2	**Tokmak 2**	**3.27**	**327**	*i* PN	**Pn**	**09 39 03.8**	**+3.3**
TKM2				pmax	pmax		
	comp=Z,295nm,0.2s						
TKM2	**Tokmak 2**	**3.27**	**327**	P	**Pn**	**09 38 60.0**	**-0.5**
	SNR=96						
UCH	**Uchtor**	**3.34**	**308**	P	**Pn**	**09 39 00.9**	**-0.5**
	SNR=94						
KBK	**Karagaybulak**	**3.38**	**317**	P	**Pn**	**09 39 02.1**	**+0.2**
	SNR=66						
AAK	**Ala-Archa**	**3.60**	**313**	P	**Pn**	**09 39 04.9**	**-0.1**
	SNR=14						
FRU	**Bishkek**	**3.67**	**317**	*e*PN	**Pn**	**09 39 05.5**	**-0.5**
FRU				*i*		09 39 10.5	
FRU				*i*		09 39 16.8	
FRU				*e*S	**Sn**	**09 39 50.5**	**+2.5**
FRU				pmax	pmax		
	comp=Z,710nm,1.8s						
FRU				pmax	pmax		
	comp=E,1μm,1.5s						
CHMS	**Chumysh**	**3.72**	**319**	P	**Pn**	**09 39 05.7**	**-1.0**
	SNR=27						
AML	**Almayashu**	**3.80**	**302**	*e*Pn	**Pn**	**09 39 07.5**	**-0.3**
AML				*e*Sn	**Sn**	**09 40 00.8**	**+10**
AML	**Almayashu**	**3.80**	**302**	P	**Pn**	**09 39 07.3**	**-0.5**
	SNR=36						
EKS2	**Erkin-Say**	**4.04**	**309**	P	**Pn**	**09 39 11.0**	**0.0**
	SNR=53						
USP	**Ospenovka**	**4.04**	**320**	P	**Pn**	**09 39 17.3**	**+6.2**
	SNR=259						
KK31	**Karatay Array**	**6.34**	**300**	⇓Pn	**Pn**	**09 39 37.7**	**-4.9**
	comp=E,3.0nm,0.6s,baz=182,slow=18						
KK31				⇓Pg	**Pn**	**09 40 00.3**	**+18**
	comp=E,60nm,0.6s,baz=91,slow=15						
KK31				⇑Lg		09 41 25.0	
	comp=E,134nm,0.7s,baz=100,slow=30						
MK31	**Makanchi Array**	**7.26**	**24**	⇑Pn	**Pn**	**09 39 54.8**	**-0.4**
	comp=E,32nm,0.8s						
MK31				⇑Sn	**Sn**	**09 41 23.2**	**+6.9**
	comp=E,37nm,0.7s						
MK31				⇓Lg		09 41 55.8	
	comp=E,52nm,0.7s,baz=201,slow=26,SNR=3.6						
MK31	**Makanchi Array**	**7.26**	**24**	*i* PN	**Pn**	**09 39 55.8**	**+0.6**
MK31				pmax	pmax		
	comp=Z,23nm,0.4s						
MK31	**Makanchi Array**	**7.26**	**24**	*e*Pn	**Pn**	**09 39 55.2**	**0.0**
MKAR	**Makanchi Array**	**7.26**	**24**	Pn	**Pn**	**09 39 54.5**	**-0.7**
MKAR				Lg		09 41 52.7	
MKAR				LR	LR	09 42 21.7	
MKAR	**Makanchi Array**	**7.26**	**24**	Pn	**Pn**	**09 39 54.5**	**-0.7**
	comp=Z,1.4nm,0.3s,baz=208,slow=16,SNR=12						
MKAR				Lg		09 41 52.7	
	comp=Z,5.3nm,0.3s,baz=210,slow=29,SNR=3.9						
MKAR				LR	LR	09 42 21.7	
	comp=Z,105nm,21.4s,baz=206,slow=35						
WMQ	**Urumqi**	**8.04**	**60**	*e*P	**Pn**	**09 40 05.5**	**-0.3**
WMQ				S	**Sn**	**09 41 38.0**	**+2.7**
WMQ				Smax			
	comp=N,115nm,1.0s						
WMQ				Smax			
	comp=E,116nm,1.0s						
CEP	**Cherat**	**8.05**	**219**	P	**Pn**	**09 40 07.2**	**+1.1**
CEP				S	**Sn**	**09 41 38.0**	**+2.3**
THW	**Thamme Wali**	**8.97**	**216**	P	**Pn**	**09 40 19.1**	**+0.3**
KBL	**Kabul**	**9.13**	**235**	*e*Pn	**Pn**	**09 40 21.3**	**+0.4**
	comp=E,22nm,0.6s						
KBL				*e*Sn	**Sn**	**09 42 00.3**	**-2.0**
KURBB	**Kurchatov Arra**	**10.41**	**2**	⇑Pn	**Pn**	**09 40 34.8**	**-3.5**
	comp=E,1.5nm,0.7s,baz=197,slow=12						
KURBB				⇑Sn	**Sn**	**09 42 37.2**	**+3.6**
	comp=E,9.4nm,0.8s						
KURBB				⇑Lg		09 43 42.1	
	comp=E,32nm,0.9s,baz=188,slow=30						
KURK	**Kurchatov**	**10.51**	**2**	⇑Pn	**Pn**	**09 40 36.3**	**-3.4**
KURK				⇑Lg		09 43 42.3	
	comp=E,398nm,1.5s						
KURK	**Kurchatov**	**10.51**	**2**	*e*P	**Pn**	**09 40 36.7**	**-3.0**
KURK				pmax	pmax		
	comp=Z,17nm,1.9s						
KURK	**Kurchatov**	**10.51**	**2**	*e*Pn	**Pn**	**09 40 36.7**	**-2.9**
	comp=Z,17nm,1.9s						
DANN	**Dangsing**	**12.74**	**157**	*e*P	**Pn**	**09 41 08.8**	**-1.4**
	comp=Z,63nm,0.6s						
KOLN	**Koldanda**	**13.23**	**158**	*e*P	**Pn**	**09 41 15.2**	**-1.8**
	comp=Z,36nm,0.5s						
GKN	**Gorkha**	**13.34**	**154**	*e*P	**Pn**	**09 41 18.1**	**-0.4**
KKN	**Kakani**	**13.76**	**152**	*e*P	**Pn**	**09 41 23.8**	**-0.4**
	comp=Z,32nm,0.5s						
BVA0	**Borovoye Array**	**13.84**	**340**	⇑Pn	**Pn**	**09 41 19.6**	**-5.5**
	comp=Z,3.7nm,0.8s,baz=154,slow=15,SNR=85						
BVAR	**Borovoye Array**	**13.84**	**340**	Pn	**Pn**	**09 41 20.7**	**-4.4**
	comp=Z,0.4nm,0.3s,baz=152,slow=13,SNR=32						
BVAR				Lg		09 45 04.8	
	comp=Z,0.6nm,0.3s,baz=159,slow=18,SNR=5.3						
DMN	**Daman**	**13.86**	**153**	*e*P	**Pn**	**09 41 24.7**	**-0.9**
	comp=Z,17nm,0.5s						
GUN	**Gumba**	**13.87**	**150**	*e*P	**Pn**	**09 41 26.0**	**+0.3**
	comp=Z,73nm,0.5s						
BRVK	**Borovoye**	**13.90**	**340**	*e*P	**Pn**	**09 41 21.2**	**-4.7**
BRVK				pmax	pmax		
	comp=Z,33nm,0.8s						
BRVK	**Borovoye**	**13.90**	**340**	*e*Pn	**Pn**	**09 41 21.1**	**-4.8**
	comp=Z,33nm,0.8s						
PKIN	**Phulchoki**	**13.99**	**152**	*e*P	**Pn**	**09 41 26.6**	**-0.8**
	comp=Z,47nm,0.5s						
PKI	**Pulchoki**	**14.01**	**152**	*e*P	**Pn**	**09 41 26.9**	**-0.6**
	comp=Z,60nm,0.6s						
JIRN	**Jiri**	**14.22**	**149**	*e*P	**Pn**	**09 41 30.6**	**+0.2**
	comp=Z,117nm,0.5s						
ZAL	**Zalesovo**	**14.47**	**16**	P	**Pn**	**09 41 30.7**	**-2.9**
ZAA0	**Zalesovo Array**	**14.48**	**16**	*e*Pn	**Pn**	**09 41 30.7**	**-3.1**
ZALV	**Zalesovo Beam**	**14.48**	**16**	Pn	**Pn**	**09 41 30.7**	**-3.1**
	comp=Z,1.4nm,0.3s,baz=199,slow=12,SNR=6.8						
ZALV				Lg		09 45 35.8	
	comp=Z,0.4nm,0.3s,baz=191,slow=29,SNR=2.0						
NVS	**Novosibirsk**	**15.04**	**12**	*e*P	**Pn**	**09 41 42.0**	**+0.8**
NVS				*e*S	**S**	**09 44 31.2**	**-11**
NVS				pmax	pmax		
	comp=Z,25nm,0.9s						
AB31	**Akbulak array**	**15.69**	**311**	⇑Pn	**Pn**	**09 41 49.4**	**-0.2**
	comp=Z,6.9nm,0.6s,baz=0.0,slow=0.1,SNR=50						
GTA	**Gaotai**	**16.74**	**86**	*e*P	**Pn**	**09 42 05.5**	**+2.5**
GTA				AP	pP	09 42 11.8	-3.4
GTA				XP	sP	09 42 15.5	-5.1
GTA				AMB	AMB		
	comp=Z,3.0nm,0.8s						
AKTK	**Aktyubinsk**	**17.35**	**313**	P	**Pn**	**09 42 07.0**	**-3.5**
AKTK				Lg		09 47 12.3	
AKTO	**Aktyubinsk**	**17.35**	**313**	⇑Pn	**Pn**	**09 42 06.8**	**-3.7**
	comp=Z,0.3nm,0.9s						
AKTO	**Aktyubinsk**	**17.35**	**313**	P	**Pn**	**09 42 07.0**	**-3.5**
	comp=Z,0.2nm,0.3s,baz=119,slow=9.7,SNR=9.1						
AKTO				Lg		09 47 12.3	
	comp=Z,0.2nm,0.3s,baz=176,slow=18,SNR=2.8						
MOY	**Mondy**	**19.55**	**47**	*e*P	**Pn**	**09 42 43.1**	**+5.9**
ZAK	**Zakamensk**	**20.36**	**52**	*e*P	**P**	**09 42 45.8**	**+1.4**
ZAK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.0s						
ARU	**Arti**	**20.64**	**328**	*d i*P	**P**	**09 42 50.5**	**+3.1**
ARU				*e*		09 43 06.1	
ARU				*e*PPP		09 43 15.9	
ARU				*e*SS		09 47 02.2	
ARU				pmax	pmax		
	comp=Z,25nm,0.8s						
LZH	**Lanzhou**	**20.67**	**93**	*e*P	**P**	**09 42 54.3**	**+6.4**
LZH				AP		09 42 58.5	
LZH				XP	sP	09 43 01.3	-2.6
LZH				PP		09 43 16.0	
LZH				AMB	AMB		
	comp=Z,20nm,1.0s						
LZH				AMB	AMB		
	comp=Z,88nm,4.1s						
LZH				LR	LR		
	comp=Z,613nm,14.5s,MS4.1						
SONM	**Songino Array**	**21.67**	**60**	P	**P**	**09 42 59.7**	**+1.1**
SONM				pmax	pmax		
	comp=Z,5.0nm,0.8s						
SONM	**Songino Array**	**21.67**	**60**	P	**P**	**09 42 59.7**	**+1.2**
	comp=Z,5.1nm,0.8s,mb4.0,baz=264,slow=11,SNR=16						
ULN	**Ulaanbaatar**	**22.11**	**60**	*e*P	**P**	**09 43 03.9**	**+0.6**
ULN				pmax	pmax		
	comp=Z,17nm,0.8s,mb4.5						
ULN	**Ulaanbaatar**	**22.11**	**60**	*e*P	**P**	**09 43 03.9**	**+0.6**
	comp=Z,17nm,0.8s,mb4.5						
HYB	**Hyderabad**	**22.72**	**179**	*e*P	**P**	**09 43 17.0**	**+7.1**
HYB	**Hyderabad**	**22.72**	**179**	*i* P	**P**	**09 43 17.0**	**+7.1**
CD2	**Chengdu**	**22.82**	**106**	*e*P	**P**	**09 43 13.3**	**+2.4**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
CD2				AMB	AMB		
	comp=Z,20nm,5.2s						
SOKR	**Solikamsk**	**23.53**	**332**	⇑*i*P	**P**	**09 43 22.8**	**+5.0**
SOKR				pmax	pmax		
	comp=Z,40nm,1.2s,mb4.7						
GNI	**Garni**	**25.37**	**281**	P	**P**	**09 43 35.0**	**+0.3**
GNI				pmax	pmax		
	comp=Z,5.0nm,0.5s						
GNI	**Garni**	**25.37**	**281**	P	**P**	**09 43 35.0**	**+0.3**
	comp=Z,4.7nm,0.5s,mb4.3,baz=346,slow=22,SNR=5.1						
KIV	**Kislovodsk**	**26.38**	**290**	*e*P	**P**	**09 43 46.3**	**+2.4**
KIV				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.3						
TIY	**Taiyuan**	**26.76**	**84**	⇑*i*P	**P**	**09 43 47.0**	**-0.3**
TIY				LR	LR		
	comp=N,5μm,8.1s						
TIY				LR	LR		
	comp=E,2μm,9.0s						
TIY				LR	LR		
	comp=Z,9μm,25.6s,MS5.2						
MALT	**Malatya**	**30.56**	**279**	*e*P	**P**	**09 44 23.0**	**+1.8**
MALT				pmax	pmax		
	comp=Z,6.0nm,1.1s,mb4.3						
MALT	**Malatya**	**30.56**	**279**	*e*P	**P**	**09 44 23.0**	**+1.9**
	comp=Z,6.4nm,1.1s,mb4.4						
WHN	**Wuhan**	**30.95**	**97**	P	**P**	**09 44 31.3**	**+6.7**
TMCR	**Tamitsa**	**33.38**	**329**	*e*P	**P**	**09 44 49.9**	**+4.4**
TMCR				pmax	pmax		
	comp=Z,58nm,1.2s,mb5.4						
NJ2	**Nanjing**	**33.71**	**91**	*e*P	**P**	**09 44 52.3**	**+3.5**
NJ2				AP	pP	09 44 56.5	-4.0
NJ2				XP	sP	09 45 00.0	-5.7
NJ2				PP	PP	09 46 04.8	-0.8
NJ2				AMB	AMB		
	comp=Z,680nm,8.8s						
AKASG	**Malin Array Be**	**35.22**	**304**	P	**P**	**09 45 00.8**	**-0.9**
AKASG				PcP	PcP	09 47 30.0	-1.7
AKASG	**Malin Array Be**	**35.22**	**304**	P	**P**	**09 45 00.8**	**-0.9**
	comp=Z,0.2nm,0.3s,mb3.5,baz=83,slow=8.4,SNR=4.2						
AKASG				PcP	PcP	09 47 30.0	-1.7
	comp=Z,0.3nm,0.4s,baz=72,slow=3.2,SNR=5.2						
JOF	**Joensuu**	**35.71**	**325**	*e*p	**P**	**09 45 04.7**	**-1.0**
	comp=Z,1.7nm,0.4s,mb4.3						
JOF	**Joensuu**	**35.71**	**325**	*e*P	**P**	**09 45 04.7**	**-1.0**
JOF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
FINES	**FINESS Array B**	**37.75**	**322**	P	**P**	**09 45 22.6**	**-0.5**
FINES				pmax	pmax		
	comp=Z,5.0nm,0.8s						
FINES	**FINESS Array B**	**37.75**	**322**	P	**P**	**09 45 22.6**	**-0.5**
	comp=Z,4.5nm,0.8s,mb4.3,baz=102,slow=9.3,SNR=13						
MLR	**Muntele Rosu**	**38.00**	**296**	P	**P**	**09 45 25.4**	**0.0**
MLR				pmax	pmax		
	comp=Z,2.0nm,0.5s						
MLR	**Muntele Rosu**	**38.00**	**296**	P	**P**	**09 45 25.4**	**-0.1**
	comp=Z,1.5nm,0.5s,mb4.0,baz=185,slow=9.1,SNR=3.9						
ARCES	**ARCESS Array B**	**40.02**	**334**	P	**P**	**09 45 41.8**	**-0.2**
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.8s						
ARCES	**ARCESS Array B**	**40.02**	**334**	P	**P**	**09 45 41.8**	**-0.2**
	comp=Z,2.9nm,0.8s,mb4.1,baz=103,slow=10,SNR=13						
TIXI	**Tiksi**	**40.25**	**22**	*e*P	**P**	**09 45 42.2**	**-1.7**
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.4s,mb4.3						
TIXI	**Tiksi**	**40.25**	**22**	*e*P	**P**	**09 45 43.9**	**+0.1**
	comp=Z,4.3nm,0.6s,mb4.4						
NB2	**NORSAR Subarra**	**44.89**	**321**	P	**P**	**09 46 20.8**	**-0.8**
	comp=Z,13nm,1.1s,mb4.7,baz=87,slow=8.6						
NOA	**NORSAR Array B**	**44.89**	**321**	P	**P**	**09 46 20.8**	**-0.8**
NOA				pmax	pmax		
	comp=Z,4.0nm,0.8s						
NOA	**NORSAR Array B**	**44.89**	**321**	P	**P**	**09 46 20.8**	**-0.8**
	comp=Z,3.8nm,0.8s,mb4.3,baz=87,slow=7.9,SNR=8.2						
GERES	**GERESS Array B**	**45.43**	**303**	P	**P**	**09 46 25.6**	**-0.5**
GERES				pmax	pmax		
	comp=Z,1.0nm,0.3s						
GERES	**GERESS Array B**	**45.43**	**303**	P	**P**	**09 46 25.6**	**-0.5**
	comp=Z,0.5nm,0.3s,mb3.8,baz=77,slow=8.4,SNR=5.6						
GRF	**Grafenberg Arr**	**46.79**	**305**	*e*P	pP	09 46 46.1	-2.7
GRF				pmax	pmax		
	comp=Z,12nm,1.4s,mb4.6						
GRF	**Grafenberg Arr**	**46.79**	**305**	*e*P	pP	09 46 46.1	-2.7
	comp=Z,12nm,1.4s						
DAG	**Danmarks Havn**	**52.76**	**343**	⇑*i*P	**P**	**09 47 21.5**	**-0.2**
DAG				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
DAG	**Danmarks Havn**	**52.76**	**343**	⇑*i*P	**P**	**09 47 21.5**	**-0.2**
	comp=Z,1.3nm,0.6s,mb4.0						
BILL	**Bilibino**	**52.78**	**28**	*e*P	**P**	**09 47 23.1**	**+1.1**
BILL				*e*		09 48 32.9	
BILL				pmax	pmax		
	comp=Z,4.0nm,1.5s,mb4.1						
ESDC	**Sonseca Array**	**60.59**

WRA S **Sn** **09 51 06.2 -8.3**
0.4nm,0.3s,baz=334,slow=21,SNR=4.6
WB2 Warramunga Arr 19.86 161 *e*P **Pn** **09 47 30.4 -1.2**
MBWA Marble Bar 21.26 200 *e*P **P** **09 47 45.9 +0.7**
49nm,1.1s,mb4.8
ASAR Alice Springs 23.24 165 P **P** **09 48 06.2 +0.1**
30nm,0.7s,mb4.8,baz=347,slow=13,SNR=13
ASAR S **S** **09 52 14.9 -2.5**
8.3nm,1.0s,baz=344,slow=18,SNR=7.6
YHNB Yeheng 26.34 347 *e*P **P** **09 48 34.1 -0.6**
KULM Kulim 27.52 284 *e*P **P** **09 48 45.0 -0.6**
PSI Prapat 28.79 278 P **P** **09 48 53.2 -3.7**
22nm,0.8s,mb4.9,baz=271,slow=4.8,SNR=7.9
FORT Forrest 29.47 179 *e*P **P** **09 48 55.5 -7.2**
87nm,0.9s,mb5.5
KKTK Khon Kaen 29.88 307 P **P** **09 48 58.0 -8.6**
309nm,0.7s,mb6.1
STKA Stephens Creek 33.35 158 *e*P **P** **09 49 38.7 +1.8**
51nm,1.2s,mb5.3
STKA Stephens Creek 33.35 158 P **P** **09 49 38.3 +1.4**
39nm,0.7s,mb5.5,baz=320,slow=9.1,SNR=24
WHN Wuhan 33.90 339 ⇑P **P** **09 49 43.5 +1.8**
WHN AMB AMB
comp=Z,312nm,1.3s,mb6.1
GYA Guiyang 34.00 325 ⇑*i*P **P** **09 49 45.0 +2.4**
GYA PP PP 09 50 59.3 -0.5
GYA S **S** **09 55 09.5 +2.3**
GYA SCS ScS 10 00 07.3 +0.4
GYA AMB AMB
comp=Z,210nm,1.0s,mb6.0
GYA AMB AMB
comp=Z,490nm,5.2s
GYA LR LR
comp=N,2μm,19.5s,MS4.9
GYA LR LR
comp=E,1μm,20.1s,MS4.9
GYA LR LR
comp=Z,3μm,19.8s,MS5.0
NJ2 Nanjing 34.01 347 *e*P **P** **09 49 44.0 +1.3**
NJ2 AP pP 09 49 47.8 -0.1
NJ2 XP sP 09 49 51.5 +1.4
NJ2 PP PP 09 50 57.3 -2.6
NJ2 S **S** **09 55 08.5 +1.2**
NJ2 AMB AMB
comp=Z,110nm,1.3s,mb5.6
NJ2 AMB AMB
comp=Z,1μm,7.6s
NJ2 LR LR
comp=N,14μm,18.6s,MS5.8
NJ2 LR LR
comp=E,6μm,15.4s,MS5.8
NJ2 LR LR
comp=Z,6μm,22.4s
KMI Kunming 35.42 319 P **P** **09 49 57.5 +2.5**
KMI AMB AMB
comp=Z,26nm,2.0s,mb4.8
KS15 Wonju Array Si 38.40 1 *e*P **P** **09 50 20.3 +0.2**
KSRS Korea Array 38.42 1 P **P** **09 50 20.2 0.0**
comp=Z,13nm,0.8s,mb4.7,baz=176,slow=9.5,SNR=24
KSRS PcP PcP 09 52 34.0 +0.4
comp=Z,7.5nm,0.9s,baz=189,slow=3.6,SNR=12
KSRS ScP ScP 09 56 21.5 +0.6
comp=Z,2.0nm,0.9s,baz=177,slow=5.0,SNR=5.0
MJAR Matsushiro Arr 38.82 14 P **P** **09 50 22.4 -1.2**
comp=Z,8.3nm,0.6s,mb4.7,baz=184,slow=9.6,SNR=12
MJAR PcP PcP 09 52 34.7 -0.1
comp=Z,8.4nm,0.9s,baz=179,slow=3.1,SNR=9.5
MJAR ScP ScP 09 56 24.0 +1.5
comp=Z,2.2nm,0.9s,baz=204,slow=4.2,SNR=4.9
MAT Matsushiro 38.82 14 P **P** **09 50 22.1 -1.5**
CD2 Chengdu 39.04 327 *e*P **P** **09 50 26.0 +0.4**
CD2 XP sP 09 50 33.0 -0.1
CD2 PP PP 09 51 59.5 +4.2
CD2 S **S** **09 56 24.0 -0.2**
CD2 AMB AMB
comp=Z,20nm,0.8s,mb4.9
CD2 LR LR
comp=N,4μm,18.0s
CD2 LR LR
comp=Z,4μm,19.0s,MS5.2
XAN Xi'an 39.10 335 P **P** **09 50 28.3 +2.3**
XAN AMB AMB
comp=Z,63nm,1.2s,mb5.2
XAN AMB AMB
comp=Z,4μm,7.8s
XAN LR LR
comp=N,2μm,16.7s,MS5.1
XAN LR LR
comp=E,2μm,21.0s,MS5.1
XAN LR LR
comp=Z,4μm,18.1s,MS5.3
CNB Canberra Magne 39.64 151 *e*P **P** **09 50 31.8 +1.3**
comp=Z,71nm,1.9s,mb5.1
TOO Toolangi 39.87 157 *e*P **P** **09 50 35.3 +2.9**
comp=Z,816nm,1.6s,mb6.2
TOO Toolangi 39.87 157 *e*P **P** **09 50 35.3 +2.9**
TOO pmax pmax
comp=Z,816nm,1.6s,mb6.2
DL2 Dalian 40.22 353 *e*P **P** **09 50 30.3 -5.0**
DL2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
BJI Beijing 42.27 347 P **P** **09 50 51.5 -0.7**
BJI AMB AMB
comp=Z,39nm,0.8s,mb5.1
SNY Shenyang 42.93 356 ⇓P **P** **09 50 56.3 -1.1**
SNY AMB AMB
comp=Z,30nm,0.6s,mb5.2
HHC Hu-ho-hao-te 44.24 343 ⇑P **P** **09 51 09.0 +1.0**
HHC AP pP 09 51 13.5 +0.1
HHC XP sP 09 51 16.0 +0.5
HHC PP PP 09 52 53.8 +2.4
HHC SCP ScP 09 56 42.0 -1.9
HHC S **S** **09 57 42.3 +1.4**
HHC SCS ScS 10 01 04.8 -1.2
HHC AMB AMB
comp=Z,74nm,1.3s,mb5.3
HHC AMB AMB
comp=Z,3μm,8.6s
HHC LR LR
comp=N,5μm,19.8s,MS5.6
HHC LR LR
comp=E,5μm,18.2s,MS5.6
HHC LR LR
comp=Z,8μm,18.1s,MS5.7
ERM Erimo 45.26 17 *i*P **P** **09 51 17.7 +1.5**
MDJ Mudanjiang 45.61 2 P **P** **09 51 19.0 +0.1**
MDJ PP PP 09 53 05.0 -0.9
MDJ S **S** **09 58 01.5 +0.8**
MDJ AMB AMB
comp=Z,38nm,1.0s,mb5.3
MDJ AMB AMB
comp=Z,986nm,9.2s
MDJ LR LR
comp=N,3μm,16.9s
MDJ LR LR
comp=Z,5μm,18.0s,MS5.5
MDJ Mudanjiang 45.61 2 *e*P **P** **09 51 18.9 0.0**
comp=Z,17nm,0.9s,mb5.0
GTA Gaotai 47.66 331 *e*P **P** **09 51 36.0 +0.9**
GTA AP pP 09 51 40.3 -0.2
GTA XP sP 09 51 43.5 +0.9
GTA PP PP 09 53 27.3 +0.5
GTA S **S** **09 58 32.3 +2.1**
GTA SCS ScS 10 01 27.3 -0.9
GTA AMB AMB
comp=Z,72nm,1.1s,mb5.6
GTA AMB AMB
comp=Z,2μm,6.5s
GTA LR LR
comp=N,4μm,21.7s,MS5.5
GTA LR LR
comp=E,3μm,17.5s,MS5.5
GTA LR LR
comp=Z,4μm,22.1s,MS5.4
JIRN Jiri 48.90 309 *e*P **P** **09 51 45.8 +1.0**
comp=Z,1μm,1.8s
GUN Gumba 49.26 309 *e*P **P** **09 51 48.6 +1.0**
comp=Z,1μm,1.3s
PKI Pulchoki 49.46 309 *e*P **P** **09 51 49.8 +0.6**
comp=Z,949nm,1.8s,mb6.5
PKIN Phulchoki 49.48 309 *e*P **P** **09 51 49.6 +0.3**
comp=Z,494nm,1.6s
KKN Kakani 49.67 309 *e*P **P** **09 51 51.2 +0.5**
comp=Z,953nm,1.7s
DMN Daman 49.72 308 *e*P **P** **09 51 52.0 +0.9**
comp=Z,800nm,1.4s

YSS Yuzh-Sakhalins 49.76 14 *i*P **P** **09 51 51.5 +0.5**
YSS pmax pmax
comp=Z,67nm,1.9s,mb5.3
HABR Khabarovsk 49.87 7⇑*e*P **P** **09 51 52.2 +0.3**
HABR *e* 09 52 04.0
HABR *e* 09 53 10.1
HABR *e* 09 53 44.7
HABR *e*S **S** **09 59 00.8 -0.2**
HABR *e* 09 59 16.9
HABR *e* 10 01 42.9
HABR pmax pmax
comp=Z,66nm,1.2s,mb5.5
GKN Gorkha 50.27 309 *e*P **P** **09 51 55.7 +0.4**
HIA Hailar 50.66 353⇑*e*P **P** **09 51 57.7 -0.2**
KOLN Koldanda 50.98 308 *e*P **P** **09 52 00.9 +0.2**
comp=Z,114nm,0.8s,mb5.9
DANN Dangsing 51.11 309 *e*P **P** **09 52 02.4 +0.7**
comp=Z,174nm,0.7s,mb6.1
HYB Hyderabad 51.57 293 *e*P **P** **09 52 05.5 +0.3**
HYB Hyderabad 51.57 293 *i*P **P** **09 52 05.5 +0.3**
ULN Ulaanbaatar 51.96 343 *e*P **P** **09 52 07.7 +0.1**
ULN *e* 09 53 20.6
ULN pmax pmax
comp=Z,53nm,1.1s,mb5.4
ULN Ulaanbaatar 51.96 343 *e*P **P** **09 52 07.7 0.0**
comp=Z,53nm,1.1s,mb5.4
ULN *e*PcP PcP 09 53 20.6 +0.6
SONM Songino Array 52.13 342 P **P** **09 52 09.0 +0.1**
SONM 09 53 20.6
SONM Songino Array 52.13 342 P **P** **09 52 09.0 +0.1**
comp=Z,20nm,0.7s,mb5.1,baz=154,slow=6.8,SNR=25
SONM PcP PcP 09 53 20.6 -0.1
comp=Z,10nm,0.9s,baz=141,slow=3.8,SNR=5.9
SONM ScP ScP 09 57 18.5 +1.4
comp=Z,1.3nm,0.8s,baz=114,slow=3.6,SNR=4.1
TLY Talaya 56.37 342 *i*P **P** **09 52 40.0 +0.3**
TLY pmax pmax
comp=Z,6.0nm,2.2s
WMQ Urumqi 57.14 327 *e*P **P** **09 52 46.0 +0.6**
WMQ XP sP 09 52 53.0 0.0
WMQ PP PP 09 54 54.0 +1.5
WMQ S **S** **10 00 38.0 -1.9**
WMQ SCS ScS 10 02 31.0 -3.1
WMQ AMB AMB
comp=Z,89nm,1.0s,mb5.8
WMQ AMB AMB
comp=Z,142nm,5.0s
WMQ LR LR
comp=N,3μm,15.0s,MS5.7
WMQ LR LR
comp=E,3μm,15.0s,MS5.7
WMQ LR LR
comp=Z,2μm,15.0s,MS5.4
RPZ Rata Peaks 57.40 144 P **P** **09 52 48.8 +1.5**
comp=Z,6.8nm,0.6s,mb4.9,baz=52,slow=5.2,SNR=5.6
URZ Urewera 58.55 135 P **P** **09 52 56.4 +1.1**
comp=Z,12nm,1.0s,mb4.9,baz=297,slow=9.0,SNR=4.0
PET Petropavlovsk 59.96 21 *e*P **P** **09 53 05.4 +0.6**
PET pmax pmax
comp=Z,33nm,1.5s,mb5.1
MK31 Makanchi Array 61.97 327 *i*P **P** **09 53 18.3 -0.4**
MK31 pmax pmax
comp=Z,13nm,0.4s,mb5.4
MK31 Makanchi Array 61.97 327 *e*P **P** **09 53 18.7 +0.1**
MKAR Makanchi Array 61.97 327 P **P** **09 53 18.6 0.0**
comp=Z,24nm,0.5s,mb5.6,baz=116,slow=8.6,SNR=71
MKAR ScP ScP 09 58 01.5 +0.9
comp=Z,1.8nm,0.8s,baz=100,slow=6.7,SNR=5.1
KSH Kashi 62.03 317 *e*P **P** **09 53 21.0 +1.8**
KSH *e*AP pP 09 53 25.3 +0.6
KSH *e*XP sP 09 53 28.3 +1.5
KSH *e*PP PP 09 55 39.0 +3.1
KSH *e*SCP ScP 09 58 01.0 0.0
KSH *e*PCS PcS 09 58 02.0 -0.7
KSH *e*S **S** **10 01 42.5 -0.7**
KSH *e*SCS ScS 10 03 08.0 -2.6
KSH LR LR
comp=N,4μm,12.2s,MS6.0
KSH LR LR
comp=E,4μm,12.2s,MS6.0
KSH LR LR
comp=Z,8μm,21.9s
YAK Yakutsk 63.04 1 *e*P **P** **09 53 23.9 -1.6**
YAK pmax pmax
comp=Z,66nm,0.7s,mb5.9
YAK pmax pmax
comp=N,30nm,1.3s
YAK pmax pmax
comp=E,4.0nm,0.8s
YAK Yakutsk 63.04 1 *e*P **P** **09 53 25.5 0.0**
comp=E,143nm,0.7s,mb6.2
MA2 Magadan 63.25 13⇑*e*P **P** **09 53 28.1 +1.2**
MA2 pmax pmax
comp=Z,54nm,0.8s,mb5.7
MA2 Magadan 63.25 13 *e*P **P** **09 53 27.1 +0.2**
comp=Z,52nm,0.8s,mb5.7
MA2 *e*PcP PcP 09 54 04.3 +0.2
KZA Kyzart 63.71 319 P **P** **09 53 31.8 +1.4**
SNR=8.5
TKM2 Tokmak 2 63.89 320 *i*P **P** **09 53 31.9 +0.4**
TKM2 pmax pmax
comp=Z,29nm,0.7s,mb5.4
TKM2 Tokmak 2 63.89 320 *e*P **P** **09 53 31.8 +0.2**
comp=Z,23nm,0.6s,mb5.4
TKM2 Tokmak 2 63.89 320 P **P** **09 53 32.1 +0.6**
SNR=10
UCH Uchtor 64.27 319 P **P** **09 53 35.3 +1.3**
SNR=9.7
USP Ospenovka 64.76 320 P **P** **09 53 37.5 +0.3**
SNR=9.2
AML Almayashu 64.76 318 *e*P **P** **09 53 37.9 +0.6**
comp=Z,29nm,0.6s,mb5.5
AML Almayashu 64.76 318 P **P** **09 53 38.4 +1.2**
SNR=9.7
EKS2 Erkin-Say 64.95 319 *e*P **P** **09 53 39.2 +0.7**
comp=Z,35nm,1.0s,mb5.3
EKS2 Erkin-Say 64.95 319 P **P** **09 53 39.3 +0.8**
SNR=8.5
KBL Kabul 65.09 309 *e*P **P** **09 53 39.2 -0.4**
comp=Z,19nm,0.8s,mb5.2
ZAA0 Zalesovo Array 65.25 334 *e*P **P** **09 53 39.1 -1.0**
ZALV Zalesovo Beam 65.25 334 P **P** **09 53 39.0 -1.1**
comp=Z,24nm,1.0s,mb5.2,baz=121,slow=5.7,SNR=10
ZAL Zalesovo 65.25 334 P **P** **09 53 39.0 -1.1**
KURK Kurchatov 66.23 328 P **P** **09 53 46.2 -0.4**
comp=Z,497nm,1.2s,mb6.4,SNR=12
KURK Kurchatov 66.23 328 *e*P **P** **09 53 45.2 -1.4**
KURK pmax pmax
comp=Z,110nm,1.1s,mb5.8
KURK Kurchatov 66.23 328 *e*P **P** **09 53 46.0 -0.6**
comp=Z,109nm,1.1s,mb5.8
NVS Novosibirsk 66.53 334 *i*P **P** **09 53 46.4 -2.0**
NVS pmax pmax
comp=Z,76nm,1.6s,mb5.5
NVS pmax pmax
comp=N,81nm,1.8s
NVS pmax pmax
comp=E,72nm,1.8s
SEY Seymchan 66.61 12⇓*e*P **P** **09 53 49.7 +1.0**
KK31 Karatay Array 67.30 318 *i*P **P** **09 53 53.1 -0.5**
KK31 pmax pmax
comp=Z,19nm,0.7s,mb5.2
BVAR Borovoye Array 71.79 328 P **P** **09 54 20.4 -0.7**
comp=Z,19nm,0.8s,mb5.1,baz=134,slow=6.4,SNR=17
BRVK Borovoye 71.86 328 P **P** **09 54 21.0 -0.5**
comp=Z,294nm,1.2s,mb6.1,SNR=7.1
BRVK Borovoye 71.86 328 *e*P **P** **09 54 21.0 -0.5**
comp=Z,83nm,1.2s,mb5.5
TIXI Tiksi 72.69 0⇑*e*P **P** **09 54 24.9 -1.2**
TIXI pmax pmax
comp=Z,34nm,1.1s,mb5.2
TIXI Tiksi 72.69 0 *e*P **P** **09 54 24.9 -1.1**
comp=Z,19nm,0.4s,mb5.4
BILL Bilibino 74.07 14 *e*P **P** **09 54 34.6 +0.3**
BILL *e*SS SS 10 08 52.4 +1.3
BILL pmax pmax
comp=Z,6.0nm,1.4s,mb4.3
UNV Unalaska Valle 77.03 34 *e*P **P** **09 54 51.0 -0.5**
comp=Z,6.5nm,0.5s,mb4.8
HKL Haleakala 77.60 69 *e*P **P** **09 54 50.3 -5.1**
AKTK Aktyubinsk 77.92 322 P **P** **09 54 55.9 -0.8**
AKTO Aktyubinsk 77.92 322 *i*P **P** **09 54 55.5 -1.1**
AKTO pmax pmax
comp=Z,3.0nm,1.1s
AKTO Aktyubinsk 77.92 322 P **P** **09 54 55.9 -0.8**
comp=Z,39nm,0.9s,mb5.3,baz=113,slow=7.3,SNR=20

VNDA Vanda 78.52 173 *e*P **P** **09 55 00.2 +0.7**
VNDA pmax pmax
comp=Z,3.0nm,0.7s
VNDA Vanda 78.52 173 *e*P **P** **09 55 00.2 +0.8**
comp=Z,3.1nm,0.7s,mb4.3
VNDA Vanda 78.52 173 P **P** **09 54 59.9 +0.4**
comp=Z,4.3nm,0.9s,mb4.4,baz=311,slow=6.2,SNR=9.4
ARU Arti 79.43 328*d i*P **P** **09 55 03.2 -1.6**
ARU *e*S S 10 05 03.3 -1.7
ARU pmax pmax
comp=Z,69nm,1.7s,mb5.3
ARU Arti 79.43 328 *e*P **P** **09 55 02.9 -1.8**
comp=Z,76nm,1.4s,mb5.4
MAW Mawson 79.46 201 P **P** **09 55 05.4 +0.7**
comp=Z,8.9nm,0.8s,mb4.8,baz=49,slow=6.0,SNR=9.9
OPO Ambohidratompo 80.40 251 P **P** **09 55 11.8 +0.9**
comp=Z,10nm,0.6s,mb4.9,baz=55,slow=4.6,SNR=22
SDPT Sand Point 80.83 33 *e*P **P** **09 55 12.7 +0.4**
comp=Z,73nm,0.8s,mb5.7
SOKR Solikamsk 81.29 331*d i*P **P** **09 55 13.6 -1.1**
SOKR pmax pmax
comp=Z,40nm,1.1s,mb5.3
UMR Umm Al-Rimmam 81.64 300 *e*P **P** **09 55 15.2 -2.1**
RDF Al-Radifah 81.72 299 *e*P **P** **09 55 16.0 -1.7**
RDF AMb AMB 09 55 18.8
comp=Z,34nm,1.1s,mb5.2
MIB Mutribah 81.99 300 *e*P **P** **09 55 17.3 -1.8**
MIB AMb AMB 09 55 23.2
comp=Z,31nm,1.0s,mb5.2
NAY Al-Naaiem 82.02 300 *e*P **P** **09 55 17.1 -2.2**
NAY AMb AMB 09 55 20.4
comp=Z,25nm,0.9s,mb5.1
SVW2 Sparrevohn 84.72 28 *e*P **P** **09 55 32.8 +0.4**
TTA Tatalina 84.91 27 *e*P **P** **09 55 34.3 +0.9**
comp=Z,27nm,1.1s,mb5.3
KDAK Kodiak Island 85.62 32 P **P** **09 55 36.6 -0.4**
comp=Z,15nm,0.7s,mb5.4,baz=151,slow=1.9,SNR=6.9
IMA2 Indian Mountai 86.53 24 *e*P **P** **09 55 41.8 +0.4**
KIV Kislovodsk 87.01 314 *e*P **P** **09 55 41.0 -3.2**
KIV pmax pmax
comp=Z,17nm,1.1s,mb5.2
SYO Syowa Base 88.16 201⇑*e*P **P** **09 55 48.2 -1.0**
COLA College 88.78 25 *i*P **P** **09 55 52.4 +0.2**
QSPA South Pole Qui 88.78 180 *e*P **P** **09 55 52.4 +0.4**
comp=Z,35nm,1.0s,mb5.6
QSPA South Pole Qui 88.78 180 P **P** **09 55 53.0 +1.0**
comp=Z,23nm,0.9s,mb5.5,baz=320,slow=1.2,SNR=20
VORD Divnogorie 89.72 321 *e*P **P** **09 55 55.8 -1.1**
VORD pmax pmax
comp=Z,20nm,1.2s,mb5.3
VORD pmax pmax
comp=N,8.0nm,0.6s
VORD pmax pmax
comp=E,20nm,0.9s
KMBO Kilima Mbogo 90.17 269 *e*P **P** **09 56 01.3 +1.4**
KMBO pmax pmax
comp=Z,22nm,1.3s
KMBO Kilima Mbogo 90.17 269 P **P** **09 56 00.7 +0.8**
comp=Z,3.0nm,0.7s,mb4.7,baz=33,slow=7.8,SNR=4.7
ANN Anapa 90.82 315 *e*P **P** **09 56 00.1 -2.1**
ANN pmax pmax
comp=Z,24nm,1.1s,mb5.4
ASF Jabal al Asfar 91.08 302 P **P** **09 56 03.5 -0.2**
comp=Z,3.8nm,0.8s,mb4.8,baz=308,slow=5.8,SNR=4.2
OBN Obninsk 91.44 325⇑*e*P **P** **09 56 03.0 -1.8**
OBN pmax pmax
comp=Z,14nm,0.6s,mb5.5
OBN pmax pmax
comp=N,272nm,1.1s
DAWY Dawson 92.42 26 *e*P **P** **09 56 09.2 +0.1**
APA Apatity 92.61 337⇑*e*P **P** **09 56 07.0 -3.0**
APA pmax pmax
comp=Z,22nm,1.3s,mb5.4
APA MLR MLR
comp=Z,2μm,20.0s,MS5.7
SKAG Skagway 94.67 31 *e*P **P** **09 56 20.7 +1.1**
ARCES ARCESS Array B 95.25 340 P **P** **09 56 19.9 -2.1**
comp=Z,7.5nm,1.0s,mb5.1,baz=89,slow=4.2,SNR=15
SPITS Spitsbergen Ar 95.38 349 P **P** **09 56 20.7 -1.9**
comp=Z,9.1nm,0.9s,mb5.2,baz=0.0,slow=8.3,SNR=6.6
FINES FINESS Array B 96.45 332 *i*P **P** **09 56 25.5 -2.2**
FINES pmax pmax
comp=Z,3.0nm,0.9s
FINES FINESS Array B 96.45 332 P **P** **09 56 25.1 -2.5**
comp=Z,2.7nm,0.9s,mb4.7,baz=27,slow=5.1,SNR=3.7
KWP Kalwaria 100.41 320 *e*P Pdif 09 56 38.8 -6.8
KWP pmax pmax
comp=Z,43nm,0.5s
STHS Stebnicka Huta 101.38 320 PDIF Pdif 09 56 59.9 +10
VYHS Vyhne 103.13 320 *e*P Pdif 09 57 03.6 +5.9
VYHS Vyhne 103.13 320 PDIF Pdif 09 57 03.5 +5.8
NOA NORSAR Array B 103.45 333 Pdiff Pdif 09 56 56.1 -3.0
comp=Z,1.7nm,0.8s,baz=69,slow=4.6,SNR=3.4
YKA Yellowknife Ar 103.61 25 Pdiff Pdif 09 56 58.4 -1.4
comp=Z,0.5nm,0.6s,baz=291,slow=4.2,SNR=3.7
YKA PKiKP PKiKP 10 01 17.5 -0.4
comp=Z,0.6nm,0.6s,baz=315,slow=2.0,SNR=4.0
YKA PKKPbc PKKPbc 10 12 50.7 -3.8
comp=Z,0.1nm,0.6s,baz=108,slow=2.6,SNR=4.2
CLL Collm 105.98 324 *e*PKiKP PKiKP 10 01 23.0 +0.3
DUG Dugway 113.13 46 *e*PKiKP PKiKP 10 01 36.2 -0.3
SNOW Snow King Moun 113.41 42 *e*PKPdf PKiKP 10 01 37.7 +0.8
MSU Marysvale 114.14 48 *e*PKiKP PKiKP 10 01 40.4 +1.9
MSU Marysvale 114.14 48 *e*PKPdf PKiKP 10 01 40.2 +1.8
PV10 Paradox Valley 116.50 47 *e*PKPdf PKPdf 10 01 43.1 +0.1
RWWY Rawlins 116.51 43 *e*PKPdf PKPdf 10 01 42.3 -0.6
PV01 Paradox Valley 116.94 47 *e*PKPdf PKPdf 10 01 44.0 +0.1
ISCO Idaho Springs 118.40 44 *e*PKiKP PKPdf 10 01 47.9 +1.3
ISCO Idaho Springs 118.40 44 *e*PKPdf PKPdf 10 01 47.4 +0.7
ULM Lac du Bonnet 118.83 30 PKP PKPdf 10 01 46.0 -1.2
ULM Lac du Bonnet 118.83 30 PKP PKPdf 10 01 46.0 -1.2
comp=Z,3.2nm,0.6s,baz=27,slow=4.4,SNR=6.5
ANMO Albuquerque 119.68 50 *e*PKIKP PKPdf 10 01 50.9 +1.6
MNTX Cornudas Mount 121.69 53 *e*PKPdf PKPdf 10 01 53.7 +0.5
TXAR Lajitas Array 123.90 55 PKP PKPdf 10 01 57.9 +0.4
comp=Z,2.9nm,0.9s,baz=207,slow=1.4,SNR=8.0
KSU1 Kansas State U 124.86 41 *e*PKPdf PKPdf 10 01 58.9 -0.1
TORD Torodi Ar. Bea 125.00 285 PKP PKPdf 10 01 59.4 -0.6
comp=Z,2.8nm,0.7s,baz=40,slow=1.0,SNR=12
TORD PP PP 10 03 52.6 +3.9
comp=Z,0.7nm,1.0s,baz=186,slow=4.2,SNR=3.5
JCT Junction City 126.58 52 *e*PKIKP PKPdf 10 02 02.9 +0.3
PLCA Paso Flores 135.20 161 PKP PKPdf 10 02 18.9 +0.2
comp=Z,3.0nm,0.8s,baz=118,slow=2.4,SNR=5.5
CFAA Coronel Fontan 144.18 157 PKP PKPdf 10 02 33.6 -1.7
comp=Z,1.3nm,0.7s,baz=205,slow=2.3,SNR=9.5
CPUP Villa Florida 152.29 171 PKPbc PKPbc 10 02 55.0 -0.3
comp=Z,6.8nm,0.9s,baz=184,slow=5.4,SNR=5.6
CPUP PKPab PKPab 10 03 06.1 +1.1
comp=Z,4.8nm,0.8s,baz=124,slow=3.6,SNR=4.3
ATAH Atahualpa 152.97 108 PKPbc PKPbc 10 02 58.5 +1.3
comp=Z,10nm,0.8s,baz=118,slow=6.4,SNR=6.5
LPAZ La Paz 156.83 139 *e*PKIKP PKPdf 10 02 56.1 +1.0
LPAZ La Paz 156.83 139 PKP PKPdf 10 02 56.5 +1.4
comp=Z,1.6nm,0.9s,baz=339,slow=2.6,SNR=3.1
SDV Santo Domingo 160.43 66 PKP PKPdf 10 02 59.1 -0.4
comp=Z,6.6nm,0.7s,baz=6.8,slow=3.9,SNR=5.3
SIV San Ignacio 161.00 154 PKP PKPdf 10 02 59.7 -0.3
comp=Z,2.7nm,0.8s,baz=177,slow=3.8,SNR=5.2
SIV PKPab PKPab 10 03 43.7 +1.1
comp=Z,2.6nm,0.8s,baz=250,slow=2.4,SNR=6.1

IDC 29 09:53:02.2±2.3,147N×12671E,h0km,mb3.4/3,mb1 3.7/3, mb1mx3.5/15,mbtmp3.5/3,Error ellipse: s-maj=184.6km s-min=28.0km az=66.0,Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.55**	**161**	P	P	09 58 02.4	-1.7
	1.7nm,1.2s,baz=340,slow=12,SNR=5.3						
ASAR	**Alice Springs**	**25.94**	**165**	P	P	09 58 38.2	+1.7
	1.0nm,0.7s,baz=340,slow=11,SNR=6.1						
MKAR	**Makanchi Array**	**59.40**	**326**	P	P	10 03 06.3	-0.2
	0.1nm,0.3s,baz=118,slow=7.4,SNR=3.2						

IDC 29 09:59:11.7±2.1,103S×12782E,h0km,mb3.2/2,mb1 3.4/3, mb1mx3.3/15,mbtmp3.2/3,ML3.2/1,Error ellipse: s-maj=169.2km s-min=26.2km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.84**	**162**	P	Pn	10 03 44.3	-1.6
	0.1nm,0.3s,baz=340,slow=11,SNR=4.6						

ASAR Alice Springs 23.26 166 P P 10 04 21.2 +0.2
0.3nm,0.6s,baz=346,slow=12,SNR=5.2
MKAR Makanchi Array 62.08 326 P P 10 09 34.3 0.0
0.2nm,0.4s,baz=119,slow=8.1,SNR=3.6

IDC 29 10:00:45.3±2.1,110S×12751E,h0km,mb3.4/2,mb1 3.5/3, mb1mx3.4/15,mbtmp3.4/3,Error ellipse: s-maj=167.7km s-min=27.2km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.88**	**161**	P	Pn	10 05 18.4	-1.5
	0.1nm,0.3s,baz=340,slow=11,SNR=4.9						
ASAR	**Alice Springs**	**23.27**	**165**	P	P	10 05 54.8	+0.1
	0.4nm,0.4s,baz=344,slow=12,SNR=5.0						
MKAR	**Makanchi Array**	**61.97**	**326**	P	P	10 11 07.1	0.0
	0.5nm,0.6s,baz=122,slow=7.6,SNR=5.2						

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*IDC **29** 10:05:55.6±1.0,123S×12742E,h0km,mb4.0/6,mb1 4.1/9, mb1mx4.0/18,mbtmp4.0/9,ML3.8/3,Error ellipse: s-maj=48.8km s-min=16.9km az=71.0*
*NEIC **29** 10:05:57.1±0.8,1.19S×12747E,h10km,mb3.5/1,Error ellipse: s-maj=23.4km s-min=12.7km az=68.0*
*ISCJB **29** 10:05:58.5±0.8,13S±0.1×1273E±0.1,h33km,mb4.0/6, Error ellipse: s-maj=22.4km s-min=12.9km az=156.8*
ISC 29 10:06:00.6±0.8,13S±01×1274E±01,h35km,n13,σ1§10/13, mb4.0/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.48**	**244**	Pn	**Pn**	**10 08 00.7**	**-0.3**
	1.5nm,0.3s,baz=84,slow=8.1,SNR=6.1						
FITZ	**Fitzroy Crossi**	**16.75**	**186**	*eP*	**Pn**	**10 09 56.5**	**+3.9**
	6.0nm,1.6s						
FITZ	**Fitzroy Crossi**	**16.75**	**186**	Pn	**Pn**	**10 09 54.3**	**+1.7**
	0.2nm,0.3s,baz=13,slow=14,SNR=6.1						
WRA	**Warramunga Arr**	**19.68**	**160**	P	**Pn**	**10 10 27.2**	**-1.2**
	0.3nm,0.3s,baz=340,slow=12,SNR=7.6						
WB2	**Warramunga Arr**	**19.69**	**160**	*eP*	**Pn**	**10 10 27.2**	**-1.3**
ASAR	**Alice Springs**	**23.06**	**165**	P	**P**	**10 11 03.9**	**+0.7**
	4.5nm,0.8s,mb3.9,baz=346,slow=11,SNR=46						
STKA	**Stephens Creek**	**33.19**	**158**	*eP*	**P**	**10 12 30.7**	**-3.3**
	5.9nm,1.2s,mb4.4						
STKA	**Stephens Creek**	**33.19**	**158**	P	**P**	**10 12 35.4**	**+1.4**
STKA	**Stephens Creek**	**33.19**	**158**	P	**P**	**10 12 35.4**	**+1.4**
	4.2nm,0.8s,mb4.5,baz=324,slow=8.9,SNR=4.9						
SONM	**Songino Array**	**52.30**	**342**	P	**P**	**10 15 09.2**	**+0.5**
	0.5nm,0.6s,mb3.6,baz=136,slow=6.3,SNR=3.1						
MKAR	**Makanchi Array**	**62.12**	**327**	P	**P**	**10 16 16.6**	**-1.5**
	1.1nm,0.5s,mb4.3,baz=117,slow=7.4,SNR=8.0						
BVAR	**Borovoye Array**	**71.94**	**328**	P	**P**	**10 17 20.9**	**+0.6**
	2.7nm,0.9s,mb4.2,baz=170,slow=4.5,SNR=4.6						
VNDA	**Vanda**	**78.34**	**173**	P	**P**	**10 17 57.6**	**+0.8**
	0.5nm,0.8s,mb3.5,baz=338,slow=5.4,SNR=3.0						

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*ISCJB **29** 10:09:32.5±0.4,7338N±004×80E±02,h10km,mb4.2/15, Error ellipse: s-maj=7.3km s-min=4.8km az=143.6*
*IDC **29** 10:09:33.6±0.6,7336N×752E,h0km,mb4.0/10, mb1 4.1/16,mb1mx3.9/28,mbtmp4.0/16,ML3.7/6,MS3.7/2, Ms1 3.8/2,ms1mx3.4/30,Error ellipse: s-maj=14.7km s-min=9.9km az=51.0*
*MOS **29** 10:09:33.0±1.6,7340N×797E,h10km,mb4.3/7,Error ellipse: s-maj=37.7km s-min=6.8km az=98.0*
*NAO **29** 10:09:34.1±1.9,7340N×819E,ML2.9*
*CSEM **29** 10:09:35.0±0.1,7344N×779E,h30km,mb5.0/4,Error ellipse: s-maj=3.3km s-min=2.6km az=30.0*
*HEL **29** 10:09:35.2±0.3,7347N×799E,h10km,ML3.6, mb4.6(NEIC),ML2.7(BER)*
*BER **29** 10:09:37.5±5.3,7340N×802E,h15km±37km,MD2.6,ML2.7, ML2.9(NAO)*
*NEIC **29** 10:09:37.7±0.4,7340N×787E,h35km,mb4.6/3,Error ellipse: s-maj=9.1km s-min=5.8km az=70.0*
ISC 29 10:09:34.7±0.4,7345N±003×80E±02,h10km,n73, σ1§15/88,mb4.2/15,Greenland Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BJO1	**Bjornoya**	**3.22**	**66**	*eP*	**Pn**	**10 10 26.0**	**+0.8**
BJO	**Bjornoya**	**3.27**	**66**	*eP*	**Pn**	**10 10 26.0**	**+0.1**
TRO	**Tromso**	**5.16**	**133**	*eP*	**Pn**	**10 10 52.3**	**+0.5**
TRO				*eS*	**Sn**	**10 11 44.1**	**-7.2**
TRO				AML	AML	10 11 49.0	
	comp=Z,13nm,0.8s						
TRO	**Tromso**	**5.16**	**133**	*eP*	**Pn**	**10 10 52.3**	**+0.5**
TRO				*eS*	**Sn**	**10 11 44.1**	**-7.2**
SPB4	**Spitsbergen Ar**	**5.17**	**19**	*e*Pn	**Pn**	**10 10 52.9**	**+0.9**
SPA0	**Spitsbergen Ar**	**5.17**	**19**	*eP*	**Pn**	**10 10 52.7**	**+0.8**
	baz=189,slow=16						
SPA0				*eS*	**Sn**	**10 11 49.5**	**-2.0**
	baz=173,slow=28						
SPITS	**Spitsbergen Ar**	**5.17**	**19**	Pn	**Pn**	**10 10 53.1**	**+1.2**
	baz=254,slow=14,SNR=390						
SPITS				Sn	**Sn**	**10 11 50.4**	**-1.1**
	baz=247,slow=25,SNR=1.1						
KBS	**Kingsbay**	**5.59**	**8**	Pn	**Pn**	**10 10 57.6**	**0.0**
KBS				Sn	**Sn**	**10 11 59.4**	**-2.4**
KBS	**Kingsbay**	**5.59**	**8**	*eP*	**Pn**	**10 10 57.9**	**+0.2**
KBS				*eS*	**Sn**	**10 11 59.4**	**-2.4**
JMIC	**Jan Mayen**	**5.62**	**252**	Pn	**Pn**	**10 10 55.2**	**-3.0**
	comp=Z,7.5nm,0.3s,baz=359,slow=15,SNR=6.6						
LOF	**Lofoten**	**5.64**	**158**	*eP*	**Pn**	**10 10 59.6**	**+1.2**
LOF				*eS*	**Sn**	**10 11 58.0**	**-5.2**
LOF				AML	AML	10 11 59.2	
	comp=Z,38nm,0.4s						
LOF	**Lofoten**	**5.64**	**158**	*eP*	**Pn**	**10 10 59.6**	**+1.2**
LOF				*eS*	**Sn**	**10 11 58.0**	**-5.2**
KIF	**Kilpisjarvi**	**6.07**	**131**	*eP*	**Pn**	**10 11 04.6**	**+0.4**
KIF				MPN		10 11 05.6	
	comp=Z,16nm,0.3s						
KTK1	**Kautokeino**	**6.61**	**125**	*eP*	**Pn**	**10 11 13.0**	**+1.3**
ARA0	**ARCESS Array S**	**6.79**	**117**	*eP*	**Pn**	**10 11 13.8**	**-0.3**
	baz=310,slow=11						
ARA0				*eS*	**Sn**	**10 12 27.8**	**-3.6**
	baz=314,slow=22						
ARCES	**ARCESS Array B**	**6.79**	**117**	P	**Pn**	**10 11 14.9**	**+0.7**
ARCES						10 12 29.9	
ARCES				pmax	pmax		
	comp=Z,3.0nm,0.3s						
ARCES				smax			
	comp=N,2.0nm,0.3s						
ARCES				MLR	MLR		
	comp=Z,818nm,20.5s						
ARCES	**ARCESS Array B**	**6.79**	**117**	Pn	**Pn**	**10 11 14.9**	**+0.7**
	comp=Z,2.5nm,0.3s,baz=323,slow=13,SNR=85						
ARCES				Sn	**Sn**	**10 12 29.9**	**-1.5**
	comp=Z,1.7nm,0.3s,baz=308,slow=20,SNR=5.0						
ARCES				LR	LR	10 14 14.1	
	comp=Z,818nm,20.5s,baz=92,slow=41						
KEV	**Kevo**	**7.04**	**112**	*ep*	**Pn**	**10 11 18.5**	**+1.0**
	comp=Z,2.6nm,0.3s						
KEV	**Kevo**	**7.04**	**112**	*eP*	**Pn**	**10 11 17.0**	**-0.5**
KEV				MPN		10 11 21.3	
	comp=Z,3.8nm,0.3s						
KEV	**Kevo**	**7.04**	**112**	*eP*	**Pn**	**10 11 18.5**	**+1.0**
KEV				pmax	pmax		
	comp=Z,3.0nm,0.3s						
KEV	**Kevo**	**7.04**	**112**	*eP*	**Pn**	**10 11 18.5**	**+1.0**
	comp=Z,2.6nm,0.3s						
HEF	**Hetta**	**7.18**	**127**	*eP*	**Pn**	**10 11 19.4**	**-0.1**
HEF				MPN		10 11 21.6	
	comp=Z,1.6nm,0.3s						
STOK	**Stokkvaagen**	**7.35**	**164**	*eP*	**Pn**	**10 11 21.5**	**-0.3**
STOK				*eS*	**Sn**	**10 12 34.7**	**-10**
MOR8	**Moi Rana**	**7.64**	**160**	*eP*	**Pn**	**10 11 23.7**	**-2.0**
MOR8				*eS*	**Sn**	**10 12 42.5**	**-10**
MOR8				AML	AML	10 12 50.6	
	comp=Z,8.1nm,0.4s						
MOR8	**Moi Rana**	**7.64**	**160**	*eP*	**Pn**	**10 11 23.7**	**-2.0**
MOR8				*eS*	**Sn**	**10 12 42.5**	**-10**
SGF	**Sodankyl**	**8.61**	**125**	*eP*	**Pn**	**10 11 39.0**	**0.0**
SGF				MPN		10 11 41.1	
	comp=Z,7.7nm,0.3s						
APA	**Apatity**	**10.24**	**112**	*eP*	**Pn**	**10 12 00.0**	**-1.4**
APA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
MSF	**Maaselka**	**10.44**	**126**	*eP*	**Pn**	**10 12 03.5**	**-0.6**
MSF				MPN		10 12 06.7	
	comp=Z,3.5nm,0.3s						
OUL	**Oulu**	**10.46**	**134**	*eP*	**Pn**	**10 12 02.6**	**-1.7**
KU6	**Riekki**	**10.55**	**124**	*eP*	**Pn**	**10 12 04.6**	**-1.0**
NB2	**NORSAR Subarra**	**12.52**	**173**	*eP*	**Pn**	**10 12 32.3**	**-0.3**
	baz=352,slow=18						
NOA	**NORSAR Array B**	**12.52**	**173**	Pn	**Pn**	**10 12 32.9**	**+0.3**
	comp=Z,0.3nm,0.3s,baz=341,slow=15,SNR=3.1						
NOA				Sn	**Sn**	**10 14 42.6**	**-9.3**
	comp=Z,0.2nm,0.3s,baz=323,slow=24,SNR=2.5						
NOA				LR	LR	10 16 40.8	
	comp=Z,293nm,21.9s,baz=10.0,slow=34						
JOF	**Joensuu**	**13.52**	**129**	*ep*	**Pn**	**10 12 44.1**	**-2.0**
	comp=Z,1.3nm,0.3s						
JOF	**Joensuu**	**13.52**	**129**	*eP*	**Pn**	**10 12 44.1**	**-2.0**
JOF				pmax	pmax		
	comp=Z,1.0nm,0.3s						
HFS	**Hagfors**	**13.55**	**168**	*eP*	**Pn**	**10 12 45.8**	**-0.8**
	baz=352,slow=14						
HFS	**Hagfors**	**13.55**	**168**	Pn	**Pn**	**10 12 46.3**	**-0.3**
	comp=Z,0.3nm,0.3s,baz=0.7,slow=12,SNR=5.2						
HFS				Sn	**Sn**	**10 15 08.4**	**-8.5**
	comp=Z,0.2nm,0.3s,baz=352,slow=22,SNR=4.2						
FIA0	**FINESS Array S**	**13.80**	**141**	*eP*	**Pn**	**10 12 49.4**	**-0.6**
	baz=341,slow=16						
FINES	**FINESS Array B**	**13.80**	**141**	Pn	**Pn**	**10 12 49.0**	**-1.0**
	comp=Z,0.4nm,0.3s,baz=341,slow=12,SNR=14						
MOS	**Moscow**	**21.40**	**130**	*eP*	**P**	**10 14 22.9**	**+0.8**
MOS				pmax	pmax		
	comp=Z,66nm,1.2s,mb4.8						
MOS	**Moscow**	**21.40**	**130**	*eP*	**P**	**10 14 22.9**	**+0.8**
	comp=Z,66nm,1.2s,mb4.8						
CLL	**Collm**	**22.33**	**172**	*i* P	**P**	**10 14 36.7**	**+4.7**
	comp=Z,28nm,1.6s,mb4.4						
CLL				*i* PP		10 14 56.9	
VRAC	**Vranov**	**24.52**	**166**	P	**P**	**10 14 55.1**	**+1.4**
VRAC				pmax	pmax		
	comp=Z,3.0nm,0.5s						
VRAC	**Vranov**	**24.52**	**166**	P	**P**	**10 14 55.1**	**+1.4**
	comp=Z,2.5nm,0.5s,mb4.0,baz=277,slow=6.8,SNR=5.5						
AKASG	**Malin Array Be**	**24.59**	**146**	P	**P**	**10 14 54.6**	**+0.2**
AKASG				pmax	pmax		
	comp=Z,3.0nm,0.6s						
AKASG	**Malin Array Be**	**24.59**	**146**	P	**P**	**10 14 54.6**	**+0.2**
	comp=Z,3.2nm,0.6s,mb4.0,baz=344,slow=9.5,SNR=17						
AKBB	**Malin Array Si**	**24.59**	**146**	*eP*	**P**	**10 14 54.9**	**+0.5**
KIEV	**Kiev**	**24.59**	**146**	*eP*	**P**	**10 14 54.5**	**+0.1**
KIEV				pmax	pmax		
	comp=Z,30nm,1.5s,mb4.6						
KIEV	**Kiev**	**24.59**	**146**	*eP*	**P**	**10 14 54.5**	**0.0**
	comp=Z,30nm,1.5s,mb4.6						
KIEV	**Kiev**	**24.59**	**146**	*eP*	**P**	**10 14 54.5**	**+0.1**
	comp=Z,30nm,1.5s,mb4.6						
GERES	**GERESS Array B**	**24.82**	**171**	P	**P**	**10 14 58.4**	**+1.9**
GERES				pmax	pmax		
	comp=Z,3.0nm,1.0s						
GERES	**GERESS Array B**	**24.82**	**171**	P	**P**	**10 14 58.4**	**+1.9**
	comp=Z,2.5nm,1.0s,mb3.7,baz=21,slow=7.9,SNR=7.2						
UZH	**Uzhgorod**	**25.69**	**158**	*eP*	**P**	**10 15 04.4**	**0.0**
AKTK	**Aktyubinsk**	**31.31**	**109**	P	**P**	**10 15 56.5**	**+2.1**
AKTK	**Aktyubinsk**	**31.31**	**109**	P	**P**	**10 15 56.5**	**+2.0**
AKTO	**Aktyubinsk**	**31.31**	**109**	P	**P**	**10 15 56.6**	**+2.1**
AKTO				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb4.0						
AKTO	**Aktyubinsk**	**31.31**	**109**	P	**P**	**10 15 56.5**	**+2.1**
	comp=Z,2.2nm,0.8s,mb4.0,baz=329,slow=12,SNR=4.9						
BVAR	**Borovoye Array**	**32.46**	**94**	P	**P**	**10 16 07.6**	**+3.1**
BVAR				pmax	pmax		
	comp=Z,4.0nm,0.9s						
BVAR	**Borovoye Array**	**32.46**	**94**	P	**P**	**10 16 07.6**	**+3.1**
	comp=Z,4.4nm,0.9s,mb4.3,baz=324,slow=7.3,SNR=12						
INK	**Inuvik**	**36.30**	**337**	*eP*	**P**	**10 16 38.1**	**+0.5**
	comp=Z,295nm,1.4s						
INK	**Inuvik**	**36.30**	**337**	*eP*	**P**	**10 16 38.1**	**+0.5**
	comp=Z,295nm,1.4s						
MALT	**Malatya**	**38.19**	**140**	*eP*	**P**	**10 16 56.9**	**+2.9**
MALT				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.5						
MALT	**Malatya**	**38.19**	**140**	*eP*	**P**	**10 16 56.9**	**+2.9**
	comp=Z,14nm,1.4s,mb4.5						
YKA	**Yellowknife Ar**	**39.04**	**322**	P	**P**	**10 17 00.6**	**-0.2**
YKA						10 19 11.7	
YKA				pmax	pmax		
	comp=Z,2.0nm,1.0s						
YKA	**Yellowknife Ar**	**39.04**	**322**	P	**P**	**10 17 00.6**	**-0.2**
	comp=Z,1.7nm,1.0s,mb3.7,baz=19,slow=8.7,SNR=13						
YKA				PcP	PcP	10 19 11.7	+1.3
	comp=Z,0.3nm,0.6s,baz=20,slow=2.9,SNR=5.3						
ULM	**Lac du Bonnet**	**46.34**	**301**	P	**P**	**10 17 59.5**	**-0.7**
	comp=Z,1.9nm,0.6s,mb4.2,baz=31,slow=5.9,SNR=4.8						
EDM	**Edmonton**	**47.49**	**316**	*eP*	**P**	**10 18 08.9**	**-0.2**
ECSD	**EROS,Sioux Fal**	**52.59**	**298**	*eP*	**P**	**10 18 47.9**	**-0.1**
	comp=Z,7.7nm,1.2s,mb4.5						
ECSD	**EROS,Sioux Fal**	**52.59**	**298**	*eP*	**P**	**10 18 47.9**	**0.0**
	comp=Z,7.7nm,1.2s,mb4.5						
TORD	**Torodi Ar. Bea**	**60.39**	**187**	P	**P**	**10 19 43.0**	**-0.7**
	comp=Z,1.6nm,0.9s,mb4.0,baz=350,slow=5.7,SNR=7.6						
NVAR	**Mina Array Bea**	**62.63**	**315**	P	**P**	**10 19 58.7**	**0.0**
NVAR	**Mina Array Bea**	**62.63**	**315**	P	**P**	**10 19 58.7**	**0.0**
	comp=Z,0.9nm,1.0s,mb3.9,baz=8.6,slow=4.5,SNR=6.1						
TXAR	**Lajitas Array**	**68.01**	**299**	P	**P**	**10 20 33.3**	**-0.3**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.9s						
TXAR	**Lajitas Array**	**68.01**	**299**	P	**P**	**10 20 33.3**	**-0.3**
	comp=Z,0.5nm,0.9s,mb3.6,baz=46,slow=3.6,SNR=4.5						

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*IDC **29** 10:11:16.6±0.9,102S×12764E,h0km,mb4.1/6,mb1 4.1/8, mb1mx3.9/18,mbtmp4.0/8,ML3.7/1,Error ellipse: s-maj=49.0km s-min=17.4km az=69.0*
*NEIC **29** 10:11:18.4±0.6,108S×12751E,h10km,Error ellipse: s-maj=17.3km s-min=9.8km az=68.0*
*ISCJB **29** 10:11:19.9±0.8,12S±0.1×1274E±0.2,h33km,mb4.1/6, Error ellipse: s-maj=23.0km s-min=13.3km az=159.2*
ISC 29 10:11:21.9±0.8,12S±01×1275E±02,h35km,n11,σ0§39/11, mb4.1/6,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.61**	**244**	Pn	**Pn**	**10 13 24.1**	**0.0**
	0.8nm,0.3s,baz=79,slow=10,SNR=4.3						
WRA	**Warramunga Arr**	**19.83**	**161**	P	**Pn**	**10 15 50.7**	**-0.8**
	0.4nm,0.3s,baz=344,slow=12,SNR=7.7						
ASAR	**Alice Springs**	**23.21**	**165**	P	**P**	**10 16 26.6**	**+0.6**
	2.3nm,0.7s,mb3.7,baz=346,slow=11,SNR=22						
STKA	**Stephens Creek**	**33.32**	**158**	P	**P**	**10 17 56.9**	**+0.4**
STKA	**Stephens Creek**	**33.32**	**158**	P	**P**	**10 17 56.9**	**+0.4**
	2.4nm,0.7s,mb4.3,baz=338,slow=9.8,SNR=3.5						
SONM	**Songino Array**	**52.16**	**342**	P	**P**	**10 20 28.8**	**-0.1**
	0.6nm,0.4s,mb3.9,baz=140,slow=9.4,SNR=2.4						
MKAR	**Makanchi Array**	**62.01**	**326**	P	**P**	**10 21 38.9**	**+0.3**
MKAR				PcP	PcP	10 22 18.6	-0.3
MKAR	**Makanchi Array**	**62.01**	**326**	P	**P**	**10 21 38.9**	**+0.3**
	2.2nm,0.6s,mb4.4,baz=117,slow=8.6,SNR=19						
MKAR				PcP	PcP	10 22 18.6	-0.3
	0.8nm,0.8s,baz=133,slow=5.1,SNR=4.6						
BVAR	**Borovoye Array**	**71.83**	**328**	P	**P**	**10 22 40.6**	**-0.4**
	1.1nm,0.7s,mb3.9,baz=126,slow=7.5,SNR=6.7						
AKTK	**Aktyubinsk**	**77.96**	**322**	P	**P**	**10 23 16.5**	**0.0**
AKTO	**Aktyubinsk**	**77.96**	**322**	P	**P**	**10 23 16.5**	**0.0**
	2.6nm,0.8s,mb4.2,baz=95,slow=8.6,SNR=10						

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*ISCJB **29** 10:16:38.7±0.4,106S±006×12761E±0.10,h10km, mb4.6/23,Error ellipse: s-maj=14.9km s-min=6.2km az=157.0*
*BJI **29** 10:16:38.4,100S×12760E,h10km,mB4.9,mb4.7*
*IDC **29** 10:16:38.4±0.6,1.12S×12764E,h0km,mb4.3/12, mb1 4.4/14,mb1mx4.3/19,mbtmp4.3/14,ML4.1/2,Error ellipse: s-maj=28.7km s-min=9.1km az=72.0*
*NEIC **29** 10:16:40.4±0.3,101S×12763E,h10km,mb4.5/5,Error ellipse: s-maj=12.8km s-min=5.8km az=68.0*
ISC 29 10:16:41.7±3.0,108S±006×1277E±01,h18km±19km, h17km±1.1nm:pP-P,n37,σ0§85/39,mb4.6/23,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.80**	**243**	Pn	**Pn**	**10 18 47.7**	**-0.5**
	2.2nm,0.3s,baz=98,slow=3.2,SNR=11						
KAKA	**Kakadu**	**12.49**	**158**	*eP*	**Pn**	**10 19 38.6**	**-0.1**
	8.7nm,0.6s						
FITZ	**Fitzroy Crossi**	**17.03**	**187**	*eP*	**Pn**	**10 20 41.0**	**+2.0**
WRAB	**Tennant Creek**	**19.85**	**161**	*eP*	**Pn**	**10 21 12.6**	**-0.8**
	6.9nm,0.8s						
WRA	**Warramunga Arr**	**19.85**	**161**	P	**Pn**	**10 21 11.5**	**-2.0**
	0.6nm,0.3s,baz=339,slow=12,SNR=148						
WRA				S	**Sn**	**10 24 56.8**	**+0.5**
	0.2nm,0.3s,baz=200,slow=30,SNR=5.1						
WB2	**Warramunga Arr**	**19.86**	**161**	*eP*	**Pn**	**10 21 12.2**	**-1.3**
QIS	**Mount Isa**	**22.61**	**150**	*eP*	**P**	**10 21 43.2**	**+1.7**
	13nm,0.8s,mb4.4						
ASAR	**Alice Springs**	**23.25**	**165**	P	**P**	**10 21 48.4**	**+0.1**
	7.7nm,0.8s,mb4.2,baz=345,slow=11,SNR=54						
ASAR				PcP	PcP	10 25 36.1	+0.3
	0.6nm,0.7s,baz=346,slow=1.4,SNR=5.5						
ASAR				S	**S**	**10 25 58.7**	**-0.9**
	2.6nm,1.1s,baz=347,slow=20,SNR=7.0						
PSI	**Prapat**	**28.98**	**278**	P	**P**	**10 22 39.5**	**-1.1**
	2.7nm,0.3s,mb4.5,baz=161,slow=9.3,SNR=3.6						
STKA	**Stephens Creek**	**33.34**	**158**	*eP*	**P**	**10 23 19.9**	**+1.1**
	4.9nm,0.8s,mb4.5						
STKA	**Stephens Creek**	**33.34**	**158**	P	**P**	**10 23 19.0**	**+0.2**
	7.8nm,0.9s,mb4.7,baz=338,slow=11,SNR=9.6						
KSRS	**Korea Array**	**38.34**	**0**	P	**P**	**10 24 02.0**	**+0.5**
	1.4nm,0.8s,mb3.7,baz=191,slow=13,SNR=6.1						
MJAR	**Matsushiro Arr**	**38.70**	**14**	P	**P**	**10 24 04.2**	**-0.4**
	0.9nm,0.7s,mb3.6,baz=184,slow=8.3,SNR=3.2						
XAN	**Xi'an**	**39.12**	**335**	P	**P**	**10 24 08.0**	**-0.2**
XAN				AP	pP	10 24 13.5	-0.4
XAN				AMB	AMB		
	comp=Z,13nm,0.8s,mb4.7						
LZH	**Lanzhou**	**43.12**	**331**	*eP*	**P**	**10 24 42.3**	**+1.3**
LZH				AP	pP	10 24 47.0	+0.2
LZH				XP	sP	10 24 49.5	+0.4
LZH				AMB	AMB		
	comp=Z,19nm,1.3s,mb4.7						
LZH				AMB	AMB		
	comp=Z,107nm,5.1s						
GTA	**Gaotai**	**47.70**	**331**	*eP*	**P**	**10 25 18.5**	**+1.2**
GTA				AP	pP	10 25 22.8	-0.3
GTA				XP	sP	10 25 26.3	+0.9
GTA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.8						
JIRN	**Jiri**	**49.01**	**309**	*eP*	**P**	**10 25 28.2**	**+0.5**
	comp=Z,16nm,0.6s,mb5.2						
GUN	**Gumba**	**49.37**	**309**	*eP*	**P**	**10 25 30.7**	**+0.3**
	comp=Z,22nm,0.6s,mb5.4						
PKI	**Pulchoki**	**49.58**	**308**	*eP*	**P**	**10 25 32.1**	**+0.1**
KKN	**Kakani**	**49.78**	**309**	*eP*	**P**	**10 25 33.5**	**-0.1**
DMN	**Daman**	**49.83**	**308**	*eP*	**P**	**10 25 33.5**	**-0.4**
GKN	**Gorkha**	**50.38**	**308**	*eP*	**P**	**10 25 37.8**	**-0.3**
KOLN	**Koldanda**	**51.09**	**308**	*eP*	**P**	**10 25 43.9**	**+0.4**
	comp=Z,17nm,0.7s,mb5.1						
DANN	**Dangsing**	**51.23**	**308**	*eP*	**P**	**10 25 44.8**	**+0.3**
	comp=Z,24nm,0.7s,mb5.2						
SONM	**Songino Array**	**52.12**	**342**	P	**P**	**10 25 51.2**	**+0.4**
	comp=Z,1.9nm,0.6s,mb4.2,baz=152,slow=7.0,SNR=7.1						
SONM				PcP	PcP	10 27 02.7	+0.1
	comp=Z,0.8nm,0.4s,baz=143,slow=2.5,SNR=4.4						
MK31	**Makanchi Array**	**62.03**	**326**	*eP*	**P**	**10 27 00.8**	**-0.2**
MKAR	**Makanchi Array**	**62.03**	**326**	P	**P**	**10 27 00.8**	**-0.2**
	comp=Z,3.1nm,0.4s,mb4.8,baz=122,slow=8.6,SNR=31						
MKAR				PcP	PcP	10 27 40.6	-0.7
	comp=Z,2.3nm,0.7s,baz=127,slow=4.6,SNR=7.6						
EKS2	**Erkin-Say**	**65.03**	**319**	*eP*	**P**	**10 27 21.6**	**+0.6**
	comp=Z,3.0nm,0.4s,mb4.7						
ZALV	**Zalesovo Beam**	**65.28**	**334**	P	**P**	**10 27 21.7**	**-0.5**
	comp=Z,1.4nm,0.3s,mb4.5,baz=119,slow=5.1,SNR=3.5						
BVAR	**Borovoye Array**	**71.84**	**328**	P	**P**	**10 28 02.6**	**-0.7**
	comp=Z,4.1nm,0.8s,mb4.4,baz=132,slow=8.2,SNR=19						
BRVK	**Borovoye**	**71.91**	**328**	*eP*	**P**	**10 28 03.4**	**-0.4**
	comp=Z,6.7nm,1.0s,mb4.5						
AKTK	**Aktyubinsk**	**77.99**	**322**	P	**P**	**10 28 38.5**	**-0.5**
AKTO	**Aktyubinsk**	**77.99**	**322**	P	**P**	**10 28 38.5**	**-0.5**
	comp=Z,7.4nm,0.8s,mb4.7,baz=106,slow=6.7,SNR=19						
VNDA	**Vanda**	**78.57**	**173**	P	**P**	**10 28 42.1**	**+0.5**
	comp=Z,0.7nm,0.9s,mb3.6,baz=271,slow=7.9,SNR=5.2						
ATD	**Arta Tunnel**	**85.13**	**282**	P	**P**	**10 29 18.8**	**+1.3**
ATD	**Arta Tunnel**	**85.13**	**282**	P	**P**	**10 29 18.8**	**+1.3**
	comp=Z,9.6nm,0.3s,mb5.4,baz=100,slow=4.7,SNR=5.3						
ARCES	**ARCESS Array B**	**95.25**	**340**	P	**P**	**10 30 02.1**	**-1.9**
	comp=Z,1.3nm,0.6s,mb4.5,baz=90,slow=5.3,SNR=8.3						

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*ISCJB **29** 10:21:33.5±1.7,110S±004×12755E±006,h1km±10km, mb4.8/40,MS4.5/3,Error ellipse: s-maj=11.5km s-min=5.4km az=156.7*
*NEIC **29** 10:21:36.6±0.3,102S×12754E,h10km,mb4.8/11,Error ellipse: s-maj=12.1km s-min=6.0km az=63.0*
*BJI **29** 10:21:36.5,100S×12750E,h10km,mB5.3,mb4.8,Ms4.9, Msz4.6*
*MOS **29** 10:21:37.7±0.8,1.15S×12740E,h33km,mb4.9/15,Error ellipse:

GYA			PCP	PcP	10 31 01.3	+2.8
GYA			S	**S**	**10 33 48.0**	**+4.0**
GYA			SCP	ScP	10 34 45.5	+5.9
GYA			SS	SS	10 35 55.3	-18
GYA			SCS	ScS	10 38 45.5	+3.7
GYA			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.8					
GYA			AMB	AMB		
	comp=Z,90nm,5.0s					
GYA			LR	LR		
	comp=N,440nm,18.5s,MS4.3					
GYA			LR	LR		
	comp=E,390nm,19.1s,MS4.3					
GYA			LR	LR		
	comp=Z,460nm,18.8s,MS4.2					
NJ2	**Nanjing**	**34.08 347**	*e*P	**P**	**10 28 22.3**	**+0.7**
NJ2			AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2					
KMI	**Kunming**	**35.49 319**	P	**P**	**10 28 32.0**	**-1.9**
KMI			AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0					
KSRS	**Korea Array**	**38.47 1**	P	**P**	**10 28 58.8**	**-0.2**
KSRS			pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9					
KSRS	**Korea Array**	**38.47 1**	P	**P**	**10 28 58.8**	**-0.3**
	comp=Z,2.0nm,0.8s,mb3.9,baz=181,slow=11,SNR=9.0					
MJAR	**Matsushiro Arr**	**38.86 14**	P	**P**	**10 29 00.7**	**-1.6**
MJAR					10 31 12.9	
MJAR			pmax	pmax		
	comp=Z,1.0nm,0.7s					
MJAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
MJAR	**Matsushiro Arr**	**38.86 14**	P	**P**	**10 29 00.7**	**-1.6**
	comp=Z,1.4nm,0.7s,mb3.8,baz=189,slow=10,SNR=5.1					
MJAR			PcP	PcP	10 31 12.9	+0.3
	comp=Z,1.5nm,0.7s,baz=185,slow=3.4,SNR=5.3					
CD2	**Chengdu**	**39.11 327**	*e*P	**P**	**10 29 05.0**	**+0.5**
CD2			AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.6					
LZH	**Lanzhou**	**43.15 332**	*e*P	**P**	**10 29 38.0**	**+0.4**
LZH			AP	pP	10 29 45.3	-5.3
LZH			XP	sP	10 29 48.5	-7.8
LZH			PP	PP	10 31 23.5	+4.8
LZH			AMB	AMB		
	comp=Z,24nm,1.3s,mb4.8					
LZH			AMB	AMB		
	comp=Z,63nm,5.4s					
LZH			LR	LR		
	comp=E,1μm,12.5s					
LZH			LR	LR		
	comp=Z,1μm,18.4s					
HHC	**Hu-ho-hao-te**	**44.30 343**	*e*P	**P**	**10 29 48.0**	**+1.2**
HHC			AP	pP	10 29 52.5	-7.3
HHC			PP	PP	10 31 32.3	+1.4
HHC			SCP	ScP	10 35 22.3	+3.7
HHC			S	**S**	**10 36 21.3**	**+3.9**
HHC			XS	sS	10 36 30.5	-8.8
HHC			SS	SS	10 39 31.0	-6.3
HHC			SCS	ScS	10 39 43.3	+2.3
HHC			AMB	AMB		
	comp=Z,24nm,1.1s,mb4.8					
HHC			AMB	AMB		
	comp=Z,363nm,6.7s					
HHC			LR	LR		
	comp=N,775nm,15.3s,MS4.8					
HHC			LR	LR		
	comp=E,577nm,14.9s,MS4.8					
HHC			LR	LR		
	comp=Z,824nm,14.5s,MS4.8					
CN2	**Changchun**	**44.85 358**	*e*P	**P**	**10 29 52.0**	**+0.9**
GTA	**Gaotai**	**47.73 331**	*e*P	**P**	**10 30 14.5**	**+0.7**
GTA			AP	pP	10 30 18.5	-8.4
GTA			XP	sP	10 30 21.5	-11
GTA			PCP	PcP	10 31 44.0	+1.6
GTA			PP	PP	10 32 06.0	+0.1
GTA			SCP	ScP	10 35 37.5	+4.6
GTA			PCS	PcS	10 35 40.3	+2.4
GTA			S	**S**	**10 37 11.5**	**+4.8**
GTA			XS	sS	10 37 19.0	-10
GTA			AMB	AMB		
	comp=Z,11nm,0.8s,mb4.9					
GTA			AMB	AMB		
	comp=Z,559nm,6.9s					
GTA			LR	LR		
	comp=N,256nm,14.9s,MS4.5					
GTA			LR	LR		
	comp=E,351nm,18.3s,MS4.5					
GTA			LR	LR		
	comp=Z,423nm,13.7s,MS4.6					
JIRN	**Jiri**	**48.96 309**	*e*P	**P**	**10 30 24.5**	**+1.0**
	comp=Z,17nm,0.7s,mb5.2					
GUN	**Gumba**	**49.33 309**	*e*P	**P**	**10 30 27.1**	**+0.8**
	comp=Z,21nm,0.6s,mb5.3					
PKI	**Pulchoki**	**49.53 309**	*e*P	**P**	**10 30 28.2**	**+0.3**
KKN	**Kakani**	**49.73 309**	*e*P	**P**	**10 30 29.9**	**+0.5**
DMN	**Daman**	**49.78 308**	*e*P	**P**	**10 30 30.4**	**+0.6**
	comp=Z,22nm,1.0s,mb5.2					
GKN	**Gorkha**	**50.34 309**	*e*P	**P**	**10 30 35.0**	**+1.0**
KOLN	**Koldanda**	**51.04 308**	*e*P	**P**	**10 30 40.1**	**+0.8**
	comp=Z,22nm,0.7s,mb5.2					
DANN	**Dangsing**	**51.18 309**	*e*P	**P**	**10 30 41.0**	**+0.7**
	comp=Z,33nm,0.7s,mb5.4					
HYB	**Hyderabad**	**51.63 293**	*e*P	**P**	**10 30 43.0**	**-0.8**
HYB	**Hyderabad**	**51.63 293**	*i*P	**P**	**10 30 43.0**	**-0.8**
ULN	**Ulaanbaatar**	**52.02 343**	*e*P	**P**	**10 30 46.2**	**0.0**
ULN			pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6					
ULN	**Ulaanbaatar**	**52.02 343**	*e*P	**P**	**10 30 46.1**	**-0.1**
	comp=Z,8.1nm,1.0s,mb4.6					
SONM	**Songino Array**	**52.20 342**	P	**P**	**10 30 45.8**	**-1.7**
SONM					10 31 59.3	
SONM			pmax	pmax		
	comp=Z,4.0nm,0.8s					
SONM			pmax	pmax		
	comp=Z,2.0nm,0.8s					
SONM	**Songino Array**	**52.20 342**	P	**P**	**10 30 45.8**	**-1.7**
	comp=Z,3.6nm,0.8s,mb4.4,baz=148,slow=8.6,SNR=6.5					
SONM			PcP	PcP	10 31 59.3	+0.6
	comp=Z,1.9nm,0.8s,baz=134,slow=4.3,SNR=3.6					
ZAK	**Zakamensk**	**55.41 341**	*e*P	**P**	**10 31 10.3**	**-0.7**
ZAK			*e*		10 32 11.1	
ZAK			pmax	pmax		
	comp=Z,1.0nm,1.0s,mb3.8					
ZAK			pmax	pmax		
	comp=Z,2.0nm,1.0s,mb4.1					
TLY	**Talaya**	**56.43 342**‖	*e*P	**P**	**10 31 17.5**	**-0.8**
WMQ	**Urumqi**	**57.21 327**	*e*P	**P**	**10 31 25.0**	**+1.1**
WMQ			AMB	AMB		
	comp=Z,32nm,1.0s,mb5.3					
MK31	**Makanchi Array**	**62.04 326**	*e*P	**P**	**10 31 57.1**	**-0.1**
MKAR	**Makanchi Array**	**62.04 326**	P	**P**	**10 31 57.0**	**-0.2**
MKAR					10 32 36.9	
MKAR			pmax	pmax		
	comp=Z,6.0nm,0.8s					
MKAR			pmax	pmax		
	comp=Z,2.0nm,0.7s					
MKAR	**Makanchi Array**	**62.04 326**	P	**P**	**10 31 57.0**	**-0.2**
MKAR			PcP	PcP	10 32 36.9	-0.3
MKAR	**Makanchi Array**	**62.04 326**	P	**P**	**10 31 57.0**	**-0.2**
	comp=Z,6.3nm,0.8s,mb4.8,baz=116,slow=8.4,SNR=41					
MKAR			PcP	PcP	10 32 36.9	-0.3
	comp=Z,1.9nm,0.7s,baz=107,slow=4.2,SNR=4.3					
YAK	**Yakutsk**	**63.09 1**	*e*P	**P**	**10 32 02.8**	**-1.1**
YAK			pmax	pmax		
	comp=Z,12nm,0.8s,mb5.1					
TKM2	**Tokmak 2**	**63.96 320**	*e*P	**P**	**10 32 10.3**	**+0.3**
TKM2			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.5					
TKM2	**Tokmak 2**	**63.96 320**	*e*P	**P**	**10 32 10.3**	**+0.3**
	comp=Z,3.9nm,0.8s,mb4.5					
UCH	**Uchtor**	**64.34 319**	*e*P	**P**	**10 32 13.8**	**+1.4**
	comp=Z,6.2nm,0.8s,mb4.7					
EKS2	**Erkin-Say**	**65.02 319**	*e*P	**P**	**10 32 17.9**	**+1.0**
	comp=Z,19nm,1.4s,mb4.9					
ZALV	**Zalesovo Beam**	**65.32 334**	P	**P**	**10 32 17.4**	**-1.2**
ZALV	**Zalesovo Beam**	**65.32 334**	P	**P**	**10 32 17.4**	**-1.2**
	comp=Z,1.5nm,0.4s,mb4.4,baz=119,slow=5.2,SNR=6.3					
ZAL	**Zalesovo**	**65.32 334**	P	**P**	**10 32 17.4**	**-1.2**
ZAL			pmax	pmax		
	comp=Z,2.0nm,0.4s					
KURK	**Kurchatov**	**66.30 328**	*e*P	**P**	**10 32 24.7**	**-0.3**
KURK			pmax	pmax		
	comp=Z,22nm,0.9s,mb5.2					
KURK	**Kurchatov**	**66.30 328**	*e*P	**P**	**10 32 24.7**	**-0.3**
	comp=Z,22nm,0.9s,mb5.2					
NVS	**Novosibirsk**	**66.60 334**	*i*P	**P**	**10 32 25.8**	**-1.0**
SEY	**Seymchan**	**66.66 12**‖	*e*P	**P**	**10 32 28.3**	**+1.3**
BVAR	**Borovoye Array**	**71.86 328**	P	**P**	**10 32 59.0**	**-0.4**
BVAR			pmax	pmax		
	comp=Z,8.0nm,0.9s					
BVAR	**Borovoye Array**	**71.86 328**	P	**P**	**10 32 59.0**	**-0.4**
	comp=Z,7.6nm,0.9s,mb4.7,baz=126,slow=7.5,SNR=38					
BRVK	**Borovoye**	**71.93 328**	*e*P	**P**	**10 32 59.2**	**-0.7**
BRVK			pmax	pmax		
	comp=Z,15nm,1.0s,mb4.9					
BRVK	**Borovoye**	**71.93 328**	*e*P	**P**	**10 32 59.2**	**-0.7**
	comp=Z,15nm,1.0s,mb4.9					
TIXI	**Tiksi**	**72.74 0**‖	*e*P	**P**	**10 33 03.5**	**-0.8**
TIXI			pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4					
BILL	**Biiibino**	**74.11 14**	*e*P	**P**	**10 33 12.8**	**+0.3**
BILL			pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.9					
AKTK	**Aktyubinsk**	**77.99 322**	P	**P**	**10 33 34.4**	**-0.5**
AKTO	**Aktyubinsk**	**77.99 322**	P	**P**	**10 33 34.4**	**-0.5**
AKTO			pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8					
AKTO	**Aktyubinsk**	**77.99 322**	P	**P**	**10 33 34.4**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8,baz=112,slow=5.3,SNR=36					
VNDA	**Vanda**	**78.46 173**	P	**P**	**10 33 38.0**	**+1.0**
VNDA			pmax	pmax		
	comp=Z,1.0nm,0.8s					
VNDA	**Vanda**	**78.46 173**	*e*P	**P**	**10 33 38.8**	**+1.8**
VNDA	**Vanda**	**78.46 173**	P	**P**	**10 33 38.0**	**+1.0**
	comp=Z,0.9nm,0.8s,mb3.7,baz=313,slow=5.3,SNR=6.2					
ARU	**Arti**	**79.50 328***d*	*i*P	**P**	**10 33 41.8**	**-1.2**
ARU			*e*S	S	10 43 40.8	+0.1
ARU			pmax	pmax		
	comp=Z,12nm,1.0s,mb4.8					
SYO	**Syowa Base**	**88.12 201**‖	*e*X		10 34 24.2	
QSPA	**South Pole Qui**	**88.73 180**	*e*P	**P**	**10 34 31.5**	**+2.0**
	comp=Z,4.3nm,0.9s,mb4.8					
OBN	**Obninsk**	**91.51 325**	*e*P	**P**	**10 34 41.7**	**-1.3**
OBN			pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8					
ARCES	**ARCESS Array B**	**95.32 340**	P	**P**	**10 34 57.9**	**-2.3**
ARCES			pmax	pmax		
	comp=Z,2.0nm,0.9s					
ARCES	**ARCESS Array B**	**95.32 340**	P	**P**	**10 34 57.9**	**-2.3**
	comp=Z,2.4nm,0.9s,mb4.6,baz=27,slow=4.2,SNR=3.9					
TXAR	**Lajitas Array**	**123.90 55**	PKP	PKPdf	10 40 33.7	-1.5
	comp=Z,0.4nm,0.8s,baz=178,slow=3.8,SNR=4.8					
TORD	**Torodi Ar. Bea**	**125.06 285**	PKP	PKPdf	10 40 37.5	-0.2
TORD	**Torodi Ar. Bea**	**125.06 285**	PKP	PKPdf	10 40 37.5	-0.2
	comp=Z,0.5nm,0.8s,baz=29,slow=3.3,SNR=2.7					

NEIC ***29*** *10:31:42.8±0.3, 101S×12760E, h10km, mb4.9/10, Error ellipse: s-maj=12.4km s-min=6.2km az=68.0*
BJI ***29*** *10:31:42.8, 100S×12760E, h10km, mB5.0, mb4.8*
MOS ***29*** *10:31:44.0±0.8, 109S×12759E, h33km, mb4.8/16, Error ellipse: s-maj=26.3km s-min=10.0km az=112.2*
ISCJB ***29*** *10:31:44.5±0.3, 109S±004×12758E±008, h33km, mb4.8/36, Error ellipse: s-maj=12.6km s-min=4.9km az=158.8*
IDC ***29*** *10:31:46.5±2.8, 113S×12759E, h35km±20km, mb4.3/13, mb1 4.4/16, mb1mx4.3/20, mbtmp4.3/16, ML4.2/3, Error ellipse: s-maj=26.6km s-min=9.2km az=76.0*
ISC 29 10:31:46.1±0.3,**114S**±004×**12773E**±009,**h35**km, **(h8**km±6.0km**:pP-P),n83,**o0°93/86,**mb4.8**/36,**2C-2D, Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.85**	**244**	Pn	**Pn**	**10 33 50.8**	**-0.7**
	4.9nm,0.3s,baz=93,slow=16,SNR=20						
KAKA	**Kakadu**	**12.41**	**158**	*e*P	**Pn**	**10 34 41.7**	**+1.3**
	7.7nm,0.4s						
KAKA				*e*S	**Sn**	**10 36 56.0**	**-1.5**
FITZ	**Fitzroy Crossi**	**16.98**	**187**	*e*P	**Pn**	**10 35 43.6**	**+2.6**
	5.9nm,0.8s						
FITZ	**Fitzroy Crossi**	**16.98**	**187**	Pn	**Pn**	**10 35 42.0**	**+0.9**
	0.2nm,0.3s,baz=11,slow=13,SNR=7.3						
KSM	**Kuching**	**17.61**	**278**	*e*P	**Pn**	**10 35 45.1**	**-3.8**
WRAB	**Tennant Creek**	**19.77**	**161**	*e*P	**Pn**	**10 36 14.0**	**-1.0**
WRAB				pmax	pmax		
	comp=Z,10.0nm,0.7s						
WRAB	**Tennant Creek**	**19.77**	**161**	*e*P	**Pn**	**10 36 13.9**	**-1.1**
	comp=Z,10nm,0.7s						
WRA	**Warramunga Arr**	**19.78**	**161**	P	**Pn**	**10 36 14.0**	**-1.1**
WRA				S	**S**	**10 39 55.1**	**+0.6**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.3s						
WRA	**Warramunga Arr**	**19.78**	**161**	P	**Pn**	**10 36 14.0**	**-1.1**
	comp=Z,1.0nm,0.3s,baz=342,slow=12,SNR=38						
WRA				S	**S**	**10 39 55.1**	**+0.6**
	comp=Z,0.2nm,0.3s,baz=340,slow=22,SNR=5.1						
WB2	**Warramunga Arr**	**19.78**	**161**	*e*P	**Pn**	**10 36 13.7**	**-1.4**
WB2				*e*S	**S**	**10 39 53.5**	**-1.1**
ASAR	**Alice Springs**	**23.18**	**165**	P	**P**	**10 36 50.6**	**+0.7**
ASAR						10 40 38.9	
ASAR				S	**S**	**10 41 00.3**	**+1.1**
ASAR				pmax	pmax		
	comp=Z,18nm,0.7s						
ASAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
ASAR				smax			
	comp=N,4.0nm,1.1s						
ASAR				pmax	pmax		
	comp=N,1.0nm,0.9s						
ASAR	**Alice Springs**	**23.18**	**165**	P	**P**	**10 36 50.6**	**+0.7**
	comp=N,18nm,0.7s,mb4.6,baz=345,slow=10,SNR=107						
ASAR				PcP	PcP	10 40 38.9	+1.3
	comp=N,0.7nm,0.7s,baz=319,slow=1.5,SNR=4.2						
ASAR				S	**S**	**10 41 00.3**	**+1.1**
	comp=N,3.5nm,1.1s,baz=345,slow=21,SNR=8.5						
ASAR				ScP	ScP	10 44 16.1	+3.0
	comp=N,0.8nm,0.8s,baz=48,slow=1.9,SNR=4.7						
PSI	**Prapat**	**29.06**	**278**	P	**P**	**10 37 43.0**	**-0.4**
PSI				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.3						
PSI	**Prapat**	**29.06**	**278**	P	**P**	**10 37 43.0**	**-0.4**
	comp=Z,4.6nm,0.7s,mb4.3,baz=26,slow=4.7,SNR=5.8						
FORT	**Forrest**	**29.48**	**179**	*e*P	**P**	**10 37 48.3**	**+1.4**
	comp=Z,26nm,0.7s,mb5.1						
STKA	**Stephens Creek**	**33.26**	**158**	*e*P	**P**	**10 38 22.6**	**+2.4**
	comp=Z,13nm,0.8s,mb4.9						
STKA	**Stephens Creek**	**33.26**	**158**	*e*P	**P**	**10 38 22.4**	**+2.2**
STKA	**Stephens Creek**	**33.26**	**158**	P	**P**	**10 38 22.9**	**+2.7**
	comp=Z,18nm,0.8s,mb5.0,baz=318,slow=6.9,SNR=16						
WHN	**Wuhan**	**33.98**	**339**	‖P	**P**	**10 38 28.0**	**+1.5**
NJ2	**Nanjing**	**34.06**	**346**	*e*P	**P**	**10 38 26.3**	**-0.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.2						
KSRS	**Korea Array**	**38.40**	**0**	P	**P**	**10 39 05.1**	**+1.0**
KSRS						10 41 17.5	
KSRS				pmax	pmax		
	comp=Z,2.0nm,0.8s,mb3.9						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.7s,mb3.6						
KSRS	**Korea Array**	**38.40**	**0**	P	**P**	**10 39 05.0**	**+1.0**
	comp=Z,1.9nm,0.8s,mb3.9,baz=173,slow=10,SNR=7.5						
KSRS				PcP	PcP	10 41 17.4	+0.3
	comp=Z,1.4nm,0.7s,baz=183,slow=2.4,SNR=5.1						
MJAR	**Matsushiro Arr**	**38.73**	**14**	P	**P**	**10 39 06.7**	**-0.2**
MJAR						10 41 19.1	
MJAR				pmax	pmax		
	comp=Z,2.0nm,0.8s						
MJAR				pmax	pmax		
	comp=Z,1.0nm,0.7s						
MJAR	**Matsushiro Arr**	**38.73**	**14**	P	**P**	**10 39 06.7**	**-0.2**
	comp=Z,1.8nm,0.8s,mb3.9,baz=186,slow=9.4,SNR=5.8						
MJAR				PcP	PcP	10 41 19.1	+0.8
	comp=Z,1.4nm,0.7s,baz=178,slow=3.8,SNR=4.2						
XAN	**Xi'an**	**39.20**	**335**	P	**P**	**10 39 10.8**	**-0.1**
XAN				AP	pP	10 39 14.0	-7.1
XAN				AMB	AMB		
	comp=Z,19nm,0.7s,mb4.9						
CNB	**Canberra Magne**	**39.52**	**152**	*e*P	**P**	**10 39 20.2**	**+6.6**
	comp=Z,27nm,1.1s,mb4.9						
TOO	**Toolangi**	**39.78**	**158**	*e*P	**P**	**10 39 20.1**	**+4.4**
	comp=Z,172nm,0.9s,mb5.8						
TOO	**Toolangi**	**39.78**	**158**	*e*P	**P**	**10 39 20.1**	**+4.4**
TOO				pmax	pmax		
	comp=Z,172nm,0.9s,mb5.8						
LZH	**Lanzhou**	**43.20**	**331**	*e*P	**P**	**10 39 44.5**	**+0.7**
LZH				AP	pP	10 39 49.3	-4.8
LZH				XP	sP	10 39 51.8	-6.5
LZH				AMB	AMB		
	comp=Z,25nm,1.2s,mb4.8						
LZH				AMB	AMB		
	comp=Z,136nm,5.1s						
GTA	**Gaotai**	**47.78**	**331**	*e*P	**P**	**10 40 21.0**	**+1.0**
GTA				AP	pP	10 40 25.5	-4.9
GTA				XP	sP	10 40 28.5	-6.0
GTA				AMB	AMB		
	comp=Z,12nm,0.8s,mb5.0						
JIRN	**Jiri**	**49.10**	**309**	*e*P	**P**	**10 40 30.6**	**+0.2**
	comp=Z,28nm,0.7s,mb5.4						
GUN	**Gumba**	**49.46**	**309**	*e*P	**P**	**10 40 33.4**	**+0.3**
	comp=Z,35nm,0.7s,mb5.5						
PKI	**Pulchoki**	**49.67**	**308**	*e*P	**P**	**10 40 34.4**	**-0.3**
KKN	**Kakani**	**49.87**	**309**	*e*P	**P**	**10 40 36.2**	**-0.1**
DMN	**Daman**	**49.92**	**308**	*e*P	**P**	**10 40 36.6**	**-0.1**
	comp=Z,27nm,1.0s,mb5.2						
GKN	**Gorkha**	**50.47**	**308**	*e*P	**P**	**10 40 41.3**	**+0.5**
KOLN	**Koldanda**	**51.18**	**308**	*e*P	**P**	**10 40 46.4**	**+0.2**
	comp=Z,30nm,0.8s,mb5.3						
DANN	**Dangsing**	**51.32**	**308**	*e*P	**P**	**10 40 47.3**	**+0.1**
	comp=Z,34nm,0.7s,mb5.4						
SONM	**Songino Array**	**52.20**	**342**	P	**P**	**10 40 53.1**	**-0.2**
SONM						10 42 05.2	
SONM				pmax	pmax		
	comp=Z,3.0nm,0.8s						
SONM				pmax	pmax		
	comp=Z,2.0nm,0.8s						
SONM	**Songino Array**	**52.20**	**342**	P	**P**	**10 40 53.1**	**-0.2**
	comp=Z,3.1nm,0.8s,mb4.3,baz=152,slow=8.7,SNR=13						
SONM				PcP	PcP	10 42 05.2	+0.6
	comp=Z,2.4nm,0.8s,baz=152,slow=2.2,SNR=7.0						
ZAK	**Zakamensk**	**55.42**	**341**	*e*P	**P**	**10 41 16.8**	**-0.1**
ZAK				*e*		10 42 17.2	
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s,mb4.1						
ZAK				pmax	pmax		
	comp=Z,2.0nm,0.9s,mb4.2						
MK31	**Makanchi Array**	**62.11**	**326**	*i*P	**P**	**10 42 03.3**	**-0.2**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
MK31	**Makanchi Array**	**62.11**	**326**	*e*P	**P**	**10 42 03.4**	**-0.1**
MKAR	**Makanchi Array**	**62.11**	**326**	P	**P**	**10 42 03.4**	**-0.1**
MKAR						10 42 43.0	
MKAR				pmax	pmax		
	comp=Z,6.0nm,0.6s						
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.7s						
MKAR	**Makanchi Array**	**62.11**	**326**	P	**P**	**10 42 03.4**	**-0.1**
	comp=Z,5.8nm,0.6s,mb4.9,baz=119,slow=8.9,SNR=40						
MKAR				PcP	PcP	10 42 43.0	-0.5
	comp=Z,4.5nm,0.7s,baz=126,slow=4.4,SNR=9.9						
KZA	**Kyzart**	**63.88**	**319**	P	**P**	**10 42 16.5**	**+1.1**
	SNR=14						
TKM2	**Tokmak 2**	**64.06**	**320**	*e*P	**P**	**10 42 16.5**	**0.0**
TKM2				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.6						
TKM2	**Tokmak 2**	**64.06**	**320**	*e*P	**P**	**10 42 16.5**	**0.0**
	comp=Z,3.9nm,0.6s,mb4.6						
TKM2	**Tokmak 2**	**64.06**	**320**	P	**P**	**10 42 17.0**	**+0.5**
	SNR=8.3						
UCH	**Uchtor**	**64.44**	**319**	*e*P	**P**	**10 42 19.9**	**+0.9**
	comp=Z,5.4nm,0.8s,mb4.6						
UCH	**Uchtor**	**64.44**	**319**	P	**P**	**10 42 19.9**	**+0.9**
	SNR=9.4						
USP	**Ospenovka**	**64.93**	**320**	P	**P**	**10 42 22.4**	**+0.2**
	SNR=5.6						
AML	**Almayashu**	**64.93**	**318**	P	**P**	**10 42 23.3**	**+1.0**
	SNR=9.9						
KBL	**Kabul**	**65.30**	**309**	*e*P	**P**	**10 42 24.4**	**-0.4**
KBL				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
KBL	**Kabul**	**65.30**	**309**	*e*P	**P**	**10 42 24.4**	**-0.3**
	comp=Z,6.4nm,0.7s,mb4.8						
ZALV	**Zalesovo Beam**	**65.35**	**334**	P	**P**	**10 42 23.6**	**-1.1**
	comp=Z,2.2nm,0.3s,mb4.6,baz=115,slow=4.6,SNR=5.5						
ZAL	**Zalesovo**	**65.36**	**334**	P	**P**	**10 42 23.6**	**-1.1**
ZAL				pmax	pmax		
	comp=Z,2.0nm,0.3s						
KURK	**Kurchatov**	**66.36**	**328**	*e*P	**P**	**10 42 30.6**	**-0.7**
KURK				pmax	pmax		
	comp=Z,21nm,0.8s,mb5.2						
KURK	**Kurchatov**	**66.36**	**328**	*e*P	**P**	**10 42 30.6**	**-0.7**
	comp=Z,21nm,0.8s,mb5.2						
NVS	**Novosibirsk**	**66.64**	**334**	*e*P	**P**	**10 42 29.1**	**-3.9**
KK31	**Karatay Array**	**67.47**	**318**	*i*P	**P**	**10 42 37.8**	**-0.7**
KK31				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.7						
BVAR	**Borovoye Array**	**71.92**	**328**	P	**P**	**10 43 05.3**	**-0.4**
BVAR				pmax	pmax		
	comp=Z,7.0nm,0.8s						
BVAR	**Borovoye Array**	**71.92**	**328**	P	**P**	**10 43 05.3**	**-0.4**
	comp=Z,6.8nm,0.8s,mb4.7,baz=120,slow=7.5,SNR=43						
BRVK	**Borovoye**	**72.00**	**328**	*e*P	**P**	**10 43 05.7**	**-0.5**
BRVK				pmax	pmax		
	comp=Z,12nm,0.9s,mb4.8						
BRVK	**Borovoye**	**72.00**	**328**	*e*P	**P**	**10 43 05.7**	**-0.5**
	comp=Z,12nm,0.9s,mb4.8						
TIXI	**Tiksi**	**72.67**	**0**	*i*P	**P**	**10 43 05.5**	**-4.3**
TIXI				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
VNDA	**Vanda**	**78.51**	**173**	*e*P	**P**	**10 43 45.0**	**+1.8**
VNDA				pmax	pmax		
	comp=Z,6.0nm,1.5s						
VNDA	**Vanda**	**78.51**	**173**	*e*P	**P**	**10 43 45.0**	**+1.8**
	comp=Z,5.6nm,1.5s,mb4.3						
VNDA	**Vanda**	**78.51**	**173**	P	**P**	**10 43 44.5**	**+1.3**
	comp=Z,1.2nm,0.8s,mb3.9,baz=310,slow=7.1,SNR=9.9						
ARU	**Arti**	**79.56**	**328***c*	*i*P	**P**	**10 43 48.4**	**-0.9**
ARU				*e*		10 43 53.3	
ARU				*e*		10 46 46.2	
ARU				*e*S	S	10 53 48.9	+0.4
ARU				pmax	pmax		
	comp=Z,16nm,1.2s,mb4.8						
MAW	**Mawson**	**79.57**	**201**	P	**P**	**10 43 49.7**	**+0.5**
MAW				pmax	pmax		
	comp=Z,4.0nm,0.8s						
MAW	**Mawson**	**79.57**	**201**	P	**P**	**10 43 49.7**	**+0.6**
	comp=Z,3.7nm,0.8s,mb4.4,baz=61,slow=5.6,SNR=4.7						
SYO	**Syowa Base**	**

*IDC **29** 10:39:14.2±1.7, 099S×12752E, h0km, mb3.8/3, mb1 4.0/6, mb1mx3.7/17, mbtmp3.9/6, ML3.4/3, MS4.2/1, Ms1 4.2/1, ms1mx3.4/20, Error ellipse: s-maj=50.2km s-min=24.3km az=64.0*

*NEIC **29** 10:39:15.7±1.1, 099S×12758E, h10km, Error ellipse: s-maj=22.0km s-min=15.0km az=50.0*

*ISCJB **29** 10:39:16.9±1.4, 10S±02×1275E±02, h33km, mb4.0/3, Error ellipse: s-maj=26.6km s-min=18.8km az=139.3*

ISC 29 10:39:19.2±1.5, 11S±02×1276E±02, h35km, n7, σ0±82/7, mb4.0/3, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.72	243	Pn	Pn	10 41 22.9	0.0
	1.3nm,0.3s,baz=63,slow=9.0,SNR=5.5						
FITZ	Fitzroy Crossi	17.03	186	P	Pn	10 43 14.9	+0.2
	0.0nm,0.3s,baz=17,slow=14,SNR=3.5						
WRA	Warramunga Arr	19.90	161	P	Pn	10 43 48.2	-1.3
	0.1nm,0.3s,baz=338,slow=12,SNR=4.0						
ASAR	Alice Springs	23.29	165	P	P	10 44 24.0	-0.1
	1.9nm,0.7s,mb3.6,baz=345,slow=11,SNR=19						
STKA	Stephens Creek	33.39	158	P	P	10 45 55.9	+1.5
STKA	Stephens Creek	33.39	158	P	P	10 45 55.9	+1.5
	3.3nm,0.8s,mb4.3,baz=323,slow=10,SNR=3.4						
MKAR	Makanchi Array	61.97	326	P	P	10 49 35.4	-0.3
	0.8nm,0.7s,mb4.0,baz=137,slow=7.3,SNR=4.7						

JMA 29 10:40:02.7±0.3, 3193N×14250E, h2km, M3.8, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSO1	Boso 1	3.00	335	P	Pn	10 40 52.5	+1.2
JMY	Miyakejima3	3.30	311	eS	Sn	10 41 30.3	-4.8
BSO3	Boso 3	3.31	330	P	Pn	10 40 57.4	+1.9
JHU	Hanno	4.74	326	P	Pn	10 41 17.7	+2.5
CBIJ	Chichi jima	4.83	183	P	Pn	10 41 18.4	+2.0
JRY	Ryogami san	5.05	325	P	Pn	10 41 21.8	+2.3
JAG	Ashikaga	5.14	331	P	Pn	10 41 22.8	+2.1
JAG				eS	Sn	10 42 21.3	+0.6

*BJI **29** 10:47:54.3, 100S×12760E, h10km, mB4.9, mb4.8*

*ISCJB **29** 10:47:56.7±4.0, 111S±006×1276E±01, h27km±29km, mb4.3/17, Error ellipse: s-maj=22.7km s-min=7.9km az=159.6*

*NEIC **29** 10:47:56.4±0.4, 103S×12762E, h10km, mb4.4/7, Error ellipse: s-maj=14.4km s-min=6.8km az=72.0*

*IDC **29** 10:47:59.3±3.7, 112S×12763E, h34km±27km, mb4.0/10, mb1 4.1/13, mb1mx4.0/18, mbtmp4.0/13, ML3.8/3, Error ellipse: s-maj=31.4km s-min=10.7km az=75.0*

ISC 29 10:47:55.2±3.7, 108S±006×1277E±01, h4km±23km, n26, σ0±97/27, mb4.3/17, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.84	244	Pn	Pn	10 50 03.7	-0.1
	1.6nm,0.3s,baz=71,slow=4.6,SNR=7.1						
FITZ	Fitzroy Crossi	17.03	187	Pn	Pn	10 51 55.3	+0.8
	0.2nm,0.3s,baz=8.4,slow=14,SNR=4.1						
WRAB	Tennant Creek	19.84	161	eP	Pn	10 52 28.2	-0.5
	4.4nm,0.8s						
WRA	Warramunga Arr	19.84	161	P	Pn	10 52 27.8	-1.1
	0.4nm,0.3s,baz=341,slow=12,SNR=26						
WRA				S	Sn	10 56 04.5	-7.8
	0.0nm,0.3s,baz=337,slow=21,SNR=2.4						
WB2	Warramunga Arr	19.85	161	eP	Pn	10 52 28.3	-0.6
ASAR	Alice Springs	23.25	165	P	P	10 53 04.5	+0.7
	4.3nm,0.6s,mb4.0,baz=345,slow=11,SNR=46						
ASAR				PcP	PcP	10 56 51.7	-0.2
	0.2nm,0.6s,baz=352,slow=2.1,SNR=4.9						
ASAR				S	S	10 57 16.3	-0.3
	1.8nm,1.1s,baz=343,slow=21,SNR=6.0						
PSI	Prapat	29.01	278	P	P	10 53 54.9	-1.7
	1.8nm,0.5s,mb4.1,baz=153,slow=2.3,SNR=3.5						
STKA	Stephens Creek	33.33	158	eP	P	10 54 36.6	+2.2
	3.6nm,0.8s,mb4.3						
STKA	Stephens Creek	33.33	158	P	P	10 54 35.2	+0.8
	2.7nm,0.7s,mb4.3,baz=345,slow=8.5,SNR=7.0						
KSRS	Korea Array	38.34	0	P	P	10 55 18.0	+0.7
	1.0nm,0.8s,mb3.6,baz=177,slow=8.8,SNR=5.4						
MJAR	Matsushiro Arr	38.69	14	P	P	10 55 19.0	-1.2
	0.7nm,0.6s,mb3.6,baz=170,slow=5.5,SNR=2.9						
XAN	Xi'an	39.13	335	P	P	10 55 24.5	+0.5
XAN				AP	pP	10 55 27.3	+2.1
XAN				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.7						
GTA	Gaotai	47.71	331	eP	P	10 56 34.5	+1.3
GTA				AP	pP	10 56 38.8	+4.4
GTA				XP	sP	10 56 42.0	+7.2
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.8						
ULN	Ulaanbaatar	51.96	342	eP	P	10 57 06.0	+0.7
	comp=Z,4.3nm,0.9s,mb4.4						
SONM	Songino Array	52.13	342	P	P	10 57 06.9	+0.2
	comp=Z,1.8nm,0.6s,mb4.2,baz=152,slow=8.1,SNR=7.4						
MK31	Makanchi Array	62.05	326	eP	P	10 58 16.9	0.0
MKAR	Makanchi Array	62.05	326	P	P	10 58 16.9	-0.1
MKAR				PcP	PcP	10 58 56.7	-0.7
MKAR	Makanchi Array	62.05	326	P	P	10 58 16.9	-0.1
	comp=Z,5.1nm,0.7s,mb4.8,baz=120,slow=8.8,SNR=21						
MKAR				PcP	PcP	10 58 56.7	-0.7
	comp=Z,1.8nm,0.7s,baz=123,slow=4.4,SNR=6.1						
TKM2	Tokmak 2	63.99	320	eP	P	10 58 30.4	+0.5
	comp=Z,1.9nm,0.6s,mb4.3						
UCH	Uchtor	64.37	319	eP	P	10 58 33.6	+1.1
	comp=Z,2.7nm,0.8s,mb4.3						
EKS2	Erkin-Say	65.05	319	eP	P	10 58 37.7	+0.8
	comp=Z,2.5nm,0.7s,mb4.3						
ZALV	Zalesovo Beam	65.29	334	P	P	10 58 36.0	-2.2
	comp=Z,1.9nm,0.4s,mb4.5,baz=129,slow=3.9,SNR=3.9						
KURK	Kurchatov	66.30	328	eP	P	10 58 44.3	-0.5
	comp=Z,9.0nm,0.8s,mb4.8						
VNDA	Vanda	78.56	173	P	P	10 59 58.2	+0.7
	comp=Z,0.6nm,0.9s,mb3.5,baz=316,slow=6.4,SNR=4.2						
ARCES	ARCESS Array B	95.26	340	P	P	11 01 18.3	-1.7
	comp=Z,3.0nm,0.9s,mb4.7,baz=64,slow=8.2,SNR=7.7						
TXAR	Lajitas Array	123.66	55	PKP	PKPdf	11 06 54.9	-0.1
	comp=Z,0.2nm,0.8s,baz=316,slow=2.5,SNR=2.8						

IDC 29 10:53:32.1±1.9, 114S×12725E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.8/17, mbtmp4.0/4, ML4.0/2, Error ellipse: s-maj=54.6km s-min=27.0km az=63.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.42	243	Pn	Pn	10 55 34.9	-0.5
	2.7nm,0.3s,baz=191,slow=11,SNR=6.0						
WRA	Warramunga Arr	19.93	160	P	Pn	10 58 05.7	-1.6
	0.4nm,0.3s,baz=344,slow=12,SNR=12						
ASAR	Alice Springs	23.30	164	P	P	10 58 42.0	+0.2
	2.8nm,0.7s,baz=344,slow=11,SNR=23						
MKAR	Makanchi Array	61.86	327	P	P	11 03 53.3	+0.1
	1.0nm,0.5s,baz=118,slow=8.5,SNR=3.9						

IDC 29 11:09:00.5±1.6, 104S×12775E, h0km, mb3.9/2, mb1 4.1/4, mb1mx3.8/16, mbtmp4.0/4, ML3.9/2, Error ellipse: s-maj=53.9km s-min=24.3km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.91	243	Pn	Pn	11 11 10.5	0.0
	2.1nm,0.3s,baz=49,slow=9.3,SNR=9.1						
WRA	Warramunga Arr	19.87	161	P	Pn	11 13 33.0	-1.9
	0.3nm,0.3s,baz=343,slow=12,SNR=13						
ASAR	Alice Springs	23.28	166	P	P	11 14 10.2	+0.3
	2.6nm,0.7s,baz=347,slow=12,SNR=21						
MKAR	Makanchi Array	62.04	326	P	P	11 19 22.8	0.0
	1.0nm,0.6s,baz=110,slow=7.9,SNR=11						

IDC 29 11:12:31.9±2.6, 102S×12779E, h0km, mb3.6/2, mb1 3.7/3, mb1mx3.5/15, mbtmp3.5/3, ML3.2/1, Error ellipse: s-maj=246.7km s-min=25.6km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.87	162	P	Pn	11 17 05.1	-1.2
	0.1nm,0.3s,baz=344,slow=12,SNR=5.3						
ASAR	Alice Springs	23.28	166	P	P	11 17 41.3	-0.1
	0.6nm,0.5s,baz=344,slow=11,SNR=9.0						
MKAR	Makanchi Array	62.05	326	P	P	11 22 54.3	+0.1
	0.3nm,0.4s,baz=122,slow=7.9,SNR=3.8						

*ISCJB **29** 11:18:27.4±1.0, 2987N±003×3629E±005, h0km, Error ellipse: s-maj=6.7km s-min=4.9km az=3.8*

*SGS **29** 11:18:28.3, 3003N×3624E, h7km*

*GII **29** 11:18:28.7±1.3, 2989N×3619E, h0km, ML2.8/7*

ISC 29 11:18:27.2±1.0, 2986N±003×3634E±006, h0km, n15, σ0±77/23, Western Arabian Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HRFI	Mount Harif	1.15	279	Pg	Pg	11 18 48.3	-0.9
HRFI				Sg	Sg	11 19 05.4	+1.3
EIL	Elat	1.22	262	Pg	Pg	11 18 50.0	-0.6
EIL				Sg	Sg	11 19 06.4	-0.1
ZFRI	Zfri	1.22	305	Pg	Pg	11 18 50.0	-0.7
ZFRI				Sg	Sg	11 19 06.0	-0.6
MBH	Mount Berech	1.24	267	Pg	Pg	11 18 51.7	+0.7
MBH				Sg	Sg	11 19 07.7	+0.6
HQLS		1.24	244	S	Sg	11 19 06.9	-0.3
HQLS		1.24	244	P	Pg	11 18 50.4	-0.7
PRNI	Paran	1.26	293	Pg	Pg	11 18 50.2	-1.2
PRNI				Sg	Sg	11 19 07.4	-0.3
JLOS		1.34	214	S	Sg	11 19 11.5	+1.2
JLOS		1.34	214	P	Pg	11 18 53.2	+0.2
KRMI	Paran Flat	1.43	281	Sg	Sg	11 19 13.1	0.0
RMNI	Mount Ramon	1.55	299	Pn	Pn	11 18 56.3	+0.2
MZDA	Masada	1.68	330	Pn	Pn	11 18 57.9	0.0
MZDA				Sn	Sn	11 19 19.7	-0.3
DSI	Dead Sea	1.90	334	Pn	Pn	11 19 01.6	+0.7
DSI				Sn	Sn	11 19 27.8	+2.3
KZIT	Kziot	1.98	302	Pn	Pn	11 19 01.7	-0.3
KZIT				Sn	Sn	11 19 27.7	+0.2
RSHS		2.06	221	P	Pn	11 19 02.3	-0.8

*ISCJB **29** 11:34:37.3±4.1, 237S±01×1799E±02, h499km±49km, mb3.7/10, Error ellipse: s-maj=24.9km s-min=17.7km az=147.0*

*NEIC **29** 11:34:38.4±3.0, 2360S×17998E, h510km±34km, mb3.7/2, Error ellipse: s-maj=29.6km s-min=17.6km az=190.0*

*IDC **29** 11:34:38.3±2.7, 2374S×17996W, h507km±29km, mb3.3/8, mb1 3.5/9, mb1mx3.4/15, mbtmp3.3/9, Error ellipse: s-maj=32.9km s-min=19.3km az=162.0*

ISC 29 11:34:35.7±4.2, 235S±02×1800E±02, h466km±50km, n18, σ0±55/14, mb3.7/10, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	Urewera	14.92	189	P	P	11 37 45.3	-0.1
	2.2nm,0.3s,baz=18,slow=2.6,SNR=17						
URZ				S	S	11 40 15.6	-6.6
	0.4nm,0.3s,baz=152,slow=15,SNR=5.2						
CTA	Charters Tower	31.43	270	P	P	11 40 19.3	+1.6
CTA	Charters Tower	31.43	270	P	P	11 40 19.3	+1.6
	8.5nm,0.3s,mb4.6,baz=92,slow=11,SNR=17						
STKA	Stephens Creek	34.83	248	P	P	11 40 46.2	-0.2
	3.5nm,0.9s,mb3.8,baz=18,slow=3.2,SNR=3.1						
ASAR	Alice Springs	42.06	260	P	P	11 41 45.6	+0.1
	1.1nm,0.6s,mb3.5,baz=101,slow=7.1,SNR=14						
ASAR				ScP	ScP	11 46 31.9	-3.8
	1.0nm,0.8s,baz=108,slow=4.4,SNR=10.0						
WB2	Warramunga Arr	42.38	266	eP	P	11 41 47.4	-0.7
WB2				ePcP	PcP	11 43 31.9	+0.7
WRAB	Tennant Creek	42.38	266	eP	P	11 41 47.9	-0.2
	1.6nm,0.5s,mb3.7						
WRAB				ePcP	PcP	11 43 31.9	+0.8
WRA	Warramunga Arr	42.39	266	P	P	11 41 47.7	-0.5
	0.8nm,0.4s,mb3.5,baz=89,slow=5.8,SNR=4.5						
FITZ	Fitzroy Crossi	50.81	265	P	P	11 42 52.1	-0.2
	1.2nm,0.9s,mb3.2,baz=68,slow=20,SNR=2.7						
MJAR	Matsushiro Arr	71.54	326	P	P	11 45 08.4	-0.1
	1.5nm,0.8s,mb3.6,baz=160,slow=7.4,SNR=4.9						
MAW	Mawson	78.11	200	P	P	11 45 45.6	+0.4
	1.2nm,0.5s,mb3.6						
NVAR	Mina Array Bea	84.49	44	P	P	11 46 18.5	0.0
	0.9nm,0.8s,mb3.4,baz=226,slow=6.9,SNR=6.2						
TXAR	Lajitas Array	90.26	58	P	P	11 46 46.1	+0.1
	0.9nm,0.6s,mb3.8,baz=210,slow=6.2,SNR=16						
MKAR	Makanchi Array	111.84	313	PKiKP	PKiKP	11 52 14.2	-2.5
	0.2nm,0.4s,baz=153,slow=1.0,SNR=3.7						
BVAR	Borovoye Array	120.11	319	PKP	PKPdf	11 52 29.6	-2.8
	0.7nm,0.4s,baz=33,slow=3.4,SNR=3.6						
ARCES	ARCESS Array B	131.48	348	PKP	PKPdf	11 52 51.1	-2.6
	1.0nm,0.8s,baz=27,slow=1.4,SNR=6.8						
FINES	FINESS Array B	138.05	342	PKP	PKPdf	11 53 04.1	-2.0
	0.5nm,0.4s,baz=207,slow=33,SNR=2.8						
AKASG	Malin Array Be	144.61	328	PKP	PKPdf	11 53 16.1	-2.0
	4.4nm,0.7s,baz=44,slow=4.2,SNR=18						

*CSEM **29** 11:37:14.9±0.1, 4079N×3085E, h10km, MD3.1, Error ellipse: s-maj=2.0km s-min=1.5km az=8.0*

*DDA **29** 11:37:14.7, 4079N×3083E, h7km±6km, Md3.1*

*ISK **29** 11:37:14.6, 4080N×3086E, h7km, MD3.1*

*ISCJB **29** 11:37:15.0±0.6, 4081N±003×3083E±004, h6km±5km, Error ellipse: s-maj=5.5km s-min=4.4km az=135.2*

ISC 29 11:37:15.7±0.6, 4080N±003×3084E±004, h10km±5km, n30, σ0±73/39, 1D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GULT	Gulveren	0.44	214	PG	Pg	11 37 24.0	-0.3
GULT				eSG	Sg	11 37 30.4	+0.3
GPA	Golpazari	0.65	218	PG	Pg	11 37 27.9	-0.4
GPA				eSG	Sg	11 37 37.1	+0.4
KDZE	Karadeniz Ereo	0.69	42	PG	Pg	11 37 28.0	-1.0
KDZE				eSG	Sg	11 37 37.9	-0.1
HRT	Hereke	0.89	272	ePG	Pg	11 37 32.5	-0.3
ADVT	Abdulvahap	0.91	247	ePG	Pg	11 37 33.2	-0.1
YLV	Yalova	1.14	259	ePN	Pn	11 37 36.8	-0.9
IZI	Iznik	1.14	246	ePN	Pn	11 37 37.2	-0.5
ESKT	Eskisehir	1.28	180	iP	Pn	11 37 39.9	+0.2
ESKT				iS	Sb	11 37 56.1	-0.3
ESKT	Eskisehir	1.28	180	ePn	Pn	11 37 39.5	-0.1
SEYT	Eskypehyr	1.28	180	iP	Pn	11 37 39.9	+0.3
SEYT				iS	Sb	11 37 56.1	-0.3
GEMT	Gemlik	1.31	254	ePN	Pn	11 37 40.3	+0.3
ISK	Istanbul-Kandi	1.37	282	ePN	Pn	11 37 41.8	+0.9
KLYT	Kilyos	1.43	289	ePN	Pn	11 37 42.0	+0.2
SAFT	Safranbolu	1.47	72	ePN	Pn	11 37 41.8	-0.4
LOD	Lodumlu	1.73	121	ePN	Pn	11 37 45.5	-0.4
ANTO	Ankara	1.76	121	ePN	Pn	11 37 46.5	+0.2
ALT	Altintas	1.83	198	ePN	Pn	11 37 46.5	-0.7
ELBA	Catalca	1.85	282	iP	Pn	11 37 47.8	+0.3
ELBA				iS	Sn	11 38 10.8	-0.3
CTT	Catalca	1.85	282	ePN	Pn	11 37 48.2	+0.6
GDZ	Gediz	2.00	212	iP	Pn	11 37 48.6	-1.0
GDZ				iS	Sn	11 38 11.6	-3.2
BALT	Daday	2.06	68	iP	Pn	11 37 52.4	+2.0
BALT				iS	Sn	11 38 20.5	+4.4
DST	Dursunbey	2.07	235	ePN	Pn	11 37 51.2	+0.7
KIZT	Kizilcal	2.08	157	ePN	Pn	11 37 50.9	+0.2
SHUT	Suhut-Afyon	2.26	186	ePN	Pn	11 37 53.5	+0.5
EDC	Edincik	2.31	260	ePN	Pn	11 37 54.2	+0.4
CRLT	Corlu	2.37	279	ePN	Pn	11 37 54.9	+0.2
TKR	Tekirdag	2.51	275	ePN	Pn	11 37 57.2	+0.7
BALB	Balikesir	2.54	244	ePN	Pn	11 37 57.4	+0.3
EDRB	Edirne	3.25	290	ePN	Pn	11 38 07.6	+0.8
TIRR	Tirgusor	4.07	335	iP	Pn	11 38 18.3	+0.3
TIRR				S	Sn	11 39 03.8	-1.9

*ISCJB **29** 11:42:20.4±0.5, 4445N±002×1804E±003, h2km±3km, Error ellipse: s-maj=4.3km s-min=2.3km az=147.9*

*VIE **29** 11:42:22.6±0.7, 4447N×1805E, h12km±3km, mb2.8/4, ML2.6/5, Error ellipse: s-maj=4.8km s-min=3.5km az=153.0*

*NEIC **29** 11:42:23.8, 4423N×1807E, h5km, ML3.0(PDG), After PDG.*

*PDG **29** 11:42:23.8±0.3, 4423N×1807E, h5km, ML3.0/10, Error ellipse: s-maj=0.8km s-min=2.1km az=0.0*

*CSEM **29** 11:42:24.9±0.1, 4450N×1786E, h35km, ML2.6/5, Error ellipse: s-maj=7.8km s-min=2.3km az=65.0*

ISC 29 11:42:21.3±0.5, 4441N±002×1799E±004, h2km±3km, n40, σ1±22/72, 13C-13D, Northwestern Balkan Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BLY	Banja Luka	0.67	301	iPg	Pg	11 42 33.6	-0.5
BLY				eSg	Sg	11 42 44.1	+1.4
UPM	Unac-Piva	1.38	151	↓iPg	Pg	11 42 46.1	-1.6
UPM				eSg	Sg	11 43 04.2	-1.4
DIVS	Divibare	1.47	102	iPg	Pg	11 42 48.6	-0.9
DIVS				eSg	Sg	11 43 09.7	+1.1
PLE	Pljevlja	1.48	136	↑iPg	Pg	11 42 47.7	-2.0
PLE				eSg	Sg	11 43 08.0	-0.9
RHK3	Tenkes	1.49	7	↑ePn	Pn	11 42 48.4	-0.6
FGSL	Fruska Gora	1.50	59	ePn	Pn	11 42 47.8	-1.3
BRY	Bratogost	1.56	165	↓iPg	Pg	11 42 49.0	-2.2
BRY				eSg	Sg	11 43 10.5	-1.0
NKY	Niksic	1.76	155	↓iPg	Pg	11 42 52.4	-2.6
NKY				eSg	Sg	11 43 16.2	-1.5
BEO	Beograd	1.82	76	ePn	Pn	11 42 52.9	-0.6
SJES	Sjenica	1.84	128	ePn	Pn	11 42 55.9	+2.1
SJES				eSg	Sg	11 43 23.5	+3.1
PKSM	Moragy	1.86	14	iPn	Pn	11 42 53.0	-1.1
PKSM				eSn	Sn	11 43 15.6	-2.5
PKSM	Moragy	1.86	14	↓ePn	Pn	11 42 53.0	-1.1
HCY	Herceg Novi	2.00	169	↓iPn	Pn	11 42 56.5	+0.5
HCY				eSn	Sn	11 43 22.5	+0.9
GRUS	Gruza	2.03	104	ePn	Pn	11 42 57.4	+0.9
GRUS				eSg	Sg	11 43 27.4	+0.9
IVA	Berane	2.07	137	↑iPn	Pn	11 42 57.9	+0.9
IVA				eSn	Sn	11 43 24.7	+1.3
PKS9	Tamasi	2.19	5	ePn	Pn	11 42 58.7	+0.1
TTG	Podgorica	2.19	154	↑iPn	Pn	11 42 59.2	+0.6
TTG				eSn	Sn	11 43 26.9	+0.7
BUM	Brajici-Budva	2.21	162	↓iPn	Pn	11 43 00.0	+1.1
BUM				eSn	Sn	11 43 28.1	+1.3
PVY	Plav	2.32	141	↑iPn	Pn	11 43 01.2	+0.8
PVY				eSn	Sn	11 43 30.1	+0.6
SVIS	Svilajnac	2.32	92	eSg	Sg	11 43 36.8	+1.0
ULC	Ulcinj	2.62	159	↑iPn	Pn	11 43 05.0	+0.5
ULC				eSn	Sn	11 43 37.3	+0.5
KNDS	Knezji Dol	2.79	295	iPn	Pn	11 43 08.3	+1.4
KNDS				iSn	Sn	11 43 45.2	+4.0
BZS	Buzias	2.84	64	iPn	Pn	11 43 07.1	-0.5
BZS				eSn	Sn	11 43 40.2	-2.2
BZS	Buzias	2.84	64	↓iP	Pn	11 43 14.8	+7.2
PKSG		2.99	5	ePn	Pn	11 43 09.4	-0.3
PKSG				eSn	Sg	11 43 58.9	+1.4
OBKA	Obir	3.20	312	↑iPn	Pn	11 43 12.8	+0.2
OBKA				↓iSg	Sg	11 44 08.8	+4.7
	12nm,0.4s						
BARS	Barje	3.20	119	ePn	Pn	11 43 11.4	-1.2
BARS				eSg	Sg	11 44 07.8	+3.6
VOY	Vojsko	3.32	301	ePn	Pn	11 43 14.7	+0.6
VOY				e		11 43 16.0	
VOY				eSn	Sn	11 43 50.4	-3.7
VOY				e		11 43 55.7	
VOY				e		11 44 08.3	
VOY	Vojsko	3.32	301	ePn	Pn	11 43 14.7	+0.6
VOY				eSn	Sn	11 43 50.4	-3.7
ARSA	Arzberg	3.32	330	↑iPn	Pn	11 43 13.6	-0.6
ARSA				↓iSn	Sn	11 43 53.3	-1.0
ZAPS	Zavoj	3.55	107	iPn	Pn	11 43 17.1	-0.2
PSZ	Piszkesteto	3.75	20	↓ePB	Pg	11 43 36.6	+3.5
PSZ				eSB	Sg	11 44 23.6	+1.9
CONA	Conrad Observa	3.81	338	↓iPn	Pn	11 43 21.3	+0.3
CONA				↑iSn	Sn	11 44 05.2	-1.2
CSNA	Conrad Observa	3.82	338	↑iPn	Pn	11 43 21.3	+0.3
CSNA				↓iSn	Sn	11 44 06.8	+0.2
VYHS	Vyhne	4.13	8	iPN	Pn	11 43 24.7	-0.6
VYHS				iSN	Sn	11 44 11.3	-2.7
VYHS				eSG	Sg	11 44 35.5	+1.7
VYHS	Vyhne	4.13	8	iPn	Pn	11 43 24.7	-0.6
VYHS				iSn	Sn	11 44 11.3	-2.7
KOLL	Kolacno	4.18	4	iPN	Pn	11 43 25.8	-0.2
KOLL				iSN	Sn	11 44 11.5	-3.8
KBA	Koelnbreinsper	4.21	311	↓iPn	Pn	11 43 26.2	-0.2
MOA	Molln	4.30	324	↑iPn	Pn	11 43 28.4	+0.7
MOA				↑iSn	Sn	11 44 18.9	+0.5
MOA	Molln	4.30	324	↑iPn	Pn	11 43 28.4	+0.7
MOA				iSn	Sn	11 44 18.9	+0.5

*IDC **29** 11:42:53.8±0.9, 104S×12756E, h0km, mb4.1/7, mb1 4.2/9, mb1mx4.1/17, mbtmp4.1/9, ML4.1/2, Error ellipse: s-maj=50.9km s-min=16.3km az=69.0*

*NEIC **29** 11:42:55.1±0.5, 108S×12761E, h10km, mb4.4/4, Error ellipse: s-maj=16.9km s-min=7.0km az=65.0*

*ISCJB **29** 11:42:56.4±0.6, 116S±009×1275E±01, h33km, mb4.1/9, Error ellipse: s-maj=22.2km s-min=9.5km az=155.1*

ISC 29 11:42:58.5±0.6, 118S±009×1276E±01, h35km, n15, σ1±05/15, mb4.1/9, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.72	244	Pn	Pn	11 45 02.1	-0.1
	1.1nm,0.3s,baz=82,slow=7.1,SNR=6.5						
KAKA	Kakadu	12.41	158	eP	Pn	11 45 53.2	+0.3
	18nm,0.6s						
WRAB	Tennant Creek	19.77	161	eP	Pn	11 47 26.3	-1.1
	4.9nm,0.6s						
WRA	Warramunga Arr	19.77	161	P	Pn	11 47 26.3	-1.1
	0.9nm,0.3s,baz=341,slow=12,SNR=27						
WB2	Warramunga Arr	19.78	161	eP	Pn	11 47 26.2	-1.3
ASAR	Alice Springs	23.17	165	P	P	11 48 02.8	+0.6
	5.2nm,0.7s,mb4.1,baz=343,slow=9.9,SNR=35						
STKA	Stephens Creek	33.26	158	eP	P	11 49 35.0	+2.3
	6.4nm,1.5s,mb4.3						
STKA	Stephens Creek	33.26	158	P	P	11 49 35.4	+2.8
	4.7nm,0.6s,mb4.6,baz=311,slow=9.5,SNR=7.2						
SONM	Songino Array	52.21	342	P	P	11 52 06.3	+0.4
	1.3nm,0.7s,mb3.9,baz=142,slow=6.3

JHO				eS	Sn	11 49 02.9	-3.0
JRY	**Ryogami san**	**5.25**	**327**	P	**Pn**	**11 48 08.3**	**+0.7**
JRY				eS	Sn	11 49 07.3	-0.1
JAG	**Ashikaga**	**5.37**	**334**	P	**Pn**	**11 48 09.2**	**0.0**
JAG				eS	Sn	11 49 09.5	-0.8
JFK	**Kawauchi**	**5.85**	**348**	P	**Pn**	**11 48 14.6**	**-1.3**
MJAR	**Matsushiro Arr**	**6.00**	**326**	Pn	**Pn**	**11 48 18.3**	**+0.3**
MJAR				Sn	**Sn**	**11 49 25.5**	**-0.4**
MJAR	**Matsushiro Arr**	**6.00**	**326**	Pn	**Pn**	**11 48 18.3**	**+0.3**
	2.5nm,0.3s,baz=59,slow=5.7,SNR=23						
MJAR				Sn	**Sn**	**11 49 25.5**	**-0.4**
	1.7nm,0.3s,baz=169,slow=17,SNR=6.7						
MAJO	**Matsushiro**	**6.00**	**326**	ePn	**Pn**	**11 48 18.7**	**+0.7**
	20nm,0.7s						
MAJO				eSn	Sn	11 49 21.5	-4.4
MAT	**Matsushiro**	**6.00**	**326**	P	**Pn**	**11 48 18.4**	**+0.5**
MAT				S	**Sn**	**11 49 25.0**	**-1.0**
MAT	**Matsushiro**	**6.00**	**326**	P	**Pn**	**11 48 18.7**	**+0.8**
MAT				eS	**Sn**	**11 49 25.4**	**-0.6**
JMK	**Ichinoseki**	**7.36**	**353**	P	**Pn**	**11 48 35.3**	**-1.3**
KSRS	**Korea Array**	**13.26**	**300**	Pn	**Pn**	**11 49 58.9**	**+1.5**
	0.1nm,0.3s,baz=110,slow=14,SNR=4.7						
KSRS				LR	LR	11 54 13.4	
	comp=Z,119nm,21.7s,baz=234,slow=34						
MDJ	**Mudanjiang**	**16.39**	**326**	P	**Pn**	**11 50 43.5**	**+4.5**
MDJ				AMB	AMB		
	comp=Z,7.0nm,0.8s						
MDJ				AMB	AMB		
	comp=Z,51nm,4.6s						
SONM	**Songino Array**	**31.72**	**311**	P	**P**	**11 53 13.8**	**+1.3**
	comp=Z,1.8nm,0.6s,mb4.0,baz=106,slow=7.8,SNR=7.7						
ZALV	**Zalesovo Beam**	**46.26**	**316**	P	**P**	**11 55 14.4**	**+0.4**
	comp=Z,0.8nm,0.4s,mb4.0,baz=112,slow=9.1,SNR=3.9						
MK31	**Makanchi Array**	**47.83**	**307**	eP	**P**	**11 55 27.2**	**+0.9**
MKAR	**Makanchi Array**	**47.83**	**307**	P	**P**	**11 55 26.9**	**+0.6**
	comp=Z,1.6nm,0.7s,mb4.1,baz=90,slow=10,SNR=8.9						
PSI	**Prapat**	**49.94**	**244**	P	**P**	**11 55 43.5**	**+0.6**
	comp=Z,2.8nm,0.8s,mb4.4,baz=203,slow=7.7,SNR=3.0						
KURK	**Kurchatov**	**50.02**	**312**	eP	**P**	**11 55 43.5**	**+0.5**
	comp=Z,5.0nm,0.8s,mb4.6						
WRAB	**Tennant Creek**	**51.85**	**190**	eP	**P**	**11 55 56.3**	**-0.8**
WB2	**Warramunga Arr**	**51.86**	**190**	eP	**P**	**11 55 56.2**	**-0.9**
WRA	**Warramunga Arr**	**51.86**	**190**	P	**P**	**11 55 55.9**	**-1.2**
	comp=Z,7.5nm,0.9s,mb4.6,baz=5.1,slow=7.8,SNR=14						
BVAR	**Borovoye Array**	**54.89**	**315**	P	**P**	**11 56 18.4**	**-0.7**
	comp=Z,3.7nm,0.9s,mb4.4,baz=114,slow=6.6,SNR=7.8						
ASAR	**Alice Springs**	**55.58**	**189**	P	**P**	**11 56 23.3**	**-1.0**
	comp=Z,1.8nm,0.8s,mb4.2,baz=10,slow=7.2,SNR=4.8						
INK	**Inuvik**	**58.86**	**26**	P	**P**	**11 56 47.2**	**+0.2**
INK	**Inuvik**	**58.86**	**26**	P	**P**	**11 56 47.2**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.3,baz=252,slow=5.5,SNR=8.9						
DLBC	**Dease Lake**	**62.43**	**36**	P	**P**	**11 57 11.6**	**+0.1**
	baz=297,slow=11						
YKA	**Yellowknife Ar**	**68.09**	**29**	P	**P**	**11 57 48.8**	**+0.7**
YKA	**Yellowknife Ar**	**68.09**	**29**	P	**P**	**11 57 48.8**	**+0.7**
	comp=Z,1.0nm,0.9s,mb3.9,baz=293,slow=5.8,SNR=9.0						
ARCES	**ARCESS Array B**	**69.33**	**340**	P	**P**	**11 57 56.6**	**+0.9**
	comp=Z,2.0nm,0.8s,mb4.1,baz=69,slow=6.6,SNR=5.3						
FINES	**FINESS Array B**	**73.98**	**333**	P	**P**	**11 58 22.9**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=273,slow=3.2,SNR=4.6						
CMB	**Columbia Colle**	**76.37**	**54**	eP	**P**	**11 58 39.5**	**+1.4**
	comp=Z,6.9nm,1.1s,mb4.5						
NVAR	**Mina Array Bea**	**77.60**	**53**	P	**P**	**11 58 45.6**	**+0.6**
	comp=Z,2.2nm,0.7s,mb4.2,baz=281,slow=5.7,SNR=17						
AKASG	**Malin Array Be**	**79.08**	**323**	P	**P**	**11 58 52.4**	**-0.6**
	comp=Z,0.9nm,0.7s,mb3.8,baz=46,slow=5.7,SNR=9.3						
NB2	**NORSAR Subarra**	**79.48**	**338**	P	**P**	**11 58 55.2**	**+0.3**
	comp=Z,0.7nm,0.6s,mb3.8,baz=40,slow=5.1						
NOA	**NORSAR Array B**	**79.48**	**338**	P	**P**	**11 58 55.0**	**+0.2**
	comp=Z,2.8nm,0.9s,mb4.2,baz=41,slow=5.2,SNR=3.5						
ULM	**Lac du Bonnet**	**83.56**	**33**	P	**P**	**11 59 16.4**	**-0.4**
	comp=Z,2.0nm,0.8s,mb4.1,baz=11,slow=5.2,SNR=4.2						
CLL	**Collm**	**86.19**	**331**	eP	**P**	**11 59 30.0**	**+0.1**
TXAR	**Lajitas Array**	**92.74**	**53**	P	**P**	**12 00 02.7**	**+1.4**
TXAR	**Lajitas Array**	**92.74**	**53**	P	**P**	**12 00 02.7**	**+1.4**
	comp=Z,4.5nm,0.8s,mb4.9,baz=292,slow=2.9,SNR=48						
TORD	**Torodi Ar. Bea**	**121.67**	**314**	PKP	PKPdf	12 05 42.8	-0.4
	comp=Z,0.5nm,0.8s,baz=14,slow=1.8,SNR=3.6						
LPAZ	**La Paz**	**148.34**	**68**	PKPbc	PKPbc	12 06 36.9	+1.3
	comp=Z,3.7nm,0.9s,baz=2.0,slow=5.2,SNR=16						
PLCA	**Paso Flores**	**152.03**	**118**	PKPbc	PKPbc	12 06 45.0	+1.2
	comp=Z,2.5nm,0.8s,baz=234,slow=5.9,SNR=4.6						

*ISCJB **29** 11:49:07.1±1.7, 4.6S±0.1×144.7E±0.3, h33km, mb4.2/6, MS4.5/1, Error ellipse: s-maj=44.6km s-min=13.9km az=15.3*

*IDC **29** 11:49:07.6±2.1, 4.30S×143.76E, h0km, mb4.0/5, mb1 4.2/7, mb1mx4.0/16, mbtmp4.1/7, ML4.1/2, MS4.0/2, Ms1 4.0/2, ms1mx3.3/21, Error ellipse: s-maj=73.0km s-min=22.5km az=98.0*

*NEIC **29** 11:49:22.1±4.4, 4.65S×143.85E, h127km±40km, mb4.4/3, Error ellipse: s-maj=27.6km s-min=21.6km az=54.0*

ISC 29 11:49:09.1±1.6, **4.6S**±0.1×**144.7E**±0.3, **h35**km, **n15**, σ**0.63**/13, **mb4.2**/6, **MS4.5**/1, **Near north coast of New Guinea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**14.57**	**235**	eP	**Pn**	**11 52 33.0**	**+0.1**
	27nm,0.6s						
CTA	**Charters Tower**	**15.50**	**175**	Pn	**Pn**	**11 52 54.7**	**+9.5**
CTA				LR	LR	11 59 26.9	
CTA	**Charters Tower**	**15.50**	**175**	Pn	**Pn**	**11 52 54.7**	**+9.5**
	0.7nm,0.3s,baz=350,slow=14,SNR=2.7						
CTA				LR	LR	11 59 26.9	
	comp=Z,133nm,18.0s,baz=310,slow=39						
WRAB	**Tennant Creek**	**18.30**	**213**	eP	**Pn**	**11 53 20.6**	**+0.2**
	5.5nm,0.8s						
WB2	**Warramunga Arr**	**18.31**	**213**	eP	**Pn**	**11 53 20.6**	**+0.1**
WRA	**Warramunga Arr**	**18.32**	**213**	P	**Pn**	**11 53 20.7**	**+0.2**
	0.4nm,0.3s,baz=35,slow=13,SNR=20						
BATI	**Kupang**	**21.60**	**254**	P	**P**	**11 53 56.7**	**+0.5**
	38nm,0.7s,mb4.9,baz=90,slow=15,SNR=4.0						
ASAR	**Alice Springs**	**21.66**	**208**	P	**P**	**11 53 57.0**	**+0.2**
	1.6nm,0.5s,mb3.7,baz=32,slow=11,SNR=25						
FITZ	**Fitzroy Crossi**	**22.99**	**233**	eP	**P**	**11 54 10.3**	**-0.7**
	11nm,0.6s,mb4.5						
FITZ	**Fitzroy Crossi**	**22.99**	**233**	P	**P**	**11 54 08.4**	**-2.6**
	7.2nm,0.6s,mb4.3,baz=44,slow=10,SNR=31						
AFI	**Afiamalu**	**43.88**	**105**	LR	LR	12 12 10.1	
	comp=Z,663nm,21.9s,MS4.5,baz=32,slow=31						
MKAR	**Makanchi Array**	**74.95**	**321**	P	**P**	**12 00 47.5**	**+0.8**
	0.5nm,0.4s,mb3.8,baz=103,slow=7.3,SNR=4.5						
ZALV	**Zalesovo Beam**	**76.59**	**328**	P	**P**	**12 00 55.8**	**-0.2**
	0.9nm,0.3s,mb4.1,baz=114,slow=6.5,SNR=2.3						
BVAR	**Borovoye Array**	**84.28**	**324**	P	**P**	**12 01 36.6**	**-0.6**
	0.9nm,0.6s,mb4.1,baz=101,slow=7.5,SNR=4.8						
DBIC	**Dimbokro**	**149.64**	**275**	PKPbc	PKPbc	12 08 56.3	+0.1
	2.4nm,0.5s,baz=106,slow=4.5,SNR=5.5						

*IDC **29** 12:00:04.7±0.9, 31.62N×142.43E, h0km, mb3.9/12, mb1 4.1/14, mb1mx4.0/22, mbtmp3.9/14, ML3.6/2, MS3.0/1, Ms1 3.0/1, ms1mx2.7/29, Error ellipse: s-maj=26.7km s-min=20.0km az=36.0*

*ISCJB **29** 12:00:10.3±1.5, 31.88N±0.10×142.4E±0.1, h39km±11km, mb3.9/13, Error ellipse: s-maj=18.8km s-min=12.5km az=38.9*

*JMA **29** 12:00:10.1±0.5, 32.09N×142.21E, h0km, M4.0*

*NEIC **29** 12:00:15.9±1.8, 32.23N×142.42E, h60km±14km, mb4.3/1, Error ellipse: s-maj=17.8km s-min=14.8km az=216.0*

ISC 29 12:00:10.4±2.2, **31.75N**±0.09×**142.4E**±0.1, **h32**km±15km, **n31**, σ**0.92**/35, **mb3.9**/13, **Southeast of Honshu**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.56**	**303**	P	**Pn**	**12 00 49.0**	**-0.7**
JHJ2				S	**Sn**	**12 01 18.6**	**-1.1**
BSO1	**Boso 1**	**3.12**	**338**	P	**Pn**	**12 00 57.0**	**-0.5**
BSO3	**Boso 3**	**3.42**	**333**	P	**Pn**	**12 01 01.0**	**-0.6**
JKO	**Kozu shima**	**3.65**	**313**	P	**Pn**	**12 01 05.2**	**+0.5**
BSO4	**Boso 4**	**3.65**	**333**	P	**Pn**	**12 01 04.1**	**-0.7**
JOD2	**Odawara 2**	**4.45**	**323**	P	**Pn**	**12 01 15.1**	**-0.6**
JYN	**Shimob**	**4.92**	**320**	P	**Pn**	**12 01 23.1**	**+1.0**
JRY	**Ryogami san**	**5.14**	**327**	P	**Pn**	**12 01 25.4**	**+0.2**
JRY				S	**Sn**	**12 02 23.3**	**-0.2**
JAG	**Ashikaga**	**5.25**	**333**	P	**Pn**	**12 01 26.6**	**-0.2**
JAG				S	**Sn**	**12 02 24.9**	**-1.3**
MJAR	**Matsushiro Arr**	**5.90**	**325**	Pn	**Pn**	**12 01 35.6**	**0.0**
	2.3nm,0.3s,baz=184,slow=26,SNR=26						
MJAR				Sn	**Sn**	**12 02 43.4**	**+1.4**
	1.2nm,0.3s,baz=167,slow=19,SNR=3.4						
MJAR				LR	LR	12 03 27.1	
	comp=Z,146nm,21.6s,baz=75,slow=34						
MAJO	**Matsushiro**	**5.90**	**325**	ePn	**Pn**	**12 01 35.5**	**-0.1**
	14nm,0.6s						
MAT	**Matsushiro**	**5.90**	**325**	P	**Pn**	**12 01 35.8**	**+0.2**
MAT				S	**Sn**	**12 02 43.0**	**+0.9**
KSRS	**Korea Array**	**13.19**	**299**	Pn	**Pn**	**12 03 16.9**	**+1.4**
	0.2nm,0.3s,baz=113,slow=12,SNR=2.7						
SONM	**Songino Array**	**31.63**	**311**	P	**P**	**12 06 31.6**	**+1.2**
	0.5nm,0.4s,mb3.7,baz=100,slow=6.3,SNR=3.4						
COEN	**Coen**	**45.45**	**179**	eP	**P**	**12 08 32.6**	**+6.0**
MKAR	**Makanchi Array**	**47.75**	**306**	P	**P**	**12 08 45.0**	**+0.7**
	0.5nm,0.5s,mb3.8,baz=91,slow=10,SNR=3.3						
KURK	**Kurchatov**	**49.93**	**312**	eP	**P**	**12 09 01.2**	**+0.2**
	2.1nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**51.97**	**190**	P	**P**	**12 09 14.0**	**-2.6**
	2.5nm,0.8s,mb4.2,baz=5.6,slow=7.3,SNR=3.4						
BVAR	**Borovoye Array**	**54.80**	**315**	P	**P**	**12 09 37.1**	**0.0**
	0.3nm,0.3s,mb3.8,baz=66,slow=7.3,SNR=3.7						
INK	**Inuvik**	**58.76**	**26**	P	**P**	**12 10 04.7**	**-0.2**
INK	**Inuvik**	**58.76**	**26**	P	**P**	**12 10 04.7**	**-0.2**
	0.6nm,0.6s,mb3.8,baz=282,slow=2.9,SNR=4.3						
YKA	**Yellowknife Ar**	**67.99**	**29**	P	**P**	**12 11 04.3**	**-1.8**
	0.2nm,0.5s,mb3.4,baz=300,slow=6.7,SNR=3.2						
ARCES	**ARCESS Array B**	**69.22**	**340**	P	**P**	**12 11 13.1**	**-0.5**
	2.5nm,0.9s,mb4.1,baz=66,slow=6.0,SNR=4.4						
FINES	**FINESS Array B**	**73.87**	**333**	P	**P**	**12 11 42.3**	**+0.5**
	2.3nm,0.9s,mb4.1,baz=53,slow=6.8,SNR=3.0						
NVAR	**Mina Array Bea**	**77.54**	**53**	P	**P**	**12 12 04.5**	**+1.2**
	0.9nm,0.6s,mb3.9,baz=295,slow=5.5,SNR=9.5						
AKASG	**Malin Array Be**	**78.98**	**323**	P	**P**	**12 12 10.6**	**-0.4**
	0.2nm,0.2s,mb3.6,baz=55,slow=5.6,SNR=3.5						
NOA	**NORSAR Array B**	**79.37**	**338**	P	**P**	**12 12 11.3**	**-1.5**
	0.4nm,0.7s,mb3.4,baz=38,slow=4.3,SNR=2.9						
PV10	**Paradox Valley**	**83.66**	**49**	eP	**P**	**12 12 37.4**	**+1.4**
TXAR	**Lajitas Array**	**92.68**	**53**	P	**P**	**12 13 20.2**	**+0.6**
TXAR	**Lajitas Array**	**92.68**	**53**	P	**P**	**12 13 20.2**	**+0.6**
	1.3nm,0.8s,mb4.4,baz=288,slow=2.5,SNR=19						
LPAZ	**La Paz**	**148.30**	**68**	PKPbc	PKPbc	12 19 54.6	+0.6
	1.2nm,0.7s,baz=34,slow=2.0,SNR=7.6						

*BJI **29** 12:00:13.4, 1.97S×127.99E, h10km, mB5.0, mb5.1, Ms4.5, Msz4.2*

*ISCJB **29** 12:00:21.7±0.2, 1.13S±0.03×127.51E±0.04, h15km, mb5.1/71, MS4.2/21, Error ellipse: s-maj=6.4km s-min=3.7km az=165.4*

*GCMT **29** 12:00:22.9±0.3, 1.19S×127.51E, h21km, MW5.2/71, Moment Tensor Solution. s33,c38; s71,c110; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-6.27±.39; $M_{\theta\theta}$1.24±.21; $M_{\phi\phi}$5.02±.26; $M_{r\theta}$-2.15±.41; $M_{\theta\phi}$2.04±.14; $M_{\phi r}$-0.84±.41; Best double couple: $M_0$6.49100×10^{16} NP1:ϕ_s192.00000°,δ39.00000°,λ-110.00000°. NP2: ϕ_s37.00000°,δ54.00000°,λ-75.00000°. Principal axes: T 6.1330, Plg8.0000°, Azm116.0000°; N 0.7060, Plg12.0000°, Azm208.0000°; P -6.8490, Plg75.0000°, Azm354.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*

*NEIC **29** 12:00:22.9±0.3, 1.07S×127.47E, h10km, mb5.2/23 Error ellipse: s-maj=9.8km s-min=5.3km az=67.0*

*MOS **29** 12:00:24.7±0.9, 1.04S×127.33E, h33km, mb5.4/20, Error ellipse: s-maj=16.3km s-min=7.5km az=112.9*

*IDC **29** 12:00:26.3±2.4, 1.19S×127.59E, h37km±19km, mb4.6/13, mb1 4.7/17, mb1mx4.6/20, mbtmp4.6/17, ML4.5/4, MS4.1/11, Ms1 4.1/11, ms1mx3.9/26, Error ellipse: s-maj=25.3km s-min=8.5km az=76.0*

ISC 29 12:00:23.8±0.2, **1.12S**±0.03×**127.51E**±0.04, **h16**km, **h16**km±1.5km**:pP-P**, **n209**, σ**1.16**/219, **mb5.1**/71, **MS4.2**/21, **12C-7D**, **Halmahera**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.64**	**165**	P	**Pn**	**12 01 07.5**	**+1.7**
	3μm,1.0s						
KDI	**Kendari**	**5.64**	**240**	P	**Pn**	**12 01 46.9**	**-0.1**
	125nm,0.8s						
PCI	**Palu**	**7.67**	**272**	P	**Pn**	**12 02 14.7**	**-0.3**
	346nm,0.7s						
KAPI	**Kappang**	**8.66**	**243**	Pn	**Pn**	**12 02 29.6**	**+1.1**
	1μm,0.5s,SNR=27						
KAPI	**Kappang**	**8.66**	**243**	Pn	**Pn**	**12 02 30.0**	**+1.5**
	SNR=7.4						
KAPI	**Kappang**	**8.66**	**243**	P	**Pn**	**12 02 30.0**	**+1.5**
	SNR=7.4						
KAPI	**Kappang**	**8.66**	**243**	P	**Pn**	**12 02 30.0**	**+1.5**
	SNR=7.4						
KAPI	**Kappang**	**8.66**	**243**	P	**Pn**	**12 02 30.0**	**+1.5**
	SNR=7.4						
KAPI	**Kappang**	**8.66**	**243**	P	**Pn**	**12 02 30.0**	**+1.5**
	SNR=7.4						
KAPI	**Kappang**	**8.66**	**243**	Pn	**Pn**	**12 02 29.8**	**+1.3**
	19nm,0.3s,baz=73,slow=6.3,SNR=45						
KAPI				LR	LR	12 05 40.9	
	comp=Z,1μm,21.8s,baz=204,slow=36						
BATI	**Kupang**	**9.80**	**203**	Pn	**Pn**	**12 02 45.7**	**+1.5**
	0.8nm,0.3s,baz=57,slow=17,SNR=2.5						
KAKA	**Kakadu**	**12.51**	**157**	eP	**Pn**	**12 03 20.3**	**-1.0**
	64nm,0.7s						
KAKA				eS	**Sn**	**12 05 35.1**	**-5.3**
KKM	**Kota Kinabalu**	**13.34**	**302**	ePn	**Pn**	**12 03 31.6**	**-1.0**
FITZ	**Fitzroy Crossi**	**16.97**	**186**	eP	**Pn**	**12 04 23.0**	**+2.3**
	29nm,1.1s						
FITZ	**Fitzroy Crossi**	**16.97**	**186**	eP	**Pn**	**12 04 23.5**	**+2.8**
FITZ	**Fitzroy Crossi**	**16.97**	**186**	Pn	**Pn**	**12 04 20.8**	**+0.1**
	0.8nm,0.3s,baz=12,slow=15,SNR=19						
FITZ				LR	LR	12 12 01.6	
	comp=Z,283nm,18.1s,baz=164,slow=41						
KSM	**Kuching**	**17.39**	**278**	eP	**Pn**	**12 04 26.3**	**+0.3**
BJII	**Banjamegara**	**18.78**	**250**	P	**Pn**	**12 04 44.4**	**+1.2**
	114nm,1.9s						
WRAB	**Tennant Creek**	**19.86**	**161**	P	**Pn**	**12 04 53.0**	**-3.0**
	673nm,0.9s,SNR=22						
WRAB	**Tennant Creek**	**19.86**	**161**	eP	**Pn**	**12 04 53.6**	**-2.4**
WRAB				pmax	pmax		
	comp=Z,92nm,0.9s						
WRAB	**Tennant Creek**	**19.86**	**161**	eP	**Pn**	**12 04 53.6**	**-2.4**
	comp=Z,92nm,0.9s						
WRA	**Warramunga Arr**	**19.86**	**161**	P	**Pn**	**12 04 53.3**	**-2.7**
WRA				S	**Sn**	**12 08 32.0**	**-7.1**
WRA	**Warramunga Arr**	**19.86**	**161**	P	**Pn**	**12 04 53.3**	**-2.7**
	comp=Z,2.5nm,0.3s,baz=346,slow=12,SNR=103						
WRA				S	**Sn**	**12 08 31.9**	**-7.2**
	baz=338,slow=20,SNR=5.1						
WRA				LR	LR	12 13 38.2	
	comp=Z,549nm,18.3s,baz=325,slow=40						
WB2	**Warramunga Arr**	**19.87**	**161**	eP	**Pn**	**12 04 52.9**	**-3.2**
WB2				eS	**Sn**	**12 08 22.7**	**-17**
TPI	**Tanjungpandan**	**19.91**	**265**	P	**Pn**	**12 04 55.3**	**-1.4**
	comp=Z,77nm,1.6s						
COEN	**Coen**	**20.07**	**130**	eP	**P**	**12 04 58.3**	**+1.6**
	comp=Z,167nm,1.4s						
LEM	**Lembang**	**20.63**	**254**	P	**P**	**12 05 04.2**	**+1.4**
	comp=Z,86nm,0.9s						
MBWA	**Marble Bar**	**21.31**	**200**	eP	**P**	**12 05 09.7**	**-0.4**
ASAR	**Alice Springs**	**23.25**	**165**	P	**P**	**12 05 30.0**	**-0.8**
	comp=Z,24nm,0.7s,mb4.7,baz=344,slow=10,SNR=113						
ASAR				S	**S**	**12 09 39.0**	**-3.3**
	comp=Z,20nm,1.1s,baz=345,slow=22,SNR=18						
KSI	**Kapahiang**	**25.02**	**264**	P	**P**	**12 05 53.0**	**+5.6**
	comp=Z,164nm,0.9s,mb5.6						
CTA	**Charters Tower**	**26.30**	**137**	eP	**P**	**12 06 01.2**	**+2.3**
	comp=Z,23nm,1.1s,mb4.6						
CTA				eS	**S**	**12 10 40.9**	**+10**
CTA	**Charters Tower**	**26.30**	**137**	eP	**P**	**12 06 01.2**	**+2.3**
CTA				pmax	pmax		
	comp=Z,23nm,1.1s						
CTA	**Charters Tower**	**26.30**	**137**	P	**P**	**12 06 00.9**	**+2.1**
	comp=Z,30nm,1.0s,mb4.8,baz=320,slow=11,SNR=12						
CTAO	**Charters Tower**	**26.30**	**137**	eP	**P**	**12 06 00.9**	**+2.0**
CTAO				pmax	pmax		
	comp=Z,59nm,1.2s,mb5.0						
CTAO	**Charters Tower**	**26.30**	**137**	eP	**P**	**12 06 00.9**	**+2.0**
	comp=Z,59nm,1.2s,mb5.0						
YHNB	**Yeheng**	**26.32**	**347**	eP	**P**	**12 05 58.9**	**-0.1**
	comp=Z,35nm,0.8s,mb4.9						
QIZ	**Qiongzhong**	**26.50**	**320**	P	**P**	**12 06 00.5**	**-0.2**
QIZ				S	**S**	**12 10 32.8**	**-1.6**
QIZ				AMB	AMB		
	comp=Z,11nm,1.4s,mb4.2						
QIZ				LR	LR		
	comp=N,298nm,16.1s						
QIZ				LR	LR		
	comp=Z,298nm,23.8s						
QZH	**Quanzhou**	**27.31**	**342**	⇑iP	**P**	**12 06 10.5**	**+2.5**
QZH				S	**S**	**12 10 45.0**	**-2.1**
KULM	**Kulim**	**27.57**	**284**	eP	**P**	**12 06 09.6**	**-0.9**
PSI	**Prapat**	**28.84**	**278**	P	**P**	**12 06 21.9**	**+0.1**
	comp=Z,7.5nm,0.6s,mb4.6,baz=127,slow=3.6,SNR=17						
FORT	**Forrest**	**29.50**	**179**	eP	**P**	**12 06 28.1**	**+0.7**
	comp=Z,61nm,1.0s,mb5.3						
KLBR	**Kellerberrin**	**31.68**	**196**	eP	**P**	**12 06 46.5**	**-0.2**
	comp=Z,47nm,1.6s,mb5.1						
SSE	**Sheshan**	**32.60**	**350**	eP	**P**	**12 06 55.5**	**+0.8**
SSE				AP	pP	12 06 59.3	-0.3
SSE				PP	PP	12 08 08.8	+0.2
SSE				S	**S**	**12 12 11.3**	**+1.4**
SSE				SCS	ScS	12 17 24.5	+0.4
SSE				AMB	AMB		
	comp=Z,37nm,0.7s,mb5.4						
SSE				AMB	AMB		
	comp=Z,162nm,3.7s						
SSE				LR	LR		
	comp=N,150nm,26.2s,MS3.6						
SSE				LR	LR		
	comp=E,39nm,26.2s,MS3.6						
SSE				LR	LR		
	comp=Z,188nm,30.1s,MS3.6						
EIDS	**Eidsvold**	**33.14**	**139**	eP	**P**	**12 07 02.4**	**+2.8**
STKA	**Stephens Creek**	**33.36**	**158**	eP	**P**	**12 07 02.1**	**+0.7**
	comp=Z,23nm,0.8s,mb5.2						
STKA	**Stephens Creek**	**33.36**	**158**	eP	**P**	**12 07 02.6**	**+1.3**
STKA	**Stephens Creek**	**33.36**	**158**	P	**P**	**12 07 02.1**	**+0.7**
	comp=Z,26nm,0.8s,mb5.2,baz=333,slow=9.8,SNR=26						
STKA				LR	LR	12 21 33.8	
	comp=Z,497nm,21.8s,MS4.2,baz=225,slow=38						
WHN	**Wuhan**	**33.89**	**339**	eP	**P**	**12 07 08.0**	**+1.9**
WHN				S	**S**	**12 12 34.3**	**+4.2**
WHN				AMB	AMB		
	comp=Z,82nm,0.9s,mb5.7						
WHN				LR	LR		
	comp=Z,573nm,18.0s,MS4.3						
NJ2	**Nanjing**	**34.00**	**347**	eP	**P**	**12 07 08.3**	**+1.4**
NJ2				AP	pP	12 07 13.0	+1.2
NJ2				XP	sP	12 07 16.5	+2.7
NJ2				PP	PP	12 08 21.8	-2.3
NJ2				S	**S**	**12 12 30.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,240nm,4.9s						
NJ2				LR	LR		
	comp=N,270nm,14.8s						
NJ2				LR	LR		
	comp=E,270nm,21.5s						
NJ2				LR	LR		
	comp=Z,320nm,23.0s						
GYA	**Guiyang**	**34.01**	**325**	⇑iP	**P**	**12 07 08.3**	**+1.2**
GYA				PP	PP	12 08 23.8	-0.5
GYA				S	**S**	**12 12 34.3**	**+2.4**
GYA				SCS	ScS	12 17 31.5	-0.1
GYA				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
GYA				AMB	AMB		
	comp=Z,140nm,5.7s						
GYA				LR	LR		
	comp=N,1μm,19.9s,MS4.7						
GYA				LR	LR		
	comp=E,990nm,20.6s,MS4.7						
GYA				LR	LR		
	comp=Z,1μm,20.4s,MS4.6						
CHTO	**Chiang Mai**	**34.36**	**307**	eP	**P**	**12 07 10.7**	**+0.4**
CHTO	**Chiang Mai**	**34.36**	**307**	P	**P**	**12 07 11.2**	**+0.9**
CHTO	**Chiang Mai**	**34.36**	**307**	P	**P**	**12 07 11.2**	**+0.9**
	SNR=7.3						
CHTO	**Chiang Mai**	**34.36**	**307**	P	**P**	**12 07 11.2**	**+0.9**
	SNR=7.3						
CHTO	**Chiang Mai**	**34.36**	**307**	P	**P**	**12 07 11.2**	**+0.9**
	SNR=7.3						
CHTO	**Chiang Mai**	**34.36**	**307**	P	**P**	**12 07 11.2**	**+0.9**
	SNR=7.3						
KMI	**Kunming**	**35.44**	**319**	P	**P**	**12 07 20.8**	**+1.3**
KMI				AP	pP	12 07 25.5	+1.1
KMI				XP	sP	12 07 27.5	+1.1
KMI				PP	PP	12 08 41.3	+1.1
KMI				S	**S**	**12 12 55.0**	**+0.9**
KMI				AMB	AMB		
	comp=Z,22nm,1.5s,mb4.9						
KMI				AMB	AMB		
	comp=Z,116nm,6.1s						
KMI				LR	LR		
	comp=N,163nm,19.5s,MS3.9						
KMI				LR	LR		
	comp=E,126nm,16.4s,MS3.9						
KMI				LR	LR		
	comp=Z,304nm,39.9s						
ARMA	**Armidale**	**37.05**	**144**	eP	**P**	**12 07 36.7**	**+3.4**
KSRS	**Korea Array**	**38.38**	**1**	P	**P**	**12 07 44.5**	**+0.1**
	comp=Z,3.8nm,0.8s,mb4.2,baz=180,slow=10,SNR=15						
KSRS				PcP	PcP	12 09 57.1	-0.7
	comp=Z,2.0nm,0.9s,baz=194,slow=4.6,SNR=4.5						
MJAR	**Matsushiro Arr**	**38.77**	**14**	P	**P**	**12 07 46.7**	**-1.0**
MJAR						12 09 59.0	
MJAR						12 13 46.1	
MJAR	**Matsushiro Arr**	**38.77**	**14**	P	**P**	**12 07 46.7**	**-1.0**
	comp=Z,3.8nm,0.8s,mb4.2,baz=188,slow=9.2,SNR=11						
MJAR				PcP	PcP	12 09 59.0	-0.1
	comp=Z,2.6nm,0.8s,baz=178,slow=3.5,SNR=6.0						
MJAR				ScP	ScP	12 13 46.1	-0.8
	comp=Z,1.8nm,1.0s,baz=199,slow=3.4,SNR=4.7						
MJAR				LR	LR	12 24 28.9	
	comp=Z,178nm,18.5s,MS3.9,baz=195,slow=37						
MAJO	**Matsushiro**	**38.77**	**14**	eP	**P**	**12 07 48.4**	**+0.7**
MAT	**Matsushiro**	**38.77**	**14**	P	**P**	**12 07 46.7**	**-1.0**
MAT				S	**S**	**12 13 47.0**	**+2.5**
CD2	**Chengdu**	**39.05**	**327**	P	**P**	**12 07 50.5**	**+0.4**
CD2				AP	pP	12 07 54.3	-0.7
CD2				XP	sP	12 07 57.3	+0.4
CD2				PP	PP	12 09 24.5	+4.7
CD2				PCP	PcP	12 10 01.0	+0.9
CD2				SCS	ScS	12 17 57.5	-1.9
CD2				AMB	AMB		
	comp=Z,50nm,1.0s,mb5.2						
CD2				AMB	AMB		
	comp=Z,220nm,6.3s						
CD2				LR	LR		
	comp=N,300nm,19.8s,MS4.2						
CD2				LR	LR		
	comp=E,210nm,17.9s,MS4.2						
CD2				LR	LR		
	comp=Z,220nm,18.6s,MS4.0						
XAN	**Xi'an**	**39.10**	**335**	P	**P**	**12 07 50.5**	**+0.1**
XAN				AP	pP	12 07 54.8	-0.5
XAN				AMB	AMB		
	comp=Z,51nm,0.9s,mb5.2						
XAN				LR	LR		
	comp=N,93nm,17.6s,MS3.9						
XAN				LR	LR		
	comp=E,129nm,20.3s,MS3.9						
XAN				LR	LR		
	comp=Z,205nm,18.6s,MS4.0						
BJI	**Beijing**	**42.26**	**347**	P	**P**	**12 08 16.0**	**-0.5**
BJI				PP	PP	12 09 55.0	+0.5
BJI				SS	SS	12 17 49.8	+4.7
BJI				AMB	AMB		
	comp=Z,18nm,1.1s,mb4.6						
BJI				AMB	AMB		
	comp=Z,148nm,10.0s						
BJI				LR	LR		
	comp=N,214nm,17.6s,MS4.2						
BJI				LR	LR		
	comp=E,167nm,20.2s,MS4.2						
BJI				LR	LR		
	comp=Z,325nm,29.1s						
SNY	**Shenyang**	**42.90**	**356**	⇑P	**P**	**12 08 21.0**	**-0.6**
SNY				AMB	AMB		
	comp=Z,11nm,0.7s,mb4.7						
LZH	**Lanzhou**	**43.09**	**332**	⇓iP	**P**	**12 08 24.3**	**+1.0**
LZH				XP	sP	12 08 28.3	-1.8
LZH				AP	pP	12 08 34.0	+5.8
LZH				PP	PP	12 10 07.5	+4.0
LZH				eS	**S**	**12 14 48.3**	**-0.5**
LZH				XS	sS	12 15 04.3	+7.4
LZH				AMB	AMB		
	comp=Z,75nm,1.5s,mb5.2						
LZH				AMB	AMB		
	comp=Z,229nm,6.7s						
LZH				LR	LR		
	comp=N,743nm,13.8s						

LZH LR LR
comp=Z,1μm,18.2s,MS4.9
SHL Shillong 43.48 310 *e*P **P 12 08 27.0 +0.4**
HHC Hu-ho-hao-te 44.23 343 *e*P **P 12 08 32.3 -0.1**
HHC AP pP 12 08 37.0 -0.3
HHC XP sP 12 08 39.3 +0.1
HHC PP PP 12 10 15.8 +0.1
HHC SCP ScP 12 14 06.5 -2.0
HHC S **S 12 15 05.5 +0.2**
HHC SCS ScS 12 18 29.3 -1.2
HHC AMB AMB
comp=Z,48nm,1.1s,mb5.1
HHC AMB AMB
comp=Z,331nm,5.6s
HHC LR LR
comp=N,499nm,19.4s,MS4.5
HHC LR LR
comp=E,335nm,17.3s,MS4.5
HHC LR LR
comp=Z,534nm,19.0s,MS4.5
MDJ Mudanjiang 45.58 2 P **P 12 08 43.0 0.0**
MDJ AP pP 12 08 46.3 -1.7
MDJ XP sP 12 08 47.5 -2.4
MDJ PP PP 12 10 29.0 -1.0
MDJ SCP ScP 12 14 14.0 +0.1
MDJ PCS PcS 12 14 15.5 +0.1
MDJ S **S 12 15 26.0 +1.3**
MDJ AMB AMB
comp=Z,11nm,1.0s,mb4.7
MDJ AMB AMB
comp=Z,54nm,4.3s
MDJ LR LR
comp=N,135nm,21.4s,MS4.0
MDJ LR LR
comp=E,124nm,22.4s,MS4.0
MDJ LR LR
comp=Z,153nm,20.4s,MS3.9
MDJ Mudanjiang 45.58 2 *e*P **P 12 08 43.1 +0.1**
comp=Z,8.4nm,1.0s,mb4.6
LSA Lhasa 46.29 314 P **P 12 08 51.0 +2.0**
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.3
LSA Lhasa 46.29 314 *e*P **P 12 08 51.2 +2.2**
LSA pmax pmax
comp=Z,21nm,0.7s,mb5.2
LSA Lhasa 46.29 314 *e*P **P 12 08 51.2 +2.2**
comp=Z,21nm,0.7s,mb5.2
GTA Gaotai 47.66 331 P **P 12 09 00.0 +0.5**
GTA AP pP 12 09 04.5 0.0
GTA XP sP 12 09 07.5 +1.1
GTA PCP PcP 12 10 29.5 +0.6
GTA PP PP 12 10 50.0 -1.3
GTA SCP ScP 12 14 23.0 +0.2
GTA S **S 12 15 55.0 +0.2**
GTA SCS ScS 12 18 51.0 -1.8
GTA AMB AMB
comp=Z,44nm,1.2s,mb5.4
GTA AMB AMB
comp=Z,188nm,5.3s
GTA LR LR
comp=N,185nm,20.9s,MS4.2
GTA LR LR
comp=E,163nm,20.2s,MS4.2
GTA LR LR
comp=Z,179nm,17.5s,MS4.1
JIRN Jiri 48.92 309 *e*P **P 12 09 10.5 +1.0**
comp=Z,40nm,0.6s,mb5.6
GUN Gumba 49.28 309 *e*P **P 12 09 13.1 +0.9**
comp=Z,90nm,0.6s,mb6.0
PKI Pulchoki 49.49 308 *e*P **P 12 09 14.2 +0.4**
PKIN Phulchoki 49.50 308 *e*P **P 12 09 14.2 +0.3**
KKN Kakani 49.69 309 *e*P **P 12 09 15.8 +0.4**
YSS Yuzh-Sakhalins 49.71 14 *e*P **P 12 09 16.5 +1.4**
DMN Daman 49.74 308 *e*P **P 12 09 16.7 +0.9**
HABR Khabarovsk 49.83 7 *e*P **P 12 09 15.3 -0.7**
HABR *e* 12 09 24.0
HABR *e* 12 10 33.3
HABR *e* 12 11 09.0
HABR *e*S **S 12 16 24.5 -0.5**
HABR *e* 12 16 41.1
HABR *e* 12 19 02.6
HABR *e* 12 21 22.5
KLR Kul'dur 50.29 4 *e*P **P 12 09 15.2 -4.3**
KLR pmax pmax
comp=Z,28nm,1.4s,mb5.1
GKN Gorkha 50.30 309 *e*P **P 12 09 20.9 +1.0**
comp=Z,21nm,1.0s,mb5.1
KOLN Koldanda 51.01 308 *e*P **P 12 09 26.2 +0.9**
comp=Z,59nm,0.6s,mb5.7
DANN Dangsing 51.14 308 *e*P **P 12 09 27.0 +0.7**
comp=Z,82nm,0.7s,mb5.7
HYB Hyderabad 51.61 293 *e*P **P 12 09 30.0 0.0**
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.3
HYB Hyderabad 51.61 293 *e*P **P 12 09 30.0 0.0**
comp=Z,40nm,1.0s,mb5.3
HYB Hyderabad 51.61 293⇑ *i*P **P 12 09 30.0 0.0**
comp=Z,40nm,1.0s,mb5.3
ULN Ulaanbaatar 51.95 343 *d i*P **P 12 09 31.8 -0.2**
ULN Ulaanbaatar 51.95 343 *i*P **P 12 09 31.8 -0.2**
ULN Ulaanbaatar 51.95 343 P **P 12 09 32.7 +0.8**
SNR=13
ULN Ulaanbaatar 51.95 343 P **P 12 09 32.7 +0.8**
SNR=13
ULN Ulaanbaatar 51.95 343 P **P 12 09 32.7 +0.8**
SNR=13
SONM Songino Array 52.12 342 P **P 12 09 33.5 +0.2**
comp=Z,9.2nm,0.8s,mb4.8,baz=152,slow=7.8,SNR=44
SONM PcP PcP 12 10 44.9 -0.1
comp=Z,3.5nm,0.8s,baz=169,slow=2.7,SNR=6.4
ZAK Zakamensk 55.34 341⇓ *i*P **P 12 09 56.1 -0.7**
ZAK *e* 12 10 56.9
ZAK pmax pmax
comp=Z,4.0nm,1.4s,mb4.3
ZAK pmax pmax
comp=Z,4.0nm,1.1s,mb4.4
ZAK pmax pmax
comp=Z,1.0nm,1.8s,mb3.5
TLY Talaya 56.35 342 *d i*P **P 12 10 03.9 -0.1**
TLY pmax pmax
comp=Z,1.0nm,1.0s,mb3.8
TLY Talaya 56.35 342 *e*P **P 12 10 04.3 +0.2**
comp=Z,5.1nm,0.7s,mb4.7
DDI Dehra Dun 56.48 308 *e*P **P 12 10 04.0 -1.4**
WMQ Urumqi 57.15 327⇑ *i*P **P 12 10 11.0 +1.1**
WMQ XP sP 12 10 18.0 +1.2
WMQ PP PP 12 12 19.0 +2.1
WMQ S **S 12 18 03.0 -1.6**
WMQ SCS ScS 12 19 56.0 -2.8
WMQ AMB AMB
comp=Z,52nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,89nm,5.0s
WMQ LR LR
comp=N,328nm,15.0s,MS4.7
WMQ LR LR
comp=E,297nm,15.0s,MS4.7
WMQ LR LR
comp=Z,256nm,15.0s,MS4.5
RPZ Rata Peaks 57.39 144 P **P 12 10 16.3 +4.7**
comp=Z,20nm,1.1s,mb5.0,baz=344,slow=12,SNR=5.1
RPZ LR LR 12 34 31.9
comp=Z,317nm,18.0s,MS4.5,baz=216,slow=36
AFI Afiamalu 61.34 105 LR LR 12 32 31.6
comp=Z,191nm,20.0s,MS4.2,baz=31,slow=31
MK31 Makanchi Array 61.98 326 *i*P **P 12 10 42.9 -0.2**
MK31 pmax pmax
comp=Z,33nm,0.8s,mb5.5
MK31 Makanchi Array 61.98 326 *e*P **P 12 10 43.1 -0.1**
MKAR Makanchi Array 61.98 326 P **P 12 10 43.2 +0.1**
comp=Z,19nm,0.7s,mb5.3,baz=121,slow=8.7,SNR=88
MKAR PcP PcP 12 11 23.0 -0.7
comp=Z,5.2nm,0.6s,baz=119,slow=4.5,SNR=5.1
KSH Kashi 62.05 317 P **P 12 10 45.5 +1.8**
KSH *e*AP pP 12 10 49.5 +0.7
KSH *e*XP sP 12 10 52.5 +1.7
KSH *e*PCP PcP 12 11 25.0 +0.9
KSH *e*PP PP 12 13 03.5 +3.0
KSH *e*SCP ScP 12 15 25.0 -0.7
KSH *e*PCS PcS 12 15 26.3 -0.9
KSH *e*S **S 12 19 07.3 -0.8**
KSH *e*SCS ScS 12 20 32.0 -3.4
KSH LR LR
comp=Z,396nm,4.5s
YAK Yakutsk 63.01 1 *e*P **P 12 10 48.8 -0.9**
YAK pmax pmax
comp=Z,19nm,0.7s,mb5.3
YAK pmax pmax
comp=N,12nm,1.3s
YAK Yakutsk 63.01 1 *e*P **P 12 10 49.5 -0.2**
comp=N,37nm,0.6s,mb5.7
ULHL Ulahol 63.16 320 P **P 12 10 51.4 +0.2**
SNR=11
MA2 Magadan 63.21 13 *c i*P **P 12 10 52.2 +1.1**
MA2 pmax pmax
comp=Z,34nm,1.3s,mb5.3
MA2 MLR MLR
comp=Z,100nm,18.0s,MS4.0
MA2 Magadan 63.21 13 *e*P **P 12 10 52.0 +0.9**
comp=Z,20nm,0.9s,mb5.2
KZA Kyzart 63.73 319 P **P 12 10 56.2 +1.3**
SNR=38
TKM2 Tokmak 2 63.91 320 *i*P **P 12 10 56.2 +0.2**
TKM2 pmax pmax
comp=Z,30nm,1.0s,mb5.3
TKM2 Tokmak 2 63.91 320 P **P 12 10 56.4 +0.3**
SNR=21
KBK Karagaybulak 64.20 319 P **P 12 10 58.6 +0.6**
SNR=8.0
UCH Uchtor 64.28 319 *e*P **P 12 10 59.2 +0.7**
comp=Z,26nm,0.9s,mb5.2
UCH Uchtor 64.28 319 P **P 12 10 60.0 +1.4**
SNR=28
AAK Ala-Archa 64.48 319 P **P 12 10 59.9 +0.1**
comp=Z,107nm,1.2s,mb5.8,SNR=6.5
AAK Ala-Archa 64.48 319 P **P 12 11 00.5 +0.6**
SNR=9.9
CHMS Chumysh 64.49 320 P **P 12 10 59.9 0.0**
SNR=5.0
FRU Bishkek 64.50 319 *e*P **P 12 10 59.5 -0.4**
USP Ospenovka 64.78 320 P **P 12 11 02.1 +0.3**
SNR=6.9
AML Almayashu 64.78 318 *e*P **P 12 11 02.9 +1.1**
comp=Z,109nm,1.4s,mb5.7
AML Almayashu 64.78 318 P **P 12 11 02.8 +1.0**
SNR=33
EKS2 Erkin-Say 64.97 319 *e*P **P 12 11 03.9 +0.9**
comp=Z,76nm,1.4s,mb5.5
EKS2 Erkin-Say 64.97 319 P **P 12 11 04.0 +1.0**
SNR=16
KBL Kabul 65.12 309 *e*P **P 12 11 04.3 +0.1**
comp=Z,29nm,1.0s,mb5.3
ZAA0 Zalesovo Array 65.25 334 *e*P **P 12 11 03.2 -1.4**
ZALV Zalesovo Beam 65.25 334 P **P 12 11 03.4 -1.2**
comp=Z,9.3nm,0.8s,mb4.9,baz=117,slow=5.2,SNR=8.3
ZAL Zalesovo 65.25 334 P **P 12 11 03.4 -1.2**
KURK Kurchatov 66.24 328 P **P 12 11 10.4 -0.6**
comp=Z,468nm,0.9s,SNR=31
KURK Kurchatov 66.24 328 *e*P **P 12 11 10.4 -0.6**
KURK Kurchatov 66.24 328 P **P 12 11 10.6 -0.5**
SNR=32
KURK Kurchatov 66.24 328 P **P 12 11 10.6 -0.5**
SNR=32
KURK Kurchatov 66.24 328 P **P 12 11 10.6 -0.5**
SNR=32
KURK Kurchatov 66.24 328 P **P 12 11 10.6 -0.5**
SNR=32
KURK Kurchatov 66.24 328 P **P 12 11 10.6 -0.5**
SNR=32
NVS Novosibirsk 66.53 334 *i*P **P 12 11 11.2 -1.6**
NVS *i*S S 12 19 58.7 -4.3
NVS *i* 12 20 39.3
NVS pmax pmax
comp=N,36nm,1.6s
NVS pmax pmax
comp=Z,55nm,1.6s,mb5.3
NVS pmax pmax
comp=E,32nm,1.4s
NVS smax
comp=N,5.0nm,0.2s
NVS smax
comp=E,3.0nm,0.3s
SEY Seymchan 66.57 12⇑ *e*P **P 12 11 14.4 +1.5**
KK31 Karatay Array 67.32 318 *i*P **P 12 11 17.8 -0.3**
KK31 pmax pmax
comp=Z,55nm,1.3s,mb5.4
BVAR Borovoye Array 71.80 328 P **P 12 11 45.0 -0.5**
comp=Z,20nm,0.8s,mb5.1,baz=126,slow=7.5,SNR=82
BRVK Borovoye 71.87 328 P **P 12 11 45.3 -0.7**
comp=Z,278nm,0.9s,mb6.2,SNR=11
BRVK Borovoye 71.87 328 *e*P **P 12 11 45.6 -0.4**
BRVK Borovoye 71.87 328 P **P 12 11 44.6 -1.4**
SNR=23
BRVK Borovoye 71.87 328 P **P 12 11 44.6 -1.4**
SNR=23
BRVK Borovoye 71.87 328 P **P 12 11 44.6 -1.4**
SNR=23
BRVK Borovoye 71.87 328 P **P 12 11 44.6 -1.4**
SNR=23
BRVK Borovoye 71.87 328 P **P 12 11 44.6 -1.4**
SNR=23
BSY Bisya 72.33 294 P **P 12 11 49.4 0.0**
SNR=6.5
BSY Bisya 72.33 294 P **P 12 11 49.4 0.0**
SNR=6.5
BSY Bisya 72.33 294 P **P 12 11 49.4 0.0**
SNR=6.5
BSY Bisya 72.33 294 P **P 12 11 49.4 0.0**
SNR=6.5
BSY Bisya 72.33 294 P **P 12 11 49.4 0.0**
SNR=6.5
TIXI Tiksi 72.65 0⇑ *e*P **P 12 11 49.2 -1.1**
TIXI pmax pmax
comp=Z,17nm,1.4s,mb4.8
TIXI Tiksi 72.65 0 *e*P **P 12 11 49.1 -1.2**
comp=Z,24nm,1.4s,mb4.9
HATD Hatta, Dubai 73.62 296 P **P 12 11 56.8 -0.2**
SNR=7.5
HATD Hatta, Dubai 73.62 296 P **P 12 11 56.8 -0.2**
SNR=7.5
HATD Hatta, Dubai 73.62 296 P **P 12 11 56.8 -0.2**
SNR=7.5
HATD Hatta, Dubai 73.62 296 P **P 12 11 56.8 -0.2**
SNR=7.5
HATD Hatta, Dubai 73.62 296 P **P 12 11 56.8 -0.2**
SNR=7.5
ASHO Ashiyiah 73.67 296 P **P 12 11 57.4 +0.2**
SNR=6.8
ASHO Ashiyiah 73.67 296 P **P 12 11 57.4 +0.2**
SNR=6.8
ASHO Ashiyiah 73.67 296 P **P 12 11 57.4 +0.2**
SNR=6.8
ASHO Ashiyiah 73.67 296 P **P 12 11 57.4 +0.2**
SNR=6.8
BILL Bilibino 74.03 14 *e*P **P 12 11 59.2 +0.7**
BILL *e* 12 14 46.9
BILL Bilibino 74.03 14 *e*P **P 12 11 58.8 +0.3**
AB31 Akbulak array 76.39 321⇑ *e*P **P 12 12 11.4 -1.1**
SVE Sverdlovsk 78.48 329 *e*P **P 12 12 23.2 -0.8**
SVE pmax pmax
comp=Z,52nm,0.9s,mb5.5
VNDA Vanda 78.55 173 P **P 12 12 24.3 +0.2**
VNDA LR LR 12 48 27.9
VNDA Vanda 78.55 173 P **P 12 12 24.3 +0.2**
comp=Z,2.7nm,1.0s,mb4.1,baz=315,slow=5.7,SNR=14
VNDA LR LR 12 48 27.9
comp=Z,191nm,18.4s,MS4.5,baz=330,slow=37
ARU Arti 79.44 328 P **P 12 12 27.5 -1.7**
comp=Z,204nm,0.8s,mb6.1,SNR=5.8
ARU Arti 79.44 328 *c i*P **P 12 12 27.3 -1.9**
ARU *e* 12 12 34.5
ARU *e*S S 12 22 27.7 -2.0
ARU SS SS 12 27 35.3 -1.9
ARU pmax pmax
comp=Z,67nm,1.7s,mb5.3
ARU Arti 79.44 328 *e*P **P 12 12 27.5 -1.7**
comp=Z,27nm,0.8s,mb5.2
SBA Scott Base 79.45 172 *e*P **P 12 12 30.2 +1.2**
SBA pmax pmax
comp=Z,31nm,1.9s,mb4.9
SBA Scott Base 79.45 172 *e*P **P 12 12 30.2 +1.2**
comp=Z,31nm,1.9s,mb4.9
MAW Mawson 79.51 201 *e*P **P 12 12 29.8 +0.4**
MAW Mawson 79.51 201 P **P 12 12 29.9 +0.4**
comp=Z,5.0nm,0.9s,mb4.4,baz=45,slow=5.3,SNR=5.0
SOKR Solikamsk 81.30 331 *d i*P **P 12 12 37.9 -1.3**
SOKR pmax pmax
comp=Z,30nm,1.1s,mb5.1
UMR Umm Al-Rimmam 81.67 300 *e*P **P 12 12 40.4 -1.4**
UMR AMb AMB 12 12 42.3
comp=Z,38nm,1.2s,mb5.2
RDF Al-Radifah 81.75 299 *e*P **P 12 12 41.5 -0.9**
RDF AMb AMB 12 12 43.0
comp=Z,32nm,1.4s,mb5.1
MIB Mutribah 82.03 300 *e*P **P 12 12 42.1 -1.6**
MIB AMb AMB 12 12 44.1
comp=Z,34nm,1.1s,mb5.2
NAY Al-Naaiem 82.05 300 *e*P **P 12 12 41.9 -2.0**
NAY AMb AMB 12 12 44.1
comp=Z,21nm,1.0s,mb5.0
PPT Papeete 82.91 107 LR LR 12 46 10.8
comp=Z,169nm,19.7s,MS4.4,baz=158,slow=33
DGRG David-gareji 84.84 312 P **P 12 12 55.5 -2.4**
TTA Tatalina 84.86 27 *e*P **P 12 12 59.2 +1.7**
TTA pmax pmax
comp=Z,18nm,1.6s,mb5.0
TTA Tatalina 84.86 27 *e*P **P 12 12 59.2 +1.7**
comp=Z,18nm,1.6s,mb5.0
AKH Akhalkalaki 86.24 311 P **P 12 13 05.5 +0.6**
ONI Oni 86.37 313 P **P 12 13 04.2 -1.3**
SYO Syowa Base 88.21 201⇓ *e*P **P 12 13 12.5 -1.4**
SYO Syowa Base 88.21 201⇓ *e*PcP PcP 12 13 16.2 +0.6
QSPA South Pole Qui 88.82 180 *e*P **P 12 13 17.2 +0.7**
comp=Z,14nm,1.0s,mb5.3
SOC Sochi 89.16 313 *c i*P **P 12 13 16.4 -2.5**
SOC *e* 12 16 47.3
SOC *e*S SKSac 12 23 43.5 -4.9
SOC pmax pmax
comp=Z,11nm,0.6s,mb5.4
MALT Malatya 89.97 308 *e*P **P 12 13 22.6 -0.2**
MALT pmax pmax
comp=Z,10.0nm,1.5s,mb4.9
MALT Malatya 89.97 308 *e*P **P 12 13 22.6 -0.2**
comp=Z,9.9nm,1.5s,mb4.9
ANN Anapa 90.84 315 *e*P **P 12 13 25.0 -1.7**
ANN *e**PP pP 12 13 35.5 +3.5
ANN *e* 12 17 02.2
ANN *e*S SKSac 12 23 54.1 -4.0
ANN pmax pmax
comp=Z,15nm,1.0s,mb5.3
OBN Obninsk 91.45 325⇑ *e*P **P 12 13 27.5 -1.8**
OBN pmax pmax
comp=Z,9.0nm,0.6s,mb5.3
ARCES ARCESS Array B 95.24 340 P **P 12 13 44.4 -2.1**
comp=Z,3.1nm,0.7s,mb4.9,baz=69,slow=6.6,SNR=9.9
ARCES LR LR 13 01 22.1
comp=Z,65nm,21.6s,MS4.1,baz=295,slow=38
AKASG Malin Array Be 96.12 321 *i*P **P 12 13 48.7 -2.2**
FINES FINESS Array B 96.45 332 P **P 12 13 49.9 -2.2**
comp=Z,1.7nm,0.9s,mb4.5,baz=46,slow=12,SNR=3.7
FINES LR LR 12 57 00.4
comp=Z,60nm,21.2s,MS4.0,baz=163,slow=35
NOA NORSAR Array B 103.45 333 Pdiff Pdif 12 14 20.2 -3.3
comp=Z,1.0nm,0.7s,baz=70,slow=4.5,SNR=3.8
ANMO Albuquerque 119.62 50⇑ *i*PKIKP PKPdf 12 19 14.9 +1.3
ANMO Albuquerque 119.62 50 *e*PKPdf PKPdf 12 19 14.7 +1.1
TXAR Lajitas Array 123.83 55 PKP PKPdf 12 19 22.1 +0.3
comp=Z,0.7nm,0.8s,baz=191,slow=1.3,SNR=9.8
TORD Torodi Ar. Bea 125.05 285 PKP PKPdf 12 19 23.8 -0.7
comp=Z,1.7nm,0.9s,baz=60,slow=2.2,SNR=8.6
TORD PP PP 12 21 17.4 +3.9
comp=Z,4.9nm,1.4s,baz=46,slow=6.4,SNR=4.9
SCHQ Schefferville 125.19 10 PKP PKPdf 12 19 23.5 -0.2
comp=Z,1.6nm,0.7s,baz=103,slow=7.1,SNR=2.5
PLCA Paso Flores 135.21 160 PKP PKPdf 12 19 41.9 -1.2
comp=Z,2.0nm,0.9s,baz=180,slow=3.0,SNR=3.4
CPUP Villa Florida 152.31 171 PKPbc PKPbc 12 20 19.4 -0.5
comp=Z,2.8nm,0.7s,baz=218,slow=1.4,SNR=5.3

BJI ***29*** *12:04:10.3, 40.27N×77.92E, h18km, ML2.7*
ISC 29 12:04:03.2±5.7, 395N±04×785E±03, h10km, n10, σ1°30/11, Southern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSH	**Kashi**	**1.93**	**271**	PG	**Pg**	**12 04 40.0**	**-0.3**
KSH				SG	**Sg**	**12 05 05.3**	**0.0**
KSH				Smax			
KSH				Smax			
ULHL	**Ulahol**	**3.21**	**329**	P	**Pn**	**12 04 48.7**	**-4.9**
KZA	**Kyzart**	**3.54**	**317**	P	**Pn**	**12 04 55.3**	**-2.9**
TKM2	**Tokmak 2**	**4.04**	**328**	P	**Pn**	**12 05 03.5**	**-1.5**
UCH	**Uchtor**	**4.04**	**313**	P	**Pn**	**12 05 04.9**	**-0.2**
KBK	**Karagaybulak**	**4.12**	**321**	P	**Pn**	**12 05 05.6**	**-0.6**
AAK	**Ala-Archa**	**4.33**	**317**	P	**Pn**	**12 05 09.2**	**+0.1**
AML	**Almayashu**	**4.47**	**307**	P	**Pn**	**12 05 13.9**	**+2.9**
CHMS	**Chumysh**	**4.47**	**322**	P	**Pn**	**12 05 11.9**	**+0.9**
USP	**Ospenovka**	**4.79**	**323**	P	**Pn**	**12 05 17.5**	**+2.0**

MOS 29 12:14:33.5±0.5, 4357N×4364E, h37km, mb3.6/1, 3C-1D, Error ellipse: s-maj=18.8km s-min=10.0km az=123.4, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUBR	**Kubataba**	**0.28**	**323**	*e*P	Pn	12 14 42.1	+0.7
KUBR				*e*S	Sn	12 14 47.1	+0.3
LSNR	**Lesken**	**0.32**	**157⇑**	*i*P	Pn	12 14 42.7	+0.9
LSNR				*i*S	Sn	12 14 49.4	+1.9
PRTR	**Priterechnaya**	**0.50**	**69⇑**	*i*P	Pn	12 14 45.0	+0.9
PRTR				*i*S	Sn	12 14 53.9	+2.4
KMSR	**Komsomolskaya**	**0.51**	**113**	*e*P	Pn	12 14 46.1	+1.8
KMSR				*i*S	Sn	12 14 55.7	+3.8
KORR	**Kora**	**0.58**	**147⇓**	*i*P	Pn	12 14 46.3	+1.1
KORR				*i*S	Sn	12 14 56.0	+2.6
ARNR	**Ardon**	**0.60**	**129**	*e*P	Pn	12 14 47.0	+1.5
ARNR				*e*S	Sn	12 14 57.2	+3.2
DIGR	**Digorskoe uzhe**	**0.67**	**184**	*e*P	Pn	12 14 47.5	+1.0
DIGR				*i*S	Sn	12 14 57.2	+1.4
BTKR	**Batakoyurt**	**0.68**	**107**	*e*P	Pn	12 14 47.5	+0.8
BTKR				*e*S	Sn	12 14 59.3	+3.2
SHAR	**Shatzhatmas**	**0.73**	**284**	*e*P	Pn	12 14 48.4	+1.1
SHAR				*i*S	Sn	12 14 58.8	+1.6
BEYR	**Belyy Ugol+**	**0.74**	**307**	*i*P	Pn	12 14 48.4	+0.9
BEYR				*e*S	Sn	12 14 58.7	+1.2
KIV	**Kislovodsk**	**0.79**	**299**	*e*P	Pn	12 14 49.3	+1.1
KIV				*i*S	Sn	12 15 00.6	+1.8
TRKR	**Terskaya**	**0.80**	**79**	*e*P	Pn	12 14 48.9	+0.6
TRKR				*i*S	Sn	12 15 02.3	+3.3
ZEI	**Tsey**	**0.82**	**167**	*e*P	Pn	12 14 48.2	-0.4
ZEI				*e*S	Sn	12 15 00.5	+1.0
LACR	**Lac**	**0.89**	**147⇑**	*i*P	Pn	12 14 50.5	+1.1
LACR				*e*S	Sn	12 15 03.1	+2.1

ISCJB ***29*** *12:21:15.4±5.8, 57S±02×1485E±02, h173km±48km, mb4.0/8, Error ellipse: s-maj=42.4km s-min=21.7km az=33.6*
IDC ***29*** *12:21:15.0±8.5, 573S×14857E, h156km±71km, mb3.8/8, mb1 3.9/10, mb1mx3.7/18, mbtmp3.8/10, Error ellipse: s-maj=42.6km s-min=20.7km az=45.0*
NEIC ***29*** *12:21:19.4±4.7, 578S×14849E, h196km±39km, mb4.5/2, Error ellipse: s-maj=30.8km s-min=17.6km az=211.0*
ISC 29 12:21:15.0±5.8, 57S±02×1485E±02, h156km±47km, n17, σ0°80/16, mb4.0/8, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**14.50**	**188**	*e*P	**Pn**	**12 24 35.1**	**+2.1**
	5.3nm,0.8s						
CTA	**Charters Tower**	**14.50**	**188**	P	**Pn**	**12 24 33.7**	**+0.7**
	0.3nm,0.3s,baz=11,slow=9.0,SNR=4.6						
KAKA	**Kakadu**	**17.32**	**245**	*e*P	**Pn**	**12 25 06.0**	**-1.6**
	18nm,0.4s						
WRAB	**Tennant Creek**	**19.76**	**223**	*e*P	**P**	**12 25 33.2**	**+0.2**
WB2	**Warramunga Arr**	**19.77**	**223**	*e*P	**P**	**12 25 33.0**	**-0.1**
WB2	**Warramunga Arr**	**19.77**	**223**	*e*P	**P**	**12 25 33.2**	**+0.1**
WRA	**Warramunga Arr**	**19.77**	**223**	P	**P**	**12 25 33.1**	**-0.1**
	0.6nm,0.3s,baz=47,slow=11,SNR=9.1						
ASAR	**Alice Springs**	**22.75**	**217**	P	**P**	**12 26 03.9**	**-0.1**
	3.5nm,0.6s,mb4.0,baz=50,slow=9.2,SNR=59						
BATI	**Kupang**	**25.00**	**258**	P	**P**	**12 26 24.8**	**+0.1**
	16nm,0.5s,mb4.8,baz=107,slow=14,SNR=2.6						

FITZ	Fitzroy Crossi	25.52 239	*e*P	P	12 26 29.3	+0.1
	11nm,0.3s,mb5.0					
FITZ	Fitzroy Crossi	25.52 239	P	P	12 26 29.3	+0.1
	8.6nm,0.5s,mb4.6,baz=66,slow=11,SNR=57					
STKA	Stephens Creek	26.86 193	P	P	12 26 41.8	+0.7
	1.7nm,0.4s,mb4.1,baz=27,slow=6.8,SNR=4.1					
URZ	Urewera	41.56 145	P	P	12 28 45.7	-1.5
	12nm,1.1s,mb4.4,baz=338,slow=13,SNR=3.0					
VNDA	Vanda	72.16 177	P	P	12 32 21.8	-0.4
	0.5nm,0.9s,mb3.2,baz=319,slow=7.0,SNR=3.4					
MKAR	Makanchi Array	78.20 320	P	P	12 32 58.1	+0.9
	0.2nm,0.4s,mb3.1,baz=104,slow=6.1,SNR=3.1					
QSPA	South Pole Qui	84.30 180	P	P	12 33 29.0	+0.2
	1.0nm,0.5s,mb3.8,baz=356,slow=2.6,SNR=6.7					
TORD	Torodi Ar. Bea	146.45 285	PKPbc	PKPbc	12 40 38.6	-0.2
	0.1nm,0.3s,baz=92,slow=2.9,SNR=5.6					

IDC 29 12:31:39.1±6.8, 786S×15779E, h0km, mb3.8/3, mb1 4.0/4, mb1mx3.7/14, mbtmp3.9/4, ML3.9/1, Error ellipse: s-maj=134.7km s-min=26.1km az=14.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	2.64	126	Pn	Pn	12 32 22.6	-0.4
	22nm,0.3s,baz=251,slow=5.8,SNR=9.8						
HNR				Sn	Sn	12 32 57.9	+2.1
	75nm,0.3s,baz=279,slow=10,SNR=3.9						
WRA	Warramunga Arr	25.70	240	P	P	12 37 10.1	-1.1
	1.6nm,0.6s,baz=66,slow=9.5,SNR=7.0						
ASAR	Alice Springs	27.78	233	P	P	12 37 31.1	+1.2
	0.4nm,1.0s,baz=66,slow=11,SNR=2.6						
STKA	Stephens Creek	28.26	210	P	P	12 37 34.2	+0.1
	4.3nm,0.9s,baz=27,slow=14,SNR=2.7						

*CSEM **29** 12:47:17.5±0.1, 3792N×29.14E, h2km, MD3.5, Error ellipse: s-maj=1.9km s-min=1.3km az=115.0*
*DDA **29** 12:47:17.8, 3793N×29.13E, h11km±4km, Md3.4*
*ISCJB **29** 12:47:18.2±0.7, 3793N±002×29.11E±003, h1km±6km, Error ellipse: s-maj=4.4km s-min=3.4km az=175.2*
*ISK **29** 12:47:18.2, 3793N×2907E, h5km, MD3.5*
*ATH **29** 12:47:24.5, 3782N×2857E, h39km, MD3.6/3*
ISC 29 12:47:18.5±0.7, 3793N±002×2912E±003, h1km±5km, n39, σ0=93/51, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DENT	Denizli	0.18	201	PG	Pg	12 47 22.4	+0.4
KULA	Kula-Manisa	0.69	329	Pg	Pg	12 47 31.6	-0.1
KULA				*e*SG	Sg	12 47 40.8	+0.1
MANT	Manisa	0.72	322	*i* P	Pg	12 47 32.1	-0.1
MANT				*i* S	Sg	12 47 41.5	0.0
TKTP	Tekketepe	0.96	83	*i* P	Pg	12 47 36.3	-0.6
TKTP				*i* S	Sg	12 47 54.7	+5.5
YER	Yerkesik	1.03	220	*e*PG	Pg	12 47 38.2	-0.1
YER				*e*SG	Sg	12 47 52.1	+0.5
ISP	Isparta	1.10	94	*e*PN	Pn	12 47 39.1	-2.0
ISP				*e*SN	Sn	12 47 57.1	+0.1
GDZ	Gediz	1.20	14	*i* P	Pn	12 47 40.0	-2.4
GDZ				*i* S	Sg	12 47 57.4	+0.4
GDZ	Gediz	1.20	14	*i* P	Pn	12 47 40.0	-2.4
GDZ				*i* S	Sg	12 47 57.3	+0.4
DALT	Dalyan (Mudla)	1.22	198	*e*PN	Pn	12 47 41.6	-1.0
MLSB	Milas	1.24	240	*e*PN	Pn	12 47 41.2	-1.7
BCK	Bucak	1.26	111	*e*PN	Pn	12 47 43.4	+0.2
FETY	Fethiye	1.29	181	*e*PN	Pn	12 47 43.0	-0.7
SHUT	Suhut-Afyon	1.29	61	*e*PN	Pn	12 47 43.2	-0.5
SHUT				*e*SN	Sn	12 48 02.5	+0.9
ELL	Elmali	1.33	152	*e*PN	Pn	12 47 44.2	0.0
ALT	Altintas	1.37	34	*e*PN	Pn	12 47 43.9	-0.8
AKHS	Akhisar	1.40	313	*i* P	Pn	12 47 45.0	-0.1
AKHS				*i* S	Sg	12 48 01.5	-1.9
AKS	Akhisar	1.40	313	*e*PN	Pn	12 47 45.3	+0.1
KDAG	Bornova	1.53	289	*i* P	Pn	12 47 48.5	+1.5
KDAG				*i* S	Sg	12 48 10.9	+3.1
BDRM	Kayabasi	1.58	238	*i* P	Pn	12 47 47.1	-0.6
BDRM				*i* S	Sn	12 48 09.7	+0.9
BODT	Bodrum	1.68	240	*e*PN	Pn	12 47 49.0	+0.1
DAT	Datca	1.71	226	*e*PN	Pn	12 47 48.6	-0.9
DST	Dursunbey	1.72	347	*e*PN	Pn	12 47 49.9	+0.3
AKAS	Kas	1.73	167	*i* P	Pn	12 47 50.4	+0.7
AKAS				*i* S	Sg	12 48 17.5	+3.4
KSL	Kastellorizon	1.81	168	*e*PN	Pn	12 47 55.5	+4.7
SMG	Samos	1.82	264	*e*PN	Pn	12 47 48.8	-2.1
ARG	Arkhangelos	1.88	205	*e*PN	Pn	12 47 52.7	+0.9
BALB	Balikesir	1.97	331	*e*PN	Pn	12 47 53.4	+0.4
ESKT	Eskisehir	2.09	40	*e*PN	Pn	12 47 55.1	+0.4
ESKT	Eskisehir	2.09	40	*i* P	Pn	12 47 53.8	-0.9
SEYT	Eskypehyr	2.09	40	*i* P	Pn	12 47 53.8	-0.9
KIZT	Kizilcal	2.37	65	*e*PN	Pn	12 47 59.0	+0.5
IZI	Iznik	2.42	6	*e*PN	Pn	12 47 59.5	+0.2
ADVT	Abdulvahap	2.55	11	*e*PN	Pn	12 48 01.6	+0.6
EDC	Edincik	2.61	338	*e*PN	Pn	12 48 02.1	+0.3
YLV	Yalova	2.65	4	*e*PN	Pn	12 48 03.0	+0.7
KARP	Karpathos	2.85	214	*e*PN	Pn	12 48 05.0	-0.1
EZN	Ezine	2.89	312	*e*PN	Pn	12 48 06.0	+0.3
HRT	Hereke	2.92	8	*e*PN	Pn	12 48 07.5	+1.4
ISK	Istanbul-Kandi	3.14	359	*e*PN	Pn	12 48 09.9	+0.8

IDC 29 13:25:15.2±2.1, 103S×12765E, h0km, mb3.5/2, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, ML3.4/1, Error ellipse: s-maj=180.9km s-min=25.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.90	161	P	Pn	13 29 48.4	-1.6
	0.1nm,0.3s,baz=340,slow=11,SNR=3.0						
ASAR	Alice Springs	23.30	165	P	P	13 30 25.1	+0.1
	0.4nm,0.5s,baz=347,slow=12,SNR=11						
MKAR	Makanchi Array	61.98	326	P	P	13 35 37.2	0.0
	0.6nm,0.5s,baz=117,slow=8.4,SNR=8.5						

*IDC **29** 13:37:58.5±8.3, 3614N×7156E, h117km±66km, mb3.5/6, mb1 3.5/9, mb1mx3.3/24, mbtmp3.4/9, Error ellipse: s-maj=58.7km s-min=35.0km az=158.0*
*ISCJB **29** 13:38:04.2±0.9, 3660N±005×714E±0.1, h162km±11km, mb3.5/5, Error ellipse: s-maj=16.5km s-min=4.6km az=154.3*
*NNC **29** 13:38:09.3±2.1, 3719N×7014E, h0km, mb3.9, mpv4.5, Error ellipse: s-maj=19.5km s-min=15.1km az=115.0*
ISC 29 13:38:05.3±0.9, 3660N±005×714E±01, h158km±11km, n36, σ0=76/44, mb3.5/5, 4C, Afghanistan-Tajikistan border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
THN	Thein Dam	5.46	138	*e*P	Pn	13 39 25.7	+0.8
THN				*e*S	Sn	13 40 26.6	-0.5
DLH	Dalhousie	5.51	136	*e*P	Pn	13 39 27.0	+1.4
DLH				*e*S	Sn	13 40 29.0	+0.6
AML	Almayashu	5.80	17	P	Pn	13 39 29.2	-0.1
	SNR=44						
UCH	Uchtor	6.11	22	P	Pn	13 39 33.4	-0.1
	SNR=9.9						
KZA	Kyzart	6.22	27	P	Pn	13 39 34.5	-0.4
	SNR=13						
EKS2	Erkin-Say	6.32	16	P	Pn	13 39 36.1	-0.2
	SNR=8.2						
AAK	Ala-Archa	6.48	20	P	Pn	13 39 38.4	0.0
	SNR=11						
KK31	Karatay Array	6.54	354	⇑P	Pn	13 39 38.4	-0.7
	15nm,0.3s,baz=181,slow=12,SNR=248						
KK31				S	Sn	13 40 47.7	-5.0
	12nm,0.4s,baz=182,slow=20,SNR=20						
ULHL	Ulahol	6.76	32	P	Pn	13 39 42.5	+0.4
	SNR=6.9						
SDNR	Sundarnagar	6.86	136	*e*P	Pn	13 39 44.0	+0.5
SDNR				*e*x	x	13 40 56.0	
TKM2	Tokmak 2	7.09	26	P	Pn	13 39 46.6	+0.1
	SNR=7.4						
KLP	Kalpa	7.58	130	*e*P	Pn	13 39 54.0	+0.9
KLP				*e*S	Sn	13 41 17.6	-0.4
KLP				AML	AML	13 41 18.6	
	comp=E,135nm,0.5s						
KLP				AML	AML	13 41 19.6	
	comp=N,225nm,0.5s						
JOSI	Joshimath	9.07	129	*e*P	Pn	13 40 13.6	+0.7
JOSI				*e*S	Sn	13 41 49.6	-4.1
JOSI				AML	AML	13 41 52.4	
	comp=E,50nm,0.2s						
JOSI				AML	AML	13 41 52.9	
	comp=N,89nm,0.7s						
KHET	Khetri	9.27	155	*e*P	Pn	13 40 12.8	-2.7
KHET				*e*S	Sn	13 41 48.9	-10
KHET				AML	AML	13 41 53.8	
	comp=E,15nm,0.4s						
KHET				AML	AML	13 41 54.5	
	comp=N,14nm,0.1s						
SONA	Sohna	9.59	149	*e*S	Sn	13 41 57.7	-8.6
SONA				AML	AML	13 42 04.1	
	comp=E,29nm,0.3s						
SONA				AML	AML	13 42 04.6	
	comp=N,8.6nm,0.3s						
MKAR	Makanchi Array	13.01	35	P	Pn	13 41 03.5	-0.8
	comp=N,0.1nm,0.3s,baz=210,slow=11,SNR=3.7						
DANN	Dangsing	13.26	125	*e*P	Pn	13 41 06.5	-1.0
	comp=N,10nm,0.3s						
KOLN	Koldanda	13.54	127	*e*P	Pn	13 41 10.1	-1.1
	comp=N,6.8nm,0.3s						
GKN	Gorkha	14.07	124	*e*P	Pn	13 41 17.4	-0.4
KKN	Kakani	14.64	123	*e*P	Pn	13 41 24.5	-0.4
	comp=N,36nm,0.6s						
DMN	Daman	14.64	124	*e*P	Pn	13 41 25.3	+0.4
	comp=N,36nm,0.6s						
PKIN	Phulchoki	14.86	123	*e*P	Pn	13 41 27.9	+0.3
	comp=N,27nm,0.6s						
PKI	Pulchoki	14.87	123	*e*P	Pn	13 41 28.0	+0.3
GUN	Gunma	14.97	121	*e*P	Pn	13 41 28.8	-0.2
	comp=N,6.4nm,0.3s						
AB31	Akbulak array	15.17	330	⇑P	Pn	13 41 31.4	+0.1
	comp=N,2.0nm,0.5s,baz=130,slow=9.5,SNR=29						
AB31				S	S	13 44 09.6	-11
	comp=N,1.9nm,0.7s,baz=147,slow=23,SNR=4.2						
JIRN	Jiri	15.34	121	*e*P	Pn	13 41 34.3	+0.7
	comp=N,23nm,0.4s						
BVAR	Borovoye Array	16.45	358	P	Pn	13 41 46.2	-0.6
	comp=N,0.4nm,0.3s,baz=165,slow=12,SNR=6.8						
AKTO	Aktyubinsk	16.87	329	⇑P	Pn	13 41 52.4	+0.4
	comp=N,0.1nm,0.8s						
AKTO				⇑S	S	13 44 51.9	-7.3
	comp=N,0.1nm,1.1s						
AKTO	Aktyubinsk	16.87	329	P	Pn	13 41 52.7	+0.7
	comp=N,0.4nm,0.3s,baz=139,slow=14,SNR=9.8						
ZALV	Zalesovo Beam	19.69	24	P	P	13 42 22.4	+0.4
	comp=N,1.7nm,0.3s,baz=222,slow=11,SNR=8.4						
FINES	FINESS Array B	37.60	326	P	P	13 45 05.2	+1.0
	comp=N,0.6nm,0.4s,mb3.6,baz=126,slow=9.7,SNR=5.1						
ARCES	ARCESS Array B	41.19	337	P	P	13 45 34.9	+1.0
	comp=N,1.1nm,0.6s,mb3.7,baz=116,slow=9.3,SNR=12						
NB2	NORSAR Subarra	44.51	323	P	P	13 46 01.1	+0.4
	comp=Z,1.0nm,0.5s,mb3.7,baz=93,slow=7.9						
NOA	NORSAR Array B	44.51	323	P	P	13 46 01.2	+0.5
	comp=Z,1.5nm,0.6s,mb3.8,baz=96,slow=7.7,SNR=6.5						
TORD	Torodi Ar. Bea	66.06	269	P	P	13 48 33.7	-1.8
	comp=Z,0.3nm,0.7s,mb3.2,baz=52,slow=6.9,SNR=4.7						
YKA	Yellowknife Ar	81.14	3	P	P	13 50 02.8	+0.1
	comp=Z,0.3nm,0.4s,mb3.3,baz=354,slow=5.4,SNR=3.9						

*NEIC **29** 14:19:46.7±3.0, 4030N×12678W, h10km, MD3.2(SEA), ML3.7(NCEDC), Error ellipse: s-maj=35.8km s-min=8.9km az=75.0*
*ISCJB **29** 14:19:49.2±0.5, 4036N±002×12634W±004, h10km, Error ellipse: s-maj=4.9km s-min=2.7km az=159.7*
ISC 29 14:19:51.3±0.5, 4037N±002×12630W±004, h10km, n110, σ0=92/131, 44C-49D, Off coast of northern California

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JCC	Jacoby Creek	1.78	75	P	Pn	14 20 20.5	-1.6
	baz=2.7,SNR=120						
JCC				⇓S	Sn	14 20 43.1	-1.8
	baz=2.7						
O01C	Eel River Cons	1.91	96	⇑P	Pn	14 20 23.7	-0.2
	baz=2.7,SNR=56						
O01C				⇓S	Sn	14 20 48.1	+0.2
	baz=2.7						
KRMB	Red Mountain	2.15	57	*e*Pn	Pn	14 20 25.6	-1.5
KCPM	Cahto Peak	2.19	107	*e*Pn	Pn	14 20 27.3	-0.4
KCPM				*e*Sn	Sn	14 20 54.5	-0.5
M01C	Crescent City	2.21	47	⇓P	Pn	14 20 26.4	-1.6
	baz=3.1,SNR=74						
M01C				⇑S	Sn	14 20 53.0	-2.3
	baz=3.1						
KIPM	Iron Peak	2.23	104	*e*Pn	Pn	14 20 28.3	0.0
N02C	Big Bar	2.32	78	P	Pn	14 20 28.2	-1.3
	baz=3.2,SNR=191						
N02C				⇓S	Sn	14 20 57.2	-1.0
	baz=3.2						
KBO	Bosley Butte	2.41	40	*e*Pn	Pn	14 20 29.3	-1.5
P01C	Double 8 Ranch	2.45	111	P	Pn	14 20 30.9	-0.3
	baz=3.2,SNR=144						
P01C				⇓S	Sn	14 20 59.8	-1.4
	baz=3.2						
KTRM	Thompson Ridge	2.69	54	⇓P	Pn	14 20 33.9	-0.7
O02C	Red Bluff	2.69	93	P	Pn	14 20 34.8	+0.2
	baz=3.5,SNR=490						
O02C				⇑S	Sn	14 21 07.9	+0.6
	baz=3.5						
L02A	Cave Junction	2.70	48	⇓P	Pn	14 20 34.0	-0.8
	baz=3.6,SNR=1000						
K01A	Sixes	2.80	29	P	Pn	14 20 34.0	-2.0
	baz=3.5,SNR=41						
M02C	Callahan	2.80	68	⇓P	Pn	14 20 35.3	-0.9
	baz=3.7,SNR=111						
M02C				⇓S	Sn	14 21 08.7	-1.3
	baz=3.7						
GASB	Alder Springs	2.84	103	⇓P	Pn	14 20 36.7	0.0
	baz=3.6,SNR=83						
GASB				⇑S	Sn	14 21 10.8	-0.1
	baz=3.6						
HOPS	Hopland	2.84	118	⇓P	Pn	14 20 35.7	-1.0
	baz=3.5,SNR=116						
HOPS				⇑S	Sn	14 21 10.9	-0.1
	baz=3.5						
WDC	Whiskeytown Da	2.87	85	*e*Pn	Pn	14 20 36.5	-0.6
WDC	Whiskeytown Da	2.87	85	⇓P	Pn	14 20 36.7	-0.4
	baz=3.7,SNR=75						
WDC				⇑S	Sn	14 21 11.4	-0.3
	baz=3.7						
KEBM	Edson Butte	2.90	30	P	Pn	14 20 35.8	-1.7
YBH	Yreka Blue Hor	3.03	62	P	Pn	14 20 40.0	+0.7
YBH	Yreka Blue Hor	3.03	62	⇓P	Pn	14 20 39.0	-0.4
	baz=3.9,SNR=196						
YBH				⇑S	Sn	14 21 15.5	-0.2
	baz=3.9						
K02A	Glendale	3.19	40	P	Pn	14 20 40.9	-0.6
	baz=4.0,SNR=1000						
O03C	Acorn Hollow,	3.29	95	⇑P	Pn	14 20 42.9	0.0
	baz=4.1						
O03C				⇑S	Sn	14 21 21.9	0.0
	baz=4.1						
M03C	McCloud	3.29	73	⇓P	Pn	14 20 43.1	+0.2
	baz=4.2						
M03C				⇑S	Sn	14 21 22.0	-0.2
	baz=4.2						
MNRC	McLaughlin Nat	3.33	115	⇑S	Sn	14 21 22.1	-0.9
	baz=4.0						
LHEM	Herd Peak	3.33	67	P	Pn	14 20 44.4	+0.9
HUMO	Hull Mountain	3.36	47	⇑P	Pn	14 20 43.3	-0.5
HUMO	Hull Mountain	3.36	47	⇓P	Pn	14 20 43.4	-0.4
	baz=4.2,SNR=690						
MCCM	Marconi Confer	3.46	129	⇓P	Pn	14 20 44.6	-0.6
	baz=4.0,SNR=42						
MCCM				⇑S	Sn	14 21 25.4	-0.8
	baz=4.0						
DBO	Dodson Butte	3.57	39	⇑P	Pn	14 20 46.2	-0.5
CVS	Carmenet Viney	3.60	123	⇓P	Pn	14 20 46.5	-0.6
	baz=4.2,SNR=24						
CVS				⇓S	Sn	14 21 29.9	+0.3
	baz=4.2						
BUOR	Burton Butte	3.60	57	⇓P	Pn	14 20 48.7	+1.6
J02A	Umpqua	3.62	33	P	Pn	14 20 46.2	-1.2
	baz=4.4,SNR=31						
J02A				⇓S	Sn	14 21 28.8	-1.3
	baz=4.4						
M04C	Macdoel	3.65	66	⇑P	Pn	14 20 48.6	+0.8
	baz=4.6,SNR=19						
SUTB	Sutter Butte	3.66	107	⇓S	Sn	14 21 30.5	-0.6
	baz=4.4						
BBOR	Butler Butte	3.70	46	⇓P	Pn	14 20 48.7	+0.2
FARB	Farallon Islan	3.70	135	⇓P	Pn	14 20 47.8	-0.7
	baz=4.1,SNR=12						
HATC	Hat Creek Radi	3.71	82	⇓P	Pn	14 20 48.7	+0.1
	baz=4.6,SNR=9.7						
HATC				⇑S	Sn	14 21 32.7	+0.4
	baz=4.6						
LAB	Little Aspen B	3.71	58	P	Pn	14 20 50.0	+1.4
ORV	Oroville	3.77	101	⇓P	Pn	14 20 49.7	+0.2
	baz=4.6						
L04A	Klamath Falls	3.78	60	⇑P	Pn	14 20 50.2	+0.6
	baz=4.7,SNR=6.7						
LBCM	Butte Creek Ri	3.79	81	P	Pn	14 20 51.4	+1.6
VSP	Spence Mountai	3.82	58	⇓P	Pn	14 20 51.4	+1.3
J03A	Ideyld Park	3.90	39	⇑P	Pn	14 20 50.9	-0.3
	baz=4.7,SNR=16						
HSO	Harness Mounta	3.96	36	P	Pn	14 20 51.6	-0.4
O04C	Chester	3.98	89	⇓P	Pn	14 20 52.6	+0.2
	baz=4.8,SNR=7.9						
RNO	Roman Nose	4.02	27	⇓P	Pn	14 20 51.8	-1.0
I02A	Mapleton	4.07	26	P	Pn	14 20 51.9	-1.6
	baz=4.8,SNR=46						
K04A	Chilquin	4.10	55	⇑P	Pn	14 20 54.7	+0.7
	baz=5.0						
O05C	Quincy	4.14	94	⇓P	Pn	14 20 55.7	+1.2
	baz=5.0,SNR=10						
O05C				⇓S	Sn	14 21 44.3	+1.3
	baz=5.0						
BDM	Black Diamond	4.21	124	⇓S	Sn	14 21 46.0	+1.4
	baz=4.8						
I03A	Eugene	4.24	31	P	Pn	14 20 54.7	-1.3
	baz=5.0,SNR=18						
J04A	Umpqua Nationa	4.25	46	⇑P	Pn	14 20 57.0	+1.1
	baz=5.1,SNR=42						
ELFS	Eagle Lake Fie	4.25	85	⇑S	Sn	14 21 46.3	+0.5
	baz=5.1						
JRSC	Jasper Ridge	4.33	132	P	Pn	14 20 56.5	-0.7
	baz=4.8,SNR=44						
JRSC				⇑S	Sn	14 21 47.9	+0.1
	baz=4.8						
L05A	Lakeview	4.45	66	P	Pn	14 20 59.2	+0.5
	baz=5.3,SNR=41						
WENL	Wente Brothers	4.48	126	⇓P	Pn	14 20 59.4	+0.3
	baz=5.0,SNR=6.1						
I04A	Tendick Farm,	4.48	39	⇑P	Pn	14 20 59.4	+0.2
	baz=5.3,SNR=20						
M06C	Likely Place G	4.50	77	⇓P	Pn	14 21 01.0	+1.6
	baz=5.4,SNR=6.7						
M06C				⇑S	Sn	14 21 51.9	+0.2
	baz=5.4						
HBO	Huckleberry Mo	4.56	39	⇓P	Pn	14 21 01.1	+0.7
BNLO	Ben Lomond (Sa	4.57	134	P	Pn	14 20 59.8	-0.6
	baz=5.0,SNR=79						
BEKR	Beckwourth	4.58	94	⇑P	Pn	14 21 02.4	+1.9
	baz=5.4,SNR=18						
LAVA	Lava Cap Winer	4.59	109	⇑P	Pn	14 21 02.8	+2.1
	baz=5.3						
H02A	Toledo	4.63	21	⇓P	Pn	14 21 00.6	-0.6
	baz=5.3,SNR=8.2						
K05A	Summer Lake	4.69	58	⇑P	Pn	14 21 02.4	+0.4
	baz=5.6,SNR=13						
IRO	Indian Ridge	4.71	38	⇑P	Pn	14 21 02.7	+0.3
J05A	Fort Rock	4.77	51	⇑P	Pn	14 21 04.1	+0.9
	baz=5.6						
MOD	Modoc	4.78	69	P	Pn	14 21 03.8	+0.5
	baz=5.7,SNR=11						
S04C	Ingram Canyon,	4.82	125	⇑P	Pn	14 21 04.3	+0.4
	baz=5.4,SNR=18						
H03A	Soap Creek Ran	4.84	26	⇑P	Pn	14 21 03.8	-0.4
	baz=5.6,SNR=17						
N06A	Buffalo Meadow	4.94	84	⇑P	Pn	14 21 06.1	+0.7
	baz=5.8,SNR=5.2						
K06A	Valley Falls	5.14	60	P	Pn	14 21 08.8	+0.4
	baz=6.0,SNR=48						
CMB	Columbia Colle	5.15	115	*e*Pn	Pn	14 21 10.8	+2.3
	6.8nm,0.6s						
PACP	Pacheco Peak	5.16	129	P	Pn	14 21 08.2	-0.3
	baz=5.7,SNR=27						
SAO	San Andreas Ge	5.23	132	*e*P	Pn	14 21 08.6	-1.0
	14nm,0.5s						
H04A	Detroit Lake	5.27	34	P	Pn	14 21 10.2	+0.1
	baz=6.0,SNR=27						
I05A	Bend	5.32	43	⇓P	Pn	14 21 11.1	+0.4
	baz=6.1						
PAHR	Pah Rah Range	5.35	95	*e*Pn	Pn	14 21 12.7	+1.6
	6.5nm,0.9s						
G03A	Yamhill	5.42	23	⇓P	Pn	14 21 11.9	-0.2
	baz=6.1,SNR=11						
HAST	Hastings Reser	5.45	135	P	Pn	14 21 11.5	-1.1
	baz=5.9,SNR=319						
L07A	Adell	5.50	70	⇑P	Pn	14 21 13.8	+0.5
	baz=6.4						
S05C	Merced	5.55	121	⇓P	Pn	14 21 12.7	-1.2
	baz=6.1,SNR=6.0						
O07A	Toulon	5.68	90	⇓P	Pn	14 21 15.4	-0.3
	baz=6.5						
H05A	Madras	5.68	40	⇓P	Pn	14 21 15.5	-0.3
	baz=6.5,SNR=13						
I06A	Prineville	5.76	50	⇓P	Pn	14 21 17.1	+0.3
	baz=6.6,SNR=8.7						
K07A	Rock Creek Ran	5.78	64	P	Pn	14 21 17.4	+0.4
	baz=6.7,SNR=33						
V03C	Hunter Liggett	5.89	136	P	Pn	14 21 18.3	-0.3
	baz=6.3,SNR=64						
U04C	Hernandez Rese	5.90	131	⇑P	Pn	14 21 18.0	-0.7
	baz=6.4,SNR=23						
F03A	Seaside	5.91	19	⇓P	Pn	14 21 18.8	0.0
	baz=6.5						
T06C	Millerton Lake	6.15	121	⇓P	Pn	14 21 22.7	+0.6
	baz=6.7,SNR=6.4						
H06A	Lindquist Farm	6.20	43	⇑P	Pn	14 21 23.6	+0.8
	baz=7.0,SNR=11						
F04A	Amboy	6.24	26	⇑P	Pn	14 21 23.3	0.0
	baz=6.9,SNR=13						
I07A	Izee	6.26	51	⇑P	Pn	14 21 24.7	+1.1
	baz=7.1,SNR=45						
PKD	Parkfield	6.33	132	⇓P	Pn	14 21 23.6	-1.0
	baz=6.8,SNR=48						
V04C	Ramage Ranch,	6.38	136	⇓P	Pn	14 21 25.2	-0.1
	baz=6.8						
G06A	Carlson Farm,	6.40	39	⇓P	Pn	14 21 25.8	+0.2
	baz=7.2,SNR=12						
H07A	Lands Inn, Kim	6.52	48	⇑P	Pn	14 21 28.

HNV	**Hanoi**	**2.40 232**	*e*Pn	**Pn**	**14 25 34.7**	**+1.2**
HNV			*e*Pg	**Pg**	**14 25 41.8**	**+2.6**
HNV			*e*Sg	**Sg**	**14 26 13.9**	**+3.6**
DSV	**Doi Son**	**2.60 222**	*e*Pn	**Pn**	**14 25 35.5**	**-0.7**
DSV			*e*Pg	**Pg**	**14 25 43.3**	**+0.3**
DSV			*e*Sg	**Sg**	**14 26 15.9**	**-0.8**
BVV	**Ba Vi**	**2.69 238**	*e*Pn	**Pn**	**14 25 37.2**	**-0.3**
BVV			*e*Pg	**Pg**	**14 25 45.0**	**+0.2**
BVV			*e*Sg	**Sg**	**14 26 19.7**	**-0.1**
QIZ	**Qiongzhong**	**3.97 151**	PG	**Pg**	**14 26 10.0**	**+0.6**
QIZ			SG	**Sg**	**14 26 58.8**	**-2.1**
QIZ			Smax			
	comp=N,18nm,0.6s					
QIZ			Smax			
	comp=E,60nm,0.8s					
GYA	**Guiyang**	**4.04 345**	P	**Pn**	**14 25 58.0**	**+2.0**
GYA			PG	**Pg**	**14 26 08.3**	**-2.4**
GYA			S	**Sn**	**14 26 44.3**	**+0.4**
GYA			SG	**Sg**	**14 26 57.0**	**-6.0**
GYA			Smax			
	comp=N,140nm,0.6s					
GYA			Smax			
	comp=E,210nm,0.6s					
KMI	**Kunming**	**5.32 300**	PG	**Pg**	**14 26 37.3**	**+2.2**
KMI			SG	**Sg**	**14 27 40.3**	**-3.7**
KMI			Smax			
	comp=N,30nm,0.9s					
KMI			Smax			
	comp=E,33nm,1.0s					

NEIC ***29*** *14:31:26.4±6.2, 753S×127.68E, h216km±28km, mb4.4/3, Error ellipse: s-maj=71.8km s-min=21.6km az=151.0*
IDC ***29*** *14:31:32.6±14.0, 767S×128.23E, h256km±109km, mb3.9/1, mb1 4.1/3, mb1mx3.3/13, mbtmp3.9/3, Error ellipse: s-maj=160.8km s-min=105.7km az=61.0*

ISC 29 14:31:28.8±2.1, 78S±01×1277E±01, h219km±18km, n15, σ0°95/22, mb4.2/2, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**6.75**	**137**	*e*P	**Pn**	**14 33 06.9**	**+0.9**
	26nm,0.2s						
KAKA				*e*S	**S**	**14 34 23.0**	**-0.5**
KAKA	**Kakadu**	**6.75**	**137**	*e*Pn	**Pn**	**14 33 06.8**	**+0.7**
KAKA				*e*S	**S**	**14 34 23.0**	**-0.5**
FITZ	**Fitzroy Crossi**	**10.49**	**191**	*e*P	**Pn**	**14 33 56.1**	**+2.1**
	6.7nm,0.7s						
FITZ				*e*S	**S**	**14 35 50.2**	**-1.3**
FITZ	**Fitzroy Crossi**	**10.49**	**191**	*e*Pn	**Pn**	**14 33 54.1**	**+0.1**
FITZ				*e*S	**S**	**14 35 50.2**	**-1.3**
WRAB	**Tennant Creek**	**13.70**	**153**	*e*Pn	**Pn**	**14 34 34.6**	**+0.3**
	11nm,0.4s						
WRA	**Warramunga Arr**	**13.70**	**153**	P	**Pn**	**14 34 34.3**	**0.0**
	3.2nm,0.3s,baz=332,slow=13,SNR=55						
WRA				S	**S**	**14 37 06.9**	**+0.2**
	1.2nm,0.3s,baz=331,slow=22,SNR=7.7						
WB2	**Warramunga Arr**	**13.70**	**153**	*e*P	**Pn**	**14 34 33.2**	**-1.2**
WB2				*e*S	**S**	**14 37 07.6**	**+0.8**
WB2	**Warramunga Arr**	**13.70**	**153**	*e*Pn	**Pn**	**14 34 34.2**	**-0.2**
WB2				*e*S	**S**	**14 37 07.6**	**+0.8**
COEN	**Coen**	**16.35**	**113**	*e*P	**P**	**14 35 04.5**	**-1.0**
	14nm,1.0s						
ASAR	**Alice Springs**	**16.89**	**160**	P	**P**	**14 35 13.2**	**+1.9**
	2.2nm,0.3s,baz=348,slow=13,SNR=185						
CTA	**Charters Tower**	**21.72**	**126**	*e*P	**P**	**14 36 02.4**	**-0.5**
	6.0nm,0.9s,mb4.1						
CTAO	**Charters Tower**	**21.72**	**126**	*e*P	**P**	**14 36 02.7**	**-0.2**
STKA	**Stephens Creek**	**27.25**	**154**	*e*P	**P**	**14 36 50.8**	**-2.0**
	3.1nm,0.4s,mb4.3						
STKA	**Stephens Creek**	**27.25**	**154**	*e*P	**P**	**14 36 52.9**	**+0.1**
STKA	**Stephens Creek**	**27.25**	**154**	P	**P**	**14 36 52.2**	**-0.5**
	2.7nm,0.4s,mb4.2,baz=334,slow=9.7,SNR=14						

IDC 29 14:41:08.7±5.6, 2791S×17880W, h239km±79km, mb3.1/2, mb1 3.4/2, mb1mx3.1/12, mbtmp3.1/2, Error ellipse: s-maj=197.7km s-min=41.1km az=168.0, Kermadec Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	**Raoul Island**	**1.55**	**150**	P	Pn	14 41 47.2	+0.9
	127nm,0.3s,baz=77,slow=17,SNR=7.8						
RAO				S	S	14 42 15.9	0.0
	133nm,0.3s,baz=78,slow=20,SNR=3.8						
ASAR	**Alice Springs**	**42.59**	**265**	P	P	14 48 41.4	-0.2
	0.4nm,0.5s,baz=93,slow=6.8,SNR=9.5						
WRA	**Warramunga Arr**	**43.35**	**270**	P	P	14 48 47.8	+0.1
	1.3nm,0.6s,baz=108,slow=7.8,SNR=4.7						
AKASG	**Malin Array Be**	**148.88**	**325**	PKPbc	PKPbc	15 00 27.1	-0.6
	0.6nm,0.4s,baz=42,slow=2.8,SNR=5.7						

ASRS ***29*** *14:44:52.5±1.9, 52.12N×98.46E, h15km, Ms3.2*

MOS 29 14:45:06.5±1.8, 5266N×9943E, h18km, mb4.3/1, 1C, Error ellipse: s-maj=21.2km s-min=13.5km az=9.0, Tuva-Buryatia-Mongolia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ORL	**Orlik**	**0.26**	**118**	*e*PG	Pg	14 45 13.5	+1.1
ORL				pmax	pmax		
	comp=Z,492nm,0.2s						
MOY	**Mondy**	**1.39**	**135**	*e*PN	Pn	14 45 24.5	-6.4
ARS	**Arshan**	**1.98**	**111**	*e*PN	Pn	14 45 39.7	+0.6
TLY	**Talaya**	**2.77**	**109**	⇑*i*PN	Pn	14 45 52.6	+2.6
TLY				*e*		14 46 35.3	
TLY				pmax	pmax		
	comp=Z,53nm,0.4s						
TLY				smax			
	comp=N,616nm,0.7s						
IRK	**Irkutsk**	**2.99**	**96**	*e*PN	Pn	14 45 58.2	+5.2
IRK				*e*		14 46 44.4	
IRK				pmax	pmax		
	comp=Z,140nm,0.2s						
IRK				smax			
	comp=E,2μm,0.5s						
ZAK	**Zakamensk**	**3.31**	**132**	*e*PN	Pn	14 45 47.2	-10
ZAK				*e*		14 46 40.4	
ZAK				pmax	pmax		
	comp=Z,69nm,0.5s						
ZAK				smax			
	comp=E,278nm,0.9s						
LSTR	**Listvyanka**	**3.41**	**101**	*e*PN	Pn	14 46 05.2	+6.5
LSTR				*e*		14 46 54.6	
LSTR				pmax	pmax		
	comp=Z,29nm,0.5s						
LSTR				smax			
	comp=N,401nm,0.8s						
TRG	**Tyrgan**	**4.21**	**86**	*e*PN	Pn	14 46 09.7	0.0
TRG				*e*		14 46 22.7	
TRG				pmax	pmax		
	comp=Z,38nm,0.3s						
CERR	**Cheremushki**	**4.87**	**275**	*e*PN	Pn	14 46 12.6	-6.2
CERR	**Cheremushki**	**4.87**	**275**	*e*Pg	Pn	14 46 12.6	-6.2
CERR				*e*Sg	Sn	14 47 08.5	-6.2
OGRR	**Ongureny**	**5.01**	**75**	*e*PN	Pn	14 46 21.4	+0.7
OGRR				*e*		14 46 38.5	
OGRR				pmax	pmax		
	comp=Z,23nm,0.6s						
KRAR	**Krasnoyarsk**	**5.10**	**314**	*i* PN	Pn	14 46 25.6	+3.8
NIZ	**Nizh Angarsk**	**6.70**	**58**	*e*PN	Pn	14 46 45.9	+2.1
NIZ				*e*		14 47 10.7	
NIZ				pmax	pmax		
	comp=Z,28nm,1.3s						
TASR	**Tashtagol**	**7.02**	**275**	*e*PN	Pn	14 46 50.5	+2.2
TASR				*e*		14 48 13.3	
TASR	**Tashtagol**	**7.02**	**275**	*e*Pg	Pn	14 46 50.5	+2.2
TASR				*e*Sg	Sn	14 48 13.3	+5.8
YLYR	**Ulyunkhan**	**7.30**	**68**	*e*PN	Pn	14 46 54.6	+2.5
YLYR				*e*		14 47 22.3	
YLYR				pmax	pmax		
	comp=Z,9.0nm,0.7s						
AKAR	**Aktash**	**7.74**	**257**	*e*PN	Pn	14 47 00.2	+2.1
AKAR				*e*		14 48 30.3	
AKAR	**Aktash**	**7.74**	**257**	*e*Pg	Pn	14 47 00.2	+2.1
AKAR				*e*Sg	Sn	14 48 30.3	+5.1
UKR	**Ust'-Kan**	**9.25**	**265**	*e*P	Pn	14 47 28.5	+10
UKR	**Ust'-Kan**	**9.25**	**265**	*e*Pg	Pn	14 47 28.5	+10
UKR				*e*Sg	Sn	14 49 23.2	+21
NVS	**Novosibirsk**	**9.84**	**289**	*e*Sg	Sn	14 49 47.3	+31

IDC ***29*** *15:22:17.0±0.9, 3149N×142.17E, h0km, mb3.8/5, mb1 4.0/6, mb1mx3.8/19, mbtmp3.7/6, ML3.6/1, Error ellipse: s-maj=33.3km s-min=22.4km az=78.0*
ISCJB ***29*** *15:22:20.4±1.3, 3182N±006×142.59E±0.10, h63km±15km, mb3.8/5, Error ellipse: s-maj=14.7km s-min=9.6km az=159.1*
JMA ***29*** *15:22:20.3±0.3, 3177N×142.41E, h28km, M3.8*
NEIC ***29*** *15:22:22.1±0.5, 3150N×142.10E, h35km, MG3.8(JMA), Error ellipse: s-maj=18.5km s-min=9.0km az=70.0*

ISC 29 15:22:21.3±1.2, 3172N±007×1425E±01, h41km±16km, n23, σ0°91/33, mb3.8/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.69**	**302**	P	**Pn**	**15 23 01.3**	**-0.7**
JHJ2				*e*S	**Sn**	**15 23 32.3**	**-1.0**
BSO1	**Boso 1**	**3.21**	**336**	P	**Pn**	**15 23 09.2**	**+0.1**
BSO4	**Boso 4**	**3.75**	**331**	P	**Pn**	**15 23 16.5**	**0.0**
BSO4				*e*S	**Sn**	**15 24 00.4**	**+1.0**
JOD2	**Odawara 2**	**4.56**	**322**	P	**Pn**	**15 23 26.3**	**-1.4**
JOD2				S	**Sn**	**15 24 19.5**	**+0.1**
JYT	**Yasato**	**4.90**	**337**	P	**Pn**	**15 23 34.0**	**+1.6**
JYT				*e*S	**Sn**	**15 24 28.5**	**+0.7**
JHU	**Hanno**	**4.93**	**328**	P	**Pn**	**15 23 33.2**	**+0.4**
JHU				*e*S	**Sn**	**15 24 27.7**	**-0.9**
JHO	**Hitachi**	**5.14**	**342**	P	**Pn**	**15 23 36.1**	**+0.3**
JHO				*e*S	**Sn**	**15 24 32.2**	**-1.7**
JRY	**Ryogami san**	**5.25**	**326**	P	**Pn**	**15 23 37.8**	**+0.7**
JRY				*e*S	**Sn**	**15 24 37.3**	**+1.0**
JAG	**Ashikaga**	**5.35**	**332**	P	**Pn**	**15 23 38.9**	**+0.4**
JAG				*e*S	**Sn**	**15 24 38.3**	**-0.5**
JFK	**Kawauchi**	**5.80**	**347**	P	**Pn**	**15 23 44.5**	**-0.2**
JFK				*e*S	**Sn**	**15 24 47.9**	**-2.1**
MJAR	**Matsushiro Arr**	**6.00**	**324**	Pn	**Pn**	**15 23 47.7**	**+0.2**
	1.4nm,0.3s,baz=156,slow=12,SNR=13						
MJAR				Sn	**Sn**	**15 24 56.1**	**+1.2**
	0.8nm,0.3s,baz=170,slow=16,SNR=3.4						
MAJO	**Matsushiro**	**6.00**	**324**	*e*Pn	**Pn**	**15 23 48.3**	**+0.8**
	14nm,0.7s						
MAT	**Matsushiro**	**6.00**	**324**	P	**Pn**	**15 23 48.1**	**+0.6**
MAT				S	**Sn**	**15 24 55.1**	**+0.1**
JMK	**Ichinoseki**	**7.30**	**352**	P	**Pn**	**15 24 05.4**	**+0.1**
JMK				*e*S	**Sn**	**15 25 23.3**	**-3.5**
ERM	**Erimo**	**10.29**	**3**	Pn	**Pn**	**15 24 45.6**	**-0.7**
MKAR	**Makanchi Array**	**47.88**	**306**	P	**P**	**15 30 55.5**	**+0.4**
	0.4nm,0.5s,mb3.7,baz=87,slow=9.9,SNR=7.7						
WB2	**Warramunga Arr**	**51.96**	**190**	*e*P	**P**	**15 31 25.9**	**-0.5**
WRA	**Warramunga Arr**	**51.96**	**190**	P	**P**	**15 31 25.7**	**-0.6**
	0.9nm,0.7s,mb3.8,baz=5.6,slow=7.4,SNR=4.9						
ASAR	**Alice Springs**	**55.69**	**190**	P	**P**	**15 31 53.0**	**-0.5**
	0.3nm,0.5s,mb3.6,baz=2.1,slow=6.0,SNR=10						
NVAR	**Mina Array Bea**	**77.45**	**53**	P	**P**	**15 34 16.6**	**+4.1**
	0.6nm,0.7s,mb3.7,baz=302,slow=6.1,SNR=5.3						
TXAR	**Lajitas Array**	**92.60**	**53**	P	**P**	**15 35 32.4**	**+3.5**
	0.6nm,0.7s,mb4.1,baz=306,slow=2.5,SNR=7.7						
LPAZ	**La Paz**	**148.19**	**68**	PKPbc	PKPbc	15 42 07.2	+3.8
LPAZ	**La Paz**	**148.19**	**68**	PKPbc	PKPbc	15 42 07.2	+3.9
	0.6nm,0.6s,baz=315,slow=9.0,SNR=3.4						

IDC ***29*** *15:25:32.4±1.1, 3149N×142.24E, h0km, mb3.6/5, mb1 3.8/6, mb1mx3.6/19, mbtmp3.5/6, ML3.3/1, Error ellipse: s-maj=37.9km s-min=23.1km az=78.0*
ISCJB ***29*** *15:25:33.2±2.7, 3161N±009×1423E±01, h17km±20km, mb3.6/5, Error ellipse: s-maj=23.9km s-min=8.8km az=147.7*
JMA ***29*** *15:25:34.3±0.5, 3199N×142.54E, h0km, M3.7*

ISC 29 15:25:34.9±2.8, 3161N±008×1423E±01, h16km±18km, n15, σ0°93/18, mb3.6/5, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.59**	**306**	*e*S	**Sn**	**15 26 48.6**	**+1.3**
BSO1	**Boso 1**	**3.24**	**340**	P	**Pn**	**15 26 23.1**	**-1.9**
JOD2	**Odawara 2**	**4.53**	**324**	P	**Pn**	**15 26 43.1**	**+0.2**
JOD2				*e*S	**Sn**	**15 27 34.2**	**-1.0**
JHU	**Hanno**	**4.93**	**330**	P	**Pn**	**15 26 49.1**	**+0.8**
JHO	**Hitachi**	**5.20**	**344**	P	**Pn**	**15 26 51.6**	**-0.4**
JHO				*e*S	Sx	15 27 47.8	
JRY	**Ryogami san**	**5.23**	**328**	P	**Pn**	**15 26 53.2**	**+0.7**
JRY				*e*S	**Sn**	**15 27 53.0**	**+0.5**
JAG	**Ashikaga**	**5.36**	**335**	P	**Pn**	**15 26 54.7**	**+0.5**
JAG				*e*S	**Sn**	**15 27 54.3**	**-1.3**
JFK	**Kawauchi**	**5.87**	**349**	*e*S	Sx	15 28 03.8	
MJAR	**Matsushiro Arr**	**5.98**	**326**	Pn	**Pn**	**15 27 02.2**	**-0.6**
	0.8nm,0.3s,baz=106,slow=9.1,SNR=5.6						
MJAR				Sn	**Sn**	**15 28 10.8**	**-0.2**
	0.2nm,0.3s,baz=312,slow=17,SNR=3.1						
JMK	**Ichinoseki**	**7.38**	**353**	P	**Pn**	**15 27 22.2**	**+0.2**
JMK				*e*S	Sx	15 28 39.6	
MKAR	**Makanchi Array**	**47.79**	**307**	P	**P**	**15 34 12.3**	**+1.0**
	0.3nm,0.6s,mb3.5,baz=89,slow=9.9,SNR=4.1						
WRA	**Warramunga Arr**	**51.82**	**190**	P	**P**	**15 34 41.0**	**-1.2**
	0.9nm,0.8s,mb3.7,baz=5.9,slow=7.8,SNR=4.8						
ASAR	**Alice Springs**	**55.54**	**189**	P	**P**	**15 35 08.4**	**-1.0**
	0.2nm,0.6s,mb3.4,baz=358,slow=6.0,SNR=6.0						
NVAR	**Mina Array Bea**	**77.67**	**52**	P	**P**	**15 37 31.9**	**+1.1**
	0.3nm,0.6s,mb3.4,baz=280,slow=5.4,SNR=3.3						
TXAR	**Lajitas Array**	**92.82**	**53**	P	**P**	**15 38 47.9**	**+0.8**
	0.3nm,0.7s,mb3.8,baz=282,slow=2.3,SNR=4.3						

GCMT ***29*** *15:50:50.9±0.2, 1851S×173.01W, h12km, MW5.5/84, Moment Tensor Solution. s59,c84; s84,c137; Duration: 1s4 Moment tensor: Scale 10^{17}Nm; M_{rr}-0.08±.01; $M_{\theta\theta}$-0.04±.01; $M_{\phi\phi}$0.12±.01; $M_{r\theta}$0.48±.03; $M_{\theta\phi}$-0.07±.01; $M_{\phi r}$2.11±.03; Best double couple: $M_0$2.16700×10^{17} NP1:ϕ_s307.00000°, δ3.00000°, λ-156.00000°. NP2: ϕ_s193.00000°, δ89.00000°, λ-87.00000°. Principal axes: T 2.1710, Plg44.0000°, Azm280.0000°; N -0.0060, Plg3.0000°, Azm13.0000°; P -2.1640, Plg46.0000°, Azm105.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
IDC ***29*** *15:50:50.4±0.5, 1842S×173.92W, h0km, mb4.9/12, mb1 5.1/14, mb1mx5.0/18, mbtmp5.0/14, ML4.5/2, MS4.3/23, Ms1 4.3/23, ms1mx4.2/26 Error ellipse: s-maj=21.8km s-min=14.6km az=119.0*
NEIC ***29*** *15:50:50.9±2.4, 1837S×173.89W, h2km±15km, mb5.1/57, MS4.6/2, Error ellipse: s-maj=6.7km s-min=3.4km az=133.0*
ISCJB ***29*** *15:50:51.7±0.1, 1855S±004×173.69W±004, h16km, mb5.1/84, MS4.5/44, Error ellipse: s-maj=6.8km s-min=3.2km az=136.0*
BJI ***29*** *15:50:52.3, 18.18S×173.48W, h16km, mB5.5, mb5.2, Ms4.9, Ms2.4.7*
SZGRF ***29*** *15:50:54.7, 17.87S×173.11W, h10km, Tonga Islands*
MOS ***29*** *15:51:00.3±2.7, 1802S×174.12W, h53km, mb5.3/24, MS4.5/5, Error ellipse: s-maj=11.5km s-min=8.8km az=66.9*

ISC 29 15:50:53.6±0.1, 1850S±004×17371W±004, h17km, h17km±1.6km:pP-P, n676, σ0°68/481, mb5.1/84, MS4.5/44, 177C-153D, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**4.93**	**22**	*e*P	**Pn**	**15 52 03.6**	**-3.3**
AFI	**Afiamalu**	**4.93**	**22**	Pn	**Pn**	**15 52 04.4**	**-2.5**
	50nm,0.3s,baz=46,slow=2.0,SNR=66						
AFI				Sn	**Sn**	**15 52 56.2**	**-7.4**
	366nm,0.3s,baz=51,slow=24,SNR=12						
AFI				LR	LR	15 53 03.2	
	comp=Z,554nm,18.1s,baz=252,slow=27						
RAO	**Raoul Island**	**11.37**	**199**	Pn	**Pn**	**15 53 35.2**	**-0.1**
	84nm,0.3s,baz=251,slow=23,SNR=3.1						
RAO				Sn	**Sn**	**15 55 35.8**	**-6.2**
	93nm,0.3s,baz=68,slow=23,SNR=4.7						
RAR	**Rarotonga**	**13.39**	**104**	Pn	**Pn**	**15 53 57.5**	**-5.4**
	17nm,0.3s,baz=260,slow=7.8,SNR=57						
RAR				Sn	**Sn**	**15 56 12.7**	**-19**
	12nm,0.3s,baz=350,slow=20,SNR=3.2						
DZM	**Mont Dzumac**	**18.95**	**256**	*e*P	**Pn**	**15 55 15.9**	**+1.2**
OUZ	**Omahuta**	**20.11**	**212**	P	**P**	**15 55 27.6**	**+1.1**
OUZ	**Omahuta**	**20.11**	**212**	P*	**P**	**15 55 27.6**	**+1.1**
WCZ	**Waipu Caves**	**20.33**	**209**	P	**P**	**15 55 30.4**	**+1.5**
WCZ	**Waipu Caves**	**20.33**	**209**	P*	**P**	**15 55 30.4**	**+1.4**
KUZ	**Kuaotunu**	**20.42**	**205**	P	**P**	**15 55 31.9**	**+2.0**
KUZ	**Kuaotunu**	**20.42**	**205**	P*	**P**	**15 55 31.7**	**+1.8**
MKAZ	**Moumakai**	**20.96**	**206**	P	**P**	**15 55 35.4**	**-0.3**
MKAZ	**Moumakai**	**20.96**	**206**	P*	**P**	**15 55 37.9**	**+2.2**
MWZ	**Matawai**	**21.19**	**199**	P	**P**	**15 55 38.9**	**+0.7**
MWZ	**Matawai**	**21.19**	**199**	P*	**P**	**15 55 38.5**	**+0.2**
URZ	**Urewera**	**21.25**	**200**	P	**P**	**15 55 39.1**	**+0.2**
URZ	**Urewera**	**21.25**	**200**	P	**P**	**15 55 38.9**	**0.0**
	82nm,0.4s,mb5.5,baz=3.3,slow=3.5,SNR=93						
URZ	**Urewera**	**21.25**	**200**	P*	**P**	**15 55 39.0**	**+0.1**
BKZ	**Black Stump Fm**	**22.28**	**200**	P	**P**	**15 55 50.2**	**+0.3**
BKZ	**Black Stump Fm**	**22.28**	**200**	P*	**P**	**15 55 50.1**	**+0.2**
HIZ	**Hauiti**	**22.29**	**204**	P	**P**	**15 55 52.3**	**+2.3**
HIZ	**Hauiti**	**22.29**	**204**	P*	**P**	**15 55 51.8**	**+1.8**
PPT	**Papeete**	**22.96**	**91**	*e*LR	LR	16 00 54.0	
	7μm,28.2s						
PPT				*e*LR	LR	16 00 54.0	
	7μm,28.2s						
PPT				*e*LR	LR	16 00 54.0	
	7μm,28.2s						
PPT	**Papeete**	**22.96**	**91**	*e*P	**P**	**15 55 55.9**	**-1.5**
PPT	**Papeete**	**22.96**	**91**	P	**P**	**15 55 55.7**	**-1.7**
	80nm,1.1s,mb5.1,baz=229,slow=5.8,SNR=8.1						
PPT				LR	LR	16 02 16.8	
	comp=Z,889nm,18.9s,MS4.2,baz=314,slow=30						
CAW	**Cannon Point**	**24.50**	**201**	P	**P**	**15 56 10.8**	**-1.1**
CAW	**Cannon Point**	**24.50**	**201**	*e*P*	**P**	**15 56 10.7**	**-1.3**
TUWZ	**Tuamarina**	**25.18**	**202**	P*	**P**	**15 56 17.0**	**-1.1**
QRZ	**Quartz Range**	**25.19**	**205**	P	**P**	**15 56 18.0**	**-0.2**
QRZ	**Quartz Range**	**25.19**	**205**	P*	**P**	**15 56 17.8**	**-0.4**
THZ	**Tophouse**	**25.85**	**203**	P	**P**	**15 56 23.3**	**-0.9**
THZ	**Tophouse**	**25.85**	**203**	P*	**P**	**15 56 23.1**	**-1.1**
KHZ	**Kahutara**	**26.19**	**202**	P	**P**	**15 56 27.0**	**-0.2**
KHZ	**Kahutara**	**26.19**	**202**	P*	**P**	**15 56 27.1**	**-0.1**
DSZ	**Denniston Nort**	**26.26**	**205**	P	**P**	**15 56 31.5**	**+3.6**
DSZ	**Denniston Nort**	**26.26**	**205**	P*	**P**	**15 56 31.4**	**+3.5**
LTZ	**Lake Taylor**	**26.97**	**203**	P	**P**	**15 56 38.6**	**+4.3**
LTZ	**Lake Taylor**	**26.97**	**203**	P*	**P**	**15 56 36.9**	**+2.6**
HNR	**Honiara**	**27.07**	**286**	LR	LR	16 06 07.9	
	comp=Z,712nm,18.4s,MS4.3,baz=177,slow=34						
WVZ	**Waitaha Valley**	**27.81**	**205**	P	**P**	**15 56 41.3**	**-0.5**
WVZ	**Waitaha Valley**	**27.81**	**205**	P*	**P**	**15 56 39.9**	**-1.9**
RPZ	**Rata Peaks**	**28.22**	**204**	P	**P**	**15 56 44.6**	**-0.9**
RPZ	**Rata Peaks**	**28.22**	**204**	P*	**P**	**15 56 44.3**	**-1.2**
	56nm,0.5s,mb5.4,baz=30,slow=1.4,SNR=26						
RPZ	**Rata Peaks**	**28.22**	**204**	P*	**P**	**15 56 44.6**	**-0.9**
FOZ	**Fox Glacier**	**28.64**	**206**	P	**P**	**15 56 52.2**	**+3.0**
FOZ	**Fox Glacier**	**28.64**	**206**	*e*P*	**P**	**15 56 46.0**	**-3.2**
JCZ	**Jackson Bay**	**29.44**	**206**	P	**P**	**15 56 57.0**	**+0.7**
JCZ	**Jackson Bay**	**29.44**	**206**	P*	**P**	**15 56 56.1**	**-0.2**
WHZ	**Wether Hill Ro**	**31.26**	**205**	P	**P**	**15 57 16.7**	**+4.3**
EIDS	**Eidsvold**	**33.30**	**252**	*e*P	**P**	**15 57 28.5**	**-2.0**
	4.0nm,0.7s,mb4.5						
ARMA	**Armidale**	**33.58**	**243**	*e*P	**P**	**15 57 31.9**	**-1.0**
CNB	**Canberra Magne**	**36.69**	**235**	*e*P	**P**	**15 57 59.0**	**-0.7**
	32nm,0.7s,mb5.3						
CTA	**Charters Tower**	**37.76**	**261**	*e*P	**P**	**15 58 07.4**	**-1.6**
	50nm,0.6s,mb5.4						
CTA	**Charters Tower**	**37.76**	**261**	*e*P	**P**	**15 58 07.4**	**-1.6**
CTA				pmax	pmax		
	comp=Z,50nm,0.6s						
CTAO	**Charters Tower**	**37.76**	**261**	*e*P	**P**	**15 58 07.4**	**-1.6**
CTAO				pmax	pmax		
	comp=Z,69nm,0.8s,mb5.4						
CTAO	**Charters Tower**	**37.76**	**261**	*e*P	**P**	**15 58 07.4**	**-1.5**
	comp=Z,69nm,0.8s,mb5.4						
TOO	**Toolangi**	**40.33**	**233**	*e*P	**P**	**15 58 29.6**	**-0.7**
	comp=Z,110nm,0.5s,mb5.8						
TOO	**Toolangi**	**40.33**	**233**	*e*P	**P**	**15 58 29.6**	**-0.7**
TOO				pmax	pmax		
	comp=Z,110nm,0.5s,mb5.8						
STKA	**Stephens Creek**	**42.30**	**243**	*e*P	**P**	**15 58 45.3**	**-1.2**
	comp=Z,11nm,0.6s,mb4.7						
STKA	**Stephens Creek**	**42.30**	**243**	P	**P**	**15 58 44.0**	**-2.5**
	comp=Z,12nm,0.5s,mb4.8,baz=86,slow=11,SNR=39						
STKA				LR	LR	16 15 34.9	
	comp=Z,612nm,18.4s,MS4.5,baz=62,slow=35						
KIP	**Kipapa**	**42.55**	**22**	*e*P	**P**	**15 58 49.4**	**+0.8**
KIP				pmax	pmax		
	comp=Z,44nm,0.8s,mb5.2						
KIP	**Kipapa**	**42.55**	**22**	*e*P	**P**	**15 58 49.4**	**+0.8**
	comp=Z,44nm,0.8s,mb5.2						
WB2	**Warramunga Arr**	**48.90**	**259**	⇑*i*P	**P**	**15 59 36.8**	**-2.2**
WB2				*e*S	**S**	**16 06 34.6**	**-7.7**
WRAB	**Tennant Creek**	**48.91**	**259**	P	**P**	**15 59 36.0**	**-3.0**
	comp=Z,276nm,0.9s,mb6.3,SNR=48						
WRAB	**Tennant Creek**	**48.91**	**259**	*e*P	**P**	**15 59 36.6**	**-2.3**
	comp=Z,35nm,0.8s,mb5.5						
WRA	**Warramunga Arr**	**48.91**	**259**	P	**P**	**15 59 36.1**	**-3.0**
WRA				S	**S**	**16 06 35.1**	**-7.4**
WRA	**Warramunga Arr**	**48.91**	**259**	P	**P**	**15 59 36.1**	**-3.0**
	comp=Z,21nm,0.5s,mb5.4,baz=94,slow=8.6,SNR=15						
WRA				S	**S**	**16 06 35.1**	**-7.4**
	comp=Z,1.9nm,0.9s,baz=92,slow=14,SNR=5.4						
WRA				LR	LR	16 19 50.4	
	comp=Z,429nm,18.5s,MS4.5,baz=95,slow=36						
ASAR	**Alice Springs**	**48.93**	**254**	P	**P**	**15 59 37.0**	**-2.2**
	comp=

MONP	Monument Peak	74.87	47	⇓P	P	16 02 32.9	-0.6
	baz=75						
GASB	Alder Springs	74.89	38	⇓P	P	16 02 34.2	+0.7
	baz=75						
EDW2	Edwards Air Fo	74.94	45	⇑P	P	16 02 33.6	-0.3
	baz=75						
T06C	Millerton Lake	75.08	42	⇑P	P	16 02 34.3	-0.3
	baz=75						
PET	Petropavlovsk	75.14	343	eP	P	16 02 36.6	+2.0
PET				eS	S	16 12 11.2	-0.9
PET				ePS		16 12 42.8	
PET				MLR	MLR		
	comp=Z,200nm,15.0s,MS4.5						
BTM	Bintulu	75.15	279	⇓P	P	16 02 36.9	+1.3
O02C	Red Bluff	75.19	38	⇑P	P	16 02 35.8	+0.6
	baz=76,SNR=5.0						
PFO	Pinyon Flat Ob	75.25	47	⇑P	P	16 02 36.0	+0.3
	baz=76						
CMB	Columbia Colle	75.28	41	eP	P	16 02 35.9	+0.1
CMB				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.6						
CMB	Columbia Colle	75.28	41	eP	P	16 02 35.9	+0.1
	comp=Z,7.2nm,0.9s,mb4.6						
CMB	Columbia Colle	75.28	41	⇓P	P	16 02 35.8	0.0
	baz=76						
N02C	Big Bar	75.31	37	⇓P	P	16 02 35.7	-0.1
	baz=76						
HELL	Mitchell Peak	75.32	43	P	P	16 02 35.6	-0.4
	baz=76,SNR=5.3						
SWSC	Sam W. Stewart	75.33	47	⇓P	P	16 02 35.6	-0.6
	baz=76						
OHCM	Honcut	75.42	39	eP	P	16 02 36.1	-0.4
LRMC	Laurel Mountai	75.48	44	⇑P	P	16 02 36.5	-0.5
	baz=76						
LAVA	Lava Cap Winer	75.51	40	⇓P	P	16 02 37.7	+0.7
	baz=76						
KCC	Kaiser Creek	75.52	42	⇓P	P	16 02 37.2	+0.1
	baz=76						
S06C	San Francisco	75.52	41	⇑P	P	16 02 36.9	-0.2
	baz=76						
ORV	Oroville	75.55	39	⇓P	P	16 02 36.7	-0.5
	baz=76						
WDC	Whiskeytown Da	75.59	38	P	P	16 02 37.5	0.0
	baz=76,SNR=6.0						
SBUM	Sibu	75.71	278	⇓P	P	16 02 39.9	+1.1
BELC	Belle Mtn.	75.78	46	⇓P	P	16 02 38.5	-0.2
	baz=76						
R05C	Kirkwood Meado	75.89	41	P	P	16 02 39.6	+0.4
	baz=76,SNR=6.9						
P05C	Yuba Gap, Truc	75.93	40	⇑P	P	16 02 40.0	+0.6
	baz=76						
M02C	Callahan	75.94	37	⇓P	P	16 02 39.8	+0.4
	baz=76,SNR=5.4						
MPMC	Manual Prospec	75.95	44	⇓P	P	16 02 39.9	+0.3
	baz=76						
BC3	Big Chuckw Mtn	75.97	47	⇑P	P	16 02 39.7	-0.1
	baz=76						
GSC	Goldstone	75.97	45	⇓P	P	16 02 39.6	-0.1
	baz=76						
L02A	Cave Junction	76.02	36	⇑P	P	16 02 40.8	+0.9
	baz=76						
MTUM	Tungsten Hills	76.02	42	eP	P	16 02 40.2	+0.2
YSS	Yuzh-Sakhalins	76.03	331	⇑/P	P	16 02 40.2	+0.4
YSS				pmax	pmax		
	comp=Z,90nm,1.2s,mb5.6						
YSS	Yuzh-Sakhalins	76.03	331	eP	P	16 02 40.4	+0.6
	comp=Z,78nm,1.4s,mb5.5						
GLA	Glamis	76.08	48	eP	P	16 02 40.6	+0.2
GLA				pmax	pmax		
	comp=Z,17nm,1.4s,mb4.8						
GLA	Glamis	76.08	48	eP	P	16 02 40.6	+0.2
	comp=Z,17nm,1.4s,mb4.8						
GLA	Glamis	76.08	48	⇑P	P	16 02 40.3	-0.1
	baz=76						
R07C	Lee Vining	76.15	42	⇓P	P	16 02 40.7	0.0
	baz=76						
O05C	Quincy	76.16	39	⇑P	P	16 02 40.4	-0.3
	baz=76						
R06C	Coleville	76.16	41	⇑P	P	16 02 40.7	-0.1
	baz=76,SNR=7.3						
YBH	Yreka Blue Hor	76.24	37	eP	P	16 02 42.1	+1.0
YBH				pmax	pmax		
	comp=Z,22nm,1.0s						
YBH	Yreka Blue Hor	76.24	37	eP	P	16 02 42.0	+0.9
	comp=Z,22nm,1.0s,mb5.0						
YBH	Yreka Blue Hor	76.24	37	⇓P	P	16 02 41.3	+0.2
	baz=76,SNR=9.5						
O04C	Chester	76.28	39	⇑P	P	16 02 41.2	-0.2
	baz=76						
S08C	White Mtn Res	76.36	42	⇓P	P	16 02 42.0	+0.1
	baz=77,SNR=14						
HATC	Hat Creek Radi	76.37	38	⇑P	P	16 02 42.2	+0.2
	baz=77						
BEKR	Beckwourth	76.43	39	⇓P	P	16 02 42.3	+0.1
	baz=77,SNR=7.4						
WCN	Washoe City	76.45	40	⇓P	P	16 02 42.3	-0.1
	baz=77						
GMRC	Granite Mounta	76.45	46	⇓P	P	16 02 42.7	+0.2
	baz=77						
LHEM	Herd Peak	76.45	37	P	P	16 02 43.2	+0.9
IRM	Iron Mountain	76.46	47	⇓P	P	16 02 42.2	-0.3
	baz=77,SNR=6.2						
GRAC	Grapevine Rang	76.58	43	⇑P	P	16 02 43.2	0.0
	baz=77,SNR=6.3						
LTIM	Timbered Crate	76.59	38	P	P	16 02 43.8	+0.7
TUQ	Turquoise Mtn.	76.64	45	⇑P	P	16 02 42.9	-0.7
	baz=77						
113A	Mohawk Valley,	76.67	49	⇓P	P	16 02 43.2	-0.6
	baz=77						
HUMO	Hull Mountain	76.67	36	eP	P	16 02 44.4	+0.9
	comp=Z,14nm,1.1s,mb4.8						
HUMO	Hull Mountain	76.67	36	⇑P	P	16 02 43.9	+0.3
	baz=77,SNR=5.4						
M04C	Macdoel	76.77	37	⇓P	P	16 02 44.4	+0.3
	baz=77						
LASM	Arnica Sink	76.81	37	P	P	16 02 45.1	+0.7
NVAR	Mina Array Bea	76.83	42	P	P	16 02 44.6	+0.1
	comp=Z,6.5nm,0.9s,mb4.5,baz=222,slow=9.8,SNR=44						
J02A	Umpqua	76.83	35	⇑P	P	16 02 45.0	+0.6
	baz=77						
M05C	Lookout	76.90	38	⇑P	P	16 02 45.0	+0.1
	baz=77						
PAHR	Pah Rah Range	76.93	40	eP	P	16 02 45.1	0.0
	comp=Z,39nm,1.8s,mb5.0						
O06A	Flanigan	76.94	39	⇓P	P	16 02 45.1	-0.1
	baz=77,SNR=5.6						
L04A	Klamath Falls	76.99	37	⇑P	P	16 02 45.3	-0.1
	baz=77						
S09A	Goldfield	77.10	43	⇓P	P	16 02 46.1	+0.1
	baz=77						
J03A	Ideyld Park	77.17	35	⇓P	P	16 02 46.8	+0.4
	baz=77						
KSM	Kuching	77.19	276	eP	P	16 02 47.3	+0.1
KSM	Kuching	77.19	276	⇑P	P	16 02 47.2	+0.1
KSM	Kuching	77.19	276	⇓P	P	16 02 48.4	+1.2
Y13A	Salome	77.19	48	⇓P	P	16 02 46.4	-0.3
	baz=77						
M06C	Likely Place G	77.20	38	⇑P	P	16 02 46.0	-0.5
	baz=78,SNR=6.2						
V11A	Goodsprings	77.20	45	⇑P	P	16 02 46.9	+0.2
	baz=78						
PDMCI	Parker Dam,Lak	77.23	47	⇓P	P	16 02 46.8	-0.1
	baz=78						
W12A	Cal Nev Ari	77.28	46	⇑P	P	16 02 47.1	-0.1
	baz=78						
TPNV	Topopah Spring	77.28	44	eP	P	16 02 47.1	-0.1
TPNV				pmax	pmax		
	comp=Z,34nm,1.6s,mb5.0						
TPNV	Topopah Spring	77.28	44	eP	P	16 02 47.1	-0.1
	comp=Z,34nm,1.6s,mb5.0						
TPNV	Topopah Spring	77.28	44	⇓P	P	16 02 46.9	-0.2
	baz=78,SNR=8.2						
N06A	Buffalo Meadow	77.29	39	⇓P	P	16 02 47.1	-0.1
	baz=78,SNR=9.1						
TPH	Tonopah	77.30	42	eP	P	16 02 47.4	+0.2
TPH				pmax	pmax		
	comp=Z,9.0nm,0.3s,mb5.2						
TPH	Tonopah	77.30	42	eP	P	16 02 47.4	+0.2
	comp=Z,9.3nm,0.3s,mb5.2						
Q08A	Gabbs	77.32	41	⇓P	P	16 02 47.3	0.0
	baz=78						
K04A	Chilquin	77.37	37	⇓P	P	16 02 47.7	+0.3
	baz=78						
I03A	Eugene	77.40	35	⇑P	P	16 02 47.7	+0.1
	baz=78						
R09A	Tonopah	77.50	42	⇓P	P	16 02 48.4	+0.1
	baz=78,SNR=6.6						
O07A	Toulon	77.51	40	⇓P	P	16 02 48.4	0.0
	baz=78,SNR=9.1						
L05A	Lakeview	77.52	37	⇑P	P	16 02 48.8	+0.5
	baz=78,SNR=6.4						
V12A	Nelson	77.53	46	⇓P	P	16 02 48.1	-0.4
	baz=78						
J04A	Umpqua Nationa	77.56	36	⇓P	P	16 02 49.0	+0.4
	baz=78						
Z14A	Wintersburg	77.57	48	⇓P	P	16 02 48.7	-0.2
	baz=78						
MPOR	Mary's Peak	77.60	34	P	P	16 02 50.0	+1.2
X13A	Yucca	77.61	47	⇑P	P	16 02 49.1	+0.1
	baz=78						
S10A	Tonopah Range,	77.62	43	⇓P	P	16 02 49.0	0.0
	baz=78,SNR=12						
P08A	Dixie Valley	77.72	41	⇑P	P	16 02 50.0	+0.5
	baz=78						
115A	Sonoran Desert	77.74	49	⇑P	P	16 02 49.1	-0.7
	baz=78						
Q09A	Carvers	77.77	42	⇓P	P	16 02 49.8	-0.1
	baz=78						
Y14A	Wickenburg	77.83	48	⇓P	P	16 02 49.9	-0.4
	baz=78						
W13A	Hualapai Mount	77.84	46	⇑P	P	16 02 49.7	-0.6
	baz=78						
K05A	Summer Lake	77.91	37	⇑P	P	16 02 51.0	+0.5
	baz=78,SNR=11						
216A	Three Points,	77.94	50	⇑P	P	16 02 51.3	+0.4
	baz=78						
S11A	Rachel	78.01	43	⇑P	P	16 02 50.7	-0.5
	baz=78						
R10A	Warm Springs	78.02	43	⇓P	P	16 02 51.4	+0.2
	baz=78,SNR=16						
J05A	Fort Rock	78.08	36	⇑P	P	16 02 51.9	+0.5
	baz=78,SNR=19						
M07A	Soldier Meadow	78.08	39	⇑P	P	16 02 51.7	+0.2
	baz=78						
T11A	Corn Creek, Al	78.13	44	⇑P	P	16 02 51.8	0.0
	baz=78,SNR=11						
KSRS	Korea Array	78.17	316	P	P	16 02 51.2	-0.8
	comp=Z,12nm,0.9s,mb4.8,baz=134,slow=6.1,SNR=35						
KSRS				LR	LR	16 31 36.8	
	comp=Z,149nm,20.8s,MS4.3,baz=126,slow=31						
V13A	Grand Canyon W	78.19	46	P	P	16 02 52.5	+0.3
	baz=78,SNR=5.5						
X14A	Yava	78.20	47	⇑P	P	16 02 52.5	+0.2
	baz=78,SNR=5.8						
Q10A	Clear Creek Ra	78.26	42	⇓P	P	16 02 52.7	+0.2
	baz=78,SNR=6.3						
G03A	Yamhill	78.28	34	⇑P	P	16 02 52.4	-0.1
	baz=79						
217A	Green Valley	78.29	51	P	P	16 02 53.1	+0.2
	baz=78,SNR=5.8						
Y15A	Casa Rosa Ranc	78.32	48	⇑P	P	16 02 53.0	+0.1
	baz=79,SNR=8.1						
K06A	Valley Falls	78.33	37	⇑P	P	16 02 53.1	+0.2
	baz=79,SNR=13						
N08A	GE Springer Mi	78.34	40	P	P	16 02 53.3	+0.3
	baz=79,SNR=7.4						
L07A	Adell	78.37	38	⇑P	P	16 02 53.4	+0.3
	baz=79,SNR=9.5						
H04A	Detroit Lake	78.45	35	⇓P	P	16 02 53.4	-0.1
	baz=79						
W14A	Seligman	78.46	47	⇓P	P	16 02 53.8	+0.1
	baz=79,SNR=9.4						
R11A	Troy Canyon, C	78.51	43	P	P	16 02 54.2	+0.3
	baz=79,SNR=12						
F03A	Seaside	78.55	33	⇓P	P	16 02 54.6	+0.6
	baz=79						
O09A	Fish Creek Ran	78.55	41	⇑P	P	16 02 54.1	0.0
	baz=79,SNR=9.4						
S12A	Delamar Landin	78.58	44	⇓P	P	16 02 54.7	+0.3
	baz=79,SNR=7.0						
TUC	Tucson	78.58	50	eP	P	16 02 54.6	+0.1
TUC				pmax	pmax		
	comp=Z,36nm,1.8s,mb5.0						
TUC	Tucson	78.58	50	eP	P	16 02 54.6	+0.1
	comp=Z,36nm,1.8s,mb5.0						
M08A	Happy Creek Ra	78.59	39	⇓P	P	16 02 54.2	-0.1
	baz=79,SNR=11						
Z16A	Peralta Trail,	78.64	49	⇑P	P	16 02 54.6	-0.2
	baz=79						
X15A	Humboldt	78.66	48	⇑P	P	16 02 55.2	+0.3
	baz=79						
V14A	Boquillas Ranc	78.67	46	⇑P	P	16 02 55.4	+0.5
	baz=79,SNR=11						
P10A	Eureka	78.68	41	⇓P	P	16 02 55.1	+0.2
	baz=79						
BMN	Battle Mountai	78.69	40	eP	P	16 02 55.0	+0.1
BMN				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BMN	Battle Mountai	78.69	40	eP	P	16 02 55.0	+0.2
	comp=Z,11nm,1.1s,mb4.7						
318A	Bisbee	78.73	51	⇑P	P	16 02 55.6	+0.3
	baz=79,SNR=5.5						
117A	Oracle	78.75	50	⇓P	P	16 02 55.6	+0.2
	baz=79,SNR=6.0						
N09A	Rock Creek Ran	78.75	40	⇓P	P	16 02 55.3	+0.1
	baz=79						
Q11A	Duckwater	78.75	43	⇑P	P	16 02 55.4	+0.1
	baz=79,SNR=11						
QZH	Quanzhou	78.78	301	⇓/P	P	16 02 56.5	+0.8
QZH				S	S	16 12 55.0	+2.0
QZH				AMB	AMB		
	comp=Z,50nm,0.9s,mb5.4						
K07A	Rock Creek Ran	78.84	38	P	P	16 02 56.4	+0.7
	baz=79,SNR=12						
T13A	Saint George	78.88	45	⇓P	P	16 02 56.3	+0.3
	baz=79						
Y16A	Circle Bar Ran	78.88	49	⇓P	P	16 02 56.4	+0.3
	baz=79,SNR=7.3						
H05A	Madras	78.95	35	⇑P	P	16 02 56.3	0.0
	baz=79						
218A	Dragoon	78.95	51	P	P	16 02 56.9	+0.4
	baz=79,SNR=8.5						
E03A	Lebam	78.96	33	⇑P	P	16 02 56.6	+0.4
	baz=79						
W15A	Williams	79.01	47	⇑P	P	16 02 57.2	+0.5
	baz=79						
WVOR	Wild Horse Val	79.04	38	eP	P	16 02 56.9	+0.2
WVOR				pmax	pmax		
	comp=Z,14nm,1.1s,mb4.8						
WVOR	Wild Horse Val	79.04	38	eP	P	16 02 56.9	+0.2
	comp=Z,14nm,1.1s,mb4.8						
U14A	Mt Trumbull	79.04	46	⇑P	P	16 02 57.5	+0.6
	baz=79,SNR=12						
O10A	Cortez Mining,	79.05	41	⇓P	P	16 02 57.2	+0.3
	baz=79						
L08A	Fields	79.06	39	⇑P	P	16 02 56.7	-0.2
	baz=79,SNR=12						
I06A	Prineville	79.07	36	⇑P	P	16 02 57.1	+0.2
	baz=79						
P11A	Circle Ranch,	79.09	42	⇓P	P	16 02 56.8	-0.3
	baz=79						
M09A	Marrel Ranch,	79.14	40	⇑P	P	16 02 57.7	+0.4
	baz=79						
R12A	Pony Springs,	79.14	43	⇓P	P	16 02 57.6	+0.2
	baz=79,SNR=10						
F04A	Amboy	79.15	34	⇑P	P	16 02 57.3	+0.1
	baz=79						
X16A	Lo Mia Camp, P	79.19	48	⇑P	P	16 02 58.2	+0.4
	baz=79,SNR=6.3						
VIPM	Ingram Point	79.20	36	P	P	16 02 57.6	0.0
S13A	Holt Ranch, En	79.22	44	⇑P	P	16 02 57.9	+0.1
	baz=80						
J07A	Hines	79.22	37	⇑P	P	16 02 57.6	-0.2
	baz=80,SNR=6.8						
319A	Douglas	79.23	52	⇓P	P	16 02 58.2	+0.1
	baz=80,SNR=5.7						
D03A	Wishkah Elem.	79.24	32	⇑P	P	16 02 58.5	+0.8
	baz=80						
Y17A	Roosevelt	79.24	49	⇓P	P	16 02 58.1	0.0
	baz=80						
VFP	Flag Point	79.25	35	P	P	16 02 57.8	-0.1
G05A	Wamic	79.29	35	⇑P	P	16 02 57.8	-0.2
	baz=80						
K08A	Mann Creek Ran	79.31	38	⇑P	P	16 02 58.3	+0.1
	baz=80,SNR=11						
Z17A	San Carlos Hig	79.31	50	⇓P	P	16 02 58.7	+0.2
	baz=80						
118A	Homack Ranch,	79.34	50	⇑P	P	16 02 58.5	-0.2
	baz=80,SNR=7.1						
NLWA	Neilton Lookou	79.37	32	⇓P	P	16 02 59.1	+0.6
	baz=80						
C03A	Quillayute Air	79.41	31	⇓P	P	16 02 59.3	+0.7
	baz=80						
V15A	Kaibab Nationa	79.41	47	⇑P	P	16 02 59.4	+0.5
	baz=80,SNR=6.8						
T14A	Hurricane	79.45	45	⇑P	P	16 02 59.2	0.0
	baz=80						
W16A	Flagstaff	79.48	48	⇓P	P	16 02 59.6	+0.3
	baz=80						
O11A	Cowboy Ranch,	79.49	41	⇓P	P	16 02 59.3	0.0
	baz=80,SNR=6.2						
H06A	Lindquist Farm	79.50	36	⇑P	P	16 02 59.0	-0.2
	baz=80,SNR=13						
CCUT	Cedar City	79.53	45	eP	P	16 03 00.2	+0.6
219A	White Tail Can	79.55	51	⇑P	P	16 02 59.7	-0.1
	baz=80,SNR=5.3						
I07A	Izee	79.55	36	⇑P	P	16 02 59.5	0.0
	baz=80,SNR=9.1						
P12A	McGill	79.59	42	⇑P	P	16 02 59.8	0.0
	baz=80,SNR=5.9						
VTHM	Trough	79.66	35	P	P	16 02 59.7	-0.3
J08A	Circle Bar Ran	79.69	38	⇑P	P	16 03 00.4	+0.1
	baz=80,SNR=13						
K09A	Rome	79.73	38	⇓P	P	16 03 00.6	0.0
	baz=80,SNR=18						
M10A	I.L. Ranch, Tu	79.75	40	⇑P	P	16 03 00.6	0.0
	baz=80,SNR=7.5						
OSD	Olympics--Snow	79.75	32	P	P	16 03 00.9	+0.5
S14A	Cedar City	79.77	45	⇑P	P	16 03 00.7	-0.2
	baz=80						
WUAZ	Wupatki	79.81	47	eP	P	16 03 01.5	+0.4
	comp=Z,2.5nm,0.5s,mb4.4						
WUAZ	Wupatki	79.81	47	⇑P	P	16 03 00.8	-0.3
	baz=80						
N11A	Elko Archery C	79.83	41	⇑P	P	16 03 00.9	-0.2
	baz=80						
Y18A	Canyon Day Jun	79.87	49	⇑P	P	16 03 01.6	+0.1
	baz=80						
Q13A	Wheeler Ranch,	79.87	43	⇓P	P	16 03 01.2	-0.1
	baz=80,SNR=7.9						
119A	Ashpeak Ranch,	79.89	51	⇓P	P	16 03 02.1	+0.4
	baz=80						
T15A	Red Dirt Ranch	79.90	46	⇑P	P	16 03 02.0	+0.4
	baz=80,SNR=6.5						
E05A	Randle	79.90	33	⇓P	P	16 03 00.8	-0.6
	baz=80,SNR=5.6						
F06A	Goldendale	79.91	35	⇓P	P	16 03 01.0	-0.5
	baz=80						
I08A	Drewsey	79.98	37	⇓P	P	16 03 01.4	-0.4
	baz=80,SNR=6.5						
B04A	Port Angeles	80.00	32	⇓P	P	16 03 02.2	+0.4
	baz=80						
W17A	Winslow	80.04	48	⇑P	P	16 03 02.9	+0.5
	baz=80						
C04A	Brinnon	80.04	32	⇑P	P	16 03 02.1	0.0
	baz=80						
J09A	Fry Pan Ranch,	80.11	38	⇓P	P	16 03 02.2	-0.3
	baz=80,SNR=13						
L10A	Juniper Basin	80.11	39	⇓P	P	16 03 02.7	+0.1
	baz=80,SNR=12						
O12A	Currie	80.14	42	P	P	16 03 03.3	+0.5
	baz=80,SNR=6.0						
P13A	Bates Ranch, G	80.15	43	⇓P	P	16 03 03.1	+0.2
	baz=80,SNR=8.3						
M11A	Holland Ranch,	80.15	40	⇓P	P	16 03 03.3	+0.4
	baz=80						
Z19A	T-Link Ranch,	80.18	50	⇑P	P	16 03 03.9	+0.7
	baz=80						
D05A	Enumclaw	80.19	33	⇓P	P	16 03 03.7	+0.8
	baz=80						
G07A	Ruggs Ranch, H	80.20	35	⇑P	P	16 03 03.0	0.0
	baz=80,SNR=5.8						
N12A	Clover Valley,	80.28	41	⇓P	P	16 03 03.4	-0.2
	baz=80						
K10A	MacKenzie Ranc	80.29	39	⇓P	P	16 03 03.2	-0.4
	baz=80,SNR=10						
H08A	Prairie City	80.29	36	⇓P	P	16 03 03.1	-0.4
	baz=81						
E06A	Yakima	80.30	34	⇓P	P	16 03 03.4	-0.1
	baz=81,SNR=5.1						
X18A	Snowflake	80.30	49	⇓P	P	16 03 03.9	+0.1
	baz=80						
PGC	Sidney	80.43	31	eP	P	16 03 04.2	0.0
	comp=Z,19nm,1.0s,mb5.0						
F07A	Phinny Hill Vi	80.45	35	⇓P	P	16 03 04.2	-0.1
	baz=81						
T16A	Glen Canyon Da	80.48	46	⇓P	P	16 03 04.9	+0.2
	baz=81						
I09A	Lost Marbles R	80.49	37	⇑P	P	16 03 03.9	-0.7
	baz=81						
Y19A	Nutrioso	80.52	49	⇓P	P	16 03 05.6	+0.6
	baz=81,SNR=5.7						
L11A	Cat Creek Ranc	80.60	40	⇓P	P	16 03 05.3	+0.1
	baz=81,SNR=7.9						
G08A	Pilot Rock	80.61	36	P	P	16 03 05.2	0.0
	baz=81,SNR=20						
SVW2	Sparrevohn	80.65	9	eP	P	16 03 04.8	-0.2
C05A	Tolt Reservoir	80.68	33	⇑P	P	16 03 05.2	-0.3
	baz=81						
M12A	Wells	80.68	41	⇑P	P	16 03 05.6	-0.1
	baz=81,SNR=6.1						
X19A	St. Johns	80.72	49	⇑P	P	16 03 06.4	+0.3
	baz=81						
W18A	Petrified Fore	80.75	48	⇑P	P	16 03 05.8	-0.4
	baz=81						
K11A	Parker Ranch,	80.78	39	⇑P	P	16 03 06.3	+0.1
	baz=81,SNR=5.5						
D06A	Cle Elum	80.79	33	⇓P	P	16 03 05.8	-0.3
	baz=81						
HABR	Khabarovsk	80.80	328	⇑eP	P	16 03 07.0	+0.9
HABR				e		16 03 18.9	
HABR				e		16 06 07.5	
HABR				e		16 07 57.3	
HABR				eS	S	16 13 14.1	+0.7
HABR				e		16 18 23.7	
HABR				pmax	pmax		
	comp=Z,117nm,1.8s,mb5.5						
N13A	Wendover, West	80.81	41	⇓P	P	16 03 06.1	-0.2
	baz=81						
MSU	Marysvale	80.84	44	eP	P	16 03 07.2	+0.6
A04A	Legoe Bay, Lum	80.84	31	⇑P	P	16 03 06.7	+0.4
	baz=81,SNR=8.3						
B05A	Bryant	80.85	32	⇑P	P	16 03 06.4	0.0
	baz=81						
E07A	Sunnyside	80.91	34	⇓P	P	16 03 06.7	-0.1
	baz=81						
CMW	Cultus Mountai	80.94	32	P	P	16 03 07.2	+0.3
H09A	Durkee	80.95	37	⇑P	P	16 03 07.0	-0.1
	baz=81						
HAWA	Hanford	80.98	35	eP	P	16 03 07.2	+0.1
	comp=Z,16nm,1.2s,mb4.8						
W19A	Sanders	81.00	48	⇑P	P	16 03 07.5	0.0
	baz=81						
F08A	Pendleton	81.02	35	⇑P	P	16 03 07.0	-0.4
	baz=81						
L12A	House Creek Ra	81.03	40	⇓P	P	16 03 07.7	+0.2
	baz=81						
H2OWA	Water	81.04	35	P	P	16 03 07.5	0.0
I10A	Payette	81.10	38	⇑P	P	16 03 08.1	+0.3
	baz=81						
M13A	Montello	81.11	41	⇓P	P	16 03 07.6	-0.4
	baz=81						
BMO	Blue Mountains	81.27	37	eP	P	16 03 08.3	-0.4
	comp=Z,12nm,1.3s,mb4.7						
MFID

H10A	Noah's Angus R	81.43	37	⇑P	P	16 03 09.1	-0.5
	baz=82,SNR=8.2						
F09A	S2 Ranch, Elgi	81.45	36	⇑P	P	16 03 09.2	-0.4
	baz=82						
N14A	Grayback Hills	81.45	42	⇓P	P	16 03 09.4	-0.4
	baz=82						
PMSA	Palmer Station	81.48	156	LR	LR	16 33 15.1	
	comp=Z,361nm,18.4s,MS4.8,baz=138,slow=31						
I11A	Placerville	81.49	38	⇑P	P	16 03 09.5	-0.4
	baz=82						
C07A	Waterville	81.52	33	⇓P	P	16 03 09.8	-0.2
	baz=82						
EPH	Ephrata	81.55	34	P	P	16 03 10.0	-0.1
WTV	Waterville	81.58	33	P	P	16 03 09.8	-0.5
J12A	Stokes Ranch,	81.62	39	⇑P	P	16 03 10.7	+0.1
	baz=82,SNR=6.4						
G10A	Bishop Farm, J	81.64	37	⇑P	P	16 03 10.0	-0.7
	baz=82						
L13A	Double Diamond	81.66	41	⇑P	P	16 03 10.8	-0.1
	baz=82						
A06A	Chilliwack	81.70	32	⇓P	P	16 03 10.1	-0.8
	baz=82						
M14A	Sheep Mountain	81.71	41	⇑P	P	16 03 10.6	-0.5
	baz=82,SNR=10						
D08A	Wollman Farm,	81.72	34	⇓P	P	16 03 11.1	0.0
	baz=82,SNR=6.2						
NJ2	Nanjing	81.80	308	eP	P	16 03 11.5	-0.4
NJ2				AP	pP	16 03 16.5	-1.1
NJ2				XP	sP	16 03 19.5	-0.1
NJ2				S	S	16 13 22.0	-2.5
NJ2				SKS		16 13 24.0	
NJ2				AMB	AMB		
	comp=Z,30nm,1.1s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,270nm,4.8s						
NJ2				LR	LR		
	comp=N,710nm,23.2s,MS5.0						
NJ2				LR	LR		
	comp=E,580nm,26.8s,MS5.0						
NJ2				LR	LR		
	comp=Z,850nm,21.2s						
E09A	Wood Farm, Sta	81.81	35	⇓P	P	16 03 11.0	-0.5
	baz=82						
K13A	Stover Farm, H	81.89	40	⇑P	P	16 03 11.9	-0.2
	baz=82						
N15A	Stansbury Isla	81.89	42	⇑P	P	16 03 11.3	-0.8
	baz=82						
H11A	Donnelly	81.92	38	⇓P	P	16 03 12.1	-0.1
	baz=82						
B07A	Winthrop	81.98	33	⇓P	P	16 03 12.2	-0.2
	baz=82						
F10A	Beach Ranch, E	81.99	36	⇑P	P	16 03 11.9	-0.6
	baz=82						
OD2	Odessa Site #2	82.04	34	P	P	16 03 13.0	+0.3
D09A	Jones Farm, Ri	82.06	35	⇑P	P	16 03 12.7	-0.2
	baz=82,SNR=7.9						
C08A	Higginbotham F	82.11	34	⇓P	P	16 03 12.9	-0.3
	baz=82,SNR=5.1						
G11A	Walters Elk Ra	82.19	37	⇓P	P	16 03 13.1	-0.5
	baz=82,SNR=12						
HLID	Hailey	82.20	39	eP	P	16 03 14.0	+0.3
	comp=Z,52nm,2.0s,mb5.1						
HLID	Hailey	82.20	39	⇑P	P	16 03 13.9	+0.2
	baz=82,SNR=5.6						
A07A	Ashnola River,	82.22	32	⇓P	P	16 03 13.7	0.0
	baz=82						
SRU	San Rafael	82.25	44	eP	P	16 03 14.0	0.0
SRU				pmax	pmax		
	comp=Z,13nm,1.2s,mb4.7						
SRU	San Rafael	82.25	44	eP	P	16 03 14.0	0.0
	comp=Z,13nm,1.2s,mb4.7						
M15A	Larsen Ranch,	82.25	42	⇑P	P	16 03 13.6	-0.4
	baz=82						
J13A	Cove Ranch, Pi	82.26	39	⇓P	P	16 03 14.0	+0.1
	baz=82,SNR=8.2						
LAZ	Ladron	82.27	50	eP	P	16 03 14.4	+0.2
MNTX	Cornudas Mount	82.31	53	eP	P	16 03 14.6	+0.1
	comp=Z,13nm,1.2s,mb4.8						
B08A	Colville Reser	82.32	33	⇓P	P	16 03 13.6	-0.6
	baz=83,SNR=6.5						
TTA	Tatalina	82.35	8	eP	P	16 03 15.0	+1.0
E10A	Myers Farm, Un	82.36	36	⇑P	P	16 03 13.9	-0.6
	baz=83						
K14A	Jones Ranch, D	82.39	40	⇓P	P	16 03 14.3	-0.4
	baz=83,SNR=5.0						
DIV	Divide	82.47	13	eP	P	16 03 13.8	-0.8
	comp=Z,36nm,1.3s,mb5.2						
H12A	Diamond D Ranc	82.51	38	⇑P	P	16 03 14.7	-0.5
	baz=83,SNR=6.2						
BNM	Barren Site	82.52	50	eP	P	16 03 15.5	-0.1
C09A	Chrisman Ranch	82.53	34	⇑P	P	16 03 15.1	-0.1
	baz=83						
I13A	Wildhorse Cree	82.58	39	⇓P	P	16 03 15.5	-0.2
	baz=83,SNR=5.1						
TXAR	Lajitas Array	82.58	56	P	P	16 03 16.0	0.0
	comp=Z,16nm,1.2s,mb4.9,baz=212,slow=4.4,SNR=50						
TXAR				LR	LR	16 31 45.3	
	comp=Z,104nm,21.6s,MS4.2,baz=10.0,slow=30						
LPM	Los Pinos Moun	82.59	50	eP	P	16 03 16.4	+0.4
D10A	Wagner Farm, O	82.61	35	⇓P	P	16 03 14.7	-1.1
	baz=83						
MVCO	Mesa Verde	82.66	47	⇑P	P	16 03 15.9	-0.4
	baz=83						
A08A	Turner Farm, O	82.73	33	⇑P	P	16 03 16.2	-0.1
	baz=83,SNR=7.1						
H13A	Challis	82.87	38	⇓P	P	16 03 17.0	-0.2
	baz=83						
PV10	Paradox Valley	82.87	46	eP	P	16 03 17.7	+0.3
HWUT	Hardware Ranch	82.89	42	eP	P	16 03 17.2	-0.1
	comp=Z,4.2nm,1.0s,mb4.4						
KLR	Kul'dur	82.95	327	eP	P	16 03 14.2	-3.2
KLR				e		16 03 33.4	
KLR				pmax	pmax		
	comp=Z,56nm,1.8s,mb5.3						
F12A	Elk City	82.97	37	⇓P	P	16 03 17.4	-0.3
	baz=83,SNR=20						
B09A	Rice	82.98	34	⇑P	P	16 03 18.6	+1.0
	baz=83						
ANMO	Albuquerque	83.02	50	d iP	P	16 03 18.3	+0.2
MA2	Magadan	83.02	343	c iP	P	16 03 17.0	-0.5
MA2				pmax	pmax		
	comp=Z,47nm,2.1s,mb5.2						
PV01	Paradox Valley	83.07	46	eP	P	16 03 18.5	+0.2
A09A	Danville	83.09	33	⇓P	P	16 03 18.2	0.0
	baz=83						
D11A	Klaveano Farm,	83.12	35	⇓P	P	16 03 17.4	-1.0
	baz=83						
DL2	Dalian	83.13	315	⇑iP	P	16 03 19.5	+0.9
DL2				S	S	16 13 39.3	+1.4
DL2				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.9						
DL2				AMB	AMB		
	comp=Z,100nm,3.7s						
DL2				LR	LR		
	comp=N,130nm,22.6s,MS4.4						
DL2				LR	LR		
	comp=E,130nm,21.4s,MS4.4						
DL2				LR	LR		
	comp=Z,130nm,23.5s,MS4.2						
G13A	Cobalt	83.18	38	P	P	16 03 18.6	-0.1
	baz=83,SNR=7.2						
CN2	Changchun	83.27	320	eP	P	16 03 20.5	+1.3
CN2				eS	S	16 13 40.5	+1.5
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb5.0						
CN2				AMB	AMB		
	comp=Z,200nm,5.0s						
CN2				LR	LR		
	comp=N,300nm,22.0s,MS4.7						
CN2				LR	LR		
	comp=E,200nm,22.0s,MS4.7						
CN2				LR	LR		
	comp=Z,200nm,23.0s,MS4.4						
MYKOM	Kota Tinggi	83.40	274	⇓P	P	16 03 21.4	+0.8
USHA	Ushuaia	83.53	146	LR	LR	16 30 38.1	
	comp=Z,316nm,21.6s,MS4.7,baz=233,slow=28						
D12A	Red Ives Fores	83.67	36	⇓P	P	16 03 20.8	-0.4
	baz=84						
QIZ	Qiongzhong	83.79	292	P	P	16 03 23.5	+1.0
QIZ				S	S	16 13 44.3	-1.0
QIZ				AMB	AMB		
	comp=Z,100nm,6.0s						
QIZ				LR	LR		
	comp=E,130nm,18.9s						
QIZ				LR	LR		
	comp=Z,190nm,35.7s						
KGM	Kluang	83.97	274	⇓P	P	16 03 24.5	+0.9
E13A	Victor	83.97	37	⇑P	P	16 03 22.0	-0.8
	baz=84,SNR=5.6						
F14A	Wisdom	84.09	38	⇓P	P	16 03 22.6	-0.8
	baz=84						
D13A	Huson	84.19	36	⇓P	P	16 03 22.6	-1.3
	baz=84,SNR=7.0						
A11A	Hall Mountain,	84.25	34	⇓P	P	16 03 24.0	-0.1
	baz=84						
G15A	Dillon	84.25	39	⇓P	P	16 03 23.8	-0.4
	baz=84,SNR=12						
REDW	Red Top Meadow	84.26	41	eP	P	16 03 24.6	+0.3
	comp=Z,14nm,1.1s,mb5.0						
TPAW	Teton Pass	84.27	41	eP	P	16 03 24.6	+0.3
	comp=Z,9.2nm,0.9s,mb4.9						
DLMT	Dillon	84.29	38	eP	P	16 03 24.6	+0.1
	comp=Z,20nm,1.3s,mb5.1						
E14A	Clinton	84.36	37	⇓P	P	16 03 23.9	-0.8
	baz=85,SNR=7.0						
SNOW	Snow King Moun	84.38	41	eP	P	16 03 25.2	+0.3
BSMT	Bassoo Peak	84.45	35	P	P	16 03 24.7	-0.5
C13A	Hot Springs	84.47	36	⇑P	P	16 03 24.5	-0.8
	baz=85						
IMW	Indian Meadow	84.49	40	eP	P	16 03 24.8	-0.7
	comp=Z,23nm,1.3s,mb5.2						
WHN	Wuhan	84.59	305	⇑P	P	16 03 27.0	+0.7
WHN				S	S	16 13 46.5	-6.4
WHN				AMB	AMB		
	comp=Z,345nm,8.2s						
WHN				LR	LR		
	comp=Z,350nm,23.9s,MS4.7						
F15A	Butte	84.61	38	⇑P	P	16 03 25.8	-0.2
	baz=85,SNR=7.4						
SMCO	Snowmass	84.67	46	P	P	16 03 26.5	0.0
	comp=Z,22nm,1.2s,mb5.2						
D14A	Greenough	84.72	37	⇓P	P	16 03 25.6	-0.9
	baz=85						
FLWY	Flagg Ranch	84.74	40	eP	P	16 03 27.2	+0.5
	comp=Z,18nm,1.0s,mb5.2						
MAW	Mawson	84.78	199	LR	LR	16 41 47.7	
	comp=Z,263nm,19.3s,MS4.6,baz=326,slow=36						
E15A	Deer Lodge	84.85	37	⇓P	P	16 03 26.4	-0.8
	baz=85,SNR=5.1						
B13A	Whitefish	84.92	35	⇓P	P	16 03 26.8	-0.8
	baz=85						
C14A	Swan Lake	84.97	36	⇑P	P	16 03 26.6	-1.2
	baz=85						
SDCO	Great Sand Dun	85.01	48	eP	P	16 03 28.3	0.0
	comp=Z,14nm,1.6s,mb4.8						
BOZ	Bozeman (W)	85.02	38	eP	P	16 03 27.9	-0.2
BOZ				pmax	pmax		
	comp=Z,17nm,1.4s,mb5.0						
BOZ	Bozeman (W)	85.02	38	eP	P	16 03 27.9	-0.2
	comp=Z,16nm,1.4s,mb5.0						
BOZ	Bozeman (W)	85.02	38	⇑P	P	16 03 27.8	-0.3
	baz=85,SNR=13						
KTGM	Kuala Trenggan	85.21	277	⇓P	P	16 03 31.7	+1.9
D15A	Lincoln	85.26	37	⇓P	P	16 03 28.7	-0.6
	baz=86,SNR=6.4						
SEY	Seymchan	85.42	345	c iP	P	16 03 29.6	-0.1
COLA	College	85.45	11	eP	P	16 03 29.1	-0.7
COLA				pmax	pmax		
	comp=Z,47nm,0.8s,mb5.7						
COLA	College	85.45	11	eP	P	16 03 29.1	-0.7
	comp=Z,47nm,0.8s,mb5.7						
IMA2	Indian Mountai	85.66	8	eP	P	16 03 31.0	+0.2
JCT	Junction City	86.11	56	eP	P	16 03 32.9	-1.0
JCT				pmax	pmax		
	comp=Z,4.0nm,0.6s,mb4.8						
JCT	Junction City	86.11	56	eP	P	16 03 32.9	-1.0
	comp=Z,3.5nm,0.6s,mb4.8						
DAWY	Dawson	86.48	14	eP	P	16 03 34.6	-0.3
AMTX	Amarillo	86.50	52	eP	P	16 03 34.7	-1.0
	comp=Z,16nm,0.9s,mb5.2						
EGAK	Eagle	86.69	13	eP	P	16 03 36.0	+0.1
	comp=Z,27nm,1.1s,mb5.4						
IPM	Ipoh	86.92	276	⇓P	P	16 03 39.1	+0.8
BJT	Baijiatuau	87.38	314	eP	P	16 03 40.2	+0.3
BJT				pmax	pmax		
	comp=Z,18nm,1.0s						
BJT	Baijiatuau	87.38	314	eP	P	16 03 40.2	+0.3
	comp=Z,18nm,1.0s,mb5.3						
BJI	Beijing	87.38	314	P	P	16 03 40.0	+0.1
BJI				PP	PP	16 07 05.3	+0.6
BJI				SS	SS	16 20 07.0	+1.7
BJI				AMB	AMB		
	comp=Z,35nm,1.5s,mb5.4						
BJI				AMB	AMB		
	comp=Z,365nm,3.8s						
BJI				LR	LR		
	comp=N,104nm,25.3s,MS4.5						
BJI				LR	LR		
	comp=E,207nm,25.3s,MS4.5						
BJI				LR	LR		
	comp=Z,235nm,24.1s,MS4.5						
BILL	Bilibino	87.53	353	c iP	P	16 03 39.8	-0.1
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.2						
BILL	Bilibino	87.53	353	eP	P	16 03 39.4	-0.6
	comp=Z,42nm,1.5s,mb5.4						
KULM	Kulim	87.54	276	⇓P	P	16 03 42.4	+1.1
PLCA	Paso Flores	87.66	132	P	P	16 03 43.7	+2.3
PLCA				LR	LR	16 32 59.8	
PLCA	Paso Flores	87.66	132	P	P	16 03 43.7	+2.3
	comp=Z,5.0nm,1.1s,mb4.6,baz=283,slow=3.3,SNR=3.5						
PLCA				LR	LR	16 32 59.8	
	comp=Z,154nm,21.9s,MS4.4,baz=192,slow=29						
RSSD	Black Hills	88.94	42	eP	P	16 03 46.4	-0.8
RSSD				pmax	pmax		
	comp=Z,4.0nm,0.8s,mb4.8						
RSSD	Black Hills	88.94	42	eP	P	16 03 46.4	-0.7
	comp=Z,3.5nm,0.8s,mb4.7						
GYA	Guiyang	89.23	298	⇑iP	P	16 03 50.0	+1.0
GYA				PP	PP	16 07 22.5	+2.7
GYA				SKS		16 14 17.5	
GYA				S	S	16 14 37.3	-0.7
GYA				SS	SS	16 20 35.3	+2.5
GYA				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.4						
GYA				AMB	AMB		
	comp=Z,140nm,4.2s						
GYA				LR	LR		
	comp=N,640nm,21.9s,MS5.1						
GYA				LR	LR		
	comp=E,590nm,22.6s,MS5.1						
GYA				LR	LR		
	comp=Z,540nm,23.4s,MS4.9						
HIA	Hailar	89.48	323	eP	P	16 03 49.9	+0.3
HIA				pmax	pmax		
	comp=Z,8.0nm,0.8s						
HIA	Hailar	89.48	323	eP	P	16 03 49.9	+0.3
	comp=Z,7.9nm,0.8s,mb5.1						
SYO	Syowa Base	89.52	191	⇑eP	P	16 03 46.4	-3.2
SYO	Syowa Base	89.52	191	⇓esP	sP	16 03 57.2	-0.2
XAN	Xi'an	90.20	306	P	P	16 03 54.0	+0.7
XAN				AP	pP	16 03 58.0	-1.1
XAN				AMB	AMB		
	comp=Z,25nm,1.7s,mb5.3						
XAN				LR	LR		
	comp=N,60nm,32.4s,MS4.2						
XAN				LR	LR		
	comp=E,125nm,30.0s,MS4.2						
XAN				LR	LR		
	comp=Z,261nm,38.8s						
VNA2	Neumayer--Watz	90.30	176	eP	P	16 03 52.8	-0.4
VNA2				e		16 03 53.5	
VNA2				e	pP	16 03 58.9	-0.1
VNA2				e		16 04 14.2	
VNA1	Neumayer--Stat	90.50	175	eP	P	16 03 53.9	-0.3
VNA1				e		16 03 54.8	
VNA1				e	pP	16 04 00.4	+0.5
VNA1				e		16 04 15.4	
NRGR	Nerungri	90.77	331	i P	P	16 03 56.5	+1.1
HHC	Hu-ho-hao-te	90.91	313	eP	P	16 03 57.5	+1.0
HHC				AP	pP	16 04 02.3	+0.1
HHC				XP	sP	16 04 04.5	+0.2
HHC				PP	PP	16 07 38.5	+5.6
HHC				SKS		16 14 28.0	
HHC				S	S	16 14 54.5	+1.6
HHC				XS	sS	16 15 01.5	-0.9
HHC				AMB	AMB		
	comp=Z,53nm,1.1s,mb5.8						
HHC				LR	LR		
	comp=N,203nm,19.0s,MS4.8						
HHC				LR	LR		
	comp=E,256nm,21.0s,MS4.8						
HHC				LR	LR		
	comp=Z,188nm,19.5s,MS4.5						
INK	Inuvik	91.33	14	eP	P	16 03 57.2	-0.6
	comp=Z,653nm,1.5s						
YAK	Yakutsk	91.83	337	eP	P	16 03 58.0	-2.2
YAK				pmax	pmax		
	comp=Z,15nm,1.2s,mb5.2						
YAK				pmax	pmax		
	comp=N,4.0nm,1.3s						
BTO	Baotou	91.89	312	eP	P	16 04 01.8	+0.8
KMI	Kunming	92.09	296	P	P	16 04 03.0	+0.6
KMI				PP	PP	16 07 44.0	+1.4
KMI				SKS		16 14 31.0	
KMI				S	S	16 15 01.0	-3.3
KMI				SS	SS	16 21 11.8	-2.4
KMI				AMB	AMB		
	comp=Z,17nm,0.9s,mb5.4						
KMI				LR	LR		
	comp=N,126nm,26.7s,MS4.5						
KMI				LR	LR		
	comp=E,180nm,27.5s,MS4.5						
KMI				LR	LR		
	comp=Z,277nm,23.5s,MS4.6						
NNA	Nana	92.63	103	LR	LR	16 35 56.9	
	comp=Z,145nm,21.9s,MS4.4,baz=328,slow=29						
YKA	Yellowknife Ar	93.05	24	P	P	16 04 04.7	-1.1
	comp=Z,1.0nm,0.8s,mb4.3,baz=237,slow=3.9,SNR=5.8						
YKA				LR	LR	16 44 39.4	
	comp=Z,35nm,18.1s,MS3.9,baz=190,slow=35						
CD2	Chengdu	93.17	301	eP	P	16 04 07.5	+0.3
CD2				AP	pP	16 04 12.3	-0.6
CD2				XP	sP	16 04 14.8	-0.2
CD2				PP	PP	16 07 53.5	+2.6
CD2				SKS		16 14 39.5	
CD2				S	S	16 15 11.3	-2.3
CD2				XS	sS	16 15 19.5	-3.7
CD2				SS	SS	16 21 30.5	+1.1
CD2				AMB	AMB		
	comp=Z,10.0nm,1.6s,mb5.0						
CD2				AMB	AMB		
	comp=Z,40nm,9.2s						
CD2				LR	LR		
	comp=N,120nm,15.6s,MS4.6						
CD2				LR	LR		
	comp=E,120nm,16.7s,MS4.6						
CD2				LR	LR		
	comp=Z,120nm,17.9s,MS4.4						
CHTO	Chiang Mai	93.41	289	eP	P	16 04 09.2	+0.6
CHTO				pmax	pmax		
	comp=Z,8.0nm,0.6s,mb5.3						
CHTO	Chiang Mai	93.41	289	eP	P	16 04 09.2	+0.6
	comp=Z,7.8nm,0.6s,mb5.3						
ECSD	EROS,Sioux Fal	93.65	45	eP	P	16 04 08.5	-0.6
	comp=Z,13nm,1.0s,mb5.3						
LZH	Lanzhou	94.81	306	⇓P	P	16 04 16.5	+1.9
LZH				AP	pP	16 04 27.3	+6.9
LZH				XP	sP	16 04 31.0	+8.5
LZH				ePP	PP	16 08 08.5	+4.8
LZH				SKS		16 14 48.3	
LZH				eS	S	16 15 14.8	-13
LZH				XS	sS	16 15 42.5	+5.1
LZH				eSS	SS	16 21 54.5	+1.8
LZH				AMB	AMB		
	comp=Z,27nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,102nm,9.4s						
LZH				LR	LR		
	comp=E,497nm,18.2s						
LZH				LR	LR		
	comp=Z,603nm,19.7s,MS5.1						
ULM	Lac du Bonnet	96.52	39	LR	LR	16 41 05.1	
	comp=Z,305nm,21.5s,MS4.8,baz=88,slow=31						
ULN	Ulaanbaatar	96.54	318	c iP	P	16 04 22.0	-0.2
ULN	Ulaanbaatar	96.54	318	eP	P	16 04 22.0	-0.2
	comp=Z,1.6nm,0.7s,mb4.6						
SONM	Songino Array	96.94	318	LR	LR	16 43 44.3	
	comp=Z,100nm,19.0s,MS4.3,baz=238,slow=33						
TIXI	Tiksi	97.89	344	eP	P	16 04 24.0	-3.8
TIXI				pmax	pmax		
	comp=Z,9.0nm,1.6s,mb5.0						
TIXI	Tiksi	97.89	344	eP	P	16 04 26.6	-1.1
	comp=Z,1.3nm,0.5s,mb4.7						
GTA	Gaotai	98.87	308	eP	P	16 04 33.0	+0.1
GTA				AP	pP	16 04 37.3	-1.4
GTA				XP	sP	16 04 40.3	-0.5
GTA				PP	PP	16 08 34.8	-0.1
GTA				SKS		16 15 10.5	
GTA				S	S	16 15 59.5	-3.0
GTA				SS	SS	16 22 49.5	-0.5
GTA				AMB	AMB		
	comp=Z,4.0nm,2.2s,mb4.6						
GTA				AMB	AMB		
	comp=Z,94nm,8.0s						
GTA				LR	LR		
	comp=N,65nm,22.5s,MS4.6						
GTA				LR	LR		
	comp=E,252nm,27.0s,MS4.6						
GTA				LR	LR		
	comp=Z,385nm,24.0s,MS4.8						
LPAZ	La Paz	99.02	110	LR	LR	16 38 42.3	
	comp=Z,196nm,20.8s,MS4.6,baz=71,slow=29						
WMQ	Urumqi	108.68	311	ePDIF	Pdif	16 05 19.0	+2.6
WMQ				PP	PP	16 09 53.0	+5.0
WMQ				SS	SS	16 25 07.0	+2.4
WMQ				PP	PP		
	comp=Z,56nm,8.0s						
WMQ				LR	LR		
	comp=N,98nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=E,158nm,20.0s,MS4.7						
WMQ				LR	LR		
	comp=Z,185nm,20.0s,MS4.7						
ZALV	Zalesovo Beam	111.47	322	PKPdf	PKiKP	16 09 25.8	-0.9
ZALV	Zalesovo Beam	111.47	322	PKiKP	PKiKP	16 09 25.8	-0.9
	comp=Z,0.5nm,0.5s,baz=70,slow=1.7,SNR=5.5						
ZAL	Zalesovo	111.48	321	PKIKP	PKiKP	16 09 25.8	-0.9
MK31	Makanchi Array	112.76	314	ePKIKP	PKiKP	16 09 27.8	-1.5
MKAR	Makanchi Array	112.76	314	PKIKP	PKiKP	16 09 28.5	-0.8
	comp=Z,1.4nm,0.7s,baz=69,slow=1.7,SNR=11						
KURK	Kurchatov	115.25	318	⇓iPKIKP	PKiKP	16 09 32.8	-1.2
KURK	Kurchatov	115.25	318	ePKIKP	PKiKP	16 09 32.8	-1.2
EKS2	Erkin-Say	118.75	309	ePKIKP	PKiKP	16 09 40.0	-1.1
AML	Almayashu	118.82	308	ePKIKP	PKiKP	16 09 40.7	-0.4
KBL	Kabul	122.46	300	ePKIKP	PKiKP	16 09 47.7	-0.9
SOKR	Solikamsk	125.36	331	⇑iPKIKP	PKPdf	16 09 53.2	+0.1
SOKR				pmax	pmax		
	comp=Z,20nm,1.5s						
ARU	Arti	125.79	327	i PKIKP	PKPdf	16 09 53.8	-0.2
ARU						16 16 54.5	
ARU				MLR	MLR		
	comp=Z,232nm,24.0s,MS4.8						
ARU	Arti	125.79	327	ePKPdf	PKPdf	16 09 53.8	-0.2
ARCES	ARCESS Array B	127.62	352	PKP	PKPdf	16 09 56.8	-0.4
	comp=Z,2.8nm,0.9s,baz=350,slow=1.5,SNR=9.2						
AKTK	Aktyubinsk	128.20	320	PKP	PKPdf	16 09 58.3	-0.6
AKTO	Aktyubinsk	128.20	320	PKP	PKPdf	16 09 58.3	-0.6
	comp=Z,0.5nm,0.4s,baz=80,slow=3.9,SNR=5.1						
FINES	FINESS Array B	134.88	347	PKP	PKPdf	16 10 10.8	-0.3
	comp=Z,4.0nm,1.0s,baz=120,slow=8.2,SNR=5.9						
OBN	Obninsk	136.80	335	ePKIKP	PKPdf	16 10 13.5	-1.4
OBN				e		16 10 28.6	
OBN				e		16 17 18.5	
OBN				eSS	SS	16 30 59.1	-1.1
OBN				pmax	pmax		
	comp=Z,4.0nm,0.6s						
KIV	Kislovodsk	140.34	318	i PKIKP	PKPdf	16 10 21.4	-0.4
KIV				pmax	pmax		
	comp=Z,5.0nm,1.0s						
KIV				MLR	MLR		
	comp=Z,110nm,21.0s,MS4.6						
HAKT	HAKKARI	142.22	308	i P	PKPdf	16 10 19.1	-6.3
AKASG	Malin Array Be	143.05	336	PKhKP		16 10 21.6	
	comp=Z,3.6nm,0.7s,baz=43,slow=4.4,SNR=13		

MALT	Malatya	145.78	312	*e*PKP2	PKPab	16 10 32.0	-0.4
MALT	Malatya	145.78	312	⇑*i*P	PKPbc	16 10 33.1	+1.1
NRDL	Niedersach Rie	145.95	356	*e*PKPbc	PKPbc	16 10 32.1	+0.1
KIS	Kishinev	146.09	332	α *i*PKP2	PKPbc	16 10 32.0	-0.7
KIS				pmax	pmax		
	comp=Z,210nm,1.5s						
KIS	Kishinev	146.09	332	⇑ *i*UNK	PKPbc	16 10 32.0	-0.7
KIS				XM		16 10 33.0	
	comp=Z,200nm,1.5s						
IBBN	Ibbenburen	146.25	358	*e*PKPbc	PKPbc	16 10 33.3	+0.4
KWP	Kalwaria	146.25	341	*e*PKP	PKPbc	16 10 33.1	+0.1
KWP	Kalwaria	146.25	341	*e*PKP	PKPbc	16 10 33.1	0.0
KWP	Kalwaria	146.25	341	‖*i*P	PKPbc	16 10 33.1	0.0
BOYT	Boyabat	146.55	319	*i* P	PKPbc	16 10 34.7	+0.4
OJC	Ojcow	146.56	344	*e*PKP	PKPbc	16 10 34.1	+0.2
CLZ	Clausthal	146.58	355	*e*PKPbc	PKPbc	16 10 34.4	+0.5
KSP	Ksiaz	146.76	348	*e*PKP	PKPbc	16 10 34.9	+0.4
KSP	Ksiaz	146.76	348	⇑*e*PKP	PKPbc	16 10 34.6	+0.1
GZT	Gaziantep	146.81	311	*i* P	PKPbc	16 10 35.5	+0.3
CLL	Collm	146.84	352	⇑*i*PKP2	PKPbc	16 10 34.7	0.0
CLL				pmax	pmax		
	comp=Z,38nm,0.9s						
CLL	Collm	146.84	352	⇑*i*PKP	PKPbc	16 10 34.7	0.0
CLL				*i*		16 10 39.5	
CLL	Collm	146.84	352	*e*PKPbc	PKPbc	16 10 34.7	0.0
CLL	Collm	146.84	352	⇑*i*PKPbc	PKPbc	16 10 34.7	0.0
	comp=Z,38nm,0.9s						
CLL				*i* PKPab	PKPab	16 10 36.3	+0.3
	comp=Z,32nm,1.1s						
CLL				*i* PKiKP	PKiKP	16 10 39.5	+2.1
CLL				*i* x	x	16 10 52.6	
CLL				*i* x	x	16 11 03.1	
STHS	Stebnicka Huta	146.89	342	*i* PKP	PKPbc	16 10 35.7	+0.8
KOLS	Kolonicke sedl	147.00	341	*i* PKP	PKPbc	16 10 35.9	+0.6
CTKT	Corum	147.07	318	*i* P	PKPbc	16 10 36.7	+1.0
BURAR	Bucovina Array	147.10	336	⇑*i*P	PKPbc	16 10 36.1	+0.5
BUG	Bochum--Univer	147.12	359	*e*PKPbc	PKPbc	16 10 35.6	+0.1
BRG	Berggiesshubel	147.13	351	⇑*i*PKP2	PKPbc	16 10 35.7	+0.1
BRG				pmax	pmax		
	comp=Z,16nm,1.1s						
BRG				pmax	pmax		
	comp=Z,11nm,1.2s						
BRG				pmax	pmax		
	comp=Z,6.0nm,1.0s						
BRG	Berggiesshubel	147.13	351	*e*PKPbc	PKPbc	16 10 35.9	+0.3
BRG	Berggiesshubel	147.13	351	⇑*i*PKP	PKPbc	16 10 35.7	+0.1
	comp=Z,26nm,1.1s						
BRG				*e*		16 10 40.7	
	comp=Z,19nm,1.2s						
BRG				*e*		16 10 47.5	
	comp=Z,10nm,1.0s						
UPC	Upice	147.14	349	*e*PKP	PKPbc	16 10 36.3	+0.7
NIE	Niedzica	147.15	343	*e*PKP	PKPbc	16 10 36.2	+0.5
DPC	Dobruska-Polom	147.23	348	*e*PKP	PKPbc	16 10 36.6	+0.8
UZH	Uzhgorod	147.26	340	*d i*PKP2	PKPbc	16 10 36.0	0.0
CRVS	Cervenica-Dubn	147.28	341	*i* PKP	PKPbc	16 10 35.9	-0.2
OKC	Ostrava-Krasne	147.32	346	*e*PKP	PKPbc	16 10 36.3	+0.2
PVCC	Panska Ves	147.37	350	*e*PKP	PKPbc	16 10 36.7	+0.5
MORC	Moravsky Berou	147.51	346	*e*PKIKP	PKPbc	16 10 35.9	-0.8
MORC	Moravsky Berou	147.51	346	⇑*i*P	PKPbc	16 10 37.1	+0.4
ANDN	Andirin	147.58	312	⇑*i*P	PKPbc	16 10 37.8	+0.6
UBBA	Unterbreizbach	147.62	356	*e*PKPbc	PKPbc	16 10 36.9	0.0
MOX	Moxa	147.65	354	*e*PKP	PKPbc	16 10 37.3	+0.3
	comp=Z,56nm,1.6s						
MOX	Moxa	147.65	354	*e*PKP2	PKPbc	16 10 37.3	+0.3
MOX				pmax	pmax		
	comp=Z,56nm,1.6s						
TANN	Tannenbergstha	147.78	353	*e*PKPbc	PKPbc	16 10 37.6	+0.2
CDAG	Cicekdag	147.89	317	⇑*i*P	PKPbc	16 10 35.7	-2.3
PRU	Pruhonice	147.90	350	*e*PKP	PKPbc	16 10 38.3	+0.6
PRU				*ex*	x	16 10 54.2	
PLOR	Plostina	147.93	333	PKP2	PKPbc	16 10 38.4	+0.5
KECS	Kecovo	147.95	342	*i* PKP	PKPbc	16 10 38.3	+0.4
NKC	Novy Kostel	147.96	353	*e*PKP	PKPbc	16 10 38.2	+0.3
NKC				*ex*	x	16 10 56.8	
MEM	Membach	147.97	0	PKP	PKPbc	16 10 38.0	+0.2
AVNT	Avonos	148.01	315	⇑*i*P	PKPbc	16 10 38.4	0.0
BCLA	Clavier	148.15	1	PKP	PKPbc	16 10 40.0	+1.7
VRAC	Vranov	148.16	347	‖*i*P	PKPbc	16 10 39.1	+0.7
TIRR	Tirgusor	148.18	329	‖*i*P	PKPbc	16 10 39.0	+0.4
HARR	Harsova	148.24	330	‖*i*P	PKPbc	16 10 39.5	+0.7
MANZ	Manzenberg	148.25	353	*e*PKPbc	PKPbc	16 10 38.6	0.0
VYHS	Vyhne	148.40	344	*i* PKP	PKPbc	16 10 39.3	+0.2
TREC	Trest	148.40	348	*e*PKP	PKPbc	16 10 39.6	+0.6
ROTZ	Rotzenmuhle	148.45	353	*e*PKPbc	PKPbc	16 10 39.4	+0.2
DOU	Dourbes	148.45	2	PKP	PKPbc	16 10 39.2	+0.1
GIVF	Givet	148.45	2	*e*PKP1	PKPbc	16 10 38.6	-0.6
	comp=Z,52nm,1.0s						
BAIF	Baives	148.47	3	*e*PKP1	PKPbc	16 10 38.9	-0.3
	comp=Z,67nm,1.1s						
MLR	Muntele Rosu	148.52	333	P	PKPbc	16 10 40.0	+0.5
MLR	Muntele Rosu	148.52	333	PKPbc	PKPbc	16 10 39.1	-0.4
	comp=Z,8.3nm,1.0s,baz=358,slow=1.5,SNR=16						
MLR	Muntele Rosu	148.52	333	‖*i*P	PKPbc	16 10 39.8	+0.3
PSZ	Piszkesteto	148.63	342	⇑*e*P	PKPbc	16 10 39.8	+0.1
PSZ	Piszkesteto	148.63	342	*e*pPKP	PKPbc	16 10 39.8	+0.1
PSZ	Piszkesteto	148.63	342	‖*i*P	PKPbc	16 10 39.1	-0.6
GRA1	Grafenberg Arr	148.63	354	*e*PKPbc	PKPbc	16 10 39.7	+0.1
GRF	Grafenberg Arr	148.63	354	*e*PKPbc	PKPbc	16 10 39.7	+0.1
ABH	Alteburg	148.68	358	PKP	PKPbc	16 10 39.8	+0.1
DRGR		148.72	338	PKP2	PKPbc	16 10 40.2	+0.3
DRGR		148.72	338	⇑*i*P	PKPbc	16 10 40.7	+0.8
ANTO	Ankara	148.76	319	*e*PKP2	PKPbc	16 10 40.1	-0.2
ANTO	Ankara	148.76	319	⇑*i*P	PKPbc	16 10 40.5	+0.2
RUP	Ruppelstein	148.87	359	PKP2	PKPbc	16 10 40.6	+0.4
KHC	Kasperske Hory	148.88	351	*e*PKP	PKPbc	16 10 40.9	+0.6
KHC				*ep*PKP	pPKPdf	16 10 44.5	+2.2
KHC				*ex*	x	16 10 58.6	
TOD	Tromm	148.91	357	PKIKP	PKPbc	16 10 40.2	-0.1
WLF	Walferdange	148.91	0	*e*PKIKP	PKPbc	16 10 40.3	0.0
WLF	Walferdange	148.91	0	PKP	PKPbc	16 10 40.5	+0.2
WLF	Walferdange	148.91	0	*e*PKPbc	PKPbc	16 10 40.8	+0.5
VOIR		148.94	334	P	PKPbc	16 10 41.7	+1.1
VOIR		148.94	334	‖*i*P	PKPbc	16 10 41.5	+0.9
WET	Wettzell	148.97	352	*e*PKPbc	PKPbc	16 10 41.1	+0.6
ZST	Bratislava	149.10	346	*i* PKP	PKPbc	16 10 41.5	+0.6
GEC2	GERESS Array S	149.14	350	*e*PKPbc	PKPbc	16 10 40.9	-0.1
GERES	GERESS Array B	149.14	350	PKPbc	PKPbc	16 10 40.2	-0.7
	comp=Z,6.7nm,0.8s,baz=40,slow=2.3,SNR=23						
ROSF	Rostrenen	149.24	13	*e*PKP1	PKPbc	16 10 40.0	-1.2
BUD	Budapest	149.27	343	‖*e*PKP2	PKPbc	16 10 41.7	+0.4
BUD	Budapest	149.27	343	‖*ep*PKP	PKPbc	16 10 41.7	+0.4
ASF	Jabal al Asfar	149.29	302	PKPbc	PKPbc	16 10 41.6	-0.3
	comp=Z,7.4nm,1.0s,baz=268,slow=1.3,SNR=11						
FLN	La Foliniere	149.32	9	*e*PKP1	PKPbc	16 10 40.5	-0.9
	comp=Z,81nm,1.1s						
FLN				*e*MLR	MLR		
	comp=Z,139nm,22.8s,MS4.4						
FLN	La Foliniere	149.32	9	*e*PKP	PKPbc	16 10 40.5	-0.9
FLN				LR	LR		
	comp=Z,140nm,22.8s,MS4.7						
SGMF	Saint Gilles	149.46	12	*e*PKP1	PKPbc	16 10 40.7	-1.1
	comp=Z,30nm,0.9s						
PKSG		149.53	344	‖*e*P	PKPbc	16 10 42.0	0.0
LDF	La Druitiere	149.54	8	*e*PKP1	PKPbc	16 10 41.0	-0.9
	comp=Z,28nm,1.0s						
LANF	Langenberg	149.57	358	PKP	PKPbc	16 10 42.0	0.0
CONA	Conrad Observa	149.63	347	‖*i*P	PKPbc	16 10 42.6	+0.4
	comp=Z,33nm,1.2s						
CSNA	Conrad Observa	149.63	347	⇑*i*P	PKPbc	16 10 42.6	+0.4
	comp=Z,30nm,1.2s						
GRR	Gorron	149.63	9	*e*PKP1	PKPbc	16 10 41.4	-0.8
	comp=Z,40nm,0.9s						
QUIF	Quistinic	149.66	13	*e*PKP1	PKPbc	16 10 41.3	-1.0
SOP	Sopron	149.71	346	⇑*e*PKP2	PKPbc	16 10 42.7	+0.3
SOP	Sopron	149.71	346	⇑*ep*PKP	PKPbc	16 10 42.7	+0.3
STU	Stuttgart	149.71	356	*e*PKPbc	PKPbc	16 10 43.1	+0.7
GZR	Gura Zlata	149.88	337	PKIKP	PKPbc	16 10 42.5	-0.4
KDHN	Kadinhani	149.96	317	⇑*i*P	PKPbc	16 10 42.6	-0.7
MOA	Molln	150.01	349	⇑*i*P	PKPbc	16 10 42.8	-0.3
	comp=Z,14nm,1.3s						
MOA	Molln	150.01	349	⇑*i*pPKPbc	PKPbc	16 10 42.8	-0.3
	comp=Z,14nm,1.3s						
MEZF	Maizieres J'vi	150.06	2	*e*PKP1	PKPbc	16 10 43.0	-0.2
	comp=Z,96nm,1.3s						
BZS	Buzias	150.11	338	P	PKPbc	16 10 43.6	+0.2
BZS	Buzias	150.11	338	⇑*i*P	PKPbc	16 10 43.0	-0.5
FUR	Furstenfeldbru	150.13	353	*e*PKPbc	PKPbc	16 10 43.3	-0.1
CDF	Champ du Feu	150.16	359	*e*PKP1	PKPbc	16 10 43.2	-0.3
	comp=Z,35nm,1.0s						
MMAI	Mount Meron Ar	150.18	305	PKPbc	PKPbc	16 10 43.8	-0.2
	comp=Z,9.9nm,0.8s,baz=48,slow=2.7,SNR=13						
BFO	Black Forest	150.20	357	*e*PKPbc	PKPbc	16 10 43.6	0.0
THEF	They Montfort	150.35	0	PKP	PKPbc	16 10 44.0	+0.1
PKSM	Moragy	150.54	342	‖*e*P	PKPbc	16 10 44.1	-0.4
PKSM	Moragy	150.54	342	⇑*i*P	PKPbc	16 10 44.1	-0.4
HAU	Haudompre	150.57	360	*e*PKP1	PKPbc	16 10 44.1	-0.4
	comp=Z,42nm,1.0s						
HAU				*e*MLR	MLR		
	comp=Z,87nm,21.8s,MS4.2						
HAU	Haudompre	150.57	360	*e*PKP	PKPbc	16 10 44.1	-0.4
HAU				LR	LR		
	comp=Z,90nm,21.8s,MS4.5						
MOF	Molkenrain	150.72	359	PKP	PKPbc	16 10 42.4	-2.4
HINF	Hinteralfeld	150.76	359	*e*PKP1	PKPbc	16 10 44.1	-0.8
	comp=Z,20nm,1.0s						
KBA	Koelnbreinsper	150.92	350	⇑*i*P	PKPbc	16 10 44.4	-0.9
	comp=Z,17nm,1.1s						
CSS	Prodhromos	150.94	310	*e*PKPbc	PKPbc	16 10 44.8	-1.0
RHK3	Tenkes	150.94	343	‖*e*P	PKPbc	16 10 45.5	+0.1
MOTA	Moosalm	150.96	353	⇑*i*P	PKPbc	16 10 45.3	-0.1
	comp=Z,20nm,1.1s						
WTTA	Wattenberg	150.98	352	⇑*i*P	PKPbc	16 10 44.6	-0.9
	comp=Z,21nm,0.6s						
SOKA	Soboth	150.99	348	⇑*i*P	PKPbc	16 10 44.9	-0.6
	comp=Z,20nm,1.1s						
SOKA	Soboth	150.99	348	⇑*i*pPKPbc	PKPbc	16 10 44.9	-0.6
	comp=Z,20nm,1.1s						
PERS	Pernice	151.01	347	*e*PKPbc	PKPbc	16 10 45.0	-0.5
DAVA	Damuels	151.14	355	⇑*i*P	PKPbc	16 10 46.1	+0.3
	comp=Z,22nm,1.1s						
DAVA	Damuels	151.14	355	⇑*i*pPKiKP	PKPbc	16 10 46.1	+0.3
	comp=Z,22nm,1.1s						
LOMF	Lomont	151.22	359	PKP	PKPbc	16 10 45.2	-0.8
LOR	Lormes	151.24	3	*e*PKP1	PKPbc	16 10 45.7	-0.4
	comp=Z,37nm,1.0s						
LOR				*e*MLR	MLR		
	comp=Z,57nm,22.2s,MS4.0						
LOR	Lormes	151.24	3	*e*PKP	PKPbc	16 10 45.7	-0.4
LOR				LR	LR		
	comp=Z,60nm,22.3s,MS4.3						
GDZ	Gediz	151.27	320	*i* P	PKPbc	16 10 46.0	-0.4
FETA	Feichten	151.32	354	⇑*i*P	PKPbc	16 10 45.6	-0.7
	comp=Z,16nm,0.9s						
ABTA	Abfaltersbach	151.37	351	⇑*i*P	PKPbc	16 10 44.8	-1.5
	comp=Z,31nm,1.1s						
TKTP	Tekketepe	151.39	318	⇑*i*P	PKPbc	16 10 46.4	-0.4
DOBS	Dobrina	151.40	347	*e*PKPbc	PKPbc	16 10 46.0	-0.5
SSF	Saint Saulge	151.43	4	*e*PKP1	PKPbc	16 10 46.1	-0.4
	comp=Z,48nm,0.9s						
MFF	Saint Martin d	151.48	9	*e*PKP1	PKPbc	16 10 45.6	-1.0
	comp=Z,98nm,1.5s						
EIL	Elat	151.65	298	PKPbc	PKPbc	16 10 47.0	-0.6
	comp=Z,13nm,0.7s,baz=330,slow=3.3,SNR=12						
AVF	Avril sur Loir	151.69	4	*e*PKP1	PKPbc	16 10 46.9	-0.2
	comp=Z,30nm,1.0s						
LJU	Ljubljana	151.70	348	*e*PKPbc	PKPbc	16 10 46.9	-0.2
SMF	Signal de Mont	151.86	4	*e*PKP1	PKPbc	16 10 46.8	-0.7
	comp=Z,29nm,1.0s						
BGF	Bois d'Agland	151.88	5	*e*PKP1	PKPbc	16 10 47.4	-0.2
	comp=Z,45nm,1.0s						
CABF	La Chapelle	151.97	0	*e*PKP1	PKPbc	16 10 47.9	+0.1
	comp=Z,91nm,1.2s						
VTS	Vitosha	152.02	333	⇑*i*P	PKPbc	16 10 48.5	+0.5
BOJS	Bojanci	152.06	346	*i* PKPbc	PKPbc	16 10 48.1	+0.1
TCF	Toulx Ste Croi	152.09	6	*e*PKP1	PKPbc	16 10 47.9	-0.1
	comp=Z,38nm,1.2s						
RJF	Les Rejaudoux	152.98	7	*e*PKP1	PKPbc	16 10 49.2	-0.9
	comp=Z,13nm,0.9s						
RJF				*e*MLR	MLR		
	comp=Z,101nm,20.4s,MS4.3						
RJF	Les Rejaudoux	152.98	7	*e*PKP	PKPbc	16 10 49.2	-0.9
RJF				LR	LR		
	comp=Z,100nm,20.4s,MS4.6						
LPL	La Plagne	153.06	359	*e*PKP1	PKPbc	16 10 50.6	+0.4
MBDF	Montbardon	153.85	359	*e*PKP1	PKPbc	16 10 51.6	-0.4
	comp=Z,18nm,0.9s						
APE	Apeiranthos	154.95	321	⇑P	PKPbc	16 10 51.0	-3.6
APE	Apeiranthos	154.95	321	⇑*i*P	PKPbc	16 10 51.0	-3.6
AQU	L'Aquila	155.47	347	PKP2	PKPab	16 11 14.0	+2.1
MDT	Midelt	162.70	32	PKP	PKPdf	16 10 55.4	+0.2
	comp=Z,3.7nm,1.0s,baz=340,slow=4.8,SNR=5.0						
TORD	Torodi Ar. Bea	173.08	140	PKP	PKPdf	16 11 01.6	-1.3
	comp=Z,2.4nm,1.1s,baz=16,slow=1.4,SNR=7.5						
TORD				PKPab	PKPab	16 12 28.1	-1.7
	comp=Z,1.3nm,0.6s,baz=224,slow=3.5,SNR=5.3						

*ISCJB **29** 16:16:15.1±1.0,3986S±006×712W±02,h162km±6km, mb4.2/10,Error ellipse: s-maj=24.8km s-min=9.4km az=1.4*
*NEIC **29** 16:16:16.4±1.1,3990S×7123W,h161km±9km,mb4.4/5, Error ellipse: s-maj=21.0km s-min=10.8km az=88.0*
*IDC **29** 16:16:16.4±1.0,3991S×71.12W,h158km±5km,mb3.7/8, mb1 3.8/10,mb1mx3.7/17,mbtmp3.7/10,Error ellipse: s-maj=29.6km s-min=12.1km az=92.0*

ISC 29 16:16:16.4±1.0,3985S±006×712W±02,h156km±6km,n27, σ0§98/29,mb4.2/10,1C,Southern Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PLCA	Paso Flores	1.00	152	⇑*i*Pn	Pn	16 16 42.0	+0.3
PLCA				S	Sn	16 17 01.1	0.0
PLCA	Paso Flores	1.00	152	P	Pn	16 16 41.8	+0.1
	27nm,0.3s,baz=311,slow=9.3,SNR=1021						
PLCA				S	Sn	16 17 01.1	0.0
	8.5nm,0.3s,baz=46,slow=22,SNR=15						
TRQA	Tornquist	7.38	79	*e*Pn	Pn	16 18 04.3	+2.8
	33nm,1.0s						
CFAA	Coronel Fontan	8.57	17	P	Pn	16 18 16.7	-0.6
	0.7nm,0.3s,baz=194,slow=12,SNR=13						
CFAA				S	Sn	16 19 50.8	-1.8
	0.8nm,0.3s,baz=81,slow=23,SNR=17						
LVC	Limon Verde	17.29	7	*e*Pn	Pn	16 20 10.2	+1.8
	13nm,0.7s						
CPUP	Villa Florida	17.75	45	*e*Pn	Pn	16 20 11.8	-2.1
CPUP				*e*		16 20 19.1	
CPUP	Villa Florida	17.75	45	P	Pn	16 20 13.2	-0.6
	1.3nm,0.3s,baz=218,slow=8.2,SNR=7.1						
LPAZ	La Paz	23.63	7	*e*P	P	16 21 15.6	+2.3
	4.6nm,0.6s,mb4.2						
LPAZ	La Paz	23.63	7	P	P	16 21 15.9	+2.7
	4.2nm,0.6s,mb4.1,baz=173,slow=5.3,SNR=20						
SIV	San Ignacio	25.35	23	P	P	16 21 29.2	+0.3
	8.7nm,0.7s,mb4.4,baz=200,slow=8.9,SNR=34						
BDFB	Brasilia	31.46	47	P	P	16 22 23.3	0.0
SNAA	Sanae	45.94	156	P	P	16 24 21.6	-1.4
	0.3nm,0.7s,baz=302,slow=9.5,SNR=6.1						
SDV	Santo Domingo	48.49	1	*e*P	P	16 24 43.3	0.0
QSPA	South Pole Qui	50.40	180	P	P	16 24 56.6	-0.5
	1.5nm,0.8s,mb3.7,baz=280,slow=4.3,SNR=5.4						
TXAR	Lajitas Array	75.18	331	P	P	16 27 41.2	-0.2
TXAR	Lajitas Array	75.18	331	P	P	16 27 41.2	-0.2
	0.5nm,0.8s,mb3.2,baz=150,slow=8.6,SNR=5.6						
LIC	Lamto	76.06	70	*e*P	P	16 27 47.1	+0.3
	32nm,0.6s,mb5.1						
TIC	Tourodi	76.36	69	*e*P	P	16 27 48.8	+0.3
	54nm,0.8s,mb5.2						
KIC	Kosan Boka	76.36	70	*e*P	P	16 27 48.9	+0.4
	54nm,0.7s						
DBIC	Dimbokro	76.49	69	*e*P	P	16 27 49.5	+0.3
	8.6nm,0.4s,mb4.7						
DBIC	Dimbokro	76.49	69	P	P	16 27 49.5	+0.2
	8.9nm,0.4s,mb4.8,baz=208,slow=5.9,SNR=32						
BOSA	Boshof	76.80	116	P	P	16 27 50.4	-0.5
	1.8nm,0.5s,mb4.0,baz=232,slow=7.3,SNR=6.0						
TSUM	Tsumeb	77.02	104	*e*P	P	16 27 52.6	+0.4
	1.0nm,0.4s,mb3.8						
LBTB	Lobatse	79.27	114	*e*P	P	16 28 04.1	-0.4
TORD	Torodi Ar. Bea	85.60	69	P	P	16 28 36.7	-0.6
TORD	Torodi Ar. Bea	85.60	69	P	P	16 28 36.7	-0.6
	0.9nm,0.5s,mb3.7,baz=219,slow=4.3,SNR=12						
MKAR	Makanchi Array	159.54	61	PKPab	PKPab	16 36 34.3	-0.5
	0.6nm,0.6s,baz=294,slow=6.5,SNR=5.1						

*DDA **29** 16:57:28.7,3979N×3288E,h3km±2km,Md2.7*
*ISK **29** 16:57:29.8,3968N×3290E,h9km,MD2.5*
*ISCJB **29** 16:57:30.7±1.5,3969N±008×329E±02,h10km±10km, Error ellipse: s-maj=22.1km s-min=9.4km az=151.8*
*CSEM **29** 16:57:31.0±0.5,3976N×3286E,h15km,MD2.7,Error ellipse: s-maj=15.0km s-min=6.8km az=39.0*

ISC 29 16:57:31.8±1.1,3975N±008×3294E±009,h4km±9km,n8, σ1§08/15,Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANTO	Ankara	0.16	315	*e*PG	Pg	16 57 34.5	-0.6
ANTO				*e*SG	Sg	16 57 38.2	+0.9
LOD	Lodumlu	0.19	315	*e*PG	Pg	16 57 35.1	-0.6
LOD				*e*SG	Sg	16 57 38.8	+0.6
CDAG	Cicekdag	1.11	96	*i* P	Pg	16 57 48.5	-4.6
CDAG				*i* S	Sg	16 58 07.9	+0.4
CORM	Corum	1.36	71	*e*PN	Pn	16 57 56.4	-1.2
CTKT	Corum	1.66	58	*i* P	Pn	16 57 59.7	-2.0
CTKT				*i* S	Sn	16 58 23.3	-0.2
AVNT	Avonos	1.77	123	*i* P	Pn	16 58 03.6	+0.3
AVNT				*i* S	Sn	16 58 29.3	+3.1
BALT	Daday	1.81	11	*i* P	Pn	16 58 03.0	-0.8
BALT				*i* S	Sn	16 58 27.4	+0.2
BOYT	Boyabat	2.24	41	*i* P	Pn	16 58 10.1	+0.5
BOYT				*i* S	Sn	16 58 40.9	+3.2

*IDC **29** 17:08:48.5±1.4,2035S×174.15W,h0km,mb4.1/5, mb1 4.3/7,mb1mx4.1/17,mbtmp4.1/7,ML3.1/2,MS3.4/1, Ms1 3.4/1,ms1mx2.9/18,Error ellipse: s-maj=50.4km s-min=23.2km az=132.0*
*ISCJB **29** 17:08:49.1±1.5,2045S±02×1738W±03,h33km,mb4.1/6, Error ellipse: s-maj=39.1km s-min=14.6km az=26.8*
*NEIC **29** 17:08:50.1±0.9,2012S×17422W,h10km,mb4.2/1,Error ellipse: s-maj=29.8km s-min=15.6km az=122.0*

ISC 29 17:08:51.4±1.5,2045S±01×1738W±03,h35km,n13, σ0§96/14,mb4.1/6,Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.74	17	*e*Pn	Pn	17 10 25.9	-2.1
AFI				*e*Sn	Sn	17 11 36.3	-7.3
AFI	Afiamalu	6.74	17	Pn	Pn	17 10 28.4	+0.4
	2.1nm,0.3s,baz=212,slow=21,SNR=4.0						
AFI				Sn	Sn	17 11 38.9	-4.7
	2.2nm,0.3s,baz=53,slow=20,SNR=3.6						
URZ	Urewera	19.46	202	P	Pn	17 13 16.5	+0.1
	0.5nm,0.3s,baz=354,slow=9.2,SNR=3.8						
URZ				S	S	17 16 37.9	-15
	0.4nm,0.3s,baz=211,slow=11,SNR=5.0						
PPT	Papeete	23.09	87	LR	LR	17 19 49.7	
	comp=Z,95nm,20.7s,baz=250,slow=28						
STKA	Stephens Creek	41.37	245	P	P	17 16 34.3	0.0
	7.9nm,1.1s,mb4.3,baz=66,slow=13,SNR=2.9						
COEN	Coen	41.50	272	*e*P	P	17 16 35.9	+0.4
ASAR	Alice Springs	48.36	256	P	P	17 17 29.6	-0.4
	3.2nm,0.8s,mb4.4,baz=87,slow=8.2,SNR=25						
ASAR				PcP	PcP	17 18 57.5	+1.2
	0.7nm,0.7s,baz=104,slow=3.8,SNR=4.5						
WRAB	Tennant Creek	48.49	261	*e*P	P	17 17 30.2	-0.8
WRA	Warramunga Arr	48.50	261	P	P	17 17 30.7	-0.5
	2.2nm,0.8s,mb4.2,baz=95,slow=8.1,SNR=13						
SBA	Scott Base	58.26	185	*e*P	P	17 18 48.3	+6.3
	2.1nm,1.0s,mb4.1						
MJAR	Matsushiro Arr	72.53	321	P	P	17 20 16.8	+2.0
	2.0nm,0.9s,mb4.0,baz=156,slow=6.0,SNR=4.7						
NVAR	Mina Array Bea	78.31	41	P	P	17 20 52.1	+4.1
	0.4nm,0.7s,mb3.5,baz=224,slow=7.7,SNR=3.9						
AKASG	Malin Array Be	144.72	334	PKP	PKPdf	17 28 25.1	+0.9
	2.0nm,0.6s,baz=38,slow=4.1,SNR=19						

9.3nm,1.0s,mb4.6
ARE Arequipa 33.84 63 *e*P P 18 22 34.0 +0.3
LPAZ La Paz 36.43 67 *e*P P 18 22 56.5 +0.5
34nm,1.1s,mb5.2
LPAZ LR LR 18 35 04.1
LPAZ La Paz 36.43 67 P P 18 22 57.3 +1.3
21nm,1.0s,mb5.0,baz=232,slow=7.7,SNR=45
LPAZ LR LR 18 35 04.1
comp=Z,84nm,21.8s,MS3.5,baz=234,slow=32
PMSA Palmer Station 36.99 154 LR LR 18 33 27.8
comp=Z,653nm,21.4s,MS4.4,baz=346,slow=29
CPUP Villa Florida 39.73 89 LR LR 18 37 10.7
comp=Z,74nm,21.4s,MS3.5,baz=52,slow=32
SIV San Ignacio 41.99 73 P P 18 23 42.0 -0.6
10nm,0.9s,mb4.5,baz=252,slow=12,SNR=32
PPT Papeete 45.17 281 LR LR 18 36 55.0
comp=Z,196nm,19.1s,MS4.1,baz=117,slow=28
ROSC El Rosal 48.48 39 P P 18 24 34.2 +0.1
ROSC LR LR 18 41 24.1
ROSC El Rosal 48.48 39 P P 18 24 34.8 +0.8
3.4nm,0.4s,mb4.7,baz=259,slow=19,SNR=3.7
ROSC LR LR 18 41 24.1
comp=Z,221nm,20.9s,MS4.1,baz=187,slow=32
BDFB Brasilia 52.54 82 P P 18 25 03.3 -1.5
1.4nm,0.7s,mb4.0,baz=166,slow=18,SNR=4.5
BDFB LR LR 18 46 19.5
comp=Z,55nm,18.5s,MS3.6,baz=23,slow=35
SDV Santo Domingo 53.81 41 P P 18 25 09.9 -4.2
5.8nm,1.1s,mb4.4
QSPA South Pole Qui 54.35 180 *e*P P 18 25 16.1 -1.1
4.7nm,0.8s,mb4.5
QSPA *e* pP 18 25 19.6 -0.8
QSPA South Pole Qui 54.35 180 P P 18 25 16.3 -0.9
3.5nm,0.8s,mb4.3,baz=98,slow=2.6,SNR=26
SBA Scott Base 55.35 195 *e*P P 18 25 24.6 +0.1
2.1nm,0.8s,mb4.2
VNDA Vanda 56.45 195 *e*P P 18 25 33.2 +0.8
1.2nm,0.9s,mb3.9
VNDA LR LR 18 44 07.9
VNDA Vanda 56.45 195 P P 18 25 34.0 +1.6
0.6nm,0.6s,mb3.8,baz=125,slow=5.4,SNR=5.9
VNDA LR LR 18 44 07.9
comp=Z,113nm,20.2s,MS4.0,baz=97,slow=30
TXAR Lajitas Array 64.86 359 P P 18 26 29.2 -1.0
0.2nm,0.5s,mb3.4,baz=152,slow=4.1,SNR=3.1
SMCO Snowmass 74.77 357 *e*P P 18 27 32.3 +1.3
25nm,0.8s,mb5.2
NVAR Mina Array Bea 75.31 347 P P 18 27 34.1 0.0
1.9nm,0.8s,mb4.1,baz=181,slow=8.8,SNR=7.7
CMB Columbia Colle 75.32 346 P P 18 27 38.4 +4.2
2.5nm,0.8s,mb4.2
BLA Blacksburg 75.60 18 *e*P P 18 27 31.3 -4.6
11nm,0.8s,mb4.8
BBSR BB Station 76.67 32 P P 18 27 36.3 -5.8
62nm,1.0s,mb5.5
HWUT Hardware Ranch 77.52 353 *e*P P 18 27 50.5 +3.9
1.8nm,0.8s,mb4.0
REDW Red Top Meadow 79.20 354 *e*P P 18 27 53.6 -2.3
5.3nm,0.9s,mb4.5
RSSD Black Hills 79.62 359 P P 18 28 01.6 +3.5
3.6nm,1.1s,mb4.2
HLID Hailey 79.76 351 *e*P P 18 27 58.0 -0.9
10nm,1.1s,mb4.7
ULM Lac du Bonnet 85.95 4 P P 18 28 31.9 +1.0
1.0nm,0.5s,mb4.3,baz=248,slow=16,SNR=2.5
STKA Stephens Creek 89.59 230 LR LR 19 00 18.3
comp=Z,264nm,18.6s,MS4.7,baz=82,slow=30
BOSA Boshof 99.31 135 LR LR 19 05 29.1
comp=Z,98nm,19.7s,MS4.3,baz=51,slow=30
MALT Malatya 149.08 74 *e*PKPbc PKPbc 18 35 41.0 +1.6
CHTO Chiang Mai 154.41 234 *e*PKPab PKPab 18 36 02.4 -3.9

KRSC 29 18:34:16.0±0.9, 5113N×15811E, h37km±36km, ML3.8,
Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
RUS	**Russkaya**	**1.33**	**11**	*e*P	Pn	18 34 39.0	+1.0
RUS				*i*S	Sn	18 34 55.6	+1.1
MIPR	**Malaya Ipel'ka**	**1.42**	**324**	*e*P	Pn	18 34 40.1	+0.8
GRL	**Gorelyy**	**1.42**	**359**	*e*P	Pn	18 34 41.1	+1.8
GRL				*i*S	Sn	18 34 59.1	+2.3
ALID	**Alaid**	**1.64**	**262**	*e*P	Pn	18 34 41.7	-0.6
ALID				*i*S	Sn	18 35 00.3	-1.8
PET	**Petropavlovsk**	**1.93**	**10**	*e*P	Pn	18 34 48.0	+1.8
PET				*i*S	Sn	18 35 11.4	+2.2
AVH	**Avacha**	**2.17**	**10**	*e*P	Pn	18 34 52.3	+2.7
AVH				*i*S	Sn	18 35 19.1	+3.8
NLC	**Nalytchevo**	**2.18**	**20**	*e*P	Pn	18 34 49.8	+0.1
NLC				*e*S	Sn	18 35 14.3	-1.2
SPN	**Mys Shipunski**	**2.30**	**30**	*e*P	Pn	18 34 53.4	+2.1
SPN				*i*S	Sn	18 35 20.5	+2.2
GNL	**Ganaly**	**2.57**	**358**	*e*P	Pn	18 34 57.3	+2.2
MKZ	**Mys Kozlova**	**4.07**	**31**	*e*P	Pn	18 35 17.5	+1.8
MKZ				*i*S	Sn	18 36 02.9	+0.8
KBTR	**Krutoberegovo**	**5.81**	**27**	P	Pn	18 35 43.5	+4.0

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*MOS **29** 18:34:57.7±0.9, 5366N×16377W, h18km, mb5.2/99, MS4.3/17, Error ellipse: s-maj=9.9km s-min=4.1km az=93.9*
*ISCJB **29** 18:34:58.7±0.1, 5363N±003×16366W±003, h25km, mb5.0/193, MS4.2/52, Error ellipse: s-maj=4.6km s-min=2.0km az=13.7*
*GCMT **29** 18:34:59.5±0.5, 5349N×16367W, h18km±1km, MW4.9/53, Moment Tensor Solution. s21,c27; s53,c76; Duration: 0 Moment tensor: Scale 10^16^Nm; M_{rr}1.30±.16; $M_{\theta\theta}$-0.37±.12; $M_{\phi\phi}$-0.93±.09; $M_{r\theta}$1.38±.36; $M_{\theta\phi}$-1.47±.08; $M_{r\phi}$0.96±.25; Best double couple: $M_0$2.44100×10^16^ NP1:ϕ_s194.00000°, δ27.00000°, λ52.00000°. NP2: ϕ_s56.00000°, δ69.00000°, λ108.00000°. Principal axes: T 2.0850, Plg62.0000°, Azm353.0000°; N 0.7110, Plg16.0000°, Azm229.0000°; P -2.7970, Plg22.0000°, Azm132.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*NEIC **29** 18:34:59.5±1.0, 5357N×16364W, h23km±6km, mb5.0/105, MS4.2/4, ML4.6(AEIC) Error ellipse: s-maj=5.6km s-min=2.9km az=181.0*
*IDC **29** 18:35:00.5±2.8, 5375N×16369W, h26km±17km, mb4.5/19, mb1 4.6/20, mb1mx4.6/25, mbtmp4.5/20, ML4.8/1, MS4.1/16, Ms1 4.1/16, ms1mx3.9/25, Error ellipse: s-maj=20.5km s-min=12.0km az=2.0*
*SZGRF **29** 18:35:01.0, 5370N×16469W, h33km, mb5.1, Unimak Island, Alaska, United States, region*
*BJI **29** 18:35:01.4, 5438N×16446W, h22km, mB4.9, mb5.0, Ms4.7, Msz4.6*
*BGS **29** 18:35:04.3±1.7, 5408N×16221W, h23km, mb5.0, MS4.2*
ISC 29 18:35:00.8±0.1, 5366N±003×16369W±003, h27km, h27km±1.4km:pP-P, n622, σ0.84/621, mb5.0/193, MS4.2/52, 90C-77D, Unimak Island region

Code	Station Name	Δ°	AZ°	Phase Op	ISC	Time h m s	Res ISC
FALS	**False Pass**	**1.21**	**7**	P	**Pn**	**18 35 22.5**	**+0.6**
FALS				S	**Sn**	**18 35 43.0**	**+5.6**
AKUT	**Akutan**	**1.32**	**292**	P	**Pn**	**18 35 23.8**	**+0.3**
AKUT				S	**Sn**	**18 35 42.7**	**+2.6**
AKLV	**Akutan Long Va**	**1.43**	**291**	P	**Pn**	**18 35 25.1**	**+0.2**
AKGG	**Akutan Green G**	**1.47**	**292**	P	**Pn**	**18 35 25.9**	**+0.5**
UNV	**Unalaska Valle**	**1.68**	**277**	P	**Pn**	**18 35 28.0**	**-0.4**
UNV				S	**Sn**	**18 35 50.6**	**+1.7**
SDPT	**Sand Point**	**2.52**	**47**	P	**Pn**	**18 35 39.8**	**-0.1**
SDPT				S	**Sn**	**18 36 09.2**	**-0.6**
OKCE	**Okmok Cone E**	**2.68**	**267**	P	**Pn**	**18 35 42.3**	**+0.2**
NIKO	**Nikolski**	**3.17**	**260**	P	**Pn**	**18 35 48.3**	**-0.5**
CHGN	**Chignik**	**4.03**	**47**	*e*P	**Pn**	**18 36 01.0**	**+0.4**
SPIA	**Saint Paul Isl**	**5.13**	**316**	P	**Pn**	**18 36 18.6**	**+2.8**
KDAK	**Kodiak Island**	**7.50**	**52**	Pn	**Pn**	**18 36 46.0**	**-2.3**
419nm,0.4s,SNR=36							
KDAK	**Kodiak Island**	**7.50**	**52**	P	**Pn**	**18 36 46.3**	**-2.0**
KDAK	**Kodiak Island**	**7.50**	**52**	Pn	**Pn**	**18 36 46.3**	**-2.0**
16nm,0.3s,baz=229,slow=5.8,SNR=33							
KDAK				Sn	**Sn**	**18 38 05.4**	**-7.0**
1.3nm,0.3s,baz=285,slow=19,SNR=2.8							
SVW2	**Sparrevohn**	**8.64**	**27**	P	**Pn**	**18 37 05.6**	**+1.8**
SLKM	**Skilak Lake**	**10.02**	**41**	*e*P	**Pn**	**18 37 22.4**	**-0.4**
TTA	**Tatalina**	**10.12**	**20**	*e*P	**Pn**	**18 37 27.5**	**+3.4**
AMKA	**Amchitka**	**10.62**	**264**	*e*Pn	**Pn**	**18 37 29.6**	**-1.3**
PMR	**Palmer**	**11.11**	**39**	P	**Pn**	**18 37 37.9**	**+0.2**
TNA	**Tin City**	**12.12**	**352**	*e*Pn	**Pn**	**18 37 53.8**	**+2.3**
DIV	**Divide**	**12.19**	**45**	*e*Pn	**Pn**	**18 37 49.0**	**-3.4**
32nm,0.6s							
DIV				*e*Sn	**Sn**	**18 39 58.0**	**-9.1**
IMA2	**Indian Mountai**	**13.39**	**18**	*e*P	**Pn**	**18 38 11.8**	**+3.0**
COLA	**College**	**13.80**	**29**	*e*P	**Pn**	**18 38 09.7**	**-4.6**
COLA				pmax	pmax		
comp=Z,29nm,1.0s							
COLA	**College**	**13.80**	**29**	*e*Pn	**Pn**	**18 38 09.7**	**-4.6**
comp=Z,29nm,1.0s							
MENT	**Mentasta**	**13.96**	**40**	*e*P	**Pn**	**18 38 14.5**	**-2.0**
EGAK	**Eagle**	**15.92**	**37**	*e*Pn	**Pn**	**18 38 37.1**	**-5.4**
comp=Z,26nm,0.6s							
EGAK				*e*		18 38 44.9	
DAWY	**Dawson**	**16.20**	**40**	*e*Pn	**Pn**	**18 38 43.5**	**-2.7**
DAWY				*e*		18 38 50.2	
SIT	**Sitka**	**16.42**	**67**	P	**Pn**	**18 38 53.1**	**+4.1**
SIT				pmax	pmax		
comp=Z,162nm,1.4s							
SIT	**Sitka**	**16.42**	**67**	Pn	**Pn**	**18 38 53.1**	**+4.1**
comp=Z,162nm,1.4s							
SKAG	**Skagway**	**16.59**	**58**	*e*P	**Pn**	**18 38 52.0**	**+0.9**
comp=Z,33nm,0.7s							
CRAG	**Craig**	**17.75**	**72**	Pn	**Pn**	**18 39 05.1**	**-0.5**
DLBC	**Dease Lake**	**19.26**	**62**	*e*P	**Pn**	**18 39 21.6**	**-2.4**
DLBC	**Dease Lake**	**19.26**	**62**	P	**Pn**	**18 39 21.1**	**-2.9**
baz=289,slow=9.3							
BILL	**Bilibino**	**20.22**	**327**	*c i*P	**P**	**18 39 33.7**	**+0.5**
BILL				pmax	pmax		
comp=Z,38nm,1.4s							
BILL				MLR	MLR		
comp=Z,1μm,15.0s,MS4.4							
BILL	**Bilibino**	**20.22**	**327**	*e*P	**P**	**18 39 33.9**	**+0.7**
comp=Z,38nm,1.0s							
INK	**Inuvik**	**20.39**	**32**	*e*P	**P**	**18 39 31.3**	**-3.8**
INK	**Inuvik**	**20.39**	**32**	P	**P**	**18 39 32.4**	**-2.7**
comp=Z,18nm,0.8s,baz=245,slow=10,SNR=58							
INK				PcP	PcP	18 43 45.9	-0.7
comp=Z,4.3nm,0.5s,baz=150,slow=6.8,SNR=5.9							
INK				ScP	ScP	18 47 21.3	+0.4
comp=Z,0.8nm,0.7s,baz=5.7,slow=2.5,SNR=3.0							
INK				LR	LR	18 49 04.0	
comp=Z,545nm,19.3s,MS3.9,baz=232,slow=42							
BBB	**Bella Bella**	**21.36**	**79**	LR	LR	18 46 07.8	
comp=Z,233nm,21.0s,MS3.5,baz=119,slow=31							
PET	**Petropavlovsk**	**22.33**	**284**	*e*P	**P**	**18 39 57.4**	**+1.4**
PET				*e*S	**S**	**18 43 55.3**	**-4.7**
PET				pmax	pmax		
comp=Z,44nm,0.8s,mb4.9							
PET				MLR	MLR		
comp=Z,600nm,17.0s,MS4.1							
PET				MLR	MLR		
comp=Z,600nm,15.0s							
PET	**Petropavlovsk**	**22.33**	**284**	*e*P	**P**	**18 39 56.8**	**+0.8**
comp=Z,50nm,1.1s,mb4.9							
SEY	**Seymchan**	**24.40**	**310**	‖*e*P	**P**	**18 40 15.6**	**-0.8**
SKR	**Severo-Kuril's**	**24.60**	**279**	*e*P	**P**	**18 40 13.6**	**-4.8**
MA2	**Magadan**	**25.33**	**302**	‖*e*P	**P**	**18 40 24.7**	**-0.2**
MA2				pmax	pmax		
comp=Z,12nm,0.8s,mb4.5							
MA2				MLR	MLR		
comp=Z,500nm,17.0s,MS4.1							
MA2	**Magadan**	**25.33**	**302**	*e*P	**P**	**18 40 23.8**	**-1.0**
comp=Z,25nm,1.1s,mb4.7							
PGC	**Sidney**	**25.47**	**85**	*e*P	**P**	**18 40 30.4**	**+4.1**
comp=Z,44nm,1.1s,mb4.9							
NLWA	**Neilton Lookou**	**25.81**	**88**	*e*P	**P**	**18 40 29.8**	**+0.4**
comp=Z,29nm,1.1s,mb4.7							
NLWA	**Neilton Lookou**	**25.81**	**88**	⇑P	**P**	**18 40 28.8**	**-0.6**
baz=26							
YKA	**Yellowknife Ar**	**26.78**	**51**	*i* P	**P**	**18 40 38.2**	**+0.2**
YKA				pmax	pmax		
comp=Z,9.0nm,0.6s							
YKA	**Yellowknife Ar**	**26.78**	**51**	P	**P**	**18 40 38.2**	**+0.2**
YKA				PcP	PcP	18 43 59.6	-0.5
YKA				ScP	ScP	18 47 37.6	-0.5
YKA				LR	LR	18 52 14.8	
YKA	**Yellowknife Ar**	**26.78**	**51**	P	**P**	**18 40 38.2**	**+0.2**
comp=Z,9.0nm,0.6s,mb4.5,baz=272,slow=7.8,SNR=83							
YKA				PcP	PcP	18 43 59.6	-0.5
comp=Z,1.6nm,0.6s,baz=278,slow=2.0,SNR=4.8							
YKA				ScP	ScP	18 47 37.6	-0.5
comp=Z,0.6nm,0.8s,baz=278,slow=3.5,SNR=4.3							
YKA				LR	LR	18 52 14.7	
comp=Z,468nm,18.4s,MS4.1,baz=210,slow=39							
A07A	**Ashnola River,**	**27.11**	**82**	⇑P	**P**	**18 40 41.2**	**+0.1**
baz=27							
E06A	**Yakima**	**27.95**	**87**	⇑P	**P**	**18 40 48.3**	**-0.4**
baz=28							
H04A	**Detroit Lake**	**28.22**	**91**	⇓P	**P**	**18 40 51.0**	**0.0**
baz=28							
D07A	**Quincy**	**28.22**	**85**	⇓P	**P**	**18 40 50.5**	**-0.6**
baz=28							
HAWA	**Hanford**	**28.89**	**86**	*e*P	**P**	**18 40 56.1**	**-0.9**
comp=Z,13nm,0.7s,mb4.8							
H06A	**Lindquist Farm**	**29.29**	**90**	⇑P	**P**	**18 41 01.0**	**+0.4**
baz=29,SNR=9.5							
NEW	**Newport**	**29.39**	**81**	LR	LR	18 50 33.5	
comp=Z,231nm,21.8s,MS3.8,baz=122,slow=32							
G07A	**Ruggs Ranch, H**	**29.40**	**88**	⇓P	**P**	**18 41 01.6**	**+0.1**
baz=29							
EDM	**Edmonton**	**29.48**	**70**	*e*P	**P**	**18 41 02.0**	**-0.2**
A11A	**Hall Mountain,**	**29.51**	**80**	⇑P	**P**	**18 41 01.7**	**-0.8**
baz=29							
YBH	**Yreka Blue Hor**	**29.63**	**97**	P	**P**	**18 41 05.4**	**+1.8**
comp=Z,0.8nm,0.3s,mb3.9,baz=207,slow=6.8,SNR=2.9							
YBH				LR	LR	18 50 01.8	
comp=Z,326nm,20.5s,MS3.9,baz=318,slow=30							
E09A	**Wood Farm, Sta**	**29.65**	**85**	⇑P	**P**	**18 41 03.2**	**-0.5**
baz=30							
G08A	**Pilot Rock**	**29.81**	**88**	⇓P	**P**	**18 41 05.2**	**+0.1**
baz=30							
I06A	**Prineville**	**29.81**	**91**	⇑P	**P**	**18 41 05.6**	**+0.5**
baz=30							
D10A	**Wagner Farm, O**	**29.89**	**84**	⇑P	**P**	**18 41 05.3**	**-0.6**
baz=30							
I07A	**Izee**	**30.15**	**90**	⇑P	**P**	**18 41 09.2**	**+1.0**
baz=30,SNR=9.2							
F09A	**S2 Ranch, Elgi**	**30.21**	**86**	⇓P	**P**	**18 41 09.3**	**+0.6**
baz=30							
E10A	**Myers Farm, Un**	**30.28**	**84**	⇑P	**P**	**18 41 09.1**	**-0.2**
baz=30							
H08A	**Prairie City**	**30.40**	**89**	P	**P**	**18 41 10.8**	**+0.4**
baz=30,SNR=6.5							
K06A	**Valley Falls**	**30.45**	**93**	⇑P	**P**	**18 41 11.0**	**+0.2**
baz=30							
F10A	**Beach Ranch, E**	**30.48**	**85**	⇑P	**P**	**18 41 11.5**	**+0.5**
baz=30							
I08A	**Drewsey**	**30.80**	**90**	⇓P	**P**	**18 41 14.3**	**+0.4**
baz=31							
B13A	**Whitefish**	**30.90**	**80**	⇓P	**P**	**18 41 14.6**	**-0.1**
baz=31							
G10A	**Bishop Farm, J**	**30.90**	**86**	⇓P	**P**	**18 41 14.5**	**-0.3**
baz=31,SNR=8.1							
BMO	**Blue Mountains**	**31.03**	**87**	*e*P	**P**	**18 41 15.2**	**-0.7**
comp=Z,6.0nm,1.1s,mb4.3							
K07A	**Rock Creek Ran**	**31.11**	**92**	⇓P	**P**	**18 41 16.7**	**+0.1**
baz=31							
J08A	**Circle Bar Ran**	**31.18**	**91**	⇑P	**P**	**18 41 18.2**	**+1.0**
baz=31,SNR=6.7							
I09A	**Lost Marbles R**	**31.26**	**89**	⇓P	**P**	**18 41 18.2**	**+0.3**
baz=31							
G11A	**Walters Elk Ra**	**31.35**	**86**	⇓P	**P**	**18 41 18.7**	**0.0**
baz=31							
L07A	**Adell**	**31.45**	**93**	⇑P	**P**	**18 41 19.2**	**-0.5**
baz=31							
H10A	**Noah's Angus R**	**31.51**	**87**	P	**P**	**18 41 20.4**	**+0.3**
baz=31,SNR=25							
D13A	**Huson**	**31.53**	**82**	⇑P	**P**	**18 41 20.4**	**+0.1**
baz=31							
K08A	**Mann Creek Ran**	**31.54**	**92**	⇑P	**P**	**18 41 21.2**	**+0.8**
baz=31,SNR=8.8							
J09A	**Fry Pan Ranch,**	**31.61**	**90**	⇑P	**P**	**18 41 21.6**	**+0.5**
baz=32,SNR=9.8							
WVOR	**Wild Horse Val**	**31.62**	**92**	*e*P	**P**	**18 41 22.3**	**+1.1**
WVOR				pmax	pmax		
comp=Z,14nm,0.9s,mb4.8							
WVOR	**Wild Horse Val**	**31.62**	**92**	*e*P	**P**	**18 41 22.2**	**+1.1**
comp=Z,14nm,0.9s,mb4.8							
I10A	**Payette**	**31.76**	**88**	⇑P	**P**	**18 41 22.7**	**+0.4**
baz=32							
F12A	**Elk City**	**31.76**	**84**	⇑P	**P**	**18 41 22.8**	**+0.5**
baz=32,SNR=9.2							
H11A	**Donnelly**	**31.88**	**87**	⇑P	**P**	**18 41 23.7**	**+0.3**
baz=32							
L08A	**Fields**	**31.94**	**92**	⇑P	**P**	**18 41 24.7**	**+0.7**
baz=32,SNR=6.0							
K09A	**Rome**	**32.01**	**91**	⇓P	**P**	**18 41 24.8**	**+0.2**
baz=32,SNR=7.5							
D14A	**Greenough**	**32.10**	**81**	⇑P	**P**	**18 41 24.9**	**-0.4**
baz=32							
I11A	**Placerville**	**32.36**	**88**	⇑P	**P**	**18 41 27.4**	**-0.2**
baz=32							
M08A	**Happy Creek Ra**	**32.37**	**93**	⇑P	**P**	**18 41 27.6**	**-0.1**
baz=32							
E14A	**Clinton**	**32.45**	**82**	⇑P	**P**	**18 41 28.4**	**0.0**
baz=32							
K10A	**MacKenzie Ranc**	**32.47**	**90**	⇑P	**P**	**18 41 28.8**	**+0.2**
baz=32,SNR=7.1							
H12A	**Diamond D Ranc**	**32.66**	**86**	⇓P	**P**	**18 41 30.1**	**-0.1**
baz=32							
D15A	**Lincoln**	**32.70**	**80**	⇑P	**P**	**18 41 30.3**	**-0.3**
baz=33							
MFID	**Camas Ranch**	**32.72**	**88**	⇓P	**P**	**18 41 30.9**	**+0.1**
baz=33,SNR=5.5							
G13A	**Cobalt**	**32.72**	**85**	⇑P	**P**	**18 41 30.3**	**-0.5**
baz=33							
O07A	**Toulon**	**32.88**	**96**	⇓P	**P**	**18 41 32.8**	**+0.6**
baz=33							
M09A	**Marrel Ranch,**	**32.94**	**93**	⇑P	**P**	**18 41 33.5**	**+0.8**
baz=33							
E15A	**Deer Lodge**	**32.95**	**82**	⇑P	**P**	**18 41 32.4**	**-0.3**
baz=33							
K11A	**Parker Ranch,**	**32.97**	**90**	⇓P	**P**	**18 41 33.2**	**+0.2**
baz=33,SNR=12							
H13A	**Challis**	**33.00**	**86**	P	**P**	**18 41 33.5**	**+0.2**
baz=33,SNR=5.1							
L10A	**Juniper Basin**	**33.12**	**91**	⇓P	**P**	**18 41 35.0**	**+0.7**
baz=33,SNR=7.7							
J12A	**Stokes Ranch,**	**33.25**	**88**	⇑P	**P**	**18 41 35.8**	**+0.4**
baz=33,SNR=7.6							
M10A	**I.L. Ranch, Tu**	**33.42**	**92**	⇓P	**P**	**18 41 37.6**	**+0.6**
baz=33							
TIXI	**Tiksi**	**33.43**	**328**	*e*P	**P**	**18 41 35.7**	**-1.0**
TIXI				*e*		18 44 16.3	
TIXI				pmax	pmax		
comp=Z,21nm,0.9s,mb5.1							
TIXI				MLR	MLR		
comp=Z,947nm,16.0s,MS4.6							
TIXI	**Tiksi**	**33.43**	**328**	*e*P	**P**	**18 41 35.7**	**-1.0**
comp=Z,16nm,0.6s,mb5.1							
I13A	**Wildhorse Cree**	**33.45**	**86**	⇑P	**P**	**18 41 37.9**	**+0.8**
baz=33							
HLID	**Hailey**	**33.48**	**87**	*e*P	**P**	**18 41 36.9**	**-0.5**
comp=Z,23nm,0.6s,mb5.3							
HLID	**Hailey**	**33.48**	**87**	⇓P	**P**	**18 41 37.5**	**+0.1**
baz=33							
L11A	**Cat Creek Ranc**	**33.50**	**90**	⇓P	**P**	**18 41 37.9**	**+0.3**
baz=33,SNR=16							
RES	**Resolute Bay**	**33.70**	**27**	*e*P	**P**	**18 41 36.2**	**-2.8**
comp=Z,508nm,1.1s,mb6.4							
J13A	**Cove Ranch, Pi**	**33.71**	**87**	⇓P	**P**	**18 41 39.6**	**+0.1**
baz=34,SNR=8.7							
G15A	**Dillon**	**33.72**	**83**	⇑P	**P**	**18 41 39.7**	**+0.2**
baz=34							
K12A	**Draper Farm, C**	**33.73**	**89**	⇓P	**P**	**18 41 39.4**	**-0.2**
baz=34							
EGMT	**Eagleton**	**33.81**	**77**	⇓P	**P**	**18 41 39.7**	**-0.6**
baz=34							
O09A	**Fish Creek Ran**	**33.87**	**94**	⇑P	**P**	**18 41 41.2**	**+0.3**
baz=34							
M11A	**Holland Ranch,**	**33.92**	**91**	⇓P	**P**	**18 41 41.7**	**+0.4**
baz=34							
L12A	**House Creek Ra**	**33.95**	**90**	⇓P	**P**	**18 41 41.7**	**+0.2**
baz=34,SNR=14							
BOZ	**Bozeman (W)**	**33.96**	**82**	⇓P	**P**	**18 41 41.4**	**-0.1**
baz=34							
YSS	**Yuzh-Sakhalins**	**34.15**	**281**	⇑*e*P	**P**	**18 41 44.9**	**+1.7**
YSS				pmax	pmax		
comp=Z,10.0nm,0.7s,mb4.8							
YSS				MLR	MLR		
comp=Z,200nm,22.0s,MS3.8							
YSS	**Yuzh-Sakhalins**	**34.15**	**281**	*e*P	**P**	**18 41 42.4**	**-0.7**
comp=Z,13nm,0.8s,mb4.9							
K13A	**Stover Farm, H**	**34.20**	**88**	⇓P	**P**	**18 41 44.3**	**+0.6**
baz=34							
NVAR	**Mina Array Bea**	**34.34**	**98**	P	**P**	**18 41 46.2**	**+1.3**
comp=Z,2.2nm,0.8s,mb4.2,baz=292,slow=8.7,SNR=12							
NVAR				PcP	PcP	18 44 20.6	+0.3
comp=Z,1.0nm,0.9s,baz=289,slow=2.8,SNR=3.1							
M12A	**Wells**	**34.45**	**91**	⇑P	**P**	**18 41 45.7**	**-0.2**
baz=34							
KCC	**Kaiser Creek**	**34.48**	**100**	⇑P	**P**	**18 41 45.7**	**-0.5**
baz=34							
L13A	**Double Diamond**	**34.62**	**89**	⇓P	**P**	**18 41 47.8**	**+0.4**
baz=34,SNR=6.6							
N12A	**Clover Valley,**	**34.73**	**92**	⇑P	**P**	**18 41 48.4**	**+0.1**
baz=35,SNR=7.3							
YAK	**Yakutsk**	**34.91**	**311**	*c i*P	**P**	**18 41 47.9**	**-1.7**
YAK				*e**PP	pP	18 41 56.8	-0.8
YAK				*e*		18 43 03.7	
YAK				*e*PPP		18 43 23.1	
YAK				*e*		18 44 20.6	
YAK				*e*S	**S**	**18 47 20.9**	**+1.9**
YAK				*e**SS	sS	18 47 26.5	-5.6
YAK				pmax	pmax		
comp=Z,14nm,0.8s,mb4.9							
YAK				pmax	pmax		
comp=N,1.0nm,1.1s							
YAK				pmax	pmax		
comp=E,3.0nm,1.0s							
YAK				pmax	pmax		
comp=Z,92nm,6.8s							
YAK				smax			
comp=E,98nm,26.6s							
YAK				smax			
comp=N,62nm,28.4s							
YAK				MLR	MLR		
comp=Z,635nm,19.0s,MS4.4							
YAK				MLR	MLR		
comp=N,598nm,17.0s,MS4.5							
YAK				MLR	MLR		
comp=E,511nm,19.0s,MS4.5							
YAK	**Yakutsk**	**34.91**	**311**	*e*P	**P**	**18 41 46.9**	**-2.7**
comp=E,20nm,0.6s,mb5.2							
YAK				*e*		18 42 04.6	
M13A	**Montello**	**34.93**	**90**	⇓P	**P**	**18 41 50.2**	**+0.2**
baz=35,SNR=7.5							
S08C	**White Mtn Res**	**35.03**	**99**	⇑P	**P**	**18 41 51.1**	**+0.1**
baz=35							
HELL	**Mitchell Peak**	**35.09**	**101**	⇑P	**P**

ERM	**Erimo**	**36.70**	**274**	*e*P	**P**	**18 42 04.7**	**-0.4**
	comp=Z,28nm,0.9s,mb5.1						
S12A	**Delamar Landin**	**36.92**	**96**	⇓P	**P**	**18 42 06.2**	**-0.9**
	baz=37						
T11A	**Corn Creek, Al**	**36.95**	**96**	⇑P	**P**	**18 42 06.9**	**-0.5**
	baz=37						
HABR	**Khabarovsk**	**37.79**	**288**	⇑*e*P	**P**	**18 42 13.2**	**-1.1**
HABR				*e*		18 42 16.6	
HABR				*e*		18 43 41.2	
HABR				*e*		18 43 58.4	
HABR				*e*		18 44 28.1	
HABR				*e*S	**S**	**18 48 04.1**	**+0.9**
HABR				*e*		18 51 05.9	
HABR				*e*		18 52 27.1	
HABR				pmax	pmax		
	comp=Z,34nm,1.2s,mb5.0						
CCUT	**Cedar City**	**37.84**	**94**	*e*P	**P**	**18 42 15.2**	**+0.3**
MSU	**Marysvale**	**37.92**	**92**	*e*P	**P**	**18 42 16.4**	**+0.9**
TMUT	**Trail Mountain**	**37.99**	**90**	*e*P	**P**	**18 42 16.3**	**+0.2**
TMUT				*e*		18 42 30.6	
GMRC	**Granite Mounta**	**38.38**	**100**	⇓P	**P**	**18 42 18.8**	**-0.6**
	baz=38						
SRU	**San Rafael**	**38.51**	**90**	*e*P	**P**	**18 42 20.4**	**-0.1**
SRU				pmax	pmax		
	comp=Z,5.0nm,0.6s,mb4.4						
SRU	**San Rafael**	**38.51**	**90**	*e*P	**P**	**18 42 20.4**	**-0.1**
	comp=Z,5.3nm,0.6s,mb4.5						
ALE	**Alert**	**38.62**	**12**	P	**P**	**18 42 20.6**	**-0.4**
	comp=Z,156nm,0.9s,mb5.7,SNR=7.8						
V13A	**Grand Canyon W**	**38.62**	**97**	⇑P	**P**	**18 42 20.6**	**-0.8**
	baz=38						
U14A	**Mt Trumbull**	**38.71**	**96**	⇑P	**P**	**18 42 21.3**	**-0.9**
	baz=39						
IRM	**Iron Mountain**	**39.11**	**100**	⇓P	**P**	**18 42 25.0**	**-0.6**
	baz=39						
W13A	**Hualapai Mount**	**39.20**	**98**	⇓P	**P**	**18 42 25.6**	**-0.7**
	baz=39						
KLR	**Kul'dur**	**39.25**	**291**	*e*P	**P**	**18 42 20.3**	**-6.2**
RSSD	**Black Hills**	**39.28**	**79**	*e*P	**P**	**18 42 26.1**	**-0.8**
RSSD				*e*		18 44 33.5	
RSSD				pmax	pmax		
	comp=Z,7.0nm,0.6s,mb4.6						
RSSD	**Black Hills**	**39.28**	**79**	*e*P	**P**	**18 42 26.1**	**-0.7**
	comp=Z,7.1nm,0.6s,mb4.6						
RSSD				*e*PcP	PcP	18 44 33.5	-1.7
NRGR	**Nerungri**	**39.31**	**304**	*i* P	**P**	**18 42 26.6**	**-0.4**
X13A	**Yucca**	**39.58**	**98**	⇓P	**P**	**18 42 29.8**	**+0.3**
	baz=39						
W14A	**Seligman**	**39.59**	**97**	⇓P	**P**	**18 42 29.4**	**-0.2**
	baz=40						
V15A	**Kaibab Nationa**	**39.72**	**95**	⇑P	**P**	**18 42 31.2**	**+0.6**
	baz=40						
GLA	**Glamis**	**40.09**	**101**	⇓P	**P**	**18 42 33.9**	**+0.1**
	baz=40						
X14A	**Yava**	**40.22**	**98**	⇓P	**P**	**18 42 34.6**	**-0.2**
	baz=40						
PV01	**Paradox Valley**	**40.31**	**90**	*e*P	**P**	**18 42 34.7**	**-0.8**
WUAZ	**Wupatki**	**40.40**	**95**	*e*P	**P**	**18 42 37.7**	**+1.5**
	comp=Z,11nm,0.8s,mb4.7						
ULM	**Lac du Bonnet**	**40.50**	**66**	*e*P	**P**	**18 42 35.4**	**-1.5**
	comp=Z,12nm,0.8s,mb4.7						
ULM	**Lac du Bonnet**	**40.50**	**66**	P	**P**	**18 42 36.2**	**-0.7**
	comp=Z,5.7nm,0.7s,mb4.4,baz=340,slow=2.2,SNR=11						
Y14A	**Wickenburg**	**40.53**	**98**	⇑P	**P**	**18 42 37.2**	**-0.2**
	baz=40						
W16A	**Flagstaff**	**40.59**	**96**	⇑P	**P**	**18 42 37.5**	**-0.4**
	baz=40						
Y15A	**Casa Rosa Ranc**	**40.91**	**98**	⇓P	**P**	**18 42 40.9**	**+0.3**
	baz=41						
MVCO	**Mesa Verde**	**40.96**	**91**	⇑P	**P**	**18 42 41.0**	**+0.1**
	baz=41						
X16A	**Lo Mia Camp, P**	**41.12**	**96**	⇑P	**P**	**18 42 42.5**	**+0.3**
	baz=41						
Y16A	**Circle Bar Ran**	**41.47**	**97**	⇓P	**P**	**18 42 44.8**	**-0.3**
	baz=41						
AGMN	**Agassiz Refuge**	**41.57**	**69**	*e*P	**P**	**18 42 44.3**	**-1.4**
	comp=Z,12nm,0.3s,mb5.0						
Y17A	**Roosevelt**	**41.98**	**97**	⇑P	**P**	**18 42 49.9**	**+0.7**
	baz=42						
117A	**Oracle**	**42.83**	**98**	⇑P	**P**	**18 42 57.7**	**+1.4**
	baz=43						
TUC	**Tucson**	**42.99**	**98**	P	**P**	**18 42 59.1**	**+1.6**
TUC				pmax	pmax		
	comp=Z,8.0nm,1.3s,mb4.3						
TUC	**Tucson**	**42.99**	**98**	P	**P**	**18 42 59.1**	**+1.6**
	comp=Z,7.9nm,1.3s,mb4.3						
MDJ	**Mudanjiang**	**43.07**	**286**	P	**P**	**18 42 56.3**	**-1.7**
MDJ				SCP	ScP	18 48 37.0	+0.4
MDJ				S	**S**	**18 49 20.0**	**-2.0**
MDJ				XS	sS	18 49 30.5	-4.8
MDJ				SCS	ScS	18 52 56.3	+0.1
MDJ				AMB	AMB		
	comp=Z,6.0nm,1.1s,mb4.2						
MDJ				AMB	AMB		
	comp=Z,32nm,4.3s						
MDJ				LR	LR		
	comp=N,228nm,18.3s						
MDJ				LR	LR		
	comp=E,157nm,24.5s						
MDJ				LR	LR		
	comp=Z,280nm,21.1s,MS4.1						
MAJO	**Matsushiro**	**43.14**	**271**	*e*P	**P**	**18 42 58.5**	**-0.2**
MAJO				pmax	pmax		
	comp=Z,54nm,1.0s,mb5.2						
MAJO	**Matsushiro**	**43.14**	**271**	*e*P	**P**	**18 42 58.5**	**-0.2**
	comp=Z,54nm,1.0s,mb5.2						
MJAR	**Matsushiro Arr**	**43.14**	**271**	P	**P**	**18 42 58.7**	**0.0**
	comp=Z,5.6nm,0.8s,mb4.3,baz=33,slow=7.1,SNR=17						
MJAR				LR	LR	18 59 00.9	
	comp=Z,190nm,21.0s,MS4.0,baz=65,slow=33						
MAT	**Matsushiro**	**43.14**	**271**	P	**P**	**18 42 58.2**	**-0.5**
MAT				S	**S**	**18 49 23.0**	**-0.3**
118A	**Homack Ranch,**	**43.24**	**97**	⇓P	**P**	**18 42 59.6**	**+0.1**
	baz=43						
217A	**Green Valley**	**43.36**	**98**	⇓P	**P**	**18 43 01.3**	**+0.8**
	baz=43						
119A	**Ashpeak Ranch,**	**43.54**	**96**	⇑P	**P**	**18 43 02.6**	**+0.6**
	baz=43						
ANMO	**Albuquerque**	**43.70**	**91**	⇓*e*P	**P**	**18 43 04.1**	**+0.8**
ECSD	**EROS,Sioux Fal**	**43.81**	**75**	*e*P	**P**	**18 43 01.9**	**-2.0**
	comp=Z,16nm,1.2s,mb4.6						
BOD	**Bodaibo**	**43.82**	**310**	*e*P	**P**	**18 43 01.6**	**-2.3**
BOD				pmax	pmax		
	comp=Z,13nm,1.1s,mb4.6						
318A	**Bisbee**	**44.09**	**98**	⇓P	**P**	**18 43 07.1**	**+0.7**
	baz=44						
219A	**White Tail Can**	**44.12**	**97**	⇑P	**P**	**18 43 07.4**	**+0.9**
	baz=44						
BNM	**Barren Site**	**44.16**	**92**	*e*P	**P**	**18 43 06.8**	**-0.1**
EYMN	**Ely**	**44.17**	**67**	*e*P	**P**	**18 43 04.7**	**-2.2**
	comp=Z,18nm,1.1s,mb4.7						
HIA	**Hailar**	**45.75**	**297**	*e*P	**P**	**18 43 17.9**	**-1.5**
HIA				pmax	pmax		
	comp=Z,10.0nm,0.8s						
HIA	**Hailar**	**45.75**	**297**	*e*P	**P**	**18 43 17.9**	**-1.5**
	comp=Z,9.6nm,0.8s,mb4.8						
CN2	**Changchun**	**45.93**	**288**	⇑P	**P**	**18 43 20.0**	**-0.9**
CN2				*e*XP	sP	18 43 30.0	-2.2
CN2				*e*S	**S**	**18 50 01.0**	**-2.5**
CN2				AMB	AMB		
	comp=Z,20nm,1.0s,mb5.0						
CN2				AMB	AMB		
	comp=Z,100nm,5.0s						
CN2				LR	LR		
	comp=N,200nm,17.0s,MS4.2						
CN2				LR	LR		
	comp=E,140nm,17.0s,MS4.2						
CN2				LR	LR		
	comp=Z,200nm,19.0s,MS4.1						
MNTX	**Cornudas Mount**	**46.63**	**94**	*e*P	**P**	**18 43 25.9**	**-0.6**
	comp=Z,6.8nm,1.1s,mb4.5						
KBS	**Kingsbay**	**47.64**	**1**	*e*P	**P**	**18 43 33.8**	**-0.1**
KBS				pmax	pmax		
	comp=Z,353nm,1.4s,mb6.2						
KBS	**Kingsbay**	**47.64**	**1**	*e*P	**P**	**18 43 33.8**	**0.0**
	comp=Z,353nm,1.4s,mb6.2						
DAG	**Danmarks Havn**	**47.96**	**10**	⇓*i*P	**P**	**18 43 36.0**	**-0.3**
DAG				pmax	pmax		
	comp=Z,32nm,1.0s,mb5.3						
DAG	**Danmarks Havn**	**47.96**	**10**	⇓*i*P	**P**	**18 43 36.0**	**-0.3**
	comp=Z,32nm,1.0s,mb5.3						
SNY	**Shenyang**	**48.25**	**287**	⇑P	**P**	**18 43 38.8**	**-0.2**
SNY				AMB	AMB		
	comp=Z,18nm,0.9s,mb5.1						
SPB4	**Spitsbergen Ar**	**48.42**	**360**	*e*P	**P**	**18 43 37.9**	**-2.0**
KSRS	**Korea Array**	**48.62**	**280**	P	**P**	**18 43 42.1**	**+0.3**
	comp=Z,11nm,1.0s,mb4.9,baz=53,slow=6.8,SNR=31						
KSRS				LR	LR	19 02 02.6	
	comp=Z,96nm,21.0s,MS3.8,baz=52,slow=33						
TXAR	**Lajitas Array**	**49.36**	**95**	P	**P**	**18 43 47.1**	**-0.5**
	comp=Z,2.0nm,0.6s,mb4.3,baz=302,slow=5.7,SNR=20						
TXAR				ScP	ScP	18 49 01.9	-1.2
	comp=Z,1.2nm,0.9s,baz=254,slow=2.2,SNR=5.9						
TXAR				LR	LR	19 03 42.1	
	comp=Z,113nm,20.4s,MS3.9,baz=165,slow=35						
SFJD	**Kangerlussuaq**	**49.66**	**28**	*i* P	**P**	**18 43 49.0**	**-0.4**
SFJD				pmax	pmax		
	comp=Z,28nm,0.8s,mb5.3						
SFJD	**Kangerlussuaq**	**49.66**	**28**	*i* P	**P**	**18 43 49.0**	**-0.4**
	comp=Z,28nm,0.8s,mb5.3						
HDIL	**Hopedale**	**50.02**	**73**	*e*P	**P**	**18 43 50.9**	**-1.7**
	comp=Z,126nm,0.9s,mb6.0						
JCT	**Junction City**	**50.82**	**90**	*e*P	**P**	**18 43 57.2**	**-1.5**
JCT				pmax	pmax		
	comp=Z,8.0nm,0.3s,mb5.1						
JCT	**Junction City**	**50.82**	**90**	*e*P	**P**	**18 43 57.2**	**-1.5**
	comp=Z,7.5nm,0.3s,mb5.1						
DL2	**Dalian**	**51.30**	**285**	P	**P**	**18 44 01.8**	**-0.4**
DL2				S	**S**	**18 51 17.5**	**-1.8**
DL2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.9						
DL2				LR	LR		
	comp=N,100nm,18.4s,MS4.0						
DL2				LR	LR		
	comp=E,110nm,19.3s,MS4.0						
DL2				LR	LR		
	comp=Z,120nm,16.9s,MS4.0						
IRK	**Irkutsk**	**51.63**	**308**	⇓*i*P	**P**	**18 44 03.9**	**-0.6**
IRK				pmax	pmax		
	comp=Z,38nm,1.4s,mb5.1						
SCHQ	**Schefferville**	**52.09**	**47**	*e*P	**P**	**18 44 06.8**	**-1.1**
SCHQ	**Schefferville**	**52.09**	**47**	P	**P**	**18 44 07.2**	**-0.8**
	comp=Z,18nm,0.9s,mb5.0,baz=322,slow=8.1,SNR=14						
TLY	**Talaya**	**52.29**	**308**	P	**P**	**18 44 09.3**	**-0.1**
	comp=Z,148nm,0.9s,mb5.9,SNR=13						
TLY	**Talaya**	**52.29**	**308**	*e*P	**P**	**18 44 09.4**	**0.0**
TLY				*e*S	**S**	**18 51 43.3**	**+11**
TLY				pmax	pmax		
	comp=Z,24nm,0.9s,mb5.1						
TLY				MLR	MLR		
	comp=Z,451nm,17.0s,MS4.6						
TLY	**Talaya**	**52.29**	**308**	*e*P	**P**	**18 44 09.1**	**-0.3**
	comp=Z,26nm,1.0s,mb5.1						
USIN	**University of**	**52.70**	**75**	*e*P	**P**	**18 44 10.6**	**-2.1**
	comp=Z,28nm,0.7s,mb5.3						
ULN	**Ulaanbaatar**	**53.18**	**303**	*e*P	**P**	**18 44 15.4**	**-0.6**
ULN				pmax	pmax		
	comp=Z,21nm,0.6s,mb5.2						
ULN	**Ulaanbaatar**	**53.18**	**303**	*e*P	**P**	**18 44 15.4**	**-0.7**
	comp=Z,21nm,0.6s,mb5.2						
ZAK	**Zakamensk**	**53.33**	**307**	*e*P	**P**	**18 44 15.7**	**-1.4**
ZAK				*e*		18 45 20.5	
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
ZAK				pmax	pmax		
	comp=Z,4.0nm,1.2s,mb4.2						
SONM	**Songino Array**	**53.53**	**303**	P	**P**	**18 44 18.8**	**+0.2**
	comp=Z,11nm,0.7s,mb4.9,baz=43,slow=7.6,SNR=38						
SONM				LR	LR	19 09 15.5	
	comp=Z,197nm,19.4s,MS4.2,baz=59,slow=38						
MOY	**Mondy**	**53.53**	**310**	*e*P	**P**	**18 44 18.4**	**-0.2**
MOY				pmax	pmax		
	comp=Z,21nm,1.1s,mb5.0						
BJI	**Beijing**	**53.62**	**290**	P	**P**	**18 44 19.0**	**-0.4**
BJI				PP	PP	18 46 17.8	-2.1
BJI				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb5.0						
BJI				AMB	AMB		
	comp=Z,67nm,4.1s						
BJI				LR	LR		
	comp=N,274nm,20.1s,MS4.4						
BJI				LR	LR		
	comp=E,182nm,20.1s,MS4.4						
BJI				LR	LR		
	comp=Z,238nm,18.2s,MS4.3						
BJT	**Baijiatuau**	**53.63**	**290**	P	**P**	**18 44 18.7**	**-0.8**
KRAR	**Krasnoyarsk**	**54.04**	**318**	⇓*e*P	**P**	**18 44 22.1**	**-0.1**
KRAR				pmax	pmax		
	comp=Z,37nm,1.3s,mb5.2						
OXF	**Oxford**	**54.10**	**79**	*e*P	**P**	**18 44 20.7**	**-2.3**
OXF				pmax	pmax		
	comp=Z,51nm,1.1s,mb5.4						
OXF	**Oxford**	**54.10**	**79**	*e*P	**P**	**18 44 20.7**	**-2.3**
	comp=Z,51nm,1.1s,mb5.4						
HHC	**Hu-ho-hao-te**	**55.60**	**294**	*e*P	**P**	**18 44 34.0**	**+0.2**
HHC				AP	pP	18 44 40.3	-1.7
HHC				XP	sP	18 44 43.0	-2.2
HHC				PCP	PcP	18 45 34.8	+1.6
HHC				PP	PP	18 46 39.3	+1.6
HHC				SCP	ScP	18 49 31.0	+1.0
HHC				S	**S**	**18 52 15.8**	**-1.9**
HHC				XS	sS	18 52 27.8	-3.4
HHC				SCS	ScS	18 54 19.8	-1.0
HHC				AMB	AMB		
	comp=Z,55nm,1.1s,mb5.5						
HHC				AMB	AMB		
	comp=Z,231nm,5.2s						
HHC				LR	LR		
	comp=N,430nm,15.0s,MS4.9						
HHC				LR	LR		
	comp=E,577nm,16.0s,MS4.9						
HHC				LR	LR		
	comp=Z,509nm,15.6s,MS4.7						
TZTN	**Tazewell**	**56.05**	**73**	*e*P	**P**	**18 44 34.7**	**-2.3**
	comp=Z,16nm,1.0s,mb5.0						
TKL	**Tuckaleechee C**	**56.55**	**74**	*e*P	**P**	**18 44 38.3**	**-2.3**
BTO	**Baotou**	**56.61**	**295**	*e*P	**P**	**18 44 41.3**	**+0.3**
KEV	**Kevo**	**56.65**	**356**	*e*p	**P**	**18 44 39.2**	**-1.6**
	comp=Z,7.3nm,0.5s,mb5.0						
KEV	**Kevo**	**56.65**	**356**	*e*P	**P**	**18 44 39.2**	**-1.6**
KEV				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
ARCES	**ARCESS Array B**	**56.93**	**356**	P	**P**	**18 44 41.8**	**-1.0**
	comp=Z,6.6nm,0.6s,mb4.8,baz=19,slow=7.0,SNR=34						
ARCES				LR	LR	19 11 06.3	
	comp=Z,217nm,18.6s,MS4.3,baz=157,slow=38						
ARE0	**ARCESS Array S**	**56.93**	**356**	*e*P	**P**	**18 44 41.8**	**-1.1**
SSE	**Sheshan**	**57.04**	**279**	*e*P	**P**	**18 44 44.0**	**-0.1**
SSE				AP	pP	18 44 51.3	-1.1
SSE				PP	PP	18 46 50.0	-0.7
SSE				S	**S**	**18 52 37.0**	**0.0**
SSE				XS	sS	18 52 47.8	-2.8
SSE				SCS	ScS	18 54 33.8	+2.3
SSE				AMB	AMB		
	comp=Z,19nm,0.8s,mb5.2						
SSE				AMB	AMB		
	comp=Z,71nm,5.1s						
SSE				LR	LR		
	comp=N,60nm,27.1s,MS3.6						
SSE				LR	LR		
	comp=E,26nm,27.1s,MS3.6						
SSE				LR	LR		
	comp=Z,77nm,31.0s,MS3.6						
ELN	**Prospectdale**	**57.14**	**71**	*e*P	**P**	**18 44 42.4**	**-2.4**
NJ2	**Nanjing**	**57.71**	**281**	*e*P	**P**	**18 44 51.0**	**+2.1**
NJ2				AP	pP	18 44 58.3	+1.1
NJ2				XP	sP	18 45 01.5	+1.1
NJ2				PCP	PcP	18 45 43.5	+1.9
NJ2				S	**S**	**18 52 47.0**	**+1.2**
NJ2				XS	sS	18 52 59.0	-0.4
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.3						
NJ2				AMB	AMB		
	comp=Z,220nm,4.9s						
NJ2				LR	LR		
	comp=N,560nm,18.9s,MS4.7						
NJ2				LR	LR		
	comp=E,280nm,21.0s,MS4.7						
NJ2				LR	LR		
	comp=Z,290nm,21.0s,MS4.4						
LVZ	**Lovozero**	**57.99**	**352**	*d*i P	**P**	**18 44 50.0**	**-0.3**
LVZ				pmax	pmax		
	comp=Z,33nm,1.1s,mb5.3						
NVS	**Novosibirsk**	**58.63**	**321**	*i* P	**P**	**18 44 53.4**	**-1.5**
NVS				pmax	pmax		
	comp=N,4.0nm,0.7s						
NVS				pmax	pmax		
	comp=Z,6.0nm,0.7s,mb4.7						
NVS				pmax	pmax		
	comp=E,3.0nm,0.5s						
ZAA0	**Zalesovo Array**	**58.72**	**320**	*e*P	**P**	**18 44 54.6**	**-1.0**
ZALV	**Zalesovo Beam**	**58.72**	**320**	P	**P**	**18 44 55.1**	**-0.5**
	comp=E,5.1nm,0.5s,mb4.8,baz=37,slow=6.3,SNR=36						
ZALV				LR	LR	19 12 59.3	
	comp=E,302nm,18.1s,MS4.5,baz=28,slow=39						
ZAL	**Zalesovo**	**58.73**	**320**	P	**P**	**18 44 55.1**	**-0.6**
TMCR	**Tamitsa**	**61.31**	**349**	*e*P	**P**	**18 45 11.8**	**-1.4**
TMCR				pmax	pmax		
	comp=Z,50nm,1.1s,mb5.6						
WHN	**Wuhan**	**61.44**	**283**	⇓P	**P**	**18 45 14.5**	**-0.1**
XAN	**Xi'an**	**61.95**	**290**	P	**P**	**18 45 17.0**	**-1.0**
XAN				AP	pP	18 45 23.5	-2.8
XAN				PP	PP	18 47 35.0	+0.9
XAN				S	**S**	**18 53 35.5**	**-4.7**
XAN				SS	SS	18 57 40.0	-2.2
XAN				AMB	AMB		
	comp=Z,9.0nm,1.2s,mb4.8						
XAN				AMB	AMB		
	comp=Z,44nm,4.1s						
SOKR	**Solikamsk**	**62.53**	**338**	*c i*P	**P**	**18 45 20.5**	**-0.9**
SOKR				pmax	pmax		
	comp=Z,40nm,0.9s,mb5.5						
GTA	**Gaotai**	**62.87**	**300**	P	**P**	**18 45 23.3**	**-0.8**
GTA				AP	pP	18 45 31.3	-1.1
GTA				XP	sP	18 45 35.0	-0.6
GTA				PP	PP	18 47 43.3	+1.2
GTA				S	**S**	**18 53 49.3**	**-2.4**
GTA				XS	sS	18 54 00.3	-5.2
GTA				SCS	ScS	18 55 10.0	-4.6
GTA				SS	SS	18 57 54.3	-2.0
GTA				AMB	AMB		
	comp=Z,23nm,1.2s,mb5.2						
GTA				AMB	AMB		
	comp=Z,89nm,6.1s						
GTA				LR	LR		
	comp=N,291nm,18.3s,MS4.6						
GTA				LR	LR		
	comp=E,265nm,17.9s,MS4.6						
GTA				LR	LR		
	comp=Z,403nm,17.9s,MS4.6						
JOF	**Joensuu**	**63.17**	**352**	*e*p	**P**	**18 45 24.2**	**-1.4**
	comp=Z,7.7nm,0.4s,mb5.2						
JOF	**Joensuu**	**63.17**	**352**	*e*P	**P**	**18 45 24.2**	**-1.4**
JOF				pmax	pmax		
	comp=Z,8.0nm,0.4s,mb5.2						
LZH	**Lanzhou**	**63.23**	**295**	⇑P	**P**	**18 45 26.5**	**+0.1**
LZH				AP	pP	18 45 37.0	+2.2
LZH				XP	sP	18 45 40.8	+2.8
LZH				PP	PP	18 47 46.5	+1.3
LZH				*e*S	**S**	**18 53 52.8**	**-3.4**
LZH				XS	sS	18 54 09.5	-0.5
LZH				*e*SS	SS	18 58 00.8	-1.2
LZH				AMB	AMB		
	comp=Z,25nm,1.5s,mb5.1						
LZH				AMB	AMB		
	comp=Z,97nm,7.8s						
LZH				LR	LR		
	comp=E,432nm,16.5s						
LZH				LR	LR		
	comp=Z,695nm,19.2s,MS4.8						
KURK	**Kurchatov**	**63.61**	**321**	P	**P**	**18 45 28.5**	**-0.2**
	comp=Z,136nm,0.5s,mb6.2,SNR=18						
KURK	**Kurchatov**	**63.61**	**321**	*e*P	**P**	**18 45 28.3**	**-0.4**
KURK				pmax	pmax		
	comp=Z,27nm,0.9s,mb5.3						
KURK	**Kurchatov**	**63.61**	**321**	*e*P	**P**	**18 45 28.3**	**-0.4**
	comp=Z,27nm,0.9s,mb5.3						
SVE	**Sverdlovsk**	**64.07**	**335**	⇓*e*P	**P**	**18 45 31.6**	**-0.1**
SVE				*e*S	**S**	**18 54 12.4**	**+6.3**
SVE				*e*		19 01 12.1	
SVE				pmax	pmax		
	comp=Z,48nm,0.9s,mb5.5						
SVE				MLR	MLR		
	comp=Z,458nm,18.0s,MS4.7						
KAF	**Kangasniemi**	**64.30**	**355**	*e*p	**P**	**18 45 32.4**	**-0.7**
	comp=Z,6.7nm,0.5s,mb4.9,baz=3.0,slow=6.2						
KAF	**Kangasniemi**	**64.30**	**355**	*e*P	**P**	**18 45 32.4**	**-0.7**
KAF				pmax	pmax		
	comp=Z,7.0nm,0.5s,mb5.0						
BRVK	**Borovoye**	**64.57**	**327**	P	**P**	**18 45 35.9**	**+0.9**
	comp=Z,204nm,0.7s,mb6.3,SNR=18						
BRVK	**Borovoye**	**64.57**	**327**	*e*P	**P**	**18 45 34.8**	**-0.2**
BRVK				pmax	pmax		
	comp=Z,40nm,1.1s,mb5.4						
BRVK	**Borovoye**	**64.57**	**327**	*e*P	**P**	**18 45 34.8**	**-0.2**
	comp=Z,40nm,1.1s,mb5.4						
ARU	**Arti**	**64.95**	**336**	P	**P**	**18 45 37.2**	**-0.2**
	comp=Z,315nm,0.5s,SNR=16						
ARU	**Arti**	**64.95**	**336**	*c i*P	**P**	**18 45 36.9**	**-0.5**
ARU				*e*		18 46 09.3	
ARU				*e*S	**S**	**18 54 17.5**	**+0.6**
ARU				*e*SS	SS	18 58 25.3	-2.4
ARU				pmax	pmax		
	comp=Z,52nm,1.2s,mb5.4						
ARU				MLR	MLR		
	comp=Z,279nm,17.0s,MS4.5						
ARU	**Arti**	**64.95**	**336**	*e*P	**P**	**18 45 36.7**	**-0.7**
	comp=Z,59nm,1.0s,mb5.6						
FIA1	**FINESS Array S**	**64.98**	**355**	*e*P	**P**	**18 45 36.7**	**-0.8**
FINES	**FINESS Array B**	**64.98**	**355**	*i* P	**P**	**18 45 36.9**	**-0.6**
FINES				pmax	pmax		
	comp=Z,15nm,0.7s						
FINES	**FINESS Array B**	**64.98**	**355**	P	**P**	**18 45 36.9**	**-0.7**
	comp=Z,14nm,0.7s,mb5.2,baz=23,slow=7.7,SNR=56						
FINES				LR	LR	19 16 22.4	
	comp=Z,176nm,18.9s,MS4.3,baz=354,slow=38						
MK31	**Makanchi Array**	**65.33**	**316**	*i* P	**P**	**18 45 39.1**	**-0.9**
MK31				pmax	pmax		
	comp=Z,2.0nm,0.3s,mb4.6						
MK31	**Makanchi Array**	**65.33**	**316**	*e*P	**P**	**18 45 39.0**	**-1.0**
MKAR	**Makanchi Array**	**65.33**	**316**	*i* P	**P**	**18 45 39.2**	**-0.8**
MKAR				pmax	pmax		
	comp=Z,5.0nm,0.6s						
MKAR	**Makanchi Array**	**65.33**	**316**	P	**P**	**18 45 39.1**	**-0.9**
	comp=Z,5.4nm,0.6s,mb4.7,baz=46,slow=6.9,SNR=78						
MKAR				LR	LR	19 15 40.7	
	comp=Z,220nm,19.3s,MS4.4,baz=31,slow=37						
WMQ	**Urumqi**	**65.36**	**311**	*e*P	**P**	**18 45 40.0**	**-0.3**
WMQ				XP	sP	18 45 49.0	-2.8
WMQ				PP	PP	18 48 06.0	+2.3
WMQ				S	S	18 54 22.0	-0.4
WMQ				SCS	ScS	18 55 31.0	-2.5
WMQ				AMB	AMB		
	comp=Z,28nm,1.0s,mb5.2						
WMQ				AMB	AMB		
	comp=Z,56nm,6.0s						
WMQ				LR	LR		
	comp=N,274nm,18.0s,MS

GYA AMB AMB
comp=Z,120nm,5.2s
GYA LR LR
comp=Z,640nm,23.8s,MS4.8
EAB Aberfoyle 69.21 12 *e*P **P 18 46 04.7 +0.2**
EBH Black Hill 69.25 12 *e*P **P 18 46 05.0 +0.2**
EAU Auchinoon 69.65 12 *e*P **P 18 46 07.7 +0.5**
ESK Eskdalemuir 70.20 12 P **P 18 46 11.0 +0.4**
ESK AMb AMB 18 46 18.4
comp=Z,62nm,1.9s,mb5.2
ESK Eskdalemuir 70.20 12⇓ *e*P **P 18 46 11.0 +0.4**
ESK AMb AMB 18 46 18.4
comp=Z,62nm,1.9s,mb5.2
ESK AMS AMS 19 18 18.3
comp=Z,99nm,18.5s,MS4.1
OBN Obninsk 70.31 348 *d i*P **P 18 46 10.7 -0.6**
OBN *e*S S 18 55 22.4 +1.2
OBN pmax pmax
comp=Z,51nm,1.3s,mb5.3
OBN MLR MLR
comp=Z,200nm,16.0s,MS4.5
OBN Obninsk 70.31 348 *e*P **P 18 46 10.6 -0.7**
comp=Z,13nm,0.4s,mb5.2
GAL1 Galloway 70.45 13 P **P 18 46 12.2 +0.1**
GAL1 AMb AMB 18 46 17.5
comp=Z,40nm,1.9s,mb5.0
GAL1 Galloway 70.45 13⇓ *e*P **P 18 46 12.2 +0.1**
GAL1 AMb AMB 18 46 17.5
comp=Z,40nm,1.9s,mb5.0
GAL1 AMS AMS 19 18 54.0
comp=Z,140nm,18.6s,MS4.2
AKTO Aktyubinsk 70.51 333 *i* P **P 18 46 12.6 0.0**
AKTO pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TKM2 Tokmak 2 71.22 318 *e*P **P 18 46 17.1 +0.1**
TKM2 pmax pmax
comp=Z,19nm,1.1s,mb4.9
TKM2 Tokmak 2 71.22 318 *e*P **P 18 46 17.1 +0.1**
comp=Z,19nm,1.1s,mb4.9
TKM2 Tokmak 2 71.22 318 P **P 18 46 17.7 +0.7**
SNR=12
USP Ospenovka 71.36 319 P **P 18 46 18.5 +0.6**
SNR=13
CHMS Chumysh 71.49 319 P **P 18 46 19.4 +0.8**
SNR=8.5
ULHL Ulahol 71.53 317 P **P 18 46 20.0 +1.1**
SNR=11
FRU Bishkek 71.68 319 *e*P **P 18 46 20.0 +0.2**
FRU pmax pmax
comp=Z,57nm,1.8s,mb5.2
KBK Karagaybulak 71.70 318 P **P 18 46 20.7 +0.8**
SNR=14
HPK Haverah Park 71.72 11 AMS AMS 19 21 28.0
comp=Z,70nm,17.9s
HPK Haverah Park 71.72 11 AMS AMS 19 21 28.0
comp=Z,70nm,17.9s,MS4.0
AAK Ala-Archa 71.89 319 P **P 18 46 20.8 -0.3**
comp=Z,100nm,1.0s,mb5.7,SNR=9.4
AAK Ala-Archa 71.89 319 P **P 18 46 21.7 +0.6**
SNR=13
PPT Papeete 71.97 166 LR LR 19 12 20.1
comp=Z,204nm,19.7s,MS4.4,baz=332,slow=31
KZA Kyzart 72.07 318 P **P 18 46 23.2 +1.1**
SNR=11
EKS2 Erkin-Say 72.15 319 *e*P **P 18 46 22.8 +0.2**
comp=Z,22nm,0.9s,mb5.1
EKS2 Erkin-Say 72.15 319 P **P 18 46 23.4 +0.8**
SNR=9.7
KMI Kunming 72.20 288 P **P 18 46 23.0 -0.2**
KMI AP pP 18 46 30.3 -1.4
KMI PP PP 18 49 05.0 +1.6
KMI S S 18 55 41.8 -2.2
KMI XS sS 18 55 53.8 -4.2
KMI SKS 18 56 21.0
KMI SS SS 19 00 20.5 -0.7
KMI AMB AMB
comp=Z,8.0nm,1.1s,mb4.6
KMI LR LR
comp=N,95nm,17.8s,MS4.4
KMI LR LR
comp=E,161nm,19.4s,MS4.4
KMI LR LR
comp=Z,180nm,17.8s,MS4.4
UCH Uchtor 72.23 318 P **P 18 46 24.4 +1.3**
SNR=6.0
SUW Suwalki 72.54 356 *e*P **P 18 46 24.5 -0.2**
SUW Suwalki 72.54 356 *e*P **P 18 46 24.5 -0.2**
SBD1 Bryn Du 72.56 12⇓ *e*P **P 18 46 25.2 +0.4**
KWE Weaver Farm 72.62 11 *e*P **P 18 46 25.8 +0.6**
AML Almayashu 72.64 319 *e*P **P 18 46 26.6 +1.1**
comp=Z,20nm,0.9s,mb5.1
AML Almayashu 72.64 319 P **P 18 46 27.0 +1.5**
SNR=18
BSEG Bad Segeberg 72.66 4 *e*P **P 18 46 25.9 +0.5**
BSEG pmax pmax
comp=Z,18nm,0.9s,mb5.0
BSEG Bad Segeberg 72.66 4 *e*P **P 18 46 25.9 +0.5**
comp=Z,18nm,0.9s,mb5.0
QIZ Qiongzhong 72.83 279 P **P 18 46 29.5 +2.5**
QIZ S S 18 55 49.5 -1.9
QIZ LR LR
comp=N,55nm,21.5s
QIZ LR LR
comp=E,112nm,15.4s
QIZ LR LR
comp=Z,125nm,15.9s
CWF Charnwood Fore 72.96 11 P **P 18 46 27.2 0.0**
CWF AMb AMB 18 46 29.3
comp=Z,19nm,1.3s,mb4.9
CWF Charnwood Fore 72.96 11 *e*P **P 18 46 27.2 0.0**
CWF AMb AMB 18 46 29.3
comp=Z,19nm,1.3s,mb4.9
CWF AMS AMS 19 21 35.6
comp=Z,94nm,18.8s,MS4.1
KK31 Karatay Array 73.01 322 *i* P **P 18 46 27.5 -0.2**
KK31 pmax pmax
comp=Z,10.0nm,0.6s,mb4.9
HTR Trewern Hill 73.36 12 *e*P **P 18 46 30.0 +0.4**
VRHR Novokhopersk 73.47 344 *e*P **P 18 46 29.9 -0.4**
VRHR pmax pmax
comp=Z,20nm,0.5s,mb5.3
VRHR pmax pmax
comp=N,30nm,0.7s
VRHR pmax pmax
comp=E,50nm,0.7s
MCH1 Michaelchurch 73.48 12 *e*P **P 18 46 30.8 +0.5**
HAE Alders End 73.50 12⇓ *e*P **P 18 46 31.1 +0.7**
VRSR Storozhevoye 73.75 345 *e*P **P 18 46 31.1 -0.8**
VRSR pmax pmax
comp=Z,7.0nm,0.5s,mb4.8
VRSR pmax pmax
comp=N,9.0nm,0.9s
VRSR pmax pmax
comp=E,2.0nm,0.5s
HGH Gray Hill 73.86 12 *e*P **P 18 46 33.0 +0.5**
NRDL Niedersach Rie 74.09 4 *e*P **P 18 46 34.4 +0.5**
comp=Z,26nm,1.1s,mb5.1
IBBN Ibbenburen 74.16 5 *e*P **P 18 46 35.1 +0.8**
comp=Z,69nm,1.4s,mb5.4
HTL Hartland 74.26 13 AMS AMS 19 20 26.5
comp=Z,125nm,19.0s
HTL Hartland 74.26 13 AMS AMS 19 20 26.5
comp=Z,125nm,19.0s,MS4.2
SWK Warminster 74.41 12⇓ *e*P **P 18 46 36.2 +0.4**
CLZ Clausthal 74.75 4 *e*P **P 18 46 37.9 +0.2**
CLZ pmax pmax
comp=Z,32nm,1.1s,mb5.2
CLZ Clausthal 74.75 4 *e*P **P 18 46 37.9 +0.2**
comp=Z,32nm,1.1s,mb5.2
DYA Yadsworthy 74.89 13 AMS AMS 19 20 45.0
comp=Z,107nm,20.1s
DYA Yadsworthy 74.89 13 AMS AMS 19 20 45.0
comp=Z,107nm,20.1s,MS4.1
LSA Lhasa 74.89 300 P **P 18 46 40.3 +1.4**
LSA AMB AMB
comp=Z,30nm,0.8s,mb5.3
LSA Lhasa 74.89 300 *e*P **P 18 46 40.1 +1.2**
LSA pmax pmax
comp=Z,16nm,0.6s,mb5.1
LSA Lhasa 74.89 300 *e*P **P 18 46 40.1 +1.2**
comp=Z,16nm,0.6s,mb5.1
CRQ2 Rosemanowes 2 74.97 14 *e*P **P 18 46 38.7 -0.4**
BUG Bochum--Univer 75.00 6 *e*P **P 18 46 39.3 +0.1**
comp=Z,35nm,1.3s,mb5.1
CLL Collm 75.37 2⇑ *i*P **P 18 46 41.3 0.0**
CLL *i* 18 46 52.2
CLL pmax pmax
comp=Z,19nm,1.1s,mb4.9
CLL Collm 75.37 2 *e*P **P 18 46 41.1 -0.2**
comp=Z,19nm,1.1s,mb4.9
CLL Collm 75.37 2⇑ *i*P **P 18 46 41.3 0.0**
comp=Z,19nm,1.1s,mb4.9
CLL *i* sP sP 18 46 52.2 -0.8
UCC Uccle 75.43 8 P **P 18 46 42.0 +0.3**
comp=Z,29nm,2.0s,mb4.9
AKASG Malin Array Be 75.44 352 *i* P **P 18 46 40.7 -1.1**
AKASG pmax pmax
comp=Z,12nm,0.5s
AKASG Malin Array Be 75.44 352 P **P 18 46 41.0 -0.7**
comp=Z,12nm,0.5s,mb5.0,baz=9.5,slow=5.6,SNR=46
AKASG LR LR 19 24 58.0
comp=Z,196nm,19.4s,MS4.4,baz=5.0,slow=40
AKBB Malin Array Si 75.44 352 *e*P **P 18 46 40.7 -1.1**
KIEV Kiev 75.45 352 *e*P **P 18 46 40.7 -1.1**
KIEV pmax pmax
comp=Z,12nm,0.6s,mb5.0
KIEV Kiev 75.45 352 *e*P **P 18 46 40.7 -1.1**
comp=Z,12nm,0.6s,mb5.0
MEM Membach 75.74 7 P **P 18 46 43.7 +0.2**
comp=Z,14nm,1.0s,mb4.8
UBBA Unterbreizbach 75.76 4 *e*P **P 18 46 43.3 -0.3**
comp=Z,4.0nm,0.7s,mb4.5
BRG Berggiesshubel 75.82 2⇑ *i*P **P 18 46 43.9 0.0**
BRG pmax pmax
comp=Z,8.0nm,0.9s,mb4.7
BRG Berggiesshubel 75.82 2 *e*P **P 18 46 44.0 +0.1**
comp=Z,13nm,0.9s,mb4.9
BRG Berggiesshubel 75.82 2⇑ *i*P **P 18 46 43.9 0.0**
comp=Z,13nm,0.9s,mb4.8
KSP Ksiaz 75.87 0 *e*P **P 18 46 44.2 0.0**
BCLA Clavier 75.88 7 P **P 18 46 44.7 +0.5**
comp=Z,12nm,1.1s,mb4.7
MOX Moxa 75.99 3 *e*P **P 18 46 45.2 +0.3**
comp=Z,39nm,1.2s,mb5.2
MOX *e* 18 46 56.9
MOX Moxa 75.99 3 *e*P **P 18 46 45.2 +0.3**
MOX *e* 18 46 56.9
MOX pmax pmax
comp=Z,39nm,1.2s,mb5.2
DOU Dourbes 76.15 8 P **P 18 46 46.3 +0.5**
comp=Z,7.3nm,1.0s,mb4.6
BAIF Baives 76.15 8 *e*P **P 18 46 45.7 -0.1**
comp=Z,27nm,0.9s,mb4.9
BAIF Baives 76.15 8 *e*P **P 18 46 45.7 -0.1**
BAIF pmax pmax
comp=Z,14nm,0.9s,mb4.9
BAIF Baives 76.15 8 *e*P **P 18 46 45.7 -0.1**
comp=Z,14nm,0.9s,mb4.9
GIVF Givet 76.16 8 *e*P **P 18 46 45.6 -0.2**
PVCC Panska Ves 76.17 1 *e*P **P 18 46 46.6 +0.7**
PVCC AMS AMS 19 31 20.0
UPC Upice 76.20 0 *e*P **P 18 46 46.4 +0.3**
TANN Tannenbergstha 76.25 3 *e*P **P 18 46 46.5 +0.2**
comp=Z,9.0nm,1.0s,mb4.7
DPC Dobruska-Polom 76.36 360 *e*P **P 18 46 47.6 +0.6**
DPC AMS AMS 19 29 50.0
comp=Z,200nm,22.6s
NKC Novy Kostel 76.43 3 *e*P **P 18 46 48.1 +0.7**
NKC AMS AMS 19 32 00.0
OJC Ojcow 76.45 358 *e*P **P 18 46 47.8 +0.3**
ABH Alteburg 76.57 6 *e*P **P 18 46 48.2 0.0**
MANZ Manzenberg 76.67 3 *e*P **P 18 46 48.8 +0.1**
comp=Z,9.0nm,1.1s,mb4.6
LVV L'vov 76.69 355⇓ *i*P **P 18 46 48.4 -0.5**
WLF Walferdange 76.69 7 *e*P **P 18 46 49.1 +0.2**
WLF pmax pmax
comp=Z,28nm,1.1s,mb5.1
WLF Walferdange 76.69 7 *e*P **P 18 46 49.1 +0.2**
comp=Z,28nm,1.1s,mb5.1
WLF Walferdange 76.69 7 P **P 18 46 49.5 +0.6**
comp=Z,13nm,1.2s,mb4.7
WLF Walferdange 76.69 7 *e*P **P 18 46 49.3 +0.4**
comp=Z,20nm,0.9s,mb5.0
PRU Pruhonice 76.71 1 *e*P **P 18 46 49.5 +0.5**
PRU AMS AMS 19 30 30.0
comp=Z,200nm,15.3s
RUP Ruppelstein 76.72 6 *e*P **P 18 46 48.9 -0.1**
OKC Ostrava-Krasne 76.86 359 *e*P **P 18 46 50.6 +0.8**
OKC AMS AMS 19 30 50.0
ROTZ Rotzenmuhle 76.89 3 *e*P **P 18 46 50.6 +0.6**
comp=Z,16nm,1.1s,mb4.9
TOD Tromm 76.91 5 *e*P **P 18 46 50.1 0.0**
MORC Moravsky Berou 76.93 359 *e*P **P 18 46 50.0 -0.2**
MORC pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
MORC Moravsky Berou 76.93 359 *e*P **P 18 46 50.0 -0.2**
comp=Z,5.8nm,0.9s,mb4.5
MORC Moravsky Berou 76.93 359⇓ *i*P **P 18 46 50.2 0.0**
GRA1 Grafenberg Arr 76.93 3 *e*P **P 18 46 50.9 +0.7**
comp=Z,21nm,1.1s,mb5.0
GRF Grafenberg Arr 76.93 3 *e*P **P 18 46 50.9 +0.7**
GRF pmax pmax
comp=Z,21nm,1.1s,mb5.0
GRF Grafenberg Arr 76.93 3 *e*P **P 18 46 50.9 +0.7**
GRF pmax pmax
comp=Z,21nm,1.1s,mb5.0
GRF Grafenberg Arr 76.93 3 *e*P **P 18 46 50.9 +0.7**
comp=Z,21nm,1.1s,mb5.0
KWP Kalwaria 76.94 356 *e*P **P 18 46 50.9 +0.6**
KWP Kalwaria 76.94 356 *e*P **P 18 46 50.9 +0.6**
KWP Kalwaria 76.94 356⇑ *i*P **P 18 46 50.7 +0.4**
FLN La Foliniere 76.97 11 *e*P **P 18 46 49.8 -0.6**
comp=Z,38nm,1.1s,mb4.9
FLN *e*MLR MLR
comp=Z,119nm,18.2s,MS4.0
FLN La Foliniere 76.97 11 *e*P **P 18 46 49.8 -0.6**
FLN pmax pmax
comp=Z,19nm,1.1s,mb4.9
FLN MLR MLR
comp=Z,120nm,18.3s,MS4.2
FLN La Foliniere 76.97 11 *e*P **P 18 46 49.8 -0.6**
comp=Z,19nm,1.1s,mb4.9
FLN LR LR
comp=Z,120nm,18.3s,MS4.2
ROSF Rostrenen 77.03 13 *e*P **P 18 46 51.7 +0.9**
comp=Z,8.0nm,0.7s,mb4.4
ROSF Rostrenen 77.03 13 *e*P **P 18 46 51.7 +0.9**
ROSF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
ROSF Rostrenen 77.03 13 *e*P **P 18 46 51.7 +0.9**
comp=Z,4.0nm,0.7s,mb4.5
LDF La Druitiere 77.17 11 *e*P **P 18 46 51.0 -0.6**
comp=Z,13nm,0.7s,mb4.7
LDF La Druitiere 77.17 11 *e*P **P 18 46 51.0 -0.6**
LDF pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
LDF La Druitiere 77.17 11 *e*P **P 18 46 51.0 -0.6**
comp=Z,6.4nm,0.7s,mb4.7
SGMF Saint Gilles 77.21 13 *e*P **P 18 46 51.6 -0.2**
comp=Z,9.8nm,0.5s,mb4.7
SGMF Saint Gilles 77.21 13 *e*P **P 18 46 51.6 -0.2**
SGMF pmax pmax
comp=Z,5.0nm,0.5s,mb4.7
SGMF Saint Gilles 77.21 13 *e*P **P 18 46 51.6 -0.2**
comp=Z,4.9nm,0.5s,mb4.7
STHS Stebnicka Huta 77.21 357 *i* P **P 18 46 53.1 +1.3**
STHS pmax pmax
comp=Z,18nm,0.7s,mb5.1
STHS Stebnicka Huta 77.21 357 *i* P **P 18 46 53.1 +1.3**
comp=Z,18nm,0.7s,mb5.1
GRR Gorron 77.29 12 *e*P **P 18 46 51.8 -0.5**
comp=Z,11nm,0.7s,mb4.6
GRR Gorron 77.29 12 *e*P **P 18 46 51.8 -0.5**
GRR pmax pmax
comp=Z,5.0nm,0.7s,mb4.5
GRR Gorron 77.29 12 *e*P **P 18 46 51.8 -0.5**
comp=Z,5.3nm,0.7s,mb4.6
VRAC Vranov 77.41 360⇓ *i*P **P 18 46 53.3 +0.4**
TREC Trest 77.42 1 *e*P **P 18 46 53.5 +0.5**
TREC AMS AMS 19 30 10.0
comp=Z,200nm,19.9s
LANF Langenberg 77.48 6 *e*P **P 18 46 53.0 -0.3**
WET Wettzell 77.53 2 *e*P **P 18 46 54.0 +0.4**
WET pmax pmax
comp=Z,18nm,1.4s,mb4.8
WET Wettzell 77.53 2 *e*P **P 18 46 54.0 +0.4**
comp=Z,18nm,1.4s,mb4.8
KHC Kasperske Hory 77.56 2 *e*P **P 18 46 54.4 +0.7**
KHC *e* pP 18 47 02.1 -0.2
KHC Kasperske Hory 77.56 2 *e*P **P 18 46 54.4 +0.7**
KHC *e*pP pP 18 47 02.1 -0.2
KHC AMS AMS 19 30 10.0
comp=Z,200nm,5.5s
KOLS Kolonicke sedl 77.66 356 *i* P **P 18 46 55.1 +0.8**
CRVS Cervenica-Dubn 77.72 357 *i* P **P 18 46 55.2 +0.5**
CRVS *e* 18 47 05.2
CRVS Cervenica-Dubn 77.72 357 *i* P **P 18 46 55.2 +0.5**
CRVS *i* pP pP 18 47 05.2 +2.0
STU Stuttgart 77.76 5 *e*P **P 18 46 55.2 +0.3**
comp=Z,17nm,0.9s,mb5.0
SHL Shillong 77.82 297 *e*P **P 18 46 54.0 -1.6**
SHL AMb AMB 18 46 54.9
comp=Z,13nm,1.1s,mb4.8
SHL *e*P 18 46 55.0
GEC2 GERESS Array S 77.84 2 *e*P **P 18 46 55.4 0.0**
GEC2 pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
GEC2 GERESS Array S 77.84 2 *e*P **P 18 46 55.4 0.0**
comp=Z,9.0nm,0.9s,mb4.7
GERES GERESS Array B 77.84 2 P **P 18 46 55.8 +0.4**
comp=Z,5.1nm,0.7s,mb4.6,baz=1.0,slow=4.4,SNR=35
UZH Uzhgorod 77.96 356 *e* **P 18 46 55.8 -0.2**
UZH *i* 18 47 06.6
CDF Champ du Feu 78.01 6 *e*P **P 18 46 56.1 -0.2**
comp=Z,36nm,1.0s,mb4.9
CDF Champ du Feu 78.01 6 *e*P **P 18 46 56.1 -0.2**
CDF pmax pmax
comp=Z,18nm,1.0s,mb5.0
CDF Champ du Feu 78.01 6 *e*P **P 18 46 56.1 -0.2**
comp=Z,18nm,1.0s,mb5.0
THEF They Montfort 78.11 7 *e*P **P 18 46 57.0 +0.2**
BFO Black Forest 78.16 5 *e*P **P 18 46 57.3 +0.2**
BFO pmax pmax
comp=Z,30nm,1.7s,mb5.0
BFO Black Forest 78.16 5 *e*P **P 18 46 57.3 +0.2**
comp=Z,30nm,1.7s,mb5.0
KECS Kecovo 78.17 357 *i* P **P 18 46 57.7 +0.5**
KECS pmax pmax
comp=Z,8.0nm,0.7s,mb4.8
KECS Kecovo 78.17 357 *i* P **P 18 46 57.7 +0.5**
comp=Z,8.0nm,0.7s,mb4.8
VYHS Vyhne 78.20 358 *i* P **P 18 46 57.9 +0.6**
VYHS pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
VYHS Vyhne 78.20 358 *i* P **P 18 46 57.9 +0.6**
comp=Z,6.4nm,0.9s,mb4.5
ECH Echery 78.20 6 *e*P **P 18 46 57.2 -0.2**
NANT Nan 78.33 286 P **P 18 46 55.0 -3.5**
HAU Haudompre 78.36 7 *e*P **P 18 46 57.9 -0.3**
comp=Z,21nm,0.8s,mb4.8
HAU *e*MLR MLR
comp=Z,112nm,21.5s,MS3.9
HAU Haudompre 78.36 7 *e*P **P 18 46 57.9 -0.3**
HAU pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
HAU MLR MLR
comp=Z,110nm,21.5s,MS4.2
HAU Haudompre 78.36 7 *e*P **P 18 46 57.9 -0.3**
comp=Z,10nm,0.8s,mb4.8
HAU LR LR
comp=Z,110nm,21.5s,MS4.2
SPAK Spaichingen-Ko 78.41 5 *e*P **P 18 46 57.6 -0.9**
FUR Furstenfeldbru 78.46 3 *e*P **P 18 46 59.1 +0.3**
FUR pmax pmax
comp=Z,20nm,1.0s,mb5.0
FUR Furstenfeldbru 78.46 3 *e*P **P 18 46 59.1 +0.3**
comp=Z,20nm,1.0s,mb5.0
ZST Bratislava 78.52 359 *i* P **P 18 47 00.2 +1.1**
ZST pmax pmax
comp=Z,17nm,1.2s,mb4.8
ZST Bratislava 78.52 359 *i* P **P 18 47 00.2 +1.1**
comp=Z,17nm,1.2s,mb4.9
MOF Molkenrain 78.56 6 *e*P **P 18 46 59.1 -0.3**
HINF Hinteralfeld 78.58 6 *e*P **P 18 46 59.0 -0.4**
comp=Z,10nm,0.6s,mb4.6
HINF Hinteralfeld 78.58 6 *e*P **P 18 46 59.0 -0.4**
HINF pmax pmax
comp=Z,5.0nm,0.6s,mb4.6
HINF Hinteralfeld 78.58 6 *e*P **P 18 46 59.0 -0.4**
comp=Z,5.1nm,0.6s,mb4.6
FELD Feldberg im Sc 78.59 6 *e*P **P 18 46 59.1 -0.4**
PSZ Piszkesteto 78.75 358 *e*P **P 18 47 01.1 +0.7**
comp=Z,21nm,1.2s,mb5.0
PSZ Piszkesteto 78.75 358⇑ *i*P **P 18 47 01.1 +0.7**
CONA Conrad Observa 78.79 0⇑ *i*P **P 18 47 01.2 +0.7**
comp=Z,22nm,1.4s,mb4.9,SNR=6.1
CSNA Conrad Observa 78.79 0⇓ *i*P **P 18 47 01.3 +0.7**
comp=Z,20nm,1.4s,mb4.9
BURAR Bucovina Array 78.82 354⇓ *i*P **P 18 47 01.2 +0.4**
LOR Lormes 78.89 9 *e*P **P 18 47 00.9 -0.3**
comp=Z,27nm,1.0s,mb4.8
LOR *e*MLR MLR
comp=Z,86nm,19.5s,MS3.8
LOR Lormes 78.89 9 *e*P **P 18 47 00.9 -0.3**
LOR pmax pmax
comp=Z,14nm,1.0s,mb4.8
LOR MLR MLR
comp=Z,90nm,19.5s,MS4.1
LOR Lormes 78.89 9 *e*P **P 18 47 00.9 -0.3**
comp=Z,14nm,1.0s,mb4.8
LOR LR LR
comp=Z,90nm,19.5s,MS4.1
GUN Gumba 79.03 302 *e*P **P 18 47 02.8 +0.5**
comp=Z,75nm,0.5s,mb5.8
SSF Saint Saulge 79.06 9 *e*P **P 18 47 01.9 -0.2**
comp=Z,20nm,0.5s,mb5.0
SSF Saint Saulge 79.06 9 *e*P **P 18 47 01.9 -0.2**
SSF pmax pmax
comp=Z,10.0nm,0.5s,mb5.0
SSF Saint Saulge 79.06 9 *e*P **P 18 47 01.9 -0.2**
comp=Z,9.8nm,0.5s,mb5.0
JIRN Jiri 79.08 302 *e*P **P 18 47 03.3 +0.8**
comp=Z,134nm,0.5s,mb6.1
MFF Saint Martin d 79.13 11 *e*P **P 18 47 02.4 -0.1**
comp=Z,24nm,0.8s,mb4.9
MFF Saint Martin d 79.13 11 *e*P **P 18 47 02.4 -0.1**
MFF pmax pmax
comp=Z,12nm,0.8s,mb4.9
MFF Saint Martin d 79.13 11 *e*P **P 18 47 02.4 -0.1**
comp=Z,12nm,0.8s,mb4.9
MOTA Moosalm 79.27 4⇑ *i*P **P 18 47 03.8 +0.5**
comp=Z,19nm,1.0s,mb5.0,SNR=9.5
MOTA Moosalm 79.27 4⇑ *i*P **P 18 47 03.8 +0.5**
MOTA pmax pmax
comp=Z,19nm,1.0s,mb5.0
WATA Walderalm 79.30 3⇑ *i*P **P 18 47 04.2 +0.8**
comp=Z,17nm,1.1s,mb4.9
WATA Walderalm 79.30 3⇑ *i*P **P 18 47 04.2 +0.8**
WATA pmax pmax
comp=Z,17nm,1.1s,mb4.9
AVF Avril sur Loir 79.32 9 *e*P **P 18 47 03.0 -0.5**
comp=Z,12nm,0.5s,mb4.8
AVF Avril sur Loir 79.32 9 *e*P **P 18 47 03.0 -0.5**
AVF pmax pmax
comp=Z,6.0nm,0.5s,mb4.8
AVF Avril sur Loir 79.32 9 *e*P **P 18 47 03.0 -0.5**
comp=Z,6.2nm,0.5s,mb4.8
CHG Chiang Mai 79.32 287 P **P 18 47 12.7 +8.7**
CHTO Chiang Mai 79.32 287 *e*P **P 18 47 02.3 -1.7**
CHTO pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
CHTO Chiang Mai 79.32 287 *e*P **P 18 47 02.3 -1.7**
comp=Z,3.9nm,0.7s,mb4.5
WTTA Wattenberg 79.37 3⇑ *i*P **P 18 47 03.9 +0.1**
comp=Z,21nm,0.7s,mb5.2
WTTA Wattenberg 79.37 3⇑ *i*P **P 18 47 03.9 +0.1**
WTTA pmax pmax
comp=Z,21nm,0.7s,mb5.2
SQTA Sankt Quirin 79.40 4⇓ *i*P **P 18 47 04.8 +0.9**
comp=Z,19nm,0.9s,mb5.0,SNR=12
SQTA Sankt Quirin 79.40 4⇓ *i*P **P 18 47 04.9 +0.9**
SQTA pmax pmax
comp=Z,19nm,0.9s,mb5.0
KKN Kakani 79.43 303 *e*P **P 18 47 04.8 +0.4**
comp=Z,24nm,0.6s,mb5.3
ARSA Arzberg 79.46 1⇑ *i*P **P 18 47 05.2 +0.9**
comp=Z,17nm,1.2s,mb4.8
BGF Bois d'Agland 79.50 9 *e*P **P 18 47 04.2 -0.3**
comp=Z,14nm,0.8s,mb4.7
BGF Bois d'Agland 79.50 9 *e*P **P 18 47 04.2 -0.3**
BGF pmax pmax
comp=Z,7.0nm,0.8s,mb4.6
BGF Bois d'Agland 79.50 9 *e*P **P 18 47 04.2 -0.3**
comp=Z,7.0nm,0.8s,mb4.6
SMF Signal de Mont 79.51 9 *e*P **P 18 47 04.2 -0.3**
comp=Z,25nm,0.8s,mb4.9
SMF Signal de Mont 79.51 9 *e*P **P 18 47 04.2 -0.3**
SMF pmax pmax

comp=Z,13nm,0.8s,mb4.9
SMF Signal de Mont 79.51 9 *eP* **P 18 47 04.2 -0.3**
comp=Z,13nm,0.8s,mb4.9
PKI Pulchoki 79.54 303 *eP* **P 18 47 05.3 +0.2**
comp=Z,46nm,0.7s,mb5.5
PKIN Phulchoki 79.55 303 *eP* **P 18 47 05.3 +0.2**
comp=Z,21nm,0.5s,mb5.4
GKN Gorkha 79.57 303 *eP* **P 18 47 05.4 +0.2**
comp=Z,26nm,0.9s,mb5.1
FETA Feichten 79.58 4⇑*iP* **P 18 47 05.7 +0.8**
comp=Z,27nm,0.9s,mb5.2,SNR=15
KBA Koelnbreinsper 79.61 2 *i P* **P 18 47 06.2 +1.1**
comp=Z,44nm,1.1s,mb5.3,SNR=20
KBA Koelnbreinsper 79.61 2 *i P* **P 18 47 06.2 +1.1**
KBA pmax pmax
comp=Z,44nm,1.1s,mb5.3
DMN Daman 79.66 303 *eP* **P 18 47 06.2 +0.5**
comp=Z,35nm,0.6s,mb5.5
DANN Dangsing 79.72 304 *eP* **P 18 47 06.9 +0.9**
comp=Z,218nm,0.6s,mb6.2
CABF La Chapelle 79.72 7 *eP* **P 18 47 06.0 +0.3**
comp=Z,50nm,1.0s,mb5.1
CABF La Chapelle 79.72 7 *eP* **P 18 47 06.0 +0.3**
CABF pmax pmax
comp=Z,25nm,1.0s,mb5.1
CABF La Chapelle 79.72 7 *eP* **P 18 47 06.0 +0.3**
comp=Z,25nm,1.0s,mb5.1
DRGR 79.78 356⇓*iP* **P 18 47 06.6 +0.6**
ABTA Abfaltersbach 79.92 3⇑*iP* **P 18 47 07.2 +0.5**
comp=Z,15nm,1.0s,mb4.9
AGO Saint Agoulin 80.03 9 *eP* **P 18 47 08.3 +0.9**
SOKA Soboth 80.03 1⇑*iP* **P 18 47 08.0 +0.6**
comp=Z,34nm,1.3s,mb5.1
PERS Pernice 80.07 1 *eP* **P 18 47 08.2 +0.5**
PLDF La Plantade 80.16 9 *eP* **P 18 47 08.5 +0.4**
KIV Kislovodsk 80.17 341 P **P 18 47 09.1 +0.9**
comp=Z,180nm,0.6s,mb6.2,SNR=8.3
KIV Kislovodsk 80.17 341 *c iP* **P 18 47 08.6 +0.4**
KIV pmax pmax
comp=Z,14nm,0.6s,mb5.1
KIV Kislovodsk 80.17 341 *eP* **P 18 47 08.4 +0.2**
comp=Z,19nm,0.7s,mb5.1
KIV Kislovodsk 80.17 341⇑*iP* **P 18 47 09.0 +0.8**
OBKA Obir 80.19 1⇓*iP* **P 18 47 09.1 +0.8**
comp=Z,44nm,0.8s,mb5.4,SNR=8.4
GROS Grobnik 80.25 1 *eP* **P 18 47 09.0 +0.4**
ANN Anapa 80.27 345 *eP* **P 18 47 08.1 -0.6**
ANN *e**PP pP 18 47 11.8 -5.5
ANN *e* pP 18 47 15.1 -2.1
ANN *e* 18 50 09.0
ANN *e*PPP 18 51 58.0
ANN *e*S S 18 57 13.4 +1.4
ANN *e*SS SS 19 02 22.8 +1.1
ANN *e*SSS 19 05 49.1
ANN pmax pmax
comp=Z,12nm,0.9s,mb4.8
ANN MLR MLR
comp=Z,169nm,20.0s,MS4.4
ZAVS Zavodnje 80.28 1 *i* P **P 18 47 10.2 +1.5**
KOLN Koldanda 80.28 304 *eP* **P 18 47 09.3 +0.2**
comp=Z,48nm,0.7s,mb5.5
PYM Petit Puy Mans 80.32 9 *eP* **P 18 47 09.0 +0.1**
ROBS Robic 80.44 2 *eP* **P 18 47 09.3 -0.3**
PKSM Moragy 80.48 358⇑*iP* **P 18 47 09.9 +0.1**
SMLA Simla 80.51 311 *eP* **P 18 47 10.2 -0.1**
SMLA AMb AMB 18 47 11.5
comp=Z,59nm,0.9s,mb5.5
RJF Les Rejaudoux 80.60 11 *eP* **P 18 47 09.9 -0.6**
RJF *e*MLR MLR
comp=Z,148nm,17.8s,MS4.1
RJF Les Rejaudoux 80.60 11 *eP* **P 18 47 09.9 -0.6**
RJF LR LR
comp=Z,150nm,17.8s,MS4.4
LPL La Plagne 80.86 7 *eP* **P 18 47 12.8 +0.9**
comp=Z,14nm,0.9s,mb4.6
LPL La Plagne 80.86 7 *eP* **P 18 47 12.8 +0.9**
LPL pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LPL La Plagne 80.86 7 *eP* **P 18 47 12.8 +0.9**
comp=Z,7.2nm,0.9s,mb4.6
LFF La Frestale 80.88 11 *eP* **P 18 47 11.8 -0.2**
comp=Z,20nm,0.8s,mb4.8
LFF La Frestale 80.88 11 *eP* **P 18 47 11.8 -0.2**
LFF pmax pmax
comp=Z,10.0nm,0.8s,mb4.8
LFF La Frestale 80.88 11 *eP* **P 18 47 11.8 -0.2**
comp=Z,9.9nm,0.8s,mb4.8
LPG La Plagne 80.88 7 *eP* **P 18 47 13.1 +1.1**
comp=Z,10nm,0.8s,mb4.5
LPG La Plagne 80.88 7 *eP* **P 18 47 13.1 +1.1**
LPG pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
LPG La Plagne 80.88 7 *eP* **P 18 47 13.1 +1.1**
comp=Z,5.1nm,0.8s,mb4.5
MLR Muntele Rosu 80.88 353⇑*iP* **P 18 47 13.2 +1.2**
BZS Buzias 81.00 356⇓*iP* **P 18 47 13.2 +0.6**
VOIR 81.00 354⇓*iP* **P 18 47 13.6 +1.0**
KBL Kabul 81.02 318 *eP* **P 18 47 11.5 -1.4**
comp=Z,8.2nm,0.7s,mb4.8
KBL *e*PP PP 18 50 16.3 -0.8
CAF Calviac 81.04 10 *eP* **P 18 47 12.7 -0.1**
comp=Z,6.9nm,0.7s,mb4.4
CAF Calviac 81.04 10 *eP* **P 18 47 12.7 -0.1**
CAF pmax pmax
comp=Z,3.0nm,0.7s,mb4.3
CAF Calviac 81.04 10 *eP* **P 18 47 12.7 -0.1**
comp=Z,3.5nm,0.7s,mb4.4
SOC Sochi 81.07 343 *eP* **P 18 47 12.7 -0.3**
SOC *e* pP 18 47 21.7 +0.1
SOC *e* 18 50 13.5
SOC *e*S S 18 57 20.3 -0.2
SOC pmax pmax
comp=Z,30nm,0.7s,mb5.3
GZR Gura Zlata 81.17 355⇑*iP* **P 18 47 14.2 +0.7**
BOJS Bojanci 81.21 1 *eP* **P 18 47 14.0 +0.3**
BNI Bardonecchia 81.32 7 *eP* **P 18 47 15.9 +1.6**
BNI pmax pmax
comp=Z,16nm,0.9s,mb5.0
BNI Bardonecchia 81.32 7 *eP* **P 18 47 15.9 +1.6**
comp=Z,16nm,0.9s,mb5.0
ONI Oni 81.34 340 P **P 18 47 15.0 +0.5**
VIVF Saint-Julien-I 81.36 8 *eP* **P 18 47 14.6 +0.1**
comp=Z,16nm,0.8s,mb4.7
VIVF Saint-Julien-I 81.36 8 *eP* **P 18 47 14.6 +0.1**
VIVF pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
VIVF Saint-Julien-I 81.36 8 *eP* **P 18 47 14.6 +0.1**
comp=Z,7.8nm,0.8s,mb4.7
ORIF Oris-en-Rattie 81.39 7 *eP* **P 18 47 15.1 +0.4**
comp=Z,4.4nm,0.5s,mb4.3
ORIF *e*MLR MLR
comp=Z,130nm,21.0s,MS4.0
ORIF Oris-en-Rattie 81.39 7 *eP* **P 18 47 15.1 +0.4**
ORIF pmax pmax
comp=Z,2.0nm,0.5s,mb4.3
ORIF Oris-en-Rattie 81.39 7 *eP* **P 18 47 15.1 +0.4**
comp=Z,2.2nm,0.5s,mb4.3
MBDF Montbardon 81.65 7 *eP* **P 18 47 17.2 +1.1**
comp=Z,25nm,0.7s,mb4.9
MBDF Montbardon 81.65 7 *eP* **P 18 47 17.2 +1.1**
MBDF pmax pmax
comp=Z,12nm,0.7s,mb4.9
MBDF Montbardon 81.65 7 *eP* **P 18 47 17.2 +1.1**
comp=Z,12nm,0.7s,mb5.0
TIRR Tirgusor 81.71 351⇑*iP* **P 18 47 16.2 -0.2**
TBLG Delisi 81.89 339 *eP* **P 18 47 18.5 +1.1**
TBLG Delisi 81.89 339 P **P 18 47 18.5 +1.2**
ABKT Ailbek 81.89 328 P **P 18 47 18.2 +0.8**
comp=Z,84nm,0.8s,mb5.7,SNR=7.7
MTA Mtatsminda 81.91 339 P **P 18 47 18.5 +1.0**
DGRG David-gareji 82.02 338 P **P 18 47 18.9 +0.8**
BOK Bokaro 82.41 300 *ex* x 18 47 06.8
BOK AMb AMB 18 47 10.4
comp=Z,13nm,0.4s,mb5.2
SBF Sospel 82.56 6 *eP* **P 18 47 20.9 +0.1**
comp=Z,59nm,1.0s,mb5.3
SBF Sospel 82.56 6 *eP* **P 18 47 20.9 +0.1**
SBF pmax pmax
comp=Z,30nm,1.0s,mb5.3
SBF Sospel 82.56 6 *eP* **P 18 47 20.9 +0.1**
comp=Z,30nm,1.0s,mb5.3
MTLF Montolieu 82.62 10 *eP* **P 18 47 21.2 0.0**
comp=Z,11nm,0.8s,mb4.6
MTLF Montolieu 82.62 10 *eP* **P 18 47 21.2 0.0**
MTLF pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
MTLF Montolieu 82.62 10 *eP* **P 18 47 21.2 0.0**
comp=Z,5.3nm,0.8s,mb4.6
EPF Esparros 82.71 12 *eP* **P 18 47 20.9 -0.8**
ETSF Etsaut 82.73 12 *eP* **P 18 47 21.8 0.0**
VTS Vitosha 83.94 355⇓*iP* **P 18 47 27.7 -0.3**
PGF Pioggiola 83.96 5 *eP* **P 18 47 28.4 +0.3**
comp=Z,24nm,0.8s,mb5.1
PGF Pioggiola 83.96 5 *eP* **P 18 47 28.4 +0.3**
PGF pmax pmax
comp=Z,12nm,0.8s,mb5.1
PGF Pioggiola 83.96 5 *eP* **P 18 47 28.4 +0.3**
comp=Z,12nm,0.8s,mb5.1
SKO Skopje 84.64 356 *eP* **P 18 47 28.3 -3.3**
STIP Stip 84.89 356 *eP* **P 18 47 29.6 -3.2**
VAY Valandovo 85.24 355 *eP* **P 18 47 31.4 -3.2**
KRUS Krusevo 85.25 356 *eP* **P 18 47 31.5 -3.2**
ESDC Sonseca Array 85.40 16 P **P 18 47 35.3 -0.1**
comp=Z,1.1nm,0.5s,mb4.2,baz=339,slow=4.6,SNR=7.4
OHR Ohrid 85.52 357 *eP* **P 18 47 32.6 -3.4**
BIA Bitola 85.59 356 *eP* **P 18 47 32.6 -3.8**
AJM Ajmer 85.62 310 *eP* **P 18 47 33.7 -3.1**
AJM AMb AMB 18 47 37.3
comp=Z,26nm,0.8s,mb5.5
BLSP Bilaspur 85.70 302 *eP* **P 18 47 36.5 -0.7**
BLSP AMb AMB 18 47 37.0
comp=Z,19nm,0.8s,mb5.4
ANTO Ankara 85.76 347 *eP* **P 18 47 37.8 +0.6**
ANTO *e* 18 47 48.1
ANTO pmax pmax
comp=Z,13nm,0.9s,mb5.2
ANTO Ankara 85.76 347 *eP* **P 18 47 37.8 +0.6**
comp=Z,13nm,0.9s,mb5.2
ANTO *e* 18 47 48.1
ANTO Ankara 85.76 347⇓*iP* **P 18 47 38.4 +1.2**
MALT Malatya 86.42 343 *eP* **P 18 47 40.3 -0.2**
MALT pmax pmax
comp=Z,11nm,1.1s,mb5.0
MALT Malatya 86.42 343 *eP* **P 18 47 40.3 -0.2**
comp=Z,11nm,1.1s,mb5.0
KSM Kuching 86.45 268 *eP* **P 18 47 40.1 -0.8**
BHPL Bhopal 87.08 306 *eP* **P 18 47 43.5 -0.5**
NGP Nagpur 88.06 304 *ex* **P 18 47 44.5 -4.2**
NGP AMb AMB 18 47 57.0
comp=Z,26nm,2.0s,mb5.1
KEST Kesra 90.77 6 LR LR 19 33 08.3
comp=Z,40nm,18.7s,MS3.9,baz=326,slow=38
HYB Hyderabad 91.47 302 *eP* **P 18 48 04.5 -0.1**
HYB *e* 18 48 15.0
HYB Hyderabad 91.47 302 *i P* **P 18 48 04.5 -0.1**
HYB *e*sP sP 18 48 15.0 -1.4
ASAR Alice Springs 93.90 235 P **P 18 48 14.3 -1.3**
comp=Z,0.7nm,0.7s,mb4.2,baz=24,slow=5.0,SNR=10.0
ASAR PKKPbc PKKPbc 19 05 17.1 0.0
comp=Z,0.4nm,0.4s,baz=208,slow=1.8,SNR=20
TORD Torodi Ar. Bea 112.29 15 PKiKP PKiKP 18 53 32.6 -1.4
comp=Z,0.5nm,0.5s,baz=328,slow=2.3,SNR=5.2
DBIC Dimbokro 117.29 24 PKP PKPdf 18 53 42.0 -1.8
comp=Z,0.9nm,0.4s,baz=44,slow=16,SNR=4.5
LIC Lamto 117.68 24 *e*PKIKP PKPdf 18 53 42.4 -2.1
comp=Z,17nm,0.9s
LIC *e*MLR MLR
comp=Z,180nm,19.8s,MS4.4
LIC Lamto 117.68 24 *e*PKPdf PKPdf 18 53 42.4 -2.1
LIC LR LR
comp=Z,90nm,19.8s,MS4.4
QSPA South Pole Qui 143.43 180 *e*PKPpre 18 54 25.4
TSUM Tsumeb 145.59 358 *e*PKPdf PKPdf 18 54 35.6 -0.7
LBTB Lobatse 150.55 343 *e*PKIKP PKPbc 18 54 50.0 +0.3
MAW Mawson 154.04 219 PKPbc PKPbc 18 54 55.2 -1.0
comp=Z,1.3nm,0.5s,baz=42,slow=4.9,SNR=4.1
BOSA Boshof 154.13 342 *e*PKIKP PKPbc 18 54 57.6 -0.1
BOSA Boshof 154.13 342 PKPbc PKPbc 18 54 57.6 -0.1
comp=Z,4.5nm,0.8s,baz=263,slow=0.6,SNR=14
BOSA PKPab PKPab 18 55 10.1 -1.3
comp=Z,4.6nm,0.8s,baz=351,slow=3.2,SNR=6.0

*NEIC **29** 18:46:15.0, 3436S×7058W, h114km, MD3.7(GUC), After GUC.*
NEIC Felt [II] at Santiago.
GUC 29 18:46:15.0±0.6, 3436S×7058W, h114km±3km, MD3.7, ML4.1, 6C-12D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.14**	**74**	⇑*iP*	Pn	18 46 30.8	+0.1
CICH				*i* S	Sn	18 46 43.8	+1.3
CACH	**El Canelo**	**0.24**	**357**	⇓*iP*	Pn	18 46 31.3	+0.3
CACH				*i* S	Sn	18 46 44.3	+1.3
CHCH	**Chadas Angostu**	**0.43**	**352**	⇑*iP*	Pn	18 46 31.9	0.0
SFDO	**San Fernando**	**0.44**	**234**	⇓*iP*	Pn	18 46 32.2	+0.3
PCH	**Pirque**	**0.74**	**5**	⇑*iP*	Pn	18 46 34.6	+0.5
PCH				*i* S	Sn	18 46 49.0	+0.6
TACH	**Talagante**	**0.76**	**337**	⇓*iP*	Pn	18 46 34.7	+0.4
TACH				*i* S	Sn	18 46 49.4	+0.6
LNV	**Longovilo**	**0.79**	**300**	⇑*iP*	Pn	18 46 34.8	+0.3
LNV				*i* S	Sn	18 46 49.6	+0.3
YECH	**El Yeso**	**0.81**	**31**	⇓*iP*	Pn	18 46 35.4	+0.7
YECH				*e*S	Sn	18 46 51.5	+2.1
YECH				AML	AML	18 46 58.8	
comp=N,2μm,0.3s							
FSR	**Penalolen**	**0.88**	**3**	⇓*iP*	Pn	18 46 35.9	+0.5
FSR				*i* S	Sn	18 46 51.4	+0.8
FSR	**Penalolen**	**0.88**	**3**	⇓*iP*	Pn	18 46 35.9	+0.5
FSR				*i* S	Sn	18 46 51.4	+0.8
FSR				AML	AML	18 46 52.1	
comp=E,5μm,0.2s							
SAN	**Santiago**	**0.91**	**356**	⇓*iP*	Pn	18 46 36.1	+0.5
SAN				*i* S	Sn	18 46 51.5	+0.5
SAN	**Santiago**	**0.91**	**356**	⇓*iP*	Pn	18 46 36.1	+0.5
SAN				*i* S	Sn	18 46 51.5	+0.5
SAN				AML	AML	18 46 52.4	
comp=N,11μm,0.4s							
CLCH	**Cerro Calan**	**0.96**	**2**	⇓*iP*	Pn	18 46 36.6	+0.5
CLCH				*i* S	Sn	18 46 52.9	+0.8
CLCH				AML	AML	18 46 54.0	
comp=E,5μm,0.4s							
CLCH				AML	AML	18 46 54.6	
comp=E,6μm,0.3s							
FCH	**Farellones**	**1.06**	**13**	⇓*iP*	Pn	18 46 38.0	+0.9
FCH				*i* S	Sn	18 46 55.6	+1.8
FCH				AML	AML	18 46 56.9	
comp=N,3μm,0.2s							
LCCH	**Las Cruces**	**1.20**	**317**	⇓*iP*	Pn	18 46 39.0	+0.3
LCCH				*i* S	Sn	18 46 56.8	+0.2
PEL	**Peldehue**	**1.21**	**356**	⇓*iP*	Pn	18 46 39.5	+0.7
PEL				*i* S	Sn	18 46 57.7	+0.9
PEL				AML	AML	18 46 59.2	
comp=N,10μm,0.2s							
ROCH	**El Roble**	**1.43**	**345**	⇑*iP*	Pn	18 46 41.9	+0.7
ROCH				*i* S	Sn	18 47 01.8	+0.7
IHA	**Instituto Hidr**	**1.59**	**326**	*eP*	Pn	18 46 43.5	+0.3
JACH	**Jahuel**	**1.67**	**360**	⇑*iP*	Pn	18 46 44.7	+0.5
JACH				*i* S	Sn	18 47 07.3	+1.1

*IDC **29** 19:28:35.2±7.4, 173N×9746E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/20, mbtmp3.4/3, Error ellipse: s-maj=377.2km s-min=29.1km az=55.0*
*ISCJB **29** 19:28:38.5±2.1, 18N±02×976E±03, h33km, mb3.3/3, Error ellipse: s-maj=48.2km s-min=22.7km az=168.3*
ISC 29 19:28:41.1±2.2, 19N±02×977E±04, h35km, n4, σ0≈45/4, mb3.3/3, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TSI	**Tuntungan**	**1.83**	**29**	*eP*	**Pn**	**19 29 10.0**	**0.0**
WRA	**Warramunga Arr**	**41.99**	**123**	P	**P**	**19 36 29.5**	**+0.3**
0.7nm,0.3s,mb3.7,baz=302,slow=9.1,SNR=2.6							
ASAR	**Alice Springs**	**43.42**	**128**	P	**P**	**19 36 40.5**	**-0.3**
0.1nm,0.3s,mb3.0,baz=295,slow=7.6,SNR=4.6							
MKAR	**Makanchi Array**	**46.70**	**345**	P	**P**	**19 37 06.5**	**0.0**
0.2nm,0.5s,mb3.4,baz=158,slow=8.9,SNR=5.5							

KRSC 29 19:48:00.4±1.0, 5504N×16199E, h69km±68km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.51**	**197**	*eP*	Pn	19 48 14.1	+0.9
MKZ				*e*S	Sn	19 48 24.2	+1.7
TUMR	**Tumrok**	**1.09**	**284**	*eP*	Pn	19 48 21.0	+1.1
TUMR				*e*S	Sn	19 48 35.6	+1.2
KMNR	**Kamenistaya**	**1.23**	**306**	*eP*	Pn	19 48 23.3	+1.6
KMNR				*e*S	Sn	19 48 39.7	+2.0
KBTR	**Krutoberegovo**	**1.26**	**22**	*eP*	Pn	19 48 24.8	+2.7
KBTR				*e*S	Sn	19 48 43.0	+4.6
KLY	**Klyuchi**	**1.48**	**330**	*eP*	Pn	19 48 26.2	+1.2
KOZ	**Kozyrevsk**	**1.58**	**311**	P	Pn	19 48 29.1	+2.8
BDR	**Baidarnaya**	**1.59**	**344**	*eP*	Pn	19 48 29.1	+2.6
SRKR	**Sorokina**	**1.68**	**344**	*eP*	Pn	19 48 30.0	+2.3
SRKR				*e*S	Sn	19 48 51.7	+3.3
KII	**Karymskiy**	**1.79**	**237**	*eP*	Pn	19 48 30.9	+1.8
KII				*e*S	Sn	19 48 53.1	+2.2
SRDR	**Sredinnyy**	**1.81**	**316**	*eP*	Pn	19 48 30.9	+1.4
SPN	**Mys Shipunski**	**2.27**	**212**	*eP*	Pn	19 48 37.0	+1.5
SPN				*e*S	Sn	19 49 03.7	+1.3
NLC	**Nalytchevo**	**2.44**	**221**	*eP*	Pn	19 48 39.7	+1.9
NLC				*e*S	Sn	19 49 08.9	+2.4
AVH	**Avacha**	**2.61**	**228**	*eP*	Pn	19 48 42.8	+2.6
AVH				*e*S	Sn	19 49 13.9	+3.1
GNL	**Ganaly**	**2.73**	**242**	*eP*	Pn	19 48 44.2	+2.4
PET	**Petropavlovsk**	**2.82**	**226**	*e*S	Sn	19 49 19.3	+3.4
RUS	**Russkaya**	**3.33**	**220**	*e*S	Sn	19 49 31.6	+3.3

IDC 29 19:48:50.8±1.9, 122S×12727E, h0km, mb3.9/3, mb1 3.9/4, mb1mx3.6/16, mbtmp3.7/4, ML3.8/1, Error ellipse: s-maj=182.4km s-min=22.8km az=65.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.85**	**160**	P	Pn	19 53 22.6	-2.4
0.3nm,0.3s,baz=342,slow=12,SNR=4.2							
ASAR	**Alice Springs**	**23.22**	**164**	P	P	19 53 59.6	-0.1
1.0nm,0.6s,baz=347,slow=12,SNR=18							
STKA	**Stephens Creek**	**33.36**	**157**	P	P	19 55 31.8	+1.0
3.2nm,0.9s,baz=0.0,slow=13,SNR=2.8							
MKAR	**Makanchi Array**	**61.93**	**327**	P	P	19 59 12.4	0.0
0.6nm,0.5s,baz=117,slow=8.6,SNR=12							

*MOS **29** 20:12:38.8±1.3, 003N×12274E, h176km, mb5.3/43, MS4.4/4, Error ellipse: s-maj=10.4km s-min=5.3km az=111.8*
*ISCJB **29** 20:12:39.1±0.1, 008S±002×12286E±003, h182km, mb5.2/130, Error ellipse: s-maj=4.0km s-min=2.7km az=166.5*
*NEIC **29** 20:12:39.8±0.1, 001S×12280E, mb5.2/62, Error ellipse: s-maj=6.1km s-min=3.9km az=68.0*
*GCMT **29** 20:12:39.8±0.1, 001N×12289E, h173km, MW5.5/106, Moment Tensor Solution. s89,c148; s106,c199; Duration: 1≈3 Moment tensor: Scale 10^{17}Nm; M_{rr}1.51±.02; $M_{\theta\theta}$-1.74±.03; $M_{\phi\phi}$0.22±.03; $M_{r\theta}$0.70±.02; $M_{\theta\phi}$-0.31±.03; $M_{r\phi}$0.81±.02; Best double couple: $M_0$1.98300×10^{17} NP1:ϕ_s282.00000°, δ36.00000°, λ126.00000°. NP2:ϕ_s60.00000°, δ62.00000°, λ67.00000°. Principal axes: T 1.9740, Plg65.0000°, Azm289.0000°; N 0.0140, Plg20.0000°, Azm72.0000°; P -1.9920, Plg14.0000°, Azm167.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.*
*BJI **29** 20:12:39.7, 000N×12280E, h175km, mB5.1, mb5.2*
*IDC **29** 20:12:40.2±0.6, 004N×12279E, h174km±4km, mb4.7/23, mb1 4.8/26, mb1mx4.8/27, mbtmp4.7/26, MS4.4/9, Ms1 4.4/9, ms1mx4.1/25, Error ellipse: s-maj=12.6km s-min=6.9km az=72.0*
ISC 29 20:12:40.9±0.1, 011S±002×12284E±003, h183km, h183km±1.7km; pP-P, n650, σ1≈28/409, mb5.2/130, 140C-116D, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PCI	**Palu**	**3.11**	**255**	P	**Pn**	**20 13 30.7**	**-0.3**
6μm,1.1s							
KDI	**Kendari**	**3.83**	**183**	P	**Pn**	**20 13 38.5**	**-1.4**
1μm,1.7s							
KAPI	**Kappang**	**5.77**	**212**	Pn	**Pn**	**20 14 05.3**	**+0.4**
10μm,1.0s							
KAPI	**Kappang**	**5.77**	**212**	P	**Pn**	**20 14 05.2**	**+0.4**
SNR=203							
KAPI	**Kappang**	**5.77**	**212**	P	**Pn**	**20 14 05.2**	**+0.4**
SNR=203							
KAPI	**Kappang**	**5.77**	**212**	P	**Pn**	**20 14 05.0**	**+0.1**
30nm,0.3s,baz=37,slow=7.7,SNR=18							
KAPI				S	**Sn**	**20 15 14.7**	**+3.6**
19nm,0.3s,baz=213,slow=23,SNR=6.8							
KAPI				LR	LR	20 16 31.1	
comp=Z,4μm,20.9s,baz=82,slow=39							
TARAI	**Tarakan**	**6.28**	**303**	P	**Pn**	**20 14 10.5**	**-1.1**
1μm,1.2s							
AAI	**Ambon**	**6.42**	**124**	P	**Pn**	**20 14 14.4**	**+1.0**
940nm,1.1s							
GSPH	**General Santos**	**6.50**	**19**⇓	*eP*	**Pn**	**20 14 15.7**	**+1.2**
MYLDM	**Lahad Datu**	**6.81**	**321**⇑	P	**Pn**	**20 14 20.3**	**+1.7**
MYLDM	**Lahad Datu**	**6.81**	**321**⇑	P	**Pn**	**20 14 21.8**	**+3.2**
CTBH	**Cotabato--PC H**	**7.42**	**11**⇓	*eP*	**Pn**	**20 14 27.4**	**+0.9**
CTBH				*i* S	**Sn**	**20 15 48.5**	**-1.6**
DAV	**Davao City (W)**	**7.64**	**21**⇓	*e*Pn	**Pn**	**20 14 31.0**	**+1.6**
2μm,1.1s							
DAV	**Davao City (W)**	**7.64**	**21**	P	**Pn**	**20 14 33.0**	**+3.6**
SNR=69							
DAV	**Davao City (W)**	**7.64**	**21**	P	**Pn**	**20 14 33.0**	**+3.6**
SNR=69							
SDKM	**Sandakan**	**8.03**	**315**	⇓P	**Pn**	**20 14 37.7**	**+3.2**
BUKP	**Musuan**	**8.24**	**16**	*eP*	**Pn**	**20 14 38.9**	**+1.6**
DCPH	**Dipolog City**	**8.65**	**3**⇑	*eP*	**Pn**	**20 14 45.3**	**+2.5**
KKM	**Kota Kinabalu**	**9.01**	**313**	*e*Pn	**Pn**	**20 14 46.9**	**-0.6**
KKM				*e*Sn	**Sn**	**20 16 28.2**	**+0.1**
KKM	**Kota Kinabalu**	**9.01**	**313**	⇓P	**Pn**	**20 14 48.5**	**+1.1**
KDM	**Kudat**	**9.20**	**319**	⇓P	**Pn**	**20 14 52.2**	**+2.3**
BUTP	**Butuan**	**9.43**	**17**	*eP*	**Pn**	**20 14 55.6**	**+2.6**
TBP	**Tagbilaran**	**9.79**	**6**	*eP*	**Pn**	**20 14 59.8**	**+2.1**
WSI	**Waingapu**	**9.83**	**195**	P	**Pn**	**20 15 00.3**	**+2.2**
2μm,1.4s							
BATI	**Kupang**	**10.06**	**175**	P	**Pn**	**20 15 04.4**	**+3.2**
58nm,0.3s,baz=27,slow=1.4,SNR=119							
BATI				LR	LR	20 19 02.6	
comp=Z,2μm,19.4s,baz=342,slow=37							
SCPH	**Surigao**	**10.17**	**15**⇑	*eP*	**Pn**	**20 15 04.9**	**+2.2**
BATP	**Bataraza**	**10.18**	**331**	*eP*	**Pn**	**20 15 02.7**	**0.0**
BTM	**Bintulu**	**10.29**	**289**⇑	P	**Pn**	**20 15 04.0**	**-0.2**
LLP	**Lapu-Lapu**	**10.42**	**6**	*eP*	**Pn**	**20 15 07.5**	**+1.6**
PPR	**Puerto Princes**	**10.64**	**337**	*eP*	**Pn**	**20 15 07.6**	**-1.2**
GUIM	**Jordan**	**10.67**	**359**	*eP*	**Pn**	**20 15 10.2**	**+1.1**
KHKI	**Kahang-Kahang**	**10.92**	**221**	P	**Pn**	**20 15 16.9**	**+4.6**
203nm,1.3s							
SBUM	**Sibu**	**10.92**	**284**⇑	P	**Pn**	**20 15 12.9**	**+0.6**
RCP	**Roxas**	**11.60**	**360**⇑	*eP*	**Pn**	**20 15 23.4**	**+2.3**
BUSP	**Coron**	**12.32**	**348**	*eP*	**Pn**	**20 15 31.5**	**+1.2**
KSM	**Kuching**	**12.63**	**277**⇑	*eP*	**Pn**	**20 15 32.9**	**-1.5**
KSM				*e*S	**Sn**	**20 18 07.3**	**+12**
KSM				*e*PcP	PcP	20 20 56.8	-0.1
KSM	**Kuching**	**12.63**	**277**⇑	P	**Pn**	**20 15 34.8**	**+0.4**
LUBP	**Lubang**	**13.99**	**350**	*eP*	**Pn**	**20 15 54.1**	**+2.6**
POLP	**Polilio Island**	**14.77**	**357**	*eP*	**Pn**	**20 16 02.9**	**+1.9**
BJII	**Banjamegara**	**14.93**	**241**	P	**Pn**	**20 16 05.7**	**+2.6**
1μm,1.7s							
TPI	**Tanjungpandan**	**15.41**	**260**	P	**Pn**	**20 16 08.9**	**0.0**
427nm,1.3s							
KAKA	**Kakadu**	**15.73**	**143**⇓	*iP*	**Pn**	**20 16 12.3**	**-0.5**
305nm,0.6s							
KAKA				*e*S	S	20 19 29.8	+22
BALP	**Baler**	**15.80**	**356**	*eP*	**Pn**	**20 16 14.9**	**+1.3**
SCZP	**Santa Cruz**	**16.05**	**350**	*eP*	**Pn**	**20 16 17.7**	**+1.0**
BCPH	**Baguio City Da**	**16.54**	**352**⇓	*iP*	**Pn**	**20 16 22.3**	**-0.2**
BCPH				*i* S	**S**	**20 19 27.1**	**+1.6**
LEM	**Lembang**	**16.59**	**246**	P	**Pn**	**20 16 23.0**	**-0.2**
644nm,1.0s							
BOLP	**Bolinao**	**16.64**	**350**	*eP*	**Pn**	**20 16 23.0**	**-0.7**
CAUP	**Cauayan**	**16.98**	**357**	*eP*	**Pn**	**20 16 28.6**

FITZ ScP ScP 20 24 25.1 +2.3
0.2nm,0.3s,baz=270,slow=8.9,SNR=3.7
MYKOM Kota Tinggi 19.08 276 ⇓P P 20 16 50.9 +1.1
MMPI Merauke 19.35 116 P P 20 16 57.6 +5.0
1μm,0.8s
KGM Kluang 19.63 276 ⇓P P 20 16 57.0 +1.3
XMIS Christmas Isla 19.96 238 ⇑iP P 20 16 56.4 -2.7
KSI Kapahiang 20.54 260 P P 20 17 06.1 +0.7
450nm,1.0s
MBWA Marble Bar 21.14 188 ⇑iP P 20 17 10.8 -0.8
65nm,0.8s,mb5.0
MBWA eS S 20 20 58.0 +1.9
IPM Ipoh 22.27 282 ⇓P P 20 17 23.9 +0.8
PPI Padang Panjang 22.45 269 P P 20 17 24.3 -0.5
1μm,1.2s,mb6.2
WRAB Tennant Creek 22.70 151 P P 20 17 27.0 0.0
1μm,1.2s,mb6.2,SNR=50
WRAB Tennant Creek 22.70 151 diP P 20 17 27.2 +0.2
WRAB Tennant Creek 22.70 151 ⇓iP P 20 17 27.1 +0.2
339nm,1.2s,mb5.7
WRAB epP 20 18 01.0
WRAB eS S 20 21 18.0 -3.5
WRAB eScP ScP 20 24 33.2 -0.6
WRA Warramunga Arr 22.70 151 P P 20 17 27.2 +0.2
WRA *PP 20 18 00.1
WRA S S 20 21 19.4 -2.1
WRA Warramunga Arr 22.70 151 P P 20 17 27.2 +0.2
271nm,1.2s,mb5.5,baz=331,slow=10,SNR=131
WRA pP 20 18 00.1
70nm,1.1s,baz=314,slow=14,SNR=3.8
WRA S S 20 21 19.4 -2.1
10nm,0.9s,baz=338,slow=16,SNR=5.7
WRA ScP ScP 20 24 34.3 +0.6
21nm,0.9s,baz=336,slow=2.9,SNR=21
WB2 Warramunga Arr 22.70 151 ⇓iP P 20 17 27.1 +0.1
WB2 iS S 20 21 19.8 -1.8
WB2 eSCP ScP 20 24 35.1 +1.4
WB2 eSCS ScS 20 28 18.4 -1.2
KULM Kulim 22.80 284 ⇑eP P 20 17 28.1 0.0
KULM ePcP PcP 20 21 13.5 -0.1
KULM eScP ScP 20 24 32.5 -1.6
KULM Kulim 22.80 284 ⇑P P 20 17 29.1 +1.0
QIZ Qiongzhong 22.90 327 P P 20 17 29.3 +0.4
QIZ AP 20 18 00.5
QIZ XP sP 20 18 27.8 +2.5
QIZ S S 20 21 23.5 -1.3
QIZ AMB AMB
comp=Z,184nm,1.5s,mb5.3
QIZ AMB AMB
comp=Z,557nm,5.8s
QIZ LR LR
comp=N,528nm,13.8s
QIZ LR LR
comp=E,724nm,13.4s
QIZ LR LR
comp=Z,747nm,13.4s
QIZ Qiongzhong 22.90 327 ⇑eP P 20 17 29.1 +0.2
comp=Z,362nm,1.4s,mb5.6
QIZ epP 20 18 01.3
QIZ eS S 20 21 28.3 +3.5
UBT Ubonrachathani 23.30 312 ⇓P P 20 17 34.0 +1.4
comp=Z,347nm,0.9s,mb5.8
SNG Songkhla 23.32 289 P P 20 17 34.0 +1.2
comp=Z,880nm,1.0s,mb6.1
PSI Prapat 24.08 277 P P 20 17 39.4 -0.3
PSI 20 21 16.1
PSI Prapat 24.08 277 P P 20 17 39.4 -0.4
comp=Z,35nm,0.8s,mb4.9,baz=133,slow=3.1,SNR=31
PSI PcP PcP 20 21 16.1 -0.2
comp=Z,15nm,0.5s,baz=148,slow=1.3,SNR=5.0
PSI ScP ScP 20 24 36.8 -0.9
comp=Z,5.4nm,0.4s,baz=177,slow=7.4,SNR=7.4
NACB Ninganchiao 24.17 357 eP P 20 17 38.8 -1.5
NACB epP 20 18 17.3
TSI Tuntungan 24.53 279 P P 20 17 43.8 0.0
comp=Z,130nm,2.0s,mb5.1
TSI Tuntungan 24.53 279 eP P 20 17 43.0 -0.8
YHNB Yeheng 24.67 357 eP P 20 17 44.1 -0.8
comp=Z,241nm,1.4s,mb5.5
YHNB epP 20 18 24.1
GZH Guangzhou 24.84 339 P P 20 17 50.8 +4.4
GZH S S 20 22 01.8 +6.1
GZH AMB AMB
comp=Z,85nm,1.2s,mb5.2
GZH LR LR
comp=N,823nm,15.1s
GZH LR LR
comp=E,449nm,13.9s
GZH LR LR
comp=Z,1μm,18.5s
QZH Quanzhou 25.24 351 ⇑iP P 20 17 50.0 -0.1
QZH AP pP 20 18 30.8 +3.5
QZH XP sP 20 18 45.5 -3.2
QZH S S 20 22 00.5 -1.5
QZH XS sS 20 23 06.0 -2.4
QZH AMB AMB
comp=Z,190nm,1.1s,mb5.5
QZH LR LR
comp=Z,1μm,17.5s
ASAR Alice Springs 25.76 156 P P 20 17 55.4 +0.7
ASAR *PP pP 20 18 30.9 -1.1
ASAR 20 21 20.6
ASAR S S 20 22 11.4 +1.2
ASAR Alice Springs 25.76 156 P P 20 17 55.4 +0.7
ASAR pP pP 20 18 30.9 -1.2
ASAR PcP PcP 20 21 20.6 +0.8
ASAR S S 20 22 11.4 +1.2
ASAR ScP ScP 20 24 43.2 +1.1
ASAR Alice Springs 25.76 156 P P 20 17 55.4 +0.7
comp=Z,19nm,0.7s,mb4.9,baz=344,slow=13,SNR=108
ASAR pP pP 20 18 30.9 -1.2
comp=Z,35nm,1.0s,baz=341,slow=10,SNR=4.2
ASAR PcP PcP 20 21 20.6 +0.8
comp=Z,5.6nm,0.3s,baz=340,slow=2.0,SNR=6.6
ASAR S S 20 22 11.4 +1.2
comp=Z,5.0nm,1.1s,baz=341,slow=19,SNR=4.2
ASAR ScP ScP 20 24 43.2 +1.1
comp=Z,9.5nm,0.5s,baz=340,slow=2.3,SNR=21
ASAR PKiKP PKiKP 20 28 59.0 -0.8
comp=Z,0.4nm,0.4s,baz=350,slow=1.0,SNR=6.3
BSI Banda Aceh 28.06 282 P P 20 18 15.0 -0.5
comp=Z,52nm,1.4s,mb5.1
NANT Nan 28.74 312 ⇑P P 20 18 20.5 -0.9
comp=Z,2μm,1.0s
CM31 Chiang Mai Arr 29.86 309 ⇑eP P 20 18 32.1 +0.8
CM31 ePcP PcP 20 21 31.1 +1.2
CHG Chiang Mai 30.07 310 ⇑P P 20 18 33.8 +0.7
comp=Z,150nm,0.9s,mb5.7
CHTO Chiang Mai 30.07 310 ⇑iP P 20 18 34.3 +1.2
CHTO 20 21 30.5
CHTO pmax pmax
comp=Z,223nm,1.1s,mb5.8
CHTO Chiang Mai 30.07 310 ⇑iP P 20 18 34.3 +1.1
comp=Z,223nm,1.1s,mb5.8
CHTO PcP PcP 20 21 30.5 0.0
CHTO eScP ScP 20 24 53.6 -1.9
CHTO Chiang Mai 30.07 310 P P 20 18 35.0 +1.9
SNR=109
CHTO Chiang Mai 30.07 310 P P 20 18 35.0 +1.9
SNR=109
CHTO Chiang Mai 30.07 310 P P 20 18 35.0 +1.9
SNR=109
CHTO Chiang Mai 30.07 310 P P 20 18 35.0 +1.9
SNR=109
CTA Charters Tower 30.32 132 ⇓iP P 20 18 36.4 +1.1
comp=Z,26nm,0.9s,mb5.0
CTA iS S 20 23 19.2 -2.9
CTA eSCP ScP 20 24 58.4 +2.1
CTA eSCS ScS 20 28 56.0 +3.2
CTA Charters Tower 30.32 132 ⇓iP P 20 18 36.4 +1.1
CTA iS S 20 23 19.2 -2.9
CTA e 20 28 56.0
CTA pmax pmax
comp=Z,26nm,0.9s
CTA Charters Tower 30.32 132 P P 20 18 36.9 +1.6
comp=Z,35nm,0.9s,mb5.1,baz=309,slow=11,SNR=21
CTA ScP ScP 20 24 58.1 +1.7
comp=Z,20nm,1.1s,baz=24,slow=5.1,SNR=4.1
CTA LR LR 20 30 31.7
comp=Z,509nm,19.8s,baz=307,slow=35
CTAO Charters Tower 30.32 132 ⇑iP P 20 18 35.5 +0.2
CTAO pmax pmax
comp=Z,41nm,0.9s,mb5.2
CTAO Charters Tower 30.32 132 ⇑iP P 20 18 35.5 +0.2
comp=Z,41nm,0.9s,mb5.2
CTAO eScP ScP 20 24 58.2 +1.8
GYA Guiyang 30.67 331 ⇑iP P 20 18 39.3 +1.0
GYA AP pP 20 19 17.8 +1.5
GYA XP sP 20 19 41.0 +3.6
GYA PP PP 20 19 49.5 -2.0
GYA PCP PcP 20 21 33.8 +1.9
GYA S S 20 23 29.0 +1.7
GYA XS sS 20 24 37.0 +2.4
GYA SCP ScP 20 24 57.5 +0.1
GYA PCS PcS 20 25 16.8 +0.7
GYA SCS ScS 20 28 53.3 -1.0
GYA AMB AMB
comp=Z,70nm,0.7s,mb5.5
GYA AMB AMB
comp=Z,510nm,7.8s
GYA LR LR
comp=N,590nm,15.3s
GYA LR LR
comp=E,400nm,14.1s
GYA LR LR
comp=Z,910nm,15.3s
FORT Forrest 30.90 171 eP P 20 18 40.9 +0.6
comp=Z,106nm,0.7s,mb5.7
FORT e 20 21 33.6
FORT eS S 20 23 29.9 -0.9
SSE Sheshan 31.07 357 eP P 20 18 43.0 +1.2
SSE AP pP 20 19 20.0 +0.2
SSE XP sP 20 19 40.0 -0.9
SSE PP PP 20 19 55.0 -0.9
SSE PCP PcP 20 21 39.0 +6.1
SSE S S 20 23 31.5 -2.0
SSE XS sS 20 24 38.0 -2.8
SSE SCS ScS 20 29 00.0 +3.9
SSE AMB AMB
comp=Z,26nm,0.7s,mb5.1
SSE AMB AMB
comp=Z,126nm,3.8s
SSE LR LR
comp=N,247nm,22.6s
SSE LR LR
comp=E,199nm,22.6s
SSE LR LR
comp=Z,625nm,22.4s
WHN Wuhan 31.54 346 ⇓P P 20 18 48.0 +2.2
WHN S S 20 23 39.3 -1.4
WHN AMB AMB
comp=Z,207nm,1.2s,mb5.7
WHN AMB AMB
comp=Z,745nm,4.9s
WHN LR LR
comp=N,321nm,7.1s
WHN LR LR
comp=E,1μm,11.7s
WHN LR LR
comp=Z,1μm,13.8s
KLBR Kellerberrin 31.68 188 ⇓iP P 20 18 47.2 +0.1
comp=Z,16nm,0.4s,mb5.1
KLBR i 20 21 35.2
KMI Kunming 31.74 324 P P 20 18 50.3 +2.6
KMI PP PP 20 20 04.8 +1.5
KMI PCP PcP 20 21 36.0 +1.2
KMI S S 20 23 43.8 -0.2
KMI SS SS 20 25 52.5 -16
KMI AMB AMB
comp=Z,127nm,1.4s,mb5.5
KMI LR LR
comp=N,396nm,12.3s
KMI LR LR
comp=E,465nm,14.5s
KMI LR LR
comp=Z,607nm,13.8s
MUN Mundaring 32.31 191 eP P 20 18 52.8 +0.2
NWAO Narrogin (SRO) 33.07 189 eP P 20 18 59.8 +0.7
NWAO pmax pmax
comp=Z,71nm,1.4s
NWAO Narrogin (SRO) 33.07 189 eP P 20 18 59.8 +0.7
comp=Z,71nm,1.4s,mb5.2
NWAO Narrogin (SRO) 33.07 189 P P 20 18 59.8 +0.6
comp=Z,15nm,0.6s,mb4.9,baz=13,slow=11,SNR=22
CD2 Chengdu 35.78 331 P P 20 19 22.8 +0.3
CD2 AP pP 20 20 00.0 -1.1
CD2 XP sP 20 20 20.5 -1.6
CD2 PP PP 20 20 51.8 +4.0
CD2 PCP PcP 20 21 46.5 +0.3
CD2 S S 20 24 44.5 -1.6
CD2 XS sS 20 25 56.0 +1.8
CD2 SS SS 20 27 17.5 -13
CD2 SCS ScS 20 29 17.5 -3.2
CD2 AMB AMB
comp=Z,190nm,1.0s,mb5.7
CD2 AMB AMB
comp=Z,360nm,7.9s
CD2 LR LR
comp=N,1μm,13.8s
CD2 LR LR
comp=Z,2μm,13.8s
STKA Stephens Creek 36.23 152 ⇓iP P 20 19 27.5 +1.2
comp=Z,40nm,0.6s,mb5.2
STKA iPCP PP 20 20 54.9 +2.1
STKA eS S 20 24 50.9 -2.1
STKA eSCP ScP 20 25 16.6 -0.2
STKA eSCS ScS 20 29 20.8 -2.4
STKA Stephens Creek 36.23 152 P P 20 19 27.6 +1.2
comp=Z,53nm,0.6s,mb5.3,baz=327,slow=8.4,SNR=68
STKA pP pP 20 20 04.0 -1.0
comp=Z,13nm,0.7s,baz=317,slow=6.8,SNR=2.2
STKA PcP PcP 20 21 48.2 +0.7
comp=Z,7.6nm,0.4s,baz=3.8,slow=4.2,SNR=4.6
STKA S S 20 24 54.2 +1.2
comp=Z,4.9nm,0.7s,baz=257,slow=23,SNR=2.9
STKA ScP ScP 20 25 18.4 +1.6
comp=Z,17nm,1.0s,baz=339,slow=4.4,SNR=5.9
STKA LR LR 20 36 44.5
comp=Z,699nm,18.4s,baz=212,slow=40
XAN Xi'an 36.40 340 P P 20 19 27.5 -0.2
XAN AP pP 20 20 08.8 +2.4
XAN XP sP 20 20 24.0 -3.4
XAN PP PP 20 20 59.5 +4.9
XAN S S 20 24 53.8 -1.6
XAN XS sS 20 26 00.8 -2.8
XAN SS SS 20 27 30.3 -12
XAN AMB AMB
comp=Z,45nm,1.1s,mb5.0
XAN AMB AMB
comp=Z,269nm,7.0s
XAN LR LR
comp=N,387nm,15.0s
XAN LR LR
comp=E,555nm,13.6s
XAN LR LR
comp=Z,635nm,16.0s
IMP Imphal 37.35 314 eP P 20 19 35.0 -0.9
KSRS Korea Array 37.67 7 P P 20 19 37.8 -0.6
comp=Z,14nm,1.1s,mb4.5,baz=182,slow=10,SNR=29
HNR Honiara 38.07 105 P P 20 19 41.0 -1.1
HNR pmax pmax
comp=Z,152nm,1.0s,mb5.6
HNR Honiara 38.07 105 P P 20 19 41.0 -1.1
comp=Z,152nm,1.0s,mb5.6
DL2 Dalian 38.84 358 P P 20 19 46.5 -1.6
DL2 XP sP 20 20 45.0 -3.1
DL2 S S 20 25 28.5 -3.7
DL2 XS sS 20 26 38.0 -2.9
DL2 SS SS 20 28 24.3 -7.3
DL2 AMB AMB
comp=Z,10.0nm,0.8s,mb4.5
DL2 AMB AMB
comp=Z,100nm,4.9s
TIY Taiyuan 38.84 347 iP P 20 19 48.3 +0.1
TIY S S 20 25 23.0 -9.2
TIY LR LR
comp=N,690nm,10.0s
TIY LR LR
comp=E,744nm,13.6s
TIY LR LR
comp=Z,488nm,13.9s
MAJO Matsushiro 39.16 20 ⇑eP P 20 19 48.2 -2.6
MAJO pmax pmax
comp=Z,124nm,1.3s,mb5.4
MAJO Matsushiro 39.16 20 ⇑eP P 20 19 48.2 -2.6
comp=Z,124nm,1.3s,mb5.4
MAJO epP pP 20 20 32.9 +2.9
MAJO eScP ScP 20 25 25.5 -2.3
MAT Matsushiro 39.16 20 P P 20 19 49.1 -1.7
MAT S S 20 25 35.0 -1.9
MJAR Matsushiro Arr 39.16 20 P P 20 19 49.0 -1.8
comp=Z,78nm,1.1s,mb5.2,baz=196,slow=8.6,SNR=82
MJAR ScP ScP 20 25 27.3 -0.4
comp=Z,4.7nm,0.9s,baz=208,slow=4.4,SNR=8.3
SHL Shillong 39.31 313 eP P 20 19 52.1 -0.2
SHL AMb AMB 20 19 55.8
comp=Z,163nm,0.8s,mb5.7
LZH Lanzhou 40.11 336 ⇑P P 20 20 00.5 +1.8
LZH AP pP 20 20 35.8 -2.2
LZH XP sP 20 20 54.0 -4.8
LZH PP PP 20 21 40.3 +5.3
LZH PCP PcP 20 22 02.3 +2.7
LZH SCP ScP 20 25 34.0 +2.5
LZH PCS PcS 20 25 50.5 +0.3
LZH S S 20 25 52.5 +1.3
LZH XS sS 20 26 55.0 -5.3
LZH SS SS 20 28 54.0 -2.9
LZH AMB AMB
comp=Z,283nm,1.5s,mb5.7
LZH AMB AMB
comp=Z,516nm,6.7s
LZH LR LR
comp=N,651nm,14.7s
LZH LR LR
comp=Z,684nm,17.0s
BJT Baijiatuau 40.40 352 eP P 20 20 01.0 0.0
BJT pmax pmax
comp=Z,44nm,1.1s
BJT Baijiatuau 40.40 352 eP P 20 20 01.0 +0.1
comp=Z,44nm,1.1s,mb5.0
BJI Beijing 40.42 352 P P 20 20 01.5 +0.4
BJI AP pP 20 20 41.3 +0.8
BJI XP sP 20 20 57.3 -4.0
BJI PP PP 20 21 39.5 +1.2
BJI PCP PcP 20 22 01.3 +0.8
BJI S S 20 25 49.0 -6.6
BJI XS sS 20 27 07.0 +2.2
BJI SS SS 20 28 58.3 -4.5
BJI SCS ScS 20 29 48.3 +1.2
BJI AMB AMB
comp=Z,34nm,1.2s,mb4.8
BJI AMB AMB
comp=Z,241nm,10.2s
ARMA Armidale 40.71 140 eP P 20 20 06.4 +2.7
SNY Shenyang 41.75 1 ⇑P P 20 20 11.5 -0.5
SNY PP PP 20 21 50.5 -2.0
SNY S S 20 26 11.5 -3.7
SNY AMB AMB
comp=Z,156nm,5.0s
SNY LR LR
comp=N,317nm,15.0s
SNY LR LR
comp=E,830nm,20.4s
SNY LR LR
comp=Z,647nm,17.1s
HHC Hu-ho-hao-te 42.04 347 ⇑P P 20 20 15.0 +0.7
HHC AP pP 20 20 56.0 +2.1
HHC XP sP 20 21 13.3 -1.4
HHC PP PP 20 21 58.8 +3.2
HHC PCP PcP 20 22 06.0 +0.2
HHC SCP ScP 20 25 37.3 -1.7
HHC S S 20 26 20.5 +1.0
HHC XS sS 20 27 32.5 +3.5
HHC SS SS 20 29 30.0 -4.5
HHC SCS ScS 20 29 54.5 -2.4
HHC AMB AMB
comp=Z,68nm,1.0s,mb5.2
HHC AMB AMB
comp=Z,448nm,6.1s
HHC LR LR
comp=N,730nm,13.9s
HHC LR LR
comp=E,1μm,16.7s
HHC LR LR
comp=Z,711nm,17.4s
BTO Baotou 42.17 345 eP P 20 20 17.0 +1.6
LSA Lhasa 42.32 317 P P 20 20 18.5 +1.7
LSA S S 20 26 26.5 +2.5
LSA SS SS 20 29 31.8 -8.6
LSA AMB AMB
comp=Z,130nm,0.6s,mb5.7
LSA LR LR
comp=N,350nm,24.9s
LSA LR LR
comp=E,510nm,26.8s
LSA LR LR
comp=Z,520nm,21.2s
LSA Lhasa 42.32 317 ⇑iP P 20 20 17.9 +1.1
LSA eS S 20 26 27.8 +3.8
LSA pmax pmax
comp=Z,76nm,0.5s,mb5.6
LSA Lhasa 42.32 317 ⇑iP P 20 20 17.9 +1.1
comp=Z,76nm,0.5s,mb5.6
LSA eS S 20 26 27.8 +3.8
PALK Pallekele 42.66 281 P P 20 20 20.1 +0.2
comp=Z,22nm,1.1s,mb4.7
TOO Toolangi 42.74 153 eP P 20 20 21.7 +1.7
comp=Z,435nm,0.8s,mb6.1
TOO Toolangi 42.74 153 eP P 20 20 21.7 +1.7
TOO pmax pmax
comp=Z,435nm,0.8s,mb6.1
CNB Canberra Magne 42.87 148 eP P 20 20 22.7 +1.6
comp=Z,7.4nm,0.5s,mb4.6
BOK Bokaro 43.01 306 eP P 20 20 23.6 +1.1
BOK AMb AMB 20 20 29.0
comp=Z,31nm,0.2s,mb5.5
CN2 Changchun 43.78 3 eP P 20 20 30.0 +1.8
CN2 eXP sP 20 21 31.0 +2.2
CN2 eS S 20 26 46.5 +1.7
CN2 eSS SS 20 30 01.0 -7.1
CN2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.6
CN2 AMB AMB
comp=Z,200nm,8.0s
GTA Gaotai 44.62 334 eP P 20 20 35.5 +0.5
GTA AP pP 20 21 15.8 +0.7
GTA XP sP 20 21 37.0 +1.3
GTA PCP PcP 20 22 16.3 +1.7
GTA PP PP 20 22 24.5 +1.4
GTA SCP ScP 20 25 49.0 -0.5
GTA PCS PcS 20 26 08.0 -0.2
GTA S S 20 26 56.8 -0.3
GTA XS sS 20 28 09.5 +2.3
GTA SCS ScS 20 30 11.5 -1.7
GTA SS SS 20 30 17.3 -4.7
GTA AMB AMB
comp=Z,43nm,1.1s,mb5.0
GTA AMB AMB
comp=Z,397nm,8.8s
GTA LR LR
comp=N,307nm,18.7s
GTA LR LR
comp=E,353nm,17.9s
GTA LR LR
comp=Z,420nm,17.5s
JIRN Jiri 44.71 311 eP P 20 20 37.1 +1.2
comp=Z,238nm,0.6s,mb6.0
MDJ Mudanjiang 44.94 7 P P 20 20 36.5 -0.9
MDJ AP pP 20 21 16.0 -1.5
MDJ XP sP 20 21 36.3 -1.8
MDJ PCS PcS 20 26 09.3 0.0
MDJ S S 20 27 00.3 -1.1
MDJ XS sS 20 28 10.0 -1.7
MDJ AMB AMB
comp=Z,44nm,1.1s,mb5.0
MDJ AMB AMB
comp=Z,171nm,7.5s
MDJ LR LR
comp=N,287nm,24.3s
MDJ LR LR
comp=E,199nm,18.6s
MDJ LR LR
comp=Z,389nm,22.9s
MDJ Mudanjiang 44.94 7 eP P 20 20 35.2 -2.2
comp=Z,56nm,1.1s,mb5.1
GUN Gumba 45.07 311 eP P 20 20 40.1 +1.3
comp=Z,263nm,0.5s,mb6.1
PKI Pulchoki 45.25 311 eP P 20 20 41.0 +0.8
PKIN Phulchoki 45.26 311 eP P 20 20 40.9 +0.6
comp=Z,27nm,0.4s,mb5.2
KKN Kakani 45.46 311 eP P 20 20 42.7 +0.9
DMN Daman 45.50 310 eP P 20 20 43.1 +0.9
comp=Z,149nm,0.7s,mb5.8
ERM Erimo 45.77 21 iP P 20 20 46.0 +2.0

GKN Gorkha 46.06 311 *e*P **P 20 20 47.2 +0.7**
comp=Z,68nm,0.8s,mb5.3
KOD Kodaikanal 46.28 284 *e*P **P 20 20 48.8 +0.3**
KOLN Koldanda 46.73 310 *e*P **P 20 20 52.8 +1.0**
comp=Z,202nm,0.7s,mb5.9
DANN Dangsing 46.90 310 *e*P **P 20 20 54.0 +0.9**
comp=Z,336nm,0.5s,mb6.2
HYB Hyderabad 46.94 294 *e*P **P 20 20 53.0 -0.5**
HYB *e* pP 20 21 35.0 +1.1
HYB pmax pmax
comp=Z,40nm,1.0s,mb5.0
HYB Hyderabad 46.94 294 *e*P **P 20 20 53.0 -0.5**
comp=Z,40nm,1.0s,mb5.0
HYB *e* pP 20 21 35.0 +1.1
HYB Hyderabad 46.94 294 *i* P **P 20 20 53.0 -0.5**
comp=Z,40nm,1.0s,mb5.0
HYB *e*pP pP 20 21 35.0 +1.1
HYB *e*PP PP 20 22 45.0 -0.9
HYB *e*S **S 20 27 32.0 +1.2**
NGP Nagpur 47.69 299 *e*P **P 20 20 56.4 -2.9**
NGP AMb AMB 20 21 00.0
comp=Z,111nm,0.9s,mb5.5
TAU Tasmania Unive 47.93 156 P **P 20 21 00.7 -0.1**
TAU pmax pmax
comp=Z,110nm,1.3s,mb5.3
TAU Tasmania Unive 47.93 156 P **P 20 21 00.7 -0.1**
comp=Z,110nm,1.3s,mb5.3
HIA Hailar 49.26 357 *e*P **P 20 21 08.7 -2.0**
HIA *e**PP pP 20 22 06.1 +15
HIA *e* 20 22 30.9
HIA pmax pmax
comp=Z,54nm,1.2s
HIA Hailar 49.26 357 *e*P **P 20 21 08.7 -2.0**
comp=Z,54nm,1.2s,mb5.0
HIA *e*pP pP 20 22 06.0 +15
HIA *e*PcP PcP 20 22 30.9 +0.1
AKL Akola 49.33 298 *e*P **P 20 21 11.5 -0.3**
AKL AMb AMB 20 21 17.7
comp=Z,174nm,1.9s,mb5.4
HABR Khabarovsk 49.53 11 *e*P **P 20 21 12.4 -0.4**
HABR *e* 20 22 15.8
HABR *e* 20 22 31.6
HABR *e* 20 23 07.1
HABR *e*S **S 20 28 05.3 -1.0**
HABR *e* 20 29 19.7
HABR *e* 20 30 43.5
HABR *e* 20 31 42.2
ULN Ulaanbaatar 49.72 346⇑ *i*P **P 20 21 13.9 -0.3**
ULN *e**PP pP 20 21 55.2 +0.1
ULN *e* 20 22 31.7
ULN pmax pmax
comp=Z,96nm,1.3s,mb5.3
ULN Ulaanbaatar 49.72 346⇑ *i*P **P 20 21 13.9 -0.3**
comp=Z,96nm,1.3s,mb5.3
ULN *e*pP pP 20 21 55.2 0.0
ULN *e*PcP PcP 20 22 31.7 -0.8
ULN *e*ScP ScP 20 26 09.0 -1.8
KLR Kul'dur 49.74 8 *e*P **P 20 21 09.2 -5.2**
KLR pmax pmax
comp=Z,45nm,1.6s,mb4.8
BHPL Bhopal 49.84 301 *e*P **P 20 21 14.9 -0.8**
BHPL AMb AMB 20 21 19.9
comp=Z,115nm,1.3s,mb5.3
SONM Songino Array 49.85 346 P **P 20 21 15.5 +0.3**
SONM *PP pP 20 21 54.8 -1.4
SONM 20 22 32.2
SONM Songino Array 49.85 346 P **P 20 21 15.5 +0.3**
comp=Z,45nm,0.9s,mb5.1,baz=160,slow=6.8,SNR=65
SONM pP pP 20 21 54.8 -1.3
comp=Z,10.0nm,1.1s,baz=187,slow=6.0,SNR=1.5
SONM PcP PcP 20 22 32.2 -0.8
comp=Z,4.8nm,0.8s,baz=163,slow=4.5,SNR=4.3
SONM ScP ScP 20 26 11.3 0.0
comp=Z,1.9nm,0.7s,baz=154,slow=1.9,SNR=4.3
YSS Yuzh-Sakhalins 50.01 18⇑ *i*P **P 20 21 15.3 -1.1**
YSS *e*S **S 20 28 06.0 -7.0**
YSS pmax pmax
comp=N,60nm,1.2s
YSS pmax pmax
comp=Z,100nm,1.2s,mb5.3
YSS MLR MLR
comp=Z,200nm,16.0s
YSS Yuzh-Sakhalins 50.01 18⇑ *e*P **P 20 21 15.5 -0.9**
comp=Z,109nm,1.3s,mb5.3
PTH Pithoragarh 50.20 310 *e*P **P 20 21 18.1 -0.1**
PTH *e*x x 20 23 16.9
KAD Karad 50.92 292 *e*P **P 20 21 22.6 -1.2**
POO Poona 51.54 294 *e*P **P 20 21 25.6 -2.8**
NDI New Delhi 52.15 307 *e*P **P 20 21 31.0 -1.8**
DDI Dehra Dun 52.21 310 *e*P **P 20 21 33.0 -0.2**
ZAK Zakamensk 53.00 344⇑ *i*P **P 20 21 38.3 -0.3**
ZAK *e* pP 20 22 19.2 -0.8
ZAK pmax pmax
comp=Z,18nm,1.3s,mb4.6
ZAK pmax pmax
comp=Z,10.0nm,1.2s,mb4.4
ZAK pmax pmax
comp=Z,3.0nm,1.1s
SMLA Simla 53.26 310 *e*P **P 20 21 41.5 +0.6**
SMLA AMb AMB 20 21 45.5
comp=Z,802nm,2.7s,mb6.0
AJM Ajmer 53.38 304 *e*P **P 20 21 41.0 -0.8**
WMQ Urumqi 53.80 329 P **P 20 21 46.0 +1.4**
WMQ AP pP 20 22 26.0 -0.1
WMQ XP sP 20 22 45.0 -1.3
WMQ PP PP 20 23 51.0 +3.3
WMQ S **S 20 29 04.0 -0.9**
WMQ SCS ScS 20 31 14.0 -1.2
WMQ SS SS 20 32 47.0 -1.7
WMQ AMB AMB
comp=Z,102nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,254nm,5.0s
WMQ LR LR
comp=N,528nm,15.0s
WMQ LR LR
comp=E,375nm,15.0s
WMQ LR LR
comp=Z,312nm,15.0s
BHK Bhakra 53.96 310 *e*x **P 20 21 46.8 +0.8**
TLY Talaya 54.09 345 P **P 20 21 47.7 +1.2**
comp=Z,170nm,1.5s,mb5.5,SNR=6.4
TLY Talaya 54.09 345 *e*P **P 20 21 47.3 +0.8**
TLY *e*S **S 20 29 03.7 -4.8**
TLY pmax pmax
comp=Z,48nm,1.2s,mb5.1
TLY MLR MLR
comp=Z,316nm,23.0s
TLY Talaya 54.09 345⇑ *e*P **P 20 21 46.4 -0.1**
comp=Z,72nm,1.4s,mb5.2
TLY Talaya 54.09 345 P **P 20 21 46.9 +0.5**
SNR=16
TLY Talaya 54.09 345 P **P 20 21 46.9 +0.5**
SNR=16
TLY Talaya 54.09 345 P **P 20 21 46.9 +0.5**
SNR=16
TLY Talaya 54.09 345 P **P 20 21 46.9 +0.5**
SNR=16
MOY Mondy 54.79 344 *e*P **P 20 21 52.0 +0.5**
MOY pmax pmax
comp=Z,99nm,1.7s,mb5.3
DLH Dalhousie 54.81 311 *e*P **P 20 21 53.0 +1.0**
THN Thein Dam 54.95 311 *e*P **P 20 21 52.2 -0.8**
NRGR Nerungri 56.61 1 *e*P **P 20 22 04.7 +0.3**
NRGR S **S 20 29 54.0 +12**
NRGR smax
comp=N,28nm,0.5s
KSH Kashi 58.16 318 P **P 20 22 17.0 +1.5**
KSH *e*AP pP 20 22 56.5 -1.2
KSH *e*PCP PcP 20 23 06.5 +1.5
KSH *e*XP sP 20 23 15.5 -2.2
KSH *e*PP PP 20 24 28.0 +1.5
KSH *e*SCP ScP 20 26 48.0 +0.1
KSH *e*PCS PcS 20 27 06.5 -0.1
KSH *e*S **S 20 29 59.0 -3.5**
KSH *e*XS sS 20 31 10.0 -5.8
KSH *e*SCS ScS 20 31 44.5 -2.4
KSH *e*SS SS 20 33 55.0 -2.3
KSH LR LR
comp=N,532nm,4.6s
KSH LR LR
comp=E,537nm,5.4s
KSH LR LR
comp=Z,423nm,5.2s

BOD Bodaibo 58.18 354 *e*P **P 20 22 14.6 -0.7**
BOD *e* pP 20 22 57.6 +0.1
BOD pmax pmax
comp=Z,31nm,1.3s,mb5.0
BOD pmax pmax
comp=Z,25nm,1.3s,mb4.9
MK31 Makanchi Array 58.62 328⇑ *i*P **P 20 22 17.9 -0.7**
MK31 *PP pP 20 23 01.2 +0.4
MK31 *e* 20 23 07.2
MK31 *e*SP sP 20 23 21.8 +0.9
MK31 Makanchi Array 58.62 328⇑ *i*P **P 20 22 17.9 -0.7**
MK31 pP pP 20 23 01.2 +0.4
MK31 *e*PcP PcP 20 23 07.2 +0.4
MK31 *e*sP sP 20 23 21.8 +0.9
MK31 *e*ScP ScP 20 26 47.3 -2.5
MKAR Makanchi Array 58.62 328 P **P 20 22 18.2 -0.4**
MKAR *PP pP 20 23 00.8 0.0
MKAR Makanchi Array 58.62 328 P **P 20 22 18.2 -0.4**
comp=Z,10nm,0.4s,mb5.0,baz=122,slow=8.5,SNR=169
MKAR pP pP 20 23 00.8 0.0
comp=Z,9.0nm,0.7s,baz=113,slow=9.3,SNR=1.8
MKAR ScP ScP 20 26 49.4 -0.3
comp=Z,1.9nm,0.8s,baz=130,slow=4.6,SNR=4.1
ULHL Ulahol 59.41 321 P **P 20 22 25.0 +0.9**
SNR=29
KZA Kyzart 59.95 321 P **P 20 22 28.8 +1.0**
SNR=68
TKM2 Tokmak 2 60.17 322⇑ *i*P **P 20 22 29.4 +0.1**
TKM2 pmax pmax
comp=Z,82nm,1.2s,mb5.4
TKM2 Tokmak 2 60.17 322⇑ *i*P **P 20 22 29.4 +0.1**
comp=Z,82nm,1.2s,mb5.4
TKM2 Tokmak 2 60.17 322 P **P 20 22 30.1 +0.8**
SNR=25
KBK Karagaybulak 60.44 321 P **P 20 22 31.9 +0.7**
SNR=46
UCH Uchtor 60.49 320⇑ *e*P **P 20 22 32.3 +0.8**
comp=Z,92nm,1.5s,mb5.4
UCH *e*pP pP 20 23 15.7 +1.8
UCH *e*PP PP 20 24 46.3 -0.9
UCH Uchtor 60.49 320 P **P 20 22 32.6 +1.1**
SNR=36
AAK Ala-Archa 60.72 321 P **P 20 22 32.7 -0.3**
comp=Z,172nm,1.1s,mb5.8,SNR=12
AAK Ala-Archa 60.72 321 P **P 20 22 33.2 +0.2**
SNR=21
FRU Bishkek 60.74 321 *e*P **P 20 22 34.0 +0.8**
FRU pmax pmax
comp=Z,112nm,2.0s,mb5.3
CHMS Chumysh 60.74 321 P **P 20 22 34.1 +0.9**
SNR=7.7
PET Petropavlovsk 60.77 24 *e*P **P 20 22 34.3 +1.2**
PET *e*S **S 20 30 32.4 -3.1**
PET pmax pmax
comp=Z,58nm,1.2s,mb5.3
PET pmax pmax
comp=Z,200nm,12.6s
PET MLR MLR
comp=Z,300nm,16.0s
PET Petropavlovsk 60.77 24 *e*P **P 20 22 33.5 +0.4**
comp=Z,171nm,1.5s,mb5.7
KBL Kabul 60.89 310⇑ *e*P **P 20 22 33.7 -0.7**
comp=Z,168nm,1.0s,mb5.8
KBL *e*PP PP 20 24 50.0 -0.9
AML Almayashu 60.97 320⇑ *i*P **P 20 22 34.9 +0.1**
comp=Z,73nm,1.2s,mb5.4
AML *e*pP pP 20 23 16.5 -0.7
AML *e*PP PP 20 24 54.6 +3.3
AML Almayashu 60.97 320 P **P 20 22 35.6 +0.9**
SNR=41
KRAR Krasnoyarsk 60.99 341 *de*P **P 20 22 35.4 +0.8**
KRAR pmax pmax
comp=Z,48nm,1.4s,mb5.1
QUE Quetta 61.02 305 *e*P **P 20 22 27.0 -8.3**
RPZ Rata Peaks 61.02 142 P **P 20 22 37.3 +2.3**
comp=Z,58nm,0.8s,mb5.5,baz=331,slow=1.6,SNR=35
RPZ pP pP 20 23 16.9 -0.6
comp=Z,62nm,0.9s,baz=43,slow=3.7,SNR=6.2
USP Ospenovka 61.04 321 P **P 20 22 35.1 0.0**
SNR=40
EKS2 Erkin-Say 61.18 321⇑ *i*P **P 20 22 36.1 0.0**
comp=Z,89nm,1.4s,mb5.4
EKS2 Erkin-Say 61.18 321 P **P 20 22 36.1 -0.1**
SNR=51
YAK Yakutsk 62.20 4 *i* P **P 20 22 41.6 -0.9**
YAK *e*S **S 20 30 47.0 -6.2**
YAK *e*SCS ScS 20 32 13.0 -3.2
YAK pmax pmax
comp=Z,57nm,1.2s,mb5.3
YAK Yakutsk 62.20 4⇑ *i*P **P 20 22 41.2 -1.3**
comp=Z,55nm,0.9s,mb5.4
ZAA0 Zalesovo Array 62.35 336⇑ *e*P **P 20 22 41.8 -1.9**
ZAL Zalesovo 62.35 336 P **P 20 22 42.1 -1.6**
ZALV Zalesovo Beam 62.35 336 P **P 20 22 42.1 -1.6**
comp=Z,58nm,1.2s,mb5.3,baz=127,slow=4.4,SNR=74
ZALV PKPPKP 20 51 49.1
comp=Z,2.7nm,0.9s,baz=302,slow=3.3,SNR=6.6
URZ Urewera 62.55 134 P **P 20 22 46.7 +1.4**
comp=Z,8.9nm,0.5s,mb4.8,baz=294,slow=4.6,SNR=4.0
KURK Kurchatov 62.99 330 P **P 20 22 47.0 -1.0**
comp=Z,567nm,1.1s,mb6.3,SNR=81
KURK Kurchatov 62.99 330⇑ *i*P **P 20 22 46.9 -1.1**
KURK *e**PP pP 20 23 31.0 +0.2
KURK pmax pmax
comp=Z,190nm,1.3s,mb5.8
KURK Kurchatov 62.99 330⇑ *i*P **P 20 22 46.9 -1.1**
comp=Z,190nm,1.3s,mb5.8
KURK *e*pP pP 20 23 30.9 +0.2
KURK Kurchatov 62.99 330 P **P 20 22 47.7 -0.3**
SNR=43
KURK Kurchatov 62.99 330 P **P 20 22 47.7 -0.3**
SNR=43
KURK Kurchatov 62.99 330 P **P 20 22 47.7 -0.3**
SNR=43
KURK Kurchatov 62.99 330 P **P 20 22 47.7 -0.3**
SNR=43
MA2 Magadan 63.38 15 *c i*P **P 20 22 50.9 +0.5**
MA2 pmax pmax
comp=Z,175nm,1.6s,mb5.6
MA2 Magadan 63.38 15 *e*P **P 20 22 50.3 -0.1**
comp=Z,106nm,1.1s,mb5.6
MA2 *e*pP pP 20 23 31.4 -1.9
NVS Novosibirsk 63.63 336 *i* P **P 20 22 49.8 -2.3**
NVS *i* *PP pP 20 23 24.0 -11
NVS *i* S **S 20 31 05.2 -6.1**
NVS *i* *SS sS 20 32 17.6 -8.3
NVS pmax pmax
comp=Z,55nm,1.2s,mb5.3
NVS pmax pmax
comp=N,53nm,1.5s
NVS pmax pmax
comp=E,45nm,1.2s
NVS smax
comp=N,19nm,1.7s
NVS smax
comp=E,33nm,1.7s
CASY Casey 66.61 185 *e*P **P 20 23 10.9 -0.2**
CASY *e*pP pP 20 23 53.1 -1.2
SEY Seymchan 66.65 14 *c i*P **P 20 23 11.8 +0.4**
BVAR Borovoye Array 68.50 329 P **P 20 23 22.3 -0.9**
comp=E,5.1nm,0.4s,mb4.6,baz=122,slow=7.2,SNR=62
BRVK Borovoye 68.57 329 P **P 20 23 22.4 -1.2**
comp=E,267nm,1.1s,mb5.9,SNR=22
BRVK Borovoye 68.57 329⇑ *i*P **P 20 23 22.1 -1.5**
BRVK *e**PP pP 20 24 07.7 +0.6
BRVK pmax pmax
comp=Z,100nm,1.4s,mb5.3
BRVK Borovoye 68.57 329⇑ *i*P **P 20 23 22.1 -1.5**
comp=Z,100nm,1.4s,mb5.3
BRVK *e*pP pP 20 24 07.7 +0.7
BRVK Borovoye 68.57 329 P **P 20 23 22.9 -0.7**
SNR=32
BRVK Borovoye 68.57 329 P **P 20 23 22.9 -0.7**
SNR=32
BRVK Borovoye 68.57 329 P **P 20 23 22.9 -0.7**
SNR=32
BRVK Borovoye 68.57 329 P **P 20 23 22.9 -0.7**
SNR=32
ABKT Ailbek 70.34 311 P **P 20 23 34.5 -0.3**
comp=Z,176nm,1.2s,mb5.7,SNR=8.5
TIXI Tiksi 71.75 2 *c i*P **P 20 23 40.7 -1.9**
TIXI *e*S S 20 32 40.5 -6.8
TIXI pmax pmax
comp=Z,81nm,1.1s,mb5.4
TIXI Tiksi 71.75 2⇑ *i*P **P 20 23 40.6 -2.0**
comp=Z,116nm,1.2s,mb5.5

TIXI *e*pP pP 20 24 22.9 -3.5
BILL Bilibino 74.25 16 *c i*P **P 20 23 56.7 -0.6**
BILL pmax pmax
comp=Z,25nm,1.0s,mb4.9
BILL Bilibino 74.25 16 *e*P **P 20 23 56.2 -1.1**
comp=Z,26nm,0.9s,mb5.0
AKTK Aktyubinsk 74.30 323 P **P 20 23 56.9 -1.1**
AKTK LR LR 21 01 31.6
AKTO Aktyubinsk 74.30 323 P **P 20 23 56.9 -1.1**
comp=Z,23nm,1.0s,mb4.9,baz=104,slow=6.5,SNR=52
AKTO LR LR 21 01 31.6
comp=Z,129nm,19.7s,baz=132,slow=40
SVE Sverdlovsk 75.24 330 *e*P **P 20 24 01.3 -1.9**
SVE pmax pmax
comp=Z,98nm,1.4s,mb5.2
ARU Arti 76.14 329 P **P 20 24 06.2 -2.2**
comp=Z,195nm,1.1s,mb5.7,SNR=15
ARU Arti 76.14 329 *c i*P **P 20 24 06.4 -2.0**
ARU *e* 20 24 17.4
ARU *e**PP pP 20 24 50.7 -2.0
ARU *e**SP sP 20 25 11.1 -1.1
ARU *e*PPP 20 28 43.4
ARU *e*S S 20 33 34.7 -2.2
ARU *e*SS SS 20 38 30.3 -4.1
ARU pmax pmax
comp=Z,78nm,1.7s,mb5.1
ARU Arti 76.14 329⇑ *i*P **P 20 24 06.1 -2.3**
comp=Z,72nm,1.4s,mb5.1
UMR Umm Al-Rimmam 77.13 300 *e*P **P 20 24 12.7 -1.8**
UMR AMb AMB 20 24 18.9
comp=Z,51nm,1.2s,mb5.0
RDF Al-Radifah 77.20 300 *e*P **P 20 24 12.9 -2.0**
RDF AMb AMB 20 24 19.5
comp=Z,57nm,1.5s,mb5.0
MIB Mutribah 77.49 300 *e*P **P 20 24 13.9 -2.6**
MIB AMb AMB 20 24 17.8
comp=Z,46nm,0.9s,mb5.1
NAY Al-Naaiem 77.50 300 *e*P **P 20 24 13.5 -3.1**
NAY AMb AMB 20 24 19.3
comp=Z,15nm,0.8s,mb4.6
RST Umm Al-Ruwaisa 77.75 300 *e*P **P 20 24 14.9 -3.0**
RST AMb AMB 20 24 20.1
comp=Z,1.3nm,0.8s
UNV Unalaska Valle 78.77 35 *e*P **P 20 24 22.7 -0.3**
comp=Z,28nm,0.6s,mb5.1
MAW Mawson 78.84 200 *e*P **P 20 24 24.2 +1.1**
comp=Z,22nm,1.4s,mb4.6
MAW Mawson 78.84 200 *e*P **P 20 24 24.2 +1.1**
MAW pmax pmax
comp=Z,22nm,1.4s
MAW Mawson 78.84 200 P **P 20 24 24.3 +1.2**
comp=Z,7.0nm,0.5s,mb4.6,baz=58,slow=7.2,SNR=15
VNDA Vanda 80.16 172⇑ *e*P **P 20 24 30.9 +0.8**
VNDA *e**PP pP 20 25 13.4 -1.5
VNDA pmax pmax
comp=Z,5.0nm,0.8s
VNDA Vanda 80.16 172⇑ *e*P **P 20 24 30.9 +0.9**
comp=Z,5.1nm,0.8s,mb4.2
VNDA *e*pP pP 20 25 13.4 -1.4
VNDA Vanda 80.16 172 P **P 20 24 31.1 +1.1**
comp=Z,4.0nm,0.7s,mb4.2,baz=302,slow=6.2,SNR=22
VNDA pP pP 20 25 14.2 -0.6
comp=Z,5.0nm,1.0s,baz=275,slow=6.4,SNR=2.7
VNDA LR LR 20 58 28.9
comp=Z,272nm,19.0s,baz=337,slow=34
DGRG David-gareji 80.69 312 P **P 20 24 33.9 +0.3**
GNI Garni 80.98 311 *e*P **P 20 24 36.7 +1.5**
GNI pmax pmax
comp=Z,21nm,1.0s
GNI Garni 80.98 311 *e*P **P 20 24 36.6 +1.5**
comp=Z,21nm,1.0s,mb4.7
GNI Garni 80.98 311 P **P 20 24 38.1 +3.0**
SNR=6.1
GNI Garni 80.98 311 P **P 20 24 38.1 +3.0**
SNR=6.1
GNI Garni 80.98 311 P **P 20 24 38.1 +3.0**
SNR=6.1
GNI Garni 80.98 311 P **P 20 24 36.0 +0.8**
comp=Z,4.1nm,0.4s,mb4.4,baz=329,slow=22,SNR=7.5
SBA Scott Base 81.11 171 *e*P **P 20 24 36.5 +1.3**
SBA pmax pmax
comp=Z,18nm,1.3s,mb4.5
SBA Scott Base 81.11 171 *e*P **P 20 24 36.5 +1.4**
comp=Z,18nm,1.3s,mb4.5
MTA Mtatsminda 81.15 312 P **P 20 24 37.1 +1.0**
TBLG Delisi 81.20 312 *e*P **P 20 24 37.4 +1.1**
TBLG Delisi 81.20 312 P **P 20 24 37.5 +1.2**
AKH Akhalkalaki 82.08 312 P **P 20 24 43.5 +2.5**
ONI Oni 82.26 313 P **P 20 24 43.6 +1.7**
SDPT Sand Point 82.53 34 *e*P **P 20 24 39.6 -3.3**
comp=Z,70nm,0.6s,mb5.6
SDPT LR LR
comp=Z,200nm,22.0s
KIV Kislovodsk 82.98 314 *e*P **P 20 24 46.7 +1.1**
KIV *e**PP pP 20 25 33.1 +2.5
KIV *e*S S 20 34 48.1 -1.2
KIV pmax pmax
comp=Z,14nm,1.2s,mb4.6
KIV Kislovodsk 82.98 314⇓ *i*P **P 20 24 46.6 +1.1**
comp=Z,11nm,1.0s,mb4.5
KIV Kislovodsk 82.98 314 P **P 20 24 47.2 +1.6**
SNR=6.7
KIV Kislovodsk 82.98 314 P **P 20 24 47.2 +1.6**
SNR=6.7
KIV Kislovodsk 82.98 314 P **P 20 24 47.2 +1.6**
SNR=6.7
VRHR Novokhopersk 84.56 321 *e*P **P 20 24 51.0 -2.4**
VRHR pmax pmax
comp=Z,230nm,2.5s,mb5.5
VRHR pmax pmax
comp=N,50nm,1.8s
VRHR pmax pmax
comp=E,100nm,1.3s
SOC Sochi 85.09 314 *e*P **P 20 24 54.8 -1.4**
SOC *e*PPP 20 30 05.8
SOC *e*S S 20 34 52.8 -17
SOC *e* 20 36 02.3
SOC *e*SS SS 20 40 39.8 -8.3
SOC pmax pmax
comp=Z,30nm,1.1s,mb4.9
KMBO Kilima Mbogo 85.59 269 *e*P **P 20 24 58.5 -0.8**
KMBO pmax pmax
comp=Z,25nm,1.4s
KMBO Kilima Mbogo 85.59 269 *e*P **P 20 24 58.5 -0.8**
comp=Z,25nm,1.4s,mb4.8
KMBO Kilima Mbogo 85.59 269 P **P 20 24 59.2 -0.2**
comp=Z,6.0nm,0.9s,mb4.3,baz=45,slow=13,SNR=5.0
MALT Malatya 85.68 308⇑ *i*P **P 20 24 58.6 -0.6**
MALT pmax pmax
comp=Z,51nm,1.3s,mb5.1
MALT Malatya 85.68 308⇑ *i*P **P 20 24 58.5 -0.7**
comp=Z,51nm,1.3s,mb5.1
MALT Malatya 85.68 308⇑ *i*P **P 20 24 58.8 -0.4**
VORD Divnogorie 86.01 321 *e*P **P 20 24 58.4 -2.2**
VORD pmax pmax
comp=Z,110nm,1.2s,mb5.5
VORD pmax pmax
comp=N,30nm,1.1s
VORD pmax pmax
comp=E,30nm,1.0s
SVW2 Sparrevohn 86.02 29 *e*P **P 20 25 01.1 +0.7**
TTA Tatalina 86.06 27 *e*P **P 20 24 59.9 -0.6**
TTA *e**SP sP 20 26 06.8 +1.6
TTA pmax pmax
comp=Z,9.0nm,0.8s,mb4.5
TTA Tatalina 86.06 27 *e*P **P 20 24 59.9 -0.7**
comp=Z,8.7nm,0.8s,mb4.5
TTA *e*sP sP 20 26 06.8 +1.6
VRSR Storozhevoye 86.10 321 *e*P **P 20 24 59.0 -2.0**
VRSR pmax pmax
comp=Z,30nm,1.3s,mb4.9
VRSR pmax pmax
comp=N,2.0nm,0.4s
VRSR pmax pmax
comp=E,10.0nm,1.3s
ASF Jabal al Asfar 86.62 302 P **P 20 25 03.8 -0.2**
comp=E,28nm,1.1s,mb5.0,baz=222,slow=0.1,SNR=26
ANN Anapa 86.81 315 *d i*P **P 20 25 02.9 -1.7**
ANN *e*S S 20 35 10.8 -16
ANN pmax pmax
comp=Z,120nm,1.4s,mb5.5
MOS Moscow 87.39 326 *e*P **P 20 25 07.7 +0.6**
MOS *e* 20 26 14.3
MOS pmax pmax
comp=Z,74nm,1.5s,mb5.3

IMA2	Indian Mountai	87.44	24	eP	P	20 25 06.9	-0.3
SYO	Syowa Base	87.47 201⇑		eP	P	20 25 06.0	-1.2
SYO	Syowa Base	87.47 201	⇓	iPcP	PcP	20 25 08.9	-0.1
SYO	Syowa Base	87.47 201⇓		eX	pP	20 25 49.2	-3.6
SYO	Syowa Base	87.47 201		eSH	S	20 35 31.6	-0.7
PPT	Papeete	87.66 107		eLR	LR	20 25 11.8	
	comp=Z,115nm,27.0s						
TMCR	Tamitsa	87.83 334		eP	P	20 25 06.0	-3.0
TMCR				pmax	pmax		
	comp=Z,24nm,1.1s,mb4.9						
OBN	Obninsk	87.95 325⇑		eP	P	20 25 07.5	-2.3
OBN				e*PP	pP	20 25 54.3	-1.1
OBN				e*SP	sP	20 26 14.2	-0.4
OBN				e		20 28 38.7	
OBN				eSS	SS	20 41 25.8	-3.5
OBN				pmax	pmax		
	comp=Z,82nm,1.5s,mb5.3						
OBN	Obninsk	87.95 325		eP	P	20 25 09.6	-0.2
	comp=Z,63nm,1.2s,mb5.3						
COLA	College	89.80	25	i P	P	20 25 18.4	+0.1
QSPA	South Pole Qui	89.82 180⇑		eP	P	20 25 19.5	+1.4
	comp=Z,51nm,1.3s,mb5.3						
APA	Apatity	89.89 337⇓		eP	P	20 25 18.4	-0.2
APA				pmax	pmax		
	comp=Z,45nm,1.5s,mb5.2						
APA				MLR	MLR		
	comp=Z,400nm,17.0s						
JOF	Joensuu	90.80 333		ep	P	20 25 20.2	-2.7
KEV	Kevo	92.13 340		ep	P	20 25 27.7	-1.3
KEV	Kevo	92.13 340		P	P	20 25 26.3	-2.7
KEV				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.8						
KEV	Kevo	92.13 340		P	P	20 25 26.3	-2.7
	comp=Z,9.5nm,1.0s,mb4.8						
AKASG	Malin Array Be	92.39 321		i P	P	20 25 28.0	-2.6
AKASG				pmax	pmax		
	comp=Z,2.0nm,0.4s						
AKASG	Malin Array Be	92.39 321		P	P	20 25 27.8	-2.7
	comp=Z,2.0nm,0.4s,mb4.5,baz=76,slow=4.2,SNR=16						
EGAK	Eagle	92.67	25	eP	P	20 25 30.8	-0.7
	comp=Z,18nm,1.1s,mb5.1						
ARCES	ARCESS Array B	92.68 340		P	P	20 25 29.4	-2.1
	comp=Z,2.3nm,0.4s,mb4.6,baz=86,slow=5.8,SNR=19						
ARCES				PKiKP	PKiKP	20 30 18.9	+0.2
	comp=Z,0.6nm,0.5s,baz=105,slow=2.1,SNR=7.8						
ARCES				PKKPbc	PKKPbc	20 42 42.7	-3.2
	comp=Z,0.5nm,0.4s,baz=266,slow=2.6,SNR=14						
ARCES				LR	LR	21 09 18.7	
	comp=Z,133nm,18.7s,baz=80,slow=37						
KIS	Kishinev	92.83 317		eP	P	20 25 32.0	-0.7
KIS	Kishinev	92.83 317		eUNK	P	20 25 32.0	-0.7
KAF	Kangasniemi	93.17 332		ep	P	20 25 32.3	-1.6
	comp=Z,1.5nm,0.4s,mb4.5						
KAF	Kangasniemi	93.17 332		eP	P	20 25 32.3	-1.6
KAF				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.6						
FINES	FINESS Array B	93.34 331		i P	P	20 25 32.4	-2.3
FINES				pmax	pmax		
	comp=Z,1.0nm,0.5s						
FINES	FINESS Array B	93.34 331		P	P	20 25 31.7	-3.0
	comp=Z,1.3nm,0.5s,mb4.3,baz=66,slow=4.4,SNR=13						
FINES				PKiKP	PKiKP	20 30 20.2	+0.2
	comp=Z,1.6nm,0.7s,baz=109,slow=4.6,SNR=5.2						
FINES				LR	LR	21 07 46.6	
	comp=Z,125nm,20.8s,baz=118,slow=36						
SPB4	Spitsbergen Ar	93.46 349		eP	P	20 25 32.9	-2.1
DAWY	Dawson	93.50	26	eP	P	20 25 35.0	-0.4
VRI	Vrincioaia	94.35 316⇑		iP	P	20 25 38.9	-0.8
LSZ	Lusaka	94.46 255		eP	P	20 25 39.4	-1.5
LSZ				e		20 29 29.0	
LSZ				pmax	pmax		
	comp=Z,33nm,1.4s,mb5.3						
LSZ	Lusaka	94.46 255		eP	P	20 25 39.4	-1.4
	comp=Z,33nm,1.4s,mb5.3						
LSZ				ePP	PP	20 29 29.0	-2.1
MLR	Muntele Rosu	94.92 315		P	P	20 25 41.8	-0.5
	comp=Z,5.3nm,1.1s,mb4.7,baz=359,slow=5.2,SNR=6.5						
MLR	Muntele Rosu	94.92 315⇑		iP	P	20 25 42.5	+0.1
INK	Inuvik	95.13	21	eP	P	20 25 41.2	-1.6
BURAR	Bucovina Array	95.23 318	⇓	iP	P	20 25 42.6	-1.1
LBTB	Lobatse	96.53 245		eP	P	20 25 49.4	-0.7
LBTB				pmax	pmax		
	comp=Z,45nm,1.8s,mb5.5						
LBTB	Lobatse	96.53 245		eP	P	20 25 49.4	-0.7
	comp=Z,45nm,1.8s,mb5.5						
BOSA	Boshof	96.61 241		eP	P	20 25 48.9	-1.5
BOSA				pmax	pmax		
	comp=Z,12nm,1.2s,mb5.1						
BOSA	Boshof	96.61 241		eP	P	20 25 48.9	-1.5
	comp=Z,12nm,1.2s,mb5.1						
BOSA	Boshof	96.61 241		P	P	20 25 51.4	+1.0
	comp=Z,3.2nm,0.8s,mb4.7,baz=88,slow=2.5,SNR=8.6						
BOSA				PKiKP	PKiKP	20 30 27.0	+0.3
	comp=Z,0.7nm,0.5s,baz=124,slow=21,SNR=4.0						
BOSA				LR	LR	21 02 25.2	
	comp=Z,174nm,21.6s,baz=109,slow=31						
KOLS	Kolonicke sedl	97.03 319		eP	P	20 25 50.7	-1.1
KOLS				e		20 29 58.0	
KOLS	Kolonicke sedl	97.03 319		eP	P	20 25 50.7	-1.1
KOLS				ePP	PP	20 29 57.9	+8.0
UZH	Uzhgorod	97.06 319		eP	P	20 25 52.0	0.0
CRVS	Cervenica-Dubn	97.57 319		i P	P	20 25 53.2	-1.0
STHS	Stebnicka Huta	97.63 320		i P	P	20 25 55.0	+0.5
STHS				pmax	pmax		
	comp=Z,10.0nm,1.5s,mb5.0						
STHS	Stebnicka Huta	97.63 320		i P	P	20 25 55.0	+0.5
	comp=Z,10nm,1.5s,mb5.0						
KECS	Kecovo	98.27 319		eP	P	20 25 56.9	-0.5
KECS				pmax	pmax		
	comp=Z,6.0nm,1.6s,mb4.8						
KECS	Kecovo	98.27 319		eP	P	20 25 56.9	-0.5
	comp=Z,6.0nm,1.6s,mb4.8						
KECS	Kecovo	98.27 319		PDIF	P	20 25 56.9	-0.5
OJC	Ojcow	98.42 321		eP	P	20 25 59.3	+1.3
VYHS	Vyhne	99.35 319		i P	Pdif	20 25 59.4	-2.7
VYHS				pmax	pmax		
	comp=Z,3.0nm,1.5s,mb4.5						
VYHS	Vyhne	99.35 319		i P	Pdif	20 25 59.4	-2.7
	comp=Z,3.4nm,1.5s						
VYHS				i PP	PP	20 30 10.4	+2.8
VYHS	Vyhne	99.35 319		PDIF	Pdif	20 25 59.4	-2.7
VYHS				i PP	PP	20 30 10.4	+2.8
OKC	Ostrava-Krasne	99.54 321		ePP	PP	20 30 16.4	+7.4
OKC				AMS	AMS	21 11 30.0	
SUR	Sutherland	100.10 237		P	Pdif	20 26 06.3	+0.9
	comp=Z,162nm,1.6s						
NB2	NORSAR Subarra	100.43 333		P	Pdif	20 26 03.5	-3.4
	comp=Z,0.6nm,0.6s,baz=61,slow=5.6						
NOA	NORSAR Array B	100.43 333		P	Pdif	20 26 04.4	-2.5
	comp=Z,0.8nm,0.5s,baz=72,slow=4.4,SNR=4.6						
DAG	Danmarks Havn	100.49 352⇑		iP	Pdif	20 26 05.1	-2.1
DAG				pmax	pmax		
	comp=Z,16nm,1.2s						
DAG	Danmarks Havn	100.49 352⇑		iP	Pdif	20 26 05.1	-2.1
	comp=Z,16nm,1.2s						
DPC	Dobruska-Polom	100.58 321		ePP	PP	20 30 21.8	+5.0
DPC				AMS	AMS	21 12 30.0	
	comp=Z,200nm,20.9s						
UPC	Upice	100.74 322		ePP	PP	20 30 17.5	-0.5
TREC	Trest	101.35 320		ePP	PP	20 30 28.3	+5.7
TREC				AMS	AMS	21 13 00.0	
	comp=Z,200nm,17.0s						
PVCC	Panska Ves	101.63 322		ePP	PP	20 30 29.2	+4.5
PVCC				AMS	AMS	21 12 50.0	
	comp=Z,200nm,14.2s						
PRU	Pruhonice	101.78 321		ePP	PP	20 30 29.9	+4.1
PRU				AMS	AMS	21 12 40.0	
	comp=Z,200nm,14.2s						
BRG	Berggiesshubel	101.93 322		eP	Pdif	20 26 17.0	+3.4
BRG				e		20 30 27.0	
BRG				pmax	pmax		
	comp=Z,4.0nm,1.0s						
BRG				pmax	pmax		
	comp=Z,6.0nm,1.5s						
BRG	Berggiesshubel	101.93 322		eP	Pdif	20 26 17.0	+3.5
	comp=Z,6.3nm,1.0s						
BRG				e		20 30 27.0	
	comp=Z,10nm,1.5s						
CLL	Collm	102.39 323		ePP	PP	20 30 33.0	+2.7
CLL				ePPS		20 40 29.0	
GERES	GERESS Array B	102.59 320		P	Pdif	20 26 15.1	-1.4
	comp=Z,1.5nm,1.0s,baz=77,slow=8.4,SNR=7.8						
GERES				PKiKP	PKiKP	20 30 37.4	+0.6
	comp=Z,0.4nm,0.4s,baz=69,slow=1.9,SNR=3.5						
KHC	Kasperske Hory	102.60 321		ePP	PP	20 30 34.9	+2.9
KHC				AMS	AMS	21 13 30.0	
	comp=Z,200nm,17.7s						
NKC	Novy Kostel	103.02 322		AMS	AMS	21 14 00.0	
YKA	Yellowknife Ar	104.57	24	Pdiff	Pdif	20 26 26.0	+0.8
	comp=Z,0.6nm,0.6s,baz=297,slow=4.7,SNR=5.3						
YKA				PKiKP	PKiKP	20 30 39.7	-0.2
	comp=Z,0.9nm,0.5s,baz=311,slow=2.1,SNR=10						
PGF	Pioggiola	107.46 315		ePKIKP	PKiKP	20 30 44.2	-1.8
HUMO	Hull Mountain	107.69	45	⇑P	PKiKP	20 30 46.4	0.0
	baz=108						
LPG	La Plagne	108.10 318		ePKIKP	PKiKP	20 30 46.5	-0.6
	comp=Z,9.4nm,0.9s						
J04A	Umpqua Nationa	108.10	44	⇓P	PKiKP	20 30 47.3	+0.1
	baz=108						
LPL	La Plagne	108.11 318		ePKIKP	PKiKP	20 30 46.3	-0.8
	comp=Z,7.2nm,0.8s						
M02C	Callahan	108.11	46	⇓P	PKiKP	20 30 47.3	+0.1
	baz=108						
SBF	Sospel	108.16 317		ePKIKP	PKiKP	20 30 46.0	-1.2
CABF	La Chapelle	108.16 320		ePKIKP	PKiKP	20 30 45.9	-1.2
	comp=Z,6.6nm,0.7s						
MBDF	Montbardon	108.34 318		ePKIKP	PKiKP	20 30 46.5	-1.0
O02C	Red Bluff	108.50	47	⇑P	PKiKP	20 30 47.9	-0.1
	baz=108						
WDC	Whiskeytown Da	108.57	47	⇑P	PKiKP	20 30 47.9	-0.2
	baz=108						
J05A	Fort Rock	108.69	44	⇑P	PKiKP	20 30 48.3	0.0
	baz=109						
GASB	Alder Springs	108.70	48	⇑P	PKiKP	20 30 48.3	-0.1
	baz=109						
M04C	Macdoel	108.73	46	⇑P	PKiKP	20 30 48.2	-0.2
	baz=109						
FRF	La Foret Royal	108.80 316		ePKIKP	PKiKP	20 30 47.2	-1.2
	comp=Z,12nm,0.8s						
H06A	Lindquist Farm	108.84	42	⇓P	PKiKP	20 30 49.0	+0.6
	baz=109						
ORIF	Oris-en-Rattie	108.88 318		ePKIKP	PKiKP	20 30 47.6	-0.9
	comp=Z,8.0nm,0.8s						
ORIF				eMLR	MLR		
	comp=Z,185nm,21.2s						
B09A	Rice	108.93	38	⇓P	PKiKP	20 30 49.2	+0.6
	baz=109						
KEST	Kesra	109.00 308		PKiKP	PKiKP	20 30 50.7	+1.7
	comp=Z,1.0nm,0.5s,baz=14,slow=22,SNR=9.5						
K05A	Summer Lake	109.11	44	⇑P	PKiKP	20 30 49.9	+0.9
	baz=109						
MNRC	McLaughlin Nat	109.12	49	⇓P	PKiKP	20 30 49.7	+0.5
	baz=109						
HATC	Hat Creek Radi	109.29	46	⇓P	PKiKP	20 30 49.5	+0.1
	baz=109						
M05C	Lookout	109.35	46	⇑P	PKiKP	20 30 49.2	-0.3
	baz=109						
LOR	Lormes	109.35 321		ePKIKP	PKiKP	20 30 48.6	-0.8
LOR				eMLR	MLR		
	comp=Z,227nm,23.0s						
LOR	Lormes	109.35 321		ePKPdf	PKiKP	20 30 48.6	-0.8
LOR				LR	LR		
	comp=Z,230nm,23.0s						
L05A	Lakeview	109.36	45	⇓P	PKiKP	20 30 49.8	+0.2
	baz=109						
K06A	Valley Falls	109.53	44	⇓P	PKiKP	20 30 50.8	+1.0
	baz=109						
G08A	Pilot Rock	109.57	41	⇑P	PKiKP	20 30 50.2	+0.4
	baz=110						
SSF	Saint Saulge	109.66 321		ePKIKP	PKiKP	20 30 48.9	-1.0
	comp=Z,6.3nm,0.7s						
O04C	Chester	109.71	47	⇑P	PKiKP	20 30 51.0	+0.8
	baz=110						
EKA	Eskdalemuir Ar	109.72 331		PKiKP	PKiKP	20 30 50.4	+0.6
	comp=Z,3.4nm,1.1s,baz=16,slow=3,5,SNR=4.4						
MOD	Modoc	109.78	45	⇑P	PKiKP	20 30 51.9	+1.6
	baz=110						
A11A	Hall Mountain,	109.81	37	⇓P	PKiKP	20 30 51.6	+1.4
	baz=110						
AVF	Avril sur Loir	109.86 321		ePKIKP	PKiKP	20 30 49.6	-0.7
J07A	Hines	109.99	43	⇑P	PKiKP	20 30 52.0	+1.3
	baz=110						
H08A	Prairie City	110.03	42	⇑P	PKiKP	20 30 51.8	+1.1
	baz=110						
BGF	Bois d'Agland	110.27 320		ePKIKP	PKiKP	20 30 50.5	-0.6
	comp=Z,7.0nm,0.6s						
K07A	Rock Creek Ran	110.27	44	⇑P	PKiKP	20 30 52.4	+1.2
	baz=110						
I08A	Drewsey	110.31	43	⇓P	PKiKP	20 30 51.9	+0.6
	baz=110						
S04C	Ingram Canyon,	110.34	50	⇓P	PKiKP	20 30 51.1	-0.4
	baz=110						
G09A	Cove	110.35	41	⇓P	PKiKP	20 30 50.8	-0.5
	baz=110						
P05C	Yuba Gap, Truc	110.37	48	⇑P	PKiKP	20 30 52.3	+0.8
	baz=110						
BEKR	Beckwourth	110.38	47	⇓P	PKiKP	20 30 51.9	+0.4
	baz=110						
L07A	Adell	110.43	45	⇓P	PKiKP	20 30 51.9	+0.3
	baz=110						
LAVA	Lava Cap Winer	110.43	48	⇑P	PKiKP	20 30 51.3	-0.4
	baz=110						
N06A	Buffalo Meadow	110.49	46	⇓P	PKiKP	20 30 53.0	+1.3
	baz=110						
J08A	Circle Bar Ran	110.57	43	⇓P	PKiKP	20 30 52.1	+0.4
	baz=110						
M07A	Soldier Meadow	110.75	45	⇓P	PKiKP	20 30 51.7	-0.5
	baz=111						
CMB	Columbia Colle	110.91	49	⇓P	PKiKP	20 30 53.3	+0.7
	baz=111						
R05C	Kirkwood Meado	110.94	48	⇓P	PKiKP	20 30 53.4	+0.8
	baz=111						
E11A	Bogner Ranch,	110.95	39	⇓P	PKiKP	20 30 53.1	+0.7
	baz=111						
L08A	Fields	111.07	44	⇓P	PKiKP	20 30 53.5	+0.7
	baz=111						
J09A	Fry Pan Ranch,	111.07	43	⇑P	PKiKP	20 30 53.1	+0.4
	baz=111,SNR=7.4						
U04C	Hernandez Rese	111.08	51	⇑P	PKiKP	20 30 52.4	-0.6
	baz=111						
B13A	Whitefish	111.19	37	⇓P	PKiKP	20 30 53.6	+0.8
	baz=111						
V04C	Ramage Ranch,	111.22	52	⇓P	PKiKP	20 30 53.4	+0.2
	baz=111						
H10A	Noah's Angus R	111.29	41	⇓P	PKiKP	20 30 53.1	0.0
	baz=111						
G11A	Walters Elk Ra	111.29	40	⇑P	PKiKP	20 30 53.4	+0.4
	baz=111						
M08A	Happy Creek Ra	111.30	45	⇓P	PKiKP	20 30 53.9	+0.7
	baz=111						
K09A	Rome	111.32	44	⇑P	PKiKP	20 30 53.8	+0.6
	baz=111						
S06C	San Francisco	111.36	49	⇓P	PKiKP	20 30 54.0	+0.5
	baz=111						
O07A	Toulon	111.37	46	⇑P	PKiKP	20 30 54.2	+0.8
	baz=111						
PKD	Parkfield	111.39	51	⇑P	PKiKP	20 30 53.2	-0.3
	baz=111						
CAF	Calviac	111.40 319		ePKIKP	PKiKP	20 30 52.4	-0.9
	comp=Z,2.2nm,0.4s						
R06C	Coleville	111.46	48	⇑P	PKiKP	20 30 53.4	-0.3
	baz=111						
L09A	Wilkinson Ranc	111.60	44	⇓P	PKiKP	20 30 54.0	+0.2
	baz=112						
N08A	GE Springer Mi	111.69	46	⇑P	PKiKP	20 30 54.3	+0.3
	baz=112						
T06C	Millerton Lake	111.72	50	⇓P	PKiKP	20 30 54.6	+0.4
	baz=112						
H11A	Donnelly	111.73	41	⇓P	PKiKP	20 30 53.8	-0.1
	baz=112						
D13A	Huson	111.75	38	⇑P	PKiKP	20 30 53.6	-0.2
	baz=112						
F12A	Elk City	111.80	40	⇑P	PKiKP	20 30 54.6	+0.5
	baz=112						
K10A	MacKenzie Ranc	111.88	43	⇓P	PKiKP	20 30 55.6	+1.3
	baz=112,SNR=7.0						
R07C	Lee Vining	111.90	49	⇑P	PKiKP	20 30 55.4	+0.9
	baz=112						
MTLF	Montolieu	111.90 317		ePKIKP	PKiKP	20 30 53.5	-0.8
KCC	Kaiser Creek	111.93	49	⇓P	PKiKP	20 30 55.0	+0.5
	baz=112						
N09A	Rock Creek Ran	112.11	45	⇑P	PKiKP	20 30 55.8	+1.1
	baz=112						
MFF	Saint Martin d	112.14 321		ePKIKP	PKiKP	20 30 53.9	-0.7
	comp=Z,10nm,0.7s						
LFF	La Frestale	112.26 319		ePKIKP	PKiKP	20 30 54.1	-0.8
	comp=Z,6.8nm,0.6s						
D14A	Greenough	112.34	38	⇑P	PKiKP	20 30 55.0	0.0
	baz=112						
MFID	Camas Ranch	112.35	42	⇓P	PKiKP	20 30 55.4	+0.2
	baz=112						
NVAR	Mina Array Bea	112.35	48	PKiKP	PKiKP	20 30 56.8	+1.4
	comp=Z,2.0nm,0.6s,baz=257,slow=2.0,SNR=18						
HELL	Mitchell Peak	112.35	50	⇓P	PKiKP	20 30 55.4	0.0
	baz=112						
L10A	Juniper Basin	112.41	44	⇓P	PKiKP	20 30 56.0	+0.7
	baz=112,SNR=8.4						
K11A	Parker Ranch,	112.45	43	⇓P	PKiKP	20 30 55.5	+0.1
	baz=112						
MTUM	Tungsten Hills	112.49	49	ePKPdf	PKiKP	20 30 56.4	+0.8
H12A	Diamond D Ranc	112.55	41	⇑P	PKiKP	20 30 56.2	+0.8
	baz=112						
E14A	Clinton	112.64	39	⇑P	PKiKP	20 30 55.7	+0.1
	baz=112						
S08C	White Mtn Res	112.74	49	⇓P	PKiKP	20 30 56.5	+0.5
	baz=113						
SGMF	Saint Gilles	112.87 324		ePKIKP	PKiKP	20 30 55.3	-0.7
	comp=Z,19nm,0.9s						
L11A	Cat Creek Ranc	112.87	44	⇑P	PKiKP	20 30 56.5	+0.3
	baz=113,SNR=6.9						
J12A	Stokes Ranch,	112.90	42	⇑P	PKiKP	20 30 56.8	+0.6
	baz=113						
H13A	Challis	112.93	41	⇑P	PKiKP	20 30 56.5	+0.3
	baz=113						
D15A	Lincoln	112.96	38	⇓P	PKiKP	20 30 56.8	+0.6
	baz=113						
O10A	Cortez Mining,	113.03	46	⇓P	PKiKP	20 30 57.1	+0.5
	baz=113						
M11A	Holland Ranch,	113.12	44	⇑P	PKiKP	20 30 57.1	+0.4
	baz=113						
HLID	Hailey	113.23	42	ePKPdf	PKiKP	20 30 57.9	+1.1
K12A	Draper Farm, C	113.27	43	⇓P	PKiKP	20 30 57.3	+0.4
	baz=113						
EPF	Esparros	113.29 318		ePKIKP	PKiKP	20 30 56.2	-0.8
I13A	Wildhorse Cree	113.29	41	⇓P	PKiKP	20 30 57.8	+0.9
	baz=113						
P10A	Eureka	113.30	46	⇓P	PKiKP	20 30 57.8	+0.8
	baz=113						
R09A	Tonopah	113.32	48	⇑P	PKiKP	20 30 57.3	+0.1
	baz=113						
S09A	Goldfield	113.38	48	⇓P	PKiKP	20 30 57.8	+0.5
	baz=113						
L12A	House Creek Ra	113.39	43	⇓P	PKiKP	20 30 57.7	+0.6
	baz=113						
J13A	Cove Ranch, Pi	113.46	42	⇓P	PKiKP	20 30 57.7	+0.5
	baz=113						
GRAC	Grapevine Rang	113.51	49	⇓P	PKiKP	20 30 58.5	+0.9
	baz=113						
F15A	Butte	113.51	39	⇓P	PKiKP	20 30 58.0	+0.7
	baz=113						
Q10A	Clear Creek Ra	113.62	47	⇑P	PKiKP	20 30 58.7	+1.0
	baz=114						
DLMT	Dillon	113.66	39	ePKPdf	PKiKP	20 30 58.3	+0.7
EDW2	Edwards Air Fo	113.69	52	⇓P	PKiKP	20 30 59.0	+1.0
	baz=114						
O11A	Cowboy Ranch,	113.69	46	P	PKiKP	20 30 59.4	+1.6
	baz=114,SNR=7.6						
MPMC	Manual Prospec	113.71	50	⇑P	PKiKP	20 30 59.7	+1.7
	baz=114						
M12A	Wells	113.74	44	⇑P	PKiKP	20 30 59.7	+1.8
	baz=114,SNR=7.2						
LRMC	Laurel Mountai	113.74	51	⇓P	PKiKP	20 30 60.0	+1.9
	baz=114						
S10A	Tonopah Range,	113.78	48	⇑P	PKiKP	20 31 00.0	+2.0
	baz=114						
G15A	Dillon	113.81	39	⇓P	PKiKP	20 30 59.8	+1.9
	baz=114						
K13A	Stover Farm, H	113.82	43	⇓P	PKiKP	20 30 59.4	+1.4
	baz=114						
P11A	Circle Ranch,	113.83	46	⇑P	PKiKP	20 30 59.9	+1.8
	baz=114						
N12A	Clover Valley,	113.86	45	P	PKiKP	20 30 59.8	+1.7
	baz=114,SNR=6.7						
ETSF	Etsaut	113.94 318		ePKIKP	PKiKP	20 30 57.6	-0.6
	comp=Z,4.1nm,0.6s						
FURC	Furnace Creek,	114.07	50	⇓P	PKiKP	20 31 00.2	+1.5
	baz=114						
BFSC	Mount Baldy St	114.14	52	⇑P	PKiKP	20 30 59.1	+0.3
	baz=114						
BOZ	Bozeman (W)	114.14	39	ePKIKP	PKiKP	20 30 58.8	+0.3
BOZ	Bozeman (W)	114.14	39	⇓P	PKiKP	20 30 59.5	+1.0
	baz=114						
L13A	Double Diamond	114.14	43	⇑P	PKiKP	20 31 00.2	+1.6
	baz=114						
EGMT	Eagleton	114.15	36	ePKPdf	PKiKP	20 30 58.7	+0.3
Q11A	Duckwater	114.16	47	⇓P	PKiKP	20 31 00.0	+1.3
	baz=114						
M13A	Montello	114.28	44	⇑P	PKiKP	20 30 60.0	+1.1
	baz=114						
O12A	Currie	114.29	45	⇑P	PKiKP	20 30 59.8	+0.8
	baz=114,SNR=7.6						
SJPF	Ste Jean	114.30 318		ePKIKP	PKiKP	20 30 58.3	-0.6
	comp=Z,7.2nm,0.7s						
TPNV	Topopah Spring	114.37	49	ePKIKP	PKiKP	20 30 59.7	+0.5
R11A	Troy Canyon, C	114.38	47	⇑P	PKiKP	20 30 59.8	+0.6
	baz=114						
P12A	McGill	114.47	46	⇓P	PKiKP	20 30 59.6	+0.3
	baz=114						
K14A	Jones Ranch, D	114.48	42	⇓P	PKiKP	20 30 59.9	+0.7
	baz=114						
GSC	Goldstone	114.48	51	ePKIKP	PKiKP	20 31 00.7	+1.2
GSC	Goldstone	114.48	51	⇑P	PKiKP	20 31 00.4	+0.9
	baz=114						
U10A	Ash Meadows, A	114.49	50	⇓P	PKiKP	20 31 00.1	+0.7
	baz=114						
SHOC	Shoshone	114.69	50	⇓P	PKiKP	20 31 01.8	+2.0
	baz=115						
FCC	Fort Churchill	114.72	20	ePKIKP	PKiKP	20 30 58.0	-1.2
M14A	Sheep Mountain	114.79	43	⇓P	PKiKP	20 31 00.7	+0.8
	baz=115						
HEC	Hector,Ludlow	115.00	51	⇓P	PKiKP	20 31 01.6	+1.1
	baz=115						
T11A	Corn Creek, Al	115.04	48	⇑P	PKiKP	20 31 01.8	+1.3
	baz=115						
HVU	Hansel Valley	115.06	43	ePKIKP	PKiKP	20 31 00.9	+0.5
P13A

	baz=117,SNR=14							
V14A	Boquillas Ranc	117.21	49	⇓P		PKPdf	20 31 06.5	+1.8
	baz=117,SNR=15							
T15A	Red Dirt Ranch	117.24	48	⇓P		PKPdf	20 31 05.5	+0.8
	baz=117							
Y13A	Salome	117.29	52	⇑P		PKPdf	20 31 06.4	+1.5
	baz=117							
W14A	Seligman	117.38	50	⇑P		PKPdf	20 31 06.2	+1.1
	baz=117,SNR=14							
ESDC	Sonseca Array	117.62	316	PKP		PKPdf	20 31 05.6	+0.2
	comp=Z,1.2nm,0.6s,baz=25,slow=3.4,SNR=7.1							
SRU	San Rafael	117.74	45	*e*PKIKP		PKPdf	20 31 06.1	+0.5
X14A	Yava	117.79	51	⇑P		PKPdf	20 31 07.3	+1.4
	baz=118,SNR=9.3							
V15A	Kaibab Nationa	117.85	49	P		PKPdf	20 31 08.1	+2.1
	baz=118,SNR=20							
Y14A	Wickenburg	117.89	51	⇑P		PKPdf	20 31 06.8	+0.7
	baz=118,SNR=5.3							
W15A	Williams	118.01	50	⇓P		PKPdf	20 31 08.0	+1.7
	baz=118							
X15A	Humboldt	118.29	50	⇑P		PKPdf	20 31 08.0	+1.2
	baz=118,SNR=8.6							
Y15A	Casa Rosa Ranc	118.41	51	P		PKPdf	20 31 08.6	+1.5
	baz=118,SNR=10							
WUAZ	Wupatki	118.56	49	*e*PKPdf		PKPdf	20 31 08.5	+1.2
WUAZ	Wupatki	118.56	49	⇓P		PKPdf	20 31 08.2	+0.8
	baz=118							
W16A	Flagstaff	118.60	49	⇓P		PKPdf	20 31 08.5	+1.1
	baz=118							
RWWY	Rawlins	118.83	41	*e*PKPdf		PKPdf	20 31 07.6	-0.1
X16A	Lo Mia Camp, P	118.93	50	⇑P		PKPdf	20 31 08.9	+0.8
	baz=119							
115A	Sonoran Desert	118.93	52	⇑P		PKPdf	20 31 08.5	+0.4
	baz=119							
Y16A	Circle Bar Ran	119.10	51	⇓P		PKPdf	20 31 09.6	+1.2
	baz=119							
PV10	Paradox Valley	119.10	45	*e*PKPdf		PKPdf	20 31 09.0	+0.7
116A	Eloy	119.39	52	⇓P		PKPdf	20 31 10.1	+1.0
	baz=119							
PV01	Paradox Valley	119.54	45	*e*PKPdf		PKPdf	20 31 10.2	+1.1
RSSD	Black Hills	119.58	37	*e*PKIKP		PKPdf	20 31 08.5	-0.5
Y17A	Roosevelt	119.66	51	⇓P		PKPdf	20 31 11.6	+2.1
	baz=120							
216A	Three Points,	119.79	53	⇑P		PKPdf	20 31 11.1	+1.3
	baz=120							
W18A	Petrified Fore	119.95	49	⇓P		PKPdf	20 31 11.6	+1.6
	baz=120							
MVCO	Mesa Verde	119.99	46	*e*PKPdf		PKPdf	20 31 10.8	+0.7
MVCO	Mesa Verde	119.99	46	⇓P		PKPdf	20 31 11.4	+1.3
	baz=120							
X18A	Snowflake	120.02	49	⇓P		PKPdf	20 31 12.0	+1.8
	baz=120							
Z17A	San Carlos Hig	120.09	51	⇑P		PKPdf	20 31 11.4	+1.0
	baz=120							
117A	Oracle	120.15	52	⇓P		PKPdf	20 31 11.5	+1.0
	baz=120							
ULM	Lac du Bonnet	120.16	28	*e*PKPdf		PKPdf	20 31 08.6	-1.3
ULM	Lac du Bonnet	120.16	28	PKP		PKPdf	20 31 09.4	-0.5
	comp=Z,11nm,0.7s,baz=312,slow=1.8,SNR=20							
ULM				PKKPbc		PKKPbc	20 41 17.6	-2.7
	comp=Z,1.0nm,0.4s,baz=46,slow=6.6,SNR=2.9							
SMCO	Snowmass	120.18	43	*e*PKPdf		PKPdf	20 31 12.6	+2.2
Y18A	Canyon Day Jun	120.25	50	⇓P		PKPdf	20 31 12.5	+1.8
	baz=120							
TOA0	Torodi Ar. Sit	120.28	285	*e*PKPdf		PKPdf	20 31 10.1	-1.1
TORD	Torodi Ar. Bea	120.28	285	PKP		PKPdf	20 31 10.6	-0.6
TORD				PKKPab		PKKPab	20 41 22.8	+2.1
TORD	Torodi Ar. Bea	120.28	285	PKP		PKPdf	20 31 10.6	-0.6
	comp=Z,11nm,0.4s,baz=26,slow=2.9,SNR=95							
TORD				PKKPab		PKKPab	20 41 22.8	+2.1
	comp=Z,3.0nm,1.1s,baz=279,slow=3.8,SNR=8.2							
217A	Green Valley	120.38	53	⇓P		PKPdf	20 31 12.2	+1.2
	baz=120							
X19A	St. Johns	120.56	49	⇑P		PKPdf	20 31 13.2	+2.0
	baz=120							
118A	Homack Ranch,	120.73	51	⇓P		PKPdf	20 31 12.9	+1.4
	baz=121							
Y19A	Nutrioso	120.78	50	⇓P		PKPdf	20 31 13.7	+2.1
	baz=121							
ISCO	Idaho Springs	120.81	42	*e*PKIKP		PKPdf	20 31 12.0	+0.5
218A	Dragoon	120.92	52	⇑P		PKPdf	20 31 13.3	+1.3
	baz=121							
EVO	Evora	120.95	316	*e*PKIKP		PKPdf	20 31 10.9	-0.9
	comp=Z,19nm,0.8s							
EVO				*e*MLR		MLR		
	comp=Z,130nm,22.8s							
Z19A	T-Link Ranch,	121.03	50	⇑P		PKPdf	20 31 12.8	+0.7
	baz=121							
318A	Bisbee	121.16	53	⇓P		PKPdf	20 31 14.1	+1.7
	baz=121							
119A	Ashpeak Ranch,	121.20	51	⇓P		PKPdf	20 31 13.9	+1.4
	baz=121							
AGMN	Agassiz Refuge	121.50	29	*e*PKPdf		PKPdf	20 31 11.6	-1.0
219A	White Tail Can	121.53	52	⇑P		PKPdf	20 31 14.3	+1.1
	baz=121							
319A	Douglas	121.74	53	⇓P		PKPdf	20 31 15.1	+1.6
	baz=122							
LPM	Los Pinos Moun	122.61	48	*e*PKPdf		PKPdf	20 31 16.3	+1.1
EYMN	Ely	123.82	27	*e*PKPdf		PKPdf	20 31 16.3	-0.8
ECSD	EROS,Sioux Fal	124.12	34	*e*PKPdf		PKPdf	20 31 17.2	-0.6
MNTX	Cornudas Mount	124.67	51	*e*PKPdf		PKPdf	20 31 19.7	+0.5
SCHQ	Schefferville	124.88	7	*e*PKPdf		PKPdf	20 31 18.5	-0.4
SCHQ	Schefferville	124.88	7	PKP		PKPdf	20 31 19.2	+0.3
	comp=Z,6.7nm,0.6s,baz=1.8,slow=3.5,SNR=12							
COWI	Conover	126.27	27	*e*PKPdf		PKPdf	20 31 21.4	-0.4
TXAR	Lajitas Array	127.00	52	PKP		PKPdf	20 31 24.9	+1.1
	comp=Z,3.9nm,0.8s,baz=241,slow=1.8,SNR=36							
KSU1	Kansas State U	127.02	38	*e*PKPdf		PKPdf	20 31 23.6	+0.1
KIC	Kosan Boka	127.33	278	*e*PKIKP		PKPdf	20 31 24.9	+0.1
	comp=Z,183nm,1.0s							
DBIC	Dimbokro	127.42	278	*e*PKIKP		PKPdf	20 31 24.8	-0.1
DBIC	Dimbokro	127.42	278	PKP		PKPdf	20 31 25.1	+0.2
	comp=Z,12nm,0.5s,baz=51,slow=1.2,SNR=40							
TIC	Toumodi	127.58	278	*e*PKIKP		PKPdf	20 31 25.3	+0.1
	comp=Z,84nm,0.6s							
LIC	Lamto	127.63	278	*e*PKIKP		PKPdf	20 31 25.3	0.0
	comp=Z,43nm,0.6s							
LIC	Lamto	127.63	278	*e*PKIKP		PKPdf	20 31 25.3	0.0
	comp=Z,125nm,1.0s							
WMOK	Wichita Mounta	128.08	44	*e*PKIKP		PKPdf	20 31 25.8	+0.2
JFWS	Jewell Farm	128.08	31	*e*PKIKP		PKPdf	20 31 24.7	-0.7
JCT	Junction City	129.49	49	*e*PKPdf		PKPdf	20 31 28.6	+0.2
JCT				*e*SKP			20 34 33.2	
CCM	Cathedral Cave	130.92	36	*e*PKPdf		PKPdf	20 31 30.7	-0.2
CCM				*e*SKP			20 34 36.8	
FVM	French Village	131.44	35	*e*PKPdf		PKPdf	20 31 31.5	-0.5
FVM				*e*SKP			20 34 38.5	
MIAR	Mount Ida	131.71	41	*e*PKPdf		PKPdf	20 31 32.8	+0.3
MIAR				*e*SKP			20 34 41.1	
HKT	Hockley	132.73	48	*e*PKPdf		PKPdf	20 31 33.7	-0.9
HKT				*e*SKP			20 34 43.9	
NCB	Newcomb	133.75	17	*e*PKPdf		PKPdf	20 31 36.4	+0.3
OXF	Oxford	134.38	38	*e*PKPdf		PKPdf	20 31 37.8	+0.2
OXF				*e*SKP			20 34 49.2	
SSPA	Standing Stone	135.48	23	*e*PKPdf		PKPdf	20 31 39.5	0.0
TKL	Tuckaleechee C	136.82	32	*e*PKIKP		PKPdf	20 31 41.6	-0.5
BLA	Blacksburg	137.27	28	*e*PKIKP		PKPdf	20 31 44.1	+1.2
PLCA	Paso Flores	137.56	165	PKP		PKPdf	20 31 44.0	+0.7
PLCA				SKPbc		SKPbc	20 35 01.7	+1.9
PLCA	Paso Flores	137.56	165	PKP		PKPdf	20 31 44.0	+0.7
	comp=Z,7.4nm,1.0s,baz=203,slow=3.2,SNR=6.6							
PLCA				SKPbc		SKPbc	20 35 01.7	+1.9
	comp=Z,4.6nm,0.8s,baz=228,slow=2.3,SNR=8.1							
TEIG	Tepich	143.57	55	*e*PKPpre			20 31 52.3	
FCH	Farellones	144.52	161	*e*P		PKPdf	20 31 56.9	+0.9
TGUH	Tegucigalpa,Un	147.13	64	*e*PKPdf		PKPdf	20 32 02.4	+1.5
TLL	Tololo Astrono	147.21	158	*e*P		PKPdf	20 32 02.0	+1.4
LCO	Las Campanas	148.28	157	*e*PKPbc		PKPbc	20 32 07.6	+1.6
CAM4	Nova Friburgo	153.53	212	*e*P		PKPbc	20 32 19.4	+0.9
CAM4				*i*			20 32 20.2	
CAM4				*i*			20 32 21.5	
CAM4				*i*			20 32 24.9	
CAM4				*i*			20 32 28.3	
CAM4				*i*			20 32 34.4	
CPUP	Villa Florida	153.71	180	*e*PKPdf		PKPdf	20 32 10.8	0.0
CPUP				*e*PKPbc		PKPbc	20 32 19.4	+0.6
CPUP				*e*PKPab		PKPab	20 32 32.3	+0.3
CPUP	Villa Florida	153.71	180	PKP		PKPdf	20 32 11.1	+0.2
	comp=Z,1.4nm,0.5s,baz=271,slow=1.5,SNR=6.2							
CPUP				PKPbc		PKPbc	20 32 19.8	+1.0
	comp=Z,3.5nm,0.5s,baz=91,slow=0.7,SNR=10							
CPUP				PKPab		PKPab	20 32 33.2	+1.2
	comp=Z,4.0nm,0.5s,baz=154,slow=2.5,SNR=7.9							
CPD	Cerro la Pandu	160.21	25	*e*PKIKP		PKPdf	20 32 18.1	-1.2
CPD				*e*			20 32 58.5	
MTP	Monte Pirata	160.31	24	*e*PKPdf		PKPdf	20 32 18.4	-1.0
MTP				*e*PKPab		PKPab	20 32 60.0	-0.8
LPAZ	La Paz	160.44	147	*e*PKIKP		PKPdf	20 32 21.4	+1.9
LPAZ				*e*			20 33 02.5	
LPAZ	La Paz	160.44	147	PKP		PKPdf	20 32 21.7	+2.1
	comp=Z,38nm,1.4s,baz=344,slow=1.2,SNR=30							
BDFB	Brasilia	161.93	210	PKPab		PKPab	20 33 09.4	+1.6
	comp=Z,3.0nm,0.5s,baz=42,slow=7.1,SNR=7.6							
ROSC	El Rosal	162.21	74	PKP		PKPdf	20 32 21.7	+0.2
	comp=Z,4.8nm,0.4s,baz=297,slow=2.3,SNR=9.3							
ROSC				PKPab		PKPab	20 33 12.3	+2.9
	comp=Z,8.1nm,0.5s,baz=97,slow=16,SNR=3.4							
SDV	Santo Domingo	164.00	57	*e*PKPdf		PKPdf	20 32 22.6	-0.6
SDV				*e*PKPab		PKPab	20 33 17.7	+0.5

JMA 29 20:20:08.5±0.6,3178N×14238E,h0km,M4.0,Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	Mitsune	2.54	302	P	Pn	20 20 52.8	+1.8
JHJ2				S	Sn	20 21 24.3	+1.7
BSO1	Boso 1	3.10	338	P	Pn	20 20 59.4	+0.8
BSO3	Boso 3	3.40	333	P	Pn	20 21 04.8	+2.1
BSO4	Boso 4	3.63	332	P	Pn	20 21 07.6	+1.7
JOD2	Odawara 2	4.43	323	P	Pn	20 21 18.7	+1.8
JYT	Yasato	4.79	338	P	Pn	20 21 24.3	+2.4
JYT				S	Sn	20 22 21.2	+3.0
JHU	Hanno	4.81	328	P	Pn	20 21 24.6	+2.4
JHU				*e*S	Sn	20 22 21.7	+3.1
JHO	Hitachi	5.05	343	P	Pn	20 21 26.1	+0.7
JHO				S	Sn	20 22 24.2	-0.2
JRY	Ryogami san	5.12	327	P	Pn	20 21 27.9	+1.5
JAG	Ashikaga	5.23	333	P	Pn	20 21 29.5	+1.6
JFK	Kawauchi	5.71	348	P	Pn	20 21 34.9	+0.4
MAT	Matsushiro	5.88	325	P	Pn	20 21 38.3	+1.5
MAT				S	Sn	20 22 46.5	+1.6
JMK	Ichinoseki	7.22	353	P	Pn	20 21 58.2	+3.0

*MOS **29** 20:32:25.9±1.5,5152N×10473E,h7km,mb4.2/1,Error ellipse: s-maj=13.9km s-min=9.4km az=75.0*

BYKL 29 20:32:26.3±0.3,5156N×10460E,h23km±4km,7C-2D, Lake Baykal region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSTR	Listvyanka	0.34	25	⇑*i*PG	Pb	20 32 33.5	-0.3
LSTR				*e*		20 32 38.6	
LSTR				pmax	pmax		
	comp=Z,116nm,0.3s						
LSTR				smax			
	comp=N,3μm,0.6s						
LSTR	Listvyanka	0.34	25	⇑*i*Pg	Pb	20 32 33.5	-0.3
LSTR				*i* Sg	Sb	20 32 38.6	-0.3
LSTR				Pmax			
	comp=N,108nm,0.4s						
LSTR				Smax			
	comp=N,2μm,0.7s						
TLY	Talaya	0.61	282	*e*PG	Pb	20 32 38.6	+0.4
TLY				*e*		20 32 46.9	
TLY				pmax	pmax		
	comp=Z,134nm,0.1s						
TLY				smax			
	comp=N,2μm,0.4s						
TLY	Talaya	0.61	282	*e*Pg	Pb	20 32 38.1	-0.1
TLY				*e*		20 32 38.9	
TLY				*i* Sg	Sb	20 32 46.9	+0.5
TLY				max			
	comp=N,135nm,0.1s						
TLY				Smax			
	comp=N,2μm,0.4s						
IRK	Irkutsk	0.71	344	⇑*i*PG	Pb	20 32 40.3	+0.3
IRK				*e*		20 32 50.3	
IRK				pmax	pmax		
	comp=Z,311nm,0.4s						
IRK				smax			
	comp=N,1μm,0.5s						
IRK	Irkutsk	0.71	344	⇑*i*Pg	Pb	20 32 40.4	+0.4
IRK				*e*Sg	Sb	20 32 50.3	+0.9
IRK				Pmax			
	comp=N,338nm,0.3s						
IRK				Smax			
	comp=N,2μm,0.5s						
KAB	Kabansk	1.37	68	*e*PG	Pn	20 32 51.9	+2.0
KAB				*e*		20 33 09.8	
KAB				pmax	pmax		
	comp=Z,513nm,0.8s						
KAB				smax			
	comp=E,654nm,0.7s						
KAB	Kabansk	1.37	68	*e*Pg	Pn	20 32 51.2	+1.3
KAB				*e*Sg	Sn	20 33 10.4	+3.1
KAB				Pmax			
	comp=E,473nm,1.2s						
KAB				Smax			
	comp=E,802nm,0.8s						
ARS	Arshan	1.40	286	*e*PG	Pn	20 32 52.6	+2.2
ARS				*e*		20 33 11.0	
ARS				pmax	pmax		
	comp=Z,173nm,0.3s						
ARS				smax			
	comp=E,1μm,0.4s						
ARS	Arshan	1.40	286	*e*Pg	Pn	20 32 52.4	+2.0
ARS				*e*		20 32 56.3	
ARS				*i* Sg	Sn	20 33 10.9	+2.8
ARS				*e*		20 33 15.1	
ARS				max			
	comp=E,174nm,0.4s						
ARS				max			
	comp=E,1μm,0.4s						
ZAK	Zakamensk	1.45	216	*e*PG	Pn	20 32 52.6	+1.6
ZAK				*e*		20 33 11.6	
ZAK				pmax	pmax		
	comp=Z,122nm,0.4s						
ZAK				smax			
	comp=N,2μm,0.3s						
ZAK	Zakamensk	1.45	216	⇑*i*Pg	Pn	20 32 52.5	+1.5
ZAK				*e*		20 32 56.1	
ZAK				*e*Sg	Sn	20 33 12.0	+2.8
ZAK				*e*		20 33 15.9	
ZAK				max			
	comp=N,122nm,0.5s						
ZAK				max			
	comp=N,2μm,0.4s						
HRMR	Khuramsha	1.47	86	⇓*i*Pg	Pn	20 32 52.6	+1.3
HRMR				*i* Sg	Sn	20 33 12.4	+2.6
HRMR				Pmax			
	comp=N,570nm,0.7s						
HRMR				Smax			
	comp=N,3μm,0.5s						
TRG	Tyrgan	1.61	41	*e*PG	Pn	20 32 55.9	+2.6
TRG				*e*		20 33 16.5	
TRG				pmax	pmax		
	comp=Z,139nm,0.3s						
TRG				smax			
	comp=E,1μm,0.3s						
TRG	Tyrgan	1.61	41	*e*Pg	Pn	20 32 55.8	+2.5
TRG				*i*		20 32 56.4	
TRG				*e*Sg	Sn	20 33 16.6	+3.2
TRG				max			
	comp=E,128nm,0.3s						
TRG				Smax			
	comp=E,1μm,0.3s						
ZRHB	Zarechye	1.86	57	⇑*i*Pg	Pn	20 33 00.2	+3.5
ZRHB				*e*Sg	Sn	20 33 25.6	+6.1
ZRHB				Pmax			
	comp=E,168nm,0.9s						
ZRHB				Smax			
	comp=E,859nm,0.9s						
UUDB	Ulan-Yde	1.93	80	⇓*i*Pg	Pn	20 33 00.6	+2.9
UUDB				*e*Sg	Sn	20 33 26.1	+4.9
UUDB				Pmax			
	comp=E,254nm,1.0s						
UUDB				Smax			
	comp=E,306nm,0.7s						
MOY	Mondy	2.25	274	*e*PN	Pn	20 33 07.0	+4.9
MOY				*e*		20 33 37.1	
MOY				pmax	pmax		
	comp=Z,63nm,0.4s						
MOY				smax			
	comp=E,691nm,0.6s						
MOY	Mondy	2.25	274	*e*Pg	Pn	20 33 06.7	+4.6
MOY				*e*Sg	Sn	20 33 37.0	+7.9
MOY				Pmax			
	comp=E,73nm,0.6s						
MOY				Smax			
	comp=E,691nm,0.6s						
OGRR	Ongureny	2.77	40	*e*PN	Pn	20 33 12.0	+2.8
OGRR				*e*		20 33 16.6	
OGRR				*e*		20 33 51.1	
OGRR				pmax	pmax		
	comp=Z,38nm,0.8s						
OGRR				smax			
	comp=E,447nm,0.8s						
OGRR	Ongureny	2.77	40	*e*Pn	Pn	20 33 11.9	+2.7
OGRR				*e*Pg	Pn	20 33 15.6	+6.4
OGRR				*e*Sn	Sn	20 33 46.5	+4.6
OGRR				*e*Sg	Sn	20 33 51.3	+9.4
OGRR				Pmax			
	comp=E,50nm,1.3s						
OGRR				Smax			
	comp=E,446nm,0.9s						
MXMB	Maximikha	3.06	54	*e*Pn	Pn	20 33 15.0	+1.8
MXMB				⇑*i*Pg	Pn	20 33 21.7	+8.5
MXMB				*e*Sn	Sn	20 33 52.6	+3.6
MXMB				*e*Sg	Sn	20 34 01.4	+12
MXMB				Pmax			
	comp=E,120nm,0.6s						
MXMB				Smax			
	comp=E,244nm,0.8s						
ORL	Orlik	3.12	290	*e*PN	Pn	20 33 21.6	+7.7
ORL				*e*		20 34 02.5	
ORL				pmax	pmax		
	comp=Z,49nm,0.6s						
ORL				smax			
	comp=N,464nm,1.1s						
ORL	Orlik	3.12	290	*e*Pg	Pn	20 33 20.9	+7.0
ORL				*e*Sg	Sn	20 34 02.8	+12
ORL				Pmax			
	comp=N,36nm,0.6s						
ORL				Smax			
	comp=N,465nm,1.0s						
SYVR	Suvo	3.90	55	*e*Pg	Pn	20 33 36.2	+11
SYVR				*e*Sg	Sn	20 34 27.8	+18
SYVR				Pmax			
	comp=N,20nm,0.4s						
SYVR				Smax			
	comp=N,92nm,0.7s						
ULN	Ulaanbaatar	4.03	156	*e*Pn	Pn	20 33 28.3	+1.8
ULN				*e*Pg	Pn	20 33 38.0	+12
ULN				*e*Sg	Sn	20 34 30.5	+18
NIZ	Nizh Angarsk	5.14	33	*e*PN	Pn	20 33 45.0	+3.2
NIZ				*e*		20 33 59.6	
NIZ				*e*S	Sn	20 34 41.4	+1.1
NIZ				*e*		20 35 03.9	
NIZ				pmax	pmax		
	comp=Z,12nm,0.6s						
NIZ				smax			
	comp=N,107nm,0.8s						
NIZ	Nizh Angarsk	5.14	33	*e*Pg	Pn	20 33 58.5	+17
NIZ				*e*		20 34 43.5	
NIZ				*e*Sg	Sn	20 35 05.0	+25
NIZ				Pmax			
	comp=N,10.0nm,0.8s						
NIZ				Smax			
	comp=N,107nm,0.8s						
YLYR	Ulyunkhan	5.16	47	*e*PN	Pn	20 33 45.0	+3.1
YLYR				*e*		20 33 59.1	
YLYR				*e*		20 35 04.0	
YLYR				pmax	pmax		
	comp=Z,7.0nm,0.5s						
YLYR				smax			
	comp=N,67nm,1.3s						
YLYR	Ulyunkhan	5.16	47	*e*Pn	Pn	20 33 43.8	+1.9
YLYR				*e*Pg	Pn	20 33 58.8	+17
YLYR				*e*Sg	Sn	20 35 05.6	+25
YLYR				Pmax			
	comp=N,4.0nm,0.9s						
YLYR				Smax			
	comp=N,68nm,1.4s						
KPC	Khapcheranga	5.29	108	*e*PN	Pn	20 33 44.3	+0.5
KPC				*e*		20 34 01.1	
KPC				*e*		20 35 10.9	
KPC				pmax	pmax		
	comp=Z,7.0nm,0.5s						
KPC				smax			
	comp=N,101nm,1.3s						
KPC	Khapcheranga	5.29	108	*e*Pn	Pn	20 33 43.9	+0.1
KPC				*e*Pg	Pn	20 34 01.0	+17
KPC				*i* Sg	Sn	20 35 10.5	+27
KPC				Pmax			
	comp=N,7.0nm,0.6s						
KPC				Smax			
	comp=N,102nm,1.1s						
TDJR	Todzha	5.32	282	*e*Pg	Pn	20 34 00.3	+16
TDJR				*e*Sg	Sn	20 35 08.3	+24
CIT	Chita	5.58	82	*e*Sg	Sn	20 35 19.7	+29
CIT				*e*		20 35 37.1	
CIT				max			
	comp=N,116nm,1.3s						
KMO	Kumora	5.84	40	*e*Sg	Sn	20 35 25.2	+28
KMO				Smax			
	comp=N,117nm,1.1s						
YOA	Uoyan	6.22	40	*e*Sg	Sn	20 35 39.9	+33
YOA				Smax			
	comp=N,221nm,1.5s						
UKT	Uakit	6.67	50	*e*	Pn	20 34 18.0	+15
UKT				*e*Sg	Sn	20 35 52.1	+34
UKT				max			
	comp=N,26nm,0.8s						
UKT				Smax			
	comp=N,137nm,1.3s						
SVKR	Severomuysk	6.99	46	*e*Sg	Sn	20 36 02.6	+37
SVKR				Smax			
	comp=N,103nm,1.1s						
BOD	Bodaibo	8.30	37	*e*Sg	Sn	20 36 42.2	+44
BOD				Smax			
	comp=N,25nm,1.3s						
TUP	Tupik	9.69	67	*e*Sg	Sn	20 37 25.5	+53
TUP				Smax			
	comp=N,25nm,1.6s						

IDC 29 21:59:48.9±2.4,080S×12783E,h0km,mb3.2/3,mb1 3.5/3, mb1mx3.4/15,mbtmp3.3/3,Error ellipse: s-maj=196.1km s-min=26.9km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	20.07	162	P	P	22 04 23.6	-0.4
	0.4nm,0.3s,baz=341,slow=12,SNR=4.2						
ASAR	Alice Springs	23.49	166	P	P	22 05 00.8	+0.2
	1.0nm,0.8s,baz=335,slow=8.5,SNR=7.0						
MKAR	Makanchi Array	61.89	326	P	P	22 10 10.3	+0.1
	0.2nm,0.4s,baz=115,slow=8.5,SNR=5.0						

*IDC **29** 22:25:28.9±1.5,100S×12761E,h0km,mb4.0/4,mb1 4.1/5, mb1mx3.9/15,mbtmp4.0/5,MS2.9/1,Ms1 2.9/1, ms1mx2.5/23,Error ellipse: s-maj=179.4km s-min=19.6km az=67.0*

*NEIC **29** 22:25:30.1±0.4,104S×12757E,h10km,mb4.2/6,Error ellipse: s-maj=15.9km s-min=5.8km az=68.0*

*ISCJB **29** 22:25:31.4±0.5,106S±008×1277E±0.1,h33km,mb4.4/14, Error ellipse: s-maj=22.0km s-min=7.9km az=156.2*

ISC 29 22:25:32.9±0.6,106S±009×1279E±02,h35km,n28, σ0§66/27,mb4.4/14,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	17.08

LSA	Lhasa	46.51	314	P	P	22 33 56.9	-0.2
JIRN	Jiri	49.16	309	*e*P	P	22 34 18.3	+0.6
	7.1nm,0.5s,mb4.9						
GUN	Gumba	49.52	309	*e*P	P	22 34 20.3	-0.2
	9.5nm,0.5s,mb5.0						
KKN	Kakani	49.94	308	*e*P	P	22 34 23.8	+0.2
	4.9nm,0.6s,mb4.7						
DMN	Daman	49.99	308	*e*P	P	22 34 24.2	+0.2
KOLN	Koldanda	51.25	308	*e*P	P	22 34 34.0	+0.5
	9.1nm,0.7s,mb4.8						
DANN	Dangsing	51.38	308	*e*P	P	22 34 34.7	+0.2
	14nm,0.8s,mb4.9						
ULN	Ulaanbaatar	51.99	342	*e*P	P	22 34 39.9	+1.2
	1.7nm,0.9s,mb4.0						
MK31	Makanchi Array	62.13	326	*e*P	P	22 35 50.6	+0.2
MK31				*e*PcP	PcP	22 36 30.2	-0.2
MKAR	Makanchi Array	62.13	326	P	P	22 35 50.7	+0.3
	3.0nm,0.7s,mb4.5,baz=120,slow=8.1,SNR=33						
TKM2	Tokmak 2	64.09	320	P	P	22 36 02.4	-1.1
EKS2	Erkin-Say	65.16	319	*e*P	P	22 36 10.8	+0.3
	3.0nm,1.0s,mb4.3						
ZALV	Zalesovo Beam	65.35	334	P	P	22 36 11.4	-0.1
	0.5nm,0.3s,mb4.0,baz=118,slow=5.9,SNR=4.3						
KURK	Kurchatov	66.37	328	*e*P	P	22 36 18.3	+0.1
	4.7nm,0.8s,mb4.6						
ARU	Arti	79.57	328	*e*P	P	22 37 35.6	-0.6
	2.6nm,0.7s,mb4.3						
MALT	Malatya	90.21	308	P	P	22 38 30.1	-0.1
KMBO	Kilima Mbogo	90.59	269	*e*P	P	22 38 32.8	+0.3

IDC 29 22:45:38.9±2.2, 131S×12700E, h0km, mb3.5/2, mb1 3.6/3, mb1mx3.4/16, mbtmp3.4/3, ML3.3/1, Error ellipse: s-maj=183.4km s-min=26.9km az=66.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.86	159	P	Pn	22 50 11.9	-1.3
	0.1nm,0.3s,baz=338,slow=11,SNR=2.9						
ASAR	Alice Springs	23.21	164	P	Pn	22 50 47.7	0.0
	1.3nm,0.7s,baz=345,slow=12,SNR=15						
MKAR	Makanchi Array	61.86	327	P	P	22 56 00.0	0.0
	0.2nm,0.3s,baz=114,slow=8.8,SNR=4.2						

*IDC **29** 23:07:30.3±0.9, 105S×12760E, h0km, mb4.0/6, mb1 4.1/8, mb1mx4.0/16, mbtmp4.0/8, ML4.1/2, Error ellipse: s-maj=45.0km s-min=16.9km az=74.0*
*ISCJB **29** 23:07:31.4±4.9, 113S±009×1276E±01, h25km±36km, mb4.3/11, Error ellipse: s-maj=24.6km s-min=8.1km az=145.8*
*NEIC **29** 23:07:31.4±0.4, 102S×12764E, h10km, mb4.0/3, Error ellipse: s-maj=12.1km s-min=5.5km az=62.0*
ISC 29 23:07:32.4±4.8, 111S±008×1277E±01, h17km±30km, n27, σ0°79/28, mb4.3/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.80	244	Pn	Pn	23 09 39.8	+0.8
	1.6nm,0.3s,baz=122,slow=8.6,SNR=5.8						
KAKA	Kakadu	12.46	158	*e*Pn	Pn	23 10 30.2	+1.0
	41nm,0.6s						
KAKA				*e*Sn	Sn	23 12 47.2	-0.5
KSM	Kuching	17.54	278	*e*Pn	Pn	23 11 35.1	-1.3
WRAB	Tennant Creek	19.82	161	*e*P	Pn	23 12 03.3	-0.7
	3.0nm,0.6s						
WRA	Warramunga Arr	19.82	161	P	Pn	23 12 03.2	-0.9
	0.7nm,0.3s,baz=348,slow=12,SNR=13						
WB2	Warramunga Arr	19.83	161	*e*P	Pn	23 12 02.9	-1.2
WB2	Warramunga Arr	19.83	161	*e*P	Pn	23 12 02.8	-1.3
WB2				*e*P		23 12 02.9	
ASAR	Alice Springs	23.23	165	P	P	23 12 39.1	+0.2
	3.2nm,0.7s,mb3.9,baz=346,slow=10,SNR=30						
KULM	Kulim	27.72	284	P	P	23 13 20.1	-0.2
STKA	Stephens Creek	33.31	158	P	P	23 14 11.8	+2.3
STKA	Stephens Creek	33.31	158	P	P	23 14 11.8	+2.3
	3.5nm,0.7s,mb4.4,baz=330,slow=13,SNR=4.5						
KSRS	Korea Array	38.37	0	P	P	23 14 53.4	+0.6
	1.0nm,0.7s,mb3.7,baz=180,slow=11,SNR=4.8						
JIRN	Jiri	49.03	309	*e*P	P	23 16 19.4	+0.6
GUN	Gumba	49.39	309	*e*P	P	23 16 22.1	+0.6
	10nm,0.7s,mb5.0						
DMN	Daman	49.86	308	*e*P	P	23 16 25.4	+0.3
KOLN	Koldanda	51.12	308	*e*P	P	23 16 35.1	+0.5
	7.1nm,0.6s,mb4.8						
DANN	Dangsing	51.25	308	*e*P	P	23 16 35.9	+0.3
	9.6nm,0.7s,mb4.8						
ULN	Ulaanbaatar	51.98	342	*e*P	P	23 16 40.2	-0.4
	1.1nm,0.7s,mb3.9						
SONM	Songino Array	52.15	342	P	P	23 16 42.2	+0.3
	1.5nm,0.9s,mb3.9,baz=142,slow=7.5,SNR=4.3						
MK31	Makanchi Array	62.05	326	*e*P	P	23 17 51.8	-0.3
MKAR	Makanchi Array	62.05	326	P	P	23 17 52.0	-0.1
	1.7nm,0.5s,mb4.5,baz=117,slow=8.0,SNR=25						
TKM2	Tokmak 2	63.99	320	*e*P	P	23 18 05.0	-0.1
UCH	Uchtor	64.37	319	*e*P	P	23 18 07.5	-0.1
EKS2	Erkin-Say	65.06	319	*e*P	P	23 18 10.9	-1.1
ZALV	Zalesovo Beam	65.30	334	P	P	23 18 12.4	-1.0
	0.5nm,0.5s,mb3.8,baz=126,slow=7.5,SNR=4.3						
KURK	Kurchatov	66.31	328	*e*P	P	23 18 19.6	-0.3
	6.1nm,0.9s,mb4.6						
QSPA	South Pole Qui	88.83	180	P	P	23 20 26.2	+1.2

*ISK **29** 23:45:13.8, 3749N×3862E, h6km, MD2.5*
*ISCJB **29** 23:45:14.6±0.7, 3747N±005×3873E±005, h13km±5km, Error ellipse: s-maj=9.5km s-min=5.3km az=157.4*
*CSEM **29** 23:45:14.0±0.2, 3749N×3865E, h12km, MD2.5, Error ellipse: s-maj=3.5km s-min=2.5km az=50.0*
*DDA **29** 23:45:17.4, 3764N×3851E, h7km±5km, Md2.8*
ISC 29 23:45:14.9±0.7, 3746N±005×3872E±004, h16km±5km, n8, σ0°84/14, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URFA	Urfa	0.08	103	*e*PG	Pg	23 45 18.1	0.0
URFA				*e*SG	Sg	23 45 20.4	+0.2
ATAB	Bozova	0.34	272	*i* P	Pg	23 45 21.8	-0.1
ATAB				*i* S	Sg	23 45 26.3	-0.4
MALT	Malatya	0.88	345	*e*PG	Pg	23 45 30.2	-1.9
GZT	Gaziantep	0.93	264	*i* P	Pb	23 45 32.9	+0.3
GZT				*i* S	Sg	23 45 46.9	+1.9
SVRC	Sivrice-ELAZID	1.03	27	*e*PG	Pg	23 45 34.4	-0.4
SVRC				*e*SG	Sg	23 45 49.0	+0.7
ELZG	Elazig	1.06	11	*i* P	Pb	23 45 34.8	-0.1
ELZG				*i* S	Sb	23 45 49.5	+1.0
KMRS	Kahramanmaras	1.45	272	*e*PN	Pn	23 45 39.1	-1.3
KMRS				*e*SN	Sn	23 45 59.1	0.0
MARD	Mardin	1.65	94	*i* P	Sg	23 46 08.2	+0.2

*ISCJB **30** 00:00:17.4±2.2, 5213N±004×16713W±007, h10km±14km, mb4.0/18, MS3.1/3, Error ellipse: s-maj=8.5km s-min=5.4km az=138.9*
*NEIC **30** 00:00:20.1, 5208N×16697W, h15km, ML3.8(AEIC), After AEIC.*
*IDC **30** 00:00:23.0±0.9, 5216N×16696W, h39km±6km, mb3.7/10, mb1 3.9/10, mb1mx3.7/22, mbtmp3.7/10, MS3.1/3, Ms1 3.1/3, ms1mx2.8/29, Error ellipse: s-maj=26.3km s-min=17.6km az=18.0*
ISC 30 00:00:18.5±2.5, 5219N±004×16713W±007, h5km±16km, h40km±1.3km: pP-P, n139, σ0°76/141, mb4.0/18, MS3.1/3, 39C-41D, Fox Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NIKO	Nikolski	1.31	308	P	Pn	00 00 43.6	+0.2
NIKO				S	Sb	00 01 00.9	+0.2
UNV	Unalaska Valle	1.71	13	P	Pn	00 00 48.3	-0.5
UNV				S	Sn	00 01 10.0	-0.9
AKLV	Akutan Long Va	2.10	19	P	Pn	00 00 53.8	-0.5
AKUT	Akutan	2.12	22	*e*P	Pn	00 00 54.7	+0.3
AKGG	Akutan Green G	2.13	18	P	Pn	00 00 54.8	+0.2
AKGG				S	Sn	00 01 21.8	+0.4
FALS	False Pass	3.48	38	P	Pn	00 01 12.9	-0.2
SDPT	Sand Point	5.06	49	P	Pn	00 01 34.2	-0.6
SPIA	Saint Paul Isl	5.32	341	P	Pn	00 01 39.3	+0.9
CHGN	Chignik	6.56	48	*e*P	Pn	00 01 55.7	+0.2
AMKA	Amchitka	8.46	270	P	Pn	00 02 20.8	-0.6
KDAK	Kodiak Island	10.06	50	Pn	Pn	00 02 41.2	-2.1
KDAK				Sn	Sn	00 04 27.2	-9.2
KDAK	Kodiak Island	10.06	50	Pn	Pn	00 02 41.2	-2.1
	1.1nm,0.3s,baz=127,slow=7.1,SNR=5.6						
KDAK				Sn	Sn	00 04 27.2	-9.2
	0.3nm,0.3s,baz=326,slow=18,SNR=3.2						
IMA2	Indian Mountai	15.48	21	*e*P	Pn	00 04 02.8	+5.7
DAWY	Dawson	18.68	40	*e*Pn	Pn	00 04 40.1	+2.8
INK	Inuvik	22.76	32	*e*P	P	00 05 20.2	-0.9
INK	Inuvik	22.76	32	P	P	00 05 19.4	-1.7
	4.9nm,0.6s,mb4.1,baz=241,slow=10,SNR=8.9						
BBB	Bella Bella	23.73	74	LR	LR	00 14 32.5	
	comp=Z,47nm,18.1s,MS3.0,baz=178,slow=36						
YKA	Yellowknife Ar	29.33	49	P	P	00 06 20.8	-0.7
	1.0nm,0.8s,mb3.6,baz=271,slow=8.5,SNR=11						
H04A	Detroit Lake	30.34	86	⇓P	P	00 06 30.5	-0.1
	baz=30						
I04A	Tendick Farm,	30.66	88	⇓P	P	00 06 33.7	+0.2
	baz=30						
H06A	Lindquist Farm	31.45	85	⇑P	P	00 06 41.0	+0.6
	baz=31						
YBH	Yreka Blue Hor	31.60	91	⇓P	P	00 06 43.3	+1.4
	baz=31						
J05A	Fort Rock	31.65	88	⇑P	P	00 06 42.4	+0.1
	baz=32						
K05A	Summer Lake	32.17	88	⇓P	P	00 06 48.0	+1.2
	baz=32						
I07A	Izee	32.29	85	P	P	00 06 48.9	+1.0
	baz=32,SNR=5.3						
O02C	Red Bluff	32.46	94	⇓P	P	00 06 50.4	+1.0
	baz=32						
K06A	Valley Falls	32.52	88	⇓P	P	00 06 51.4	+1.5
	baz=32						
L05A	Lakeview	32.58	89	⇓P	P	00 06 51.5	+1.1
	baz=32						
I08A	Drewsey	32.96	85	⇓P	P	00 06 53.2	-0.5
	baz=33						
MOD	Modoc	32.99	89	*e*P	P	00 06 55.1	+1.1
MOD	Modoc	32.99	89	⇓P	P	00 06 54.8	+0.8
	baz=33						
K07A	Rock Creek Ran	33.20	87	⇓P	P	00 06 55.6	-0.2
	baz=33						
J08A	Circle Bar Ran	33.31	86	⇑P	P	00 06 56.9	+0.2
	baz=33						
L07A	Adell	33.52	88	⇑P	P	00 06 59.7	+1.1
	baz=33						
K08A	Mann Creek Ran	33.64	87	P	P	00 07 00.6	+0.8
	baz=34,SNR=8.2						
H10A	Noah's Angus R	33.72	83	⇑P	P	00 07 00.5	+0.2
	baz=34						
J09A	Fry Pan Ranch,	33.76	85	P	P	00 07 01.5	+0.8
	baz=34,SNR=6.8						
CVS	Carmenet Viney	33.79	96	⇑P	P	00 07 00.8	-0.2
	baz=34						
N06A	Buffalo Meadow	33.94	91	⇓P	P	00 07 02.3	0.0
	baz=34						
F12A	Elk City	34.03	80	⇓P	P	00 07 03.0	0.0
	baz=34						
L08A	Fields	34.03	87	P	P	00 07 03.8	+0.7
	baz=34,SNR=7.5						
H11A	Donnelly	34.10	82	⇑P	P	00 07 03.9	+0.2
	baz=34						
K09A	Rome	34.13	86	⇓P	P	00 07 05.1	+1.2
	baz=34						
O06A	Flanigan	34.29	91	⇓P	P	00 07 05.0	-0.4
	baz=34						
D14A	Greenough	34.43	77	⇑P	P	00 07 06.9	+0.4
	baz=34						
M08A	Happy Creek Ra	34.43	88	⇑P	P	00 07 06.9	+0.4
	baz=34						
K10A	MacKenzie Ranc	34.61	85	⇓P	P	00 07 08.2	+0.1
	baz=34						
O07A	Toulon	34.88	91	⇑P	P	00 07 11.1	+0.7
	baz=35,SNR=5.1						
N08A	GE Springer Mi	34.97	89	P	P	00 07 11.9	+0.7
	baz=35,SNR=5.5						
G13A	Cobalt	34.98	80	⇓P	P	00 07 10.2	-1.1
	baz=35						
D15A	Lincoln	35.04	76	⇑P	P	00 07 11.5	-0.3
	baz=35						
K11A	Parker Ranch,	35.13	85	P	P	00 07 12.9	+0.4
	baz=35,SNR=5.6						
F14A	Wisdom	35.14	79	⇓P	P	00 07 12.6	0.0
	baz=35						
L10A	Juniper Basin	35.25	86	⇓P	P	00 07 13.7	+0.1
	baz=35						
E15A	Deer Lodge	35.27	77	⇑P	P	00 07 13.8	0.0
	baz=35						
N09A	Rock Creek Ran	35.30	89	⇓P	P	00 07 13.4	-0.7
	baz=35						
J12A	Stokes Ranch,	35.44	83	⇑P	P	00 07 14.7	-0.5
	baz=35						
R06C	Coleville	35.52	93	⇓P	P	00 07 16.6	+0.6
	baz=35						
M10A	I.L. Ranch, Tu	35.52	87	⇑P	P	00 07 16.4	+0.4
	baz=35						
L11A	Cat Creek Ranc	35.64	85	P	P	00 07 17.4	+0.4
	baz=36,SNR=7.2						
K12A	Draper Farm, C	35.90	84	⇑P	P	00 07 19.6	+0.5
	baz=36						
O09A	Fish Creek Ran	35.91	89	⇓P	P	00 07 19.6	+0.3
	baz=36						
Q08A	Gabbs	36.25	92	⇓P	P	00 07 22.5	+0.3
	baz=36						
O10A	Cortez Mining,	36.26	89	⇑P	P	00 07 22.7	+0.3
	baz=36						
BOZ	Bozeman (W)	36.27	78	*e*P	P	00 07 22.4	0.0
NVAR	Mina Array Bea	36.28	93	P	P	00 07 22.5	0.0
NVAR				pP	pP	00 07 32.9	+8.7
NVAR	Mina Array Bea	36.28	93	P	P	00 07 22.5	0.0
	2.2nm,0.9s,mb4.1,baz=286,slow=8.7,SNR=12						
NVAR				pP	pP	00 07 32.9	+8.7
	0.9nm,0.8s,baz=305,slow=6.5,SNR=3.3						
KCC	Kaiser Creek	36.36	95	⇑P	P	00 07 23.7	+0.5
	baz=36						
M12A	Wells	36.58	86	⇑P	P	00 07 24.7	-0.3
	baz=36						
P10A	Eureka	36.69	89	⇑P	P	00 07 25.6	-0.4
	baz=36						
L13A	Double Diamond	36.79	84	⇓P	P	00 07 27.6	+0.8
	baz=37						
N12A	Clover Valley,	36.83	87	⇑P	P	00 07 28.3	+1.1
	baz=37						
O11A	Cowboy Ranch,	36.88	88	⇓P	P	00 07 27.2	-0.4
	baz=37						
S08C	White Mtn Res	36.95	94	P	P	00 07 29.5	+1.3
	baz=37,SNR=5.2						
HELL	Mitchell Peak	36.95	95	⇑P	P	00 07 28.4	+0.2
	baz=37						
M13A	Montello	37.07	85	⇑P	P	00 07 28.6	-0.6
	baz=37						
R09A	Tonopah	37.16	92	P	P	00 07 30.5	+0.5
	baz=37,SNR=5.1						
Q10A	Clear Creek Ra	37.21	90	P	P	00 07 31.1	+0.7
	baz=37,SNR=9.6						
S09A	Goldfield	37.39	93	⇓P	P	00 07 31.8	-0.1
	baz=37						
R10A	Warm Springs	37.60	91	P	P	00 07 34.0	+0.3
	baz=37,SNR=5.2						
S10A	Tonopah Range,	37.65	92	P	P	00 07 34.4	+0.2
	baz=38,SNR=11						
Q11A	Duckwater	37.66	90	⇓P	P	00 07 34.1	-0.1
	baz=38						
P12A	McGill	37.73	88	⇑P	P	00 07 35.2	+0.3
	baz=38						
RLMT	Red Lodge	37.97	77	*e*P	P	00 07 37.1	+0.4
R11A	Troy Canyon, C	38.01	90	P	P	00 07 37.5	+0.3
	baz=38,SNR=8.5						
MPMC	Manual Prospec	38.29	95	⇑P	P	00 07 38.7	-0.9
	baz=38						
P13A	Bates Ranch, G	38.29	88	⇑P	P	00 07 39.2	-0.4
	baz=38						
FURC	Furnace Creek,	38.41	94	⇑P	P	00 07 39.7	-0.9
	baz=38						
TPNV	Topopah Spring	38.48	93	*e*P	P	00 07 41.6	+0.5
	5.6nm,0.8s,mb4.3						
DUG	Dugway	38.59	86	*e*P	P	00 07 42.2	+0.2
	17nm,2.0s,mb4.4						
R12A	Pony Springs,	38.62	90	⇑P	P	00 07 42.3	-0.1
	baz=38						
T11A	Corn Creek, Al	38.93	92	P	P	00 07 45.0	+0.1
	baz=39,SNR=7.5						
BW06	Boulder Array	39.08	80	*e*P	P	00 07 46.1	0.0
	4.9nm,1.1s,mb4.2						
GSC	Goldstone	39.21	95	*e*P	P	00 07 47.5	+0.2
	11nm,1.3s,mb4.4						
GSC	Goldstone	39.21	95	⇓P	P	00 07 46.4	-0.9
	baz=39						
S13A	Holt Ranch, En	39.55	90	⇓P	P	00 07 50.0	-0.1
	baz=39						
T13A	Saint George	39.88	91	P	P	00 07 53.4	+0.6
	baz=40,SNR=5.2						
GMRC	Granite Mounta	40.26	95	⇓P	P	00 07 55.5	-0.6
	baz=40						
LDFC	Landfair	40.40	94	*e*P	P	00 07 56.6	-0.6
PFO	Pinyon Flat Ob	40.56	97	⇓P	P	00 07 56.5	-2.0
	baz=40						
BELC	Belle Mtn.	40.57	96	⇑P	P	00 07 57.0	-1.6
	baz=40						
V13A	Grand Canyon W	40.58	92	⇑P	P	00 07 57.5	-1.2
	baz=40						
U14A	Mt Trumbull	40.71	91	⇓P	P	00 07 59.3	-0.5
	baz=40						
IRM	Iron Mountain	40.98	95	⇑P	P	00 08 02.2	+0.2
	baz=41						
MONP	Monument Peak	41.07	98	⇑P	P	00 08 00.7	-2.0
	baz=41						
W13A	Hualapai Mount	41.14	93	⇓P	P	00 08 03.1	-0.2
	baz=41						
V14A	Boquillas Ranc	41.27	92	⇑P	P	00 08 04.2	-0.1
	baz=41						
X13A	Yucca	41.51	94	⇓P	P	00 08 06.2	-0.2
	baz=41						
PDMCI	Parker Dam,Lak	41.51	94	⇓P	P	00 08 05.1	-1.3
	baz=41						
W14A	Seligman	41.55	92	⇑P	P	00 08 06.2	-0.5
	baz=41						
Y12C	Blythe	41.65	95	⇓P	P	00 08 07.6	+0.2
	baz=42						
V15A	Kaibab Nationa	41.72	91	⇓P	P	00 08 08.6	+0.6
	baz=42						
GLA	Glamis	41.93	96	⇓P	P	00 08 09.3	-0.6
	baz=42						
X14A	Yava	42.17	93	⇑P	P	00 08 10.9	-0.9
	baz=42						
Y14A	Wickenburg	42.45	94	⇓P	P	00 08 13.5	-0.5
	baz=42						
X15A	Humboldt	42.56	92	⇑P	P	00 08 14.4	-0.5
	baz=42						
W16A	Flagstaff	42.59	91	⇑P	P	00 08 16.1	+0.9
	baz=42						
Y15A	Casa Rosa Ranc	42.85	93	⇑P	P	00 08 16.8	-0.5
	baz=43						
ULM	Lac du Bonnet	43.01	63	P	P	00 08 16.8	-1.6
ULM	Lac du Bonnet	43.01	63	P	P	00 08 16.8	-1.6
	5.3nm,1.1s,mb4.2,baz=288,slow=3.2,SNR=3.9						
X16A	Lo Mia Camp, P	43.09	92	⇑P	P	00 08 19.1	-0.1
	baz=43						
Y17A	Roosevelt	43.94	92	⇓P	P	00 08 25.6	-0.5
	baz=44						
Y18A	Canyon Day Jun	44.39	91	⇑P	P	00 08 29.9	+0.2
	baz=44						
118A	Homack Ranch,	45.20	92	⇑P	P	00 08 35.3	-0.8
	baz=45						
318A	Bisbee	46.01	94	⇓P	P	00 08 41.4	-1.2
	baz=46						
KSRS	Korea Array	46.79	278	LR	LR	00 27 07.5	
	comp=Z,15nm,20.1s,MS2.9,baz=220,slow=34						
WMOK	Wichita Mounta	50.65	82	*e*P	P	00 09 17.3	-1.0
	5.1nm,1.0s,mb4.4						
TXAR	Lajitas Array	51.37	91	P	P	00 09 22.8	-1.1
TXAR				pP	pP	00 09 34.6	+9.1
TXAR	Lajitas Array	51.37	91	P	P	00 09 22.8	-1.1
	1.7nm,0.9s,mb4.0,baz=298,slow=6.4,SNR=20						
TXAR				pP	pP	00 09 34.6	+9.1
	1.1nm,0.9s,baz=284,slow=6.1,SNR=5.1						
KEV	Kevo	57.93	354	*e*p	P	00 10 21.3	+10
	0.3nm,0.3s,mb3.8						
ARCES	ARCESS Array B	58.24	355	P	P	00 10 13.5	+0.5
	3.3nm,1.1s,mb4.3,baz=34,slow=8.8,SNR=4.2						
JOF	Joensuu	64.32	351	*e*p	P	00 10 53.9	-0.4
	0.5nm,0.3s,mb4.0						
MKAR	Makanchi Array	64.92	315	P	P	00 10 59.8	+1.3
	0.2nm,0.3s,mb3.6,baz=54,slow=5.8,SNR=4.2						
KAF	Kangasniemi	65.55	353	*e*p	P	00 11 04.2	+1.9
	0.5nm,0.4s,mb3.9						
FINES	FINESS Array B	66.23	353	P	P	00 11 06.1	-0.6
FINES				pP	pP	00 11 18.2	+10
FINES				LR	LR	00 43 26.7	
FINES	FINESS Array B	66.23	353	P	P	00 11 06.1	-0.6
	0.4nm,0.3s,mb3.9,baz=354,slow=6.3,SNR=9.0						
FINES				pP	pP	00 11 18.2	+10
	0.5nm,0.4s,baz=15,slow=7.9,SNR=1.8						
FINES				LR	LR	00 43 26.7	
	comp=Z,18nm,18.8s,MS3.3,baz=166,slow=39						
AKASG	Malin Array Be	76.56	349	P	P	00 12 09.2	0.0
	0.2nm,0.3s,mb3.5,baz=22,slow=5.3,SNR=3.7						
AKASG				pP	pP	00 12 21.2	+10
	1.1nm,0.7s,baz=14,slow=5.4,SNR=2.8						
GERES	GERESS Array B	79.34	359	pP	pP	00 12 37.7	+11
	0.5nm,0.6s,baz=1.9,slow=4.0,SNR=3.2						
ASAR	Alice Springs	91.35	232	P	P	00 13 23.4	-1.5
	0.4nm,0.6s,mb3.9,baz=31,slow=7.0,SNR=4.7						
ASAR				pP	pP	00 13 36.2	+9.5
	0.5nm,0.7s,baz=44,slow=5.6,SNR=3.2						

*IDC **30** 00:26:52.2±1.2, 102S×12770E, h0km, mb4.1/4, mb1 4.1/6, mb1mx3.9/16, mbtmp4.0/6, ML3.8/1, Error ellipse: s-maj=48.8km s-min=19.2km az=69.0*
*NEIC **30** 00:26:53.8±0.6, 105S×12758E, h10km, mb4.1/2, Error ellipse: s-maj=22.1km s-min=9.5km az=67.0*
*ISCJB **30** 00:26:55.2±0.6, 113S±009×1275E±01, h33km, mb4.1/5, Error ellipse: s-maj=22.3km s-min=10.1km az=157.2*
ISC 30 00:26:57.0±0.6, 116S±009×1276E±01, h35km, n15, σ1°00/15, mb4.1/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	Kappang	8.72	244	Pn	Pn	00 29 00.7	0.0
	0.9nm,0.3s,baz=76,slow=8.3,SNR=4.7						
WRAB	Tennant Creek	19.79	161	*e*P	Pn	00 31 25.2	-0.9
	9.4nm,1.4s						
WRA	Warramunga Arr	19.80	161	P	Pn	00 31 25.0	-1.2
	0.4nm,0.3s,baz=343,slow=12,SNR=5.0						
ASAR	Alice Springs	23.19	165	P	P	00 32 01.1	+0.2
	2.5nm,0.6s,mb3.8,baz=346,slow=10,SNR=23						
STKA	Stephens Creek	33.29	158	P	P	00 33 33.8	+2.4
	4.4nm,0.9s,mb4.4,baz=333,slow=11,SNR=4.2						
ENH	Enshi	35.71	333	P	P	00 33 53.4	+1.0
TAU	Tasmania Unive	45.16	160	P	P	00 35 13.7	+3.4
SONM	Songino Array	52.18	342	P	P	00 36 03.9	-0.3
	1.2nm,0.5s,mb4.1,baz=148,slow=6.8,SNR=3.4						
MK31	Makanchi Array	62.06	326	*e*P	P	00 37 14.2	+0.1
MKAR	Makanchi Array	62.06	326	P

ULC	**Ulcinj**	**0.80**	**272**	⇑*i*Pg	**Pg**	**00 27 54.7**	**-1.5**
ULC				*e*Sg	**Sg**	**00 28 06.5**	**-0.1**
SKO	**Skopje**	**0.83**	**87**	*e*Pg	**Pg**	**00 27 57.0**	**+0.2**
SKO				*e*Sg	**Sg**	**00 28 10.1**	**+2.5**
SKO	**Skopje**	**0.83**	**87**	*e*Pg	**Pg**	**00 27 57.2**	**+0.4**
SKO				*e*Sg	**Sg**	**00 28 11.2**	**+3.6**
SKO	**Skopje**	**0.83**	**87**	*e*Pg	**Pg**	**00 27 57.1**	**+0.2**
SKO				*e*Sg	**Sg**	**00 28 08.5**	**+0.9**
SKO	**Skopje**	**0.83**	**87**	*e*Pg	**Pg**	**00 27 57.0**	**+0.2**
SKO				*e*Sg	**Sg**	**00 28 08.4**	**+0.8**
KRUS	**Krusevo**	**0.90**	**129**	*e*Pg	**Pg**	**00 27 58.1**	**+0.1**
KRUS				*e*Sg	**Sg**	**00 28 11.0**	**+1.4**
KRUS	**Krusevo**	**0.90**	**129**	*e*Pg	**Pg**	**00 27 58.0**	**0.0**
KRUS				*e*Sg	**Sg**	**00 28 10.9**	**+1.3**
OHR	**Ohrid**	**0.90**	**156**	*e*Pg	**Pg**	**00 27 56.9**	**-1.2**
OHR				*e*Sg	**Sg**	**00 28 11.2**	**+1.5**
OHR	**Ohrid**	**0.90**	**156**	*e*Pg	**Pg**	**00 27 57.0**	**-1.1**
OHR				*e*Sg	**Sg**	**00 28 11.4**	**+1.7**
OHR	**Ohrid**	**0.90**	**156**	*e*Pg	**Pg**	**00 27 56.8**	**-1.3**
OHR				*e*Sg	**Sg**	**00 28 11.1**	**+1.4**
TTG	**Podgorica**	**0.93**	**302**	⇓*i*Pg	**Pg**	**00 27 57.1**	**-1.6**
TTG				*e*Sg	**Sg**	**00 28 11.0**	**+0.2**
IVA	**Berane**	**0.99**	**341**	⇓*i*Pg	**Pg**	**00 27 58.8**	**-1.0**
IVA				*e*Sg	**Sg**	**00 28 13.8**	**+1.2**
BUM	**Brajici-Budva**	**1.12**	**289**	⇑*i*Pg	**Pg**	**00 28 00.8**	**-1.6**
BUM				*e*Sg	**Sg**	**00 28 17.3**	**+0.4**
BIA	**Bitola**	**1.18**	**140**	*e*Pg	**Pn**	**00 28 02.0**	**-2.4**
BIA				*e*Sg	**Sn**	**00 28 18.6**	**-2.4**
BIA	**Bitola**	**1.18**	**140**	*e*Pg	**Pn**	**00 28 01.8**	**-2.6**
BIA				*e*Sg	**Sn**	**00 28 19.1**	**-1.9**
BIA	**Bitola**	**1.18**	**140**	*e*Pg	**Pn**	**00 28 02.0**	**-2.4**
BIA				*e*Sg	**Sn**	**00 28 19.0**	**-2.0**
NKY	**Niksic**	**1.32**	**312**	⇑*i*Pg	**Pn**	**00 28 04.6**	**-1.6**
NKY				*e*Sg	**Sn**	**00 28 24.5**	**+0.2**
SJES	**Sjenica**	**1.35**	**349**	*e*Sn	**Sn**	**00 28 26.6**	**+1.4**
FNA	**Florina**	**1.40**	**145**	*e*Pg	**Pn**	**00 28 06.1**	**-1.3**
FNA				*e*Sg	**Sn**	**00 28 24.8**	**-1.5**
BARS	**Barje**	**1.41**	**51**	*e*Pg	**Pn**	**00 28 07.7**	**+0.1**
BARS				*e*Sg	**Sn**	**00 28 28.1**	**+1.4**
HCY	**Herceg Novi**	**1.45**	**291**	⇓*i*Pg	**Pn**	**00 28 06.9**	**-1.2**
HCY				*e*Sg	**Sn**	**00 28 28.5**	**+0.9**
PLE	**Pljevlja**	**1.55**	**334**	⇑*i*Pg	**Pn**	**00 28 09.4**	**-0.1**
PLE				*e*Sg	**Sn**	**00 28 32.6**	**+2.4**
BRY	**Bratogost**	**1.63**	**307**	⇑*i*Pn	**Pn**	**00 28 10.6**	**0.0**
BRY				*e*Sn	**Sn**	**00 28 34.4**	**+2.2**
UPM	**Unac-Piva**	**1.64**	**321**	⇑*i*Pn	**Pn**	**00 28 10.8**	**+0.1**
UPM				*e*Sn	**Sn**	**00 28 34.7**	**+2.3**
VAY	**Valandovo**	**1.79**	**109**	*e*Pb	**Pb**	**00 28 11.4**	**-2.9**
VAY	**Valandovo**	**1.79**	**109**	*e*Pn	**Pn**	**00 28 13.8**	**+1.0**
VAY				*e*Sg	**Sn**	**00 28 38.9**	**+2.9**
VAY	**Valandovo**	**1.79**	**109**	*e*Pn	**Pn**	**00 28 13.8**	**+1.1**
VAY				*e*Sg	**Sn**	**00 28 36.8**	**+0.8**
KNT	**Kendrikon**	**2.08**	**111**	*e*Pn	**Pn**	**00 28 15.7**	**-1.1**
ZAPS	**Zavoj**	**2.17**	**51**	*e*Pn	**Pn**	**00 28 18.4**	**+0.5**
DIVS	**Divibare**	**2.17**	**354**	*e*Pn	**Pn**	**00 28 17.1**	**-0.9**
DIVS				*e*Sn	**Sn**	**00 28 45.2**	**-0.3**
DIVS	**Divibare**	**2.17**	**354**	*e*Pn	**Pn**	**00 28 16.9**	**-1.1**
DIVS				*e*Sn	**Sn**	**00 28 45.1**	**-0.4**
SVIS	**Svilajnac**	**2.42**	**15**	*e*Pn	**Pn**	**00 28 21.7**	**+0.3**
THL	**Klokotos Trika**	**2.69**	**151**	*e*Pn	**Pn**	**00 28 24.3**	**-0.8**
BZS	**Buzias**	**3.80**	**14**	*e*Pn	**Pn**	**00 28 39.8**	**-0.5**
PKSM	**Moragy**	**4.44**	**345**	*e*Pn	**Pn**	**00 28 47.9**	**-1.3**

IDC 30 00:35:53.4±19.0, 1940S×17550W, h0km, mb4.2/5, mb1 4.4/5, mb1mx4.0/16, mbtmp4.2/5, Error ellipse: s-maj=352.2km s-min=149.5km az=80.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**35.95**	**262**	P	P	00 42 57.1	+1.2
	2.4nm,0.4s,baz=89,slow=13,SNR=4.4						
STKA	**Stephens Creek**	**40.38**	**243**	P	P	00 43 33.7	+0.5
	1.8nm,0.9s,baz=100,slow=11,SNR=2.9						
ASAR	**Alice Springs**	**47.06**	**255**	P	P	00 44 26.9	-0.2
	4.0nm,0.5s,baz=98,slow=8.4,SNR=64						
WRA	**Warramunga Arr**	**47.09**	**260**	P	P	00 44 26.1	-1.2
	1.7nm,0.6s,baz=98,slow=8.6,SNR=14						
FITZ	**Fitzroy Crossi**	**55.51**	**261**	P	P	00 45 30.7	+0.1
	3.8nm,1.2s,baz=117,slow=6.8,SNR=4.7						

*CSEM **30** 00:39:01.8±0.1, 3952N×2611E, h8km, MD3.2, Error ellipse: s-maj=3.8km s-min=1.6km az=78.0*
*ISK **30** 00:39:01.7, 3951N×2614E, h5km, MD3.2*
*ISCJB **30** 00:39:02.3±0.9, 3952N±003×2614E±009, h5km±6km, Error ellipse: s-maj=11.2km s-min=4.7km az=170.8*
*DDA **30** 00:39:02.3, 3955N×2620E, h8km±4km, Md2.8*
ISC 30 00:39:02.6±0.8, 3952N±003×**2613E**±009, **h7**km±5km, **n23,** σ0§**46**/31, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**350**	*i* P	**Pg**	**00 39 09.2**	**+0.2**
BOZC				*i* S	**Sg**	**00 39 13.5**	**+0.3**
EZN	**Ezine**	**0.34**	**27**	PG	**Pg**	**00 39 09.0**	**-0.2**
EZN				SG	**Sg**	**00 39 13.9**	**+0.2**
AYVA	**Ayvalik**	**0.49**	**116**	*i* P	**Pg**	**00 39 12.2**	**+0.2**
AYVA				*i* S	**Sg**	**00 39 23.6**	**+5.3**
GADA	**Gvkgeada**	**0.69**	**345**	*e*PG	**Pg**	**00 39 15.2**	**-0.7**
LPK	**Lapseki**	**0.98**	**30**	*e*PG	**Pg**	**00 39 21.4**	**0.0**
ENEZ	**Enez**	**1.21**	**1**	*e*PN	**Pn**	**00 39 25.6**	**-0.5**
ENEZ				*e*SN	**Sn**	**00 39 43.3**	**+0.6**
URLA	**Izmir**	**1.22**	**162**	*i* P	**Pg**	**00 39 25.6**	**-0.4**
URLA				*i* S	**Sg**	**00 39 42.2**	**+0.5**
BLCB	**Balcova**	**1.34**	**148**	*e*PN	**Pn**	**00 39 27.5**	**-0.2**
BLCB				*e*SN	**Sn**	**00 39 45.8**	**-0.1**
BALB	**Balikesir**	**1.36**	**84**	*e*PN	**Pn**	**00 39 28.0**	**0.0**
RKY	**Sarkoy-Tekirda**	**1.42**	**34**	*e*PN	**Pn**	**00 39 29.0**	**+0.2**
SART	**Tekirdag**	**1.42**	**34**	*i* P	**Pn**	**00 39 28.6**	**-0.3**
SART				*i* S	**Sb**	**00 39 46.8**	**-0.9**
SART	**Tekirdag**	**1.42**	**34**	*i* P	**Pn**	**00 39 28.5**	**-0.4**
SART				*i* S	**Sb**	**00 39 46.8**	**-0.9**
AKS	**Akhisar**	**1.46**	**116**	*e*PN	**Pn**	**00 39 29.0**	**-0.4**
MFT	**Murefte**	**1.54**	**35**	*e*PN	**Pn**	**00 39 30.3**	**-0.3**
MRMT	**Marmara Adasi**	**1.56**	**46**	*e*PN	**Pn**	**00 39 31.3**	**+0.5**
EDC	**Edincik**	**1.57**	**58**	*e*PN	**Pn**	**00 39 30.0**	**-0.9**
BNT	**Bandirma**	**1.61**	**58**	*e*PN	**Pn**	**00 39 32.0**	**+0.5**
KCT	**Karacabey**	**1.87**	**66**	*e*PN	**Pn**	**00 39 35.4**	**+0.4**
DST	**Dursunbey**	**1.94**	**87**	*e*PN	**Pn**	**00 39 35.9**	**0.0**
KULA	**Kula-Manisa**	**2.22**	**116**	*e*PN	**Pn**	**00 39 39.4**	**-0.4**
EDRB	**Edirne**	**2.37**	**11**	*e*PN	**Pn**	**00 39 42.3**	**+0.4**
IZI	**Iznik**	**2.70**	**71**	*e*PN	**Pn**	**00 39 47.3**	**+0.8**
KLYT	**Kilyos**	**2.82**	**51**	*e*PN	**Pn**	**00 39 48.8**	**+0.6**

*DDA **30** 00:41:14.6, 3950N×2591E, h10km±8km, Md3.0*
*CSEM **30** 00:41:15.8±0.1, 3955N×2612E, h12km, MD3.3, Error ellipse: s-maj=2.3km s-min=1.1km az=78.0*
*ATH **30** 00:41:15.4, 3963N×2637E, h5km, MD3.4/3*
*ISK **30** 00:41:15.8, 3955N×2611E, h11km, MD3.3*
*ISCJB **30** 00:41:16.2±0.8, 3955N±002×2611E±007, h10km±5km, Error ellipse: s-maj=9.2km s-min=4.1km az=174.1*
ISC 30 00:41:16.5±0.8, 3956N±002×**2606E**±007, **h13**km±3km, **n29,** σ0§**71**/39, **Turkey**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.28**	**360**	*i* P	**Pg**	**00 41 22.9**	**+0.5**
BOZC				*i* S	**Sg**	**00 41 26.9**	**+0.5**
EZN	**Ezine**	**0.34**	**38**	PG	**Pg**	**00 41 22.6**	**-0.7**
EZN				*e*SG	**Sg**	**00 41 27.4**	**-0.6**
PRK	**Paraskevi**	**0.35**	**152**	*e*PB	**Pg**	**00 41 23.1**	**-0.5**
PRK				*e*SB	**Sg**	**00 41 29.2**	**+0.8**
AYVA	**Ayvalik**	**0.55**	**117**	*i* P	**Pg**	**00 41 25.9**	**-1.4**
AYVA				*i* S	**Sg**	**00 41 37.3**	**+2.7**
GADA	**Gvkgeada**	**0.65**	**349**	*e*PG	**Pg**	**00 41 29.1**	**0.0**
LPK	**Lapseki**	**0.98**	**33**	*e*PG	**Pg**	**00 41 34.9**	**-0.5**
LPK				*e*SG	**Sg**	**00 41 48.3**	**+0.1**
ENEZ	**Enez**	**1.18**	**4**	*e*PN	**Pn**	**00 41 38.7**	**0.0**
ENEZ				*e*SN	**Sn**	**00 41 55.5**	**+0.8**
URLA	**Izmir**	**1.27**	**160**	*i* P	**Pn**	**00 41 39.2**	**-0.6**
URLA				*i* S	**Sb**	**00 41 55.7**	**-0.7**
URLA	**Izmir**	**1.27**	**160**	*i* P	**Pn**	**00 41 39.2**	**-0.7**
URLA				*i* S	**Sb**	**00 41 55.7**	**-0.7**
BLCB	**Balcova**	**1.40**	**146**	*e*PN	**Pn**	**00 41 41.3**	**-0.4**
BLCB				*e*SN	**Sn**	**00 41 59.8**	**-0.2**
BALB	**Balikesir**	**1.41**	**86**	*e*PN	**Pn**	**00 42 41.2**	**+0.2**
RKY	**Sarkoy-Tekirda**	**1.42**	**37**	*e*PN	**Pn**	**00 41 42.1**	**+0.1**
SART	**Tekirdag**	**1.42**	**37**	*i* P	**Pn**	**00 41 42.1**	**+0.1**
SART				*i* S	**Sn**	**00 42 00.4**	**-0.2**
AKS	**Akhisar**	**1.52**	**116**	*e*PN	**Pn**	**00 41 43.1**	**-0.3**
MFT	**Murefte**	**1.55**	**37**	*e*PN	**Pn**	**00 41 43.3**	**-0.5**
MRMT	**Marmara Adasi**	**1.58**	**48**	*e*PN	**Pn**	**00 41 43.3**	**-0.8**
EDC	**Edincik**	**1.60**	**60**	*e*PN	**Pn**	**00 41 44.0**	**-0.5**
RDO	**Rodhopi**	**1.64**	**346**	*e*PB	**Pb**	**00 41 46.5**	**0.0**
BNT	**Bandirma**	**1.64**	**60**	*e*PN	**Pn**	**00 41 44.6**	**-0.5**
KCT	**Karacabey**	**1.91**	**67**	*e*PN	**Pn**	**00 41 49.2**	**+0.5**
SMG	**Samos**	**1.94**	**161**	*e*PN	**Pn**	**00 41 52.0**	**+2.8**
DST	**Dursunbey**	**1.99**	**88**	*e*PN	**Pn**	**00 41 49.7**	**-0.1**
KULA	**Kula-Manisa**	**2.28**	**116**	*e*PN	**Pn**	**00 41 54.0**	**+0.2**
EDRB	**Edirne**	**2.35**	**13**	*e*PN	**Pn**	**00 41 54.5**	**-0.2**
CTT	**Catalca**	**2.41**	**48**	*e*PN	**Pn**	**00 41 56.0**	**+0.3**
YLV	**Yalova**	**2.74**	**67**	*e*PN	**Pn**	**00 42 01.3**	**+1.1**
IZI	**Iznik**	**2.74**	**72**	*e*PN	**Pn**	**00 42 00.3**	**+0.1**
ISK	**Istanbul-Kandi**	**2.75**	**56**	*e*PN	**Pn**	**00 42 00.7**	**+0.5**
KLYT	**Kilyos**	**2.84**	**52**	*e*PN	**Pn**	**00 42 01.7**	**+0.2**

*ISCJB **30** 00:48:02.0±1.0, 3834N±003×2032E±007, h2km±5km, Error ellipse: s-maj=9.2km s-min=4.3km az=159.7*
*CSEM **30** 00:48:02.6±0.3, 3834N×2031E, h0km±1km, MD3.6, Error ellipse: s-maj=5.2km s-min=2.3km az=62.0*
*ATH **30** 00:48:03.4, 3835N×2042E, h11km±1km, MD3.6/8*
*NEIC **30** 00:48:03.4, 3835N×2042E, h11km, MD3.6(ATH), ML3.5(THE), After ATH.*
*THE **30** 00:48:03.1, 3836N×2036E, h3km, ML3.5*
ISC 30 00:48:02.7±1.0, 3834N±003×**2034E**±007, **h4**km±5km, **n29,** σ1§**07**/43, **Greece**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
VLS	**Valsamata**	**0.25**	**129**	*e*Pg	**Pg**	**00 48 07.8**	**+0.2**
VLS				*e*Sg	**Sg**	**00 48 12.1**	**+1.2**
VLS	**Valsamata**	**0.25**	**129**	Pg	**Pg**	**00 48 08.0**	**+0.4**
VLS				S	**Sg**	**00 48 12.1**	**+1.2**
VLS				Sg	**Sg**	**00 48 12.2**	**+1.3**
VLS	**Valsamata**	**0.25**	**129**	*e*PG	**Pg**	**00 48 08.0**	**+0.4**
VLS				*e*SG	**Sg**	**00 48 12.2**	**+1.3**
VLS	**Valsamata**	**0.25**	**129**	*e*Pg	**Pg**	**00 48 08.0**	**+0.4**
VLS				*e*Sg	**Sg**	**00 48 12.1**	**+1.2**
KFL	**Anninata**	**0.42**	**122**	*e*Pg	**Pg**	**00 48 10.9**	**+0.1**
KFL				*e*Sg	**Sg**	**00 48 17.5**	**+1.2**
LKD	**Levkas**	**0.45**	**33**	*e*Pg	**Pg**	**00 48 10.8**	**-0.5**
LKD				*e*Sg	**Sg**	**00 48 17.3**	**+0.3**
RLS	**Riolos of Patr**	**0.93**	**107**	*e*PB	**Pb**	**00 48 20.1**	**-1.3**
IGT	**Igoumenitsa**	**1.20**	**360**	*e*Pg	**Pg**	**00 48 24.5**	**-1.1**
IGT				*e*Sg	**Sg**	**00 48 42.6**	**+1.4**
SELA	**Sela**	**1.23**	**92**	*e*Pg	**Pg**	**00 48 25.4**	**-0.7**
SELA				*e*Sg	**Sg**	**00 48 43.3**	**+1.3**
EVR	**Evrytania**	**1.29**	**63**	*e*PB	**Pb**	**00 48 26.5**	**-1.0**
JAN	**Janina**	**1.38**	**17**	*e*PB	**Pb**	**00 48 29.0**	**0.0**
SRN	**Sarande**	**1.56**	**350**	*e*Pn	**Pn**	**00 48 33.3**	**+2.1**
MEV	**Metsovon**	**1.60**	**25**	*e*Pg	**Pg**	**00 48 32.0**	**-1.4**
AGG	**Agios Georgios**	**1.70**	**66**	*e*Pb	**Pb**	**00 48 32.6**	**-2.0**
AGG				*e*Sb	**Sb**	**00 48 56.1**	**-0.2**
ITM	**Ithomi**	**1.71**	**132**	*e*PB	**Pb**	**00 48 35.1**	**+0.5**
THL	**Klokotos Trika**	**1.79**	**46**	*e*Pb	**Pb**	**00 48 34.1**	**-1.9**
THL				*e*Sb	**Sb**	**00 48 58.6**	**-0.3**
THL	**Klokotos Trika**	**1.79**	**46**	*e*Pn	**Pn**	**00 48 35.5**	**+1.1**
THL				*e*Sb	**Sb**	**00 48 58.6**	**-0.3**
PYL	**PYLOS**	**1.82**	**142**	*e*Pb	**Pb**	**00 48 34.4**	**-2.1**
VLX	**Vlachokerasia**	**1.88**	**120**	*e*Pb	**Pb**	**00 48 35.9**	**-1.7**
LTK	**Loutraki**	**2.10**	**98**	*e*Pn	**Pn**	**00 48 38.8**	**+0.3**
LKR	**Lokris**	**2.11**	**81**	*e*Pn	**Pn**	**00 48 38.5**	**-0.2**
LKR	**Lokris**	**2.11**	**81**	*e*PN	**Pn**	**00 48 40.0**	**+1.2**
LKR	**Lokris**	**2.11**	**81**	*e*Pn	**Pn**	**00 48 38.5**	**-0.3**
KZN	**Kozani**	**2.26**	**29**	*e*PN	**Pn**	**00 48 42.1**	**+1.3**
LIT	**Litokhoron**	**2.43**	**43**	*e*Pn	**Pn**	**00 48 43.8**	**+0.7**
DID	**Didima**	**2.44**	**109**	*e*Pn	**Pn**	**00 48 43.8**	**+0.6**
XOR	**Xorichti**	**2.46**	**64**	*e*Pn	**Pn**	**00 48 44.0**	**+0.5**
FNA	**Florina**	**2.57**	**18**	*e*Pn	**Pn**	**00 48 45.4**	**+0.3**
FNA				*e*Sn	**Sn**	**00 49 16.9**	**+0.1**
FNA	**Florina**	**2.57**	**18**	*e*Pn	**Pn**	**00 48 45.3**	**+0.2**
FNA				*e*Sn	**Sn**	**00 49 16.9**	**+0.1**

*NIED **30** 01:15:00, 4200N×14260E, h50km, Mw4.1 Best double couple: Mo1.85000×10^15 NP1:φ=29.00000°, δ=65.00000°, λ=91.00000°. NP2:φ=207.00000°, δ=25.00000°, λ=88.00000°.*
*MOS **30** 01:15:55.3±1.0, 4196N×14264E, h78km, mb4.3/9, Error ellipse: s-maj=15.2km s-min=9.5km az=80.8*
*ISCJB **30** 01:15:55.2±0.3, 4197N±003×14258E±004, h72km±2km, mb3.9/14, Error ellipse: s-maj=6.1km s-min=3.9km az=151.1*
*JMA **30** 01:15:56.2±0.2, 4200N×14260E, h64km±2km, M3.9*
JMA Felt I J1.
*IDC **30** 01:15:56.2±4.1, 4213N×14259E, h60km±38km, mb3.6/10, mb1 3.7/12, mb1mx3.6/22, mbtmp3.6/12, ML3.5/2, MS3.1/8, Ms1 3.1/8, ms1mx2.9/29, Error ellipse: s-maj=27.1km s-min=20.3km az=76.0*
*NEIC **30** 01:15:56.5±0.7, 4203N×14260E, h67km±7km, mb4.3/4, Error ellipse: s-maj=9.8km s-min=8.4km az=128.0*
NEIC Recorded [1 JMA] in south-central Hokkaido.
ISC 30 01:15:56.5±0.3, 4198N±003×**14257E**±004, **h64**km±3km, **n60,** σ0§**86**/74, **mb4.0**/14, **4C-6D, Hokkaido region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JNBK	**Urakawa-nobuka**	**0.33**	**24**	⇑P	**Pn**	**01 16 06.5**	**-0.8**
JNBK				*e*S	**Sn**	**01 16 14.5**	**-0.6**
ERM	**Erimo**	**0.44**	**85**	*e*P	**Pn**	**01 16 08.3**	**+0.1**
ERM				*e*S	**Sn**	**01 16 16.2**	**-0.5**
JEM	**Erimo**	**0.44**	**85**	⇑P	**Pn**	**01 16 08.0**	**-0.2**
JEM				*e*S	**Sn**	**01 16 16.5**	**-0.2**
JBT2	**Biratori 2**	**0.82**	**349**	⇓P	**Pn**	**01 16 11.7**	**-0.7**
JBT2				*e*S	**Sn**	**01 16 23.6**	**-0.5**
JCH	**Churui**	**0.87**	**43**	⇑P	**Pn**	**01 16 12.5**	**-0.5**
JCH				*e*S	**Sn**	**01 16 24.7**	**-0.5**
JKB	**Kayabe**	**1.15**	**266**	⇓P	**Pn**	**01 16 16.5**	**-0.1**
JKB				*e*S	**Sn**	**01 16 31.4**	**-0.2**
JFR	**Furan**	**1.19**	**1**	P	**Pn**	**01 16 16.8**	**-0.3**
JEW	**Eniwo**	**1.20**	**317**	⇓P	**Pn**	**01 16 17.0**	**-0.2**
JEW				*e*S	**Sn**	**01 16 33.2**	**+0.5**
JNB	**Noboribetsu**	**1.24**	**294**	⇓P	**Pn**	**01 16 16.9**	**-0.8**
JNB				*e*S	**Sn**	**01 16 32.7**	**-1.0**
JOT	**Ohata**	**1.28**	**243**	⇓P	**Pn**	**01 16 18.6**	**+0.3**
JOT				*e*S	**Sn**	**01 16 35.1**	**+0.4**
JOB	**Onbets**	**1.32**	**45**	P	**Pn**	**01 16 19.4**	**+0.6**
JOB				*e*S	**Sn**	**01 16 36.5**	**+0.9**
JAB	**Ashibetsu**	**1.55**	**351**	P	**Pn**	**01 16 22.2**	**+0.3**
JAB				*e*S	**Sn**	**01 16 42.2**	**+1.1**
JAR	**Ashorobuto**	**1.59**	**34**	P	**Pn**	**01 16 22.2**	**-0.3**
JAR				*e*S	**Sn**	**01 16 41.5**	**-0.6**
JYM2	**Yakumo 2**	**1.64**	**276**	⇓P	**Pn**	**01 16 23.0**	**-0.1**
JYM2				*e*S	**Sn**	**01 16 43.3**	**0.0**
YUK	**Yuzh-Kuril'sk**	**3.17**	**48**	*e*P	**Pn**	**01 16 45.0**	**+1.1**
YUK				*e*S	**Sn**	**01 17 19.5**	**-1.1**
YUK	comp=Z,430nm,0.2s			pmax	pmax		
YUK	comp=N,270nm,0.5s			pmax	pmax		
YUK	comp=E,140nm,0.5s			pmax	pmax		
YUK	comp=N,890nm,0.5s			smax			
YUK	comp=E,460nm,0.4s			smax			
YUK	comp=N,2μm,0.6s			smax			
YUK	comp=E,2μm,0.6s			smax			
YSS	**Yuzh-Sakhalins**	**4.98**	**1**	⇑*e*P	**Pn**	**01 17 10.1**	**+1.5**
YSS				*e*S	**Sn**	**01 18 06.5**	**+1.7**
YSS	comp=Z,20nm,0.8s			pmax	pmax		
KUR	**Kuril'sk**	**5.04**	**48**	*e*P	**Pn**	**01 17 10.0**	**+0.6**
KUR				S	**Sn**	**01 18 08.8**	**+2.5**
KUR	comp=Z,140nm,0.9s			pmax	pmax		
KUR	comp=N,170nm,0.9s			smax			
KUR	comp=E,140nm,0.9s			smax			
MAJO	**Matsushiro**	**6.39**	**213**	P	**Pn**	**01 17 28.1**	**+0.1**
MJAR	**Matsushiro Arr**	**6.39**	**213**	P	**Pn**	**01 17 30.2**	**+2.2**
MJAR	comp=Z,1.0nm,0.3s			pmax	pmax		
MJAR				MLR	MLR		
MJAR	**Matsushiro Arr**	**6.39**	**213**	P	**Pn**	**01 17 30.2**	**+2.2**
MJAR	comp=Z,0.7nm,0.3s,baz=20,slow=14,SNR=6.9			LR	LR	01 20 21.7	
KSRS	**Korea Array**	**12.14**	**253**	P	**Pn**	**01 18 48.0**	**+1.4**
KSRS	comp=Z,0.4nm,0.3s,baz=64,slow=13,SNR=15			LR	LR	01 22 59.9	
INCN	**Inchon**	**13.06**	**255**	Pn	**Pn**	**01 18 58.9**	**-0.1**
ULN	**Ulaanbaatar**	**25.67**	**295**	*e*P	**P**	**01 21 21.0**	**+0.9**
ULN	comp=Z,2.0nm,0.8s,mb3.7			pmax	pmax		
ULN	**Ulaanbaatar**	**25.67**	**295**	*e*P	**P**	**01 21 21.0**	**+0.9**
SONM	**Songino Array**	**26.11**	**295**	LR	LR	01 32 05.4	
TLY	**Talaya**	**28.04**	**304**	P	**P**	**01 21 40.9**	**-0.5**
ZAA0	**Zalesovo Array**	**39.41**	**308**	*e*P	**P**	**01 23 19.9**	**+0.2**
ZALV	**Zalesovo Beam**	**39.41**	**308**	P	**P**	**01 23 19.4**	**-0.3**
ZALV	comp=Z,5.0nm,0.8s,mb4.3,baz=79,slow=7.7,SNR=16			LR	LR	01 40 39.1	
ZAL	**Zalesovo**	**39.42**	**308**	P	**P**	**01 23 19.4**	**-0.4**
MK31	**Makanchi Array**	**42.42**	**298**	*e*P	**P**	**01 23 45.0**	**+0.4**
MKAR	**Makanchi Array**	**42.42**	**298**	P	**P**	**01 23 43.6**	**-1.0**
MKAR	comp=Z,3.0nm,0.9s			pmax	pmax		
MKAR	comp=Z,17nm,19.1s			MLR	MLR		
MKAR	**Makanchi Array**	**42.42**	**298**	P	**P**	**01 23 43.6**	**-1.0**
MKAR	comp=Z,3.2nm,0.9s,mb4.0,baz=76,slow=10,SNR=17			LR	LR	01 41 22.3	
KURK	**Kurchatov**	**43.73**	**304**	*e*P	**P**	**01 23 55.1**	**0.0**
KURK	comp=Z,6.0nm,0.9s,mb4.3			pmax	pmax		
KURK	**Kurchatov**	**43.73**	**304**	*e*P	**P**	**01 23 55.1**	**0.0**
BRVK	**Borovoye**	**48.07**	**309**	P	**P**	**01 24 27.7**	**-1.5**
UCH	**Uchtor**	**49.22**	**295**	P	**P**	**01 24 38.4**	**+0.2**
EKS2	**Erkin-Say**	**49.54**	**295**	*e*P	**P**	**01 24 40.5**	**-0.2**
INK	**Inuvik**	**49.61**	**29**	P	**P**	**01 24 38.8**	**-2.0**
INK	comp=Z,1.0nm,0.9s			pmax	pmax		
INK	**Inuvik**	**49.61**	**29**	P	**P**	**01 24 38.8**	**-2.0**
AML	**Almayashu**	**49.81**	**295**	P	**P**	**01 24 43.7**	**+1.0**
ARU	**Arti**	**53.32**	**316**	P	**P**	**01 25 09.1**	**+0.4**
ARU	**Arti**	**53.32**	**316**	P	**P**	**01 25 08.4**	**-0.2**
RES	**Resolute Bay**	**57.60**	**15**	P	**P**	**01 25 38.9**	**-0.2**
YKA	**Yellowknife Ar**	**59.12**	**32**	P	**P**	**01 25 48.0**	**-1.8**
FITZ	**Fitzroy Crossi**	**61.79**	**198**	P	**P**	**01 26 08.0**	**-0.4**
WRAB	**Tennant Creek**	**62.06**	**189**	*e*P	**P**	**01 26 08.9**	**-1.4**
WRAB	comp=Z,4.0nm,0.8s,mb4.6			pmax	pmax		
WRAB	**Tennant Creek**	**62.06**	**189**	*e*P	**P**	**01 26 08.9**	**-1.4**
WRA	**Warramunga Arr**	**62.07**	**189**	P	**P**	**01 26 10.9**	**+0.6**
WRA	comp=Z,1.0nm,0.8s			pmax	pmax		
WRA	**Warramunga Arr**	**62.07**	**189**	P	**P**	**01 26 10.9**	**+0.6**
FINES	**FINESS Array B**	**64.88**	**332**	P	**P**	**01 26 27.8**	**-0.7**
FINES	comp=Z,2.0nm,0.7s			pmax	pmax		
FINES	comp=Z,18nm,20.1s			MLR	MLR		
FINES	**FINESS Array B**	**64.88**	**332**	P	**P**	**01 26 27.8**	**-0.7**
FINES				LR	LR	01 55 44.0	
FINES	**FINESS Array B**	**64.88**	**332**	P	**P**	**01 26 27.8**	**-0.7**
FINES	comp=Z,2.0nm,0.7s,mb4.3,baz=81,slow=6.4,SNR=6.5			LR	LR	01 55 44.0	
ASAR	**Alice Springs**	**65.80**	**189**	P	**P**	**01 26 35.9**	**+1.2**
NB2	**NORSAR Subarra**	**69.98**	**337**	P	**P**	**01 27 00.2**	**-0.5**
NOA	**NORSAR Array B**	**69.98**	**337**	P	**P**	**01 27 00.6**	**-0.1**
NOA				LR	LR	02 04 56.2	
NOA	**NORSAR Array B**	**69.98**	**337**	P	**P**	**01 27 00.6**	**-0.1**
NOA	comp=Z,1.9nm,0.8s,mb4.1,baz=36,slow=6

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OHR	**Ohrid**	**0.27**	**56**	*e*Pg	**Pg**	**01 51 47.1**	**-0.9**
OHR				*e*Sg	**Sg**	01 51 52.2	+0.7
OHR	**Ohrid**	**0.27**	**56**	P	**Pg**	01 51 47.0	-1.0
OHR				S	**Sg**	01 51 51.3	-0.2
OHR	**Ohrid**	**0.27**	**56**	*e*Pg	**Pg**	01 51 47.0	-1.0
OHR				*e*Sg	**Sg**	01 51 52.2	+0.7
OHR	**Ohrid**	**0.27**	**56**	*e*Pg	**Pg**	01 51 47.0	-1.0
OHR				*e*Sg	**Sg**	01 51 51.9	+0.4
OHR	**Ohrid**	**0.27**	**56**	*i* PG	**Pg**	01 51 47.0	-1.0
OHR				*i* SG	**Sg**	01 51 51.3	-0.2
OHR	**Ohrid**	**0.27**	**56**	*e*Pg	**Pg**	01 51 47.0	-1.0
OHR				*e*Sg	**Sg**	01 51 51.8	+0.3
KBN	**Korca**	**0.40**	**148**	*e*PG	**Pg**	01 51 50.4	-0.2
KBN				*i* SG	**Sg**	01 51 57.4	+1.6
TIR	**Tirane**	**0.62**	**309**	*e*Pg	**Pg**	01 51 53.3	-1.5
TIR	**Tirane**	**0.62**	**309**	P	**Pg**	01 51 51.8	-2.9
TIR				S	**Sg**	01 51 59.9	-2.8
TIR	**Tirane**	**0.62**	**309**	*e*Pg	**Pg**	01 51 53.2	-1.5
TIR				*e*Sg	**Sg**	01 52 04.0	+1.3
TIR	**Tirane**	**0.62**	**309**	*e*PG	**Pg**	01 51 53.2	-1.5
TIR				*i* SG	**Sg**	01 52 03.4	+0.7
TIR	**Tirane**	**0.62**	**309**	P	**Pg**	01 51 51.8	-2.9
TIR	**Tirane**	**0.62**	**309**	*e*Pg	**Pg**	01 51 53.3	-1.4
TIR				*i* Sg	**Sg**	01 52 03.4	+0.7
BIA	**Bitola**	**0.62**	**85**	*e*Pg	**Pg**	01 51 53.2	-1.6
BIA				*e*Sg	**Sg**	01 52 03.7	+0.8
BIA	**Bitola**	**0.62**	**85**	P	**Pg**	01 51 53.2	-1.6
BIA				S	**Sg**	01 52 03.8	+0.9
BIA	**Bitola**	**0.62**	**85**	*e*Pg	**Pg**	01 51 53.2	-1.6
BIA				*e*Sg	**Sg**	01 52 02.3	-0.6
FNA	**Florina**	**0.68**	**105**	*e*Pg	**Pg**	01 51 55.1	-0.9
FNA				*e*Sg	**Sg**	01 52 06.6	+1.7
FNA	**Florina**	**0.68**	**105**	P	**Pg**	01 51 55.1	-0.9
FNA				S	**Sg**	01 52 07.0	+2.2
FNA	**Florina**	**0.68**	**105**	*i* PG	**Pg**	01 51 55.1	-0.9
FNA				*i* SG	**Sg**	01 52 07.0	+2.1
FNA	**Florina**	**0.68**	**105**	*e*Pg	**Pg**	01 51 55.1	-0.9
FNA				S	**Sg**	01 52 07.0	+2.1
KRUS	**Krusevo**	**0.69**	**54**	*e*Pg	**Pg**	01 51 55.4	-0.8
KRUS				*e*Sg	**Sg**	01 52 06.5	+1.3
KRUS	**Krusevo**	**0.69**	**54**	*e*Pg	**Pg**	01 51 55.3	-0.9
KRUS				*e*Sg	**Sg**	01 52 06.4	+1.2
QSH	**Qafa e Shtames**	**0.72**	**321**	*e*PG	**Pg**	01 51 55.5	-1.2
QSH				*i* SG	**Sg**	01 52 09.0	+3.0
PHP	**Peshkopia**	**0.72**	**356**	*e*PG	**Pg**	01 51 55.3	-1.4
PHP				*i* SG	**Sg**	01 52 06.3	+0.2
TPE	**Tepelena**	**0.77**	**210**	*e*PG	**Pg**	01 51 56.1	-1.5
TPE				*i* SG	**Sg**	01 52 10.7	+3.2
SRN	**Sarande**	**1.15**	**200**	*e*PN	**Pn**	01 52 06.2	+0.3
KZN	**Kozani**	**1.17**	**124**	*e*PG	**Pg**	01 52 08.0	+2.8
PUK	**Puka**	**1.17**	**337**	*e*PN	**Pn**	01 52 03.9	-2.3
SKO	**Skopje**	**1.23**	**35**	*e*Pg	**Pg**	01 52 05.9	-0.6
SKO				*e*Sg	**Sg**	01 52 24.0	+1.6
SKO	**Skopje**	**1.23**	**35**	P	**Pg**	01 52 05.9	-0.6
SKO				S	**Sg**	01 52 23.7	+1.4
SKO	**Skopje**	**1.23**	**35**	*e*Pg	**Pg**	01 52 06.7	+0.3
SKO				*e*Sg	**Sg**	01 52 23.6	+1.2
SKO	**Skopje**	**1.23**	**35**	*e*Pg	**Pg**	01 52 05.8	-0.7
SKO				*e*Sg	**Sg**	01 52 22.9	+0.5
SKO	**Skopje**	**1.23**	**35**	*i* PG	**Pg**	01 52 05.9	-0.5
SKO				*i* SG	**Sg**	01 52 23.7	+1.3
SKO	**Skopje**	**1.23**	**35**	*e*Pg	**Pg**	01 52 05.7	-0.7
SKO				*e*Sg	**Sg**	01 52 24.0	+1.6
MEV	**Metsovon**	**1.30**	**155**	*e*Pg	**Pg**	01 52 08.2	+0.4
MEV	**Metsovon**	**1.30**	**155**	P	**Pg**	01 52 08.3	+0.5
MEV				S	**Sg**	01 52 27.8	+3.1
MEV	**Metsovon**	**1.30**	**155**	*i* PG	**Pg**	01 52 08.3	+0.5
MEV				*i* SG	**Sg**	01 52 27.8	+3.1
MEV	**Metsovon**	**1.30**	**155**	*e*Pg	**Pg**	01 52 08.2	+0.4
MEV				S	**Sg**	01 52 27.8	+3.1
JAN	**Janina**	**1.33**	**168**	*e*PG	**Pg**	01 52 06.6	-1.8
ULC	**Ulcinj**	**1.37**	**317**	⇓*i*Pn	**Pn**	01 52 07.4	-1.6
ULC				*e*Sn	**Sn**	01 52 31.4	+3.7
IGT	**Igoumenitsa**	**1.44**	**185**	*e*Pg	**Pn**	01 52 09.9	+0.1
IGT				*e*Sg	**Sg**	01 52 29.5	+0.5
IGT	**Igoumenitsa**	**1.44**	**185**	P	**Pn**	01 52 09.9	+0.1
IGT				S	**Sb**	01 52 29.8	+0.9
BCI	**Bajram Curri**	**1.44**	**347**	*e*PN	**Pn**	01 52 10.9	+1.0
VAY	**Valandovo**	**1.60**	**76**	*e*Pg	**Pn**	01 52 10.5	-1.6
VAY				*e*Sg	**Sg**	01 52 34.3	0.0
VAY	**Valandovo**	**1.60**	**76**	P	**Pn**	01 52 10.5	-1.6
VAY				S	**Sn**	01 52 32.5	-0.7
VAY	**Valandovo**	**1.60**	**76**	*e*Pn	**Pn**	01 52 10.5	-1.6
VAY				*e*Sn	**Sn**	01 52 33.1	-0.2
VAY	**Valandovo**	**1.60**	**76**	*e*Pg	**Pn**	01 52 10.5	-1.6
VAY				S	**Sn**	01 52 32.5	-0.8
PVY	**Plav**	**1.68**	**346**	⇓*i*Pn	**Pn**	01 52 12.9	-0.3
PVY				*e*Sn	**Sn**	01 52 40.0	+4.8
PDG	**Podgorica**	**1.74**	**328**	*i* PG	**Pn**	01 52 13.6	-0.4
PDG				*i* SG	**Sg**	01 52 40.4	+1.7
TTG	**Podgorica**	**1.74**	**328**	⇑*i*Pn	**Pn**	01 52 13.6	-0.4
TTG				*e*Sn	**Sg**	01 52 40.4	+1.7
LIT	**Litokhoron**	**1.74**	**119**	*e*Pb	**Pb**	01 52 13.5	-2.0
LIT	**Litokhoron**	**1.74**	**119**	P	**Pn**	01 52 13.5	-0.5
LIT				S	**Sn**	01 52 37.9	+1.2
LIT	**Litokhoron**	**1.74**	**119**	*e*P	**Pn**	01 52 13.5	-0.5
LIT				S	**Sn**	01 52 37.9	+1.2
BUM	**Brajici-Budva**	**1.80**	**319**	⇑*i*Pn	**Pn**	01 52 14.2	-0.6
BUM				*e*Sn	**Sg**	01 52 41.7	+1.0
BUM	**Brajici-Budva**	**1.80**	**319**	*i* PG	**Pn**	01 52 14.2	-0.6
BUM				*i* SG	**Sg**	01 52 41.7	+1.0
THL	**Klokotos Trika**	**1.81**	**140**	*e*Pb	**Pb**	01 52 15.1	-1.6
THL				*e*Sb	**Sb**	01 52 39.3	-0.5
THL	**Klokotos Trika**	**1.81**	**140**	*e*Pb	**Pb**	01 52 16.2	-0.5
THL				*e*Sb	**Sb**	01 52 39.3	-0.5
KNT	**Kendrikon**	**1.82**	**83**	*e*Pb	**Pn**	01 52 14.2	-0.9
KNT	**Kendrikon**	**1.82**	**83**	P	**Pn**	01 52 14.2	-0.9
KNT				S	**Sn**	01 52 38.9	+0.2
KNT	**Kendrikon**	**1.82**	**83**	P	**Pn**	01 52 14.2	-0.9
KNT				S	**Sn**	01 52 38.8	+0.1
BEY	**Berane**	**1.96**	**347**	*i* PG	**Pn**	01 52 16.9	-0.1
BEY				*i* SG	**Sg**	01 52 46.8	+0.9
IVA	**Berane**	**1.96**	**347**	⇑*i*Pn	**Pn**	01 52 16.9	-0.1
IVA				*e*Sn	**Sg**	01 52 46.8	+0.9
BARS	**Barje**	**2.09**	**27**	*e*Pn	**Pn**	01 52 19.0	+0.1
BARS				*e*Sg	**Sg**	01 52 52.8	+2.6
HCY	**Herceg Novi**	**2.11**	**315**	⇓*i*Pn	**Pn**	01 52 18.3	-0.8
HCY				*e*Sn	**Sn**	01 52 48.9	+3.0
NKY	**Niksic**	**2.16**	**329**	⇑*i*Pn	**Pn**	01 52 20.0	+0.2
NKY				*e*Sn	**Sg**	01 52 50.6	-1.8
NKY	**Niksic**	**2.16**	**329**	*i* PG	**Pn**	01 52 20.0	+0.2
NKY				*i* SG	**Sg**	01 52 50.6	-1.8
SOH	**Sokhos**	**2.16**	**93**	*e*Pn	**Pn**	01 52 19.4	-0.4
SOH	**Sokhos**	**2.16**	**93**	P	**Pn**	01 52 19.4	-0.4
SOH				S	**Sn**	01 52 47.7	+0.5
SOH	**Sokhos**	**2.16**	**93**	*e*Pn	**Pn**	01 52 19.5	-0.3
SOH				S	**Sn**	01 52 47.7	+0.5
LKD	**Levkas**	**2.26**	**177**	*e*Pn	**Pn**	01 52 22.0	+0.9
LKD	**Levkas**	**2.26**	**177**	P	**Pn**	01 52 22.0	+0.9
LKD				S	**Sn**	01 52 51.6	+2.2
LKD	**Levkas**	**2.26**	**177**	*e*Pn	**Pn**	01 52 22.0	+0.9
LKD				S	**Sn**	01 52 51.6	+2.2
EVR	**Evrytania**	**2.28**	**153**	*e*PB	**Pb**	01 52 24.3	-0.3
PLG	**Polygyros**	**2.31**	**104**	*e*Pn	**Pn**	01 52 21.6	-0.2
PLG	**Polygyros**	**2.31**	**104**	*e*Pn	**Pn**	01 52 21.6	-0.3
SJES	**Sjenica**	**2.33**	**350**	*e*Sg	**Sg**	01 52 58.9	+1.2
SRS	**Serrai**	**2.34**	**85**	*e*Pn	**Pn**	01 52 21.6	-0.7
SRS	**Serrai**	**2.34**	**85**	*e*Pn	**Pn**	01 52 21.5	-0.8
AGG	**Agios Georgios**	**2.39**	**144**	*e*Pn	**Pn**	01 52 22.6	-0.4
AGG				*e*Sn	**Sn**	01 52 53.6	+0.8
AGG	**Agios Georgios**	**2.39**	**144**	P	**Pn**	01 52 23.2	+0.2
AGG				S	**Sn**	01 52 53.6	+0.8
AGG	**Agios Georgios**	**2.39**	**144**	P	**Pn**	01 52 23.2	+0.2
AGG				S	**Sn**	01 52 53.6	+0.8
BRY	**Bratogost**	**2.43**	**324**	⇑*i*Pn	**Pn**	01 52 23.1	-0.4
BRY				*e*Sn	**Sn**	01 52 57.0	+3.3
PLE	**Pljevlja**	**2.50**	**341**	⇑*i*Pn	**Pn**	01 52 24.3	-0.2
PLE				*e*Sn	**Sn**	01 52 59.6	+4.0
UPM	**Unac-Piva**	**2.53**	**333**	⇑*i*Pn	**Pn**	01 52 24.8	-0.1
UPM				*e*Sn	**Sn**	01 53 00.0	+3.7
XOR	**Xorichti**	**2.60**	**127**	*e*Pn	**Pn**	01 52 24.9	-1.0
XOR	**Xorichti**	**2.60**	**127**	P	**Pn**	01 52 25.9	0.0
PAIG	**Paliouri**	**2.63**	**112**	*e*Pn	**Pn**	01 52 25.1	-1.2
PAIG	**Paliouri**	**2.63**	**112**	P	**Pn**	01 52 25.6	-0.7
VLS	**Valsamata**	**2.78**	**179**	*e*Pn	**Pn**	01 52 28.1	-0.2
ZAPS	**Zavoj**	**2.80**	**34**	*e*Pg	**Pg**	01 52 32.4	-4.1
LKR	**Lokris**	**3.00**	**139**	*e*Pn	**Pn**	01 52 31.0	-0.4
DIVS	**Divibare**	**3.16**	**353**	*e*Pn	**Pn**	**01 52 34.0**	**+0.5**
DIVS	**Divibare**	**3.16**	**353**	*e*Pn	**Pn**	**01 52 33.9**	**+0.4**
SVIS	**Svilajnac**	**3.34**	**9**	*e*Pn	**Pn**	**01 52 37.7**	**+1.7**
BZS	**Buzias**	**4.72**	**10**	*e*Pn	**Pn**	**01 52 53.3**	**-1.7**

*ISCJB **30** 02:00:58.7±1.0,548S±004×14731E±003,h182km±9km, mb4.8/70,Error ellipse: s-maj=6.2km s-min=4.7km az=146.4*
*BJI **30** 02:00:58.4,579S×14775E,h216km,mB4.8,mb4.7*
*MOS **30** 02:01:01.1±0.7,548S×14727E,h205km,mb4.7/20,Error ellipse: s-maj=11.2km s-min=6.8km az=95.5*
*IDC **30** 02:01:02.5±0.6,553S×14735E,h214km±5km,mb4.4/16, mb1 4.6/19,mb1mx4.6/20,mbtmp4.5/19,Error ellipse: s-maj=11.1km s-min=7.5km az=104.0*
*NEIC **30** 02:01:04.1±0.7,558S×14729E,h228km±6km,mb4.7/40, Error ellipse: s-maj=4.4km s-min=4.0km az=107.0*
ISC 30 02:01:03.4±0.9,560S±003×14730E±003,h215km±9km, h210km±3.2km;pP-P,n394,o0≥63/246,mb4.7/69,64C-73D,

Eastern New Guinea region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**9.25**	**206**	*e*Pn	**Pn**	**02 03 12.8**	**0.0**
COEN	122nm,1.3s						
				*e*S	**S**	**02 04 51.8**	**-5.0**
HNR	**Honiara**	**13.10**	**108**	P	**Pn**	**02 04 02.1**	**+0.4**
	54nm,0.3s,baz=266,slow=3.9,SNR=12						
CTA	**Charters Tower**	**14.44**	**184**	⇓*i*P	**Pn**	**02 04 18.4**	**+0.2**
	85nm,0.8s						
CTA				*e*pP		02 04 59.0	
CTA	**Charters Tower**	**14.44**	**184**	⇓*i*P	**Pn**	**02 04 18.4**	**+0.2**
CTA				pmax	pmax		
	comp=Z,85nm,0.8s						
CTA	**Charters Tower**	**14.44**	**184**	P	**Pn**	**02 04 18.5**	**+0.3**
	comp=Z,4.4nm,0.3s,baz=6.8,slow=12,SNR=35						
CTAO	**Charters Tower**	**14.44**	**184**	*e*P	**Pn**	**02 04 18.5**	**+0.3**
CTAO				pmax	pmax		
	comp=Z,157nm,0.9s						
CTAO	**Charters Tower**	**14.44**	**184**	*e*P	**Pn**	**02 04 18.5**	**+0.3**
	comp=Z,157nm,0.9s						
KAKA	**Kakadu**	**16.28**	**243**	*e*P	**P**	**02 04 38.7**	**-0.8**
	comp=Z,190nm,0.7s						
KAKA				*e*pP		02 05 13.3	
KAKA				*e*S	**S**	**02 07 36.6**	**-2.6**
WRAB	**Tennant Creek**	**19.02**	**220**	*e*P	**P**	**02 05 09.5**	**+0.2**
WRAB				*e*S	**S**	**02 08 33.7**	**0.0**
WRAB				pmax	pmax		
	comp=Z,170nm,0.6s						
WRAB	**Tennant Creek**	**19.02**	**220**	*e*P	**P**	**02 05 09.5**	**+0.2**
	comp=Z,170nm,0.6s						
WRAB				*e*S	**S**	**02 08 33.6**	**-0.1**
WB2	**Warramunga Arr**	**19.03**	**220**	⇓*i*P	**P**	**02 05 09.5**	**+0.1**
WB2				*e*S	**S**	**02 08 33.8**	**0.0**
WRA	**Warramunga Arr**	**19.04**	**220**	P	**P**	**02 05 09.6**	**+0.1**
WRA				S	**S**	**02 08 33.7**	**-0.3**
WRA	**Warramunga Arr**	**19.04**	**220**	P	**P**	**02 05 09.6**	**+0.2**
	comp=Z,13nm,0.3s,baz=44,slow=11,SNR=204						
WRA				S	**S**	**02 08 33.7**	**-0.3**
	baz=40,slow=20,SNR=7.8						
WRA				ScP	ScP	02 12 40.1	-0.2
	baz=29,slow=2.3,SNR=4.8						
EIDS	**Eidsvold**	**19.99**	**170**	*e*P	**P**	**02 05 20.1**	**+0.4**
	comp=Z,26nm,0.8s						
ASAR	**Alice Springs**	**22.12**	**214**	P	**P**	**02 05 42.2**	**+0.8**
ASAR				S	**S**	**02 09 30.7**	**+1.3**
ASAR	**Alice Springs**	**22.12**	**214**	P	**P**	**02 05 42.2**	**+0.8**
	comp=Z,98nm,0.7s,mb5.5,baz=50,slow=8.6,SNR=901						
ASAR				S	**S**	**02 09 30.7**	**+1.3**
	comp=Z,16nm,0.8s,baz=29,slow=21,SNR=8.9						
ASAR				ScP	ScP	02 12 49.3	+1.6
	comp=Z,2.9nm,0.8s,baz=34,slow=3.4,SNR=7.0						
BATI	**Kupang**	**23.85**	**257**	P	**P**	**02 05 58.2**	**+0.9**
	comp=Z,24nm,0.5s,mb5.0,baz=15,slow=0.7,SNR=5.5						
FITZ	**Fitzroy Crossi**	**24.54**	**238**	⇓*i*P	**P**	**02 06 03.3**	**-0.2**
	comp=Z,84nm,0.6s,mb5.5						
FITZ				*e*pP		02 06 46.5	
FITZ				*e*S	**S**	**02 10 17.0**	**+8.7**
FITZ	**Fitzroy Crossi**	**24.54**	**238**	P	**P**	**02 06 03.5**	**0.0**
	comp=Z,45nm,0.6s,mb5.3,baz=57,slow=9.3,SNR=152						
FITZ				pP		02 06 45.9	
	comp=Z,29nm,0.9s,baz=72,slow=6.2,SNR=3.7						
ARMA	**Armidale**	**25.02**	**171**	*e*P	**P**	**02 06 08.3**	**+0.5**
STKA	**Stephens Creek**	**26.69**	**191**	*e*P	**P**	**02 06 21.7**	**-1.0**
	comp=Z,7.3nm,0.5s,mb4.6						
STKA	**Stephens Creek**	**26.69**	**191**	P	**P**	**02 06 22.0**	**-0.7**
	comp=Z,12nm,0.6s,mb4.7,baz=357,slow=7.5,SNR=30						
MBWA	**Marble Bar**	**30.88**	**237**	*e*P	**P**	**02 06 59.4**	**-0.6**
	comp=Z,11nm,0.5s,mb4.7						
FORT	**Forrest**	**30.90**	**214**	*e*P	**P**	**02 07 00.1**	**+0.1**
	comp=Z,79nm,0.7s,mb5.5						
TOO	**Toolangi**	**31.87**	**183**	*e*P	**P**	**02 07 09.0**	**+0.7**
	comp=Z,272nm,0.9s,mb5.8						
TOO				*e*PCP	PP	02 08 33.5	+8.4
TOO	**Toolangi**	**31.87**	**183**	*e*P	**P**	**02 07 09.0**	**+0.7**
TOO				pmax	pmax		
	comp=Z,272nm,0.9s,mb5.8						
KLBR	**Kellerberrin**	**37.87**	**223**	*e*P	**P**	**02 07 59.3**	**-0.4**
	comp=Z,15nm,0.4s,mb4.9						
KLBR				*e*PCP	PP	02 09 33.7	+2.6
MUN	**Mundaring**	**39.16**	**224**	*e*P	**P**	**02 08 09.8**	**-0.7**
MUN				*e*PCP	PP	02 09 43.0	-2.1
YHNB	**Yeheng**	**39.27**	**321**	*e*P	**P**	**02 08 11.9**	**+0.5**
	comp=Z,24nm,0.8s,mb4.8						
AFI	**Afiamalu**	**41.11**	**105**	*e*P	**P**	**02 08 26.2**	**-0.5**
AFI				pmax	pmax		
	comp=Z,95nm,0.9s,mb5.2						
AFI	**Afiamalu**	**41.11**	**105**	*e*P	**P**	**02 08 26.2**	**-0.5**
	comp=Z,95nm,0.9s,mb5.2						
AFI	**Afiamalu**	**41.11**	**105**	P	**P**	**02 08 25.6**	**-1.1**
	comp=Z,91nm,0.9s,mb5.2,baz=211,slow=17,SNR=6.1						
QZH	**Quanzhou**	**41.25**	**319**	⇓*i*P	**P**	**02 08 27.0**	**-0.7**
QZH				AMB	AMB		
	comp=Z,70nm,0.6s,mb5.3						
URZ	**Urewera**	**42.30**	**144**	P	**P**	**02 08 35.4**	**-0.6**
	comp=Z,5.3nm,0.3s,mb4.4,baz=221,slow=1.4,SNR=7.7						
MJAR	**Matsushiro Arr**	**42.77**	**349**	P	**P**	**02 08 38.1**	**-1.7**
MJAR						02 10 24.4	
MJAR	**Matsushiro Arr**	**42.77**	**349**	P	**P**	**02 08 38.0**	**-1.7**
	comp=Z,11nm,0.9s,mb4.3,baz=172,slow=8.3,SNR=18						
MJAR				PcP	PcP	02 10 24.4	-2.7
	comp=Z,7.6nm,0.9s,baz=158,slow=3.1,SNR=8.9						
MJAR				ScP	ScP	02 13 57.0	-0.5
	comp=Z,4.5nm,1.0s,baz=177,slow=5.0,SNR=5.1						
MAJO	**Matsushiro**	**42.77**	**349**	*e*P	**P**	**02 08 39.2**	**-0.6**
MAJO				pmax	pmax		
	comp=Z,16nm,0.7s,mb4.6						
MAJO	**Matsushiro**	**42.77**	**349**	*e*P	**P**	**02 08 39.2**	**-0.6**
	comp=Z,16nm,0.7s,mb4.6						
MAT	**Matsushiro**	**42.77**	**349**	P	**P**	**02 08 38.7**	**-1.1**
MAT				S	**S**	**02 14 43.4**	**-3.9**
RPZ	**Rata Peaks**	**43.34**	**155**	P	**P**	**02 08 44.1**	**-0.2**
	comp=Z,5.2nm,0.5s,mb4.2,baz=183,slow=4.5,SNR=5.4						
NJ2	**Nanjing**	**46.22**	**326**	*e*P	**P**	**02 09 07.8**	**+0.7**
NJ2				AP	pP	02 09 51.8	-1.7
NJ2				XP	sP	02 10 14.5	-3.1
NJ2				PCP	PcP	02 10 40.8	+1.7
NJ2				S	**S**	**02 15 35.0**	**-2.0**
NJ2				AMB	AMB		
	comp=Z,40nm,0.8s,mb4.8						
NJ2				AMB	AMB		
	comp=Z,280nm,4.9s						
NJ2				LR	LR		
	comp=N,930nm,23.2s						
NJ2				LR	LR		
	comp=E,940nm,20.2s						
NJ2				LR	LR		
	comp=Z,800nm,19.5s						
KSRS	**Korea Array**	**46.49**	**339**	P	**P**	**02 09 08.9**	**-0.2**
KSRS				*PP	pP	02 09 54.1	-1.5
KSRS						02 10 39.3	
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.0						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.8s,mb3.2						
KSRS				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb3.7						
KSRS	**Korea Array**	**46.49**	**339**	P	**P**	**02 09 08.8**	**-0.2**
	comp=Z,5.8nm,0.8s,mb4.0,baz=153,slow=8.4,SNR=23						
KSRS				pP	pP	02 09 54.1	-1.5
	comp=Z,1.2nm,0.8s,baz=134,slow=7.0,SNR=1.6						
KSRS				PcP	PcP	02 10 39.2	-0.6
	comp=Z,3.2nm,0.8s,baz=166,slow=3.4,SNR=8.3						
GYA	**Guiyang**	**50.65**	**311**	P	**P**	**02 09 42.5**	**+1.5**
GYA				AP	pP	02 10 29.8	+1.6
GYA				XP	sP	02 10 53.5	+1.3
GYA				PCP	PcP	02 10 57.3	+2.1
GYA				PP	PP	02 11 42.3	+3.0
GYA				SCP	ScP	02 14 31.5	+0.7
GYA				PCS	PcS	02 14 53.5	+0.5
GYA				S	**S**	**02 16 40.5**	**+1.3**
GYA				XS	sS	02 18 02.8	+0.6
GYA				SCS	ScS	02 19 08.5	-1.0
GYA				AMB	AMB		
	comp=Z,10.0nm,0.9s,mb4.2						
GYA				AMB	AMB		
	comp=Z,90nm,5.2s						
MDJ	**Mudanjiang**	**52.46**	**344**	P	**P**	**02 09 54.0**	**0.0**
MDJ				AMB	AMB		
	comp=Z,6.0nm,0.7s,mb4.1						
MDJ				AMB	AMB		
	comp=Z,49nm,7.5s						
YSS	**Yuzh-Sakhalins**	**52.48**	**356**	*i* P	**P**	**02 09 54.4**	**+0.3**
YSS				pmax	pmax		
	comp=Z,5.0nm,0.5s,mb4.2						
CN2	**Changchun**	**52.98**	**340**	*e*P	**P**	**02 09 59.5**	**+1.6**
CN2				*e*XP	sP	02 11 10.0	+0.6
CN2				*e*S	**S**	**02 17 10.8**	**+0.4**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.4						
KMI	**Kunming**	**52.99**	**307**	P	**P**	**02 09 59.5**	**+1.2**
KMI				AMB	AMB		
	comp=Z,15nm,0.8s,mb4.5						
XAN	**Xi'an**	**53.57**	**320**	P	**P**	**02 10 01.8**	**-0.5**
XAN				AMB	AMB		
	comp=Z,25nm,1.0s,mb4.7						
HABR	**Khabarovsk**	**54.90**	**350**	*e*P	**P**	**02 10 09.6**	**-2.1**
HABR				*e*		02 11 19.8	
HABR				*e*S	**S**	**02 17 35.8**	**-0.2**
HABR				*e*		02 18 57.1	
HABR				*e*		02 21 24.1	
CD2	**Chengdu**	**55.21**	**314**	P	**P**	**02 10 15.0**	**+0.8**
CD2				AP	pP	02 11 01.3	-1.0
CD2				XP	sP	02 11 23.5	-2.5
CD2				PP	PP	02 12 22.8	+2.5
CD2				S	**S**	**02 17 41.5**	**+0.7**
CD2				XS	sS	02 19 02.5	-2.6
CD2				SS	SS	02 21 29.8	+1.2
CD2				AMB	AMB		
	comp=Z,30nm,0.7s,mb4.9						
CD2				AMB	AMB		
	comp=Z,120nm,5.8s						
KLR	**Kul'dur**	**56.26**	**348**	*e*P	**P**	**02 10 16.8**	**-4.5**
KLR				*e*	pP	02 11 06.0	-3.6
KLR				pmax	pmax		
	comp=Z,50nm,1.6s,mb4.8						
HHC	**Hu-ho-hao-te**	**56.65**	**328**	*e*P	**P**	**02 10 27.0**	**+2.8**
HHC				AP	pP	02 11 13.5	+0.9
HHC				PCP	PcP	02 11 20.3	+2.4
HHC				XP	sP	02 11 35.8	-0.4
HHC				PP	PP	02 12 37.8	+4.9
HHC				SCP	ScP	02 14 58.5	+1.8
HHC				S	**S**	**02 18 02.5**	**+3.1**
HHC				XS	sS	02 19 23.0	-1.1
HHC				SCS	ScS	02 19 51.0	-0.6
HHC				SS	SS	02 21 54.0	+3.1
HHC				AMB	AMB		
	comp=Z,15nm,1.2s,mb4.5						
HHC				AMB	AMB		
	comp=Z,61nm,5.5s						
HHC				LR	LR		
	comp=N,144nm,13.1s						
HHC				LR	LR		
	comp=E,79nm,14.5s						
HHC				LR	LR		
	comp=Z,86nm,15.3s						
LZH	**Lanzhou**	**58.10**	**319**	*e*P	**P**	**02 10 35.5**	**+1.0**
LZH				AP	pP	02 11 25.0	+1.9
LZH				XP	sP	02 11 45.3	-1.3
LZH				PP	PP	02 12 48.5	+2.6
LZH				AMB	AMB		
	comp=Z,25nm,1.

comp=Z,6.0nm,0.8s,mb4.3
TIXI Tiksi 78.04 354 eP P 02 12 36.1 -1.5
comp=Z,10nm,1.0s,mb4.4
ZAA0 Zalesovo Array 78.83 328 eP P 02 12 40.6 -1.7
ZAA0 epP pP 02 13 30.4 -3.5
ZALV Zalesovo Beam 78.83 328 P P 02 12 40.9 -1.4
comp=Z,14nm,0.7s,mb4.7,baz=110,slow=5.5,SNR=56
ZAL Zalesovo 78.84 328 P P 02 12 40.9 -1.5
SVW2 Sparrevohn 79.75 24 eP P 02 12 47.6 +0.5
ULHL Ulahol 79.92 314 P P 02 12 48.7 +0.2
SNR=6.5
TTA Tatalina 80.56 23 eP P 02 12 51.3 -0.1
TTA pmax pmax
comp=Z,3.0nm,0.7s,mb4.0
TTA Tatalina 80.56 23 eP P 02 12 51.3 -0.1
comp=Z,3.2nm,0.7s,mb4.1
TKM2 Tokmak 2 80.58 315 eP P 02 12 51.8 -0.1
TKM2 pmax pmax
comp=Z,3.0nm,0.6s,mb4.1
TKM2 Tokmak 2 80.58 315 eP P 02 12 51.8 -0.1
comp=Z,3.3nm,0.6s,mb4.1
KZA Kyzart 80.58 314 P P 02 12 53.0 +1.0
SNR=32
KURK Kurchatov 81.07 323 eP P 02 12 53.4 -1.0
KURK pmax pmax
comp=Z,11nm,1.1s,mb4.4
KURK Kurchatov 81.07 323 eP P 02 12 53.4 -1.0
comp=Z,11nm,1.1s,mb4.4
UCH Uchtor 81.15 314 eP P 02 12 55.3 +0.3
comp=Z,10nm,0.9s,mb4.5
UCH Uchtor 81.15 314 P P 02 12 55.8 +0.8
SNR=9.3
USP Ospenovka 81.44 315 P P 02 12 56.5 0.0
SNR=9.1
AML Almayashu 81.71 314 eP P 02 12 58.1 +0.2
comp=Z,20nm,1.0s,mb4.7
AML Almayashu 81.71 314 P P 02 12 58.9 +0.9
SNR=11
SLKM Skilak Lake 81.75 26 eP P 02 12 57.7 0.0
EKS2 Erkin-Say 81.79 314 eP P 02 12 58.4 0.0
comp=Z,10.0nm,0.9s,mb4.5
EKS2 Erkin-Say 81.79 314 P P 02 12 58.5 +0.1
SNR=9.7
MAW Mawson 82.73 203 P P 02 13 02.7 -0.1
comp=Z,1.4nm,0.6s,mb3.9,baz=121,slow=8.0,SNR=5.2
IMA2 Indian Mountai 83.07 21 eP P 02 13 04.0 -0.4
DIV Divide 83.99 27 eP P 02 13 09.8 +0.6
comp=Z,23nm,0.7s,mb5.0
QSPA South Pole Qui 84.37 180 eP P 02 13 10.9 +0.1
comp=Z,6.0nm,0.7s,mb4.4
QSPA epP pP 02 13 57.6 -5.5
COLA College 84.66 23 eP P 02 13 11.2 -1.3
COLA pmax pmax
comp=Z,18nm,0.7s,mb4.9
COLA College 84.66 23 eP P 02 13 11.2 -1.3
comp=Z,18nm,0.7s,mb4.9
BRVK Borovoye 86.69 324 eP P 02 13 21.1 -1.6
BRVK pmax pmax
comp=Z,6.0nm,1.0s,mb4.3
BRVK Borovoye 86.69 324 eP P 02 13 21.1 -1.6
comp=Z,6.1nm,1.0s,mb4.3
EGAK Eagle 87.28 24 eP P 02 13 25.3 0.0
comp=Z,7.8nm,0.9s,mb4.4
DAWY Dawson 87.78 25 eP P 02 13 28.4 +0.7
INK Inuvik 91.17 21 eP P 02 13 42.3 -1.1
comp=Z,93nm,0.8s,mb5.8
E03A Lebam 93.42 44 ⇑P P 02 13 55.2 +0.9
baz=94
H03A Soap Creek Ran 93.47 46 ⇑P P 02 13 55.4 +0.8
baz=94
O02C Red Bluff 93.50 50 ⇓P P 02 13 55.5 +0.7
baz=94
GASB Alder Springs 93.52 51 ⇓P P 02 13 55.4 +0.5
baz=94
M02C Callahan 93.54 49 ⇑P P 02 13 55.0 0.0
baz=94
HUMO Hull Mountain 93.56 48 ⇑P P 02 13 54.9 -0.2
baz=94
B04A Port Angeles 93.58 42 ⇓P P 02 13 55.5 +0.5
baz=94
J03A Ideyld Park 93.61 47 ⇓P P 02 13 55.3 0.0
baz=94
MNRC McLaughlin Nat 93.67 51 ⇓P P 02 13 55.9 +0.3
baz=94
YBH Yreka Blue Hor 93.67 49 eP P 02 13 55.7 +0.1
YBH pmax pmax
comp=Z,6.0nm,1.1s
YBH Yreka Blue Hor 93.67 49 eP P 02 13 55.6 +0.1
comp=Z,6.5nm,1.1s,mb4.6
YBH Yreka Blue Hor 93.67 49 ⇑P P 02 13 55.8 +0.2
baz=94
WDC Whiskeytown Da 93.72 50 ⇑P P 02 13 55.8 0.0
baz=94
C04A Brinnon 93.91 43 ⇑P P 02 13 57.2 +0.7
baz=94
M03C McCloud 94.08 49 ⇑P P 02 13 58.0 +0.5
baz=94
M04C Macdoel 94.33 49 ⇓P P 02 13 58.2 -0.4
baz=94
V03C Hunter Liggett 94.43 54 ⇑P P 02 13 59.2 0.0
baz=94
ORV Oroville 94.44 51 ⇑P P 02 13 59.5 +0.3
baz=94
S04C Ingram Canyon, 94.45 53 ⇓P P 02 13 59.3 0.0
baz=94
PACP Pacheco Peak 94.45 53 ⇓P P 02 13 58.9 -0.3
baz=94
HATC Hat Creek Radi 94.55 50 ⇓P P 02 13 59.6 -0.1
baz=95
E05A Randle 94.67 44 ⇓P P 02 14 00.6 +0.6
baz=95
C05A Tolt Reservoir 94.78 43 ⇑P P 02 14 00.4 -0.1
baz=95
O04C Chester 94.81 50 ⇑P P 02 14 00.9 +0.1
baz=95
U04C Hernandez Rese 94.82 54 ⇓P P 02 14 01.3 +0.4
baz=95
M05C Lookout 94.82 49 ⇑P P 02 14 01.2 +0.3
baz=95
J05A Fort Rock 94.86 47 ⇑P P 02 14 01.1 +0.2
baz=95
A06A Chilliwack 94.98 41 ⇓P P 02 14 01.3 -0.1
baz=95
LAVA Lava Cap Winer 94.99 52 ⇑P P 02 14 01.6 -0.1
baz=95
PKD Parkfield 94.99 54 ⇑P P 02 14 01.7 0.0
baz=95
K05A Summer Lake 95.08 48 ⇑P P 02 14 02.0 -0.1
baz=95
L05A Lakeview 95.09 48 ⇓P P 02 14 01.6 -0.4
baz=95
P05C Yuba Gap, Truc 95.12 51 ⇑P P 02 14 02.1 -0.1
baz=95
E06A Yakima 95.20 44 ⇑P P 02 14 02.7 +0.2
baz=95
CMB Columbia Colle 95.23 52 ⇓P P 02 14 02.6 -0.2
baz=95
BEKR Beckwourth 95.34 51 ⇓P P 02 14 03.3 +0.1
baz=95
MOD Modoc 95.48 49 ⇑P P 02 14 03.6 -0.3
baz=96
PKM Peak Mountain 95.52 56 ⇑P P 02 14 04.5 +0.3
baz=96
K06A Valley Falls 95.56 48 ⇑P P 02 14 04.7 +0.5
baz=96
H06A Lindquist Farm 95.58 46 ⇓P P 02 14 04.0 -0.2
baz=96
I06A Prineville 95.63 46 ⇓P P 02 14 04.4 -0.1
baz=96
S06C San Francisco 95.64 53 ⇑P P 02 14 04.1 -0.6
baz=96
A07A Ashnola River, 95.70 41 P P 02 14 04.9 +0.2
baz=96,SNR=9.7
T06C Millerton Lake 95.72 53 ⇑P P 02 14 04.5 -0.6
baz=96
WCN Washoe City 95.78 51 ⇓P P 02 14 05.7 +0.4
baz=96
N06A Buffalo Meadow 95.78 50 ⇑P P 02 14 05.1 -0.1
baz=96
B07A Winthrop 95.86 42 ⇑P P 02 14 05.6 +0.2
baz=96
C07A Waterville 95.87 43 ⇓P P 02 14 05.1 -0.3
baz=96
D07A Quincy 95.92 43 ⇑P P 02 14 05.7 0.0
baz=96
R06C Coleville 95.99 52 ⇑P P 02 14 06.8 +0.5
baz=96
KCC Kaiser Creek 96.04 53 ⇑P P 02 14 06.5 0.0
baz=96
G07A Ruggs Ranch, H 96.07 45 ⇓P P 02 14 06.6 +0.1
baz=96
I07A Izee 96.15 46 ⇑P P 02 14 06.6 -0.3
baz=96
L07A Adell 96.20 48 ⇑P P 02 14 07.0 -0.1
baz=96
HELL Mitchell Peak 96.25 54 ⇑P P 02 14 07.4 -0.1
baz=96
J07A Hines 96.27 47 ⇓P P 02 14 07.5 +0.1
baz=96
K07A Rock Creek Ran 96.29 48 ⇓P P 02 14 07.2 -0.3
baz=96
M07A Soldier Meadow 96.31 49 ⇓P P 02 14 07.7 0.0
baz=96
B08A Colville Reser 96.38 42 P P 02 14 07.8 0.0
baz=96,SNR=6.5
A08A Turner Farm, O 96.43 41 P P 02 14 08.2 +0.2
baz=96,SNR=7.4
O07A Toulon 96.49 50 ⇑P P 02 14 08.5 0.0
baz=96
E08A Dider Farm, El 96.53 44 ⇓P P 02 14 08.4 0.0
baz=96
C08A Higginbotham F 96.56 43 ⇓P P 02 14 08.8 +0.2
baz=97
G08A Pilot Rock 96.57 45 ⇑P P 02 14 09.0 +0.3
baz=97
D08A Wollman Farm, 96.63 43 ⇓P P 02 14 08.5 -0.4
baz=97
WVOR Wild Horse Val 96.73 48 eP P 02 14 09.5 0.0
WVOR pmax pmax
comp=Z,4.0nm,1.1s,mb4.6
WVOR Wild Horse Val 96.73 48 eP P 02 14 09.5 0.0
comp=Z,3.6nm,1.1s,mb4.5
H08A Prairie City 96.76 46 ⇑P P 02 14 09.5 -0.1
baz=97
I08A Drewsey 96.82 47 ⇓P P 02 14 09.9 +0.1
baz=97
J08A Circle Bar Ran 96.88 47 ⇑P P 02 14 09.6 -0.5
baz=97
NVAR Mina Array Bea 96.88 52 P P 02 14 09.0 -1.3
comp=Z,1.3nm,0.7s,mb4.3,baz=250,slow=6.6,SNR=8.5
A09A Danville 96.89 41 P P 02 14 10.3 +0.2
baz=97,SNR=5.2
L08A Fields 96.95 48 ⇑P P 02 14 10.9 +0.4
baz=97
S08C White Mtn Res 96.96 53 ⇓P P 02 14 10.8 +0.1
baz=97
EDW2 Edwards Air Fo 97.02 56 ⇑P P 02 14 11.0 0.0
baz=97
D09A Jones Farm, Ri 97.05 43 P P 02 14 11.2 +0.3
baz=97,SNR=7.1
N08A GE Springer Mi 97.07 50 ⇑P P 02 14 11.1 0.0
baz=97
E09A Wood Farm, Sta 97.16 44 P P 02 14 11.7 +0.3
baz=97,SNR=5.2
B09A Rice 97.17 42 P P 02 14 11.4 +0.1
baz=97,SNR=9.3
J09A Fry Pan Ranch, 97.40 47 P P 02 14 12.8 +0.3
baz=97,SNR=5.7
K09A Rome 97.41 48 ⇑P P 02 14 12.6 0.0
baz=97
MPMC Manual Prospec 97.47 54 ⇓P P 02 14 13.0 0.0
baz=98
S09A Goldfield 97.72 53 ⇓P P 02 14 14.5 +0.4
baz=98
BMO Blue Mountains 97.73 46 eP P 02 14 12.7 -1.3
BMO pmax pmax
comp=Z,10.0nm,1.5s,mb4.9
BMO Blue Mountains 97.73 46 eP P 02 14 12.7 -1.3
comp=Z,9.9nm,1.5s,mb4.9
D10A Wagner Farm, O 97.76 43 P P 02 14 14.1 +0.1
baz=98,SNR=9.7
F10A Beach Ranch, E 97.79 44 P P 02 14 14.3 +0.1
baz=98,SNR=5.8
NEW Newport 97.86 42 eP P 02 14 14.2 -0.2
NEW pmax pmax
comp=Z,11nm,0.9s
NEW Newport 97.86 42 eP P 02 14 14.2 -0.2
comp=Z,11nm,0.9s,mb5.2
G10A Bishop Farm, J 97.87 45 P P 02 14 14.1 -0.4
baz=98,SNR=8.6
FURC Furnace Creek, 97.98 54 ⇓P P 02 14 15.7 +0.4
baz=98
GSC Goldstone 98.01 55 ⇓P P 02 14 15.6 +0.2
baz=98
K10A MacKenzie Ranc 98.04 48 ⇑P P 02 14 15.4 0.0
baz=98
H10A Noah's Angus R 98.13 46 P P 02 14 15.4 -0.3
baz=98,SNR=7.5
S10A Tonopah Range, 98.22 53 ⇑P P 02 14 16.2 -0.1
baz=98
M10A I.L. Ranch, Tu 98.29 49 ⇓P P 02 14 16.5 -0.1
baz=98
L10A Juniper Basin 98.34 48 ⇑P P 02 14 16.7 -0.1
baz=98
A11A Hall Mountain, 98.35 41 P P 02 14 17.6 +0.9
baz=98,SNR=10
D11A Klaveano Farm, 98.40 43 P P 02 14 16.9 +0.1
baz=98,SNR=6.2
G11A Walters Elk Ra 98.47 45 ⇑P P 02 14 17.1 -0.2
baz=98
TPNV Topopah Spring 98.48 54 ⇑P P 02 14 17.3 -0.2
baz=98
E11A Bogner Ranch, 98.50 44 P P 02 14 17.0 -0.3
baz=98,SNR=7.4
F11A Grangeville 98.54 45 ⇓P P 02 14 17.0 -0.5
baz=99
H11A Donnelly 98.66 46 ⇓P P 02 14 17.7 -0.4
baz=99
K11A Parker Ranch, 98.66 48 ⇓P P 02 14 18.1 -0.1
baz=99
YKA Yellowknife Ar 98.68 28 P P 02 14 16.8 -0.9
YKA Yellowknife Ar 98.68 28 P P 02 14 16.8 -0.9
comp=Z,1.1nm,0.7s,mb4.3,baz=272,slow=4.9,SNR=18
I11A Placerville 98.71 47 P P 02 14 18.4 0.0
baz=99,SNR=5.2
MFID Camas Ranch 98.81 47 ⇓P P 02 14 18.7 0.0
baz=99
L11A Cat Creek Ranc 98.87 48 ⇓P P 02 14 19.2 +0.1
baz=99
R11A Troy Canyon, C 99.02 52 ⇑P Pdif 02 14 20.1 +0.6
baz=99
D12A Red Ives Fores 99.07 43 ⇑P Pdif 02 14 19.7 0.0
baz=99
F12A Elk City 99.17 45 ⇑P Pdif 02 14 19.6 -0.6
baz=99
IRM Iron Mountain 99.35 56 ⇓P Pdif 02 14 21.8 +0.8
baz=99
L12A House Creek Ra 99.42 48 ⇑P Pdif 02 14 21.8 +0.5
baz=99
N12A Clover Valley, 99.42 50 ⇓P Pdif 02 14 21.9 +0.5
baz=99
H12A Diamond D Ranc 99.49 46 ⇑P Pdif 02 14 22.1 +0.5
baz=100
K12A Draper Farm, C 99.50 48 ⇓P Pdif 02 14 22.2 +0.5
baz=100
M12A Wells 99.51 49 ⇓P Pdif 02 14 22.0 +0.3
baz=100
C13A Hot Springs 99.58 43 ⇓P Pdif 02 14 21.6 -0.4
baz=100
GLA Glamis 99.61 58 ⇑P Pdif 02 14 23.1 +0.9
baz=100
B13A Whitefish 99.62 42 ⇓P Pdif 02 14 22.2 -0.1
baz=100
O12A Currie 99.66 50 ⇓P Pdif 02 14 22.7 +0.4
baz=100
D13A Huson 99.68 43 ⇓P Pdif 02 14 22.0 -0.4
baz=100
R12A Pony Springs, 99.79 52 ⇓P Pdif 02 14 23.1 +0.2
baz=100
F13A Darby 99.82 45 ⇑P Pdif 02 14 23.2 +0.1
baz=100
HLID Hailey 99.83 47 ePdif Pdif 02 14 23.4 +0.2
comp=Z,1.2nm,0.8s
HLID Hailey 99.83 47 ⇑P Pdif 02 14 23.7 +0.5
baz=100
G13A Cobalt 99.91 45 ⇓P Pdif 02 14 23.4 0.0
baz=100
H13A Challis 99.92 46 P Pdif 02 14 24.2 +0.7
baz=100,SNR=5.4
I13A Wildhorse Cree 100.04 47 ⇑P Pdif 02 14 24.6 +0.5
baz=100
P13A Bates Ranch, G 100.23 51 ⇓P Pdif 02 14 25.3 +0.3
baz=100
M14A Sheep Mountain 100.69 49 ⇑P Pdif 02 14 27.6 +0.7
baz=101
K14A Jones Ranch, D 100.77 48 ⇓P Pdif 02 14 27.6 +0.3
baz=101
N14A Grayback Hills 100.83 50 ⇓P Pdif 02 14 28.3 +0.7
baz=101
E15A Deer Lodge 100.96 44 ⇑P Pdif 02 14 28.6 +0.5
baz=101
F15A Butte 101.10 45 ⇓P Pdif 02 14 28.9 +0.1
baz=101
DUG Dugway 101.14 50 eP Pdif 02 14 28.8 -0.1
DUG pmax pmax
comp=Z,2.0nm,0.8s
DUG Dugway 101.14 50 ePdif Pdif 02 14 28.8 -0.1
comp=Z,1.6nm,0.8s
DUG Dugway 101.14 50 ⇓P Pdif 02 14 29.1 +0.1
baz=101
N15A Stansbury Isla 101.33 50 ⇓P Pdif 02 14 29.9 +0.1
baz=101
BOZ Bozeman (W) 101.72 45 eP Pdif 02 14 32.0 +0.5
BOZ pmax pmax
comp=Z,1.0nm,0.8s
BOZ Bozeman (W) 101.72 45 ePdif Pdif 02 14 32.0 +0.5
comp=Z,0.9nm,0.8s
BOZ Bozeman (W) 101.72 45 ⇓P Pdif 02 14 31.6 +0.1
baz=102
WUAZ Wupatki 102.44 55 ⇑P Pdif 02 14 35.2 +0.5
baz=102
SMCO Snowmass 105.70 51 ePdif Pdif 02 14 49.9 +0.7
comp=Z,3.1nm,1.1s
ARCES ARCESS Array B 105.97 342 Pdiff Pdif 02 14 50.0 -0.4
comp=Z,2.1nm,1.0s,baz=56,slow=8.9,SNR=3.7
ARCES PKiKP PKiKP 02 18 58.8 -2.3
comp=Z,1.4nm,0.9s,baz=117,slow=1.6,SNR=4.8
ARCES PKKPbc PKKPbc 02 30 21.9 -5.3
comp=Z,1.3nm,0.9s,baz=299,slow=1.2,SNR=3.6
TXAR Lajitas Array 109.30 61 PKiKP PKiKP 02 19 07.5 -1.0
comp=Z,0.6nm,0.8s,baz=159,slow=1.6,SNR=6.9
FINES FINESS Array B 109.44 334 Pdiff Pdif 02 15 03.7 -2.2
comp=Z,1.7nm,0.7s,baz=105,slow=8.9,SNR=4.3
FINES PKiKP PKiKP 02 19 05.9 -1.9
comp=Z,1.1nm,0.6s,baz=100,slow=7.9,SNR=5.7
AKASG Malin Array Be 111.88 323 PKiKP PKiKP 02 19 11.2 -1.5
comp=Z,0.6nm,0.4s,baz=62,slow=2.1,SNR=8.8
AKASG PP PP 02 19 55.4 -3.6
comp=Z,0.1nm,0.3s,baz=63,slow=3.6,SNR=4.1
AKBB Malin Array Si 111.88 323 ePKIKP PKiKP 02 19 12.6 -0.1
JCT Junction City 112.53 59 ePKiKP PKiKP 02 19 13.7 -0.9
MLR Muntele Rosu 115.67 318 ⇓iP PKPdf 02 19 19.1 -1.0
NOA NORSAR Array B 115.70 338 PKP PKPdf 02 19 18.0 -1.7
comp=Z,1.0nm,0.8s,baz=353,slow=1.4,SNR=3.8
KWP Kalwaria 116.17 323 ⇑iP PKPdf 02 19 19.7 -1.3
LSZ Lusaka 116.23 250 ePKIKP PKPdf 02 19 22.7 +0.7
NATX Nacogdoches 116.69 57 ePKPdf PKPdf 02 19 22.5 0.0
KOLS Kolonicke sedl 116.72 323 ePKP PKPdf 02 19 22.0 0.0
STHS Stebnicka Huta 117.13 324 ePKP PKPdf 02 19 22.4 -0.4
DRGR 117.30 320 ⇓iP PKPdf 02 19 22.2 -1.0
NIE Niedzica 117.67 324 ePKP PKPdf 02 19 23.8 -0.1
BZS Buzias 118.46 320 ⇑iP PKPdf 02 19 24.4 -1.1
VYHS Vyhne 118.96 323 ePKIKP PKPdf 02 19 25.4 -1.0
VYHS Vyhne 118.96 323 i PKP PKPdf 02 19 25.4 -1.0
DPC Dobruska-Polom 119.51 326 ePKPdf PKPdf 02 19 27.0 -0.4
PKSM Moragy 120.10 321 ⇓iP PKPdf 02 19 27.5 -1.1
PVCC Panska Ves 120.38 327 ePKPdf PKPdf 02 19 28.6 -0.4
TREC Trest 120.51 326 ePKPdf PKPdf 02 19 28.7 -0.6
BRG Berggiesshubel 120.53 328 ePKPdf PKPdf 02 19 28.5 -0.8
BRG Berggiesshubel 120.53 328 i P PKPdf 02 19 28.6 -0.7
comp=Z,12nm,1.2s
PRU Pruhonice 120.68 327 ePKPdf PKPdf 02 19 28.8 -0.8
CLL Collm 120.78 328 i PKPdf PKPdf 02 19 28.9 -0.9
comp=Z,7.0nm,0.7s
FBE Freiberg 120.81 328 ePKPdf PKPdf 02 19 29.4 -0.5
CONA Conrad Observa 120.98 324 ⇓iP PKPdf 02 19 29.4 -0.8
comp=Z,4.8nm,0.6s
CSNA Conrad Observa 120.98 324 ⇓iP PKPdf 02 19 29.4 -0.9
comp=Z,4.8nm,0.6s
NEUB Neuenburg 121.47 329 ePKPdf PKPdf 02 19 30.2 -0.9
NRDL Niedersach Rie 121.54 331 ePKPdf PKPdf 02 19 30.5 -0.7
TANN Tannenbergstha 121.56 328 ePKPdf PKPdf 02 19 30.4 -0.9
WERD Werda 121.63 328 ePKPdf PKPdf 02 19 30.4 -1.0
GUNZ Gunzen 121.66 328 ePKPdf PKPdf 02 19 30.6 -0.9
KHC Kasperske Hory 121.66 326 ⇓iPKIKP PKPdf 02 19 30.9 -0.7
KHC Kasperske Hory 121.66 326 ePKPdf PKPdf 02 19 30.7 -0.8
NKC Novy Kostel 121.67 328 ePKPdf PKPdf 02 19 30.5 -1.0
WERN Wernitzgruen 121.68 328 ePKPdf PKPdf 02 19 30.7 -0.8
GEC2 GERESS Array S 121.75 326 ePKPdf PKPdf 02 19 30.5 -1.2
GERES GERESS Array B 121.75 326 PKP PKPdf 02 19 30.9 -0.8
comp=Z,4.5nm,0.6s,baz=75,slow=1.2,SNR=27
CLZ Clausthal 121.81 330 ePKPdf PKPdf 02 19 31.2 -0.5
MANZ Manzenberg 121.99 328 ePKPdf PKPdf 02 19 31.4 -0.8
WET Wettzell 122.04 326 ePKPdf PKPdf 02 19 31.5 -0.8
PLCA Paso Flores 122.29 147 PKIKP PKPdf 02 19 33.2 +0.1
PLCA pmax pmax
comp=Z,2.0nm,0.5s
PLCA Paso Flores 122.29 147 ePKPdf PKPdf 02 19 33.0 0.0
PLCA Paso Flores 122.29 147 PKP PKPdf 02 19 33.2 +0.1
comp=Z,2.2nm,0.5s,baz=198,slow=1.7,SNR=5.8
GRA1 Grafenberg Arr 122.63 328 ePKPdf PKPdf 02 19 32.4 -1.0
GRF Grafenberg Arr 122.63 328 ePKPdf PKPdf 02 19 32.4 -1.0
GRFO Grafenberg 122.64 328 ePKPdf PKPdf 02 19 32.3 -1.1
KBA Koelnbreinsper 122.88 324 ⇑iP PKPdf 02 19 32.5 -1.5
comp=Z,3.6nm,0.6s
ABTA Abfaltersbach 123.54 324 ⇑iP PKPdf 02 19 33.5 -1.7
comp=Z,5.8nm,0.6s
WTTA Wattenberg 123.77 325 ⇑iP PKPdf 02 19 34.5 -1.1
comp=Z,9.4nm,0.6s
SADO Sadowa 123.81 38 PKP PKPdf 02 19 33.5 -2.3
baz=283,slow=12
MOTA Moosalm 124.03 325 ⇓iP PKPdf 02 19 35.2 -1.0
comp=Z,5.7nm,0.9s
STU Stuttgart 124.25 328 ePKPdf PKPdf 02 19 35.7 -0.8
FETA Feichten 124.42 325 ⇑iP PKPdf 02 19 34.9 -2.0
comp=Z,8.8nm,0.8s
TKL Tuckaleechee C 124.43 50 PKIKP PKPdf 02 19 36.1 -1.2
TKL pmax pmax
comp=Z,7.0nm,0.7s
TKL Tuckaleechee C 124.43 50 ePKPdf PKPdf 02 19 36.2 -1.0
TKL Tuckaleechee C 124.43 50 PKP PKPdf 02 19 36.1 -1.2
comp=Z,6.7nm,0.7s,baz=181,slow=3.6,SNR=11
MEM Membach 124.72 331 PKP PKPdf 02 19 37.0 -0.4
DAVA Damuels 124.75 326 ⇓iP PKPdf 02 19 36.7 -0.8
comp=Z,10.0nm,0.6s
DAVA Damuels 124.75 326 ⇓iP PKPdf 02 19 36.7 -0.9
WLF Walferdange 125.26 330 PKP PKPdf 02 19 38.7 +0.3
CDF Champ du Feu 125.48 328 ePKIKP PKPdf 02 19 37.4 -1.5
comp=Z,4.5nm,0.7s
GIVF Givet 125.62 331 ePKIKP PKPdf 02 19 38.5 -0.6
DOU Dourbes 125.74 331 PKP PKPdf 02 19 39.0 -0.3
BAIF Baives 125.95 331 ePKIKP PKPdf 02 19 39.0 -0.7
HINF Hinteralfeld 126.07 328 ePKIKP PKPdf 02 19 38.8 -1.2
comp=Z,12nm,0.7s
HAU Haudompre 126.22 328 ePKIKP PKPdf 02 19 39.1 -1.2
comp=Z,14nm,0.6s
MEZF Maizieres J'vi 126.57 330 ePKIKP PKPdf 02 19 40.4 -0.6
LONY Lake Ozonia 126.65 36 ePKPdf PKPdf 02 19 39.7 -1.5
CABF La Chapelle 127.23 327 ePKIKP PKPdf 02 19 41.7 -0.6
comp=Z,12nm,0.7s
LPG La Plagne 127.55 326 ePKIKP PKPdf 02 19 42.3 -0.6
comp=Z,13nm,0.9s
LPL La Plagne 127.55 326 ePKIKP PKPdf 02 19 42.2 -0.7
comp=Z,7.9nm,0.8s
PGF Pioggiola 127.91 321 ePKIKP PKPdf 02 19 42.6 -1.1
comp=Z,12nm,0.6s
LOR Lormes 127.98 329 ePKIKP PKPdf 02 19 42.9 -0.8
comp=Z,8.4nm,0.9s
MBDF Montbardon 128.00 325 ePKIKP PKPdf 02 19 43.2 -0.6
comp=Z,9.0nm,0.7s
SBF Sospel 128.12 324 ePKIKP PKPdf 02 19 42.7 -1.4
comp=Z,17nm,0.7s
SSF Saint Saulge 128.30 329 ePKIKP PKPdf 02 19 43.6 -0.7
comp=Z,21nm,1.1s
ORIF Oris-en-Rattie 128.39 326 ePKIKP PKPdf 02 19 43.7 -0.9
comp=Z,5.2nm,0.6s
SMF Signal de Mont 128.40 328 ePKIKP PKPdf 02 19 43.3 -1.2
AVF Avril sur Loir 128.56 329 ePKIKP PKPdf 02 19 43.7 -1.1
TRQA Tornquist 128.74 150 ePKPdf PKPdf 02 19 45.5 0.0
FRF La Foret Royal 128.76 324 ePKIKP PKPdf 02 19 44.3 -1.0
BGF Bois d'Agland 128.97 329 ePKIKP PKPdf 02 19 44.9 -0.7
comp=Z,9.9nm,0.7s
LMR La Mourre 128.98 324 ePKIKP PKPdf 02 19 44.7 -1.0
LDF La Druitiere 129.00 333 ePKIKP PKPdf 02 19 44.4 -1.2
FLN La Foliniere 129.04 333 ePKIKP PKPdf 02 19 44.6 -1.1
comp=Z,4.4nm,0.4s
VIVF Saint-Julien-l 129.10 326 ePKIKP PKPdf 02 19 45.2 -0.7
SMRF Simiane la Rot 129.14 325 ePKIKP PKPdf 02 19 45.7 -0.3
comp=Z,16nm,0.9s
TCF Toulx Ste Croi 129.48 329 ePKIKP PKPdf 02 19 45.9 -0.7
comp=Z,14nm,0.7s

GRR	**Gorron**	**129.48**	**333**	*e*PKIKP	PKPdf	02 19 45.6	-0.9
	comp=Z,9.0nm,0.7s						
LASF	**Ste Croix**	**130.05**	**326**	*e*PKIKP	PKPdf	02 19 47.1	-0.6
	comp=Z,10nm,0.8s						
SGMF	**Saint Gilles**	**130.34**	**334**	*e*PKIKP	PKPdf	02 19 47.2	-1.0
MFF	**Saint Martin d**	**130.44**	**331**	*e*PKIKP	PKPdf	02 19 47.6	-0.8
	comp=Z,23nm,1.1s						
RJF	**Les Rejaudoux**	**130.50**	**329**	*e*PKIKP	PKPdf	02 19 47.9	-0.7
	comp=Z,9.8nm,0.7s						
ROSF	**Rostrenen**	**130.59**	**334**	*e*PKIKP	PKPdf	02 19 47.6	-1.0
QUIF	**Quistinic**	**130.86**	**334**	*e*PKIKP	PKPdf	02 19 48.6	-0.6
KEST	**Kesra**	**131.13**	**314**	*e*PKIKP	PKPdf	02 19 50.4	+0.4
	comp=Z,2.2nm,0.9s,baz=212,slow=7.2,SNR=5.5						
LFF	**La Frestale**	**131.16**	**329**	*e*PKIKP	PKPdf	02 19 49.0	-0.8
MTLF	**Montolieu**	**131.43**	**326**	*e*PKIKP	PKPdf	02 19 49.8	-0.6
EPF	**Esparros**	**132.66**	**327**	*e*PKIKP	PKPdf	02 19 52.5	-0.2
BCIP	**Isla Barro Col**	**133.14**	**83**	*e*PKPdf	PKPdf	02 19 54.1	-0.4
ETSF	**Etsaut**	**133.24**	**328**	*e*PKIKP	PKPdf	02 19 54.3	+0.5
	comp=Z,9.4nm,0.7s						
SJPF	**Ste Jean**	**133.44**	**328**	*e*PKIKP	PKPdf	02 19 55.0	+0.8
ROSC	**El Rosal**	**138.54**	**89**	*e*PKPdf	PKPdf	02 20 05.3	+0.8
ROSC	**El Rosal**	**138.54**	**89**	PKP	PKPdf	02 20 03.7	-0.8
	comp=Z,9.1nm,0.6s,baz=102,slow=20,SNR=6.9						
LPAZ	**La Paz**	**138.75**	**122**	PKhKP		02 19 56.6	
	comp=Z,1.3nm,0.6s,baz=71,slow=2.6,SNR=5.6						
LPAZ				PKP	PKPdf	02 20 04.8	0.0
	comp=Z,1.8nm,0.6s,baz=30,slow=0.3,SNR=7.3						
CPUP	**Villa Florida**	**140.28**	**144**	PKP	PKPdf	02 20 06.8	-0.6
	comp=Z,1.3nm,0.6s,baz=229,slow=4.8,SNR=3.7						
SDV	**Santo Domingo**	**142.24**	**83**	PKhKP		02 20 06.1	
	comp=Z,9.9nm,0.6s,baz=329,slow=5.2,SNR=23						
SJG	**San Juan**	**145.06**	**66**	PKP2	PKPab	02 20 15.0	-1.1
SJG				pmax	pmax		
	comp=Z,47nm,0.7s						
SJG	**San Juan**	**145.06**	**66**	*e*PKPbc	PKPbc	02 20 14.6	-1.3
SJG	**San Juan**	**145.06**	**66**	PKP	PKPdf	02 20 15.0	-1.0
	comp=Z,47nm,0.7s,baz=41,slow=2.2,SNR=27						
TOA0	**Torodi Ar. Sit**	**145.28**	**285**	*e*PKPbc	PKPbc	02 20 16.0	-0.7
TOA0				*e*pPKPdf	pPKPdf	02 21 10.6	-1.4
TORD	**Torodi Ar. Bea**	**145.28**	**285**	PKPbc	PKPbc	02 20 15.7	-1.0
	comp=Z,18nm,0.6s,baz=58,slow=2.3,SNR=260						
TORD				pPKPbc		02 21 09.7	
	comp=Z,8.1nm,0.8s,baz=82,slow=3.5,SNR=6.7						
TORD				SKPbc	SKPbc	02 23 34.0	-1.8
	comp=Z,1.1nm,0.7s,baz=60,slow=2.5,SNR=4.2						
CPD	**Cerro la Pandu**	**145.29**	**66**	*e*PKIKP	PKPdf	02 20 15.7	-0.7
MTP	**Monte Pirata**	**145.60**	**66**	*e*PKPbc	PKPbc	02 20 16.9	-0.7
PCRV	**Puerto La Cruz**	**148.05**	**80**	PKPbc	PKPbc	02 20 23.1	-1.5
	comp=Z,7.2nm,0.4s,baz=262,slow=1.7,SNR=6.4						
SCG	**Saint Claude**	**149.75**	**68**	*e*P	PKPbc	02 20 28.4	-0.4
TBG	**Guadaloupe-3**	**149.83**	**68**	*e*P	PKPbc	02 20 28.4	-0.5
MGG	**Marie-Galante**	**150.11**	**68**	*e*P	PKPbc	02 20 28.6	-1.0
KIC	**Kosan Boka**	**152.19**	**273**	*e*PKIKP	PKPbc	02 20 34.2	-0.3
	comp=Z,34nm,0.9s						
DBIC	**Dimbokro**	**152.30**	**274**	PKIKP	PKPbc	02 20 33.6	-1.2
DBIC				pmax	pmax		
	comp=Z,4.0nm,0.6s						
DBIC	**Dimbokro**	**152.30**	**274**	*e*PKPbc	PKPbc	02 20 34.1	-0.6
DBIC	**Dimbokro**	**152.30**	**274**	PKPbc	PKPbc	02 20 33.6	-1.1
	comp=Z,4.3nm,0.6s,baz=46,slow=2.6,SNR=17						
TIC	**Toumodi**	**152.46**	**274**	*e*PKIKP	PKPbc	02 20 34.7	-0.4
	comp=Z,14nm,0.4s						
LIC	**Lamto**	**152.47**	**273**	*e*PKP1	PKPbc	02 20 34.4	-0.8
	comp=Z,16nm,0.7s						
LIC	**Lamto**	**152.47**	**273**	*e*PKIKP	PKPbc	02 20 34.8	-0.4
	comp=Z,46nm,1.0s						
BDFB	**Brasilia**	**154.01**	**144**	PKP	PKPdf	02 20 30.3	+0.1
	comp=Z,2.2nm,0.5s,baz=304,slow=26,SNR=3.1						
BDFB				PKPbc	PKPbc	02 20 38.0	-0.4
	comp=Z,3.2nm,0.7s,baz=236,slow=1.6,SNR=8.5						

ISCJB ***30*** *02:17:50.5±1.7, 144N±03×905W±0.1, h217km±10km, mb3.6/5, Error ellipse: s-maj=46.4km s-min=9.5km az=21.7*
NEIC ***30*** *02:17:52.0±1.5, 1450N×9031W, h203km±16km, mb3.9/2, Error ellipse: s-maj=47.6km s-min=12.4km az=205.0*
IDC ***30*** *02:17:52.9±2.4, 1433N×9052W, h231km±40km, mb3.4/5, mb1 3.3/7, mb1mx3.1/22, mbtmp3.1/7, Error ellipse: s-maj=64.0km s-min=17.7km az=35.0*
ISC 30 02:17:51.0±1.8, 143N±03×905W±01, h207km±9km**, n14,** σ1**9**01/16**, mb3.6/5, Guatemala**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.17**	**94**	*e*Pn	**Pn**	**02 18 40.7**	**-2.3**
TGUH				*e*Sn	**Sn**	**02 19 24.6**	**+0.9**
CMIG	**Matias Romero**	**5.02**	**304**	P	**Pn**	**02 19 08.9**	**+3.1**
	0.7nm,0.3s,baz=123,slow=11,SNR=10						
CMIG				S	**Sn**	**02 20 04.5**	**-0.4**
	2.0nm,0.3s,baz=348,slow=16,SNR=16						
TXAR	**Lajitas Array**	**19.25**	**323**	P	**P**	**02 21 59.5**	**-0.5**
	0.1nm,0.3s,baz=136,slow=16,SNR=3.8						
SDV	**Santo Domingo**	**20.22**	**103**	P	**P**	**02 22 10.7**	**+0.3**
	6.1nm,0.6s,baz=315,slow=12,SNR=6.4						
TKL	**Tuckaleechee C**	**22.09**	**15**	P	**P**	**02 22 30.2**	**+0.8**
TKL	**Tuckaleechee C**	**22.09**	**15**	P	**P**	**02 22 30.2**	**+0.8**
	4.7nm,0.8s,mb4.1,baz=199,slow=10,SNR=5.4						
SADO	**Sadowa**	**31.85**	**15**	P	**P**	**02 23 55.9**	**-0.5**
SADO	**Sadowa**	**31.85**	**15**	P	**P**	**02 23 55.9**	**-0.5**
	baz=253,slow=14						
AGMN	**Agassiz Refuge**	**34.16**	**354**	*e*P	**P**	**02 24 16.9**	**+0.6**
	3.6nm,0.9s,mb3.9						
ULM	**Lac du Bonnet**	**36.09**	**354**	*e*P	**P**	**02 24 32.4**	**-0.4**
	1.8nm,0.7s,mb3.7						
ULM	**Lac du Bonnet**	**36.09**	**354**	P	**P**	**02 24 31.5**	**-1.3**
	2.0nm,0.6s,mb3.8,baz=198,slow=6.4,SNR=3.0						
SCHQ	**Schefferville**	**44.43**	**19**	P	**P**	**02 25 40.5**	**-0.5**
	2.1nm,0.7s,mb3.6,baz=223,slow=11,SNR=5.2						
YKA	**Yellowknife Ar**	**51.05**	**346**	P	**P**	**02 26 32.3**	**+0.5**
YKA	**Yellowknife Ar**	**51.05**	**346**	P	**P**	**02 26 32.3**	**+0.6**
	0.3nm,0.7s,mb2.8,baz=138,slow=7.5,SNR=4.1						

ISCJB ***30*** *02:37:39.5±1.7, 744S±009×12985E±008, h196km±18km, mb3.7/2, Error ellipse: s-maj=17.2km s-min=10.2km az=32.3*
NEIC ***30*** *02:37:40.0±3.0, 740S×12976E, h178km±35km, mb3.7/1, Error ellipse: s-maj=29.9km s-min=24.9km az=106.0*
IDC ***30*** *02:37:42.0±5.0, 754S×12976E, h199km±51km, mb3.7/1, mb1 3.5/5, mb1mx3.3/15, mbtmp3.4/5, Error ellipse: s-maj=47.7km s-min=19.1km az=50.0*
ISC 30 02:37:41.0±1.4, 752S±008×**12981E**±008**, h191**km±13km**, n9,** σ1**9**01/14**, mb3.8/2, Banda Sea**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**5.77**	**154**	*e*Pn	**Pn**	**02 39 04.8**	**-0.3**
	23nm,0.1s						
KAKA				*e*Sn	**Sn**	**02 40 11.3**	**-0.4**
BATI	**Kupang**	**6.63**	**246**	P	**Pn**	**02 39 16.5**	**+0.1**
	3.6nm,0.3s,baz=267,slow=21,SNR=8.9						
BATI				S	**Sn**	**02 40 32.6**	**+0.7**
	3.6nm,0.3s,baz=207,slow=4.5,SNR=4.3						
FITZ	**Fitzroy Crossi**	**11.28**	**201**	P	**Pn**	**02 40 18.7**	**+1.8**
	0.5nm,0.3s,baz=26,slow=14,SNR=19						
FITZ				S	**Sn**	**02 42 21.1**	**-1.3**
	0.7nm,0.3s,baz=252,slow=20,SNR=4.3						
WRA	**Warramunga Arr**	**13.11**	**161**	P	**Pn**	**02 40 40.9**	**+0.7**
	0.9nm,0.3s,baz=342,slow=13,SNR=11						
WRA				S	**Sn**	**02 43 02.5**	**-3.7**
	0.9nm,0.3s,baz=332,slow=24,SNR=4.7						
ASAR	**Alice Springs**	**16.53**	**167**	P	**Pn**	**02 41 23.5**	**+1.4**
	0.2nm,0.3s,baz=346,slow=9.9,SNR=12						
ASAR				S	**S**	**02 44 25.1**	**+0.5**
	0.2nm,0.3s,baz=1.8,slow=23,SNR=5.7						
MBWA	**Marble Bar**	**16.70**	**215**	*e*P	**Pn**	**02 41 22.4**	**-1.8**
MK31	**Makanchi Array**	**68.55**	**327**	*e*P	**P**	**02 48 22.9**	**0.0**
MKAR	**Makanchi Array**	**68.55**	**327**	P	**P**	**02 48 22.9**	**0.0**
	1.2nm,0.4s,mb4.0,baz=119,slow=7.9,SNR=9.7						
KURK	**Kurchatov**	**72.86**	**329**	*e*P	**P**	**02 48 47.9**	**-0.9**
	0.7nm,0.5s,mb3.6						

BJI ***30*** *02:44:16.4, 635S×14794E, h194km, mB4.8, mb4.8*
ISCJB ***30*** *02:44:20.3±1.3, 555S±004×14749E±006, h166km±11km, mb4.7/51, Error ellipse: s-maj=10.1km s-min=5.7km az=18.8*
MOS ***30*** *02:44:22.1±0.7, 556S×14731E, h179km, mb4.7/15, Error ellipse: s-maj=16.1km s-min=8.1km az=88.6*
IDC ***30*** *02:44:22.2±0.7, 562S×14742E, h171km±6km, mb4.4/15, mb1 4.5/17, mb1mx4.5/19, mbtmp4.4/17, MS3.5/5,*
Ms1 3.5/5, ms1mx3.1/19, Error ellipse: s-maj=14.0km s-min=8.0km az=101.0
NEIC ***30*** *02:44:24.6±1.1, 562S×14742E, h195km±9km, mb4.7/22, Error ellipse: s-maj=7.4km s-min=5.1km az=76.0*
ISC 30 02:44:23.8±1.1, 566S±004×**14738E**±006**, h183**km±10km**, h172**km±2.2km**: pP-P, n121,** σ0**9**81/110**, mb4.7**/51**, 7C-7D, Eastern New Guinea region**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
COEN	**Coen**	**9.23**	**206**	*e*Pn	**Pn**	**02 46 33.7**	**+0.5**
	115nm,0.9s						
COEN				*e*Sn	**Sn**	**02 48 14.4**	**-1.9**
CTA	**Charters Tower**	**14.39**	**184**	⇓*i*P	**Pn**	**02 47 39.8**	**+0.5**
	14nm,0.4s						
CTA				*e*S	**Sn**	**02 50 18.9**	**-0.8**
CTA	**Charters Tower**	**14.39**	**184**	⇓*i*P	**Pn**	**02 47 39.8**	**+0.5**
CTA				*e*S	**Sn**	**02 50 18.9**	**-0.8**
CTA				pmax	pmax		
	comp=Z,14nm,0.4s						
CTA	**Charters Tower**	**14.39**	**184**	P	**Pn**	**02 47 39.9**	**+0.6**
	comp=Z,1.1nm,0.3s,baz=9.0,slow=12,SNR=19						
CTA				LR	LR	02 52 22.6	
	comp=Z,90nm,19.0s,baz=46,slow=33						
CTAO	**Charters Tower**	**14.39**	**184**	*e*P	**Pn**	**02 47 39.7**	**+0.4**
KAKA	**Kakadu**	**16.32**	**244**	*e*P	**Pn**	**02 48 02.6**	**-0.3**
	comp=Z,39nm,0.6s						
KAKA				*e*S	**S**	**02 51 01.5**	**-2.5**
WRAB	**Tennant Creek**	**19.02**	**221**	*e*P	**P**	**02 48 32.6**	**+0.6**
WRAB				*e*S	**S**	**02 51 58.0**	**-0.2**
WRAB				pmax	pmax		
	comp=Z,194nm,0.7s						
WRAB	**Tennant Creek**	**19.02**	**221**	*e*P	**P**	**02 48 32.6**	**+0.7**
	comp=Z,194nm,0.7s						
WRAB				*e*S	**S**	**02 51 58.0**	**-0.2**
WB2	**Warramunga Arr**	**19.03**	**221**	⇓*i*P	**P**	**02 48 33.0**	**+1.0**
WB2				*e*S	**S**	**02 51 58.0**	**-0.3**
WRA	**Warramunga Arr**	**19.04**	**221**	P	**P**	**02 48 32.9**	**+0.8**
WRA				S	**S**	**02 51 58.2**	**-0.3**
WRA	**Warramunga Arr**	**19.04**	**221**	P	**P**	**02 48 32.9**	**+0.8**
	comp=Z,15nm,0.3s,baz=43,slow=12,SNR=88						
WRA				S	**S**	**02 51 58.2**	**-0.3**
	comp=Z,0.4nm,0.3s,baz=41,slow=20,SNR=23						
WRA				LR	LR	02 56 47.4	
	comp=Z,289nm,18.1s,baz=35,slow=39						
EIDS	**Eidsvold**	**19.92**	**170**	*e*P	**P**	**02 48 42.5**	**+1.0**
	comp=Z,14nm,0.8s						
ASAR	**Alice Springs**	**22.11**	**215**	P	**P**	**02 49 05.6**	**+1.0**
	comp=Z,46nm,0.5s,mb5.2,baz=48,slow=8.7,SNR=589						
ASAR				S	**S**	**02 52 57.1**	**+2.2**
	comp=Z,38nm,0.9s,baz=32,slow=20,SNR=22						
BATI	**Kupang**	**23.91**	**258**	P	**P**	**02 49 22.4**	**+1.3**
	comp=Z,150nm,0.7s,mb5.6,baz=82,slow=1.1,SNR=15						
FITZ	**Fitzroy Crossi**	**24.57**	**238**	*e*P	**P**	**02 49 27.8**	**+0.8**
	comp=Z,48nm,0.6s,mb5.2						
FITZ				*e*S	**S**	**02 53 40.4**	**+5.9**
FITZ	**Fitzroy Crossi**	**24.57**	**238**	P	**P**	**02 49 27.8**	**+0.8**
	comp=Z,29nm,0.7s,mb4.9,baz=68,slow=9.9,SNR=79						
FITZ				LR	LR	02 58 53.0	
	comp=Z,96nm,21.8s,baz=226,slow=35						
ARMA	**Armidale**	**24.95**	**171**	*e*P	**P**	**02 49 31.1**	**+0.7**
STKA	**Stephens Creek**	**26.64**	**191**	*e*P	**P**	**02 49 44.1**	**-1.4**
	comp=Z,5.2nm,0.4s,mb4.5						
STKA	**Stephens Creek**	**26.64**	**191**	*e*P	**P**	**02 49 51.7**	**+6.1**
	comp=Z,14nm,1.0s,mb4.5,baz=172,slow=8.1,SNR=22						
MJAR				PcP	PcP	02 53 51.1	-0.5
	comp=Z,3.4nm,0.7s,baz=162,slow=2.8,SNR=5.5						
MJAO	**Matsushiro**	**42.85**	**349**	*e*P	**P**	**02 52 03.7**	**-0.2**
MJAO				pmax	pmax		
	comp=Z,61nm,1.4s,mb5.0						
MJAO	**Matsushiro**	**42.85**	**349**	*e*P	**P**	**02 52 03.7**	**-0.2**
	comp=Z,61nm,1.4s,mb5.0						
MAT	**Matsushiro**	**42.85**	**349**	P	**P**	**02 52 03.3**	**-0.6**
RPZ	**Rata Peaks**	**43.26**	**155**	P	**P**	**02 52 06.8**	**-0.3**
	comp=Z,4.7nm,0.5s,mb4.4,baz=92,slow=2.2,SNR=7.1						
NJ2	**Nanjing**	**46.31**	**326**	*e*P	**P**	**02 52 32.5**	**+1.2**
NJ2				AP	pP	02 53 17.3	+5.7
NJ2				XP	sP	02 53 39.0	+6.9
NJ2				PCP	PcP	02 54 04.0	+0.4
NJ2				S	**S**	**02 58 59.0**	**-5.5**
NJ2				AMB	AMB		
	comp=Z,50nm,0.8s,mb5.2						
NJ2				AMB	AMB		
	comp=Z,110nm,3.8s						
NJ2				LR	LR		
	comp=N,170nm,23.7s						
NJ2				LR	LR		
	comp=E,140nm,20.4s						
NJ2				LR	LR		
	comp=Z,210nm,23.9s						
KSRS	**Korea Array**	**46.57**	**339**	P	**P**	**02 52 33.7**	**+0.4**
KSRS						02 54 04.9	
KSRS				pmax	pmax		
	comp=Z,6.0nm,0.8s,mb4.3						
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KSRS	**Korea Array**	**46.57**	**339**	P	**P**	**02 52 33.6**	**+0.4**
	comp=Z,5.9nm,0.8s,mb4.3,baz=158,slow=8.7,SNR=19						
KSRS				PcP	PcP	02 54 04.8	+0.5
	comp=Z,1.1nm,0.4s,baz=155,slow=4.4,SNR=5.0						
WHN	**Wuhan**	**47.91**	**321**	*e*P	**P**	**02 54 44.0**	**+0.2**
XAN	**Xi'an**	**53.66**	**320**	P	**P**	**02 53 26.0**	**-0.7**
XAN				AMB	AMB		
	comp=Z,26nm,1.2s,mb4.8						
BJT	**Baijiatuau**	**53.77**	**330**	*e*P	**P**	**02 53 26.9**	**-0.5**
BJT				pmax	pmax		
	comp=Z,11nm,0.8s						
BJT	**Baijiatuau**	**53.77**	**330**	*e*P	**P**	**02 53 26.9**	**-0.5**
	comp=Z,11nm,0.8s,mb4.7						
BJI	**Beijing**	**53.79**	**330**	P	**P**	**02 53 27.5**	**0.0**
BJI				AMB	AMB		
	comp=Z,13nm,1.2s,mb4.5						
HABR	**Khabarovsk**	**54.98**	**350**	*e*P	**P**	**02 53 31.6**	**-4.3**
HABR				*e*		02 54 30.8	
HABR				*e*		02 55 37.1	
HABR				*e*S	**S**	**03 00 56.7**	**-6.6**
CD2	**Chengdu**	**55.31**	**314**	P	**P**	**02 53 39.0**	**+0.4**
CD2				AMB	AMB		
	comp=Z,30nm,0.6s,mb5.2						
KLR	**Kul'dur**	**56.34**	**348**	*e*P	**P**	**02 53 42.2**	**-3.3**
KLR				pmax	pmax		
	comp=E,35nm,1.8s						
KLR				pmax	pmax		
	comp=Z,64nm,1.8s,mb5.2						
HHC	**Hu-ho-hao-te**	**56.74**	**328**	⇑P	**P**	**02 53 49.0**	**+0.4**
HHC				AP	pP	02 54 32.5	+2.0
HHC				PCP	PcP	02 54 43.8	+1.4
HHC				XP	sP	02 54 53.8	+3.3
HHC				PP	PP	02 56 00.0	+3.0
HHC				SCP	ScP	02 58 23.8	-0.7
HHC				S	**S**	**03 01 26.0**	**-1.0**
HHC				SCS	ScS	03 03 15.8	-3.6
HHC				AMB	AMB		
	comp=Z,21nm,1.1s,mb4.9						
HHC				AMB	AMB		
	comp=Z,78nm,6.1s						
HHC				LR	LR		
	comp=N,111nm,17.2s						
HHC				LR	LR		
	comp=E,91nm,15.4s						
HHC				LR	LR		
	comp=Z,62nm,14.0s						
LZH	**Lanzhou**	**58.20**	**319**	*e*P	**P**	**02 53 59.5**	**+0.6**
LZH				AP	pP	02 54 40.5	-0.4
LZH				XP	sP	02 55 04.0	+3.0
LZH				AMB	AMB		
	comp=Z,27nm,1.3s,mb4.9						
LZH				AMB	AMB		
	comp=Z,156nm,5.1s						
HIA	**Hailar**	**59.76**	**339**	*e*P	**P**	**02 54 09.7**	**+0.3**
HIA				pmax	pmax		
	comp=Z,34nm,0.8s						
HIA	**Hailar**	**59.76**	**339**	*e*P	**P**	**02 54 09.7**	**+0.3**
	comp=Z,34nm,0.8s,mb5.2						
GTA	**Gaotai**	**62.72**	**320**	P	**P**	**02 54 30.5**	**+1.1**
GTA				AP	pP	02 55 10.5	-1.6
GTA				XP	sP	02 55 33.5	+1.5
GTA				AMB	AMB		
	comp=Z,13nm,1.0s,mb4.7						
SONM	**Songino Array**	**64.29**	**331**	P	**P**	**02 54 40.3**	**+0.7**
	comp=Z,12nm,0.9s,mb4.8,baz=139,slow=5.6,SNR=36						
MA2	**Magadan**	**65.08**	**2**	⇓*e*P	**P**	**02 54 44.8**	**+0.4**
MA2				pmax	pmax		
	comp=Z,15nm,1.0s,mb4.8						
ZAK	**Zakamensk**	**67.52**	**331**	⇑*i*P	**P**	**02 55 00.6**	**+0.5**
ZAK				*e*	pP	02 55 40.3	-3.1
ZAK				pmax	pmax		
	comp=Z,16nm,1.0s,mb4.7						
ZAK				pmax	pmax		
	comp=Z,3.0nm,0.9s,mb4.0						
JIRN	**Jiri**	**67.65**	**303**	*e*P	**P**	**02 55 02.3**	**+0.9**
	comp=Z,13nm,0.6s,mb4.9						
GUN	**Gumba**	**68.00**	**303**	*e*P	**P**	**02 55 04.4**	**+0.8**
	comp=Z,19nm,0.6s,mb5.0						
TLY	**Talaya**	**68.22**	**332**	⇑*e*P	**P**	**02 55 04.3**	**-0.1**
TLY				pmax	pmax		
	comp=Z,2.0nm,1.0s,mb3.8						
KKN	**Kakani**	**68.46**	**303**	*e*P	**P**	**02 55 07.0**	**+0.6**
SEY	**Seymchan**	**68.50**	**2**	⇓*e*P	**P**	**02 55 06.5**	**+0.5**
DMN	**Daman**	**68.55**	**302**	*e*P	**P**	**02 55 07.6**	**+0.6**
	comp=Z,19nm,0.6s,mb5.0						
BOD	**Bodaibo**	**68.77**	**342**	*e*P	**P**	**02 55 07.0**	**-0.7**
BOD				pmax	pmax		
	comp=Z,16nm,0.8s,mb4.8						
YAK	**Yakutsk**	**68.86**	**351**	⇑*e*P	**P**	**02 55 09.1**	**+0.9**
YAK				pmax	pmax		
	comp=Z,29nm,0.8s,mb5.1						
MOY	**Mondy**	**69.45**	**331**	*e*P	**P**	**02 55 12.7**	**+0.6**
MOY				pmax	pmax		
	comp=Z,18nm,1.4s,mb4.6						
KOLN	**Koldanda**	**69.86**	**302**	*e*P	**P**	**02 55 15.4**	**+0.3**
	comp=Z,20nm,0.6s,mb5.0						
DANN	**Dangsing**	**69.91**	**303**	*e*P	**P**	**02 55 15.3**	**-0.1**
	comp=Z,21nm,0.7s,mb5.0						
VNDA	**Vanda**	**72.23**	**177**	P	**P**	**02 55 28.8**	**+0.4**
VNDA				*PP	pP	02 56 08.7	-3.6
VNDA				pmax	pmax		
	comp=Z,7.0nm,0.6s						
VNDA				pmax	pmax		
	comp=Z,2.0nm,0.7s						
VNDA	**Vanda**	**72.23**	**177**	*e*P	**P**	**02 55 28.3**	**-0.1**
	comp=Z,8.6nm,0.9s,mb4.5						
VNDA				*e*pP	pP	02 56 08.9	-3.3
VNDA	**Vanda**	**72.23**	**177**	P	**P**	**02 55 28.8**	**+0.3**
	comp=Z,7.2nm,0.6s,mb4.5,baz=330,slow=6.6,SNR=65						
VNDA				pP	pP	02 56 08.7	-3.6
	comp=Z,1.9nm,0.7s,baz=320,slow=9.0,SNR=2.8						
BILL	**Bilibino**	**74.72**	**7**	⇓*i*P	**P**	**02 55 43.5**	**+0.5**
BILL				*e*PP	pP	02 56 24.9	-2.3
BILL				*e*		02 58 36.4	
BILL				pmax	pmax		
	comp=Z,14nm,1.3s,mb4.4						
BILL	**Bilibino**	**74.72**	**7**	*e*P	**P**	**02 55 43.2**	**+0.2**
	comp=Z,15nm,1.2s,mb4.5						
MK31	**Makanchi Array**	**77.47**	**320**	*e*P	**P**	**02 55 58.7**	**-0.3**
MKAR	**Makanchi Array**	**77.47**	**320**	P	**P**	**02 55 58.6**	**-0.3**
	comp=Z,4.4nm,0.8s,mb4.2,baz=107,slow=6.5,SNR=29						
MKAR				pP	pP	02 56 39.5	-3.9
	comp=Z,0.8nm,0.6s,baz=102,slow=8.8,SNR=2.4						
TIXI	**Tiksi**	**78.11**	**354**	⇓*e*P	**P**	**02 56 00.9**	**-1.1**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.2						
TIXI	**Tiksi**	**78.11**	**354**	*e*P	**P**	**02 56 00.3**	**-1.7**
ZAA0	**Zalesovo Array**	**78.92**	**328**	*e*P	**P**	**02 56 05.2**	**-1.6**
ZALV	**Zalesovo Beam**	**78.92**	**328**	P	**P**	**02 56 05.4**	**-1.4**
	comp=Z,4.6nm,0.6s,mb4.3,baz=110,slow=5.6,SNR=26						
ZALV				pP	pP	02 56 47.1	-4.2
	comp=Z,3.1nm,0.7s,baz=104,slow=6.3,SNR=4.1						
ZALV				LR	LR	03 32 05.4	
	comp=Z,20nm,18.2s,baz=67,slow=36						
ZAL	**Zalesovo**	**78.93**	**328**	P	**P**	**02 56 05.4**	**-1.4**
ZAL				*PP	pP	02 56 47.2	-4.2
TKM2	**Tokmak 2**	**80.67**	**315**	*e*P	**P**	**02 56 16.3**	**-0.2**
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s,mb4.2						
TKM2	**Tokmak 2**	**80.67**	**315**	*e*P	**P**	**02 56 16.3**	**-0.2**
	comp=Z,2.8nm,0.5s,mb4.2						
KURK	**Kurchatov**	**81.16**	**323**	*e*P	**P**	**02 56 18.0**	**-0.9**
KURK				pmax	pmax		
	comp=Z,7.0nm,1.0s,mb4.2						
KURK	**Kurchatov**	**81.16**	**323**	*e*P	**P**	**02 56 18.0**	**-0.8**
	comp=Z,6.8nm,1.0s,mb4.2						
UCH	**Uchtor**	**81.24**	**314**	*e*P	**P**	**02 56 19.8**	**+0.3**
	comp=Z,9.9nm,1.4s,mb4.2						
AML	**Almayashu**	**81.81**	**314**	*e*P	**P**	**02 56 23.0**	**+0.5**
	comp=Z,15nm,1.1s,mb4.5						
EKS2	**Erkin-Say**	**81.89**	**314**	*e*P	**P**	**02 56 23.0**	**+0.2**
	comp=Z,3.1nm,0.7s,mb4.0						
MAW	**Mawson**	**82.71**	**203**	P	**P**	**02 56 26.3**	**-0.3**
	comp=Z,4.5nm,0.7s,mb4.3,baz=92,slow=7.3,SNR=9.8						
IMA2	**Indian Mountai**	**83.10**	**21**	*e*P	**P**	**02 56 27.9**	**-0.7**
KBL	**Kabul**	**83.64**	**306**	*e*P	**P**	**02 56 31.7**	**-0.4**
KBL				pm

DBIC	**Dimbokro**	**152.38**	**274**	*e*PKPbc	PKPbc	03 03 58.5	-0.8
DBIC	**Dimbokro**	**152.38**	**274**	PKPbc	PKPbc	03 03 58.1	-1.1
	comp=Z,3.6nm,0.8s,baz=194,slow=5.1,SNR=5.5						
DBIC				PKPab	PKPab	03 04 09.2	-0.9
	comp=Z,3.5nm,0.9s,baz=54,slow=5.8,SNR=5.8						
BDFB	**Brasilia**	**153.92**	**144**	PKPbc	PKPbc	03 04 01.8	-0.7
	comp=Z,4.3nm,0.7s,baz=181,slow=7.1,SNR=12						

*NEIC **30** 02:54:11.5, 1521N×94.18W, h82km, MD4.4(MEX), After MEX.*

MEX 30 02:54:11.9±0.5, 1527N×9418W, h88km±39km, MD4.4, Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.92**	**285**	*i* P	Pn	02 54 42.2	-0.8
HUIG				*i* S	Sn	02 55 04.7	-2.0
HUIG	**Huatulco**	**1.92**	**285**	*i* P	Pn	02 54 42.3	-0.7
HUIG				*i* S	Sn	02 55 04.7	-2.0
SCX	**San Cristobal**	**2.08**	**45**	*i* P	Pn	02 54 44.0	-1.1
SCX				*i* S	Sn	02 55 10.0	-0.5
OXX	**Oaxaca**	**3.04**	**307**	*e*P	Pn	02 55 09.0	+11
VHO	**Vista Hermosa**	**3.04**	**307**	*i* S	Sn	02 55 32.2	-1.1
VHO	**Vista Hermosa**	**3.04**	**307**	*i* P	Pn	02 54 57.2	-0.7
VHO				*i* S	Sn	02 55 32.2	-1.1
UTMO	**Huajuapan**	**4.31**	**307**	*i* P	Pn	02 55 14.2	-0.9
UTMO				*i* S	Sn	02 56 04.0	-0.2
TPIG	**Tehuac#an**	**4.37**	**316**	*i* S	Sn	02 56 06.4	+0.7
PPM	**Popocatepetl**	**5.68**	**312**	*i* S	Sn	02 56 27.2	-11
PPM	**Popocatepetl**	**5.68**	**312**	*i* S	Sn	02 56 42.6	+4.9
TEIG	**Tepich**	**7.48**	**48**	*i* P	Pn	02 55 53.0	-5.3
TEIG	**Tepich**	**7.48**	**48**	*i* P	Pn	02 55 54.9	-3.4

*ISCJB **30** 03:58:04.7±0.5, 1057N±006×9256E±007, h36km, mb4.2/30, MS3.7/12, Error ellipse: s-maj=11.3km s-min=7.9km az=146.2*

*MOS **30** 03:58:04.4±1.1, 1059N×9259E, h33km, mb4.6/9, Error ellipse: s-maj=18.1km s-min=9.1km az=99.2*

*NEIC **30** 03:58:06.8±0.3, 1059N×9252E, mb4.3/9, Error ellipse: s-maj=12.3km s-min=7.3km az=63.0*

*BJI **30** 03:58:06.7, 1060N×9250E, h36km, mB5.2, mb4.3*

*IDC **30** 03:58:06.7±0.7, 1055N×9249E, h35km±4km, mb3.8/15, mb1 4.0/15, mb1mx3.8/25, mbtmp3.8/15, MS3.6/11, Ms1 3.6/11, ms1mx3.5/28, Error ellipse: s-maj=23.9km s-min=11.8km az=57.0*

ISC 30 03:58:07.0±0.5, 1059N±006×9255E±007, h38km, h38km±1.1km; pP-P, n69, σ0§95/66, mb4.2/30, MS3.7/12, 6C-1D, Andaman Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PBA	**Port Blair**	**1.08**	**10**	*e*P	x	03 58 44.2	
PBA				*e*S	x	03 59 00.0	
PBA				*ex*	x	03 59 09.1	
	comp=N,5μm,0.5s						
PBA				*ex*	x	03 59 11.2	
	comp=E,4μm,0.6s						
PSI	**Prapat**	**10.00**	**140**	LR	LR	04 04 44.4	
	comp=E,402nm,20.0s,baz=299,slow=39						
VIS	**Vishakhapatnam**	**11.41**	**309**	*i* P	**Pn**	**04 00 46.3**	**-1.2**
VIS				*i* S	**Sn**	**04 02 39.1**	**-15**
VIS				*ex*	x	04 02 44.7	
	comp=N,36nm,0.8s						
VIS				*ex*	x	04 02 46.8	
	comp=E,52nm,0.9s						
SHL	**Shillong**	**14.91**	**358**	*e*P	**Pn**	**04 01 35.2**	**+0.1**
JIRN	**Jiri**	**18.00**	**341**	*e*P	**Pn**	**04 02 15.0**	**+0.6**
PKI	**Pulchoki**	**18.18**	**339**	*e*P	**Pn**	**04 02 16.9**	**+0.4**
PKIN	**Phulchoki**	**18.19**	**339**	*e*P	**Pn**	**04 02 17.1**	**+0.5**
	comp=E,4.6nm,0.4s						
DMN	**Daman**	**18.32**	**339**	*e*P	**Pn**	**04 02 18.8**	**+0.6**
	comp=E,25nm,1.0s						
GKN	**Gorkha**	**18.85**	**338**	*e*P	**Pn**	**04 02 24.9**	**+0.3**
KOLN	**Koldanda**	**19.05**	**335**	*e*P	**Pn**	**04 02 26.7**	**-0.3**
DANN	**Dangsing**	**19.50**	**336**	*e*P	**Pn**	**04 02 31.8**	**-0.6**
	comp=E,12nm,0.6s						
GYA	**Guiyang**	**20.66**	**38**	P	**P**	**04 02 45.5**	**+1.9**
GYA				AMB	AMB		
	comp=Z,10.0nm,0.8s						
GTA	**Gaotai**	**29.43**	**12**	*e*P	**P**	**04 04 09.3**	**+2.4**
GTA				AP	pP	04 04 19.0	+1.4
GTA				XP	sP	04 04 23.3	+1.1
GTA				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb3.9						
NJ2	**Nanjing**	**32.35**	**45**	*e*P	**P**	**04 04 31.0**	**-1.8**
NJ2				XP	sP	04 04 44.3	-3.8
NJ2				PP	PP	04 05 39.3	-7.1
NJ2				S	**S**	**04 09 41.5**	**-2.8**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s,mb5.1						
NJ2				AMB	AMB		
	comp=Z,220nm,5.2s						
TKM2	**Tokmak 2**	**35.44**	**338**	*e*P	**P**	**04 04 58.7**	**-0.8**
TKM2				pmax	pmax		
	comp=Z,1.0nm,0.6s,mb3.9						
TKM2	**Tokmak 2**	**35.44**	**338**	*e*P	**P**	**04 04 58.7**	**-0.8**
	comp=Z,1.0nm,0.6s,mb3.9						
MK31	**Makanchi Array**	**37.12**	**348**	*e*P	**P**	**04 05 14.4**	**+0.6**
MKAR	**Makanchi Array**	**37.12**	**348**	P	**P**	**04 05 14.0**	**+0.2**
MKAR				*PP	pP	04 05 24.0	-0.6
MKAR	**Makanchi Array**	**37.12**	**348**	P	**P**	**04 05 14.0**	**+0.2**
	comp=Z,2.9nm,0.9s,mb4.1,baz=163,slow=8.9,SNR=16						
MKAR				pP	pP	04 05 24.0	-0.6
	comp=Z,2.2nm,0.7s,baz=172,slow=7.9,SNR=10.0						
MKAR				LR	LR	04 22 35.2	
	comp=Z,52nm,20.9s,MS3.3,baz=174,slow=40						
SONM	**Songino Array**	**38.92**	**15**	P	**P**	**04 05 30.3**	**+1.4**
	comp=Z,1.2nm,0.7s,mb3.8,baz=174,slow=15,SNR=7.8						
SONM				pP	pP	04 05 39.6	-0.2
	comp=Z,2.5nm,0.8s,baz=202,slow=7.4,SNR=8.2						
ULN	**Ulaanbaatar**	**39.11**	**16**	*e*P	**P**	**04 05 31.5**	**+0.9**
ULN				*e**PP	pP	04 05 41.4	-0.1
ULN				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.0						
ULN	**Ulaanbaatar**	**39.11**	**16**	*e*P	**P**	**04 05 31.5**	**+1.0**
	comp=Z,1.5nm,0.7s,mb3.8						
ULN				*e*pP	pP	04 05 41.4	-0.1
ZAK	**Zakamensk**	**40.65**	**11**	*e*P	**P**	**04 05 42.2**	**-1.1**
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.2s,mb3.6						
KSRS	**Korea Array**	**41.54**	**44**	P	**P**	**04 05 51.2**	**+0.3**
KSRS				*PP	pP	04 06 01.4	-0.4
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.4s,mb3.8						
KSRS				MLR	MLR		
	comp=Z,44nm,21.3s,MS3.3						
KSRS	**Korea Array**	**41.54**	**44**	P	**P**	**04 05 51.1**	**+0.3**
	comp=Z,0.4nm,0.3s,mb3.5,baz=249,slow=20,SNR=3.1						
KSRS				pP	pP	04 06 01.4	-0.4
	comp=Z,0.6nm,0.3s,baz=251,slow=7.8,SNR=2.6						
KSRS				LR	LR	04 22 31.7	
	comp=Z,44nm,21.2s,MS3.3,baz=190,slow=35						
KURK	**Kurchatov**	**41.62**	**347**	*e*P	**P**	**04 05 51.8**	**+0.5**
KURK				*e**PP	pP	04 06 03.0	+0.8
KURK				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.1						
KURK	**Kurchatov**	**41.62**	**347**	*e*P	**P**	**04 05 51.8**	**+0.5**
	comp=Z,4.5nm,1.1s,mb4.0						
KURK				*e*pP	pP	04 06 03.0	+0.8
TLY	**Talaya**	**41.97**	**10⇑**	*e*P	**P**	**04 05 56.2**	**+2.1**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.4s,mb3.2						
ZAL	**Zalesovo**	**43.68**	**353**	P	**P**	**04 06 07.1**	**-0.8**
ZAL				*PP	pP	04 06 18.4	-0.5
ZALV	**Zalesovo Beam**	**43.69**	**353**	P	**P**	**04 06 07.1**	**-0.9**
ZALV				pP	pP	04 06 18.4	-0.6
ZALV				LR	LR	04 28 41.5	
ZALV	**Zalesovo Beam**	**43.69**	**353**	P	**P**	**04 06 07.1**	**-0.9**
	comp=Z,0.6nm,0.5s,mb3.6,baz=171,slow=10,SNR=5.4						
ZALV				pP	pP	04 06 18.4	-0.6
	comp=Z,1.2nm,0.5s,baz=174,slow=8.6,SNR=4.4						
ZALV				LR	LR	04 28 41.5	
	comp=Z,53nm,18.2s,MS3.5,baz=133,slow=42						
BVAR	**Borovoye Array**	**45.93**	**342**	P	**P**	**04 06 25.4**	**-0.5**
	comp=Z,0.6nm,0.4s,mb3.9,baz=138,slow=7.4,SNR=5.7						
BVAR				pP	pP	04 06 37.2	+0.2
	comp=Z,2.3nm,0.8s,baz=147,slow=8.8,SNR=5.4						
BRVK	**Borovoye**	**45.99**	**341**	*e*P	**P**	**04 06 26.6**	**+0.2**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.4s,mb4.4						
BRVK	**Borovoye**	**45.99**	**341**	*e*P	**P**	**04 06 26.6**	**+0.2**
	comp=Z,2.2nm,0.4s,mb4.4						
MJAR	**Matsushiro Arr**	**48.58**	**50**	LR	LR	04 30 11.4	
	comp=Z,72nm,19.7s,MS3.7,baz=240,slow=40						
AKTK	**Aktyubinsk**	**48.83**	**331**	P	**P**	**04 06 47.9**	**-0.6**
AKTO	**Aktyubinsk**	**48.83**	**331**	P	**P**	**04 06 47.9**	**-0.6**
	comp=Z,0.9nm,0.5s,mb4.1,baz=120,slow=16,SNR=4.7						
WRA	**Warramunga Arr**	**51.12**	**126**	P	**P**	**04 07 06.1**	**-0.2**
WRA				*PP	pP	04 07 16.5	-1.0
WRA	**Warramunga Arr**	**51.12**	**126**	P	**P**	**04 07 06.1**	**-0.2**
	comp=Z,2.1nm,0.6s,mb4.2,baz=305,slow=8.5,SNR=12						
WRA				pP	pP	04 07 16.5	-1.0
	comp=Z,1.4nm,0.5s,baz=305,slow=8.9,SNR=6.0						
WRA				LR	LR	04 32 04.0	
	comp=Z,42nm,18.2s,MS3.5,baz=275,slow=40						
WB2	**Warramunga Arr**	**51.13**	**126**	*e*P	**P**	**04 07 06.4**	**0.0**
WB2	**Warramunga Arr**	**51.13**	**126**	*e*P	**P**	**04 07 06.1**	**-0.3**
GNI	**Garni**	**51.43**	**313⇑**	*e*P	**P**	**04 07 09.5**	**+1.1**
GNI				pmax	pmax		
	comp=Z,18nm,1.2s						
GNI	**Garni**	**51.43**	**313**	*e*P	**P**	**04 07 08.8**	**+0.4**
	comp=Z,6.1nm,0.6s,mb4.7						
GNI	**Garni**	**51.43**	**313**	P	**P**	**04 07 09.2**	**+0.8**
	comp=Z,3.6nm,0.3s,mb4.8,baz=74,slow=6.9,SNR=5.3						
ASAR	**Alice Springs**	**52.86**	**131**	P	**P**	**04 07 19.4**	**+0.2**
	comp=Z,2.2nm,0.7s,mb4.2,baz=308,slow=7.0,SNR=24						
ASAR				pP	pP	04 07 29.6	-0.8
	comp=Z,3.7nm,0.9s,baz=305,slow=7.2,SNR=13						
KIV	**Kislovodsk**	**54.27**	**317⇑**	*e*P	**P**	**04 07 30.3**	**+1.0**
KIV				pmax	pmax		
	comp=Z,12nm,1.2s,mb4.7						
YAK	**Yakutsk**	**57.96**	**20⇑**	*e*P	**P**	**04 07 55.0**	**-0.3**
YAK				pmax	pmax		
	comp=Z,26nm,0.8s,mb5.3						
YAK	**Yakutsk**	**57.96**	**20**	*e*P	**P**	**04 07 54.8**	**-0.5**
	comp=Z,25nm,0.5s,mb5.5						
OBN	**Obninsk**	**62.26**	**327⇑**	*e*P	**P**	**04 08 24.6**	**-0.3**
OBN				*e*		04 10 42.0	
OBN				*e*S	S	04 17 13.0	+25
OBN				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
OBN				MLR	MLR		
	comp=Z,100nm,16.0s,MS4.1						
STKA	**Stephens Creek**	**63.11**	**134**	P	**P**	**04 08 31.8**	**+0.8**
STKA				LR	LR	04 36 39.6	
STKA	**Stephens Creek**	**63.11**	**134**	P	**P**	**04 08 31.8**	**+0.8**
	comp=Z,3.3nm,1.0s,mb4.4,baz=157,slow=22,SNR=4.8						
STKA				LR	LR	04 36 39.6	
	comp=Z,113nm,18.7s,MS4.1,baz=61,slow=37						
TIXI	**Tiksi**	**64.91**	**12**	*e*P	**P**	**04 08 41.1**	**-1.0**
TIXI				*e*	pP	04 08 52.9	-0.7
TIXI				pmax	pmax		
	comp=Z,6.0nm,1.2s,mb4.5						
TIXI	**Tiksi**	**64.91**	**12**	*e*P	**P**	**04 08 41.5**	**-0.6**
	comp=Z,1.5nm,0.5s,mb4.3						
TIXI				*e*pP	pP	04 08 53.0	-0.5
MLR	**Muntele Rosu**	**66.15**	**315**	P	**P**	**04 08 51.1**	**+0.5**
	comp=Z,2.1nm,0.8s,mb4.2,baz=59,slow=7.4,SNR=3.7						
SEY	**Seymchan**	**67.15**	**25⇓**	*e*P	**P**	**04 08 54.1**	**-2.5**
FINES	**FINESS Array B**	**69.59**	**332**	P	**P**	**04 09 11.4**	**-0.5**
	comp=Z,1.3nm,0.8s,mb3.9,baz=142,slow=7.9,SNR=3.6						
FINES				LR	LR	04 45 16.5	
	comp=Z,42nm,20.5s,MS3.7,baz=187,slow=41						
ARCES	**ARCESS Array B**	**72.19**	**340**	P	**P**	**04 09 28.2**	**+0.6**
ARCES				*PP	pP	04 09 39.0	-0.2
ARCES	**ARCESS Array B**	**72.19**	**340**	P	**P**	**04 09 28.2**	**+0.6**
	comp=Z,1.2nm,0.8s,mb3.9,baz=103,slow=5.8,SNR=4.1						
ARCES				pP	pP	04 09 39.0	-0.3
	comp=Z,1.8nm,1.0s,baz=76,slow=5.1,SNR=1.8						
ARCES				LR	LR	04 43 26.7	
	comp=Z,96nm,20.6s,MS4.0,baz=258,slow=38						
BILL	**Bilibino**	**74.17**	**22⇑**	*e*P	**P**	**04 09 37.2**	**-2.1**
BILL				pmax	pmax		
	comp=Z,10.0nm,1.7s,mb4.5						
BILL				MLR	MLR		
	comp=Z,100nm,19.0s,MS4.1						
LBTB	**Lobatse**	**74.19**	**240**	*e*P	**P**	**04 09 40.8**	**+0.6**
LBTB				pmax	pmax		
	comp=Z,2.0nm,0.6s,mb4.2						
LBTB	**Lobatse**	**74.19**	**240**	*e*P	**P**	**04 09 40.8**	**+0.6**
	comp=Z,1.7nm,0.6s,mb4.2						
GERES	**GERESS Array B**	**74.77**	**318**	LR	LR	04 47 42.3	
	comp=Z,32nm,20.1s,MS3.6,baz=282,slow=40						
BOSA	**Boshof**	**75.71**	**237**	*e*P	**P**	**04 09 49.3**	**+0.4**
BOSA				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb4.2						
BOSA	**Boshof**	**75.71**	**237**	*e*P	**P**	**04 09 49.3**	**+0.3**
	comp=Z,1.9nm,0.7s,mb4.1						
BOSA	**Boshof**	**75.71**	**237**	P	**P**	**04 09 49.0**	**+0.1**
	comp=Z,0.8nm,0.7s,mb3.8,baz=135,slow=11,SNR=3.3						
NOA	**NORSAR Array B**	**76.61**	**330**	LR	LR	04 47 43.3	
	comp=Z,32nm,19.1s,MS3.6,baz=120,slow=39						
NAO01	**NORSAR Array S**	**76.76**	**330**	*e*P	**P**	**04 09 53.5**	**-0.8**
	comp=Z,6.4nm,1.0s,mb4.5						
TORD	**Torodi Ar. Bea**	**88.45**	**283**	P	**P**	**04 10 55.7**	**-0.3**
TORD	**Torodi Ar. Bea**	**88.45**	**283**	P	**P**	**04 10 55.7**	**-0.3**
	comp=Z,1.4nm,1.1s,mb4.1,baz=93,slow=5.1,SNR=4.3						

IDC 30 04:27:23.9±32.0, 2373S×17826W, h371km±273km, mb3.4/4, mb1 3.6/4, mb1mx3.2/14, mbtmp3.4/4, Error ellipse: s-maj=182.6km s-min=77.8km az=101.0, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**33.07**	**269**	P	P	04 33 27.4	+1.0
	5.1nm,0.4s,baz=90,slow=11,SNR=11						
STKA	**Stephens Creek**	**36.26**	**248**	P	P	04 33 51.8	-1.6
	0.9nm,0.6s,baz=107,slow=13,SNR=4.5						
ASAR	**Alice Springs**	**43.63**	**260**	P	P	04 34 53.8	+0.3
	0.9nm,0.3s,baz=95,slow=7.0,SNR=19						
ASAR				PcP	PcP	04 36 33.8	+0.5
	0.3nm,0.5s,baz=111,slow=3.9,SNR=4.4						
WRA	**Warramunga Arr**	**44.01**	**265**	P	P	04 34 55.2	-1.2
	0.7nm,0.3s,baz=99,slow=6.9,SNR=6.4						
ARCES	**ARCESS Array B**	**132.03**	**349**	PKP	PKPdf	04 45 54.5	+1.5
	1.5nm,0.8s,baz=1.9,slow=3.6,SNR=5.7						
AKASG	**Malin Array Be**	**145.67**	**329**	PKPbc	PKPbc	04 46 18.0	-1.4
	0.8nm,0.4s,baz=42,slow=4.0,SNR=8.6						

*ISCJB **30** 04:38:10.1±3.2, 541S±009×1483E±01, h124km±28km, mb4.0/11, Error ellipse: s-maj=21.9km s-min=15.4km az=178.7*

*IDC **30** 04:38:17.3±3.5, 552S×148.12E, h173km±33km, mb3.8/7, mb1 3.9/8, mb1mx3.7/15, mbtmp3.8/8, Error ellipse: s-maj=24.9km s-min=16.1km az=91.0*

*NEIC **30** 04:38:19.5±4.4, 555S×14808E, h195km±39km, mb4.0/7, Error ellipse: s-maj=23.3km s-min=10.6km az=57.0*

ISC 30 04:38:16.2±2.9, 550S±009×1481E±01, h163km±26km, n20, σ0§55/18, mb4.0/11, 1D, New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAKA	**Kakadu**	**17.07**	**244**	*e*P	**Pn**	**04 42 04.8**	**-0.5**
	7.3nm,0.3s						
WRAB	**Tennant Creek**	**19.64**	**222**	*e*P	**P**	**04 42 32.9**	**+0.4**
	10nm,0.4s						
WB2	**Warramunga Arr**	**19.65**	**222⇓**	*i* P	**P**	**04 42 33.0**	**+0.5**
WRA	**Warramunga Arr**	**19.66**	**222**	P	**P**	**04 42 32.2**	**-0.4**
	1.3nm,0.3s,baz=49,slow=10,SNR=10						
ASAR	**Alice Springs**	**22.68**	**216**	P	**P**	**04 43 04.9**	**+1.0**
	7.2nm,0.6s,mb4.3,baz=53,slow=8.1,SNR=105						
ASAR				S	**S**	**04 46 59.8**	**-0.1**
	1.4nm,0.8s,baz=24,slow=20,SNR=5.0						
STKA	**Stephens Creek**	**26.95**	**192**	P	**P**	**04 43 41.6**	**-0.9**
	2.5nm,0.7s,mb4.0,baz=355,slow=11,SNR=3.5						
FORT	**Forrest**	**31.45**	**214**	*e*P	**P**	**04 44 22.2**	**-0.1**
	1.5nm,0.6s,mb3.9						
URZ	**Urewera**	**41.90**	**145**	P	**P**	**04 45 50.8**	**+0.2**
	2.2nm,0.5s,mb4.1,baz=38,slow=4.0,SNR=3.5						
RPZ	**Rata Peaks**	**43.08**	**156**	P	**P**	**04 46 00.1**	**0.0**
	4.7nm,0.4s,mb4.5,baz=298,slow=4.6,SNR=4.6						
ULN	**Ulaanbaatar**	**64.22**	**331**	*e*P	**P**	**04 48 34.2**	**+0.6**
	1.0nm,0.5s,mb3.9						
VNDA	**Vanda**	**72.35**	**177**	*e*P	**P**	**04 49 23.9**	**+0.2**
	1.8nm,0.8s,mb3.9						
VNDA	**Vanda**	**72.35**	**177**	P	**P**	**04 49 23.7**	**0.0**
	1.3nm,0.6s,mb3.8,baz=320,slow=6.6,SNR=14						
MK31	**Makanchi Array**	**77.84**	**320**	*e*P	**P**	**04 49 56.0**	**+0.3**
MKAR	**Makanchi Array**	**77.84**	**320**	P	**P**	**04 49 56.2**	**+0.6**
	0.7nm,0.5s,mb3.5,baz=102,slow=7.0,SNR=5.7						
ZALV	**Zalesovo Beam**	**79.19**	**327**	P	**P**	**04 50 02.5**	**-0.5**
	1.1nm,0.4s,mb3.8,baz=122,slow=3.5,SNR=5.5						
KURK	**Kurchatov**	**81.49**	**323**	*e*P	**P**	**04 50 14.1**	**-1.2**
	1.1nm,0.8s,mb3.5						
QSPA	**South Pole Qui**	**84.47**	**180**	*e*P	**P**	**04 50 29.9**	**-0.2**
	3.9nm,0.8s,mb4.2						
TOA0	**Torodi Ar. Sit**	**146.06**	**285**	*e*PKPbc	PKPbc	04 57 37.2	-0.9
TORD	**Torodi Ar. Bea**	**146.06**	**285**	PKPbc	PKPbc	04 57 37.2	-0.8
TORD	**Torodi Ar. Bea**	**146.06**	**285**	PKPbc	PKPbc	04 57 37.2	-0.8
	0.9nm,0.5s,baz=76,slow=3.9,SNR=22						

IDC 30 04:55:49.8±7.7, 761S×12896E, h140km±81km, mb3.1/1, mb1 3.4/5, mb1mx3.2/15, mbtmp3.2/5, Error ellipse: s-maj=72.4km s-min=25.0km az=35.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**5.83**	**243**	P	Pn	04 57 15.7	+1.5
	5.5nm,0.3s,baz=95,slow=8.7,SNR=3.5						
BATI				S	Sn	04 58 19.9	-0.2
	5.4nm,0.3s,baz=65,slow=19,SNR=3.1						
FITZ	**Fitzroy Crossi**	**10.92**	**197**	P	Pn	04 58 21.1	-1.1
	0.4nm,0.3s,baz=249,slow=21,SNR=7.2						
FITZ				S	Sn	05 00 20.5	-2.3
	0.4nm,0.3s,baz=242,slow=18,SNR=4.7						
WRA	**Warramunga Arr**	**13.33**	**157**	P	Pn	04 58 52.8	-0.7
	0.5nm,0.3s,baz=342,slow=13,SNR=8.2						
WRA				S	Sn	05 01 14.7	-6.1
	0.6nm,0.3s,baz=335,slow=22,SNR=4.7						
ASAR	**Alice Springs**	**16.66**	**164**	P	Pn	04 59 36.5	+1.5
	0.1nm,0.3s,baz=338,slow=9.6,SNR=7.8						
MKAR	**Makanchi Array**	**68.17**	**327**	P	P	05 06 34.9	+0.1
	0.2nm,0.5s,baz=138,slow=7.1,SNR=3.0						

NNC 30 05:53:25.5±2.6, 4986N×8761E, h0km, mb3.6, mpv3.2, 6C-3D, Error ellipse: s-maj=20.6km s-min=12.9km az=71.0, Kazakhstan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MK31	**Makanchi Array**	**4.69**	**231**	⇑Pn	Pn	05 54 40.5	+3.1
	3.3nm,0.5s,baz=57,slow=12,SNR=115						
MK31				⇓Sn	Sn	05 55 38.7	+6.2
	1.6nm,0.3s,baz=56,slow=30,SNR=5.2						
MK31				⇑Lg		05 55 57.6	
	9.5nm,0.6s,baz=54,slow=31,SNR=5.8						
KURK	**Kurchatov**	**5.82**	**282**	⇑Pn	Pn	05 54 52.8	-0.2
KURK				⇑Sn	Sn	05 56 01.3	+0.9
	3.0nm,0.5s						
KURK				⇑Lg		05 56 30.2	
	17nm,0.5s						
KURBB	**Kurchatov Arra**	**5.87**	**281**	⇑Pn	Pn	05 54 53.6	0.0
	0.4nm,0.3s						
KURBB				⇓Sn	Sn	05 56 02.9	+1.3
	4.1nm,0.8s						
KURBB				⇓Lg		05 56 32.0	
	7.3nm,0.7s						

*CSEM **30** 06:12:35.1±0.0, 3737N×3192E, h2km, MD3.0, Error ellipse: s-maj=0.9km s-min=0.9km az=150.0*

*ISK **30** 06:12:35.4, 3737N×3192E, h2km, MD3.0*

*ISCJB **30** 06:12:36.4±0.7, 3737N±004×3188E±005, h2km, Error ellipse: s-maj=6.6km s-min=4.8km az=153.0*

*DDA **30** 06:12:36.7, 3738N×3203E, h7km±6km, Md3.0*

ISC 30 06:12:36.7±0.9, 3737N±004×3187E±007, h1km±18km, n8, σ0§92/13, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HDMB	**Hadim**	**0.64**	**129**	*e*PG	**Pg**	**06 12 48.1**	**-0.9**
HDMB				*e*SG	**Sg**	**06 12 57.5**	**+0.3**
KONT	**Konya--Tatoy**	**0.69**	**34**	*e*PG	**Pg**	**06 12 49.3**	**-0.7**
KONT				*e*SG	**Sg**	**06 12 59.4**	**+0.3**
BCK	**Bucak**	**1.02**	**275**	*e*PG	**Pg**	**06 12 56.6**	**+0.3**
ERMK	**Ermenek**	**1.11**	**131**	*i* P	**Pg**	**06 12 56.4**	**-1.5**
ERMK				*i* S	**Sg**	**06 13 14.5**	**+2.2**
KDHN	**Kadinhani**	**1.17**	**10**	*i* P	**Pg**	**06 12 58.4**	**-0.6**
KDHN				*i* S	**Sg**	**06 13 15.2**	**+1.0**
TKTP	**Tekketepe**	**1.40**	**299**	*i* P	**Pb**	**06 13 04.3**	**+0.7**
TKTP				*i* S	**Sg**	**06 13 28.9**	**+7.2**
KIZT	**Kizilcal**	**1.51**	**0**	*e*PN	**Pb**	**06 13 04.9**	**-0.6**
ELL	**Elmali**	**1.69**	**249**	*e*PN	**Pn**	**06 13 07.2**	**-0.1**

MAN 30 06:44:12, 1633N×12081E, h33km, mb3.7, ML2.5, MS2.0, 2C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BCPH	**Baguio City Da**	**0.22**	**283⇑**	*i* P	Pb	06 44 19.9	+1.1
BCPH				*i* S	Sb	06 44 25.8	+2.4
PCPH	**Palayan**	**0.81**	**160⇑**	*e*P	Pn	06 44 29.1	+1.9
BALP	**Baler**	**0.94**	**128**	*e*P	Pn	06 44 29.1	+0.2
BALP				*e*S	Sn	06 44 41.7	+0.4
CAUP	**Cauayan**	**1.15**	**58**	*e*P	Pn	06 44 31.6	-0.2
ABRA	**Dolores**	**1.31**	**356**	*e*P

SFJD	**Kangerlussuaq**	**33.34**	**342**	LR	LR	07 11 16.3	
	comp=Z,43nm,21.2s,MS3.1,baz=135,slow=30						
TORD	**Torodi Ar. Bea**	**33.61**	**128**	P	**P**	**07 01 21.4**	**-1.4**
	1.7nm,0.9s,mb4.0,baz=316,slow=8.0,SNR=7.5						
AKASG	**Malin Array Be**	**40.29**	**53**	P	**P**	**07 02 18.6**	**-0.7**
	0.1nm,0.2s,mb3.1,baz=269,slow=8.6,SNR=4.5						
ARCES	**ARCESS Array B**	**42.06**	**24**	P	**P**	**07 02 32.9**	**-0.6**
	1.1nm,0.8s,mb3.5,baz=238,slow=6.8,SNR=3.7						
ARCES				LR	LR	07 18 19.0	
	comp=Z,45nm,19.0s,MS3.4,baz=272,slow=34						
ROSC	**El Rosal**	**55.47**	**247**	LR	LR	07 24 26.6	
	comp=Z,50nm,19.6s,MS3.6,baz=16,slow=32						
BDFB	**Brasilia**	**56.89**	**207**	LR	LR	07 24 53.3	
	comp=Z,44nm,18.9s,MS3.6,baz=220,slow=32						
YKA	**Yellowknife Ar**	**57.77**	**327**	P	**P**	**07 04 34.3**	**+1.5**
	0.7nm,0.8s,mb3.7,baz=68,slow=7.6,SNR=8.7						
YKA				PcP	PcP	07 05 26.2	+0.8
	0.3nm,0.7s,baz=78,slow=4.8,SNR=4.8						
TXAR	**Lajitas Array**	**64.71**	**289**	P	**P**	**07 05 22.9**	**+2.4**
	2.6nm,0.7s,mb4.4,baz=73,slow=7.6,SNR=41						
LPAZ	**La Paz**	**67.03**	**226**	LR	LR	07 30 20.7	
	comp=Z,47nm,20.6s,MS3.7,baz=78,slow=32						
CPUP	**Villa Florida**	**70.17**	**211**	P	**P**	**07 05 54.1**	**-0.7**
	0.8nm,0.7s,mb3.8,baz=156,slow=13,SNR=3.3						
CPUP				LR	LR	07 34 05.9	
	comp=Z,65nm,20.5s,MS3.9,baz=179,slow=34						
NVAR	**Mina Array Bea**	**70.53**	**304**	P	**P**	**07 05 59.0**	**+1.9**
	0.3nm,0.7s,mb3.4,baz=106,slow=4.8,SNR=3.1						
ZALV	**Zalesovo Beam**	**70.94**	**36**	P	**P**	**07 05 59.5**	**+0.3**
	2.2nm,0.8s,mb4.1,baz=310,slow=5.6,SNR=9.2						
ZALV				LR	LR	07 36 27.8	
	comp=Z,32nm,19.0s,MS3.6,baz=285,slow=35						
MKAR	**Makanchi Array**	**73.99**	**43**	P	**P**	**07 06 17.8**	**+0.2**
	1.5nm,0.7s,mb4.0,baz=309,slow=5.7,SNR=13						
MKAR				LR	LR	07 39 36.5	
	comp=Z,70nm,18.5s,MS4.0,baz=355,slow=36						

KRSC 30 07:25:56.6±0.7, 5573N×16245E, h50km±50km, ML3.6, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KBTR	**Krutoberegovo**	**0.52**	**23**	*e*P	Pn	07 26 07.8	-0.3
KBTR				*i* S	Sn	07 26 15.9	-0.4
SMKR	**Semkarok**	**1.02**	**328**	P	Pn	07 26 15.1	+0.6
BDR	**Baidarnaya**	**1.09**	**321**	*e*P	Pn	07 26 16.5	+1.0
KLY	**Klyuchi**	**1.17**	**301**	*e*P	Pn	07 26 15.7	-0.8
KLY				*i* S	Sn	07 26 30.0	-1.3
KRSR	**Krestovskiy**	**1.17**	**296**	*e*P	Pn	07 26 17.1	+0.6
SRKR	**Sorokina**	**1.17**	**323**	*e*P	Pn	07 26 17.5	+0.9
SRKR				*i* S	Sn	07 26 32.6	+1.2
KIRR	**Kirishev**	**1.21**	**282**	P	Pn	07 26 18.4	+1.3
MKZ	**Mys Kozlova**	**1.25**	**200**	*e*P	Pn	07 26 17.9	+0.3
MKZ				*i* S	Sn	07 26 33.6	+0.4
KMNR	**Kamenistaya**	**1.25**	**272**	*e*P	Pn	07 26 19.2	+1.5
KMNR				*i* S	Sn	07 26 36.3	+2.9
KPT	**Kopyto**	**1.28**	**282**	*e*P	Pn	07 26 19.4	+1.4
TUMR	**Tumrok**	**1.39**	**252**	*e*P	Pn	07 26 21.8	+2.3
TUMR				*i* S	Sn	07 26 39.7	+3.1
KOZ	**Kozyrevsk**	**1.49**	**284**	*e*P	Pn	07 26 23.0	+2.1
KOZ				*i* S	Sn	07 26 42.7	+3.6
SRDR	**Sredinnyy**	**1.64**	**292**	*e*P	Pn	07 26 24.9	+1.9
SRDR				*i* S	Sn	07 26 45.9	+3.0
KII	**Karymskiy**	**2.43**	**227**	P	Pn	07 26 35.3	+1.6
SPN	**Mys Shipunski**	**3.00**	**209**	*e*P	Pn	07 26 42.6	+1.1
SPN				*i* S	Sn	07 27 15.8	-0.3
NLC	**Nalytchevo**	**3.14**	**217**	*e*P	Pn	07 26 45.4	+1.9
NLC				*i* S	Sn	07 27 20.5	+0.8
AVH	**Avacha**	**3.28**	**223**	*e*P	Pn	07 26 48.5	+3.0
GNL	**Ganaly**	**3.32**	**234**	*e*P	Pn	07 26 48.7	+2.8
RUS	**Russkaya**	**4.04**	**217**	P	Pn	07 26 57.6	+1.8

IDC 30 07:40:50.6±3.8, 6064S×2689W, h0km, mb4.1/3, mb1 4.2/3, mb1mx3.8/15, mbtmp4.1/3, Error ellipse: s-maj=120.2km s-min=39.6km az=6.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	**Villa Florida**	**40.08**	**315**	P	P	07 48 27.0	-0.4
	0.7nm,0.4s,baz=137,slow=9.5,SNR=6.3						
LPAZ	**La Paz**	**53.24**	**308**	P	P	07 50 11.5	+0.9
	0.7nm,0.5s,baz=149,slow=5.8,SNR=13						
TORD	**Torodi Ar. Bea**	**77.00**	**29**	P	P	07 52 45.0	+0.2
	1.7nm,0.5s,baz=198,slow=6.3,SNR=43						
YKA	**Yellowknife Ar**	**139.60**	**314**	PKP	PKPdf	08 00 18.9	+0.6
	0.1nm,0.5s,baz=136,slow=2.0,SNR=6.0						
ZALV	**Zalesovo Beam**	**144.05**	**69**	PKP	PKPdf	08 00 25.1	-1.4
	1.0nm,0.4s,baz=225,slow=4.8,SNR=4.4						

*DDA **30** 07:58:57.4, 3904N×4146E, h18km±1km, Md3.3*
*ISK **30** 07:58:57.7, 39.10N×4138E, h18km, MD3.2*
*ISCJB **30** 07:58:58.4±0.8, 3911N±003×4137E±004, h14km±6km, Error ellipse: s-maj=5.9km s-min=4.8km az=42.4*
*CSEM **30** 07:58:58.1±0.1, 3909N×4136E, h20km, MD3.3, Error ellipse: s-maj=4.0km s-min=3.2km az=25.0*

ISC 30 07:58:58.6±0.6, 3913N±003×4137E±004, h13km±5km, n22, σ1§06/30, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BNGL	**BINGOL**	**0.24**	**224**	*i* P	**Pg**	**07 59 03.2**	**-0.5**
BNGL				*i* S	**Sg**	**07 59 07.8**	**+0.5**
ERZM	**Erzurum**	**0.77**	**360**	*i* P	**Pg**	**07 59 14.2**	**+0.6**
ERZM				*i* S	**Sg**	**07 59 21.6**	**-2.2**
ERZM	**Erzurum**	**0.77**	**360**	*i* P	**Pg**	**07 59 14.2**	**+0.6**
HOMI	**Horasan**	**1.00**	**24**	*i* P	**Pb**	**07 59 17.4**	**-0.5**
HOMI				*i* S	**Sg**	**07 59 32.3**	**+1.2**
KOPT	**Kop Dagi**	**1.11**	**323**	*i* P	**Pb**	**07 59 21.2**	**+1.5**
KOPT				*i* S	**Sb**	**07 59 39.7**	**+5.6**
AGRB	**Hanur-Agry**	**1.34**	**70**	*e*PN	**Pn**	**07 59 21.7**	**-1.3**
AGRB				*e*SN	**Sn**	**07 59 40.1**	**-0.5**
PTK	**Pertek**	**1.56**	**262**	*e*PN	**Pn**	**07 59 25.8**	**-0.2**
PTK				*e*SN	**Sn**	**07 59 45.1**	**-1.0**
VANB	**Van**	**1.67**	**108**	*e*PN	**Pn**	**07 59 26.2**	**-1.3**
TVAN	**Van**	**1.70**	**110**	*i* P	**Pn**	**07 59 27.8**	**-0.2**
SVRC	**Sivrice-ELAZID**	**1.78**	**246**	*e*PN	**Pn**	**07 59 28.7**	**-0.3**
SIRT	**Sirnak**	**1.83**	**152**	*e*PN	**Pn**	**07 59 28.7**	**-1.1**
DYDN	**Diyadin**	**1.85**	**76**	*i* P	**Pn**	**07 59 30.5**	**+0.5**
DYDN				*i* S	**Sn**	**07 59 54.8**	**+1.6**
MARD	**Mardin**	**1.87**	**194**	*i* P	**Pn**	**07 59 30.0**	**-0.4**
MARD				*i* S	**Sn**	**07 59 55.0**	**+1.2**
ELZG	**Elazig**	**1.96**	**252**	*i* P	**Pn**	**07 59 33.7**	**+2.1**
CLDR	**Caldiran**	**1.98**	**89**	*e*PN	**Pn**	**07 59 31.1**	**-0.7**
PZAR	**Pazar-Rize**	**2.08**	**350**	*e*PN	**Pn**	**07 59 32.2**	**-0.9**
BCA	**Borcka**	**2.32**	**5**	*e*PN	**Pn**	**07 59 37.5**	**+1.0**
HAKT	**HAKKARI**	**2.42**	**130**	*i* P	**Pn**	**07 59 39.8**	**+2.0**
HAKT				*i* S	**Sn**	**08 00 14.6**	**+7.2**
CUKT	**Cukurca**	**2.58**	**136**	*e*PN	**Pn**	**07 59 39.8**	**-0.2**
URFA	**Urfa**	**2.62**	**231**	*e*PN	**Pn**	**07 59 39.3**	**-1.3**
ESPY	**Espiye-Giresun**	**2.70**	**312**	*e*PN	**Pn**	**07 59 42.1**	**+0.4**
MSL	**Mosul**	**3.15**	**154**	*ex*	x	08 00 04.0	
MSL				*ex*	x	08 00 30.0	

*CSEM **30** 08:01:19.9±0.4, 3952N×2606E, h12km, MD2.6, Error ellipse: s-maj=8.1km s-min=4.8km az=54.0*
*ISCJB **30** 08:01:20.5±1.4, 3951N±006×2621E±0.1, h10km±5km, Error ellipse: s-maj=14.4km s-min=7.9km az=151.6*
*ISK **30** 08:01:21.5, 3957N×2615E, h15km, MD2.6*
*DDA **30** 08:01:24.3, 3972N×2625E, h8km±4km, Md2.9*

ISC 30 08:01:21.1±1.5, 3952N±006×261E±01, h12km±5km, n19, σ0§54/27, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOZC	**Bozcaada**	**0.32**	**352**	*i* P	**Pg**	**08 01 27.8**	**+0.1**
BOZC				*i* S	**Sg**	**08 01 32.5**	**+0.5**
EZN	**Ezine**	**0.35**	**28**	*e*PG	**Pg**	**08 01 28.1**	**0.0**
EZN	**Ezine**	**0.35**	**28**	*e*PG	**Pg**	**08 01 28.1**	**0.0**
EZN				*e*SG	**Sg**	**08 01 31.5**	**-1.3**
EZN	**Ezine**	**0.35**	**28**	*e*SG	**Sg**	**08 01 32.8**	**0.0**
EZN	**Ezine**	**0.35**	**28**	*e*Pg	**Pg**	**08 01 28.1**	**+0.1**
EZN				*e*Sg	**Sg**	**08 01 32.8**	**+0.1**
AYVA	**Ayvalik**	**0.50**	**115**	*i* P	**Pg**	**08 01 30.6**	**-0.2**
AYVA				*i* S	**Sg**	**08 01 43.0**	**+5.6**
GADA	**Gvkgeada**	**0.69**	**346**	*e*PG	**Pg**	**08 01 32.8**	**-1.7**
GADA	**Gvkgeada**	**0.69**	**346**	*e*PG	**Pg**	**08 01 35.2**	**+0.7**
GADA				*e*SG	**Sg**	**08 01 43.0**	**-0.5**
GADA	**Gvkgeada**	**0.69**	**346**	*e*Pg	**Pg**	**08 01 35.2**	**+0.7**
GADA				*e*Sg	**Sg**	**08 01 43.9**	**+0.4**
ENEZ	**Enez**	**1.22**	**1**	*e*PN	**Pn**	**08 01 43.0**	**-0.9**
ENEZ	**Enez**	**1.22**	**1**	*e*PN	**Pn**	**08 01 43.0**	**-0.9**
ENEZ	**Enez**	**1.22**	**1**	*e*Pn	**Pn**	**08 01 43.0**	**-0.9**
ENEZ				*e*Sn	**Sn**	**08 02 00.4**	**+0.2**
BALB	**Balikesir**	**1.37**	**84**	*e*PN	**Pn**	**08 01 46.7**	**+0.6**
RKY	**Sarkoy-Tekirda**	**1.42**	**35**	*e*PN	**Pn**	**08 01 46.2**	**-0.5**
RKY	**Sarkoy-Tekirda**	**1.42**	**35**	*e*PN	**Pn**	**08 01 46.3**	**-0.4**
SART	**Tekirdag**	**1.43**	**35**	*i* P	**Pn**	**08 01 47.3**	**+0.5**
SART				*i* S	**Sn**	**08 02 05.5**	**+0.1**
EDRB	**Edirne**	**2.37**	**11**	*e*PN	**Pn**	**08 01 59.3**	**-0.5**
EDRB	**Edirne**	**2.37**	**11**	*e*PN	**Pn**	**08 01 60.0**	**+0.2**
EDRB	**Edirne**	**2.37**	**11**	*e*Pn	**Pn**	**08 02 00.0**	**+0.2**

*ISCJB **30** 08:18:08.9±0.5, 3934N±002×2597E±004, h8km±3km, Error ellipse: s-maj=4.8km s-min=2.9km az=165.7*
*ISK **30** 08:18:08.4, 3933N×2598E, h6km, MD3.2*
*DDA **30** 08:18:08.9, 3934N×2606E, h7km±4km, Md3.0*
*ATH **30** 08:18:09.3, 3950N×2624E, h11km±1km, MD3.3/3*
*CSEM **30** 08:18:09.9±0.1, 3929N×2601E, h20km, ML3.5, Error ellipse: s-maj=2.2km s-min=1.6km az=68.0*
*THE **30** 08:18:10.4, 3932N×2603E, h8km, ML3.5*

ISC 30 08:18:09.5±0.4, 3934N±002×2598E±004, h9km±3km, n37, σ0§79/54, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	**Paraskevi**	**0.25**	**112**	*e*Pg	**Pg**	**08 18 14.5**	**0.0**
PRK				*e*Sg	**Sg**	**08 18 17.9**	**+0.1**
PRK	**Paraskevi**	**0.25**	**112**	*e*PG	**Pg**	**08 18 14.8**	**+0.3**
PRK				*e*SG	**Sg**	**08 18 18.3**	**+0.5**
BOZC	**Bozcaada**	**0.50**	**7**	*i* P	**Pg**	**08 18 19.4**	**+0.1**
BOZC				*i* S	**Sg**	**08 18 26.4**	**+0.6**
EZN	**Ezine**	**0.55**	**29**	*e*PG	**Pg**	**08 18 20.0**	**-0.2**
EZN				*e*SG	**Sg**	**08 18 27.4**	**-0.1**
AYVA	**Ayvalik**	**0.56**	**93**	*i* P	**Pg**	**08 18 19.4**	**-0.8**
GADA	**Gvkgeada**	**0.85**	**356**	*e*PG	**Pg**	**08 18 25.5**	**-0.4**
GADA				*e*SG	**Sg**	**08 18 37.0**	**0.0**
LOS	**Limnos**	**0.91**	**311**	*e*Pg	**Pg**	**08 18 28.3**	**+1.4**
LOS				*e*Sg	**Sg**	**08 18 42.8**	**+4.0**
CHOS	**Chios island**	**0.95**	**176**	*e*Pg	**Pg**	**08 18 28.0**	**+0.2**
CHOS				*e*Sg	**Sg**	**08 18 41.9**	**+1.7**
URLA	**Izmir**	**1.09**	**153**	*i* P	**Pg**	**08 18 29.8**	**-0.7**
URLA				*i* S	**Sg**	**08 18 44.5**	**-0.2**
BLCB	**Balcova**	**1.27**	**139**	*e*PN	**Pn**	**08 18 32.4**	**-1.0**
BLCB				*e*SN	**Sn**	**08 18 50.6**	**+0.1**
KDAG	**Bornova**	**1.38**	**133**	*i* P	**Pn**	**08 18 33.6**	**-1.3**
KDAG				*i* S	**Sb**	**08 18 52.4**	**-0.7**
ENEZ	**Enez**	**1.40**	**6**	*e*PN	**Pn**	**08 18 35.7**	**+0.5**
AKHS	**Akhisar**	**1.50**	**107**	*i* P	**Pn**	**08 18 35.6**	**-1.1**
AKHS				*i* S	**Sn**	**08 18 57.2**	**+0.9**
BALB	**Balikesir**	**1.50**	**78**	*e*PN	**Pn**	**08 18 37.1**	**+0.5**
ALN	**Alexandroupoli**	**1.56**	**2**	*e*Pg	**Pg**	**08 18 37.2**	**-0.1**
ALN				*e*Sg	**Sg**	**08 18 44.1**	**-0.9**
RKY	**Sarkoy-Tekirda**	**1.63**	**34**	*e*PN	**Pn**	**08 18 39.2**	**+0.8**
SART	**Tekirdag**	**1.63**	**34**	*i* P	**Pn**	**08 18 38.4**	**0.0**
SART				*i* S	**Sn**	**08 18 59.4**	**-0.2**
SART	**Tekirdag**	**1.63**	**34**	*i* P	**Pn**	**08 18 38.4**	**0.0**
SART				*i* S	**Sn**	**08 18 59.3**	**-0.3**
AOS	**Alonnisos**	**1.64**	**265**	*e*Pb	**Pb**	**08 18 38.8**	**-1.0**
MFT	**Murefte**	**1.76**	**34**	*e*PN	**Pn**	**08 18 40.9**	**+0.8**
SMG	**Samos**	**1.77**	**157**	*e*PN	**Pg**	**08 18 43.1**	**-0.2**
SMG				*e*SN	**Sg**	**08 19 07.6**	**+1.4**
MRMT	**Marmara Adasi**	**1.77**	**44**	*e*PN	**Pn**	**08 18 40.8**	**+0.5**
OUR	**Ouranopolis**	**1.83**	**304**	*e*Pb	**Pb**	**08 18 41.9**	**-1.2**
RDO	**Rodhopi**	**1.83**	**350**	*e*PN	**Pn**	**08 18 41.3**	**+0.1**
PAIG	**Paliouri**	**1.87**	**289**	*e*Pb	**Pb**	**08 18 42.2**	**-1.5**
PAIG	**Paliouri**	**1.87**	**289**	*e*Pb	**Pb**	**08 18 42.2**	**-1.6**
PLG	**Polygyros**	**2.20**	**299**	*e*Pn	**Pn**	**08 18 46.9**	**+0.6**
KULA	**Kula-Manisa**	**2.25**	**111**	*e*PN	**Pn**	**08 18 46.5**	**-0.4**
APE	**Apeiranthos**	**2.30**	**189**	*e*Pn	**Pn**	**08 18 48.0**	**+0.5**
APE				*e*Sn	**Sn**	**08 19 15.5**	**-0.4**
BODT	**Bodrum**	**2.51**	**155**	*e*PN	**Pn**	**08 18 50.2**	**-0.2**
GDZ	**Gediz**	**2.73**	**94**	*i* P	**Pn**	**08 18 52.8**	**-0.7**
GDZ				*i* S	**Sg**	**08 19 35.6**	**-1.7**
IZI	**Iznik**	**2.87**	**69**	*e*PN	**Pn**	**08 18 55.4**	**-0.1**
YLV	**Yalova**	**2.88**	**64**	*e*PN	**Pn**	**08 18 57.0**	**+1.4**
DAT	**Datca**	**2.90**	**154**	*e*PN	**Pn**	**08 18 55.6**	**-0.2**
ISK	**Istanbul-Kandi**	**2.92**	**53**	*e*PN	**Pn**	**08 18 56.6**	**+0.4**
KLYT	**Kilyos**	**3.02**	**50**	*e*PN	**Pn**	**08 18 58.8**	**+1.3**
ALT	**Altintas**	**3.23**	**94**	*e*PN	**Pn**	**08 19 01.1**	**+0.8**

IDC 30 08:36:48.1±2.1, 129N×12639E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.5/15, mbtmp3.6/3, Error ellipse: s-maj=174.6km s-min=26.4km az=65.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.50**	**160**	P	P	08 41 49.4	0.0
	0.7nm,0.3s,baz=338,slow=10,SNR=26						
ASAR	**Alice Springs**	**25.86**	**164**	P	P	08 42 21.6	0.0
	0.2nm,0.3s,baz=349,slow=14,SNR=5.1						
MKAR	**Makanchi Array**	**59.37**	**326**	P	P	08 46 52.4	+0.2
	0.5nm,0.4s,baz=120,slow=8.6,SNR=4.7						

*NEIC **30** 09:03:05.3, 1564N×9839W, h20km, MD3.9(MEX), After MEX.*

MEX 30 09:03:06.9±0.6, 1570N×9837W, h16km±32km, MD4.0, Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.88**	**308**	*e*P	Pn	09 03 38.5	+0.1
VHO	**Vista Hermosa**	**2.08**	**49**	*e*P	Pn	09 03 38.0	-3.1
VHO				*i* S	Sn	09 04 02.6	-4.1
OXX	**Oaxaca**	**2.09**	**49**	*e*P	Pn	09 03 41.0	-0.3
OXX				*e*S	Sn	09 04 02.0	-5.0
OXX	**Oaxaca**	**2.09**	**49**	*e*P	Pn	09 03 38.5	-2.8
OXX				*e*S	Sn	09 04 02.0	-5.0
UTMO	**Huajuapan**	**2.18**	**14**	*e*P	Pn	09 03 38.9	-3.7
UTMO				*i* S	Sn	09 04 05.2	-4.1
CAIG	**El Cayaco**	**2.26**	**307**	*e*P	Pn	09 03 26.9	-17
CAIG				*i* S	Sn	09 04 12.6	+1.4
CAIG	**El Cayaco**	**2.26**	**307**	*i* P	Pn	09 03 42.1	-1.5
CAIG				*i* S	Sn	09 04 05.4	-5.8
MEIG	**Mezcala**	**2.51**	**332**	*e*P	Pn	09 03 43.4	-3.7
MEIG				*i* S	Sn	09 04 14.0	-3.4
TPIG	**Tehuac#an**	**2.87**	**20**	*i* P	Pn	09 03 47.4	-4.6
TPIG				*i* S	Sn	09 04 23.5	-2.7
PLIG	**Platanillo**	**2.88**	**338**	*i* P	Pn	09 03 53.9	+1.7
PLIG				*i* S	Sn	09 04 20.2	-6.4
PLIG	**Platanillo**	**2.88**	**338**	*i* P	Pn	09 03 53.9	+1.7
PLIG				*i* S	Sn	09 04 22.8	-3.8
YAIG	**Yautepec**	**3.21**	**348**	*i* P	Pn	09 04 00.1	+3.4
YAIG				*e*S	Sn	09 04 29.7	-5.0
YAIG	**Yautepec**	**3.21**	**348**	*i* P	Pn	09 03 54.9	-1.8
YAIG				*e*S	Sn	09 04 29.7	-5.0
YAIG				*i* S	Sn	09 04 31.5	-3.1
PPM	**Popocatepetl**	**3.35**	**356**	*e*P	Pn	09 03 57.0	-1.7
PPM				*e*P		09 03 58.6	
PPM				*i* S	Sn	09 04 33.8	-4.4
SZVM	**Salazar**	**3.73**	**345**	*i* P	Pn	09 04 02.2	-1.6
SZVM				*i* S	Sn	09 04 44.2	-3.2
IIO	**Organos**	**3.88**	**355**	*i* P	Pn	09 04 12.1	+6.2
IIO				*e*S	Sn	09 04 52.5	+1.3
PTVM	**Pico Tres Padr**	**3.93**	**350**	*i* P	Pn	09 04 16.3	+10
PTVM				*e*S	Sn	09 04 49.7	-2.8
PTVM	**Pico Tres Padr**	**3.93**	**350**	*i* P	Pn	09 04 08.1	+1.5
PTVM				*i* S	Sn	09 04 45.4	-7.1

*CSEM **30** 09:17:27.5±0.1, 3729N×3635E, h8km, MD3.4, Error ellipse: s-maj=2.2km s-min=1.6km az=148.0*
*ISK **30** 09:17:27.7, 3725N×3637E, h12km, MD3.3*
*ISCJB **30** 09:17:28.1±0.4, 3728N±002×3634E±003, h7km±4km, Error ellipse: s-maj=4.4km s-min=3.6km az=42.5*
*DDA **30** 09:17:30.1, 3745N×3648E, h7km±4km, Md3.4*
*NSSC **30** 09:17:30.7, 3720N×3636E, h11km±1km*

ISC 30 09:17:28.6±0.4, 3728N±002×3635E±003, h8km±4km, n33, σ0§81/54, 8D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ANDN	**Andirin**	**0.30**	**359**	*i* P	**Pg**	**09 17 33.1**	**-1.4**
ANDN				*i* S	**Sg**	**09 17 37.4**	**-1.3**
ANDN	**Andirin**	**0.30**	**359**	*i* P	**Pg**	**09 17 33.2**	**-1.4**
ANDN				*i* S	**Sg**	**09 17 37.3**	**-1.3**
KOZT	**Kozan**	**0.46**	**296**	PG	**Pg**	**09 17 38.3**	**+0.8**
KOZT				*e*SG	**Sg**	**09 17 45.2**	**+1.6**
KMRS	**Kahramanmaras**	**0.49**	**62**	PG	**Pg**	**09 17 37.7**	**-0.5**
KMRS				*e*SG	**Sg**	**09 17 44.9**	**+0.2**
CEYT	**Ceyhan**	**0.55**	**241**	PG	**Pg**	**09 17 38.3**	**-0.9**
CEYT				*e*SG	**Sg**	**09 17 47.0**	**+0.7**
GAZ	**Gaziantep**	**0.70**	**98**	PG	**Pg**	**09 17 41.9**	**-0.1**
DRWC	**Darouich**	**0.70**	**159**	⇑P	**Pg**	**09 17 42.5**	**+0.4**
DRWC				⇑S	**Sg**	**09 17 51.9**	**+0.7**
DRWC	**Darouich**	**0.70**	**159**	⇑*i*P	**Pg**	**09 17 42.5**	**+0.4**
DRWC				⇑*i*S	**Sg**	**09 17 51.9**	**+0.6**
GZT	**Gaziantep**	**0.97**	**85**	*i* P	**Pg**	**09 17 47.0**	**-0.2**
GZT				*i* S	**Sg**	**09 18 01.6**	**+1.7**
KARA	**Karaisali**	**1.03**	**269**	*e*PG	**Pg**	**09 17 47.8**	**-0.6**
KRTS	**Karatas**	**1.05**	**228**	*e*PG	**Pg**	**09 17 48.5**	**-0.2**
BTCH	**Batrach**	**1.24**	**176**	⇓P	**Pn**	**09 17 52.5**	**+0.4**
BTCH				⇓S	**Sb**	**09 18 08.4**	**+0.1**
BTCH	**Batrach**	**1.24**	**176**	⇓*i*P	**Pn**	**09 17 52.5**	**+0.4**
BTCH				⇓*i*S	**Sb**	**09 18 08.4**	**+0.1**
ARNB	**Al Arnab**	**1.45**	**192**	⇑P	**Pn**	**09 17 55.4**	**+0.4**
ARNB				⇑S	**Sn**	**09 18 13.2**	**-0.8**
MERS	**Mersin**	**1.52**	**255**	*e*PN	**Pn**	**09 17 55.6**	**-0.3**
ATAB	**Bozova**	**1.56**	**82**	*i* S	**Pn**	**09 17 55.8**	**-0.7**
ATAB				*i* S	**Sn**	**09 18 18.4**	**+1.5**
ATAB	**Bozova**	**1.56**	**82**	*i* S	**Sn**	**09 18 18.4**	**+1.4**
BNN	**Bunyan**	**1.62**	**346**	*e*PN	**Pn**	**09 17 57.2**	**-0.2**
SLMH	**Al Salmeh**	**1.65**	**129**	⇑P	**Pn**	**09 17 58.8**	**+0.9**
SLMH				⇑S	**Sn**	**09 18 19.1**	**-0.2**
SLMH	**Al Salmeh**	**1.65**	**129**	⇑*i*P	**Pn**	**09 17 58.8**	**+1.0**
SLMH				⇑*i*S	**Sn**	**09 18 19.0**	**-0.2**
SLNF	**Slenfeh**	**1.68**	**183**	⇓P	**Pn**	**09 17 58.5**	**+0.3**
SLNF				⇓S	**Sn**	**09 18 19.7**	**-0.2**
SLNF	**Slenfeh**	**1.68**	**183**	⇓*i*P	**Pn**	**09 17 58.5**	**+0.3**
SLNF				⇓*i*S	**Sn**	**09 18 19.7**	**-0.2**
URFA	**Urfa**	**1.98**	**84**	*e*PN	**Pn**	**09 18 01.9**	**-0.3**
BIDA	**Albida**	**2.26**	**181**	⇑P	**Pn**	**09 18 06.6**	**+0.5**
BIDA				⇑S	**Sn**	**09 18 32.0**	**-2.1**
BIDA	**Albida**	**2.26**	**181**	⇑*i*P	**Pn**	**09 18 06.6**	**+0.5**
BIDA				⇑*i*S	**Sn**	**09 18 32.0**	**-2.1**
ELZG	**Elazig**	**2.42**	**59**	*i* P	**Pn**	**09 18 08.9**	**+0.6**
ELZG				*i* S	**Sb**	**09 18 42.5**	**+0.4**
ELZG	**Elazig**	**2.42**	**59**	*i* P	**Pn**	**09 18 08.9**	**+0.6**
ELZG				*i* S	**Sb**	**09 18 42.5**	**+0.4**
SVRC	**Sivrice-ELAZID**	**2.59**	**64**	*e*PN	**Pn**	**09 18 10.6**	**0.0**
SVSK	**Karacayir**	**2.69**	**11**	*e*PN	**Pn**	**09 18 12.5**	**+0.5**
PTK	**Pertek**	**2.89**	**55**	*e*PN	**Pn**	**09 18 15.4**	**+0.5**
HDMB	**Hadim**	**3.10**	**265**	*e*PN	**Pn**	**09 18 17.9**	**+0.1**
CORM	**Corum**	**3.19**	**336**	*e*PN	**Pn**	**09 18 19.4**	**+0.3**
MARD	**Mardin**	**3.53**	**88**	*i* P	**Pn**	**09 18 22.8**	**-0.9**
MARD				*i* S	**Sg**	**09 19 20.3**	**-1.7**

*DDA **30** 09:19:44.6, 4035N×3955E, h7km±5km, Md2.9*
*CSEM **30** 09:19:44.6, 4035N×3955E, h7km, MD2.9, After ERD*
*ISCJB **30** 09:19:45.8±1.1, 4041N±005×3963E±005, h14km±8km, Error ellipse: s-maj=9.0km s-min=6.3km az=15.0*
*ISK **30** 09:19:46.0, 4150N×3947E, h5km, MD2.6*

ISC 30 09:19:45.9±0.8, 4040N±005×3964E±005, h15km±6km, n8, σ0§72/13, Turkey

| Code | Station

NB2	NORSAR Subarra	9.54	256	Pn		Pn	10 00 47.2	+1.9
NB2	NORSAR Subarra	9.54	256	Pn		Pn	10 00 47.2	+1.8

*IDC **30** 10:17:58.1±0.6,3383S×17860W,h0km,mb4.5/11, mb1 4.7/12,mb1mx4.5/17,mbtmp4.5/12,ML5.0/1,MS3.7/3, Ms1 3.7/3,ms1mx3.2/22,Error ellipse: s-maj=21.6km s-min=18.3km az=12.0*
*ISCJB **30** 10:18:01.9±0.7,3420S±006×1788W±0.1,h33km,mb4.6/16, MS3.7/3,Error ellipse: s-maj=14.2km s-min=7.5km az=19.4*
*NEIC **30** 10:18:07.2±2.2,3387S×17880W,h64km±17km,mb4.9/8, Error ellipse: s-maj=16.8km s-min=12.5km az=195.0*

ISC 30 10:18:03.9±0.7,3418S±006×1788W±0.1,h35km,n66, σ1$09/45,mb4.6/16,MS3.7/3,1C,South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.13**	**214**	PN	**Pn**	**10 19 05.0**	**+0.5**
MXZ				SN	**Sn**	**10 19 58.7**	**+7.2**
PUZ	**Puketiti**	**4.57**	**211**	PN	**Pn**	**10 19 11.1**	**+0.6**
PUZ				SN	**Sn**	**10 20 08.3**	**+5.9**
MWZ	**Matawai**	**5.11**	**215**	PN	**Pn**	**10 19 18.6**	**+0.6**
MWZ				SN	**Sn**	**10 20 22.5**	**+6.7**
URZ	**Urewera**	**5.26**	**218**	Pn	**Pn**	**10 19 21.2**	**+1.2**
42nm,0.3s,baz=34,slow=3.3,SNR=210							
URZ				Sn	**Sn**	**10 20 25.6**	**+6.2**
27nm,0.3s,baz=139,slow=22,SNR=7.5							
URZ	**Urewera**	**5.26**	**218**	PN	**Pn**	**10 19 20.7**	**+0.6**
URZ				SN	**Sn**	**10 20 24.6**	**+5.2**
KNZ	**Kokohu**	**5.62**	**210**	PN	**Pn**	**10 19 26.4**	**+1.5**
BKZ	**Black Stump Fm**	**6.27**	**216**	*e*PN	**Pn**	**10 19 33.9**	**+0.1**
OUZ	**Omahuta**	**6.37**	**258**	P	**Pn**	**10 19 39.3**	**+4.0**
OUZ	**Omahuta**	**6.37**	**258**	*e*PN	**Pn**	**10 19 39.1**	**+3.9**
PXZ	**Pawanui**	**6.80**	**210**	*e*PN	**Pn**	**10 19 40.3**	**-1.0**
PXZ				SN	**Sn**	**10 20 58.3**	**+0.8**
THZ	**Tophouse**	**10.02**	**218**	PN	**Pn**	**10 20 23.4**	**-2.0**
THZ				SN	**Sn**	**10 22 14.6**	**-1.8**
KHZ	**Kahutara**	**10.20**	**214**	SN	**Sn**	**10 22 18.5**	**-2.4**
LTZ	**Lake Taylor**	**11.09**	**217**	SN	**Sn**	**10 22 37.4**	**-5.2**
RPZ	**Rata Peaks**	**12.38**	**217**	Pn	**Pn**	**10 20 56.6**	**-0.9**
4.0nm,0.3s,baz=27,slow=2.3,SNR=16							
RPZ				Sn	**Sn**	**10 23 07.7**	**-6.4**
1.4nm,0.3s,baz=210,slow=20,SNR=7.1							
JCZ	**Jackson Bay**	**13.82**	**221**	PN	**Pn**	**10 21 15.9**	**-1.3**
CNB	**Canberra Magne**	**26.15**	**258**	*e*P	**P**	**10 23 39.2**	**+4.4**
45nm,1.4s,mb4.8							
PPT	**Papeete**	**30.89**	**65**	*e*LR	LR	10 31 44.9	
58nm,21.2s							
STKA	**Stephens Creek**	**33.16**	**263**	*e*P	**P**	**10 24 39.1**	**+2.0**
3.3nm,0.6s,mb4.4							
STKA	**Stephens Creek**	**33.16**	**263**	P	**P**	**10 24 39.3**	**+2.2**
4.9nm,0.8s,mb4.5,baz=88,slow=12,SNR=11							
STKA				LR	LR	10 38 02.4	
comp=Z,140nm,19.0s,MS3.7,baz=25,slow=36							
CTA	**Charters Tower**	**33.96**	**285**	*e*P	**P**	**10 24 45.3**	**+1.2**
7.8nm,0.6s,mb4.8							
CTA	**Charters Tower**	**33.96**	**285**	P	**P**	**10 24 44.7**	**+0.6**
9.8nm,0.6s,mb4.9,baz=107,slow=11,SNR=14							
CTA				LR	LR	10 35 01.7	
comp=Z,84nm,19.3s,MS3.5,baz=228,slow=30							
RKT	**Rikitea**	**39.72**	**86**	*e*LR	LR	10 35 49.2	
161nm,33.0s							
ASAR	**Alice Springs**	**42.40**	**271**	P	**P**	**10 25 55.4**	**+0.3**
13nm,0.7s,mb4.7,baz=112,slow=7.5,SNR=152							
WB2	**Warramunga Arr**	**43.72**	**277**	*e*P	**P**	**10 26 05.6**	**-0.2**
WRAB	**Tennant Creek**	**43.72**	**277**	*e*P	**P**	**10 26 05.7**	**-0.2**
14nm,0.8s,mb4.7							
WRA	**Warramunga Arr**	**43.73**	**277**	P	**P**	**10 26 05.5**	**-0.4**
14nm,0.6s,mb4.9,baz=117,slow=7.7,SNR=228							
FORT	**Forrest**	**44.56**	**259**	*e*P	**P**	**10 26 12.8**	**+0.3**
24nm,0.5s,mb5.3							
KAKA	**Kakadu**	**49.06**	**284**	*e*P	**P**	**10 26 46.8**	**-1.0**
5.4nm,0.4s,mb4.9							
FITZ	**Fitzroy Crossi**	**51.80**	**273**	*e*P	**P**	**10 27 08.3**	**-0.3**
8.2nm,0.6s,mb4.8							
FITZ	**Fitzroy Crossi**	**51.80**	**273**	P	**P**	**10 27 08.7**	**+0.1**
4.6nm,0.6s,mb4.6,baz=155,slow=8.5,SNR=21							
FITZ				LR	LR	10 50 03.8	
comp=Z,99nm,18.1s,MS3.9,baz=346,slow=37							
KLBR	**Kellerberrin**	**52.59**	**254**	*e*P	**P**	**10 27 13.7**	**-0.6**
28nm,1.1s,mb5.1							
MUN	**Mundaring**	**53.68**	**253⇑**	*i*P	**P**	**10 27 22.0**	**-0.3**
QSPA	**South Pole Qui**	**55.95**	**180**	P	**P**	**10 27 41.6**	**+3.6**
17nm,1.1s,mb5.0,baz=30,slow=3.7,SNR=21							
MAW	**Mawson**	**68.56**	**201**	P	**P**	**10 29 04.2**	**+1.6**
1.8nm,0.7s,mb4.1,baz=144,slow=8.7,SNR=4.1							
PLCA	**Paso Flores**	**80.42**	**133**	P	**P**	**10 30 12.5**	**+0.6**
PLCA	**Paso Flores**	**80.42**	**133**	P	**P**	**10 30 12.5**	**+0.6**
2.7nm,0.7s,mb4.3,baz=251,slow=3.3,SNR=8.3							
KSRS	**Korea Array**	**86.81**	**320**	P	**P**	**10 30 44.6**	**+0.1**
0.9nm,0.8s,mb4.0,baz=142,slow=4.7,SNR=3.9							
NVAR	**Mina Array Bea**	**91.44**	**43**	P	**P**	**10 31 05.7**	**-0.6**
0.8nm,1.0s,mb4.0,baz=211,slow=9.3,SNR=5.3							
TXAR	**Lajitas Array**	**94.96**	**58**	P	**P**	**10 31 21.1**	**-1.7**
0.4nm,0.9s,mb3.9,baz=232,slow=6.2,SNR=4.4							
MKAR	**Makanchi Array**	**119.65**	**309**	PKP	PKPdf	10 36 48.8	-0.9
0.6nm,0.5s,baz=102,slow=0.9,SNR=7.7							
ZALV	**Zalesovo Beam**	**120.38**	**317**	PKP	PKPdf	10 36 49.6	-1.2
1.0nm,0.5s,baz=253,slow=1.5,SNR=6.1							
KURK	**Kurchatov**	**123.14**	**312**	*e*PKPdf	PKPdf	10 36 55.4	-0.9
AKTK	**Aktyubinsk**	**136.07**	**310**	PKP	PKPdf	10 37 20.6	-0.1
AKTO	**Aktyubinsk**	**136.07**	**310**	PKP	PKPdf	10 37 20.6	-0.1
1.6nm,0.5s,baz=94,slow=5.9,SNR=5.7							
ARCES	**ARCESS Array B**	**142.11**	**346**	PKhKP		10 37 27.1	
4.3nm,1.1s,baz=40,slow=4.0,SNR=8.3							
ARCES				PKP	PKPdf	10 37 32.4	+1.1
4.0nm,1.0s,baz=26,slow=5.9,SNR=5.6							
JOF	**Joensuu**	**145.64**	**336**	*e*pkp	PKPdf	10 37 36.4	-1.2
6.6nm,0.6s							
KAF	**Kangasniemi**	**147.84**	**338**	*e*pkp	PKPdf	10 37 42.7	+1.4
8.8nm,0.7s,baz=43,slow=2.6							
FIA1	**FINESS Array S**	**148.41**	**337**	*e*PKPbc	PKPbc	10 37 45.0	-0.9
FINES	**FINESS Array B**	**148.41**	**337**	PKPbc	PKPbc	10 37 45.0	-0.9
8.8nm,0.5s,baz=49,slow=4.4,SNR=59							
MALT	**Malatya**	**149.85**	**289**	*e*PKPbc	PKPbc	10 37 50.7	+0.5
ASF	**Jabal al Asfar**	**150.16**	**276**	PKPbc	PKPbc	10 37 51.4	+0.3
4.6nm,0.9s,baz=337,slow=3.0,SNR=4.9							
EIL	**Elat**	**151.10**	**270**	PKPbc	PKPbc	10 37 53.6	+0.1
7.6nm,0.8s,baz=40,slow=3.7,SNR=7.4							
MMAI	**Mount Meron Ar**	**151.58**	**277**	PKPbc	PKPbc	10 37 53.3	-1.2
3.8nm,0.5s,baz=88,slow=4.3,SNR=6.1							
LIC	**Lamto**	**151.59**	**167**	*e*PKP1	PKPbc	10 37 55.6	+0.5
26nm,0.6s							
KIC	**Kosan Boka**	**151.78**	**167**	*e*PKP1	PKPbc	10 37 56.1	+0.6
31nm,0.7s							
TIC	**Toumodi**	**152.00**	**167**	*e*PKP1	PKPbc	10 37 56.6	+0.6
46nm,0.2s							
DBIC	**Dimbokro**	**152.06**	**167**	PKPbc	PKPbc	10 37 56.9	+0.8
5.2nm,0.7s,baz=145,slow=1.9,SNR=9.3							
NB2	**NORSAR Subarra**	**152.35**	**350**	PKP	PKPbc	10 37 54.3	-1.0
comp=Z,2.6nm,0.6s,baz=16,slow=2.6							
NOA	**NORSAR Array B**	**152.35**	**350**	PKPbc	PKPbc	10 37 54.7	-0.6
NOA	**NORSAR Array B**	**152.35**	**350**	PKPbc	PKPbc	10 37 54.7	-0.6
comp=Z,1.9nm,0.6s,baz=15,slow=4.4,SNR=12							
HFS	**Hagfors**	**152.78**	**346**	PKPbc	PKPbc	10 37 54.1	-2.2
comp=Z,4.3nm,0.6s,baz=81,slow=11,SNR=12							
AKASG	**Malin Array Be**	**153.77**	**318**	PKPbc	PKPbc	10 37 58.5	-0.2
comp=Z,3.2nm,0.6s,baz=65,slow=2.2,SNR=14							
AKBB	**Malin Array Si**	**153.77**	**318**	*e*PKPdf	PKPdf	10 37 50.1	-0.8
AKBB				*e*PKPbc	PKPbc	10 37 58.5	-0.3
AKBB				*e*PKPab	PKPab	10 38 10.8	-1.0
TORD	**Torodi Ar. Bea**	**159.06**	**181**	PKPab	PKPab	10 38 35.1	-0.2
comp=Z,1.1nm,0.7s,baz=171,slow=3.0,SNR=6.3							
CLL	**Collm**	**160.86**	**337**	*e*PKPab	PKPab	10 38 40.0	-2.2
comp=Z,5.0nm,0.9s							
GERES	**GERESS Array B**	**162.65**	**331**	PKPab	PKPab	10 38 48.1	-2.1
comp=Z,0.2nm,0.3s,baz=31,slow=3.4,SNR=4.9							

*NEIC **30** 10:19:58.0,1526N×9784W,h20km,MD3.7(MEX),After MEX.*

MEX 30 10:19:57.6±0.9,1532N×9779W,h3km±41km,MD3.7,Near coast of Oaxaca

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HUIG	**Huatulco**	**1.68**	**74**	*i*P	Pn	10 20 23.9	-4.0
HUIG				*i*S	Sn	10 20 45.6	-4.5
HUIG	**Huatulco**	**1.68**	**74**	*i*P	Pn	10 20 23.9	-4.0
HUIG				*i*S	Sn	10 20 45.8	-4.3
VHO	**Vista Hermosa**	**2.02**	**30**	*i*P	Pn	10 20 30.0	-2.6
VHO				*i*S	Sn	10 20 53.5	-4.8
VHO	**Vista Hermosa**	**2.02**	**30**	*i*P	Pn	10 20 30.0	-2.6
VHO				*i*S	Sn	10 20 53.9	-4.4
OXX	**Oaxaca**	**2.03**	**30**	*e*P	Pn	10 20 29.0	-3.8
OXX				*e*S	Sn	10 20 53.5	-5.2
UTMO	**Huajuapan**	**2.50**	**360**	*e*P	Pn	10 20 36.0	-3.2
UTMO				*i*S	Sn	10 21 06.6	-3.6
PPM	**Popocatepetl**	**3.81**	**348**	*i*P	Pn	10 20 48.9	-8.4
PPM				*i*S	Sn	10 21 41.1	-1.5
PPM	**Popocatepetl**	**3.81**	**348**	*i*P	Pn	10 20 51.7	-5.6
PPM				*i*S	Sn	10 21 39.8	-2.8

IDC 30 10:23:42.3±1.9,609S×15134E,h0km,mb3.8/4,mb1 4.1/4, mb1mx3.7/14,mbtmp3.8/4,MS2.8/1,Ms1 2.8/1, ms1mx2.5/25,Error ellipse: s-maj=99.7km s-min=29.1km az=131.0,New Britain region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**9.16**	**112**	LR	LR	10 29 05.8	
comp=Z,50nm,18.1s,baz=358,slow=35							
WRA	**Warramunga Arr**	**21.51**	**229**	P	P	10 28 33.4	+0.5
1.3nm,0.6s,baz=55,slow=10,SNR=5.0							
ASAR	**Alice Springs**	**24.22**	**222**	P	P	10 29 00.8	-0.1
3.8nm,0.8s,baz=53,slow=9.0,SNR=15							
FITZ	**Fitzroy Crossi**	**27.77**	**242**	P	P	10 29 33.4	+0.3
1.1nm,0.5s,baz=26,slow=13,SNR=3.6							
YKA	**Yellowknife Ar**	**97.24**	**28**	P	P	10 37 17.2	+0.4
0.1nm,0.5s,baz=273,slow=5.0,SNR=3.4							
TORD	**Torodi Ar. Bea**	**149.28**	**285**	PKPbc	PKPbc	10 43 32.8	-1.3
0.6nm,0.6s,baz=77,slow=2.7,SNR=7.9							

MAN 30 10:34:45,1262N×12336E,h4km,mb4.2,ML3.0,MS2.7, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMPH	**Masbate**	**0.37**	**136⇑**	*i*P	Pg	10 34 53.7	+1.7
MMPH				*e*S	Sg	10 34 59.3	+2.5
RCP	**Roxas**	**1.22**	**210**	*e*P	Pg	10 35 13.0	+4.7
PVCP	**Virac**	**1.24**	**38**	*e*P	Pg	10 35 09.3	+0.5
CNP	**Catarman**	**1.27**	**95**	*e*P	Pg	10 35 09.7	+0.3
CNP				*e*S	Sg	10 35 28.0	+2.0
OTRP	**Odiongan**	**1.34**	**259**	*e*P	Pn	10 35 10.4	-0.1
GUIM	**Jordan**	**2.12**	**201**	*e*P	Pn	10 35 22.8	+1.5

IDC 30 10:35:22.1±3.5,2156S×17065E,h0km,mb3.6/3, mb1 4.0/3,mb1mx3.7/12,mbtmp3.6/3,Error ellipse: s-maj=211.2km s-min=32.6km az=159.0,Southeast of Loyalty Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ASAR	**Alice Springs**	**33.92**	**259**	P	P	10 42 07.4	+0.3
0.8nm,0.8s,baz=97,slow=9.3,SNR=5.2							
WRA	**Warramunga Arr**	**33.94**	**266**	P	P	10 42 06.8	-0.5
0.2nm,0.4s,baz=96,slow=8.1,SNR=12							
NVAR	**Mina Array Bea**	**89.36**	**48**	P	P	10 48 20.5	-0.1
0.3nm,0.6s,baz=225,slow=8.9,SNR=4.9							
GERES	**GERESS Array B**	**147.15**	**332**	PKPbc	PKPbc	10 55 07.0	0.0
1.7nm,0.8s,baz=64,slow=2.3,SNR=9.9							

*TEH **30** 10:49:43.0,3028N×5077E,h18km,ML4.0*
*IDC **30** 10:50:18.2±1.1,3019N×5092E,h0km,mb4.1/16, mb1 4.2/17,mb1mx4.0/26,mbtmp4.1/17,ML4.1/1,MS3.2/9, Ms1 3.2/9,ms1mx2.9/34,Error ellipse: s-maj=26.2km s-min=15.5km az=167.0*
*CSEM **30** 10:50:19.3±0.1,3014N×5076E,h15km,mb4.5/14,Ms3.5, Error ellipse: s-maj=2.8km s-min=2.4km az=62.0*
*THR **30** 10:50:20.1±1.2,3017N×5078E,h15km,ML4.0*
*NEIC **30** 10:50:23.3,3028N×5075E,h16km,mb4.4/12, MN4.0(TEH),After TEH.*
*ISCJB **30** 10:50:24.0±0.3,3021N±003×5091E±003,h68km±4km, mb4.2/39,Error ellipse: s-maj=4.8km s-min=3.9km az=165.9*
*MOS **30** 10:50:24.5±1.2,3019N×5070E,h69km,mb4.5/22,Error ellipse: s-maj=10.0km s-min=6.2km az=119.1*
*OMAN **30** 10:51:19.3,2466N×5818E*

ISC 30 10:50:25.4±0.3,3022N±003×5087E±003,h61km±4km, n165,σ1$25/175,mb4.3/39,12C-8D,Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.54**	**112**	*e*Pn	**Pn**	**10 50 52.0**	**+1.5**
SHI				*e*		10 51 15.0	
comp=Z,14μm,0.3s							
IMOK	**Mouk**	**1.98**	**126**	Pn	**Pn**	**10 50 57.9**	**+1.3**
IMOK				Sg	**Sn**	**10 51 28.3**	**+7.9**
IMOK	**Mouk**	**1.98**	**126**	*e*Pn	**Pn**	**10 50 58.0**	**+1.4**
IMOK				*e*Sg	**Sn**	**10 51 28.4**	**+8.0**
ISRV	**Sarvestan**	**2.12**	**113**	Pn	**Pn**	**10 50 59.5**	**+1.1**
ISRV				Sg	**Sn**	**10 51 34.4**	**+11**
ISRV	**Sarvestan**	**2.12**	**113⇓**	*e*Pn	**Pn**	**10 50 59.6**	**+1.2**
ISRV				*e*Sg	**Sn**	**10 51 34.5**	**+11**
ISRV				*e*		10 51 47.8	
comp=Z,8μm,0.4s							
IGAR	**Gharneh**	**2.40**	**24**	*e*Pn	**Pn**	**10 51 02.6**	**+0.4**
IGAR				*e*Sg	**Sn**	**10 51 37.7**	**+7.2**
IGAR				*e*		10 51 40.0	
comp=Z,16μm,0.2s							
IPIR	**Pirpir**	**2.46**	**0**	*e*Pn	**Pn**	**10 51 02.8**	**-0.3**
IPIR				*e*		10 51 39.7	
comp=Z,22μm,0.2s							
GHIR	**Ghir-Karzin**	**2.67**	**136**	*e*Pn	**Pn**	**10 51 05.4**	**-0.6**
GHIR				AML	AML	10 52 07.4	
comp=E,373nm,0.6s							
UMR	**Umm Al-Rimmam**	**2.82**	**257**	*e*P	**Pn**	**10 51 08.9**	**+0.9**
UMR				*e*S	**Sn**	**10 51 43.8**	**+3.0**
UMR				AML	AML	10 51 45.3	
comp=Z,531nm,0.4s							
IZEF	**Zefreh**	**2.94**	**25**	Pn	**Pn**	**10 51 09.3**	**-0.4**
IZEF	**Zefreh**	**2.94**	**25**	*e*Pn	**Pn**	**10 51 09.4**	**-0.3**
IZEF				*e*		10 51 51.3	
comp=Z,2μm,0.2s							
ISAD	**Sadrabad**	**2.95**	**54**	Pn	**Pn**	**10 51 10.0**	**+0.3**
ISAD	**Sadrabad**	**2.95**	**54**	*e*Pn	**Pn**	**10 51 10.1**	**+0.4**
ISAD				*e*		10 51 48.2	
comp=Z,5μm,0.2s							
NASN	**Na'in**	**3.06**	**32**	*e*Pn	**Pn**	**10 51 10.9**	**-0.3**
MIB	**Mutribah**	**3.09**	**263**	*e*P	**Pn**	**10 51 12.5**	**+0.8**
MIB				*e*S	**Sn**	**10 51 49.7**	**+2.2**
MIB				AML	AML	10 51 50.0	
comp=Z,303nm,0.6s							
IKLH	**Kolahrood**	**3.15**	**11**	*e*Pn	**Pn**	**10 51 11.2**	**-1.3**
IKLH				*e*		10 52 19.9	
comp=Z,5μm,0.2s							
RDF	**Al-Radifah**	**3.17**	**247**	*e*P	**Pn**	**10 51 14.8**	**+2.1**
RDF				*e*S	**Sn**	**10 51 52.7**	**+3.4**
RDF				AML	AML	10 51 56.4	
comp=Z,376nm,0.3s							
QAM	**Ghamsar**	**3.24**	**4**	*e*Pn	**Pn**	**10 51 19.0**	**+5.3**
KFJS		**3.26**	**232**	P	**Pn**	**10 51 13.9**	**-0.2**
NAY	**Al-Naaiem**	**3.30**	**254**	*e*P	**Pn**	**10 51 15.7**	**+1.1**
NAY				*e*S	**Sn**	**10 51 55.4**	**+2.8**
NAY				AML	AML	10 51 57.6	
comp=Z,214nm,0.5s							
IMEH	**Mehriz**	**3.42**	**69**	*e*Pn	**Pn**	**10 51 16.2**	**-0.1**
IMEH				*e*		10 52 22.0	
comp=Z,3μm,0.5s							
IQAM		**3.55**	**8**	*e*Pn	**Pn**	**10 51 19.0**	**+1.0**
ICHK	**Chekchek**	**3.64**	**55**	*e*	**Sn**	**10 52 06.6**	**+5.7**
comp=Z,2μm,0.2s							
ICHK	**Chekchek**	**3.64**	**55**	Pn	**Pn**	**10 51 19.1**	**-0.1**
IBAF	**Bafgh**	**4.26**	**70**	Pn	**Pn**	**10 51 27.1**	**-0.6**
GHVR	**GHOM**	**4.26**	**5**	*e*Pn	**Pn**	**10 51 28.1**	**+0.4**
GHVR				AML	AML	10 52 47.6	
comp=E,162nm,0.7s							
GHVR				AML	AML	10 52 50.2	
comp=N,152nm,0.7s							
ASAO	**Ashtian**	**4.38**	**351**	*e*Pn	**Pn**	**10 51 29.2**	**-0.1**
ASAO				AML	AML	10 52 23.9	
comp=E,195nm,0.6s							
IRAZ	**Razeghan**	**5.23**	**352**	*e*Pn	**Pn**	**10 51 39.8**	**-1.2**
IRAZ				*e*		10 52 47.1	
comp=Z,1μm,0.3s							
IDMV	**Damavand**	**5.43**	**10**	Pn	**Pn**	**10 51 42.9**	**-0.8**
IDMV	**Damavand**	**5.43**	**10⇑**	*e*Pn	**Pn**	**10 51 42.8**	**-0.9**
IDMV				*e*		10 53 27.1	
comp=Z,1μm,0.6s							
BNDS	**Bandar-Abbas**	**5.43**	**120**	*e*Pn	**Pn**	**10 51 43.0**	**-0.8**
CHTH	**Charan**	**5.68**	**2**	*e*Pn	**Pn**	**10 51 47.2**	**+0.1**
THKV	**Tehran--Karaj**	**5.68**	**0**	*e*Pn	**Pn**	**10 51 47.8**	**+0.7**
SNGE	**Sanandaj**	**5.70**	**329**	*e*Pn	**Pn**	**10 51 45.7**	**-1.7**
BTHS		**6.15**	**180**	P	**Pn**	**10 51 53.0**	**-0.6**
BHD	**Baghdad**	**6.31**	**300**	*ex*	x	10 51 51.0	
BHD				*ex*	x	10 52 28.0	
BHD				*ex*	x	10 53 02.0	
BHD				*ex*	x	10 53 44.0	
BANOM	**Banah**	**6.43**	**130**	P	**Pn**	**10 51 55.9**	**-1.5**
SNR=30							
BANOM	**Banah**	**6.43**	**130**	P	**Pn**	**10 51 55.9**	**-1.5**
SNR=30							
BANOM	**Banah**	**6.43**	**130**	P	**Pn**	**10 51 55.7**	**-1.7**
SNR=30							
NAZ	**Nazwa, Dubai**	**6.72**	**140**	P	**Pn**	**10 51 59.6**	**-1.9**
ASUD	**Al Ashush, Dub**	**6.83**	**144**	P	**Pn**	**10 52 02.3**	**-0.7**
SNR=14							
HATD	**Hatta, Dubai**	**7.12**	**138**	P	**Pn**	**10 52 06.1**	**-0.8**
ASHO	**Ashiyiah**	**7.18**	**139**	P	**Pn**	**10 52 06.6**	**-1.2**
SNR=11							
HRDDS		**7.37**	**190**	P	**Pn**	**10 52 09.5**	**-0.8**
MSL	**Mosul**	**8.89**	**315**	*ex*	x	10 52 27.0	
MSL				*ex*	x	10 54 06.0	
GNI	**Garni**	**11.10**	**335**	LR	LR	10 57 28.2	
comp=Z,41nm,21.9s,baz=258,slow=39							
ASF	**Jabal al Asfar**	**12.12**	**283**	P	**Pn**	**10 53 14.1**	**-1.1**
ASF						10 55 18.8	
ASF				pmax	pmax		
comp=Z,1.0nm,0.3s							
ASF				smax			
comp=N,1.0nm,0.3s							
ASF				MLR	MLR		
comp=Z,86nm,20.0s							
ASF	**Jabal al Asfar**	**12.12**	**283**	Pn	**Pn**	**10 53 14.1**	**-1.1**
comp=Z,1.2nm,0.3s,baz=264,slow=3.6,SNR=6.2							
ASF				Sn	**Sn**	**10 55 18.8**	**-10**
comp=Z,0.8nm,0.3s,baz=186,slow=10,SNR=3.4							
ASF				Lg		10 57 00.6	
comp=Z,0.3nm,0.3s,baz=160,slow=24,SNR=1.8							
ASF				LR	LR	10 58 55.6	
comp=Z,86nm,20.0s,baz=352,slow=42							
ABTO	**Aybut**	**13.00**	**170**	P	**Pn**	**10 53 25.2**	**-2.0**
SNR=6.1							
MALT	**Malatya**	**13.07**	**311**	*e*P	**Pn**	**10 53 29.2**	**+1.1**
MALT				pmax	pmax		
comp=Z,6.0nm,1.0s							
MALT	**Malatya**	**13.07**	**311**	*e*P	**Pn**	**10 53 29.2**	**+1.1**
comp=Z,5.5nm,1.0s							
MMAI	**Mount Meron Ar**	**13.47**	**286**	Lg		10 57 50.3	
comp=Z,1.9nm,0.3s,baz=121,slow=47,SNR=2.5							
EIL	**Elat**	**13.82**	**272**	Pn	**Pn**	**10 53 42.8**	**+4.6**
EIL				Sn	**Sn**	**10 56 08.8**	**-1.2**
EIL				Lg		10 58 00.1	
EIL				LR	LR	10 59 45.0	
EIL	**Elat**	**13.82**	**272**	Pn	**Pn**	**10 53 42.8**	**+4.6**
comp=Z,0.5nm,0.3s,baz=17,slow=9.8,SNR=4.0							
EIL				Sn	**Sn**	**10 56 08.8**	**-1.2**
comp=Z,0.6nm,0.3s,baz=97,slow=16,SNR=2.7							
EIL				Lg		10 58 00.1	
baz=27,slow=20,SNR=2.1							
EIL				LR	LR	10 59 45.0	
comp=Z,67nm,19.6s,baz=296,slow=41							
KIV	**Kislovodsk**	**15.17**	**337**	*e*P	**Pn**	**10 54 00.2**	**+4.3**
KIV				pmax	pmax		
comp=Z,18nm,1.0s							
KIV				MLR	MLR		
comp=Z,55nm,11.0s							
SOC	**Sochi**	**16.03**	**329**	*i*P	**Pn**	**10 54 12.0**	**+5.2**
ATD	**Arta Tunnel**	**20.04**	**204**	LR	LR	11 03 13.9	
comp=Z,59nm,18.9s,baz=32,slow=39							
AKTK	**Aktyubinsk**	**20.90**	**13**	P	**P**	**10 55 02.1**	**-0.3**
AKTK				LR	LR	11 04 31.2	
AKTK	**Aktyubinsk**	**20.90**	**13**	P	**P**	**10 55 02.2**	**-0.3**
AKTO	**Aktyubinsk**	**20.90**	**13**	P	**P**	**10 55 02.2**	**-0.3**
AKTO				pmax	pmax		
comp=Z,2.0nm,0.4s							
AKTO				MLR	MLR		
comp=Z,53nm,19.2s							
AKTO	**Aktyubinsk**	**20.90**	**13**	P	**P**	**10 55 02.1**	**-0.3**
comp=Z,2.2nm,0.4s,baz=208,slow=11,SNR=7.5							
AKTO				LR	LR	11 04 31.2	
comp=Z,53nm,19.2s,baz=43,slow=41							
AML	**Almayashu**	**21.85**	**51**	*e*P	**P**	**10 55 14.5**	**+1.7**
comp=Z,11nm,0.7s,mb4.4							
AML	**Almayashu**	**21.85**	**51**	*e*P	**P**	**10 55 14.5**	**+1.7**
comp=Z,11nm,0.7s,mb4.4							
**VRHR

comp=Z,20nm,1.1s,mb4.6
DRGR 27.35 315 ⇓iP P 10 56 12.9 +8.3
LVV L'vov 28.14 322 eP P 10 56 04.4 -7.2
KURK Kurchatov 29.13 37 eP P 10 56 24.2 +3.9
KURK pmax pmax
comp=Z,7.0nm,0.6s,mb4.6
KURK Kurchatov 29.13 37 eP P 10 56 24.2 +3.9
comp=Z,6.6nm,0.6s,mb4.5
KURK Kurchatov 29.13 37 eP P 10 56 24.2 +3.9
comp=Z,6.6nm,0.6s,mb4.5
MKAR Makanchi Array 29.38 47 P P 10 56 23.7 +1.1
MKAR pmax pmax
comp=Z,1.0nm,0.5s
MKAR MLR MLR
comp=Z,55nm,18.4s
MKAR Makanchi Array 29.38 47 P P 10 56 23.6 +1.0
comp=Z,0.8nm,0.5s,mb3.7,baz=234,slow=7.4,SNR=6.9
MKAR LR LR 11 09 44.3
comp=Z,55nm,18.4s,baz=90,slow=40
MKAR Makanchi Array 29.38 47 P P 10 56 23.6 +1.0
KBA Koelnbreinsper 33.41 311⇑iP P 10 56 59.2 +1.2
comp=Z,12nm,1.0s,mb4.8
KBA Koelnbreinsper 33.41 311⇑iP P 10 56 59.2 +1.1
KBA pmax pmax
comp=Z,12nm,1.0s,mb4.8
GERES GERESS Array B 33.74 314 P P 10 57 01.2 +0.3
comp=Z,0.3nm,0.3s,mb3.8,baz=145,slow=4.9,SNR=3.7
NVS Novosibirsk 33.76 34 eP P 10 57 01.2 +0.3
KHC Kasperske Hory 33.91 314 eP P 10 57 01.5 -0.9
ZAL Zalesovo 34.05 36 P P 10 57 03.6 +0.1
ZAA0 Zalesovo Array 34.07 36 eP P 10 57 04.7 +1.0
ZAA0 Zalesovo Array 34.07 36 eP P 10 57 04.7 +1.0
ZALV Zalesovo Beam 34.07 36 P P 10 57 03.6 -0.1
comp=Z,1.5nm,0.5s,mb4.2,baz=253,slow=9.6,SNR=9.6
WTTA Wattenberg 34.58 311⇓iP P 10 57 09.6 +1.3
comp=Z,14nm,1.1s,mb4.8
WTTA Wattenberg 34.58 311⇓iP P 10 57 09.6 +1.4
WTTA pmax pmax
comp=Z,14nm,1.1s,mb4.8
FETA Feichten 35.12 310⇑iP P 10 57 13.4 +0.6
comp=Z,12nm,1.2s,mb4.7
FINES FINESS Array B 35.24 340 P P 10 57 13.2 -0.5
FINES pmax pmax
comp=Z,1.0nm,0.4s
FINES FINESS Array B 35.24 340 P P 10 57 13.2 -0.5
comp=Z,0.7nm,0.4s,mb4.0,baz=137,slow=9.7,SNR=5.6
DAVA Damuels 35.75 310⇑iP P 10 57 18.7 +0.5
comp=Z,12nm,0.8s,mb4.9
MBDF Montbardon 37.41 305 eP P 10 57 30.9 -1.5
LPG La Plagne 37.53 307 eP P 10 57 32.1 -1.3
LPL La Plagne 37.55 307 eP P 10 57 32.3 -1.3
ORIF Oris-en-Rattie 38.06 305 eP P 10 57 36.2 -1.7
ORIF eMLR MLR
comp=Z,43nm,22.5s
CABF La Chapelle 38.16 308 eP P 10 57 36.3 -2.4
comp=Z,20nm,1.0s,mb4.5
CABF La Chapelle 38.16 308 eP P 10 57 36.3 -2.4
CABF pmax pmax
comp=Z,10.0nm,1.0s,mb4.5
CABF La Chapelle 38.16 308 eP P 10 57 36.3 -2.4
comp=Z,9.9nm,1.0s,mb4.5
HAU Haudompre 38.23 310 eP P 10 57 37.8 -1.5
HAU eMLR MLR
comp=Z,36nm,21.5s
HAU Haudompre 38.23 310 eP P 10 57 37.8 -1.5
HAU LR LR
comp=Z,40nm,21.5s
VIVF Saint-Julien-l 38.91 305 eP P 10 57 43.3 -1.7
KRAR Krasnoyarsk 39.14 37 eP P 10 57 49.8 +3.0
KRAR pmax pmax
comp=Z,5.0nm,0.7s,mb4.3
KRAR Krasnoyarsk 39.14 37 eP P 10 57 49.8 +3.0
comp=Z,5.0nm,0.7s,mb4.3
SMF Signal de Mont 39.70 308 eP P 10 57 49.8 -1.7
comp=Z,4.8nm,0.6s,mb4.1
SMF Signal de Mont 39.70 308 eP P 10 57 49.8 -1.7
SMF pmax pmax
comp=Z,2.0nm,0.6s,mb4.0
SMF Signal de Mont 39.70 308 eP P 10 57 49.8 -1.7
comp=Z,2.4nm,0.6s,mb4.1
SSF Saint Saulge 39.98 308 eP P 10 57 52.3 -1.6
comp=Z,8.5nm,0.8s,mb4.2
SSF Saint Saulge 39.98 308 eP P 10 57 52.3 -1.6
SSF pmax pmax
comp=Z,4.0nm,0.8s,mb4.2
SSF Saint Saulge 39.98 308 eP P 10 57 52.3 -1.6
comp=Z,4.2nm,0.8s,mb4.2
BGF Bois d'Agland 40.37 308 eP P 10 57 55.1 -2.0
comp=Z,4.9nm,0.4s,mb4.3
BGF Bois d'Agland 40.37 308 eP P 10 57 55.1 -2.0
comp=Z,2.5nm,0.4s,mb4.3
NB2 NORSAR Subarra 40.38 331 P P 10 57 56.4 -0.6
comp=Z,0.9nm,0.7s,mb3.6,baz=121,slow=8.6
NOA NORSAR Array B 40.38 331 P P 10 57 56.8 -0.2
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA NORSAR Array B 40.38 331 P P 10 57 56.8 -0.1
comp=Z,1.8nm,0.8s,mb3.9,baz=122,slow=8.3,SNR=5.0
TCF Toulx Ste Croi 40.78 307 eP P 10 57 58.6 -1.9
comp=Z,10nm,1.0s,mb4.1
TCF Toulx Ste Croi 40.78 307 eP P 10 57 58.6 -1.9
TCF pmax pmax
comp=Z,5.0nm,1.0s,mb4.1
TCF Toulx Ste Croi 40.78 307 eP P 10 57 58.6 -1.9
comp=Z,5.1nm,1.0s,mb4.1
ARCES ARCESS Array B 41.94 347 P P 10 58 09.9 +0.2
ARCES pmax pmax
comp=Z,3.0nm,0.8s
ARCES MLR MLR
comp=Z,29nm,18.3s
ARCES ARCESS Array B 41.94 347 P P 10 58 09.9 +0.2
comp=Z,2.5nm,0.8s,mb3.9,baz=144,slow=9.9,SNR=6.2
ARCES LR LR 11 18 28.4
comp=Z,28nm,18.3s,baz=109,slow=40
FLN La Foliniere 42.85 311 eP P 10 58 15.5 -1.9
FLN eMLR MLR
comp=Z,50nm,18.0s
FLN La Foliniere 42.85 311 eP P 10 58 15.5 -1.9
FLN LR LR
comp=Z,50nm,18.0s
SJPF Ste Jean 43.08 302 eP P 10 58 17.4 -1.9
comp=Z,15nm,0.9s,mb4.4
SJPF Ste Jean 43.08 302 eP P 10 58 17.4 -1.9
SJPF pmax pmax
comp=Z,7.0nm,0.9s,mb4.4
SJPF Ste Jean 43.08 302 eP P 10 58 17.4 -1.9
comp=Z,7.4nm,0.9s,mb4.4
SONM Songino Array 45.56 51 P P 10 58 41.0 +1.9
SONM pmax pmax
comp=Z,1.0nm,0.6s
SONM Songino Array 45.56 51 P P 10 58 41.0 +2.0
comp=Z,0.6nm,0.6s,mb3.7,baz=284,slow=7.5,SNR=3.6
TORD Torodi Ar. Bea 48.36 261 P P 10 59 02.4 +1.0
comp=Z,3.9nm,0.9s,mb4.5,baz=56,slow=7.6,SNR=22
TORD LR LR 11 20 58.9
comp=Z,50nm,21.4s,baz=25,slow=38
HIA Hailar 54.36 49 eP P 10 59 47.5 +1.8
DBIC Dimbokro 57.18 258 P P 11 00 07.4 +1.0
DBIC pmax pmax
comp=Z,5.0nm,0.8s
DBIC Dimbokro 57.18 258 P P 11 00 07.3 +0.9
comp=Z,4.5nm,0.8s,mb4.5,baz=108,slow=6.8,SNR=4.2
DBIC Dimbokro 57.18 258 P P 11 00 07.3 +0.9
LIC Lamto 57.56 257 eP P 11 00 10.3 +1.2
comp=Z,6.4nm,0.6s,mb4.6
LIC Lamto 57.56 257 eP P 11 00 10.3 +1.2
comp=Z,3.2nm,0.6s,mb4.6
TIXI Tiksi 57.86 21 eP P 11 00 09.0 -1.3
TIXI pmax pmax
comp=Z,2.0nm,1.3s,mb4.0
YAK Yakutsk 58.61 33⇑eP P 11 00 15.9 +0.2
YAK pmax pmax
comp=Z,6.0nm,0.9s,mb4.6
YAK Yakutsk 58.61 33 eP P 11 00 15.9 +0.2
comp=Z,6.0nm,0.9s,mb4.6
KSRS Korea Array 62.77 61 P P 11 00 45.1 +0.7
comp=Z,1.4nm,0.6s,mb4.3,baz=279,slow=6.8,SNR=6.6
KSRS LR LR 11 30 58.8
comp=Z,24nm,20.0s,baz=150,slow=39
SEY Seymchan 68.51 29⇑eP P 11 01 21.1 +0.1
BILL Bilibino 71.08 21⇑eP P 11 01 37.6 +1.0
BILL e 11 04 19.0
BILL pmax pmax
comp=Z,4.0nm,1.2s,mb4.2
BILL MLR MLR
comp=Z,100nm,16.0s
BILL Bilibino 71.08 21 eP P 11 01 37.6 +1.0
comp=Z,4.0nm,1.2s,mb4.2
YKA Yellowknife Ar 86.88 353 P P 11 03 04.2 +1.1
YKA pmax pmax
comp=Z,2.0nm,0.9s
YKA Yellowknife Ar 86.88 353 P P 11 03 04.2 +1.1
YKA Yellowknife Ar 86.88 353 P P 11 03 04.2 +1.1
comp=Z,1.6nm,0.9s,mb4.2,baz=8.9,slow=5.1,SNR=16
WRA Warramunga Arr 94.42 110 P P 11 03 38.9 -0.1
comp=Z,0.3nm,0.7s,mb3.8,baz=310,slow=3.6,SNR=3.6

NEIC ***30*** *11:17:24.6±3.0, 3505N×7104E, h10km, Error ellipse: s-maj=49.9km s-min=23.3km az=155.0*
IDC ***30*** *11:17:24.6±5.1, 3529N×7117E, h0km, mb3.7/4, mb1 3.9/5, mb1mx3.5/23, mbtmp3.8/5, ML3.6/1, Error ellipse: s-maj=97.4km s-min=55.1km az=174.0*
MOS ***30*** *11:17:29.0±0.7, 3546N×7117E, h33km, mb4.3/2, Error ellipse: s-maj=54.8km s-min=21.6km az=91.0*
ISC 30 11:17:34.9±2.0, 359N±02×711E±02, h35km, n14, σ1§49/16, mb3.6/3, 1C-2D, Pakistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
UCH	**Uchtor**	**6.84**	**21**	*e*Pn	**Pn**	**11 19 18.4**	**+5.7**
UCH				*e*Sn	**Sn**	**11 20 26.7**	**-2.6**
KK31	**Karatay Array**	**7.21**	**356**	⇓P	**Pn**	**11 19 20.6**	**+2.8**
	10nm,0.4s,baz=190,slow=17,SNR=206						
KK31				⇑S	**Sn**	**11 20 32.9**	**-5.6**
	3.1nm,0.5s,baz=181,slow=24,SNR=5.3						
TKM2	**Tokmak 2**	**7.81**	**25**	*e*P	**Pn**	**11 19 28.8**	**+2.7**
AB31	**Akbulak array**	**15.67**	**332**	P	**Pn**	**11 21 12.2**	**-0.7**
	0.4nm,0.3s,baz=170,slow=11,SNR=28						
AB31				⇓S	S	11 23 53.7	-26
	0.4nm,0.5s						
AKTK	**Aktyubinsk**	**17.36**	**331**	P	**Pn**	**11 21 35.5**	**+1.2**
AKTO	**Aktyubinsk**	**17.36**	**331**	P	**Pn**	**11 21 35.5**	**+1.2**
	0.2nm,0.3s,baz=145,slow=8.2,SNR=11						
ZAL	**Zalesovo**	**20.40**	**24**	P	**P**	**11 22 09.2**	**+0.6**
ZALV	**Zalesovo Beam**	**20.40**	**24**	P	**P**	**11 22 09.2**	**+0.4**
	1.5nm,0.5s,baz=221,slow=12,SNR=7.4						
ARCES	**ARCESS Array B**	**41.75**	**338**	P	**P**	**11 25 18.8**	**-1.4**
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.9s						
ARCES	**ARCESS Array B**	**41.75**	**338**	P	**P**	**11 25 18.8**	**-1.4**
ARCES	**ARCESS Array B**	**41.75**	**338**	P	**P**	**11 25 18.8**	**-1.4**
	comp=Z,2.4nm,0.9s,mb3.8,baz=93,slow=10.0,SNR=3.7						
HFS	**Hagfors**	**43.61**	**322**	P	**P**	**11 25 34.3**	**-1.2**
HFS				pmax	pmax		
	comp=Z,1.0nm,0.6s						
HFS	**Hagfors**	**43.61**	**322**	P	**P**	**11 25 34.3**	**-1.2**
	comp=Z,1.4nm,0.6s,mb3.9,baz=86,slow=11,SNR=5.1						
YKA	**Yellowknife Ar**	**81.84**	**3**	P	**P**	**11 29 48.7**	**-1.3**
	comp=Z,0.1nm,0.4s,mb3.1,baz=349,slow=5.3,SNR=4.5						

NEIC ***30*** *11:17:43.6±0.5, 100S×12771E, h10km, mb3.7/1, Error ellipse: s-maj=17.7km s-min=7.8km az=66.0*
ISCJB ***30*** *11:17:46.0±4.0, 12S±01×1276E±02, h41km±39km, mb4.0/7, Error ellipse: s-maj=37.0km s-min=12.9km az=144.3*
BJI ***30*** *11:17:45.4, 031S×12850E, h11km*
IDC ***30*** *11:17:50.9±6.0, 122S×12748E, h72km±59km, mb3.7/7, mb1 3.8/9, mb1mx3.7/18, mbtmp3.7/9, ML4.0/2, Error ellipse: s-maj=55.4km s-min=20.9km az=61.0*
ISC 30 11:17:49.5±2.7, 13S±01×1276E±02, h61km±29km, n16, σ0§70/16, mb4.0/7, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.69**	**244**	P	**Pn**	**11 19 52.4**	**-0.1**
	1.8nm,0.3s,baz=276,slow=12,SNR=5.9						
KAKA	**Kakadu**	**12.34**	**157**	*e*P	**Pn**	**11 20 42.4**	**-0.1**
	13nm,0.6s						
WRAB	**Tennant Creek**	**19.69**	**161**	*e*P	**Pn**	**11 22 15.5**	**-0.3**
	1.9nm,0.5s						
WRA	**Warramunga Arr**	**19.70**	**161**	P	**Pn**	**11 22 15.7**	**-0.2**
	0.5nm,0.3s,baz=344,slow=12,SNR=26						
WB2	**Warramunga Arr**	**19.70**	**161**	*e*P	**Pn**	**11 22 15.7**	**-0.2**
ASAR	**Alice Springs**	**23.09**	**165**	P	**P**	**11 22 51.4**	**+1.2**
	2.2nm,0.6s,mb3.7,baz=344,slow=10,SNR=38						
KSRS	**Korea Array**	**38.52**	**0**	P	**P**	**11 25 05.8**	**-0.3**
	0.8nm,0.7s,mb3.5,baz=176,slow=10,SNR=4.3						
XAN	**Xi'an**	**39.27**	**335**	P	**P**	**11 25 12.0**	**-0.3**
LZH	**Lanzhou**	**43.26**	**332**	*e*P	**P**	**11 25 46.5**	**+1.5**
GTA	**Gaotai**	**47.83**	**331**	*e*P	**P**	**11 26 22.3**	**+1.2**
GTA				AP	pP	11 26 25.8	-11
GTA				XP	sP	11 26 28.8	-15
SONM	**Songino Array**	**52.28**	**342**	P	**P**	**11 26 54.9**	**+0.3**
	1.5nm,0.8s,mb4.0,baz=151,slow=7.4,SNR=9.0						
MKAR	**Makanchi Array**	**62.16**	**326**	P	**P**	**11 28 04.2**	**-0.2**
	1.5nm,0.5s,mb4.4,baz=127,slow=7.8,SNR=15						
ZALV	**Zalesovo Beam**	**65.42**	**334**	P	**P**	**11 28 24.1**	**-1.5**
	1.0nm,0.5s,mb4.1,baz=96,slow=4.5,SNR=6.3						
BVAR	**Borovoye Array**	**71.97**	**328**	P	**P**	**11 29 06.6**	**+0.1**
	2.1nm,0.8s,mb4.1,baz=103,slow=6.7,SNR=9.4						
AKTK	**Aktyubinsk**	**78.11**	**322**	P	**P**	**11 29 41.5**	**-0.4**
AKTO	**Aktyubinsk**	**78.11**	**322**	P	**P**	**11 29 41.5**	**-0.4**
	1.3nm,0.6s,mb4.0,baz=85,slow=12,SNR=4.5						

ISCJB ***30*** *11:25:51.6±0.6, 6404N±004×10.1E±0.1, h0km, Error ellipse: s-maj=8.8km s-min=3.8km az=28.0*
IDC ***30*** *11:25:53.2±1.6, 6408N×992E, h0km, mb1 3.0/4, mb1mx2.9/23, mbtmp3.0/4, ML2.7/4, Error ellipse: s-maj=17.8km s-min=7.0km az=101.0*
HEL ***30*** *11:25:54.0±0.2, 6408N×986E, h0km, MD2.4(BER), ML2.0(BER), Explosion*
BER ***30*** *11:25:55.6±2.5, 6398N×1025E, h0km, MD2.4, ML2.0, Suspected explosion*
NAO ***30*** *11:25:55.3±1.7, 6403N×1036E, ML2.1*
ISC 30 11:25:53.2±0.6, 6404N±004×100E±01, h0km, n18, σ1§28/35, Northern Norway

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
NSS	**Namsos**	**0.98**	**59**	*e*P	**Pg**	**11 26 10.4**	**-1.4**
NSS				*e*S	**Sg**	**11 26 25.3**	**+0.8**
NSS				AML	AML	11 26 26.9	
	comp=Z,43nm,0.2s						
MOL	**Molde**	**1.85**	**219**	*e*P	**Pn**	**11 26 26.1**	**0.0**
MOL				*e*S	**Sn**	**11 26 49.7**	**-0.4**
MOL				AML	AML	11 26 51.1	
	comp=Z,28nm,0.4s						
DOMB	**Dombas**	**2.05**	**193**	*e*P	**Pn**	**11 26 29.7**	**+0.9**
DOMB				*e*SG	**Sg**	**11 26 56.9**	**-2.0**
DOMB				AML	AML	11 26 57.6	
	comp=Z,25nm,0.3s						
STOK	**Stokkvaagen**	**2.63**	**27**	*e*P	**Pn**	**11 26 37.6**	**+0.8**
STOK				*e*S	**Sn**	**11 27 08.1**	**-1.1**
MOR8	**Moi Rana**	**2.84**	**39**	*e*P	**Pn**	**11 26 43.6**	**+3.9**
MOR8				AML	AML	11 27 27.9	
	comp=Z,16nm,0.8s						
NB2	**NORSAR Subarra**	**3.06**	**169**	Pn	**Pn**	**11 26 43.5**	**+0.9**
	baz=349,slow=14						
NB2				Pg	**Pg**	**11 26 49.7**	**-1.9**
NB2				Lg		11 27 29.1	
	baz=351,slow=37						
NOA	**NORSAR Array B**	**3.06**	**169**	Pn	**Pn**	**11 26 42.0**	**-0.6**
	comp=Z,0.6nm,0.3s,baz=356,slow=14,SNR=3.3						
NOA				Pg	**Pg**	**11 26 49.1**	**-2.6**
	comp=Z,1.1nm,0.3s,baz=346,slow=18,SNR=5.3						
NOA				Sn	**Sn**	**11 27 20.4**	**+0.6**
	comp=Z,1.3nm,0.3s,baz=238,slow=20,SNR=5.6						
NOA				Lg		11 27 28.9	
	comp=Z,2.6nm,0.3s,baz=324,slow=16,SNR=6.0						
HYA	**Hoyanger**	**3.38**	**213**	*e*P	**Pn**	**11 26 48.3**	**+1.2**
HYA				*e*SB	**Sb**	**11 27 31.4**	**-4.1**
HYA				AML	AML	11 27 42.0	
	comp=Z,12nm,0.5s						
HFS	**Hagfors**	**4.28**	**155**	Pn	**Pn**	**11 27 01.1**	**+1.7**
	baz=339,slow=12						
HFS				Pg	**Pg**	**11 27 10.0**	**-5.0**
	baz=345,slow=16						
HFS				Sn	**Sn**	**11 27 49.6**	**-0.2**
	baz=331,slow=22						
HFS				Lg		11 28 03.0	
	baz=336,slow=28						
HFS	**Hagfors**	**4.28**	**155**	Pn	**Pn**	**11 27 01.2**	**+1.8**
	comp=Z,0.3nm,0.3s,baz=340,slow=6.7,SNR=26						
HFS				Pg	**Pg**	**11 27 09.7**	**-5.3**
	comp=Z,0.4nm,0.3s,baz=336,slow=14,SNR=9.3						
HFS				Sn	**Sn**	**11 27 51.4**	**+1.6**
	comp=Z,0.4nm,0.3s,baz=336,slow=21,SNR=4.0						
HFS				Lg		11 28 09.1	
	comp=Z,1.4nm,0.3s,baz=347,slow=25,SNR=8.7						
RAF	**Rauma**	**6.21**	**114**	*e*P	**Pn**	**11 27 28.6**	**+2.7**
RAF				*e*SG	**Sg**	**11 29 07.3**	**-5.1**
KIF	**Kilpisjarvi**	**6.58**	**36**	*e*P	**Pn**	**11 27 31.6**	**+0.6**
KEF	**Keuruu**	**6.98**	**99**	*e*P	**Pn**	**11 27 36.6**	**+0.1**
HEF	**Hetta**	**7.03**	**45**	*e*P	**Pn**	**11 27 38.4**	**+1.2**
FIA0	**FINESS Array S**	**7.81**	**102**	Pn	**Pn**	**11 27 47.5**	**-0.3**
	baz=294,slow=11						
FIA0				Sn	**Sn**	**11 29 12.7**	**-4.0**
	baz=305,slow=37						
FIA0				Lg		11 29 55.8	
FINES	**FINESS Array B**	**7.81**	**102**	Pn	**Pn**	**11 27 48.7**	**+0.9**
	comp=Z,0.1nm,0.3s,baz=296,slow=11,SNR=6.0						
FINES				Sn	**Sn**	**11 29 13.8**	**-3.0**
	comp=Z,0.2nm,0.3s,baz=294,slow=21,SNR=5.4						
FINES				Lg		11 29 59.8	
	comp=Z,0.5nm,0.3s,baz=298,slow=25,SNR=7.1						
ARA0	**ARCESS Array S**	**8.21**	**41**	Pn	**Pn**	**11 27 52.1**	**-1.3**
	baz=231,slow=14						
ARA0				Sn	**Sn**	**11 29 21.2**	**-5.5**
	baz=231,slow=22						
ARCES	**ARCESS Array B**	**8.21**	**41**	Pn	**Pn**	**11 27 51.9**	**-1.5**
	comp=Z,0.4nm,0.3s,baz=230,slow=13,SNR=12						
ARCES				Sn	**Sn**	**11 29 20.8**	**-5.9**
	comp=Z,0.2nm,0.3s,baz=234,slow=21,SNR=3.7						
ARCES				Lg		11 30 09.0	
	comp=Z,0.2nm,0.3s,baz=226,slow=24,SNR=2.9						

CSEM ***30*** *11:26:44.8±0.1, 3012N×5097E, h25km, ML3.3, Error ellipse: s-maj=5.9km s-min=1.7km az=97.0*
ISCJB ***30*** *11:26:45.9±0.8, 3016N±005×508E±0.1, h33km, Error ellipse: s-maj=16.7km s-min=6.8km az=2.3*
THR ***30*** *11:26:45.2±0.5, 3021N×5096E, h18km±10km, ML3.3*
ISC 30 11:26:48.2±0.8, 3016N±005×509E±01, h35km, n7, σ0§42/10, Northern and central Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GHIR	**Ghir-Karzin**	**2.63**	**135**	*e*Pn	**Pn**	**11 27 28.7**	**+0.5**
GHIR				AML	AML	11 28 27.9	
	comp=E,196nm,0.7s						
GHIR				AML	AML	11 28 28.4	
	comp=N,199nm,0.6s						
NASN	**Na'in**	**3.12**	**32**	*e*Pn	**Pn**	**11 27 34.4**	**-0.4**
NASN				Sn	**Sn**	**11 28 10.7**	**-0.1**
GHVR	**GHOM**	**4.33**	**5**	*e*Pn	**Pn**	**11 27 51.6**	**+0.2**
GHVR				AML	AML	11 29 04.0	
	comp=E,16nm,0.5s						
ASAO	**Ashtian**	**4.44**	**351**	*e*Pn	**Pn**	**11 27 53.5**	**+0.6**
ASAO				Sn	**Sn**	**11 28 43.1**	**-0.2**
ASAO	**Ashtian**	**4.44**	**351**	*e*Pn	**Pn**	**11 27 53.5**	**+0.6**
	SNR=54						
ASAO				Sn	**Sn**	**11 28 43.1**	**-0.2**
	SNR=54						
BTHS		**6.09**	**180**	P	**Pn**	**11 28 14.9**	**-0.7**
HRDDS		**7.31**	**190**	P	**Pn**	**11 28 32.6**	**+0.2**

ISCJB ***30*** *11:49:26.7±0.5, 2273S±006×6931W±008, h96km±5km, mb3.9/7, Error ellipse: s-maj=13.7km s-min=7.2km az=37.1*
GUC ***30*** *11:49:27.5±0.5, 2298S×6909W, h71km±89km, MD4.3, ML4.4*
IDC ***30*** *11:49:27.7±0.7, 2251S×6929W, h82km±5km, mb3.8/7, mb1 4.0/10, mb1mx3.8/18, mbtmp3.8/10, MS3.3/3, Ms1 3.2/3, ms1mx2.8/25, Error ellipse: s-maj=22.9km s-min=18.5km az=30.0*
NEIC ***30*** *11:49:27.5, 2298S×6909W, h71km, MD4.3(GUC), After GUC.*
NEIC Felt [III] at Baquedano, Maria Elena, Sierra Gorda and Tocopilla.
ISC 30 11:49:27.8±0.5, 2275S±006×6932W±007, h89km±5km, n25, σ1§13/26, mb3.9/7, 1C-2D, Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	**Limon Verde**	**0.40**	**71**	*e*Pg	**Pn**	**11 49 41.6**	**-0.1**
LVC				*e*Sg	**Sn**	**11 49 53.0**	**+0.9**
CEN1	**Los Morros**	**1.03**	**231**	⇓*i*P	**Pn**	**11 49 50.0**	**+2.3**
CEN1				*i* S	**Sn**	**11 50 07.8**	**+4.9**
CEN1				AML	AML	11 50 09.8	
	comp=N,11μm,0.8s						
ANCH	**Antofagasta**	**1.37**	**227**	⇑*i*P	**Pn**	**11 49 51.7**	**-0.1**
ANCH				*i* S	**Sn**	**11 50 09.9**	**-0.1**
CPN1	**Cerro Paranal**	**2.12**	**208**	⇓*i*P	**Pn**	**11 50 01.3**	**-0.2**
CPN1				*i* S	**Sn**	**11 50 26.7**	**-0.6**
CPN1				AML	AML	11 50 35.3	
	comp=E,4μm,0.3s						
LPAZ	**La Paz**	**6.52**	**10**	P	**Pn**	**11 51 01.5**	**+0.3**
	comp=E,1.6nm,0.3s,baz=200,slow=6.9,SNR=41						
ARE	**Arequipa**	**6.58**	**342**	*e*P	**Pn**	**11 50 58.0**	**-3.9**
ARE				*e*S	**Sn**	**11 52 08.0**	**-7.4**
TLL	**Tololo Astrono**	**7.51**	**190**	*e*P	**Pn**	**11 51 13.3**	**-1.3**
TLL				*i* S	**Sn**	**11 52 35.2**	**-2.9**
CFAA	**Coronel Fontan**	**8.88**	**174**	P	**Pn**	**11 51 32.9**	**-0.3**
CFAA	**Coronel Fontan**	**8.88**	**174**	P	**Pn**	**11 51 32.9**	**-0.3**
	comp=E,0.2nm,0.3s,baz=350,slow=12,SNR=14						
SIV	**San Ignacio**	**10.28**	**51**	P	**Pn**	**11 51 50.2**	**-2.2**
	comp=E,2.7nm,0.3s,baz=237,slow=12,SNR=126						
CPUP	**Villa Florida**	**11.48**	**111**	P	**Pn**	**11 52 09.4**	**+0.7**
	comp=E,0.8nm,0.3s,baz=287,slow=12,SNR=7.9						
PLCA	**Paso Flores**	**17.96**	**183**	P	**Pn**	**11 53 33.4**	**+1.8**
	comp=E,0.2nm,0.3s,baz=9.9,slow=14,SNR=7.9						
PLCA				LR	LR	12 00 26.2	
	comp=E,60nm,21.0s,baz=5.7,slow=36						
BDFB	**Brasilia**	**21.31**	**74**	P	**P**	**11 54 06.4**	**-1.1**
	comp=E,4.3nm,0.7s,mb3.9,baz=237,slow=20,SNR=9.0						
BDFB				LR	LR	12 03 11.6	
	comp=E,40nm,19.7s,baz=217,slow=39						
TXAR	**Lajitas Array**	**61.43**	**326**	P	**P**	**11 59 34.2**	**-0.6**
TXAR				sP	sP	12 00 04.5	-2.6
TXAR	**Lajitas Array**	**61.43**	**326**	P	**P**	**11 59 34.2**	**-0.6**
	comp=E,0.3nm,0.6s,mb3.5,baz=146,slow=8.5,SNR=6.4						
TXAR				sP	sP	12 00 04.5	-2.6
	comp=E,0.3nm,0.7s,baz=145,slow=9.0,SNR=4.2						
NVAR	**Mina Array Bea**	**76.24**	**322**	P	**P**	**12 01 06.8**	**+0.4**
	comp=E,0.6nm,0.7s,mb3.4,baz=166,slow=7.2,SNR=5.6						
ULM	**Lac du Bonnet**	**76.38**	**343**	P	**P**	**12 01 06.4**	**-0.6**
	comp=E,1.8nm,0.5s,mb4.0,baz=167,slow=8.5,SNR=4.0						
TORD	**Torodi Ar. Bea**	**78.13**	**70**	P	**P**	**12 01 18.2**	**+0.6**
	comp=E,1.7nm,0.6s,mb3.9,baz=258,slow=5.2,SNR=11						
TORD				pP	pP	12 01 40.0	-1.0
	comp=E,5.9nm,0.6s,baz=251,slow=5.1,SNR=14						
MDT	**Midelt**	**82.83**	**50**	LR	LR	12 35 48.6	
	comp=E,38nm,18.0s,baz=330,slow=34						
MAW	**Mawson**	**83.25**	**163**	P	**P**	**12 01 46.1**	**+2.1**
	comp=E,2.0nm,0.7s,mb4.0,baz=285,slow=19,SNR=3.6						
YKA	**Yellowknife Ar**	**92.23**	**341**	P	**P**	**12 02 27.3**	**+0.3**
	comp=E,1.1nm,0.6s,mb4.2,baz=138,slow=4.4,SNR=31						
YKA				pP	pP	12 02 49.1	-1.9
	comp=E,0.3nm,0.6s,baz=134,slow=4.4,SNR=4.3						
ASAR	**Alice Springs**	**128.64**	**208**	PKP	PKPdf	12 08 26.4	+1.2
	comp=E,0.9nm,0.9s,baz=110,slow=1.4,SNR=8.3						
ASAR				pPKP	pPKPdf	12 08 49.1	-0.9
	comp=E,0.3nm,0.6s,baz=117,slow=2.1,SNR=2.3						
WRA	**Warramunga Arr**	**131.69**	**210**	PKhKP		12 08 25.7	
	comp=E,0.3nm,0.5s,baz=151,slow=1.4,SNR=6.0						
WRA				PKP	PKPdf	12 08 32.4	+1.3
	comp=E,0.7nm,0.5s,baz=152,slow=1.7,SNR=14						
WRA				pPKP	pPKPdf	12 08 54.9	-1.1
	comp=

GGP	Refugio Guagua	1.20 153	⇓P	Pn	12 47 52.8	+1.8
JUA2	San Juan 2	1.23 155	⇓P	Pn	12 47 53.1	+1.7
JUA2	San Juan 2	1.23 155	⇓S	Sn	12 48 10.2	+3.1
CAYA	Cayambe	1.41 126	P	Pn	12 47 56.3	+2.4
CAYA	Cayambe	1.41 126	S	Sn	12 48 15.2	+3.6
CAYR	Refugio Cayamb	1.43 128	⇑P	Pn	12 47 56.9	+2.7
CAYR	Refugio Cayamb	1.43 128	⇑S	Sn	12 48 15.3	+3.2
ANTI	Antisana	1.66 144	⇓P	Pn	12 47 60.0	+2.7
ANTI	Antisana	1.66 144	⇓S	Sn	12 48 21.1	+3.4
CAMI	Rancho Maria	1.69 158	⇑P	Pn	12 48 00.9	+3.2
CAMI	Rancho Maria	1.69 158	⇑S	Sn	12 48 22.3	+3.8
VC1	Cotopaxi 1	1.70 155	⇓P	Pn	12 48 00.8	+2.9
TAMB	Tambo	1.76 154	⇓P	Pn	12 48 01.6	+3.0
TAMB	Tambo	1.76 154	⇓S	Sn	12 48 25.9	+5.7
PISA	Pisayambo	2.09 159	⇓P	Pn	12 48 06.4	+3.2
PISA	Pisayambo	2.09 159	⇓S	Sn	12 48 31.8	+3.5
IGUA	Igualata	2.43 168	P	Pn	12 48 11.6	+3.7

IDC 30 13:28:13.4±1.8, 324N×12755E, h0km, mb3.5/5, mb1 3.7/5, mb1mx3.5/18, mbtmp3.5/5, Error ellipse: s-maj=109.2km s-min=22.7km az=68.0, Talaud Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
FITZ	Fitzroy Crossi	21.29	185	P	P	13 33 02.7	+1.0
	13nm,1.4s,baz=14,slow=12,SNR=4.4						
WRA	Warramunga Arr	23.98	164	P	P	13 33 29.8	0.0
	0.5nm,0.3s,baz=341,slow=10,SNR=11						
ASAR	Alice Springs	27.45	167	P	P	13 34 01.4	+0.2
	0.2nm,0.2s,baz=344,slow=9.8,SNR=5.6						
STKA	Stephens Creek	37.38	160	P	P	13 35 27.6	-0.4
	3.8nm,1.0s,baz=345,slow=12,SNR=2.9						
MKAR	Makanchi Array	58.43	325	P	P	13 38 10.9	-0.1
	0.1nm,0.3s,baz=107,slow=7.6,SNR=3.4						

*ISCJB **30** 13:28:49.5±1.4, 70S±02×1564E±0.1, h10km, mb3.6/4, Error ellipse: s-maj=33.0km s-min=9.1km az=22.9*
*IDC **30** 13:28:49.4±1.8, 672S×15624E, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.7/15, mbtmp3.9/5, ML4.0/1, MS3.3/3, Ms1 3.3/3, ms1mx2.9/22, Error ellipse: s-maj=40.3km s-min=27.9km az=20.0*
*NEIC **30** 13:28:51.0±1.1, 681S×15628E, h10km, Error ellipse: s-maj=29.6km s-min=14.7km az=195.0*

ISC 30 13:28:51.0±1.4, 69S±02×1563E±01, h10km, n9, σ0§73/9, mb3.6/4, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
HNR	Honiara	4.37	125	ePn	Pn	13 29 58.9	+1.4
HNR				Sn	Sb	13 30 56.9	-4.0
HNR				LR	LR	13 31 36.7	
HNR	Honiara	4.37	125	Pn	Pn	13 29 58.7	+1.2
	6.5nm,0.3s,baz=241,slow=1.7,SNR=3.6						
HNR				Sn	Sb	13 30 56.9	-4.0
	11nm,0.3s,baz=270,slow=20,SNR=4.6						
HNR				LR	LR	13 31 36.7	
	comp=Z,126nm,18.4s,baz=180,slow=37						
CTA	Charters Tower	16.36	216	LR	LR	13 37 53.7	
	comp=Z,49nm,19.3s,baz=51,slow=33						
WRA	Warramunga Arr	24.97	237	P	P	13 34 14.7	-0.3
	1.6nm,0.8s,mb3.6,baz=61,slow=9.8,SNR=6.1						
ASAR	Alice Springs	27.24	230	P	P	13 34 35.5	0.0
	0.7nm,0.9s,mb3.2,baz=58,slow=9.2,SNR=4.8						
FITZ	Fitzroy Crossi	31.91	247	P	P	13 35 17.2	+0.2
	1.6nm,1.0s,mb3.8,baz=72,slow=13,SNR=2.9						
RAO	Raoul Island	32.91	136	LR	LR	13 45 43.8	
	comp=Z,236nm,21.2s,baz=138,slow=31						
MKAR	Makanchi Array	84.21	318	P	P	13 41 22.3	-0.5
MKAR	Makanchi Array	84.21	318	P	P	13 41 22.3	-0.5
	0.6nm,0.7s,mb3.9,baz=102,slow=5.6,SNR=6.0						

*ISCJB **30** 13:54:16.9±0.8, 3883N±007×3136E±006, h10km, Error ellipse: s-maj=10.9km s-min=5.9km az=160.9*
*ISK **30** 13:54:16.4, 3880N×3138E, h12km, MD2.9*
*CSEM **30** 13:54:17.0±0.1, 3880N×3133E, h20km, MD2.9, Error ellipse: s-maj=4.3km s-min=2.4km az=156.0*
*DDA **30** 13:54:53.0, 3986N×3430E, h15km±17km, Md2.9*

ISC 30 13:54:17.4±0.8, 3880N±008×3139E±006, h10km, n7, σ0§42/12, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHUT	Suhut-Afyon	0.70	250	ePG	Pg	13 54 30.8	-0.1
SHUT				eSG	Sg	13 54 40.2	+0.1
KONT	Konya--Tatoy	1.15	138	ePN	Pn	13 54 38.8	-0.6
KONT				eSN	Sn	13 54 55.5	+0.3
LOD	Lodumlu	1.52	44	ePN	Pn	13 54 44.3	-0.3
CDAG	Cicekdag	2.46	70	i P	Pn	13 54 57.6	+0.1
CDAG				i S	Sn	13 55 17.7	-10
AVNT	Avonos	2.71	89	i P	Pg	13 55 13.9	+4.6
AVNT				i S	Sn	13 55 38.9	+5.2
CORM	Corum	2.86	60	ePN	Pn	13 55 08.6	-0.4
CTKT	Corum	3.19	54	i P	Pn	13 55 08.3	+0.8
CTKT				i S	Sn	13 55 32.4	-13

*ISCJB **30** 14:20:30.8±0.7, 133N±0.1×505E±0.1, h10km, mb3.9/8, MS3.2/5, Error ellipse: s-maj=20.7km s-min=11.6km az=146.4*
*IDC **30** 14:20:31.2±0.9, 1328N×5050E, h0km, mb3.8/8, mb1 3.9/9, mb1mx3.7/21, mbtmp3.8/9, ML4.2/2, MS3.3/6, Ms1 3.3/6, ms1mx3.0/24, Error ellipse: s-maj=27.9km s-min=20.8km az=149.0*
*NEIC **30** 14:20:32.7±0.5, 1330N×5050E, h10km, Error ellipse: s-maj=15.9km s-min=9.0km az=147.0*

ISC 30 14:20:32.5±0.7, 133N±01×505E±01, h10km, n19, σ0§63/12, mb3.9/8, MS3.2/5, Eastern Gulf of Aden

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ATD	Arta Tunnel	7.68	258	Pn	Pn	14 22 25.2	+0.7
	15nm,0.3s,baz=254,slow=12,SNR=24						
KMBO	Kilima Mbogo	19.42	224	P	Pn	14 24 59.6	-0.7
	0.2nm,0.3s,baz=27,slow=13,SNR=3.3						
KMBO				LR	LR	14 32 10.5	
	comp=Z,79nm,18.7s,baz=97,slow=36						
EIL	Elat	21.78	321	LR	LR	14 33 42.2	
	comp=Z,73nm,18.4s,MS3.1,baz=296,slow=36						
MMAI	Mount Meron Ar	24.02	327	LR	LR	14 35 42.6	
	comp=Z,44nm,19.2s,MS3.0,baz=240,slow=38						
GNI	Garni	27.26	350	LR	LR	14 39 00.5	
	comp=Z,93nm,19.7s,MS3.4,baz=292,slow=41						
AKASG	Malin Array Be	41.16	339	P	P	14 28 17.8	+0.8
	1.1nm,0.6s,mb3.6,baz=151,slow=7.0,SNR=6.7						
MKAR	Makanchi Array	42.76	32	P	P	14 28 30.5	+0.4
	0.4nm,0.6s,mb3.3,baz=213,slow=8.7,SNR=4.1						
MKAR				LR	LR	14 46 22.4	
	comp=Z,21nm,20.6s,MS3.0,baz=46,slow=36						
TOA0	Torodi Ar. Sit	47.46	276	eP	P	14 29 08.4	+0.4
TORD	Torodi Ar. Bea	47.46	276	P	P	14 29 07.3	-0.7
	0.8nm,0.5s,mb3.9,baz=89,slow=7.0,SNR=9.2						
ZAA0	Zalesovo Array	48.76	26	eP	P	14 29 16.9	-0.5
ZALV	Zalesovo Beam	48.76	26	P	P	14 29 16.8	-0.7
	1.2nm,0.6s,mb4.1,baz=221,slow=7.1,SNR=7.4						
FINES	FINESS Array B	51.26	345	P	P	14 29 35.3	-0.9
	1.6nm,0.8s,mb4.0,baz=113,slow=17,SNR=4.6						
SONM	Songino Array	57.57	41	P	P	14 30 23.2	+0.7
	0.4nm,0.6s,mb3.6,baz=268,slow=7.1,SNR=3.4						
ARCES	ARCESS Array B	58.42	350	LR	LR	14 58 13.5	
	comp=Z,36nm,19.0s,MS3.5,baz=168,slow=39						
WRA	Warramunga Arr	88.79	111	P	P	14 33 27.1	-0.1
	0.9nm,0.7s,mb4.2,baz=299,slow=4.0,SNR=5.8						
ASAR	Alice Springs	89.33	114	P	P	14 33 30.3	+0.6
	0.9nm,1.0s,mb4.0,baz=276,slow=4.9,SNR=6.7						
NVAR	Mina Array Bea	127.53	349	PKP	PKPdf	14 39 39.6	+1.3
	0.3nm,0.6s,baz=251,slow=2.8,SNR=4.1						
TXAR	Lajitas Array	130.86	330	PKP	PKPdf	14 39 45.9	+1.0
TXAR	Lajitas Array	130.86	330	PKP	PKPdf	14 39 45.9	+1.0
	0.2nm,0.7s,baz=232,slow=3.0,SNR=3.1						

*NEIC **30** 14:21:22.5, 3438S×7226W, h10km, ML3.3(GUC), After GUC.*

GUC 30 14:21:22.5±0.6, 3438S×7226W, h10km±8km, MD3.6, ML3.3, 8C-2D, Near coast of central Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LNV	Longovilo	0.82	60	i P	Pg	14 21 37.9	-0.4
LNV				i S	Sg	14 21 49.5	+0.5
NICH	Los Niches	1.06	127	⇑iP	Pg	14 21 41.5	-1.3
NICH				i S	Sg	14 21 56.1	-0.4
SFDO	San Fernando	1.06	103	⇑iP	Pg	14 21 42.0	-0.8
SFDO				i S	Sg	14 21 56.6	0.0
TACH	Talagante	1.31	57	⇑iP	Pn	14 21 45.7	-1.2
TACH				i S	Sb	14 22 03.6	-0.6
CACH	El Canelo	1.40	80	⇑iP	Pn	14 21 47.8	-0.3
CACH				i S	Sn	14 22 07.3	+0.7
CHCH	Chadas Angostu	1.41	72	⇑iP	Pn	14 21 47.4	-0.8
CHCH				i S	Sn	14 22 06.2	-0.5
CICH	Cipreses	1.52	88	⇑iP	Pn	14 21 49.2	-0.6
CICH				i S	Sn	14 22 09.6	-0.1
PCH	Pirque	1.64	63	⇑iP	Pn	14 21 51.1	-0.2
PCH				i S	Sn	14 22 12.8	+0.4
CLCH	Cerro Calan	1.73	56	⇑iP	Pn	14 21 52.3	-0.4
CLCH				i S	Sn	14 22 15.3	+0.5
CLCH				AML	AML	14 22 22.6	
	comp=N,599nm,0.6s						
LMEL	Las Melosas	1.79	73	⇓iP	Pn	14 21 53.5	+0.1
LMEL				i S	Sn	14 22 16.8	+0.7
LMEL	Las Melosas	1.79	73	⇓iP	Pn	14 21 53.5	+0.1
LMEL				i S	Sn	14 22 16.8	+0.7
LMEL				AML	AML	14 22 23.7	
	comp=N,545nm,0.3s						
PEL	Peldehue	1.80	47	eP	Pn	14 21 53.5	0.0
PEL				i S	Sn	14 22 17.3	+0.9
PEL				AML	AML	14 22 28.0	
	comp=N,602nm,0.6s						
FCH	Farellones	1.94	58	eP	Pn	14 21 55.1	-0.4
FCH				i S	Sn	14 22 20.6	+0.5
FCH				AML	AML	14 22 25.3	
	comp=N,292nm,0.5s						

IDC 30 14:32:41.5±60.0, 1667S×17682W, h0km, mb3.8/3, mb1 3.9/3, mb1mx3.6/14, mbtmp3.8/3, Error ellipse: s-maj=1109.0km s-min=192.4km az=78.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	40.55	240	P	P	14 40 23.5	+0.7
	2.9nm,1.0s,baz=80,slow=7.8,SNR=2.6						
WRA	Warramunga Arr	46.36	258	P	P	14 41 09.3	-0.5
	0.5nm,0.9s,baz=98,slow=7.6,SNR=2.9						
ASAR	Alice Springs	46.59	253	P	P	14 41 11.3	-0.3
	0.9nm,0.6s,baz=88,slow=8.3,SNR=25						

TRN 30 15:00:40.4, 1685N×6077W, h5km, M4.0(FDF), 4D, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	La Desirade	0.60	208	eP	Pg	15 00 50.1	-1.8
DEG				eS	Sg	15 00 59.2	-0.5
SFG	Saint Francois	0.72	215	eP	Pg	15 00 51.7	-2.5
MGG	Marie-Galante	1.06	210	⇓eP	Pg	15 00 57.4	-3.4
BCG	Bois Riant Cap	1.11	227	eP	Pg	15 00 58.4	-3.3
DOG	Dongo Capester	1.15	225	⇓eP	Pg	15 00 59.3	-3.1
LZG	Guadaloupe-1	1.19	234	⇓eP	Pg	15 01 00.0	-3.3
SCG	Saint Claude	1.20	227	eP	Pg	15 00 59.8	-3.5
TBG	Guadaloupe-3	1.30	220	eP	Pn	15 01 01.4	-3.7
FDF	Fort de France	2.13	190	eP	Pn	15 01 12.8	-3.9
FDF				eS	Sn	15 01 39.2	-4.4
MVM	Montagne Vaucl	2.28	183	⇓eP	Pn	15 01 15.0	-3.8
BIM	Bigot	2.34	187	eP	Pn	15 01 15.7	-3.8

IDC 30 15:20:55.2±10.0, 1760S×17514W, h0km, mb4.3/4, mb1 4.5/4, mb1mx4.0/14, mbtmp4.3/4, MS3.8/1, Ms1 3.8/1, ms1mx2.6/21, Error ellipse: s-maj=234.6km s-min=46.2km az=35.0, Tonga Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RAO	Raoul Island	11.88	192	LR	LR	15 27 11.2	
	comp=Z,491nm,19.1s,baz=136,slow=32						
STKA	Stephens Creek	41.51	242	eP	P	15 28 45.0	+0.6
	4.7nm,1.3s						
STKA	Stephens Creek	41.51	242	P	P	15 28 45.0	+0.6
	3.8nm,1.0s,baz=80,slow=8.4,SNR=6.1						
WB2	Warramunga Arr	47.74	259	eP	P	15 29 33.8	-0.5
WRA	Warramunga Arr	47.75	259	P	P	15 29 33.9	-0.4
	1.3nm,0.5s,baz=98,slow=7.2,SNR=9.3						
ASAR	Alice Springs	47.87	254	P	P	15 29 35.0	-0.3
	14nm,0.7s,baz=94,slow=7.3,SNR=268						
FITZ	Fitzroy Crossi	56.15	260	eP	P	15 30 36.5	-0.6
	3.4nm,1.1s						
VNDA	Vanda	61.04	186	P	P	15 31 10.2	0.0
	1.2nm,1.0s,baz=11,slow=7.3,SNR=5.5						

*IDC **30** 15:59:04.6±1.0, 3460N×7075E, h0km, mb3.7/9, mb1 3.8/11, mb1mx3.7/23, mbtmp3.7/11, ML3.6/2, Error ellipse: s-maj=26.5km s-min=22.3km az=35.0*
*MOS **30** 15:59:07.9±1.1, 3461N×7058E, h33km, mb4.0/4, Error ellipse: s-maj=23.0km s-min=9.6km az=89.4*
*ISCJB **30** 15:59:10.0±0.5, 3471N±003×7074E±005, h51km±7km, mb3.6/9, Error ellipse: s-maj=7.0km s-min=4.6km az=152.0*
*NNC **30** 15:59:10.1±2.6, 3504N×7039E, h0km, mb3.5, mpv3.8, Error ellipse: s-maj=22.8km s-min=18.9km az=68.0*
*NEIC **30** 15:59:11.8±1.1, 3470N×7066E, h52km±9km, Error ellipse: s-maj=12.5km s-min=8.1km az=149.0*
*NDI **30** 15:59:13.3±3.0, 3488N×7094E, h52km, ML3.2*

ISC 30 15:59:11.7±0.5, 3466N±003×7068E±005, h53km±7km, n58, σ1§03/73, mb3.6/9, 5C-2D, Southeastern Afghanistan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CEP	Cherat	1.31	129	⇑P	Pn	15 59 30.2	-3.5
CEP				S	Sn	15 59 50.0	-0.2
KBL	Kabul	1.36	265	eP	Pn	15 59 34.1	-0.2
KBL				S	Sn	15 59 50.5	-0.8
THW	Thamme Wali	2.06	154	⇑P	Pn	15 59 44.9	+1.0
CHCP	Chirah Chowk	2.36	114	P	Pn	15 59 48.0	0.0
SARP	Sargodha	3.20	148	P	Pn	16 00 00.5	+1.0
THN	Thein Dam	4.75	116	eP	Pn	16 00 20.0	-0.8
THN				ex	x	16 01 34.1	
DLH	Dalhousie	4.89	114	eP	Pn	16 00 23.0	+0.3
DLH				ex	Sn	16 01 22.0	+4.1
SDNR	Sundarnagar	6.14	119	ex	Pn	16 00 35.0	-4.9
SDNR				ex	Sn	16 01 47.4	-1.4
KLP	Kalpa	7.07	114	eP	Pn	16 00 52.2	-0.4
KLP				eS	Sn	16 02 04.3	-7.4
KLP				AML	AML	16 02 51.5	
	comp=E,81nm,0.7s						
KLP				AML	AML	16 02 52.0	
	comp=N,61nm,0.6s						
DDI	Dehra Dun	7.58	123	ex	x	16 01 33.0	
AML	Almayashu	7.83	17	ePn	Pn	16 01 03.0	+0.1
	comp=N,14nm,0.5s						
AML				eSn	Sn	16 02 30.6	+0.6
AML	Almayashu	7.83	17	P	Pn	16 01 03.4	+0.5
	SNR=18						
KHET	Khetri	7.89	145	eP	Pn	16 01 04.4	+0.6
KHET				eS	Sn	16 02 26.6	-5.1
KHET				AML	AML	16 02 57.9	
	comp=N,5.0nm,0.1s						
KHET				AML	AML	16 02 58.0	
	comp=E,3.5nm,0.1s						
UCH	Uchtor	8.13	21	eP	Pn	16 01 07.2	+0.2
	comp=E,13nm,1.1s						
UCH	Uchtor	8.13	21	P	Pn	16 01 07.8	+0.8
	SNR=8.9						
NDI	New Delhi	8.15	135	eP	Pn	16 01 10.0	+2.6
NDI				eS	Sn	16 02 34.0	-4.2
KUDL	Kundal	8.17	141	eP	Pn	16 01 08.2	+0.6
KUDL				eS	Sn	16 02 33.1	-5.6
KUDL				AML	AML	16 03 40.0	
	comp=N,8.6nm,0.7s						
EKS2	Erkin-Say	8.35	16	eP	Pn	16 01 10.0	0.0
	comp=N,4.6nm,0.6s						
EKS2				eS	Sn	16 02 41.9	-0.9
EKS2	Erkin-Say	8.35	16	P	Pn	16 01 10.4	+0.4
	SNR=7.9						
SONA	Sohna	8.41	138	eP	Pn	16 01 12.5	+1.6
SONA				eS	Sn	16 02 38.1	-6.3
SONA				AML	AML	16 03 43.5	
	comp=N,9.5nm,0.3s						
SONA				AML	AML	16 03 45.3	
	comp=E,16nm,0.4s						
KK31	Karatay Array	8.43	359	⇑Pn	Pn	16 01 10.9	-0.3
	comp=E,1.9nm,0.3s,baz=200,slow=14,SNR=47						
KK31				⇑Sn	Sn	16 02 46.7	+1.8
	comp=E,1.7nm,0.4s,baz=191,slow=23,SNR=4.3						
KK31	Karatay Array	8.43	359	Pn	Pn	16 01 10.9	-0.3
KK31				Sn	Sn	16 02 46.7	+1.8
AAK	Ala-Archa	8.50	19	P	Pn	16 01 12.4	+0.3
	SNR=6.6						
TKM2	Tokmak 2	9.10	23	eP	Pn	16 01 20.9	+0.7
TKM2				pmax	pmax		
	comp=Z,3.0nm,0.5s						
TKM2	Tokmak 2	9.10	23	eP	Pn	16 01 20.9	+0.6
	comp=Z,3.4nm,0.5s						
TKM2	Tokmak 2	9.10	23	P	Pn	16 01 21.3	+1.1
	SNR=6.5						
DANN	Dangsing	12.80	116	eP	Pn	16 02 07.4	-3.6
	comp=Z,4.3nm,0.3s						
KOLN	Koldanda	13.01	118	eP	Pn	16 02 09.3	-4.5
	comp=Z,2.3nm,0.3s						
DMN	Daman	14.20	116	eP	Pn	16 02 24.4	-5.6
KKN	Kakani	14.23	115	eP	Pn	16 02 24.7	-5.7
PKI	Pulchoki	14.45	115	eP	Pn	16 02 27.5	-5.7
GUN	Gumba	14.62	113	eP	Pn	16 02 30.7	-4.8
	comp=Z,4.5nm,0.4s						
MK31	Makanchi Array	14.96	32	P	Pn	16 02 40.6	+0.9
JIRN	Jiri	14.99	114	eP	Pn	16 02 34.6	-5.7
	comp=Z,11nm,0.5s						
AB31	Akbulak array	16.60	335	⇓Pn	Pn	16 02 59.1	-1.6
	comp=Z,1.8nm,0.5s,baz=151,slow=12,SNR=27						
AB31				⇓Sn	Sn	16 05 57.2	-6.8
	comp=Z,2.1nm,0.8s,baz=141,slow=25,SNR=5.1						
AB31	Akbulak array	16.60	335	Pn	Pn	16 02 59.1	-1.6
AB31				Sn	Sn	16 05 57.2	-6.8
AKTK	Aktyubinsk	18.28	333	P	Pn	16 03 20.6	-0.7
AKTO	Aktyubinsk	18.28	333	Pn	Pn	16 03 20.2	-1.1
	comp=Z,0.1nm,0.9s						
AKTO				⇑Sn	Sn	16 06 40.1	-4.3
	comp=Z,0.3nm,1.7s						
AKTO	Aktyubinsk	18.28	333	P	Pn	16 03 20.6	-0.7
	comp=Z,0.1nm,0.3s,baz=151,slow=14,SNR=7.0						
BVAR	Borovoye Array	18.36	359	P	Pn	16 03 21.6	-0.7
	comp=Z,0.4nm,0.3s,baz=155,slow=10,SNR=6.3						
ZAL	Zalesovo	21.68	23	P	P	16 03 56.7	-1.2
ZAA0	Zalesovo Array	21.70	23	eP	P	16 03 56.7	-1.4
ZALV	Zalesovo Beam	21.70	23	P	P	16 03 56.7	-1.3
	comp=Z,2.6nm,0.6s,mb3.8,baz=219,slow=10,SNR=8.0						
NVS	Novosibirsk	21.99	20	eP	P	16 04 03.9	+2.7
SONM	Songino Array	29.62	53	P	P	16 05 11.8	-0.1
SONM				pmax	pmax		
	comp=Z,1.0nm,0.7s						
SONM	Songino Array	29.62	53	P	P	16 05 11.8	0.0
	comp=Z,0.8nm,0.7s,mb3.5,baz=249,slow=9.5,SNR=4.9						
AKASG	Malin Array Be	33.93	311	P	P	16 05 50.2	+0.7
	comp=Z,0.1nm,0.3s,mb3.2,baz=82,slow=7.5,SNR=4.3						
ARCES	ARCESS Array B	42.75	338	P	P	16 07 04.4	+1.0
ARCES				pmax	pmax		
	comp=Z,2.0nm,0.7s						
ARCES	ARCESS Array B	42.75	338	P	P	16 07 04.3	+0.9
	comp=Z,1.8nm,0.7s,mb3.9,baz=99,slow=7.9,SNR=4.3						
NOA	NORSAR Array B	45.70	324	P	P	16 07 27.2	+0.1
NOA				pmax	pmax		
	comp=Z,1.0nm,0.6s						
NOA	NORSAR Array B	45.70	324	P	P	16 07 27.2	+0.1
	comp=Z,0.7nm,0.6s,mb3.8,baz=99,slow=7.8,SNR=3.1						
TORD	Torodi Ar. Bea	65.43	269	P	P	16 09 49.8	+0.5
TORD	Torodi Ar. Bea	65.43	269	P	P	16 09 49.8	+0.5
	comp=Z,1.5nm,0.6s,mb4.2,baz=50,slow=5.4,SNR=13						
WRA	Warramunga Arr	81.25	121	P	P	16 11 23.7	+1.4
WRA				pmax	pmax		
	comp=Z,1.0nm,0.9s						
WRA	Warramunga Arr	81.25	121	P	P	16 11 23.7	+1.4
	comp=Z,0.7nm,0.9s,mb3.6,baz=322,slow=5.1,SNR=3.2						
YKA	Yellowknife Ar	83.09	2	P	P	16 11 31.4	0.0
YKA	Yellowknife Ar	83.09	2	P	P	16 11 31.4	+0.1
	comp=Z,0.2nm,0.5s,mb3.5,baz=349,slow=5.3,SNR=4.7						
ASAR	Alice Springs	83.42	125	P	P	16 11 33.0	-0.6
	comp=Z,0.2nm,0.7s,mb3.3,baz=313,slow=4.8,SNR=5.9						

*IDC **30** 16:01:10.7±2.8, 4382N×8692E, h0km, mb3.5/1, mb1 3.6/3, mb1mx3.3/22, mbtmp3.6/3, ML3.4/2, Error ellipse: s-maj=52.6km s-min=28.4km az=57.0*
*ISCJB **30** 16:01:14.1±0.6, 4421N±006×8698E±008, h12km, Error ellipse: s-maj=10.8km s-min=4.8km az=41.2*
*BJI **30** 16:01:14.2, 4382N×8691E, h12km, ML3.3*
*NNC **30** 16:01:17.5±3.3, 4426N×8679E, h12km±16km, mb3.4, mpv3.1, Error ellipse: s-maj=31.5km s-min=22.4km az=78.0*

ISC 30 16:01:15.6±1.6, 4414N±009×870E±01, h6km±20km, n9, σ1§30/18, 5C-4D, Northern Xinjiang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WMQ	Urumqi	0.61	120	⇑iPG	Pg	16 01 26.8	-0.6
WMQ				SG	Sg	16 01 36.0	+0.6
WMQ				Smax			
	comp=N,356nm,0.6s						
WMQ				Smax			
	comp=E,354nm,0.6s						
MK31	Makanchi Array	4.23	311	⇑Pn	Pn	16 02 21.7	+1.3
	comp=E,1.5nm,0.3s,baz=134,slow=14,SNR=153						
MK31				Pg	Pb	16 02 29.4	-0.8
	comp=E,1.7nm,0.3s,baz=134,slow=15,SNR=8.5						
MK31				Sn	Sn	16 03 12.4	+2.4
	comp=E,2.7nm,0.2s,baz=124,slow=23,SNR=12						
MK31				Lg		16 03 31.9	
	comp=E,18nm,0.5s,baz=136,slow=29,SNR=8.2						
MKAR	Makanchi Array	4.23	311	Pn	Pn	16 02 21.6	+1.2
	comp=E,2.1nm,0.3s,baz=131,slow=14,SNR=49						
MKAR				Sn	Sn	16 03 11.8	+1.8
	comp=E,8.6nm,0.3s,baz=123,slow=22,SNR=18						
MKAR				Lg		16 03 29.4	
	comp=E,7.5nm,0.3s,baz=131,slow=29,SNR=6.5						
TKM2	Tokmak 2	8.35	266	Pn	Pn	16 03 20.5	+3.4
	comp=E,1.5nm,0.6s						
TKM2				⇓Sn	Sn	16 04 50.8	-0.8
	comp=E,5.3nm,0.7s						
KURBB	Kurchatov Arra	8.65	322	⇓Pn	Pn	16 03 21.4	+0.3
	comp=E,0.2nm,0.8s						
KURBB				⇓Sn	Sn	16 04 59.5	+0.7

NVAR	Mina Array Bea	64.43 323	P	P	17 08 06.7	-0.7
	0.1nm,0.4s,mb3.2,baz=161,slow=5.7,SNR=3.4					
TORD	Torodi Ar. Bea	79.22 74	P	P	17 09 38.4	+1.7
	0.6nm,0.8s,mb3.6,baz=246,slow=5.6,SNR=4.7					

IDC 30 17:32:50.7±2.2, 087S×12806E, h0km, mb3.2/2, mb1 3.3/3, mb1mx3.2/15, mbtmp3.1/3, ML3.3/1, Error ellipse: s-maj=172.2km s-min=26.2km az=67.0, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	Warramunga Arr	19.93	162	P	Pn	17 37 24.4	-1.4
	0.1nm,0.3s,baz=341,slow=11,SNR=3.0						
ASAR	Alice Springs	23.36	166	P	P	17 38 00.9	-0.1
	0.4nm,0.6s,baz=344,slow=10,SNR=8.5						
MKAR	Makanchi Array	62.08	326	P	P	17 43 13.3	+0.1
	0.1nm,0.3s,baz=119,slow=9.3,SNR=6.0						

*NEIC **30** 17:37:16.6±0.7, 2071S×17877W, h600km, Error ellipse: s-maj=33.0km s-min=20.0km az=154.0*

IDC 30 17:37:22.8±7.3, 1999S×17932W, h647km±69km, mb2.7/4, mb1 3.0/4, mb1mx2.7/14, mbtmp2.7/4, Error ellipse: s-maj=169.9km s-min=32.3km az=151.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	Charters Tower	32.31	264	P	P	17 43 02.4	+0.5
	1.7nm,0.4s,baz=98,slow=14,SNR=4.3						
ASAR	Alice Springs	43.43	256	P	P	17 44 31.1	-0.3
	0.5nm,0.7s,baz=89,slow=8.2,SNR=14						
ASAR				PcP	PcP	17 46 04.8	+0.4
	0.6nm,0.6s,baz=103,slow=3.9,SNR=10						
WRA	Warramunga Arr	43.45	262	P	P	17 44 31.6	0.0
	0.2nm,0.3s,baz=97,slow=7.2,SNR=3.2						
SBA	Scott Base	58.30	183	eP	P	17 46 10.2	-7.2
NVAR	Mina Array Bea	81.51	44	P	P	17 48 34.5	-0.1
	0.6nm,0.6s,baz=218,slow=9.4,SNR=6.3						
BVAR	Borovoye Array	117.90	320	PKP	PKPdf	17 54 57.0	-0.3
	0.6nm,0.3s,baz=81,slow=2.5,SNR=5.7						
ARCES	ARCESS Array B	128.19	349	PKP	PKPdf	17 55 17.4	+0.9
	2.1nm,1.0s,baz=350,slow=4.9,SNR=4.0						
HFS	Hagfors	138.84	350	PKhKP		17 55 31.0	
	0.6nm,0.3s,baz=79,slow=7.5,SNR=7.2						
AKASG	Malin Array Be	141.97	330	PKP	PKPdf	17 55 40.9	-1.7
	3.0nm,0.5s,baz=43,slow=4.3,SNR=24						
GERES	GERESS Array B	149.37	343	PKPbc	PKPbc	17 56 00.6	+0.3
	0.5nm,0.6s,baz=26,slow=3.4,SNR=5.1						

IDC 30 17:43:32.5±3.7, 1802S×17657W, h0km, mb3.9/3, mb1 4.1/3, mb1mx3.8/14, mbtmp3.9/3, MS3.8/12, Ms1 3.7/12, ms1mx3.5/25, Error ellipse: s-maj=117.8km s-min=42.1km az=135.0, Fiji Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	Afiamalu	6.16	49	LR	LR	17 46 54.9	
	comp=Z,319nm,21.5s,baz=164,slow=33						
RAR	Rarotonga	16.14	104	LR	LR	17 51 27.5	
	comp=Z,399nm,19.9s,baz=253,slow=29						
URZ	Urewera	20.91	194	LR	LR	17 55 21.3	
	comp=Z,327nm,19.9s,baz=3.0,slow=34						
HNR	Honiara	24.33	287	LR	LR	17 55 43.8	
	comp=Z,82nm,18.5s,baz=0.9,slow=30						
PPT	Papeete	25.70	93	LR	LR	17 55 32.5	
	comp=Z,217nm,20.6s,baz=320,slow=28						
CTA	Charters Tower	35.15	261	LR	LR	18 02 46.4	
	comp=Z,144nm,20.1s,baz=78,slow=33						
STKA	Stephens Creek	40.11	242	LR	LR	18 04 15.6	
	comp=Z,102nm,19.8s,baz=27,slow=31						
WRA	Warramunga Arr	46.33	259	P	P	17 51 59.8	-0.8
	0.7nm,0.6s,baz=95,slow=9.1,SNR=4.4						
ASAR	Alice Springs	46.44	254	P	P	17 52 02.1	+0.6
	1.6nm,0.6s,baz=89,slow=8.3,SNR=32						
FITZ	Fitzroy Crossi	54.73	260	LR	LR	18 16 21.3	
	comp=Z,107nm,18.1s,baz=278,slow=36						
NWAO	Narrogin (SRO)	60.70	242	LR	LR	18 15 29.9	
	comp=Z,91nm,21.7s,baz=159,slow=32						
MJAR	Matsushiro Arr	69.05	322	P	P	17 54 40.3	+0.1
	1.7nm,1.0s,baz=151,slow=7.1,SNR=4.2						
MAW	Mawson	84.34	199	LR	LR	18 33 45.9	
	comp=Z,128nm,19.2s,baz=135,slow=36						
TXAR	Lajitas Array	84.58	57	LR	LR	18 26 07.2	
	comp=Z,52nm,18.5s,baz=80,slow=30						
YKA	Yellowknife Ar	93.71	24	LR	LR	18 30 48.9	
	comp=Z,18nm,20.9s,baz=50,slow=30						
GERES	GERESS Array B	148.14	347	PKPbc	PKPbc	18 03 19.6	-0.7
	0.5nm,0.7s,baz=7.8,slow=2.2,SNR=4.2						

*IDC **30** 17:57:15.6±5.4, 3511S×17861E, h152km±40km, mb3.8/4, mb1 4.0/5, mb1mx3.6/16, mbtmp3.8/5, Error ellipse: s-maj=55.7km s-min=25.4km az=47.0*
*WEL **30** 17:57:20.8±0.6, 3567S×17847E, h214km±7km, ML4.4/10, Error ellipse: s-maj=10.6km s-min=8.5km az=90.0*
*NEIC **30** 17:57:20.9, 3561S×17826E, h207km, MG4.6(WEL), After WEL.*

ISC 30 17:57:22.2±1.5, 361S±01×1788E±02, h252km±9km, n71, σ0°64/77, mb3.9/4, Off east coast of North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MXZ	Matakaoa Point	1.48	195	P	Pn	17 57 59.4	-1.0
MXZ				S	S	17 58 29.2	-1.5
MXZ	Matakaoa Point	1.48	195	PN	Pn	17 57 59.4	-1.0
MXZ				SN	S	17 58 29.2	-1.5
PUZ	Puketiti	1.98	192	P	Pn	17 58 04.8	+0.3
PUZ				S	S	17 58 38.6	+0.5
PUZ	Puketiti	1.98	192	PN	Pn	17 58 04.8	+0.3
PUZ				SN	S	17 58 38.6	+0.5
MWZ	Matawai	2.42	204	P	Pn	17 58 08.5	-0.1
MWZ				S	S	17 58 45.5	0.0
MWZ	Matawai	2.42	204	PN	Pn	17 58 08.5	-0.1
MWZ				SN	S	17 58 45.5	+0.1
URZ	Urewera	2.51	212	P	Pn	17 58 09.2	-0.4
URZ	Urewera	2.51	212	P	Pn	17 58 09.3	-0.3
	12nm,0.3s,baz=13,slow=2.8,SNR=67						
URZ				S	S	17 58 47.6	+0.5
	43nm,0.3s,baz=288,slow=22,SNR=8.8						
URZ	Urewera	2.51	212	PN	Pn	17 58 09.2	-0.3
KNZ	Kokohu	3.02	197	P	Pn	17 58 15.8	+1.0
KNZ	Kokohu	3.02	197	PN	Pn	17 58 15.8	+1.0
BKZ	Black Stump Fm	3.53	210	P	Pn	17 58 21.2	+0.6
BKZ	Black Stump Fm	3.53	210	PN	Pn	17 58 21.2	+0.7
OTVZ	Oturere	3.91	218	PN	Pn	17 58 25.5	+0.6
WPVZ	Whakapapa	4.00	219	P	Pn	17 58 26.5	+0.5
WPVZ	Whakapapa	4.00	219	PN	Pn	17 58 26.5	+0.6
FWVZ	Far West T-bar	4.04	219	P	Pn	17 58 26.9	+0.5
FWVZ	Far West T-bar	4.04	219	PN	Pn	17 58 26.9	+0.5
MOVZ	Moawhango	4.06	215	P	Pn	17 58 26.4	-0.2
MOVZ	Moawhango	4.06	215	PN	Pn	17 58 26.4	-0.2
WNVZ	Wahianoa	4.07	217	P	Pn	17 58 27.2	+0.4
WNVZ	Wahianoa	4.07	217	PN	Pn	17 58 27.2	+0.4
PKVZ	Pokaka	4.17	220	PN	Pn	17 58 28.4	+0.5
MTVZ	Mangateitei	4.18	218	PN	Pn	17 58 28.7	+0.7
PXZ	Pawanui	4.18	201	PN	Pn	17 58 28.6	+0.6
WPHZ	Waipukurau	4.34	205	PN	Pn	17 58 31.0	+1.1
TSZ	Takapari Road	4.51	209	P	Pn	17 58 32.1	+0.1
TSZ	Takapari Road	4.51	209	PN	Pn	17 58 32.1	+0.1
WAZ	Wanganui	4.70	219	P	Pn	17 58 35.4	+1.1
WAZ	Wanganui	4.70	219	PN	Pn	17 58 35.4	+1.1
MRZ	Mangatainoka R	5.18	208	P	Pn	17 58 40.0	0.0
MRZ	Mangatainoka R	5.18	208	PN	Pn	17 58 40.0	0.0
HOWZ	Holdsworth Sta	5.41	207	PN	Pn	17 58 43.0	+0.2
KIW	Kapiti Island	5.62	212	P	Pn	17 58 44.9	-0.5
KIW	Kapiti Island	5.62	212	PN	Pn	17 58 44.9	-0.5
MTW	Mount Morrison	5.64	206	P	Pn	17 58 45.5	-0.2
MTW	Mount Morrison	5.64	206	PN	Pn	17 58 45.5	-0.2
CAW	Cannon Point	5.76	209	P	Pn	17 58 46.9	-0.3
CAW	Cannon Point	5.76	209	PN	Pn	17 58 46.9	-0.3
TRWZ	Traveller	5.79	204	PN	Pn	17 58 47.6	+0.1
MSWZ	Moikau Station	5.95	207	P	Pn	17 58 49.9	+0.3
MSWZ	Moikau Station	5.95	207	PN	Pn	17 58 49.9	+0.3
MRW	Makara Radio	6.01	211	P	Pn	17 58 50.5	+0.2
MRW	Makara Radio	6.01	211	PN	Pn	17 58 50.5	+0.2
SNZO	South Karori	6.07	210	P	Pn	17 58 50.4	-0.7
SNZO	South Karori	6.07	210	PN	Pn	17 58 50.4	-0.8
PLWZ	Palliser	6.09	206	PN	Pn	17 58 51.2	0.0
TCW	Tory Channel	6.18	213	P	Pn	17 58 51.9	-0.5
TCW	Tory Channel	6.18	213	PN	Pn	17 58 51.9	-0.5
TUWZ	Tuamarina	6.50	214	PN	Pn	17 58 55.3	-1.2
NNZ	Nelson	6.61	218	P	Pn	17 58 56.9	-0.9
NNZ	Nelson	6.61	218	PN	Pn	17 58 56.9	-0.9
BSWZ	Blackbirch Sta	6.76	213	P	Pn	17 58 59.6	-0.1
BSWZ	Blackbirch Sta	6.76	213	PN	Pn	17 58 59.6	-0.1
QRZ	Quartz Range	6.79	224	P	Pn	17 58 58.5	-1.5
QRZ	Quartz Range	6.79	224	PN	Pn	17 58 58.5	-1.6
THZ	Tophouse	7.25	217	P	Pn	17 59 05.3	-0.6
THZ	Tophouse	7.25	217	PN	Pn	17 59 05.3	-0.6
KHZ	Kahutara	7.48	211	P	Pn	17 59 08.1	-0.6
KHZ	Kahutara	7.48	211	PN	Pn	17 59 08.1	-0.6
LTZ	Lake Taylor	8.34	215	P	Pn	17 59 19.5	0.0
LTZ	Lake Taylor	8.34	215	PN	Pn	17 59 19.5	0.0
MQZ	McQueen's Vall	8.91	210	P	Pn	17 59 26.1	-0.7
MQZ	McQueen's Vall	8.91	210	PN	Pn	17 59 26.1	-0.7
ODZ	Otahua Downs	10.84	212	P	Pn	17 59 51.6	+0.6
ODZ	Otahua Downs	10.84	212	PN	Pn	17 59 51.6	+0.6
CTA	Charters Tower	32.66	290	P	P	18 03 30.4	-0.5
	6.0nm,0.8s,mb4.2,baz=90,slow=9.1,SNR=3.4						
ASAR	Alice Springs	40.52	275	P	P	18 04 37.7	+0.8
	2.2nm,0.5s,mb3.8,baz=113,slow=8.1,SNR=83						
WRA	Warramunga Arr	42.04	280	P	P	18 04 49.4	+0.1
	3.1nm,0.5s,mb4.0,baz=118,slow=7.8,SNR=13						
QSPA	South Pole Qui	53.99	180	P	P	18 06 31.6	+12
	0.9nm,0.5s,mb3.5,baz=15,slow=9.8,SNR=4.5						
FINES	FINESS Array B	149.38	334	PKPbc	PKPbc	18 16 41.6	+1.3
	0.5nm,0.4s,baz=48,slow=2.8,SNR=8.1						

*ISCJB **30** 18:09:02.5±2.6, 271N×008×1286E±0.1, h244km±27km, mb4.1/19, Error ellipse: s-maj=24.0km s-min=10.1km az=160.7*
*NEIC **30** 18:09:02.9±2.8, 272N×12854E, h232km±28km, mb4.4/5, Error ellipse: s-maj=22.3km s-min=8.0km az=81.0*
*BJI **30** 18:09:02.8, 270N×12850E, h232km, mB4.6, mb4.4*
*IDC **30** 18:09:02.7±2.3, 269N×12857E, h230km±22km, mb3.7/13, mb1 3.8/14, mb1mx3.7/19, mbtmp3.7/14, Error ellipse: s-maj=30.3km s-min=9.0km az=82.0*

ISC 30 18:09:03.5±2.6, 270N±008×1286E±01, h237km±27km, n35, σ0°85/33, mb4.1/19, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	13.74	201	P	Pn	18 12 09.0	+0.1
	8.5nm,0.3s,baz=46,slow=1.5,SNR=16						
KAKA	Kakadu	15.77	166	eP	Pn	18 12 32.7	-0.7
	12nm,0.6s						
FITZ	Fitzroy Crossi	20.87	188	eP	P	18 13 26.3	-1.4
	4.6nm,0.4s						
FITZ	Fitzroy Crossi	20.87	188	P	P	18 13 26.3	-1.3
	2.6nm,0.4s,baz=8.5,slow=7.5,SNR=16						
WRAB	Tennant Creek	23.18	166	eP	P	18 13 49.9	+0.6
	8.4nm,0.7s,mb4.4						
WRA	Warramunga Arr	23.18	166	P	P	18 13 49.3	-0.1
	4.3nm,0.3s,mb4.5,baz=342,slow=10,SNR=24						
WB2	Warramunga Arr	23.19	166	eP	P	18 13 50.9	+1.5
ASAR	Alice Springs	26.70	169	P	P	18 14 21.2	+0.2
	3.0nm,0.5s,mb4.2,baz=351,slow=7.6,SNR=102						
ASAR				PcP	PcP	18 17 38.6	+0.4
	0.5nm,0.4s,baz=349,slow=2.0,SNR=7.3						
ASAR				ScP	ScP	18 20 55.5	-0.2
	0.4nm,0.7s,baz=342,slow=3.3,SNR=5.6						
KSRS	Korea Array	34.60	359	P	P	18 15 30.4	+0.4
	2.3nm,0.7s,mb3.8,baz=175,slow=9.7,SNR=7.9						
MJAR	Matsushiro Art	34.82	14	P	P	18 15 31.3	-0.7
	3.0nm,0.7s,mb3.9,baz=185,slow=9.4,SNR=9.6						
KLBR	Kellerberrin	35.63	196	eP	P	18 15 38.9	0.0
	2.0nm,0.2s,mb4.3						
MUN	Mundaring	36.45	198	eP	P	18 15 45.9	+0.1
STKA	Stephens Creek	36.52	161	eP	P	18 15 46.9	+0.4
	11nm,1.8s,mb4.1						
STKA	Stephens Creek	36.52	161	P	P	18 15 46.9	+0.4
	2.3nm,0.3s,mb4.2,baz=351,slow=6.8,SNR=32						
NWAO	Narrogin (SRO)	37.03	196	P	P	18 15 50.6	-0.1
	9.9nm,1.1s,mb4.3,baz=36,slow=15,SNR=3.5						
LZH	Lanzhou	40.36	328	eP	P	18 16 20.3	+1.9
LZH				AMB	AMB		
	comp=Z,17nm,1.3s,mb4.3						
LZH				AMB	AMB		
	comp=Z,86nm,5.1s						
SHL	Shillong	42.02	306	eP	P	18 16 33.0	+1.0
JIRN	Jiri	47.51	306	eP	P	18 17 16.4	+1.2
	comp=Z,12nm,0.4s,mb4.6						
GUN	Gumba	47.87	306	eP	P	18 17 18.9	+1.0
	comp=Z,22nm,0.7s,mb4.6						
KKN	Kakani	48.30	305	eP	P	18 17 21.4	+0.1
	comp=Z,6.6nm,0.6s,mb4.2						
DMN	Daman	48.38	305	eP	P	18 17 22.1	+0.3
SONM	Songino Array	48.89	340	P	P	18 17 26.0	+0.7
	comp=Z,1.0nm,0.6s,mb3.3,baz=152,slow=6.9,SNR=6.0						
KOLN	Koldanda	49.67	305	eP	P	18 17 30.2	-1.4
	comp=Z,22nm,0.6s,mb4.7						
DANN	Dangsing	49.76	305	eP	P	18 17 30.4	-1.9
MK31	Makanchi Array	59.49	325	eP	P	18 18 41.6	0.0
MKAR	Makanchi Array	59.49	325	P	P	18 18 42.0	+0.3
MKAR				PcP	PcP	18 19 26.9	+0.3
MKAR	Makanchi Array	59.49	325	P	P	18 18 42.0	+0.3
	comp=Z,2.2nm,0.4s,mb4.1,baz=117,slow=8.5,SNR=47						
MKAR				PcP	PcP	18 19 26.9	+0.3
	comp=Z,0.5nm,0.5s,baz=128,slow=3.5,SNR=6.8						
ZALV	Zalesovo Beam	62.37	332	P	P	18 18 59.9	-1.0
	comp=Z,1.0nm,0.3s,mb3.9,baz=103,slow=6.1,SNR=7.2						
KURK	Kurchatov	63.63	327	eP	P	18 19 08.5	-0.8
BRVK	Borovoye	69.29	327	eP	P	18 19 44.9	-0.1
VNDA	Vanda	82.17	173	P	P	18 20 57.6	+0.3
	comp=Z,0.3nm,0.8s,mb3.0,baz=330,slow=3.0,SNR=2.4						
ARCES	ARCESS Array B	92.07	340	P	P	18 21 44.5	-0.7
	comp=Z,2.3nm,0.7s,mb4.2,baz=79,slow=5.9,SNR=8.4						
FINES	FINESS Array B	93.64	332	P	P	18 21 51.6	-1.1
	comp=Z,1.3nm,0.8s,mb4.0,baz=72,slow=6.2,SNR=4.1						
TORD	Torodi Ar. Bea	125.05	288	PKP	PKPdf	18 27 36.4	-0.1
TORD	Torodi Ar. Bea	125.05	288	PKP	PKPdf	18 27 36.4	-0.1
	comp=Z,0.2nm,0.3s,baz=64,slow=1.5,SNR=6.9						

TRN 30 18:31:19.6, 1674N×6077W, h26km, M3.7(FDE), 2C, Leeward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DEG	La Desirade	0.50	213	eP	Pb	18 31 31.6	+1.7
DEG				eS	Sb	18 31 40.9	+4.0
MGG	Marie-Galante	0.97	213	eP	Pn	18 31 38.8	+1.3
BCG	Bois Riant Cap	1.04	232	eP	Pn	18 31 39.8	+1.3
DOG	Dongo Capester	1.07	229	eP	Pn	18 31 40.8	+1.8
SCG	Saint Claude	1.12	231	eP	Pn	18 31 41.2	+1.6
LZG	Guadaloupe-1	1.13	239	eP	Pn	18 31 41.4	+1.6
TBG	Guadaloupe-3	1.21	224	eP	Pn	18 31 42.8	+1.9
FDF	Fort de France	2.02	190	eP	Pn	18 31 53.7	+1.6
FDF				eS	Sn	18 32 18.7	+2.2
MVM	Montagne Vaucl	2.17	183	eP	Pn	18 31 56.4	+2.3
BIM	Bigot	2.22	187	eP	Pn	18 31 56.3	+1.5

IDC 30 19:19:44.9±2.0, 1862S×6791W, h210km±17km, mb3.3/2, mb1 3.3/5, mb1mx3.2/19, mbtmp3.2/5, Error ellipse: s-maj=35.5km s-min=31.0km az=65.0, Central Bolivia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	La Paz	2.33	355	P	Pn	19 20 28.6	+1.0
	1.4nm,0.3s,baz=193,slow=6.9,SNR=31						
SIV	San Ignacio	7.04	69	P	Pn	19 21 25.1	-0.6
	0.5nm,0.3s,baz=256,slow=11,SNR=8.5						
CFAA	Coronel Fontan	12.94	181	P	Pn	19 22 41.2	+0.1
	0.7nm,0.3s,baz=30,slow=8.1,SNR=29						
TORD	Torodi Ar. Bea	75.51	71	P	P	19 31 07.0	+0.4
	0.5nm,0.5s,baz=253,slow=5.3,SNR=3.1						
YKA	Yellowknife Ar	88.80	340	P	P	19 32 14.1	-0.2
	0.4nm,0.7s,baz=140,slow=4.3,SNR=6.6						

*ISCJB **30** 19:24:26.5±1.6, 237S±07×1798E±03, h500km, mb3.7/7, Error ellipse: s-maj=96.6km s-min=18.3km az=160.5*
*NEIC **30** 19:24:27.3±1.2, 2370S×17982E, h500km, mb4.4/2, Error ellipse: s-maj=80.7km s-min=15.2km az=160.0*
*IDC **30** 19:24:27.9±3.6, 2355S×17977E, h503km±34km, mb3.1/6, mb1 3.4/6, mb1mx3.1/13, mbtmp3.1/6, Error ellipse: s-maj=107.7km s-min=22.2km az=159.0*

ISC 30 19:24:27.4±1.6, 238S±07×1798E±03, h500km, n9, σ0°35/9, mb3.7/7, South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
STKA	Stephens Creek	34.63	248	P	P	19 30 33.8	-0.4
	1.2nm,0.7s,mb3.4,baz=67,slow=7.7,SNR=5.8						
ASAR	Alice Springs	41.90	261	P	P	19 31 33.8	+0.3
	1.4nm,0.5s,mb3.7,baz=98,slow=7.2,SNR=54						
ASAR				ScP	ScP	19 36 19.4	-0.8
	0.5nm,0.7s,baz=110,slow=3.9,SNR=6.9						
WB2	Warramunga Arr	42.24	266	eP	P	19 31 36.2	-0.1
WRA	Warramunga Arr	42.26	266	P	P	19 31 36.3	-0.1
	2.8nm,0.4s,mb4.1,baz=96,slow=8.2,SNR=37						
KAKA	Kakadu	46.14	275	eP	P	19 32 06.1	-0.4
	56nm,1.5s,mb4.8						
FITZ	Fitzroy Crossi	50.68	266	eP	P	19 32 41.3	+0.9
	3.6nm,0.8s,mb3.8						
FITZ	Fitzroy Crossi	50.68	266	P	P	19 32 41.0	+0.6
	1.1nm,0.4s,mb3.6,baz=106,slow=9.6,SNR=6.9						
NVAR	Mina Array Bea	84.76	44	P	P	19 36 08.3	-0.1
	0.3nm,0.6s,mb3.1,baz=211,slow=8.4,SNR=2.4						
TXAR	Lajitas Array	90.49	58	P	P	19 36 35.6	+0.1
	0.4nm,0.7s,mb3.4,baz=199,slow=5.8,SNR=6.3						

*NEIC **30** 19:29:38.7, 1785N×10154W, h5km, MD4.0(MEX), After MEX.*

MEX 30 19:29:38.7±1.4, 1785N×10154W, h5km, MD4.0, Near coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.25	164	iP	Pg	19 29 42.4	-1.2
ZIIG				iS	Sg	19 29 47.7	+0.7
CAIG	El Cayaco	1.45	123	iP	Pn	19 30 01.9	-3.7
CAIG				iS	Sb	19 30 20.9	-4.1
MMIG	Aquila	1.77	284	iP	Pn	19 30 06.0	-4.0
MMIG				iS	Sn	19 30 29.2	-3.8
MEIG	Mezcala	1.83	87	eP	Pn	19 30 07.6	-3.2
MEIG				iS	Sn	19 30 30.8	-3.5
ACX	Acapulco	1.83	122	eP	Pn	19 30 09.0	-1.8
ACX				iS	Sn	19 30 31.0	-3.4
MOIG	Morelia	1.85	10	eP	Pn	19 30 00.9	-10
MOIG				iS	Sn	19 30 29.9	-4.9
MOIG	Morelia	1.85	10	eP	Pn	19 30 05.0	-6.1
MOIG				iS	Sn	19 30 29.9	-4.9
PLIG	Platanillo	2.01	74	iP	Pn	19 30 12.1	-1.2
PLIG				iS	Sn	19 30 33.1	-5.7
PPM	Popocatepetl	3.02	66	iP	Pn	19 30 25.7	-1.5
PPM				eP		19 30 27.5	
PPM				iS	Sn	19 31 02.7	-1.0
VHO	Vista Hermosa	4.65	99	iP	Pn	19 30 41.0	-8.6
VHO				iS	Sn	19 31 42.5	-1.6
VHO	Vista Hermosa	4.65	99	iP	Pn	19 30 43.7	-5.9
VHO				iS	Sn	19 31 42.5	-1.6

*ISCJB **30** 19:35:13.3±0.6, 8.1S±0.1×1217E±0.1, h201km±6km, mb4.0/8, Error ellipse: s-maj=30.6km s-min=5.4km az=141.2*
*IDC **30** 19:35:14.6±0.8, 7.95S×12187E, h189km±8km, mb3.6/5, mb1 3.7/9, mb1mx3.6/18, mbtmp3.7/9, Error ellipse: s-maj=49.2km s-min=7.9km az=55.0*
*NEIC **30** 19:35:15.6±0.9, 790S×12181E, h197km±9km, mb4.4/1, Error ellipse: s-maj=28.1km s-min=6.5km az=53.0*

ISC 30 19:35:14.3±0.6, 82S±01×1216E±02, h196km±6km, n22, σ0°88/29, mb4.0/8, Flores region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	2.85	135	P	Pn	19 36 02.6	+0.6
	120nm,0.3s,baz=342,slow=0.9,SNR=346						
BATI				S	Sn	19 36 38.4	-1.0
	242nm,0.3s,baz=166,slow=19,SNR=12						
KAPI	Kappang	3.65	329	P	Pn	19 36 11.6	0.0
	6.6nm,0.3s,baz=170,slow=7.8,SNR=51						
KAPI				S	Sn	19 36 56.5	0.0
	0.9nm,0.3s,baz=214,slow=19,SNR=6.4						
FITZ	Fitzroy Crossi	10.62	159	eP	Pn	19 37 40.7	-0.9
	13nm,0.3s						
FITZ				eS	Sn	19 39 33.2	-6.8
FITZ	Fitzroy Crossi	10.62	159	P	Pn	19 37 40.3	-1.2
	1.9nm,0.3s,baz=3.9,slow=10,SNR=60						
FITZ				S	Sn	19 39 31.6	-8.4
	1.4nm,0.3s,baz=322,slow=16,SNR=3.5						
KAKA	Kakadu	11.55	114	eP	Pn	19 37 53.2	-0.5
	14nm,0.3s						
WRA	Warramunga Arr	16.99	135	P	Pn	19 39 01.3	+0.7
	1.3nm,0.3s,baz=317,slow=12,SNR=29						
WRA				S	S	19 42 02.2	-4.3
	0.9nm,0.3s,baz=305,slow=20,SNR=5.8						
WRAB	Tennant Creek	16.99	135	eP	Pn	19 39 01.8	+1.1
	6.6nm,0.5s						
WB2	Warramunga Arr	17.00	135	eP	Pn	19 39 01.5	+0.7
WB2				eS	S	19 42 01.0	-5.7
ASAR	Alice Springs	19.39	144	P	P	19 39 28.2	+2.8
	1.0nm,0.3s,baz=335,slow=15,SNR=71						
ASAR				S	S	19 42 52.2	-1.9
	baz=318,slow=18,SNR=4.7						
STKA	Stephens Creek	30.02	144	P	P	19 41 07.0	+2.2
	1.2nm,0.4s,mb3.9,baz=336,slow=9.3,SNR=9.0						
MJAR	Matsushiro Arr	47.13	18	P	P	19 43 26.2	-0.6
	1.3nm,0.6s,mb3.4,baz=187,

VNA1 e 19 38 23.4
VNA1 e 19 38 29.4
VNA1 e 19 38 35.8
VNA1 e 19 40 34.8
VNA1 e 19 40 39.2
VNA1 e 19 40 44.0
VNA2 Neumayer--Watz 13.39 152 e **Pn 19 38 22.8 -4.9**
VNA2 e 19 38 26.8
VNA2 e 19 38 34.4
VNA2 e 19 38 40.5
VNA2 e 19 40 40.9
VNA2 e 19 40 45.8
VNA2 e 19 40 51.4
SNAA Sanae 14.98 151 Pn **Pn 19 38 44.7 -4.7**
SNAA Sn **Sn 19 41 18.7 -16**
SNAA LR LR 19 43 21.1
SNAA ScP ScP 19 47 29.1 -2.0
SNAA Sanae 14.98 151 Pn **Pn 19 38 44.7 -4.7**
3.1nm,0.3s,baz=314,slow=14,SNR=123
SNAA Sn **Sn 19 41 18.7 -16**
1.2nm,0.3s,baz=317,slow=19,SNR=5.0
SNAA LR LR 19 43 21.1
comp=Z,3µm,20.9s,baz=310,slow=32
SNAA ScP ScP 19 47 29.1 -2.0
0.0nm,0.3s,baz=287,slow=6.1,SNR=3.7
SNAA T 19 52 58.0
0.3nm,0.3s,baz=325,slow=18,SNR=4.2
PMSA Palmer Station 17.82 239 *e*P **Pn 19 39 29.3 +3.6**
PMSA Palmer Station 17.82 239 P **Pn 19 39 28.2 +2.6**
2.3nm,0.3s,baz=79,slow=12,SNR=4.5
PMSA LR LR 19 45 31.0
comp=Z,5µm,18.5s,baz=222,slow=34
MAIT Maitri 18.78 140 *e*P **Pn 19 39 32.4 -5.0**
MAIT *e*S Sn 19 42 40.3 -27
NVL N'lazarevskaya 18.81 140 *d i*P **Pn 19 39 36.2 -1.5**
NVL *e*S **Sn 19 43 08.7 +0.9**
NVL pmax pmax
comp=Z,129nm,1.1s
EFI East Falkland 19.43 282 *e*P **Pn 19 39 45.6 +0.2**
EFI pmax pmax
comp=Z,220nm,1.0s
EFI East Falkland 19.43 282 *e*P **Pn 19 39 45.6 +0.3**
comp=Z,216nm,1.0s
USHA Ushuaia 22.86 265 P **P 19 40 21.6 +0.5**
comp=Z,71nm,0.8s,mb5.2,baz=104,slow=9.7,SNR=26
USHA LR LR 19 47 13.8
comp=Z,9µm,21.6s,MS5.2,baz=89,slow=31
QSPA South Pole Qui 30.18 180 *e*P **P 19 41 27.8 +0.1**
comp=Z,76nm,0.9s,mb5.4
QSPA South Pole Qui 30.18 180 P **P 19 41 28.0 +0.2**
comp=Z,14nm,0.9s,mb4.7,baz=215,slow=2.1,SNR=77
QSPA LR LR 19 53 15.2
comp=Z,3µm,20.4s,MS4.9,baz=191,slow=36
TRQA Tornquist 31.41 298 *e*P **P 19 41 39.1 +0.2**
comp=Z,47nm,0.8s,mb5.4
PLCA Paso Flores 33.26 285 P **P 19 41 54.4 -0.7**
PLCA pmax pmax
comp=Z,26nm,0.7s
PLCA MLR MLR
comp=Z,5µm,18.2s
PLCA Paso Flores 33.26 285 *e*P **P 19 41 53.9 -1.2**
comp=Z,33nm,0.8s,mb5.3
PLCA Paso Flores 33.26 285 P **P 19 41 54.4 -0.7**
comp=Z,26nm,0.7s,mb5.3,baz=130,slow=9.0,SNR=62
PLCA LR LR 19 55 25.5
comp=Z,5µm,18.2s,MS5.2,baz=140,slow=36
MAW Mawson 36.76 140 *e*P **P 19 42 24.6 -0.4**
comp=Z,30nm,0.9s,mb5.1
MAW Mawson 36.76 140 P **P 19 42 24.6 -0.4**
MAW 19 44 46.8
MAW pmax pmax
comp=Z,42nm,0.9s
MAW pmax pmax
comp=Z,4.0nm,0.7s
MAW MLR MLR
comp=Z,4µm,19.7s
MAW Mawson 36.76 140 P **P 19 42 24.6 -0.3**
comp=Z,42nm,0.9s,mb5.3,baz=256,slow=8.7,SNR=34
MAW PcP PcP 19 44 46.8 0.0
comp=Z,3.6nm,0.7s,baz=252,slow=3.2,SNR=3.3
MAW LR LR 19 55 40.0
comp=Z,4µm,19.7s,MS5.2,baz=244,slow=33
SFDO San Fernando 38.36 291 ⇓*i*P **P 19 42 37.3 -1.6**
LMEL Las Melosas 38.61 293 *e*P **P 19 42 41.9 +0.9**
PCH Pirque 38.95 293 ⇓*i*P **P 19 42 45.1 +1.3**
FCH Farellones 39.09 293 ⇓*e*P **P 19 42 45.9 +0.9**
TACH Talagante 39.12 292 ⇑*i*P **P 19 42 45.0 -0.2**
CLCH Cerro Calan 39.14 293 *e*P **P 19 42 46.7 +1.3**
PEL Peldehue 39.42 293 *e*P **P 19 42 48.2 +0.4**
CFAA Coronel Fontan 39.60 297 P **P 19 42 49.3 0.0**
comp=Z,9.1nm,0.6s,mb4.7,baz=155,slow=7.5,SNR=121
CFAA ScP ScP 19 48 42.0 -2.7
comp=Z,0.2nm,0.5s,baz=185,slow=4.4,SNR=2.8
CPUP Villa Florida 39.81 314 P **P 19 42 51.3 +0.2**
CPUP pmax pmax
comp=Z,24nm,0.7s
CPUP pmax pmax
comp=N,1.0nm,0.4s
CPUP MLR MLR
comp=Z,3µm,20.3s
CPUP Villa Florida 39.81 314 *e*P **P 19 42 50.5 -0.6**
comp=Z,107nm,0.7s,mb5.7
CPUP LR LR
comp=Z,465nm,19.0s,MS4.3
CPUP Villa Florida 39.81 314 P **P 19 42 51.3 +0.2**
comp=Z,24nm,0.7s,mb5.0,baz=138,slow=7.0,SNR=59
CPUP ScP ScP 19 48 40.9 -4.6
comp=Z,0.5nm,0.4s,baz=297,slow=2.3,SNR=2.4
CPUP LR LR 19 58 06.8
comp=Z,3µm,20.3s,MS5.0,baz=147,slow=34
SUR Sutherland 41.50 70 *e*P **P 19 43 09.8 +4.7**
SUR Sutherland 41.50 70 P **P 19 43 07.0 +2.0**
comp=Z,5.7nm,0.9s,mb4.2,baz=202,slow=5.4,SNR=4.3
SUR LR LR 19 56 36.5
comp=Z,3µm,18.6s,MS5.2,baz=3.1,slow=31
TLL Tololo Astrono 41.98 295 ⇓*i*P **P 19 43 09.4 +0.4**
SBA Scott Base 42.10 184 *e*P **P 19 43 10.3 +0.9**
comp=Z,18nm,1.0s,mb4.7
SBA LR LR
comp=Z,1µm,19.0s,MS4.8
VNDA Vanda 42.58 183 *e*P **P 19 43 13.6 +0.3**
comp=Z,9.5nm,0.8s,mb4.6
VNDA LR LR
comp=Z,931nm,20.0s,MS4.7
VNDA Vanda 42.58 183 P **P 19 43 13.6 +0.3**
comp=Z,5.7nm,0.8s,mb4.4,baz=192,slow=6.1,SNR=40
LCO Las Campanas 42.92 296 *e*P **P 19 43 16.9 +0.3**
comp=Z,55nm,0.9s,mb5.3
MIR Mirnyy 46.06 151 ⇑*i*P pP 19 43 52.0 +7.6
MIR *e*S **S 19 50 26.0 -0.1**
MIR pmax pmax
comp=Z,200nm,1.5s,mb5.8
MIR MLR MLR
comp=Z,5µm,19.0s,MS5.5
BOSA Boshof 46.74 71 P **P 19 43 47.3 +0.2**
BOSA pmax pmax
comp=Z,9.0nm,0.7s,mb4.8
BOSA MLR MLR
comp=Z,2µm,20.8s,MS5.1
BOSA Boshof 46.74 71 *e*P **P 19 43 47.2 +0.1**
comp=Z,12nm,0.8s,mb4.9
BOSA LR LR
comp=Z,2µm,20.0s,MS5.1
BOSA Boshof 46.74 71 P **P 19 43 47.2 +0.2**
comp=Z,9.3nm,0.7s,mb4.8,baz=209,slow=8.1,SNR=21
BOSA LR LR 19 59 17.8
comp=Z,2µm,20.8s,MS5.1,baz=212,slow=31
BDFB Brasilia 47.05 331 P **P 19 43 49.0 -0.5**
BDFB pmax pmax
comp=Z,5.0nm,0.7s
BDFB MLR MLR
comp=Z,1µm,18.7s
BDFB Brasilia 47.05 331 P **P 19 43 49.0 -0.5**
comp=Z,5.1nm,0.7s,mb4.6,baz=167,slow=15,SNR=12
BDFB LR LR 20 01 57.6
comp=Z,1µm,18.7s,MS4.8,baz=324,slow=34
LVC Limon Verde 47.71 303 *e*P **P 19 43 54.2 -0.4**
comp=Z,29nm,0.8s,mb5.4
LBTB Lobatse 49.95 69 P **P 19 44 11.2 -0.6**
LBTB pmax pmax
comp=Z,5.0nm,0.8s,mb4.6
LBTB Lobatse 49.95 69 *e*P **P 19 44 11.7 -0.1**
comp=Z,21nm,0.9s,mb5.2
LBTB Lobatse 49.95 69 P **P 19 44 11.2 -0.6**
comp=Z,5.2nm,0.8s,mb4.6,baz=226,slow=9.4,SNR=7.9
SIV San Ignacio 50.65 315 P **P 19 44 16.6 -0.6**
comp=Z,8.6nm,0.5s,mb4.9,baz=171,slow=8.5,SNR=40
TSUM Tsumeb 51.43 57 *e*P **P 19 44 24.5 +1.5**
comp=Z,14nm,0.8s,mb5.0
TSUM Tsumeb 51.43 57 P **P 19 44 24.6 +1.6**
comp=Z,17nm,0.8s,mb5.0,baz=193,slow=5.6,SNR=16
LPAZ La Paz 53.05 307 *e*P **P 19 44 35.3 +0.3**
comp=Z,27nm,0.8s,mb5.2
LPAZ LR LR
comp=Z,1µm,20.0s,MS5.0
LPAZ La Paz 53.05 307 P **P 19 44 35.5 +0.5**
comp=Z,6.7nm,0.5s,mb4.8,baz=147,slow=5.6,SNR=36
LPAZ LR LR 20 07 36.9
comp=Z,1µm,19.6s,MS4.9,baz=151,slow=37
DRV Dumont d'Urvil 53.19 173 P **P 19 44 45.0 +9.5**
DRV S **S 19 52 11.0 +5.2**
DRV SS SS 19 56 07.0 +23
DRV R 20 01 00.0
ARE Arequipa 54.27 303 *e*P **P 19 44 44.0 0.0**
LSZ Lusaka 59.57 66 *e*P **P 19 45 21.9 +0.3**
LSZ pmax pmax
comp=Z,24nm,0.8s,mb5.3
LSZ Lusaka 59.57 66 *e*P **P 19 45 21.9 +0.3**
comp=Z,24nm,0.8s,mb5.3
NNA Nana 60.55 300 *e*P **P 19 45 27.5 -0.8**
comp=Z,42nm,0.8s,mb5.6
ATAH Atahualpa 65.67 301 P **P 19 46 02.5 +0.1**
comp=Z,32nm,0.9s,mb5.3,baz=154,slow=4.3,SNR=16
ATAH LR LR 20 13 32.6
comp=Z,1µm,21.9s,MS5.0,baz=168,slow=35
LIC Lamto 68.22 23 *e*P **P 19 46 19.1 +0.6**
comp=Z,70nm,0.7s,mb5.8
KIC Kosan Boka 68.41 23 *e*P **P 19 46 20.3 +0.6**
comp=Z,57nm,0.7s,mb5.7
TIC Toumodi 68.63 23 *e*P **P 19 46 21.7 +0.6**
comp=Z,76nm,0.8s,mb5.7
DBIC Dimbokro 68.69 23 P **P 19 46 20.6 -0.8**
DBIC pmax pmax
comp=Z,8.0nm,0.7s
DBIC MLR MLR
comp=Z,791nm,19.7s
DBIC Dimbokro 68.69 23 *e*P **P 19 46 20.8 -0.7**
comp=Z,9.8nm,0.7s,mb4.8
DBIC LR LR
comp=Z,915nm,20.0s,MS5.0
DBIC Dimbokro 68.69 23 P **P 19 46 20.6 -0.8**
comp=Z,7.5nm,0.7s,mb4.7,baz=172,slow=7.9,SNR=17
DBIC LR LR 20 09 50.8
comp=Z,791nm,19.7s,MS5.0,baz=175,slow=30
KMBO Kilima Mbogo 76.18 67 P **P 19 47 11.5 +5.3**
KMBO pmax pmax
comp=Z,3.0nm,1.0s
KMBO MLR MLR
comp=Z,3µm,20.5s
KMBO Kilima Mbogo 76.18 67 P **P 19 47 11.5 +5.3**
comp=Z,3.4nm,0.9s,mb4.2,baz=185,slow=0.4,SNR=5.3
KMBO LR LR 20 17 14.5
comp=Z,3µm,20.5s,MS5.7,baz=278,slow=33
PCRV Puerto La Cruz 76.31 321 P **P 19 47 06.1 -0.8**
comp=Z,24nm,0.7s,mb5.2,baz=177,slow=2.5,SNR=6.0
TORD Torodi Ar. Bea 76.39 28 P **P 19 47 07.8 +0.5**
comp=Z,36nm,0.6s,mb5.5,baz=199,slow=6.3,SNR=346
SDV Santo Domingo 77.11 315 *e*P **P 19 47 09.8 -1.6**
comp=Z,15nm,0.6s,mb5.1
SDV Santo Domingo 77.11 315 P **P 19 47 10.3 -1.1**
comp=Z,13nm,0.7s,mb5.0,baz=193,slow=6.8,SNR=22
MTP Monte Pirata 84.06 323 P **P 19 47 46.6 -1.9**
STKA Stephens Creek 87.88 170 *e*P **P 19 48 08.1 +0.6**
comp=Z,11nm,0.9s,mb5.1
STKA Stephens Creek 87.88 170 P **P 19 48 07.8 +0.4**
comp=Z,4.6nm,1.0s,mb4.7,baz=127,slow=6.7,SNR=2.1
PPT Papeete 90.10 233 *e*LR LR 19 48 43.4
comp=Z,509nm,21.8s,baz=240
TEIG Tepich 94.28 304 P **P 19 48 35.6 -1.5**
comp=Z,5.7nm,0.6s,mb5.2,baz=75,slow=1.9,SNR=3.2
ASAR Alice Springs 95.05 162 P **P 19 48 39.5 -1.3**
comp=Z,2.1nm,0.8s,mb4.7,baz=185,slow=4.4,SNR=4.3
ASAR PKKPbc PKKPbc 20 05 32.9 +0.3
comp=Z,0.4nm,0.6s,baz=16,slow=2.0,SNR=8.5
WRA Warramunga Arr 98.77 162 PKKPbc PKKPbc 20 05 21.1 -1.4
comp=Z,0.5nm,0.7s,baz=358,slow=3.2,SNR=4.7
GERES GERESS Array B 113.34 28 *i* PKIKP PKiKP 19 53 53.8 -0.9
GERES GERESS Array B 113.34 28 PKiKP PKiKP 19 53 53.8 -0.9
comp=Z,0.1nm,0.3s,baz=177,slow=2.0,SNR=2.8
CLL Collm 115.49 26 *e*PP PP 19 55 06.0 +4.5
CLL *e*sPPP 19 57 42.0
CLL *e*sSdiff 20 03 02.0
CLL *e*PS PS 20 04 45.0 +4.5
CLL *e*PPS 20 05 55.0
CLL *e*x x 20 07 09.0
CLL *e*SS SS 20 11 07.0 +6.8
CLL *e*x x 20 12 58.0
CLL *e*x x 20 13 54.0
CLL *e*x x 20 14 42.0
CLL *e*SSS 20 15 30.0
CLL *e*x x 20 16 18.0
KIV Kislovodsk 118.00 50 *e*PKIKP PKPdf 19 54 04.2 +0.4
KIV pmax pmax
comp=Z,8.0nm,1.1s
SCHQ Schefferville 118.97 335 PKP PKPdf 19 54 04.1 -1.2
comp=Z,3.0nm,0.8s,baz=75,slow=5.2,SNR=5.2
AKASG Malin Array Be 119.20 37 PKIKP PKPdf 19 54 04.2 -1.7
AKASG pmax pmax
comp=Z,1.0nm,0.5s
AKASG Malin Array Be 119.20 37 PKP PKPdf 19 54 04.2 -1.7
comp=Z,1.4nm,0.5s,baz=235,slow=1.6,SNR=16
SRU San Rafael 120.19 296 *e*PKIKP PKPdf 19 54 07.6 -0.6
MSU Marysvale 120.45 295 *e*PKIKP PKPdf 19 54 08.5 -0.2
TPNV Topopah Spring 121.07 291 *e*PKIKP PKPdf 19 54 10.0 +0.1
KBL Kabul 121.88 75 *e*PKPdf PKPdf 19 54 12.0 +0.4
HWUT Hardware Ranch 122.68 297 *e*PKPdf PKPdf 19 54 12.1 -0.8
BGU Big Grassy Mou 122.79 296 *e*PKPdf PKPdf 19 54 11.9 -1.2
NVAR Mina Array Bea 123.22 290 PKP PKPdf 19 54 14.4 +0.3
comp=Z,1.5nm,0.6s,baz=135,slow=3.6,SNR=12
ULM Lac du Bonnet 123.36 314 PKP PKPdf 19 54 11.7 -2.2
comp=Z,3.9nm,0.5s,baz=173,slow=1.8,SNR=10
KOLN Koldanda 123.61 92 *e*P PKPdf 19 54 14.3 -0.8
comp=Z,22nm,0.9s
DANN Dangsing 124.17 92 *e*P PKPdf 19 54 16.2 0.0
NB2 NORSAR Subarra 124.23 21 PKPdf PKPdf 19 54 14.9 -0.3
comp=Z,3.1nm,0.8s,baz=200,slow=1.8
NOA NORSAR Array B 124.23 21 PKIKP PKPdf 19 54 14.9 -0.3
NOA pmax pmax
comp=Z,4.0nm,0.8s
NOA NORSAR Array B 124.23 21 PKP PKPdf 19 54 14.9 -0.3
comp=Z,4.1nm,0.8s,baz=195,slow=1.7,SNR=11
DMN Daman 124.24 94 *e*P PKPdf 19 54 16.3 0.0
comp=Z,30nm,1.0s
GKN Gorkha 124.33 93 *e*P PKPdf 19 54 16.7 +0.2
PKIN Phulchoki 124.36 94 *e*P PKPdf 19 54 16.2 -0.4
comp=Z,5.1nm,0.7s
PKI Pulchoki 124.36 94 *e*P PKPdf 19 54 16.3 -0.3
comp=Z,24nm,0.9s
KKN Kakani 124.47 94 *e*P PKPdf 19 54 16.6 -0.2
comp=Z,17nm,0.8s
JIRN Jiri 124.82 94 *e*P PKPdf 19 54 17.2 -0.3
comp=Z,52nm,1.0s
GUN Gumba 124.87 94 *e*P PKPdf 19 54 17.7 +0.2
WVOR Wild Horse Val 126.55 293 *e*PKIKP PKPdf 19 54 21.3 +1.0
MOD Modoc 126.91 291 *e*PKPdf PKPdf 19 54 21.0 0.0
EGMT Eagleton 126.99 303 *e*PKPdf PKPdf 19 54 20.4 -0.5
FINES FINESS Array B 127.74 29 PKP PKPdf 19 54 21.6 -0.3
FINES FINESS Array B 127.74 29 PKP PKPdf 19 54 21.6 -0.3
comp=Z,8.3nm,0.8s,baz=140,slow=3.1,SNR=39
FIA1 FINESS Array S 127.74 29 *e*PKPdf PKPdf 19 54 21.6 -0.3
BMO Blue Mountains 127.82 296 *e*PKIKP PKPdf 19 54 22.2 -0.4
MSO Missoula 127.85 300 *e*PKPdf PKPdf 19 54 22.9 +0.3
SFJD Kangerlussuaq 127.99 348 PKIKP PKPdf 19 54 21.9 -0.3
SFJD pmax pmax
comp=Z,11nm,0.8s
SFJD Kangerlussuaq 127.99 348 PKP PKPdf 19 54 21.9 -0.3
comp=Z,11nm,0.8s,baz=138,slow=6.1,SNR=4.0
KAF Kangasniemi 128.38 29 *e*pkp PKPdf 19 54 22.5 -0.6
KAF Kangasniemi 128.38 29 *e*PKP PKPdf 19 54 22.5 -0.6
LSA Lhasa 128.97 98 PKP PKPdf 19 54 25.5 +0.2
LSA Lhasa 128.97 98 *e*PKPdf PKPdf 19 54 26.0 +0.7
AML Almayashu 130.10 73 *e*PKPdf PKPdf 19 54 25.2 -1.8
JOF Joensuu 130.30 31 *e*pkp PKPdf 19 54 26.0 -0.7
JOF Joensuu 130.30 31 *e*PKP PKPdf 19 54 26.0 -0.7
EKS2 Erkin-Say 130.54 73 *e*PKPdf PKPdf 19 54 28.3 +0.4
UCH Uchtor 130.57 74 *e*PKPdf PKPdf 19 54 28.3 +0.4
TKM2 Tokmak 2 131.61 74 *e*PKHKP 19 54 17.9
GYA Guiyang 133.70 115 PDIF Pdif 19 51 33.8 +0.6
GYA PKP PKPdf 19 54 35.5 +1.1
GYA XPKP 19 54 51.0
GYA PP PP 19 57 09.0 +5.5
GYA PKS 19 58 10.5
GYA SKS SKSdf 20 01 41.3 -4.1
GYA SKKS SKKSac 20 03 56.0 -2.9
GYA SS SS 20 14 50.3 +0.7
GYA PP PP
comp=Z,140nm,8.4s
GYA LR LR
comp=Z,1µm,19.7s,MS5.6
ARU Arti 134.04 50 *e*PKHKP 19 54 20.0
ARU Arti 134.04 50 *e*PKPpre 19 54 20.0
ARCES ARCESS Array B 134.52 23 PKIKP PKPdf 19 54 33.9 -0.6
ARCES pmax pmax
comp=Z,6.0nm,0.6s
ARCES pmax pmax
comp=N,3.0nm,0.8s
ARCES ARCESS Array B 134.52 23 PKP PKPdf 19 54 33.9 -0.7
comp=N,5.5nm,0.6s,baz=226,slow=1.8,SNR=17
ARCES SKPbc SKPbc 19 58 04.2 +0.1
comp=N,3.4nm,0.8s,baz=197,slow=3.8,SNR=4.5
SVE Sverdlovsk 135.13 51 *e*PKIKP PKPdf 19 54 36.6 +0.6
SVE pmax pmax
comp=Z,17nm,0.7s
CD2 Chengdu 136.12 109 *e*PKP PKPdf 19 54 37.8 -0.9
CD2 XPKP 19 54 52.3
CD2 PP PP 19 57 21.8 +3.0
CD2 PKS 19 58 12.5
CD2 SKS SKSdf 20 01 43.3 -6.1
CD2 SKKS SKKSac 20 04 08.5 -4.8
CD2 SS SS 20 15 17.3 -1.4
CD2 PP PP
comp=Z,340nm,10.6s
BRVK Borovoye 136.50 61 *e*PKIKP PKPdf 19 54 37.5 -1.2
DAG Danmarks Havn 136.66 3 *e*PKIKP PKPdf 19 54 37.0 -1.4
DAG pmax pmax
comp=Z,5.0nm,0.8s
DAG Danmarks Havn 136.66 3 *i* P PKPdf 19 54 37.0 -1.4
comp=Z,4.5nm,0.8s
MK31 Makanchi Array 137.69 75 *e*PKHKP 19 54 31.1
MKAR Makanchi Array 137.69 75 PKIKP PKPdf 19 54 39.1 -2.0
MKAR Makanchi Array 137.69 75 PKhKP 19 54 29.6
comp=Z,0.5nm,0.7s,baz=222,slow=1.6,SNR=6.5
MKAR PKP PKPdf 19 54 39.0 -2.1
comp=Z,2.0nm,0.9s,baz=255,slow=3.0,SNR=9.8
WMQ Urumqi 138.21 82 *e*PKP PKPdf 19 54 43.0 +0.8
KURK Kurchatov 138.66 68 *e*PKHKP 19 54 34.0
YKA Yellowknife Ar 139.33 315 PKP PKPdf 19 54 43.0 -0.6
YKA SKPbc SKPbc 19 58 16.7 -1.9
YKA Yellowknife Ar 139.33 315 PKhKP 19 54 32.6
comp=Z,0.4nm,0.7s,baz=128,slow=3.4,SNR=4.2
YKA PKP PKPdf 19 54 43.0 -0.6
comp=Z,4.6nm,0.7s,baz=129,slow=2.0,SNR=35
YKA SKPbc SKPbc 19 58 16.7 -1.9
comp=Z,0.9nm,0.7s,baz=133,slow=3.2,SNR=4.8
LZH Lanzhou 140.38 104 ⇓PKP PKPdf 19 54 46.3 -0.1
LZH XPKP 19 55 01.5
LZH PP PP 19 57 49.8 +4.5
LZH PKS 19 58 20.3
LZH SKS SKSdf 20 01 51.5 -4.8
LZH SKKS SKKSac 20 04 35.0 -3.3
LZH *e*SS SS 20 16 08.3 -0.9
LZH PP PP
comp=Z,175nm,6.5s
LZH LR LR
comp=N,532nm,18.2s
LZH LR LR
comp=Z,732nm,20.3s,MS5.4
XAN Xi'an 141.14 112 PKP PKPdf 19 54 45.8 -2.0
NVS Novosibirsk 143.47 66 *e*PKIKP PKPdf 19 54 48.9 -2.4
NVS *e* 19 58 12.1
NVS pmax pmax
comp=Z,112nm,1.6s
NVS pmax pmax
comp=N,59nm,1.7s
ZAL Zalesovo 143.64 68 PKIKP PKPdf 19 54 48.4 -3.2
ZAL pmax pmax
comp=Z,3.0nm,0.5s
ZAL pmax pmax
comp=N,2.0nm,0.9s
ZAA0 Zalesovo Array 143.66 68 *e*PKPpre 19 54 46.9
ZALV Zalesovo Beam 143.66 68 PKP PKPdf 19 54 48.4 -3.2
comp=N,2.9nm,0.5s,baz=245,slow=3.2,SNR=15
ZALV SKP 19 58 23.6
comp=N,1.8nm,0.9s,baz=262,slow=2.2,SNR=3.3
NJ2 Nanjing 143.83 125 *e*PKP PKPdf 19 54 52.0 -0.7
TIA Tai'an 146.66 119 *e*PKP PKPdf 19 54 59.5 +2.1
BTO Baotou 146.92 106 *e*PKP PKPdf 19 54 59.3 +1.6
HHC Hu-ho-hao-te 147.85 108 ⇑*e*PKP PKPdf 19 55 01.5 +2.2
HHC APKP 19 55 12.0
HHC XPKP 19 55 16.0
HHC PKS 19 58 33.8
HHC PP PP 19 58 37.3 +7.2
HHC SKS SKSdf 20 02 05.3 -2.0
HHC SKKS SKKSac 20 05 20.5 -0.3
HHC PP PP
comp=Z,117nm,7.8s
HHC LR LR
comp=Z,735nm,21.2s,MS5.4
BJT Baijiatuau 149.36 114 *e*PKP2 PKPab 19 55 06.9 -4.0
BJI Beijing 149.38 114 PKP PKPdf 19 55 07.0 +5.2
DAWY Dawson 149.63 307 *e*PKPbc PKPbc 19 55 04.0 -2.0
MOY Mondy 150.10 83 *e*PKIKP PKPdf 19 55 08.3 +5.8
SONM Songino Array 150.37 93 PKIKP PKPdf 19 55 08.0 +4.9
SONM pmax pmax
comp=Z,16nm,0.9s
SONM Songino Array 150.37 93 PKPbc PKPbc 19 55 08.0 -0.3
comp=Z,16nm,0.9s,baz=240,slow=1.5,SNR=32
ZAK Zakamensk 150.46 86 *e*PKIKP PKPdf 19 55 02.2 -0.9
ZAK *e* 19 55 07.8
ZAK pmax pmax
comp=Z,25nm,1.1s
ZAK pmax pmax
comp=Z,3.0nm,2.0s
EGAK Eagle 150.61 307 *e*PKPdf PKPdf 19 55 02.8 -0.1
DL2 Dalian 150.86 122 ⇑PKP PKPdf 19 55 02.5 -1.6
DL2 APKP 19 55 14.0
DL2 PP PP 19 58 48.5 +1.1
DL2 PP PP
comp=Z,110nm,6.0s
DL2 LR LR
comp=Z,460nm,13.2s,MS5.5
DIV Divide 151.10 299 *e*PKPbc PKPbc 19 55 09.6 0.0
TLY Talaya 151.43 85 *e*PKIKP PKPdf 19 55 03.9 -0.7
TLY pmax pmax
comp=Z,35nm,1.2s
INCN Inchon 151.66 131 *e*PKPbc PKPbc 19 55 11.9 +0.2
IRK Irkutsk 152.08 84 *e*PKIKP PKPbc 19 55 15.1 +3.0
IRK pmax pmax
comp=Z,54nm,1.8s
KSRS Korea Array 152.12 133 PKIKP PKPbc 19 55 12.8 +0.1
KSRS pmax pmax
comp=Z,7.0nm,1.0s
KSRS Korea Array 152.12 133 PKPbc PKPbc 19 55 12.8 +0.1
comp=Z,7.3nm,0.9s,baz=191,slow=2.1,SNR=23
KDAK Kodiak Island 152.72 289 *e*PKPbc PKPbc 19 55 11.3 -2.1
SLKM Skilak Lake 152.82 296 *e*PKIKP PKPbc 19 55 12.8 -0.7
MJAR Matsushiro Arr 154.49 150 PKIKP PKPbc 19 55 17.5 -0.5
MJAR pmax pmax
comp=Z,2.0nm,0.8s
MJAR Matsushiro Arr 154.49 150 PKPbc PKPbc 19 55 17.5 -0.5
comp=Z,2.3nm,0.8s,baz=170,slow=3.3,SNR=6.3
MAT Matsushiro 154.49 150 *e*PKP PKPdf 19 55 08.8 -0.8
HIA Hailar 157.94 104 *e*PKIKP PKPdf 19 55 13.6 0.0
HIA Hailar 157.94 104 *e*PKPdf PKPdf 19 55 13.4 -0.2
MDJ Mudanjiang 158.91 126 PKP PKPdf 19 55 14.0 -1.0
MDJ PP PP 19 59 33.3 +0.9
MDJ SS SS 20 19 31.8 -3.7
MDJ LR LR
comp=N,644nm,17.6s
MDJ LR LR
comp=E,1µm,28.7s
MDJ LR LR
comp=Z,1µm,22.4s,MS5.6
PET Petropavlovsk 172.40 204 *e*PKIKP PKPdf 19 55 20.5 -5.2
PET *e* 19 56 49.7

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*IDC **30** 19:37:55.3±0.6, 20.37S×174.15W, h0km, mb4.6/17, mb1 4.7/18, mb1mx4.6/24, mbtmp4.6/18, ML4.6/1, MS4.1/3, Ms1 4.1/3, ms1mx3.5/33, Error ellipse: s-maj=21.6km s-min=16.0km az=128.0*

*ISCJB **30** 19:37:58.8±0.2, 20.46S±0.07×174.12W±0.06, h33km, mb4.8/48, MS5.0/2, Error ellipse: s-maj=11.8km s-min=6.1km az=142.0*

*NEIC **30** 19:38:01.1±2.0, 20.39S×174.11W, h40km±36km, mb5.0/31, Error ellipse: s-maj=11.8km s-min=7.9km az=147.0*
*BJI **30** 19:38:01.0, 20.40S×174.10W, h39km, mB5.2, mb4.9, Ms5.3, Msz4.8*
*MOS **30** 19:38:03.3±3.3, 20.28S×174.31W, h33km, mb5.2/14, Error ellipse: s-maj=14.6km s-min=10.5km az=59.3*
ISC 30 19:38:03.1±2.5, 2048S±008×**17410W**±007, **h57**km±23km, **h53**km±2.4km:**pP-P, n194,** σ0:**94**/98, **mb4.8**/48, **MS5.0**/2, **5C-19D, Tonga Islands**

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**6.90**	**19**	Pn	**Pn**	**19 39 32.3**	**-9.4**
AFI				*eP*		19 39 34.1	
AFI				Sn	**Sn**	**19 40 39.9**	**-19**
AFI	**Afiamalu**	**6.90**	**19**	Pn	**Pn**	**19 39 32.3**	**-9.4**
	14nm,0.3s,baz=58,slow=21,SNR=10						
AFI				Sn	**Sn**	**19 40 39.8**	**-19**
	7.5nm,0.3s,baz=27,slow=20,SNR=3.0						
RAO	**Raoul Island**	**9.40**	**201**	Sn	**Sn**	**19 41 53.7**	**-6.4**
	57nm,0.3s,baz=70,slow=23,SNR=5.8						
RAR	**Rarotonga**	**13.41**	**96**	Pn	**Pn**	**19 40 56.3**	**-14**
	4.0nm,0.3s,baz=273,slow=7.3,SNR=6.2						
RAR				LR	LR	19 45 30.7	
	comp=Z,980nm,18.7s,baz=278,slow=34						
DZM	**Mont Dzumac**	**18.21**	**262**	*eP*	**Pn**	**19 42 13.9**	**+2.0**
URZ	**Urewera**	**19.29**	**201**	P	**Pn**	**19 42 22.7**	**-2.1**
	2.0nm,0.3s,baz=355,slow=6.0,SNR=13						
URZ				S	**S**	**19 45 45.1**	**-13**
	0.4nm,0.3s,baz=163,slow=19,SNR=3.2						
PPT	**Papeete**	**23.35**	**87**	LR	LR	19 50 34.3	
	comp=Z,680nm,18.7s,MS4.1,baz=180,slow=32						
RPZ	**Rata Peaks**	**26.28**	**205**	P	**P**	**19 43 34.8**	**+1.6**
	10nm,0.8s,mb4.4,baz=333,slow=6.8,SNR=4.0						
CNB	**Canberra Magne**	**35.30**	**237**	*eP*	**P**	**19 44 53.0**	**+0.3**
	29nm,1.0s,mb5.2						
CTA	**Charters Tower**	**37.13**	**263**	*eP*	**P**	**19 45 08.4**	**-0.2**
	6.5nm,0.4s,mb4.8						
CTA	**Charters Tower**	**37.13**	**263**	*eP*	**P**	**19 45 08.4**	**-0.2**
CTA				pmax	pmax		
	comp=Z,7.0nm,0.4s						
CTA	**Charters Tower**	**37.13**	**263**	P	**P**	**19 45 08.0**	**-0.6**
	comp=Z,8.3nm,0.5s,mb4.8,baz=93,slow=10,SNR=19						
TOO	**Toolangi**	**38.89**	**235**	⇓*iP*	**P**	**19 45 23.3**	**+0.2**
	comp=Z,228nm,0.8s,mb6.0						
TOO	**Toolangi**	**38.89**	**235**	⇓*iP*	**P**	**19 45 23.3**	**+0.2**
TOO				pmax	pmax		
	comp=Z,228nm,0.8s,mb6.0						
STKA	**Stephens Creek**	**41.10**	**245**	*eP*	**P**	**19 45 41.3**	**-0.3**
	comp=Z,11nm,1.0s,mb4.5						
STKA	**Stephens Creek**	**41.10**	**245**	P	**P**	**19 45 40.0**	**-1.6**
	comp=Z,15nm,0.9s,mb4.6,baz=78,slow=10,SNR=12						
ASAR	**Alice Springs**	**48.08**	**256**	P	**P**	**19 46 36.2**	**-1.1**
	comp=Z,14nm,0.8s,mb5.0,baz=87,slow=8.4,SNR=47						
ASAR				PcP	PcP	19 48 05.6	+1.2
	comp=Z,4.2nm,0.8s,baz=120,slow=3.2,SNR=6.6						
ASAR				S	**S**	**19 53 31.0**	**-1.0**
	comp=Z,0.7nm,0.9s,baz=108,slow=12,SNR=4.8						
WB2	**Warramunga Arr**	**48.21**	**261**	*eP*	**P**	**19 46 37.0**	**-1.4**
WRAB	**Tennant Creek**	**48.22**	**261**	*eP*	**P**	**19 46 36.7**	**-1.7**
WRA	**Warramunga Arr**	**48.23**	**261**	P	**P**	**19 46 36.8**	**-1.7**
	comp=Z,10nm,0.8s,mb4.9,baz=97,slow=7.6,SNR=28						
WRA				PcP	PcP	19 48 06.0	+1.1
	comp=Z,3.6nm,0.8s,baz=98,slow=3.6,SNR=4.5						
KAKA	**Kakadu**	**51.63**	**270**	*eP*	**P**	**19 47 04.0**	**-0.4**
	comp=Z,22nm,0.9s,mb5.1						
FORT	**Forrest**	**52.66**	**246**	*eP*	**P**	**19 47 11.2**	**-0.6**
	comp=Z,18nm,0.8s,mb5.0						
FITZ	**Fitzroy Crossi**	**56.66**	**261**	*eP*	**P**	**19 47 40.6**	**-0.3**
	comp=Z,13nm,1.4s,mb4.8						
FITZ	**Fitzroy Crossi**	**56.66**	**261**	P	**P**	**19 47 40.4**	**-0.6**
	comp=Z,3.3nm,0.7s,mb4.5,baz=104,slow=8.0,SNR=13						
SBA	**Scott Base**	**58.16**	**185**	*eP*	**P**	**19 47 52.8**	**+2.2**
VNDA	**Vanda**	**58.28**	**186**	P	**P**	**19 47 53.9**	**+2.4**
	comp=Z,2.4nm,1.0s,mb4.2,baz=347,slow=10,SNR=3.8						
KLBR	**Kellerberrin**	**61.38**	**244**	*eP*	**P**	**19 48 13.8**	**+0.3**
	comp=Z,18nm,0.8s,mb5.2						
NWAO	**Narrogin (SRO)**	**61.64**	**243**	P	**P**	**19 48 15.2**	**-0.1**
	comp=Z,5.5nm,0.8s,mb4.7,baz=85,slow=11,SNR=3.0						
QSPA	**South Pole Qui**	**69.59**	**180**	*eP*	**P**	**19 49 06.3**	**+0.7**
	comp=Z,18nm,1.0s,mb5.0						
QSPA	**South Pole Qui**	**69.59**	**180**	P	**P**	**19 49 06.5**	**+0.8**
	comp=Z,6.6nm,0.8s,mb4.6,baz=59,slow=4.7,SNR=5.9						
MJAR	**Matsushiro Arr**	**72.42**	**321**	P	**P**	**19 49 23.2**	**-0.2**
	comp=Z,10nm,0.8s,mb4.8,baz=158,slow=5.7,SNR=33						
MAJO	**Matsushiro**	**72.42**	**321**	*eP*	**P**	**19 49 24.0**	**+0.6**
MAJO				pmax	pmax		
	comp=Z,13nm,0.8s,mb4.9						
MAJO	**Matsushiro**	**72.42**	**321**	*eP*	**P**	**19 49 24.0**	**+0.6**
	comp=Z,13nm,0.8s,mb4.9						
MAT	**Matsushiro**	**72.42**	**321**	P	**P**	**19 49 23.9**	**+0.5**
PFO	**Pinyon Flat Ob**	**76.87**	**46**	P	**P**	**19 49 49.3**	**+0.1**
	comp=Z,14nm,0.3s,mb4.4,baz=278,slow=6.3,SNR=5.2						
YSS	**Yuzh-Sakhalins**	**77.57**	**331**	⇑*eP*	**P**	**19 49 54.0**	**+1.2**
YSS				*e*	pP	19 50 08.5	-0.3
YSS				*e*		20 00 20.0	
YSS				pmax	pmax		
	comp=Z,30nm,0.9s,mb5.2						
YSS	**Yuzh-Sakhalins**	**77.57**	**331**	*eP*	**P**	**19 49 54.3**	**+1.5**
	comp=Z,16nm,0.9s,mb5.0						
GLA	**Glamis**	**77.67**	**48**	*eP*	**P**	**19 49 53.6**	**-0.1**
GLA				pmax	pmax		
	comp=Z,31nm,1.5s,mb5.0						
GLA	**Glamis**	**77.67**	**48**	*eP*	**P**	**19 49 53.5**	**-0.2**
	comp=Z,31nm,1.5s,mb5.0						
MTUM	**Tungsten Hills**	**77.72**	**42**	*eP*	**P**	**19 49 53.4**	**-0.5**
NVAR	**Mina Array Bea**	**78.54**	**42**	P	**P**	**19 49 58.5**	**+0.1**
	comp=Z,1.4nm,0.7s,mb4.0,baz=214,slow=9.4,SNR=9.0						
PAHR	**Pah Rah Range**	**78.66**	**40**	*eP*	**P**	**19 49 58.9**	**-0.2**
	comp=Z,29nm,1.5s,mb5.0						
TPNV	**Topopah Spring**	**78.95**	**44**	*eP*	**P**	**19 49 59.9**	**-0.8**
TPNV				pmax	pmax		
	comp=Z,40nm,1.7s,mb5.1						
TPNV	**Topopah Spring**	**78.95**	**44**	*eP*	**P**	**19 49 59.9**	**-0.9**
	comp=Z,40nm,1.7s,mb5.1						
KSRS	**Korea Array**	**79.34**	**317**	P	**P**	**19 50 04.1**	**+1.3**
	comp=Z,2.3nm,0.7s,mb4.2,baz=128,slow=5.9,SNR=11						
TUC	**Tucson**	**80.12**	**50**	*eP*	**P**	**19 50 06.6**	**-0.6**
	comp=Z,23nm,1.5s,mb4.9						
WVOR	**Wild Horse Val**	**80.81**	**38**	*eP*	**P**	**19 50 09.8**	**-0.8**
WVOR				pmax	pmax		
	comp=Z,7.0nm,1.1s,mb4.5						
WVOR	**Wild Horse Val**	**80.81**	**38**	*eP*	**P**	**19 50 09.8**	**-0.8**
	comp=Z,7.1nm,1.1s,mb4.5						
CCUT	**Cedar City**	**81.18**	**45**	*eP*	**P**	**19 50 12.8**	**0.0**
WUAZ	**Wupatki**	**81.41**	**47**	*eP*	**P**	**19 50 15.2**	**+1.2**
	comp=Z,22nm,1.5s,mb4.9						
HABR	**Khabarovsk**	**82.28**	**329**	*eP*	**P**	**19 50 18.7**	**+0.4**
HABR				*e*	pP	19 50 34.7	+0.4
HABR				S	S	20 00 31.7	+2.4
HABR				*e*		20 05 56.1	
HABR				pmax	pmax		
	comp=Z,31nm,1.2s,mb5.1						
MSU	**Marysvale**	**82.50**	**44**	*eP*	**P**	**19 50 20.1**	**+0.5**
MDJ	**Mudanjiang**	**82.65**	**323**	P	**P**	**19 50 22.0**	**+1.7**
MDJ				AMB	AMB		
	comp=Z,14nm,0.9s,mb5.0						
MDJ				AMB	AMB		
	comp=Z,121nm,4.5s						
MDJ	**Mudanjiang**	**82.65**	**323**	*eP*	**P**	**19 50 22.1**	**+1.9**
	comp=Z,5.4nm,0.6s,mb4.8						
MAW	**Mawson**	**82.80**	**199**	P	**P**	**19 50 21.0**	**+0.2**
	comp=Z,3.2nm,0.8s,mb4.4,baz=110,slow=4.5,SNR=4.4						
HAWA	**Hanford**	**82.80**	**35**	P	**P**	**19 50 20.7**	**-0.3**
	comp=Z,22nm,1.5s,mb5.0						
DUG	**Dugway**	**83.02**	**43**	*eP*	**P**	**19 50 22.9**	**+0.6**
BMO	**Blue Mountains**	**83.06**	**37**	*eP*	**P**	**19 50 21.3**	**-1.1**
	comp=Z,20nm,1.6s,mb4.9						
BGU	**Big Grassy Mou**	**83.29**	**42**	*eP*	**P**	**19 50 22.6**	**-1.1**
TMUT	**Trail Mountain**	**83.56**	**44**	*eP*	**P**	**19 50 24.7**	**-0.4**
MNTX	**Cornudas Mount**	**83.78**	**53**	*eP*	**P**	**19 50 25.4**	**-1.1**
	comp=Z,12nm,1.4s,mb4.8						
LAZ	**Ladron**	**83.81**	**50**	*eP*	**P**	**19 50 26.4**	**-0.1**
SPUT	**South Promonto**	**83.87**	**42**	*eP*	**P**	**19 50 26.4**	**-0.2**
SRU	**San Rafael**	**83.91**	**44**	*eP*	**P**	**19 50 26.8**	**-0.1**
SRU				pmax	pmax		
	comp=Z,30nm,1.5s,mb5.2						
SRU	**San Rafael**	**83.91**	**44**	*eP*	**P**	**19 50 26.8**	**-0.1**
	comp=Z,30nm,1.5s,mb5.2						
HVU	**Hansel Valley**	**83.93**	**41**	*eP*	**P**	**19 50 26.0**	**-1.0**
HVU				pmax	pmax		
	comp=Z,3.0nm,0.8s,mb4.5						
HVU	**Hansel Valley**	**83.93**	**41**	*eP*	**P**	**19 50 26.0**	**-0.9**
	comp=Z,3.4nm,0.8s,mb4.5						
HLID	**Hailey**	**83.96**	**39**	*eP*	**P**	**19 50 27.0**	**-0.1**
	comp=Z,24nm,1.4s,mb5.1						
CTU	**Camp Tracy**	**83.97**	**43**	*eP*	**P**	**19 50 24.5**	**-2.7**
BNM	**Barren Site**	**84.05**	**50**	*eP*	**P**	**19 50 26.8**	**-0.9**
LPM	**Los Pinos Moun**	**84.13**	**50**	*eP*	**P**	**19 50 28.4**	**+0.2**
DAU	**Daniels Canyon**	**84.13**	**43**	*eP*	**P**	**19 50 27.0**	**-1.0**
TTA	**Tatalina**	**84.35**	**8**	*eP*	**P**	**19 50 28.9**	**+0.4**
TTA				pmax	pmax		
	comp=Z,39nm,1.8s,mb5.2						
TTA	**Tatalina**	**84.35**	**8**	*eP*	**P**	**19 50 28.9**	**+0.4**
	comp=Z,39nm,1.8s,mb5.2						
CN2	**Changchun**	**84.56**	**321**	*eP*	**P**	**19 50 31.3**	**+1.2**
ANMO	**Albuquerque**	**84.56**	**50**	*eP*	**P**	**19 50 30.9**	**+0.6**
HWUT	**Hardware Ranch**	**84.59**	**42**	*eP*	**P**	**19 50 30.7**	**+0.4**
	comp=Z,12nm,1.4s,mb4.8						
PV01	**Paradox Valley**	**84.69**	**46**	*eP*	**P**	**19 50 31.6**	**+0.7**
REDW	**Red Top Meadow**	**85.99**	**41**	*eP*	**P**	**19 50 37.7**	**+0.5**
	comp=Z,24nm,1.6s,mb5.2						
TPAW	**Teton Pass**	**86.00**	**41**	*eP*	**P**	**19 50 38.4**	**+1.1**
	comp=Z,6.5nm,1.2s,mb4.7						
DLMT	**Dillon**	**86.06**	**38**	*eP*	**P**	**19 50 39.8**	**+2.2**
	comp=Z,20nm,1.5s,mb5.1						
BOZ	**Bozeman (W)**	**86.78**	**39**	*eP*	**P**	**19 50 40.6**	**-0.5**
BOZ				pmax	pmax		
	comp=Z,23nm,1.8s,mb5.1						
BOZ	**Bozeman (W)**	**86.78**	**39**	*eP*	**P**	**19 50 40.6**	**-0.5**
	comp=Z,23nm,1.8s,mb5.1						
COLA	**College**	**87.45**	**11**	*eP*	**P**	**19 50 42.6**	**-1.2**
IMA2	**Indian Mountai**	**87.65**	**8**	*eP*	**P**	**19 50 44.8**	**0.0**
SNAA	**Sanae**	**87.90**	**177**	P	**P**	**19 50 46.2**	**+0.1**
	comp=Z,0.9nm,0.8s,mb4.1,baz=188,slow=14,SNR=3.5						
PSI	**Prapat**	**88.14**	**274**	P	**P**	**19 50 48.0**	**-0.4**
	comp=Z,4.4nm,0.4s,mb5.1,baz=271,slow=7.0,SNR=4.4						
DAWY	**Dawson**	**88.48**	**15**	*eP*	**P**	**19 50 49.0**	**+0.3**
EGAK	**Eagle**	**88.69**	**13**	*eP*	**P**	**19 50 50.1**	**+0.4**
	comp=Z,9.1nm,1.1s,mb5.0						
BILL	**Bilibino**	**89.43**	**353**	⇓*eP*	**P**	**19 50 53.8**	**+0.7**
BILL				*e*		19 54 24.9	
BILL				*e*PS	PS	20 02 50.0	-1.2
BILL				pmax	pmax		
	comp=Z,4.0nm,0.8s						
BILL				MLR	MLR		
	comp=Z,30μm,16.0s						
HIA	**Hailar**	**90.83**	**323**	*eP*	**P**	**19 51 00.5**	**+0.4**
XAN	**Xi'an**	**91.06**	**306**	P	**P**	**19 51 02.5**	**+1.0**
XAN				AP	pP	19 51 16.5	-1.3
XAN				AMB	AMB		
	comp=Z,3.0nm,1.2s,mb4.5						
YKA	**Yellowknife Ar**	**94.99**	**24**	P	**P**	**19 51 18.3**	**-0.7**
YKA	**Yellowknife Ar**	**94.99**	**24**	P	**P**	**19 51 18.2**	**-0.7**
	comp=Z,0.8nm,0.7s,mb4.2,baz=238,slow=4.4,SNR=12						
ECSD	**EROS,Sioux Fal**	**95.29**	**45**	*eP*	**P**	**19 51 20.6**	**-0.3**
	comp=Z,12nm,1.3s,mb5.2						
TIXI	**Tiksi**	**99.69**	**344**	*eP*	Pdif	19 51 41.4	+0.8
TIXI				pmax	pmax		
	comp=Z,3.0nm,1.1s,mb4.6						
KMBO	**Kilima Mbogo**	**142.54**	**239**	PKP	PKPdf	19 57 29.1	-1.5
	comp=Z,1.8nm,1.0s,baz=42,slow=11,SNR=2.9						
ERZM	**Erzurum**	**144.06**	**311**	*iP*	PKPdf	19 57 33.0	+0.4
AKASG	**Malin Array Be**	**144.68**	**334**	PKP	PKPdf	19 57 31.9	-1.3
AKASG	**Malin Array Be**	**144.68**	**334**	PKP	PKPdf	19 57 31.9	-1.3
	comp=Z,10nm,0.6s,baz=41,slow=4.3,SNR=86						
BSD	**Bornholm Skovb**	**144.75**	**351**	*iP*	PKPdf	19 57 32.0	-1.2
	comp=Z,21nm,0.8s						
MARD	**Mardin**	**145.41**	**307**	*iP*	PKPdf	19 57 36.2	+1.3
ELZG	**Elazig**	**146.31**	**309**	*iP*	PKPab	19 57 40.2	+1.7
MALT	**Malatya**	**146.78**	**309**	PKP2	PKPab	19 57 41.4	+1.0
MALT	**Malatya**	**146.78**	**309**	⇑*iP*	PKPab	19 57 40.8	+0.4
LVV	**L'vov**	**147.37**	**338**	*e*PKIKP	PKPbc	19 57 40.4	+0.1
LVV				MLR	MLR		
	comp=Z,2μm,18.0s,MS5.9						
LVV				MLR	MLR		
	comp=N,1μm,16.0s,MS6.0						
LVV				MLR	MLR		
	comp=E,2μm,19.0s,MS6.0						
KIS	**Kishinev**	**147.63**	**330**	*eP*	PKPdf	19 57 40.0	+1.6
BOYT	**Boyabat**	**147.77**	**317**	*iP*	PKPbc	19 57 43.2	+1.5
GZT	**Gaziantep**	**147.78**	**308**	*iP*	PKPbc	19 57 43.7	+1.8
CTKT	**Corum**	**148.26**	**316**	*iP*	PKPbc	19 57 44.5	+1.5
OJC	**Ojcow**	**148.34**	**343**	*e*PKP	PKPbc	19 57 43.5	+0.6
KSP	**Ksiaz**	**148.61**	**347**	*e*PKIKP	PKPbc	19 57 44.3	+0.7
STHS	**Stebnicka Huta**	**148.63**	**341**	*e*PKP	PKPbc	19 57 44.8	+1.1
BALT	**Daday**	**148.67**	**318**	*iP*	PKPbc	19 57 45.2	+1.2
KOLS	**Kolonicke sedl**	**148.72**	**339**	*e*PKIKP	PKPbc	19 57 44.9	+1.0
KOLS	**Kolonicke sedl**	**148.72**	**339**	*e*PKP	PKPbc	19 57 44.8	+0.9
CLL	**Collm**	**148.73**	**351**	*iP*KIKP	PKPbc	19 57 44.4	+0.5
CLL				*i*		19 57 47.2	
CLL				*i*		19 57 59.5	
CLL				pmax	pmax		
	comp=Z,15nm,1.3s						
CLL	**Collm**	**148.73**	**351**	*iP*KPbc	PKPbc	19 57 44.4	+0.5
	comp=Z,15nm,1.3s						
CLL				*iP*KPab	PKPab	19 57 47.2	-0.4
	comp=Z,14nm,1.0s						
CLL				*iP*KPab	pPKPab	19 57 59.5	-4.6
BURAR	**Bucovina Array**	**148.73**	**334**	⇓*iP*	PKPdf	19 57 40.4	+0.3
NIE	**Niedzica**	**148.91**	**342**	*e*PKP	PKPbc	19 57 45.7	+1.3
UZH	**Uzhgorod**	**148.98**	**339**	*e*PKIKP	PKPbc	19 57 46.0	+1.4
UPC	**Upice**	**148.99**	**347**	*e*PKP	PKPbc	19 57 45.7	+1.2
BRG	**Berggiesshubel**	**149.01**	**350**	*e*PKIKP	PKPbc	19 57 45.3	+0.7
BRG				*e*		19 58 01.2	
BRG				*e*		20 04 44.0	
BRG				pmax	pmax		
	comp=Z,13nm,1.7s						
BRG				pmax	pmax		
	comp=Z,9.0nm,1.1s						
BRG	**Berggiesshubel**	**149.01**	**350**	*e*PKP	PKPbc	19 57 45.3	+0.7
	comp=Z,21nm,1.7s						
BRG				*e*		19 58 01.2	
	comp=Z,14nm,1.1s						
BRG				*e*		20 04 44.0	
BRG				*e*		20 22 02.0	
CRVS	**Cervenica-Dubn**	**149.02**	**340**	*e*PKP	PKPbc	19 57 45.3	+0.6
DPC	**Dobruska-Polom**	**149.07**	**347**	*e*PKP	PKPbc	19 57 45.1	+0.4
DPC				*ep*PKP	pPKPdf	19 57 50.0	-7.5
OKC	**Ostrava-Krasne**	**149.13**	**344**	*e*PKP	PKPbc	19 57 45.5	+0.6
OKC				*ep*PKP	pPKPdf	19 57 50.4	-7.2
PVCC	**Panska Ves**	**149.24**	**349**	*e*PKP	PKPbc	19 57 46.4	+1.2
MORC	**Moravsky Berou**	**149.33**	**345**	PKIKP	PKPbc	19 57 47.2	+1.8
MORC	**Moravsky Berou**	**149.33**	**345**	⇓*iP*	PKPbc	19 57 46.6	+1.2
VRI	**Vrincioaia**	**149.44**	**331**	⇓*iP*	PKPbc	19 57 46.5	+0.7
MOX	**Moxa**	**149.56**	**353**	*e*P	PKPbc	19 57 46.7	+0.8
	comp=Z,16nm,1.5s						
MOX	**Moxa**	**149.56**	**353**	*e*PKHKP	PKPbc	19 57 46.7	+0.8
MOX				pmax	pmax		
	comp=Z,16nm,1.5s						
KECS	**Kecovo**	**149.69**	**341**	*e*PKP	PKPbc	19 57 47.2	+0.8
HARR	**Harsova**	**149.74**	**328**	PKHKP	PKPbc	19 57 48.1	+1.5
HARR	**Harsova**	**149.74**	**328**	⇓*iP*	PKPbc	19 57 47.9	+1.3
PRU	**Pruhonice**	**149.76**	**349**	*e*PKP	PKPbc	19 57 47.3	+0.8
PRU				*ep*PKP	pPKPdf	19 57 52.6	-6.0
NKC	**Novy Kostel**	**149.86**	**352**	*e*PKP	PKPbc	19 57 46.1	-0.6
ANTO	**Ankara**	**149.96**	**316**	⇓*iP*	PKPbc	19 57 48.7	+1.4
VRAC	**Vranov**	**149.99**	**346**	⇓*iP*	PKPbc	19 57 47.9	+0.9
MLR	**Muntele Rosu**	**150.09**	**331**	⇓*iP*	PKPbc	19 57 48.4	+1.0
VYHS	**Vyhne**	**150.17**	**343**	*iP*KP	PKPbc	19 57 48.3	+0.8
VYHS				*e*		19 57 54.5	
KOLL	**Kolacno**	**150.22**	**343**	*e*PKP	PKPbc	19 57 47.7	+0.1
TREC	**Trest**	**150.24**	**347**	*e*PKP	PKPbc	19 57 48.3	+0.6
TREC				*ep*PKP	pPKPdf	19 57 54.3	-5.1
PSZ	**Piszkesteto**	**150.38**	**341**	PKIKP	PKPbc	19 57 48.2	+0.2
DRGR		**150.39**	**336**	P	PKPbc	19 57 49.5	+1.4
DRGR		**150.39**	**336**	⇓*iP*	PKPbc	19 57 49.1	+1.0
GIVF	**Givet**	**150.43**	**1**	*e*PKIKP	PKPbc	19 57 47.5	-0.6
BAIF	**Baives**	**150.45**	**2**	*e*PKIKP	PKPbc	19 57 47.7	-0.4
	comp=Z,9.3nm,0.8s						
VOIR		**150.53**	**332**	P	PKPbc	19 57 50.5	+2.0
VOIR		**150.53**	**332**	⇓*iP*	PKPbc	19 57 49.7	+1.2
GRA1	**Grafenberg Arr**	**150.54**	**353**	*e*PKP	PKPbc	19 57 48.9	+0.5
GRF	**Grafenberg Arr**	**150.54**	**353**	*e*PKIKP	PKPbc	19 57 48.9	+0.5
KHC	**Kasperske Hory**	**150.76**	**350**	*e*PKIKP	PKPbc	19 57 49.5	+0.6
KHC				*e*		19 57 55.9	
KHC	**Kasperske Hory**	**150.76**	**350**	*e*PKP	PKPbc	19 57 49.5	+0.6
KHC				*e*		19 57 55.9	
KHC				*e*		19 58 08.5	
KHC	**Kasperske Hory**	**150.76**	**350**	*e*PKP	PKPbc	19 57 49.5	+0.6
KHC				*ep*PKP	pPKPdf	19 57 55.9	-4.3
KHC				x	x	19 58 08.5	
GERES	**GERESS Array B**	**151.01**	**349**	PKPbc	PKPbc	19 57 49.7	+0.2
	comp=Z,1.7nm,0.9s,baz=29,slow=3.0,SNR=11						
KDHN	**Kadinhani**	**151.11**	**314**	*iP*	PKPbc	19 57 50.1	0.0
FLN	**La Foliniere**	**151.32**	**9**	*e*PKIKP	PKPbc	19 57 49.0	-1.2
	comp=Z,23nm,0.9s						
ESKT	**Eskisehir**	**151.40**	**317**	*eP*	PKPbc	19 57 51.1	+0.4
CONA	**Conrad Observa**	**151.46**	**346**	⇓*iP*	PKPbc	19 57 49.9	-0.7
	comp=Z,11nm,1.0s						
SGMF	**Saint Gilles**	**151.46**	**12**	*e*PKIKP	PKPbc	19 57 49.2	-1.3
	comp=Z,93nm,1.4s						
GZR	**Gura Zlata**	**151.52**	**335**	⇑*iP*	PKPbc	19 57 51.8	+1.0
LDF	**La Druitiere**	**151.53**	**8**	*e*PKIKP	PKPbc	19 57 49.2	-1.5
	comp=Z,39nm,1.2s						
GRR	**Gorron**	**151.63**	**10**	*e*PKIKP	PKPbc	19 57 49.3	-1.6
	comp=Z,13nm,0.6s						
BZS	**Buzias**	**151.79**	**336**	⇑PKIKP	PKPbc	19 57 51.9	+0.5
BZS	**Buzias**	**151.79**	**336**	⇑*iP*	PKPbc	19 57 51.8	+0.4
MEZF	**Maizieres J'vi**	**152.03**	**1**	*e*PKIKP	PKPbc	19 57 50.1	-1.7
CDF	**Champ du Feu**	**152.11**	**358**	*e*PKIKP	PKPbc	19 57 50.1	-1.9
	comp=Z,9.1nm,0.9s						
PKSM	**Moragy**	**152.29**	**341**	⇓*iP*	PKPbc	19 57 53.0	+0.5
HAU	**Haudompre**	**152.54**	**359**	*e*PKIKP	PKPbc	19 57 50.7	-2.3
HINF	**Hinteralfeld**	**152.72**	**359**	*e*PKIKP	PKPbc	19 57 51.1	-2.3
KBA	**Koelnbreinsper**	**152.78**	**349**	⇓*eP*	PKPbc	19 57 53.7	+0.1
	comp=Z,7.0nm,1.8s						
SOKA	**Soboth**	**152.82**	**346**	⇓*iP*	PKPbc	19 57 53.6	0.0
	comp=Z,5.3nm,1.1s						
MOTA	**Moosalm**	**152.87**	**352**	⇓*iP*	PKPbc	19 57 54.1	+0.3
	comp=Z,5.8nm,1.1s						
WTTA	**Wattenberg**	**152.88**	**351**	⇓*eP*	PKPdf	19 57 47.0	+0.4
	comp=Z,9.7nm,1.0s						
LOR	**Lormes**	**153.22**	**3**	*e*PKIKP	PKPbc	19 57 51.5	-3.0
	comp=Z,7.6nm,0.8s						
FETA	**Feichten**	**153.23**	**353**	⇓*eP*	PKPbc	19 57 55.4	+0.8
	comp=Z,5.0nm,1.3s						
SSF	**Saint Saulge**	**153.41**	**4**	*e*PKIKP	PKPbc	19 57 52.1	-2.9
MFF	**Saint Martin d**	**153.48**	**9**	*e*PKIKP	PKPbc	19 57 52.2	-2.9
	comp=Z,28nm,1.2s						
AVF	**Avril sur Loir**	**153.67**	**4**	*e*PKIKP	PKPbc	19 57 52.3	-3.2
	comp=Z,4.7nm,0.8s						
VISS	**Visnje**	**153.69**	**346**	*i* PKPdf	PKPab	19 58 08.7	+0.3
SMF	**Signal de Mont**	**153.84**	**3**	*e*PKIKP	PKPbc	19 57 52.7	-3.2
BOJS	**Bojanci**	**153.88**	**345**	*i* PKPdf	PKPab	19 58 09.6	+0.4
BOJS				*e*		19 58 17.7	
CABF	**La Chapelle**	**153.93**	**360**	*e*PKIKP	PKPdf	19 57 52.7	+4.6
TCF	**Toulx Ste Croi**	**154.08**	**6**	*e*PKIKP	PKPdf	19 57 53.0	+4.7
	comp=Z,19nm,1.2s						
LPL	**La Plagne**	**155.02**	**359**	*e*PKIKP	PKPdf	19 57 54.4	+4.8
LPG	**La Plagne**	**155.04**	**359**	*e

27nm,1.2s,mb4.6
MUN Mundaring 26.98 204 eP P 20 13 20.3 -0.3
STKA Stephens Creek 27.17 155 eP P 20 13 24.1 +1.7
3.7nm,0.4s,mb4.3
STKA Stephens Creek 27.17 155 P P 20 13 24.1 +1.7
5.5nm,0.5s,mb4.3,baz=329,slow=8.9,SNR=21
NWAO Narrogin (SRO) 27.44 201 P P 20 13 24.9 +0.2
4.1nm,0.5s,mb4.2,baz=27,slow=13,SNR=16
TOO Toolangi 33.70 155 eP P 20 14 23.4 +3.6
71nm,0.6s,mb5.7
MJAR Matsushiro Arr 44.69 11 P P 20 15 51.2 0.0
0.6nm,0.5s,mb3.6,baz=186,slow=7.9,SNR=4.3
JIRN Jiri 53.81 312 eP P 20 17 00.3 -0.7
GUN Gumba 54.18 312 eP P 20 17 03.5 -0.1
PKI Pulchoki 54.34 312 eP P 20 17 04.3 -0.5
PKIN Phulchoki 54.35 312 eP P 20 17 04.0 -0.9
DMN Daman 54.59 312 eP P 20 17 06.3 -0.3
KOLN Koldanda 55.80 311 eP P 20 17 15.2 -0.1
DANN Dangsing 55.99 311 eP P 20 17 16.5 -0.1
SONM Songino Array 58.42 343 P P 20 17 34.1 +0.7
1.0nm,0.7s,mb3.9,baz=155,slow=7.7,SNR=6.2
MK31 Makanchi Array 67.82 328 eP P 20 18 35.4 -0.2
MKAR Makanchi Array 67.82 328 P P 20 18 35.6 0.0
1.0nm,0.4s,mb4.0,baz=119,slow=8.1,SNR=51
ZALV Zalesovo Beam 71.36 334 P P 20 18 56.5 -0.7
1.9nm,0.4s,mb4.2,baz=127,slow=8.5,SNR=10
KURK Kurchatov 72.16 329 eP P 20 19 01.9 -0.2
3.7nm,0.8s,mb4.3
VNDA Vanda 72.18 173 P P 20 19 01.3 -0.5
0.8nm,0.5s,mb3.8,baz=309,slow=6.5,SNR=13
TORD Torodi Ar. Bea 127.49 281 PKP PKPdf 20 26 41.4 -1.3
0.4nm,0.6s,baz=56,slow=1.6,SNR=4.6
LPAZ La Paz 151.21 145 PKPbc PKPbc 20 27 30.8 -0.3
0.7nm,0.5s,baz=64,slow=4.9,SNR=4.7
LPAZ PKPab PKPab 20 27 41.1 +2.0
2.3nm,0.7s,baz=240,slow=0.8,SNR=9.2

*ISCJB **30** 20:10:17.2±0.5, 35.4S±0.1×78.6E±0.1, h10km, mb4.2/17, MS4.3/2, Error ellipse: s-maj=15.0km s-min=13.7km az=166.2*
*IDC **30** 20:10:17.3±0.7, 35.34S×78.61E, h0km, mb4.1/14, mb1 4.2/14, mb1mx4.1/21, mbtmp4.1/14, MS4.4/2, Ms1 4.3/2, ms1mx4.0/29, Error ellipse: s-maj=21.7km s-min=18.4km az=11.0*
*BJI **30** 20:10:18.6, 34.94S×78.69E, h6km, mb4.5*
*NEIC **30** 20:10:19.0±0.4, 35.40S×78.59E, h10km, mb4.8/2, Error ellipse: s-maj=12.5km s-min=11.5km az=180.0*
ISC 30 20:10:19.1±0.5, 35.4S±0.1×78.6E±0.1, h10km, n23, σ0.85/19, mb4.2/17, MS4.3/2, Mid-Indian Ridge

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
NWAO Narrogin (SRO) 31.91 97 LR LR 20 26 20.4
comp=Z,664nm,20.9s,MS4.3,baz=236,slow=30
OPO Ambohidratompo 32.45 293 T 20 49 06.1
0.5nm,0.3s,baz=53,slow=22,SNR=6.9
MAW Mawson 33.51 191 P P 20 16 57.9 -0.3
1.9nm,0.8s,mb4.1,baz=14,slow=12,SNR=3.3
MAW LR LR 20 27 18.9
comp=Z,612nm,19.7s,MS4.3,baz=175,slow=30
BOSA Boshof 45.31 263 P P 20 18 37.3 +0.1
2.5nm,0.8s,mb4.1,baz=124,slow=18,SNR=5.6
MATP Matopo 46.26 275 P P 20 18 44.6 -0.2
2.9nm,1.0s,mb4.2,baz=113,slow=9.0,SNR=4.8
LBTB Lobatse 46.50 268 P P 20 18 45.9 -0.7
LBTB Lobatse 46.50 268 P P 20 18 45.9 -0.7
6.7nm,0.9s,mb4.6,baz=151,slow=5.6,SNR=8.5
SUR Sutherland 47.50 256 P P 20 18 54.3 -0.1
6.2nm,0.8s,mb4.7,baz=263,slow=6.9,SNR=4.8
ASAR Alice Springs 48.94 92 P P 20 19 05.7 +0.1
1.3nm,0.8s,mb4.0,baz=261,slow=4.6,SNR=4.1
WRA Warramunga Arr 51.06 88 P P 20 19 21.7 -0.1
2.3nm,0.8s,mb4.1,baz=240,slow=7.5,SNR=4.7
KMBO Kilima Mbogo 51.37 302 P P 20 19 25.1 +1.0
1.6nm,0.8s,mb4.0,baz=48,slow=16,SNR=3.5
VNDA Vanda 54.29 165 P P 20 19 44.9 0.0
1.9nm,0.9s,mb4.0,baz=260,slow=9.7,SNR=6.3
QSPA South Pole Qui 54.77 180 eP P 20 19 49.4 +1.1
QSPA South Pole Qui 54.77 180 P P 20 19 49.0 +0.7
5.5nm,0.9s,mb4.6,baz=288,slow=4.4,SNR=11
KBL Kabul 70.14 352 eP P 20 21 32.9 +1.4
9.9nm,1.1s,mb4.7
XAN Xi'an 74.65 26 P P 20 21 57.0 -1.5
XAN AMB AMB
comp=Z,3.0nm,1.5s,mb4.0
MKAR Makanchi Array 81.87 3 P P 20 22 36.1 -1.9
comp=Z,1.4nm,1.0s,mb3.9,baz=164,slow=4.9,SNR=5.4
KURK Kurchatov 85.73 360 eP P 20 22 58.9 +1.1
comp=Z,5.9nm,1.1s,mb4.7
SONM Songino Array 86.50 18 P P 20 23 02.3 +0.7
comp=Z,0.7nm,0.8s,mb3.9,baz=211,slow=1.7,SNR=3.5
TORD Torodi Ar. Bea 87.15 288 P P 20 23 04.9 -0.7
comp=Z,2.2nm,1.1s,mb4.3,baz=109,slow=3.8,SNR=4.4
ZALV Zalesovo Beam 89.13 4 P P 20 23 14.1 0.0
comp=Z,0.3nm,0.3s,mb4.0,baz=158,slow=4.2,SNR=2.1
SCHQ Schefferville 149.27 320 PKPbc PKPbc 20 30 07.6 +0.3
comp=Z,1.4nm,0.4s,baz=0.0,slow=5.1,SNR=3.0
NVAR Mina Array Bea 166.12 72 PKPab PKPab 20 31 28.0 +3.1
comp=Z,0.3nm,0.6s,baz=248,slow=6.4,SNR=3.6

*BGS **30** 20:22:08.7±1.4, 51.51N×158.74E, h120km, mb6.3*
*BJI **30** 20:22:10.2, 52.07N×157.58E, h132km, mB6.6, mb6.1*
*ISCJB **30** 20:22:11.5±0.1, 52.10N±0.02×157.29E±0.02, h120km, mb6.2/402, Error ellipse: s-maj=2.3km s-min=1.3km az=169.9*
*CRAAG **30** 20:22:11.0, 52.18N×157.34E, Mb6.4*
*MOS **30** 20:22:11.9±0.9, 52.06N×157.32E, h127km, mb6.2/132, MS5.7/37, Error ellipse: s-maj=6.0km s-min=3.2km az=94.4*
MOS Felt (IV-V) at Petropavlovsk-Kamchatskiy; (IV) at Severo-Kuril'sk.
*NEIC **30** 20:22:12.7±0.1, 52.14N×157.29E, mb6.4/270, MW6.4, Error ellipse: s-maj=2.8km s-min=1.8km az=178.0, Moment Tensor Solution. s66 Moment tensor: Scale 10^{18}Nm; Mrr-0.95; Mθθ-0.26; Mφφ1.21; Mrθ-1.15; Mθφ-0.72; Mφr-4.99; Best double couple: Mo5.30000×10^{18} NP1:φs127.00000°, δ12.00000°, λ-154.00000°. NP2: φs12.00000°, δ85.00000°, λ-80.00000°. Principal axes: T 5.2400, Plg39.0000°, Azm92.0000°; N 0.1000, Plg10.0000°, Azm191.0000°; P -5.3400, Plg49.0000°, Azm293.0000°;*
NEIC Felt [V] at Petropavlovsk-Kamchatskiy and [IV] at Severo-Kuril'sk.
*KRSC **30** 20:22:12.1±1.3, 51.89N×157.90E, h128km±42km, ML6.0*
*GCMT **30** 20:22:12.7±0.1, 52.01N×157.78E, h123km, MW6.4/114, Moment Tensor Solution. s114,c288; s112,c456; Duration: 4.0s Moment tensor: Scale 10^{18}Nm; Mrr-0.16±.03; Mθθ-0.52±.03; Mφφ0.67±.03; Mrθ-1.81±.02; Mθφ-0.97±.03; Mφr-5.19±.02; Best double couple: Mo5.61300×10^{18} NP1:φs110.00000°, δ12.00000°, λ-178.00000°. NP2:φs19.00000°, δ90.00000°, λ-78.00000°. Principal axes: T 5.5140, Plg43.0000°, Azm97.0000°; N 0.1980, Plg12.0000°, Azm198.0000°; P -5.7120, Plg44.0000°, Azm300.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface/mantle waves, cutoff=50s.*
*IDC **30** 20:22:12.6±0.3, 52.17N×157.27E, h117km±2km, mb5.6/31, mb1 5.7/31, mb1mx5.7/31, mbtmp5.6/31, MS5.5/20, Ms1 5.5/20, ms1mx5.3/33 Error ellipse: s-maj=9.0km s-min=5.6km az=132.0*
*SZGRF **30** 20:22:15.6, 51.78N×155.29E, h140km, mb6.5, Northwest of Kuril Islands, Russia*
ISC 30 20:22:13.6±0.1, 52.15N±0.02×157.22E±0.02, h122km, h122km±.9km:pP-P, n2092, σ0.88/2061, mb6.2/402, 168C-337D, Kamchatka Peninsula

Code Station Name Δ° AZ° Phase ID Op ISC Time h m s Res ISC
MIPR Malaya Ipel'ka 0.31 294 iP Pn 20 22 32.6 +1.9
GRL Gorelyy 0.66 52 iP Pn 20 22 33.3 +0.5
RUS Russkaya 0.84 70 iP Pn 20 22 33.0 -1.3
PET Petropavlovsk 1.24 45 ⇓iPN Pn 20 22 37.5 -0.6
PET iS Sn 20 22 56.9 +0.1
PET pmax pmax
comp=Z,52μm,2.6s
PET pmax pmax
comp=Z,25μm,1.1s
PET pmax pmax
comp=N,21μm,1.0s
PET pmax pmax
comp=E,10μm,1.0s
PET pmax pmax
comp=Z,54μm,7.4s
PET smax
comp=E,209μm,0.7s
PET smax
comp=N,250μm,0.7s
PET smax
comp=N,692μm,3.4s
PET smax
comp=E,643μm,4.9s
PET smax
comp=E,626μm,7.0s
PET smax
comp=N,685μm,6.4s
PET Petropavlovsk 1.24 45 ePn Pn 20 22 37.4 -0.7
PET Petropavlovsk 1.24 45 iP Pn 20 22 38.1 0.0
INSR Institute 1.25 42 iP Pn 20 22 38.9 +0.7
INSR iS Sn 20 22 58.5 +1.5
AVH Avacha 1.45 39 eP Pn 20 22 42.0 +1.5
GNL Ganaly 1.61 16 iP Pn 20 22 44.6 +2.3
SKR Severo-Kuril's 1.62 206 ⇓iPN Pn 20 22 42.0 -0.5
SKR eS Sn 20 23 04.0 -0.6
SKR pmax pmax
comp=Z,329nm,2.0s
SKR pmax pmax
comp=N,202μm,4.0s
SKR pmax pmax
comp=E,184μm,2.0s
SKR smax
comp=N,1500μm,2.0s
SKR smax
comp=E,1761μm,2.0s
SKR Severo-Kuril's 1.62 206 eP Pn 20 22 42.0 -0.5
NLC Nalytchevo 1.65 51 iP Pn 20 22 41.5 -1.3
ALID Alaid 1.65 220 iP Pn 20 22 43.8 +0.9
SPN Mys Shipunski 1.96 60 iP Pn 20 22 45.2 -1.3
KII Karymskiy 2.32 35 eP Pn 20 22 52.2 +1.2
TUMR Tumrok 3.59 28 iP Pn 20 23 10.3 +2.8
MKZ Mys Kozlova 3.62 47 eP Pn 20 23 06.8 -1.2
MKZ iS Sn 20 23 46.4 -3.7
KMNR Kamenistaya 4.03 25 eP Pn 20 23 16.0 +2.6
KPT Kopyto 4.21 24 eP Pn 20 23 18.2 +2.4
KOZ Kozyrevsk 4.21 21 eP Pn 20 23 18.4 +2.5
KOZR Kozyr 4.23 21 PN Pn 20 23 18.4 +2.4
KIRR Kirishev 4.23 25 eP Pn 20 23 18.4 +2.3
BZMR Bezymyannaya 4.25 26 iP Pn 20 23 19.1 +2.7
BZMR iS Sn 20 24 08.3 +3.1
ZLN Zelenaya 4.41 27 eP Pn 20 23 21.6 +3.1
SRDR Sredinnyy 4.42 18 eP Pn 20 23 21.1 +2.4
CIRR Tsirk 4.48 26 eP Pn 20 23 22.0 +2.6
KRSR Krestovskiy 4.52 24 eP Pn 20 23 21.6 +1.6
KLY Klyuchi 4.63 24 eP Pn 20 23 24.3 +2.9
BDR Baidarnaya 5.00 26 iP Pn 20 23 28.9 +2.5
SRKR Sorokina 5.07 26 iP Pn 20 23 29.6 +2.3
SMKR Semkarok 5.09 28 eP Pn 20 23 29.2 +1.6
KBTR Krutoberegovo 5.23 37 eP Pn 20 23 29.5 0.0
KBTR iS Sn 20 24 24.9 -3.7
MA2 Magadan 8.27 337 iPN Pn 20 24 12.0 +1.5
MA2 eS Sn 20 25 48.9 +6.8
MA2 pmax pmax
comp=Z,2μm,0.9s
MA2 Magadan 8.27 337 ePn Pn 20 24 12.8 +2.3
OKH Okha 8.76 285 ⇓iPN Pn 20 24 23.8 +6.6
OKH iS Sn 20 26 02.0 +8.0
OKH pmax pmax
comp=Z,60μm,6.0s
OKH smax
comp=N,50μm,8.0s
OKH smax
comp=E,80μm,7.0s
KUR Kuril'sk 9.28 225 ePN Pn 20 24 23.8 -0.4
UGL Uglegorsk 10.11 258 ⇑iPN Pn 20 24 40.0 +4.7
UGL pmax pmax
comp=Z,45μm,4.0s
UGL pmax pmax
comp=N,9μm,5.0s
UGL pmax pmax
comp=E,39μm,5.0s
UGL MLR MLR
comp=N,33μm,13.0s
UGL MLR MLR
comp=E,48μm,13.0s
UGL MLR MLR
comp=Z,43μm,13.0s
SMY Shemya 10.33 80 ePN Pn 20 24 36.2 -2.0
SMY pmax pmax
comp=Z,1μm,0.5s
SMY Shemya 10.33 80 eP Pn 20 24 36.2 -2.0
comp=Z,1μm,0.5s
YSS Yuzh-Sakhalins 10.73 247 ⇓iPN Pn 20 24 46.5 +2.8
YSS iS Sn 20 26 44.0 +2.2
YSS pmax pmax
comp=Z,2μm,1.0s
YSS pmax pmax
comp=N,2μm,1.2s
YSS pmax pmax
comp=E,4μm,1.2s
YSS pmax pmax
comp=N,16μm,5.0s
YSS pmax pmax
comp=E,19μm,5.0s
YSS pmax pmax
comp=Z,17μm,5.0s
YSS smax
comp=N,38μm,9.0s
YSS smax
comp=E,20μm,9.0s
YSS MLR MLR
comp=Z,30μm,12.0s
YSS MLR MLR
comp=N,12μm,13.0s
YSS MLR MLR
comp=E,14μm,11.0s
YSS Yuzh-Sakhalins 10.73 247 ePn Pn 20 24 46.9 +3.3
YUK Yuzh-Kuril'sk 11.11 227 ⇓iPN Pn 20 24 46.0 -2.7
YUK eS Sn 20 26 48.5 -2.4
YUK pmax pmax
comp=N,1μm,0.4s
YUK pmax pmax
comp=E,3μm,0.4s
YUK pmax pmax
comp=Z,8μm,0.4s
YUK pmax pmax
comp=E,10μm,1.0s
YUK pmax pmax
comp=Z,15μm,1.0s
YUK pmax pmax
comp=N,12μm,1.4s
YUK smax
comp=N,2μm,0.5s
YUK smax
comp=E,1μm,0.5s
YUK smax
comp=N,41μm,8.0s
YUK smax
comp=E,73μm,10.0s
YUK MLR MLR
comp=Z,24μm,12.0s
YUK MLR MLR
comp=N,24μm,13.0s
AMKA Amchitka 13.69 84 ePn Pn 20 25 20.1 -2.3
ERM Erimo 13.92 229 Pn Pn 20 25 21.4 -4.0
comp=N,17μm,0.5s
ERM Erimo 13.92 229 P Pn 20 25 20.3 -5.1
ERM pmax pmax
comp=Z,1μm,0.5s
ERM Erimo 13.92 229 eP Pn 20 25 23.7 -1.7
HABR Khabarovsk 14.62 264 ⇓iP Pn 20 25 38.6 +4.4
HABR pmax pmax
comp=Z,6μm,2.4s
HABR MLR MLR
comp=Z,35μm,14.4s
KLR Kul'dur 16.37 270 ⇑iP Pn 20 25 56.0 0.0
KLR eS S 20 29 00.0 +1.6
KLR pmax pmax
comp=Z,63μm,1.2s
BILL Bilibino 16.53 12 ⇑eP Pn 20 25 57.7 -0.1
BILL eS S 20 29 01.4 -0.4
BILL pmax pmax
comp=Z,219nm,0.9s
BILL Bilibino 16.53 12 ePn Pn 20 25 57.7 -0.1
comp=Z,582nm,0.8s
YAK Yakutsk 17.79 314 d iP Pn 20 26 13.6 +0.6
YAK eS S 20 29 26.7 -3.3
YAK pmax pmax
comp=Z,3μm,1.1s
YAK pmax pmax
comp=N,1μm,1.3s
YAK pmax pmax
comp=E,2μm,1.3s
YAK smax
comp=N,25μm,5.8s
YAK smax
comp=E,6μm,2.4s
YAK MLR MLR
comp=Z,42μm,12.0s
YAK MLR MLR
comp=N,39μm,17.0s
YAK MLR MLR
comp=E,35μm,11.0s
YAK Yakutsk 17.79 314 ePn Pn 20 26 13.9 +0.8
comp=E,4μm,1.0s
VLA Vladivostok 19.23 252 iP P 20 26 27.3 -0.6
VLA Vladivostok 19.23 252 iP P 20 26 27.4 -0.5
NRGR Nerungri 19.33 296 eP P 20 26 32.0 +3.1
NRGR S S 20 30 00.9 +0.1
NRGR smax
comp=N,1μm,1.4s
MDJ Mudanjiang 19.75 259 P P 20 26 34.0 +0.4
MDJ S S 20 30 11.0 +1.7
MDJ PCP PcP 20 30 45.0 -1.6
MDJ XS sS 20 30 52.0 +5.8
MDJ SCP ScP 20 34 10.5 -0.6
MDJ PCS PcS 20 34 22.0 -1.8
MDJ AMB AMB
comp=Z,373nm,1.5s
MDJ AMB AMB
comp=Z,7μm,5.8s
MDJ Mudanjiang 19.75 259 eP P 20 26 33.0 -0.5
comp=Z,2μm,1.2s
NIKO Nikolski 20.54 74 eP P 20 26 38.2 -3.8
comp=Z,3μm,1.2s
MAJO Matsushiro 20.60 228 eP P 20 26 43.0 +0.2
MAJO Matsushiro 20.60 228 P P 20 26 43.1 +0.3
MAJO ScS ScS 20 37 55.3 -1.2
MAT Matsushiro 20.60 228 P P 20 26 43.0 +0.2
MAT S S 20 30 30.8 +4.7
MJAR Matsushiro Arr 20.60 228 P P 20 26 43.2 +0.4
MJAR ScP ScP 20 34 11.8 -1.5
MJAR ScS ScS 20 37 59.8 +3.3
MJAR Matsushiro Arr 20.60 228 P P 20 26 43.2 +0.4
comp=Z,2μm,0.8s,baz=20,slow=11,SNR=1308
MJAR ScP ScP 20 34 11.8 -1.5
comp=Z,34nm,1.1s,baz=56,slow=0.9,SNR=18
MJAR ScS ScS 20 37 59.8 +3.3
comp=Z,0.6nm,0.4s,baz=288,slow=30,SNR=4.6
MJAR P3KPbc 21 00 45.4
comp=Z,3.7nm,1.0s,baz=205,slow=5.0,SNR=10
UNV Unalaska Valle 21.75 71 eP P 20 26 51.7 -3.2
TNA Tin City 22.09 39 eP P 20 26 57.9 -0.5
AKUT Akutan 22.13 70 eP P 20 26 57.6 -1.3
comp=Z,2μm,1.4s,mb6.2
CN2 Changchun 22.70 261 ⇓P P 20 27 03.0 -1.8
CN2 eAP 20 27 27.0
CN2 ePP 20 27 36.0
CN2 eS S 20 30 59.0 -4.5
CN2 eSS 20 31 50.8
CN2 SCP ScP 20 34 19.0 +0.6
CN2 SCS ScS 20 38 03.0 -0.9
CN2 AMB AMB
comp=Z,700nm,1.2s,mb5.9
CN2 AMB AMB
comp=Z,10μm,5.0s
CN2 LR LR
comp=N,47μm,17.0s
CN2 LR LR
comp=E,30μm,17.0s
CN2 LR LR
comp=Z,38μm,19.0s
TIXI Tiksi 23.24 338 d iP P 20 27 09.2 -0.3
TIXI i*PP 20 27 40.5
TIXI eS S 20 31 09.2 -2.6
TIXI e*SS sS 20 32 00.8 +5.4
TIXI e 20 38 04.6
TIXI pmax pmax
comp=Z,632nm,1.0s,mb5.9
TIXI pmax pmax
comp=N,272nm,0.9s
TIXI pmax pmax
comp=E,341nm,1.0s
TIXI pmax pmax
comp=Z,9μm,10.3s
TIXI Tiksi 23.24 338 eP P 20 27 09.9 +0.4
FALS False Pass 23.36 68 eP P 20 27 08.0 -2.7
HIA Hailar 23.73 278 eP P 20 27 14.1 0.0
HIA e*PP 20 27 41.3
HIA pmax pmax
comp=Z,8μm,1.8s
HIA Hailar 23.73 278 eP P 20 27 14.1 0.0
comp=Z,8μm,1.8s,mb6.8
HIA epP 20 27 41.3
SDPT Sand Point 24.94 66 eP P 20 27 22.1 -2.9
comp=Z,448nm,1.0s,mb5.8
SNY Shenyang 24.95 259 ⇓P P 20 27 25.0 -0.3
SNY AP 20 27 54.8
SNY S S 20 31 39.5 -0.1
SNY XS sS 20 32 29.0 +3.5
SNY AMB AMB
comp=Z,797nm,2.5s,mb5.7
SNY AMB AMB
comp=Z,15μm,9.0s
SNY LR LR
comp=N,16μm,14.1s
SNY LR LR
comp=Z,11μm,13.7s
BOD Bodaibo 25.09 300 eP P 20 27 27.0 +0.7
BOD e pP 20 27 55.4 +3.0
BOD e 20 38 09.1
BOD pmax pmax
comp=Z,606nm,1.4s,mb5.8
KSRS Korea Array 25.23 246 eP P 20 27 28.3 +0.4
KSRS Korea Array 25.23 246 P P 20 27 28.3 +0.4
comp=Z,211nm,0.8s,mb5.6,baz=42,slow=9.5,SNR=69
KSRS pP pP 20 27 54.6 +0.6
comp=Z,36nm,0.7s,baz=46,slow=7.0,SNR=1.5
KSRS PcP PcP 20 30 58.4 +0.5
comp=Z,11nm,0.7s,baz=359,slow=2.6,SNR=5.7
KSRS pPcP 20 31 30.9
comp=Z,17nm,1.1s,baz=338,slow=0.8,SNR=4.2
KSRS ScP ScP 20 34 25.8 +0.3
comp=Z,122nm,1.1s,baz=55,slow=2.2,SNR=27
KSRS P3KPbc 21 00 25.8
comp=Z,6.7nm,1.0s,baz=231,slow=4.1,SNR=17
KS15 Wonju Array Si 25.26 246 eP P 20 27 28.8 +0.6
CHGN Chignik 25.92 63 eP P 20 27 32.2 -1.6
INCN Inchon 25.94 248 eP P 20 27 34.9 +0.6
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
INCN Inchon 25.94 248 P P 20 27 34.6 +0.3
SNR=46
CIT Chita 26.53 287 eP P 20 27 41.3 +1.9
CIT e pP 20 28 11.5 +5.8
TTA Tatalina 26.69 48 eP P 20 27 40.0 -0.7
SVW2 Sparrevohn 26.90 52 eP P 20 27 42.2 -0.4
IMA2 Indian Mountai 27.91 41 eP P 20 27 51.2 -0.4
DL2 Dalian 27.92 256 iP P 20 27 51.5 -0.5
DL2 AP pP 20 28 19.0 +0.6
DL2 XP sP 20 28 32.0 -0.5
DL2 PCP PcP 20 31 06.0 +1.8
DL2 S S 20 32 29.5 +3.0
DL2 XS sS 20 33 15.8 +3.0
DL2 SCP ScP 20 34 33.5 +0.1

DL2 SCS ScS 20 38 24.3 -1.6
DL2 AMB AMB
comp=Z,170nm,0.9s,mb5.6
DL2 AMB AMB
comp=Z,3μm,9.0s
KDAK Kodiak Island 28.79 59 P P 20 27 57.0 -2.5
comp=Z,3μm,1.0s,mb6.9,SNR=95
KDAK Kodiak Island 28.79 59 eP P 20 27 57.1 -2.4
KDAK Kodiak Island 28.79 59 P P 20 27 57.1 -2.4
comp=Z,411nm,0.8s,mb6.1,baz=293,slow=5.0,SNR=117
KDAK ScP ScP 20 34 35.5 -0.3
comp=Z,49nm,1.0s,baz=257,slow=1.7,SNR=6.6
KDAK ScS ScS 20 38 27.7 -1.6
comp=Z,52nm,1.2s,baz=237,slow=16,SNR=21
SLKM Skilak Lake 29.57 53 eP P 20 28 03.6 -2.7
PMR Palmer 29.96 50 eP P 20 28 07.7 -2.1
PMR pmax pmax
comp=Z,131nm,0.8s,mb5.6
PMR Palmer 29.96 50 eP P 20 28 07.7 -2.1
comp=Z,131nm,0.8s,mb5.6
PMR eP 20 28 08.7
COLA College 30.30 44 P P 20 28 12.2 -0.5
COLA pmax pmax
comp=Z,1μm,1.0s,mb6.4
COLA College 30.30 44 eP P 20 28 12.1 -0.7
comp=Z,1μm,0.9s,mb6.5
BJI Beijing 30.52 263 P P 20 28 15.3 +0.4
BJI AP pP 20 28 40.5 -1.0
BJI PCP PcP 20 31 11.5 +0.7
BJI S **S 20 33 09.0 +1.8**
BJI SCP ScP 20 34 43.5 +1.8
BJI SCS ScS 20 38 38.3 +0.2
BJI AMB AMB
comp=Z,341nm,2.0s,mb5.7
BJI AMB AMB
comp=Z,8μm,4.4s
BJI LR LR
comp=N,36μm,21.5s
BJI LR LR
comp=E,21μm,16.9s
BJI LR LR
comp=Z,33μm,37.1s
BJT Baijiatuau 30.54 263 eP P 20 28 15.2 +0.1
comp=Z,1μm,1.8s,mb6.4
DIV Divide 31.63 51 eP P 20 28 23.6 -0.9
MID Middleton Isla 31.67 54 eP P 20 28 24.4 -0.5
IRK Irkutsk 31.85 292 eP P 20 28 26.8 +0.3
IRK e 20 29 32.5
IRK e 20 38 39.0
IRK pmax pmax
comp=Z,1μm,2.1s,mb6.2
MENT Mentasta 32.30 47 eP P 20 28 29.5 -0.8
TIA Tai'an 32.39 257 P P 20 28 31.0 -0.3
TIA AMB AMB
comp=Z,288nm,1.2s,mb5.9
TIA AMB AMB
comp=Z,2μm,5.0s
TIA LR LR
comp=N,5μm,10.0s
TIA LR LR
comp=E,5μm,10.0s
SONM Songino Array 32.41 283 P P 20 28 32.0 +0.6
SONM *PP pP 20 28 58.5 +0.4
SONM 20 31 15.7
SONM MLR MLR
comp=Z,11μm,20.3s
SONM Songino Array 32.41 283 P P 20 28 32.0 +0.6
SONM pP pP 20 28 58.5 +0.4
SONM PcP PcP 20 31 15.7 -0.1
SONM ScP ScP 20 34 48.2 +0.3
SONM LR LR 20 43 34.7
SONM e 20 59 52.1
SONM Songino Array 32.41 283 P P 20 28 32.0 +0.6
comp=Z,12nm,0.4s,mb5.0,baz=51,slow=8.8,SNR=77
SONM pP pP 20 28 58.5 +0.4
comp=Z,18nm,0.8s,baz=72,slow=9.5,SNR=3.4
SONM PcP PcP 20 31 15.7 -0.1
comp=Z,56nm,0.9s,baz=67,slow=1.7,SNR=7.0
SONM ScP ScP 20 34 48.2 +0.3
comp=Z,84nm,1.1s,baz=52,slow=2.5,SNR=12
SONM LR LR 20 43 34.7
comp=Z,11μm,20.2s,baz=59,slow=40
SONM P3KPbc 20 59 52.1
comp=Z,2.1nm,0.8s,baz=252,slow=4.1,SNR=5.9
TLY Talaya 32.42 291 P P 20 28 32.6 +1.1
comp=Z,2μm,1.1s,mb6.7
TLY Talaya 32.42 291 eP P 20 28 32.7 +1.2
TLY e 20 29 15.3
TLY e 20 29 57.1
TLY eS **S 20 33 42.4 +5.8**
TLY eSSS 20 35 36.1
TLY e 20 36 10.8
TLY pmax pmax
comp=Z,969nm,2.2s,mb6.1
TLY Talaya 32.42 291 eP P 20 28 33.9 +2.4
TLY Talaya 32.42 291 P P 20 28 33.1 +1.6
SNR=172
TLY Talaya 32.42 291 P P 20 28 33.1 +1.6
SNR=172
TLY Talaya 32.42 291 P P 20 28 33.1 +1.6
SNR=172
TLY Talaya 32.42 291 P P 20 28 33.1 +1.6
SNR=172
HHC Hu-ho-hao-te 32.87 268 ⇓P P 20 28 35.8 +0.3
HHC AP pP 20 29 00.5 -1.7
HHC PP PP 20 29 48.3 -3.7
HHC PCP PcP 20 31 18.8 +1.6
HHC S **S 20 33 43.0 -0.8**
HHC SS SS 20 35 49.0 -21
HHC SCS ScS 20 38 49.3 -0.5
HHC AMB AMB
comp=Z,373nm,1.4s,mb6.0
HHC AMB AMB
comp=Z,6μm,7.3s
HHC LR LR
comp=N,21μm,14.9s
HHC LR LR
comp=E,14μm,12.3s
HHC LR LR
comp=Z,28μm,15.7s
ZAK Zakamensk 33.15 289⇑iP P 20 28 39.8 +2.0
ZAK e pP 20 29 10.2 +5.7
ZAK e 20 31 14.8
ZAK pmax pmax
comp=Z,199nm,1.4s,mb5.8
EGAK Eagle 33.16 44 eP P 20 28 36.5 -1.2
SSE Sheshan 33.67 246 ⇓P P 20 28 43.0 +0.4
SSE AP pP 20 29 08.5 -0.9
SSE XP sP 20 29 24.3 +0.9
SSE PP PP 20 30 02.3 +1.3
SSE PCP PcP 20 31 16.8 -2.8
SSE S **S 20 34 00.0 +3.6**
SSE XS sS 20 34 48.0 +4.9
SSE SCS ScS 20 38 53.0 -1.3
SSE AMB AMB
comp=Z,225nm,1.1s,mb5.9
SSE AMB AMB
comp=Z,6μm,7.5s
SSE LR LR
comp=N,9μm,20.3s
SSE LR LR
comp=E,14μm,20.2s
SSE LR LR
comp=Z,13μm,17.3s
MOY Mondy 33.95 292 eP P 20 28 46.1 +1.4
MOY pmax pmax
comp=Z,1μm,2.6s,mb6.3
BTO Baotou 33.96 269 eP P 20 28 45.3 +0.3
BTO LR LR
comp=N,8μm,7.4s
BTO LR LR
comp=E,6μm,13.7s
DAWY Dawson 34.03 45 eP P 20 28 44.8 -0.5
TIY Taiyuan 34.25 263 iP P 20 28 47.0 -0.5
TIY PP PP 20 30 04.0 -3.3
TIY S **S 20 34 07.8 +2.6**
TIY AMB AMB
comp=Z,8μm,2.8s,mb7.0
TIY LR LR
comp=N,11μm,9.6s
TIY LR LR
comp=E,18μm,10.5s
TIY LR LR
comp=Z,23μm,12.0s
NJ2 Nanjing 34.29 249 eP P 20 28 48.0 +0.1
NJ2 AP pP 20 29 11.5 -3.2
NJ2 PP PP 20 30 06.8 -1.0
NJ2 S **S 20 34 07.5 +1.6**
NJ2 AMB AMB
comp=Z,410nm,0.9s,mb6.3
NJ2 AMB AMB
comp=Z,8μm,9.6s
NJ2 LR LR
comp=N,18μm,23.4s
NJ2 LR LR
comp=E,24μm,25.6s
NJ2 LR LR
comp=Z,24μm,25.6s
INK Inuvik 35.68 37 P P 20 28 59.7 +0.3
INK S **S 20 34 26.5 0.0**
INK 20 39 02.3
INK pmax pmax
comp=Z,299nm,0.8s
INK smax
comp=N,44nm,1.0s
INK Inuvik 35.68 37 eP P 20 28 59.9 +0.5
INK Inuvik 35.68 37 P P 20 28 59.7 +0.3
comp=N,299nm,0.8s,mb6.3,baz=290,slow=7.2,SNR=484
INK S **S 20 34 26.5 0.0**
comp=N,44nm,1.0s,baz=129,slow=21,SNR=11
INK ScP ScP 20 34 57.5 -1.7
comp=N,89nm,1.2s,baz=329,slow=3.7,SNR=5.6
INK ScS ScS 20 39 02.3 -1.7
comp=N,9.9nm,0.8s,baz=44,slow=32,SNR=19
SKAG Skagway 37.08 51 eP P 20 29 12.2 +0.8
comp=N,6μm,2.5s,mb7.1
SKAG LR LR
comp=Z,10μm,18.0s
SIT Sitka 37.93 55 P P 20 29 19.6 +1.0
SIT pmax pmax
comp=Z,2μm,1.2s,mb6.7
SIT Sitka 37.93 55 eP P 20 29 19.5 +0.9
comp=Z,2μm,1.3s,mb6.7
WHN Wuhan 38.01 252 P P 20 29 17.5 -2.1
WHN AP pP 20 29 47.0 +0.2
WHN XP sP 20 30 01.8 +1.1
WHN PCP PcP 20 31 35.0 +2.5
WHN S **S 20 34 59.5 -3.2**
WHN SCP ScP 20 35 07.3 -1.2
WHN XS sS 20 35 55.0 +5.1
WHN AMB AMB
comp=Z,13μm,7.7s
WHN LR LR
comp=N,8μm,13.2s
WHN LR LR
comp=E,11μm,11.2s
WHN LR LR
comp=Z,21μm,13.7s
TATO Taipei 38.31 239 eP P 20 29 23.3 +1.2
comp=Z,871nm,1.3s,mb6.4
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
TATO Taipei 38.31 239 P P 20 29 23.8 +1.7
SNR=12
YHNB Yeheng 38.62 239 eP P 20 29 24.6 -0.1
comp=Z,297nm,0.7s,mb6.2
XAN Xi'an 38.81 262 P P 20 29 25.5 -0.7
XAN AP pP 20 29 51.0 -2.5
XAN PP PP 20 31 00.5 +3.1
XAN S **S 20 35 11.5 -3.1**
XAN AMB AMB
comp=Z,209nm,1.8s,mb5.7
XAN AMB AMB
comp=Z,5μm,9.2s
XAN LR LR
comp=N,5μm,11.3s
XAN LR LR
comp=E,4μm,13.3s
XAN LR LR
comp=Z,6μm,11.7s
NACB Ninganchiao 38.91 238 eP P 20 29 25.8 -1.3
comp=Z,360nm,1.0s,mb6.2
WRAK Wrangell Islan 39.69 55 eP P 20 29 34.2 +0.9
comp=Z,554nm,1.1s,mb6.3
CRAG Craig 39.70 57 eP P 20 29 33.8 +0.5
comp=Z,1μm,1.6s,mb6.4
CRAG LR LR
comp=Z,6μm,19.0s
QZH Quanzhou 39.89 242 iP P 20 29 35.5 +0.3
QZH AP pP 20 30 06.3 +3.6
QZH XP sP 20 30 19.0 +2.5
QZH SCP ScP 20 35 13.0 -2.8
QZH S **S 20 35 31.3 +0.4**
QZH XS sS 20 36 17.5 -0.9
QZH AMB AMB
comp=Z,2μm,1.1s,mb6.9
QZH LR LR
comp=N,4μm,10.9s
QZH LR LR
comp=E,7μm,9.5s
QZH LR LR
comp=Z,8μm,17.0s
DLBC Dease Lake 40.01 51 eP P 20 29 37.3 +1.4
LZH Lanzhou 40.57 268⇓iP P 20 29 41.8 +1.1
LZH AP pP 20 30 12.5 +4.3
LZH XP sP 20 30 25.0 +2.9
LZH PP PP 20 31 16.8 +0.4
LZH PCP PcP 20 31 43.3 +2.8
LZH SCP ScP 20 35 19.0 +0.7
LZH PCS PcS 20 35 31.5 +0.1
LZH S **S 20 35 40.5 -0.3**
LZH XS sS 20 36 37.5 +9.1
LZH SS SS 20 38 38.0 -7.2
LZH SCS ScS 20 39 31.5 -1.6
LZH AMB AMB
comp=Z,1μm,1.3s,mb6.6
LZH AMB AMB
comp=Z,7μm,9.2s
LZH LR LR
comp=E,8μm,11.4s
LZH LR LR
comp=Z,19μm,20.2s
GTA Gaotai 40.96 275 ⇓P P 20 29 44.8 +0.9
GTA AP pP 20 30 14.0 +2.6
GTA XP sP 20 30 29.0 +3.7
GTA PP PP 20 31 25.8 +5.2
GTA PCP PcP 20 31 43.0 +1.3
GTA SCP ScP 20 35 20.3 +0.5
GTA PCS PcS 20 35 34.8 +2.0
GTA S **S 20 35 48.3 +1.8**
GTA XS sS 20 36 37.5 +3.3
GTA SS SS 20 38 49.5 -3.3
GTA SCS ScS 20 39 33.3 -2.0
GTA AMB AMB
comp=Z,524nm,1.8s,mb6.1
GTA AMB AMB
comp=Z,8μm,5.7s
GTA LR LR
comp=N,10μm,17.6s
GTA LR LR
comp=E,14μm,15.3s
GTA LR LR
comp=Z,15μm,19.9s
ZALV Zalesovo Beam 41.80 302 P P 20 29 49.7 -0.9
comp=Z,8.3nm,0.4s,mb4.8,baz=58,slow=6.1,SNR=30
ZALV pP pP 20 30 21.1 +2.8
comp=Z,37nm,0.8s,baz=54,slow=7.7,SNR=6.4
ZALV PcP PcP 20 31 43.7 -0.6
comp=Z,173nm,0.9s,baz=62,slow=3.5,SNR=16
ZALV ScP ScP 20 35 22.1 -0.8
comp=Z,8.3nm,0.7s,baz=62,slow=6.9,SNR=3.8
ZALV ScS ScS 20 39 39.0 -1.0
comp=Z,11nm,1.1s,baz=56,slow=3.7,SNR=5.9
ZALV LR LR 20 47 13.0
comp=Z,7μm,21.2s,baz=40,slow=36
ZAL Zalesovo 41.82 302 P P 20 29 49.7 -1.0
ZAL *PP pP 20 30 21.1 +2.8
ZAL 20 31 43.7
ZAL 20 39 39.0
NVS Novosibirsk 42.20 304⇓iP P 20 29 53.2 -0.6
NVS i *PP pP 20 30 24.9 +3.5
NVS e 20 31 32.8
NVS i 20 39 40.8
NVS pmax pmax
comp=N,966nm,2.0s
NVS pmax pmax
comp=E,1μm,2.0s
NVS pmax pmax
comp=Z,2μm,2.0s,mb6.5
NVS pmax pmax
comp=Z,2μm,2.0s,mb6.4
NVS pmax pmax
comp=N,2μm,2.1s
NVS pmax pmax
comp=E,2μm,2.1s
SGCP Mt. Cagua 43.64 232 eP P 20 30 07.6 +1.8
ALE Alert 44.08 7 P P 20 30 09.0 +0.4
comp=E,2μm,0.8s,mb7.0
CD2 Chengdu 44.12 263 P P 20 30 09.5 0.0
CD2 AP pP 20 30 39.0 +1.6
CD2 XP sP 20 30 51.3 +0.2
CD2 PP PP 20 31 54.5 -0.1
CD2 PCS PcS 20 35 45.5 -0.3
CD2 S **S 20 36 29.5 -3.5**
CD2 XS sS 20 37 23.0 +1.8
CD2 SCS ScS 20 39 53.8 -1.4
CD2 AMB AMB
comp=Z,620nm,1.8s,mb6.0
CD2 AMB AMB
comp=Z,9μm,11.2s
CD2 LR LR
comp=N,14μm,21.6s
CD2 LR LR
comp=Z,7μm,19.2s
GZH Guangzhou 44.27 246 P P 20 30 05.0 -5.8
GZH S **S 20 36 26.8 -8.5**
GZH SS SS 20 39 46.5 -11
GZH AMB AMB
comp=Z,1μm,1.5s,mb6.3
GZH LR LR
comp=N,12μm,21.0s
GZH LR LR
comp=E,10μm,23.1s
GZH LR LR
comp=Z,9μm,21.6s
APYP Conner 44.35 233 eP P 20 30 10.3 -1.2
HKC Hong Kong Obse 44.42 245⇓iP P 20 30 12.0 0.0
HKC S **S 20 36 38.0 +0.5**
PALP Palanan 44.46 231 eP P 20 30 12.6 +0.2
PALP Palanan 44.46 231⇓eP P 20 30 12.9 +0.5
ABRA Dolores 44.80 234 eP P 20 30 15.4 +0.3
RES Resolute Bay 44.84 21 eP P 20 30 15.4 +0.6
CAUP Cauayan 44.86 232 eP P 20 30 16.8 +1.3
YKW3 Yellowknife Ar 45.00 41 eP P 20 30 14.5 -1.6
YKA Yellowknife Ar 45.03 41 P P 20 30 16.2 -0.2
YKA S **S 20 36 45.4 -0.1**
YKA pmax pmax
comp=Z,387nm,0.9s
YKA smax
comp=N,16nm,1.0s
YKA Yellowknife Ar 45.03 41 P P 20 30 16.2 -0.1
YKA ScP ScP 20 35 35.4 -0.5
YKA S **S 20 36 45.4 -0.1**
YKA P'P'
21 01 21.4
YKA Yellowknife Ar 45.03 41 P P 20 30 16.2 -0.1
comp=N,387nm,0.9s,mb6.2,baz=297,slow=8.0,SNR=1084
YKA ScP ScP 20 35 35.4 -0.5
comp=N,13nm,0.9s,baz=292,slow=4.4,SNR=6.0
YKA S **S 20 36 45.4 -0.1**
comp=N,16nm,1.0s,baz=294,slow=13,SNR=4.9
YKA PKPPKP 21 01 21.4
comp=N,0.2nm,0.6s,baz=60,slow=3.2,SNR=4.4
GYA Guiyang 45.58 256⇓iP P 20 30 19.0 -2.1
GYA AP pP 20 30 50.5 +1.4
GYA XP sP 20 31 04.3 +1.5
GYA PCP PcP 20 31 59.8 +2.3
GYA PP PP 20 32 11.8 +1.8
GYA SCP ScP 20 35 37.0 -1.7
GYA PCS PcS 20 35 52.5 +0.6
GYA S **S 20 36 54.8 +0.7**
GYA XS sS 20 37 43.3 +0.8
GYA SCS ScS 20 40 00.8 -3.8
GYA SS SS 20 40 13.8 -5.6
GYA AMB AMB
comp=Z,240nm,1.0s,mb5.9
GYA AMB AMB
comp=Z,6μm,11.1s
GYA LR LR
comp=N,8μm,16.1s
GYA LR LR
comp=E,3μm,16.8s
GYA LR LR
comp=Z,6μm,17.7s
WMQ Urumqi 45.62 288⇓iP P 20 30 22.0 +0.8
WMQ AP pP 20 30 51.0 +1.8
WMQ XP sP 20 31 05.0 +2.0
WMQ PP PP 20 32 11.0 +0.9
WMQ S **S 20 36 54.0 -0.3**
WMQ SS SS 20 40 13.0 -6.4
WMQ AMB AMB
comp=Z,801nm,1.2s,mb6.3
WMQ AMB AMB
comp=Z,9μm,4.0s
WMQ LR LR
comp=N,21μm,15.0s
WMQ LR LR
comp=E,20μm,14.0s
WMQ LR LR
comp=Z,23μm,15.0s
BCPH Baguio City Da 45.94 233⇓iP P 20 30 26.3 +2.2
BALP Baler 46.01 231 eP P 20 30 24.9 +0.3
KIP Kipapa 46.09 114 eP P 20 30 23.9 -1.3
HON Honolulu 46.17 114 eP P 20 30 24.8 -1.0
BOLP Bolinao 46.27 234 eP P 20 30 26.5 -0.1
PCPH Palayan 46.40 232⇑iP P 20 30 28.1 +0.4
PVCP Virac 46.68 227 eP P 20 30 30.8 +0.9
POLP Polilio Island 46.71 230 eP P 20 30 31.1 +1.1
KURK Kurchatov 46.73 301 P P 20 30 29.1 -0.8
comp=Z,3μm,0.8s,mb7.0
KURK Kurchatov 46.73 301 diP P 20 30 29.4 -0.5
KURK i *PP pP 20 31 00.5 +2.5
KURK Kurchatov 46.73 301 eP P 20 30 29.4 -0.5
comp=Z,2μm,1.4s,mb6.6
KURK epP pP 20 30 59.3 +1.3
KURK Kurchatov 46.73 301 P P 20 30 29.7 -0.1
SNR=439
KURK Kurchatov 46.73 301 P P 20 30 29.7 -0.1
SNR=439
KURK Kurchatov 46.73 301 P P 20 30 29.7 -0.1
SNR=439
SCZP Santa Cruz 46.79 233 eP P 20 30 30.3 -0.4
MK31 Makanchi Array 46.97 295 eP P 20 30 31.5 -0.3
MK31 e*PP pP 20 31 03.4 +3.5
MKAR Makanchi Array 46.97 295 P P 20 30 31.5 -0.3
MKAR *PP pP 20 31 02.2 +2.3
MKAR 20 40 10.2
MKAR pmax pmax
comp=Z,49nm,0.5s
MKAR MLR MLR
comp=Z,9μm,20.3s
MKAR Makanchi Array 46.97 295 P P 20 30 31.5 -0.3
MKAR pP pP 20 31 02.2 +2.3
MKAR ScP ScP 20 35 43.9 -0.3
MKAR ScS ScS 20 40 10.2 -2.9
MKAR LR LR 20 51 09.9
MKAR e 20 58 56.0
MKAR P'P' 21 01 25.1
MKAR Makanchi Array 46.97 295 P P 20 30 31.5 -0.3
comp=Z,48nm,0.5s,mb5.5,baz=60,slow=8.5,SNR=175
MKAR pP pP 20 31 02.2 +2.3
comp=Z,80nm,0.9s,baz=55,slow=5.0,SNR=3.0
MKAR ScP ScP 20 35 43.9 -0.3
comp=Z,23nm,0.8s,baz=61,slow=3.8,SNR=9.1
MKAR ScS ScS 20 40 10.2 -2.9
comp=Z,6.1nm,1.0s,baz=48,slow=10.0,SNR=4.0
MKAR LR LR 20 51 09.9
comp=Z,9μm,20.3s,baz=41,slow=37
MKAR P3KPbc 20 58 56.0
comp=Z,0.3nm,0.7s,baz=204,slow=2.7,SNR=3.7
MKAR PKPPKP 21 01 25.1
comp=Z,1.7nm,1.0s,baz=281,slow=1.9,SNR=5.8

MKAR P4KPbc 21 08 12.9
comp=Z,0.4nm,0.4s,baz=56,slow=5.4,SNR=12
GQP Guinayangan 47.19 229⇓ *e*P P 20 30 34.4 +0.6
CNP Cataraman 47.41 226 *e*P P 20 30 36.8 +1.2
KBS Kingsbay 47.56 351 ⇓ *i*P P 20 30 36.1 +0.1
KBS AMb AMB 20 30 41.8
comp=Z,231nm,1.4s,mb5.8
KBS *e*S **S 20 37 23.1 +1.9**
KBS Kingsbay 47.56 351 *e*P P 20 30 36.5 +0.6
KBS pmax pmax
comp=Z,2μm,2.5s,mb6.6
KBS Kingsbay 47.56 351 *e*P P 20 30 36.5 +0.6
comp=Z,2μm,2.5s,mb6.6
HKL Haleakala 47.64 113 *e*P P 20 30 39.0 +1.7
HKL *e**PP pP 20 31 04.2 -1.3
TGY Tagaytay City 47.73 231⇑ *e*P P 20 30 40.5 +2.5
SPB4 Spitsbergen Ar 47.77 350 *e*P P 20 30 37.6 +0.1
C03A Quillayute Air 48.11 62 P P 20 30 41.1 +0.5
baz=48,SNR=33
PGC Sidney 48.30 61 *e*P P 20 30 41.6 -0.5
LUBP Lubang 48.38 231 *e*P P 20 30 42.5 -0.5
KKH Kailua Kona 48.61 114 P P 20 30 44.6 -0.1
MCW Mount Constitu 48.62 60 P P 20 30 44.4 -0.1
B04A Port Angeles 48.63 61 P P 20 30 44.5 0.0
baz=48,SNR=62
A04A Legoe Bay, Lum 48.66 60 ⇑P P 20 30 44.8 0.0
baz=48,SNR=31
OTRP Odiongan 48.74 229 *e*P P 20 30 46.9 +1.1
VDB Vedder Mountai 48.80 60 P P 20 30 45.1 -0.8
POHA Pohakuloa 48.81 113 *e*P P 20 30 44.9 -1.4
NLWA Neilton Lookou 48.82 62 *e*P P 20 30 46.3 +0.2
NLWA *e*pP pP 20 31 13.4 -0.9
NLWA Neilton Lookou 48.82 62 ⇑P P 20 30 46.3 +0.3
baz=49
A05A Maple Falls 48.83 60 P P 20 30 45.6 -0.5
baz=49,SNR=30
KMI Kunming 48.92 258 P P 20 30 47.0 -0.1
KMI AP pP 20 31 18.0 +2.6
KMI XP sP 20 31 31.5 +2.5
KMI PCP PcP 20 32 10.3 +0.8
KMI PP PP 20 32 41.5 +0.1
KMI SCP ScP 20 35 53.3 +0.4
KMI PCS PcS 20 36 06.5 +0.4
KMI S **S 20 37 38.3 -3.3**
KMI XS sS 20 38 32.0 +1.5
KMI SCS ScS 20 40 24.0 -2.8
KMI SS SS 20 41 06.0 -7.6
KMI AMB AMB
comp=Z,566nm,1.8s,mb6.2
KMI LR LR
comp=N,6μm,24.9s
KMI LR LR
comp=E,6μm,32.1s
D03A Wishkah Elem. 49.04 63 ⇓P P 20 30 48.1 +0.4
baz=49,SNR=40
SJMP San Jose 49.07 230 *e*P P 20 30 49.0 +0.7
A06A Chilliwack 49.09 59 P P 20 30 47.5 -0.5
baz=49,SNR=20
RCP Roxas 49.11 227⇓ *e*P P 20 30 49.4 +0.8
HDW Hoodsport 49.11 62 ⇑P P 20 30 48.4 +0.2
C04A Brinnon 49.12 62 P P 20 30 48.3 0.0
baz=49,SNR=57
KHU Kahuku 49.17 114 *e*P P 20 30 47.9 -1.1
B05A Bryant 49.26 60 P P 20 30 49.3 -0.1
baz=49,SNR=127
GNW Green Mountain 49.29 62 ⇑P P 20 30 49.5 -0.1
STCH Steam Cracks 49.33 113 *e*P P 20 30 49.9 -0.3
B06A Marblemount 49.44 60 P P 20 30 50.2 -0.5
baz=49,SNR=69
MSLP Maasin 49.45 224 *e*P P 20 30 51.2 +0.1
QIZ Qiongzhong 49.46 246 P P 20 30 53.3 +2.1
QIZ AP pP 20 31 25.0 +5.4
QIZ XP sP 20 31 34.5 +1.3
QIZ S **S 20 37 49.8 +0.7**
QIZ XS sS 20 38 37.0 -1.1
QIZ AMB AMB
comp=Z,2μm,1.5s,mb6.7
QIZ AMB AMB
comp=Z,8μm,9.4s
QIZ Qiongzhong 49.46 246 *e*P P 20 30 52.8 +1.6
comp=Z,2μm,1.3s,mb7.0
RPW Rockport 49.46 60 P P 20 30 50.4 -0.5
SCPH Surigao 49.50 223⇓ *e*P P 20 30 51.4 -0.1
E03A Lebam 49.50 63 ⇓P P 20 30 51.2 0.0
baz=49,SNR=119
D04A Dobbs Creek Ra 49.57 62 ⇑P P 20 30 52.2 +0.5
baz=49,SNR=8.3
BRVK Borovoye 49.62 308 P P 20 30 51.1 -0.9
comp=Z,2μm,0.6s,mb7.2
BRVK Borovoye 49.62 308 *e*P P 20 30 51.3 -0.7
BRVK *e*pP pP 20 31 22.5 +2.1
BRVK Borovoye 49.62 308 P P 20 30 51.5 -0.5
SNR=139
BRVK Borovoye 49.62 308 P P 20 30 51.5 -0.5
SNR=139
BRVK Borovoye 49.62 308 P P 20 30 51.5 -0.5
SNR=139
LLP Lapu-Lapu 49.67 225⇓ *e*P P 20 30 52.7 -0.1
A07A Ashnola River, 49.70 59 P P 20 30 52.5 -0.2
baz=49,SNR=238
BMW Boistfort Moun 49.73 63 P P 20 30 52.8 -0.1
C05A Tolt Reservoir 49.82 61 ⇑P P 20 30 53.3 -0.3
baz=50,SNR=79
NLO Nicolai Mounta 49.84 64 P P 20 30 54.2 +0.4
F03A Seaside 49.87 64 ⇓P P 20 30 54.1 0.0
baz=50,SNR=30
BUSP Coron 49.90 230 *e*P P 20 30 55.1 +0.5
E04A Onalaska 49.93 63 ⇓P P 20 30 54.8 +0.3
baz=50,SNR=21
D05A Enumclaw 49.97 62 ⇑P P 20 30 55.0 +0.3
baz=50,SNR=63
GUIM Jordan 50.01 227 *e*P P 20 30 55.9 +0.5
GSM Grass Mountain 50.06 61 ⇓P P 20 30 55.4 0.0
C06A Tall Timber Ra 50.11 60 ⇑P P 20 30 55.4 -0.3
baz=50,SNR=11
BUTP Butuan 50.17 222 *e*P P 20 30 56.8 +0.2
B07A Winthrop 50.20 59 P P 20 30 56.1 -0.3
baz=50,SNR=178
HEBO Mount Hebo 50.21 65 P P 20 30 56.7 +0.2
TBP Tagbilaran 50.27 225 *e*P P 20 31 00.6 +3.2
FMW Mount Fremont 50.30 62 P P 20 30 57.0 -0.2
RCS Mount Rainier- 50.30 62 ⇑P P 20 30 57.7 +0.5
NLW Nelson Butte 50.31 60 P P 20 30 57.2 0.0
ERK Elk Rock 50.31 63 ⇑P P 20 30 57.2 -0.2
RCM Mount Rainier- 50.32 62 P P 20 30 57.9 +0.5
LON Longmire 50.33 62 P P 20 30 56.9 -0.6
A08A Turner Farm, O 50.34 58 P P 20 30 57.3 -0.2
baz=50,SNR=227
TDL Tradedollar La 50.35 63 ⇑P P 20 30 57.6 0.0
FL2 Flat Top 2 50.38 63 ⇓P P 20 30 57.8 -0.1
H02A Toledo 50.40 65 ⇓P P 20 30 58.4 +0.3
baz=50,SNR=19
G03A Yamhill 50.41 64 ⇓P P 20 30 57.9 -0.1
baz=50,SNR=51
LVP Lakeview Peak 50.42 63 ⇑P P 20 30 58.1 0.0
YEL Yellow Rock 50.46 63 ⇑P P 20 30 57.6 -0.8
E05A Randle 50.48 62 ⇓P P 20 30 57.9 -0.7
baz=50,SNR=43
F04A Amboy 50.50 63 ⇑P P 20 30 58.4 -0.4
baz=50,SNR=87
WPW White Pass 50.51 62 ⇓P P 20 30 58.7 -0.1
CUYO Cuyo Island 50.52 229 *e*P P 20 30 60.0 +0.7
BJO Bjornoya 50.54 347 ⇓ *i*P P 20 30 58.8 +0.1
BJO *e*S **S 20 38 03.6 +0.7**
BJO1 Bjornoya 50.57 347 *e*P P 20 30 59.2 +0.3
BIPH Bislig 50.58 221 ⇓ *i*P P 20 30 58.4 -1.2
D06A Cle Elum 50.58 61 ⇑P P 20 30 59.1 -0.3
baz=50,SNR=62
ETW Entiat 50.61 60 P P 20 30 59.2 -0.3
LTY Liberty 50.64 61 P P 20 30 59.2 -0.6
CBSW Chelan Butte S 50.64 60 P P 20 30 59.2 -0.5
B08A Colville Reser 50.67 59 P P 20 30 59.7 -0.3
baz=50,SNR=334
A09A Danville 50.69 58 P P 20 31 00.2 +0.1
baz=50,SNR=190
C07A Waterville 50.70 60 P P 20 30 59.5 -0.7
baz=50,SNR=142
EDM Edmonton 50.73 51 *e*P P 20 31 00.3 0.0
MPOR Mary's Peak 50.76 65 P P 20 31 01.0 +0.3
H03A Soap Creek Ran 50.80 65 ⇑P P 20 31 01.1 +0.1
baz=50,SNR=73
ASR Mount Adams--S 50.82 62 P P 20 31 00.9 -0.2
COR Corvallis 50.85 65 *e*P P 20 31 01.9 +0.5
COR Corvallis 50.85 65 P P 20 31 01.8 +0.4

COR ScP ScP 20 36 01.7 +0.9
COR S **S 20 38 10.1 +2.2**
COR ScS ScS 20 40 41.9 +2.6
E06A Yakima 50.91 62 ⇓P P 20 31 01.6 -0.2
baz=51,SNR=243
I02A Mapleton 50.92 66 P P 20 31 02.1 +0.2
baz=51,SNR=57
G04A Mulino 50.92 64 ⇑P P 20 31 01.5 -0.3
baz=51,SNR=24
ENPP El Nido 50.96 231 *e*P P 20 31 03.0 +0.5
RNO Roman Nose 51.02 66 P P 20 31 03.3 +0.6
D07A Quincy 51.05 60 P P 20 31 02.4 -0.5
baz=51,SNR=67
F05A White Salmon 51.06 63 P P 20 31 02.8 -0.1
baz=51,SNR=55
EPH Ephrata 51.15 60 P P 20 31 03.0 -0.6
C08A Higginbotham F 51.18 59 P P 20 31 03.2 -0.5
baz=51,SNR=183
A10A Northport 51.22 57 P P 20 31 03.8 -0.3
baz=51,SNR=66
I03A Eugene 51.25 66 ⇓P P 20 31 04.6 +0.2
baz=51,SNR=85
B09A Rice 51.26 58 ⇑P P 20 31 04.1 -0.3
baz=51,SNR=159
K01A Sixes 51.31 67 P P 20 31 05.2 +0.4
baz=51,SNR=26
DAG Danmarks Havn 51.32 359*b* *i*P P 20 31 04.4 -0.1
DAG pmax pmax
comp=Z,570nm,1.0s,mb6.6
DAG Danmarks Havn 51.32 359*b* *i*P P 20 31 04.4 -0.1
comp=Z,570nm,1.0s,mb6.6
DAG *i* 20 36 02.9
KEBM Edson Butte 51.34 67 *e*P P 20 31 05.7 +0.6
KEBM *e*pP pP 20 31 32.1 -1.6
BUKP Musuan 51.39 222 *e*P P 20 31 06.0 +0.3
H04A Detroit Lake 51.41 64 P P 20 31 05.4 -0.1
baz=51,SNR=140
J02A Umpqua 51.46 66 P P 20 31 06.6 +0.6
baz=51,SNR=200
F06A Goldendale 51.50 62 ⇓P P 20 31 06.0 -0.2
baz=51,SNR=54
VBEM Beaver Butte 51.50 63 P P 20 31 06.2 0.0
E07A Sunnyside 51.51 61 ⇓P P 20 31 06.0 -0.2
baz=51,SNR=32
BROR Big Rock Looko 51.52 65 P P 20 31 06.4 0.0
G05A Wamic 51.54 63 ⇓P P 20 31 06.5 0.0
baz=51,SNR=107
C09A Chrisman Ranch 51.58 59 ⇓P P 20 31 06.1 -0.7
baz=51,SNR=87
SOKR Solikamsk 51.60 320*d* *i*P P 20 31 04.9 -1.8
SOKR *i* pP 20 31 37.3 +2.0
SOKR *i* 20 32 18.9
SOKR pmax pmax
comp=Z,140nm,1.6s,mb5.7
D08A Wollman Farm, 51.70 60 P P 20 31 07.0 -0.7
baz=51,SNR=115
WRD Warden 51.74 60 P P 20 31 06.6 -1.4
SVE Sverdlovsk 51.75 316⇑ *e*P P 20 31 07.4 -0.5
SVE *e* 20 32 19.4
SVE *e*S **S 20 38 15.3 -4.6**
SVE *e*SS SS 20 42 01.2 +4.1
SVE *e*SSS 20 43 42.1
SVE pmax pmax
comp=Z,867nm,2.0s,mb6.4
SVE MLR MLR
comp=Z,8μm,15.0s
HAWA Hanford 51.79 61 *e*P P 20 31 07.9 -0.5
comp=Z,1μm,1.4s,mb6.7
IRO Indian Ridge 51.80 65 P P 20 31 08.5 0.0
J03A Ideyld Park 51.80 66 P P 20 31 09.1 +0.6
baz=52,SNR=174
B10A Chitwood Farm, 51.82 58 ⇓P P 20 31 08.1 -0.5
baz=52,SNR=10.0
KBO Bosley Butte 51.83 68 *e*P P 20 31 09.4 +0.7
I04A Tendick Farm, 51.84 65 P P 20 31 08.8 -0.1
baz=52,SNR=230
A11A Hall Mountain, 51.85 57 P P 20 31 09.2 +0.4
baz=52,SNR=196
HBO Huckleberry Mo 51.86 65 P P 20 31 09.0 +0.1
F07A Phinny Hill Vi 51.88 62 P P 20 31 09.1 +0.1
baz=52,SNR=103
NEW Newport 51.89 58 P P 20 31 08.6 -0.5
NEW *PP pP 20 31 36.9 -0.8
NEW S **S 20 38 22.6 +0.5**
NEW pmax pmax
comp=Z,177nm,0.9s
NEW smax
comp=N,2.0nm,0.7s
NEW Newport 51.89 58 *e*P P 20 31 08.6 -0.5
NEW Newport 51.89 58 P P 20 31 08.6 -0.5
comp=N,177nm,0.9s,mb6.1,baz=311,slow=7.0,SNR=145
NEW pP pP 20 31 36.9 -0.8
comp=N,63nm,0.9s,baz=329,slow=3.5,SNR=3.0
NEW ScP ScP 20 36 04.4 -0.9
comp=N,26nm,1.0s,baz=300,slow=4.5,SNR=3.3
NEW S **S 20 38 22.6 +0.5**
comp=N,2.3nm,0.7s,baz=91,slow=18,SNR=3.7
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221 P P 20 31 10.3 +0.8
SNR=21
DAV Davao City (W) 51.91 221⇓ *e*P P 20 31 09.5 -0.1
G06A Carlson Farm, 51.91 63 ⇑P P 20 31 08.9 -0.4
baz=52,SNR=102
H05A Madras 51.96 64 ⇑P P 20 31 09.5 -0.2
baz=52,SNR=56
E08A Dider Farm, El 51.98 61 ⇓P P 20 31 09.1 -0.6
baz=52,SNR=74
D09A Jones Farm, Ri 52.02 60 P P 20 31 09.4 -0.7
baz=52,SNR=103
C10A Spilker Farm, 52.07 58 ⇓P P 20 31 10.0 -0.5
baz=52,SNR=14
AAA Alma-Ata 52.12 294 *i* P P 20 31 12.6 +1.7
AAA *i* S **S 20 38 26.8 +1.5**
AAA pmax pmax
comp=Z,6μm,8.4s
AAA smax
comp=E,7μm,15.2s
AAA MLR MLR
comp=Z,11μm,16.7s
M01C Crescent City 52.12 68 P P 20 31 11.4 +0.5
baz=52,SNR=64
PAGZ Pagadian 52.13 224 *e*P P 20 31 10.9 -0.3
L02A Cave Junction 52.22 68 P P 20 31 12.2 +0.6
baz=52,SNR=192
A12A Yaak River Ran 52.23 56 ⇓P P 20 31 11.7 +0.1
baz=52,SNR=44
I05A Bend 52.25 64 ⇑P P 20 31 11.8 0.0
baz=52,SNR=24
HUMO Hull Mountain 52.30 67 *e*P P 20 31 12.7 +0.5
HUMO Hull Mountain 52.30 67 ⇓P P 20 31 12.6 +0.5
baz=52,SNR=254
H06A Lindquist Farm 52.40 63 P P 20 31 12.6 -0.3
baz=52,SNR=240
G07A Ruggs Ranch, H 52.42 62 P P 20 31 12.7 -0.4
baz=52,SNR=153
KRMB Red Mountain 52.45 68 *e*P P 20 31 13.8 +0.5
E09A Wood Farm, Sta 52.45 60 P P 20 31 12.8 -0.5
baz=52,SNR=165
PPR Puerto Princes 52.54 231⇓ *i*P P 20 31 15.6 +1.4
B12A Libby 52.56 57 ⇓P P 20 31 13.9 -0.1
baz=52,SNR=20
F08A Pendleton 52.57 61 P P 20 31 14.0 -0.2
baz=52,SNR=65
D10A Wagner Farm, O 52.57 59 P P 20 31 13.5 -0.6
baz=52,SNR=100
LSA Lhasa 52.72 272 P P 20 31 17.3 +1.8
LSA PCP PcP 20 32 27.0 +3.5

LSA PP PP 20 33 15.3 -0.4
LSA S **S 20 38 37.0 +3.2**
LSA AMB AMB
comp=Z,300nm,1.7s,mb6.0
LSA LR LR
comp=N,3μm,16.1s
LSA LR LR
comp=E,8μm,13.4s
LSA LR LR
comp=Z,10μm,14.5s
LSA Lhasa 52.72 272 *e*P P 20 31 16.7 +1.2
LSA pmax pmax
comp=Z,637nm,1.5s,mb6.4
LSA Lhasa 52.72 272 *e*P P 20 31 16.7 +1.3
comp=Z,637nm,1.5s,mb6.4
G08A Pilot Rock 52.79 62 ⇓P P 20 31 15.4 -0.4
baz=52
J05A Fort Rock 52.83 65 P P 20 31 16.9 +0.8
baz=53,SNR=537
JCC Jacoby Creek 52.84 69 ⇑P P 20 31 16.8 +0.6
baz=53,SNR=92
LVZ Lovozero 52.88 336 P P 20 31 15.9 -0.2
comp=Z,439nm,1.1s,mb6.4,SNR=6.7
LVZ Lovozero 52.88 336⇑ *e*P P 20 31 15.7 -0.4
LVZ pmax pmax
comp=Z,328nm,2.6s,mb5.9
LVZ MLR MLR
comp=Z,4μm,14.0s
ARU Arti 52.89 316 P P 20 31 15.7 -0.6
comp=Z,880nm,0.5s,mb7.0,SNR=56
ARU Arti 52.89 316⇑ *e*P P 20 31 15.1 -1.2
ARU pmax pmax
comp=Z,488nm,2.1s,mb6.2
ARU MLR MLR
comp=Z,6μm,15.0s
ARU Arti 52.89 316 *e*P P 20 31 15.2 -1.1
comp=Z,2μm,2.0s,mb6.9
I06A Prineville 52.97 64 P P 20 31 17.3 +0.2
baz=53,SNR=169
KHMM Horse Mountain 52.97 69 *e*P P 20 31 18.2 +1.0
K04A Chilquin 52.98 66 ⇓P P 20 31 17.7 +0.5
baz=53,SNR=26
YBH Yreka Blue Hor 53.00 67 P P 20 31 17.7 +0.3
YBH S **S 20 38 39.2 +1.8**
YBH pmax pmax
comp=Z,258nm,0.7s
YBH smax
comp=N,2.0nm,0.7s
YBH Yreka Blue Hor 53.00 67 *e*P P 20 31 17.8 +0.5
comp=N,2μm,1.6s,mb6.9
YBH Yreka Blue Hor 53.00 67 P P 20 31 17.7 +0.4
comp=N,258nm,0.7s,mb6.4,baz=341,slow=1.9,SNR=279
YBH ScP ScP 20 36 10.9 +0.7
comp=N,13nm,1.2s,baz=152,slow=1.9,SNR=3.5
YBH S **S 20 38 39.2 +1.8**
comp=N,1.5nm,0.7s,baz=263,slow=23,SNR=8.6
YBH Yreka Blue Hor 53.00 67 ⇑P P 20 31 18.2 +0.9
baz=53,SNR=464
E10A Myers Farm, Un 53.02 60 ⇑P P 20 31 16.9 -0.6
baz=53,SNR=56
WALA Waterton Lakes 53.04 55 *e*P P 20 31 17.5 0.0
comp=N,2μm,1.4s,mb6.9
D11A Klaveano Farm, 53.07 59 ⇑P P 20 31 17.0 -0.8
baz=53,SNR=71
F09A S2 Ranch, Elgi 53.09 61 ⇑P P 20 31 17.8 -0.1
baz=53,SNR=51
TKM2 Tokmak 2 53.10 295 *e*P P 20 31 18.1 0.0
comp=N,890nm,1.8s,mb6.5
TKM2 Tokmak 2 53.10 295 P P 20 31 18.2 +0.1
SNR=104
KEV Kevo 53.14 341 *e*p P 20 31 17.4 -0.5
comp=N,3μm,4.4s
KEV Kevo 53.14 341 P P 20 31 19.4 +1.5
KEV pmax pmax
comp=Z,540nm,2.0s,mb6.2
M02C Callahan 53.14 68 ⇑P P 20 31 19.3 +0.9
baz=53,SNR=453
L04A Klamath Falls 53.18 66 ⇓P P 20 31 19.2 +0.5
baz=53,SNR=67
ULHL Ulahol 53.18 294 P P 20 31 19.0 +0.4
SNR=257
B13A Whitefish 53.20 56 P P 20 31 18.6 -0.1
baz=53,SNR=248
N02C Big Bar 53.25 69 P P 20 31 19.8 +0.5
baz=53,SNR=250
I07A Izee 53.27 63 P P 20 31 19.2 -0.1
baz=53,SNR=131
F10A Beach Ranch, E 53.29 60 P P 20 31 19.1 -0.3
baz=53,SNR=151
BSMT Bassoo Peak 53.37 57 *e*P P 20 31 20.3 +0.4
K05A Summer Lake 53.38 65 P P 20 31 21.1 +1.0
baz=53,SNR=346
O01C Eel River Cons 53.40 70 ⇑P P 20 31 21.2 +0.9
baz=53,SNR=92
APA Apatity 53.44 337⇓ *i*P P 20 31 20.5 +0.3
APA *i* pP 20 31 49.7 +0.8
APA *i* *SP sP 20 32 03.4 +0.9
APA *i* 20 32 25.6
APA *i* S **S 20 38 37.0 -5.5**
APA *i* *SS sS 20 39 34.0 +1.9
APA *i* 20 40 55.0
APA pmax pmax
comp=Z,560nm,2.0s,mb6.2
APA pmax pmax
comp=N,2μm,8.0s
APA pmax pmax
comp=E,2μm,8.0s
APA pmax pmax
comp=Z,4μm,8.0s
APA smax
comp=N,3μm,13.0s
APA smax
comp=E,5μm,13.0s
APA MLR MLR
comp=Z,8μm,15.0s
G09A Cove 53.44 61 P P 20 31 20.1 -0.4
baz=53,SNR=184
H08A Prairie City 53.45 62 P P 20 31 20.6 +0.1
baz=53,SNR=225
M04C Macdoel 53.46 67 P P 20 31 21.4 +0.7
baz=53,SNR=339
USP Ospenovka 53.49 296 P P 20 31 21.1 +0.2
SNR=216
CHMS Chumysh 53.52 295 P P 20 31 21.2 0.0
SNR=82
E11A Bogner Ranch, 53.59 59 P P 20 31 20.7 -0.8
baz=53,SNR=291
D12A Red Ives Fores 53.59 58 ⇓P P 20 31 20.9 -0.7
baz=53
C13A Hot Springs 53.59 57 P P 20 31 21.7 +0.1
baz=53,SNR=325
ARCES ARCESS Array B 53.62 341 P P 20 31 20.8 -0.7
comp=Z,76nm,0.9s,mb5.7,baz=32,slow=7.1,SNR=41
ARCES pP pP 20 31 52.0 +1.7
comp=Z,30nm,0.8s,baz=43,slow=9.0,SNR=2.0
ARCES PcP PcP 20 32 25.7 -0.5
comp=Z,98nm,0.8s,baz=35,slow=4.4,SNR=13
ARCES ScP ScP 20 36 12.7 +0.3
comp=Z,23nm,0.9s,baz=37,slow=8.3,SNR=5.5
ARCES LR LR 20 55 47.0
comp=Z,5μm,20.8s,baz=27,slow=38
ARE0 ARCESS Array S 53.62 341 *e*P P 20 31 20.9 -0.6
M03C McCloud 53.63 67 P P 20 31 22.5 +0.5
baz=53,SNR=65
KBK Karagaybulak 53.64 295 P P 20 31 22.3 +0.3
SNR=179
K06A Valley Falls 53.69 65 P P 20 31 23.2 +0.8
baz=53,SNR=663
FRU Bishkek 53.71 295 *i* P P 20 31 22.5 0.0
FRU *i* *PP pP 20 31 55.0 +3.7
FRU *i* 20 32 06.0
FRU *i* 20 32 25.5
FRU *e* 20 33 33.0
FRU *i* S **S 20 38 48.0 +1.1**
FRU pmax pmax
comp=Z,2μm,2.1s,mb6.8
FRU pmax pmax
comp=Z,6μm,7.6s
FRU MLR MLR
comp=Z,8μm,16.0s
G10A Bishop Farm, J 53.79 61 P P 20 31 22.9 -0.1
baz=54,SNR=218
KIPM Iron Peak 53.82 70 *e*P P 20 31 23.8 +0.4
BATP Bataraza 53.83 231 *e*P P 20 31 25.3 +1.6
J07A Hines 53.84 64 ⇓P P 20 31 23.9 +0.4
baz=54
KCPM Cahto Peak 53.84 70 *e*P P 20 31 23.8 +0.3

KZA Kyzart 53.85 294 P P 20 31 24.4 +0.8
SNR=113
WDC Whiskeytown Da 53.85 68 eP P 20 31 23.8 +0.2
WDC Whiskeytown Da 53.85 68 P P 20 31 23.8 +0.3
baz=54,SNR=239
L05A Lakeview 53.86 66 P P 20 31 24.6 +1.0
baz=54,SNR=752
I08A Drewsey 53.90 63 P P 20 31 24.2 +0.4
baz=54,SNR=226
H09A Durkee 53.90 62 P P 20 31 24.2 +0.3
baz=54,SNR=112
AAK Ala-Archa 53.91 295 P P 20 31 23.6 -0.4
comp=Z,1µm,1.5s,mb6.7
AAK Ala-Archa 53.91 295 P P 20 31 24.3 +0.4
SNR=111
F11A Grangeville 53.92 60 P P 20 31 23.4 -0.5
baz=54,SNR=196
C14A Swan Lake 53.96 57 ⇓P P 20 31 24.4 +0.1
baz=54
BMO Blue Mountains 53.97 61 eP P 20 31 24.3 -0.1
O02C Red Bluff 53.97 69 P P 20 31 25.2 +0.7
baz=54,SNR=401
D13A Huson 54.03 58 P P 20 31 24.5 -0.3
baz=54,SNR=75
P01C Double 8 Ranch 54.13 70 P P 20 31 25.8 +0.2
baz=54,SNR=159
M05C Lookout 54.13 67 ⇓P P 20 31 26.1 +0.5
baz=54,SNR=609
UCH Uchtor 54.16 295 eP P 20 31 26.1 +0.2
comp=Z,84nm,0.5s,mb6.0
UCH Uchtor 54.16 295 P P 20 31 26.4 +0.6
SNR=63
G11A Walters Elk Ra 54.17 60 P P 20 31 25.5 -0.4
baz=54,SNR=260
MOD Modoc 54.25 66 eP P 20 31 26.5 0.0
MOD Modoc 54.25 66 P P 20 31 27.1 +0.6
baz=54,SNR=1000
EKS2 Erkin-Say 54.29 296 eP P 20 31 26.6 -0.1
comp=Z,890nm,1.8s,mb6.5
EKS2 Erkin-Say 54.29 296 P P 20 31 27.0 +0.3
SNR=190
I09A Lost Marbles R 54.31 62 P P 20 31 27.1 +0.2
baz=54,SNR=81
HATC Hat Creek Radi 54.31 67 P P 20 31 27.5 +0.6
baz=54,SNR=231
J08A Circle Bar Ran 54.31 63 P P 20 31 27.2 +0.4
baz=54,SNR=177
K07A Rock Creek Ran 54.32 64 P P 20 31 27.6 +0.6
baz=54,SNR=670
GASB Alder Springs 54.36 69 P P 20 31 28.3 +1.0
baz=54,SNR=275
H10A Noah's Angus R 54.45 61 P P 20 31 27.6 -0.2
baz=54,SNR=294
MSO Missoula 54.47 58 eP P 20 31 27.8 -0.2
comp=Z,958nm,1.4s,mb6.6
F12A Elk City 54.48 59 P P 20 31 28.1 +0.1
baz=54,SNR=311
KTK1 Kautokeino 54.51 341 eP P 20 31 28.6 +0.7
KTK1 AMb AMB 20 31 32.5
comp=Z,341nm,1.6s,mb6.1
KTK1 Kautokeino 54.51 341 eP P 20 31 28.6 +0.7
comp=Z,341nm,1.6s,mb6.1
O03C Acorn Hollow, 54.53 69 ⇓P P 20 31 28.3 -0.2
baz=54
D14A Greenough 54.53 57 P P 20 31 28.3 -0.1
baz=54,SNR=371
IMP Imphal 54.54 265 i x x 20 30 15.0
IMP eS S 20 38 57.0 -1.5
E13A Victor 54.59 58 P P 20 31 28.4 -0.5
baz=54,SNR=159
HOPS Hopland 54.60 70 eP P 20 31 28.9 -0.1
HOPS Hopland 54.60 70 P P 20 31 29.0 0.0
baz=54,SNR=136
M06C Likely Place G 54.61 67 P P 20 31 29.8 +0.7
baz=54,SNR=220
AML Almayashu 54.68 295 eP P 20 31 29.2 -0.4
comp=Z,639nm,1.9s,mb6.3
AML Almayashu 54.68 295 P P 20 31 30.5 +0.9
SNR=70
L07A Adell 54.71 65 ⇓P P 20 31 30.7 +0.9
baz=54,SNR=498
J09A Fry Pan Ranch, 54.71 63 P P 20 31 30.4 +0.6
baz=54,SNR=327
K08A Mann Creek Ran 54.72 64 ⇑P P 20 31 30.4 +0.6
baz=54,SNR=358
I10A Payette 54.75 62 P P 20 31 30.5 +0.5
baz=54,SNR=71
H11A Donnelly 54.77 61 P P 20 31 30.2 +0.1
baz=54,SNR=108
TRO Tromso 54.78 343 eP P 20 31 28.4 -1.4
comp=Z,277nm,2.3s,mb5.9
TRO AMb AMB 20 31 34.1
comp=Z,277nm,2.3s,mb5.9
TRO eS S 20 39 01.7 +1.1
TRO Tromso 54.78 343 eP P 20 31 28.0 -1.9
TRO pmax pmax
comp=Z,277nm,2.3s,mb5.9
TRO Tromso 54.78 343 eP P 20 31 28.0 -1.9
comp=Z,277nm,2.3s,mb5.9
TMCR Tamitsa 54.80 332 eP P 20 31 28.4 -1.7
TMCR e*PP pP 20 32 02.6 +3.6
TMCR e 20 32 28.3
WVOR Wild Horse Val 54.83 64 P P 20 31 30.3 -0.3
WVOR pmax pmax
comp=Z,2µm,1.3s,mb6.9
WVOR Wild Horse Val 54.83 64 eP P 20 31 30.6 0.0
comp=Z,2µm,1.4s,mb6.9
O04C Chester 54.85 68 P P 20 31 31.6 +0.8
baz=55,SNR=312
ELFS Eagle Lake Fie 54.86 67 ⇓P P 20 31 31.7 +0.9
baz=55
FFC Flin Flon 54.93 44 P P 20 31 31.1 -0.1
comp=Z,3µm,1.3s,mb7.2
FFC Flin Flon 54.93 44 eP P 20 31 30.6 -0.6
FFC pmax pmax
comp=Z,1µm,1.3s,mb6.7
FFC Flin Flon 54.93 44 eP P 20 31 30.6 -0.6
comp=Z,1µm,1.3s,mb6.7
NANT Nan 54.95 255 ⇓P P 20 31 30.0 -1.8
comp=Z,2µm,1.0s,mb7.0
E14A Clinton 54.97 58 P P 20 31 31.6 +0.1
baz=55,SNR=358
MNRC McLaughlin Nat 55.04 70 ⇓P P 20 31 32.8 +0.6
baz=55,SNR=336
D15A Lincoln 55.06 57 P P 20 31 32.3 +0.1
baz=55,SNR=264
ORV Oroville 55.13 69 P P 20 31 32.3 -0.5
baz=55,SNR=276
KSH Kashi 55.13 291 i P P 20 31 33.0 +0.2
KSH ePCP PcP 20 32 33.5 +0.9
KSH ePP PP 20 33 38.3 +1.2
KSH S S 20 39 03.0 -3.1
KSH eSCS ScS 20 41 07.3 -2.3
KSH eSS SS 20 42 47.0 -4.1
KSH LR LR
comp=N,16µm,9.8s
KSH LR LR
comp=E,21µm,8.2s
KSH LR LR
comp=Z,19µm,16.3s
SGF Sodankyl 55.13 339 P P 20 31 32.3 -0.1
L08A Fields 55.15 64 P P 20 31 33.6 +0.7
baz=55,SNR=584
K09A Rome 55.16 63 P P 20 31 33.4 +0.4
baz=55,SNR=376
SUTB Sutter Butte 55.18 69 P P 20 31 32.7 -0.5
baz=55,SNR=34
NSHM Saint Helena R 55.18 70 eP P 20 31 32.9 -0.4
O05C Quincy 55.19 68 ⇑P P 20 31 33.6 +0.3
baz=55,SNR=108
J10A Berg Farm, Mel 55.20 62 ⇓P P 20 31 33.3 0.0
baz=55,SNR=24
M07A Soldier Meadow 55.23 66 P P 20 31 34.4 +0.9
baz=55,SNR=792
SHL Shillong 55.23 268 i P P 20 31 34.0 +0.3
SHL ex x 20 38 56.0
MCCM Marconi Confer 55.28 71 eP P 20 31 32.8 -1.1
MCCM Marconi Confer 55.28 71 P P 20 31 33.5 -0.4
baz=55,SNR=57
N06A Buffalo Meadow 55.28 67 P P 20 31 34.4 +0.5
baz=55,SNR=672
OHCM Honcut 55.28 69 eP P 20 31 33.5 -0.5
OHCM epP pP 20 32 00.7 -2.2
FCC Fort Churchill 55.30 37 eP P 20 31 33.7 -0.1
FCC pmax pmax
comp=Z,2µm,1.5s,mb6.8
FCC Fort Churchill 55.30 37 eP P 20 31 33.7 0.0
comp=Z,2µm,1.5s,mb6.8
I11A Placerville 55.32 61 ⇑P P 20 31 34.0 -0.1
baz=55,SNR=43
CVS Carmenet Viney 55.39 70 P P 20 31 34.6 -0.1
baz=55,SNR=90
E15A Deer Lodge 55.41 57 P P 20 31 34.7 -0.1
baz=55,SNR=313
F14A Wisdom 55.44 58 ⇓P P 20 31 34.9 -0.1
baz=55,SNR=16
Q03C Winters 55.45 70 ⇑P P 20 31 36.1 +0.9
baz=55,SNR=65
G13A Cobalt 55.46 59 P P 20 31 34.8 -0.3
baz=55,SNR=402
H12A Diamond D Ranc 55.49 60 P P 20 31 34.9 -0.4
baz=55,SNR=145
FARB Farallon Islan 55.51 71 P P 20 31 35.1 -0.5
baz=55,SNR=46
BEKR Beckwourth 55.57 68 P P 20 31 36.1 +0.1
baz=55,SNR=496
K10A MacKenzie Ranc 55.58 63 P P 20 31 36.7 +0.7
baz=55,SNR=496
KKTK Khon Kaen 55.62 251 ⇓P P 20 31 38.4 +1.8
comp=Z,7µm,0.9s,mb7.7
M08A Happy Creek Ra 55.63 65 P P 20 31 37.2 +0.9
baz=55,SNR=464
L09A Wilkinson Ranc 55.64 64 P P 20 31 37.2 +0.7
baz=55,SNR=325
O06A Flanigan 55.67 67 P P 20 31 37.1 +0.4
baz=55,SNR=306
Q04C Lincoln 55.68 69 ⇑P P 20 31 36.8 0.0
baz=55
MFID Camas Ranch 55.72 62 ⇑P P 20 31 37.2 +0.2
baz=56,SNR=54
N07B Gerlach 55.74 66 P P 20 31 37.8 +0.6
baz=56,SNR=162
H13A Challis 55.80 60 P P 20 31 37.5 -0.1
baz=56,SNR=409
P05C Yuba Gap, Truc 55.81 68 P P 20 31 37.6 -0.1
baz=56,SNR=100
EGMT Eagleton 55.81 54 eP P 20 31 37.3 -0.3
comp=Z,1µm,1.4s,mb6.8
EGMT Eagleton 55.81 54 ⇑P P 20 31 37.3 -0.3
baz=56
F15A Butte 55.87 58 P P 20 31 38.1 0.0
baz=56,SNR=303
SAC San Andreas 55.93 71 eP P 20 31 38.0 -0.6
KDM Kudat 55.93 231 ⇓P P 20 31 41.6 +2.7
P06A Stead Airport, 55.96 68 ⇑P P 20 31 38.8 0.0
baz=56,SNR=8.1
CHG Chiang Mai 55.99 256 ⇓P P 20 31 39.8 +0.6
comp=Z,150nm,1.4s,mb5.8
CHTO Chiang Mai 55.99 256 eP P 20 31 39.9 +0.7
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 40.2 +1.0
SNR=400
CHTO Chiang Mai 55.99 256 P P 20 31 39.8 +0.6
CHTO sS sS 20 40 13.9 +6.0
CHTO ScS ScS 20 41 13.4 -2.9
BDM Black Diamond 55.99 70 P P 20 31 39.1 0.0
baz=56,SNR=24
K11A Parker Ranch, 56.04 62 ⇑P P 20 31 39.6 +0.3
baz=56,SNR=253
LAVA Lava Cap Winer 56.10 69 P P 20 31 39.7 -0.1
baz=56,SNR=150
JRSC Jasper Ridge 56.15 71 P P 20 31 39.8 -0.4
baz=56,SNR=37
M09A Marrel Ranch, 56.16 64 ⇑P P 20 31 40.8 +0.7
baz=56,SNR=249
O07A Toulon 56.21 66 P P 20 31 41.1 +0.6
baz=56,SNR=290
N08A GE Springer Mi 56.21 65 P P 20 31 41.1 +0.5
baz=56,SNR=207
J12A Stokes Ranch, 56.23 61 ⇓P P 20 31 41.2 +0.6
baz=56,SNR=172
PAHR Pah Rah Range 56.23 67 eP P 20 31 40.8 +0.1
comp=Z,1µm,1.4s,mb6.7
PAHR epP pP 20 32 08.8 -0.9
CM31 Chiang Mai Arr 56.26 256 eP P 20 31 42.5 +1.4
L10A Juniper Basin 56.27 63 P P 20 31 41.6 +0.7
baz=56,SNR=539
WENL Wente Brothers 56.28 71 ⇑P P 20 31 41.0 -0.1
baz=56,SNR=39
I13A Wildhorse Cree 56.31 60 ⇑P P 20 31 41.5 +0.4
baz=56,SNR=547
R04C Big Horse Ranc 56.33 69 ⇓P P 20 31 40.9 -0.5
baz=56,SNR=17
G15A Dillon 56.33 58 P P 20 31 41.3 0.0
baz=56,SNR=303
BNLO Ben Lomond (Sa 56.38 71 P P 20 31 41.2 -0.5
baz=56,SNR=93
HLID Hailey 56.38 61 eP P 20 31 42.1 +0.4
HLID Hailey 56.38 61 ⇓P P 20 31 41.9 +0.2
baz=56
BOZ Bozeman (W) 56.45 57 eP P 20 31 42.6 +0.4
BOZ pmax pmax
comp=Z,2µm,1.7s,mb6.8
BOZ Bozeman (W) 56.45 57 eP P 20 31 42.6 +0.4
comp=Z,2µm,1.7s,mb6.8
N09A Rock Creek Ran 56.51 65 P P 20 31 43.4 +0.7
baz=56,SNR=265
R05C Kirkwood Meado 56.52 69 ⇓P P 20 31 42.9 +0.2
baz=56,SNR=256
O08A Rochester Mine 56.53 66 ⇑P P 20 31 43.6 +0.8
baz=56,SNR=14
L11A Cat Creek Ranc 56.60 63 P P 20 31 44.1 +0.8
baz=56,SNR=874
M10A I.L. Ranch, Tu 56.60 64 P P 20 31 44.2 +0.9
baz=56,SNR=444
S04C Ingram Canyon, 56.61 70 P P 20 31 43.1 -0.3
baz=56,SNR=89
J13A Cove Ranch, Pi 56.62 61 P P 20 31 44.1 +0.7
baz=56,SNR=118
P07A Fallon 56.63 67 ⇓P P 20 31 43.9 +0.4
baz=56
JNW Jan Mayen West 56.70 354 eP P 20 31 46.0 +2.5
JMIC Jan Mayen 56.74 354 ⇓iP P 20 31 46.4 +2.6
JMIC AMb AMB 20 31 50.1
comp=Z,887nm,1.1s,mb6.7
JMIC eS S 20 39 27.9 +1.4
JMIC Jan Mayen 56.74 354 eP P 20 31 46.5 +2.6
comp=Z,887nm,1.1s,mb6.7
K12A Draper Farm, C 56.74 62 P P 20 31 44.9 +0.6
baz=56,SNR=268
CMB Columbia Colle 56.80 69 eP P 20 31 44.6 -0.1
CMB Columbia Colle 56.80 69 P P 20 31 44.7 0.0
baz=56,SNR=165
SDKM Sandakan 56.87 230 ⇑P P 20 31 46.1 +0.6
BMN Battle Mountai 56.96 65 eP P 20 31 46.4 +0.6
BMN pmax pmax
comp=Z,2µm,1.6s,mb6.8
BMN Battle Mountai 56.96 65 eP P 20 31 46.4 +0.6
comp=Z,1µm,1.6s,mb6.8
PACP Pacheco Peak 56.98 71 P P 20 31 46.2 +0.2
baz=57,SNR=97
P08A Dixie Valley 56.98 66 ⇑P P 20 31 46.9 +0.9
baz=57,SNR=23
KKM Kota Kinabalu 56.99 231 eP P 20 31 47.5 +1.2
R06C Coleville 57.00 68 P P 20 31 46.8 +0.7
baz=57,SNR=319
L12A House Creek Ra 57.02 62 P P 20 31 47.0 +0.8
baz=57,SNR=58
WAKR Walker 57.02 68 eP P 20 31 46.9 +0.6
LOF Lofoten 57.02 345 ⇓iP P 20 31 48.2 +2.4
LOF AMb AMB 20 31 52.5
comp=Z,636nm,1.2s,mb6.5
LOF Lofoten 57.02 345 eP P 20 31 48.2 +2.4
comp=Z,636nm,1.2s,mb6.5
SAO San Andreas Ge 57.05 71 eP P 20 31 45.7 -0.8
SAO pmax pmax
comp=Z,584nm,1.5s,mb6.4
SAO San Andreas Ge 57.05 71 eP P 20 31 45.7 -0.8
comp=Z,584nm,1.5s,mb6.4
M11A Holland Ranch, 57.08 63 ⇑P P 20 31 47.6 +0.9
baz=57,SNR=64
Q07A Schurz 57.08 68 ⇓P P 20 31 47.0 +0.3
baz=57
O09A Fish Creek Ran 57.16 65 P P 20 31 48.0 +0.8
baz=57,SNR=224
N10A Dunphy 57.16 65 ⇑P P 20 31 47.8 +0.5
baz=57,SNR=12
K13A Stover Farm, H 57.18 61 ⇓P P 20 31 47.7 +0.4
baz=57,SNR=52
S06C San Francisco 57.21 69 P P 20 31 47.7 0.0
baz=57,SNR=368
JIRN Jiri 57.22 274 eP P 20 31 48.0 +0.1
comp=Z,144nm,0.3s,mb6.4
GUN Gumba 57.23 274 eP P 20 31 47.9 0.0
comp=Z,255nm,0.4s,mb6.6
OUL Oulu 57.24 338 P P 20 31 46.2 -1.2
HAST Hastings Reser 57.25 71 P P 20 31 47.7 -0.3
baz=57,SNR=163
S05C Merced 57.30 70 P P 20 31 48.0 -0.3
baz=57,SNR=45
T05C Eagle Field, D 57.41 70 ⇓P P 20 31 49.5 +0.5
baz=57
O10A Cortez Mining, 57.46 65 ⇓P P 20 31 50.2 +0.9
baz=57,SNR=60
N11A Elko Archery C 57.52 64 ⇑P P 20 31 50.5 +0.7
baz=57,SNR=9.8
R07C Lee Vining 57.53 68 P P 20 31 50.6 +0.8
baz=57,SNR=298
M12A Wells 57.57 63 ⇓P P 20 31 51.0 +0.9
baz=57,SNR=393
P09A Austin 57.61 66 ⇓P P 20 31 51.1 +0.7
baz=57,SNR=85
Q08A Gabbs 57.63 67 P P 20 31 51.0 +0.4
baz=57,SNR=236
L13A Double Diamond 57.64 62 P P 20 31 51.6 +1.1
baz=57,SNR=131
JOF Joensuu 57.66 334 ep P 20 31 48.9 -1.5
comp=Z,203nm,1.2s,mb6.0
JOF Joensuu 57.66 334 eP P 20 31 48.9 -1.5
JOF pmax pmax
comp=Z,203nm,1.2s,mb6.0
V03C Hunter Liggett 57.69 72 P P 20 31 51.1 +0.1
baz=57,SNR=96
KKN Kakani 57.69 275 eP P 20 31 51.3 +0.2
comp=Z,523nm,0.4s,mb6.9
U04C Hernandez Rese 57.71 71 P P 20 31 51.4 +0.2
baz=58,SNR=175
NVAR Mina Array Bea 57.72 68 P P 20 31 51.6 +0.4
comp=Z,163nm,0.8s,mb6.1,baz=295,slow=6.7,SNR=386
NVAR pP pP 20 32 19.4 -1.0
comp=Z,137nm,0.9s,baz=288,slow=7.1,SNR=7.7
NVAR ScP ScP 20 36 30.7 -0.3
comp=Z,4.1nm,0.9s,baz=327,slow=1.5,SNR=3.6
NST Nakhon Sawan 57.73 253 ⇑P P 20 31 52.8 +1.3
comp=Z,548nm,1.0s,mb6.5
K14A Jones Ranch, D 57.74 61 P P 20 31 52.5 +1.2
baz=58,SNR=139
TSM Tawau 57.74 228 ⇓P P 20 31 52.3 +0.7
PKI Pulchoki 57.77 274 eP P 20 31 51.5 -0.2
comp=Z,175nm,0.3s,mb6.5
PKIN Phulchoki 57.77 274 eP P 20 31 51.7 0.0
LKWY Lake 57.83 58 eP P 20 31 54.1 +2.2
LKWY pmax pmax
comp=Z,460nm,1.0s,mb6.5
LKWY Lake 57.83 58 eP P 20 31 54.1 +2.2
comp=Z,464nm,1.0s,mb6.5
N12A Clover Valley, 57.89 63 P P 20 31 53.2 +0.9
baz=58,SNR=152
R08A Mina 57.89 68 ⇓P P 20 31 52.7 +0.4
baz=58
T06C Millerton Lake 57.89 70 P P 20 31 51.8 -0.7
baz=58,SNR=90
KCC Kaiser Creek 57.90 69 P P 20 31 52.5 +0.1
baz=58,SNR=251
DMN Daman 57.92 275 eP P 20 31 53.1 +0.3
comp=Z,877nm,0.6s,mb7.0
P10A Eureka 57.94 65 ⇑P P 20 31 53.4 +0.7
baz=58,SNR=71
MLAC Mammoth Lakes 57.96 69 ⇑P P 20 31 53.8 +0.9
baz=58,SNR=26
FLWY Flagg Ranch 58.00 58 eP P 20 31 54.3 +1.2
IMW Indian Meadow 58.00 58 eP P 20 31 53.2 +0.1
comp=Z,770nm,1.0s,mb6.7
M13A Montello 58.02 63 P P 20 31 53.8 +0.5
baz=58,SNR=279
RLMT Red Lodge 58.03 56 eP P 20 31 54.2 +0.9
O11A Cowboy Ranch, 58.04 64 ⇓P P 20 31 54.0 +0.6
baz=58,SNR=34
Q09A Carvers 58.08 67 ⇑P P 20 31 54.2 +0.5
baz=58,SNR=40
SHBG Sahibganj 58.08 271 eP P 20 31 54.0 +0.1
DCID1 Drake Creek 58.08 59 eP P 20 31 54.6 +1.0
U05C Westside ANR, 58.12 71 ⇑P P 20 31 54.3 +0.3
baz=58,SNR=14
PKD Parkfield 58.14 71 P P 20 31 53.9 -0.3
baz=58,SNR=151
V04C Ramage Ranch, 58.17 72 P P 20 31 54.5 +0.2
baz=58,SNR=39
DANN Dangsing 58.22 276 eP P 20 31 55.1 +0.3
DGMT Dagmar 58.22 51 eP P 20 31 54.7 +0.1
TPAW Teton Pass 58.28 59 eP P 20 31 56.2 +1.2
comp=Z,868nm,1.1s,mb6.7
MTUM Tungsten Hills 58.31 69 eP P 20 31 55.3 0.0
MTUM epP pP 20 32 23.7 -0.9
N13A Wendover, West 58.34 63 P P 20 31 56.3 +0.8
baz=58,SNR=80
M14A Sheep Mountain 58.37 62 P P 20 31 56.2 +0.6
baz=58,SNR=100
LOHW Long Hollow 58.38 58 eP P 20 31 56.9 +1.2
P11A Circle Ranch, 58.38 65 P P 20 31 56.6 +0.8
baz=58,SNR=94
SNOW Snow King Moun 58.40 59 eP P 20 31 57.2 +1.3
REDW Red Top Meadow 58.42 59 eP P 20 31 57.0 +1.1
S08C White Mtn Res 58.44 68 P P 20 31 56.9 +0.6
baz=58,SNR=345
O12A Currie 58.45 64 P P 20 31 56.9 +0.6
baz=58,SNR=176
LAO LASA Array 58.48 53 eP P 20 31 57.1 +0.8
HELL Mitchell Peak 58.52 70 P P 20 31 56.2 -0.6
baz=58,SNR=438
Q10A Clear Creek Ra 58.52 66 P P 20 31 57.2 +0.4
baz=58,SNR=489
PTRM Twissleman Ran 58.54 71 eP P 20 31 57.6 +0.6
R09A Tonopah 58.55 67 P P 20 31 57.1 +0.1
baz=58,SNR=374
V05C Boulder Hill, 58.57 71 P P 20 31 57.6 +0.5
baz=58,SNR=21
TPH Tonopah 58.58 67 eP P 20 31 55.3 -1.9
TPH Tonopah 58.58 67 eP P 20 31 57.2 +0.1
MOR8 Moi Rana 58.64 343 eP P 20 31 56.5 -0.7
MOR8 AMb AMB 20 32 00.4
comp=Z,333nm,1.6s,mb6.1
MOR8 Moi Rana 58.64 343 eP P 20 31 56.5 -0.7
comp=Z,333nm,1.6s,mb6.1
RCTC Rector, Farmer 58.65 70 ⇓P P 20 31 57.3 -0.4
baz=58
AHID Auburn Hatcher 58.70 59 eP P 20 31 58.6 +0.7
TIN Tinemaha 58.71 69 ⇑P P 20 31 58.5 +0.4
baz=58,SNR=67
KOLN Koldanda 58.73 276 eP P 20 31 58.3 -0.1
comp=Z,320nm,0.5s,mb6.6
STOK Stokkvaagen 58.74 344 eP P 20 31 59.1 +1.2
STOK AMb AMB 20 32 02.4
comp=Z,387nm,2.1s,mb6.1
STOK Stokkvaagen 58.74 344 eP P 20 31 59.1 +1.2
comp=Z,387nm,2.1s,mb6.1
S09A Goldfield 58.82 68 P P 20 31 59.1 +0.3
baz=59,SNR=116
M15A Larsen Ranch, 58.88 61 P P 20 31 59.7 +0.5
baz=59,SNR=377
SMMC Simmler 58.90 71 P P 20 31 59.6 +0.1
baz=59,SNR=50
N14A Grayback Hills 58.90 62 P P 20 31 59.9 +0.5
baz=59,SNR=88
P12A McGill 58.91 65 ⇓P P 20 31 59.8 +0.3
baz=59,SNR=143
Q11A Duckwater 58.93 66 P P 20 31 59.7 +0.1
baz=59,SNR=247
R10A Warm Springs 58.95 66 ⇑P P 20 31 59.9 +0.2
baz=59,SNR=27

O13A	**Hicks Ranch, I**	**58.97**	**63**	⇓P	**P**	**20 32 00.4**	**+0.6**
	baz=59,SNR=39						
S10A	**Tonopah Range,**	**59.04**	**67**	P	**P**	**20 32 00.4**	**0.0**
	baz=59,SNR=213						
VES	**Vestal, Richgr**	**59.07**	**70**	⇓P	**P**	**20 31 59.7**	**-0.9**
	baz=59,SNR=51						
JOSI	**Joshimath**	**59.20**	**281**	*e*P	**P**	**20 32 01.9**	**+0.3**
JOSI				AMb	AMB	20 32 05.3	
	comp=Z,934nm,1.8s,mb6.5						
CWC	**Cottonwood Cre**	**59.23**	**69**	P	**P**	**20 32 01.8**	**+0.1**
	baz=59,SNR=69						
N15A	**Stansbury Isla**	**59.24**	**62**	P	**P**	**20 32 02.2**	**+0.5**
	baz=59,SNR=158						
GRAC	**Grapevine Rang**	**59.24**	**68**	⇑P	**P**	**20 32 02.2**	**+0.4**
	baz=59,SNR=107						
Q12A	**Willow Creek R**	**59.26**	**65**	⇑P	**P**	**20 32 02.2**	**+0.3**
	baz=59,SNR=197						
HWUT	**Hardware Ranch**	**59.26**	**61**	*e*P	**P**	**20 32 02.5**	**+0.7**
KLP	**Kalpa**	**59.30**	**283**	*e*P	**P**	**20 32 02.0**	**-0.2**
PKM	**Peak Mountain**	**59.30**	**72**	⇑P	**P**	**20 32 02.4**	**+0.2**
	baz=59						
R11A	**Troy Canyon, C**	**59.31**	**66**	P	**P**	**20 32 02.3**	**0.0**
	baz=59,SNR=382						
SFJD	**Kangerlussuaq**	**59.33**	**12**	*e*P	**P**	**20 32 01.4**	**-0.5**
SFJD				pmax	pmax		
	comp=Z,366nm,0.9s,mb6.4						
SFJD	**Kangerlussuaq**	**59.33**	**12**	*e*P	**P**	**20 32 01.4**	**-0.5**
	comp=Z,366nm,0.9s,mb6.4						
SFJD	**Kangerlussuaq**	**59.33**	**12**	*i* P	**P**	**20 32 01.6**	**-0.3**
	comp=Z,199nm,0.8s,mb6.2						
SFJD				*i*	pP	20 32 29.9	-1.3
SFJD				*i* S	**S**	**20 39 55.6**	**-4.7**
SFJD							
	comp=Z,2µm,20.0s						
P13A	**Bates Ranch, G**	**59.42**	**64**	P	**P**	**20 32 03.3**	**+0.4**
	baz=59,SNR=234						
BW06	**Boulder Array**	**59.51**	**59**	*e*P	**P**	**20 32 04.0**	**+0.4**
BW06				*e*pP	pP	20 32 31.9	-0.9
PTH	**Pithoragarh**	**59.52**	**280**	*e*P	**P**	**20 32 02.9**	**-0.9**
PTH				*ex*	x	20 41 27.2	
DUG	**Dugway**	**59.56**	**63**	*e*P	**P**	**20 32 04.5**	**+0.6**
DUG	**Dugway**	**59.56**	**63**	⇓P	**P**	**20 32 04.5**	**+0.5**
	baz=59						
KAF	**Kangasniemi**	**59.64**	**336**	*e*p	**P**	**20 32 03.9**	**-0.2**
	comp=Z,97nm,1.0s,mb5.8,baz=33,slow=6.5						
KAF	**Kangasniemi**	**59.64**	**336**	*e*P	**P**	**20 32 03.9**	**-0.2**
KAF				pmax	pmax		
	comp=Z,97nm,1.0s,mb5.8						
SBC	**Santa Barbara**	**59.68**	**72**	⇑P	**P**	**20 32 04.7**	**-0.1**
	baz=59						
ARVC	**Arvin**	**59.71**	**71**	⇓P	**P**	**20 32 04.0**	**-1.0**
	baz=60						
S11A	**Rachel**	**59.72**	**67**	⇓P	**P**	**20 32 05.4**	**+0.4**
	baz=60,SNR=83						
Q13A	**Wheeler Ranch,**	**59.77**	**64**	⇑P	**P**	**20 32 05.9**	**+0.5**
	baz=60,SNR=145						
MPMC	**Manual Prospec**	**59.83**	**69**	⇓P	**P**	**20 32 05.9**	**+0.1**
	baz=60						
R12A	**Pony Springs,**	**59.88**	**65**	P	**P**	**20 32 06.2**	**+0.1**
	baz=60,SNR=264						
FURC	**Furnace Creek,**	**59.91**	**68**	⇓P	**P**	**20 32 06.4**	**0.0**
	baz=60						
TPNV	**Topopah Spring**	**59.92**	**68**	*e*P	**P**	**20 32 06.4**	**0.0**
TPNV	**Topopah Spring**	**59.92**	**68**	⇓P	**P**	**20 32 06.5**	**+0.1**
	baz=60						
DLH	**Dalhousie**	**59.95**	**285**	*e*P	**P**	**20 32 07.0**	**+0.3**
DLH				*ex*	x	20 32 45.0	
BSC	**Santa Cruz Isl**	**60.04**	**72**	⇓P	**P**	**20 32 06.6**	**-0.7**
	baz=60						
SDNR	**Sundarnagar**	**60.09**	**284**	*e*P	**P**	**20 32 07.0**	**-0.6**
LRMC	**Laurel Mountai**	**60.13**	**70**	⇑P	**P**	**20 32 07.5**	**-0.3**
	baz=60						
OSI	**Ósito Adit**	**60.13**	**71**	⇑P	**P**	**20 32 07.6**	**-0.3**
	baz=60						
THN	**Thein Dam**	**60.17**	**285**	*e*P	**P**	**20 32 07.5**	**-0.7**
U10A	**Ash Meadows, A**	**60.24**	**68**	⇑P	**P**	**20 32 08.9**	**+0.2**
	baz=60,SNR=152						
S12A	**Delamar Landin**	**60.25**	**66**	⇓P	**P**	**20 32 09.1**	**+0.5**
	baz=60,SNR=359						
FINES	**FINESS Array B**	**60.27**	**335**	P	**P**	**20 32 08.4**	**0.0**
FINES				*PP	pP	20 32 39.0	+1.2
FINES				pmax	pmax	20 32 50.9	
FINES							
	comp=Z,33nm,0.7s						
FINES	**FINESS Array B**	**60.27**	**335**	P	**P**	**20 32 08.3**	**0.0**
FINES				pP	pP	20 32 39.0	+1.2
FINES				PcP	PcP	20 32 50.9	-1.5
FINES				⇑*e*		21 01 33.2	
FINES				LR	LR	21 01 57.9	
FINES	**FINESS Array B**	**60.27**	**335**	P	**P**	**20 32 08.3**	**0.0**
	comp=Z,33nm,0.7s,mb5.5,baz=40,slow=7.5,SNR=61						
FINES				pP	pP	20 32 39.0	+1.2
	comp=Z,48nm,0.9s,baz=46,slow=8.2,SNR=4.2						
FINES				PcP	PcP	20 32 50.9	-1.5
	comp=Z,72nm,0.7s,baz=60,slow=4.6,SNR=11						
FINES				PKP2bc		21 01 33.2	
	comp=Z,3.6nm,0.9s,baz=126,slow=2.6,SNR=4.9						
FINES				LR	LR	21 01 57.9	
	comp=Z,3µm,18.2s,baz=236,slow=40						
FINES				P4KPbc		21 09 10.9	
	comp=Z,5.5nm,0.9s,baz=69,slow=6.3,SNR=13						
DDI	**Dehra Dun**	**60.27**	**282**	*i* P	**P**	**20 32 07.5**	**-1.4**
DDI				*ex*	x	20 34 45.0	
BLG	**Laguna Peak**	**60.29**	**72**	⇓P	**P**	**20 32 08.3**	**-0.7**
	baz=60						
T11A	**Corn Creek, Al**	**60.30**	**67**	P	**P**	**20 32 09.2**	**+0.2**
	baz=60,SNR=481						
EDW2	**Edwards Air Fo**	**60.37**	**70**	⇑P	**P**	**20 32 09.3**	**-0.2**
	baz=60						
NNT	**Nongplab**	**60.40**	**251**	P	**P**	**20 32 11.5**	**+1.6**
BHK	**Bhakra**	**60.48**	**284**	*e*P	**P**	**20 32 08.8**	**-1.5**
BHK				*ex*	x	20 32 43.6	
PUL	**Pulkovo**	**60.52**	**332**	*e*P	**P**	**20 32 10.1**	**0.0**
NSS	**Namsos**	**60.58**	**344**	*e*P	**P**	**20 32 08.4**	**-2.0**
NSS				AMb	AMB	20 32 14.2	
	comp=Z,226nm,1.6s,mb6.0						
NSS				*e*S	**S**	**20 40 15.7**	**-0.5**
NSS	**Namsos**	**60.58**	**344**	*e*P	**P**	**20 32 08.4**	**-2.0**
	comp=Z,226nm,1.6s,mb6.0						
DECC	**Green Verdugo**	**60.62**	**71**	⇓P	**P**	**20 32 10.8**	**-0.5**
	baz=60						
SNCC	**San Nicolas Is**	**60.63**	**73**	*e*P	**P**	**20 32 10.7**	**-0.6**
	comp=Z,1µm,1.5s,mb6.7						
SNCC				*e*pP	pP	20 32 38.8	-1.9
SNCC	**San Nicolas Is**	**60.63**	**73**	⇑P	**P**	**20 32 10.8**	**-0.5**
	baz=60						
SHOC	**Shoshone**	**60.64**	**68**	⇑P	**P**	**20 32 11.0**	**-0.3**
	baz=60						
ULM	**Lac du Bonnet**	**60.73**	**45**	P	**P**	**20 32 11.5**	**-0.3**
	comp=Z,132nm,0.7s,mb6.1,baz=316,slow=7.1,SNR=160						
ULM				LR	LR	20 59 58.6	
	comp=Z,6µm,19.5s,baz=320,slow=37						
GSC	**Goldstone**	**60.76**	**69**	*e*P	**P**	**20 32 12.0**	**-0.2**
GSC				pmax	pmax		
	comp=Z,740nm,1.3s,mb6.6						
GSC	**Goldstone**	**60.76**	**69**	*e*P	**P**	**20 32 12.0**	**-0.2**
	comp=Z,739nm,1.4s,mb6.5						
GSC				*e*pP	pP	20 32 40.1	-1.5
GSC	**Goldstone**	**60.76**	**69**	⇓P	**P**	**20 32 11.9**	**-0.3**
	baz=60						
U11A	**Corn Creek**	**60.78**	**67**	⇓P	**P**	**20 32 12.7**	**+0.4**
	baz=60,SNR=32						
R14A	**James Farms, M**	**60.78**	**64**	⇑P	**P**	**20 32 12.6**	**+0.3**
	baz=60,SNR=23						
MWC	**Mount Wilson**	**60.80**	**71**	*e*P	**P**	**20 32 11.1**	**-1.3**
S13A	**Holt Ranch, En**	**60.82**	**65**	P	**P**	**20 32 12.9**	**+0.4**
	baz=61,SNR=135						
AAI	**Ambon**	**60.83**	**214**	P	**P**	**20 32 12.9**	**+0.1**
SHPR	**Sheep Range**	**60.85**	**67**	*e*P	**P**	**20 32 12.9**	**+0.1**
RRX	**Edison Barstow**	**60.95**	**70**	⇓P	**P**	**20 32 13.3**	**-0.2**
	baz=61						
BTM	**Bintulu**	**60.97**	**233**	⇑P	**P**	**20 32 14.9**	**+1.1**
BFSC	**Mount Baldy St**	**61.02**	**71**	⇓P	**P**	**20 32 13.6**	**-0.4**
	baz=61						
FMP	**Fort Macarthur**	**61.02**	**72**	⇑P	**P**	**20 32 13.4**	**-0.6**
	baz=61						
S14A	**Cedar City**	**61.08**	**65**	⇓P	**P**	**20 32 14.5**	**+0.2**
	baz=61,SNR=40						
V11A	**Goodsprings**	**61.17**	**68**	P	**P**	**20 32 15.2**	**+0.2**
	baz=61,SNR=102						
TUQ	**Turquoise Mtn.**	**61.17**	**69**	⇓P	**P**	**20 32 14.9**	**0.0**
	baz=61						
CIS	**Catalina Islan**	**61.18**	**72**	⇓P	**P**	**20 32 14.3**	**-0.8**
	baz=61						
T13A	**Saint George**	**61.19**	**66**	P	**P**	**20 32 15.7**	**+0.6**
	baz=61,SNR=132						
U12A	**Valley of Fire**	**61.25**	**67**	⇑P	**P**	**20 32 15.7**	**+0.2**
	baz=61,SNR=47						
KKR	**Kurukshetra**	**61.28**	**283**	*e*P	**P**	**20 32 15.5**	**-0.3**
KKR				AMb	AMB	20 32 20.6	
	comp=Z,904nm,1.9s,mb6.5						
HEC	**Hector,Ludlow**	**61.37**	**69**	⇓P	**P**	**20 32 16.1**	**-0.2**
	baz=61						
HNR	**Honiara**	**61.38**	**177**	*e*P	**P**	**20 32 15.9**	**-0.5**
HNR				pmax	pmax		
	comp=Z,299nm,0.9s,mb6.3						
HNR	**Honiara**	**61.38**	**177**	*e*P	**P**	**20 32 15.9**	**-0.5**
	comp=Z,299nm,0.9s,mb6.3						
HNR	**Honiara**	**61.38**	**177**	LR	LR	20 58 13.6	
	comp=Z,6µm,18.0s,baz=360,slow=35						
RSSD	**Black Hills**	**61.38**	**54**	*e*P	**P**	**20 32 16.5**	**+0.3**
RSSD				pmax	pmax		
	comp=Z,271nm,0.8s,mb6.3						
RSSD	**Black Hills**	**61.38**	**54**	*e*P	**P**	**20 32 16.4**	**+0.2**
	comp=Z,270nm,0.8s,mb6.3						
SCI	**San Clemente I**	**61.40**	**72**	⇑P	**P**	**20 32 15.9**	**-0.6**
	baz=61						
BBRC	**Big Bear Sol-O**	**61.43**	**70**	⇓P	**P**	**20 32 16.5**	**-0.2**
	baz=61						
MOS	**Moscow**	**61.48**	**326**	*e*P	**P**	**20 32 14.9**	**-1.8**
MOS				*e*PP	pP	20 32 46.0	-0.2
MOS				*e*		20 34 31.5	
MOS				*e*S	**S**	**20 40 24.4**	**-3.5**
MOS				*e*		20 41 03.5	
MOS				*e*		20 41 45.7	
MOS				*e*SS	SS	20 44 28.8	-1.1
MOS				pmax	pmax		
	comp=Z,3µm,4.1s						
MOS				pmax	pmax		
	comp=N,2µm,5.0s						
MOS				pmax	pmax		
	comp=Z,366nm,2.3s,mb6.0						
MOS				smax			
	comp=E,3µm,7.6s						
MOS				MLR	MLR		
	comp=Z,6µm,15.9s						
MOS				MLR	MLR		
	comp=N,6µm,16.9s						
PCI	**Palu**	**61.50**	**224**	P	**P**	**20 32 16.1**	**-1.2**
RWWY	**Rawlins**	**61.51**	**58**	*e*P	**P**	**20 32 17.1**	**-0.1**
V12A	**Nelson**	**61.58**	**68**	P	**P**	**20 32 17.9**	**+0.2**
	baz=61,SNR=122						
ALBI	**Allahabad**	**61.62**	**275**	*e*P	**P**	**20 32 16.5**	**-1.6**
T14A	**Hurricane**	**61.63**	**65**	P	**P**	**20 32 18.3**	**+0.3**
	baz=61,SNR=83						
MURC	**Murrieta**	**61.74**	**71**	⇓P	**P**	**20 32 18.3**	**-0.5**
	baz=62						
MEF	**Metsahovi**	**61.75**	**335**	P	**P**	**20 32 18.5**	**+0.1**
GMRC	**Granite Mounta**	**61.79**	**69**	⇑P	**P**	**20 32 19.1**	**-0.1**
	baz=62						
W12A	**Cal Nev Ari**	**61.87**	**68**	⇑P	**P**	**20 32 19.7**	**0.0**
	baz=62						
LDFC	**Landfair**	**61.89**	**68**	*e*P	**P**	**20 32 19.7**	**-0.1**
LDFC				*e*pP	pP	20 32 50.4	+1.1
NDI	**New Delhi**	**61.96**	**281**	*e*P	**P**	**20 32 19.5**	**-0.8**
NDI				*ex*	x	20 40 28.0	
V13A	**Grand Canyon W**	**61.98**	**67**	⇑P	**P**	**20 32 20.6**	**+0.3**
	baz=62						
U14A	**Mt Trumbull**	**62.03**	**66**	⇓P	**P**	**20 32 21.2**	**+0.5**
	baz=62						
T15A	**Red Dirt Ranch**	**62.05**	**65**	⇑P	**P**	**20 32 21.2**	**+0.4**
	baz=62						
BELC	**Belle Mtn.**	**62.15**	**70**	⇓P	**P**	**20 32 20.9**	**-0.7**
	baz=62						
PFO	**Pinyon Flat Ob**	**62.17**	**70**	P	**P**	**20 32 21.8**	**+0.1**
	comp=N,1µm,1.5s,mb6.7,SNR=65						
PFO	**Pinyon Flat Ob**	**62.17**	**70**	*e*P	**P**	**20 32 20.7**	**-1.0**
PFO				pmax	pmax		
	comp=Z,990nm,1.8s,mb6.5						
PFO	**Pinyon Flat Ob**	**62.17**	**70**	*e*P	**P**	**20 32 20.7**	**-1.0**
	comp=Z,990nm,1.8s,mb6.5						
PFO	**Pinyon Flat Ob**	**62.17**	**70**	P	**P**	**20 32 20.9**	**-0.8**
	comp=Z,64nm,0.7s,mb5.8,baz=326,slow=5.7,SNR=59						
PFO	**Pinyon Flat Ob**	**62.17**	**70**	⇑P	**P**	**20 32 20.9**	**-0.7**
	baz=62						
AGMN	**Agassiz Refuge**	**62.19**	**46**	*e*P	**P**	**20 32 20.9**	**-0.6**
RTK	**Rohtak**	**62.19**	**282**	*e*P	**P**	**20 32 20.4**	**-1.4**
109C	**Camp Elliot, M**	**62.31**	**71**	⇓P	**P**	**20 32 22.1**	**-0.5**
	baz=62						
SONA	**Sohna**	**62.35**	**281**	*e*P	**P**	**20 32 22.2**	**-0.7**
NEE2	**Needles Airpor**	**62.40**	**68**	⇑P	**P**	**20 32 22.6**	**-0.5**
	baz=62						
IRM	**Iron Mountain**	**62.53**	**69**	⇓P	**P**	**20 32 24.0**	**0.0**
	baz=62						
T16A	**Glen Canyon Da**	**62.56**	**64**	⇑P	**P**	**20 32 23.7**	**-0.6**
	baz=62						
KBL	**Kabul**	**62.56**	**292**	*e*P	**P**	**20 32 22.4**	**-1.9**
	comp=Z,217nm,1.3s,mb5.9						
W13A	**Hualapai Mount**	**62.58**	**67**	⇓P	**P**	**20 32 24.4**	**0.0**
	baz=62						
VSU	**Vasula**	**62.63**	**333**	*d i* P	**P**	**20 32 24.1**	**-0.2**
VSU	**Vasula**	**62.63**	**333**	*i* P	**P**	**20 32 24.2**	**-0.1**
V14A	**Boquillas Ranc**	**62.63**	**67**	⇓P	**P**	**20 32 25.4**	**+0.6**
	baz=62						
PHWY	**Pilot Hill**	**62.70**	**57**	*e*P	**P**	**20 32 24.6**	**-0.5**
PHWY				*e*pP	pP	20 32 53.9	-0.7
MONP	**Monument Peak**	**62.71**	**71**	⇓P	**P**	**20 32 24.8**	**-0.5**
	baz=62						
BAR	**Barrett**	**62.71**	**71**	*e*P	**P**	**20 32 24.6**	**-0.7**
BC3	**Big Chuckw Mtn**	**62.72**	**70**	⇓P	**P**	**20 32 24.8**	**-0.5**
	baz=62						
KUDL	**Kundal**	**62.79**	**281**	*e*P	**P**	**20 32 25.1**	**-0.8**
PV10	**Paradox Valley**	**62.91**	**62**	*e*P	**P**	**20 32 26.8**	**+0.3**
W14A	**Seligman**	**62.95**	**67**	⇑P	**P**	**20 32 27.3**	**+0.4**
	baz=63						
X13A	**Yucca**	**62.97**	**68**	⇓P	**P**	**20 32 26.8**	**-0.2**
	baz=63						
PDMCI	**Parker Dam,Lak**	**63.01**	**68**	⇑P	**P**	**20 32 26.8**	**-0.4**
	baz=63						
V15A	**Kaibab Nationa**	**63.03**	**66**	⇓P	**P**	**20 32 28.0**	**+0.7**
	baz=63						
SWSC	**Sam W. Stewart**	**63.03**	**70**	⇑P	**P**	**20 32 26.5**	**-0.9**
	baz=63						
DVTC	**Desert V Tower**	**63.06**	**71**	⇑P	**P**	**20 32 27.0**	**-0.6**
	baz=63						
MOL	**Molde**	**63.14**	**345**	*e*P	**P**	**20 32 26.9**	**-0.7**
MOL				AMb	AMB	20 32 32.6	
	comp=Z,344nm,1.8s,mb6.0						
MOL				*e*S	**S**	**20 40 49.2**	**+0.6**
MOL	**Molde**	**63.14**	**345**	*e*P	**P**	**20 32 26.9**	**-0.7**
	comp=Z,344nm,1.8s,mb6.0						
Y12C	**Blythe**	**63.18**	**69**	⇑P	**P**	**20 32 28.2**	**-0.2**
	baz=63						
KHET	**Khetri**	**63.25**	**282**	*e*P	**P**	**20 32 28.1**	**-0.9**
PV01	**Paradox Valley**	**63.34**	**62**	*e*P	**P**	**20 32 29.4**	**0.0**
DOMB	**Dombas**	**63.38**	**344**	*e*P	**P**	**20 32 29.7**	**+0.5**
DOMB				AMb	AMB	20 32 33.9	
	comp=Z,324nm,1.9s,mb5.9						
DOMB	**Dombas**	**63.38**	**344**	*e*P	**P**	**20 32 29.7**	**+0.5**
	comp=Z,324nm,1.9s,mb5.9						
BORG	**Borgarnes**	**63.43**	**359**	P	**P**	**20 32 32.0**	**+2.5**
	comp=Z,5µm,0.9s,mb7.4,SNR=46						
BORG	**Borgarnes**	**63.43**	**359**	*e*P	**P**	**20 32 31.8**	**+2.3**
W15A	**Williams**	**63.44**	**66**	⇑P	**P**	**20 32 30.7**	**+0.6**
	baz=63						
SMCO	**Snowmass**	**63.44**	**60**	*e*P	**P**	**20 32 30.6**	**+0.6**
GLA	**Glamis**	**63.51**	**70**	*e*P	**P**	**20 32 30.4**	**-0.2**
GLA				*e*pP	pP	20 32 57.8	-2.5
GLA	**Glamis**	**63.51**	**70**	⇓P	**P**	**20 32 30.5**	**0.0**
	baz=63						
Y13A	**Salome**	**63.54**	**68**	⇑P	**P**	**20 32 30.7**	**0.0**
	baz=63						
X14A	**Yava**	**63.60**	**67**	⇑P	**P**	**20 32 31.6**	**+0.5**
	baz=63						
VRHR	**Novokhopersk**	**63.67**	**321**	*e*P	**P**	**20 32 29.7**	**-1.6**
VRHR				*e*SP	sP	20 33 01.9	-12
VRHR				*e*S	**S**	**20 40 49.5**	**-6.0**
VRHR				*e*SS	sS	20 41 29.0	-18
VRHR				pmax	pmax		
	comp=Z,2µm,4.0s						
VRHR				pmax	pmax		
	comp=N,790nm,2.6s						
VRHR				pmax	pmax		
	comp=E,660nm,4.2s						
VRHR				smax			
	comp=E,2µm,10.7s						
VRHR				smax			
	comp=Z,1µm,15.9s						
VRHR				smax			
	comp=N,2µm,16.3s						
WUAZ	**Wupatki**	**63.69**	**65**	*e*P	**P**	**20 32 32.0**	**+0.3**
	comp=N,1µm,1.6s,mb6.6						
WUAZ				*e*pP	pP	20 33 00.5	-0.9
WUAZ	**Wupatki**	**63.69**	**65**	⇓P	**P**	**20 32 32.2**	**+0.4**
	baz=63						
ISCO	**Idaho Springs**	**63.71**	**58**	*e*P	**P**	**20 32 32.2**	**+0.5**
ISCO				*e*pP	pP	20 33 00.3	-1.1
KSM	**Kuching**	**63.84**	**234**	*e*P	**P**	**20 32 33.5**	**+0.6**
KSM	**Kuching**	**63.84**	**234**	⇓P	**P**	**20 32 34.7**	**+1.8**
W16A	**Flagstaff**	**63.91**	**66**	⇑P	**P**	**20 32 33.7**	**+0.5**
	baz=64						
Y14A	**Wickenburg**	**63.92**	**68**	⇓P	**P**	**20 32 33.3**	**+0.1**
	baz=64						
NB2	**NORSAR Subarra**	**63.93**	**342**	P	**P**	**20 32 32.1**	**-0.8**
	comp=Z,249nm,1.1s,mb6.0,baz=25,slow=6.9						
NB2	**NORSAR Subarra**	**63.93**	**342**	P	**P**	**20 32 33.0**	**+0.1**
NOA	**NORSAR Array B**	**63.93**	**342**	P	**P**	**20 32 32.2**	**-0.7**
NOA						20 33 06.9	
NOA				pmax	pmax		
	comp=Z,75nm,0.8s						
NOA	**NORSAR Array B**	**63.93**	**342**	P	**P**	**20 32 32.2**	**-0.7**
NOA				PcP	PcP	20 33 07.0	-0.4
NOA				⇑*e*		21 01 22.2	
NOA				LR	LR	21 07 36.2	
NOA	**NORSAR Array B**	**63.93**	**342**	P	**P**	**20 32 32.2**	**-0.7**
	comp=Z,75nm,0.8s,mb5.6,baz=22,slow=6.6,SNR=85						
NOA				PcP	PcP	20 33 06.9	-0.4
	comp=Z,69nm,0.9s,baz=26,slow=3.1,SNR=13						
NOA				PKP2bc		21 01 22.2	
	comp=Z,3.0nm,0.9s,baz=175,slow=2.1,SNR=4.0						
NOA				LR	LR	21 07 36.2	
	comp=Z,3µm,18.1s,baz=30,slow=43						
NOA				P4KPbc		21 09 27.2	
	comp=Z,2.6nm,0.9s,baz=27,slow=3.4,SNR=6.5						
X15A	**Humboldt**	**63.95**	**67**	⇓P	**P**	**20 32 34.0**	**+0.5**
	baz=64						
112A	**Yuma**	**64.03**	**70**	⇓P	**P**	**20 32 33.7**	**-0.2**
	baz=64						
MVCO	**Mesa Verde**	**64.05**	**62**	*e*P	**P**	**20 32 34.1**	**+0.1**
	comp=Z,1µm,1.6s,mb6.5						
MVCO	**Mesa Verde**	**64.05**	**62**	⇑P	**P**	**20 32 34.2**	**+0.2**
	baz=64						
VOR	**Voronezh**	**64.10**	**322**	⇓*i* P	**P**	**20 32 33.0**	**-1.1**
VOR				pmax	pmax		
	comp=Z,340nm,2.0s,mb5.8						
NAO01	**NORSAR Array S**	**64.17**	**342**	*e*P	**P**	**20 32 34.5**	**0.0**
	comp=Z,128nm,0.9s,mb5.8						
SNG	**Songkhla**	**64.26**	**247**	P	**P**	**20 32 37.0**	**+1.4**
	comp=Z,600nm,0.9s,mb6.4						
HFA0	**Hagfors New Ar**	**64.28**	**341**	P	**P**	**20 32 33.0**	**-2.1**
Y15A	**Casa Rosa Ranc**	**64.29**	**67**	⇑P	**P**	**20 32 35.8**	**+0.2**
	baz=64						
113A	**Mohawk Valley,**	**64.33**	**69**	⇑P	**P**	**20 32 35.4**	**-0.5**
	baz=64						
EYMN	**Ely**	**64.36**	**44**	*e*P	**P**	**20 32 35.2**	**-0.7**
	comp=Z,190nm,0.9s,mb5.9						
EYMN				*e*pP	pP	20 33 04.0	-1.6
Z14A	**Wintersburg**	**64.37**	**68**	⇑P	**P**	**20 32 35.9**	**-0.3**
	baz=64						
W17A	**Winslow**	**64.38**	**65**	⇑P	**P**	**20 32 36.6**	**+0.4**
	baz=64						
X16A	**Lo Mia Camp, P**	**64.45**	**66**	⇑P	**P**	**20 32 37.2**	**+0.5**
	baz=64						
VRSR	**Storozhevoye**	**64.52**	**322**	*e*P	**P**	**20 32 35.2**	**-1.6**
VRSR				*e**SP	sP	20 33 08.2	-12
VRSR				*e*		20 34 56.7	
VRSR				*e*PPP		20 36 34.4	
VRSR				*e*S	**S**	**20 41 01.5**	**-4.4**
VRSR				*e**SS	sS	20 41 33.1	-24
VRSR				*e*SPP		20 41 47.0	
VRSR				pmax	pmax		
	comp=Z,400nm,4.0s						
VRSR				pmax	pmax		
	comp=N,130nm,2.5s						
VRSR				pmax	pmax		
	comp=E,90nm,2.5s						
VRSR				pmax	pmax		
	comp=Z,140nm,8.8s						
VRSR				pmax	pmax		
	comp=N,70nm,10.1s						
VRSR				pmax	pmax		
	comp=E,70nm,9.9s						
VRSR				smax			
	comp=E,590nm,12.1s						
VRSR				smax			
	comp=Z,110nm,11.1s						
VRSR				smax			
	comp=N,150nm,9.5s						
VORD	**Divnogorie**	**64.68**	**322**	*e*P	**P**	**20 32 37.4**	**-0.5**
HYA	**Hoyanger**	**64.69**	**345**	*e*P	**P**	**20 32 40.0**	**+2.3**
HYA				AMb	AMB	20 32 43.4	
	comp=Z,520nm,2.0s,mb6.0						
HYA	**Hoyanger**	**64.69**	**345**	*e*P	**P**	**20 32 40.0**	**+2.3**
	comp=Z,520nm,2.0s,mb6.0						
Y16A	**Circle Bar Ran**	**64.83**	**67**	⇑P	**P**	**20 32 39.5**	**+0.3**
	baz=65						
Z15A	**Gila River Ind**	**64.87**	**68**	⇑P	**P**	**20 32 39.3**	**-0.1**
	baz=65						
W18A	**Petrified Fore**	**64.90**	**65**	⇑P	**P**	**20 32 40.1**	**+0.5**
	baz=65						
PKT	**Phuket**	**64.92**	**250**	P	**P**	**20 32 41.0**	**+1.1**
IZAR	**Zarasai**	**65.09**	**332**	*e*P	**P**	**20 32 41.3**	**+0.9**
IZAR				AMb	AMB	20 32 45.4	
	comp=Z,56nm,1.4s,mb5.2						
W19A	**Sanders**	**65.10**	**64**	⇑P	**P**	**20

BER				pmax	pmax		
	comp=Z,538nm,2.0s,mb6.0						
BER	Bergen	65.56	345	eP	P	20 32 45.0	+1.5
	comp=Z,538nm,2.0s,mb6.0						
X19A	St. Johns	65.66	65	⇑P	P	20 32 45.1	+0.6
	baz=65						
116A	Eloy	65.66	68	⇑P	P	20 32 44.5	0.0
	baz=65						
MNK	Minsk	65.69	330	eP	P	20 32 43.0	-1.3
MNK				eS	S	20 41 18.0	-2.1
EGD	Espegrend	65.69	345	eP	P	20 32 45.6	+1.4
EGD				AMb	AMB	20 32 49.6	
	comp=Z,712nm,1.8s,mb6.2						
EGD	Espegrend	65.69	345	eP	P	20 32 45.6	+1.4
	comp=Z,712nm,1.8s,mb6.2						
Y18A	Canyon Day Jun	65.72	66	⇑P	P	20 32 45.4	+0.5
	baz=66						
KULM	Kulim	65.78	246	eP	P	20 32 46.6	+1.1
KULM	Kulim	65.78	246	⇑P	P	20 32 47.2	+1.7
ODD1	Odda	65.80	344	eP	P	20 32 45.2	+0.2
ODD1				AMb	AMB	20 32 49.2	
	comp=Z,481nm,1.7s,mb6.0						
ODD1	Odda	65.80	344	eP	P	20 32 45.2	+0.2
	comp=Z,481nm,1.7s,mb6.0						
Z17A	San Carlos Hig	65.82	67	⇓P	P	20 32 46.0	+0.4
	baz=66						
Y19A	Nutrioso	66.02	65	⇓P	P	20 32 47.6	+0.8
	baz=66						
ABKT	Ailbek	66.10	301	P	P	20 32 47.1	-0.2
	comp=Z,773nm,1.1s,mb6.5,SNR=74						
117A	Oracle	66.21	67	⇑P	P	20 32 48.0	0.0
	baz=66						
216A	Three Points,	66.22	68	⇓P	P	20 32 48.1	0.0
	baz=66						
Z18A	Geronimo	66.23	66	⇓P	P	20 32 48.5	+0.4
	baz=66						
IPM	Ipoh	66.24	245	⇓P	P	20 32 49.4	+1.0
BLS5	Blasjo	66.29	344	⇓iP	P	20 32 49.8	+1.7
BLS5				AMb	AMB	20 32 53.9	
	comp=Z,147nm,1.5s,mb5.6						
BLS5	Blasjo	66.29	344	eP	P	20 32 49.8	+1.7
	comp=Z,147nm,1.5s,mb5.6						
VIS	Vishakhapatnam	66.34	269	i P	P	20 32 50.9	+1.9
VIS				ex	x	20 32 54.7	
	comp=Z,858nm,1.9s						
VIS				i x	x	20 41 28.7	
TUC	Tucson	66.38	67	eP	P	20 32 48.8	-0.3
TUC				e	pP	20 33 17.9	-1.1
TUC				pmax	pmax		
	comp=Z,463nm,1.6s,mb6.1						
TUC	Tucson	66.38	67	eP	P	20 32 48.8	-0.3
	comp=Z,463nm,1.6s,mb6.1						
TUC				ePcP	PcP	20 33 17.9	0.0
NGP	Nagpur	66.39	274	i P	P	20 32 48.6	-0.7
NGP				i x	x	20 41 20.7	
Z19A	T-Link Ranch,	66.51	66	⇓P	P	20 32 50.5	+0.6
	baz=66						
118A	Homack Ranch,	66.59	67	⇑P	P	20 32 50.8	+0.3
	baz=66						
WAL1	Walls	66.66	349	eP	P	20 32 50.8	+0.3
KMY	Karmoy	66.69	345	⇓iP	P	20 32 51.9	+1.2
KMY				AMb	AMB	20 32 55.9	
	comp=Z,553nm,1.7s,mb6.1						
KMY				epP	pP	20 33 19.8	-0.7
KMY	Karmoy	66.69	345	eP	P	20 32 51.9	+1.2
	comp=Z,553nm,1.7s,mb6.1						
LRW	Lerwick	66.72	348	eP	P	20 32 50.7	-0.2
LRW				AMb	AMB	20 32 55.8	
	comp=Z,588nm,1.6s,mb6.2						
217A	Green Valley	66.75	68	⇓P	P	20 32 51.5	0.0
	baz=66						
COWI	Conover	66.81	44	eP	P	20 32 50.6	-1.0
	comp=Z,1µm,1.4s,mb6.5						
ANMO	Albuquerque	66.83	63	eP	P	20 32 52.1	+0.1
ANMO				e	pP	20 33 20.3	-1.6
ANMO				pmax	pmax		
	comp=Z,301nm,1.2s						
ANMO	Albuquerque	66.83	63	eP	P	20 32 52.1	+0.2
	comp=Z,301nm,1.2s,mb6.0						
ANMO				e	pP	20 33 20.2	-1.6
ANMO	Albuquerque	66.83	63	P	P	20 32 52.0	0.0
	baz=303,slow=8.9						
LAZ	Ladron	66.87	63	eP	P	20 32 52.7	+0.5
119A	Ashpeak Ranch,	66.88	66	⇓P	P	20 32 52.6	+0.3
	baz=67						
STAV	Stavanger	66.88	344	⇓iP	P	20 32 52.9	+1.1
STAV				AMb	AMB	20 32 57.0	
	comp=Z,524nm,1.7s,mb6.1						
STAV	Stavanger	66.88	344	eP	P	20 32 52.8	+1.0
	comp=Z,524nm,1.7s,mb6.1						
QUE	Quetta	66.95	290	eP	P	20 32 50.0	-2.8
KGM	Kluang	67.02	241	⇑P	P	20 32 55.2	+1.9
JASL	Jaisalmer	67.04	285	eP	P	20 32 52.2	-1.1
218A	Dragoon	67.04	67	⇑P	P	20 32 53.7	+0.4
	baz=67						
LENM	Lemitar	67.13	64	eP	P	20 32 54.0	+0.1
SNART	Snartemo	67.19	343	⇓iP	P	20 32 54.8	+1.0
SNART				AMb	AMB	20 32 59.0	
	comp=Z,418nm,1.5s,mb6.0						
LPM	Los Pinos Moun	67.21	63	eP	P	20 32 54.7	+0.3
Y22C	IRIS PASSCAL I	67.23	64	⇓P	P	20 32 55.3	+0.8
	baz=67						
SCHQ	Schefferville	67.28	26	P	P	20 32 54.2	-0.2
SCHQ				S	S	20 41 37.4	-2.0
SCHQ				⇑e		21 01 20.9	
SCHQ				LR	LR	21 06 14.4	
SCHQ	Schefferville	67.28	26	P	P	20 32 54.2	-0.2
	comp=Z,189nm,0.9s,mb5.9,baz=349,slow=6.6,SNR=106						
SCHQ				S	S	20 41 37.4	-2.0
	comp=Z,38nm,1.2s,baz=193,slow=15,SNR=7.0						
SCHQ				PKP2bc		21 01 20.9	
	comp=Z,8.4nm,1.0s,baz=94,slow=1.9,SNR=7.3						
SCHQ				LR	LR	21 06 14.4	
	comp=Z,3µm,19.6s,baz=336,slow=39						
219A	White Tail Can	67.47	67	⇓P	P	20 32 56.4	+0.4
	baz=67						
318A	Bisbee	67.47	68	⇑P	P	20 32 56.2	+0.2
	baz=67						
SUW	Suwalki	67.48	333	eP	P	20 32 55.8	+0.1
	comp=Z,2µm,2.6s,mb6.5						
SUW				ePcP	PcP	20 33 21.8	-0.4
SUW				epP	pP	20 33 23.9	-1.8
SUW				ePP	PP	20 35 22.6	-2.7
SUW				eS	S	20 41 39.5	-2.2
SUW				eSKSac	SKSac	20 42 35.2	-6.2
SUW				LMZ		21 09 33.3	
	comp=Z,8µm,17.1s						
SUW	Suwalki	67.48	333	⇓eP	P	20 32 55.8	+0.1
SUW				ePcP	PcP	20 33 21.8	-0.4
SUW				epP	pP	20 33 23.9	-1.8
SUW				ePP	PP	20 35 22.6	-2.7
SUW				eS	S	20 41 39.5	-2.2
SUW				eSKSac	SKSac	20 42 35.2	-6.2
CBKS	Cedar Bluff	67.48	55	eP	P	20 32 54.9	-1.1
CBKS				e*PP	pP	20 33 22.5	-3.5
CBKS				pmax	pmax		
	comp=Z,901nm,1.3s,mb6.4						
CBKS	Cedar Bluff	67.48	55	eP	P	20 32 54.9	-1.1
	comp=Z,901nm,1.3s,mb6.4						
CBKS				epP	pP	20 33 22.5	-3.5
MAK	Makhachkala	67.53	312	d iP	P	20 32 57.0	+0.8
MAK				i *SP	sP	20 33 24.5	-15
MAK				e		20 35 25.0	
MAK				ePPP		20 37 11.8	
MAK				eS	S	20 41 42.6	0.0
MAK				eSP		20 42 12.0	
MAK				i *SS	sS	20 42 25.5	-8.7
MAK				i		20 42 41.7	
MAK				eSS	SS	20 46 12.5	+8.1
MAK				pmax	pmax		
	comp=Z,2µm,3.0s						
MAK				smax			
	comp=E,1916µm,5.8s						
MAK				smax			
	comp=Z,1527µm,7.2s						
MAK				smax			
	comp=N,2265µm,9.4s						
MAK	Makhachkala	67.53	312	eP	P	20 32 57.1	+0.9
319A	Douglas	67.92	67	⇑P	P	20 32 59.1	+0.2
	baz=68						
AKL	Akola	67.98	276	⇓iP	P	20 33 01.0	+1.7
AKL				ex	x	20 33 03.8	
	comp=Z,791nm,1.7s						
AKL				i S	S	20 41 47.6	-0.9
KAKA	Kakadu	68.06	206	eP	P	20 32 59.3	-0.4
	comp=Z,235nm,1.0s,mb6.0						
KAKA				epP	pP	20 33 31.6	+1.8
SCIA	State Center	68.28	49	eP	P	20 33 00.5	-0.5
	comp=Z,1µm,0.8s,mb6.8						
SCIA				epP	pP	20 33 27.5	-3.5
BATI	Kupang	68.48	216	P	P	20 33 03.3	+0.9
	baz=84,slow=2.9						
BATI				S	S	20 41 55.3	+0.8
	comp=Z,5.4nm,0.5s,baz=92,slow=16,SNR=2.6						
AKASG	Malin Array Be	68.49	327	P	P	20 33 00.2	-1.8
AKASG				⇑e		21 01 13.4	
AKASG				LR	LR	21 07 50.5	
AKASG	Malin Array Be	68.49	327	P	P	20 33 00.2	-1.8
	comp=Z,70nm,0.7s,mb5.6,baz=31,slow=6.4,SNR=73						
AKASG				PKP2bc		21 01 13.4	
	comp=Z,2.3nm,1.0s,baz=222,slow=3.7,SNR=8.2						
AKASG				LR	LR	21 07 50.5	
	comp=Z,3µm,18.2s,baz=30,slow=40						
AKASG				P4KPbc		21 09 48.8	
	comp=Z,0.1nm,0.3s,baz=30,slow=4.4,SNR=8.5						
ORE	Reay	68.58	349	eP	P	20 33 02.8	+0.3
MUD	Monsted U'grnd	68.60	342	⇓iP	P	20 33 04.2	+1.5
MUD				i		20 33 53.0	
MUD				i S	S	20 41 54.4	-0.6
MUD				i		20 42 55.2	
MUD				pmax	pmax		
	comp=Z,330nm,1.7s,mb5.9						
MUD				MLR	MLR		
	comp=Z,3µm,18.0s						
MUD	Monsted U'grnd	68.60	342	⇓iP	P	20 33 04.2	+1.5
	comp=Z,329nm,1.7s,mb5.9						
MUD				i		20 33 53.0	
MUD				i S	S	20 41 54.4	-0.6
MUD				i		20 42 55.2	
MUD							
	comp=Z,3µm,18.0s						
BSD	Bornholm Skovb	68.62	338	⇓iP	P	20 33 03.2	+0.4
BSD				i		20 33 51.9	
BSD				i S	S	20 41 56.3	+1.1
BSD				i		20 42 49.1	
BSD				pmax	pmax		
	comp=Z,310nm,1.4s,mb6.0						
BSD				MLR	MLR		
	comp=Z,4µm,17.0s						
BSD	Bornholm Skovb	68.62	338	⇓iP	P	20 33 03.2	+0.4
	comp=Z,314nm,1.4s,mb6.0						
BSD				i		20 33 51.9	
BSD				i S	S	20 41 56.3	+1.1
BSD				i		20 42 49.1	
BSD							
	comp=Z,4µm,17.0s						
COP	Copenhagen	68.65	339	⇓iP	P	20 33 04.4	+1.4
COP				i	pP	20 33 36.8	+3.8
COP				i S	sS	20 42 43.8	-3.5
COP				pmax	pmax		
	comp=Z,150nm,1.2s,mb5.7						
COP				MLR	MLR		
	comp=Z,1µm,18.0s						
COP	Copenhagen	68.65	339	⇓iP	P	20 33 04.4	+1.4
	comp=Z,151nm,1.2s,mb5.7						
COP				i	pP	20 33 36.8	+3.8
COP				i S	sS	20 42 43.8	-3.5
COP							
	comp=Z,1µm,18.0s						
BSI	Banda Aceh	68.68	251	⇓eP	P	20 33 05.0	+1.2
MLA1	Latheron	68.77	349	⇑eP	P	20 33 04.2	+0.5
PSI	Prapat	68.80	246	S	S	20 42 02.5	+4.2
	comp=Z,2.2nm,0.4s,baz=258,slow=22,SNR=7.2						
PSI	Prapat	68.80	246	⇑eP	P	20 33 04.6	+0.1
PSI	Prapat	68.80	246	⇓eP	S	20 41 59.4	+1.0
KSU1	Kansas State U	68.83	53	eP	P	20 33 02.7	-1.7
	comp=Z,264nm,0.8s,mb6.1						
JFWS	Jewell Farm	68.85	47	eP	P	20 33 02.9	-1.5
JFWS				pmax	pmax		
	comp=Z,759nm,1.4s,mb6.3						
JFWS	Jewell Farm	68.85	47	eP	P	20 33 02.9	-1.6
	comp=Z,759nm,1.4s,mb6.3						
KIV	Kislovodsk	68.90	315	P	P	20 33 05.5	+0.8
	comp=Z,295nm,1.0s,mb6.1,SNR=38						
KIV	Kislovodsk	68.90	315	d iP	P	20 33 04.1	-0.6
KIV				e		20 33 22.6	
KIV				e		20 35 36.2	
KIV				ePPP		20 37 18.0	
KIV				eS	S	20 41 58.8	-0.1
KIV				eSS	SS	20 46 28.5	+3.0
KIV				pmax	pmax		
	comp=Z,28nm,0.6s,mb5.3						
KIV				MLR	MLR		
	comp=Z,3µm,19.0s						
KIV	Kislovodsk	68.90	315	eP	P	20 33 04.8	+0.1
	comp=Z,1µm,3.0s						
RSC	Scourie	68.93	350	eP	P	20 33 04.9	+0.2
REB	Eisghbrachaidh	69.17	350	⇑eP	P	20 33 06.7	+0.5
MVH1	Achvaich	69.24	350	⇑eP	P	20 33 06.5	0.0
AMTX	Amarillo	69.46	59	eP	P	20 33 07.7	-0.7
	comp=Z,1µm,1.4s,mb6.5						
MCD	Coleburn Disti	69.46	349	⇑eP	P	20 33 08.3	+0.3
RRR	Rubha Reidh	69.48	350	eP	P	20 33 07.9	-0.2
RRH	Rhenigidale	69.50	351	⇑eP	P	20 33 08.5	+0.2
RGN	Rugen	69.51	338	eP	P	20 33 09.5	+1.2
	comp=Z,733nm,1.4s,mb6.3						
RGN	Rugen	69.51	338	eP	P	20 33 08.8	+0.5
	comp=Z,3µm,2.4s,mb6.7						
RGN				eS	S	20 42 06.4	+0.7
HYB	Hyderabad	69.52	272	eP	P	20 33 08.0	-0.9
HYB				e		20 33 32.0	
HYB				e	pP	20 33 38.0	-1.0
HYB				eS	S	20 42 04.0	-2.8
HYB				e		20 42 53.0	
HYB				pmax	pmax		
	comp=Z,470nm,1.0s,mb6.3						
HYB	Hyderabad	69.52	272	eP	P	20 33 08.0	-0.9
	comp=Z,470nm,1.0s,mb6.3						
HYB				e		20 33 32.0	
HYB				e	pP	20 33 38.0	-1.0
HYB				eS	S	20 42 04.0	-2.8
HYB				eScS	ScS	20 42 53.0	-6.0
HYB				eP'P'		21 01 14.0	
HYB	Hyderabad	69.52	272	⇓iP	P	20 33 08.0	-0.9
	comp=Z,470nm,1.0s,mb6.3						
HYB				ePcP	PcP	20 33 32.0	+0.7
HYB				esP	sP	20 33 52.0	-0.2
HYB				ePP	PP	20 35 40.0	-3.9
HYB				ePPP		20 37 18.0	
HYB				ePcS		20 37 36.0	
HYB				eS	S	20 42 04.0	-2.8
HYB				eScS	ScS	20 42 54.0	-5.0
HYB				ePKPPKP		21 01 15.0	
WAR	Warsaw	69.65	333	eP	P	20 33 10.9	+1.6
	comp=Z,4µm,2.3s,mb6.8						
WAR				epP	pP	20 33 33.5	-5.9
WAR				eS	S	20 42 07.2	-0.3
WAR				eSKSac	SKSac	20 42 57.8	-0.1
WAR				LMZ		21 11 02.8	
	comp=Z,6µm,16.8s						
WAR	Warsaw	69.65	333	⇓eP	P	20 33 10.9	+1.7
	comp=Z,3.8nm,2.3s						
WAR				epP	pP	20 33 33.5	-5.9
WAR				eS	S	20 42 07.2	-0.3
WAR				eSKSac	SKSac	20 42 57.8	-0.1
WAR				LR	LR		
	comp=Z,6µm,16.8s						
ONI	Oni	69.66	314	P	P	20 33 10.5	+1.0
DGRG	David-gareji	69.69	312	P	P	20 33 12.1	+2.4
MME1	Meikle Cairn	69.69	349	⇑eP	P	20 33 09.1	-0.3
GKP	Gorka Klasztor	69.74	336	eP	P	20 33 10.4	+0.6
	comp=Z,3µm,2.6s,mb6.6						
GKP				eS	S	20 42 08.2	-0.2
GKP				eSKSac	SKSac	20 42 57.1	-1.4
GKP				LMZ		21 08 58.3	
	comp=Z,8µm,16.1s						
GKP	Gorka Klasztor	69.74	336	⇓eP	P	20 33 10.4	+0.7
	comp=Z,2.8nm,2.6s						
GKP				eS	S	20 42 08.2	-0.2
GKP				eSKSac	SKSac	20 42 57.1	-1.5
GKP				LR	LR		
	comp=Z,8µm,16.1s						
TBLG	Delisi	69.76	313	eP	P	20 33 10.7	+0.6
TBLG	Delisi	69.76	313	P	P	20 33 10.8	+0.7
MTA	Mtatsminda	69.76	312	P	P	20 33 10.9	+0.8
KAC	Achnashellach	69.78	350	eP	P	20 33 09.2	-0.7
GOR	Gori	69.84	313	P	P	20 33 10.2	-0.4
MNTX	Cornudas Mount	69.87	64	eP	P	20 33 10.8	-0.1
	comp=Z,1µm,1.7s,mb6.5						
KSK	Scoval	69.95	351	eP	P	20 33 11.1	+0.1
KPL	Plockton	69.97	350	eP	P	20 33 11.2	+0.1
KPL				AMb	AMB	20 33 15.2	
	comp=Z,605nm,1.6s,mb6.2						
LATR	Latur	69.98	274	eP	P	20 33 10.5	-1.3
GDL2	Guadalupe Moun	70.05	63	eP	P	20 33 11.9	-0.1
KSB	Sheil Bridge	70.07	350	eP	P	20 33 11.0	-0.7
BHV	Bhavnagar	70.16	280	eP	P	20 33 12.5	-0.3
ANN	Anapa	70.42	319	d iP	P	20 33 12.2	-1.8
ANN				i		20 33 32.8	
ANN				i *PP	pP	20 33 42.7	-1.5
ANN				i		20 33 59.9	
ANN				i		20 35 52.4	
ANN				i PPP		20 37 33.3	
ANN				i S	S	20 42 13.3	-3.3
ANN				i *SS	sS	20 42 52.8	-16
ANN				eSS	SS	20 46 53.2	+4.5
ANN				pmax	pmax		
	comp=Z,3µm,7.9s						
ANN				pmax	pmax		
	comp=Z,167nm,2.2s,mb5.5						
SOC	Sochi	70.47	317	d iP	P	20 33 13.2	-1.2
SOC				e		20 33 35.2	
SOC				e*PP	pP	20 33 43.7	-0.9
SOC				e*SP	sP	20 33 59.1	+1.3
SOC				e		20 35 52.1	
SOC				ePPP		20 37 34.5	
SOC				eS	S	20 42 15.4	-1.9
SOC				e*SS	sS	20 43 07.4	-1.8
SOC				pmax	pmax		
	comp=Z,120nm,1.4s,mb5.5						
SOC				pmax	pmax		
	comp=Z,3µm,4.3s						
SOC	Sochi	70.47	317	i P	P	20 33 16.5	+2.1
AKH	Akhalkalaki	70.58	313	P	P	20 33 15.7	+0.6
BSEG	Bad Segeberg	70.73	340	eP	P	20 33 15.7	-0.1
	comp=Z,703nm,1.6s,mb6.2						
BSEG				eS	S	20 42 20.2	+0.2
EBH	Black Hill	70.80	349	eP	P	20 33 16.4	+0.2
LVV	L'vov	70.92	330	i P	P	20 33 18.6	+1.6
LVV				e		20 33 31.9	
LVV				e		20 34 04.2	
LVV				eS	S	20 42 19.1	-3.1
LVV	L'vov	70.92	330	eP	P	20 33 17.4	+0.4
EAB	Aberfoyle	70.96	349	eP	P	20 33 17.3	+0.2
ESY	Stoneypath	71.01	348	eP	P	20 33 16.8	-0.6
GNI	Garni	71.02	311	d iP	P	20 33 17.6	-0.1
GNI				pmax	pmax		
	comp=Z,403nm,2.5s						
GNI				MLR	MLR		
	comp=Z,5µm,22.0s						
GNI	Garni	71.02	311	eP	P	20 33 18.1	+0.4
	comp=Z,506nm,1.7s,mb6.1						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
GNI	Garni	71.02	311	P	P	20 33 18.5	+0.8
	SNR=49						
AFI	Afiamalu	71.05	148	eP	P	20 33 16.6	-1.5
AFI				pmax	pmax		
	comp=Z,276nm,1.0s,mb6.0						
AFI	Afiamalu	71.05	148	eP	P	20 33 16.6	-1.5
	comp=Z,276nm,1.0s,mb6.0						
AFI	Afiamalu	71.05	148	LR	LR	21 05 18.6	
	comp=Z,3µm,18.5s,baz=333,slow=36						
EDI	Edinburgh	71.08	348	eP	P	20 33 18.2	+0.4
WMOK	Wichita Mounta	71.10	58	eP	P	20 33 17.5	-0.8
WMOK				pmax	pmax		
	comp=Z,202nm,0.7s,mb6.1						
WMOK	Wichita Mounta	71.10	58	eP	P	20 33 17.5	-0.8
	comp=Z,202nm,0.7s,mb6.1						
HDIL	Hopedale	71.16	48	eP	P	20 33 17.6	-1.0
	comp=Z,2µm,1.2s,mb6.7						
HDIL				epP	pP	20 33 46.6	-2.2
EAU	Auchinoon	71.19	349	⇑eP	P	20 33 18.8	+0.3
EBL	Broad Law	71.21	348	⇑eP	P	20 33 19.3	+0.6
RUE	Ruedersdorf	71.31	337	eP	P	20 33 19.3	0.0
	comp=Z,2µm,1.9s,mb6.5						
RUE	Ruedersdorf	71.31	337	eP	P	20 33 19.6	+0.3
	comp=Z,2µm,2.2s,mb6.6						
RUE				eS	S	20 42 25.6	-1.1
PGBU	Glenifferbraes	71.34	349	⇑eP	P	20 33 19.9	+0.4
PGBU				AMb	AMB	20 33 24.5	
	comp=Z,2µm,1.6s,mb6.8						
XSO	Sourhope Farm	71.38	348	⇑eP	P	20 33 19.9	+0.2
BCA	Borcka	71.38	314	eP	P	20 33 18.0	-2.0
KARS	Kars	71.40	313	eP	P	20 33 20.0	0.0
DIGO	Kars	71.43	313	i P	P	20 33 20.4	+0.2
KWP	Kalwaria	71.49	331	eP	P	20 33 21.7	+1.3
	comp=Z,5µm,2.7s,mb6.8						
KWP				ePcP	PcP	20 33 33.4	-5.8
KWP				epP	pP	20 33 54.1	+3.5
KWP				eS	S	20 42 28.3	-0.5
KWP				eSKSac	SKSac	20 43 12.9	+1.0
KWP				LMZ		21 12 04.4	
	comp=Z,9µm,17.2s						
KWP	Kalwaria	71.49	331	⇓eP	P	20 33 21.7	+1.3
KWP				ePcP	PcP	20 33 33.4	-5.8
KWP				epP	pP	20 33 54.2	+3.5
KWP				eS	S	20 42 28.3	-0.5
KWP				eSKSac	SKSac	20 43 12.9	+1.0
KWP	Kalwaria	71.49	331	⇓iP	P	20 33 19.7	-0.7
POO	Poona	71.56	277	eP	P	20 33 21.0	-0.3
SIM	Simferopol'	71.60	321	d iP	P	20 33 19.3	-1.9
SIM				i *PP	pP	20 34 06.0	+15
SIM				e		20 36 07.0	
SIM				i S	S	20 42 26.4	-3.9
SIM				eSS	SS	20 47 11.0	+4.2
SIM				pmax	pmax		
	comp=Z,64nm,0.8s,mb5.5						
ESK	Eskdalemuir	71.67	348	P	P	20 33 22.6	+1.2
	comp=Z,2µm,0.8s,mb6.9,SNR=41						
ESK	Eskdalemuir	71.67	348	⇑eP	P	20 33 21.6	+0.2
ESK				AMb	AMB	20 33 26.4	
	comp=Z,728nm,1.7s,mb6.2						
ESK	Eskdalemuir	71.67	348	P	P	20 33 21.1	-0.3
ESK				pmax	pmax		
	comp=Z,1µm,1.5s,mb6.4						
ESK	Eskdalemuir	71.67	348	eP	P	20 33 21.2	-0.2
	comp=Z,999nm,1.5s,mb6.4						
ECK	Cauldkaine Hil	71.80	348	eP	P	20 33 21.5	-0.7
KIS	Kishinev	71.81	326	⇓iP	P	20 33 19.0	-3.4
KIS				i		20 33 38.0	
KIS				i *PP	pP	20 33 50.0	-2.6
KIS				i		20 34 08.0	
KIS				e		20 36 04.0	
KIS				i PPP		20 37 44.0	
KIS				i S	S	20 42 29.0	-3.5
KIS				i *SS	sS	20 43 25.0	+0.3
KIS				pmax	pmax		
	comp=N,600nm,2.2s						
KIS				pmax	pmax		
	comp=E,300nm,2.2s						
KIS				pmax	pmax		
	comp=Z,900nm,2.2s,mb6.2						
KIS				pmax	pmax		
	comp=N,2µm,10.0s						
KIS				pmax	pmax		
	comp=Z,4µm,10.0s						
KIS				pmax	pmax		
	comp=E,600nm,9.0s						
KIS				pmax	pmax		
	comp=Z,3µm,16.0s						
KIS				MLR	MLR		
	comp=E,4µm,14.0s						

KIS MLR MLR
comp=Z,6µm,14.0s
KIS MLR MLR
comp=N,2µm,15.0s
KIS MLR MLR
comp=Z,5µm,15.0s
KIS Kishinev 71.81 326⇓ *i*P **P 20 33 19.0 -3.4**
comp=Z,900nm,2.2s,mb6.2
KIS Kishinev 71.81 326 *i* PcP PcP 20 33 38.0 -2.6
KIS *i* pP pP 20 33 50.0 -2.6
KIS Kishinev 71.81 326 *e*PP PP 20 36 04.0 +1.4
OJC Ojcow 71.81 333 *e*P **P 20 33 21.8 -0.5**
OJC *e*pP pP 20 33 32.9 -20
OJC *e*pPcP pP 20 33 55.6 +3.0
OJC *e*PP PP 20 35 55.0 -7.6
OJC *e*S S 20 42 30.5 -2.0
OJC L 21 09 26.0
comp=Z,6.8nm,17.1s
OJC Ojcow 71.81 333⇓ *e*P **P 20 33 21.8 -0.5**
OJC *e* pP 20 33 55.6 +3.0
OJC *e*S S 20 42 30.5 -2.0
OJC MLR MLR
comp=Z,7µm,17.1s
GMK Mull of Kintyr 71.92 350 *e*P **P 20 33 23.5 +0.5**
SADO Sadowa 71.96 39 P **P 20 33 21.7 -1.7**
SADO Sadowa 71.96 39 P **P 20 33 21.7 -1.7**
baz=330,slow=8.9
DYDN Diyadin 71.98 312 *i* P **P 20 33 24.4 +0.8**
XAL Allendale 71.99 348 *e*P **P 20 33 23.4 +0.1**
IAS Iasi 72.07 327 P **P 20 33 24.1 +0.2**
IAS Iasi 72.07 327⇓ *i*P **P 20 33 23.4 -0.5**
STHS Stebnicka Huta 72.11 332 *e*P **P 20 33 24.0 -0.2**
STHS pmax pmax
comp=Z,109nm,1.0s,mb5.6
STHS Stebnicka Huta 72.11 332 *e*P **P 20 33 24.0 -0.2**
comp=Z,108nm,1.0s,mb5.6
NRDL Niedersach Rie 72.13 340 *e*P **P 20 33 24.6 +0.4**
comp=Z,491nm,1.6s,mb6.1
KSP Ksiaz 72.19 335 *e*P **P 20 33 25.6 +1.0**
comp=Z,3µm,2.7s,mb6.6
KSP *e*PcP PcP 20 33 40.6 -1.6
KSP *e*PP PP 20 36 05.0 -0.8
KSP *e*S S 20 42 39.5 +2.6
KSP *e*SKSac SKSac 20 43 12.6 -4.5
KSP LMZ 21 10 35.0
comp=Z,11µm,15.9s
KSP Ksiaz 72.19 335 *e*P **P 20 33 23.7 -0.9**
KSP *e*pP pP 20 33 34.8 -20
KSP *e*PP PP 20 36 05.0 -0.8
KSP *e*S S 20 42 35.0 -1.8
KSP LR LR
comp=Z,14µm,15.8s
CLDR Caldiran 72.20 311 *e*P **P 20 33 25.7 +0.8**
AAM Ann Arbor 72.20 43 *e*P **P 20 33 24.4 -0.4**
AAM *e**PP pP 20 33 53.2 -1.9
AAM pmax pmax
comp=Z,1µm,1.2s,mb6.6
AAM Ann Arbor 72.20 43 *e*P **P 20 33 24.4 -0.5**
comp=Z,1µm,1.2s,mb6.6
AAM *e*pP pP 20 33 53.2 -1.9
GCD Castle Douglas 72.21 349 *e*P **P 20 33 24.7 +0.1**
KOLS Kolonicke sedl 72.24 331 *e*P **P 20 33 24.1 -0.8**
KOLS *e*S S 20 42 33.5 -3.9
CCM Cathedral Cave 72.25 50 *e*P **P 20 33 23.9 -1.3**
CCM *e**PP pP 20 33 52.3 -3.2
CCM pmax pmax
comp=Z,768nm,1.3s,mb6.4
CCM Cathedral Cave 72.25 50 *e*P **P 20 33 23.9 -1.3**
comp=Z,768nm,1.3s,mb6.4
CCM *e*pP pP 20 33 52.3 -3.2
GCL Cushendall 72.25 350 *e*P **P 20 33 24.6 -0.2**
SLM Saint Louis 72.26 49 *e*P **P 20 33 24.3 -0.9**
SLM pmax pmax
comp=Z,453nm,0.8s,mb6.3
SLM Saint Louis 72.26 49 *e*P **P 20 33 24.3 -0.9**
comp=Z,453nm,0.8s,mb6.3
AGRB Hanur-Agry 72.28 312 *e*P **P 20 33 25.0 -0.3**
KAD Karad 72.28 275 *i* P **P 20 33 25.2 -0.5**
GAL1 Galloway 72.30 349 *e*P **P 20 33 25.1 0.0**
GAL1 AMb AMB 20 33 29.9
comp=Z,875nm,1.8s,mb6.3
RAC Raciborz 72.38 334 *e*P **P 20 33 25.5 -0.2**
RAC *e**PP pP 20 33 54.6 -1.4
RAC *e* 20 36 06.4
RAC *e*S S 20 42 35.3 -3.7
RAC MLR MLR
comp=Z,6µm,16.1s
NIE Niedzica 72.38 332 *e*P **P 20 33 25.6 -0.2**
NIE *e*pP pP 20 33 35.0 -21
HOMI Horasan 72.39 313 *i* P **P 20 33 26.3 +0.3**
BURAR Bucovina Array 72.48 328 P **P 20 33 25.5 -0.8**
BURAR Bucovina Array 72.48 328⇓ *i*P **P 20 33 26.7 +0.3**
UZH Uzhgorod 72.50 330 *d*P **P 20 33 26.0 -0.5**
UZH *i* 20 33 43.2
UZH *e**PP pP 20 33 56.2 -0.6
UZH *i* 20 34 10.6
UZH *e* 20 36 08.0
UZH *i* 20 37 55.0
UZH *i* S S 20 42 38.0 -2.4
UZH *i* 20 43 13.0
UZH *e*SS sS 20 43 35.0 +2.4
UZH MLR MLR
comp=Z,5µm,16.0s
UZH Uzhgorod 72.50 330 *e*P **P 20 33 26.0 -0.5**
CRVS Cervenica-Dubn 72.51 331 *e*P **P 20 33 27.0 +0.5**
CRVS *e*S S 20 42 36.5 -4.0
CRVS *e*SCS ScS 20 43 19.3 -2.5
CTA Charters Tower 72.56 191 *e*P **P 20 33 26.7 -0.3**
comp=Z,38nm,0.9s,mb5.2
CTA *e*pP pP 20 33 56.6 -0.8
CTA *e*S S 20 42 39.8 -1.8
CTA *e*SKS 20 43 25.2
CTA Charters Tower 72.56 191 *e*P **P 20 33 26.7 -0.3**
CTA *e**PP pP 20 33 56.6 -0.8
CTA *e*S S 20 42 39.8 -1.8
CTA *e* 20 43 25.2
CTA pmax pmax
comp=Z,38nm,0.9s
CTA Charters Tower 72.56 191 P **P 20 33 26.4 -0.6**
comp=Z,36nm,0.8s,mb5.3,baz=2.5,slow=7.4,SNR=25
CTA pP pP 20 33 55.9 -1.5
comp=Z,61nm,0.9s,baz=13,slow=5.9,SNR=7.4
CTA LR LR 21 02 14.9
comp=Z,2µm,21.8s,baz=252,slow=33
CTAO Charters Tower 72.56 191 *e*P **P 20 33 26.5 -0.5**
CTAO *e**PP pP 20 33 56.6 -0.8
CTAO pmax pmax
comp=Z,150nm,1.1s,mb5.7
CTAO Charters Tower 72.56 191 *e*P **P 20 33 26.5 -0.5**
comp=Z,150nm,1.1s,mb5.7
CTAO *e*pP pP 20 33 56.6 -0.8
KTUT Trabzon 72.57 315 *e*P **P 20 33 24.6 -2.4**
UPC Upice 72.57 335⇓ *e*P **P 20 33 27.1 +0.2**
UPC *ex* x 20 33 36.7
CLL Collm 72.58 337 *i* P **P 20 33 26.7 -0.2**
CLL *PP pP 20 34 00.0 +2.8
CLL *e*S S 20 42 43.0 +1.8
CLL *e* 20 43 27.0
CLL pmax pmax
comp=Z,406nm,1.3s,mb6.1
CLL MLR MLR
comp=Z,3µm,18.7s
CLL Collm 72.58 337 *i* P **P 20 33 26.7 -0.2**
comp=Z,406nm,1.3s,mb6.1
CLL pP pP 20 34 00.0 +2.8
CLL *es*P sP 20 34 07.0 -3.4
CLL *e*S S 20 42 43.0 +1.8
CLL *e*ScS ScS 20 43 27.0 +4.7
CLL *e*SKPP' 21 04 30.0
CLL LR LR
comp=Z,3µm,18.7s
CLL Collm 72.58 337 *e*P **P 20 33 25.8 -1.1**
comp=Z,409nm,1.3s,mb6.1
CLL *e*PcP PcP 20 33 45.1 +1.3
CLL *e*pP pP 20 33 58.6 +1.4
CLL *es*P sP 20 34 10.5 +0.1
CLL *e*PP PP 20 36 07.1 -2.0
CLL *e*PPP 20 37 55.7
CLL *e*S S 20 42 40.4 -0.8
CLL *e*SKSac SKSac 20 43 16.8 -3.3
CLL *es*S sS 20 43 35.9 +2.5
CLL *e*SS SS 20 47 23.7 +2.4
CLL *es*SS 20 48 14.3
CLL *e*SSS 20 50 59.7
CLL *e*LR LR 20 57 02.0
CLL Collm 72.58 337 *i* P **P 20 33 26.7 -0.2**
comp=Z,406nm,1.3s,mb6.1
CLL *i* x x 20 33 40.8
CLL *e*(pP) pP 20 33 59.0 +1.8
CLL *es*P sP 20 34 09.0 -1.4
CLL *e*PP PP 20 36 06.0 -3.1
CLL *e*PPP 20 37 48.0
CLL *e*PPPP 20 38 58.0
CLL *e*S S 20 42 43.0 +1.8
comp=N,1µm,20.4s
CLL *e*S S 20 42 43.0 +1.8
comp=E,4µm,25.2s
CLL *e*SKSac SKSac 20 43 18.0 -2.1
CLL *e*ScS ScS 20 43 27.0 +4.7
CLL *es*S sS 20 43 40.0 +6.6
CLL *e*(sScS) 20 44 18.0
CLL *ex* x 20 46 42.0
CLL *e*SSS 20 51 12.0
CLL *e*SKPPKPdf 21 04 30.0
CLL *ep*SKPP 21 05 01.0
CLL LV 21 15 00.0
comp=Z,3µm,18.7s
OKC Ostrava-Krasne 72.61 334 *e*P **P 20 33 26.6 -0.5**
OKC *e* 20 33 39.0
OKC *e* 20 34 14.0
OKC *e* 20 36 08.4
OKC *e*S S 20 42 41.5 -0.2
OKC Ostrava-Krasne 72.61 334⇓ *e*P **P 20 33 26.6 -0.5**
OKC *ex* x 20 33 39.0
OKC *es*P sP 20 34 14.0 +3.4
OKC *e*PP PP 20 36 08.4 -1.0
OKC *e*S S 20 42 41.5 -0.2
OKC AMS AMS 21 12 40.0
comp=Z,4µm,15.6s
TXAR Lajitas Array 72.62 65 P **P 20 33 27.2 -0.3**
TXAR *PP pP 20 33 55.7 -2.2
TXAR Lajitas Array 72.62 65 P **P 20 33 27.2 -0.4**
TXAR pP pP 20 33 55.7 -2.2
TXAR PKKPbc PKKPbc 20 53 07.6 +1.8
TXAR P'P' 21 01 08.2
TXAR Lajitas Array 72.62 65 P **P 20 33 27.2 -0.4**
comp=Z,282nm,0.6s,mb6.3,baz=298,slow=4.7,SNR=829
TXAR pP pP 20 33 55.7 -2.2
comp=Z,159nm,0.8s,baz=298,slow=5.4,SNR=5.4
TXAR PKKPbc PKKPbc 20 53 07.6 +1.8
comp=Z,0.6nm,0.9s,baz=116,slow=2.9,SNR=3.5
TXAR PKPPKP 21 01 08.2
comp=Z,0.8nm,1.0s,baz=145,slow=7.2,SNR=4.2
DPC Dobruska-Polom 72.63 335⇓ *i*P **P 20 33 27.1 -0.1**
DPC *ex* x 20 33 37.9
DPC *es*P sP 20 34 14.8 +4.0
DPC *e*PP PP 20 36 09.8 +0.2
DPC *e*S S 20 42 42.5 +0.6
DPC AMS AMS 21 10 30.0
comp=Z,6µm,15.2s
CLZ Clausthal 72.68 339 *e*P **P 20 33 27.6 +0.1**
CLZ *e*S S 20 42 41.9 -0.5
CLZ pmax pmax
comp=Z,2µm,2.2s,mb6.6
CLZ Clausthal 72.68 339 *e*P **P 20 33 27.6 +0.1**
comp=Z,2µm,2.2s,mb6.6
CLZ *e*S S 20 42 41.9 -0.5
FVM French Village 72.69 50 *e*P **P 20 33 26.7 -1.1**
comp=Z,15nm,2.6s
FVM *ep*P pP 20 33 56.4 -1.7
ERZM Erzurum 72.75 314 *i* P **P 20 33 28.4 +0.3**
EZM Erzurum 72.75 314 *e*P **P 20 33 27.8 -0.3**
BRG Berggiesshubel 72.75 337 *i* P **P 20 33 26.9 -1.0**
BRG 20 33 46.7
BRG *PP pP 20 34 02.3 +4.0
BRG 20 36 12.8
BRG S S 20 42 39.0 -4.2
BRG 20 43 21.1
BRG PS 20 43 28.0
BRG pmax pmax
comp=Z,299nm,1.8s,mb5.8
BRG MLR MLR
comp=Z,3µm,17.4s
BRG Berggiesshubel 72.75 337 *i* P **P 20 33 26.9 -1.1**
comp=Z,299nm,1.8s,mb5.8
BRG *i* 20 33 39.1
BRG PcP PcP 20 33 46.6 +2.1
BRG pP pP 20 34 02.3 +4.0
BRG PP PP 20 36 12.8 +2.3
BRG S S 20 42 39.0 -4.2
BRG ScS ScS 20 43 21.1 -2.6
BRG PS 20 43 28.0
BRG *e* 20 48 21.0
BRG LR LR
comp=Z,3µm,17.4s
BRG Berggiesshubel 72.75 337 *e*P **P 20 33 27.4 -0.5**
comp=Z,499nm,1.8s,mb6.0
BRG *e*S S 20 42 41.2 -2.0
BRG Berggiesshubel 72.75 337 *i* P **P 20 33 26.9 -1.1**
comp=Z,499nm,1.8s,mb6.0
BRG *i* 20 33 39.1
comp=Z,137nm,1.4s
BRG PCP PcP 20 33 46.6 +2.1
comp=Z,124nm,1.3s
BRG pP pP 20 34 02.3 +4.0
comp=Z,224nm,1.8s
BRG PP PP 20 36 12.8 +2.3
comp=Z,109nm,1.7s
BRG S S 20 42 39.0 -4.2
BRG SCS ScS 20 43 21.1 -2.6
comp=Z,60nm,2.0s
BRG PS 20 43 28.0
BRG *e* 20 48 21.0
BRG
comp=Z,5µm,17.4s
BRG
comp=N,2µm,17.4s
BRG
comp=E,4µm,17.4s
IBBN Ibbenburen 72.79 341 *e*P **P 20 33 28.3 +0.2**
IBBN *ep*P pP 20 34 02.9 +4.4
IBBN *e*S S 20 42 42.2 -1.4
HPK Haverah Park 72.79 347⇑ *e*P **P 20 33 28.5 +0.4**
HPK AMb AMB 20 33 33.2
comp=Z,1µm,1.7s,mb6.5
MORC Moravsky Berou 72.83 334 P **P 20 33 28.2 -0.2**
MORC pmax pmax
comp=Z,470nm,1.5s,mb6.1
MORC Moravsky Berou 72.83 334 *e*P **P 20 33 28.7 +0.3**
comp=Z,475nm,1.5s,mb6.1
MORC Moravsky Berou 72.83 334⇓ *i*P **P 20 33 28.3 -0.1**
FBE Freiberg 72.85 337 *e*P **P 20 33 28.8 +0.3**
comp=Z,2µm,2.3s,mb6.5
VANB Van 72.89 311 *e*P **P 20 33 27.1 -1.8**
PVCC Panska Ves 72.92 336⇓ *e*P **P 20 33 29.3 +0.4**
PVCC *ex* x 20 33 39.0
PVCC *e*S S 20 42 45.7 +0.6
PVCC AMS AMS 21 10 50.0
comp=Z,8µm,14.7s
TVAN Van 72.93 311 *i* P **P 20 33 30.1 +0.9**
KOPT Kop Dagi 73.04 314 *i* P **P 20 33 30.6 +0.8**
GMM Mts of Mourne 73.05 350 *e*P **P 20 33 28.7 -0.9**
LIKS Likavka 73.06 333 *e*P **P 20 33 31.5 +1.7**
ESPY Espiye-Giresun 73.07 316 *e*P **P 20 33 27.8 -2.2**
GUMT Gumushane 73.12 315 *e*P **P 20 33 27.8 -2.5**
KECS Kecovo 73.17 332 *e*P **P 20 33 30.3 -0.1**
KECS *e* 20 33 47.7
KECS *e*S S 20 42 46.4 -1.6
KECS pmax pmax
comp=Z,58nm,1.0s,mb5.4
KECS Kecovo 73.17 332 *e*P **P 20 33 30.3 -0.1**
comp=Z,58nm,1.0s,mb5.4
KECS *e* 20 33 47.7
KECS *e*S S 20 42 46.4 -1.6
LHO Holmfirth 73.23 347 *e*P **P 20 33 30.7 0.0**
GRSN GIRESUNGRSN 73.26 316 *i* P **P 20 33 30.5 -0.6**
WTSB Winterswijk 73.31 341 *e*P **P 20 33 30.8 -0.4**
comp=Z,581nm,2.5s,mb6.0
MSNY Massena 73.36 36 *e*P **P 20 33 30.3 -1.3**
PRA Prague 73.37 336 ⇓P **P 20 33 32.0 +0.4**
PRA *ex* x 20 33 42.0
PRA *ex* x 20 34 06.0
PRU Pruhonice 73.42 336 *e*P **P 20 33 32.3 +0.4**
PRU *e* 20 34 19.9
PRU *e*S S 20 42 51.8 +1.0
PRU MLR MLR
comp=Z,9µm,14.9s
PRU Pruhonice 73.42 336⇓ *e*P **P 20 33 32.3 +0.4**
PRU *ex* x 20 33 39.5
PRU *es*P sP 20 34 19.9 +4.5
PRU *e*PP PP 20 36 09.9 -6.4
PRU *e*S S 20 42 51.8 +1.0
PRU AMS AMS 21 11 10.0
comp=Z,9µm,14.9s
KBI1 Birley Grange 73.47 347⇑ *e*P **P 20 33 32.3 +0.2**
SIUC Southern Illin 73.47 49 *e*P **P 20 33 31.4 -1.1**
comp=Z,15nm,0.4s,mb5.2
SIUC *ep*P pP 20 34 01.3 -1.6
DMUB Kingscourt 73.49 350 *e*P **P 20 33 32.8 +0.6**
DMUB Kingscourt 73.49 350 *e*P pP 20 34 03.9 +1.3
VRI Vrincioaia 73.51 326 P **P 20 33 33.5 +1.0**
VRI Vrincioaia 73.51 326⇑ *i*P **P 20 33 32.1 -0.3**
VRAC Vranov 73.52 334 P **P 20 33 32.8 +0.3**
VRAC Vranov 73.52 334⇓ *i*P **P 20 33 32.4 0.0**
MOX Moxa 73.52 338 *e*P **P 20 33 32.7 +0.3**
comp=Z,767nm,2.0s,mb6.1
MOX
comp=Z,3µm,23.0s
MOX Moxa 73.52 338 *e*P **P 20 33 32.7 +0.3**
MOX pmax pmax
comp=Z,767nm,2.0s,mb6.1
MOX MLR MLR
comp=Z,3µm,23.0s
MOX Moxa 73.52 338 *e*P **P 20 33 31.9 -0.5**
comp=Z,525nm,1.6s,mb6.0
MOX *e*S S 20 42 50.7 -1.2
BLO Bloomington 73.53 47 *e*P **P 20 33 31.6 -1.1**
BLO pmax pmax
comp=Z,153nm,1.1s,mb5.6
BLO Bloomington 73.53 47 *e*P **P 20 33 31.6 -1.1**
comp=Z,153nm,1.1s,mb5.6
TANN Tannenbergstha 73.54 337 *e*P **P 20 33 32.2 -0.3**
comp=Z,673nm,1.9s,mb6.0
TANN *ep*P pP 20 34 07.1 +4.2
TANN *e*S S 20 42 50.2 -1.9
WERD Werda 73.54 337 *e*P **P 20 33 32.4 -0.2**
comp=Z,878nm,1.9s,mb6.2
PLOR Plostina 73.55 326⇓ *i*P **P 20 33 32.9 +0.2**
EZC Erzincan 73.56 314 *e*P **P 20 33 34.8 +2.0**
HAKT HAKKARI 73.58 311 *i* P **P 20 33 32.6 -0.4**
GUNZ Gunzen 73.61 337 *e*P **P 20 33 32.7 -0.3**
comp=Z,714nm,1.7s,mb6.1
BNGL BINGOL 73.62 313 *i* P **P 20 33 34.0 +0.8**
VYHS Vyhne 73.64 333 *e*P **P 20 33 32.9 -0.3**
VYHS *e* 20 33 43.6
VYHS *e*S S 20 42 49.3 -4.0
VYHS *e* 20 43 26.2
VYHS pmax pmax
comp=Z,333nm,1.8s,mb5.8
VYHS Vyhne 73.64 333 *e*P **P 20 33 32.9 -0.3**
comp=Z,333nm,1.8s,mb5.8
VYHS *e* 20 33 43.6
VYHS *e*S S 20 42 49.3 -4.0
VYHS *e*ScS ScS 20 43 26.2 -4.7
WERN Wernitzgruen 73.67 337 *e*P **P 20 33 33.5 +0.2**
comp=Z,484nm,1.5s,mb6.0
KOLL Kolacno 73.68 333 *e*P **P 20 33 33.8 +0.4**
KOLL *e*PCP PcP 20 33 44.5 -4.1
NKC Novy Kostel 73.71 337⇓ *e*P **P 20 33 33.7 +0.2**
NKC *e*S S 20 42 54.7 +0.7
BUG Bochum--Univer 73.71 341 *e*P **P 20 33 33.4 -0.1**
comp=Z,601nm,1.4s,mb6.1
BUG *e*S S 20 42 52.8 -1.2
KWE Weaver Farm 73.74 347⇑ *e*P **P 20 33 34.0 +0.3**
LONY Lake Ozonia 73.79 36 *e*P **P 20 33 32.6 -1.5**
comp=Z,428nm,1.4s,mb6.0
TREC Trest 73.82 335⇓ *e*P **P 20 33 34.5 +0.3**
TREC *ex* x 20 33 44.5
TREC *e*S S 20 42 55.5 +0.2
TREC AMS AMS 21 11 20.0
comp=Z,4µm,16.7s
PSZ Piszkesteto 73.85 332⇓ *e*P **P 20 33 36.0 +1.6**
PSZ Piszkesteto 73.85 332⇓ *i*P **P 20 33 34.2 -0.2**
JCT Junction City 73.86 61 *e*P **P 20 33 33.8 -1.0**
JCT pmax pmax
comp=Z,754nm,1.3s,mb6.3
JCT Junction City 73.86 61 *e*P **P 20 33 33.8 -1.0**
comp=Z,754nm,1.3s,mb6.3
ERPA Erie 73.86 41 *e*P **P 20 33 33.9 -0.7**
comp=Z,2µm,1.4s,mb6.6
ERPA *ep*P pP 20 34 02.2 -2.8
CUKT Cukurca 73.87 310 *e*P **P 20 33 33.4 -1.3**
GOA Goa 73.89 275⇓ *i*P **P 20 33 36.5 +1.3**
GOA *i* x x 20 42 52.7
MIAR Mount Ida 73.90 54 *e*P **P 20 33 33.5 -1.5**
MIAR pmax pmax
comp=Z,715nm,1.4s,mb6.2
MIAR Mount Ida 73.90 54 *e*P **P 20 33 33.5 -1.4**
comp=Z,715nm,1.4s,mb6.2
DIKM Dikmen 73.92 319 *e*P **P 20 33 34.8 -0.1**
CWF Charnwood Fore 73.94 347 *e*P **P 20 33 34.7 -0.2**
CWF AMb AMB 20 33 39.8
comp=Z,2µm,1.6s,mb6.5
FRNY Flat Rock 73.95 35 *e*P **P 20 33 33.8 -1.3**
comp=Z,607nm,1.0s,mb6.3
USIN University of 73.99 48 *e*P **P 20 33 34.5 -0.9**
comp=Z,1µm,1.2s,mb6.6
USIN *ep*P pP 20 34 03.7 -2.2
DRGR 74.01 329 P **P 20 33 34.9 -0.5**
MANZ Manzenberg 74.02 337 *e*P **P 20 33 34.8 -0.6**
comp=Z,349nm,1.5s,mb5.9
MANZ *ep*P pP 20 34 09.8 +4.0
MANZ *e*S S 20 42 56.4 -1.1
SBD1 Bryn Du 74.04 348 *e*P **P 20 33 35.0 -0.4**
DLF Lyons Farm 74.05 350 *e*P **P 20 33 36.1 +0.7**
KVT Kavak 74.07 318 *e*P **P 20 33 34.8 -1.0**
PARMO Parma 74.07 50 *e*P **P 20 33 35.1 -0.8**
PARMO *ep*P pP 20 34 05.2 -1.2
DSB Dublin 74.08 350 *e*P **P 20 33 35.4 -0.3**
comp=Z,598nm,1.1s,mb6.2
DSB *ep*P pP 20 34 07.6 +1.5
BTMT Batman 74.08 312 *e*P **P 20 33 36.2 +0.3**
MLR Muntele Rosu 74.10 327 P **P 20 33 36.2 +0.3**
MLR Muntele Rosu 74.10 327⇑ *i*P **P 20 33 34.7 -1.2**
HARR Harsova 74.11 325⇓ *i*P **P 20 33 35.4 -0.6**
TIRR Tirgusor 74.14 325 P **P 20 33 36.6 +0.4**
TIRR Tirgusor 74.14 325⇓ *i*P **P 20 33 34.6 -1.6**
BZK Bozkurt 74.16 320 *e*P **P 20 33 34.1 -2.2**
ALLY Alegheny Colle 74.19 41 *e*P **P 20 33 35.9 -0.6**
comp=Z,2µm,1.4s,mb6.7
ALLY *ep*P pP 20 34 06.0 -1.0
ACSO Alum Creek Sta 74.20 44 *e*P **P 20 33 35.5 -1.1**
comp=Z,2µm,1.5s,mb6.6
ACSO *ep*P pP 20 34 04.3 -2.7
ROTZ Rotzenmuhle 74.20 337 *e*P **P 20 33 36.2 -0.2**
comp=Z,585nm,1.7s,mb6.0
ROTZ *e*S S 20 42 58.1 -1.4
SIRT Sirnak 74.21 311 *e*P **P 20 33 37.5 +0.8**
BYBT Boyabat 74.27 319 *e*P **P 20 33 32.0 -4.9**
PVMO Portageville 74.30 50 *ep*P pP 20 34 06.7 -1.0
comp=Z,894nm,0.9s
ZST Bratislava 74.39 334 *e*P **P 20 33 39.0 +1.4**
ZST *e* 20 33 47.0
ZST *e*S S 20 43 02.8 +1.1
ZST pmax pmax
comp=Z,147nm,0.9s,mb5.7
ZST MLR MLR
comp=Z,3µm,16.0s
ZST Bratislava 74.39 334 *e*P **P 20 33 39.0 +1.4**
comp=Z,146nm,0.9s,mb5.7
ZST *e* 20 33 47.0
ZST *e*S S 20 43 02.8 +1.1
ZST LR LR
comp=Z,3µm,16.0s
ZST Bratislava 74.39 334 *e*P **P 20 33 39.0 +1.4**
ZST *e*PCP PcP 20 33 47.0 -4.6
ZST *e*S S 20 43 02.8 +1.1
VOIR 74.45 327 P **P 20 33 38.0 +0.1**
VOIR 74.45 327⇓ *i*P **P 20 33 37.4 -0.5**
PTK Pertek 74.45 314 *e*P **P 20 33 37.4 -0.6**
KHC Kasperske Hory 74.46 336⇓ *i*P **P 20 33 38.0 +0.1**
KHC *ex* x 20 33 47.7
KHC *es*P sP 20 34 23.4 +1.9
KHC *e*S S 20 43 02.9 +0.5
KHC AMS AMS 21 11 20.0
comp=Z,8µm,15.1s
NCB Newcomb 74.48 36 *e*P **P 20 33 37.1 -1.0**
comp=Z,1µm,1.7s,mb6.3
NCB *ep*P pP 20 34 06.8 -1.8

BUD Budapest 74.50 332⇓ eP P 20 33 39.5 +1.3
GRA1 Grafenberg Arr 74.50 338 eP P 20 33 38.3 +0.1
comp=Z,957nm,1.5s,mb6.3
GRA1 esP sP 20 34 24.2 +2.4
GRA1 eS S 20 43 01.7 -1.2
GRA1 e 21 04 23.1
GRF Grafenberg Arr 74.50 338 eP P 20 33 38.3 +0.1
GRF e*SP sP 20 34 24.2 +2.4
GRF eS S 20 43 01.7 -1.2
GRF pmax pmax
comp=Z,957nm,1.5s,mb6.3
GRF Grafenberg Arr 74.50 338 eP P 20 33 38.3 +0.1
GRF e*SP sP 20 34 24.2 +2.4
GRF eS S 20 43 01.7 -1.2
GRF pmax pmax
comp=Z,957nm,1.5s,mb6.3
GRF Grafenberg Arr 74.50 338 eP P 20 33 38.3 +0.1
comp=Z,957nm,1.5s,mb6.3
GRF esP sP 20 34 24.2 +2.4
GRF eS S 20 43 01.7 -1.2
GRF e 21 04 23.1
WRAB Tennant Creek 74.50 202 P P 20 33 38.0 -0.4
comp=Z,861nm,1.0s,mb6.4,SNR=48
WRAB Tennant Creek 74.50 202 eP P 20 33 37.6 -0.8
WRAB pmax pmax
comp=Z,105nm,0.9s,mb5.6
WRAB Tennant Creek 74.50 202 eP P 20 33 37.6 -0.8
comp=Z,106nm,0.9s,mb5.6
GRFO Grafenberg 74.50 338 eP P 20 33 38.2 0.0
GRFO pmax pmax
comp=Z,2µm,1.8s,mb6.5
GRFO Grafenberg 74.50 338 eP P 20 33 38.1 0.0
comp=Z,2µm,1.8s,mb6.5
GNAR Gosnell 74.51 51 eP P 20 33 38.3 -0.2
comp=Z,28µm,1.5s
GNAR epP pP 20 34 07.9 -1.1
WB2 Warramunga Arr 74.51 202⇓ iP P 20 33 38.1 -0.3
WB2 epP pP 20 34 07.2 -1.8
WB2 eS S 20 43 01.0 -2.5
WB2 eSKS 20 43 39.8
WRA Warramunga Arr 74.51 202 P P 20 33 38.1 -0.4
comp=Z,107nm,0.9s,mb5.6,baz=16,slow=6.0,SNR=152
WRA pP pP 20 34 06.8 -2.2
comp=Z,55nm,0.9s,baz=17,slow=5.8,SNR=3.9
WRA S S 20 43 00.8 -2.7
comp=Z,3.6nm,1.1s,baz=15,slow=12,SNR=4.8
HBAR Harrisburg 74.53 52 eP P 20 33 38.1 -0.5
HBAR epP pP 20 34 08.0 -1.1
GLAT Glass 74.61 50 eP P 20 33 38.7 -0.3
GLAT epP pP 20 34 08.6 -0.9
WET Wettzell 74.62 337 eP P 20 33 38.7 -0.1
WET e*PP pP 20 34 12.8 +3.5
WET eS S 20 43 03.7 -0.5
WET pmax pmax
comp=Z,687nm,1.5s,mb6.2
WET Wettzell 74.62 337 eP P 20 33 38.7 -0.1
comp=Z,687nm,1.5s,mb6.2
WET epP pP 20 34 12.8 +3.5
WET eS S 20 43 03.7 -0.5
HGN Heimansgroeve 74.62 342 eP P 20 33 38.8 -0.1
comp=Z,750nm,1.9s,mb6.1
HGN Heimansgroeve 74.62 342 ePP PP 20 36 31.8 +5.5
HGN Heimansgroeve 74.62 342 eS S 20 43 05.9 +1.7
HGN Heimansgroeve 74.62 342 eSS SS 20 47 58.0 +5.7
BEBN Eben Emael 74.64 342 P P 20 33 39.3 +0.4
comp=Z,240nm,2.6s,mb5.5
SVSK Karacayir 74.64 316 eP P 20 33 38.5 -0.7
GEC2 GERESS Array S 74.69 336 eP P 20 33 39.0 -0.3
GEC2 eS S 20 43 03.5 -1.5
GEC2 pmax pmax
comp=Z,428nm,1.6s,mb5.9
GEC2 GERESS Array S 74.69 336 eP P 20 33 39.0 -0.3
comp=Z,428nm,1.6s,mb5.9
GEC2 eS S 20 43 03.5 -1.5
GERES GERESS Array B 74.69 336 P P 20 33 39.7 +0.4
GERES ⇑e 21 00 47.4
GERES P'P' 21 00 59.6
GERES LR LR 21 08 52.3
GERES GERESS Array B 74.69 336 P P 20 33 39.7 +0.4
comp=Z,32nm,0.8s,mb5.1,baz=34,slow=4.2,SNR=104
GERES PKP2bc 21 00 47.4
comp=Z,0.2nm,0.5s,baz=178,slow=4.0,SNR=4.9
GERES PKPPKP 21 00 59.6
comp=Z,0.6nm,0.8s,baz=114,slow=3.2,SNR=3.9
GERES LR LR 21 08 52.3
comp=Z,3µm,19.7s,baz=15,slow=38
UTMT University of 74.75 50 eP P 20 33 39.5 -0.4
comp=Z,2µm,1.3s,mb6.6
UTMT epP pP 20 34 08.9 -1.4
MEM Membach 74.75 341 P P 20 33 39.7 +0.1
PKSG 74.77 332 eP **P 20 33 39.9 +0.2**
SSW Stow on the Wo 74.77 347⇑ eP **P 20 33 40.3 +0.6**
BALT Daday 74.77 320 i P **P 20 33 41.0 +1.1**
HTR Trewern Hill 74.85 348 eP **P 20 33 39.3 -0.9**
PKS7 Kunszentmiklos 74.85 332⇑ eP **P 20 33 41.3 +1.1**
SKP1 Kophill 74.86 346⇑ eP **P 20 33 40.0 -0.1**
HALT Halls 74.88 50 eP **P 20 33 40.1 -0.5**
UCC Uccle 74.89 343 P P 20 33 40.2 -0.2
comp=Z,557nm,2.4s,mb5.9
MCH1 Michaelchurch 74.89 347⇑ eP **P 20 33 40.5 +0.1**
MCH1 AMb AMB 20 33 45.5
comp=Z,915nm,1.8s,mb6.2
PSN Preselentsi 74.90 324 P P 20 33 40.2 -0.4
DIY Diyarbakir 74.90 313 eP **P 20 33 41.9 +1.2**
SVRC Sivrice-ELAZID 74.91 314 eP **P 20 33 41.9 +1.1**
ELZG Elazig 74.96 314 i P **P 20 33 42.7 +1.7**
CTKT Corum 74.97 318 i P **P 20 33 41.0 0.0**
CONA Conrad Observa 74.97 334⇓ eP **P 20 33 41.2 +0.2**
comp=Z,322nm,1.4s,mb5.8
CONA Conrad Observa 74.97 334⇑ iP pP 20 34 17.3 +5.8
comp=Z,102nm,1.2s
SOP Sopron 75.01 334⇓ eP **P 20 33 43.0 +1.9**
PKME Peaks-Kenny Pk 75.04 32 eP **P 20 33 40.8 -0.5**
comp=Z,223nm,1.1s,mb5.8
PKME epP pP 20 34 09.8 -2.1
LBNH Lisbon 75.06 34 eP **P 20 33 41.1 -0.3**
LBNH e*PP pP 20 34 11.7 -0.3
LBNH pmax pmax
comp=Z,548nm,1.4s,mb6.1
LBNH Lisbon 75.06 34 eP **P 20 33 41.1 -0.3**
comp=Z,548nm,1.4s,mb6.1
LBNH epP pP 20 34 11.7 -0.2
BCLA Clavier 75.07 342 P P 20 33 41.8 +0.4
comp=Z,326nm,2.3s,mb5.7
BUC1 Bucharest 75.08 326 P P 20 33 42.0 +0.4
MARD Mardin 75.13 312 i P **P 20 33 41.9 -0.1**
TOD Tromm 75.13 339 eP **P 20 33 42.0 +0.3**
ABH Alteburg 75.13 340 eP **P 20 33 41.3 -0.5**
PKS6 Bocsa 75.14 331⇓ eP **P 20 33 44.9 +3.0**
TFO1 Folkestone 75.14 345 eP **P 20 33 41.8 0.0**
TFO1 AMb AMB 20 33 47.1
comp=Z,2µm,1.6s,mb6.7
FITZ Fitzroy Crossi 75.17 211⇓ iP **P 20 33 42.7 +0.5**
comp=Z,368nm,1.1s,mb6.0
FITZ epP pP 20 34 13.0 +0.2
FITZ eS S 20 43 10.7 -0.1
FITZ eSKS 20 43 43.3
FITZ Fitzroy Crossi 75.17 211 P P 20 33 42.8 +0.5
comp=Z,177nm,0.9s,mb5.8,baz=19,slow=5.8,SNR=91
FITZ pP pP 20 34 10.7 -2.1
comp=Z,35nm,1.0s,baz=39,slow=9.9,SNR=1.9
FITZ S S 20 43 12.4 +1.5
comp=Z,3.0nm,1.0s,baz=255,slow=20,SNR=4.2
FITZ PKPPKP 21 01 08.7
comp=Z,2.6nm,1.0s,baz=177,slow=10,SNR=3.2
ACCN Adirondack Com 75.19 36 eP **P 20 33 41.3 -0.9**
comp=Z,1µm,1.6s,mb6.4
ACCN epP pP 20 34 10.6 -2.1
SIND Sindeldorf 75.19 339 P P 20 33 42.4 +0.3
SWN1 Swindon 75.20 347 eP **P 20 33 42.4 +0.2**
SWN1 AMb AMB 20 33 47.4
comp=Z,3µm,1.7s,mb6.8
HGH Gray Hill 75.22 347 eP **P 20 33 41.8 -0.5**
MET Memphis--Engin 75.23 51 eP **P 20 33 42.5 -0.1**
GZR Gura Zlata 75.23 329 P P 20 33 42.9 +0.5
GZR Gura Zlata 75.23 329⇓ iP **P 20 33 42.6 +0.2**
MNGI Mangalore 75.24 272 i P **P 20 33 42.8 -0.1**
MNGI i S S 20 43 10.3 -1.7
SWS Schriesheim-Wi 75.26 339 P P 20 33 44.0 +1.5
SAFT Safranbolu 75.30 320 eP **P 20 33 42.9 0.0**
WOL Wolverton 75.31 346 eP **P 20 33 42.9 +0.1**
BINY Binghamton 75.35 38 eP **P 20 33 42.1 -1.1**
comp=Z,807nm,1.6s,mb6.2
MALT Malatya 75.35 315 P P 20 33 43.5 +0.2
MALT pmax pmax
comp=Z,250nm,1.5s,mb5.7
MALT Malatya 75.35 315 eP **P 20 33 43.4 +0.2**
comp=Z,250nm,1.5s,mb5.7
MALT Malatya 75.35 315⇓ iP **P 20 33 43.5 +0.2**
HNH Hanover 75.40 35 eP **P 20 33 43.3 -0.1**
comp=Z,2µm,1.6s,mb6.5
BZS Buzias 75.40 330 P P 20 33 42.6 -0.8
BZS Buzias 75.40 330⇓ iP **P 20 33 42.4 -1.0**
RUP Ruppelstein 75.40 340 eP **P 20 33 43.3 0.0**
WVT Waverly 75.41 49 eP **P 20 33 42.9 -0.7**
WVT e*PP pP 20 34 12.3 -1.9
WVT pmax pmax
comp=Z,948nm,1.6s,mb6.3
WVT Waverly 75.41 49 eP **P 20 33 42.9 -0.8**
comp=Z,948nm,1.6s,mb6.3
WVT epP pP 20 34 12.2 -1.9
CORM Corum 75.41 318 eP **P 20 33 41.1 -2.4**
TIM Timisoara 75.42 330⇑ iP **P 20 33 43.1 -0.4**
CANT Cankiri 75.46 319 eP **P 20 33 41.9 -2.0**
GIVF Givet 75.46 342 eP **P 20 33 43.7 0.0**
comp=Z,2µm,1.8s,mb6.3
GIVF Givet 75.46 342 eP **P 20 33 43.7 0.0**
GIVF pmax pmax
comp=Z,1µm,1.8s,mb6.3
GIVF Givet 75.46 342 eP **P 20 33 43.7 0.0**
comp=Z,1µm,1.8s,mb6.3
MOA Molln 75.47 335⇓ eP **P 20 33 43.6 -0.1**
comp=Z,172nm,1.6s,mb5.5
MOA Molln 75.47 335 P P 20 33 44.1 +0.4
MENF Mencas 75.51 344 eP **P 20 33 43.9 0.0**
DOU Dourbes 75.51 342 P P 20 33 43.9 -0.1
comp=Z,266nm,2.3s,mb5.6
KTD Kalmit 75.55 340 eP **P 20 33 44.2 0.0**
NATX Nacogdoches 75.56 57 eP **P 20 33 44.3 -0.3**
comp=Z,2µm,1.8s,mb6.5
PRD Provadia 75.60 325 P P 20 33 44.3 -0.3
BAIF Baives 75.62 342 eP **P 20 33 44.8 +0.2**
comp=Z,981nm,1.4s,mb6.0
BAIF Baives 75.62 342 eP **P 20 33 44.8 +0.2**
BAIF pmax pmax
comp=Z,491nm,1.4s,mb6.0
BAIF Baives 75.62 342 eP **P 20 33 44.8 +0.2**
comp=Z,490nm,1.4s,mb6.0
SWK Warminster 75.62 347⇑ eP **P 20 33 45.2 +0.6**
WLF Walferdange 75.62 341 eP **P 20 33 44.8 +0.2**
WLF pmax pmax
comp=Z,412nm,1.4s,mb6.0
WLF Walferdange 75.62 341 eP **P 20 33 44.8 +0.2**
comp=Z,412nm,1.4s,mb6.0
WLF Walferdange 75.62 341 P P 20 33 45.9 +1.3
comp=Z,456nm,2.4s,mb5.8
WLF Walferdange 75.62 341 eP **P 20 33 45.8 +1.2**
comp=Z,2µm,2.1s,mb6.4
WLF eS S 20 43 15.7 +0.4
ARSA Arzberg 75.69 334⇓ iP **P 20 33 45.5 +0.5**
comp=Z,288nm,1.6s,mb5.8
ARSA Arzberg 75.69 334⇑ iP pP 20 34 21.0 +5.4
comp=Z,189nm,2.2s
KDZE Karadeniz Ereo 75.72 321 eP **P 20 33 42.6 -2.7**
PKSM Moragy 75.76 332 P P 20 33 45.4 -0.1
PKSM Moragy 75.76 332⇓ eP **P 20 33 45.6 +0.1**
PKSM Moragy 75.76 332⇓ iP **P 20 33 44.3 -1.2**
HDH Heidenheim-Cha 75.77 338 P P 20 33 46.2 +0.7
FFD Franklin Falls 75.83 34 eP **P 20 33 45.9 +0.1**
comp=Z,6µm,1.8s,mb7.0
FFD epP pP 20 34 14.1 -2.4
STU Stuttgart 75.83 339 eP **P 20 33 46.0 +0.2**
comp=Z,481nm,1.5s,mb6.0
STU epP pP 20 34 20.3 +4.0
STU eS S 20 43 16.0 -1.6
CRAR CRAIOVA 75.85 327 P P 20 33 46.4 +0.4
CRAR CRAIOVA 75.85 327⇓ iP **P 20 33 45.1 -0.9**
URFA Urfa 75.90 314 eP **P 20 33 46.1 -0.3**
ZIMR 75.91 326⇑ iP **P 20 33 46.9 +0.6**
HEX Exmoor 75.91 348 eP **P 20 33 46.0 -0.2**
FUR Furstenfeldbru 75.92 337 eP **P 20 33 46.4 +0.1**
FUR eS S 20 43 16.2 -2.4
FUR pmax pmax
comp=Z,622nm,1.3s,mb6.2
FUR Furstenfeldbru 75.92 337 eP **P 20 33 46.4 +0.1**
comp=Z,622nm,1.3s,mb6.2
FUR eS S 20 43 16.2 -2.4
LANF Langenberg 75.93 340 eP **P 20 33 46.4 0.0**
RJOB Jochberg 75.94 336 eP **P 20 33 47.4 +0.9**
RJOB eS S 20 43 17.8 -1.1
SSPA Standing Stone 75.95 40 eP **P 20 33 45.7 -1.0**
comp=Z,2µm,1.7s,mb6.5
OXF Oxford 75.97 51 eP **P 20 33 45.8 -1.1**
OXF e*PP pP 20 34 15.9 -1.6
OXF pmax pmax
comp=Z,1µm,1.3s,mb6.4
OXF Oxford 75.97 51 eP **P 20 33 45.8 -1.1**
comp=Z,1µm,1.3s,mb6.4
OXF epP pP 20 34 15.9 -1.6
CDAG Cicekdag 75.98 318 i P **P 20 33 44.7 -2.1**
MCWV Mont Chateau 75.99 42 eP **P 20 33 46.5 -0.4**
comp=Z,1µm,1.5s,mb6.5
MCWV epP pP 20 34 15.8 -1.7
BNN Bunyan 76.02 317 eP **P 20 33 44.7 -2.4**
PALK Pallekele 76.02 264 P P 20 33 47.8 +0.4
comp=Z,3µm,1.7s,mb6.8,SNR=98
SZH Strazhica 76.06 326 P P 20 33 45.4 -1.8
HTL Hartland 76.07 348 eP **P 20 33 47.5 +0.4**
HTL AMb AMB 20 33 51.4
comp=Z,825nm,1.5s,mb6.2
BUCH Bad Urach 76.09 339 P P 20 33 48.0 +0.7
ATAB Bozova 76.11 314 i P **P 20 33 48.4 +0.8**
RHK3 Tenkes 76.17 332⇑ eP **P 20 33 47.6 -0.2**
KOGS Kog 76.23 333 P P 20 33 48.7 +0.6
PLAL Pickwick Lake 76.23 50 eP **P 20 33 46.8 -1.5**
comp=Z,965nm,1.5s,mb6.3
PLAL epP pP 20 34 17.1 -1.8
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
BANOM Banah 76.27 294 P P 20 33 48.8 +0.2
SNR=14
PVL Pavlikeni 76.31 326 P P 20 33 49.5 +0.9
STR Strasbourg 76.31 340 eP **P 20 33 49.1 +0.6**
SOKA Soboth 76.35 334⇓ eP **P 20 33 48.4 -0.4**
SOKA Soboth 76.35 334⇑ iP pP 20 34 24.7 +5.4
comp=Z,128nm,1.2s
PERS Pernice 76.36 334 i P **P 20 33 48.9 0.0**
PERS ePcP PcP 20 33 54.8 -5.4
PERS epP pP 20 34 22.7 +3.2
PERS esP sP 20 34 36.0 +3.5
PERS eS S 20 43 22.4 -1.1
PERS esS sS 20 44 17.8 +1.5
HKT Hockley 76.39 59 P P 20 33 47.7 -1.6
HKT pmax pmax
comp=Z,860nm,1.9s,mb6.2
HKT Hockley 76.39 59 eP **P 20 33 48.5 -0.8**
comp=Z,863nm,1.9s,mb6.2
LOD Lodumlu 76.41 319 eP **P 20 33 48.9 -0.4**
KBA Koelnbreinsper 76.42 336⇓ iP **P 20 33 49.9 +0.7**
comp=Z,866nm,1.1s,mb6.4
KBA Koelnbreinsper 76.42 336⇑ iP pP 20 34 25.8 +6.1
comp=Z,341nm,1.0s
KBA Koelnbreinsper 76.42 336⇓ iP **P 20 33 49.9 +0.8**
KBA pmax pmax
comp=Z,866nm,1.1s,mb6.4
ANTO Ankara 76.42 319 ⇓P P 20 33 49.1 -0.2
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319 P P 20 33 49.3 0.0
SNR=42
ANTO Ankara 76.42 319⇓ iP **P 20 33 49.0 -0.3**
BFO Black Forest 76.43 339 P P 20 33 49.2 0.0
comp=Z,695nm,1.3s,mb6.2,SNR=20
BFO Black Forest 76.43 339 eP **P 20 33 48.8 -0.4**
BFO eS S 20 43 21.4 -2.8
BFO pmax pmax
comp=Z,412nm,1.5s,mb5.9
BFO Black Forest 76.43 339 eP **P 20 33 48.8 -0.4**
comp=Z,412nm,1.5s,mb5.9
BFO eS S 20 43 21.4 -2.8
XMIS Christmas Isla 76.45 232 eP **P 20 33 50.8 +1.2**
XMIS epP pP 20 34 22.1 +1.8
BEO Beograd 76.48 330 P P 20 33 51.4 +1.9
AVNT Avonos 76.50 317 i P **P 20 33 50.4 +0.6**
GUT Gutenstein 76.50 339 P P 20 33 50.1 +0.5
GZT Gaziantep 76.53 315 i P **P 20 33 50.4 +0.4**
JMB Yambol 76.53 325 eP **P 20 33 49.9 0.0**
JMB Yambol 76.53 325 P P 20 33 50.5 +0.6
MDU Mudurnu 76.54 321 eP **P 20 33 50.3 +0.3**
DYA Yadsworthy 76.55 348 eP **P 20 33 49.6 -0.2**
DYA AMb AMB 20 33 53.9
comp=Z,1µm,1.4s,mb6.5
SPAK Spaichingen-Ko 76.55 339 eP **P 20 33 49.8 -0.1**
CDF Champ du Feu 76.58 340⇓ iP **P 20 33 50.1 +0.1**
comp=Z,1µm,1.4s,mb6.1
CDF Champ du Feu 76.58 340⇓ iP **P 20 33 50.1 +0.1**
CDF pmax pmax
comp=Z,583nm,1.4s,mb6.1
CDF Champ du Feu 76.58 340⇓ iP **P 20 33 50.1 +0.1**
comp=Z,583nm,1.4s,mb6.1
WATA Walderalm 76.62 337⇓ eP **P 20 33 50.5 +0.3**
comp=Z,936nm,1.6s,mb6.3
WATA Walderalm 76.62 337⇓ eP **P 20 33 50.5 +0.2**
WATA pmax pmax
comp=Z,936nm,1.6s,mb6.3
QUA2 Belchertown 76.62 35 eP **P 20 33 49.4 -0.9**
OBKA Obir 76.63 334⇓ iP **P 20 33 50.5 +0.1**
comp=Z,367nm,1.4s,mb5.9
UBR Ueberruh 76.64 338 P P 20 33 50.8 +0.4
WTTA Wattenberg 76.67 337⇓ iP **P 20 33 51.3 +0.7**
comp=Z,605nm,1.1s,mb6.2
WTTA Wattenberg 76.67 337⇑ iP pP 20 34 26.9 +5.7
comp=Z,236nm,1.1s
WTTA Wattenberg 76.67 337⇓ iP **P 20 33 51.3 +0.7**
WTTA pmax pmax
comp=Z,605nm,1.1s,mb6.2
RETA Reutte 76.67 337⇓ eP **P 20 33 51.0 +0.5**
comp=Z,206nm,1.2s,mb5.7
KLYT Kilyos 76.69 322 eP **P 20 33 48.2 -2.6**
KMRS Kahramanmaras 76.69 315 eP **P 20 33 51.0 +0.1**
HRV Adam Dziewonsk 76.70 35 eP **P 20 33 50.5 -0.3**
HRV e*PP pP 20 34 20.1 -1.4
HRV pmax pmax
comp=Z,1µm,1.7s,mb6.3
HRV Adam Dziewonsk 76.70 35 eP **P 20 33 50.5 -0.3**
comp=Z,1µm,1.7s,mb6.3
HRV epP pP 20 34 20.1 -1.4
MOTA Moosalm 76.72 337⇓ iP **P 20 33 51.0 +0.2**
comp=Z,293nm,1.1s,mb5.9
MOTA Moosalm 76.72 337⇓ iP **P 20 33 51.0 +0.1**
MOTA pmax pmax
comp=Z,293nm,1.1s,mb5.9
SVIS Svilajnac 76.74 329 P P 20 33 52.3 +1.3
CSA1 St Austell 76.75 348⇑ eP **P 20 33 51.0 +0.1**
MYKA Terra Mystica 76.76 335⇓ iP **P 20 33 51.2 +0.2**
comp=Z,946nm,1.6s,mb6.3
LIBD Limburg 76.76 340 P P 20 33 52.3 +1.2
ECH Echery 76.79 340 eP **P 20 33 51.3 +0.1**
SQTA Sankt Quirin 76.82 337⇓ eP **P 20 33 51.9 +0.5**
SQTA Sankt Quirin 76.82 337 i P pP 20 34 26.4 +4.4
comp=Z,73nm,1.0s
HRT Hereke 76.83 322 eP **P 20 33 51.5 0.0**
GAZ Gaziantep 76.84 315 eP **P 20 33 51.7 0.0**
GULT Gulveren 76.84 321 eP **P 20 33 49.6 -2.0**
ISK Istanbul-Kandi 76.84 322 eP **P 20 33 49.6 -2.1**
ANDN Andirin 76.87 316 i P **P 20 33 51.9 0.0**
KIZ Kirchzarten 76.88 339 P P 20 33 51.8 +0.1
WES Weston 76.89 35 eP **P 20 33 51.8 -0.1**
WES e*PP pP 20 34 21.1 -1.5
WES pmax pmax
comp=Z,3µm,1.6s,mb6.8
WES Weston 76.89 35 eP **P 20 33 51.8 -0.1**
comp=Z,3µm,1.6s,mb6.8
WES epP pP 20 34 21.1 -1.5
SISB Singen-Schiene 76.90 339 P P 20 33 52.2 +0.4
FELD Feldberg im Sc 76.93 339 eP **P 20 33 51.8 -0.2**
ABTA Abfaltersbach 76.94 336⇓ iP **P 20 33 52.0 -0.1**
comp=Z,338nm,1.1s,mb6.0
ABTA Abfaltersbach 76.94 336⇑ iP pP 20 34 25.7 +3.0
comp=Z,173nm,1.0s
MEZF Maizieres J'vi 76.95 341⇓ iP **P 20 33 52.4 +0.3**
comp=Z,466nm,0.7s,mb6.0
MEZF Maizieres J'vi 76.95 341⇓ iP **P 20 33 52.4 +0.3**
comp=Z,466nm,0.7s,mb6.3
CCA1 Carnmenellis 76.96 349 eP **P 20 33 51.4 -0.7**
CRQ2 Rosemanowes 2 76.97 348 eP **P 20 33 51.9 -0.3**
FVI Forni Avoltri 77.01 336 P P 20 33 52.1 -0.4
SEST Monte Rota 77.01 336 P P 20 33 53.0 +0.5
ELBA Catalca 77.01 323 i P **P 20 33 51.6 -0.9**
EDRB Edirne 77.02 324 eP **P 20 33 50.3 -2.3**
TZTN Tazewell 77.02 46 eP **P 20 33 52.2 -0.6**
comp=Z,445nm,1.2s,mb6.1
THEF They Montfort 77.03 341 eP **P 20 33 52.7 +0.2**
CPZ Penzance 77.03 349 eP **P 20 33 51.7 -0.8**
SWET Sewanee 77.04 49 eP **P 20 33 51.7 -1.1**
SWET epP pP 20 34 21.1 -2.4
LJU Ljubljana 77.07 334 i P **P 20 33 53.3 +0.5**
LJU i PcP PcP 20 33 58.7 -4.5
LJU epP pP 20 34 24.5 +1.0
LJU esP sP 20 34 39.3 +2.7
LJU eS S 20 43 28.7 -2.5
LJU esS sS 20 44 22.7 -1.3
LJU eSS SS 20 48 32.0 +2.5
DAVA Damuels 77.07 338⇓ iP **P 20 33 53.2 +0.4**
comp=Z,320nm,1.1s,mb5.9
DAVA Damuels 77.07 338⇓ iP pP 20 34 26.3 +2.9
comp=Z,124nm,0.9s
SISC Sisak 77.09 333 P P 20 33 53.4 +0.4
SISC Sisak 77.09 333 i P **P 20 33 53.4 +0.4**
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
BIDO Bidbid 77.10 292 P P 20 33 53.5 +0.1
SNR=14
MVL Millersville 77.10 39 eP **P 20 33 51.8 -1.3**
comp=Z,754nm,1.5s,mb6.2
MVL epP pP 20 34 21.5 -2.3
FETA Feichten 77.12 337⇓ iP **P 20 33 53.7 +0.6**
comp=Z,282nm,1.0s,mb6.0
FETA Feichten 77.12 337⇑ iP pP 20 34 26.4 +2.7
MOF Molkenrain 77.14 340 eP **P 20 33 53.0 -0.2**
YLV Yalova 77.16 322 eP **P 20 33 49.9 -3.5**
HAU Haudompre 77.16 340⇓ iP **P 20 33 53.2 -0.1**
comp=Z,1µm,1.6s,mb6.1
HAU eMLR MLR

comp=Z,4μm,20.0s
HAU Haudompre 77.16 340⇓*i*P P 20 33 53.2 -0.1
HAU pmax pmax
comp=Z,666nm,1.6s,mb6.1
HAU MLR MLR
comp=Z,4μm,20.0s
HAU Haudompre 77.16 340⇓*i*P P 20 33 53.2 -0.1
comp=Z,666nm,1.6s,mb6.1
HAU LR LR
comp=Z,4μm,20.0s
NIG Nigde 77.16 317 *e*P P 20 33 54.1 +0.6
PAL Palisades 77.17 37 *e*P P 20 33 52.6 -0.9
PAL *e**PP pP 20 34 22.2 -1.9
PAL pmax pmax
comp=Z,781nm,1.2s,mb6.3
PAL Palisades 77.17 37 *e*P P 20 33 52.5 -0.9
comp=Z,781nm,1.2s,mb6.3
PAL *e*pP pP 20 34 22.1 -2.0
WILA Wila 77.17 339 ⇓P P 20 33 53.5 +0.1
KOZT Kozan 77.18 316 *e*P P 20 33 55.2 +1.6
KVTX Kingsville 77.19 62 *e*P P 20 33 54.7 +0.9
comp=Z,2μm,1.5s,mb6.7
BRNJ Basking Ridge 77.20 38 *e*P P 20 33 53.6 0.0
comp=Z,304nm,1.1s,mb5.9
BRNJ *e*pP pP 20 34 24.2 -0.2
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
HATD Hatta, Dubai 77.22 294 P **P 20 33 54.2 +0.2**
SNR=31
BRYW Bryant College 77.23 35 *e*P P 20 33 53.4 -0.4
comp=Z,480nm,0.9s,mb6.2
BRYW *e*pP pP 20 34 22.7 -1.7
HINF Hinteralfeld 77.24 340⇓*i*P P 20 33 53.7 0.0
comp=Z,2μm,1.9s,mb6.1
HINF Hinteralfeld 77.24 340⇓*i*P P 20 33 53.7 0.0
HINF pmax pmax
comp=Z,791nm,1.9s,mb6.1
HINF Hinteralfeld 77.24 340⇓*i*P P 20 33 53.7 0.0
comp=Z,791nm,1.9s,mb6.1
VOY Vojsko 77.25 335 *e*P P 20 33 53.3 -0.5
VOY *e*PcP PcP 20 33 54.7 -9.3
VOY *e*pP pP 20 34 27.7 +3.2
VOY *e* 20 34 41.7
VOY *e* 20 35 26.2
VOY *e* 20 35 47.0
DIVS Divibare 77.27 330 *e*P P 20 33 52.9 -1.0
CRLT Corlu 77.28 323 *e*P P 20 33 55.9 +1.8
ZUR Degenried 77.29 339 ⇓P P 20 33 54.1 +0.1
VBMS Vicksburg 77.29 54 *e*P P 20 33 53.9 -0.4
comp=Z,1μm,1.7s,mb6.4
VBMS *e*pP pP 20 34 22.8 -2.1
PGB Panagyurishte 77.30 326 P **P 20 33 54.6 +0.4**
IZI Iznik 77.32 322 *e*P P 20 33 55.7 +1.4
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
WBK Wadi Bani Khal 77.33 290 P **P 20 33 55.4 +0.8**
SNR=19
JAVS Javornik 77.33 335 *i*P P 20 33 53.5 -0.8
JAVS *e*S S 20 43 30.2 -3.8
CPNY Central Park 77.33 37 *e*P P 20 33 53.7 -0.7
comp=Z,660nm,1.1s,mb6.3
CPNY *e*pP pP 20 34 22.4 -2.7
GEMT Gemlik 77.34 322 *e*P P 20 33 53.9 -0.6
BOJS Bojanci 77.37 334 *i*P P 20 33 54.1 -0.4
BOJS *e*PcP PcP 20 33 59.8 -4.8
BOJS *e*pP pP 20 34 27.5 +2.4
BOJS *e*sP sP 20 34 40.0 +1.7
BOJS *e*S S 20 43 31.8 -2.7
BOJS *e*sS sS 20 44 25.3 -2.0
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
ASHO Ashiyiah 77.37 294 P **P 20 33 54.9 +0.1**
SNR=43
EIDS Eidsvold 77.37 186 *e*P P 20 33 54.9 +0.4
comp=Z,370nm,1.9s,mb5.8
EIDS *e*pP pP 20 34 25.6 +0.3
SDMD Soldier's Deli 77.42 40 *e*P P 20 33 53.8 -1.1
comp=Z,608nm,1.2s,mb6.2
SDMD *e*pP pP 20 34 24.0 -1.6
BBS Basel-Blauen 77.43 339 *e*P P 20 33 54.9 +0.1
TKR Tekirdag 77.48 323 *e*P P 20 33 55.2 0.0
ESKT Eskisehir 77.49 320 *e*P P 20 33 54.5 -0.8
ESKT Eskisehir 77.49 320 *i*P P 20 33 54.3 -1.0
CPCT Cooper Cave 77.49 47 *e*P P 20 33 54.5 -0.9
CPCT *e*pP pP 20 34 24.1 -1.9
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
SMDO Samad 77.51 291 P **P 20 33 56.5 +0.9**
SNR=18
PLD Plovdiv 77.51 326 *e*P P 20 33 54.1 -1.2
PLD Plovdiv 77.51 326 P **P 20 33 55.1 -0.2**
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
HOQ Hoqain 77.52 292 P **P 20 33 54.8 -0.9**
SNR=40
VTS Vitosha 77.59 327 *e*P P 20 33 54.9 -0.9
VTS Vitosha 77.59 327⇓*i*P P 20 33 55.0 -0.8
VTS Vitosha 77.59 327 P **P 20 33 56.1 +0.3**
CEYT Ceyhan 77.61 316 *e*P P 20 33 54.5 -1.5
KIZT Kizilcal 77.63 319 *e*P P 20 33 55.2 -0.9
MUO Muotathal 77.65 339 ⇓P P 20 33 56.4 +0.3
TKL Tuckaleechee C 77.66 47 P **P 20 33 55.6 -0.7**
TKL *PP pP 20 34 24.3 -2.7
TKL pmax pmax
comp=Z,101nm,0.7s,mb5.7
TKL Tuckaleechee C 77.66 47 *e*P P 20 33 55.5 -0.8
TKL *e*pP pP 20 34 25.7 -1.3
TKL Tuckaleechee C 77.66 47 P **P 20 33 55.5 -0.7**
comp=Z,101nm,0.7s,mb5.7,baz=279,slow=1.0,SNR=56
TKL pP pP 20 34 24.3 -2.7
comp=Z,85nm,0.9s,baz=328,slow=3.6,SNR=4.0
ELN Prospectdale 77.67 44 *e*P P 20 33 55.2 -1.1
ELN *e*pP pP 20 34 24.9 -2.1
FLN La Foliniere 77.68 345⇓*i*P P 20 33 56.2 0.0
comp=Z,3μm,1.5s,mb6.4
FLN *e*MLR MLR
comp=Z,2μm,21.0s
FLN La Foliniere 77.68 345⇓*i*P P 20 33 56.2 0.0
FLN pmax pmax
comp=Z,1μm,1.5s,mb6.4
FLN MLR MLR
comp=Z,2μm,21.0s
FLN La Foliniere 77.68 345⇓*i*P P 20 33 56.2 0.0
comp=Z,1μm,1.5s,mb6.4
FLN LR LR
comp=Z,2μm,21.0s
LLS Linth-Limmern 77.68 338 ⇓P P 20 33 56.5 +0.3
LOMF Lomont 77.69 340 *e*P P 20 33 56.6 +0.4
KARA Karaisali 77.69 316 *e*P P 20 33 53.8 -2.7
MFT Murefte 77.75 323 *e*P P 20 33 55.8 -0.9
LDF La Druitiere 77.79 345⇓*i*P P 20 33 56.8 0.0
comp=Z,2μm,1.6s,mb6.3
LDF La Druitiere 77.79 345⇓*i*P P 20 33 56.8 0.0
LDF pmax pmax
comp=Z,1μm,1.6s,mb6.3
LDF La Druitiere 77.79 345⇓*i*P P 20 33 56.8 0.0
comp=Z,1μm,1.6s,mb6.3
MRMT Marmara Adasi 77.79 323 *e*P P 20 33 53.3 -3.6
BLA Blacksburg 77.82 44 *e*P P 20 33 56.4 -0.8
BLA *e**PP pP 20 34 26.0 -1.9
BLA pmax pmax
comp=Z,942nm,1.5s,mb6.3
BLA Blacksburg 77.82 44 *e*P P 20 33 56.4 -0.8
comp=Z,942nm,1.5s,mb6.3
BLA *e*pP pP 20 34 26.0 -1.8
KDHN Kadinhani 77.84 319 *i*P P 20 33 55.9 -1.4
SART Tekirdag 77.87 323 *i*P P 20 33 56.5 -0.8
RKY Sarkoy-Tekirda 77.87 323 *e*P P 20 33 55.9 -1.5
RZN Rozhen 77.87 326 P **P 20 33 57.1 -0.3**
EDC Edincik 77.92 323 *e*P P 20 33 55.9 -1.7
VDL Val di Lei 77.92 338 ⇓P P 20 33 58.2 +0.6
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
JMDO Jabal Madar 78.01 291 P **P 20 33 58.5 +0.1**
SNR=39
MIB Mutribah 78.03 303 *e*P P 20 33 57.1 -1.3
MIB AMb AMB 20 34 07.3
comp=Z,244nm,1.1s,mb5.9
UMR Umm Al-Rimmam 78.04 303 *e*P P 20 33 57.3 -1.2
UMR AMb AMB 20 34 02.3
comp=Z,448nm,1.4s,mb6.0
RDO Rodhopi 78.06 325 *e*P P 20 33 58.0 -0.4
ALN Alexandroupoli 78.10 324 *e*P P 20 33 57.5 -1.1
GRR Gorron 78.11 345⇓*i*P P 20 33 58.9 +0.4
comp=Z,3μm,1.3s,mb6.5
GRR Gorron 78.11 345⇓*i*P P 20 33 58.9 +0.4
GRR pmax pmax
comp=Z,1μm,1.3s,mb6.5
GRR Gorron 78.11 345⇓*i*P P 20 33 58.9 +0.4
comp=Z,1μm,1.3s,mb6.5
PLE Pljevlja 78.15 330⇑*i*P P 20 34 01.1 +2.2
ALT Altintas 78.18 321 *e*P P 20 33 57.3 -1.8
ENEZ Enez 78.20 324 *e*P P 20 33 57.3 -1.9
ASAR Alice Springs 78.20 202 P **P 20 33 59.7 +0.5**
ASAR *PP pP 20 34 29.3 -0.7
ASAR S S 20 43 45.5 +1.8
ASAR Alice Springs 78.20 202 P **P 20 33 59.7 +0.5**
comp=Z,55nm,0.4s,mb5.6,baz=14,slow=5.1,SNR=573
ASAR pP pP 20 34 29.3 -0.7
comp=Z,60nm,0.8s,baz=14,slow=5.3,SNR=6.2
ASAR S S 20 43 45.5 +1.8
comp=Z,9.5nm,1.2s,baz=20,slow=8.2,SNR=13
ASAR PKKP PKKPbc 20 52 38.9 -17
comp=Z,0.8nm,0.8s,baz=253,slow=0.3,SNR=4.1
ASAR PKKPbc PKKPbc 20 52 55.4 -0.9
comp=Z,0.7nm,0.6s,baz=194,slow=2.1,SNR=6.9
ASAR PKPPKP 21 01 02.4
comp=Z,1.8nm,1.0s,baz=200,slow=2.3,SNR=5.4
KONT Konya--Tatoy 78.24 318 *e*P P 20 33 55.9 -3.5
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
BSY Bisya 78.24 292 P **P 20 33 59.2 -0.5**
SNR=72
CBN Corbin 78.24 41 *e*P P 20 33 59.0 -0.4
comp=Z,1μm,1.5s,mb6.4
CBN *e*pP pP 20 34 28.5 -1.7
MERS Mersin 78.25 316 *e*P P 20 34 00.1 +0.6
KKB Krupnik 78.27 327 P **P 20 34 00.0 +0.4**
DST Dursunbey 78.28 322 *e*P P 20 33 58.0 -1.6
LPK Lapseki 78.30 324 *e*P P 20 33 59.4 -0.3
MMB Musomiste 78.30 326 P **P 20 34 00.2 +0.5**
NVLJ Novalja 78.34 334 P **P 20 33 58.8 -1.1**
NVLJ Novalja 78.34 334 *i*P P 20 33 58.8 -1.1
LOR Lormes 78.36 342 *e*P P 20 34 00.0 0.0
comp=Z,466nm,0.7s,mb6.0
LOR *e*MLR MLR
comp=Z,4μm,23.0s
LOR Lormes 78.36 342 *e*P P 20 34 00.0 0.0
LOR pmax pmax
comp=Z,233nm,0.7s,mb6.0
LOR MLR MLR
comp=Z,4μm,23.0s
LOR Lormes 78.36 342 *e*P P 20 34 00.0 0.0
comp=Z,233nm,0.7s,mb6.0
LOR LR LR
comp=Z,4μm,23.0s
BTOK Tokmak 78.36 322 *i*P P 20 34 00.6 +0.4
GDZ Gediz 78.40 321 *i*P P 20 33 59.3 -1.0
IVA Berane 78.41 329⇑*i*P P 20 34 00.8 +0.5
UPM Unac-Piva 78.41 330⇑*i*P P 20 34 01.3 +1.0
LKBD Leukerbad 78.43 339 ⇓P P 20 34 00.8 +0.5
SHUT Suhut-Afyon 78.44 320 *e*P P 20 34 00.4 -0.1
SGMF Saint Gilles 78.49 346⇓*i*P P 20 34 01.0 +0.3
comp=Z,2μm,1.2s,mb6.4
SGMF Saint Gilles 78.49 346⇓*i*P P 20 34 01.0 +0.3
SGMF pmax pmax
comp=Z,1μm,1.2s,mb6.4
SGMF Saint Gilles 78.49 346⇓*i*P P 20 34 01.0 +0.3
comp=Z,1μm,1.2s,mb6.4
ROSF Rostrenen 78.51 347⇓*i*P P 20 34 01.1 +0.3
comp=Z,2μm,1.1s,mb6.5
ROSF Rostrenen 78.51 347⇓*i*P P 20 34 01.1 +0.3
ROSF pmax pmax
comp=Z,944nm,1.1s,mb6.5
ROSF Rostrenen 78.51 347⇓*i*P P 20 34 01.1 +0.3
comp=Z,944nm,1.1s,mb6.5
NAY Al-Naaiem 78.53 303 *e*P P 20 34 00.0 -1.2
NAY AMb AMB 20 34 07.1
comp=Z,226nm,1.8s,mb5.7
BALB Balikesir 78.53 322 *e*P P 20 33 56.6 -4.4
CABF La Chapelle 78.55 340⇓*i*P P 20 34 01.3 +0.3
comp=Z,2μm,1.5s,mb6.3
CABF La Chapelle 78.55 340⇓*i*P P 20 34 01.3 +0.3
CABF pmax pmax
comp=Z,816nm,1.5s,mb6.3
CABF La Chapelle 78.55 340⇓*i*P P 20 34 01.3 +0.3
comp=Z,816nm,1.5s,mb6.3
HYF Humbligny 78.59 343⇓*i*P P 20 34 01.8 +0.6
RDF Al-Radifah 78.63 303 *e*P P 20 34 01.0 -0.7
RDF AMb AMB 20 34 06.5
comp=Z,822nm,1.3s,mb6.4
SSF Saint Saulge 78.63 342 *e*P P 20 34 01.6 +0.2
comp=Z,226nm,0.7s,mb5.8
SSF Saint Saulge 78.63 342 *e*P P 20 34 01.6 +0.2
SSF pmax pmax
comp=Z,113nm,0.7s,mb5.8
SSF Saint Saulge 78.63 342 *e*P P 20 34 01.6 +0.2
comp=Z,113nm,0.7s,mb5.8
PVY Plav 78.64 329⇑*i*P P 20 34 01.9 +0.4
MMK Mattmark 78.67 339 ⇓P P 20 34 02.5 +0.8
URVA University of 78.72 41 *e*P P 20 34 01.4 -0.7
URVA *e*pP pP 20 34 30.9 -1.9
SKO Skopje 78.72 328 *e*P P 20 34 03.3 +1.3
SKO Skopje 78.72 328 *e*P P 20 34 01.9 -0.1
STIP Stip 78.73 327 *e*P P 20 34 01.2 -0.9
STIP Stip 78.73 327 *e*P P 20 34 00.3 -1.7
NKY Niksic 78.74 330⇑*i*P P 20 34 02.3 +0.2
SRS Serrai 78.77 326 *e*P P 20 34 01.6 -0.8
GADA Gvkgeada 78.78 324 *e*P P 20 34 00.1 -2.2
BRY Bratogost 78.80 330⇑*i*P P 20 34 03.1 +0.6
EMV Vieux Emosson 78.89 339 ⇓P P 20 34 03.5 +0.6
QUIF Quistinic 78.91 347⇓*i*P P 20 34 03.2 +0.3
comp=Z,1μm,1.1s,mb6.3
QUIF Quistinic 78.91 347⇓*i*P P 20 34 03.2 +0.3
QUIF pmax pmax
comp=Z,631nm,1.1s,mb6.4
QUIF Quistinic 78.91 347⇓*i*P P 20 34 03.2 +0.3
comp=Z,631nm,1.1s,mb6.4
AVF Avril sur Loir 78.92 342⇓*i*P P 20 34 03.3 +0.3
comp=Z,400nm,0.7s,mb6.0
AVF Avril sur Loir 78.92 342⇓*i*P P 20 34 03.3 +0.3
AVF pmax pmax
comp=Z,200nm,0.7s,mb6.1
AVF Avril sur Loir 78.92 342⇓*i*P P 20 34 03.3 +0.3
comp=Z,200nm,0.7s,mb6.1
VAY Valandovo 78.93 327 *e*P P 20 34 02.1 -1.1
VAY Valandovo 78.93 327 *e*P P 20 34 01.8 -1.4
EZN Ezine 78.94 324 *e*P P 20 34 00.8 -2.5
KNT Kendrikon 78.97 327 *e*P P 20 34 03.0 -0.4
SMF Signal de Mont 78.97 342⇓*i*P P 20 34 03.5 +0.2
comp=Z,2μm,1.3s,mb6.6
SMF Signal de Mont 78.97 342⇓*i*P P 20 34 03.5 +0.2
SMF pmax pmax
comp=Z,1μm,1.3s,mb6.6
SMF Signal de Mont 78.97 342⇓*i*P P 20 34 03.5 +0.2
comp=Z,1μm,1.3s,mb6.6
TKTP Tekketepe 78.97 320 *i*P P 20 34 02.5 -1.0
TTG Podgorica 79.01 330 *e*P P 20 34 03.5 -0.1
HDMB Hadim 79.02 318 *e*P P 20 33 59.4 -4.4
BOZC Bozcaada 79.03 324 *i*P P 20 34 02.3 -1.4
BOZC Bozcaada 79.03 324 *i*P P 20 34 03.4 -0.3
ISP Isparta 79.07 320 *e*P P 20 34 03.1 -0.9
ISP Isparta 79.07 320*d*i*P P 20 34 03.8 -0.2
ISP Isparta 79.07 320⇓*i*P P 20 34 02.5 -1.5
STON Ston 79.08 331 P **P 20 34 01.8 -2.2**
STON Ston 79.08 331 *i*P P 20 34 01.8 -2.2
SOH Sokhos 79.11 326 *e*P P 20 34 03.1 -1.1
FIU Minerbio Fiu 79.16 336 P **P 20 34 04.0 -0.4**
KULA Kula-Manisa 79.21 321 *e*P P 20 34 02.9 -1.8
AKHS Akhisar 79.22 322 *i*P P 20 34 03.8 -1.0
HCY Herceg Novi 79.23 330⇑*i*P P 20 34 04.9 +0.1
BUM Brajici-Budva 79.24 330⇑*i*P P 20 34 05.2 +0.4
BGF Bois d'Agland 79.24 342⇓*i*P P 20 34 05.0 +0.2
comp=Z,2μm,1.6s,mb6.3
BGF Bois d'Agland 79.24 342⇓*i*P P 20 34 05.0 +0.2
BGF pmax pmax
comp=Z,835nm,1.5s,mb6.3
BGF Bois d'Agland 79.24 342⇓*i*P P 20 34 05.0 +0.2
comp=Z,835nm,1.5s,mb6.3
AYVA Ayvalik 79.26 323 *i*P P 20 34 05.9 +0.8
LOS Limnos 79.30 325 *e*P P 20 34 04.4 -0.8
OUR Ouranopolis 79.33 325 *e*P P 20 34 06.2 +0.8
KRUS Krusevo 79.33 328 *e*P P 20 34 04.7 -0.7
BCK Bucak 79.37 319 *e*P P 20 34 02.2 -3.4
HORT Hortiatis 79.40 326 *e*P P 20 34 04.5 -1.3
THE Thessaloniki 79.42 326 *e*P P 20 34 04.8 -1.1
ULC Ulcinj 79.43 329⇑*i*P P 20 34 06.5 +0.6
LPL La Plagne 79.45 339⇓*i*P P 20 34 07.0 +1.1
comp=Z,2μm,1.4s,mb6.4
LPL La Plagne 79.45 339⇓*i*P P 20 34 07.0 +1.1
LPL pmax pmax
comp=Z,868nm,1.4s,mb6.4
LPL La Plagne 79.45 339⇓*i*P P 20 34 07.0 +1.1
comp=Z,868nm,1.4s,mb6.4
LPG La Plagne 79.46 339⇓*i*P P 20 34 07.2 +1.2
comp=Z,2μm,1.4s,mb6.5
LPG La Plagne 79.46 339⇓*i*P P 20 34 07.2 +1.2
LPG pmax pmax
comp=Z,1μm,1.4s,mb6.5
LPG La Plagne 79.46 339⇓*i*P P 20 34 07.2 +1.2
comp=Z,1μm,1.4s,mb6.5
PRK Paraskevi 79.47 323 *e*P P 20 34 06.3 +0.1
PRK Paraskevi 79.47 323 *e*P P 20 34 06.3 +0.1
PLG Polygyros 79.48 326 *e*P P 20 34 05.7 -0.5
PLG Polygyros 79.48 326 *e*P P 20 34 05.0 -1.2
EREN Erenkoy 79.54 316 *e*P P 20 34 05.0 -1.5
TCF Toulx Ste Croi 79.62 343 *e*P P 20 34 07.3 +0.5
comp=Z,2μm,1.5s,mb6.4
TCF Toulx Ste Croi 79.62 343 *e*P P 20 34 07.3 +0.5
TCF pmax pmax
comp=Z,880nm,1.5s,mb6.4
TCF Toulx Ste Croi 79.62 343 *e*P P 20 34 07.3 +0.5
comp=Z,880nm,1.5s,mb6.4
BIA Bitola 79.62 328 *e*P P 20 34 06.4 -0.5
BIA Bitola 79.62 328 *e*P P 20 34 04.5 -2.4
PLDF La Plantade 79.66 342 *e*P P 20 34 08.1 +1.1
GOGA Godfrey 79.67 48 *e*P P 20 34 05.7 -1.6
GOGA pmax pmax
comp=Z,553nm,1.6s,mb6.1
GOGA Godfrey 79.67 48 *e*P P 20 34 05.7 -1.6
comp=Z,553nm,1.6s,mb6.1
AGO Saint Agoulin 79.67 342 *e*P P 20 34 08.1 +1.0
OHR Ohrid 79.71 328 *e*P P 20 34 07.1 -0.3
OHR Ohrid 79.71 328 *e*P P 20 34 05.0 -2.5
MFF Saint Martin d 79.72 344⇓*i*P P 20 34 08.1 +0.7
comp=Z,2μm,1.2s,mb6.4
MFF Saint Martin d 79.72 344⇓*i*P P 20 34 08.1 +0.7
MFF pmax pmax
comp=Z,777nm,1.2s,mb6.4
MFF Saint Martin d 79.72 344⇓*i*P P 20 34 08.1 +0.7
comp=Z,777nm,1.2s,mb6.4
DENT Denizli 79.73 321 *e*P P 20 34 04.3 -3.3
PAIG Paliouri 79.80 325 *e*P P 20 34 06.4 -1.5
TIR Tirane 79.80 329 *e*P P 20 34 06.8 -1.1
FNA Florina 79.81 327 *e*P P 20 34 06.7 -1.3
ANTB Antalya 79.83 319 *e*P P 20 34 06.4 -1.7
KDAG Bornova 79.84 322 *i*P P 20 34 08.1 -0.1
VLC Villacollemand 79.89 336 *e*P P 20 34 09.2 +0.9
comp=Z,847nm,1.3s,mb6.4
BNI Bardonecchia 79.90 339 *e*P P 20 34 08.9 +0.5
BNI pmax pmax
comp=Z,443nm,1.3s,mb6.1
BNI Bardonecchia 79.90 339 *e*P P 20 34 08.9 +0.5
comp=Z,443nm,1.3s,mb6.1
BLCB Balcova 79.94 322 *e*P P 20 34 06.4 -2.3

MNCY Minicoy 79.96 271 *i* P **P 20 34 09.0 -0.2**
MNCY *i* x x 20 34 53.0
BRAL Brewton 79.97 52 *eP* **P 20 34 08.4 -0.6**
comp=Z,2µm,1.6s,mb6.8
PYM Petit Puy Mans 79.99 342 *eP* **P 20 34 09.8 +1.0**
MBWA Marble Bar 80.00 215 *eP* **P 20 34 08.5 -0.5**
comp=Z,211nm,0.9s,mb6.0
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
MBWA Marble Bar 80.00 215 P **P 20 34 11.3 +2.3**
SNR=9.6
LFK Lefkose 80.02 316 *eP* **P 20 34 07.1 -2.1**
PHNC Paralimni 80.04 316 P **P 20 34 10.6 +1.3**
comp=Z,2.8nm,1.1s
LIT Litokhoron 80.05 326 *eP* **P 20 34 07.8 -1.5**
KZN Kozani 80.11 327 *eP* **P 20 34 10.5 +0.9**
URLA Izmir 80.13 323 *i* P **P 20 34 08.0 -1.7**
MBDF Montbardon 80.19 339⇓*iP* **P 20 34 10.3 +0.3**
comp=Z,320nm,0.8s,mb5.9
MBDF Montbardon 80.19 339⇓*iP* **P 20 34 10.3 +0.3**
MBDF pmax pmax
comp=Z,160nm,0.8s,mb5.9
MBDF Montbardon 80.19 339⇓*iP* **P 20 34 10.3 +0.3**
comp=Z,160nm,0.8s,mb5.9
ORIF Oris-en-Rattie 80.20 340⇓*iP* **P 20 34 11.0 +1.0**
ORIF comp=Z,764nm,1.1s,mb6.1 *e*MLR MLR
comp=Z,3µm,22.2s
ORIF Oris-en-Rattie 80.20 340⇓*iP* **P 20 34 11.0 +1.0**
ORIF pmax pmax
comp=Z,382nm,1.1s,mb6.1
ORIF Oris-en-Rattie 80.20 340⇓*iP* **P 20 34 11.0 +1.0**
comp=Z,382nm,1.1s,mb6.1
MAMC Mammari 80.25 316 P **P 20 34 10.5 +0.1**
ELL Elmali 80.26 320 *eP* **P 20 34 09.2 -1.2**
BHL Bhannes 80.27 314 *eP* **P 20 34 09.6 -1.0**
CHOS Chios island 80.31 323 *eP* **P 20 34 09.2 -1.4**
CSS Prodhromos 80.38 316 P **P 20 34 12.1 +1.0**
comp=Z,1.3nm,0.9s
CSS Prodhromos 80.38 316 *eP* **P 20 34 09.8 -1.3**
AOS Alonnisos 80.40 325 *eP* **P 20 34 10.9 -0.3**
LEF Lefka 80.43 317 *eP* **P 20 34 09.9 -1.5**
LBL Lubilhac 80.44 342 *eP* **P 20 34 12.0 +0.7**
XOR Xorichti 80.47 326 *eP* **P 20 34 10.4 -1.2**
VIVF Saint-Julien-l 80.52 341⇓*iP* **P 20 34 12.5 +0.8**
comp=Z,770nm,1.0s,mb6.2
VIVF Saint-Julien-l 80.52 341⇓*iP* **P 20 34 12.5 +0.8**
VIVF pmax pmax
comp=Z,385nm,1.0s,mb6.2
VIVF Saint-Julien-l 80.52 341⇓*iP* **P 20 34 12.5 +0.8**
comp=Z,385nm,1.0s,mb6.2
ALFC Alevga 80.52 317 P **P 20 34 13.4 +1.5**
comp=Z,3.7nm,0.6s
YER Yerkesik 80.56 321 *eP* **P 20 34 12.1 0.0**
CNNC Cliffs of the 80.57 43 *eP* **P 20 34 11.9 -0.3**
comp=Z,854nm,1.4s,mb6.4
SMG Samos 80.61 322 *eP* **P 20 34 11.5 -0.8**
MLSB Milas 80.62 321 *eP* **P 20 34 10.7 -1.7**
FETY Fethiye 80.68 320 *eP* **P 20 34 09.9 -2.8**
RJF Les Rejaudoux 80.69 343⇓*iP* **P 20 34 13.3 +0.7**
comp=Z,2µm,1.3s,mb6.5
RJF *e*MLR MLR
comp=Z,4µm,20.2s
RJF Les Rejaudoux 80.69 343⇓*iP* **P 20 34 13.3 +0.7**
RJF pmax pmax
comp=Z,1µm,1.3s,mb6.5
RJF MLR MLR
comp=Z,4µm,20.3s
RJF Les Rejaudoux 80.69 343⇓*iP* **P 20 34 13.3 +0.7**
comp=Z,1µm,1.3s,mb6.5
RJF LR LR
comp=Z,4µm,20.3s
THL Klokotos Trika 80.69 326 *eP* **P 20 34 10.2 -2.5**
SAOF Saorge 80.72 338 *eP* **P 20 34 12.6 -0.2**
DALT Dalyan (Mudla) 80.74 321 *eP* **P 20 34 12.6 -0.4**
AUTN L'Aution 80.74 338 *eP* **P 20 34 13.5 +0.6**
SZAC Souni-Zanaja 80.75 316 P **P 20 34 14.1 +1.0**
AKMC Akamas 80.75 317 P **P 20 34 13.7 +0.6**
MEV Metsovon 80.76 327 *eP* **P 20 34 13.2 +0.1**
TOUF Mont Tournerai 80.77 339 *eP* **P 20 34 13.3 +0.3**
AQU L'Aquila 80.79 334 P **P 20 34 13.4 +0.2**
AQU pmax pmax
comp=Z,560nm,1.0s,mb6.3
AQU L'Aquila 80.79 334 *eP* **P 20 34 13.2 0.0**
comp=Z,559nm,1.0s,mb6.3
AQU L'Aquila 80.79 334⇓*iP* **P 20 34 13.6 +0.4**
AKAS Kas 80.82 320 *i* P **P 20 34 11.7 -1.8**
TAOE Nuku Hiva Isla 80.83 117 *eP* **P 20 34 11.0 -2.7**
comp=Z,19µm,1.4s
TAOE *e*S S 20 44 02.1 -10
TAOE Nuku Hiva Isla 80.83 117 *e*LR LR 20 58 46.7
comp=Z,375µm,34.7s
LUCF Luceram 80.86 338 *eP* **P 20 34 13.8 +0.3**
PPCY Paphos 80.86 317 P **P 20 34 11.7 -2.0**
SBF Sospel 80.87 338⇓*iP* **P 20 34 13.6 0.0**
comp=Z,666nm,0.8s,mb6.2
SBF Sospel 80.87 338⇓*iP* **P 20 34 13.6 0.0**
SBF pmax pmax
comp=Z,333nm,0.8s,mb6.2
SBF Sospel 80.87 338⇓*iP* **P 20 34 13.6 0.0**
comp=Z,333nm,0.8s,mb6.2
MVIF Mont Vial 80.90 339 *eP* **P 20 34 13.9 +0.2**
BDRM Kayabasi 80.94 321 *i* P **P 20 34 12.7 -1.4**
CAF Calviac 80.96 342⇓*iP* **P 20 34 15.2 +1.2**
comp=Z,2µm,1.4s,mb6.5
CAF Calviac 80.96 342⇓*iP* **P 20 34 15.2 +1.2**
CAF pmax pmax
comp=Z,1µm,1.4s,mb6.5
CAF Calviac 80.96 342⇓*iP* **P 20 34 15.2 +1.2**
comp=Z,1µm,1.4s,mb6.5
REVF Revere 81.00 338 *eP* **P 20 34 13.9 -0.4**
JAN Janina 81.00 327 *eP* **P 20 34 14.0 -0.4**
AGG Agios Georgios 81.07 326 *eP* **P 20 34 12.0 -2.7**
CALN Calern 81.09 339 *eP* **P 20 34 14.9 +0.1**
SMRF Simiane la Rot 81.17 340⇓*iP* **P 20 34 15.9 +0.7**
comp=Z,762nm,1.1s,mb6.1
SMRF Simiane la Rot 81.17 340⇓*iP* **P 20 34 15.9 +0.7**
comp=Z,762nm,1.1s,mb6.4
LKR Lokris 81.17 325 *eP* **P 20 34 13.2 -2.1**
LFF La Frestale 81.19 343⇓*iP* **P 20 34 16.2 +1.0**
comp=Z,4µm,1.4s,mb6.8
LFF La Frestale 81.19 343⇓*iP* **P 20 34 16.2 +1.0**
LFF pmax pmax
comp=Z,2µm,1.4s,mb6.8
LFF La Frestale 81.19 343⇓*iP* **P 20 34 16.2 +1.0**
comp=Z,2µm,1.4s,mb6.8
DAT Datca 81.19 321 *eP* **P 20 34 11.4 -4.0**
IGT Igoumenitsa 81.29 328 *eP* **P 20 34 15.6 -0.3**
MAON Monte Argentar 81.32 335 P **P 20 34 15.8 -0.2**
FRF La Foret Royal 81.33 339⇓*iP* **P 20 34 16.0 0.0**
comp=Z,652nm,1.1s,mb6.1
FRF La Foret Royal 81.33 339⇓*iP* **P 20 34 16.0 0.0**
FRF pmax pmax
comp=Z,326nm,1.1s,mb6.1
FRF La Foret Royal 81.33 339⇓*iP* **P 20 34 16.0 0.0**
comp=Z,326nm,1.1s,mb6.1
EVR Evrytania 81.35 326 *eP* **P 20 34 11.1 -5.1**
NHSC New Hope 81.40 46 *eP* **P 20 34 16.3 -0.3**
comp=Z,1µm,1.4s,mb6.5
NHSC *ep*P pP 20 34 46.0 -1.6
PTL Penteli 81.40 325 *eP* **P 20 34 14.5 -2.0**
ARG Arkhangelos 81.42 321 *eP* **P 20 34 17.0 +0.3**
LASF Ste Croix 81.43 341⇓*iP* **P 20 34 17.6 +1.1**
comp=Z,3µm,1.9s,mb6.5
LMR La Mourre 81.58 339⇓*iP* **P 20 34 17.4 +0.1**
comp=Z,1µm,1.2s,mb6.4
LMR La Mourre 81.58 339⇓*iP* **P 20 34 17.4 +0.1**
LMR pmax pmax
comp=Z,694nm,1.2s,mb6.4
LMR La Mourre 81.58 339⇓*iP* **P 20 34 17.4 +0.1**
comp=Z,694nm,1.2s,mb6.4
KVR Kavouri 81.63 324 *eP* **P 20 34 17.2 -0.5**
APE Apeiranthos 81.66 323 *eP* **P 20 34 16.0 -1.9**

APE Apeiranthos 81.66 323 *eP* **P 20 34 18.5 +0.6**
APE Apeiranthos 81.66 323⇓*iP* **P 20 34 16.3 -1.6**
PGF Pioggiola 81.74 337⇓*iP* **P 20 34 18.1 -0.1**
comp=Z,399nm,0.8s,mb6.0
PGF Pioggiola 81.74 337⇓*iP* **P 20 34 18.1 -0.1**
PGF pmax pmax
comp=Z,200nm,0.8s,mb6.0
PGF Pioggiola 81.74 337⇓*iP* **P 20 34 18.1 -0.1**
comp=Z,200nm,0.8s,mb6.0
LTK Loutraki 81.75 325 *eP* **P 20 34 16.7 -1.6**
SELA Sela 81.89 326 *eP* **P 20 34 18.9 -0.2**
CORF Corte 81.94 337 *eP* **P 20 34 19.4 +0.1**
PMOR Pomariorio Ree 81.96 127 *eP* **P 20 34 18.8 -0.8**
comp=Z,817nm,1.3s,mb6.4
DID Didima 82.11 325 *eP* **P 20 34 17.6 -2.6**
RAR Rarotonga 82.12 140 LR LR 21 10 32.6
comp=Z,2µm,18.4s,baz=334,slow=35
SANT Santorini 82.31 323 *eP* **P 20 34 17.8 -3.5**
ARMA Armidale 82.36 185 *eP* **P 20 34 22.4 +1.1**
ARMA *ep*P pP 20 34 53.0 +0.6
ARMA *e*S S 20 44 29.6 +2.8
COCO West Island 82.39 239 P **P 20 34 24.3 +2.5**
comp=Z,2µm,1.5s,mb6.7,SNR=5.1
COCO West Island 82.39 239 *eP* **P 20 34 24.1 +2.3**
comp=Z,385nm,1.3s,mb6.1
KFL Anninata 82.42 327 *eP* **P 20 34 21.5 -0.3**
VLS Valsamata 82.42 327 *eP* **P 20 34 21.4 -0.4**
VLS Valsamata 82.42 327 *eP* **P 20 34 21.3 -0.6**
MTLF Montolieu 82.46 342⇓*iP* **P 20 34 22.9 +1.0**
comp=Z,2µm,1.2s,mb6.4
MTLF Montolieu 82.46 342⇓*iP* **P 20 34 22.9 +1.0**
MTLF pmax pmax
comp=Z,793nm,1.2s,mb6.4
MTLF Montolieu 82.46 342⇓*iP* **P 20 34 22.9 +1.0**
comp=Z,792nm,1.2s,mb6.4
VLX Vlachokerasia 82.54 325 *eP* **P 20 34 21.5 -0.9**
TIP Timpagrande 82.75 330 *eP* **P 20 34 22.6 -1.0**
comp=Z,765nm,1.4s,mb6.3
LRDF Laroque-de-Fa 82.78 342 *eP* **P 20 34 25.0 +1.4**
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
SHAO Shalim 82.85 290 P **P 20 34 25.7 +1.4**
SNR=5.4
ITM Ithomi 82.86 326 *eP* **P 20 34 24.0 -0.2**
VLI Veliai 82.92 325 *eP* **P 20 34 22.5 -2.0**
UNM Universidad Na 82.98 68 *eP* **P 20 34 25.0 0.0**
MLS Moulis 83.04 343 *eP* **P 20 34 25.8 +0.9**
EPF Esparros 83.11 343⇓*iP* **P 20 34 25.6 +0.3**
comp=Z,1µm,1.2s,mb6.3
EPF Esparros 83.11 343⇓*iP* **P 20 34 25.6 +0.3**
EPF pmax pmax
comp=Z,695nm,1.2s,mb6.4
EPF Esparros 83.11 343⇓*iP* **P 20 34 25.6 +0.3**
comp=Z,695nm,1.2s,mb6.4
ZKR Zakros 83.13 321 *eP* **P 20 34 23.8 -1.8**
LABF Labassere 83.14 343 *eP* **P 20 34 25.5 +0.1**
FILF Fillols 83.14 341 *eP* **P 20 34 26.3 +0.8**
ORDF Ordiarp 83.15 344 *eP* **P 20 34 25.5 0.0**
SJAF Saint Jean de 83.15 341 *eP* **P 20 34 26.2 +0.7**
OSSF Osses 83.16 344 *eP* **P 20 34 25.7 +0.1**
MELF Melles 83.18 343 *eP* **P 20 34 25.8 +0.1**
PYL PYLOS 83.19 326 *eP* **P 20 34 24.5 -1.3**
EJON La Jonquera 83.19 341 P **P 20 34 25.9 +0.2**
comp=Z,2µm,1.9s,mb6.7
REYF Montagne du Re 83.20 344 *eP* **P 20 34 26.0 +0.2**
SALF Salau 83.21 342 *eP* **P 20 34 26.0 +0.2**
NPS Neapolis 83.23 322 *eP* **P 20 34 26.5 +0.4**
ATE Arette 83.23 344 *eP* **P 20 34 26.2 +0.3**
EALK Alkurruntz 83.24 345 P **P 20 34 26.6 +0.7**
comp=Z,3µm,1.7s,mb6.9
KYTH Kithira 83.28 324 *eP* **P 20 34 25.0 -1.3**
SJPF Ste Jean 83.30 344⇓*iP* **P 20 34 26.6 +0.3**
comp=Z,590nm,0.9s,mb6.1
SJPF Ste Jean 83.30 344⇓*iP* **P 20 34 26.6 +0.3**
SJPF pmax pmax
comp=Z,295nm,0.9s,mb6.1
SJPF Ste Jean 83.30 344⇓*iP* **P 20 34 26.6 +0.3**
comp=Z,295nm,0.9s,mb6.1
ELIZ Elizondo 83.30 345 P **P 20 34 26.8 +0.5**
ELIZ pmax pmax
comp=Z,424nm,1.0s,mb6.2
ELIZ Elizondo 83.30 345 P **P 20 34 26.8 +0.6**
comp=Z,424nm,1.0s,mb6.2
VIEF Viey 83.31 343 *eP* **P 20 34 27.4 +1.1**
RESF Ens 83.32 343 *eP* **P 20 34 27.7 +1.3**
LARF Larrau 83.33 344 *eP* **P 20 34 27.5 +1.1**
PPT Papeete 83.35 130 *eP* **P 20 34 26.1 -0.6**
comp=Z,502nm,1.4s,mb6.2
PPT Papeete 83.35 130 *e*S S 20 44 28.3 -9.1
PPT Papeete 83.35 130 *e*LR LR 20 59 47.1
baz=329
PPT Papeete 83.35 130 P **P 20 34 26.4 -0.3**
PPT pmax pmax
comp=Z,146nm,0.8s
PPT MLR MLR
comp=Z,2µm,19.7s
PPT Papeete 83.35 130 *eP* **P 20 34 26.3 -0.4**
comp=Z,3µm,1.3s,mb7.0
PPT Papeete 83.35 130 P **P 20 34 26.4 -0.4**
comp=Z,146nm,0.8s,mb5.9,baz=332,slow=2.2,SNR=18
PPT LR LR 21 04 37.3
comp=Z,2µm,19.7s,baz=294,slow=30
LAST Lasithi 83.37 322 *eP* **P 20 34 25.2 -1.5**
ETSF Etsaut 83.39 344⇓*iP* **P 20 34 27.9 +1.1**
VALF Valcebollere 83.40 342 *eP* **P 20 34 27.9 +1.1**
PAE Paea 83.43 130 *eP* **P 20 34 26.3 -0.8**
comp=Z,662nm,1.3s,mb6.3
EBIE Bielsa 83.48 343 P **P 20 34 28.5 +1.3**
comp=Z,4µm,2.6s,mb6.8
PPM Popocatepetl 83.50 67 *eP* **P 20 34 28.0 +0.3**
ELAN Lanestosa 83.53 346 P **P 20 34 28.1 +0.6**
comp=Z,3µm,1.2s,mb7.0
XRY Khrisi 83.54 322 *eP* **P 20 34 27.0 -0.7**
VAM Vamos 83.63 323 *eP* **P 20 34 29.0 +0.9**
TVO Taravao 83.69 130 *eP* **P 20 34 28.0 -0.5**
comp=Z,618nm,1.4s,mb6.2
DGI Dorgali Grotta 83.70 336 P **P 20 34 26.1 -2.3**
EARI Arriondas 83.72 347 P **P 20 34 29.3 +0.9**
comp=Z,7µm,2.5s,mb7.1
KARN Karanos 83.74 323 *eP* **P 20 34 27.0 -1.6**
SIVA Sivas 83.75 322 *eP* **P 20 34 28.4 -0.3**
RAO Raoul Island 83.94 158 LR LR 21 11 56.6
comp=Z,3µm,18.4s,baz=16,slow=36
EPON Pontenova 83.94 349 P **P 20 34 30.3 +0.8**
comp=Z,8µm,2.4s,mb7.1
EMIR Miracle 83.97 342 P **P 20 34 29.8 0.0**
comp=Z,2µm,2.0s,mb6.7
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
WHFO Wadi Hawf 84.00 291 P **P 20 34 29.4 -0.9**
SNR=32
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
RBK Rabkut 84.08 291 P **P 20 34 29.8 -0.9**
SNR=18
GVD Gavdhos 84.18 323 *eP* **P 20 34 31.0 +0.1**
MEH Mehetia 84.34 129 *eP* **P 20 34 31.1 -0.6**
comp=Z,314nm,1.2s,mb6.0
ESAC San Caprasio 84.52 343 P **P 20 34 33.1 +0.6**
comp=Z,6µm,2.6s,mb7.0
EMAZ Mazaricos 84.53 350 P **P 20 34 32.2 -0.3**
comp=Z,4µm,2.4s,mb7.0
VSL Villasalto 84.53 336 *eP* **P 20 34 32.5 -0.1**
comp=Z,974nm,1.1s,mb6.7
STS Santiago 84.54 350 P **P 20 34 32.9 +0.3**
STS pmax pmax
comp=Z,346nm,0.8s,mb6.3
STS Santiago 84.54 350 P **P 20 34 32.9 +0.3**
comp=Z,346nm,0.8s,mb6.3
EPOB Poblet 84.60 342 P **P 20 34 32.9 0.0**
comp=Z,3µm,2.7s,mb6.7
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
ABTO Aybut 84.73 291 P **P 20 34 33.8 -0.1**
SNR=33
STKA Stephens Creek 84.78 193 *eP* **P 20 34 33.7 +0.1**
comp=Z,73nm,1.8s,mb5.3
STKA *ep*P pP 20 35 05.5 +0.7
STKA *e*S S 20 44 41.9 -9.2
STKA Stephens Creek 84.78 193 P **P 20 34 33.7 0.0**
comp=Z,31nm,0.8s,mb5.3,baz=334,slow=4.5,SNR=21
STKA pP pP 20 35 03.0 -1.9
comp=Z,32nm,0.9s,baz=351,slow=6.2,SNR=4.3
STKA S S 20 44 46.7 -4.4
comp=Z,3.5nm,1.1s,baz=7.6,slow=7.3,SNR=3.4
STKA PKKPbc PKKPbc 20 52 43.5 +2.0
comp=Z,4.1nm,0.9s,baz=212,slow=5.0,SNR=2.9
STKA LR LR 21 10 04.4
comp=Z,2µm,18.9s,baz=1.7,slow=34
ERUA La Rua 84.86 348 P **P 20 34 34.7 +0.5**
ERUA pmax pmax
comp=Z,336nm,0.9s,mb6.3
ERUA La Rua 84.86 348 P **P 20 34 34.7 +0.5**
comp=Z,336nm,0.9s,mb6.3
DWPF Disney 85.07 49 *eP* **P 20 34 35.4 -0.1**
comp=Z,235nm,0.9s,mb6.1
DWPF *ep*P pP 20 35 06.3 -0.4
ERTA Horta de San J 85.12 343 P **P 20 34 35.4 -0.1**
comp=Z,2µm,2.8s,mb6.5
ECAL Calabor 85.26 348 P **P 20 34 36.1 0.0**
comp=Z,4µm,2.8s,mb6.8
CLTB Caltabellotta 85.28 332 P **P 20 34 36.0 -0.4**
ELOB Lobios 85.49 349 P **P 20 34 37.4 0.0**
comp=Z,1µm,1.3s,mb6.7
ETOR Torete 85.67 344 P **P 20 34 38.3 +0.1**
ETOR pmax pmax
comp=Z,2µm,1.5s,mb6.7
ETOR Torete 85.67 344 P **P 20 34 38.3 +0.1**
comp=Z,2µm,1.5s,mb6.7
RIV Riverview 85.78 185 *eP* **P 20 34 41.0 +2.5**
RIV *ep*P pP 20 35 08.9 -0.9
RIV *e*S S 20 45 04.3 +3.5
ETOS Mallorca 85.78 340 P **P 20 34 38.9 0.0**
comp=Z,2µm,2.6s,mb6.6
EMOS Mosqueruela 85.84 343 P **P 20 34 39.2 +0.2**
comp=Z,605nm,1.2s,mb6.4
OXX Oaxaca 86.16 67 *eP* **P 20 34 42.5 +1.5**
GUD Guadarrama 86.17 346 P **P 20 34 40.6 -0.1**
GUD pmax pmax
comp=Z,144nm,0.9s,mb5.9
GUD Guadarrama 86.17 346 P **P 20 34 40.6 -0.2**
comp=Z,144nm,0.9s,mb5.9
FORT Forrest 86.44 205 *eP* **P 20 34 41.7 -0.2**
comp=Z,163nm,0.9s,mb6.0
FORT *ep*P pP 20 35 12.4 -0.8
FORT *e*SKS 20 44 51.0
FORT *e*S S 20 45 11.8 +4.4
ECHE Chera 86.68 343 P **P 20 34 43.3 +0.1**
ECHE pmax pmax
comp=Z,87nm,0.9s,mb5.7
ECHE Chera 86.68 343 P **P 20 34 43.3 +0.1**
comp=Z,87nm,0.9s,mb5.7
EIBI Ibiza 86.79 341 P **P 20 34 43.3 -0.5**
comp=Z,715nm,1.4s,mb6.4
MTE Manteigas 86.88 348 *eP* **P 20 34 44.0 -0.2**
comp=Z,243nm,0.9s,mb6.1
ESDC Sonseca Array 87.09 346 P **P 20 34 44.4 -0.8**
comp=Z,557nm,1.1s,mb6.4
ESDC Sonseca Array 87.09 346 P **P 20 34 44.8 -0.4**
comp=Z,372nm,1.0s,mb6.3,baz=3.1,slow=4.0,SNR=260
ESDC pP pP 20 35 15.5 -1.1
comp=Z,52nm,0.8s,baz=5.0,slow=3.9,SNR=2.5
ESDC PKKPbc PKKPbc 20 52 34.3 +0.2
comp=Z,0.9nm,0.8s,baz=196,slow=1.0,SNR=4.2
ESLA Sonseca Array 87.09 346 *eP* **P 20 34 44.6 -0.7**
comp=Z,177nm,1.1s,mb5.9
PAB San Pablo 87.28 346 P **P 20 34 45.5 -0.6**
PAB pmax pmax
comp=Z,360nm,1.0s,mb6.3
PAB San Pablo 87.28 346 *eP* **P 20 34 45.4 -0.8**
comp=Z,358nm,1.0s,mb6.2
PAB San Pablo 87.28 346 P **P 20 34 45.7 -0.5**
PAB SKSac SKSac 20 45 02.5 +0.4
PAB SKKSac SKKSac 20 45 15.4 +3.9
PAB sS sS 20 46 12.8 +3.1
CNB Canberra Magne 87.37 186 *eP* **P 20 34 47.7 +1.5**
comp=Z,103nm,1.6s,mb5.5
CNB *ep*P pP 20 35 18.5 +0.9
CNB *e*S S 20 45 18.8 +2.7
EBEN Beniarda 87.41 343 P **P 20 34 46.4 -0.3**
comp=Z,2µm,2.5s,mb6.6
HUIG Huatulco 87.57 67 *i* P **P 20 34 48.9 +1.0**
ETOB Tobarra 87.70 344 P **P 20 34 48.3 +0.1**
comp=Z,833nm,1.4s,mb6.6
CAEH 'Ain El Ouahch 87.73 337 P **P 20 34 48.0 -0.3**
CMAH Djebel Manchou 87.74 336 P **P 20 34 48.0 -0.4**
EVIA Vianos 87.87 344 P **P 20 34 49.1 +0.1**
EVIA pmax pmax
comp=Z,298nm,0.7s,mb6.4
EVIA Vianos 87.87 344 P **P 20 34 49.1 +0.1**
comp=Z,298nm,0.7s,mb6.4
ABSA Djebel Ababsia 88.06 336 P **P 20 34 49.0 -0.9**
KEST Kesra 88.09 334 P **P 20 34 49.9 -0.2**
comp=Z,195nm,1.0s,mb6.1,baz=350,slow=0.4,SNR=118
KEST S S 20 45 06.9 -17
comp=Z,3.5nm,1.2s,baz=196,slow=23,SNR=9.7
KEST LR LR 21 22 59.5
comp=Z,1µm,18.3s,baz=331,slow=41
CKFL Kef-Lekhel 88.13 337 P **P 20 34 50.0 -0.2**
BBSR BB Station 88.19 34 *eP* **P 20 34 50.6 +0.1**
comp=Z,361nm,1.3s,mb6.2
DFRA Djebel Bou Aff 88.19 337 P **P 20 34 51.5 +1.0**
TEIG Tepich 88.24 59 P **P 20 34 50.3 -0.7**
comp=Z,68nm,0.8s,mb5.7,baz=318,slow=7.9,SNR=23
CASM Ain Smara 88.31 337 P **P 20 34 50.0 -1.1**
EMUR La Murta 88.43 343 P **P 20 34 50.8 -0.8**
comp=Z,532nm,1.6s,mb6.3
EBAD Badajoz 88.43 348 P **P 20 34 50.5 -1.1**
comp=Z,215nm,1.2s,mb6.0
CTEI Djebel Teioual 88.52 337 P **P 20 34 54.0 +1.9**
ABA Alger-Bouzarea 88.59 340 P **P 20 34 51.0 -1.4**
CART Cartagena 88.63 343 *eP* **P 20 34 51.2 -1.4**
comp=Z,441nm,1.4s,mb6.3
SET Setif 88.63 338 P **P 20 34 53.0 +0.4**
EADA Adamuz 88.66 346 P **P 20 34 52.4 -0.3**
comp=Z,661nm,1.3s,mb6.5
EHUE Huescar 88.69 344 P **P 20 34 52.5 -0.3**
EHUE pmax pmax
comp=Z,573nm,1.3s,mb6.4
EHUE Huescar 88.69 344 P **P 20 34 52.5 -0.4**
comp=Z,573nm,1.3s,mb6.4
SCX San Cristobal 88.74 64 *i* P **P 20 34 54.0 +0.6**
EVO Evora 88.78 348⇓*iP* **P 20 34 52.3 -0.9**

comp=Z,421nm,1.2s,mb6.0
EVO *e*MLR MLR
comp=Z,2μm,21.8s
EQES Quesada 88.78 344 P **P** **20 34 53.1 -0.2**
comp=Z,903nm,1.6s,mb6.5
CKHR Kef el Ahmar 88.78 337 P **P** **20 34 53.0 -0.3**
SOR Soroa 88.80 53 *e*P **P** **20 34 53.2 -0.4**
ECAB El Cabril 88.88 346 P **P** **20 34 53.2 -0.5**
comp=Z,912nm,1.3s,mb6.7
ADJB Djebel Djouab 89.12 339 P **P** **20 34 58.8 +3.9**
AKET Djebel Ketaf 89.13 339 P **P** **20 34 57.0 +2.1**
EMHD Djebel Mahouad 89.19 339 P **P** **20 34 54.6 -0.6**
ATAF Djebel Tarf 89.20 338 P **P** **20 34 57.0 +1.7**
ELUQ Luque 89.21 345 P **P** **20 34 55.0 -0.3**
ELUQ pmax pmax
comp=Z,418nm,1.3s,mb6.3
ELUQ Luque 89.21 345 P **P** **20 34 55.0 -0.3**
comp=Z,418nm,1.3s,mb6.3
EMIN Mina Concepcio 89.36 347 P **P** **20 34 55.4 -0.6**
comp=Z,623nm,1.4s,mb6.5
ECOG Cogollos-Vega 89.38 345 P **P** **20 34 55.5 -0.6**
ECOG pmax pmax
comp=Z,131nm,0.6s,mb6.1
ECOG Cogollos-Vega 89.38 345 P **P** **20 34 55.5 -0.5**
comp=Z,131nm,0.6s,mb6.1
EBNR Beni Rached 89.40 341 P **P** **20 34 56.9 +0.7**
ENIJ Nijar 89.44 344 P **P** **20 34 55.0 -1.4**
ENIJ pmax pmax
comp=Z,130nm,0.7s,mb6.1
ENIJ Nijar 89.44 344 P **P** **20 34 55.0 -1.4**
comp=Z,130nm,0.7s,mb6.1
MUKL Al Mukalla 89.46 293 *e*P **P** **20 34 55.8 -0.9**
ECHA Ech Chlef 89.57 341 P **P** **20 34 57.0 0.0**
ELOJ Sierra Loja 89.59 345 P **P** **20 34 56.5 -0.6**
ELOJ pmax pmax
comp=Z,477nm,1.2s,mb6.5
ELOJ Sierra Loja 89.59 345 P **P** **20 34 56.5 -0.6**
comp=Z,477nm,1.2s,mb6.5
EBER Berja 89.63 344 P **P** **20 34 55.6 -1.6**
comp=Z,320nm,1.2s,mb6.3
ERON Agron 89.67 345 P **P** **20 34 56.8 -0.7**
comp=Z,81nm,0.6s,mb6.0
EGRO El Granado 89.69 348 P **P** **20 34 56.6 -0.9**
comp=Z,593nm,1.4s,mb6.5
EANR 'Ain N'Sour 89.81 341 P **P** **20 34 57.5 -0.6**
OKGL Djebel Kef Gue 89.82 341 P **P** **20 34 59.0 +0.8**
TOO Toolangi 89.94 189 *e*P **P** **20 34 59.3 +1.0**
comp=Z,1μm,1.8s,mb6.8
TOO *e*pP pP 20 35 30.3 +0.5
TOO Toolangi 89.94 189 *e*S S 20 45 46.1 +6.0
TOO *e*sS sS 20 46 37.0 +2.6
TOO Toolangi 89.94 189 *e*P **P** **20 34 59.3 +1.0**
comp=Z,1μm,1.8s,mb6.8
TOO *e*pP pP 20 35 30.3 +0.5
TOO *e*S S 20 45 46.1 +6.0
TOO *e*sS sS 20 46 37.0 +2.6
ESPR Espera 90.12 346 P **P** **20 34 59.2 -0.3**
comp=Z,572nm,1.3s,mb6.5
EMIJ Mijas 90.26 346 P **P** **20 34 59.1 -1.1**
comp=Z,381nm,1.0s,mb6.5
KLBR Kellerberrin 90.27 213 *e*P **P** **20 34 58.8 -1.2**
comp=Z,58nm,1.0s,mb5.7
KLBR *e*pP pP 20 35 30.7 -0.8
KLBR *e*SKS 20 45 16.5
KLBR *e*S S 20 45 42.2 -1.2
ETRT Tiaret 90.31 341 P **P** **20 35 00.0 -0.5**
OJGS Djebel Guires 90.32 341 P **P** **20 35 02.0 +1.5**
OJBR Djebel Berber 90.32 341 P **P** **20 34 59.0 -1.5**
USTO Oran 90.35 342 P **P** **20 35 03.0 +2.4**
CMLA Cha da Macela 90.43 2 P **P** **20 35 02.9 +1.9**
comp=Z,2μm,1.1s,mb7.1,SNR=5.0
EJIF Jimena Fronter 90.48 346 P **P** **20 35 01.3 0.0**
comp=Z,1μm,1.3s,mb6.9
EALB Alboran 90.59 344 P **P** **20 34 59.7 -2.0**
comp=Z,616nm,1.5s,mb6.5
ODJA Bouhanifia 90.66 342 P **P** **20 35 01.0 -1.1**
ODZI Dziouia 90.91 343 P **P** **20 35 04.0 +0.8**
MUN Mundaring 91.14 214 *e*P **P** **20 35 03.3 -0.7**
MUN *e*pP pP 20 35 36.2 +0.7
MUN *e*SKS 20 45 22.0
MUN *e*sS sS 20 46 45.5 -0.4
MUN Mundaring 91.14 214 *e*P **P** **20 35 03.3 -0.7**
MUN *e**PP pP 20 35 36.2 +0.7
MUN *e* 20 45 22.0
NWAO Narrogin (SRO) 91.66 213 *e*P **P** **20 35 05.8 -0.6**
NWAO *e**PP pP 20 35 38.6 +0.7
NWAO pmax pmax
comp=Z,86nm,1.3s
NWAO Narrogin (SRO) 91.66 213 *e*P **P** **20 35 05.8 -0.6**
comp=Z,86nm,1.3s,mb5.8
NWAO *e*pP pP 20 35 38.6 +0.7
NWAO Narrogin (SRO) 91.66 213 P **P** **20 35 05.3 -1.1**
comp=Z,50nm,1.0s,mb5.7,baz=45,slow=4.1,SNR=16
NWAO pP pP 20 35 36.2 -1.7
comp=Z,19nm,0.8s,baz=41,slow=4.1,SNR=3.2
URZ Urewera 91.70 164 P **P** **20 35 04.6 -1.8**
comp=Z,45nm,1.4s,mb5.5,baz=352,slow=3.8
URZ S S 20 45 24.6 -32
comp=Z,2.7nm,0.4s,baz=91,slow=18,SNR=3.6
URZ LR LR 21 14 10.3
comp=Z,4μm,18.3s,baz=171,slow=34
TGUH Tegucigalpa,Un 93.87 61 *e*P **P** **20 35 16.6 -0.5**
comp=Z,408nm,1.4s,mb6.6
MOAC Moa 94.45 48 *e*P **P** **20 35 19.9 +0.1**
RCC Rio Carpintero 94.69 49 *e*P **P** **20 35 19.8 -1.1**
RKT Rikitea 95.35 121 *e*S SKSac 20 45 47.2 -0.7
RKT Rikitea 95.35 121 *e*LR LR 21 05 13.0
comp=Z,11μm,32.8s,baz=322
RPZ Rata Peaks 96.23 170 LR LR 21 13 41.9
comp=Z,5μm,19.7s,baz=352,slow=32
DESE Dese 97.42 299 *e*P **P** **20 35 34.4 +1.1**
SDDR Presa de Saban 97.56 46 *e*P **P** **20 35 33.5 -0.5**
comp=Z,54nm,1.2s,mb6.0
SDV Santo Domingo 106.72 50 *e*Pdif Pdif 20 36 14.6 -0.1
comp=Z,103nm,2.1s
KMBO Kilima Mbogo 108.85 294 Pdiff Pdif 20 36 25.6 +1.5
comp=Z,1.0nm,0.7s,baz=58,slow=18,SNR=3.6
KMBO PKiKP PKiKP 20 40 29.4 +0.9
comp=Z,3.0nm,0.8s,baz=57,slow=22,SNR=4.5
TORD Torodi Ar. Bea 111.61 334 Pdif Pdif 20 36 35.0 -1.3
TORD PKPdf PKiKP 20 40 33.0 -0.6
TORD PP PP 20 41 06.0 -10
TORD PKKPbc PKKPbc 20 51 24.0 -1.4
TORD PKKP PKKPbc 20 51 35.7 +10
TORD Torodi Ar. Bea 111.61 334 Pdiff Pdif 20 36 35.0 -1.3
comp=Z,5.6nm,0.9s,baz=14,slow=3.9,SNR=18
TORD PKiKP PKiKP 20 40 33.0 -0.6
comp=Z,6.8nm,0.5s,baz=14,slow=1.7,SNR=35
TORD PP PP 20 41 06.0 -10
comp=Z,7.7nm,0.9s,baz=360,slow=3.0,SNR=5.4
TORD PKKPbc PKKPbc 20 51 24.0 -1.4
comp=Z,0.9nm,0.7s,baz=209,slow=2.4,SNR=5.4
TORD PKKP PKKPbc 20 51 35.7 +10
comp=Z,13nm,1.0s,baz=211,slow=2.4,SNR=16
ATAH Atahualpa 116.16 66 PKKP PKKPbc 20 51 18.2 +8.3
comp=Z,14nm,1.1s,baz=122,slow=3.5,SNR=12
OPO Ambohidratompo116.71 274 PKP PKPdf 20 40 42.3 -0.8
comp=Z,5.3nm,1.0s,baz=24,slow=4.6,SNR=5.1
OPO PP PP 20 41 52.5 -0.5
comp=Z,6.2nm,1.1s,baz=58,slow=4.7,SNR=5.5
DRV Dumont d'Urvil 119.21 188 PP PP 20 42 26.0 +16
DRV SP SP 20 51 40.0 -3.8
DRV SS SS 20 58 47.0 +26
DRV L 21 12 00.0
DRV R 23 56 00.0
DBIC Dimbokro 119.44 339 PKIKP PKPdf 20 40 48.5 -0.2
DBIC 20 41 20.9
DBIC pmax pmax
comp=Z,56nm,0.8s
DBIC Dimbokro 119.44 339 *e*P PKPdf 20 40 48.3 -0.4
DBIC Dimbokro 119.44 339 PKP PKPdf 20 40 48.5 -0.2
comp=Z,56nm,0.8s,baz=13,slow=2.4,SNR=50
DBIC pPKP pPKPdf 20 41 20.9 -0.7
comp=Z,13nm,0.6s,baz=70,slow=3.4,SNR=3.2
DBIC SKP 20 44 11.3
comp=Z,13nm,0.9s,baz=296,slow=2.4,SNR=3.1
DBIC PKKPbc PKKPbc 20 50 57.4 -1.1
comp=Z,2.9nm,0.8s,baz=173,slow=9.6,SNR=3.5
DBIC PKKP PKKPbc 20 51 29.4 +31
comp=Z,8.3nm,1.1s,baz=178,slow=6.0,SNR=4.0
TIC Toumodi 119.50 340 *e*PKIKP PKPdf 20 40 48.6 -0.2
comp=Z,223nm,0.8s
KIC Kosan Boka 119.71 339 *e*PKIKP PKPdf 20 40 49.0 -0.2
comp=Z,254nm,0.8s
LIC Lamto 119.90 340 *e*PKIKP PKPdf 20 40 47.8 -1.8
comp=Z,124nm,0.8s
LIC *e*MLR MLR
comp=Z,2μm,21.8s
LIC Lamto 119.90 340 *e*PKIKP PKPdf 20 40 49.4 -0.2
comp=Z,236nm,1.0s
LIC Lamto 119.90 340 *e*PKPdf PKPdf 20 40 47.8 -1.8
LIC LR LR
comp=Z,1μm,21.8s
LSZ Lusaka 125.50 293 *e*P PKPdf 20 41 00.6 +0.4
LSZ *e*pP 20 41 35.9
LSZ Lusaka 125.50 293 P PKPdf 20 41 01.4 +1.3
SNR=18
LSZ Lusaka 125.50 293 P PKPdf 20 41 01.4 +1.3
SNR=18
ARE Arequipa 127.73 66 *e*PKIKP PKPdf 20 41 05.0 +0.6
VNDA Vanda 129.43 179 PKIKP PKPdf 20 41 05.6 -0.2
VNDA 20 41 36.3
VNDA 20 43 16.6
VNDA pmax pmax
comp=Z,4.0nm,0.9s
VNDA pmax pmax
comp=Z,9.0nm,1.3s
VNDA Vanda 129.43 179 *e*PKPdf PKPdf 20 41 04.8 -1.1
VNDA *e*pPKPdf pPKPdf 20 41 37.1 -1.6
VNDA Vanda 129.43 179 PKP PKPdf 20 41 05.5 -0.3
comp=Z,3.6nm,0.9s,baz=322,slow=4.4,SNR=14
VNDA pPKP pPKPdf 20 41 36.3 -2.5
comp=Z,14nm,0.9s,baz=317,slow=3.6,SNR=14
VNDA PP PP 20 43 16.6 -1.4
comp=Z,8.7nm,1.3s,baz=336,slow=5.4,SNR=4.2
VNDA PKKPbc 20 50 22.9
comp=Z,0.9nm,0.8s,baz=180,slow=9.0,SNR=3.9
LPAZ La Paz 129.45 62 PKIKP PKPdf 20 41 08.0 +0.3
LPAZ 20 41 38.5
LPAZ 20 43 21.9
LPAZ pmax pmax
comp=Z,13nm,0.9s
LPAZ pmax pmax
comp=Z,17nm,1.1s
LPAZ La Paz 129.45 62 *e*PKPdf PKPdf 20 41 07.8 +0.1
LPAZ La Paz 129.45 62 PKP PKPdf 20 41 08.0 +0.3
comp=Z,13nm,0.9s,baz=28,slow=5.0,SNR=30
LPAZ pPKP pPKPdf 20 41 38.5 -2.1
comp=Z,12nm,0.9s,baz=7.3,slow=4.6,SNR=4.1
LPAZ PP PP 20 43 21.9 +3.3
comp=Z,17nm,1.1s,baz=320,slow=4.9,SNR=4.2
SBA Scott Base 129.87 177 *e*PKIKP PKPdf 20 41 07.2 +0.5
SBA *e* 20 41 38.7
SIV San Ignacio 132.90 54 PKP PKPdf 20 41 13.4 -0.8
SIV pPKP pPKPdf 20 41 45.4 -1.7
SIV PP PP 20 43 37.0 -3.7
SIV SKPbc SKPbc 20 44 28.5 -1.9
SIV San Ignacio 132.90 54 PKhKP 20 40 59.5
comp=Z,2.5nm,0.6s,baz=232,slow=8.0,SNR=8.0
SIV PKP PKPdf 20 41 13.4 -0.8
comp=Z,4.7nm,0.5s,baz=74,slow=1.1,SNR=4.9
SIV pPKP pPKPdf 20 41 45.4 -1.7
comp=Z,19nm,0.9s,baz=255,slow=1.6,SNR=4.9
SIV PP PP 20 43 37.0 -3.7
comp=Z,27nm,1.0s,baz=340,slow=6.2,SNR=6.9
SIV SKPbc SKPbc 20 44 28.5 -1.9
comp=Z,17nm,0.7s,baz=358,slow=1.4,SNR=6.1
LVC Limon Verde 134.08 68 *e*PKPdf PKPdf 20 41 16.1 -0.2
LBTB Lobatse 134.63 288 *e*PKPpre 20 41 04.1
LBTB *e*PKPdf PKPdf 20 41 19.0 +1.7
BOSA Boshof 137.51 285 *i* PKHKP 20 41 10.4
BOSA 20 41 23.0
BOSA pmax pmax
comp=Z,8.0nm,0.8s
BOSA pmax pmax
comp=Z,22nm,0.6s
BOSA pmax pmax
comp=N,127nm,1.1s
BOSA Boshof 137.51 285 *e*PKPpre 20 41 10.1
BOSA PKP PKPdf 20 41 23.0 +0.5
BOSA *e*PKPdf PKPdf 20 41 24.0 +1.5
BOSA SKPbc SKPbc 20 44 44.9 +0.4
BOSA Boshof 137.51 285 PKhKP 20 41 10.4
comp=N,7.5nm,0.8s,baz=32,slow=2.3,SNR=18
BOSA PKP PKPdf 20 41 23.0 +0.5
comp=N,22nm,0.6s,baz=33,slow=2.7,SNR=17
BOSA SKPbc SKPbc 20 44 44.9 +0.4
comp=N,127nm,1.1s,baz=23,slow=2.3,SNR=14
LCO Las Campanas 137.88 76 *e*PKPpre 20 41 14.4
LCO *e*PKPdf PKPdf 20 41 23.5 +0.4
MAW Mawson 138.19 215 *e*P 20 41 14.0
comp=N,8.7nm,0.6s
MAW Mawson 138.19 215 *i* PKHKP 20 41 13.1
MAW 20 41 23.4
MAW 20 44 15.1
MAW pmax pmax
comp=Z,6.0nm,0.8s
MAW pmax pmax
comp=Z,14nm,0.9s
MAW pmax pmax
comp=Z,12nm,1.0s
MAW pmax pmax
comp=N,27nm,1.1s
MAW Mawson 138.19 215 PKP PKPdf 20 41 23.4 +0.9
MAW PP PP 20 44 15.1 +1.3
MAW SKPbc SKPbc 20 44 44.8 -0.3
MAW Mawson 138.19 215 PKhKP 20 41 13.1
comp=N,6.0nm,0.8s,baz=354,slow=3.9,SNR=3.7
MAW PKP PKPdf 20 41 23.4 +0.9
comp=N,14nm,0.9s,baz=58,slow=8.1,SNR=6.4
MAW PP PP 20 44 15.1 +1.3
comp=N,12nm,1.0s,baz=33,slow=7.7,SNR=3.8
MAW SKPbc SKPbc 20 44 44.8 -0.3
comp=N,27nm,1.1s,baz=55,slow=6.2,SNR=5.3
BDFB Brasilia 138.42 38 PKHKP 20 41 15.6
BDFB 20 41 24.8
BDFB 20 44 12.5
BDFB pmax pmax
comp=Z,4.0nm,0.7s
BDFB pmax pmax
comp=Z,10.0nm,0.9s
BDFB pmax pmax
comp=Z,15nm,1.0s
BDFB pmax pmax
comp=N,32nm,1.1s
BDFB Brasilia 138.42 38 PKP PKPdf 20 41 24.8 +0.3
BDFB PP PP 20 44 12.5 -2.5
BDFB SKPbc SKPbc 20 44 47.1 -0.4
BDFB Brasilia 138.42 38 PKhKP 20 41 15.6
comp=N,4.0nm,0.7s,baz=32,slow=16,SNR=5.5
BDFB PKP PKPdf 20 41 24.8 +0.3
comp=N,9.8nm,0.9s,baz=350,slow=4.5,SNR=8.2
BDFB PP PP 20 44 12.5 -2.5
comp=N,15nm,1.0s,baz=336,slow=14,SNR=5.0
BDFB SKPbc SKPbc 20 44 47.1 -0.4
comp=N,32nm,1.1s,baz=326,slow=10,SNR=8.2
TLL Tololo Astrono 138.65 77 *e*P 20 41 14.8
FCH Farellones 141.19 80 *e*P 20 41 22.1
CFAA Coronel Fontan 141.22 76 PKhKP 20 41 22.3
comp=N,4.5nm,0.7s,baz=294,slow=2.6,SNR=28
CFAA PP PP 20 44 32.0 -0.8
comp=N,1.1nm,0.8s,baz=257,slow=8.6,SNR=3.1
CFAA SKPbc SKPbc 20 44 52.8 -1.7
comp=N,1.5nm,0.7s,baz=287,slow=3.8,SNR=5.3
LMEL Las Melosas 141.59 81 *e*P 20 41 22.9
QSPA South Pole Qui 141.89 180 PKhKP 20 41 23.3
comp=N,32nm,0.5s,baz=291,slow=0.5,SNR=37
QSPA PP PP 20 44 37.7 +1.6
comp=N,8.2nm,0.8s,baz=56,slow=11,SNR=3.5
SUR Sutherland 142.88 285 SKPbc SKPbc 20 45 00.7 +2.1
baz=151,slow=3.1
CPUP Villa Florida 143.41 59 *i* PKHKP 20 41 28.0
CPUP pmax pmax
comp=Z,23nm,0.7s
CPUP Villa Florida 143.41 59 *e*PKPpre 20 41 29.2
CPUP Villa Florida 143.41 59 PKhKP 20 41 28.0
comp=Z,23nm,0.7s,baz=325,slow=4.6,SNR=25
PLCA Paso Flores 145.76 90 PKP2 PKPab 20 41 36.9 -1.2
PLCA 20 45 05.8
PLCA pmax pmax
comp=Z,331nm,1.0s
PLCA pmax pmax
comp=N,45nm,1.2s
PLCA Paso Flores 145.76 90 *e*PKPdf PKPdf 20 41 36.8 0.0
PLCA *e*pPKPdf pPKPdf 20 42 07.4 -2.3
PLCA Paso Flores 145.76 90 PKPbc PKPbc 20 41 36.9 -0.6
comp=N,331nm,1.0s,baz=305,slow=3.9,SNR=113
PLCA SKPbc SKPbc 20 45 05.8 +0.7
comp=N,45nm,1.2s,baz=310,slow=1.7,SNR=2.9
CAM4 Nova Friburgo 146.57 35 ⇑*i* P PKPdf 20 41 40.3 +1.6
CAM4 *i* 20 41 42.6
CAM4 *i* 20 41 43.8
CAM4 *i* 20 41 49.4
CAM4 *i* 20 42 12.0
CAM4 *i* 20 42 18.9
CAM4 *i* 20 42 23.8
SYO Syowa Base 146.90 216 ⇑*i* PKPdf PKPdf 20 41 37.8 0.0
SYO Syowa Base 146.90 216 ⇓*i* PKPbc PKPbc 20 41 42.8 +2.8
LPA La Plata 149.63 69 *e*PKP PKPdf 20 41 46.0 +2.6
LPA PKIKP PKPdf 20 41 49.0 +5.6
LPA La Plata 149.63 69 *e*PKP PKPab 20 41 55.0 +1.3
LPA *e*pPKP pPKPdf 20 42 12.0 -4.4
LPA *e*pPKP pPKPdf 20 42 19.0 +2.6
LPA *e*sPKP 20 42 35.0
LPA *e*SKP 20 45 14.0
LPA *e*PP PP 20 45 22.0 -0.6
LPA *e*SKS SKSdf 20 48 42.0 +2.2
LPA *e*SKKS SKKSac 20 51 59.0 -2.3
USHA Ushuaia 153.08 114 PKPbc PKPbc 20 41 54.5 -0.9
comp=N,67nm,0.9s,baz=268,slow=3.4,SNR=17
USHA PKPab PKPab 20 42 06.8 -0.8
comp=N,99nm,1.1s,baz=265,slow=5.7,SNR=12
NVL N'lazarevskaya 155.67 207 PKIKP PKPdf 20 41 49.3 -1.8
NVL *e* 20 42 20.2
NVL *e* 21 05 35.6
NVL pmax pmax
comp=Z,28nm,1.2s
MAIT Maitri 155.69 207 *e*PKPdf PKPdf 20 41 58.0 +6.9
SNAA Sanae 158.50 197 PKP PKPdf 20 41 53.7 -1.0
comp=Z,2.1nm,1.1s,baz=271,slow=0.8,SNR=10
SNAA PKPab PKPab 20 42 29.9 -0.4
comp=Z,16nm,0.9s,baz=168,slow=4.3,SNR=14
SNAA PP PP 20 46 11.9 +0.3
comp=Z,2.9nm,0.9s,baz=162,slow=5.3,SNR=6.3
VNA2 Neumayer--Watz 159.91 195 *e*PKPdf PKPdf 20 41 58.0 +1.7
VNA2 *e* 20 42 03.6
VNA2 *e* 20 42 37.9
VNA2 *e* 20 42 44.0
VNA2 *e* 20 43 26.8
VNA2 *e* 20 43 36.4
VNA1 Neumayer--Stat 160.29 194 *e*PKPdf PKPdf 20 41 58.9 +2.2
VNA1 *e* 20 42 05.5
VNA1 *e* 20 42 40.6
VNA1 *e* 20 42 46.1
VNA1 *e* 20 43 28.5
VNA1 *e* 20 43 37.9

NEIC ***30*** *20:42:31.0, 1920N×9926W, h15km, MD4.0(MEX), After MEX.*
NEIC Felt at Mexico City.
MEX 30 20:42:28.2±1.1, 1921N×9945W, h3km±4km, MD4.0, Central Mexico

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SZVM	**Salazar**	**0.13**	**29**	*i* P	Pg	20 42 30.4	-0.4
SZVM				*i* S	Sg	20 42 32.8	+0.2
MZVM		**0.21**	**95**	*i* P	Pg	20 42 32.4	+0.1
MZVM				*i* S	Sg	20 42 35.9	+1.0
UNM	**Universidad Na**	**0.28**	**65**	*i* P	Pg	20 42 33.3	-0.3
UNM				*i* S	Sg	20 42 38.0	+0.6
UNM				*i* S	Sg	20 42 57.5	+20
UNM	**Universidad Na**	**0.28**	**65**	*i* P	Pg	20 42 33.3	-0.3
UNM				*i* P		20 42 34.0	
UNM				*i* S	Sg	20 42 37.5	+0.2
UNM				*i* S	Sg	20 42 38.0	+0.6
PBVM	**Pinon**	**0.41**	**56**	*i* P	Pg	20 42 35.2	-0.9
PBVM				*i* S	Sg	20 42 41.8	+0.2
PTVM	**Pico Tres Padr**	**0.50**	**39**	*i* P	Pg	20 42 36.8	-1.0
YAIG	**Yautepec**	**0.50**	**134**	*i* P	Pg	20 42 36.9	-0.8
YAIG				*i* S	Sg	20 42 43.9	-0.4
IIO	**Organos**	**0.78**	**61**	*i* P	Pg	20 42 41.9	-1.3
IIO				*i* S	Sg	20 42 53.1	-0.3
PPM	**Popocatepetl**	**0.79**	**100**	*e*P	Pg	20 42 42.5	-0.8
PPM				*i* S	Sg	20 42 52.5	-1.1
PPM	**Popocatepetl**	**0.79**	**100**	*i* P	Pg	20 42 42.5	-0.8
PPM				*i* P		20 42 43.2	
PPM				*i* S	Sg	20 42 52.5	-1.1
PPM				*i* S	Sg	20 42 54.9	+1.3
PLIG	**Platanillo**	**0.81**	**184**	*i* P	Pg	20 42 43.0	-0.8
PLIG				*i* S	Sg	20 42 54.2	-0.2
DEIG	**Demacu**	**1.16**	**20**	*i* P	Pg	20 42 48.0	-2.3
DEIG				*i* S	Sg	20 43 03.5	-1.8
MEIG	**Mezcala**	**1.29**	**187**	*e*P	Pg	20 42 50.0	-2.8
MEIG				*e*S	Sg	20 43 06.7	-2.9
MOIG	**Morelia**	**1.71**	**286**	*i* P	Pn	20 42 59.8	+0.9
MOIG				*i* S	Sn	20 43 23.0	+1.8
MOIG	**Morelia**	**1.71**	**286**	*e*P	Pn	20 42 53.7	-5.1
MOIG				*i* S	Sn	20 43 15.8	-5.4
UTMO	**Huajuapan**	**2.08**	**131**	*e*P	Pn	20 43 01.8	-2.1
UTMO				*i* S	Sn	20 43 26.4	-3.9
TPIG	**Tehuac#an**	**2.12**	**111**	*e*P	Pn	20 43 03.0	-1.6
TPIG				*i* S	Sn	20 43 26.6	-4.9
CAIG	**El Cayaco**	**2.29**	**200**	*e*P	Pn	20 43 06.1	-0.6
CAIG				*i* S	Sn	20 43 37.9	+2.5
CAIG	**El Cayaco**	**2.29**	**200**	*e*P	Pn	20 43 04.9	-1.9
CAIG				*i* S	Sn	20 43 32.5	-2.9
ACX	**Acapulco**	**2.37**	**191**	*i* P	Pn	20 43 09.0	+1.0
ACX				*i* S	Sn	20 43 40.5	+3.0
ACX	**Acapulco**	**2.37**	**191**	*i* P	Pn	20 43 09.0	+1.0
ACX				*i* S	Sn	20 43 35.5	-2.0
ZIIG	**Zihuatanejo**	**2.49**	**231**	*i* P	Pn	20 43 12.3	+2.7
ZIIG				*i* S	Sn	20 43 44.5	+4.0
ZIIG	**Zihuatanejo**	**2.49**	**231**	*e*P	Pn	20 43 08.6	-1.0
ZIIG				*i* S	Sn	20 43 36.9	-3.6
VHO	**Vista Hermosa**	**3.34**	**129**	*i* P	Pn	20 43 34.0	+8.7
VHO				*i* S	Sn	20 44 02.9	+1.4
VHO	**Vista Hermosa**	**3.34**	**129**	*i* P	Pn	20 43 19.8	-1.5
VHO				*i* S	Sn	20 43 56.7	-4.8
OXX	**Oaxaca**	**3.34**	**129**	*e*P	Pn	20 43 26.5	+5.2
OXX	**Oaxaca**	**3.34**	**129**	*e*P	Pn	20 43 19.0	-2.3
HUIG	**Huatulco**	**4.67**	**137**	*i* S	Sn	20 44 31.0	-3.4

IDC 30 20:47:01.4±1.0, 1938N×14554E, h0km, mb3.8/6, mb1 4.1/6, mb1mx3.7/19, mbtmp3.8/6, Error ellipse: s-maj=68.9km s-min=21.7km az=111.0, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**40.59**	**196**	P	P	20 54 42.3	-0.6
	0.7nm,0.4s,baz=14,slow=9.1,SNR=5.5						
FITZ	**Fitzroy Crossi**	**42.06**	**209**	P	P	20 54 55.8	+0.8
	1.6nm,0.9s,baz=69,slow=11,SNR=11						
ASAR	**Alice Springs**	**44.26**	**195**	P	P	20 55 12.3	-0.5
	0.7nm,0.6s,baz=23,slow=9.6,SNR=10.0						
YKA	**Yellowknife Ar**	**77.46**	**28**	P	P	20 58 58.2	-0.2
	0.3nm,0.5s,baz=288,slow=5.3,SNR=4.2						
NVAR	**Mina Array Bea**	**82.84**	**52**	P	P	20 59 28.6	+0.7
	0.8nm,0.7s,baz=261,slow=5.0,SNR=5.0						
FINES	**FINESS Array B**	**86.21**	**335**	P	P	20 59 44.4	-0.1
	0.5nm,0.7s,baz=72,slow=4.5,SNR=2.4						

MOS ***30*** *21:23:48.4±1.3, 4573N×14899E, h153km, mb3.6/4, Error ellipse: s-maj=25.3km s-min=14.4km az=94.9*
ISCJB ***30*** *21:23:49.5±0.8, 4556N±009×1488E±01, h161km±6km, mb3.6/18, Error ellipse: s-maj=19.6km s-min=8.5km az=135.7*
JMA ***30*** *21:23:51.3±0.4, 4486N×14935E, h143km, M3.4*
IDC ***30*** *21:23:53.6±5.0, 4573N×14909E, h185km±47km, mb3.4/14, mb1 3.5/15, mb1mx3.5/24, mbtmp3.3/15, MS4.3/1, Ms1 4.3/1, ms1mx3.5/26, Error ellipse: s-maj=21.8km s-min=16.3km az=98.0*
NEIC ***30*** *21:23:54.2±3.2, 4579N×14908E, h191km±31km, mb3.9/2, Error ellipse: s-maj=20.8km s-min=16.0km az=98.0*
ISC 30 21:23:50.5±0.8, 4558N±009×1488E±01, h155km±6km, n43, σ1§27/51, mb3.6/18, 3D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**0.75**	**243**	⇓*i* PN	**Pn**	**21 24 13.2**	**-0.7**
KUR				*e*S	**Sn**	**21 24 31.5**	**-0.2**
KUR				pmax	pmax		
	comp=N,160nm,0.8s						
KUR				pmax	pmax		
	comp=E,220nm,0.8s						
KUR				pmax	pmax		
	comp=Z,330nm,0.8s						
KUR				smax			

comp=E,4μm,2.0s
KUR smax
comp=N,2μm,1.0s
KUR smax
comp=E,850nm,1.0s
JRA Rausu 3.10 239 P **Pn 21 24 41.0 +1.7**
NEM2 Nemuro 2 3.12 226 P **Pn 21 24 38.7 -0.8**
NEM2 eS **Sn 21 25 15.3 -2.2**
JNK Nakash 3.54 237 P **Pn 21 24 46.3 +1.4**
JAK Akkeshi 3.93 230 P **Pn 21 24 49.9 0.0**
JAK eS **Sn 21 25 34.8 -1.2**
JAR Ashorobuto 4.27 240 P **Pn 21 24 56.5 +2.1**
JOB Onbets 4.47 235 P **Pn 21 24 58.0 +1.1**
JOB eS **Sn 21 25 49.3 +0.6**
JCH Churui 4.92 235 P **Pn 21 25 03.6 +0.7**
JCH eS **Sn 21 25 57.6 -1.8**
ERM Erimo 5.43 231 ePN **Pn 21 25 11.7 +2.1**
JNBK Urakawa-nobuka 5.48 235 P **Pn 21 25 10.7 +0.4**
JNBK eS **Sn 21 26 10.3 -2.4**
JNB Noboribetsu 6.41 244 P **Pn 21 25 24.3 +1.7**
JNB eS **Sn 21 26 36.8 +2.0**
JKB Kayabe 6.74 240 P **Pn 21 25 27.8 +0.8**
JKB eS **Sn 21 26 40.6 -2.0**
JTM Tenmabayashi 7.42 232 eS **Sn 21 26 53.8 -5.1**
JANG Nango 7.46 228 eS **Sn 21 26 53.7 -6.4**
JTH Tanohata 7.61 225 eS **Sn 21 26 56.5 -7.1**
JRG Rokugo 8.64 227 eS **Sn 21 27 22.8 -5.6**
JIO Ouri 9.03 221 eS **Sn 21 27 30.6 -7.1**
MJAR Matsushiro Arr 12.06 225 P **Pn 21 26 44.4 +7.2**
comp=E,0.2nm,0.3s,baz=42,slow=10,SNR=4.5
BILL Bilibino 24.27 16↓eP **P 21 29 03.6 +11**
BILL e*PP 21 29 36.5
BILL eS **S 21 33 01.7 +1.8**
BILL pmax pmax
comp=Z,1.0nm,1.2s,mb3.2
BILL MLR MLR
comp=Z,600nm,19.0s
TIXI Tiksi 27.83 347 eP **P 21 29 21.8 -2.9**
TIXI pmax pmax
comp=Z,1.0nm,0.4s,mb3.9
TIXI Tiksi 27.83 347 eP **P 21 29 21.8 -3.0**
comp=Z,1.4nm,0.4s,mb4.0
ZALV Zalesovo Beam 40.87 306 P **P 21 31 16.1 -0.6**
comp=Z,0.6nm,0.5s,mb3.5,baz=76,slow=6.1,SNR=3.2
ZAL Zalesovo 40.88 306 P **P 21 31 16.1 -0.8**
INK Inuvik 44.22 31 P **P 21 31 42.2 -1.4**
comp=Z,0.6nm,0.3s,mb3.7,baz=305,slow=13,SNR=7.9
MKAR Makanchi Array 44.81 297 P **P 21 31 49.5 +0.9**
comp=Z,0.5nm,0.5s,mb3.4,baz=75,slow=7.3,SNR=9.4
KURK Kurchatov 45.51 303 eP **P 21 31 54.3 +0.3**
KURK pmax pmax
comp=Z,1.0nm,0.5s,mb3.7
KURK Kurchatov 45.51 303 eP **P 21 31 54.2 +0.2**
comp=Z,1.4nm,0.5s,mb3.9
YKA Yellowknife Ar 53.62 35 iP **P 21 33 02.7 +7.5**
YKA Yellowknife Ar 53.62 35 P **P 21 32 52.5 -2.6**
comp=Z,0.2nm,0.5s,mb3.1,baz=304,slow=7.3,SNR=2.8
HNR Honiara 55.67 167 LR LR 21 54 39.2
comp=Z,294nm,21.2s,baz=182,slow=33
FINES FINESS Array B 63.78 333 iP **P 21 34 04.8 -0.5**
FINES pmax pmax
comp=Z,1.0nm,0.5s
FINES FINESS Array B 63.78 333 P **P 21 34 04.4 -0.9**
comp=Z,0.7nm,0.5s,mb3.7,baz=29,slow=8.7,SNR=8.2
WRA Warramunga Arr 66.52 195 P **P 21 34 23.1 -0.3**
comp=Z,0.5nm,0.6s,mb3.5,baz=9.1,slow=6.6,SNR=2.7
NB2 NORSAR Subarra 68.32 339 P **P 21 34 33.5 -0.8**
comp=Z,0.9nm,0.5s,mb3.8,baz=28,slow=6.5
NOA NORSAR Array B 68.32 339 P **P 21 34 33.7 -0.5**
comp=Z,1.0nm,0.4s,mb3.9,baz=29,slow=6.5,SNR=4.7
HFS Hagfors 68.46 338 P **P 21 34 34.2 -0.9**
comp=Z,1.2nm,0.4s,mb4.0,baz=46,slow=6.4,SNR=14
ASAR Alice Springs 70.24 195 P **P 21 34 47.8 +1.4**
comp=Z,0.6nm,0.7s,mb3.5,baz=3.0,slow=5.1,SNR=9.1
AKASG Malin Array Be 70.80 324 P **P 21 34 49.2 -0.5**
comp=Z,0.4nm,0.3s,mb3.6,baz=37,slow=6.4,SNR=4.1
CLL Collm 76.23 333↓iP **P 21 35 21.3 0.0**
comp=Z,4.0nm,0.6s,mb4.2
MLR Muntele Rosu 76.24 323 P **P 21 35 23.4 +1.9**
comp=Z,1.1nm,0.5s,mb3.7,baz=143,slow=6.6,SNR=4.9
EKA Eskdalemuir Ar 76.70 344 P **P 21 35 23.9 -0.1**
comp=Z,1.2nm,0.7s,mb3.6,baz=16,slow=5.2,SNR=3.8
GERES GERESS Array B 78.13 332 P **P 21 35 32.5 +0.5**
comp=Z,0.8nm,0.4s,mb3.7,baz=39,slow=6.0,SNR=14
TXAR Lajitas Array 80.66 58 P **P 21 35 45.2 -0.8**
comp=Z,0.1nm,0.6s,mb2.7,baz=318,slow=5.0,SNR=3.0

*IDC **30** 21:42:38.4±1.6, 183N×127.43E, h0km, mb3.9/4, mb1 4.0/5, mb1mx3.7/16, mbtmp3.8/5, ML3.5/1, Error ellipse: s-maj=94.0km s-min=21.2km az=68.0*
*NEIC **30** 21:42:40.0±1.1, 184N×127.45E, h10km, mb4.0/1, Error ellipse: s-maj=60.3km s-min=15.0km az=68.0*
*ISCJB **30** 21:42:41.8±1.5, 17N±02×127.1E±05, h33km, mb3.9/5, Error ellipse: s-maj=78.1km s-min=19.8km az=158.1*
ISC 30 21:42:44.2±1.4, 16N±02×1271E±05, h35km, n8, σ0§37/8, mb3.9/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
FITZ	**Fitzroy Crossi**	**19.67**	**184**	P		**Pn**		**21 47 11.9**	**0.0**
0.1nm,0.3s,baz=34,slow=14,SNR=4.0									
WRAB	**Tennant Creek**	**22.60**	**162**	eP		**P**		**21 47 42.3**	**+0.5**
3.2nm,0.6s,mb3.9									
WRA	**Warramunga Arr**	**22.60**	**162**	P		**P**		**21 47 41.2**	**-0.7**
2.6nm,0.5s,mb3.9,baz=342,slow=11,SNR=12									
WB2	**Warramunga Arr**	**22.61**	**162**	eP		**P**		**21 47 42.4**	**+0.5**
ASAR	**Alice Springs**	**26.02**	**166**	P		**P**		**21 48 13.9**	**-0.2**
0.7nm,0.5s,mb3.5,baz=342,slow=8.2,SNR=7.1									
STKA	**Stephens Creek**	**36.07**	**159**	eP		**P**		**21 49 42.5**	**-0.1**
STKA	**Stephens Creek**	**36.07**	**159**	P		**P**		**21 49 42.5**	**-0.1**
1.8nm,0.4s,mb4.3,baz=338,slow=9.9,SNR=11									
MKAR	**Makanchi Array**	**59.46**	**326**	P		**P**		**21 52 43.6**	**0.0**
0.5nm,0.4s,mb3.9,baz=116,slow=7.9,SNR=15									

*IDC **30** 21:43:24.9±0.9, 218N×143.19E, h0km, mb3.6/8, mb1 3.8/8, mb1mx3.7/19, mbtmp3.6/8, Error ellipse: s-maj=35.3km s-min=20.0km az=92.0*
*NEIC **30** 21:43:26.3±0.8, 219N×143.09E, h10km, mb4.2/1, Error ellipse: s-maj=31.8km s-min=17.0km az=86.0*
*ISCJB **30** 21:43:28.3±0.8, 219N±01×143.1E±02, h33km, mb3.6/9, Error ellipse: s-maj=30.2km s-min=16.2km az=176.2*
ISC 30 21:43:30.3±0.8, 219N±01×1431E±02, h35km, n11, σ1§07/11, mb3.6/9, Mariana Islands region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
KSRS	**Korea Array**	**20.32**	**323**	P		**P**		**21 48 07.7**	**+4.5**
1.2nm,0.6s,baz=141,slow=9.4,SNR=6.7									
SONM	**Songino Array**	**39.14**	**320**	P		**P**		**21 50 55.1**	**+0.8**
0.8nm,0.6s,mb3.6,baz=151,slow=6.5,SNR=3.2									
WRA	**Warramunga Arr**	**42.44**	**192**	P		**P**		**21 51 20.2**	**-1.6**
0.4nm,0.7s,mb3.2,baz=18,slow=9.4,SNR=6.0									
FITZ	**Fitzroy Crossi**	**43.25**	**205**	P		**P**		**21 51 29.6**	**+1.2**
0.9nm,0.7s,mb3.6,baz=0.0,slow=11,SNR=2.5									
ASAR	**Alice Springs**	**46.15**	**192**	P		**P**		**21 51 51.8**	**+0.3**
0.2nm,0.5s,mb3.4,baz=12,slow=14,SNR=3.0									
ZALV	**Zalesovo Beam**	**54.01**	**322**	P		**P**		**21 52 50.5**	**-0.2**
0.4nm,0.2s,mb3.9,baz=87,slow=7.6,SNR=4.1									
MKAR	**Makanchi Array**	**54.51**	**313**	P		**P**		**21 52 55.0**	**+0.5**
0.3nm,0.6s,mb3.5,baz=92,slow=8.6,SNR=5.5									
KURK	**Kurchatov**	**57.28**	**317**	eP		**P**		**21 53 11.6**	**-2.7**
2.0nm,0.8s,mb4.2									
YKA	**Yellowknife Ar**	**76.34**	**28**	P		**P**		**21 55 15.0**	**-0.4**
YKA	**Yellowknife Ar**	**76.34**	**28**	P		**P**		**21 55 15.0**	**-0.4**
0.4nm,0.4s,mb3.7,baz=292,slow=6.0,SNR=6.5									
NVAR	**Mina Array Bea**	**83.10**	**51**	P		**P**		**21 55 53.3**	**+0.7**
0.2nm,0.6s,mb3.4,baz=284,slow=7.3,SNR=3.0									

WEL 30 21:52:49.0±0.1, 3789S×17674E, h2km, ML4.0/10, Error ellipse: s-maj=1.0km s-min=0.9km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MARZ	**Manawahe**	**0.10**	**208**	P*			Pg	21 52 51.8	+0.7
MARZ				S*			Sg	21 52 53.8	+1.3
OPRZ	**Ohinepanea**	**0.15**	**288**	P*			Pg	21 52 52.8	+0.8
OPRZ				S*			Sg	21 52 55.3	+1.4
LIRZ	**Lichensteins R**	**0.30**	**248**	PG			Pg	21 52 55.7	+0.9
MKRZ	**Makatiti**	**0.33**	**221**	PG			Pg	21 52 56.4	+1.1
OMRZ	**Omania**	**0.36**	**233**	PG			Pg	21 52 56.6	+0.7
TAZ	**Tarawera**	**0.38**	**208**	PG			Pg	21 52 57.6	+1.2
TGRZ	**Tauranga**	**0.41**	**293**	PG			Pg	21 52 57.8	+0.9
URZ	**Urewera**	**0.47**	**141**	PG			Pg	21 52 58.2	+0.2
MWZ	**Matawai**	**0.76**	**126**	P*			Pb	21 53 04.0	-1.0

*NNC **30** 22:17:30.7±6.2, 3927N×7304E, h0km, mb3.5, mpv3.2, Error ellipse: s-maj=51.4km s-min=36.3km az=8.0*
ISC 30 22:17:31.2±4.0, 391N±03×735E±02, h10km, n13, σ0§99/15, 3C-4D, Tajikistan-Xinjiang border region

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
AML	**Almayashu**	**3.03**	**2**	P		**Pn**		**22 18 18.6**	**-0.6**
SNR=31									
UCH	**Uchtor**	**3.21**	**13**	P		**Pn**		**22 18 22.7**	**+1.0**
SNR=29									
KZA	**Kyzart**	**3.25**	**23**	P		**Pn**		**22 18 22.8**	**+0.6**
SNR=9.3									
EKS2	**Erkin-Say**	**3.56**	**3**	P		**Pn**		**22 18 25.9**	**-0.6**
SNR=6.6									
AAK	**Ala-Archa**	**3.60**	**11**	P		**Pn**		**22 18 27.5**	**+0.4**
SNR=12									
KBK	**Karagaybulak**	**3.71**	**16**	P		**Pb**		**22 18 35.6**	**-1.2**
SNR=7.8									
ULHL	**Ulahol**	**3.76**	**32**	P		**Pb**		**22 18 36.0**	**-1.6**
SNR=20									
CHMS	**Chumysh**	**4.00**	**13**	P		**Pn**		**22 18 33.0**	**+0.5**
SNR=9.5									
TKM2	**Tokmak 2**	**4.12**	**22**	↓Pn		**Pn**		**22 18 35.1**	**+0.9**
5.3nm,0.7s									
TKM2				↑Lg				22 19 36.9	
18nm,0.7s									
USP	**Ospenovka**	**4.23**	**10**	P		**Pn**		**22 18 35.8**	**+0.1**
SNR=6.3									
KK31	**Karatay Array**	**4.61**	**331**	↓Pn		**Pn**		**22 18 39.8**	**-1.1**
1.4nm,0.3s,baz=137,slow=13									
KK31				↓Sn		**Sn**		**22 19 34.7**	**+0.3**
2.1nm,0.3s,baz=156,slow=26									
KK31				↑Lg				22 19 45.6	
5.9nm,0.5s,baz=155,slow=28									
AB31	**Akbulak array**	**14.06**	**321**	Pn		**Pn**		**22 20 44.6**	**-5.7**
0.5nm,0.6s,baz=130,slow=13,SNR=7.7									
AB31				↓Sn		**Sn**		**22 23 16.1**	**-10**
0.6nm,0.7s									
BVA0	**Borovoye Array**	**14.10**	**352**	↑Pn		**Pn**		**22 20 53.2**	**+2.4**
0.3nm,0.8s,baz=191,slow=11,SNR=5.6									

*ISCJB **30** 22:22:54.1±1.8, 3410S±005×17908W±008, h2km±11km, mb4.7/21, Error ellipse: s-maj=11.9km s-min=6.4km az=24.7*
*IDC **30** 22:22:54.5±0.5, 3390S×17884W, h0km, mb4.6/13, mb1 4.7/14, mb1mx4.6/19, mbtmp4.6/14, ML5.1/1, Error ellipse: s-maj=18.8km s-min=16.5km az=102.0*
*NEIC **30** 22:22:59.1±3.3, 3414S×17900W, h27km±22km, mb4.9/7, Error ellipse: s-maj=12.6km s-min=10.5km az=47.0*
*MOS **30** 22:22:59.8±1.5, 3401S×17908W, h33km, mb5.0/16, Error ellipse: s-maj=16.6km s-min=15.4km az=41.4*
ISC 30 22:22:55.4±2.0, 3407S±004×17903W±008, h0km±13km, n146, σ1§34/90, mb4.7/21, 1C-3D, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase	Op	ID	ISC	Time h m s	Res ISC
MXZ	**Matakaoa Point**	**4.10**	**211**	P		**Pn**		**22 23 59.8**	**+0.5**
MXZ				S		**Sn**		**22 24 49.3**	**+1.3**
MXZ	**Matakaoa Point**	**4.10**	**211**	ePN		**Pn**		**22 23 59.0**	**-0.3**
MXZ				SN		**Sn**		**22 24 49.3**	**+1.3**
PUZ	**Puketiti**	**4.56**	**208**	P		**Pn**		**22 24 05.4**	**-0.2**
PUZ	**Puketiti**	**4.56**	**208**	PN		**Pn**		**22 24 05.0**	**-0.6**
RAO	**Raoul Island**	**4.89**	**11**	P		**Pn**		**22 24 06.8**	**-3.4**
RAO								22 25 02.5	
RAO				pmax		pmax			
comp=Z,87nm,0.3s									
RAO				smax					
comp=N,100nm,0.3s									
RAO	**Raoul Island**	**4.89**	**11**	Pn		**Pn**		**22 24 06.2**	**-3.9**
RAO				Sn		**Sn**		**22 25 02.5**	**-5.0**
RAO	**Raoul Island**	**4.89**	**11**	PN		**Pn**		**22 24 06.8**	**-3.4**
comp=N,87nm,0.3s,baz=210,slow=16,SNR=4.1									
RAO				Sn		**Sn**		**22 25 02.5**	**-5.0**
comp=N,100nm,0.3s,baz=229,slow=20,SNR=3.6									
MYRZ	**Mayor Island**	**5.01**	**229**	PN		**Pn**		**22 24 14.7**	**+3.0**
MWZ	**Matawai**	**5.09**	**212**	P		**Pn**		**22 24 12.7**	**-0.1**
MWZ	**Matawai**	**5.09**	**212**	ePN		**Pn**		**22 24 12.5**	**-0.3**
URZ	**Urewera**	**5.22**	**216**	P		**Pn**		**22 24 15.1**	**+0.5**
URZ	**Urewera**	**5.22**	**216**	PN		**Pn**		**22 24 14.4**	**-0.2**
URZ				SN		**Sn**		**22 25 17.3**	**+1.8**
KNZ	**Kokohu**	**5.61**	**207**	P		**Pn**		**22 24 18.4**	**-1.6**
KNZ	**Kokohu**	**5.61**	**207**	ePN		**Pn**		**22 24 18.5**	**-1.5**
BKZ	**Black Stump Fm**	**6.23**	**214**	P		**Pn**		**22 24 28.5**	**0.0**
BKZ	**Black Stump Fm**	**6.23**	**214**	ePN		**Pn**		**22 24 28.1**	**-0.4**
BKZ				SN		**Sn**		**22 25 40.1**	**-0.3**
HIZ	**Hauiti**	**6.64**	**226**	P		**Pn**		**22 24 35.9**	**+1.8**
HIZ	**Hauiti**	**6.64**	**226**	PN		**Pn**		**22 24 35.6**	**+1.6**
FWVZ	**Far West T-bar**	**6.76**	**218**	PN		**Pn**		**22 24 36.0**	**+0.2**
PXZ	**Pawanui**	**6.80**	**208**	ePN		**Pn**		**22 24 34.5**	**-1.8**
PXZ				SN		**Sn**		**22 25 52.0**	**-2.4**
VRZ	**Vera Road**	**7.10**	**223**	ePN		**Pn**		**22 24 44.5**	**+4.0**
SNZO	**South Karori**	**8.77**	**213**	ePn		**Pn**		**22 25 02.6**	**-0.7**
TUWZ	**Tuamarina**	**9.21**	**215**	SN		**Sn**		**22 26 47.3**	**-6.5**
RPZ	**Rata Peaks**	**12.34**	**216**	Pn		**Pn**		**22 25 50.8**	**-1.4**
RPZ				Sn		**Sn**		**22 27 59.2**	**-11**
RPZ	**Rata Peaks**	**12.34**	**216**	Pn		**Pn**		**22 25 50.8**	**-1.4**
comp=N,3.2nm,0.3s,baz=132,slow=2.9,SNR=11									
RPZ				Sn		**Sn**		**22 27 59.2**	**-11**
comp=N,2.7nm,0.3s,baz=320,slow=20,SNR=9.6									
AFI	**Afiamalu**	**21.12**	**20**	P		**P**		**22 27 42.4**	**+0.7**
AFI	**Afiamalu**	**21.12**	**20**	P		**P**		**22 27 40.2**	**-1.5**
comp=N,64nm,0.9s,mb4.9,baz=239,slow=1.5,SNR=3.7									
EIDS	**Eidsvold**	**27.29**	**281**	P		**P**		**22 28 42.0**	**+0.4**
comp=N,3.2nm,0.7s,mb4.2									
EIDS				PcP		PcP		22 31 57.8	-3.6
TAU	**Tasmania Unive**	**27.63**	**241**	P		**P**		**22 28 46.0**	**+1.5**
HNR	**Honiara**	**31.21**	**317**	eP		**P**		**22 29 17.6**	**+1.2**
STKA	**Stephens Creek**	**32.97**	**263**	eP		**P**		**22 29 34.5**	**+2.7**
STKA	**Stephens Creek**	**32.97**	**263**	P		**P**		**22 29 33.1**	**+1.3**
comp=N,4.3nm,0.9s,mb4.4,baz=118,slow=8.7,SNR=5.8									
STKA				PcP		PcP		22 32 14.5	-1.5
comp=N,1.4nm,0.6s,baz=102,slow=9.3,SNR=5.3									
CTA	**Charters Tower**	**33.72**	**285**	eP		**P**		**22 29 40.1**	**+1.6**
comp=N,6.8nm,0.5s,mb4.8									
CTA	**Charters Tower**	**33.72**	**285**	P		**P**		**22 29 40.2**	**+1.7**
CTA				pmax		pmax			
comp=Z,8.0nm,0.5s									
CTA	**Charters Tower**	**33.72**	**285**	P		**P**		**22 29 40.2**	**+1.7**
comp=Z,8.1nm,0.5s,mb4.9,baz=114,slow=10,SNR=12									
CTAO	**Charters Tower**	**33.72**	**285**	eP		**P**		**22 29 40.9**	**+2.4**
CTAO				pmax		pmax			
comp=Z,9.0nm,0.6s,mb4.9									
CTAO	**Charters Tower**	**33.72**	**285**	eP		**P**		**22 29 40.9**	**+2.4**
comp=Z,9.5nm,0.6s,mb4.9									
ASAR	**Alice Springs**	**42.18**	**271**	P		**P**		**22 30 50.5**	**+0.6**
ASAR								22 32 42.8	
ASAR				S		**S**		**22 37 08.3**	**-2.7**
ASAR				pmax		pmax			
comp=Z,20nm,0.7s									
ASAR				pmax		pmax			
comp=Z,2.0nm,0.5s									
ASAR				smax					
comp=N,2.0nm,0.9s									
ASAR	**Alice Springs**	**42.18**	**271**	P		**P**		**22 30 50.5**	**+0.6**
comp=N,20nm,0.7s,mb5.0,baz=112,slow=7.4,SNR=141									
ASAR				PcP		PcP		22 32 42.8	-1.5
comp=N,2.1nm,0.5s,baz=115,slow=4.1,SNR=5.4									
ASAR				S		**S**		**22 37 08.3**	**-2.7**
comp=N,1.6nm,0.9s,baz=111,slow=15,SNR=6.9									
WB2	**Warramunga Arr**	**43.49**	**277**	eP		**P**		**22 31 00.4**	**-0.2**
WRAB	**Tennant Creek**	**43.50**	**277**	eP		**P**		**22 31 00.6**	**0.0**
WRAB				e				22 31 15.7	
WRAB				pmax		pmax			
comp=Z,28nm,0.6s,mb5.2									
WRAB	**Tennant Creek**	**43.50**	**277**	eP		**P**		**22 31 00.6**	**-0.1**
comp=Z,28nm,0.6s,mb5.2									
WRAB				e				22 31 15.7	
WRA	**Warramunga Arr**	**43.50**	**277**	P		**P**		**22 31 00.7**	**0.0**
WRA								22 32 47.3	
WRA				pmax		pmax			
comp=Z,30nm,0.7s									
WRA				pmax		pmax			
comp=Z,1.0nm,0.5s									
WRA	**Warramunga Arr**	**43.50**	**277**	P		**P**		**22 31 00.7**	**0.0**
comp=Z,30nm,0.7s,mb5.2,baz=119,slow=7.4,SNR=136									
WRA				PcP		PcP		22 32 47.3	-1.4
comp=Z,0.8nm,0.5s,baz=120,slow=3.2,SNR=2.4									
SBA	**Scott Base**	**44.32**	**184**	eP		**P**		**22 31 09.6**	**+3.0**
SBA				pmax		pmax			
comp=Z,12nm,1.0s,mb4.6									
SBA	**Scott Base**	**44.32**	**184**	eP		**P**		**22 31 09.6**	**+3.0**
comp=Z,12nm,1.0s,mb4.6									
VNDA	**Vanda**	**44.37**	**186**	P		**P**		**22 31 08.5**	**+1.6**
VNDA				pmax		pmax			
comp=Z,1.0nm,0.7s									
VNDA	**Vanda**	**44.37**	**186**	eP		**P**		**22 31 08.5**	**+1.6**
VNDA	**Vanda**	**44.37**	**186**	P		**P**		**22 31 08.5**	**+1.6**
comp=Z,1.3nm,0.7s,mb3.7,baz=28,slow=6.0,SNR=9.3									
FORT	**Forrest**	**48.38**	**259**	eP		**P**		**22 31 06.9**	**-0.7**
comp=Z,24nm,0.7s,mb5.0									
KAKA	**Kakadu**	**48.83**	**284**	eP		**P**		**22 31 41.7**	**-1.0**
comp=Z,33nm,1.4s,mb5.2									
CASY	**Casey**	**51.51**	**209**	eP		**P**		**22 32 03.2**	**+0.9**
comp=Z,9.1nm,0.5s,mb5.0									
FITZ	**Fitzroy Crossi**	**51.59**	**273**	eP		**P**		**22 32 03.2**	**-0.4**
comp=Z,23nm,0.6s,mb5.3									
FITZ	**Fitzroy Crossi**	**51.59**	**273**	eP		**P**		**22 32 02.8**	**-0.8**
FITZ	**Fitzroy Crossi**	**51.59**	**273**	P		**P**		**22 32 03.3**	**-0.2**
comp=Z,13nm,0.6s,mb5.0,baz=142,slow=7.3,SNR=25									
NWAO	**Narrogin (SRO)**	**52.37**	**252**	P		**P**		**22 32 08.5**	**-0.7**
NWAO				pmax		pmax			
comp=Z,7.0nm,0.6s									
NWAO	**Narrogin (SRO)**	**52.37**	**252**	P		**P**		**22 32 08.5**	**-0.7**
NWAO	**Narrogin (SRO)**	**52.37**	**252**	P		**P**		**22 32 08.5**	**-0.7**
comp=Z,6.8nm,0.6s,mb4.8,baz=101,slow=8.2,SNR=16									
KLBR	**Kellerberrin**	**52.42**	**254**	eP		**P**		**22 32 08.8**	**-0.8**
comp=Z,18nm,0.6s,mb5.2									
MUN	**Mundaring**	**53.51**	**253**	eP		**P**		**22 32 15.0**	**-2.7**
MBWA	**Marble Bar**	**55.05**	**267**	eP		**P**		**22 32 27.6**	**-1.4**
comp=Z,12nm,0.9s,mb4.9									
QSPA	**South Pole Qui**	**56.05**	**180**	P		**P**		**22 32 35.2**	**-0.2**
QSPA	**South Pole Qui**	**56.05**	**180**	P		**P**		**22 32 36.4**	**+1.0**
comp=Z,3.0nm,0.7s,mb4.5,baz=61,slow=4.2,SNR=6.4									
MAW	**Mawson**	**68.58**	**201**	P		**P**		**22 34 01.8**	**+2.3**
MAW				pmax		pmax			
comp=Z,5.0nm,0.7s									
MAW	**Mawson**	**68.58**	**201**	P		**P**		**22 33 57.8**	**-1.7**
MAW	**Mawson**	**68.58**	**201**	P		**P**		**22 34 01.8**	**+2.3**
comp=Z,4.6nm,0.7s,mb4.8,baz=116,slow=7.4,SNR=6.0									
SYO	**Syowa Base**	**73.36**	**194**↑	eP		**P**		**22 34 26.2**	**-2.3**
SYO	**Syowa Base**	**73.36**	**194**↓	iP		**P**		**22 34 33.8**	**+5.3**
PLCA	**Paso Flores**	**80.65**	**133**	P		**P**		**22 35 08.4**	**-1.7**
PLCA				pmax		pmax			
comp=Z,4.0nm,1.1s									
PLCA	**Paso Flores**	**80.65**	**133**	P		**P**		**22 35 09.2**	**-0.9**
PLCA	**Paso Flores**	**80.65**	**133**	P		**P**		**22 35 08.3**	**-1.7**
comp=Z,3.6nm,1.1s,mb4.3,baz=214,slow=3.6,SNR=3.0									
KSRS	**Korea Array**	**86.59**	**320**	P		**P**		**22 35 40.0**	**-0.3**
KSRS				pmax		pmax			
comp=Z,2.0nm,0.7s,mb4.5									
KSRS	**Korea Array**	**86.59**	**320**	P		**P**		**22 35 40.0**	**-0.3**
comp=Z,2.4nm,0.7s,mb4.5,baz=142,slow=5.3,SNR=9.8									
TRQA	**Tornquist**	**87.46**	**135**	P		**P**		**22 35 43.9**	**-1.0**
NVAR	**Mina Array Bea**	**91.51**	**43**	P		**P**		**22 36 01.9**	**-1.7**
comp=Z,0.2nm,0.6s,mb3.6,baz=220,slow=8.3,SNR=2.0									
LVC	**Limon Verde**	**92.91**	**120**	P		**P**		**22 36 12.4**	**+1.9**
LAZ	**Ladron**	**95.75**	**52**	eP		**P**		**22 36 25.1**	**+1.9**
BNM	**Barren Site**	**95.94**	**53**	eP		**P**		**22 36 27.2**	**+3.2**
LPAZ	**La Paz**	**97.41**	**115**	P		**P**		**22 36 31.4**	**+0.1**
YKA	**Yellowknife Ar**	**109.11**	**26**	PKKPbc		PKKPbc		22 52 32.0	-2.5
comp=Z,0.2nm,0.6s,baz=39,slow=3.3,SNR=5.3									
MKAR	**Makanchi Array**	**119.42**	**309**	PKIKP		PKPdf		22 41 44.5	-1.8
MKAR				pmax		pmax			
comp=Z,1.0nm,0.5s									
MKAR	**Makanchi Array**	**119.42**	**309**	PKP		PKPdf		22 41 44.5	-1.8
comp=Z,1.2nm,0.5s,baz=117,slow=1.8,SNR=29									
ZALV	**Zalesovo Beam**	**120.15**	**317**	PKP		PKPdf		22 41 45.7	-1.8
comp=Z,2.5nm,0.7s,baz=144,slow=1.7,SNR=12									
ZAL	**Zalesovo**	**120.16**	**317**	PKIKP		PKPdf		22 41 45.7	-1.8
ZAL				pmax		pmax			
comp=Z,3.0nm,0.7s									
BVAR	**Borovoye Array**	**128.36**	**314**	PKIKP		PKPdf		22 42 02.4	-0.9
BVAR				pmax		pmax			
comp=Z,3.0nm,0.5s									
BVAR	**Borovoye Array**	**128.36**	**314**	PKP		PKPdf		22 42 02.4	-0.9
comp=Z,3.1nm,0.5s,baz=140,slow=1.2,SNR=31									
KMBO	**Kilima Mbogo**	**131.16**	**232**	SKPbc		SKPbc		22 45 34.9	-0.9
comp=Z,4.1nm,0.9s,baz=78,slow=

HFS	Hagfors	152.62	346	PKPbc	PKPbc	22 42 51.5	-1.5
	comp=Z,7.2nm,0.6s,baz=27,slow=2.3,SNR=22						
CDAG	Cicekdag	152.80	292	*i* P	PKPbc	22 42 51.4	-2.7
AKASG	Malin Array Be	153.55	317	PKIKP	PKPbc	22 42 54.4	-0.9
AKASG				pmax	pmax		
	comp=Z,5.0nm,0.5s						
AKASG	Malin Array Be	153.55	317	PKPbc	PKPbc	22 42 54.4	-1.0
	comp=Z,4.7nm,0.5s,baz=46,slow=2.7,SNR=28						
KDHN	Kadinhani	154.57	289	*i* P	PKPbc	22 42 57.1	-0.8
TORD	Torodi Ar. Bea	159.16	182	PKP	PKPdf	22 42 56.0	-0.1
	comp=Z,0.6nm,0.8s,baz=180,slow=1.2,SNR=2.9						
TORD				PKPab	PKPab	22 43 32.0	-0.7
	comp=Z,1.4nm,0.6s,baz=181,slow=3.9,SNR=8.1						
CLL	Collm	160.68	337	‖ *i* P	PKPab	22 43 36.9	-1.5
CLL				*i*		22 43 39.3	
CLL	Collm	160.68	337	‖ *i* PKPab	PKPab	22 43 36.9	-1.5
	comp=Z,9.0nm,0.8s						
CLL				*i* x	x	22 43 39.3	
	comp=Z,15nm,1.3s						
CLL				*es*PKPab		22 43 49.0	
BRG	Berggiesshubel	160.72	334	*i* P	PKPab	22 43 37.5	-1.1
	comp=Z,5.5nm,0.7s						
MOX	Moxa	161.69	338	*e*P	PKPab	22 43 41.9	-1.0
KHC	Kasperske Hory	162.28	332	*e*P	PKPab	22 43 44.0	-1.5
GERES	GERESS Array B	162.46	331	PKP2	PKPab	22 43 45.4	-0.9
GERES				pmax	pmax		
	comp=Z,1.0nm,0.7s						
GERES	GERESS Array B	162.46	331	PKPab	PKPab	22 43 45.4	-0.9
	comp=Z,0.8nm,0.7s,baz=39,slow=5.1,SNR=7.9						
GRA1	Grafenberg Arr	162.65	337	*e*P	PKPab	22 43 46.9	-0.2
GRF	Grafenberg Arr	162.65	337	*e*P	PKPab	22 43 46.9	-0.2
	comp=Z,6.0nm,0.7s						
HAU	Haudompre	165.50	345	*e*PKP2	PKPab	22 43 57.8	-1.9
	comp=Z,7.3nm,0.8s						
SSF	Saint Saulge	166.88	352	*e*PKP2	PKPab	22 44 05.4	-0.3
	comp=Z,6.4nm,0.9s						
CABF	La Chapelle	166.88	344	*e*PKP2	PKPab	22 44 04.3	-1.5
	comp=Z,7.8nm,0.8s						
SMF	Signal de Mont	167.25	351	*e*PKP2	PKPab	22 44 05.8	-1.6
LPL	La Plagne	167.74	341	*e*PKP2	PKPab	22 44 08.9	-0.7
	comp=Z,7.5nm,0.8s						
LPG	La Plagne	167.75	340	*e*PKP2	PKPab	22 44 09.1	-0.6
	comp=Z,6.5nm,0.8s						
ORIF	Oris-en-Rattie	168.52	342	*e*PKP2	PKPab	22 44 12.1	-1.0
	comp=Z,10nm,0.8s						

*IDC **30** 22:42:38.1±1.5, 5235N×15735E, h0km, mb3.5/6, mb1 3.7/6, mb1mx3.5/22, mbtmp3.5/6, Error ellipse: s-maj=47.2km s-min=25.3km az=164.0*
*ISCJB **30** 22:42:50.7±0.6, 5197N±008×1577E±01, h131km±4km, mb3.2/5, Error ellipse: s-maj=19.2km s-min=5.6km az=41.2*
*MOS **30** 22:42:50.4±2.1, 5229N×15724E, h125km, mb4.1/1, Error ellipse: s-maj=36.8km s-min=16.0km az=80.8*
*KRSC **30** 22:42:51.6±0.4, 5185N×15807E, h116km±55km, ML3.8*

ISC 30 22:42:51.6±0.5, 5196N±009×1577E±02, h127km±4km, n24, σ1§14/34, mb3.4/5, 1D, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GRL	Gorelyy	0.64	21	*e*P	Pn	22 43 12.2	+1.1
GRL				*i* S	Sn	22 43 27.2	+1.2
MIPR	Malaya Ipel'ka	0.67	299	*i* P	Pn	22 43 11.6	+0.3
RUS	Russkaya	0.69	46	*e*P	Pn	22 43 11.4	-0.1
RUS				*i* S	Sn	22 43 26.0	-0.6
PET	Petropavlovsk	1.21	28	*e*PN	Pn	22 43 16.6	+0.3
PET				*es* S	Sn	22 43 35.3	+0.2
PET				pmax	pmax		
	comp=Z,11nm,0.4s						
PET				smax			
	comp=N,200nm,1.4s						
PET				smax			
	comp=E,100nm,0.9s						
PET				smax			
	comp=E,141nm,0.7s						
PET				smax			
	comp=N,175nm,0.4s						
PET	Petropavlovsk	1.21	28	*e*P	Pn	22 43 17.2	+0.9
PET				*i* S	Sn	22 43 35.6	+0.5
AVH	Avacha	1.45	25	*e*P	Pn	22 43 20.7	+1.9
NLC	Nalytchevo	1.57	39	*e*P	Pn	22 43 19.9	-0.3
NLC				*i* S	Sn	22 43 40.3	-1.8
SKR	Severo-Kuril's	1.62	219	*e*PN	Pn	22 43 20.0	-0.8
SKR				*es* S	Sn	22 43 41.6	-1.5
SKR				pmax	pmax		
	comp=Z,50nm,0.5s						
SKR				smax			
	comp=N,560nm,0.2s						
SKR				smax			
	comp=E,770nm,0.5s						
ALID	Alaid	1.74	232	*e*P	Pn	22 43 22.5	+0.3
ALID				*i* S	Sn	22 43 45.8	+0.3
GNL	Ganaly	1.75	5	*e*P	Pn	22 43 23.3	+1.1
SPN	Mys Shipunski	1.82	50	*e*P	Pn	22 43 23.5	+0.4
SPN				*i* S	Sn	22 43 46.1	-1.1
MKZ	Mys Kozlova	3.55	41	*e*P	Pn	22 43 45.1	-0.1
MKZ				*i* S	Sn	22 44 24.2	-2.5
KBTR	Krutoberegovo	5.21	33	*e*P	Pn	22 44 08.0	+0.7
MA2	Magadan	8.57	336	*e*PN	Pn	22 44 48.3	-4.3
BILL	Bilibino	16.66	11	‖ *e*P	Pn	22 46 30.7	-6.4
BILL				*es* S	S	22 49 35.6	-6.9
BILL				pmax	pmax		
	comp=Z,3.0nm,0.9s						
MJAR	Matsushiro Arr	20.70	230	P	P	22 47 24.2	+2.7
MJAR	Matsushiro Arr	20.70	230	P	P	22 47 21.5	0.0
	comp=Z,0.6nm,0.4s,baz=16,slow=12,SNR=4.1						
YKA	Yellowknife Ar	44.98	41	P	P	22 50 54.3	+0.8
YKA	Yellowknife Ar	44.98	41	P	P	22 50 55.0	+1.5
	comp=Z,0.3nm,0.6s,mb3.2,baz=293,slow=7.8,SNR=4.1						
MKAR	Makanchi Array	47.33	295	P	P	22 51 10.9	-1.2
	comp=Z,0.1nm,0.4s,mb2.9,baz=71,slow=9.3,SNR=3.6						
BVAR	Borovoye Array	49.95	308	P	P	22 51 29.4	-2.6
	comp=Z,0.3nm,0.5s,mb3.5,baz=52,slow=7.2,SNR=3.5						
TXAR	Lajitas Array	72.43	65	P	P	22 54 05.1	+1.2
TXAR	Lajitas Array	72.43	65	P	P	22 54 05.7	+1.8
	comp=Z,0.4nm,0.5s,mb3.5,baz=303,slow=4.9,SNR=6.7						
KEST	Kesra	88.39	335	P	P	22 55 29.1	+0.1
	comp=Z,0.6nm,0.5s,mb3.9,baz=317,slow=4.2,SNR=8.1						

*IDC **30** 22:47:30.6±2.5, 104N×12385E, h275km±26km, mb3.7/12, mb1 3.9/13, mb1mx3.7/21, mbtmp3.7/13, Error ellipse: s-maj=29.9km s-min=9.6km az=75.0*
*NEIC **30** 22:47:31.2±2.0, 105N×12391E, h282km±21km, mb4.3/10, Error ellipse: s-maj=14.8km s-min=6.2km az=76.0*
*ISCJB **30** 22:47:34.4±2.3, 104N±008×124.1E±0.1, h335km±26km, mb4.0/24, Error ellipse: s-maj=21.2km s-min=9.7km az=151.9*

ISC 30 22:47:34.8±2.1, 106N±008×1240E±01, h320km±23km, n40, σ0§68/39, mb4.0/24, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	Kupang	11.20	182	P	Pn	22 50 08.8	+1.4
	9.4nm,0.3s,baz=78,slow=2.4,SNR=9.2						
KAKA	Kakadu	16.03	149	*e*P	P	22 51 01.6	-0.6
	6.2nm,0.2s						
KAKA				S	S	22 53 56.2	+1.8
FITZ	Fitzroy Crossi	19.11	175	*e*P	P	22 51 32.8	-2.4
	12nm,0.3s						
FITZ	Fitzroy Crossi	19.11	175	P	P	22 51 33.0	-2.2
	0.7nm,0.3s,baz=29,slow=7.1,SNR=26						
WRAB	Tennant Creek	23.19	155	*e*P	P	22 52 13.8	-0.4
	16nm,0.5s,mb4.5						
WRA	Warramunga Arr	23.20	155	P	P	22 52 13.7	-0.6
	16nm,0.3s,mb4.7,baz=336,slow=9.9,SNR=64						
WB2	Warramunga Arr	23.20	155	*e*P	P	22 52 13.6	-0.7
ASAR	Alice Springs	26.39	159	P	P	22 52 42.6	-0.2
	2.8nm,0.4s,mb3.9,baz=334,slow=7.0,SNR=52						
FORT	Forrest	31.90	173	*e*P	P	22 53 30.8	-0.4
	12nm,0.6s,mb4.3						
NWAO	Narrogin (SRO)	34.41	190	*e*P	P	22 53 52.6	-0.2
	2.7nm,0.7s,mb3.6						
NWAO	Narrogin (SRO)	34.41	190	P	P	22 53 52.3	-0.5
	1.8nm,0.3s,mb3.8,baz=12,slow=10,SNR=7.6						
STKA	Stephens Creek	36.75	155	P	P	22 54 13.1	+0.5
	7.0nm,0.3s,mb4.3,baz=332,slow=9.0,SNR=38						
MJAR	Matsushiro Arr	37.67	19	P	P	22 54 20.3	+0.2
	2.8nm,0.7s,mb3.6,baz=191,slow=8.9,SNR=8.9						
MAJO	Matsushiro	37.67	19	P	P	22 54 20.3	+0.1
LSA	Lhasa	42.29	315	P	P	22 54 58.1	+0.1
	7.2nm,0.6s,mb4.0						
JIRN	Jiri	44.85	310	*e*P	P	22 55 18.7	+0.4
	5.8nm,0.4s,mb4.0						
GUN	Gumba	45.21	310	*e*P	P	22 55 21.6	+0.4
	8.4nm,0.4s,mb4.2						
PKI	Pulchoki	45.41	309	*e*P	P	22 55 22.9	+0.2
PKIN	Phulchoki	45.43	309	*e*P	P	22 55 22.8	0.0
	2.1nm,0.2s,mb3.9						
KKN	Kakani	45.62	309	*e*P	P	22 55 25.0	+0.7
	3.8nm,0.4s,mb3.9						
DMN	Daman	45.67	309	*e*P	P	22 55 25.1	+0.4
KOLN	Koldanda	46.92	308	*e*P	P	22 55 34.6	+0.2
	4.9nm,0.2s,mb4.3						
DANN	Dangsing	47.06	309	*e*P	P	22 55 35.2	-0.3
	13nm,0.5s,mb4.4						
SONM	Songino Array	49.03	344	P	P	22 55 50.5	+0.5
	1.7nm,0.5s,mb3.5,baz=155,slow=6.2,SNR=11						
MK31	Makanchi Array	58.26	327	*e*P	P	22 56 56.6	+0.1
MK31				*e*PcP	PcP	22 57 44.8	+1.0
MKAR	Makanchi Array	58.26	327	P	P	22 56 56.6	+0.1
	2.2nm,0.5s,mb3.8,baz=123,slow=8.7,SNR=28						
MKAR				PcP	PcP	22 57 44.6	+0.7
	0.9nm,0.5s,baz=171,slow=3.2,SNR=7.8						
MKAR				ScP	ScP	23 01 16.9	+4.0
	0.2nm,0.6s,baz=126,slow=6.3,SNR=4.0						
ZALV	Zalesovo Beam	61.78	335	P	P	22 57 19.1	-1.0
	0.9nm,0.4s,mb3.6,baz=122,slow=7.2,SNR=6.1						
MA2	Magadan	61.95	15	P	P	22 57 21.2	+0.1
KURK	Kurchatov	62.58	329	*e*P	P	22 57 24.8	-0.7
	4.9nm,0.4s,mb4.4						
BVAR	Borovoye Array	68.11	328	P	P	22 58 00.4	-0.3
	0.4nm,0.4s,mb3.5,baz=120,slow=5.3,SNR=6.1						
BRVK	Borovoye	68.18	328	*e*P	P	22 58 02.4	+1.3
	1.8nm,0.7s,mb3.9						
AKTK	Aktyubinsk	74.09	323	P	P	22 58 35.9	-0.4
AKTO	Aktyubinsk	74.09	323	P	P	22 58 35.9	-0.4
	2.7nm,0.6s,mb4.2,baz=115,slow=7.5,SNR=10.0						
ARU	Arti	75.76	329	*e*P	P	22 58 45.2	-0.4
	3.2nm,0.7s,mb4.2						
GNI	Garni	81.12	310	P	P	22 59 15.1	-0.1
VNDA	Vanda	81.15	172	*e*P	P	22 59 15.5	+0.9
	0.5nm,0.7s,mb3.4						
VNDA	Vanda	81.15	172	P	P	22 59 15.2	+0.7
	0.5nm,0.6s,mb3.4,baz=328,slow=4.6,SNR=7.4						
ARCES	ARCESS Array B	92.00	340	P	P	23 00 07.0	-0.3
	2.0nm,0.8s,mb4.1,baz=79,slow=8.8,SNR=5.5						
TORD	Torodi Ar. Bea	121.11	286	PKP	PKPdf	23 05 51.5	+0.7
	0.5nm,0.8s,baz=70,slow=2.0,SNR=5.8						
TXAR	Lajitas Array	125.36	52	PKP	PKPdf	23 05 59.6	+1.1
	0.1nm,0.6s,baz=248,slow=4.8,SNR=2.6						

*NEIC **30** 22:51:22.5, 1736N×10089W, h26km, MD4.3(MEX), After MEX.*

MEX 30 22:51:22.3±1.1, 1733N×10089W, h28km±21km, MD4.3, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZIIG	Zihuatanejo	0.61	297	*i* P	Pb	22 51 32.9	-1.6
ZIIG				*i* S	Sb	22 51 39.9	-2.9
CAIG	El Cayaco	0.66	115	*i* P	Pb	22 51 33.4	-2.0
CAIG				*i* S	Sb	22 51 41.4	-2.7
ACX	Acapulco	1.04	116	*i* P	Pn	22 51 39.0	-2.0
ACX				*i* S	Sn	22 51 53.0	-1.6
MEIG	Mezcala	1.35	64	*i* P	Pn	22 51 42.8	-2.4
MEIG				*i* S	Sn	22 51 58.6	-3.5
PLIG	Platanillo	1.69	51	*i* P	Pn	22 51 47.2	-2.7
PLIG				*i* S	Sn	22 52 08.8	-1.8
YAIG	Yautepec	2.31	48	*i* P	Pn	22 51 55.8	-2.6
YAIG				*i* S	Sn	22 52 22.6	-3.3
MOIG	Morelia	2.35	353	*i* P	Pn	22 51 58.4	-0.6
MOIG				*i* S	Sn	22 52 27.8	+0.9
MOIG	Morelia	2.35	353	*i* P	Pn	22 51 58.4	-0.6
MOIG				*i* S	Sn	22 52 25.1	-1.9
MZVM		2.43	40	*i* P	Pn	22 51 57.5	-2.6
SZVM	Salazar	2.44	36	*i* P	Pn	22 51 57.7	-2.7
SZVM				*i* S	Sn	22 52 29.4	+0.1
UNM	Universidad Na	2.57	39	*i* P	Pn	22 52 02.9	+0.9
UNM				*e*P		22 52 05.5	
UNM				*i* S	Sn	22 52 32.0	-0.3
PPM	Popocatepetl	2.76	51	*i* P	Pn	22 52 02.0	-2.6
PPM				*i* P		22 52 02.4	
PPM				*i* S	Sn	22 52 38.2	+1.2
PPM				*i* S	Sn	22 52 39.5	+2.5
PPM	Popocatepetl	2.76	51	*i* P	Pn	22 52 02.0	-2.6
PPM				*i* P		22 52 02.4	
PPM				*i* S	Sn	22 52 36.5	-0.5
PPM				*i* S	Sn	22 52 38.2	+1.2
PTVM	Pico Tres Padr	2.81	37	*i* P	Pn	22 52 01.6	-3.7
PTVM				*es* S	Sn	22 52 47.3	+8.9
UTMO	Huajuapan	2.99	80	*i* P	Pn	22 52 06.6	-1.1
UTMO				*i* S	Sn	22 52 38.4	-4.2
IIO	Organos	3.05	42	*i* P	Pn	22 52 06.2	-2.4
IIO				*es* S	Sn	22 52 52.6	+8.5
DEIG	Demacu	3.44	30	*i* P	Pn	22 52 08.8	-5.2
DEIG				*i* S	Sn	22 52 53.7	-0.1
VHO	Vista Hermosa	3.98	93	*i* P	Pn	22 52 20.5	-1.0
VHO				*i* S	Sn	22 53 03.4	-3.8
OXX	Oaxaca	3.99	93	*e*P	Pn	22 52 32.0	+10
ANIG	Ahuacatlan	5.05	318	*i* P	Pn	22 52 38.9	+2.8
ANIG				*i* S	Sn	22 53 35.0	+1.5
ZAIG	Zacatecas	5.63	344	*i* P		22 50 32.5	
ZAIG				*i* S		22 51 30.9	

IDC 30 22:57:10.4±1.1, 5643S×2449W, h0km, mb3.8/3, mb1 4.0/3, mb1mx3.7/16, mbtmp3.8/3, MS3.4/1, Ms1 3.4/1, ms1mx3.1/15, Error ellipse: s-maj=47.2km s-min=29.9km az=89.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPUP	Villa Florida	38.22	308	P	P	23 04 31.7	-0.1
	0.7nm,0.4s,baz=146,slow=7.3,SNR=3.5						
CPUP				LR	LR	23 19 35.1	
	comp=Z,56nm,19.2s,baz=18,slow=35						
VNDA	Vanda	46.25	182	P	P	23 05 36.5	-0.2
	0.6nm,0.5s,baz=186,slow=7.9,SNR=9.4						
TORD	Torodi Ar. Bea	72.68	27	P	P	23 08 39.9	0.0
	0.7nm,0.4s,baz=200,slow=6.4,SNR=27						
SONM	Songino Array	149.25	85	PKPbc	PKPbc	23 16 59.6	-0.2
	0.5nm,0.5s,baz=264,slow=3.0,SNR=3.8						

*ISCJB **30** 23:12:43.8±0.9, 3895N±003×2640E±005, h8km±5km, Error ellipse: s-maj=6.8km s-min=3.8km az=156.2*
*ATH **30** 23:12:43.3, 3889N×2619E, h22km±1km, MD3.5/5*
*NEIC **30** 23:12:44.0, 3899N×2646E, h9km, MD3.5(ATH), MD3.3(ISK), After ISK.*
*ISK **30** 23:12:44.3, 3900N×2647E, h9km, MD3.3*
*CSEM **30** 23:12:44.0±0.1, 3897N×2648E, h10km, MD3.1, Error ellipse: s-maj=2.8km s-min=1.6km az=53.0*
*DDA **30** 23:12:45.6, 3905N×2654E, h8km±3km, Md3.1*

ISC 30 23:12:44.7±0.7, 3895N±003×2642E±005, h12km±4km, n29, σ0§79/42, Aegean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PRK	Paraskevi	0.32	340	*e*PB	Pg	23 12 51.2	0.0
PRK				*es*SB	Sg	23 12 56.9	+1.3
PRK	Paraskevi	0.32	340	*e*Pb	Pg	23 12 51.0	-0.2
PRK				*es*Sb	Sg	23 12 56.5	+0.9
AYVA	Ayvalik	0.42	31	*i* P	Pg	23 12 52.6	-0.4
AYVA				*i* S	Sg	23 12 58.9	+0.2
KDAG	Bornova	0.86	129	*i* P	Pg	23 13 00.1	-1.1
KDAG				*i* S	Sg	23 13 15.1	+2.6
EZN	Ezine	0.88	356	*e*PG	Pg	23 13 00.5	-1.2
EZN				*es*SG	Sg	23 13 13.3	0.0
BOZC	Bozcaada	0.94	343	*i* P	Pg	23 13 02.1	-0.7
BOZC				*i* S	Sg	23 13 15.4	+0.3
AKHS	Akhisar	1.09	93	*i* P	Pb	23 13 04.9	-0.6
AKHS				*i* S	Sb	23 13 19.2	-0.5
SMG	Samos	1.28	165	*e*PN	Pn	23 13 07.5	-0.8
SMG				*es*N	Sn	23 13 25.4	+0.1
SMG	Samos	1.28	165	*e*Pn	Pn	23 13 08.0	-0.3
SMG				Sn	Sn	23 13 25.4	+0.1
GADA	Gvkgeada	1.31	342	*e*PN	Pn	23 13 08.5	-0.2
GADA				*es*N	Sn	23 13 26.2	+0.1
BALB	Balikesir	1.33	58	*e*PN	Pn	23 13 08.8	-0.3
BALB				*es*N	Sn	23 13 26.7	0.0
LPK	Lapseki	1.45	10	*e*PN	Pn	23 13 10.6	-0.1
EDC	Edincik	1.79	38	*e*PN	Pn	23 13 15.0	-0.3
ENEZ	Enez	1.80	354	*e*PN	Pn	23 13 15.6	+0.1
ENEZ				*es*N	Sn	23 13 38.6	+0.4
KULA	Kula-Manisa	1.81	103	*e*PN	Pn	23 13 15.1	-0.5
BNT	Bandirma	1.83	39	*e*PN	Pn	23 13 14.8	-1.1
RKY	Sarkoy-Tekirda	1.84	18	*e*PN	Pn	23 13 15.8	-0.2
RKY				*es*N	Sn	23 13 39.1	0.0
DST	Dursunbey	1.84	68	*e*PN	Pn	23 13 15.5	-0.6
MRMT	Marmara Adasi	1.89	28	*e*PN	Pn	23 13 16.9	+0.2
MFT	Murefte	1.96	20	*e*PN	Pn	23 13 18.2	+0.5
MLSB	Milas	1.97	146	*e*PN	Pn	23 13 19.3	+1.5
APE	Apeiranthos	2.00	201	*e*PN	Pn	23 13 16.5	-1.7
BODT	Bodrum	2.01	159	*e*PN	Pn	23 13 20.7	+2.3
RDO	Rodhopi	2.30	343	*e*PN	Pn	23 13 22.4	+0.1
IZI	Iznik	2.74	59	*e*PN	Pn	23 13 29.0	+0.6
YLV	Yalova	2.80	54	*e*PN	Pn	23 13 29.9	+0.8
EDRB	Edirne	2.91	5	*e*PN	Pn	23 13 31.3	+0.5
KLYT	Kilyos	3.06	40	*e*PN	Pn	23 13 33.2	+0.4
NVR	Nevrokopi	3.10	322	*e*PN	Pn	23 13 33.4	+0.1

*NEIC **30** 23:19:45.5, 3780S×17631E, h200km, MG4.7(WEL), After WEL.*

WEL 30 23:19:45.5±0.6, 3780S×17629E, h200km±4km, ML4.7/22, Error ellipse: s-maj=4.0km s-min=2.7km az=90.0, North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TGRZ	Tauranga	0.07	340	P	Pn	23 20 11.5	-0.2
TGRZ				S	Sn	23 31 31.9	0.0
TGRZ	Tauranga	0.07	340	PN	Pn	23 20 11.5	-0.2
TGRZ				SN	Sn	23 31 31.9	0.0
OPRZ	Ohinepanea	0.22	104	PN	Pn	23 20 11.5	-0.2
OPRZ				SN	Sn	23 20 32.5	+0.4
TAZ	Tarawera	0.47	159	P	Pn	23 20 13.1	+0.7
TAZ	Tarawera	0.47	159	PN	Pn	23 20 13.1	+0.7
HRRZ	Handcock Road	0.59	180	PN	Pn	23 20 13.2	+0.3
TOZ	Tahuroa Road	0.63	276	P	Pn	23 20 12.7	-0.4
TOZ	Tahuroa Road	0.63	276	PN	Pn	23 20 12.7	-0.4
URZ	Urewera	0.80	126	P	Pn	23 20 13.6	-0.3
URZ	Urewera	0.80	126	PN	Pn	23 20 13.6	-0.3
URZ				SN	Sn	23 20 34.1	-1.9
WHTZ	Whakaora	0.91	197	P	Pn	23 20 15.4	+0.8
WHTZ	Whakaora	0.91	197	PN	Pn	23 20 15.4	+0.8
WATZ	Wairara	1.01	205	P	Pn	23 20 15.6	+0.3
WATZ	Wairara	1.01	205	PN	Pn	23 20 15.6	+0.3
HATZ	Hinemaiaia	1.11	188	PN	Pn	23 20 16.0	+0.1
MWZ	Matawai	1.12	119	P	Pn	23 20 16.0	0.0
MWZ				S	Sn	23 20 38.4	-1.3
MWZ	Matawai	1.12	119	PN	Pn	23 20 16.0	0.0
MWZ				SN	Sn	23 20 38.4	-1.3
MKAZ	Moumakai	1.12	307	P	Pn	23 20 16.0	-0.1
MKAZ	Moumakai	1.12	307	PN	Pn	23 20 16.0	-0.2
KUZ	Kuaotunu	1.14	336	PN	Pn	23 20 15.5	-0.8
RATZ	Rangitukua	1.15	201	P	Pn	23 20 16.5	+0.3
RATZ	Rangitukua	1.15	201	PN	Pn	23 20 16.5	+0.3
RITZ	Rihia Road	1.23	196	P	Pn	23 20 17.4	+0.6
RITZ	Rihia Road	1.23	196	PN	Pn	23 20 17.4	+0.6
KATZ	Kakaramea	1.27	201	P	Pn	23 20 17.4	+0.2
KATZ	Kakaramea	1.27	201	PN	Pn	23 20 17.4	+0.3
HIZ	Hauiti	1.34	237	P	Pn	23 20 17.3	-0.4
HIZ	Hauiti	1.34	237	PN	Pn	23 20 17.3	-0.4
BKZ	Black Stump Fm	1.38	173	P	Pn	23 20 17.6	-0.5
BKZ	Black Stump Fm	1.38	173	PN	Pn	23 20 17.6	-0.4
KRVZ	Karewarewa	1.40	201	PN	Pn	23 20 18.2	0.0
WTVZ	West Tongariro	1.43	202	PN	Pn	23 20 18.6	+0.1
TWVZ	Taurewa	1.44	207	PN	Pn	23 20 18.8	+0.2
OTVZ	Oturere	1.45	200	PN	Pn	23 20 19.1	+0.4
NGZ	Ngauruhoe	1.48	201	P	Pn	23 20 19.1	+0.2
NGZ	Ngauruhoe	1.48	201	PN	Pn	23 20 19.1	+0.1
WPVZ	Whakapapa	1.52	202	P	Pn	23 20 19.4	+0.1
WPVZ	Whakapapa	1.52	202	PN	Pn	23 20 19.4	+0.1
TUVZ	Tukino	1.55	199	P	Pn	23 20 19.8	+0.2
TUVZ	Tukino	1.55	199	PN	Pn	23 20 19.8	+0.2
FWVZ	Far West T-bar	1.57	201	P	Pn	23 20 19.6	-0.1
FWVZ	Far West T-bar	1.57	201	PN	Pn	23 20 19.6	-0.1
DRZ	Dome Shelter	1.58	201	P	Pn	23 20 20.5	+0.6
DRZ	Dome Shelter	1.58	201	PN	Pn	23 20 20.5	+0.6
TRVZ	Turoa	1.61	201	PN	Pn	23 20 20.4	+0.3
MXZ	Matakaoa Point	1.62	82	P	Pn	23 20 20.6	+0.4
MXZ	Matakaoa Point	1.62	82	PN	Pn	23 20 20.6	+0.4
WNVZ	Wahianoa	1.62	199	PN	Pn	23 20 20.3	+0.1
KNZ	Kokohu	1.64	139	P	Pn	23 20 20.8	+0.4
KNZ	Kokohu	1.64	139	PN	Pn	23 20 20.8	+0.5
MOVZ	Moawhango	1.66	194	P	Pn	23 20 20.2	-0.4
MOVZ	Moawhango	1.66	194	PN	Pn	23 20 20.2	-0.4
PKVZ	Pokaka	1.67	206	PN	Pn	23 20 20.6	0.0
MTVZ	Mangateitei	1.71	202	PN	Pn	23 20 21.1	0.0
VRZ	Vera Road	1.79	222	P	Pn	23 20 22.1	+0.3
VRZ	Vera Road	1.79	222	PN	Pn	23 20 22.1	+0.3
RAEZ	Rain

EAZ	Earnscleugh	9.09 213	P	Pn	23 21 48.2	-4.5
EAZ	Earnscleugh	9.09 213	PN	Pn	23 21 48.2	-4.5
HHSZ	Highcliff Hill	9.13 206	PN	Pn	23 21 50.4	-2.8
VNDA	Vanda	40.31 185	P	P	23 27 02.2	-0.5
WB2	Warramunga Arr	40.42 284	P	P	23 27 04.5	+0.2
WRAB	Tennant Creek	40.43 284	P	P	23 27 03.9	-0.5
QSPA	South Pole Qui	52.33 180	P	P	23 28 36.3	+0.2
GUMO	Guam	59.01 324	P	P	23 29 24.2	-0.1
	505nm,0.4s					

*IDC **30** 23:21:28.4±0.6, 542N×9450E, h0km, mb4.3/14, mb1 4.4/14, mb1mx4.3/23, mbtmp4.3/14, MS3.2/2, Ms1 3.2/2, ms1mx3.0/26, Error ellipse: s-maj=27.9km s-min=13.6km az=50.0*
*BJI **30** 23:21:30.9, 540N×9450E, h29km, mB5.1, mb4.7*
*ISCJB **30** 23:21:35.7±0.9, 541N±006×9460E±007, h71km±7km, mb4.4/40, Error ellipse: s-maj=13.6km s-min=7.3km az=136.7*
*NEIC **30** 23:21:38.0±1.0, 536N×9451E, h79km±9km, mb4.5/18, Error ellipse: s-maj=9.4km s-min=5.7km az=47.0*
NEIC Felt [II] at Banda Aceh.

ISC 30 23:21:36.4±0.9, 541N±006×9455E±007, h62km±8km, h50km±5.0km: pP-P, n77, σ0°75/73, mb4.6/40, 2C-2D, Northern Sumatera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BSI	Banda Aceh	0.75	84	⇓eP	Pn	23 21 51.0	-0.3
BSI				eS	Sn	23 22 02.0	-0.3
PSI	Prapat	5.08	121	Pn	Pn	23 22 51.4	+1.4
	7.1nm,0.3s,baz=299,slow=12,SNR=35						
PSI				Sn	Sn	23 23 45.5	-1.7
	2.4nm,0.3s,baz=18,slow=19,SNR=2.3						
PSI				LR	LR	23 24 37.3	
	comp=Z,118nm,19.3s,baz=293,slow=36						
SNG	Songkhla	6.28	73	P	Pn	23 23 07.0	+0.6
	220nm,1.0s						
PALK	Pallekele	13.89	278	ePn	Pn	23 24 50.7	+0.4
	8.7nm,0.9s						
CHG	Chiang Mai	13.99	17	⇓P	Pn	23 24 58.4	+6.8
	30nm,0.8s						
CHTO	Chiang Mai	13.99	17	ePn	Pn	23 24 55.7	+4.1
	12nm,0.8s						
JIRN	Jiri	23.51	341	eP	P	23 26 41.4	+0.5
	52nm,0.6s,mb5.2						
PKI	Pulchoki	23.69	339	eP	P	23 26 41.7	-0.8
PKIN	Phulchoki	23.70	339	eP	P	23 26 41.5	-1.1
	14nm,0.6s,mb4.6						
DMN	Daman	23.83	339	eP	P	23 26 43.1	-0.7
	17nm,0.6s,mb4.7						
GUN	Gumba	23.85	341	eP	P	23 26 43.2	-0.7
GYA	Guiyang	23.91	28	⇑iP	P	23 26 45.8	+1.2
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.6						
KKN	Kakani	23.94	339	eP	P	23 26 44.0	-0.8
	comp=Z,9.5nm,0.4s,mb4.6						
LSA	Lhasa	24.37	353	eP	P	23 26 50.3	+1.6
	comp=Z,13nm,0.6s,mb4.5						
KOLN	Koldanda	24.55	336	eP	P	23 26 51.1	+0.7
	comp=Z,42nm,0.6s,mb5.2						
DANN	Dangsing	25.01	337	eP	P	23 26 55.1	+0.6
	comp=Z,47nm,0.6s,mb5.2						
KAPI	Kappang	27.21	112	P	P	23 27 14.7	+0.1
	comp=Z,4.0nm,0.4s,mb4.3,baz=26,slow=22,SNR=4.8						
KAPI				LR	LR	23 38 46.1	
	comp=Z,106nm,21.0s,baz=194,slow=38						
XAN	Xi'an	31.45	23	P	P	23 27 51.5	-0.5
XAN				AMB	AMB		
	comp=Z,14nm,0.6s,mb5.0						
GTA	Gaotai	34.18	7	eP	P	23 28 16.0	+0.3
GTA				AP	pP	23 28 24.5	-6.6
GTA				XP	sP	23 28 28.3	-10
GTA				AMB	AMB		
	comp=Z,8.0nm,0.9s,mb4.7						
MBWA	Marble Bar	36.16	138	eP	P	23 28 33.6	+0.6
	comp=Z,3.0nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	38.56	128	eP	P	23 28 52.6	-0.7
	comp=Z,4.3nm,0.7s,mb4.3						
FITZ	Fitzroy Crossi	38.56	128	P	P	23 28 52.6	-0.7
	comp=Z,2.6nm,0.7s,mb4.1,baz=24,slow=18,SNR=8.4						
FITZ				PcP	PcP	23 31 05.9	+0.9
	comp=Z,2.1nm,0.9s,baz=303,slow=3.0,SNR=5.1						
BJT	Baijiatuau	39.57	26	eP	P	23 29 01.2	-0.3
MK31	Makanchi Array	42.56	348	eP	P	23 29 26.4	+0.4
MKAR	Makanchi Array	42.56	348	P	P	23 29 26.5	+0.5
	comp=Z,12nm,0.6s,mb4.8,baz=170,slow=8.2,SNR=189						
SONM	Songino Array	43.47	12	P	P	23 29 33.3	+0.1
	comp=Z,3.6nm,0.6s,mb4.3,baz=189,slow=7.4,SNR=31						
SONM				PcP	PcP	23 31 21.7	+1.2
	comp=Z,1.1nm,0.4s,baz=211,slow=3.0,SNR=8.8						
WRA	Warramunga Arr	46.53	124	P	P	23 29 58.5	+0.4
	comp=Z,6.4nm,0.6s,mb4.7,baz=303,slow=9.3,SNR=29						
WRA				PcP	PcP	23 31 32.7	+1.2
	comp=Z,0.5nm,0.6s,baz=322,slow=2.5,SNR=3.1						
WRAB	Tennant Creek	46.54	124	eP	P	23 29 58.5	+0.4
	comp=Z,6.8nm,0.6s,mb4.8						
WB2	Warramunga Arr	46.54	124	⇑iP	P	23 29 58.4	+0.3
WB2	Warramunga Arr	46.54	124	eP	P	23 29 58.7	+0.6
TLY	Talaya	46.73	8	P	P	23 29 59.3	+0.3
KURK	Kurchatov	47.08	346	eP	P	23 30 02.7	+0.9
	comp=Z,6.5nm,0.4s,mb4.9						
ASAR	Alice Springs	48.05	129	P	P	23 30 10.3	+0.6
	comp=Z,1.7nm,0.5s,mb4.3,baz=298,slow=7.8,SNR=25						
ASAR				PcP	PcP	23 31 38.2	+1.3
	comp=Z,1.6nm,0.9s,baz=305,slow=4.1,SNR=3.9						
ZAA0	Zalesovo Array	49.03	352	eP	P	23 30 17.0	+0.2
ZAA0				e	pP	23 30 30.7	-2.3
ZALV	Zalesovo Beam	49.03	352	P	P	23 30 17.4	+0.5
	comp=Z,8.9nm,0.5s,mb5.0,baz=180,slow=6.6,SNR=69						
MDJ	Mudanjiang	49.63	33	P	P	23 30 20.2	-1.3
MJAR	Matsushiro Arr	50.53	46	P	P	23 30 29.6	+1.0
	comp=Z,1.3nm,0.8s,mb3.9,baz=243,slow=8.6,SNR=3.4						
BRVK	Borovoye	51.50	342	eP	P	23 30 35.3	-0.2
	comp=Z,4.8nm,0.6s,mb4.6						
BRVK				e	pP	23 30 49.1	-2.7
ARU	Arti	58.30	337	eP	P	23 31 24.2	-0.4
	comp=Z,2.2nm,0.7s,mb4.3						
TIXI	Tiksi	69.55	11	eP	P	23 32 37.2	-1.0
	comp=Z,3.0nm,0.4s,mb4.6						
TIXI				e	pP	23 32 52.1	-3.0
AKASG	Malin Array Be	70.33	322	P	P	23 32 42.1	-1.2
	comp=Z,2.0nm,0.6s,mb4.2,baz=93,slow=5.2,SNR=15						
FINES	FINESS Array B	75.07	332	P	P	23 33 11.1	-0.1
	comp=Z,1.1nm,0.4s,mb4.1,baz=110,slow=6.1,SNR=20						
ARCES	ARCESS Array B	77.71	340	P	P	23 33 26.9	+0.9
	comp=Z,1.1nm,0.4s,mb4.2,baz=101,slow=7.0,SNR=19						
GEC2	GERESS Array S	79.92	319	eP	P	23 33 39.0	+0.4
GERES	GERESS Array B	79.92	319	P	P	23 33 39.7	+1.1
	comp=Z,3.7nm,0.7s,mb4.5,baz=97,slow=5.3,SNR=41						
KHC	Kasperske Hory	80.02	319	eP	P	23 33 37.0	-2.1
KEST	Kesra	82.98	305	P	P	23 33 56.3	+1.2
	comp=Z,1.0nm,0.6s,mb4.0,baz=104,slow=3.4,SNR=6.7						
SBF	Sospel	84.21	313	eP	P	23 34 01.0	-0.2
	comp=Z,20nm,0.9s,mb5.0						
SBF	Sospel	84.21	313	eP	P	23 34 01.0	-0.2
	comp=Z,10nm,0.9s,mb5.0						
LPG	La Plagne	84.64	315	eP	P	23 34 03.5	+0.2
	comp=Z,6.0nm,0.7s,mb4.5						
LPG	La Plagne	84.64	315	eP	P	23 34 03.5	+0.2
	comp=Z,3.0nm,0.7s,mb4.5						
LPL	La Plagne	84.65	315	eP	P	23 34 03.6	+0.2
	comp=Z,10nm,0.8s,mb4.7						
LPL	La Plagne	84.65	315	eP	P	23 34 03.6	+0.2
	comp=Z,5.1nm,0.8s,mb4.7						
MBDF	Montbardon	84.65	314	eP	P	23 34 03.3	-0.1
FRF	La Foret Royal	84.79	313	eP	P	23 34 04.1	0.0
	comp=Z,13nm,0.9s,mb4.8						
FRF	La Foret Royal	84.79	313	eP	P	23 34 04.1	0.0
	comp=Z,6.7nm,0.9s,mb4.8						
HAU	Haudompre	84.81	318	eP	P	23 34 03.5	-0.6
	comp=Z,7.6nm,0.7s,mb4.6						
HAU	Haudompre	84.81	318	eP	P	23 34 03.5	-0.6
	comp=Z,3.8nm,0.7s,mb4.6						
ORIF	Oris-en-Rattie	85.28	315	eP	P	23 34 06.1	-0.4
	comp=Z,3.9nm,0.7s,mb4.4						
ORIF	Oris-en-Rattie	85.28	315	eP	P	23 34 06.1	-0.4
	comp=Z,2.0nm,0.7s,mb4.4						
LOR	Lormes	86.54	317	eP	P	23 34 12.3	-0.4
	comp=Z,3.4nm,0.7s,mb4.4						
LOR	Lormes	86.54	317	eP	P	23 34 12.3	-0.4
	comp=Z,1.7nm,0.7s,mb4.4						
SMF	Signal de Mont	86.59	316	eP	P	23 34 12.5	-0.5
	comp=Z,4.0nm,0.6s,mb4.5						
SMF	Signal de Mont	86.59	316	eP	P	23 34 12.5	-0.5
	comp=Z,2.0nm,0.6s,mb4.5						
SSF	Saint Saulge	86.79	317	eP	P	23 34 13.7	-0.3
AVF	Avril sur Loir	86.92	317	eP	P	23 34 14.3	-0.3
	comp=Z,5.3nm,0.9s,mb4.5						
AVF	Avril sur Loir	86.92	317	eP	P	23 34 14.3	-0.3
	comp=Z,2.7nm,0.9s,mb4.5						
TCF	Toulx Ste Croi	87.75	316	eP	P	23 34 18.1	-0.5
MTLF	Montolieu	88.02	313	eP	P	23 34 19.2	-0.8
	comp=Z,28nm,1.5s,mb5.0						
MTLF	Montolieu	88.02	313	eP	P	23 34 19.2	-0.8
	comp=Z,14nm,1.5s,mb5.0						
TORD	Torodi Ar. Bea	91.56	283	P	P	23 34 37.9	+0.9
	comp=Z,0.4nm,0.8s,mb3.8,baz=80,slow=4.0,SNR=3.0						
ULM	Lac du Bonnet	123.83	8	PKP	PKPdf	23 40 27.1	-0.3
	comp=Z,3.0nm,0.7s,baz=293,slow=3.1,SNR=4.8						
NVAR	Mina Array Bea	126.79	32	PKP	PKPdf	23 40 29.9	-3.4
NVAR				PKP	PKPdf	23 40 35.4	+2.0
NVAR	Mina Array Bea	126.79	32	PKhKP		23 40 29.9	
	comp=Z,0.1nm,0.4s,baz=315,slow=1.5,SNR=2.6						
NVAR				PKP	PKPdf	23 40 35.4	+2.0
	comp=Z,0.8nm,0.6s,baz=242,slow=1.4,SNR=7.9						
TXAR	Lajitas Array	141.27	26	PKhKP		23 40 55.5	
	comp=Z,0.4nm,0.6s,baz=56,slow=1.8,SNR=5.0						
TXAR				PKP	PKPdf	23 41 02.3	+1.6
	comp=Z,1.0nm,0.5s,baz=198,slow=1.4,SNR=19						
CPUP	Villa Florida	146.03	229	PKPbc	PKPbc	23 41 10.9	+0.9
	comp=Z,1.0nm,0.5s,baz=68,slow=5.4,SNR=3.9						
LPAZ	La Paz	159.87	236	PKPab	PKPab	23 42 10.4	+1.7
	comp=Z,0.5nm,0.6s,baz=88,slow=2.0,SNR=4.2						

*ISCJB **31** 00:02:20.6±0.6, 5648N×007×15729W±0.10, h65km±7km, mb3.8/9, Error ellipse: s-maj=14.2km s-min=5.4km az=146.9*
*NEIC **31** 00:02:21.7, 5626N×157.10W, h16km, ML3.5(AEIC), After AEIC.*
*IDC **31** 00:02:23.8±4.6, 5669N×15723W, h68km±37km, mb3.5/9, mb1 3.7/11, mb1mx3.5/23, mbtmp3.6/11, ML4.2/2, Error ellipse: s-maj=37.6km s-min=19.5km az=30.0*

ISC 31 00:02:21.8±0.7, 5638N±008×1572W±01, h63km±7km, n29, σ0°99/32, mb3.8/9, Alaska Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CHGN	Chignik	0.68	264	P	Pn	00 02 34.6	-1.3
SDPT	Sand Point	2.12	242	P	Pn	00 02 54.2	-0.6
KDAK	Kodiak Island	2.88	59	P	Pn	00 03 05.5	+0.3
KDAK	Kodiak Island	2.88	59	P	Pn	00 03 05.6	+0.4
	27nm,0.3s,baz=240,slow=6.8,SNR=189						
KDAK				S	Sn	00 03 38.1	-0.6
	30nm,0.3s,baz=317,slow=4.3,SNR=8.8						
FALS	False Pass	3.84	249	P	Pn	00 03 18.1	-0.2
FALS				S	Sn	00 04 03.2	+1.1
SVW2	Sparrevohn	4.81	9	ePn	Pn	00 03 32.9	+1.3
SVW2	Sparrevohn	4.81	9	P	Pn	00 03 32.5	+0.9
SLKM	Skilak Lake	5.53	39	ePn	Pn	00 03 42.0	+0.6
SLKM				eSn	Sn	00 04 42.3	-1.1
SEW	Seward	5.54	44	P	Pn	00 03 40.9	-0.6
UNV	Unalaska Valle	5.91	249	P	Pn	00 03 45.6	-1.0
RC01	Rabbit Creek A	6.12	36	P	Pn	00 03 49.9	+0.6
TT01	Tatalina	6.58	5	P	Pn	00 03 56.8	+1.1
SPIA	Saint Paul Isl	7.22	282	P	Pn	00 04 05.2	+0.7
KTH	Kantishna Hill	7.85	21	P	Pn	00 04 14.2	+1.1
IM3	Indian Mountai	9.78	8	P	Pn	00 04 40.1	+0.7
IL1	Eielson Array	9.82	27	P	Pn	00 04 38.3	-1.6
IMA2	Indian Mountai	9.87	8	Pn	Pn	00 04 41.8	+1.2
INK	Inuvik	16.09	33	P	Pn	00 06 01.8	-1.8
INK	Inuvik	16.09	33	P	Pn	00 06 01.8	-1.8
	0.8nm,0.3s,baz=242,slow=15,SNR=13						
YKA	Yellowknife Ar	22.16	56	P	P	00 07 12.3	+0.4
	0.9nm,0.3s,mb3.6,baz=272,slow=11,SNR=18						
NVAR	Mina Array Bea	31.30	108	P	P	00 08 38.9	+3.3
NVAR	Mina Array Bea	31.30	108	P	P	00 08 38.9	+3.3
	0.5nm,0.6s,mb3.5,baz=311,slow=8.2,SNR=4.3						
TXAR	Lajitas Array	46.07	103	P	P	00 10 40.9	+1.8
	0.5nm,0.6s,mb3.6,baz=308,slow=5.1,SNR=8.2						
ARCES	ARCESS Array B	54.38	359	P	P	00 11 40.7	-0.6
	3.2nm,0.8s,mb4.3,baz=17,slow=8.9,SNR=4.5						
SONM	Songino Array	55.10	305	P	P	00 11 46.9	+0.1
	1.2nm,0.5s,mb4.2,baz=31,slow=7.6,SNR=13						
ZALV	Zalesovo Beam	58.94	322	P	P	00 12 14.1	+0.1
	0.4nm,0.3s,mb3.9,baz=54,slow=7.3,SNR=2.3						
FINES	FINESS Array B	62.49	358	P	P	00 12 37.2	-0.7
	0.7nm,0.5s,mb4.0,baz=15,slow=7.9,SNR=6.5						
MKAR	Makanchi Array	65.82	320	P	P	00 12 59.3	-0.6
	0.4nm,0.4s,mb3.8,baz=40,slow=4.2,SNR=10						
AKASG	Malin Array Be	73.16	356	P	P	00 13 44.3	-0.8
	0.2nm,0.3s,mb3.5,baz=8.2,slow=5.7,SNR=3.6						

*ISCJB **31** 00:24:49.8±0.9, 2347S±005×677W±0.1, h97km±16km, mb4.0/3, Error ellipse: s-maj=17.7km s-min=6.8km az=16.9*
*IDC **31** 00:24:51.9±2.3, 2323S×6772W, h102km±21km, mb3.7/4, mb1 3.6/8, mb1mx3.5/20, mbtmp3.6/8, Error ellipse: s-maj=42.4km s-min=16.9km az=112.0*
*GUC **31** 00:24:54.3±0.7, 2354S×6827W, h140km, MD3.9, ML3.8*
*NEIC **31** 00:24:54.3, 2354S×6827W, h140km, mb4.4/2, MD3.9(GUC), After GUC.*

ISC 31 00:24:51.5±0.7, 2343S±004×6778W±009, h94km±13km, n19, σ1°29/26, mb4.0/3, D, Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LVC	Limon Verde	1.32	308	eP	Pn	00 25 16.3	+1.1
LVC				eS	Sn	00 25 33.2	+0.1
CEN1	Los Morros	2.22	270	⇓iP	Pn	00 25 28.2	+1.5
CEN1				i S	Sn	00 25 54.1	+0.4
CEN1				AML	AML	00 25 59.0	
	comp=E,385nm,0.5s						
ANCH	Antofagasta	2.43	263	⇓iP	Pn	00 25 29.1	-0.3
ANCH				i S	Sn	00 25 55.5	-3.0
ANCH	Antofagasta	2.43	263	⇓iP	Pn	00 25 29.1	-0.3
ANCH				i S	Sn	00 25 55.5	-3.0
ANCH				AML	AML	00 26 02.6	
	comp=N,736nm,0.2s						
CPN1	Cerro Paranal	2.68	243	eP	Pn	00 25 33.6	+0.8
CPN1				i S	Sn	00 26 03.4	-1.1
CPN1				AML	AML	00 26 04.8	
	comp=N,899nm,0.9s						
CPCH	Copiapo	4.55	210	i S	Sn	00 26 49.0	-0.8
VACH	Vallenar	5.79	207	i S	Sn	00 27 18.9	-0.9
LPAZ	La Paz	7.11	357	ePn	Pn	00 26 32.3	-0.6
	comp=N,6.4nm,0.5s						
LPAZ	La Paz	7.11	357	P	Pn	00 26 32.5	-0.4
	comp=N,1.8nm,0.3s,baz=183,slow=7.2,SNR=46						
CFAA	Coronel Fontan	8.16	183	P	Pn	00 26 49.2	+2.1
CFAA				S	Sn	00 28 16.2	-1.4
CFAA	Coronel Fontan	8.16	183	P	Pn	00 26 49.2	+2.1
	comp=N,0.4nm,0.3s,baz=357,slow=13,SNR=36						
CFAA				S	Sn	00 28 16.2	-1.4
	comp=N,0.3nm,0.3s,baz=127,slow=18,SNR=5.1						
SIV	San Ignacio	9.72	42	P	Pn	00 27 06.8	-1.7
	comp=N,3.0nm,0.3s,baz=250,slow=10,SNR=42						
SIV				S	Sn	00 28 48.9	-7.1
	comp=N,0.7nm,0.3s,baz=17,slow=19,SNR=5.2						
TRQA	Tornquist	15.41	163	ePn	Pn	00 28 26.3	+2.8
	comp=N,36nm,1.6s						
PLCA	Paso Flores	17.41	187	P	Pn	00 28 50.6	+2.3
	comp=N,0.2nm,0.3s,baz=25,slow=16,SNR=4.9						
BDFB	Brasilia	20.16	71	P	P	00 29 18.6	+0.1
	comp=N,2.7nm,0.6s,baz=241,slow=19,SNR=8.3						
SNAA	Sanae	60.13	161	P	P	00 34 49.6	+0.9
	comp=N,0.6nm,1.0s,mb3.6,baz=318,slow=8.9,SNR=6.2						
DBIC	Dimbokro	68.30	72	P	P	00 35 42.1	-0.9
	comp=N,3.9nm,1.0s,mb4.2,baz=123,slow=16,SNR=8.1						
TORD	Torodi Ar. Bea	77.03	69	P	P	00 36 33.6	-1.1
	comp=N,2.4nm,0.5s,mb4.2,baz=256,slow=5.8,SNR=62						
MKAR	Makanchi Array	146.53	38	PKPbc	PKPbc	00 44 19.0	-2.9
	comp=N,0.3nm,0.6s,baz=336,slow=2.7,SNR=4.6						

*ISCJB **31** 00:32:30.7±0.3, 4692N±002×11239W±003, h10km, Error ellipse: s-maj=3.7km s-min=2.0km az=144.1*
*NEIC **31** 00:32:31.0, 4693N×11242W, h5km, ML2.9(BUT), After BUT.*

ISC 31 00:32:31.5±0.3, 4693N±002×11244W±003, h10km, n42, σ1°06/89, 20C-17D, Montana

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
D15A	Lincoln	0.13	335	⇑P	Pg	00 32 34.1	-0.4
	baz=0.1,SNR=1000						
D15A				⇑S	Sg	00 32 36.2	-0.4
	baz=0.1						
E15A	Deer Lodge	0.52	195	P	Pg	00 32 41.4	-0.2
	baz=0.5,SNR=192						
E15A				⇓S	Sg	00 32 48.6	+0.2
	baz=0.5						
D14A	Greenough	0.75	282	⇑P	Pg	00 32 45.5	-0.4
	baz=0.8,SNR=156						
D14A				⇓S	Sg	00 32 56.1	+0.5
	baz=0.8						
E14A	Clinton	0.89	235	⇑P	Pg	00 32 48.2	-0.3
	baz=0.9,SNR=182						
E14A				⇑S	Sg	00 33 00.7	+0.6
	baz=0.9						
MSO	Missoula	1.03	265	eP	Pg	00 32 51.1	-0.2
MSO				eS	Sg	00 33 04.0	-0.8
F15A	Butte	1.09	182	P	Pb	00 32 51.9	-0.5
	baz=1.1,SNR=254						
F15A				⇑S	Sg	00 33 06.6	+0.1
	baz=1.1						
C14A	Swan Lake	1.22	314	⇑P	Pn	00 32 53.2	-1.4
	baz=1.2						
C14A				⇓S	Sb	00 33 09.8	-0.7
	baz=1.2						
F14A	Wisdom	1.29	210	⇑P	Pn	00 32 55.7	+0.2
	baz=1.3,SNR=79						
F14A				⇑S	Sb	00 33 13.0	+0.7
	baz=1.3						
E13A	Victor	1.30	249	P	Pn	00 32 55.8	+0.1
	baz=1.3,SNR=136						
E13A				⇑S	Sb	00 33 13.6	+1.0
	baz=1.3						
D13A	Huson	1.39	278	⇓P	Pn	00 32 57.2	+0.2
	baz=1.4,SNR=66						
BOZ	Bozeman (W)	1.40	156	eP	Pg	00 32 58.3	0.0
BOZ				eS	Sg	00 33 17.0	+0.6
DLMT	Dillon	1.57	184	eP	Pg	00 33 00.7	-0.8
DLMT				eS	Sn	00 33 19.5	-0.2
C13A	Hot Springs	1.64	298	⇓P	Pn	00 33 00.9	+0.6
	baz=1.6,SNR=117						
C13A				⇓S	Sn	00 33 22.3	+1.0
	baz=1.6						
G15A	Dillon	1.76	181	P	Pn	00 33 02.4	+0.4
	baz=1.8,SNR=132						
G15A				⇑Sb	Sg	00 33 27.6	-0.4
	baz=1.8						
B13A	Whitefish	1.99	317	⇓Pb	Pb	00 33 07.1	-0.8
	baz=2.0						
B13A				⇑Sb	Sg	00 33 34.5	-1.0
	baz=2.0						
D12A	Red Ives Fores	2.00	275	⇓Pb	Pb	00 33 07.5	-0.4
	baz=2.0						
EGMT	Eagleton	2.13	58	ePn	Pg	00 33 08.2	-4.1
EGMT				eSn	Sn	00 33 34.3	+0.9
G13A	Cobalt	2.22	215	⇓P	Pn	00 33 08.4	+0.1
	baz=2.2,SNR=18						
G13A				⇑Sb	Sg	00 33 41.7	-1.0
	baz=2.2						
F12A	Elk City	2.27	240	⇓P	Pn	00 33 09.6	+0.5
	baz=2.3,SNR=23						
F12A				⇑Sb	Sg	00 33 43.3	-1.2
	baz=2.3						
WALA	Waterton Lakes	2.35	336	ePn	Pg	00 33 12.4	-4.1
WALA				eSn	Sn	00 33 39.6	+0.6
A13A	Flathead Natio	2.41	327	⇓Pb	Pb	00 33 13.4	-1.4
	baz=2.4						
A13A				⇓Sb	Sg	00 33 46.4	-2.3
	baz=2.4						
YMR	Madison River	2.48	155	ePn	Pn	00 33 12.7	+0.8
YMR				ePg	Pg	00 33 19.0	0.0
YMR				Sn	Sn	00 33 43.5	+1.2
B12A	Libby	2.63	307	⇓Sb	Sb	00 33 53.3	+2.4
	baz=2.6						
E11A	Bogner Ranch,	2.66	259	⇑P	Pn	00 33 14.6	+0.3
	baz=2.7						
D11A	Klaveano Farm,	2.67	274	⇓P	Pn	00 33 14.8	+0.3
	baz=2.7,SNR=6.5						
YFT	Old Faithful	2.72	155	ePn	Pn	00 33 17.5	+2.3
YFT				ePg	Pg	00 33 22.9	-0.7
YFT				eSn	Sn	00 33 49.2	+1.2
YFT				eSg	Sg	00 33 58.2	-0.6
RLMT	Red Lodge	2.85	128	ePn	Pn	00 33 19.8	+2.8
RLMT				ePg	Pg	00 33 26.2	0.0
RLMT				eSg	Sg	00 34 01.2	-1.9
H12A	Diamond D Ranc	2.92	216	⇑Sb	Sb	00 34 02.8	+3.6
	baz=2.9						
G11A	Walters Elk Ra	3.07	242	⇑P	Pn	00 33 20.6	+0.6
	baz=3.1						
FLWY	Flagg Ranch	3.10	156	ePn	Pn	00 33 20.2	-0.1
FLWY				ePg	Pg	00 33 28.2	-2.6
FLWY				eSn	Sn	00 33 57.8	+0.4
FLWY				eSg	Sg	00 34 10.8	-0.1
IMW	Indian Meadow	3.21	160	ePn	Pn	00 33 23.3	+1.4
IMW				ePg	Pg	00 33 29.4	-3.5
IMW				eSn	Sn	00 34 00.5	+0.3
IMW				eSg	Sg	00 34 12.3	-2.2
I13A	Wildhorse Cree	3.23	202	⇑Sb	Sb	00 34 11.9	+3.5
	baz=3.2						
A11A	Hall Mountain,	3.33	309	⇓Sb	Sb	00 34 14.9	+3.8
	baz=3.3						
H11A	Donnelly	3.34	230	⇓P	Pn	00 33 24.1	+0.4
	baz=3.4						
NEW	Newport	3.44	295	Pn	Pn	00 33 25.

σ0°81/39, mb4.3/19, MS3.4/2, South of Jawa

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
XMIS	**Christmas Isla**	**3.46**	**260**	Pn	**Pn**	**00 56 31.0**	**-1.1**
XMIS				Sn	**Sn**	**00 57 03.8**	**-8.0**
KAPI	**Kappang**	**11.60**	**66**	Pn	**Pn**	**00 58 19.0**	**-4.8**
KAPI	**Kappang**	**11.60**	**66**	Pn	**Pn**	**00 58 19.0**	**-4.8**
	0.5nm,0.3s,baz=282,slow=9.3,SNR=2.2						
MBWA	**Marble Bar**	**15.16**	**139**	Pn	**Pn**	**00 59 06.5**	**-5.7**
	19nm,1.0s						
MBWA				*e*Sn	Sx	01 01 38.7	
FITZ	**Fitzroy Crossi**	**17.98**	**119**	*e*P	**Pn**	**00 59 48.7**	**+0.8**
	5.3nm,0.4s						
FITZ	**Fitzroy Crossi**	**17.98**	**119**	P	**Pn**	**00 59 45.1**	**-2.8**
	0.9nm,0.3s,baz=312,slow=13,SNR=21						
FITZ				S	Sx	01 02 49.4	
	0.3nm,0.3s,baz=196,slow=20,SNR=3.3						
KLBR	**Kellerberrin**	**23.04**	**161**	*e*P	**P**	**01 00 53.2**	**+10**
	21nm,1.2s,mb4.4						
KLBR				*e*S	**S**	**01 04 47.1**	**-4.1**
NWAO	**Narrogin (SRO)**	**24.12**	**163**	P	**P**	**01 00 53.7**	**+0.5**
WRA	**Warramunga Arr**	**26.30**	**115**	P	**P**	**01 01 12.4**	**-0.8**
	6.8nm,0.7s,mb4.3,baz=287,slow=11,SNR=35						
WRAB	**Tennant Creek**	**26.31**	**115**	*e*P	**P**	**01 01 14.6**	**+1.4**
	5.4nm,0.7s,mb4.2						
WB2	**Warramunga Arr**	**26.32**	**115**	*e*P	**P**	**01 01 12.7**	**-0.6**
ASAR	**Alice Springs**	**27.34**	**123**	P	**P**	**01 01 22.0**	**-0.5**
	4.7nm,0.8s,mb4.1,baz=299,slow=9.0,SNR=35						
ASAR				PcP	PcP	01 04 41.9	+0.5
	0.8nm,0.6s,baz=305,slow=1.7,SNR=5.4						
DGAR	**Diego Garcia**	**36.32**	**271**	P	**P**	**01 02 40.4**	**-1.0**
STKA	**Stephens Creek**	**37.17**	**131**	*e*P	**P**	**01 02 48.4**	**0.0**
	4.7nm,0.8s,mb4.4						
STKA	**Stephens Creek**	**37.17**	**131**	P	**P**	**01 02 48.4**	**-0.1**
	5.5nm,0.8s,mb4.5,baz=308,slow=7.2,SNR=7.4						
STKA				LR	LR	01 18 32.1	
	comp=Z,83nm,18.3s,MS3.6,baz=25,slow=37						
XAN	**Xi'an**	**43.68**	**360**	P	**P**	**01 03 42.0**	**-0.1**
XAN				AP	pP	01 03 50.3	-2.2
XAN				AMB	AMB		
	comp=Z,4.0nm,0.9s,mb4.2						
GTA	**Gaotai**	**49.80**	**351**	*e*P	**P**	**01 04 31.8**	**+1.9**
GTA				AP	pP	01 04 35.5	-4.9
GTA				AMB	AMB		
	comp=Z,3.0nm,1.0s,mb4.3						
BJT	**Baijiatuau**	**50.08**	**7**	P	**P**	**01 04 31.7**	**-0.3**
KSRS	**Korea Array**	**50.28**	**19**	P	**P**	**01 04 33.2**	**-0.4**
	comp=Z,0.5nm,0.3s,mb4.0,baz=198,slow=7.9,SNR=3.2						
KSRS				LR	LR	01 27 56.7	
	comp=Z,21nm,19.6s,MS3.2,baz=315,slow=39						
CASY	**Casey**	**56.32**	**179**	P	**P**	**01 05 18.3**	**+0.6**
SONM	**Songino Array**	**57.51**	**358**	P	**P**	**01 05 26.0**	**-0.3**
	comp=Z,1.7nm,0.5s,mb4.3,baz=178,slow=7.6,SNR=17						
MK31	**Makanchi Array**	**61.30**	**339**	*e*P	**P**	**01 05 52.1**	**-0.3**
MKAR	**Makanchi Array**	**61.30**	**339**	P	**P**	**01 05 51.6**	**-0.9**
	comp=Z,2.2nm,0.5s,mb4.5,baz=151,slow=6.9,SNR=28						
KURK	**Kurchatov**	**65.92**	**339**	*e*P	**P**	**01 06 24.4**	**+1.5**
	comp=Z,2.1nm,0.4s,mb4.5						
ZAA0	**Zalesovo Array**	**66.84**	**345**	*e*P	**P**	**01 06 28.9**	**+0.2**
ZALV	**Zalesovo Beam**	**66.84**	**345**	P	**P**	**01 06 28.8**	**+0.1**
	comp=Z,1.9nm,0.4s,mb4.5,baz=148,slow=5.1,SNR=10						
BVAR	**Borovoye Array**	**70.83**	**336**	P	**P**	**01 06 53.0**	**-0.5**
	comp=Z,1.7nm,0.7s,mb4.1,baz=133,slow=8.5,SNR=4.6						
BRVK	**Borovoye**	**70.90**	**336**	*e*P	**P**	**01 06 53.8**	**-0.2**
	comp=Z,1.9nm,0.6s,mb4.2						
VNDA	**Vanda**	**72.77**	**170**	*e*P	**P**	**01 07 05.1**	**+0.2**
	comp=Z,3.6nm,1.0s,mb4.3						
VNDA	**Vanda**	**72.77**	**170**	P	**P**	**01 07 05.2**	**+0.3**
	comp=Z,3.6nm,0.9s,mb4.3,baz=307,slow=6.0,SNR=23						
SBA	**Scott Base**	**73.83**	**169**	*e*P	**P**	**01 07 09.8**	**-1.4**
AKTK	**Aktyubinsk**	**74.66**	**329**	P	**P**	**01 07 16.2**	**-0.1**
AKTO	**Aktyubinsk**	**74.66**	**329**	P	**P**	**01 07 16.2**	**-0.1**
	comp=Z,1.2nm,0.8s,mb3.9,baz=173,slow=8.1,SNR=2.0						
MATP	**Matopo**	**77.89**	**251**	P	**P**	**01 07 36.1**	**+0.7**
	comp=Z,3.0nm,0.8s,mb4.3,baz=97,slow=6.5,SNR=9.1						
LSZ	**Lusaka**	**78.78**	**256**	P	**P**	**01 07 41.1**	**+0.7**
	comp=Z,2.3nm,0.7s,mb4.2,baz=83,slow=8.0,SNR=6.0						
LBTB	**Lobatse**	**80.06**	**246**	P	**P**	**01 07 48.3**	**+1.1**
QSPA	**South Pole Qui**	**80.12**	**180**	*e*P	**P**	**01 07 47.1**	**+0.6**
	comp=Z,6.3nm,1.1s,mb4.5						
YKA	**Yellowknife Ar**	**118.80**	**21**	PKP	PKPdf	01 14 24.5	-0.3
	comp=Z,0.8nm,0.7s,baz=330,slow=2.1,SNR=8.5						
PLCA	**Paso Flores**	**129.64**	**180**	PKP	PKPdf	01 14 47.0	+0.6
	comp=Z,0.7nm,0.5s,baz=180,slow=4.0,SNR=3.7						
TXAR	**Lajitas Array**	**143.75**	**53**	PKP	PKPdf	01 15 11.4	-1.3
	comp=Z,0.4nm,0.8s,baz=335,slow=6.0,SNR=4.1						
BDFB	**Brasilia**	**146.00**	**222**	PKPbc	PKPbc	01 15 18.3	+0.6
	comp=Z,2.0nm,0.8s,baz=150,slow=20,SNR=4.6						

IDC 31 01:04:59.2±7.0, 779S×12146E, h561km±14km, mb3.2/1, mb1 3.1/5, mb1mx2.8/18, mbtmp3.0/5, Error ellipse: s-maj=109.3km s-min=98.3km az=64.0, Flores Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**3.24**	**138**	P	P	01 06 16.9	+0.3
	6.9nm,0.3s,baz=14,slow=2.2,SNR=6.0						
BATI				S	S	01 07 20.0	+0.3
	4.6nm,0.3s,baz=331,slow=19,SNR=5.1						
FITZ	**Fitzroy Crossi**	**11.03**	**159**	P	P	01 07 28.5	+0.7
	0.4nm,0.3s,baz=347,slow=14,SNR=26						
WRA	**Warramunga Arr**	**17.37**	**135**	P	P	01 08 31.0	+0.2
	0.3nm,0.3s,baz=313,slow=10,SNR=6.1						
ASAR	**Alice Springs**	**19.79**	**144**	P	P	01 08 53.5	+0.6
	0.4nm,0.3s,baz=320,slow=8.6,SNR=16						
STKA	**Stephens Creek**	**30.43**	**145**	P	P	01 10 25.5	-1.2
	3.0nm,0.6s,baz=321,slow=9.4,SNR=5.6						

*IDC **31** 01:12:06.5±2.8, 3406S×17875W, h0km, mb4.0/2, mb1 4.3/3, mb1mx3.9/14, mbtmp4.1/3, ML4.0/1, Error ellipse: s-maj=70.5km s-min=35.0km az=123.0*

NEIC 31 01:12:12.7±1.1, 3405S×17897W, h35km, mb4.1/1, Error ellipse: s-maj=30.0km s-min=19.4km az=125.0, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.26**	**216**	Pn	Pn	01 13 28.8	-0.1
	5.0nm,0.3s,baz=46,slow=2.9,SNR=84						
URZ				Sn	Sn	01 14 29.6	+1.4
	4.2nm,0.3s,baz=154,slow=18,SNR=11						
ASAR	**Alice Springs**	**42.23**	**271**	P	P	01 20 03.1	+0.5
	1.2nm,0.6s,baz=112,slow=7.4,SNR=16						
WB2	**Warramunga Arr**	**43.54**	**277**	*e*P	P	01 20 13.4	+0.2
WRAB	**Tennant Creek**	**43.55**	**277**	*e*P	P	01 20 13.5	+0.2
	1.6nm,0.5s						
WRA	**Warramunga Arr**	**43.55**	**277**	P	P	01 20 13.5	+0.2
	1.4nm,0.4s,baz=119,slow=7.1,SNR=6.6						
FITZ	**Fitzroy Crossi**	**51.64**	**273**	P	P	01 21 15.4	-0.7
JOF	**Joensuu**	**145.46**	**336**	*ep*	PKPdf	01 31 45.4	-0.7
	0.6nm,0.4s						
KAF	**Kangasniemi**	**147.66**	**338**	*ep*	PKPdf	01 31 51.6	+1.8
	0.4nm,0.4s						
FINES	**FINESS Array B**	**148.24**	**337**	PKPbc	PKPbc	01 31 53.2	-0.9
	1.4nm,0.5s,baz=38,slow=2.5,SNR=13						

IDC 31 01:17:19.6±5.6, 617S×15629E, h0km, mb3.7/4, mb1 4.0/5, mb1mx3.8/14, mbtmp3.8/5, ML4.5/1, Error ellipse: s-maj=167.9km s-min=28.7km az=108.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CTA	**Charters Tower**	**16.92**	**214**	Pn	Pn	01 21 18.4	+0.5
	1.1nm,0.3s,baz=18,slow=20,SNR=7.8						
WRA	**Warramunga Arr**	**25.34**	**235**	P	P	01 22 49.0	+0.6
	0.5nm,0.4s,baz=60,slow=9.1,SNR=4.5						
ASAR	**Alice Springs**	**27.67**	**229**	P	P	01 23 09.1	-0.4
	0.2nm,0.3s,baz=60,slow=9.5,SNR=3.8						
SONM	**Songino Array**	**69.35**	**327**	P	P	01 28 30.6	+1.5
	0.6nm,0.8s,baz=118,slow=6.6,SNR=4.5						
MKAR	**Makanchi Array**	**83.64**	**318**	P	P	01 29 49.1	-1.0
	1.0nm,0.7s,baz=97,slow=6.7,SNR=11						

*ISCJB **31** 01:23:35.6±0.7, 102S×009×1276E±01, h10km, mb4.1/5, Error ellipse: s-maj=21.6km s-min=10.3km az=155.8*
*IDC **31** 01:23:36.5±1.2, 103S×12761E, h0km, mb4.1/4, mb1 4.3/7, mb1mx4.0/17, mbtmp4.1/7, ML3.9/3, Error ellipse: s-maj=46.2km s-min=18.6km az=71.0*
*NEIC **31** 01:23:37.7±0.6, 097S×12759E, h10km, mb4.3/4, Error ellipse: s-maj=19.5km s-min=9.1km az=67.0*

ISC 31 01:23:39.7±7.6, 11S±02×1276E±02, h25km±55km, n17, σ1°12/17, mb4.1/5, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**8.77**	**243**	Pn	**Pn**	**01 25 44.6**	**-0.4**
	1.9nm,0.3s,baz=66,slow=7.0,SNR=8.9						
KAKA	**Kakadu**	**12.53**	**158**	Pn	**Pn**	**01 26 37.8**	**+1.2**
FITZ	**Fitzroy Crossi**	**17.05**	**186**	*e*P	**Pn**	**01 27 39.2**	**+2.6**
	26nm,1.4s						
FITZ	**Fitzroy Crossi**	**17.05**	**186**	P	**Pn**	**01 27 38.3**	**+1.7**
	0.2nm,0.3s,baz=354,slow=18,SNR=5.6						
WRAB	**Tennant Creek**	**19.89**	**161**	*e*P	**Pn**	**01 28 10.3**	**-0.8**
	5.0nm,0.7s						
WRA	**Warramunga Arr**	**19.89**	**161**	P	**Pn**	**01 28 09.1**	**-2.1**
	0.4nm,0.3s,baz=340,slow=10,SNR=14						
WB2	**Warramunga Arr**	**19.90**	**161**	*e*P	**Pn**	**01 28 09.5**	**-1.8**
WB2	**Warramunga Arr**	**19.90**	**161**	*e*P	**Pn**	**01 28 10.2**	**-1.0**
ASAR	**Alice Springs**	**23.29**	**165**	P	**P**	**01 28 46.0**	**+0.1**
	11nm,0.7s,mb4.4,baz=345,slow=11,SNR=93						
STKA	**Stephens Creek**	**33.38**	**158**	*e*P	**P**	**01 30 18.1**	**+1.9**
	6.3nm,0.8s,mb4.6						
STKA	**Stephens Creek**	**33.38**	**158**	P	**P**	**01 30 17.2**	**+1.0**
	8.0nm,0.8s,mb4.7,baz=335,slow=7.0,SNR=10.0						
SONM	**Songino Array**	**52.09**	**342**	P	**P**	**01 32 48.7**	**+1.1**
	0.1nm,0.4s,mb3.1,baz=152,slow=9.4,SNR=2.5						
MKAR	**Makanchi Array**	**61.98**	**326**	P	**P**	**01 33 57.7**	**0.0**
MKAR	**Makanchi Array**	**61.98**	**326**	P	**P**	**01 33 57.7**	**0.0**
	0.5nm,0.5s,mb3.9,baz=121,slow=8.5,SNR=5.9						
KURK	**Kurchatov**	**66.23**	**328**	*e*P	**P**	**01 34 25.3**	**-0.3**
	2.1nm,0.8s,mb4.2						
VNDA	**Vanda**	**78.60**	**173**	P	**P**	**01 35 39.0**	**+0.1**
ARU	**Arti**	**79.43**	**328**	P	**P**	**01 35 42.8**	**-1.0**

MAN 31 01:33:28, 1105N×12411E, h6km, mb4.0, ML2.8, MS2.5, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.49**	**90**	*e*P	Pg	01 33 38.5	+1.1
LLP	**Lapu-Lapu**	**0.74**	**191⇓**	*e*P	Pg	01 33 42.8	+0.5
LLP				*e*S	Sg	01 33 52.1	+0.2
PLP	**Palo**	**0.86**	**82**	*e*P	Pg	01 33 45.1	+0.6
PLP				*e*S	Sg	01 33 59.5	+3.8
MSLP	**Maasin**	**1.17**	**141**	*e*P	Pg	01 33 50.9	+0.4
TBP	**Tagbilaran**	**1.37**	**190**	*e*P	Pn	01 33 53.3	-0.4
TBP				*e*S	Sb	01 34 13.3	+1.4
RCP	**Roxas**	**1.44**	**291⇑**	*e*P	Pn	01 33 54.6	0.0
CNP	**Catarman**	**1.55**	**20**	*e*P	Pn	01 33 56.7	+0.6
GUIM	**Jordan**	**1.56**	**254**	*e*P	Pn	01 33 56.2	0.0
OTRP	**Odiongan**	**2.43**	**303**	*e*P	Pn	01 34 08.8	+0.5

IDC 31 02:21:47.4±3.4, 2086S×16924E, h0km, mb3.9/4, mb1 4.2/4, mb1mx3.9/13, mbtmp3.9/4, Error ellipse: s-maj=187.8km s-min=28.5km az=158.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**2.87**	**245**	*e*P	Pn	02 22 31.0	-3.5
DZM				*e*S	Sn	02 23 00.0	-10
WRA	**Warramunga Arr**	**32.69**	**265**	P	P	02 28 21.7	-0.1
	0.6nm,0.5s,baz=96,slow=8.3,SNR=4.4						
ASAR	**Alice Springs**	**32.77**	**258**	P	P	02 28 22.1	-0.4
	1.2nm,0.7s,baz=80,slow=9.3,SNR=11						
FITZ	**Fitzroy Crossi**	**41.11**	**266**	P	P	02 29 33.8	+0.3
	1.8nm,0.8s,baz=112,slow=11,SNR=3.9						
NVAR	**Mina Array Bea**	**89.86**	**48**	P	P	02 34 48.4	0.0
	0.7nm,0.7s,baz=222,slow=9.5,SNR=5.0						
EKA	**Eskdalemuir Ar**	**145.10**	**352**	PKPbc	PKPbc	02 41 25.3	-0.7
	1.5nm,0.8s,baz=43,slow=5.5,SNR=3.6						
GERES	**GERESS Array B**	**145.91**	**331**	PKPbc	PKPbc	02 41 28.3	-0.4
	0.7nm,0.8s,baz=63,slow=2.6,SNR=3.9						

*ISCJB **31** 02:28:44.6±1.1, 1920S±007×689W±0.1, h143km±10km, mb3.6/3, Error ellipse: s-maj=16.8km s-min=11.0km az=13.5*
*NEIC **31** 02:28:44.8±1.1, 1918S×6905W, h135km±9km, mb4.0/1, Error ellipse: s-maj=19.4km s-min=11.1km az=97.0*
*IDC **31** 02:28:45.5±4.2, 1914S×6900W, h138km±27km, mb3.5/4, mb1 3.4/7, mb1mx3.3/20, mbtmp3.4/7, Error ellipse: s-maj=42.8km s-min=22.3km az=44.0*

ISC 31 02:28:45.6±1.1, 1920S±007×690W±01, h137km±10km, n11, σ0°77/14, mb3.6/3, Chile-Bolivia border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LPAZ	**La Paz**	**3.00**	**15**	P	**Pn**	**02 29 32.8**	**+0.3**
	7.8nm,0.3s,baz=188,slow=8.0,SNR=241						
LPAZ				S	**Sn**	**02 30 09.0**	**+0.4**
	2.6nm,0.3s,baz=235,slow=7.2,SNR=6.7						
LVC	**Limon Verde**	**3.40**	**179**	*e*Pn	**Pn**	**02 29 37.3**	**-0.4**
LVC				*e*Sn	**Sn**	**02 30 07.8**	**-10**
SIV	**San Ignacio**	**8.16**	**68**	P	**Pn**	**02 30 40.8**	**-0.5**
	1.4nm,0.3s,baz=269,slow=10.0,SNR=37						
SIV				S	**Sn**	**02 32 11.2**	**-0.7**
	0.2nm,0.3s,baz=330,slow=20,SNR=2.7						
CPUP	**Villa Florida**	**12.85**	**126**	P	**Pn**	**02 31 43.2**	**-0.1**
	0.3nm,0.3s,baz=281,slow=13,SNR=3.2						
TRQA	**Tornquist**	**19.75**	**164**	*e*P	**P**	**02 33 05.3**	**+0.6**
	3.7nm,0.6s						
BDFB	**Brasilia**	**20.28**	**83**	P	**P**	**02 33 13.0**	**+2.3**
	1.4nm,0.5s,baz=254,slow=17,SNR=7.4						
DBIC	**Dimbokro**	**68.13**	**74**	P	**P**	**02 39 31.7**	**+0.4**
	4.5nm,1.1s,mb4.1,baz=234,slow=3.6,SNR=4.6						
TOA0	**Torodi Ar. Sit**	**76.63**	**71**	*e*P	**P**	**02 40 21.4**	**-0.3**
TORD	**Torodi Ar. Bea**	**76.63**	**71**	P	**P**	**02 40 21.4**	**-0.3**
	0.5nm,0.3s,mb3.6,baz=253,slow=5.3,SNR=29						
YKA	**Yellowknife Ar**	**89.01**	**341**	P	**P**	**02 41 23.4**	**-1.0**
YKA				pP	pP	02 41 55.7	-3.8
YKA	**Yellowknife Ar**	**89.01**	**341**	P	**P**	**02 41 23.4**	**-1.0**
	0.2nm,0.7s,mb3.2,baz=127,slow=4.6,SNR=3.4						
YKA				pP	pP	02 41 55.7	-3.8
	0.5nm,0.5s,baz=134,slow=4.7,SNR=5.9						

*ISCJB **31** 02:37:35.8±0.5, 5149N±003×1604E±003, h0km, Error ellipse: s-maj=4.1km s-min=2.2km az=13.3*
*IPEC **31** 02:37:36.6±0.3, 5158N×1619E, h0km, ML2.2/4, Error ellipse: s-maj=4.3km s-min=2.0km az=81.0*
*NEIC **31** 02:37:37.8±0.8, 5151N×1603E, h5km, ML2.8(SZGRF), ML2.6(BRA), Error ellipse: s-maj=9.4km s-min=3.7km az=195.0*
*WAR **31** 02:37:38.2, 5154N×1602E, ML2.6, Mining Induced*
*PRU **31** 02:37:38.6, 5150N×1599E, h0km*
*CSEM **31** 02:37:39.4±0.2, 5148N×1597E, h2km, ML3.2/8, Error ellipse: s-maj=3.4km s-min=1.8km az=11.0*
*VIE **31** 02:37:40.4±0.5, 5126N×1611E, h0km, mb2.2/4, ML2.6/4, Error ellipse: s-maj=4.5km s-min=3.3km az=100.0, Suspected Mining induced.*

ISC 31 02:37:37.1±0.5, 5153N±003×1602E±003, h0km, n44, σ0°92/89, 6C-1D, Poland

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KSP	**Ksiaz**	**0.71**	**166**	*e*Pg	**Pg**	**02 37 51.3**	**+0.7**
KSP				*e*Sg	**Sg**	**02 38 01.0**	**+1.3**
KSP	**Ksiaz**	**0.71**	**166⇓**	*i*Pg	**Pg**	**02 37 51.3**	**+0.7**
KSP				*e*		02 37 53.4	
KSP				*e*Sg	**Sg**	**02 38 01.0**	**+1.2**
UPC	**Upice**	**1.02**	**180**	*e*Pg	**Pg**	**02 37 57.0**	**+0.3**
DPC	**Dobruska-Polom**	**1.19**	**171**	*e*Pg	**Pg**	**02 38 00.0**	**0.0**
DPC				*e*Sg	**Sg**	**02 38 15.5**	**+0.1**
DPC	**Dobruska-Polom**	**1.19**	**171**	*e*PG	**Pg**	**02 37 59.9**	**-0.1**
DPC				*e*SG	**Sg**	**02 38 16.6**	**+1.2**
	comp=Z,35nm,0.4s						
PVCC	**Panska Ves**	**1.36**	**223**	*e*PG	**Pg**	**02 38 03.7**	**+0.6**
PVCC				*e*SG	**Sg**	**02 38 21.3**	**+0.7**
	comp=Z,93nm,0.2s						
BRG	**Berggiesshubel**	**1.46**	**244**	PG	**Pg**	**02 38 05.5**	**+0.4**
BRG				SG	**Sg**	**02 38 25.2**	**+1.2**
	comp=Z,83nm,0.6s						
PRU	**Pruhonice**	**1.80**	**212**	*e*Pg	**Pg**	**02 38 11.0**	**-0.7**
PRU				*e*Sg	**Sg**	**02 38 34.7**	**-0.3**
	comp=Z,32nm,0.4s						
PRU	**Pruhonice**	**1.80**	**212**	*e*PN	Pn	**02 38 09.0**	**-0.4**
PRU				*e*PG	**Pg**	**02 38 11.0**	**-0.7**
PRU				*e*SG	**Sg**	**02 38 34.7**	**-0.3**
	comp=Z,32nm,0.4s						
CLL	**Collm**	**1.90**	**265**	*e*Pn	**Pn**	**02 38 10.0**	**-0.7**
CLL				*e*Pg	**Pg**	**02 38 13.0**	**-0.5**
CLL				*e*Sg	**Sg**	**02 38 38.0**	**-0.1**
	comp=Z,30nm,0.6s						
CLL				*i* x	x	02 38 41.2	
CLL	**Collm**	**1.90**	**265**	*e*Pn	**Pn**	**02 38 10.0**	**-0.7**
CLL				*e*Sg	**Sg**	**02 38 38.0**	**-0.1**
MORC	**Moravsky Berou**	**2.00**	**150**	*e*Pn	**Pn**	**02 38 11.7**	**-0.4**
MORC				*e*Pg	**Pg**	**02 38 16.5**	**+1.0**
MORC				*e*Sg	**Sg**	**02 38 41.2**	**-0.2**
MORC	**Moravsky Berou**	**2.00**	**150**	*e*Pn	**Pn**	**02 38 11.8**	**-0.3**
MORC	**Moravsky Berou**	**2.00**	**150**	*e*Pg	**Pg**	**02 38 16.5**	**+1.0**
MORC				*e*Sg	**Sg**	**02 38 39.4**	**-2.0**
	comp=Z,18nm,0.4s						
OKC	**Ostrava-Krasne**	**2.17**	**141**	*e*Pg	**Pg**	**02 38 17.5**	**-1.1**
OKC				*e*Sg	**Sg**	**02 38 46.0**	**-0.7**
VRAC	**Vranov**	**2.25**	**170**	*e*Pn	**Pn**	**02 38 15.9**	**+0.3**
VRAC				*e*Sg	**Sg**	**02 38 48.1**	**-1.3**
	comp=Z,7.9nm,0.2s						
TREC	**Trest**	**2.26**	**189**	*e*PN	**Pn**	**02 38 16.7**	**+1.0**
TREC				*e*PG	**Pg**	**02 38 19.7**	**-0.7**
KRUC	**Moravsky**	**2.48**	**174**	*e*Pn	**Pn**	**02 38 18.8**	**+0.1**
KRUC				*e*Sg	**Sg**	**02 38 56.1**	**-0.6**
	comp=Z,9.1nm,0.4s						
NKC	**Novy Kostel**	**2.61**	**242**	*e*Pg	**Pg**	**02 38 24.8**	**-2.2**
NKC				*e*Sg	**Sg**	**02 39 02.0**	**+1.2**
	comp=Z,38nm,0.4s						
NKC	**Novy Kostel**	**2.61**	**242**	*e*PN	**Pn**	**02 38 20.9**	**+0.5**
NKC				*e*PG	**Pg**	**02 38 24.8**	**-2.2**
NKC				*e*SG	**Sg**	**02 39 02.0**	**+1.2**
	comp=Z,38nm,0.4s						
OJC	**Ojcow**	**2.73**	**117**	*e*Pg	**Pg**	**02 38 29.2**	**-0.2**
OJC				*e*Sg	**Sg**	**02 39 04.6**	**-0.1**
KHC	**Kasperske Hory**	**2.86**	**214**	*e*Pg	**Pg**	**02 38 30.1**	**-1.9**
KHC				*e*Sg	**Sg**	**02 39 09.2**	**+0.2**
	comp=Z,8.6nm,0.4s						
KHC	**Kasperske Hory**	**2.86**	**214**	*e*PN	**Pn**	**02 38 24.5**	**+0.5**
KHC				*e*PG	**Pg**	**02 38 30.1**	**-1.9**
KHC				*e*SG	**Sg**	**02 39 09.2**	**+0.2**
	comp=Z,8.6nm,0.4s						
JAVC	**Velka Javorina**	**2.88**	**158**	*e*Sg	**Sg**	**02 39 12.1**	**+2.7**
	comp=Z,11nm,0.7s						
MOX	**Moxa**	**2.91**	**254**	*e*PG	**Pg**	**02 38 32.4**	**-0.5**
MOX				*e*SG	**Sg**	**02 39 11.9**	**+1.2**
GEC2	**GERESS Array S**	**3.07**	**210**	*e*Pn	**Pn**	**02 38 27.9**	**+1.1**
GEC2				*e*Sg	**Sg**	**02 39 15.3**	**-0.4**
WET	**Wettzell**	**3.12**	**221**	*e*Pn	**Pn**	**02 38 27.8**	**+0.3**
KOLL	**Kolacno**	**3.33**	**152**	*e*PG	**Pg**	**02 38 40.3**	**-0.5**
KOLL				*e*SG	**Sg**	**02 39 23.9**	**0.0**
NIE	**Niedzica**	**3.46**	**126**	*e*P	**Pg**	**02 38 42.6**	**-0.8**
NIE				*e*S	**Sg**	**02 39 28.0**	**-0.2**
NIE	**Niedzica**	**3.46**	**126**	*e*P	**Pg**	**02 38 42.5**	**-0.9**
NIE				*e*S	**Sg**	**02 39 28.0**	**-0.2**
CLZ	**Clausthal**	**3.53**	**277**	*e*Pn	**Pn**	**02 38 33.4**	**+0.3**
VYHS	**Vyhne**	**3.54**	**148**	*e*Pn	**Pn**	**02 38 33.1**	**-0.1**
VYHS				*e*Pg	**Pg**	**02 38 45.3**	**+0.4**
VYHS				*e*Sg	**Sg**	**02 39 31.4**	**+0.7**
VYHS	**Vyhne**	**3.54**	**148**	*e*PN	**Pn**	**02 38 33.1**	**-0.1**
VYHS				*e*PG	**Pg**	**02 38 45.3**	**+0.4**
VYHS	**Vyhne**	**3.54**	**148**	*e*Pg	**Pg**	**02 38 45.3**	**+0.4**
VYHS				*e*Sg	**Sg**	**02 39 31.4**	**+0.7**
GRA1	**Grafenberg Arr**	**3.56**	**241**	*e*Pn	**Pn**	**02 38 34.0**	**+0.4**
GRA1				*e*Sg	**Sg**	**02 39 31.2**	**-0.4**
GRF	**Grafenberg Arr**	**3.56**	**241**	*e*Pn	**Pn**	**02 38 34.0**	**+0.4**
GRF				*e*Sg	**Sg**	**02 39 31.2**	**-0.4**
CONA	**Conrad Observa**	**3.60**	**182⇑**	*i*Pn	**Pn**	**02 38 34.4**	**+0.3**
CONA				*i*Sg	**Sg**	**02 39 30.9**	**-1.9**
	comp=Z,13nm,0.5s						
CSNA	**Conrad Observa**	**3.60**	**182⇑**	*i*Pn	**Pn**	**02 38 34.0**	**-0.1**
CSNA				*i*Sg	**Sg**	**02 39 29.9**	**-3.0**
	comp=Z,14nm,0.5s						
CSNA	**Conrad Observa**	**3.60**	**182**	Pn	**Pn**	**02 38 34.0**	**-0.1**
CSNA				Sg	**Sg**	**02 39 29.9**	**-2.9**
	comp=Z,14nm,0.5s						
BSD	**Bornholm Sk

KNZ SN **Sn** **03 37 29.5 -0.3**
BKZ Black Stump Fm 2.21 223 P **Pn** **03 37 18.8 +1.0**
BKZ Black Stump Fm 2.21 223 PN **Pn** **03 37 18.8 +1.0**
KUZ Kuaotunu 2.32 290 P **Pn** **03 37 18.8 -0.6**
KUZ S **Sn** **03 37 46.5 -0.9**
KUZ Kuaotunu 2.32 290 PN **Pn** **03 37 18.8 -0.5**
KUZ SN **Sn** **03 37 46.5 -0.9**
MKAZ Moumakai 2.65 279 P **Pn** **03 37 24.0 +0.3**
MKAZ Moumakai 2.65 279 PN **Pn** **03 37 24.0 +0.4**
NGZ Ngauruhoe 2.74 234 P **Pn** **03 37 26.3 +1.4**
NGZ Ngauruhoe 2.74 234 PN **Pn** **03 37 26.3 +1.4**
PXZ Pawanui 2.74 206 PN **Pn** **03 37 24.2 -0.7**
MOVZ Moawhango 2.79 228 P **Pn** **03 37 26.1 +0.6**
MOVZ Moawhango 2.79 228 PN **Pn** **03 37 26.1 +0.5**
FWVZ Far West T-bar 2.82 233 P **Pn** **03 37 27.1 +1.2**
FWVZ Far West T-bar 2.82 233 PN **Pn** **03 37 27.1 +1.2**
WNVZ Wahianoa 2.83 231 P **Pn** **03 37 27.1 +1.0**
WNVZ Wahianoa 2.83 231 PN **Pn** **03 37 27.1 +1.0**
TSZ Takapari Road 3.15 217 P **Pn** **03 37 29.6 -0.7**
TSZ Takapari Road 3.15 217 PN **Pn** **03 37 29.6 -0.7**
WAZ Wanganui 3.47 230 P **Pn** **03 37 35.2 +0.5**
WAZ Wanganui 3.47 230 PN **Pn** **03 37 35.2 +0.6**
WCZ Waipu Caves 3.67 295 P **Pn** **03 37 37.7 +0.3**
WCZ Waipu Caves 3.67 295 PN **Pn** **03 37 37.7 +0.3**
KIW Kapiti Island 4.27 219 P **Pn** **03 37 44.3 -1.2**
KIW Kapiti Island 4.27 219 PN **Pn** **03 37 44.3 -1.2**
THZ Tophouse 5.97 224 P **Pn** **03 38 06.6 -2.0**
THZ Tophouse 5.97 224 PN **Pn** **03 38 06.6 -2.0**

GUC 31 03:39:11.1±0.7,3418S×7005W,h2km±3km,MD3.7,ML2.4, 9C-1D,Chile-Argentina border region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CICH	**Cipreses**	**0.34**	**246⇑**	*i* P	Pg	03 39 17.6	0.0
CICH				*i* S	Sg	03 39 22.4	+0.3
LMEL	**Las Melosas**	**0.36**	**338⇑**	*i* P	Pg	03 39 17.9	0.0
LMEL				*i* S	Sg	03 39 23.4	+0.8
LMEL	comp=E,1μm,0.2s			AML	AML	03 39 24.4	
CACH	**El Canelo**	**0.47**	**278⇑**	*i* P	Pg	03 39 19.6	-0.4
CACH				*i* S	Sg	03 39 26.1	+0.1
CHCH	**Chadas Angostu**	**0.56**	**296**	*e* P	Pg	03 39 21.6	-0.3
CHCH				*i* S	Sg	03 39 29.1	0.0
SJCH	**San Jose de Ma**	**0.60**	**334⇑**	*i* P	Pg	03 39 22.2	-0.3
SJCH				*i* S	Sg	03 39 30.7	+0.4
SJCH	comp=N,267nm,0.2s			AML	AML	03 39 32.6	
PCH	**Pirque**	**0.68**	**325**	*e* P	Pg	03 39 23.8	-0.4
PCH				*i* S	Sg	03 39 33.5	+0.5
FCH	**Farellones**	**0.87**	**346⇑**	*i* P	Pg	03 39 27.4	-0.5
FCH				*i* S	Sg	03 39 39.8	+0.7
FCH	comp=N,225nm,0.5s			AML	AML	03 39 41.1	
CLCH	**Cerro Calan**	**0.88**	**332⇑**	*i* P	Pg	03 39 27.5	-0.5
CLCH				*i* S	Sg	03 39 40.1	+0.7
CLCH	comp=E,274nm,0.6s			AML	AML	03 39 44.1	
TACH	**Talagante**	**0.91**	**305⇑**	*i* P	Pg	03 39 27.9	-0.6
TACH				*i* S	Sg	03 39 40.4	0.0
SFDO	**San Fernando**	**0.91**	**241⇓**	*i* P	Pg	03 39 27.8	-0.7
SFDO				*i* S	Sg	03 39 40.7	+0.3
LNV	**Longovilo**	**1.16**	**281⇑**	*i* P	Pg	03 39 31.8	-1.4
LNV				*i* S	Sg	03 39 46.7	-1.5
PEL	**Peldehue**	**1.16**	**332⇑**	*i* P	Pg	03 39 32.6	-0.8
PEL				*i* S	Sg	03 39 48.7	+0.2
PEL	comp=E,335nm,0.3s			AML	AML	03 39 49.7	
LCCH	**Las Cruces**	**1.45**	**299**	*e* P	Pn	03 39 37.0	-1.3
JACH	**Jahuel**	**1.56**	**343**	*e* P	Pn	03 39 39.5	-0.4

MAN 31 04:21:07,935N×12613E,h30km,mb4.4,ML3.2,MS3.0, 1C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BUTP	**Butuan**	**0.63**	**233**	*e* P	Pb	04 21 20.6	+1.0
SCPH	**Surigao**	**0.77**	**304⇓**	*e* P	Pn	04 21 21.8	0.0
SCPH				*e* S	Sb	04 21 33.3	+1.3
BIPH	**Bislig**	**1.18**	**169⇑**	*i* P	Pn	04 21 26.9	-0.6
BIPH				*i* S	Sn	04 21 41.5	-1.0
MSLP	**Maasin**	**1.48**	**302**	*e* P	Pn	04 21 33.3	+1.7
BUKP	**Musuan**	**1.80**	**216**	*e* P	Pn	04 21 36.8	+0.7
TBP	**Tagbilaran**	**2.27**	**279**	*e* P	Pn	04 21 44.7	+2.2
TBP				*e* S	Sn	04 22 11.2	+1.8

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*IDC **31** 04:30:40.9±0.8,669N×7293W,h160km±10km,mb3.2/3, mb1 3.6/5,mb1mx3.2/21,mbtmp3.3/5,Error ellipse: s-maj=34.0km s-min=7.6km az=132.0*
*ISCJB **31** 04:30:41.9±0.7,690N±006×7291W±005,h179km±6km, mb3.6/13,Error ellipse: s-maj=10.2km s-min=8.1km az=153.3*
*NEIC **31** 04:30:42.0±0.8,671N×7291W,h175km±9km,mb3.7/10, Error ellipse: s-maj=21.9km s-min=12.7km az=122.0*
*FUNV **31** 04:30:41.5,672N×73.18W,h163km,MW3.6*
ISC 31 04:30:42.9±0.6,688N±006×7290W±005,h171km±6km,n32, σ0§92/44,mb3.6/13,1C-1D,Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.14**	**31**	*e* P	**Pn**	**04 31 11.1**	**+0.3**
CAPV				*e* S	**Sn**	**04 31 32.3**	**-0.1**
SOCV	**Socops**	**2.46**	**55**	*e* P	**Pn**	**04 31 26.2**	**+1.6**
SOCV				*e* S	**Sn**	**04 31 57.8**	**+0.8**
ROSC	**El Rosal**	**2.46**	**215**	P	**Pn**	**04 31 22.5**	**-2.2**
ROSC	29nm,0.3s,baz=291,slow=7.2,SNR=68			S	**Sn**	**04 31 51.1**	**-6.0**
VIGV	**El Vigia**	**2.47**	**38**	*e* P	**Pn**	**04 31 25.6**	**+0.9**
VIGV	41nm,0.3s,baz=105,slow=14,SNR=13			*e* S	**Sn**	**04 31 57.8**	**+0.5**
SDV	**Santo Domingo**	**3.00**	**48**	P	**Pn**	**04 31 32.4**	**+1.2**
SDV	9.1nm,0.3s,baz=256,slow=9.0,SNR=100			S	**Sn**	**04 32 09.3**	**+0.6**
ELOV	**Elorza**	**3.40**	**88**	*e* P	**Pn**	**04 31 37.1**	**+1.0**
VIRV	**Villa del Rosa**	**3.63**	**8**	*e* P	**Pn**	**04 31 37.8**	**-1.2**
VIRV				*e* S	**Sn**	**04 32 21.2**	**-1.6**
QARV	**Quebrada Arrib**	**4.05**	**35⇑**	*i* P	**Pn**	**04 31 45.2**	**+0.8**
QARV				*e* S	**Sn**	**04 32 32.0**	**-0.5**
SANV	**Sanarito**	**4.23**	**52**	*e* P	**Pn**	**04 31 47.3**	**+0.6**
SANV				*e* S	**Sn**	**04 32 36.1**	**-0.4**
CURV	**Curarigua**	**4.26**	**43**	*e* P	**Pn**	**04 31 47.6**	**+0.6**
CURV				*e* S	**Sn**	**04 32 36.6**	**-0.7**
DABV	**Dabajuro**	**4.60**	**29**	*e* P	**Pn**	**04 31 52.1**	**+0.6**
DABV				*e* S	**Sn**	**04 32 44.4**	**-0.7**
TEPV	**Terepaima**	**4.78**	**50⇓**	*i* P	**Pn**	**04 31 54.7**	**+0.9**
TEPV				*e* S	**Sn**	**04 32 49.0**	**-0.3**
SIQV	**Siquisique**	**4.83**	**39**	*e* P	**Pn**	**04 31 54.8**	**+0.2**
SIQV				*e* S	**Sn**	**04 32 50.6**	**0.0**
BAUV	**El Baul**	**5.23**	**67**	*e* P	**Pn**	**04 31 59.2**	**-0.5**
BAUV				*e* S	**Sn**	**04 32 58.2**	**-1.8**
TURV	**Turiamo**	**6.13**	**54**	*e* P	**Pn**	**04 32 12.4**	**+0.8**
CAOV	**Caicara del Or**	**6.55**	**86**	*e* P	**Pn**	**04 32 17.0**	**-0.1**
CAOV				*e* S	**Sn**	**04 33 28.7**	**-2.4**
WVT	**Waverly**	**32.16**	**337**	*e* P	**P**	**04 36 55.2**	**+0.8**
WMOK	**Wichita Mounta**	**36.56**	**323**	*e* P	**P**	**04 37 31.2**	**-1.1**
TXAR	**Lajitas Array**	**36.58**	**311**	P	**P**	**04 37 32.6**	**+0.1**
AMTX	**Amarillo**	**38.44**	**320**	*e* P	**P**	**04 37 48.0**	**-0.1**
MNTX	**Cornudas Mount**	**39.09**	**313**	*e* P	**P**	**04 37 53.4**	**-0.1**
TUC	**Tucson**	**43.37**	**311**	*e* P	**P**	**04 38 28.6**	**+0.2**
ULM	**Lac du Bonnet**	**47.30**	**340**	*e* P	**P**	**04 38 56.5**	**-2.5**
LOHW	**Long Hollow**	**49.27**	**324**	*e* P	**P**	**04 39 15.3**	**+1.0**
TPAW	**Teton Pass**	**49.41**	**324**	*e* P	**P**	**04 39 15.1**	**-0.1**
HLID	**Hailey**	**51.52**	**322**	*e* P	**P**	**04 39 31.0**	**-0.1**
NVAR	**Mina Array Bea**	**51.59**	**314**	P	**P**	**04 39 32.1**	**+0.4**
WVOR	**Wild Horse Val**	**53.62**	**319**	*e* P	**P**	**04 39 47.0**	**+0.4**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**04 40 53.2**	**+0.2**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**04 40 53.2**	**+0.2**
ASAR	**Alice Springs**	**149.32**	**234**	PKPbc	PKPbc	04 50 10.7	-1.5
WRA	**Warramunga Arr**	**150.56**	**241**	PKPbc	PKPbc	04 50 14.0	-1.3

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*IDC **31** 04:36:08.2±2.1,696N×127.17E,h0km,mb3.8/5,mb1 4.0/5, mb1mx3.7/19,mbtmp3.8/5,MS3.3/1,Ms1 3.3/1, ms1mx2.7/20,Error ellipse: s-maj=129.8km s-min=23.8km az=68.0*
*NEIC **31** 04:36:13.7±5.0,699N×127.15E,h42km±46km,mb4.3/2, Error ellipse: s-maj=59.2km s-min=11.9km az=65.0*
*ISCJB **31** 04:36:15.1±1.0,664N±007×12683E±010,h60km±12km, mb3.8/6,Error ellipse: s-maj=16.3km s-min=11.1km az=169.6*
*MAN **31** 04:36:18,684N×12662E,h27km,mb4.6,ML3.5,MS3.4*
ISC 31 04:36:16.5±1.1,669N±007×1268E±01,h57km±13km,n16, σ1§31/21,mb3.8/6,2C-1D,Mindanao

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MATI	**Mati**	**0.61**	**294**	*e* P	**Pn**	**04 36 28.3**	**-1.3**
MATI				*e* S	**Sn**	**04 36 36.7**	**-2.4**
DAV	**Davao City (W)**	**1.29**	**287**	*e* Pn	**Pn**	**04 36 38.9**	**+0.6**
DAV				*e* Sn	**Sn**	**04 36 56.2**	**+1.6**
BIPH	**Bislig**	**1.55**	**343⇓**	*i* P	**Pn**	**04 36 42.3**	**+0.4**
BIPH				*i* S	**Sn**	**04 37 01.2**	**+0.2**
GSPH	**General Santos**	**1.96**	**252⇑**	*e* P	**Pn**	**04 36 43.8**	**-3.6**
GSPH				*e* S	**Sn**	**04 37 05.0**	**-5.8**
BUKP	**Musuan**	**2.11**	**304**	*e* P	**Pn**	**04 36 49.3**	**-0.2**
BUKP				*e* S	**Sn**	**04 37 15.2**	**+0.7**
BUTP	**Butuan**	**2.56**	**332**	*e* P	**Pn**	**04 37 30.9**	**+5.4**
SCPH	**Surigao**	**3.34**	**337⇑**	*e* P	**Pn**	**04 37 09.0**	**+2.7**
PAGZ	**Pagadian**	**3.60**	**289**	*e* P	**Pn**	**04 37 10.2**	**+0.3**
KAKA	**Kakadu**	**20.07**	**164**	*e* P	**P**	**04 40 45.6**	**+0.2**
FITZ	12nm,0.5s			LR	LR	04 52 54.3	
FITZ	**Fitzroy Crossi**	**24.66**	**183**	P	**P**	**04 41 33.3**	**+1.1**
FITZ	3.4nm,0.8s,mb3.9,baz=16,slow=7.4,SNR=7.6 comp=Z,58nm,18.0s,baz=263,slow=40			LR	LR	04 52 54.3	
WRA	**Warramunga Arr**	**27.48**	**165**	P	**P**	**04 41 59.6**	**+2.0**
ASAR	**Alice Springs**	**30.96**	**167**	P	**P**	**04 42 28.1**	**-0.3**
STKA	**Stephens Creek**	**40.86**	**161**	P	**P**	**04 43 52.4**	**-0.7**
MKAR	**Makanchi Array**	**55.21**	**324**	P	**P**	**04 45 42.8**	**-0.8**
KURK	**Kurchatov**	**59.32**	**327**	*e* P	**P**	**04 46 10.3**	**-2.2**
INK	**Inuvik**	**87.39**	**22**	*e* P	**P**	**04 48 54.0**	**-3.3**

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*ISCJB **31** 05:02:56.2±1.1,2527S±004×690W±02,h92km±21km, Error ellipse: s-maj=24.6km s-min=6.4km az=6.5*
*GUC **31** 05:02:58.1±0.9,2529S×6932W,h100km,MD3.8,ML3.7*
*NEIC **31** 05:02:58.1,2529S×6932W,h100km,MD3.8(GUC),After GUC.*
*IDC **31** 05:03:01.7±9.6,2521S×6870W,h113km±8km,mb3.2/1, mb1 3.2/1,mb1mx2.9/15,mbtmp3.2/1,Error ellipse: s-maj=496.1km s-min=81.8km az=9.0*
ISC 31 05:02:57.1±1.0,2526S±004×690W±02,h85km±21km,n11, σ1§07/16,2C,Northern Chile

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CPN1	**Cerro Paranal**	**1.39**	**297**	*e* P	**Pn**	**05 03 22.2**	**+1.0**
CPN1				*i* S	**Sn**	**05 03 40.0**	**+0.7**
CPN1	comp=E,1μm,0.6s			AML	AML	05 03 42.4	
ANCH	**Antofagasta**	**2.00**	**321⇑**	*i* P	**Pn**	**05 03 30.0**	**+0.8**
ANCH				*i* S	**Sn**	**05 03 53.6**	**0.0**
ANCH	**Antofagasta**	**2.00**	**321⇑**	*i* P	**Pn**	**05 03 30.0**	**+0.8**
ANCH				*i* S	**Sn**	**05 03 53.6**	**0.0**
ANCH	comp=N,865nm,0.1s			AML	AML	05 03 56.5	
CEN1	**Los Morros**	**2.14**	**330**	*e* P	**Pn**	**05 03 30.8**	**-0.1**
CEN1				*i* S	**Sn**	**05 03 55.0**	**-1.9**
CEN1	comp=N,274nm,0.3s			AML	AML	05 03 57.7	
CPCH	**Copiapo**	**2.40**	**209**	*e* P	**Pn**	**05 03 35.0**	**+0.6**
CPCH				*i* S	**Sn**	**05 04 02.6**	**-0.4**
CPCH	**Copiapo**	**2.40**	**209**	*e* P	**Pn**	**05 03 35.0**	**+0.6**
CPCH				*i* S	**Sn**	**05 04 02.6**	**-0.4**
CPCH	comp=N,2μm,0.1s			AML	AML	05 04 04.7	
LVC	**Limon Verde**	**2.64**	**3**	*e* Pn	**Pn**	**05 03 39.8**	**+2.2**
LVC				*e* Sn	**Sn**	**05 04 07.2**	**-1.6**
VACH	**Vallenar**	**3.64**	**205**	*i* S	**Sn**	**05 04 31.9**	**-1.2**
TORD	**Torodi Ar. Bea**	**78.75**	**70**	P	**P**	**05 14 50.8**	**0.0**
TORD	comp=N,0.3nm,0.5s,baz=256,slow=5.4,SNR=4.1			pP	pP	05 15 19.1	+6.0
ZALV	**Zalesovo Beam**	**145.37**	**27**	PKPbc	PKPbc	05 22 24.3	-0.4
ZALV	comp=N,0.7nm,0.5s,baz=338,slow=1.6,SNR=3.8 comp=N,0.8nm,0.6s,baz=312,slow=7.3,SNR=2.5			pPKPbc	pPKPbc	05 22 54.9	+6.8
MKAR	**Makanchi Array**	**148.67**	**39**	PKPbc	PKPbc	05 22 34.5	+0.1
MKAR	comp=N,0.4nm,0.7s,baz=318,slow=1.6,SNR=3.9 comp=N,0.7nm,0.8s,baz=323,slow=2.2,SNR=3.6			pPKPbc	pPKPbc	05 23 04.7	+6.8

MOS 31 05:41:34.2±0.4,4393N×4308E,h12km,mb3.6/1,3C-2D, Error ellipse: s-maj=17.4km s-min=8.0km az=131.0, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BEYR	**Belyy Ugol+**	**0.20**	**293**	*i* PG	Pg	05 41 40.3	+1.7
BEYR				*i* S	Sg	05 41 44.2	+2.6
KUBR	**Kubataba**	**0.28**	**119**	*e* PG	Pg	05 41 40.3	+0.4
KUBR				*i* S	Sg	05 41 44.8	+1.1
KIV	**Kislovodsk**	**0.28**	**274**	*i* PG	Pg	05 41 41.8	+1.8
KIV				*e* S	Sg	05 41 46.3	+2.4
SHAR	**Shatzhatmas**	**0.35**	**237**	*i* PG	Pg	05 41 42.7	+1.5
SHAR				*i* S	Sg	05 41 48.1	+2.1
LSNR	**Lesken**	**0.85**	**141⇓**	*i* PG	Pg	05 41 51.1	+0.5
LSNR				*i* S	Sg	05 42 02.9	+1.2
PRTR	**Priterechnaya**	**0.89**	**101⇓**	*i* PG	Pg	05 41 51.9	+0.5
PRTR				*e* S	Sg	05 42 04.5	+1.5
KMSR	**Komsomolskaya**	**1.05**	**122⇑**	*i* PG	Pg	05 41 54.3	-0.1
KMSR				*e* S	Sb	05 42 08.6	+0.7
DIGR	**Digorskoe uzhe**	**1.10**	**160⇑**	*i* PG	Pg	05 41 54.8	-0.5
DIGR				*e* S	Sb	05 42 09.6	+0.3
KORR	**Kora**	**1.11**	**139**	*e* PG	Pg	05 41 55.2	-0.4
KORR				*e* S	Sb	05 42 10.3	+0.5
ARNR	**Ardon**	**1.15**	**130**	*e* PG	Pg	05 41 55.9	-0.4
ARNR				*e* S	Sb	05 42 11.2	+0.4
BTKR	**Batakoyurt**	**1.20**	**117**	*e* PG	Pg	05 41 56.8	-0.5
BTKR				*e* S	Sb	05 42 12.9	+0.5
ZEI	**Tsey**	**1.31**	**152**	*e* PG	Pg	05 41 58.0	-1.3
ZEI				*e* S	Sb	05 42 15.1	-0.3
LACR	**Lac**	**1.42**	**141⇑**	*i* PG	Pg	05 42 00.0	-1.5
LACR				*i* S	Sn	05 42 18.6	+0.2

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*IDC **31** 05:47:59.6±3.3,2366S×17992W,h486km±32km,mb3.3/6, mb1 3.5/7,mb1mx3.3/14,mbtmp3.3/7,Error ellipse: s-maj=30.4km s-min=22.1km az=34.0*
*ISCJB **31** 05:48:00.1±4.2,2375S±01×1800E±02,h507km±48km, mb3.9/11,Error ellipse: s-maj=29.9km s-min=16.3km az=144.4*
*NEIC **31** 05:48:00.4±3.5,2369S×17996W,h500km±37km,mb3.7/4, Error ellipse: s-maj=31.8km s-min=15.3km az=213.0*
ISC 31 05:48:01.1±3.8,238S±02×1800E±02,h499km±43km,n19, σ0§91/19,mb3.9/11,South of Fiji Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**14.60**	**189**	P	**P**	**05 51 07.1**	**+0.2**
URZ	2.0nm,0.3s,baz=53,slow=2.4,SNR=13			S	**S**	**05 53 39.0**	**-1.2**
RPZ	**Rata Peaks**	**21.15**	**198**	P	**P**	**05 52 10.4**	**+0.4**
CTA	**Charters Tower**	**31.43**	**270**	*e* P	**P**	**05 53 41.9**	**+0.9**
CTAO	**Charters Tower**	**31.43**	**270**	*e* P	**P**	**05 53 41.9**	**+0.9**
STKA	**Stephens Creek**	**34.71**	**248**	P	**P**	**05 54 11.1**	**+2.4**
ASAR	**Alice Springs**	**42.01**	**261**	P	**P**	**05 55 08.3**	**+0.2**
ASAR	21nm,0.4s,mb4.9 3.0nm,0.9s,mb3.7,baz=108,slow=9.6,SNR=2.6 3.7nm,0.7s,mb3.9,baz=100,slow=7.2,SNR=35			ScP	ScP	05 59 55.5	+0.9
WB2	**Warramunga Arr**	**42.36**	**266**	*e* P	**P**	**05 55 10.4**	**-0.6**
WB2	**Warramunga Arr**	**42.36**	**266**	*e* P	**P**	**05 55 10.0**	**-1.0**
WRA	**Warramunga Arr**	**42.37**	**266**	P	**P**	**05 55 10.6**	**-0.5**
KAKA	**Kakadu**	**46.26**	**275**	*e* P	**P**	**05 55 40.5**	**-0.8**
KAKA	**Kakadu**	**46.26**	**275**	*e* P	**P**	**05 55 40.4**	**-0.9**
FORT	**Forrest**	**46.30**	**250**	*e* P	**P**	**05 55 40.5**	**-0.9**
FITZ	**Fitzroy Crossi**	**50.79**	**266**	*e* P	**P**	**05 56 14.9**	**-0.1**
VNDA	**Vanda**	**54.45**	**185**	*e* P	**P**	**05 56 41.1**	**+0.8**
VNDA	**Vanda**	**54.45**	**185**	P	**P**	**05 56 41.6**	**+1.2**
QSPA	**South Pole Qui**	**66.26**	**180**	*e* P	**P**	**05 57 59.3**	**+0.7**
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**06 00 08.3**	**-0.8**
TXAR	**Lajitas Array**	**90.42**	**58**	P	**P**	**06 00 08.3**	**-0.8**
AKASG	**Malin Array Be**	**144.88**	**327**	PKP	PKPdf	06 06 39.0	-1.6

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*NIED **31** 06:03:00,3170N×14230E,h17km,Mw3.8 Best double couple: M0:5.45000×10^14 NP1:φ:150.00000°,δ67.00000°, λ140.00000°. NP2:φ:258.00000°,δ53.00000°,λ29.00000°.*
*JMA **31** 06:03:42.8±0.3,3175N×14233E,h0km,M4.4*
*ISCJB **31** 06:03:44.5±1.4,3186N±006×14252E±007,h14km±9km, mb4.0/22,Error ellipse: s-maj=12.2km s-min=7.0km az=139.6*
*MOS **31** 06:03:46.9±1.1,3151N×142.14E,h42km,mb4.7/6,Error ellipse: s-maj=24.1km s-min=9.0km az=116.9*
*BJI **31** 06:03:46.5,3162N×142.19E,h38km,mB4.7,mb4.5,Ms4.4, Msz3.8*
*IDC **31** 06:03:49.4±0.7,3146N×142.18E,h45km±7km,mb3.7/12, mb1 3.9/14,mb1mx3.9/21,mbtmp3.8/14,ML4.0/2,MS2.8/1, Ms1 2.8/1,ms1mx2.4/20,Error ellipse: s-maj=19.8km s-min=14.8km az=78.0*
*NEIC **31** 06:03:49.7±0.5,3155N×142.17E,mb4.4/4,Error ellipse: s-maj=14.8km s-min=9.1km az=51.0*
ISC 31 06:03:44.4±1.8,3170N±005×14244E±008,h8km±11km, h46km±2.6km:pP-P,n52,σ1§09/61,mb4.0/22,5C, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.62**	**303**	P	**Pn**	**06 04 26.1**	**-1.0**
JHJ2				*e* S	**Sn**	**06 04 57.7**	**-1.4**
BSO1	**Boso 1**	**3.19**	**338**	P	**Pn**	**06 04 35.0**	**+0.2**
BSO3	**Boso 3**	**3.49**	**333**	P	**Pn**	**06 04 38.9**	**0.0**
JKO	**Kozu shima**	**3.72**	**313**	P	**Pn**	**06 04 42.2**	**+0.1**
BSO4	**Boso 4**	**3.72**	**332**	P	**Pn**	**06 04 42.4**	**+0.3**
BSO4				*e* S	**Sn**	**06 05 27.8**	**+1.7**
JOD2	**Odawara 2**	**4.52**	**323**	P	**Pn**	**06 04 53.0**	**-0.1**
JOD2				*e* S	**Sn**	**06 05 46.8**	**+0.9**
JHU	**Hanno**	**4.90**	**328**	P	**Pn**	**06 04 58.5**	**+0.1**
JHU				*e* S	**Sn**	**06 05 54.6**	**-0.7**
JHO	**Hitachi**	**5.13**	**343**	P	**Pn**	**06 05 01.4**	**-0.2**
JHO				*e* S	**Sn**	**06 05 58.2**	**-2.8**
JRY	**Ryogami san**	**5.21**	**327**	P	**Pn**	**06 05 02.6**	**0.0**
JRY				*e* S	**Sn**	**06 06 03.3**	**+0.4**
JAG	**Ashikaga**	**5.32**	**333**	*e* S	**Sn**	**06 06 04.4**	**-1.2**
JFK	**Kawauchi**	**5.80**	**348**	P	**Pn**	**06 05 09.9**	**-0.8**
JFK				*e* S	**Sn**	**06 06 13.6**	**-3.7**
MJAR	**Matsushiro Arr**	**5.96**	**325**	P	**Pn**	**06 05 13.8**	**+0.8**
MAJO	**Matsushiro**	**5.97**	**325**	*e* P	**Pn**	**06 05 14.1**	**+1.1**
MAJO	7.7nm,0.3s,baz=150,slow=11,SNR=36			*e*		06 06 22.6	
MAJO	comp=Z,26nm,0.4s			pmax	pmax		
MAJO	**Matsushiro**	**5.97**	**325**	*e* Pn	**Pn**	**06 05 14.1**	**+1.1**
MAJO	comp=Z,26nm,0.4s			*e* Sn	**Sn**	**06 06 22.6**	**+1.0**
MAT	**Matsushiro**	**5.97**	**325**	P	**Pn**	**06 05 13.6**	**+0.6**
MAT				*e* S	**Sn**	**06 06 22.2**	**+0.7**
JMK	**Ichinoseki**	**7.30**	**353**	P	**Pn**	**06 05 30.4**	**-0.9**
JMK				*e* S	**Sn**	**06 06 50.0**	**-4.4**
ERM	**Erimo**	**10.31**	**3⇑**	*e* P	**Pn**	**06 06 11.1**	**-1.5**
KSRS	**Korea Array**	**13.26**	**300**	P	**Pn**	**06 06 55.3**	**+2.4**
KSRS	comp=Z,0.3nm,0.3s,baz=112,slow=13,SNR=17 comp=Z,41nm,19.1s,baz=110,slow=37			LR	LR	06 11 52.4	
YSS	**Yuzh-Sakhalins**	**15.23**	**1**	*i* P	**Pn**	**06 07 18.3**	**-1.4**
KLR	**Kul'dur**	**19.27**	**338**	*e* P	**P**	**06 08 05.0**	**-5.3**
PET	**Petropavlovsk**	**24.34**	**24**	*i* P	**P**	**06 08 57.0**	**-5.4**
HIA	**Hailar**	**24.46**	**322**	*e* P	**P**	**06 09 04.7**	**+1.1**
HIA	comp=Z,7.0nm,0.5s			pmax	pmax		
HIA	**Hailar**	**24.46**	**322**	*e* P	**P**	**06 09 04.7**	**+1.1**
XAN	**Xi'an**	**28.18**	**284**	P	**P**	**06 09 33.5**	**-3.9**
XAN	comp=Z,7.3nm,0.5s,mb4.4 comp=Z,1.0nm,0.3s,mb3.9			AMB	AMB		
ULN	**Ulaanbaatar**	**31.29**	**311**	*e* P	**P**	**06 10 05.5**	**+0.7**
ULN	comp=Z,5.0nm,0.8s,mb4.4			pmax	pmax		
ULN	**Ulaanbaatar**	**31.29**	**311**	*e* P	**P**	**06 10 05.5**	**+0.7**
SONM	**Songino Array**	**31.70**	**311**	P	**P**	**06 10 09.5**	**+1.1**
SONM	comp=Z,2.5nm,0.7s,mb4.2,baz=102,slow=7.5,SNR=12 comp=Z,0.3nm,0.4s,baz=126,slow=4.1,SNR=2.8			PcP	PcP	06 13 00.1	+0.1
TLY	**Talaya**	**34.63**	**317⇑**	*e* P	**P**	**06 10 34.9**	**+1.0**
TLY	comp=Z,1.0nm,0.7s,mb3.9			pmax	pmax		
BILL	**Bilibino**	**38.94**	**14⇑**	*e* P	**P**	**06 11 13.1**	**+2.7**
BILL	comp=Z,6.0nm,1.7s,mb4.0			pmax	pmax		
TIXI	**Tiksi**	**40.67**	**353⇑**	*e* P	**P**	**06 11 23.6**	**-1.2**
TIXI	comp=Z,1.0nm,1.0s,mb3.4			pmax	pmax		
ZAA0	**Zalesovo Array**	**46.24**	**316**	*e* P	**P**	**06 12 09.9**	**0.0**
ZALV	**Zalesovo Beam**	**46.24**	**316**	P	**P**	**06 12 09.7**	**-0.2**
ZALV	comp=Z,1.3nm,0.4s,mb4.2,baz=112,slow=9.4,SNR=9.1 comp=Z,1.2nm,0.7s,baz=85,slow=2.1,SNR=3.7			PcP	PcP	06 13 45.0	-0.4
ZAL	**Zalesovo**	**46.25**	**316**	P	**P**	**06 12 09.7**	**-0.3**
ZAL						06 13 45.0	
NVS	**Novosibirsk**	**47.23**	**317**	*e* P	**P**	**06 12 15.3**	**-2.4**
MK31	**Makanchi Array**	**47.82**	**306**	*e* P	**P**	**06 12 22.2**	**-0.1**
MKAR	**Makanchi Array**	**47.82**	**306**	P	**P**	**06 12 22.4**	**0.0**
KURK	**Kurchatov**	**50.00**	**312**	*e* P	**P**	**06 12 38.8**	**-0.2**
KURK	comp=Z,2.9nm,

comp=Z,0.2nm,0.4s,mb3.4,baz=303,slow=5.0,SNR=3.8
AKASG **Malin Array Be 79.05 323** P **P** **06 15 48.8 -0.2**
comp=Z,0.6nm,0.3s,mb3.9,baz=50,slow=5.3,SNR=7.1
NOA **NORSAR Array B 79.43 338** P **P** **06 15 50.6 -0.3**
comp=Z,0.3nm,0.5s,mb3.5,baz=45,slow=5.0,SNR=3.6
TXAR **Lajitas Array 92.67 53** P **P** **06 16 58.8 +1.6**
comp=Z,0.2nm,0.5s,mb3.8,baz=281,slow=2.8,SNR=7.9
LPAZ **La Paz 148.28 68** PKPbc PKPbc 06 23 33.6 +1.9
comp=Z,0.7nm,0.5s,baz=338,slow=5.4,SNR=7.1

MAN 31 06:03:49, 1105N×12412E, h11km, mb3.9, ML2.7, MS2.3, 1C-1D, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.48**	**89**	*e*P	Pg	06 03 58.4	-0.1
LLP	**Lapu-Lapu**	**0.74**	**191⇑**	*e*P	Pg	06 04 02.9	-0.5
LLP				*i* S	Sg	06 04 13.0	0.0
PLP	**Palo**	**0.86**	**82**	*e*P	Pg	06 04 06.1	+0.5
PLP				*e*S	Sg	06 04 19.5	+2.8
MSLP	**Maasin**	**1.16**	**141**	*e*P	Pb	06 04 10.4	-0.8
TBP	**Tagbilaran**	**1.37**	**191**	*e*P	Pn	06 04 13.7	-0.3
TBP				*e*S	Sb	06 04 32.8	+0.6
RCP	**Roxas**	**1.44**	**291⇓**	*e*P	Pn	06 04 14.2	-0.8
CNP	**Catarman**	**1.55**	**20**	*e*P	Pn	06 04 15.9	-0.7
GUIM	**Jordan**	**1.56**	**255**	*e*P	Pn	06 04 16.0	-0.6
OTRP	**Odiongan**	**2.43**	**303**	*e*P	Pn	06 04 29.4	+0.6

*IDC **31** 06:06:39.0±4.2, 3163N×14289E, h0km, mb3.7/4, mb1 3.8/6, mb1mx3.6/19, mbtmp3.7/6, ML3.6/2, Error ellipse: s-maj=154.1km s-min=21.9km az=68.0*
*JMA **31** 06:06:41.3±0.5, 3160N×14239E, h18km, M4.0*
*ISCJB **31** 06:06:42.8±1.0, 3172N±007×1426E±01, h33km, mb3.8/4, Error ellipse: s-maj=17.4km s-min=8.7km az=159.4*
ISC 31 06:06:45.1±1.0, 3170N±007×1425E±01, h35km, n13, σ1§01/16, mb3.8/4, Southeast of Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JHJ2	**Mitsune**	**2.68**	**302**	P	**Pn**	**06 07 24.5**	**-1.3**
JHJ2				*e*S	**Sn**	**06 07 56.4**	**-0.6**
BSO1	**Boso 1**	**3.21**	**337**	P	**Pn**	**06 07 33.2**	**+0.1**
BSO4	**Boso 4**	**3.75**	**331**	P	**Pn**	**06 07 40.8**	**+0.3**
JHU	**Hanno**	**4.94**	**328**	P	**Pn**	**06 07 57.6**	**+0.8**
JHO	**Hitachi**	**5.15**	**342**	P	**Pn**	**06 08 00.4**	**+0.6**
JHO				*e*S	**Sn**	**06 08 56.4**	**-1.6**
JAG	**Ashikaga**	**5.35**	**332**	P	**Pn**	**06 08 02.9**	**+0.4**
JAG				*e*S	**Sn**	**06 09 02.6**	**-0.3**
JFK	**Kawauchi**	**5.81**	**347**	P	**Pn**	**06 08 08.1**	**-0.7**
MJAR	**Matsushiro Arr**	**6.00**	**325**	Pn	**Pn**	**06 08 11.7**	**+0.2**
	1.9nm,0.3s,baz=154,slow=11,SNR=5.2						
KSRS	**Korea Array**	**13.32**	**299**	Pn	**Pn**	**06 09 54.4**	**+2.8**
	0.3nm,0.3s,baz=107,slow=13,SNR=4.3						
ZALV	**Zalesovo Beam**	**46.29**	**316**	P	**P**	**06 15 08.5**	**+1.5**
	0.6nm,0.5s,mb3.8,baz=111,slow=6.3,SNR=2.9						
MKAR	**Makanchi Array**	**47.87**	**306**	P	**P**	**06 15 20.6**	**+1.0**
	0.9nm,0.7s,mb3.9,baz=86,slow=9.8,SNR=6.1						
WRA	**Warramunga Arr**	**51.95**	**190**	P	**P**	**06 15 49.6**	**-1.1**
	0.6nm,0.5s,mb3.8,baz=3.6,slow=7.7,SNR=6.1						
ASAR	**Alice Springs**	**55.67**	**190**	P	**P**	**06 16 16.9**	**-1.0**
	0.4nm,0.8s,mb3.5,baz=12,slow=7.0,SNR=4.1						

*ISCJB **31** 06:35:03.9±0.7, 1156N±002×6027W±004, h10km, Error ellipse: s-maj=5.8km s-min=3.3km az=15.5*
*TRN **31** 06:35:04.5, 1162N×6024W, h11km, MD3.8, M4.4(FDF)*
*NEIC **31** 06:35:05.0, 1162N×6020W, h18km, MD3.8(TRN), After TRN.*
*FUNV **31** 06:35:06.8, 1143N×6000W, h35km, MW3.5*
ISC 31 06:35:05.2±0.9, 1159N±002×6027W±004, h11km±4km, n33, σ1§05/59, 2C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPR	**Prospect**	**0.64**	**231**	*e*P	**Pg**	**06 35 20.2**	**+2.5**
TPR				*e*S	**Sg**	**06 35 31.5**	**+5.4**
TBH	**Brigand Hill**	**1.35**	**215**	*e*P	**Pn**	**06 35 31.1**	**+1.1**
TRN	**Trinidad (W)**	**1.46**	**230**	*e*P	**Pn**	**06 35 32.6**	**+1.1**
TRN				*e*S	**Sn**	**06 35 47.3**	**-3.3**
TRN				*e*S	**Sn**	**06 35 52.6**	**+2.1**
GRGR	**Grenville**	**1.46**	**292**	*e*Pn	**Pn**	**06 35 31.5**	**0.0**
GRGR				*e*Sn	**Sg**	**06 35 52.5**	**+0.4**
GRIC	**Isle de Caille**	**1.46**	**298**	*e*P	**Pn**	**06 35 32.8**	**+1.3**
GRIC				*e*S	**Sn**	**06 35 50.6**	**-0.1**
GRW	**Mount Saint Ca**	**1.47**	**293**	*e*P	**Pg**	**06 35 33.2**	**-0.3**
GRW				*e*S	**Sg**	**06 35 52.8**	**+0.2**
GRW	**Mount Saint Ca**	**1.47**	**293**	*e*P	**Pg**	**06 35 33.2**	**-0.3**
GRW				*e*S	**Sg**	**06 35 52.8**	**+0.2**
GRW				*e*S	**Sn**	**06 35 55.1**	**+4.1**
GRHS	**Sauteurs**	**1.48**	**295**	*e*P	**Pn**	**06 35 33.7**	**+1.9**
GRHS				*e*S	**Sn**	**06 35 52.1**	**+1.0**
GRSS	**Sisters**	**1.49**	**298**	*e*P	**Pn**	**06 35 32.1**	**+0.2**
GRSS				*e*S	**Sn**	**06 35 49.9**	**-1.5**
GRSS				*e*S	**Sn**	**06 35 53.9**	**+2.5**
TCE	**Chacachacare**	**1.71**	**239**	*e*P	**Pg**	**06 35 37.0**	**-1.0**
TCE				*e*S	**Sg**	**06 35 59.0**	**-1.1**
TPP	**Pointe-a-Pierr**	**1.72**	**223**	*e*P	**Pn**	**06 35 38.9**	**+3.8**
FCV	**Fort Charlotte**	**1.82**	**329**	*e*P	**Pn**	**06 35 36.9**	**+0.4**
FCV				*e*S	**Sg**	**06 36 01.4**	**-2.5**
BHS	**Barnard House**	**1.89**	**334**	*e*P	**Pn**	**06 35 36.9**	**-0.6**
BHS				*e*S	**Sn**	**06 36 00.7**	**-0.5**
SSV	**Crater Summit**	**1.94**	**333**	*e*P	**Pn**	**06 35 37.9**	**-0.3**
SSV				*e*S	**Sn**	**06 36 03.5**	**+0.9**
SVV	**Soufriere Volc**	**1.95**	**332**	*e*P	**Pn**	**06 35 39.1**	**+0.8**
SVV				*e*S	**Sn**	**06 36 02.5**	**-0.2**
GUIV	**Guiria**	**2.13**	**244**	*e*P	**Pn**	**06 35 41.7**	**+0.9**
GUIV				*e*S	**Sn**	**06 36 07.1**	**-0.2**
SLB	**Belfond**	**2.34**	**341**	*e*P	**Pn**	**06 35 44.0**	**+0.3**
SLB				*e*S	**Sn**	**06 36 12.0**	**-0.6**
ITEV	**Isla Los Testi**	**2.81**	**265⇑**	*i*P	**Pn**	**06 35 51.0**	**+0.9**
ITEV				*e*S	**Sn**	**06 36 25.1**	**+1.0**
GUNV	**Guanoco**	**2.98**	**242**	*e*P	**Pn**	**06 35 53.2**	**+0.7**
GUNV				*e*S	**Sn**	**06 36 27.2**	**-1.2**
MVM	**Montagne Vaucl**	**3.00**	**348**	*e*P	**Pn**	**06 35 52.5**	**-0.3**
BIM	**Bigot**	**3.01**	**345**	*e*P	**Pn**	**06 35 53.0**	**+0.1**
BIM				*e*S	**Sn**	**06 36 27.9**	**-1.1**
CRUV	**Carupano**	**3.05**	**253⇑**	*e*P	**Pn**	**06 35 53.7**	**+0.2**
CRUV				*e*S	**Sn**	**06 36 28.2**	**-1.8**
FDF	**Fort de France**	**3.24**	**345**	*e*P	**Pn**	**06 35 56.8**	**+0.8**
FDF				*e*S	**Sn**	**06 36 33.8**	**-0.8**
RIOV	**Rio Grande**	**3.82**	**204**	*e*P	**Pn**	**06 36 01.9**	**-2.2**
IBAV	**Isla La Blanqu**	**4.22**	**274**	*e*P	**Pn**	**06 36 10.7**	**+1.1**
IBAV				*e*S	**Sn**	**06 36 58.9**	**-0.1**
PCRV	**Puerto La Cruz**	**4.51**	**252**	*e*P	**Pn**	**06 36 13.7**	**+0.1**
GURV	**El Guri**	**4.71**	**216**	*e*P	**Pn**	**06 36 14.5**	**-1.8**
PRGV	**PARIAGUAN**	**5.14**	**237**	*e*P	**Pn**	**06 36 21.3**	**-1.0**
CUPV	**Cœpira**	**5.63**	**255**	*e*P	**Pn**	**06 36 28.8**	**-0.2**
LUEV	**Luepa**	**5.83**	**192**	*e*P	**Pn**	**06 36 27.3**	**-4.4**
BIRV	**Birongo**	**5.99**	**260**	*e*P	**Pn**	**06 36 34.6**	**+0.7**
CAOV	**Caicara del Or**	**7.32**	**235**	*e*P	**Pn**	**06 36 51.2**	**-0.9**
CAOV				*e*S	**Sn**	**06 38 07.0**	**-8.4**
BAUV	**El Baul**	**8.09**	**252**	*e*P	**Pn**	**06 37 01.4**	**-1.4**
BAUV				*e*S	**Sn**	**06 38 27.3**	**-7.0**

*NEIC **31** 06:37:12.6±2.4, 4679N×15297E, h66km±25km, Error ellipse: s-maj=23.5km s-min=16.3km az=160.0*
*ISCJB **31** 06:37:13.2±1.2, 4666N±009×1529E±01, h91km±10km, mb3.6/12, Error ellipse: s-maj=19.5km s-min=7.1km az=139.5*
*MOS **31** 06:37:17.7±1.3, 4688N×15275E, h124km, mb3.9/7, Error ellipse: s-maj=15.5km s-min=12.2km az=69.6*
*IDC **31** 06:37:19.8±6.3, 4684N×15295E, h131km±59km, mb3.4/12, mb1 3.6/13, mb1mx3.5/22, mbtmp3.4/13, MS3.3/3, Ms1 3.3/3, ms1mx2.9/15, Error ellipse: s-maj=22.0km s-min=17.9km az=155.0*
ISC 31 06:37:15.4±1.1, 4669N±009×1529E±01, h95km±9km, n34, σ1§29/36, mb3.6/12, 4C-1D, Kuril Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KUR	**Kuril'sk**	**3.78**	**249**	*e*PN	**Pn**	**06 38 08.7**	**-2.8**
KUR				*e*S	**Sn**	**06 38 54.0**	**-0.9**
KUR				pmax	pmax		
	comp=Z,100nm,0.6s						
KUR				smax			
	comp=N,220nm,0.7s						
KUR				smax			
	comp=E,320nm,0.7s						
SKR	**Severo-Kuril's**	**4.54**	**27**	*e*PN	**Pn**	**06 38 14.5**	**-7.2**
SKR				*e*S	**Sn**	**06 39 12.4**	**-0.8**
SKR				pmax	pmax		
	comp=Z,40nm,0.5s						
SKR				smax			
	comp=N,40nm,0.5s						
SKR				smax			
	comp=E,110nm,0.5s						
YUK	**Yuzh-Kuril'sk**	**5.61**	**244**	PN	**Pn**	**06 38 38.5**	**+2.3**
YUK				*e*S	**Sn**	**06 39 38.7**	**-0.5**
YUK				smax			
	comp=N,530nm,0.8s						
YUK				smax			
	comp=E,630nm,0.7s						
YUK				smax			
	comp=E,1μm,0.8s						
YUK				smax			
	comp=N,1μm,1.0s						
YSS	**Yuzh-Sakhalins**	**6.95**	**276⇑**	*e*PN	**Pn**	**06 38 56.0**	**+1.6**
PET	**Petropavlovsk**	**7.36**	**28⇑**	*i*PN	**Pn**	**06 39 02.9**	**+2.9**
ERM	**Erimo**	**8.38**	**240**	*e*PN	**Pn**	**06 39 12.3**	**-1.7**
ERM				pmax	pmax		
	comp=Z,35nm,0.6s						
ERM	**Erimo**	**8.38**	**240**	*e*Pn	**Pn**	**06 39 12.3**	**-1.6**
	comp=Z,35nm,0.6s						
KLR	**Kul'dur**	**14.37**	**288**	*e*P	**Pn**	**06 40 33.8**	**-0.3**
MJAR	**Matsushiro Arr**	**14.91**	**232**	P	**Pn**	**06 40 45.7**	**+4.6**
	comp=Z,0.5nm,0.3s,baz=31,slow=9.1,SNR=5.9						
KSRS	**Korea Array**	**20.62**	**252**	P	**P**	**06 41 50.7**	**+3.7**
KSRS				pmax	pmax		
	comp=Z,1.0nm,0.5s						
KSRS	**Korea Array**	**20.62**	**252**	P	**P**	**06 41 49.0**	**+2.0**
	comp=Z,1.3nm,0.5s,baz=56,slow=8.4,SNR=6.7						
BILL	**Bilibino**	**22.49**	**13⇑**	*e*P	**P**	**06 42 07.7**	**+1.2**
BILL				pmax	pmax		
	comp=Z,5.0nm,1.7s,mb3.6						
SONM	**Songino Array**	**31.20**	**289**	LR	LR	06 57 04.6	
	comp=Z,43nm,20.8s,baz=57,slow=38						
IMA2	**Indian Mountai**	**33.95**	**36**	*e*P	**P**	**06 43 48.7**	**-0.4**
KRAR	**Krasnoyarsk**	**37.49**	**307⇓**	*e*P	**P**	**06 44 18.8**	**-0.7**
INK	**Inuvik**	**41.79**	**32**	P	**P**	**06 44 54.7**	**-0.3**
	comp=Z,0.8nm,0.5s,mb3.7,baz=309,slow=10,SNR=6.3						
ZALV	**Zalesovo Beam**	**42.51**	**306**	P	**P**	**06 45 01.9**	**+0.9**
	comp=Z,1.0nm,0.5s,mb3.8,baz=79,slow=9.0,SNR=4.3						
ZALV				LR	LR	07 04 11.0	
	comp=Z,33nm,18.3s,baz=53,slow=38						
ZAL	**Zalesovo**	**42.53**	**306**	P	**P**	**06 45 01.9**	**+0.8**
MKAR	**Makanchi Array**	**46.82**	**297**	P	**P**	**06 45 37.5**	**+2.2**
	comp=Z,0.5nm,0.6s,mb3.4,baz=75,slow=5.2,SNR=4.1						
MKAR				LR	LR	07 06 18.0	
	comp=Z,39nm,21.0s,baz=174,slow=37						
KURK	**Kurchatov**	**47.26**	**304⇑**	*e*P	**P**	**06 45 37.7**	**-1.0**
YKA	**Yellowknife Ar**	**51.07**	**37**	P	**P**	**06 46 06.6**	**-0.9**
	comp=Z,0.3nm,0.6s,mb3.5,baz=302,slow=7.3,SNR=3.4						
NVAR	**Mina Array Bea**	**62.61**	**62**	P	**P**	**06 47 29.6**	**+0.2**
	comp=Z,0.2nm,0.6s,mb3.2,baz=284,slow=6.0,SNR=4.1						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**06 47 37.8**	**-0.6**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**64.03**	**335**	P	**P**	**06 47 37.9**	**-0.5**
	comp=Z,1.0nm,0.4s,mb4.0,baz=32,slow=7.0,SNR=11						
NB2	**NORSAR Subarra**	**68.23**	**341**	P	**P**	**06 48 04.7**	**-0.6**
	comp=Z,1.7nm,0.6s,mb4.0,baz=26,slow=6.5						
NOA	**NORSAR Array B**	**68.23**	**341**	P	**P**	**06 48 05.1**	**-0.2**
NOA				pmax	pmax		
	comp=Z,2.0nm,0.6s						
NOA	**NORSAR Array B**	**68.23**	**341**	P	**P**	**06 48 05.4**	**+0.1**
	comp=Z,2.2nm,0.6s,mb4.2,baz=27,slow=6.4,SNR=9.0						
WRA	**Warramunga Arr**	**68.40**	**199**	*i* P	**P**	**06 48 03.5**	**-3.2**
WRA				pmax	pmax		
	comp=Z,1.0nm,0.7s						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**06 48 25.1**	**-0.4**
AKASG				pmax	pmax		
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**71.51**	**326**	P	**P**	**06 48 24.9**	**-0.6**
	comp=Z,1.0nm,0.4s,mb4.0,baz=34,slow=6.2,SNR=6.8						
ASAR	**Alice Springs**	**72.10**	**198**	P	**P**	**06 48 30.8**	**+1.6**
	comp=Z,0.4nm,0.8s,mb3.3,baz=19,slow=5.9,SNR=3.3						
TXAR	**Lajitas Array**	**77.67**	**60**	P	**P**	**06 49 01.3**	**-0.2**
TXAR				pmax	pmax		
	comp=Z,1.0nm,0.4s						
TXAR	**Lajitas Array**	**77.67**	**60**	P	**P**	**06 49 01.4**	**-0.1**
	comp=Z,0.5nm,0.4s,mb3.6,baz=302,slow=4.9,SNR=20						
GERES	**GERESS Array B**	**78.44**	**334**	P	**P**	**06 49 03.5**	**-1.9**
	comp=Z,0.3nm,0.2s,mb3.6,baz=12,slow=5.1,SNR=3.6						

IDC 31 08:24:16.4±0.9, 5847S×2484W, h0km, mb3.9/6, mb1 4.0/7, mb1mx3.8/19, mbtmp3.8/7, ML3.5/1, MS3.8/1, Ms1 3.8/1, ms1mx3.0/24, Error ellipse: s-maj=33.7km s-min=22.1km az=78.0, South Sandwich Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SNAA	**Sanae**	**16.00**	**155**	Pn	Pn	08 28 04.7	+2.2
	0.2nm,0.3s,baz=323,slow=16,SNR=19						
USHA	**Ushuaia**	**23.92**	**260**	LR	LR	08 36 07.6	
	comp=Z,226nm,19.9s,baz=21,slow=30						
QSPA	**South Pole Qui**	**31.77**	**180**	P	P	08 30 42.5	+0.9
	0.7nm,0.5s,baz=153,slow=6.8,SNR=9.2						
PLCA	**Paso Flores**	**33.71**	**281**	P	P	08 30 59.4	+0.4
	5.6nm,1.2s,baz=162,slow=6.4,SNR=3.0						
VNDA	**Vanda**	**44.20**	**182**	P	P	08 32 26.4	0.0
	0.5nm,0.9s,baz=175,slow=7.6,SNR=7.4						
LPAZ	**La Paz**	**52.81**	**304**	P	P	08 33 34.0	+0.7
	0.4nm,0.6s,baz=242,slow=5.4,SNR=4.8						
TORD	**Torodi Ar. Bea**	**74.59**	**27**	P	P	08 35 57.6	+0.6
	0.6nm,0.4s,baz=199,slow=6.2,SNR=23						
ASAR	**Alice Springs**	**96.28**	**160**	P	P	08 37 45.2	-1.4
	0.4nm,0.6s,baz=187,slow=4.7,SNR=4.9						
YKA	**Yellowknife Ar**	**138.81**	**315**	PKP	PKPdf	08 43 40.8	-2.0
	0.5nm,0.5s,baz=130,slow=2.2,SNR=12						
SONM	**Songino Array**	**149.55**	**89**	PKPbc	PKPbc	08 44 05.7	-0.8
	0.5nm,0.6s,baz=204,slow=3.7,SNR=2.9						

*FUNV **31** 08:51:43.0, 1045N×6135W, h11km, MW2.5*
*ISCJB **31** 08:51:45.1±0.7, 1037N±006×6156W±005, h59km±7km, Error ellipse: s-maj=10.3km s-min=7.5km az=179.6*
*TRN **31** 08:51:48.2, 1054N×6154W, h33km, MD3.0*
*NEIC **31** 08:51:48.2, 1054N×6154W, h33km, MD3.0(TRN), After TRN.*
ISC 31 08:51:46.3±0.7, 1041N±006×6155W±004, h50km±8km, n15, σ1§03/24, Trinidad

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
TPP	**Pointe-a-Pierr**	**0.13**	**133**	*e*P	**Pn**	**08 51 54.5**	**+0.3**
TPP				*e*S	**Sn**	**08 52 01.2**	**+1.3**
TPP	**Pointe-a-Pierr**	**0.13**	**133**	*e*P	**Pn**	**08 51 54.5**	**+0.3**
TPP				*e*S	**Sn**	**08 52 01.2**	**+1.3**
TRN	**Trinidad (W)**	**0.28**	**31**	*e*P	**Pn**	**08 51 53.7**	**-1.6**
TRN				*e*S	**Sn**	**08 51 58.8**	**-2.8**
TCE	**Chacachacare**	**0.35**	**325**	*e*P	**Pn**	**08 51 55.7**	**-0.2**
TCE				*e*S	**Sn**	**08 52 01.6**	**-1.2**
TBH	**Brigand Hill**	**0.48**	**81**	*e*P	**Pn**	**08 51 57.6**	**+0.3**
TBH				*e*S	**Sn**	**08 52 07.1**	**+1.9**
GUIV	**Guiria**	**0.70**	**290**	*e*P	**Pn**	**08 51 59.4**	**-0.7**
GUIV				*e*S	**Sn**	**08 52 10.5**	**+0.4**
TPR	**Prospect**	**1.08**	**44**	*e*P	**Pn**	**08 52 05.6**	**+0.4**
TPR				*e*S	**Sn**	**08 52 19.4**	**+0.2**
GUNV	**Guanoco**	**1.39**	**260**	*e*P	**Pn**	**08 52 10.0**	**+0.6**
GUNV				*e*S	**Sn**	**08 52 31.4**	**+4.8**
CRUV	**Carupano**	**1.68**	**279**	*e*P	**Pn**	**08 52 13.7**	**+0.4**
CRUV				*e*S	**Sn**	**08 52 36.5**	**+2.8**
ITEV	**Isla Los Testi**	**1.82**	**301**	*e*P	**Pn**	**08 52 15.7**	**+0.5**
RIOV	**Rio Grande**	**2.34**	**186**	*e*P	**Pn**	**08 52 21.6**	**-0.6**
LUEV	**Luepa**	**4.53**	**179**	*e*P	**Pn**	**08 52 51.1**	**-1.4**
BIRV	**Birongo**	**4.64**	**271**	*e*P	**Pn**	**08 52 54.0**	**+0.1**
CAOV	**Caicara del Or**	**5.62**	**237**	*e*P	**Pn**	**08 53 06.8**	**-0.5**
BAUV	**El Baul**	**6.56**	**258**	*e*P	**Pn**	**08 53 19.9**	**-0.3**

*ISCJB **31** 09:20:24.0±1.4, 6785N±005×340E±02, h0km, Error ellipse: s-maj=12.5km s-min=6.7km az=177.7*
*HEL **31** 09:20:27.1±0.5, 6786N×3388E, h0km, ML1.9, Explosion*
*NAO **31** 09:20:29.9±1.8, 6767N×3361E, ML2.5*
*CSEM **31** 09:20:29.9, 6767N×3360E, h8km, ML2.5, After NAO*
ISC 31 09:20:27.2±1.3, 6781N±004×336E±02, h0km, n12, σ1§07/22, Baltic States - Belarus - Northwestern Russia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KU6	**Riekki**	**2.31**	**221**	*e*P	**Pn**	**09 21 07.7**	**+1.3**
KU6				*e*SB	**Sb**	**09 21 40.4**	**+1.8**
KU6				MSG		09 21 40.8	
	comp=Z,4.4nm,0.1s						
MSF	**Maaselka**	**2.62**	**225**	*e*PB	**Pb**	**09 21 14.0**	**-0.9**
MSF				*e*SG	**Sg**	**09 21 50.7**	**-0.5**
MSF				MSG		09 21 52.2	
	comp=Z,5.3nm,0.2s						
SGF	**Sodankyl**	**2.72**	**265**	*e*PB	**Pb**	**09 21 15.5**	**-1.1**
SGF				*e*SB	**Sb**	**09 21 52.0**	**+1.5**
KEV	**Kevo**	**3.08**	**312**	*e*PB	**Pb**	**09 21 21.4**	**-1.4**
KEV				*e*SB	**Sb**	**09 22 00.6**	**-0.3**
ARA0	**ARCESS Array S**	**3.42**	**304**	Pn	**Pn**	**09 21 25.4**	**+3.8**
	baz=125,slow=16						
ARA0				Pg	**Pg**	**09 21 33.3**	**+0.7**
	baz=113,slow=18						
ARA0				Sn	**Sn**	**09 22 07.5**	**+4.8**
	baz=120,slow=28						
ARA0				Lg		09 22 18.6	
	baz=113,slow=37						
ARA0	**ARCESS Array S**	**3.42**	**304**	Pn	**Pn**	**09 21 25.4**	**+3.8**
	baz=125,slow=15,SNR=8.3						
ARA0	**ARCESS Array S**	**3.42**	**304**	Pg	**Pg**	**09 21 33.3**	**+0.7**
	baz=113,slow=16,SNR=2.1						
ARA0				Sn	**Sn**	**09 22 07.5**	**+4.8**
	baz=120,slow=26,SNR=8.8						
ARA0				Lg		09 22 18.6	
	baz=113,slow=30,SNR=2.7						
OUL	**Oulu**	**4.12**	**232**	*e*PB	**Pb**	**09 21 40.0**	**-0.4**
OUL				*e*SG	**Sg**	**09 22 38.1**	**-1.3**
FIA0	**FINESS Array S**	**7.15**	**210**	Pn	**Pn**	**09 22 12.9**	**0.0**
	baz=28,slow=14						
FIA0				Sn	**Sn**	**09 23 30.1**	**-4.7**
	baz=39,slow=18						
FIA0				Lg		09 24 05.3	
	baz=36,slow=28						
FIA0	**FINESS Array S**	**7.15**	**210**	Pn	**Pn**	**09 22 12.9**	**0.0**
	baz=28,slow=14,SNR=6.6						
FIA0				Sn	**Sn**	**09 23 30.0**	**-4.7**
	baz=39,slow=18						
FIA0				Lg		09 24 05.3	
	baz=36,slow=26						
SPA0	**Spitsbergen Ar**	**11.48**	**342**	Pn	**Pn**	**09 23 12.4**	**+0.4**
	baz=158,slow=14						
SPA0	**Spitsbergen Ar**	**11.48**	**342**	Pn	**Pn**	**09 23 12.4**	**+0.4**
	baz=158,slow=14,SNR=6.9						

MAN 31 09:30:58, 1101N×12413E, h8km, mb3.9, ML2.7, MS2.3, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.47**	**85**	*e*P	Pg	09 31 07.5	+0.4
LLP	**Lapu-Lapu**	**0.71**	**193**	*e*P	Pg	09 31 11.5	-0.3
LLP				*e*S	Sg	09 31 21.6	+0.6
PLP	**Palo**	**0.84**	**80**	*e*P	Pg	09 31 15.0	+0.7
PLP				*e*S	Sg	09 31 28.4	+3.2
MSLP	**Maasin**	**1.13**	**141**	*e*P	Pg	09 31 19.7	0.0
TBP	**Tagbilaran**	**1.34**	**191**	*e*P	Pn	09 31 22.4	-0.7
TBP				*e*S	Sb	09 31 42.0	+1.3
RCP	**Roxas**	**1.47**	**292⇑**	*e*P	Pn	09 31 24.7	-0.1
RCP				*e*S	Sn	09 31 43.0	-1.1
GUIM	**Jordan**	**1.56**	**256**	*e*P	Pn	09 31 25.1	-1.0
CNP	**Catarman**	**1.57**	**19**	*e*P	Pn	09 31 25.4	-0.9

IDC 31 09:44:04.2±2.6, 5419N×8626E, h0km, mb1 3.0/1, mb1mx2.9/22, mbtmp3.0/1, ML3.1/1, Error ellipse: s-maj=19.0km s-min=1.8km az=74.0, Southwestern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ZALV	**Zalesovo Beam**	**0.88**	**255**	Pg	Pg	09 44 19.8	-1.3
	1.4nm,0.3s,baz=72,slow=17,SNR=15						
ZALV				Lg		09 44 34.2	
	7.6nm,0.3s,baz=76,slow=29,SNR=51						
ZALV				Rg		09 44 40.2	
	30nm,0.9s,baz=74,slow=33,SNR=24						
MKAR	**Makanchi Array**	**7.82**	**200**	Pn	Pn	09 46 00.8	+1.6
	0.3nm,0.3s,baz=24,slow=14,SNR=8.9						
MKAR				Lg		09 48 11.3	
	0.1nm,0.3s,baz=28,slow=32,SNR=4.7						

*BJI **31** 10:11:07.2, 1867N×104.15W, h9km, mB5.3, mb4.7, Ms5.2, Msz4.6*
*MEX **31** 10:11:10.1±1.6, 1867N×104.12W, h2km±17km, MD5.1*
*ISCJB **31** 10:11:10.7±0.7, 1879N±003×10397W±002, h17km±5km, mb4.5/67, MS4.4/28, Error ellipse: s-maj=6.3km s-min=2.3km az=31.8*
*GCMT **31** 10:11:11.2±0.2, 1894N×10394W, h22km±1km, MW5.2/70, Moment Tensor Solution. s47,c61; s70,c118; Duration: 0 Moment tensor: Scale 10^{16}Nm; M_{rr}-0.06±.15; $M_{\theta\theta}$-5.54±.13; $M_{\phi\phi}$5.60±.15; $M_{r\theta}$1.35±.23; $M_{\theta\phi}$3.03±.12; $M_{\phi r}$0.22±.23; Best double couple: $M_0$6.48600×10^{16} NP1:ϕ_s330.00000°, δ79.00000°, λ-176.00000°. NP2: ϕ_s239.

TPIG *i* S Sn 10 14 00.1 +4.2
VHO Vista Hermosa 7.10 102 *i* P Pn 10 12 56.8 +1.4
VHO *i* S Sb 10 14 46.7 +7.0
VHO Vista Hermosa 7.10 102 *i* P Pn 10 12 56.8 +1.4
VHO *i* S Sn 10 14 13.3 -2.6
OXX Oaxaca 7.11 102 *e*P Pn 10 12 55.0 -0.5
LVIG Laguna Verde 7.21 81 *i* P Pn 10 12 57.6 +0.7
LVIG *e*S Sn 10 14 14.2 -4.4
LNIG Linares 7.42 34 *i* P Pn 10 12 59.3 -0.4
LNIG *i* S Sn 10 14 20.2 -3.4
LPIG La Paz 7.94 313 Pn Pn 10 13 07.4 +0.5
0.9nm,0.3s,baz=34,slow=0.4,SNR=5.8
LPIG Lg 10 15 08.5
5.2nm,0.3s,baz=318,slow=5.9,SNR=2.9
HUIG Huatulco 8.09 110 *i* P Pn 10 13 10.2 +1.2
HUIG *i* S Sn 10 14 35.6 -4.6
HUIG Huatulco 8.09 110 *i* P Pn 10 13 10.2 +1.2
HUIG *i* S Sn 10 14 43.5 +3.3
HPIG 8.29 350 *i* P Pn 10 13 11.7 0.0
CMIG Matias Romero 8.82 99 *i* P Pn 10 13 17.5 -1.5
CMIG *i* S Sn 10 15 03.6 +5.4
TUIG Tuzandepetl 9.11 93 *i* P Pn 10 13 25.8 +2.9
TUIG *i* P 10 13 25.8
TXAR Lajitas Array 10.54 2 Pn Pn 10 13 41.9 -0.6
0.5nm,0.3s,baz=174,slow=12,SNR=44
TXAR Lg 10 16 36.9
0.2nm,0.3s,baz=173,slow=18,SNR=2.7
HSIG 12.04 329 *i* P Pn 10 14 06.3 +3.2
CGIG 12.12 343 *i* P Pn 10 13 57.7 -6.4
CGIG *i* S Sn 10 16 13.5 -5.5
SCIG Sabancuy 12.12 87 *i* P Pn 10 14 05.0 +0.8
JCT Junction City 12.28 17 *e*P Pn 10 14 08.0 +1.7
JCT pmax pmax
comp=Z,41nm,0.8s
JCT Junction City 12.28 17 *e*Pn Pn 10 14 08.0 +1.6
comp=Z,41nm,0.8s
MNTX Cornudas Mount 12.95 355 *e*Pn Pn 10 14 17.0 +1.4
comp=Z,111nm,0.9s
HKT Hockley 13.39 32 *e*P Pn 10 14 20.5 -1.0
HKT pmax pmax
comp=Z,94nm,1.6s
HKT Hockley 13.39 32 *e*Pn Pn 10 14 20.5 -1.0
comp=Z,94nm,1.6s
319A Douglas 13.45 340 ⇓P Pn 10 14 23.7 +1.4
baz=14,SNR=18
318A Bisbee 13.75 338 ⇑P Pn 10 14 28.0 +1.6
baz=14,SNR=30
219A White Tail Can 14.02 341 ⇓P Pn 10 14 31.5 +1.3
baz=14,SNR=26
218A Dragoon 14.25 339 ⇓P Pn 10 14 34.3 +0.9
baz=14,SNR=19
217A Green Valley 14.36 336 ⇑P Pn 10 14 37.4 +2.7
baz=14,SNR=16
119A Ashpeak Ranch, 14.75 342 ⇓P Pn 10 14 40.3 +0.3
baz=15
216A Three Points, 14.81 334 ⇓P Pn 10 14 43.3 +2.3
baz=15,SNR=8.2
TUC Tucson 14.82 337 *e*P Pn 10 14 44.5 +3.4
TUC pmax pmax
comp=Z,33nm,1.3s
TUC Tucson 14.82 337 *e*Pn Pn 10 14 44.5 +3.4
comp=Z,33nm,1.3s
118A Homack Ranch, 14.84 340 ⇑P Pn 10 14 42.8 +1.5
baz=15,SNR=16
TEIG Tepich 14.89 82 Pn Pn 10 14 42.7 +0.7
comp=Z,1.6nm,0.3s,baz=283,slow=15,SNR=4.4
TEIG LR LR 10 21 31.0
comp=Z,1μm,18.7s,baz=67,slow=42
117A Oracle 15.04 337 ⇓P Pn 10 14 44.9 +0.9
baz=15,SNR=24
Z19A T-Link Ranch, 15.23 343 ⇓P Pn 10 14 47.6 +1.1
baz=15
116A Eloy 15.40 335 ⇑P Pn 10 14 48.8 0.0
baz=16,SNR=10
NATX Nacogdoches 15.44 31 *e*P Pn 10 14 47.9 -1.4
comp=Z,153nm,1.5s
Y22C IRIS PASSCAL I 15.48 351 ⇓P Pn 10 14 48.7 -1.1
baz=16
BNM Barren Site 15.52 352 *e*P Pn 10 14 50.7 +0.5
LENM Lemitar 15.58 351 *e*P Pn 10 14 54.4 +3.3
Z17A San Carlos Hig 15.61 339 ⇑P Pn 10 14 49.9 -1.5
baz=16,SNR=5.2
LPM Los Pinos Moun 15.68 352 *e*P Pn 10 14 52.8 +0.5
115A Sonoran Desert 15.74 334 ⇑P Pn 10 14 52.0 -1.2
baz=16,SNR=11
LAZ Ladron 15.84 350 *e*P Pn 10 14 55.4 +1.0
Y19A Nutrioso 15.86 344 ⇓P Pn 10 14 54.9 +0.2
baz=16,SNR=50
Y18A Canyon Day Jun 15.91 341 ⇓P Pn 10 14 54.8 -0.6
baz=16
Z16A Peralta Trail, 15.98 337 ⇑P Pn 10 14 56.5 +0.2
baz=16
Y17A Roosevelt 16.09 339 ⇑P Pn 10 14 58.1 +0.3
baz=16,SNR=18
AMTX Amarillo 16.20 7 *e*P Pn 10 14 57.7 -1.3
comp=Z,81nm,0.8s
ANMO Albuquerque 16.28 353 *e*P Pn 10 15 01.4 +1.2
ANMO pmax pmax
comp=Z,41nm,1.0s
ANMO Albuquerque 16.28 353 *e*Pn Pn 10 15 01.4 +1.2
comp=Z,40nm,1.0s
ANMO Albuquerque 16.28 353 Pn Pn 10 15 01.1 +0.9
comp=Z,0.1nm,0.3s,baz=152,slow=13,SNR=6.1
ANMO Lg 10 19 33.8
comp=Z,0.1nm,0.3s,baz=218,slow=22,SNR=2.2
ANMO LR LR 10 20 30.8
comp=Z,2μm,20.4s,baz=162,slow=35
X19A St. Johns 16.31 344 ⇑P Pn 10 15 01.0 +0.5
baz=16,SNR=11
Y16A Circle Bar Ran 16.48 338 ⇑P Pn 10 15 02.8 +0.1
baz=17
113A Mohawk Valley, 16.49 330 ⇓P Pn 10 15 03.3 +0.4
baz=16
WMOK Wichita Mounta 16.58 15 *e*P Pn 10 15 02.0 -1.9
WMOK pmax pmax
comp=Z,123nm,1.1s
WMOK Wichita Mounta 16.58 15 *e*P Pn 10 15 02.0 -2.0
comp=Z,123nm,1.1s
X18A Snowflake 16.59 343 ⇑P Pn 10 15 04.2 +0.1
baz=17,SNR=8.6
Z14A Wintersburg 16.61 333 ⇓P Pn 10 15 06.4 +2.0
baz=17
TGUH Tegucigalpa,Un 16.70 104 *e*P Pn 10 15 05.6 +0.1
comp=Z,109nm,1.1s
112A Yuma 16.70 327 ⇑P Pn 10 15 06.0 +0.5
baz=17
Y15A Casa Rosa Ranc 16.87 335 P Pn 10 15 09.5 +1.8
baz=17,SNR=8.5
X16A Lo Mia Camp, P 16.96 338 ⇑P Pn 10 15 10.1 +1.4
baz=17,SNR=29
W19A Sanders 16.98 345 ⇓P Pn 10 15 10.7 +1.6
baz=17,SNR=11
W18A Petrified Fore 17.08 344 ⇑P Pn 10 15 10.5 +0.2
baz=17
Y14A Wickenburg 17.13 334 ⇑P Pn 10 15 11.0 +0.1
baz=17
GLA Glamis 17.24 328 *e*P Pn 10 15 15.6 +3.3
GLA pmax pmax
comp=Z,51nm,1.4s
GLA Glamis 17.24 328 *e*P Pn 10 15 15.6 +3.3
comp=Z,51nm,1.4s
GLA Glamis 17.24 328 ⇑P Pn 10 15 12.5 +0.2
baz=17
X15A Humboldt 17.31 337 ⇑P Pn 10 15 16.0 +2.9
baz=17,SNR=6.9
W17A Winslow 17.32 341 ⇑P Pn 10 15 13.0 -0.3
baz=17
Y13A Salome 17.39 332 ⇑P Pn 10 15 14.2 +0.1
baz=18
V19A Window Rock 17.48 346 ⇓P Pn 10 15 15.7 +0.5
baz=18
X14A Yava 17.55 335 ⇓P Pn 10 15 16.4 +0.3
baz=18
W16A Flagstaff 17.60 339 ⇓P Pn 10 15 17.3 +0.6
baz=18
SWSC Sam W. Stewart 17.66 325 ⇑P Pn 10 15 17.2 -0.2
baz=18
V18A Ganado 17.69 344 P Pn 10 15 18.3 +0.4
baz=18,SNR=22
PDMCI Parker Dam,Lak 17.93 332 ⇓P Pn 10 15 23.8 +2.9
baz=18
W15A Williams 17.93 337 ⇑P Pn 10 15 22.9 +2.0
baz=18
WUAZ Wupatki 17.93 340 *e*P Pn 10 15 21.6 +0.7
comp=Z,58nm,1.1s
WUAZ Wupatki 17.93 340 ⇑P Pn 10 15 22.1 +1.2
baz=18

MONP Monument Peak 17.96 324 ⇑P Pn 10 15 22.4 +1.2
baz=18
BC3 Big Chuckw Mtn 18.04 328 ⇓P Pn 10 15 22.7 +0.6
baz=18,SNR=5.8
X13A Yucca 18.05 333 ⇑P Pn 10 15 23.8 +1.6
baz=18
VBMS Vicksburg 18.07 40 *e*P Pn 10 15 21.9 -0.7
comp=Z,45nm,0.8s
MIAR Mount Ida 18.25 28 *e*P Pn 10 15 24.5 -0.3
MIAR pmax pmax
comp=Z,60nm,1.4s
MIAR Mount Ida 18.25 28 *e*P Pn 10 15 24.5 -0.3
comp=Z,60nm,1.4s
W14A Seligman 18.27 336 ⇑P Pn 10 15 25.2 +0.2
baz=18
IRM Iron Mountain 18.29 329 ⇓P Pn 10 15 26.2 +0.9
baz=18
U18A Rough Rock, Ch 18.35 345 ⇓P Pn 10 15 25.8 -0.1
baz=18,SNR=10
109C Camp Elliot, M 18.35 323 ⇑P Pn 10 15 25.9 -0.1
baz=18
U16A Tuba City 18.43 341 P Pn 10 15 26.9 -0.1
baz=18,SNR=8.1
V15A Kaibab Nationa 18.48 339 ⇑P Pn 10 15 25.9 -1.6
baz=19
PFO Pinyon Flat Ob 18.52 325 *e*P Pn 10 15 30.1 +1.9
comp=Z,34nm,1.1s
PFO Pinyon Flat Ob 18.52 325 P Pn 10 15 28.9 +0.8
comp=Z,0.1nm,0.3s,baz=144,slow=6.3,SNR=6.1
PFO S Sn 10 19 00.4 +5.5
comp=Z,0.1nm,0.3s,baz=284,slow=18,SNR=2.5
PFO LR LR 10 21 49.5
comp=Z,1μm,19.7s,baz=146,slow=35
PFO Pinyon Flat Ob 18.52 325 ⇓P Pn 10 15 28.2 +0.1
baz=19
BELC Belle Mtn. 18.59 327 ⇓P Pn 10 15 29.9 +1.0
baz=19
V14A Boquillas Ranc 18.65 336 ⇓P Pn 10 15 31.5 +1.9
baz=19,SNR=7.6
MVCO Mesa Verde 18.81 349 *e*P Pn 10 15 31.3 -0.3
comp=Z,56nm,1.3s
MVCO Mesa Verde 18.81 349 ⇑P Pn 10 15 30.4 -1.1
baz=19
MURC Murrieta 18.93 324 ⇓P Pn 10 15 33.3 +0.3
baz=19
UALR University of 19.02 31 *e*P Pn 10 15 32.8 -1.3
comp=Z,171nm,1.9s
GMRC Granite Mounta 19.04 329 ⇑P Pn 10 15 33.4 -0.9
baz=19
U15A North Rim 19.07 339 ⇑P Pn 10 15 33.1 -1.6
baz=19,SNR=8.8
V13A Grand Canyon W 19.19 335 ⇑P Pn 10 15 36.0 -0.1
baz=19
T16A Glen Canyon Da 19.33 342 ⇑P Pn 10 15 35.9 -1.9
baz=19
U14A Mt Trumbull 19.37 337 ⇑P Pn 10 15 36.8 -1.5
baz=20,SNR=10
HEC Hector,Ludlow 19.41 328 ⇓P Pn 10 15 37.1 -1.7
baz=20
V12A Nelson 19.45 333 ⇑P Pn 10 15 37.7 -1.5
baz=20
T15A Red Dirt Ranch 19.63 340 ⇓P Pn 10 15 39.6 -1.8
baz=20
BFSC Mount Baldy St 19.66 324 ⇑P Pn 10 15 41.2 -0.5
baz=20
TUQ Turquoise Mtn. 19.70 330 ⇓P Pn 10 15 41.6 -0.6
baz=20
PV01 Paradox Valley 19.72 349 *e*P Pn 10 15 42.3 -0.2
V11A Goodsprings 19.80 332 ⇑P Pn 10 15 41.9 -1.5
baz=20
T14A Hurricane 19.91 338 ⇑P Pn 10 15 43.1 -1.7
baz=20
U12A Valley of Fire 19.91 334 ⇓P Pn 10 15 43.5 -1.2
baz=20
GSC Goldstone 20.02 328 *e*P P 10 15 44.9 +0.6
GSC pmax pmax
comp=Z,24nm,1.1s
GSC Goldstone 20.02 328 *e*P P 10 15 44.9 +0.6
comp=Z,24nm,1.1s
GSC Goldstone 20.02 328 ⇓P P 10 15 44.8 +0.5
baz=20
PV10 Paradox Valley 20.04 348 *e*P P 10 15 42.9 -1.6
T13A Saint George 20.18 336 P P 10 15 46.0 +0.1
baz=20,SNR=9.6
SHOC Shoshone 20.24 330 ⇓P P 10 15 46.4 -0.3
baz=20
EDW2 Edwards Air Fo 20.32 325 ⇑P P 10 15 48.4 +1.0
baz=20
OXF Oxford 20.36 37 *e*P P 10 15 47.0 -1.0
OXF pmax pmax
comp=Z,84nm,1.1s
OXF Oxford 20.36 37 *e*P P 10 15 47.0 -1.0
comp=Z,84nm,1.1s
CCUT Cedar City 20.45 338 *e*P P 10 15 51.4 +2.5
SMCO Snowmass 20.52 353 *e*P P 10 15 48.4 -1.2
comp=Z,49nm,1.2s
S14A Cedar City 20.57 339 ⇑P P 10 15 50.6 +0.3
baz=21
LRMC Laurel Mountai 20.61 327 ⇓P P 10 15 49.3 -1.3
baz=21
S13A Holt Ranch, En 20.65 337 ⇓P P 10 15 51.5 +0.4
baz=21
U10A Ash Meadows, A 20.69 331 ⇓P P 10 15 51.2 -0.3
baz=21
ARUT Antelope Range 20.69 338 *e*P P 10 15 53.8 +2.3
T11A Corn Creek, Al 20.89 334 ⇓P P 10 15 52.6 -1.1
baz=21
MSU Marysvale 20.94 342 *e*P P 10 15 52.6 -1.6
ARVC Arvin 20.96 324 ⇑P P 10 15 55.0 +0.6
baz=21
MPMC Manual Prospec 20.96 328 P P 10 15 53.7 -0.7
baz=21,SNR=20
ISCO Idaho Springs 21.02 357 *e*P P 10 15 56.8 +1.7
ISCO pmax pmax
comp=Z,32nm,1.3s,mb4.5
ISCO Idaho Springs 21.02 357 *e*P P 10 15 56.8 +1.7
comp=Z,32nm,1.3s,mb4.5
S12A Delamar Landin 21.05 335 ⇑P P 10 15 56.9 +1.5
baz=21
SRU San Rafael 21.06 346 *e*P P 10 15 54.1 -1.4
SRU pmax pmax
comp=Z,20nm,1.2s,mb4.3
SRU San Rafael 21.06 346 *e*P P 10 15 54.1 -1.4
comp=Z,20nm,1.2s,mb4.3
TPNV Topopah Spring 21.09 332 *e*P P 10 15 54.7 -1.1
TPNV pmax pmax
comp=Z,50nm,1.1s,mb4.8
TPNV Topopah Spring 21.09 332 *e*P P 10 15 54.7 -1.1
comp=Z,50nm,1.1s,mb4.8
TPNV Topopah Spring 21.09 332 ⇓P P 10 15 56.3 +0.4
baz=21
KSU1 Kansas State U 21.26 16 *e*P P 10 15 57.4 -0.3
comp=Z,116nm,0.8s,mb5.3
TMUT Trail Mountain 21.41 344 *e*P P 10 15 57.2 -2.0
Q15A Fillmore 21.45 342 ⇓P P 10 16 00.3 +0.6
baz=22
S11A Rachel 21.45 334 ⇓P P 10 16 02.7 +3.0
baz=22
PLAL Pickwick Lake 21.46 38 *e*P P 10 15 59.0 -0.9
comp=Z,29nm,1.1s,mb4.5
PLAL *e* 10 16 10.6
R12A Pony Springs, 21.59 337 ⇓P P 10 16 01.2 0.0
baz=22
VES Vestal, Richgr 21.62 325 ⇓P P 10 16 02.9 +1.3
baz=22
GRAC Grapevine Rang 21.65 330 ⇓P P 10 16 01.1 -0.7
baz=22
PARMO Parma 21.80 32 *e*P P 10 16 04.3 +0.8
Q13A Wheeler Ranch, 21.93 339 ⇑P P 10 16 04.9 -0.1
baz=22
P15A Leamington 21.95 343 ⇑P P 10 16 03.9 -1.2
baz=22
R11A Troy Canyon, C 21.99 335 P P 10 16 04.8 -0.6
baz=22,SNR=12
S10A Tonopah Range, 22.05 333 P P 10 16 06.0 -0.1
baz=22,SNR=7.9
RCTC Rector, Farmer 22.06 326 ⇑P P 10 16 06.4 +0.1
baz=22
MPU Maple Canyon 22.19 344 *e*P P 10 16 08.1 +0.5
comp=Z,41nm,1.3s,mb4.7
CCM Cathedral Cave 22.21 27 *e*P P 10 16 07.2 -0.7
CCM pmax pmax
comp=Z,30nm,1.0s,mb4.7
CCM Cathedral Cave 22.21 27 *e*P P 10 16 07.2 -0.8
comp=Z,30nm,1.0s,mb4.7
HELL Mitchell Peak 22.22 327 P P 10 16 08.4 +0.4
baz=22,SNR=17
R10A Warm Springs 22.23 334 ⇓P P 10 16 09.2 +1.1
baz=22

NLU North Lily Min 22.25 343 *e*P P 10 16 12.6 +4.4
Q12A Willow Creek R 22.30 337 ⇑P P 10 16 09.5 +0.7
baz=22
P13A Bates Ranch, G 22.38 339 ⇓P P 10 16 09.2 -0.4
baz=22
WVT Waverly 22.42 36 *e*P P 10 16 08.4 -1.7
WVT pmax pmax
comp=Z,39nm,1.1s,mb4.8
WVT Waverly 22.42 36 *e*P P 10 16 08.4 -1.7
comp=Z,39nm,1.1s,mb4.8
S08C White Mtn Res 22.43 329 ⇓P P 10 16 09.9 -0.3
baz=22
Q11A Duckwater 22.44 336 ⇑P P 10 16 10.6 +0.3
baz=22
DAU Daniels Canyon 22.48 345 *e*P P 10 16 09.1 -1.6
DAU *e* 10 16 25.1
V04C Ramage Ranch, 22.49 322 P P 10 16 10.3 -0.6
baz=22,SNR=6.7
MTUM Tungsten Hills 22.51 328 *e*P P 10 16 12.7 +1.7
PHWY Pilot Hill 22.51 357 *e*P P 10 16 12.6 +1.6
PKD Parkfield 22.52 323 P P 10 16 10.7 -0.5
baz=22,SNR=11
R09A Tonopah 22.52 332 ⇓P P 10 16 10.1 -1.1
baz=23
FVM French Village 22.52 29 *e*P P 10 16 09.8 -1.4
FVM pmax pmax
comp=Z,42nm,1.0s,mb4.8
FVM French Village 22.52 29 *e*P P 10 16 09.8 -1.4
comp=Z,42nm,1.0s,mb4.8
DUG Dugway 22.68 342 *e*P P 10 16 11.4 -1.5
DUG pmax pmax
comp=Z,18nm,1.1s,mb4.4
DUG Dugway 22.68 342 *e*P P 10 16 11.4 -1.4
comp=Z,18nm,1.1s,mb4.4
DUG Dugway 22.68 342 ⇓P P 10 16 12.0 -0.9
baz=23
P12A McGill 22.71 338 ⇑P P 10 16 13.8 +0.7
baz=23
T06C Millerton Lake 22.83 326 ⇑P P 10 16 12.7 -1.8
baz=23
CTU Camp Tracy 22.86 345 *e*P P 10 16 19.1 +4.3
comp=Z,5.5nm,0.8s,mb4.0
KCC Kaiser Creek 22.86 327 ⇓P P 10 16 13.8 -1.0
baz=23
SIUC Southern Illin 22.88 31 *e*P P 10 16 16.4 +1.4
comp=Z,22nm,0.9s,mb4.6
SWET Sewanee 22.91 41 *e*P P 10 16 14.4 -0.9
SWET *e* 10 16 27.2
NOQ North Oquirrh 22.92 344 *e*P P 10 16 18.8 +3.5
comp=Z,18nm,1.0s,mb4.5
NOQ *e* 10 16 35.2
V03C Hunter Liggett 22.97 322 ⇓P P 10 16 16.1 +0.1
baz=23
RWWY Rawlins 23.03 354 *e*P P 10 16 17.0 +0.5
comp=Z,29nm,1.0s,mb4.7
NVAR Mina Array Bea 23.23 331 P P 10 16 17.1 -1.7
comp=Z,2.3nm,0.8s,mb3.7,baz=156,slow=12,SNR=15
R07C Lee Vining 23.32 329 ⇑P P 10 16 18.7 -0.9
baz=23
O12A Currie 23.36 339 ⇑P P 10 16 20.8 +0.8
baz=24
N14A Grayback Hills 23.40 342 ⇑P P 10 16 19.2 -1.2
baz=24
HAST Hastings Reser 23.41 322 P P 10 16 20.5 0.0
baz=23,SNR=6.0
S05C Merced 23.41 326 ⇑P P 10 16 21.1 +0.5
baz=24
Q08A Gabbs 23.41 332 ⇑P P 10 16 19.9 -0.7
baz=24
BGU Big Grassy Mou 23.42 343 *e*P P 10 16 19.1 -1.5
P10A Eureka 23.43 335 ⇑P P 10 16 21.4 +0.7
baz=24
GOGA Godfrey 23.45 47 *e*P P 10 16 18.2 -2.8
GOGA pmax pmax
comp=Z,57nm,1.2s,mb4.9
GOGA Godfrey 23.45 47 *e*P P 10 16 18.2 -2.8
comp=Z,57nm,1.2s,mb4.9
O11A Cowboy Ranch, 23.56 337 ⇓P P 10 16 20.8 -1.2
baz=24
S06C San Francisco 23.56 327 ⇓P P 10 16 21.0 -1.1
baz=24
PACP Pacheco Peak 23.69 324 ⇑P P 10 16 22.9 -0.4
baz=24
N13A Wendover, West 23.71 340 ⇓P P 10 16 24.3 +0.9
baz=24
M15A Larsen Ranch, 23.76 344 ⇑P P 10 16 23.7 -0.2
baz=24
R06C Coleville 23.86 329 ⇑P P 10 16 25.8 +1.0
baz=24
USIN University of 23.86 33 *e*P P 10 16 24.6 -0.2
comp=Z,42nm,0.8s,mb4.9
CPCT Cooper Cave 23.94 42 *e*P P 10 16 21.5 -4.1
CMB Columbia Colle 23.95 327 *e*P P 10 16 25.6 -0.1
CMB pmax pmax
comp=Z,10.0nm,1.1s,mb4.2
CMB Columbia Colle 23.95 327 *e*P P 10 16 25.6 -0.1
comp=Z,9.8nm,1.1s,mb4.2
CMB Columbia Colle 23.95 327 ⇑P P 10 16 26.8 +1.1
baz=24
M14A Sheep Mountain 24.05 343 ⇑P P 10 16 24.4 -2.0
baz=24
HVU Hansel Valley 24.15 344 *e*P P 10 16 28.9 +1.5
HVU pmax pmax
comp=Z,6.0nm,0.9s,mb4.0
HVU Hansel Valley 24.15 344 *e*P P 10 16 28.9 +1.5
comp=Z,5.9nm,0.9s,mb4.0
M13A Montello 24.16 341 ⇓P P 10 16 29.1 +1.6
baz=24
O09A Fish Creek Ran 24.19 335 P P 10 16 28.0 +0.2
baz=24,SNR=6.8
R05C Kirkwood Meado 24.30 328 P P 10 16 29.2 +0.4
baz=24,SNR=5.6
WENL Wente Brothers 24.39 324 ⇑P P 10 16 29.7 0.0
baz=24
M12A Wells 24.45 340 ⇓P P 10 16 29.6 -0.5
baz=25
TKL Tuckaleechee C 24.55 43 P P 10 16 30.5 -0.6
TKL pmax pmax
comp=Z,5.0nm,0.7s,mb4.2
TKL MLR MLR
comp=Z,602nm,20.0s,MS4.1
TKL Tuckaleechee C 24.55 43 *e*P P 10 16 30.4 -0.8
TKL Tuckaleechee C 24.55 43 P P 10 16 30.5 -0.7
comp=Z,5.0nm,0.7s,mb4.2,baz=203,slow=3.4,SNR=8.9
TKL LR LR 10 27 40.9
comp=Z,602nm,20.0s,MS4.1,baz=229,slow=41
LAVA Lava Cap Winer 24.68 327 ⇓P P 10 16 31.5 -0.8
baz=25
M11A Holland Ranch, 24.75 338 ⇑P P 10 16 33.1 +0.2
baz=25
L13A Double Diamond 24.76 342 ⇑P P 10 16 31.7 -1.3
baz=25
SCIA State Center 24.84 19 *e*P P 10 16 34.0 +0.3
comp=Z,47nm,1.0s,mb5.0
O07A Toulon 24.90 332 ⇑P P 10 16 33.4 -0.8
baz=25
N09A Rock Creek Ran 24.90 335 ⇓P P 10 16 33.4 -0.9
baz=25
K14A Jones Ranch, D 24.97 344 ⇓P P 10 16 34.6 -0.2
baz=25
P05C Yuba Gap, Truc 25.03 328 ⇓P P 10 16 35.1 -0.4
baz=25
Q04C Lincoln 25.07 327 ⇓P P 10 16 35.8 0.0
baz=25
N08A GE Springer Mi 25.09 334 ⇑P P 10 16 35.5 -0.5
baz=25
M10A I.L. Ranch, Tu 25.10 337 ⇓P P 10 16 35.6 -0.5
baz=25
HDIL Hopedale 25.13 27 *e*P P 10 16 34.9 -1.5
comp=Z,23nm,0.6s,mb4.9
L12A House Creek Ra 25.14 340 ⇓P P 10 16 37.3 +0.9
baz=25
REDW Red Top Meadow 25.21 348 *e*P P 10 16 36.8 -0.2
comp=Z,24nm,1.2s,mb4.6
TZTN Tazewell 25.24 41 *e*P P 10 16 36.9 -0.6
comp=Z,27nm,1.1s,mb4.7
SNOW Snow King Moun 25.29 348 *e*P P 10 16 37.5 -0.3
comp=Z,31nm,1.1s,mb4.8
RSSD Black Hills 25.29 360 *e*P P 10 16 37.9 +0.1
RSSD pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
RSSD Black Hills 25.29 360 *e*P P 10 16 37.9 +0.1
comp=Z,9.8nm,1.1s,mb4.2
CVS Carmenet Viney 25.30 324 ⇓P P 10 16 36.4 -1.5
baz=25
K13A Stover Farm, H 25.31 342 ⇓P P 10 16 37.4 -0.6

baz=25
O06A Flanigan 25.33 331 ⇑P P 10 16 39.9 +1.7
baz=25
BEKR Beckwourth 25.34 330 ⇓P P 10 16 37.2 -1.2
baz=25,SNR=7.5
TPAW Teton Pass 25.35 348 *eP* **P 10 16 37.6 -0.7**
comp=Z,27nm,1.1s,mb4.7
L11A Cat Creek Ranc 25.40 339 ⇑P P 10 16 38.6 -0.2
baz=26
LOHW Long Hollow 25.40 349 *eP* **P 10 16 37.7 -1.1**
comp=Z,32nm,1.2s,mb4.7
OHCM Honcut 25.50 327 *eP* **P 10 16 39.1 -0.6**
K12A Draper Farm, C 25.55 341 ⇓P P 10 16 41.4 +1.3
baz=26
L10A Juniper Basin 25.56 338 ⇑P P 10 16 39.8 -0.5
baz=26
SUTB Sutter Butte 25.57 327 ⇑P P 10 16 40.4 -0.1
baz=26
ECSD EROS,Sioux Fal 25.67 12 *eP* **P 10 16 41.2 0.0**
comp=Z,11nm,0.8s,mb4.5
MNRC McLaughlin Nat 25.67 325 ⇑P P 10 16 42.3 +1.1
baz=26
ORV Oroville 25.67 328 ⇓P P 10 16 40.9 -0.4
baz=26
O05C Quincy 25.69 329 ⇑P P 10 16 41.0 -0.4
baz=26,SNR=8.0
IMW Indian Meadow 25.74 348 *eP* **P 10 16 43.5 +1.6**
comp=Z,20nm,1.2s,mb4.5
N06A Buffalo Meadow 25.80 332 ⇑P P 10 16 41.2 -1.2
baz=26,SNR=9.1
FLWY Flagg Ranch 25.88 349 *eP* **P 10 16 45.8 +2.7**
comp=Z,48nm,1.5s,mb4.8
L09A Wilkinson Ranc 25.95 336 ⇓P P 10 16 45.5 +1.7
baz=26
K11A Parker Ranch, 26.03 339 ⇓P P 10 16 43.6 -0.9
baz=26
M07A Soldier Meadow 26.03 333 ⇓P P 10 16 44.8 +0.3
baz=26
J13A Cove Ranch, Pi 26.03 343 ⇓P P 10 16 45.7 +1.2
baz=26
J12A Stokes Ranch, 26.16 341 ⇑P P 10 16 44.8 -0.9
baz=26
HLID Hailey 26.25 343 *eP* **P 10 16 47.2 +0.8**
comp=Z,6.4nm,1.0s,mb4.1
HLID Hailey 26.25 343 ⇑P P 10 16 45.9 -0.6
baz=26
K10A MacKenzie Ranc 26.32 338 ⇑P P 10 16 46.6 -0.5
baz=26,SNR=5.3
L08A Fields 26.36 335 ⇓P P 10 16 48.8 +1.3
baz=26
GASB Alder Springs 26.38 326 ⇑P P 10 16 47.6 -0.1
baz=26
M06C Likely Place G 26.46 331 ⇑P P 10 16 48.3 -0.1
baz=26
YMR Madison River 26.49 349 *eP* **P 10 16 50.8 +2.2**
comp=Z,8.2nm,0.9s,mb4.3
I13A Wildhorse Cree 26.49 343 ⇑P P 10 16 48.4 -0.2
baz=27
MFID Camas Ranch 26.54 340 ⇑P P 10 16 49.3 +0.2
baz=27
K09A Rome 26.56 337 P **P 10 16 48.6 -0.7**
baz=27,SNR=7.9
L07A Adell 26.62 334 ⇓P P 10 16 50.5 +0.6
baz=27
RLMT Red Lodge 26.66 352 *eP* **P 10 16 50.5 +0.3**
comp=Z,10nm,1.3s,mb4.2
WVOR Wild Horse Val 26.68 335 *eP* **P 10 16 57.5 +7.1**
WVOR pmax pmax
comp=Z,10.0nm,1.1s,mb4.3
WVOR Wild Horse Val 26.68 335 *eP* **P 10 16 57.5 +7.1**
comp=Z,9.8nm,1.1s,mb4.2
JFWS Jewell Farm 26.74 23 *eP* **P 10 16 50.7 -0.3**
JFWS pmax pmax
comp=Z,24nm,0.8s,mb4.8
JFWS Jewell Farm 26.74 23 *eP* **P 10 16 50.7 -0.3**
comp=Z,24nm,0.8s,mb4.8
K08A Mann Creek Ran 26.88 336 ⇑P P 10 16 51.3 -0.9
baz=27
M05C Lookout 26.89 331 ⇓P P 10 16 52.9 +0.6
baz=27
MOD Modoc 26.94 332 *eP* **P 10 16 56.7 +4.0**
comp=Z,4.4nm,1.0s,mb3.9
MOD Modoc 26.94 332 ⇓P P 10 16 53.7 +1.0
baz=27
I11A Placerville 27.03 341 ⇑P P 10 16 53.7 +0.2
baz=27
H13A Challis 27.13 344 ⇓P P 10 16 55.7 +1.2
baz=27
J09A Fry Pan Ranch, 27.13 338 ⇓P P 10 16 54.3 -0.2
baz=27
K07A Rock Creek Ran 27.14 335 ⇓P P 10 16 53.7 -0.9
baz=27
G15A Dillon 27.27 347 ⇑P P 10 16 57.2 +1.5
baz=27
H12A Diamond D Ranc 27.28 343 ⇓P P 10 16 56.6 +0.9
baz=27
L05A Lakeview 27.29 332 ⇑P P 10 16 55.0 -0.9
baz=27
J08A Circle Bar Ran 27.41 337 ⇑P P 10 16 57.1 +0.2
baz=28
ELN Prospectdale 27.44 43 *eP* **P 10 17 01.0 +3.7**
N02C Big Bar 27.54 327 ⇓P P 10 16 59.1 +1.0
baz=28
BOZ Bozeman (W) 27.56 348 ⇓P P 10 16 58.7 +0.4
baz=28
G13A Cobalt 27.62 344 ⇑P P 10 16 60.0 +1.2
baz=28
BLA Blacksburg 27.64 43 *eP* **P 10 16 59.4 +0.3**
BLA pmax pmax
comp=Z,8.0nm,0.8s,mb4.4
BLA Blacksburg 27.64 43 *eP* **P 10 16 59.4 +0.3**
comp=Z,7.9nm,0.8s,mb4.4
I09A Lost Marbles R 27.67 338 ⇓P P 10 16 58.4 -0.9
baz=28
J07A Hines 27.74 336 ⇓P P 10 16 59.0 -0.9
baz=28
H11A Donnelly 27.76 341 ⇓P P 10 16 59.1 -1.0
baz=28
H10A Noah's Angus R 27.88 340 ⇓P P 10 17 00.2 -0.9
baz=28
F15A Butte 27.92 347 ⇑P P 10 17 01.5 +0.1
baz=28
YBH Yreka Blue Hor 27.92 329 P **P 10 17 02.3 +0.8**
YBH pmax pmax
comp=Z,1.0nm,0.5s
YBH MLR MLR
comp=Z,232nm,18.8s
YBH Yreka Blue Hor 27.92 329 P **P 10 17 02.3 +0.8**
comp=Z,0.9nm,0.5s,mb3.7,baz=112,slow=7.1,SNR=4.0
YBH LR LR 10 28 09.5
comp=Z,232nm,18.8s,MS3.8,baz=327,slow=37
YBH Yreka Blue Hor 27.92 329 ⇓P P 10 17 00.7 -0.8
baz=28
F13A Darby 28.29 345 ⇓P P 10 17 04.2 -0.6
baz=28
BMO Blue Mountains 28.30 340 *eP* **P 10 17 04.5 -0.4**
comp=Z,5.2nm,1.1s,mb4.1
G11A Walters Elk Ra 28.47 342 ⇓P P 10 17 05.0 -1.3
baz=29,SNR=6.2
H08A Prairie City 28.48 338 ⇓P P 10 17 04.1 -2.4
baz=29
F12A Elk City 28.50 343 ⇓P P 10 17 07.2 +0.5
baz=29
G10A Bishop Farm, J 28.63 340 ⇓P P 10 17 07.2 -0.6
baz=29
E13A Victor 28.87 345 ⇑P P 10 17 10.7 +0.8
baz=29
G08A Pilot Rock 29.25 338 ⇑P P 10 17 13.8 +0.5
baz=29
F10A Beach Ranch, E 29.27 341 ⇓P P 10 17 14.0 +0.5
baz=29
E11A Bogner Ranch, 29.32 343 ⇑P P 10 17 13.3 -0.6
baz=29
EGMT Eagleton 29.57 352 *eP* **P 10 17 14.8 -1.4**
comp=Z,20nm,1.4s,mb4.7
EGMT Eagleton 29.57 352 ⇑P P 10 17 16.9 +0.7
baz=30
COWI Conover 29.91 21 *eP* **P 10 17 19.1 -0.1**
comp=Z,7.5nm,0.8s,mb4.5
AGMN Agassiz Refuge 30.20 11 *eP* **P 10 17 21.6 -0.1**
comp=Z,13nm,0.8s,mb4.7
EYMN Ely 30.85 16 *eP* **P 10 17 25.6 -1.8**
comp=Z,11nm,1.0s,mb4.7
NEW Newport 31.31 343 LR LR 10 30 28.5
comp=Z,423nm,21.0s,MS4.1,baz=161,slow=37
C07A Waterville 31.71 339 ⇑P P 10 17 36.9 +1.9
baz=32
B08A Colville Reser 32.05 341 ⇓P P 10 17 38.9 +0.8
baz=32
ROSC El Rosal 32.07 112 P **P 10 17 41.1 +2.5**
comp=Z,3.7nm,0.4s,mb4.6,baz=285,slow=20,SNR=4.7
ULM Lac du Bonnet 32.09 10 P **P 10 17 37.5 -0.8**
ULM LR LR 10 30 11.9
ULM Lac du Bonnet 32.09 10 P **P 10 17 37.5 -0.8**
comp=Z,3.4nm,0.6s,mb4.4,baz=200,slow=10,SNR=4.5
ULM LR LR 10 30 11.9
comp=Z,490nm,20.4s,MS4.2,baz=355,slow=36
SDV Santo Domingo 33.78 102 *eP* **P 10 17 55.9 +2.3**
comp=Z,14nm,0.8s,mb4.9
SJG San Juan 35.86 85 P **P 10 18 12.0 +0.5**
SJG pmax pmax
comp=Z,8.0nm,0.3s
SJG MLR MLR
comp=Z,430nm,19.6s
SJG San Juan 35.86 85 P **P 10 18 12.0 +0.5**
SJG LR LR 10 33 58.0
SJG San Juan 35.86 85 P **P 10 18 12.0 +0.5**
comp=Z,7.8nm,0.3s,mb5.1,baz=184,slow=18,SNR=4.8
SJG LR LR 10 33 58.0
comp=Z,430nm,19.6s,MS4.2,baz=74,slow=38
ATAH Atahualpa 35.94 133 P **P 10 18 17.7 +5.5**
comp=Z,2.9nm,0.6s,mb4.4,baz=136,slow=5.9,SNR=3.1
FFC Flin Flon 35.94 2 *eP* **P 10 18 08.1 -3.6**
FFC pmax pmax
comp=Z,10.0nm,1.1s,mb4.7
FFC Flin Flon 35.94 2 *eP* **P 10 18 08.1 -3.6**
comp=Z,10nm,1.1s,mb4.7
PCRV Puerto La Cruz 38.97 97 P **P 10 18 38.8 +0.9**
comp=Z,3.7nm,0.4s,mb4.5,baz=52,slow=9.8,SNR=3.3
FCC Fort Churchill 40.61 8 *eP* **P 10 18 50.0 -0.9**
FCC pmax pmax
comp=Z,7.0nm,0.7s,mb4.4
FCC Fort Churchill 40.61 8 *eP* **P 10 18 50.0 -0.9**
comp=Z,6.9nm,0.7s,mb4.4
DLBC Dease Lake 43.98 341 *eP* **P 10 19 20.1 +1.6**
YKA Yellowknife Ar 44.32 353 P **P 10 19 19.7 -1.4**
YKA 10 21 06.8
YKA Yellowknife Ar 44.32 353 P **P**
10 19 19.6 -1.4
YKA PcP PcP 10 21 06.8 +1.8
YKA LR LR 10 37 01.9
YKA Yellowknife Ar 44.32 353 P **P 10 19 19.6 -1.4**
comp=Z,0.4nm,0.6s,baz=176,slow=7.7,SNR=14
YKA PcP PcP 10 21 06.8 +1.8
comp=Z,0.6nm,0.6s,baz=162,slow=2.8,SNR=8.4
YKA LR LR 10 37 01.9
comp=Z,697nm,18.9s,baz=170,slow=35
TAOE Nuku Hiva Isla 45.00 236 *eLR* LR 10 30 21.7
comp=Z,5μm,23.5s
TAOE Nuku Hiva Isla 45.00 236 *eT* 11 07 20.0
comp=Z,8μm,0.2s
SCHQ Schefferville 45.77 29 P **P 10 19 31.1 -1.6**
comp=Z,3.0nm,0.7s,mb4.4,baz=232,slow=6.5,SNR=6.6
SCHQ LR LR 10 38 49.0
comp=Z,252nm,18.0s,MS4.2,baz=224,slow=36
LPAZ La Paz 49.57 132 *eP* **P 10 20 03.0 +0.2**
comp=Z,2.2nm,0.6s,mb4.4
LPAZ La Paz 49.57 132 P **P 10 20 02.0 -0.7**
comp=Z,2.0nm,0.6s,mb4.3,baz=341,slow=8.9,SNR=13
LPAZ LR LR 10 38 41.4
comp=Z,293nm,20.1s,MS4.3,baz=312,slow=33
RKT Rikitea 51.46 217 *eLR* LR 10 35 06.2
comp=Z,668nm,27.2s,baz=33
RKT Rikitea 51.46 217 *eT* 11 15 28.2
comp=Z,45nm,0.2s
INK Inuvik 52.90 347 *eP* **P 10 20 26.7 -0.3**
INK pmax pmax
comp=Z,393nm,1.1s
INK Inuvik 52.90 347 *eP* **P 10 20 26.7 -0.3**
comp=Z,393nm,1.1s
PMR Palmer 53.11 335 *eP* **P 10 20 29.2 +0.5**
PMR pmax pmax
comp=Z,25nm,1.6s,mb4.9
PMR Palmer 53.11 335 *eP* **P 10 20 29.2 +0.5**
comp=Z,25nm,1.6s,mb4.9
LVC Limon Verde 53.53 139 *eP* **P 10 20 32.8 +0.6**
comp=Z,40nm,2.1s,mb5.0
PMOR Pomariorio Ree 54.73 235 *eT* 11 19 47.0
comp=Z,8.5nm,0.2s
SVW2 Sparrevohn 55.58 333 *eP* **P 10 20 46.9 +0.3**
TTA Tatalina 56.57 334 *eP* **P 10 20 53.1 -0.6**
TTA pmax pmax
comp=Z,22nm,1.2s,mb5.1
TTA Tatalina 56.57 334 *eP* **P 10 20 53.1 -0.6**
comp=Z,22nm,1.2s,mb5.1
PPT Papeete 57.54 234 *eLR* LR 10 37 50.0
comp=Z,161nm,22.5s
CFAA Coronel Fontan 60.69 145 P **P 10 21 22.5 -0.3**
comp=Z,0.3nm,0.6s,mb3.6,baz=245,slow=4.3,SNR=4.0
CPUP Villa Florida 63.72 133 *eP* **P 10 21 41.8 -1.5**
CPUP pmax pmax
comp=Z,26nm,1.1s
CPUP Villa Florida 63.72 133 *eP* **P 10 21 41.8 -1.5**
comp=Z,26nm,1.1s,mb5.2
CPUP Villa Florida 63.72 133 P **P 10 21 44.1 +0.8**
comp=Z,3.2nm,0.7s,mb4.4,baz=308,slow=7.6,SNR=8.8
CPUP LR LR 10 50 15.0
comp=Z,145nm,19.9s,MS4.2,baz=140,slow=37
BDFB Brasilia 64.83 118 P **P 10 21 52.0 +1.3**
BDFB pmax pmax
comp=Z,5.0nm,0.7s
BDFB MLR MLR
comp=Z,147nm,19.6s
BDFB Brasilia 64.83 118 P **P 10 21 52.0 +1.3**
comp=Z,5.3nm,0.7s,mb4.7,baz=281,slow=16,SNR=13
BDFB LR LR 10 50 12.4
comp=Z,147nm,19.6s,MS4.2,baz=296,slow=36
PLCA Paso Flores 66.84 153 P **P 10 22 06.7 +3.5**
comp=Z,4.8nm,1.1s,mb4.5,baz=318,slow=6.0,SNR=3.6
PLCA LR LR 10 44 31.2
comp=Z,331nm,21.1s,MS4.5,baz=338,slow=30
BORG Borgarnes 70.09 27 LR LR 10 53 13.9
comp=Z,375nm,18.3s,MS4.7,baz=244,slow=36
BILL Bilibino 72.68 337 ⇑*iP* **P 10 22 38.1 -0.7**
BILL pmax pmax
comp=Z,9.0nm,1.7s,mb4.4
BILL Bilibino 72.68 337 *eP* **P 10 22 37.1 -1.7**
comp=Z,2.6nm,0.6s,mb4.3
JMIC Jan Mayen 74.20 20 LR LR 10 54 43.8
comp=Z,95nm,18.8s,MS4.1,baz=256,slow=35
PET Petropavlovsk 79.55 322 *eP* **P 10 23 23.3 +5.0**
PET *eS* S 10 33 17.5 -1.9
PET *eP*S 10 34 01.7
PET *eS*S SS 10 38 24.6 -2.1
PET *eS*SS 10 41 44.7
PET MLR MLR
comp=Z,200nm,21.0s,MS4.4
MA2 Magadan 81.47 330 ⇑*eP* **P 10 23 28.7 +0.3**
MA2 pmax pmax
comp=Z,32nm,1.7s,mb5.0
TIXI Tiksi 83.00 345 *i*P **P 10 23 36.2 0.0**
TIXI pmax pmax
comp=Z,38nm,2.5s,mb5.0
TIXI Tiksi 83.00 345 *eP* **P 10 23 33.6 -2.6**
comp=Z,12nm,0.7s,mb5.0
ARCES ARCESS Array B 85.00 16 P **P 10 23 46.3 -0.1**
ARCES pmax pmax
comp=Z,5.0nm,0.8s
ARCES MLR MLR
comp=Z,238nm,18.9s
ARCES ARCESS Array B 85.00 16 P **P 10 23 46.3 -0.1**
comp=Z,5.1nm,0.8s,mb4.7,baz=328,slow=4.4,SNR=7.4
ARCES LR LR 11 04 53.7
comp=Z,238nm,18.9s,MS4.6,baz=278,slow=38
NOA NORSAR Array B 85.25 26 P **P 10 23 47.9 0.0**
NOA pmax pmax
comp=Z,1.0nm,0.8s
NOA MLR MLR
comp=Z,165nm,21.0s
NOA NORSAR Array B 85.25 26 P **P 10 23 47.9 0.0**
comp=Z,1.1nm,0.8s,mb4.0,baz=299,slow=4.7,SNR=3.4
NOA LR LR 11 02 40.2
comp=Z,165nm,21.0s,MS4.4,baz=310,slow=36
ESDC Sonseca Array 85.65 50 LR LR 11 01 12.2
comp=Z,176nm,19.5s,MS4.5,baz=295,slow=35
HFS Hagfors 86.77 26 LR LR 11 06 46.1
comp=Z,198nm,19.9s,MS4.5,baz=290,slow=39
YAK Yakutsk 89.02 338 *eP* **P 10 24 06.8 +0.7**
YAK pmax pmax
comp=Z,25nm,0.8s,mb5.6
YAK MLR MLR
comp=N,339nm,18.0s,MS4.9
YAK MLR MLR
comp=Z,159nm,18.0s,MS4.5
YAK MLR MLR
comp=E,246nm,17.0s,MS4.9
FINES FINESS Array B 90.73 22 LR LR 11 08 46.4
comp=E,252nm,20.4s,MS4.6,baz=193,slow=38
YSS Yuzh-Sakhalins 91.35 321 ⇑*eP* **P 10 24 16.7 -0.6**
YSS pmax pmax
comp=Z,8.0nm,1.3s,mb4.9
DAVOX Davos/Dischmat 91.80 39 LR LR 11 05 05.5
comp=Z,302nm,20.1s,MS4.7,baz=272,slow=35
GERES GERESS Array B 92.92 36 LR LR 11 06 56.6
comp=Z,224nm,20.1s,MS4.6,baz=297,slow=36
ERM Erimo 93.51 317 ⇑*eP* **P 10 24 28.9 +1.5**
VRAC Vranov 94.24 34 LR LR 11 11 07.1
comp=Z,300nm,18.6s,MS4.8,baz=63,slow=38
DBIC Dimbokro 96.46 81 LR LR 11 08 54.3
comp=Z,127nm,19.3s,MS4.4,baz=271,slow=36
KEST Kesra 96.87 49 LR LR 11 13 54.5
comp=Z,51nm,18.2s,MS4.0,baz=253,slow=39
AKASG Malin Array Be 99.55 28 LR LR 11 12 22.5
comp=Z,173nm,19.1s,MS4.6,baz=345,slow=37
MJAR Matsushiro Arr 99.59 314 LR LR 11 02 39.9
comp=Z,81nm,21.2s,MS4.2,baz=50,slow=31
HHC Hu-ho-hao-te 112.13 332 *e*PKP PKiKP 10 29 48.5 +1.3
HHC PP PP 10 30 35.8 +5.3
HHC SKS SKSdf 10 36 55.5 -3.4
HHC SKKS SKKSac 10 37 25.8 -7.8
HHC PP PP
comp=Z,75nm,5.6s
HHC LR LR
comp=N,134nm,21.3s,MS4.7
HHC LR LR
comp=E,152nm,22.4s,MS4.7
HHC LR LR
comp=Z,175nm,21.4s,MS4.6
WMQ Urumqi 116.82 351 *e*PKP PKPdf 10 29 50.0 -6.1
WHN Wuhan 118.66 322 ⇑PKP PKPdf 10 29 51.0 -9.0
LZH Lanzhou 119.43 334 *e*PKP PKPdf 10 30 02.0 +0.6
CD2 Chengdu 123.88 331 *e*PKP PKPdf 10 30 07.8 -2.3
WRA Warramunga Arr 125.20 258 PKIKP PKPdf 10 30 14.4 +1.6
WRA pmax pmax
comp=Z,2.0nm,0.8s
WRA Warramunga Arr 125.20 258 PKP PKPdf 10 30 14.4 +1.6
comp=Z,1.8nm,0.8s,baz=78,slow=2.6,SNR=13
ASAR Alice Springs 126.11 254 PKIKP PKPdf 10 30 15.9 +1.5
ASAR pmax pmax
comp=Z,1.0nm,0.8s
ASAR Alice Springs 126.11 254 PKP PKPdf 10 30 15.9 +1.5
comp=Z,1.4nm,0.8s,baz=85,slow=1.2,SNR=9.8
KMI Kunming 129.22 328 PKP PKPdf 10 30 16.5 -3.9
KMI PP PP 10 32 29.5 +1.9
KMI PP PP
comp=Z,57nm,7.3s
KMI LR LR
comp=N,99nm,16.6s,MS4.9
KMI LR LR
comp=E,209nm,18.7s,MS4.9
KMI LR LR
comp=Z,94nm,20.7s,MS4.5
BOSA Boshof 132.79 112 PKIKP PKPdf 10 30 30.2 +3.2
BOSA pmax pmax
comp=Z,2.0nm,0.8s
BOSA Boshof 132.79 112 PKP PKPdf 10 30 30.2 +3.3
comp=Z,1.7nm,0.8s,baz=22,slow=3.8,SNR=3.1

TEH ***31*** *10:28:19.1,29.11N×5132E,h6km,ML4.3*
IDC ***31*** *10:28:32.8±1.0,2909N×5136E,h0km,mb4.1/18,*
mb1 4.2/20,mb1mx4.0/29,mbtmp4.1/20,ML4.5/1,MS3.0/4,
Ms1 3.0/4,ms1mx2.7/32,Error ellipse: s-maj=21.8km
s-min=17.1km az=180.0
ISCJB ***31*** *10:28:33.9±0.9,2906N±004×5123E±004,h13km±5km,*
mb4.2/33,MS3.8/4,Error ellipse: s-maj=7.3km
s-min=4.2km az=42.1
NEIC ***31*** *10:28:36.8,29.11N×5132E,h6km,mb4.1/2,ML4.2(THR),*
MN4.3(TEH),After TEH.
CSEM ***31*** *10:28:36.9±0.1,2913N×5129E,h35km,mb4.2/13,Error*
ellipse: s-maj=3.4km s-min=2.0km az=35.0
MOS ***31*** *10:28:36.4±1.1,2907N×5130E,h33km,mb4.3/8,Error*
ellipse: s-maj=11.4km s-min=6.9km az=105.6
THR ***31*** *10:28:37.3±1.1,2918N×5129E,h38km±13km,ML4.0*
BJI ***31*** *10:28:38.6,2927N×5159E,h15km,mB4.8,mb4.6,Ms4.2,*
Msz3.8

ISC 31 10:28:36.1±0.9,2908N±004×5127E±004,h13km±5km,
h11km±1.6km:pP-P,n136,σ1§18/141,mb4.2/33,MS3.8/4,
7C-4D,Southern Iran

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SHI	**Shiraz**	**1.22**	**62**	*e*Pg	**Pg**	**10 28 57.7**	**-1.8**
IMOK	**Mouk**	**1.26**	**91**	*e*Pg	**Pg**	**10 28 59.0**	**-1.4**
ISRV	**Sarvestan**	**1.64**	**79**	Pn	**Pn**	**10 29 04.3**	**-0.2**
ISRV	**Sarvestan**	**1.64**	**79**	*e*Pn	**Pn**	**10 29 04.4**	**-0.1**
GHIR	**Ghir-Karzin**	**1.70**	**117**	*e*Pg	**Pg**	**10 29 08.1**	**-0.7**
GHIR				*e*Sg	**Sg**	**10 29 31.9**	**+1.1**
GHIR				AML	AML	10 29 40.9	
	comp=E,2μm,0.5s						
GHIR	**Ghir-Karzin**	**1.70**	**117**	Pg	**Pg**	**10 29 08.0**	**-0.8**
GHIR				Sg	**Sg**	**10 29 31.0**	**+0.1**
IPAR	**Pars**	**1.72**	**63**	*e*Pn	**Pn**	**10 29 06.4**	**+0.7**
IGAR	**Gharneh**	**3.38**	**11**	*e*Pn	**Pn**	**10 29 28.9**	**+0.5**
ISAD	**Sadrabad**	**3.51**	**36**	Pn	**Pn**	**10 29 31.3**	**+1.1**
ISAD				Lg		10 30 24.9	
ISAD	**Sadrabad**	**3.51**	**36**	*e*Pn	**Pn**	**10 29 31.3**	**+1.1**
ISAD				*e*Lg		10 30 25.0	
ISAD				*e*		10 30 33.1	
	comp=Z,9μm,0.4s						
IPIR	**Pirpir**	**3.61**	**355**	*e*Pn	**Pn**	**10 29 32.1**	**+0.5**
IPIR	**Pirpir**	**3.61**	**355**	Pn	**Pn**	**10 29 32.0**	**+0.4**
SHGR	**Shooshtar-Gavs**	**3.69**	**325**	*e*Pn	**Pn**	**10 29 33.2**	**+0.4**
IMEH	**Mehriz**	**3.69**	**51**	*e*Pn	**Pn**	**10 29 34.2**	**+1.4**
IMEH				*e*		10 30 34.0	
	comp=Z,7μm,0.6s						
IZEF	**Zefreh**	**3.91**	**13**	*e*Pn	**Pn**	**10 29 36.0**	**+0.2**
IZEF	**Zefreh**	**3.91**	**13**	Pn	**Pn**	**10 29 35.9**	**+0.1**
NASN	**Na'in**	**3.93**	**19**	Pn	**Pn**	**10 29 35.0**	**-1.1**
NASN				Sg	**Sg**	**10 30 33.0**	**-9.4**
NASN	**Na'in**	**3.93**	**19**	*e*Pn	**Pn**	**10 29 36.0**	**-0.1**
NASN				*e*Sg	**Sg**	**10 30 33.9**	**-8.5**
ICHK	**Chekchek**	**4.15**	**40**	*e*Pn	**Pn**	**10 29 39.6**	**+0.5**
ICHK				*e*		10 30 48.6	
	comp=Z,2μm,0.4s						
ICHK	**Chekchek**	**4.15**	**40**	Pn	**Pn**	**10 29 39.5**	**+0.4**
IBAF	**Bafgh**	**4.48**	**55**	Pn	**Pn**	**10 29 44.0**	**+0.5**
IBAF				Lg		10 30 54.5	
IBAF	**Bafgh**	**4.48**	**55**	*e*Pn	**Pn**	**10 29 44.0**	**+0.5**
IBAF				*e*		10 30 03.7	
	comp=Z,2μm,0.2s						
IBAF				*e*Lg		10 30 54.6	
BNDS	**Bandar-Abbas**	**4.63**	**110**	*e*Pn	**Pn**	**10 29 47.0**	**+1.3**
GHVR	**GHOM**	**5.38**	**0**	*e*Pn	**Pn**	**10 29 56.5**	**+0.5**
GHVR				AML	AML	10 30 60.0	
	comp=N,91nm,0.4s						
BANOM	**Banah**	**5.46**	**124**	Pn	**Pn**	**10 29 57.0**	**-0.1**
	SNR=18						
BANOM	**Banah**	**5.46**	**124**	P	**Pn**	**10 29 57.0**	**-0.1**
	SNR=18						
BANOM	**Banah**	**5.46**	**124**	Pn	**Pn**	**10 29 57.0**	**-0.1**
	SNR=18						
BANOM				Sn	**Sn**	**10 30 53.8**	**-6.0**
ASAO	**Ashtian**	**5.55**	**349**	*e*Pn	**Pn**	**10 29 58.9**	**+0.6**
ASAO				AML	AML	10 31 09.1	
	comp=E,72nm,0.6s						
ASAO				AML	AML	10 31 14.8	
	comp=N,76nm,0.6s						
ASUD	**Al Ashush, Dub**	**5.73**	**140**	P	**Pn**	**10 30 02.0**	**+1.2**
	SNR=89						
IKOM	**Komasi**	**6.01**	**329**	*e*Pn	**Pn**	**10 30 05.6**	**+1.0**
IKOM				*e*		10 31 32.5	
	comp=Z,2μm,0.2s						
HATD	**Hatta, Dubai**	**6.06**	**133**	Pn	**Pn**	**10 30 05.7**	**+0.3**
ASHO	**Ashiyiah**	**6.12**	**135**	P	**Pn**	**10 30 06.7**	**+0.5**
	SNR=12						
DAMV	**Damavand**	**6.56**	**5**	*e*Pn	**Pn**	**10 30 11.7**	**-0.5**
DAMV	**Damavand**	**6.56**	**5**	*e*Pn	**Pn**	**10 30 11.6**	**-0.5**
	SNR=54						
IGHG	**Ghaleghazi**	**6.59**	**324**	*e*Pn	**Pn**	**10 30 13.5**	**+0.9**
IVIS	**Veis**	**6.61**	**326**	*e*Pn	**Pn**	**10 30 13.6**	**+0.8**
IVIS				*e*		10 31 37.8	
	comp=Z,822nm,0.3s						
IVIS	**Veis**	**6.61**	**326**	Pn	**Pn**	**10 30 13.5**	**+0.7**
CHTH	**Charan**	**6.81**	**359**	Pn	**Pn**	**10 30 15.0**	**-0.6**
CHTH	**Charan**	**6.81**	**359**	*e*Pn	**Pn**	**10 30 15.1**	**-0.5**
SNGE	**Sanandaj**	**6.86**	**332**	*e*Pn	**Pn**	**10 30 16.0**	**-0.2**
ILIN	**Lien**	**6.87**	**329**	*e*Pn	**Pn**	**10 30 17.4**	**+0.9**

ILIN				*e*			10 30 22.3
	comp=Z,1μm,0.1s						
ILIN	**Lien**	**6.87**	**329**	Pn		**Pn**	**10 30 17.3 +0.8**
IALA	**Alasht**	**7.10**	**10**	Pn		**Pn**	**10 30 19.1 -0.5**
IALA	**Alasht**	**7.10**	**10**	*e*Pn		**Pn**	**10 30 19.2 -0.4**
IALA				*e*			10 30 24.9
	comp=Z,878nm,0.2s						
IPRN	**Peran**	**7.20**	**7**	*e*Pn		**Pn**	**10 30 21.6 +0.7**
IPRN				*e*			10 30 59.1
	comp=Z,549nm,0.3s						
BHD	**Baghdad**	**7.23**	**307**	*ex*		x	10 30 17.0
BHD				*ex*		x	10 31 37.0
IGLO	**Ghaloghah**	**7.71**	**16**	Pn		**Pn**	**10 30 28.9 +1.0**
IGLO	**Ghaloghah**	**7.71**	**16**	*e*Pn		**Pn**	**10 30 29.0 +1.1**
IGLO				*e*			10 30 34.6
	comp=Z,677nm,0.2s						
BSY	**Bisya**	**8.26**	**138**	P		**Pn**	**10 30 35.7 +0.1**
	SNR=10						
BSY	**Bisya**	**8.26**	**138**	Pn		**Pn**	**10 30 35.7 +0.1**
	SNR=10						
BSY	**Bisya**	**8.26**	**138**	P		**Pn**	**10 30 35.7 +0.1**
	SNR=10						
BSYO	**Bisya**	**8.30**	**138**	Pn		**Pn**	**10 30 35.7 -0.4**
	SNR=10						
MSL	**Mosul**	**9.96**	**318**	*ex*		x	10 30 57.0
MSL				*ex*		x	10 32 48.0
GNI	**Garni**	**12.28**	**336**	P		**Pn**	**10 31 31.1 +0.6**
GNI				pmax		pmax	
	comp=Z,1.0nm,0.3s						
GNI				MLR		MLR	
	comp=Z,118nm,20.9s						
GNI	**Garni**	**12.28**	**336**	*e*Pn		**Pn**	**10 31 32.3 +1.8**
GNI	**Garni**	**12.28**	**336**	Pn		**Pn**	**10 31 31.1 +0.6**
	comp=Z,1.1nm,0.3s,baz=132,slow=7.6,SNR=3.1						
GNI				LR		LR	10 36 51.4
	comp=Z,118nm,20.9s,baz=160,slow=40						
ASF	**Jabal al Asfar**	**12.76**	**288**	Pn		**Pn**	**10 31 39.2 +2.1**
ASF				Lg			10 35 34.2
ASF				LR		LR	10 37 24.2
ASF	**Jabal al Asfar**	**12.76**	**288**	Pn		**Pn**	**10 31 39.2 +2.1**
	comp=Z,0.5nm,0.3s,baz=263,slow=4.7,SNR=2.2						
ASF				Lg			10 35 34.2
	baz=185,slow=20,SNR=2.2						
ASF				LR		LR	10 37 24.2
	comp=Z,45nm,18.2s,baz=144,slow=41						
MALT	**Malatya**	**14.10**	**314**	*e*P		**Pn**	**10 31 55.7 +0.3**
MALT				pmax		pmax	
	comp=Z,4.0nm,0.6s						
MALT	**Malatya**	**14.10**	**314**	*e*Pn		**Pn**	**10 31 55.7 +0.3**
	comp=Z,3.8nm,0.6s						
MALT	**Malatya**	**14.10**	**314**	*e*P		**Pn**	**10 31 55.7 +0.3**
	comp=Z,4.0nm,0.6s						
MMAI	**Mount Meron Ar**	**14.16**	**290**	Pn		**Pn**	**10 31 57.2 +1.0**
	comp=Z,2.4nm,0.3s,baz=105,slow=17,SNR=4.2						
MMAI				Lg			10 36 13.2
	comp=Z,1.8nm,0.3s,baz=119,slow=31,SNR=3.3						
EIL	**Elat**	**14.25**	**276**	Pn		**Pn**	**10 32 05.2 +7.8**
	comp=Z,0.2nm,0.3s,baz=104,slow=12,SNR=2.7						
EIL				Lg			10 36 21.5
	comp=Z,0.4nm,0.3s,baz=23,slow=15,SNR=2.3						
EIL				LR		LR	10 38 30.6
	comp=Z,55nm,20.9s,baz=95,slow=42						
KBL	**Kabul**	**16.05**	**66**	*e*P		**Pn**	**10 32 22.4 +0.9**
	comp=Z,12nm,1.2s						
KBL	**Kabul**	**16.05**	**66**	*e*P		**Pn**	**10 32 22.4 +1.0**
	comp=Z,12nm,1.2s						
KIV	**Kislovodsk**	**16.35**	**337**	*d i*P		**Pn**	**10 32 26.5 +1.2**
KIV				pmax		pmax	
	comp=Z,50nm,1.3s						
KIV	**Kislovodsk**	**16.35**	**337**	*e*P		**Pn**	**10 32 25.3 0.0**
	comp=Z,14nm,0.5s						
SOC	**Sochi**	**17.18**	**330**	*e*P		**Pn**	**10 32 34.5 -1.2**
SOC				*e*			10 35 47.1
SOC				pmax		pmax	
	comp=Z,23nm,1.0s						
SOC				MLR		MLR	
	comp=Z,123nm,20.0s						
SOC	**Sochi**	**17.18**	**330**	*e*P		**Pn**	**10 32 34.5 -1.2**
	comp=Z,23nm,1.0s						
AKTK	**Aktyubinsk**	**21.93**	**12**	P		**P**	**10 33 27.9 -1.1**
AKTK				LR		LR	10 43 12.3
AKTO	**Aktyubinsk**	**21.93**	**12**	P		**P**	**10 33 27.9 -1.1**
	comp=Z,4.7nm,0.6s,mb4.1,baz=181,slow=12,SNR=19						
AKTO				LR		LR	10 43 12.3
	comp=Z,57nm,19.1s,MS3.0,baz=296,slow=40						
VRHR	**Novokhopersk**	**23.15**	**344**	*e*P		**P**	**10 33 44.7 +2.7**
VRHR				pmax		pmax	
	comp=N,10.0nm,0.6s						
VRHR				pmax		pmax	
	comp=Z,50nm,0.6s,mb5.1						
VRHR				pmax		pmax	
	comp=E,7.0nm,0.3s						
VORD	**Divnogorie**	**23.64**	**341**	*e*P		**P**	**10 33 46.4 -0.6**
VORD				pmax		pmax	
	comp=Z,20nm,0.9s,mb4.5						
VORD				pmax		pmax	
	comp=N,40nm,0.8s						
VORD				pmax		pmax	
	comp=E,40nm,0.7s						
VORD	**Divnogorie**	**23.64**	**341**	*e*P		**P**	**10 33 46.4 -0.6**
	comp=E,40nm,0.8s,mb4.9						
TIRR	**Tirgusor**	**23.78**	**316**	⇓*i*P		**P**	**10 33 46.9 -1.4**
VRSR	**Storozhevoye**	**23.90**	**341**	*e*P		**P**	**10 33 46.2 -3.1**
VRSR				pmax		pmax	
	comp=Z,1.0nm,0.5s,mb3.5						
VRSR				pmax		pmax	
	comp=N,2.0nm,0.6s						
VRSR				pmax		pmax	
	comp=E,1.0nm,1.0s						
VRSR	**Storozhevoye**	**23.90**	**341**	*e*P		**P**	**10 33 46.2 -3.1**
	comp=E,2.0nm,0.6s,mb3.7						
PLOR	**Plostina**	**25.58**	**318**	⇓*i*P		**P**	**10 34 03.9 -0.8**
MLR	**Muntele Rosu**	**25.81**	**316**	P		**P**	**10 34 08.1 +1.3**
MLR				pmax		pmax	
	comp=Z,9.0nm,0.8s						
MLR	**Muntele Rosu**	**25.81**	**316**	⇑P		**P**	**10 34 10.3 +3.5**
MLR	**Muntele Rosu**	**25.81**	**316**	P		**P**	**10 34 08.1 +1.2**
	comp=Z,9.1nm,0.8s,mb4.4,baz=196,slow=2.7,SNR=18						
MLR	**Muntele Rosu**	**25.81**	**316**	⇑*i*P		**P**	**10 34 10.3 +3.5**
VOIR		**26.33**	**315**	⇑*i*P		**P**	**10 34 17.3 +5.8**
AKASG	**Malin Array Be**	**27.24**	**329**	*i* P		**P**	**10 34 18.0 -1.6**
AKASG				pmax		pmax	
	comp=Z,1.0nm,0.4s						
AKASG	**Malin Array Be**	**27.24**	**329**	P		**P**	**10 34 17.8 -1.8**
AKASG	**Malin Array Be**	**27.24**	**329**	P		**P**	**10 34 17.8 -1.8**
	comp=Z,0.9nm,0.3s,mb3.7,baz=134,slow=8.9,SNR=13						
AKASG	**Malin Array Be**	**27.24**	**329**	*i* P		**P**	**10 34 18.0 -1.6**
	comp=Z,1.0nm,0.4s,mb3.7						
BURAR	**Bucovina Array**	**27.36**	**320**	⇓*i*P		**P**	**10 34 20.8 0.0**
BVAR	**Borovoye Array**	**27.75**	**25**	P		**P**	**10 34 23.3 -0.9**
	comp=Z,3.2nm,0.8s,mb4.0,baz=221,slow=7.9,SNR=11						
ARU	**Arti**	**27.82**	**9**	⇑*e*P		**P**	**10 34 26.0 +1.2**
ARU				pmax		pmax	
	comp=Z,4.0nm,0.8s,mb4.1						
ARU	**Arti**	**27.82**	**9**	*e*P		**P**	**10 34 26.0 +1.2**
	comp=Z,4.0nm,0.8s,mb4.1						
OBN	**Obninsk**	**28.09**	**342**	*e*P		**P**	**10 34 29.5 +2.3**
OBN				pmax		pmax	
	comp=Z,28nm,1.7s,mb4.6						
OBN	**Obninsk**	**28.09**	**342**	*e*P		**P**	**10 34 29.5 +2.3**
	comp=Z,28nm,1.7s,mb4.6						
DRGR		**28.41**	**316**	⇑*i*P		**P**	**10 34 23.4 -6.7**
MK31	**Makanchi Array**	**29.92**	**45**	*e*P		**P**	**10 34 42.2 -1.3**
MKAR	**Makanchi Array**	**29.92**	**45**	*i* P		**P**	**10 34 43.0 -0.5**
MKAR				pmax		pmax	
	comp=Z,1.0nm,0.6s						
MKAR	**Makanchi Array**	**29.92**	**45**	P		**P**	**10 34 42.3 -1.2**
	comp=Z,0.5nm,0.6s,mb3.5,baz=237,slow=8.1,SNR=5.1						
MKAR	**Makanchi Array**	**29.92**	**45**	*i* P		**P**	**10 34 43.0 -0.5**
	comp=Z,1.0nm,0.6s,mb3.7						
WMQ	**Urumqi**	**32.49**	**53**	*e*P		**P**	**10 35 10.0 +3.8**
WMQ				PP		PP	10 36 18.0 -1.6
WMQ				PCP		PcP	10 37 56.0 +3.0
WMQ				LR		LR	
	comp=N,159nm,12.0s,MS4.0						
WMQ				LR		LR	
	comp=E,102nm,12.0s,MS4.0						
WMQ				LR		LR	
	comp=Z,65nm,10.0s,MS3.6						
ZAL	**Zalesovo**	**34.77**	**35**	P		**P**	**10 35 25.0 -1.0**
ZALV	**Zalesovo Beam**	**34.79**	**35**	P		**P**	**10 35 25.0 -1.1**
ZALV	**Zalesovo Beam**	**34.79**	**35**	P		**P**	**10 35 25.0 -1.1**
	comp=Z,1.2nm,0.3s,mb4.3,baz=249,slow=6.2,SNR=2.4						
KHC	**Kasperske Hory**	**34.96**	**315**	*e*P		**P**	**10 35 26.7 -0.9**
FINES	**FINESS Array B**	**36.42**	**340**	*i* P		**P**	**10 35 38.5 -1.5**
FINES				pmax		pmax	
	comp=Z,1.0nm,0.5s						
FINES	**FINESS Array B**	**36.42**	**340**	P		**P**	**10 35 38.0 -2.1**
FINES	**FINESS Array B**	**36.42**	**340**	P		**P**	**10 35 38.0 -2.1**
	comp=Z,1.0nm,0.5s,mb4.0,baz=142,slow=9.6,SNR=4.2						
FINES	**FINESS Array B**	**36.42**	**340**	*i* P		**P**	**10 35 38.5 -1.5**
	comp=Z,1.0nm,0.5s,mb4.0						
HFS	**Hagfors**	**40.02**	**332**	P		**P**	**10 36 08.9 -1.5**
	comp=Z,1.9nm,0.3s,mb4.2,baz=141,slow=9.1,SNR=16						
GTA	**Gaotai**	**41.00**	**62**	*e*P		**P**	**10 36 19.0 +0.3**
GTA				AP		pP	10 36 22.0 -0.9
GTA				AMB		AMB	
	comp=Z,6.0nm,0.8s,mb4.3						
NB2	**NORSAR Subarra**	**41.54**	**332**	P		**P**	**10 36 20.8 -2.1**
	comp=Z,0.7nm,0.4s,mb3.6,baz=124,slow=8.6						
NOA	**NORSAR Array B**	**41.54**	**332**	P		**P**	**10 36 21.0 -1.9**
	comp=Z,1.5nm,0.7s,mb3.7,baz=122,slow=8.3,SNR=6.4						
ARCES	**ARCESS Array B**	**43.12**	**347**	P		**P**	**10 36 34.5 -1.2**
	comp=Z,1.3nm,0.5s,mb3.9,baz=161,slow=8.3,SNR=9.7						
LZH	**Lanzhou**	**44.40**	**67**	*e*P		**P**	**10 36 50.5 +4.1**
LZH				AP		pP	10 36 53.0 +2.4
LZH				XP		sP	10 36 54.5 +2.2
LZH				AMB		AMB	
	comp=Z,14nm,1.0s,mb4.7						
LZH				AMB		AMB	
	comp=Z,71nm,4.8s						
CD2	**Chengdu**	**45.15**	**74**	*e*P		**P**	**10 36 52.8 +0.4**
CD2				AMB		AMB	
	comp=Z,10.0nm,0.6s,mb4.8						
KMI	**Kunming**	**45.70**	**82**	P		**P**	**10 36 59.8 +2.9**
KMI				AP		pP	10 37 02.0 +0.9
KMI				AMB		AMB	
	comp=Z,7.0nm,0.7s,mb4.7						
SONM	**Songino Array**	**46.01**	**50**	P		**P**	**10 36 59.3 +0.3**
	comp=Z,0.6nm,0.7s,mb3.6,baz=262,slow=10.0,SNR=3.2						
ULN	**Ulaanbaatar**	**46.45**	**50**	*e*P		**P**	**10 37 01.7 -0.8**
EKA	**Eskdalemuir Ar**	**46.55**	**320**	P		**P**	**10 37 04.7 +1.6**
	comp=Z,1.0nm,0.5s,mb4.0,baz=102,slow=8.8,SNR=5.1						
TORD	**Torodi Ar. Bea**	**48.53**	**262**	P		**P**	**10 37 18.6 -0.5**
	comp=Z,1.9nm,0.8s,mb4.2,baz=55,slow=6.7,SNR=12						
GYA	**Guiyang**	**48.70**	**79**	P		**P**	**10 37 23.0 +2.7**
GYA				AMB		AMB	
	comp=Z,10.0nm,0.8s,mb4.9						
HHC	**Hu-ho-hao-te**	**49.90**	**59**	*e*P		**P**	**10 37 31.0 +1.8**
HHC				AP		pP	10 37 35.5 +2.0
HHC				XP		sP	10 37 38.0 +2.9
HHC				PCP		PcP	10 38 51.0 +1.4
HHC				PP		PP	10 39 27.3 +3.3
HHC				SCP		ScP	10 42 47.0 +2.1
HHC				S		**S**	**10 44 38.8 -0.2**
HHC				XS		sS	10 44 47.3 +1.3
HHC				SCS		ScS	10 47 19.5 -1.0
HHC				SS		SS	10 48 07.0 -4.6
HHC				AMB		AMB	
	comp=Z,11nm,1.1s,mb4.8						
HHC				AMB		AMB	
	comp=Z,66nm,5.1s						
HHC				LR		LR	
	comp=N,90nm,15.9s,MS4.0						
HHC				LR		LR	
	comp=E,109nm,17.8s,MS4.0						
HHC				LR		LR	
	comp=Z,87nm,15.1s,MS3.9						
SPITS	**Spitsbergen Ar**	**51.60**	**351**	P		**P**	**10 37 40.1 -1.4**
	comp=Z,0.6nm,0.4s,mb3.9,baz=317,slow=12,SNR=7.9						
BJI	**Beijing**	**53.49**	**60**	P		**P**	**10 37 58.0 +1.9**
BJI				S		**S**	**10 45 30.8 +2.2**
BJI				SS		SS	10 49 10.5 +1.9
BJI				AMB		AMB	
	comp=Z,4.0nm,0.8s,mb4.4						
BJI				AMB		AMB	
	comp=Z,86nm,4.2s						
BJI				LR		LR	
	comp=N,207nm,18.5s,MS4.4						
BJI				LR		LR	
	comp=E,284nm,20.3s,MS4.4						
DBIC	**Dimbokro**	**57.29**	**259**	P		**P**	**10 38 24.1 +0.3**
DBIC				pmax		pmax	
	comp=Z,3.0nm,0.8s						
DBIC	**Dimbokro**	**57.29**	**259**	P		**P**	**10 38 24.1 +0.3**
	comp=Z,3.2nm,0.8s,mb4.4,baz=0,0,slow=6.1,SNR=3.4						
TIXI	**Tiksi**	**58.79**	**21**	⇑*e*P		**P**	**10 38 31.8 -1.7**
TIXI				pmax		pmax	
	comp=Z,5.0nm,2.5s,mb4.1						
TIXI	**Tiksi**	**58.79**	**21**	*e*P		**P**	**10 38 31.8 -1.7**
	comp=Z,5.0nm,2.5s,mb4.1						
YAK	**Yakutsk**	**59.38**	**32**	*e*P		**P**	**10 38 38.6 +0.9**
CN2	**Changchun**	**59.58**	**54**	*e*P		**P**	**10 38 43.0 +3.6**
KSRS	**Korea Array**	**63.02**	**60**	P		**P**	**10 39 00.7 -2.2**
	comp=Z,0.6nm,0.5s,mb4.0,baz=277,slow=6.5,SNR=4.6						
BILL	**Bilibino**	**72.01**	**21**	⇑*e*P		**P**	**10 39 58.6 -0.5**
BILL				pmax		pmax	
	comp=Z,4.0nm,1.3s,mb4.2						
BILL	**Bilibino**	**72.01**	**21**	*e*P		**P**	**10 39 58.6 -0.5**
	comp=Z,4.0nm,1.3s,mb4.2						
YKA	**Yellowknife Ar**	**88.04**	**353**	P		**P**	**10 41 24.3 -1.4**
YKA				pmax		pmax	
	comp=Z,1.0nm,0.9s						
YKA	**Yellowknife Ar**	**88.04**	**353**	P		**P**	**10 41 24.3 -1.4**
	comp=Z,0.5nm,0.8s,mb3.8,baz=13,slow=5.1,SNR=5.5						
WRA	**Warramunga Arr**	**93.70**	**111**	P		**P**	**10 41 50.8 -2.0**
	comp=Z,0.3nm,0.5s,mb4.0,baz=314,slow=4.3,SNR=5.7						
ASAR	**Alice Springs**	**95.17**	**114**	P		**P**	**10 41 57.2 -2.2**
	comp=Z,0.3nm,0.6s,mb3.9,baz=300,slow=4.6,SNR=5.7						

*ISCJB **31** 10:32:05.6±1.7, 3572N±007×220E±02, h10km, Error ellipse: s-maj=26.9km s-min=9.6km az=178.4*
*CSEM **31** 10:32:06.5±0.0, 3570N×2204E, h10km, MD3.0, Error ellipse: s-maj=0.4km s-min=0.1km az=84.0*
*HLW **31** 10:32:09.5, 3594N×2235E, h33km, Mb3.7*
*ATH **31** 10:32:12.5, 3614N×2218E, h10km, MD3.0/3*

ISC 31 10:32:07.2±1.5, 3584N±006×220E±02, h10km, n6, σ0°41/8, 2C-1D, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.93**	**61**	*e*PB	**Pb**	**10 32 26.0**	**+0.5**
VLI	**Veliai**	**1.15**	**40**	*e*PB	**Pb**	**10 32 28.7**	**-0.4**
ITM	**Ithomi**	**1.34**	**357**	*e*PB	**Pb**	**10 32 32.5**	**+0.1**
HMAT	**Matruh**	**6.35**	**137**	⇑*e*P	**Pn**	**10 33 40.2**	**-0.6**
SWA2		**7.18**	**155**	⇓*e*P	**Pn**	**10 33 52.5**	**+0.2**
SWA2				S	**Sn**	**10 35 08.1**	**-5.8**
SWA1		**7.25**	**154**	⇑P	**Pn**	**10 33 53.5**	**+0.3**
SWA1				S	**Sn**	**10 35 09.5**	**-6.2**

KRSC 31 11:17:18.5±1.8, 5498N×16302E, h18km±18km, ML3.5, Off east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MKZ	**Mys Kozlova**	**0.86**	**241**	*i* P	Pb	11 17 35.1	+0.3
MKZ				*i* S	Sb	11 17 47.6	+1.6
KBTR	**Krutoberegovo**	**1.24**	**355**	*e*P	Pn	11 17 40.3	-0.5
KBTR				*i* S	Sb	11 17 56.3	-0.6
TUMR	**Tumrok**	**1.68**	**282**	P	Pn	11 17 47.2	+0.3
KMNR	**Kamenistaya**	**1.77**	**297**	P	Pn	11 17 48.1	0.0
AVH	**Avacha**	**3.05**	**237**	*e*P	Pn	11 18 07.1	+1.4
AVH				*e*S	Sn	11 18 42.8	+1.1
GNL	**Ganaly**	**3.24**	**249**	*e*P	Pn	11 18 10.3	+1.9
RUS	**Russkaya**	**3.70**	**228**	P	Pn	11 18 14.4	-0.3

IDC 31 11:37:37.1±1.9, 557S×15423E, h0km, mb3.4/3, mb1 3.6/3, mb1mx3.4/13, mbtmp3.4/3, MS3.9/1, Ms1 3.9/1, ms1mx3.0/13, Error ellipse: s-maj=77.0km s-min=34.3km az=113.0, Bougainville - Solomon Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**24.05**	**232**	P	P	11 42 54.2	+0.1
	0.5nm,0.5s,baz=56,slow=10.0,SNR=9.1						
WRA				PcP	PcP	11 46 35.8	-0.3
	0.5nm,0.6s,baz=56,slow=2.7,SNR=6.7						
ASAR	**Alice Springs**	**26.59**	**225**	P	P	11 43 17.8	+0.6
	0.1nm,0.5s,baz=61,slow=10.0,SNR=3.8						
ASAR				PcP	PcP	11 46 41.9	+0.1
	0.5nm,0.6s,baz=58,slow=3.2,SNR=6.9						
RAO	**Raoul Island**	**35.32**	**135**	LR	LR	11 55 27.3	
	comp=Z,214nm,21.2s,baz=135,slow=30						
SONM	**Songino Array**	**67.73**	**327**	P	P	11 48 37.2	+0.8
	0.4nm,0.5s,baz=126,slow=4.5,SNR=2.8						
TORD	**Torodi Ar. Bea**	**151.90**	**288**	PKPbc	PKPbc	11 57 34.1	-1.0
	0.3nm,0.3s,baz=92,slow=1.8,SNR=7.3						
TORD				PKPab	PKPab	11 57 43.6	-0.6
	0.6nm,0.5s,baz=71,slow=4.0,SNR=6.2						

*ISCJB **31** 12:43:20.1±0.8, 1112N±005×6218W±004, h122km±6km, Error ellipse: s-maj=8.7km s-min=6.3km az=175.9*
*TRN **31** 12:43:22.4, 1120N×6209W, h114km, MD2.7*
*NEIC **31** 12:43:22.4, 1120N×6209W, h114km, MD2.7(TRN), After TRN.*
*FUNV **31** 12:43:22.0, 1115N×6216W, h115km, MW3.0*

ISC 31 12:43:20.7±0.9, 1111N±005×6217W±004, h121km±7km, n17, σ0°91/26, 1C, Windward Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUIV	**Guiria**	**0.46**	**186**	⇑*e*P	**Pn**	**12 43 39.2**	**+0.6**
GUIV				*e*S	**Sn**	**12 43 51.7**	**-0.3**
TCE	**Chacachacare**	**0.58**	**135**	*e*P	**Pn**	**12 43 40.8**	**+1.5**
TCE				*e*S	**Sn**	**12 43 53.8**	**+0.5**
TRN	**Trinidad (W)**	**0.89**	**121**	*e*P	**Pn**	**12 43 43.0**	**+1.3**
TRN				*e*S	**Sn**	**12 43 57.4**	**-0.2**
ITEV	**Isla Los Testi**	**0.97**	**285**	*e*P	**Pn**	**12 43 42.4**	**-0.2**
ITEV				*e*S	**Sn**	**12 43 58.6**	**-0.4**
TPP	**Pointe-a-Pierr**	**1.06**	**138**	*e*S	**Sn**	**12 44 01.6**	**+1.0**
CRUV	**Carupano**	**1.13**	**248**	*e*P	**Pn**	**12 43 44.8**	**+0.6**
CRUV				*e*S	**Sn**	**12 44 01.4**	**-0.5**
GRW	**Mount Saint Ca**	**1.16**	**26**	*e*P	**Pn**	**12 43 44.4**	**0.0**
GRW				*e*S	**Sn**	**12 44 00.5**	**-1.9**
GUNV	**Guanoco**	**1.21**	**219**	*e*P	**Pn**	**12 43 46.1**	**+1.1**
GUNV				*e*S	**Sn**	**12 44 03.5**	**+0.1**
TBH	**Brigand Hill**	**1.25**	**120**	*e*P	**Pn**	**12 43 46.9**	**+1.4**
TBH				*e*S	**Sn**	**12 44 02.8**	**-1.4**
TPR	**Prospect**	**1.37**	**87**	*e*P	**Pn**	**12 43 46.5**	**-0.2**
TPR				*e*S	**Sn**	**12 44 06.4**	**-0.1**
PCRV	**Puerto La Cruz**	**2.59**	**249**	*e*P	**Pn**	**12 44 01.9**	**+0.2**
RIOV	**Rio Grande**	**3.04**	**173**	*e*S	**Sn**	**12 44 42.0**	**-1.9**
CUPV	**Cœpira**	**3.71**	**254**	*e*P	**Pn**	**12 44 16.7**	**+0.3**
BIRV	**Birongo**	**4.07**	**261**	*e*P	**Pn**	**12 44 21.5**	**+0.2**
LUEV	**Luepa**	**5.28**	**172**	*e*S	**Sn**	**12 45 34.0**	**-3.4**
CAOV	**Caicara del Or**	**5.56**	**228**	*e*P	**Pn**	**12 44 41.0**	**-0.3**
BAUV	**El Baul**	**6.17**	**250**	*e*P	**Pn**	**12 44 48.9**	**-0.7**

*CSEM **31** 13:10:45.3±0.1, 2432N×3648E, h2km, mb4.4/3, Error ellipse: s-maj=5.4km s-min=3.3km az=54.0*
*ISCJB **31** 13:10:46.6±0.5, 2435N±006×3652E±006, h10km, mb3.9/15, MS3.2/4, Error ellipse: s-maj=9.7km s-min=6.6km az=37.7*
*IDC **31** 13:10:47.5±1.1, 2436N×3638E, h0km, mb4.0/12, mb1 4.0/15, mb1mx3.9/24, mbtmp3.9/15, ML3.5/3, MS3.2/5, Ms1 3.2/5, ms1mx2.7/35, Error ellipse: s-maj=22.6km s-min=18.0km az=151.0*
*NEIC **31** 13:10:48.7±0.8, 2434N×3639E, h10km, mb4.3/3, Error ellipse: s-maj=17.8km s-min=13.0km az=124.0*
*SGS **31** 13:10:51.0, 2437N×3654E, h29km*

ISC 31 13:10:48.3±0.5, 2434N±006×3651E±007, h10km, n33, σ1°10/31, mb3.9/15, MS3.2/4, Red Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOBS		**2.03**	**89**	S	**Sn**	**13 11 44.6**	**-3.5**
YOBS		**2.03**	**89**	P	**Pn**	**13 11 21.9**	**-0.7**
WJHS		**2.38**	**357**	P	**Pn**	**13 11 26.4**	**-1.1**
FDAS		**4.33**	**124**	P	**Pn**	**13 11 53.5**	**-0.7**
JLOS		**4.47**	**348**	P	**Pn**	**13 11 55.5**	**-0.7**
FRAS	**Faraa**	**4.93**	**131**	P	**Pn**	**13 12 02.3**	**-0.2**
HQLS		**5.11**	**346**	P	**Pn**	**13 12 04.2**	**-0.7**
EIL	**Elat**	**5.49**	**346**	Pn	**Pn**	**13 12 08.9**	**-1.3**
	0.8nm,0.3s,baz=152,slow=14,SNR=12						
EIL				Lg		13 13 41.8	
	1.5nm,0.3s,baz=30,slow=16,SNR=2.5						
ASF	**Jabal al Asfar**	**7.81**	**2**	Pn	**Pn**	**13 12 40.8**	**-1.2**
	0.7nm,0.3s,baz=49,slow=8.9,SNR=4.6						
ASF				Lg		13 14 46.2	
	0.4nm,0.3s,baz=66,slow=20,SNR=3.8						
MMAI	**Mount Meron Ar**	**8.70**	**354**	Pn	**Pn**	**13 12 53.5**	**-0.7**
	1.1nm,0.3s,baz=156,slow=15,SNR=2.7						
MALT	**Malatya**	**14.03**	**6**	*e*P	**Pn**	**13 14 17.0**	**+10**
	4.5nm,0.7s						
GNI	**Garni**	**17.22**	**22**	LR	LR	13 22 20.5	
	comp=Z,78nm,20.3s,baz=320,slow=40						
KEST	**Kesra**	**26.03**	**302**	P	**P**	**13 16 22.4**	**+0.7**
	1.4nm,0.6s,mb3.7,baz=144,slow=2.8,SNR=3.6						
AKASG	**Malin Array Be**	**26.92**	**350**	P	**P**	**13 16 30.0**	**+0.5**
AKASG	**Malin Array Be**	**26.92**	**350**	P	**P**	**13 16 30.0**	**+0.5**
	2.5nm,0.8s,mb3.8,baz=167,slow=9.1,SNR=9.5						
VSL	**Villasalto**	**27.41**	**310**	*e*P	**P**	**13 16 35.7**	**+1.6**
	20nm,1.1s,mb4.5						
VSL	**Villasalto**	**27.41**	**310**	*e*P	**P**	**13 16 35.7**	**+1.6**
	20nm,1.1s,mb4.5						
GERES	**GERESS Array B**	**30.33**	**330**	P	**P**	**13 17 01.7**	**+1.8**
	0.4nm,0.2s,mb3.8,baz=123,slow=8.7,SNR=3.6						
TORD	**Torodi Ar. Bea**	**34.70**	**258**	P	**P**	**13 17 38.4**	**-0.2**
TORD	**Torodi Ar. Bea**	**34.70**	**258**	P	**P**	**13 17 38.4**	**-0.2**
	2.5nm,1.2s,mb4.0,baz=65,slow=7.4

CAOV	**Caicara del Or**	**4.99**	**230**	*e*P	**Pn**	**13 39 21.3 -0.5**
BAUV	**El Baul**	**5.73**	**254**	*e*P	**Pn**	**13 39 31.3 -0.5**

NIED ***31*** *13:39:00, 21.70N×121.00E, h14km, Mw4.6 Best double couple: M0=8.48000×10^15 NP1:φ0=334.00000°, δ83.00000°, λ-79.00000°. NP2:φ0=97.00000°, δ13.00000°, λ-147.00000°.*
BJI ***31*** *13:39:50.8, 21.52N×120.81E, h10km, mB4.5, mb4.4, ML4.0, Ms4.3, Msz4.2*
IDC ***31*** *13:39:52.5±0.5, 21.77N×120.65E, h0km, mb4.4/19, mb1 4.5/21, mb1mx4.5/27, mbtmp4.4/21, ML4.0/2, MS4.1/21, Ms1 4.1/21, ms1mx3.9/37, Error ellipse: s-maj=18.4km s-min=11.9km az=83.0*
NEIC ***31*** *13:39:55.6±2.2, 21.75N×120.74E, h20km±16km, mb4.7/20, Error ellipse: s-maj=7.1km s-min=5.1km az=91.0*
MOS ***31*** *13:39:55.5±1.1, 21.80N×120.74E, h33km, mb4.7/33, MS4.0/11, Error ellipse: s-maj=11.4km s-min=6.8km az=96.1*
ISCJB ***31*** *13:39:56.6±0.5, 21.73N±0.02×120.81E±0.03, h44km±5km, mb4.5/47, MS4.1/31, Error ellipse: s-maj=4.4km s-min=3.6km az=20.6*
JMA ***31*** *13:39:56.2±0.2, 21.70N×121.01E, h10km, M4.7*
MAN ***31*** *13:39:57, 21.69N×120.82E, h76km*
ISC 31 13:39:58.6±0.4, 21.73N±0.02×120.79E±0.03, h46km±4km, h40km±7.5km; pP-P, n153, σ1.9 04/170, mb4.5/47, MS4.1/31, 6C-3D, Taiwan region

Code	Station Name	Δ°	AZ°	Phase	Op	ISC	Time h m s	Res ISC
TATO	**Taipei**	**3.29**	**11**	*e*Pn		**Pn**	**13 40 47.5**	**-0.2**
TATO				*e*S		**Sn**	**13 41 44.2**	**+19**
YOJ	**Yonaguni jima**	**3.40**	**37**	P		**Pn**	**13 40 49.5**	**+0.3**
YOJ				S		**Sn**	**13 41 29.4**	**+1.1**
HATJ	**Hateruma jima**	**3.62**	**50**	P		**Pn**	**13 40 52.1**	**-0.1**
HATJ				S		**Sn**	**13 41 33.3**	**-0.3**
SGCP	**Mt. Cagua**	**3.67**	**161**	*e*P		**Pn**	**13 40 52.4**	**-0.4**
IRIF	**Iriomote-Funau**	**3.75**	**46**	P		**Pn**	**13 40 54.2**	**+0.2**
IRIF				S		**Sn**	**13 41 36.6**	**-0.2**
QZH	**Quanzhou**	**3.78**	**328**	P		**Pn**	**13 40 50.3**	**-4.1**
QZH				Smax				
	comp=N,800nm,1.2s							
QZH				Smax				
	comp=E,270nm,0.8s							
QZH				LR		LR		
	comp=N,3μm,12.5s							
QZH				LR		LR		
	comp=E,5μm,15.5s							
QZH				LR		LR		
	comp=Z,3μm,19.9s							
APYP	**Conner**	**3.87**	**174**	*e*P		**Pn**	**13 40 55.3**	**-0.4**
JKRS	**Kuro-shima**	**3.88**	**49**	P		**Pn**	**13 40 55.9**	**+0.2**
JKRS				S		**Sn**	**13 41 39.5**	**-0.5**
JIJ	**Ishigaki jima**	**4.05**	**49**	P		**Pn**	**13 40 57.9**	**-0.2**
JIJ				*e*S		**Sn**	**13 41 43.7**	**-0.5**
ABRA	**Dolores**	**4.06**	**181**	*e*P		**Pn**	**13 40 58.5**	**+0.2**
JTJ	**Tarama**	**4.62**	**50**	P		**Pn**	**13 41 06.1**	**+0.2**
JTJ				S		**Sn**	**13 41 59.3**	**+1.0**
CAUP	**Cauayan**	**4.86**	**168**	*e*P		**Pn**	**13 41 11.3**	**+2.0**
PALP	**Palanan**	**4.89**	**161**	*e*P		**Pn**	**13 41 09.9**	**+0.2**
JMJ	**Miyako jima 2**	**5.15**	**53**	P		**Pn**	**13 41 13.6**	**+0.3**
JMJ				*e*S		**Sn**	**13 42 12.2**	**+0.8**
JOGS	**Gusukube**	**5.21**	**54**	P		**Pn**	**13 41 14.0**	**0.0**
JOGS				S		**Sn**	**13 42 13.8**	**+1.1**
BOLP	**Bolinao**	**5.39**	**189**	*e*P		**Pn**	**13 41 09.3**	**-7.2**
BALP	**Baler**	**6.00**	**173**	*e*P		**Pn**	**13 41 25.0**	**0.0**
JKE	**Kume jima 2**	**7.14**	**49**	P		**Pn**	**13 41 39.3**	**-1.2**
JAGN	**Aguni-jima**	**7.62**	**49**	P		**Pn**	**13 41 46.3**	**-0.8**
JIH	**Iheya**	**8.40**	**50**	P		**Pn**	**13 41 56.5**	**-1.4**
JOW	**Kunigami**	**8.51**	**52**	P		**Pn**	**13 41 57.5**	**-1.8**
JOW	**Kunigami**	**8.51**	**52**	Pn		**Pn**	**13 41 57.6**	**-1.6**
	comp=Z,4.5nm,0.3s,baz=205,slow=9.9,SNR=26							
SSE	**Sheshan**	**9.33**	**2**	P		**Pn**	**13 42 10.3**	**-0.3**
SSE				XP			13 42 17.8	
SSE				S		**Sn**	**13 43 57.0**	**+2.8**
SSE				AMB		AMB		
	comp=Z,30nm,0.7s							
SSE				AMB		AMB		
	comp=Z,39nm,5.6s							
SSE				LR		LR		
	comp=N,169nm,11.4s							
SSE				LR		LR		
	comp=E,2μm,11.4s							
SSE				LR		LR		
	comp=Z,1μm,13.1s							
JTK	**Tokunoshima**	**9.55**	**49**	P		**Pn**	**13 42 10.0**	**-3.6**
JAM	**Amami Oshima**	**10.39**	**48**	P		**Pn**	**13 42 22.1**	**-3.0**
NJ2	**Nanjing**	**10.42**	**351**	*e*P		**Pn**	**13 42 26.5**	**+1.0**
NJ2				AP			13 42 30.5	
NJ2				XP			13 42 33.5	
NJ2				PP			13 42 35.0	
NJ2				S		**Sn**	**13 44 23.0**	**+2.1**
NJ2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
NJ2				AMB		AMB		
	comp=Z,70nm,5.7s							
NJ2				LR		LR		
	comp=N,3μm,17.8s							
NJ2				LR		LR		
	comp=E,2μm,19.8s							
NJ2				LR		LR		
	comp=Z,2μm,19.8s							
WHN	**Wuhan**	**10.51**	**328**	P		**Pn**	**13 42 29.5**	**+2.8**
WHN				S		**Sn**	**13 44 26.3**	**+3.3**
WHN				LR		LR		
	comp=N,605nm,8.7s							
WHN				LR		LR		
	comp=E,2μm,13.2s							
WHN				LR		LR		
	comp=Z,2μm,20.3s							
QIZ	**Qiongzhong**	**10.61**	**257**	P		**Pn**	**13 42 25.0**	**-3.2**
QIZ				LR		LR		
	comp=N,902nm,15.4s							
QIZ				LR		LR		
	comp=E,2μm,16.3s							
QIZ				LR		LR		
	comp=Z,2μm,16.9s							
QIZ	**Qiongzhong**	**10.61**	**257**	*e*Pn		**Pn**	**13 42 24.3**	**-3.9**
QIZ				*e*Sn		**Sn**	**13 44 12.2**	**-13**
GYA	**Guiyang**	**13.73**	**293**	P		**Pn**	**13 43 09.5**	**-1.2**
GYA				AP			13 43 14.8	
GYA				XP			13 43 17.5	
GYA				PP			13 43 21.3	
GYA				S		**Sn**	**13 45 43.0**	**+1.2**
GYA				PCP		PcP	13 48 35.0	+2.5
GYA				AMB		AMB		
	comp=Z,10.0nm,0.6s							
GYA				AMB		AMB		
	comp=Z,90nm,4.2s							
GYA				LR		LR		
	comp=N,540nm,11.5s							
GYA				LR		LR		
	comp=E,490nm,13.1s							
GYA				LR		LR		
	comp=Z,560nm,10.8s							
XAN	**Xi'an**	**16.12**	**322**	P		**Pn**	**13 43 44.0**	**+1.9**
XAN				S		**S**	**13 46 43.0**	**-8.3**
XAN				AMB		AMB		
	comp=Z,7.0nm,1.3s							
XAN				AMB		AMB		
	comp=Z,19nm,3.8s							
XAN				LR		LR		
	comp=N,436nm,14.2s							
XAN				LR		LR		
	comp=E,561nm,16.7s							
XAN				LR		LR		
	comp=Z,1μm,16.9s							
KSRS	**Korea Array**	**16.84**	**20**	Pn		**Pn**	**13 43 49.2**	**-1.9**
	comp=Z,0.6nm,0.3s,baz=201,slow=13,SNR=20							
KSRS				LR		LR	13 51 34.0	
	comp=Z,722nm,18.1s,baz=200,slow=42							
KMI	**Kunming**	**16.91**	**285**	P		**Pn**	**13 43 52.0**	**0.0**
KMI				AP		pP	13 43 56.8	-7.5
KMI				XP		sP	13 43 59.0	-11
KMI				PP			13 44 04.5	
KMI				S		**S**	**13 46 58.8**	**-8.7**
KMI				AMB		AMB		
	comp=Z,6.0nm,0.7s							
KMI				AMB		AMB		
	comp=Z,26nm,5.9s							
KMI				LR		LR		
	comp=N,494nm,12.8s							
KMI				LR		LR		
	comp=E,490nm,13.6s							
KMI				LR		LR		
	comp=Z,421nm,16.2s							
DL2	**Dalian**	**17.13**	**2**	⇑*i*P		**Pn**	**13 43 54.0**	**-0.7**
DL2				S		**S**	**13 47 06.8**	**-5.1**
DL2				AMB		AMB		
	comp=Z,10.0nm,0.8s							
DL2				AMB		AMB		
	comp=Z,100nm,3.9s							
DL2				LR		LR		
	comp=N,450nm,19.0s							
DL2				LR		LR		
	comp=E,140nm,17.0s							
DL2				LR		LR		
	comp=Z,520nm,17.2s							
CD2	**Chengdu**	**17.78**	**304**	*e*P		**Pn**	**13 44 02.0**	**-0.7**
CD2				AP		pP	13 44 06.8	-7.1
CD2				XP		sP	13 44 10.5	-9.3
CD2				PP			13 44 17.0	
CD2				S		**S**	**13 47 17.8**	**-7.3**
CD2				AMB		AMB		
	comp=Z,10.0nm,0.5s							
CD2				AMB		AMB		
	comp=Z,40nm,3.8s							
CD2				LR		LR		
	comp=N,960nm,16.7s							
CD2				LR		LR		
	comp=E,1μm,16.8s							
CD2				LR		LR		
	comp=Z,1μm,12.0s							
BJT	**Baijiatuau**	**18.65**	**349**	*e*P		**Pn**	**13 44 13.7**	**+0.4**
BJT				pmax		pmax		
	comp=Z,47nm,1.3s							
BJT	**Baijiatuau**	**18.65**	**349**	*e*P		**Pn**	**13 44 13.7**	**+0.4**
	comp=Z,47nm,1.3s							
BJI	**Beijing**	**18.67**	**349**	P		**Pn**	**13 44 14.3**	**+0.8**
BJI				S		**S**	**13 47 43.5**	**+1.0**
BJI				AMB		AMB		
	comp=Z,23nm,1.1s							
BJI				LR		LR		
	comp=N,582nm,20.2s							
BJI				LR		LR		
	comp=E,758nm,17.3s							
BJI				LR		LR		
	comp=Z,337nm,23.4s							
NANT	**Nan**	**19.07**	**265**	P		**Pn**	**13 44 17.0**	**-1.5**
CBIJ	**Chichi jima**	**20.19**	**70**	P		**P**	**13 44 29.9**	**+0.3**
	comp=Z,43nm,0.5s,baz=270,slow=20,SNR=2.7							
CBIJ				LR		LR	13 50 44.2	
	comp=Z,311nm,21.8s,MS3.6,baz=348,slow=32							
JHJ	**Hachijo jima 2**	**20.28**	**52**	LR		LR	13 53 24.1	
	comp=Z,388nm,18.6s,MS3.8,baz=62,slow=40							
LZH	**Lanzhou**	**20.56**	**318**	*e*P		**P**	**13 44 34.3**	**+0.8**
LZH				AP			13 44 40.0	
LZH				XP		sP	13 44 44.0	-6.3
LZH				PP			13 44 53.5	
LZH				*e*S		**S**	**13 48 18.0**	**-2.9**
LZH				AMB		AMB		
	comp=Z,19nm,1.0s							
LZH				AMB		AMB		
	comp=Z,68nm,4.6s							
LZH				LR		LR		
	comp=E,638nm,15.0s							
LZH				LR		LR		
	comp=Z,947nm,17.3s,MS4.2							
HHC	**Hu-ho-hao-te**	**20.60**	**340**	*e*P		**P**	**13 44 36.0**	**+2.2**
HHC				AP			13 44 40.0	
HHC				XP		sP	13 44 43.0	-7.7
HHC				PP			13 44 58.3	
HHC				S		**S**	**13 48 24.3**	**+2.7**
HHC				PCP		PcP	13 48 45.8	+2.7
HHC				AMB		AMB		
	comp=Z,21nm,1.1s							
HHC				AMB		AMB		
	comp=Z,112nm,5.1s							
HHC				LR		LR		
	comp=N,798nm,14.6s,MS4.3							
HHC				LR		LR		
	comp=E,670nm,14.0s,MS4.3							
HHC				LR		LR		
	comp=Z,927nm,15.7s,MS4.2							
CHG	**Chiang Mai**	**20.70**	**266**	⇑P		**P**	**13 44 37.7**	**+2.6**
	comp=Z,34nm,1.2s							
CHTO	**Chiang Mai**	**20.70**	**266**	*e*P		**P**	**13 44 34.2**	**-0.9**
CHTO				pmax		pmax		
	comp=Z,11nm,0.8s							
CHTO	**Chiang Mai**	**20.70**	**266**	*e*P		**P**	**13 44 34.2**	**-0.9**
	comp=Z,10nm,0.8s							
MAJO	**Matsushiro**	**21.14**	**42**	*e*P		**P**	**13 44 38.8**	**-0.9**
MAJO				pmax		pmax		
	comp=Z,13nm,0.8s,mb4.3							
MAJO	**Matsushiro**	**21.14**	**42**	*e*P		**P**	**13 44 38.8**	**-0.9**
	comp=Z,13nm,0.8s,mb4.3							
MAT	**Matsushiro**	**21.14**	**42**	P		**P**	**13 44 40.4**	**+0.7**
MAT				S		**S**	**13 48 38.0**	**+5.7**
MJAR	**Matsushiro Arr**	**21.14**	**42**	P		**P**	**13 44 40.3**	**+0.6**
MJAR				pmax		pmax		
	comp=Z,15nm,1.1s							
MJAR				MLR		MLR		
	comp=Z,313nm,19.1s							
MJAR	**Matsushiro Arr**	**21.14**	**42**	P		**P**	**13 44 40.3**	**+0.5**
	comp=Z,15nm,1.1s,mb4.2,baz=218,slow=5.7,SNR=15							
MJAR				LR		LR	13 53 52.7	
	comp=Z,313nm,19.1s,MS3.7,baz=230,slow=40							
CN2	**Changchun**	**22.35**	**9**	*e*P		**P**	**13 44 51.8**	**-0.7**
CN2				*e*S		**S**	**13 48 52.0**	**-3.6**
CN2				AMB		AMB		
	comp=Z,10.0nm,0.7s,mb4.3							
CN2				AMB		AMB		
	comp=Z,100nm,5.0s							
CN2				LR		LR		
	comp=Z,1μm,19.0s,MS4.3							
VLA	**Vladivostok**	**23.25**	**21**	⇑*e*P		**P**	**13 45 01.3**	**-0.8**
VLA				pmax		pmax		
	comp=Z,27nm,1.7s,mb4.4							
MDJ	**Mudanjiang**	**23.95**	**16**	P		**P**	**13 45 08.8**	**+0.3**
MDJ				AP			13 45 11.8	
MDJ				PCP		PcP	13 48 50.5	+0.7
MDJ				S		**S**	**13 49 22.0**	**+0.1**
MDJ				SCP		ScP	13 52 30.0	+5.5
MDJ				AMB		AMB		
	comp=Z,11nm,0.9s,mb4.3							
MDJ				AMB		AMB		
	comp=Z,51nm,4.6s							
MDJ				LR		LR		
	comp=N,539nm,18.8s,MS4.2							
MDJ				LR		LR		
	comp=E,614nm,17.8s,MS4.2							
MDJ				LR		LR		
	comp=Z,777nm,18.3s,MS4.2							
GTA	**Gaotai**	**25.13**	**319**	*e*P		**P**	**13 45 17.3**	**-2.0**
GTA				AP		pP	13 45 24.5	-6.9
GTA				XP		sP	13 45 28.0	-9.0
GTA				PP			13 45 57.0	
GTA				S		**S**	**13 49 40.5**	**-0.4**
GTA				XS		sS	13 49 52.0	-9.3
GTA				AMB		AMB		
	comp=Z,2.0nm,0.9s,mb3.6							
GTA				AMB		AMB		
	comp=Z,92nm,6.1s							
GTA				LR		LR		
	comp=N,324nm,14.1s,MS4.2							
GTA				LR		LR		
	comp=E,495nm,16.0s,MS4.2							
GTA				LR		LR		
	comp=Z,671nm,16.4s,MS4.2							
KAPI	**Kappang**	**26.60**	**182**	P		**P**	**13 45 33.9**	**+1.2**
	comp=Z,21nm,0.9s,mb4.7,baz=336,slow=7.0,SNR=3.6							
KAPI				LR		LR	13 56 20.4	
	comp=Z,222nm,21.8s,MS3.7,baz=29,slow=37							
SHL	**Shillong**	**26.73**	**284**	*e*P		**P**	**13 45 34.0**	**+0.1**
HIA	**Hailar**	**27.49**	**359**	*e*P		**P**	**13 45 38.8**	**-1.6**
HIA				pmax		pmax		
	comp=Z,5.0nm,0.4s							
HIA	**Hailar**	**27.49**	**359**	*e*P		**P**	**13 45 38.8**	**-1.6**
	comp=Z,5.1nm,0.4s,mb4.4							
ERM	**Erimo**	**27.60**	**38**	⇑*e*P		**P**	**13 45 42.5**	**+1.0**
LSA	**Lhasa**	**27.80**	**293**	*e*P		**P**	**13 45 42.0**	**-1.5**
LSA	**Lhasa**	**27.80**	**293**	*e*P		**P**	**13 45 44.3**	**+0.8**
LSA				pmax		pmax		
	comp=Z,4.0nm,0.5s,mb4.3							
LSA	**Lhasa**	**27.80**	**293**	*e*P		**P**	**13 45 44.3**	**+0.8**
	comp=Z,3.9nm,0.5s,mb4.3							
ULN	**Ulaanbaatar**	**28.32**	**340**	*e*P		**P**	**13 45 47.6**	**-0.3**
ULN				pmax		pmax		
	comp=Z,27nm,2.0s,mb4.5							
ULN	**Ulaanbaatar**	**28.32**	**340**	*e*P		**P**	**13 45 47.6**	**-0.3**
	comp=Z,28nm,2.0s,mb4.5							
PSI	**Prapat**	**28.39**	**231**	P		**P**	**13 45 48.9**	**+0.1**
PSI				pmax		pmax		
	comp=Z,2.0nm,0.4s,mb4.1							
PSI				MLR		MLR		
	comp=Z,446nm,18.6s,MS4.1							
PSI	**Prapat**	**28.39**	**231**	P		**P**	**13 45 48.9**	**+0.1**
PSI				LR		LR	13 57 13.1	
PSI	**Prapat**	**28.39**	**231**	P		**P**	**13 45 48.9**	**+0.1**
	comp=Z,1.6nm,0.4s,mb4.0,baz=0.4,slow=3.7,SNR=4.3							
PSI				LR		LR	13 57 13.1	
	comp=Z,446nm,18.6s,MS4.1,baz=331,slow=37							
SONM	**Songino Array**	**28.50**	**339**	P		**P**	**13 45 49.9**	**+0.4**
SONM				pmax		pmax		
	comp=Z,2.0nm,0.8s							
SONM				MLR		MLR		
	comp=Z,643nm,18.7s							
SONM	**Songino Array**	**28.50**	**339**	P		**P**	**13 45 49.9**	**+0.4**
	comp=Z,1.8nm,0.8s,mb3.8,baz=138,slow=8.5,SNR=5.0							
SONM				LR		LR	13 58 58.2	
	comp=Z,643nm,18.7s,MS4.2,baz=154,slow=40							
ASAJ	**Asahikawa**	**28.70**	**34**	P		**P**	**13 45 52.8**	**+1.5**
ASAJ				pmax		pmax		
	comp=Z,6.0nm,0.4s							
ASAJ				MLR		MLR		
	comp=Z,261nm,21.9s							
ASAJ	**Asahikawa**	**28.70**	**34**	P		**P**	**13 45 52.8**	**+1.5**
	comp=Z,6.1nm,0.4s,mb4.7,baz=253,slow=12,SNR=20							
ASAJ				LR		LR	13 57 12.5	
	comp=Z,261nm,21.9s,MS3.8,baz=106,slow=36							
KLR	**Kul'dur**	**28.79**	**15**	*e*P		**P**	**13 45 48.7**	**-3.3**
KLR				MLR		MLR		
	comp=N,600nm,18.0s,MS4.4							
KLR				MLR		MLR		
	comp=E,500nm,18.0s,MS4.4							
KLR				MLR		MLR		
	comp=Z,800nm,18.0s,MS4.4							
HABR	**Khabarovsk**	**29.02**	**20**	*e*P		**P**	**13 45 53.1**	**-1.0**
HABR				*e*		pP	13 46 06.3	0.0
HABR				*e*			13 46 45.6	
HABR				*e*			13 48 59.5	
HABR				*e*S		**S**	**13 50 43.2**	**+1.1**
HABR				*e*			13 50 59.5	
HABR				*e*			13 52 09.4	
HABR				*e*			13 56 32.0	
YSS	**Yuzh-Sakhalins**	**30.81**	**30**	*e*P		**P**	**13 46 15.4**	**+5.5**
YSS				*e*		pP	13 46 26.0	+3.8
YSS				pmax		pmax		
	comp=Z,30nm,1.0s,mb5.1							
YSS				MLR		MLR		
	comp=E,200nm,19.0s							
YSS				MLR		MLR		
	comp=Z,300nm,19.0s,MS4.0							
YSS	**Yuzh-Sakhalins**	**30.81**	**30**	*e*P		**P**	**13 46 10.5**	**+0.5**
	comp=Z,35nm,1.1s,mb5.1							
TLY	**Talaya**	**32.73**	**340**	⇑*i*P		**P**	**13 46 25.3**	**-1.5**
TLY				pmax		pmax		
	comp=Z,2.0nm,2.5s,mb3.6							
WMQ	**Urumqi**	**35.14**	**317**	*e*P		**P**	**13 46 48.0**	**+0.3**
WMQ				XP		sP	13 46 57.0	-8.6
WMQ				PP		PP	13 48 06.0	-2.0
WMQ				S		**S**	**13 52 18.0**	**+0.6**
WMQ				AMB		AMB		
	comp=Z,35nm,1.0s,mb5.2							
WMQ				LR		LR		
	comp=N,142nm,14.0s,MS4.1							
WMQ				LR		LR		
	comp=E,185nm,14.0s,MS4.1							
WMQ				LR		LR		
	comp=Z,191nm,14.0s,MS4.0							
KAKA	**Kakadu**	**36.09**	**160**	*e*P		**P**	**13 46 55.5**	**-0.7**
FITZ	**Fitzroy Crossi**	**39.87**	**173**	P		**P**	**13 47 26.8**	**-1.1**
	comp=Z,6.6nm,1.1s,mb4.3,baz=46,slow=6.0,SNR=3.6							
MKAR	**Makanchi Array**	**39.88**	**318**	P		**P**	**13 47 27.2**	**-0.6**
MKAR							13 49 33.1	
MKAR				pmax		pmax		
	comp=Z,2.0nm,0.5s							
MKAR				MLR		MLR		
	comp=Z,332nm,18.6s							
MKAR	**Makanchi Array**	**39.88**	**318**	P		**P**	**13 47 27.1**	**-0.7**
	comp=Z,2.1nm,0.5s,mb4.1,baz=113,slow=9.8,SNR=20							
MKAR				PcP		PcP	13 49 33.0	+0.2
	comp=Z,1.4nm,0.9s,baz=101,slow=6.3,SNR=3.7							
MKAR				LR		LR	14 05 33.7	
	comp=Z,332nm,18.6s,MS4.2,baz=242,slow=39							
YAK	**Yakutsk**	**40.74**	**6**	⇓*i*P		**P**	**13 47 33.5**	**-1.2**
YAK				pmax		pmax		
	comp=Z,31nm,1.3s,mb4.8							
YAK	**Yakutsk**	**40.74**	**6**	*e*P		**P**	**13 47 34.1**	**-0.6**
	comp=Z,16nm,0.7s,mb4.8							
ZAA0	**Zalesovo Array**	**42.12**	**329**	*e*P		**P**	**13 47 45.6**	**-0.6**
ZALV	**Zalesovo Beam**	**42.12**	**329**	P		**P**	**13 47 45.3**	**-0.9**
	comp=Z,6.1nm,0.6s,mb4.4,baz=120,slow=7.9,SNR=35							
ZAL	**Zalesovo**	**42.13**	**329**	P		**P**	**13 47 45.3**	**-0.9**
ZAL				pmax		pmax		
	comp=Z,6.0nm,0.6s							
MA2	**Magadan**	**43.38**	**22**	⇓*e*P		**P**	**13 47 55.7**	**-0.6**
MA2				pmax		pmax		
	comp=Z,59nm,2.5s,mb4.9							
NVS	**Novosibirsk**	**43.40**	**329**	*e*P		**P**	**13 47 53.9**	**-2.6**
NVS				pmax		pmax		
	comp=N,8.0nm,1.6s							
NVS				pmax		pmax		
	comp=E,8.0nm,1.6s							
NVS				pmax		pmax		
	comp=Z,11nm,1.6s,mb4.3							
WRAB	**Tennant Creek**	**43.48**	**161**	*e*P		**P**	**13 47 58.2**	**+0.7**
WRAB				pmax		pmax		
	comp=Z,18nm,0.8s,mb4.8							
WRAB	**Tennant Creek**	**43.48**	**161**	*e*P		**P**	**13 47 58.2**	**+0.7**
	comp=Z,18nm,0.8s,mb4.8							
WRA	**Warramunga Arr**	**43.48**	**161**	P		**P**	**13 47 57.7**	**+0.2**
WRA				pmax		pmax		
	comp=Z,15nm,0.7s							
WRA	**Warramunga Arr**	**43.48**	**161**	P		**P**	**13 47 57.7**	**+0.2**
	comp=Z,15nm,0.7s,mb4.8,baz=343,slow=8.9,SNR=68							
WB2	**Warramunga Arr**	**43.49**	**161**	*e*P		**P**	**13 47 58.0**	**+0.4**
KURK	**Kurchatov**	**43.76**	**322**	*e*P		**P**	**13 47 58.7**	**-0.8**
KURK				pmax		pmax		
	comp=Z,50nm,2.2s,mb4.9							
KURK	**Kurchatov**	**43.76**	**322**	*e*P		**P**	**13 47 58.7**	**-0.8**
	comp=Z,50nm,2.2s,mb4.8							
ASAR	**Alice Springs**	**46.89**	**163**	P		**P**	**13 48 25.8**	**+1.3**
ASAR				pmax		pmax		
	comp=Z,4.0nm,0.6s							
ASAR	**Alice Springs**	**46.89**	**163**	P		**P**	**13 48 25.8**	**+1.2**
	comp=Z,3.5nm,0.6s,mb4.5,baz=343,slow=7.1,SNR=83							
HNR	**Honiara**	**49.35**	**125**	LR		LR	14 07 00.0	
	comp=Z,78nm,18.1s,MS3.8,baz=356,slow=33							
BRVK	**Borovoye**	**49.43**	**322**	*e*P		**P**	**13 48 43.5**	**-0.3**
BRVK				pmax		pmax		
	comp=Z,5.0nm,0.5s,mb4.8							
BRVK	**Borovoye**	**49.43**	**322**	*e*P		**P**	**13 48 43.5**	**-0.3**
	comp=Z,4.8nm,0.5s,mb4.8							
TIXI	**Tiksi**	**50.15**	**3**	⇑*i*P		**P**	**13 48 47.1**	**-1.9**
TIXI				pmax		pmax		
	comp=Z,10.0nm,2.5s,mb4.4							
TIXI	**Tiksi**	**50.15**	**3**	*e*P		**P**	**13 48 47.2**	**-1.9**
FORT	**Forrest**	**52.67**	**172**	*e*P		**P**	**13 49 09.4**	**+1.1**
	comp=Z,16nm,0.7s,mb5.0							
KLBR	**Kellerberrin**	**53.10**	**183**	*e*P		**P**	**13 49 11.6**	**+0.1**
	comp=Z,8.6nm,0.6s,mb4.9							
BILL	**Bilibino**	**54.11**	**19**	*i*P		**P**	**13 49 18.0**	**-0.4**
BILL	**Bilibino**	**54.11**	**19**	*e*P		**P**	**13 49 17.6**	**-0.8**
	comp=Z,6.5nm,1.2s,mb4.4							
NWAO	**Narrogin (SRO

KIV pmax pmax
comp=Z,14nm,0.9s,mb5.0
KIV MLR MLR
comp=Z,100nm,17.0s,MS4.1
OBN Obninsk 69.20 322 *e*P **P 13 50 59.7 -0.7**
OBN pmax pmax
comp=Z,44nm,2.5s,mb5.0
OBN MLR MLR
comp=Z,100nm,17.0s,MS4.1
JOF Joensuu 70.66 331 *e*p **P 13 51 15.6 +6.4**
comp=Z,0.6nm,0.3s,mb4.0
JOF Joensuu 70.66 331 *e*P **P 13 51 15.6 +6.4**
JOF pmax pmax
comp=Z,1.0nm,0.3s,mb4.2
MALT Malatya 71.07 304 *e*P **P 13 51 13.5 +1.4**
MALT pmax pmax
comp=Z,6.0nm,0.7s,mb4.6
MALT Malatya 71.07 304 *e*P **P 13 51 13.5 +1.4**
comp=Z,6.3nm,0.7s,mb4.7
ARCES ARCESS Array B 71.67 338 LR LR 14 26 26.8
comp=Z,105nm,19.7s,MS4.1,baz=62,slow=39
SPITS Spitsbergen Ar 71.79 348 LR LR 14 27 42.3
comp=Z,139nm,18.3s,MS4.3,baz=50,slow=40
KAF Kangasniemi 73.10 331 *e*p **P 13 51 29.9 +6.1**
comp=Z,1.0nm,0.4s,mb4.1
KAF Kangasniemi 73.10 331 *e*P **P 13 51 29.9 +6.1**
KAF pmax pmax
comp=Z,1.0nm,0.4s,mb4.1
FINES FINESS Array B 73.38 330 P **P 13 51 25.2 -0.2**
FINES pmax pmax
comp=Z,1.0nm,0.9s
FINES MLR MLR
comp=Z,138nm,18.4s
FINES FINESS Array B 73.38 330 P **P 13 51 25.2 -0.2**
comp=Z,1.4nm,0.8s,mb3.9,baz=57,slow=11,SNR=4.5
FINES LR LR 14 28 20.9
comp=Z,138nm,18.4s,MS4.3,baz=256,slow=40
AKASG Malin Array Be 74.46 319 *i*P **P 13 51 31.3 -0.7**
AKASG pmax pmax
comp=Z,3.0nm,1.0s
AKASG Malin Array Be 74.46 319 P **P 13 51 31.4 -0.7**
comp=Z,2.8nm,1.0s,mb4.2,baz=61,slow=6.0,SNR=8.0
DAWY Dawson 74.88 27 *e*P **P 13 51 34.7 +0.6**
INK Inuvik 75.63 22 *e*P **P 13 51 38.6 +0.2**
INK pmax pmax
comp=Z,145nm,0.8s
INK Inuvik 75.63 22 *e*P **P 13 51 38.6 +0.2**
comp=Z,145nm,0.8s
MLR Muntele Rosu 78.09 314 LR LR 14 32 53.7
comp=Z,105nm,18.2s,MS4.2,baz=321,slow=41
HFS Hagfors 79.52 331 LR LR 14 30 53.6
comp=Z,207nm,18.4s,MS4.5,baz=227,slow=38
CRVS Cervenica-Dubn 79.80 319 *e*P **P 13 52 03.4 +1.4**
NB2 NORSAR Subarra 80.22 332 P **P 13 52 03.8 -0.2**
comp=Z,0.9nm,0.7s,mb3.8,baz=58,slow=5.6
NOA NORSAR Array B 80.22 332 P **P 13 52 03.2 -0.8**
NOA pmax pmax
comp=Z,2.0nm,0.8s
NOA MLR MLR
comp=Z,316nm,18.0s
NOA NORSAR Array B 80.22 332 P **P 13 52 03.2 -0.8**
comp=Z,1.7nm,0.8s,mb4.0,baz=60,slow=5.6,SNR=5.6
NOA LR LR 14 32 09.3
comp=Z,316nm,18.0s,MS4.7,baz=50,slow=39
JMIC Jan Mayen 81.10 345 LR LR 14 34 43.9
comp=Z,95nm,20.2s,MS4.1,baz=82,slow=41
VYHS Vyhne 81.56 319 *e*P **P 13 52 12.2 +0.8**
VYHS pmax pmax
comp=Z,4.0nm,1.3s,mb4.2
VYHS Vyhne 81.56 319 *e*P **P 13 52 12.2 +0.8**
comp=Z,3.9nm,1.3s,mb4.2
BRG Berggiesshubel 83.45 322 *e*P **P 13 52 21.6 +0.4**
BRG pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
BRG Berggiesshubel 83.45 322 *e*P **P 13 52 21.6 +0.3**
comp=Z,4.8nm,1.0s,mb4.5
CLL Collm 83.79 323 *e*P **P 13 52 23.0 +0.1**
CLL MLR MLR
comp=Z,300nm,17.5s,MS4.7
KMBO Kilima Mbogo 84.41 267 P **P 13 52 28.4 +1.6**
KMBO pmax pmax
comp=Z,3.0nm,0.8s
KMBO Kilima Mbogo 84.41 267 *e*P **P 13 52 29.1 +2.2**
comp=Z,9.8nm,1.2s,mb4.8
KMBO Kilima Mbogo 84.41 267 P **P 13 52 28.4 +1.6**
comp=Z,3.2nm,0.8s,mb4.5,baz=48,slow=3.9,SNR=5.7
GERES GERESS Array B 84.50 321 P **P 13 52 27.1 +0.5**
comp=Z,2.0nm,0.8s,mb4.3,baz=42,slow=4.3,SNR=11
GERES LR LR 14 35 60.0
comp=Z,120nm,19.3s,MS4.3,baz=280,slow=40
YKW3 Yellowknife Ar 85.31 22 *e*P **P 13 52 30.5 +0.1**
YKA Yellowknife Ar 85.36 23 P **P 13 52 31.1 +0.4**
YKA LR LR 14 36 17.6
YKA Yellowknife Ar 85.36 23 P **P 13 52 31.1 +0.4**
comp=Z,2.0nm,0.7s,mb4.3,baz=313,slow=4.9,SNR=30
YKA LR LR 14 36 17.6
comp=Z,55nm,19.1s,MS4.0,baz=190,slow=40
DAVOX Davos/Dischmat 87.75 320 LR LR 14 39 03.9
comp=Z,95nm,18.2s,MS4.2,baz=263,slow=40
BORG Borgarnes 88.99 345 LR LR 14 36 39.5
comp=Z,107nm,18.8s,MS4.3,baz=17,slow=38
SDV Santo Domingo 147.57 21 *e*PKPbc PKPbc 13 59 39.1 +0.4

*ISCJB **31** 13:41:18.0±0.6, 685N±006×7299W±006, h170km±6km, mb3.5/3, Error ellipse: s-maj=12.2km s-min=7.0km az=136.7*
*FUNV **31** 13:41:18.6, 679N×73.17W, h165km, MW3.4*
*IDC **31** 13:41:18.5±0.8, 678N×72.97W, h162km±14km, mb3.3/3, mb1 3.5/5, mb1mx3.2/21, mbtmp3.3/5, Error ellipse: s-maj=47.0km s-min=7.9km az=132.0*
ISC 31 13:41:19.1±0.6, 684N±006×7298W±006, h164km±6km, n16, σ0§81/23, mb3.5/3, 2C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.22**	**33**	*e*P	**Pn**	**13 41 47.4**	**+0.4**
CAPV				*e*S	**Sn**	**13 42 09.0**	**+0.5**
ROSC	**El Rosal**	**2.38**	**214**	P	**Pn**	**13 41 59.3**	**-0.2**
	30nm,0.3s,baz=69,slow=2.7,SNR=28						
ROSC				S	**Sn**	**13 42 30.3**	**-0.5**
	55nm,0.3s,baz=107,slow=18,SNR=8.2						
SOCV	**Socops**	**2.55**	**56**	*e*P	**Pn**	**13 42 02.7**	**+1.2**
SOCV				*e*S	**Sn**	**13 42 34.3**	**0.0**
VIGV	**El Vigia**	**2.55**	**39**	⇑*i*P	**Pn**	**13 42 02.2**	**+0.7**
VIGV				*e*S	**Sn**	**13 42 34.3**	**-0.1**
SDV	**Santo Domingo**	**3.09**	**49**	P	**Pn**	**13 42 09.3**	**+1.2**
	6.9nm,0.3s,baz=239,slow=2.9,SNR=22						
SDV				S	**Sn**	**13 42 46.4**	**+0.2**
	9.6nm,0.3s,baz=71,slow=22,SNR=18						
ELOV	**Elorza**	**3.48**	**87**	*e*P	**Pn**	**13 42 13.4**	**+0.3**
ELOV				*e*S	**Sn**	**13 42 54.2**	**-0.7**
VIRV	**Villa del Rosa**	**3.68**	**9**	⇑*i*P	**Pn**	**13 42 14.4**	**-1.2**
VIRV				*e*S	**Sn**	**13 42 56.6**	**-3.1**
SANV	**Sanarito**	**4.32**	**52**	*e*P	**Pn**	**13 42 24.4**	**+0.6**
CURV	**Curarigua**	**4.34**	**43**	*e*P	**Pn**	**13 42 24.5**	**+0.3**
SIQV	**Siquisique**	**4.92**	**39**	*e*P	**Pn**	**13 42 31.6**	**0.0**
BAUV	**El Baul**	**5.32**	**67**	*e*P	**Pn**	**13 42 37.0**	**0.0**
BAUV				*e*S	**Sn**	**13 43 35.4**	**-2.5**
CAOV	**Caicara del Or**	**6.62**	**85**	*e*P	**Pn**	**13 42 54.3**	**+0.1**
TXAR	**Lajitas Array**	**36.55**	**312**	P	**P**	**13 48 09.2**	**0.0**
	0.3nm,0.6s,mb3.1,baz=125,slow=8.3,SNR=5.5						
SCHQ	**Schefferville**	**48.11**	**5**	P	**P**	**13 49 42.6**	**+0.5**
	2.2nm,0.8s,mb3.8,baz=201,slow=14,SNR=3.1						
YKA	**Yellowknife Ar**	**63.30**	**340**	P	**P**	**13 51 29.8**	**-0.3**
	0.6nm,0.6s,mb3.6,baz=131,slow=6.5,SNR=15						
WRA	**Warramunga Arr**	**150.47**	**241**	PKPbc	PKPbc	14 00 51.2	-1.0
	0.7nm,1.1s,baz=103,slow=4.0,SNR=4.7						

*TIF **31** 14:19:50.5, 4186N×4524E, h11km±2km*
*MOS **31** 14:19:52.0±0.4, 4169N×4502E, h23km, mb3.8/1, Error ellipse: s-maj=60.8km s-min=19.7km az=112.8*
*CSEM **31** 14:19:52.0, 4169N×4502E, h23km, mb3.8, Error ellipse: s-maj=60.8km s-min=19.7km az=228.0, After OBN*
*ISCJB **31** 14:19:53.1±0.8, 4178N±005×4516E±008, h22km±8km, Error ellipse: s-maj=11.0km s-min=7.1km az=140.2*
ISC 31 14:19:52.3±0.9, 4188N±003×4521E±007, h4km±9km, n9, σ0§93/18, Eastern Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MTA	**Mtatsminda**	**0.36**	**239**	P	**Pg**	**14 19 58.5**	**-0.8**
MTA				S	**Sg**	**14 20 04.3**	**+0.3**
TBLG	**Delisi**	**0.38**	**247**	*e*Pg	**Pg**	**14 19 59.2**	**-0.4**
TBLG				*e*Sg	**Sg**	**14 20 05.3**	**+0.7**
TBLG	**Delisi**	**0.38**	**247**	P	**Pg**	**14 19 59.2**	**-0.4**
TBLG				S	**Sg**	**14 20 05.3**	**+0.7**
DGRG	**David-gareji**	**0.45**	**164**	P	**Pg**	**14 20 00.3**	**-0.6**
DGRG				S	**Sg**	**14 20 08.0**	**+1.3**
LACR	**Lac**	**1.16**	**325**	*i* Pg	**Pg**	**14 20 13.8**	**-0.7**
LACR				*i* Sg	**Sg**	**14 20 30.6**	**+1.0**
VLKR	**Vladikavkaz**	**1.23**	**342**	*e*Pg	**Pg**	**14 20 16.1**	**+0.3**
VLKR				*e*Sg	**Sg**	**14 20 34.5**	**+2.7**
ZEI	**Tsey**	**1.32**	**313**	*e*Pg	**Pg**	**14 20 16.0**	**-1.5**
ZEI				*e*Sg	**Sg**	**14 20 34.5**	**-0.1**
KORR	**Kora**	**1.47**	**325**	*e*Pg	**Pg**	**14 20 19.2**	**-1.3**
KORR				*e*Sg	**Sg**	**14 20 39.6**	**+0.1**
ONI	**Oni**	**1.48**	**299**	P	**Pn**	**14 20 19.3**	**-0.3**
ONI				S	**Sn**	**14 20 39.8**	**+0.4**

IDC 31 14:31:42.9±1.3, 075S×12134E, h0km, mb3.3/4, mb1 3.5/4, mb1mx3.4/16, mbtmp3.3/4, Error ellipse: s-maj=139.0km s-min=21.1km az=63.0, Minahassa Peninsula, Sulawesi

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.93**	**147**	P	P	14 36 47.5	-1.2
	0.7nm,1.0s,baz=325,slow=11,SNR=3.4						
ASAR	**Alice Springs**	**25.83**	**153**	P	P	14 37 17.4	+1.2
	0.4nm,0.7s,baz=343,slow=15,SNR=6.6						
SONM	**Songino Array**	**50.11**	**347**	P	P	14 40 41.0	+1.2
	0.3nm,0.6s,baz=167,slow=8.9,SNR=3.0						
MKAR	**Makanchi Array**	**58.40**	**329**	P	P	14 41 39.2	-1.0
	0.3nm,0.6s,baz=118,slow=7.4,SNR=3.1						

MAN 31 14:40:50, 1673N×11975E, h31km, mb4.2, ML3.0, MS2.8, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BOLP	**Bolinao**	**0.38**	**156**	*e*P	Pb	14 41 00.5	+1.8
BOLP				*e*S	Sb	14 41 07.3	+2.8
BCPH	**Baguio City Da**	**0.86**	**113**	⇑*i*P	Pn	14 41 05.1	-1.0
BCPH				*i* S	Sn	14 41 14.8	-2.8
SCZP	**Santa Cruz**	**0.96**	**171**	*e*P	Pn	14 41 08.5	+1.2
ABRA	**Dolores**	**1.29**	**45**	*e*P	Pn	14 41 12.7	+0.7
ABRA				*e*S	Sn	14 41 29.5	+1.3
APYP	**Conner**	**1.81**	**51**	*e*P	Pn	14 41 19.2	+0.1
APYP				*e*S	Sn	14 41 35.1	-5.9
CAUP	**Cauayan**	**1.99**	**84**	*e*P	Pn	14 41 23.6	+2.1
BALP	**Baler**	**2.01**	**119**	*e*P	Pn	14 41 23.2	+1.4

*IDC **31** 15:06:38.0±1.4, 3369S×178.77W, h0km, mb4.2/6, mb1 4.4/7, mb1mx4.1/17, mbtmp4.3/7, ML4.3/1, Error ellipse: s-maj=34.0km s-min=30.0km az=54.0*
*ISCJB **31** 15:06:46.9±3.2, 340S±01×179.2W±02, h64km±28km, mb4.4/9, Error ellipse: s-maj=32.6km s-min=20.9km az=17.5*
*NEIC **31** 15:06:48.5±2.8, 34.13S×179.15W, h68km±23km, mb4.7/5, Error ellipse: s-maj=22.8km s-min=20.9km az=74.0*
ISC 31 15:06:48.7±2.9, 340S±01×179.3W±02, h60km±25km, n20, σ0§99/17, mb4.4/9, South of Kermadec Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
URZ	**Urewera**	**5.14**	**214**	Pn	**Pn**	**15 08 01.8**	**-1.2**
	8.3nm,0.3s,baz=22,slow=8.7,SNR=34						
URZ				Sn	**Sn**	**15 09 04.1**	**+3.2**
	8.7nm,0.3s,baz=144,slow=19,SNR=10.0						
FUNA	**Funafuti**	**25.41**	**356**	P	**P**	**15 12 11.5**	**+0.8**
STKA	**Stephens Creek**	**32.77**	**263**	P	**P**	**15 13 17.1**	**+1.0**
	1.8nm,0.9s,mb4.0,baz=113,slow=13,SNR=3.2						
CTA	**Charters Tower**	**33.51**	**286**	P	**P**	**15 13 23.9**	**+1.3**
	4.5nm,0.7s,mb4.5,baz=105,slow=12,SNR=4.5						
CTAO	**Charters Tower**	**33.51**	**286**	P	**P**	**15 13 24.1**	**+1.5**
	6.3nm,0.9s,mb4.5						
ASAR	**Alice Springs**	**41.97**	**272**	P	**P**	**15 14 34.1**	**+0.2**
	3.5nm,0.7s,mb4.1,baz=111,slow=7.3,SNR=57						
WB2	**Warramunga Arr**	**43.28**	**277**	*e*P	**P**	**15 14 44.6**	**0.0**
WB2	**Warramunga Arr**	**43.28**	**277**	*e*P	**P**	**15 14 43.8**	**-0.8**
WRAB	**Tennant Creek**	**43.28**	**277**	*e*P	**P**	**15 14 43.3**	**-1.3**
	4.0nm,0.7s,mb4.3						
WRA	**Warramunga Arr**	**43.29**	**277**	P	**P**	**15 14 44.5**	**-0.2**
	4.4nm,0.6s,mb4.3,baz=116,slow=8.1,SNR=39						
FORT	**Forrest**	**44.18**	**259**	*e*P	**P**	**15 14 51.6**	**-0.1**
	8.1nm,0.6s,mb4.6						
FITZ	**Fitzroy Crossi**	**51.37**	**273**	*e*P	**P**	**15 15 47.1**	**-0.4**
	16nm,1.7s,mb4.7						
FITZ	**Fitzroy Crossi**	**51.37**	**273**	P	**P**	**15 15 47.2**	**-0.4**
	1.5nm,0.6s,mb4.1,baz=126,slow=12,SNR=7.3						
KLBR	**Kellerberrin**	**52.23**	**254**	*e*P	**P**	**15 15 52.6**	**-1.1**
	12nm,0.7s,mb4.9						
QSPA	**South Pole Qui**	**56.10**	**180**	P	**P**	**15 16 21.5**	**+0.3**
QSPA	**South Pole Qui**	**56.10**	**180**	P	**P**	**15 16 21.5**	**+0.3**
	2.8nm,1.1s,mb4.2,baz=33,slow=7.2,SNR=6.5						
KEV	**Kevo**	**141.38**	**346**	*e*p	PKPdf	15 26 20.3	+8.6
	1.2nm,0.4s						
KAF	**Kangasniemi**	**147.54**	**338**	*e*p	PKPdf	15 26 22.2	-0.3
	1.0nm,0.4s						
FINES	**FINESS Array B**	**148.11**	**337**	PKPbc	PKPbc	15 26 24.1	-2.7
	1.5nm,0.5s,baz=40,slow=4.6,SNR=17						
AKASG	**Malin Array Be**	**153.37**	**317**	PKPbc	PKPbc	15 26 37.4	-2.3
	0.2nm,0.2s,baz=68,slow=2.1,SNR=6.2						
AKASG				PKPab	PKPab	15 26 49.3	-2.7
	0.4nm,0.5s,baz=72,slow=2.4,SNR=4.8						

MAN 31 15:15:58, 1104N×12409E, h2km, mb4.1, ML2.9, MS2.7, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.51**	**89**	*e*P	Pg	15 16 08.8	+1.1
OCLP				*e*S	Sg	15 16 16.7	+2.4
LLP	**Lapu-Lapu**	**0.73**	**190**	⇑*e*P	Pg	15 16 13.2	+1.2
LLP				*e*S	Sg	15 16 22.3	+0.8
MSLP	**Maasin**	**1.17**	**140**	*e*P	Pg	15 16 21.6	+1.1
TBP	**Tagbilaran**	**1.36**	**190**	*e*P	Pn	15 16 23.8	-0.2
TBP				*e*S	Sg	15 16 43.6	+1.9
GUIM	**Jordan**	**1.53**	**255**	*e*P	Pn	15 16 26.7	+0.3
CNP	**Cataman**	**1.56**	**21**	*e*P	Pn	15 16 27.1	+0.3

IDC 31 15:18:19.1±2.0, 1485S×17362W, h0km, mb3.7/4, mb1 4.1/5, mb1mx3.9/15, mbtmp3.8/5, MS2.9/1, Ms1 2.9/1, ms1mx2.1/28, Error ellipse: s-maj=204.4km s-min=20.4km az=155.0, Samoa Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AFI	**Afiamalu**	**2.02**	**63**	Pn	Pn	15 18 53.4	-1.0
	98nm,0.3s,baz=65,slow=1.9,SNR=174						
AFI				Sn	Sn	15 19 12.0	-8.4
	301nm,0.3s,baz=149,slow=22,SNR=7.4						
AFI				LR	LR	15 19 35.2	
	comp=Z,324nm,20.6s,baz=240,slow=38						
WRA	**Warramunga Arr**	**49.76**	**256**	P	P	15 27 14.1	+0.3
	0.3nm,0.4s,baz=91,slow=7.1,SNR=6.4						
ASAR	**Alice Springs**	**50.08**	**251**	P	P	15 27 15.6	-0.6
	0.6nm,0.5s,baz=88,slow=7.7,SNR=20						
NVAR	**Mina Array Bea**	**74.07**	**42**	P	P	15 29 57.4	+0.3
	0.8nm,0.7s,baz=228,slow=10,SNR=5.3						
TXAR	**Lajitas Array**	**80.49**	**56**	P	P	15 30 34.2	+0.9
	1.1nm,1.0s,baz=226,slow=5.0,SNR=9.7						

*BJI **31** 15:24:19.5, 12.19N×125.52E, h12km, mB4.7, mb4.6, Ms3.9, Msz3.6*
*IDC **31** 15:24:22.8±0.7, 1254N×12525E, h0km, mb4.2/11, mb1 4.3/12, mb1mx4.2/19, mbtmp4.3/12, ML4.9/1, MS3.5/7, Ms1 3.5/7, ms1mx3.2/27, Error ellipse: s-maj=40.5km s-min=11.2km az=28.0*
*ISCJB **31** 15:24:24.3±0.8, 1268N±002×125.34E±004, h20km±6km, mb4.5/35, MS3.6/12, Error ellipse: s-maj=6.2km s-min=3.8km az=161.6*
*NEIC **31** 15:24:24.4±3.8, 1254N×12525E, h13km±24km, mb4.7/13, Error ellipse: s-maj=16.9km s-min=4.7km az=78.0*
*MAN **31** 15:24:26, 1272N×125.16E, h24km, mb4.9, ML3.8, MS3.8*
ISC 31 15:24:26.6±0.9, 1263N±003×12528E±004, h24km±6km, h19km±3.6km: pP-P, n84, σ1§08/99, mb4.5/35, MS3.6/12, 6C-5D, Samar

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CNP	**Cataman**	**0.61**	**259**	*e*P	**Pb**	**15 24 37.3**	**-1.3**
CNP				*e*S	**Sb**	**15 24 45.9**	**-1.0**
BESP	**Borongan**	**1.03**	**171**	*e*P	**Pn**	**15 24 45.2**	**-0.4**
BESP				*e*S	**Sb**	**15 25 02.6**	**+3.7**
PVCP	**Virac**	**1.46**	**311**	⇑*i*P	**Pn**	**15 24 51.0**	**-0.5**
PVCP				*i* S	**Sn**	**15 25 14.2**	**+4.4**
PLP	**Palo**	**1.48**	**191**	*i* P	**Pn**	**15 24 51.7**	**-0.1**
PLP				*e*S	**Sn**	**15 25 20.9**	**+10**
MMPH	**Masbate**	**1.64**	**261**	⇑*i*P	**Pn**	**15 24 53.2**	**-0.7**
MMPH				*i* S	**Sn**	**15 25 13.7**	**-0.6**
OCLP	**Ormoc**	**1.70**	**203**	*e*P	**Pn**	**15 24 55.5**	**+0.7**
MSLP	**Maasin**	**2.51**	**189**	*e*P	**Pn**	**15 25 08.1**	**+2.2**
LLP	**Lapu-Lapu**	**2.63**	**209**	*e*P	**Pn**	**15 25 07.8**	**+0.2**
LLP				*e*S	**Sb**	**15 25 45.2**	**+0.2**
RCP	**Roxas**	**2.70**	**247**	⇑*e*P	**Pn**	**15 25 08.9**	**+0.4**
RCP				*e*S	**Sn**	**15 25 43.3**	**+2.9**
SCPH	**Surigao**	**2.83**	**176**	⇑*e*P	**Pn**	**15 25 11.2**	**+0.8**
KALP	**Kalibo**	**3.03**	**252**	⇑*e*P	**Pn**	**15 25 14.4**	**+1.4**
GQP	**Guinayangan**	**3.04**	**295**	⇓*e*P	**Pn**	**15 25 13.6**	**+0.4**
GQP				*e*S	**Sn**	**15 25 52.0**	**+3.2**
OTRP	**Odiongan**	**3.19**	**266**	*e*P	**Pn**	**15 25 14.8**	**-0.5**
TBP	**Tagbilaran**	**3.23**	**206**	*e*P	**Pn**	**15 25 17.4**	**+1.5**
TBP				*e*S	**Sn**	**15 25 58.4**	**+4.7**
GUIM	**Jordan**	**3.30**	**233**	*e*P	**Pn**	**15 25 17.2**	**+0.4**
BUTP	**Butuan**	**3.65**	**175**	*e*P	**Pn**	**15 25 21.3**	**-0.4**
POLP	**Polilio Island**	**3.86**	**303**	*e*P	**Pn**	**15 25 26.2**	**+1.8**
SJMP	**San Jose**	**4.07**	**268**	*e*P	**Pn**	**15 25 26.4**	**-1.0**
CUYO	**Cuyo Island**	**4.53**	**248**	*e*P	**Pn**	**15 25 33.6**	**-0.2**
BIPH	**Bislig**	**4.54**	**166**	⇓*i*P	**Pn**	**15 25 34.2**	**+0.3**
BIPH				*i* S	**Sn**	**15 26 30.2**	**+4.2**
BUKP	**Musuan**	**4.72**	**183**	*e*P	**Pn**	**15 25 38.7**	**+2.3**
BALP	**Baler**	**4.74**	**311**	*e*P	**Pn**	**15 25 35.0**	**-1.6**
PCPH	**Palayan**	**5.00**	**306**	⇓*i*P	**Pn**	**15 25 38.2**	**-1.9**
PCPH				*i* S	**Sn**	**15 26 34.4**	**-2.8**
BUSP	**Coron**	**5.00**	**263**	*e*P	**Pn**	**15 25 40.4**	**+0.1**
LUBP	**Lubang**	**5.02**	**283**	*e*P	**Pn**	**15 25 41.8**	**+1.3**
PAGZ	**Pagadian**	**5.10**	**202**	*e*P	**Pn**	**15 25 41.8**	**+0.2**
PALP	**Palanan**	**5.20**	**328**	⇑*i*P	**Pn**	**15 25 43.6**	**+0.7**
PALP				*i* S	**Sn**	**15 26 42.8**	**+0.6**
CAUP	**Cauayan**	**5.44**	**323**	*e*P	**Pn**	**15 25 45.1**	**-1.1**
BCPH	**Baguio City Da**	**5.88**	**310**	⇓*i*P	**Pn**	**15 25 46.2**	**-6.1**
ENPP	**El Nido**	**5.90**	**257**	*e*P	**Pn**	**15 25 52.2**	**-0.4**
SCZP	**Santa Cruz**	**6.07**	**302**	*e*P	**Pn**	**15 25 55.4**	**+0.5**
SGCP	**Mt. Cagua**	**6.39**	**331**	*e*P	**Pn**	**15 25 59.5**	**+0.1**
BOLP	**Bolinao**	**6.40**	**306**	*e*P	**Pn**	**15 26 00.3**	**+0.9**
APYP	**Conner**	**6.50**	**324**	*e*P	**Pn**	**15 26 00.1**	**-0.7**
ABRA	**Dolores**	**6.66**	**319**	*e*P	**Pn**	**15 26 02.2**	**-0.8**
TATO	**Taipei**	**12.79**	**344**	Pn	**Pn**	**15 27 27.0**	**0.0**
JOW	**Kunigami**	**14.41**	**11**	Pn	**Pn**	**15 27 49.5**	**+0.4**
	10nm,0.3s,baz=190,slow=13,SNR=64						
NJ2	**Nanjing**	**20.21**	**344**	*e*P	**P**	**15 29 03.0**	**+3.1**
NJ2				AP		15 29 06.8	
NJ2				XP	sP	15 29 09.5	0.0
NJ2				PP		15 29 22.5	
NJ2				S	**S**	**15 32 44.0**	**-1.6**
NJ2				AMB	AMB		
	comp=Z,20nm,0.6s						
NJ2				AMB	AMB		
	comp=Z,50nm,9.5s						
NJ2				LR	LR		
	comp=N,1μm,11.3s,MS4.4						
NJ2				LR	LR		
	comp=E,130nm,16.0s,MS4.4						
NJ2				LR	LR		
	comp=Z,130nm,16.0s,MS3.4						
BATI	**Kupang**	**22.74**	**184**	P	**P**	**15 29 27.0**	**-0.1**
	comp=Z,19nm,0.4s,mb4.8,baz=63,slow=1.6,SNR=13						
BATI				LR	LR	15 38 31.1	
	comp=Z,85nm,18.2s,MS3.2,baz=222,slow=37						
KMI	**Kunming**	**24.64**	**304**	P	**P**	**15 29 45.0**	**-0.4**
KMI				AP		15 29 50.0	
KMI				XP	sP	15 29 52.5	-2.9
KMI				PP		15 30 22.8	
KMI				S	**S**	**15 34 03.5**	**-2.1**
KMI				SS		15 35 03.3	
KMI				AMB	AMB		
	comp=Z,9.0nm,1.0s,mb4.2						
KMI				AMB	AMB		
	comp=Z,58nm,4.2s						
KMI				LR	LR		
	comp=N,139nm,24.0s,MS3.4						
KMI				LR	LR		
	comp=E,81nm,24.0s,MS3.4						
KMI				LR	LR		
	comp=Z,82nm,13.6s						
KSRS	**Korea Array**	**24.84**	**5**	P	**P**	**15 29 48.0**	**+0.9**
	comp=Z,9.1nm,0.9s,mb4.3,baz=183,slow=11,SNR=43						
KSRS				LR	LR	15 38 56.4	
	comp=Z,55nm,21.4s,MS3.0,baz=216,slow=35						
XAN	**Xi'an**	**26.00**	**328**	P	**P**	**15 29 57.3**	**-0.4**
XAN				AP	pP	15 30 06.3	+1.5
XAN				AMB	AMB		
	comp=Z,10.0nm,0.8s,mb4.4						
KAKA	**Kakadu**	**26.16**	**164**	⇓*i*P	**P**	**15 29 58.3**	**-0.9**
	comp=Z,11nm,0.5s,mb4.7						
KAKA	**Kakadu**	**26.16**	**164**	*e*P	**P**	**15 29 57.5**	**-1.8**
	comp=Z,27nm,0.6s,mb5.0						
MJAR	**Matsushiro Arr**	**26.50**	**24**	P	**P**	**15 30 02.6**	**+0.4**
	comp=Z,1.5nm,0.9s,mb3.5,baz=196,slow=8.4,SNR=3.7						
MJAR				LR	LR	15 40 01.3	
	comp=Z,106nm,18.6s,MS3.4,baz=205,slow=35						
CD2	**Chengdu**	**26.94**	**316**	*e*P	**P**	**15 30 08.0**	**+1.8**
CD2				AP	pP	15 30 12.3	-1.0
CD2				XP	sP	15 30 15.0	-1.2
CD2				PP		15 30 53.8	
CD2				S	**S**	**15 34 43.0**	**+1.0**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s,mb4.5						
CD2				AMB	AMB		
	comp=Z,20nm,4.2s						
CD2				LR	LR		
	comp=N,240nm,15.2s						
CD2				LR	LR		
	comp=Z,170nm,15.6s,MS3.7						
BJI	**Beijing**	**28.46**	**345**	P	**P**	**15 30 20.5**	**+0.8**
BJI				AMB	AMB		
	comp=Z,4.0nm,0.8s,mb4.1						
LZH	**Lanzhou**	**30.30**	**324**	*e*P	**P**	**15 30 38.5**	**+2.4**
LZH				AP	pP	15 30 43.0	-0.3
LZH				XP	sP	15 30 45.5	-0.7
LZH				AMB	AMB		
	comp=Z,13nm,1.3s,mb4.5						
LZH				AMB	AMB		
	comp=Z,55nm,4.1s						
FITZ	**Fitzroy Crossi**	**30.54**	**179**	*e*P	**P

comp=Z,9.9nm,0.4s,mb4.9
GUN Gumba 39.77 299 *e*P **P 15 31 57.5 -0.3**
comp=Z,6.7nm,0.4s,mb4.7
PKI Pulchoki 40.09 298 *e*P **P 15 31 59.7 -0.8**
comp=Z,7.1nm,0.4s,mb4.8
DANN Dangsing 41.69 299 *e*P **P 15 32 12.9 -0.7**
comp=Z,8.2nm,0.5s,mb4.6
KOLN Koldanda 41.70 298 *e*P **P 15 32 13.4 -0.3**
comp=Z,7.2nm,0.5s,mb4.5
FORT Forrest 43.24 177 *e*P **P 15 32 25.4 -0.7**
comp=Z,17nm,0.5s,mb5.0
WMQ Urumqi 44.78 321 *e*P **P 15 32 39.0 +0.6**
WMQ XP sP 15 32 46.0 -2.6
WMQ PP PP 15 34 26.0 +2.8
WMQ S **S 15 39 15.0 +0.8**
WMQ AMB AMB
comp=Z,32nm,1.0s,mb5.1
WMQ AMB AMB
comp=Z,52nm,4.0s
WMQ LR LR
comp=N,91nm,14.0s,MS4.0
WMQ LR LR
comp=E,88nm,14.0s,MS4.0
WMQ LR LR
comp=Z,79nm,14.0s,MS3.8
NWAO Narrogin (SRO) 45.94 189 *e*P **P 15 32 45.8 -1.9**
comp=Z,12nm,1.2s,mb4.7
STKA Stephens Creek 46.93 161 *e*P **P 15 32 55.6 +0.2**
comp=Z,5.8nm,1.3s,mb4.3
STKA Stephens Creek 46.93 161 *e*P **P 15 32 54.2 -1.2**
comp=Z,4.3nm,0.7s,mb4.5
STKA Stephens Creek 46.93 161 P **P 15 32 54.8 -0.7**
comp=Z,1.7nm,0.4s,mb4.4,baz=320,slow=9.0,SNR=12
YAK Yakutsk 49.43 3 *e*P **P 15 33 13.9 -0.4**
comp=Z,10nm,0.9s,mb4.9
MKAR Makanchi Array 49.58 322 P **P 15 33 16.4 +0.6**
comp=Z,1.9nm,0.6s,mb4.3,baz=112,slow=9.0,SNR=32
ZALV Zalesovo Beam 52.11 331 P **P 15 33 34.9 +0.3**
ZALV LR LR 15 55 58.6
ZALV Zalesovo Beam 52.11 331 P **P 15 33 34.9 +0.3**
comp=Z,0.9nm,0.6s,mb3.9,baz=106,slow=6.5,SNR=4.7
ZALV LR LR 15 55 58.6
comp=Z,17nm,18.6s,MS3.1,baz=79,slow=36
KURK Kurchatov 53.59 325 *e*P **P 15 33 45.5 -0.1**
comp=Z,8.7nm,0.9s,mb4.7
TIXI Tiksi 59.03 1 *e*P **P 15 34 24.1 0.0**
comp=Z,4.1nm,0.8s,mb4.5
BRVK Borovoye 59.26 325 *e*P **P 15 34 25.9 -0.2**
comp=Z,3.8nm,0.8s,mb4.5
BILL Bilibino 61.42 16 P **P 15 34 47.9 +7.3**
comp=Z,4.2nm,1.0s,mb4.5
ARU Arti 66.74 326 *e*P **P 15 35 15.2 -0.4**
comp=Z,4.1nm,0.5s,mb4.7
RAO Raoul Island 68.81 128 LR LR 15 59 19.3
comp=Z,254nm,20.4s,MS4.5,slow=30
FINES FINESS Array B 83.37 331 P **P 15 36 51.0 -0.5**
comp=Z,3.5nm,1.1s,mb4.3,baz=57,slow=7.3,SNR=3.7
AKASG Malin Array Be 84.14 321 P **P 15 36 54.9 -0.8**
AKASG Malin Array Be 84.14 321 P **P 15 36 54.9 -0.8**
comp=Z,0.1nm,0.3s,mb3.5,baz=71,slow=7.1,SNR=4.1
NOA NORSAR Array B 90.23 334 LR LR 16 19 33.0
comp=Z,28nm,19.4s,MS3.7,baz=245,slow=37
PLCA Paso Flores 148.74 156 PKPbc PKPbc 15 44 12.7 +0.5
comp=Z,1.0nm,0.4s,baz=240,slow=3.6,SNR=8.2

*CSEM **31** 15:35:16.6±0.1,3609N×2835E,h53km±2km,Mw3.1,Error ellipse: s-maj=2.7km s-min=1.9km az=64.0*
*ISCJB **31** 15:35:17.9±0.3,3609N±003×2838E±003,h65km±7km, Error ellipse: s-maj=4.9km s-min=3.6km az=32.8*
*HLW **31** 15:35:17.3,3620N×2838E,h33km,Mb4.1*
*ISK **31** 15:35:17.6,3616N×2831E,h18km,MD3.3*
*ATH **31** 15:35:19.0,3622N×2838E,h48km±1km,MD3.3/5*
*NEIC **31** 15:35:19.0,3622N×2838E,h48km,MD3.3(ISK), MD3.3(ATH),After ATH.*
*DDA **31** 15:35:20.4,3666N×2862E,h6km±6km,Md3.3*
*NIC **31** 15:35:22.2±0.1,3631N×2869E,h36km,ML3.0,MW3.1*
ISC 31 15:35:19.5±0.3,3613N±002×2838E±003,h52km±8km,n54,σ0°81/72,7C,Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ARG	**Arkhangelos**	**0.23**	**293**	*e*P	**Pn**	**15 35 28.0**	**-0.1**
ARG				*e*S	**Sn**	**15 35 33.8**	**-0.5**
FETY	**Fethiye**	**0.76**	**48**	*e*PG	**Pn**	**15 35 33.6**	**-0.5**
FETY				*e*SG	**Sn**	**15 35 44.4**	**-0.2**
DAT	**Datca**	**0.89**	**313**	*e*PG	**Pn**	**15 35 34.1**	**-1.5**
DAT				*e*SG	**Sn**	**15 35 46.1**	**-1.5**
KSL	**Kastellorizon**	**0.97**	**88**	*e*P	**Pn**	**15 35 37.2**	**+0.4**
AKAS	**Kas**	**0.99**	**83**	*i* P	**Pn**	**15 35 37.2**	**+0.1**
AKAS				*i* S	**Sn**	**15 35 51.1**	**+1.0**
YER	**Yerkesik**	**1.01**	**355**	*e*PG	**Pn**	**15 35 37.5**	**+0.2**
YER				*e*SG	**Sn**	**15 35 51.6**	**+1.1**
NISR	**Nisiros**	**1.12**	**296**	*e*P	**Pn**	**15 35 39.0**	**+0.2**
KARP	**Karpathos**	**1.15**	**240**	*e*P	**Pn**	**15 35 40.8**	**+1.6**
KARP				*e*S	**Sn**	**15 35 55.9**	**+2.0**
BDRM	**Kayabasi**	**1.20**	**321**	*i* P	**Pn**	**15 35 39.7**	**-0.3**
BDRM				*i* S	**Sn**	**15 35 54.7**	**-0.5**
MLSB	**Milas**	**1.26**	**337**	*e*PN	**Pn**	**15 35 40.1**	**-0.6**
MLSB				*e*SN	**Sn**	**15 35 56.5**	**-0.2**
BODT	**Bodrum**	**1.27**	**318**	*e*PN	**Pn**	**15 35 40.8**	**0.0**
BODT				*e*SN	**Sn**	**15 35 56.1**	**-0.7**
ELL	**Elmali**	**1.38**	**63**	*e*PN	**Pn**	**15 35 43.7**	**+1.4**
ELL				*e*SN	**Sn**	**15 36 01.6**	**+2.2**
AYDN	**Tasoluk**	**1.58**	**345**	*i* P	**Pn**	**15 35 45.2**	**+0.2**
AYDN				*i* S	**Sn**	**15 36 04.2**	**-0.2**
AYDN	**Tasoluk**	**1.58**	**345**	*i* P	**Pn**	**15 35 45.2**	**+0.1**
AYDN				*i* S	**Sn**	**15 36 04.2**	**-0.2**
DENT	**Denizli**	**1.71**	**18**	*e*PN	**Pn**	**15 35 46.7**	**-0.1**
ANTB	**Antalya**	**1.98**	**66**	*e*PN	**Pn**	**15 35 51.7**	**+1.2**
SMG	**Samos**	**2.01**	**322**	*e*P	**Pn**	**15 35 50.6**	**-0.3**
BCK	**Bucak**	**2.21**	**52**	*e*PN	**Pn**	**15 35 54.0**	**+0.3**
SANT	**Santorini**	**2.38**	**277**	P	**Pn**	**15 35 57.0**	**+1.1**
KULA	**Kula-Manisa**	**2.39**	**5**	*e*PN	**Pn**	**15 35 56.3**	**+0.2**
NPS	**Neapolis**	**2.42**	**250**	*e*P	**Pn**	**15 35 57.5**	**+1.0**
APE	**Apeiranthos**	**2.48**	**293**	*e*P	**Pn**	**15 35 57.9**	**+0.5**
BLCB	**Balcova**	**2.50**	**335**	*e*PN	**Pn**	**15 35 57.2**	**-0.3**
AKHS	**Akhisar**	**2.78**	**351**	*i* P	**Pn**	**15 36 00.4**	**-1.1**
AKHS				*i* S	**Sn**	**15 36 32.7**	**-1.2**
AKS	**Akhisar**	**2.78**	**351**	*e*PN	**Pn**	**15 36 01.6**	**+0.1**
AKMC	**Akamas**	**3.40**	**108**	⇑*i*P	**Pn**	**15 36 10.2**	**+0.3**
HDMB	**Hadim**	**3.41**	**75**	*e*PN	**Pn**	**15 36 11.4**	**+1.3**
PPCY	**Paphos**	**3.46**	**110**	P	**Pn**	**15 36 11.3**	**+0.5**
ALFC	**Alevga** 6.5nm,0.1s	**3.57**	**105**	P	**Pn**	**15 36 12.4**	**+0.2**
ALFC				S	**Sn**	**15 36 51.7**	**-1.4**
SZAC	**Souni-Zanaja** 7.2nm,0.2s	**3.92**	**109**	P	**Pn**	**15 36 17.6**	**+0.5**
SZAC				S	**Sn**	**15 37 01.2**	**-0.6**
CSS	**Prodhromos** 1.6nm,0.2s	**4.20**	**105**	P	**Pn**	**15 36 21.2**	**+0.3**
CSS				S	**Sn**	**15 37 07.6**	**-1.0**
VLI	**Veliai**	**4.43**	**279**	*e*P	**Pn**	**15 36 26.3**	**+2.2**
HMAT	**Matruh**	**5.13**	**192**	P	**Pn**	**15 36 33.7**	**-0.1**
ITM	**Ithomi**	**5.30**	**283**	P	**Pn**	**15 36 40.6**	**+4.6**
HWQ	**Hawqa**	**6.46**	**104**	*e*P	**Pn**	**15 36 51.6**	**-0.3**
RCY	**Rachaya**	**6.66**	**111**	*e*P	**Pn**	**15 36 54.6**	**-0.1**
SQR		**6.66**	**158**	⇑P	**Pn**	**15 36 54.0**	**-0.7**
HNAT	**Natroun**	**6.74**	**163**	P	**Pn**	**15 36 55.3**	**-0.6**
AMAG	**Maghara**	**6.79**	**142**	P	**Pn**	**15 36 55.8**	**-0.7**
FYM	**Al Fayyum**	**6.79**	**160**	⇑P	**Pn**	**15 36 56.2**	**-0.4**
FYM				S	**Sn**	**15 38 08.4**	**-4.1**
KOT	**Kottamia**	**6.83**	**154**	⇑P	**Pn**	**15 36 56.5**	**-0.4**
KOT				S	**Sn**	**15 38 08.8**	**-4.5**
KOT	**Kottamia**	**6.83**	**154**	P	**Pn**	**15 36 56.5**	**-0.5**
HHAG	**Hagoal**	**6.90**	**152**	P	**Pn**	**15 36 58.2**	**+0.2**
HSAF	**As Saff**	**7.02**	**157**	P	**Pn**	**15 36 58.9**	**-0.7**
GLL	**Jalalah**	**7.10**	**156**	⇑P	**Pn**	**15 37 00.2**	**-0.5**
GLL	**Jalalah**	**7.10**	**156**	P	**Pn**	**15 37 00.2**	**-0.6**
SUZ		**7.30**	**148**	⇑P	**Pn**	**15 37 03.5**	**+0.1**
ZAF		**7.67**	**152**	⇑P	**Pn**	**15 37 08.2**	**-0.4**
ZNM		**7.72**	**149**	P	**Pn**	**15 37 09.4**	**+0.2**
AWBH		**7.80**	**177**	P	**Pn**	**15 37 09.3**	**-0.9**
HKAT	**Jabal Katrina**	**8.94**	**146**	P	**Pn**	**15 37 25.8**	**-0.2**
HFRF	**Wahat Farafira**	**8.95**	**180**	P	**Pn**	**15 37 25.5**	**-0.6**
HDK1	**Dakhla**	**10.59**	**175**	P	**Pn**	**15 37 48.9**	**+0.4**
HDK1	**Dakhla**	**10.59**	**175**	P	**Pn**	**15 37 48.8**	**+0.3**

PLV 31 15:44:31.2±1.3,2234N×10235E,h35km±15km,MD3.1, Yunnan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DBV	**Dienbien**	**1.13**	**146**	*e*PN	Pn	15 44 49.6	-1.0
DBV				*e*SG	Sn	15 45 05.7	+0.9
BVV	**Ba Vi**	**3.06**	**113**	*e*PG	Pn	15 45 25.6	+8.5
BVV				*e*SG	Sn	15 46 05.1	+13
BVV	**Ba Vi**	**3.06**	**113**	*e*PG	Pn	15 45 24.5	+7.4
BVV				*e*Sg	Sn	15 45 59.0	+6.5
HNV	**Hanoi**	**3.45**	**111**	*e*PG	Pn	15 45 30.1	+7.7
HNV				*e*SG	Sn	15 46 13.2	+11
HNV				AMP		15 46 17.1	
	comp=N,25nm,0.2s						
HNV	**Hanoi**	**3.45**	**111**	*e*PG	Pn	15 45 29.8	+7.3
HNV				*e*Sg	Sn	15 46 08.6	+6.4
BGV	**Bac-Giang**	**3.75**	**105**	*e*Pg	Pn	15 45 34.6	+8.0
BGV				*e*SG	Sn	15 46 17.8	+8.3
MTZV	**Met**	**3.79**	**101**	*e*Pg	Pn	15 45 36.5	+9.4
MTZV				*e*SG	Sn	15 46 23.5	+13
MTZV	**Met**	**3.79**	**101**	*e*PG	Pn	15 45 35.1	+8.0
MTZV				*e*SG	Sn	15 46 19.4	+9.0
DSV	**Doi Son**	**3.80**	**117**	*e*PG	Pn	15 45 35.9	+8.7
DSV				*e*SG	Sn	15 46 23.6	+13
DSV	**Doi Son**	**3.80**	**117**	*e*PG	Pn	15 45 36.1	+8.9
DSV				*e*SG	Sn	15 46 20.1	+9.5
YTV	**Yen Tu**	**4.22**	**105**	*e*PG	Pn	15 45 41.7	+8.6
YTV				*e*SG	Sn	15 46 34.7	+13
YTV	**Yen Tu**	**4.22**	**105**	*e*Pg	Pn	15 45 43.5	+10
YTV				*e*SG	Sn	15 46 31.7	+10
PLV	**Phu-Lien**	**4.26**	**110**	*e*SG	Sn	15 46 35.5	+13
PLV	**Phu-Lien**	**4.26**	**110**	*e*PG	Pn	15 45 43.7	+10
PLV				*e*Sg	Sn	15 46 33.2	+11

*NEIC **31** 16:19:39.7,3879S×17585E,h128km,MG3.7(WEL),After WEL.*
WEL 31 16:19:39.8±0.4,3880S×17585E,h128km±3km,ML3.6/19, Error ellipse: s-maj=2.3km s-min=1.9km az=90.0,North Island

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
RATZ	**Rangitukua**	**0.09**	**220**	P	Pn	16 19 57.2	0.0
RATZ				S	Sn	16 20 11.2	+0.9
RATZ	**Rangitukua**	**0.09**	**220**	PN	Pn	16 19 57.2	0.0
RATZ				SN	Sn	16 20 11.2	+0.9
WATZ	**Wairara**	**0.12**	**315**	P	Pn	16 19 57.3	+0.1
WATZ	**Wairara**	**0.12**	**315**	PN	Pn	16 19 57.3	+0.1
WHTZ	**Whakaora**	**0.16**	**34**	P	Pn	16 19 57.4	+0.1
WHTZ	**Whakaora**	**0.16**	**34**	PN	Pn	16 19 57.4	+0.1
WTVZ	**West Tongariro**	**0.38**	**212**	P	Pn	16 19 58.3	+0.3
WTVZ				S	Sn	16 20 11.5	-0.3
WTVZ	**West Tongariro**	**0.38**	**212**	PN	Pn	16 19 58.3	+0.3
WTVZ				SN	Sn	16 20 11.5	-0.3
TWVZ	**Taurewa**	**0.42**	**229**	P	Pn	16 19 58.3	+0.1
TWVZ	**Taurewa**	**0.42**	**229**	PN	Pn	16 19 58.3	+0.2
NGZ	**Ngauruhoe**	**0.42**	**207**	P	Pn	16 19 58.4	+0.2
NGZ	**Ngauruhoe**	**0.42**	**207**	PN	Pn	16 19 58.4	+0.2
WPVZ	**Whakapapa**	**0.47**	**210**	P	Pn	16 19 57.3	-1.1
WPVZ	**Whakapapa**	**0.47**	**210**	PN	Pn	16 19 57.3	-1.1
FWVZ	**Far West T-bar**	**0.51**	**206**	P	Pn	16 19 59.1	+0.4
FWVZ	**Far West T-bar**	**0.51**	**206**	PN	Pn	16 19 59.1	+0.5
HRRZ	**Handcock Road**	**0.53**	**40**	PN	Pn	16 19 58.9	+0.1
WNVZ	**Wahianoa**	**0.56**	**200**	P	Pn	16 19 59.4	+0.4
WNVZ	**Wahianoa**	**0.56**	**200**	PN	Pn	16 19 59.4	+0.4
MOVZ	**Moawhango**	**0.61**	**187**	P	Pn	16 19 59.4	+0.1
MOVZ				S	Sn	16 20 11.9	-2.3
MOVZ	**Moawhango**	**0.61**	**187**	PN	Pn	16 19 59.4	+0.1
MOVZ				SN	Sn	16 20 11.9	-2.3
BKZ	**Black Stump Fm**	**0.62**	**126**	P	Pn	16 19 59.7	+0.3
BKZ	**Black Stump Fm**	**0.62**	**126**	PN	Pn	16 19 59.7	+0.3
MTVZ	**Mangateitei**	**0.66**	**206**	PN	Pn	16 19 59.9	+0.3
HIZ	**Hauiti**	**0.82**	**290**	P	Pn	16 20 00.6	-0.3
HIZ	**Hauiti**	**0.82**	**290**	PN	Pn	16 20 00.6	-0.3
VRZ	**Vera Road**	**0.91**	**249**	P	Pn	16 20 01.6	0.0
VRZ	**Vera Road**	**0.91**	**249**	PN	Pn	16 20 01.6	-0.1
MARZ	**Manawahe**	**1.04**	**39**	P	Pn	16 19 58.8	-4.1
MARZ	**Manawahe**	**1.04**	**39**	PN	Pn	16 19 58.8	-4.1
URZ	**Urewera**	**1.13**	**62**	P	Pn	16 20 03.1	-0.6
URZ	**Urewera**	**1.13**	**62**	PN	Pn	16 20 03.1	-0.6
WAZ	**Wanganui**	**1.17**	**215**	P	Pn	16 20 04.0	-0.1
WAZ	**Wanganui**	**1.17**	**215**	PN	Pn	16 20 04.0	-0.1
TSZ	**Takapari Road**	**1.26**	**176**	P	Pn	16 20 05.1	0.0
TSZ	**Takapari Road**	**1.26**	**176**	PN	Pn	16 20 05.1	0.0
WPHZ	**Waipukurau**	**1.35**	**160**	PN	Pn	16 20 06.1	+0.1
MWZ	**Matawai**	**1.40**	**71**	PN	Pn	16 20 06.2	-0.4
KNZ	**Kokohu**	**1.44**	**99**	P	Pn	16 20 07.5	+0.4
KNZ	**Kokohu**	**1.44**	**99**	PN	Pn	16 20 07.5	+0.5
PXZ	**Pawanui**	**1.46**	**148**	PN	Pn	16 20 07.3	0.0
MRZ	**Mangatainoka R**	**1.87**	**186**	P	Pn	16 20 10.9	-1.2
MRZ	**Mangatainoka R**	**1.87**	**186**	PN	Pn	16 20 10.9	-1.2
HOWZ	**Holdsworth Sta**	**2.11**	**187**	PN	Pn	16 20 13.4	-1.5
KIW	**Kapiti Island**	**2.18**	**199**	P	Pn	16 20 14.1	-1.8
KIW	**Kapiti Island**	**2.18**	**199**	PN	Pn	16 20 14.1	-1.7
MTW	**Mount Morrison**	**2.37**	**186**	P	Pn	16 20 16.2	-2.0
MTW	**Mount Morrison**	**2.37**	**186**	PN	Pn	16 20 16.2	-2.0
CAW	**Cannon Point**	**2.38**	**194**	P	Pn	16 20 16.6	-1.8
CAW	**Cannon Point**	**2.38**	**194**	PN	Pn	16 20 16.6	-1.8
MRW	**Makara Radio**	**2.58**	**200**	P	Pn	16 20 18.7	-2.2
MRW	**Makara Radio**	**2.58**	**200**	PN	Pn	16 20 18.7	-2.1
TRWZ	**Traveller**	**2.60**	**183**	PN	Pn	16 20 19.2	-1.9
WEL	**Wellington**	**2.62**	**198**	P	Pn	16 20 19.2	-2.1
WEL	**Wellington**	**2.62**	**198**	PN	Pn	16 20 19.2	-2.2
MSWZ	**Moikau Station**	**2.66**	**190**	P	Pn	16 20 19.5	-2.3
MSWZ	**Moikau Station**	**2.66**	**190**	PN	Pn	16 20 19.5	-2.3
SNZO	**South Karori**	**2.66**	**199**	PN	Pn	16 20 19.5	-2.3
TCW	**Tory Channel**	**2.70**	**206**	P	Pn	16 20 20.1	-2.2
TCW	**Tory Channel**	**2.70**	**206**	PN	Pn	16 20 20.1	-2.2
PLWZ	**Palliser**	**2.81**	**189**	PN	Pn	16 20 21.2	-2.6
TUWZ	**Tuamarina**	**3.01**	**208**	PN	Pn	16 20 23.7	-2.7
NNZ	**Nelson**	**3.07**	**217**	P	Pn	16 20 24.8	-2.4
NNZ	**Nelson**	**3.07**	**217**	PN	Pn	16 20 24.8	-2.4
QRZ	**Quartz Range**	**3.26**	**231**	P	Pn	16 20 26.6	-3.0
QRZ	**Quartz Range**	**3.26**	**231**	PN	Pn	16 20 26.6	-3.1
BSWZ	**Blackbirch Sta**	**3.28**	**207**	P	Pn	16 20 27.3	-2.6
BSWZ	**Blackbirch Sta**	**3.28**	**207**	PN	Pn	16 20 27.3	-2.6
THZ	**Tophouse**	**3.72**	**216**	P	Pn	16 20 32.8	-2.9
THZ	**Tophouse**	**3.72**	**216**	PN	Pn	16 20 32.8	-2.9
KHZ	**Kahutara**	**4.02**	**205**	P	Pn	16 20 36.3	-3.4
KHZ	**Kahutara**	**4.02**	**205**	PN	Pn	16 20 36.3	-3.3
MQZ	**McQueen's Vall**	**5.46**	**205**	P	Pn	16 20 53.7	-5.2
MQZ	**McQueen's Vall**	**5.46**	**205**	PN	Pn	16 20 53.7	-5.3
ODZ	**Otahua Downs**	**7.35**	**210**	P	Pn	16 21 19.5	-4.8
ODZ	**Otahua Downs**	**7.35**	**210**	PN	Pn	16 21 19.5	-4.8
TUZ	**Tuapeka**	**8.50**	**211**	P	Pn	16 21 35.8	-4.1
TUZ	**Tuapeka**	**8.50**	**211**	PN	Pn	16 21 35.8	-4.1

IDC 31 16:46:18.2±2.1,106S×12770E,h0km,mb3.2/2,mb1 3.3/3, mb1mx3.1/15,mbtmp3.1/3,ML3.3/1,Error ellipse: s-maj=158.9km s-min=26.7km az=67.0,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**19.86**	**161**	P	Pn	16 50 50.3	-2.2
	0.1nm,0.3s,baz=340,slow=12,SNR=4.4						
ASAR	**Alice Springs**	**23.26**	**165**	P	P	16 51 28.1	+0.5
	0.3nm,0.7s,baz=344,slow=13,SNR=4.1						
MKAR	**Makanchi Array**	**62.04**	**326**	P	P	16 56 40.5	+0.1
	0.2nm,0.3s,baz=113,slow=8.7,SNR=5.2						

*BJI **31** 16:47:07.8, 194S×12798E, h10km, mB5.0, mb4.9, Ms4.3, Msz4.0*
*IDC **31** 16:47:15.1±0.5, 1.17S×127.16E, h0km, mb4.7/13, mb1 4.7/14, mb1mx4.6/20, mbtmp4.7/14, ML4.7/1, MS3.8/11, Ms1 3.8/11, ms1mx3.6/21, Error ellipse: s-maj=28.3km s-min=11.9km az=75.0*
*NEIC **31** 16:47:16.4±0.3, 1.14S×12753E, h10km, mb5.0/23, Error ellipse: s-maj=11.5km s-min=5.7km az=75.0*
*ISCJB **31** 16:47:16.6±1.1, 1.16S±003×12767E±004, h25km±8km, mb5.0/65, MS4.0/21, Error ellipse: s-maj=7.7km s-min=5.1km az=151.7*
*MOS **31** 16:47:17.5±1.0, 1.15S×12760E, h34km, mb5.2/24, Error ellipse: s-maj=17.9km s-min=7.1km az=109.2*
ISC 31 16:47:20.3±0.6,117S±003×12766E±004,h38km±6km, h28km±2.2km:pP-P,n170,σ1°08/179,mb5.0/65,MS4.0/21, 12C-18D,Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**2.56**	**168**	P	**Pn**	**16 48 00.6**	**+1.4**
	939nm,0.7s						
KDI	**Kendari**	**5.74**	**241**	P	**Pn**	**16 48 43.9**	**+0.8**
	73nm,0.9s						
TLE	**Tual**	**6.74**	**131**	P	**Pn**	**16 48 57.0**	**+0.3**
	1μm,0.8s						
PCI	**Palu**	**7.82**	**272**	P	**Pn**	**16 49 08.5**	**-3.2**
	282nm,0.8s						
KAPI	**Kappang**	**8.77**	**244**	Pn	**Pn**	**16 49 23.6**	**-1.0**
	7.7nm,0.3s,baz=79,slow=7.4,SNR=35						
KAPI				Sn	**Sn**	**16 50 55.9**	**-6.4**
	1.3nm,0.3s,baz=247,slow=16,SNR=1.7						
BATI	**Kupang**	**9.81**	**204**	Pn	**Pn**	**16 49 39.0**	**0.0**
	0.5nm,0.3s,baz=209,slow=11,SNR=2.2						
BATI				LR	LR	16 53 38.8	
	comp=Z,372nm,18.9s,baz=229,slow=40						
MYLDM	**Lahad Datu**	**11.11**	**305**	⇓P	**Pn**	**16 49 57.8**	**+1.0**
TSM	**Tawau**	**11.18**	**299**	⇑P	**Pn**	**16 49 56.2**	**-1.5**
KAKA	**Kakadu**	**12.40**	**158**	⇓*i*P	**Pn**	**16 50 14.7**	**+0.3**
	51nm,0.6s						
SDKM	**Sandakan**	**12.45**	**303**	⇓P	**Pn**	**16 50 16.1**	**+1.0**
KKM	**Kota Kinabalu**	**13.49**	**302**	⇓P	**Pn**	**16 50 28.3**	**-1.0**
SBUM	**Sibu**	**15.85**	**283**	⇓P	**Pn**	**16 51 00.7**	**-0.1**
FITZ	**Fitzroy Crossi** 12nm,0.8s	**16.94**	**187**	*e*P	**Pn**	**16 51 17.2**	**+2.6**
FITZ	**Fitzroy Crossi**	**16.94**	**187**	Pn	**Pn**	**16 51 16.9**	**+2.4**
	0.4nm,0.3s,baz=10,slow=12,SNR=14						
FITZ				LR	LR	16 58 08.0	
	comp=Z,141nm,21.7s,baz=11,slow=39						
KSM	**Kuching**	**17.55**	**279**	⇑P	**Pn**	**16 51 20.2**	**-2.0**
BJII	**Banjamegara** 63nm,1.6s	**18.91**	**251**	P	**Pn**	**16 51 40.5**	**+1.7**
WRAB	**Tennant Creek**	**19.76**	**161**	*c i*P	**Pn**	**16 51 47.2**	**-1.7**
WRAB	**Tennant Creek**	**19.76**	**161**	*e*Pn	**Pn**	**16 51 47.1**	**-1.8**
WRA	**Warramunga Arr**	**19.77**	**161**	P	**Pn**	**16 51 46.9**	**-2.1**
WRA				S	**S**	**16 55 21.6**	**-6.5**
WRA	**Warramunga Arr**	**19.77**	**161**	P	**Pn**	**16 51 46.9**	**-2.0**
WRA				S	**S**	**16 55 21.6**	**-6.5**
WRA				ScP	ScP	16 59 43.9	+5.6
WRA	**Warramunga Arr**	**19.77**	**161**	P	**Pn**	**16 51 46.9**	**-2.0**
	2.5nm,0.3s,baz=334,slow=13,SNR=58						
WRA				S	**S**	**16 55 21.6**	**-6.5**
	baz=349,slow=21,SNR=2.8						
WRA				ScP	ScP	16 59 43.9	+5.6
	0.1nm,0.3s,baz=350,slow=2.8,SNR=5.5						
WB2	**Warramunga Arr**	**19.77**	**161**	*e*P	**Pn**	**16 51 46.8**	**-2.2**
WB2				*e*S	**S**	**16 55 28.4**	**+0.2**
COEN	**Coen** 80nm,1.1s	**19.92**	**130**	*e*Pn	**Pn**	**16 51 52.4**	**+1.5**
TPI	**Tanjungpandan** 51nm,1.1s	**20.05**	**265**	P	**P**	**16 51 50.2**	**-0.3**
MBWA	**Marble Bar**	**21.32**	**201**	*e*Pn	**P**	**16 52 03.5**	**-0.5**
	50nm,1.1s,mb4.8						
CBJI	**Citeko**	**21.40**	**255**	P	**P**	**16 52 09.3**	**+4.3**
	128nm,1.1s,mb5.2						
ASAR	**Alice Springs**	**23.17**	**165**	P	**P**	**16 52 23.6**	**-0.1**
ASAR						16 56 11.7	
ASAR	**Alice Springs**	**23.17**	**165**	P	**P**	**16 52 23.6**	**-0.1**
	13nm,0.6s,mb4.5,baz=344,slow=10,SNR=88						
ASAR				PcP	PcP	16 56 11.7	+0.3
	2.0nm,0.7s,baz=341,slow=2.1,SNR=5.6						
ASAR				ScP	ScP	16 59 52.9	+6.2
	0.8nm,0.8s,baz=11,slow=1.3,SNR=4.3						
MYKOM	**Kota Tinggi**	**23.99**	**277**	⇓P	**P**	**16 52 32.6**	**+1.0**
KGM	**Kluang**	**24.54**	**277**	⇓P	**P**	**16 52 36.6**	**-0.1**
KSI	**Kapahiang** 91nm,1.0s,mb5.3	**25.16**	**264**	P	**P**	**16 52 42.9**	**+0.6**
KTGM	**Kuala Trenggan**	**25.33**	**285**	⇓P	**P**	**16 52 46.3**	**+2.4**
CTA	**Charters Tower** 16nm,1.1s,mb4.5	**26.16**	**137**	*e*P	**P**	**16 52 56.2**	**+4.9**
CTA	**Charters Tower**	**26.16**	**137**	*e*P	**P**	**16 52 56.2**	**+4.9**
CTA				pmax	pmax		
	comp=Z,17nm,1.1s						
CTA	**Charters Tower**	**26.16**	**137**	P	**P**	**16 52 55.4**	**+4.1**
	comp=Z,20nm,1.0s,mb4.6,baz=330,slow=12,SNR=6.6						
CTAO	**Charters Tower**	**26.16**	**137**	*e*P	**P**	**16 52 52.7**	**+1.4**
FRIM	**Kepong**	**26.39**	**280**	⇓P	**P**	**16 52 54.4**	**+0.9**
QIZ	**Qiongzhong**	**26.63**	**320**	P	**P**	**16 52 54.8**	**-0.8**
QIZ				AMB	AMB		
	comp=Z,94nm,7.1s						
QIZ				LR	LR		
	comp=N,125nm,13.6s						
QIZ				LR	LR		
	comp=Z,229

KMI PP PP 16 55 35.3 -0.3
KMI S **S** **16 59 49.8 +2.0**
KMI XS sS 17 00 05.3 -0.2
KMI AMB AMB
comp=Z,13nm,1.5s,mb4.6
KMI AMB AMB
comp=Z,80nm,4.4s
KMI LR LR
comp=N,105nm,18.8s,MS3.7
KMI LR LR
comp=E,105nm,22.1s,MS3.7
KMI LR LR
comp=Z,163nm,21.0s,MS3.8
ARMA Armidale 36.93 144 *eP* **P 16 54 30.9 +5.2**
KSRS Korea Array 38.43 0 P **P 16 54 38.3 0.0**
comp=Z,5.2nm,0.9s,mb4.3,baz=177,slow=9.9,SNR=28
KSRS PcP PcP 16 56 52.8 +1.6
comp=Z,3.0nm,0.9s,baz=183,slow=3.5,SNR=12
KSRS ScP ScP 17 00 41.2 +4.8
comp=Z,0.5nm,0.6s,baz=180,slow=4.4,SNR=4.2
MAT Matsushiro 38.78 14 P **P 16 54 41.0 -0.3**
MAT S **S** **17 00 41.0 +4.7**
MJAR Matsushiro Arr 38.78 14 P **P 16 54 40.8 -0.5**
MJAR 16 56 54.0
MJAR Matsushiro Arr 38.78 14 P **P 16 54 40.8 -0.5**
MJAR PcP PcP 16 56 54.0 +1.7
MJAR LR LR 17 09 50.5
MJAR Matsushiro Arr 38.78 14 P **P 16 54 40.8 -0.5**
comp=Z,2.7nm,0.6s,mb4.2,baz=183,slow=8.8,SNR=12
MJAR PcP PcP 16 56 54.0 +1.7
comp=Z,2.0nm,0.6s,baz=189,slow=3.0,SNR=5.7
MJAR LR LR 17 09 50.5
comp=Z,154nm,18.4s,MS3.9,baz=200,slow=35
MAJO Matsushiro 38.78 14 *eP* **P 16 54 40.6 -0.7**
MAJO pmax pmax
comp=Z,14nm,1.1s,mb4.6
MAJO Matsushiro 38.78 14 *eP* **P 16 54 40.6 -0.7**
comp=Z,14nm,1.1s,mb4.6
CD2 Chengdu 39.17 327 *eP* **P 16 54 44.8 +0.1**
CD2 AP pP 16 54 53.3 -2.1
CD2 XP sP 16 54 56.0 -3.9
CD2 PP PP 16 56 19.3 +4.3
CD2 S **S** **17 00 43.5 +1.2**
CD2 XS sS 17 00 57.8 -2.3
CD2 AMB AMB
comp=Z,20nm,0.5s,mb5.1
CD2 AMB AMB
comp=Z,60nm,4.8s
CD2 LR LR
comp=N,130nm,16.8s
CD2 LR LR
comp=Z,130nm,15.6s,MS3.9
XAN Xi'an 39.20 335 P **P 16 54 44.8 -0.1**
XAN AP pP 16 54 51.0 -4.6
XAN AMB AMB
comp=Z,14nm,0.9s,mb4.7
XAN LR LR
comp=N,63nm,21.8s,MS3.6
XAN LR LR
comp=E,70nm,18.1s,MS3.6
XAN LR LR
comp=Z,95nm,21.8s,MS3.6
TOO Toolangi 39.77 158 *eP* **P 16 54 53.6 +4.0**
comp=Z,152nm,0.8s,mb5.8
TOO Toolangi 39.77 158 *eP* **P 16 54 53.6 +4.0**
TOO pmax pmax
comp=Z,152nm,0.8s,mb5.8
BJT Baijiatuau 42.32 347 *eP* **P 16 55 10.0 -0.5**
BJT pmax pmax
comp=Z,28nm,1.1s
BJT Baijiatuau 42.32 347 *eP* **P 16 55 10.0 -0.4**
comp=Z,28nm,1.1s,mb4.8
BJI Beijing 42.34 347 P **P 16 55 10.3 -0.3**
BJI S **S** **17 01 30.0 +0.8**
BJI AMB AMB
comp=Z,20nm,1.0s,mb4.7
BJI AMB AMB
comp=Z,85nm,5.2s
BJI LR LR
comp=N,95nm,12.5s,MS4.0
BJI LR LR
comp=E,86nm,13.2s,MS4.0
BJI LR LR
comp=Z,134nm,28.3s
LZH Lanzhou 43.20 331 *eP* **P 16 55 19.3 +1.6**
LZH AP pP 16 55 27.3 -1.2
LZH XP sP 16 55 30.5 -2.5
LZH PP PP 16 57 03.5 +4.9
LZH *e*S **S** **17 01 47.3 +5.3**
LZH XS sS 17 02 02.0 +2.1
LZH SS SS 17 04 57.3 +1.2
LZH AMB AMB
comp=Z,43nm,1.5s,mb5.0
LZH AMB AMB
comp=Z,262nm,6.0s
LZH LR LR
comp=N,1μm,16.3s
LZH LR LR
comp=Z,1μm,17.8s,MS4.9
SHL Shillong 43.62 310 *eP* **P 16 55 21.0 -0.3**
HHC Hu-ho-hao-te 44.32 342 ⇑P **P 16 55 27.5 +0.9**
HHC AP pP 16 55 37.8 +0.3
HHC XP sP 16 55 41.3 -0.6
HHC PP PP 16 57 12.0 +1.5
HHC SCP ScP 17 00 59.5 -0.2
HHC S **S** **17 01 58.5 +0.3**
HHC XS sS 17 02 16.3 +0.2
HHC SCS ScS 17 05 20.5 -1.5
HHC AMB AMB
comp=Z,15nm,1.3s,mb4.6
HHC AMB AMB
comp=Z,77nm,6.2s
HHC LR LR
comp=N,96nm,15.1s,MS4.0
HHC LR LR
comp=E,94nm,12.9s,MS4.0
HHC LR LR
comp=Z,144nm,15.7s,MS4.0
CN2 Changchun 44.82 358 *eP* **P 16 55 33.3 +2.8**
MDJ Mudanjiang 45.62 2 P **P 16 55 37.8 +0.9**
MDJ AP pP 16 55 44.0 -3.8
MDJ XP sP 16 55 46.5 -5.7
MDJ PCP PcP 16 57 15.3 +0.5
MDJ S **S** **17 02 16.5 -0.4**
MDJ SS SS 17 05 40.5 -1.1
MDJ AMB AMB
comp=Z,12nm,1.3s,mb4.7
MDJ AMB AMB
comp=Z,25nm,3.8s
MDJ LR LR
comp=N,56nm,21.9s,MS3.7
MDJ LR LR
comp=E,64nm,19.7s,MS3.7
MDJ LR LR
comp=Z,93nm,16.8s,MS3.8
MDJ Mudanjiang 45.62 2 *eP* **P 16 55 36.5 -0.4**
comp=Z,30nm,1.4s,mb5.0
LSA Lhasa 46.44 314 P **P 16 55 45.3 +1.7**
LSA Lhasa 46.44 314 *eP* **P 16 55 44.9 +1.3**
LSA pmax pmax
comp=Z,18nm,0.8s,mb5.0
LSA Lhasa 46.44 314 *eP* **P 16 55 44.9 +1.3**
comp=Z,18nm,0.8s,mb5.1
GTA Gaotai 47.78 331 ⇓P **P 16 55 54.3 +0.4**
GTA AP pP 16 56 03.8 -1.0
GTA XP sP 16 56 07.8 -1.5
GTA PCP PcP 16 57 24.5 +2.0
GTA PP PP 16 57 45.3 -0.7
GTA SCP ScP 17 01 14.8 +0.7
GTA S **S** **17 02 46.0 -1.9**
GTA XS sS 17 03 02.0 -4.0
GTA SCS ScS 17 05 45.8 +1.3
GTA AMB AMB
comp=Z,38nm,1.2s,mb5.3
GTA AMB AMB
comp=Z,136nm,5.3s
GTA LR LR
comp=N,100nm,15.6s,MS4.0
GTA LR LR
comp=E,70nm,17.1s,MS4.0
GTA LR LR
comp=Z,89nm,17.5s,MS3.8
JIRN Jiri 49.07 309 *eP* **P 16 56 04.4 +0.3**
GUN Gumba 49.43 309 *eP* **P 16 56 07.1 +0.3**
PKI Pulchoki 49.64 308 *eP* **P 16 56 08.3 -0.1**

YSS Yuzh-Sakhalins 49.73 14⇑ *eP* **P 16 56 08.6 -0.1**
YSS pmax pmax
comp=Z,19nm,1.6s,mb4.9
YSS Yuzh-Sakhalins 49.73 14 *eP* **P 16 56 08.8 +0.1**
comp=Z,23nm,1.4s,mb5.0
KKN Kakani 49.84 309 *eP* **P 16 56 09.9 0.0**
comp=Z,21nm,0.6s,mb5.3
HABR Khabarovsk 49.86 6 *eP* **P 16 56 08.9 -0.8**
HABR *e* 16 56 22.5
HABR *e* 16 57 29.0
HABR *e* 16 58 03.5
HABR *e*S **S** **17 03 18.3 +1.3**
HABR *e* 17 03 35.1
HABR *e* 17 05 58.2
HABR *e* 17 08 16.9
DMN Daman 49.89 308 *eP* **P 16 56 10.4 +0.1**
comp=Z,56nm,1.0s,mb5.5
KLR Kul'dur 50.33 3 *eP* **P 16 56 09.8 -3.4**
KLR *e* 16 57 29.0
GKN Gorkha 50.44 309 *eP* **P 16 56 14.2 -0.3**
HIA Hailar 50.70 353 *eP* **P 16 56 16.0 -0.1**
HIA pmax pmax
comp=Z,26nm,1.5s
HIA Hailar 50.70 353 *eP* **P 16 56 15.9 -0.1**
comp=Z,26nm,1.5s,mb4.9
KOLN Koldanda 51.15 308 *eP* **P 16 56 20.2 +0.3**
comp=Z,76nm,0.7s,mb5.7
DANN Dangsing 51.29 308 *eP* **P 16 56 21.0 +0.1**
comp=Z,132nm,0.9s,mb5.9
HYB Hyderabad 51.77 293 *eP* **P 16 56 24.5 -0.1**
HYB Hyderabad 51.77 293⇑ *i*P **P 16 56 24.5 -0.1**
ULN Ulaanbaatar 52.04 343 *eP* **P 16 56 26.2 +0.1**
ULN *e* 16 57 39.0
SONM Songino Array 52.21 342 P **P 16 56 27.4 0.0**
SONM 16 57 38.8
SONM Songino Array 52.21 342 P **P 16 56 27.4 0.0**
SONM PcP PcP 16 57 38.8 +0.2
SONM LR LR 17 21 49.5
SONM Songino Array 52.21 342 P **P 16 56 27.4 0.0**
comp=Z,9.3nm,0.7s,mb4.8,baz=154,slow=7.5,SNR=58
SONM PcP PcP 16 57 38.8 +0.2
comp=Z,3.7nm,0.9s,baz=145,slow=2.9,SNR=6.6
SONM LR LR 17 21 49.5
comp=Z,46nm,20.3s,MS3.5,baz=145,slow=40
DDI Dehra Dun 56.63 308 *ex* x 16 57 00.0
WMQ Urumqi 57.27 326 P **P 16 57 04.0 -0.1**
WMQ XP sP 16 57 18.0 -1.7
WMQ PP PP 16 59 13.0 +1.4
WMQ S **S** **17 04 56.0 -1.6**
WMQ AMB AMB
comp=Z,45nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,94nm,5.0s
WMQ LR LR
comp=N,102nm,15.0s,MS4.2
WMQ LR LR
comp=E,87nm,15.0s,MS4.2
WMQ LR LR
comp=Z,86nm,14.0s,MS4.0
MOY Mondy 57.28 341 *eP* **P 16 57 05.2 +1.2**
MOY pmax pmax
comp=Z,38nm,1.6s,mb5.2
BOD Bodaibo 59.82 352 *eP* **P 16 57 21.2 -0.4**
BOD pmax pmax
comp=Z,11nm,1.5s,mb4.7
PET Petropavlovsk 59.90 21⇑ *eP* **P 16 57 22.7 +0.5**
PET pmax pmax
comp=Z,30nm,1.4s,mb5.1
MK31 Makanchi Array 62.10 326 *i* P **P 16 57 36.8 -0.6**
MK31 pmax pmax
comp=Z,5.0nm,0.4s,mb5.0
MKAR Makanchi Array 62.10 326 P **P 16 57 37.1 -0.3**
MKAR 16 58 17.0
MKAR Makanchi Array 62.10 326 P **P 16 57 37.1 -0.3**
comp=Z,7.5nm,0.5s,mb5.0,baz=114,slow=8.1,SNR=99
MKAR PcP PcP 16 58 16.9 -0.4
comp=Z,6.0nm,0.9s,baz=111,slow=6.0,SNR=4.3
MKAR LR LR 17 26 31.3
comp=Z,58nm,19.2s,MS3.8,baz=248,slow=38
KSH Kashi 62.19 317 *eP* **P 16 57 39.5 +1.5**
KSH *e*AP pP 16 57 49.5 +0.2
KSH *e*PCP PcP 16 58 18.0 +0.1
KSH *e*PP PP 16 59 58.3 +3.0
KSH *e*SCP ScP 17 02 16.3 -0.8
KSH *e*PCS PcS 17 02 19.3 -1.7
KSH *e*S **S** **17 06 01.3 +0.2**
KSH *e*XS sS 17 06 18.0 -1.8
KSH *e*SCS ScS 17 07 24.0 -3.4
KSH LR LR
comp=Z,400nm,4.4s
YAK Yakutsk 63.05 1 *d i*P **P 16 57 43.6 +0.2**
YAK pmax pmax
comp=Z,17nm,0.8s,mb5.2
YAK pmax pmax
comp=N,12nm,1.3s
YAK Yakutsk 63.05 1 *eP* **P 16 57 43.1 -0.3**
comp=N,36nm,0.6s,mb5.7
MA2 Magadan 63.22 13 *eP* **P 16 57 46.7 +2.2**
MA2 pmax pmax
comp=Z,30nm,1.2s,mb5.3
MA2 Magadan 63.22 13 *eP* **P 16 57 44.2 -0.3**
KZA Kyzart 63.86 319 P **P 16 57 50.2 +1.1**
SNR=24
TKM2 Tokmak 2 64.04 320 P **P 16 57 50.5 +0.3**
SNR=19
KBK Karagaybulak 64.33 319 P **P 16 57 53.1 +0.8**
SNR=10
UCH Uchtor 64.42 319 P **P 16 57 53.6 +0.8**
SNR=22
AAK Ala-Archa 64.62 319 P **P 16 57 54.0 -0.1**
SNR=8.2
CHMS Chumysh 64.62 320 P **P 16 57 54.4 +0.3**
SNR=6.0
FRU Bishkek 64.63 319 *eP* **P 16 57 54.0 -0.2**
FRU *e* 16 58 21.4
USP Ospenovka 64.91 320 P **P 16 57 55.9 0.0**
SNR=28
AML Almayashu 64.92 318 P **P 16 57 56.6 +0.5**
SNR=24
EKS2 Erkin-Say 65.10 319 P **P 16 57 58.1 +0.9**
SNR=22
ZAA0 Zalesovo Array 65.36 334 *eP* **P 16 57 57.0 -1.7**
ZALV Zalesovo Beam 65.36 334 P **P 16 57 56.8 -1.8**
comp=Z,20nm,1.1s,mb5.1,baz=107,slow=5.1,SNR=18
ZAL Zalesovo 65.36 334 P **P 16 57 56.8 -1.8**
CASY Casey 66.10 187 P **P 16 57 54.6 -8.6**
KURK Kurchatov 66.36 328 *eP* **P 16 58 04.3 -0.9**
KURK pmax pmax
comp=Z,89nm,1.2s,mb5.7
KURK Kurchatov 66.36 328 *eP* **P 16 58 04.3 -0.8**
comp=Z,89nm,1.2s,mb5.7
KURK *e*PP PP 17 00 19.6 -12
NVS Novosibirsk 66.64 334⇓ *i*P **P 16 58 05.1 -1.8**
NVS *i* S S 17 06 53.1 -2.5
NVS pmax pmax
comp=N,39nm,1.5s
NVS pmax pmax
comp=E,35nm,1.5s
NVS pmax pmax
comp=Z,52nm,1.5s,mb5.3
NVS smax
comp=N,12nm,2.0s
NVS smax
comp=E,19nm,1.8s
KK31 Karatay Array 67.45 318 *i* P **P 16 58 11.9 -0.4**
KK31 pmax pmax
comp=Z,18nm,0.8s,mb5.2
BRVK Borovoye 71.99 328 *eP* **P 16 58 39.2 -0.8**
BRVK pmax pmax
comp=Z,67nm,1.3s,mb5.4
BRVK Borovoye 71.99 328 *eP* **P 16 58 39.2 -0.9**
comp=Z,67nm,1.3s,mb5.4
ZRNK Zerenda 72.63 327 *i* P **P 16 58 42.3 -1.5**
TIXI Tiksi 72.70 0 *eP* **P 16 58 41.0 -2.9**
TIXI pmax pmax
comp=Z,18nm,1.3s,mb4.8
TIXI Tiksi 72.70 0 *eP* **P 16 58 42.8 -1.1**
comp=Z,7.2nm,0.6s,mb4.8
ABKT Ailbek 74.70 310 P **P 16 58 56.7 +0.4**
comp=Z,119nm,1.2s,mb5.7,SNR=9.6
VNDA Vanda 78.48 173 P **P 16 59 16.2 -0.7**
comp=Z,2.2nm,0.9s,mb4.1,baz=297,slow=6.6,SNR=9.1
SVE Sverdlovsk 78.60 329 *eP* **P 16 59 17.4 -0.6**
SVE pmax pmax
comp=Z,43nm,0.9s,mb5.4

ARU Arti 79.56 328 P **P 16 59 22.8 -0.4**
comp=Z,166nm,1.0s,mb5.9,SNR=5.6
ARU Arti 79.56 328 *d i*P **P 16 59 21.7 -1.5**
ARU *e* 17 02 19.3
ARU *e*PPP 17 04 08.4
ARU *e*S S 17 09 21.0 -1.1
ARU pmax pmax
comp=Z,51nm,1.7s,mb5.2
ARU Arti 79.56 328 *eP* **P 16 59 21.9 -1.3**
comp=Z,22nm,0.9s,mb5.1
SOKR Solikamsk 81.41 331 *d i*P **P 16 59 32.7 -0.4**
SOKR pmax pmax
comp=Z,40nm,1.2s,mb5.2
RDF Al-Radifah 81.91 299 *eP* **P 16 59 35.6 -0.8**
RDF AMb AMB 16 59 39.5
comp=Z,25nm,1.0s,mb5.1
MIB Mutribah 82.18 300 *eP* **P 16 59 36.6 -1.2**
MIB AMb AMB 16 59 39.2
comp=Z,30nm,1.1s,mb5.2
NAY Al-Naaiem 82.21 300 *eP* **P 16 59 34.8 -3.1**
NAY AMb AMB 16 59 39.2
comp=Z,19nm,0.9s,mb5.0
PPT Papeete 82.75 107 LR LR 17 33 32.6
comp=Z,216nm,18.7s,MS4.5,baz=292,slow=33
TTA Tatalina 84.83 27 *eP* **P 16 59 52.9 +2.2**
TTA pmax pmax
comp=Z,1.0nm,0.3s,mb4.4
TTA Tatalina 84.83 27 *eP* **P 16 59 52.9 +2.2**
comp=Z,1.3nm,0.3s,mb4.5
GNI Garni 85.33 310⇑ *eP* **P 16 59 53.4 -0.3**
GNI pmax pmax
comp=Z,10.0nm,1.7s
KIV Kislovodsk 87.18 314 *c i*P **P 17 00 02.7 0.0**
KIV pmax pmax
comp=Z,16nm,1.7s,mb5.0
SYO Syowa Base 88.22 201⇓ *eP* **P 17 00 07.0 -0.1**
KMBO Kilima Mbogo 90.38 269 P **P 17 00 18.3 -0.2**
KMBO pmax pmax
comp=Z,7.0nm,1.0s
KMBO Kilima Mbogo 90.38 269 P **P 17 00 18.3 -0.2**
comp=Z,6.6nm,1.0s,mb4.9
ANN Anapa 90.98 315 *eP* **P 17 00 18.4 -2.2**
ANN pmax pmax
comp=Z,20nm,1.2s,mb5.3
OBN Obninsk 91.58 325⇓ *i*P **P 17 00 21.8 -1.3**
OBN *e*S S 17 10 56.7 -24
OBN *e*PS PS 17 13 13.7 +39
OBN pmax pmax
comp=Z,16nm,0.6s,mb5.5
ARCES ARCESS Array B 95.34 340 P **P 17 00 38.7 -1.4**
comp=Z,4.2nm,0.8s,mb4.9,baz=90,slow=5.0,SNR=4.5
ARCES LR LR 17 46 43.7
comp=Z,42nm,18.5s,MS3.9,baz=40,slow=38
AKASG Malin Array Be 96.25 321 LR LR 17 49 10.8
comp=Z,25nm,18.6s,MS3.7,baz=35,slow=39
FINES FINESS Array B 96.56 332 LR LR 17 45 53.7
comp=Z,39nm,18.4s,MS3.9,baz=8.3,slow=36
BOSA Boshof 100.32 241 LR LR 17 41 14.3
comp=Z,57nm,18.5s,MS4.1,baz=323,slow=32
TXAR Lajitas Array 123.74 55 PKP PKPdf 17 06 17.4 +2.6
comp=Z,0.6nm,0.8s,baz=204,slow=2.7,SNR=6.2
TORD Torodi Ar. Bea 125.21 285 PKP PKPdf 17 06 19.1 +1.2
comp=Z,1.8nm,1.1s,baz=28,slow=0.5,SNR=4.6
SCHQ Schefferville 125.21 10 PKP PKPdf 17 06 19.0 +2.2
comp=Z,1.8nm,0.7s,baz=282,slow=7.8,SNR=3.4
LCO Las Campanas 145.22 151 *e*PKPdf PKPdf 17 06 55.4 +0.7
CPUP Villa Florida 152.24 170 PKP PKPdf 17 07 08.3 +2.2
comp=Z,0.7nm,0.4s,baz=243,slow=3.8,SNR=3.3
CPUP PKPbc PKPbc 17 07 13.9 +1.1
comp=Z,5.1nm,0.8s,baz=146,slow=2.2,SNR=9.7
LPAZ La Paz 156.68 139 PKP PKPdf 17 07 14.9 +2.5
comp=Z,2.0nm,1.1s,baz=254,slow=5.6,SNR=5.5

MAN 31 16:47:25, 1827N×12255E, h15km, mb4.5, ML3.4, MS3.3, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SGCP	**Mt. Cagua**	**0.48**	**267**	*eP*	Pg	16 47 34.9	+0.4
PALP	**Palanan**	**1.20**	**186**⇑	*i*P	Pn	16 47 46.5	-0.7
PALP				*i* S	Sb	16 48 03.1	+0.3
APYP	**Conner**	**1.30**	**252**	*eP*	Pn	16 47 48.0	-0.7
CAUP	**Cauayan**	**1.48**	**208**	*eP*	Pn	16 47 52.1	+0.9
ABRA	**Dolores**	**1.85**	**251**	*eP*	Pn	16 47 56.4	+0.1
BALP	**Baler**	**2.68**	**200**	*eP*	Pn	16 48 08.4	+0.9

MAN 31 16:59:09, 1106N×12408E, h1km, mb3.9, ML2.6, MS2.2, 1C, Leyte

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OCLP	**Ormoc**	**0.52**	**91**	*eP*	Pg	16 59 19.5	+0.6
OCLP				*e*S	Sg	16 59 27.5	+1.8
LLP	**Lapu-Lapu**	**0.74**	**189**⇑	*e*P	Pg	16 59 23.7	+0.4
LLP				*e*S	Sg	16 59 31.9	-1.1
MSLP	**Maasin**	**1.19**	**140**	*e*P	Pg	16 59 32.4	+0.5
GUIM	**Jordan**	**1.53**	**254**	*e*P	Pn	16 59 37.3	-0.2
CNP	**Cataman**	**1.55**	**21**	*e*P	Pn	16 59 37.4	-0.3
OTRP	**Odiongan**	**2.40**	**303**	*e*P	Pn	16 59 50.2	+0.8

IDC 31 17:19:17.1±2.1, 119N×12647E, h0km, mb3.5/3, mb1 3.7/3, mb1mx3.4/15, mbtmp3.5/3, Error ellipse: s-maj=183.5km s-min=25.3km az=66.0, Northern Molucca Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**22.37**	**160**	P	P	17 24 16.2	-0.9
	1.6nm,0.6s,baz=339,slow=11,SNR=9.5						
ASAR	**Alice Springs**	**25.74**	**164**	P	P	17 24 50.2	+0.7
	0.4nm,0.4s,baz=341,slow=7.9,SNR=15						
MKAR	**Makanchi Array**	**59.50**	**326**	P	P	17 29 22.1	0.0
	0.1nm,0.3s,baz=108,slow=7.5,SNR=6.0						

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*ISCJB **31** 17:25:58.0±0.6, 686N±006×7297W±006, h174km±6km, mb3.1/2, Error ellipse: s-maj=11.4km s-min=6.8km az=135.8*

*FUNV **31** 17:25:58.0, 676N×73.18W, h168km, MW3.6*

*IDC **31** 17:25:58.8±1.0, 692N×73.11W, h150km±49km, mb2.9/2, mb1 3.4/4, mb1mx3.1/21, mbtmp3.2/4, Error ellipse: s-maj=111.9km s-min=7.7km az=133.0*

ISC 31 17:25:59.1±0.6, 686N±006×7298W±006, h166km±7km, n20, σ0°86/29, mb3.1/2, 10C, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.20**	**33**⇑	*i*P	**Pn**	**17 26 27.8**	**+0.8**
CAPV				*e*S	**Sn**	**17 26 49.0**	**+0.5**
ROSC	**El Rosal**	**2.40**	**214**	P	**Pn**	**17 26 39.9**	**+0.1**
	37nm,0.3s,baz=279,slow=10,SNR=42						
ROSC				S	**Sn**	**17 27 10.2**	**-1.1**
	69nm,0.3s,baz=76,slow=19,SNR=16						
SOCV	**Socops**	**2.54**	**56**⇑	*i*P	**Pn**	**17 26 42.5**	**+1.1**
SOCV				*e*S	**Sn**	**17 27 14.2**	**0.0**
VIGV	**El Vigia**	**2.54**	**39**⇑	*i*P	**Pn**	**17 26 42.2**	**+0.8**
VIGV				*e*S	**Sn**	**17 27 13.9**	**-0.3**
SDV	**Santo Domingo**	**3.08**	**49**	P	**Pn**	**17 26 49.1**	**+1.2**
	14nm,0.3s,baz=252,slow=14,SNR=59						
SDV				S	**Sn**	**17 27 26.4**	**+0.4**
	22nm,0.3s,baz=294,slow=20,SNR=27						
ELOV	**Elorza**	**3.47**	**87**⇑	*i*P	**Pn**	**17 26 53.8**	**+0.9**
ELOV				*e*S	**Sn**	**17 27 35.1**	**+0.3**
VIRV	**Villa del Rosa**	**3.67**	**9**⇑	*i*P	**Pn**	**17 26 54.5**	**-1.0**
VIRV				*e*S	**Sn**	**17 27 36.7**	**-2.7**
QARV	**Quebrada Arrib**	**4.12**	**36**⇑	*i*P	**Pn**	**17 27 02.0**	**+0.8**
QARV				*e*S	**Sn**	**17 27 49.5**	**-0.4**
SANV	**Sanarito**	**4.30**	**52**	*e*P	**Pn**	**17 27 04.1**	**+0.4**
CURV	**Curarigua**	**4.33**	**43**⇑	*i*P	**Pn**	**17 27 04.3**	**+0.3**
DABV	**Dabajuro**	**4.66**	**30**⇑	*i*P	**Pn**	**17 27 08.6**	**+0.3**
TEPV	**Terepaima**	**4.85**	**50**⇑	*i*P	**Pn**	**17 27 11.2**	**+0.4**
SIQV	**Siquisique**	**4.90**	**39**⇑	*i*P	**Pn**	**17 27 11.4**	**0.0**
BAUV	**El Baul**	**5.31**	**67**	*e*P	**Pn**	**17 27 16.4**	**-0.4**
BAUV				*e*S	**Sn**	**17 28 15.3**	**-2.4**
TURV	**Turiamo**	**6.21**	**55**	*e*P	**Pn**	**17 27 28.2**	**-0.4**
CAOV	**Caicara del Or**	**6.62**	**86**	*e*P	**Pn**	**17 27 33.1**	**-1.0**
CUPV	**Cepira**	**7.79**	**65**	*e*P	**Pn**	**17 27 48.6**	**-1.0**
TXAR	**Lajitas Array**	**36.55**	**312**	P	**P**	**17 32 49.4**	**+0.4**
	0.3nm,0.7s,mb3.1,baz=126,slow=9.2,SNR=5.1						
PSMN	**Pico do Norte,**	**52.85**	**48**	*e*S	**S**	**17 42 09.6**	**-4.2**
YKA	**Yellowknife Ar**	**63.28**	**340**	P	**P**	**17 36 10.1**	**+0.3**

0.2nm,0.6s,mb3.2,baz=134,slow=6.7,SNR=6.7

MEX 31 17:32:40.3±1.6, 1807N×10010W, h49km±23km, MD3.8, Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MEIG	**Mezcala**	**0.48**	**108**	*i* P	Pn	17 32 49.6	-1.6
MEIG				*i* S	Sn	17 32 57.8	-1.2
PLIG	**Platanillo**	**0.65**	**60**	*i* P	Pn	17 32 51.5	-1.9
PLIG				*i* S	Sn	17 33 00.9	-1.9
CAIG	**El Cayaco**	**1.03**	**189**	*i* P	Pn	17 32 56.5	-1.9
CAIG				*i* S	Sn	17 33 10.7	-1.1
ACX	**Acapulco**	**1.21**	**172**	*i* P	Pn	17 32 59.0	-1.9
ACX				*i* S	Sn	17 33 12.4	-3.7
ZIIG	**Zihuatanejo**	**1.38**	**251**	*i* P	Pn	17 33 02.7	-0.5
ZIIG				*i* S	Sn	17 33 16.8	-3.5
MZVM		**1.38**	**36**	*i* P	Pn	17 33 02.1	-1.1
MZVM				*i* S	Sn	17 33 19.3	-1.1
PPM	**Popocatepetl**	**1.71**	**54**	*eP*	Pn	17 33 05.0	-2.7
PPM				*i* P		17 33 05.4	
PPM				*i* S	Sn	17 33 28.1	-0.3
UTMO	**Huajuapan**	**2.20**	**96**	*i* P	Pn	17 33 13.2	-1.1
UTMO				*i* S	Sn	17 33 37.9	-2.4

*ISCJB **31** 17:38:05.8±1.3, 761S±004×12806E±005, h15km±9km, mb4.9/55, MS3.8/17, Error ellipse: s-maj=8.3km s-min=6.0km az=161.7*
*BJI **31** 17:38:06.8, 760S×12790E, h37km, mB5.0, mb5.0, Ms4.5, Msz4.2*
*NEIC **31** 17:38:06.9±4.9, 757S×12788E, h7km±31km, mb4.8/21, Error ellipse: s-maj=14.6km s-min=9.6km az=72.0*
*MOS **31** 17:38:11.4±1.5, 768S×12784E, h60km, mb5.0/22, Error ellipse: s-maj=18.1km s-min=7.4km az=109.3*
*IDC **31** 17:38:14.0±2.9, 752S×12786E, h54km±27km, mb4.3/11, mb1 4.4/13, mb1mx4.3/17, mbtmp4.4/13, ML4.7/1, MS3.6/10, Ms1 3.6/10, ms1mx3.5/18, Error ellipse: s-maj=19.6km s-min=12.2km az=71.0*

ISC 31 17:38:09.2±1.3, 758S±004×12807E±005, h21km±9km, h36km±1.3km: pP-P, n116, σ1§11/132, mb4.9/55, MS3.8/17, 6C-2D, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
AAI	**Ambon**	**3.87**	**2**	P	**Pn**	**17 39 05.7**	**-1.8**
	324nm,0.8s						
BATI	**Kupang**	**5.08**	**239**	P	**Pn**	**17 39 25.9**	**+1.8**
	33nm,0.3s,baz=101,slow=1.8,SNR=54						
BATI				S	**Sn**	**17 40 21.8**	**-0.3**
	14nm,0.3s,baz=118,slow=20,SNR=6.9						
BATI				LR	LR	17 40 56.3	
	comp=Z,709nm,18.7s,baz=256,slow=33						
KDI	**Kendari**	**6.51**	**303**	P	**Pn**	**17 39 42.9**	**-0.9**
	71nm,0.7s						
KAKA	**Kakadu**	**6.67**	**140**	*e*P	**Pn**	**17 39 50.7**	**+4.7**
	58nm,0.4s						
KAKA				*e*S	**Sn**	**17 41 07.1**	**+5.8**
KAKA	**Kakadu**	**6.67**	**140**	*e*Pn	**Pn**	**17 39 50.5**	**+4.5**
	117nm,0.4s						
KAKA				*e*Sn	**Sn**	**17 41 01.9**	**+0.5**
KAPI	**Kappang**	**8.65**	**287**	P	**Pn**	**17 40 14.1**	**+0.8**
	2.6nm,0.3s,baz=19,slow=21,SNR=6.3						
KAPI				S	**Sn**	**17 41 45.1**	**-5.2**
	2.6nm,0.3s,baz=174,slow=14,SNR=2.9						
PCI	**Palu**	**10.55**	**309**	P	**Pn**	**17 40 41.3**	**+2.0**
	46nm,1.1s						
FITZ	**Fitzroy Crossi**	**10.72**	**193**	*e*P	**Pn**	**17 40 41.1**	**-0.5**
	27nm,0.7s						
FITZ				*e*S	**Sn**	**17 42 35.1**	**-6.0**
FITZ	**Fitzroy Crossi**	**10.72**	**193**	*e*Pn	**Pn**	**17 40 41.6**	**0.0**
	20nm,0.6s						
FITZ				*e*Sn	**Sn**	**17 42 33.0**	**-8.1**
FITZ	**Fitzroy Crossi**	**10.72**	**193**	P	**Pn**	**17 40 41.0**	**-0.6**
	2.3nm,0.3s,baz=25,slow=13,SNR=52						
FITZ				S	**Sn**	**17 42 33.7**	**-7.3**
	2.6nm,0.3s,baz=85,slow=18,SNR=5.6						
FITZ				LR	LR	17 45 25.9	
	comp=Z,332nm,18.9s,baz=15,slow=40						
WRAB	**Tennant Creek**	**13.70**	**154**	*e*P	**Pn**	**17 41 22.0**	**-0.4**
WRAB				*e*		17 43 46.8	
WRAB				pmax	pmax		
	comp=Z,29nm,0.6s						
WRAB	**Tennant Creek**	**13.70**	**154**	*e*Pn	**Pn**	**17 41 21.9**	**-0.4**
	comp=Z,29nm,0.6s						
WRAB				*e*Sn	**Sn**	**17 43 46.8**	**-7.2**
WRA	**Warramunga Arr**	**13.71**	**154**	P	**Pn**	**17 41 21.8**	**-0.6**
	comp=Z,4.4nm,0.3s,baz=321,slow=14,SNR=62						
WRA				S	**Sn**	**17 43 45.0**	**-9.1**
	comp=Z,3.0nm,0.3s,baz=326,slow=23,SNR=16						
WB2	**Warramunga Arr**	**13.71**	**154**	*e*P	**Pn**	**17 41 21.9**	**-0.6**
WB2				*e*S	**Sn**	**17 43 46.1**	**-8.2**
MBWA	**Marble Bar**	**15.72**	**210**	*e*Pn	**Pn**	**17 41 46.0**	**-3.5**
	comp=Z,34nm,1.0s						
MBWA				*e*Sn	**Sn**	**17 44 31.8**	**-11**
ASAR	**Alice Springs**	**16.94**	**161**	P	**Pn**	**17 42 03.8**	**-1.3**
ASAR				S	**Sn**	**17 45 01.3**	**-12**
ASAR				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAR				smax			
	comp=N,1.0nm,0.3s						
ASAR	**Alice Springs**	**16.94**	**161**	P	**Pn**	**17 42 03.8**	**-1.2**
	comp=N,1.7nm,0.3s,baz=328,slow=9.6,SNR=127						
ASAR				S	**Sn**	**17 45 01.3**	**-12**
	comp=N,0.6nm,0.3s,baz=329,slow=18,SNR=3.7						
TPI	**Tanjungpandan**	**20.89**	**282**	P	**P**	**17 42 52.2**	**+1.9**
	comp=N,31nm,1.1s						
CTA	**Charters Tower**	**21.56**	**127**	*e*P	**P**	**17 43 02.1**	**+4.7**
	comp=N,12nm,1.4s,mb4.1						
CTA	**Charters Tower**	**21.56**	**127**	*e*P	**P**	**17 43 02.1**	**+4.7**
CTA				pmax	pmax		
	comp=Z,12nm,1.4s						
CTA	**Charters Tower**	**21.56**	**127**	P	**P**	**17 43 01.9**	**+4.5**
	comp=Z,5.4nm,0.6s,mb4.1,baz=289,slow=15,SNR=7.9						
CTAO	**Charters Tower**	**21.56**	**127**	*e*P	**P**	**17 43 01.7**	**+4.3**
CTAO				pmax	pmax		
	comp=Z,34nm,1.3s,mb4.6						
CTAO	**Charters Tower**	**21.56**	**127**	*e*Pn	**P**	**17 43 01.7**	**+4.3**
	comp=Z,34nm,1.3s,mb4.6						
FORT	**Forrest**	**23.08**	**180**	*e*P	**P**	**17 43 15.7**	**+2.2**
	comp=Z,18nm,0.6s,mb4.7						
FORT				*e*S	**S**	**17 47 26.4**	**+3.0**
KLBR	**Kellerberrin**	**25.76**	**201**	*e*P	**P**	**17 43 39.7**	**+1.3**
	comp=Z,71nm,1.3s,mb5.0						
KLBR				*e*S	S	17 48 26.9	+20
MUN	**Mundaring**	**26.67**	**203**	*e*P	**P**	**17 43 45.0**	**-1.7**
NWAO	**Narrogin (SRO)**	**27.15**	**200**	*e*P	**P**	**17 43 50.7**	**-0.3**
NWAO	**Narrogin (SRO)**	**27.15**	**200**	P	**P**	**17 43 52.2**	**+1.2**
	comp=Z,3.5nm,0.5s,mb4.2,baz=15,slow=9.2,SNR=12						
NWAO				LR	LR	17 55 46.8	
	comp=Z,70nm,18.7s,MS3.2,baz=281,slow=39						
STKA	**Stephens Creek**	**27.26**	**154**	*e*P	**P**	**17 43 54.6**	**+2.6**
	comp=Z,3.0nm,0.4s,mb4.2						
STKA	**Stephens Creek**	**27.26**	**154**	P	**P**	**17 43 54.8**	**+2.7**
	comp=Z,3.2nm,0.4s,mb4.2,baz=328,slow=8.0,SNR=13						
STKA				LR	LR	17 55 04.0	
	comp=Z,131nm,18.0s,MS3.5,baz=282,slow=37						
PSI	**Prapat**	**30.86**	**288**	P	**P**	**17 44 22.8**	**-1.5**
PSI				pmax	pmax		
	comp=Z,31nm,0.8s,mb5.2						
PSI				MLR	MLR		
	comp=Z,104nm,19.1s,MS3.5						
PSI	**Prapat**	**30.86**	**288**	P	**P**	**17 44 22.8**	**-1.5**
	comp=Z,31nm,0.8s,mb5.2,baz=127,slow=5.1,SNR=34						
PSI				LR	LR	17 57 51.2	
	comp=Z,104nm,19.1s,MS3.5,baz=326,slow=38						
PSI	**Prapat**	**30.86**	**288**	↑*e*P	**P**	**17 44 22.3**	**-2.0**
TSI	**Tuntungan**	**31.43**	**289**	P	**P**	**17 44 28.0**	**-1.3**
	comp=Z,59nm,1.5s,mb5.2						
NANT	**Nan**	**37.63**	**314**	↓↓P	**P**	**17 45 22.9**	**+0.1**
	comp=Z,136nm,1.0s,mb5.6						
CHG	**Chiang Mai**	**38.90**	**313**	P	**P**	**17 45 33.2**	**-0.3**
	comp=Z,29nm,1.0s,mb5.0						
CHTO	**Chiang Mai**	**38.90**	**313**	*e*P	**P**	**17 45 32.8**	**-0.7**
CHTO				pmax	pmax		
	comp=Z,13nm,0.9s,mb4.7						
CHTO	**Chiang Mai**	**38.90**	**313**	*e*P	**P**	**17 45 32.8**	**-0.7**
	comp=Z,13nm,0.9s,mb4.7						
GYA	**Guiyang**	**39.71**	**329**	↑*i*P	**P**	**17 45 41.3**	**+1.1**
GYA				XP	sP	17 45 47.5	-1.9
GYA				AP	pP	17 45 52.8	+6.1
GYA				PP	PP	17 47 17.3	+5.6
GYA				SCP	ScP	17 51 32.5	-2.0
GYA				S	**S**	**17 51 43.0**	**+0.2**
GYA				SCS	ScS	17 55 43.8	-3.4
GYA				AMB	AMB		
	comp=Z,20nm,0.8s,mb4.9						
GYA				AMB	AMB		
	comp=Z,120nm,5.9s						
GYA				LR	LR		
	comp=N,490nm,18.9s,MS4.5						
GYA				LR	LR		
	comp=E,460nm,19.2s,MS4.5						
GYA				LR	LR		
	comp=Z,470nm,19.6s,MS4.3						
WHN	**Wuhan**	**40.13**	**341**	*e*P	**P**	**17 45 45.0**	**+1.4**
NJ2	**Nanjing**	**40.38**	**348**	*e*P	**P**	**17 45 46.5**	**+0.8**
NJ2				AP	pP	17 45 58.5	+6.2
NJ2				PP	PP	17 47 25.3	+6.4
NJ2				S	**S**	**17 51 52.0**	**-0.7**
NJ2				AMB	AMB		
	comp=Z,30nm,1.2s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,90nm,4.6s						
NJ2				LR	LR		
	comp=N,510nm,22.3s,MS4.5						
NJ2				LR	LR		
	comp=E,520nm,18.4s,MS4.5						
NJ2				LR	LR		
	comp=Z,850nm,25.0s						
KMI	**Kunming**	**40.81**	**324**	P	**P**	**17 45 51.0**	**+1.7**
KMI				AP	pP	17 46 00.0	+4.1
KMI				XP	sP	17 46 05.3	+6.8
KMI				PP	PP	17 47 26.5	+2.8
KMI				S	**S**	**17 51 59.3**	**0.0**
KMI				AMB	AMB		
	comp=Z,14nm,1.3s,mb4.4						
KMI				AMB	AMB		
	comp=Z,65nm,5.4s						
KMI				LR	LR		
	comp=N,38nm,20.3s,MS3.5						
KMI				LR	LR		
	comp=E,51nm,22.4s,MS3.5						
KMI				LR	LR		
	comp=Z,69nm,16.7s						
KSRS	**Korea Array**	**44.80**	**360**	P	**P**	**17 46 23.0**	**+1.5**
KSRS				pmax	pmax		
	comp=Z,5.0nm,0.7s,mb4.5						
KSRS				MLR	MLR		
	comp=Z,34nm,18.9s,MS3.3						
KSRS	**Korea Array**	**44.80**	**360**	P	**P**	**17 46 22.9**	**+1.5**
	comp=Z,4.8nm,0.7s,mb4.4,baz=178,slow=9.9,SNR=31						
KSRS				LR	LR	18 04 23.0	
	comp=Z,34nm,18.9s,MS3.3,baz=346,slow=35						
CD2	**Chengdu**	**44.80**	**330**	*e*P	**P**	**17 46 22.3**	**+0.6**
CD2				AP	pP	17 46 33.3	+5.0
CD2				PP	PP	17 48 08.3	+1.7
CD2				S	**S**	**17 52 58.0**	**+0.1**
CD2				AMB	AMB		
	comp=Z,10.0nm,0.5s,mb4.9						
CD2				AMB	AMB		
	comp=Z,50nm,5.8s						
CD2				LR	LR		
	comp=N,100nm,13.2s						
CD2				LR	LR		
	comp=Z,90nm,12.0s,MS3.9						
MJAR	**Matsushiro Arr**	**44.91**	**12**	P	**P**	**17 46 22.1**	**-0.3**
MJAR				pmax	pmax		
	comp=Z,8.0nm,1.0s						
MJAR				MLR	MLR		
	comp=Z,50nm,20.1s						
MJAR	**Matsushiro Arr**	**44.91**	**12**	P	**P**	**17 46 22.1**	**-0.2**
	comp=Z,7.6nm,1.0s,mb4.5,baz=190,slow=8.9,SNR=15						
MJAR				LR	LR	18 04 16.4	
	comp=Z,50nm,20.1s,MS3.4,baz=205,slow=35						
MAJO	**Matsushiro**	**44.91**	**12**	*e*P	**P**	**17 46 21.5**	**-0.9**
MAJO				pmax	pmax		
	comp=Z,6.0nm,0.9s,mb4.4						
MAJO	**Matsushiro**	**44.91**	**12**	*e*P	**P**	**17 46 21.5**	**-0.9**
	comp=Z,6.3nm,0.9s,mb4.5						
MAT	**Matsushiro**	**44.91**	**12**	P	**P**	**17 46 21.3**	**-1.1**
XAN	**Xi'an**	**45.20**	**337**	P	**P**	**17 46 23.3**	**-1.4**
XAN				AP	pP	17 46 33.8	+2.4
XAN				AMB	AMB		
	comp=Z,7.0nm,0.8s,mb4.5						
BJT	**Baijiatuau**	**48.62**	**348**	*e*P	**P**	**17 46 51.2**	**-0.2**
BJT				pmax	pmax		
	comp=Z,6.0nm,0.5s						
BJT	**Baijiatuau**	**48.62**	**348**	*e*P	**P**	**17 46 51.2**	**-0.2**
	comp=Z,5.7nm,0.5s,mb4.9						
BJI	**Beijing**	**48.64**	**348**	P	**P**	**17 46 52.5**	**+1.0**
BJI				AMB	AMB		
	comp=Z,11nm,1.3s,mb4.7						
BJI				LR	LR		
	comp=N,76nm,14.3s,MS4.0						
BJI				LR	LR		
	comp=E,81nm,15.3s,MS4.0						
BJI				LR	LR		
	comp=Z,343nm,34.9s						
LZH	**Lanzhou**	**49.05**	**334**	*e*P	**P**	**17 46 56.3**	**+1.6**
LZH				AP	pP	17 47 05.8	+4.4
LZH				XP	sP	17 47 09.5	+5.4
LZH				AMB	AMB		
	comp=Z,73nm,1.5s,mb5.5						
LZH				AMB	AMB		
	comp=Z,288nm,4.0s						
HHC	**Hu-ho-hao-te**	**50.53**	**344**	*e*P	**P**	**17 47 06.8**	**+0.9**
HHC				AP	pP	17 47 16.8	+4.1
HHC				XP	sP	17 47 21.0	+5.7
HHC				PCP	PcP	17 48 24.0	+0.3
HHC				PP	PP	17 49 03.5	+1.5
HHC				SCP	ScP	17 52 17.3	-1.4
HHC				S	**S**	**17 54 18.5**	**-0.5**
HHC				XS	sS	17 54 34.5	+4.5
HHC				SCS	ScS	17 56 52.0	-3.8
HHC				AMB	AMB		
	comp=Z,20nm,1.1s,mb5.0						
HHC				AMB	AMB		
	comp=Z,81nm,5.0s						
HHC				LR	LR		
	comp=N,135nm,14.4s,MS4.2						
HHC				LR	LR		
	comp=E,109nm,14.1s,MS4.2						
HHC				LR	LR		
	comp=Z,121nm,13.7s,MS4.1						
VLA	**Vladivostok**	**50.58**	**4***c*	*i*P	**P**	**17 47 07.1**	**+0.8**
VLA				pmax	pmax		
	comp=Z,39nm,1.7s,mb5.1						
CN2	**Changchun**	**51.19**	**358**	*e*P	**P**	**17 47 10.3**	**-0.6**
CN2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**51.32**	**318**	P	**P**	**17 47 12.5**	**+0.4**
LSA	**Lhasa**	**51.32**	**318**	*e*P	**P**	**17 47 12.5**	**+0.4**
LSA				pmax	pmax		
	comp=Z,10.0nm,0.7s,mb4.8						
LSA	**Lhasa**	**51.32**	**318**	*e*P	**P**	**17 47 12.5**	**+0.4**
	comp=Z,9.8nm,0.7s,mb4.8						
MDJ	**Mudanjiang**	**51.97**	**1**	P	**P**	**17 47 17.8**	**+1.1**
MDJ				AP	pP	17 47 26.5	+3.1
MDJ				XP	sP	17 47 30.0	+4.0
MDJ				PCP	PcP	17 48 29.5	+0.5
MDJ				PP	PP	17 49 13.5	-1.5
MDJ				S	**S**	**17 54 41.0**	**+2.3**
MDJ				AMB	AMB		
	comp=Z,21nm,1.4s,mb4.9						
MDJ				AMB	AMB		
	comp=Z,70nm,7.3s						
MDJ				LR	LR		
	comp=Z,63nm,40.8s,MS3.3						
MDJ	**Mudanjiang**	**51.97**	**1**	*e*P	**P**	**17 47 17.4**	**+0.7**
	comp=Z,59nm,1.5s,mb5.3						
JIRN	**Jiri**	**53.55**	**313**	*e*P	**P**	**17 47 28.2**	**-0.5**
	comp=Z,58nm,1.1s,mb5.4						
GTA	**Gaotai**	**53.59**	**333**	↓↓*i*P	**P**	**17 47 30.0**	**+1.3**
GTA				AP	pP	17 47 40.0	+4.5
GTA				XP	sP	17 47 44.3	+6.2
GTA				S	**S**	**17 54 59.5**	**-1.5**
GTA				AMB	AMB		
	comp=Z,31nm,0.9s,mb5.2						
GTA				AMB	AMB		
	comp=Z,111nm,5.0s						
GTA				LR	LR		
	comp=N,42nm,14.1s,MS3.8						
GTA				LR	LR		
	comp=E,47nm,16.0s,MS3.8						
GTA				LR	LR		
	comp=Z,70nm,15.2s,MS3.8						
URZ	**Urewera**	**53.67**	**132**	P	**P**	**17 47 29.9**	**+0.4**
	comp=Z,3.0nm,0.4s,mb4.6,baz=253,slow=8.9,SNR=6.4						
GUN	**Gumba**	**53.91**	**313**	*e*P	**P**	**17 47 30.9**	**-0.5**
	comp=Z,86nm,1.1s,mb5.6						
PKI	**Pulchoki**	**54.07**	**312**	*e*P	**P**	**17 47 31.4**	**-1.1**
KKN	**Kakani**	**54.29**	**312**	*e*P	**P**	**17 47 33.2**	**-0.9**
	comp=Z,45nm,1.0s,mb5.3						
DMN	**Daman**	**54.31**	**312**	*e*P	**P**	**17 47 33.7**	**-0.6**
	comp=Z,60nm,1.1s,mb5.5						
GKN	**Gorkha**	**54.88**	**312**	*e*P	**P**	**17 47 37.4**	**-1.0**
KOLN	**Koldanda**	**55.52**	**311**	*e*P	**P**	**17 47 42.3**	**-0.7**
	comp=Z,53nm,0.9s,mb5.6						
DANN	**Dangsing**	**55.71**	**312**	*e*P	**P**	**17 47 43.4**	**-1.0**
	comp=Z,67nm,0.9s,mb5.7						
HABR	**Khabarovsk**	**56.15**	**6**	*e*P	**P**	**17 47 47.3**	**+0.2**
HABR				*e*		17 48 05.2	
HABR				*e*		17 48 41.7	
HABR				*e*		17 51 06.9	
HABR				*e*S	**S**	**17 55 35.9**	**+0.8**
HABR				*e*		17 55 59.0	
HABR				*e*		17 57 33.2	
HABR				*e*		17 59 23.6	
KLR	**Kul'dur**	**56.66**	**3**	*e*P	**P**	**17 47 47.2**	**-3.5**
KLR				pmax	pmax		
	comp=Z,45nm,1.6s,mb5.2						
HIA	**Hailar**	**57.08**	**354**	*e*P	**P**	**17 47 53.1**	**-0.6**
HIA				pmax	pmax		
	comp=Z,22nm,1.2s						
HIA	**Hailar**	**57.08**	**354**	*e*P	**P**	**17 47 53.1**	**-0.6**
	comp=Z,22nm,1.2s,mb5.1						
ULN	**Ulaanbaatar**	**58.25**	**343**	*e*P	**P**	**17 48 02.8**	**+0.8**
ULN				pmax	pmax		
	comp=Z,50nm,1.0s,mb5.5						
ULN	**Ulaanbaatar**	**58.25**	**343**	*e*P	**P**	**17 48 02.8**	**+0.8**
	comp=Z,50nm,1.0s,mb5.5						
SONM	**Songino Array**	**58.41**	**343**	P	**P**	**17 48 04.1**	**+1.0**
SONM				pmax	pmax		
	comp=Z,26nm,0.9s						
SONM				MLR	MLR		
	comp=Z,33nm,18.8s						
SONM	**Songino Array**	**58.41**	**343**	P	**P**	**17 48 04.1**	**+1.0**
	comp=Z,26nm,0.9s,mb5.3,baz=159,slow=5.8,SNR=168						
SONM				LR	LR	18 17 27.4	
	comp=Z,33nm,18.8s,MS3.5,baz=334,slow=40						
ZAK	**Zakamensk**	**61.61**	**342**	*e*P	**P**	**17 48 24.6**	**-0.4**
ZAK				pmax	pmax		
	comp=Z,7.0nm,1.2s,mb4.7						
TLY	**Talaya**	**62.65**	**343**	*e*P	**P**	**17 48 32.9**	**+0.9**
TLY				pmax	pmax		
	comp=Z,19nm,1.5s,mb5.0						
TLY	**Talaya**	**62.65**	**343**	*e*P	**P**	**17 48 32.6**	**+0.6**
WMQ	**Urumqi**	**62.86**	**328**	P	**P**	**17 48 34.0**	**+0.5**
WMQ				XP	sP	17 48 48.0	+5.1
WMQ				PP	PP	17 50 54.0	+1.9
WMQ				S	**S**	**17 56 58.0**	**-3.9**
WMQ				AMB	AMB		
	comp=Z,40nm,1.0s,mb5.5						
WMQ				AMB	AMB		
	comp=Z,62nm,5.0s						
WMQ				LR	LR		
	comp=N,52nm,15.0s,MS4.0						
WMQ				LR	LR		
	comp=E,61nm,14.0s,MS4.0						
WMQ				LR	LR		
	comp=Z,35nm,14.0s,MS3.7						
IRK	**Irkutsk**	**62.97**	**344**	*e*P	**P**	**17 48 33.9**	**-0.2**
IRK				pmax	pmax		
	comp=Z,48nm,1.4s,mb5.4						
MOY	**Mondy**	**63.44**	**342**	*e*P	**P**	**17 48 38.8**	**+1.6**
MOY				pmax	pmax		
	comp=Z,41nm,1.8s,mb5.3						
MKAR	**Makanchi Array**	**67.68**	**328**	P	**P**	**17 49 04.4**	**-0.3**
MKAR				pmax	pmax		
	comp=Z,2.0nm,0.4s						
MKAR	**Makanchi Array**	**67.68**	**328**	P	**P**	**17 49 04.4**	**-0.3**
	comp=Z,1.8nm,0.4s,mb4.5,baz=114,slow=7.9,SNR=43						
TKM2	**Tokmak 2**	**69.23**	**321**	*e*P	**P**	**17 49 13.8**	**-0.7**
TKM2				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
TKM2	**Tokmak 2**	**69.23**	**321**	*e*P	**P**	**17 49 13.8**	**-0.8**
	comp=Z,11nm,1.1s,mb4.7						
YAK	**Yakutsk**	**69.41**	**1**	*e*P	**P**	**17 49 14.6**	**-0.6**
YAK				pmax	pmax		
	comp=Z,18nm,0.9s,mb5.0						
YAK				pmax	pmax		
	comp=N,8.0nm,1.2s						
YAK	**Yakutsk**	**69.41**	**1**	*e*P	**P**	**17 49 14.8**	**-0.4**
	comp=N,19nm,0.6s,mb5.2						
UCH	**Uchtor**	**69.54**	**320**	*e*P	**P**	**17 49 17.0**	**+0.5**
	comp=N,1.7nm,0.9s,mb4.0						
AML	**Almayashu**	**70.01**	**320**	*e*P	**P**	**17 49 19.1**	**-0.2**
	comp=N,5.9nm,0.8s,mb4.6						
EKS2	**Erkin-Say**	**70.23**	**320**	*e*P	**P**	**17 49 20.7**	**0.0**
	comp=N,6.0nm,1.1s,mb4.4						
ZALV	**Zalesovo Beam**	**71.27**	**335**	P	**P**	**17 49 25.8**	**-1.0**
	comp=N,9.1nm,0.7s,mb4.8,baz=119,slow=4.3,SNR=30						
ZAL	**Zalesovo**	**71.27**	**335**	P	**P**	**17 49 25.8**	**-1.0**
ZAL				pmax	pmax		
	comp=Z,9.0nm,0.7s						
KURK	**Kurchatov**	**72.03**	**329**	↑*e*P	**P**	**17 49 30.6**	**-0.8**
KURK				*i* *PP	pP	17 49 57.0	+19
KURK	**Kurchatov**	**72.03**	**329**	*e*P	**P**	**17 49 30.4**	**-1.0**
	comp=Z,11nm,0.9s,mb4.8						
VNDA	**Vanda**	**72.11**	**173**	P	**P**	**17 49 33.2**	**+1.7**
VNDA				pmax	pmax		
	comp=Z,1.0nm,0.4s						
VNDA				MLR	MLR		
	comp=Z,92nm,20.3s						
VNDA	**Vanda**	**72.11**	**173**	P	**P**	**17 49 33.1**	**+1.6**
	comp=Z,0.9nm,0.3s,mb4.1,baz=322,slow=9.3,SNR=16						
VNDA				LR	LR	18 19 19.4	
	comp=Z,92nm,20.3s,MS4.0,baz=318,slow=34						
NVS	**Novosibirsk**	**72.56**	**335**	*e*P	**P**	**17 49 30.3**	**-4.2**
NVS				*e*S	S	17 58 53.5	-4.3
NVS				pmax	pmax		
	comp=N,11nm,1.4s						
NVS				pmax	pmax		
	comp=E,10.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,14nm,1.4s,mb4.7						
NVS				smax			
	comp=N,16nm,2.1s						
NVS				smax			
	comp=E,11nm,1.8s						
MAW	**Mawson**	**73.72**	**201**	LR	LR	18 16 11.4	
	comp=E,98nm,20.0s,MS4.1,baz=264,slow=31						
BRVK	**Borovoye**	**77.62**	**328**	*e*P	**P**	**17 50 01.0**	**-2.7**
BRVK				pmax	pmax		
	comp=Z,11nm,1.1s,mb4.7						
BRVK	**Borovoye**	**77.62**	**328**	*e*P	**P**	**17 50 01.0**	**-2.7**
	comp=Z,11nm,1.1s,mb4.7						
TIXI	**Tiksi**	**79.07**	**0**	↑*e*P	**P**	**17 50 10.8**	**-0.6**
TIXI				pmax	pmax		
	comp=Z,8.0nm,1.0s,mb4.6						
TIXI	**Tiksi**	**79.07**	**0**	*e*P	**P**	**17 50 10.0**	**-1.4**
	comp=Z,6.4nm,0.8s,mb4.6						
SYO	**Syowa Base**	**82.43**	**201**	↑*e*P	**P**	**17 50 21.7**	**-7.8**
OBN	**Obninsk**	**97.02**	**325**

*IDC **31** 18:05:38.0±3.1, 1796N×103.1±8W, h0km, mb3.8/4, mb1 4.0/5, mb1mx3.8/21, mbtmp3.7/5, ML3.4/1, Error ellipse: s-maj=51.9km s-min=43.5km az=53.0*
*ISCJB **31** 18:05:43.3±0.9, 1822N±006×10350W±004, h23km±5km, mb3.7/4, Error ellipse: s-maj=10.5km s-min=4.7km az=27.9*
*MEX **31** 18:05:45.6±0.7, 1821N×10349W, h6km±8km, MD4.5*
ISC 31 18:05:43.5±1.1, 1820N±006×10354W±004, h16km±4km, n20, σ1§45/32, mb3.7/4, Near coast of Michoacan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
MMIG	**Aquila**	**0.20**	**64**	*i* P	**Pn**	**18 05 48.3**	**0.0**
MMIG				*i* S	**Sg**	**18 05 51.3**	**-0.2**
CJM	**Chamela**	**1.93**	**312**	*i* P	**Pn**	**18 06 16.2**	**+0.7**
CJM				*i* S	**Sn**	**18 06 39.6**	**+0.2**
ZIIG	**Zihuatanejo**	**2.06**	**106**	*e*P	**Pn**	**18 06 16.0**	**-1.4**
ZIIG				*i* S	**Sn**	**18 06 42.8**	**+0.1**
MOIG	**Morelia**	**2.67**	**56**	*e*P	**Pn**	**18 06 24.4**	**-1.3**
MOIG				*i* S	**Sn**	**18 06 55.3**	**-2.4**
ANIG	**Ahuacatlan**	**2.99**	**342**	*i* P	**Pn**	**18 06 29.5**	**-0.7**
ANIG				*i* S	**Sn**	**18 07 05.7**	**+0.1**
CAIG	**El Cayaco**	**3.32**	**110**	*i* P	**Pn**	**18 06 33.6**	**-1.1**
CAIG				*i* S	**Sn**	**18 07 11.7**	**-2.2**
ACX	**Acapulco**	**3.70**	**110**	*i* P	**Pn**	**18 06 42.0**	**+2.0**
MEIG	**Mezcala**	**3.74**	**94**	*i* P	**Pn**	**18 06 41.5**	**+1.0**
MEIG				*i* S	**Sn**	**18 07 25.2**	**+1.0**
PLIG	**Platanillo**	**3.84**	**87**	*e*P	**Pn**	**18 06 43.3**	**+1.4**
PLIG				*e*S	**Sn**	**18 07 27.2**	**+0.5**
SZVM	**Salazar**	**4.09**	**73**	*i* P	**Pn**	**18 06 43.4**	**-2.0**
SZVM				*i* S	**Sn**	**18 07 29.6**	**-3.4**
YAIG	**Yautepec**	**4.29**	**80**	*i* S	**Sn**	**18 07 39.3**	**+1.5**
PPM	**Popocatepetl**	**4.74**	**79**	*e*P	**Pn**	**18 06 55.6**	**+1.4**
PPM				*e*P		18 06 56.0	
PPM				*i* S	**Sn**	**18 07 48.0**	**-0.8**
DEIG	**Demacu**	**4.74**	**63**	*i* P	**Pn**	**18 06 53.8**	**-0.4**
DEIG				*i* S	**Sn**	**18 07 49.4**	**+0.5**
LNIG	**Linares**	**7.67**	**29**	*i* P	**Pn**	**18 07 36.4**	**+1.9**
LNIG				*i* S	**Sn**	**18 09 04.8**	**+3.8**
CMIG	**Matias Romero**	**8.32**	**96**	*i* S	**Sn**	**18 09 19.2**	**+1.9**
TXAR	**Lajitas Array**	**11.08**	**359**	Pn	**Pn**	**18 08 24.1**	**+2.8**
	0.1nm,0.3s,baz=174,slow=18,SNR=8.6						
TXAR				Lg		18 11 36.2	
	baz=172,slow=32,SNR=3.3						
NVAR	**Mina Array Bea**	**23.92**	**330**	P	**P**	**18 10 58.4**	**+1.7**
	0.8nm,0.7s,mb3.3,baz=153,slow=11,SNR=8.5						
TKL	**Tuckaleechee C**	**24.67**	**41**	P	**P**	**18 11 01.3**	**-2.3**
	4.9nm,0.6s,mb4.2,baz=199,slow=11,SNR=7.3						
ULM	**Lac du Bonnet**	**32.56**	**9**	P	**P**	**18 12 11.1**	**-2.6**
	1.4nm,0.5s,mb4.2,baz=173,slow=8.0,SNR=3.5						
YKA	**Yellowknife Ar**	**44.92**	**353**	P	**P**	**18 13 55.1**	**-2.0**
	0.3nm,0.9s,mb3.1,baz=164,slow=7.1,SNR=3.9						

JMA 31 18:10:03.2±0.3, 2580N×12363E, h193km, M3.5, Northeast of Taiwan

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
YOJ	**Yonaguni jima**	**1.45**	**203**	P	Pn	18 10 36.2	+0.4
YOJ				S	Sn	18 11 01.9	+0.8
IRIF	**Iriomote-Funau**	**1.46**	**176**	P	Pn	18 10 35.8	-0.2
IRIF				S	Sn	18 11 01.4	+0.1
JIJ	**Ishigaki jima**	**1.50**	**162**	P	Pn	18 10 36.2	-0.2
JIJ				S	Sn	18 11 01.2	-0.8
JTJ	**Tarama**	**1.51**	**140**	P	Pn	18 10 37.0	+0.6
JTJ				S	Sn	18 11 02.7	+0.7
JKRS	**Kuro-shima**	**1.59**	**167**	P	Pn	18 10 37.3	+0.1
JKRS				S	Sn	18 11 03.7	+0.2
HATJ	**Hateruma jima**	**1.74**	**175**	P	Pn	18 10 39.0	+0.4
HATJ				S	Sn	18 11 05.5	-0.6
JMJ	**Miyako jima 2**	**1.80**	**123**	P	Pn	18 10 39.8	+0.7
JMJ				S	Sn	18 11 07.6	+0.7
JOGS	**Gusukube**	**1.91**	**122**	P	Pn	18 10 40.5	+0.2
JOGS				S	Sn	18 11 09.8	+0.8
JKE	**Kume jima 2**	**2.89**	**79**	P	Pn	18 10 50.3	-0.8
JKE				*e*S	Sn	18 11 25.9	-2.5
JAGN	**Aguni-jima**	**3.34**	**76**	P	Pn	18 10 55.1	-1.4
JAGN				S	Sn	18 11 35.0	-3.2
JIH	**Iheya**	**4.08**	**72**	P	Pn	18 11 03.5	-2.2
JIH				S	Sn	18 11 50.1	-4.6
JOW	**Kunigami**	**4.29**	**75**	P	Pn	18 11 06.1	-2.3

*THE **31** 18:34:13.3, 3584N×2286E, h3km, ML3.2*
*CSEM **31** 18:34:14.4±0.4, 3582N×2290E, h20km, ML3.2, Error ellipse: s-maj=14.7km s-min=5.7km az=44.0*
*ATH **31** 18:34:17.8, 3597N×2338E, h31km, MD3.3/4*
ISC 31 18:34:11.1±2.4, 357N±02×227E±02, h6km±13km, n9, σ1§41/10, Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**0.65**	**28**	*e*PB	**Pb**	**18 34 27.2**	**+2.3**
VLI	**Veliai**	**1.03**	**13**	*e*PN	**Pn**	**18 34 34.0**	**+1.9**
KARN	**Karanos**	**1.07**	**106**	*e*Pg	**Pg**	**18 34 31.4**	**-0.3**
KARN				*e*Sg	**Sg**	**18 34 46.3**	**+0.7**
VAM	**Vamos**	**1.29**	**103**	*e*PN	**Pn**	**18 34 35.0**	**-0.7**
PYL	**PYLOS**	**1.40**	**328**	*e*Pg	**Pg**	**18 34 39.1**	**+1.2**
ITM	**Ithomi**	**1.58**	**338**	*e*PN	**Pn**	**18 34 47.0**	**+7.3**
VLX	**Vlachokerasia**	**1.67**	**352**	*e*Pg	**Pg**	**18 34 41.2**	**-2.1**
DID	**Didima**	**1.85**	**14**	*e*Pb	**Pb**	**18 34 43.9**	**-1.5**
APE	**Apeiranthos**	**2.69**	**59**	*e*Pn	**Pn**	**18 34 53.7**	**-1.1**

*ISCJB **31** 18:38:11.5±1.2, 163N±0.1×1456E±02, h528km±14km, mb3.4/14, Error ellipse: s-maj=30.9km s-min=17.1km az=178.5*
*NEIC **31** 18:38:12.3±1.1, 1630N×14568E, h526km±13km, mb3.7/1, Error ellipse: s-maj=27.0km s-min=15.6km az=93.0*
*IDC **31** 18:38:15.2±5.2, 1627N×14564E, h560km±65km, mb2.9/12, mb1 3.1/12, mb1mx3.0/20, mbtmp2.9/12, Error ellipse: s-maj=33.1km s-min=13.1km az=80.0*
ISC 31 18:38:12.3±1.2, 163N±01×1457E±02, h526km±14km, n16, σ0§95/16, mb3.4/14, Mariana Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
GUMO	**Guam**	**2.81**	**197**	P	**P**	**18 39 23.9**	**-0.3**
KSRS	**Korea Array**	**26.28**	**327**	P	**P**	**18 43 05.7**	**+0.2**
	0.6nm,0.6s,mb3.4,baz=139,slow=9.8,SNR=4.3						
WRA	**Warramunga Arr**	**37.70**	**198**	P	**P**	**18 44 43.9**	**+0.9**
	0.3nm,0.6s,mb3.0,baz=13,slow=9.0,SNR=3.1						
FITZ	**Fitzroy Crossi**	**39.48**	**211**	P	**P**	**18 44 58.2**	**+0.7**
	0.9nm,0.8s,mb3.4,baz=348,slow=8.0,SNR=10						
ASAR	**Alice Springs**	**41.36**	**196**	P	**P**	**18 45 11.1**	**-1.3**
	0.2nm,0.8s,mb2.7,baz=16,slow=6.0,SNR=3.4						
SONM	**Songino Array**	**45.02**	**323**	P	**P**	**18 45 41.9**	**+1.2**
	0.8nm,0.4s,mb3.6,baz=134,slow=5.8,SNR=13						
ZALV	**Zalesovo Beam**	**59.92**	**323**	P	**P**	**18 47 27.3**	**0.0**
	0.5nm,0.4s,mb3.2,baz=84,slow=5.9,SNR=3.0						
MKAR	**Makanchi Array**	**60.13**	**315**	P	**P**	**18 47 29.4**	**+0.6**
	1.2nm,0.4s,mb3.6,baz=89,slow=8.7,SNR=37						
KURK	**Kurchatov**	**63.06**	**319**	*e*P	**P**	**18 47 47.9**	**0.0**
	2.8nm,1.1s,mb3.6						
BRVK	**Borovoye**	**68.39**	**321**	*e*P	**P**	**18 48 21.3**	**+0.2**
INK	**Inuvik**	**71.58**	**23**	P	**P**	**18 48 39.8**	**0.0**
	1.9nm,1.0s,mb3.5,baz=256,slow=7.4,SNR=3.9						
YKA	**Yellowknife Ar**	**80.10**	**28**	P	**P**	**18 49 26.6**	**-0.5**
	0.4nm,0.6s,mb2.9,baz=288,slow=5.7,SNR=4.4						
NVAR	**Mina Array Bea**	**84.62**	**52**	P	**P**	**18 49 52.5**	**+2.0**
	0.3nm,0.5s,mb3.0,baz=268,slow=4.5,SNR=3.0						
ARCES	**ARCESS Array B**	**84.77**	**342**	P	**P**	**18 49 50.4**	**-0.2**
	5.1nm,1.0s,mb4.0,baz=78,slow=6.6,SNR=4.7						
JOF	**Joensuu**	**86.19**	**335**	*e*p	**P**	**18 49 55.8**	**-1.7**
	0.6nm,0.4s,mb3.6						
FINES	**FINESS Array B**	**89.05**	**335**	P	**P**	**18 50 09.2**	**-1.8**
	2.0nm,0.6s,mb4.1,baz=72,slow=6.2,SNR=9.5						

MAN 31 18:58:20, 1550N×11978E, h26km, mb4.5, ML3.3, MS3.2, 1C, Luzon

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SCZP	**Santa Cruz**	**0.30**	**26**	*e*P	Pb	18 58 28.7	+1.6
SCZP				*e*S	Sb	18 58 34.5	+2.6
BOLP	**Bolinao**	**0.88**	**9**	*e*P	Pb	18 58 36.1	-0.6
BCPH	**Baguio City Da**	**1.17**	**41**	↑*i*P	Pn	18 58 40.8	+0.2
BCPH				*i* S	Sn	18 58 57.6	+1.9
BALP	**Baler**	**1.75**	**82**	*e*P	Pn	18 58 48.8	+0.1
LUBP	**Lubang**	**1.82**	**165**	*e*P	Pn	18 58 50.9	+1.3
ABRA	**Dolores**	**2.31**	**23**	*e*P	Pn	18 58 57.8	+1.3
CAUP	**Cauayan**	**2.43**	**54**	*e*P	Pn	18 59 01.3	+3.2
APYP	**Conner**	**2.73**	**31**	*e*P	Sn	18 59 39.4	+4.9
PALP	**Palanan**	**2.98**	**58**	*e*P	Sn	18 59 45.2	+4.7
BUSP	**Coron**	**3.50**	**173**	*e*P	Pn	18 59 13.1	+0.2

*KRSC **31** 19:00:07.5±1.4, 6141N×16741E, h8km±11km, ML4.6*
*IDC **31** 19:00:09.4±0.5, 6136N×16753E, h0km, mb4.3/25, mb1 4.5/25, mb1mx4.4/30, mbtmp4.4/25, MS3.6/12, Ms1 3.6/12, ms1mx3.3/26, Error ellipse: s-maj=15.7km s-min=11.2km az=161.0*
*MOS **31** 19:00:10.8±0.7, 6138N×16753E, h19km, mb4.8/48, MS4.0/8, Error ellipse: s-maj=9.9km s-min=4.9km az=90.4*
*ISCJB **31** 19:00:11.9±1.6, 6136N±004×16750E±005, h27km±12km, mb4.7/103, MS3.7/21, Error ellipse: s-maj=6.2km s-min=4.1km az=171.5*
*BJI **31** 19:00:12.2, 6136N×16721E, h31km, mB4.8, mb4.7, Ms4.5, Msz4.1*
*SZGRF **31** 19:00:14.0, 6109N×16835E, h33km, mb4.9, Eastern Siberia, Russia*
*NEIC **31** 19:00:15.8±0.6, 6141N×16754E, h42km±5km, mb4.7/67, Error ellipse: s-maj=4.8km s-min=2.6km az=186.0*
ISC 31 19:00:15.4±0.6, 6138N±004×16750E±005, h38km±6km, h24km±7.8km: pP-P, n237, σ0§77/239, mb4.7/103, MS3.7/21, 5C-2D, Eastern Siberia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
OMS	**Omsukchan**	**5.65**	**287**	*e*PN	**Pn**	**19 01 33.0**	**-3.7**
OMS				pmax	pmax		
	comp=N,30nm,0.8s						
OMS				pmax	pmax		
	comp=E,30nm,0.8s						
OMS				pmax	pmax		
	comp=Z,60nm,0.8s						
KBTR	**Krutoberegovo**	**5.73**	**207**	*e*P	**Pn**	**19 01 36.6**	**-1.2**
KBTR				*i* S	**Sn**	**19 02 43.3**	**+1.1**
BILL	**Bilibino**	**6.71**	**356**	*e*PN	**Pn**	**19 01 51.3**	**+0.2**
BILL				pmax	pmax		
	comp=Z,30nm,1.0s						
BILL	**Bilibino**	**6.71**	**356**	*e*P	**Pn**	**19 01 51.0**	**-0.2**
	comp=Z,54nm,0.6s						
MKZ	**Mys Kozlova**	**7.50**	**207**	P	**Pn**	**19 02 01.5**	**-0.5**
MGD	**Magadan 1**	**8.33**	**268**	*e*PN	**Pn**	**19 02 12.9**	**-0.5**
MGD				pmax	pmax		
	comp=Z,30nm,0.5s						
MA2	**Magadan**	**8.46**	**265**	*e*PN	**Pn**	**19 02 14.9**	**-0.3**
MA2				pmax	pmax		
	comp=Z,50nm,1.0s						
MA2	**Magadan**	**8.46**	**265**	*e*P	**Pn**	**19 02 14.6**	**-0.5**
	comp=Z,25nm,0.6s						
MA2	**Magadan**	**8.46**	**265**	*e*P	**Pn**	**19 02 14.5**	**-0.7**
MA2				*i* S	**Sn**	**19 03 47.8**	**-1.4**
SUUS	**Susuman**	**9.17**	**287**	*e*PN	**Pn**	**19 02 26.7**	**+1.8**
SUUS				pmax	pmax		
	comp=Z,30nm,1.0s						
SPN	**Mys Shipunski**	**9.23**	**209**	P	**Pn**	**19 02 25.5**	**-0.3**
GNL	**Ganaly**	**9.25**	**218**	P	**Pn**	**19 02 25.9**	**-0.2**
AVH	**Avacha**	**9.41**	**214**	P	**Pn**	**19 02 28.4**	**+0.2**
PET	**Petropavlovsk**	**9.65**	**214**	*e*PN	**Pn**	**19 02 33.4**	**+1.9**
PET				pmax	pmax		
	comp=Z,34nm,1.1s						
PET				pmax	pmax		
	comp=Z,200nm,6.0s						
PET				pmax	pmax		
	comp=Z,100nm,7.0s						
PET				MLR	MLR		
	comp=Z,1μm,15.0s						
PET				MLR	MLR		
	comp=Z,2μm,17.0s						
PET	**Petropavlovsk**	**9.65**	**214**	*e*P	**Pn**	**19 02 32.8**	**+1.3**
TTA	**Tatalina**	**16.97**	**69**	*e*P	**Pn**	**19 04 09.0**	**-0.5**
TTA				pmax	pmax		
	comp=Z,120nm,1.8s						
TTA	**Tatalina**	**16.97**	**69**	*e*P	**Pn**	**19 04 08.9**	**-0.5**
	comp=Z,120nm,1.8s						
IMA2	**Indian Mountai**	**17.59**	**58**	*e*P	**Pn**	**19 04 17.0**	**-0.1**
SDPT	**Sand Point**	**17.71**	**96**	*e*P	**Pn**	**19 04 18.9**	**+0.2**
	comp=Z,41nm,0.9s						
YAK	**Yakutsk**	**17.78**	**289**	*e*P	**Pn**	**19 04 19.7**	**+0.2**
YAK				*e*S	**S**	**19 07 39.0**	**-3.1**
YAK				pmax	pmax		
	comp=Z,13nm,1.1s						
YAK				pmax	pmax		
	comp=N,6.0nm,1.3s						
YAK				pmax	pmax		
	comp=E,13nm,1.7s						
YAK				smax			
	comp=N,56nm,2.9s						
YAK				smax			
	comp=E,20nm,2.7s						
YAK				MLR	MLR		
	comp=Z,620nm,10.0s						
YAK				MLR	MLR		
	comp=N,143nm,9.0s						
YAK				MLR	MLR		
	comp=E,450nm,9.0s						
YAK	**Yakutsk**	**17.78**	**289**	*e*P	**Pn**	**19 04 19.9**	**+0.5**
	comp=E,17nm,0.6s						
TIXI	**Tiksi**	**18.11**	**320**	*e*P	**Pn**	**19 04 24.9**	**+1.4**
TIXI				*e*S	**S**	**19 07 50.1**	**+1.4**
TIXI				pmax	pmax		
	comp=Z,19nm,1.1s						
TIXI				MLR	MLR		
	comp=Z,538nm,10.0s						
TIXI	**Tiksi**	**18.11**	**320**	*e*P	**Pn**	**19 04 24.6**	**+1.1**
	comp=Z,18nm,1.0s						
COLA	**College**	**20.15**	**61**	*e*P	**P**	**19 04 46.6**	**+0.8**
COLA				pmax	pmax		
	comp=Z,12nm,0.6s						
COLA	**College**	**20.15**	**61**	*e*P	**P**	**19 04 46.6**	**+0.7**
	comp=Z,12nm,0.6s						
YSS	**Yuzh-Sakhalins**	**20.27**	**236**	*e*P	**P**	**19 04 48.3**	**+1.0**
YSS				*e*		19 04 53.8	
YSS				pmax	pmax		
	comp=Z,30nm,1.0s						
YSS	**Yuzh-Sakhalins**	**20.27**	**236**	*e*P	**P**	**19 04 49.0**	**+1.7**
	comp=Z,21nm,0.6s						
KDAK	**Kodiak Island**	**20.29**	**82**	P	**P**	**19 04 45.5**	**-2.0**
KDAK				LR	LR	19 13 50.2	
KDAK	**Kodiak Island**	**20.29**	**82**	P	**P**	**19 04 45.5**	**-2.0**
	comp=Z,12nm,0.7s,baz=296,slow=11,SNR=5.5						
KDAK				LR	LR	19 13 50.2	
	comp=Z,257nm,19.3s,MS3.6,baz=303,slow=40						
SML	**Sawmill**	**20.72**	**69**	*e*P	**P**	**19 04 52.3**	**+0.3**
NRGR	**Nerungri**	**22.20**	**277**	*e*P	**P**	**19 05 12.0**	**+4.0**
HABR	**Khabarovsk**	**22.39**	**250**	↑*e*P	**P**	**19 05 09.6**	**-0.5**
HABR				*e*		19 05 20.0	
HABR				S	**S**	**19 09 14.4**	**+0.5**
HABR				pmax	pmax		
	comp=Z,30nm,1.4s,mb4.5						
ASAJ	**Asahikawa**	**22.70**	**232**	P	**P**	**19 05 11.5**	**-1.9**
ASAJ				pmax	pmax		
	comp=Z,6.0nm,0.9s						
ASAJ	**Asahikawa**	**22.70**	**232**	P	**P**	**19 05 11.4**	**-1.9**
	comp=Z,5.7nm,0.9s,mb4.0,baz=76,slow=7.2,SNR=2.4						
KLR	**Kul'dur**	**23.36**	**255**	*e*P	**P**	**19 05 15.8**	**-4.5**
KLR				pmax	pmax		
	comp=E,28nm,1.4s						
KLR				pmax	pmax		
	comp=Z,48nm,1.4s,mb4.7						
DAWY	**Dawson**	**23.90**	**60**	*e*P	**P**	**19 05 23.9**	**-1.1**
INK	**Inuvik**	**25.06**	**49**	P	**P**	**19 05 35.2**	**-0.3**
	comp=Z,44nm,0.8s,mb5.0,baz=292,slow=12,SNR=103						
BOD	**Bodaibo**	**26.66**	**287**	*e*P	**P**	**19 05 49.3**	**-0.9**
BOD				pmax	pmax		
	comp=Z,7.0nm,0.9s,mb4.2						
MJAR	**Matsushiro Arr**	**30.94**	**230**	P	**P**	**19 06 28.1**	**-0.3**
	comp=Z,1.4nm,0.6s,mb4.0,baz=26,slow=9.0,SNR=8.5						
MJAR				LR	LR	19 19 09.6	
	comp=Z,122nm,20.0s,MS3.6,baz=15,slow=37						
SNY	**Shenyang**	**32.70**	**254**	↑P	**P**	**19 06 44.8**	**+1.0**
SNY				S	**S**	**19 12 02.8**	**+5.5**
SNY				AMB	AMB		
	comp=Z,54nm,4.1s						
SNY				LR	LR		
	comp=N,185nm,15.5s						
SNY				LR	LR		
	comp=Z,155nm,12.8s,MS3.9						
KSRS	**Korea Array**	**34.30**	**244**	P	**P**	**19 06 57.3**	**-0.5**
	comp=Z,3.0nm,0.8s,mb4.3,baz=28,slow=8.8,SNR=18						
KSRS				LR	LR	19 20 27.0	
	comp=Z,65nm,18.9s,MS3.4,baz=29,slow=36						
YKA	**Yellowknife Ar**	**34.60**	**53**	P	**P**	**19 06 59.0**	**-1.1**
YKA						19 09 33.4	
YKA	**Yellowknife Ar**	**34.60**	**53**	P	**P**	**19 06 59.0**	**-1.0**
	comp=Z,1.6nm,0.8s,mb4.0,baz=303,slow=8.5,SNR=16						
YKA				PcP	PcP	19 09 33.3	-0.2
	comp=Z,0.6nm,0.6s,baz=313,slow=3.4,SNR=6.6						
TLY	**Talaya**	**35.12**	**284**	⇓*i*P	**P**	**19 07 05.8**	**+1.1**
TLY				*e*		19 08 19.9	
TLY				pmax	pmax		
	comp=Z,10.0nm,1.0s,mb4.7						
TLY				MLR	MLR		
	comp=Z,282nm,17.0s,MS4.1						
TLY	**Talaya**	**35.12**	**284**	*e*P	**P**	**19 07 05.6**	**+0.9**
	comp=Z,9.4nm,1.0s,mb4.7						
ULN	**Ulaanbaatar**	**36.11**	**276**	*e*P	**P**	**19 07 13.0**	**-0.2**
ULN				pmax	pmax		
	comp=Z,5.0nm,1.1s,mb4.4						
ULN	**Ulaanbaatar**	**36.11**	**276**	*e*P	**P**	**19 07 13.0**	**-0.2**
	comp=Z,5.0nm,1.1s,mb4.4						
ZAK	**Zakamensk**	**36.16**	**282**	*e*P	**P**	**19 07 13.9**	**+0.3**
ZAK				pmax	pmax		
	comp=Z,4.0nm,0.9s,mb4.3						
MOY	**Mondy**	**36.37**	**286**	*e*P	**P**	**19 07 16.7**	**+1.4**
MOY				pmax	pmax		
	comp=Z,77nm,1.7s,mb5.4						
SONM	**Songino Array**	**36.45**	**277**	P	**P**	**19 07 17.0**	**+1.0**
	comp=Z,2.4nm,1.0s,mb4.1,baz=40,slow=8.1,SNR=14						
SONM				PcP	PcP	19 09 38.9	-0.4
	comp=Z,1.7nm,0.7s,baz=25,slow=2.8,SNR=11						
KRAR	**Krasnoyarsk**	**37.17**	**296**	↑*e*P	**P**	**19 07 22.1**	**0.0**
KRAR				pmax	pmax		
	comp=Z,11nm,1.0s,mb4.6						
SPITS	**Spitsbergen Ar**	**39.59**	**351**	P	**P**	**19 07 42.2**	**0.0**
	comp=Z,2.5nm,0.4s,mb4.2,baz=39,slow=5.4,SNR=22						
ZALV	**Zalesovo Beam**	**42.00**	**299**	P	**P**	**19 08 02.4**	**+0.1**
	comp=Z,1.3nm,0.7s,mb3.7,baz=42,slow=7.9,SNR=7.5						
ZALV				PcP	PcP	19 09 56.8	0.0
	comp=Z,2.2nm,0.7s,baz=30,slow=2.6,SNR=4.1						
ZALV				LR	LR	19 26 28.9	
	comp=Z,59nm,19.4s,MS3.5,baz=221,slow=38						
ZAL	**Zalesovo**	**42.01**	**299**	P	**P**	**19 08 02.4**	**0.0**
ZAL						19 09 56.8	
NVS	**Novosibirsk**	**42.03**	**301**	*e*P	**P**	**19 08 02.1**	**-0.5**
NVS				*e*		19 09 45.4	
NVS				pmax	pmax		
	comp=N,6.0nm,1.4s						
NVS				pmax	pmax		
	comp=E,7.0nm,1.4s						
NVS				pmax	pmax		
	comp=Z,8.0nm,1.4s,mb4.2						
NEW	**Newport**	**42.84**	**72**	P	**P**	**19 08 09.4**	**+0.2**
	comp=Z,4.0nm,0.8s,mb4.2,baz=296,slow=22,SNR=4.3						
NJ2	**Nanjing**	**42.86**	**250**	*e*P	**P**	**19 08 08.0**	**-1.6**
NJ2				AP	pP	19 08 20.8	+0.3
NJ2				XP	sP	19 08 26.5	+1.6
NJ2				PP	PP	19 09 48.0	-1.3
NJ2				S	**S**	**19 14 26.5**	**-4.8**
NJ2				XS	sS	19 14 48.0	-1.3
NJ2				AMB	AMB		
	comp=Z,30nm,1.3s,mb4.9						
NJ2				AMB	AMB		
	comp=Z,110nm,5.4s						
NJ2				LR	LR		
	comp=N,330nm,15.5s,MS4.4						
NJ2				LR	LR		
	comp=E,280nm,20.1s,MS4.4						
NJ2				LR	LR		
	comp=Z,270nm,20.2s,MS4.1						
WALA	**Waterton Lakes**	**43.71**	**69**	*e*P	**P**	**19 08 15.9**	**-0.3**
	comp=Z,28nm,1.2s,mb4.9						
YBH	**Yreka Blue Hor**	**45.11**	**82**	P	**P**	**19 08 28.0**	**+0.5**
	comp=Z,4.9nm,0.7s,mb4.4,baz=297,slow=3.6,SNR=12						
BMO	**Blue Mountains**	**45.28**	**75**	*e*P	**P**	**19 08 28.6**	**-0.2**
	comp=Z,12nm,0.9s,mb4.7						
MSO	**Missoula**	**45.35**	**71**	*e*P	**P**	**19 08 29.2**	**-0.1**
	comp=Z,7.6nm,1.3s,mb4.4						
GTA	**Gaotai**	**45.91**	**274**	*e*P	**P**	**19 08 33.8**	**0.0**
GTA				AP	pP	19 08 43.5	-1.3
GTA				XP	sP	19 08 47.5	-1.8
GTA				AMB	AMB		
	comp=Z,5.0nm,0.9s,mb4.4						
GTA				AMB	AMB		
	comp=Z,51nm,4.6s						
GTA				LR	LR		
	comp=N,201nm,18.6s,MS4.3						
GTA				LR	LR		
	comp=E,265nm,22.1s,MS4.3						
GTA				LR	LR		
	comp=Z,250nm,14.4s						
WDC	**Whiskeytown Da**	**46.08**	**83**	*e*P	**P**	**19 08 35.1**	**-0.1**
WDC				pmax	pmax		
	comp=Z,6.0nm,1.0s,mb4.5						
WDC	**Whiskeytown Da**	**46.08**	**83**	*e*P	**P**	**19 08 35.1**	**-0.1**
	comp=Z,5.8nm,1.0s,mb4.5						
EGMT	**Eagleton**	**46.33**	**67**	*e*P	**P**	**19 08 36.8**	**-0.3**
	comp=Z,57nm,1.6s,mb5.2						
WVOR	**Wild Horse Val**	**46.51**	**79**	*e*P	**P**	**19 08 37.8**	**-0.7**
WVOR				pmax	pmax		
	comp=Z,15nm,1.3s,mb4.8						
WVOR	**Wild Horse Val**	**46.51**	**79**	*e*P	**P**	**19 08 37.8**	**-0.7**
	comp=Z,16nm,1.3s,mb4.8						
ARCES	**ARCESS Array B**	**46.60**	**343**	P	**P**	**19 08 38.5**	**-0.4**
	comp=Z,7.5nm,1.0s,mb4.6,baz=351,slow=6.4,SNR=4.3						
ARCES				LR	LR	19 30 12.4	
	comp=Z,57nm,20.8s,MS3.5,baz=32,slow=39						
LZH	**Lanzhou**	**46.61**	**267**	*e*P	**P**	**19 08 40.0**	**+0.6**
LZH				AP	pP	19 08 45.5	-4.8
LZH				XP	sP	19 08 48.5	-6.3
LZH				AMB	AMB		
	comp=Z,17nm,1.0s,mb4.9						
LZH				AMB	AMB		
	comp=Z,69nm,4.1s						
KURK	**Kurchatov**	**46.96**	**300**	*e*P	**P**	**19 08 41.8**	**-0.1**
KURK		

MTUM Tungsten Hills 50.53 83 *eP* **P 19 09 10.7 +1.2**
DUG Dugway 50.99 76 *eP* **P 19 09 13.4 +0.5**
DUG pmax pmax
comp=Z,7.0nm,1.1s,mb4.5
DUG Dugway 50.99 76 *eP* **P 19 09 13.4 +0.5**
comp=Z,7.1nm,1.1s,mb4.5
NLU North Lily Min 51.52 76 *eP* **P 19 09 16.9 0.0**
JOF Joensuu 51.67 336 *ep* **P 19 09 17.5 -0.2**
comp=Z,3.0nm,0.6s,mb4.4
RSSD Black Hills 51.88 66 *eP* **P 19 09 19.0 -0.5**
RSSD pmax pmax
comp=Z,10.0nm,1.0s,mb4.7
RSSD Black Hills 51.88 66 *eP* **P 19 09 19.0 -0.5**
comp=Z,9.6nm,1.0s,mb4.7
AGMN Agassiz Refuge 52.03 57 *eP* **P 19 09 20.1 -0.5**
comp=Z,13nm,1.1s,mb4.8
MSU Marysvale 52.63 77 *eP* **P 19 09 26.3 +1.2**
CCUT Cedar City 52.84 78 *eP* **P 19 09 27.2 +0.4**
SRU San Rafael 52.92 75 *eP* **P 19 09 26.3 -1.0**
SRU pmax pmax
comp=Z,13nm,0.9s,mb4.9
SRU San Rafael 52.92 75 *eP* **P 19 09 26.3 -1.0**
comp=Z,13nm,0.9s,mb4.8
GSC Goldstone 53.02 83 *eP* **P 19 09 28.6 +0.5**
GSC pmax pmax
comp=Z,14nm,1.1s,mb4.8
GSC Goldstone 53.02 83 *eP* **P 19 09 28.6 +0.5**
comp=Z,14nm,1.1s,mb4.8
KAF Kangasniemi 53.34 338 *ep* **P 19 09 29.9 -0.1**
comp=Z,2.9nm,0.8s,mb4.3
KAF Kangasniemi 53.34 338 *eP* **P 19 09 29.9 -0.1**
KAF pmax pmax
comp=Z,3.0nm,0.8s,mb4.3
FINES FINESS Array B 54.00 338 P **P 19 09 34.2 -0.7**
FINES LR LR 19 36 12.4
FINES FINESS Array B 54.00 338 P **P 19 09 34.2 -0.7**
comp=Z,3.1nm,0.8s,mb4.3,baz=40,slow=12,SNR=9.0
FINES LR LR 19 36 12.4
comp=Z,40nm,18.7s,MS3.5,baz=354,slow=40
EYMN Ely 54.05 55 *eP* **P 19 09 35.2 -0.3**
comp=Z,11nm,1.0s,mb4.8
SMCO Snowmass 54.50 72 *eP* **P 19 09 39.5 +0.6**
comp=Z,4.9nm,0.8s,mb4.6
ISCO Idaho Springs 54.62 71 *eP* **P 19 09 40.7 +1.0**
ISCO pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
ISCO Idaho Springs 54.62 71 *eP* **P 19 09 40.7 +1.0**
comp=Z,6.7nm,1.1s,mb4.6
EKS2 Erkin-Say 55.34 297 *eP* **P 19 09 45.6 +0.7**
comp=Z,16nm,1.5s,mb4.8
ECSD EROS,Sioux Fal 55.39 61 *eP* **P 19 09 44.7 -0.5**
comp=Z,17nm,1.2s,mb5.0
WUAZ Wupatki 55.42 78 *eP* **P 19 09 46.6 +1.0**
comp=Z,14nm,1.0s,mb4.9
GLA Glamis 55.80 83 *eP* **P 19 09 49.2 +0.9**
GLA pmax pmax
comp=Z,20nm,1.1s,mb5.1
GLA Glamis 55.80 83 *eP* **P 19 09 49.2 +0.9**
comp=Z,20nm,1.1s,mb5.1
SCHQ Scheffervlle 56.46 34 P **P 19 09 50.6 -2.1**
comp=Z,2.7nm,0.7s,mb4.4,baz=4.9,slow=7.4,SNR=4.2
NB2 NORSAR Subarra 56.56 346 P **P 19 09 52.9 -0.4**
comp=Z,3.6nm,0.6s,mb4.6,baz=14,slow=7.4
NOA NORSAR Array B 56.56 346 P **P 19 09 53.1 -0.2**
comp=Z,3.6nm,0.7s,mb4.5,baz=14,slow=7.3,SNR=8.9
NOA LR LR 19 35 57.8
comp=Z,16nm,19.1s,MS3.1,baz=90,slow=38
OBN Obninsk 57.58 329 *eP* **P 19 10 01.2 +0.6**
OBN *e* 19 10 52.8
OBN pmax pmax
comp=Z,47nm,2.5s,mb5.1
OBN MLR MLR
comp=Z,100nm,14.0s,MS4.1
LSA Lhasa 57.94 274 P **P 19 10 03.8 +0.3**
ANMO Albuquerque 58.19 75⇑*eP* **P 19 10 06.1 +0.9**
SCIA State Center 58.31 60 *eP* **P 19 10 06.1 +0.1**
comp=Z,15nm,0.6s,mb5.2
LPM Los Pinos Moun 58.63 75 *eP* **P 19 10 09.6 +1.3**
BNM Barren Site 58.77 75 *eP* **P 19 10 10.4 +1.2**
AMTX Amarillo 60.44 71 *eP* **P 19 10 20.8 0.0**
comp=Z,6.7nm,0.6s,mb4.8
MNTX Cornudas Mount 61.38 76 *eP* **P 19 10 27.5 +0.3**
comp=Z,14nm,0.9s,mb5.1
WMOK Wichita Mounta 61.87 69 *eP* **P 19 10 30.2 -0.2**
WMOK pmax pmax
comp=Z,22nm,1.2s,mb5.2
WMOK Wichita Mounta 61.87 69 *eP* **P 19 10 30.2 -0.3**
comp=Z,22nm,1.2s,mb5.2
NANT Nan 62.59 259 ⇓P **P 19 10 35.1 -0.3**
comp=Z,85nm,1.0s,mb5.8
FVM French Village 62.77 60 *eP* **P 19 10 35.2 -1.2**
FVM pmax pmax
comp=Z,16nm,1.0s,mb5.1
FVM French Village 62.77 60 *eP* **P 19 10 35.2 -1.1**
comp=Z,16nm,1.0s,mb5.1
AKASG Malin Array Be 63.39 332 P **P 19 10 39.9 -0.4**
AKASG LR LR 19 42 01.5
AKASG Malin Array Be 63.39 332 P **P 19 10 39.9 -0.4**
comp=Z,4.4nm,0.7s,mb4.7,baz=23,slow=6.3,SNR=17
AKASG LR LR 19 42 01.5
comp=Z,51nm,18.2s,MS3.7,baz=345,slow=40
KBL Kabul 64.14 295 *eP* **P 19 10 44.7 -0.8**
comp=Z,6.0nm,1.0s,mb4.6
TXAR Lajitas Array 64.17 76 P **P 19 10 46.1 +0.3**
comp=Z,6.3nm,0.9s,mb4.7,baz=317,slow=4.6,SNR=50
TXAR LR LR 19 39 14.6
comp=Z,69nm,19.1s,MS3.9,baz=95,slow=37
LBNH Lisbon 64.32 43 *eP* **P 19 10 45.5 -1.0**
LBNH pmax pmax
comp=Z,10.0nm,1.0s,mb4.8
LBNH Lisbon 64.32 43 *eP* **P 19 10 45.5 -1.0**
comp=Z,9.9nm,1.0s,mb4.8
JCT Junction City 64.99 72 *eP* **P 19 10 50.7 -0.4**
JCT pmax pmax
comp=Z,19nm,1.0s,mb5.1
JCT Junction City 64.99 72 *eP* **P 19 10 50.7 -0.4**
comp=Z,19nm,1.0s,mb5.1
WVT Waverly 65.43 59 *eP* **P 19 10 52.9 -1.0**
WVT pmax pmax
comp=Z,4.0nm,0.6s,mb4.6
WVT Waverly 65.43 59 *eP* **P 19 10 52.9 -1.0**
comp=Z,4.2nm,0.6s,mb4.7
CLZ Clausthal 65.66 345 *eP* **P 19 10 55.4 +0.3**
CLZ pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
CLZ Clausthal 65.66 345 *eP* **P 19 10 55.4 +0.3**
comp=Z,8.0nm,1.1s,mb4.7
OJC Ojcow 65.78 338 *eP* **P 19 10 56.3 +0.4**
CLL Collm 65.83 343 *e*(P) **P 19 10 58.0 +1.8**
KIV Kislovodsk 65.94 320 *eP* **P 19 10 57.9 +0.9**
KIV pmax pmax
comp=Z,7.0nm,1.1s,mb4.6
DPC Dobruska-Polom 66.25 340 *eP* **P 19 10 58.8 -0.1**
STHS Stebnicka Huta 66.28 337 *eP* **P 19 11 00.1 +1.0**
STHS pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
STHS Stebnicka Huta 66.28 337 *eP* **P 19 11 00.1 +1.0**
comp=Z,5.9nm,1.2s,mb4.5
STHS *e* 19 11 20.5
PLAL Pickwick Lake 66.31 60 *eP* **P 19 10 58.2 -1.4**
comp=Z,7.6nm,0.9s,mb4.7
KOLS Kolonicke sedl 66.54 336 *eP* **P 19 11 01.0 +0.2**
MOX Moxa 66.67 344 *eP* **P 19 11 01.5 -0.1**
comp=Z,4.0nm,0.7s,mb4.6
CRVS Cervenica-Dubn 66.73 336 *eP* **P 19 11 01.9 -0.1**
PRU Pruhonice 66.88 341 *eP* **P 19 11 03.0 0.0**
NKC Novy Kostel 66.95 343 *eP* **P 19 11 03.6 +0.2**
SWET Sewanee 67.00 58 *eP* **P 19 11 02.3 -1.6**
MANZ Manzenberg 67.24 343 *eP* **P 19 11 07.2 +1.9**
comp=Z,6.0nm,1.1s,mb4.5
KECS Kecovo 67.32 337 *eP* **P 19 11 04.8 -1.0**
KECS pmax pmax
comp=Z,4.0nm,1.3s,mb4.3
KECS Kecovo 67.32 337 *eP* **P 19 11 04.8 -1.0**
comp=Z,4.4nm,1.3s,mb4.3
KECS *e* 19 11 20.5
ROTZ Rotzenmuhle 67.44 343 *eP* **P 19 11 06.6 +0.1**
comp=Z,28nm,2.2s,mb4.9
VYHS Vyhne 67.61 338 *eP* **P 19 11 08.2 +0.6**
VYHS pmax pmax
comp=Z,3.0nm,1.0s,mb4.3
VYHS Vyhne 67.61 338 *eP* **P 19 11 08.2 +0.6**
comp=Z,3.3nm,1.0s,mb4.3
GRA1 Grafenberg Arr 67.65 344 *eP* **P 19 11 08.5 +0.6**
comp=Z,52nm,2.2s,mb5.2
GRF Grafenberg Arr 67.65 344 *eP* **P 19 11 08.5 +0.6**
GRF pmax pmax
comp=Z,52nm,2.2s,mb5.2
GRF Grafenberg Arr 67.65 344 *eP* **P 19 11 08.5 +0.6**
comp=Z,52nm,2.2s,mb5.2
KHC Kasperske Hory 67.86 342 *eP* **P 19 11 09.3 +0.1**
KHC *e*pP pP 19 11 14.9 -5.7
WET Wettzell 67.96 342 *eP* **P 19 11 09.8 0.0**
WET pmax pmax
comp=Z,5.0nm,1.1s,mb4.5
WET Wettzell 67.96 342 *eP* **P 19 11 09.8 0.0**
comp=Z,5.0nm,1.1s,mb4.5
BAIF Baives 68.11 348 *eP* **P 19 11 10.7 0.0**
GERES GERESS Array B 68.12 342 P **P 19 11 10.7 -0.1**
comp=Z,1.0nm,0.7s,mb4.0,baz=20,slow=4.3,SNR=12
GERES LR LR 19 41 33.5
comp=Z,38nm,21.1s,MS3.6,baz=66,slow=36
ZST Bratislava 68.21 339 *eP* **P 19 11 13.0 +1.7**
ZST pmax pmax
comp=Z,6.0nm,0.6s,mb4.8
ZST Bratislava 68.21 339 *eP* **P 19 11 13.0 +1.7**
comp=Z,6.1nm,0.6s,mb4.8
GNI Garni 68.70 316⇑*eP* **P 19 11 16.6 +2.0**
GNI pmax pmax
comp=Z,10.0nm,1.5s
CDF Champ du Feu 69.41 346 *eP* **P 19 11 18.7 -0.1**
FLN La Foliniere 69.79 352 *eP* **P 19 11 20.5 -0.6**
FLN *e*MLR MLR
comp=Z,66nm,17.5s,MS3.6
FLN La Foliniere 69.79 352 *eP* **P 19 11 20.5 -0.6**
FLN LR LR
comp=Z,70nm,17.5s,MS4.0
HAU Haudompre 69.92 347 *eP* **P 19 11 21.7 -0.2**
comp=Z,10.0nm,0.8s,mb4.5
HAU *e*MLR MLR
comp=Z,59nm,19.0s,MS3.5
HAU Haudompre 69.92 347 *eP* **P 19 11 21.7 -0.2**
HAU pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
HAU MLR MLR
comp=Z,60nm,19.0s,MS3.9
HAU Haudompre 69.92 347 *eP* **P 19 11 21.7 -0.2**
comp=Z,5.0nm,0.8s,mb4.5
HAU LR LR
comp=Z,60nm,19.0s,MS3.9
LDF La Druitiere 69.93 351 *eP* **P 19 11 21.5 -0.5**
HINF Hinteralfeld 70.04 346 *eP* **P 19 11 22.5 -0.2**
GRR Gorron 70.18 352 *eP* **P 19 11 23.2 -0.4**
comp=Z,18nm,0.8s,mb4.7
GRR Gorron 70.18 352 *eP* **P 19 11 23.2 -0.4**
GRR pmax pmax
comp=Z,9.0nm,0.8s,mb4.8
GRR Gorron 70.18 352 *eP* **P 19 11 23.2 -0.4**
comp=Z,8.8nm,0.8s,mb4.7
ROSF Rostrenen 70.39 353 *eP* **P 19 11 24.5 -0.3**
comp=Z,76nm,1.4s,mb5.2
ROSF Rostrenen 70.39 353 *eP* **P 19 11 24.5 -0.3**
ROSF pmax pmax
comp=Z,38nm,1.4s,mb5.1
ROSF Rostrenen 70.39 353 *eP* **P 19 11 24.5 -0.3**
comp=Z,38nm,1.4s,mb5.1
SGMF Saint Gilles 70.43 353 *eP* **P 19 11 24.7 -0.4**
LOR Lormes 70.90 348 *eP* **P 19 11 27.7 -0.3**
comp=Z,14nm,0.9s,mb4.6
LOR *e*MLR MLR
comp=Z,59nm,17.8s,MS3.6
LOR Lormes 70.90 348 *eP* **P 19 11 27.7 -0.3**
LOR pmax pmax
comp=Z,7.0nm,0.9s,mb4.6
LOR MLR MLR
comp=Z,60nm,17.8s,MS3.9
LOR Lormes 70.90 348 *eP* **P 19 11 27.7 -0.3**
comp=Z,7.1nm,0.9s,mb4.6
LOR LR LR
comp=Z,60nm,17.8s,MS3.9
CABF La Chapelle 71.32 347 *eP* **P 19 11 30.5 0.0**
comp=Z,9.7nm,0.9s,mb4.5
CABF La Chapelle 71.32 347 *eP* **P 19 11 30.5 0.0**
CABF pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
CABF La Chapelle 71.32 347 *eP* **P 19 11 30.5 0.0**
comp=Z,4.8nm,0.9s,mb4.4
AVF Avril sur Loir 71.43 349 *eP* **P 19 11 31.1 -0.1**
comp=Z,15nm,1.0s,mb4.6
AVF Avril sur Loir 71.43 349 *eP* **P 19 11 31.1 -0.1**
AVF pmax pmax
comp=Z,8.0nm,1.0s,mb4.6
AVF Avril sur Loir 71.43 349 *eP* **P 19 11 31.1 -0.1**
comp=Z,7.5nm,1.0s,mb4.6
SMF Signal de Mont 71.52 348 *eP* **P 19 11 31.4 -0.3**
BGF Bois d'Agland 71.70 349 *eP* **P 19 11 32.8 0.0**
MFF Saint Martin d 71.91 351 *eP* **P 19 11 33.8 -0.3**
TCF Toulx Ste Croi 72.03 349 *eP* **P 19 11 34.6 -0.2**
comp=Z,11nm,0.9s,mb4.5
TCF Toulx Ste Croi 72.03 349 *eP* **P 19 11 34.6 -0.2**
TCF pmax pmax
comp=Z,6.0nm,0.9s,mb4.5
TCF Toulx Ste Croi 72.03 349 *eP* **P 19 11 34.6 -0.2**
comp=Z,5.7nm,0.9s,mb4.5
LPL La Plagne 72.33 346 *eP* **P 19 11 36.5 -0.1**
comp=Z,4.3nm,0.6s,mb4.2
LPL La Plagne 72.33 346 *eP* **P 19 11 36.5 -0.1**
LPL pmax pmax
comp=Z,2.0nm,0.6s,mb4.2
LPL La Plagne 72.33 346 *eP* **P 19 11 36.5 -0.1**
comp=Z,2.2nm,0.6s,mb4.3
LPG La Plagne 72.34 346 *eP* **P 19 11 36.8 +0.1**
comp=Z,9.4nm,0.9s,mb4.4
LPG La Plagne 72.34 346 *eP* **P 19 11 36.8 +0.1**
LPG pmax pmax
comp=Z,5.0nm,0.9s,mb4.4
LPG La Plagne 72.34 346 *eP* **P 19 11 36.8 +0.1**
comp=Z,4.7nm,0.9s,mb4.4
VIVF Saint-Julien-l 73.21 347 *eP* **P 19 11 41.6 -0.2**
CAF Calviac 73.39 349 *eP* **P 19 11 42.5 -0.4**
LFF La Frestale 73.49 350 *eP* **P 19 11 43.1 -0.4**
comp=Z,18nm,0.9s,mb4.7
LFF La Frestale 73.49 350 *eP* **P 19 11 43.1 -0.4**
LFF pmax pmax
comp=Z,9.0nm,0.9s,mb4.7
LFF La Frestale 73.49 350 *eP* **P 19 11 43.1 -0.4**
comp=Z,9.2nm,0.9s,mb4.7
SBF Sospel 73.87 345 *eP* **P 19 11 45.5 -0.2**
comp=Z,39nm,1.1s,mb4.9
SBF Sospel 73.87 345 *eP* **P 19 11 45.5 -0.2**
SBF pmax pmax
comp=Z,20nm,1.1s,mb5.0
SBF Sospel 73.87 345 *eP* **P 19 11 45.5 -0.2**
comp=Z,20nm,1.1s,mb5.0
SMRF Simiane la Rot 73.98 347 *eP* **P 19 11 46.0 -0.4**
comp=Z,32nm,1.1s,mb4.9
SMRF Simiane la Rot 73.98 347 *eP* **P 19 11 46.0 -0.4**
comp=Z,32nm,1.1s,mb5.2
FRF La Foret Royal 74.27 346 *eP* **P 19 11 47.5 -0.5**
MTLF Montolieu 74.95 349 *eP* **P 19 11 51.7 -0.3**
PGF Pioggiola 74.96 344 *eP* **P 19 11 51.8 -0.3**
MIB Mutribah 77.11 310 *eP* **P 19 12 03.4 -1.1**
RDF Al-Radifah 77.82 309 *eP* **P 19 12 07.6 -0.9**
ESDC Sonseca Array 79.06 353 P **P 19 12 15.1 0.0**
comp=Z,2.3nm,0.8s,mb4.2,baz=2.4,slow=5.8,SNR=9.8
EVO Evora 80.37 356 *eP* **P 19 12 21.8 -0.5**
comp=Z,14nm,0.9s,mb4.6
EVO *e*MLR MLR
comp=Z,81nm,18.5s,MS3.8
KEST Kesra 81.61 342 LR LR 19 55 28.1
comp=Z,32nm,18.4s,MS3.7,baz=326,slow=41
WRA Warramunga Arr 85.30 211 P **P 19 12 47.0 -0.8**
comp=Z,4.1nm,0.9s,mb4.5,baz=19,slow=5.3,SNR=12
ASAR Alice Springs 88.98 210 P **P 19 13 05.3 -0.3**
comp=Z,1.2nm,1.0s,mb4.2,baz=28,slow=4.2,SNR=4.5
LIC Lamto 112.35 352 *eP* Pdif 19 14 52.2 +0.8
comp=Z,36nm,1.3s
MAW Mawson 148.89 226 PKPbc PKPbc 19 19 56.4 -0.7
comp=Z,2.9nm,0.9s,baz=348,slow=6.0,SNR=3.3
QSPA South Pole Qui 151.15 180 PKPbc PKPbc 19 20 01.7 -0.6
comp=Z,15nm,0.9s,baz=323,slow=0.6,SNR=53

MAN 31 19:16:24,1311N×12477E,h1km,mb4.5,ML3.4,MS3.3, 1C,Luzon

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
CNP	**Catarman**	**0.60**	**190**	*eP*	Pg		19 16 34.1	-1.5
CNP				*eS*	Sg		19 16 41.7	-1.7
PVCP	**Virac**	**0.77**	**309**⇑	*iP*	Pg		19 16 39.4	+0.7
PVCP				*i* S	Sg		19 16 53.2	+4.5
OTRP	**Odiongan**	**2.78**	**255**	*eP*	Pn		19 17 11.5	+1.8
MSLP	**Maasin**	**2.96**	**178**	*eP*	Pn		19 17 13.8	+1.6
POLP	**Polilio Island**	**3.18**	**301**	*eP*	Pn		19 17 18.1	+2.9
CUYO	**Cuyo Island**	**4.30**	**239**	*eP*	Pn		19 17 28.2	-2.4

*IDC **31** 19:49:07.8±6.8,489S×15241E,h117km±61km,mb3.8/12, mb1 3.9/13,mb1mx3.8/17,mbtmp3.8/13,MS3.3/7, Ms1 3.3/7,ms1mx3.0/29,Error ellipse: s-maj=26.7km s-min=17.4km az=67.0*
*ISCJB **31** 19:49:08.1±5.3,49S±01×1525E±01,h134km±48km, mb4.2/19,Error ellipse: s-maj=25.8km s-min=18.3km az=147.2*
*NEIC **31** 19:49:09.5±3.7,491S×15239E,h134km±32km,mb4.5/3, Error ellipse: s-maj=16.0km s-min=13.1km az=46.0*

ISC 31 19:49:09.5±5.3,50S±01×1525E±01,h132km±48km,n33, σ0§58/29,mb4.2/19,1D,New Britain region

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
HNR	**Honiara**	**8.67**	**121**	LR		LR	19 53 51.1	
	comp=Z,55nm,21.5s,baz=182,slow=32							
CTA	**Charters Tower**	**16.21**	**201**	P		**Pn**	**19 52 50.1**	**+0.4**
	0.2nm,0.3s,baz=13,slow=15,SNR=3.6							
CTA				LR		LR	19 58 18.2	
	comp=Z,66nm,21.1s,baz=51,slow=34							
WRAB	**Tennant Creek**	**23.07**	**228**	*eP*		**P**	**19 54 03.5**	**-0.1**
	7.8nm,0.6s,mb4.3							
WB2	**Warramunga Arr**	**23.07**	**228**⇓	*iP*		**P**	**19 54 03.2**	**-0.5**
WRA	**Warramunga Arr**	**23.08**	**228**	P		**P**	**19 54 03.5**	**-0.3**
	6.2nm,0.5s,mb4.3,baz=52,slow=10.0,SNR=50							
ASAR	**Alice Springs**	**25.80**	**222**	P		**P**	**19 54 28.8**	**+0.4**
	1.1nm,0.4s,mb3.8,baz=55,slow=9.2,SNR=28							
STKA	**Stephens Creek**	**28.65**	**200**	P		**P**	**19 54 54.1**	**+0.3**
	2.3nm,0.7s,mb4.0,baz=32,slow=17,SNR=9.2							
STKA				LR		LR	20 05 08.8	
	comp=Z,77nm,20.6s,baz=24,slow=34							
FITZ	**Fitzroy Crossi**	**29.28**	**241**	*eP*		**P**	**19 54 58.3**	**-1.2**
	18nm,1.6s,mb4.5							
FITZ	**Fitzroy Crossi**	**29.28**	**241**	P		**P**	**19 54 58.6**	**-1.0**
	1.7nm,0.4s,mb4.2,baz=23,slow=5.4,SNR=18							
FITZ				LR		LR	20 06 36.8	
	comp=Z,36nm,18.8s,baz=252,slow=36							
FORT	**Forrest**	**34.45**	**219**	*eP*		**P**	**19 55 44.1**	**-0.5**
	9.8nm,0.6s,mb4.7							
URZ	**Urewera**	**40.04**	**149**	P		**P**	**19 56 31.3**	**-0.4**
	3.8nm,0.6s,mb4.2,baz=245,slow=7.6,SNR=3.6							
RPZ	**Rata Peaks**	**41.95**	**160**	P		**P**	**19 56 48.1**	**+0.8**
	16nm,0.8s,mb4.7,baz=21,slow=8.6,SNR=4.9							
RPZ				LR		LR	20 11 08.0	
	comp=Z,135nm,22.0s,baz=304,slow=31							
KSRS	**Korea Array**	**47.98**	**334**	P		**P**	**19 57 34.4**	**-0.5**
	1.0nm,0.7s,mb3.5,baz=160,slow=6.8,SNR=3.5							
SONM	**Songino Array**	**66.26**	**328**	P		**P**	**19 59 44.0**	**+0.6**
	0.4nm,0.6s,mb3.5,baz=138,slow=2.7,SNR=4.8							
JIRN	**Jiri**	**71.56**	**301**	*eP*		**P**	**20 00 17.3**	**+0.6**
JIRN	**Jiri**	**71.56**	**301**	*eP*		**P**	**20 00 17.4**	**+0.7**
GUN	**Gumba**	**71.90**	**301**	*eP*		**P**	**20 00 19.5**	**+0.8**
GUN	**Gumba**	**71.90**	**301**	*eP*		**P**	**20 00 19.5**	**+0.8**
	6.2nm,0.6s,mb4.5							
KKN	**Kakani**	**72.38**	**301**	*eP*		**P**	**20 00 22.1**	**+0.6**
	4.5nm,0.5s,mb4.4							
KKN	**Kakani**	**72.38**	**301**	*eP*		**P**	**20 00 22.0**	**+0.5**
	4.5nm,0.5s,mb4.4							
DMN	**Daman**	**72.48**	**301**	*eP*		**P**	**20 00 22.7**	**+0.6**
	9.6nm,0.8s,mb4.6							
DMN	**Daman**	**72.48**	**301**	*eP*		**P**	**20 00 22.8**	**+0.7**
	9.6nm,0.8s,mb4.6							
KOLN	**Koldanda**	**73.81**	**301**	*eP*		**P**	**20 00 30.3**	**+0.4**
	7.3nm,0.7s,mb4.5							
KOLN	**Koldanda**	**73.81**	**301**	*eP*		**P**	**20 00 30.3**	**+0.4**
	7.3nm,0.7s,mb4.5							
DANN	**Dangsing**	**73.82**	**301**	*eP*		**P**	**20 00 30.2**	**+0.2**
	8.5nm,0.7s,mb4.6							
DANN	**Dangsing**	**73.82**	**301**	*eP*		**P**	**20 00 30.3**	**+0.3**
	8.5nm,0.7s,mb4.6							
KDAK	**Kodiak Island**	**76.47**	**27**	LR		LR	20 27 45.3	
	comp=Z,63nm,21.9s,baz=276,slow=30							
MKAR	**Makanchi Array**	**80.21**	**319**	P		**P**	**20 01 04.5**	**-0.9**
	0.6nm,0.7s,mb3.3,baz=106,slow=5.6,SNR=5.3							
ZALV	**Zalesovo Beam**	**81.08**	**326**	P		**P**	**20 01 09.0**	**-0.8**
	1.6nm,0.6s,mb3.9,baz=107,slow=6.0,SNR=10							
ZALV				LR		LR	20 38 49.5	
	comp=Z,14nm,18.1s,baz=345,slow=37							
MAW	**Mawson**	**85.30**	**203**	P		**P**	**20 01 31.2**	**0.0**
	1.4nm,0.6s,mb3.8,baz=84,slow=7.0,SNR=4.2							
YKA	**Yellowknife Ar**	**95.72**	**28**	P		**P**	**20 02 19.5**	**-0.7**
	0.3nm,0.6s,mb3.8,baz=269,slow=4.9,SNR=5.1							
GERES	**GERESS Array B**	**124.00**	**328**	PKP		PKPdf	20 07 52.8	+0.6
	0.4nm,0.6s,baz=85,slow=2.8,SNR=5.6							
TORD	**Torodi Ar. Bea**	**150.02**	**288**	PKPbc		PKPbc	20 08 45.6	0.0
	0.9nm,0.4s,baz=71,slow=2.2,SNR=25							

*THE **31** 20:06:32.4,3858N×2038E,h1km,ML3.3*
*ISCJB **31** 20:06:33.6±1.1,3855N±004×205E±01,h11km±7km,Error ellipse: s-maj=18.6km s-min=6.2km az=2.7*
*CSEM **31** 20:06:33.6±0.2,3856N×2051E,h5km,ML3.3,Error ellipse: s-maj=5.9km s-min=2.7km az=86.0*
*ATH **31** 20:06:33.2,3845N×2049E,h31km±5km,MD3.2/3*
*NEIC **31** 20:06:33.2,3845N×2049E,h31km,MD3.2(ATH),After ATH.*

ISC 31 20:06:33.8±1.1,3856N±004×205E±01,h12km±6km,n7, σ1§03/10,Greece

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
LKD	**Levkas**	**0.17**	**32**	*eP*g		**Pg**	**20 06 37.3**	**-0.5**
LKD				*e*Sg		**Sg**	**20 06 40.7**	**+0.1**
VLS	**Valsamata**	**0.38**	**173**	*eP*g		**Pg**	**20 06 40.7**	**-0.7**
VLS				*e*Sg		**Sg**	**20 06 46.9**	**+0.3**
KFL	**Anninata**	**0.49**	**156**	*eP*g		**Pg**	**20 06 42.8**	**-0.7**
KFL				*e*Sg		**Sg**	**20 06 51.6**	**+1.6**
RLS	**Riolos of Patr**	**0.89**	**124**	*e*PN		**Pn**	**20 06 50.2**	**-1.9**
EVR	**Evrytania**	**1.06**	**70**	*e*PN		**Pn**	**20 06 54.1**	**-0.4**
KEK	**Kerkira**	**1.29**	**334**	*e*PN		**Pn**	**20 06 58.1**	**+0.5**
THL	**Klokotos Trika**	**1.53**	**48**	*e*PN		**Pn**	**20 07 02.7**	**+1.8**

*ISCJB **31** 20:14:11.3±0.6,3522N±004×2242E±006,h10km,Error ellipse: s-maj=7.8km s-min=4.4km az=142.2*
*CSEM **31** 20:14:13.4±0.1,3518N×2233E,h30km,MD3.5,Error ellipse: s-maj=3.3km s-min=1.8km az=65.0*
*HLW **31** 20:14:13.8,3539N×2250E,h33km,Mb3.5*
*THE **31** 20:14:15.3,3529N×2254E,h7km,ML3.6*
*ATH **31** 20:14:16.0,3547N×2266E,h28km±7km,MD3.5/4*
*NEIC **31** 20:14:16.0,3547N×2266E,h28km,MD3.5(ATH),After ATH.*

ISC 31 20:14:13.3±1.6,3527N±004×2245E±007,h10km±11km, n36,σ0§76/40,Central Mediterranean Sea

Code	Station Name	Δ°	AZ°	Phase	ID Op	ISC	Time h m s	Res ISC
KYTH	**Kithira**	**1.12**	**25**	*e*PN		**Pn**	**20 14 33.0**	**-1.9**
KARN	**Karanos**	**1.20**	**83**	*eP*g		**Pg**	**20 14 36.4**	**0.0**
KARN				*e*Sg		**Sg**	**20 14 52.9**	**+0.9**
VAM	**Vamos**	**1.43**	**84**	*e*PN		**Pn**	**20 14 39.4**	**+0.1**
VLI	**Veliai**	**1.50**	**15**	*e*PN		**Pn**	**20 14 40.5**	**+0.3**
PYL	**PYLOS**	**1.73**	**341**	*e*Pb		**Pb**	**20 14 43.7**	**-1.4**
ITM	**Ithomi**	**1.96**	**348**	*e*PN		**Pn**	**20 14 47.4**	**+0.9**
DID	**Didima**	**2.32**	**16**	*e*Pn		**Pn**	**20 14 51.2**	**-0.4**
DID				*e*Sn		**Sn**	**20 15 19.9**	**-0.3**
LAST	**Lasithi**	**2.48**	**92**	*e*Pn		**Pn**	**20 14 54.8**	**+1.2**
NPS	**Neapolis**	**2.58**	**89**	*e*PN		**Pn**	**20 14 56.0**	**+0.9**
SANT	**Santorini**	**2.68**	**65**	*e*Pn		**Pn**	**20 14 55.3**	**-1.1**
LTK	**Loutraki**	**2.78**	**8**	*e*Pn		**Pn**	**20 14 58.5**	**+0.6**
SELA	**Sela**	**3.04**	**352**	*e*Pn		**Pn**	**20 15 02.2**	**+0.9**
SELA	**Sela**	**3.04**	**352**	*e*Pn		**Pn**	**20 15 02.2**	**+0.9**
VLS	**Valsamata**	**3.27**	**333**	*e*PN		**Pn**	**20 15 04.5**	**0.0**
VLS				*e*Sn		**Sn**	**20 15 44.9**	**+1.4**
LKR	**Lokris**	**3.41**	**7**	*e*Pn		**Pn**	**20 15 06.1**	**-0.3**
LKR	**Lokris**	**3.41**	**7**	*e*Pn		**Pn**	**20 15 06.3**	**-0.1**
EVR	**Evrytania**	**3.68**	**352**	*e*PN		**Pn**	**20 15 11.1**	**+0.9**
AGG	**Agios Georgios**	**3.75**	**359**	*e*Pn		**Pn**	**20 15 11.9**	**+0.8**
AOS	**Alonnisos**	**4.06**	**16**	*e*Pn		**Pn**	**20 15 14.5**	**-0.9**
NEO	**Neokhori**	**4.08**	**8**	*e*PN		**Pn**	**20 15 15.9**	**+0.2**
XOR	**Xorichti**	**4.13**	**8**	*e*Pn		**Pn**	**20 15 16.5**	**+0.1**
CHOS	**Chios island**	**4.25**	**42**	*e*Pn		**Pn**	**20 15 17.4**	**-0.5**
THL	**Klokotos Trika**	**4.31**	**355**	*e*PN		**Pn**	**20 15 19.2**	**+0.4**
IGT	**Igoumenitsa**	**4.58**	**339**	*e*Pn		**Pn**	**

MEV	**Metsovon**	**4.62**	**348**	*e*Pn	**Pn**	**20 15 23.7**	**+0.7**
LIT	**Litokhoron**	**4.83**	**0**	*e*Pn	**Pn**	**20 15 25.7**	**-0.2**
OUR	**Ouranopolis**	**5.20**	**13**	*e*Pn	**Pn**	**20 15 30.5**	**-0.6**
FNA	**Florina**	**5.57**	**352**	*e*Pn	**Pn**	**20 15 35.7**	**-0.5**
HMAT	**Matruh**	**5.70**	**136**	P	**Pn**	**20 15 36.9**	**-1.0**
KNT	**Kendrikon**	**5.90**	**3**	*e*Pn	**Pn**	**20 15 40.6**	**-0.1**
SRS	**Serrai**	**5.91**	**8**	*e*Pn	**Pn**	**20 15 39.8**	**-1.0**
SWA2		**6.52**	**156**	P	**Pn**	**20 15 49.4**	**+0.2**
SWA1		**6.59**	**154**	P	**Pn**	**20 15 50.4**	**+0.2**
SWA1				S	**Sn**	**20 17 00.6**	**-4.7**
SWA1		**6.59**	**154**	P	**Pn**	**20 15 50.3**	**+0.1**
HFRF	**Wahat Farafira**	**9.52**	**147**	P	**Pn**	**20 16 30.2**	**-0.1**
HFRF	**Wahat Farafira**	**9.52**	**147**	P	**Pn**	**20 16 30.2**	**-0.1**

*ISCJB **31** 20:18:36.5±4.7, 33N±0.1×1284E±0.2, h105km±44km, mb3.9/13, Error ellipse: s-maj=31.6km s-min=13.9km az=149.9*
*NEIC **31** 20:18:39.5±3.3, 3.19N×12836E, h120km±31km, mb4.0/1, Error ellipse: s-maj=26.7km s-min=10.5km az=69.0*
*IDC **31** 20:18:39.5±4.9, 3.17N×12822E, h118km±46km, mb3.4/10, mb1 3.5/11, mb1mx3.5/20, mbtmp3.5/11, Error ellipse: s-maj=36.0km s-min=14.9km az=72.0*

ISC 31 20:18:38.2±4.2, 32N±01×1284E±0.2, h105km±40km, n20, σ0§61/19, mb3.9/13, North of Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
KAPI	**Kappang**	**11.90**	**227**	P	**Pn**	**20 21 24.3**	**-0.2**
	0.8nm,0.3s,baz=16,slow=7.4,SNR=4.8						
KAPI				S	**Sn**	**20 23 29.8**	**-5.6**
	0.3nm,0.3s,baz=180,slow=20,SNR=2.9						
FITZ	**Fitzroy Crossi**	**21.35**	**187**	P	**P**	**20 23 17.3**	**+0.1**
	1.7nm,0.9s,mb3.4,baz=20,slow=12,SNR=2.9						
WRA	**Warramunga Arr**	**23.74**	**166**	P	**P**	**20 23 40.3**	**-0.6**
	2.1nm,0.8s,mb3.5,baz=343,slow=10,SNR=8.9						
ASAR	**Alice Springs**	**27.25**	**169**	P	**P**	**20 24 13.2**	**+0.5**
	0.2nm,0.5s,mb2.9,baz=353,slow=8.3,SNR=5.6						
ASAR				PcP	PcP	20 27 29.4	-0.7
	0.4nm,0.6s,baz=350,slow=2.5,SNR=5.0						
MJAR	**Matsushiro Arr**	**34.38**	**14**	P	**P**	**20 25 15.5**	**+0.3**
	0.7nm,0.7s,mb3.6,baz=182,slow=9.6,SNR=4.5						
STKA	**Stephens Creek**	**37.08**	**161**	P	**P**	**20 25 38.6**	**+0.2**
	1.4nm,0.7s,mb4.0,baz=319,slow=11,SNR=3.1						
LSA	**Lhasa**	**44.04**	**311**	*e*P	**P**	**20 26 37.4**	**+1.7**
	2.2nm,0.7s,mb4.0						
JIRN	**Jiri**	**47.03**	**305**	*e*P	**P**	**20 26 59.7**	**+0.3**
	10nm,0.7s,mb4.7						
GUN	**Gumba**	**47.38**	**306**	*e*P	**P**	**20 27 02.3**	**+0.2**
	13nm,0.7s,mb4.8						
PKI	**Pulchoki**	**47.63**	**305**	*e*P	**P**	**20 27 03.9**	**-0.2**
KKN	**Kakani**	**47.83**	**305**	*e*P	**P**	**20 27 05.0**	**-0.5**
SONM	**Songino Array**	**48.33**	**340**	P	**P**	**20 27 09.3**	**+0.3**
	0.1nm,0.3s,mb3.1,baz=145,slow=5.5,SNR=2.3						
SONM				PcP	PcP	20 28 33.2	-1.0
	0.4nm,0.7s,baz=165,slow=3.5,SNR=3.6						
KOLN	**Koldanda**	**49.19**	**304**	*e*P	**P**	**20 27 16.2**	**+0.2**
	14nm,0.5s						
DANN	**Dangsing**	**49.28**	**305**	*e*P	**P**	**20 27 16.6**	**-0.1**
MKAR	**Makanchi Array**	**58.94**	**325**	P	**P**	**20 28 26.2**	**-0.3**
	2.2nm,0.7s,mb4.3,baz=115,slow=8.3,SNR=26						
ZALV	**Zalesovo Beam**	**61.81**	**332**	P	**P**	**20 28 44.4**	**-1.5**
	0.4nm,0.4s,mb3.8,baz=152,slow=6.5,SNR=3.6						
BVAR	**Borovoye Array**	**68.67**	**327**	P	**P**	**20 29 29.6**	**-0.6**
	1.0nm,0.6s,mb3.8,baz=116,slow=8.6,SNR=7.8						
FINES	**FINESS Array B**	**93.08**	**332**	P	**P**	**20 31 40.2**	**+0.3**
	2.1nm,0.8s,mb4.5,baz=46,slow=4.0,SNR=4.1						
TORD	**Torodi Ar. Bea**	**124.67**	**288**	PKP	PKPdf	20 37 25.4	-1.1
TORD	**Torodi Ar. Bea**	**124.67**	**288**	PKP	PKPdf	20 37 25.4	-1.1
	0.6nm,0.8s,baz=58,slow=1.5,SNR=5.8						

IGQ 31 20:38:38.3, 135S×7991W, h27km±7km, Mb4.2, Ms4.0, 8C-7D, Error ellipse: s-maj=6.2km s-min=2.0km az=119.9, Ecuador

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
PORT	**Chimborazo Vol**	**1.14**	**96**	P	Pn	20 38 59.9	+1.4
JUIV	**Juive**	**1.44**	**93**	⇓P	Pn	20 39 04.7	+2.0
JUIV	**Juive**	**1.44**	**93**	⇓S	Sn	20 39 22.5	+1.8
ARRY	**Arrayan**	**1.46**	**96**	P	Pn	20 39 05.2	+2.3
RETU	**Refugio**	**1.46**	**94**	P	Pn	20 39 05.8	+2.9
PATA	**Patacocha**	**1.48**	**96**	P	Pn	20 39 05.9	+2.7
RUN5	**Runtun**	**1.48**	**93**	P	Pn	20 39 05.6	+2.4
RUN5	**Runtun**	**1.48**	**93**	S	Sn	20 39 24.2	+2.4
ULBA	**Ulba**	**1.50**	**94**	⇓P	Pn	20 39 05.8	+2.3
ULBA	**Ulba**	**1.50**	**94**	⇓S	Sn	20 39 24.9	+2.8
PISA	**Pisayambo**	**1.55**	**79**	P	Pn	20 39 06.9	+2.7
PISA	**Pisayambo**	**1.55**	**79**	S	Sn	20 39 27.2	+3.9
CAMI	**Rancho Maria**	**1.55**	**64**	⇑P	Pn	20 39 07.3	+3.1
VC1	**Cotopaxi 1**	**1.66**	**65**	⇑P	Pn	20 39 09.2	+3.6
TAMB	**Tambo**	**1.67**	**67**	⇑P	Pn	20 39 09.3	+3.5
JUA2	**San Juan 2**	**1.72**	**49**	⇓P	Pn	20 39 09.0	+2.5
JUA2	**San Juan 2**	**1.72**	**49**	⇓S	Sn	20 39 32.5	+4.9
TERV	**Terraza Guagua**	**1.75**	**48**	P	Pn	20 39 09.5	+2.6
GGP	**Refugio Guagua**	**1.75**	**48**	⇑P	Pn	20 39 09.4	+2.4
PINO	**Pino**	**1.76**	**48**	⇑P	Pn	20 39 09.3	+2.3
YANA	**Yana**	**1.81**	**47**	⇑P	Pn	20 39 10.1	+2.4
ANTI	**Antisana**	**1.96**	**63**	P	Pn	20 39 13.6	+3.8
COTA	**Cotacachi**	**2.29**	**43**	⇓P	Pn	20 39 17.9	+3.5
CAYR	**Refugio Cayamb**	**2.33**	**54**	P	Pn	20 39 20.2	+5.2
CAYA	**Cayambe**	**2.38**	**54**	⇑P	Pn	20 39 20.6	+5.0
CAYA	**Cayambe**	**2.38**	**54**	⇑S	Sn	20 39 51.6	+7.7

KRSC 31 20:43:49.8±0.7, 5364N×16066E, h40km±29km, ML3.5, Near east coast of Kamchatka Peninsula

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SPN	**Mys Shipunski**	**0.66**	**215**	*e*P	Pn	20 44 02.0	-0.7
SPN				*i* S	Sn	20 44 10.9	-1.0
KII	**Karymskiy**	**0.82**	**299**	*i* P	Pn	20 44 05.1	+0.3
KII				*i* S	Sn	20 44 16.5	+0.7
NLC	**Nalytchevo**	**0.92**	**240**	*e*P	Pn	20 44 05.9	-0.3
NLC				*i* S	Sn	20 44 18.0	-0.1
MKZ	**Mys Kozlova**	**1.11**	**34**	*e*P	Pn	20 44 07.5	-1.4
MKZ				*i* S	Sn	20 44 20.6	-2.4
AVH	**Avacha**	**1.21**	**253**	*e*P	Pn	20 44 10.9	+0.7
AVH				*e*S	Sn	20 44 26.6	+1.3
PET	**Petropavlovsk**	**1.35**	**244**	P	Pn	20 44 13.2	+1.1
PET				*i* S	Sn	20 44 29.9	+1.1
GNL	**Ganaly**	**1.62**	**273**	*e*P	Pn	20 44 17.1	+1.3
TUMR	**Tumrok**	**1.67**	**350**	*i* P	Pn	20 44 17.8	+1.3
TUMR				*e*S	Sn	20 44 37.9	+1.2
RUS	**Russkaya**	**1.77**	**228**	P	Pn	20 44 17.9	0.0
RUS				*i* S	Sn	20 44 38.0	-1.2
GRL	**Gorelyy**	**1.90**	**236**	P	Pn	20 44 21.1	+1.4
MIPR	**Malaya Ipel'ka**	**2.73**	**242**	P	Pn	20 44 33.7	+2.7
KBTR	**Krutoberegovo**	**2.86**	**25**	*e*P	Pn	20 44 33.4	+0.6

*IDC **31** 20:46:39.2±6.5, 46.31N×141.71E, h153km±182km, mb3.3/3, mb1 3.2/4, mb1mx3.0/20, mbtmp3.2/4, ML3.0/1, Error ellipse: s-maj=214.5km s-min=102.6km az=112.0*
*ISCJB **31** 20:46:43.2±0.7, 44.71N±0.006×141.82E±0.009, h266km±.5km, mb3.3/3, Error ellipse: s-maj=10.4km s-min=9.2km az=45.0*
*JMA **31** 20:46:43.3±0.2, 44.79N×141.76E, h266km±2km, M3.0*

ISC 31 20:46:44.1±0.7, 4469N±006×14183E±009, h263km±5km, n23, σ0§93/36, mb3.3/3, Hokkaido region

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JSS	**Shosan**	**0.29**	**177**	P	**Pn**	**20 47 18.3**	**+0.3**
JSS				*e*S	**S**	**20 47 44.9**	**+0.2**
JYG	**Yagishiri**	**0.39**	**228**	P	**Pn**	**20 47 18.0**	**-0.1**
JYG				*e*S	**S**	**20 47 44.8**	**-0.2**
JRR	**Rishiri**	**0.58**	**321**	P	**Pn**	**20 47 18.2**	**-0.3**
JSE	**Soyaes**	**0.60**	**63**	P	**Pn**	**20 47 18.4**	**-0.2**
JWK2	**Keihoku**	**0.63**	**4**	P	**Pn**	**20 47 18.0**	**-0.7**
JWK2				*e*S	**S**	**20 47 44.7**	**-1.4**
ASAJ	**Asahikawa**	**0.80**	**136**	P	**Pn**	**20 47 19.8**	**+0.3**
ASAJ				*e*S	**S**	**20 47 47.8**	**+0.4**
ASAJ	**Asahikawa**	**0.80**	**136**	P	**Pn**	**20 47 19.9**	**+0.4**
	2.6nm,0.3s,baz=288,slow=10,SNR=35						
ASAJ				S	**S**	**20 47 47.6**	**+0.2**
	0.9nm,0.3s,baz=85,slow=26,SNR=9.2						
JKK2	**Kamakawa 2**	**1.05**	**141**	P	**Pn**	**20 47 21.4**	**+0.7**
JKK2				*e*S	**S**	**20 47 50.5**	**+0.9**
JAB	**Ashibetsu**	**1.22**	**166**	P	**Pn**	**20 47 22.5**	**+0.8**
JAB				*e*S	**S**	**20 47 52.5**	**+1.1**
JFR	**Furan**	**1.62**	**160**	P	**Pn**	**20 47 24.9**	**+0.4**
JSK	**Shakotan**	**1.66**	**217**	P	**Pn**	**20 47 24.8**	**0.0**
JTKR	**Abashiri--Toko**	**1.66**	**115**	P	**Pn**	**20 47 25.8**	**+1.1**
JEW	**Eniwo**	**1.87**	**189**	*e*S	**S**	**20 48 00.6**	**+0.6**
JAR	**Ashorobuto**	**1.98**	**134**	P	**Pn**	**20 47 28.7**	**+1.3**
JAR				*e*S	**S**	**20 48 03.1**	**+1.5**
JCH	**Churui**	**2.35**	**151**	P	**Pn**	**20 47 30.2**	**-0.6**
JCH				*e*S	**S**	**20 48 05.2**	**-2.7**
JNBK	**Urakawa-nobuka**	**2.50**	**164**	P	**Pn**	**20 47 33.1**	**+0.8**
JNBK				*e*S	**S**	**20 48 10.8**	**+0.4**
JAK	**Akkeshi**	**2.68**	**128**	*e*S	**S**	**20 48 12.1**	**-1.4**
JKB	**Kayabe**	**2.86**	**192**	P	**Pn**	**20 47 35.9**	**0.0**
JKB				*e*S	**S**	**20 48 14.2**	**-2.8**
NEM2	**Nemuro 2**	**3.12**	**114**	P	**Pn**	**20 47 38.4**	**-0.2**
NEM2				*e*S	**S**	**20 48 19.6**	**-2.2**
JOSM	**Okushiri--Mats**	**3.12**	**214**	P	**Pn**	**20 47 38.3**	**-0.3**
JOSM				*e*S	**S**	**20 48 21.3**	**-0.6**
SONM	**Songino Array**	**24.57**	**290**	P	**P**	**20 51 39.9**	**-0.1**
	1.2nm,0.6s,mb3.5,baz=76,slow=9.0,SNR=15						
ZALV	**Zalesovo Beam**	**37.35**	**305**	P	**P**	**20 53 26.8**	**-4.5**
	0.3nm,0.3s,mb3.2,baz=78,slow=9.0,SNR=3.6						
MKAR	**Makanchi Array**	**40.74**	**295**	P	**P**	**20 53 59.5**	**+0.1**
	0.8nm,0.6s,mb3.1,baz=81,slow=9.5,SNR=8.2						

*ISCJB **31** 20:52:03.0±0.6, 687N±007×7298W±007, h165km±6km, mb3.8/5, Error ellipse: s-maj=14.4km s-min=6.6km az=137.6*
*IDC **31** 20:52:03.3±0.7, 673N×7294W, h161km±7km, mb3.6/6, mb1 3.8/8, mb1mx3.4/22, mbtmp3.7/8, Error ellipse: s-maj=20.2km s-min=7.8km az=132.0*
*NEIC **31** 20:52:04.1±0.8, 670N×7291W, h170km±8km, Error ellipse: s-maj=17.8km s-min=13.1km az=132.0*
*FUNV **31** 20:52:05.6, 697N×73.17W, h151km, MW3.8*

ISC 31 20:52:04.0±0.6, 687N±007×7298W±007, h158km±6km, n25, σ1§15/30, mb3.8/5, Northern Colombia

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
CAPV	**Capacho**	**1.19**	**34**	*e*P	**Pn**	**20 52 32.4**	**+1.1**
CAPV				*e*S	**Sn**	**20 52 51.8**	**-0.4**
ROSC	**El Rosal**	**2.41**	**214**	P	**Pn**	**20 52 44.3**	**-0.2**
	40nm,0.3s,baz=34,slow=4.0,SNR=74						
ROSC				S	**Sn**	**20 53 14.3**	**-1.5**
	113nm,0.3s,baz=91,slow=9.5,SNR=7.2						
VIGV	**El Vigia**	**2.53**	**39**	*e*P	**Pn**	**20 52 46.6**	**+0.6**
VIGV				*e*S	**Sn**	**20 53 16.4**	**-1.9**
SOCV	**Socops**	**2.53**	**56**	*e*P	**Pn**	**20 52 47.2**	**+1.3**
SOCV				*e*S	**Sn**	**20 53 18.3**	**0.0**
SDV	**Santo Domingo**	**3.07**	**49**	P	**Pn**	**20 52 54.2**	**+1.6**
	37nm,0.3s,baz=281,slow=6.5,SNR=107						
SDV				S	**Sn**	**20 53 31.5**	**+1.2**
	65nm,0.3s,baz=82,slow=15,SNR=33						
ELOV	**Elorza**	**3.47**	**88**	*e*S	**Sn**	**20 53 40.5**	**+1.1**
VIRV	**Villa del Rosa**	**3.65**	**9**	*e*P	**Pn**	**20 52 59.5**	**-0.5**
VIRV				*e*S	**Sn**	**20 53 38.7**	**-5.0**
QARV	**Quebrada Arrib**	**4.11**	**36**	*e*P	**Pn**	**20 53 07.1**	**+1.1**
SANV	**Sanarito**	**4.29**	**52**	*e*P	**Pn**	**20 53 08.8**	**+0.4**
SANV				*e*S	**Sn**	**20 53 56.7**	**-1.8**
CURV	**Curarigua**	**4.32**	**44**	*e*P	**Pn**	**20 53 09.4**	**+0.7**
CURV				*e*S	**Sn**	**20 53 57.6**	**-1.5**
TEPV	**Terepaima**	**4.85**	**50**	*e*P	**Pn**	**20 53 16.2**	**+0.6**
TEPV				*e*S	**Sn**	**20 54 09.0**	**-2.5**
SIQV	**Siquisique**	**4.89**	**40**	*e*P	**Pn**	**20 53 16.4**	**+0.2**
TEIG	**Tepich**	**19.91**	**313**	P	**P**	**20 56 25.8**	**+2.3**
	14nm,0.8s,baz=170,slow=1.4,SNR=3.6						
TXAR	**Lajitas Array**	**36.53**	**312**	P	**P**	**20 58 54.1**	**-0.4**
	0.9nm,0.6s,mb3.5,baz=127,slow=9.2,SNR=11						
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**	**21 00 20.4**	**-0.9**
ULM	**Lac du Bonnet**	**47.29**	**340**	P	**P**	**21 00 20.4**	**-0.9**
	2.0nm,0.4s,mb4.1,baz=135,slow=6.9,SNR=5.4						
SCHQ	**Schefferville**	**48.08**	**5**	P	**P**	**21 00 28.0**	**+0.6**
	3.3nm,0.6s,mb4.2,baz=198,slow=8.6,SNR=9.5						
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**21 02 15.2**	**-0.3**
YKA	**Yellowknife Ar**	**63.27**	**340**	P	**P**	**21 02 15.2**	**-0.3**
	1.0nm,0.5s,mb3.9,baz=134,slow=6.7,SNR=16						
TORD	**Torodi Ar. Bea**	**73.59**	**78**	P	**P**	**21 03 19.0**	**-1.5**
TORD	**Torodi Ar. Bea**	**73.59**	**78**	P	**P**	**21 03 19.0**	**-1.5**
	0.3nm,0.7s,mb3.1,baz=286,slow=6.9,SNR=7.1						
MKAR	**Makanchi Array**	**122.23**	**20**	PKP	PKPdf	21 10 39.6	-0.6
	0.2nm,0.3s,baz=301,slow=2.1,SNR=3.7						
SONM	**Songino Array**	**125.53**	**1**	PKP	PKPdf	21 10 47.2	+0.7
	0.2nm,0.4s,baz=350,slow=2.1,SNR=3.3						
ASAR	**Alice Springs**	**149.25**	**234**	PKPbc	PKPbc	21 11 33.2	-1.6
	0.4nm,0.4s,baz=116,slow=3.3,SNR=7.8						
WRA	**Warramunga Arr**	**150.48**	**241**	PKPbc	PKPbc	21 11 36.3	-1.6
	0.4nm,0.4s,baz=103,slow=3.0,SNR=11						

*LDG **31** 21:02:21.3±0.2, 3309N×9046E, h10km, Mb4.8/15, Ms3.0/1, Error ellipse: s-maj=11.6km s-min=4.5km az=130.0*
*IDC **31** 21:02:21.3±0.6, 3280N×9070E, h0km, mb4.3/19, mb1 4.4/21, mb1mx4.3/25, mbtmp4.3/21, ML3.4/2, MS3.3/7, Ms1 3.3/7, ms1mx3.1/29, Error ellipse: s-maj=21.5km s-min=13.6km az=48.0*
*SZGRF **31** 21:02:25.2, 3295N×9160E, h33km, mb4.7, Xizang*
*ISCJB **31** 21:02:25.9±0.7, 3294N±004×9071E±003, h42km±7km, mb4.6/54, MS3.4/7, Error ellipse: s-maj=6.5km s-min=4.4km az=162.8*
*MOS **31** 21:02:26.8±1.4, 3302N×9074E, h49km, mb4.9/24, Error ellipse: s-maj=10.7km s-min=5.4km az=115.2*
*BJI **31** 21:02:27.5, 3300N×9081E, h58km, mB4.6, mb4.6, Ms4.1, Msz4.0*
*NEIC **31** 21:02:29.3±1.3, 3296N×9074E, h57km±12km, mb4.7/25, Error ellipse: s-maj=10.0km s-min=7.7km az=55.0*

ISC 31 21:02:28.8±0.5, 3295N±004×9069E±003, h51km±5km, n155, σ1§11/158, mb4.6/54, MS3.4/7, 15C-1D, Xizang

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
LSA	**Lhasa**	**3.26**	**173**	P	**Pn**	**21 03 19.5**	**+2.0**
LSA	**Lhasa**	**3.26**	**173**	*e*P	**Pn**	**21 03 19.5**	**+2.1**
GUN	**Gumba**	**6.51**	**221**	*e*P	**Pn**	**21 04 02.5**	**+0.4**
	42nm,0.4s						
JIRN	**Jiri**	**6.55**	**218**	*e*P	**Pn**	**21 04 02.9**	**+0.4**
	32nm,0.5s						
KKN	**Kakani**	**6.94**	**224**	*e*P	**Pn**	**21 04 07.6**	**-0.4**
	60nm,0.6s						
PKI	**Pulchoki**	**7.04**	**222**	*e*P	**Pn**	**21 04 09.0**	**-0.3**
	58nm,0.5s						
PKIN	**Phulchoki**	**7.04**	**222**	*e*P	**Pn**	**21 04 09.1**	**-0.2**
	31nm,0.5s						
GKN	**Gorkha**	**7.18**	**228**	*e*P	**Pn**	**21 04 11.1**	**-0.1**
DMN	**Daman**	**7.18**	**224**	*e*P	**Pn**	**21 04 10.8**	**-0.4**
	54nm,0.7s						
SHL	**Shillong**	**7.43**	**172**	*e*P	**Pn**	**21 04 14.0**	**-0.6**
DANN	**Dangsing**	**7.52**	**234**	*e*P	**Pn**	**21 04 15.4**	**-0.5**
	28nm,0.5s						
KOLN	**Koldanda**	**8.00**	**232**	*e*P	**Pn**	**21 04 21.5**	**-1.0**
GTA	**Gaotai**	**9.80**	**46**	*e*P	**Pn**	**21 04 45.0**	**-2.0**
GTA				AP		21 04 48.5	
GTA				S	**Sn**	**21 06 37.0**	**+1.5**
GTA				XS		21 06 42.3	
GTA				AMB	AMB		
	comp=Z,8.0nm,0.8s						
GTA				AMB	AMB		
	comp=Z,55nm,3.8s						
GTA				LR	LR		
	comp=N,593nm,13.3s						
GTA				LR	LR		
	comp=E,318nm,15.6s						
GTA				LR	LR		
	comp=Z,350nm,11.8s						
WMQ	**Urumqi**	**11.11**	**349**	*e*P	**Pn**	**21 05 05.0**	**+0.1**
CD2	**Chengdu**	**11.29**	**97**	*e*P	**Pn**	**21 05 08.5**	**+1.0**
CD2				PP		21 05 17.0	
CD2				S	**Sn**	**21 07 13.5**	**+1.3**
CD2				SS		21 07 28.0	
CD2				AMB	AMB		
	comp=Z,10.0nm,0.6s						
CD2				AMB	AMB		
	comp=Z,20nm,3.6s						
CD2				LR	LR		
	comp=N,990nm,10.8s						
CD2				LR	LR		
	comp=E,860nm,8.4s						
CD2				LR	LR		
	comp=Z,1μm,9.6s						
LZH	**Lanzhou**	**11.30**	**70**	*e*P	**Pn**	**21 05 11.5**	**+4.0**
LZH				AP		21 05 18.5	
LZH				XP		21 05 22.8	
LZH				*e*S	**Sn**	**21 07 13.5**	**+1.2**
LZH				XS		21 07 25.0	
LZH				AMB	AMB		
	comp=Z,21nm,1.3s						
LZH				AMB	AMB		
	comp=Z,85nm,4.6s						
LZH				LR	LR		
	comp=E,800nm,10.8s						
LZH				LR	LR		
	comp=Z,777nm,11.5s						
KMI	**Kunming**	**13.11**	**123**	P	**Pn**	**21 05 35.3**	**+3.0**
KMI				LR	LR		
	comp=N,434nm,8.2s						
KMI				LR	LR		
	comp=E,220nm,10.5s						
KMI				LR	LR		
	comp=Z,502nm,10.0s						
MKAR	**Makanchi Array**	**15.24**	**338**	Pn	**Pn**	**21 05 58.4**	**-2.3**
	comp=Z,0.1nm,0.3s,baz=147,slow=14,SNR=16						
MKAR				LR	LR	21 11 59.9	
	comp=Z,96nm,20.2s,baz=152,slow=38						
XAN	**Xi'an**	**15.26**	**81**	P	**Pn**	**21 06 00.3**	**-0.6**
XAN				AMB	AMB		
	comp=Z,5.0nm,0.8s						
XAN				LR	LR		
	comp=N,185nm,8.1s						
XAN				LR	LR		
	comp=E,201nm,6.8s						
XAN				LR	LR		
	comp=Z,376nm,6.8s						
SONM	**Songino Array**	**19.03**	**34**	P	**Pn**	**21 06 46.0**	**-1.7**
	comp=Z,0.2nm,0.3s,baz=226,slow=12,SNR=40						
SONM				LR	LR	21 14 43.3	
	comp=Z,94nm,19.2s,baz=223,slow=39						
ULN	**Ulaanbaatar**	**19.37**	**35**	*e*P	**Pn**	**21 06 49.0**	**-2.6**
ULN				pmax	pmax		
	comp=Z,15nm,1.3s						
ULN	**Ulaanbaatar**	**19.37**	**35**	*e*P	**Pn**	**21 06 49.0**	**-2.6**
	comp=Z,15nm,1.3s						
ZAK	**Zakamensk**	**19.75**	**24**	*e*P	**Pn**	**21 06 53.4**	**-2.8**
ZAK				pmax	pmax		
	comp=Z,3.0nm,1.3s						
ZAK				pmax	pmax		
	comp=Z,2.0nm,1.1s						
KURK	**Kurchatov**	**19.86**	**337**	*e*P	**Pn**	**21 06 54.9**	**-2.5**
KURK				pmax	pmax		
	comp=Z,10.0nm,1.1s						
KURK	**Kurchatov**	**19.86**	**337**	*e*P	**Pn**	**21 06 54.9**	**-2.5**
	comp=Z,10.0nm,1.1s						
WHN	**Wuhan**	**20.26**	**90**	*e*P	**P**	**21 07 01.5**	**+1.5**
WHN				LR	LR		
	comp=N,377nm,9.1s						
WHN				LR	LR		
	comp=E,545nm,6.9s						
WHN				LR	LR		
	comp=Z,467nm,10.0s,MS4.1						
TLY	**Talaya**	**20.97**	**23⇑**	*e*P	**P**	**21 07 07.1**	**-0.4**
TLY				pmax	pmax		
	comp=Z,1.0nm,1.3s						
ZAL	**Zalesovo**	**21.40**	**350**	P	**P**	**21 07 11.5**	**-0.6**
ZALV	**Zalesovo Beam**	**21.41**	**350**	P	**P**	**21 07 11.5**	**-0.7**
	comp=Z,8.9nm,0.9s,mb4.1,baz=163,slow=11,SNR=36						
ZALV				LR	LR	21 15 47.8	
	comp=Z,50nm,19.4s,MS2.9,baz=284,slow=37						
QIZ	**Qiongzhong**	**22.05**	**124**	P	**P**	**21 07 17.5**	**-1.9**
QIZ				XP	sP	21 07 40.5	+3.0
QIZ				S	**S**	**21 11 20.0**	**+0.2**
QIZ				SS		21 11 53.5	
QIZ				AMB	AMB		
	comp=Z,64nm,1.7s,mb4.8						
QIZ				AMB	AMB		
	comp=Z,64nm,6.0s						
QIZ				LR	LR		
	comp=N,235nm,11.1s						
QIZ				LR	LR		
	comp=E,313nm,9.0s						
QIZ				LR	LR		
	comp=Z,407nm,9.8s						
NVS	**Novosibirsk**	**22.51**	**349**	*e*P	**P**	**21 07 20.6**	**-3.3**
NVS				pmax	pmax		
	comp=N,19nm,1.7s						
NVS				pmax	pmax		
	comp=Z,14nm,1.7s,mb4.1						
NVS				pmax	pmax		
	comp=E,4.0nm,0.9s						
KRAR	**Krasnoyarsk**	**23.11**	**3⇑**	*e*P	**P**	**21 07 30.5**	**+0.3**
KRAR				pmax	pmax		
	comp=Z,16nm,0.3s,mb4.9						
NJ2	**Nanjing**	**23.75**	**84**	*e*P	**P**	**21 07 34.5**	**-2.0**
NJ2				AP		21 07 48.8	
NJ2				XP	sP	21 07 54.8	-0.6
NJ2				PP		21 08 08.0	
NJ2				S	**S**	**21 11 42.5**	**-5.7**
NJ2				XS	sS	21 12 00.5	-9.4
NJ2				AMB	AMB		
	comp=Z,10.0nm,0.7s,mb4.3						
NJ2				AMB	AMB		
	comp=Z,120nm,5.4s						
NJ2				LR	LR		
	comp=N,180nm,16.6s,MS3.7						
NJ2				LR	LR		
	comp=E,190nm,21.3s,MS3.7						
NJ2				LR	LR		
	comp=Z,210nm,16.9s,MS3.7						
BVAR	**Borovoye Array**	**24.80**	**330**	P	**P**	**21 07 46.6**	**+0.7**
	comp=Z,4.0n

MLR Muntele Rosu 50.42 304⇑ *i* P P 21 11 23.5 +2.4
BURAR Bucovina Array 50.60 307⇑ *i* P P 21 11 23.4 +1.0
ARCES ARCESS Array B 50.89 336 P P 21 11 25.4 +1.1
ARCES 21 12 40.3
ARCES ARCESS Array B 50.89 336 P P 21 11 25.4 +1.1
comp=Z,1.6nm,0.8s,mb4.0,baz=73,slow=6.9,SNR=8.8
ARCES PcP PcP 21 12 40.3 +0.2
comp=Z,2.0nm,0.8s,baz=112,slow=4.1,SNR=3.9
ARCES LR LR 21 33 43.3
comp=Z,36nm,18.3s,MS3.4,baz=114,slow=37
LVV L'vov 51.08 310 *e*P P 21 11 24.9 -1.1
KWP Kalwaria 51.96 310⇑ *i* P P 21 11 33.0 +0.4
UZH Uzhgorod 52.38 309 *e*P P 21 11 31.8 -3.9
DRGR 52.42 307⇑ *i* P P 21 11 37.5 +1.5
CRVS Cervenica-Dubn 52.88 309 *e*P P 21 11 42.7 +3.3
STHS Stebnicka Huta 52.93 310 *e*P P 21 11 40.4 +0.6
STHS pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
STHS Stebnicka Huta 52.93 310 *e*P P 21 11 40.4 +0.6
comp=Z,2.2nm,0.8s,mb4.1
KECS Kecovo 53.59 309 *e*P P 21 11 45.3 +0.7
KECS pmax pmax
comp=Z,3.0nm,1.0s,mb4.2
KECS Kecovo 53.59 309 *e*P P 21 11 45.3 +0.7
comp=Z,3.2nm,1.0s,mb4.2
BILL Bilibino 54.53 27⇑ *e*P P 21 11 51.7 +0.5
BILL pmax pmax
comp=Z,9.0nm,1.0s,mb4.8
BILL Bilibino 54.53 27 *e*P P 21 11 52.2 +1.0
comp=Z,2.3nm,0.3s,mb4.7
VYHS Vyhne 54.66 309 *i* P P 21 11 53.5 +1.1
KOLL Kolacno 54.93 309 *e*P P 21 11 55.5 +1.2
PKSM Moragy 55.29 307⇑ *i* P P 21 11 57.7 +0.7
NB2 NORSAR Subarra 56.80 325 P P 21 12 07.4 -0.1
comp=Z,1.5nm,0.7s,mb4.1,baz=82,slow=7.4
NOA NORSAR Array B 56.80 325 P P 21 12 07.5 -0.1
comp=Z,3.6nm,0.9s,mb4.4,baz=81,slow=7.1,SNR=10
BRG Berggiesshubel 57.25 313 *i* P P 21 12 11.9 +1.0
BRG pmax pmax
comp=Z,6.0nm,1.5s,mb4.4
BRG Berggiesshubel 57.25 313 *e*P P 21 12 12.0 +1.1
comp=Z,10.0nm,1.5s,mb4.6
BRG Berggiesshubel 57.25 313 *i* P P 21 12 11.9 +1.0
comp=Z,10nm,1.5s,mb4.6
GROS Grobnik 57.33 307 *e*P P 21 12 11.4 -0.2
GEC2 GERESS Array S 57.90 311 *e*P P 21 12 16.4 +0.9
GEC2 pmax pmax
comp=Z,6.0nm,1.2s,mb4.5
GEC2 GERESS Array S 57.90 311 *e*P P 21 12 16.4 +0.9
comp=Z,6.0nm,1.2s,mb4.5
GERES GERESS Array B 57.90 311 P P 21 12 16.0 +0.6
comp=Z,1.9nm,0.8s,mb4.2,baz=76,slow=7.0,SNR=16
VISS Visnje 57.95 307 *e*P P 21 12 16.8 +0.9
WET Wettzell 58.34 311 *e*P P 21 12 18.3 -0.3
ROTZ Rotzenmuhle 58.60 312 *e*P P 21 12 21.9 +1.5
comp=Z,44nm,2.4s,mb5.1
BSEG Bad Segeberg 58.69 317 *e*P P 21 12 22.4 +1.5
comp=Z,14nm,1.3s,mb4.8
ROBS Robic 58.72 308 *e*P P 21 12 21.3 0.0
NRDL Niedersach Rie 59.17 315 *e*P P 21 12 24.8 +0.5
comp=Z,10.0nm,1.2s,mb4.7
CLZ Clausthal 59.18 315 *e*P P 21 12 25.1 +0.7
CLZ pmax pmax
comp=Z,10.0nm,1.2s,mb4.7
CLZ Clausthal 59.18 315 *e*P P 21 12 25.1 +0.7
comp=Z,10.0nm,1.2s,mb4.7
GRA1 Grafenberg Arr 59.24 312 *e*P P 21 12 26.4 +1.6
comp=Z,25nm,1.7s,mb5.0
GRF Grafenberg Arr 59.24 312 *e*P P 21 12 26.4 +1.6
GRF pmax pmax
comp=Z,25nm,1.7s,mb5.0
GRF Grafenberg Arr 59.24 312 *e*P P 21 12 26.4 +1.6
GRF pmax pmax
comp=Z,25nm,1.7s,mb5.0
GRF Grafenberg Arr 59.24 312 *e*P P 21 12 26.4 +1.6
comp=Z,25nm,1.7s,mb5.0
UBBA Unterbreizbach 59.68 314 *e*P P 21 12 29.1 +1.3
comp=Z,5.0nm,1.2s,mb4.4
CDF Champ du Feu 62.10 312 *e*P P 21 12 43.6 -0.7
PGF Pioggiola 62.97 305 *e*P P 21 12 48.9 -1.3
comp=Z,44nm,1.3s,mb5.1
PGF Pioggiola 62.97 305 *e*P P 21 12 48.9 -1.3
PGF pmax pmax
comp=Z,22nm,1.3s,mb5.1
PGF Pioggiola 62.97 305 *e*P P 21 12 48.9 -1.3
comp=Z,22nm,1.3s,mb5.1
LPG La Plagne 63.43 309 *e*P P 21 12 52.5 -0.7
comp=Z,16nm,1.0s,mb4.8
LPG La Plagne 63.43 309 *e*P P 21 12 52.5 -0.7
LPG pmax pmax
comp=Z,8.0nm,1.0s,mb4.8
LPG La Plagne 63.43 309 *e*P P 21 12 52.5 -0.7
comp=Z,8.1nm,1.0s,mb4.8
LPL La Plagne 63.44 309 *e*P P 21 12 52.3 -0.9
comp=Z,28nm,1.2s,mb4.9
LPL La Plagne 63.44 309 *e*P P 21 12 52.3 -0.9
LPL pmax pmax
comp=Z,14nm,1.3s,mb4.9
LPL La Plagne 63.44 309 *e*P P 21 12 52.3 -0.9
comp=Z,14nm,1.3s,mb4.9
CABF La Chapelle 63.47 310 *e*P P 21 12 52.4 -1.0
SBF Sospel 63.56 307 *e*P P 21 12 52.6 -1.5
comp=Z,38nm,1.1s,mb5.0
SBF Sospel 63.56 307 *e*P P 21 12 52.6 -1.5
SBF pmax pmax
comp=Z,19nm,1.1s,mb5.0
SBF Sospel 63.56 307 *e*P P 21 12 52.6 -1.5
comp=Z,19nm,1.1s,mb5.0
MBDF Montbardon 63.70 308 *e*P P 21 12 54.0 -0.9
FRF La Foret Royal 64.20 307 *e*P P 21 12 56.8 -1.5
ORIF Oris-en-Rattie 64.22 308 *e*P P 21 12 57.4 -1.0
comp=Z,22nm,1.2s,mb4.8
ORIF Oris-en-Rattie 64.22 308 *e*P P 21 12 57.4 -1.0
ORIF pmax pmax
comp=Z,11nm,1.2s,mb4.8
ORIF Oris-en-Rattie 64.22 308 *e*P P 21 12 57.4 -1.0
comp=Z,11nm,1.2s,mb4.8
SSF Saint Saulge 64.96 311 *e*P P 21 13 02.3 -0.9
VIVF Saint-Julien-l 65.03 308 *e*P P 21 13 02.5 -1.2
comp=Z,78nm,1.6s,mb5.2
VIVF Saint-Julien-l 65.03 308 *e*P P 21 13 02.5 -1.2
VIVF pmax pmax
comp=Z,39nm,1.6s,mb5.2
VIVF Saint-Julien-l 65.03 308 *e*P P 21 13 02.5 -1.2
comp=Z,39nm,1.6s,mb5.2
TCF Toulx Ste Croi 66.08 311 *e*P P 21 13 09.4 -1.0
comp=Z,15nm,1.1s,mb4.7
TCF Toulx Ste Croi 66.08 311 *e*P P 21 13 09.4 -1.0
TCF pmax pmax
comp=Z,8.0nm,1.1s,mb4.7
TCF Toulx Ste Croi 66.08 311 *e*P P 21 13 09.4 -1.0
comp=Z,7.6nm,1.1s,mb4.6
LDF La Druitiere 66.62 314 *e*P P 21 13 12.5 -1.3
comp=Z,24nm,1.1s,mb4.8
LDF La Druitiere 66.62 314 *e*P P 21 13 12.5 -1.3
LDF pmax pmax
comp=Z,12nm,1.1s,mb4.8
LDF La Druitiere 66.62 314 *e*P P 21 13 12.5 -1.3
comp=Z,12nm,1.1s,mb4.8
CAF Calviac 66.71 309 *e*P P 21 13 12.9 -1.6
comp=Z,38nm,1.4s,mb4.9
CAF Calviac 66.71 309 *e*P P 21 13 12.9 -1.6
CAF pmax pmax
comp=Z,19nm,1.4s,mb4.9
CAF Calviac 66.71 309 *e*P P 21 13 12.9 -1.6
comp=Z,19nm,1.4s,mb4.9
WRA Warramunga Arr 67.12 135 P P 21 13 16.6 -0.7
comp=Z,5.2nm,0.8s,mb4.6,baz=326,slow=6.1,SNR=24
WRAB Tennant Creek 67.12 135‖ *e*P P 21 13 16.6 -0.7
WB2 Warramunga Arr 67.13 135 *e*P P 21 13 16.8 -0.5
MTLF Montolieu 67.26 308 *e*P P 21 13 16.7 -1.3
LFF La Frestale 67.57 310 *e*P P 21 13 18.4 -1.5
comp=Z,55nm,1.3s,mb5.1
LFF La Frestale 67.57 310 *e*P P 21 13 18.4 -1.5
LFF pmax pmax
comp=Z,28nm,1.3s,mb5.1
LFF La Frestale 67.57 310 *e*P P 21 13 18.4 -1.5
comp=Z,28nm,1.3s,mb5.1
ETSF Etsaut 69.29 308 *e*P P 21 13 29.5 -1.2
comp=Z,11nm,0.8s,mb4.5
ETSF Etsaut 69.29 308 *e*P P 21 13 29.5 -1.2
ETSF pmax pmax
comp=Z,5.0nm,0.8s,mb4.5
ETSF Etsaut 69.29 308 *e*P P 21 13 29.5 -1.2
comp=Z,5.3nm,0.8s,mb4.5
ASAR Alice Springs 69.77 138 P P 21 13 33.3 -0.5
comp=Z,4.8nm,0.7s,mb4.5,baz=322,slow=6.4,SNR=64
COLA College 72.42 22⇑ *e*P P 21 13 48.6 -0.7
ESDC Sonseca Array 73.05 306 P P 21 13 54.6 +1.1
comp=Z,0.1nm,0.4s,baz=48,slow=7.3,SNR=4.2
INK Inuvik 73.84 16 *e*P P 21 13 57.9 +0.2
comp=Z,148nm,0.9s
EGAK Eagle 74.55 20 *e*P P 21 14 02.4 +0.6
comp=Z,12nm,1.3s,mb4.7
KDAK Kodiak Island 75.26 30 P P 21 14 06.4 +0.3
comp=Z,11nm,0.7s,mb4.9,baz=173,slow=21,SNR=4.4
STKA Stephens Creek 80.41 138 P P 21 14 33.8 -1.1
comp=Z,1.3nm,0.7s,mb4.0,baz=315,slow=2.9,SNR=4.4
TORD Torodi Ar. Bea 82.14 281 P P 21 14 44.1 -0.5
comp=Z,2.6nm,0.7s,mb4.3,baz=47,slow=4.5,SNR=33
YKA Yellowknife Ar 82.74 12 P P 21 14 46.5 -0.3
YKA LR LR 21 55 16.3
YKA Yellowknife Ar 82.74 12 P P 21 14 46.5 -0.3
comp=Z,1.7nm,0.7s,mb4.2,baz=330,slow=5.3,SNR=18
YKA LR LR 21 55 16.3
comp=Z,16nm,19.3s,MS3.4,baz=230,slow=38
BOSA Boshof 87.16 233 P P 21 15 09.3 -0.2
comp=Z,7.5nm,0.9s,mb4.9,baz=56,slow=4.5,SNR=9.7
SCHQ Schefferville 90.46 347 P P 21 15 24.4 -0.4
comp=Z,3.9nm,0.8s,mb4.8,baz=28,slow=3.2,SNR=5.5
DBIC Dimbokro 91.04 279 P P 21 15 27.4 -0.8
comp=Z,4.0nm,0.9s,mb4.7,baz=7.4,slow=4.9,SNR=5.1
FFC Flin Flon 92.01 7 *e*P P 21 15 32.2 +0.3
FFC pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
FFC Flin Flon 92.01 7 *e*P P 21 15 32.2 +0.2
comp=Z,3.4nm,0.8s,mb4.7
CPUP Villa Florida 151.50 275 PKPbc PKPbc 21 22 16.4 -1.0
comp=Z,1.9nm,0.5s,baz=40,slow=3.4,SNR=12

IDC 31 21:05:42.8±37.0, 1536S×16548E, h0km, mb4.2/4, mb1 4.4/4, mb1mx3.9/15, mbtmp4.2/4, Error ellipse: s-maj=638.7km s-min=85.5km az=69.0, Vanuatu Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
DZM	**Mont Dzumac**	**6.74**	**172**	*e*P	Pn	21 07 21.2	-1.9
DZM				*e*S	Sn	21 08 38.3	-2.3
STKA	**Stephens Creek**	**27.28**	**229**	*e*P	P	21 11 28.9	-0.1
	3.3nm,0.4s						
STKA	**Stephens Creek**	**27.28**	**229**	P	P	21 11 28.9	0.0
	4.0nm,0.5s,baz=53,slow=8.3,SNR=32						
WRA	**Warramunga Arr**	**30.00**	**257**	P	P	21 11 53.2	-0.2
	0.8nm,0.5s,baz=85,slow=9.2,SNR=6.6						
ASAR	**Alice Springs**	**30.84**	**249**	P	P	21 12 00.8	+0.1
	2.7nm,0.6s,baz=82,slow=9.2,SNR=47						
FITZ	**Fitzroy Crossi**	**38.20**	**260**	*e*P	P	21 13 04.7	+0.1
	4.8nm,1.0s						
FITZ	**Fitzroy Crossi**	**38.20**	**260**	P	P	21 13 04.7	+0.1
	0.9nm,0.4s,baz=94,slow=9.7,SNR=8.4						

*IDC **31** 21:47:13.8±1.0, 4348N×3908E, h0km, mb3.2/4, mb1 3.5/10, mb1mx3.4/27, mbtmp3.4/10, ML3.8/5, MS2.8/1, Ms1 2.8/1, ms1mx2.0/22, Error ellipse: s-maj=19.6km s-min=10.8km az=15.0*
*CSEM **31** 21:47:15.8±0.1, 4358N×3929E, h10km, mb3.8, Error ellipse: s-maj=2.4km s-min=1.6km az=75.0*
*MOS **31** 21:47:15.2±2.2, 4365N×3916E, h11km, mb3.8/1, Error ellipse: s-maj=12.3km s-min=7.9km az=42.9*
*ISCJB **31** 21:47:16.1±0.3, 4359N±002×3906E±003, h11km, mb3.4/4, Error ellipse: s-maj=4.2km s-min=2.6km az=41.9*
*NEIC **31** 21:47:16.1±0.7, 4361N×3902E, h10km, mb3.6/1, Error ellipse: s-maj=15.9km s-min=7.3km az=196.0*

ISC 31 21:47:18.4±0.6, 4361N±003×3905E±003, h19km±4km, n64, σ1§27/81, mb3.4/4, 2C-3D, Western Caucasus

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
SOC	**Sochi**	**0.49**	**93**	*d*PG	**Pg**	**21 47 27.3**	**-1.0**
SOC				*e*		21 47 34.6	
SOC				pmax	pmax		
	comp=Z,808nm,0.2s						
SOC				smax			
	comp=N,3μm,0.2s						
SOC	**Sochi**	**0.49**	**93**	*i* P	**Pg**	**21 47 27.1**	**-1.2**
SOC	**Sochi**	**0.49**	**93**	*i* Pg	**Pg**	**21 47 27.3**	**-1.0**
	comp=N,808nm,0.2s						
SOC				*e*Sg	**Sg**	**21 47 34.6**	**-0.3**
	comp=N,3μm,0.2s						
ANN	**Anapa**	**1.66**	**316**	*e*PN	**Pg**	**21 47 48.6**	**-1.7**
ANN				*e*S	**Sg**	**21 48 12.6**	**+0.7**
ANN	**Anapa**	**1.66**	**316**	*i* P	**Pg**	**21 47 48.5**	**-1.8**
KIV	**Kislovodsk**	**2.66**	**81**	*d*PN	**Pn**	**21 48 00.3**	**+0.1**
KIV	**Kislovodsk**	**2.66**	**81**	*e*P	**Pn**	**21 48 00.5**	**+0.2**
KTUT	**Trabzon**	**2.68**	**168**	*e*PN	**Pn**	**21 47 59.4**	**-1.1**
KTUT				*e*SN	**Sn**	**21 48 30.8**	**-1.7**
ESPY	**Espiye-Giresun**	**2.71**	**185**	*e*PN	**Pn**	**21 48 00.0**	**-0.9**
ESPY				*e*SN	**Sn**	**21 48 31.3**	**-1.8**
GRSN	**GIRESUNGRSN**	**2.75**	**192**	*i* P	**Pn**	**21 48 00.8**	**-0.7**
GRSN	**GIRESUNGRSN**	**2.75**	**192**	*i* P	**Pn**	**21 48 00.8**	**-0.7**
GRSN				*i* S	**Sn**	**21 48 31.6**	**-2.6**
BCA	**Borcka**	**2.88**	**138**	*e*PN	**Pn**	**21 48 03.4**	**0.0**
BCA				*e*SN	**Sn**	**21 48 35.5**	**-2.0**
FEO	**Feodosiya**	**2.98**	**299**	*e*PN	**Pb**	**21 48 10.0**	**-0.8**
FEO				*e*S	**Sn**	**21 48 43.6**	**+3.8**
GUMT	**Gumushane**	**3.17**	**174**	*e*PN	**Pn**	**21 48 07.1**	**-0.1**
SUDU	**Sudak**	**3.17**	**295**	*e*Pn	**Pn**	**21 48 06.4**	**-0.9**
SUDU				*i* Sn	**Sn**	**21 48 44.2**	**-0.5**
KVT	**Kavak**	**3.37**	**222**	*e*PN	**Pn**	**21 48 11.0**	**+1.0**
ONI	**Oni**	**3.39**	**106**	P	**Pb**	**21 48 19.4**	**+1.6**
ONI				S	**Sb**	**21 49 00.7**	**+2.1**
ALU	**Alushta**	**3.51**	**289**	*e*PN	**Pn**	**21 48 12.5**	**+0.6**
ALU				*e*		21 48 25.9	
ALU				*e*S	**Sn**	**21 48 54.5**	**+1.6**
YAL	**Yalta**	**3.63**	**286**	*e*Pn	**Pn**	**21 48 14.4**	**+0.8**
YAL				*e*Sn	**Sn**	**21 48 56.2**	**+0.2**
KOPT	**Kop Dagi**	**3.75**	**163**	*i* P	**Pn**	**21 48 17.0**	**+1.7**
KOPT				*i* S	**Sn**	**21 48 58.8**	**-0.1**
BOYT	**Boyabat**	**3.77**	**236**	*i* P	**Pn**	**21 48 17.4**	**+1.9**
SIM	**Simferopol'**	**3.78**	**292**	*e*Pn	**Pn**	**21 48 17.1**	**+1.4**
SIM				*e*Sn	**Sn**	**21 49 01.6**	**+1.9**
EZC	**Erzincan**	**3.91**	**171**	*e*PN	**Pn**	**21 48 17.8**	**+0.4**
SVSK	**Karacayir**	**4.00**	**203**	*e*PN	**Pn**	**21 48 19.8**	**+1.1**
GOR	**Gori**	**4.07**	**112**	S	**Sb**	**21 49 20.8**	**+2.7**
EZM	**Erzurum**	**4.09**	**154**	*e*PN	**Pn**	**21 48 19.9**	**0.0**
HOMI	**Horasan**	**4.16**	**148**	*i* P	**Pn**	**21 48 22.6**	**+1.8**
KARS	**Kars**	**4.25**	**134**	*e*PN	**Pn**	**21 48 21.8**	**-0.3**
CTKT	**Corum**	**4.35**	**228**	*i* P	**Pn**	**21 48 24.9**	**+1.4**
DIGO	**Kars**	**4.54**	**133**	*i* P	**Pn**	**21 48 25.6**	**-0.5**
TBLG	**Delisi**	**4.60**	**112**	S	**Sg**	**21 49 45.8**	**-0.2**
MTA	**Mtatsminda**	**4.65**	**112**	S	**Sg**	**21 49 44.2**	**-3.5**
BALT	**Daday**	**4.67**	**246**	*i* P	**Pn**	**21 48 28.9**	**+1.1**
PTK	**Pertek**	**4.72**	**177**	*e*PN	**Pn**	**21 48 29.3**	**+0.7**
BINT	**Bingol**	**4.86**	**167**	*e*PN	**Pn**	**21 48 31.7**	**+1.2**
AGRB	**Hanur-Agry**	**5.00**	**142**	*e*PN	**Pn**	**21 48 33.6**	**+1.1**
DGRG	**David-gareji**	**5.15**	**113**	P	**Pn**	**21 48 39.3**	**+4.8**
SVRC	**Siwrice-ELAZID**	**5.23**	**178**	*e*PN	**Pn**	**21 48 36.4**	**+0.8**
CDAG	**Cicekdag**	**5.31**	**223**	*i* P	**Pn**	**21 48 36.2**	**-0.4**
GNI	**Garni**	**5.48**	**127⇑**	*e*P	**Pn**	**21 48 37.0**	**-2.0**
GNI	**Garni**	**5.48**	**127**	Pn	**Pn**	**21 48 36.3**	**-2.7**
GNI	**Garni**	**5.48**	**127**	Pn	**Pn**	**21 48 36.3**	**-2.7**
	comp=N,0.3nm,0.3s,baz=348,slow=19,SNR=3.0						
BTMT	**Batman**	**5.72**	**160**	*e*PN	**Pn**	**21 48 44.0**	**+1.6**
TIRR	**Tirgusor**	**7.71**	**280⇑**	*i*P	**Sn**	**21 50 30.2**	**-6.2**
PSN	**Preselentsi**	**7.88**	**274**	*i* P	**Sn**	**21 50 37.0**	**-3.6**
MLR	**Muntele Rosu**	**9.54**	**286**	Pn	**Pn**	**21 49 34.8**	**+0.1**
	comp=N,1.0nm,0.3s,baz=36,slow=1.6,SNR=24						
MLR				Sn	**Sn**	**21 51 19.7**	**-1.7**
	comp=N,0.5nm,0.3s,baz=239,slow=19,SNR=3.8						
AKASG	**Malin Array Be**	**9.74**	**320**	Pn	**Pn**	**21 49 35.5**	**-2.0**
AKASG				Sn	**Sn**	**21 51 17.9**	**-8.3**
AKASG	**Malin Array Be**	**9.74**	**320**	Pn	**Pn**	**21 49 35.5**	**-1.9**
	comp=N,2.6nm,0.3s,baz=128,slow=13,SNR=14						
AKASG				Sn	**Sn**	**21 51 17.9**	**-8.3**
	comp=N,2.5nm,0.3s,baz=134,slow=24,SNR=8.2						
OBN	**Obninsk**	**11.62**	**353**	*e*P	**Pn**	**21 50 04.8**	**+1.7**
OBN				pmax	pmax		
	comp=Z,18nm,1.4s						
OBN	**Obninsk**	**11.62**	**353**	*e*P	**Pn**	**21 50 04.8**	**+1.7**
	comp=Z,18nm,1.4s						
AKTK	**Aktyubinsk**	**14.61**	**56**	Pn	**Pn**	**21 50 38.4**	**-5.4**
AKTO	**Aktyubinsk**	**14.61**	**56**	Pn	**Pn**	**21 50 38.4**	**-5.4**
	comp=Z,0.1nm,0.3s,baz=243,slow=4.5,SNR=3.3						
ARU	**Arti**	**17.85**	**37**	*d*P	**Pn**	**21 51 25.1**	**-0.4**
ARU				*e*S	**Sn**	**21 54 44.6**	**+0.7**
ARU				pmax	pmax		
	comp=Z,2.0nm,0.5s						
ARU	**Arti**	**17.85**	**37**	*i* P	**Pn**	**21 51 25.1**	**-0.4**
	comp=Z,2.0nm,0.5s						
GERES	**GERESS Array B**	**18.26**	**296**	P	**Pn**	**21 51 29.5**	**-1.0**
	comp=Z,0.1nm,0.3s,baz=116,slow=12,SNR=4.1						
FINES	**FINESS Array B**	**19.45**	**341**	*i* P	**Pn**	**21 51 42.4**	**-2.5**
FINES				pmax	pmax		
	comp=Z,1.0nm,0.4s						
FINES	**FINESS Array B**	**19.45**	**341**	P	**Pn**	**21 51 41.4**	**-3.6**
	comp=Z,0.4nm,0.3s,baz=152,slow=13,SNR=11						
HFS	**Hagfors**	**22.54**	**326**	P	**P**	**21 52 15.1**	**-1.8**
	comp=Z,1.0nm,0.4s,mb3.6,baz=119,slow=12,SNR=5.3						
BRVK	**Borovoye**	**22.65**	**54**	P	**P**	**21 52 17.3**	**-0.9**
BRVK				pmax	pmax		
	comp=Z,2.0nm,0.7s,mb3.7						
BRVK	**Borovoye**	**22.65**	**54**	P	**P**	**21 52 17.3**	**-0.8**
	comp=Z,1.5nm,0.7s,mb3.5						
BVAR	**Borovoye Array**	**22.71**	**54**	P	**P**	**21 52 17.5**	**-1.3**
	comp=Z,0.2nm,0.7s,baz=223,slow=5.9,SNR=2.5						
NB2	**NORSAR Subarra**	**24.07**	**326**	P	**P**	**21 52 32.6**	**+0.4**
	comp=Z,0.5nm,0.6s,mb3.1,baz=124,slow=9.3						
NOA	**NORSAR Array B**	**24.07**	**326**	P	**P**	**21 52 32.0**	**-0.2**
	comp=Z,0.5nm,0.7s,mb3.1,baz=130,slow=9.8,SNR=3.1						
TORD	**Torodi Ar. Bea**	**44.13**	**238**	P	**P**	**21 55 25.1**	**-0.7**
	comp=Z,0.4nm,0.8s,mb3.2,baz=30,slow=9.2,SNR=2.9						

IDC 31 21:55:21.6±9.0, 727S×12900E, h92km±91km, mb3.4/3, mb1 3.6/5, mb1mx3.4/13, mbtmp3.4/5, ML4.0/2, Error ellipse: s-maj=118.8km s-min=32.8km az=66.0, Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
WRA	**Warramunga Arr**	**13.62**	**158**	P	Pn	21 58 31.3	+0.4
	0.7nm,0.3s,baz=342,slow=13,SNR=19						
WRA				S	Sn	22 00 53.3	-7.5
	2.0nm,0.3s,baz=336,slow=22,SNR=10						
ASAR	**Alice Springs**	**16.97**	**164**	P	Pn	21 59 12.7	-0.6
	0.5nm,0.3s,baz=346,slow=11,SNR=18						
ASAR				S	S	22 02 11.9	-14
	0.5nm,0.3s,baz=338,slow=27,SNR=7.5						
STKA	**Stephens Creek**	**27.16**	**156**	P	P	22 00 56.5	+0.2
	1.2nm,0.7s,baz=329,slow=12,SNR=2.2						
SONM	**Songino Array**	**58.38**	**342**	P	P	22 05 08.2	+1.0
	0.3nm,0.4s,baz=168,slow=7.6,SNR=4.8						
MKAR	**Makanchi Array**	**67.91**	**327**	P	P	22 06 09.6	-0.7
	0.2nm,0.4s,baz=123,slow=7.2,SNR=5.2						

*SZGRF **31** 22:28:51.4, 3508N×13981E, h33km, mb4.6, Near south coast of eastern Honshu, Japan*
*ISCJB **31** 22:28:57.2±0.3, 3608N±002×13968E±004, h70km±2km, mb4.4/66, Error ellipse: s-maj=5.6km s-min=4.1km az=5.9*
*BJI **31** 22:28:57.7, 3621N×13993E, h92km, mB4.6, mb4.6*
*IDC **31** 22:28:58.5±0.6, 3604N×13966E, h69km±6km, mb4.1/17, mb1 4.2/21, mb1mx4.1/25, mbtmp4.1/21, MS3.2/7, Ms1 3.2/7, ms1mx3.0/34, Error ellipse: s-maj=11.5km s-min=6.6km az=61.0*
*JMA **31** 22:28:58.5±0.1, 3609N×13968E, h59km±1km, M4.5 Broadband fault plane solution: P waves. NP1: φs123.00000°, δ50.00000°, λ173.00000°. NP2: φs217.00000°, δ85.00000°, λ40.00000°. Principal axes: T Plg31.0000°, Azm88.0000°; N Plg50.0000°, Azm223.0000°; P Plg23.0000°, Azm343.0000°;*
JMA Felt III J1.
*NEIC **31** 22:28:58.4±0.6, 3611N×13958E, h64km±4km, mb4.6/26, MW4.4(NIED) Error ellipse: s-maj=6.5km s-min=5.1km az=129.0*
NEIC Recorded [3 JMA] in Gumma, Ibaraki, Saitama and Tochigi; [2 JMA] Chiba, Fukushima, Kanagawa and Tokyo; [1 JMA] in Nagano, Niigata, Shizuoka and Yamanashi Prefectures.
*MOS **31** 22:29:00.4±0.8, 3650N×13942E, h75km, mb4.9/33, Error ellipse: s-maj=11.8km s-min=5.9km az=104.6*
*NIED **31** 22:29:00, 36.10N×139.70E, h59km, Mw4.4 Best double couple: M0:4.43000×10^15 NP1:φs221.00000°, δ84.00000°, λ52.00000°. NP2:φs124.00000°, δ39.00000°, λ171.00000°.*

ISC 31 22:28:58.2±0.3, 3609N±002×13968E±004, h64km±2km, h71km±1.5km: pP-P, n176, σ0§94/195, mb4.6/66, 15C-5D, Eastern Honshu

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
JAG	**Ashikaga**	**0.39**	**332**	⇑P	**Pn**	**22 29 09.3**	**-0.1**
JAG				S	**Sn**	**22 29 16.9**	**-0.7**
JRY	**Ryogami san**	**0.63**	**264**	⇑P	**Pn**	**22 29 12.1**	**+0.2**
JRY				S	**Sn**	**22 29 22.7**	**+0.7**
JKT	**Katashina**	**0.76**	**333**	⇑P	**Pn**	**22 29 13.4**	**0.0**
JKT				S	**Sn**	**22 29 24.4**	**-0.3**
JOD2	**Odawara 2**	**0.95**	**211**	⇓P	**Pn**	**22 29 15.8**	**0.0**
JOD2				S	**Sn**	**22 29 28.7**	**-0.1**
JYN	**Shimob**	**1.09**	**238**	P	**Pn**	**22 29 18.1**	**+0.5**
MJAR	**Matsushiro Arr**	**1.27**	**291**	P	**Pn**	**22 29 19.3**	**-0.6**
	777nm,0.3s,baz=96,slow=8.3,SNR=6018						
MJAR				S	**Sn**	**22 29 36.9**	**+0.7**
	492nm,0.3s,baz=124,slow=22,SNR=24						
MAJO	**Matsushiro**	**1.27**	**291**	*e*P	**Pn**	**22 29 20.1**	**+0.2**
MAJO				*e*S	**Sn**	**22 29 38.3**	**+2.1**
MAT	**Matsushiro**	**1.27**	**291**	P	**Pn**	**22 29 20.6**	**+0.7**
MAT				S	**Sn**	**22 29 37.0**	**+0.8**
MAT	**Matsushiro**	**1.27**	**291**	P	**Pn**	**22 29 20.5**	**+0.6**
JHK	**Hiroka**	**1.28**	**336**	⇓P	**Pn**	**22 29 20.2**	**+0.2**
JHK				S	**Sn**	**22 29 37.0**	**+0.7**
JFY	**Yanaizu**	**1.32**	**1**	⇓P	**Pn**	**22 29 20.7**	**+0.1**
JFY				S	**Sn**	**22 29 37.9**	**+0.6**
JIM2	**Oshima 3**	**1.38**	**188**	⇓P	**Pn**	**22 29 20.9**	**-0.5**
JIM2				*e*S	**Sn**	**22 29 38.5**	**-0.2**
JHJ	**Hachijo jima 2**	**2.96**	**178**	P	**Pn**	**22 29 42.9**	**+0.1**
	116nm,0.3s,baz=35,slow=17,SNR=119						
JHJ				S	**Sn**	**22 30 15.4**	**-1.7**
	205nm,0.3s,baz=70,slow=23,SNR=9.8						
ERM	**Erimo**	**6.51**	**24**	*e*P	**Pn**	**22 30 31.4**	**+0.1**
ERM						22 31 41.4	
ERM				pmax	pmax		
	comp=Z,36nm,0.8s						
ERM	**Erimo**	**6.51**	**24**	*e*Pn	**Pn**	**22 30 31.4**	**+0.2**
	comp=Z,36nm,0.8s						
ERM				Sn	**Sn**	**22 31 41.4**	**-2.7**
ASAJ	**Asahikawa**	**8.33**	**15**	P	**Pn**	**22 30 56.1**	**0.0**
ASAJ				S	**Sn**	**22 32 26.9**	**-1.7**
ASAJ				pmax	pmax		
	comp=Z,2.0nm,0.3s						
ASAJ				smax			
	comp=N,1.0nm,0.3s						
ASAJ				MLR	MLR		
	comp=Z,76nm,19.8s						
ASAJ	**Asahikawa**	**8.33**	**15**	P	**Pn**	**22 30 56.0**	**0.0**
	comp=Z,1.8nm,0.3s,baz=201,slow

comp=Z,100nm,19.0s
JOW Kunigami 13.40 230 P **Pn 22 32 03.5 -1.9**
comp=Z,0.5nm,0.3s,baz=107,slow=11,SNR=2.7
KLR Kul'dur 14.36 339 *e*P **Pn 22 32 15.2 -2.7**
NJ2 Nanjing 17.71 263 *e*P **Pn 22 33 05.3 +4.9**
NJ2 AP pP 22 33 16.8 +2.9
NJ2 PP 22 33 20.0
NJ2 XP sP 22 33 28.0 +6.0
NJ2 S **S 22 36 17.5 -3.4**
NJ2 AMB AMB
comp=Z,20nm,1.2s
NJ2 AMB AMB
comp=Z,110nm,6.5s
NJ2 LR LR
comp=N,230nm,18.8s
NJ2 LR LR
comp=E,280nm,27.5s
NJ2 LR LR
comp=Z,290nm,28.3s
BJI Beijing 18.91 289 P **Pn 22 33 14.3 -0.5**
BJI AMB AMB
comp=Z,9.0nm,1.0s
HIA Hailar 19.63 318 *e*P **Pn 22 33 19.9 -3.3**
PET Petropavlovsk 21.56 32⇑ *e*P **P 22 33 44.6 +2.5**
PET pmax pmax
comp=Z,21nm,1.3s,mb4.4
PET Petropavlovsk 21.56 32 P **P 22 33 40.8 -1.3**
HHC Hu-ho-hao-te 22.48 291 *e*P **P 22 33 52.0 +0.1**
HHC AP 22 34 09.0
HHC XP sP 22 34 18.8 +4.9
HHC PP 22 34 22.5
HHC S **S 22 37 48.0 -6.4**
HHC AMB AMB
comp=Z,15nm,1.0s,mb4.4
HHC AMB AMB
comp=Z,44nm,6.5s
HHC LR LR
comp=N,86nm,11.4s
HHC LR LR
comp=E,92nm,11.8s
HHC LR LR
comp=Z,75nm,12.7s
MA2 Magadan 24.59 14⇑ *e*P **P 22 34 14.0 +2.1**
MA2 pmax pmax
comp=Z,55nm,1.6s,mb4.8
MA2 Magadan 24.59 14 P **P 22 34 11.1 -0.8**
YAK Yakutsk 26.72 350⇑ *e*P **P 22 34 29.9 -1.2**
YAK pmax pmax
comp=Z,32nm,1.2s,mb4.7
YAK Yakutsk 26.72 350 P **P 22 34 30.8 -0.4**
SONM Songino Array 27.18 306 P **P 22 34 34.0 -1.5**
comp=Z,2.0nm,0.8s,mb3.7,baz=102,slow=7.3,SNR=15
SONM LR LR 22 45 15.5
comp=Z,50nm,19.6s,baz=100,slow=36
BOD Bodaibo 27.62 330 *e*P **P 22 34 38.2 -1.1**
BOD pmax pmax
comp=Z,8.0nm,1.0s,mb4.3
LZH Lanzhou 28.86 281 *e*P **P 22 34 52.0 +1.4**
LZH AP pP 22 35 09.5 +3.3
LZH XP sP 22 35 18.5 +4.8
LZH AMB AMB
comp=Z,13nm,1.0s,mb4.6
LZH AMB AMB
comp=Z,55nm,4.1s
GYA Guiyang 29.69 260 P **P 22 35 01.0 +3.0**
GYA AP pP 22 35 18.0 +4.4
GYA XP sP 22 35 26.5 +5.4
GYA PP PP 22 35 58.3 -7.6
GYA S **S 22 39 48.0 -1.3**
GYA SCS ScS 22 45 31.3 -1.0
GYA AMB AMB
comp=Z,10.0nm,0.8s,mb4.6
GYA AMB AMB
comp=Z,60nm,4.6s
ZAK Zakamensk 29.79 310 *e*P **P 22 34 59.1 +0.5**
ZAK pmax pmax
comp=Z,1.0nm,1.6s
CD2 Chengdu 30.28 271 *e*P **P 22 35 04.5 +1.3**
CD2 AP pP 22 35 22.0 +3.2
CD2 PP PP 22 36 04.8 -7.7
CD2 S **S 22 39 55.5 -3.1**
CD2 AMB AMB
comp=Z,10.0nm,0.6s,mb4.7
CD2 AMB AMB
comp=Z,20nm,4.2s
CD2 LR LR
comp=N,160nm,16.8s
CD2 LR LR
comp=Z,120nm,13.2s
GTA Gaotai 31.52 288 *e*P **P 22 35 15.3 +1.3**
GTA AP pP 22 35 32.5 +2.8
GTA XP sP 22 35 42.3 +5.1
GTA AMB AMB
comp=Z,2.0nm,0.5s,mb4.2
KMI Kunming 33.44 261 P **P 22 35 32.5 +1.5**
KMI AP pP 22 35 50.0 +3.3
KMI PP PP 22 36 47.8 +0.2
KMI S **S 22 40 46.5 -1.3**
KMI AMB AMB
comp=Z,6.0nm,0.9s,mb4.5
KMI AMB AMB
comp=Z,54nm,6.1s
KMI LR LR
comp=N,48nm,18.4s
KMI LR LR
comp=E,81nm,23.3s
KMI LR LR
comp=Z,89nm,25.7s
BILL Bilibino 35.34 17⇑ *e*P **P 22 35 48.1 +1.3**
BILL pmax pmax
comp=Z,7.0nm,1.0s,mb4.5
BILL Bilibino 35.34 17 *e*P **P 22 35 46.8 0.0**
TIXI Tiksi 36.08 354⇑ *e*P **P 22 35 51.7 -1.5**
TIXI pmax pmax
comp=Z,4.0nm,0.6s,mb4.5
TIXI Tiksi 36.08 354 *e*P **P 22 35 52.0 -1.1**
comp=Z,5.3nm,0.6s,mb4.7
WMQ Urumqi 40.03 298 *e*P **P 22 36 28.0 +1.2**
WMQ XP sP 22 36 55.0 +4.8
WMQ PP PP 22 38 05.0 +5.3
WMQ S **S 22 42 27.0 -0.8**
WMQ AMB AMB
comp=Z,25nm,1.0s,mb4.9
WMQ AMB AMB
comp=Z,52nm,4.0s
WMQ LR LR
comp=N,42nm,14.0s
WMQ LR LR
comp=E,38nm,13.0s
WMQ LR LR
comp=Z,32nm,12.0s
LSA Lhasa 40.91 275 P **P 22 36 35.0 +0.8**
LSA Lhasa 40.91 275 *e*P **P 22 36 35.1 +0.9**
LSA pmax pmax
comp=Z,11nm,1.5s,mb4.3
LSA Lhasa 40.91 275 *e*P **P 22 36 35.1 +0.9**
comp=Z,11nm,1.5s,mb4.3
ZALV Zalesovo Beam 41.53 313 P **P 22 36 38.2 -0.7**
comp=Z,7.2nm,0.7s,mb4.4,baz=92,slow=7.0,SNR=26
ZALV PcP PcP 22 38 35.4 +0.1
comp=Z,1.5nm,0.4s,baz=112,slow=2.6,SNR=4.7
ZALV pPcP 22 38 51.6
comp=Z,2.2nm,0.6s,baz=88,slow=2.6,SNR=5.0
ZALV LR LR 22 53 08.7
comp=Z,15nm,19.0s,baz=216,slow=35
ZAL Zalesovo 41.55 313 P **P 22 36 38.3 -0.8**
ZAL 22 38 35.4
ZAL 22 38 51.6
NVS Novosibirsk 42.50 314 *e*P **P 22 36 46.1 -0.7**
NVS pmax pmax
comp=N,3.0nm,1.2s
NVS pmax pmax
comp=E,14nm,1.2s
NVS pmax pmax
comp=Z,12nm,1.2s,mb4.4
FALS False Pass 42.76 46 *e*P **P 22 36 52.7 +3.7**
MKAR Makanchi Array 43.45 303 P **P 22 36 54.1 -0.5**
comp=Z,3.9nm,0.9s,mb4.2,baz=85,slow=8.6,SNR=16
MKAR LR LR 22 55 43.3
comp=Z,39nm,19.0s,baz=12,slow=37
KURK Kurchatov 45.42 309 *e*P **P 22 37 09.3 -1.0**
KURK pmax pmax
comp=Z,17nm,0.7s,mb5.0
KURK Kurchatov 45.42 309 *e*P **P 22 37 09.3 -1.1**
comp=Z,17nm,0.7s,mb5.0

JIRN Jiri 45.71 275 *e*P **P 22 37 13.2 +0.3**
comp=Z,27nm,1.0s,mb5.1
GUN Gumba 45.86 276 *e*P **P 22 37 14.1 0.0**
PKI Pulchoki 46.38 275 *e*P **P 22 37 17.7 -0.5**
KKN Kakani 46.39 276 *e*P **P 22 37 18.0 -0.3**
comp=Z,16nm,0.9s,mb4.9
DMN Daman 46.61 276 *e*P **P 22 37 19.4 -0.6**
GKN Gorkha 46.82 276 *e*P **P 22 37 21.4 -0.2**
DANN Dangsing 47.38 277 *e*P **P 22 37 26.4 +0.4**
comp=Z,53nm,0.7s,mb5.6
KOLN Koldanda 47.75 277 *e*P **P 22 37 28.9 0.0**
KDAK Kodiak Island 48.73 41 P **P 22 37 35.2 -0.8**
KDAK Kodiak Island 48.73 41 P **P 22 37 35.2 -0.8**
comp=Z,24nm,0.8s,mb5.3,baz=245,slow=5.8,SNR=8.9
PMR Palmer 50.22 36 P **P 22 37 46.8 -0.4**
BRVK Borovoye 50.24 313 *e*P **P 22 37 47.7 +0.2**
SVE Sverdlovsk 54.94 319 *e*P **P 22 38 22.3 +0.2**
SVE pmax pmax
comp=Z,14nm,1.1s,mb4.9
INK Inuvik 55.86 27 P **P 22 38 29.7 +1.1**
INK pmax pmax
comp=Z,4.0nm,0.6s
INK Inuvik 55.86 27 *e*P **P 22 38 30.7 +2.0**
INK Inuvik 55.86 27 P **P 22 38 29.7 +1.1**
comp=Z,3.7nm,0.6s,mb4.6,baz=299,slow=6.9,SNR=9.3
WRAB Tennant Creek 55.94 186 *e*P **P 22 38 30.8 +1.1**
WRAB pmax pmax
comp=Z,6.0nm,0.8s,mb4.7
WRAB Tennant Creek 55.94 186 *e*P **P 22 38 30.8 +1.2**
comp=Z,5.6nm,0.8s,mb4.7
WB2 Warramunga Arr 55.95 186 *e*P **P 22 38 30.1 +0.4**
WRA Warramunga Arr 55.95 186 P **P 22 38 29.3 -0.5**
comp=Z,2.3nm,0.4s,mb4.5,baz=2.1,slow=7.6,SNR=28
WRA pP pP 22 38 46.7 +0.1
comp=Z,4.6nm,0.6s,baz=2.3,slow=7.6,SNR=7.8
ARU Arti 56.15 319 *e*P **P 22 38 30.3 -0.5**
ARU *e**PP pP 22 38 46.3 -1.3
ARU *e* 22 40 35.7
ARU *e*S **S 22 46 10.6 -4.3**
ARU *e*SS SS 22 49 56.7 -4.8
ARU Arti 56.15 319 *e*P **P 22 38 30.4 -0.4**
comp=Z,42nm,1.4s,mb5.3
KBL Kabul 56.45 291 *e*P **P 22 38 32.5 -0.8**
comp=Z,2.6nm,0.6s,mb4.4
ASAR Alice Springs 59.68 186 P **P 22 38 56.6 +0.8**
comp=Z,0.8nm,0.5s,mb4.0,baz=17,slow=12,SNR=12
ASAR pP pP 22 39 14.3 +1.6
comp=Z,1.5nm,0.7s,baz=11,slow=8.0,SNR=6.2
RES Resolute Bay 63.86 14 *e*P **P 22 39 24.2 +0.9**
comp=Z,126nm,0.6s
ARCES ARCESS Array B 64.39 339 P **P 22 39 26.4 -0.5**
comp=Z,3.3nm,0.7s,mb4.5,baz=51,slow=8.4,SNR=9.9
YKA Yellowknife Ar 65.32 29 P **P 22 39 33.2 +0.2**
comp=Z,1.4nm,0.8s,mb4.0,baz=302,slow=6.5,SNR=9.9
JOF Joensuu 66.14 332 *e*p **P 22 39 37.4 -0.9**
comp=Z,3.4nm,0.5s,mb4.6
STKA Stephens Creek 67.63 178 P **P 22 39 48.4 +0.3**
comp=Z,1.5nm,0.7s,mb4.1,baz=323,slow=12,SNR=4.3
OBN Obninsk 68.01 323⇑ *e*P **P 22 39 52.0 +1.7**
OBN *e* 22 40 23.9
OBN pmax pmax
comp=Z,53nm,2.5s,mb5.1
KAF Kangasniemi 68.50 332 *e*p **P 22 39 54.1 +0.8**
comp=Z,4.1nm,0.7s,mb4.5
KAF Kangasniemi 68.50 332 *e*P **P 22 39 54.1 +0.8**
KAF pmax pmax
comp=Z,4.0nm,0.7s,mb4.5
FINES FINESS Array B 69.00 332 P **P 22 39 55.4 -1.0**
comp=Z,7.3nm,0.8s,mb4.7,baz=73,slow=6.4,SNR=14
FINES pP pP 22 40 14.3 +0.7
comp=Z,0.7nm,0.4s,baz=55,slow=5.8,SNR=1.3
KIV Kislovodsk 70.47 310 *d i*P **P 22 40 05.4 -0.3**
KIV pmax pmax
comp=Z,12nm,1.0s,mb4.8
KIV Kislovodsk 70.47 310 *e*P **P 22 40 06.1 +0.4**
comp=Z,12nm,1.0s,mb4.8
ANN Anapa 73.17 313 *e*P **P 22 40 20.9 -1.0**
ANN pmax pmax
comp=Z,11nm,1.2s,mb4.7
BMO Blue Mountains 73.60 46 *e*P **P 22 40 25.2 +0.8**
comp=Z,2.8nm,1.0s,mb4.2
AKASG Malin Array Be 74.19 322 P **P 22 40 26.9 -0.8**
AKASG Malin Array Be 74.19 322 P **P 22 40 26.9 -0.8**
comp=Z,2.7nm,0.5s,mb4.4,baz=48,slow=5.9,SNR=17
KIEV Kiev 74.20 322 *e*P **P 22 40 26.9 -0.9**
KIEV pmax pmax
comp=Z,8.0nm,0.8s,mb4.7
KIEV Kiev 74.20 322 *e*P **P 22 40 26.9 -0.9**
comp=Z,7.9nm,0.8s,mb4.7
NB2 NORSAR Subarra 74.51 337 P **P 22 40 28.7 -0.7**
comp=Z,3.3nm,0.8s,mb4.3,baz=41,slow=5.9
NOA NORSAR Array B 74.51 337 P **P 22 40 29.0 -0.4**
comp=Z,6.1nm,0.8s,mb4.6,baz=40,slow=5.8,SNR=18
MIB Mutribah 74.86 296 *e*P **P 22 40 30.0 -2.0**
MIB AMb AMB 22 40 36.6
comp=Z,12nm,0.7s,mb4.9
RDF Al-Radifah 75.18 295 *e*P **P 22 40 33.6 -0.3**
RDF AMb AMB 22 40 39.9
comp=Z,20nm,0.7s,mb5.2
NAY Al-Naaiem 75.23 295 *e*P **P 22 40 33.0 -1.2**
NAY AMb AMB 22 40 38.9
comp=Z,10nm,0.9s,mb4.8
RST Umm Al-Ruwaisa 75.27 296 *e*P **P 22 40 33.2 -1.2**
RST AMb AMB 22 40 40.9
comp=Z,0.6nm,0.8s,mb3.5
EGMT Eagleton 75.90 40 *e*P **P 22 40 39.4 +1.8**
MALT Malatya 76.25 307 *e*P **P 22 40 40.9 +1.1**
BOZ Bozeman (W) 76.36 43 *e*P **P 22 40 41.3 +1.0**
BOZ pmax pmax
comp=Z,3.0nm,0.9s,mb4.2
BOZ Bozeman (W) 76.36 43 *e*P **P 22 40 41.3 +1.0**
comp=Z,2.7nm,0.9s,mb4.2
NVAR Mina Array Bea 76.67 52 P **P 22 40 43.4 +1.2**
comp=Z,1.7nm,0.8s,mb4.0,baz=274,slow=6.5,SNR=11
LVV L'vov 77.31 323 *e*P **P 22 40 45.8 +0.2**
RLMT Red Lodge 77.99 42 *e*P **P 22 40 42.5 -6.9**
KWP Kalwaria 78.08 324 *e*P **P 22 40 50.7 +0.8**
KWP Kalwaria 78.08 324 *e*P **P 22 40 50.7 +0.9**
KWP Kalwaria 78.08 324⇑ *i*P **P 22 40 50.1 +0.3**
BURAR Bucovina Array 78.18 321⇑ *i*P **P 22 40 50.7 +0.2**
PLOR Plostina 78.59 319⇑ *i*P **P 22 40 59.4 +6.7**
TPNV Topopah Spring 78.86 52 *e*P **P 22 40 55.6 +1.2**
TPNV pmax pmax
comp=Z,2.0nm,0.9s,mb4.0
TPNV Topopah Spring 78.86 52 *e*P **P 22 40 55.6 +1.2**
comp=Z,1.9nm,0.9s,mb4.0
MLR Muntele Rosu 79.19 319⇑ *i*P **P 22 40 57.0 +0.9**
ULM Lac du Bonnet 81.06 32 P **P 22 41 06.5 +0.5**
ULM Lac du Bonnet 81.06 32 P **P 22 41 06.5 +0.5**
comp=Z,0.7nm,0.6s,mb3.7,baz=251,slow=2.6,SNR=3.2
BRG Berggiesshubel 81.15 329 *e*P **P 22 41 07.5 +1.0**
BRG pmax pmax
comp=Z,2.0nm,0.8s,mb4.1
BRG Berggiesshubel 81.15 329 *e*P **P 22 41 07.5 +1.0**
comp=Z,1.9nm,0.8s,mb4.1
CLL Collm 81.21 329 *i*P **P 22 41 06.3 -0.5**
CLL pmax pmax
comp=Z,6.0nm,1.0s,mb4.5
CLL Collm 81.21 329 *i*P **P 22 41 06.3 -0.5**
comp=Z,6.0nm,1.0s,mb4.5
RSSD Black Hills 81.46 41 *e*P **P 22 41 03.6 -4.7**
KHC Kasperske Hory 82.61 328⇑ *e*P **P 22 41 14.7 +0.5**
KHC Kasperske Hory 82.61 328 *e*P **P 22 41 14.5 +0.3**
GERES GERESS Array B 82.77 327 P **P 22 41 14.6 -0.4**
comp=Z,1.0nm,0.7s,mb3.9,baz=29,slow=6.1,SNR=8.8
GRA1 Grafenberg Arr 83.18 329 *e*P **P 22 41 17.8 +0.7**
comp=Z,3.0nm,0.8s,mb4.4
GRF Grafenberg Arr 83.18 329 *e*P **P 22 41 17.8 +0.7**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
GRF Grafenberg Arr 83.18 329 *e*P **P 22 41 17.8 +0.7**
GRF pmax pmax
comp=Z,3.0nm,0.8s,mb4.4
GRF Grafenberg Arr 83.18 329 *e*P **P 22 41 17.8 +0.7**
comp=Z,3.0nm,0.8s,mb4.4
PPT Papeete 85.47 115 LR LR 23 11 35.2
comp=Z,127nm,21.8s,baz=144,slow=30
BAIF Baives 85.63 333 *e*P **P 22 41 29.5 0.0**
CDF Champ du Feu 85.79 330 *e*P **P 22 41 30.2 -0.2**
comp=Z,9.9nm,0.9s,mb4.8
CDF Champ du Feu 85.79 330 *e*P **P 22 41 30.2 -0.2**
CDF pmax pmax
comp=Z,5.0nm,0.9s,mb4.7
CDF Champ du Feu 85.79 330 *e*P **P 22 41 30.2 -0.2**
comp=Z,4.9nm,0.9s,mb4.7

HAU Haudompre 86.49 331 *e*P **P 22 41 33.8 0.0**
comp=Z,4.4nm,0.7s,mb4.5
HAU Haudompre 86.49 331 *e*P **P 22 41 33.8 0.0**
HAU pmax pmax
comp=Z,2.0nm,0.7s,mb4.5
HAU Haudompre 86.49 331 *e*P **P 22 41 33.8 0.0**
comp=Z,2.2nm,0.7s,mb4.5
LOR Lormes 88.06 332 *e*P **P 22 41 41.7 +0.3**
LPL La Plagne 88.34 329 *e*P **P 22 41 43.0 +0.3**
LPG La Plagne 88.35 329 *e*P **P 22 41 43.1 +0.3**
comp=Z,16nm,1.3s,mb4.8
LPG La Plagne 88.35 329 *e*P **P 22 41 43.1 +0.3**
LPG pmax pmax
comp=Z,9.0nm,1.3s,mb4.8
LPG La Plagne 88.35 329 *e*P **P 22 41 43.1 +0.3**
comp=Z,8.9nm,1.3s,mb4.8
SSF Saint Saulge 88.37 332 *e*P **P 22 41 43.1 +0.2**
comp=Z,11nm,1.0s,mb4.8
SSF Saint Saulge 88.37 332 *e*P **P 22 41 43.1 +0.2**
SSF pmax pmax
comp=Z,5.0nm,1.0s,mb4.7
SSF Saint Saulge 88.37 332 *e*P **P 22 41 43.1 +0.2**
comp=Z,5.3nm,1.0s,mb4.7
AVF Avril sur Loir 88.66 332 *e*P **P 22 41 43.7 -0.5**
comp=Z,5.7nm,0.8s,mb4.7
AVF Avril sur Loir 88.66 332 *e*P **P 22 41 43.7 -0.5**
AVF pmax pmax
comp=Z,3.0nm,0.8s,mb4.7
AVF Avril sur Loir 88.66 332 *e*P **P 22 41 43.7 -0.5**
comp=Z,2.8nm,0.8s,mb4.6
MBDF Montbardon 88.96 329 *e*P **P 22 41 46.0 +0.3**
ORIF Oris-en-Rattie 89.18 329 *e*P **P 22 41 46.9 +0.2**
SBF Sospel 89.37 328 *e*P **P 22 41 47.4 -0.2**
comp=Z,13nm,0.7s,mb5.1
SBF Sospel 89.37 328 *e*P **P 22 41 47.4 -0.2**
SBF pmax pmax
comp=Z,7.0nm,0.7s,mb5.1
SBF Sospel 89.37 328 *e*P **P 22 41 47.4 -0.2**
comp=Z,6.7nm,0.7s,mb5.1
TCF Toulx Ste Croi 89.51 332 *e*P **P 22 41 48.3 +0.1**
comp=Z,8.4nm,1.0s,mb4.7
TCF Toulx Ste Croi 89.51 332 *e*P **P 22 41 48.3 +0.1**
TCF pmax pmax
comp=Z,4.0nm,1.0s,mb4.7
TCF Toulx Ste Croi 89.51 332 *e*P **P 22 41 48.3 +0.1**
comp=Z,4.2nm,1.0s,mb4.7
VIVF Saint-Julien-l 89.73 330 *e*P **P 22 41 49.3 0.0**
MFF Saint Martin d 90.12 334 *e*P **P 22 41 51.0 0.0**
comp=Z,26nm,1.3s,mb5.1
MFF Saint Martin d 90.12 334 *e*P **P 22 41 51.0 0.0**
MFF pmax pmax
comp=Z,13nm,1.3s,mb5.1
MFF Saint Martin d 90.12 334 *e*P **P 22 41 51.0 0.0**
comp=Z,13nm,1.3s,mb5.1
CAF Calviac 90.71 331 *e*P **P 22 41 53.7 -0.1**
comp=Z,17nm,1.1s,mb5.0
CAF Calviac 90.71 331 *e*P **P 22 41 53.7 -0.1**
CAF pmax pmax
comp=Z,9.0nm,1.1s,mb5.0
CAF Calviac 90.71 331 *e*P **P 22 41 53.7 -0.1**
comp=Z,8.5nm,1.1s,mb5.0
TXAR Lajitas Array 91.81 51 P **P 22 42 00.6 +1.3**
comp=Z,0.4nm,0.6s,mb3.9,baz=300,slow=2.4,SNR=6.4
EPF Esparros 92.97 331 *e*P **P 22 42 04.1 -0.3**
comp=Z,17nm,1.1s,mb5.1
EPF Esparros 92.97 331 *e*P **P 22 42 04.1 -0.3**
EPF pmax pmax
comp=Z,8.0nm,1.1s,mb5.1
EPF Esparros 92.97 331 *e*P **P 22 42 04.1 -0.3**
comp=Z,8.4nm,1.1s,mb5.1
TORD Torodi Ar. Bea 116.98 313 PKP PKPdf 22 47 35.5 -0.7
comp=Z,0.1nm,0.4s,baz=14,slow=2.2,SNR=5.1
LPAZ La Paz 148.38 59 PKPbc PKPbc 22 48 39.4 +1.7
comp=Z,1.5nm,0.6s,baz=310,slow=2.8,SNR=11

*IDC **31** 22:31:45.2±1.6, 1571N×9022W, h0km, mb3.8/4, mb1 4.3/7, mb1mx3.8/23, mbtmp4.1/7, ML3.8/3, MS3.3/9, Ms1 3.3/9, ms1mx3.1/34, Error ellipse: s-maj=27.5km s-min=21.8km az=60.0*
*ISCJB **31** 22:31:47.7±4.4, 1575N±007×90.19W±008, h32km±35km, mb3.8/4, MS3.2/7, Error ellipse: s-maj=14.7km s-min=8.0km az=140.0*
*NEIC **31** 22:31:50.2±0.9, 1577N×9019W, h35km, mb3.9/6, Error ellipse: s-maj=16.8km s-min=10.3km az=42.0*
ISC 31 22:31:49.1±4.5, 1573N±007×9020W±008, h28km±36km, n29, σ0=81/28, mb3.8/4, MS3.2/7, Guatemala

Code	Station Name	Δ°	AZ°	Phase	ID Op	ID ISC	Time h m s	Res ISC
TGUH	**Tegucigalpa,Un**	**3.28**	**120**	*e*Pn		**Pn**	**22 32 33.1**	**-5.6**
TGUH				*e*Pg		**Pn**	**22 32 39.4**	**+0.7**
TGUH				*e*Sn		**Sn**	**22 33 16.4**	**-0.4**
TEIG	**Tepich**	**4.83**	**22**	*e*Pn		**Pn**	**22 32 58.2**	**-1.8**
TEIG				*e*Pg		**Pn**	**22 33 17.6**	**+18**
TEIG				Sn		**Sn**	**22 33 55.8**	**+0.8**
TEIG	**Tepich**	**4.83**	**22**	Pn		**Pn**	**22 32 58.1**	**-1.9**
23nm,0.3s,baz=206,slow=1.1,SNR=102								
TEIG				Sn		**Sn**	**22 33 55.3**	**+0.2**
37nm,0.3s,baz=358,slow=20,SNR=9.1								
TEIG				Lg			22 34 21.4	
42nm,0.3s,baz=15,slow=23,SNR=10								
TEIG				LR		LR	22 35 24.8	
comp=Z,156nm,19.2s,baz=220,slow=45								
TXAR	**Lajitas Array**	**18.36**	**320**	P		**Pn**	**22 36 02.4**	**+0.7**
TXAR	**Lajitas Array**	**18.36**	**320**	P		**Pn**	**22 36 02.4**	**+0.7**
0.1nm,0.3s,baz=139,slow=12,SNR=35								
GOGA	**Godfrey**	**18.63**	**18**	*e*P		**Pn**	**22 36 03.9**	**-1.0**
17nm,1.6s								
OXF	**Oxford**	**18.72**	**2**	P		**Pn**	**22 36 06.0**	**0.0**
ROSC	**El Rosal**	**18.97**	**123**	P		**Pn**	**22 36 09.7**	**+0.5**
0.8nm,0.3s,baz=107,slow=22,SNR=5.1								
ROSC				LR		LR	22 43 03.0	
comp=Z,67nm,20.4s,baz=346,slow=36								
MIAR	**Mount Ida**	**18.98**	**351**	*e*P		**Pn**	**22 36 09.0**	**-0.2**
12nm,1.1s								
SDV	**Santo Domingo**	**20.28**	**107**	P		**P**	**22 36 22.8**	**0.0**
1.6nm,0.4s,baz=309,slow=8.1,SNR=4.7								
WVT	**Waverly**	**20.43**	**6**	*e*P		**P**	**22 36 24.3**	**+0.2**
4.1nm,0.6s								
WMOK	**Wichita Mounta**	**20.44**	**339**	*e*P		**P**	**22 36 18.5**	**-5.8**
17nm,1.2s								
LPIG	**La Paz**	**20.64**	**297**	LR		LR	22 45 09.4	
comp=Z,124nm,19.3s,MS3.3,baz=104,slow=39								
TKL	**Tuckaleechee C**	**20.66**	**15**	*e*P		**P**	**22 36 28.8**	**+2.1**
TKL				LR		LR	22 44 42.4	
TKL	**Tuckaleechee C**	**20.66**	**15**	P		**P**	**22 36 28.6**	**+1.9**
4.9nm,0.9s,baz=172,slow=10,SNR=5.8								
TKL				LR		LR	22 44 42.4	
comp=Z,59nm,18.2s,MS3.0,baz=357,slow=38								
MNTX	**Cornudas Mount**	**21.07**	**322**	*e*P		**P**	**22 36 30.9**	**-0.3**
3.3nm,1.0s,mb3.6								
SIUC	**Southern Illin**	**21.92**	**2**	P		**P**	**22 36 39.9**	**-0.3**
ELN	**Prospectdale**	**23.00**	**20**	P		**P**	**22 36 52.3**	**+0.7**
SJG	**San Juan**	**23.13**	**81**	LR		LR	22 45 42.4	
comp=Z,58nm,20.9s,MS3.0,baz=98,slow=36								
PCRV	**Puerto La Cruz**	**25.51**	**99**	LR		LR	22 48 12.1	
comp=Z,86nm,20.0s,MS3.3,baz=289,slow=39								
SDCO	**Great Sand Dun**	**25.76**	**331**	*e*P		**P**	**22 37 17.0**	**-0.5**
1.7nm,1.1s,mb3.5								
PFO	**Pinyon Flat Ob**	**29.63**	**312**	LR		LR	22 51 23.4	
comp=Z,83nm,19.5s,MS3.4,baz=130,slow=40								
NVAR	**Mina Array Bea**	**33.49**	**318**	P		**P**	**22 38 27.2**	**+1.1**
NVAR	**Mina Array Bea**	**33.49**	**318**	P		**P**	**22 38 27.2**	**+1.1**
0.5nm,0.2s,mb4.0,baz=130,slow=8.4,SNR=7.8								
ULM	**Lac du Bonnet**	**34.74**	**354**	LR		LR	22 54 27.5	
comp=Z,48nm,18.7s,MS3.3,baz=347,slow=39								
WALA	**Waterton Lakes**	**38.47**	**335**	P		**P**	**22 39 08.8**	**+0.3**
LPAZ	**La Paz**	**38.56**	**145**	LR		LR	22 54 51.7	
comp=Z,78nm,21.7s,MS3.5,baz=154,slow=36								
NEW	**Newport**	**39.27**	**331**	P		**P**	**22 39 14.4**	**-0.8**
YKA	**Yellowknife Ar**	**49.77**	**345**	P		**P**	**22 40 37.6**	**-1.3**
1.1nm,0.9s,mb3.9,baz=146,slow=7.6,SNR=6.6								

*DDA **31** 22:47:51.8, 3674N×2580E, h8km±3km, Md3.0*
*ISCJB **31** 22:47:52.2±0.6, 3687N±003×2581E±005, h9km±7km, Error ellipse: s-maj=7.3km s-min=4.9km az=37.0*
*THE **31** 22:47:52.6, 3684N×2582E, h3km, ML2.9*
*CSEM **31** 22:47:53.1±0.2, 3686N×2578E, h20km, ML2.9, Error ellipse: s-maj=5.0km s-min=3.2km az=107.0*
ISC 31 22:47:53.0±0.6, 3686N±004×2578E±005, h13km±6km, n11, σ0=95/17, Dodecanese Islands

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
APE	Apeiranthos	0.29	316	ePg	Pg	22 47 59.4	+0.5
APE				eSg	Sg	22 48 04.3	+1.3
SANT	Santorini	0.56	208	ePg	Pg	22 48 03.2	-0.7
SANT				eSg	Sg	22 48 11.7	+0.4
THR1	Thera Island	0.56	208	ePg	Pg	22 48 03.4	-0.5
BDRM	Kayabasi	1.35	81	iP	Pn	22 48 17.3	-0.1
BDRM				iS	Sn	22 48 36.2	+1.0
CHOS	Chios island	1.54	8	ePg	Pg	22 48 20.1	-2.4
CHOS				eSg	Sg	22 48 41.8	-0.7
URLA	Izmir	1.63	23	iP	Pn	22 48 20.8	-0.5
URLA				iS	Sn	22 48 48.6	+6.5
LAST	Lasithi	1.72	188	ePb	Pb	22 48 22.7	+0.1
ZKR	Zakros	1.78	168	ePb	Pn	22 48 22.3	-1.1
AYDN	Tasoluk	1.85	64	iP	Pg	22 48 27.9	-0.6
AYDN				iS	Sg	22 48 54.2	+1.6
KARN	Karanos	2.10	227	ePn	Pn	22 48 29.1	+1.3
DID	Didima	2.13	288	ePn	Pn	22 48 28.3	0.0

ISCJB 31 23:03:58.6±5.2, 28N±02×1288E±03, h229km±53km, mb4.0/12, Error ellipse: s-maj=53.4km s-min=16.8km az=150.4

IDC 31 23:04:12.5±6.5, 245N×12827E, h359km±72km, mb3.3/8, mb1 3.4/8, mb1mx3.3/16, mbtmp3.3/8, Error ellipse: s-maj=67.2km s-min=16.6km az=70.0

ISC 31 23:03:59.6±5.5, 28N±02×1288E±03, h222km±56km, n17, σ0s53/16, mb4.0/11, Halmahera

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	15.81	167	eP	Pn	23 07 30.5	-0.2
	8.7nm,0.8s						
FITZ	Fitzroy Crossi	20.98	188	eP	P	23 08 25.3	-0.6
	7.7nm,1.5s						
FITZ	Fitzroy Crossi	20.98	188	P	P	23 08 24.8	-1.1
	4.0nm,1.1s,baz=20,slow=10,SNR=13						
WRA	Warramunga Arr	23.23	167	P	P	23 08 47.3	+0.1
	2.0nm,0.3s,mb4.2,baz=341,slow=10,SNR=13						
WB2	Warramunga Arr	23.23	167	eP	P	23 08 48.2	+1.0
ASAR	Alice Springs	26.75	170	P	P	23 09 19.1	+0.2
	1.5nm,0.5s,mb3.9,baz=352,slow=7.8,SNR=33						
STKA	Stephens Creek	36.55	162	P	P	23 10 44.3	+0.1
	1.0nm,0.3s,mb3.8,baz=357,slow=8.1,SNR=8.2						
JIRN	Jiri	47.59	306	eP	P	23 12 13.8	+0.4
	4.9nm,0.3s,mb4.2						
GUN	Gumba	47.94	306	eP	P	23 12 16.4	+0.3
	4.3nm,0.4s,mb4.2						
KKN	Kakani	48.38	305	eP	P	23 12 19.2	-0.2
SONM	Songino Array	48.87	340	P	P	23 12 23.4	+0.7
	0.4nm,0.5s,mb3.0,baz=132,slow=4.4,SNR=4.1						
KOLN	Koldanda	49.75	305	eP	P	23 12 30.0	+0.2
	5.3nm,0.4s,mb4.3						
DANN	Dangsing	49.83	305	eP	P	23 12 30.5	+0.1
	12nm,0.6s,mb4.4						
MKAR	Makanchi Array	59.51	325	P	P	23 13 39.5	0.0
	1.2nm,0.5s,mb3.8,baz=114,slow=8.6,SNR=20						
ZALV	Zalesovo Beam	62.37	332	P	P	23 13 57.9	-0.7
	0.4nm,0.3s,mb3.5,baz=136,slow=9.2,SNR=3.5						
ARCES	ARCESS Array B	92.04	340	P	P	23 16 41.9	-1.1
	3.3nm,0.9s,mb4.2,baz=80,slow=4.8,SNR=7.8						
TORD	Torodi Ar. Bea	125.16	288	PKP	PKPdf	23 22 30.3	-4.3
	0.1nm,0.4s,baz=74,slow=1.4,SNR=7.4						

IDC 31 23:12:04.5±2.0, 289S×14022E, h0km, mb3.9/7, mb1 4.0/8, mb1mx3.9/14, mbtmp3.9/14, ML4.0/1, Error ellipse: s-maj=79.9km s-min=19.6km az=88.0

ISCJB 31 23:12:07.4±0.7, 295S±007×1403E±01, h33km, mb3.9/7, Error ellipse: s-maj=19.1km s-min=10.6km az=6.0

NEIC 31 23:12:09.6±0.5, 294S×14025E, h35km, mb4.1/3, Error ellipse: s-maj=14.1km s-min=7.9km az=96.0

ISC 31 23:12:09.7±0.7, 295S±007×1403E±01, h35km, n17, σ0s97/19, mb3.9/7, Near north coast of Irian Jaya

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
KAKA	Kakadu	12.41	218	eP	Pn	23 15 03.8	-0.1
	12nm,0.5s						
WRAB	Tennant Creek	17.84	198	ePn	Pn	23 16 14.8	-0.5
	4.1nm,0.7s						
WRAB				eSn	Sn	23 19 22.0	-11
WB2	Warramunga Arr	17.85	198	eP	Pn	23 16 15.8	+0.4
WRA	Warramunga Arr	17.86	198	P	Pn	23 16 15.7	+0.3
	0.5nm,0.3s,baz=20,slow=12,SNR=10.0						
WRA				S	Sn	23 19 16.6	-17
	0.1nm,0.3s,baz=16,slow=23,SNR=2.6						
HNR	Honiara	20.60	109	eP	P	23 16 45.7	-0.3
FITZ	Fitzroy Crossi	20.79	223	eP	P	23 16 47.2	-0.8
	12nm,1.2s						
FITZ	Fitzroy Crossi	20.79	223	P	P	23 16 46.7	-1.3
	3.2nm,0.9s,baz=52,slow=11,SNR=6.0						
FITZ				S	S	23 20 25.9	-12
	2.5nm,0.8s,baz=200,slow=21,SNR=3.2						
ASAR	Alice Springs	21.50	196	P	P	23 16 56.9	+1.4
	1.6nm,0.5s,mb3.6,baz=25,slow=10.0,SNR=8.4						
ASAR				S	S	23 20 41.6	-10
	1.4nm,1.1s,baz=16,slow=24,SNR=4.1						
STKA	Stephens Creek	28.81	178	P	P	23 18 04.2	-0.3
STKA	Stephens Creek	28.81	178	P	P	23 18 04.2	-0.3
	1.3nm,0.4s,mb4.0,baz=343,slow=7.3,SNR=3.9						
SONM	Songino Array	58.60	334	P	P	23 22 04.3	+1.3
	0.2nm,0.5s,mb3.4,baz=136,slow=5.1,SNR=3.5						
MKAR	Makanchi Array	70.92	322	P	P	23 23 23.4	+0.1
	0.8nm,0.4s,mb4.0,baz=90,slow=9.1,SNR=9.7						
ZALV	Zalesovo Beam	72.92	329	P	P	23 23 34.0	-1.2
	0.7nm,0.4s,mb3.9,baz=108,slow=4.7,SNR=3.6						
BVAR	Borovoye Array	80.39	325	P	P	23 24 17.3	-0.1
	0.8nm,0.4s,mb4.0,baz=114,slow=7.7,SNR=5.5						
BRVK	Borovoye	80.46	325	eP	P	23 24 18.0	+0.2
	2.1nm,0.5s,mb4.3						
DBIC	Dimbokro	145.05	277	PKPbc	PKPbc	23 31 43.7	-0.3
DBIC	Dimbokro	145.05	277	PKPbc	PKPbc	23 31 43.7	-0.2
	8.6nm,1.0s,baz=84,slow=6.5,SNR=6.2						

DDA 31 23:17:55.0, 3697N×2933E, h6km±6km, Md3.3

CSEM 31 23:17:55.6±0.1, 3698N×2931E, h10km, MD3.4, Error ellipse: s-maj=1.7km s-min=1.4km az=131.0

ISK 31 23:17:55.1, 3704N×2928E, h5km, MD3.4

ISCJB 31 23:17:57.3±0.5, 3697N±003×2930E±003, h21km±6km, Error ellipse: s-maj=5.3km s-min=4.0km az=168.3

HLW 31 23:18:06.1, 3641N×2953E, h21km, Mb3.4

ISC 31 23:17:56.9±0.5, 3705N±003×2929E±003, h7km±5km, n36, σ0s86/50, 2C-2D, Turkey

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
FETY	Fethiye	0.44	202	ePG	Pg	23 18 04.3	-1.1
FETY				eSG	Sg	23 18 12.0	+0.8
ELL	Elmali	0.57	121	ePG	Pg	23 18 06.9	-1.0
ELL				eSG	Sg	23 18 17.0	+1.6
DALT	Dalyan (Mudla)	0.59	243	ePG	Pg	23 18 07.4	-0.9
DALT				eSG	Sg	23 18 17.1	+1.1
DENT	Denizli	0.74	344	ePG	Pg	23 18 10.0	-1.0
YER	Yerkesik	0.81	277	ePG	Pg	23 18 12.4	-0.1
ANTB	Antalya	1.10	97	ePN	Pn	23 18 17.9	-0.7
BCK	Bucak	1.11	68	ePN	Pn	23 18 17.5	-1.4
BCK				eSN	Sn	23 18 34.1	-0.3
MLSB	Milas	1.24	282	ePN	Pn	23 18 19.8	-0.8
AYDN	Tasoluk	1.28	299	iP	Pn	23 18 20.7	-0.5
AYDN				iS	Sg	23 18 39.5	+1.3
TKTP	Tekketepe	1.28	39	iP	Pn	23 18 20.5	-0.7
TKTP				iS	Sg	23 18 38.4	+0.2
DAT	Datca	1.41	258	ePN	Pn	23 18 22.0	-0.9
BDRM	Kayabasi	1.48	271	iP	Pn	23 18 24.6	+0.7
BDRM				iS	Sn	23 18 42.7	-0.8
BDRM	Kayabasi	1.48	271	iP	Pn	23 18 24.5	+0.6
BDRM				iS	Sn	23 18 42.7	-0.8
KULA	Kula-Manisa	1.55	341	ePN	Pn	23 18 25.0	+0.2
MANT	Manisa	1.56	338	iP	Pn	23 18 25.3	+0.4
MANT				iS	Sn	23 18 49.9	+4.5
BODT	Bodrum	1.59	271	ePN	Pn	23 18 26.2	+0.8
SHUT	Suhut-Afyon	1.80	33	ePN	Pn	23 18 29.4	+1.1
GDZ	Gediz	2.04	4	iP	Pn	23 18 31.8	+0.1
KDAG	Bornova	2.10	311	iP	Pn	23 18 37.8	+5.4
ALT	Altintas	2.11	18	ePN	Pn	23 18 32.6	+0.1
AKHS	Akhisar	2.17	328	iP	Pg	23 18 36.9	-1.6
AKHS				iS	Sg	23 19 13.0	+6.4
AKS	Akhisar	2.17	328	ePN	Pn	23 18 33.1	-0.3
BLCB	Balcova	2.23	308	ePN	Pn	23 18 34.5	+0.3
URLA	Izmir	2.51	302	iP	Pn	23 18 37.8	-0.3
HDMB	Hadim	2.56	91	ePN	Pn	23 18 40.0	+1.3
KONT	Konya--Tatoy	2.60	69	ePN	Pn	23 18 40.0	+0.7
DST	Dursunbey	2.61	349	ePN	Pn	23 18 39.7	+0.3
ESKT	Eskisehir	2.76	26	ePN	Pn	23 18 42.3	+0.8
ERMK	Ermenek	2.93	97	iP	Pn	23 18 49.3	+5.4
ERMK				iS	Sn	23 19 28.1	+8.8
EZN	Ezine	3.62	321	ePN	Pn	23 18 54.7	+1.3
HMAT	Matruh	6.21	198	⇑eP	Pn	23 19 28.6	-0.4
HMAT	Matruh	6.21	198	P	Pn	23 19 28.5	-0.4
AMAG	Maghara	7.17	152	⇓eP	Pn	23 19 40.5	-1.5
AMAG				S	Sn	23 20 49.4	-14
AMAG	Maghara	7.17	152	P	Pn	23 19 40.5	-1.6
SWA1		8.32	202	⇑eP	Pn	23 19 58.3	+0.4
SWA1				S	Sn	23 21 20.8	-11
SWA2		8.42	204	⇓iP	Pn	23 19 59.8	+0.5
SWA2				S	Sn	23 21 23.0	-12

ISCJB 31 23:18:03.1±0.1, 829N±002×9389E±002, h33km, mb5.2/226, MS5.0/99, Error ellipse: s-maj=3.5km s-min=2.6km az=21.1

CRAAG 31 23:18:03.5, 843N×9400E, Mb5.4

MOS 31 23:18:03.3±1.3, 839N×9390E, h35km, mb5.5/94, MS4.9/39, Error ellipse: s-maj=8.0km s-min=3.5km az=123.6

IDC 31 23:18:04.5±1.4, 834N×9399E, h33km±10km, mb4.5/38, mb1 4.6/39, mb1mx4.6/40, mbtmp4.5/39, ML4.4/1, MS4.9/21, Ms1 4.9/21, ms1mx4.9/23, Error ellipse: s-maj=12.1km s-min=8.5km az=46.0

BJI 31 23:18:04.3, 820N×9367E, h52km, mB5.4, mb5.1, Ms5.5, Msz5.2

NEIC 31 23:18:05.1±0.2, 831N×9386E, h35km, mb5.4/113, MS5.0/43, Error ellipse: s-maj=6.8km s-min=4.3km az=222.0

GCMT 31 23:18:05.1±0.1, 831N×9403E, h12km, MW5.4/102, Moment Tensor Solution. s75,c119; s102,c199; Duration: 1s3 Moment tensor: Scale 10^{17}Nm; Mrr-0.03±.02; Mθθ-1.49±.02; Mφφ1.51±.02; Mrθ-0.38±.05; Mθφ-0.56±.02; Mφr-0.72±.05; Best double couple: Mo1.79300×10^{17} NP1:φs124.00000°, δ63.00000°, λ178.00000°. NP2:φs215.00000°, δ88.00000°, λ27.00000°. Principal axes: T 1.8400, Plg20.0000°, Azm83.0000°; N -0.1000, Plg63.0000°, Azm218.0000°; P -1.7450, Plg17.0000°, Azm346.0000°; nsta1 refers to body waves, cutoff=40s. nsta2 refers to surface waves, cutoff=50s.

BGS 31 23:18:14.6±1.7, 919N×9154E, h33km, mb5.4, MS4.8

SZGRF 31 23:18:14.7, 989N×9298E, h33km, mb5.6, MS4.9, Nicobar Islands, India, region

ISC 31 23:18:06.1±0.1, 831N±002×9391E±002, h45km, h45km±2.7km: pP-P, n785, σ1s18/761, mb5.2/226, MS5.0/99, 46C-23D, Nicobar Islands region

Code	Station Name	Δ°	AZ°	Phase ID Op	Phase ID ISC	Time h m s	Res ISC
PBA	Port Blair	3.52	341	eP	x	23 19 14.1	
PBA				eS	x	23 20 00.2	
SNG	Songkhla	6.75	99	P	Pn	23 19 40.0	-2.7
	1μm,1.0s						
NNT	Nongplab	7.14	53	P	Pn	23 19 46.0	-2.1
KULM	Kulim	7.34	114	⇓P	Pn	23 19 48.3	-2.5
PSI	Prapat	7.41	137	P	Pn	23 19 52.8	+1.0
PSI						23 21 14.7	
PSI	Prapat	7.41	137	Pn	Pn	23 19 52.8	+1.0
	5.3nm,0.3s,baz=310,slow=9.1,SNR=112						
PSI				Sn	Sn	23 21 14.7	+0.1
	4.9nm,0.3s,baz=165,slow=14,SNR=3.9						
PSI				LR	LR	23 23 22.1	
	comp=Z,13μm,18.3s,baz=304,slow=43						
FRIM	Kepong	9.18	123	⇑P	Pn	23 20 13.0	-3.2
NST	Nakhon Sawan	9.52	39	⇑P	Pn	23 20 20.5	-0.2
	92nm,0.8s						
KTGM	Kuala Trenggan	9.63	107	⇓P	Pn	23 20 20.5	-1.8
KGM	Kluang	11.27	123	⇑P	Pn	23 20 42.3	-2.4
CHG	Chiang Mai	11.53	25	⇓P	Pn	23 20 50.2	+2.0
	150nm,0.7s						
CHTO	Chiang Mai	11.53	25	eP	Pn	23 20 49.4	+1.2
CHTO	Chiang Mai	11.53	25	P	Pn	23 20 50.7	+2.5
	SNR=66						
CHTO	Chiang Mai	11.53	25	P	Pn	23 20 50.7	+2.5
	SNR=66						
CHTO	Chiang Mai	11.53	25	P	Pn	23 20 50.7	+2.5
	SNR=66						
CHTO	Chiang Mai	11.53	25	P	Pn	23 20 50.7	+2.5
	SNR=66						
CHTO	Chiang Mai	11.53	25	P	Pn	23 20 50.7	+2.5
	SNR=66						
CHTO	Chiang Mai	11.53	25	P	Pn	23 20 50.7	+2.5
	SNR=66						
KKTK	Khon Kaen	11.81	47	P	Pn	23 20 52.5	+0.4
MYKOM	Kota Tinggi	11.83	123	⇑P	Pn	23 20 50.1	-2.3
NANT	Nan	12.34	32	⇑P	Pn	23 21 02.0	+2.7
	538nm,1.0s						
PALK	Pallekele	13.12	266	Pn	Pn	23 21 08.7	-1.3
	500nm,1.2s,SNR=10						
PALK	Pallekele	13.12	266	ePn	Pn	23 21 08.4	-1.7
VIS	Vishakhapatnam	13.91	313	iP	Pn	23 21 20.4	-0.4
VIS				AMb	AMB	23 21 26.6	
	comp=Z,350nm,0.9s						
VIS				ix	x	23 23 44.3	
MDRS	Chennai	14.23	291	eP	Pn	23 21 23.4	-1.7
MDRS				ex	x	23 23 48.5	
CAL	Calcutta	15.13	340	eP	Pn	23 21 36.2	-0.8
CAL				ex	x	23 24 39.7	
AGT	Agartala	15.70	351	iP	Pn	23 21 42.0	-2.3
AGT				ix	x	23 22 23.0	
KOD	Kodaikanal	16.34	278	eP	Pn	23 21 51.9	-0.6
KOD				AMb	AMB	23 22 06.8	
	comp=Z,362nm,0.7s						
IMP	Imphal	16.38	0	iP	Pn	23 21 52.0	-1.0
IMP				ex	x	23 25 03.0	
TRD	Trivandrum	16.77	272	⇑ex	Pn	23 22 00.0	+2.1
TRD				ex	S	23 24 58.3	-14
BOK	Bokaro	17.21	334	eP	Pn	23 22 02.6	-0.7
BOK				AMb	AMB	23 22 14.2	
	comp=Z,302nm,1.3s						
SHL	Shillong	17.27	354	eP	Pn	23 22 02.0	-2.1
SHL				eS	S	23 25 16.0	-6.6
HYB	Hyderabad	17.48	303	eP	Pn	23 22 08.0	+1.2
HYB				eS	S	23 25 19.0	-7.9
HYB				pmax	pmax		
	comp=Z,95nm,1.0s						
HYB	Hyderabad	17.48	303	eP	Pn	23 22 08.0	+1.2
	comp=Z,95nm,1.0s						
HYB				eS	S	23 25 19.0	-7.9
HYB				e		23 34 02.0	
HYB	Hyderabad	17.48	303	iP	Pn	23 22 08.0	+1.2
	comp=Z,95nm,1.0s						
HYB				eS	S	23 25 19.0	-7.9
HYB				LR	LR	23 34 02.0	
	comp=Z,4.4nm,14.0s						
KSM	Kuching	17.69	112	⇓P	Pn	23 22 09.9	+0.5
BLSP	Bilaspur	17.81	322	eP	Pn	23 22 10.4	-0.4
BLSP				AMb	AMB	23 22 14.2	
	comp=Z,413nm,1.1s						
SHBG	Sahibganj	17.84	341	eP	Pn	23 22 11.0	-0.1
KMI	Kunming	18.73	26	P	Pn	23 22 24.5	+2.6
KMI				AP	pP	23 22 34.5	+2.7
KMI				XP	sP	23 22 40.3	+2.9
KMI				PP		23 22 43.0	
KMI				S	S	23 25 51.5	-0.2
KMI				XS	sS	23 26 06.5	-2.6
KMI				SS		23 26 16.5	
KMI				AMB	AMB		
	comp=Z,104nm,1.4s						
KMI				AMB	AMB		
	comp=Z,2μm,4.4s						
KMI				LR	LR		
	comp=N,7μm,14.7s						
KMI				LR	LR		
	comp=E,7μm,10.8s						
KMI				LR	LR		
	comp=Z,7μm,14.7s						
QIZ	Qiongzhong	18.78	54	eP	Pn	23 22 23.4	+0.8
	comp=Z,200nm,1.4s						
QIZ				eSn	Sn	23 25 51.7	-0.3
SBUM	Sibu	19.13	107	⇓P	Pn	23 22 27.0	+0.1
NGP	Nagpur	19.20	313	iP	Pn	23 22 25.2	-2.4
NGP				ex	x	23 22 30.9	
	comp=Z,160nm,1.8s						
NGP				eS	S	23 26 03.3	+1.7
MNGI	Mangalore	19.31	285	eP	Pn	23 22 33.5	+4.5
MNGI				AMb	AMB	23 22 38.5	
	comp=Z,376nm,1.4s						
MNGI				eS	S	23 26 09.4	+5.4
LATR	Latur	19.62	303	eP	Pn	23 22 32.2	-0.5
BTM	Bintulu	19.74	104	⇑P	Pn	23 22 34.2	0.0
AKL	Akola	20.45	309	eP	P	23 22 39.2	-0.8
AKL				iP		23 22 41.3	
AKL				ex	x	23 22 51.3	
	comp=Z,177nm,1.4s						
AKL				eS	S	23 26 27.1	+0.5
COCO	West Island	20.57	172	ePn	P	23 22 45.0	+3.7
COCO				LR	LR		
	comp=Z,3μm,19.0s,MS4.7						
JIRN	Jiri	20.59	340	eP	P	23 22 41.7	+0.3
	comp=Z,1μm,1.2s						
MNCY	Minicoy	20.65	271	ix	x	23 22 49.0	
PKI	Pulchoki	20.78	338	eP	P	23 22 43.7	+0.2
	comp=Z,2μm,1.4s						
PKIN	Phulchoki	20.79	338	eP	P	23 22 43.5	-0.1
	comp=Z,439nm,0.9s						
GOA	Goa	20.89	292	⇑ix	x	23 22 57.3	
GOA				eS	S	23 26 37.5	+2.0
GUN	Gumba	20.92	340	eP	P	23 22 45.2	+0.2
	comp=Z,671nm,0.8s						
DMN	Daman	20.92	338	eP	P	23 22 45.1	0.0
	comp=Z,270nm,0.8s						
KKN	Kakani	21.02	338	eP	P	23 22 45.9	-0.2
	comp=Z,689nm,1.0s,mb5.9						
KAD	Karad	21.19	297	eP	P	23 22 48.1	+0.1
KAD				AMb	AMB	23 22 58.7	
	comp=Z,183nm,1.4s,mb5.2						
LSA	Lhasa	21.44	353	P	P	23 22 50.8	+0.2
LSA				S	S	23 26 43.3	-2.7
LSA				PCP	PcP	23 26 47.3	-5.5
LSA				XS	sS	23 27 04.8	+1.4
LSA				AMB	AMB		
	comp=Z,210nm,1.1s,mb5.4						
LSA				LR	LR		
	comp=N,2μm,23.3s,MS4.7						
LSA				LR	LR		
	comp=E,4μm,28.3s,MS4.7						
LSA				LR	LR		
	comp=Z,5μm,22.6s						
LSA	Lhasa	21.44	353	eP	P	23 22 50.1	-0.5
LSA				eS	S	23 26 46.4	+0.4
LSA				pmax	pmax		
	comp=Z,121nm,0.6s,mb5.4						
LSA				MLR	MLR		
	comp=Z,4μm,22.0s,MS4.8						
LSA	Lhasa	21.44	353	eP	P	23 22 50.1	-0.5
	comp=Z,121nm,0.6s,mb5.4						
LSA				eS	S	23 26 46.4	+0.5
LSA				LR	LR		
	comp=Z,4μm,22.0s,MS4.8						
GKN	Gorkha	21.46	337	eP	P	23 22 50.7	-0.1
KOLN	Koldanda	21.67	335	eP	P	23 22 53.1	0.0
	comp=Z,297nm,0.7s,mb5.8						
BHPL	Bhopal	21.69	315	eP	P	23 22 53.6	+0.3
BHPL				AMb	AMB	23 23 01.8	
	comp=Z,156nm,1.1s,mb5.4						
GYA	Guiyang	21.74	32	⇑iP	P	23 22 54.8	+0.9
GYA				AP		23 23 05.5	
GYA				XP	sP	23 23 10.3	0.0
GYA				PP		23 23 23.8	
GYA				S	S	23 26 50.5	-1.5
GYA				PCP	PcP	23 26 56.3	+2.9
GYA				XS	sS	23 27 08.5	-1.0
GYA				SS		23 27 29.5	
GYA				SCP	ScP	23 30 28.5	+1.3
GYA				PCS	PcS	23 30 33.8	+1.9
GYA				AMB	AMB		
	comp=Z,90nm,0.8s,mb5.2						
GYA				AMB	AMB		
	comp=Z,180nm,5.2s						
GYA				LR	LR		
	comp=N,12μm,15.0s,MS5.5						
GYA				LR	LR		
	comp=E,8μm,15.6s,MS5.5						
GYA				LR	LR		
	comp=Z,13μm,16.4s,MS5.4						
POO	Poona	21.97	300	eP	P	23 22 54.4	-2.0
POO				AMb	AMB	23 23 24.9	
	comp=Z,222nm,1.6s,mb5.3						
DANN	Dangsing	22.11	336	eP	P	23 22 57.6	-0.2
	comp=Z,942nm,0.9s,mb6.2						
KKM	Kota Kinabalu	22.25	94	⇓P	P	23 23 01.2	+1.7
KDM	Kudat	22.77	92	⇓P	P	23 23 06.3	+1.4
BOM	Bombay	23.02	299	ex	x	23 22 60.0	
BOM				ex	x	23 23 20.1	
	comp=Z,298nm,1.9s						
BOM				ex	x	23 27 13.7	
SDKM	Sandakan	23.27	95	⇑P	P	23 23 11.0	+0.8
BATP	Bataraza	23.64	87	eP	P	23 23 14.0	+0.4
GZH	Guangzhou	23.75	50	P	P	23 23 20.3	+5.8
GZH				AMB	AMB		
	comp=Z,1μm,4.8s						
GZH				LR	LR		
	comp=N,13μm,15.4s,MS5.5						
GZH				LR	LR		
	comp=E,6μm,15.7s,MS5.5						
GZH				LR	LR		
	comp=Z,7μm,14.8s,MS5.3						
HKC	Hong Kong Obse	23.95	52	P	P	23 23 20.0	+3.6
TSM	Tawau	24.15	98	⇓P	P	23 23 19.2	+0.9
CD2	Chengdu	24.30	21	P	P	23 23 21.3	+1.8
CD2				AP		23 23 31.3	
CD2				XP	sP	23 23 37.8	+1.2
CD2				PP		23 23 58.3	
CD2				PCP	PcP	23 26 59.3	+0.7
CD2				S	S	23 27 34.0	-1.5
CD2				XS	sS	23 27 51.0	-4.3
CD2				SS		23 28 29.0	
CD2				PCS	PcS	23 30 39.8	+1.3
CD2				AMB	AMB		
	comp=Z,20nm,0.3s,mb5.0						
CD2				LR	LR		
	comp=N,6μm,12.0s,MS5.6						
CD2				LR	LR		
	comp=E,10μm,11.8s,MS5.6						
CD2				LR	LR		
	comp=Z,5μm,10.5s,MS5.3						
MYLDM	Lahad Datu	24.62	96	⇑P	P	23 23 24.2	+1.7
LGTI	Lohaghat	24.64	330	iP	P	23 23 21.5	-1.1
PTH	Pithoragarh	24.73	330	eP	P	23 23 23.9	+0.5
PTH				ex	x	23 27 47.9	
NDI	New Delhi	25.65	324	⇓iP	P	23 23 30.5	-1.3
	comp=Z,12nm,1.0s,mb4.4						
NDI				eP		23 23 31.5	
NDI				AMb	AMB	23 23 38.1	
	comp=Z,236nm,1.3s,mb5.5						
AJM	Ajmer	25.71	317	eP	P	23 23 31.5	-0.9
AJM				AMb	AMB	23 23 41.7	
	comp=Z,184nm,1.2s,mb5.5						
DDI	Dehra Dun	26.45	328	iP	P	23 23 38.5	-0.5
DGAR	Diego Garcia	26.48	234	PFAKE		23 23 50.0	+11
DGAR				LR	LR		
	comp=Z,5μm,20.0s,MS5.0						
SMLA	Simla	27.56	328	eP	P	23 23 48.6	-0.4
SMLA				AMb	AMB	23 23 53.9	
	comp=Z,179nm,1.3s,mb5.5						
OTRP	Odiongan	27.94	79	eP	P	23 23 51.7	-0.9
SDNR	Sundarnagar	27.95	328	eP	P	23 23 53.5	+1.0
BALP	Baler	28.03	72	eP	P	23 23 54.4	+1.0
BHK	Bhakra	28.18	327	ex	x	23 23 54.0	
RCP	Roxas	28.58	81	⇑eP	P	23 23 60.0	+1.7
QZH	Quanzhou	28.78	52	⇑iP	P	23 24 01.0	+1.1
QZH				S	S	23 28 49.0	+2.4
QZH				AMB	AMB		
	comp=Z,80nm,0.8s,mb5.5						
QZH				AMB	AMB		
	comp=Z,490nm,4.6s						
QZH				LR	LR		
	comp=N,28μm,15.1s,MS6.0						
QZH				LR	LR		
	comp=E,15μm,16.2s,MS6.0						
QZH				LR	LR		
	comp=Z,11μm,13.1s,MS5.7						
KAPI	Kappang	28.98	116	P	P	23 24 02.0	+0.2
	comp=Z,7.7nm,0.9s,mb4.4,baz=285,slow=16,SNR=2.9						
LZH	Lanzhou	29.10	17	eP	P	23 24 03.0	+0.4
LZH				AP	pP	23 24 12.5	-2.0

LZH PP PP 23 24 58.3 -11
LZH PCP PcP 23 27 07.0 -2.8
LZH *e*S **S** **23 28 52.0 +0.6**
LZH XS sS 23 29 09.3 -2.1
LZH SS SS 23 30 22.0 -34
LZH AMB AMB
comp=Z,31nm,1.3s,mb4.9
LZH AMB AMB
comp=Z,203nm,6.6s
LZH LR LR
comp=N,2μm,13.1s
LZH LR LR
comp=Z,5μm,14.9s,MS5.2
XAN Xi'an 29.11 26 P **P** **23 24 01.8 -0.9**
XAN PP PP 23 24 54.3 -15
XAN S **S** **23 28 47.3 -4.3**
XAN AMB AMB
comp=Z,6.0nm,0.8s,mb4.4
XAN AMB AMB
comp=Z,115nm,5.3s
XAN LR LR
comp=N,4μm,16.7s,MS5.4
XAN LR LR
comp=E,6μm,17.1s,MS5.4
XAN LR LR
comp=Z,5μm,16.3s,MS5.2
WHN Wuhan 29.24 38 ⇓P **P** **23 24 05.5 +1.6**
WHN S **S** **23 28 55.3 +1.6**
WHN AMB AMB
comp=Z,585nm,4.4s
WHN LR LR
comp=N,5μm,11.3s,MS5.6
WHN LR LR
comp=E,8μm,11.6s,MS5.6
WHN LR LR
comp=Z,12μm,12.8s,MS5.7
DLH Dalhousie 29.30 328 *e*P **P** **23 24 05.0 +0.6**
THN Thein Dam 29.34 327 *e*P **P** **23 24 02.8 -2.0**
DAV Davao City (W) 31.41 90 *e*P **P** **23 24 22.7 -0.7**
GTA Gaotai 31.42 9 P **P** **23 24 23.3 +0.2**
GTA AP pP 23 24 35.5 +0.5
GTA XP sP 23 24 39.5 -0.8
GTA PP PP 23 25 27.8 -6.9
GTA PCP PcP 23 27 19.8 +4.0
GTA S **S** **23 29 26.3 -1.4**
GTA SCP ScP 23 30 55.5 0.0
GTA SCS ScS 23 34 52.5 -0.5
GTA AMB AMB
comp=Z,11nm,1.0s,mb4.6
GTA AMB AMB
comp=Z,173nm,5.3s
GTA LR LR
comp=N,2μm,11.8s,MS5.2
GTA LR LR
comp=E,2μm,11.8s,MS5.2
GTA LR LR
comp=Z,2μm,14.1s,MS5.0
NJ2 Nanjing 33.09 41 *e*P **P** **23 24 35.5 -2.4**
NJ2 XP sP 23 24 53.5 -1.7
NJ2 S **S** **23 29 59.5 +5.5**
NJ2 AMB AMB
comp=Z,20nm,0.6s,mb5.2
NJ2 AMB AMB
comp=Z,130nm,8.0s
NJ2 LR LR
comp=N,11μm,15.2s,MS5.7
NJ2 LR LR
comp=E,6μm,15.8s,MS5.7
NJ2 LR LR
comp=Z,6μm,15.8s,MS5.4
QUE Quetta 33.32 314 *e*P **P** **23 24 37.0 -2.9**
QUE *e*S **S** **23 30 06.0 +8.4**
TIY Taiyuan 33.73 27 P **P** **23 24 45.3 +1.9**
TIY S **S** **23 30 09.8 +6.0**
TIY XS sS 23 30 26.3 +2.4
TIY LR LR
comp=N,5μm,13.6s,MS5.7
TIY LR LR
comp=E,8μm,11.6s,MS5.7
SSE Sheshan 34.08 45 P **P** **23 24 46.3 -0.2**
SSE XP sP 23 25 05.5 +1.7
SSE S **S** **23 30 09.0 -0.3**
SSE XS sS 23 30 32.5 +3.2
SSE AMB AMB
comp=Z,22nm,0.8s,mb5.1
SSE AMB AMB
comp=Z,104nm,5.9s
SSE LR LR
comp=N,5μm,11.2s,MS5.5
SSE LR LR
comp=E,2μm,11.2s,MS5.5
SSE LR LR
comp=Z,3μm,10.8s,MS5.3
TIA Tai'an 34.92 34 *e*P **P** **23 24 56.0 +2.3**
TIA S **S** **23 30 30.0 +7.9**
TIA LR LR
comp=N,957nm,10.0s,MS5.3
TIA LR LR
comp=E,2μm,11.0s,MS5.3
KSH Kashi 34.98 335 P **P** **23 24 54.0 -0.2**
KSH *e*AP pP 23 25 06.0 -0.2
KSH *e*XP sP 23 25 11.0 -0.5
KSH *e*PP PP 23 26 10.8 -3.4
KSH *e*PCP PcP 23 27 26.0 +0.2
KSH *e*S **S** **23 30 20.0 -3.0**
KSH *e*XS sS 23 30 40.0 -3.1
KSH AMB AMB
comp=Z,629nm,1.8s,mb6.2
KSH LR LR
comp=N,3μm,8.6s
KSH LR LR
comp=E,5μm,12.7s
KSH LR LR
comp=Z,2μm,11.1s,MS5.2
BTO Baotou 35.22 21 *e*P **P** **23 24 53.8 -2.4**
WMQ Urumqi 35.79 352 P **P** **23 25 01.0 0.0**
WMQ AP pP 23 25 13.0 -0.1
WMQ XP sP 23 25 19.0 +0.6
WMQ PP PP 23 26 23.0 0.0
WMQ S **S** **23 30 35.0 -0.2**
WMQ SS SS 23 32 57.0 -16
WMQ AMB AMB
comp=Z,56nm,1.0s,mb5.5
WMQ AMB AMB
comp=Z,225nm,4.0s
WMQ LR LR
comp=N,2μm,12.0s,MS5.4
WMQ LR LR
comp=E,3μm,12.0s,MS5.4
HHC Hu-ho-hao-te 36.01 23 ⇑P **P** **23 25 05.0 +2.0**
HHC AP pP 23 25 17.0 +2.0
HHC XP sP 23 25 22.8 +2.5
HHC PP PP 23 26 29.8 +4.3
HHC PCP PcP 23 27 30.0 +1.2
HHC S **S** **23 30 41.5 +2.8**
HHC XS sS 23 31 01.3 +2.4
HHC SCP ScP 23 31 11.5 -0.1
HHC SS SS 23 33 06.5 -11
HHC SCS ScS 23 35 15.5 -1.6
HHC AMB AMB
comp=Z,28nm,1.2s,mb5.1
HHC AMB AMB
comp=Z,243nm,5.2s
HHC LR LR
comp=N,3μm,15.3s,MS5.4
HHC LR LR
comp=E,4μm,11.8s,MS5.4
HHC LR LR
comp=Z,4μm,14.4s,MS5.3
BJT Baijiatuau 37.32 29 P **P** **23 25 14.7 +0.6**
BJT pmax pmax
comp=Z,18nm,0.7s
BJT MLR MLR
comp=Z,2μm,19.0s
BJT Baijiatuau 37.32 29 P **P** **23 25 14.7 +0.6**
comp=Z,18nm,0.7s,mb5.0
BJT LR LR
comp=Z,2μm,19.0s,MS5.0
BJI Beijing 37.34 29 P **P** **23 25 16.0 +1.7**
BJI S **S** **23 31 00.3 +1.3**
BJI SS SS 23 33 36.3 -7.7
BJI AMB AMB
comp=Z,12nm,1.2s,mb4.6
BJI AMB AMB
comp=Z,346nm,5.5s

BJI LR LR
comp=N,4μm,18.2s,MS5.4
BJI LR LR
comp=E,4μm,22.6s,MS5.4
BJI LR LR
comp=Z,2μm,23.4s,MS4.8
JOW Kunigami 37.41 56 P **P** **23 25 14.6 -0.5**
comp=Z,17nm,0.7s,mb5.0,baz=267,slow=11,SNR=7.8
KZA Kyzart 37.45 337 P **P** **23 25 15.5 +0.3**
SNR=11
AAA Alma-Ata 37.87 340 *e*P **P** **23 25 21.3 +2.6**
AAA *e*S **S** **23 31 02.7 -4.2**
AAA pmax pmax
comp=Z,400nm,1.2s,mb6.0
AAA smax
comp=E,700nm,3.6s
AAA MLR MLR
comp=Z,5μm,7.7s
UCH Uchtor 37.87 336 P **P** **23 25 19.1 +0.4**
SNR=15
BSY Bisya 38.03 296 P **P** **23 25 23.5 +3.1**
SNR=11
BSY Bisya 38.03 296 P **P** **23 25 23.5 +3.1**
SNR=11
BSY Bisya 38.03 296 P **P** **23 25 23.5 +3.1**
SNR=11
BSY Bisya 38.03 296 P **P** **23 25 23.5 +3.1**
SNR=11
BSY Bisya 38.03 296 P **P** **23 25 23.5 +3.1**
SNR=11
BSY Bisya 38.03 296 P **P** **23 25 23.5 +3.1**
SNR=11
TKM2 Tokmak 2 38.04 338 P **P** **23 25 20.0 -0.1**
SNR=10
AML Almayashu 38.12 335 P **P** **23 25 21.4 +0.6**
SNR=30
HOQ Hoqain 38.18 298 P **P** **23 25 24.1 +2.5**
SNR=12
HOQ Hoqain 38.18 298 P **P** **23 25 24.1 +2.5**
SNR=12
HOQ Hoqain 38.18 298 P **P** **23 25 24.1 +2.5**
SNR=12
HOQ Hoqain 38.18 298 P **P** **23 25 24.1 +2.5**
SNR=12
HOQ Hoqain 38.18 298 P **P** **23 25 24.1 +2.5**
SNR=12
HOQ Hoqain 38.18 298 P **P** **23 25 24.1 +2.5**
SNR=12
AAK Ala-Archa 38.22 337 P **P** **23 25 21.3 -0.4**
comp=Z,322nm,1.2s,mb5.9,SNR=17
AAK Ala-Archa 38.22 337 P **P** **23 25 22.2 +0.5**
SNR=20
FRU Bishkek 38.34 337 *e*P **P** **23 25 22.0 -0.7**
FRU *e* 23 27 32.0
FRU *e*S **S** **23 31 15.0 +0.9**
FRU *e* 23 31 27.0
FRU *e* 23 35 27.0
FRU pmax pmax
comp=Z,120nm,2.0s,mb5.3
FRU MLR MLR
comp=Z,2μm,19.0s,MS5.0
CHMS Chumysh 38.43 337 P **P** **23 25 23.2 -0.2**
SNR=11
EKS2 Erkin-Say 38.52 336 P **P** **23 25 25.1 +0.9**
SNR=12
MBWA Marble Bar 38.74 139 PFAKE 23 25 40.0 +14
MBWA LR LR
comp=Z,2μm,20.0s,MS4.9
USP Ospenovka 38.75 337 P **P** **23 25 25.7 -0.4**
SNR=24
DL2 Dalian 39.35 35 P **P** **23 25 33.3 +2.1**
DL2 S **S** **23 31 36.5 +7.1**
DL2 AMB AMB
comp=Z,20nm,0.9s,mb4.8
DL2 AMB AMB
comp=Z,230nm,6.8s
DL2 LR LR
comp=N,1μm,15.5s,MS5.0
DL2 LR LR
comp=E,1μm,12.5s,MS5.0
DL2 LR LR
comp=Z,1μm,11.8s,MS4.9
HATD Hatta, Dubai 39.58 299 P **P** **23 25 35.5 +2.1**
SNR=7.3
HATD Hatta, Dubai 39.58 299 P **P** **23 25 35.5 +2.1**
SNR=7.3
HATD Hatta, Dubai 39.58 299 P **P** **23 25 35.5 +2.1**
SNR=7.3
HATD Hatta, Dubai 39.58 299 P **P** **23 25 35.5 +2.1**
SNR=7.3
HATD Hatta, Dubai 39.58 299 P **P** **23 25 35.5 +2.1**
SNR=7.3
HATD Hatta, Dubai 39.58 299 P **P** **23 25 35.5 +2.1**
SNR=7.3
ASHO Ashiyiah 39.60 299 P **P** **23 25 39.2 +5.6**
SNR=7.7
ASHO Ashiyiah 39.60 299 P **P** **23 25 39.2 +5.6**
SNR=7.7
ASHO Ashiyiah 39.60 299 P **P** **23 25 39.2 +5.6**
SNR=7.7
ASHO Ashiyiah 39.60 299 P **P** **23 25 39.2 +5.6**
SNR=7.7
ASHO Ashiyiah 39.60 299 P **P** **23 25 39.2 +5.6**
SNR=7.7
ASHO Ashiyiah 39.60 299 P **P** **23 25 39.2 +5.6**
SNR=7.7
MK31 Makanchi Array 39.62 347 *i* P **P** **23 25 32.0 -1.3**
MK31 pmax pmax
comp=Z,48nm,1.0s,mb5.2
MKAR Makanchi Array 39.62 347 P **P** **23 25 32.3 -1.0**
MKAR 23 31 26.2
MKAR Makanchi Array 39.62 347 P **P** **23 25 32.3 -1.0**
comp=Z,19nm,1.1s,mb4.8,baz=169,slow=8.4,SNR=50
MKAR ScP ScP 23 31 26.1 +1.1
comp=Z,1.0nm,0.9s,baz=180,slow=4.3,SNR=3.6
MKAR LR LR 23 45 16.0
comp=Z,2μm,19.8s,MS4.9,baz=163,slow=41
WHFO Wadi Hawf 40.16 288 P **P** **23 25 40.0 +1.8**
SNR=8.6
WHFO Wadi Hawf 40.16 288 P **P** **23 25 40.0 +1.8**
SNR=8.6
WHFO Wadi Hawf 40.16 288 P **P** **23 25 40.0 +1.8**
SNR=8.6
WHFO Wadi Hawf 40.16 288 P **P** **23 25 40.0 +1.8**
SNR=8.6
WHFO Wadi Hawf 40.16 288 P **P** **23 25 40.0 +1.8**
SNR=8.6
KK31 Karatay Array 40.27 333 *i* P **P** **23 25 37.9 -0.9**
KK31 pmax pmax
comp=Z,95nm,1.2s,mb5.4
SONM Songino Array 40.79 13 P **P** **23 25 42.7 -0.3**
SONM 23 27 44.1
SONM Songino Array 40.79 13 P **P** **23 25 42.7 -0.4**
comp=Z,14nm,1.0s,mb4.5,baz=197,slow=6.4,SNR=65
SONM PcP PcP 23 27 44.1 +0.6
comp=Z,2.4nm,0.6s,baz=207,slow=2.4,SNR=5.3
SONM ScP ScP 23 31 29.2 -0.4
comp=Z,1.3nm,1.0s,baz=183,slow=2.5,SNR=3.8
SONM LR LR 23 43 54.1
comp=Z,3μm,21.1s,MS5.2,baz=192,slow=38
FITZ Fitzroy Crossi 40.87 130 *e*P **P** **23 25 41.9 -2.2**
comp=Z,7.5nm,0.6s,mb4.5
FITZ Fitzroy Crossi 40.87 130 *e*P **P** **23 25 41.7 -2.4**
FITZ *e*PcP PcP 23 27 44.7 +0.4
FITZ Fitzroy Crossi 40.87 130 P **P** **23 25 41.9 -2.1**
comp=Z,5.9nm,1.0s,mb4.2,baz=305,slow=11,SNR=9.4
ULN Ulaanbaatar 40.97 14⇑*e*P **P** **23 25 43.1 -1.4**
ULN Ulaanbaatar 40.97 14 PFAKE 23 26 00.0 +16
ULN LR LR
comp=Z,2μm,20.0s,MS5.1
INCN Inchon 41.47 40 P **P** **23 25 50.3 +1.5**
SNR=8.4
INCN Inchon 41.47 40 P **P** **23 25 50.3 +1.5**
SNR=8.4
INCN Inchon 41.47 40 P **P** **23 25 50.3 +1.5**
SNR=8.4
INCN Inchon 41.47 40 P **P** **23 25 50.3 +1.5**
SNR=8.4
KSRS Korea Array 42.29 41 P **P** **23 25 54.9 -0.6**
comp=Z,3.6nm,0.8s,mb4.0,baz=236,slow=8.3,SNR=16
KSRS ScP ScP 23 31 35.8 -0.1
comp=Z,0.7nm,0.4s,baz=223,slow=6.6,SNR=5.9
KSRS LR LR 23 45 42.7
comp=Z,2μm,20.4s,MS4.9,baz=234,slow=39
SNY Shenyang 42.44 33 ⇓P **P** **23 25 58.0 +1.4**
SNY S **S** **23 32 15.8 +0.5**
SNY SS SS 23 35 23.0 -2.8

SNY AMB AMB
comp=Z,14nm,0.4s,mb4.9
SNY AMB AMB
comp=Z,270nm,3.7s
SNY LR LR
comp=N,2μm,15.1s
SNY LR LR
comp=Z,2μm,16.7s,MS5.0
ZAK Zakamensk 42.66 9⇑*i*P **P** **23 25 57.9 -0.4**
ZAK *e* 23 27 48.3
ZAK pmax pmax
comp=Z,11nm,1.3s,mb4.4
MOY Mondy 43.62 6 *e*P **P** **23 26 08.7 +2.7**
MOY pmax pmax
comp=Z,41nm,1.9s,mb4.8
ABKT Ailbek 43.72 318 P **P** **23 26 08.3 +1.2**
comp=Z,626nm,1.4s,mb6.2,SNR=35
VAN Vannovskaya 43.74 318 P **P** **23 26 08.0 +0.8**
VAN *e*S **S** **23 32 38.0 +3.5**
TLY Talaya 43.98 9 P **P** **23 26 10.2 +1.3**
comp=Z,82nm,1.6s,mb5.2,SNR=7.0
TLY Talaya 43.98 9 *e*P **P** **23 26 09.4 +0.5**
TLY *e*S **S** **23 32 39.8 +2.3**
TLY *e*SS SS 23 36 00.0 +4.4
TLY pmax pmax
comp=Z,38nm,1.9s,mb4.8
TLY MLR MLR
comp=Z,1μm,20.0s,MS4.8
TLY Talaya 43.98 9 *e*P **P** **23 26 13.0 +4.1**
TLY LR LR
comp=Z,1μm,19.0s,MS4.9
KURK Kurchatov 44.13 346 P **P** **23 26 09.6 -0.6**
comp=Z,302nm,1.3s,mb5.9,SNR=45
KURK Kurchatov 44.13 346 *e*P **P** **23 26 09.5 -0.7**
KURK pmax pmax
comp=Z,105nm,1.3s,mb5.4
KURK MLR MLR
comp=Z,3μm,20.0s,MS5.2
KURK Kurchatov 44.13 346 *e*P **P** **23 26 09.5 -0.7**
comp=Z,105nm,1.3s,mb5.4
KURK LR LR
comp=Z,3μm,20.0s,MS5.2
IRK Irkutsk 44.62 9 *e*P **P** **23 26 12.0 -2.0**
IRK *e* 23 27 56.1
IRK *e* 23 36 04.2
IRK pmax pmax
comp=Z,59nm,1.9s,mb5.1
CN2 Changchun 44.79 33 ⇑P **P** **23 26 16.5 +1.0**
CN2 *e*AP pP 23 26 29.0 +1.2
CN2 *e*XP sP 23 26 34.0 +0.9
CN2 *e*PCP PcP 23 27 57.8 +0.8
CN2 *e*PP PP 23 28 01.8 +1.1
CN2 *e*S **S** **23 32 48.5 -1.1**
CN2 *e*SS SS 23 36 01.5 -10
CN2 AMB AMB
comp=Z,10.0nm,0.7s,mb4.8
CN2 AMB AMB
comp=Z,400nm,6.0s
CN2 LR LR
comp=N,2μm,15.0s,MS5.3
CN2 LR LR
comp=E,2μm,15.0s,MS5.3
CN2 LR LR
comp=Z,2μm,14.0s,MS5.2
MUN Mundaring 45.37 153 *e*P **P** **23 26 19.9 -0.4**
KLBR Kellerberrin 45.77 151 *e*P **P** **23 26 22.3 -1.1**
comp=Z,43nm,0.8s,mb5.4
ZAL Zalesovo 46.09 353 P **P** **23 26 25.4 -0.2**
ZALV Zalesovo Beam 46.10 353 P **P** **23 26 25.4 -0.3**
comp=Z,55nm,0.6s,mb5.7,baz=176,slow=8.5,SNR=229
ZALV ScP ScP 23 31 51.2 +0.1
comp=Z,0.9nm,0.6s,baz=197,slow=4.5,SNR=3.2
ZALV LR LR 23 50 26.4
comp=Z,1μm,19.0s,MS4.8,baz=341,slow=42
HIA Hailar 46.22 23 *e*P **P** **23 26 27.8 +1.1**
HIA pmax pmax
comp=Z,88nm,1.3s
HIA MLR MLR
comp=Z,3μm,21.0s
HIA Hailar 46.22 23 *e*P **P** **23 26 27.8 +1.1**
comp=Z,88nm,1.3s,mb5.5
HIA LR LR
comp=Z,3μm,21.0s,MS5.3
NWAO Narrogin (SRO) 46.64 153 *e*P **P** **23 26 29.8 -0.4**
NWAO MLR MLR
comp=Z,1μm,21.0s
NWAO Narrogin (SRO) 46.64 153 P **P** **23 26 30.3 +0.1**
SNR=5.7
NWAO Narrogin (SRO) 46.64 153 P **P** **23 26 30.3 +0.1**
SNR=5.7
NWAO Narrogin (SRO) 46.64 153 P **P** **23 26 30.3 +0.1**
SNR=5.7
NWAO Narrogin (SRO) 46.64 153 P **P** **23 26 29.1 -1.1**
comp=Z,37nm,1.0s,mb5.3,baz=322,slow=8.8,SNR=18
NVS Novosibirsk 47.18 352⇓*i*P **P** **23 26 33.1 -1.1**
NVS *e*S **S** **23 33 22.2 -1.4**
NVS *e* 23 36 17.7
NVS pmax pmax
comp=Z,119nm,1.2s,mb5.7
NVS pmax pmax
comp=N,105nm,1.4s
NVS pmax pmax
comp=E,66nm,1.4s
NVS smax
comp=E,86nm,2.2s
NVS smax
comp=N,75nm,2.2s
MDJ Mudanjiang 47.58 34 P **P** **23 26 38.3 +0.9**
MDJ AP pP 23 26 49.8 -0.1
MDJ XP sP 23 26 54.8 -0.3
MDJ PCP PcP 23 28 07.0 +0.2
MDJ PP PP 23 28 30.0 +0.8
MDJ S **S** **23 33 32.0 +2.4**
MDJ XS sS 23 33 51.5 +1.2
MDJ SCS ScS 23 36 28.0 +0.6
MDJ SS SS 23 36 58.5 +0.4
MDJ AMB AMB
comp=Z,15nm,2.2s,mb4.6
MDJ AMB AMB
comp=Z,99nm,4.6s
MDJ LR LR
comp=N,1μm,20.0s,MS5.1
MDJ LR LR
comp=E,2μm,21.7s,MS5.1
MDJ LR LR
comp=Z,2μm,13.1s
MDJ Mudanjiang 47.58 34 *e*P **P** **23 26 38.2 +0.7**
comp=Z,46nm,1.3s,mb5.3
MDJ LR LR
comp=Z,2μm,19.0s,MS5.0
RDF Al-Radifah 48.10 302 *e*P **P** **23 26 42.2 +0.5**
RDF AMb AMB 23 26 52.6
comp=Z,232nm,0.9s,mb6.2
UMR Umm Al-Rimmam 48.13 302 *e*P **P** **23 26 41.4 -0.6**
NAY Al-Naaiem 48.45 302 *e*P **P** **23 26 43.9 -0.5**
NAY AMb AMB 23 26 53.2
comp=Z,152nm,0.7s,mb6.1
BVAR Borovoye Array 48.51 341 P **P** **23 26 43.1 -1.3**
BVAR 23 28 10.1
BVAR Borovoye Array 48.51 341 P **P** **23 26 43.1 -1.3**
comp=Z,4.4nm,0.4s,mb4.8,baz=142,slow=7.5,SNR=28
BVAR PcP PcP 23 28 10.1 +0.3
comp=Z,3.4nm,0.7s,baz=122,slow=1.9,SNR=2.8
BVAR ScP ScP 23 32 02.6 +1.4
comp=Z,1.1nm,0.7s,baz=125,slow=4.0,SNR=3.7
MIB Mutribah 48.52 303 *e*P **P** **23 26 44.5 -0.4**
MIB AMb AMB 23 26 54.5
comp=Z,305nm,1.1s,mb6.2
BRVK Borovoye 48.57 341 P **P** **23 26 44.1 -0.8**
comp=Z,112nm,0.6s,mb6.1,SNR=6.1
BRVK Borovoye 48.57 341 *e*P **P** **23 26 43.9 -1.0**
BRVK LR LR
comp=Z,1μm,20.0s,MS4.9
WRA Warramunga Arr 48.70 126 P **P** **23 26 44.9 -1.5**
WRA 23 28 11.2
WRA Warramunga Arr 48.70 126 P **P** **23 26 44.9 -1.6**
comp=Z,7.7nm,0.4s,mb5.1,baz=303,slow=9.2,SNR=45
WRA PcP PcP 23 28 11.2 0.0
comp=Z,4.2nm,0.6s,baz=311,slow=3.0,SNR=5.7
WRA ScP ScP 23 32 01.1 -1.6
comp=Z,0.9nm,0.6s,baz=323,slow=3.8,SNR=4.8
WRA LR LR 23 48 23.0
comp=Z,1μm,19.2s,MS5.0,baz=305,slow=37
WRAB Tennant Creek 48.71 126 P **P** **23 26 45.0 -1.5**
comp=Z,152nm,1.0s,mb6.0,SNR=20
WRAB Tennant Creek 48.71 126 *e*P **P** **23 26 44.8 -1.7**

WRAB pmax pmax
comp=Z,61nm,1.5s,mb5.4
WRAB MLR MLR
comp=Z,2μm,19.0s,MS5.1
WRAB Tennant Creek 48.71 126 *e*P **P 23 26 44.8 -1.6**
comp=Z,61nm,1.5s,mb5.4
WRAB LR LR
comp=Z,2μm,19.0s,MS5.1
WB2 Warramunga Arr 48.71 126 *e*P **P 23 26 44.8 -1.7**
MAJO Matsushiro 49.04 48 *e*P **P 23 26 54.0 +5.1**
MAJO pmax pmax
comp=Z,80nm,1.7s,mb5.5
MAJO MLR MLR
comp=Z,1μm,19.0s,MS5.0
MAJO Matsushiro 49.04 48 *e*P **P 23 26 54.0 +5.1**
MAJO LR LR
comp=Z,1μm,19.0s,MS5.0
MAT Matsushiro 49.04 48 P **P 23 26 50.1 +1.2**
MAT S **S 23 33 53.0 +2.4**
MJAR Matsushiro Arr 49.05 48 P **P 23 26 48.3 -0.6**
MJAR 23 28 12.7
MJAR Matsushiro Arr 49.05 48 P **P 23 26 48.3 -0.6**
comp=Z,1.5nm,0.4s,mb4.4,baz=234,slow=5.9,SNR=6.9
MJAR PcP PcP 23 28 12.7 +0.5
comp=Z,12nm,1.0s,baz=248,slow=3.5,SNR=9.5
MJAR ScP ScP 23 32 04.3 +0.4
comp=Z,0.7nm,0.3s,baz=238,slow=2.4,SNR=5.1
MJAR LR LR 23 46 54.6
comp=Z,1μm,19.1s,MS4.9,baz=250,slow=35
CBIJ Chichi jima 49.30 61 P **P 23 26 50.5 -0.4**
comp=Z,57nm,0.6s,mb5.8,baz=88,slow=8.9,SNR=4.8
ATD Arta Tunnel 50.35 278 P **P 23 27 00.0 +0.9**
comp=Z,14nm,1.0s,mb4.9,baz=223,slow=0.6,SNR=4.8
ASAR Alice Springs 50.37 130 P **P 23 26 57.4 -1.7**
ASAR 23 28 17.4
ASAR Alice Springs 50.37 130 P **P 23 26 57.4 -1.8**
comp=Z,8.5nm,0.7s,mb4.9,baz=307,slow=7.3,SNR=62
ASAR PcP PcP 23 28 17.4 +0.1
comp=Z,4.7nm,0.7s,baz=309,slow=3.5,SNR=11
ASAR ScP ScP 23 32 09.9 +0.1
comp=Z,0.5nm,0.6s,baz=308,slow=4.6,SNR=4.2
FORT Forrest 50.82 141 *e*P **P 23 27 01.5 -0.9**
comp=Z,24nm,0.7s,mb5.2
AKTK Aktyubinsk 51.46 331 P **P 23 27 06.2 -0.7**
AKTO Aktyubinsk 51.46 331 *i* P **P 23 27 05.8 -1.1**
AKTO Aktyubinsk 51.46 331 P **P 23 27 06.2 -0.7**
comp=Z,8.1nm,0.5s,mb4.9,baz=128,slow=7.3,SNR=23
KLR Kul'dur 51.63 31 *e*P **P 23 27 06.0 -2.2**
KLR *e* 23 29 04.5
KLR *e*S **S 23 34 26.0 -0.1**
KLR pmax pmax
comp=Z,100nm,2.2s,mb5.4
KLR MLR MLR
comp=E,2μm,13.0s
KLR MLR MLR
comp=Z,3μm,13.0s,MS5.6
BOD Bodaibo 51.78 14 *e*P **P 23 27 08.9 -0.3**
BOD pmax pmax
comp=Z,36nm,1.3s,mb5.1
HABR Khabarovsk 52.91 33 P **P 23 27 15.7 -2.0**
HABR *e* pP 23 27 25.2 -5.1
HABR *e* pP 23 27 29.2 -1.1
HABR *e* 23 28 25.3
HABR *e* 23 29 15.4
HABR *e* 23 30 20.6
HABR *e*S **S 23 34 42.7 -0.9**
HABR *e* 23 34 59.4
HABR *e* 23 37 03.3
HABR *e* 23 38 22.6
HABR *e* 23 40 12.8
MAK Makhachkala 53.24 318 *e*P **P 23 27 16.4 -3.8**
MAK *e* 23 28 26.3
MAK *i* 23 29 18.3
MAK *e*PPP 23 30 21.7
MAK *i* S **S 23 34 46.0 -2.3**
MAK *e* 23 37 06.1
MAK *e*SS SS 23 38 29.9 +1.4
MAK pmax pmax
comp=Z,74nm,0.9s,mb5.6
MAK MLR MLR
comp=Z,819nm,22.0s,MS4.7
OPO Ambohidratompo 53.26 240 P **P 23 27 21.8 +1.0**
comp=Z,2.3nm,0.6s,mb4.3,baz=60,slow=5.4,SNR=13
ABPO Ambohimpanom 53.42 239 *e*P **P 23 27 24.1 +2.2**
comp=Z,95nm,1.5s,mb5.5
HAKT HAKKARI 53.80 311 *i* P **P 23 27 27.4 +2.9**
NRGR Nerungri 53.91 20 *e*P **P 23 27 25.2 +0.3**
GNI Garni 53.97 314⇑ *e*P **P 23 27 25.8 +0.2**
GNI pmax pmax
comp=Z,57nm,1.4s
GNI Garni 53.97 314 *e*P **P 23 27 26.5 +0.8**
GNI LR LR
comp=Z,452nm,21.0s,MS4.5
GNI Garni 53.97 314 P **P 23 27 27.0 +1.4**
SNR=18
GNI Garni 53.97 314 P **P 23 27 27.0 +1.4**
SNR=18
GNI Garni 53.97 314 P **P 23 27 26.5 +0.8**
comp=Z,8.6nm,0.8s,mb4.7,baz=282,slow=1.7,SNR=23
DGRG David-gareji 54.03 316 P **P 23 27 28.7 +2.7**
MTA Mtatsminda 54.53 316 P **P 23 27 30.9 +1.2**
MTA S **S 23 35 09.7 +3.9**
FURI Furi 54.56 275 *e*P **P 23 27 34.2 +3.8**
TBLG Delisi 54.58 316 *e*P **P 23 27 32.0 +1.9**
TBLG Delisi 54.58 316 P **P 23 27 32.1 +2.0**
SVE Sverdlovsk 54.91 338⇑ *e*P **P 23 27 31.8 -0.4**
SVE *e*S **S 23 35 20.6 +10**
SVE *e*SS SS 23 38 55.1 +0.7
SVE pmax pmax
comp=Z,72nm,1.4s,mb5.5
SVE MLR MLR
comp=Z,2μm,21.0s,MS5.1
DIGO Kars 55.04 314 *i* P **P 23 27 35.5 +2.0**
GOR Gori 55.11 316 P **P 23 27 35.5 +1.5**
ARU Arti 55.40 337 P **P 23 27 35.1 -0.6**
comp=Z,166nm,1.1s,mb6.0,SNR=6.0
ARU Arti 55.40 337⇑ *e*P **P 23 27 34.8 -0.9**
ARU pmax pmax
comp=Z,60nm,1.9s,mb5.3
ARU Arti 55.40 337 *e*P **P 23 27 34.9 -0.8**
ARU LR LR
comp=Z,1μm,20.0s,MS4.9
ONI Oni 55.80 316 P **P 23 27 44.4 +5.6**
ONI S **S 23 35 19.1 -3.6**
HOMI Horasan 55.96 313 *i* P **P 23 27 40.8 +0.8**
ERZM Erzurum 56.31 313 *i* P **P 23 27 44.5 +1.9**
ARTV Artvin 56.34 314 *i* P **P 23 27 45.7 +2.9**
YSS Yuzh-Sakhalins 56.59 38 *e*P **P 23 27 45.0 +0.6**
YSS *e* 23 27 52.0
YSS *e* 23 28 39.0
YSS *e*S **S 23 35 36.0 +2.9**
YSS *e*SS SS 23 39 26.0 +4.9
YSS MLR MLR
comp=Z,1μm,14.0s,MS5.2
YSS Yuzh-Sakhalins 56.59 38 P **P 23 27 44.8 +0.4**
comp=Z,110nm,1.4s,mb5.7
YSS LR LR
comp=Z,401nm,19.0s,MS4.5
KIV Kislovodsk 56.84 318 *e*P **P 23 27 44.9 -1.3**
KIV *e* 23 28 40.7
KIV *e*S **S 23 35 35.7 -0.9**
KIV *e*SS SS 23 39 27.1 +1.9
KIV pmax pmax
comp=Z,12nm,3.0s
KIV pmax pmax
comp=Z,51nm,0.9s,mb5.5
KIV Kislovodsk 56.84 318 *e*P **P 23 27 45.6 -0.7**
comp=Z,42nm,0.8s,mb5.5
KIV LR LR
comp=Z,386nm,19.0s,MS4.5
KOPT Kop Dagi 56.98 313 *i* P **P 23 27 48.9 +1.6**
KMBO Kilima Mbogo 57.24 263 *i* P **P 23 27 52.2 +2.6**
KMBO pmax pmax
comp=Z,17nm,0.9s
KMBO Kilima Mbogo 57.24 263 *e*P **P 23 27 49.6 0.0**
KMBO LR LR
comp=Z,2μm,20.0s,MS5.2
KMBO Kilima Mbogo 57.24 263 P pP 23 28 00.7 -1.6
SNR=8.8
KMBO Kilima Mbogo 57.24 263 P **P 23 27 51.1 +1.5**
comp=Z,17nm,0.9s,mb5.1,baz=59,slow=9.2,SNR=31
KMBO LR LR 23 48 54.9
comp=Z,2μm,20.1s,MS5.2,baz=100,slow=32
ELZG Elazig 57.64 311 *i* P **P 23 27 52.0 0.0**

ASF Jabal al Asfar 57.79 303 P **P 23 27 54.2 +1.1**
comp=Z,3.6nm,0.6s,mb4.6,baz=303,slow=5.3,SNR=5.9
ATAB Bozova 57.88 309 *i* P **P 23 28 01.5 +7.8**
MALT Malatya 58.01 310 *e*P **P 23 27 53.1 -1.5**
MALT pmax pmax
comp=Z,17nm,0.9s,mb5.1
MALT MLR MLR
comp=Z,343nm,21.0s,MS4.4
MALT Malatya 58.01 310 *e*P **P 23 27 53.1 -1.5**
comp=Z,17nm,0.9s,mb5.1
MALT LR LR
comp=Z,343nm,21.0s,MS4.4
SOKR Solíkamsk 58.31 339 *d* P **P 23 27 55.0 -1.3**
SOKR 23 28 47.4
SOKR S **S 23 35 51.9 -3.4**
SOKR pmax pmax
comp=Z,40nm,1.0s,mb5.4
SOKR MLR MLR
comp=Z,2μm,20.0s,MS5.2
GZT Gaziantep 58.41 309 *i* P **P 23 27 55.9 -1.5**
SOC Sochi 58.71 316 *c* *i* P **P 23 27 59.3 0.0**
SOC *e**SP sP 23 28 10.7 -6.5
SOC *e*PPP 23 31 30.4
SOC *e*S **S 23 36 02.8 +1.8**
SOC *e* 23 37 46.9
SOC *e*SS SS 23 39 51.4 -3.2
SOC *e*SSS 23 42 22.5
SOC pmax pmax
comp=Z,21nm,0.7s,mb5.3
SOC MLR MLR
comp=Z,353nm,17.0s,MS4.5
CTAO Charters Tower 58.72 119 P **P 23 28 00.3 +0.5**
CTAO MLR MLR
comp=Z,1μm,20.0s,MS5.0
GRSN GIRESUNGRSN 58.87 313 *i* P **P 23 27 59.8 -0.7**
EIL Elat 59.01 300 P **P 23 28 02.6 +0.9**
comp=Z,24nm,1.1s,mb5.1,baz=109,slow=1.3,SNR=6.7
MMAI Mount Meron Ar 59.18 303 P **P 23 28 03.0 +0.1**
comp=Z,1.2nm,0.5s,mb4.2,baz=113,slow=11,SNR=5.2
ANDN Andirin 59.41 309 *i* P **P 23 28 03.9 -0.4**
YAK Yakutsk 59.66 19 *e*P **P 23 28 04.6 -1.0**
YAK *PP pP 23 28 14.9 -3.4
YAK 23 30 15.3
YAK S **S 23 36 09.6 -3.1**
YAK 23 37 51.8
YAK SSS 23 42 35.5
YAK pmax pmax
comp=Z,29nm,0.9s,mb5.3
YAK pmax pmax
comp=N,15nm,1.2s
YAK pmax pmax
comp=E,14nm,1.3s
YAK pmax pmax
comp=E,1.0nm,0.5s
YAK pmax pmax
comp=Z,10.0nm,0.5s,mb5.1
YAK pmax pmax
comp=N,3.0nm,0.6s
YAK smax
comp=E,53nm,1.8s
YAK smax
comp=N,37nm,1.6s
YAK MLR MLR
comp=Z,2μm,14.0s,MS5.4
YAK MLR MLR
comp=N,1μm,12.0s,MS5.4
YAK MLR MLR
comp=E,1μm,13.0s,MS5.4
YAK Yakutsk 59.66 19 *e*P **P 23 28 05.8 +0.2**
comp=E,43nm,0.6s,mb5.7
YAK LR LR
comp=Z,2μm,22.0s,MS5.2
JAWL J.Aulia 60.37 283 *i* P **P 23 28 12.9 +1.7**
JAWL AMb AMB 23 28 13.7
comp=Z,3μm,1.1s
VRHR Novokhopersk 60.45 325 *e*P **P 23 28 11.7 +0.5**
VRHR pmax pmax
comp=N,40nm,0.6s
VRHR pmax pmax
comp=Z,20nm,0.6s,mb5.3
VRHR pmax pmax
comp=E,30nm,0.5s
MRKH Merkhyat 60.47 283 AMb AMB 23 28 13.1
comp=Z,1μm,0.4s
MRKH *i* P 23 28 13.1
MRKH ⇑ *e* 23 28 14.1
baz=90,slow=5.9
STKA Stephens Creek 60.57 134 *e*P **P 23 28 11.0 -1.4**
comp=Z,10nm,1.8s,mb4.7
STKA Stephens Creek 60.57 134 P **P 23 28 10.8 -1.6**
comp=Z,4.6nm,0.7s,mb4.7,baz=303,slow=5.9,SNR=10
STKA LR LR 23 59 33.6
comp=Z,987nm,18.2s,MS5.0,baz=298,slow=41
ANN Anapa 60.66 317 *e*P **P 23 28 11.4 -1.4**
ANN *e* 23 28 54.4
ANN *e* 23 30 23.3
ANN *e*S **S 23 36 23.3 -2.8**
ANN *e* 23 38 02.4
ANN *e*SSS 23 43 06.5
ANN pmax pmax
comp=Z,29nm,1.4s,mb5.2
ANN MLR MLR
comp=N,641nm,21.0s,MS4.8
ANN MLR MLR
comp=E,455nm,21.0s,MS4.8
ANN MLR MLR
comp=Z,480nm,21.0s,MS4.6
AVNT Avonos 60.83 310 *i* P **P 23 28 17.5 +3.4**
CDAG Cicekdag 61.40 311 *i* P **P 23 28 22.5 +4.7**
VRSR Storozhevoye 61.89 324 *e*P **P 23 28 18.9 -2.1**
VRSR pmax pmax
comp=Z,5.0nm,1.0s,mb4.6
VRSR pmax pmax
comp=N,3.0nm,1.8s
VRSR pmax pmax
comp=E,6.0nm,1.6s
VOR Voronezh 62.09 325 *e*P **P 23 28 22.0 -0.3**
VOR pmax pmax
comp=Z,100nm,1.6s,mb5.7
ANTO Ankara 62.64 311 *e*P **P 23 28 25.2 -1.0**
ANTO pmax pmax
comp=Z,14nm,0.8s,mb5.1
ANTO Ankara 62.64 311 *e*P **P 23 28 25.2 -1.0**
comp=Z,14nm,0.8s,mb5.1
KDHN Kadinhani 62.87 309 *i* P **P 23 28 27.0 -0.8**
SIM Simferopol' 62.95 316 *e*P **P 23 28 26.2 -2.0**
SIM *e*S **S 23 36 54.0 -1.1**
SIM MLR MLR
comp=Z,600nm,23.0s,MS4.7
ISP Isparta 63.99 308 *e*P **P 23 28 35.6 +0.4**
ESKT Eskisehir 64.03 310 *i* P **P 23 28 34.5 -0.9**
MOS Moscow 64.59 329 *e*P **P 23 28 37.6 -1.1**
MOS *e* 23 29 09.2
MOS *e* 23 31 00.2
MOS *e*PPP 23 32 31.6
MOS *e*S **S 23 37 12.9 -2.1**
MOS *e*SS SS 23 41 25.0 -1.2
MOS pmax pmax
comp=Z,200nm,1.7s,mb5.9
MOS pmax pmax
comp=Z,156nm,1.7s,mb5.8
MOS MLR MLR
comp=Z,900nm,19.1s,MS5.0
OBN Obninsk 64.89 328⇑ *i* P **P 23 28 39.6 -1.1**
OBN *i* pP 23 28 51.5 -2.1
OBN *i* 23 29 13.7
OBN *i* 23 31 02.5
OBN *i* S **S 23 37 15.7 -3.1**
OBN pmax pmax
comp=Z,95nm,1.6s,mb5.6
OBN Obninsk 64.89 328 *e*P **P 23 28 39.4 -1.3**
OBN LR LR
comp=Z,805nm,20.0s,MS4.9
SKR Severo-Kuril's 66.16 38 *e*P **P 23 28 47.5 -1.5**
SKR *e* 23 37 42.0
SKR pmax pmax
comp=Z,220nm,1.0s,mb6.1
SKR MLR MLR
comp=N,2μm,16.0s
SKR MLR MLR
comp=Z,3μm,16.0s,MS5.6
MA2 Magadan 66.49 28 *e*P **P 23 28 53.8 +2.9**
MA2 *e* 23 29 00.4
MA2 *e*S S 23 37 39.1 +0.9
MA2 pmax pmax

comp=Z,50nm,1.1s,mb5.5
MA2 MLR MLR
comp=Z,2μm,15.0s,MS5.3
MA2 Magadan 66.49 28 *e*P **P 23 28 51.7 +0.8**
comp=Z,98nm,1.0s,mb5.8
MA2 LR LR
comp=Z,651nm,19.0s,MS4.9
TIRR Tirgusor 66.78 315⇑ *i*P **P 23 28 57.0 +3.9**
TIXI Tiksi 66.86 11⇑ *e*P **P 23 28 51.8 -1.3**
TIXI pmax pmax
comp=Z,96nm,1.8s,mb5.5
TIXI Tiksi 66.86 11 *e*P **P 23 28 51.9 -1.1**
comp=Z,35nm,0.6s,mb5.6
URLA Izmir 67.12 308 *i* P **P 23 28 54.8 -0.6**
PRK Paraskevi 67.49 309 *e*P **P 23 29 05.2 +7.5**
CHOS Chios island 67.54 308 *e*P **P 23 28 57.7 -0.3**
AKASG Malin Array Be 67.67 322 P **P 23 28 56.8 -1.8**
AKASG 23 31 26.3
AKASG Malin Array Be 67.67 322 P **P 23 28 56.8 -1.8**
comp=Z,3.1nm,0.7s,mb4.5,baz=91,slow=4.8,SNR=21
AKASG PP PP 23 31 26.3 -1.9
comp=Z,3.8nm,1.1s,baz=100,slow=7.6,SNR=6.1
AKASG LR LR 00 04 19.0
comp=Z,632nm,20.1s,MS4.8,baz=110,slow=41
KIEV Kiev 67.68 322 *e*P **P 23 28 56.3 -2.4**
KIEV pmax pmax
comp=Z,15nm,0.8s,mb5.1
KIEV Kiev 67.68 322 *e*P **P 23 28 56.3 -2.3**
comp=Z,15nm,0.8s,mb5.1
JMB Yambol 67.73 312 *e*P **P 23 28 59.7 +0.5**
BOZC Bozcaada 67.74 310 *i* P **P 23 29 06.4 +7.1**
SANT Santorini 67.78 306 *e*P **P 23 28 59.7 +0.1**
APE Apeiranthos 67.80 307 *e*P **P 23 29 05.3 +5.6**
ALN Alexandroupoli 67.89 311 *e*P **P 23 29 00.4 +0.2**
HNR Honiara 68.09 104 PFAKE 23 29 10.0 +8.1
HNR LR LR
comp=Z,485nm,19.0s,MS4.8
IDI Anoyia 68.13 305 P **P 23 29 00.7 -1.1**
comp=Z,16nm,0.6s,mb5.2,baz=103,slow=9.7,SNR=12
TMCR Tamitsa 68.14 337 *e*P **P 23 29 00.4 -0.9**
TMCR pmax pmax
comp=Z,40nm,0.7s,mb5.6
SIVA Sivas 68.17 304 *e*P **P 23 28 59.9 -2.2**
VRI Vrincioaia 68.23 316 P **P 23 29 02.2 0.0**
VRI Vrincioaia 68.23 316⇑ *i*P **P 23 29 02.1 -0.1**
PLOR Plostina 68.28 316 P **P 23 29 02.4 -0.1**
PLOR Plostina 68.28 316⇓ *i*P **P 23 29 02.2 -0.3**
PET Petropavlovsk 68.32 36 *e*P **P 23 29 12.4 +10**
PET *e*S S 23 38 07.2 +6.8
PET *e*PS 23 38 39.3
PET MLR MLR
comp=Z,1μm,17.0s,MS5.1
KDZ Kurdzhali 68.47 311 P **P 23 29 04.7 +0.9**
MLR Muntele Rosu 68.70 316 P **P 23 29 05.2 0.0**
MLR Muntele Rosu 68.70 316 P **P 23 29 04.4 -0.8**
comp=Z,15nm,0.8s,mb5.0,baz=62,slow=2.8
MLR Muntele Rosu 68.70 316⇑ *i*P **P 23 29 07.2 +2.0**
ZIMR 68.81 314⇓ *i*P **P 23 29 04.7 -1.2**
KARN Karanos 68.93 305 *e*P **P 23 29 08.4 +1.5**
PLD Plovdiv 69.06 312 *e*P **P 23 29 06.0 -1.5**
LSZ Lusaka 69.19 250 *e*P **P 23 29 09.7 +0.9**
LSZ *e* pP 23 29 18.1 -3.6
LSZ pmax pmax
comp=Z,91nm,1.4s,mb5.5
LSZ Lusaka 69.19 250 *e*P **P 23 29 09.7 +0.9**
comp=Z,91nm,1.4s,mb5.5
LSZ *e* pP 23 29 18.1 -3.6
LSZ Lusaka 69.19 250 P **P 23 29 10.5 +1.8**
SNR=9.5
VOIR 69.31 315⇓ *i*P **P 23 29 06.2 -2.8**
MNK Minsk 69.47 325 *e*P **P 23 29 08.0 -1.8**
PAIG Paliouri 69.56 309 *e*P **P 23 29 09.6 -1.0**
BURAR Bucovina Array 69.57 318⇑ *i*P **P 23 29 10.2 -0.3**
DID Didima 69.66 307 *e*P **P 23 29 08.6 -2.7**
MMB Musomiste 69.72 311 P **P 23 29 13.7 +2.1**
SRS Serrai 69.76 311 *e*P **P 23 29 09.6 -2.2**
PLG Polygyros 69.79 310 *e*P **P 23 29 12.0 0.0**
XOR Xorichti 69.87 309 *e*P **P 23 29 15.4 +2.8**
SOH Sokhos 69.91 310 *e*P **P 23 29 11.6 -1.2**
LTK Loutraki 69.92 307 *e*P **P 23 29 16.1 +3.2**
LKR Lokris 69.95 308 *e*P **P 23 29 12.8 -0.3**
THE Thessaloniki 70.18 310 *e*P **P 23 29 13.9 -0.6**
VTS Vitosha 70.22 312 *e*P **P 23 29 15.0 +0.4**
VTS Vitosha 70.22 312 P **P 23 29 15.5 +0.9**
VTS Vitosha 70.22 312⇑ *i*P **P 23 29 12.8 -1.8**
VTS Vitosha 70.22 312 P **P 23 29 16.4 +1.8**
KKB Krupnik 70.23 311 *i* P **P 23 29 15.8 +1.1**
KNT Kendrikon 70.29 311 *e*P **P 23 29 12.4 -2.6**
VLX Vlachokerasia 70.33 307 *e*P **P 23 29 14.5 -0.9**
JOF Joensuu 70.36 334 *e*p **P 23 29 14.4 -0.7**
comp=Z,22nm,0.5s,mb5.3
TAU Tasmania Unive 70.37 141 *e*P **P 23 29 16.5 +1.1**
LIT Litokhoron 70.49 310 *e*P **P 23 29 13.4 -2.9**
AGG Agios Georgios 70.51 308 *e*P **P 23 29 14.1 -2.4**
VAY Valandovo 70.55 311 *e*P **P 23 29 15.6 -1.1**
LVV L'vov 70.73 320 *e*P **P 23 29 17.6 0.0**
THL Klokotos Trika 70.80 309 *e*P **P 23 29 16.0 -2.2**
PYL PYLOS 70.80 306 *e*P **P 23 29 17.5 -0.8**
VSU Vasula 71.10 329⇓ *i*P **P 23 29 18.5 -1.1**
DRGR 71.12 317 P **P 23 29 19.8 -0.3**
DRGR 71.12 317⇑ *i*P **P 23 29 19.7 -0.4**
APA Apatity 71.36 339⇓ *i*P **P 23 29 20.7 -0.4**
APA *i* 23 29 28.0
APA pmax pmax
comp=Z,81nm,1.4s,mb5.5
APA MLR MLR
comp=Z,2μm,16.0s,MS5.3
FNA Florina 71.40 310 *e*P **P 23 29 22.1 +0.3**
KWP Kalwaria 71.55 320 *e*P **P 23 29 23.6 +1.0**
KWP Kalwaria 71.55 320 *e*P **P 23 29 23.6 +1.0**
KWP Kalwaria 71.55 320⇑ *i*P **P 23 29 22.0 -0.6**
UZH Uzhgorod 71.67 318 *e*P **P 23 29 23.6 +0.3**
UZH *i* pP 23 29 38.2 +1.9
UZH *i* 23 31 57.8
BZS Buzias 71.73 315 P **P 23 29 24.4 +0.7**
BZS Buzias 71.73 315⇓ *i*P **P 23 29 22.3 -1.4**
KOLS Kolonicke sedl 71.73 319 *e*P **P 23 29 25.0 +1.4**
KOLS *e*pP pP 23 29 35.0 -1.7
SUW Suwalki 72.02 324 *e*P **P 23 29 23.7 -1.6**
SUW Suwalki 72.02 324 *e*P **P 23 29 23.7 -1.6**
IGT Igoumenitsa 72.09 309 *e*P **P 23 29 24.0 -2.0**
FIA1 FINESS Array S 72.22 332 *e*P **P 23 29 25.5 -0.9**
FINES FINESS Array B 72.22 332 P **P 23 29 25.7 -0.6**
comp=Z,8.0nm,0.7s,mb4.8,baz=100,slow=5.5,SNR=32
FINES LR LR 00 08 10.4
comp=Z,736nm,18.2s,MS5.0,baz=296,slow=42
CRVS Cervenica-Dubn 72.25 319 *e*P **P 23 29 27.0 +0.2**
CRVS *e*pP pP 23 29 42.6 +2.8
KAF Kangasniemi 72.30 333 *e*p **P 23 29 26.1 -0.7**
comp=Z,16nm,0.7s,mb5.0,baz=104,slow=5.7
KAF Kangasniemi 72.30 333 *e*P **P 23 29 26.1 -0.7**
KAF pmax pmax
comp=Z,16nm,0.7s,mb5.1
STHS Stebnicka Huta 72.46 319 *e*P **P 23 29 29.0 +1.0**
STHS pmax pmax
comp=Z,13nm,1.0s,mb4.8
STHS Stebnicka Huta 72.46 319 *e*P **P 23 29 29.0 +1.0**
comp=Z,13nm,1.0s,mb4.8
TIR Tirane 72.58 311 *e*P **P 23 29 30.9 +2.0**
DIVS Divibare 72.72 314 *e*P **P 23 29 30.0 +0.3**
KECS Kecovo 72.84 318 *e*P **P 23 29 30.7 +0.4**
KECS *e* pP 23 29 43.5 +0.2
KECS pmax pmax
comp=Z,6.0nm,0.8s,mb4.6
KECS Kecovo 72.84 318 *e*P **P 23 29 30.7 +0.4**
comp=Z,5.9nm,0.8s,mb4.6
KECS *e* pP 23 29 43.5 +0.2
NIE Niedzica 73.07 319 *e*P **P 23 29 32.9 +1.3**
PSZ Piszkesteto 73.17 317 *e*P **P 23 29 32.6 +0.4**
PSZ pmax pmax
comp=Z,23nm,1.1s,mb5.0
PSZ Piszkesteto 73.17 317 *e*P **P 23 29 32.6 +0.4**
comp=Z,23nm,1.1s,mb5.0
PSZ Piszkesteto 73.17 317⇓ *i*P **P 23 29 34.0 +1.8**
OJC Ojcow 73.49 320 *e*P **P 23 29 35.0 +0.9**
PENC Penc 73.56 317 *e*P **P 23 29 34.3 -0.3**
PKSM Moragy 73.85 316⇑ *i*P **P 23 29 34.2 -2.2**
PKSM P 23 29 37.2
PKSM Moragy 73.85 316⇑ *i*P **P 23 29 34.2 -2.1**
VYHS Vyhne 73.93 318 *e*P **P 23 29 36.1 -0.6**
VYHS pmax pmax
comp=Z,11nm,1.4s,mb4.6
VYHS Vyhne 73.93 318 *e*P **P 23 29 36.1 -0.6**

comp=Z,11nm,1.4s,mb4.6
RHK3 Tenkes 74.10 315⇑ eP P 23 29 37.5 -0.2
KOLL **Kolacno 74.23 318** eP **P 23 29 37.1 -1.3**
KOLL epP pP 23 29 46.1 -5.4
KEV Kevo 74.35 341 ep **P 23 29 39.0 +0.2**
comp=Z,11nm,0.7s,mb4.9
KEV Kevo 74.35 341 eP **P 23 29 39.0 +0.2**
KEV pmax pmax
comp=Z,11nm,0.7s,mb4.9
OKC Ostrava-Krasne 74.51 319 eP **P 23 29 41.1 +1.0**
OKC eS S 23 39 12.1 +0.1
OKC Ostrava-Krasne 74.51 319 eP **P 23 29 41.1 +1.0**
OKC eS S 23 39 12.1 +0.1
OKC AMS AMS 00 12 10.0
comp=Z,300nm,18.6s
ARCES ARCESS Array B 74.78 340 P **P 23 29 40.5 -0.7**
comp=Z,13nm,1.0s,mb4.8,baz=87,slow=5.4,SNR=20
ARCES LR LR 00 05 37.8
comp=Z,1μm,20.3s,MS5.3,baz=116,slow=38
TIP Timpagrande 74.84 308 eP **P 23 29 41.5 -0.7**
comp=Z,30nm,1.3s,mb5.1
MORC Moravsky Berou 74.90 319 eP **P 23 29 42.2 -0.1**
MORC pmax pmax
comp=Z,63nm,1.5s,mb5.3
MORC Moravsky Berou 74.90 319 eP **P 23 29 42.2 -0.1**
comp=Z,63nm,1.5s,mb5.3
MORC Moravsky Berou 74.90 319⇑ iP **P 23 29 41.8 -0.5**
ZST Bratislava 75.06 318 eP **P 23 29 43.3 0.0**
ZST pmax pmax
comp=Z,21nm,0.9s,mb5.1
ZST MLR MLR
comp=Z,100nm,17.0s,MS4.2
ZST Bratislava 75.06 318 eP **P 23 29 43.3 0.0**
comp=Z,21nm,0.9s,mb5.1
ZST LR LR
comp=Z,100nm,17.0s,MS4.2
TDS Terranova Siba 75.18 309 P **P 23 29 46.7 +2.5**
TDS pmax pmax
comp=Z,179nm,1.2s,mb5.9
TDS Terranova Siba 75.18 309 P **P 23 29 46.7 +2.5**
comp=Z,179nm,1.2s,mb5.9
CASY Casey 75.38 173 P **P 23 29 45.3 +0.6**
CASY LR LR
comp=Z,763nm,20.0s,MS5.0
GKP Gorka Klasztor 75.41 323 eP **P 23 29 46.5 +1.3**
GKP Gorka Klasztor 75.41 323 eP **P 23 29 46.5 +1.3**
VRAC Vranov 75.47 319 P **P 23 29 45.2 -0.5**
comp=Z,1.4nm,0.4s,mb4.2,baz=102,slow=8.5,SNR=5.3
VRAC Vranov 75.47 319⇑ iP **P 23 29 45.1 -0.5**
KOGS Kog 75.52 316 eP **P 23 29 46.4 +0.4**
BOSA Boshof 75.62 238 P **P 23 29 47.1 +0.3**
comp=Z,14nm,0.6s,mb5.1,baz=79,slow=4.4,SNR=32
BOSA LR LR 00 01 27.4
comp=Z,960nm,18.8s,MS5.1,baz=70,slow=34
DPC Dobruska-Polom 75.73 320 eP **P 23 29 47.4 +0.3**
DPC eS S 23 39 24.3 -1.2
DPC AMS AMS 00 11 20.0
comp=Z,400nm,17.6s
BILL Biilibino 75.77 22 eP **P 23 29 47.2 +0.2**
BILL pmax pmax
comp=Z,18nm,0.8s,mb5.0
BILL MLR MLR
comp=Z,2μm,20.0s,MS5.4
BILL Bilibino 75.77 22 eP **P 23 29 47.2 +0.2**
comp=Z,18nm,0.8s,mb5.0
BILL LR LR
comp=Z,2μm,20.0s,MS5.4
KSP Ksiaz 75.78 320 eP **P 23 29 47.4 0.0**
KSP Ksiaz 75.78 320 eP **P 23 29 47.1 -0.3**
KSP epP pP 23 30 01.8 +1.3
KSP eS S 23 39 25.0 -1.0
KSP LR LR
comp=Z,1μm,19.6s,MS5.2
FG4 Candela 75.84 310 P **P 23 29 52.1 +4.2**
FG4 pmax pmax
comp=Z,7.0nm,0.2s,mb5.2
FG4 Candela 75.84 310 P **P 23 29 52.1 +4.2**
comp=Z,7.3nm,0.2s,mb5.3
CONA Conrad Observa 75.87 317⇑ iP **P 23 29 48.4 +0.5**
comp=Z,16nm,1.3s,mb4.8
CSNA Conrad Observa 75.87 317⇑ iP **P 23 29 48.4 +0.5**
comp=Z,25nm,2.3s,mb4.7
UPC Upice 75.94 320 eP **P 23 29 50.2 +2.0**
FG5 Orsara di Pugl 76.04 310 P **P 23 29 50.2 +1.2**
FG5 pmax pmax
comp=Z,11nm,0.8s,mb4.8
FG5 Orsara di Pugl 76.04 310 P **P 23 29 50.2 +1.2**
comp=Z,11nm,0.8s,mb4.8
CRES Cresnjev 76.04 315 eP **P 23 29 49.6 +0.7**
CRES e 23 29 56.4
ARSA Arzberg 76.06 317 i P **P 23 29 50.4 +1.3**
comp=Z,186nm,2.1s,mb5.6,SNR=8.3
BOJS Bojanci 76.17 315 eP **P 23 29 49.5 -0.2**
TREC Trest 76.20 319 eP **P 23 29 50.6 +0.8**
PERS Pernice 76.31 316 eP **P 23 29 50.1 -0.3**
PERS e pP 23 29 58.2 -5.4
SOKA Soboth 76.37 316⇑ iP **P 23 29 50.8 -0.1**
comp=Z,146nm,2.5s,mb5.5
LJU Ljubljana 76.70 315 eP **P 23 29 52.4 -0.3**
OBKA Obir 76.70 316 i P **P 23 29 53.9 +1.2**
comp=Z,134nm,1.9s,mb5.5,SNR=8.1
PRU Pruhonice 76.85 319 eP **P 23 29 53.4 0.0**
PRU eS S 23 39 31.1 -6.7
PRU AMS AMS 00 09 10.0
comp=Z,400nm,20.4s
PVCC Panska Ves 76.86 320 eP **P 23 29 54.4 +0.9**
PVCC AMS AMS 00 09 00.0
comp=Z,500nm,22.6s
PRA Prague 76.92 319 P **P 23 29 55.0 +1.2**
PRA ex x 23 30 09.0
MOA Molln 76.94 317⇑ iP **P 23 29 54.9 +0.9**
comp=Z,33nm,1.5s,mb5.0
VOY Vojsko 77.14 315 eP **P 23 29 54.5 -0.7**
VOY e pP 23 30 02.4 -5.9
VOY e pP 23 30 09.7 +1.4
BRG Berggiesshubel 77.27 320 i P **P 23 29 55.8 0.0**
BRG e pP 23 30 10.8 +1.9
BRG 23 32 55.7
BRG S S 23 39 43.0 +0.7
BRG pmax pmax
comp=Z,26nm,1.6s,mb4.9
BRG MLR MLR
comp=Z,380nm,14.7s,MS4.8
BRG Berggiesshubel 77.27 320 i P **P 23 29 55.8 0.0**
comp=Z,26nm,1.6s,mb4.9
BRG e pP 23 30 10.8 +1.8
BRG PP PP 23 32 55.7 +5.6
BRG S S 23 39 43.0 +0.7
BRG LR LR
comp=Z,380nm,14.7s,MS4.8
BRG Berggiesshubel 77.27 320 eP **P 23 29 56.3 +0.5**
comp=Z,82nm,1.7s,mb5.4
BRG Berggiesshubel 77.27 320 i P **P 23 29 55.8 0.0**
comp=Z,44nm,1.6s,mb5.1
BRG e pP 23 30 10.8 +1.8
comp=Z,82nm,1.7s
BRG PP PP 23 32 55.7 +5.6
comp=Z,14nm,1.3s
BRG S S 23 39 43.0 +0.7
BRG
comp=Z,635nm,14.7s
BRG
comp=N,351nm,18.4s
BRG
comp=E,534nm,18.4s
GEC2 GERESS Array S 77.35 318 eP **P 23 29 56.5 +0.2**
GEC2 pmax pmax
comp=Z,215nm,2.3s,mb5.7
GEC2 GERESS Array S 77.35 318 eP **P 23 29 56.5 +0.2**
comp=Z,215nm,2.3s,mb5.7
GERES GERESS Array B 77.35 318 P **P 23 29 56.3 0.0**
comp=Z,3.3nm,0.7s,mb4.4,baz=90,slow=5.3,SNR=27
GERES LR LR 00 10 55.2
comp=Z,272nm,20.2s,MS4.6,baz=94,slow=41
KHC Kasperske Hory 77.44 318 eP **P 23 29 56.5 -0.3**
KHC e 23 30 01.5
KHC e pP 23 30 10.0 +0.1
KHC eS S 23 39 41.2 -3.1
KHC LR LR
comp=Z,400nm,20.0s,MS4.7
KHC Kasperske Hory 77.44 318 eP **P 23 29 56.5 -0.3**
KHC x x 23 30 01.5
KHC pP pP 23 30 10.0 +0.1
KHC eS S 23 39 41.2 -3.1
KHC AMS AMS 00 07 20.0
comp=Z,400nm,20.0s
AQU L'Aquila 77.44 311 eP **P 23 29 58.0 +1.1**
AQU pmax pmax
comp=Z,28nm,1.4s,mb5.0
AQU L'Aquila 77.44 311 eP **P 23 29 58.0 +1.0**
comp=Z,28nm,1.4s,mb5.0
RUE Ruedersdorf 77.44 322 eP **P 23 29 58.0 +1.3**
comp=Z,60nm,0.8s,mb5.6
PTCC Patocco-Chiusa 77.52 316 P **P 23 29 56.9 -0.4**
comp=Z,16nm,0.7s,mb5.0
KBA Koelnbreinsper 77.54 316⇑ iP **P 23 29 56.6 -0.8**
comp=Z,89nm,2.4s,mb5.3
KBA Koelnbreinsper 77.54 316⇑ iP **P 23 29 56.6 -0.8**
KBA pmax pmax
comp=Z,89nm,2.4s,mb5.3
GMNA Gemona 77.60 316 P **P 23 30 05.8 +8.1**
NRCA Norcia 77.66 312 P **P 23 29 58.1 0.0**
comp=Z,47nm,2.0s,mb5.1
SNTG Esanatoglia 77.79 312 P **P 23 29 59.6 +0.8**
comp=Z,50nm,1.4s,mb5.2
CLL Collm 77.88 321 eP **P 23 29 59.0 -0.2**
comp=Z,29nm,1.7s,mb4.9
CLL i x x 23 30 04.7
comp=Z,47nm,1.8s
CLL i x x 23 30 06.7
CLL i sP sP 23 30 13.5 -3.9
CLL eS S 23 39 49.0 +0.1
CLL ePS 23 40 34.0
CLL LmV 00 10 00.0
comp=Z,400nm,18.2s
WET Wettzell 77.90 318 eP **P 23 29 59.3 0.0**
WET pmax pmax
comp=Z,119nm,2.2s,mb5.4
WET Wettzell 77.90 318 eP **P 23 29 59.3 0.0**
comp=Z,119nm,2.2s,mb5.4
FVI Forni Avoltri 77.92 316 P **P 23 30 01.2 +1.7**
FVI pmax pmax
comp=Z,212nm,2.2s,mb5.7
FVI Forni Avoltri 77.92 316 P **P 23 30 01.2 +1.7**
comp=Z,212nm,2.2s,mb5.7
PIEI Pieia 78.08 313 P **P 23 30 04.8 +4.3**
TANN Tannenbergstha 78.20 320 eP **P 23 30 01.0 0.0**
comp=Z,46nm,1.7s,mb5.1
NKC Novy Kostel 78.20 320 eP **P 23 30 02.8 +1.8**
SEST Monte Rota 78.31 316 P **P 23 30 08.7 +7.0**
comp=Z,118nm,1.9s,mb5.5
ROTZ Rotzenmuhle 78.35 319 eP **P 23 30 02.4 +0.6**
comp=Z,68nm,1.5s,mb5.4
MANZ Manzenberg 78.42 319 eP **P 23 30 02.8 +0.6**
comp=Z,100nm,1.6s,mb5.5
SFI Santa Sofia 78.58 313 P **P 23 30 05.0 +1.8**
SFI pmax pmax
comp=Z,126nm,1.2s,mb5.7
SFI Santa Sofia 78.58 313 P **P 23 30 05.0 +1.8**
comp=Z,126nm,1.2s,mb5.7
CTI Castel Tesino 78.70 315 P **P 23 30 03.8 0.0**
MOX Moxa 78.74 320 eP **P 23 30 03.7 -0.3**
comp=Z,39nm,1.9s,mb5.0
MOX e pP 23 30 19.3 +2.2
MOX Moxa 78.74 320 eP **P 23 30 03.7 -0.3**
MOX e pP 23 30 19.3 +2.2
MOX pmax pmax
comp=Z,39nm,1.9s,mb5.0
VMG Vicchio 78.80 313 P **P 23 30 06.2 +1.8**
comp=Z,135nm,1.2s,mb5.8
MAW Mawson 78.91 192 P **P 23 30 04.6 +0.2**
comp=Z,5.4nm,0.7s,mb4.6,baz=14,slow=5.0,SNR=11
MAW LR LR 23 59 25.4
comp=Z,605nm,19.0s,MS5.0,baz=35,slow=31
GRA1 Grafenberg Arr 78.99 319 eP **P 23 30 05.5 +0.2**
comp=Z,113nm,1.7s,mb5.5
GRA1 ePP PP 23 33 10.2 +5.7
GRA1 eS S 23 40 03.6 +2.7
GRF Grafenberg Arr 78.99 319 eP **P 23 30 05.5 +0.2**
GRF e 23 33 10.2
GRF eS S 23 40 03.6 +2.7
GRF pmax pmax
comp=Z,113nm,1.7s,mb5.5
GRF MLR MLR
comp=Z,500nm,20.1s,MS4.8
GRF Grafenberg Arr 78.99 319 eP **P 23 30 05.5 +0.2**
comp=Z,113nm,1.7s,mb5.5
GRF ePP PP 23 33 10.2 +5.7
GRF eS S 23 40 03.6 +2.7
GRF LR LR
comp=Z,500nm,20.1s,MS4.8
GRF Grafenberg Arr 78.99 319 eP **P 23 30 05.5 +0.2**
comp=Z,113nm,1.7s,mb5.5
GRF ePP PP 23 33 10.2 +5.7
GRF eS S 23 40 03.6 +2.7
GRF Grafenberg Arr 78.99 319 eL 00 11 09.3
comp=Z,549nm,20.1s
MOTA Moosalm 79.07 317⇓ iP **P 23 30 04.3 -1.5**
comp=Z,22nm,1.1s,mb5.0
MOTA Moosalm 79.07 317⇓ iP **P 23 30 04.3 -1.5**
MOTA pmax pmax
comp=Z,22nm,1.1s,mb5.0
FNVD Fontana Vidola 79.10 313 P **P 23 30 08.3 +2.3**
NOA NORSAR Array B 79.24 331 P **P 23 30 05.4 -1.0**
comp=Z,4.5nm,0.6s,mb4.5,baz=93,slow=5.6,SNR=30
NOA LR LR 00 10 01.9
comp=Z,553nm,20.2s,MS4.9,baz=95,slow=39
RETA Reutte 79.30 317 i P **P 23 30 06.7 -0.4**
comp=Z,130nm,1.7s,mb5.6,SNR=8.7
FETA Feichten 79.33 316⇓ iP **P 23 30 06.0 -1.2**
comp=Z,180nm,3.0s,SNR=10
SPITS Spitsbergen Ar 79.37 348 P **P 23 30 06.3 -0.6**
comp=Z,4.8nm,0.4s,mb4.8,baz=351,slow=10,SNR=31
NAO01 NORSAR Array S 79.39 330 eP **P 23 30 06.5 -0.8**
comp=Z,23nm,0.8s,mb5.2
GSCL Gusciola 79.48 314 P **P 23 30 08.9 +0.8**
comp=Z,37nm,0.9s,mb5.3
MABI Malga Bissina 79.49 315 P **P 23 30 09.7 +1.5**
comp=Z,348nm,4.2s
CLZ Clausthal 79.53 321 eP **P 23 30 08.4 +0.2**
CLZ pmax pmax
comp=Z,41nm,1.0s,mb5.3
CLZ Clausthal 79.53 321 eP **P 23 30 08.4 +0.2**
comp=Z,41nm,1.0s,mb5.3
BSEG Bad Segeberg 79.56 323 eP **P 23 30 08.9 +0.5**
comp=Z,80nm,1.0s,mb5.6
BRMO Bormio 79.58 316 P **P 23 30 09.9 +1.2**
ERBM Eremo 79.60 314 P **P 23 30 11.0 +2.2**
comp=Z,161nm,1.5s,mb5.7
NRDL Niedersach Rie 79.69 322 eP **P 23 30 09.6 +0.5**
comp=Z,95nm,1.5s,mb5.5
DAVA Damuels 79.91 317⇑ iP **P 23 30 10.2 -0.2**
comp=Z,203nm,2.7s,mb5.6
TSUM Tsumeb 79.97 249 eP **P 23 30 12.8 +1.6**
comp=Z,32nm,1.3s,mb5.1
KONO Kongsberg 80.01 329 eP **P 23 30 10.8 +0.1**
KONO pmax pmax
comp=Z,75nm,1.3s,mb5.5
KONO Kongsberg 80.01 329 eP **P 23 30 10.8 +0.1**
comp=Z,75nm,1.3s,mb5.5
TUE Stuetta 80.29 316 P **P 23 30 10.8 -1.7**
SUR Sutherland 80.39 235 P **P 23 30 15.8 +2.6**
comp=Z,127nm,1.6s,mb5.6,SNR=5.7
TOD Tromm 80.56 319 eP **P 23 30 16.3 +2.4**
SPAK Spaichingen-Ko 80.62 317 eP **P 23 30 16.7 +2.5**
PGF Pioggiola 80.70 312 eP **P 23 30 13.8 -0.9**
comp=Z,69nm,1.2s,mb5.2
PGF Pioggiola 80.70 312 eP **P 23 30 13.8 -0.9**
PGF pmax pmax
comp=Z,34nm,1.2s,mb5.2
PGF Pioggiola 80.70 312 eP **P 23 30 13.8 -0.9**
comp=Z,34nm,1.2s,mb5.2
KEST Kesra 80.80 305 P **P 23 30 15.4 0.0**
comp=Z,2.4nm,0.6s,mb4.3,baz=319,slow=1.4,SNR=12
KEST LR LR 00 09 57.5
comp=Z,248nm,18.9s,MS4.6,baz=180,slow=38
BFO Black Forest 80.92 318 eP **P 23 30 15.3 -0.5**
BFO pmax pmax
comp=Z,25nm,1.1s,mb5.1
BFO Black Forest 80.92 318 eP **P 23 30 15.3 -0.5**
comp=Z,25nm,1.1s,mb5.1
IBBN Ibbenburen 81.13 322 eP **P 23 30 17.1 +0.2**
comp=Z,70nm,1.0s,mb5.5
FELD Feldberg im Sc 81.15 317 eP **P 23 30 16.1 -1.0**
FIN Finale Ligure 81.19 313 P **P 23 30 16.8 -0.5**
LANF Langenberg 81.24 318 eP **P 23 30 17.4 -0.1**
ABH Alteburg 81.36 319 eP **P 23 30 17.6 -0.5**
IMI Imperia 81.44 313 P **P 23 30 16.8 -1.9**
BUG Bochum--Univer 81.47 321 eP **P 23 30 18.9 +0.2**
comp=Z,62nm,1.3s,mb5.4
CDF Champ du Feu 81.61 318 eP **P 23 30 18.5 -1.0**
comp=Z,22nm,0.9s,mb4.8
CDF Champ du Feu 81.61 318 eP **P 23 30 18.5 -1.0**
CDF pmax pmax
comp=Z,11nm,0.9s,mb4.8
CDF Champ du Feu 81.61 318 eP **P 23 30 18.5 -1.0**
comp=Z,11nm,0.9s,mb4.8
RUP Ruppelstein 81.69 319 eP **P 23 30 16.3 -3.6**
ECH Echery 81.70 318 eP **P 23 30 20.6 +0.6**
ECH Echery 81.70 318 eP **P 23 30 19.8 -0.2**
WTSB Winterswijk 81.74 321 eP **P 23 30 21.4 +1.3**
comp=Z,42nm,1.9s,mb5.0
MOF Molkenrain 81.74 317 eP **P 23 30 20.8 +0.6**
SBF Sospel 81.77 313 eP **P 23 30 19.5 -0.9**
comp=Z,96nm,0.9s,mb5.5
SBF Sospel 81.77 313 eP **P 23 30 19.5 -0.9**
SBF pmax pmax
comp=Z,48nm,0.9s,mb5.4
SBF Sospel 81.77 313 eP **P 23 30 19.5 -0.9**
comp=Z,48nm,0.9s,mb5.4
TOUF Mont Tournerai 81.89 313 eP **P 23 30 26.3 +5.2**
LOMF Lomont 81.98 317 eP **P 23 30 22.4 +1.0**
LPG La Plagne 82.15 315 eP **P 23 30 22.1 -0.3**
comp=Z,107nm,0.9s,mb5.5
LPG La Plagne 82.15 315 eP **P 23 30 22.1 -0.3**
LPG pmax pmax
comp=Z,53nm,0.9s,mb5.5
LPG La Plagne 82.15 315 eP **P 23 30 22.1 -0.3**
comp=Z,53nm,0.9s,mb5.5
LPL La Plagne 82.16 315 eP **P 23 30 22.1 -0.3**
comp=Z,82nm,0.8s,mb5.4
LPL La Plagne 82.16 315 eP **P 23 30 22.1 -0.3**
LPL pmax pmax
comp=Z,41nm,0.8s,mb5.4
LPL La Plagne 82.16 315 eP **P 23 30 22.1 -0.3**
comp=Z,41nm,0.8s,mb5.4
MBDF Montbardon 82.19 314 eP **P 23 30 21.2 -1.4**
comp=Z,41nm,0.8s,mb5.1
MBDF Montbardon 82.19 314 eP **P 23 30 21.2 -1.4**
MBDF pmax pmax
comp=Z,21nm,0.8s,mb5.1
MBDF Montbardon 82.19 314 eP **P 23 30 21.2 -1.4**
comp=Z,21nm,0.8s,mb5.1
BNI Bardonecchia 82.23 314 eP **P 23 30 23.3 +0.5**
BNI e 23 33 31.8
BNI pmax pmax
comp=Z,35nm,1.0s,mb5.2
BNI Bardonecchia 82.23 314 eP **P 23 30 23.3 +0.5**
comp=Z,35nm,1.0s,mb5.2
BNI ePP PP 23 33 31.8 +0.3
HAU Haudompre 82.26 317 eP **P 23 30 21.9 -1.0**
comp=Z,86nm,0.9s,mb5.4
HAU eMLR MLR
comp=Z,327nm,22.8s,MS4.3
HAU Haudompre 82.26 317 eP **P 23 30 21.9 -1.0**
HAU pmax pmax
comp=Z,43nm,0.9s,mb5.4
HAU MLR MLR
comp=Z,330nm,22.8s,MS4.6
HAU Haudompre 82.26 317 eP **P 23 30 21.9 -1.0**
comp=Z,43nm,0.9s,mb5.4
HAU LR LR
comp=Z,330nm,22.8s,MS4.6
ABSA Djebel Ababsia 82.28 306 P **P 23 30 26.0 +2.8**
WLF Walferdange 82.28 319 P **P 23 30 24.1 +1.2**
comp=Z,35nm,2.1s,mb4.9
WLF Walferdange 82.28 319 eP **P 23 30 23.6 +0.6**
comp=Z,93nm,1.8s,mb5.4
CMAH Djebel Manchou 82.30 306 P **P 23 30 25.0 +1.7**
MEM Membach 82.31 320 P **P 23 30 23.4 +0.3**
comp=Z,10.0nm,1.7s,mb4.5
HGN Heimansgroeve 82.35 320 eP **P 23 30 16.3 -7.0**
HGN Heimansgroeve 82.35 320 ePP PP 23 33 24.3 -8.0
FRF La Foret Royal 82.36 313 eP **P 23 30 22.9 -0.6**
comp=Z,85nm,1.0s,mb5.3
FRF La Foret Royal 82.36 313 eP **P 23 30 22.9 -0.6**
FRF pmax pmax
comp=Z,42nm,1.0s,mb5.3
FRF La Foret Royal 82.36 313 eP **P 23 30 22.9 -0.6**
comp=Z,42nm,1.0s,mb5.3
LMR La Mourre 82.47 313 eP **P 23 30 23.4 -0.7**
comp=Z,82nm,1.2s,mb5.2
LMR La Mourre 82.47 313 eP **P 23 30 23.4 -0.7**
LMR pmax pmax
comp=Z,41nm,1.2s,mb5.2
LMR La Mourre 82.47 313 eP **P 23 30 23.4 -0.7**
comp=Z,41nm,1.2s,mb5.2
THEF They Montfort 82.49 318 eP **P 23 30 23.0 -1.1**
THEF They Montfort 82.49 318 eP **P 23 30 22.8 -1.3**
CABF La Chapelle 82.53 316 eP **P 23 30 23.8 -0.5**
comp=Z,70nm,1.1s,mb5.3
CABF La Chapelle 82.53 316 eP **P 23 30 23.8 -0.5**
CABF pmax pmax
comp=Z,35nm,1.1s,mb5.3
CABF La Chapelle 82.53 316 eP **P 23 30 23.8 -0.5**
comp=Z,35nm,1.1s,mb5.3
CAEH 'Ain El Ouahch 82.74 306 P **P 23 30 27.0 +1.4**
BCLA Clavier 82.77 320 P **P 23 30 25.8 +0.3**
comp=Z,13nm,1.5s,mb4.8
ORIF Oris-en-Rattie 82.81 314 eP **P 23 30 25.4 -0.4**
comp=Z,26nm,0.7s,mb5.0
ORIF eMLR MLR
comp=Z,704nm,23.0s,MS4.7
ORIF Oris-en-Rattie 82.81 314 eP **P 23 30 25.4 -0.4**
ORIF pmax pmax
comp=Z,13nm,0.7s,mb5.1
ORIF Oris-en-Rattie 82.81 314 eP **P 23 30 25.4 -0.4**
comp=Z,13nm,0.7s,mb5.1
CKFL Kef-Lekhel 82.88 306 P **P 23 30 28.5 +2.1**
CASM Ain Smara 83.07 306 P **P 23 30 29.0 +1.6**
MEZF Maizieres J'vi 83.09 318 eP **P 23 30 26.4 -0.8**
comp=Z,51nm,1.0s,mb5.2
MEZF Maizieres J'vi 83.09 318 eP **P 23 30 26.4 -0.8**
comp=Z,51nm,1.0s,mb5.5
SMRF Simiane la Rot 83.10 313 eP **P 23 30 27.2 -0.1**
comp=Z,245nm,1.7s,mb5.7
SMRF Simiane la Rot 83.10 313 eP **P 23 30 27.2 -0.1**
comp=Z,245nm,1.7s,mb6.0
GIVF Givet 83.11 320 eP **P 23 30 26.6 -0.6**
comp=Z,80nm,1.3s,mb5.3
GIVF Givet 83.11 320 eP **P 23 30 26.6 -0.6**
GIVF pmax pmax
comp=Z,40nm,1.3s,mb5.3
GIVF Givet 83.11 320 eP **P 23 30 26.6 -0.6**
comp=Z,40nm,1.3s,mb5.3
DOU Dourbes 83.25 320 P **P 23 30 27.8 -0.2**
comp=Z,19nm,2.0s,mb4.8
BAIF Baives 83.50 320 eP **P 23 30 28.9 -0.4**
comp=Z,96nm,1.2s,mb5.5
BAIF Baives 83.50 320 eP **P 23 30 28.9 -0.4**
BAIF pmax pmax
comp=Z,48nm,1.2s,mb5.5
BAIF Baives 83.50 320 eP **P 23 30 28.9 -0.4**
comp=Z,48nm,1.2s,mb5.5
DFRA Djebel Bou Aff 83.54 306 P **P 23 30 32.0 +2.2**
VIVF Saint-Julien-l 83.67 314 eP **P 23 30 29.6 -0.6**
comp=Z,47nm,1.0s,mb5.3
VIVF Saint-Julien-l 83.67 314 eP **P 23 30 29.6 -0.6**
VIVF pmax pmax
comp=Z,24nm,1.0s,mb5.3
VIVF Saint-Julien-l 83.67 314 eP **P 23 30 29.6 -0.6**
comp=Z,24nm,1.0s,mb5.3
CKHR Kef el Ahmar 83.88 305 P **P 23 30 34.0 +2.4**
SET Setif 83.96 306 P **P 23 30 35.0 +3.1**
LOR Lormes 84.00 317 eP **P 23 30 31.0 -0.9**
comp=Z,76nm,0.9s,mb5.5
LOR eMLR MLR
comp=Z,375nm,20.5s,MS4.5
LOR Lormes 84.00 317 eP **P 23 30 31.0 -0.9**
LOR pmax pmax
comp=Z,38nm,0.9s,mb5.5
LOR MLR MLR
comp=Z,380nm,20.5s,MS4.8
LOR Lormes 84.00 317 eP **P 23 30 31.0 -0.9**
comp=Z,38nm,0.9s,mb5.5
LOR LR LR
comp=Z,380nm,20.5s,MS4.8
SMF Signal de Mont 84.07 316 eP **P 23 30 31.3 -1.0**
comp=Z,76nm,1.0s,mb5.5
SMF Signal de Mont 84.07 316 eP **P 23 30 31.3 -1.0**
SMF pmax pmax
comp=Z,38nm,1.0s,mb5.5
SMF Signal de Mont 84.07 316 eP **P 23 30 31.3 -1.0**
comp=Z,38nm,1.0s,mb5.5
SSF Saint Saulge 84.26 317 eP **P 23 30 32.3 -0.9**
comp=Z,44nm,1.1s,mb5.2
SSF Saint Saulge 84.26 317 eP **P 23 30 32.3 -0.9**

SSF pmax pmax
comp=Z,22nm,1.1s,mb5.2
SSF Saint Saulge 84.26 317 *eP* **P 23 30 32.3 -0.9**
comp=Z,22nm,1.1s,mb5.2
PLDF La Plantade 84.29 315 *eP* **P 23 30 33.4 0.0**
PLDF La Plantade 84.29 315 *eP* **P 23 30 32.5 -0.9**
LASF Ste Croix 84.32 314 *eP* **P 23 30 33.2 -0.4**
comp=Z,167nm,1.5s,mb5.6
AVF Avril sur Loir 84.39 316 *eP* **P 23 30 32.9 -1.0**
comp=Z,56nm,1.1s,mb5.3
AVF Avril sur Loir 84.39 316 *eP* **P 23 30 32.9 -1.0**
AVF pmax pmax
comp=Z,28nm,1.1s,mb5.3
AVF Avril sur Loir 84.39 316 *eP* **P 23 30 32.9 -1.0**
comp=Z,28nm,1.1s,mb5.3
PYM Petit Puy Mans 84.74 315 *eP* **P 23 30 34.0 -1.7**
BGF Bois d'Agland 84.76 316 *eP* **P 23 30 35.3 -0.5**
comp=Z,74nm,1.0s,mb5.5
BGF Bois d'Agland 84.76 316 *eP* **P 23 30 35.3 -0.5**
BGF pmax pmax
comp=Z,37nm,1.0s,mb5.5
BGF Bois d'Agland 84.76 316 *eP* **P 23 30 35.3 -0.5**
comp=Z,37nm,1.0s,mb5.5
TCF Toulx Ste Croi 85.23 316 *eP* **P 23 30 37.6 -0.5**
CAF Calviac 85.50 315 *eP* **P 23 30 39.1 -0.4**
comp=Z,47nm,1.2s,mb5.3
CAF Calviac 85.50 315 *eP* **P 23 30 39.1 -0.4**
CAF pmax pmax
comp=Z,24nm,1.2s,mb5.3
CAF Calviac 85.50 315 *eP* **P 23 30 39.1 -0.4**
comp=Z,24nm,1.2s,mb5.3
MTLF Montolieu 85.59 313 *eP* **P 23 30 39.5 -0.5**
comp=Z,26nm,0.9s,mb5.2
MTLF Montolieu 85.59 313 *eP* **P 23 30 39.5 -0.5**
MTLF pmax pmax
comp=Z,13nm,0.9s,mb5.2
MTLF Montolieu 85.59 313 *eP* **P 23 30 39.5 -0.5**
comp=Z,13nm,0.9s,mb5.2
RJF Les Rejaudoux 85.84 315 *eP* **P 23 30 40.9 -0.3**
comp=Z,107nm,1.3s,mb5.6
RJF *e*MLR MLR
comp=Z,408nm,22.0s,MS4.5
RJF Les Rejaudoux 85.84 315 *eP* **P 23 30 40.9 -0.3**
RJF pmax pmax
comp=Z,53nm,1.3s,mb5.6
RJF MLR MLR
comp=Z,410nm,22.0s,MS4.8
RJF Les Rejaudoux 85.84 315 *eP* **P 23 30 40.9 -0.3**
comp=Z,53nm,1.3s,mb5.6
RJF LR LR
comp=Z,410nm,22.0s,MS4.8
EMIR Miracle 86.28 312 P **P 23 30 50.1 +6.7**
LFF La Frestale 86.43 315 *eP* **P 23 30 43.9 -0.2**
comp=Z,80nm,1.2s,mb5.5
LFF La Frestale 86.43 315 *eP* **P 23 30 43.9 -0.2**
LFF pmax pmax
comp=Z,40nm,1.2s,mb5.5
LFF La Frestale 86.43 315 *eP* **P 23 30 43.9 -0.2**
comp=Z,40nm,1.2s,mb5.5
SKP1 Kophill 86.46 322 *eP* **P 23 30 43.0 -1.1**
LDF La Druitiere 86.49 318 *eP* **P 23 30 43.6 -0.7**
comp=Z,48nm,0.9s,mb5.4
LDF La Druitiere 86.49 318 *eP* **P 23 30 43.6 -0.7**
LDF pmax pmax
comp=Z,24nm,0.9s,mb5.4
LDF La Druitiere 86.49 318 *eP* **P 23 30 43.6 -0.7**
comp=Z,24nm,0.9s,mb5.4
HPK Haverah Park 86.59 324 P **P 23 30 44.7 0.0**
HPK AMb AMB 23 30 53.9
comp=Z,133nm,1.0s,mb6.1
HPK Haverah Park 86.59 324 *eP* **P 23 30 44.7 0.0**
HPK AMb AMB 23 30 53.9
comp=Z,133nm,1.0s,mb6.1
HPK AMS AMS 00 16 27.0
comp=Z,368nm,19.0s,MS4.8
CWF Charnwood Fore 86.60 323 P **P 23 30 44.4 -0.4**
CWF AMb AMB 23 30 48.3
comp=Z,45nm,1.7s,mb5.4
CWF Charnwood Fore 86.60 323 *eP* **P 23 30 44.4 -0.4**
CWF AMb AMB 23 30 48.3
comp=Z,45nm,1.7s,mb5.4
CWF AMS AMS 00 11 57.1
comp=Z,357nm,21.0s,MS4.8
KBI1 Birley Grange 86.65 323 *eP* **P 23 30 44.9 -0.1**
EPOB Poblet 86.69 311 P **P 23 30 53.8 +8.3**
comp=Z,20nm,1.0s,mb5.3
XSO Sourhope Farm 86.70 325 *eP* **P 23 30 45.0 -0.1**
FLN La Foliniere 86.70 319 *eP* **P 23 30 44.7 -0.6**
comp=Z,68nm,0.9s,mb5.6
FLN *e*MLR MLR
comp=Z,430nm,20.8s,MS4.5
FLN La Foliniere 86.70 319 *eP* **P 23 30 44.7 -0.6**
FLN pmax pmax
comp=Z,34nm,0.9s,mb5.6
FLN MLR MLR
comp=Z,430nm,20.8s,MS4.8
FLN La Foliniere 86.70 319 *eP* **P 23 30 44.7 -0.6**
comp=Z,34nm,0.9s,mb5.6
FLN LR LR
comp=Z,430nm,20.8s,MS4.8
XAL Allendale 86.78 325 *eP* **P 23 30 45.6 0.0**
LHO Holmfirth 86.80 324 *eP* **P 23 30 45.6 -0.1**
MFF Saint Martin d 86.80 316 *eP* **P 23 30 45.2 -0.7**
comp=Z,68nm,1.1s,mb5.5
MFF Saint Martin d 86.80 316 *eP* **P 23 30 45.2 -0.7**
MFF pmax pmax
comp=Z,34nm,1.1s,mb5.5
MFF Saint Martin d 86.80 316 *eP* **P 23 30 45.2 -0.7**
comp=Z,34nm,1.1s,mb5.5
KWE Weaver Farm 86.88 323 *eP* **P 23 30 45.8 -0.3**
EPF Esparros 86.99 313 *eP* **P 23 30 46.1 -0.8**
DAG Danmarks Havn 87.00 348⇑ *iP* **P 23 30 45.6 -0.7**
DAG pmax pmax
comp=Z,2.0nm,0.6s,mb4.5
DAG Danmarks Havn 87.00 348⇑ *iP* **P 23 30 45.6 -0.7**
comp=Z,2.0nm,0.6s,mb4.5
GRR Gorron 87.01 318 *eP* **P 23 30 46.2 -0.6**
EBL Broad Law 87.09 326 *eP* **P 23 30 47.1 0.0**
EBIE Bielsa 87.19 313 P **P 23 30 54.2 +6.3**
ECK Cauldkaine Hil 87.24 325 *eP* **P 23 30 47.7 -0.1**
EBH Black Hill 87.26 326 *eP* **P 23 30 48.3 +0.4**
EAU Auchinoon 87.30 326 *eP* **P 23 30 48.7 +0.6**
MDO Dochfour 87.49 328 *eP* **P 23 30 49.0 0.0**
ETSF Etsaut 87.66 313 *eP* **P 23 30 50.1 0.0**
comp=Z,30nm,0.8s,mb5.3
ETSF Etsaut 87.66 313 *eP* **P 23 30 50.1 0.0**
ETSF pmax pmax
comp=Z,15nm,0.8s,mb5.3
ETSF Etsaut 87.66 313 *eP* **P 23 30 50.1 0.0**
comp=Z,15nm,0.8s,mb5.3
HGH Gray Hill 87.70 322 *eP* **P 23 30 49.9 -0.2**
EAB Aberfoyle 87.73 326 *eP* **P 23 30 50.2 +0.1**
MCH1 Michaelchurch 87.75 322 *eP* **P 23 30 49.8 -0.6**
MCH1 AMb AMB 23 30 59.5
comp=Z,60nm,1.3s,mb5.7
ESAC San Caprasio 87.78 312 P **P 23 30 59.1 +8.3**
HTR Trewern Hill 87.90 322 *eP* **P 23 30 50.8 -0.3**
KAC Achnashellach 87.97 328 *eP* **P 23 30 51.4 +0.1**
EMOS Mosqueruela 88.00 310 P **P 23 31 01.4 +10**
comp=Z,33nm,1.0s,mb5.5
EBEN Beniarda 88.07 309 P **P 23 31 00.8 +8.7**
SGMF Saint Gilles 88.15 318 *eP* **P 23 30 51.8 -0.5**
KPL Plockton 88.19 328 P **P 23 30 52.6 +0.3**
KPL AMb AMB 23 31 00.4
comp=Z,78nm,1.8s,mb5.6
KPL Plockton 88.19 328 *eP* **P 23 30 52.6 +0.3**
KPL AMb AMB 23 31 00.4
comp=Z,78nm,1.8s,mb5.6
KPL AMS AMS 00 15 08.0
comp=Z,390nm,19.9s,MS4.8
GAL1 Galloway 88.20 325 P **P 23 30 52.6 +0.2**
GAL1 AMb AMB 23 30 56.7
comp=Z,51nm,1.4s,mb5.6
GAL1 Galloway 88.20 325 *eP* **P 23 30 52.6 +0.2**
GAL1 AMb AMB 23 30 56.7
comp=Z,51nm,1.4s,mb5.6
GAL1 AMS AMS 00 16 04.4
comp=Z,386nm,20.0s,MS4.8
ECHE Chera 88.50 310 P **P 23 31 03.3 +9.1**
ECHE pmax pmax
comp=Z,15nm,0.8s,mb5.4
ECHE Chera 88.50 310 P **P 23 31 03.3 +9.2**
comp=Z,15nm,0.8s,mb5.4
ROSF Rostrenen 88.60 319 *eP* **P 23 30 54.0 -0.5**
RRH Rhenigidale 88.61 328 *eP* **P 23 30 55.7 +1.5**
QUIF Quistinic 88.61 318 *eP* **P 23 30 53.7 -0.8**
comp=Z,18nm,0.7s,mb5.2
QUIF Quistinic 88.61 318 *eP* **P 23 30 53.7 -0.8**
QUIF pmax pmax
comp=Z,9.0nm,0.7s,mb5.2
QUIF Quistinic 88.61 318 *eP* **P 23 30 53.7 -0.8**
comp=Z,8.9nm,0.7s,mb5.2
ETOB Tobarra 89.10 309 P **P 23 31 05.1 +8.0**
comp=Z,13nm,0.8s,mb5.3
ETOR Torete 89.11 311 P **P 23 31 05.4 +8.4**
ETOR pmax pmax
comp=Z,63nm,0.7s,mb6.0
ETOR Torete 89.11 311 P **P 23 31 05.3 +8.3**
comp=Z,63nm,0.7s,mb6.0
DLF Lyons Farm 89.59 324 *eP* **P 23 31 01.2 +2.2**
DMUB Kingscourt 89.67 324 *eP* **P 23 31 01.6 +2.3**
EVIA Vianos 89.84 309 P **P 23 31 07.0 +6.5**
EVIA pmax pmax
comp=Z,10.0nm,0.9s,mb5.2
EVIA Vianos 89.84 309 P **P 23 31 07.0 +6.5**
comp=Z,9.8nm,0.9s,mb5.1
ENIJ Nijar 89.91 307 P **P 23 31 07.1 +6.2**
ENIJ pmax pmax
comp=Z,7.0nm,0.6s,mb5.2
ENIJ Nijar 89.91 307 P **P 23 31 07.1 +6.3**
comp=Z,7.0nm,0.6s,mb5.2
EHUE Huescar 90.06 308 P **P 23 31 08.0 +6.5**
TORD Torodi Ar. Bea 90.27 283 P **P 23 31 03.2 +0.3**
TORD PP PP 23 34 42.4 +5.0
TORD PKKPbc PKKPbc 23 48 32.4 +0.5
TORD LR LR 00 11 01.1
TORD Torodi Ar. Bea 90.27 283 P **P 23 31 03.2 +0.3**
comp=Z,3.9nm,0.9s,mb4.8,baz=89,slow=4.9,SNR=15
TORD PP PP 23 34 42.4 +5.1
comp=Z,0.8nm,0.8s,baz=93,slow=6.0,SNR=4.0
TORD PKKPbc PKKPbc 23 48 32.4 +0.5
comp=Z,0.2nm,0.5s,baz=307,slow=2.8,SNR=5.2
TORD LR LR 00 11 01.1
comp=Z,613nm,20.9s,MS5.0,baz=130,slow=35
EQES Quesada 90.44 308 P **P 23 31 09.7 +6.4**
EBER Berja 90.46 307 P **P 23 31 09.9 +6.5**
comp=Z,17nm,0.7s,mb5.5
GUD Guadarrama 90.71 311 P **P 23 31 11.5 +7.0**
GUD pmax pmax
comp=Z,20nm,0.8s,mb5.5
GUD Guadarrama 90.71 311 P **P 23 31 11.5 +7.0**
comp=Z,20nm,0.8s,mb5.5
ESBB Sonseca Array 90.76 310 P **P 23 31 09.9 +5.2**
ESDC Sonseca Array 90.76 310 P **P 23 31 05.0 +0.2**
comp=Z,3.1nm,0.5s,mb4.9,baz=64,slow=4.0,SNR=24
ESDC LR LR 00 17 22.4
comp=Z,167nm,18.4s,MS4.5,baz=110,slow=39
ESLA Sonseca Array 90.76 310 *eP* **P 23 31 05.0 +0.2**
comp=Z,16nm,1.4s,mb5.2
EBAN Banos Encina 90.92 309 P **P 23 31 13.6 +8.1**
EBAN pmax pmax
comp=Z,13nm,0.6s,mb5.4
EBAN Banos Encina 90.92 309 P **P 23 31 13.6 +8.1**
comp=Z,13nm,0.6s,mb5.4
ECOG Cogollos-Vega 90.92 308 P **P 23 31 14.3 +8.7**
ECOG pmax pmax
comp=Z,3.0nm,0.5s,mb4.9
ECOG Cogollos-Vega 90.92 308 P **P 23 31 14.3 +8.8**
comp=Z,3.1nm,0.5s,mb4.9
PAB San Pablo 91.08 310 *eP* **P 23 31 06.4 +0.2**
PAB pmax pmax
comp=Z,34nm,1.2s,mb5.5
PAB San Pablo 91.08 310 *eP* **P 23 31 06.4 +0.1**
comp=Z,34nm,1.2s,mb5.5
IMA2 Indian Mountai 91.31 22 *eP* **P 23 31 07.8 +1.1**
ELOJ Sierra Loja 91.41 308 P **P 23 31 14.7 +6.9**
ELUQ Luque 91.41 308 P **P 23 31 15.3 +7.5**
ELUQ pmax pmax
comp=Z,8.0nm,0.8s,mb5.1
ELUQ Luque 91.41 308 P **P 23 31 15.3 +7.5**
comp=Z,8.0nm,0.8s,mb5.1
EADA Adamuz 91.53 309 P **P 23 31 15.3 +6.9**
TTA Tatalina 91.59 25 P **P 23 31 09.5 +1.4**
TTA pmax pmax
comp=Z,100nm,1.8s,mb5.8
TTA Tatalina 91.59 25 P **P 23 31 09.4 +1.3**
comp=Z,100nm,1.8s,mb5.8
EMIJ Mijas 92.01 307 P **P 23 31 17.4 +6.8**
ECAB El Cabril 92.20 309 P **P 23 31 20.0 +8.5**
comp=Z,13nm,0.8s,mb5.3
SVW2 Sparrevohn 92.47 27 *eP* **P 23 31 13.2 +1.0**
ERUA La Rua 92.53 313 P **P 23 31 20.0 +7.1**
EJIF Jimena Fronter 92.58 307 P **P 23 31 21.5 +8.2**
EJIF pmax pmax
comp=Z,27nm,1.0s,mb5.6
EJIF Jimena Fronter 92.58 307 P **P 23 31 21.5 +8.2**
comp=Z,27nm,1.0s,mb5.6
MDT Midelt 92.64 304 P **P 23 31 14.8 +1.2**
comp=Z,3.0nm,0.9s,mb4.7,baz=42,slow=7.5,SNR=3.7
ESPR Espera 92.80 308 P **P 23 31 22.5 +8.2**
comp=Z,8.3nm,0.9s,mb5.2
VNDA Vanda 93.40 168 P **P 23 31 15.6 -0.5**
VNDA LR LR 00 09 11.0
VNDA Vanda 93.40 168 P **P 23 31 15.6 -0.5**
comp=Z,0.8nm,0.4s,mb4.5,baz=341,slow=6.8,SNR=7.9
VNDA LR LR 00 09 11.0
comp=Z,488nm,19.1s,MS5.0,baz=303,slow=33
COLA College 94.02 22 PFAKE 23 31 30.0 +11
COLA LR LR
comp=Z,635nm,21.0s,MS5.1
SBA Scott Base 94.50 168 P **P 23 31 19.6 -1.6**
SBA MLR MLR
comp=Z,640nm,22.0s,MS5.0
PMR Palmer 95.08 25 PFAKE 23 31 40.0 +16
PMR LR LR
comp=Z,851nm,21.0s,MS5.2
INK Inuvik 96.64 16 *eP* **P 23 31 31.8 +0.6**
comp=Z,785nm,1.2s
RES Resolute Bay 96.98 2 *eP* **P 23 31 33.0 +0.5**
comp=Z,865nm,1.3s
DBIC Dimbokro 97.65 278 LR LR 00 15 11.5
comp=Z,1μm,19.4s,MS5.3,baz=54,slow=35
QSPA South Pole Qui 98.21 180 PFAKE 23 31 50.0 +12
QSPA LR LR
comp=Z,1μm,21.0s,MS5.4
QSPA South Pole Qui 98.21 180 PP PP 23 35 37.9 +0.2
comp=Z,2.8nm,1.0s,baz=267,slow=6.4,SNR=3.6
YKA Yellowknife Ar 106.06 13 P Pdif 23 32 16.4 +3.0
YKA 23 36 34.1
YKA Yellowknife Ar 106.06 13 Pdiff Pdif 23 32 16.4 +3.0
comp=Z,0.2nm,0.5s,baz=333,slow=5.7,SNR=3.5
YKA PP PP 23 36 34.1 -2.3
comp=Z,1.1nm,0.8s,baz=329,slow=8.0,SNR=6.9
YKA PKKPbc PKKPbc 23 47 45.3 -4.3
comp=Z,0.3nm,0.6s,baz=146,slow=2.9,SNR=4.6
SCHQ Schefferville 115.05 348 PKP PKiKP 23 36 42.3 0.0
comp=Z,1.5nm,0.7s,baz=9.0,slow=7.1,SNR=2.1
SCHQ PP PP 23 37 38.9 -2.3
comp=Z,3.9nm,0.9s,baz=0.0,slow=9.1,SNR=3.2
MSO Missoula 119.77 22 *e*PKPdf PKPdf 23 36 51.8 +0.2
EGMT Eagleton 120.14 18 *e*PKPdf PKPdf 23 36 51.5 -0.8
ULM Lac du Bonnet 121.07 7 PKP PKPdf 23 36 53.4 -0.7
comp=Z,2.3nm,0.6s,baz=332,slow=1.5,SNR=6.6
ULM PP PP 23 38 22.5 -0.3
comp=Z,2.0nm,0.8s,baz=2.6,slow=7.4,SNR=3.4
ULM PKKPbc PKKPbc 23 46 53.3 -5.2
comp=Z,1.4nm,0.4s,baz=109,slow=4.3,SNR=5.0
WVOR Wild Horse Val 121.41 28 *e*PKIKP PKPdf 23 36 56.2 +1.3
BOZ Bozeman (W) 121.61 21 *e*PKIKP PKPdf 23 36 55.6 +0.4
HLID Hailey 122.33 24 *e*PKPdf PKPdf 23 36 57.8 +1.1
YFT Old Faithful 122.92 21 *e*PKPdf PKPdf 23 36 59.2 +1.5
TPAW Teton Pass 123.72 22 *e*PKPdf PKPdf 23 37 01.2 +1.9
EYMN Ely 123.79 4 *e*PKPdf PKPdf 23 36 59.6 +0.3
REDW Red Top Meadow 123.86 22 *e*PKPdf PKPdf 23 37 00.2 +0.7
NVAR Mina Array Bea 124.67 31 PKP PKPdf 23 37 02.6 +1.4
comp=Z,2.3nm,0.9s,baz=292,slow=1.4,SNR=9.0
BW06 Boulder Array 124.85 21 *e*PKPdf PKPdf 23 37 02.2 +0.7
BW06 LR LR
comp=Z,655nm,19.0s,MS5.3
BGU Big Grassy Mou 125.09 25 *e*PKPdf PKPdf 23 37 03.2 +1.1
RSSD Black Hills 125.35 16 *e*PKIKP PKPdf 23 37 03.1 +0.7
MTUM Tungsten Hills 125.35 32 *e*PKPdf PKPdf 23 37 04.1 +1.5
COWI Conover 125.77 3 *e*PKPdf PKPdf 23 37 04.2 +1.0
DAU Daniels Canyon 126.25 24 *e*PKIKP PKPdf 23 37 05.1 +0.8
LONY Lake Ozonia 126.30 350 *e*PKPdf PKPdf 23 37 04.5 +0.3
RWWY Rawlins 126.61 20 *e*PKPdf PKPdf 23 37 06.8 +1.9
ECSD EROS,Sioux Fal 127.33 10 *e*PKPdf PKPdf 23 37 06.7 +0.5
MSU Marysvale 127.47 26 *e*PKIKP PKPdf 23 37 07.8 +1.2
SRU San Rafael 127.65 24 *e*PKIKP PKPdf 23 37 09.3 +2.3
ISCO Idaho Springs 128.84 19 *e*PKIKP PKPdf 23 37 10.6 +1.4
ISCO MLR MLR
comp=Z,531nm,21.0s,MS5.2
PV10 Paradox Valley 128.87 23 *e*PKPdf PKPdf 23 37 09.8 +0.5
MVCO Mesa Verde 130.09 23 *e*PKPdf PKPdf 23 37 12.8 +1.1
GLA Glamis 130.61 32 PKIKP PKPdf 23 37 14.2 +1.4
SDCO Great Sand Dun 130.73 20 *e*PKPdf PKPdf 23 37 13.9 +1.0
SDCO LR LR
comp=Z,693nm,22.0s,MS5.3
ANMO Albuquerque 132.87 23⇑ *i*PKIKP PKPdf 23 37 19.1 +2.1
ANMO Albuquerque 132.87 23 *e*PKPdf PKPdf 23 37 16.9 -0.1
LAZ Ladron 133.08 24 *e*PKPdf PKPdf 23 37 17.8 +0.3
TUC Tucson 133.24 29 *e*PKIKP PKPdf 23 37 18.5 +0.7
BNM Barren Site 133.50 24 *e*PKPdf PKPdf 23 37 20.8 +2.6
WMOK Wichita Mounta 135.54 15 PFAKE 23 37 30.0 +8.0
WMOK LR LR
comp=Z,582nm,20.0s,MS5.3
WVT Waverly 135.77 2 *e*PKIKP PKPdf 23 37 23.9 +1.5
MNTX Cornudas Mount 136.15 24 *e*PKPdf PKPdf 23 37 25.4 +2.2
MIAR Mount Ida 136.80 9 *e*PKIKP PKPdf 23 37 28.3 +3.9
TXAR Lajitas Array 138.93 24 PKIKP PKPdf 23 37 22.7 -5.7
TXAR 23 37 30.1
TXAR 23 40 19.2
TXAR Lajitas Array 138.93 24 PKP PKPdf 23 37 22.7 -5.8
TXAR PKP PKPdf 23 37 30.1 +1.6
TXAR PP PP 23 40 19.2 -0.1
TXAR SKPbc SKPbc 23 41 00.3 +0.3
TXAR Lajitas Array 138.93 24 PKiKP 23 37 22.7
comp=Z,0.4nm,0.6s,baz=307,slow=1.2,SNR=5.6
TXAR PKP PKPdf 23 37 30.1 +1.6
comp=Z,0.6nm,0.5s,baz=287,slow=1.0,SNR=8.9
TXAR PP PP 23 40 19.2 -0.1
comp=Z,0.9nm,0.8s,baz=352,slow=4.0,SNR=3.9
TXAR SKPbc SKPbc 23 41 00.3 +0.3
comp=Z,1.0nm,0.8s,baz=316,slow=2.5,SNR=5.3
JCT Junction City 139.25 18 *e*PKIKP PKPdf 23 37 29.4 +0.4
HKT Hockley 140.83 13 *e*PKIKP PKPdf 23 37 32.5 +0.6
BDFB Brasilia 142.09 255 PKP PKPdf 23 37 35.0 +0.6
comp=Z,2.8nm,0.8s,baz=320,slow=19,SNR=3.9
TRQA Tornquist 143.24 213 *e*PKPdf PKPdf 23 37 38.4 +2.5
PLCA Paso Flores 144.87 201 PKP PKPdf 23 37 37.9 -0.7
comp=Z,28nm,0.9s,baz=156,slow=4.6,SNR=30
LZG Guadaloupe-1 145.80 315 *eP* PKPdf 23 37 43.4 +2.4
MTP Monte Pirata 146.84 322 *e*PKPdf PKPdf 23 37 44.6 +2.0
CPD Cerro la Pandu 147.10 323 *e*PKP2 PKPab 23 37 45.0 -1.8
SJG San Juan 147.18 323 *e*PKP2 PKPab 23 37 43.9 -3.2
CPUP Villa Florida 147.34 233 *e*PKP2 PKPab 23 37 46.6 -1.0
CPUP Villa Florida 147.34 233 PKPbc PKPbc 23 37 45.0 -0.7
comp=Z,4.6nm,0.6s,baz=89,slow=4.4,SNR=16
SDDR Presa de Saban 149.20 332 *e*PKPdf PKPdf 23 37 47.7 +1.2
SDDR *e*PKPbc PKPbc 23 37 51.9 +1.1
SDDR *e*PKPab PKPab 23 37 56.2 +1.1
TEIG Tepich 151.56 4 *e*PKPdf PKPdf 23 37 52.3 +2.1
SDV Santo Domingo 157.00 318 *e*PKPdf PKPdf 23 37 59.9 +2.0
LVC Limon Verde 158.21 227 PKPdf PKPdf 23 37 59.6 +0.4
LVC LR LR
comp=Z,389nm,19.0s,MS5.3
LPAZ La Paz 160.75 244 PKIKP PKPdf 23 38 03.5 +1.2
LPAZ 23 38 45.1
LPAZ MLR MLR
comp=Z,662nm,21.0s
LPAZ La Paz 160.75 244 PKP PKPdf 23 38 03.5 +1.3
comp=Z,3.6nm,1.0s,baz=230,slow=1.9,SNR=11
LPAZ PKPab PKPab 23 38 45.1 +0.6
comp=Z,3.2nm,0.8s,baz=110,slow=6.3,SNR=6.0
ROSC El Rosal 162.43 318 *e*PKPdf PKPdf 23 38 04.1 0.0
ROSC El Rosal 162.43 318 PKP PKPdf 23 38 05.3 +1.2
comp=Z,4.1nm,0.4s,baz=276,slow=20,SNR=6.0
NNA Nana 170.19 247 PFAKE 23 38 20.0 +10
NNA LR LR
comp=Z,478nm,20.0s

MEX 31 23:26:55.1±0.5,1572N×9841W,h16km±19km,MD3.8,Off coast of Guerrero

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ACX	**Acapulco**	**1.84**	**308**	*i* P	Pn	23 27 25.0	-1.1
ACX				*i* S	Sn	23 27 44.5	-4.5
VHO	**Vista Hermosa**	**2.10**	**50**	*i* P	Pn	23 27 26.6	-3.0
VHO				*i* S	Sn	23 27 50.8	-4.5
UTMO	**Huajuapan**	**2.18**	**15**	*i* P	Pn	23 27 28.3	-2.4
UTMO				*i* S	Sn	23 27 53.0	-4.3
MEIG	**Mezcala**	**2.48**	**332**	*i* P	Pn	23 27 31.0	-3.8
MEIG				*i* S	Sn	23 28 00.9	-3.8
PPM	**Popocatepetl**	**3.33**	**356**	*i* P	Pn	23 27 44.9	-1.7
PPM				*i* S	Sn	23 28 22.8	-3.1

*NEIC **31** 23:35:52.6±2.7,672S×12988E,h123km±25km,mb4.4/2, Error ellipse: s-maj=25.2km s-min=15.5km az=52.0*
*IDC **31** 23:35:52.9±8.0,673S×12991E,h131km±82km,mb4.0/1, mb1 3.6/5,mb1mx3.3/15,mbtmp3.6/5,MS4.5/1,Ms1 4.5/1, ms1mx3.7/18,Error ellipse: s-maj=68.2km s-min=27.8km az=37.0*
*ISCJB **31** 23:35:56.9±2.0,704S±009×12981E±009,h178km±18km, mb4.5/4,Error ellipse: s-maj=18.5km s-min=8.7km az=135.1*

ISC 31 23:35:54.3±2.6,68S±01×1299E±01,h140km±23km,n16, σ0°91/21,mb4.5/4,Banda Sea

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
BATI	**Kupang**	**7.02**	**241**	P	**Pn**	**23 37 35.8**	**+1.1**
	15nm,0.3s,baz=96,slow=4.8,SNR=14						
BATI				S	**Sn**	**23 38 53.1**	**-0.2**
	6.5nm,0.3s,baz=312,slow=15,SNR=3.3						
BATI				LR	LR	23 40 21.6	
	comp=Z,4μm,20.7s,baz=295,slow=38						
FITZ	**Fitzroy Crossi**	**11.98**	**200**	*e*Pn	**Pn**	**23 38 39.9**	**-0.7**
FITZ				*e*Sn	**Sn**	**23 40 46.7**	**-6.2**
FITZ	**Fitzroy Crossi**	**11.98**	**200**	P	**Pn**	**23 38 39.4**	**-1.3**
	0.6nm,0.3s,baz=28,slow=14,SNR=31						
WRAB	**Tennant Creek**	**13.76**	**162**	*e*Pn	**Pn**	**23 39 03.1**	**-0.5**
WRAB				*e*Sn	**Sn**	**23 41 29.1**	**-6.8**
WRA	**Warramunga Arr**	**13.77**	**162**	P	**Pn**	**23 39 02.0**	**-1.7**
	0.4nm,0.3s,baz=340,slow=14,SNR=11						
WRA				S	**Sn**	**23 41 27.5**	**-8.5**
	1.4nm,0.3s,baz=335,slow=22,SNR=9.2						
WB2	**Warramunga Arr**	**13.77**	**162**	*e*Pn	**Pn**	**23 39 05.0**	**+1.2**
WB2				*e*Sn	**Sn**	**23 41 29.5**	**-6.7**
ASAR	**Alice Springs**	**17.21**	**167**	P	**Pn**	**23 39 47.5**	**+1.2**
	0.2nm,0.3s,baz=348,slow=9.8,SNR=10.0						
MBWA	**Marble Bar**	**17.33**	**214**	P	**Pn**	**23 39 48.0**	**+0.2**
COCO	**West Island**	**33.01**	**258**	P	**P**	**23 42 16.0**	**-0.5**
LSA	**Lhasa**	**51.97**	**316**	*e*P	**P**	**23 44 49.3**	**0.0**
	3.2nm,0.3s,mb4.4						
CASY	**Casey**	**60.89**	**189**	*e*P	**P**	**23 45 51.7**	**-0.1**
	35nm,0.8s,mb5.2						
MKAR	**Makanchi Array**	**67.99**	**327**	P	**P**	**23 46 37.5**	**-0.8**
	2.2nm,0.5s,mb4.1,baz=129,slow=7.1,SNR=6.1						
KURK	**Kurchatov**	**72.28**	**329**	*e*P	**P**	**23 47 01.0**	**-3.4**
	2.6nm,0.7s,mb4.1						
SBA	**Scott Base**	**73.55**	**172**	P	**P**	**23 47 12.1**	**+0.6**
BRVK	**Borovoye**	**77.90**	**328**	P	**P**	**23 47 37.4**	**+0.8**
QSPA	**South Pole Qui**	**83.18**	**180**	P	**P**	**23 48 04.5**	**+0.3**

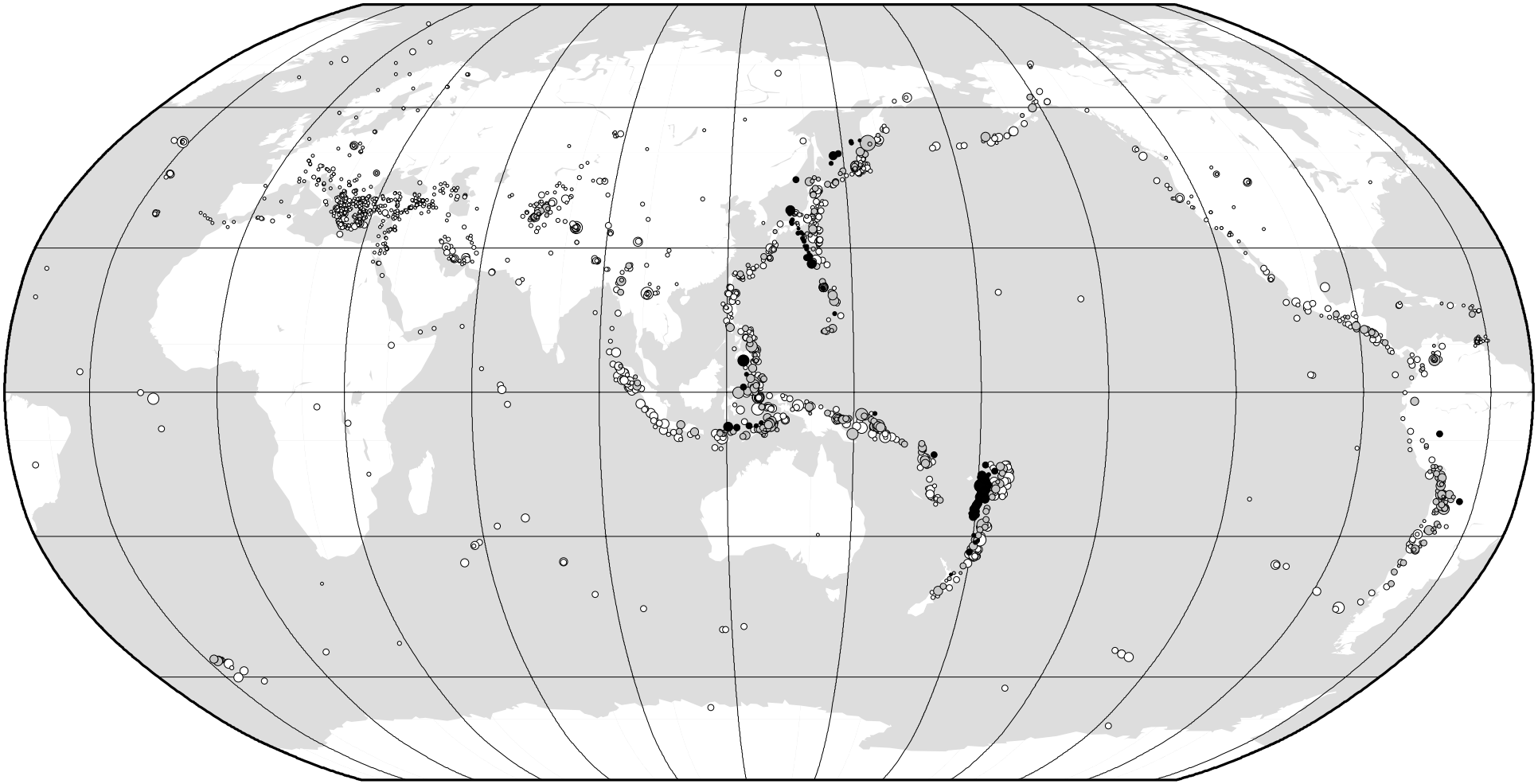
*NEIC **31** 23:59:56.9,36.17N×269E,h0km,MG3.7(MDD),After MDD.*

MDD 31 23:59:57.0±0.5,3616N×267E,h0km,mb3.7/3,Error ellipse: s-maj=7.7km s-min=4.2km az=170.0,PRXIMO, Northern Algeria

Code	Station Name	Δ°	AZ°	Phase ID Op	ISC	Time h m s	Res ISC
ECHF	**Ech Chlef**	**1.08**	**270**	P	Pg	00 00 16.4	-1.3
EIBI	**Ibiza**	**3.05**	**340**	P	Pn	00 00 45.0	-1.5
	3.0nm,0.2s,SNR=11						
EIBI				S	Sn	00 01 19.7	-4.1
	6.2nm,0.2s						
EBEN	**Beniarda**	**3.43**	**319**	P	Pn	00 00 50.2	-1.5
	0.2nm,0.1s,SNR=7.9						
EBEN				S	Sn	00 01 30.4	-2.7
	0.3nm,0.1s,SNR=7.9						
EMUR	**La Murta**	**3.56**	**299**	P	Pn	00 00 52.6	-0.8
	0.6nm,0.3s,SNR=7.9						
ETOS	**Mallorca**	**3.61**	**2**	P	Pn	00 00 52.7	-1.4
	1.3nm,0.2s,SNR=13						
ETOS				S	Sn	00 01 33.7	-3.7
	2.1nm,0.2s						
ETOB	**Tobarra**	**4.18**	**308**	P	Pn	00 01 01.1	-0.9
	1.2nm,0.2s,SNR=11						
ETOB				S	Sn	00 01 48.1	-3.4

	0.2nm,0.3s					
EBER	**Berja**	**4.54 281**	P	Pn	00 01 04.7	-2.2
	0.5nm,0.2s,SNR=7.5					
EBER			S	Sn	00 01 57.4	-3.1
	7.3nm,0.5s,SNR=4.0					
EMOS	**Mosqueruela**	**4.87 330**	P	Pn	00 01 10.5	-1.0
	0.3nm,0.2s,SNR=9.1					
EMOS			S	Sn	00 02 04.6	-4.0
	0.4nm,0.3s					
EQES	**Quesada**	**4.88 291**	P	Pn	00 01 11.6	0.0
	0.5nm,0.3s,SNR=7.9					
EQES			S	Sn	00 02 05.9	-3.0
	0.9nm,0.2s,SNR=7.9					
EQUE	**Quentar**	**5.02 284**	P	Pn	00 01 11.8	-1.7
	0.7nm,0.2s,SNR=5.3					
ERTA	**Horta de San J**	**5.13 340**	P	Pn	00 01 14.9	-0.2
	0.1nm,0.2s,SNR=7.9					
EMIR	**Miracle**	**5.82 352**	P	Pn	00 01 23.9	-0.6
	0.6nm,0.2s,SNR=6.1					
EMIR			S	Sn	00 02 26.3	-5.5
	5.5nm,0.5s,SNR=7.9					
ESDC	**Sonseca Array**	**6.31 306**	P	Pn	00 01 30.4	-0.8
	0.3nm,0.1s,baz=113,slow=13,SNR=7.9					

ISC Computed Locations for May 2007



Depth (km)	0-70	70-300	>300
M=8	○	●	●
M=6.5	○	●	●
M=4	○	●	●

Robinson Projection, centred on 0˚N,130˚E

2198 Events